

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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## AIR EMISSIONS COMPLIANCE TEST REPORT

FOR

LOUISIANA PACIFIC  
DUNGANNON, VIRGINIA

4-49

TEST DATES: AUGUST 30 - 31, 1995  
SEPTEMBER 12 - 13, 1995  
REPORT DATE: OCTOBER 23, 1995



**ETS, INC.**

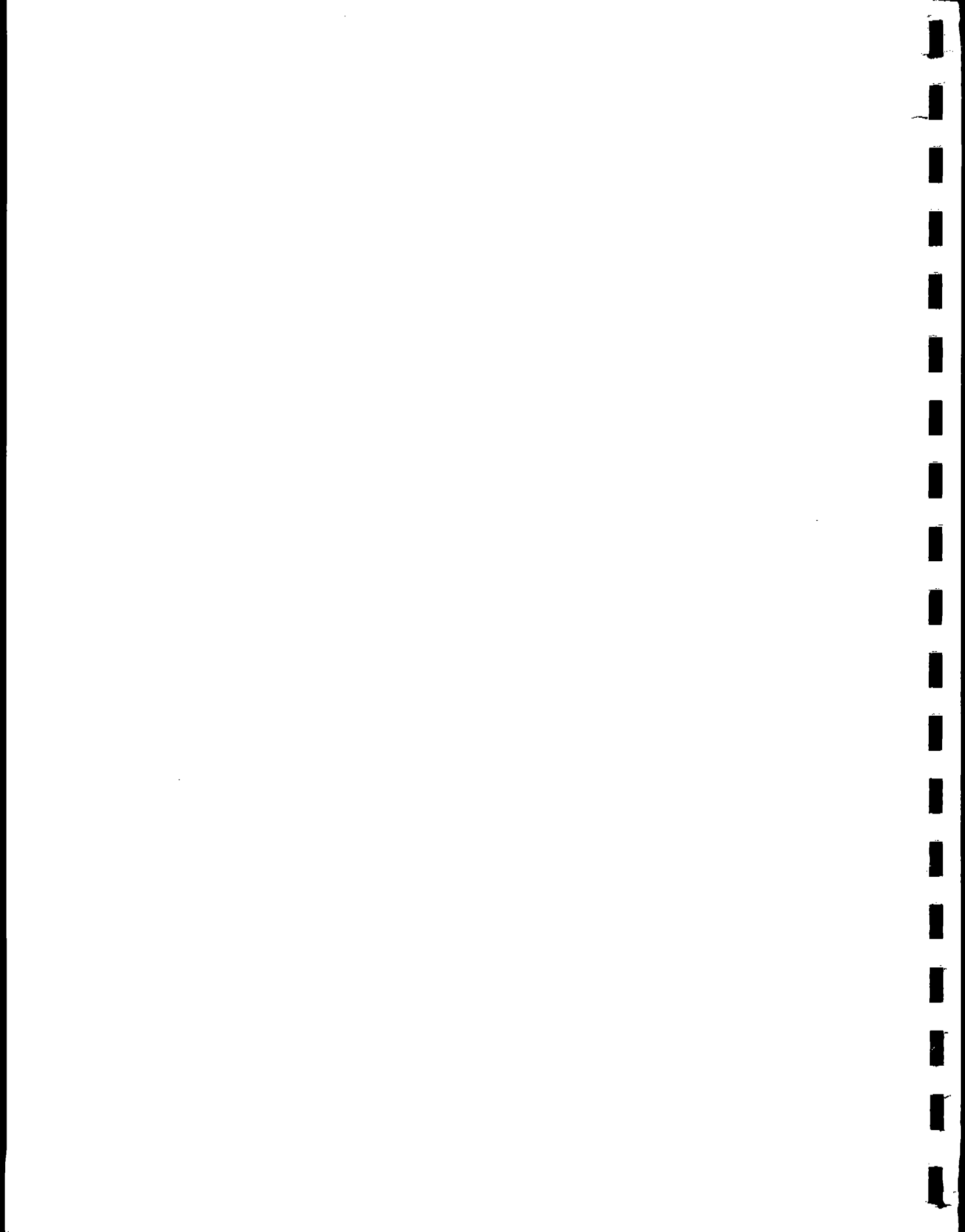
*A subsidiary of ETS International, Inc.*

*ETS, Inc.*  
*1401 Municipal Road, N.W.*  
*Roanoke, VA 24012*  
*540-265-0004*  
*540-265-0131 fax*

*Air Compliance Division*  
*1635-A Bustleton Pike*  
*Feasterville, PA 19053*  
*215-364-8940*  
*215-364-4596 fax*

*Pollution Control Consultants*  
*Specializing In*  
*Toxic Emission Measurement and Control*

ETS CONTRACT NO. 95-576-T



Mr. Michael F. Wood  
November 1, 1995  
Page 2

efficiency based on the documentation provided in this compliance test report. We suggest the application of a 79.5% destruction efficiency for VOCs be applied to the Dungannon RTO, with the stipulation that RTO outlet concentrations be maintained below 10 ppm<sub>dv</sub> VOCs (as propane).

Please contact myself or the Southern Division Environmental Department if you have questions.

Sincerely,



Elizabeth T. Smith, Director  
Environmental Affairs

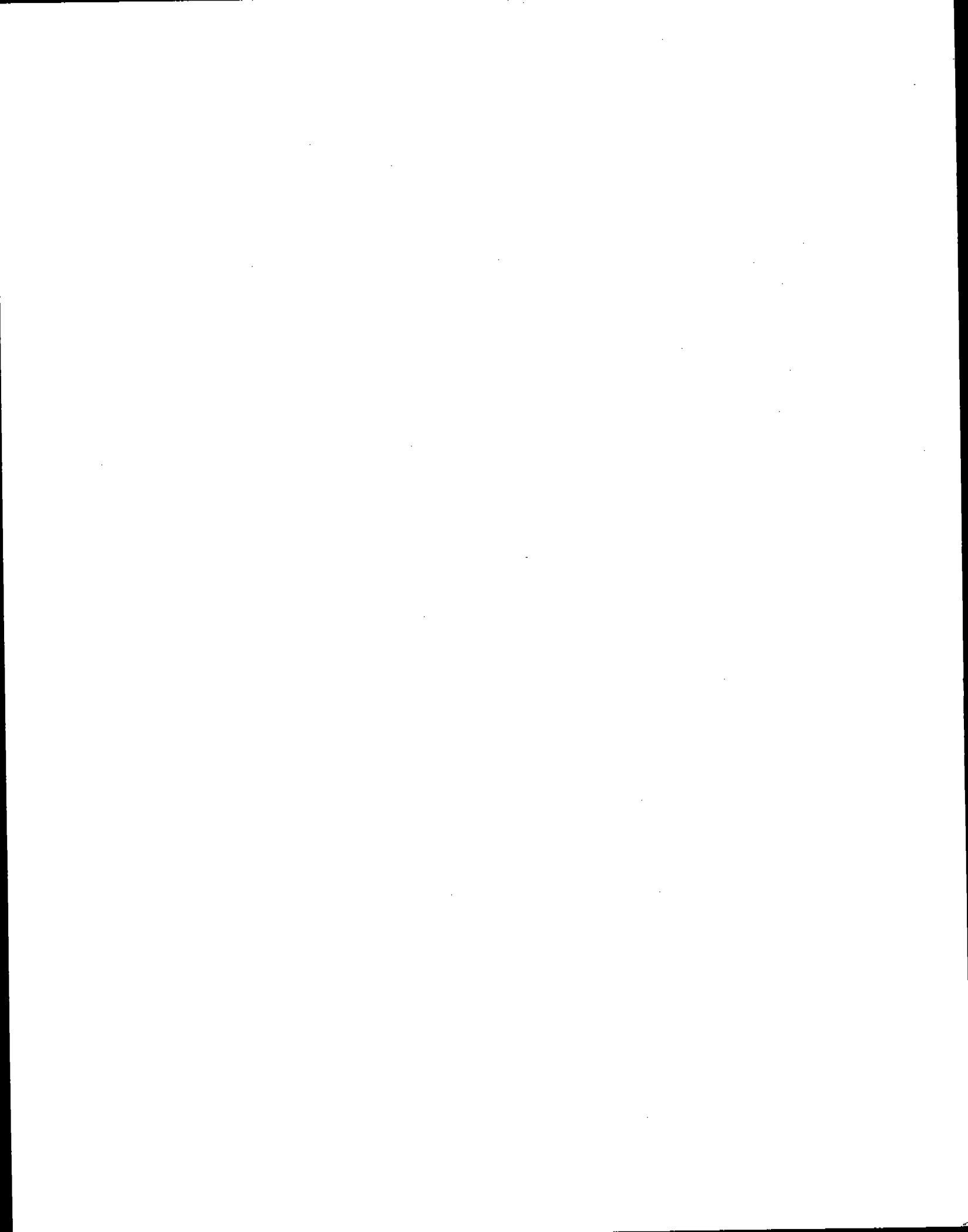
ETS:sam

Enclosure

cc: Julie Domike, US EPA, Air Enforcement Division, Washington, DC

cc w/out enc:

Crystal Bazyk, Virginia DEQ, Abingdon, VA  
Gene Meyers - Conroe  
Jim Boswell - Conroe  
Mickie Mullins - Dungannon  
Lauri Newton  
Norm Radford Jr. - Vinson & Elkins, Dallas, TX







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

November 1, 1995

Via Federal Express

Mr. Michael F. Wood, Director  
Mr. Laxmi Kesari  
Multi Media Enforcement & Strategic  
Planning Division  
United States Environmental Protection Agency  
401 M St. SW EPA W1041  
Washington, D.C. 20460

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

Subject: Air Emissions Compliance Test Report - Louisiana-Pacific Corporation  
Dungannon, VA OSB Plant

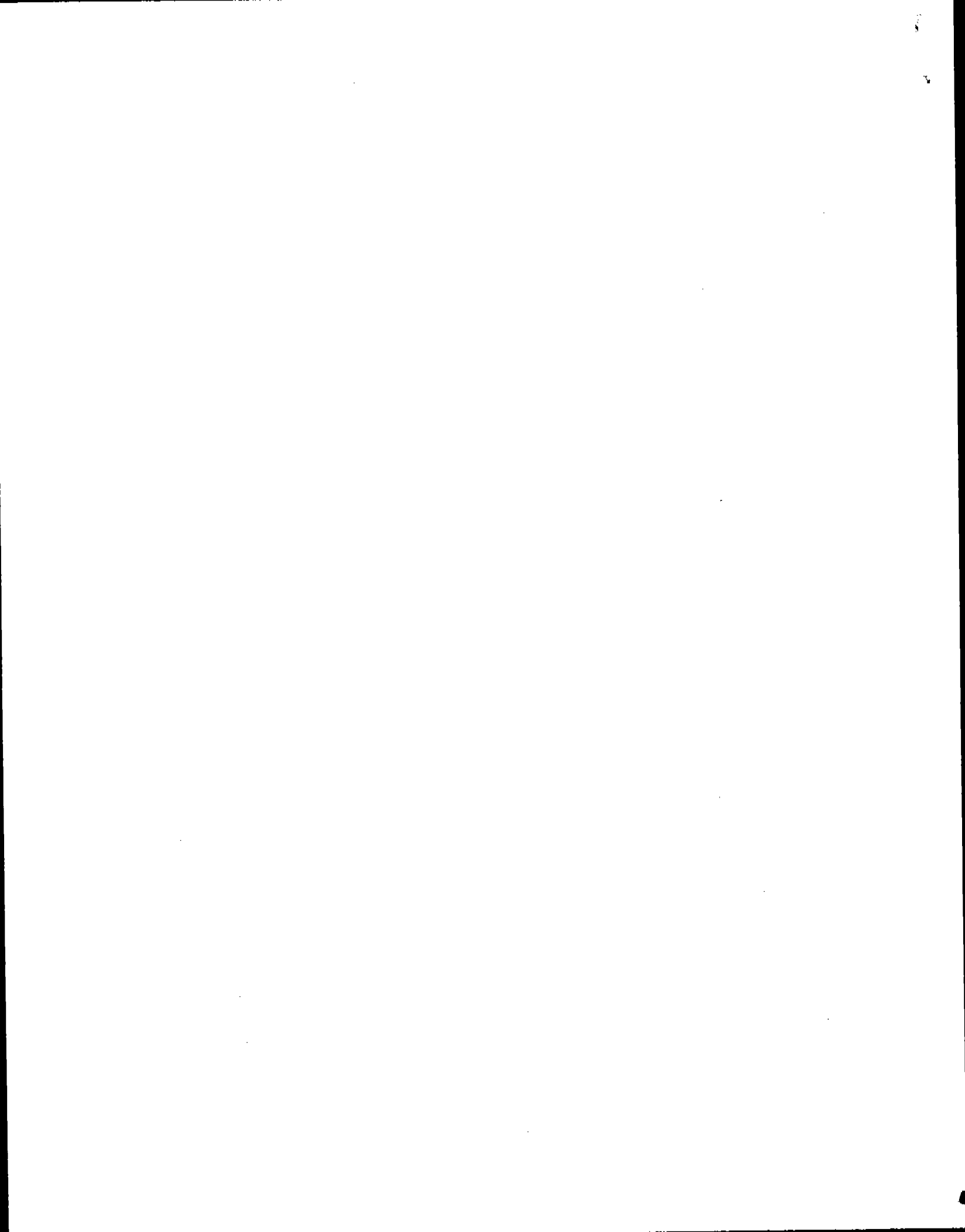
Dear Mr. Wood:

The enclosed air emissions compliance test report is being submitted for your review. Three copies of the report were sent to the Virginia Department of Environmental Quality as required by the State consent decree.

The report indicates that emissions from the RTO and Konus thermal oil heater at the Dungannon Plant are well within permitted limits. However, VOC destruction efficiencies through the RTO were calculated to be 79.83%, below the requirement set by the federal consent decree. This can be explained by reference to the compliance test results:

1. RTO inlet concentration of VOC, measured as a sum of press and dryer scrubber outlet concentrations, was 12.05 lb/hr.
2. RTO outlet concentration was 2.43 lb/hr, or 3.55 ppm<sub>dv</sub>, well below the permitted value of 9.4 lb/hr.
3. We feel that due to the low concentration of VOCs entering the RTO, it is unfeasible to achieve the required destruction efficiency.

Therefore, as stated in the First Amendment of the Consent Decree, paragraph 49A, Louisiana-Pacific Corporation requests EPA approval for an alternate control



Mr. Michael F. Wood  
November 1, 1995  
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efficiency based on the documentation provided in this compliance test report. We suggest the application of a 79.5% destruction efficiency for VOCs be applied to the Dungannon RTO, with the stipulation that RTO outlet concentrations be maintained below 10 ppmv VOCs (as propane).

Please contact myself or the Southern Division Environmental Department if you have questions.

Sincerely,



Elizabeth T. Smith, Director  
Environmental Affairs

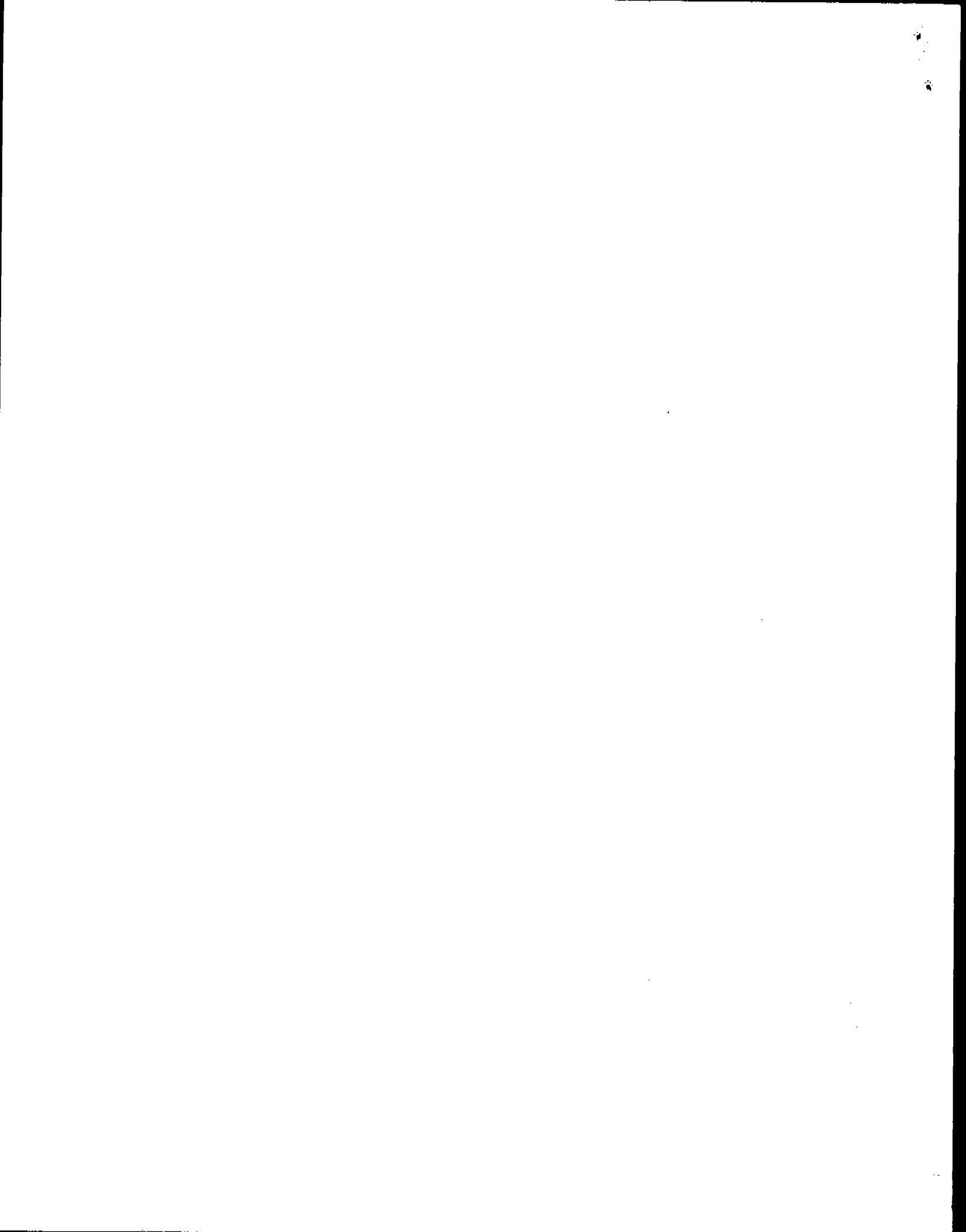
ETS:sam

Enclosure

cc: Julie Domike, US EPA, Air Enforcement Division, Washington, DC

cc w/out enc:

Crystal Bazyk, Virginia DEQ, Abingdon, VA  
Gene Meyers - Conroe  
Jim Boswell - Conroe  
Mickie Mullins - Dungannon  
Lauri Newton  
Norm Radford Jr. - Vinson & Elkins, Dallas, TX



REPORT CERTIFICATION

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

DATE: 10-13-95

SIGNATURE: K. B. Baird  
Kevin Baird  
Project Manager  
ETS, Inc.

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

DATE: 10-13-95

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

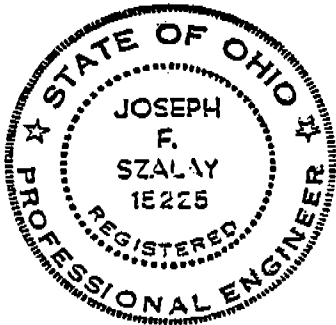
I have reviewed all testing details and results in this report and hereby certify that the test report is authentic and accurate.

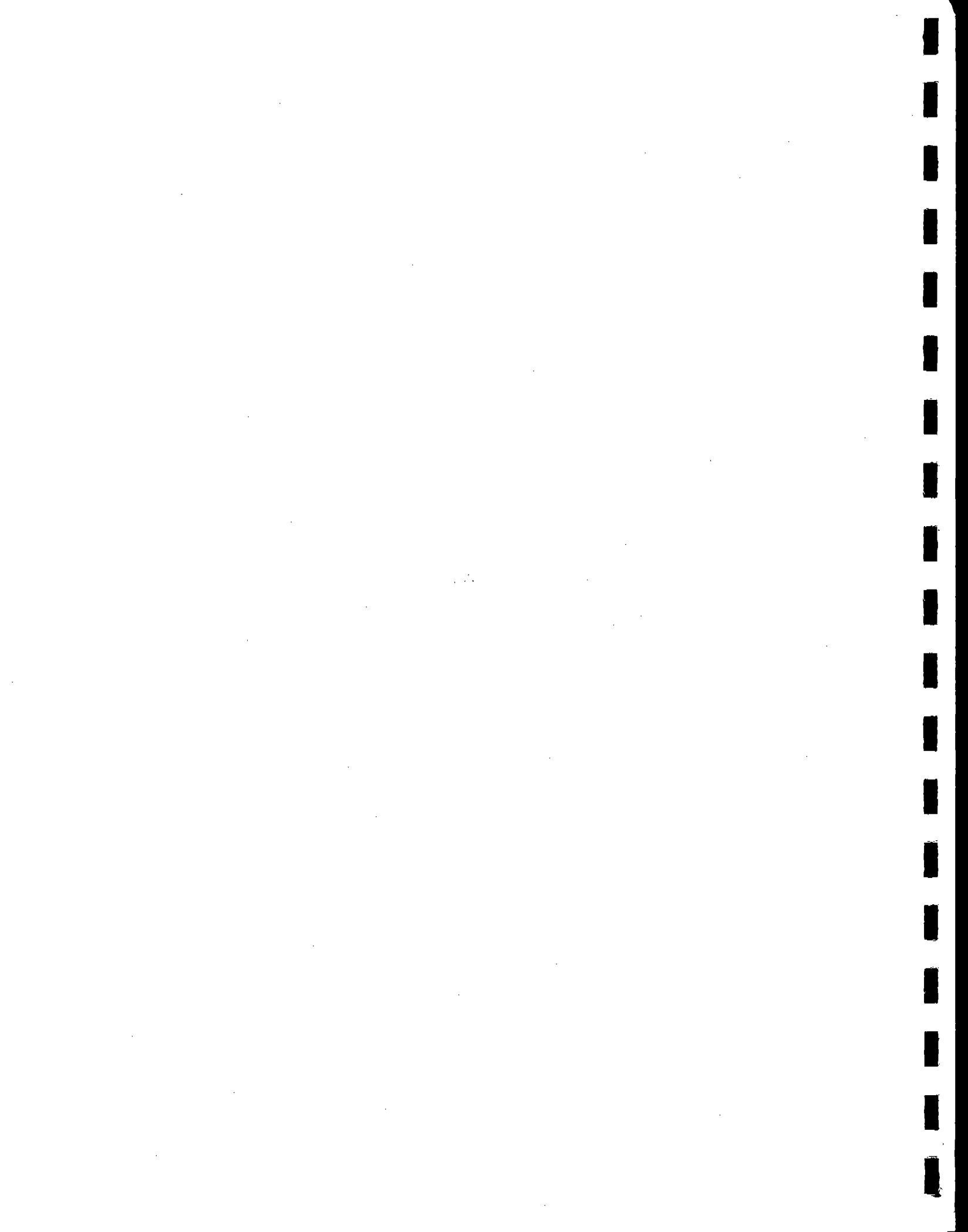
DATE: 10/13/95

SIGNATURE: Joseph F. Szalay  
Joseph F. Szalay

P.E.: E-015225

STATE OF: Ohio





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CLAYTON ENV.

