

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

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## **Background Report Reference**

**AP-42 Section Number: 10.6.3**

**Background Report Section: 4**

**Reference Number: 7**

**Title: Report of Air Emissions Tests for  
Louisiana Pacific Corporation  
MDF Plant, Clayton, Alabama  
June 6 & 7, 1995**

**Environmental Monitoring Lab**

**July 1994**

REPORT OF  
AIR EMISSIONS TESTS  
FOR  
LOUISIANA PACIFIC CORPORATION  
CLAYTON MDF PLANT

Clayton, Alabama  
June 6 and 7, 1995

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Subject: Louisiana Pacific Corporation  
Clayton, Alabama

On June 6 and 7, 1995, Environmental Monitoring Laboratories performed air emissions testing for Louisiana Pacific Corporation's medium density fiberboard (MDF) facility in Clayton, Alabama. L.P. operates two pairs of MDF dryers (two Line 1 dryers and two Line 2 dryers) which collectively exhaust to a common equalization chamber which exhausts to three Smith Engineering Company regenerative thermal oxidizers (RTO) for emissions control. The presses associated with each line also vent to the equalization chamber by way of the dryers. 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 RTO. VOC, NOx, and CO inlet loading testing was simultaneously performed at the RTO inlets to determine removal efficiency.

| RTO OUTLETS | PM    |         | VOC as C |     | HCOH  |      | CO    |     | NOx   |     |
|-------------|-------|---------|----------|-----|-------|------|-------|-----|-------|-----|
|             | #/hr. | gr/dscf | #/hr.    | ppm | #/hr. | ppm  | #/hr. | ppm | #/hr. | ppm |
| No. 1 RTO   | 35.21 | .041    | 7.55     | 44  | 1.42  | 3.32 | 4.14  | 9   | 11.67 | 17  |
| No. 2 RTO   | 33.52 | 0.039   | 1.79     | 10  | 1.26  | 2.79 | 2.75  | 6   | 18.56 | 26  |
| No. 3 RTO   | 23.46 | 0.022   | 1.31     | 7.1 | 0.685 | 1.47 | 4.42  | 10  | 21.87 | 30  |
| Total #/hr. | 92.19 |         | 10.65    |     | 3.36  |      | 11.31 |     | 52.10 |     |

*air an average see table*

| INLETS             |  |  | VOC as C |     |  |  | CO    |     | NOx   |     |
|--------------------|--|--|----------|-----|--|--|-------|-----|-------|-----|
|                    |  |  | #/hr.    | ppm |  |  | #/hr. | ppm | #/hr. | ppm |
| Inlet A            |  |  | 31.14    | 274 |  |  | 39.86 | 148 | 12.01 | 27  |
| Inlet B            |  |  | 31.26    | 278 |  |  | 36.10 | 133 | 10.3  | 23  |
| Inlet C            |  |  | 17.64    | 120 |  |  | 1.81  | 5   | 9.90  | 17  |
| Inlet D            |  |  | 17.08    | 120 |  |  | 2.49  | 7   | 9.65  | 16  |
| Total #/hr.        |  |  | 97.12    |     |  |  | 80.26 |     | 41.86 |     |
| Removal Efficiency |  |  | 89.03    |     |  |  | 85.91 |     | N/A   |     |

The testing project was coordinated by Dr. James T. Boswell of Louisiana Pacific Corporation. Mr. Michael Jordan 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 No. 1 RTO and at the RTO inlets. All formaldehyde analyses were performed by Armstrong Environmental.

Following is a report of the test.

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REPORT OF AIR EMISSIONS TESTS FOR  
LOUISIANA PACIFIC CORPORATION  
CLAYTON, ALABAMA  
JUNE 6 AND 7, 1995

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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 6 and 7, 1995. for three emissions sources at Louisiana Pacific Corporation 's MDF facility in Clayton, Alabama.

## 1.1 OUTLETS

### 1.1.1 No. 1 RTO

#### 1.1.1.1 PM/NO<sub>x</sub>/CO Emissions Test - June 6, 1995 (Armstrong Environmental)

|                           |              |        |         |         |         |
|---------------------------|--------------|--------|---------|---------|---------|
| Run No. ....              |              | 1      | 2       | 3       | AVG.    |
| Date .....                |              | 6/6/95 | 6/6/95  | 6/6/95  | _____   |
| Time Start .....          |              | 1030   | 1222    | 1400    | _____   |
| Time End .....            |              | 1145   | 1332    | 1503    | _____   |
| PARTICULATE EMISSIONS     | #/hr         | ✓39.48 | / 28.82 | ✓37.32  | 35.21   |
| PARTICULATE EMISSIONS     | gr/dscf      | 0.045  | 0.034   | 0.043   | 0.041   |
| CO EMISSIONS              | #/hr         | ✓5.41  | / 3.32  | / 3.69  | / 4.14  |
| CO EMISSIONS              | ppm          | 12     | 8       | 8       | 9       |
| NO <sub>x</sub> EMISSIONS | #/hr         | ✓12.07 | / 11.73 | ✓ 11.22 | / 11.67 |
| NO <sub>x</sub> EMISSIONS | ppm          | 17     | 17      | 16      | 17      |
| VOLUMETRIC FLOWRATE       | acfm         | 145938 | 142880  | 145459  | 144759  |
| VOLUMETRIC FLOWRATE       | dscfm        | 101324 | 97942   | 100868  | 100045  |
| VELOCITY                  | ft./sec.     | 61.7   | 60.4    | 61.5    | 61.2    |
| STACK TEMPERATURE         | °F           | 233    | 234     | 233     | 233     |
| MOISTURE                  | %            | 7.8    | 8.8     | 7.8     | 8.1     |
| SAMPLE RATE               | % isokinetic | 102    | 102     | 101     | 102     |

#### 1.1.1.2 VOC/HCOH Emissions Test - June 7, 1995 (Armstrong Environmental)

|                        |              |        |        |        |        |
|------------------------|--------------|--------|--------|--------|--------|
| Run No. ....           |              | 4      | 5      | 6      | AVG.   |
| Date .....             |              | 6/7/95 | 6/7/95 | 6/7/95 | _____  |
| Time Start .....       |              | 0838   | 1012   | 1147   | _____  |
| Time End .....         |              | 0941   | 1115   | 1250   | _____  |
| FORMALDEHYDE EMISSIONS | #/hr         | ✓ 1.43 | / 1.35 | ✓ 1.48 | ✓ 1.42 |
| FORMALDEHYDE EMISSIONS | ppm          | 3.33   | 3.16   | 3.47   | 3.32   |
| VOC EMISSIONS          | #/hr         | ✓ 7.52 | ✓7.71  | ✓7.41  | ✓ 7.55 |
| VOC EMISSIONS          | ppm as C     | 44     | 45     | 43     | 44     |
| VOLUMETRIC FLOWRATE    | acfm         | 134064 | 131956 | 132110 | 132710 |
| VOLUMETRIC FLOWRATE    | dscfm        | 91226  | 90373  | 90136  | 90578  |
| VELOCITY               | ft./sec.     | 56.7   | 55.8   | 55.9   | 56.1   |
| STACK TEMPERATURE      | °F           | 231    | 231    | 232    | 231    |
| MOISTURE               | %            | 10.1   | 9.8    | 10.1   | 10.0   |
| SAMPLE RATE            | % isokinetic | 101    | 100    | 99     | 100    |

## 1.1.2 No. 2 RTO

1.1.2.1 PM/NO<sub>x</sub>/CO Emissions Test - June 6, 1995

|                       |              |        |        |        |        |
|-----------------------|--------------|--------|--------|--------|--------|
| Run No. ....          |              | 1      | 2      | 3      | AVG.   |
| Date .....            |              | 6/6/95 | 6/6/95 | 6/6/95 | —      |
| Time Start .....      |              | 1031   | 1221   | 1401   | —      |
| Time End .....        |              | 1144   | 1328   | 1503   | —      |
| PARTICULATE EMISSIONS | #/hr         | 36.88  | 31.57  | 32.10  | 33.52  |
| PARTICULATE EMISSIONS | gr/dscf      | 0.043  | 0.037  | 0.037  | 0.039  |
| CO EMISSIONS          | #/hr         | 1.94   | 3.87   | 2.44   | 2.75   |
| CO EMISSIONS          | ppm          | 4      | 9      | 6      | 6      |
| NOX EMISSIONS         | #/hr         | 20.68  | 18.22  | 16.77  | 18.56  |
| NOX EMISSIONS         | ppm          | 29     | 26     | 24     | 26     |
| VOLUMETRIC FLOWRATE   | acfm         | 150336 | 150387 | 149168 | 149964 |
| VOLUMETRIC FLOWRATE   | dscfm        | 100920 | 99698  | 99925  | 100181 |
| VELOCITY              | ft./sec.     | 65.5   | 65.5   | 65.0   | 65.3   |
| STACK TEMPERATURE     | °F           | 234    | 240    | 235    | 236    |
| MOISTURE              | %            | 10.0   | 10.5   | 10.2   | 10.3   |
| SAMPLE RATE           | % isokinetic | 98     | 94     | 95     | 96     |

## 1.1.2.2 VOC/HCOH Emissions Test - June 7, 1995

|                        |              |        |        |        |        |
|------------------------|--------------|--------|--------|--------|--------|
| Run No. ....           |              | 4      | 5      | 6      | AVG.   |
| Date .....             |              | 6/7/95 | 6/7/95 | 6/7/95 | —      |
| Time Start .....       |              | 0837   | 1013   | 1148   | —      |
| Time End .....         |              | 0939   | 1115   | 1249   | —      |
| FORMALDEHYDE EMISSIONS | #/hr         | 0.913  | 1.339  | 1.530  | 1.261  |
| FORMALDEHYDE EMISSIONS | ppm          | 2.01   | 2.97   | 3.38   | 2.79   |
| VOC EMISSIONS          | #/hr         | 1.79   | 1.46   | 2.12   | 1.79   |
| VOC EMISSIONS          | ppm as C     | 9.8    | 8.1    | 11.7   | 9.9    |
| VOLUMETRIC FLOWRATE    | acfm         | 149735 | 147805 | 146375 | 147972 |
| VOLUMETRIC FLOWRATE    | dscfm        | 97418  | 96281  | 96880  | 96860  |
| VELOCITY               | ft./sec.     | 65.2   | 64.4   | 63.8   | 64.5   |
| STACK TEMPERATURE      | °F           | 246    | 246    | 244    | 245    |
| MOISTURE               | %            | 11.6   | 11.4   | 10.3   | 11.1   |
| SAMPLE RATE            | % isokinetic | 101    | 100    | 96     | 99     |

## 1.1.3 No. 3 RTO

## 1.1.3.1 PM/NOx/CO Emissions Test - June 6, 1995

|                       |              |         |         |         |         |
|-----------------------|--------------|---------|---------|---------|---------|
| Run No. ....          |              | 1       | 2       | 3       | AVG.    |
| Date .....            |              | 6/6/95  | 6/6/95  | 6/6/95  | _____   |
| Time Start .....      |              | 1055    | 1245    | 1440    | _____   |
| Time End .....        |              | 1156    | 1346    | 1542    | _____   |
| PARTICULATE EMISSIONS | #/hr         | / 23.46 | / 16.06 | / 20.26 | / 19.92 |
| PARTICULATE EMISSIONS | gr/dscf      | 0.026   | 0.018   | 0.023   | 0.022   |
| CO EMISSIONS          | #/hr         | / 3.38  | / 4.56  | / 5.33  | 4.42    |
| CO EMISSIONS          | ppm          | 7       | 10      | 12      | 10      |
| NOx EMISSIONS         | #/hr         | / 23.32 | 21.31   | / 20.98 | / 21.87 |
| NOx EMISSIONS         | ppm          | 31      | 29      | 28      | 30      |
| VOLUMETRIC FLOWRATE   | acfm         | 161302  | 159112  | 158298  | 159571  |
| VOLUMETRIC FLOWRATE   | dscfm        | 104673  | 102576  | 103469  | 103573  |
| VELOCITY              | ft./sec.     | 70.3    | 69.3    | 69.0    | 69.5    |
| STACK TEMPERATURE     | °F           | 243     | 246     | 242     | 244     |
| MOISTURE              | %            | 11.9    | 12.2    | 11.4    | 11.8    |
| SAMPLE RATE           | % isokinetic | 100     | 101     | 102     | 101     |

## 1.1.3.2 VOC/HCOH Emissions Test - June 7, 1995

|                        |              |         |         |         |        |
|------------------------|--------------|---------|---------|---------|--------|
| Run No. ....           |              | 4       | 5       | 6       | AVG.   |
| Date .....             |              | 6/7/95  | 6/7/95  | 6/7/95  | _____  |
| Time Start .....       |              | 0836    | 1012    | 1147    | _____  |
| Time End .....         |              | 0938    | 1114    | 1248    | _____  |
| FORMALDEHYDE EMISSIONS | #/hr         | / 0.753 | / 0.685 | / 0.616 | 0.685  |
| FORMALDEHYDE EMISSIONS | ppm          | 1.60    | 1.48    | 1.34    | 1.47   |
| VOC EMISSIONS          | #/hr         | - 1.41  | \ 1.40  | 1.13    | - 1.31 |
| VOC EMISSIONS          | ppm as C     | 7.5     | 7.5     | 6.1     | 7.1    |
| VOLUMETRIC FLOWRATE    | acfm         | 155982  | 155920  | 153005  | 154969 |
| VOLUMETRIC FLOWRATE    | dscfm        | 100519  | 99263   | 98083   | 99288  |
| VELOCITY               | ft./sec.     | 68.0    | 67.9    | 66.7    | 67.5   |
| STACK TEMPERATURE      | °F           | 251     | 253     | 252     | 252    |
| MOISTURE               | %            | 11.7    | 12.6    | 12.1    | 12.1   |
| SAMPLE RATE            | % isokinetic | 101     | 100     | 100     | 100    |

## 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 E of this report.

### 1.2.1 Inlet A

#### 1.2.1.1 NOx/CO Emissions Test - June 6, 1995 (Armstrong Environmental)

|                     |          |        |        |        |       |
|---------------------|----------|--------|--------|--------|-------|
| Run No. ....        |          | 1      | 2      | 3      | AVG.  |
| Date .....          |          | 6/6/95 | 6/6/95 | 6/6/95 | ----- |
| Time Start .....    |          | 1047   | 1220   | 1355   | ---   |
| Time End .....      |          | 1148   | 1327   | 1506   | ---   |
| CO EMISSIONS        | #/hr     | 41.52  | 40.61  | 37.44  | 39.86 |
| CO EMISSIONS        | ppm      | 156    | 151    | 136    | 148   |
| NOx EMISSIONS       | #/hr     | 10.63  | 12.53  | 12.88  | 12.01 |
| NOx EMISSIONS       | ppm      | 24     | 28     | 29     | 27    |
| VOLUMETRIC FLOWRATE | acfm     | 81121  | 81667  | 83209  | 81999 |
| VOLUMETRIC FLOWRATE | dscfm    | 61086  | 61520  | 62924  | 61843 |
| VELOCITY            | ft./sec. | 107.6  | 108.3  | 110.4  | 108.8 |
| STACK TEMPERATURE   | °F       | 145    | 141    | 140    | 142   |
| MOISTURE            | %        | 12.1   | 12.8   | 12.5   | 12.5  |

#### 1.2.1.2 VOC Emissions Test - June 7, 1995 (Armstrong Environmental)

|                     |          |        |        |        |       |
|---------------------|----------|--------|--------|--------|-------|
| Run No. ....        |          | 4      | 5      | 6      | AVG.  |
| Date .....          |          | 6/7/95 | 6/7/95 | 6/7/95 | ----- |
| Time Start .....    |          | 0835   | 1011   | 1144   | ---   |
| Time End .....      |          | 0937   | 1116   | 1248   | ---   |
| VOC EMISSIONS       | #/hr     | 38.74  | 25.41  | 29.26  | 31.14 |
| VOC EMISSIONS       | ppm as C | 341    | 224    | 258    | 274   |
| VOLUMETRIC FLOWRATE | acfm     | 78848  | 79768  | 79742  | 79453 |
| VOLUMETRIC FLOWRATE | dscfm    | 60697  | 60624  | 60777  | 60699 |
| VELOCITY            | ft./sec. | 104.6  | 105.8  | 105.8  | 105.4 |
| STACK TEMPERATURE   | °F       | 139    | 145    | 143    | 142   |
| MOISTURE            | %        | 11.8   | 12.1   | 12.1   | 12.0  |

## 1.2.2 Inlet B

## 1.2.2.1 NOx/CO Emissions Test - June 6, 1995 (Armstrong Environmental)

|                     |          |        |        |        |         |
|---------------------|----------|--------|--------|--------|---------|
| Run No. ....        |          | 1      | 2      | 3      | AVG.    |
| Date .....          |          | 6/6/95 | 6/6/95 | 6/6/95 | —       |
| Time Start .....    |          | 1047   | 1220   | 1355   | —       |
| Time End .....      |          | 1148   | 1327   | 1506   | —       |
| CO EMISSIONS        | #/hr     | 38.79  | 36.05  | 33.45  | ✓ 36.10 |
| CO EMISSIONS        | ppm      | 143    | 133    | 122    | 133     |
| NOx EMISSIONS       | #/hr     | / 9.64 | /10.94 | /10.31 | / 10.30 |
| NOx EMISSIONS       | ppm      | 22     | 25     | 23     | 23      |
| VOLUMETRIC FLOWRATE | acfm     | 81104  | 81149  | 81446  | 81233   |
| VOLUMETRIC FLOWRATE | dscfm    | 62358  | 62294  | 63111  | 62588   |
| VELOCITY            | ft./sec. | 107.6  | 107.6  | 108.0  | 107.7   |
| STACK TEMPERATURE   | °F       | 136    | 138    | 138    | 137     |
| MOISTURE            | %        | 11.6   | 11.6   | 10.8   | 11.3    |

## 1.2.2.2 VOC Emissions Test - June 7, 1995 (Armstrong Environmental)

|                     |          |        |        |        |       |
|---------------------|----------|--------|--------|--------|-------|
| Run No. ....        |          | 4      | 5      | 6      | AVG.  |
| Date .....          |          | 6/7/95 | 6/7/95 | 6/7/95 | —     |
| Time Start .....    |          | 0835   | 1011   | 1144   | —     |
| Time End .....      |          | 0937   | 1116   | 1248   | —     |
| VOC EMISSIONS       | #/hr     | 34.93  | 29.75  | 29.09  | 31.26 |
| VOC EMISSIONS       | ppm as C | 311    | 265    | 259    | 278   |
| VOLUMETRIC FLOWRATE | acfm     | 77462  | 77333  | 77690  | 77495 |
| VOLUMETRIC FLOWRATE | dscfm    | 60137  | 58674  | 60054  | 59622 |
| VELOCITY            | ft./sec. | 102.7  | 102.6  | 103.0  | 105.4 |
| STACK TEMPERATURE   | °F       | 147    | 142    | 137    | 142   |
| MOISTURE            | %        | 9.9    | 12.7   | 11.8   | 11.5  |

## 1.2.3 Inlet C

## 1.2.3.1 NOx/CO Emissions Test - June 6, 1995 (Armstrong Environmental)

|                     |          |         |        |        |        |
|---------------------|----------|---------|--------|--------|--------|
| Run No. ....        |          | 1       | 2      | 3      | AVG.   |
| Date .....          |          | 6/6/95  | 6/6/95 | 6/6/95 | ---    |
| Time Start .....    |          | 1047    | 1220   | 1355   | ---    |
| Time End .....      |          | 1148    | 1327   | 1506   | ---    |
| CO EMISSIONS        | #/hr     | / 1.84  | / 1.77 | ND     | / 1.81 |
| CO EMISSIONS        | ppm      | 5       | 5      | ND     | 5      |
| NOx EMISSIONS       | #/hr     | /10.65  | /10.35 | / 8.69 | /9.90  |
| NOx EMISSIONS       | ppm      | 18      | 18     | 15     | 17     |
| VOLUMETRIC FLOWRATE | acfm     | 103052  | 98261  | 98027  | 99780  |
| VOLUMETRIC FLOWRATE | dscfm    | / 84222 | /80615 | /80720 | /81852 |
| VELOCITY            | ft./sec. | 60.8    | 57.9   | 57.8   | 58.8   |
| STACK TEMPERATURE   | °F       | 127     | 129    | 129    | 128    |
| MOISTURE            | %        | 7.69    | 7.27   | 6.73   | 7.2    |

## 1.2.3.2 VOC Emissions Test - June 7, 1995 (Armstrong Environmental)

|                     |          |        |         |        |         |
|---------------------|----------|--------|---------|--------|---------|
| Run No. ....        |          | 4      | 5       | 6      | AVG.    |
| Date .....          |          | 6/7/95 | 6/7/95  | 6/7/95 | ---     |
| Time Start .....    |          | 0835   | 1011    | 1144   | ---     |
| Time End .....      |          | 0937   | 1116    | 1248   | ---     |
| VOC EMISSIONS       | #/hr     | /19.18 | / 17.38 | /16.35 | / 17.64 |
| VOC EMISSIONS       | ppm as C | 130    | 118     | 111    | 120     |
| VOLUMETRIC FLOWRATE | acfm     | 97279  | 95644   | 97894  | 96939   |
| VOLUMETRIC FLOWRATE | dscfm    | /78828 | /77333  | /78696 | /78286  |
| VELOCITY            | ft./sec. | 57.3   | 56.4    | 57.7   | 57.1    |
| STACK TEMPERATURE   | °F       | 138    | 137     | 136    | 137     |
| MOISTURE            | %        | 7.59   | 7.92    | 8.64   | 8.1     |

## 1.2.4 Inlet D

### 1.2.4.1 NOx/CO Emissions Test - June 6, 1995 (Armstrong Environmental)

|                     |          |         |         |        |         |
|---------------------|----------|---------|---------|--------|---------|
| Run No. ....        |          | 1       | 2       | 3      | AVG.    |
| Date .....          |          | 6/6/95  | 6/6/95  | 6/6/95 | _____   |
| Time Start .....    |          | 1047    | 1220    | 1355   | _____   |
| Time End .....      |          | 1148    | 1327    | 1506   | _____   |
| CO EMISSIONS        | #/hr     | / 1.90  | / 1.87  | 3.69   | / 2.49  |
| CO EMISSIONS        | ppm      | 5       | 5       | 10     | 7       |
| NOx EMISSIONS       | #/hr     | / 10.10 | / 10.24 | / 8.62 | / 9.65  |
| NOx EMISSIONS       | ppm      | 16      | 17      | 15     | 16      |
| VOLUMETRIC FLOWRATE | acfm     | 105085  | 104041  | 103646 | 104257  |
| VOLUMETRIC FLOWRATE | dscfm    | / 87158 | / 85912 | 82590  | / 85220 |
| VELOCITY            | ft./sec. | 61.9    | 61.3    | 61.1   | 61.4    |
| STACK TEMPERATURE   | °F       | 130     | 129     | 133    | 131     |
| MOISTURE            | %        | 5.9     | 6.4     | 9.2    | 7.2     |

### 1.2.4.2 VOC Emissions Test - June 7, 1995 (Armstrong Environmental)

|                     |          |         |        |         |       |
|---------------------|----------|---------|--------|---------|-------|
| Run No. ....        |          | 4       | 5      | 6       | AVG.  |
| Date .....          |          | 6/7/95  | 6/7/95 | 6/7/95  | _____ |
| Time Start .....    |          | 0835    | 1011   | 1144    | _____ |
| Time End .....      |          | 0937    | 1116   | 1248    | _____ |
| VOC EMISSIONS       | #/hr     | / 18.76 | 16.30  | / 16.19 | 17.08 |
| VOC EMISSIONS       | ppm as C | 132     | 115    | 114     | 120   |
| VOLUMETRIC FLOWRATE | acfm     | 94470   | 96578  | 98240   | 96429 |
| VOLUMETRIC FLOWRATE | dscfm    | 75813   | 76662  | / 77484 | 76653 |
| VELOCITY            | ft./sec. | 55.7    | 56.9   | 57.9    | 56.8  |
| STACK TEMPERATURE   | °F       | 141     | 138    | 139     | 139   |
| MOISTURE            | %        | 8.0     | 9.5    | 9.9     | 9.1   |

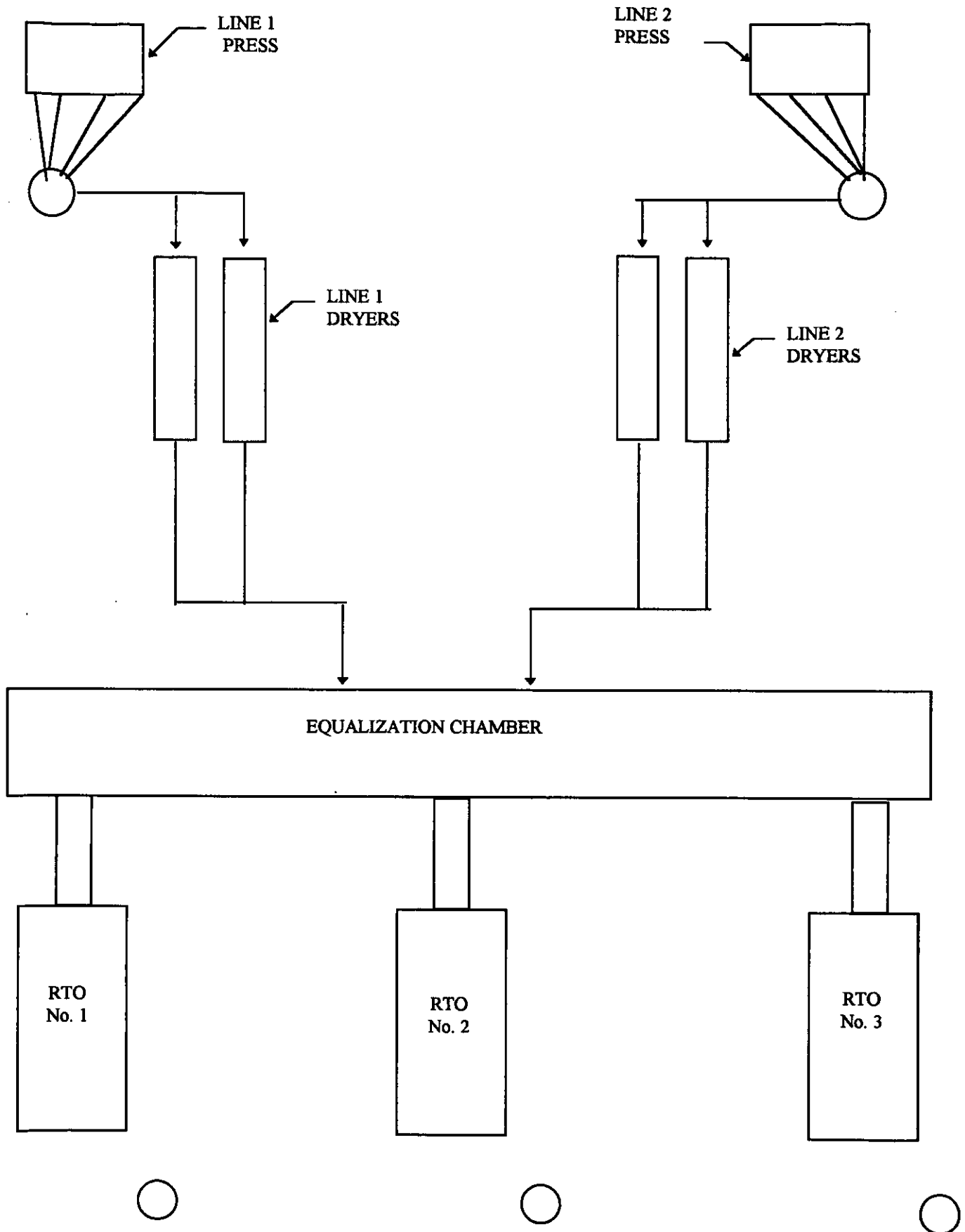
## 2.0 SOURCE DESCRIPTION:

Louisiana Pacific Corporation operates a medium density fiberboard (MDF) plant at a new location in Clayton, Alabama. Two emissions producing processes associated with the manufacture of MDF 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. A process schematic is on the following page.

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 three identical parallel Smith Engineering Company (SEC) regenerative thermal oxidizers (RTO). The RTO's are designated Nos. 1, 2, and 3. The RTO's each exhaust to the atmosphere by way of 84 inch diameter vertical stacks. On each, two sample ports at 90° are installed at a location that is 738 inches (8.8 diameters) below the stack exit and 254 inches (3.0 diameters) above the blower entry duct. RTO inlet sampling was done at the inlets to the equalization chamber. The A and B inlets are 48 inch diameter down turned ducts. The C and D inlets are 72 inch diameter turned down ducts. Each has two sample ports at 90 degrees installed at a location just above their entry to the equalization chamber. Sketches of the stacks and sampling locations are provided in Appendix A.

CLAYTON PRESS/DRYER SCHEMATIC

9



**3.0 TEST PROCEDURES:** Test procedures used are those described in 40 CFR, Part 60, Appendix A and in Part 266, Appendix IX. This section pertains to the sampling of the No. 2 and No. 3 RTO's. Armstrong Environmental conducted testing on the No. 1 RTO and on the inlets and descriptions of the sampling procedures for those sources can be reviewed in the copy of that report reproduced in Appendix D of this report.

Particulate sampling was done as described in Method 5. An exception was the inclusion of the condenser section particulate. 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 TECO Model 48H gas correlation filter NDIR was used to monitor CO. Instrument calibration and bias checks were performed prior to and following each series of tests, and a mid range system bias check was made following each run by directing calibration to the gas sampling probe.

Nitrogen oxides were continuously monitored as described in Method 7E using a TECO Model 10S 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.

VOC concentrations were measured using Method 25A (continuous monitoring with a flame ionization detector) with a TECO Model 51 heated FID. The 0 to 100 ppm scale was 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 250°F.

Instrument calibrations were made with Protocol 1 cylinder gas and an Environics Model 2020 gas diluter and EPA Conditional Method 7. (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. For the outlet sampling, reagent preparation and sample analysis was performed by Oxford Laboratories of Wilmington, North Carolina.

Inlet sampling for CO, NOx, and VOC 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 - Clayton, Alabama  
 No. 2 RTO  
 PM/NOx/CO Emissions Test - June 6, 1995

Collected Test Data:

|                                                               | RUN 1   | RUN 2   | RUN 3   |
|---------------------------------------------------------------|---------|---------|---------|
| Date :                                                        | 6/6/95  | 6/6/95  | 6/6/95  |
| Time start :                                                  | 1031    | 1221    | 1401    |
| Time end :                                                    | 1144    | 1328    | 1503    |
| 1. As : sq ft                                                 | 38.2558 | 38.2558 | 38.2558 |
| 2. Dn : in.                                                   | 0.245   | 0.245   | 0.245   |
| 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                                              | 29.43   | 29.43   | 29.43   |
| 7. Pg : in. H2O                                               | -0.85   | -0.85   | -0.85   |
| 8. Vm : cf (dry gas)                                          | 54.632  | 51.885  | 52.817  |
| 9. $\text{sq}(\text{DP})_{\text{avg}}$ : in.H2O <sup>^5</sup> | 0.9925  | 0.9870  | 0.9831  |
| 10. DH : in. H2O                                              | 2.4646  | 2.4167  | 2.3950  |
| 11. ts : degrees F                                            | 234.46  | 239.63  | 234.58  |
| 12. tm : degrees F                                            | 99.77   | 103.29  | 105.50  |
| 13. Vlc : ml                                                  | 121     | 120     | 118     |
| 14. CO2 : percent                                             | 2.50    | 2.00    | 2.00    |
| 15. O2 : percent                                              | 18.00   | 18.00   | 18.00   |
| 16. CO : percent                                              | 0.00    | 0.00    | 0.00    |
| 17. CO : ppm                                                  | 4.4     | 8.9     | 5.6     |
| 18. M,PM : milligrams                                         |         |         |         |
| front half                                                    | 138     | 113.6   | 117.4   |
| back half organic                                             | 2.1     | 1.3     | 0.6     |
| back half aqueous                                             | 0.8     | 0.3     | 0.5     |
| 19. NOx : ppm                                                 | 28.7    | 25.6    | 23.5    |

236.22

6.3

26

Louisiana Pacific Corporation - Clayton, Alabama  
 No. 2 RTO  
 PM/NOx/CO Emissions Test - June 6, 1995

**Calculations:**

|          |                                                                    | RUN 1    | RUN 2    | RUN 3    | AVG.   |
|----------|--------------------------------------------------------------------|----------|----------|----------|--------|
| 1. Pm    | : in.Hg<br>(DH/13.6)+Pbar                                          | 29.6112  | 29.6077  | 29.6061  |        |
| 2. Ps    | : in. Hg<br>(Pg/13.6)+Pbar                                         | 29.3675  | 29.3675  | 29.3675  |        |
| 3. An    | : sq ft<br>((Dn/24)^2)(3.1416)                                     | 3.27E-04 | 3.27E-04 | 3.27E-04 |        |
| 4. Vmstd | : dscf<br>Vm Y(Pm/Pstd)(Tstd/Tm)                                   | 51.000   | 48.127   | 48.797   |        |
| 5. Vwstd | : scf<br>(.04707cf/ml)(Vlc)                                        | 5.695    | 5.648    | 5.554    |        |
| 6. Bws   | : dimensionless<br>Vwstd/(Vwstd+Vmstd)                             | 0.1005   | 0.1050   | 0.1022   | 0.1026 |
| 7. Md    | : mol.wt. dry basis<br>.44 CO2+.32 O2+.28(CO+N2)                   | 29.12    | 29.04    | 29.04    |        |
| 8. Ms    | : mol.wt. wet basis<br>Md(1-Bws)+18 Bws                            | 28.00    | 27.88    | 27.91    |        |
| 9. Vs    | : ft/sec<br>Kp Cp (sqrDP)sqr(Ts/(Ps Ms))                           | 65.50    | 65.52    | 64.99    | 65.33  |
| 10. Q    | : cfm<br>Vs As(60 sec/min)                                         | 150336   | 150387   | 149168   | 149964 |
| 11. Qstw | : scfm<br>Q(Ps/Pstd)(Tstd/Ts)                                      | 112190   | 111399   | 111299   | 111629 |
| 12. Qstd | : dscfm<br>Qstw(1-Bws)                                             | 100920   | 99698    | 99925    | 100181 |
| 13. I    | : percent<br>[(100 Ts)(.002669 Vlc+(Vm Pm/Tm))/(60 theta Vs Ps An) | 98.42    | 94.02    | 95.11    | 95.85  |

**Particulate Emissions**

|                   |                                                |        |        |        |        |
|-------------------|------------------------------------------------|--------|--------|--------|--------|
| 14. E,PM          | : pounds/hr<br>(M,PM/Vmstd)(Qstd)(60)/(453590) |        |        |        |        |
| front half        |                                                | 36.122 | 31.129 | 31.801 | 33.017 |
| back half organic |                                                | 0.550  | 0.356  | 0.163  | 0.356  |
| back half aqueous |                                                | 0.209  | 0.082  | 0.135  | 0.142  |
| Total             |                                                | 36.881 | 31.568 | 32.099 | 33.516 |
| 15. C,PM          | : grains/dscf<br>(M,PM/Vmstd)(.0154 grains/mg) |        |        |        |        |
| front half        |                                                | 0.0417 | 0.0364 | 0.0371 | 0.0384 |
| back half organic |                                                | 0.0006 | 0.0004 | 0.0002 | 0.0004 |
| back half aqueous |                                                | 0.0002 | 0.0001 | 0.0002 | 0.0002 |
| Total             |                                                | 0.0425 | 0.0369 | 0.0374 | 0.0389 |

**CO Emissions**

|          |                                          |      |      |      |      |
|----------|------------------------------------------|------|------|------|------|
| 16. E,CO | : pounds/hr<br>(C,CO)(7.27e-8)(Qstd)(60) | 1.94 | 3.87 | 2.44 | 2.75 |
|----------|------------------------------------------|------|------|------|------|

**NOx Emissions**

|           |                                         |       |       |       |       |
|-----------|-----------------------------------------|-------|-------|-------|-------|
| 17. E,NOx | : pounds/hr<br>C,NOx(1.19e-7)(Qstd)(60) | 20.68 | 18.22 | 16.77 | 18.56 |
|-----------|-----------------------------------------|-------|-------|-------|-------|

Louisiana Pacific Corporation - Clayton, Alabama

No. 2 RTO

VOC/HCOH Emissions Test - June 7, 1995

*Collected Test Data:*

RUN 4

RUN 5

RUN 6

|                                                                |         |         |         |
|----------------------------------------------------------------|---------|---------|---------|
| Date :                                                         | 6/7/95  | 6/7/95  | 6/7/95  |
| Time start :                                                   | 0837    | 1013    | 1148    |
| Time end :                                                     | 0939    | 1115    | 1249    |
| 1. As : sq ft                                                  | 38.2558 | 38.2558 | 38.2558 |
| 2. Dn : in.                                                    | 0.250   | 0.250   | 0.250   |
| 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                                               | 29.49   | 29.49   | 29.49   |
| 7. Pg : in. H2O                                                | -0.83   | -0.83   | -0.83   |
| 8. Vm : cf (dry gas)                                           | 55.538  | 54.931  | 53.364  |
| 9. $\text{sq}(\text{DP})_{\text{avg}}$ : in.H2O <sup>0.5</sup> | 0.9777  | 0.9651  | 0.9594  |
| 10. DH : in. H2O                                               | 2.6542  | 2.5729  | 2.5542  |
| 11. ts : degrees F                                             | 245.71  | 246.17  | 244.04  |
| 12. tm : degrees F                                             | 95.04   | 99.13   | 101.88  |
| 13. Vlc : ml                                                   | 146     | 141     | 121     |
| 14. CO2 : percent                                              | 2.00    | 2.00    | 2.00    |
| 15. O2 : percent                                               | 18.50   | 18.50   | 18.50   |
| 16. CO : percent                                               | 0       | 0       | 0       |
| 17. M <sub>HCOH</sub> : micrograms                             | 3715    | 5408    | 5940    |
| 18. C <sub>VOC</sub> : ppm as CH <sub>4</sub>                  | 2.9     | 2.4     | 3.5     |

245.31

Louisiana Pacific Corporation - Clayton, Alabama  
 No. 2 RTO  
 VOC/HCOH Emissions Test - June 7, 1995

| Calculations: |                                                                                         | RUN 4    | RUN 5    | RUN 6    | AVG.   |
|---------------|-----------------------------------------------------------------------------------------|----------|----------|----------|--------|
| 1. Pm         | : in.Hg<br>(DH/13.6)+Pbar                                                               | 29.6852  | 29.6792  | 29.6778  |        |
| 2. Ps         | : in. Hg<br>(Pg/13.6)+Pbar                                                              | 29.4290  | 29.4290  | 29.4290  |        |
| 3. An         | : sq ft<br>$((Dn/24)^2)(3.1416)$                                                        | 3.41E-04 | 3.41E-04 | 3.41E-04 |        |
| 4. Vmstd      | : dscf<br>$Vm Y(Pm/Pstd)(Tstd/Tm)$                                                      | 52.418   | 51.455   | 49.740   |        |
| 5. Vwstd      | : scf<br>$(.04707cf/ml)(Vlc)$                                                           | 6.872    | 6.637    | 5.695    |        |
| 6. Bws        | : dimensionless<br>$Vwstd/(Vwstd+Vmstd)$                                                | 0.1159   | 0.1142   | 0.1027   | 0.1110 |
| 7. Md         | : mol.wt. dry basis<br>.44 CO <sub>2</sub> +.32 O <sub>2</sub> +.28(CO+N <sub>2</sub> ) | 29.06    | 29.06    | 29.06    |        |
| 8. Ms         | : mol.wt. wet basis<br>$Md(1-Bws)+18 Bws$                                               | 27.78    | 27.80    | 27.92    |        |
| 9. Vs         | : ft/sec<br>$Kp Cp (sqrDP)sqr(Ts/(Ps Ms))$                                              | 65.23    | 64.39    | 63.77    | 64.47  |
| 10. Q         | : cfm<br>$Vs As(60 \text{ sec/min})$                                                    | 149735   | 147805   | 146375   | 147972 |
| 11. Qstw      | : scfm<br>$Q(Ps/Pstd)(Tstd/Ts)$                                                         | 110191   | 108699   | 107974   | 108954 |
| 12. Qstd      | : dscfm<br>$Qstw(1-Bws)$                                                                | 97418    | 96281    | 96880    | 96860  |
| 13. I         | : percent<br>$((100 Ts)(.002669 Vlc+(Vm Pm/Tm))/(60 \theta Vs Ps An)$                   | 100.65   | 99.97    | 96.04    | 98.88  |

**Formaldehyde Emissions**

|            |                                                       |       |       |       |       |
|------------|-------------------------------------------------------|-------|-------|-------|-------|
| 14. E,HCOH | : pounds/hr<br>$(M,HCOH/Vmstd)(Qstd)(60)/(453590000)$ | 0.913 | 1.339 | 1.530 | 1.261 |
| 15. C,HCOH | : ppm<br>$(M,HCOH/Vmstd)(.0283)$                      | 2.01  | 2.97  | 3.38  | 2.79  |

**VOC Emissions**

|           |                                               |      |      |       |      |
|-----------|-----------------------------------------------|------|------|-------|------|
| 16. C,VOC | : ppm as Carbon, dry<br>$((C,VOC)*3)/(1-Bws)$ | 9.84 | 8.13 | 11.70 | 9.89 |
| 17. E,VOC | : pounds/hr<br>$(C,VOC)(3.116e-8)(Qstd)(60)$  | 1.79 | 1.46 | 2.12  | 1.79 |

Louisiana Pacific Corporation - Clayton, Alabama  
 No. 3 RTO  
 PM/NOx/CO Emissions Test - June 6, 1995

Collected Test Data:

|                                                                 | RUN 1   | RUN 2   | RUN 3   |
|-----------------------------------------------------------------|---------|---------|---------|
| Date :                                                          | 6/6/95  | 6/6/95  | 6/6/95  |
| Time start :                                                    | 1055    | 1245    | 1440    |
| Time end :                                                      | 1156    | 1346    | 1542    |
| 1. As : sq ft                                                   | 38.2558 | 38.2558 | 38.2558 |
| 2. Dn : in.                                                     | 0.205   | 0.205   | 0.205   |
| 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                                                | 29.43   | 29.43   | 29.43   |
| 7. Pg : in. H2O                                                 | -0.85   | -0.85   | -0.85   |
| 8. Vm : cf (dry gas)                                            | 40.386  | 40.726  | 41.835  |
| 9. $\text{sqr}(\text{DP})_{\text{avg}}$ : in.H2O <sup>0.5</sup> | 1.0535  | 1.0365  | 1.0357  |
| 10. DH : in. H2O                                                | 1.4813  | 1.4421  | 1.4392  |
| 11. ts : degrees F                                              | 243.38  | 245.83  | 242.33  |
| 12. tm : degrees F                                              | 100.77  | 109.58  | 114.25  |
| 13. Vlc : ml                                                    | 108     | 110     | 104     |
| 14. CO2 : percent                                               | 2.00    | 2.00    | 2.00    |
| 15. O2 : percent                                                | 19.00   | 18.50   | 19.00   |
| 16. CO : percent                                                | 0.00    | 0.00    | 0.00    |
| 17. CO : ppm                                                    | 7.4     | 10.2    | 11.8    |
| 18. M,PM : milligrams                                           |         |         |         |
| front half                                                      | 62.8    | 40.8    | 55.9    |
| back half organic                                               | 0       | 0.1     | 0.3     |
| back half aqueous                                               | 0.8     | 3.2     | 0       |
| 19. NOx : ppm                                                   | 31.2    | 29.1    | 28.4    |

243.85

9.8

30

Louisiana Pacific Corporation - Clayton, Alabama  
 No. 3 RTO  
 PM/NOx/CO Emissions Test - June 6, 1995

**Calculations:**

|          |                                                                    | RUN 1    | RUN 2    | RUN 3    | AVG.   |
|----------|--------------------------------------------------------------------|----------|----------|----------|--------|
| 1. Pm    | : in. Hg<br>(DH/13.6)+Pbar                                         | 29.5389  | 29.5360  | 29.5358  |        |
| 2. Ps    | : in. Hg<br>(Pg/13.6)+Pbar                                         | 29.3675  | 29.3675  | 29.3675  |        |
| 3. An    | : sq ft<br>((Dn/24)^2)(3.1416)                                     | 2.29E-04 | 2.29E-04 | 2.29E-04 |        |
| 4. Vmstd | : dscf<br>Vm Y(Pm/Pstd)(Tstd/Tm)                                   | 37.542   | 37.268   | 37.972   |        |
| 5. Vwstd | : scf<br>(.04707cf/ml)(Vlc)                                        | 5.084    | 5.178    | 4.895    |        |
| 6. Bws   | : dimensionless<br>Vwstd/(Vwstd+Vmstd)                             | 0.1193   | 0.1220   | 0.1142   | 0.1185 |
| 7. Md    | : mol.wt. dry basis<br>.44 CO2+.32 O2+.28(CO+N2)                   | 29.08    | 29.06    | 29.08    |        |
| 8. Ms    | : mol.wt. wet basis<br>Md(1-Bws)+18 Bws                            | 27.76    | 27.71    | 27.81    |        |
| 9. Vs    | : ft/sec<br>Kp Cp (sqrDP)sqr(Ts/(Ps Ms))                           | 70.27    | 69.32    | 68.96    | 69.52  |
| 10. Q    | : cfm<br>Vs As(60 sec/min)                                         | 161302   | 159112   | 158298   | 159571 |
| 11. Qstw | : scfm<br>Q(Ps/Pstd)(Tstd/Ts)                                      | 118847   | 116827   | 116809   | 117494 |
| 12. Qstd | : dscfm<br>Qstw(1-Bws)                                             | 104673   | 102576   | 103469   | 103573 |
| 13. I    | : percent<br>[(100 Ts)(.002669 Vlc+(Vm Pm/Tm))/(60 theta Vs Ps An) | 99.77    | 101.07   | 102.09   | 100.98 |

**Particulate Emissions**

|                   |                                                |        |        |        |        |
|-------------------|------------------------------------------------|--------|--------|--------|--------|
| 14. E,PM          | : pounds/hr<br>(M,PM/Vmstd)(Qstd)(60)/(453590) |        |        |        |        |
| front half        |                                                | 23.162 | 14.854 | 20.149 | 19.388 |
| back half organic |                                                | 0.000  | 0.036  | 0.108  | 0.048  |
| back half aqueous |                                                | 0.295  | 1.165  | 0.000  | 0.487  |
| Total             |                                                | 23.457 | 16.056 | 20.257 | 19.923 |
| 15. C,PM          | : grains/dscf<br>(M,PM/Vmstd)(.0154 grains/mg) |        |        |        |        |
| front half        |                                                | 0.0258 | 0.0169 | 0.0227 | 0.0218 |
| back half organic |                                                | 0.0000 | 0.0000 | 0.0001 | 0.0001 |
| back half aqueous |                                                | 0.0003 | 0.0013 | 0.0000 | 0.0006 |
| Total             |                                                | 0.0261 | 0.0182 | 0.0228 | 0.0224 |

**CO Emissions**

|          |                                          |      |      |      |      |
|----------|------------------------------------------|------|------|------|------|
| 16. E,CO | : pounds/hr<br>(C,CO)(7.27e-8)(Qstd)(60) | 3.38 | 4.56 | 5.33 | 4.42 |
|----------|------------------------------------------|------|------|------|------|

**NOx Emissions**

|           |                                         |       |       |       |       |
|-----------|-----------------------------------------|-------|-------|-------|-------|
| 17. E,NOx | : pounds/hr<br>C,NOx(1.19e-7)(Qstd)(60) | 23.32 | 21.31 | 20.98 | 21.87 |
|-----------|-----------------------------------------|-------|-------|-------|-------|

Louisiana Pacific Corporation - Clayton, Alabama

No. 3 RTO

VOC/HCOH Emissions Test - June 7, 1995

*Collected Test Data:*

RUN 4

RUN 5

RUN 6

|                                                                |         |         |         |
|----------------------------------------------------------------|---------|---------|---------|
| Date :                                                         | 6/7/95  | 6/7/95  | 6/7/95  |
| Time start :                                                   | 0836    | 1012    | 1147    |
| Time end :                                                     | 0938    | 1114    | 1248    |
| 1. As : sq ft                                                  | 38.2558 | 38.2558 | 38.2558 |
| 2. Dn : in.                                                    | 0.250   | 0.250   | 0.250   |
| 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                                               | 29.49   | 29.49   | 29.49   |
| 7. Pg : in. H2O                                                | -0.85   | -0.85   | -0.85   |
| 8. Vm : cf (dry gas)                                           | 57.476  | 57.449  | 57.027  |
| 9. $\text{sq}(\text{DP})_{\text{avg}}$ : in.H2O <sup>0.5</sup> | 1.0126  | 1.0111  | 0.9937  |
| 10. DH : in. H2O                                               | 3.0604  | 3.0458  | 2.9217  |
| 11. ts : degrees F                                             | 251.21  | 253.08  | 252.42  |
| 12. tm : degrees F                                             | 96.88   | 108.63  | 112.85  |
| 13. Vlc : ml                                                   | 153     | 162     | 152     |
| 14. CO2 : percent                                              | 1.00    | 2.00    | 2.00    |
| 15. O2 : percent                                               | 20.00   | 19.00   | 19.00   |
| 16. CO : percent                                               | 0       | 0       | 0       |
| 17. M,HCOH : micrograms                                        | 3067    | 2762    | 2476    |
| 18. C,VOC : ppm as CH <sub>4</sub>                             | 2.2     | 2.2     | 1.8     |

252.24

Louisiana Pacific Corporation - Clayton, Alabama  
 No. 3 RTO  
 VOC/HCOH Emissions Test - June 7, 1995

| Calculations: |                                                                                           | RUN 4    | RUN 5    | RUN 6    | AVG.   |
|---------------|-------------------------------------------------------------------------------------------|----------|----------|----------|--------|
| 1. Pm         | : in.Hg<br>(DH/13.6)+Pbar                                                                 | 29.7150  | 29.7140  | 29.7048  |        |
| 2. Ps         | : in. Hg<br>(Pg/13.6)+Pbar                                                                | 29.4275  | 29.4275  | 29.4275  |        |
| 3. An         | : sq ft<br>((Dn/24) <sup>2</sup> )(3.1416)                                                | 3.41E-04 | 3.41E-04 | 3.41E-04 |        |
| 4. Vmstd      | : dscf<br>Vm Y(Pm/Pstd)(Tstd/Tm)                                                          | 54.122   | 52.977   | 52.184   |        |
| 5. Vwstd      | : scf<br>(.04707cf/ml)(Vlc)                                                               | 7.202    | 7.625    | 7.155    |        |
| 6. Bws        | : dimensionless<br>Vwstd/(Vwstd+Vmstd)                                                    | 0.1174   | 0.1258   | 0.1206   | 0.1213 |
| 7. Md         | : mol.wt. dry basis<br>.44 CO <sub>2</sub> + .32 O <sub>2</sub> + .28(CO+N <sub>2</sub> ) | 28.96    | 29.08    | 29.08    |        |
| 8. Ms         | : mol.wt. wet basis<br>Md(1-Bws)+18 Bws                                                   | 27.67    | 27.69    | 27.74    |        |
| 9. Vs         | : ft/sec<br>Kp Cp (sqrDP)sqr(Ts/(Ps Ms))                                                  | 67.96    | 67.93    | 66.66    | 67.51  |
| 10. Q         | : cfm<br>Vs As(60 sec/min)                                                                | 155982   | 155920   | 153005   | 154969 |
| 11. Qstw      | : scfm<br>Q(Ps/Pstd)(Tstd/Ts)                                                             | 113895   | 113550   | 111531   | 112992 |
| 12. Qstd      | : dscfm<br>Qstw(1-Bws)                                                                    | 100519   | 99263    | 98083    | 99288  |
| 13. I         | : percent<br>[(100 Ts)(.002669 Vlc+(Vm Pm/Tm))/(60 theta Vs Ps An)                        | 100.72   | 99.83    | 99.52    | 100.02 |

**Formaldehyde Emissions**

|            |                                                     |       |       |       |       |
|------------|-----------------------------------------------------|-------|-------|-------|-------|
| 14. E,HCOH | : pounds/hr<br>(M,HCOH/Vmstd)(Qstd)(60)/(453590000) | 0.753 | 0.685 | 0.616 | 0.685 |
| 15. C,HCOH | : ppm<br>(M,HCOH/Vmstd)(.0283)                      | 1.60  | 1.48  | 1.34  | 1.47  |

**VOC Emissions**

|           |                                             |      |      |      |      |
|-----------|---------------------------------------------|------|------|------|------|
| 16. C,VOC | : ppm as Carbon, dry<br>((C,VOC)*3)/(1-Bws) | 7.48 | 7.55 | 6.14 | 7.06 |
| 17. E,VOC | : pounds/hr<br>(C,VOC)(3.116e-8)(Qstd)(60)  | 1.41 | 1.40 | 1.13 | 1.31 |

## 5.0 NOMENCLATURE

| SYMBOL          | UNITS                | DESCRIPTION                                            |
|-----------------|----------------------|--------------------------------------------------------|
| An              | ft <sup>2</sup>      | Nozzle cross sectional area                            |
| As              | ft <sup>2</sup>      | Stack cross sectional area                             |
| Bws             | dimensionless        | Wet gas fraction                                       |
| CO <sub>2</sub> | 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 <sub>2</sub> O | Pressure drop across meter orifice                     |
| ΔP (delta P)    | in. H <sub>2</sub> 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 <sub>2</sub>  | percent              | Nitrogen content by volume, dry basis                  |
| O <sub>2</sub>  | 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 <sup>3</sup>      | 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 ( $\Delta P$ ) and orifice pressure differential ( $\Delta H$ ) 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.

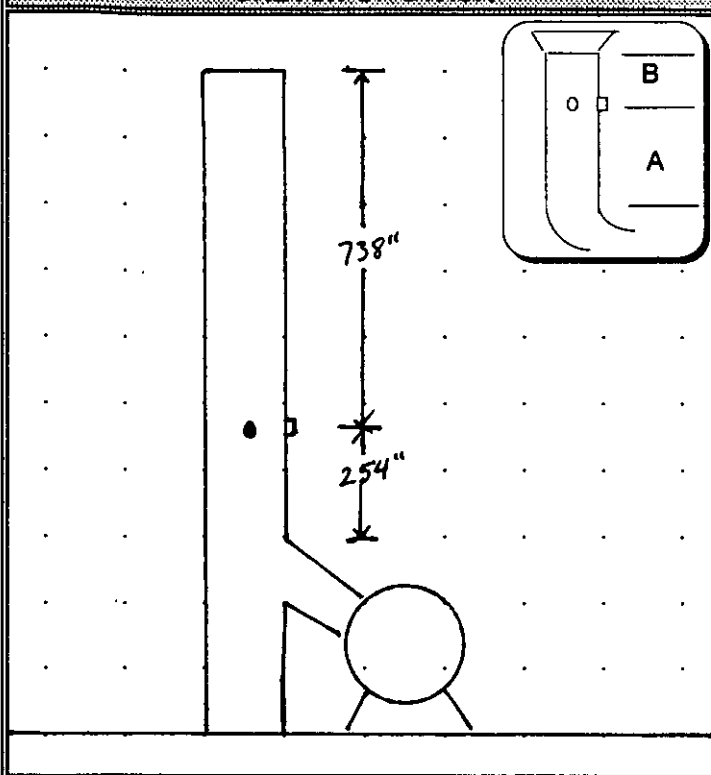
#### SAMPLING AND ANALYTICAL DATA

NO. 2 RTO

# STACK CONFIGURATION AND SAMPLE POINT LAYOUT FOR CIRCULAR STACKS

PLANT: LOUISIANA PACIFIC CLAYTON AL. Date: 6-6-95  
 SOURCE: MDF RODRYERS NO.2 RTO  
 TEST FOR: PM SET-UP  
 TEST OPERATORS: RUSSELL / B. MCKNIGHT / G. MCKNIGHT / CACRUTA

## SKETCH OF STACK



## 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              | 1.2           |
| 2         | 5.6              | 1.3           |
| 3         | 9.9              | 1.2           |
| 4         | 14.8             | 1.1           |
| 5         | 21.0             | 1.1           |
| 6         | 29.9             | 0.85          |
| 7         | 59.0             | 0.75          |
| 8         | 62.9             | 0.77          |
| 9         | 69.0             | 0.70          |
| 10        | 74.0             | 0.60          |
| 11        | 78.3             | 0.45          |
| 12        | 82.1             | 0.40          |
|           |                  | AVG DP: .86   |

STACK DIAMETER: 83.87

Distance from ports to disturbance:

A. to upstream disturbance 254

B. to downstream disturbance 738

Upstream diameters: 3.02

Downstream diameters: 8.79

Minimum No. sample points required: 24

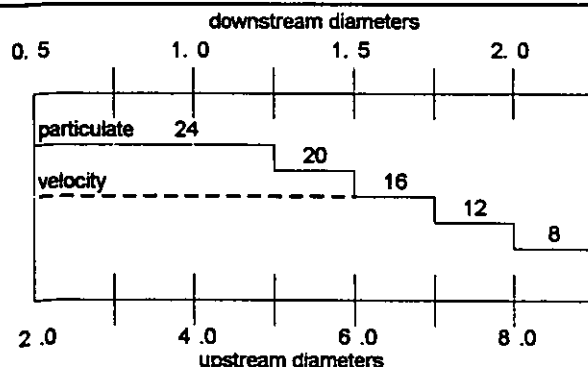
No. sample points selected: 12x2

Port Length: 4.5

Port Type: 4 nipple

Port Access: CATWALK / MONORAILS

## MINIMUM NO. OF POINTS ON A DIAMETER



Pitot ID: \_\_\_\_\_ Pitot Cp: \_\_\_\_\_ Stack Temp: 250

Remarks:

Plant LOUISIANA PACIFIC CORP. CLAYTON, AL.  
 Sampling Location MOF RTO DRYERS No. 2  
 Test For PM 10/NO<sub>x</sub>  
 Test Operators B. MCKINLEY / C. C. C. C. C.  
 RUN No. 1  
 Date 6-6-95  
 Time start 1031 end 1149

Meter Box ANDERSON  
 Sample Box NO. 2  
 Probe/Pitot 744.5  
 Pitot Cp .84  
 Nozzle Dia. .245  
 Filter No.   
 No. Sample Pts. 1242  
 Minutes/Pt. 2.5  
 NOMOGRAPH  
 ΔH@ 1.75  
 Meter Temp. 100  
 % H<sub>2</sub>O 15  
 C-Factor .84  
 Stack Temp. 250  
 Ref. ΔP .76  
 Gas Analysis  
 CO<sub>2</sub> 18  
 O<sub>2</sub> 2.5  
 CO   
 Time   
 Condensate:  
 tare 200 fin 307  
 Silica gel:  
 tare 705 fin 719  
 Remarks:  
0.245  
0.244 } DN = .245"  
0.245

| Port Point | El. Time, Min. | DGM Reading, Ft. | Velocity Head ΔP, in. H <sub>2</sub> O | Orifice ΔH in. H <sub>2</sub> O | Stack Temp. °F | Meter Temp., °F In Out | Oven Temp. °F | Imp. Temp. °F | Vac. in. Hg |
|------------|----------------|------------------|----------------------------------------|---------------------------------|----------------|------------------------|---------------|---------------|-------------|
| 1          | 020            | 363.359          | 1.30                                   | 3.20                            | 228            | 84 83                  | 253           | 55            | 2           |
| 2          | 040            | 365.6            | 1.35                                   | 3.30                            | 241            | 87 83                  | 254           | 56            | 2           |
| 3          | 060            | 368.3            | 1.10                                   | 2.70                            | 231            | 92 83                  | 258           | 56            | 2           |
| 4          | 080            | 370.8            | 1.30                                   | 3.20                            | 233            | 91 86                  | 252           | 56            | 2           |
| 5          | 100            | 373.3            | 1.10                                   | 2.70                            | 232            | 95 87                  | 251           | 56            | 2           |
| 6          | 1230           | 375.8            | 1.10                                   | 2.70                            | 239            | 98 87                  | 250           | 56            | 2           |
| 7          | 1500           | 378.2            | 0.92                                   | 2.25                            | 230            | 101 88                 | 249           | 56            | 2           |
| 8          | 1730           | 380.5            | 0.70                                   | 1.70                            | 238            | 103 90                 | 250           | 56            | 2           |
| 9          | 2000           | 382.4            | 0.66                                   | 1.60                            | 235            | 103 91                 | 253           | 56            | 2           |
| 10         | 2230           | 384.3            | 0.70                                   | 1.70                            | 232            | 103 93                 | 253           | 56            | 2           |
| 11         | 2500           | 386.1            | 0.65                                   | 1.60                            | 228            | 104 94                 | 251           | 56            | 2           |
| 12         | 2730           | 388.1            | 0.45                                   | 1.10                            | 235            | 105 95                 | 250           | 56            | 2           |
| 13         |                |                  |                                        |                                 |                |                        |               |               |             |
| 14         | 3000           | 389.828          | 1.50                                   | 3.20                            | 240            | 102 97                 | 255           | 56            | 2           |
| 15         | 230            | 392.4            | 1.50                                   | 3.20                            | 230            | 110 99                 | 259           | 56            | 2           |
| 16         | 500            | 394.9            | 1.50                                   | 3.20                            | 232            | 112 99                 | 258           | 56            | 2           |
| 17         | 730            | 397.8            | 1.10                                   | 2.70                            | 239            | 113 101                | 253           | 56            | 2           |
| 18         | 1000           | 400.2            | 1.10                                   | 2.70                            | 242            | 113 101                | 250           | 56            | 2           |
| 19         | 1230           | 402.7            | 1.05                                   | 2.60                            | 232            | 113 102                | 250           | 56            | 2           |
| 20         | 1500           | 405.1            | 0.77                                   | 1.90                            | 239            | 113 103                | 202           | 56            | 2           |
| 21         | 1730           | 407.1            | 0.80                                   | 1.95                            | 243            | 112 103                | 241           | 57            | 2           |
| 22         | 2000           | 409.2            | 0.87                                   | 2.10                            | 232            | 112 104                | 253           | 57            | 2           |
| 23         | 2230           | 411.3            | 0.90                                   | 2.20                            | 239            | 112 105                | 253           | 57            | 2           |
| 24         | 2500           | 413.5            | 0.89                                   | 2.15                            | 228            | 113 105                | 249           | 57            | 2           |
| 25         | 2730           | 415.9            | 0.84                                   | 2.00                            | 229            | 113 106                | 252           | 57            | 2           |
| 26         | 3000           | 418.291          |                                        |                                 |                |                        |               |               |             |
| 27         |                |                  |                                        |                                 |                |                        |               |               |             |
| 28         |                |                  |                                        |                                 |                |                        |               |               |             |
| 29         |                |                  |                                        |                                 |                |                        |               |               |             |
| 30         |                |                  |                                        |                                 |                |                        |               |               |             |
| 31         |                |                  |                                        |                                 |                |                        |               |               |             |
| 32         |                |                  |                                        |                                 |                |                        |               |               |             |
| 33         |                |                  |                                        |                                 |                |                        |               |               |             |
| 34         |                |                  |                                        |                                 |                |                        |               |               |             |
| 35         |                |                  |                                        |                                 |                |                        |               |               |             |

1045 → 048 = 003 cfm @ 748

+ plot @ 6.8  
- plot @ 6.6

54.632 9925 24646 23446 9977

Plant LOUISIANA PACIFIC CORP. CLAYTON, AL.  
 Sampling Location MDF RTO DRIVERS NO. 2  
 Test For PM 100/NO<sub>x</sub>  
 Test Operators B. MCKNIGHT / CARRUTH

RUN No. 2  
 Date 6-6-95  
 Time start 1221 end 1328

Meter Box ANDERSON  
 Sample Box NO. 1  
 Probe/Pitot 74.5.5.  
 Pitot Cp .84  
 Nozzle Dia. .295  
 Filter No.

No. Sample Pts. 1212  
 Minutes/Pt. 2.5  
 NOMOGRAPH  
 $\Delta H @$  1.75  
 Meter Temp. 100  
 % H<sub>2</sub>O 15  
 C-Factor .84  
 Stack Temp. 258  
 Ref.  $\Delta P$  .74

Gas Analysis  
 CO<sub>2</sub> 2.0  
 O<sub>2</sub> 18.0  
 CO   
 Time

Condensate:  
 tare 200 fin 304  
 Silica gel:  
 tare 682 fin 698

Remarks:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

| Port Point | El. Time, Min. | DGM Reading, Ft. | Velocity Head $\Delta P$ , in. H <sub>2</sub> O | Orifice $\Delta H$ in. H <sub>2</sub> O | Stack Temp. °F | Meter Temp., °F<br>in      out | Oven Temp. °F | Imp. Temp. °F | Vac in. Hg |
|------------|----------------|------------------|-------------------------------------------------|-----------------------------------------|----------------|--------------------------------|---------------|---------------|------------|
| 1          | 000            | 418.615          | 1.30                                            | 3.20                                    | 236            | 88    92                       | 203           | 58.2          |            |
| 2          | 230            | 420.8            | 1.30                                            | 3.20                                    | 247            | 92    92                       | 205           | 58.2          |            |
| 3          | 500            | 423.4            | 1.30                                            | 3.20                                    | 229            | 97    91                       | 225           | 58.2          |            |
| 4          | 700            | 426.1            | 1.20                                            | 2.90                                    | 240            | 102    91                      | 257           | 58.2          |            |
| 5          | 000            | 428.6            | 1.05                                            | 2.60                                    | 230            | 105    91                      | 250           | 58.2          |            |
| 6          | 1230           | 432.5            | 1.05                                            | 2.60                                    | 230            | 105    91                      | 250           | 58.2          |            |
| 7          | 1000           | 433.5            | 0.72                                            | 1.75                                    | 235            | 101    94                      | 253           | 58.2          |            |
| 8          | 1730           | 435.3            | 0.65                                            | 1.60                                    | 238            | 102    94                      | 254           | 58.2          |            |
| 9          | 1000           | 437.2            | 0.67                                            | 1.65                                    | 240            | 103    95                      | 248           | 58.2          |            |
| 10         | 2030           | 439.2            | 0.65                                            | 1.60                                    | 231            | 105    95                      | 250           | 58.2          |            |
| 11         | 2030           | 441.0            | 0.60                                            | 1.45                                    | 236            | 107    96                      | 251           | 58.2          |            |
| 12         | 2730           | 442.7            | 0.65                                            | 1.60                                    | 248            | 108    97                      | 251           | 58.2          |            |
| 13         |                |                  |                                                 |                                         |                |                                |               |               |            |
| 14         | 2700           | 444.831          | 1.50                                            | 3.70                                    | 244            | 107    98                      | 247           | 58.2          |            |
| 15         | 230            | 447.2            | 1.50                                            | 3.70                                    | 235            | 113    100                     | 255           | 58.2          |            |
| 16         | 500            | 450.1            | 1.40                                            | 3.40                                    | 236            | 116    101                     | 255           | 58.2          |            |
| 17         | 730            | 452.6            | 1.20                                            | 2.95                                    | 233            | 117    102                     | 268           | 58.2          |            |
| 18         | 840            | 455.3            | 1.10                                            | 2.70                                    | 239            | 119    102                     | 247           | 58.2          |            |
| 19         | 1230           | 457.8            | 0.92                                            | 2.30                                    | 232            | 117    103                     | 254           | 58.2          |            |
| 20         | 1530           | 460.2            | 0.80                                            | 1.90                                    | 238            | 116    104                     | 253           | 58.2          |            |
| 21         | 1730           | 462.2            | 0.74                                            | 1.80                                    | 305            | 115    105                     | 250           | 58.2          |            |
| 22         | 2000           | 464.1            | 0.80                                            | 1.95                                    | 231            | 115    105                     | 260           | 58.2          |            |
| 23         | 2030           | 466.2            | 0.92                                            | 1.75                                    | 241            | 116    106                     | 254           | 58.2          |            |
| 24         | 2030           | 468.2            | 0.90                                            | 2.20                                    | 241            | 116    106                     | 247           | 58.2          |            |
| 25         | 2330           | 470.5            | 0.94                                            | 2.30                                    | 238            | 118    107                     | 250           | 58.2          |            |
| 26         | 60/100         |                  |                                                 |                                         |                |                                |               |               |            |

LEAK CHECK: .048 → 057 = 003 cfm @ 7 1/2" Hg

+ pitot v 6.8  
 - pitot v 6.7

51.885    1.9870    2.4167    239.63    103.29

Plant LOUISIANA PACIFIC CORP. CLAYTON, AL.  
 Sampling Location MDF RTO DRUMS NO. 2  
 Test For PM 10.1NOx  
 Test Operators G. McKnight / L. Caruth

RUN No. 3  
 Date 6-6-96  
 Time start 1401 end 1503

|                                                |                                                                                                                                                   |                                                                                                |          |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|----------|
| Meter Box<br><u>ANDERSON</u>                   | No. Sample Pts.<br><u>12K2</u>                                                                                                                    | Gas Analysis<br>CO <sub>2</sub> <u>2.0</u><br>O <sub>2</sub> <u>18.0</u><br>CO<br>Time         | Remarks: |
| Sample Box<br><u>NO.</u>                       | Minutes/Pt.<br><u>2.5</u>                                                                                                                         |                                                                                                |          |
| Probe/Pitot<br><u>745.5</u>                    | NOMOGRAPH<br>ΔH@<br>Meter Temp. <u>100</u><br>% H <sub>2</sub> O <u>15</u><br>C-Factor <u>.84</u><br>Stack Temp. <u>250</u><br>Ref. ΔP <u>.76</u> |                                                                                                |          |
| Pitot Cp<br><u>.89</u>                         |                                                                                                                                                   | Condensate:<br>tare <u>200</u> fin <u>302</u><br>Silica gel:<br>tare <u>658</u> fin <u>674</u> |          |
| Nozzle Dia.<br><u>.245</u>                     |                                                                                                                                                   |                                                                                                |          |
| Filter No.                                     |                                                                                                                                                   |                                                                                                |          |
| Amb. Temp. °F<br><u>80</u>                     |                                                                                                                                                   |                                                                                                |          |
| Bar. Press. "Hg<br><u>29.43</u>                |                                                                                                                                                   |                                                                                                |          |
| Static Press. "H <sub>2</sub> O<br><u>-.85</u> |                                                                                                                                                   |                                                                                                |          |

| Port Point                                | El. Time, Min. | DGM Reading, Ft. <sup>3</sup> | Velocity Head ΔP, in. H <sub>2</sub> O | Orifice ΔH in. H <sub>2</sub> O | Stack Temp. °F | Meter Temp., °F<br>In Out | Oven Temp. °F | Imp. Temp. °F | Vac in. Hg |
|-------------------------------------------|----------------|-------------------------------|----------------------------------------|---------------------------------|----------------|---------------------------|---------------|---------------|------------|
| 1                                         | 000            | 473.414                       | 1.40                                   | 3.40                            | 228            | 93 93                     | 257           | 60            | 2          |
| 2                                         | 230            | 475.9                         | 1.30                                   | 3.28                            | 227            | 96 95                     | 249           | 60            | 2          |
| 3                                         | 500            | 478.4                         | 1.30                                   | 3.20                            | 239            | 100 94                    | 249           | 60            | 2          |
| 4                                         | 730            | 481.2                         | 1.10                                   | 2.70                            | 242            | 103 94                    | 250           | 60            | 2          |
| 5                                         | 1000           | 483.3                         | 1.00                                   | 2.40                            | 235            | 106 94                    | 254           | 60            | 2          |
| 6                                         | 1230           | 485.8                         | 0.85                                   | 2.10                            | 235            | 108 95                    | 249           | 60            | 2          |
| 7                                         | 1500           | 487.8                         | 0.75                                   | 1.80                            | 231            | 109 95                    | 253           | 60            | 2          |
| 8                                         | 1730           | 489.8                         | 0.65                                   | 1.60                            | 236            | 109 97                    | 254           | 60            | 2          |
| 9                                         | 2000           | 491.6                         | 0.65                                   | 1.60                            | 232            | 110 98                    | 255           | 60            | 2          |
| 10                                        | 2230           | 493.5                         | 0.65                                   | 1.60                            | 233            | 111 99                    | 252           | 60            | 2          |
| 11                                        | 2500           | 495.4                         | 0.60                                   | 1.50                            | 228            | 112 100                   | 253           | 60            | 2          |
| 12                                        | 2730           | 497.2                         | 0.58                                   | 1.48                            | 225            | 111 101                   | 247           | 60            | 2          |
| 13                                        | 3000           | 499.125                       | 1.50                                   | 3.60                            | 241            | 101 100                   | 257           | 60            | 2          |
| 14                                        | 230            | 500.8                         | 1.40                                   | 3.40                            | 231            | 108 103                   | 249           | 60            | 2          |
| 15                                        | 500            | 503.2                         | 1.30                                   | 3.20                            | 238            | 113 103                   | 269           | 60            | 2          |
| 16                                        | 730            | 506.7                         | 1.50                                   | 3.60                            | 231            | 117 104                   | 248           | 60            | 2          |
| 17                                        | 1000           | 508.7                         | 1.20                                   | 2.70                            | 243            | 119 105                   | 249           | 60            | 2          |
| 18                                        | 1230           | 511.4                         | 1.00                                   | 2.40                            | 231            | 119 105                   | 250           | 60            | 2          |
| 19                                        | 1500           | 513.5                         | 0.75                                   | 1.80                            | 242            | 116 106                   | 259           | 60            | 2          |
| 20                                        | 1730           | 515.4                         | 0.75                                   | 1.80                            | 234            | 116 106                   | 256           | 60            | 2          |
| 21                                        | 2000           | 517.4                         | 0.80                                   | 1.90                            | 238            | 116 107                   | 270           | 60            | 2          |
| 22                                        | 2230           | 519.4                         | 0.95                                   | 2.30                            | 244            | 117 108                   | 259           | 60            | 2          |
| 23                                        | 2500           | 521.8                         | 0.85                                   | 2.10                            | 236            | 118 108                   | 254           | 60            | 2          |
| 24                                        | 2730           | 523.8                         | 0.90                                   | 2.10                            | 230            | 118 108                   | 263           | 60            | 2          |
| 25                                        | 3000           | 526.231                       |                                        |                                 |                |                           |               |               |            |
| LEAK CHECK: 043 → .085 = .002 cfm @ 6" Hg |                |                               |                                        |                                 |                |                           |               |               |            |
| + before<br>- after                       |                |                               |                                        |                                 |                |                           |               |               |            |
| 52.817 9831 2.3950 234.58 105.50          |                |                               |                                        |                                 |                |                           |               |               |            |

# PARTICULATE CATCH ANALYSIS

SAMPLES:

L.P. Clayton - No. 2 RTO Outlet

DATE TAKEN:

6-6-95

DATE ANALYZED:

6-9-95

DELIVERED BY:

RA

RECEIVED BY:

DER

ANALYZED BY:

DER

(Attach chain of custody if additional exchanges occur)

FILTERS:

| RUN NO.            | 1     | 2     | 3     |  |
|--------------------|-------|-------|-------|--|
| FILTER NO.         | 2747  | 2791  | 2819  |  |
| FILTER TARE, gms.  | .5710 | .5703 | .5748 |  |
|                    | .6618 | .6346 | .6517 |  |
|                    | .6618 | .6346 | .6520 |  |
| FINAL WEIGHT, gms. | .6618 | .6346 | .6520 |  |
| NET GAIN, gms.     | .0908 | .0643 | .0772 |  |

PROBE WASH:

| RUN NO.            | 1        | 2        | 3        |          |
|--------------------|----------|----------|----------|----------|
| CONTAINER I.D.     | ZRTO R1  | ZRTO R2  | ZRTO R3  | —        |
| VOLUME INTACT?     | ✓        | ✓        | ✓        | —        |
| VOLUME, ml         | 170      | 170      | 210      | 200      |
|                    | (61)     | (65)     | (80)     | ( )      |
| TARE WEIGHT, gms.  | 113.9438 | 114.7933 | 107.9565 | 109.1616 |
|                    | 114.0314 | 114.8330 | 107.9966 | 109.1618 |
|                    | 114.0310 | 114.8326 | 107.9967 | 109.1615 |
| FINAL WEIGHT, gms. | 114.0310 | 114.8326 | 107.9967 | 109.1616 |
| NET GAIN, gms.     | .0472    | .0493    | .0402    | —        |
| LESS BLANK, gms.   | — 0 —    | — 0 —    | — 0 —    | —        |

PARTICULATE SAMPLE WEIGHT:

| RUN NO.             | 1     | 2     | 3     |  |
|---------------------|-------|-------|-------|--|
| filter + probe, mg. | 138.0 | 113.6 | 117.4 |  |

# BACK HALF PARTICULATE CATCH ANALYSIS

Methylene Chloride Extraction

SAMPLES:

L.P. Clayton - No. 2 RTO extract

DATE TAKEN:

6-6-95

DATE ANALYZED:

6-9-95

DELIVERED BY:

[Signature]

RECEIVED BY:

[Signature]

ANALYZED BY:

[Signature]

(Attach chain of custody if additional exchanges occur)

| RUN NO.        | 1           | 2           | 3           |  |
|----------------|-------------|-------------|-------------|--|
| CONTAINER I.D. | 2RTO R1 BAK | 2RTO R2 BAK | 2RTO R3 BAK |  |
| VOLUME INTACT? | ✓           | ✓           | ✓           |  |
| VOLUME, ml     | 360         | 350         | 350         |  |

## Organic Fraction

|                      | (A)      | (C)     | (D)     | ( ) |
|----------------------|----------|---------|---------|-----|
| TARE WEIGHT, gms.    | 104.7118 | 98.5607 | 99.7480 |     |
|                      | 104.7141 | 98.5620 | 99.7488 |     |
|                      | 104.7139 | 98.5623 | 99.7486 |     |
| FINAL WEIGHT, gms.   | 104.7139 | 98.5623 | 99.7486 |     |
| less blank, gms.     |          |         |         |     |
| NET GAIN, milligrams | 2.1      | 1.6     | 0.6     |     |

## Aqueous Fraction

|                      | (J)      | (K)      | (L)      | ( ) |
|----------------------|----------|----------|----------|-----|
| TARE WEIGHT, gms.    | 104.4063 | 107.2293 | 102.8003 |     |
|                      | 104.4073 | 107.2299 | 102.8012 |     |
|                      | 104.4071 | 107.2296 | 102.8008 |     |
| FINAL WEIGHT, gms.   | 104.4071 | 107.2296 | 102.8008 |     |
| less blank, gms.     |          |          |          |     |
| NET GAIN, milligrams | 0.8      | 0.3      | 0.5      |     |

Plant LOUISIANA PACIFIC CORP. CHATTON, ME.  
 Sampling Location MDE RTO DRYER NO.2  
 Test For HCHO / VOC  
 Test Operators BRAD MCKINNEY / CARROLL

RUN No. 1  
 Date 6-7-95  
 Time start 0837 end 0939

Meter Box ANDERSEN  
 Sample Box LD.1  
 Probe/Pitot 74.5.5.  
 Pitot Cp .84  
 Nozzle Dia. .250  
 Filter No.

No. Sample Pts. 12x2  
 Minutes/Pt. 2.5  
 NOMOGRAPH  
 Δ H @ 1.75  
 Meter Temp. 100  
 % H<sub>2</sub>O 15  
 C-Factor .84  
 Stack Temp. 250  
 Ref. Δ P .70

Gas Analysis Final  
 CO<sub>2</sub> 2.0  
 O<sub>2</sub> 18.5  
 CO   
 Time   
 Condensate:  
 tare REMARKS fin   
 Silica gel:  
 tare REMARKS fin

Remarks:  
Impingers: Take Final  

|           |     |     |
|-----------|-----|-----|
| 1) DNPH   | 524 | 677 |
| 2) DNPH   | 584 | 609 |
| 3) MT     | 463 | 466 |
| 4) S. Gel | 655 | 670 |

| Port Point | El. Time, Min. | DGM Reading, Ft. | Velocity Head Δ P, in. H <sub>2</sub> O | Orifice Δ H, in. H <sub>2</sub> O | Stack Temp. °F | Meter Temp., °F<br>in   Out | Oven Temp. °F | Imp. Temp. °F | Vac. in. Hg |
|------------|----------------|------------------|-----------------------------------------|-----------------------------------|----------------|-----------------------------|---------------|---------------|-------------|
| 1          | 000            | 526.410          | 1.30                                    | 3.40                              | 237            | 76   75                     | N/A           | 58            | 2           |
| 2          | 230            | 528.9            | 1.30                                    | 3.40                              | 238            | 81   75                     |               | 58            | 2           |
| 3          | 500            | 531.6            | 1.20                                    | 3.20                              | 243            | 86   76                     |               | 58            | 2           |
| 4          | 730            | 534.2            | 1.20                                    | 3.20                              | 258            | 90   77                     |               | 58            | 2           |
| 5          | 1000           | 536.8            | 1.10                                    | 2.95                              | 242            | 94   78                     |               | 58            | 2           |
| 6          | 1230           | 539.2            | 0.98                                    | 2.60                              | 257            | 96   80                     |               | 58            | 2           |
| 7          | 1500           | 541.5            | 0.78                                    | 2.65                              | 238            | 98   81                     |               | 58            | 2           |
| 8          | 1730           | 543.6            | 0.64                                    | 1.70                              | 247            | 98   83                     |               | 58            | 2           |
| 9          | 2000           | 545.5            | 0.64                                    | 1.70                              | 240            | 98   85                     |               | 58            | 2           |
| 10         | 2230           | 547.5            | 0.60                                    | 1.40                              | 244            | 99   87                     |               | 58            | 2           |
| 11         | 2500           | 549.3            | 0.52                                    | 1.40                              | 237            | 100   80                    |               | 58            | 2           |
| 12         | 2730           | 551.0            | 0.47                                    | 1.25                              | 253            | 100   90                    |               | 58            | 2           |
| 13         |                |                  |                                         |                                   |                |                             |               |               |             |
| 14         | 3000           | 552.820          | 1.50                                    | 4.00                              | 246            | 98   92                     |               | 58            | 2           |
| 15         | 230            | 555.3            | 1.40                                    | 3.70                              | 235            | 105   94                    |               | 58            | 2           |
| 16         | 500            | 558.2            | 1.40                                    | 3.70                              | 251            | 108   95                    |               | 58            | 2           |
| 17         | 730            | 560.9            | 1.30                                    | 3.45                              | 250            | 110   76                    |               | 58            | 2           |
| 18         | 1000           | 563.8            | 1.25                                    | 3.30                              | 248            | 111   97                    |               | 59            | 2           |
| 19         | 1230           | 566.4            | 1.10                                    | 3.00                              | 242            | 111   98                    |               | 59            | 2           |
| 20         | 1500           | 569.1            | 0.80                                    | 2.20                              | 252            | 111   99                    |               | 59            | 2           |
| 21         | 1730           | 571.2            | 0.72                                    | 1.90                              | 245            | 109   99                    |               | 59            | 2           |
| 22         | 2000           | 573.2            | 0.85                                    | 2.25                              | 253            | 108   100                   |               | 59            | 2           |
| 23         | 2230           | 575.4            | 0.89                                    | 2.35                              | 240            | 109   100                   |               | 59            | 2           |
| 24         | 2500           | 577.7            | 0.80                                    | 2.15                              | 243            | 110   101                   |               | 59            | 2           |
| 25         | 2730           | 579.9            | 0.79                                    | 2.05                              | 256            | 109   101                   |               | 59            | 2           |
| 26         | END            | 6000             | 582.148                                 |                                   |                |                             |               |               |             |

LEAK CHECK: .010 → .014 = .004 cm H<sub>2</sub>O

+ pitot ✓ 6.5  
 - probe 6.4

55.538 9777 26542 245.71 95.04

Plant LOUISIANA PACIFIC CORP. CLAYTON, AL.  
 Sampling Location MOF RTO DRUX NO.2  
 Test For HCOA / VOC  
 Test Operators B. MCKNIGHT / L. CARLATH MAA  
ADEN  
 RUN No. 2  
 Date 6-2-95  
 Time start 1013 end 1115

|                                 |                |                    |             |                            |                                                                                                                                                                             |
|---------------------------------|----------------|--------------------|-------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Meter Box                       | <u>RAT</u>     | No. Sample Pts.    | <u>12X2</u> | Gas Analysis               | Remarks:<br><u>Impingers: TARE FINAC</u><br>1) DNPH <u>585</u> <u>684</u><br>2) DNPH <u>606</u> <u>629</u><br>3) MT <u>474</u> <u>476</u><br>4) S.GEL <u>701</u> <u>718</u> |
| Sample Box                      | <u>NO.2</u>    | Minutes/Pt.        | <u>2.5</u>  | CO <sub>2</sub> <u>2.3</u> |                                                                                                                                                                             |
| Probe/Pitot                     | <u>764.4ea</u> | NOMOGRAPH          |             | O <sub>2</sub> <u>18.5</u> |                                                                                                                                                                             |
| Pitot Cp                        | <u>.81</u>     | ΔH@                | <u>1.75</u> | CO                         |                                                                                                                                                                             |
| Nozzle Dia.                     | <u>.250</u>    | Meter Temp.        | <u>100</u>  | Time                       |                                                                                                                                                                             |
| Filter No.                      |                | % H <sub>2</sub> O | <u>15</u>   | Condensate:                |                                                                                                                                                                             |
| Amb. Temp. °F                   | <u>69</u>      | C-Factor           | <u>.84</u>  | tare <u>REMARKS</u> fin    |                                                                                                                                                                             |
| Bar. Press. "Hg                 | <u>29.49</u>   | Stack Temp.        | <u>250</u>  | Silica gel:                |                                                                                                                                                                             |
| Static Press. "H <sub>2</sub> O | <u>-.83</u>    | Ref. ΔP            | <u>.70</u>  | tare <u>REMARKS</u> fin    |                                                                                                                                                                             |

| Port Point | El. Time, Min. | DGM Reading, Ft. | Velocity Head ΔP, in. H <sub>2</sub> O | Orifice ΔH in. H <sub>2</sub> O | Stack Temp. °F | Meter Temp., °F in | Meter Temp., °F Out | Oven Temp. °F | Imp. Temp. °F | Vac in. Hg |
|------------|----------------|------------------|----------------------------------------|---------------------------------|----------------|--------------------|---------------------|---------------|---------------|------------|
| 1          | 000            | 582.445          | 1.40                                   | 3.75                            | 241            | 85                 | 89                  | N/A           | 58.2          |            |
| 2          | 030            | 584.9            | 1.40                                   | 3.75                            | 240            | 88                 | 89                  |               | 58.2          |            |
| 3          | 060            | 587.7            | 1.30                                   | 3.40                            | 258            | 93                 | 88                  |               | 58.2          |            |
| 4          | 090            | 590.3            | 1.30                                   | 3.40                            | 249            | 96                 | 87                  |               | 58.2          |            |
| 5          | 1000           | 593.0            | 1.05                                   | 2.80                            | 251            | 99                 | 88                  |               | 58.2          |            |
| 6          | 1230           | 595.4            | 0.95                                   | 2.55                            | 240            | 100                | 89                  |               | 58.2          |            |
| 7          | 1500           | 597.8            | 0.70                                   | 1.85                            | 247            | 101                | 89                  |               | 58.2          |            |
| 8          | 1730           | 599.8            | 0.59                                   | 1.55                            | 243            | 101                | 90                  |               | 58.2          |            |
| 9          | 1900           | 601.6            | 0.50                                   | 1.35                            | 255            | 100                | 91                  |               | 58.2          |            |
| 10         | 2200           | 603.3            | 0.42                                   | 1.10                            | 238            | 100                | 92                  |               | 58.2          |            |
| 11         | 1500           | 604.9            | 0.48                                   | 1.30                            | 250            | 100                | 92                  |               | 58.2          |            |
| 12         | 2730           | 606.6            | 0.42                                   | 1.10                            | 244            | 101                | 94                  |               | 58.2          |            |
| 13         |                |                  |                                        |                                 |                |                    |                     |               |               |            |
| 14         | 310            | 608.220          | 1.50                                   | 4.00                            | 250            | 99                 | 95                  |               | 58.2          |            |
| 15         | 230            | 611.2            | 1.50                                   | 4.00                            | 244            | 107                | 97                  |               | 58.2          |            |
| 16         | 500            | 613.8            | 1.40                                   | 3.70                            | 244            | 110                | 98                  |               | 58.2          |            |
| 17         | 730            | 616.5            | 1.40                                   | 3.70                            | 246            | 112                | 99                  |               | 58.2          |            |
| 18         | 1000           | 619.3            | 1.30                                   | 3.40                            | 242            | 113                | 100                 |               | 58.2          |            |
| 19         | 1230           | 622.0            | 1.10                                   | 2.95                            | 242            | 113                | 100                 |               | 58.2          |            |
| 20         | 1500           | 624.6            | 0.80                                   | 2.15                            | 257            | 112                | 101                 |               | 57.2          |            |
| 21         | 1730           | 626.8            | 0.76                                   | 2.05                            | 239            | 110                | 102                 |               | 57.2          |            |
| 22         | 2000           | 628.8            | 0.77                                   | 2.05                            | 250            | 110                | 102                 |               | 57.2          |            |
| 23         | 2230           | 630.9            | 0.65                                   | 1.70                            | 247            | 109                | 102                 |               | 57.2          |            |
| 24         | 2500           | 632.8            | 0.80                                   | 2.15                            | 247            | 109                | 103                 |               | 57.2          |            |
| 25         | 2730           | 635.1            | 0.75                                   | 2.00                            | 244            | 110                | 103                 |               | 57.2          |            |
| 26         | 2900           | 637.370          |                                        |                                 |                |                    |                     |               |               |            |

100K check .025 → .027 = .002 cm a "H<sub>2</sub>

+ pitot up 6.2  
 - pitot up 6.0

54.931 .9651 2.5729 246.17 99.13

Plant LOUISIANA PACIFIC CORP. CLAYTON, AL.  
 Sampling Location MDP RTO ORATOR NO. 2  
 Test For HCHO / VOC  
 Test Operators B. McFARLAND / L. CALVERT

RUN No. 3  
 Date 6-7-95  
 Time start 1148 end 1249

Meter Box ANDREX  
 Sample Box NO.  
 Probe/Pitot 74.4  
 Pitot Cp .84  
 Nozzle Dia. .250  
 Filter No.