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CLAYTON

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1.0 INTRODUCTION

1.1 Background: An air emissions testing program was conducted at Louisiana Pacific located in Dungannon, Virginia. The test program was conducted on August 30 - 31, 1995 and September 12 -13, 1995 by ETS, Incorporated (ETS) of Roanoke, Virginia. ETS personnel participating in the test program were Andy Hetz, Kevin Baird, Matt Bauman, Rob Graham, Brian Kopia, Justin Prillaman, Rob Richards, John Burch, Jeff Maiden, Brian Schenski, Terry Williamson, Colgate Selden, and Ken Appell. Project coordination was provided by Mickey Mullins and Scott Ziesenis of Louisiana Pacific.

1.2 Objective: The purpose of the test program was to evaluate the performance of the Regenerative Thermal Oxidizer (RTO), the Press Outlet, the Scrubber, and the Konus Stack with respect to emissions limits contained in a VDEQ permit.

1.3 Test Program: The following table presents a summary of the test program:

Summary of Test Program - Louisiana Pacific

| Location                          | Testing Performed  | No. Of Valid Runs |
|-----------------------------------|--|-------------------|
| <i>dryer</i><br>Scrubber Inlet    | Total Particulate  | 3                 |
|                                   | Formaldehyde   | 3                 |
| Scrubber Outlet                   | Total Particulate  | 3                 |
|                                   | Formaldehyde   | 3                 |
|                                   | O <sub>2</sub> , CO <sub>2</sub> , SO <sub>2</sub> , CO, NO <sub>x</sub> , VOC | 3                 |
| Press Outlet                      | Formaldehyde   | 3                 |
|                                   | Methylene bisphenyl Isocyanate (MDI)   | 3                 |
|                                   | O <sub>2</sub> , CO <sub>2</sub> , SO <sub>2</sub> , CO, NO <sub>x</sub> , VOC | 3                 |
| <i>dryer + Press</i><br>RTO Stack | Total Particulate  | 3                 |
|                                   | PM10   | 3                 |
|                                   | Formaldehyde   | 3                 |
|                                   | Methylene bisphenyl Isocyanate (MDI)   | 3*                |
|                                   | O <sub>2</sub> , CO <sub>2</sub> , SO <sub>2</sub> , CO, NO <sub>x</sub> , VOC | 3                 |
|                                   | Flow, Moisture, O <sub>2</sub> , CO <sub>2</sub> , VOC                         | 3**               |
| Konus Stack                       | Total Particulate  | 3                 |
|                                   | PM10   | 3                 |
|                                   | Formaldehyde   | 3                 |
|                                   | O <sub>2</sub> , CO <sub>2</sub> , SO <sub>2</sub> , CO, NO <sub>x</sub> , VOC | 3                 |

\* Back half sample for test run 1 was received broken by the laboratory.

\*\*Three consecutive one hour tests were performed on September 13, 1995 while a different type of wood was used in the process.

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



Because of the potential interference caused by water droplets within the gas stream, sampling by EPA Method 201A was conducted at the RTO outlet location only. EPA Method 201A employs an in-stack separatory cyclone for determination of particulate matter less than 10 microns ( $PM_{10}$ ). The cyclone is used to separate the particulate sample into two fractions:  $PM_{10}$  and particulate matter larger than  $PM_{10}$ . The particles are separated on the basis of mass by the cyclonic action of the cyclone. Therefore, any particulate dissolved or entrained in water droplets will be separated based on the mass of the water droplets rather than the particulate itself. The result is a bias toward larger particles. At the scrubber inlet and outlet locations, particulate sampling was conducted using EPA Method 5 only and all particulate is assumed to be  $PM_{10}$ .

## 2.0 SUMMARY OF RESULTS

Table 1 presents a summary of the average emissions for all locations tested.

The following table presents a summary of the reduction efficiencies for all testing conducted:

AS PROPANE  
↓  
Summary of Reduction Efficiencies - Louisiana Pacific

| Location                                     | Analyte Emissions - lb/hr |                 |                 |              |              |              |              |
|--|---------------------------|-----------------|-----------------|--------------|--------------|--------------|--------------|
|  | TSP                       | NO <sub>x</sub> | SO <sub>2</sub> | CO           | VOC          | HCHC         | MDI          |
| Scrubber Inlet                               | 77.39                     |                 |                 |              |              | 0.36         |              |
| Scrubber Outlet                              | 14.62                     | 5.15            | 0.21            | 22.41        | 9.99         | 0.22         |              |
| <b>Scrubber Reduction Efficiency</b>         | <b>81.11</b>              |                 |                 |              |              | <b>38.89</b> |              |
| Press Outlet                                 |                           | 0.45            | 0.46            | 2.59         | 2.06         | 0.39         | 0.00692      |
| RTO Inlet (Sum of Press and Scrubber Outlet) | 14.62*                    | 5.60            | 0.67            | 25.00        | 12.05        | 0.61         | 0.00692*     |
| RTO Outlet                                   | 4.35                      | 10.27           | 0.08            | 17.77        | 2.43         | 0.13         | 0.00114      |
| <b>RTO Reduction Efficiency</b>              | <b>70.25</b>              | <b>-83.39</b>   | <b>88.06</b>    | <b>28.92</b> | <b>79.83</b> | <b>78.69</b> | <b>83.48</b> |

\* Emissions not measured at either the Press Outlet or the Scrubber Inlet are assumed to be negligible.

Tables 2 through 5 summarize the results of the total particulate testing conducted at the Scrubber Inlet, Scrubber Outlet, RTO stack, and Konus stack, respectively. Tables 6 and 7 summarize the results of the PM10 testing conducted at the RTO and Konus stacks, respectively. Table 8 summarizes the results of the formaldehyde testing performed on the Scrubber Inlet. Tables 9 through 12 summarize the results of the formaldehyde, O<sub>2</sub>, CO<sub>2</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, and VOC testing performed on

TABLE 1  
 SUMMARY OF AVERAGE EMISSIONS  
 LOUISIANA PACIFIC  
 AUGUST/SEPTEMBER 1995 COMPLIANCE TEST PROGRAM

| TEST LOCATION   | TEST PARAMETER                  | REPORTING UNITS | AVERAGE EMISSIONS | EMISSIONS LIMITATION |
|---|---------------------------------|-----------------|-------------------|----------------------|
| Scrubber Inlet  | Total Particulate               | gr/dscf         | 0.278             |                      |
|   |                                 | lb/hr           | 77.39             | NA                   |
| Scrubber Outlet                                       | Total Particulate               | lb/hr           | 0.36              | NA                   |
|   |                                 | gr/dscf         | 0.047             |                      |
| Press Outlet  | Reduction Efficiency            | lb/hr           | 14.62             | NA                   |
|   |                                 | %               | 81.11             | NA                   |
|   | Formaldehyde                    | lb/hr           | 0.22              | NA                   |
|   | NOx                             | lb/hr           | 5.15              | NA                   |
|   | SO2                             | lb/hr           | 0.21              | NA                   |
|   | CO                              | lb/hr           | 22.41             | NA                   |
|   | VOC                             | lb/hr           | 9.99              | NA                   |
|   | Formaldehyde                    | lb/hr           | 0.39              | NA                   |
| RTO Stack   | Methylene Bisphenyl Isocyanate* | lb/hr           | 6.92E-03          | NA                   |
|   |                                 | NOx             | lb/hr             | 0.45                 |
|   | SO2                             | lb/hr           | 0.46              | NA                   |
|   | CO                              | lb/hr           | 2.59              | NA                   |
|   | VOC                             | lb/hr           | 2.06              | NA                   |
|   | Total Particulate               | gr/dscf         | 0.005             |                      |
|   |                                 | lb/hr           | 4.35              | 16.5                 |
| PM10  | gr/dscf                         | 0.0025          |                   |                      |
|   | lb/hr                           | 2.231           | 16.5              |                      |
| Formaldehyde  | lb/hr                           | 0.13            | 1.26              |                      |
| Methylene Bisphenyl Isocyanate Reduction Efficiency** | lb/hr                           | 1.14E-03        | 0.10              |                      |
|   | %                               | 83.48           | NA                |                      |
| NOx   | lb/hr                           | 10.27           | 24.3              |                      |
| SO2   | lb/hr                           | 0.08            | 21.4              |                      |
| CO  | lb/hr                           | 17.77           | 31.9              |                      |
| VOC (08/30/95)  | lb/hr                           | 2.43            | 9.4               |                      |
|   | lb/hr                           | 4.68            | 9.4               |                      |
| Konus Stack   | Total Particulate               | gr/dscf         | 0.011             |                      |
|   |                                 | lb/hr           | 1.24              | 6.1                  |
|   | PM10                            | gr/dscf         | 0.0003            |                      |
|   |                                 | lb/hr           | 0.028             | 4.3                  |
|   | Formaldehyde                    | lb/hr           | 0.02              | 0.0366               |
|   | NOx                             | lb/hr           | 3.10              | 15.7                 |
|   | SO2                             | lb/hr           | 0.08              | 15.5                 |
|   | CO                              | lb/hr           | 14.14             | 21.6                 |
|   | VOC                             | lb/hr           | 0.47              | 1.4                  |

← 123  
Proposed

\*Value is estimated due to the back-half sample of test run one being broken. Back-half value of test run one was calculated using the average of the back-half samples for test runs two and three.

\*\*Value is estimated due to the Press Outlet's average being estimated. See above note.

TABLE 2

SUMMARY OF PARTICULATE LOADINGS  
LOUISIANA PACIFIC

## SCRUBBER INLET

| RUN I.D.     | SI-M5-R1 | SI-M5-R2 | SI-M5-R3 | AVERAGE |
|--------------|----------|----------|----------|---------|
| DATE         | 08/31/95 | 08/31/95 | 08/31/95 |         |
| TIME STARTED | 09:55    | 12:40    | 16:25    |         |
| TIME ENDED   | 11:07    | 14:22    | 17:32    |         |

SAMPLING PARAMETERS

|                         |        |        |        |        |
|-------------------------|--------|--------|--------|--------|
| Metered Volume - dcf    | 44.025 | 43.573 | 46.042 | 44.547 |
| Corrected Volume - dscf | 39.374 | 38.282 | 40.063 | 39.240 |
| Total Test Time - min   | 60     | 60     | 60     | 60     |
| % Isokinetics           | 105.1  | 102.5  | 105.6  | 104.4  |

GAS PARAMETERS

|                       |      |      |      |      |
|-----------------------|------|------|------|------|
| Gas Temperature - ° F | 180  | 181  | 183  | 182  |
| Oxygen - %            | 17.4 | 17.4 | 17.6 | 17.5 |
| Carbon Dioxide - %    | 2.6  | 2.6  | 2.4  | 2.5  |
| Moisture - %          | 18.5 | 18.1 | 17.8 | 18.1 |

GAS FLOWRATE

|                         |       |       |       |       |
|-------------------------|-------|-------|-------|-------|
| Velocity - ft/sec       | 68.17 | 67.66 | 68.72 | 68.18 |
| Actual Volume - acfm    | 51400 | 51011 | 51817 | 51409 |
| Standard Volume - dscfm | 32342 | 32244 | 32732 | 32440 |

SUSPENDED PARTICULATE LOADINGS

|                   |       |       |       |       |
|-------------------|-------|-------|-------|-------|
| Conc. - gr/dscf   | 0.146 | 0.161 | 0.282 | 0.196 |
| Mass Rate - lb/hr | 40.44 | 44.40 | 79.24 | 54.69 |

CONDENSIBLE PARTICULATE LOADINGS

|                   |       |       |       |       |
|-------------------|-------|-------|-------|-------|
| Conc. - gr/dscf   | 0.110 | 0.048 | 0.086 | 0.082 |
| Mass Rate - lb/hr | 30.49 | 13.36 | 24.24 | 22.70 |

TOTAL PARTICULATE LOADINGS

|                   |       |       |        |       |
|-------------------|-------|-------|--------|-------|
| Conc. - gr/dscf   | 0.256 | 0.209 | 0.369  | 0.278 |
| Mass Rate - lb/hr | 70.93 | 57.76 | 103.48 | 77.39 |

TABLE 3

SUMMARY OF PARTICULATE EMISSIONS AND REDUCTION EFFICIENCY  
LOUISIANA PACIFIC

## SCRUBBER OUTLET

| RUN I.D.                                 | SO-M5-R1 | SO-M5-R2 | SO-M5-R3 | AVERAGE |
|--|----------|----------|----------|---------|
| DATE                                     | 08/31/95 | 08/31/95 | 08/31/95 |         |
| TIME STARTED                             | 09:55    | 12:40    | 16:25    |         |
| TIME ENDED                               | 11:17    | 14:22    | 17:32    |         |
| <u>SAMPLING PARAMETERS</u>               |          |          |          |         |
| Metered Volume - dcf                     | 46.380   | 45.035   | 46.025   | 45.813  |
| Corrected Volume - dscf                  | 42.423   | 40.368   | 41.010   | 41.267  |
| Total Test Time - min                    | 60       | 60       | 60       | 60      |
| % Isokinetics                            | 98.8     | 95.1     | 101.4    | 98.5    |
| <u>GAS PARAMETERS</u>                    |          |          |          |         |
| Gas Temperature - ° F                    | 154      | 153      | 157      | 155     |
| Oxygen - %                               | 17.9     | 18.1     | 18.2     | 18.1    |
| Carbon Dioxide - %                       | 2.9      | 2.5      | 2.5      | 2.6     |
| Moisture - %                             | 17.6     | 16.7     | 19.7     | 18.0    |
| <u>GAS FLOWRATE</u>                      |          |          |          |         |
| Velocity - ft/sec                        | 72.65    | 70.80    | 70.45    | 71.30   |
| Actual Volume - acfm                     | 54778    | 53384    | 53122    | 53761   |
| Standard Volume - dscfm                  | 37055    | 36623    | 34897    | 36192   |
| <u>SUSPENDED PARTICULATE EMISSIONS</u>   |          |          |          |         |
| Conc. - gr/dscf                          | 0.040    | 0.039    | 0.053    | 0.044   |
| Mass Rate - lb/hr                        | 12.58    | 12.39    | 15.88    | 13.62   |
| <u>CONDENSIBLE PARTICULATE EMISSIONS</u> |          |          |          |         |
| Conc. - gr/dscf                          | 0.005    | 0.002    | 0.003    | 0.003   |
| Mass Rate - lb/hr                        | 1.59     | 0.52     | 0.91     | 1.01    |
| <u>TOTAL PARTICULATE EMISSIONS</u>       |          |          |          |         |
| Conc. - gr/dscf                          | 0.045    | 0.041    | 0.056    | 0.047   |
| Mass Rate - lb/hr                        | 14.17    | 12.91    | 16.80    | 14.62   |
| <u>TOTAL INLET PARTICULATE LOADINGS</u>  |          |          |          |         |
| Conc. - gr/dscf                          | 0.256    | 0.209    | 0.369    | 0.278   |
| Mass Rate - lb/hr                        | 70.96    | 57.78    | 103.52   | 77.42   |
| <u>REDUCTION EFFICIENCY - %</u>          | 80.03    | 77.66    | 83.77    | 81.11   |

TABLE 4  
SUMMARY OF PARTICULATE EMISSIONS  
LOUISIANA PACIFIC

RTO STACK

| RUN I.D.     | RTO-M5-R1 | RTO-M5-R2 | RTO-M5-R3 | AVERAGE |
|--------------|-----------|-----------|-----------|---------|
| DATE         | 08/31/95  | 08/31/95  | 08/31/95  |         |
| TIME STARTED | 09:55     | 12:40     | 16:25     |         |
| TIME ENDED   | 11:17     | 14:22     | 17:32     |         |

SAMPLING PARAMETERS

|                         |        |        |        |        |
|-------------------------|--------|--------|--------|--------|
| Metered Volume - dcf    | 47.539 | 46.886 | 49.040 | 47.822 |
| Corrected Volume - dscf | 44.453 | 42.940 | 43.731 | 43.708 |
| Total Test Time - min   | 60     | 60     | 60     | 60     |
| % Isokinetics           | 97.3   | 93.4   | 97.9   | 96.2   |

GAS PARAMETERS

|                       |      |      |      |      |
|-----------------------|------|------|------|------|
| Gas Temperature - ° F | 233  | 237  | 243  | 238  |
| Oxygen - %            | 19.0 | 19.1 | 18.9 | 19.0 |
| Carbon Dioxide - %    | 1.2  | 1.1  | 1.2  | 1.2  |
| Moisture - %          | 9.4  | 9.3  | 9.4  | 9.4  |

GAS FLOWRATE

|                         |        |        |        |        |
|-------------------------|--------|--------|--------|--------|
| Velocity - ft/sec       | 52.80  | 53.44  | 52.33  | 52.86  |
| Actual Volume - acfm    | 159244 | 161165 | 157835 | 159414 |
| Standard Volume - dscfm | 105440 | 106184 | 103119 | 104914 |

SUSPENDED PARTICULATE EMISSIONS

|                   |       |       |       |       |
|-------------------|-------|-------|-------|-------|
| Conc. - gr/dscf   | 0.004 | 0.004 | 0.004 | 0.004 |
| Mass Rate - lb/hr | 3.42  | 3.61  | 3.10  | 3.38  |

CONDENSIBLE PARTICULATE EMISSIONS

|                   |       |       |       |       |
|-------------------|-------|-------|-------|-------|
| Conc. - gr/dscf   | 0.001 | 0.001 | 0.001 | 0.001 |
| Mass Rate - lb/hr | 1.13  | 1.36  | 0.44  | 0.98  |

TOTAL PARTICULATE EMISSIONS

|                   |       |       |       |       |
|-------------------|-------|-------|-------|-------|
| Conc. - gr/dscf   | 0.005 | 0.005 | 0.004 | 0.005 |
| Mass Rate - lb/hr | 4.55  | 4.97  | 3.55  | 4.35  |

TABLE 5  
SUMMARY OF PARTICULATE EMISSIONS  
LOUISIANA PACIFIC

KONUS STACK

| RUN I.D.     | KS-M202-R1 | KS-M202-R2 | KS-M202-R3 | AVERAGE |
|--------------|------------|------------|------------|---------|
| DATE         | 09/13/95   | 09/13/95   | 09/13/95   |         |
| TIME STARTED | 09:27      | 11:45      | 14:20      |         |
| TIME ENDED   | 10:45      | 13:17      | 15:32      |         |

SAMPLING PARAMETERS

|                         |        |        |        |        |
|-------------------------|--------|--------|--------|--------|
| Metered Volume - dcf    | 45.632 | 46.354 | 45.445 | 45.810 |
| Corrected Volume - dscf | 42.128 | 42.160 | 41.407 | 41.899 |
| Total Test Time - min   | 60     | 60     | 60     | 60     |
| % Isokinetics           | 102.2  | 105.4  | 103.4  | 103.6  |

GAS PARAMETERS

|                       |      |      |      |      |
|-----------------------|------|------|------|------|
| Gas Temperature - ° F | 285  | 285  | 284  | 284  |
| Oxygen - %            | 19.1 | 18.2 | 18.4 | 18.6 |
| Carbon Dioxide - %    | 1.5  | 2.0  | 1.9  | 1.8  |
| Moisture - %          | 4.5  | 5.8  | 5.0  | 5.1  |

GAS FLOWRATE

|                         |       |       |       |       |
|-------------------------|-------|-------|-------|-------|
| Velocity - ft/sec       | 35.31 | 34.72 | 34.42 | 34.82 |
| Actual Volume - acfm    | 19900 | 19570 | 19399 | 19623 |
| Standard Volume - dscfm | 12986 | 12602 | 12607 | 12732 |

SUSPENDED PARTICULATE EMISSIONS

|                   |       |       |       |       |
|-------------------|-------|-------|-------|-------|
| Conc. - gr/dscf   | 0.003 | 0.001 | 0.001 | 0.002 |
| Mass Rate - lb/hr | 0.28  | 0.13  | 0.12  | 0.17  |

CONDENSIBLE PARTICULATE EMISSIONS

|                   |       |       |       |       |
|-------------------|-------|-------|-------|-------|
| Conc. - gr/dscf   | 0.016 | 0.012 | 0.001 | 0.010 |
| Mass Rate - lb/hr | 1.82  | 1.30  | 0.08  | 1.07  |

TOTAL PARTICULATE EMISSIONS

|                   |       |       |       |       |
|-------------------|-------|-------|-------|-------|
| Conc. - gr/dscf   | 0.019 | 0.013 | 0.002 | 0.011 |
| Mass Rate - lb/hr | 2.10  | 1.42  | 0.20  | 1.24  |

**TABLE 6**  
**SUMMARY OF METHOD 201A TESTING**  
**LOUISIANA PACIFIC**

**RTO STACK**

| <b>RUN I.D.</b>     | <b>RTO-M201A-R1</b> | <b>RTO-201A-R2</b> | <b>RTO-201A-R3</b> | <b>AVERAGE</b> |
|---------------------|---------------------|--------------------|--------------------|----------------|
| <b>DATE</b>         | 08/31/95            | 08/31/95           | 08/31/95           |                |
| <b>TIME STARTED</b> | 09:55               | 12:40              | 16:25              |                |
| <b>TIME ENDED</b>   | 11:08               | 14:12              | 17:34              |                |

**SAMPLING PARAMETERS**

|                         |        |        |        |        |
|-------------------------|--------|--------|--------|--------|
| Metered Volume - dcf    | 18.855 | 15.750 | 13.385 | 15.997 |
| Corrected Volume - dscf | 16.918 | 13.840 | 11.998 | 14.252 |
| Total Test Time - min   | 43.36  | 38.89  | 32.15  | 38     |
| % Isokinetics           | 105.7  | 94.2   | 101.7  | 100.6  |
| D50                     | 9.77   | 10.17  | 9.75   | 9.90   |

**GAS PARAMETERS**

|                       |      |      |      |      |
|-----------------------|------|------|------|------|
| Gas Temperature - ° F | 239  | 241  | 245  | 242  |
| Oxygen - %            | 19.0 | 19.1 | 18.9 | 19.0 |
| Carbon Dioxide - %    | 1.2  | 1.1  | 1.2  | 1.2  |
| Moisture - %          | 10.7 | 13.3 | 14.2 | 12.7 |

**GAS FLOWRATE**

|                         |        |        |        |        |
|-------------------------|--------|--------|--------|--------|
| Velocity - ft/sec       | 53.74  | 56.86  | 56.07  | 55.55  |
| Actual Volume - acfm    | 162066 | 171476 | 169108 | 167550 |
| Standard Volume - dscfm | 105014 | 107476 | 104420 | 105637 |

**PM10 EMISSIONS**

|                         |        |        |        |        |
|-------------------------|--------|--------|--------|--------|
| Concentration - gr/dscf | 0.0016 | 0.0026 | 0.0032 | 0.0025 |
| Mass Rate - lb/hr       | 1.426  | 2.437  | 2.830  | 2.231  |



TABLE 7  
 SUMMARY OF METHOD 201A TESTING  
 LA PACIFIC - DUNGANNON

KONUS STACK

| RUN I.D.                   | KS-M201A-R1 | KS-201A-R2 | KS-201A-R3 | AVERAGE |
|----------------------------|-------------|------------|------------|---------|
| DATE                       | 09/13/95    | 09/13/95   | 09/13/95   |         |
| TIME STARTED               | 09:27       | 11:45      | 14:20      |         |
| TIME ENDED                 | 10:46       | 13:15      | 15:27      |         |
| <u>SAMPLING PARAMETERS</u> |             |            |            |         |
| Metered Volume - dcf       | 27.481      | 25.924     | 24.946     | 26.117  |
| Corrected Volume - dscf    | 26.678      | 24.571     | 23.569     | 24.940  |
| Total Test Time - min      | 62.9        | 58.12      | 54.8       | 59      |
| % Isokinetics              | 104.7       | 114.1      | 123.4      | 114.1   |
| D50                        | 9.90        | 9.78       | 9.63       | 9.77    |
| <u>GAS PARAMETERS</u>      |             |            |            |         |
| Gas Temperature - oF       | 283         | 282        | 284        | 283     |
| Oxygen - %                 | 19.1        | 18.2       | 18.4       | 18.6    |
| Carbon Dioxide - %         | 1.5         | 2.0        | 1.9        | 1.8     |
| Moisture - %               | 3.5         | 5.0        | 5.4        | 4.6     |
| <u>GAS FLOWRATE</u>        |             |            |            |         |
| Velocity - ft/sec          | 34.55       | 32.02      | 30.31      | 32.29   |
| Actual Volume - acfm       | 19473       | 18048      | 17081      | 18201   |
| Standard Volume - dscfm    | 12863       | 11760      | 11064      | 11896   |
| <u>PM10 EMISSIONS</u>      |             |            |            |         |
| Concentration - gr/dscf    | 0.0006      | 0.0001     | 0.0001     | 0.0003  |
| Mass Rate - lb/hr          | 0.064       | 0.013      | 0.006      | 0.028   |

TABLE 8  
SUMMARY OF FORMALDEHYDE EMISSIONS  
LOUISIANA PACIFIC

SCRUBBER INLET

| RUN I.D.     | SI-0011-R1 | SI-0011-R2 | SI-0011-R3 | AVERAGE |
|--------------|------------|------------|------------|---------|
| DATE         | 08/30/95   | 08/30/95   | 08/30/95   |         |
| TIME STARTED | 09:55      | 13:25      | 19:40      |         |
| TIME ENDED   | 11:17      | 15:10      | 20:51      |         |

SAMPLING PARAMETERS

|                         |        |        |        |            |
|-------------------------|--------|--------|--------|------------|
| Metered Volume - dcf    | 45.249 | 46.333 | 45.081 | 45.5543333 |
| Corrected Volume - dscf | 40.234 | 40.641 | 39.946 | 40.274     |
| Total Test Time - min   | 60     | 60     | 60     | 60         |
| % Isokinetics           | 98.7   | 102.1  | 108.2  | 103.0      |

GAS PARAMETERS

|                       |      |      |      |      |
|-----------------------|------|------|------|------|
| Gas Temperature - ° F | 180  | 180  | 180  | 180  |
| Oxygen - %            | 17.4 | 17.6 | 17.5 | 17.5 |
| Carbon Dioxide - %    | 2.6  | 2.6  | 2.7  | 2.6  |
| Moisture - %          | 18.3 | 19.6 | 18.4 | 18.8 |

GAS FLOWRATE

|                         |       |       |       |       |
|-------------------------|-------|-------|-------|-------|
| Velocity - ft/sec       | 71.96 | 71.44 | 65.19 | 69.53 |
| Actual Volume - acfm    | 54258 | 53862 | 49155 | 52425 |
| Standard Volume - dscfm | 34213 | 33395 | 30979 | 32862 |

FORMALDEHYDE EMISSIONS

|                       |       |       |       |       |
|-----------------------|-------|-------|-------|-------|
| Sample - mg           | 3.0   | 3.7   | 3.4   | 3.4   |
| Blank - mg            | 0.012 | 0.012 | 0.012 | 0.012 |
| Corrected Sample - mg | 2.988 | 3.688 | 3.388 | 3.355 |
| Conc. - ppmv          | 2.10  | 2.57  | 2.40  | 2.36  |
| Mass Rate - lb/hr     | 0.34  | 0.40  | 0.35  | 0.36  |

TABLE 9

SUMMARY OF FORMALDEHYDE, NO<sub>x</sub>, SO<sub>2</sub>, CO, AND VOC EMISSIONS  
LOUISIANA PACIFIC

## SCRUBBER OUTLET

| RUN I.D.     | SCO-0011-R1 | SCO-0011-R2 | SCO-0011-R3 | AVERAGE |
|--------------|-------------|-------------|-------------|---------|
| DATE         | 08/30/95    | 08/30/95    | 08/30/95    |         |
| TIME STARTED | 09:55       | 13:25       | 19:40       |         |
| TIME ENDED   | 11:17       | 15:10       | 20:51       |         |

SAMPLING PARAMETERS

|                         |        |        |        |            |
|-------------------------|--------|--------|--------|------------|
| Metered Volume - dcf    | 45.084 | 48.579 | 45.736 | 46.4663333 |
| Corrected Volume - dscf | 41.247 | 43.668 | 41.204 | 42.040     |
| Total Test Time - min   | 60     | 60     | 60     | 60         |
| % Isokinetics           | 95.3   | 100.6  | 105.5  | 100.5      |

GAS PARAMETERS

|                       |      |      |      |      |
|-----------------------|------|------|------|------|
| Gas Temperature - ° F | 154  | 156  | 158  | 156  |
| Oxygen - %            | 18.4 | 18.4 | 17.7 | 18.1 |
| Carbon Dioxide - %    | 2.4  | 2.4  | 2.9  | 2.6  |
| Moisture - %          | 16.7 | 18.6 | 20.3 | 18.6 |

GAS FLOWRATE

|                         |       |       |       |       |
|-------------------------|-------|-------|-------|-------|
| Velocity - ft/sec       | 72.39 | 74.60 | 68.68 | 71.89 |
| Actual Volume - acfm    | 54578 | 56245 | 51782 | 54202 |
| Standard Volume - dscfm | 37370 | 37466 | 33702 | 36179 |

FORMALDEHYDE EMISSIONS

|                           |       |       |       |       |
|---------------------------|-------|-------|-------|-------|
| Sample - mg               | 1.1   | 2.1   | 2.8   | 2.0   |
| Blank - mg                | 0.012 | 0.012 | 0.012 | 0.012 |
| Corrected Sample - mg     | 1.088 | 2.088 | 2.788 | 1.988 |
| Conc. - ppm <sub>dv</sub> | 0.75  | 1.35  | 1.91  | 1.34  |
| Mass Rate - lb/hr         | 0.13  | 0.24  | 0.30  | 0.22  |

NO<sub>x</sub> EMISSIONS (as NO<sub>2</sub>)

|                                   |       |       |       |       |
|-----------------------------------|-------|-------|-------|-------|
| Concentration - ppm <sub>dv</sub> | 21.22 | 17.69 | 20.80 | 19.90 |
| Mass Rate - lb/hr                 | 5.68  | 4.75  | 5.02  | 5.15  |

SO<sub>2</sub> EMISSIONS

|                                   |      |      |      |      |
|-----------------------------------|------|------|------|------|
| Concentration - ppm <sub>dv</sub> | 0.32 | 0.29 | 1.16 | 0.59 |
| Mass Rate - lb/hr                 | 0.12 | 0.11 | 0.39 | 0.21 |

CO EMISSIONS

|                                   |       |        |        |        |
|-----------------------------------|-------|--------|--------|--------|
| Concentration - ppm <sub>dv</sub> | 85.78 | 118.95 | 230.08 | 144.94 |
| Mass Rate - lb/hr                 | 13.98 | 19.44  | 33.82  | 22.41  |

VOC EMISSIONS (as Propane)

|                                   |       |       |       |       |
|-----------------------------------|-------|-------|-------|-------|
| Concentration - ppm <sub>w</sub>  | 26.54 | 31.83 | 40.34 | 32.90 |
| Concentration - ppm <sub>dv</sub> | 31.86 | 39.13 | 50.62 | 40.54 |
| Mass Rate - lb/hr                 | 8.18  | 10.07 | 11.71 | 9.99  |

x 3 = 121.62

8.227 as C.

TABLE 10

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

## PRESS OUTLET

| RUN I.D.     | PO-0011-R1 | PO-0011-R2 | PO-0011-R3 | AVERAGE |
|--------------|------------|------------|------------|---------|
| DATE         | 08/30/95   | 08/30/95   | 08/30/95   |         |
| TIME STARTED | 09:55      | 13:25      | 19:40      |         |
| TIME ENDED   | 11:17      | 15:11      | 20:51      |         |

SAMPLING PARAMETERS

|                         |        |        |        |            |
|-------------------------|--------|--------|--------|------------|
| Metered Volume - dcf    | 51.261 | 49.631 | 52.509 | 51.1336667 |
| Corrected Volume - dscf | 48.894 | 45.991 | 48.921 | 47.935     |
| Total Test Time - min   | 60     | 60     | 60     | 60         |
| % Isokinetics           | 100.1  | 98.2   | 105.2  | 101.2      |

GAS PARAMETERS

|                       |      |      |      |      |
|-----------------------|------|------|------|------|
| Gas Temperature - ° F | 91   | 103  | 95   | 96   |
| Oxygen - %            | 20.9 | 19.1 | 20.9 | 20.3 |
| Carbon Dioxide - %    | 0.0  | 1.2  | 0.1  | 0.4  |
| Moisture - %          | 1.8  | 1.7  | 2.9  | 2.2  |

GAS FLOWRATE

|                         |       |       |       |       |
|-------------------------|-------|-------|-------|-------|
| Velocity - ft/sec       | 75.16 | 73.58 | 72.86 | 73.87 |
| Actual Volume - acfm    | 70401 | 68917 | 68244 | 69188 |
| Standard Volume - dscfm | 63236 | 60644 | 60240 | 61373 |

FORMALDEHYDE EMISSIONS

|                       |       |       |       |       |
|-----------------------|-------|-------|-------|-------|
| Sample - mg           | 2.6   | 3.4   | 0.88  | 2.29  |
| Blank - mg            | 0.012 | 0.012 | 0.012 | 0.012 |
| Corrected Sample - mg | 2.588 | 3.388 | 0.868 | 2.281 |
| Conc. - ppmv          | 1.50  | 2.08  | 0.50  | 1.36  |
| Mass Rate - lb/hr     | 0.44  | 0.59  | 0.14  | 0.39  |

NOx EMISSIONS (as NO2)

|                      |      |      |      |      |
|----------------------|------|------|------|------|
| Concentration - ppmv | 0.19 | 2.93 | 0.00 | 1.04 |
| Mass Rate - lb/hr    | 0.09 | 1.27 | 0.00 | 0.45 |

SO2 EMISSIONS

|                      |      |      |      |      |
|----------------------|------|------|------|------|
| Concentration - ppmv | 0.71 | 1.00 | 0.52 | 0.74 |
| Mass Rate - lb/hr    | 0.45 | 0.60 | 0.31 | 0.46 |

CO EMISSIONS

|                      |       |      |      |      |
|----------------------|-------|------|------|------|
| Concentration - ppmv | 12.45 | 8.33 | 8.07 | 9.62 |
| Mass Rate - lb/hr    | 3.43  | 2.20 | 2.12 | 2.59 |

VOC EMISSIONS (as Propane)

|                      |      |      |      |      |
|----------------------|------|------|------|------|
| Concentration - ppmv | 5.56 | 5.28 | 3.46 | 4.77 |
| Concentration - ppmv | 5.66 | 5.37 | 3.56 | 4.87 |
| Mass Rate - lb/hr    | 2.46 | 2.24 | 1.47 | 2.06 |

10/30/95

TABLE 11

SUMMARY OF FORMALDEHYDE, NO<sub>x</sub>, SO<sub>2</sub>, CO, AND VOC EMISSIONS  
LOUISIANA PACIFIC

## RTO OUTLET

| RUN I.D.     | RTO-0011-R1 | RTO-0011-R2 | RTO-0011-R3 | AVERAGE |
|--------------|-------------|-------------|-------------|---------|
| DATE         | 08/30/95    | 08/30/95    | 08/30/95    |         |
| TIME STARTED | 09:55       | 13:25       | 19:40       |         |
| TIME ENDED   | 11:17       | 15:10       | 20:51       |         |

SAMPLING PARAMETERS

|                         |        |        |        |        |
|-------------------------|--------|--------|--------|--------|
| Metered Volume - dcf    | 46.513 | 47.931 | 46.976 | 47.14  |
| Corrected Volume - dscf | 41.905 | 42.939 | 42.661 | 42.502 |
| Total Test Time - min   | 60     | 60     | 60     | 60     |
| % Isokinetics           | 94.8   | 102.9  | 99.4   | 99.0   |

GAS PARAMETERS

|                       |      |      |      |      |
|-----------------------|------|------|------|------|
| Gas Temperature - ° F | 237  | 243  | 240  | 240  |
| Oxygen - %            | 19.6 | 19.1 | 19.6 | 19.4 |
| Carbon Dioxide - %    | 1.1  | 1.2  | 1.3  | 1.2  |
| Moisture - %          | 8.6  | 13.7 | 10.5 | 10.9 |

GAS FLOWRATE

|                         |        |        |        |        |
|-------------------------|--------|--------|--------|--------|
| Velocity - ft/sec       | 50.92  | 51.31  | 50.69  | 50.97  |
| Actual Volume - acfm    | 153570 | 154760 | 152868 | 153733 |
| Standard Volume - dscfm | 102049 | 96392  | 99068  | 99170  |

FORMALDEHYDE EMISSIONS

|                           |       |       |       |       |
|---------------------------|-------|-------|-------|-------|
| Sample - mg               | 0.42  | 0.41  | 0.43  | 0.42  |
| Blank - mg                | 0.012 | 0.012 | 0.012 | 0.012 |
| Corrected Sample - mg     | 0.408 | 0.398 | 0.418 | 0.408 |
| Conc. - ppm <sub>dv</sub> | 0.28  | 0.26  | 0.28  | 0.27  |
| Mass Rate - lb/hr         | 0.13  | 0.12  | 0.13  | 0.13  |

NO<sub>x</sub> EMISSIONS (as NO<sub>2</sub>)

|                                   |       |       |       |       |
|-----------------------------------|-------|-------|-------|-------|
| Concentration - ppm <sub>dv</sub> | 14.62 | 16.60 | 12.20 | 14.47 |
| Mass Rate - lb/hr                 | 10.69 | 11.46 | 8.66  | 10.27 |

SO<sub>2</sub> EMISSIONS

|                                   |      |      |      |      |
|-----------------------------------|------|------|------|------|
| Concentration - ppm <sub>dv</sub> | 0.00 | 0.20 | 0.05 | 0.08 |
| Mass Rate - lb/hr                 | 0.00 | 0.19 | 0.05 | 0.08 |

CO EMISSIONS

|                                   |       |       |       |       |
|-----------------------------------|-------|-------|-------|-------|
| Concentration - ppm <sub>dv</sub> | 34.07 | 40.98 | 48.41 | 41.15 |
| Mass Rate - lb/hr                 | 15.16 | 17.23 | 20.92 | 17.77 |

VOC EMISSIONS (as Propane)

|                                   |      |      |      |      |
|-----------------------------------|------|------|------|------|
| Concentration - ppm <sub>wv</sub> | 5.51 | 2.93 | 1.09 | 3.18 |
| Concentration - ppm <sub>dv</sub> | 6.03 | 3.39 | 1.22 | 3.55 |
| Mass Rate - lb/hr                 | 4.23 | 2.25 | 0.83 | 2.43 |

TABLE 12

SUMMARY OF FORMALDEHYDE, SO<sub>2</sub>, NO<sub>x</sub>, CO, AND VOC EMISSIONS  
LOUISIANA PACIFIC

## KONUS STACK

| RUN I.D.     | KS-M0011-R1 | KS-M0011-R2 | KS-M0011-R3 | AVERAGE |
|--------------|-------------|-------------|-------------|---------|
| DATE         | 09/12/95    | 09/12/95    | 09/12/95    |         |
| TIME STARTED | 10:10       | 12:25       | 14:06       |         |
| TIME ENDED   | 11:45       | 13:40       | 15:14       |         |

SAMPLING PARAMETERS

|                         |        |        |        |           |
|-------------------------|--------|--------|--------|-----------|
| Metered Volume - dcf    | 61.997 | 61.625 | 63.916 | 62.512667 |
| Corrected Volume - dscf | 57.595 | 56.228 | 58.195 | 57.339    |
| Total Test Time - min   | 60     | 60     | 60     | 60        |
| % Isokinetics           | 100.0  | 99.3   | 100.8  | 100.0     |

GAS PARAMETERS

|                       |      |      |      |      |
|-----------------------|------|------|------|------|
| Gas Temperature - ° F | 285  | 284  | 285  | 285  |
| Oxygen - %            | 19.0 | 18.1 | 18.4 | 18.5 |
| Carbon Dioxide - %    | 1.7  | 2.5  | 2.5  | 2.2  |
| Moisture - %          | 6.8  | 5.2  | 4.9  | 5.7  |

GAS FLOWRATE

|                         |       |       |       |       |
|-------------------------|-------|-------|-------|-------|
| Velocity - ft/sec       | 33.82 | 32.65 | 33.23 | 33.23 |
| Actual Volume - acfm    | 19060 | 18401 | 18726 | 18729 |
| Standard Volume - dscfm | 12149 | 11945 | 12182 | 12092 |

FORMALDEHYDE EMISSIONS

|                           |       |       |       |       |
|---------------------------|-------|-------|-------|-------|
| Sample - mg               | 1.5   | 0.088 | 0.33  | 0.639 |
| Blank - mg                | 0.016 | 0.016 | 0.016 | 0.016 |
| Corrected Sample - mg     | 1.484 | 0.072 | 0.314 | 0.623 |
| Conc. - ppm <sub>dv</sub> | 0.729 | 0.036 | 0.153 | 0.306 |
| Mass Rate - lb/hr         | 0.041 | 0.002 | 0.009 | 0.017 |

NO<sub>x</sub> EMISSIONS (as NO<sub>2</sub>)

|                                   |       |       |       |       |
|-----------------------------------|-------|-------|-------|-------|
| Concentration - ppm <sub>dv</sub> | 28.19 | 40.39 | 38.87 | 35.82 |
| Mass Rate - lb/hr                 | 2.45  | 3.46  | 3.39  | 3.10  |

SO<sub>2</sub> EMISSIONS

|                                   |      |      |      |      |
|-----------------------------------|------|------|------|------|
| Concentration - ppm <sub>dv</sub> | 0.00 | 0.74 | 1.20 | 0.63 |
| Mass Rate - lb/hr                 | 0.00 | 0.09 | 0.16 | 0.08 |

CO EMISSIONS

|                                   |        |        |        |        |
|-----------------------------------|--------|--------|--------|--------|
| Concentration - ppm <sub>dv</sub> | 320.46 | 241.52 | 242.21 | 268.06 |
| Mass Rate - lb/hr                 | 16.98  | 12.58  | 12.87  | 14.14  |

VOC EMISSIONS (as Propane)

|                                   |      |      |      |      |
|-----------------------------------|------|------|------|------|
| Concentration - ppm <sub>wv</sub> | 8.78 | 3.64 | 3.58 | 5.33 |
| Concentration - ppm <sub>dv</sub> | 9.43 | 3.84 | 3.77 | 5.68 |
| Mass Rate - lb/hr                 | 0.79 | 0.31 | 0.31 | 0.47 |

the Scrubber Outlet, Press Outlet, RTO stack, and Konus stack, respectively. Tables 13 and 14 summarize the results of the MDI testing performed on the Press Outlet and the RTO stack, respectively. Table 15 summarizes the results of the VOC testing at the RTO stack during the testing performed on September 13, 1995. Appendices B through H provide more detailed data and results for the analyses.

Throughout this report,  $\text{NO}_x$  results are reported as  $\text{NO}_2$  and VOC results are reported as propane. Particulate data are expressed as the sum of the suspended and the condensible portions of the particulate train for consistency with other Louisiana Pacific reports. The particulate referred to in the VDEQ permit is only the suspended portion, not the condensible portion.

TABLE 13

SUMMARY OF MDI LOADINGS  
LOUISIANA PACIFIC

## PRESS OUTLET

| RUN I.D.     | PO-MDI-R1 | PO-MDI-R2 | PO-MDI-R3 | AVERAGE |
|--------------|-----------|-----------|-----------|---------|
| DATE         | 08/30/95  | 08/30/95  | 08/30/95  |         |
| TIME STARTED | 09:55     | 13:25     | 19:40     |         |
| TIME ENDED   | 11:17     | 15:10     | 20:51     |         |

SAMPLING PARAMETERS

|                         |        |        |        |        |
|-------------------------|--------|--------|--------|--------|
| Metered Volume - dcf    | 54.119 | 56.948 | 55.643 | 55.570 |
| Corrected Volume - dscf | 51.624 | 52.206 | 51.969 | 51.933 |
| Total Test Time - min   | 60     | 60     | 60     | 60     |
| % Isokinetics           | 104.4  | 106.9  | 106.7  | 106.0  |

GAS PARAMETERS

|                       |      |      |      |      |
|-----------------------|------|------|------|------|
| Gas Temperature - ° F | 104  | 106  | 106  | 105  |
| Oxygen - %            | 20.9 | 20.1 | 20.9 | 20.6 |
| Carbon Dioxide - %    | 0.0  | 1.0  | 0.1  | 0.4  |
| Moisture - %          | 1.2  | 2.2  | 0.7  | 1.4  |

GAS FLOWRATE

|                         |       |       |       |       |
|-------------------------|-------|-------|-------|-------|
| Velocity - ft/sec       | 79.03 | 79.06 | 77.59 | 78.56 |
| Actual Volume - acfm    | 74029 | 74051 | 72680 | 73586 |
| Standard Volume - dscfm | 65408 | 64559 | 64372 | 64780 |

MDI LOADINGS - use rows 2 & 3 only

|                       |          |          |          |          |
|-----------------------|----------|----------|----------|----------|
| Sample - mg           | * 0.031  | 0.049    | 0.046    | 0.04     |
| Blank - mg            | < 0.001  | < 0.001  | < 0.001  | < 0.001  |
| Corrected Sample - mg | 0.031    | 0.049    | 0.046    | 0.04     |
| Conc. - ppmdv         | 2.04E-03 | 3.19E-03 | 3.00E-03 | 2.74E-03 |
| Mass Rate - lb/hr     | 5.20E-03 | 8.02E-03 | 7.54E-03 | 6.92E-03 |

0.00319

0.003

## NOTE:

&lt; = not detected in one or more laboratory samples

\*Back-half sample for test run one was received broken by the lab. Thus, the back-half values for test runs two and three were averaged together to get an estimated value for the back-half of test run one.