No. Sample Pts. 1282  
 Minutes/Pt. 2.5  
 NOMOGRAPH  
 ΔH@ 1.75  
 Meter Temp. 100  
 % H<sub>2</sub>O 15  
 C-Factor .89  
 Stack Temp. 250  
 Ref. ΔP .70

Gas Analysis MT/ADF & pit  
 CO<sub>2</sub> 2.0  
 O<sub>2</sub> 11.5  
 CO   
 Time

Condensate:  
 tare 0.0000 fin   
 Silica gel:  
 tare 0.0000 fin

Remarks:  

| IMPURITIES | TARE | FINAL |
|------------|------|-------|
| 1) DNPH    | 581  | 676   |
| 2) DNPH    | 584  | 603   |
| 3) MT      | 463  | 465   |
| 4) SGEL    | 675  | 680   |

| Port Point | El. Time, Min. | DGM Reading, Ft. |        | Velocity Head Δ P, in. H <sub>2</sub> O | Orifice Δ H in. H <sub>2</sub> O | Stack Temp. °F | Meter Temp., °F |     | Oven Temp. °F | Imp. Temp. °F | Vac in. Hg |   |
|------------|----------------|------------------|--------|-----------------------------------------|----------------------------------|----------------|-----------------|-----|---------------|---------------|------------|---|
|            |                |                  |        |                                         |                                  |                | in              | Out |               |               |            |   |
| 1          | 1              | 020              | 637.60 | 2                                       | 1.40                             | 3.80           | 238             | 87  | 9.1           | N/A           | 65         | 2 |
|            | 2              | 030              | 639.9  |                                         | 1.20                             | 3.20           | 256             | 91  | 9.1           |               | 60         | 2 |
|            | 3              | 050              | 642.5  |                                         | 1.20                             | 3.20           | 238             | 94  | 9.0           |               | 60         | 2 |
|            | 4              | 070              | 645.0  |                                         | 1.10                             | 3.00           | 246             | 98  | 9.0           |               | 60         | 2 |
|            | 5              | 090              | 647.5  |                                         | 1.00                             | 2.80           | 238             | 101 | 9.1           |               | 60         | 2 |
|            | 6              | 1130             | 649.8  |                                         | 0.94                             | 2.50           | 252             | 102 | 9.1           |               | 60         | 2 |
|            | 7              | 1500             | 651.7  |                                         | 0.73                             | 2.00           | 237             | 101 | 9.2           |               | 60         | 2 |
|            | 8              | 1730             | 653.6  |                                         | 0.65                             | 1.70           | 242             | 103 | 9.3           |               | 60         | 2 |
|            | 9              | 2100             | 655.5  |                                         | 0.57                             | 1.50           | 247             | 104 | 9.4           |               | 60         | 2 |
|            | 10             | 2530             | 657.2  |                                         | 0.52                             | 1.40           | 240             | 103 | 9.5           |               | 60         | 2 |
|            | 11             | 2500             | 658.9  |                                         | 0.57                             | 1.50           | 238             | 104 | 9.6           |               | 60         | 2 |
|            | 12             | 2730             | 660.6  |                                         | 0.45                             | 1.20           | 239             | 105 | 9.7           |               | 60         | 2 |
| 13         | 1              | 2060             | 662.30 | 5                                       | 1.50                             | 4.00           | 240             | 103 | 9.9           |               | 60         | 2 |
|            | 2              | 2130             | 665.0  |                                         | 1.40                             | 3.80           | 253             | 111 | 10.0          |               | 60         | 2 |
|            | 3              | 2300             | 667.7  |                                         | 1.40                             | 3.80           | 247             | 113 | 10.1          |               | 60         | 2 |
|            | 4              | 2500             | 670.4  |                                         | 1.40                             | 3.80           | 248             | 115 | 10.2          |               | 60         | 2 |
|            | 5              | 2700             | 673.4  |                                         | 1.20                             | 3.20           | 249             | 116 | 10.3          |               | 60         | 2 |
|            | 6              | 2830             | 676.0  |                                         | 1.00                             | 2.60           | 245             | 115 | 10.4          |               | 60         | 2 |
|            | 7              | 2900             | 678.3  |                                         | 0.77                             | 2.10           | 237             | 114 | 10.4          |               | 60         | 2 |
|            | 8              | 1730             | 680.4  |                                         | 0.73                             | 2.00           | 247             | 113 | 10.5          |               | 60         | 2 |
|            | 9              | 2000             | 682.8  |                                         | 0.72                             | 2.00           | 246             | 112 | 10.3          |               | 62         | 2 |
|            | 10             | 2230             | 684.6  |                                         | 0.83                             | 2.20           | 247             | 112 | 10.5          |               | 62         | 2 |
|            | 11             | 2500             | 686.6  |                                         | 0.73                             | 2.00           | 242             | 112 | 10.6          |               | 62         | 2 |
|            | 12             | 2730             | 688.7  |                                         | 0.73                             | 2.00           | 245             | 112 | 10.6          |               | 62         | 2 |
| 1300       |                | 2900             | 690.9  | 66                                      |                                  |                |                 |     |               |               |            |   |

LEAK CHECK: 0.49 → 0.49 = 0.04 g/min @ 17.5

+ offset 6.2  
 - offset 6.2

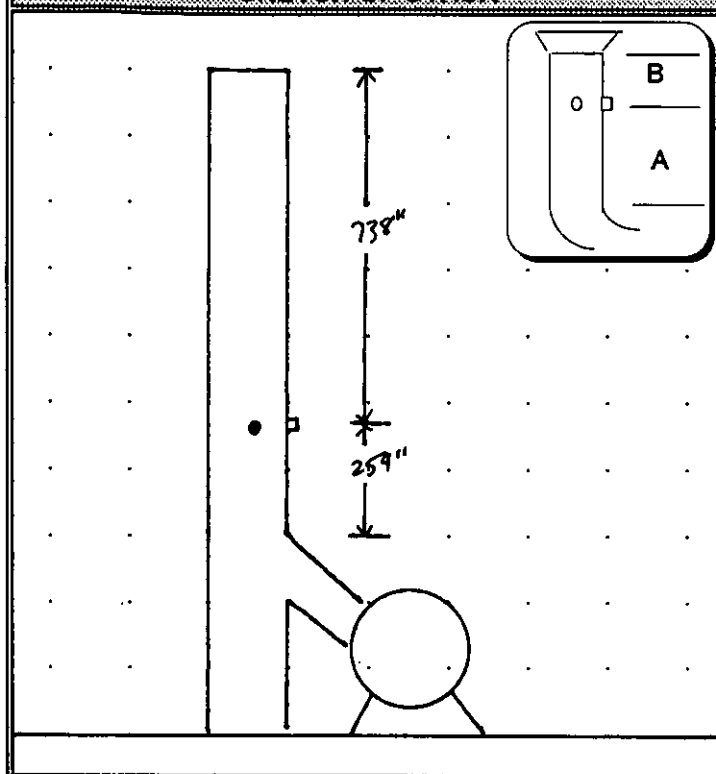
53.364 9594 255.42 244.04 101.88

NO. 3 RTO

# STACK CONFIGURATION AND SAMPLE POINT LAYOUT FOR CIRCULAR STACKS

PLANT: LOUISIANA PACIFIC CORP. CLAYTON AL Date: 6-6-95  
 SOURCE: MDF RTO DRUCKS NO. 3  
 TEST FOR: PM - SETUP  
 TEST OPERATORS: ROSSAL / B. ASKINIGHT / G. ASKINIGHT / C. ASKINIGHT

## SKETCH OF STACK



## 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 |

## STACK DIAMETER:

Distance from ports to disturbance:

A. to upstream disturbance

254

B. to downstream disturbance

738

Upstream diameters:

3.02

Downstream diameters:

8.79

Minimum No. sample points required:

24

No. sample points selected:

1242

Port Length:

4.5"

Port Type:

4" nipple

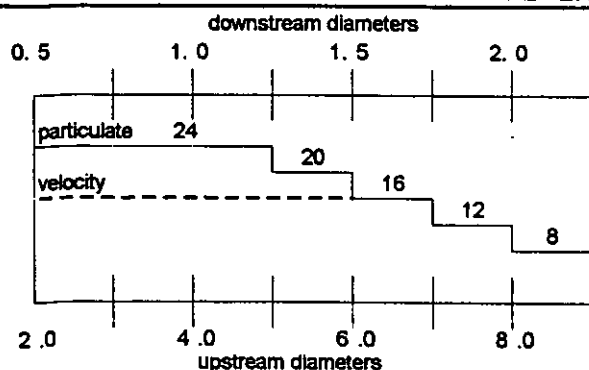
Port Access:

MANHOLES / CATWALK

## Point No. inches from wall velocity head

| Point No. | inches from wall | velocity head |
|-----------|------------------|---------------|
| 1         | 1.8              | 1.7           |
| 2         | 5.6              | 1.5           |
| 3         | 9.9              | 1.5           |
| 4         | 14.8             | 1.4           |
| 5         | 21.0             | 1.1           |
| 6         | 29.9             | 1.0           |
| 7         | 34.0             | 1.1           |
| 8         | 42.9             | 1.0           |
| 9         | 49.6             | 1.1           |
| 10        | 74.0             | 0.98          |
| 11        | 76.3             | .90           |
| 12        | 82.1             | .84           |

## MINIMUM NO. OF POINTS ON A DIAMETER



Pitot ID: \_\_\_\_\_ Pitot Cp: \_\_\_\_\_ Stack Temp: 250

Remarks:

RUN No. 1  
Date 6-6-95  
Time start 1030 end 1143

|                                 |               |                    |               |
|---------------------------------|---------------|--------------------|---------------|
| Meter Box                       | <u>RAC</u>    | No. Sample Pts.    | <u>12 x 2</u> |
| Sample Box                      | <u>NO. 4</u>  | Minutes/Pt.        | <u>2.5</u>    |
| Probe/Pitot                     | <u>84-3.3</u> |                    |               |
| Pitot Cp                        | <u>84</u>     | NOMOGRAPH          |               |
| Nozzle Dia.                     | <u>.205</u>   | Δ H @              | <u>1.90</u>   |
| Filter No.                      |               | Meter Temp.        | <u>100</u>    |
|                                 |               | % H <sub>2</sub> O | <u>15</u>     |
|                                 |               | C-Factor           | <u>.92</u>    |
| Amb. Temp. °F                   | <u>80</u>     | Stack Temp.        | <u>250</u>    |
| Bar. Press. "Hg                 | <u>29.43</u>  | Ref. Δ P           | <u>1.4</u>    |
| Static Press. "H <sub>2</sub> O |               |                    |               |

Gas Analysis

|                 |      |  |  |
|-----------------|------|--|--|
| CO <sub>2</sub> | 2.0  |  |  |
| O <sub>2</sub>  | 19.0 |  |  |
| CO              |      |  |  |
| Time            |      |  |  |

---

Condensate:

|      |     |     |     |
|------|-----|-----|-----|
| tare | 200 | tin | 298 |
|------|-----|-----|-----|

Silica gel:

|      |     |     |     |
|------|-----|-----|-----|
| tare | 649 | tin | 659 |
|------|-----|-----|-----|

Remarks:

$\begin{matrix} \textcircled{0.205} \\ \textcircled{0.205} \\ \textcircled{0.205} \end{matrix} \left\{ D_n = .205 \right.$

| Port Point | EI.<br>Time,<br>Min. | DGM<br>Reading,<br>Ft. <sup>2</sup> | Velocity<br>Head Δ P,<br>in. H <sub>2</sub> O | Orifice<br>Δ H<br>in. H <sub>2</sub> O | Stack<br>Temp.<br>°F | Meter<br>Temp., °F<br>In Out | Oven<br>Temp.<br>°F | Imp.<br>Temp.<br>°F | Vac<br>in. Hg |
|------------|----------------------|-------------------------------------|-----------------------------------------------|----------------------------------------|----------------------|------------------------------|---------------------|---------------------|---------------|
| 1          | 000                  | 324.659                             | 1.50                                          | 2.00                                   | 240                  | 86 84                        | 255                 | 55                  | 2             |
| 2          | 230                  | 326.6                               | 1.60                                          | 2.10                                   | 243                  | 86 84                        | 263                 | 54                  | 2             |
| 3          | 500                  | 328.4                               | 1.30                                          | 1.70                                   | 239                  | 88 86                        | 260                 | 54                  | 2             |
| 4          | 730                  | 330.2                               | 1.30                                          | 1.70                                   | 245                  | 90 88                        | 260                 | 54                  | 2             |
| 5          | 1000                 | 332.1                               | 1.10                                          | 1.45                                   | 244                  | 92 88                        | 253                 | 54                  | 2             |
| 6          | 1230                 | 333.8                               | 1.00                                          | 1.30                                   | 246                  | 95 89                        | 248                 | 54                  | 2             |
| 7          | 1500                 | 335.3                               | 0.85                                          | 1.10                                   | 244                  | 97 91                        | 246                 | 54                  | 2             |
| 8          | 1730                 | 336.9                               | 0.92                                          | 1.20                                   | 245                  | 99 89                        | 250                 | 54                  | 2             |
| 9          | 2000                 | 338.2                               | 0.96                                          | 1.25                                   | 242                  | 102 92                       | 261                 | 54                  | 2             |
| 10         | 2230                 | 339.9                               | 1.00                                          | 1.30                                   | 246                  | 104 93                       | 272                 | 54                  | 2             |
| 11         | 2500                 | 341.3                               | 0.95                                          | 1.25                                   | 243                  | 106 95                       | 247                 | 54                  | 2             |
| 12         | 2730                 | 343.0                               | 0.95                                          | 1.25                                   | 237                  | 107 97                       | 262                 | 54                  | 2             |
| 1          | 3000                 | 344.643                             | 1.50                                          | 2.00                                   | 238                  | 111 93                       | 258                 | 54                  | 2             |
| 2          | 230                  | 346.3                               | 1.50                                          | 2.00                                   | 245                  | 112 95                       | 260                 | 54                  | 2             |
| 3          | 500                  | 348.3                               | 1.50                                          | 2.00                                   | 245                  | 114 92                       | 251                 | 54                  | 2             |
| 4          | 730                  | 350.2                               | 1.60                                          | 2.10                                   | 248                  | 116 95                       | 252                 | 54                  | 2             |
| 5          | 1000                 | 352.3                               | 1.40                                          | 1.85                                   | 246                  | 120 97                       | 255                 | 54                  | 2             |
| 6          | 1230                 | 354.1                               | 1.20                                          | 1.60                                   | 253                  | 120 99                       | 255                 | 54                  | 2             |
| 7          | 1500                 | 355.9                               | 0.85                                          | 1.10                                   | 244                  | 123 96                       | 251                 | 54                  | 2             |
| 8          | 1730                 | 357.4                               | 0.80                                          | 1.05                                   | 252                  | 123 98                       | 249                 | 54                  | 2             |
| 9          | 2000                 | 359.0                               | 0.81                                          | 1.05                                   | 242                  | 126 102                      | 250                 | 54                  | 2             |
| 10         | 2230                 | 360.4                               | 0.80                                          | 1.05                                   | 247                  | 123 101                      | 253                 | 54                  | 2             |
| 11         | 2500                 | 362.0                               | 0.85                                          | 1.10                                   | 245                  | 121 103                      | 249                 | 54                  | 2             |
| 12         | 2730                 | 363.4                               | 0.82                                          | 1.05                                   | 222                  | 124 103                      | 253                 | 54                  | 2             |
| END        | 6000                 | 365.045                             |                                               |                                        |                      |                              |                     |                     |               |

LEAK CHECK: 038  $\rightarrow$  032 = 004  $\text{km} @ 4 \frac{1}{2}$

|         |     |
|---------|-----|
| + photo | 6.0 |
| - photo | 6.3 |

|          |        |        |        |        |
|----------|--------|--------|--------|--------|
| 40, 38.6 | 1.0535 | 1.4813 | 243.38 | 100.71 |
|----------|--------|--------|--------|--------|

Plant LOUISIANA PACIFIC CORP. CLAYTON, AL.Sampling Location ADF RTO DRYERS NO.3Test For AM 100/NO<sub>2</sub>Test Operators B. McKNIGHT / C. McKNIGHTRUN No. 2Date 6-6-95Time start 1220 end 1327

Meter Box RAC  
 Sample Box NO. 3  
 Probe/Pitot 84.5.5.  
 Pitot Cp .84  
 Nozzle Dia. .205  
 Filter No. \_\_\_\_\_

No. Sample Pts. 12x2  
 Minutes/Pt. 2.5  
 NOMOGRAPH  
 $\Delta H @$  1.90  
 Meter Temp. 100  
 % H<sub>2</sub>O 15  
 C-Factor .92  
 Stack Temp. 250  
 Ref.  $\Delta P$  1.4

Gas Analysis  
 CO<sub>2</sub> 2.0  
 O<sub>2</sub> 18.5  
 CO \_\_\_\_\_  
 Time \_\_\_\_\_

Condensate:  
 tare 200 fin 303  
 Silica gel:  
 tare 692 fin 699

Remarks:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

| Port Point | El. Time, Min. | DGM Reading, Ft. | Velocity Head $\Delta P$ , in. H <sub>2</sub> O | Orifice $\Delta H$ in. H <sub>2</sub> O | Stack Temp. °F | Meter Temp., °F<br>in      out | Oven Temp. °F | Imp. Temp. °F | Vac in. Hg |      |
|------------|----------------|------------------|-------------------------------------------------|-----------------------------------------|----------------|--------------------------------|---------------|---------------|------------|------|
| 1          | 1              | 000              | 365.410                                         | 1.60                                    | 2.10           | 294                            | 101           | 98            | 249        | 58.2 |
|            | 2              | 230              | 367.4                                           | 1.60                                    | 2.10           | 248                            | 103           | 99            | 240        | 58.2 |
|            | 3              | 500              | 369.3                                           | 1.50                                    | 2.00           | 244                            | 106           | 101           | 250        | 58.2 |
|            | 4              | 730              | 371.4                                           | 1.20                                    | 1.60           | 249                            | 107           | 102           | 251        | 58.2 |
|            | 5              | 1000             | 373.2                                           | 1.10                                    | 1.45           | 244                            | 109           | 100           | 265        | 58.2 |
|            | 6              | 1230             | 374.8                                           | 1.00                                    | 1.30           | 298                            | 113           | 103           | 261        | 58.2 |
|            | 7              | 1500             | 375.7                                           | 0.96                                    | 1.25           | 248                            | 113           | 104           | 251        | 58.2 |
|            | 8              | 1700             | 378.0                                           | 0.90                                    | 1.20           | 248                            | 115           | 104           | 266        | 58.2 |
|            | 9              | 2000             | 379.7                                           | 0.98                                    | 1.30           | 244                            | 111           | 97            | 249        | 58.2 |
|            | 10             | 2230             | 381.3                                           | 0.95                                    | 1.25           | 246                            | 113           | 97            | 243        | 58.2 |
|            | 11             | 2500             | 382.9                                           | 0.75                                    | 0.98           | 238                            | 114           | 103           | 253        | 58.2 |
|            | 12             | 2730             | 384.7                                           | 0.75                                    | 0.98           | 226                            | 116           | 104           | 245        | 58.2 |
| 2          | 1              | 3060             | 385.921                                         | 1.58                                    | 2.00           | 236                            | 116           | 96            | 260        | 58.2 |
|            | 2              | 230              | 387.8                                           | 1.50                                    | 2.00           | 246                            | 117           | 105           | 259        | 58.2 |
|            | 3              | 500              | 389.7                                           | 1.40                                    | 1.85           | 243                            | 118           | 106           | 255        | 58.2 |
|            | 4              | 730              | 391.6                                           | 1.40                                    | 1.85           | 245                            | 119           | 100           | 256        | 58.2 |
|            | 5              | 1000             | 393.6                                           | 1.20                                    | 1.60           | 246                            | 121           | 103           | 249        | 58.2 |
|            | 6              | 1230             | 395.5                                           | 1.10                                    | 1.45           | 246                            | 126           | 103           | 248        | 58.2 |
|            | 7              | 1500             | 397.1                                           | 0.84                                    | 1.10           | 242                            | 123           | 103           | 262        | 58.2 |
|            | 8              | 1730             | 398.7                                           | 0.74                                    | 0.95           | 247                            | 123           | 108           | 249        | 58.2 |
|            | 9              | 2000             | 400.0                                           | 0.76                                    | 1.00           | 242                            | 124           | 110           | 254        | 58.2 |
|            | 10             | 2230             | 401.5                                           | 0.81                                    | 1.05           | 250                            | 125           | 110           | 249        | 58.2 |
|            | 11             | 2500             | 403.0                                           | 0.86                                    | 1.15           | 240                            | 124           | 112           | 252        | 58.2 |
|            | 12             | 2730             | 404.4                                           | 0.84                                    | 1.10           | 240                            | 124           | 111           | 256        | 58.2 |
| CR         | 13             | 2900             | 406.136                                         |                                         |                |                                |               |               |            |      |

LEAK CHECK: .015 → .020 = .005 change  $\frac{1}{16}$ + pitot 3.5  
- pitot 6.5

40.726

1.0365

1.4421

245.83

109.58

Plant LOUISIANA PACIFIC CORP. CLAYTON, MS.  
 Sampling Location MOE RD DRIVERS NO. 3  
 Test For PM 100/NO<sub>x</sub>  
 Test Operators B. MCKNIGHT / G. MCKNIGHT

RUN No. 3  
 Date 6-6-95  
 Time start 1406 end 1502

Meter Box RAC.  
 Sample Box NO.  
 Probe/Pitot 84.5.5.  
 Pitot Cp .84  
 Nozzle Dia. .205  
 Filter No.

No. Sample Pts. 12x2  
 Minutes/Pt. 2.5  
 NOMOGRAPH  
 $\Delta H @$  1.90  
 Meter Temp. 100  
 % H<sub>2</sub>O 15  
 C-Factor 92  
 Stack Temp. 250  
 Ref.  $\Delta P$  1.4

Gas Analysis  
 CO<sub>2</sub> 2.0  
 O<sub>2</sub> 19.0  
 CO   
 Time

Condensate:  
 tare 200 fin 294  
 Silica gel:  
 tare 684 fin 694

Remarks:

| Port Point | El. Time, Min. | DGM Reading, Ft. | Velocity Head $\Delta P$ , in. H <sub>2</sub> O | Orifice $\Delta H$ , in. H <sub>2</sub> O | Stack Temp., °F | Meter Temp., °F<br>in Out | Oven Temp., °F | Imp. Temp., °F | Vac. in. Hg |
|------------|----------------|------------------|-------------------------------------------------|-------------------------------------------|-----------------|---------------------------|----------------|----------------|-------------|
| 1          | 100            | 407.204          | 1.70                                            | 2.20                                      | 242             | 104 95                    | 254            | 60             | 2           |
| 2          | 200            | 409.2            | 1.70                                            | 2.20                                      | 245             | 106 103                   | 252            | 60             | 2           |
| 3          | 300            | 411.2            | 1.50                                            | 2.00                                      | 243             | 108 103                   | 248            | 60             | 2           |
| 4          | 400            | 413.2            | 1.40                                            | 1.85                                      | 244             | 110 103                   | 261            | 60             | 2           |
| 5          | 500            | 415.1            | 1.20                                            | 1.60                                      | 242             | 114 103                   | 260            | 60             | 2           |
| 6          | 600            | 417.0            | 0.96                                            | 1.25                                      | 241             | 117 103                   | 250            | 60             | 2           |
| 7          | 700            | 418.8            | 0.92                                            | 1.20                                      | 241             | 119 104                   | 257            | 60             | 2           |
| 8          | 800            | 420.4            | 0.94                                            | 1.25                                      | 242             | 121 104                   | 255            | 60             | 2           |
| 9          | 900            | 422.0            | 0.90                                            | 1.20                                      | 240             | 122 104                   | 261            | 60             | 2           |
| 10         | 1000           | 423.6            | 0.75                                            | 0.98                                      | 240             | 123 105                   | 256            | 60             | 2           |
| 11         | 1100           | 425.2            | 0.78                                            | 1.00                                      | 232             | 124 106                   | 253            | 60             | 2           |
| 12         | 1200           | 426.4            | 0.78                                            | 1.00                                      | 247             | 124 106                   | 252            | 60             | 2           |
| 13         |                |                  |                                                 |                                           |                 |                           |                |                |             |
| 14         | 1300           | 428.074          | 1.50                                            | 2.00                                      | 246             | 119 106                   | 249            | 60             | 2           |
| 15         | 1400           | 429.8            | 1.50                                            | 2.00                                      | 241             | 122 106                   | 256            | 60             | 2           |
| 16         | 1500           | 432.0            | 1.56                                            | 2.00                                      | 240             | 124 107                   | 249            | 60             | 2           |
| 17         | 1600           | 434.2            | 1.20                                            | 1.60                                      | 241             | 127 108                   | 251            | 60             | 2           |
| 18         | 1700           | 436.0            | 1.40                                            | 1.85                                      | 245             | 129 108                   | 248            | 60             | 2           |
| 19         | 1800           | 437.7            | 1.00                                            | 1.30                                      | 240             | 129 109                   | 254            | 60             | 2           |
| 20         | 1900           | 439.6            | 0.85                                            | 1.10                                      | 241             | 130 109                   | 249            | 60             | 2           |
| 21         | 2000           | 441.6            | 0.75                                            | 0.98                                      | 244             | 130 110                   | 253            | 60             | 2           |
| 22         | 2100           | 442.7            | 0.78                                            | 1.00                                      | 241             | 131 111                   | 250            | 60             | 2           |
| 23         | 2200           | 444.3            | 0.75                                            | 0.98                                      | 250             | 132 111                   | 248            | 60             | 2           |
| 24         | 2300           | 445.9            | 0.78                                            | 1.00                                      | 242             | 134 111                   | 253            | 60             | 2           |
| 25         | 2400           | 447.5            | 0.78                                            | 1.00                                      | 246             | 134 113                   | 252            | 60             | 2           |
| END        | 2500           | 449.039          |                                                 |                                           |                 |                           |                |                |             |

LEAK CHECK: 005 → 007 - 000 Amo 6.4%

+ pilot  
 - pilot

41835 1.0357 1.4392 24233 114.25

# PARTICULATE CATCH ANALYSIS

SAMPLES:

L.P. Clayton No. 3 RTO

DATE TAKEN:

6-6-95

DATE ANALYZED:

6-9-95

DELIVERED BY:

Dea

RECEIVED BY:

Dea

ANALYZED BY:

Dea

(Attach chain of custody if additional exchanges occur)

FILTERS:

| RUN NO.            | 1     | 2     | 3     |  |
|--------------------|-------|-------|-------|--|
| FILTER NO.         | 2790  | 2746  | 2820  |  |
| FILTER TARE, gms.  | .5710 | .5769 | .5750 |  |
|                    | .5822 | .5842 | .5980 |  |
|                    | .5820 | .5842 | .5918 |  |
|                    |       |       |       |  |
| FINAL WEIGHT, gms. | .5820 | .5842 | .5978 |  |
| NET GAIN, gms.     | .0110 | .0073 | .0228 |  |

PROBE WASH:

| RUN NO.            | 1       | 2        | 3       |     |
|--------------------|---------|----------|---------|-----|
| CONTAINER I.D.     | 3RTO R1 | 3RTO R2  | 3RTO R3 |     |
| VOLUME INTACT?     | ✓       | ✓        | ✓       |     |
| VOLUME, ml         | 190     | 150      | 200     |     |
|                    | (F)     | (J)      | (L)     | ( ) |
| TARE WEIGHT, gms.  | 97.5802 | 104.4824 | 98.8168 |     |
|                    | 97.6316 | 104.4858 | 98.8500 |     |
|                    | 97.6320 | 104.4659 | 98.8499 |     |
|                    |         |          |         |     |
| FINAL WEIGHT, gms. | 97.6320 | 104.4659 | 98.8499 |     |
| NET GAIN, gms.     | .0518   | .0335    | .0331   |     |
| LESS BLANK, gms.   |         |          |         |     |

PARTICULATE SAMPLE WEIGHT:

| RUN NO.             | 1    | 2    | 3    |  |
|---------------------|------|------|------|--|
| filter + probe, mg. | 62.8 | 40.8 | 55.9 |  |

# BACK HALF PARTICULATE CATCH ANALYSIS

Methylene Chloride Extraction

SAMPLES:

L.P. Clayton - No 3 RTO Exhaust

DATE TAKEN:

6-6-95

DATE ANALYZED:

6-9-95

DELIVERED BY:

DRR

RECEIVED BY:

DRR

ANALYZED BY:

DRR

(Attach chain of custody if additional exchanges occur)

| RUN NO.        | 1            | 2            | 3            |  |
|----------------|--------------|--------------|--------------|--|
| CONTAINER I.D. | 2 RTO R1 BAK | 3 RTO R2 BAK | 3 RTO A? BAK |  |
| VOLUME INTACT? | ✓            | ✓            | ✓            |  |
| VOLUME, ml     | 350          | 350          | 350          |  |

## Organic Fraction

|                      | (9)      | (67)     | (67)     | ( ) |
|----------------------|----------|----------|----------|-----|
| TARE WEIGHT, gms.    | 114.8170 | 111.4669 | 112.5837 |     |
|                      | 114.8174 | 111.4672 | 112.5830 |     |
|                      | 114.8170 | 111.4670 | 112.5833 |     |
| FINAL WEIGHT, gms.   | 114.8170 | 111.4670 | 112.5833 |     |
| less blank, gms.     |          |          |          |     |
| NET GAIN, milligrams | 0.0      | 0.1      | 0.3      |     |

## Aqueous Fraction

|                      | (90)     | (m)     | (n)      | ( ) |
|----------------------|----------|---------|----------|-----|
| TARE WEIGHT, gms.    | 107.9620 | 99.5045 | 102.0153 |     |
|                      | 107.9628 | 99.5077 | 102.0156 |     |
|                      | 107.9628 | 99.5077 | 102.0153 |     |
| FINAL WEIGHT, gms.   | 107.9628 | 99.5077 | 102.0153 |     |
| less blank, gms.     |          |         |          |     |
| NET GAIN, milligrams | 0.8      | 3.2     | 0.0      |     |

Plant LOUISIANA - PACIFIC CORP. CLAYTON MDF, AL.  
 Sampling Location MDF RTO DRYERS NO. 3  
 Test For HCHO / VOC  
 Test Operators RUSSELL / MCKNIGHT / G. MCKNIGHT / CARLUTH

RUN No. 1  
 Date 6-7-95  
 Time start 0836 end 0938

Meter Box RAC  
 Sample Box NO. 3  
 Probe/Pitot 7 ft. top  
 Pitot Cp .84  
 Nozzle Dia. .2500 in  
 Filter No. \_\_\_\_\_  
 Amb. Temp. °F 69  
 Bar. Press. "Hg 29.49  
 Static Press. "H<sub>2</sub>O -.85

No. Sample Pts. 1252  
 Minutes/Pt. 2.5  
 NOMOGRAPH  
 ΔH@ 1.90  
 Meter Temp. 100  
 % H<sub>2</sub>O 15  
 C-Factor .92  
 Stack Temp. 250  
 Ref. ΔP .64

Gas Analysis  
 CO<sub>2</sub> 1.0  
 O<sub>2</sub> 20  
 CO \_\_\_\_\_  
 Time \_\_\_\_\_  
 Condensate:  
 tare ROMARKS fin \_\_\_\_\_  
 Silica gel:  
 tare ROMARKS fin \_\_\_\_\_

Remarks:  
 impinger: tare Final  
 1) DNPH 602 692  
 2) DNPH 595 630  
 3) MT 494 503  
 4) S.Gel 652 712  
 0.250 }  
 0.250 } OA = 250  
 0.250 }

| Port Point | El. Time, Min. | DGM Reading, Ft. | Velocity Head ΔP, in. H <sub>2</sub> O | Orifice ΔH, in. H <sub>2</sub> O | Stack Temp, °F | Meter Temp., °F<br>in Out | Oven Temp, °F | Imp. Temp, °F | Vac. in. Hg |
|------------|----------------|------------------|----------------------------------------|----------------------------------|----------------|---------------------------|---------------|---------------|-------------|
| 1          | 1              | 000              | 450 .191                               | 1.50                             | 4.40           | 249                       | 77            | 17.5          | 58.2        |
| 2          | 2              | 230              | 453 .1                                 | 1.60                             | 4.60           | 254                       | 77            | 73            | 58.2        |
| 3          | 3              | 500              | 455 .9                                 | 1.40                             | 4.10           | 244                       | 84            | 77            | 58.2        |
| 4          | 4              | 730              | 458 .7                                 | 1.20                             | 3.50           | 252                       | 86            | 77            | 58.2        |
| 5          | 5              | 1000             | 461 .2                                 | 1.10                             | 3.20           | 253                       | 90            | 74            | 58.2        |
| 6          | 6              | 1230             | 463 .6                                 | 0.95                             | 2.80           | 247                       | 94            | 81            | 58.2        |
| 7          | 7              | 1500             | 465 .9                                 | 0.86                             | 2.50           | 255                       | 96            | 82            | 58.2        |
| 8          | 8              | 1730             | 468 .2                                 | 0.75                             | 2.20           | 255                       | 101           | 78            | 58.2        |
| 9          | 9              | 2000             | 470 .2                                 | 0.83                             | 2.45           | 249                       | 105           | 81            | 58.2        |
| 10         | 10             | 2230             | 472 .2                                 | 0.90                             | 2.60           | 254                       | 106           | 82            | 58.2        |
| 11         | 11             | 2500             | 474 .4                                 | 0.78                             | 2.30           | 250                       | 107           | 83            | 58.2        |
| 12         | 12             | 2730             | 476 .6                                 | 0.85                             | 2.45           | 255                       | 111           | 85            | 58.2        |
| 13         |                |                  |                                        |                                  |                |                           |               |               |             |
| 14         | 1              | 3000             | 478 .857                               | 1.60                             | 4.60           | 256                       | 108           | 83            | 57.2        |
| 15         | 2              | 230              | 481 .8                                 | 1.50                             | 4.40           | 254                       | 115           | 89            | 57.2        |
| 16         | 3              | 500              | 484 .5                                 | 1.50                             | 4.40           | 247                       | 117           | 90            | 57.2        |
| 17         | 4              | 730              | 487 .7                                 | 1.30                             | 3.80           | 256                       | 118           | 92            | 55.2        |
| 18         | 5              | 1000             | 490 .3                                 | 1.30                             | 3.80           | 250                       | 121           | 92            | 55.2        |
| 19         | 6              | 1230             | 493 .1                                 | 1.10                             | 3.20           | 257                       | 121           | 93            | 58.2        |
| 20         | 7              | 1500             | 495 .8                                 | 0.78                             | 2.25           | 252                       | 124           | 94            | 58.2        |
| 21         | 8              | 1730             | 497 .9                                 | 0.70                             | 2.00           | 245                       | 125           | 95            | 58.2        |
| 22         | 9              | 2000             | 499 .8                                 | 0.69                             | 2.00           | 257                       | 127           | 97            | 58.2        |
| 23         | 10             | 2230             | 501 .8                                 | 0.73                             | 2.15           | 251                       | 124           | 98            | 58.2        |
| 24         | 11             | 2500             | 503 .6                                 | 0.22                             | 2.10           | 249                       | 123           | 99            | 55.2        |
| 25         | 12             | 2730             | 505 .8                                 | 0.57                             | 1.65           | 250                       | 124           | 99            | 55.2        |
| 26         | END            | 6400             | 507 .667                               |                                  |                |                           |               |               |             |

DATA CHECK: 030 → 031 = .001 Amstrong

+ plot up 6.8  
 - plot up 7.0

57.476 1.0126 3.0604 251.21 96.88

Plant LOUISIANA PACIFIC CORP. CLAYTON, AL.  
 Sampling Location MOF RD DRUGR No. 3  
 Test For HCHO (VOC)  
 Test Operators B. MCNIGHT / A. MCNIGHT

RUN No. 2  
 Date 6-7-95  
 Time start 1012 end 1114

Meter Box RPI  
 Sample Box NO. 4  
 Probe/Pitot 7 ft. 12 ft  
 Pitot Cp .84  
 Nozzle Dia. .250  
 Filter No. \_\_\_\_\_  
 Amb. Temp. °F 69  
 Bar. Press. "Hg 29.49  
 Static Press. "H<sub>2</sub>O -.85

No. Sample Pts. 12x2  
 Minutes/Pt. 2.5  
 NOMOGRAPH  
 ΔH@ \_\_\_\_\_  
 Meter Temp. 100  
 % H<sub>2</sub>O 15  
 C-Factor .92  
 Stack Temp. 250  
 Ref. ΔP .64

Gas Analysis  
 CO<sub>2</sub> 2.0  
 O<sub>2</sub> 19.0  
 CO \_\_\_\_\_  
 Time \_\_\_\_\_  
 Condensate:  
 tare Remarks fin \_\_\_\_\_  
 Silica gel:  
 tare Remarks fin \_\_\_\_\_

Remarks:  
Impinger 3: Tare AN  

|           |     |     |
|-----------|-----|-----|
| 1) DNPH   | 580 | 688 |
| 2) DNPH   | 595 | 638 |
| 3) MT     | 484 | 207 |
| 4) S.H.C. | 694 | 707 |

| Port Point | El. Time, Min. | DGM Reading, Ft. | Velocity Head ΔP, in. H <sub>2</sub> O | Orifice ΔH in. H <sub>2</sub> O | Stack Temp. °F | Meter Temp., °F In | Meter Temp., °F Out | Oven Temp. °F | Imp. Temp. °F | Vac in. Hg |
|------------|----------------|------------------|----------------------------------------|---------------------------------|----------------|--------------------|---------------------|---------------|---------------|------------|
| 1          | 000            | 505.030          | 1.50                                   | 4.40                            | 246            | 94                 | 93                  | N/A           | 55            | 2          |
| 2          | 230            | 510.6            | 1.50                                   | 4.40                            | 251            | 97                 | 93                  |               | 57            | 2          |
| 3          | 500            | 513.6            | 1.40                                   | 4.10                            | 252            | 100                | 94                  |               | 57            | 2          |
| 4          | 730            | 516.4            | 1.40                                   | 4.10                            | 262            | 111                | 98                  |               | 57            | 2          |
| 5          | 1000           | 519.3            | 1.10                                   | 3.20                            | 253            | 107                | 94                  |               | 57            | 2          |
| 6          | 1230           | 521.8            | 1.00                                   | 2.90                            | 251            | 114                | 98                  |               | 57            | 2          |
| 7          | 1500           | 524.1            | 0.75                                   | 2.20                            | 256            | 116                | 95                  |               | 57            | 2          |
| 8          | 1730           | 526.3            | 0.82                                   | 2.40                            | 255            | 116                | 91                  |               | 57            | 2          |
| 9          | 2000           | 528.3            | 0.85                                   | 2.45                            | 258            | 116                | 95                  |               | 57            | 2          |
| 10         | 2230           | 530.5            | 0.84                                   | 2.40                            | 251            | 120                | 96                  |               | 57            | 2          |
| 11         | 2500           | 532.6            | 0.70                                   | 2.00                            | 248            | 119                | 96                  |               | 57            | 2          |
| 12         | 2730           | 534.7            | 0.70                                   | 2.00                            | 253            | 122                | 96                  |               | 57            | 2          |
| 13         |                |                  |                                        |                                 |                |                    |                     |               |               |            |
| 14         | 3000           | 536.775          | 1.40                                   | 4.10                            | 257            | 120                | 96                  |               | 56            | 2          |
| 15         | 230            | 539.4            | 1.50                                   | 4.40                            | 251            | 122                | 98                  |               | 56            | 2          |
| 16         | 500            | 542.5            | 1.40                                   | 4.10                            | 252            | 121                | 99                  |               | 56            | 2          |
| 17         | 730            | 545.2            | 1.30                                   | 3.80                            | 257            | 125                | 101                 |               | 56            | 2          |
| 18         | 1000           | 547.9            | 1.50                                   | 4.40                            | 249            | 128                | 102                 |               | 56            | 2          |
| 19         | 1230           | 550.2            | 1.10                                   | 3.20                            | 254            | 131                | 101                 |               | 56            | 2          |
| 20         | 1500           | 553.2            | 0.75                                   | 2.20                            | 258            | 130                | 103                 |               | 56            | 2          |
| 21         | 1730           | 555.3            | 0.72                                   | 2.05                            | 257            | 130                | 103                 |               | 56            | 2          |
| 22         | 2000           | 557.3            | 0.72                                   | 2.05                            | 254            | 129                | 100                 |               | 56            | 2          |
| 23         | 2230           | 559.4            | 0.72                                   | 2.05                            | 257            | 132                | 103                 |               | 56            | 2          |
| 24         | 2400           | 561.3            | 0.75                                   | 2.20                            | 249            | 129                | 104                 |               | 56            | 2          |
| 25         | 2700           | 563.9            | 0.70                                   | 2.00                            | 259            | 127                | 105                 |               | 56            | 2          |
| 26         | 2900           | 565.474          |                                        |                                 |                |                    |                     |               |               |            |

LEAK CHECK: 042

→ .045 = .007 cam @ 7 1/8

+ pitot @ 6.5  
 - anem @ 6.5

57.449 1.0111 3.0458 253.08 108.63

Plant LOUISIANA PACIFIC CORP. CLAYTON, LA  
 Sampling Location MDP RTO DRUMS NO. 3  
 Test For HCHO / VOC  
 Test Operators B. MCNEIGHT / G. MCNEIGHT

RUN No. 3  
 Date 6-7-95  
 Time start 1147 end 1248

Meter Box RAC  
 Sample Box NO. 3  
 Probe/Pitot 74.1 ft  
 Pitot Cp 54  
 Nozzle Dia. 250  
 Filter No. \_\_\_\_\_  
 Amb. Temp. °F 72  
 Bar. Press. "Hg 29.49  
 Static Press. "H<sub>2</sub>O -84

No. Sample Pts. 12K2  
 Minutes/Pt. 2.5  
 NOMOGRAPH  
 ΔH@ 1.90  
 Meter Temp. 100  
 % H<sub>2</sub>O 15  
 C-Factor .92  
 Stack Temp. 250  
 Ref. ΔP .64

Gas Analysis MBH  
 CO<sub>2</sub> 2.0  
 O<sub>2</sub> 19.0  
 CO \_\_\_\_\_  
 Time \_\_\_\_\_  
 Condensate:  
 tare REMARKS fin \_\_\_\_\_  
 Silica gel:  
 tare REMARKS fin \_\_\_\_\_

Remarks:  

| Imp. Pts  | Imp. Temp. | Vac. in. Hg |
|-----------|------------|-------------|
| 1) OMPH   | 598        | 702         |
| 2) OMPH   | 576        | 626         |
| 3) MT     | 494        | 501         |
| 4) S. BEL | 712        | 723         |

| Port Point | El. Time, Min. | DGM Reading, Ft. <sup>3</sup> | Velocity Head ΔP, in. H <sub>2</sub> O | Orifice ΔH in. H <sub>2</sub> O | Stack Temp. °F | Meter Temp., °F<br>In Out | Oven Temp. °F | Imp. Temp. °F | Vac. in. Hg |
|------------|----------------|-------------------------------|----------------------------------------|---------------------------------|----------------|---------------------------|---------------|---------------|-------------|
| 1          | 000            | 565.702                       | 1.50                                   | 4.40                            | 249            | 99 98                     | N/A           | 60            | 2           |
| 2          | 230            | 568.3                         | 1.40                                   | 4.20                            | 249            | 102 99                    |               | 60            | 2           |
| 3          | 500            | 571.3                         | 1.30                                   | 3.80                            | 254            | 105 100                   |               | 60            | 2           |
| 4          | 730            | 574.1                         | 1.30                                   | 3.80                            | 253            | 110 99                    |               | 60            | 2           |
| 5          | 1100           | 576.9                         | 1.20                                   | 3.50                            | 257            | 115 100                   |               | 60            | 2           |
| 6          | 1230           | 579.5                         | 0.92                                   | 2.70                            | 249            | 119 100                   |               | 60            | 2           |
| 7          | 1500           | 581.7                         | 0.89                                   | 2.60                            | 263            | 121 99                    |               | 60            | 2           |
| 8          | 1730           | 584.1                         | 0.77                                   | 2.10                            | 249            | 123 100                   |               | 60            | 2           |
| 9          | 2000           | 586.7                         | 0.82                                   | 2.40                            | 257            | 124 100                   |               | 60            | 2           |
| 10         | 2230           | 588.4                         | 0.85                                   | 2.50                            | 256            | 125 102                   |               | 60            | 2           |
| 11         | 2500           | 590.5                         | 0.85                                   | 2.50                            | 248            | 125 102                   |               | 60            | 2           |
| 12         | 2730           | 592.6                         | 0.83                                   | 2.35                            | 250            | 126 103                   |               | 60            | 2           |
| 13         |                |                               |                                        |                                 |                |                           |               |               |             |
| 14         | 3000           | 595.021                       | 1.40                                   | 4.20                            | 258            | 125 101                   |               | 60            | 2           |
| 15         | 230            | 597.5                         | 1.30                                   | 3.80                            | 258            | 126 103                   |               | 60            | 2           |
| 16         | 500            | 600.3                         | 1.30                                   | 3.80                            | 248            | 127 104                   |               | 60            | 2           |
| 17         | 730            | 603.1                         | 1.20                                   | 3.50                            | 245            | 129 105                   |               | 60            | 2           |
| 18         | 1000           | 605.6                         | 1.00                                   | 2.90                            | 248            | 131 107                   |               | 60            | 2           |
| 19         | 1230           | 608.1                         | 1.00                                   | 2.90                            | 250            | 131 105                   |               | 60            | 2           |
| 20         | 1500           | 610.6                         | 0.77                                   | 2.10                            | 247            | 132 105                   |               | 60            | 2           |
| 21         | 1730           | 612.6                         | 0.65                                   | 1.90                            | 252            | 131 105                   |               | 60            | 2           |
| 22         | 2000           | 614.7                         | 0.72                                   | 2.05                            | 256            | 132 106                   |               | 62            | 2           |
| 23         | 2230           | 616.6                         | 0.69                                   | 2.00                            | 249            | 132 108                   |               | 62            | 2           |
| 24         | 2500           | 618.4                         | 0.70                                   | 2.02                            | 258            | 131 107                   |               | 62            | 2           |
| 25         | 2730           | 620.4                         | 0.75                                   | 2.10                            | 255            | 134 107                   |               | 62            | 2           |
| 26         | 3000           | 622.729                       |                                        |                                 |                |                           |               |               |             |

LEAK CHECK: 092 → 094 = .002 cm<sup>3</sup>/kg

+ pilot valve 5.30  
 - pilot valve 5.40

57.027 9937 29217 252.42 11285

APPENDIX B.

CALIBRATION DATA

## 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.<br>in.<br>Hg | DH<br>in.<br>H <sub>2</sub> O | Time<br>min | Calibrating Meter     |                       |            | Field Meter           |                       |          |       |          |       | Y     | Q    | K     | DH@   |
|-------------------|-------------------------------|-------------|-----------------------|-----------------------|------------|-----------------------|-----------------------|----------|-------|----------|-------|-------|------|-------|-------|
|                   |                               |             | Vi<br>ft <sup>3</sup> | Vf<br>ft <sup>3</sup> | Temp<br>°F | Vi<br>ft <sup>3</sup> | Vf<br>ft <sup>3</sup> | 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

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** RAC  
**Calibration Method** DGM/DGM **By** DGR  
**Calibration Meter ID** 651729 **Pbar** 30.05  
**Date** 2/18/95

| Vol.<br>in.<br>Hg | DH<br>in.<br>H <sub>2</sub> O | Time<br>min | Calibrating Meter     |                       |            | Field Meter           |                       |          |       |           |       | Y     | Q    | K     | DH@   |
|-------------------|-------------------------------|-------------|-----------------------|-----------------------|------------|-----------------------|-----------------------|----------|-------|-----------|-------|-------|------|-------|-------|
|                   |                               |             | Vi<br>ft <sup>3</sup> | Vf<br>ft <sup>3</sup> | Temp<br>°F | Vi<br>ft <sup>3</sup> | Vf<br>ft <sup>3</sup> | 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<sub>cal</sub> = Volume of gas through calibrating meter, cubic feet

V<sub>dgm</sub> = Volume of gas through field dry gas meter, cubic feet

P<sub>bar</sub> = Barometric pressure, in. Hg

P<sub>m</sub> = Meter pressure, (P<sub>bar</sub> = DH/13.6)

T<sub>dgm</sub> = Average dry gas meter temp, degrees R

T<sub>cal</sub> = Temperature of gas at calibrating meter, degrees R

## DRY GAS METER CALIBRATION

**Meter ID** RAC  
**Calibration Method** DGM/DGM **By** GNM  
**Calibration Meter ID** 651729 **Pbar** 29.76  
**Date** 7/13/95

| Vac.<br>in.<br>Hg | DH<br>in.<br>H <sub>2</sub> O | Time<br>min | Calibrating Meter     |                       |            | Field Meter           |                       |          |       |          |       | Y     | Q    | K     | DH@   |
|-------------------|-------------------------------|-------------|-----------------------|-----------------------|------------|-----------------------|-----------------------|----------|-------|----------|-------|-------|------|-------|-------|
|                   |                               |             | V <sub>i</sub><br>ft' | V <sub>f</sub><br>ft' | Temp<br>°F | V <sub>i</sub><br>ft' | V <sub>f</sub><br>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  |

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

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

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

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

Where:

Y = Meter correction factor, dimensionless

V<sub>cal</sub> = Volume of gas through calibrating meter, cubic feet

V<sub>dgm</sub> = Volume of gas through field dry gas meter, cubic feet

P<sub>bar</sub> = Barometric pressure, in. Hg

P<sub>m</sub> = Meter pressure, (P<sub>bar</sub> = DH/13.6)

T<sub>dgm</sub> = Average dry gas meter temp, degrees R

T<sub>cal</sub> = Temperature of gas at calibrating meter, degrees R

## DRY GAS METER CALIBRATION

**Meter ID** Anderson  
**Calibration Method** DGM/DGM **By** DGR  
**Calibration Meter ID** 651729 **Pbar** 29.7  
**Date** 7/4/95

| Vac.<br>in.<br>Hg | DH<br>in.<br>H <sub>2</sub> O | Time<br>min | Calibrating Meter |           |            | Field Meter |           |          |       |          |       | Y     | Q     | K     | DH@   |
|-------------------|-------------------------------|-------------|-------------------|-----------|------------|-------------|-----------|----------|-------|----------|-------|-------|-------|-------|-------|
|                   |                               |             | Vi<br>ft'         | Vf<br>ft' | Temp<br>°F | Vi<br>ft'   | Vf<br>ft' | Temp. in |       | Temp out |       |       |       |       |       |
|                   |                               |             |                   |           |            |             |           | init.    | final | init.    | final |       |       |       |       |
| 2                 | 1.95                          | 15.00       | 322.694           | 334.714   | 70         | 684.211     | 696.211   | 70       | 97    | 70       | 86    | 1.017 | 0.81  | 0.735 | 1.703 |
| 2                 | 1.95                          | 16.00       | 334.714           | 347.527   | 82         | 696.211     | 709.226   | 95       | 114   | 87       | 102   | 1.011 | 0.815 | 0.73  | 1.730 |
| 2                 | 1.95                          | 16.00       | 347.527           | 360.266   | 86         | 709.226     | 722.318   | 108      | 119   | 101      | 111   | 1.010 | 0.821 | 0.727 | 1.740 |
|                   |                               |             |                   |           |            |             |           |          |       |          |       |       |       |       |       |
|                   |                               |             |                   |           |            |             |           |          |       |          |       |       |       |       |       |
|                   |                               |             |                   |           |            |             |           |          |       |          |       |       |       |       |       |
| Averages:         |                               |             |                   |           |            |             |           |          |       |          |       | 1.01  |       |       | 1.72  |

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

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

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

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

Where:

Y = Meter correction factor, dimensionless

V<sub>cal</sub> = Volume of gas through calibrating meter, cubic feet

V<sub>dgm</sub> = Volume of gas through field dry gas meter, cubic feet

P<sub>bar</sub> = Barometric pressure, in. Hg

P<sub>m</sub> = Meter pressure, (P<sub>bar</sub> = DH/13.6)

T<sub>dgm</sub> = Average dry gas meter temp, degrees R

T<sub>cal</sub> = Temperature of gas at calibrating meter, degrees R

# PITOT TUBE GEOMETRY CALIBRATION

Pitot tube/probe identification: 7'55

Date Checked: 6-6-95

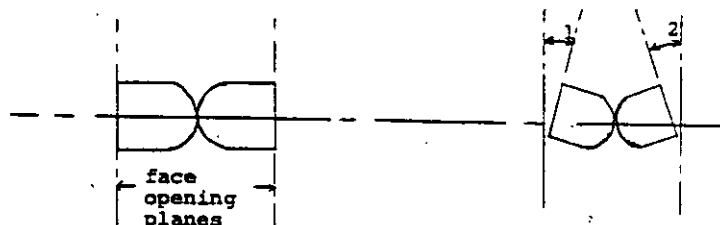
By: DER

Pitot tubes having the following geometric characteristics are assigned a pitot tube coefficient of 0.84.

1. Face openings perpendicular to transverse axis: ( $\alpha_1$  and  $\alpha_2 < 10^\circ$ )

$$\alpha_1 = \underline{0}$$

$$\alpha_2 = \underline{0}$$



2. Face openings parallel to longitudinal axis: ( $\beta_1$  and  $\beta_2 < 5^\circ$ ;  $P = 1.05 D_t$  to  $1.50 D_t$ ;  $P_A = P_B$ )

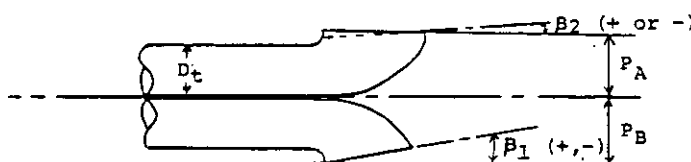
$$D_t = \underline{.375''}$$

$$\beta_1 = \underline{0}$$

$$P_A = \underline{.50''}$$

$$\beta_2 = \underline{0}$$

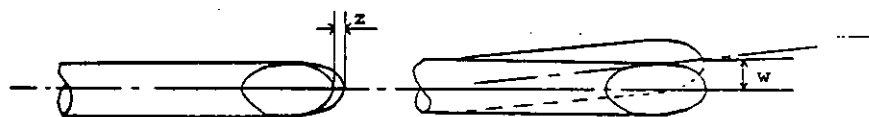
$$P_B = \underline{.50''}$$



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: 245/1250472

Nozzle dia: .250''

Date: 6-6-95

11. 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

$$X_1 = \underline{1.2''/.85''}$$

3.  $X_2 \geq 0$  inch

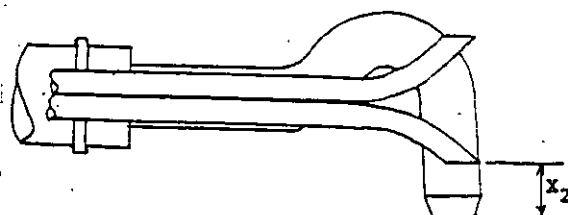
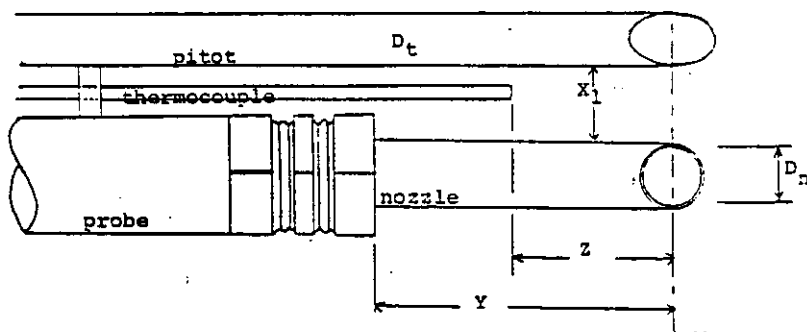
$$X_2 = \underline{1.0''/.5''}$$

4.  $Y \geq 3.0$  inch

$$Y = \underline{6.2''}$$

5.  $z \geq 2.0$  inch

$$z = \underline{2.2''}$$



# PITOT TUBE GEOMETRY CALIBRATION

Pitot tube/probe identification: 8'SS

Date Checked: 6-6-95

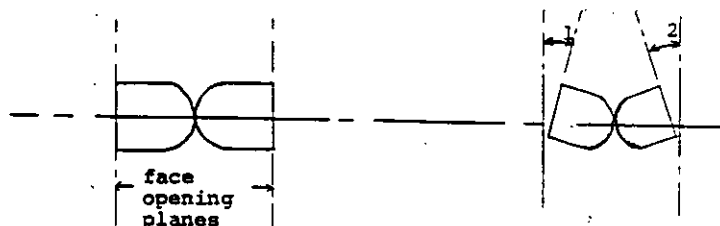
By: DCR

Pitot tubes having the following geometric characteristics are assigned a pitot tube coefficient of 0.84.

1. Face openings perpendicular to transverse axis: ( $\alpha_1$  and  $\alpha_2 < 10^\circ$ )

$$\alpha_1 = \underline{0}$$

$$\alpha_2 = \underline{0}$$



2. Face openings parallel to longitudinal axis: ( $\beta_1$  and  $\beta_2 < 5^\circ$ ;  $P = 1.05 D_t$  to  $1.50 D_t$ ;  $P_A = P_B$ )

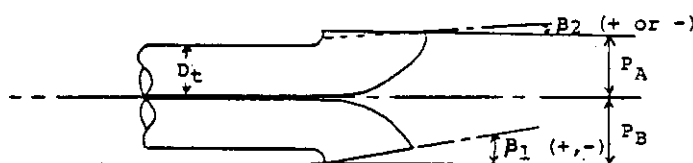
$$D_t = \underline{.375''}$$

$$\beta_1 = \underline{0}$$

$$P_A = \underline{.45''}$$

$$\beta_2 = \underline{0}$$

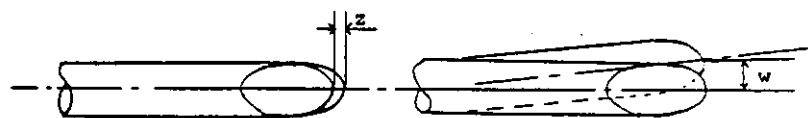
$$P_B = \underline{.45''}$$



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: .205"/.250 QTz Nozzle dia: .205"/.250 QTz Date: 6-6-95

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

$$X_1 = \underline{1.1''/.10}$$

3.  $X_2 \geq 0$  inch

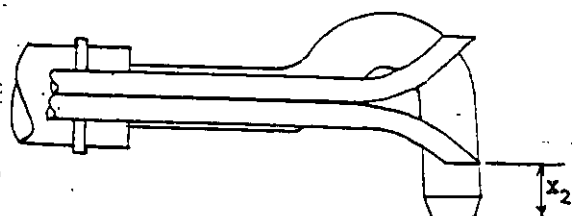
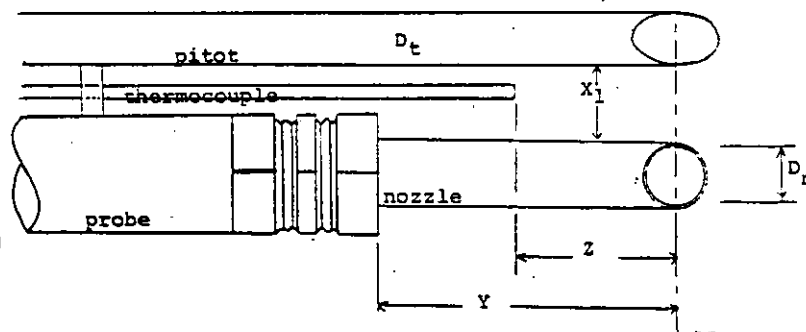
$$X_2 = \underline{.7''/.55''}$$

4.  $Y \geq 3.0$  inch

$$Y = \underline{6.2''}$$

5.  $z \geq 2.0$  inch

$$z = \underline{2.3''}$$





# 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, 1995.

Cylinder Number : ALM049194

Certificate Date : 2/1/95

Expiration Date : 2/1/98

Cylinder Pressure + : 1900 psig

Previous Certificate Date : None

### 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

475.3 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 : ALM016861

Certificate Date : 1/27/95

Expiration Date : 1/27/98

Cylinder Pressure + : 1900 psig

Previous Certificate Date : None

### 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  
NRM 1668

Expiration Date  
6/7/96

Cylinder Number  
ALM-032015

Concentration  
95.5 ppm Propane in Air.

### INSTRUMENTATION

Instrument/Model/Serial #  
Fron 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 NRM 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)

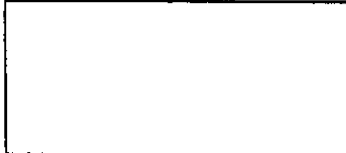
#### Components

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+Cx<sup>2</sup>+Dx<sup>3</sup>+Ex<sup>4</sup>  
r=1.00000 NTRM 1668  
Constants: A=-0.086524000  
B=1.000900000 C=0.000000000  
D=0.000000000 E=0.000000000

Special Notes

Analyst

2410 NOx



# 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**  
NTRM 2631  
**GMIS**  
NONE

**Expiration Date**  
06/18/95  
**NONE**

**Cylinder Number**  
ALM-022283  
AAL-19328

**Concentration**  
2814.0ppm NO / N2  
2170.0ppm NO / N2

### INSTRUMENTATION

**Instrument/Model/Serial #**  
Monitor Labs 8840-857

**Last Date Calibrated**  
08/22/94

**Analytical Principle**  
Chemiluminescence

### ANALYZER READINGS

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

**Components**  
(Nitric Oxide)

#### First Triad Analysis

Date: 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+Cx<sup>2</sup>+Dx<sup>3</sup>+Ex<sup>4</sup>  
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.

11290 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 =  $A + Bx + Cx^2 + Dx^3 + Ex^4$   
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*  
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

Complied 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 N<sub>2</sub>

### 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

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+Cx<sup>2</sup>+Dx<sup>3</sup>-Ex<sup>4</sup>  
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: 5/24/98

BLEND TYPE : ACUBLEND MASTER GAS

COMPONENT

CARBON MONOXIDE

OXYGEN

NITROGEN

REQUESTED GASCONC MOLES

452. PPM

11. %

BALANCE

ANALYSIS(MOLES)

453. PPM

11.01 %

BALANCE

2000 PSI

THIS PRODUCT IS TRACEABLE TO  
DOCUMENTATION BY BOTH THE  
NUMBERS IDENTIFIED ON THISALL PRODUCTION & ANALYTICAL  
PROJECT & CYLINDER SERIAL  
CERTIFICATE OF ANALYSIS.

ANALYST:



# 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

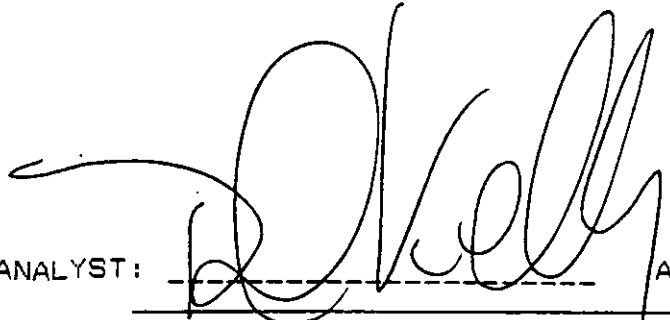
PROJECT #: 04-29381-003  
PO#: DRV-0107  
ITEM #: 04021453 2AL  
DATE: 1/11/94

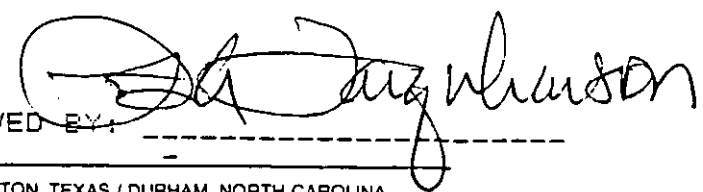
RIDGELAND MS 39158

CYLINDER #: ALM007930 ANALYTICAL ACCURACY: +/- 1%  
FILL PRESSURE: 2000 PSI PRODUCT EXPIRATION: 1/11/95  
BLEND TYPE : ACUBLEND MASTER GAS

COMPONENT  
CARBON MONOXIDE  
NITROGEN

| REQUESTED GAS | ANALYSIS   |
|---------------|------------|
| CONC MOLES    | (MOLES)    |
| 4,500. PPM    | 4,540. PPM |
| 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 TX 77023  
Phone: 713-644-4820 Fax: 713-644-0244

## CERTIFICATE OF ANALYSIS

ENVIRONMENTAL MONITORING  
DANNY RUSSELL  
P O BOX 655

PROJECT #: 04-39907-002  
PO#: DRV0116  
ITEM #: 04024520 2AL  
DATE: 1/27/96

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

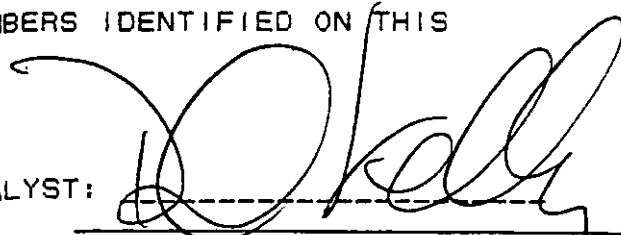
### ANALYSIS (MOLES)

12.08 %  
953. PPM  
3.02 %  
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: 

APPENDIX C.

INSTRUMENT RECORDER TRACES/DATA LOG

NO. 2 RTO NO<sub>x</sub> AND CO TRACE

FIND RAN 1  
@ 1131

6/6/95 - L.P. - Ch. 1, PL  
No. 2 RTO CO + NOX TEST  
L.P. = CO on TGA 11.0 - 17 ppm  
RTO = CO on TGA 10.0 - 100 ppm  
Chart speed = 20 g/min

START @ 1031

L.P. = CO 0-100

6/6 - L.P.

RTO No. 2

NOX RIL  
0-100

80 ppm CO

50 ppm CO

20 ppm CO

In. 5.4 CO 100

80 ppm NO

40 ppm NO

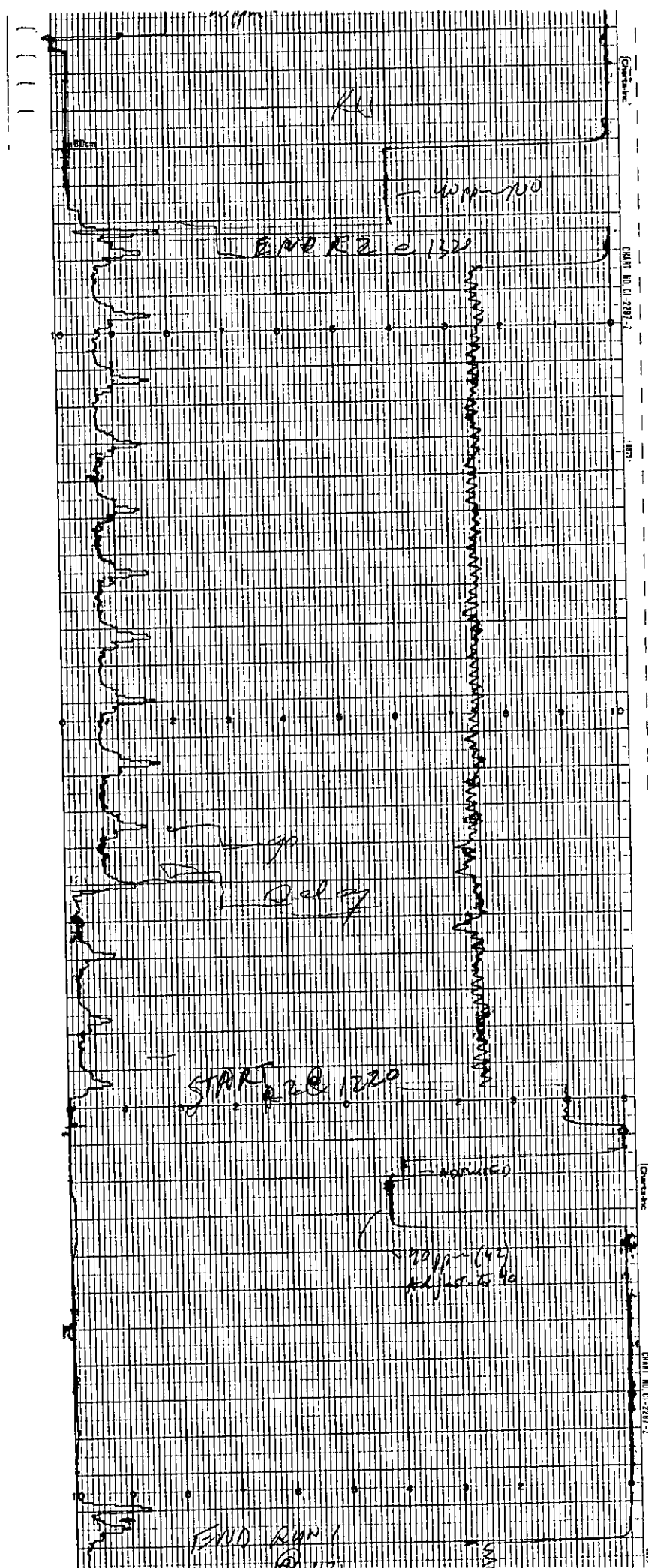
20 ppm NO

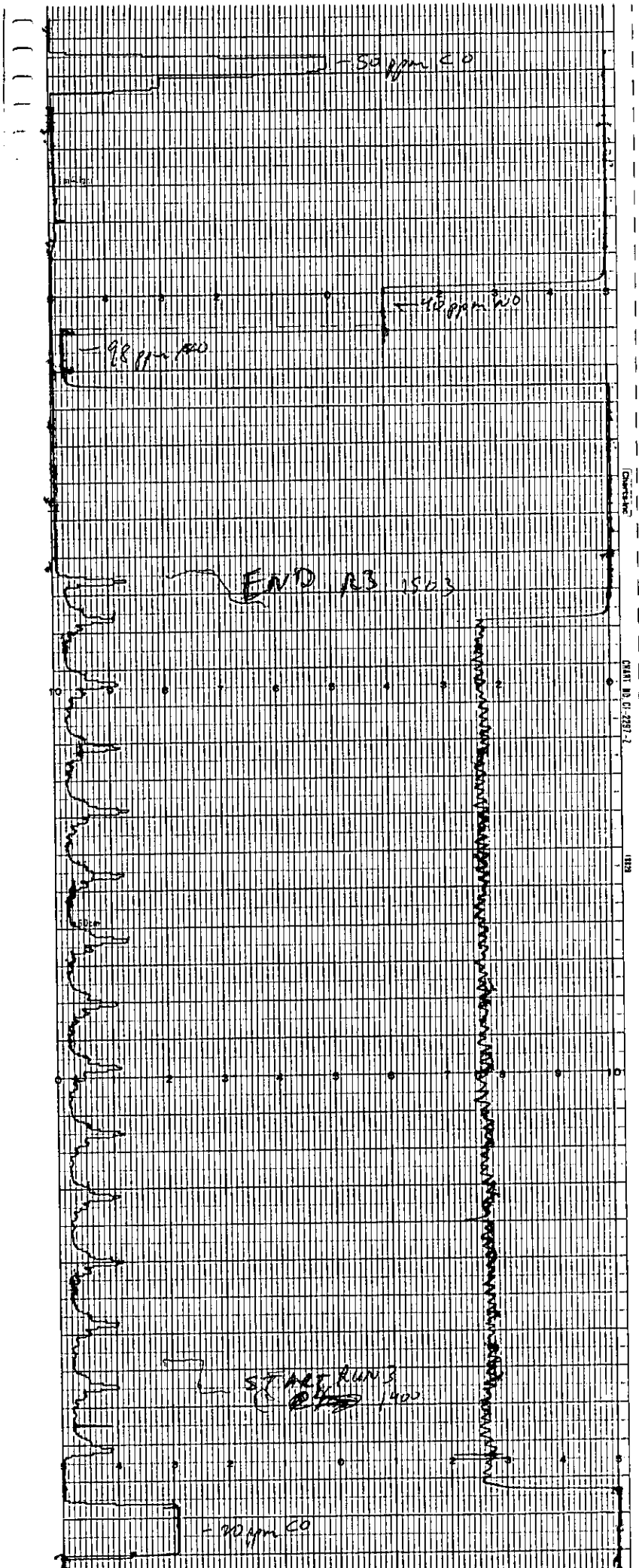
453 ppm on dilution

453 ppm CO on 0-1000

453 ppm on 1000

80 ppm NO



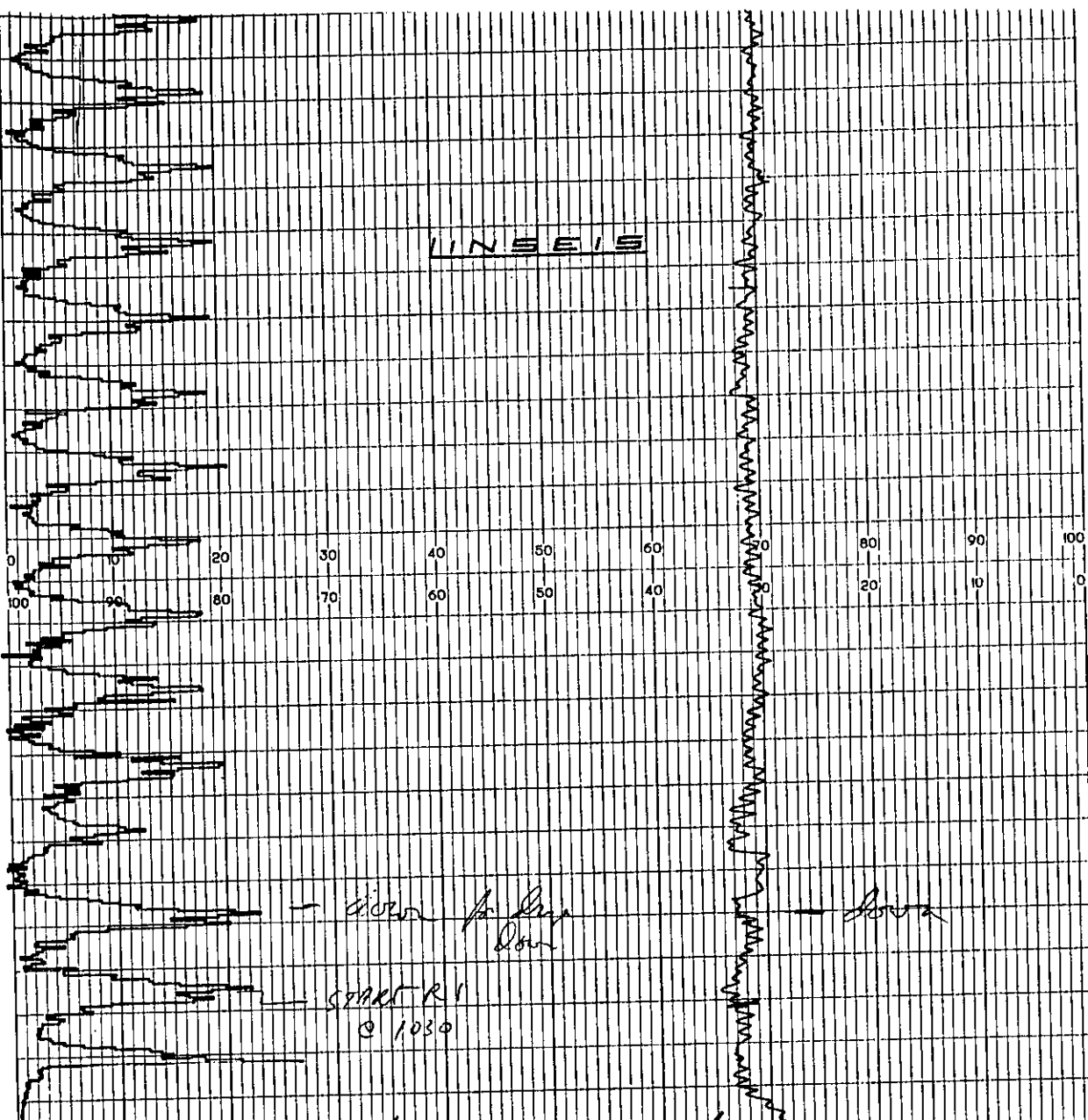


NO. 3 RTO NO<sub>x</sub> AND CO TRACE

PART NO. LO/NOI

PRINTED IN U.S.A.

INSEIS



START R1  
@ 1030

4/6/75 L1 Clayton

3-80ppm CO

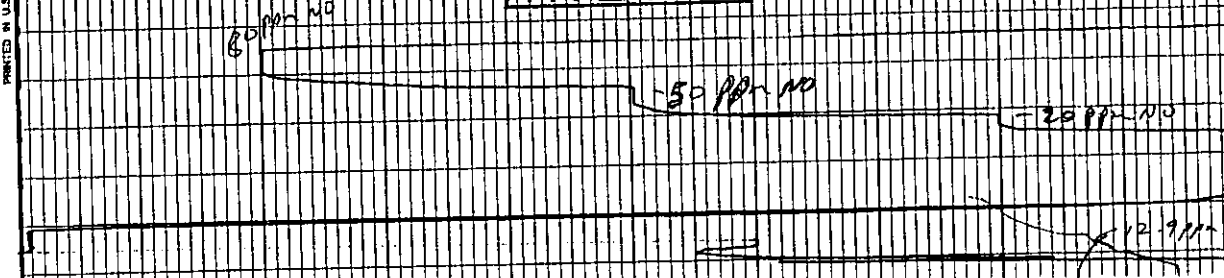


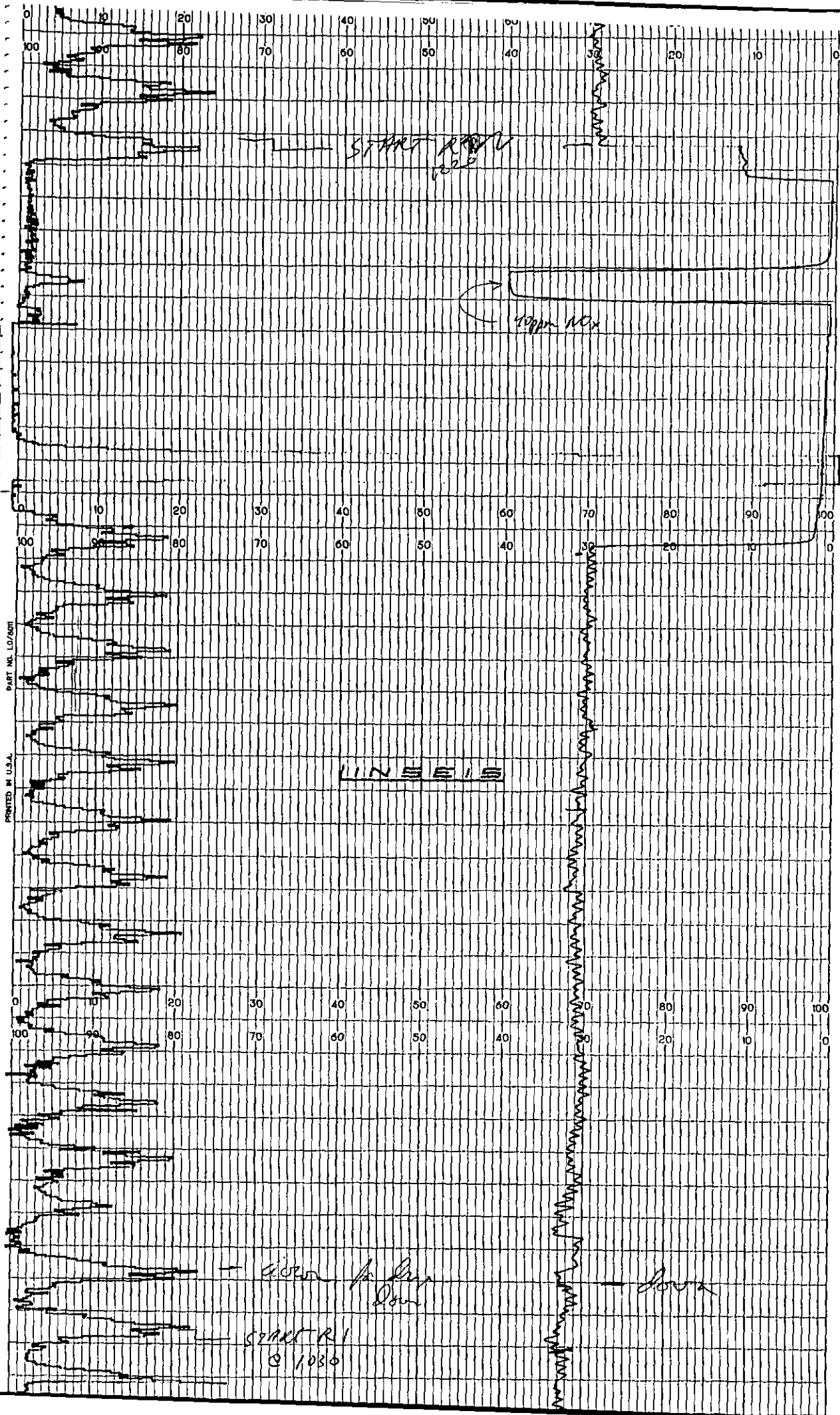
453ppm CO

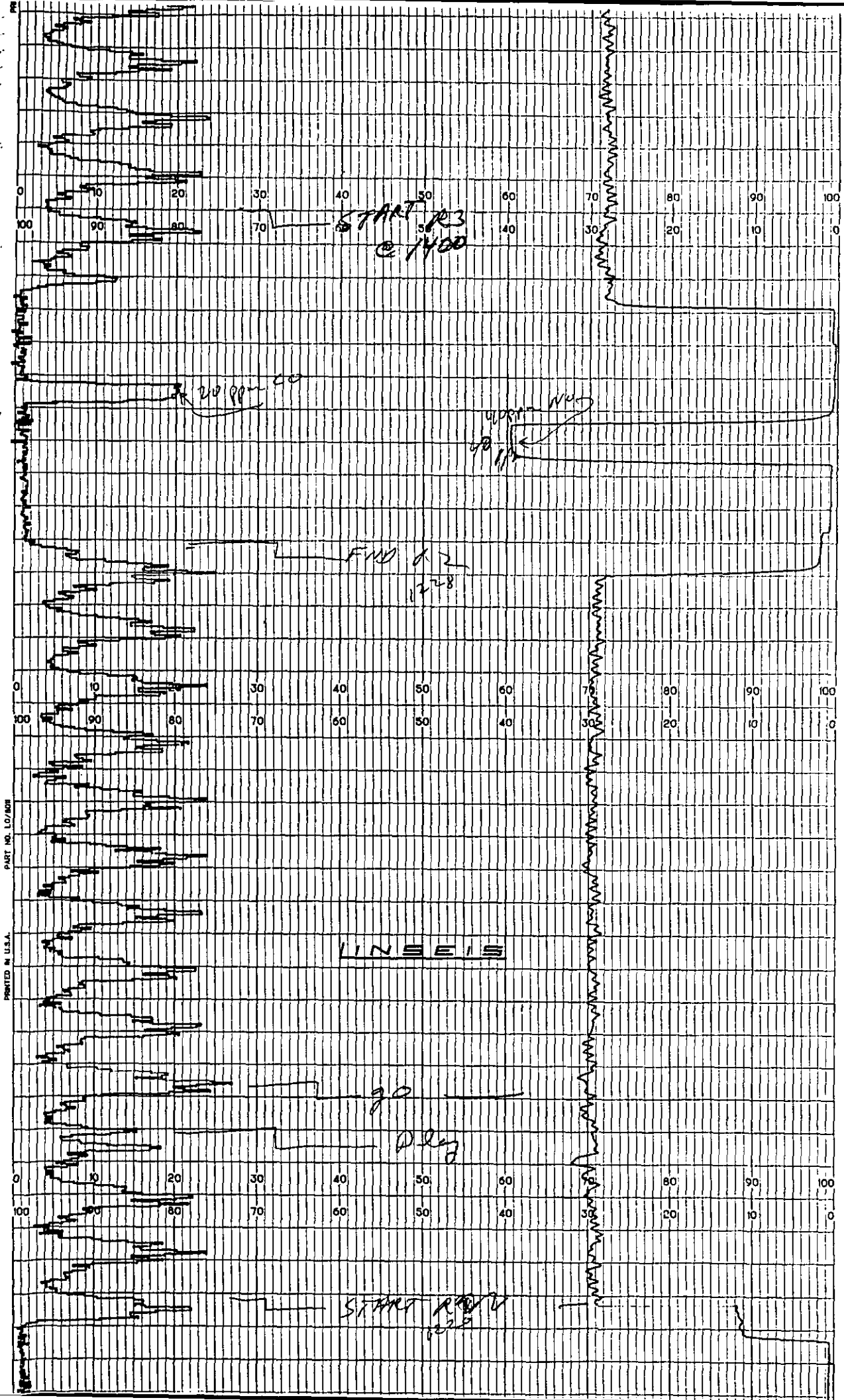
PART NO. LO/NOI

PRINTED IN U.S.A.

INSEIS







START R3  
@ 1400

20 ppm CO

FIND R2  
1228

LINE 515

Play

START R4  
@ 1228

PART NO. 10/100

PRINTED IN U.S.A.

50 ppm CO

20 ppm CO

POWER SUPPLY

40 ppm NO

END R3

INSEIS

START R3  
@ 1400

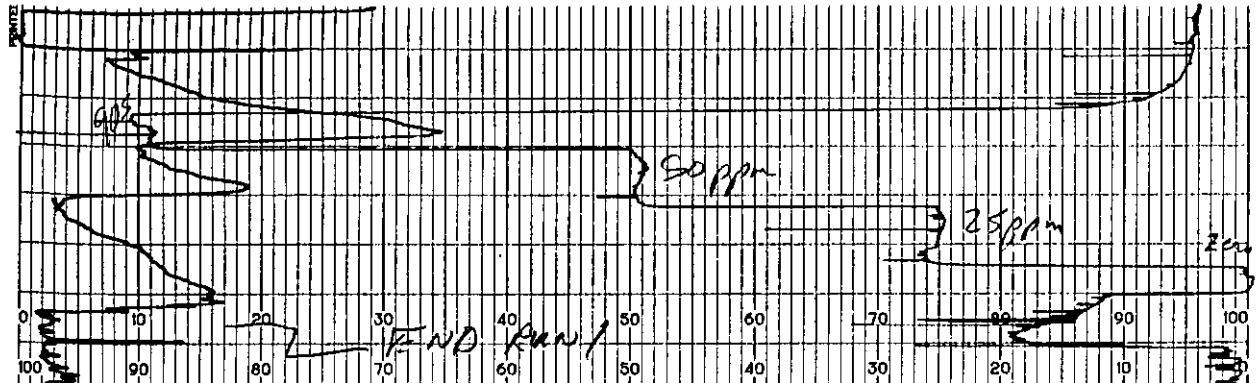
20 ppm CO

40 ppm NO

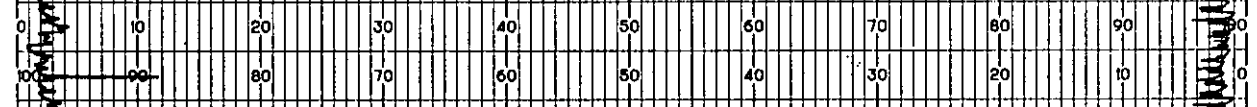
PART NO. LD/808

PRINTED IN U.S.A.

VOC TRACE



END RUN 1



NO. 2

6/7/95 - C.P. - Claf

STRT R1 @ DR36

RT L - RATE 0-100 ppm

LTR = Teco @ 0-100 ppm

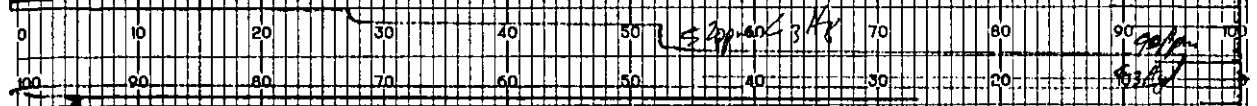
LIN 5 5 1 5

3-274-4348

50 ppm 348

3700

274-4348



50 ppm 348

348

PART NO. 10/600

PRINTED IN U.S.A.

PART NO. 10/600

PRINTED IN U.S.A.

START RT

R3 @ 1148

LINE IS

108 ppm

10 ppm

END R2 @ 1118

|    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|
| 0  | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 0  |
| 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0  | 90 |

2 1011

|    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|
| 0  | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 0  |
| 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0  | 90 |

START RUN 2 @ 1012

50 ppm

90 S

LINE IS

25 ppm

50 ppm

25 ppm

200

PRINTED IN U.S.A. PART NO.

PART NO.

1-2 通風、5

END RUN 30/1250

- 2000

PART NO. LO/80H

PART NO. LO/80H

1125515

Enno RZ e.v. 11/17

**E**

**E**

APPENDIX D.

ARMSTRONG ENVIRONMENTAL REPORT

Exhaust Emission Sampling  
**Louisiana Pacific, Clayton, AL**  
RTO Inlets & Exhaust  
June 6 & 7, 1995  
*Armstrong Environmental, Inc.*  
Project W-1697-95

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

Report Prepared June 10, 1995 By:  
*Armstrong Environmental, Inc.*  
7715 Sovereign Row  
Dallas, Texas 75247  
(214) 631-0021

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## I. INTRODUCTION

A series of tests were performed on the four (4) inlets and #1 RTO exhaust associated with RTOs #1, #2 and #3 at the Louisiana Pacific facility located in Clanton, AL on June 6 and 7, 1995.

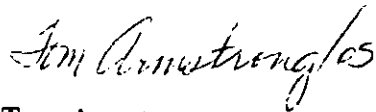
The purpose of this test series was to determine the emission rates of particulate, Nox, CO, VOC and Formaldehyde in terms of lbs/hr on the RTO exhaust, and the CO, Nox and VOC emissions simultaneously with the sampling performed on the RTO exhausts. Sampling for VOC was performed concurrently with the exhaust sampling on June 7, Nox and CO testing was performed concurrently on June 6. Sampling on RTO #2 and #3 was performed by EMS.

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

Sampling was performed by John Dahlem, Danny Barrera, Joe Barrera, Jerry Salinas and Tom Armstrong of Armstrong Environmental, Inc. using an 3 Apex Method 5 Sampling Trains, two FUJI continuous CO analyzers, four TECO Model 51 continuous FID analyzers, a single JUM continuous FID analyzer and two TECO Model 10 Nox analyzers.

Three one hour repetitions were performed on June 6 commencing at 10:30 am and ending at 3:03 pm for PM, Nox and CO, and three one hour repetitions were performed on June 7, commencing at 8:38 am and ending at 12:50 pm.

Submitted by:  
*Armstrong Environmental, Inc.*



Tom Armstrong  
President

## II. SUMMARY

A series of tests were performed on the four inlets and the exhaust of RTO #1 associated with RTOs #1, #2 and #3 at the Louisiana Pacific facility in Clayton, AL on June 6 and 7, 1995.

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

Results of this test series are summarized in Table 1-10.

Results indicate the following emission rates:

| Component/Run#         | 1     | 2     | 3     | Ave.  |
|------------------------|-------|-------|-------|-------|
| <b>RTO #1 Exhaust</b>  |       |       |       |       |
| Particulate, lbs/hr    | 39.48 | 28.82 | 37.32 | 35.24 |
| Nox, lbs/hr            | 12.07 | 11.73 | 11.22 | 11.67 |
| CO, lbs/hr             | 5.41  | 3.32  | 3.69  | 4.14  |
| VOC as C - *DB, lbs/hr | 7.52  | 7.71  | 7.41  | 7.55  |
| Formaldehyde, lbs/hr   | 1.42  | 1.35  | 1.48  | 1.42  |
| *DB - Dry Basis        |       |       |       |       |
| <b>RTO Inlet "A"</b>   |       |       |       |       |
| Nox, lbs/hr            | 10.62 | 12.53 | 12.88 | 12.01 |
| CO, lbs/hr             | 41.52 | 40.60 | 37.43 | 39.85 |
| VOC as C - DB, lbs/hr  | 38.74 | 25.41 | 29.26 | 31.13 |
| <b>RTO Inlet "B"</b>   |       |       |       |       |
| Nox, lbs/hr            | 9.63  | 10.94 | 10.31 | 10.29 |
| CO, lbs/hr             | 38.79 | 36.05 | 33.45 | 36.10 |
| VOC as C - DB, lbs/hr  | 34.93 | 29.75 | 29.09 | 31.25 |
| <b>RTO Inlet "C"</b>   |       |       |       |       |
| Nox, lbs/hr            | 10.64 | 10.35 | 8.69  | 9.89  |
| CO, lbs/hr             | 1.84  | 1.76  | ND    | 1.2   |
| VOC as C - DB, lbs/hr  | 19.18 | 17.38 | 16.35 | 17.63 |

| <b>RTO Inlet "D"</b>  |       |       |       |       |
|-----------------------|-------|-------|-------|-------|
| Nox, lbs/hr           | 10.10 | 10.24 | 8.62  | 9.65  |
| CO, lbs/hr            | 1.90  | 1.87  | 3.69  | 2.49  |
| VOC as C - DB, lbs/hr | 18.75 | 16.29 | 16.19 | 17.07 |

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 1.072 mg, 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 #2 and #3 are as follows:

| Run#   | <u>Formaldehyde, Total mg</u> |       |       |
|--------|-------------------------------|-------|-------|
|        | 1                             | 2     | 3     |
| RTO #2 | 3.715                         | 5.408 | 5.94  |
| RTO #3 | 3.067                         | 2.762 | 2.476 |

Chromatograms and analytical summaries can be found in Appendix B.

3. VOC concentrations on the four inlets were recorded on a data logger. The logger was set to make a reading every 15 seconds. Chart recorders were used on RTO #1 exhaust.

# SUMMARY OF EMISSIONS TEST DATA

Table : 1

Plant : Louisiana Pacific, Clayton, AL

Location : RTO #1 Exhaust

Operator : J. Dahlem, J. Barrera

Test Date : 6-Jun-95

| Repetition :                            | 1        | 2        | 3        |
|-----------------------------------------|----------|----------|----------|
| <b>STACK GAS</b>                        |          |          |          |
| Temperature, F                          | 232.8    | 233.5    | 233.4    |
| Velocity, fps                           | 61.72    | 60.43    | 61.52    |
| Volume Flow, acfm                       | 145938.3 | 142879.6 | 145459.0 |
| scfm                                    | 101324.4 | 97942.0  | 100867.5 |
| scfh                                    | 6079467  | 5876521  | 6052052  |
| Moisture, %                             | 7.81%    | 8.82%    | 7.78%    |
| CO <sub>2</sub> , %                     | 1.00     | 1.00     | 1.00     |
| O <sub>2</sub> , %                      | 20.00    | 20.00    | 20.00    |
| <b>SAMPLE</b>                           |          |          |          |
| Start Time, hrs:min                     | 10:30 AM | 12:22 PM | 2:00 PM  |
| Finish Time, hrs:min                    | 11:45 AM | 1:32 PM  | 3:03 PM  |
| Sample Volume, scf                      | 31.272   | 30.569   | 31.091   |
| Isokinetic Ratio, %                     | 101.2987 | 102.4424 | 101.1696 |
| <b>PARTICULATE</b>                      |          |          |          |
| Sample Weight, mg                       | 92.10    | 68.00    | 86.96    |
| Concentration, gr/scf                   | 0.045443 | 0.034323 | 0.043157 |
| Emissions, lbs/hr                       | 39.48023 | 28.824   | 37.32445 |
| <b>CARBON MONOXIDE</b>                  |          |          |          |
| Concentration, ppm                      | 12.25    | 7.78     | 8.39     |
| Emissions, lbs/hr                       | 5.41344  | 3.323316 | 3.690935 |
| <b>NITROGEN OXIDE AS NO<sub>2</sub></b> |          |          |          |
| Concentration, ppm                      | 16.63    | 16.72    | 15.53    |
| Emissions, lbs/hr                       | 12.07339 | 11.73352 | 11.22395 |

# SUMMARY OF EMISSIONS TEST DATA

Table : 2

Plant : Louisiana Pacific, Clayton, AL

Location : RTO #1 Exhaust

Operator : J. Dahlem, J. Barrera

Test Date : 7-Jun-95

| Repetition :                  | 1        | 2        | 3        |
|-------------------------------|----------|----------|----------|
| <b>STACK GAS</b>              |          |          |          |
| Temperature, F                | 231.0    | 231.3    | 231.5    |
| Velocity, fps                 | 56.70    | 55.81    | 55.87    |
| Volume Flow, acfm             | 134064.4 | 131956.3 | 132109.5 |
| scfm                          | 91225.8  | 90373.0  | 90135.8  |
| scfh                          | 5473547  | 5422378  | 5408149  |
| Moisture, %                   | 10.13%   | 9.82%    | 10.14%   |
| CO2, %                        | 1.00     | 1.00     | 1.00     |
| O2, %                         | 20.00    | 20.00    | 20.00    |
| <b>SAMPLE</b>                 |          |          |          |
| Start Time, hrs:min           | 8:38 AM  | 10:12 AM | 11:47 AM |
| Finish Time, hrs:min          | 9:41 AM  | 11:15 AM | 12:50 PM |
| Sample Volume, scf            | 48.372   | 47.198   | 46.734   |
| Isokinetic Ratio, %           | 101.169  | 99.64445 | 98.92555 |
| <b>VOC</b>                    |          |          |          |
| Concentration as C3H8, ppm WB | 13.21    | 13.59    | 13.01    |
| Concentration as C, ppm WB    | 39.63    | 40.77    | 39.03    |
| Concentration as C, ppm DB    | 44.09565 | 45.21005 | 43.43279 |
| Emissions, lbs/hr DB          | 7.518991 | 7.709014 | 7.405962 |
| <b>FORMALDEHYDE</b>           |          |          |          |
| Sample Weight, mg             | 5.71     | 5.41     | 5.94     |
| Concentration, ppm            | 3.339916 | 3.162161 | 3.473232 |
| Emissions, lbs/hr             | 1.425192 | 1.349342 | 1.48208  |

# SUMMARY OF EMISSIONS TEST DATA

Table : 3

Plant : Louisiana Pacific, Clayton, AL

Location : Inlet "A"

Operator : J. Salinas, D. Barrera, T. Armstrong

Test Date : 6-Jun-95

| Repetition :                 | 1        | 2        | 3        |
|------------------------------|----------|----------|----------|
| <b>STACK GAS</b>             |          |          |          |
| Temperature, F               | 145.3    | 140.5    | 139.8    |
| Velocity, fps                | 107.59   | 108.31   | 110.36   |
| Volume Flow, acfm            | 81120.9  | 81667.1  | 83209.4  |
| scfm                         | 81085.8  | 81520.3  | 82924.3  |
| scfh                         | 3665150  | 3691220  | 3775456  |
| Moisture, %                  | 12.18%   | 12.79%   | 12.52%   |
| CO2, %                       | 1.00     | 1.00     | 1.00     |
| O2, %                        | 20.00    | 20.00    | 20.00    |
| <b>SAMPLE</b>                |          |          |          |
| Start Time, hrs:min          | 10:47 AM | 12:20 PM | 1:55 PM  |
| Finish Time, hrs:min         | 11:48 AM | 1:27 PM  | 3:06 PM  |
| Sample Volume, scf           | 11.267   | 11.583   | 11.181   |
| <b>CARBON MONOXIDE</b>       |          |          |          |
| Concentration, ppm           | 155.85   | 151.35   | 136.42   |
| Emissions, lbs/hr            | 41.52124 | 40.60917 | 37.43856 |
| <b>NITROGEN OXIDE AS NO2</b> |          |          |          |
| Concentration, ppm           | 24.28    | 28.43    | 28.57    |
| Emissions, lbs/hr            | 10.62703 | 12.53194 | 12.88105 |

# SUMMARY OF EMISSIONS TEST DATA

Table : 4

Plant : Louisiana Pacific, Clayton, AL

Location : Inlet "B"

Operator : J. Salinas, D. Barrera, T. Armstrong

Test Date : 6-Jun-95

| Repetition :                 | 1        | 2        | 3        |
|------------------------------|----------|----------|----------|
| <b>STACK GAS</b>             |          |          |          |
| Temperature, F               | 136.3    | 137.8    | 137.8    |
| Velocity, fps                | 107.57   | 107.63   | 108.02   |
| Volume Flow, acfm            | 81103.9  | 81148.9  | 81445.7  |
| scfm                         | 82357.9  | 82294.2  | 83110.9  |
| scfh                         | 3741475  | 3737655  | 3786655  |
| Moisture, %                  | 11.62%   | 11.58%   | 10.80%   |
| CO2, %                       | 1.00     | 1.00     | 1.00     |
| O2, %                        | 20.00    | 20.00    | 20.00    |
| <b>SAMPLE</b>                |          |          |          |
| Start Time, hrs:min          | 10:47 AM | 12:20 PM | 1:55 PM  |
| Finish Time, hrs:min         | 11:48 AM | 1:27 PM  | 3:06 PM  |
| Sample Volume, scf           | 11.490   | 11.354   | 11.280   |
| <b>CARBON MONOXIDE</b>       |          |          |          |
| Concentration, ppm           | 142.61   | 132.69   | 121.53   |
| Emissions, lbs/hr            | 38.78507 | 36.05032 | 33.45115 |
| <b>NITROGEN OXIDE AS NO2</b> |          |          |          |
| Concentration, ppm           | 21.57    | 24.5     | 22.81    |
| Emissions, lbs/hr            | 9.637503 | 10.93545 | 10.31461 |

# SUMMARY OF EMISSIONS TEST DATA

Table : 5

Plant : Louisiana Pacific, Clayton, AL

Location : Inlet "C"

Operator : J. Salinas, D. Barrera, T. Armstrong

Test Date : 8-Jun-95

| Repetition :                 | 1        | 2        | 3        |
|------------------------------|----------|----------|----------|
| <b>STACK GAS</b>             |          |          |          |
| Temperature, F               | 128.8    | 128.5    | 129.0    |
| Velocity, fps                | 60.75    | 57.92    | 57.78    |
| Volume Flow, acfm            | 103051.6 | 98261.2  | 98026.9  |
| scfm                         | 84221.9  | 80615.0  | 80720.1  |
| scfh                         | 5053312  | 4836901  | 4843205  |
| Moisture, %                  | 7.69%    | 7.27%    | 6.73%    |
| CO2, %                       | 1.00     | 1.00     | 1.00     |
| O2, %                        | 20.00    | 20.00    | 20.00    |
| <b>SAMPLE</b>                |          |          |          |
| Start Time, hrs:min          | 10:47 AM | 12:20 PM | 1:55 PM  |
| Finish Time, hrs:min         | 11:48 AM | 1:27 PM  | 3:06 PM  |
| Sample Volume, scf           | 11.523   | 11.408   | 11.739   |
| <b>CARBON MONOXIDE</b>       |          |          |          |
| Concentration, ppm           | 5        | 5        | ND       |
| Emissions, lbs/hr            | 1.836614 | 1.75796  | ND       |
| <b>NITROGEN OXIDE AS NO2</b> |          |          |          |
| Concentration, ppm           | 17.64    | 17.92    | 15.03    |
| Emissions, lbs/hr            | 10.64501 | 10.35087 | 8.692875 |

# SUMMARY OF EMISSIONS TEST DATA

Table : 6

Plant : Louisiana Pacific, Clayton, AL

Location : Inlet "D"

Operator : J. Salinas, D. Barrera, T. Armstrong

Test Date : 6-Jun-95

| Repetition :                 | 1        | 2        | 3        |
|------------------------------|----------|----------|----------|
| <b>STACK GAS</b>             |          |          |          |
| Temperature, F               | 130.0    | 129.3    | 132.5    |
| Velocity, fps                | 61.94    | 61.33    | 61.10    |
| Volume Flow, acfm            | 105085.4 | 104041.0 | 103645.7 |
| scfm                         | 87157.7  | 85912.4  | 82590.1  |
| scfh                         | 5229464  | 5154747  | 4955406  |
| Moisture, %                  | 5.90%    | 6.43%    | 9.21%    |
| CO2, %                       | 1.00     | 1.00     | 1.00     |
| O2, %                        | 20.00    | 20.00    | 20.00    |
| <b>SAMPLE</b>                |          |          |          |
| Start Time, hrs:min          | 10:47 AM | 12:20 PM | 1:55 PM  |
| Finish Time, hrs:min         | 11:48 AM | 1:27 PM  | 3:06 PM  |
| Sample Volume, scf           | 11.715   | 11.643   | 12.067   |
| <b>CARBON MONOXIDE</b>       |          |          |          |
| Concentration, ppm           | 5        | 5        | 9.86     |
| Emissions, lbs/hr            | 1.900636 | 1.87348  | 3.694503 |
| <b>NITROGEN OXIDE AS NO2</b> |          |          |          |
| Concentration, ppm           | 16.18    | 16.64    | 14.57    |
| Emissions, lbs/hr            | 10.10432 | 10.24312 | 8.622047 |

# SUMMARY OF EMISSIONS TEST DATA

Table : 7

Plant : Louisiana Pacific, Clayton, AL

Location : Inlet "A"

Operator : J. Salinas, D. Barrera, T. Armstrong

Test Date : 7-Jun-95

| Repetition :                                            | 1        | 2        | 3        |
|---------------------------------------------------------|----------|----------|----------|
| <b>STACK GAS</b>                                        |          |          |          |
| Temperature, F                                          | 139.0    | 144.8    | 143.3    |
| Velocity, fps                                           | 104.58   | 105.80   | 105.76   |
| Volume Flow, acfm                                       | 78847.9  | 79767.7  | 79742.1  |
| scfm                                                    | 60696.5  | 60621.4  | 60776.6  |
| scfh                                                    | 3641788  | 3637286  | 3646598  |
| Moisture, %                                             | 11.80%   | 12.13%   | 12.07%   |
| CO <sub>2</sub> , %                                     | 1.00     | 1.00     | 1.00     |
| O <sub>2</sub> , %                                      | 20.00    | 20.00    | 20.00    |
| <b>SAMPLE</b>                                           |          |          |          |
| Start Time, hrs:min                                     | 8:35 AM  | 10:11 AM | 11:44 AM |
| Finish Time, hrs:min                                    | 9:37 AM  | 11:16 AM | 12:48 PM |
| Sample Volume, scf                                      | 11.615   | 11.595   | 11.314   |
| <b>VOC AS C<sub>3</sub>H<sub>8</sub></b>                |          |          |          |
| Concentration as C <sub>3</sub> H <sub>8</sub> , ppm WB | 100.40   | 65.60    | 75.60    |
| Concentration as C, ppm WB                              | 301.2    | 196.8    | 226.8    |
| Concentration as C, ppm DB                              | 341.4792 | 223.9622 | 257.937  |
| Emissions, lbs/hr DB                                    | 38.74127 | 25.40881 | 29.2633  |

# SUMMARY OF EMISSIONS TEST DATA

Table : 8

Plant : Louisiana Pacific, Clayton, AL

Location : Inlet "B"

Operator : J. Salinas, D. Barrera, T. Armstrong

Test Date : 7-Jun-95

| Repetition :                  | 1        | 2        | 3        |
|-------------------------------|----------|----------|----------|
| <b>STACK GAS</b>              |          |          |          |
| Temperature, F                | 146.8    | 142.3    | 137.3    |
| Velocity, fps                 | 102.74   | 102.57   | 103.04   |
| Volume Flow, acfm             | 77462.2  | 77332.5  | 77689.7  |
| scfm                          | 60136.6  | 58673.9  | 60054.3  |
| scfh                          | 3608197  | 3520436  | 3603259  |
| Moisture, %                   | 9.94%    | 12.72%   | 11.80%   |
| CO2, %                        | 1.00     | 1.00     | 1.00     |
| O2, %                         | 20.00    | 20.00    | 20.00    |
| <b>SAMPLE</b>                 |          |          |          |
| Start Time, hrs:min           | 8:35 AM  | 10:11 AM | 11:44 AM |
| Finish Time, hrs:min          | 9:37 AM  | 11:16 AM | 12:48 PM |
| Sample Volume, scf            | 11.515   | 10.979   | 10.911   |
| <b>VOC AS C3H8</b>            |          |          |          |
| Concentration as C3H8, ppm WB | 93.30    | 77.00    | 76.10    |
| Concentration as C, ppm WB    | 279.9    | 231      | 228.3    |
| Concentration as C, ppm DB    | 310.7909 | 264.6717 | 258.8312 |
| Emissions, lbs/hr DB          | 34.93442 | 29.75039 | 29.09389 |

# SUMMARY OF EMISSIONS TEST DATA

Table : 9

Plant : Louisiana Pacific, Clayton, AL

Location : Inlet "C"

Operator : J. Salinas, D. Barrera, T. Armstrong

Test Date : 7-Jun-95

| Repetition :                  | 1        | 2        | 3        |
|-------------------------------|----------|----------|----------|
| <b>STACK GAS</b>              |          |          |          |
| Temperature, F                | 137.5    | 137.0    | 135.8    |
| Velocity, fps                 | 57.34    | 56.38    | 57.71    |
| Volume Flow, acfm             | 97279.4  | 95643.8  | 97894.3  |
| scfm                          | 78828.3  | 77332.9  | 78695.9  |
| scfh                          | 4729698  | 4639974  | 4721752  |
| Moisture, %                   | 7.59%    | 7.92%    | 8.64%    |
| CO2, %                        | 1.00     | 1.00     | 1.00     |
| O2, %                         | 20.00    | 20.00    | 20.00    |
| <b>SAMPLE</b>                 |          |          |          |
| Start Time, hrs:min           | 8:35 AM  | 10:11 AM | 11:44 AM |
| Finish Time, hrs:min          | 9:37 AM  | 11:16 AM | 12:48 PM |
| Sample Volume, scf            | 12.036   | 11.500   | 11.450   |
| <b>VOC AS C3H8</b>            |          |          |          |
| Concentration as C3H8, ppm WB | 40.10    | 36.20    | 33.80    |
| Concentration as C, ppm WB    | 120.3    | 108.6    | 101.4    |
| Concentration as C, ppm DB    | 130.18   | 117.9346 | 110.9871 |
| Emissions, lbs/hr DB          | 19.18107 | 17.3768  | 16.35314 |

# SUMMARY OF EMISSIONS TEST DATA

Table : 10

Plant : Louisiana Pacific, Clayton, AL

Location : Inlet "D"

Operator : J. Salinas, D. Barrera, T. Armstrong

Test Date : 7-Jun-95

| Repetition :                  | 1        | 2        | 3        |
|-------------------------------|----------|----------|----------|
| <b>STACK GAS</b>              |          |          |          |
| Temperature, F                | 141.0    | 138.3    | 139.0    |
| Velocity, fps                 | 55.69    | 56.93    | 57.91    |
| Volume Flow, acfm             | 94469.5  | 96578.2  | 98239.5  |
| scfm                          | 75812.6  | 76662.4  | 77484.1  |
| scfh                          | 4548755  | 4599743  | 4649046  |
| Moisture, %                   | 7.99%    | 9.47%    | 9.92%    |
| CO <sub>2</sub> , %           | 1.00     | 1.00     | 1.00     |
| O <sub>2</sub> , %            | 20.00    | 20.00    | 20.00    |
| <b>SAMPLE</b>                 |          |          |          |
| Start Time, hrs:min           | 8:35 AM  | 10:11 AM | 11:44 AM |
| Finish Time, hrs:min          | 9:37 AM  | 11:16 AM | 12:48 PM |
| Sample Volume, scf            | 11.382   | 11.243   | 10.690   |
| <b>VOC AS C3H8</b>            |          |          |          |
| Concentration as C3H8, ppm WB | 40.60    | 34.70    | 34.30    |
| Concentration as C, ppm WB    | 121.8    | 104.1    | 102.9    |
| Concentration as C, ppm DB    | 132.3782 | 114.9955 | 114.2275 |
| Emissions, lbs/hr DB          | 18.75875 | 16.29552 | 16.18669 |

### 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 <sub>2</sub> , O <sub>2</sub> , 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                                   |

O<sub>2</sub> and CO<sub>2</sub> were determined using Fyrite Analyzers.