TABLE 14

SUMMARY OF MDI EMISSIONS  
LOUISIANA PACIFIC

## RTO OUTLET

| RUN I.D.     | RTO-MDI-R1 | RTO-MDI-R2 | RTO-MDI-R3 | AVERAGE |
|--------------|------------|------------|------------|---------|
| DATE         | 08/30/95   | 08/30/95   | 08/30/95   |         |
| TIME STARTED | 09:55      | 13:25      | 19:40      |         |
| TIME ENDED   | 11:17      | 15:10      | 20:51      |         |

SAMPLING PARAMETERS

|                         |        |        |        |        |
|-------------------------|--------|--------|--------|--------|
| Metered Volume - dcf    | 48.589 | 49.505 | 48.047 | 48.714 |
| Corrected Volume - dscf | 45.496 | 44.636 | 43.720 | 44.617 |
| Total Test Time - min   | 60     | 60     | 60     | 60     |
| % Isokinetics           | 97.1   | 98.7   | 97.7   | 97.8   |

GAS PARAMETERS

|                       |      |      |      |      |
|-----------------------|------|------|------|------|
| Gas Temperature - ° F | 235  | 241  | 236  | 237  |
| Oxygen - %            | 19.6 | 20.1 | 19.6 | 19.7 |
| Carbon Dioxide - %    | 1.1  | 1.0  | 1.3  | 1.1  |
| Moisture - %          | 7.7  | 9.9  | 9.6  | 9.1  |

GAS FLOWRATE

|                         |        |        |        |        |
|-------------------------|--------|--------|--------|--------|
| Velocity - ft/sec       | 53.28  | 53.12  | 52.03  | 52.81  |
| Actual Volume - acfm    | 160690 | 160197 | 156918 | 159269 |
| Standard Volume - dscfm | 108170 | 104376 | 103325 | 105290 |

MDI EMISSIONS

|                       |          |          |          |          |
|-----------------------|----------|----------|----------|----------|
| Sample - mg           | 0.002    | 0.004    | 0.005    | 0.004    |
| Blank - mg            | < 0.001  | < 0.001  | < 0.001  | < 0.001  |
| Corrected Sample - mg | 0.002    | 0.004    | 0.005    | 0.004    |
| Conc. - ppmv          | 1.49E-04 | 3.04E-04 | 3.88E-04 | 2.81E-04 |
| Mass Rate - lb/hr     | 6.29E-04 | 1.24E-03 | 1.56E-03 | 1.14E-03 |

MDI LOADINGS

|                   |            |          |          |          |
|-------------------|------------|----------|----------|----------|
| Conc. - ppmv      | * 2.04E-03 | 3.19E-03 | 3.00E-03 | 2.74E-03 |
| Mass Rate - lb/hr | * 5.20E-03 | 8.02E-03 | 7.54E-03 | 6.92E-03 |

|                                 |         |       |       |       |
|---------------------------------|---------|-------|-------|-------|
| <u>REDUCTION EFFICIENCY - %</u> | * 87.90 | 84.57 | 79.27 | 83.48 |
|---------------------------------|---------|-------|-------|-------|

## NOTE:

< = not detected in one or more laboratory samples

\*Back-half sample for test run one was received broken by the lab. The back-half values for test runs two and three were averaged together to get an estimated value for the back-half of test run one. Thus, these values are also estimated.

TABLE 15

SUMMARY OF VOC EMISSIONS  
LOUISIANA PACIFIC

## RTO STACK

| RUN I.D.     | RTO-M2-R1 | RTO-M2-R2 | RTO-M2-R3 | AVERAGE |
|--------------|-----------|-----------|-----------|---------|
| DATE         | 09/13/93  | 09/13/93  | 09/13/93  |         |
| TIME STARTED | 11:25     | 13:00     | 14:12     |         |
| TIME ENDED   | 12:05     | 13:30     | 14:42     |         |

SAMPLING PARAMETERS

|                         |        |        |        |        |
|-------------------------|--------|--------|--------|--------|
| Metered Volume - dcf    | 28.996 | 23.569 | 24.210 | 25.592 |
| Corrected Volume - dscf | 26.090 | 21.142 | 21.755 | 22.996 |
| Total Test Time - min   | 30     | 30     | 30     | 30     |

GAS PARAMETERS

|                       |      |      |      |      |
|-----------------------|------|------|------|------|
| Gas Temperature - ° F | 230  | 237  | 235  | 234  |
| Oxygen - %            | 19.0 | 19.2 | 19.2 | 19.1 |
| Carbon Dioxide - %    | 1.6  | 1.4  | 1.3  | 1.4  |
| Moisture - %          | 5.0  | 7.3  | 10.1 | 7.5  |

GAS FLOWRATE

|                         |        |        |        |        |
|-------------------------|--------|--------|--------|--------|
| Velocity - ft/sec       | 48.92  | 48.97  | 50.17  | 49.35  |
| Actual Volume - acfm    | 147539 | 147700 | 151305 | 148848 |
| Standard Volume - dscfm | 103312 | 99902  | 99587  | 100934 |

VOC EMISSIONS (as Propane)

|                       |      |      |      |      |
|-----------------------|------|------|------|------|
| Concentration - ppmwv | 6.21 | 6.17 | 6.38 | 6.25 |
| Concentration - ppmv  | 6.54 | 6.65 | 7.10 | 6.76 |
| Mass Rate - lb/hr     | 4.64 | 4.56 | 4.85 | 4.68 |

### 3.0 DISCUSSION OF RESULTS

The back-half sample for test run one of the MDI testing performed on the Press Outlet was broken in shipment to the lab. A total value for the amount of MDI in the sample of test run one was calculated by averaging the back-half values of test runs two and three and adding this value to the front-half value of test run one.

VOC testing was performed on the RTO stack under two sets of conditions. The initial test was conducted on August 30 and 31, 1995 under normal operating conditions with a mix of yellow poplar and less than 10 percent pine. This test was conducted in conjunction with the scrubber inlet, scrubber outlet, and press inlet tests. On September 13, 1995, the RTO was tested for VOC when the plant was processing only pine. No inlet tests were conducted during this later test, and this test was conducted only to evaluate a condition of the permit. VOC emissions when pine was used were higher than when hardwood was used but were still below the permitted limit. A graph of the VOC concentration in ppmv over the three hours the RTO stack was tested on September 13, 1995 is presented in Appendix H.

Two solid samples were taken from the process fuel supply and analyzed for its heating value in BTU. The first sample taken on August 30, 1995 and labeled as McConnell Bin Fuel had a heating value of 8051 BTU/lb. The second sample taken on September 12, 1995 and labeled Konus Bark Fuel had a heating value of 3469 BTU/lb.

More detailed results concerning the solid samples and the facility operating data can be found in Appendix T.

#### 4.0 SAMPLING AND ANALYTICAL PROCEDURES

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

- EPA Method 1 for determination of sampling and traverse points;
- EPA Method 2 for determination of flue gas velocity and volumetric flow rate;
- EPA Methods 3 for determination of flue gas composition and molecular weight (sampling procedure);
- EPA Methods 3A for determination of flue gas composition and molecular weight (analytical procedure);
- EPA Method 4 for determination of flue gas moisture content;
- EPA Method 5/202 for determination of total suspended and condensable particulate emissions;
- EPA Method 6C for determination of sulfur dioxide emissions;
- EPA Method 7E for determination of NO<sub>x</sub> emissions;
- EPA Method 10 for determination of CO emissions;
- BIF Method 0011 for determination of formaldehyde emissions;

- EPA Method 25A for determination of volatile organic compounds (VOCs);
- EPA Method 201A for determination of particulate matter less than 10 microns;
- Draft EPA MACT Method for determination of methyl bisphenyl isocyanate (MDI) emissions.

Appendices J through P contain the raw field data for the testing. Appendices Q through S contain the laboratory data for the testing.

#### 4.1 Sampling Procedures

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

4.1.1.1 Sampling Point Determination - RTO Stack: A total of 24 sampling and traverse points (12 for each of two ports) were utilized for all pollutant sampling with the exception of the PM10 testing, which utilized a total of 12 sampling and traverse points (6 for each of two ports). Figure 1 shows the location of the sampling and traverse points for the RTO stack during all the pollutant sampling except for the PM10 testing. Figure 2 shows the location of the sampling and traverse points for the RTO stack during the PM10 testing.

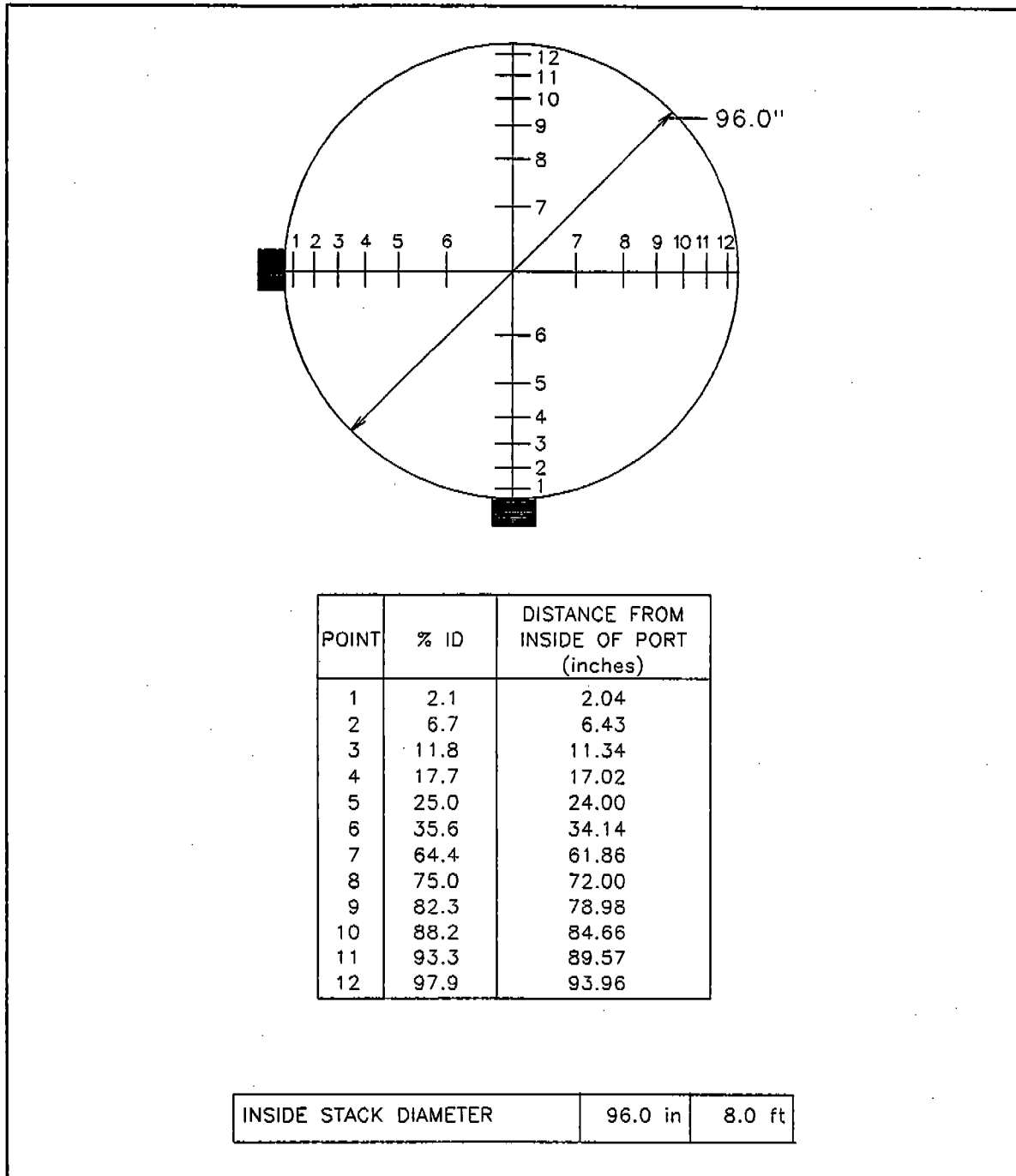


Figure 1 - Sampling and Traverse Points Used for all testing except PM10 at the RTO Stack

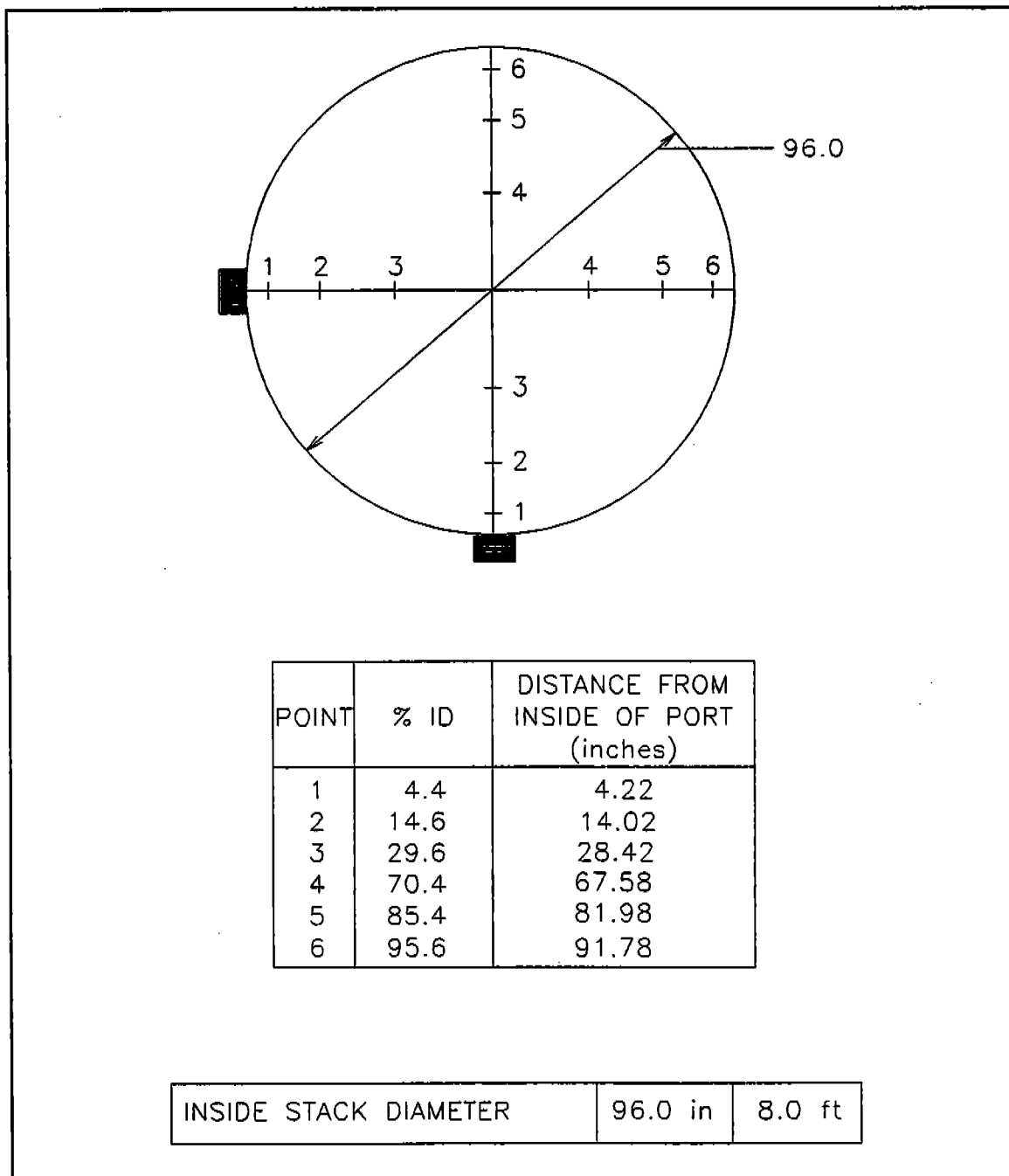


Figure 2 - Sampling and Traverse Points for PM10 Testing at the RTO Stack

4.1.1.2 Sampling Point Determination - Press Outlet: Figure 3 shows the location of the sampling and traverse points for the Press Outlet. A total of 12 sampling and traverse points (6 for each of two ports) were utilized for all pollutant sampling and gas flow rate measurements conducted at the Press Outlet.

4.1.1.3 Sampling Point Determination - Scrubber Inlet and Outlet: Figure 4 shows the location of the sampling and traverse points for the Scrubber Inlet and Outlet. A total of 24 sampling and traverse points (12 for each of two ports) were utilized for all pollutant sampling and gas flow rate measurements conducted at the Scrubber Inlet and Outlet.

4.1.1.4 Sampling Point Determination - Konus Stack: A total of 20 sampling and traverse points (10 for each of two ports) were utilized for all pollutant sampling with the exception of the PM10 testing, which utilized a total of 12 sampling and traverse points (6 for each of two ports). Figure 5 shows the location of the sampling and traverse points for the Konus stack during all pollutant sampling except for PM10 testing. Figure 6 shows the location of the sampling and traverse points for the Konus stack during the PM10 testing.

4.1.2 Volumetric Measurements - EPA Method 2: EPA Reference Method 2 was used to determine the velocity and volumetric flow rates of the stack gases. Stainless steel Type-S pitot tubes were used to measure the gas velocity heads. The pitot tubes were



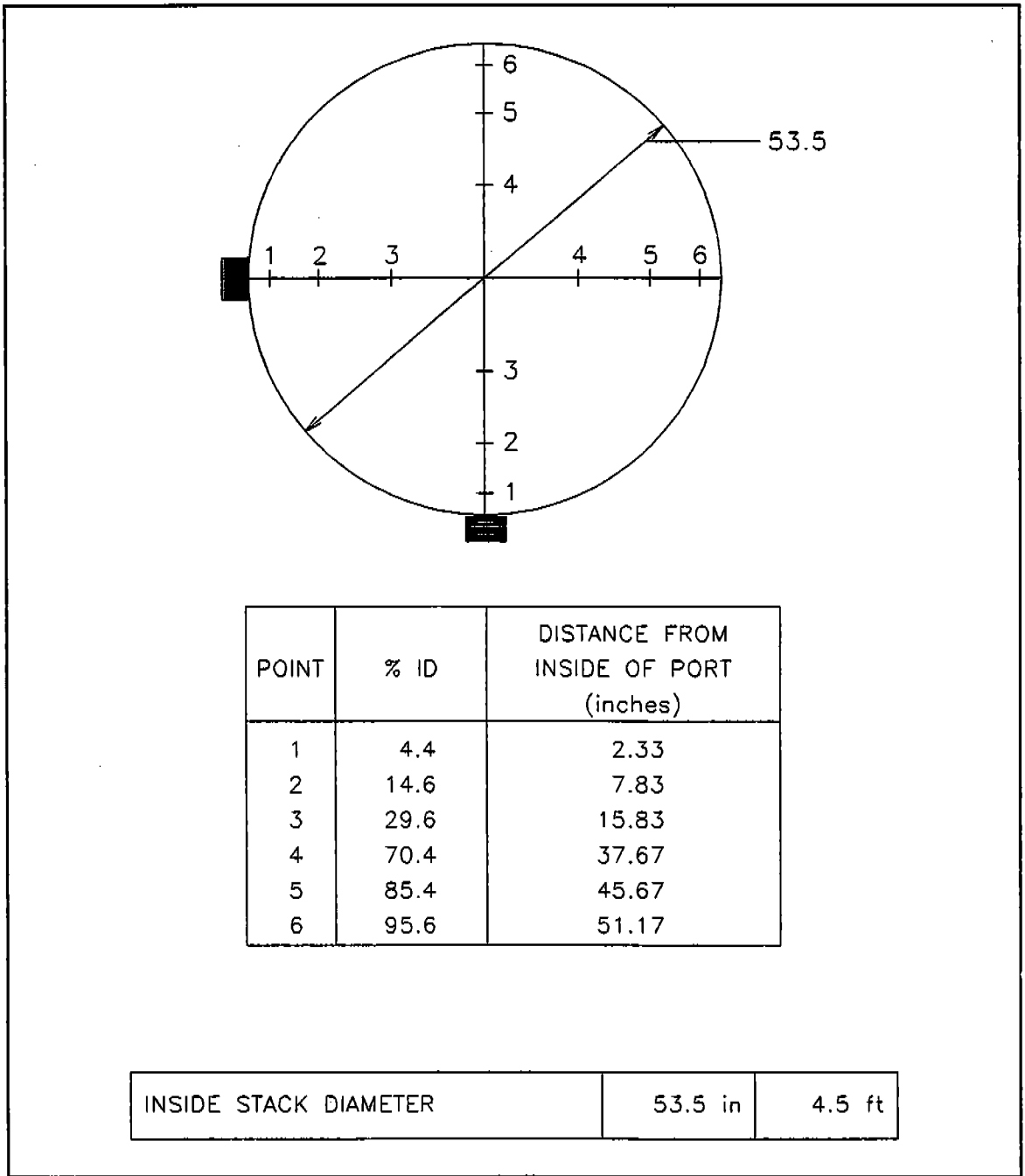


Figure 3 - Sampling and Traverse Points for the Press Outlet

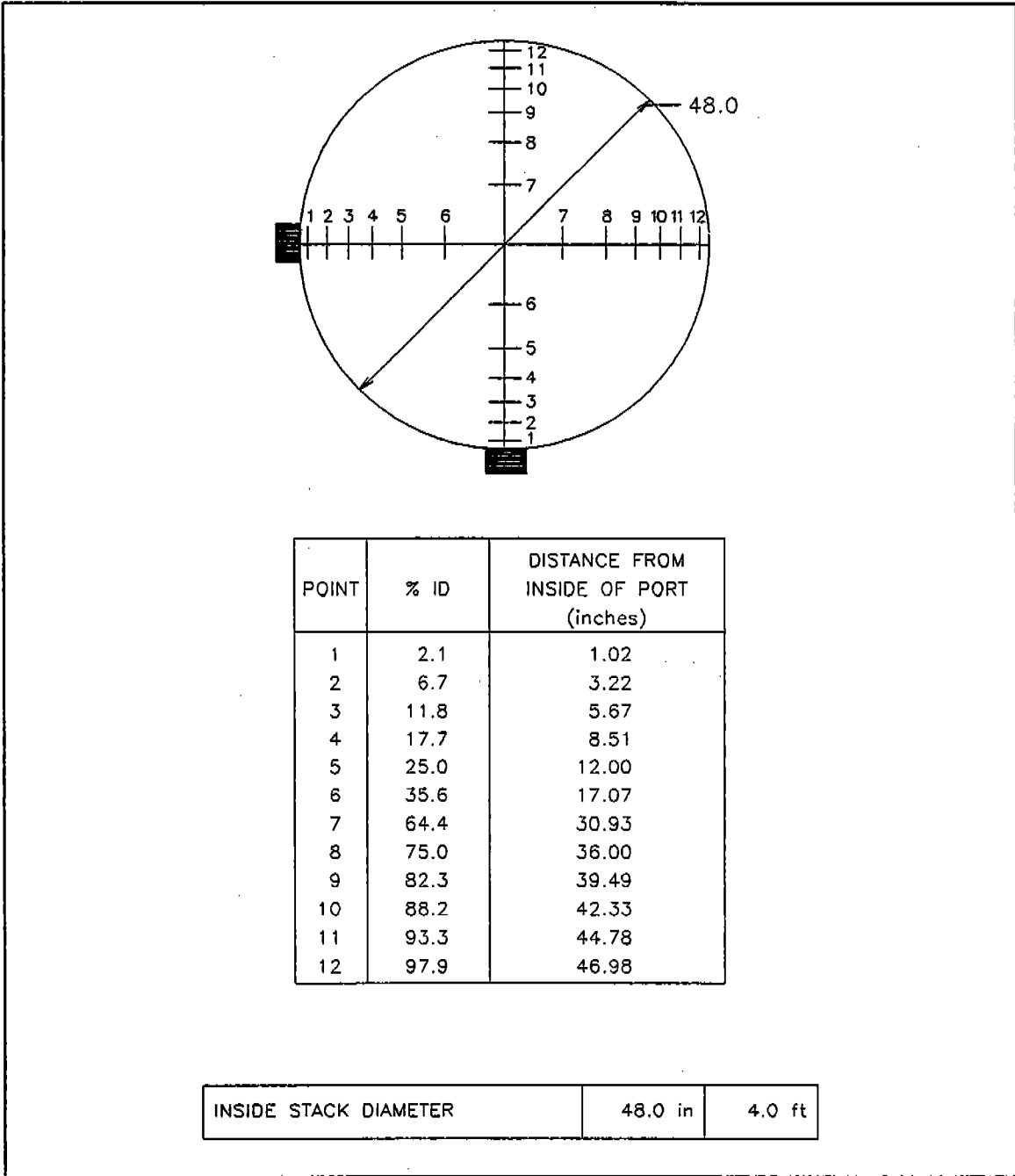


Figure 4 - Sampling and Traverse Points for the Scrubber Inlet and Outlet

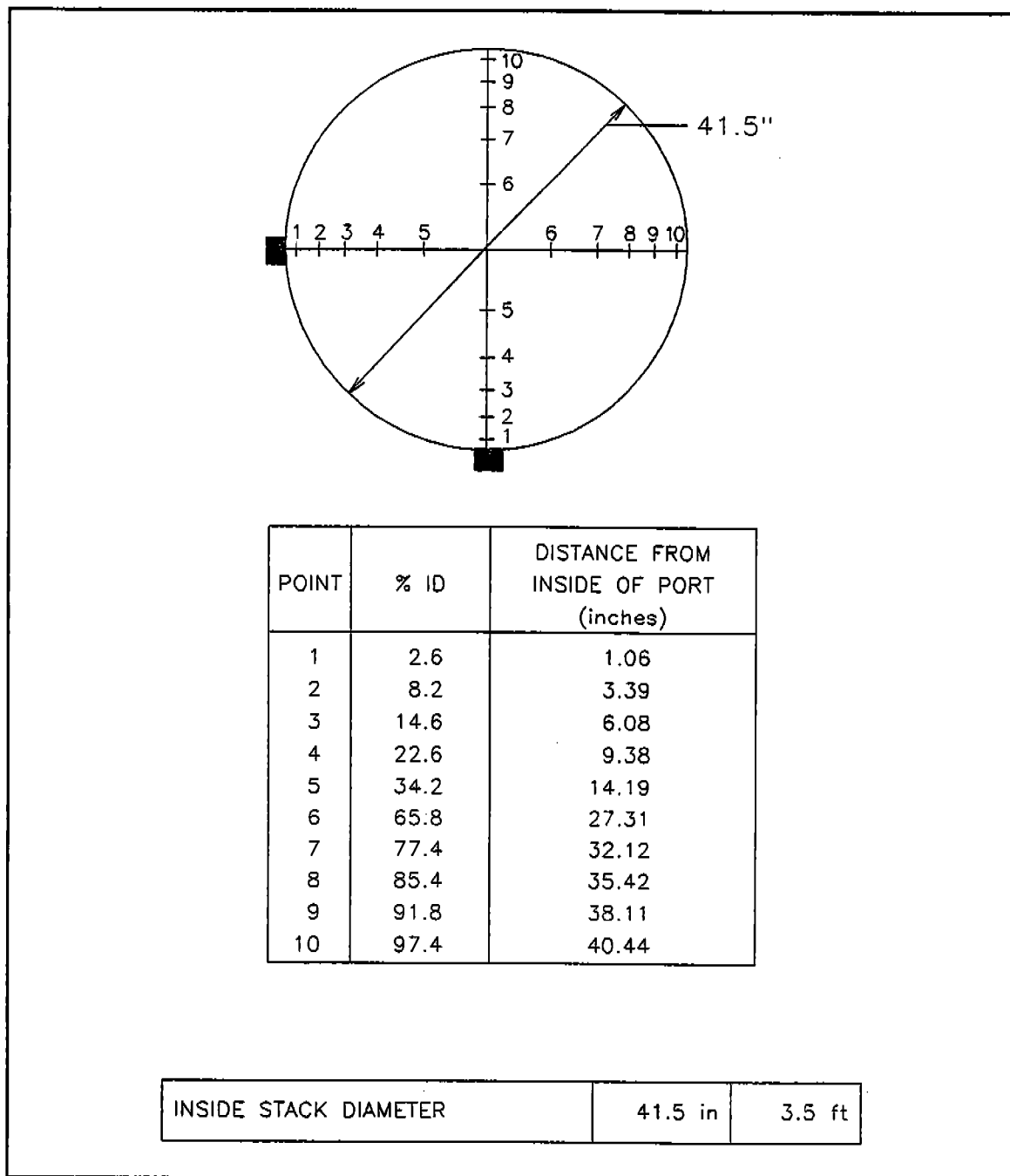


Figure 5 - Sampling and Traverse Points for all Testing except PM10 at the Konus Stack

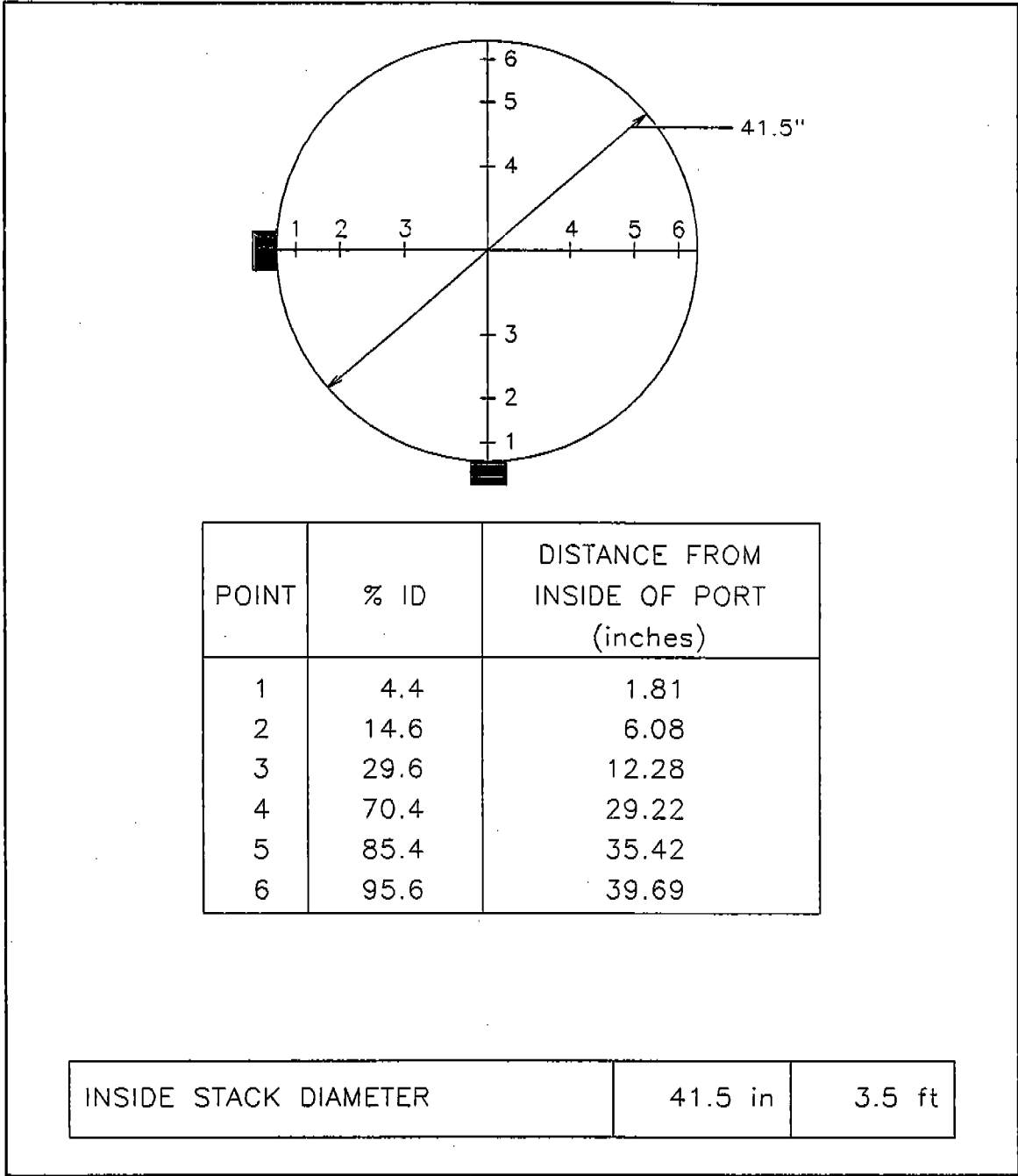


Figure 6 - Sampling and Traverse Points for the PM10 testing at the Konus Stack

calibrated against a NIST traceable pitot tube in accordance with Method 2. Calibrated Type-K thermocouples were used to determine gas temperatures.

Velocity and temperature measurements were made at each of the points traversing the test locations as shown in Figures 1 through 6. These measurements were performed in conjunction with the pollutant sampling described below.

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

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

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

condenser located prior to the pump. Figure 7 shows a schematic of the Method 3 sampling train.

4.1.3.2 Molecular Weight Determination - EPA Method 3A: For sampling performed in conjunction with the continuous emissions testing, gas compositional measurements ( $O_2$  and  $CO_2$ ) for determining the average molecular weight of the stack gases were done instrumentally in accordance with EPA Reference Method 3A. Sampling was done by obtaining integrated gas samples as part of the continuous emissions monitoring discussed in section 4.1.9.

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

4.1.5 Particulate Sampling: Sampling for total particulate was performed in accordance with EPA Method 5 of 40 CFR 60 in conjunction with EPA Method 202 of 40 CFR 51.

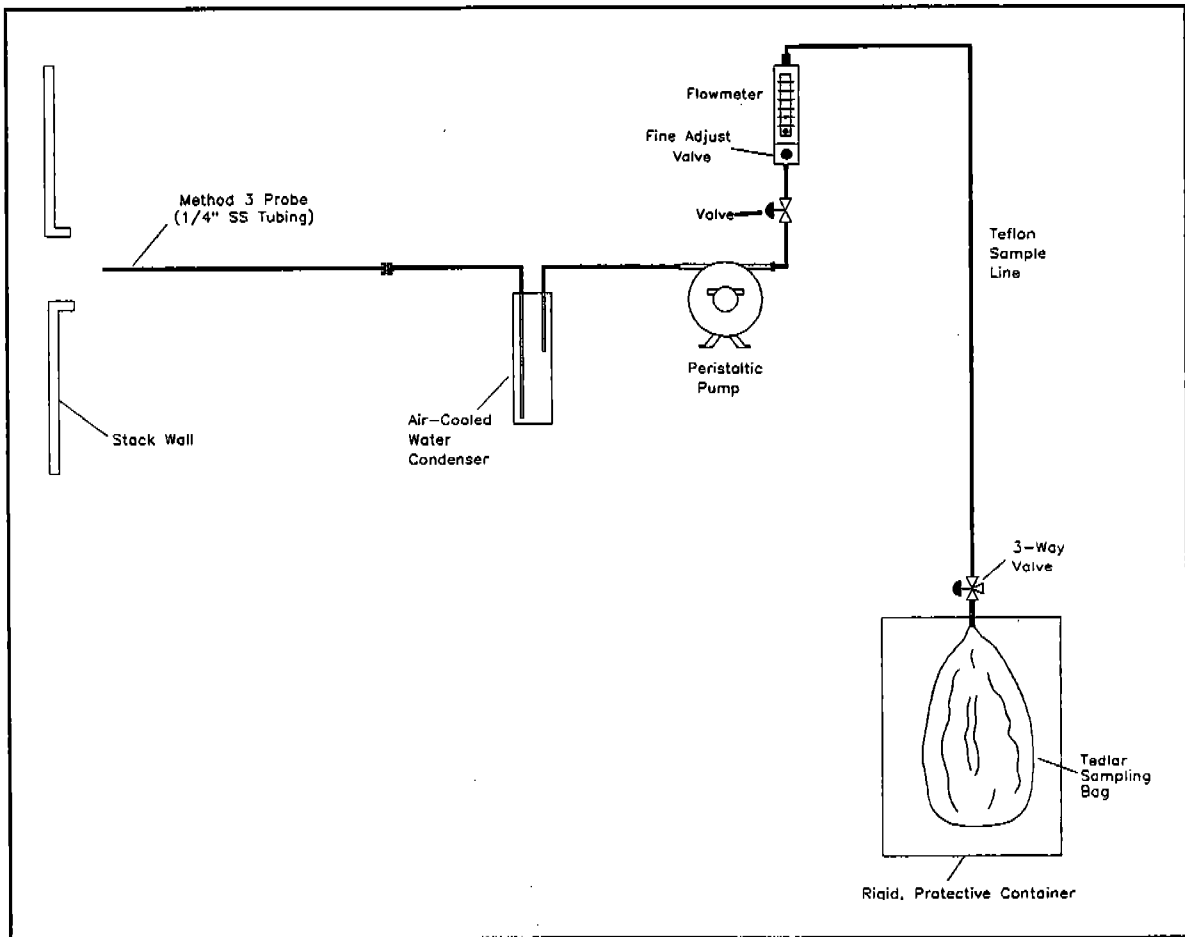


Figure 7 - EPA Method 3 Sampling Train

4.1.5.1 Sampling Train Description: Figure 8 shows the major components of the Method 5 sampling train. A heated stainless steel probe with a quartz liner was used to withdraw the gas sample. The probe was equipped with an appropriately sized integrated quartz nozzle fused directly to the liner for isokinetic gas withdrawal.

From the nozzle and probe, sample gas was pulled through a heated glass fiber filter which is maintained at  $248^{\circ}\text{F} \pm 25^{\circ}\text{F}$  to prevent water condensation. Because of the high particulate concentration, no filter was used at the Scrubber Inlet. Sample gas was subsequently passed through an impinger train consisting of four glass impingers immersed in an ice bath. The first, second, and third impingers each contained 100 milliliters of deionized distilled water except for testing conducted at the Konus stack, where the first two impingers contained 100 milliliters of deionized distilled water and the third was initially empty. The fourth impinger initially contained approximately 200 grams of silica gel.

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



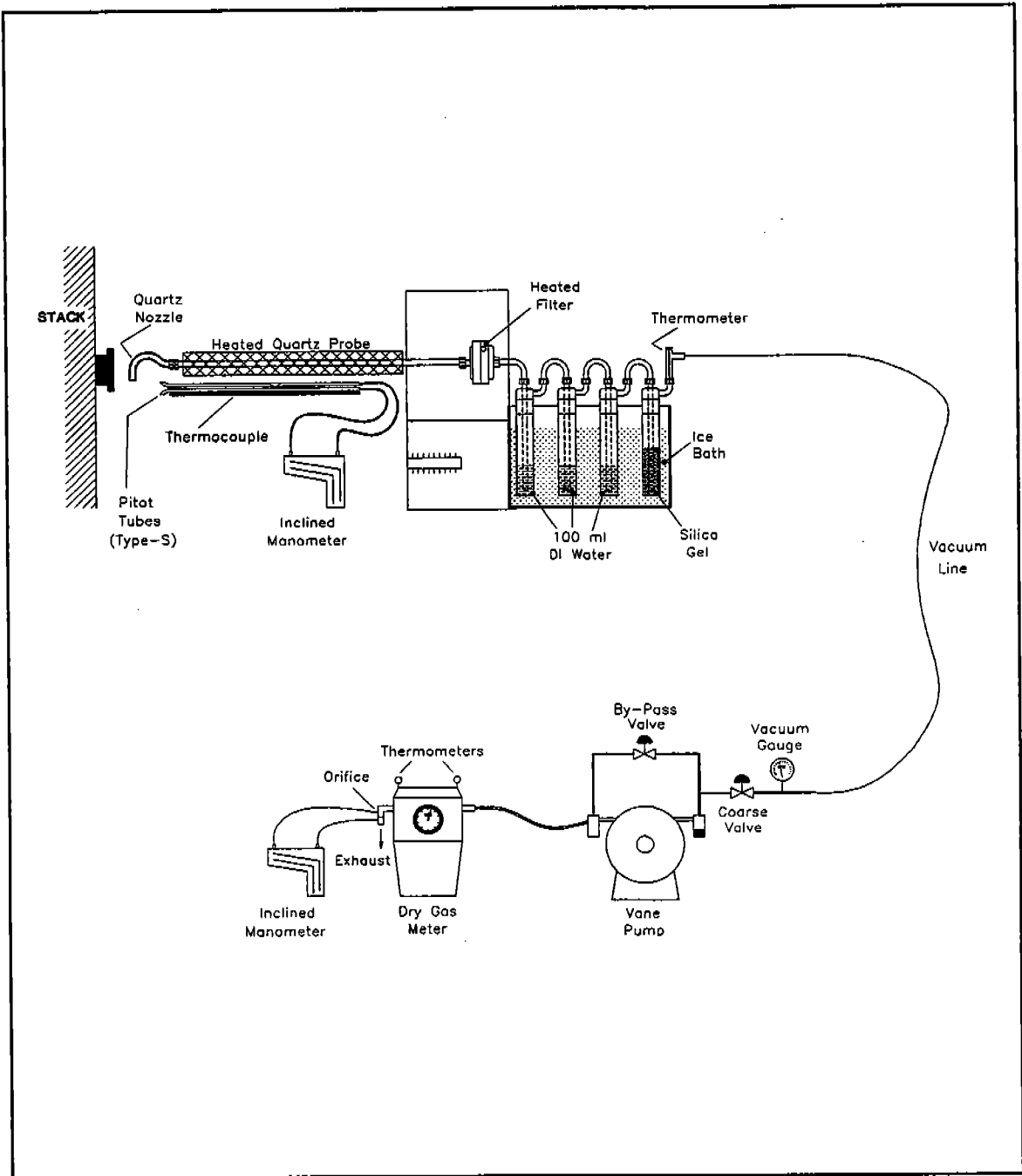


Figure 8 - EPA Method 5/202 Sampling Train

4.1.5.3 Sample Recovery and Clean-Up: Recovery of the front-half of the sampling train (probe plus filter and associated glassware) was performed in accordance with EPA Method 5 procedures. The probe and front-half glassware were rinsed with acetone three times each and brushed between rinses with a Teflon fiber brush. Exposed filters were placed back into their original tared containers.

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

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

The silica gel from the fourth impinger was transferred back to its original Nalgene container. The amount of moisture collected in the sampling train was

quantified in order to determine the stack gas moisture content in accordance with EPA Method 4.

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

4.1.6 PM<sub>10</sub> Sampling - EPA Method 201A: EPA Method 201A was used for determination of PM<sub>10</sub> emissions. This procedure utilized an in-stack PM<sub>10</sub> sizing device and an in-stack filter followed by an impinger train. Gravimetric emissions analyses were performed as described by EPA Method 5.

4.1.6.1 Sampling Train Description: The Method 201A train consisted of a cyclone followed by a 47 mm diameter glass fiber (Gelman) filter. These in-stack components were attached to an unheated stainless steel probe. The Method 201A sampling train is shown in Figure 9.

The stack gases were drawn through the cyclone followed by a Gelman filter. In the cyclone, the airborne particulate is separated into two fractions according to size. The size fraction of the particles that have a 50 percent probability of exiting the cyclone through the Gelman filter are defined as the cyclone cut size ( $D_{50}$ ). The required  $D_{50}$  particle size for a valid test run ranges from 9  $\mu\text{m}$  to 11  $\mu\text{m}$ . After the

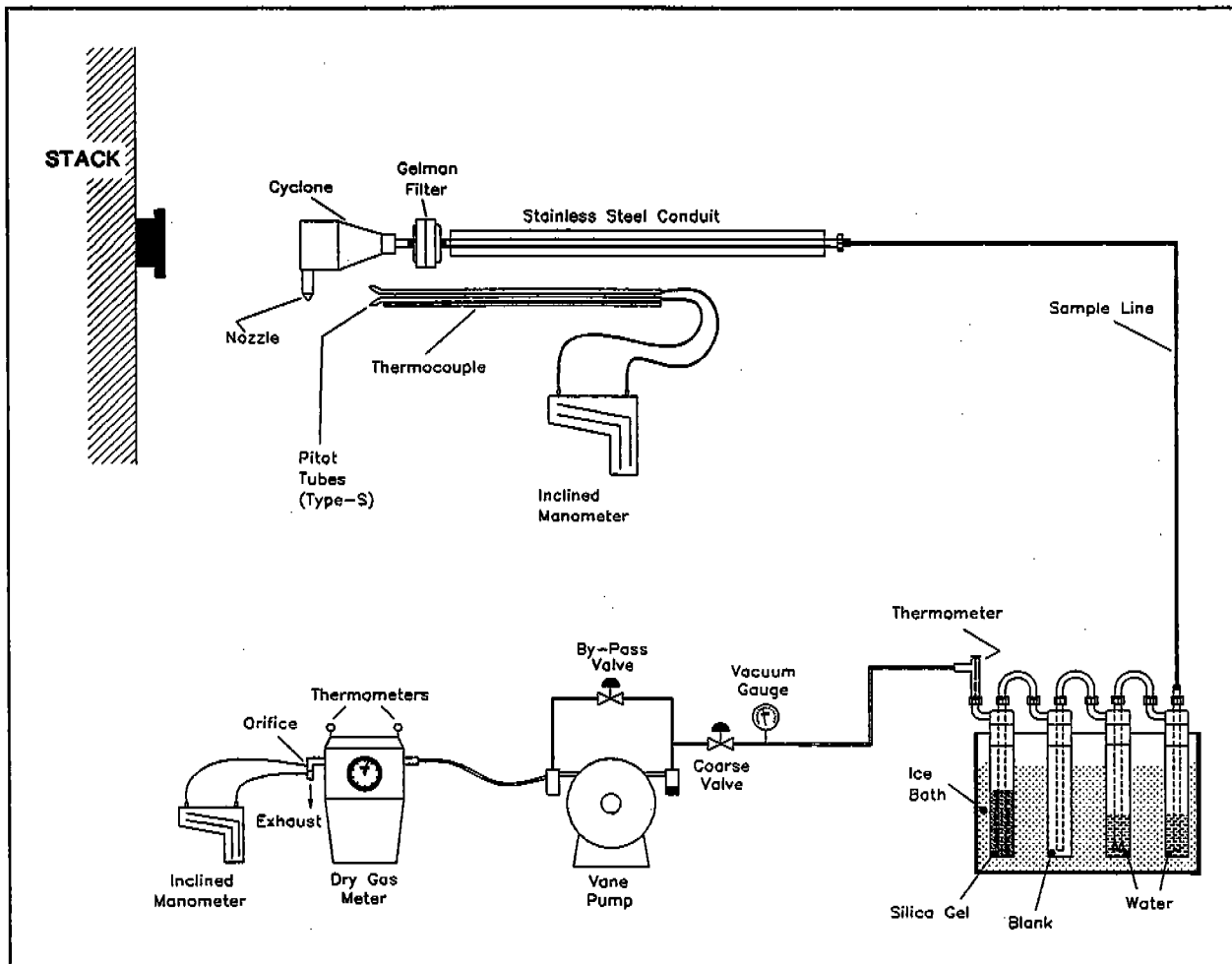


Figure 9 - EPA Method 201A Sampling Train

sample gas passes through the Gelman filter, it then enters a stainless steel conduit which leads into a glass impinger train consisting of four impingers immersed in an ice bath. The first and second impingers each contained 100 milliliters of water. The third impinger was initially empty and the fourth impinger contained approximately 200 grams of color-indicating silica gel.

4.1.6.2 Pre-Test Preparation: Before sampling, a velocity traverse of the stack was performed. This traverse, along with a gas analysis of the stack gas, was used to determine the nozzle diameter(s) needed to maintain a flow rate through the cyclone to achieve a cut size of 10 $\mu$ m. A nozzle was selected by comparing the velocity heads from the velocity traverse with the  $\Delta p_{\min}$  and  $\Delta p_{\max}$  calculated for each nozzle. The nozzle was chosen to bracket all the  $\Delta p$ 's from the velocity traverse. If one nozzle did not meet this criterion, then the nozzle was changed during the sampling run so that the velocity head at that sampling point was within the  $\Delta p_{\min}$  and  $\Delta p_{\max}$  for that nozzle. The details of the calculations are given in Appendix I.