Sampling was performed on the four inlets and RTO #1 exhaust using the following test matrix:

| Location            | Inlets A & B     | Inlets C & D     | RTO #1 exhaust   |
|---------------------|------------------|------------------|------------------|
| <b>PM, Nox, CO</b>  |                  |                  |                  |
| 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               | 0.1916           |
| Nozzle Material     | NA               | NA               | Stainless        |
| Probe Liner         | Stainless        | Stainless        | Stainless        |
| Impinger Solution   | H <sub>2</sub> O | H <sub>2</sub> O | H <sub>2</sub> 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 15 minute intervals on each stack during each run.

#### 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        | 0.2513 |
| 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 four 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                       | Inlets      | RTO #1 Exhaust |
| CO Analyzer                    | Fuji NDIR   | Fuji NDIR      |
| CO Standards, ppm in N2        | 400         | 391            |
| (Certified +/- 2%)             | 100         | 98             |
|                                | 50.8        | 56.7           |
| 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)             | Teco 51(A)  | Teco 51        |
|                                | JUM (B)     |                |
|                                | Teco 51 (C) |                |
|                                | Teco 51 (D) |                |
| VOC Standards, C3H8 in N2, ppm | 909         | 91             |
| (EPA Protocol 1)               | 495         | 29.98          |
|                                | 203         | 4.95           |

All analyzers were zeroed with N2. A schematic of CEM flow is included.

APPENDIX A

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
DATE : 6-Jun-95  
PLACE : RTO #1 Exhaust  
RUN# : 1

|                           |         |                                    |       |
|---------------------------|---------|------------------------------------|-------|
| TEST DURATION (MINUTES) : | 60      | LIQUID COLLECTED (mls) :           | 56.3  |
| NOZZLE DIAMETER (INCH.) : | 0.1916  | PARTICULATE WEIGHT (Front half mg) | 92.1  |
| METER COEFFICIENT (Y) :   | 1.02476 | PARTICULATE WEIGHT (Back half mg)  | 0     |
| PITOT COEFFICIENT (Cp) :  | 0.84    | STATIC PRESSURE (in. H2O) :        | -0.75 |
| GAS METER VOL.(Cu.Ft.) :  | 32.475  | PERCENT CO2 :                      | 1     |
| BAROMETRIC PRESSURE :     | 29.62   | PERCENT O2 :                       | 20    |
|                           |         | 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):    | 0.0002   | STACK AREA (Sq.Ft.) : | 0 |

ENTER THE STACK AREA SHOWN ABOVE: 39.40626

## FLOWS

|                                        |            |
|----------------------------------------|------------|
| SAMPLED VOLUME (STD. CU.FT.):          | 31.2719    |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 2.6500     |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.0781     |
| DRY BASE:                              | 79.0000    |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600    |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 28.1038    |
| STACK PRESSURE (inch Hg):              | 29.5649    |
| STACK GAS VELOCITY (ft/sec.):          | 61.7238    |
| ACTUAL STACK GAS FLOW RATE (ACFM):     | 145938.257 |
| STANDARD STACK GAS FLOW RATE (SCFH):   | 6079466.72 |

## PARTICULATE

|                                      |          |
|--------------------------------------|----------|
| FRONT HALF                           |          |
| PARTICULATE CONCENTRATION (GR./SCF): | 0.0454   |
| PARTICULATE CONCENTRATION (LBS/SCF): | 6.49E-06 |
| PARTICULATE EMISSION (LBS/HR):       | 39.4802  |

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

|                       |          |
|-----------------------|----------|
| ISOKINETIC RATIO (%): | 101.2987 |
|-----------------------|----------|

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|
| 1      | 230               | 1.10    | 1.048809 | 0.99    | 94                | 94                 |
| 2      | 230               | 1.10    | 1.048809 | 0.99    | 95                | 95                 |
| 3      | 231               | 0.86    | 0.927362 | 0.77    | 95                | 95                 |
| 4      | 230               | 0.92    | 0.959166 | 0.83    | 95                | 95                 |
| 5      | 232               | 0.82    | 0.905539 | 0.74    | 95                | 95                 |
| 6      | 231               | 0.88    | 0.938083 | 0.79    | 96                | 95                 |
| 7      | 237               | 0.86    | 0.927362 | 0.77    | 97                | 96                 |
| 8      | 233               | 0.77    | 0.877496 | 0.69    | 98                | 96                 |
| 9      | 234               | 0.83    | 0.911043 | 0.75    | 99                | 97                 |
| 10     | 233               | 0.91    | 0.953939 | 0.82    | 99                | 97                 |
| 11     | 233               | 0.83    | 0.911043 | 0.35    | 100               | 98                 |
| 12     | 232               | 0.76    | 0.87178  | 0.68    | 100               | 98                 |
| 13     | 233               | 1.30    | 1.140175 | 1.20    | 97                | 97                 |
| 14     | 232               | 1.30    | 1.140175 | 1.20    | 98                | 97                 |
| 15     | 235               | 1.50    | 1.224745 | 1.30    | 98                | 97                 |
| 16     | 233               | 1.10    | 1.048809 | 0.98    | 98                | 97                 |
| 17     | 233               | 0.86    | 0.927362 | 0.77    | 98                | 97                 |
| 18     | 235               | 0.86    | 0.927362 | 0.77    | 99                | 97                 |
| 19     | 234               | 0.63    | 0.793725 | 0.57    | 99                | 97                 |
| 20     | 233               | 0.66    | 0.812404 | 0.59    | 99                | 97                 |
| 21     | 234               | 0.65    | 0.806226 | 0.58    | 99                | 97                 |
| 22     | 233               | 0.65    | 0.806226 | 0.58    | 99                | 97                 |
| 23     | 232               | 0.76    | 0.87178  | 0.68    | 100               | 97 METER T.        |
| 24     | 233               | 0.66    | 0.812404 | 0.59    | 100               | 97 AVERAGE         |
|        | 232.75            |         | 0.9413   | 0.7908  | 97.7917           | 96.4583 97.1250    |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
 DATE : 6-Jun-95  
 PLACE : RTO #1 Exhaust  
 RUN# : 2

|                           |         |                                    |       |
|---------------------------|---------|------------------------------------|-------|
| TEST DURATION (MINUTES) : | 60      | LIQUID COLLECTED (mls) :           | 62.8  |
| NOZZLE DIAMETER (INCH.) : | 0.1916  | PARTICULATE WEIGHT (Front half mg) | 68    |
| METER COEFFICIENT (Y) :   | 1.02476 | PARTICULATE WEIGHT (Back half mg)  | 0     |
| PITOT COEFFICIENT (Cp) :  | 0.84    | STATIC PRESSURE (in. H2O) :        | -0.77 |
| GAS METER VOL. (Cu.Ft.) : | 31.768  | PERCENT CO2 :                      | 1     |
| BAROMETRIC PRESSURE :     | 29.6    | PERCENT O2 :                       | 20    |
|                           |         | 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):    | 0.0002   | STACK AREA (Sq.Ft.) :  | 0 |

ENTER THE STACK AREA SHOWN ABOVE: 39.40626

## FLOWS

|                                        |            |
|----------------------------------------|------------|
| SAMPLED VOLUME (STD. CU.FT.):          | 30.5692    |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 2.9560     |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.0882     |
| DRY BASE:                              | 79.0000    |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600    |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.9936    |
| STACK PRESSURE (inch Hg):              | 29.5434    |
| STACK GAS VELOCITY (ft/sec.):          | 60.4302    |
| ACTUAL STACK GAS FLOW RATE (ACFM):     | 142879.613 |
| STANDARD STACK GAS FLOW RATE (SCFH):   | 5876521.2  |

## PARTICULATE

|                                      |          |
|--------------------------------------|----------|
| FRONT HALF                           |          |
| PARTICULATE CONCENTRATION (GR./SCF): | 0.0343   |
| PARTICULATE CONCENTRATION (LBS/SCF): | 4.90E-06 |
| PARTICULATE EMISSION (LBS/HR):       | 28.8240  |

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

|                       |          |
|-----------------------|----------|
| ISOKINETIC RATIO (%): | 102.4424 |
|-----------------------|----------|

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 235               | 1.50    | 1.224745 | 1.30    | 94                | 94                 |          |
| 2      | 234               | 1.20    | 1.095445 | 1.10    | 95                | 94                 |          |
| 3      | 234               | 1.20    | 1.095445 | 1.10    | 95                | 94                 |          |
| 4      | 235               | 1.20    | 1.095445 | 1.10    | 96                | 94                 |          |
| 5      | 234               | 0.96    | 0.979796 | 0.86    | 96                | 94                 |          |
| 6      | 234               | 0.75    | 0.866025 | 0.67    | 95                | 96                 |          |
| 7      | 233               | 0.60    | 0.774597 | 0.54    | 96                | 95                 |          |
| 8      | 232               | 0.56    | 0.748331 | 0.50    | 97                | 95                 |          |
| 9      | 234               | 0.66    | 0.812404 | 0.59    | 97                | 95                 |          |
| 10     | 233               | 0.68    | 0.824621 | 0.61    | 98                | 95                 |          |
| 11     | 234               | 0.64    | 0.8      | 0.57    | 98                | 95                 |          |
| 12     | 232               | 0.60    | 0.774597 | 0.54    | 98                | 95                 |          |
| 13     | 233               | 1.00    | 1        | 0.89    | 97                | 97                 |          |
| 14     | 234               | 1.20    | 1.095445 | 1.10    | 97                | 97                 |          |
| 15     | 235               | 1.10    | 1.048809 | 0.98    | 99                | 97                 |          |
| 16     | 233               | 0.86    | 0.927362 | 0.77    | 100               | 97                 |          |
| 17     | 234               | 0.77    | 0.877496 | 0.69    | 100               | 98                 |          |
| 18     | 233               | 0.67    | 0.818535 | 0.60    | 100               | 98                 |          |
| 19     | 232               | 0.64    | 0.8      | 0.57    | 100               | 98                 |          |
| 20     | 233               | 0.73    | 0.8544   | 0.66    | 101               | 98                 |          |
| 21     | 232               | 0.80    | 0.894427 | 0.72    | 101               | 98                 |          |
| 22     | 233               | 0.90    | 0.948683 | 0.80    | 101               | 98                 |          |
| 23     | 234               | 0.89    | 0.943398 | 0.80    | 101               | 98                 | METER T. |
| 24     | 234               | 0.57    | 0.754983 | 0.51    | 101               | 99                 | AVERAGE  |
|        | 233.5             |         | 0.9190   | 0.7738  | 98.0417           | 96.2083            | 97.1250  |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
DATE : 6-Jun-95  
PLACE : RTO #1 Exhaust  
RUN# : 3

|                           |         |                                    |       |
|---------------------------|---------|------------------------------------|-------|
| TEST DURATION (MINUTES) : | 60      | LIQUID COLLECTED (mls) :           | 55.7  |
| NOZZLE DIAMETER (INCH.) : | 0.1916  | PARTICULATE WEIGHT (Front half mg) | 86.96 |
| METER COEFFICIENT (Y) :   | 1.02476 | PARTICULATE WEIGHT (Back half mg)  | 0     |
| PITOT COEFFICIENT (Cp) :  | 0.84    | STATIC PRESSURE (in. H2O) :        | -0.74 |
| GAS METER VOL.(Cu.Ft.) :  | 32.345  | PERCENT CO2 :                      | 1     |
| BAROMETRIC PRESSURE :     | 29.6    | PERCENT O2 :                       | 20    |
|                           |         | 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):    | 0.0002   | STACK AREA (Sq.Ft.) : | 0 |

ENTER THE STACK AREA SHOWN ABOVE: 39.40626

## FLOWS

|                                        |            |
|----------------------------------------|------------|
| SAMPLED VOLUME (STD. CU.FT.):          | 31.0912    |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 2.6218     |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.0778     |
| DRY BASE:                              | 79.0000    |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600    |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 28.1077    |
| STACK PRESSURE (inch Hg):              | 29.5456    |
| STACK GAS VELOCITY (ft/sec.):          | 61.5211    |
| ACTUAL STACK GAS FLOW RATE (ACFM):     | 145459.003 |
| STANDARD STACK GAS FLOW RATE (SCFH):   | 6052051.84 |

## PARTICULATE

|                                      |          |
|--------------------------------------|----------|
| FRONT HALF                           |          |
| PARTICULATE CONCENTRATION (GR./SCF): | 0.0432   |
| PARTICULATE CONCENTRATION (LBS/SCF): | 6.17E-06 |
| PARTICULATE EMISSION (LBS/HR):       | 37.3245  |

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

|                       |          |
|-----------------------|----------|
| ISOKINETIC RATIO (%): | 101.1696 |
|-----------------------|----------|

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|
| 1      | 232               | 1.20    | 1.095445 | 1.10    | 95                | 95                 |
| 2      | 233               | 1.40    | 1.183216 | 1.20    | 95                | 95                 |
| 3      | 232               | 1.40    | 1.183216 | 1.20    | 96                | 95                 |
| 4      | 233               | 0.99    | 0.994987 | 0.89    | 98                | 95                 |
| 5      | 233               | 0.94    | 0.969536 | 0.84    | 98                | 95                 |
| 6      | 235               | 0.76    | 0.87178  | 0.68    | 99                | 96                 |
| 7      | 234               | 0.66    | 0.812404 | 0.59    | 99                | 96                 |
| 8      | 234               | 0.66    | 0.812404 | 0.59    | 100               | 96                 |
| 9      | 234               | 0.63    | 0.793725 | 0.56    | 100               | 96                 |
| 10     | 233               | 0.67    | 0.818535 | 0.60    | 100               | 96                 |
| 11     | 233               | 0.61    | 0.781025 | 0.55    | 100               | 97                 |
| 12     | 233               | 0.60    | 0.774597 | 0.54    | 101               | 97                 |
| 13     | 232               | 0.88    | 0.938083 | 0.79    | 99                | 97                 |
| 14     | 234               | 1.00    | 1        | 0.89    | 99                | 97                 |
| 15     | 234               | 0.96    | 0.979796 | 0.86    | 100               | 97                 |
| 16     | 233               | 0.98    | 0.989949 | 0.88    | 100               | 97                 |
| 17     | 233               | 1.00    | 1        | 0.89    | 100               | 97                 |
| 18     | 235               | 1.00    | 1        | 0.89    | 100               | 97                 |
| 19     | 234               | 0.88    | 0.938083 | 0.79    | 100               | 97                 |
| 20     | 234               | 0.88    | 0.938083 | 0.79    | 100               | 97                 |
| 21     | 235               | 0.84    | 0.916515 | 0.75    | 100               | 97                 |
| 22     | 234               | 0.95    | 0.974679 | 0.85    | 100               | 97                 |
| 23     | 233               | 0.91    | 0.953939 | 0.82    | 100               | 97 METER T.        |
| 24     | 232               | 0.61    | 0.781025 | 0.55    | 100               | 97 AVERAGE         |
|        | 233.41667         |         | 0.9375   | 0.7954  | 99.1250           | 96.3750 97.7500    |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
DATE : 7-Jun-95  
PLACE : RTO #1 Exhaust  
RUN# : 1

|                           |         |                                     |       |
|---------------------------|---------|-------------------------------------|-------|
| TEST DURATION (MINUTES) : | 60      | LIQUID COLLECTED (mls) :            | 115.8 |
| NOZZLE DIAMETER (INCH.) : | 0.2513  | PARTICULATE WEIGHT (Front half mg)  |       |
| METER COEFFICIENT (Y) :   | 1.02476 | PARTICULATE WEIGHT (Back half mg) : | 0     |
| PITOT COEFFICIENT (Cp) :  | 0.84    | STATIC PRESSURE (in. H2O) :         | -0.72 |
| GAS METER VOL.(Cu.Ft.) :  | 49.596  | PERCENT CO2 :                       | 1     |
| BAROMETRIC PRESSURE :     | 29.7    | PERCENT O2 :                        | 20    |
|                           |         | 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):    | 0.000344              | STACK AREA (Sq.Ft.) : | 0 |

ENTER THE STACK AREA SHOWN ABOVE: 39.40626

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 48.3718 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 5.4507  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.1013  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.8501 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.6471    |
| STACK GAS VELOCITY (ft/sec.):        | 56.7018    |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 134064.365 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 5473546.83 |

|                       |          |
|-----------------------|----------|
| ISOKINETIC RATIO (%): | 101.1690 |
|-----------------------|----------|

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 234               | 0.69    | 0.830662 | 1.70    | 89                | 88                 |          |
| 2      | 233               | 0.80    | 0.894427 | 1.90    | 89                | 88                 |          |
| 3      | 234               | 0.82    | 0.905539 | 2.00    | 91                | 88                 |          |
| 4      | 233               | 0.79    | 0.888819 | 1.90    | 92                | 89                 |          |
| 5      | 235               | 0.80    | 0.894427 | 1.90    | 93                | 89                 |          |
| 6      | 231               | 0.61    | 0.781025 | 1.50    | 95                | 90                 |          |
| 7      | 230               | 0.60    | 0.774597 | 1.50    | 95                | 90                 |          |
| 8      | 232               | 0.60    | 0.774597 | 1.50    | 96                | 90                 |          |
| 9      | 230               | 0.59    | 0.768115 | 1.50    | 95                | 91                 |          |
| 10     | 229               | 0.60    | 0.774597 | 1.50    | 95                | 91                 |          |
| 11     | 231               | 0.61    | 0.781025 | 1.50    | 96                | 91                 |          |
| 12     | 230               | 0.62    | 0.787401 | 1.50    | 96                | 91                 |          |
| 13     | 230               | 1.40    | 1.183216 | 3.40    | 94                | 93                 |          |
| 14     | 230               | 1.20    | 1.095445 | 3.00    | 94                | 92                 |          |
| 15     | 229               | 0.95    | 0.974679 | 2.40    | 95                | 92                 |          |
| 16     | 231               | 0.81    | 0.9      | 2.00    | 95                | 92                 |          |
| 17     | 231               | 0.85    | 0.921954 | 2.10    | 95                | 92                 |          |
| 18     | 230               | 0.80    | 0.894427 | 2.00    | 96                | 93                 |          |
| 19     | 230               | 0.75    | 0.866025 | 1.90    | 97                | 93                 |          |
| 20     | 230               | 0.70    | 0.83666  | 1.70    | 97                | 93                 |          |
| 21     | 231               | 0.65    | 0.806226 | 1.60    | 97                | 93                 |          |
| 22     | 230               | 0.65    | 0.806226 | 1.60    | 97                | 93                 |          |
| 23     | 230               | 0.64    | 0.8      | 1.50    | 98                | 93                 | METER T. |
| 24     | 230               | 0.60    | 0.774597 | 1.50    | 99                | 93                 | AVERAGE  |
|        | 231               |         | 0.8631   | 1.8583  | 94.8333           | 91.1667            | 93.0000  |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
DATE : 7-Jun-95  
PLACE : RTO #1 Exhaust  
RUN# : 2

|                           |         |                                     |       |
|---------------------------|---------|-------------------------------------|-------|
| TEST DURATION (MINUTES) : | 60      | LIQUID COLLECTED (mls) :            | 109.2 |
| NOZZLE DIAMETER (INCH.) : | 0.2513  | PARTICULATE WEIGHT (Front half mg)  | 0     |
| METER COEFFICIENT (Y) :   | 1.02476 | PARTICULATE WEIGHT (Back half mg) : | 0     |
| PITOT COEFFICIENT (Cp) :  | 0.84    | STATIC PRESSURE (in. H2O) :         | -0.7  |
| GAS METER VOL (Cu.Ft.) :  | 48.721  | PERCENT CO2 :                       | 1     |
| BAROMETRIC PRESSURE :     | 29.8    | PERCENT O2 :                        | 20    |
|                           |         | 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):    | 0.000344              | STACK AREA (Sq.Ft.) :  | 0 |

ENTER THE STACK AREA SHOWN ABOVE: 39.40626

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 47.1975 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 5.1400  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.0982  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.8636 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.7485    |
| STACK GAS VELOCITY (ft/sec.):        | 55.8102    |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 131956.316 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 5422378.32 |

|                       |         |
|-----------------------|---------|
| ISOKINETIC RATIO (%): | 99.6445 |
|-----------------------|---------|

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 230               | 0.70    | 0.83666  | 1.70    | 95                | 95                 |          |
| 2      | 230               | 0.79    | 0.888819 | 2.00    | 95                | 95                 |          |
| 3      | 230               | 0.83    | 0.911043 | 2.00    | 96                | 95                 |          |
| 4      | 233               | 0.80    | 0.894427 | 2.00    | 96                | 95                 |          |
| 5      | 231               | 0.79    | 0.888819 | 2.00    | 96                | 95                 |          |
| 6      | 231               | 0.59    | 0.768115 | 1.50    | 97                | 95                 |          |
| 7      | 231               | 0.63    | 0.793725 | 1.60    | 99                | 96                 |          |
| 8      | 230               | 0.64    | 0.8      | 1.60    | 100               | 96                 |          |
| 9      | 231               | 0.60    | 0.774597 | 1.50    | 100               | 97                 |          |
| 10     | 232               | 0.61    | 0.781025 | 1.50    | 100               | 97                 |          |
| 11     | 233               | 0.59    | 0.768115 | 1.50    | 101               | 97                 |          |
| 12     | 231               | 0.60    | 0.774597 | 1.50    | 101               | 97                 |          |
| 13     | 232               | 1.10    | 1.048809 | 2.70    | 100               | 98                 |          |
| 14     | 232               | 1.20    | 1.095445 | 2.90    | 100               | 99                 |          |
| 15     | 233               | 1.00    | 1        | 2.50    | 100               | 99                 |          |
| 16     | 231               | 0.89    | 0.943398 | 2.20    | 100               | 100                |          |
| 17     | 232               | 0.75    | 0.866025 | 1.80    | 100               | 100                |          |
| 18     | 231               | 0.75    | 0.866025 | 1.80    | 100               | 100                |          |
| 19     | 230               | 0.74    | 0.860233 | 1.80    | 101               | 99                 |          |
| 20     | 231               | 0.63    | 0.793725 | 1.60    | 101               | 99                 |          |
| 21     | 232               | 0.59    | 0.768115 | 1.50    | 102               | 100                |          |
| 22     | 230               | 0.58    | 0.761577 | 1.40    | 103               | 100                |          |
| 23     | 231               | 0.61    | 0.781025 | 1.50    | 103               | 99                 | METER T. |
| 24     | 232               | 0.59    | 0.768115 | 1.40    | 103               | 99                 | AVERAGE  |
|        | 231.25            |         | 0.8514   | 1.8125  | 99.5417           | 97.5833            | 98.5625  |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
DATE : 7-Jun-95  
PLACE : RTO #1 Exhaust  
RUN# : 3

|                           |         |                                     |       |
|---------------------------|---------|-------------------------------------|-------|
| TEST DURATION (MINUTES) : | 60      | LIQUID COLLECTED (mls) :            | 112   |
| NOZZLE DIAMETER (INCH.) : | 0.2513  | PARTICULATE WEIGHT (Front half mg)  | 0     |
| METER COEFFICIENT (Y) :   | 1.02476 | PARTICULATE WEIGHT (Back half mg) : | 0     |
| PITOT COEFFICIENT (Cp) :  | 0.84    | STATIC PRESSURE (in. H2O) :         | -0.69 |
| GAS METER VOL.(Cu.Ft.) :  | 48.341  | PERCENT CO2 :                       | 1     |
| BAROMETRIC PRESSURE :     | 29.8    | PERCENT O2 :                        | 20    |
|                           |         | 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):    | 0.000344 | STACK AREA (Sq.Ft.) : | 0 |

ENTER THE STACK AREA SHOWN ABOVE: 39.40626

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 46.7340 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 5.2718  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.1014  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.8490 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.7493    |
| STACK GAS VELOCITY (ft/sec.):        | 55.8750    |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 132109.484 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 5408149.27 |

|                       |         |
|-----------------------|---------|
| ISOKINETIC RATIO (%): | 98.9256 |
|-----------------------|---------|

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|
| 1      | 230               | 0.75    | 0.866025 | 1.90    | 98                | 96                 |
| 2      | 231               | 0.74    | 0.860233 | 1.80    | 98                | 97                 |
| 3      | 230               | 0.70    | 0.83666  | 1.70    | 99                | 97                 |
| 4      | 231               | 0.70    | 0.83666  | 1.70    | 99                | 98                 |
| 5      | 232               | 0.70    | 0.83666  | 1.70    | 99                | 98                 |
| 6      | 230               | 0.69    | 0.830862 | 1.70    | 99                | 98                 |
| 7      | 231               | 0.63    | 0.793725 | 1.50    | 100               | 98                 |
| 8      | 232               | 0.66    | 0.812404 | 1.60    | 101               | 98                 |
| 9      | 232               | 0.60    | 0.774597 | 1.50    | 101               | 98                 |
| 10     | 232               | 0.59    | 0.768115 | 1.50    | 102               | 98                 |
| 11     | 231               | 0.61    | 0.781025 | 1.50    | 102               | 98                 |
| 12     | 230               | 0.63    | 0.793725 | 1.60    | 103               | 98                 |
| 13     | 231               | 1.30    | 1.140175 | 3.20    | 101               | 97                 |
| 14     | 231               | 1.30    | 1.140175 | 3.20    | 101               | 97                 |
| 15     | 232               | 1.00    | 1        | 2.50    | 102               | 98                 |
| 16     | 230               | 0.84    | 0.916515 | 2.10    | 103               | 99                 |
| 17     | 234               | 0.76    | 0.87178  | 1.90    | 103               | 99                 |
| 18     | 233               | 0.74    | 0.860233 | 1.80    | 104               | 100                |
| 19     | 233               | 0.71    | 0.842615 | 1.70    | 104               | 100                |
| 20     | 232               | 0.65    | 0.806226 | 1.60    | 102               | 99                 |
| 21     | 232               | 0.60    | 0.774597 | 1.50    | 102               | 99                 |
| 22     | 231               | 0.59    | 0.768115 | 1.50    | 102               | 99                 |
| 23     | 231               | 0.59    | 0.768115 | 1.50    | 102               | 99 METER T.        |
| 24     | 233               | 0.58    | 0.761577 | 1.40    | 102               | 99 AVERAGE         |
|        | 231.45833         |         | 0.8517   | 1.8167  | 101.2083          | 98.2083 99.7083    |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
 DATE : 6-Jun-85  
 PLACE : Inlet "A"  
 RUN# : 1

|                           |        |                                          |      |
|---------------------------|--------|------------------------------------------|------|
| TEST DURATION (MINUTES) : | 60     | LIQUID COLLECTED (mls) :                 | 33.2 |
| NOZZLE DIAMETER (INCH.) : | 0      | PARTICULATE WEIGHT (Front half mg) :     | 0    |
| METER COEFFICIENT (Y) :   | 1.0127 | PARTICULATE WEIGHT (Back half mg) :      | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84   | STATIC PRESSURE (in. H <sub>2</sub> O) : | -2.6 |
| GAS METER VOL. (Cu.Ft.) : | 11.749 | PERCENT CO <sub>2</sub> :                | 1    |
| BAROMETRIC PRESSURE :     | 29.6   | PERCENT O <sub>2</sub> :                 | 20   |
|                           |        | PERCENT CO :                             | 0    |

|                        |                               |
|------------------------|-------------------------------|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK         |
| STACK DIAMETER (inch): | 48 STACK LENGTH(inchs) :      |
| STACK AREA (Sq.Ft.) :  | 12.56637 STACK WIDTH(inchs) : |
| NOZZLE AREA (feet):    | 0 STACK AREA (Sq.Ft.) :       |

ENTER THE STACK AREA SHOWN ABOVE: 12.56637

## FLOWS

|                                        |            |
|----------------------------------------|------------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.2673    |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 1.5627     |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.1218     |
| DRY BASE:                              | 79.0000    |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600    |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.6251    |
| STACK PRESSURE (Inch Hg):              | 29.4088    |
| STACK GAS VELOCITY (ft/sec.):          | 107.5899   |
| ACTUAL STACK GAS FLOW RATE (ACFM):     | 81120.9105 |
| STANDARD STACK GAS FLOW RATE (SCFH):   | 3665149.98 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 143               | 3.90    | 1.974842 | 1.00    | 92                | 91                 |          |
| 2      | 146               | 3.60    | 1.897367 |         | 94                | 91                 |          |
| 3      | 146               | 3.10    | 1.760682 |         | 95                | 91                 |          |
| 4      | 146               | 2.20    | 1.48324  |         | 96                | 92                 |          |
| 5      |                   | 1.70    | 1.30384  |         |                   |                    |          |
| 6      |                   | 1.80    | 1.341641 |         |                   |                    |          |
| 7      |                   | 4.40    | 2.097618 |         |                   |                    |          |
| 8      |                   | 4.40    | 2.097618 |         |                   |                    |          |
| 9      |                   | 4.30    | 2.073644 |         |                   |                    |          |
| 10     |                   | 4.30    | 2.073644 |         |                   |                    |          |
| 11     |                   | 3.80    | 1.949359 |         |                   |                    |          |
| 12     |                   | 1.70    | 1.30384  |         |                   |                    |          |
| 13     |                   | 4.50    | 2.12132  |         |                   |                    |          |
| 14     |                   | 4.30    | 2.073644 |         |                   |                    |          |
| 15     |                   | 4.30    | 2.073644 |         |                   |                    |          |
| 16     |                   | 4.10    | 2.024846 |         |                   |                    |          |
| 17     |                   | 3.90    | 1.974842 |         |                   |                    |          |
| 18     |                   | 3.30    | 1.81659  |         |                   |                    |          |
| 19     |                   | 1.40    | 1.183216 |         |                   |                    |          |
| 20     |                   | 1.60    | 1.284911 |         |                   |                    |          |
| 21     |                   | 2.10    | 1.449138 |         |                   |                    |          |
| 22     |                   | 2.50    | 1.581139 |         |                   |                    |          |
| 23     |                   | 2.70    | 1.643168 |         |                   |                    | METER T. |
| 24     |                   | 1.20    | 1.095445 |         |                   |                    | AVERAGE  |
|        | 145.25            |         | 1.7358   | 1.0000  | 94.2500           | 91.2500            | 92.7500  |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
 DATE : 6-Jun-95  
 PLACE : Inlet "A"  
 RUN# : 2

|                           |        |                                      |      |
|---------------------------|--------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60     | LIQUID COLLECTED (mls) :             | 36.1 |
| NOZZLE DIAMETER (INCH.) : | 0      | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.0127 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84   | STATIC PRESSURE (in. H2O) :          | -2.8 |
| GAS METER VOL.(Cu.Ft.) :  | 12.073 | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.6   | PERCENT O2 :                         | 20   |
|                           |        | PERCENT CO :                         | 0    |

|                        |                                |
|------------------------|--------------------------------|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK          |
| STACK DIAMETER (inch): | 48 STACK LENGTH(inches) :      |
| STACK AREA (Sq.Ft.) :  | 12.56637 STACK WIDTH(inches) : |
| NOZZLE AREA (feet):    | 0 STACK AREA (Sq.Ft.) :        |
|                        | 0                              |

ENTER THE STACK AREA SHOWN ABOVE: 12.56637

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.5833 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 1.6992  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.1279  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.5579 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.3941    |
| STACK GAS VELOCITY (ft/sec.):        | 108.3144   |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 81667.15   |
| STANDARD STACK GAS FLOW RATE (SCFH): | 3691219.71 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 136               | 3.60    | 1.897367 | 1.00    | 92                | 91                 |          |
| 2      | 142               | 3.50    | 1.870829 |         | 94                | 91                 |          |
| 3      | 143               | 2.80    | 1.67332  |         | 95                | 91                 |          |
| 4      | 141               | 2.30    | 1.516575 |         | 95                | 91                 |          |
| 5      |                   | 1.70    | 1.30384  |         |                   |                    |          |
| 6      |                   | 1.60    | 1.264911 |         |                   |                    |          |
| 7      |                   | 4.20    | 2.04939  |         |                   |                    |          |
| 8      |                   | 4.40    | 2.097618 |         |                   |                    |          |
| 9      |                   | 4.20    | 2.04939  |         |                   |                    |          |
| 10     |                   | 4.20    | 2.04939  |         |                   |                    |          |
| 11     |                   | 3.80    | 1.949359 |         |                   |                    |          |
| 12     |                   | 1.50    | 1.224745 |         |                   |                    |          |
| 13     |                   | 4.50    | 2.12132  |         |                   |                    |          |
| 14     |                   | 4.50    | 2.12132  |         |                   |                    |          |
| 15     |                   | 4.50    | 2.12132  |         |                   |                    |          |
| 16     |                   | 4.20    | 2.04939  |         |                   |                    |          |
| 17     |                   | 4.10    | 2.024846 |         |                   |                    |          |
| 18     |                   | 3.60    | 1.897367 |         |                   |                    |          |
| 19     |                   | 1.70    | 1.30384  |         |                   |                    |          |
| 20     |                   | 1.60    | 1.264911 |         |                   |                    |          |
| 21     |                   | 2.30    | 1.516575 |         |                   |                    |          |
| 22     |                   | 3.10    | 1.760682 |         |                   |                    |          |
| 23     |                   | 3.00    | 1.732051 |         |                   |                    | METER T. |
| 24     |                   | 1.40    | 1.183216 |         |                   |                    | AVERAGE  |
|        | 140.5             |         | 1.7518   | 1.0000  | 94.0000           | 91.0000            | 92.5000  |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
 DATE : 6-Jun-95  
 PLACE : Inlet "A"  
 RUN# : 3

|                           |        |                                      |    |
|---------------------------|--------|--------------------------------------|----|
| TEST DURATION (MINUTES) : | 60     | LIQUID COLLECTED (mls) :             | 34 |
| NOZZLE DIAMETER (INCH.) : | 0      | PARTICULATE WEIGHT (Front half mg) : | 0  |
| METER COEFFICIENT (Y) :   | 1.0127 | PARTICULATE WEIGHT (Back half mg) :  | 0  |
| PITOT COEFFICIENT (Cp) :  | 0.84   | STATIC PRESSURE (in. H2O) :          | -3 |
| GAS METER VOL.(Cu.Ft.) :  | 11.735 | PERCENT CO2 :                        | 1  |
| BAROMETRIC PRESSURE :     | 29.6   | PERCENT O2 :                         | 20 |
|                           |        | PERCENT CO :                         | 0  |

|                        |          |                       |   |
|------------------------|----------|-----------------------|---|
| FOR CIRCULAR STACK     |          | FOR RECTANGULAR STACK |   |
| STACK DIAMETER (inch): | 48       | STACK LENGTH(inchs) : |   |
| STACK AREA (Sq.Ft.) :  | 12.56637 | STACK WIDTH(inchs) :  |   |
| NOZZLE AREA (feet):    | 0        | STACK AREA (Sq.Ft.) : | 0 |

ENTER THE STACK AREA SHOWN ABOVE: 12.56637

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.1806 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 1.6004  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.1252  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.5876 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.3794    |
| STACK GAS VELOCITY (ft/sec.):        | 110.3598   |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 83209.3505 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 3775455.72 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 139               | 3.40    | 1.843909 | 1.00    | 95                | 94                 |          |
| 2      | 141               | 3.30    | 1.81659  |         | 98                | 94                 |          |
| 3      | 139               | 2.70    | 1.643168 |         | 100               | 94                 |          |
| 4      | 140               | 2.00    | 1.414214 |         | 101               | 95                 |          |
| 5      |                   | 1.50    | 1.224745 |         |                   |                    |          |
| 6      |                   | 1.80    | 1.341641 |         |                   |                    |          |
| 7      |                   | 4.50    | 2.12132  |         |                   |                    |          |
| 8      |                   | 4.40    | 2.097618 |         |                   |                    |          |
| 9      |                   | 4.30    | 2.073644 |         |                   |                    |          |
| 10     |                   | 4.20    | 2.04939  |         |                   |                    |          |
| 11     |                   | 3.80    | 1.949359 |         |                   |                    |          |
| 12     |                   | 2.20    | 1.48324  |         |                   |                    |          |
| 13     |                   | 4.90    | 2.213594 |         |                   |                    |          |
| 14     |                   | 4.60    | 2.144761 |         |                   |                    |          |
| 15     |                   | 4.50    | 2.12132  |         |                   |                    |          |
| 16     |                   | 4.50    | 2.12132  |         |                   |                    |          |
| 17     |                   | 4.20    | 2.04939  |         |                   |                    |          |
| 18     |                   | 3.80    | 1.949359 |         |                   |                    |          |
| 19     |                   | 1.90    | 1.378405 |         |                   |                    |          |
| 20     |                   | 1.80    | 1.341641 |         |                   |                    |          |
| 21     |                   | 2.80    | 1.67332  |         |                   |                    |          |
| 22     |                   | 3.20    | 1.788854 |         |                   |                    |          |
| 23     |                   | 3.00    | 1.732051 |         |                   |                    | METER T. |
| 24     |                   | 1.70    | 1.30384  |         |                   |                    | AVERAGE  |
|        | 139.75            |         | 1.7865   | 1.0000  | 98.5000           | 94.2500            | 96.3750  |

# EMISSION TEST SUMMARY

PLANT : Louisian Pacific, Clayton, AL  
 DATE : 6-Jun-95  
 PLACE : Inlet "B"  
 RUN# : 1

|                           |         |                                      |      |
|---------------------------|---------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60      | LIQUID COLLECTED (mls) :             | 32.1 |
| NOZZLE DIAMETER (INCH.) : | 0       | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.01279 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84    | STATIC PRESSURE (in. H2O) :          | -2.8 |
| GAS METER VOL.(Cu.Ft.) :  | 11.926  | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.6    | PERCENT O2 :                         | 20   |
|                           |         | PERCENT CO :                         | 0    |

|                        |                               |
|------------------------|-------------------------------|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK         |
| STACK DIAMETER (inch): | 48 STACK LENGTH(inchs) :      |
| STACK AREA (Sq.Ft.) :  | 12.56637 STACK WIDTH(inchs) : |
| NOZZLE AREA (feet):    | 0 STACK AREA (Sq.Ft.) :       |
|                        | 0                             |

ENTER THE STACK AREA SHOWN ABOVE: 12.56637

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.4901 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 1.5109  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.1162  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.6863 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.3941    |
| STACK GAS VELOCITY (ft/sec.):        | 107.5674   |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 81103.9347 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 3741474.65 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 137               | 3.60    | 1.897367 | 1.00    | 90                | 89                 |          |
| 2      | 135               | 3.60    | 1.897367 |         | 91                | 89                 |          |
| 3      | 136               | 3.10    | 1.760682 |         | 92                | 89                 |          |
| 4      | 137               | 2.60    | 1.612452 |         | 93                | 89                 |          |
| 5      |                   | 2.30    | 1.516575 |         |                   |                    |          |
| 6      |                   | 2.00    | 1.414214 |         |                   |                    |          |
| 7      |                   | 3.50    | 1.870829 |         |                   |                    |          |
| 8      |                   | 4.40    | 2.097618 |         |                   |                    |          |
| 9      |                   | 4.50    | 2.12132  |         |                   |                    |          |
| 10     |                   | 4.40    | 2.097618 |         |                   |                    |          |
| 11     |                   | 4.00    | 2        |         |                   |                    |          |
| 12     |                   | 1.40    | 1.183216 |         |                   |                    |          |
| 13     |                   | 4.00    | 2        |         |                   |                    |          |
| 14     |                   | 4.40    | 2.097618 |         |                   |                    |          |
| 15     |                   | 4.40    | 2.097618 |         |                   |                    |          |
| 16     |                   | 4.10    | 2.024846 |         |                   |                    |          |
| 17     |                   | 4.00    | 2        |         |                   |                    |          |
| 18     |                   | 3.50    | 1.870829 |         |                   |                    |          |
| 19     |                   | 1.50    | 1.224745 |         |                   |                    |          |
| 20     |                   | 1.50    | 1.224745 |         |                   |                    |          |
| 21     |                   | 1.80    | 1.341641 |         |                   |                    |          |
| 22     |                   | 2.60    | 1.612452 |         |                   |                    |          |
| 23     |                   | 3.00    | 1.732051 |         |                   |                    | METER T. |
| 24     |                   | 1.70    | 1.30384  |         |                   |                    | AVERAGE  |
|        | 136.25            |         | 1.7500   | 1.0000  | 91.5000           | 89.0000            | 90.2500  |

# EMISSION TEST SUMMARY

PLANT : Louisisan Pacific, Clayton, AL  
 DATE : 6-Jun-95  
 PLACE : Inlet"B"  
 RUN# : 2

|                           |         |                                      |      |
|---------------------------|---------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60      | LIQUID COLLECTED (mls) :             | 31.6 |
| NOZZLE DIAMETER (INCH.) : | 0       | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.01279 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84    | STATIC PRESSURE (in. H2O) :          | -2.6 |
| GAS METER VOL.(Cu.Ft.) :  | 11.814  | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.6    | PERCENT O2 :                         | 20   |
|                           |         | PERCENT CO :                         | 0    |

|                        |                                |
|------------------------|--------------------------------|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK          |
| STACK DIAMETER (inch): | 48 STACK LENGTH(inches) :      |
| STACK AREA (Sq.Ft.) :  | 12.56637 STACK WIDTH(inches) : |
| NOZZLE AREA (feet):    | 0 STACK AREA (Sq.Ft.) :        |
|                        | 0                              |

ENTER THE STACK AREA SHOWN ABOVE: 12.56637

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.3538 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 1.4874  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.1158  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.6905 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.4088    |
| STACK GAS VELOCITY (ft/sec.):        | 107.6270   |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 81148.8603 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 3737654.73 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 140               | 3.30    | 1.81659  | 1.00    | 90                | 90                 |          |
| 2      | 136               | 3.40    | 1.843909 |         | 93                | 90                 |          |
| 3      | 138               | 3.40    | 1.843909 |         | 94                | 90                 |          |
| 4      | 137               | 2.80    | 1.67332  |         | 95                | 91                 |          |
| 5      |                   | 2.60    | 1.612452 |         |                   |                    |          |
| 6      |                   | 2.40    | 1.549193 |         |                   |                    |          |
| 7      |                   | 4.00    | 2        |         |                   |                    |          |
| 8      |                   | 4.20    | 2.04939  |         |                   |                    |          |
| 9      |                   | 4.30    | 2.073644 |         |                   |                    |          |
| 10     |                   | 4.10    | 2.024846 |         |                   |                    |          |
| 11     |                   | 3.80    | 1.949359 |         |                   |                    |          |
| 12     |                   | 1.90    | 1.378405 |         |                   |                    |          |
| 13     |                   | 4.40    | 2.097618 |         |                   |                    |          |
| 14     |                   | 4.40    | 2.097618 |         |                   |                    |          |
| 15     |                   | 4.10    | 2.024846 |         |                   |                    |          |
| 16     |                   | 4.10    | 2.024846 |         |                   |                    |          |
| 17     |                   | 3.90    | 1.974842 |         |                   |                    |          |
| 18     |                   | 3.40    | 1.843909 |         |                   |                    |          |
| 19     |                   | 1.60    | 1.264911 |         |                   |                    |          |
| 20     |                   | 1.40    | 1.183216 |         |                   |                    |          |
| 21     |                   | 1.80    | 1.341641 |         |                   |                    |          |
| 22     |                   | 2.60    | 1.612452 |         |                   |                    |          |
| 23     |                   | 2.90    | 1.702939 |         |                   |                    | METER T. |
| 24     |                   | 1.00    | 1        |         |                   |                    | AVERAGE  |
|        | 137.75            |         | 1.7493   | 1.0000  | 93.0000           | 90.2500            | 91.6250  |

# EMISSION TEST SUMMARY

PLANT : Louisian Pacific, Clayton, AL  
 DATE : 6-Jun-95  
 PLACE : Inlet "B"  
 RUN# : 3

|                           |         |                                      |      |
|---------------------------|---------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60      | LIQUID COLLECTED (mls) :             | 29   |
| NOZZLE DIAMETER (INCH.) : | 0       | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.01279 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84    | STATIC PRESSURE (in. H2O) :          | -2.4 |
| GAS METER VOL.(Cu.Ft.) :  | 11.801  | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.6    | PERCENT O2 :                         | 20   |
|                           |         | PERCENT CO :                         | 0    |

|                        |                               |
|------------------------|-------------------------------|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK         |
| STACK DIAMETER (inch): | 48 STACK LENGTH(inchs) :      |
| STACK AREA (Sq.Ft.) :  | 12.56637 STACK WIDTH(inchs) : |
| NOZZLE AREA (feet):    | 0 STACK AREA (Sq.Ft.) :       |
|                        | 0                             |

ENTER THE STACK AREA SHOWN ABOVE: 12.56637

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.2799 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 1.3650  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.1080  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.7769 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.4235    |
| STACK GAS VELOCITY (ft/sec.):        | 108.0207   |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 81445.6813 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 3786655.42 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 140               | 3.40    | 1.843909 | 1.00    | 94                | 93                 |          |
| 2      | 136               | 3.70    | 1.923538 |         | 96                | 93                 |          |
| 3      | 138               | 3.60    | 1.897367 |         | 97                | 93                 |          |
| 4      | 137               | 3.30    | 1.81659  |         | 98                | 93                 |          |
| 5      |                   | 2.70    | 1.643168 |         |                   |                    |          |
| 6      |                   | 2.60    | 1.612452 |         |                   |                    |          |
| 7      |                   | 4.30    | 2.073644 |         |                   |                    |          |
| 8      |                   | 4.20    | 2.04839  |         |                   |                    |          |
| 9      |                   | 4.30    | 2.073644 |         |                   |                    |          |
| 10     |                   | 4.50    | 2.12132  |         |                   |                    |          |
| 11     |                   | 3.60    | 1.897367 |         |                   |                    |          |
| 12     |                   | 1.60    | 1.264911 |         |                   |                    |          |
| 13     |                   | 4.20    | 2.04839  |         |                   |                    |          |
| 14     |                   | 4.40    | 2.097618 |         |                   |                    |          |
| 15     |                   | 4.20    | 2.04839  |         |                   |                    |          |
| 16     |                   | 4.10    | 2.024846 |         |                   |                    |          |
| 17     |                   | 3.90    | 1.974842 |         |                   |                    |          |
| 18     |                   | 3.50    | 1.870829 |         |                   |                    |          |
| 19     |                   | 1.50    | 1.224745 |         |                   |                    |          |
| 20     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 21     |                   | 1.50    | 1.224745 |         |                   |                    |          |
| 22     |                   | 2.30    | 1.516575 |         |                   |                    |          |
| 23     |                   | 2.70    | 1.643168 |         |                   |                    | METER T. |
| 24     |                   | 1.50    | 1.224745 |         |                   |                    | AVERAGE  |
|        | 137.75            |         | 1.7589   | 1.0000  | 96.2500           | 93.0000            | 94.6250  |

# EMISSION TEST SUMMARY

PLANT : Louisisan Pacific, Clayton, AL  
 DATE : 6-Jun-95  
 PLACE : Inlet"C"  
 RUN# : 1

|                           |         |                                      |      |
|---------------------------|---------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60      | LIQUID COLLECTED (mls) :             | 20.4 |
| NOZZLE DIAMETER (INCH.) : | 0       | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.01279 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84    | STATIC PRESSURE (in. H2O) :          | -2.2 |
| GAS METER VOL.(Cu.Ft.) :  | 11.955  | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.6    | PERCENT O2 :                         | 20   |
|                           |         | PERCENT CO :                         | 0    |

|                        |                               |
|------------------------|-------------------------------|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK         |
| STACK DIAMETER (inch): | 72 STACK LENGTH(inchs) :      |
| STACK AREA (Sq.Ft.) :  | 28.27433 STACK WIDTH(inchs) : |
| NOZZLE AREA (feet):    | 0 STACK AREA (Sq.Ft.) :       |

ENTER THE STACK AREA SHOWN ABOVE: 28.27433

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.5232 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 0.9602  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.0769  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 28.1170 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.4382    |
| STACK GAS VELOCITY (ft/sec.):        | 60.7450    |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 103051.551 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 5053311.88 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 125               | 1.40    | 1.183216 | 1.00    | 89                | 89                 |          |
| 2      | 127               | 0.96    | 0.979796 |         | 91                | 89                 |          |
| 3      | 128               | 0.98    | 0.989949 |         | 92                | 89                 |          |
| 4      | 127               | 0.74    | 0.860233 |         | 92                | 89                 |          |
| 5      |                   | 0.52    | 0.72111  |         |                   |                    |          |
| 6      |                   | 0.64    | 0.8      |         |                   |                    |          |
| 7      |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 8      |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 9      |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 10     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 11     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 12     |                   | 0.91    | 0.953939 |         |                   |                    |          |
| 13     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 14     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 15     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 16     |                   | 1.40    | 1.183216 |         |                   |                    |          |
| 17     |                   | 1.50    | 1.224745 |         |                   |                    |          |
| 18     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 19     |                   | 0.72    | 0.848528 |         |                   |                    |          |
| 20     |                   | 0.56    | 0.748331 |         |                   |                    |          |
| 21     |                   | 0.61    | 0.781025 |         |                   |                    |          |
| 22     |                   | 0.72    | 0.848528 |         |                   |                    |          |
| 23     |                   | 0.86    | 0.927362 |         |                   |                    | METER T. |
| 24     |                   | 0.96    | 0.979796 |         |                   |                    | AVERAGE  |
|        | 126.75            |         | 1.0047   | 1.0000  | 91.0000           | 89.0000            | 90.0000  |

# EMISSION TEST SUMMARY

PLANT : Louisisan Pacific, Clayton, AL  
 DATE : 6-Jun-95  
 PLACE : Inlet"C"  
 RUN# : 2

|                           |         |                                      |      |
|---------------------------|---------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60      | LIQUID COLLECTED (mls) :             | 19   |
| NOZZLE DIAMETER (INCH.) : | 0       | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.01279 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84    | STATIC PRESSURE (in. H2O) :          | -1.3 |
| GAS METER VOL.(Cu.Ft.) :  | 11.862  | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.6    | PERCENT O2 :                         | 20   |
|                           |         | PERCENT CO :                         | 0    |

|                        |                                |
|------------------------|--------------------------------|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK          |
| STACK DIAMETER (inch): | 72 STACK LENGTH(inches) :      |
| STACK AREA (Sq.Ft.) :  | 28.27433 STACK WIDTH(inches) : |
| NOZZLE AREA (feet):    | 0 STACK AREA (Sq.Ft.):         |

ENTER THE STACK AREA SHOWN ABOVE: 28.27433

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.4077 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 0.8943  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.0727  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 28.1632 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.5044    |
| STACK GAS VELOCITY (ft/sec.):        | 57.9213    |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 98261.1609 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 4836900.6  |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 129               | 0.80    | 0.894427 | 1.00    | 90                | 90                 |          |
| 2      | 129               | 0.82    | 0.905539 |         | 93                | 90                 |          |
| 3      | 128               | 0.77    | 0.877496 |         | 93                | 90                 |          |
| 4      | 128               | 0.54    | 0.734847 |         | 94                | 90                 |          |
| 5      |                   | 0.52    | 0.72111  |         |                   |                    |          |
| 6      |                   | 0.53    | 0.728011 |         |                   |                    |          |
| 7      |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 8      |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 9      |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 10     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 11     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 12     |                   | 0.92    | 0.959166 |         |                   |                    |          |
| 13     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 14     |                   | 1.40    | 1.183216 |         |                   |                    |          |
| 15     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 16     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 17     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 18     |                   | 1.10    | 1.048809 |         |                   |                    |          |
| 19     |                   | 0.81    | 0.9      |         |                   |                    |          |
| 20     |                   | 0.69    | 0.830662 |         |                   |                    |          |
| 21     |                   | 0.61    | 0.781025 |         |                   |                    |          |
| 22     |                   | 0.64    | 0.8      |         |                   |                    |          |
| 23     |                   | 0.66    | 0.812404 |         |                   |                    | METER T. |
| 24     |                   | 0.62    | 0.787401 |         |                   |                    | AVERAGE  |
|        | 128.5             |         | 0.9584   | 1.0000  | 92.5000           | 90.0000            | 91.2500  |

# EMISSION TEST SUMMARY

PLANT : Louisian Pacific, Clayton, AL  
 DATE : 6-Jun-95  
 PLACE : Inlet "C"  
 RUN# : 3

|                           |         |                                      |      |
|---------------------------|---------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60      | LIQUID COLLECTED (mls) :             | 18   |
| NOZZLE DIAMETER (INCH.) : | 0       | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.01279 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84    | STATIC PRESSURE (in. H2O) :          | -1.8 |
| GAS METER VOL.(Cu.Ft.) :  | 12.27   | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.6    | PERCENT O2 :                         | 20   |
|                           |         | PERCENT CO :                         | 0    |

|                        |                       |                       |   |
|------------------------|-----------------------|-----------------------|---|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK |                       |   |
| STACK DIAMETER (inch): | 72                    | STACK LENGTH(inchs) : |   |
| STACK AREA (Sq.Ft.) :  | 28.27433              | STACK WIDTH(inchs) :  |   |
| NOZZLE AREA (feet):    | 0                     | STACK AREA (Sq.Ft.):  | 0 |

ENTER THE STACK AREA SHOWN ABOVE: 28.27433

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.7388 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 0.8473  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.0673  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 28.2222 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.4676    |
| STACK GAS VELOCITY (ft/sec.):        | 57.7832    |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 98026.8849 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 4843205.27 |

| POINTS | STACK T.<br>deg F | DELTA P | QUARD.   | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 128               | 1.00    | 1        | 1.00    | 93                | 92                 |          |
| 2      | 129               | 1.00    | 1        |         | 96                | 92                 |          |
| 3      | 129               | 0.84    | 0.916515 |         | 97                | 93                 |          |
| 4      | 130               | 0.58    | 0.761577 |         | 97                | 83                 |          |
| 5      |                   | 0.51    | 0.714143 |         |                   |                    |          |
| 6      |                   | 0.55    | 0.74162  |         |                   |                    |          |
| 7      |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 8      |                   | 1.10    | 1.048809 |         |                   |                    |          |
| 9      |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 10     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 11     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 12     |                   | 0.90    | 0.948683 |         |                   |                    |          |
| 13     |                   | 1.40    | 1.183216 |         |                   |                    |          |
| 14     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 15     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 16     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 17     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 18     |                   | 1.10    | 1.048809 |         |                   |                    |          |
| 19     |                   | 0.65    | 0.806226 |         |                   |                    |          |
| 20     |                   | 0.54    | 0.734847 |         |                   |                    |          |
| 21     |                   | 0.58    | 0.761577 |         |                   |                    |          |
| 22     |                   | 0.64    | 0.8      |         |                   |                    |          |
| 23     |                   | 0.72    | 0.848528 |         |                   |                    | METER T. |
| 24     |                   | 0.54    | 0.734847 |         |                   |                    | AVERAGE  |
|        | 129               |         | 0.9561   | 1.0000  | 95.7500           | 92.5000            | 94.1250  |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
 DATE : 6-Jun-95  
 PLACE : Inlet "D"  
 RUN# : 1

|                           |         |                                      |      |
|---------------------------|---------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60      | LIQUID COLLECTED (mls) :             | 15.6 |
| NOZZLE DIAMETER (INCH.) : | 0       | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.01279 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84    | STATIC PRESSURE (in. H2O) :          | -1.8 |
| GAS METER VOL. (Cu.Ft.) : | 12.165  | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.6    | PERCENT O2 :                         | 20   |
|                           |         | PERCENT CO :                         | 0    |

|                        |                               |
|------------------------|-------------------------------|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK         |
| STACK DIAMETER (inch): | 72 STACK LENGTH(inchs) :      |
| STACK AREA (Sq.Ft.) :  | 28.27433 STACK WIDTH(inchs) : |
| NOZZLE AREA (feet):    | 0 STACK AREA (Sq.Ft.) :       |

ENTER THE STACK AREA SHOWN ABOVE: 28.27433

## FLOWS

|                                        |            |
|----------------------------------------|------------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.7150    |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 0.7343     |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.0590     |
| DRY BASE:                              | 79.0000    |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600    |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 28.3135    |
| STACK PRESSURE (inch Hg):              | 29.4676    |
| STACK GAS VELOCITY (ft/sec.):          | 61.9439    |
| ACTUAL STACK GAS FLOW RATE (ACFM):     | 105085.434 |
| STANDARD STACK GAS FLOW RATE (SCFH):   | 5229463.98 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 129               | 0.60    | 0.774597 | 1.00    | 90                | 90                 |          |
| 2      | 130               | 0.48    | 0.69282  |         | 92                | 91                 |          |
| 3      | 130               | 0.52    | 0.72111  |         | 90                | 90                 |          |
| 4      | 131               | 0.54    | 0.734847 |         | 91                | 90                 |          |
| 5      |                   | 0.67    | 0.818535 |         |                   |                    |          |
| 6      |                   | 0.96    | 0.979796 |         |                   |                    |          |
| 7      |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 8      |                   | 1.50    | 1.224745 |         |                   |                    |          |
| 9      |                   | 1.50    | 1.224745 |         |                   |                    |          |
| 10     |                   | 1.40    | 1.183216 |         |                   |                    |          |
| 11     |                   | 1.40    | 1.183216 |         |                   |                    |          |
| 12     |                   | 0.88    | 0.938083 |         |                   |                    |          |
| 13     |                   | 1.50    | 1.224745 |         |                   |                    |          |
| 14     |                   | 1.40    | 1.183216 |         |                   |                    |          |
| 15     |                   | 1.50    | 1.224745 |         |                   |                    |          |
| 16     |                   | 1.50    | 1.224745 |         |                   |                    |          |
| 17     |                   | 1.40    | 1.183216 |         |                   |                    |          |
| 18     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 19     |                   | 1.00    | 1        |         |                   |                    |          |
| 20     |                   | 0.98    | 0.989949 |         |                   |                    |          |
| 21     |                   | 0.95    | 0.974679 |         |                   |                    |          |
| 22     |                   | 0.96    | 0.979796 |         |                   |                    |          |
| 23     |                   | 1.00    | 1        |         |                   |                    | METER T. |
| 24     |                   | 0.85    | 0.921954 |         |                   |                    | AVERAGE  |
|        | 130               |         | 1.0258   | 1.0000  | 90.7500           | 90.2500            | 90.5000  |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
DATE : 6-Jun-95  
PLACE : Inlet"D"  
RUN# : 2

|                           |         |                                      |      |
|---------------------------|---------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60      | LIQUID COLLECTED (mls) :             | 17   |
| NOZZLE DIAMETER (INCH.) : | 0       | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.01279 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84    | STATIC PRESSURE (in. H2O) :          | -1.8 |
| GAS METER VOL.(Cu.Ft.) :  | 12.115  | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.6    | PERCENT O2 :                         | 20   |
|                           |         | PERCENT CO :                         | 0    |

|                        |                                |
|------------------------|--------------------------------|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK          |
| STACK DIAMETER (inch): | 72 STACK LENGTH(inches) :      |
| STACK AREA (Sq.Ft.) :  | 28.27433 STACK WIDTH(inches) : |
| NOZZLE AREA (feet):    | 0 STACK AREA (Sq.Ft.) :        |
|                        | 0                              |

ENTER THE STACK AREA SHOWN ABOVE: 28.27433

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.6430 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 0.8002  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.0643  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 28.2552 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.4676    |
| STACK GAS VELOCITY (ft/sec.):        | 61.3283    |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 104041.022 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 5154746.85 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |                     |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|---------------------|
| 1      | 129               | 0.56    | 0.748331 | 1.00    | 92                | 92                 |                     |
| 2      | 130               | 0.59    | 0.768115 |         | 93                | 91                 |                     |
| 3      | 128               | 0.61    | 0.781025 |         | 94                | 91                 |                     |
| 4      | 130               | 0.63    | 0.793725 |         | 90                | 90                 |                     |
| 5      |                   | 0.73    | 0.8544   |         |                   |                    |                     |
| 6      |                   | 0.85    | 0.921954 |         |                   |                    |                     |
| 7      |                   | 1.30    | 1.140175 |         |                   |                    |                     |
| 8      |                   | 1.50    | 1.224745 |         |                   |                    |                     |
| 9      |                   | 1.50    | 1.224745 |         |                   |                    |                     |
| 10     |                   | 1.50    | 1.224745 |         |                   |                    |                     |
| 11     |                   | 1.40    | 1.183216 |         |                   |                    |                     |
| 12     |                   | 0.65    | 0.806226 |         |                   |                    |                     |
| 13     |                   | 1.50    | 1.224745 |         |                   |                    |                     |
| 14     |                   | 1.50    | 1.224745 |         |                   |                    |                     |
| 15     |                   | 1.60    | 1.264911 |         |                   |                    |                     |
| 16     |                   | 1.40    | 1.183216 |         |                   |                    |                     |
| 17     |                   | 1.30    | 1.140175 |         |                   |                    |                     |
| 18     |                   | 1.20    | 1.095445 |         |                   |                    |                     |
| 19     |                   | 0.99    | 0.994987 |         |                   |                    |                     |
| 20     |                   | 0.89    | 0.943398 |         |                   |                    |                     |
| 21     |                   | 0.87    | 0.932738 |         |                   |                    |                     |
| 22     |                   | 0.91    | 0.953939 |         |                   |                    |                     |
| 23     |                   | 0.85    | 0.921954 |         |                   |                    | METER T.<br>AVERAGE |
| 24     |                   | 0.66    | 0.812404 |         |                   |                    |                     |
|        | 129.25            |         | 1.0152   | 1.0000  | 92.2500           | 91.0000            | 91.6250             |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
 DATE : 6-Jun-96  
 PLACE : Inlet "D"  
 RUN# : 3

|                           |         |                                      |      |
|---------------------------|---------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60      | LIQUID COLLECTED (mls) :             | 26   |
| NOZZLE DIAMETER (INCH.) : | 0       | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.01279 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84    | STATIC PRESSURE (in. H2O) :          | -1.8 |
| GAS METER VOL.(Cu.Ft.) :  | 12.576  | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.6    | PERCENT O2 :                         | 20   |
|                           |         | PERCENT CO :                         | 0    |

|                        |                               |
|------------------------|-------------------------------|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK         |
| STACK DIAMETER (inch): | 72 STACK LENGTH(inchs) :      |
| STACK AREA (Sq.Ft.) :  | 28.27433 STACK WIDTH(inchs) : |
| NOZZLE AREA (feet):    | 0 STACK AREA (Sq.Ft.):        |
|                        | 0                             |

ENTER THE STACK AREA SHOWN ABOVE: 28.27433

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 12.0669 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 1.2238  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.0921  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.9508 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.4676    |
| STACK GAS VELOCITY (ft/sec.):        | 61.0953    |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 103645.685 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 4955406.4  |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 133               | 0.75    | 0.866025 | 1.00    | 91                | 91                 |          |
| 2      | 131               | 0.71    | 0.842615 |         | 94                | 91                 |          |
| 3      | 132               | 0.68    | 0.824621 |         | 95                | 91                 |          |
| 4      | 134               | 0.60    | 0.774597 |         | 96                | 91                 |          |
| 5      |                   | 0.63    | 0.793725 |         |                   |                    |          |
| 6      |                   | 0.82    | 0.905539 |         |                   |                    |          |
| 7      |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 8      |                   | 1.50    | 1.224745 |         |                   |                    |          |
| 9      |                   | 1.50    | 1.224745 |         |                   |                    |          |
| 10     |                   | 1.50    | 1.224745 |         |                   |                    |          |
| 11     |                   | 1.40    | 1.183216 |         |                   |                    |          |
| 12     |                   | 0.95    | 0.974679 |         |                   |                    |          |
| 13     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 14     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 15     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 16     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 17     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 18     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 19     |                   | 0.98    | 0.989949 |         |                   |                    |          |
| 20     |                   | 0.92    | 0.959166 |         |                   |                    |          |
| 21     |                   | 0.85    | 0.921954 |         |                   |                    |          |
| 22     |                   | 0.82    | 0.905539 |         |                   |                    |          |
| 23     |                   | 0.80    | 0.894427 |         |                   |                    | METER T. |
| 24     |                   | 0.65    | 0.806226 |         |                   |                    | AVERAGE  |
|        | 132.5             |         | 1.0031   | 1.0000  | 94.0000           | 91.0000            | 92.5000  |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
 DATE : 7-Jun-95  
 PLACE : Inlet "A"  
 RUN# : 1

|                           |        |                                      |      |
|---------------------------|--------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60     | LIQUID COLLECTED (mls) :             | 33   |
| NOZZLE DIAMETER (INCH.) : | 0      | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.0042 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84   | STATIC PRESSURE (in. H2O) :          | -2.4 |
| GAS METER VOL.(Cu.Ft.) :  | 11.872 | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.8   | PERCENT O2 :                         | 20   |
|                           |        | PERCENT CO :                         | 0    |

|                        |                               |
|------------------------|-------------------------------|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK         |
| STACK DIAMETER (inch): | 48 STACK LENGTH(inchs) :      |
| STACK AREA (Sq.Ft.) :  | 12.56637 STACK WIDTH(inchs) : |
| NOZZLE AREA (feet):    | 0 STACK AREA (Sq.Ft.) :       |

ENTER THE STACK AREA SHOWN ABOVE: 12.56637

## FLOWS

|                                        |            |
|----------------------------------------|------------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.6154    |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 1.5533     |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.1180     |
| DRY BASE:                              | 79.0000    |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600    |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.6672    |
| STACK PRESSURE (inch Hg):              | 29.6235    |
| STACK GAS VELOCITY (ft/sec.):          | 104.5753   |
| ACTUAL STACK GAS FLOW RATE (ACFM):     | 78847.9412 |
| STANDARD STACK GAS FLOW RATE (SCFH):   | 3641787.8  |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET  |
|--------|-------------------|---------|----------|---------|-------------------|---------------------|
| 1      | 134               | 3.40    | 1.843909 | 1.00    | 79                | 79                  |
| 2      | 140               | 3.00    | 1.732051 |         | 81                | 79                  |
| 3      | 142               | 2.50    | 1.581139 |         | 84                | 80                  |
| 4      | 140               | 1.90    | 1.378405 |         | 85                | 80                  |
| 5      |                   | 1.50    | 1.224745 |         |                   |                     |
| 6      |                   | 1.50    | 1.224745 |         |                   |                     |
| 7      |                   | 4.00    | 2        |         |                   |                     |
| 8      |                   | 4.20    | 2.04939  |         |                   |                     |
| 9      |                   | 4.20    | 2.04939  |         |                   |                     |
| 10     |                   | 4.20    | 2.04939  |         |                   |                     |
| 11     |                   | 3.80    | 1.949359 |         |                   |                     |
| 12     |                   | 1.50    | 1.224745 |         |                   |                     |
| 13     |                   | 4.60    | 2.144761 |         |                   |                     |
| 14     |                   | 4.50    | 2.12132  |         |                   |                     |
| 15     |                   | 4.30    | 2.073644 |         |                   |                     |
| 16     |                   | 4.10    | 2.024846 |         |                   |                     |
| 17     |                   | 4.00    | 2        |         |                   |                     |
| 18     |                   | 3.30    | 1.81659  |         |                   |                     |
| 19     |                   | 1.30    | 1.140175 |         |                   |                     |
| 20     |                   | 1.50    | 1.224745 |         |                   |                     |
| 21     |                   | 2.20    | 1.48324  |         |                   |                     |
| 22     |                   | 2.80    | 1.67332  |         |                   |                     |
| 23     |                   | 3.00    | 1.732051 |         |                   |                     |
| 24     |                   | 1.30    | 1.140175 |         |                   |                     |
|        |                   |         |          |         |                   | METER T.<br>AVERAGE |
|        | 139               |         | 1.7034   | 1.0000  | 82.2500           | 79.5000 80.8750     |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
DATE : 7-Jun-95  
PLACE : Inlet "A"  
RUN# : 2

|                           |        |                                      |      |
|---------------------------|--------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60     | LIQUID COLLECTED (mls) :             | 34   |
| NOZZLE DIAMETER (INCH.) : | 0      | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.0042 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84   | STATIC PRESSURE (in. H2O) :          | -2.2 |
| GAS METER VOL.(Cu.Ft.) :  | 11.983 | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.8   | PERCENT O2 :                         | 20   |
|                           |        | PERCENT CO :                         | 0    |

| FOR CIRCULAR STACK     |          | FOR RECTANGULAR STACK  |   |
|------------------------|----------|------------------------|---|
| STACK DIAMETER (inch): | 48       | STACK LENGTH(inches) : |   |
| STACK AREA (Sq.Ft.) :  | 12.56637 | STACK WIDTH(inches) :  |   |
| NOZZLE AREA (feet):    | 0        | STACK AREA (Sq.Ft.) :  | 0 |

ENTER THE STACK AREA SHOWN ABOVE: 12.56637

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.5963 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 1.6004  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.1213  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.6308 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.6382    |
| STACK GAS VELOCITY (ft/sec.):        | 105.7952   |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 79767.7092 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 3637286.27 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 145               | 3.30    | 1.81659  | 1.00    | 86                | 85                 |          |
| 2      | 143               | 3.10    | 1.760682 |         | 88                | 86                 |          |
| 3      | 146               | 2.50    | 1.581139 |         | 89                | 86                 |          |
| 4      | 145               | 1.90    | 1.378405 |         | 89                | 86                 |          |
| 5      |                   | 1.70    | 1.30384  |         |                   |                    |          |
| 6      |                   | 1.40    | 1.183216 |         |                   |                    |          |
| 7      |                   | 3.70    | 1.923538 |         |                   |                    |          |
| 8      |                   | 4.30    | 2.073644 |         |                   |                    |          |
| 9      |                   | 4.20    | 2.04939  |         |                   |                    |          |
| 10     |                   | 4.10    | 2.024846 |         |                   |                    |          |
| 11     |                   | 4.00    | 2        |         |                   |                    |          |
| 12     |                   | 2.30    | 1.516575 |         |                   |                    |          |
| 13     |                   | 4.30    | 2.073644 |         |                   |                    |          |
| 14     |                   | 4.40    | 2.097618 |         |                   |                    |          |
| 15     |                   | 4.30    | 2.073644 |         |                   |                    |          |
| 16     |                   | 4.10    | 2.024846 |         |                   |                    |          |
| 17     |                   | 3.90    | 1.974842 |         |                   |                    |          |
| 18     |                   | 3.40    | 1.843909 |         |                   |                    |          |
| 19     |                   | 1.20    | 1.085445 |         |                   |                    |          |
| 20     |                   | 1.40    | 1.183216 |         |                   |                    |          |
| 21     |                   | 2.10    | 1.449138 |         |                   |                    |          |
| 22     |                   | 2.70    | 1.643168 |         |                   |                    |          |
| 23     |                   | 3.00    | 1.732051 |         |                   |                    | METER T. |
| 24     |                   | 1.80    | 1.341641 |         |                   |                    | AVERAGE  |
|        | 144.75            |         | 1.7144   | 1.0000  | 88.0000           | 85.7500            | 86.8750  |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
DATE : 7-Jun-95  
PLACE : Inlet "A"  
RUN# : 3

|                           |        |                                      |      |
|---------------------------|--------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60     | LIQUID COLLECTED (mls) :             | 33   |
| NOZZLE DIAMETER (INCH.) : | 0      | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.0042 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84   | STATIC PRESSURE (in. H2O) :          | -2.3 |
| GAS METER VOL.(Cu.Ft.) :  | 11.778 | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.8   | PERCENT O2 :                         | 20   |
|                           |        | PERCENT CO :                         | 0    |

|                        |                       |                       |   |
|------------------------|-----------------------|-----------------------|---|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK |                       |   |
| STACK DIAMETER (inch): | 48                    | STACK LENGTH(inchs) : |   |
| STACK AREA (Sq.Ft.) :  | 12.56637              | STACK WIDTH(inchs) :  |   |
| NOZZLE AREA (feet):    | 0                     | STACK AREA (Sq.Ft.):  | 0 |

ENTER THE STACK AREA SHOWN ABOVE: 12.56637

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.3142 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 1.5533  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.1207  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.6370 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.6309    |
| STACK GAS VELOCITY (ft/sec.):        | 105.7612   |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 79742.0995 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 3646597.56 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|
| 1      | 145               | 3.40    | 1.843909 | 1.00    | 89                | 89                 |
| 2      | 146               | 3.10    | 1.760682 |         | 91                | 89                 |
| 3      | 142               | 2.50    | 1.581139 |         | 93                | 90                 |
| 4      | 140               | 1.90    | 1.378405 |         | 95                | 91                 |
| 5      |                   | 1.60    | 1.264911 |         |                   |                    |
| 6      |                   | 1.50    | 1.224745 |         |                   |                    |
| 7      |                   | 3.80    | 1.949359 |         |                   |                    |
| 8      |                   | 4.40    | 2.097618 |         |                   |                    |
| 9      |                   | 4.10    | 2.024846 |         |                   |                    |
| 10     |                   | 4.00    | 2        |         |                   |                    |
| 11     |                   | 3.90    | 1.974842 |         |                   |                    |
| 12     |                   | 1.90    | 1.378405 |         |                   |                    |
| 13     |                   | 4.50    | 2.12132  |         |                   |                    |
| 14     |                   | 4.40    | 2.097618 |         |                   |                    |
| 15     |                   | 4.30    | 2.073644 |         |                   |                    |
| 16     |                   | 4.20    | 2.04939  |         |                   |                    |
| 17     |                   | 4.00    | 2        |         |                   |                    |
| 18     |                   | 3.30    | 1.81659  |         |                   |                    |
| 19     |                   | 1.40    | 1.183216 |         |                   |                    |
| 20     |                   | 1.60    | 1.264911 |         |                   |                    |
| 21     |                   | 2.30    | 1.516575 |         |                   |                    |
| 22     |                   | 2.60    | 1.612452 |         |                   |                    |
| 23     |                   | 2.90    | 1.702939 |         |                   |                    |
| 24     |                   | 1.60    | 1.264911 |         |                   |                    |
|        | 143.25            |         | 1.7159   | 1.0000  | 92.0000           | 89.7500            |
|        |                   |         |          |         |                   | 90.8750            |

METER T.  
AVERAGE

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
 DATE : 7-Jun-95  
 PLACE : Inlet "B"  
 RUN# : 1

|                           |          |                                      |      |
|---------------------------|----------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60       | LIQUID COLLECTED (mls) :             | 27   |
| NOZZLE DIAMETER (INCH.) : | 0        | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.012793 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84     | STATIC PRESSURE (in. H2O) :          | -2.2 |
| GAS METER VOL. (Cu.Ft.) : | 11.759   | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.8     | PERCENT O2 :                         | 20   |
|                           |          | PERCENT CO :                         | 0    |

|                        |                               |
|------------------------|-------------------------------|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK         |
| STACK DIAMETER (inch): | 48 STACK LENGTH(inchs) :      |
| STACK AREA (Sq.Ft.) :  | 12.56637 STACK WIDTH(inchs) : |
| NOZZLE AREA (feet):    | 0 STACK AREA (Sq.Ft.):        |

ENTER THE STACK AREA SHOWN ABOVE: 12.56637

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.5154 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 1.2709  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.0994  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.8706 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.6382    |
| STACK GAS VELOCITY (ft/sec.):        | 102.7374   |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 77462.1503 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 3608196.94 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 146               | 3.10    | 1.760682 | 1.00    | 82                | 82                 |          |
| 2      | 148               | 3.20    | 1.788854 |         | 85                | 85                 |          |
| 3      | 148               | 3.00    | 1.732051 |         | 86                | 86                 |          |
| 4      | 145               | 2.90    | 1.702939 |         | 87                | 87                 |          |
| 5      |                   | 1.80    | 1.341641 |         |                   |                    |          |
| 6      |                   | 1.60    | 1.264911 |         |                   |                    |          |
| 7      |                   | 3.70    | 1.923538 |         |                   |                    |          |
| 8      |                   | 4.20    | 2.04939  |         |                   |                    |          |
| 9      |                   | 4.10    | 2.024846 |         |                   |                    |          |
| 10     |                   | 4.20    | 2.04939  |         |                   |                    |          |
| 11     |                   | 3.80    | 1.949359 |         |                   |                    |          |
| 12     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 13     |                   | 4.20    | 2.04939  |         |                   |                    |          |
| 14     |                   | 4.30    | 2.073644 |         |                   |                    |          |
| 15     |                   | 4.10    | 2.024846 |         |                   |                    |          |
| 16     |                   | 4.00    | 2        |         |                   |                    |          |
| 17     |                   | 3.70    | 1.923538 |         |                   |                    |          |
| 18     |                   | 3.20    | 1.788854 |         |                   |                    |          |
| 19     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 20     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 21     |                   | 1.50    | 1.224745 |         |                   |                    |          |
| 22     |                   | 2.30    | 1.516575 |         |                   |                    |          |
| 23     |                   | 2.60    | 1.612452 |         |                   |                    | METER T. |
| 24     |                   | 0.95    | 0.974679 |         |                   |                    | AVERAGE  |
|        | 146.75            |         | 1.6693   | 1.0000  | 85.0000           | 85.0000            | 85.0000  |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
 DATE : 7-Jun-95  
 PLACE : Inlet "B"  
 RUN# : 2

|                           |          |                                      |      |
|---------------------------|----------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60       | LIQUID COLLECTED (mls) :             | 34   |
| NOZZLE DIAMETER (INCH.) : | 0        | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.012793 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84     | STATIC PRESSURE (in. H2O) :          | -1.8 |
| GAS METER VOL.(Cu.Ft.) :  | 11.25    | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.8     | PERCENT O2 :                         | 20   |
|                           |          | PERCENT CO :                         | 0    |

|                        |                                |
|------------------------|--------------------------------|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK          |
| STACK DIAMETER (inch): | 48 STACK LENGTH(inches) :      |
| STACK AREA (Sq.Ft.) :  | 12.56637 STACK WIDTH(inches) : |
| NOZZLE AREA (feet):    | 0 STACK AREA (Sq.Ft.) :        |
|                        | 0                              |

ENTER THE STACK AREA SHOWN ABOVE: 12.56637

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 10.9792 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 1.6004  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.1272  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.5657 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.6676    |
| STACK GAS VELOCITY (ft/sec.):        | 102.5654   |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 77332.5017 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 3520435.88 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 145               | 3.40    | 1.843909 | 1.00    | 86                | 85                 |          |
| 2      | 143               | 3.30    | 1.81659  |         | 88                | 86                 |          |
| 3      | 140               | 2.80    | 1.67332  |         | 89                | 86                 |          |
| 4      | 141               | 2.20    | 1.48324  |         | 89                | 86                 |          |
| 5      |                   | 1.80    | 1.341641 |         |                   |                    |          |
| 6      |                   | 1.60    | 1.264911 |         |                   |                    |          |
| 7      |                   | 3.60    | 1.897367 |         |                   |                    |          |
| 8      |                   | 4.20    | 2.04939  |         |                   |                    |          |
| 9      |                   | 4.10    | 2.024846 |         |                   |                    |          |
| 10     |                   | 4.20    | 2.04939  |         |                   |                    |          |
| 11     |                   | 4.00    | 2        |         |                   |                    |          |
| 12     |                   | 1.40    | 1.183216 |         |                   |                    |          |
| 13     |                   | 3.40    | 1.843909 |         |                   |                    |          |
| 14     |                   | 4.10    | 2.024846 |         |                   |                    |          |
| 15     |                   | 4.20    | 2.04939  |         |                   |                    |          |
| 16     |                   | 4.00    | 2        |         |                   |                    |          |
| 17     |                   | 3.70    | 1.923538 |         |                   |                    |          |
| 18     |                   | 3.10    | 1.760682 |         |                   |                    |          |
| 19     |                   | 1.00    | 1        |         |                   |                    |          |
| 20     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 21     |                   | 1.60    | 1.264911 |         |                   |                    |          |
| 22     |                   | 2.30    | 1.516575 |         |                   |                    |          |
| 23     |                   | 2.60    | 1.612452 |         |                   |                    | METER T. |
| 24     |                   | 1.50    | 1.224745 |         |                   |                    | AVERAGE  |
|        | 142.25            |         | 1.6643   | 1.0000  | 88.0000           | 85.7500            | 86.8750  |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
 DATE : 7-Jun-95  
 PLACE : Inlet "B"  
 RUN# : 3

|                           |          |                                      |      |
|---------------------------|----------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60       | LIQUID COLLECTED (mls) :             | 31   |
| NOZZLE DIAMETER (INCH.) : | 0        | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.012793 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84     | STATIC PRESSURE (in. H2O) :          | -1.9 |
| GAS METER VOL.(Cu.Ft.) :  | 11.262   | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.8     | PERCENT O2 :                         | 20   |
|                           |          | PERCENT CO :                         | 0    |

|                        |                       |                       |   |
|------------------------|-----------------------|-----------------------|---|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK |                       |   |
| STACK DIAMETER (inch): | 48                    | STACK LENGTH(inchs) : |   |
| STACK AREA (Sq.Ft.) :  | 12.56637              | STACK WIDTH(inchs) :  |   |
| NOZZLE AREA (feet):    | 0                     | STACK AREA (Sq.Ft.) : | 0 |

ENTER THE STACK AREA SHOWN ABOVE: 12.56637

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 10.9111 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 1.4592  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.1180  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.6672 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.6603    |
| STACK GAS VELOCITY (ft/sec.):        | 103.0391   |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 77689.6597 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 3603258.53 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 141               | 3.50    | 1.870829 | 1.00    | 89                | 89                 |          |
| 2      | 139               | 3.40    | 1.843909 |         | 91                | 89                 |          |
| 3      | 135               | 3.00    | 1.732051 |         | 93                | 90                 |          |
| 4      | 134               | 2.80    | 1.67332  |         | 95                | 91                 |          |
| 5      |                   | 2.00    | 1.414214 |         |                   |                    |          |
| 6      |                   | 1.40    | 1.183216 |         |                   |                    |          |
| 7      |                   | 3.20    | 1.788854 |         |                   |                    |          |
| 8      |                   | 4.40    | 2.097618 |         |                   |                    |          |
| 9      |                   | 4.00    | 2        |         |                   |                    |          |
| 10     |                   | 4.10    | 2.024846 |         |                   |                    |          |
| 11     |                   | 4.10    | 2.024846 |         |                   |                    |          |
| 12     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 13     |                   | 3.40    | 1.843909 |         |                   |                    |          |
| 14     |                   | 4.20    | 2.04939  |         |                   |                    |          |
| 15     |                   | 4.20    | 2.04939  |         |                   |                    |          |
| 16     |                   | 4.10    | 2.024846 |         |                   |                    |          |
| 17     |                   | 3.60    | 1.897367 |         |                   |                    |          |
| 18     |                   | 3.00    | 1.732051 |         |                   |                    |          |
| 19     |                   | 1.50    | 1.224745 |         |                   |                    |          |
| 20     |                   | 1.50    | 1.224745 |         |                   |                    |          |
| 21     |                   | 1.60    | 1.264911 |         |                   |                    |          |
| 22     |                   | 2.00    | 1.414214 |         |                   |                    |          |
| 23     |                   | 2.40    | 1.549193 |         |                   |                    | METER T. |
| 24     |                   | 1.80    | 1.341641 |         |                   |                    | AVERAGE  |
|        | 137.25            |         | 1.6819   | 1.0000  | 92.0000           | 89.7500            | 90.8750  |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
 DATE : 7-Jun-95  
 PLACE : Inlet "C"  
 RUN# : 1

|                           |        |                                      |      |
|---------------------------|--------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60     | LIQUID COLLECTED (mls) :             | 21   |
| NOZZLE DIAMETER (INCH.) : | 0      | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.0042 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84   | STATIC PRESSURE (in. H2O) :          | -1.5 |
| GAS METER VOL.(Cu.Ft.) :  | 12.222 | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.8   | PERCENT O2 :                         | 20   |
|                           |        | PERCENT CO :                         | 0    |

|                        |                               |
|------------------------|-------------------------------|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK         |
| STACK DIAMETER (inch): | 72 STACK LENGTH(inchs) :      |
| STACK AREA (Sq.Ft.) :  | 28.27433 STACK WIDTH(inchs) : |
| NOZZLE AREA (feet):    | 0 STACK AREA (Sq.Ft.) :       |
|                        | 0                             |

ENTER THE STACK AREA SHOWN ABOVE: 28.27433

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 12.0357 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 0.9885  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.0759  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 28.1282 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.6897    |
| STACK GAS VELOCITY (ft/sec.):        | 57.3426    |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 97279.3529 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 4729698.41 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 140               | 0.95    | 0.974679 | 1.00    | 75                | 75                 |          |
| 2      | 137               | 0.93    | 0.964365 |         | 77                | 76                 |          |
| 3      | 136               | 0.98    | 0.989949 |         | 81                | 77                 |          |
| 4      | 137               | 0.84    | 0.916515 |         | 81                | 77                 |          |
| 5      |                   | 0.65    | 0.806226 |         |                   |                    |          |
| 6      |                   | 0.82    | 0.905539 |         |                   |                    |          |
| 7      |                   | 1.00    | 1        |         |                   |                    |          |
| 8      |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 9      |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 10     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 11     |                   | 1.10    | 1.048809 |         |                   |                    |          |
| 12     |                   | 0.93    | 0.964365 |         |                   |                    |          |
| 13     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 14     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 15     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 16     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 17     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 18     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 19     |                   | 0.88    | 0.938083 |         |                   |                    |          |
| 20     |                   | 0.48    | 0.69282  |         |                   |                    |          |
| 21     |                   | 0.42    | 0.648074 |         |                   |                    |          |
| 22     |                   | 0.36    | 0.6      |         |                   |                    |          |
| 23     |                   | 0.41    | 0.640312 |         |                   |                    | METER T. |
| 24     |                   | 0.44    | 0.663325 |         |                   |                    | AVERAGE  |
|        | 137.5             |         | 0.9440   | 1.0000  | 78.5000           | 78.2500            | 77.3750  |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
 DATE : 7-Jun-95  
 PLACE : Inlet "C"  
 RUN# : 2

|                           |        |                                      |      |
|---------------------------|--------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60     | LIQUID COLLECTED (mls) :             | 21   |
| NOZZLE DIAMETER (INCH.) : | 0      | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.0042 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84   | STATIC PRESSURE (in. H2O) :          | -1.3 |
| GAS METER VOL.(Cu.Ft.) :  | 11.841 | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.8   | PERCENT O2 :                         | 20   |
|                           |        | PERCENT CO :                         | 0    |

|                        |                                |
|------------------------|--------------------------------|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK          |
| STACK DIAMETER (inch): | 72 STACK LENGTH(inches) :      |
| STACK AREA (Sq.Ft.) :  | 28.27433 STACK WIDTH(inches) : |
| NOZZLE AREA (feet):    | 0 STACK AREA (Sq.Ft.) :        |

ENTER THE STACK AREA SHOWN ABOVE: 28.27433

## FLOWS

|                                        |            |
|----------------------------------------|------------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.5000    |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 0.9885     |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.0792     |
| DRY BASE:                              | 79.0000    |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600    |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 28.0925    |
| STACK PRESSURE (inch Hg):              | 29.7044    |
| STACK GAS VELOCITY (ft/sec.):          | 56.3785    |
| ACTUAL STACK GAS FLOW RATE (ACFM):     | 95643.7963 |
| STANDARD STACK GAS FLOW RATE (SCFH):   | 4639973.93 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 137               | 0.72    | 0.848528 | 1.00    | 83                | 83                 |          |
| 2      | 138               | 0.78    | 0.883176 |         | 85                | 83                 |          |
| 3      | 137               | 0.86    | 0.927362 |         | 89                | 83                 |          |
| 4      | 136               | 0.82    | 0.905539 |         | 89                | 84                 |          |
| 5      |                   | 0.68    | 0.824621 |         |                   |                    |          |
| 6      |                   | 0.77    | 0.877496 |         |                   |                    |          |
| 7      |                   | 0.97    | 0.984886 |         |                   |                    |          |
| 8      |                   | 1.00    | 1        |         |                   |                    |          |
| 9      |                   | 1.10    | 1.048809 |         |                   |                    |          |
| 10     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 11     |                   | 1.10    | 1.048809 |         |                   |                    |          |
| 12     |                   | 0.96    | 0.979796 |         |                   |                    |          |
| 13     |                   | 1.10    | 1.048809 |         |                   |                    |          |
| 14     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 15     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 16     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 17     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 18     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 19     |                   | 0.68    | 0.824621 |         |                   |                    |          |
| 20     |                   | 0.46    | 0.678233 |         |                   |                    |          |
| 21     |                   | 0.44    | 0.663325 |         |                   |                    |          |
| 22     |                   | 0.44    | 0.663325 |         |                   |                    |          |
| 23     |                   | 0.49    | 0.7      |         |                   |                    | METER T. |
| 24     |                   | 0.50    | 0.707107 |         |                   |                    | AVERAGE  |
|        | 137               |         | 0.9282   | 1.0000  | 86.5000           | 83.2500            | 84.8750  |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
 DATE : 7-Jun-95  
 PLACE : Inlet "C"  
 RUN# : 3

|                           |        |                                      |      |
|---------------------------|--------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60     | LIQUID COLLECTED (mls) :             | 23   |
| NOZZLE DIAMETER (INCH.) : | 0      | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.0042 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84   | STATIC PRESSURE (in. H2O) :          | -1.3 |
| GAS METER VOL.(Cu.Ft.) :  | 11.863 | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.8   | PERCENT O2 :                         | 20   |
|                           |        | PERCENT CO :                         | 0    |

|                        |                       |                       |   |
|------------------------|-----------------------|-----------------------|---|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK |                       |   |
| STACK DIAMETER (inch): | 72                    | STACK LENGTH(inchs) : |   |
| STACK AREA (Sq.Ft.) :  | 28.27433              | STACK WIDTH(inchs) :  |   |
| NOZZLE AREA (feet):    | 0                     | STACK AREA (Sq.Ft.) : | 0 |

ENTER THE STACK AREA SHOWN ABOVE: 28.27433

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.4504 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 1.0826  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.0864  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 28.0133 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.7044    |
| STACK GAS VELOCITY (ft/sec.):        | 57.7050    |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 97894.2806 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 4721751.52 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 136               | 0.88    | 0.938083 | 1.00    | 87                | 87                 |          |
| 2      | 135               | 0.90    | 0.948683 |         | 89                | 87                 |          |
| 3      | 136               | 0.94    | 0.969536 |         | 90                | 87                 |          |
| 4      | 136               | 0.83    | 0.911043 |         | 91                | 88                 |          |
| 5      |                   | 0.67    | 0.818535 |         |                   |                    |          |
| 6      |                   | 0.80    | 0.894427 |         |                   |                    |          |
| 7      |                   | 1.10    | 1.048809 |         |                   |                    |          |
| 8      |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 9      |                   | 1.10    | 1.048809 |         |                   |                    |          |
| 10     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 11     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 12     |                   | 0.95    | 0.974679 |         |                   |                    |          |
| 13     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 14     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 15     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 16     |                   | 1.40    | 1.183216 |         |                   |                    |          |
| 17     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 18     |                   | 1.10    | 1.048809 |         |                   |                    |          |
| 19     |                   | 0.74    | 0.860233 |         |                   |                    |          |
| 20     |                   | 0.47    | 0.685565 |         |                   |                    |          |
| 21     |                   | 0.43    | 0.655744 |         |                   |                    |          |
| 22     |                   | 0.41    | 0.640312 |         |                   |                    |          |
| 23     |                   | 0.45    | 0.67082  |         |                   |                    | METER T. |
| 24     |                   | 0.48    | 0.69282  |         |                   |                    | AVERAGE  |
|        | 135.75            |         | 0.9497   | 1.0000  | 89.2500           | 87.2500            | 88.2500  |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
 DATE : 7-Jun-95  
 PLACE : Inlet "D"  
 RUN# : 1

|                           |         |                                      |      |
|---------------------------|---------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60      | LIQUID COLLECTED (mls) :             | 21   |
| NOZZLE DIAMETER (INCH.) : | 0       | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.01279 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84    | STATIC PRESSURE (in. H2O) :          | -1.3 |
| GAS METER VOL.(Cu.Ft.) :  | 11.545  | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.8    | PERCENT O2 :                         | 20   |
|                           |         | PERCENT CO :                         | 0    |

|                        |                       |                       |   |
|------------------------|-----------------------|-----------------------|---|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK |                       |   |
| STACK DIAMETER (inch): | 72                    | STACK LENGTH(inchs) : |   |
| STACK AREA (Sq.Ft.) :  | 28.27433              | STACK WIDTH(inchs) :  |   |
| NOZZLE AREA (feet):    | 0                     | STACK AREA (Sq.Ft.):  | 0 |

ENTER THE STACK AREA SHOWN ABOVE: 28.27433

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.3815 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 0.9885  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.0799  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 28.0842 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.7044    |
| STACK GAS VELOCITY (ft/sec.):        | 55.6862    |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 94469.4814 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 4548754.69 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 141               | 0.45    | 0.67082  | 1.00    | 79                | 79                 |          |
| 2      | 142               | 0.53    | 0.728011 |         | 82                | 80                 |          |
| 3      | 141               | 0.52    | 0.72111  |         | 84                | 81                 |          |
| 4      | 140               | 0.42    | 0.648074 |         | 85                | 81                 |          |
| 5      |                   | 0.46    | 0.678233 |         |                   |                    |          |
| 6      |                   | 0.68    | 0.824621 |         |                   |                    |          |
| 7      |                   | 1.10    | 1.048809 |         |                   |                    |          |
| 8      |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 9      |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 10     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 11     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 12     |                   | 0.58    | 0.761577 |         |                   |                    |          |
| 13     |                   | 1.10    | 1.048809 |         |                   |                    |          |
| 14     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 15     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 16     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 17     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 18     |                   | 1.00    | 1        |         |                   |                    |          |
| 19     |                   | 0.82    | 0.905539 |         |                   |                    |          |
| 20     |                   | 0.71    | 0.842615 |         |                   |                    |          |
| 21     |                   | 0.62    | 0.787401 |         |                   |                    |          |
| 22     |                   | 0.60    | 0.774597 |         |                   |                    |          |
| 23     |                   | 0.65    | 0.806226 |         |                   |                    | METER T. |
| 24     |                   | 0.48    | 0.69282  |         |                   |                    | AVERAGE  |
|        | 141               |         | 0.9136   | 1.0000  | 82.5000           | 80.2500            | 81.3750  |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
 DATE : 7-Jun-95  
 PLACE : Inlet "D"  
 RUN# : 2

|                           |         |                                      |    |
|---------------------------|---------|--------------------------------------|----|
| TEST DURATION (MINUTES) : | 60      | LIQUID COLLECTED (mls) :             | 25 |
| NOZZLE DIAMETER (INCH.) : | 0       | PARTICULATE WEIGHT (Front half mg) : | 0  |
| METER COEFFICIENT (Y) :   | 1.01279 | PARTICULATE WEIGHT (Back half mg) :  | 0  |
| PITOT COEFFICIENT (Cp) :  | 0.84    | STATIC PRESSURE (in. H2O) :          | -1 |
| GAS METER VOL. (Cu.Ft.) : | 11.51   | PERCENT CO2 :                        | 1  |
| BAROMETRIC PRESSURE :     | 29.8    | PERCENT O2 :                         | 20 |
|                           |         | PERCENT CO :                         | 0  |

|                        |                                |
|------------------------|--------------------------------|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK          |
| STACK DIAMETER (inch): | 72 STACK LENGTH(inches) :      |
| STACK AREA (Sq.Ft.) :  | 28.27433 STACK WIDTH(inches) : |
| NOZZLE AREA (feet):    | 0 STACK AREA (Sq.Ft.) :        |

ENTER THE STACK AREA SHOWN ABOVE: 28.27433

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 11.2432 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 1.1768  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.0947  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.9216 |

|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.7265    |
| STACK GAS VELOCITY (ft/sec.):        | 56.9293    |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 96578.245  |
| STANDARD STACK GAS FLOW RATE (SCFH): | 4599742.68 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 139               | 0.53    | 0.728011 | 1.00    | 85                | 85                 |          |
| 2      | 137               | 0.45    | 0.67082  |         | 87                | 85                 |          |
| 3      | 136               | 0.46    | 0.678233 |         | 88                | 86                 |          |
| 4      | 141               | 0.48    | 0.69282  |         | 89                | 86                 |          |
| 5      |                   | 0.54    | 0.734847 |         |                   |                    |          |
| 6      |                   | 0.66    | 0.812404 |         |                   |                    |          |
| 7      |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 8      |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 9      |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 10     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 11     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 12     |                   | 1.00    | 1        |         |                   |                    |          |
| 13     |                   | 1.00    | 1        |         |                   |                    |          |
| 14     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 15     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 16     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 17     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 18     |                   | 1.00    | 1        |         |                   |                    |          |
| 19     |                   | 0.88    | 0.938083 |         |                   |                    |          |
| 20     |                   | 0.82    | 0.905539 |         |                   |                    |          |
| 21     |                   | 0.87    | 0.818535 |         |                   |                    |          |
| 22     |                   | 0.72    | 0.848528 |         |                   |                    |          |
| 23     |                   | 0.69    | 0.830662 |         |                   |                    | METER T. |
| 24     |                   | 0.51    | 0.714143 |         |                   |                    | AVERAGE  |
|        | 138.25            |         | 0.9338   | 1.0000  | 87.2500           | 85.5000            | 86.3750  |

# EMISSION TEST SUMMARY

PLANT : Louisiana Pacific, Clayton, AL  
DATE : 7-Jun-95  
PLACE : Inlet "D"  
RUN# : 3

|                           |         |                                      |      |
|---------------------------|---------|--------------------------------------|------|
| TEST DURATION (MINUTES) : | 60      | LIQUID COLLECTED (mls) :             | 25   |
| NOZZLE DIAMETER (INCH.) : | 0       | PARTICULATE WEIGHT (Front half mg) : | 0    |
| METER COEFFICIENT (Y) :   | 1.01279 | PARTICULATE WEIGHT (Back half mg) :  | 0    |
| PITOT COEFFICIENT (Cp) :  | 0.84    | STATIC PRESSURE (in. H2O) :          | -1.1 |
| GAS METER VOL.(Cu.Ft.) :  | 10.996  | PERCENT CO2 :                        | 1    |
| BAROMETRIC PRESSURE :     | 29.8    | PERCENT O2 :                         | 20   |
|                           |         | PERCENT CO :                         | 0    |

|                        |                       |                       |   |
|------------------------|-----------------------|-----------------------|---|
| FOR CIRCULAR STACK     | FOR RECTANGULAR STACK |                       |   |
| STACK DIAMETER (inch): | 72                    | STACK LENGTH(inchs) : |   |
| STACK AREA (Sq.Ft.) :  | 28.27433              | STACK WIDTH(inchs) :  |   |
| NOZZLE AREA (feet):    | 0                     | STACK AREA (Sq.Ft.):  | 0 |

ENTER THE STACK AREA SHOWN ABOVE: 28.27433

## FLOWS

|                                        |         |
|----------------------------------------|---------|
| SAMPLED VOLUME (STD. CU.FT.):          | 10.6897 |
| VOLUME OF WATER VAPOR (STD. CU.FT.):   | 1.1768  |
| FRACTIONAL MOISTURE CONTENT (%):       | 0.0992  |
| DRY BASE:                              | 79.0000 |
| MOLECULAR WT. OF STACK GAS (DRY BASE): | 28.9600 |
| MOLECULAR WT. OF STACK GAS (WET BASE): | 27.8731 |

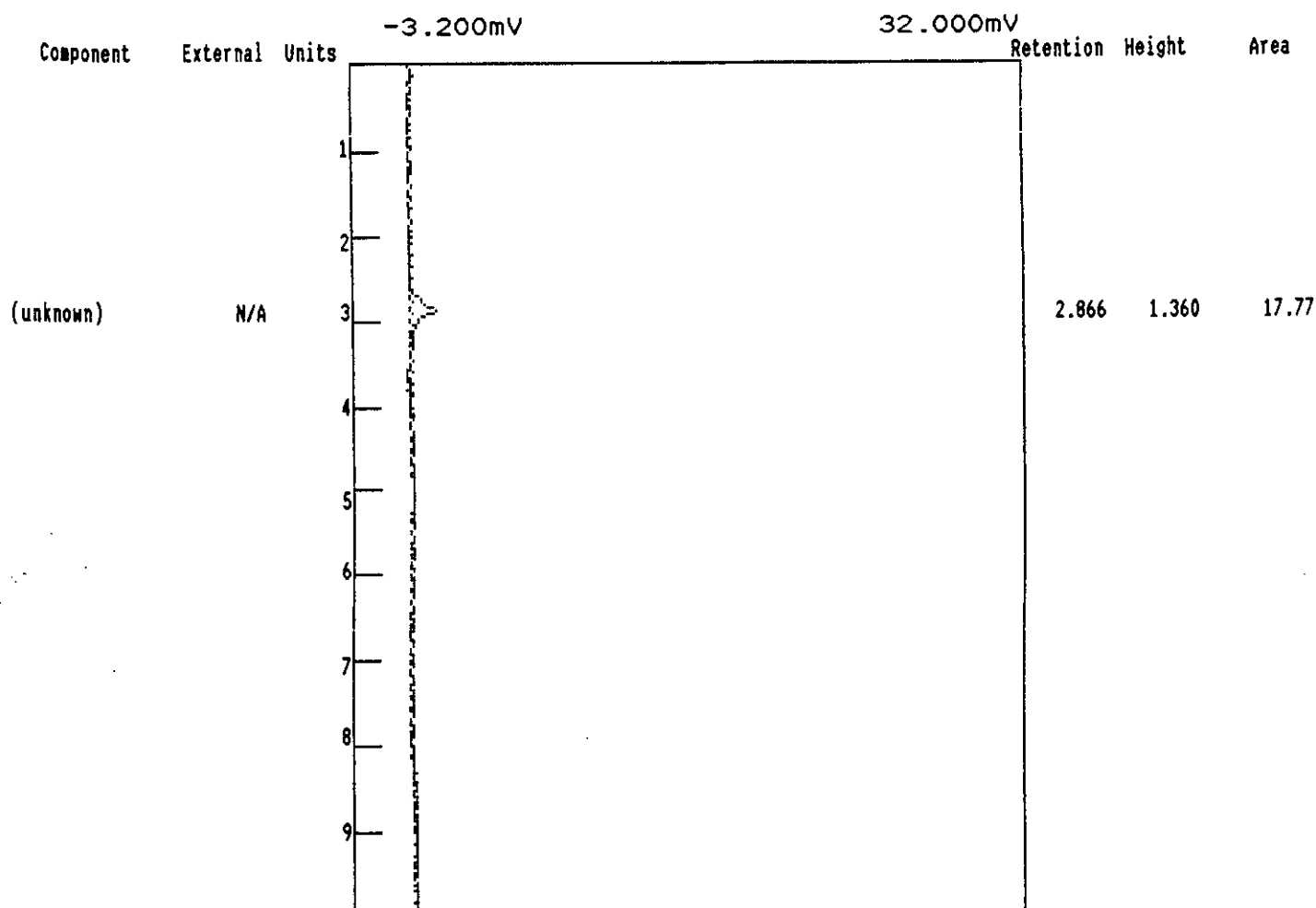
|                                      |            |
|--------------------------------------|------------|
| STACK PRESSURE (inch Hg):            | 29.7191    |
| STACK GAS VELOCITY (ft/sec.):        | 57.9085    |
| ACTUAL STACK GAS FLOW RATE (ACFM):   | 98239.5384 |
| STANDARD STACK GAS FLOW RATE (SCFH): | 4646045.83 |

| POINTS | STACK T.<br>deg F | DELTA P | QUAR D.  | DELTA H | METER T.<br>INLET | METER T.<br>OUTLET |          |
|--------|-------------------|---------|----------|---------|-------------------|--------------------|----------|
| 1      | 139               | 0.51    | 0.714143 | 1.00    | 88                | 88                 |          |
| 2      | 138               | 0.46    | 0.678233 |         | 90                | 88                 |          |
| 3      | 139               | 0.48    | 0.69282  |         | 91                | 88                 |          |
| 4      | 140               | 0.51    | 0.714143 |         | 91                | 88                 |          |
| 5      |                   | 0.60    | 0.774597 |         |                   |                    |          |
| 6      |                   | 0.71    | 0.842615 |         |                   |                    |          |
| 7      |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 8      |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 9      |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 10     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 11     |                   | 1.10    | 1.048809 |         |                   |                    |          |
| 12     |                   | 1.10    | 1.048809 |         |                   |                    |          |
| 13     |                   | 1.00    | 1        |         |                   |                    |          |
| 14     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 15     |                   | 1.40    | 1.183216 |         |                   |                    |          |
| 16     |                   | 1.30    | 1.140175 |         |                   |                    |          |
| 17     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 18     |                   | 1.20    | 1.095445 |         |                   |                    |          |
| 19     |                   | 0.85    | 0.921954 |         |                   |                    |          |
| 20     |                   | 0.81    | 0.9      |         |                   |                    |          |
| 21     |                   | 0.70    | 0.83666  |         |                   |                    |          |
| 22     |                   | 0.75    | 0.866025 |         |                   |                    |          |
| 23     |                   | 0.66    | 0.812404 |         |                   |                    | METER T. |
| 24     |                   | 0.48    | 0.69282  |         |                   |                    | AVERAGE  |
|        | 139               |         | 0.9483   | 1.0000  | 89.0000           | 88.0000            | 89.0000  |

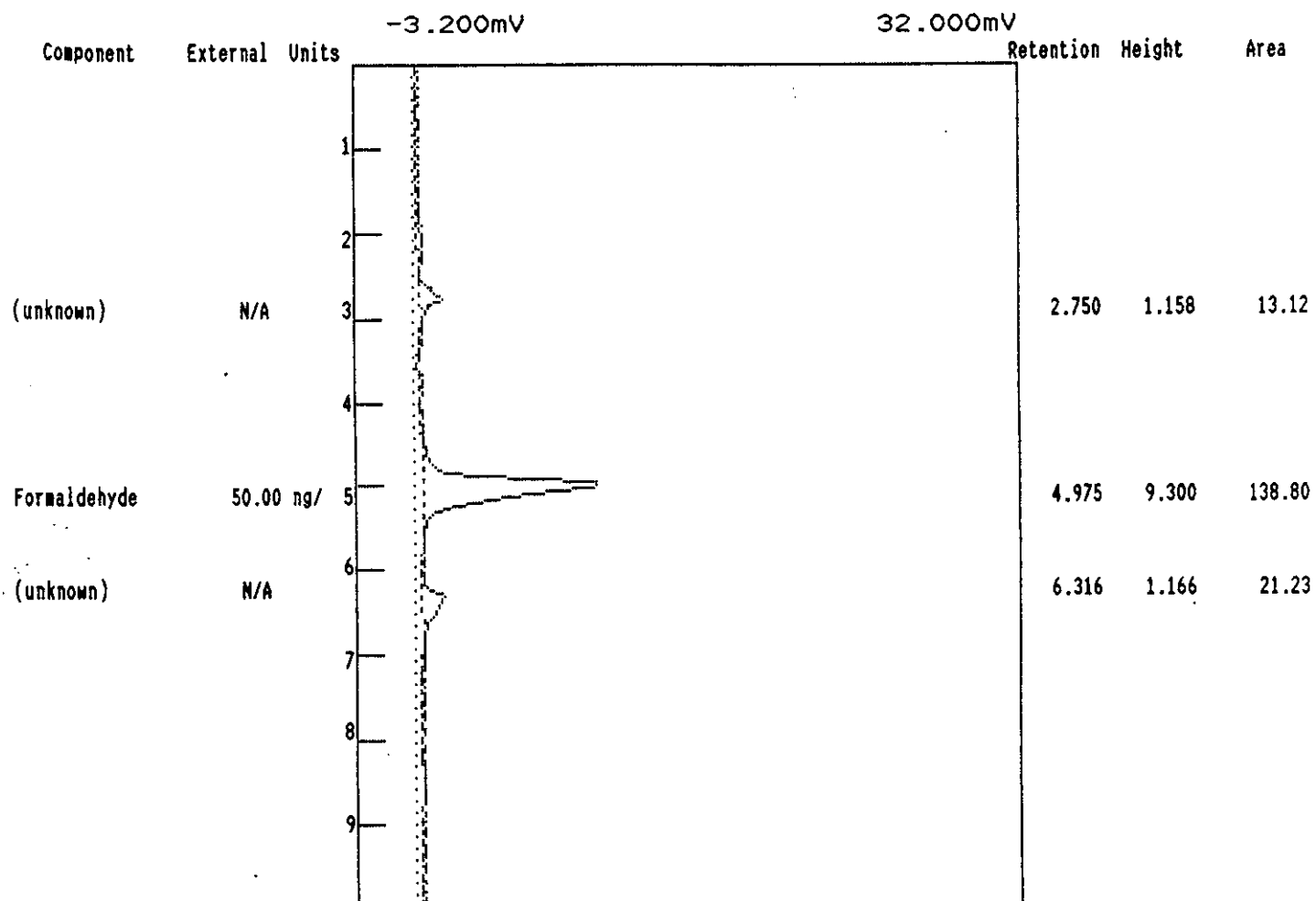
APPENDIX B

| Summary of Formaldehyde Analysis |                                |  |       |                        |       |  |       |
|----------------------------------|--------------------------------|--|-------|------------------------|-------|--|-------|
| Plant:                           | Louisiana Pacific, Clayton, AL |  |       |                        |       |  |       |
| Date:                            | 6/7/95                         |  |       |                        |       |  |       |
|                                  |                                |  |       |                        |       |  |       |
|                                  |                                |  |       | Formaldehyde, total mg |       |  |       |
| Run #                            |                                |  | 1     |                        | 2     |  | 3     |
| Blank Spike (1.004 mg)           |                                |  | 1.072 |                        |       |  |       |
| #1 RTO Exhaust                   |                                |  | 5.712 |                        | 5.408 |  | 5.94  |
| #2 RTO Exhaust                   |                                |  | 3.715 |                        | 4.021 |  | 2.574 |
| #3 RTO Exhaust                   |                                |  | 3.067 |                        | 2.762 |  | 2.476 |

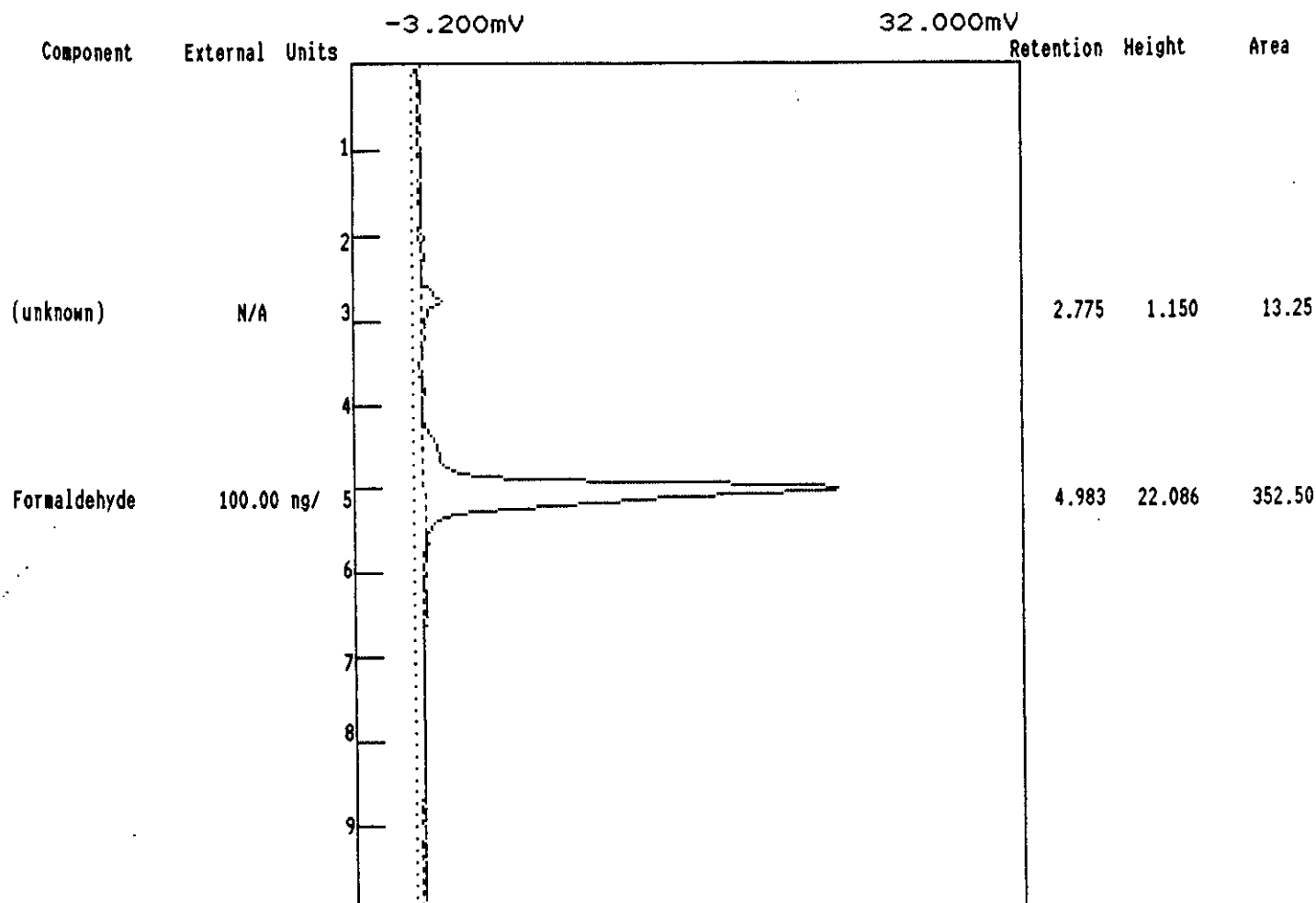
Description : Channel 1  
Conditions : Method Blank  
Date : 06/10/1995  
Time : 07:08:12



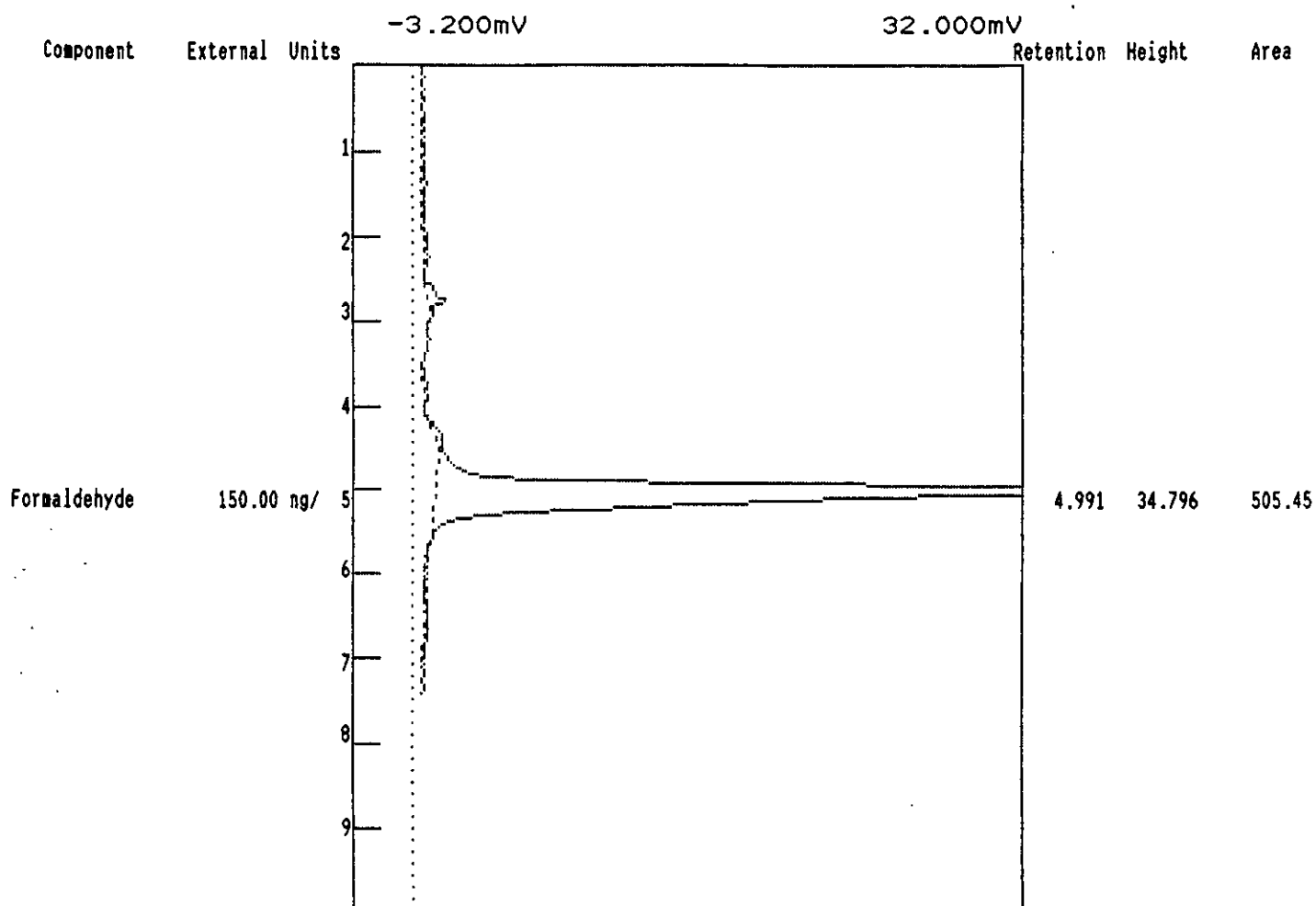
Description : Channel 1  
 Conditions : 50 ng/ml Formaldehyde  
 Date : 06/10/1995  
 Time : 07:26:57



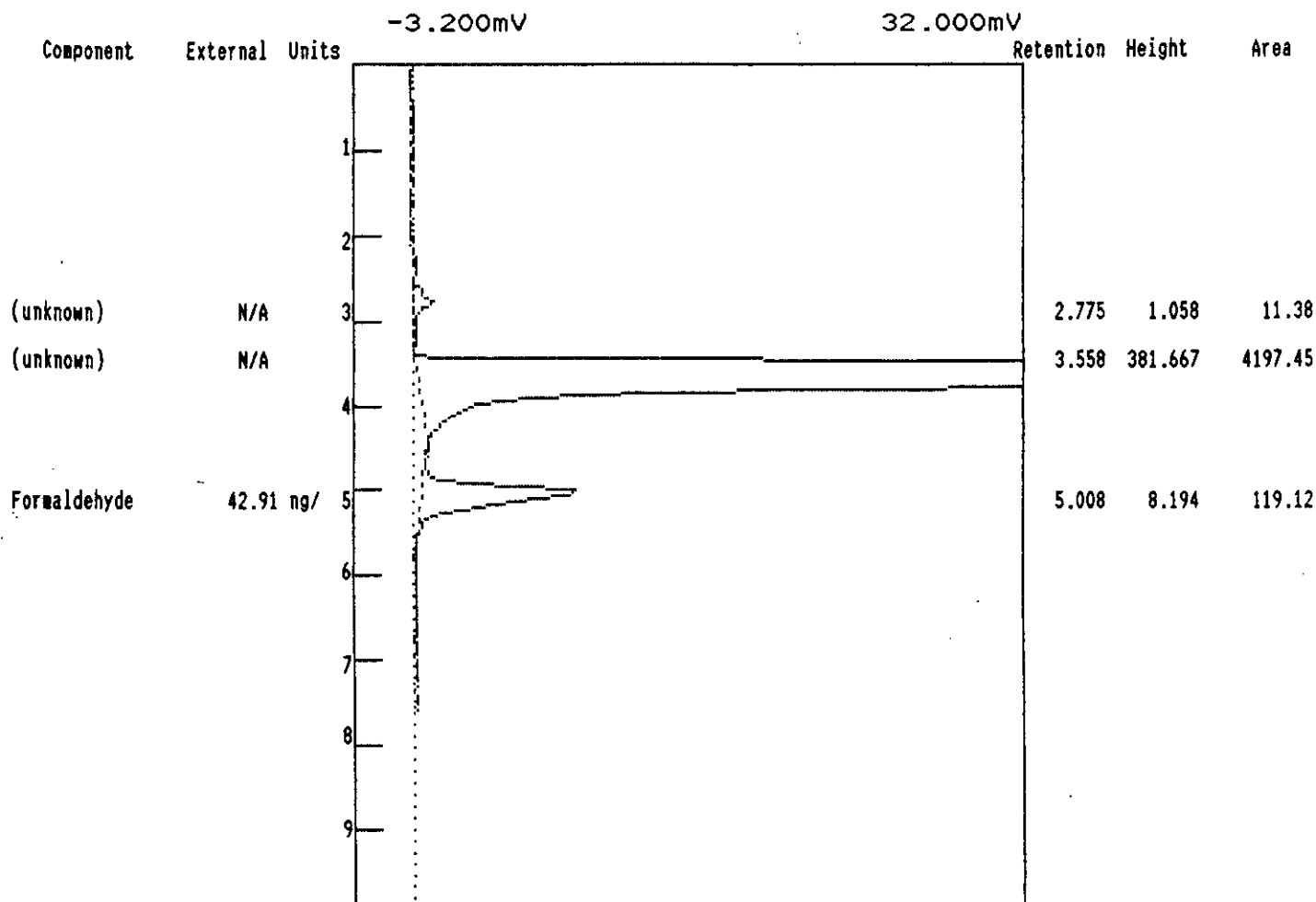
Description : Channel 1  
 Conditions : 100 ng/ml Formaldehyde  
 Date : 06/10/1995  
 Time : 07:43:59



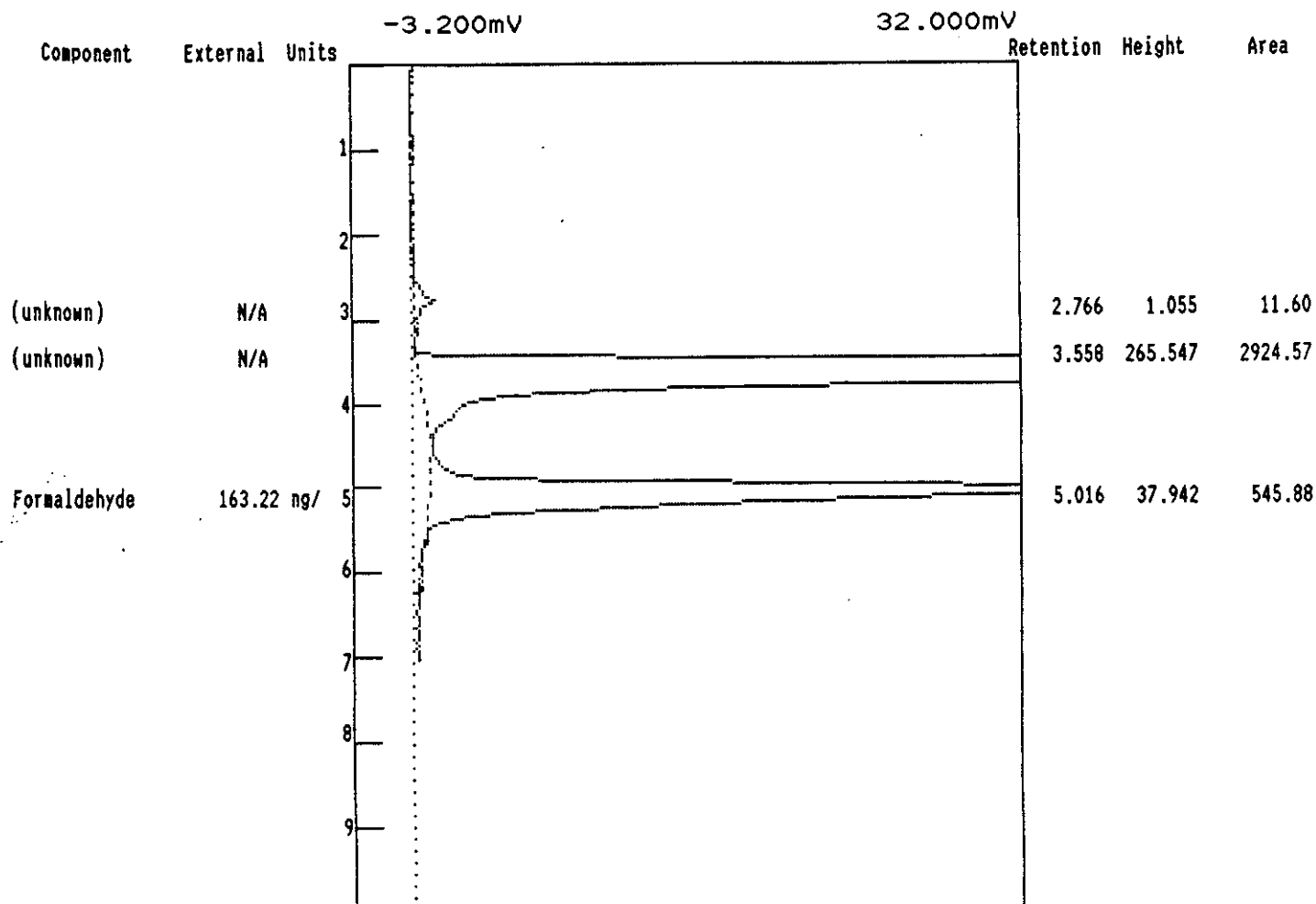
Description : Channel 1  
Conditions : 150 ng/ml Formaldehyde  
Date : 06/10/1995  
Time : 08:13:26



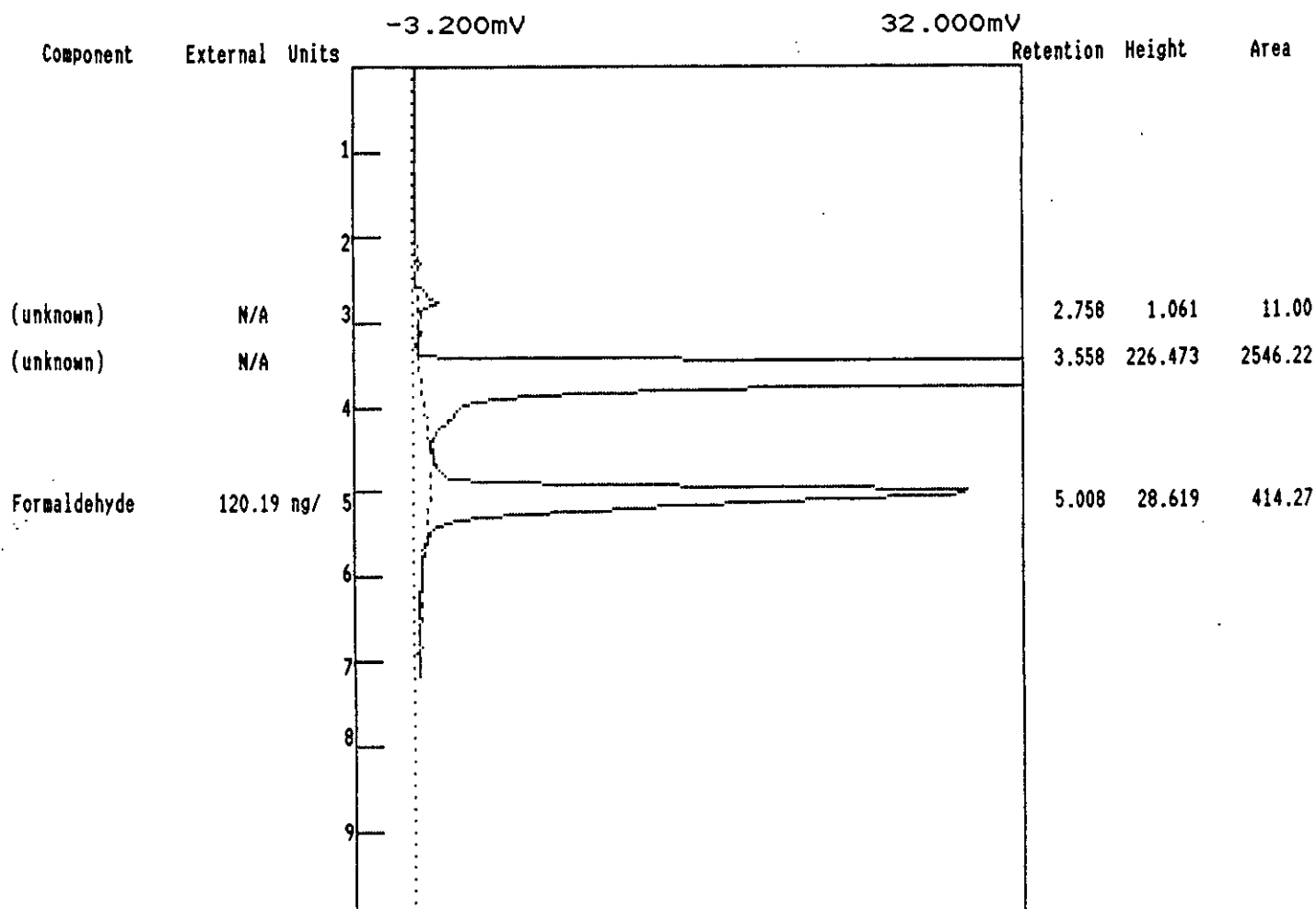
Description : Channel 1  
 Conditions : 1004 ug spike in blank  
               : Vol 250 mls  
               : Dil 1/100  
 Date : 06/10/1995  
 Time : 09:10:20



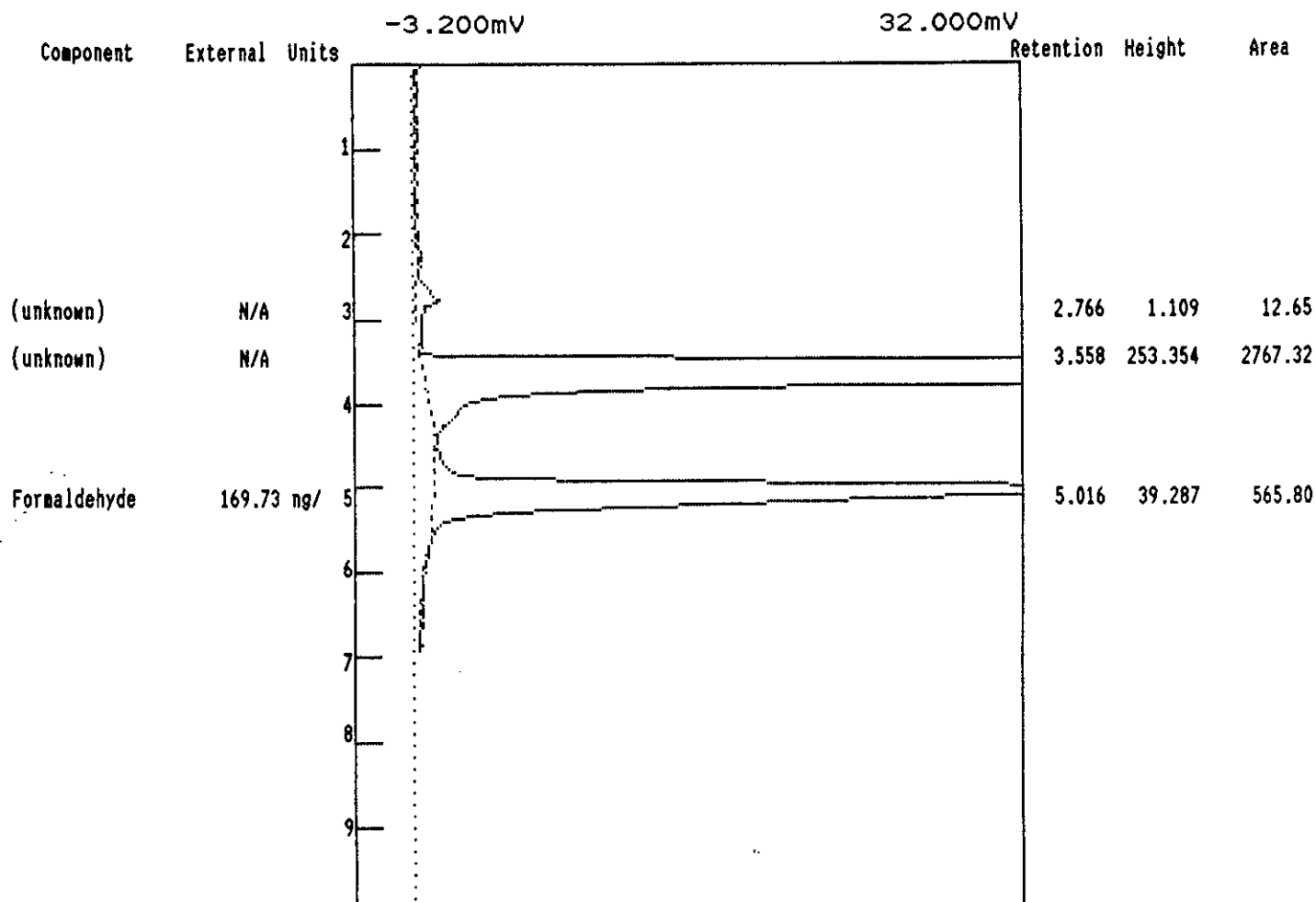
Description : Channel 1  
 Conditions : Run 1 RTO Exhaust 1  
 : Vol 350 mls  
 : Dil 1/100  
 Date : 06/10/1995  
 Time : 09:19:59



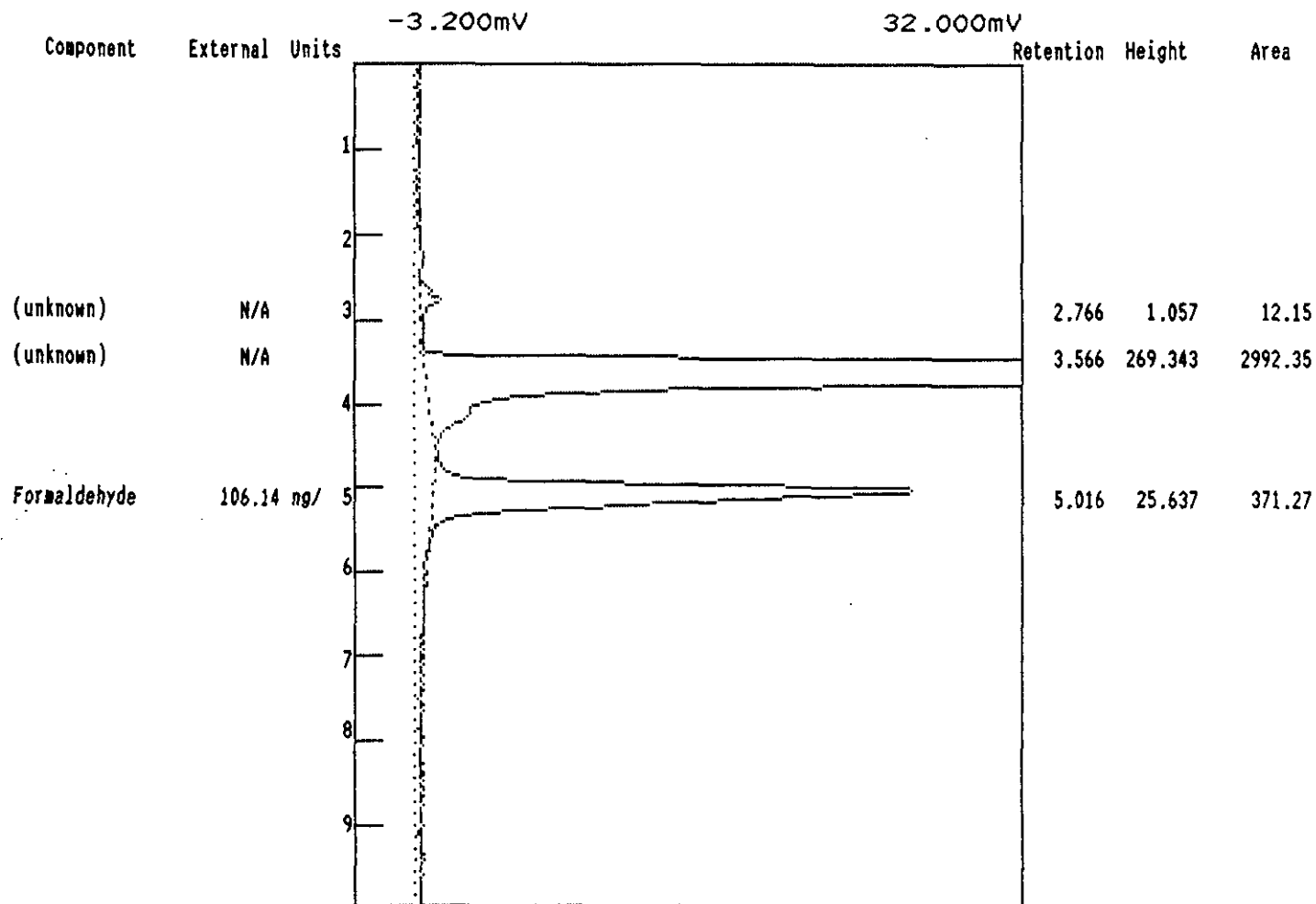
Description : Channel 1  
 Conditions : Run 2 RTO Exhaust 1  
 : Vol 450 mls  
 : Dil 1/100  
 Date : 06/10/1995  
 Time : 09:29:01



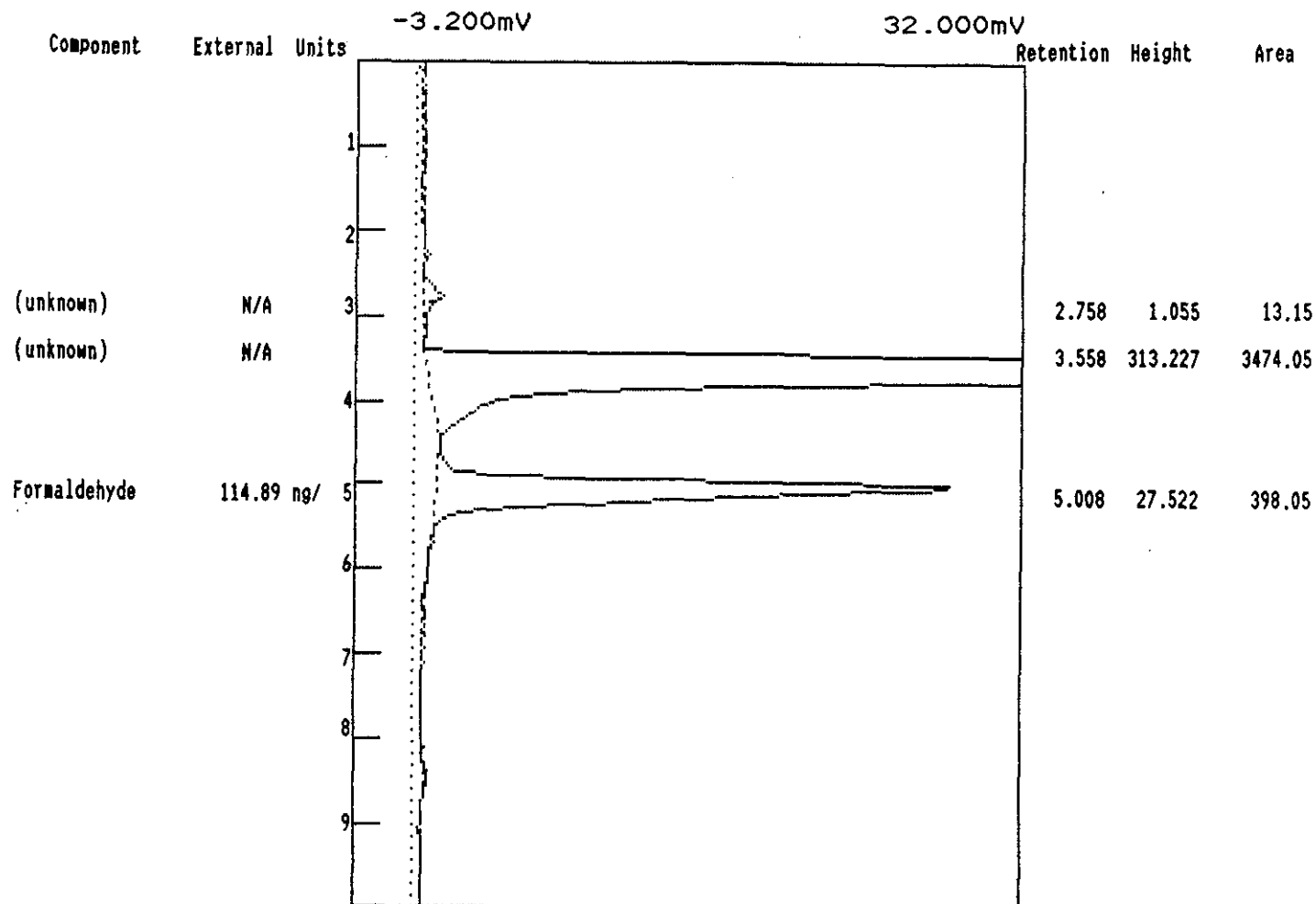
Description : Channel 1  
 Conditions : Run 3 RTO Exhaust 1  
 : Vol 350 mls  
 : Dil 1/100  
 Date : 06/10/1995  
 Time : 09:38:07



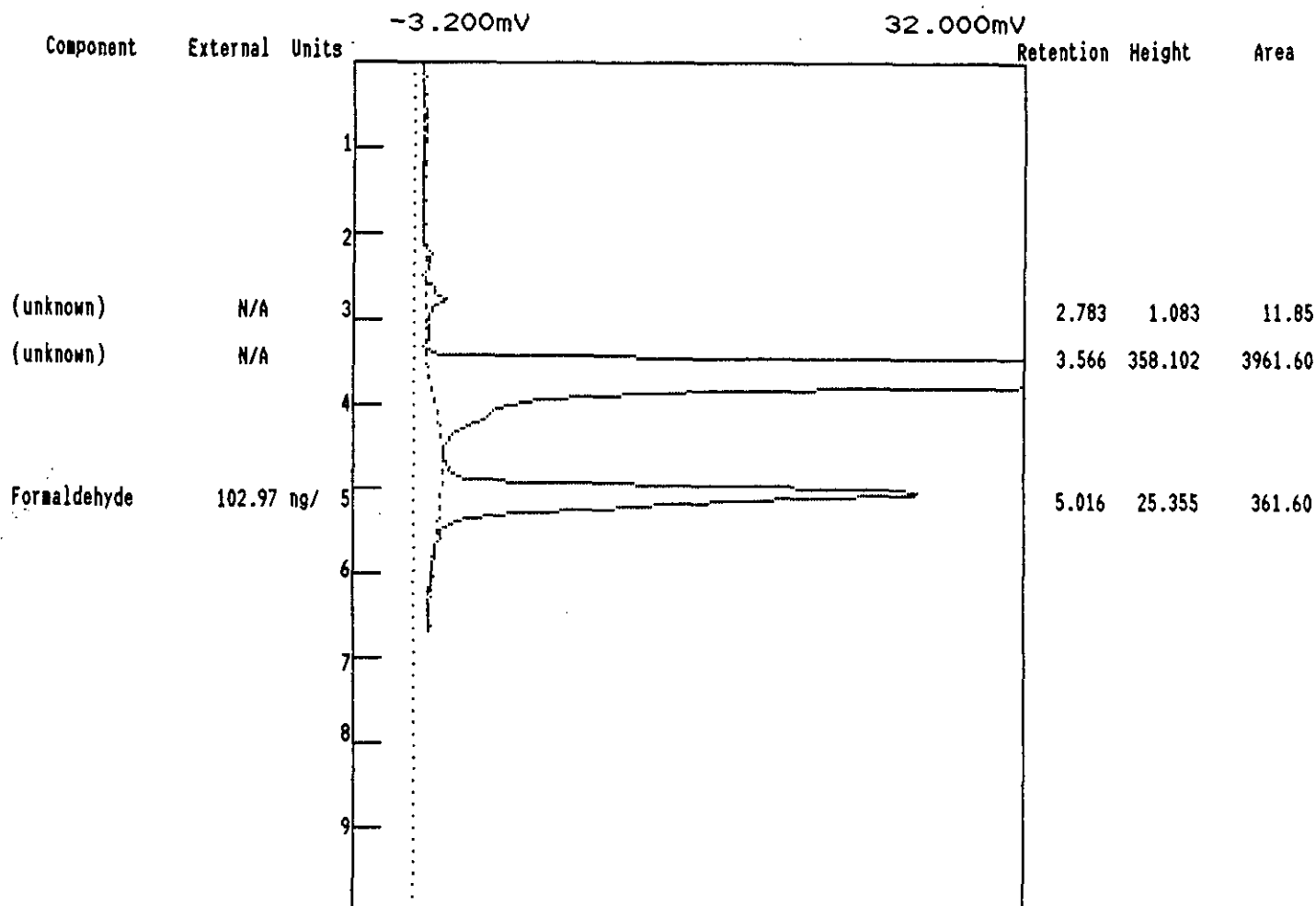
Description : Channel 1  
 Conditions : Run 1 No. 2 RTO Exhaust  
               : Vol 350 mls  
               : Dil 1/100  
 Date : 06/10/1995  
 Time : 09:47:21



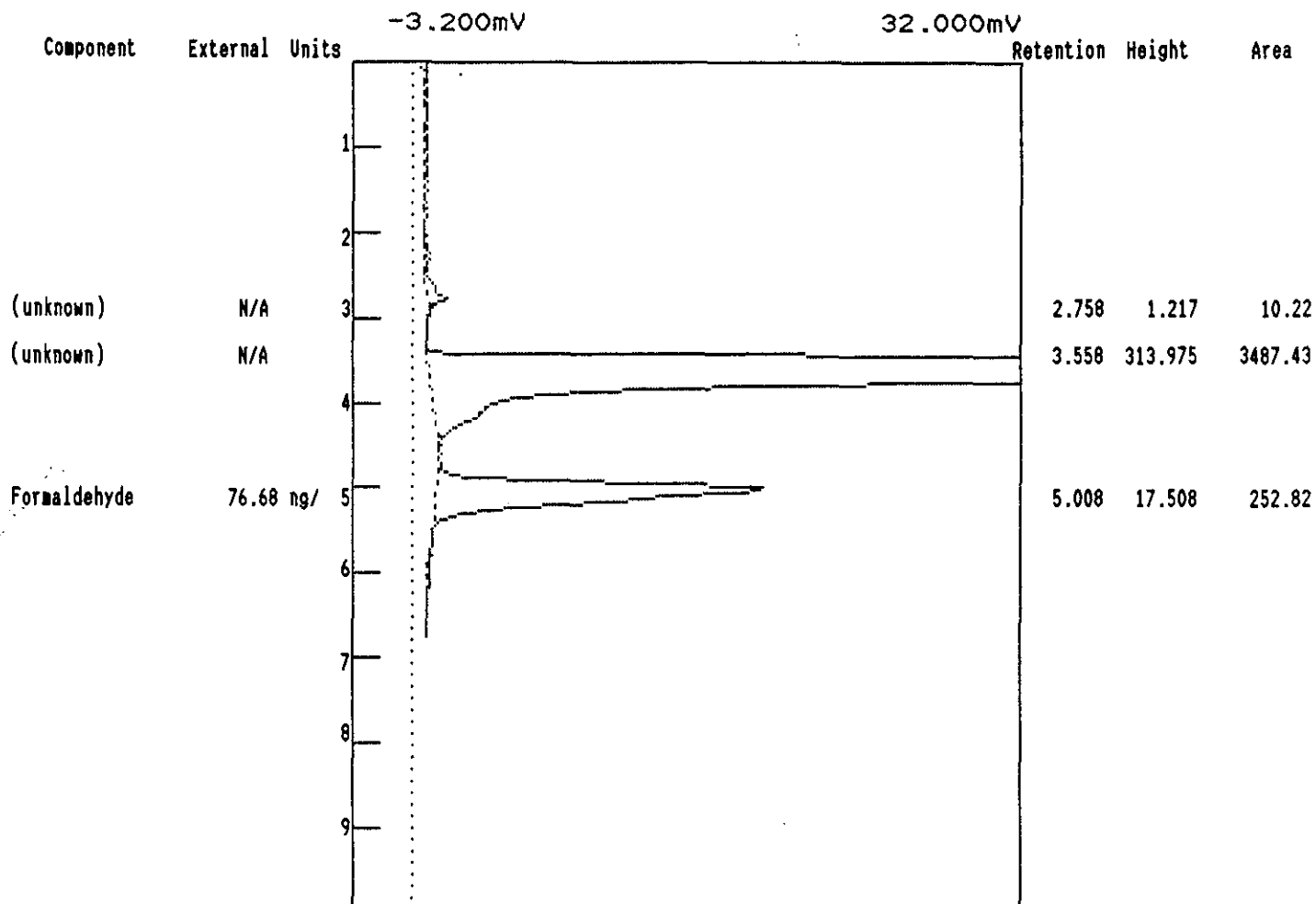
Description : Channel 1  
 Conditions : Run 2 No. 2 RTO Exhaust  
 : Vol 350 mls  
 : Dil 1/100  
 Date : 06/10/1995  
 Time : 10:02:25



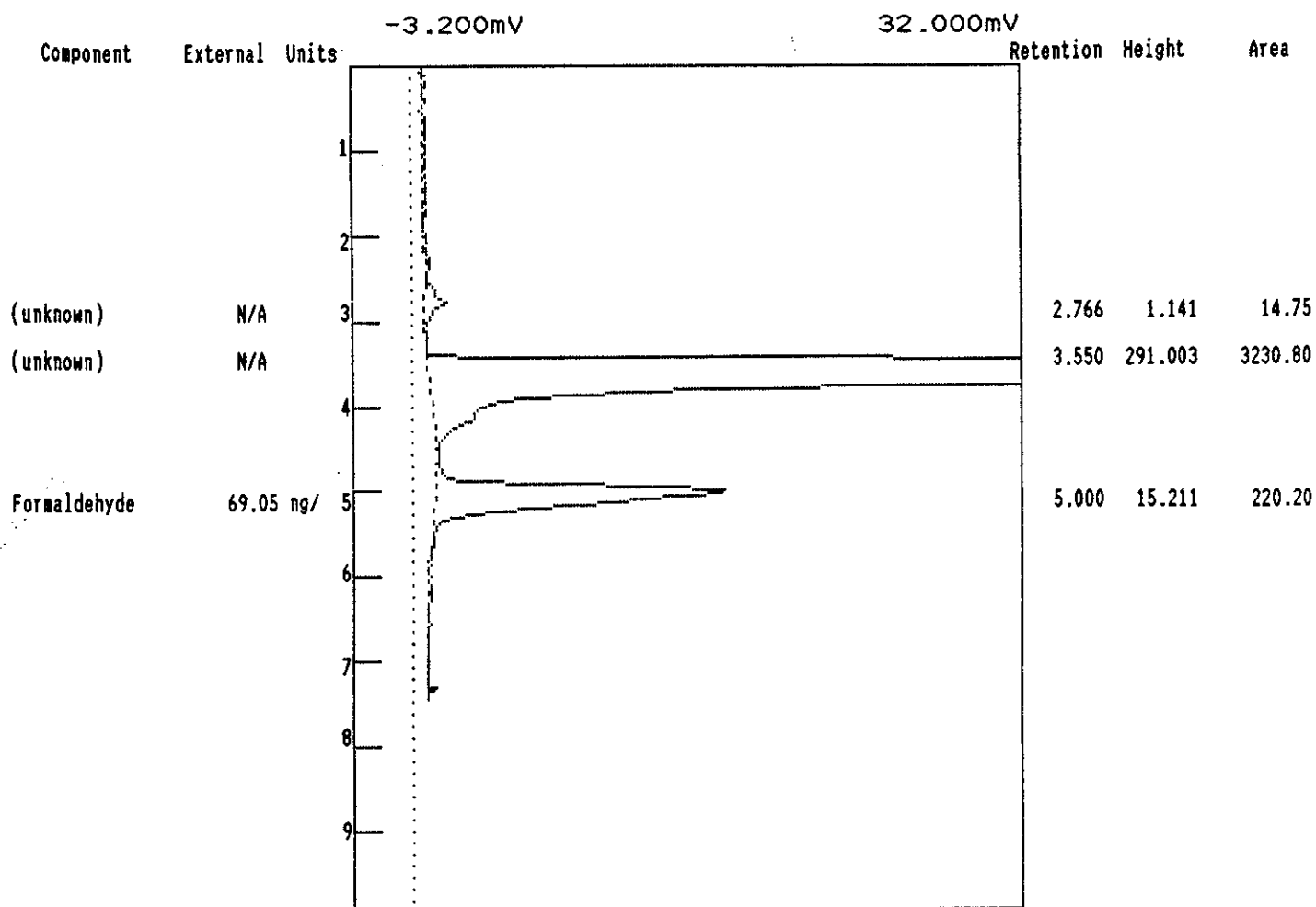
Description : Channel 1  
 Conditions : Run 3 No. 2 RTO Exhaust  
               : Vol 250 mls  
               : Dil 1/100  
 Date : 06/10/1995  
 Time : 10:14:31



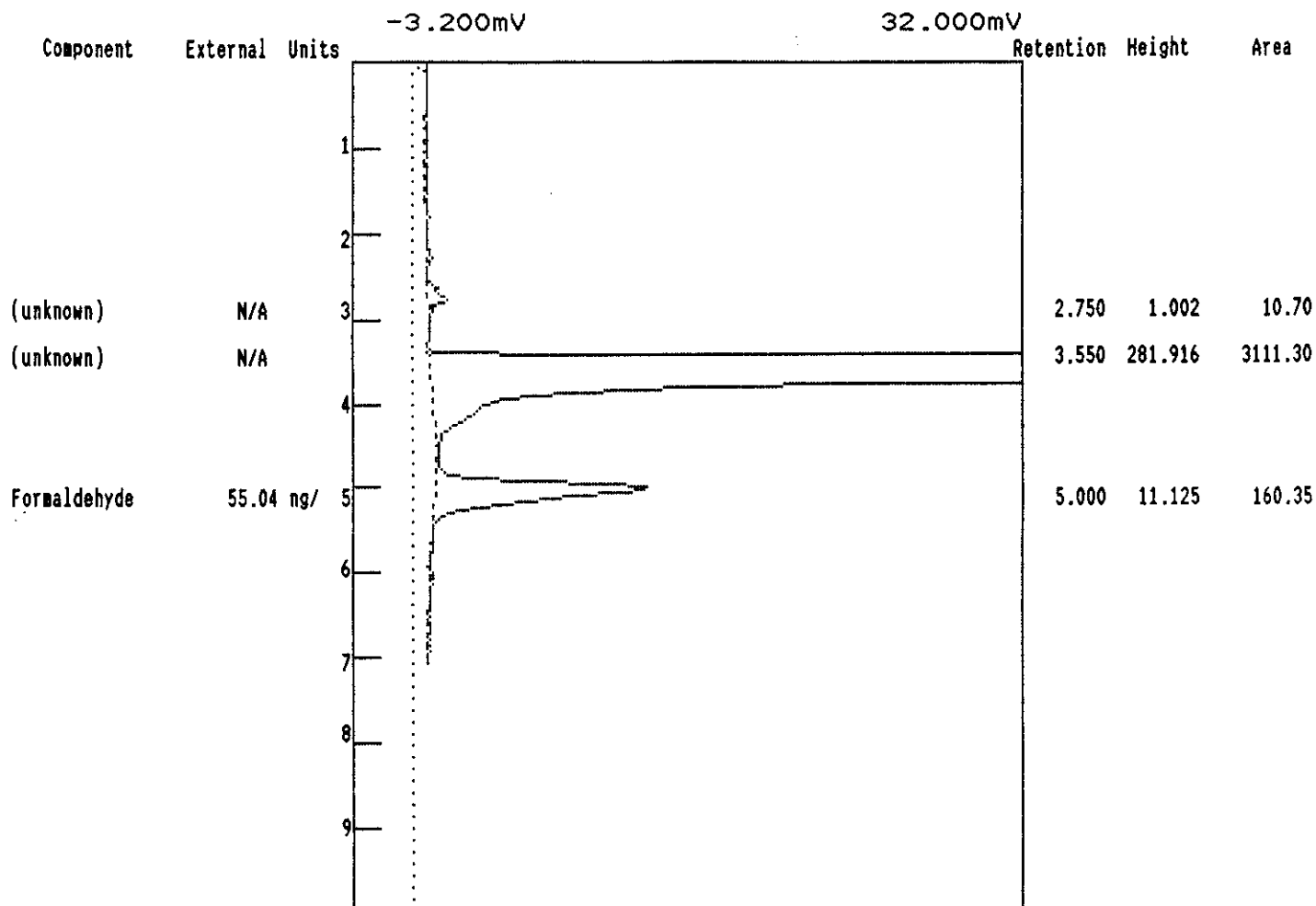
Description : Channel 1  
 Conditions : Run 1 No. 3 RTO Exhaust  
 : Vol 400 mls  
 : Dil 1/100  
 Date : 06/10/1995  
 Time : 10:23:09



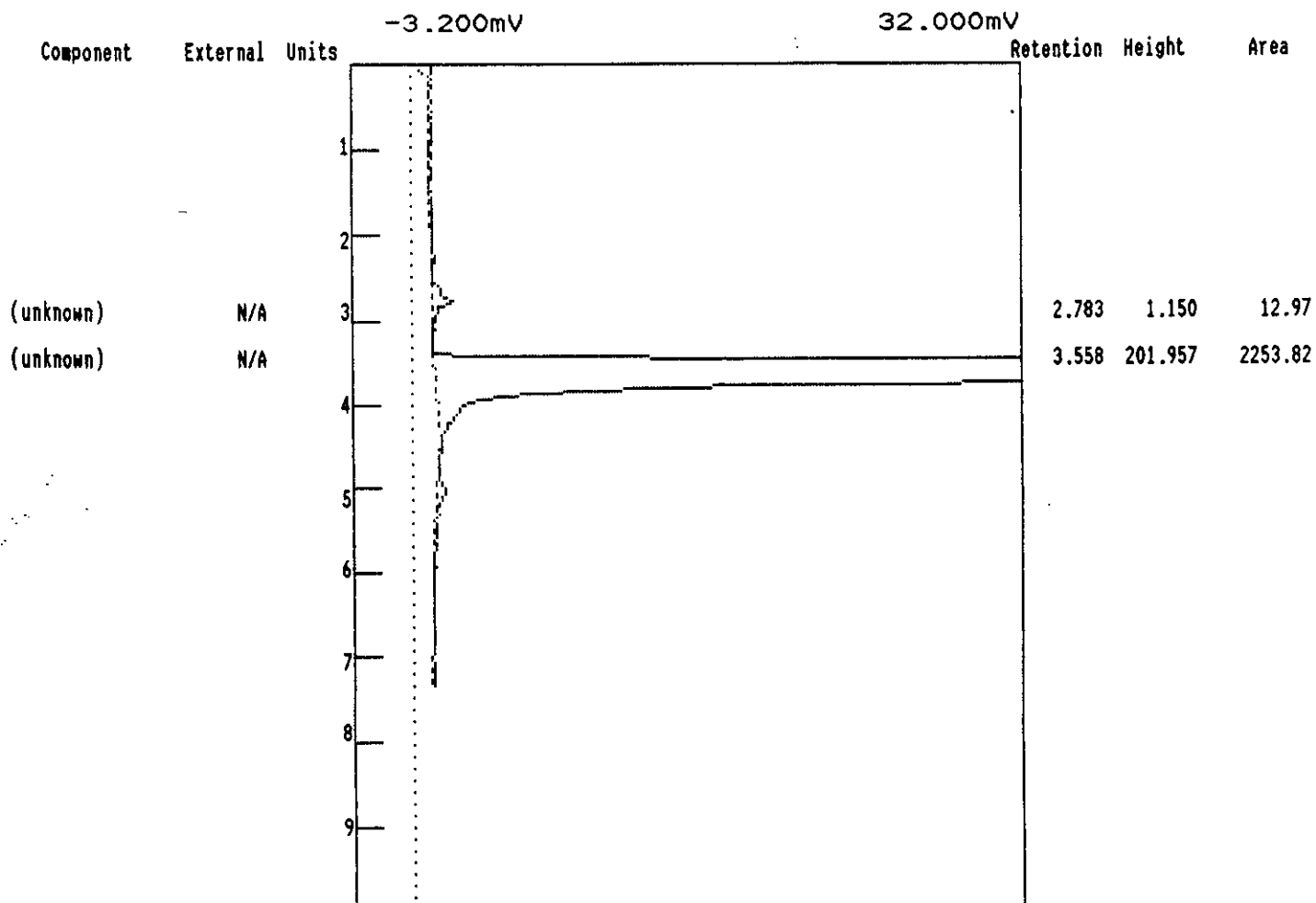
Description : Channel 1  
 Conditions : Run 2 No. 3 RTO Exhaust  
 : Vol 400 mls  
 : Dil 1/100  
 Date : 06/10/1995  
 Time : 10:31:55



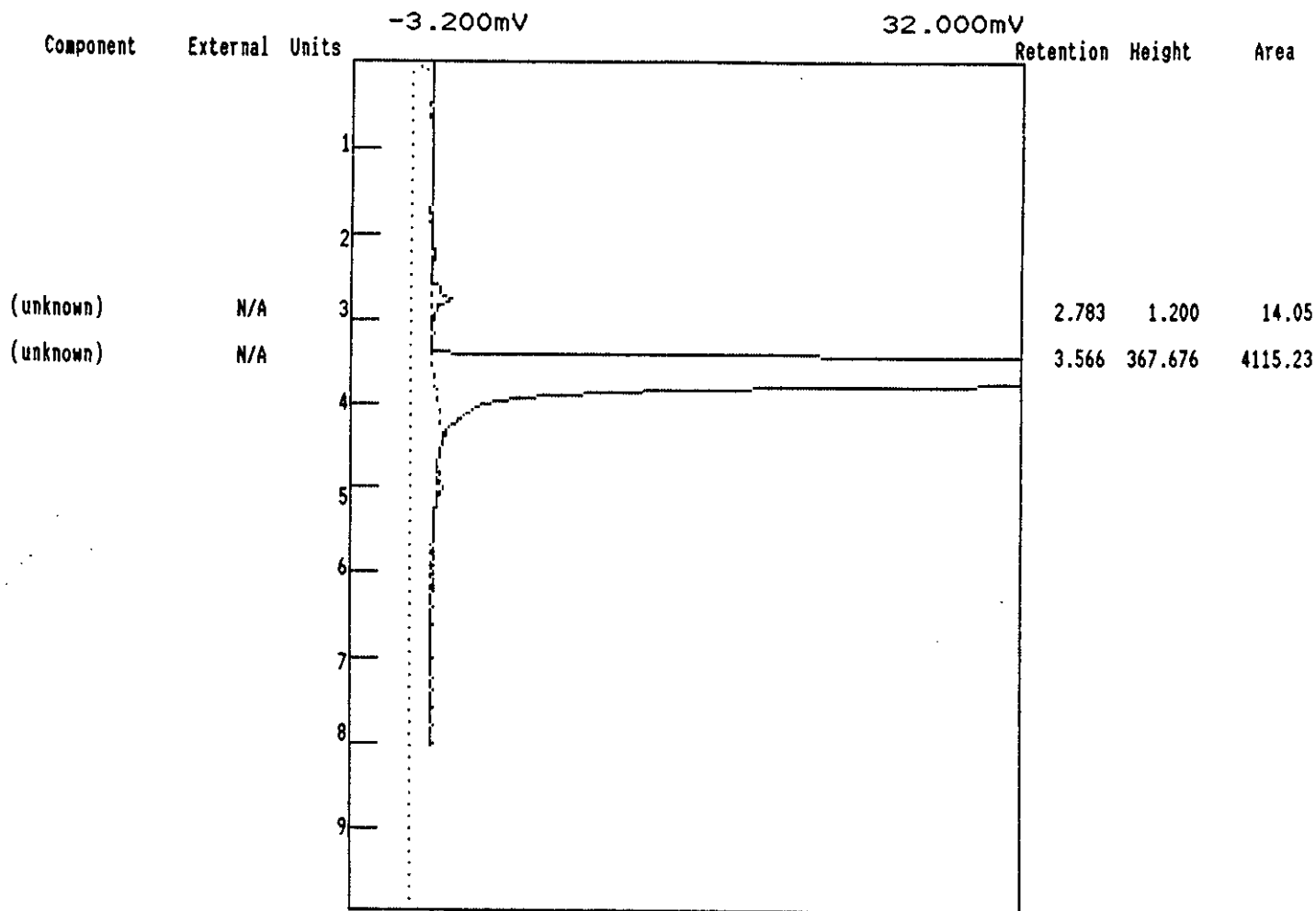
Description : Channel 1  
 Conditions : Run 3 No. 3 RTO Exhaust  
 : Vol 450 mls  
 : Dil 1/100  
 Date : 06/10/1995  
 Time : 10:41:28



Description : Channel 1  
 Conditions : Field Blank  
 : EMS  
 : Dil 1/100  
 Date : 06/10/1995  
 Time : 11:04:00



Description : Channel 1  
 Conditions : Field Blank  
 : Armstrong  
 : Dil 1/100  
 Date : 06/10/1995  
 Time : 11:13:27





**AccuStandard Inc.**

25 Science Park  
New Haven, CT 06511

## CERTIFICATE OF PRODUCT DATA

**PRODUCT:** M-8315-02

**DESCRIPTION:** Aldehyde Solution

**LOT #:** 074-280

**SOLVENT:** water

**EXPIRATION:** On-going Stability  
Program

### Component

Formaldehyde

**CAS #**   **Purity %**

(GC/FID)

**Gravimetric  
Concentration<sup>1</sup>**  
( $\mu\text{g/mL}$ )

**Analyte  
Concentration<sup>2</sup>**  
( $\mu\text{g/mL}$ )

50-00-0

35.0

2868 \*

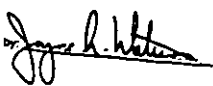
1004

\* Weight compensated to 100% purity

1. \* All weights are traceable through  
National Bureau of Standards Test  
No. 731/243669 's'
2. Analyte Conc. = Purity x Gravimetric Conc.

63

Certified by: 

Certified by: 

This product was manufactured to meet the quality system requirements of ISO 9001

# PARTICULATE ANALYTICAL DATA FORM

Company: LP, Clayton, Ala.  
 Date: 6/6/95  
 Location: RTO #1 Exhaust

PW's

|                                       | Run 1           | Run 2           | Run 3           |
|---------------------------------------|-----------------|-----------------|-----------------|
| Density (Pa)                          | <u>.7854</u>    | <u>.7854</u>    | <u>.7854</u>    |
| Blank Concentration (Ca)              | <u>0.01</u>     | <u>0.01</u>     | <u>0.01</u>     |
| Rinse Volume (Vaw)                    | <u>265</u>      | <u>260</u>      | <u>180</u>      |
| Residue in Rinse (Wa) = Ca * Vaw * Pa | <u>2.08 mg</u>  | <u>2.04 mg</u>  | <u>1.41 mg</u>  |
| Date of Weighing                      | <u>6/6/95</u>   | <u>6/9/95</u>   | <u>6/9/95</u>   |
| Gross Weight                          | <u>104.6447</u> | <u>109.7507</u> | <u>100.9457</u> |
| Date of Weighing                      | <u>6/9/95</u>   | <u>6/9/95</u>   | <u>6/9/95</u>   |
| Gross Weight                          | <u>104.6447</u> | <u>109.7507</u> | <u>100.9457</u> |
| Average Gross Weight                  | <u>104.6447</u> | <u>109.7507</u> | <u>100.9457</u> |
| Less Blank Residue (Wa)               | <u>.0002</u>    | <u>0.0002</u>   | <u>0.00014</u>  |
| Tare Weight                           | <u>104.6206</u> | <u>109.7357</u> | <u>100.9112</u> |
| Weight of Particulate in Rinse        | <u>23.9 mg</u>  | <u>14.8 mg</u>  | <u>34.36 mg</u> |
| Date of Weighing                      | <u>6/9/95</u>   | <u>6/9/95</u>   | <u>6/9/95</u>   |
| Gross Filter Weight                   | <u>.5428</u>    | <u>.5412</u>    | <u>.5325</u>    |
| Date of Weighing                      | <u>6/9/95</u>   | <u>6/9/95</u>   | <u>6/9/95</u>   |
| Gross Filter Weight                   | <u>0.5428</u>   | <u>0.5412</u>   | <u>0.5327</u>   |
| Average Gross Weight                  | <u>0.5428</u>   | <u>0.5411</u>   | <u>0.5326</u>   |
| Filter Tare Weight                    | <u>.4720</u>    | <u>.4800</u>    | <u>.4800</u>    |
| Weight of Particulate on Filter       | <u>68.2</u>     | <u>53.2</u>     | <u>52.6</u>     |
| Total Weight of Particulate           | <u>92.1</u>     | <u>68.0</u>     | <u>86.96</u>    |

## ACETONE BLANK ANALYTICAL DATA FORM

|                            |                 |
|----------------------------|-----------------|
| Blank Volume               | <u>100 ml/s</u> |
| Date of Weighing           | <u>6/9/95</u>   |
| Gross Weight               | <u>113.6035</u> |
| Date of Weighing           | <u>6/9/95</u>   |
| Gross Weight               | <u>113.6035</u> |
| Average Gross Weight       | <u>113.6035</u> |
| Tare Weight                | <u>113.6027</u> |
| Weight of Blank (Ma)       | <u>0.0008</u>   |
| Ca = ma / (Va * Pa) = mg/g | <u>0.01</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.

APPENDIX C

| Summary of NOx and CO Continuous Chart Recordings |                                |          |                |          |               |          |  |
|---------------------------------------------------|--------------------------------|----------|----------------|----------|---------------|----------|--|
| Plant:                                            | Louisiana Pacific, Clayton, AL |          |                |          |               |          |  |
| Date:                                             | 6/6/95                         |          |                |          |               |          |  |
| Run #                                             | 1                              |          | 2              |          | 3             |          |  |
|                                                   | Start: 10:47am                 |          | Start: 12:20pm |          | Start 1:55 pm |          |  |
|                                                   | Stop: 11:48am                  |          | Stop: 1:27pm   |          | Stop 3:06pm   |          |  |
|                                                   | NOx                            | CO       | NOx            | CO       | NOx           | CO       |  |
| Inlet D                                           | 18                             | 5        | 16             | 5        | 15.5          | 10       |  |
|                                                   | 18                             | 5        | 18             | 5        | 16            | 10       |  |
|                                                   | 17.5                           | 5        | 16.5           | 5        | 16            | 10       |  |
|                                                   | 17                             | 5        | 17             | 5        | 15.5          | 8        |  |
|                                                   | 18                             | 5        | 18             | 5        | 15.5          | 8        |  |
|                                                   | 16                             | 5        | 17.5           | 5        | 12            | 10       |  |
|                                                   | 15.5                           | 5        | 16             | 5        | 12            | 10       |  |
|                                                   | 16                             | 5        | 16.5           | 5        | 12            | 10       |  |
|                                                   | 15.5                           | 5        | 16.5           | 5        | 13.5          | 10       |  |
|                                                   | 18                             | 5        | 16             | 5        | 13.5          | 12       |  |
|                                                   | 15                             | 5        | 16             | 5        | 14            | 10       |  |
|                                                   | 15                             | 5        | 17             | 5        | 16            | 10       |  |
|                                                   | 15.5                           | 5        | 17             | 5        | 16.5          | 10       |  |
|                                                   | 15.5                           | 5        | 17             | 5        | 16            | 10       |  |
| Average                                           | 16.17857                       | 5        | 16.64286       | 5        | 14.57143      | 9.857143 |  |
| Inlet C                                           | 18                             | 5        | 18.5           | 5        | 15            | 0        |  |
|                                                   | 18                             | 5        | 17.5           | 5        | 15            | 0        |  |
|                                                   | 18                             | 5        | 18             | 5        | 15            | 0        |  |
|                                                   | 18                             | 5        | 18             | 5        | 15            | 0        |  |
|                                                   | 17.5                           | 5        | 18             | 5        | 15            | 0        |  |
|                                                   | 17.5                           | 5        | 18             | 5        | 15            | 0        |  |
|                                                   | 17.5                           | 5        | 18             | 5        | 15            | 0        |  |
|                                                   | 17.5                           | 5        | 18             | 5        | 15.5          | 0        |  |
|                                                   | 17.5                           | 5        | 18             | 5        | 15            | 0        |  |
|                                                   | 17.5                           | 5        | 18             | 5        | 15            | 0        |  |
|                                                   | 17.5                           | 5        | 18             | 5        | 15            | 0        |  |
|                                                   | 17                             | 5        | 18             | 5        | 15            | 0        |  |
|                                                   | 17.5                           | 5        | 18             | 5        | 15            | 0        |  |
|                                                   | 18                             | 5        | 19             | 5        | 15            | 0        |  |
| Average                                           | 17.64286                       | 5        | 17.92857       | 5        | 15.03571      | 0        |  |
| Inlet B                                           | 21                             | 145      | 24.5           | 130      | 21            | 140      |  |
|                                                   | 21                             | 140      | 24.5           | 130      | 22            | 130      |  |
|                                                   | 22                             | 140      | 24             | 140      | 22.5          | 115      |  |
|                                                   | 21                             | 140      | 24             | 140      | 22            | 115      |  |
|                                                   | 21                             | 150      | 25             | 135      | 22.5          | 120      |  |
|                                                   | 21.5                           | 140      | 25             | 130      | 23            | 120      |  |
|                                                   | 21.5                           | 140      | 24             | 130      | 23            | 120      |  |
|                                                   | 21.5                           | 152      | 24.5           | 130      | 23            | 120      |  |
|                                                   | 21.5                           | 152      | 24             | 130      | 23            | 120      |  |
|                                                   | 22.5                           | 135      | 25             | 130      | 24            | 120      |  |
|                                                   | 22                             | 135      | 24             | 135      | 24            | 115      |  |
|                                                   | 22                             | 140      | 25             | 130      | 23.5          | 120      |  |
|                                                   | 22                             | 145      | 25             | 135      | 23            | 125      |  |
| Average                                           | 21.57692                       | 142.8154 | 24.5           | 132.6923 | 22.80769      | 121.5385 |  |
| Inlet A                                           | 24                             | 152      | 28             | 150      | 28            | 120      |  |
|                                                   | 24.5                           | 160      | 28             | 150      | 27            | 115      |  |
|                                                   | 25                             | 140      | 29             | 160      | 28            | 125      |  |
|                                                   | 24                             | 150      | 29             | 150      | 28.5          | 130      |  |
|                                                   | 25                             | 170      | 28.5           | 152      | 29            | 140      |  |
|                                                   | 25                             | 150      | 28             | 155      | 29            | 150      |  |
|                                                   | 24                             | 145      | 28             | 160      | 29            | 150      |  |
|                                                   | 24.5                           | 160      | 28             | 150      | 29            | 150      |  |
|                                                   | 24                             | 160      | 28.5           | 142      | 29            | 145      |  |
|                                                   | 24                             | 160      | 29             | 145      | 29            | 130      |  |
|                                                   | 24                             | 160      | 28             | 150      | 29            | 135      |  |
|                                                   | 24                             | 160      | 29             | 150      | 29            | 145      |  |
|                                                   | 24                             | 160      | 29             | 160      | 29.5          | 140      |  |
|                                                   | 24                             | 155      | 28             | 145      | 29            | 135      |  |
| Average                                           | 24.28571                       | 155.8571 | 28.42857       | 151.3571 | 28.57143      | 136.4286 |  |