Two additional pretest calculations were also needed. The orifice pressure head needed to maintain the necessary cyclone flow rate was calculated. Also, dwell time for the first traverse point was calculated from the pretest traverse. These calculations are also detailed in Appendix I.

4.1.6.3 Sampling Train Operation: Throughout the sampling run the orifice pressure head was maintained at the pretest calculated value. If the stack gas temperature varied by more than 50°F from the pretest average temperature, then the orifice pressure head was determined using the pretest average  $\pm$  50°F.

Sampling was started at the first traverse point. Sampling time (or dwell time) at this point was determined by the pretest calculations. After moving to the next traverse point, the dwell time at this point was determined by the velocity head at this point. This procedure was repeated for the remainder of the traverse points. All of the 12 traverse points were sampled at the RTO and Konus stacks. The total test duration ranged from approximately 32 minutes to 63 minutes, excluding the time required to change ports. Nozzles were changed as necessary. Filters were also changed as necessary.

4.1.6.4 Sample Train Recovery: During the run, if necessary, and following the run the filters were quantitatively recovered into their original tared and labeled foil wrappers. Following the run, the particulate matter was quantitatively recovered using acetone from all of the surfaces from the cyclone exit to the front half of the in-stack filter holder, including the "turn around" cup inside the cyclone and the interior surfaces of the exit tube. These compounds comprise the PM<sub>10</sub> catch. In addition, the interior surfaces of the nozzle and the cyclone, excluding the "turn round" cup and the interior surfaces of the exit tube, were quantitatively recovered using acetone. These compounds

comprise the larger particulate. All rinses were placed into labeled glass bottles. The filters and rinses were transported to the ETS laboratory for gravimetric analyses as described by EPA Method 5. The impinger water and silica gel were recovered as per EPA Method 4 procedures.

4.1.7 Formaldehyde Determination - BIF Method 0011: Formaldehyde sampling was performed in accordance with the procedures described in 40 CFR 266, Appendix IX, Section 3.5. Appendix D contains all sampling data and results for the BIF Method 0011 test program.

4.1.7.1 Sampling Train Description: A diagram of the BIF Method 0011 sampling train is provided in Figure 10. A heated stainless steel probe with a quartz liner was used to withdraw the gas sample. The probe was equipped with an appropriately sized integrated quartz nozzle fused directly to the liner for isokinetic gas withdrawal. After the probe, effluent gas was drawn into a train of four impingers immersed in an ice bath. The first two impingers initially contained 100 mL of DNPH. The third impinger was left empty and the fourth initially contained approximately 200 grams of silica gel.

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

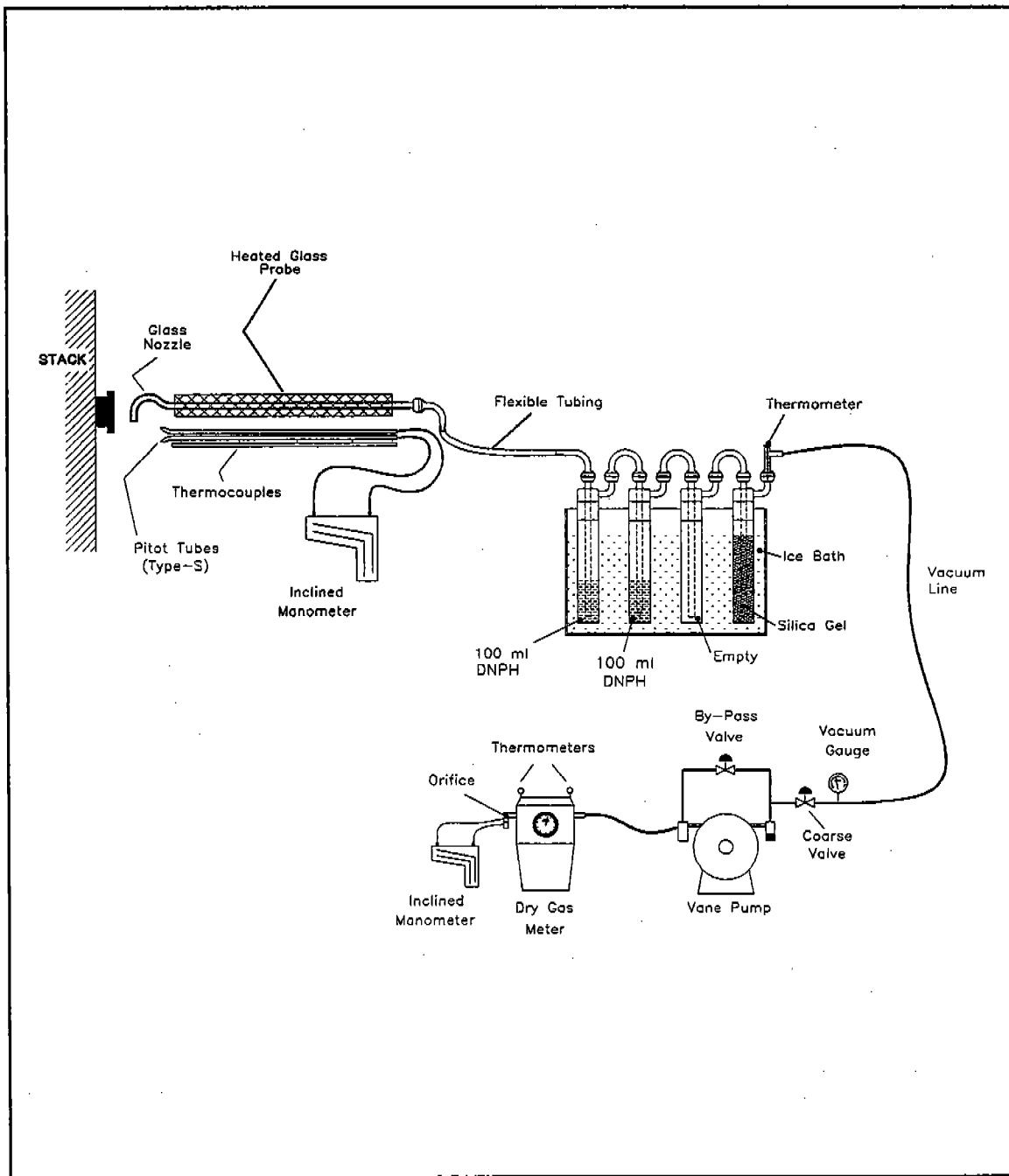


Figure 10 - Sampling Train for BIF Method 0011



excluding the time required to change ports. At the Press Outlet, sampling was conducted for five minutes at each of the 12 traverse points, resulting in a 60-minute test per run, excluding the time required to change ports. At the RTO stack and the Scrubber Inlet and Outlet, sampling was conducted for 2.5 minutes at each of the 24 traverse points, resulting in a 60-minute test per run, excluding the time required to change ports.

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

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

The silica gel from the fourth impinger was transferred back to its original Nalgene container. The amount of moisture collected in the sampling train was

quantified in order to determine the stack gas moisture content in accordance with EPA Method 4.

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

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

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

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

4.1.8.1 Sampling Train Description: Figure 11 illustrates the sampling train for measuring MDI. A heated stainless steel probe with a quartz liner was used to withdraw the gas sample. The probe was equipped with an appropriately sized integrated quartz nozzle fused directly to the liner for isokinetic gas withdrawal.

After the probe, the gases passed into a impinger train consisting of six impingers packed in ice water with a water-cooled glass condenser placed between the first and second impingers. The first impinger contained 300 milliliters of absorbing solution (1-(2-pyridyl) piperazine in toluene). Coolant water maintained at wet-ice temperature was continuously recirculated into the condenser using a submersible water pump. The condenser minimized the evaporation of toluene from the first impinger. The second and third impingers each contained 200 milliliters of absorbing solution. The fourth impinger was initially left empty. The fifth and sixth impinger contained approximately 200 grams of activated charcoal and 200 grams of silica gel, respectively.

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

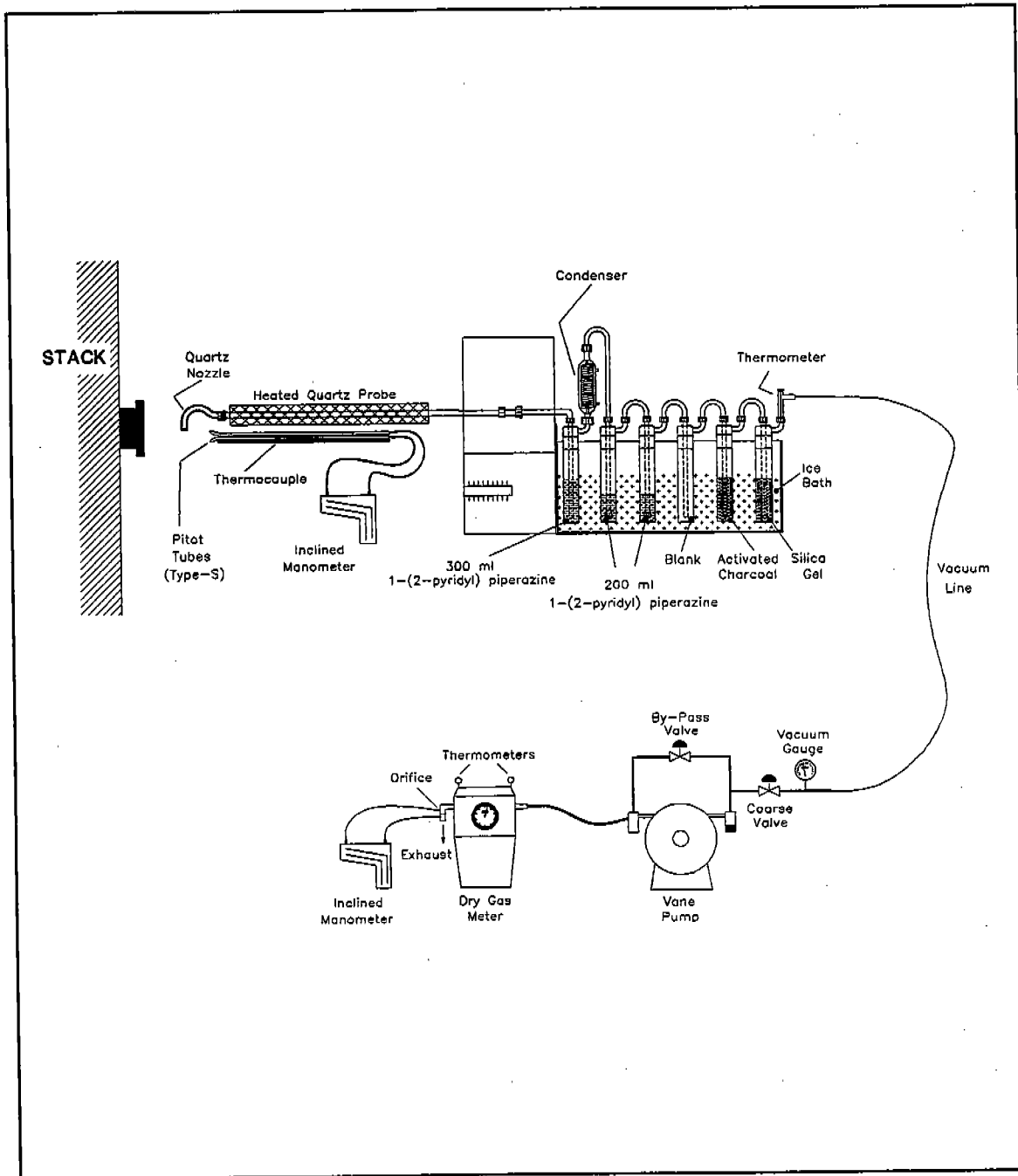


Figure 11 - Sampling Train for MDI

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

At the RTO stack, sampling was performed for 2.5 minutes at each of the 24 traverse points, yielding a 60-minute test per run. At the Press Outlet, sampling was performed for five minutes at each of 12 traverse points, yielding a 60-minute test per run. A minimum sample volume of 35.31 dry standard cubic feet was obtained for each test run.

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

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

- 2) Impinger 1 Recovery: The condensate collected in the first impinger was transferred to a graduated cylinder and the volume recorded. The liquid was then transferred into the amber glass bottle containing the probe rinses. The impinger was rinsed with toluene and then acetonitrile. The rinses were collected into the same bottle.
  
- 3) Impingers 2-4 Recovery: The liquid volumes in impingers two through four were recorded for the Method 4 moisture determination. The liquids were then transferred in a pre-cleaned amber glass bottle fitted with a Teflon-lined screw cap. A toluene rinse followed by an acetonitrile rinse was performed on impingers two through four along with the condenser and any connecting glassware. These rinses were collected in the same amber bottle.
  
- 4) Activated Charcoal: The activated charcoal in the fifth impinger was transferred into its original plastic container and sealed.
  
- 5) Silica Gel: The silica gel in the sixth impinger was transferred into its original plastic container and sealed.

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

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

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

4.1.9 Continuous Monitoring for SO<sub>2</sub>, NO<sub>x</sub>, CO, THC, O<sub>2</sub> and CO<sub>2</sub> -Instrumental

Methods: Instrumental monitoring of the stack gases was performed in accordance with the following procedures:

| <u>GAS</u>      | <u>REFERENCE METHOD</u> | <u>INSTRUMENT TYPE</u>   |
|-----------------|-------------------------|--|
| SO <sub>2</sub> | Method 6C               | Western Research 721M SO <sub>2</sub> Analyzer                     |
| NO <sub>x</sub> | Method 7E               | TECO Model 10AR Chemiluminescence NO <sub>x</sub> Analyzer         |
| CO              | Method 10               | TECO Model 48 NDIR CO Analyzer                                     |
| THC             | Method 25A              | J.U.M. Engineering Model VE7 FID Total Hydrocarbon Analyzer        |
| O <sub>2</sub>  | Method 3A               | Teledyne Model 320A Chemical Cell Portable O <sub>2</sub> Analyzer |
| CO <sub>2</sub> | Method 3A               | FUJI Model 3300 A NDIR CO <sub>2</sub> Analyzer                    |

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

4.1.9.1 Sampling System Description: An integrated, remote instrumental system housing the pollutant gas analyzers as well as the diluent gas (O<sub>2</sub> and CO<sub>2</sub>) monitors was used. Figure 12 outlines the general schematic of the system. The design incorporated two extractive systems - one for the dry analyzers and one for the wet hydrocarbon analyzer. All of the instruments were housed in a trailer located at ground level.

The dry sampling system consisted of a heated stainless steel probe located at the stack port location. A heated glass fiber filter was attached to the probe for rough particulate removal. A short section of heated Teflon sample line was used to deliver the sample to an ice-cooled condenser designed to remove the flue gas moisture. An unheated Teflon sample line was used to transport the dry gas sample from the stack port location down to the instrumental system. The sample gas exiting the Teflon sample line was pumped to the SO<sub>2</sub>, NO<sub>x</sub>, CO, CO<sub>2</sub>, and O<sub>2</sub> monitors.

The sampling system for the hydrocarbon analyzer incorporated a heated stainless steel probe, a heated glass fiber filter, and a heated Teflon sample line. The



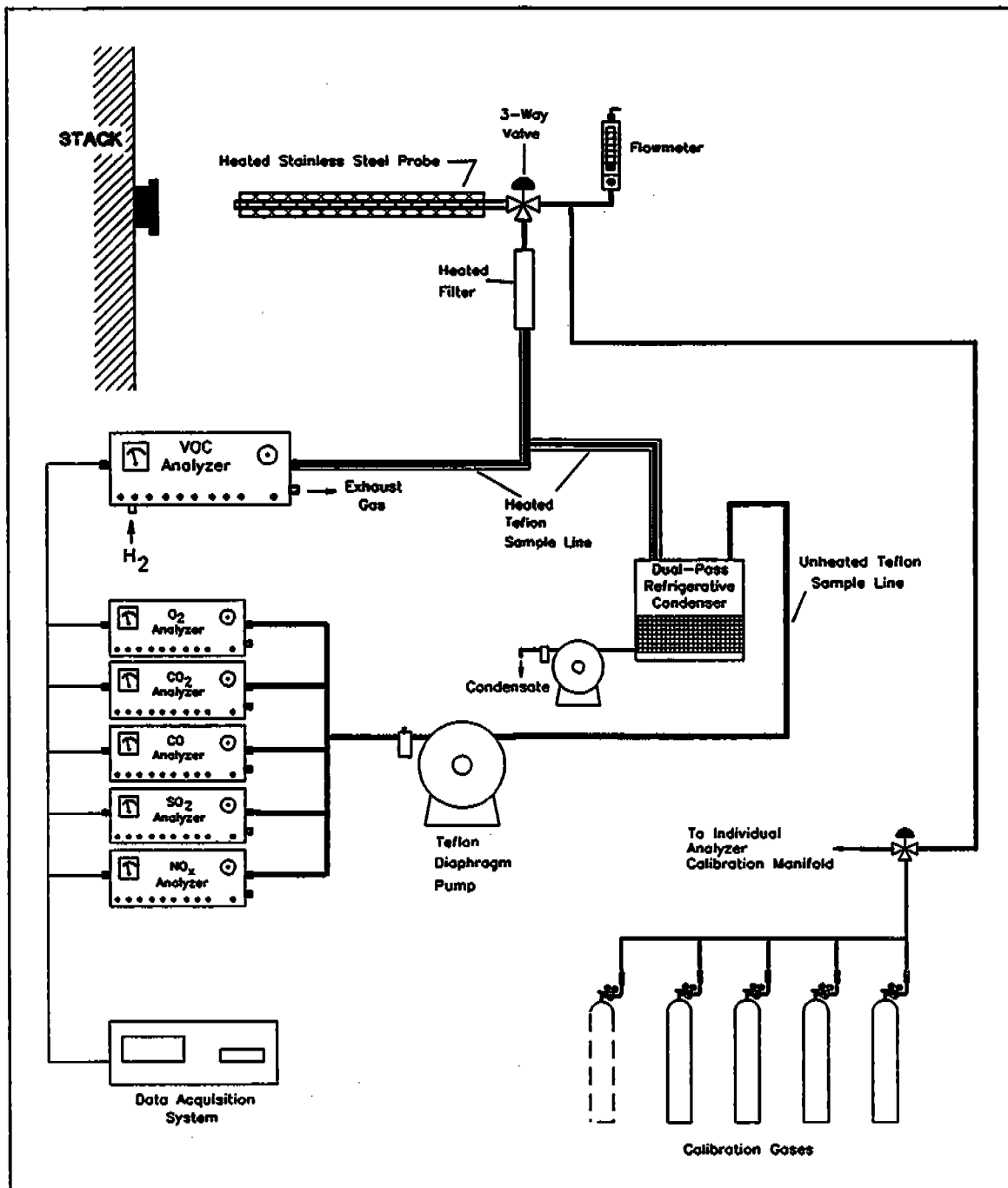


Figure 12 - Continuous Emissions Monitoring System for EPA Methods 3A, 6C, 7E, 10 and 25A.

sample line was heated along its entire length from the stack sampling location to the analyzer.

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

4.1.9.3 Dry System Calibration: At the beginning of each test run, the O<sub>2</sub>, CO<sub>2</sub>, SO<sub>2</sub>, and NO<sub>x</sub> monitors on the dry sampling system were zeroed, using Zero Nitrogen and spanned using a certified calibration gas with a concentration of 80 to 100 percent of the instrument span. Following calibration a mid range gas, 40 to 60 percent of the instrument span, was introduced to each monitor. The mid range response error never exceeded two percent of the instrument span as required by EPA Reference Method 6C.

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

After calibrating the O<sub>2</sub>, CO<sub>2</sub>, SO<sub>2</sub>, and NO<sub>x</sub> monitors, calibration gas was introduced remotely through the probe in order to verify the absence of sampling system bias. The bias error never exceeded five percent of the instrument span as required by EPA Reference Method 6C.

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

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

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

## 4.2 Analytical Procedures

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

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

4.2.3 Particulate Analyses - EPA Method 5 and 202: Particulate matter was determined in accordance with EPA Method 5 and 202 procedures. Appendix Q contains the laboratory data for the analysis.

The filter was desiccated and analyzed gravimetrically to a constant weight. The front-half acetone rinse was evaporated and analyzed gravimetrically to a constant weight. The front-half particulate catch equals the sum of the front half acetone rinse and the filter, in accordance with Method 5. Since no filter was used at the Scrubber Inlet, the contents of the first three impingers were poured through a separatory funnel containing a filter. This filter was then desiccated and analyzed to a constant weight

and was added to the weight of the front-half acetone rinse to determine the front-half particulate catch.

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

The inorganic fraction was evaporated to dryness at 105°C. If the pH of the original impinger solutions was less than 4.5, then the resulting residue was redissolved in 100 milliliters of distilled water, and made basic using concentrated ammonium hydroxide. The resulting solution was evaporated to dryness at 105°C once more, and the residue determined gravimetrically. If the pH of the original solution was greater than 4.5, then the ammonia addition step was omitted.

The back-half condensable particulate catch equals the organic residue plus the inorganic residue plus the combined water removed by the acid-base reaction based on the impinger analysis for sulfate. The total particulate catch equals the front-half probe rinse and filter plus the back-half condensibles.

4.2.4 PM<sub>10</sub> Analyses - EPA Method 201A: Analyses of the glass fiber filters and cyclone acetone rinses from the Method 201A sampling were performed gravimetrically in accordance with EPA Method 5 procedures. The total PM<sub>10</sub> catch included the particulate collected in the acetone rinses from all of the surfaces from the cyclone exit to the front half of the in-stack filter holder, including the "turn around" cup inside the cyclone and the interior surfaces of the exit tube, as well as the particulate collected by the glass fiber filter. Appendix Q contains the analytical data for the gravimetric PM<sub>10</sub> analyses.

4.2.5 Formaldehyde Analyses: The impinger solutions and train rinses from the BIF Method 0011 sampling train were analyzed for formaldehyde using high performance liquid chromatography (HPLC) in accordance with BIF Method 0011A.