Inlet  
 May + CO  
 Pg 1 - 3

20 July 1958

2000

23.7.1972

25

23 July

21

卷之六

50

CP - Mike A, B, C, D  
CP - 67-11-14-10



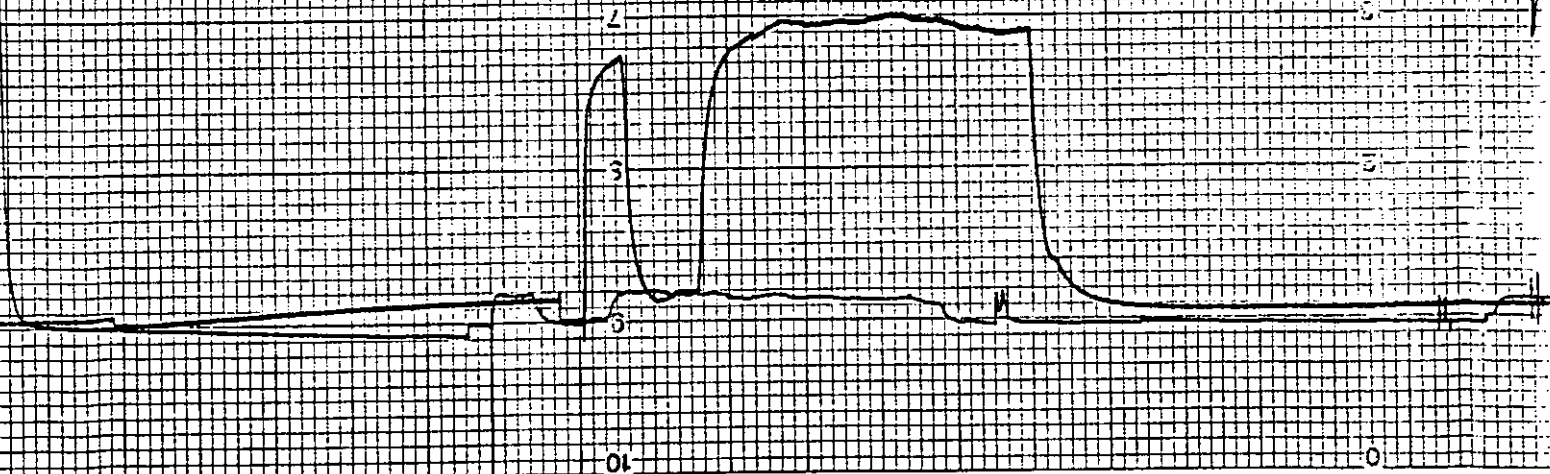
Inlet  
 Nox + CO  
 Pg 2

9:58

In Stack

Out 10:11

In Stack 10:11



Inlet  
 $\text{NO}_x + \text{CO}$   
 0.3  
 0.6

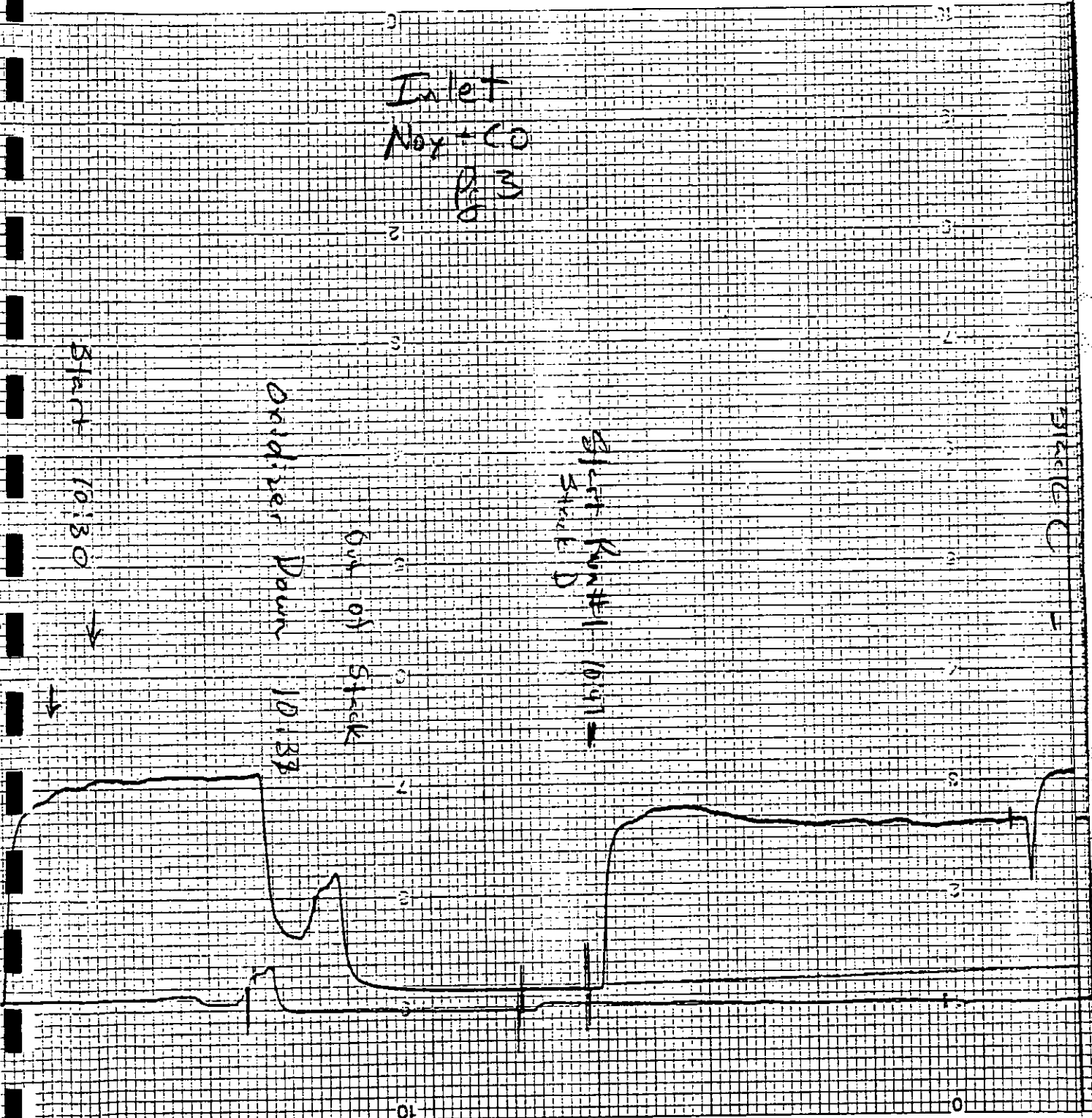
Stack C

Object Run #1 10:41  
 Stack D

Out of Stack

Oxidizer Down 10:38

Start 10:30



Inlet  
Abx + CO  
P<sub>5</sub> 4

Start 10-1

11:32

Shut off 1

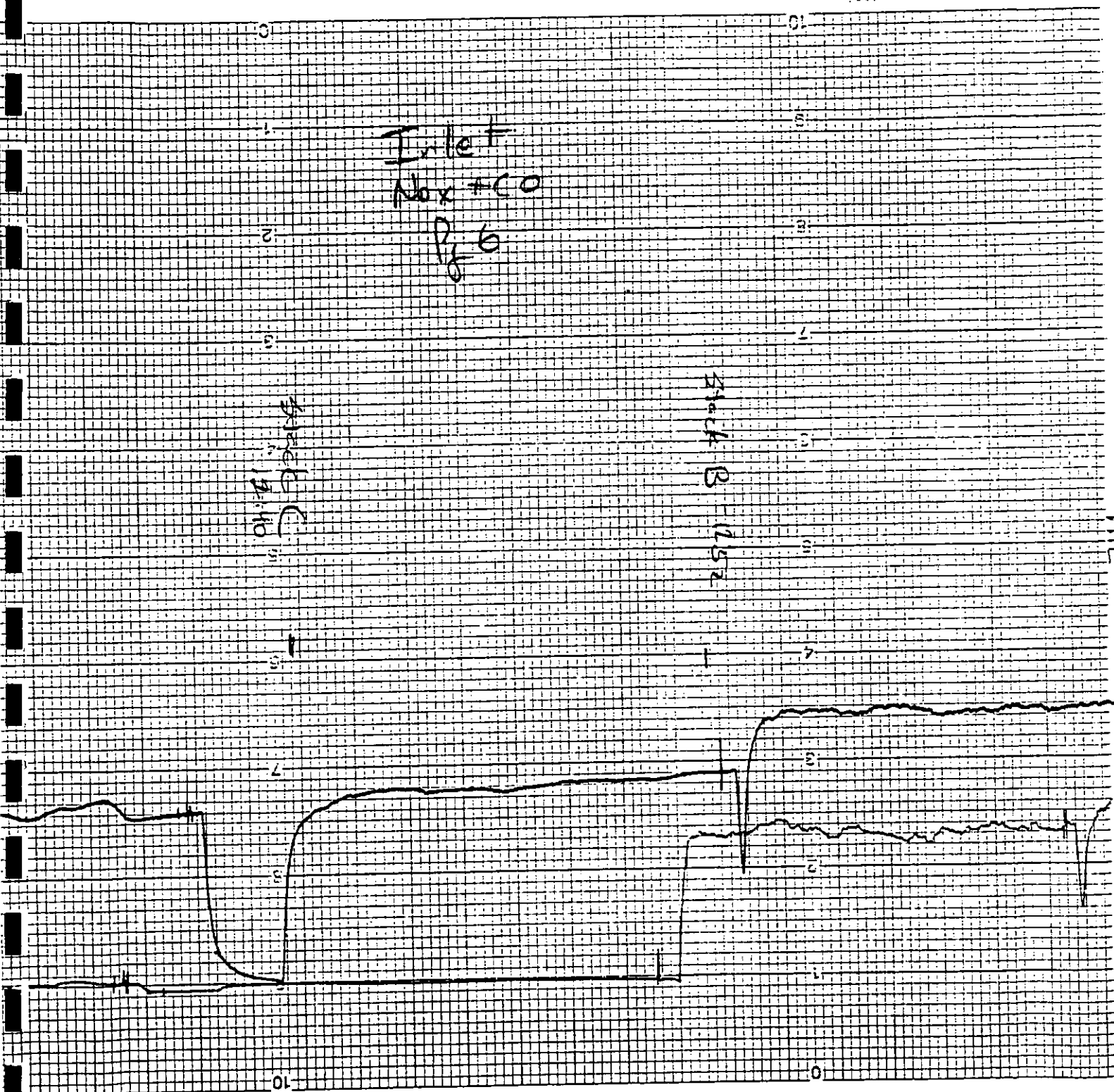
Abx 2443

027

Inlet  
 Not + Co  
 15 5

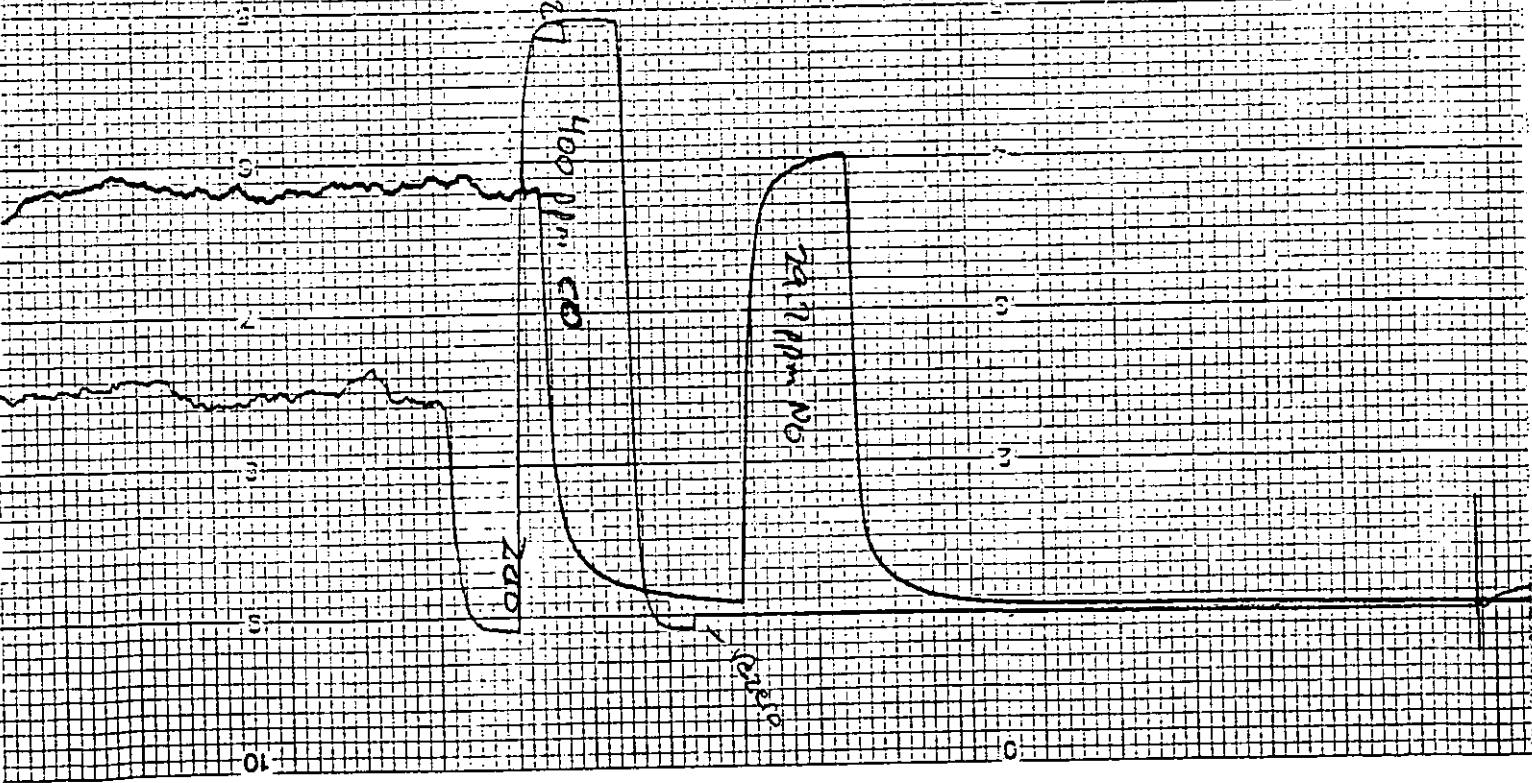
STICK  
 R33  
 2





Inlet  
 Nov + Co  
 R 7

Stop Rate



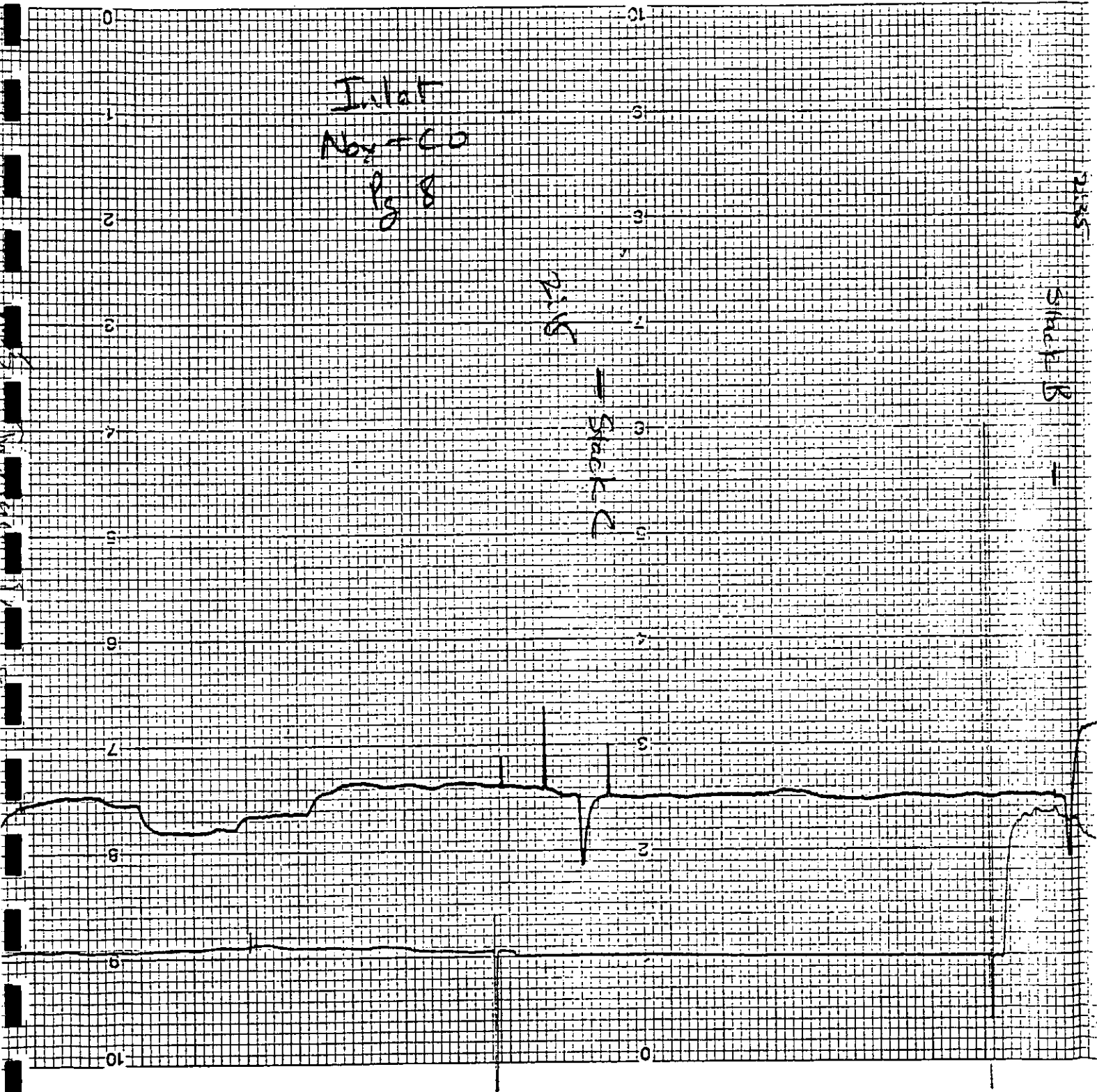
Inlet  
Aby + CO  
Pg 8

21.5

Stack C

Stack B

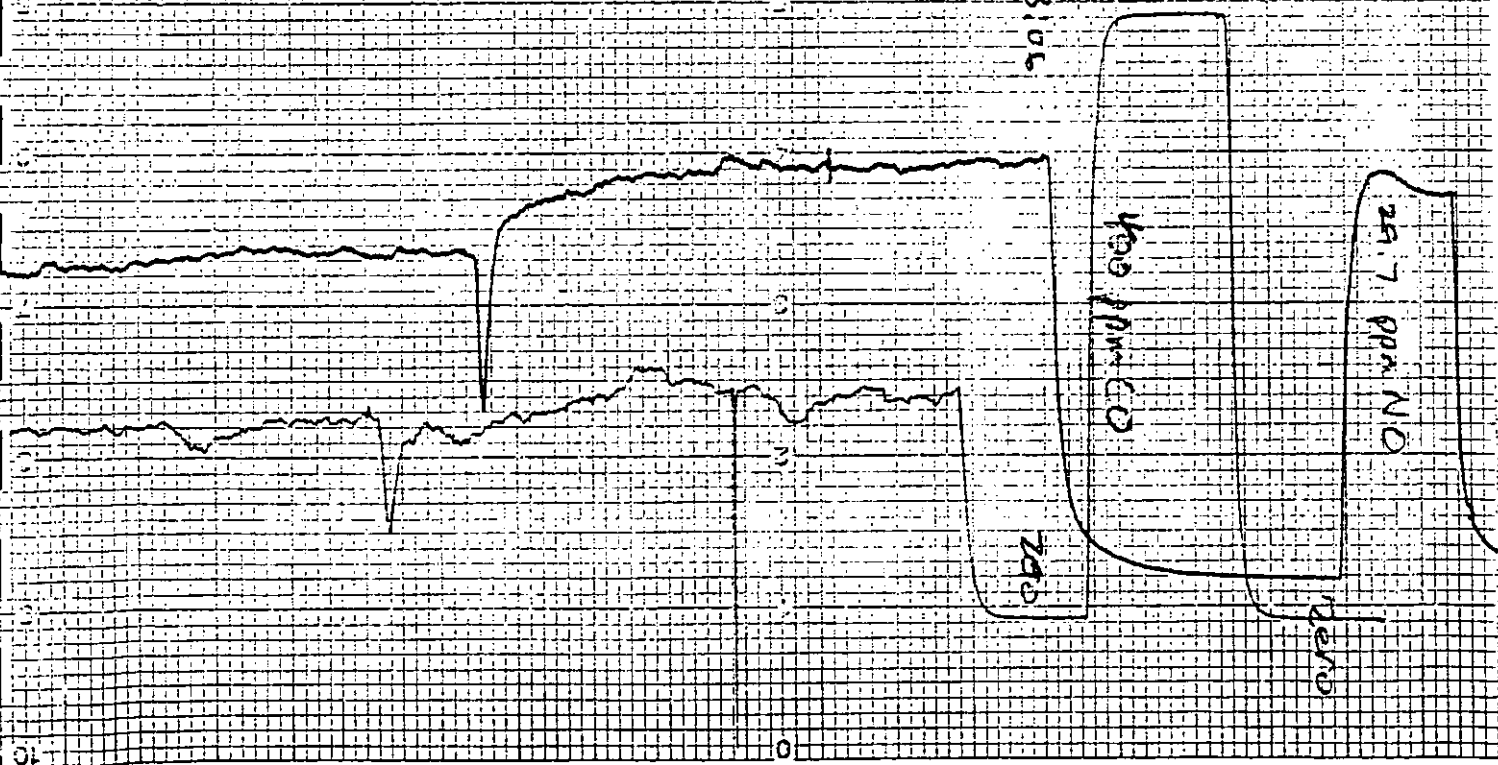
21.5



Inlet  
NOx + CO  
Pg 9

2.50  
Shack A

Stop Run #3 8:06



| Summary of NOx and CO Continuous Chart Recordings |                                |       |          |                |         |          |               |          |    |
|---------------------------------------------------|--------------------------------|-------|----------|----------------|---------|----------|---------------|----------|----|
| Plant:                                            | Louisiana Pacific, Clayton, AL |       |          |                |         |          |               |          |    |
| Date:                                             | 6/6/95                         |       |          |                |         |          |               |          |    |
| Location:                                         | RTO #1 Exhaust                 |       |          |                |         |          |               |          |    |
| Run #                                             | 1                              |       |          | 2              |         |          | 3             |          |    |
|                                                   | Start: 10:47am                 |       |          | Start: 12:20pm |         |          | Start 2:00 pm |          |    |
|                                                   | Stop: 11:48am                  |       |          | Stop: 1:27pm   |         |          | Stop 3:03pm   |          |    |
|                                                   | NOx                            |       | CO       | NOx            |         | CO       | NOx           |          | CO |
|                                                   | 8.5                            | 0     |          | 8              | 0.2     |          | 7             | 0.5      |    |
|                                                   | 8                              | 1     |          | 8              | 3       |          | 7             | 4        |    |
|                                                   | 8                              | 0.5   |          | 9              | 0.2     |          | 7.5           | 1        |    |
|                                                   | 8                              | 0     |          | 8.5            | 2.5     |          | 6.5           | 0.5      |    |
|                                                   | 8                              | 20    |          | 8              | 1.5     |          | 6             | 5        |    |
|                                                   | 8                              | 0.3   |          | 8              | 0       |          | 7             | 0.5      |    |
|                                                   | 8                              | 1.5   |          | 8              | 1.2     |          | 7             | 1.5      |    |
|                                                   | 8.5                            | 0.5   |          | 8              | 0.2     |          | 8             | 1        |    |
|                                                   | 9                              | 0     |          | 8              | 0       |          | 8             | 0.5      |    |
|                                                   | 9                              | 1     |          | 8              | 0       |          | 8             | 3.5      |    |
|                                                   | 9                              | 0     |          | 8.5            | 1       |          | 8             | 1        |    |
|                                                   | 9.5                            | 0     |          | 9              | 1.5     |          | 8             | 3        |    |
|                                                   | 9.5                            | 1.5   |          | 8.5            | 1.5     |          | 8             | 2        |    |
|                                                   | 9.5                            | 0.5   |          | 8.5            | 1       |          | 8             | 0.5      |    |
|                                                   | 9                              | 0.5   |          | 8.5            | 2       |          | 8             | 3        |    |
|                                                   | 9                              | 0.5   |          | 8.5            | 1       |          | 8             | 1        |    |
|                                                   | 9                              | 0     |          | 8.5            | 3       |          | 8             | 0.5      |    |
|                                                   | 9                              | 0.5   |          | 9              | 2       |          | 8             | 4        |    |
|                                                   | 9                              | 0     |          | 8.5            | 1       |          | 8             | 0.5      |    |
|                                                   | 9                              | 1.5   |          | 9              | 3.5     |          | 8             | 3.5      |    |
|                                                   | 8                              | 0.5   |          | 9              | 1       |          | 8             | 1.2      |    |
|                                                   | 7.5                            | 0     |          | 8              | 1       |          | 8             | 0.5      |    |
|                                                   | 7                              | 1     |          | 8.5            | 4.5     |          | 8             | 4        |    |
|                                                   | 6.5                            | 0     |          | 8.5            | 1       |          | 8             | 0.5      |    |
|                                                   | 7                              | 0     |          | 8.5            | 3       |          | 8             | 0.5      |    |
|                                                   | 7                              | 1.5   |          | 9              | 1       |          | 8             | 5        |    |
|                                                   | 7                              | 0     |          | 8              | 1       |          | 8             | 0.5      |    |
|                                                   |                                | 1.5   |          | 8              | 3       |          | 8             | 1        |    |
|                                                   |                                |       |          | 8              | 1.5     |          | 8             | 2        |    |
| Average                                           | 8.314815                       | 1.225 |          | 8              | 1       |          | 8             | 0.5      |    |
| Response                                          | 2                              | 10    |          | 8              | 4       |          | 8             | 4        |    |
| NOx, ppm                                          | 16.62963                       | 12.25 |          | 8              | 1.5     |          | 8             | 0.5      |    |
|                                                   |                                |       |          |                |         |          | 8             | 0.5      |    |
|                                                   |                                |       | Average  | 8.359375       | 1.55625 |          | 8             | 0.5      |    |
|                                                   |                                |       | Response | 2              | 5       |          |               |          |    |
|                                                   |                                |       | NOx, ppm | 16.71875       | 7.78125 | Average  | 7.764706      | 1.678125 |    |
|                                                   |                                |       |          |                |         | Response | 2             | 5        |    |
|                                                   |                                |       |          |                |         | NOx, ppm | 15.52941      | 8.390625 |    |

| Summary of VOC Continuous Strip Chart Recording |                               |                      |                    |
|-------------------------------------------------|-------------------------------|----------------------|--------------------|
| Plant:                                          | Lousiana Pacific, Clayton, AL |                      |                    |
| Date:                                           | 5/7/95                        |                      |                    |
| Location:                                       | RTO #1 Exhaust                |                      |                    |
| Run#                                            | 1                             | 2                    | 3                  |
|                                                 | Start Time: 8:38am            | Start Time: 10:12 am | Start Time: 11:47  |
|                                                 | Stop Time: 9:38am             | Stop Time: 11:15 am  | Stop Time: 12:48pm |
|                                                 | 19                            | 10                   | 12                 |
|                                                 | 23.5                          | 7                    | 20                 |
|                                                 | 12                            | 20                   | 9                  |
|                                                 | 18.5                          | 11                   | 18                 |
|                                                 | 12                            | 21                   | 10                 |
|                                                 | 14                            | 9                    | 17                 |
|                                                 | 11                            | 18.5                 | 9                  |
|                                                 | 24                            | 11                   | 16                 |
|                                                 | 13                            | 19                   | 7                  |
|                                                 | 21                            | 11                   | 18                 |
|                                                 | 10                            | 18                   | 9                  |
|                                                 | 18.5                          | 10                   | 18                 |
|                                                 | 13                            | 18.5                 | 7                  |
|                                                 | 18                            | 10                   | 18                 |
|                                                 | 10                            | 13.5                 | 8                  |
|                                                 | 16                            | 10                   | 17                 |
|                                                 | 8                             | 21.5                 | 8                  |
|                                                 | 15.5                          | 12                   | 16.5               |
|                                                 | 8.5                           | 21                   | 8                  |
|                                                 | 12.5                          | 9                    | 15                 |
|                                                 | 8                             | 20                   | 8                  |
|                                                 | 21                            | 11                   | 14.5               |
|                                                 | 10                            | 17.5                 | 8                  |
|                                                 | 18                            | 10                   | 21                 |
|                                                 | 7.5                           | 18                   | 11                 |
|                                                 | 17.5                          | 8                    | 22                 |
|                                                 | 8.5                           | 18                   | 10.5               |
|                                                 | 15                            | 17                   | 22                 |
|                                                 | 7.5                           | 11                   | 14                 |
|                                                 | 13.5                          | 9                    | 21                 |
|                                                 | 6                             | 21                   | 14                 |
|                                                 | 14                            | 11                   | 20                 |
|                                                 | 8                             | 21                   | 11                 |
|                                                 | 12.5                          | 9                    | 18.5               |
|                                                 | 8                             | 19.5                 | 10                 |
|                                                 | 21                            | 10                   | 22                 |
|                                                 | 10                            | 17                   | 9                  |
|                                                 | 18                            | 9                    | 19                 |
|                                                 | 9                             | 15                   | 10                 |
|                                                 | 25                            | 9                    | 16                 |
|                                                 | 13                            | 16.5                 | 9                  |
|                                                 | 19                            | 10                   | 14                 |
|                                                 | 10                            | 12.5                 | 7                  |
|                                                 | 18                            | 10.5                 | 16.5               |
|                                                 | 9                             | 22.5                 | 9                  |
|                                                 | 18                            | 12                   | 13                 |
|                                                 | 9                             | 21                   | 9                  |
|                                                 | 13                            | 9                    | 22                 |
|                                                 | 9                             | 18.5                 | 8                  |
|                                                 | 22                            | 9                    | 19                 |
|                                                 | 11                            | 18.5                 | 8                  |
|                                                 | 20                            | 9                    | 17.5               |
|                                                 | 8                             | 15                   | 11                 |
|                                                 | 18                            | 9                    | 17                 |
|                                                 | 9                             | 16                   | 8                  |
|                                                 | 18                            | 9                    | 15                 |
|                                                 | 10                            | 20                   | 8                  |
|                                                 | 18                            | 8                    | 18                 |
|                                                 | 8                             | 18                   | 9                  |
|                                                 | 25                            | 8                    | 21                 |
|                                                 | 9                             | 18                   | 8                  |
|                                                 | 21.5                          | 11                   | 19                 |
|                                                 | 11                            | 17                   | 8                  |
|                                                 | 20                            | 10                   | 18                 |
|                                                 | 8                             | 16                   | 9                  |
|                                                 | 19                            | 10                   | 17                 |
|                                                 | 9                             | 17                   | 8.5                |
|                                                 | 15                            | 11                   | 15                 |
|                                                 | 7.5                           | 12.5                 | 7                  |
|                                                 | 16                            | 10                   | 16.5               |
|                                                 | 9                             | 23                   | 9                  |
|                                                 | 13.5                          | 9                    | 20                 |
|                                                 | 9.5                           | 20                   | 7                  |
|                                                 | 20                            | 9                    | 18                 |
|                                                 | 13                            | 16.5                 | 8                  |
|                                                 | 22.5                          | 10                   | 18                 |
|                                                 | 9                             | 15.5                 | 10                 |
|                                                 | 18.5                          | 10                   | 16.5               |
|                                                 | 10                            | 12                   | 9                  |
|                                                 | 18                            | 9                    | 15                 |
|                                                 | 9                             | 14                   | 7                  |
|                                                 | 14                            | 8                    | 16.5               |
|                                                 | 8                             | 15                   | 8                  |
|                                                 | 14                            | 9                    | 21                 |
|                                                 | 10                            | 21.5                 | 7                  |
|                                                 | 11.5                          | 8                    | 18.5               |
|                                                 | 9                             | 18.5                 | 7                  |
|                                                 | 21                            | 9                    | 16.5               |
|                                                 | 11                            | 18                   | 8                  |
|                                                 | 17                            | 11                   | 15                 |
|                                                 | 8                             | 18                   | 9                  |
|                                                 | 20                            | 11                   | 15                 |
|                                                 | 10                            | 19                   | 8                  |
|                                                 | 18                            | 9                    | 18                 |

|         |         |         |         |
|---------|---------|---------|---------|
|         | 11      | 19      | 8       |
|         | 14      | 8       | 21      |
|         | 8       | 22      | 8       |
|         | 14      | 10      | 18.5    |
|         | 8       | 20      | 10      |
|         | 23      | 11      | 18.5    |
|         | 11.5    | 17      | 11      |
|         | 8       | 9       | 15      |
|         | 17.5    | 14      | 8       |
|         | 9       | 8       | 16      |
|         | 16.5    | 16      | 9       |
|         | 8       | 9       | 21      |
|         | 11      | 21      | 8       |
|         | 6       | 9       | 19      |
|         | 16      | 21      | 8       |
|         | 10      | 8       | 17      |
|         | 20      | 20      | 9       |
|         | 11      | 6       | 14      |
|         | 16.5    | 22      | 9       |
|         | 8       | 11      | 13      |
|         | 16.5    | 17      | 8       |
|         | 9       | 10      | 14      |
|         | 15      | 15      | 8       |
|         | 9       | 8       | 20      |
|         | 13      | 16      | 7.5     |
|         | 7       | 9       | 18      |
|         | 14.5    | 21      | 8       |
|         | 9       | 9       | 17      |
|         | 11      | 19      | 10      |
|         | 8       | 9       | 16.5    |
|         | 18      | 18      | 9       |
|         | 10.5    | 11      | 14      |
|         | 17.5    | 17      | 8       |
|         | 8       | 9       | 16.5    |
|         | 16.5    | 15      | 8       |
|         | 9       | 8       | 18      |
|         | 15.5    | 15.5    | 8       |
|         | 8       | 9       | 18      |
|         | 14      | 21      | 8       |
|         | 7       | 8       | 17      |
|         | 15      | 18      | 9       |
|         | 10      | 10      | 15      |
|         | 19.5    | 16      | 8       |
|         | 11      | 9       |         |
|         | 16.5    | 15.5    |         |
|         | 8       | 9       |         |
|         | 16.5    | 16      |         |
|         | 9       | 9       |         |
|         | 15.5    | 22.5    |         |
|         | 9       | 9       |         |
|         | 13.5    | 20      |         |
|         | 8       | 9       |         |
|         | 14.5    | 19      |         |
|         | 10      | 10      |         |
|         | 15.5    | 17      |         |
|         | 9       | 9       |         |
|         | 21      | 14.5    |         |
|         | 12      | 8.5     |         |
|         | 18      | 18      |         |
|         | 8       | 9       |         |
|         | 17      |         |         |
|         | 6       |         |         |
| Average | 13.2051 | 13.5909 | 13.0038 |

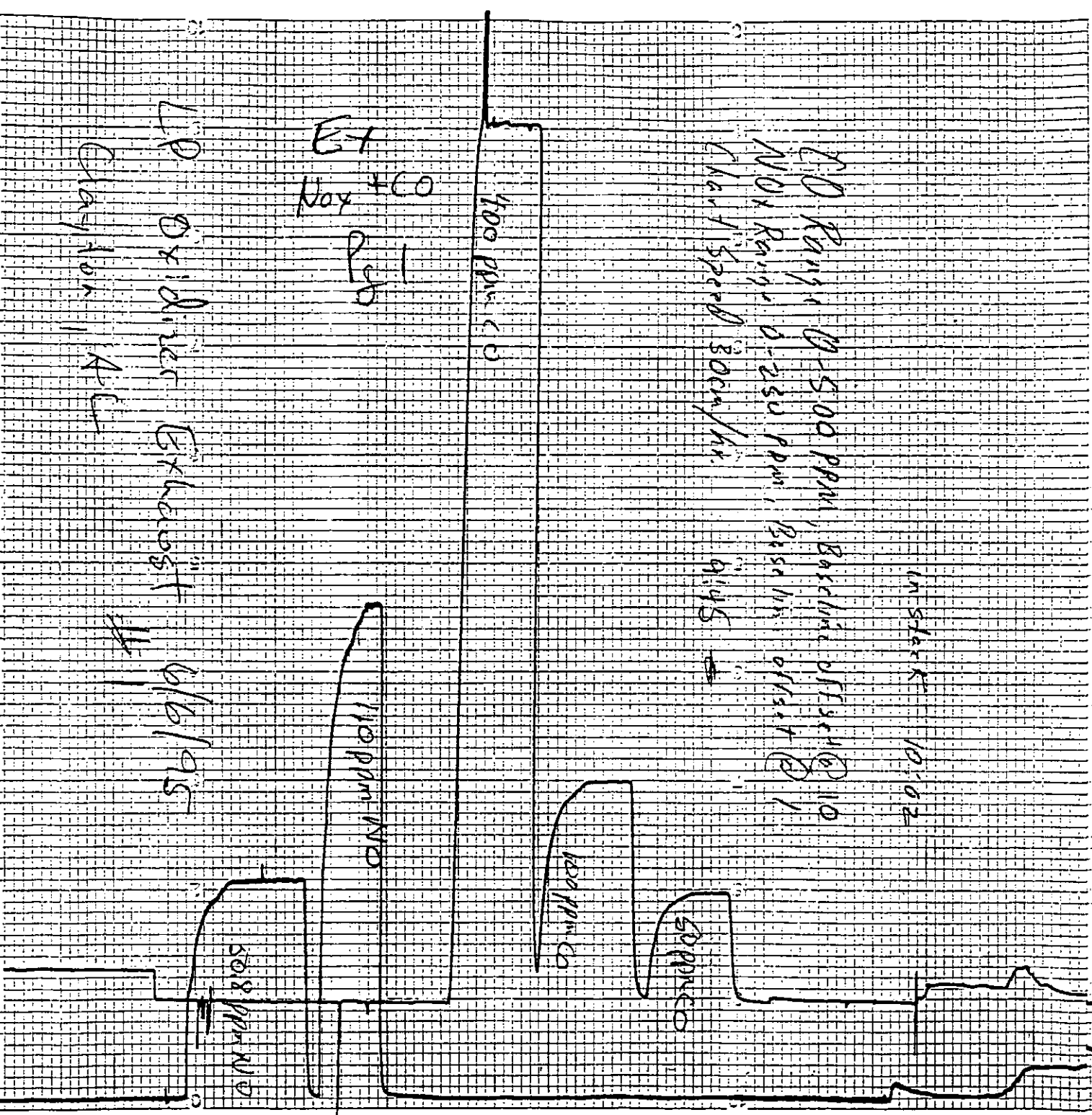
in start 10-02

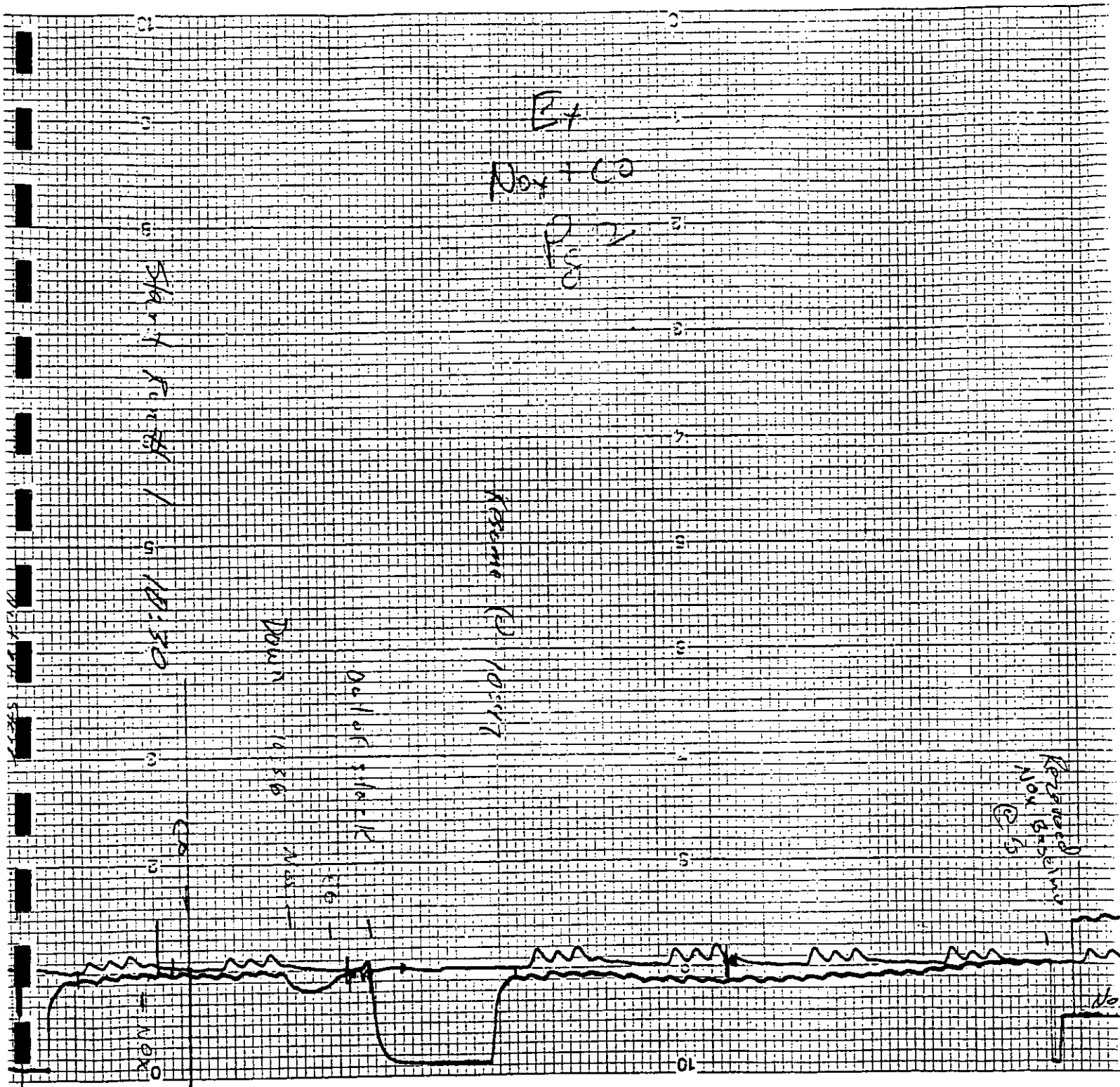
CO Range 0-500 PPM, Bar chart offset @ 10  
 NOx Range 0-250 PPM, Bar chart offset @ 1  
 Chart Speed 30cm/hr. 9/15

ET  
 Nox + CO  
 P 30

LP Oxidizer Exhaust 4/6/95

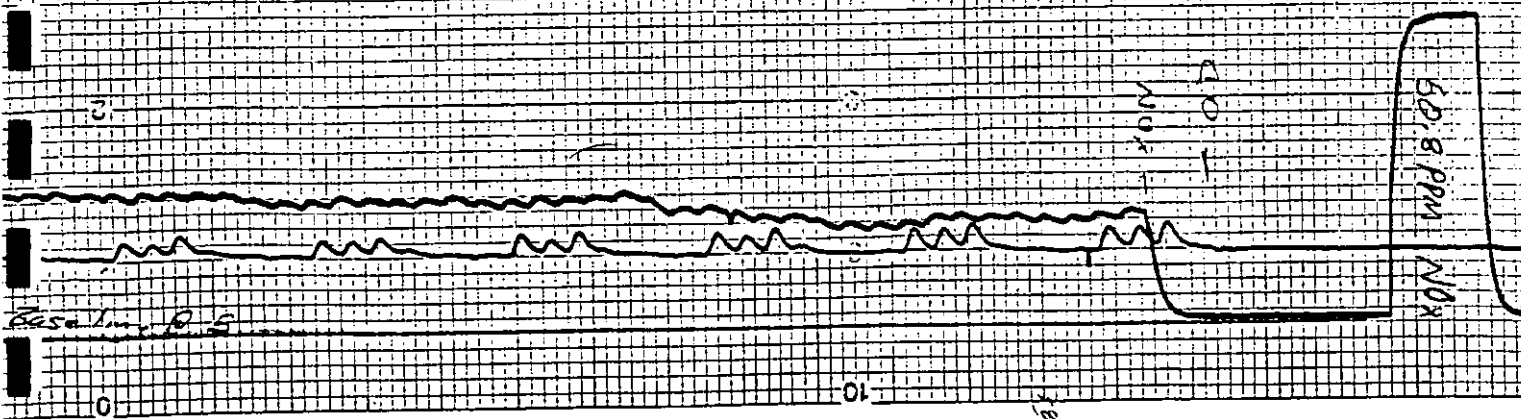
Chrysler AC

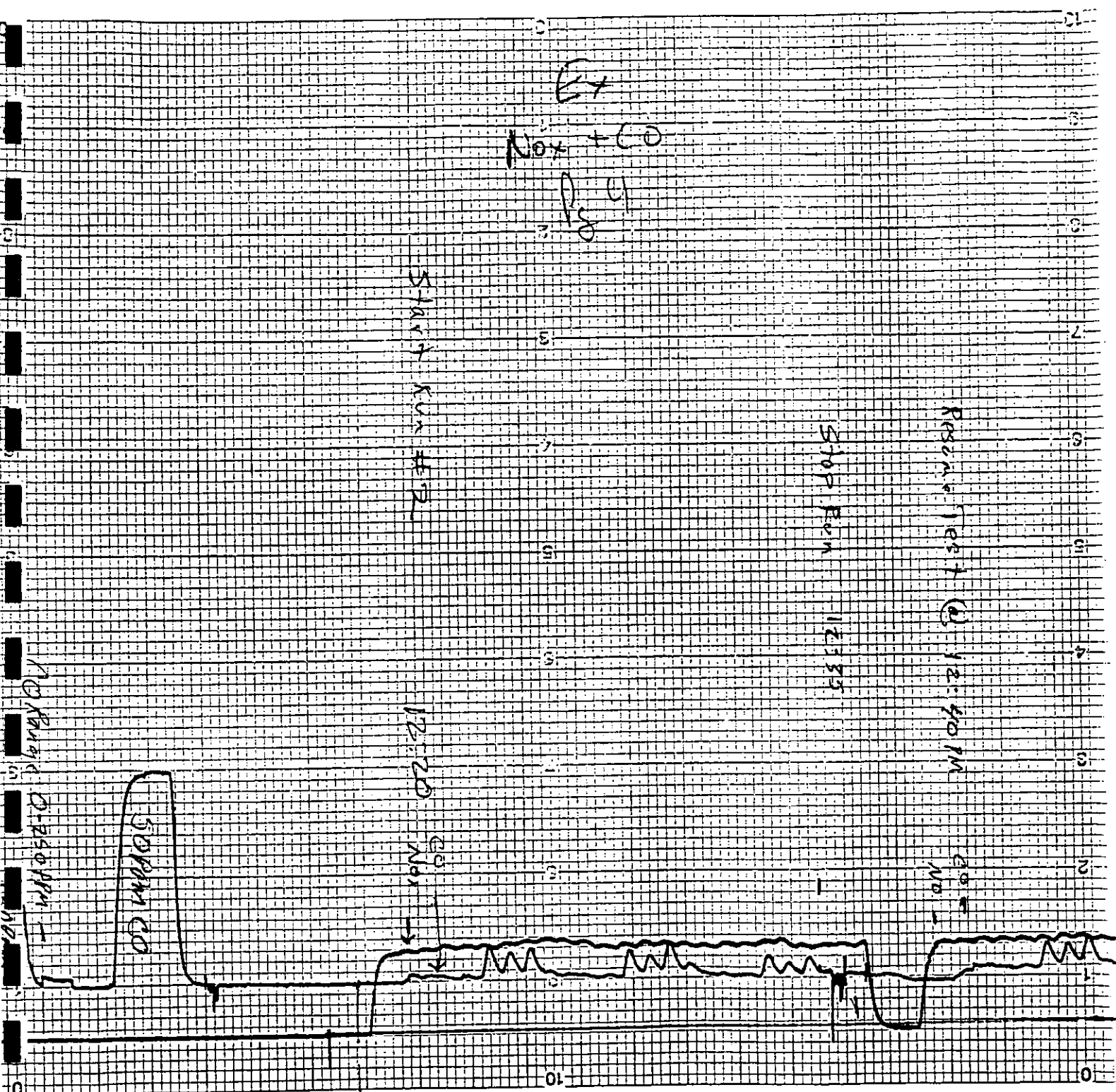




Ex  
Abx - CO  
R 3

End Run #1 16.42



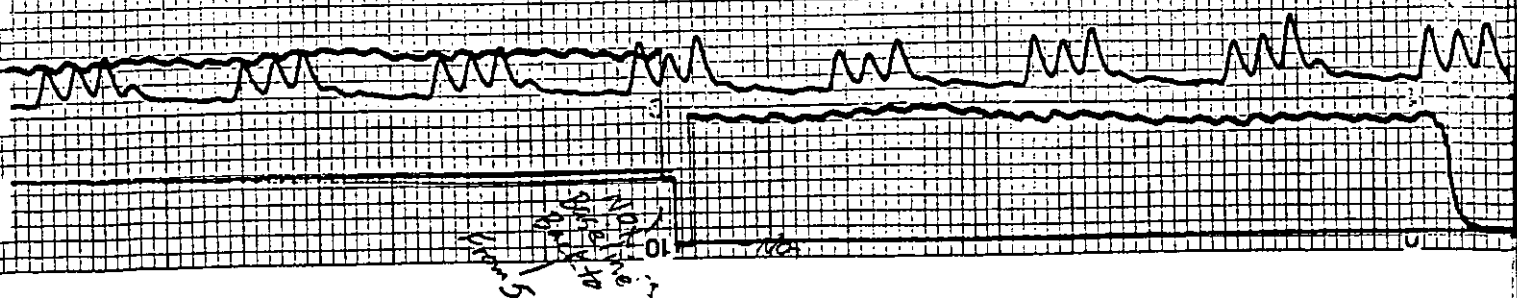


EX  
NO<sub>2</sub> + CO  
P. 5

End R. # 2

1527

CO<sub>2</sub>  
NO<sub>2</sub>



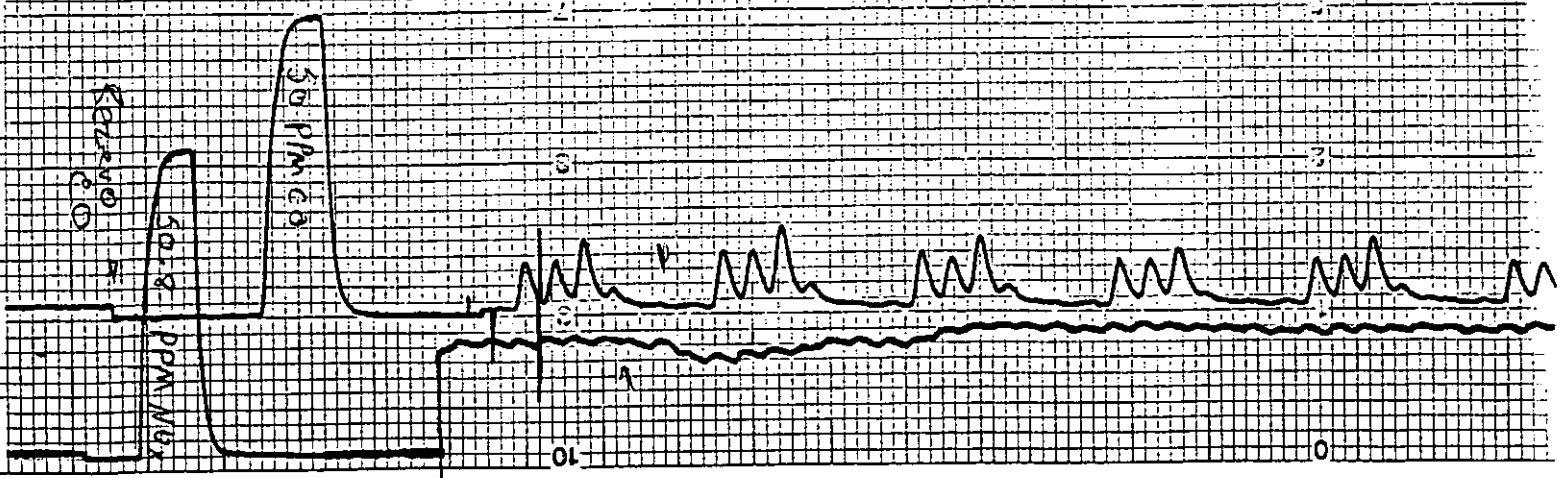
EX

NOx + CO

Pg 6

Start + Run # 5

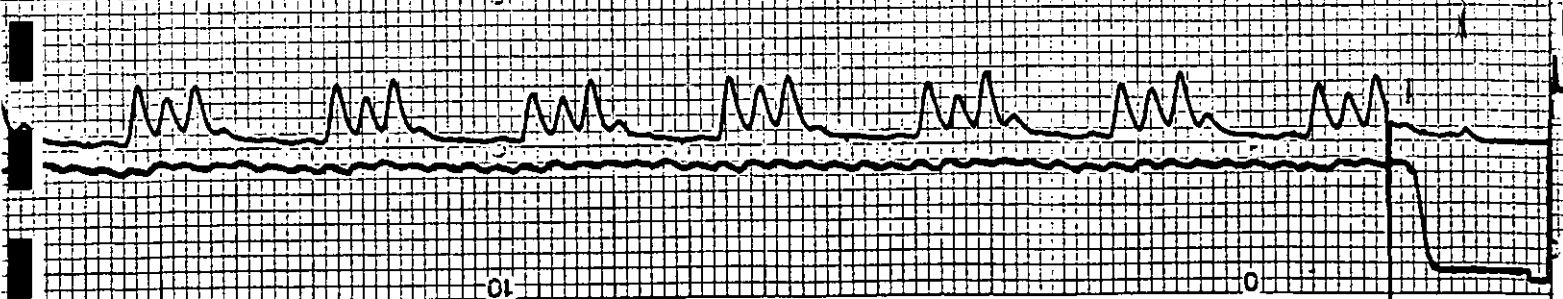
2:00



Ex  
Nox + CO  
P<sub>g</sub> 7

End Run # 3

3:03



Ex  
Nox + CO  
Pg 8

2511 RPM Nox

100 PPM CO

410 PPM NOx

50 PPM CO



E+  
JOC  
Pg 2

End Run # 1  
4.338

29.99 63.118

Er  
vac  
P. 3  
8

Start Run # 2  
10:10

In Start 0:10

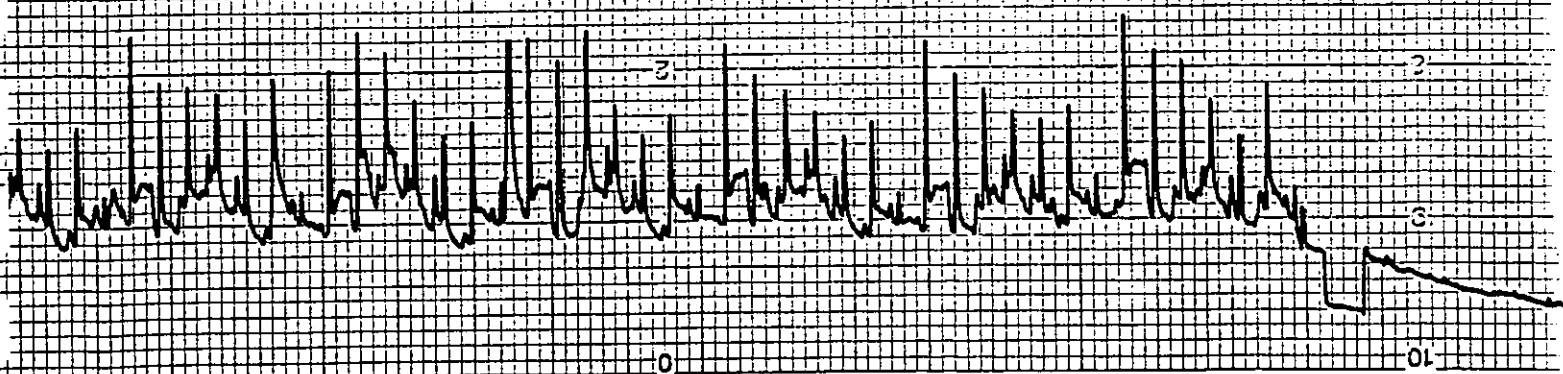
29.98 ppm (348)  
Ambient  
N<sub>2</sub>



Ex 100  
P 8 4

Case # 2

11/15



Ex DOC  
P 5

Restant Run #3

11:47

Start Run #5

stop

11:42

11:41

11:39

11:39

11:38 PM CST HS

Ambien

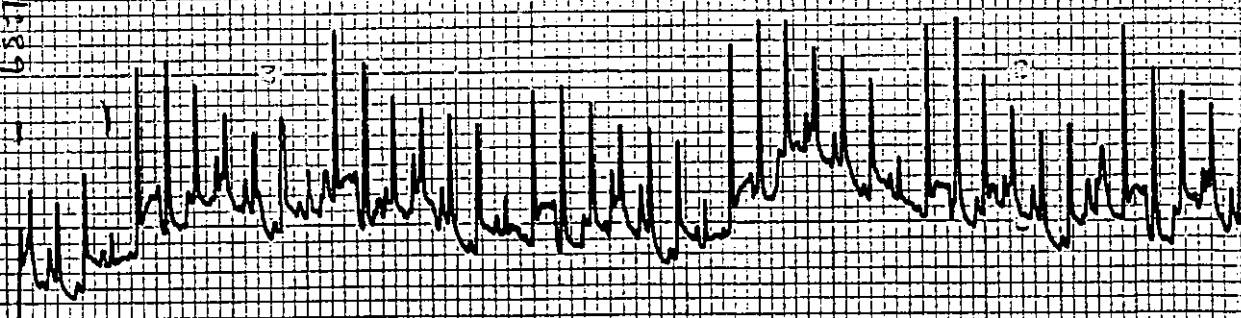
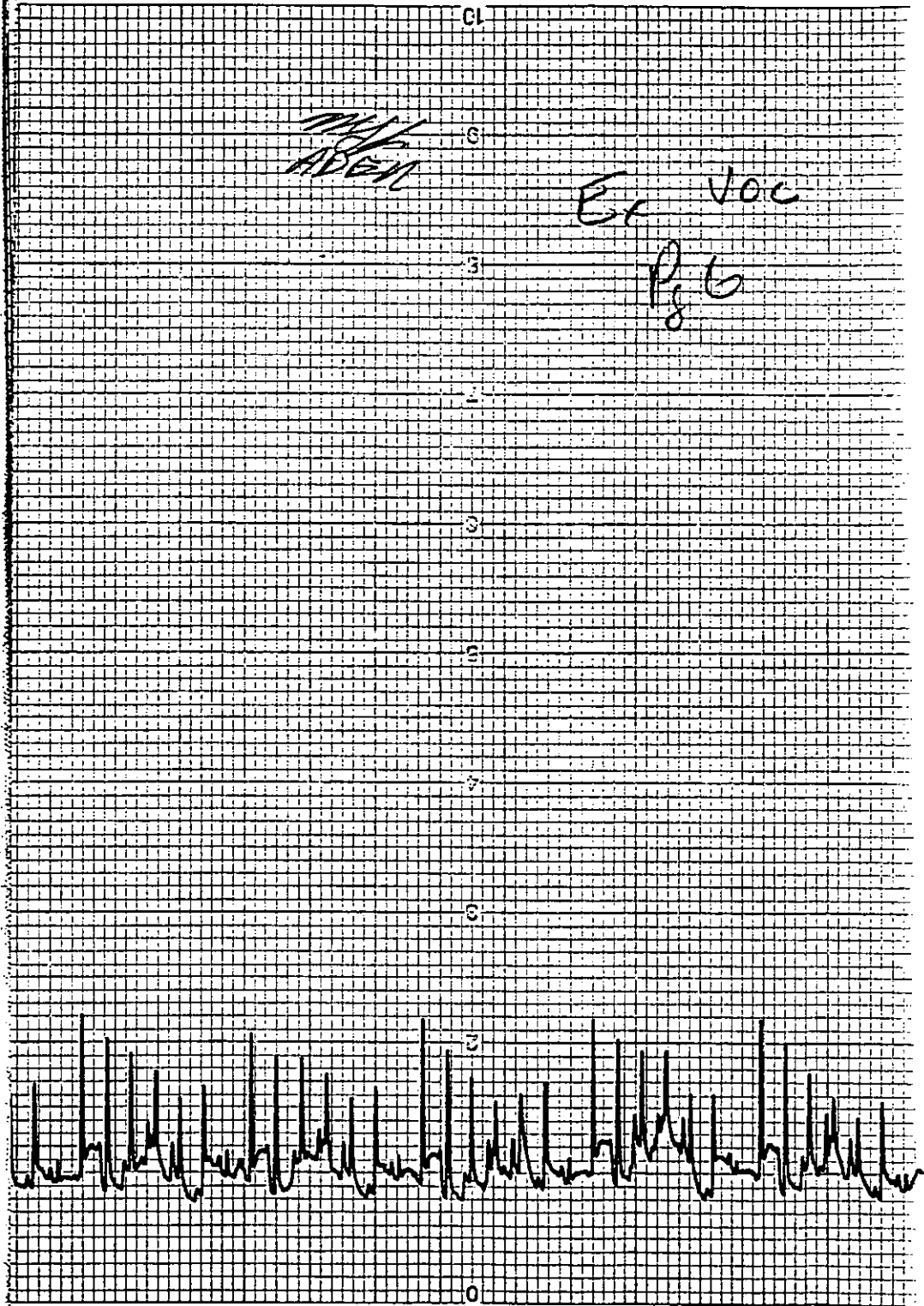


CHART NO.



A1092

END

Run 3

12:48

91 PPM C3H8

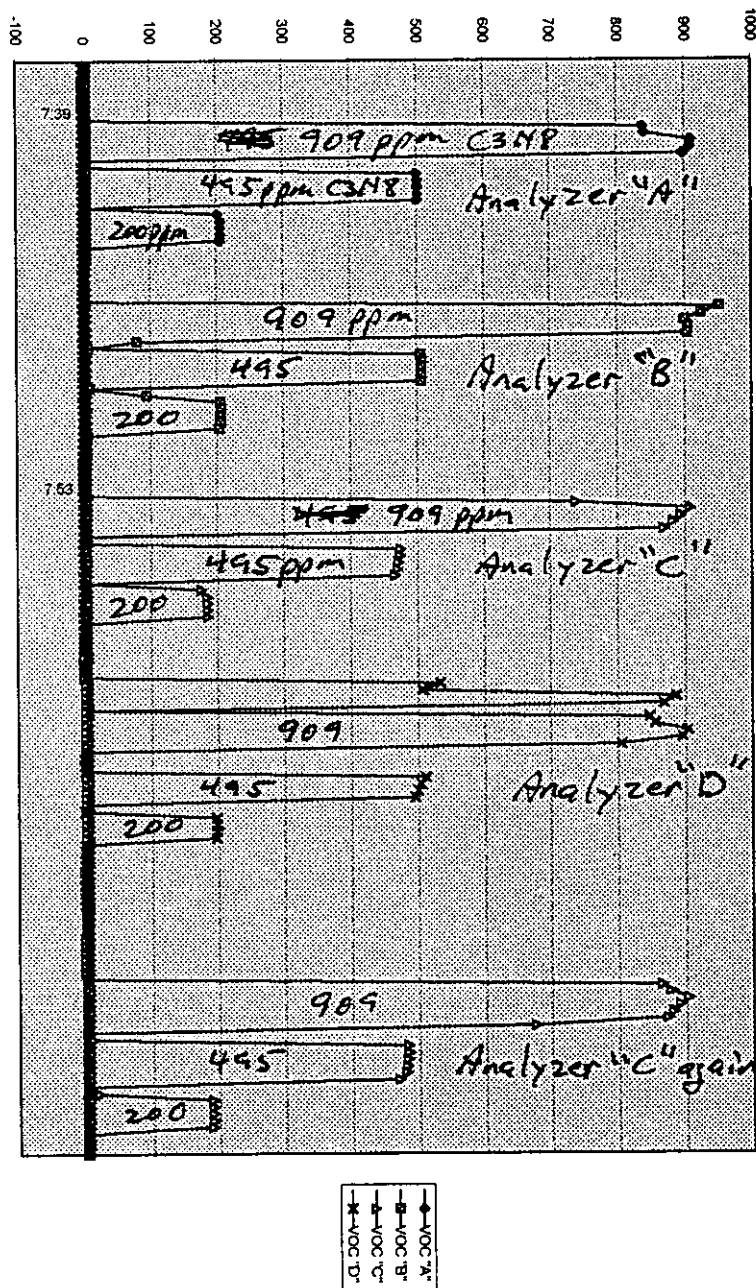
Ex VOC Pg 7

29.98 PPM C3H8

N2

4.95  
2.88

VOC Calibrations



CAL

FILE NAM a:cal

LOGGING 1

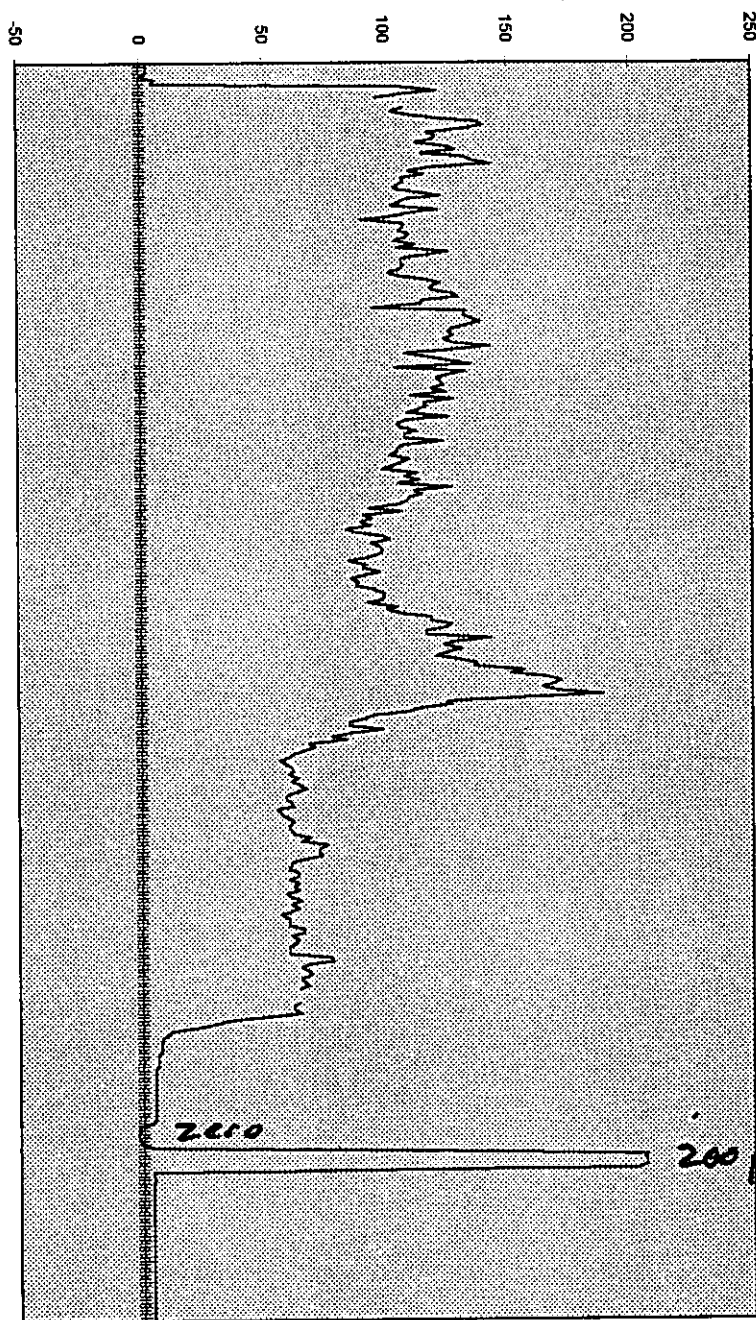
START LOGGING @ #####  
LAST SAMPLE @ #####

| ACTIVE C<br>MODULE<br>SAMPLE<br>UNITS: | 1A<br>Voltage<br>15 sec<br>Volts | VOC "A" | 1B<br>Voltage<br>15 sec<br>Volts | VOC "B" | 2A<br>Voltage<br>15 sec<br>Volts | VOC "C" | 2B<br>Voltage<br>15 sec<br>Volts | VOC "D" |
|----------------------------------------|----------------------------------|---------|----------------------------------|---------|----------------------------------|---------|----------------------------------|---------|
| 1                                      | 0.0                              | 3.0     | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 2                                      | 0.0                              | 3.0     | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 3                                      | 0.0                              | -1.0    | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 4                                      | 0.0                              | -1.0    | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 5                                      | 0.0                              | -1.0    | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 6                                      | 0.0                              | -2.0    | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 7                                      | 0.0                              | -2.0    | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 8                                      | 0.0                              | 3.0     | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 9                                      | 0.0                              | 3.0     | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -2.0    |
| 7:39 10                                | 8.4                              | 839.0   | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 11                                     | 8.4                              | 841.0   | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 12                                     | 9.1                              | 910.0   | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -2.0    |
| 13                                     | 9.1                              | 909.0   | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -2.0    |
| 14                                     | 9.0                              | 898.0   | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 15                                     | 0.1                              | 6.0     | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 16                                     | 0.0                              | 4.0     | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -2.0    |
| 17                                     | 5.0                              | 499.0   | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -2.0    |
| 18                                     | 5.0                              | 501.0   | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 19                                     | 5.0                              | 501.0   | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 20                                     | 5.0                              | 501.0   | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 21                                     | 5.0                              | 500.0   | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -2.0    |
| 22                                     | 0.1                              | 3.0     | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 23                                     | 2.0                              | 202.0   | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 24                                     | 2.1                              | 208.0   | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -2.0    |
| 25                                     | 2.1                              | 208.0   | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 26                                     | 2.1                              | 208.0   | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -2.0    |
| 27                                     | 2.1                              | 205.0   | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -2.0    |
| 28                                     | 0.0                              | 4.0     | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 29                                     | 0.0                              | 4.0     | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 30                                     | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 31                                     | 0.0                              | 3.0     | 0.0                              | 1.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 32                                     | 0.0                              | 3.0     | 0.0                              | 0.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 33                                     | 0.0                              | 3.0     | 0.0                              | 0.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 34                                     | 0.0                              | 3.0     | 0.0                              | 1.0     | 0.0                              | 2.0     | 0.0                              | -2.0    |
| 35                                     | 0.0                              | 3.0     | 0.0                              | 0.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 36                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 0.0                              | 2.0     | 0.0                              | -2.0    |
| 7:45 37                                | 0.0                              | 3.0     | 9.5                              | 961.0   | 0.0                              | 2.0     | 0.0                              | -2.0    |
| 38                                     | 0.0                              | 3.0     | 9.2                              | 924.0   | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 39                                     | 0.0                              | 4.0     | 9.0                              | 899.0   | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 40                                     | 0.0                              | 4.0     | 9.0                              | 904.0   | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 41                                     | 0.0                              | 4.0     | 9.0                              | 903.0   | 0.0                              | 2.0     | 0.0                              | -2.0    |
| 42                                     | 0.0                              | 4.0     | 0.8                              | 79.0    | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 43                                     | 0.0                              | 4.0     | 0.1                              | 6.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 44                                     | 0.0                              | 4.0     | 5.0                              | 504.0   | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 45                                     | 0.0                              | 4.0     | 5.1                              | 506.0   | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 46                                     | 0.0                              | 4.0     | 5.1                              | 506.0   | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 47                                     | 0.0                              | 4.0     | 5.1                              | 506.0   | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 48                                     | 0.0                              | 4.0     | 5.1                              | 505.0   | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 49                                     | 0.0                              | 4.0     | 0.1                              | 8.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 50                                     | 0.0                              | 4.0     | 0.9                              | 93.0    | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 51                                     | 0.0                              | 4.0     | 2.1                              | 205.0   | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 52                                     | 0.1                              | 6.0     | 2.1                              | 209.0   | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 53                                     | 0.0                              | 4.0     | 2.1                              | 205.0   | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 54                                     | 0.0                              | 4.0     | 2.1                              | 205.0   | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 55                                     | 0.0                              | 4.0     | 2.0                              | 203.0   | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 56                                     | 0.0                              | 4.0     | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | -1.0    |
| 57                                     | 0.0                              | 4.0     | 0.0                              | 3.0     | 0.0                              | 2.0     | 0.0                              | -2.0    |
| 58                                     | 0.0                              | 4.0     | 0.0                              | 3.0     | 0.0                              | 2.0     | 0.0                              | -2.0    |
| 59                                     | 0.0                              | 4.0     | 0.0                              | 2.0     | 0.0                              | 1.0     | 0.0                              | -2.0    |
| 60                                     | 0.0                              | 4.0     | 0.0                              | 3.0     | 0.0                              | -1.0    | 0.0                              | -2.0    |
| 61                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 0.0                              | -1.0    | 0.0                              | -1.0    |
| 62                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 0.0                              | -1.0    | 0.0                              | -1.0    |
| 63                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 0.0                              | -1.0    | 0.0                              | -1.0    |
| 64                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 0.0                              | 1.0     | 0.0                              | -1.0    |
| 65                                     | 0.0                              | 3.0     | 0.0                              | 3.0     | 0.0                              | 1.0     | 0.0                              | -2.0    |
| 7:53 66                                | 0.0                              | 3.0     | 0.0                              | 2.0     | 7.4                              | 738.0   | 0.0                              | -1.0    |
| 67                                     | 0.0                              | 3.0     | 0.0                              | 3.0     | 9.1                              | 908.0   | 0.0                              | -1.0    |
| 68                                     | 0.0                              | 3.0     | 0.0                              | 3.0     | 8.9                              | 894.0   | 0.0                              | -1.0    |
| 69                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 8.8                              | 882.0   | 0.0                              | -1.0    |
| 70                                     | 0.0                              | 3.0     | 0.0                              | 3.0     | 8.7                              | 869.0   | 0.0                              | -1.0    |
| 71                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 0.0                              | 3.0     | 0.0                              | -1.0    |
| 72                                     | 0.0                              | 4.0     | 0.0                              | 3.0     | 0.0                              | 1.0     | 0.0                              | -2.0    |
| 73                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 4.8                              | 475.0   | 0.0                              | -2.0    |
| 74                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 4.7                              | 474.0   | 0.0                              | -2.0    |
| 75                                     | 0.0                              | 3.0     | 0.0                              | 3.0     | 4.7                              | 472.0   | 0.0                              | -1.0    |
| 76                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 4.7                              | 470.0   | 0.0                              | -1.0    |
| 77                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 4.7                              | 468.0   | 0.0                              | -1.0    |
| 78                                     | 0.0                              | 3.0     | 0.0                              | 0.0     | 1.0                              | 0.0     | 0.0                              | -1.0    |
| 79                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 1.8                              | 178.0   | 0.0                              | -1.0    |
| 80                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 1.9                              | 185.0   | 0.0                              | -1.0    |
| 81                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 1.9                              | 186.0   | 0.0                              | -2.0    |
| 82                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 1.9                              | 186.0   | 0.0                              | -2.0    |
| 83                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 1.9                              | 186.0   | 0.0                              | -2.0    |
| 84                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 0.0                              | 3.0     | 0.0                              | -2.0    |
| 85                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 0.0                              | 1.0     | 0.0                              | -1.0    |
| 86                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 0.0                              | -1.0    | 0.0                              | -1.0    |
| 87                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 0.0                              | -1.0    | 0.0                              | -1.0    |
| 88                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 0.0                              | -1.0    | 0.0                              | -1.0    |
| 89                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 0.0                              | -1.0    | 0.1                              | 0.0     |
| 90                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 0.0                              | -1.0    | 0.0                              | -2.0    |
| 91                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 0.0                              | -1.0    | 0.0                              | 0.0     |
| 92                                     | 0.0                              | 3.0     | 0.0                              | 2.0     | 0.0                              | -1.0    | 0.0                              | 0.0     |
| 8:00 93                                | 0.0                              | 4.0     | 0.0                              | 3.0     | 0.0                              | 1.0     | 5.3                              | 533.0   |

CAL

|     |     |     |     |     |     |       |     |       |
|-----|-----|-----|-----|-----|-----|-------|-----|-------|
| 94  | 0.0 | 4.0 | 0.0 | 3.0 | 0.0 | 1.0   | 5.1 | 507.0 |
| 95  | 0.0 | 3.0 | 0.0 | 2.0 | 0.0 | 1.0   | 8.9 | 886.0 |
| 96  | 0.0 | 4.0 | 0.0 | 3.0 | 0.0 | 1.0   | 8.7 | 868.0 |
| 97  | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.1 | 5.0   |
| 98  | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 8.5 | 847.0 |
| 99  | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 8.6 | 855.0 |
| 100 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 9.0 | 903.0 |
| 101 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 9.0 | 895.0 |
| 102 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 8.1 | 805.0 |
| 103 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | 0.0   |
| 104 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | -2.0  |
| 105 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | -1.0  |
| 106 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | 0.0   |
| 107 | 0.0 | 4.0 | 0.0 | 3.0 | 0.0 | 1.0   | 5.1 | 511.0 |
| 108 | 0.0 | 4.0 | 0.0 | 3.0 | 0.0 | 1.0   | 5.0 | 504.0 |
| 109 | 0.0 | 4.0 | 0.0 | 3.0 | 0.0 | 1.0   | 5.0 | 499.0 |
| 110 | 0.0 | 4.0 | 0.0 | 3.0 | 0.0 | 1.0   | 5.0 | 495.0 |
| 111 | 0.0 | 4.0 | 0.0 | 3.0 | 0.0 | 1.0   | 0.1 | 5.0   |
| 112 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | -1.0  |
| 113 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 2.0 | 197.0 |
| 114 | 0.0 | 4.0 | 0.0 | 3.0 | 0.0 | 1.0   | 2.0 | 198.0 |
| 115 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 2.0 | 198.0 |
| 116 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 2.0 | 197.0 |
| 117 | 0.0 | 4.0 | 0.0 | 3.0 | 0.0 | 1.0   | 0.0 | 0.0   |
| 118 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | -1.0  |
| 119 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | -1.0  |
| 120 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | -2.0  |
| 121 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | -1.0  |
| 122 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | -2.0  |
| 123 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | -2.0  |
| 124 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | -1.0  |
| 125 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | -1.0  |
| 126 | 0.0 | 4.0 | 0.0 | 3.0 | 0.0 | 1.0   | 0.0 | -1.0  |
| 127 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | 1.0   |
| 128 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | 1.0   |
| 129 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | 1.0   |
| 130 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | 1.0   |
| 131 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | -1.0  | 0.0 | 1.0   |
| 132 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | -1.0  | 0.0 | 1.0   |
| 133 | 0.0 | 3.0 | 0.0 | 2.0 | 0.0 | -1.0  | 0.0 | 1.0   |
| 134 | 0.0 | 3.0 | 0.0 | 2.0 | 0.0 | -1.0  | 0.0 | 1.0   |
| 135 | 0.0 | 3.0 | 0.0 | 2.0 | 0.0 | -1.0  | 0.0 | 1.0   |
| 136 | 0.0 | 3.0 | 0.0 | 2.0 | 0.0 | -1.0  | 0.0 | 1.0   |
| 137 | 0.0 | 3.0 | 0.0 | 2.0 | 0.0 | 0.0   | 1.0 | 1.0   |
| 138 | 0.0 | 3.0 | 0.0 | 2.0 | 8.6 | 864.0 | 0.0 | 1.0   |
| 139 | 0.0 | 4.0 | 0.0 | 2.0 | 8.8 | 876.0 | 0.0 | 1.0   |
| 140 | 0.0 | 4.0 | 0.0 | 2.0 | 9.0 | 902.0 | 0.0 | 1.0   |
| 141 | 0.0 | 4.0 | 0.0 | 2.0 | 8.9 | 890.0 | 0.0 | 2.0   |
| 142 | 0.0 | 4.0 | 0.0 | 2.0 | 8.8 | 881.0 | 0.0 | 1.0   |
| 143 | 0.0 | 4.0 | 0.0 | 2.0 | 8.7 | 872.0 | 0.0 | 1.0   |
| 144 | 0.0 | 4.0 | 0.0 | 2.0 | 8.6 | 866.0 | 0.0 | 1.0   |
| 145 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 2.0   | 0.0 | 1.0   |
| 146 | 0.0 | 3.0 | 0.0 | 2.0 | 0.1 | 10.0  | 0.0 | 1.0   |
| 147 | 0.0 | 4.0 | 0.0 | 2.0 | 4.8 | 484.0 | 0.0 | 1.0   |
| 148 | 0.0 | 4.0 | 0.0 | 2.0 | 4.8 | 484.0 | 0.0 | 1.0   |
| 149 | 0.0 | 4.0 | 0.0 | 2.0 | 4.8 | 483.0 | 0.0 | 1.0   |
| 150 | 0.0 | 4.0 | 0.0 | 2.0 | 4.8 | 482.0 | 0.0 | 1.0   |
| 151 | 0.0 | 4.0 | 0.0 | 2.0 | 4.8 | 481.0 | 0.0 | 1.0   |
| 152 | 0.0 | 4.0 | 0.0 | 2.0 | 4.7 | 470.0 | 0.0 | 1.0   |
| 153 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 2.0   | 0.0 | 1.0   |
| 154 | 0.0 | 4.0 | 0.0 | 2.0 | 0.2 | 18.0  | 0.0 | 1.0   |
| 155 | 0.0 | 4.0 | 0.0 | 2.0 | 1.9 | 190.0 | 0.0 | 1.0   |
| 156 | 0.0 | 4.0 | 0.0 | 2.0 | 1.9 | 191.0 | 0.0 | 1.0   |
| 157 | 0.0 | 4.0 | 0.0 | 2.0 | 1.9 | 191.0 | 0.0 | 1.0   |
| 158 | 0.0 | 4.0 | 0.0 | 2.0 | 1.9 | 191.0 | 0.0 | 1.0   |
| 159 | 0.0 | 4.0 | 0.0 | 2.0 | 1.9 | 190.0 | 0.0 | 1.0   |
| 160 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 2.0   | 0.0 | 1.0   |
| 161 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | 1.0   |
| 162 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | 1.0   |
| 163 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 1.0   | 0.0 | 1.0   |

Run #1 Inlet "A" VOC



VOC "A"

Start Run #1 -  
8:35

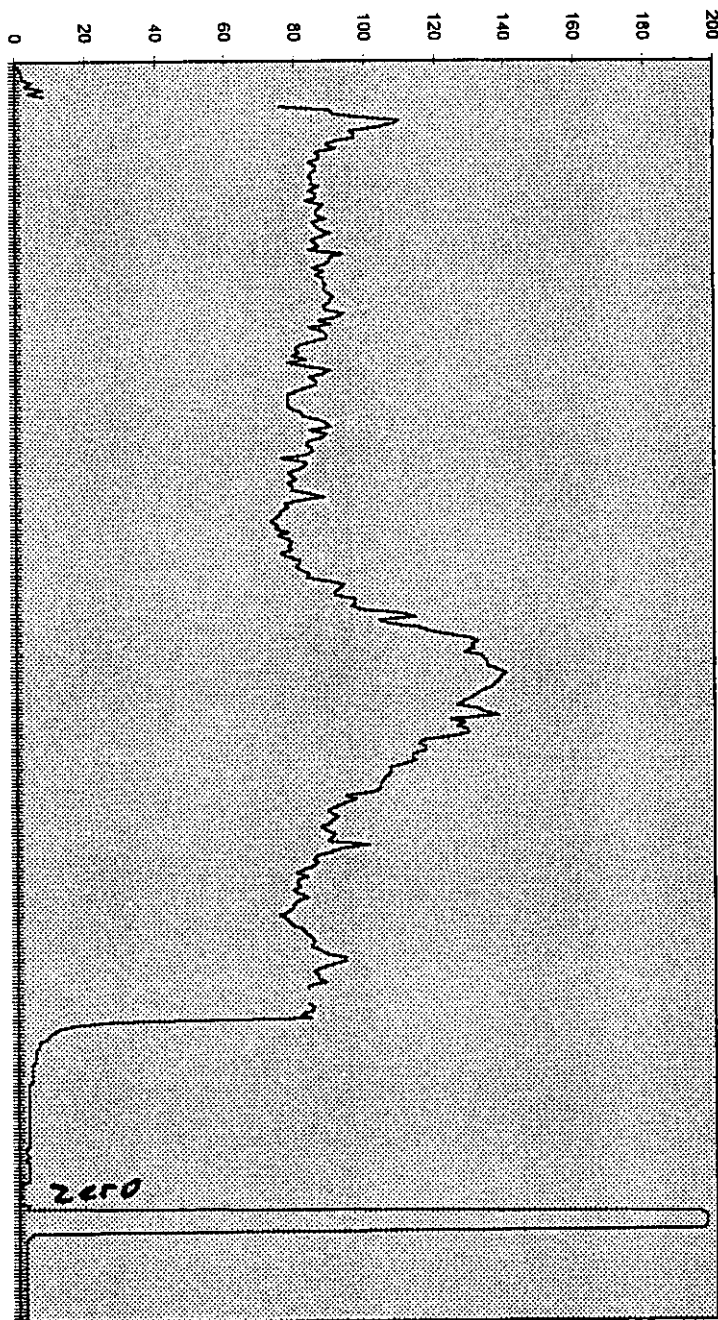
STOP Run #1 -  
9:37

200

200 ppm C3 #8

Ave - 100.4 ppm

Run #1 Inlet "B" VOC



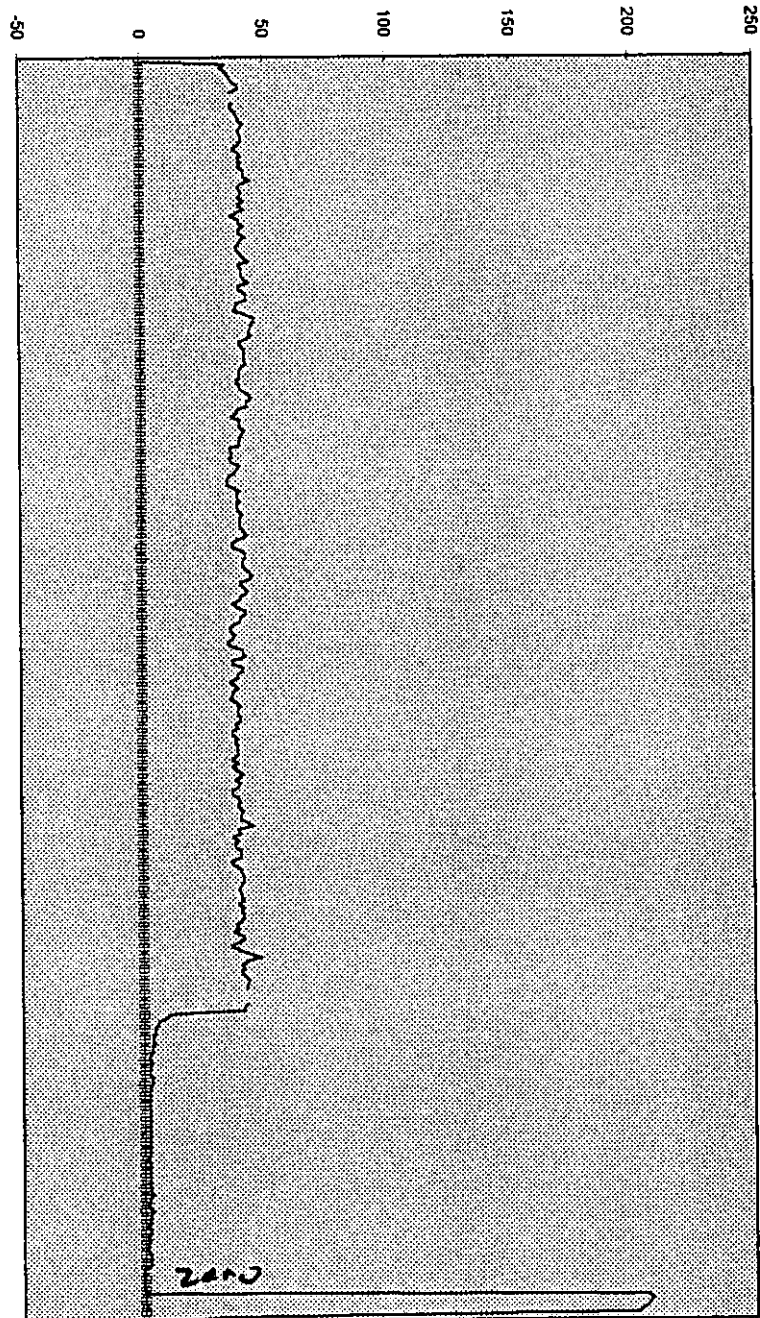
200ppm C3H8

Start Run #1 -  
8:35

STOP Run 1 -  
9:37

Ave - 93.3

Run #1 Inlet "C" VOC



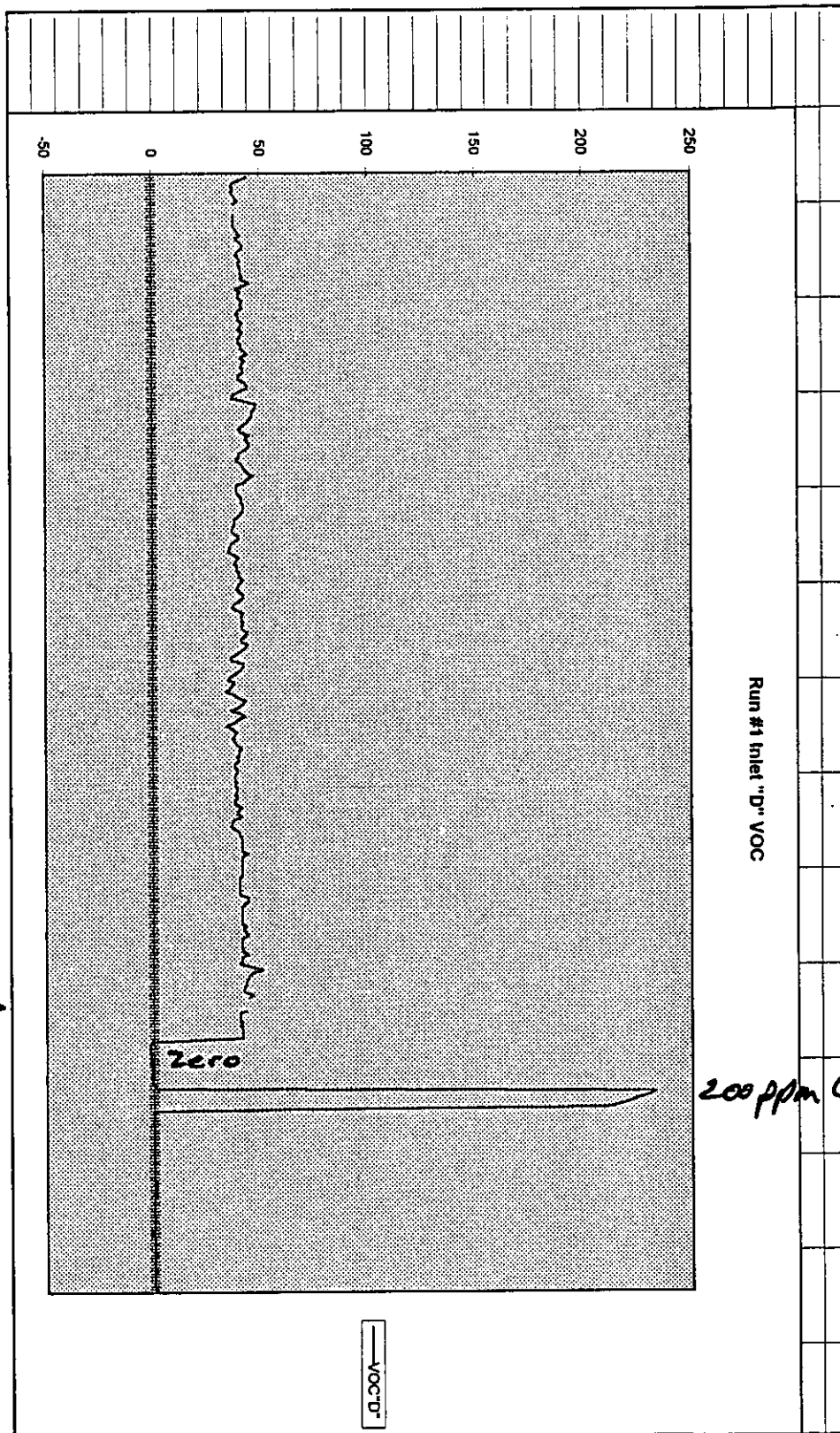
VOC "C"

Start Run #1  
8:35

STOP Run #1  
9:37

Ave - 40.1 ppm

Run #1 Inlet "D" VOC



200 ppm C3H8

Start Run #1  
8:35

STOP Run #1  
9:37

Ave - 40.6 ppm

FILE NAM a:run1

LOGGING 1

START LOGGING @ #####  
LAST SAMPLE @ #####

| ACTIVE C<br>MODULE<br>SAMPLE<br>UNITS: | 1A<br>Voltage<br>15 sec<br>Volts | VOC "A" | 1B<br>Voltage<br>15 sec<br>Volts | VOC "B" | 2A<br>Voltage<br>15 sec<br>Volts | VOC "C" | 2B<br>Voltage<br>15 sec<br>Volts | VOC "D" |
|----------------------------------------|----------------------------------|---------|----------------------------------|---------|----------------------------------|---------|----------------------------------|---------|
| 1                                      | 0.0                              | 3.0     | 0.0                              | 1.0     | 0.0                              | 1.0     | 0.4                              | 44.0    |
| 2                                      | 0.0                              | 3.0     | 0.0                              | 1.0     | 0.4                              | 35.0    | 0.4                              | 42.0    |
| 3                                      | 0.0                              | 3.0     | 0.0                              | 2.0     | 0.3                              | 33.0    | 0.4                              | 38.0    |
| 4                                      | 0.0                              | 1.0     | 0.0                              | 2.0     | 0.4                              | 35.0    | 0.4                              | 37.0    |
| 5                                      | 0.1                              | 6.0     | 0.0                              | 2.0     | 0.4                              | 36.0    | 0.4                              | 38.0    |
| 6                                      | 0.1                              | 6.0     | 0.1                              | 5.0     | 0.4                              | 37.0    | 0.4                              | 37.0    |
| 7                                      | 1.1                              | 106.0   | 0.0                              | 3.0     | 0.4                              | 38.0    | 0.4                              | 38.0    |
| 8                                      | 1.2                              | 122.0   | 0.1                              | 8.0     | 0.4                              | 40.0    | 0.4                              | 39.0    |
| 9                                      | 1.1                              | 108.0   | 0.0                              | 4.0     | 0.4                              | 40.0    | 0.4                              | 40.0    |
| 10                                     | 1.0                              | 97.0    | 0.1                              | 8.0     | 0.4                              | 37.0    | 0.4                              | 38.0    |

Start Run1  
8:35

|    |     |       |     |       |     |      |     |      |
|----|-----|-------|-----|-------|-----|------|-----|------|
| 11 | 1.1 | 108.0 | 0.8 | 78.0  | 0.4 | 38.0 | 0.4 | 38.0 |
| 12 | 1.0 | 103.0 | 0.9 | 90.0  | 0.4 | 37.0 | 0.4 | 38.0 |
| 13 | 1.1 | 106.0 | 0.9 | 91.0  | 0.4 | 38.0 | 0.4 | 38.0 |
| 14 | 1.2 | 121.0 | 1.0 | 97.0  | 0.4 | 39.0 | 0.4 | 38.0 |
| 15 | 1.4 | 138.0 | 1.1 | 110.0 | 0.4 | 40.0 | 0.4 | 38.0 |
| 16 | 1.4 | 140.0 | 1.1 | 108.0 | 0.4 | 40.0 | 0.4 | 39.0 |
| 17 | 1.3 | 133.0 | 1.0 | 103.0 | 0.4 | 42.0 | 0.4 | 40.0 |
| 18 | 1.2 | 118.0 | 1.0 | 96.0  | 0.4 | 41.0 | 0.4 | 41.0 |
| 19 | 1.2 | 121.0 | 1.0 | 97.0  | 0.4 | 40.0 | 0.4 | 39.0 |
| 20 | 1.2 | 120.0 | 1.0 | 97.0  | 0.4 | 41.0 | 0.4 | 41.0 |
| 21 | 1.1 | 113.0 | 0.9 | 91.0  | 0.4 | 41.0 | 0.4 | 42.0 |
| 22 | 1.3 | 125.0 | 0.9 | 99.0  | 0.4 | 41.0 | 0.4 | 42.0 |
| 23 | 1.3 | 129.0 | 0.9 | 92.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 24 | 1.2 | 115.0 | 0.9 | 86.0  | 0.4 | 38.0 | 0.4 | 39.0 |
| 25 | 1.3 | 133.0 | 0.9 | 87.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 26 | 1.4 | 136.0 | 0.9 | 87.0  | 0.4 | 41.0 | 0.4 | 41.0 |
| 27 | 1.4 | 143.0 | 0.8 | 84.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 28 | 1.2 | 119.0 | 0.9 | 86.0  | 0.4 | 41.0 | 0.4 | 41.0 |
| 29 | 1.1 | 110.0 | 0.9 | 86.0  | 0.4 | 40.0 | 0.4 | 41.0 |
| 30 | 1.2 | 116.0 | 0.9 | 85.0  | 0.4 | 42.0 | 0.4 | 41.0 |
| 31 | 1.1 | 107.0 | 0.8 | 84.0  | 0.4 | 42.0 | 0.4 | 42.0 |
| 32 | 1.1 | 106.0 | 0.9 | 85.0  | 0.4 | 42.0 | 0.4 | 41.0 |
| 33 | 1.1 | 108.0 | 0.9 | 85.0  | 0.5 | 45.0 | 0.5 | 45.0 |
| 34 | 1.0 | 104.0 | 0.9 | 87.0  | 0.4 | 41.0 | 0.4 | 43.0 |
| 35 | 1.1 | 112.0 | 0.8 | 84.0  | 0.4 | 40.0 | 0.4 | 39.0 |
| 36 | 1.2 | 123.0 | 0.9 | 86.0  | 0.4 | 41.0 | 0.4 | 41.0 |
| 37 | 1.1 | 109.0 | 0.9 | 86.0  | 0.4 | 41.0 | 0.4 | 40.0 |
| 38 | 1.1 | 106.0 | 0.8 | 83.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 39 | 1.0 | 103.0 | 0.9 | 88.0  | 0.4 | 42.0 | 0.4 | 42.0 |
| 40 | 1.2 | 122.0 | 0.9 | 87.0  | 0.4 | 40.0 | 0.4 | 41.0 |
| 41 | 1.1 | 111.0 | 0.9 | 86.0  | 0.4 | 42.0 | 0.4 | 42.0 |
| 42 | 1.0 | 103.0 | 0.9 | 86.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 43 | 0.9 | 91.0  | 0.9 | 89.0  | 0.4 | 37.0 | 0.4 | 39.0 |
| 44 | 1.1 | 108.0 | 0.9 | 85.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 45 | 1.1 | 108.0 | 0.9 | 86.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 46 | 1.1 | 106.0 | 0.9 | 87.0  | 0.4 | 42.0 | 0.4 | 42.0 |
| 47 | 1.1 | 110.0 | 0.9 | 90.0  | 0.4 | 40.0 | 0.4 | 41.0 |
| 48 | 1.1 | 109.0 | 0.9 | 88.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 49 | 1.0 | 104.0 | 0.9 | 85.0  | 0.4 | 43.0 | 0.4 | 42.0 |
| 50 | 1.1 | 113.0 | 0.9 | 86.0  | 0.4 | 41.0 | 0.4 | 41.0 |
| 51 | 1.1 | 105.0 | 0.9 | 87.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 52 | 1.3 | 128.0 | 0.8 | 84.0  | 0.4 | 39.0 | 0.4 | 40.0 |
| 53 | 1.2 | 119.0 | 0.9 | 94.0  | 0.4 | 40.0 | 0.4 | 41.0 |
| 54 | 1.1 | 107.0 | 0.9 | 90.0  | 0.4 | 41.0 | 0.4 | 41.0 |
| 55 | 1.1 | 107.0 | 0.9 | 90.0  | 0.4 | 42.0 | 0.4 | 43.0 |
| 56 | 1.1 | 108.0 | 0.9 | 89.0  | 0.4 | 44.0 | 0.4 | 44.0 |
| 57 | 1.1 | 107.0 | 0.9 | 85.0  | 0.4 | 40.0 | 0.4 | 41.0 |
| 58 | 1.0 | 102.0 | 0.9 | 88.0  | 0.4 | 41.0 | 0.4 | 43.0 |
| 59 | 1.1 | 105.0 | 0.9 | 86.0  | 0.4 | 41.0 | 0.4 | 42.0 |
| 60 | 1.2 | 117.0 | 0.9 | 88.0  | 0.4 | 41.0 | 0.4 | 41.0 |
| 61 | 1.2 | 123.0 | 0.9 | 88.0  | 0.4 | 42.0 | 0.4 | 42.0 |
| 62 | 1.2 | 119.0 | 0.9 | 89.0  | 0.4 | 44.0 | 0.4 | 42.0 |
| 63 | 1.2 | 119.0 | 0.9 | 88.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 64 | 1.3 | 128.0 | 0.9 | 89.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 65 | 1.3 | 130.0 | 0.9 | 91.0  | 0.4 | 43.0 | 0.4 | 43.0 |
| 66 | 1.2 | 115.0 | 0.9 | 90.0  | 0.4 | 43.0 | 0.4 | 44.0 |
| 67 | 1.2 | 115.0 | 0.9 | 90.0  | 0.4 | 43.0 | 0.4 | 44.0 |
| 68 | 1.0 | 95.0  | 0.9 | 88.0  | 0.4 | 39.0 | 0.4 | 40.0 |
| 69 | 1.3 | 133.0 | 0.9 | 89.0  | 0.4 | 39.0 | 0.4 | 38.0 |
| 70 | 1.3 | 132.0 | 0.9 | 94.0  | 0.4 | 38.0 | 0.4 | 37.0 |
| 71 | 1.4 | 135.0 | 0.9 | 92.0  | 0.4 | 43.0 | 0.4 | 42.0 |
| 72 | 1.4 | 139.0 | 0.9 | 87.0  | 0.5 | 46.0 | 0.5 | 48.0 |
| 73 | 1.3 | 134.0 | 0.9 | 90.0  | 0.5 | 46.0 | 0.5 | 48.0 |
| 74 | 1.3 | 127.0 | 0.8 | 84.0  | 0.5 | 45.0 | 0.5 | 47.0 |
| 75 | 1.3 | 128.0 | 0.9 | 88.0  | 0.5 | 46.0 | 0.5 | 46.0 |
| 76 | 1.3 | 128.0 | 0.9 | 89.0  | 0.4 | 44.0 | 0.5 | 46.0 |
| 77 | 1.2 | 124.0 | 0.9 | 89.0  | 0.5 | 45.0 | 0.5 | 45.0 |
| 78 | 1.3 | 128.0 | 0.9 | 85.0  | 0.4 | 43.0 | 0.4 | 44.0 |
| 79 | 1.4 | 143.0 | 0.8 | 81.0  | 0.4 | 40.0 | 0.4 | 41.0 |
| 80 | 1.3 | 128.0 | 0.8 | 80.0  | 0.4 | 41.0 | 0.4 | 40.0 |
| 81 | 1.1 | 108.0 | 0.8 | 81.0  | 0.4 | 42.0 | 0.4 | 41.0 |
| 82 | 1.2 | 118.0 | 0.8 | 79.0  | 0.4 | 42.0 | 0.5 | 45.0 |
| 83 | 1.3 | 128.0 | 0.8 | 83.0  | 0.4 | 42.0 | 0.4 | 43.0 |
| 84 | 1.4 | 135.0 | 0.8 | 78.0  | 0.4 | 42.0 | 0.4 | 44.0 |
| 85 | 1.0 | 104.0 | 0.8 | 84.0  | 0.4 | 43.0 | 0.5 | 45.0 |
| 86 | 1.3 | 133.0 | 0.9 | 90.0  | 0.4 | 41.0 | 0.4 | 44.0 |
| 87 | 1.3 | 128.0 | 0.9 | 88.0  | 0.4 | 40.0 | 0.4 | 42.0 |
| 88 | 1.2 | 121.0 | 0.8 | 84.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 89 | 1.2 | 123.0 | 0.9 | 86.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 90 | 1.2 | 124.0 | 0.9 | 86.0  | 0.4 | 39.0 | 0.4 | 39.0 |
| 91 | 1.2 | 119.0 | 0.8 | 83.0  | 0.4 | 40.0 | 0.4 | 41.0 |

# PARTICULATE FIELD DATA

6067 7.5  
 877 41.1  
 14611  
 61083  
 150 100.4

PLANT: CP-CLAYTON, AL.  
 DATE: 6695  
 REPETITION: 1

LOCATION: Clayton, AL.

OPERATOR: JD JB

STACK #: Ox. ex. #1

SAMPLE BOX #: 7

METER BOX #: 9

AMBIENT TEMPERATURE: 90

BAROMETRIC PRESSURE: 29.62

ASSUMED MOISTURE: 15%

PROBE LENGTH: 8' (1916)

NOZZLE ID METER: .192, .191, .192

STACK DIAMETER: 85" 39.446

METER H: 1.536011

C FACTOR: 84

METER CO-EFFICIENT: 1.024762

FILTER TARE: .4746

PRE-TEST LEAK CHECK

Meter: .003 cu. ft. 15 in. HG  
 Pitots: ✓ in. H2O

## IMPDIGERS

Initial

Final

|     |                         |       |
|-----|-------------------------|-------|
| #1: | 100 ml H <sub>2</sub> O | 140   |
| #2: | 100 ml H <sub>2</sub> O | 106   |
| #3: |                         | 3     |
| #4: | 200 g SG                | 207.3 |
| #5: |                         | 56.3  |

## COMMENTS

CO<sub>2</sub>      O<sub>2</sub>  
 1.0          2.0

## POST-TEST LEAK CHECK

Meter: .006 cu. ft. 10 in. HG  
 Pitots: ✓ in. H2O

| P  | Θ        | STATIC PRES. | Ts °F | ΔP  | √ΔP   | ΔH   | Vm FT.3  | Tm INLET | Tm OUTLET | OVEN TEMP. | IMP OUTLET TEMP. | VAC (IN) |
|----|----------|--------------|-------|-----|-------|------|----------|----------|-----------|------------|------------------|----------|
| A1 | 10:30    | 7.75         | 230   | 1.1 |       | .99  | 1661.592 | 94       | 94        | 251        | 59               | 1        |
| 2  |          |              | 230   | 1.1 |       | .99  | 1663.1   | 95       | 95        | 254        | 59               | 1        |
| 3  | 55       |              | 231   | .86 |       | .77  | 1664.6   | 95       | 95        | 253        | 59               | 1        |
| 4  | 137.5/49 |              | 230   | .92 |       | .83  | 1665.9   | 95       | 95        | 252        | 59               | 1        |
| 5  |          |              | 232   | .82 |       | .74  | 1667.3   | 95       | 95        | 260        | 60               | 1        |
| 6  | 54       |              | 231   | .88 |       | .79  | 1668.6   | 96       | 95        | 260        | 60               | 1        |
| 7  |          |              | 237   | .86 |       | .77  | 1669.9   | 97       | 96        | 260        | 60               | 1        |
| 8  | 59       |              | 233   | .77 |       | .69  | 1671.3   | 98       | 96        | 261        | 60               | 1        |
| 9  |          |              | 234   | .83 |       | .75  | 1672.5   | 99       | 97        | 260        | 61               | 1        |
| 10 | 1104     |              | 233   | .91 |       | .82  | 1673.8   | 99       | 97        | 261        | 61               | 1        |
| 11 |          |              | 233   | .83 |       | .75  | 1675.2   | 100      | 98        | 260        | 61               | 1        |
| 12 | 09       |              | 232   | .76 |       | .68  | 1676.5   | 100      | 98        | 258        | 61               | 1        |
| B1 | 11:5/15  |              | 233   | 1.3 |       | 1.2  | 1677.8   | 97       | 97        | 260        | 61               | 1        |
| 2  |          |              | 232   | 1.3 |       | 1.2  | 1679.4   | 98       | 97        | 261        | 61               | 1        |
| 3  | 20       |              | 235   | 1.5 |       | 1.3  | 1681.1   | 98       | 97        | 258        | 62               | 1        |
| 4  |          |              | 233   | 1.1 |       | .98  | 1682.8   | 98       | 97        | 261        | 62               | 1        |
| 5  | 25       |              | 233   | .86 |       | .77  | 1684.3   | 98       | 97        | 260        | 62               | 1        |
| 6  |          |              | 235   | .86 |       | .77  | 1685.7   | 98       | 97        | 261        | 62               | 1        |
| 7  | 30       |              | 234   | .63 |       | .57  | 1687.0   | 99       | 97        | 260        | 62               | 1        |
| 8  |          |              | 233   | .66 |       | .59  | 1688.1   | 99       | 97        | 261        | 62               | 1        |
| 9  | 35       |              | 234   | .65 |       | .58  | 1689.3   | 99       | 97        | 260        | 62               | 1        |
| 10 |          |              | 233   | .65 |       | .58  | 1690.5   | 99       | 97        | 256        | 63               | 1        |
| 11 | 40       |              | 232   | .76 |       | .68  | 1691.6   | 100      | 97        | 261        | 63               | 1        |
| 12 |          |              | 233   | .66 |       | .59  | 1692.9   | 100      | 97        | 260        | 64               | 1        |
|    | 11:45    |              |       |     |       |      | 1694.057 |          |           |            |                  |          |
| AV |          |              | 232.6 |     | .9413 | .795 | 32.475   |          | 97.11     |            |                  |          |

# PARTICULATE FIELD DATA

PLANT: LP-CLAYTON, AL.  
DATE: 6-6-95  
REPETITION: 2

LOCATION: Clayton, AL.  
OPERATOR: JD JB  
STACK #: 0X ex. #1  
SAMPLE BOX #: 7  
METER BOX #: 9  
AMBIENT TEMPERATURE: 90  
BAROMETRIC PRESSURE: 1005 mb  
ASSUMED MOISTURE: 10%  
PROBE LENGTH: 8'  
NOZZLE ID DIAMETER: 3/16" (.1916)  
STACK DIAMETER: 85"  
METER H: 1.536011  
C FACTOR: .84  
METER CO-EFFICIENT: 1.024762



## IMPINGERS

|     | Initial  | Final |
|-----|----------|-------|
| #1: | 100 ml   | 144   |
| #2: | 100 ml   | 105   |
| #3: |          | 2     |
| #4: | 200 g SG | 209.8 |
| #5: |          | 62.8  |

## COMMENTS

CO<sub>2</sub>      O<sub>2</sub>  
1.0      20.0

FILTER TARE: .4880

## PRE-TEST LEAK CHECK

Meter: .005 cu. ft. 15 in. H<sub>2</sub>O  
Pitots: ✓✓

## POST-TEST LEAK CHECK

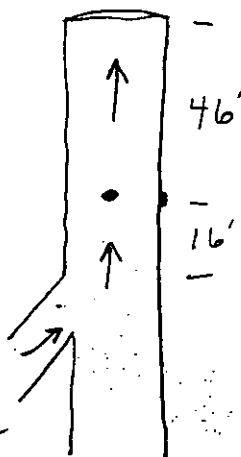
Meter: .004 cu. ft. 10 in. H<sub>2</sub>O  
Pitots: ✓✓

| P  | Θ       | STATIC PRES. | Ts °F | ΔP  | √ΔP | ΔH  | Vm FT.3  | Tm INLET | Tm OUTLET | OVEN TEMP | IMP OUTLET TEMP | VAC (IN) |
|----|---------|--------------|-------|-----|-----|-----|----------|----------|-----------|-----------|-----------------|----------|
| A1 | 12:22   | 77           | 235   | 1.5 |     | 1.3 | 1694.575 | 94       | 94        | 260       | 60              | 1        |
| 2  |         |              | 234   | 1.2 |     | 1.1 | 1696.3   | 95       | 94        | 261       | 60              | 1        |
| 3  | 27      |              | 234   | 1.2 |     | 1.1 | 1697.9   | 95       | 94        | 261       | 60              | 1        |
| 4  |         |              | 235   | 1.2 |     | 1.1 | 1699.5   | 96       | 94        | 260       | 60              | 1        |
| 5  | 32      |              | 234   | .96 |     | .86 | 1701.1   | 96       | 94        | 261       | 60              | 1        |
| 6  | 34.5/40 |              | 234   | .75 |     | .67 | 1702.5   | 95       | 93        | 260       | 60              | 1        |
| 7  |         |              | 233   | .60 |     | .54 | 1703.7   | 96       | 95        | 258       | 61              | 1        |
| 8  | 45      |              | 232   | .56 |     | .50 | 1704.8   | 97       | 95        | 255       | 61              | 1        |
| 9  |         |              | 234   | .66 |     | .59 | 1705.9   | 97       | 95        | 253       | 61              | 1        |
| 10 | 50      |              | 233   | .68 |     | .61 | 1707.1   | 98       | 95        | 251       | 61              | 1        |
| 11 |         |              | 234   | .64 |     | .57 | 1708.2   | 98       | 95        | 251       | 61              | 1        |
| 12 | 55      |              | 232   | .60 |     | .54 | 1709.4   | 98       | 95        | 253       | 62              | 1        |
| B1 | 100/02  |              | 233   | 1.0 |     | .89 | 1710.5   | 97       | 97        | 251       | 62              | 1        |
| 2  |         |              | 234   | 1.2 |     | 1.1 | 1711.9   | 97       | 97        | 250       | 62              | 1        |
| 3  | 07      |              | 235   | 1.1 |     | .98 | 1713.5   | 99       | 97        | 253       | 62              | 1        |
| 4  |         |              | 233   | .86 |     | .77 | 1715.0   | 100      | 97        | 256       | 62              | 1        |
| 5  | 12      |              | 234   | .77 |     | .69 | 1716.4   | 100      | 98        | 260       | 63              | 1        |
| 6  |         |              | 233   | .67 |     | .60 | 1717.6   | 100      | 98        | 251       | 63              | 1        |
| 7  | 17      |              | 232   | .64 |     | .57 | 1718.9   | 100      | 98        | 256       | 63              | 1        |
| 8  |         |              | 233   | .73 |     | .66 | 1720.0   | 101      | 98        | 260       | 63              | 1        |
| 9  | 22      |              | 222   | .80 |     | .72 | 1721.2   | 101      | 98        | 260       | 63              | 1        |
| 10 |         |              | 233   | .90 |     | .80 | 1722.5   | 101      | 98        | 254       | 63              | 1        |
| 11 | 27      |              | 234   | .89 |     | .80 | 1723.9   | 101      | 98        | 251       | 63              | 1        |
| 12 |         |              | 234   | .57 |     | .51 | 1725.2   | 101      | 97        | 255       | 63              | 1        |
|    | 1:32    |              |       |     |     |     | 1726.4   |          |           |           |                 |          |
| AV |         |              |       |     |     |     | 31.768   |          |           |           |                 |          |

# PARTICULATE FIELD DATA

PLANT: LP-Clayton, AL.  
 DATE: 6-6-95  
 REPETITION: 3

LOCATION: Clayton, AL.  
 OPERATOR: JD JB  
 STACK #: OX. ex. #1  
 SAMPLE BOX #: 7  
 METER BOX #: 9  
 AMBIENT TEMPERATURE: 92  
 BAROMETRIC PRESSURE: 1005 mb  
 ASSUMED MOISTURE: 10%  
 PROBE LENGTH: 8'  
 NOZZLE ID DIAMETER: 3/16  
 STACK DIAMETER: 8.5"  
 METER H: 1.536011  
 C FACTOR: .84  
 METER CO-EFFICIENT: 1.024762



## IMPINGERS

|                               | Initial | Final |
|-------------------------------|---------|-------|
| #1: 100 ml                    |         | 141   |
| #2: 100 ml > H <sub>2</sub> O |         | 104   |
| #3: -                         |         | 2     |
| #4: 200 g SG                  |         | 208.7 |
| #5: -                         |         | 55.7  |

## COMMENTS

CO<sub>2</sub> O<sub>2</sub>  
 1.0 20

## FILTER TARE:

### PRE-TEST LEAK CHECK

Meter: .006 cu. ft. 15 in. HG  
 Pitots: ✓ in. H<sub>2</sub>O

### POST-TEST LEAK CHECK

Meter: .007 cu. ft. 10 in. HG  
 Pitots: ✓ in. H<sub>2</sub>O

| P  | Θ     | STATIC PRES. | Ts °F | ΔP  | √ΔP | ΔH  | Vm FT. <sup>3</sup> | Tm INLET | Tm OUTLET | OVEN TEMP. | IMP OUTLET TEMP. | VAC (IN) |
|----|-------|--------------|-------|-----|-----|-----|---------------------|----------|-----------|------------|------------------|----------|
| A1 | 2:00  | -74          | 232   | 1.2 |     | 1.1 | 726.570             | 95       | 95        | 261        | 60               | 1        |
| 2  |       |              | 233   | 1.4 |     | 1.2 | 728.1               | 95       | 95        | 260        | 60               | 1        |
| 3  | 05    |              | 232   | 1.4 |     | 1.2 | 729.8               | 96       | 95        | 261        | 60               | 1        |
| 4  |       |              | 233   | .99 |     | .89 | 731.5               | 98       | 95        | 260        | 60               | 1        |
| 5  | 10    |              | 233   | .94 |     | .84 | 732.9               | 98       | 95        | 256        | 60               | 1        |
| 6  |       |              | 235   | .76 |     | .68 | 734.3               | 99       | 96        | 260        | 61               | 1        |
| 7  | 15    |              | 234   | .66 |     | .59 | 735.6               | 99       | 96        | 251        | 61               | 1        |
| 8  |       |              | 234   | .66 |     | .59 | 736.8               | 100      | 96        | 251        | 61               | 1        |
| 9  | 20    |              | 234   | .63 |     | .56 | 737.9               | 100      | 96        | 249        | 61               | 1        |
| 10 |       |              | 233   | .67 |     | .60 | 739.1               | 100      | 96        | 251        | 61               | 1        |
| "  | 25    |              | 233   | .61 |     | .55 | 740.3               | 100      | 97        | 250        | 62               | 1        |
| 12 |       |              | 233   | .60 |     | .54 | 741.4               | 101      | 97        | 250        | 62               | 1        |
| B1 | 30/33 |              | 232   | .88 |     | .79 | 742.5               | 99       | 97        | 251        | 62               | 1        |
| 2  |       |              | 234   | 1.0 |     | .85 | 743.8               | 99       | 97        | 256        | 62               | 1        |
| 3  | 38    |              | 234   | .96 |     | .86 | 745.3               | 100      | 97        | 250        | 62               | 1        |
| 4  |       |              | 233   | .98 |     | .88 | 746.7               | 100      | 97        | 250        | 62               | 1        |
| 5  | 43    |              | 233   | 1.0 |     | .89 | 748.1               | 100      | 97        | 251        | 62               | 1        |
| 6  |       |              | 235   | 1.0 |     | .89 | 749.6               | 100      | 97        | 260        | 62               | 1        |
| 7  | 48    |              | 234   | .88 |     | .79 | 751.0               | 100      | 97        | 256        | 62               | 1        |
| 8  |       |              | 234   | .88 |     | .79 | 752.3               | 100      | 97        | 266        | 63               | 1        |
| 9  | 53    |              | 235   | .84 |     | .75 | 753.7               | 100      | 97        | 256        | 63               | 1        |
| 10 |       |              | 234   | .95 |     | .85 | 755.0               | 100      | 97        | 255        | 63               | 1        |
| "  | 58    |              | 233   | .91 |     | .82 | 756.4               | 100      | 97        | 251        | 63               | 1        |
| 12 |       |              | 232   | .61 |     | .55 | 757.8               | 100      | 97        | 256        | 63               | 1        |
|    | 303   |              |       |     |     |     | 758.915             |          |           |            |                  |          |
| AV |       |              |       |     |     |     | 32.345              |          |           |            |                  |          |

|     |     |       |     |       |     |      |     |      |
|-----|-----|-------|-----|-------|-----|------|-----|------|
| 92  | 1.3 | 125.0 | 0.8 | 80.0  | 0.4 | 40.0 | 0.4 | 42.0 |
| 93  | 1.1 | 111.0 | 0.8 | 78.0  | 0.4 | 42.0 | 0.4 | 43.0 |
| 94  | 1.3 | 128.0 | 0.8 | 78.0  | 0.4 | 44.0 | 0.4 | 44.0 |
| 95  | 1.2 | 116.0 | 0.8 | 78.0  | 0.5 | 45.0 | 0.5 | 47.0 |
| 96  | 1.2 | 117.0 | 0.8 | 78.0  | 0.4 | 43.0 | 0.4 | 44.0 |
| 97  | 1.1 | 114.0 | 0.8 | 79.0  | 0.4 | 43.0 | 0.4 | 43.0 |
| 98  | 1.1 | 109.0 | 0.8 | 82.0  | 0.4 | 39.0 | 0.4 | 39.0 |
| 99  | 1.3 | 128.0 | 0.8 | 82.0  | 0.4 | 39.0 | 0.4 | 39.0 |
| 100 | 1.1 | 109.0 | 0.9 | 87.0  | 0.4 | 37.0 | 0.4 | 39.0 |
| 101 | 1.1 | 105.0 | 0.9 | 89.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 102 | 1.1 | 108.0 | 0.9 | 90.0  | 0.4 | 40.0 | 0.4 | 41.0 |
| 103 | 1.1 | 113.0 | 0.8 | 84.0  | 0.4 | 40.0 | 0.4 | 41.0 |
| 104 | 1.1 | 108.0 | 0.9 | 89.0  | 0.4 | 42.0 | 0.4 | 42.0 |
| 105 | 1.1 | 108.0 | 0.9 | 88.0  | 0.4 | 41.0 | 0.4 | 42.0 |
| 106 | 1.2 | 124.0 | 0.8 | 84.0  | 0.4 | 40.0 | 0.4 | 42.0 |
| 107 | 1.1 | 108.0 | 0.8 | 83.0  | 0.4 | 40.0 | 0.4 | 41.0 |
| 108 | 1.1 | 105.0 | 0.9 | 85.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 109 | 1.1 | 105.0 | 0.9 | 85.0  | 0.4 | 38.0 | 0.4 | 38.0 |
| 110 | 1.0 | 102.0 | 0.8 | 83.0  | 0.4 | 37.0 | 0.4 | 38.0 |
| 111 | 1.1 | 110.0 | 0.8 | 78.0  | 0.4 | 37.0 | 0.4 | 38.0 |
| 112 | 1.1 | 107.0 | 0.8 | 83.0  | 0.4 | 36.0 | 0.4 | 37.0 |
| 113 | 1.0 | 103.0 | 0.8 | 83.0  | 0.4 | 37.0 | 0.4 | 37.0 |
| 114 | 1.0 | 99.0  | 0.8 | 81.0  | 0.4 | 40.0 | 0.4 | 39.0 |
| 115 | 1.1 | 113.0 | 0.8 | 78.0  | 0.4 | 39.0 | 0.4 | 40.0 |
| 116 | 1.1 | 108.0 | 0.8 | 79.0  | 0.4 | 38.0 | 0.4 | 38.0 |
| 117 | 1.1 | 114.0 | 0.8 | 80.0  | 0.4 | 38.0 | 0.4 | 38.0 |
| 118 | 1.1 | 105.0 | 0.8 | 78.0  | 0.4 | 35.0 | 0.4 | 36.0 |
| 119 | 1.3 | 127.0 | 0.8 | 79.0  | 0.4 | 35.0 | 0.4 | 36.0 |
| 120 | 1.1 | 112.0 | 0.8 | 79.0  | 0.4 | 37.0 | 0.4 | 37.0 |
| 121 | 1.2 | 115.0 | 0.8 | 84.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 122 | 1.1 | 110.0 | 0.9 | 88.0  | 0.4 | 39.0 | 0.4 | 39.0 |
| 123 | 1.1 | 109.0 | 0.8 | 81.0  | 0.4 | 39.0 | 0.4 | 38.0 |
| 124 | 1.1 | 108.0 | 0.8 | 77.0  | 0.4 | 40.0 | 0.4 | 39.0 |
| 125 | 0.9 | 93.0  | 0.8 | 78.0  | 0.4 | 39.0 | 0.4 | 39.0 |
| 126 | 1.1 | 107.0 | 0.8 | 78.0  | 0.4 | 39.0 | 0.4 | 40.0 |
| 127 | 0.9 | 91.0  | 0.8 | 78.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 128 | 1.0 | 95.0  | 0.7 | 74.0  | 0.4 | 41.0 | 0.4 | 42.0 |
| 129 | 0.9 | 90.0  | 0.7 | 73.0  | 0.4 | 40.0 | 0.4 | 41.0 |
| 130 | 0.9 | 94.0  | 0.8 | 75.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 131 | 0.8 | 84.0  | 0.7 | 74.0  | 0.4 | 40.0 | 0.4 | 39.0 |
| 132 | 0.9 | 88.0  | 0.8 | 78.0  | 0.4 | 41.0 | 0.4 | 40.0 |
| 133 | 1.0 | 100.0 | 0.8 | 75.0  | 0.4 | 42.0 | 0.4 | 42.0 |
| 134 | 1.0 | 102.0 | 0.8 | 78.0  | 0.4 | 43.0 | 0.4 | 42.0 |
| 135 | 0.9 | 94.0  | 0.8 | 79.0  | 0.4 | 39.0 | 0.4 | 40.0 |
| 136 | 1.0 | 98.0  | 0.8 | 78.0  | 0.4 | 37.0 | 0.4 | 38.0 |
| 137 | 1.0 | 99.0  | 0.8 | 79.0  | 0.4 | 37.0 | 0.4 | 37.0 |
| 138 | 1.0 | 98.0  | 0.8 | 78.0  | 0.4 | 41.0 | 0.4 | 40.0 |
| 139 | 0.9 | 93.0  | 0.8 | 78.0  | 0.4 | 42.0 | 0.4 | 42.0 |
| 140 | 0.9 | 85.0  | 0.8 | 81.0  | 0.4 | 42.0 | 0.4 | 41.0 |
| 141 | 0.9 | 92.0  | 0.8 | 81.0  | 0.4 | 41.0 | 0.4 | 41.0 |
| 142 | 0.9 | 91.0  | 0.8 | 80.0  | 0.4 | 41.0 | 0.4 | 42.0 |
| 143 | 1.0 | 98.0  | 0.8 | 82.0  | 0.4 | 42.0 | 0.4 | 41.0 |
| 144 | 0.9 | 92.0  | 0.8 | 84.0  | 0.4 | 44.0 | 0.4 | 42.0 |
| 145 | 0.9 | 86.0  | 0.8 | 83.0  | 0.5 | 45.0 | 0.4 | 44.0 |
| 146 | 0.9 | 89.0  | 0.9 | 90.0  | 0.4 | 44.0 | 0.4 | 43.0 |
| 147 | 0.9 | 88.0  | 0.9 | 94.0  | 0.4 | 40.0 | 0.4 | 41.0 |
| 148 | 1.0 | 95.0  | 0.9 | 93.0  | 0.4 | 41.0 | 0.4 | 41.0 |
| 149 | 1.0 | 99.0  | 0.9 | 91.0  | 0.4 | 43.0 | 0.4 | 44.0 |
| 150 | 1.0 | 100.0 | 0.9 | 92.0  | 0.4 | 43.0 | 0.4 | 43.0 |
| 151 | 1.0 | 99.0  | 1.0 | 97.0  | 0.4 | 40.0 | 0.4 | 41.0 |
| 152 | 0.9 | 93.0  | 1.0 | 97.0  | 0.4 | 40.0 | 0.4 | 39.0 |
| 153 | 1.1 | 105.0 | 1.0 | 96.0  | 0.4 | 37.0 | 0.4 | 38.0 |
| 154 | 1.0 | 101.0 | 1.0 | 99.0  | 0.4 | 39.0 | 0.4 | 37.0 |
| 155 | 1.1 | 107.0 | 1.1 | 110.0 | 0.4 | 42.0 | 0.4 | 42.0 |
| 156 | 1.2 | 119.0 | 1.1 | 114.0 | 0.4 | 42.0 | 0.4 | 42.0 |
| 157 | 1.2 | 119.0 | 1.0 | 104.0 | 0.4 | 40.0 | 0.4 | 41.0 |
| 158 | 1.3 | 127.0 | 1.1 | 107.0 | 0.4 | 40.0 | 0.4 | 39.0 |
| 159 | 1.2 | 124.0 | 1.2 | 115.0 | 0.4 | 37.0 | 0.4 | 38.0 |
| 160 | 1.2 | 117.0 | 1.2 | 118.0 | 0.4 | 36.0 | 0.4 | 35.0 |
| 161 | 1.2 | 117.0 | 1.2 | 123.0 | 0.4 | 37.0 | 0.4 | 38.0 |
| 162 | 1.4 | 143.0 | 1.3 | 130.0 | 0.4 | 38.0 | 0.4 | 37.0 |
| 163 | 1.3 | 128.0 | 1.3 | 132.0 | 0.4 | 37.0 | 0.4 | 36.0 |
| 164 | 1.2 | 124.0 | 1.3 | 130.0 | 0.4 | 35.0 | 0.3 | 34.0 |
| 165 | 1.3 | 131.0 | 1.3 | 131.0 | 0.4 | 37.0 | 0.4 | 38.0 |
| 166 | 1.3 | 128.0 | 1.3 | 128.0 | 0.4 | 41.0 | 0.4 | 40.0 |
| 167 | 1.2 | 121.0 | 1.3 | 133.0 | 0.4 | 41.0 | 0.4 | 43.0 |
| 168 | 1.3 | 129.0 | 1.3 | 134.0 | 0.4 | 42.0 | 0.4 | 42.0 |
| 169 | 1.4 | 137.0 | 1.4 | 135.0 | 0.4 | 37.0 | 0.4 | 40.0 |
| 170 | 1.4 | 136.0 | 1.4 | 135.0 | 0.4 | 37.0 | 0.4 | 36.0 |
| 171 | 1.6 | 157.0 | 1.4 | 138.0 | 0.4 | 41.0 | 0.4 | 41.0 |
| 172 | 1.5 | 151.0 | 1.4 | 140.0 | 0.4 | 41.0 | 0.4 | 43.0 |
| 173 | 1.7 | 166.0 | 1.4 | 139.0 | 0.4 | 39.0 | 0.4 | 39.0 |
| 174 | 1.7 | 172.0 | 1.4 | 138.0 | 0.4 | 39.0 | 0.4 | 38.0 |
| 175 | 1.7 | 169.0 | 1.4 | 137.0 | 0.4 | 38.0 | 0.3 | 34.0 |
| 176 | 1.6 | 164.0 | 1.4 | 136.0 | 0.4 | 38.0 | 0.4 | 37.0 |
| 177 | 1.7 | 171.0 | 1.3 | 133.0 | 0.4 | 39.0 | 0.4 | 39.0 |
| 178 | 1.9 | 189.0 | 1.3 | 132.0 | 0.4 | 37.0 | 0.4 | 38.0 |
| 179 | 1.6 | 180.0 | 1.3 | 130.0 | 0.4 | 37.0 | 0.4 | 37.0 |
| 180 | 1.3 | 125.0 | 1.3 | 128.0 | 0.4 | 36.0 | 0.4 | 36.0 |
| 181 | 1.3 | 127.0 | 1.3 | 128.0 | 0.4 | 39.0 | 0.4 | 39.0 |
| 182 | 1.1 | 114.0 | 1.3 | 132.0 | 0.4 | 40.0 | 0.4 | 41.0 |
| 183 | 1.1 | 110.0 | 1.3 | 134.0 | 0.4 | 39.0 | 0.4 | 40.0 |
| 184 | 1.0 | 95.0  | 1.4 | 138.0 | 0.4 | 39.0 | 0.4 | 40.0 |
| 185 | 0.9 | 92.0  | 1.2 | 124.0 | 0.4 | 40.0 | 0.4 | 39.0 |
| 186 | 0.9 | 85.0  | 1.3 | 128.0 | 0.4 | 40.0 | 0.4 | 40.0 |
| 187 | 0.9 | 85.0  | 1.3 | 128.0 | 0.4 | 38.0 | 0.4 | 38.0 |
| 188 | 1.0 | 99.0  | 1.3 | 129.0 | 0.4 | 39.0 | 0.4 | 38.0 |
| 189 | 0.9 | 87.0  | 1.3 | 129.0 | 0.4 | 37.0 | 0.4 | 39.0 |
| 190 | 0.8 | 78.0  | 1.2 | 124.0 | 0.4 | 37.0 | 0.4 | 39.0 |
| 191 | 0.8 | 84.0  | 1.2 | 116.0 | 0.4 | 39.0 | 0.4 | 38.0 |
| 192 | 0.7 | 88.0  | 1.2 | 115.0 | 0.4 | 38.0 | 0.4 | 38.0 |
| 193 | 0.7 | 71.0  | 1.2 | 117.0 | 0.4 | 39.0 | 0.4 | 39.0 |
| 194 | 0.7 | 86.0  | 1.2 | 117.0 | 0.4 | 39.0 | 0.4 | 38.0 |

RUN1

|     |     |      |     |       |     |      |     |      |
|-----|-----|------|-----|-------|-----|------|-----|------|
| 195 | 0.6 | 62.0 | 1.1 | 113.0 | 0.4 | 39.0 | 0.4 | 39.0 |
| 196 | 0.6 | 60.0 | 1.1 | 113.0 | 0.4 | 39.0 | 0.4 | 39.0 |
| 197 | 0.6 | 56.0 | 1.1 | 114.0 | 0.4 | 37.0 | 0.4 | 38.0 |
| 198 | 0.6 | 59.0 | 1.1 | 111.0 | 0.4 | 39.0 | 0.4 | 39.0 |
| 199 | 0.6 | 61.0 | 1.1 | 107.0 | 0.4 | 37.0 | 0.4 | 38.0 |
| 200 | 0.6 | 62.0 | 1.1 | 107.0 | 0.4 | 38.0 | 0.4 | 38.0 |
| 201 | 0.6 | 60.0 | 1.1 | 107.0 | 0.4 | 41.0 | 0.4 | 41.0 |
| 202 | 0.6 | 64.0 | 1.1 | 106.0 | 0.4 | 40.0 | 0.4 | 40.0 |
| 203 | 0.6 | 61.0 | 1.1 | 105.0 | 0.4 | 38.0 | 0.4 | 39.0 |
| 204 | 0.7 | 65.0 | 1.0 | 104.0 | 0.4 | 40.0 | 0.4 | 41.0 |
| 205 | 0.7 | 67.0 | 1.0 | 104.0 | 0.4 | 39.0 | 0.4 | 38.0 |
| 206 | 0.6 | 63.0 | 1.0 | 102.0 | 0.4 | 37.0 | 0.4 | 37.0 |
| 207 | 0.6 | 59.0 | 0.9 | 94.0  | 0.4 | 37.0 | 0.4 | 36.0 |
| 208 | 0.6 | 59.0 | 1.0 | 97.0  | 0.4 | 39.0 | 0.4 | 38.0 |
| 209 | 0.6 | 61.0 | 0.9 | 94.0  | 0.4 | 40.0 | 0.4 | 40.0 |
| 210 | 0.6 | 62.0 | 0.9 | 92.0  | 0.4 | 39.0 | 0.4 | 40.0 |
| 211 | 0.6 | 65.0 | 0.9 | 89.0  | 0.4 | 40.0 | 0.0 | 41.0 |
| 212 | 0.6 | 57.0 | 0.9 | 90.0  | 0.4 | 41.0 | 0.0 | 41.0 |
| 213 | 0.6 | 58.0 | 0.9 | 92.0  | 0.4 | 40.0 | 0.0 | 41.0 |
| 214 | 0.6 | 62.0 | 0.9 | 90.0  | 0.4 | 40.0 | 0.0 | 41.0 |
| 215 | 0.6 | 61.0 | 0.9 | 89.0  | 0.4 | 43.0 | 0.0 | 41.0 |
| 216 | 0.6 | 60.0 | 0.9 | 87.0  | 0.6 | 46.0 | 0.0 | 44.0 |
| 217 | 0.6 | 61.0 | 0.9 | 89.0  | 0.4 | 39.0 | 0.0 | 41.0 |
| 218 | 0.6 | 62.0 | 0.9 | 91.0  | 0.4 | 40.0 | 0.0 | 41.0 |
| 219 | 0.7 | 69.0 | 0.9 | 90.0  | 0.4 | 37.0 | 0.0 | 41.0 |
| 220 | 0.7 | 65.0 | 0.9 | 89.0  | 0.4 | 39.0 | 0.0 | 41.0 |
| 221 | 0.6 | 76.0 | 1.0 | 101.0 | 0.4 | 38.0 | 0.0 | 41.0 |
| 222 | 0.7 | 73.0 | 0.9 | 93.0  | 0.4 | 38.0 | 0.0 | 41.0 |
| 223 | 0.7 | 72.0 | 0.9 | 90.0  | 0.4 | 40.0 | 0.0 | 41.0 |
| 224 | 0.7 | 74.0 | 0.9 | 86.0  | 0.4 | 40.0 | 0.0 | 40.0 |
| 225 | 0.7 | 68.0 | 0.9 | 85.0  | 0.4 | 40.0 | 0.0 | 40.0 |
| 226 | 0.6 | 61.0 | 0.9 | 86.0  | 0.4 | 36.0 | 0.0 | 40.0 |
| 227 | 0.6 | 61.0 | 0.9 | 85.0  | 0.4 | 37.0 | 0.0 | 40.0 |
| 228 | 0.6 | 60.0 | 0.8 | 82.0  | 0.4 | 40.0 | 0.0 | 40.0 |
| 229 | 0.6 | 64.0 | 0.8 | 80.0  | 0.4 | 40.0 | 0.0 | 40.0 |
| 230 | 0.6 | 64.0 | 0.8 | 83.0  | 0.4 | 41.0 | 0.0 | 44.0 |
| 231 | 0.6 | 60.0 | 0.8 | 80.0  | 0.4 | 41.0 | 0.0 | 44.0 |
| 232 | 0.6 | 64.0 | 0.8 | 80.0  | 0.4 | 41.0 | 0.0 | 42.0 |
| 233 | 0.6 | 62.0 | 0.8 | 81.0  | 0.4 | 40.0 | 0.0 | 41.0 |
| 234 | 0.6 | 64.0 | 0.8 | 79.0  | 0.4 | 39.0 | 0.0 | 41.0 |
| 235 | 0.6 | 59.0 | 0.8 | 81.0  | 0.4 | 40.0 | 0.0 | 41.0 |
| 236 | 0.6 | 61.0 | 0.8 | 83.0  | 0.4 | 40.0 | 0.0 | 41.0 |
| 237 | 0.7 | 65.0 | 0.8 | 80.0  | 0.4 | 41.0 | 0.0 | 41.0 |
| 238 | 0.6 | 61.0 | 0.8 | 79.0  | 0.4 | 39.0 | 0.0 | 41.0 |
| 239 | 0.6 | 64.0 | 0.8 | 79.0  | 0.4 | 41.0 | 0.0 | 43.0 |
| 240 | 0.6 | 61.0 | 0.8 | 78.0  | 0.4 | 40.0 | 0.0 | 42.0 |
| 241 | 0.6 | 57.0 | 0.8 | 75.0  | 0.4 | 41.0 | 0.0 | 43.0 |
| 242 | 0.6 | 60.0 | 0.8 | 77.0  | 0.4 | 41.0 | 0.0 | 44.0 |
| 243 | 0.6 | 60.0 | 0.8 | 78.0  | 0.4 | 40.0 | 0.0 | 41.0 |
| 244 | 0.6 | 60.0 | 0.8 | 79.0  | 0.4 | 38.0 | 0.0 | 41.0 |
| 245 | 0.7 | 66.0 | 0.8 | 82.0  | 0.4 | 39.0 | 0.0 | 41.0 |
| 246 | 0.7 | 66.0 | 0.8 | 82.0  | 0.4 | 37.0 | 0.0 | 41.0 |
| 247 | 0.6 | 61.0 | 0.8 | 84.0  | 0.4 | 41.0 | 0.0 | 42.0 |
| 248 | 0.6 | 64.0 | 0.9 | 85.0  | 0.4 | 41.0 | 0.0 | 44.0 |
| 249 | 0.6 | 63.0 | 0.9 | 85.0  | 0.4 | 38.0 | 0.0 | 41.0 |
| 250 | 0.6 | 60.0 | 0.8 | 84.0  | 0.4 | 36.0 | 0.0 | 41.0 |
| 251 | 0.6 | 60.0 | 0.9 | 87.0  | 0.4 | 39.0 | 0.0 | 40.0 |
| 252 | 0.6 | 60.0 | 0.9 | 88.0  | 0.4 | 43.0 | 0.0 | 45.0 |
| 253 | 0.8 | 77.0 | 0.9 | 94.0  | 0.5 | 48.0 | 0.1 | 51.0 |
| 254 | 0.8 | 78.0 | 0.9 | 94.0  | 0.4 | 43.0 | 0.0 | 46.0 |
| 255 | 0.7 | 68.0 | 0.9 | 90.0  | 0.4 | 40.0 | 0.0 | 44.0 |
| 256 | 0.7 | 65.0 | 0.9 | 87.0  | 0.4 | 41.0 | 0.0 | 44.0 |
| 257 | 0.7 | 68.0 | 0.9 | 85.0  | 0.4 | 40.0 | 0.0 | 43.0 |
| 258 | 0.7 | 69.0 | 0.9 | 86.0  | 0.4 | 41.0 | 0.0 | 43.0 |
| 259 | 0.7 | 65.0 | 0.9 | 86.0  | 0.4 | 43.0 | 0.0 | 42.0 |
| 260 | 0.7 | 66.0 | 0.9 | 88.0  | 0.4 | 43.0 | 0.0 | 42.0 |
| 261 | 0.7 | 68.0 | 0.8 | 83.0  | 0.4 | 42.0 | 0.0 | 46.0 |
| 262 | 0.6 | 64.0 | 0.8 | 83.0  | 0.4 | 42.0 | 0.0 | 44.0 |

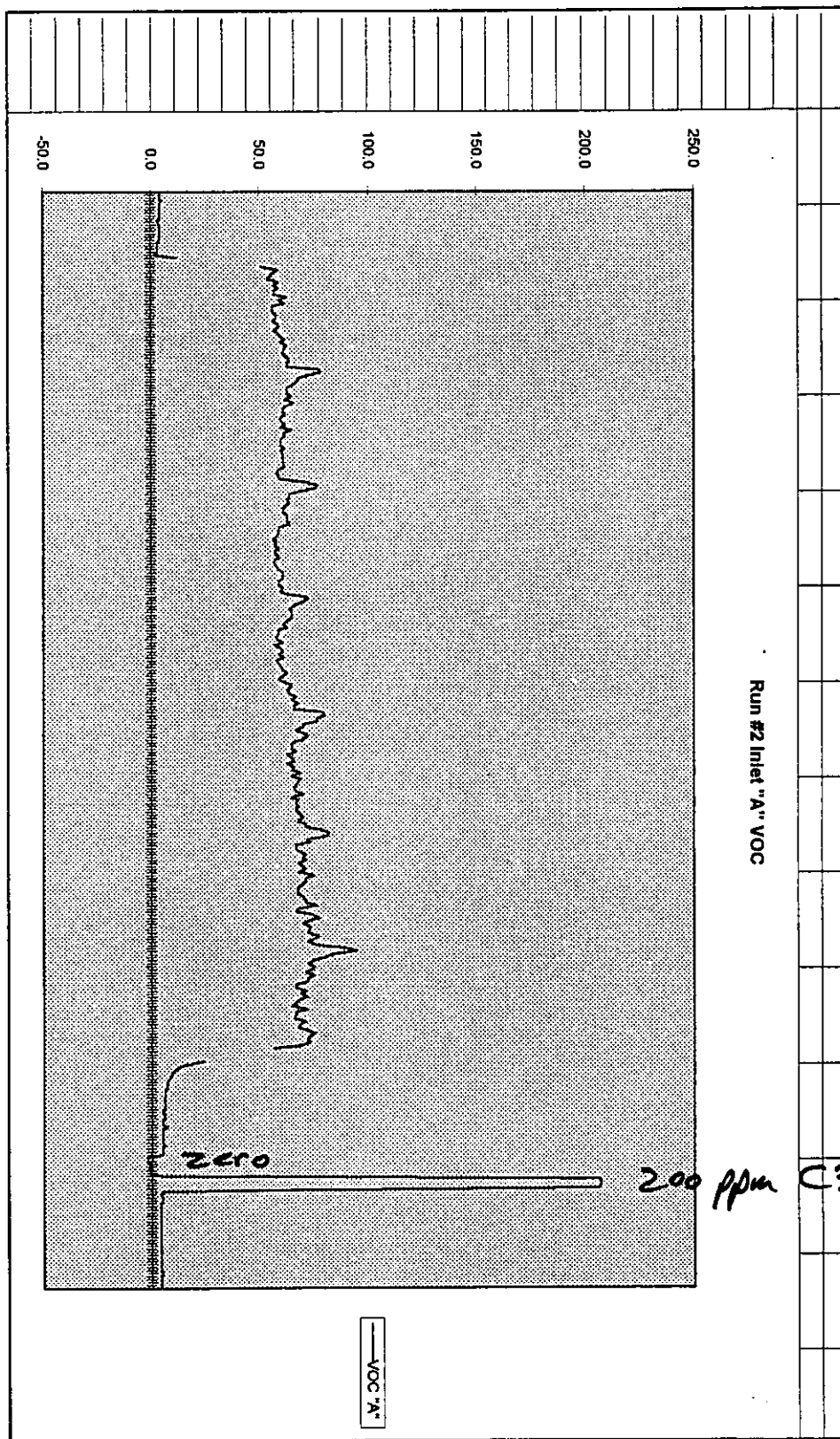
Stop Run1  
9:37

|     | Average | 100.4 | 93.3 | 40.1 | 40.6 |      |     |       |
|-----|---------|-------|------|------|------|------|-----|-------|
| 263 | 0.6     | 64.0  | 0.8  | 83.0 | 0.4  | 43.0 | 0.0 | 43.0  |
| 264 | 0.6     | 62.0  | 0.9  | 85.0 | 0.4  | 41.0 | 0.0 | 40.0  |
| 265 | 0.6     | 62.0  | 0.8  | 84.0 | 0.4  | 41.0 | 0.0 | 40.0  |
| 266 | 0.7     | 65.0  | 0.8  | 81.0 | 0.1  | 11.0 | 0.0 | 40.0  |
| 267 | 0.5     | 62.0  | 0.6  | 84.0 | 0.1  | 9.0  | 0.0 | 41.0  |
| 268 | 0.4     | 35.0  | 0.3  | 28.0 | 0.1  | 6.0  | 0.0 | 40.0  |
| 269 | 0.3     | 30.0  | 0.2  | 16.0 | 0.1  | 5.0  | 0.0 | 41.0  |
| 270 | 0.2     | 22.0  | 0.1  | 12.0 | 0.0  | 4.0  | 0.0 | 41.0  |
| 271 | 0.1     | 12.0  | 0.1  | 10.0 | 0.0  | 4.0  | 0.0 | 41.0  |
| 272 | 0.1     | 10.0  | 0.1  | 9.0  | 0.0  | 4.0  | 0.0 | 41.0  |
| 273 | 0.1     | 8.0   | 0.1  | 8.0  | 0.0  | 3.0  | 0.0 | -1.0  |
| 274 | 0.1     | 8.0   | 0.1  | 6.0  | 0.0  | 4.0  | 0.0 | -2.0  |
| 275 | 0.1     | 7.0   | 0.1  | 6.0  | 0.0  | 3.0  | 0.0 | -2.0  |
| 276 | 0.1     | 8.0   | 0.1  | 5.0  | 0.0  | 3.0  | 0.0 | -1.0  |
| 277 | 0.1     | 7.0   | 0.1  | 5.0  | 0.0  | 2.0  | 0.0 | -2.0  |
| 278 | 0.1     | 6.0   | 0.1  | 5.0  | 0.0  | 2.0  | 0.0 | -1.0  |
| 279 | 0.1     | 6.0   | 0.1  | 5.0  | 0.0  | 2.0  | 0.0 | -2.0  |
| 280 | 0.1     | 6.0   | 0.0  | 4.0  | 0.0  | 3.0  | 0.0 | -2.0  |
| 281 | 0.1     | 6.0   | 0.0  | 4.0  | 0.0  | 2.0  | 0.0 | -1.0  |
| 282 | 0.1     | 5.0   | 0.0  | 4.0  | 0.0  | 2.0  | 0.0 | -1.0  |
| 283 | 0.1     | 5.0   | 0.0  | 4.0  | 0.0  | 2.0  | 0.0 | -1.0  |
| 284 | 0.1     | 5.0   | 0.0  | 4.0  | 0.0  | 3.0  | 0.0 | -1.0  |
| 285 | 0.1     | 5.0   | 0.0  | 4.0  | 0.0  | 3.0  | 0.0 | -1.0  |
| 286 | 0.1     | 5.0   | 0.0  | 3.0  | 0.0  | 3.0  | 0.0 | -1.0  |
| 287 | 0.1     | 5.0   | 0.0  | 3.0  | 0.0  | 2.0  | 0.0 | 1.0   |
| 288 | 0.1     | 5.0   | 0.0  | 3.0  | 0.0  | 2.0  | 0.0 | 1.0   |
| 289 | 0.1     | 6.0   | 0.0  | 3.0  | 0.0  | 2.0  | 2.3 | 233.0 |
| 290 | 0.1     | 6.0   | 0.0  | 3.0  | 0.0  | 2.0  | 2.3 | 231.0 |
| 291 | 0.1     | 5.0   | 0.0  | 3.0  | 0.0  | 2.0  | 2.3 | 226.0 |
| 292 | 0.1     | 5.0   | 0.0  | 3.0  | 0.0  | 2.0  | 2.2 | 222.0 |
| 293 | 0.1     | 6.0   | 0.0  | 3.0  | 0.0  | 2.0  | 2.2 | 218.0 |
| 294 | 0.1     | 6.0   | 0.0  | 3.0  | 0.0  | 2.0  | 2.1 | 212.0 |

RUN1

|     |     |       |     |       |     |       |     |      |
|-----|-----|-------|-----|-------|-----|-------|-----|------|
| 295 | 0.1 | 5.0   | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 296 | 0.1 | 5.0   | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 297 | 0.0 | 4.0   | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 298 | 0.0 | -2.0  | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 299 | 0.0 | -1.0  | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 300 | 0.0 | -2.0  | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 301 | 0.0 | -2.0  | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 302 | 0.0 | -1.0  | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 303 | 0.0 | -1.0  | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 304 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 305 | 1.0 | 102.0 | 0.0 | 2.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 306 | 2.1 | 205.0 | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 307 | 2.1 | 205.0 | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0  |
| 308 | 2.1 | 205.0 | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 309 | 2.1 | 205.0 | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 310 | 2.0 | 202.0 | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 311 | 0.0 | 4.0   | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 312 | 0.0 | 4.0   | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 313 | 0.1 | 5.0   | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 314 | 0.0 | 4.0   | 0.0 | 1.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 315 | 0.0 | 4.0   | 0.0 | 0.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 316 | 0.0 | 4.0   | 0.0 | 0.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 317 | 0.0 | 4.0   | 0.0 | 1.0   | 0.0 | 3.0   | 0.0 | 0.0  |
| 318 | 0.0 | 4.0   | 0.0 | 0.0   | 0.0 | 2.0   | 0.0 | 1.0  |
| 319 | 0.0 | 4.0   | 0.0 | 0.0   | 0.0 | 2.0   | 0.0 | 1.0  |
| 320 | 0.0 | 4.0   | 0.0 | 3.0   | 0.0 | 1.0   | 0.0 | 1.0  |
| 321 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 322 | 0.0 | 4.0   | 2.0 | 195.0 | 0.0 | 3.0   | 0.0 | 1.0  |
| 323 | 0.0 | 4.0   | 2.0 | 197.0 | 0.0 | 2.0   | 0.0 | 0.0  |
| 324 | 0.0 | 4.0   | 2.0 | 197.0 | 0.0 | 2.0   | 0.0 | 0.0  |
| 325 | 0.0 | 4.0   | 2.0 | 197.0 | 0.0 | 2.0   | 0.0 | 0.0  |
| 326 | 0.0 | 4.0   | 2.0 | 197.0 | 0.0 | 1.0   | 0.0 | 0.0  |
| 327 | 0.0 | 4.0   | 2.0 | 196.0 | 0.0 | 2.0   | 0.0 | 0.0  |
| 328 | 0.0 | 4.0   | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 329 | 0.0 | 4.0   | 0.0 | 3.0   | 0.0 | 1.0   | 0.0 | 0.0  |
| 330 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 331 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0  |
| 332 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0  |
| 333 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0  |
| 334 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   | 0.0 | -2.0 |
| 335 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 336 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 337 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 338 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | -1.0  | 0.0 | 0.0  |
| 339 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | -1.0  | 0.0 | 0.0  |
| 340 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | -1.0  | 0.0 | 0.0  |
| 341 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | -1.0  | 0.0 | 1.0  |
| 342 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | -1.0  | 0.0 | 0.0  |
| 343 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | -1.0  | 0.0 | 0.0  |
| 344 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | -1.0  | 0.0 | 0.0  |
| 345 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   | 0.0 | 0.0  |
| 346 | 0.0 | 4.0   | 0.0 | 2.0   | 2.1 | 205.0 | 0.0 | 1.0  |
| 347 | 0.0 | 4.0   | 0.0 | 2.0   | 2.1 | 205.0 | 0.0 | 0.0  |
| 348 | 0.0 | 4.0   | 0.0 | 2.0   | 2.1 | 207.0 | 0.0 | 0.0  |
| 349 | 0.0 | 4.0   | 0.0 | 2.0   | 2.1 | 205.0 | 0.0 | 0.0  |
| 350 | 0.0 | 4.0   | 0.0 | 2.0   | 2.0 | 204.0 | 0.0 | 0.0  |
| 351 | 0.0 | 4.0   | 0.0 | 2.0   | 2.0 | 202.0 | 0.0 | 0.0  |
| 352 | 0.0 | 4.0   | 0.0 | 2.0   | 0.3 | 31.0  | 0.0 | 1.0  |
| 353 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   | 0.0 | 1.0  |

Run #2 Inlet "A" VOC

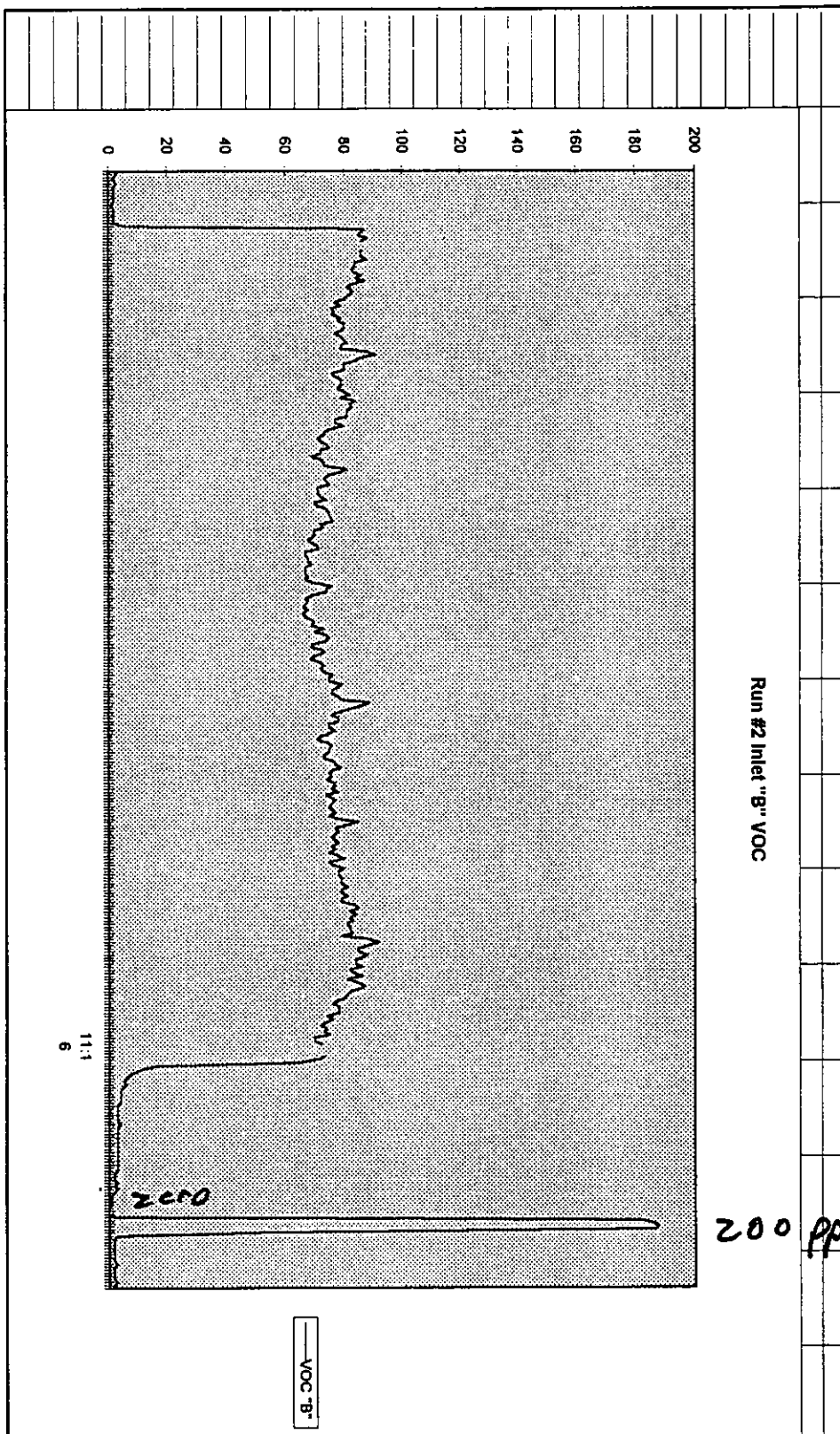


Start Run #2 \_  
10:11

Stop Run #2 \_  
11:16

Ave - 65.6

Run #2 Inlet "B" VOC



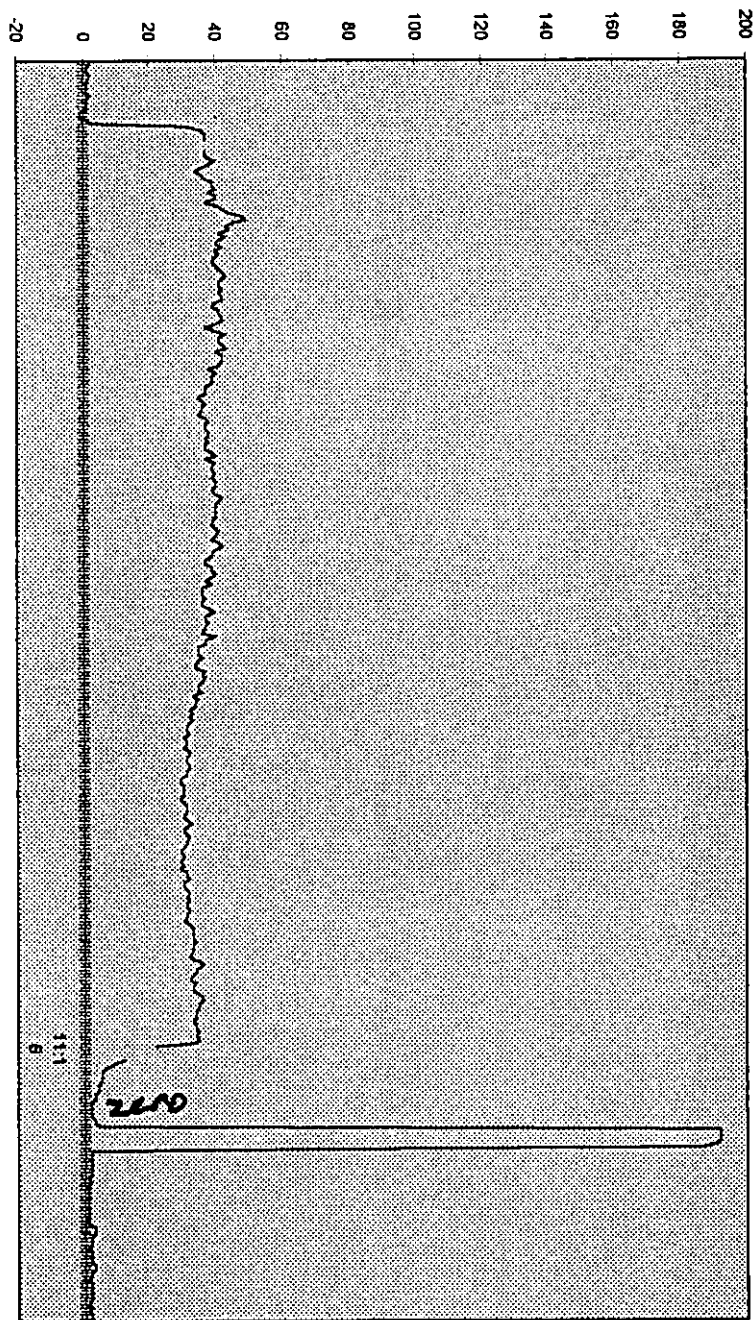
Start Run #2 -  
10:11

STOP Run #2 -  
11:16

Ave - 77.0 ppm

Run #2 Inlet "C" VOC

200 ppm CB H<sub>8</sub>



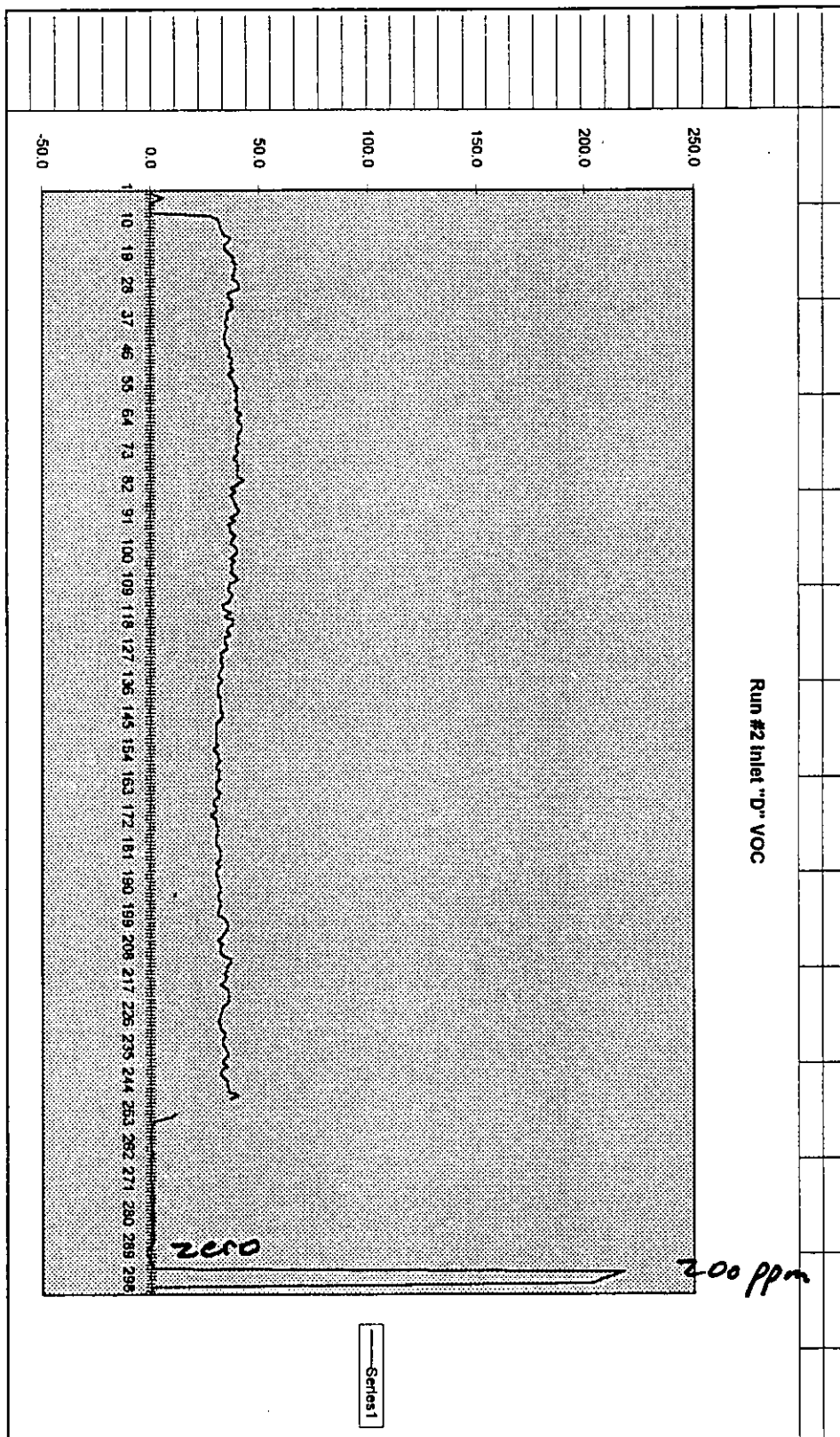
Start Run #2—  
10:11

STOP Run 2—  
11:16

VOC \* C

Ave - 36.2 ppm

Run #2 Inlet "D" VOC



Start Run #2  
10:20

STOP Run #2  
11:22

Ave - 39.7 ppm

FILE NAM run2

LOGGING 1

START LOGGING @ #####  
LAST SAMPLE @ #####

| ACTIVE C<br>MODULE<br>SAMPLE<br>UNITS: | 1A<br>Voltage<br>15 sec<br>Volts | 1B<br>Voltage<br>15 sec<br>Volts | 2A<br>Voltage<br>15 sec<br>Volts | 2B<br>Voltage<br>15 sec<br>Volts | VOC "A" | VOC "B" | VOC "C" | VOC "D" |
|----------------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|---------|---------|---------|---------|
| 1                                      | 0.0                              | 4.0                              | 0.0                              | 3.0                              | 0.0     | 2.0     | 0.0     | 0.0     |
| 2                                      | 0.0                              | 4.0                              | 0.0                              | 2.0                              | 0.0     | 1.0     | 0.0     | 0.0     |
| 3                                      | 0.0                              | 4.0                              | 0.0                              | 2.0                              | 0.0     | 1.0     | 1.9     | 188.0   |
| 4                                      | 0.1                              | 5.0                              | 0.0                              | 3.0                              | 0.0     | 2.0     | 1.9     | 189.0   |
| 5                                      | 0.0                              | 4.0                              | 0.0                              | 2.0                              | 0.0     | 2.0     | 1.9     | 189.0   |
| 6                                      | 0.0                              | 4.0                              | 0.0                              | 2.0                              | 0.0     | 1.0     | 1.9     | 189.0   |
| 7                                      | 0.0                              | 4.0                              | 0.0                              | 2.0                              | 0.0     | 1.0     | 1.9     | 188.0   |
| 8                                      | 0.0                              | 4.0                              | 0.0                              | 2.0                              | 0.0     | 1.0     | 1.8     | 175.0   |
| 9                                      | 0.0                              | 4.0                              | 0.0                              | 2.0                              | 0.0     | 1.0     | 0.0     | -1.0    |
| 10                                     | 0.0                              | 4.0                              | 0.0                              | 2.0                              | 0.0     | 2.0     | 0.0     | -1.0    |
| 11                                     | 0.0                              | 3.0                              | 0.0                              | 1.0                              | 0.0     | 1.0     | 0.0     | 0.0     |
| 12                                     | 0.0                              | 4.0                              | 0.0                              | 2.0                              | 0.0     | 1.0     | 0.0     | -1.0    |
| 13                                     | 0.0                              | 4.0                              | 0.0                              | 2.0                              | 0.0     | 1.0     | 0.0     | -1.0    |
| 14                                     | 0.0                              | 4.0                              | 0.0                              | 2.0                              | 0.0     | 1.0     | 0.1     | 11.0    |
| 15                                     | 0.0                              | 4.0                              | 0.0                              | 2.0                              | 0.0     | -1.0    | 0.1     | 5.0     |
| 16                                     | 0.0                              | 4.0                              | 0.0                              | 2.0                              | 0.0     | -1.0    | 0.1     | 5.0     |
| 17                                     | 0.0                              | 4.0                              | 0.0                              | 2.0                              | 0.0     | 1.0     | 0.3     | 29.0    |
| 18                                     | 0.0                              | 3.0                              | 0.1                              | 0.0                              | 0.0     | 2.0     | 0.3     | 30.0    |
| 19                                     | 0.0                              | 3.0                              | 0.9                              | 87.0                             | 0.3     | 31.0    | 0.3     | 33.0    |
| 20                                     | 0.0                              | 3.0                              | 0.9                              | 86.0                             | 0.4     | 36.0    | 0.4     | 35.0    |
| 21                                     | 0.0                              | 3.0                              | 0.9                              | 85.0                             | 0.4     | 37.0    | 0.4     | 37.0    |
| 22                                     | 0.0                              | 2.0                              | 0.9                              | 88.0                             | 0.4     | 37.0    | 0.4     | 36.0    |
| 23                                     | 0.1                              | 12.0                             | 0.9                              | 86.0                             | 0.4     | 37.0    | 0.4     | 36.0    |

Start Run 2  
10:11

|    |     |      |     |      |     |      |     |       |
|----|-----|------|-----|------|-----|------|-----|-------|
| 24 | 0.5 | 51.0 | 0.9 | 85.0 | 0.4 | 37.0 | 0.3 | 34.0  |
| 25 | 0.5 | 59.0 | 0.9 | 86.0 | 0.4 | 37.0 | 0.3 | 33.0  |
| 26 | 0.5 | 56.0 | 0.9 | 86.0 | 0.4 | 38.0 | 0.3 | 33.0  |
| 27 | 0.5 | 55.0 | 0.9 | 88.0 | 0.4 | 40.0 | 0.3 | 34.0  |
| 28 | 0.5 | 54.0 | 0.8 | 84.0 | 0.4 | 38.0 | 0.3 | 33.0  |
| 29 | 0.5 | 59.0 | 0.8 | 84.0 | 0.4 | 36.0 | 0.3 | 32.0  |
| 30 | 0.5 | 57.0 | 0.8 | 83.0 | 0.3 | 34.0 | 0.3 | 32.0  |
| 31 | 0.5 | 59.0 | 0.8 | 83.0 | 0.4 | 36.0 | 0.3 | 31.0  |
| 32 | 0.5 | 57.0 | 0.9 | 85.0 | 0.4 | 37.0 | 0.3 | 34.0  |
| 33 | 0.5 | 57.0 | 0.8 | 84.0 | 0.4 | 39.0 | 0.4 | 35.0  |
| 34 | 0.5 | 63.0 | 0.9 | 87.0 | 0.4 | 39.0 | 0.0 | -1.0  |
| 35 | 0.5 | 59.0 | 0.8 | 83.0 | 0.4 | 40.0 | 0.0 | 0.0   |
| 36 | 0.5 | 62.0 | 0.8 | 81.0 | 0.4 | 38.0 | 0.0 | 0.0   |
| 37 | 0.5 | 56.0 | 0.8 | 83.0 | 0.4 | 40.0 | 0.0 | 0.0   |
| 38 | 0.5 | 56.0 | 0.8 | 83.0 | 0.4 | 40.0 | 0.0 | 0.0   |
| 39 | 0.5 | 56.0 | 0.8 | 81.0 | 0.4 | 37.0 | 0.0 | 0.0   |
| 40 | 0.5 | 58.0 | 0.8 | 80.0 | 0.4 | 41.0 | 0.0 | 2.0   |
| 41 | 0.5 | 58.0 | 0.8 | 77.0 | 0.4 | 42.0 | 0.0 | -2.0  |
| 42 | 0.5 | 56.0 | 0.8 | 79.0 | 0.4 | 44.0 | 0.0 | -1.0  |
| 43 | 0.5 | 59.0 | 0.8 | 78.0 | 0.5 | 48.0 | 0.0 | -1.0  |
| 44 | 0.5 | 59.0 | 0.8 | 77.0 | 0.5 | 49.0 | 0.0 | -1.0  |
| 45 | 0.5 | 57.0 | 0.8 | 78.0 | 0.5 | 45.0 | 0.0 | -2.0  |
| 46 | 0.5 | 59.0 | 0.8 | 79.0 | 0.4 | 43.0 | 0.0 | -1.0  |
| 47 | 0.5 | 60.0 | 0.8 | 78.0 | 0.4 | 44.0 | 0.0 | -1.0  |
| 48 | 0.5 | 62.0 | 0.8 | 80.0 | 0.4 | 41.0 | 0.0 | -1.0  |
| 49 | 0.5 | 60.0 | 0.8 | 80.0 | 0.4 | 43.0 | 0.0 | -1.0  |
| 50 | 0.5 | 63.0 | 0.8 | 80.0 | 0.4 | 41.0 | 0.0 | -1.0  |
| 51 | 0.5 | 62.0 | 0.8 | 77.0 | 0.4 | 40.0 | 0.0 | -1.0  |
| 52 | 0.5 | 61.0 | 0.8 | 79.0 | 0.4 | 42.0 | 0.0 | -2.0  |
| 53 | 0.5 | 61.0 | 0.8 | 80.0 | 0.4 | 40.0 | 0.0 | -1.0  |
| 54 | 0.5 | 63.0 | 0.8 | 81.0 | 0.4 | 41.0 | 0.0 | -2.0  |
| 55 | 0.5 | 64.0 | 0.8 | 79.0 | 0.4 | 40.0 | 0.0 | 0.0   |
| 56 | 0.5 | 63.0 | 0.8 | 79.0 | 0.4 | 39.0 | 9.5 | 948.0 |
| 57 | 0.5 | 63.0 | 0.9 | 88.0 | 0.4 | 40.0 | 9.1 | 908.0 |
| 58 | 0.5 | 78.0 | 0.9 | 91.0 | 0.4 | 41.0 | 8.9 | 894.0 |
| 59 | 0.5 | 78.0 | 0.9 | 86.0 | 0.4 | 42.0 | 8.8 | 877.0 |
| 60 | 0.7 | 72.0 | 0.8 | 84.0 | 0.4 | 43.0 | 0.0 | 0.0   |
| 61 | 0.7 | 68.0 | 0.8 | 80.0 | 0.4 | 42.0 | 0.0 | 1.0   |
| 62 | 0.7 | 68.0 | 0.8 | 80.0 | 0.4 | 41.0 | 0.1 | 6.0   |
| 63 | 0.7 | 66.0 | 0.8 | 80.0 | 0.4 | 41.0 | 0.0 | 2.0   |
| 64 | 0.6 | 63.0 | 0.8 | 76.0 | 0.4 | 42.0 | 0.0 | 0.0   |
| 65 | 0.6 | 63.0 | 0.8 | 77.0 | 0.4 | 41.0 | 0.3 | 0.0   |
| 66 | 0.6 | 63.0 | 0.8 | 79.0 | 0.4 | 42.0 | 0.3 | 0.0   |
| 67 | 0.7 | 65.0 | 0.8 | 79.0 | 0.4 | 42.0 | 0.3 | 28.0  |
| 68 | 0.6 | 62.0 | 0.8 | 79.0 | 0.4 | 40.0 | 0.3 | 31.0  |
| 69 | 0.7 | 66.0 | 0.8 | 78.0 | 0.4 | 39.0 | 0.3 | 32.0  |
| 70 | 0.6 | 63.0 | 0.8 | 80.0 | 0.4 | 41.0 | 0.3 | 32.0  |
| 71 | 0.6 | 61.0 | 0.8 | 82.0 | 0.4 | 41.0 | 0.3 | 33.0  |
| 72 | 0.5 | 61.0 | 0.8 | 79.0 | 0.4 | 42.0 | 0.4 | 34.0  |
| 73 | 0.5 | 62.0 | 0.8 | 84.0 | 0.4 | 42.0 | 0.4 | 37.0  |
| 74 | 0.5 | 60.0 | 0.8 | 82.0 | 0.4 | 40.0 | 0.3 | 36.0  |
| 75 | 0.5 | 60.0 | 0.8 | 83.0 | 0.4 | 37.0 | 0.3 | 34.0  |
| 76 | 0.5 | 62.0 | 0.8 | 81.0 | 0.4 | 40.0 | 0.4 | 34.0  |
| 77 | 0.5 | 60.0 | 0.8 | 81.0 | 0.4 | 43.0 | 0.4 | 36.0  |
| 78 | 0.7 | 65.0 | 0.8 | 81.0 | 0.4 | 41.0 | 0.4 | 38.0  |
| 79 | 0.5 | 61.0 | 0.8 | 77.0 | 0.4 | 41.0 | 0.4 | 38.0  |
| 80 | 0.5 | 62.0 | 0.8 | 77.0 | 0.4 | 42.0 | 0.4 | 39.0  |
| 81 | 0.5 | 60.0 | 0.8 | 80.0 | 0.4 | 43.0 | 0.4 | 39.0  |
| 82 | 0.5 | 60.0 | 0.8 | 78.0 | 0.4 | 40.0 | 0.4 | 36.0  |
| 83 | 0.5 | 60.0 | 0.7 | 73.0 | 0.4 | 42.0 | 0.4 | 38.0  |
| 84 | 0.5 | 62.0 | 0.7 | 73.0 | 0.4 | 42.0 | 0.4 | 40.0  |
| 85 | 0.5 | 60.0 | 0.7 | 71.0 | 0.4 | 42.0 | 0.4 | 41.0  |
| 86 | 0.5 | 61.0 | 0.7 | 72.0 | 0.4 | 41.0 | 0.4 | 40.0  |
| 87 | 0.5 | 61.0 | 0.7 | 74.0 | 0.4 | 38.0 | 0.4 | 40.0  |
| 88 | 0.5 | 61.0 | 0.8 | 75.0 | 0.4 | 40.0 | 0.4 | 36.0  |
| 89 | 0.5 | 61.0 | 0.7 | 72.0 | 0.4 | 39.0 | 0.4 | 36.0  |
| 90 | 0.5 | 62.0 | 0.7 | 72.0 | 0.4 | 39.0 | 0.4 | 38.0  |
| 91 | 0.5 | 59.0 | 0.7 | 69.0 | 0.4 | 39.0 | 0.4 | 37.0  |

Start Run#3  
1020.0

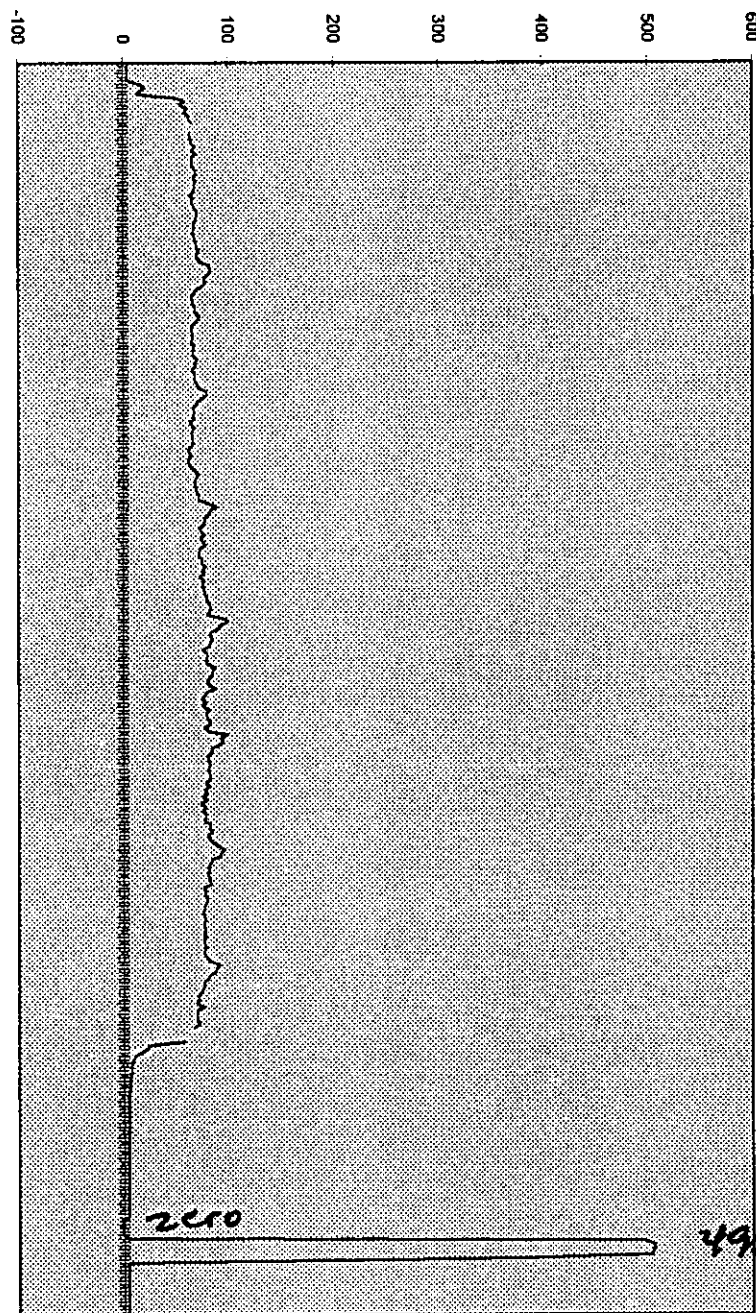
|     |     |      |     |      |     |      |     |      |
|-----|-----|------|-----|------|-----|------|-----|------|
| 92  | 0.6 | 58.0 | 0.7 | 72.0 | 0.4 | 37.0 | 0.4 | 38.0 |
| 93  | 0.6 | 59.0 | 0.7 | 73.0 | 0.4 | 37.0 | 0.4 | 38.0 |
| 94  | 0.6 | 59.0 | 0.7 | 73.0 | 0.4 | 37.0 | 0.4 | 35.0 |
| 95  | 0.7 | 71.0 | 0.8 | 81.0 | 0.4 | 35.0 | 0.3 | 38.0 |
| 96  | 0.8 | 78.0 | 0.8 | 79.0 | 0.4 | 36.0 | 0.4 | 34.0 |
| 97  | 0.8 | 78.0 | 0.8 | 75.0 | 0.4 | 37.0 | 0.4 | 35.0 |
| 98  | 0.7 | 69.0 | 0.7 | 73.0 | 0.4 | 36.0 | 0.3 | 35.0 |
| 99  | 0.6 | 64.0 | 0.7 | 74.0 | 0.4 | 36.0 | 0.3 | 34.0 |
| 100 | 0.6 | 64.0 | 0.8 | 75.0 | 0.4 | 35.0 | 0.3 | 34.0 |
| 101 | 0.6 | 63.0 | 0.7 | 71.0 | 0.4 | 37.0 | 0.4 | 34.0 |
| 102 | 0.6 | 64.0 | 0.7 | 71.0 | 0.4 | 38.0 | 0.4 | 35.0 |
| 103 | 0.6 | 62.0 | 0.7 | 71.0 | 0.4 | 37.0 | 0.4 | 36.0 |
| 104 | 0.6 | 61.0 | 0.7 | 72.0 | 0.4 | 37.0 | 0.4 | 37.0 |
| 105 | 0.6 | 61.0 | 0.7 | 74.0 | 0.4 | 38.0 | 0.4 | 36.0 |
| 106 | 0.6 | 63.0 | 0.7 | 70.0 | 0.4 | 38.0 | 0.4 | 38.0 |
| 107 | 0.6 | 63.0 | 0.7 | 71.0 | 0.4 | 37.0 | 0.4 | 37.0 |
| 108 | 0.6 | 63.0 | 0.7 | 74.0 | 0.4 | 38.0 | 0.4 | 37.0 |
| 109 | 0.6 | 64.0 | 0.8 | 75.0 | 0.4 | 37.0 | 0.4 | 38.0 |
| 110 | 0.6 | 59.0 | 0.8 | 75.0 | 0.4 | 37.0 | 0.4 | 36.0 |
| 111 | 0.6 | 59.0 | 0.8 | 78.0 | 0.4 | 39.0 | 0.4 | 37.0 |
| 112 | 0.6 | 59.0 | 0.8 | 78.0 | 0.4 | 40.0 | 0.4 | 38.0 |
| 113 | 0.6 | 58.0 | 0.7 | 72.0 | 0.4 | 37.0 | 0.4 | 39.0 |
| 114 | 0.6 | 58.0 | 0.7 | 73.0 | 0.4 | 40.0 | 0.4 | 40.0 |
| 115 | 0.6 | 58.0 | 0.7 | 70.0 | 0.4 | 39.0 | 0.4 | 39.0 |
| 116 | 0.6 | 57.0 | 0.7 | 70.0 | 0.4 | 39.0 | 0.4 | 40.0 |
| 117 | 0.6 | 59.0 | 0.7 | 70.0 | 0.4 | 40.0 | 0.4 | 39.0 |
| 118 | 0.6 | 57.0 | 0.7 | 68.0 | 0.4 | 39.0 | 0.4 | 40.0 |
| 119 | 0.6 | 58.0 | 0.7 | 69.0 | 0.4 | 40.0 | 0.4 | 40.0 |
| 120 | 0.6 | 59.0 | 0.7 | 71.0 | 0.4 | 40.0 | 0.4 | 39.0 |
| 121 | 0.6 | 57.0 | 0.7 | 71.0 | 0.4 | 40.0 | 0.4 | 42.0 |
| 122 | 0.6 | 57.0 | 0.7 | 67.0 | 0.4 | 39.0 | 0.4 | 40.0 |
| 123 | 0.6 | 58.0 | 0.7 | 67.0 | 0.4 | 40.0 | 0.4 | 40.0 |
| 124 | 0.6 | 59.0 | 0.7 | 68.0 | 0.4 | 42.0 | 0.4 | 42.0 |
| 125 | 0.6 | 61.0 | 0.7 | 68.0 | 0.4 | 41.0 | 0.4 | 42.0 |
| 126 | 0.6 | 61.0 | 0.7 | 69.0 | 0.4 | 40.0 | 0.4 | 41.0 |
| 127 | 0.6 | 61.0 | 0.7 | 67.0 | 0.4 | 40.0 | 0.4 | 40.0 |
| 128 | 0.6 | 59.0 | 0.7 | 67.0 | 0.4 | 40.0 | 0.4 | 40.0 |
| 129 | 0.6 | 59.0 | 0.7 | 67.0 | 0.4 | 40.0 | 0.4 | 41.0 |
| 130 | 0.6 | 61.0 | 0.7 | 68.0 | 0.4 | 40.0 | 0.4 | 39.0 |
| 131 | 0.6 | 60.0 | 0.7 | 67.0 | 0.4 | 39.0 | 0.4 | 40.0 |
| 132 | 0.6 | 62.0 | 0.7 | 70.0 | 0.4 | 39.0 | 0.4 | 40.0 |
| 133 | 0.7 | 72.0 | 0.8 | 78.0 | 0.4 | 40.0 | 0.4 | 38.0 |
| 134 | 0.7 | 72.0 | 0.7 | 74.0 | 0.4 | 41.0 | 0.4 | 40.0 |
| 135 | 0.7 | 69.0 | 0.7 | 74.0 | 0.4 | 40.0 | 0.4 | 40.0 |
| 136 | 0.7 | 66.0 | 0.7 | 70.0 | 0.4 | 39.0 | 0.4 | 40.0 |
| 137 | 0.6 | 64.0 | 0.7 | 67.0 | 0.4 | 41.0 | 0.4 | 40.0 |
| 138 | 0.7 | 65.0 | 0.7 | 68.0 | 0.4 | 42.0 | 0.4 | 40.0 |
| 139 | 0.7 | 65.0 | 0.7 | 67.0 | 0.4 | 40.0 | 0.4 | 43.0 |
| 140 | 0.7 | 65.0 | 0.7 | 66.0 | 0.4 | 39.0 | 0.4 | 40.0 |
| 141 | 0.6 | 63.0 | 0.7 | 68.0 | 0.4 | 39.0 | 0.4 | 37.0 |
| 142 | 0.6 | 61.0 | 0.7 | 66.0 | 0.4 | 37.0 | 0.4 | 39.0 |
| 143 | 0.6 | 63.0 | 0.7 | 67.0 | 0.4 | 37.0 | 0.4 | 37.0 |
| 144 | 0.6 | 59.0 | 0.7 | 69.0 | 0.4 | 39.0 | 0.4 | 38.0 |
| 145 | 0.6 | 59.0 | 0.7 | 70.0 | 0.4 | 39.0 | 0.4 | 39.0 |
| 146 | 0.6 | 58.0 | 0.7 | 69.0 | 0.4 | 40.0 | 0.4 | 39.0 |
| 147 | 0.6 | 58.0 | 0.7 | 73.0 | 0.4 | 39.0 | 0.4 | 41.0 |
| 148 | 0.6 | 61.0 | 0.7 | 70.0 | 0.4 | 37.0 | 0.4 | 40.0 |
| 149 | 0.6 | 57.0 | 0.7 | 74.0 | 0.4 | 39.0 | 0.4 | 37.0 |
| 150 | 0.6 | 60.0 | 0.8 | 75.0 | 0.4 | 36.0 | 0.4 | 39.0 |
| 151 | 0.6 | 61.0 | 0.7 | 74.0 | 0.4 | 36.0 | 0.4 | 36.0 |
| 152 | 0.6 | 59.0 | 0.7 | 70.0 | 0.4 | 36.0 | 0.4 | 37.0 |
| 153 | 0.6 | 61.0 | 0.7 | 69.0 | 0.4 | 37.0 | 0.4 | 37.0 |
| 154 | 0.6 | 58.0 | 0.7 | 73.0 | 0.4 | 36.0 | 0.4 | 39.0 |
| 155 | 0.6 | 59.0 | 0.7 | 73.0 | 0.4 | 36.0 | 0.4 | 38.0 |
| 156 | 0.6 | 60.0 | 0.7 | 70.0 | 0.4 | 38.0 | 0.4 | 37.0 |
| 157 | 0.6 | 61.0 | 0.7 | 69.0 | 0.4 | 40.0 | 0.4 | 39.0 |
| 158 | 0.6 | 63.0 | 0.7 | 72.0 | 0.4 | 37.0 | 0.4 | 40.0 |
| 159 | 0.6 | 61.0 | 0.7 | 73.0 | 0.4 | 37.0 | 0.4 | 39.0 |
| 160 | 0.6 | 59.0 | 0.7 | 72.0 | 0.4 | 38.0 | 0.4 | 37.0 |
| 161 | 0.6 | 61.0 | 0.7 | 73.0 | 0.4 | 37.0 | 0.4 | 39.0 |
| 162 | 0.7 | 65.0 | 0.8 | 76.0 | 0.4 | 37.0 | 0.4 | 37.0 |
| 163 | 0.6 | 64.0 | 0.8 | 75.0 | 0.4 | 36.0 | 0.4 | 38.0 |
| 164 | 0.6 | 63.0 | 0.8 | 75.0 | 0.4 | 40.0 | 0.4 | 37.0 |
| 165 | 0.6 | 64.0 | 0.8 | 79.0 | 0.4 | 37.0 | 0.4 | 39.0 |
| 166 | 0.7 | 67.0 | 0.8 | 78.0 | 0.4 | 37.0 | 0.4 | 40.0 |
| 167 | 0.7 | 65.0 | 0.8 | 76.0 | 0.4 | 35.0 | 0.4 | 37.0 |
| 168 | 0.7 | 68.0 | 0.8 | 76.0 | 0.4 | 35.0 | 0.4 | 36.0 |
| 169 | 0.7 | 66.0 | 0.8 | 78.0 | 0.4 | 35.0 | 0.4 | 36.0 |
| 170 | 0.7 | 66.0 | 0.8 | 79.0 | 0.4 | 36.0 | 0.4 | 38.0 |
| 171 | 0.8 | 79.0 | 0.9 | 89.0 | 0.4 | 35.0 | 0.4 | 37.0 |
| 172 | 0.8 | 80.0 | 0.9 | 86.0 | 0.3 | 34.0 | 0.3 | 36.0 |
| 173 | 0.8 | 76.0 | 0.8 | 82.0 | 0.3 | 34.0 | 0.3 | 33.0 |
| 174 | 0.8 | 76.0 | 0.8 | 78.0 | 0.4 | 37.0 | 0.4 | 34.0 |
| 175 | 0.7 | 70.0 | 0.8 | 76.0 | 0.4 | 36.0 | 0.3 | 37.0 |
| 176 | 0.7 | 70.0 | 0.8 | 78.0 | 0.4 | 37.0 | 0.4 | 34.0 |
| 177 | 0.7 | 67.0 | 0.8 | 78.0 | 0.4 | 36.0 | 0.4 | 38.0 |
| 178 | 0.7 | 71.0 | 0.8 | 75.0 | 0.4 | 35.0 | 0.4 | 38.0 |
| 179 | 0.7 | 72.0 | 0.8 | 75.0 | 0.4 | 36.0 | 0.4 | 36.0 |
| 180 | 0.7 | 70.0 | 0.8 | 77.0 | 0.4 | 36.0 | 0.4 | 35.0 |
| 181 | 0.7 | 65.0 | 0.8 | 75.0 | 0.3 | 33.0 | 0.3 | 37.0 |
| 182 | 0.7 | 65.0 | 0.7 | 72.0 | 0.4 | 35.0 | 0.3 | 34.0 |
| 183 | 0.7 | 65.0 | 0.7 | 71.0 | 0.3 | 34.0 | 0.4 | 34.0 |
| 184 | 0.7 | 67.0 | 0.8 | 75.0 | 0.3 | 34.0 | 0.4 | 35.0 |
| 185 | 0.6 | 63.0 | 0.8 | 76.0 | 0.3 | 32.0 | 0.3 | 36.0 |
| 186 | 0.7 | 65.0 | 0.8 | 76.0 | 0.3 | 33.0 | 0.3 | 32.0 |
| 187 | 0.7 | 66.0 | 0.8 | 75.0 | 0.3 | 32.0 | 0.3 | 33.0 |
| 188 | 0.6 | 63.0 | 0.7 | 73.0 | 0.3 | 33.0 | 0.3 | 32.0 |
| 189 | 0.7 | 66.0 | 0.7 | 73.0 | 0.3 | 32.0 | 0.3 | 33.0 |
| 190 | 0.7 | 65.0 | 0.8 | 77.0 | 0.3 | 31.0 | 0.3 | 33.0 |
| 191 | 0.7 | 69.0 | 0.8 | 77.0 | 0.3 | 31.0 | 0.3 | 32.0 |
| 192 | 0.7 | 65.0 | 0.8 | 78.0 | 0.3 | 32.0 | 0.3 | 31.0 |
| 193 | 0.7 | 69.0 | 0.8 | 78.0 | 0.3 | 30.0 | 0.3 | 33.0 |
| 194 | 0.7 | 68.0 | 0.8 | 76.0 | 0.3 | 31.0 | 0.3 | 32.0 |

|                |     |      |     |      |     |      |     |      |
|----------------|-----|------|-----|------|-----|------|-----|------|
| 195            | 0.7 | 67.0 | 0.8 | 78.0 | 0.3 | 31.0 | 0.3 | 31.0 |
| 196            | 0.7 | 68.0 | 0.7 | 74.0 | 0.3 | 30.0 | 0.3 | 31.0 |
| 197            | 0.7 | 67.0 | 0.8 | 77.0 | 0.3 | 32.0 | 0.3 | 31.0 |
| 198            | 0.7 | 70.0 | 0.8 | 77.0 | 0.3 | 32.0 | 0.3 | 32.0 |
| 199            | 0.7 | 65.0 | 0.8 | 76.0 | 0.3 | 31.0 | 0.3 | 32.0 |
| 200            | 0.7 | 68.0 | 0.8 | 78.0 | 0.3 | 31.0 | 0.3 | 32.0 |
| 201            | 0.7 | 67.0 | 0.7 | 74.0 | 0.3 | 32.0 | 0.3 | 32.0 |
| 202            | 0.7 | 68.0 | 0.8 | 76.0 | 0.3 | 32.0 | 0.3 | 33.0 |
| 203            | 0.7 | 67.0 | 0.8 | 77.0 | 0.3 | 31.0 | 0.3 | 33.0 |
| 204            | 0.7 | 68.0 | 0.8 | 76.0 | 0.3 | 31.0 | 0.3 | 32.0 |
| 205            | 0.7 | 69.0 | 0.8 | 75.0 | 0.3 | 29.0 | 0.3 | 30.0 |
| 206            | 0.7 | 70.0 | 0.8 | 76.0 | 0.3 | 29.0 | 0.3 | 30.0 |
| 207            | 0.7 | 68.0 | 0.8 | 77.0 | 0.3 | 30.0 | 0.3 | 30.0 |
| 208            | 0.7 | 71.0 | 0.8 | 75.0 | 0.3 | 30.0 | 0.3 | 30.0 |
| 209            | 0.7 | 71.0 | 0.8 | 78.0 | 0.3 | 30.0 | 0.3 | 30.0 |
| 210            | 0.8 | 79.0 | 0.9 | 85.0 | 0.3 | 30.0 | 0.3 | 30.0 |
| 211            | 0.8 | 82.0 | 0.8 | 81.0 | 0.3 | 29.0 | 0.3 | 31.0 |
| 212            | 0.8 | 81.0 | 0.8 | 77.0 | 0.3 | 30.0 | 0.3 | 29.0 |
| 213            | 0.7 | 72.0 | 0.8 | 78.0 | 0.3 | 31.0 | 0.3 | 31.0 |
| 214            | 0.7 | 73.0 | 0.8 | 77.0 | 0.3 | 31.0 | 0.3 | 31.0 |
| 215            | 0.7 | 67.0 | 0.8 | 76.0 | 0.3 | 31.0 | 0.3 | 32.0 |
| 216            | 0.7 | 67.0 | 0.8 | 77.0 | 0.3 | 30.0 | 0.3 | 31.0 |
| 217            | 0.7 | 68.0 | 0.8 | 78.0 | 0.3 | 31.0 | 0.3 | 30.0 |
| 218            | 0.7 | 71.0 | 0.8 | 76.0 | 0.3 | 33.0 | 0.3 | 32.0 |
| 219            | 0.7 | 70.0 | 0.8 | 77.0 | 0.3 | 31.0 | 0.3 | 31.0 |
| 220            | 0.7 | 71.0 | 0.8 | 75.0 | 0.3 | 30.0 | 0.3 | 32.0 |
| 221            | 0.7 | 68.0 | 0.8 | 78.0 | 0.3 | 31.0 | 0.3 | 30.0 |
| 222            | 0.7 | 70.0 | 0.8 | 80.0 | 0.3 | 32.0 | 0.3 | 30.0 |
| 223            | 0.7 | 71.0 | 0.8 | 75.0 | 0.3 | 31.0 | 0.3 | 31.0 |
| 224            | 0.7 | 68.0 | 0.8 | 76.0 | 0.3 | 31.0 | 0.3 | 32.0 |
| 225            | 0.8 | 75.0 | 0.8 | 80.0 | 0.3 | 30.0 | 0.3 | 31.0 |
| 226            | 0.7 | 71.0 | 0.8 | 78.0 | 0.3 | 29.0 | 0.3 | 29.0 |
| 227            | 0.7 | 71.0 | 0.8 | 78.0 | 0.3 | 30.0 | 0.3 | 29.0 |
| 228            | 0.7 | 70.0 | 0.8 | 79.0 | 0.3 | 30.0 | 0.3 | 30.0 |
| 229            | 0.7 | 68.0 | 0.8 | 79.0 | 0.3 | 29.0 | 0.3 | 30.0 |
| 230            | 0.7 | 68.0 | 0.8 | 79.0 | 0.3 | 30.0 | 0.3 | 28.0 |
| 231            | 0.7 | 68.0 | 0.8 | 81.0 | 0.3 | 29.0 | 0.3 | 30.0 |
| 232            | 0.7 | 70.0 | 0.8 | 79.0 | 0.3 | 31.0 | 0.3 | 30.0 |
| 233            | 0.7 | 71.0 | 0.8 | 79.0 | 0.3 | 31.0 | 0.3 | 31.0 |
| 234            | 0.7 | 71.0 | 0.8 | 81.0 | 0.3 | 32.0 | 0.3 | 31.0 |
| 235            | 0.8 | 76.0 | 0.8 | 79.0 | 0.3 | 30.0 | 0.3 | 31.0 |
| 236            | 0.7 | 68.0 | 0.8 | 79.0 | 0.3 | 30.0 | 0.3 | 30.0 |
| 237            | 0.7 | 67.0 | 0.8 | 84.0 | 0.3 | 31.0 | 0.3 | 30.0 |
| 238            | 0.7 | 74.0 | 0.9 | 85.0 | 0.3 | 32.0 | 0.3 | 30.0 |
| 239            | 0.8 | 77.0 | 0.8 | 82.0 | 0.3 | 31.0 | 0.3 | 32.0 |
| 240            | 0.7 | 73.0 | 0.8 | 84.0 | 0.3 | 32.0 | 0.3 | 32.0 |
| 241            | 0.7 | 70.0 | 0.8 | 82.0 | 0.3 | 31.0 | 0.3 | 32.0 |
| 242            | 0.7 | 73.0 | 0.8 | 83.0 | 0.3 | 31.0 | 0.3 | 32.0 |
| 243            | 0.7 | 73.0 | 0.8 | 81.0 | 0.3 | 32.0 | 0.3 | 30.0 |
| 244            | 0.7 | 72.0 | 0.8 | 82.0 | 0.3 | 31.0 | 0.3 | 32.0 |
| 245            | 0.8 | 77.0 | 0.8 | 82.0 | 0.3 | 31.0 | 0.3 | 30.0 |
| 246            | 0.8 | 75.0 | 0.8 | 83.0 | 0.3 | 30.0 | 0.3 | 30.0 |
| 247            | 0.7 | 72.0 | 0.8 | 79.0 | 0.3 | 32.0 | 0.3 | 31.0 |
| 248            | 0.8 | 78.0 | 0.9 | 88.0 | 0.3 | 33.0 | 0.3 | 31.0 |
| 249            | 0.9 | 90.0 | 0.9 | 92.0 | 0.3 | 33.0 | 0.3 | 32.0 |
| 250            | 0.9 | 94.0 | 0.9 | 89.0 | 0.3 | 33.0 | 0.3 | 32.0 |
| 251            | 0.8 | 83.0 | 0.9 | 86.0 | 0.3 | 33.0 | 0.3 | 32.0 |
| 252            | 0.8 | 80.0 | 0.9 | 85.0 | 0.3 | 34.0 | 0.3 | 31.0 |
| 253            | 0.8 | 76.0 | 0.9 | 86.0 | 0.3 | 33.0 | 0.3 | 32.0 |
| 254            | 0.7 | 72.0 | 0.9 | 86.0 | 0.3 | 33.0 | 0.3 | 32.0 |
| 255            | 0.8 | 75.0 | 0.8 | 84.0 | 0.3 | 33.0 | 0.3 | 32.0 |
| 256            | 0.7 | 74.0 | 0.8 | 84.0 | 0.3 | 32.0 | 0.3 | 31.0 |
| 257            | 0.7 | 71.0 | 0.9 | 86.0 | 0.3 | 33.0 | 0.3 | 31.0 |
| 258            | 0.8 | 75.0 | 0.8 | 82.0 | 0.4 | 36.0 | 0.4 | 34.0 |
| 259            | 0.7 | 72.0 | 0.8 | 83.0 | 0.4 | 36.0 | 0.4 | 35.0 |
| 260            | 0.7 | 72.0 | 0.9 | 86.0 | 0.3 | 34.0 | 0.4 | 36.0 |
| 261            | 0.7 | 67.0 | 0.8 | 81.0 | 0.3 | 34.0 | 0.3 | 35.0 |
| 262            | 0.7 | 67.0 | 0.8 | 84.0 | 0.3 | 33.0 | 0.3 | 34.0 |
| 263            | 0.7 | 71.0 | 0.9 | 87.0 | 0.3 | 32.0 | 0.3 | 33.0 |
| 264            | 0.7 | 69.0 | 0.9 | 86.0 | 0.3 | 34.0 | 0.3 | 31.0 |
| 265            | 0.7 | 72.0 | 0.8 | 82.0 | 0.3 | 33.0 | 0.3 | 33.0 |
| 266            | 0.7 | 68.0 | 0.8 | 81.0 | 0.3 | 33.0 | 0.3 | 32.0 |
| 267            | 0.7 | 67.0 | 0.8 | 80.0 | 0.4 | 35.0 | 0.3 | 32.0 |
| 268            | 0.7 | 65.0 | 0.8 | 78.0 | 0.4 | 36.0 | 0.4 | 33.0 |
| 269            | 0.7 | 72.0 | 0.8 | 78.0 | 0.4 | 36.0 | 0.4 | 37.0 |
| 270            | 0.7 | 67.0 | 0.8 | 78.0 | 0.4 | 35.0 | 0.4 | 37.0 |
| 271            | 0.7 | 67.0 | 0.8 | 78.0 | 0.4 | 35.0 | 0.4 | 35.0 |
| 272            | 0.7 | 66.0 | 0.8 | 78.0 | 0.3 | 34.0 | 0.3 | 35.0 |
| 273            | 0.7 | 71.0 | 0.7 | 74.0 | 0.3 | 34.0 | 0.4 | 34.0 |
| 274            | 0.7 | 69.0 | 0.8 | 76.0 | 0.3 | 34.0 | 0.3 | 35.0 |
| 275            | 0.7 | 68.0 | 0.7 | 74.0 | 0.3 | 33.0 | 0.3 | 34.0 |
| 276            | 0.7 | 72.0 | 0.7 | 72.0 | 0.3 | 34.0 | 0.4 | 32.0 |
| 277            | 0.8 | 75.0 | 0.7 | 74.0 | 0.3 | 34.0 | 0.4 | 35.0 |
| 278            | 0.7 | 73.0 | 0.7 | 73.0 | 0.4 | 35.0 | 0.4 | 36.0 |
| 279            | 0.7 | 72.0 | 0.8 | 76.0 | 0.3 | 34.0 | 0.4 | 36.0 |
| 280            | 0.7 | 73.0 | 0.7 | 70.0 | 0.4 | 35.0 | 0.4 | 36.0 |
| 281            | 0.7 | 69.0 | 0.7 | 70.0 | 0.3 | 34.0 | 0.3 | 36.0 |
| 282            | 0.6 | 56.0 | 0.7 | 72.0 | 0.2 | 22.0 | 0.3 | 33.0 |
| Stop Run 11:16 |     |      |     |      |     |      |     |      |
| Average        |     | 65.6 |     | 77.0 |     | 36.2 | 0.3 | 33.0 |
|                |     |      |     |      |     |      | 0.3 | 32.0 |
| 283            | 0.2 | 24.0 | 0.7 | 73.0 | 0.1 | 12.0 | 0.3 | 31.0 |
| 284            | 0.2 | 18.0 | 0.7 | 71.0 | 0.1 | 9.0  | 0.3 | 32.0 |
| 285            | 0.1 | 13.0 | 0.6 | 64.0 | 0.1 | 7.0  | 0.3 | 32.0 |
| 286            | 0.1 | 11.0 | 0.2 | 17.0 | 0.1 | 5.0  | 0.3 | 34.0 |
| 287            | 0.1 | 9.0  | 0.1 | 12.0 | 0.1 | 6.0  | 0.3 | 34.0 |
| 288            | 0.1 | 9.0  | 0.1 | 9.0  | 0.1 | 5.0  | 0.3 | 33.0 |
| 289            | 0.1 | 8.0  | 0.1 | 7.0  | 0.1 | 5.0  | 0.3 | 33.0 |
| 290            | 0.1 | 7.0  | 0.1 | 6.0  | 0.0 | 4.0  | 0.4 | 34.0 |
| 291            | 0.1 | 7.0  | 0.1 | 6.0  | 0.0 | 4.0  | 0.4 | 35.0 |
| 292            | 0.1 | 7.0  | 0.1 | 6.0  | 0.0 | 4.0  | 0.3 | 36.0 |
| 293            | 0.1 | 6.0  | 0.1 | 6.0  | 0.0 | 3.0  | 0.3 | 34.0 |
| 294            | 0.1 | 6.0  | 0.0 | 4.0  | 0.0 | 3.0  | 0.4 | 33.0 |