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

## 5.0 Data Analysis

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

## 6.0 Equipment Calibration

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





APPENDIX A

TEST LOG



TEST LOG  
LOUISIANA PACIFIC - DUNGANNON, VIRGINIA

| UNIT     | LOCATION | TEST<br>PARAMETER     | TEST<br>METHOD         | RUN ID.                | DATE     | START<br>TIME | END<br>TIME |
|----------|----------|-----------------------|------------------------|------------------------|----------|---------------|-------------|
| SCRUBBER | INLET    | PARTICULATE           | METHOD 5/202           | SI-M5/202-R1           | 08/31/95 | 09:55         | 11:17       |
| SCRUBBER | INLET    | PARTICULATE           | METHOD 5/202           | SI-M5/202-R2           | 08/31/95 | 12:40         | 14:22       |
| SCRUBBER | INLET    | PARTICULATE           | METHOD 5/202           | SI-M5/202-R3           | 08/31/95 | 16:25         | 17:32       |
| SCRUBBER | INLET    | FORMALDEHYDE          | BIF METHOD 0011        | SI-M0011-R1            | 08/30/95 | 09:55         | 11:17       |
| SCRUBBER | INLET    | FORMALDEHYDE          | BIF METHOD 0011        | SI-M0011-R2            | 08/30/95 | 13:25         | 15:10       |
| SCRUBBER | INLET    | FORMALDEHYDE          | BIF METHOD 0011        | SI-M0011-R3            | 08/30/95 | 19:40         | 20:51       |
| SCRUBBER | OUTLET   | PARTICULATE           | METHOD 5/202           | SO-M5/202-R1           | 08/31/95 | 09:55         | 11:17       |
| SCRUBBER | OUTLET   | PARTICULATE           | METHOD 5/202           | SO-M5/202-R2           | 08/31/95 | 12:40         | 14:22       |
| SCRUBBER | OUTLET   | PARTICULATE           | METHOD 5/202           | SO-M5/202-R3           | 08/31/95 | 16:25         | 17:32       |
| SCRUBBER | OUTLET   | FORMALDEHYDE          | BIF METHOD 0011        | SO-M0011-R1            | 08/30/95 | 09:55         | 11:17       |
| SCRUBBER | OUTLET   | FORMALDEHYDE          | BIF METHOD 0011        | SO-M0011-R2            | 08/30/95 | 13:25         | 15:10       |
| SCRUBBER | OUTLET   | FORMALDEHYDE          | BIF METHOD 0011        | SO-M0011-R3            | 08/30/95 | 19:40         | 20:51       |
| SCRUBBER | OUTLET   | O2,CO2,SO2,NOX,CO,VOC | METHOD 3A,6C,7E,10,25A | SO-M3A,6C,7E,10,25A-R1 | 08/30/95 | 09:55         | 11:17       |
| SCRUBBER | OUTLET   | O2,CO2,SO2,NOX,CO,VOC | METHOD 3A,6C,7E,10,25A | SO-M3A,6C,7E,10,25A-R2 | 08/30/95 | 13:25         | 15:10       |
| SCRUBBER | OUTLET   | O2,CO2,SO2,NOX,CO,VOC | METHOD 3A,6C,7E,10,25A | SO-M3A,6C,7E,10,25A-R3 | 08/30/95 | 19:40         | 20:52       |
| PRESS    | OUTLET   | FORMALDEHYDE          | BIF METHOD 0011        | PO-M0011-R1            | 08/30/95 | 09:55         | 11:17       |
| PRESS    | OUTLET   | FORMALDEHYDE          | BIF METHOD 0011        | PO-M0011-R2            | 08/30/95 | 13:25         | 15:11       |
| PRESS    | OUTLET   | FORMALDEHYDE          | BIF METHOD 0011        | PO-M0011-R3            | 08/30/95 | 19:40         | 20:51       |
| PRESS    | OUTLET   | MDI                   | METHOD MDI             | PO-MDI-R1              | 08/30/95 | 09:55         | 11:17       |
| PRESS    | OUTLET   | MDI                   | METHOD MDI             | PO-MDI-R2              | 08/30/95 | 13:25         | 15:10       |
| PRESS    | OUTLET   | MDI                   | METHOD MDI             | PO-MDI-R3              | 08/30/95 | 19:40         | 20:51       |
| PRESS    | OUTLET   | O2,CO2,SO2,NOX,CO,VOC | METHOD 3A,6C,7E,10,25A | PO-M3A,6C,7E,10,25A-R1 | 08/30/95 | 09:55         | 11:17       |
| PRESS    | OUTLET   | O2,CO2,SO2,NOX,CO,VOC | METHOD 3A,6C,7E,10,25A | PO-M3A,6C,7E,10,25A-R2 | 08/30/95 | 13:25         | 15:11       |
| PRESS    | OUTLET   | O2,CO2,SO2,NOX,CO,VOC | METHOD 3A,6C,7E,10,25A | PO-M3A,6C,7E,10,25A-R3 | 08/30/95 | 19:40         | 20:51       |
| RTO      | OUTLET   | PARTICULATE           | METHOD 5/202           | RTO-M5/202-R1          | 08/31/95 | 09:55         | 11:17       |
|          | OUTLET   | PARTICULATE           | METHOD 5/202           | RTO-M5/202-R2          | 08/31/95 | 12:40         | 14:22       |
|          | OUTLET   | PARTICULATE           | METHOD 5/202           | RTO-M5/202-R3          | 08/31/95 | 16:25         | 17:32       |
| RTO      | OUTLET   | PM10                  | METHOD 201A            | RTO-M201A-R1           | 08/31/95 | 09:55         | 11:08       |
|          | OUTLET   | PM10                  | METHOD 201A            | RTO-M201A-R2           | 08/31/95 | 12:40         | 14:12       |
|          | OUTLET   | PM10                  | METHOD 201A            | RTO-M201A-R3           | 08/31/95 | 16:25         | 17:34       |

TEST LOG(continued)  
 LOUISIANA PACIFIC - DUNGANNON, VIRGINIA

| UNIT  | LOCATION | TEST<br>PARAMETER       | TEST<br>METHOD         | RUN I.D.                | DATE     | START<br>TIME | END<br>TIME |
|-------|----------|-------------------------|------------------------|-------------------------|----------|---------------|-------------|
|       |          |                         |                        |                         |          |               |             |
| RTO   | OUTLET   | FORMALDEHYDE            | BIF METHOD 0011        | RTO-M0011-R1            | 08/30/95 | 09:55         | 11:17       |
|       | OUTLET   | FORMALDEHYDE            | BIF METHOD 0011        | RTO-M0011-R2            | 08/30/95 | 13:25         | 15:10       |
|       | OUTLET   | FORMALDEHYDE            | BIF METHOD 0011        | RTO-M0011-R3            | 08/30/95 | 19:40         | 20:51       |
| RTO   | OUTLET   | MDI                     | METHOD MDI             | RTO-MDI-R1              | 08/30/95 | 09:55         | 11:17       |
|       | OUTLET   | MDI                     | METHOD MDI             | RTO-MDI-R2              | 08/30/95 | 13:25         | 15:10       |
|       | OUTLET   | MDI                     | METHOD MDI             | RTO-MDI-R3              | 08/30/95 | 19:40         | 20:51       |
| RTO   | OUTLET   | O2,CO2,SO2,NOX,CO,VOC   | METHOD 3A,6C,7E,10,25A | RTO-M3A,6C,7E,10,25A-R1 | 08/30/95 | 09:55         | 11:17       |
|       | OUTLET   | O2,CO2,SO2,NOX,CO,VOC   | METHOD 3A,6C,7E,10,25A | RTO-M3A,6C,7E,10,25A-R2 | 08/30/95 | 13:25         | 15:11       |
|       | OUTLET   | O2,CO2,SO2,NOX,CO,VOC   | METHOD 3A,6C,7E,10,25A | RTO-M3A,6C,7E,10,25A-R3 | 08/30/95 | 19:40         | 20:51       |
| RTO   | OUTLET   | FLOW, O2, CO2, MOISTURE | METHOD 2, 3, 4         | RTO-M2-4-R1             | 09/13/95 | 11:25         | 12:05       |
|       | OUTLET   | FLOW, O2, CO2, MOISTURE | METHOD 2, 3, 4         | RTO-M2-4-R2             | 09/13/95 | 13:00         | 13:30       |
|       | OUTLET   | FLOW, O2, CO2, MOISTURE | METHOD 2, 3, 4         | RTO-M2-4-R3             | 09/13/95 | 14:12         | 14:42       |
| RTO   | OUTLET   | VOC                     | METHOD 25A             | RTO-M25A-R1             | 09/13/95 | 11:30         | 12:30       |
|       | OUTLET   | VOC                     | METHOD 25A             | RTO-M25A-R2             | 09/13/95 | 12:30         | 13:30       |
|       | OUTLET   | VOC                     | METHOD 25A             | RTO-M25A-R3             | 09/13/95 | 13:30         | 14:30       |
| KONUS | OUTLET   | PARTICULATE             | METHOD 5/202           | KS-M5/202-R1            | 09/13/95 | 09:27         | 10:45       |
|       | OUTLET   | PARTICULATE             | METHOD 5/202           | KS-M5/202-R2            | 09/13/95 | 11:45         | 13:17       |
|       | OUTLET   | PARTICULATE             | METHOD 5/202           | KS-M5/202-R3            | 09/13/95 | 14:20         | 15:32       |
| KONUS | OUTLET   | PM10                    | METHOD 201A            | KS-M201A-R1             | 09/13/95 | 09:27         | 10:46       |
|       | OUTLET   | PM10                    | METHOD 201A            | KS-M201A-R2             | 09/13/95 | 11:45         | 13:15       |
|       | OUTLET   | PM10                    | METHOD 201A            | KS-M201A-R3             | 09/13/95 | 14:20         | 15:27       |
| KONUS | OUTLET   | FORMALDEHYDE            | BIF METHOD 0011        | KS-M0011-R1             | 09/12/95 | 10:10         | 11:45       |
|       | OUTLET   | FORMALDEHYDE            | BIF METHOD 0011        | KS-M0011-R2             | 09/12/95 | 12:25         | 13:40       |
|       | OUTLET   | FORMALDEHYDE            | BIF METHOD 0011        | KS-M0011-R3             | 09/12/95 | 14:06         | 15:14       |
| KONUS | OUTLET   | O2,CO2,SO2,NOX,CO,VOC   | METHOD 3A,6C,7E,10,25A | KS-M3A,6C,7E,10,25A-R1  | 09/12/95 | 10:46         | 11:45       |
|       | OUTLET   | O2,CO2,SO2,NOX,CO,VOC   | METHOD 3A,6C,7E,10,25A | KS-M3A,6C,7E,10,25A-R2  | 09/12/95 | 12:25         | 13:35       |
|       | OUTLET   | O2,CO2,SO2,NOX,CO,VOC   | METHOD 3A,6C,7E,10,25A | KS-M3A,6C,7E,10,25A-R3  | 09/12/95 | 14:06         | 15:14       |

**APPENDIX B**

**DATA AND RESULTS APPENDICES FOR EPA METHOD 5/202 TESTING**



APPENDIX B.1

DATA AND RESULTS FOR EPA METHOD 5/202 TESTING

- SCRUBBER INLET -





RUN NUMBER

SI-M5-R1

Date 08/31/95  
 Start Time 09:55  
 End Time 11:07  
 Stack Diam. 48 inches  
 Nozzle I.D. 0.211 inches  
 Meter Box Gamma 0.99079  
 Meter Box dH@ 1.76407  
 Barometric 28.75 in.Hg  
 Cp 0.84  
 Test Duration 60 minutes

METHOD 4 DATA

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 242.0         | 142.0       |
| IMP.2 | 100.0         | 132.0         | 32.0        |
| IMP.3 | 100.0         | 104.0         | 4.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 300.0         | 478.0         | 178.0       |
| S.G.  | 200.0         | 212.0         | 12.0        |

METHOD 1-4 RESULTS

Metered Volume 44.025 dcf  
 Volume @ Std.Cond. 39.374 dscf  
 % Water 18.51 %  
 % Isokinetics 105.1 %  
 Velocity 68.17 ft/sec  
 Actual Flow 51400 acfm  
 Std. Flow 39689 scfm  
 Dry Std. Flow 32342 dscfm

METHOD 3 DATA

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 17.4 | Md  | 29.11 |
| %CO2   | 2.6  | Ms  | 27.06 |
| %CO    | 0.0  | Ps  | 28.02 |
| %N2    | 80.0 | Fo  | 1.346 |
| O2+CO2 | 20.0 | %EA | 468   |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER            | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|------------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf)  | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 182            | -10.00            | 1.20          | 1.60          | 33.650           | 98                | 96               |
| 2     | 180            | -9.75             | 1.45          | 1.93          | 77.675           | 99                | 96               |
| 3     | 181            |                   | 1.40          | 1.86          |                  | 102               | 97               |
| 4     | 182            |                   | 1.50          | 1.92          |                  | 104               | 98               |
| 5     | 182            |                   | 1.40          | 1.86          |                  | 104               | 98               |
| 6     | 180            |                   | 1.30          | 1.73          |                  | 105               | 98               |
| 7     | 178            |                   | 0.85          | 1.13          |                  | 105               | 98               |
| 8     | 177            |                   | 0.80          | 1.10          |                  | 105               | 98               |
| 9     | 177            |                   | 0.78          | 1.04          |                  | 107               | 99               |
| 10    | 177            |                   | 0.75          | 1.00          |                  | 106               | 99               |
| 11    | 176            |                   | 0.73          | 0.97          |                  | 106               | 99               |
| 12    | 175            |                   | 0.69          | 0.92          |                  | 107               | 100              |
| 13    | 186            |                   | 0.85          | 1.13          |                  | 108               | 101              |
| 14    | 186            |                   | 1.10          | 1.46          |                  | 106               | 101              |
| 15    | 185            |                   | 1.40          | 1.86          |                  | 107               | 102              |
| 16    | 183            |                   | 1.20          | 1.60          |                  | 109               | 102              |
| 17    | 183            |                   | 1.30          | 1.73          |                  | 111               | 102              |
| 18    | 182            |                   | 1.15          | 1.53          |                  | 112               | 102              |
| 19    | 181            |                   | 1.10          | 1.46          |                  | 112               | 104              |
| 20    | 181            |                   | 1.10          | 1.46          |                  | 113               | 104              |
| 21    | 180            |                   | 1.05          | 1.40          |                  | 112               | 104              |
| 22    | 179            |                   | 1.00          | 1.33          |                  | 112               | 104              |
| 23    | 179            |                   | 0.95          | 1.26          |                  | 113               | 104              |
| 24    | 179            |                   | 0.90          | 1.20          |                  | 113               | 105              |
| AVG.  | 180            | -9.88             | 1.08          | 1.44          | 77.675<br>44.025 |                   | 104              |

LOUISIANA PACIFIC  
 SCRUBBER INLET  
 EPA METHOD 202 ANALYTICAL DATA AND RESULTS

**SAMPLING DATA:**

Run Number: SI-M5-R1  
 Corr. Sample Volume: 39.374 dscf  
 Corr. Flowrate: 32342 dscfm  
 O2 Content: 17.4 %  
 CO2 Content: 2.6 %

**SUMMARY:**

| COMPONENT             | NET<br>(grams) | CORRECTED<br>FOR BLANK<br>(grams) |
|-----------------------|----------------|-----------------------------------|
| <i>SUSPENDED PM</i>   |                |                                   |
| Filter                | 0.37220        | 0.37220                           |
| <i>CONDENSIBLE PM</i> |                |                                   |
| Organic CPM           | 0.12620        | 0.12480                           |
| Inorganic CPM         | 0.16210        | 0.15587                           |
| TOTAL CPM             | 0.28830        | 0.28067                           |
| <b>TOTAL PM</b>       | <b>0.66050</b> | <b>0.65287</b>                    |

**ANALYTICAL DATA:**

| FILTERABLE COMPONENTS | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | VOLUME<br>(ml) |
|-----------------------|-----------------|------------------|----------------|----------------|
| Filter                | 0.41230         | 0.78450          | 0.37220        |                |

| CPM COMPONENTS          | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | REAGENT<br>VOLUME<br>(ml) | CONC.<br>(mg/l) |
|-------------------------|-----------------|------------------|----------------|---------------------------|-----------------|
| Volume of Cont.#4       |                 |                  |                | 850.0                     |                 |
| Organic CPM (Uncorr.)   | 67.32150        | 67.44770         | 0.12620        | 350.0                     |                 |
| MeCl2 Blank             | 67.01750        | 67.01810         | 0.00060        | 150.0                     |                 |
| Inorganic CPM (Uncorr.) | 64.22090        | 64.38300         | 0.16210        | 850.0                     |                 |
| H2O Blank               | 66.83840        | 66.84060         | 0.00220        | 300.0                     |                 |
| Inorganic CPM (Corr.)   |                 |                  | 0.16210        |                           |                 |

**PARTICULATE EMISSIONS:**

|                                | FILTERABLE   | CPM          | TOTAL        |
|--------------------------------|--------------|--------------|--------------|
| Actual Grain Loading (gr/dscf) | 0.1459       | 0.1100       | 0.2558       |
| Corrected to 7% O2 (gr/dscf)   | 0.5793       | 0.4368       | 1.0161       |
| Corrected to 12% CO2 (gr/dscf) | 0.6732       | 0.5076       | 1.1808       |
| <b>Mass Rate (lb/hr)</b>       | <b>40.44</b> | <b>30.49</b> | <b>70.93</b> |

RUN NUMBER

SI-M5-R2

Date 08/31/95  
 Start Time 12:40  
 End Time 14:22  
 Stack Diam. 48 inches  
 Nozzle I.D. 0.211 inches  
 Meter Box Gamma 0.99079  
 Meter Box dH@ 1.76407  
 Barometric 28.75 in.Hg  
 Cp 0.84  
 Test Duration 60 minutes

METHOD 4 DATA

|       | INIT. | FINAL | NET   |
|-------|-------|-------|-------|
|       | (ml)  | (ml)  | (ml)  |
| IMP.1 | 100.0 | 240.0 | 140.0 |
| IMP.2 | 100.0 | 129.0 | 29.0  |
| IMP.3 | 100.0 | 101.0 | 1.0   |
| IMP.4 |       |       | 0.0   |
| IMP.5 |       |       | 0.0   |
| IMP.6 |       |       | 0.0   |
| IMP.7 |       |       | 0.0   |
| TOTAL | 300.0 | 470.0 | 170.0 |
| S.G.  | 200.0 | 210.0 | 10.0  |

METHOD 1-4 RESULTS

Metered Volume 43.573 dcf  
 Volume @ Std.Cond. 38.282 dscf  
 % Water 18.12 %  
 % Isokinetics 102.5 %  
 Velocity 67.66 ft/sec  
 Actual Flow 51011 acfm  
 Std. Flow 39382 scfm  
 Dry Std. Flow 32244 dscfm

METHOD 3 DATA

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 17.4 | Md  | 29.10 |
| %CO2   | 2.6  | Ms  | 27.09 |
| %CO    | 0.0  | Ps  | 28.03 |
| %N2    | 80.1 | Fo  | 1.373 |
| O2+CO2 | 20.0 | %EA | 466   |

| POINT | STACK  | STATIC  | DP      | DH      | METER             | METER  | TEMPERATURE |
|-------|--------|---------|---------|---------|-------------------|--------|-------------|
|       | TEMP   |         |         |         | VOLUME            | INLET  | OUTLET      |
|       | (DegF) | (in.WC) | (in.WC) | (in.WC) | (dcf)             | (DegF) | (DegF)      |
| 1     | 183    | -10.00  | 1.10    | 1.47    | 78.937            | 110    | 109         |
| 2     | 182    | -9.50   | 1.25    | 1.65    | 122.510           | 111    | 109         |
| 3     | 182    |         | 1.40    | 1.96    |                   | 111    | 109         |
| 4     | 182    |         | 1.50    | 2.05    |                   | 111    | 109         |
| 5     | 182    |         | 1.40    | 1.96    |                   | 112    | 109         |
| 6     | 180    |         | 1.40    | 1.96    |                   | 112    | 109         |
| 7     | 179    |         | 1.30    | 1.73    |                   | 113    | 110         |
| 8     | 179    |         | 0.85    | 1.13    |                   | 113    | 110         |
| 9     | 179    |         | 0.76    | 1.01    |                   | 114    | 110         |
| 10    | 178    |         | 0.76    | 1.01    |                   | 114    | 110         |
| 11    | 175    |         | 0.70    | 0.93    |                   | 115    | 110         |
| 12    | 175    |         | 0.62    | 0.83    |                   | 115    | 112         |
| 13    | 185    |         | 0.80    | 1.06    |                   | 117    | 113         |
| 14    | 185    |         | 1.05    | 1.40    |                   | 118    | 114         |
| 15    | 184    |         | 1.30    | 1.73    |                   | 118    | 114         |
| 16    | 183    |         | 1.15    | 1.83    |                   | 118    | 114         |
| 17    | 182    |         | 1.20    | 1.59    |                   | 119    | 115         |
| 18    | 181    |         | 1.15    | 1.53    |                   | 119    | 115         |
| 19    | 181    |         | 1.00    | 1.33    |                   | 119    | 115         |
| 20    | 181    |         | 1.00    | 1.33    |                   | 119    | 115         |
| 21    | 181    |         | 1.00    | 1.33    |                   | 120    | 115         |
| 22    | 181    |         | 1.10    | 1.46    |                   | 120    | 115         |
| 23    | 180    |         | 0.95    | 1.26    |                   | 121    | 116         |
| 24    | 179    |         | 0.85    | 1.10    |                   | 121    | 117         |
| AVG.  | 181    | -9.75   | 1.07    | 1.44    | 122.510<br>43.573 |        | 114         |

LOUISIANA PACIFIC  
 SCRUBBER INLET  
 EPA METHOD 202 ANALYTICAL DATA AND RESULTS

**SAMPLING DATA:**

Run Number: **SI-M5-R2**  
 Corr. Sample Volume: **38.282 dscf**  
 Corr. Flowrate: **32244 dscfm**  
 O2 Content: **17.4 %**  
 CO2 Content: **2.6 %**

**SUMMARY:**

| COMPONENT             | NET<br>(grams) | CORRECTED<br>FOR BLANK<br>(grams) |
|-----------------------|----------------|-----------------------------------|
| <b>SUSPENDED PM</b>   |                |                                   |
| Filter                | 0.39860        | 0.39860                           |
| <b>CONDENSIBLE PM</b> |                |                                   |
| Organic CPM           | 0.03310        | 0.03190                           |
| Inorganic CPM         | 0.09290        | 0.08799                           |
| TOTAL CPM             | 0.12600        | 0.11989                           |
| <b>TOTAL PM</b>       | <b>0.52460</b> | <b>0.51849</b>                    |

**ANALYTICAL DATA:**

| FILTERABLE COMPONENTS | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | VOLUME<br>(ml) |
|-----------------------|-----------------|------------------|----------------|----------------|
| Filter                | 0.41260         | 0.81120          | 0.39860        |                |

| CPM COMPONENTS          | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | REAGENT<br>VOLUME<br>(ml) | CONC.<br>(mg/l) |
|-------------------------|-----------------|------------------|----------------|---------------------------|-----------------|
| Volume of Cont.#4       |                 |                  |                | 670.0                     |                 |
| Organic CPM (Uncorr.)   | 66.62190        | 66.65500         | 0.03310        | 300.0                     |                 |
| MeCl2 Blank             | 67.01750        | 67.01810         | 0.00060        | 150.0                     |                 |
| Inorganic CPM (Uncorr.) | 66.96230        | 67.05520         | 0.09290        | 670.0                     |                 |
| H2O Blank               | 66.83840        | 66.84060         | 0.00220        | 300.0                     |                 |
| Inorganic CPM (Corr.)   |                 |                  | 0.09290        |                           |                 |

**PARTICULATE EMISSIONS:**

|                                | FILTERABLE   | CPM          | TOTAL        |
|--------------------------------|--------------|--------------|--------------|
| Actual Grain Loading (gr/dscf) | 0.1607       | 0.0483       | 0.2090       |
| Corrected to 7% O2 (gr/dscf)   | 0.6381       | 0.1919       | 0.8300       |
| Corrected to 12% CO2 (gr/dscf) | 0.7561       | 0.2274       | 0.9835       |
| <b>Mass Rate (lb/hr)</b>       | <b>44.40</b> | <b>13.36</b> | <b>57.76</b> |

RUN NUMBER

SI-M5-R3

Date 08/31/95

Start Time 16:25

End Time 17:32

Stack Diam. 48 inches

Nozzle I.D. 0.211 inches

Meter Box Gamma 0.99079

Meter Box dH@ 1.76407

Barometric 28.75 in.Hg

Cp 0.84

Test Duration 60 minutes

METHOD 4 DATA

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 253.0         | 153.0       |
| IMP.2 | 100.0         | 122.0         | 22.0        |
| IMP.3 | 100.0         | 108.0         | 8.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 300.0         | 483.0         | 183.0       |
| S.G.  | 210.0         | 211.1         | 1.1         |