RUN2

|     |     |       |     |       |     |       |     |         |
|-----|-----|-------|-----|-------|-----|-------|-----|---------|
| 296 | 0.1 | 8.0   | 0.0 | 4.0   | 0.0 | 2.0   | 0.3 | 35.0    |
| 296 | 0.1 | 8.0   | 0.0 | 4.0   | 0.0 | 2.0   | 0.3 | 33.0    |
| 297 | 0.1 | 8.0   | 0.0 | 4.0   | 0.0 | 2.0   | 0.3 | 32.0    |
| 298 | 0.1 | 8.0   | 0.0 | 4.0   | 0.0 | 2.0   | 0.4 | 33.0    |
| 299 | 0.1 | 8.0   | 0.0 | 3.0   | 0.0 | 2.0   | 0.4 | 35.0    |
| 300 | 0.1 | 5.0   | 0.0 | 3.0   | 0.0 | 3.0   | 0.4 | 35.0    |
| 301 | 0.1 | 8.0   | 0.0 | 3.0   | 0.0 | 3.0   | 0.4 | 36.0    |
| 302 | 0.1 | 8.0   | 0.0 | 3.0   | 0.1 | 5.0   | 0.4 | 36.0    |
| 303 | 0.1 | 5.0   | 0.0 | 3.0   | 1.9 | 192.0 | 0.4 | 40.0    |
| 304 | 0.1 | 5.0   | 0.0 | 3.0   | 1.9 | 192.0 | 0.1 | 37.0    |
| 305 | 0.1 | 7.0   | 0.0 | 4.0   | 1.9 | 192.0 | 0.1 |         |
| 306 | 0.1 | 5.0   | 0.0 | 3.0   | 1.9 | 192.0 | 0.0 | Average |
| 307 | 0.1 | 5.0   | 0.0 | 3.0   | 1.9 | 191.0 | 0.0 | 34.7    |
| 308 | 0.1 | 5.0   | 0.0 | 3.0   | 1.9 | 187.0 | 0.0 | 12.0    |
| 309 | 0.1 | 5.0   | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 9.0     |
| 310 | 0.1 | 5.0   | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 2.0     |
| 311 | 0.1 | 6.0   | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 1.0     |
| 312 | 0.1 | 5.0   | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0     |
| 313 | 0.1 | 5.0   | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0     |
| 314 | 0.1 | 5.0   | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0     |
| 315 | 0.0 | -2.0  | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0     |
| 316 | 0.0 | -2.0  | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0     |
| 317 | 0.0 | -1.0  | 0.0 | 3.0   | 0.0 | 1.0   | 0.0 | 0.0     |
| 318 | 0.0 | -1.0  | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0     |
| 319 | 0.0 | -1.0  | 0.0 | 3.0   | 0.0 | 1.0   | 0.0 | 1.0     |
| 320 | 0.0 | -1.0  | 0.0 | 3.0   | 0.0 | 1.0   | 0.0 | 0.0     |
| 321 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0     |
| 322 | 2.1 | 206.0 | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0     |
| 323 | 2.1 | 207.0 | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0     |
| 324 | 2.1 | 207.0 | 0.0 | 3.0   | 0.0 | 1.0   | 0.0 | 0.0     |
| 325 | 2.1 | 206.0 | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0     |
| 326 | 0.1 | 5.0   | 0.0 | 3.0   | 0.0 | 1.0   | 0.0 | 0.0     |
| 327 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0     |
| 328 | 0.1 | 5.0   | 0.0 | 1.0   | 0.0 | 1.0   | 0.0 | 1.0     |
| 329 | 0.1 | 5.0   | 0.0 | 1.0   | 0.0 | 1.0   | 0.0 | 0.0     |
| 330 | 0.0 | 4.0   | 0.0 | 0.0   | 0.0 | 1.0   | 0.0 | 1.0     |
| 331 | 0.0 | 4.0   | 0.0 | 1.0   | 0.0 | 3.0   | 0.0 | 1.0     |
| 332 | 0.0 | 4.0   | 0.0 | 0.0   | 0.0 | 3.0   | 0.0 | 1.0     |
| 333 | 0.0 | 4.0   | 0.0 | 0.0   | 0.0 | 3.0   | 0.0 | 1.0     |
| 334 | 0.0 | 4.0   | 0.0 | 0.0   | 0.0 | 2.0   | 0.0 | 1.0     |
| 335 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   | 0.0 | 1.0     |
| 336 | 0.0 | 4.0   | 1.8 | 162.0 | 0.0 | 2.0   | 0.0 | 1.0     |
| 337 | 0.0 | 4.0   | 1.9 | 186.0 | 0.0 | 1.0   | 0.0 | 1.0     |
| 338 | 0.0 | 4.0   | 1.9 | 188.0 | 0.0 | 2.0   | 0.0 | 1.0     |
| 339 | 0.0 | 4.0   | 1.9 | 187.0 | 0.0 | 2.0   | 0.0 | 1.0     |
| 340 | 0.0 | 4.0   | 0.6 | 66.0  | 0.0 | 2.0   | 0.0 | 1.0     |
| 341 | 0.0 | 4.0   | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 1.0     |
| 342 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 3.0   | 0.0 | 1.0     |
| 343 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 3.0   | 0.0 | 1.0     |
| 344 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   | 0.0 | -1.0    |
| 345 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   | 0.0 | -2.0    |
| 346 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | -2.0    |
| 347 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   | 2.2 | -1.0    |
| 348 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   | 2.1 | -1.0    |
| 349 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   | 2.1 | 1.0     |
| 350 | 0.0 | 4.0   | 0.0 | 3.0   | 0.0 | 2.0   | 2.0 | 1.0     |
| 351 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   | 0.0 | 216.0   |
| 352 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   | 0.0 | 213.0   |
| 353 | 0.1 | 5.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 206.0   |
| 354 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   | 0.0 | 204.0   |
| 355 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 1.0     |
| 356 | 0.0 | 4.0   | 0.0 | 3.0   | 0.0 | 2.0   |     | 0.0     |
| 357 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 2.0   |     | 0.0     |
| 358 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   |     |         |

Run #3 Inlet "A" VOC



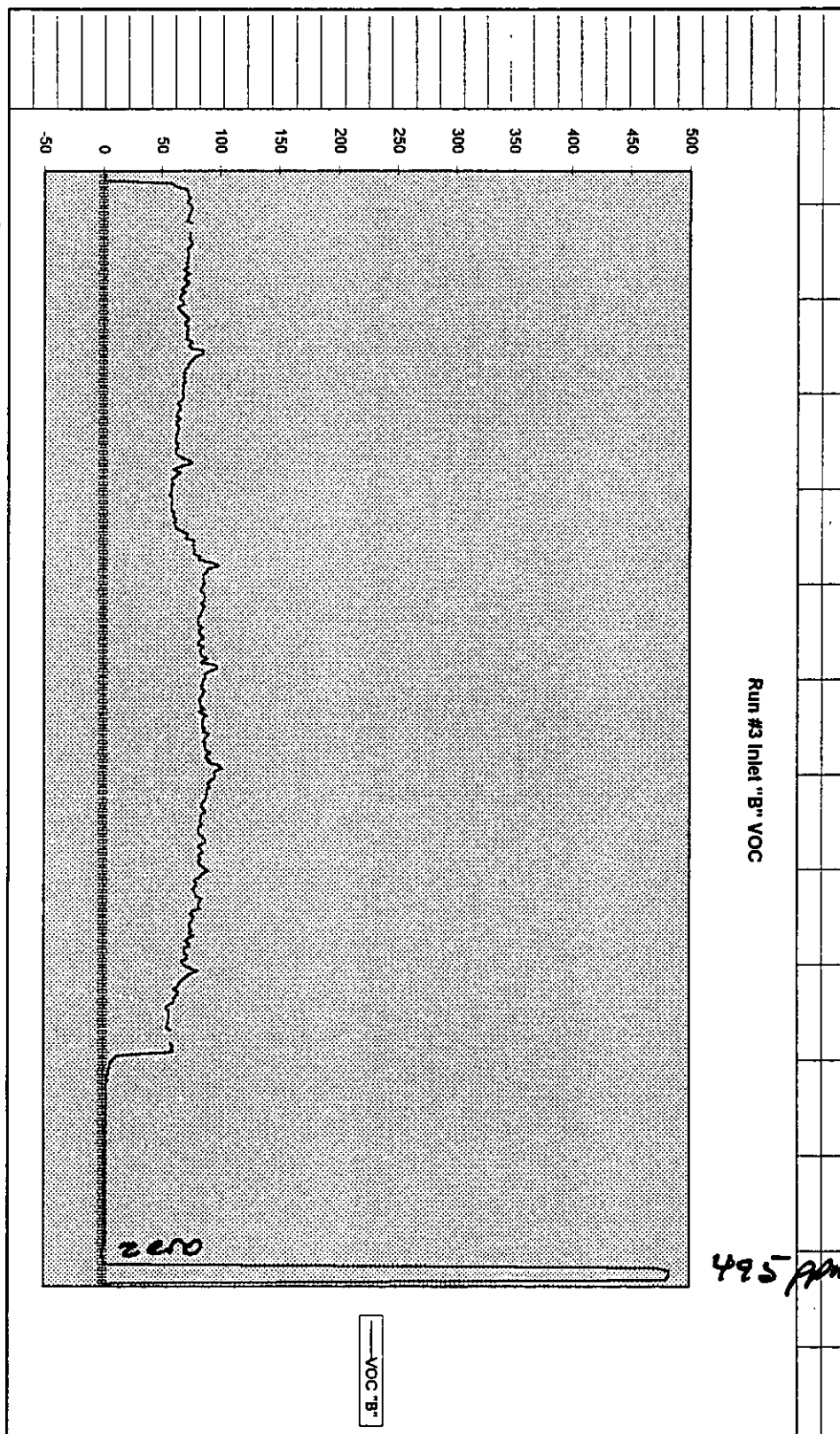
Start Run #3 -  
11:44

STOP Run #3 -  
12:48

Ave - 75.6 ppm

VOC A

Run #3 Inlet "B" VOC



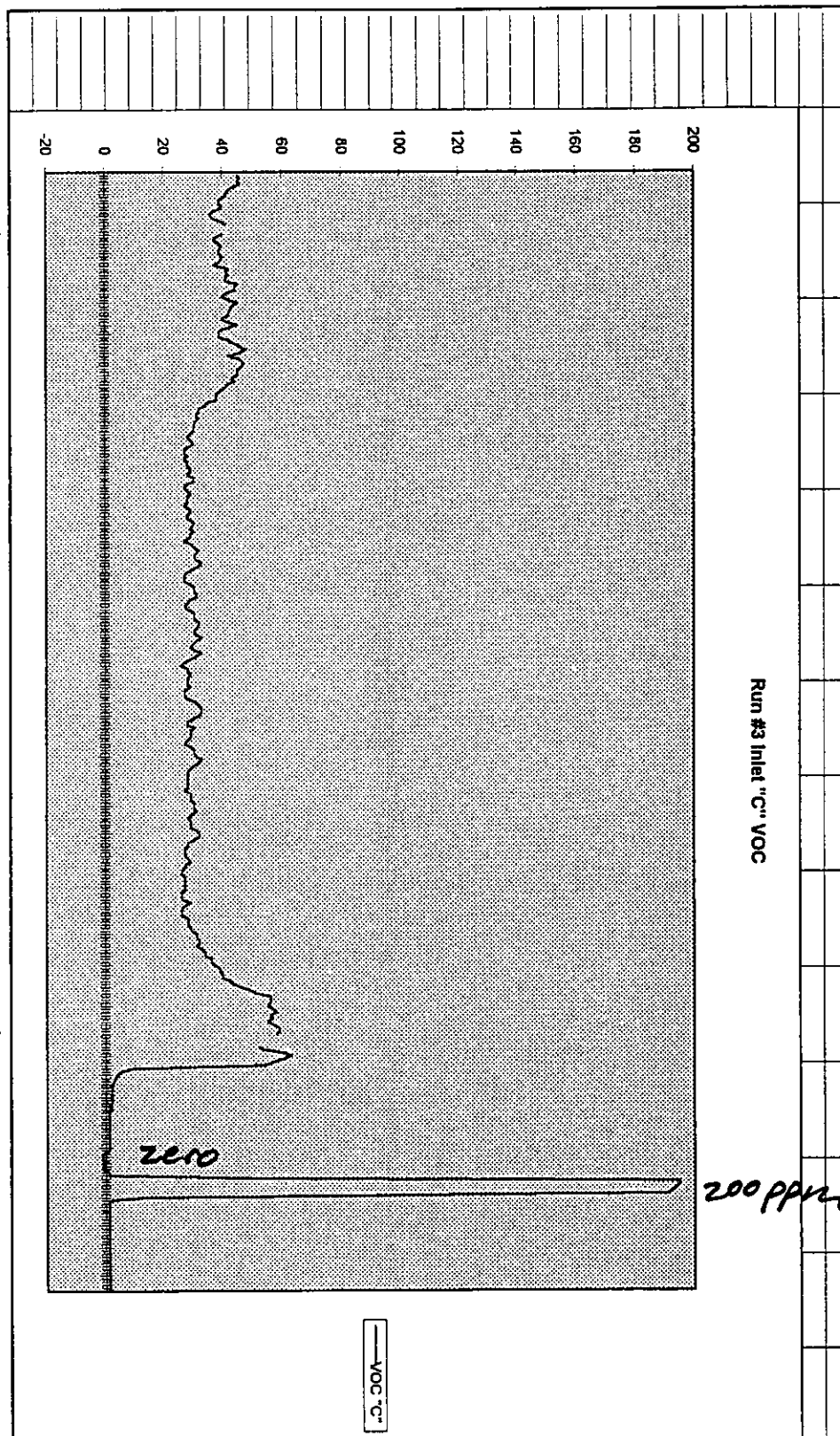
Start Run #3  
11:44

Stop Run #3—  
12:48

495 ppm C3H8

Avg - 76.1 ppm

Run #3 Inlet "C" VOC

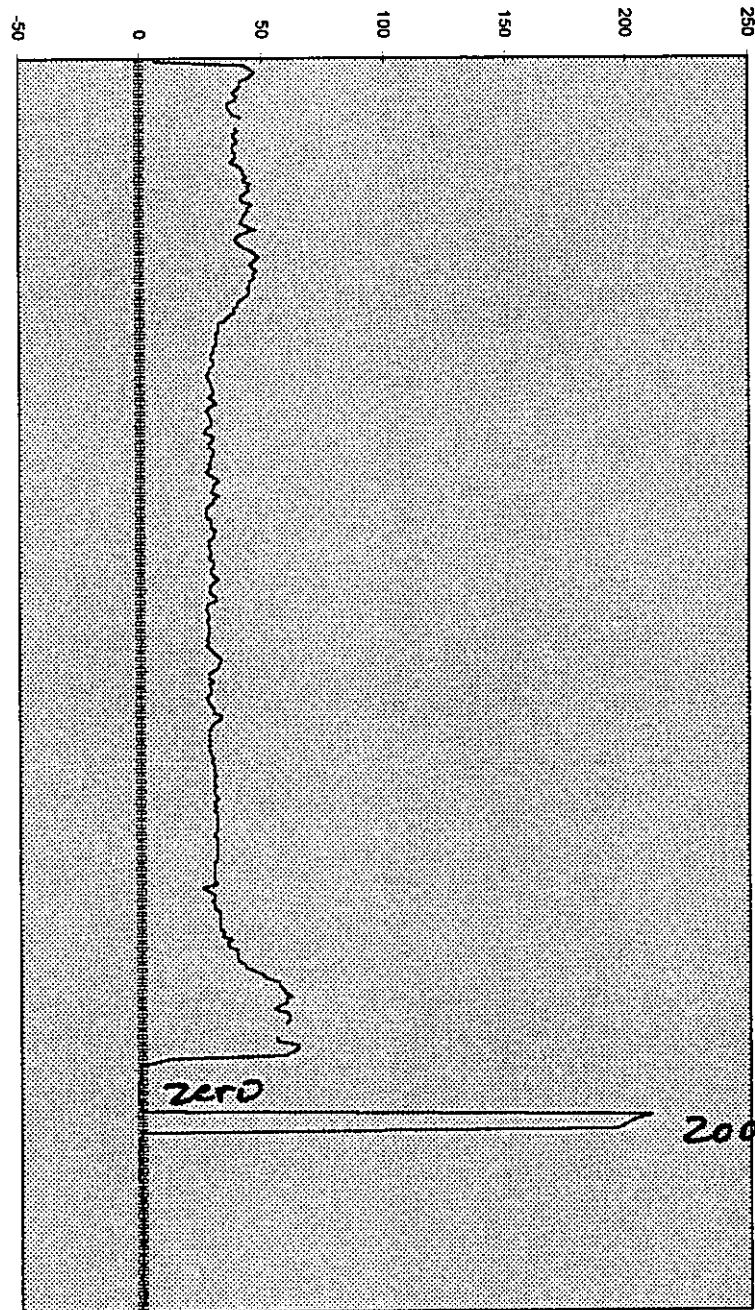


Start Run #3 -  
11:44

STOP Run #3 -  
12:48

Ave - 33.8 ppm

Run #3 Inlet "D" VOC



Start Run#3 -  
11:44

STOP Run#3 -  
12:48

Ave - 34.3 ppm

FILENAM arun3

LOGGING 1

START LOGGING @ #####  
LAST SAMPLE @ #####

| ACTIVE C | 1A      | 1B      | 2A      | 2B      |
|----------|---------|---------|---------|---------|
| MOOULE   | Voltage | Voltage | Voltage | Voltage |
| SAMPLE   | 15 sec  | 15 sec  | 15 sec  | 15 sec  |
| UNITS:   | Volts   | VOC "A" | VOC "B" | VOC "C" |
| 1        | 0.0     | 4.0     | 0.0     | 2.0     |
| 2        | 0.0     | 4.0     | 0.0     | 1.0     |
| 3        | 0.0     | 4.0     | 0.0     | 1.0     |
| 4        | 0.0     | 4.0     | 0.6     | 59.0    |
| 5        | 0.0     | 4.0     | 0.6     | 63.0    |
| 6        | 0.2     | 15.0    | 0.7     | 71.0    |
| 7        | 0.2     | 21.0    | 0.7     | 72.0    |
| 8        | 0.2     | 16.0    | 0.7     | 73.0    |
| 9        | 0.1     | 13.0    | 0.7     | 74.0    |
| 10       | 0.5     | 51.0    | 0.7     | 71.0    |
| 11       | 0.8     | 59.0    | 0.8     | 75.0    |
| 12       | 0.5     | 54.0    | 0.8     | 76.0    |
| 13       | 0.5     | 61.0    | 0.8     | 75.0    |
| 14       | 0.5     | 58.0    | 0.7     | 73.0    |
| 15       | 0.6     | 62.0    | 0.7     | 73.0    |
| 16       | 0.6     | 62.0    | 0.7     | 71.0    |
| 17       | 0.7     | 65.0    | 0.8     | 76.0    |

Start Run #3  
11:44

|    |     |      |     |      |
|----|-----|------|-----|------|
| 18 | 0.6 | 63.0 | 0.7 | 74.0 |
| 19 | 0.6 | 63.0 | 0.7 | 74.0 |
| 20 | 0.6 | 64.0 | 0.7 | 73.0 |
| 21 | 0.7 | 65.0 | 0.6 | 76.0 |
| 22 | 0.7 | 69.0 | 0.8 | 75.0 |
| 23 | 0.7 | 65.0 | 0.7 | 72.0 |
| 24 | 0.7 | 69.0 | 0.7 | 72.0 |
| 25 | 0.7 | 65.0 | 0.7 | 73.0 |
| 26 | 0.7 | 66.0 | 0.7 | 72.0 |
| 27 | 0.7 | 65.0 | 0.7 | 72.0 |
| 28 | 0.7 | 67.0 | 0.7 | 71.0 |
| 29 | 0.7 | 69.0 | 0.7 | 72.0 |
| 30 | 0.7 | 69.0 | 0.7 | 69.0 |
| 31 | 0.7 | 67.0 | 0.7 | 73.0 |
| 32 | 0.7 | 69.0 | 0.7 | 70.0 |
| 33 | 0.7 | 68.0 | 0.7 | 69.0 |
| 34 | 0.7 | 68.0 | 0.7 | 73.0 |
| 35 | 0.7 | 67.0 | 0.7 | 70.0 |
| 36 | 0.6 | 63.0 | 0.7 | 67.0 |
| 37 | 0.7 | 67.0 | 0.7 | 70.0 |
| 38 | 0.7 | 65.0 | 0.7 | 67.0 |
| 39 | 0.7 | 67.0 | 0.7 | 65.0 |
| 40 | 0.7 | 69.0 | 0.7 | 68.0 |
| 41 | 0.7 | 71.0 | 0.7 | 69.0 |
| 42 | 0.7 | 70.0 | 0.6 | 64.0 |
| 43 | 0.7 | 69.0 | 0.7 | 66.0 |
| 44 | 0.7 | 67.0 | 0.7 | 68.0 |
| 45 | 0.7 | 68.0 | 0.7 | 71.0 |
| 46 | 0.7 | 67.0 | 0.7 | 73.0 |
| 47 | 0.7 | 66.0 | 0.7 | 70.0 |
| 48 | 0.7 | 68.0 | 0.7 | 71.0 |
| 49 | 0.7 | 68.0 | 0.7 | 73.0 |
| 50 | 0.7 | 70.0 | 0.7 | 71.0 |
| 51 | 0.7 | 70.0 | 0.7 | 72.0 |
| 52 | 0.7 | 72.0 | 0.7 | 71.0 |
| 53 | 0.7 | 70.0 | 0.8 | 76.0 |
| 54 | 0.7 | 71.0 | 0.7 | 73.0 |
| 55 | 0.7 | 72.0 | 0.7 | 74.0 |
| 56 | 0.8 | 81.0 | 0.9 | 86.0 |
| 57 | 0.8 | 84.0 | 0.9 | 85.0 |
| 58 | 0.8 | 83.0 | 0.8 | 78.0 |
| 59 | 0.8 | 81.0 | 0.8 | 76.0 |
| 60 | 0.8 | 77.0 | 0.7 | 73.0 |
| 61 | 0.8 | 79.0 | 0.7 | 73.0 |
| 62 | 0.8 | 77.0 | 0.7 | 70.0 |
| 63 | 0.7 | 69.0 | 0.7 | 69.0 |
| 64 | 0.7 | 68.0 | 0.7 | 69.0 |
| 65 | 0.7 | 65.0 | 0.7 | 69.0 |
| 66 | 0.7 | 66.0 | 0.7 | 70.0 |
| 67 | 0.7 | 66.0 | 0.7 | 68.0 |
| 68 | 0.7 | 68.0 | 0.7 | 69.0 |
| 69 | 0.7 | 68.0 | 0.7 | 68.0 |
| 70 | 0.7 | 70.0 | 0.7 | 68.0 |
| 71 | 0.7 | 73.0 | 0.7 | 69.0 |
| 72 | 0.7 | 70.0 | 0.7 | 67.0 |
| 73 | 0.7 | 66.0 | 0.6 | 64.0 |
| 74 | 0.7 | 65.0 | 0.7 | 66.0 |
| 75 | 0.7 | 65.0 | 0.7 | 66.0 |
| 76 | 0.7 | 66.0 | 0.6 | 64.0 |
| 77 | 0.7 | 65.0 | 0.6 | 63.0 |
| 78 | 0.6 | 64.0 | 0.7 | 66.0 |
| 79 | 0.7 | 68.0 | 0.6 | 63.0 |
| 80 | 0.7 | 66.0 | 0.6 | 64.0 |
| 81 | 0.7 | 66.0 | 0.7 | 65.0 |
| 82 | 0.7 | 67.0 | 0.6 | 64.0 |
| 83 | 0.7 | 71.0 | 0.6 | 63.0 |
| 84 | 0.7 | 68.0 | 0.6 | 63.0 |
| 85 | 0.7 | 69.0 | 0.6 | 62.0 |
| 86 | 0.7 | 65.0 | 0.6 | 64.0 |
| 87 | 0.7 | 68.0 | 0.6 | 64.0 |
| 88 | 0.7 | 68.0 | 0.6 | 62.0 |
| 89 | 0.7 | 68.0 | 0.6 | 63.0 |
| 90 | 0.7 | 71.0 | 0.7 | 66.0 |
| 91 | 0.7 | 72.0 | 0.7 | 73.0 |

RLNS

|     |     |      |     |       |     |      |     |      |
|-----|-----|------|-----|-------|-----|------|-----|------|
| 92  | 0.8 | 79.0 | 0.6 | 76.0  | 0.3 | 28.0 | 0.3 | 29.0 |
| 93  | 0.8 | 80.0 | 0.7 | 67.0  | 0.3 | 29.0 | 0.3 | 30.0 |
| 94  | 0.8 | 77.0 | 0.6 | 60.0  | 0.3 | 29.0 | 0.3 | 30.0 |
| 95  | 0.7 | 71.0 | 0.7 | 66.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 96  | 0.7 | 70.0 | 0.6 | 63.0  | 0.3 | 30.0 | 0.3 | 30.0 |
| 97  | 0.7 | 66.0 | 0.6 | 59.0  | 0.3 | 30.0 | 0.3 | 31.0 |
| 98  | 0.7 | 68.0 | 0.6 | 59.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 99  | 0.7 | 66.0 | 0.6 | 60.0  | 0.3 | 27.0 | 0.3 | 27.0 |
| 100 | 0.7 | 68.0 | 0.6 | 58.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 101 | 0.6 | 63.0 | 0.6 | 59.0  | 0.3 | 29.0 | 0.3 | 29.0 |
| 102 | 0.7 | 67.0 | 0.6 | 57.0  | 0.3 | 28.0 | 0.3 | 29.0 |
| 103 | 0.7 | 67.0 | 0.6 | 59.0  | 0.3 | 28.0 | 0.3 | 29.0 |
| 104 | 0.7 | 66.0 | 0.6 | 59.0  | 0.3 | 28.0 | 0.3 | 27.0 |
| 105 | 0.7 | 65.0 | 0.6 | 59.0  | 0.3 | 27.0 | 0.3 | 26.0 |
| 106 | 0.7 | 66.0 | 0.6 | 58.0  | 0.3 | 29.0 | 0.3 | 29.0 |
| 107 | 0.7 | 67.0 | 0.6 | 59.0  | 0.3 | 29.0 | 0.3 | 30.0 |
| 108 | 0.6 | 64.0 | 0.6 | 61.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 109 | 0.6 | 61.0 | 0.6 | 60.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 110 | 0.6 | 64.0 | 0.6 | 63.0  | 0.3 | 30.0 | 0.3 | 30.0 |
| 111 | 0.6 | 63.0 | 0.6 | 61.0  | 0.3 | 30.0 | 0.3 | 30.0 |
| 112 | 0.6 | 61.0 | 0.6 | 62.0  | 0.3 | 29.0 | 0.3 | 29.0 |
| 113 | 0.6 | 63.0 | 0.6 | 64.0  | 0.3 | 30.0 | 0.3 | 29.0 |
| 114 | 0.6 | 64.0 | 0.7 | 66.0  | 0.3 | 29.0 | 0.3 | 28.0 |
| 115 | 0.7 | 70.0 | 0.7 | 72.0  | 0.3 | 29.0 | 0.3 | 29.0 |
| 116 | 0.7 | 72.0 | 0.7 | 71.0  | 0.3 | 27.0 | 0.3 | 27.0 |
| 117 | 0.7 | 69.0 | 0.8 | 78.0  | 0.3 | 29.0 | 0.3 | 28.0 |
| 118 | 0.7 | 66.0 | 0.6 | 77.0  | 0.3 | 30.0 | 0.3 | 31.0 |
| 119 | 0.7 | 69.0 | 0.6 | 77.0  | 0.3 | 32.0 | 0.3 | 32.0 |
| 120 | 0.7 | 69.0 | 0.8 | 79.0  | 0.3 | 31.0 | 0.3 | 30.0 |
| 121 | 0.7 | 71.0 | 0.8 | 77.0  | 0.3 | 30.0 | 0.3 | 30.0 |
| 122 | 0.7 | 72.0 | 0.8 | 83.0  | 0.3 | 31.0 | 0.3 | 29.0 |
| 123 | 0.7 | 72.0 | 0.8 | 82.0  | 0.3 | 33.0 | 0.3 | 32.0 |
| 124 | 0.8 | 81.0 | 0.9 | 94.0  | 0.3 | 32.0 | 0.3 | 30.0 |
| 125 | 0.9 | 89.0 | 1.0 | 96.0  | 0.3 | 30.0 | 0.3 | 30.0 |
| 126 | 0.8 | 84.0 | 0.9 | 90.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 127 | 0.8 | 82.0 | 0.9 | 89.0  | 0.3 | 27.0 | 0.3 | 27.0 |
| 128 | 0.8 | 79.0 | 0.9 | 86.0  | 0.3 | 27.0 | 0.3 | 27.0 |
| 129 | 0.8 | 78.0 | 0.9 | 86.0  | 0.3 | 27.0 | 0.3 | 27.0 |
| 130 | 0.8 | 78.0 | 0.9 | 87.0  | 0.3 | 29.0 | 0.3 | 29.0 |
| 131 | 0.7 | 73.0 | 0.9 | 87.0  | 0.3 | 30.0 | 0.3 | 29.0 |
| 132 | 0.8 | 76.0 | 0.9 | 85.0  | 0.3 | 30.0 | 0.3 | 29.0 |
| 133 | 0.8 | 78.0 | 0.8 | 83.0  | 0.3 | 31.0 | 0.3 | 31.0 |
| 134 | 0.7 | 74.0 | 0.9 | 87.0  | 0.3 | 31.0 | 0.3 | 30.0 |
| 135 | 0.8 | 76.0 | 0.9 | 87.0  | 0.3 | 29.0 | 0.3 | 30.0 |
| 136 | 0.8 | 79.0 | 0.9 | 87.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 137 | 0.7 | 74.0 | 0.8 | 84.0  | 0.3 | 27.0 | 0.3 | 28.0 |
| 138 | 0.7 | 72.0 | 0.9 | 87.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 139 | 0.7 | 72.0 | 0.9 | 86.0  | 0.3 | 30.0 | 0.3 | 29.0 |
| 140 | 0.8 | 76.0 | 0.8 | 84.0  | 0.3 | 30.0 | 0.3 | 29.0 |
| 141 | 0.8 | 76.0 | 0.8 | 84.0  | 0.3 | 30.0 | 0.3 | 28.0 |
| 142 | 0.8 | 79.0 | 0.8 | 81.0  | 0.3 | 32.0 | 0.3 | 30.0 |
| 143 | 0.8 | 76.0 | 0.8 | 81.0  | 0.3 | 32.0 | 0.3 | 30.0 |
| 144 | 0.8 | 78.0 | 0.8 | 82.0  | 0.3 | 31.0 | 0.3 | 29.0 |
| 145 | 0.7 | 73.0 | 0.9 | 85.0  | 0.3 | 30.0 | 0.3 | 29.0 |
| 146 | 0.8 | 77.0 | 0.8 | 82.0  | 0.3 | 31.0 | 0.3 | 30.0 |
| 147 | 0.6 | 76.0 | 0.8 | 83.0  | 0.3 | 33.0 | 0.3 | 32.0 |
| 148 | 0.8 | 76.0 | 0.9 | 86.0  | 0.3 | 31.0 | 0.3 | 30.0 |
| 149 | 0.8 | 78.0 | 0.8 | 83.0  | 0.3 | 30.0 | 0.3 | 29.0 |
| 150 | 0.8 | 78.0 | 0.8 | 81.0  | 0.3 | 29.0 | 0.3 | 28.0 |
| 151 | 0.8 | 80.0 | 0.9 | 86.0  | 0.3 | 30.0 | 0.3 | 29.0 |
| 152 | 0.8 | 81.0 | 0.8 | 83.0  | 0.3 | 33.0 | 0.3 | 31.0 |
| 153 | 0.8 | 83.0 | 0.8 | 83.0  | 0.3 | 31.0 | 0.3 | 31.0 |
| 154 | 0.8 | 84.0 | 0.9 | 85.0  | 0.3 | 29.0 | 0.3 | 28.0 |
| 155 | 0.8 | 83.0 | 0.9 | 89.0  | 0.3 | 27.0 | 0.3 | 27.0 |
| 156 | 0.8 | 80.0 | 0.8 | 84.0  | 0.3 | 26.0 | 0.3 | 27.0 |
| 157 | 1.0 | 96.0 | 1.0 | 97.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 158 | 1.0 | 99.0 | 1.0 | 98.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 159 | 0.9 | 92.0 | 0.9 | 91.0  | 0.3 | 29.0 | 0.3 | 27.0 |
| 160 | 0.9 | 91.0 | 0.9 | 87.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 161 | 0.8 | 84.0 | 0.9 | 88.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 162 | 0.8 | 83.0 | 0.9 | 86.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 163 | 0.9 | 86.0 | 0.9 | 85.0  | 0.3 | 29.0 | 0.3 | 28.0 |
| 164 | 0.8 | 83.0 | 0.8 | 84.0  | 0.3 | 27.0 | 0.3 | 27.0 |
| 165 | 0.8 | 82.0 | 0.9 | 87.0  | 0.3 | 27.0 | 0.3 | 28.0 |
| 166 | 0.8 | 76.0 | 0.9 | 86.0  | 0.3 | 27.0 | 0.3 | 27.0 |
| 167 | 0.8 | 80.0 | 0.9 | 85.0  | 0.3 | 29.0 | 0.3 | 29.0 |
| 168 | 0.8 | 80.0 | 0.8 | 82.0  | 0.3 | 31.0 | 0.3 | 30.0 |
| 169 | 0.8 | 79.0 | 0.8 | 83.0  | 0.3 | 32.0 | 0.3 | 32.0 |
| 170 | 0.8 | 80.0 | 0.8 | 84.0  | 0.3 | 33.0 | 0.3 | 33.0 |
| 171 | 0.9 | 88.0 | 0.9 | 87.0  | 0.3 | 33.0 | 0.3 | 32.0 |
| 172 | 0.9 | 85.0 | 0.8 | 82.0  | 0.3 | 32.0 | 0.3 | 32.0 |
| 173 | 0.9 | 85.0 | 0.9 | 89.0  | 0.3 | 30.0 | 0.3 | 30.0 |
| 174 | 0.8 | 83.0 | 0.9 | 86.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 175 | 0.8 | 80.0 | 0.9 | 85.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 176 | 0.8 | 83.0 | 0.8 | 85.0  | 0.3 | 30.0 | 0.3 | 30.0 |
| 177 | 0.9 | 89.0 | 0.8 | 87.0  | 0.3 | 29.0 | 0.3 | 28.0 |
| 178 | 0.8 | 80.0 | 0.9 | 86.0  | 0.3 | 29.0 | 0.3 | 29.0 |
| 179 | 0.8 | 78.0 | 0.9 | 91.0  | 0.3 | 29.0 | 0.3 | 29.0 |
| 180 | 0.8 | 75.0 | 0.9 | 89.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 181 | 0.8 | 79.0 | 0.9 | 86.0  | 0.3 | 27.0 | 0.3 | 27.0 |
| 182 | 0.8 | 76.0 | 0.9 | 88.0  | 0.3 | 29.0 | 0.3 | 28.0 |
| 183 | 0.8 | 83.0 | 0.9 | 87.0  | 0.3 | 30.0 | 0.3 | 29.0 |
| 184 | 0.8 | 79.0 | 0.9 | 88.0  | 0.3 | 30.0 | 0.3 | 30.0 |
| 185 | 0.8 | 80.0 | 0.9 | 92.0  | 0.3 | 31.0 | 0.3 | 30.0 |
| 186 | 0.8 | 82.0 | 0.9 | 88.0  | 0.3 | 33.0 | 0.3 | 33.0 |
| 187 | 0.8 | 83.0 | 0.9 | 91.0  | 0.3 | 32.0 | 0.3 | 32.0 |
| 188 | 0.8 | 77.0 | 0.9 | 90.0  | 0.3 | 30.0 | 0.3 | 30.0 |
| 189 | 0.8 | 81.0 | 1.0 | 100.0 | 0.3 | 29.0 | 0.3 | 29.0 |
| 190 | 1.0 | 99.0 | 1.0 | 102.0 | 0.3 | 28.0 | 0.3 | 28.0 |
| 191 | 0.9 | 93.0 | 1.0 | 96.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 192 | 1.0 | 96.0 | 1.0 | 96.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 193 | 0.9 | 90.0 | 1.0 | 96.0  | 0.3 | 28.0 | 0.3 | 28.0 |
| 194 | 0.8 | 84.0 | 0.9 | 92.0  | 0.3 | 28.0 | 0.3 | 28.0 |

RUNS

|             |     |      |     |      |     |      |     |      |
|-------------|-----|------|-----|------|-----|------|-----|------|
| 195         | 0.9 | 85.0 | 0.9 | 90.0 | 0.3 | 28.0 | 0.3 | 28.0 |
| 196         | 0.8 | 81.0 | 0.9 | 92.0 | 0.3 | 27.0 | 0.3 | 28.0 |
| 197         | 0.8 | 81.0 | 0.9 | 89.0 | 0.3 | 29.0 | 0.3 | 29.0 |
| 198         | 0.8 | 82.0 | 0.9 | 89.0 | 0.3 | 29.0 | 0.3 | 30.0 |
| 199         | 0.8 | 83.0 | 0.9 | 89.0 | 0.3 | 29.0 | 0.3 | 29.0 |
| 200         | 0.8 | 81.0 | 0.9 | 88.0 | 0.3 | 30.0 | 0.3 | 30.0 |
| 201         | 0.8 | 82.0 | 0.9 | 88.0 | 0.3 | 30.0 | 0.3 | 30.0 |
| 202         | 0.8 | 83.0 | 0.8 | 84.0 | 0.3 | 30.0 | 0.3 | 30.0 |
| 203         | 0.8 | 83.0 | 0.9 | 86.0 | 0.3 | 31.0 | 0.0 | 30.9 |
| 204         | 0.8 | 79.0 | 0.9 | 88.0 | 0.3 | 29.0 | 0.0 | 29.9 |
| 205         | 0.8 | 83.0 | 0.8 | 84.0 | 0.3 | 28.0 | 0.0 | 29.9 |
| 206         | 0.8 | 78.0 | 0.8 | 84.0 | 0.3 | 29.0 | 0.0 | 30.9 |
| 207         | 0.8 | 80.0 | 0.8 | 83.0 | 0.3 | 29.0 | 0.0 | 29.9 |
| 208         | 0.8 | 78.0 | 0.9 | 85.0 | 0.3 | 29.0 | 0.0 | 29.9 |
| 209         | 0.8 | 80.0 | 0.8 | 82.0 | 0.3 | 31.0 | 0.0 | 30.9 |
| 210         | 0.8 | 75.0 | 0.8 | 81.0 | 0.3 | 32.0 | 0.0 | 31.9 |
| 211         | 0.8 | 79.0 | 0.8 | 82.0 | 0.3 | 32.0 | 0.0 | 29.9 |
| 212         | 0.8 | 78.0 | 0.9 | 85.0 | 0.3 | 30.0 | 0.0 | 30.9 |
| 213         | 0.8 | 79.0 | 0.9 | 88.0 | 0.3 | 28.0 | 0.0 | 29.9 |
| 214         | 0.8 | 79.0 | 0.9 | 88.0 | 0.3 | 28.0 | 0.0 | 30.9 |
| 215         | 0.8 | 78.0 | 0.8 | 81.0 | 0.3 | 27.0 | 0.0 | 30.9 |
| 216         | 0.8 | 83.0 | 0.8 | 84.0 | 0.3 | 27.0 | 0.0 | 30.9 |
| 217         | 0.8 | 82.0 | 0.9 | 86.0 | 0.3 | 27.0 | 0.0 | 30.9 |
| 218         | 0.9 | 85.0 | 0.8 | 81.0 | 0.3 | 28.0 | 0.0 | 30.9 |
| 219         | 0.8 | 81.0 | 0.8 | 84.0 | 0.3 | 29.0 | 0.0 | 30.9 |
| 220         | 0.8 | 82.0 | 0.8 | 81.0 | 0.3 | 27.0 | 0.0 | 29.9 |
| 221         | 0.9 | 85.0 | 0.8 | 83.0 | 0.3 | 27.0 | 0.0 | 30.9 |
| 222         | 0.9 | 90.0 | 0.9 | 87.0 | 0.3 | 26.0 | 0.0 | 30.9 |
| 223         | 1.0 | 96.0 | 0.9 | 91.0 | 0.3 | 26.0 | 0.0 | 30.9 |
| 224         | 0.9 | 93.0 | 0.9 | 85.0 | 0.3 | 27.0 | 0.0 | 30.9 |
| 225         | 0.9 | 92.0 | 0.8 | 83.0 | 0.3 | 27.0 | 0.0 | 30.9 |
| 226         | 0.9 | 85.0 | 0.8 | 78.0 | 0.3 | 27.0 | 0.0 | 30.9 |
| 227         | 0.8 | 84.0 | 0.8 | 80.0 | 0.3 | 27.0 | 0.0 | 30.9 |
| 228         | 0.8 | 81.0 | 0.8 | 79.0 | 0.3 | 27.0 | 0.0 | 29.9 |
| 229         | 0.8 | 82.0 | 0.8 | 77.0 | 0.3 | 26.0 | 0.0 | 29.9 |
| 230         | 0.8 | 81.0 | 0.8 | 79.0 | 0.3 | 26.0 | 0.0 | 29.9 |
| 231         | 0.8 | 82.0 | 0.8 | 80.0 | 0.3 | 26.0 | 0.0 | 29.9 |
| 232         | 0.8 | 83.0 | 0.9 | 85.0 | 0.3 | 29.0 | 0.0 | 29.9 |
| 233         | 0.8 | 84.0 | 0.8 | 83.0 | 0.3 | 27.0 | 0.0 | 29.9 |
| 234         | 0.8 | 77.0 | 0.8 | 81.0 | 0.3 | 26.0 | 0.0 | 30.9 |
| 235         | 0.8 | 79.0 | 0.8 | 83.0 | 0.3 | 26.0 | 0.3 | 26.0 |
| 236         | 0.8 | 78.0 | 0.8 | 78.0 | 0.3 | 26.0 | 0.3 | 27.0 |
| 237         | 0.8 | 81.0 | 0.8 | 75.0 | 0.3 | 28.0 | 0.3 | 30.0 |
| 238         | 0.8 | 80.0 | 0.8 | 78.0 | 0.3 | 28.0 | 0.3 | 30.0 |
| 239         | 0.8 | 78.0 | 0.8 | 76.0 | 0.3 | 28.0 | 0.3 | 29.0 |
| 240         | 0.8 | 78.0 | 0.7 | 74.0 | 0.3 | 29.0 | 0.3 | 30.0 |
| 241         | 0.8 | 78.0 | 0.7 | 74.0 | 0.3 | 29.0 | 0.3 | 30.0 |
| 242         | 0.8 | 78.0 | 0.8 | 76.0 | 0.3 | 31.0 | 0.3 | 32.0 |
| 243         | 0.8 | 79.0 | 0.7 | 74.0 | 0.3 | 31.0 | 0.3 | 32.0 |
| 244         | 0.8 | 77.0 | 0.8 | 78.0 | 0.3 | 32.0 | 0.3 | 32.0 |
| 245         | 0.8 | 77.0 | 0.7 | 71.0 | 0.3 | 32.0 | 0.3 | 32.0 |
| 246         | 0.8 | 79.0 | 0.7 | 73.0 | 0.3 | 31.0 | 0.3 | 32.0 |
| 247         | 0.8 | 77.0 | 0.7 | 74.0 | 0.3 | 33.0 | 0.3 | 32.0 |
| 248         | 0.8 | 79.0 | 0.7 | 70.0 | 0.3 | 34.0 | 0.3 | 34.0 |
| 249         | 0.8 | 77.0 | 0.7 | 70.0 | 0.3 | 34.0 | 0.3 | 33.0 |
| 250         | 0.8 | 78.0 | 0.7 | 72.0 | 0.4 | 36.0 | 0.4 | 37.0 |
| 251         | 0.8 | 79.0 | 0.7 | 72.0 | 0.4 | 36.0 | 0.4 | 35.0 |
| 252         | 0.8 | 77.0 | 0.7 | 67.0 | 0.4 | 37.0 | 0.4 | 36.0 |
| 253         | 0.8 | 78.0 | 0.7 | 70.0 | 0.4 | 39.0 | 0.4 | 39.0 |
| 254         | 0.8 | 80.0 | 0.7 | 73.0 | 0.4 | 39.0 | 0.4 | 39.0 |
| 255         | 0.8 | 84.0 | 0.8 | 81.0 | 0.4 | 40.0 | 0.4 | 39.0 |
| 256         | 0.9 | 91.0 | 0.8 | 75.0 | 0.4 | 40.0 | 0.4 | 40.0 |
| 257         | 0.9 | 89.0 | 0.7 | 71.0 | 0.4 | 42.0 | 0.4 | 42.0 |
| 258         | 0.9 | 88.0 | 0.7 | 68.0 | 0.4 | 43.0 | 0.4 | 43.0 |
| 259         | 0.8 | 83.0 | 0.7 | 65.0 | 0.5 | 46.0 | 0.5 | 46.0 |
| 260         | 0.8 | 81.0 | 0.7 | 65.0 | 0.5 | 49.0 | 0.5 | 50.0 |
| 261         | 0.8 | 77.0 | 0.6 | 61.0 | 0.5 | 51.0 | 0.5 | 51.0 |
| 262         | 0.8 | 78.0 | 0.7 | 65.0 | 0.6 | 56.0 | 0.6 | 56.0 |
| 263         | 0.8 | 78.0 | 0.6 | 63.0 | 0.6 | 56.0 | 0.6 | 56.0 |
| 264         | 0.7 | 74.0 | 0.8 | 62.0 | 0.6 | 56.0 | 0.6 | 58.0 |
| 265         | 0.7 | 71.0 | 0.8 | 61.0 | 0.6 | 55.0 | 0.6 | 58.0 |
| 266         | 0.7 | 72.0 | 0.6 | 57.0 | 0.6 | 57.0 | 0.6 | 61.0 |
| 267         | 0.7 | 69.0 | 0.5 | 54.0 | 0.6 | 56.0 | 0.6 | 59.0 |
| 268         | 0.8 | 77.0 | 0.6 | 57.0 | 0.6 | 56.0 | 0.6 | 59.0 |
| 269         | 0.7 | 70.0 | 0.6 | 57.0 | 0.6 | 57.0 | 0.6 | 56.0 |
| 270         | 0.7 | 70.0 | 0.6 | 57.0 | 0.6 | 55.0 | 0.5 | 54.0 |
| 271         | 0.7 | 70.0 | 0.6 | 56.0 | 0.6 | 57.0 | 0.6 | 60.0 |
| 272         | 0.7 | 71.0 | 0.6 | 56.0 | 0.6 | 58.0 | 0.6 | 60.0 |
| 273         | 0.7 | 72.0 | 0.6 | 55.0 | 0.6 | 59.0 | 0.6 | 60.0 |
| 274         | 0.7 | 67.0 | 0.6 | 58.0 | 0.6 | 58.0 | 0.6 | 59.0 |
| Stop Run #2 |     |      |     |      |     |      |     |      |
| 12:48       |     |      |     |      |     |      |     |      |
| Average     |     | 75.6 |     | 78.1 |     | 33.8 |     | 34.3 |
| 275         | 0.6 | 57.0 | 0.6 | 58.0 | 0.6 | 52.0 | 0.6 | 56.0 |
| 276         | 0.3 | 25.0 | 0.6 | 61.0 | 0.5 | 63.0 | 0.6 | 56.0 |
| 277         | 0.2 | 23.0 | 0.6 | 59.0 | 0.6 | 61.0 | 0.6 | 63.0 |
| 278         | 0.2 | 18.0 | 0.6 | 61.0 | 0.6 | 63.0 | 0.6 | 64.0 |
| 279         | 0.1 | 11.0 | 0.1 | 12.0 | 0.6 | 60.0 | 0.6 | 61.0 |
| 280         | 0.1 | 9.0  | 0.1 | 9.0  | 0.6 | 57.0 | 0.6 | 59.0 |
| 281         | 0.1 | 8.0  | 0.1 | 7.0  | 0.6 | 54.0 | 0.1 | 11.0 |
| 282         | 0.1 | 7.0  | 0.1 | 6.0  | 0.1 | 9.0  | 0.1 | 5.0  |
| 283         | 0.1 | 7.0  | 0.1 | 5.0  | 0.1 | 5.0  | 0.0 | -1.0 |
| 284         | 0.1 | 7.0  | 0.1 | 5.0  | 0.0 | 4.0  | 0.0 | -1.0 |
| 285         | 0.1 | 6.0  | 0.0 | 4.0  | 0.0 | 3.0  | 0.0 | -1.0 |
| 286         | 0.1 | 6.0  | 0.0 | 4.0  | 0.0 | 2.0  | 0.0 | -1.0 |
| 287         | 0.1 | 6.0  | 0.0 | 3.0  | 0.0 | 2.0  | 0.0 | -2.0 |
| 288         | 0.1 | 6.0  | 0.0 | 3.0  | 0.0 | 2.0  | 0.0 | -2.0 |
| 289         | 0.1 | 5.0  | 0.0 | 3.0  | 0.0 | 2.0  | 0.0 | -1.0 |
| 290         | 0.1 | 5.0  | 0.0 | 3.0  | 0.0 | 2.0  | 0.0 | -2.0 |
| 291         | 0.1 | 5.0  | 0.0 | 3.0  | 0.0 | 2.0  | 0.0 | -2.0 |
| 292         | 0.1 | 5.0  | 0.0 | 3.0  | 0.0 | 2.0  | 0.0 | -1.0 |
| 293         | 0.1 | 5.0  | 0.0 | 3.0  | 0.0 | 2.0  | 0.0 | -1.0 |
| 294         | 0.1 | 5.0  | 0.0 | 3.0  | 0.0 | 1.0  | 0.0 | -1.0 |

RUN3

|     |     |       |     |       |     |       |     |       |
|-----|-----|-------|-----|-------|-----|-------|-----|-------|
| 295 | 0.1 | 5.0   | 0.0 | 3.0   | 0.0 | 2.0   | 0.0 | 0.0   |
| 296 | 0.1 | 5.0   | 0.0 | 3.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 297 | 0.1 | 5.0   | 0.0 | 2.0   | 0.0 | 1.0   | 2.1 | 210.0 |
| 298 | 0.1 | 5.0   | 0.0 | 3.0   | 0.0 | 1.0   | 2.1 | 205.0 |
| 299 | 0.1 | 5.0   | 0.0 | 3.0   | 0.0 | 1.0   | 2.0 | 201.0 |
| 300 | 0.1 | 5.0   | 0.0 | 2.0   | 0.0 | 1.0   | 2.0 | 198.0 |
| 301 | 0.1 | 5.0   | 0.0 | 3.0   | 0.0 | 1.0   | 2.0 | 195.0 |
| 302 | 0.1 | 5.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 303 | 0.1 | 5.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | -1.0  |
| 304 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | -1.0  |
| 305 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | -2.0  |
| 306 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 307 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | -2.0  |
| 308 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | -2.0  |
| 309 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | -1.0  | 0.0 | -1.0  |
| 310 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | -1.0  | 0.0 | -1.0  |
| 311 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | -1.0  | 0.0 | -2.0  |
| 312 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | -1.0  | 0.0 | -2.0  |
| 313 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | -1.0  | 0.0 | -1.0  |
| 314 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | -1.0  | 0.0 | -2.0  |
| 315 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | -2.0  |
| 316 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 317 | 0.0 | 4.0   | 0.0 | 2.0   | 0.5 | 53.0  | 0.0 | 0.0   |
| 318 | 0.0 | 4.0   | 0.0 | 2.0   | 2.0 | 195.0 | 0.0 | 0.0   |
| 319 | 0.0 | 4.0   | 0.0 | 2.0   | 2.0 | 195.0 | 0.0 | -1.0  |
| 320 | 0.0 | 4.0   | 0.0 | 2.0   | 1.9 | 184.0 | 0.0 | -1.0  |
| 321 | 0.0 | 4.0   | 0.0 | 2.0   | 1.9 | 182.0 | 0.0 | 1.0   |
| 322 | 0.0 | 4.0   | 0.0 | 2.0   | 1.9 | 181.0 | 0.0 | -1.0  |
| 323 | 0.0 | 4.0   | 0.0 | 2.0   | 0.1 | 13.0  | 0.0 | 0.0   |
| 324 | 0.1 | 5.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 325 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 326 | 0.0 | -2.0  | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 327 | 0.0 | -1.0  | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 328 | 0.0 | -2.0  | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 329 | 0.0 | -2.0  | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 330 | 0.0 | -1.0  | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 331 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 332 | 5.0 | 497.0 | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 333 | 5.1 | 505.0 | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | -1.0  |
| 334 | 5.1 | 505.0 | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 335 | 5.1 | 505.0 | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 336 | 5.0 | 503.0 | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 337 | 3.8 | 383.0 | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 338 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 339 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 340 | 0.1 | 6.0   | 0.0 | 0.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 341 | 0.0 | 4.0   | 0.0 | 0.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 342 | 0.0 | 4.0   | 0.0 | -1.0  | 0.0 | 1.0   | 0.0 | 0.0   |
| 343 | 0.0 | 4.0   | 0.0 | 0.0   | 0.0 | 1.0   | 0.0 | -1.0  |
| 344 | 0.0 | 4.0   | 0.0 | 0.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 345 | 0.0 | 4.0   | 0.0 | 1.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 346 | 0.0 | 4.0   | 0.0 | 2.0   | 0.0 | 1.0   | 0.0 | 0.0   |
| 347 | 0.1 | 5.0   | 4.7 | 471.0 | 0.0 | 1.0   | 0.0 | 1.0   |
| 348 | 0.0 | 4.0   | 4.8 | 483.0 | 0.0 | 1.0   | 0.0 | 1.0   |
| 349 | 0.0 | 4.0   | 4.8 | 483.0 | 0.0 | 1.0   | 0.0 | 0.0   |
| 350 | 0.0 | 4.0   | 4.8 | 482.0 | 0.0 | 1.0   | 0.0 | 1.0   |
| 351 | 0.0 | 4.0   | 4.8 | 480.0 | 0.0 | 1.0   | 0.0 | -1.0  |
| 352 | 0.0 | 4.0   | 0.1 | 7.0   | 0.0 | 1.0   | 0.0 | -1.0  |
| 353 | 0.0 | 4.0   | 0.0 | 3.0   | 0.0 | 1.0   | 0.0 | -1.0  |

APPENDIX D

# PARTICULATE FIELD DATA

BWS: 9.5%  
FPS: 56.76  
ACFM: 134/92  
SCFH: 5512293  
ISO = 100.0

PLANT: LP Clayton AL  
DATE: 6-7-95  
REPETITION: 1

LOCATION: Clayton AL

OPERATOR: JD JB

STACK #: 0x, ex. #1

SAMPLE BOX #: 7

METER BOX #: 9

AMBIENT TEMPERATURE: 80

BAROMETRIC PRESSURE: 1005 (29.68)

ASSUMED MOISTURE: 10%

PROBE LENGTH: 8'

NOZZLE IDAMETER: 1/4 .251, .252, .251 (.2513)

STACK DIAMETER: 8.5"

METER H: 1.536011

C FACTOR: .84

METER CO-EFFICIENT: 1.024762

HCHO

## METERS

Initial

Final

#1: 100 ml > DNPH 181  
#2: 100 ml 117  
#3: 200 g SG 211.8  
#4: 115.8  
#5: 10.8

## COMMENTS

CO<sub>2</sub> O<sub>2</sub>  
1.0 20

FILTER TARE: ✓

## PRE-TEST LEAK CHECK

Meter: .002 cu. ft. 15 in. HG  
Pitots: ✓ in. H2O

## POST-TEST LEAK CHECK

Meter: .005 cu. ft. 10 in. HG  
Pitots: ✓ in. H2O

| P  | θ      | STATIC PRES. | Ts °F | ΔP   | √ΔP  | ΔH    | Vm FT. <sup>3</sup> | Tm INLET | Tm OUTLET | OVEN TEMP. | IMP. OUTLET TEMP. | VAC (IN) |
|----|--------|--------------|-------|------|------|-------|---------------------|----------|-----------|------------|-------------------|----------|
| A1 | 8:38   | 72           | 234   | .69  | -    | 1.7   | 759.207             | 89       | 88        | 250        | 59                | 1        |
| 2  |        |              | 233   | .80  |      | 1.9   | 761.7               | 89       | 88        | 251        | 59                | 1        |
| 3  | 43     |              | 234   | .82  |      | 2.0   | 763.3               | 91       | 88        | 252        | 59                | 1        |
| 4  |        |              | 233   | .79  |      | 1.9   | 765.5               | 92       | 89        | 250        | 60                | 1        |
| 5  | 48     |              | 235   | .80  |      | 1.9   | 767.6               | 93       | 89        | 251        | 60                | 1        |
| 6  |        |              | 231   | .61  |      | 1.5   | 769.8               | 95       | 90        | 252        | 60                | 1        |
| 7  | 53     |              | 230   | .60  |      | 1.5   | 771.6               | 95       | 90        | 251        | 60                | 1        |
| 8  |        |              | 232   | .60  |      | 1.5   | 773.5               | 96       | 90        | 252        | 60                | 1        |
| 9  | 58     |              | 230   | .59  |      | 1.5   | 775.3               | 95       | 91        | 251        | 60                | 1        |
| 10 |        |              | 229   | .60  |      | 1.5   | 777.2               | 95       | 91        | 251        | 60                | 1        |
| 11 | 903    |              | 231   | .61  |      | 1.5   | 779.0               | 96       | 91        | 250        | 60                | 1        |
| 12 | 1      |              | 230   | .62  |      | 1.5   | 780.9               | 96       | 91        | 250        | 61                | 1        |
| B1 | 908/11 |              | 230   | 1.4  |      | 3.4   | 782.8               | 94       | 93        | 251        | 61                | 1        |
| 2  |        |              | 230   | 1.2  |      | 3.0   | 785.6               | 94       | 92        | 250        | 61                | 1        |
| 3  | 16     |              | 229   | .95  |      | 2.4   | 788.2               | 95       | 92        | 250        | 61                | 1        |
| 4  |        |              | 231   | .81  |      | 2.0   | 790.6               | 95       | 92        | 249        | 62                | 1        |
| 5  | 21     |              | 231   | .85  |      | 2.1   | 792.7               | 95       | 92        | 251        | 62                | 1        |
| 6  |        |              | 230   | .80  |      | 2.0   | 794.9               | 96       | 93        | 250        | 62                | 1        |
| 7  | 26     |              | 230   | .75  |      | 1.9   | 797.1               | 97       | 93        | 251        | 62                | 1        |
| 8  |        |              | 230   | .70  |      | 1.7   | 799.2               | 97       | 93        | 250        | 62                | 1        |
| 9  | 31     |              | 231   | .65  |      | 1.6   | 801.2               | 97       | 93        | 250        | 62                | 1        |
| 10 |        |              | 230   | .65  |      | 1.6   | 803.1               | 97       | 93        | 251        | 62                | 1        |
| 11 | 36     |              | 230   | .64  |      | 1.5   | 805.0               | 98       | 93        | 251        | 62                | 1        |
| 12 |        |              | 230   | .60  |      | 1.5   | 806.9               | 99       | 93        | 251        | 63                | 1        |
|    | 941    |              |       |      |      |       | 808.803             |          |           |            |                   |          |
| AV |        |              | 231.0 | .754 | .863 | 1.858 | 49.596              |          | 93.0      |            |                   |          |

# PARTICULATE FIELD DATA

PLANT: LP-Clayton, AL

DATE: 6-7-95

REPETITION: 2

LOCATION: Clayton, AL

OPERATOR: JD JB

STACK #: Ox ex #1

SAMPLE BOX #: 7

METER BOX #: 9

AMBIENT TEMPERATURE: 88

BAROMETRIC PRESSURE: 1008 mb  $\rightarrow$  29.77 in Hg

ASSUMED MOISTURE: 10%

PROBE LENGTH: 8'

NOZZLE ID DIAMETER: 1/4, .251, .252, .251

STACK DIAMETER: 85"

METER H: 1.536011

C FACTOR: .84

METER CO-EFFICIENT: 1.024762

FILTER TARE: ✓

PRE-TEST LEAK CHECK

Meter: 1005 cu. ft. 15

Pitots: ✓

in. HG

in. H2O

## IMMERSERS

|     | Initial  | Final |
|-----|----------|-------|
| #1: | 100 ml   | 150   |
| #2: | 100 ml   | 137   |
| #3: |          | 5     |
| #4: | 200 g SG | 217.2 |
| #5: |          | 109.2 |

## COMMENTS

CO<sub>2</sub> O<sub>2</sub>  
1.0 2.0

## POST-TEST LEAK CHECK

Meter: 1006 cu. ft. 10

Pitots: ✓

in. HG

in. H2O

| P  | Θ      | STATIC PRES. | Ts °F | ΔP  | √ΔP | ΔH  | Vm FT.3 | Tm INLET | Tm OUTLET | OVEN TEMP. | IMP OUTLET TEMP | VACUL (IN HG) |
|----|--------|--------------|-------|-----|-----|-----|---------|----------|-----------|------------|-----------------|---------------|
| A1 | 110/12 | -70          | 230   | .70 |     | 1.7 | 809.003 | 95       | 95        | 250        | 60              | 1             |
| 2  |        |              | 230   | .79 |     | 2.0 | 810.8   | 95       | 95        | 250        | 60              | 1             |
| 3  | 17     |              | 230   | .83 |     | 2.0 | 812.9   | 96       | 95        | 250        | 60              | 1             |
| 4  |        |              | 233   | .80 |     | 2.0 | 815.1   | 96       | 95        | 251        | 60              | 1             |
| 5  | 22     |              | 231   | .79 |     | 2.0 | 817.2   | 96       | 95        | 251        | 60              | 1             |
| 6  |        |              | 231   | .59 |     | 1.5 | 819.4   | 97       | 95        | 252        | 60              | 1             |
| 7  | 27     |              | 231   | .63 |     | 1.6 | 821.2   | 99       | 96        | 251        | 61              | 1             |
| 8  |        |              | 230   | .64 |     | 1.6 | 823.1   | 100      | 96        | 250        | 61              | 1             |
| 9  | 32     |              | 231   | .60 |     | 1.5 | 825.0   | 100      | 97        | 250        | 61              | 1             |
| 10 |        |              | 232   | .61 |     | 1.5 | 826.9   | 100      | 97        | 250        | 61              | 1             |
| 11 | 37     |              | 233   | .59 |     | 1.5 | 828.7   | 101      | 97        | 251        | 61              | 1             |
| 12 |        |              | 231   | .60 |     | 1.5 | 830.6   | 101      | 97        | 250        | 61              | 1             |
| B1 | 42/45  |              | 232   | 1.1 |     | 2.7 | 832.4   | 100      | 98        | 251        | 61              | 1             |
| 2  |        |              | 232   | 1.2 |     | 2.9 | 834.9   | 100      | 99        | 250        | 61              | 1             |
| 3  | 50     |              | 233   | 1.0 |     | 2.5 | 837.0   | 100      | 99        | 250        | 62              | 1             |
| 4  |        |              | 231   | .89 |     | 2.2 | 839.9   | 100      | 100       | 250        | 62              | 1             |
| 5  | 55     |              | 232   | .75 |     | 1.8 | 842.2   | 100      | 100       | 251        | 62              | 1             |
| 6  |        |              | 231   | .75 |     | 1.8 | 844.3   | 100      | 100       | 250        | 62              | 1             |
| 7  | 1100   |              | 230   | .74 |     | 1.8 | 846.4   | 101      | 99        | 252        | 62              | 1             |
| 8  |        |              | 231   | .63 |     | 1.6 | 848.0   | 101      | 99        | 251        | 63              | 1             |
| 9  | 05     |              | 232   | .59 |     | 1.5 | 850.3   | 102      | 100       | 251        | 63              | 1             |
| 10 |        |              | 230   | .58 |     | 1.4 | 852.2   | 103      | 100       | 252        | 67              | 1             |
| 11 | 10     |              | 231   | .61 |     | 1.5 | 854.0   | 103      | 99        | 250        | 63              | 1             |
| 12 |        |              | 232   | .59 |     | 1.4 | 855.9   | 103      | 99        | 250        | 64              | 1             |
|    | 11:15  |              |       |     |     |     | 857.724 |          |           |            |                 |               |
| AV |        |              |       |     |     |     | 48.721  |          |           |            |                 |               |

# PARTICULATE FIELD DATA

PLANT: LP Clayton, AL  
 DATE: 6-7-95  
 REPETITION: 3

LOCATION: Clayton, AL

OPERATOR: JD JB

STACK #: 0X ex. #.

SAMPLE BOX #: 7

METER BOX #: 9

AMBIENT TEMPERATURE: 90

BAROMETRIC PRESSURE: 1006 mb 29.77

ASSUMED MOISTURE: 10

PROBE LENGTH: 8'

NOZZLE ID DIAMETER: 1/4 .251, .252, .251

STACK DIAMETER: 85'

METER H: 1.536011

C FACTOR: 1.84

METER CO-EFFICIENT: 1.024762

FILTER TYPE: 1

PRE-TEST LEAK CHECK

Meter: .006 cu. ft. 15 in. H<sub>2</sub>O

Pitots: ✓ in. H<sub>2</sub>O

HCHO

IMPINGERS

Initial

Final

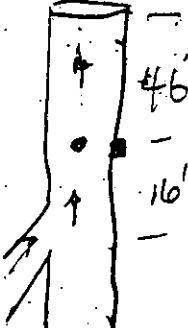
#1: 100 ml > DNPH 177  
 #2: 100 ml 118  
 #3: 6  
 #4: 200 g SG 211.0  
 #5: 112

COMMENTS

CO<sub>2</sub> O<sub>2</sub>  
 1.0 20

POST-TEST LEAK CHECK

Meter: 0.005 cu. ft. 5 in. H<sub>2</sub>O  
 Pitots: ✓ in. H<sub>2</sub>O



| P  | Θ     | STATIC PRES. | Ts °F | ΔP   | √ΔP | ΔH   | Vm FT. <sup>3</sup> | Tm INLET | Tm CUTLET | OVEN TEMP | IMP CUTLET TEMP | VACUUM IN H <sub>2</sub> O |
|----|-------|--------------|-------|------|-----|------|---------------------|----------|-----------|-----------|-----------------|----------------------------|
| 1  | 11/47 | 17.69        | 230   | 1.75 |     | 1.29 | 858.323             | 98       | 96        | 250       | 60              | -1.3                       |
| 2  |       |              | 231   | .74  |     | 1.38 | 859.8               | 98       | 97        | 251       | 60              | 1                          |
| 3  | 52    |              | 230   | .70  |     | 1.7  | 861.8               | 99       | 97        | 250       | 60              | 1                          |
| 4  |       |              | 231   | .70  |     | 1.7  | 863.8               | 99       | 98        | 251       | 60              | 1                          |
| 5  | 57    |              | 232   | .70  |     | 1.7  | 865.8               | 99       | 98        | 252       | 60              | 1                          |
| 6  |       |              | 230   | .69  |     | 1.7  | 867.8               | 99       | 98        | 250       | 60              | 1                          |
| 7  | 1202  |              | 231   | .63  |     | 1.5  | 869.8               | 100      | 98        | 251       | 60              | 1                          |
| 8  |       |              | 232   | .66  |     | 1.6  | 871.7               | 101      | 98        | 252       | 60              | 1                          |
| 9  | 67    |              | 232   | .60  |     | 1.5  | 873.7               | 101      | 98        | 252       | 61              | 1                          |
| 10 |       |              | 232   | .59  |     | 1.5  | 875.5               | 102      | 98        | 251       | 61              | 1                          |
| 11 | 12    |              | 231   | .61  |     | 1.5  | 877.4               | 102      | 98        | 251       | 61              | 1                          |
| 12 |       |              | 230   | .63  |     | 1.6  | 879.3               | 103      | 98        | 251       | 61              | 1                          |
| 13 | 17/20 |              | 231   | 1.3  |     | 3.2  | 881.2               | 101      | 97        | 250       | 61              | 1                          |
| 14 |       |              | 231   | 1.3  |     | 3.2  | 883.8               | 101      | 97        | 250       | 61              | 1                          |
| 15 | 25    |              | 232   | 1.0  |     | 2.5  | 886.6               | 102      | 98        | 250       | 61              | 1                          |
| 16 |       |              | 230   | .84  |     | 2.1  | 889.0               | 103      | 99        | 251       | 61              | 1                          |
| 17 | 50    |              | 234   | .76  |     | 1.9  | 891.2               | 103      | 99        | 252       | 61              | 1                          |
| 18 |       |              | 233   | .74  |     | 1.8  | 893.3               | 104      | 100       | 252       | 61              | 1                          |
| 19 | 35    |              | 233   | .71  |     | 1.7  | 895.4               | 104      | 100       | 251       | 61              | 1                          |
| 20 |       |              | 232   | .65  |     | 1.6  | 897.3               | 102      | 99        | 250       | 62              | 1                          |
| 21 | 40    |              | 232   | .60  |     | 1.5  | 899.3               | 102      | 99        | 249       | 62              | 1                          |
| 22 |       |              | 231   | .59  |     | 1.5  | 901.2               | 102      | 99        | 250       | 62              | 1                          |
| 23 | 45    |              | 231   | .59  |     | 1.5  | 903.0               | 102      | 99        | 250       | 63              | 1                          |
| 24 |       |              | 233   | .58  |     | 1.4  | 904.8               | 102      | 99        | 250       | 63              | 1                          |
| 25 | 12/50 |              |       |      |     |      | 906.664             |          |           |           |                 |                            |
| AV |       |              |       |      |     |      | 148.341             |          |           |           |                 |                            |

# PARTICULATE FIELD DATA

PLANT: L.P.  
DATE: 6-6-95  
REPETITION: 1, 2, 3

LOCATION: Inlet #A  
OPERATOR: JS, DB  
STACK #:   
SAMPLE BOX #: 8  
METER BOX #: 11  
AMBIENT TEMPERATURE: 90°  
BAROMETRIC PRESSURE: 1004  
ASSUMED MOISTURE:   
PROBE LENGTH: 6'  
NOZZLE DIAMETER:   
STACK DIAMETER: 48"  
METER H: 1.5596  
C FACTOR: .84  
METER CO-EFFICIENT: 1.0127

FILTER TARE: NA  
PRE-TEST LEAK CHECK

Meter: 0.00 Cu. ft./10 in. HG  
Pitots: ✓ in. H2O

## IMPINGERS

|                  | Initial | R1      | R2    | R3    |
|------------------|---------|---------|-------|-------|
| #1: 100          |         | 128 mls | 128   | 126   |
| #2: 100          | mls H2O | 102 mls | 104   | 105   |
| #3: 0            |         | 0       |       |       |
| #4: 200 grms S.G |         | 203.2   | 204.1 | 203.0 |
| #5: 0            |         | 33.2    | 36.1  | 34.0  |

## COMMENTS:

R1 Co2 1% O2 20%

R2 1% 20%

R3 1% 20%

## POST-TEST LEAK CHECK

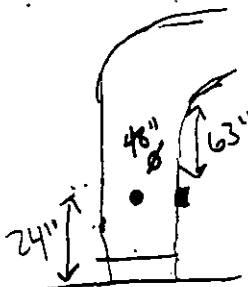
Meter: 0.00 Cu. ft./5 in. HG  
Pitots: ✓ in. H2O

|    | θ     | STATIC PRES. | Ts  | ΔP | √ΔP | ΔH  | Vm               | Tm    | Tm     | OVEN | IMP         | VAC  |
|----|-------|--------------|-----|----|-----|-----|------------------|-------|--------|------|-------------|------|
|    |       |              | F   |    |     |     | FT. <sup>3</sup> | INLET | OUTLET | TEMP | OUTLET TEMP | (IN) |
| 1  | 11:50 |              | 143 |    |     | 1.0 | 849.225          | 92    | 91     | —    | 68          | 2.0  |
| 2  | 11:55 |              | 146 |    |     | 1.0 | 851.9            | 94    | 91     | —    | 68          | 2.0  |
| 3  | 12:00 |              | 146 |    |     | 1.0 | 854.9            | 95    | 91     | —    | 68          | 2.0  |
| 4  | 12:05 |              | 146 |    |     | 1.0 | 859.0            | 96    | 92     | —    | 68          | 2.0  |
|    | 12:10 |              |     |    |     |     | 860.974          |       |        |      |             |      |
|    |       |              |     |    |     |     | 11.749           |       |        |      |             |      |
| 1  | 11:31 |              | 136 |    |     | 1.0 | 847.329          | 92    | 91     | —    | 69          | 2.0  |
| 2  | 11:36 |              | 142 |    |     | 1.0 | 900.3            | 94    | 91     | —    | 69          | 2.0  |
| 3  | 11:41 |              | 143 |    |     | 1.0 | 903.3            | 95    | 91     | —    | 70          | 2.0  |
| 4  | 11:46 |              | 141 |    |     | 1.0 | 906.3            | 95    | 91     | —    | 70          | 2.0  |
|    | 11:51 |              |     |    |     |     | 909.402          |       |        |      |             |      |
|    |       |              |     |    |     |     | 12.073           |       |        |      |             |      |
| 1  | 13:12 |              | 139 |    |     | 1.0 | 946.881          | 95    | 94     | —    | 70          | 2.0  |
| 2  | 13:17 |              | 141 |    |     | 1.0 | 949.7            | 98    | 94     | —    | 70          | 2    |
| 3  | 13:22 |              | 139 |    |     | 1.0 | 952.7            | 100   | 94     | —    | 70          | 2    |
| 4  | 13:27 |              | 140 |    |     | 1.0 | 955.6            | 101   | 95     | —    | 70          | 2    |
|    | 13:32 |              |     |    |     |     | 958.616          |       |        |      |             |      |
|    |       |              |     |    |     |     | 11.735           |       |        |      |             |      |
| ΔV |       |              |     |    |     |     |                  |       |        |      |             |      |

## PARTICULATE FIELD DATA

PLANT: L.P. Clayton  
DATE: 6-6-95  
REPETITION: 1, 2, 3

LOCATION: Inlet #13 or #2  
OPERATOR: Js, DB  
STACK #:   
SAMPLE BOX #: 11  
METER BOX #: 11  
AMBIENT TEMPERATURE: 89°  
BAROMETRIC PRESSURE: 1004 in Hg  
ASSUMED MOISTURE:   
PROBE LENGTH: 6'  
NOZZLE DIAMETER:   
STACK DIAMETER: 48"  
METER H : 1.559635  
C FACTOR: .84  
METER CO-EFFICIENT: 1.012793



## IMP INGERS

| <u>IMP INGERS</u>     |                       | <u>R1</u> | <u>R2</u>    | <u>R3</u> |
|-----------------------|-----------------------|-----------|--------------|-----------|
|                       | <u>Initial</u>        |           | <u>Final</u> |           |
| #1: 100               | w/ls H <sub>2</sub> O | 127 mls   | 126 mls      | 124 m     |
| #2: 100               |                       | 102 mls   | 102 mls      | 102 mls   |
| #3: -                 |                       |           |              |           |
| #4: 200 gms S, b      |                       | 203.1     | 203.6        | 203.0     |
| #5: -                 |                       | 32.1      | 31.6         | 29.0      |
| <u>COMMENTS:</u>      |                       |           |              |           |
| <u>CO<sub>2</sub></u> | <u>O<sub>2</sub></u>  |           |              |           |
| 1%                    | 20%                   |           |              |           |

COMMENTS:

|    | <u>CO<sub>2</sub></u> | <u>O<sub>2</sub></u> |
|----|-----------------------|----------------------|
| R1 | 1%                    | 20%                  |
| R2 | 1%                    | 20%                  |
| R3 | 1%                    | 20%                  |

POST-TEST LEAN CHECK

FILTER TARE: NA  
PRE-TEST LEAK CHECK

Meter: 0.00      Cu. Ft. 15      In. HG  
 Pressure:      ✓      In. H2O

Water: 0.2 Oz. 15.5 in. 56  
 Pitots in. 20

|   |  | STATIC<br>PRES. | $T_s$<br>°F | $\Delta P$ | $\sqrt{\Delta P}$ | $\Delta H$ | V.M.<br>FT. <sup>3</sup> | T.M.<br>INLET | T.M.<br>OUTLET | OVEN<br>TEMP | IMF<br>OUTLET<br>TEMP | VACUUM<br>(IN) |
|---|-------------------------------------------------------------------------------------|-----------------|-------------|------------|-------------------|------------|--------------------------|---------------|----------------|--------------|-----------------------|----------------|
| 1 | 11:27                                                                               |                 | 137         |            |                   | 1.0        | 837.205                  | 90            | 89             | —            | 68                    | 2.0            |
| 2 | 11:32                                                                               |                 | 135         |            |                   | 1.0        | 840.1                    | 91            | 89             | —            | 68                    | 2.0            |
| 3 | 11:37                                                                               |                 | 136         |            |                   | 1.0        | 843.1                    | 92            | 89             | —            | 68                    | 2.0            |
| 4 | 11:42                                                                               |                 | 137         |            |                   | 1.0        | 846.1                    | 93            | 89             | —            | 68                    | 2.0            |
|   | 11:47                                                                               |                 |             |            |                   |            | 849.131                  |               |                |              |                       |                |
|   |                                                                                     |                 |             |            |                   |            | 11.926                   |               |                |              |                       |                |
| 1 | 11:08                                                                               |                 | 140         |            |                   | 1.0        | 885.365                  | 90            | 90             | —            | 69                    | 2.0            |
| 2 | 11:13                                                                               |                 | 136         |            |                   | 1.0        | 888.3                    | 93            | 90             | —            | 69                    | 2.0            |
| 3 | 11:18                                                                               |                 | 138         |            |                   | 1.0        | 891.3                    | 94            | 90             | —            | 69                    | 2.0            |
| 4 | 11:23                                                                               |                 | 137         |            |                   | 1.0        | 894.4                    | 95            | 91             | —            | 69                    | 2.0            |
|   | 11:28                                                                               |                 |             |            |                   |            | 897.179                  |               |                |              |                       |                |
|   |                                                                                     |                 |             |            |                   |            | 11.814                   |               |                |              |                       |                |
| 1 | 12:48                                                                               |                 | 132         |            |                   | 1.0        | 934.754                  | 94            | 93             | —            | 70                    | 2              |
| 2 | 12:53                                                                               |                 | 137         |            |                   | 1.0        | 937.5                    | 96            | 93             | —            | 70                    | 2              |
| 3 | 12:58                                                                               |                 | 136         |            |                   | 1.0        | 940.6                    | 97            | 93             | —            | 70                    | 2              |
| 4 | 13:03                                                                               |                 | 137         |            |                   | 1.0        | 943.6                    | 98            | 93             | —            | 70                    | 2              |
|   | 13:08                                                                               |                 |             |            |                   |            | 946.555                  |               |                |              |                       |                |
|   |                                                                                     |                 |             |            |                   |            | 11.801                   |               |                |              |                       |                |

6/6/95

| R1             |     | R2  |     |
|----------------|-----|-----|-----|
| (A)            | 3.9 | (A) | 3.6 |
|                | 3.6 |     | 3.5 |
|                | 3.1 |     | 2.8 |
|                | 2.2 |     | 2.3 |
|                | 1.7 |     | 1.7 |
|                | 1.9 |     | 1.6 |
|                | 4.4 |     | 4.2 |
|                | 4.4 |     | 4.4 |
|                | 4.3 |     | 4.4 |
|                | 4.3 |     | 4.2 |
|                | 3.8 |     | 4.2 |
|                | 1.7 |     | 3.8 |
|                |     |     | 1.5 |
| Static<br>-2.6 |     |     |     |

| R1           |     | R2             |     |
|--------------|-----|----------------|-----|
| (B)          | 4.5 | (B)            | 4.5 |
|              | 4.3 |                | 4.5 |
|              | 4.3 |                | 4.5 |
|              | 4.1 |                | 4.2 |
|              | 3.9 |                | 4.1 |
|              | 3.3 |                | 3.6 |
|              | 1.4 |                | 1.7 |
|              | 1.6 |                | 1.6 |
|              | 2.1 |                | 2.3 |
|              | 2.5 |                | 3.1 |
|              | 2.7 |                | 3.0 |
|              | 1.2 |                | 1.4 |
| 143<br>1.735 |     | Static<br>-2.8 |     |

| R3   |     |
|------|-----|
| (A)  | 3.4 |
|      | 3.3 |
|      | 2.7 |
|      | 2.0 |
|      | 1.5 |
|      | 1.8 |
|      | 4.5 |
|      | 4.4 |
|      | 4.3 |
|      | 4.2 |
|      | 3.8 |
|      | 2.2 |
|      |     |
| (B)  | 4.9 |
|      | 4.6 |
|      | 4.5 |
|      | 4.5 |
|      | 4.2 |
|      | 3.8 |
|      | 1.9 |
|      | 1.8 |
|      | 2.8 |
|      | 3.2 |
|      | 3.0 |
|      | 1.7 |
| -3.0 |     |

| R1             |      | R2  |     |
|----------------|------|-----|-----|
| (A)            | 3.16 | (A) | 3.3 |
|                | 3.6  |     | 3.4 |
|                | 3.1  |     | 3.4 |
|                | 2.6  |     | 2.8 |
|                | 2.3  |     | 2.6 |
|                | 2.0  |     | 2.4 |
|                | 3.5  |     | 4.0 |
|                | 4.4  |     | 4.2 |
|                | 4.5  |     | 4.3 |
|                | 4.4  |     | 4.1 |
|                | 4.0  |     | 3.8 |
|                | 1.4  |     | 1.9 |
| Static<br>-2.8 |      |     |     |
| 1.749          |      |     |     |
| (B)            | 4.0  | (B) | 4.4 |
|                | 4.4  |     | 4.4 |
|                | 4.4  |     | 4.1 |
|                | 4.1  |     | 4.1 |
|                | 4.0  |     | 3.9 |
|                | 3.5  |     | 3.4 |
|                | 1.5  |     | 1.6 |
|                | 1.5  |     | 1.4 |
|                | 1.8  |     | 1.8 |
|                | 2.6  |     | 2.6 |
|                | 3.0  |     | 2.9 |
|                | 1.7  |     | 1.0 |

| R3             |     |
|----------------|-----|
| (A)            | 3.4 |
|                | 3.7 |
|                | 3.6 |
|                | 3.3 |
|                | 2.7 |
|                | 2.6 |
|                | 4.3 |
|                | 4.2 |
|                | 4.3 |
|                | 4.5 |
|                | 3.6 |
|                | 1.6 |
|                |     |
| (B)            | 4.2 |
|                | 4.4 |
|                | 4.2 |
|                | 4.1 |
|                | 3.9 |
|                | 3.5 |
|                | 1.5 |
|                | 1.2 |
|                | 1.5 |
|                | 2.3 |
|                | 2.7 |
|                | 1.5 |
| Static<br>-2.4 |     |

# PARTICULATE FIELD DATA

PLANT: CIP Clayton  
 DATE: 6-6-95  
 REPETITION: 1, 2, 3

LOCATION: Inlet # C or #3  
 OPERATOR: JS, DB  
 STACK #: 3  
 SAMPLE BOX #: 8  
 METER BOX #: 11  
 AMBIENT TEMPERATURE: 85°  
 BAROMETRIC PRESSURE: 1004 mb  
 ASSUMED MOISTURE:  
 PROBE LENGTH: 7'  
 NOZZLE DIAMETER:  
 STACK DIAMETER: 72"  
 METER H: 1.559635  
 C FACTOR: .84  
 METER CO-EFFICIENT: 1.012793

FILTER TARE: NA  
 PRE-TEST LEAK CHECK

Meter: 0.100 Cu. ft. 15 in. HG  
 Pitots: 2 in. H2O

| IMPINGERS |       | R1      | R2    | R3   |
|-----------|-------|---------|-------|------|
|           |       | Initial | Final |      |
| #1: 100   | > m/s | 115     | 116   | 114  |
| #2: 100   |       | 103     | 100   | 102  |
| #3:       |       | 202.4   | 203.0 | 202  |
| #4:       |       | 20.4    | 19.0  | 18.0 |
| #5:       |       |         |       |      |

## COMMENTS:

CO<sub>2</sub> O<sub>2</sub>  
 R1 10% 20%  
 R2 10% 20%  
 R3 10% 20%

## POST-TEST LEAK CHECK

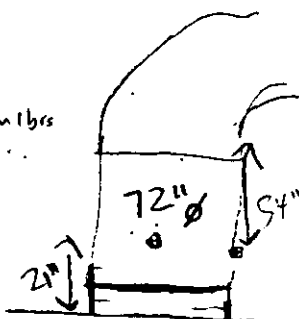
Meter: 0.00 Cu. ft. 5 in. HG  
 Pitots: in. H2O

|    | Ø     | STATIC PRES. | Ts °F | ΔP | √ΔP | ΔH  | Vm FT./S | Tm INLET | Tm OUTLET | OVEN TEMP | IMP OUTLET TEMP | VACUUM (IN) |
|----|-------|--------------|-------|----|-----|-----|----------|----------|-----------|-----------|-----------------|-------------|
| 1  | 11:03 |              | 125   |    |     | 1.0 | 825.131  | 89       | 89        | —         | 68              | 2.0         |
| 2  | 11:08 |              | 127   |    |     | 1.0 | 828.2    | 91       | 89        | —         | 68              | 2.0         |
| 3  | 11:13 |              | 128   |    |     | 1.0 | 831.2    | 92       | 89        | —         | 68              | 2.0         |
| 4  | 11:18 |              | 127   |    |     | 1.0 | 834.2    | 92       | 89        | —         | 68              | 2.0         |
|    | 11:23 |              |       |    |     |     | 837.086  |          |           |           |                 |             |
|    |       |              |       |    |     |     | 16.955   |          |           |           |                 |             |
| 1  | 12:45 |              | 129   |    |     | 1.0 | 873.386  | 90       | 90        | —         | 69              | 2.0         |
| 2  | 12:50 |              | 129   |    |     | 1.0 | 876.3    | 93       | 90        | —         | 69              | 2.0         |
| 3  | 12:55 |              | 128   |    |     | 1.0 | 879.5    | 93       | 90        | —         | 69              | 2.0         |
| 4  | 1:00  |              | 128   |    |     | 1.0 | 882.2    | 94       | 90        | —         | 69              | 2.0         |
|    | 1:05  |              |       |    |     |     | 885.249  |          |           |           |                 |             |
|    |       |              |       |    |     |     | 11.862   |          |           |           |                 |             |
| 1  | 12:25 |              | 128   |    |     | 1.0 | 922.321  | 93       | 92        | —         | 70              | 2.0         |
| 2  | 12:30 |              | 129   |    |     | 1.0 | 925.3    | 96       | 92        | —         | 70              | 2.0         |
| 3  | 12:35 |              | 129   |    |     | 1.0 | 926.0    | 97       | 93        | —         | 70              | 2.0         |
| 4  | 12:40 |              | 130   |    |     | 1.0 | 931.4    | 97       | 93        | —         | 70              | 2.0         |
|    | 12:45 |              |       |    |     |     | 934.591  |          |           |           |                 |             |
|    |       |              |       |    |     |     | 12.27    |          |           |           |                 |             |
| ΔV |       |              |       |    |     |     |          |          |           |           |                 |             |

# PARTICULATE FIELD DATA

PLANT: C.P. Clayton Al.  
 DATE: 6-6-95  
 REPETITION: 1, 2, 3

LOCATION: Inlet # D or #4  
 OPERATOR: JS, DB  
 STACK #: 4  
 SAMPLE BOX #: 11  
 METER BOX #: 11  
 AMBIENT TEMPERATURE: 85°  
 BAROMETRIC PRESSURE: 1004 mllbs  
 ASSUMED MOISTURE:  
 PROBE LENGTH: 7'  
 NOZZLE DIAMETER:  
 STACK DIAMETER: 72"  
 METER H: 1.559635  
 C FACTOR: .84  
 METER CO-EFFICIENT: 1.012793



| IMPINGERS       | Initial |       | Final |  |
|-----------------|---------|-------|-------|--|
|                 | R1      | R2    | R3    |  |
| #1: 100         | 108     | 114   | 120   |  |
| #2: 100         | 104     | 100   | 103   |  |
| #3: 0           |         |       |       |  |
| #4: 200 grms SG | 203.6   | 203.0 | 203   |  |
| #5:             | 15.6    | 17.0  | 26    |  |

## COMMENTS:

|    | CO <sub>2</sub> | O <sub>2</sub> |
|----|-----------------|----------------|
| R1 | 1%              | 20%            |
| R2 | 1%              | 20%            |
| R3 | 1%              | 20%            |

FILTER TARE: NA  
 PRE-TEST LEAK CHECK

Meter: 0.00 Cu. ft. 15 in. HG  
 Pitots: ✓ in. H2O

## POST-TEST LEAK CHECK

Meter: 0.00 Cu. ft. 5 in. HG  
 Pitots: ✓ in. H2O

|     | TIME  | STATIC PRES. | Ts  | ΔP | √ΔP | ΔH  | Vm               | Tm    | Tm     | OVEN | IMP         | VAC  |
|-----|-------|--------------|-----|----|-----|-----|------------------|-------|--------|------|-------------|------|
|     |       |              | °F  |    |     |     | FT. <sup>3</sup> | INLET | OUTLET | TEMP | OUTLET TEMP | (IN) |
| 1   | 10:27 | down         | 129 |    |     | 1.0 | 812.571          | 90    | 90     | —    | 68          | 1.5  |
| 2   | 10:32 | 10:34        | 130 |    |     | 1.0 | 815.3            | 92    | 91     | —    | 68          | 1.5  |
| 3   | 10:48 | up 10:45     | 130 |    |     | 1.0 | 818.9            | 90    | 90     | —    | 68          | 2.0  |
| 4   | 10:53 |              | 131 |    |     | 1.0 | 822.1            | 91    | 90     | —    | 68          | 2.0  |
|     | 10:58 |              |     |    |     |     | 824.736          |       |        |      |             |      |
|     |       |              |     |    |     |     | 12.165           |       |        |      |             |      |
| 1   | 12:18 |              | 129 |    |     | 1.0 | 861.120          | 92    | 92     | —    | 68          | 2    |
| 2   | 12:23 |              | 130 |    |     | 1.0 | 864.4            | 93    | 91     | —    | 68          | 2    |
| 3   | 12:28 |              | 128 |    |     | 1.0 | 868.0            | 94    | 91     | —    | 68          | 2    |
| 4   | 12:33 | up 12:30     | 130 |    |     | 1.0 | 870.2            | 90    | 90     | —    | 68          | 2    |
| GND | 12:43 | up           |     |    |     |     | 873.235          |       |        |      |             |      |
|     |       |              |     |    |     |     | 12.115           |       |        |      |             |      |
| 1   | 12:00 |              | 133 |    |     | 1.0 | 909.525          | 91    | 91     | —    | 68          | 2    |
| 2   | 12:05 |              | 131 |    |     | 1.0 | 913.0            | 94    | 91     | —    | 69          | 2    |
| 3   | 12:10 |              | 132 |    |     | 1.0 | 915.8            | 95    | 91     | —    | 69          | 2    |
| 4   | 12:15 |              | 134 |    |     | 1.0 | 919.0            | 96    | 91     | —    | 69          | 2    |
|     | 12:20 |              |     |    |     |     | 922.101          |       |        |      |             |      |
|     |       |              |     |    |     |     | 12.576           |       |        |      |             |      |
| ΔV  |       |              |     |    |     |     |                  |       |        |      |             |      |

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|    | K1   |        | R2   |        | R3  |
|----|------|--------|------|--------|-----|
| 1  | 1.4  |        | .80  |        | 1.0 |
| 2  | .96  |        | .82  |        | 1.0 |
| 3  | .98  |        | .77  |        | .84 |
| 4  | .74  |        | .54  |        | .58 |
| 5  | .52  |        | .52  |        | .51 |
| 6  | .64  |        | .53  |        | .55 |
| 7  | 1.2  |        | 1.3  |        | 1.2 |
| 8  | 1.2  |        | 1.2  |        | 1.1 |
| 9  | 1.2  |        | 1.2  |        | 1.3 |
| 10 | 1.2  |        | 1.3  |        | 1.2 |
| 11 | 1.3  |        | 1.2  |        | 1.2 |
| 12 | 1.2  |        | 1.2  |        | .90 |
| 13 | 1.91 |        | 1.92 |        |     |
| 14 | 1.3  |        | 1.3  |        | 1.4 |
| 15 | 1.3  | Static | 1.4  |        | 1.3 |
| 16 | 1.3  |        | 1.3  |        | 1.3 |
| 17 | 1.4  | -2.2   | 1.2  | Static | 1.2 |
| 18 | 1.5  |        | 1.2  | -1.3   | 1.2 |
| 19 | 1.3  |        | 1.1  |        | 1.1 |
| 20 | .72  | 1.0046 | .81  |        | .65 |
| 21 | .56  |        | .69  |        | .54 |
| 22 | .61  |        | .61  |        | .58 |
| 23 | .72  |        | .64  |        | .64 |
| 24 | .86  |        | .66  |        | .72 |
| 25 | .96  |        | .62  |        | .54 |

|    | R1   | Inlet Stack #1 or #4 | R2  |        | R3  | Stack Temp |
|----|------|----------------------|-----|--------|-----|------------|
| 1  | .60  | Static               | .56 |        | .75 |            |
| 2  | .48  | -1.8                 | .59 |        | .71 | 133°       |
| 3  | .52  |                      | .61 |        | .68 |            |
| 4  | .54  |                      | .63 |        | .60 |            |
| 5  | .67  | 128°                 | .73 |        | .63 |            |
| 6  | .96  | Stack Temp           | .85 |        | .82 |            |
| 7  | 1.3  |                      | 1.3 |        | 1.2 |            |
| 8  | 1.15 |                      | 1.5 |        | 1.5 |            |
| 9  | 1.5  |                      | 1.5 |        | 1.5 |            |
| 10 | 1.4  |                      | 1.4 |        | 1.5 |            |
| 11 | 1.4  |                      | .65 |        | 1.4 |            |
| 12 | .88  |                      |     |        | .95 |            |
| 13 | 1.15 |                      | 1.5 |        | 1.2 |            |
| 14 | 1.4  |                      | 1.5 |        | 1.3 |            |
| 15 | 1.5  | 1.0257               | 1.4 |        | 1.3 |            |
| 16 | 1.5  |                      | 1.3 |        | 1.2 |            |
| 17 | 1.5  |                      | 1.2 | Static | 1.2 | Static     |
| 18 | 1.4  |                      | .99 | -1.8   | 1.2 | -1.5       |
| 19 | 1.2  |                      | .89 |        | .98 |            |
| 20 | 1.0  |                      | .87 |        | .92 |            |
| 21 | .98  |                      | .91 |        | .85 |            |
| 22 | .95  |                      | .85 |        | .82 |            |
| 23 | .96  |                      | .66 |        | .80 |            |
| 24 | 1.0  |                      |     |        | .65 |            |
| 25 | .85  |                      |     |        |     |            |

# Tangential Flow Determinations

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|      | <u>Inlet "A"</u> | <u>Inlet "B"</u> | <u>Inlet "C"</u> | <u>Inlet "D"</u> |
|------|------------------|------------------|------------------|------------------|
|      | Null >           |                  |                  |                  |
| 1    | 90               | 90               | 80               | 75               |
| 2    | 88               | 90               | 85               | 80               |
| 3    | 90               | 90               | 85               | 80               |
| 4    | 90               | 90               | 80               | 85               |
| 5    | 85               | 85               | 80               | 80               |
| 6    | 88               | 85               | 90               | 85               |
| 7    | 90               | 80               | 90               | 90               |
| 8    | 90               | 90               | 90               | 90               |
| 9    | 90               | 90               | 90               | 90               |
| 10   | 85               | 90               | 90               | 90               |
| 11   | 82               | 90               | 90               | 90               |
| 12   | 80               | 80               | 85               | 80               |
| 13   | 90               | 90               | 90               | 90               |
| 14   | 90               | 90               | 90               | 90               |
| 15   | 90               | 90               | 90               | 90               |
| 16   | 88               | 85               | 90               | 90               |
| 17   | 88               | 85               | 85               | 90               |
| 18   | 90               | 80               | 80               | 90               |
| 19   | 82               | 80               | 80               | 90               |
| 20   | 80               | 75               | 75               | 85               |
| 21   | 75               | 75               | 80               | 85               |
| 22   | 75               | 75               | 75               | 80               |
| Ave  | 86.5             | 85.6             | 85.4             | 86.5             |
| Null |                  |                  |                  |                  |

# PARTICULATE FIELD DATA

PLANT: L.P  
 DATE: 6-7-95  
 REPETITION: 4, 5, 6

LOCATION: Clayton AL  
 OPERATOR: DB, JS  
 STACK #: A  
 SAMPLE BOX #: 8  
 METER BOX #: 12  
 AMBIENT TEMPERATURE: 88  
 BAROMETRIC PRESSURE: 1010 mb  
 ASSUMED MOISTURE:  
 PROBE LENGTH: 5  
 NOZZLE DIAMETER:  
 STACK DIAMETER: 48"  
 METER H: 1.59672  
 C FACTOR: .84  
 METER CO-EFFICIENT: 1.0042

FILTER TARE: N/A  
 PRE-TEST LEAK CHECK

Meter: 0.013 Cu. ft. 15 in. HG  
 Pitots: 0.010 15 in. H2O  
0.011 15

## IMPINGERS

Initial  
 #1: 100 m/s H<sub>2</sub>O  
 #2: 100 m/s  
 #3: ---  
 #4: 200 m/s S.G  
 #5: ---

|    | Initial | Final |
|----|---------|-------|
| R1 | 130     | 132   |
| R2 | 100     | 100   |
| R3 | 203     | 202   |
|    | 33      | 34    |

## COMMENTS:

|    |      |      |
|----|------|------|
|    | 0.02 | 0.02 |
| R1 | 1%   | 20%  |
| R2 | 1%   | 20%  |
| R3 | 1%   | 20%  |

## POST-TEST LEAK CHECK

Meter: 0.012 Cu. ft. 7 in. HG  
 Pitots: 0.010 7 in. H2O  
0.010 7

|    | TIME  | STATIC PRES. | TS °F | ΔP | ΔP/F | ΔH  | Vm FT/S | Tm INLET | Tm OUTLET | OVEN TEMP | IMP OUTLET TEMP | VACUUM (IN) |
|----|-------|--------------|-------|----|------|-----|---------|----------|-----------|-----------|-----------------|-------------|
| R1 | 9:07  |              | 134   |    |      | 1.0 | 663.452 | 79       | 79        |           | 68              | 2           |
|    | 9:12  |              | 140   |    |      | 1.0 | 666.402 | 81       | 79        |           | 68              | 2           |
|    | 9:17  |              | 142   |    |      | 1.0 | 669.378 | 84       | 80        |           | 68              | 2           |
|    | 9:22  |              | 140   |    |      | 1.0 | 672.344 | 85       | 80        | ✓         | 68              | 2           |
|    | 9:27  |              |       |    |      | X   | 675.324 |          |           |           |                 |             |
|    |       |              |       |    |      |     | 11.872  |          |           |           |                 |             |
| R2 | 10:41 |              | 145   |    |      | 1.0 | 687.858 | 86       | 85        |           | 68              | 2           |
|    | 10:46 |              | 143   |    |      | 1.0 | 690.832 | 89       | 86        |           | 68              | 2           |
|    | 10:51 |              | 146   |    |      | 1.0 | 693.821 | 89       | 86        |           | 68              | 2           |
|    | 10:56 |              | 145   |    |      | 1.0 | 696.818 | 89       | 86        | ✓         | 68              | 2           |
|    | 11:01 |              |       |    |      | X   | 699.841 |          |           |           |                 |             |
|    |       |              |       |    |      |     | 11.983  |          |           |           |                 |             |
| R3 | 12:15 |              | 145   |    |      | 1.0 | 712.477 | 89       | 89        |           | 68              | 2           |
|    | 12:20 |              | 146   |    |      | 1.0 | 715.444 | 91       | 89        |           | 68              | 2           |
|    | 12:25 |              | 142   |    |      | 1.0 | 718.325 | 93       | 90        |           | 68              | 2           |
|    | 12:30 |              | 140   |    |      | 1.0 | 721.251 | 95       | 91        | ✓         | 68              | 2           |
|    | 12:35 |              |       |    |      | X   | 724.255 |          |           |           |                 |             |
|    |       |              |       |    |      |     | 11.778  |          |           |           |                 |             |

Stack "A" 6/7/95

| Run#1  | Static | Run#2 | Run#3 |
|--------|--------|-------|-------|
| A1 3.4 |        | 3.3   | 3.4   |
| 2 3.0  |        | 3.1   | 3.1   |
| 3 2.5  | - 2.4  | 2.5   | 2.5   |
| 4 1.9  |        | 1.9   | 1.9   |
| 5 1.5  |        | 1.7   | 1.6   |
| 6 1.5  |        | 1.4   | 1.5   |
| 7 4.0  |        | 3.7   | 3.8   |
| 8 4.2  |        | 4.3   | 4.4   |
| 9 4.2  |        | 4.2   | 4.1   |
| 10 4.2 |        | 4.1   | 4.0   |
| 11 3.8 |        | 4.0   | 3.9   |
| 12 1.5 |        | 2.3   | 1.9   |
| B1 4.6 |        | 4.3   | 4.5   |
| 2 4.5  |        | 4.4   | 4.4   |
| 3 4.3  |        | 4.3   | 4.3   |
| 4 4.1  |        | 4.1   | 4.2   |
| 5 4.0  |        | 3.9   | 4.0   |
| 6 3.3  |        | 3.4   | 3.3   |
| 7 1.3  |        | 1.2   | 1.4   |
| 8 1.5  |        | 1.4   | 1.6   |
| 9 2.2  |        | 2.1   | 2.3   |
| 10 2.8 |        | 2.7   | 2.6   |
| 11 3.0 |        | 3.0   | 2.9   |
| 12 1.3 |        | 1.8   | 1.6   |

# PARTICULATE FIELD DATA

PLANT: L.P. Clayton  
 DATE: 6-7-95  
 REPETITION: 4, 5, 6

LOCATION: Inlet #B or #2  
 OPERATOR: JS, DB  
 STACK #: 2  
 SAMPLE BOX #: 11  
 METER BOX #: 11  
 AMBIENT TEMPERATURE: 85°  
 BAROMETRIC PRESSURE: 1004 mlbs  
 ASSUMED MOISTURE:  
 PROBE LENGTH: 6' flex line  
 NOZZLE ID METER: -  
 STACK DIAMETER: 48"  
 METER H: 1.559635  
 C FACTOR: .84  
 METER CO-EFFICIENT: 1.012793

FILTER TARE: NA  
 PRE-TEST LEAK CHECK

R1 Meter: 0.00 cu. ft. / 10 in. HG  
 R2 Pitots: 0.00 / 10 in. H2O  
 R3 0.00 / 10

## IMPINGERS

|                              | Initial | R1  | R2  | R3  |
|------------------------------|---------|-----|-----|-----|
| #1: 100 mls H <sub>2</sub> O |         | 122 | 130 | 127 |
| #2: 100                      |         | 102 | 102 | 101 |
| #3: 0                        |         |     |     |     |
| #4: 200 gms SiC              |         | 203 | 202 | 203 |
| #5: 0                        |         | 270 | 30  | 31  |

## COMMENTS

CO<sub>2</sub> O<sub>2</sub>  
 R1 1% 20%  
 R2 1% 20%  
 R3 1% 20%

## POST-TEST LEAK CHECK

R1 Meter: 0.00 cu. ft. / 7 in. HG  
 R2 Pitots: 0.00 / 5 in. H2O  
 R3 0.00 / 5

| P # | θ     | STATIC PRES. | Ts °F | ΔP | √ΔP | ΔH  | Vm FT. <sup>3</sup> | Tm INLET | Tm OUTLET | OVEN TEMP. | IMP. OUTLET TEMP. | VACUUM (IN Hg) |
|-----|-------|--------------|-------|----|-----|-----|---------------------|----------|-----------|------------|-------------------|----------------|
| 1   | 9:10  |              | 146   |    |     | 1.0 | 970.745             | 82       | 82        | -          | 66                | 2              |
| 2   | 9:15  |              | 148   |    |     | 1.0 | 974.0               | 85       | 82        | -          | 66                | 3              |
| 3   | 9:20  |              | 148   |    |     | 1.0 | 976.4               | 86       | 82        | -          | 66                | 3              |
| 4   | 9:25  |              | 145   |    |     | 1.0 | 979.4               | 87       | 83        | -          | 66                | 4              |
|     | 9:30  |              |       |    |     |     | 982.504             |          |           |            |                   |                |
|     |       |              |       |    |     |     | 11.759              |          |           |            |                   |                |
| 1   | 10:42 |              | 145   |    |     | 1.0 | 994.615             | 87       | 87        | -          | 66                | 3              |
| 2   | 10:47 |              | 143   |    |     | 1.0 | 997.4               | 89       | 87        | -          | 66                | 3              |
| 3   | 10:52 |              | 140   |    |     | 1.0 | 1000.2              | 90       | 87        | -          | 66                | 3              |
| 4   | 10:57 |              | 141   |    |     | 1.0 | 1003.2              | 90       | 87        | -          | 66                | 3              |
|     | 11:02 |              |       |    |     |     | 1005.865            |          |           |            |                   |                |
|     |       |              |       |    |     |     | 11.25               |          |           |            |                   |                |
| 1   | 12:18 |              | 141   |    |     | 1.0 | 17.365              | 91       | 91        | -          | 69                | 2              |
| 2   | 12:23 |              | 139   |    |     | 1.0 | 20.2                | 94       | 92        | -          | 69                | 2              |
| 3   | 12:28 |              | 135   |    |     | 1.0 | 23.0                | 95       | 92        | -          | 70                | 2              |
| 4   | 12:33 |              | 134   |    |     | 1.0 | 25.9                | 96       | 92        | -          | 70                | 2              |
|     | 12:38 |              |       |    |     |     | 28.627              |          |           |            |                   |                |
|     |       |              |       |    |     |     | 11.262              |          |           |            |                   |                |
| AV  |       |              |       |    |     |     |                     |          |           |            |                   |                |

Stack "B"

6/7/95

Traverse

Inlet #B or #2

Run #4

Static

-2.2

Run #5

Static

-1.8

Run #6

Static

-1.9

|    |     |
|----|-----|
| 1  | 3.1 |
| 2  | 3.2 |
| 3  | 3.0 |
| 4  | 2.9 |
| 5  | 1.8 |
| 6  | 1.6 |
| 7  | 3.7 |
| 8  | 4.2 |
| 9  | 4.1 |
| 10 | 4.2 |
| 11 | 3.8 |
| 12 | 1.2 |
| 31 | 4.2 |
| 2  | 4.3 |
| 3  | 4.1 |
| 4  | 4.0 |
| 5  | 3.7 |
| 6  | 3.2 |
| 7  | 1.2 |
| 8  | 1.2 |
| 9  | 1.5 |
| 10 | 2.3 |
| 11 | 2.6 |
| 12 | .95 |

|      |     |
|------|-----|
| (A1) | 3.4 |
| (2)  | 3.3 |
| (3)  | 2.8 |
| (4)  | 2.2 |
| (5)  | 1.8 |
| (6)  | 1.6 |
| (7)  | 3.6 |
| (8)  | 4.2 |
| (9)  | 4.1 |
| (10) | 4.2 |
| (11) | 4.0 |
| (12) | 1.4 |
| (B1) | 3.4 |
| (2)  | 4.1 |
| (3)  | 4.2 |
| (4)  | 4.0 |
| (5)  | 3.7 |
| (6)  | 3.1 |
| (7)  | 1.0 |
| (8)  | 1.2 |
| (9)  | 1.6 |
| (10) | 2.3 |
| (11) | 2.6 |
| (12) | 1.5 |

|    |     |
|----|-----|
| A1 | 3.5 |
| 2  | 3.4 |
| 3  | 3.0 |
| 4  | 2.8 |
| 5  | 2.0 |
| 6  | 1.4 |
| 7  | 3.2 |
| 8  | 4.4 |
| 9  | 4.0 |
| 10 | 4.1 |
| 11 | 4.1 |
| 12 | 1.2 |
| B1 | 3.4 |
| 2  | 4.2 |
| 3  | 4.2 |
| 4  | 4.1 |
| 5  | 3.6 |
| 6  | 3.0 |
| 7  | 1.5 |
| 8  | 1.5 |
| 9  | 1.6 |
| 10 | 2.0 |
| 11 | 2.4 |
| 12 | 1.8 |

# PARTICULATE FIELD DATA

PLANT: L.P.  
 DATE: 6-7-95  
 REPETITION: 4, 5, 6

LOCATION: Clayton AL  
 OPERATOR: OBJS  
 STACK #: C  
 SAMPLE BOX #: 8  
 METER BOX #: 12  
 AMBIENT TEMPERATURE: 88  
 BAROMETRIC PRESSURE: 1010 mb  
 ASSUMED MOISTURE:  
 PROBE LENGTH: 7'  
 NOZZLE IDAMETER: —  
 STACK DIAMETER: 72"  
 METER H : 1.59072  
 C FACTOR: 1.84  
 METER CO-EFFICIENT: 1.0042

FILTER TARE: N/A  
 PRE-TEST LEAK CHECK

Meter: 0.010 cu. ft. 15 in. HG  
 Pitots: 0.012 15 in. H2O  
0.010 15

## IMPINGERS

|                                         | Initial | Final      |            |            |
|-----------------------------------------|---------|------------|------------|------------|
|                                         |         | R1         | R2         | R3         |
| #1: <u>100m/s</u> <u>H<sub>2</sub>O</u> |         | <u>118</u> | <u>117</u> | <u>119</u> |
| #2: <u>100m/s</u> <u>H<sub>2</sub>O</u> |         | <u>100</u> | <u>102</u> | <u>101</u> |
| #3: <u>—</u>                            |         |            |            |            |
| #4: <u>20051</u> <u>5.6</u>             |         | <u>203</u> | <u>202</u> | <u>203</u> |
| #5: <u>—</u>                            |         | <u>21</u>  | <u>21</u>  | <u>23</u>  |

## COMMENTS

|    | <u>CO2</u> | <u>O2</u>  |
|----|------------|------------|
| R1 | <u>1%</u>  | <u>20%</u> |
| R2 | <u>1%</u>  | <u>20%</u> |
| R3 | <u>1%</u>  | <u>20%</u> |

## POST-TEST LEAK CHECK

Meter: 0.010 cu. ft. 7 in. HG  
 Pitots: 0.011 7 in. H2O  
0.008 7

| P # | θ            | STATIC PRES. | Ts °F      | ΔP | √ΔP | ΔH         | Vm FT.3        | Tm INLET  | Tm OUTLET | OVEN TEMP. | IMP OUTLET TEMP. | VA (IN HG) |
|-----|--------------|--------------|------------|----|-----|------------|----------------|-----------|-----------|------------|------------------|------------|
| R1  | <u>8:36</u>  |              | <u>140</u> |    |     | <u>1.0</u> | <u>651.445</u> | <u>75</u> | <u>75</u> |            | <u>68</u>        | <u>2</u>   |
|     | <u>8:41</u>  |              | <u>137</u> |    |     | <u>1.0</u> | <u>654.441</u> | <u>77</u> | <u>76</u> |            | <u>68</u>        | <u>2</u>   |
|     | <u>8:46</u>  |              | <u>136</u> |    |     | <u>1.0</u> | <u>657.355</u> | <u>81</u> | <u>77</u> |            | <u>68</u>        | <u>2</u>   |
|     | <u>8:51</u>  |              | <u>137</u> |    |     | <u>1.0</u> | <u>660.219</u> | <u>81</u> | <u>77</u> | <u>✓</u>   | <u>68</u>        | <u>2</u>   |
|     | <u>8:56</u>  |              |            |    |     |            | <u>663.205</u> |           |           |            |                  |            |
|     |              |              |            |    |     |            | <u>12.222</u>  |           |           |            |                  |            |
| R2  | <u>10:11</u> |              | <u>137</u> |    |     | <u>1.0</u> | <u>675.563</u> | <u>83</u> | <u>83</u> |            | <u>68</u>        | <u>2</u>   |
|     | <u>10:16</u> |              | <u>138</u> |    |     | <u>1.0</u> | <u>679.564</u> | <u>85</u> | <u>83</u> |            | <u>68</u>        | <u>2</u>   |
|     | <u>10:21</u> |              | <u>137</u> |    |     | <u>1.0</u> | <u>681.576</u> | <u>89</u> | <u>83</u> |            | <u>68</u>        | <u>2</u>   |
|     | <u>10:26</u> |              | <u>136</u> |    |     | <u>1.0</u> | <u>684.542</u> | <u>89</u> | <u>84</u> | <u>✓</u>   | <u>68</u>        | <u>2</u>   |
|     | <u>10:31</u> |              |            |    |     |            | <u>687.404</u> |           |           |            |                  |            |
|     |              |              |            |    |     |            | <u>11.841</u>  |           |           |            |                  |            |
| R3  | <u>11:42</u> |              | <u>136</u> |    |     | <u>1.0</u> | <u>700.400</u> | <u>87</u> | <u>87</u> |            | <u>68</u>        | <u>2</u>   |
|     | <u>11:47</u> |              | <u>135</u> |    |     | <u>1.0</u> | <u>703.411</u> | <u>89</u> | <u>87</u> |            | <u>68</u>        | <u>2</u>   |
|     | <u>11:52</u> |              | <u>136</u> |    |     | <u>1.0</u> | <u>706.399</u> | <u>90</u> | <u>87</u> |            | <u>68</u>        | <u>2</u>   |
|     | <u>11:57</u> |              | <u>136</u> |    |     | <u>1.0</u> | <u>709.196</u> | <u>91</u> | <u>88</u> | <u>✓</u>   | <u>68</u>        | <u>2</u>   |
|     | <u>12:02</u> |              |            |    |     |            | <u>712.263</u> |           |           |            |                  |            |
|     |              |              |            |    |     |            | <u>11.863</u>  |           |           |            |                  |            |
| AV  |              |              |            |    |     |            |                |           |           |            |                  |            |



## PARTICULATE FIELD DATA

PLANT: L.P

DATE: 6-~~8~~-95

REPETITION: 4, 5, 6

LOCATION: Inlet #0 or #4

OPERATOR: JS, DB

STACK = 4

SAMPLE BOX #: 11

METER BOX #: 11

AMBIENT TEMPERATURE: 95°

BAROMETRIC PRESSURE: 1004 m/b

ASSURED MOISTURE:

PROBE LENGTH: 7'

NOZZLE DIAMETER:

STACK DIAMETER: 72"

METER H : 1.554635

C FACTOR: 1.84

METER CO-EFFICIENT: 1.012793

FILTER TARE: NA

### PRE-TEST LEAK CHECK

Never: 0.00 cu. ft. 10

**Notes:**

R20.00 ~ 15

R0100 ✓ 13

in. 5G

in. H<sub>2</sub>O

### POST-TEST LEAK CHECK

Meter: 0.00 cu. ft. 8

Picots: ✓

0.00 ✓ 10

0.00

in. HG

in. H<sub>2</sub>O

[illegible]

6/7/95

Stack "D"

Traverse Inlet #0 on #4

Run#4

Static

-1.3

Run#5

Static

-1.0

Run#6

Static

-1.1

A1 .45  
2 .53  
3 .52  
4 .42  
5 .46  
6 .68  
7 1.1  
8 1.3  
9 1.3  
10 1.3  
11 1.2  
12 .58  
B1 1.1  
2 1.3  
3 1.2  
4 1.3  
5 1.2  
6 1.0  
7 .82  
8 .71  
9 .62  
10 .60  
11 .65  
12 .48

A1 .53  
2 .45  
3 .46  
4 .48  
5 .54  
6 .66  
7 1.2  
8 1.3  
9 1.3  
10 1.2  
11 1.2  
12 1.0  
B1 1.0  
2 1.3  
3 1.2  
4 1.3  
5 1.2  
6 1.0  
7 .88  
8 .82  
9 .67  
10 .72  
11 .69  
12 .51

A1 .51  
2 .46  
3 .48  
4 .51  
5 .60  
6 .71  
7 1.3  
8 1.3  
9 1.3  
10 1.3  
11 1.1  
12 1.1  
B1 1.0  
2 1.3  
3 1.4  
4 1.3  
5 1.2  
6 1.2  
7 .85  
8 .81  
9 .70  
10 .75  
11 .66  
12 .48

APPENDIX E

SUMMARY OF POST METER BOX CALIBRATION

METER BOX NUMBER : 12  
CALIBRATION DATE: 6/09/95  
CALIBRATED BY: Dan Barrera  
BAROMETRIC PRESSURE (inch Hg): 29.6

```
*****
*
*   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 = 79  
VD = 9.734999    TD = 76.75    TIME = 16.46    TEST METER Y = .9701  
METER BOX Y = .9898887  
METER BOX H = 1.570481

POINT 2  
DELTA H = 1      VW = 10      TW = 79.5  
VD = 9.724    TD = 77.75    TIME = 16.39    TEST METER Y = .9701  
METER BOX Y = .9919346  
METER BOX H = 1.557141

POINT 3  
DELTA H = 1      VW = 10      TW = 80  
VD = 9.734    TD = 78.75    TIME = 16.38    TEST METER Y = .9701  
METER BOX Y = .9918389  
METER BOX H = 1.555233

AVERAGE Y = .9912207  
AVERAGE H = 1.560952

Post-Test  
Meter Box Calibration

Dry Gas Meter #: 12

Calibrated by: *Dan Barrera*

Date: 6-9-95

Barometric Pressure: 29.6

| Orifice<br>$\Delta H$ | Test<br>Meter<br>Volume<br>$V_w$ | Dry Gas<br>Meter<br>Volume<br>$V_d$ | Temperature            |                     |                     |              | Time<br>$\theta$ | $\gamma$ | $\Delta H @$ |
|-----------------------|----------------------------------|-------------------------------------|------------------------|---------------------|---------------------|--------------|------------------|----------|--------------|
|                       |                                  |                                     | Test<br>Meter<br>$T_w$ | Dry Gas Meter       |                     |              |                  |          |              |
|                       |                                  |                                     |                        | Inlet<br>$T_{di}$   | Outlet<br>$T_{do}$  | Ave<br>$T_d$ |                  |          |              |
| 1.0                   | 10                               | 9.735                               | 79                     | <del>76</del><br>81 | <del>75</del><br>75 | 76.75        | 16.46            | .9701    |              |
| 1.0                   | 10                               | 9.724                               | 77.5                   | <del>78</del><br>82 | <del>75</del><br>76 | 77.75        | 16.39            | .9701    |              |
| 1.0                   | 10                               | 9.734                               | 80                     | <del>80</del><br>83 | <del>76</del><br>76 | 78.75        | 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 #: 12

DATE: 6-9-95

| $\Delta H$               | VW    | TW    | VD      | TDT | TDO | $\Delta TD$ | $\theta$ |
|--------------------------|-------|-------|---------|-----|-----|-------------|----------|
| 1.0 (10FT <sup>3</sup> ) | 562.0 | 79/79 | 735.801 | 76  | 75  |             |          |
|                          | 552.0 | 79/79 | 726.066 | 81  | 75  |             |          |
|                          | 10    | 79    | 9.735   |     | →   | 76.75       | 16.46    |
|                          |       |       |         |     |     |             |          |
|                          |       |       |         |     |     |             |          |
| 1.0 (10FT <sup>3</sup> ) | 572.0 | 79/79 | 745.525 | 78  | 75  |             |          |
|                          | 562.0 | 80/80 | 735.801 | 82  | 76  |             |          |
|                          | 10    | 79.5  | 9.724   |     | →   | 77.75       | 16.39    |
|                          |       |       |         |     |     |             |          |
|                          |       |       |         |     |     |             |          |
|                          |       |       |         |     |     |             |          |
| 1.0 (10FT <sup>3</sup> ) | 582.0 | 80/80 | 755.259 | 80  | 76  |             |          |
|                          | 572.0 | 80/80 | 745.525 | 83  | 76  |             |          |
|                          | 10    | 80    | 9.734   |     | →   | 78.75       | 16.38    |
|                          |       |       |         |     |     |             |          |
|                          |       |       |         |     |     |             |          |
|                          |       |       |         |     |     |             |          |

# Temperature Meter Calibration Form

Meter #

12

6-9-95

Emtech K

Thermocouple Checker

Meter Reading

P1

32 F + 460 = 492 R

27 + 460 = 487 R

P2

212 F + 460 = 672 R

208 + 460 = 668 R

P3

752 F + 460 = 1212 R

751 + 460 = 1211 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

1.0

P2

.6

P3

2.1

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

AVERAGE Y = 1.032748

# Meter Box Calibration

Dry Gas Meter #: 9  
 Calibrated by: Dan Barker  
 Date: 6-9-95  
 Barometric Pressure: 29.6

| Orifice<br>$\Delta H$ | Test<br>Meter<br>Volume<br>$V_w$ | Dry Gas<br>Meter<br>Volume<br>$V_d$ | Temperature             |                   |                    |              | Time<br>$e$ | $\gamma$ | $\Delta H_{\text{calc}}$ |
|-----------------------|----------------------------------|-------------------------------------|-------------------------|-------------------|--------------------|--------------|-------------|----------|--------------------------|
|                       |                                  |                                     | Test<br>Meter.<br>$T_w$ | Dry Gas Meter     |                    |              |             |          |                          |
|                       |                                  |                                     |                         | Inlet<br>$T_{di}$ | Outlet<br>$T_{do}$ | Ave<br>$T_d$ |             |          |                          |
| 0.5                   | 5                                | 4.545                               | 80                      | 79<br>82          | 78<br>79           | 79.5         | 11.70       | .9701    |                          |
| 1.0                   | 6                                | 5.530                               | 80                      | 81<br>85          | 79<br>79           | 81           | 10.00       | .9701    |                          |
| 1.5                   | 10                               | 9.402                               | 80                      | 82<br>86          | 79<br>80           | 81.75        | 13.84       | .9701    |                          |
| 2.0                   | 10                               | 9.511                               | 80                      | 84<br>87          | 80<br>81           | 83.25        | 11.85       | .9701    |                          |
| 3.0                   | 10                               | 9.564                               | 80.5                    | 84<br>88          | 81<br>81           | 83.5         | 9.66        | .9701    |                          |
| 4.0                   | 10                               | 9.521                               | 81                      | 86<br>89          | 81<br>81           | 84.25        | 8.36        | .9701    |                          |

$$\gamma = \frac{V_w P_{\text{bar}} (T_d + 460)}{V_d (P_{\text{bar}} + \frac{\Delta H}{13.6}) (T_w + 460)}$$

$$\Delta H_{\text{calc}} = \frac{0.0317 \Delta H}{P_{\text{bar}} (T_d + 460)} \left[ \frac{(T_w + 460) e}{V_w} \right]^2$$

$P_{\text{bar}}$  = Barometric Pressure

ARMSTRONG ENVIRONMENTAL, INC.

DRY GAS METER #: 9

DATE: 6-9-95

| $\Delta H$                | VW    | TW    | VD      | TDT | TDO | $\Delta TD$ | $\theta$ |
|---------------------------|-------|-------|---------|-----|-----|-------------|----------|
| 0.5 (5 FT <sup>3</sup> )  | 506.0 | 80/80 | 913.049 | 79  | 78  |             |          |
|                           | 501.0 | 80/80 | 908.504 | 82  | 79  |             |          |
|                           | 5     | 80    | 4.545   |     | →   | 79.5        | 11.70    |
| 1.0 (5 FT <sup>3</sup> )  | 512.0 | 80/80 | 918.579 | 81  | 79  |             |          |
|                           | 506.0 | 80/80 | 913.049 | 85  | 79  |             |          |
|                           | 6     | 80    | 5.530   |     | →   | 81          | 12.00    |
| 1.5 (10 FT <sup>3</sup> ) | 522.0 | 80/80 | 927.981 | 82  | 79  |             |          |
|                           | 512.0 | 80/80 | 918.579 | 86  | 80  |             |          |
|                           | 10    | 80    | 9.402   |     | →   | 81.25       | 13.94    |
| 2.0 (10 FT <sup>3</sup> ) | 532.0 | 80/80 | 937.492 | 84  | 80  |             |          |
|                           | 522.0 | 80/80 | 927.981 | 87  | 81  |             |          |
|                           | 10    | 80    | 9.511   |     | →   | 83.25       | 11.85    |
| 3.0 (10 FT <sup>3</sup> ) | 542.0 | 80/80 | 947.056 | 84  | 81  |             |          |
|                           | 532.0 | 81/81 | 937.492 | 88  | 81  |             |          |
|                           | 10    | 80.5  | 9.564   |     | →   | 83.5        | 9.66     |
| 4.0 (10 FT <sup>3</sup> ) | 552.0 | 81/81 | 956.577 | 86  | 81  |             |          |
|                           | 542.0 | 81/81 | 947.056 | 89  | 81  |             |          |
|                           | 10    | 81    | 9.521   |     | →   | 84.25       | 8.36     |

# Temperature Meter Calibration Form

Meter # 9 6-9-95

Emtech K  
Thermocouple Checker

Meter Reading

|    |                      |                                  |
|----|----------------------|----------------------------------|
| P1 | 32 F + 460 = 492 R   | <u>29</u> + 460 = <u>489 R</u>   |
| P2 | 212 F + 460 = 672 R  | <u>209</u> + 460 = <u>669 R</u>  |
| P3 | 752 F + 460 = 1212 R | <u>747</u> + 460 = <u>1207 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>.6</u> |
| P2 | <u>.4</u> |
| P3 | <u>.4</u> |

SUMMARY OF PRE METER BOX CALIBRATION

METER BOX NUMBER: 11  
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 = 79  
VD = 4.795 TD = 77.5 TIME = 11.73 TEST METER Y = .9701  
METER BOX Y = 1.007508  
METER BOX H = 1.592915

POINT 2

DELTA H = 1 VW = 5 TW = 79.5  
VD = 4.823 TD = 78 TIME = 8.3 TEST METER Y = .9701  
METER BOX Y = 1.00042  
METER BOX H = 1.596557

POINT 3

DELTA H = 1.5 VW = 10 TW = 80  
VD = 9.731 TD = 79 TIME = 13.44 TEST METER Y = .9701  
METER BOX Y = .9913768  
METER BOX H = 1.569842

POINT 4

DELTA H = 2 VW = 10 TW = 80  
VD = 9.528 TD = 80 TIME = 12.05 TEST METER Y = .9701  
METER BOX Y = 1.013124  
METER BOX H = 1.679444

POINT 5

DELTA H = 3 VW = 10 TW = 80  
VD = 9.54 TD = 80 TIME = 9.560001 TEST METER Y = .9701  
METER BOX Y = 1.009354  
METER BOX H = 1.585617

POINT 6

DELTA H = 4 VW = 10 TW = 80.5  
VD = 9.505999 TD = 80.5 TIME = 8.45 TEST METER Y = .9701  
METER BOX Y = 1.010473  
METER BOX H = 1.653243

AVERAGE Y = 1.005376

# Meter Box Calibration

Dry Gas Meter #: 11  
 Calibrated by: *Don Barrera*  
 Date: *6-9-95*  
 Barometric Pressure: *29.6*

| Orifice<br>$\Delta H$ | Test<br>Meter<br>Volume<br>$V_w$ | Dry Gas<br>Meter<br>Volume<br>$V_d$ | Temperature            |                   |                    |              | Time<br>$t$ | $\gamma$ | $\Delta H_B$ |
|-----------------------|----------------------------------|-------------------------------------|------------------------|-------------------|--------------------|--------------|-------------|----------|--------------|
|                       |                                  |                                     | Test<br>Meter<br>$T_w$ | Dry Gas Meter     |                    |              |             |          |              |
|                       |                                  |                                     |                        | Inlet<br>$T_{di}$ | Outlet<br>$T_{do}$ | Ave<br>$T_d$ |             |          |              |
| .5                    | 5                                | 4.795                               | 79                     | 77<br>79          | 77<br>77           | 77.5         | 11.73       | .9701    |              |
| 1.0                   | 5                                | 4.823                               | 79.5                   | 78<br>80          | 77<br>77           | 78           | 8.30        | .9701    |              |
| 1.5                   | 10                               | 9.731                               | 80                     | 79<br>82          | 77<br>78           | 79           | 13.44       | .9701    |              |
| 2.0                   | 10                               | 9.528                               | 80                     | 80<br>84          | 78<br>78           | 80           | 12.05       | .9701    |              |
| 3.0                   | 10                               | 9.540                               | 80                     | 80<br>84          | 78<br>78           | 80           | 9.56        | .9701    |              |
| 4.0                   | 10                               | 9.506                               | 80.5                   | 81<br>84          | 78<br>79           | 80.5         | 8.45        | .9701    |              |

$$\gamma = \frac{V_w P_{\text{bar}} (T_d + 460)}{V_d (P_{\text{bar}} + \frac{\Delta H}{13.6}) (T_w + 460)}$$

$$\Delta H_B = \frac{0.0317 \Delta H}{P_{\text{bar}} (T_d + 460)} \left[ \frac{(T_w + 460) \theta}{V_w} \right]^2$$

$P_{\text{bar}}$  = Barometric Pressure

ARMSTRONG ENVIRONMENTAL, INC.

DRY GAS METER #: 11

DATE: 6-9-95

| $\Delta H$               | VW    | TW    | VD     | TDT | TDO | $\Delta TD$ | $\theta$ |
|--------------------------|-------|-------|--------|-----|-----|-------------|----------|
| .5(5FT <sup>3</sup> )    | 455.0 | 79/79 | 35.618 | 77  | 77  |             |          |
|                          | 450.0 | 79/79 | 30.823 | 79  | 77  |             |          |
|                          | 5     | 79    | 4.795  |     | →   | 77.5        | 11.73    |
| 1.0(5FT <sup>3</sup> )   | 460.0 | 79/79 | 40.441 | 78  | 77  |             |          |
|                          | 455.0 | 80/80 | 35.618 | 80  | 77  |             |          |
|                          | 5     | 79.5  | 4.823  |     | →   | 78          | 8.30     |
| 1.5(10 FT <sup>3</sup> ) | 470.0 | 80/80 | 50.172 | 79  | 77  |             |          |
|                          | 460.0 | 80/80 | 40.441 | 82  | 78  |             |          |
|                          | 10    | 80    | 9.731  |     | →   | 79          | 13.44    |
| 2.0(10FT <sup>3</sup> )  | 480.0 | 80/80 | 59.700 | 80  | 78  |             |          |
|                          | 470.0 | 80/80 | 50.172 | 84  | 78  |             |          |
|                          | 10    | 80    | 9.528  |     | →   | 80          | 12.05    |
| 3.0(10FT <sup>3</sup> )  | 490.0 | 80/80 | 69.240 | 80  | 78  |             |          |
|                          | 480.0 | 80/80 | 59.700 | 84  | 78  |             |          |
|                          | 10    | 80    | 9.540  |     | →   | 80          | 9.56     |
| 4.0(10FT <sup>3</sup> )  | 500.0 | 80/80 | 78.746 | 81  | 78  |             |          |
|                          | 490.0 | 81/81 | 69.240 | 84  | 79  |             |          |
|                          | 10    | 80.5  | 9.506  |     | →   | 80.5        | 8.45     |

# Temperature Meter Calibration Form

Meter # 11 6-9-95

Emtech K  
Thermocouple Checker

Meter Reading

|    |                      |                                  |
|----|----------------------|----------------------------------|
| P1 | 32 F + 460 = 492 R   | <u>28</u> + 460 = <u>488</u> R   |
| P2 | 212 F + 460 = 672 R  | <u>208</u> + 460 = <u>668</u> R  |
| P3 | 752 F + 460 = 1212 R | <u>246</u> + 460 = <u>1206</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>.18</u> |
| P2 | <u>.6</u>  |
| P3 | <u>.5</u>  |

# SUMMARY OF PRE METER BOX CALIBRATION

METER BOX NUMBER: 9  
 CALIBRATION DATE: 5/02/95  
 CALIBRATED BY: Jerry Salinas  
 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 = 70  
 VD = 4.56 TD = 69.25 TIME = 11.68 TEST METER Y = .9701  
 METER BOX Y = 1.060894  
 METER BOX H = 1.538392

## POINT 2

DELTA H = 1 VW = 5 TW = 70  
 VD = 4.715 TD = 71 TIME = 8.23 TEST METER Y = .9701  
 METER BOX Y = 1.028146  
 METER BOX H = 1.52257

## POINT 3

DELTA H = 1.5 VW = 10 TW = 70.5  
 VD = 9.507 TD = 72.5 TIME = 13.41 TEST METER Y = .9701  
 METER BOX Y = 1.020481  
 METER BOX H = 1.514469

## POINT 4

DELTA H = 2 VW = 10 TW = 71  
 VD = 9.533 TD = 74.5 TIME = 11.69 TEST METER Y = .9701  
 METER BOX Y = 1.019307  
 METER BOX H = 1.531654

## POINT 5

DELTA H = 3 VW = 10 TW = 71  
 VD = 9.590999 TD = 75.5 TIME = 9.640001 TEST METER Y = .9701  
 METER BOX Y = 1.012556  
 METER BOX H = 1.559428

## POINT 6

DELTA H = 4 VW = 10 TW = 71.5  
 VD = 9.623 TD = 76.25 TIME = 8.32 TEST METER Y = .9701  
 METER BOX Y = 1.007188  
 METER BOX H = 1.549553

# Meter Box Calibration

Dry Gas Meter #: 9  
 Calibrated by: Jerry Salinas  
 Date: 5-2-95  
 Barometric Pressure: 29.84

| Orifice<br>$\Delta H$ | Test<br>Meter<br>Volume<br>$V_w$ | Dry Gas<br>Meter<br>Volume<br>$V_d$ | Temperature            |                     |                     | Time<br>$t$ | $\gamma$ | $\Delta H_{eq}$ |
|-----------------------|----------------------------------|-------------------------------------|------------------------|---------------------|---------------------|-------------|----------|-----------------|
|                       |                                  |                                     | Test<br>Meter<br>$T_w$ | Dry Gas Meter       |                     |             |          |                 |
|                       |                                  |                                     |                        | Inlet<br>$T_{di}$   | Outlet<br>$T_{do}$  |             |          |                 |
| .5                    | 5                                | 4.56                                | 70                     | <del>68</del><br>72 | <del>68</del><br>69 | 69.25       | 11.68    | .9701           |
| 1.0                   | 5                                | 4.715                               | 70                     | <del>70</del><br>75 | <del>69</del><br>70 | 71          | 8.23     | .9701           |
| 1.5                   | 10                               | 9.507                               | 70.5                   | <del>71</del><br>78 | <del>70</del><br>71 | 72.5        | 13.41    | .9701           |
| 2.0                   | 10                               | 9.533                               | 71                     | <del>74</del><br>79 | <del>72</del><br>73 | 74.5        | 11.69    | .9701           |
| 3.0                   | 10                               | 9.591                               | 71                     | <del>75</del><br>80 | <del>73</del><br>74 | 75.5        | 9.14     | .9701           |
| 4.0                   | 10                               | 9.623                               | 71.5                   | <del>77</del><br>81 | <del>73</del><br>74 | 76.25       | 8.32     | .9701           |

$$\gamma = \frac{V_w P_{\text{bar}} (T_d + 460)}{V_d (P_{\text{bar}} + \frac{\Delta H}{13.6}) (T_w + 460)}$$

$$\Delta H_{\text{eq}} = \frac{0.0317 \Delta H}{P_{\text{bar}} (T_d + 460)} \left[ \frac{(T_w + 460) \theta}{V_w} \right]^2$$

$P_{\text{bar}}$  = Barometric Pressure

ARMSTRONG ENVIRONMENTAL, INC.

DRY GAS METER #: 9

DATE: 5/2/95 29.84

[illegible]

Temperature Meter Calibration Form # 9 5/2/95

Extech K Thermocouple Checker.

Meter Reading

P1 :  $32^{\circ}\text{F} + 460 = 492^{\circ}\text{R}$  31  $\div 460 =$  491  $^{\circ}\text{R}$

P2 :  $212^{\circ}\text{F} + 460 = 672^{\circ}\text{R}$  209  $\div 460 =$  1,69  $^{\circ}\text{R}$

P3 :  $752^{\circ}\text{F} + 460 = 1,212^{\circ}\text{R}$  749  $\div 460 =$  1209  $^{\circ}\text{R}$

...  
Divide smaller number by larger number in degrees R and multiply by 100.

Subtract that number from 100 to get % variation.

Variation limit is  $\pm$  or - 2%

% Variation

P1 : .2

P2 : .4

P3 : .2

Average

# SUMMARY OF PRE METER BOX CALIBRATION

METER BOX NUMBER: 12  
 CALIBRATION DATE: 5/26/95  
 CALIBRATED BY: Dan Barrera  
 BAROMETRIC PRESSURE: 29.75

```
*****
*
*   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 = 4.84 TD = 78 TIME = 11.59 TEST METER Y = .9701  
 METER BOX Y = .9972253  
 METER BOX H = 1.551581

POINT 2  
 DELTA H = 1 VW = 5 TW = 80.5  
 VD = 4.851 TD = 79.75 TIME = 8.24 TEST METER Y = .9701  
 METER BOX Y = .9960476  
 METER BOX H = 1.566338

POINT 3  
 DELTA H = 1.5 VW = 10 TW = 81  
 VD = 9.655 TD = 81.5 TIME = 13.61 TEST METER Y = .9701  
 METER BOX Y = 1.001978  
 METER BOX H = 1.600206

POINT 4  
 DELTA H = 2 VW = 10 TW = 81.5  
 VD = 9.662 TD = 83.5 TIME = 11.99 TEST METER Y = .9701  
 METER BOX Y = 1.002788  
 METER BOX H = 1.652867

POINT 5  
 DELTA H = 3 VW = 10 TW = 82  
 VD = 9.583 TD = 84.75 TIME = 9.59 TEST METER Y = .9701  
 METER BOX Y = 1.009961  
 METER BOX H = 1.585375

POINT 6  
 DELTA H = 4 VW = 10 TW = 82.5  
 VD = 9.497 TD = 85.5 TIME = 8.310001 TEST METER Y = .9701  
 METER BOX Y = 1.017074  
 METER BOX H = 1.587959

AVERAGE Y = 1.004179  
 AVERAGE H = 1.590721

# Meter Box Calibration

Dry Gas Meter #: 12  
 Calibrated by: *Don Correia*  
 Date: *5-26-95*  
 Barometric Pressure: 29.75

| Orifice<br>$\Delta H$ | Test<br>Meter<br>Volume<br>$V_w$ | Dry Gas<br>Meter<br>Volume<br>$V_d$ | Temperature             |                     |                     |              | Time<br>e | $\gamma$ | $\Delta H_B$ |
|-----------------------|----------------------------------|-------------------------------------|-------------------------|---------------------|---------------------|--------------|-----------|----------|--------------|
|                       |                                  |                                     | Test<br>Meter.<br>$T_w$ | Dry Gas Meter       |                     |              |           |          |              |
|                       |                                  |                                     |                         | Inlet<br>$T_{di}$   | Outlet<br>$T_{co}$  | Ave<br>$T_d$ |           |          |              |
| .5                    | 5                                | 4.840                               | 80                      | <del>76</del><br>83 | <del>76</del><br>77 | 78           | 11.59     | .9701    |              |
| 1.0                   | 5                                | 4.851                               | 80.5                    | <del>80</del><br>84 | <del>77</del><br>78 | 79.75        | 8.24      | .9701    |              |
| 1.5                   | 10                               | 9.655                               | 81                      | <del>80</del><br>89 | <del>78</del><br>79 | 81.5         | 13.61     | .9701    |              |
| 2.0                   | 10                               | 9.662                               | 81.5                    | <del>85</del><br>90 | <del>79</del><br>80 | 83.5         | 11.99     | .9701    |              |
| 3.0                   | 10                               | 9.583                               | 82                      | <del>87</del><br>91 | <del>80</del><br>81 | 84.75        | 9.59      | .9701    |              |
| 4.0                   | 10                               | 9.497                               | 82.5                    | <del>87</del><br>92 | <del>81</del><br>82 | 85.5         | 8.31      | .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 #: 12

DATE: 5-26-95

[illegible]

# Temperature Meter Calibration Form

Meter # 12 5-2695

|    | Eumtech X<br>Thermocouple Checker | Meter Reading                    |
|----|-----------------------------------|----------------------------------|
| P1 | 32 F + 460 = 492 R                | <u>28</u> + 460 = <u>488 R</u>   |
| P2 | 212 F + 460 = 672 R               | <u>212</u> + 460 = <u>672 R</u>  |
| P3 | 752 F + 460 = 1212 R              | <u>758</u> + 460 = <u>1218 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>.18</u>  |
| P2 | <u>.0</u>   |
| P3 | <u>.05</u>  |

SUMMARY OF PRE METER BOX CALIBRATION

METER BOX NUMBER: 11  
CALIBRATION DATE: 5/3/95  
CALIBRATED BY: Jerry Salinas  
BAROMETRIC PRESSURE: 29.56

\*\*\*\*\*  
\*  
\* 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 = 66  
VD = 4.829 TD = 66 TIME = 11.72 TEST METER Y = .9701  
METER BOX Y = 1.003204  
METER BOX H = 1.549622

POINT 2  
DELTA H = 1 VW = 5 TW = 66.5  
VD = 4.807 TD = 66.5 TIME = 8.24 TEST METER Y = .9701  
METER BOX Y = 1.006546  
METER BOX H = 1.533443

POINT 3  
DELTA H = 1.5 VW = 10 TW = 67  
VD = 9.583 TD = 68 TIME = 13.62 TEST METER Y = .9701  
METER BOX Y = 1.010464  
METER BOX H = 1.569595

POINT 4  
DELTA H = 2 VW = 10 TW = 67  
VD = 9.542 TD = 69.5 TIME = 11.73 TEST METER Y = .9701  
METER BOX Y = 1.016429  
METER BOX H = 1.547876

POINT 5  
DELTA H = 3 VW = 10 TW = 67  
VD = 9.514 TD = 70.75 TIME = 9.67 TEST METER Y = .9701  
METER BOX Y = 1.019304  
METER BOX H = 1.574201

POINT 6  
DELTA H = 4 VW = 10 TW = 67  
VD = 9.481 TD = 71 TIME = 8.399999 TEST METER Y = .9701  
METER BOX Y = 1.020814  
METER BOX H = 1.58307

AVERAGE Y = 1.012793  
AVERAGE H = 1.559635

# Meter Box Calibration

Dry Gas Meter #: 11  
 Calibrated by: Jerry Salinas  
 Date: 5-3-95  
 Barometric Pressure: 29.56

| Orifice<br>$\Delta H$ | Test<br>Meter<br>Volume<br>$V_w$ | Dry Gas<br>Meter<br>Volume<br>$V_d$ | Temperature            |                   |                    |              | Time<br>$\theta$ | $\gamma$ | $\Delta H_2$ |
|-----------------------|----------------------------------|-------------------------------------|------------------------|-------------------|--------------------|--------------|------------------|----------|--------------|
|                       |                                  |                                     | Test<br>Meter<br>$T_w$ | Dry Gas Meter     |                    |              |                  |          |              |
|                       |                                  |                                     |                        | Inlet<br>$T_{di}$ | Outlet<br>$T_{do}$ | Ave<br>$T_d$ |                  |          |              |
| .5                    | 5                                | 4.829                               | 66                     | 63<br>66          | 63<br>64           | 66           | 11.72            | .9701    |              |
| 1.0                   | 5                                | 4.807                               | 66.5                   | 66<br>69          | 65<br>66           | 66.5         | 8.24             | .9701    |              |
| 1.5                   | 10                               | 9.583                               | 67                     | 68<br>71          | 66<br>67           | 68           | 13.62            | .9701    |              |
| 2.0                   | 10                               | 9.542                               | 67                     | 70<br>73          | 67<br>68           | 69.5         | 11.73            | .9701    |              |
| 3.0                   | 10                               | 9.514                               | 67                     | 72<br>74          | 68<br>69           | 70.75        | 9.67             | .9701    |              |
| 4.0                   | 10                               | 9.481                               | 67                     | 72<br>74          | 69<br>69           | 71           | 8.40             | .9701    |              |

$$\gamma = \frac{V_w P_{bar} (T_d + 460)}{V_d (P_{bar} + \frac{\Delta H}{13.6}) (T_w + 460)}$$

$$\Delta H_2 = \frac{0.0317 \Delta H}{P_{bar} (T_d + 460)} \left[ \frac{(T_w + 460) \theta}{V_w} \right]^2$$

$P_{bar}$  = Barometric Pressure

# ARMSTRONG ENVIRONMENTAL, INC.

DRY GAS METER #: 11

DATE: 5-3-95

| $\Delta H$              | VW     | TW      | VD      | TDT | TDO | $\Delta TD$ | $\theta$ |
|-------------------------|--------|---------|---------|-----|-----|-------------|----------|
| .5(5FT <sup>3</sup> )   | 20.000 | 66 / 66 | 490.571 | 63  | 63  |             |          |
|                         | 15.000 | 66 / 66 | 485.742 | 66  | 64  |             |          |
|                         | 5.000  | 66      | 4.829   |     | →   | 66          | 11.721   |
| 1.0(5FT <sup>3</sup> )  | 25.000 | 66 / 66 | 495.378 | 66  | 65  |             |          |
|                         | 20.000 | 67 / 67 | 490.571 | 69  | 66  |             |          |
|                         | 5.000  | 66.5    | 4.807   |     | →   | 66.5        | 8.237    |
| 1.5(10FT <sup>3</sup> ) | 35.000 | 67 / 67 | 504.961 | 68  | 66  |             |          |
|                         | 25.000 | 67 / 67 | 495.378 | 71  | 67  |             |          |
|                         | 10.000 | 67      | 9.583   |     | →   | 68          | 13.617   |
| 2.0(10FT <sup>3</sup> ) | 45.000 | 67 / 67 | 514.503 | 70  | 67  |             |          |
|                         | 35.000 | 67 / 67 | 504.961 | 73  | 68  |             |          |
|                         | 10.000 | 67      | 9.542   |     | →   | 69.5        | 11.734   |
| 3.0(10FT <sup>3</sup> ) | 55.000 | 67 / 67 | 524.017 | 72  | 68  |             |          |
|                         | 45.000 | 67 / 67 | 514.503 | 74  | 69  |             |          |
|                         | 10.000 | 67      | 9.514   |     | →   | 70.75       | 9.674    |
| 4.0(10FT <sup>3</sup> ) | 65.000 | 67 / 67 | 533.498 | 72  | 69  |             |          |
|                         | 55.000 | 67 / 67 | 524.017 | 74  | 69  |             |          |
|                         | 10.000 | 67      | 9.481   |     | →   | 71          | 8.402    |

# Temperature Meter Calibration Form

# 11 5/3/95

Extech K Thermocouple Checker:

Meter Reading

P1 :  $32^{\circ}\text{F} + 460 = 492^{\circ}\text{R}$

28  $\div 460 = \underline{488}^{\circ}\text{R}$

P2 :  $212^{\circ}\text{F} + 460 = 672^{\circ}\text{R}$

208  $\div 460 = \underline{668}^{\circ}\text{R}$

P3 :  $752^{\circ}\text{F} + 460 = 1,212^{\circ}\text{R}$

746  $\div 460 = \underline{1206}^{\circ}\text{R}$

...

Divide smaller number by larger number in degrees R and multiply by 100.

Subtract that number from 100 to get % variation.

Variation limit is  $\div$  or  $-2\%$

% Variation

P1 :

.8

P2 :

.6

P3 :

.5

Average

APPENDIX F

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: ARISTROG ENVIRONMENTAL Order No: 36A-00598

7715 SOVEREIGN ROW

Notes:

DALLAS TX 75247

Batch No: 861-18145

Cylinder No: SG9132456

Cylinder Pressure: 2000 psig

Certification Date: 05/09/94

Expiration Date: 05/09/97

Analytical Instrumentation: \*\*\*\*\*

Serial Number: 59405U

Last Calibration: 05/05/94 GC-FID

PO: 1371 Rel: \*\*\*\*\* Reference Standards \*\*\*\*\*

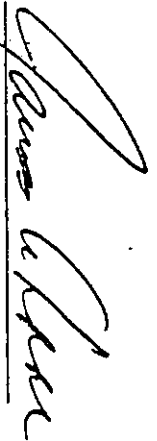
\*\*\* Certified Concentration \*\*\* Certified Concentration

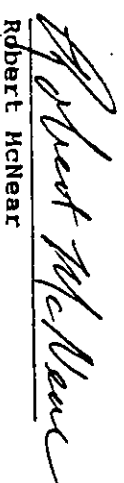
Component Concentration Cylinder # Standard Number Concentration Instrument Make/Model

PROPANE 909  $\pm$ 2.2 PPM SG9128533BUL GHIS 1025.0000 PPM Gow-Mac 750

Balance Gas: Nitrogen

\* Standard should not be used below 150 psig

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

3415 BANNING ST

DALLAS, TX.

Notes:

TX 75233

Order No: 360-047885  
Batch No: 861-23327

PO: Rel:

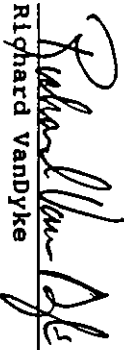
\*\*\* Certified Concentration \*\*\* \*\*\*\*\* Reference Standards \*\*\*\*\* \*\*\*\*\* Analytical Instrumentation \*\*\*\*\*

| Component | Certified Concentration | Cylinder # | Standard Number | Concentration | Instrument Make/Model | Serial Number | Last Calibration | Measurement Principal |
|-----------|-------------------------|------------|-----------------|---------------|-----------------------|---------------|------------------|-----------------------|
| PROPANE   | 495 $\pm$ 1.3           | PPM        | SG9128635BAL    | GMS           | 505.1000 PPM          | GOW-Mac 750   | 59405U           | 01/18/94 GC-FID       |

Balance Gas: Nitrogen

\* Standard should not be used below 150 psig

Analyst:

  
Richard Vandyke

Approved By:

  
Robert McNear

To: Airco Dist. & Ctr. Gases

Expiration Date: 01/12/98

Customer P.O.: R11747

Balance Gas: Nitrogen

CAS 1727-37-9

## 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: 612700  
Cylinder Number: CC23227  
Date: 01/06/95  
Cylinder Procedure: 2000 1816  
Certification Date: 01/12/95  
Location: Royal Oak, M.I.

| Component | Certified Concentration | SRM No. | SRM Conc. | Cylinder Number | Analytical Information | Serial Number             | Analytical Procedure | Model   | Calibration Date |
|-----------|-------------------------|---------|-----------|-----------------|------------------------|---------------------------|----------------------|---------|------------------|
| Propane   | 91.0 ppm                | 2643a   | 99.1 ppm  | 812043          | RAPID 4189             | Flame Ionization Detector | Beckman              | 400-220 | 12/23/94         |

| First Analysis    |               |            |               |          | Second Analysis   |               |            |               |          |
|-------------------|---------------|------------|---------------|----------|-------------------|---------------|------------|---------------|----------|
| Analyst: L. Casey |               |            |               |          | Analyst: L. Casey |               |            |               |          |
| Date: 01/12/95    |               |            |               |          | Date: 01/12/95    |               |            |               |          |
| Zero Gas          | Reference Gas | Sample Gas | Concentration |          | Zero Gas          | Reference Gas | Sample Gas | Concentration |          |
| 00.0              | 99.1          | 90.9       | 90.9 ppm      |          | 00.0              | 99.1          | 90.8       | 90.8 ppm      |          |
| 00.0              | 99.0          | 90.9       | 91.0 ppm      |          | 00.0              | 99.8          | 90.6       | 90.9 ppm      |          |
| 00.0              | 99.0          | 90.9       | 91.0 ppm      |          | 00.0              | 99.8          | 90.6       | 90.9 ppm      |          |
| Average -         |               |            |               | 91.0 ppm | Average -         |               |            |               | 90.9 ppm |

This Calibration Standard has been Certified versus EPA Traceability Protocol 1.1 Procedure 1.1 and Analysis performed per section 3.0.4  
Certified Concentration: Balance - Nitrogen, Propane-91.0 ppm

APPROVED BY: M. Kelly  
Laboratory Manager

**EPA PROTOCOL**



# 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 N<sub>2</sub>

### 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 | First Triad Analysis                                                                                                                                                    | Second Triad Analysis | Calibration Curve                                                                                                                                                                                                                             |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Propane    | <p>Date: 2-2-94 Response Units: mv<br/>Z1=0.00 R1=99.10 T1=30.00<br/>R2=99.10 Z2=0.00 T2=30.00<br/>Z3=0.00 T3=30.00 R3=99.10<br/>Avg. Conc. of Cust. Cyl. 29.98 ppm</p> |                       | <p>Concentration = <math>A + Bx + Cx^2 + Dx^3 + Ex^4</math><br/><math>r = 0.99999</math> SRM 2643A<br/>Constants: <math>A = -0.03442105</math><br/><math>B = 1.000549</math> <math>C = 0</math><br/><math>D = 0</math> <math>E = 0</math></p> |
|            |                                                                                                                                                                         |                       | <p>Concentration = <math>A + Bx + Cx^2 + Dx^3 + Ex^4</math></p>                                                                                                                                                                               |
|            |                                                                                                                                                                         |                       | <p>Concentration = <math>A + Bx + Cx^2 + Dx^3 + Ex^4</math></p>                                                                                                                                                                               |

**Special Notes**

NO OTHER HYDROCARBONS DETECTED ON G.C.

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 |

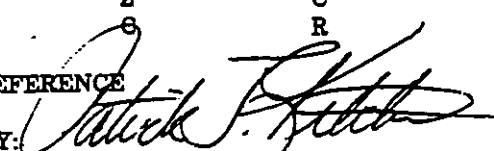
COMPONENT:

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  
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  
DALLAS, TX 75233

P.O.#

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

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."

**AIRCO**

To: BOC Retail - Dallas

Expiration Date: 09-13-96

Customer P.O.: R11758/2286-10g

Balance Gas: Nitrogen

CAS 7127-37-9

**Certification of Analysis - EPA Protocol Gas  
Performed According to Section 3.0.4**

Certified Per Traceability Procedure # G1  
Certified Accuracy 1% NIST Protocol # 1

Test Number: 0994-008

Cylinder Number: CC20562

Fill Date: 08-03-94

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 Procedure | Make         | Model | CAS       | Calibration Date |
|--------------|-------------------------|----------|------------|-----------------|---------------|----------------------|--------------|-------|-----------|------------------|
| Nitric Oxide | 110 PPM                 | 1605b    | 252.5 PPM  | CC26783         | 42H-65487-214 | CHEMILUMINESCENT     | THERMO ENVIR | 42H   | 10102-439 | 08-19-94         |

| First Analysis |               |            |                  | Date: 09-06-94 |  |
|----------------|---------------|------------|------------------|----------------|--|
| Zero Gas       | Reference Gas | Sample Gas | -- Concentration |                |  |
| 0.05           | 253.2         | 110.5      | 110 PPM          |                |  |
| 0.06           | 252.3         | 110.1      | 110 PPM          |                |  |
| 0.05           | 252.0         | 110.0      | 110 PPM          |                |  |
| Average-       |               |            | 110 PPM          |                |  |

| Second Analysis |               |            |                  | Date: 09-13-94 |  |
|-----------------|---------------|------------|------------------|----------------|--|
| Zero Gas        | Reference Gas | Sample Gas | -- Concentration |                |  |
| 0.04            | 255.9         | 111.2      | 110 PPM          |                |  |
| 0.04            | 255.8         | 111.4      | 110 PPM          |                |  |
| 0.04            | 255.9         | 111.1      | 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

Allega Corp., 601 A County Club Rd., Bensenville, IL 60106 / ATTN: Carl Cella / P.O. #2286-10

APPROVED BY

Laboratory Manager

*C. M. Muehl*

**EXPIRED**

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: ARMSTRONG ENVIRONMENTAL

7715 SOVEREIGN ROW

DALLAS TX 75247

Notes:

Order No: 36A-006058  
Batch No: 861-18318

Cylinder No: SG9132370B

Cylinder Pressure: 2000 psig

Certification Date: 05/25/94

Expiration Date: 05/25/96

PO: 1372 Rel:

\*\*\* Certified Concentration \*\*\* Reference Standards \*\*\*\*\* Analytical Instrumentation \*\*\*\*\*

Component Concentration Cylinder # Standard Number Concentration Make/Model Instrument Serial Number Last Calibration Measurement

NITRIC OXIDE 95.8 ±.42 PPM SG9103337BAL GMIS 93.6000 PPM Rosemount 951a 0101877 05/04/94 CHEMILUMINESCE

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

Air Products and Chemicals, Inc.  
SPECIALTY GAS DEPARTMENT  
12722 S. WENTWORTH 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: APCI 3415 BANNING ST DALLAS, TX. TX 75233 Notes: Order No: 360-047885 Batch No: 861-23143

Cylinder No: SG9133079B  
Cylinder Pressure\*: 2000 psig  
Certification Date: 01/22/95  
Expiration Date: 01/22/97

PO: Rel: \*\*\* Certified Concentration \*\*\* \*\*\*\*\* Reference Standards \*\*\*\*\* Analytical Instrumentation \*\*\*\*\*

| Component    | Concentration | Cylinder #   | Standard Number | Concentration | Instrument Make/Model | Serial Number | Last Calibration | Measurement Principle |
|--------------|---------------|--------------|-----------------|---------------|-----------------------|---------------|------------------|-----------------------|
| NITRIC OXIDE | 50.8 ±.26 PPM | SG9113412BAL | GMIS            | 59.0900 PPM   | Rosemount 951a        | 0101877       | 01/13/95         | CHEMILUMINESCE        |

Balance Gas: Nitrogen  
Contaminant  
Nitrogen Dioxide .200 PPM

\* Standard should not be used below 150 psig

Analyst: 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 1

PERFORMED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS (PROCEDURE #G1)

Customer: ARMSTRONG ENVIRONMENTAL

7715 SOVEREIGN ROW TX 75247

DALLAS

PO: 1372 Rel:

\*\*\* Certified Concentration \*\*\* \*\*\*\*\* Reference Standards \*\*\*\*\*

Component Concentration Cylinder # Standard Number Concentration Make/Model Instrument Serial Last Calibration Measurement

NITRIC OXIDE 29.7 ±0.34 PPM SG9113524BAL GMS 28.6100 PPM Rosemount 951a 0101877 05/04/94 CHEMILUMINESCEN

Balance Gas: Nitrogen

Contaminant Nitrogen Dioxide .200 PPM

\* Standard should not be used below 150 psig

Analyst: Richard Vandyske  
Richard Vandyske

Approved By: Robert McNear  
Robert McNear



562613

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



662814

Airco Special Gases  
4561 North Access Road  
Chattanooga  
Tennessee 37415  
Telephone: 615-877-4387  
FAX: 615-877-8604

**ANALYTICAL REPORT**

To: BOC Gases  
2613 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 1S2, 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



662507

Airco Special Gases  
4551 North Access Road  
Chattanooga  
Tennessee 37415  
Telephone: 615-877-4387  
FAX 615-877-8894

**ANALYTICAL REPORT**

To: BOC Gases  
2615 Joe Field Road  
Dallas, TX 75229

Date Reported: 11-16-94  
Test Number: 41264  
Fill Date: 11-16-94

Material Submitted: 50 ppm Carbon Monoxide, Balance Nitrogen

Specification Number: BOC Specifications

Method of Analysis: Non-Dispersive Infrared Analyzer

Analyzed: Cylinder No. CC19762 Size 152, EGA 350 1650 psi

| <u>Component</u> | <u>Specification</u> | <u>Concentration</u> |
|------------------|----------------------|----------------------|
| Carbon Monoxide  | 50 ppm               | 56.7 ppm             |
| Nitrogen         | Balance              | Balance              |

by

AUTHORIZED SIGNATURE



# 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 #: 04-29795-002

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

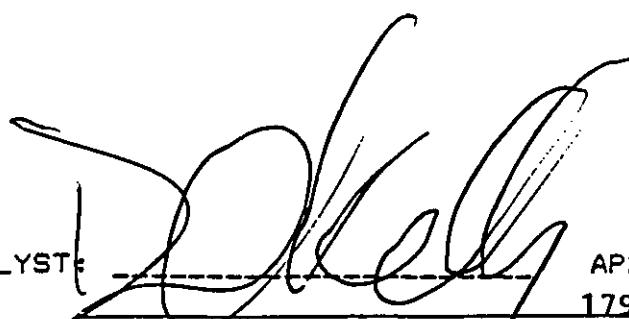
(MOLES)

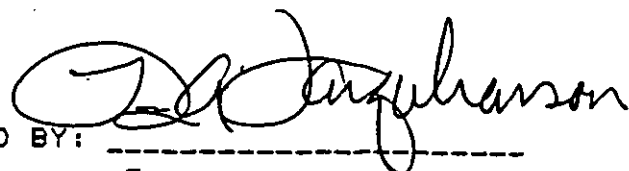
50.8

PPM

BAL

2000 PSI

ANALYST: 

APPROVED BY: 

179



# 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:  $\pm 1\%$

PRODUCT EXPIRATION: 4/04/95

BLEND TYPE : ACUBLEND MASTER GAS

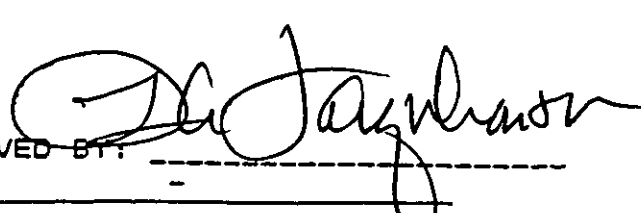
COMPONENT  
CARBON MONOXIDE  
NITROGEN

REQUESTED GAS  
CONC MOLES  
400. PPM  
BAL

ANALYSIS  
(MOLES)  
400. PPM  
BAL

2000 PSI

ANALYST: 

APPROVED BY:   
180



# 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:

181

# CLAYTON ALABAMA MDF STACK TEST OPERATIONAL SUMMARY

06/06/95

## LINE 1 DRYERS R-T-O'S

|                                | DRYER 1    | DRYER 2   |
|--------------------------------|------------|-----------|
| Dry Furnish Moisture (%)       | 9.3 - 10.3 | 9.3 - 9.5 |
| Inlet Temp. (°F)               | 193 - 204  | 204 - 207 |
| Outlet Temp. (°F)              | 103 - 137  | 102 - 104 |
| Production (lbs/hr) (combined) | 32,834     |           |

## 16 PLATEN PRESS\*

|                              |           |
|------------------------------|-----------|
| Press Temp. (°F)             | 286 - 288 |
| Thickness (in)               | 0.688**   |
| Density (nominal, lbs/cu ft) | 48.9      |

**PRODUCTION** (Finished 3/8 in basis)

10,411 ft<sup>2</sup>/hr \*\*\*  
31,820 lbs/hr

\*The MDF 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 10/20/94, 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. No press sample was done as these

CLAYTON AL STACK TEST OPERATIONAL SUMMARY

06/06/95

Page 2

emissions are ducted to the inlet of the MDF dryers or alternately to the MDF dryer R-T-O's.

\*\*Nominal Thickness = 11/16 inch

\*\*\*Annualized Production of 91,204,310 ft<sup>2</sup> 3/4 basis (8760 hrs)

# CLAYTON ALABAMA MDF STACK TEST OPERATIONAL SUMMARY

06/06/95

## LINE 2 DRYERS R-T-O'S

|                                   | DRYER 1     | DRYER 2     |
|-----------------------------------|-------------|-------------|
| Dry Furnish<br>Moisture (%)       | 11.6 - 12.4 | 11.6 - 12.4 |
| Inlet Temp.<br>(°F)               | 164 - 170   | 181 - 191   |
| Outlet Temp.<br>(°F)              | 116 - 119   | 116 - 118   |
| Production<br>(lbs/hr) (combined) | 23,137      |             |

## CONTINUOUS PRESS\*

|                                 |           |
|---------------------------------|-----------|
| Press<br>Temp. (°F)             | 220 - 220 |
| Thickness<br>(in)               | 0.375**   |
| Density<br>(nominal, lbs/cu ft) | 49.5      |

**PRODUCTION** (Finished 3/4 in basis)

7,299 ft<sup>2</sup>/hr \*\*\*  
22,580 lbs/hr

\*The MDF 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 10/20/94, 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. No press sample was done as these

CLAYTON AL STACK TEST OPERATIONAL SUMMARY

06/06/95

Page 2

emissions are ducted to the inlet of the MDF dryers or alternately to the MDF dryer R-T-O's.

\*\*Nominal Thickness = 3/8 inch

\*\*\*Annualized Production of 63,935,610 ft<sup>2</sup> 3/4 basis (8760 hrs)

# CLAYTON ALABAMA MDF STACK TEST OPERATIONAL SUMMARY

06/07/95

## LINE 1 DRYERS R-T-O'S

|                                | DRYER 1   | DRYER 2   |
|--------------------------------|-----------|-----------|
| Dry Furnish Moisture (%)       | 9.4 - 9.5 | 9.1 - 9.8 |
| Inlet Temp. (°F)               | 144 - 146 | 208 - 212 |
| Outlet Temp. (°F)              | 144 - 146 | 105 - 114 |
| Production (lbs/hr) (combined) | 33,748    |           |

## 16 PLATEN PRESS\*

|                              |           |
|------------------------------|-----------|
| Press Temp. (°F)             | 290 - 292 |
| Thickness (in)               | 0.688**   |
| Density (nominal, lbs/cu ft) | 49.1      |

|                                                  |                                |
|--------------------------------------------------|--------------------------------|
| <b><u>PRODUCTION</u></b> (Finished 3/4 in basis) | 10,293 ft <sup>2</sup> /hr *** |
|                                                  | 31,587 lbs/hr                  |

\*The MDF 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 10/20/94, 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. No press sample was done as these

CLAYTON AL STACK TEST OPERATIONAL SUMMARY

06/07/95

Page 2

emissions are ducted to the inlet of the MDF dryers or alternately to the MDF dryer R-T-O's.

\*\*Nominal Thickness = 11/16 inch

\*\*\*Annualized Production of 90,167,696 ft<sup>2</sup> 3/4 basis (8760 hrs)

# CLAYTON ALABAMA MDF STACK TEST OPERATIONAL SUMMARY

06/07/95

## LINE 2 DRYERS R-T-O'S

|                                | DRYER 1     | DRYER 2     |
|--------------------------------|-------------|-------------|
| Dry Furnish Moisture (%)       | 10.8 - 11.2 | 10.8 - 11.4 |
| Inlet Temp. (°F)               | 184 - 200   | 216 - 231   |
| Outlet Temp. (°F)              | 123 - 128   | 120 - 122   |
| Production (lbs/hr) (combined) | 22,733      |             |

## CONTINUOUS PRESS\*

|                              |           |
|------------------------------|-----------|
| Press Temp. (°F)             | 220 - 220 |
| Thickness (in)               | 0.4375**  |
| Density (nominal, lbs/cu ft) | 49.1      |

**PRODUCTION** (Finished 3/8 in basis)

7,284 ft<sup>2</sup>/hr \*\*\*  
22,353 lbs/hr

\*The MDF 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 10/20/94, 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. No press sample was done as these

CLAYTON AL STACK TEST OPERATIONAL SUMMARY

06/07/95

Page 2

emissions are ducted to the inlet of the MDF dryers or alternately to the MDF dryer R-T-O's.

\*\*Nominal Thickness = 7/16 inch

\*\*\*Annualized Production of 63,808,481 ft<sup>2</sup> 3/4 basis (8760 hrs)

# EMISSION TEST REPORT REVIEW SUMMARY

Source Category:

Filename: mdf24.xls  
 Ref. No.: 24(OECA)  
 Date: 14-Jul-97  
 Reviewer: DRL

Facility: Louisiana Pacific Corporation  
 Location: Clayton, Alabama  
 Source: Lines 1 and 2  
 Test date: 06-Jun-95 07-Jun-95

| Test ID                | Parameter     | Units | Values reported |       |       |         |
|------------------------|---------------|-------|-----------------|-------|-------|---------|
|                        |               |       | Run 1           | Run 2 | Run 3 | AVERAGE |
| Total Inlet Emissions  |               |       |                 |       |       |         |
|                        | TOC as CARBON | lb/hr | 93.55           | 72.54 | 74.7  | 80.3    |
|                        | CO            | lb/hr | 82.15           | 78.43 | 70.89 | 77.2    |
| Total Outlet Emissions |               |       |                 |       |       |         |
| ko box                 | TOC as CARBON | lb/hr | 10.45           | 10.57 | 10.66 | 10.6    |
| rto                    | CO            | lb/hr | 10.73           | 11.74 | 11.46 | 11.3    |
| Control Efficiency     |               |       |                 |       |       |         |
|                        | TOC           | %     | 88.8            | 85.4  | 85.7  | 86.7    |
|                        | CO            | %     | 86.9            | 85.0  | 83.8  | 85.3    |

RTO  
 CE  
 only

# EMISSION TEST REPORT REVIEW SUMMARY

Source Category:

Filename: mdf24.xls  
Ref. No.: 24(OECA)  
Date: 14-Jul-97  
Reviewer: DRL

Facility: Louisiana Pacific Corporation  
Location: Clayton, Alabama  
Source: Lines 1 and 2 - RTO 2  
Test date: 06-Jun-95

## Emission Data/Mass Flux Rates/Emission Factors

| Test ID       | Parameter                  | Units   | Values reported |          |          |          |
|---------------|----------------------------|---------|-----------------|----------|----------|----------|
|               |                            |         | Run 1           | Run 2    | Run 3    | AVERAGE  |
| ko box<br>rto | Stack temperature          | Deg F   | 234.5           | 239.6    | 234.6    | 236.2    |
|               | Pressure                   | in. Hg  | 29.4            | 29.4     | 29.4     | 29.4     |
|               | Moisture                   | %       | 10.1            | 10.5     | 10.2     | 10.3     |
|               | Oxygen                     | %       | 18.0            | 18.0     | 18.0     | 18.0     |
|               | Gas volume sampled         | dscf    | 51.00           | 48.13    | 48.80    | 49.31    |
|               | Vol. flow, actual          | acfm    | 150,336         | 150,387  | 149,168  | 149,964  |
|               | Vol. flow, standard*       | dscfm   | 100,918         | 99,715   | 99,930   | 100,188  |
|               | Isokinetic variation       | %       | 98.4            | 94.0     | 95.1     | 95.8     |
|               | Pollutant mass:            |         |                 |          |          |          |
|               | Filterable PM              | grams   | 0.138           | 0.1136   | 0.117    | 1.23E-01 |
|               | Condensable inorg. PM      | grams   | 0.0008          | 0.0003   | 0.0005   | 5.33E-04 |
|               | Condensable org. PM        | grams   | 0.0021          | 0.0013   | 0.0006   | 1.33E-03 |
|               | Total condensable PM       | grams   | 0.0029          | 0.0016   | 0.0011   | 1.87E-03 |
|               | Pollutant concentrations:  |         |                 |          |          | AVERAGE  |
|               | Filterable PM              | gr/dscf | 4.18E-02        | 3.64E-02 | 3.70E-02 | 3.84E-02 |
|               | Condensable inorg. PM      | gr/dscf | 2.42E-04        | 9.62E-05 | 1.58E-04 | 1.65E-04 |
|               | Condensable org. PM        | gr/dscf | 6.35E-04        | 4.17E-04 | 1.90E-04 | 4.14E-04 |
|               | Total condensable PM       | gr/dscf | 8.77E-04        | 5.13E-04 | 3.48E-04 | 5.79E-04 |
|               | CO2                        | % vol.  | 2.5             | 2.0      | 2.0      | 2.17E+00 |
|               | NOx                        | ppmdv   | 28.7            | 25.6     | 23.5     | 2.59E+01 |
|               | CO                         | ppmdv   | 4.4             | 8.9      | 5.6      | 6.30E+00 |
|               | Pollutant mass flux rates: |         |                 |          |          | AVERAGE  |
|               | Filterable PM              | lb/hr   | 3.61E+01        | 3.11E+01 | 3.17E+01 | 3.30E+01 |
|               | Condensable inorg. PM      | lb/hr   | 2.09E-01        | 8.22E-02 | 1.35E-01 | 1.42E-01 |
|               | Condensable org. PM        | lb/hr   | 5.50E-01        | 3.56E-01 | 1.63E-01 | 3.56E-01 |
|               | Total condensable PM       | lb/hr   | 7.59E-01        | 4.38E-01 | 2.98E-01 | 4.98E-01 |
|               | CO2                        | lb/hr   | 1.73E+04        | 1.37E+04 | 1.37E+04 | 1.49E+04 |
|               | NOx                        | lb/hr   | 2.07E+01        | 1.83E+01 | 1.68E+01 | 1.86E+01 |
|               | CO                         | lb/hr   | 1.94E+00        | 3.87E+00 | 2.44E+00 | 2.75E+00 |

\*DSCFM BASED ON A STANDARD TEMPERATURE OF 68 DEGREES FAHRENHEIT

**EMISSION TEST REPORT REVIEW SUMMARY**

Source Category:

Filename: mdf24.xls

Ref. No.: 24(OECA)

Date: 14-Jul-97

Reviewer: DRL

Facility: Louisiana Pacific Corporation

Location: Clayton, Alabama

Source: Lines 1 and 2 - RTO 2

Test date: 07-Jun-95

## Emission Data/Mass Flux Rates/Emission Factors

| Test ID       | Parameter                  | Units  | Values reported |          |          |          |
|---------------|----------------------------|--------|-----------------|----------|----------|----------|
|               |                            |        | Run 1           | Run 2    | Run 3    | AVERAGE  |
| ko box<br>rto | Stack temperature          | Deg F  | 245.71          | 246.17   | 244.04   | 245.3    |
|               | Pressure                   | in. Hg | 29.4            | 29.4     | 29.4     | 29.4     |
|               | Moisture                   | %      | 11.6            | 11.4     | 10.3     | 11.1     |
|               | Oxygen                     | %      | 18.5            | 18.5     | 18.5     | 18.5     |
|               | Gas volume sampled         | dscf   | 52.42           | 51.46    | 49.74    | 51.20    |
|               | Vol. flow, actual          | acfm   | 149,735         | 147,805  | 146,375  | 147,972  |
|               | Vol. flow, standard*       | dscfm  | 97,423          | 96,289   | 96,888   | 96,867   |
|               | Isokinetic variation       | %      | 100.7           | 100.0    | 96.0     | 98.9     |
|               | Pollutant concentrations:  |        |                 |          |          | AVERAGE  |
|               | TOC as propane             | ppmdv  | 2.9             | 2.4      | 3.5      | 2.93E+00 |
|               | Formaldehyde               | ppmdv  | 2.01            | 2.97     | 3.38     | 2.79E+00 |
|               | Pollutant mass flux rates: |        |                 |          |          | AVERAGE  |
|               | TOC as propane             | lb/hr  | 1.94E+00        | 1.58E+00 | 2.32E+00 | 1.95E+00 |
|               | Formaldehyde               | lb/hr  | 9.15E-01        | 1.34E+00 | 1.53E+00 | 1.26E+00 |

\*DSCFM BASED ON A STANDARD TEMPERATURE OF 68 DEGREES FAHRENHEIT

# EMISSION TEST REPORT REVIEW SUMMARY

Source Category:

Filename: mdf24.xls  
 Ref. No.: 24(OECA)  
 Date: 14-Jul-97  
 Reviewer: DRL

Facility: Louisiana Pacific Corporation  
 Location: Clayton, Alabama  
 Source: Lines 1 and 2 - Inlet A  
 Test date: 06-Jun-95

## Emission Data/Mass Flux Rates/Emission Factors

| Test ID | Parameter                  | Units  | Values reported |          |          |          |
|---------|----------------------------|--------|-----------------|----------|----------|----------|
|         |                            |        | Run 1           | Run 2    | Run 3    | AVERAGE  |
|         | Stack temperature          | Deg F  | 145.3           | 140.5    | 139.8    | 141.9    |
|         | Pressure                   | in. Hg | 29.4            | 29.4     | 29.4     | 29.4     |
|         | Moisture                   | %      | 12.2            | 12.8     | 12.5     | 12.5     |
|         | Oxygen                     | %      | 20.0            | 20.0     | 20.0     | 20.0     |
|         | Gas volume sampled         | dscf   | 11.27           | 11.58    | 11.18    | 11.34    |
|         | Vol. flow, actual          | acfm   | 81,121          | 81,667   | 83,209   | 81,999   |
|         | Vol. flow, standard*       | dscfm  | 61,083          | 61,514   | 62,921   | 61,840   |
|         | Pollutant concentrations:  |        |                 |          |          | AVERAGE  |
|         | CO2                        | % vol. | 1.0             | 1.0      | 1.0      | 1.00E+00 |
|         | NOx                        | ppmdv  | 24.3            | 28.4     | 28.6     | 2.71E+01 |
|         | CO                         | ppmdv  | 155.9           | 151.4    | 136.4    | 1.48E+02 |
|         | Pollutant mass flux rates: |        |                 |          |          | AVERAGE  |
|         | CO2                        | lb/hr  | 4.19E+03        | 4.21E+03 | 4.31E+03 | 4.24E+03 |
|         | NOx                        | lb/hr  | 1.06E+01        | 1.25E+01 | 1.29E+01 | 1.20E+01 |
|         | CO                         | lb/hr  | 4.15E+01        | 4.06E+01 | 3.74E+01 | 3.98E+01 |

\*DSCFM BASED ON A STANDARD TEMPERATURE OF 68 DEGREES FAHRENHEIT

**EMISSION TEST REPORT REVIEW SUMMARY**

Source Category:

Filename: mdf24.xls

Ref. No.: 24(OECA)

Date: 14-Jul-97

Reviewer: DRL

Facility: Louisiana Pacific Corporation

Location: Clayton, Alabama

Source: Lines 1 and 2 - Inlet A

Test date: 07-Jun-95

## Emission Data/Mass Flux Rates/Emission Factors

| Test ID       | Parameter                  | Units  | Values reported |          |          |          |
|---------------|----------------------------|--------|-----------------|----------|----------|----------|
|               |                            |        | Run 1           | Run 2    | Run 3    | AVERAGE  |
| ko box<br>rto | Stack temperature          | Deg F  | 139             | 144.8    | 143.3    | 142.4    |
|               | Pressure                   | in. Hg | 29.7            | 29.6     | 29.6     | 29.6     |
|               | Moisture                   | %      | 11.8            | 12.1     | 12.1     | 12.0     |
|               | Oxygen                     | %      | 20.0            | 20.0     | 20.0     | 20.0     |
|               | Gas volume sampled         | dscf   | 11.62           | 11.60    | 11.31    | 11.51    |
|               | Vol. flow, actual          | acfm   | 78,848          | 79,768   | 79,742   | 79,453   |
|               | Vol. flow, standard*       | dscfm  | 60,789          | 60,619   | 60,771   | 60,726   |
|               | Isokinetic variation       | %      |                 |          |          | #DIV/0!  |
|               | Pollutant concentrations:  |        |                 |          |          | AVERAGE  |
|               | TOC as propane             | ppmwv  | 1.00E+02        | 6.56E+01 | 7.56E+01 |          |
|               | TOC as propane             | ppmdv  | 100.4           | 65.6     | 75.6     | 8.05E+01 |
|               | Pollutant mass flux rates: |        |                 |          |          | AVERAGE  |
|               | TOC as propane             | lb/hr  | 4.18E+01        | 2.72E+01 | 3.15E+01 | 3.35E+01 |

\*DSCFM BASED ON A STANDARD TEMPERATURE OF 68 DEGREES FAHRENHEIT



111 S.W. Fifth Avenue  
Portland, Oregon 97204  
503/221-0800  
FAX: 503/796-0204

August 21, 1995

Mr. Michael F. Wood, Director  
Mr. Laxmi Kesari  
Multi Media Enforcement & Strategic  
Planning Division  
U.S. EPA  
Aerials Rios Blvd.  
1200 Pennsylvania N.W., 7th Floor  
Room 3119C  
Washington, D.C. 20004

Re: Clean Air Enforcement Action - United States v. Louisiana-Pacific Corporation, No. CV 93-0869 (W.D. La.)

Dear Gentlemen:

Louisiana-Pacific Corporation submits the enclosed Air Emissions Test Report for the Clayton, Alabama, Medium Density Fiberboard plant. Submittal of the Report, conducted June 6 and 7, 1995, meets the requirements of the above referenced Consent Decree detailed in Section C., Part iii., Paragraph 64 for Phase II plants.

A letter dated August 16, 1995, informing the United States Environmental Protection Agency (EPA) Chief and Department of Justice, that for reasons yet to be determined emission limits set by EPA were not met for particulate matter (PM) and volatile organic compounds (VOC) capture and control efficiencies. Retesting is scheduled for the week of August 21, 1995. Results of the tests will be submitted to EPA as soon as available.

Sincerely,

*Elizabeth T. Smith*  
Elizabeth T. Smith, Director  
Environmental Affairs

Mr. Michael F. Wood, Director  
Mr. Laxmi Kesari  
August 21, 1995  
Page 2

ETS:mjv

Enclosure

cc w/out enc:

Julie Domike, US EPA, Air Enforcement Division, Washington, DC  
Gene Meyers- Conroe  
Jim Boswell - Conroe  
Steve Grant - Portland  
Laurie Newton - Hayden Lake  
Norm Radford Jr. - Vinson & Elkins, Dallas, TX



**Louisiana-Pacific Corporation**

111 S.W. Fifth Avenue  
Portland, Oregon 97204  
503/221-0800  
FAX: 503/796-0204

August 21, 1995

Mr. Michael F. Wood, Director  
Mr. Laxmi Kesari ✓  
Multi Media Enforcement & Strategic  
Planning Division  
U.S. EPA  
Aerials Rios Blvd.  
1200 Pennsylvania N.W., 7th Floor  
Room 3119C  
Washington, D.C. 20004

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Sincerely,

*Elizabeth T. Smith*

Elizabeth T. Smith, Director  
Environmental Affairs

Mr. Michael F. Wood, Director  
Mr. Laxmi Kesari  
August 21, 1995  
Page 2

ETS:mjv

Enclosure

cc w/out enc:

Julie Domike, US EPA, Air Enforcement Division, Washington, DC  
Gene Meyers- Conroe  
Jim Boswell - Conroe  
Steve Grant - Portland  
Laurie Newton - Hayden Lake  
Norm Radford Jr. - Vinson & Elkins, Dallas, TX



P.O. Box 3107  
Conroe, Texas 77305  
409/756-0511

(34)

DATE

TO

FROM

NUMBER OF PAGES

9/15/95  
Larmin Kuare  
Jimi Boswell  
10  
(INCLUDING TRANSMITTAL SHEET)

LETTER

LEGAL

If possible, please check transmission after the last page.  
If you are not receiving clearly, or if you have any problems  
with the transmission, please call us back immediately at  
409/760-5924.

*Linda*  
OPERATOR

FOR YOUR INFORMATION ☒

YOUR COMMENTS PLEASE

PLEASE CALL UPON RECEIPT

202/564-9001



P.O. Box 3107  
Conroe, Texas 77305  
409/756-0511

September 15, 1995

To: Laxmi Kesari

From: Jim Boswell

Attached are the summary pages for sampling conducted on the three (3) R-T-O's at Clayton, Alabama. Also attached are the pages with the three-run data from the August 22 tests (with the exception of R-T-O #1 - VOC and HCHO) and the September 5 tests. The data for the average VOC and HCHO for August 22, R-T-O #1 are correct and as soon as I receive those pages I will fax them.

Regards,

A handwritten signature in black ink, appearing to be 'Jim Boswell'. The signature is written in a cursive style with a long, sweeping line extending from the end.

Jim

# ENVIRONMENTAL MONITORING LABORATORIES, INC.

P.O. Box 655 • 606 B Highway 51 North

phone: 601/856-3092

Ridgeland, Mississippi 39158

fax : 601/853-2151

*First Test*

July 30, 1994

Subject: Louisiana Pacific Corporation  
Clayton, Alabama

On June 6 and 7, 1995, Environmental Monitoring Laboratories performed air emissions testing for Louisiana Pacific Corporation's medium density fiberboard (MDF) facility in Clayton, Alabama. L.P. operates two pairs of MDF dryers (two Line 1 dryers and two Line 2 dryers) which collectively exhaust to a common equalization chamber which exhausts to three Smith Engineering Company regenerative thermal oxidizers (RTO) for emissions control. The presses associated with each line also vent to the equalization chamber by way of the dryers. 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 RTO. VOC, NOx, and CO inlet loading testing was simultaneously performed at the RTO inlets to determine removal efficiency.

| RTO OUTLETS | PM    |       | VOC as C |     | HCOH  |      | CO    |     | NOx   |     |
|-------------|-------|-------|----------|-----|-------|------|-------|-----|-------|-----|
|             | #/hr. | g/dwt | #/hr.    | ppm | #/hr. | ppm  | #/hr. | ppm | #/hr. | ppm |
| No. 1 RTO   | 35.21 | .041  | 7.55     | 44  | 1.42  | 3.32 | 4.14  | 9   | 11.67 | 17  |
| No. 2 RTO   | 33.52 | 0.039 | 1.79     | 10  | 1.26  | 2.79 | 2.75  | 6   | 18.56 | 26  |
| No. 3 RTO   | 23.46 | 0.022 | 1.31     | 7.1 | 0.685 | 1.47 | 4.42  | 10  | 21.87 | 30  |
| Total #/hr. | 92.19 |       | 10.65    |     | 3.36  |      | 61.10 |     | 52.10 |     |

| INLETS             |  |  | VOC as C |     |  |  | CO    |     | NOx   |     |
|--------------------|--|--|----------|-----|--|--|-------|-----|-------|-----|
|                    |  |  | #/hr.    | ppm |  |  | #/hr. | ppm | #/hr. | ppm |
| Inlet A            |  |  | 31.14    | 274 |  |  | 39.86 | 148 | 12.01 | 27  |
| Inlet B            |  |  | 31.26    | 278 |  |  | 36.10 | 133 | 10.3  | 23  |
| Inlet C            |  |  | 17.64    | 120 |  |  | 1.81  | 5   | 9.90  | 17  |
| Inlet D            |  |  | 17.08    | 120 |  |  | 2.49  | 7   | 9.65  | 16  |
| Total #/hr.        |  |  | 97.12    |     |  |  | 95.51 |     | 41.86 |     |
| Removal Efficiency |  |  | 89.03    |     |  |  | 36.02 |     | N/A   |     |

The testing project was coordinated by Dr. James T. Boswell of Louisiana Pacific Corporation. Mr. Michael Jordan 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 No. 1 RTO and at the RTO inlets. All formaldehyde analyses were performed by Armstrong Environmental.

Following is a report of the test.

# ENVIRONMENTAL MONITORING LABORATORIES, INC.

P.O. Box 655 624 Ridgewood Road

phone: 601/856-3092

Ridgeland, Mississippi 39158

fax : 601/853-2151

September 13, 1995

*Second Test*

Subject: Louisiana Pacific Corporation  
Clayton, Alabama

On August 22 and 23, 1995, Environmental Monitoring Laboratories performed air emissions testing for Louisiana Pacific Corporation's medium density fiberboard (MDF) facility in Clayton, Alabama. L.P. operates two pairs of MDF dryers (two Line 1 dryers and two Line 2 dryers) which collectively exhaust to a common equalization chamber which exhausts to three Smith Engineering Company regenerative thermal oxidizers (RTO) for emissions control. The presses associated with each line also vent to the equalization chamber by way of the dryers. Testing was performed to determine emissions of particulate matter (PM), volatile organic compounds (VOC), and formaldehyde (HCHO) from the RTO. VOC inlet loading testing was simultaneously performed at the RTO inlets to determine removal efficiency.

| RTO OUTLETS | PM    |        | VOC as C |     | HCHO  |      |
|-------------|-------|--------|----------|-----|-------|------|
|             | #/hr. | gr/sec | #/hr.    | ppm | #/hr. | ppm  |
| No. 1 RTO   | 11.50 | 0.014  | 0.79     | 4.3 | 0.483 | 1.05 |
| No. 2 RTO   | 15.02 | 0.019  | 1.05     | 6.0 | 0.535 | 1.23 |
| No. 3 RTO   | 8.55  | 0.011  | 1.65     | 9.4 | 0.475 | 1.08 |
| Total #/hr. | 35.07 |        | 3.49     |     | 1.493 |      |

| Inlet A            |  |  | 52.43  | 436.9 |  |  |
|--------------------|--|--|--------|-------|--|--|
| Inlet B            |  |  | 36.47  | 521.2 |  |  |
| Inlet C            |  |  | 18.67  | 125.5 |  |  |
| Inlet D            |  |  | 26.34  | 181.0 |  |  |
| Total #/hr.        |  |  | 133.91 |       |  |  |
| Removal Efficiency |  |  | 97.39  |       |  |  |

The testing project was coordinated by Dr. James T. Boswell of Louisiana Pacific Corporation. Mr. Donald Gunter, Mr. Jim Wilson, and Mr. Lester Meredith of ADFM were present to witness portions of the testing. Danny Russell of Environmental Monitoring Laboratories coordinated sample collection and analysis and report preparation. Armstrong Environmental performed formaldehyde and VOC testing at the No. 1 RTO and at the RTO inlets. All formaldehyde reagent preparation and analyses were performed by Armstrong Environmental.

Following is a report of the test.

Louisiana Pacific Corporation - Clayton, Alabama  
 No. 1 RTO  
 PM Emissions Test - August 22, 1995

| Run No. ....          |              | 1       | 2       | 3       | AVG.   |
|-----------------------|--------------|---------|---------|---------|--------|
| Date .....            |              | 8/22/95 | 8/22/95 | 8/22/95 | ---    |
| Time Start .....      |              | 0910    | 1104    | 1349    | ---    |
| Time End .....        |              | 1013    | 1206    | 1450    | ---    |
| Particulate Emissions | #/hr         | 10.74   | 12.04   | 11.70   | 11.50  |
| Particulate Emissions | gr/dscf      | 0.013   | 0.014   | 0.014   | 0.014  |
| Volumetric Flowrate   | acfm         | 145071  | 149822  | 148660  | 147851 |
| Volumetric Flowrate   | dscfm        | 93309   | 97271   | 96543   | 95708  |
| Velocity              | ft./sec.     | 61.4    | 63.4    | 62.9    | 62.5   |
| Stack Temperature     | F            | 280     | 273     | 274     | 276    |
| Moisture              | %            | 9.4     | 9.3     | 9.2     | 9.3    |
| Sample Rate           | % isokinetic | 92      | 93      | 93      | 93     |

Louisiana Pacific Corporation - Clayton, Alabama

No. 2 RTO

PM Emissions Test - August 22, 1995

*File Here*

|                       |              |         |         |         |        |
|-----------------------|--------------|---------|---------|---------|--------|
| Run No. ....          |              | 1       | 2       | 3       | AVG.   |
| Date .....            |              | 8/22/95 | 8/22/95 | 8/22/95 | ---    |
| Time Start .....      |              | 09:1    | 1104    | 1348    | ---    |
| Time End .....        |              | 10:3    | 1207    | 1430    | ---    |
| Particulate Emissions | #/hr         | 14.28   | 13.66   | 17.12   | 15.02  |
| Particulate Emissions | gr/dscf      | 0.018   | 0.017   | 0.021   | 0.019  |
| Volumetric Flowrate   | acfm         | 138983  | 138869  | 143843  | 140565 |
| Volumetric Flowrate   | dscfm        | 93480   | 94330   | 95305   | 94372  |
| Velocity              | ft./sec.     | 60.6    | 60.5    | 62.7    | 61.2   |
| Stack Temperature     | F            | 237     | 235     | 241     | 238    |
| Moisture              | %            | 10.7    | 10.0    | 11.5    | 10.7   |
| Sample Rate           | % isokinetic | 98      | 96      | 95      | 96     |

Louisiana Pacific Corporation - Clayton, Alabama  
 No. 3 RTO  
 PM Emissions Test - August 22, 1995

*Fiber Here*

| Run No.               |              | 1       | 2       | 3       | AVG.   |
|-----------------------|--------------|---------|---------|---------|--------|
| Date                  |              | 8/22/95 | 8/22/95 | 8/22/95 |        |
| Time Start            |              | 0912    | 1105    | 1349    |        |
| Time End              |              | 1014    | 1208    | 1451    |        |
| Particulate Emissions | #/hr         | 7.80    | 7.99    | 9.87    | 8.55   |
| Particulate Emissions | gr/dscf      | 0.010   | 0.010   | 0.013   | 0.011  |
| Volumetric Flowrate   | acfm         | 138306  | 137378  | 137775  | 137820 |
| Volumetric Flowrate   | dscfm        | 91374   | 91320   | 91450   | 91381  |
| Velocity              | ft./sec.     | 60.3    | 59.9    | 60.0    | 60.0   |
| Stack Temperature     | F            | 240     | 226     | 237     | 235    |
| Moisture              | %            | 11.8    | 13.1    | 11.8    | 12.2   |
| Sample Rate           | % isokinetic | 105     | 104     | 103     | 104    |

Louisiana Pacific Corporation - Clayton, Alabama  
 No. 2 RTO  
 VOC/HCOH Emissions Test - August 23, 1995

| Run No.                |              | 4       | 5       | 6       | AVG.   |
|------------------------|--------------|---------|---------|---------|--------|
| Date                   |              | 8/23/95 | 8/23/95 | 8/23/95 | —      |
| Time Start             |              | 0920    | 1122    | 1314    | —      |
| Time End               |              | 1053    | 1224    | 1316    | —      |
| Formaldehyde Emissions | #/hr         | 0.000   | 0.000   | 0.000   | 0.000  |
| Formaldehyde Emissions | ppm          | 0.00    | 0.00    | 0.00    | 0.00   |
| VOC Emissions          | #/hr         | 1.06    | 1.06    | 1.04    | 1.05   |
| VOC Emissions          | ppm as C     | 6.1     | 6.0     | 6.0     | 6.0    |
| Volumetric Flowrate    | acfm         | 142946  | 142019  | 139409  | 141458 |
| Volumetric Flowrate    | dscafm       | 93403   | 94409   | 92471   | 93428  |
| Velocity               | ft./sec.     | 62.3    | 61.9    | 60.7    | 61.6   |
| Stack Temperature      | °F           | 245     | 244     | 243     | 244    |
| Moisture               | %            | 11.3    | 10.0    | 10.3    | 10.5   |
| Sample Rate            | % isokinetic | 99      | 96      | 95      | 97     |

Louisiana Pacific Corporation - Clayton, Alabama  
 No. 3 RTO  
 VOC/HCOH Emissions Test - August 23, 1995

| Run No.                |              | 4       | 5       | 6       | AVG.   |
|------------------------|--------------|---------|---------|---------|--------|
| Date                   |              | 8/23/95 | 8/23/95 | 8/23/95 | -----  |
| Time Start             |              | 0921    | 1123    | 1315    | ---    |
| Time End               |              | 1054    | 1225    | 1317    | ---    |
| Formaldehyde Emissions | #/hr         | 0.000   | 0.000   | 0.000   | 0.000  |
| Formaldehyde Emissions | ppm          | 0.00    | 0.00    | 0.00    | 0.00   |
| VOC Emissions          | #/hr         | 1.60    | 1.67    | 1.67    | 1.65   |
| VOC Emissions          | ppm as C     | 9.0     | 9.4     | 9.7     | 9.4    |
| Volumetric Flowrate    | acfm         | 141559  | 142439  | 137507  | 140502 |
| Volumetric Flowrate    | dscfm        | 95109   | 94914   | 91815   | 93946  |
| Velocity               | ft./sec.     | 61.7    | 62.1    | 59.9    | 61.2   |
| Stack Temperature      | F            | 241     | 242     | 244     | 242    |
| Moisture               | %            | 10.1    | 10.7    | 10.3    | 10.4   |
| Sample Rate            | % isokinetic | 100     | 100     | 101     | 100    |

*JAB*

*Final Test*

Louisiana Pacific Corporation - Clayton, Alabama  
 No. 2 RTO  
 PM Emissions Test - September 5, 1995

|                       |              |        |        |        |        |
|-----------------------|--------------|--------|--------|--------|--------|
| Run No. ....          |              | 1      | 2      | 3      | AVG.   |
| Date .....            |              | 9/5/95 | 9/5/95 | 9/5/95 | ---    |
| Time Start .....      |              | 1422   | 0155   | 1637   | ---    |
| Time End .....        |              | 1523   | 1632   | 1738   | ---    |
| Particulate Emissions | #/hr         | 9.70   | 11.86  | 11.29  | 10.95  |
| Particulate Emissions | gr/dscf      | 0.013  | 0.015  | 0.015  | 0.014  |
| Volumetric Flowrate   | acfm         | 138286 | 138743 | 139957 | 138995 |
| Volumetric Flowrate   | dscfm        | 88862  | 89375  | 89591  | 89276  |
| Velocity              | ft./sec.     | 60.2   | 60.4   | 61.0   | 60.6   |
| Stack Temperature     | °F           | 267    | 263    | 268    | 266    |
| Moisture              | %            | 8.4    | 8.6    | 8.6    | 8.5    |
| Sample Rate           | % isokinetic | 97     | 95     | 94     | 95     |

*\* OK*