METHOD 1-4 RESULTS

Metered Volume 46.042 dcf

Volume @ Std.Cond. 40.063 dscf

% Water 17.78 %

% Isokinetics 105.6 %

Velocity 68.72 ft/sec

Actual Flow 51817 acfm

Std. Flow 39812 scfm

Dry Std. Flow 32732 dscfm

METHOD 3 DATA

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 17.6 | Md  | 29.09 |
| %CO2   | 2.4  | Ms  | 27.12 |
| %CO    | 0.0  | Ps  | 28.01 |
| %N2    | 80.0 | Fo  | 1.375 |
| O2+CO2 | 20.0 | %EA | 500   |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER             | METER           | TEMPERATURE      |
|-------|----------------|-------------------|---------------|---------------|-------------------|-----------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf)   | INLET<br>(DegF) | OUTLET<br>(DegF) |
| 1     | 184            | -10.00            | 1.10          | 1.51          | 125.882           | 116             | 115              |
| 2     | 184            | -10.00            | 1.50          | 2.10          | 171.924           | 117             | 114              |
| 3     | 184            |                   | 1.45          | 1.99          |                   | 118             | 115              |
| 4     | 183            |                   | 1.40          | 1.92          |                   | 120             | 115              |
| 5     | 183            |                   | 1.40          | 1.92          |                   | 121             | 115              |
| 6     | 182            |                   | 1.25          | 1.71          |                   | 122             | 115              |
| 7     | 180            |                   | 0.90          | 1.23          |                   | 123             | 115              |
| 8     | 180            |                   | 0.90          | 1.23          |                   | 122             | 115              |
| 9     | 178            |                   | 0.82          | 1.12          |                   | 123             | 115              |
| 10    | 177            |                   | 0.75          | 1.03          |                   | 123             | 115              |
| 11    | 177            |                   | 0.74          | 1.01          |                   | 123             | 115              |
| 12    | 177            |                   | 0.71          | 0.97          |                   | 123             | 116              |
| 13    | 187            |                   | 1.00          | 1.37          |                   | 118             | 116              |
| 14    | 187            |                   | 1.20          | 1.64          |                   | 121             | 116              |
| 15    | 187            |                   | 1.45          | 1.99          |                   | 123             | 117              |
| 16    | 187            |                   | 1.30          | 1.78          |                   | 123             | 116              |
| 17    | 187            |                   | 1.25          | 1.71          |                   | 124             | 117              |
| 18    | 186            |                   | 1.15          | 1.58          |                   | 126             | 118              |
| 19    | 186            |                   | 1.10          | 1.51          |                   | 126             | 118              |
| 20    | 186            |                   | 1.15          | 1.58          |                   | 126             | 119              |
| 21    | 186            |                   | 1.00          | 1.37          |                   | 127             | 120              |
| 22    | 186            |                   | 1.00          | 1.37          |                   | 127             | 120              |
| 23    | 185            |                   | 0.90          | 1.23          |                   | 127             | 120              |
| 24    | 184            |                   | 0.85          | 1.17          |                   | 128             | 121              |
| AVG.  | 183            | -10.00            | 1.09          | 1.50          | 171.924<br>46.042 |                 | 120              |

LOUISIANA PACIFIC  
 SCRUBBER INLET  
 EPA METHOD 202 ANALYTICAL DATA AND RESULTS

**SAMPLING DATA:**

Run Number: **SI-M5-R3**  
 Corr. Sample Volume: 40.063 dscf  
 Corr. Flowrate: 32732 dscfm  
 O2 Content: 17.6 %  
 CO2 Content: 2.4 %

**SUMMARY:**

| COMPONENT             | NET<br>(grams) | CORRECTED<br>FOR BLANK<br>(grams) |
|-----------------------|----------------|-----------------------------------|
| <b>SUSPENDED PM</b>   |                |                                   |
| Filter                | 0.73330        | 0.73330                           |
| <b>CONDENSIBLE PM</b> |                |                                   |
| Organic CPM           | 0.05690        | 0.05570                           |
| Inorganic CPM         | 0.17390        | 0.16862                           |
| TOTAL CPM             | 0.23080        | 0.22432                           |
| <b>TOTAL PM</b>       | <b>0.96410</b> | <b>0.95762</b>                    |

**ANALYTICAL DATA:**

| FILTERABLE COMPONENTS | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | VOLUME<br>(ml) |
|-----------------------|-----------------|------------------|----------------|----------------|
| Filter                | 0.82280         | 1.55610          | 0.73330        |                |

| CPM COMPONENTS          | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | REAGENT<br>VOLUME<br>(ml) | CONC.<br>(mg/l) |
|-------------------------|-----------------|------------------|----------------|---------------------------|-----------------|
| Volume of Cont.#4       |                 |                  |                | 720.0                     |                 |
| Organic CPM (Uncorr.)   | 64.91790        | 64.97480         | 0.05690        | 300.0                     |                 |
| MeCl2 Blank             | 67.01750        | 67.01810         | 0.00060        | 150.0                     |                 |
| Inorganic CPM (Uncorr.) | 67.27180        | 67.44570         | 0.17390        | 720.0                     |                 |
| H2O Blank               | 66.83840        | 66.84060         | 0.00220        | 300.0                     |                 |
| Inorganic CPM (Corr.)   |                 |                  | 0.17390        |                           |                 |

**PARTICULATE EMISSIONS:**

|                                | FILTERABLE   | CPM          | TOTAL         |
|--------------------------------|--------------|--------------|---------------|
| Actual Grain Loading (gr/dscf) | 0.2824       | 0.0864       | 0.3688        |
| Corrected to 7% O2 (gr/dscf)   | 1.1896       | 0.3639       | 1.5535        |
| Corrected to 12% CO2 (gr/dscf) | 1.4121       | 0.4320       | 1.8441        |
| <b>Mass Rate (lb/hr)</b>       | <b>79.24</b> | <b>24.24</b> | <b>103.48</b> |

APPENDIX B.2

DATA AND RESULTS FOR EPA METHOD 5/202 TESTING

- SCRUBBER OUTLET -





**RUN NUMBER**

**SO-M5-R1**

Date 08/31/95  
 Start Time 09:55  
 End Time 11:17  
 Stack Diam. 48 inches  
 Nozzle I.D. 0.211 inches  
 Meter Box Gamma 1.0058  
 Meter Box dH@ 1.7581  
 Barometric 28.75 in.Hg  
 Cp 0.835  
 Test Duration 60 minutes

**METHOD 4 DATA**

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 94.0          | 238.0         | 144.0       |
| IMP.2 | 100.0         | 136.0         | 36.0        |
| IMP.3 | 100.0         | 102.0         | 2.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 294.0         | 476.0         | 182.0       |
| S.G.  | 200.0         | 211.0         | 11.0        |

**METHOD 1-4 RESULTS**

Metered Volume 46.380 dcf  
 Volume @ Std.Cond. 42.423 dscf  
 % Water 17.64 %  
 % Isokinetics 98.8 %  
 Velocity 72.65 ft/sec  
 Actual Flow 54778 acfm  
 Std. Flow 44991 scfm  
 Dry Std. Flow 37055 dscfm

**METHOD 3 DATA**

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 17.9 | Md  | 29.18 |
| %CO2   | 2.9  | Ms  | 27.21 |
| %CO    | 0.0  | Ps  | 28.59 |
| %N2    | 79.2 | Fo  | 1.034 |
| O2+CO2 | 20.8 | %EA | 595   |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER             | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|-------------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf)   | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 152            | -2.20             | 0.72          | 0.97          | 877.925           | 94                | 94               |
| 2     | 154            | -2.20             | 0.89          | 1.20          | 924.305           | 94                | 94               |
| 3     | 154            |                   | 0.96          | 1.30          |                   | 95                | 94               |
| 4     | 154            |                   | 1.10          | 1.50          |                   | 96                | 94               |
| 5     | 154            |                   | 1.30          | 1.74          |                   | 98                | 95               |
| 6     | 154            |                   | 1.60          | 2.14          |                   | 99                | 95               |
| 7     | 154            |                   | 1.80          | 2.40          |                   | 100               | 96               |
| 8     | 155            |                   | 1.70          | 2.30          |                   | 102               | 96               |
| 9     | 154            |                   | 1.70          | 2.30          |                   | 102               | 96               |
| 10    | 154            |                   | 1.60          | 2.14          |                   | 103               | 96               |
| 11    | 154            |                   | 1.30          | 1.74          |                   | 104               | 97               |
| 12    | 156            |                   | 0.79          | 1.00          |                   | 104               | 97               |
| 13    | 153            |                   | 1.10          | 1.50          |                   | 100               | 99               |
| 14    | 154            |                   | 1.60          | 2.14          |                   | 102               | 99               |
| 15    | 154            |                   | 1.60          | 2.14          |                   | 102               | 99               |
| 16    | 154            |                   | 1.80          | 2.40          |                   | 104               | 100              |
| 17    | 154            |                   | 1.90          | 2.50          |                   | 105               | 100              |
| 18    | 154            |                   | 1.80          | 2.40          |                   | 105               | 100              |
| 19    | 154            |                   | 1.60          | 2.14          |                   | 107               | 101              |
| 20    | 155            |                   | 1.40          | 1.80          |                   | 107               | 101              |
| 21    | 156            |                   | 1.30          | 1.74          |                   | 108               | 101              |
| 22    | 155            |                   | 0.97          | 1.26          |                   | 109               | 102              |
| 23    | 155            |                   | 0.87          | 1.00          |                   | 109               | 103              |
| 24    | 155            |                   | 0.76          | 1.00          |                   | 109               | 103              |
| AVG.  | 154            | -2.20             | 1.34          | 1.78          | 924.305<br>46.380 | 100               |                  |

LOUISIANA PACIFIC  
 SCRUBBER OUTLET  
 EPA METHOD 5/202 ANALYTICAL DATA AND RESULTS

**SAMPLING DATA:**

Run Number: **SO-M5-R1**  
 Corr. Sample Volume: 42.423 dscf  
 Corr. Flowrate: 37055 dscfm  
 O2 Content: 17.9 %  
 CO2 Content: 2.9 %

**SUMMARY:**

| COMPONENT             | NET<br>(grams) | CORRECTED<br>FOR BLANK<br>(grams) |
|-----------------------|----------------|-----------------------------------|
| <i>SUSPENDED PM</i>   |                |                                   |
| Probe Wash            | 0.00350        | 0.00260                           |
| Filter                | 0.10630        | 0.10630                           |
| <i>CONDENSIBLE PM</i> |                |                                   |
| Organic CPM           | 0.00810        | 0.00726                           |
| Inorganic CPM         | 0.01090        | 0.00650                           |
| TOTAL CPM             | 0.01900        | 0.01376                           |
| <b>TOTAL PM</b>       | <b>0.12880</b> | <b>0.12266</b>                    |

**ANALYTICAL DATA:**

| METHOD 5 COMPONENTS      | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | VOLUME<br>(ml) |
|--------------------------|-----------------|------------------|----------------|----------------|
| Acetone Probe Wash       | 64.45940        | 64.46290         | 0.00350        | 115.0          |
| Acetone Blank Residue    | 64.57250        | 64.57410         | 0.00160        | 125.0          |
| Applicable Acetone Blank |                 |                  | 0.00147        |                |
| Max. Allowable Blank     |                 |                  | 0.00090        |                |
| Filter                   | 0.41060         | 0.51690          | 0.10630        |                |

| METHOD 202 COMPONENTS   | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | REAGENT<br>VOLUME<br>(ml) | CONC.<br>(mg/l) |
|-------------------------|-----------------|------------------|----------------|---------------------------|-----------------|
| Volume of Cont.#4       |                 |                  |                | 600.0                     |                 |
| Organic CPM (Uncorr.)   | 64.96070        | 64.96880         | 0.00810        | 210.0                     |                 |
| MeCl2 Blank             | 67.01750        | 67.01810         | 0.00060        | 150.0                     |                 |
| Inorganic CPM (Uncorr.) | 66.86740        | 66.87830         | 0.01090        | 600.0                     |                 |
| H2O Blank               | 66.83840        | 66.84060         | 0.00220        | 300.0                     |                 |
| Inorganic CPM (Corr.)   |                 |                  | 0.01090        |                           |                 |

**PARTICULATE EMISSIONS:**

|                                | FILTERABLE   | CPM         | TOTAL        |
|--------------------------------|--------------|-------------|--------------|
| Actual Grain Loading (gr/dscf) | 0.0396       | 0.0050      | 0.0446       |
| Corrected to 7% O2 (gr/dscf)   | 0.1835       | 0.0232      | 0.2067       |
| Corrected to 12% CO2 (gr/dscf) | 0.1639       | 0.0207      | 0.1846       |
| <b>Mass Rate (lb/hr)</b>       | <b>12.58</b> | <b>1.59</b> | <b>14.17</b> |

**RUN NUMBER**

**SO-M5-R2**

Date 08/31/95  
 Start Time 12:40  
 End Time 14:22  
 Stack Diam. 48 inches  
 Nozzle I.D. 0.211 inches  
 Meter Box Gamma 1.0058  
 Meter Box dH@ 1.7581  
 Barometric 28.75 in.Hg  
 Cp 0.835  
 Test Duration 60 minutes

**METHOD 4 DATA**

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 242.0         | 142.0       |
| IMP.2 | 100.0         | 120.0         | 20.0        |
| IMP.3 | 84.0          | 86.0          | 2.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 284.0         | 448.0         | 164.0       |
| S.G.  | 211.0         | 218.5         | 7.5         |

**METHOD 1-4 RESULTS**

Metered Volume 45.035 dcf  
 Volume @ Std.Cond. 40.368 dscf  
 % Water 16.67 %  
 % Isokinetics 95.1 %  
 Velocity 70.80 ft/sec  
 Actual Flow 53384 acfm  
 Std. Flow 43947 scfm  
 Dry Std. Flow 36623 dscfm

**METHOD 3 DATA**

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 18.1 | Md  | 29.12 |
| %CO2   | 2.5  | Ms  | 27.27 |
| %CO    | 0.0  | Ps  | 28.59 |
| %N2    | 79.4 | Fo  | 1.120 |
| O2+CO2 | 20.6 | %EA | 633   |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER             | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|-------------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf)   | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 155            | -2.20             | 0.82          | 1.00          | 924.485           | 107               | 106              |
| 2     | 153            | -2.20             | 0.87          | 1.10          | 969.520           | 107               | 106              |
| 3     | 151            |                   | 0.94          | 1.20          |                   | 108               | 107              |
| 4     | 154            |                   | 1.00          | 1.24          |                   | 109               | 108              |
| 5     | 153            |                   | 1.20          | 1.50          |                   | 109               | 108              |
| 6     | 154            |                   | 1.50          | 1.90          |                   | 110               | 108              |
| 7     | 154            |                   | 1.70          | 2.15          |                   | 112               | 108              |
| 8     | 152            |                   | 1.70          | 2.15          |                   | 110               | 109              |
| 9     | 151            |                   | 1.50          | 1.90          |                   | 111               | 109              |
| 10    | 151            |                   | 1.30          | 1.60          |                   | 112               | 110              |
| 11    | 151            |                   | 1.00          | 1.24          |                   | 113               | 110              |
| 12    | 150            |                   | 0.74          | 0.93          |                   | 114               | 110              |
| 13    | 154            |                   | 1.40          | 1.76          |                   | 110               | 110              |
| 14    | 153            |                   | 1.50          | 1.90          |                   | 111               | 110              |
| 15    | 154            |                   | 1.60          | 2.00          |                   | 113               | 111              |
| 16    | 154            |                   | 1.80          | 2.26          |                   | 114               | 111              |
| 17    | 155            |                   | 1.90          | 2.40          |                   | 115               | 111              |
| 18    | 155            |                   | 1.80          | 2.26          |                   | 117               | 111              |
| 19    | 153            |                   | 1.50          | 1.90          |                   | 117               | 112              |
| 20    | 153            |                   | 1.20          | 1.50          |                   | 118               | 112              |
| 21    | 153            |                   | 1.20          | 1.50          |                   | 118               | 112              |
| 22    | 152            |                   | 0.94          | 1.18          |                   | 118               | 112              |
| 23    | 152            |                   | 0.89          | 1.10          |                   | 119               | 112              |
| 24    | 151            |                   | 0.68          | 0.85          |                   | 119               | 113              |
| AVG.  | 153            | -2.20             | 1.28          | 1.61          | 969.520<br>45.035 | 111               |                  |

LOUISIANA PACIFIC  
 SCRUBBER OUTLET  
 EPA METHOD 5/202 ANALYTICAL DATA AND RESULTS

**SAMPLING DATA:**

Run Number: SO-M5-R2  
 Corr. Sample Volume: 40.368 dscf  
 Corr. Flowrate: 36623 dscfm  
 O2 Content: 18.1 %  
 CO2 Content: 2.5 %

**SUMMARY:**

| COMPONENT             | NET<br>(grams) | CORRECTED<br>FOR BLANK<br>(grams) |
|-----------------------|----------------|-----------------------------------|
| <i>SUSPENDED PM</i>   |                |                                   |
| Probe Wash            | 0.00670        | 0.00564                           |
| Filter                | 0.09760        | 0.09760                           |
| <i>CONDENSIBLE PM</i> |                |                                   |
| Organic CPM           | 0.00400        | 0.00324                           |
| Inorganic CPM         | 0.00600        | 0.00109                           |
| TOTAL CPM             | 0.01000        | 0.00433                           |
| <b>TOTAL PM</b>       | <b>0.11430</b> | <b>0.10757</b>                    |

**ANALYTICAL DATA:**

| METHOD 5 COMPONENTS      | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | VOLUME<br>(ml) |
|--------------------------|-----------------|------------------|----------------|----------------|
| Acetone Probe Wash       | 67.81360        | 67.82030         | 0.00670        | 135.0          |
| Acetone Blank Residue    | 64.57250        | 64.57410         | 0.00160        | 125.0          |
| Applicable Acetone Blank |                 |                  | 0.00173        |                |
| Max. Allowable Blank     |                 |                  | 0.00106        |                |
| Filter                   | 0.41080         | 0.50840          | 0.09760        |                |

| METHOD 202 COMPONENTS   | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | REAGENT<br>VOLUME<br>(ml) | CONC.<br>(mg/l) |
|-------------------------|-----------------|------------------|----------------|---------------------------|-----------------|
| Volume of Cont.#4       |                 |                  |                | 670.0                     |                 |
| Organic CPM (Uncorr.)   | 65.00220        | 65.00620         | 0.00400        | 190.0                     |                 |
| MeCl2 Blank             | 67.01750        | 67.01810         | 0.00060        | 150.0                     |                 |
| Inorganic CPM (Uncorr.) | 66.26140        | 66.26740         | 0.00600        | 670.0                     |                 |
| H2O Blank               | 66.83840        | 66.84060         | 0.00220        | 300.0                     |                 |
| Inorganic CPM (Corr.)   |                 |                  | 0.00600        |                           |                 |

**PARTICULATE EMISSIONS:**

|                                | FILTERABLE | CPM    | TOTAL  |
|--------------------------------|------------|--------|--------|
| Actual Grain Loading (gr/dscf) | 0.0395     | 0.0017 | 0.0411 |
| Corrected to 7% O2 (gr/dscf)   | 0.1959     | 0.0082 | 0.2041 |
| Corrected to 12% CO2 (gr/dscf) | 0.1894     | 0.0079 | 0.1974 |
| Mass Rate (lb/hr)              | 12.39      | 0.52   | 12.91  |

RUN NUMBER

SO-M5-R3

Date 08/31/95  
 Start Time 16:25  
 End Time 17:32  
 Stack Diam. 48 inches  
 Nozzle I.D. 0.211 inches  
 Meter Box Gamma 1.0058  
 Meter Box dH@ 1.7581  
 Barometric 28.75 in.Hg  
 Cp 0.835  
 Test Duration 60 minutes

METHOD 4 DATA

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 275.0         | 175.0       |
| IMP.2 | 100.0         | 128.0         | 28.0        |
| IMP.3 | 100.0         | 102.0         | 2.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 300.0         | 505.0         | 205.0       |
| S.G.  | 210.7         | 218.8         | 8.1         |

METHOD 1-4 RESULTS

Metered Volume 46.025 dcf  
 Volume @ Std.Cond. 41.010 dscf  
 % Water 19.65 %  
 % Isokinetics 101.4 %  
 Velocity 70.45 ft/sec  
 Actual Flow 53122 acfm  
 Std. Flow 43433 scfm  
 Dry Std. Flow 34897 dscfm

METHOD 3 DATA

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 18.2 | Md  | 29.13 |
| %CO2   | 2.5  | Ms  | 26.94 |
| %CO    | 0.0  | Ps  | 28.58 |
| %N2    | 79.3 | Fo  | 1.080 |
| O2+CO2 | 20.7 | %EA | 665   |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER           | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|-----------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf) | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 157            | -2.40             | 0.68          | 0.97          | 969.775         | 111               | 111              |
| 2     | 158            | -2.20             | 0.80          | 1.10          | 1015.800        | 111               | 111              |
| 3     | 158            |                   | 0.88          | 1.25          |                 | 112               | 111              |
| 4     | 158            |                   | 1.10          | 1.57          |                 | 112               | 111              |
| 5     | 158            |                   | 1.20          | 1.70          |                 | 114               | 112              |
| 6     | 159            |                   | 1.40          | 2.00          |                 | 115               | 112              |
| 7     | 159            |                   | 1.60          | 2.28          |                 | 116               | 112              |
| 8     | 157            |                   | 1.50          | 2.15          |                 | 117               | 112              |
| 9     | 157            |                   | 1.60          | 2.28          |                 | 118               | 112              |
| 10    | 156            |                   | 1.20          | 1.70          |                 | 118               | 112              |
| 11    | 156            |                   | 1.00          | 1.40          |                 | 119               | 113              |
| 12    | 155            |                   | 0.94          | 1.30          |                 | 120               | 113              |
| 13    | 156            |                   | 1.30          | 1.80          |                 | 114               | 112              |
| 14    | 157            |                   | 1.60          | 2.28          |                 | 116               | 113              |
| 15    | 157            |                   | 1.60          | 2.28          |                 | 117               | 114              |
| 16    | 156            |                   | 1.70          | 2.40          |                 | 118               | 114              |
| 17    | 156            |                   | 1.80          | 2.50          |                 | 119               | 114              |
| 18    | 156            |                   | 1.60          | 2.28          |                 | 120               | 114              |
| 19    | 157            |                   | 1.40          | 2.00          |                 | 120               | 114              |
| 20    | 156            |                   | 1.20          | 1.70          |                 | 121               | 114              |
| 21    | 157            |                   | 1.20          | 1.70          |                 | 120               | 115              |
| 22    | 156            |                   | 0.90          | 1.28          |                 | 121               | 115              |
| 23    | 156            |                   | 0.87          | 1.24          |                 | 121               | 115              |
| 24    | 157            |                   | 0.68          | 0.97          |                 | 121               | 115              |
|       |                |                   |               |               | 1015.800        |                   |                  |
| AVG.  | 157            | -2.30             | 1.24          | 1.76          | 46.025          | 115               |                  |

LOUISIANA PACIFIC  
 SCRUBBER OUTLET  
 EPA METHOD 5/202 ANALYTICAL DATA AND RESULTS

**SAMPLING DATA:**

Run Number: SO-M5-R3  
 Corr. Sample Volume: 41.010 dscf  
 Corr. Flowrate: 34897 dscfm  
 O2 Content: 18.2 %  
 CO2 Content: 2.5 %

**SUMMARY:**

| COMPONENT             | NET (grams)    | CORRECTED FOR BLANK (grams) |
|-----------------------|----------------|-----------------------------|
| <i>SUSPENDED PM</i>   |                |                             |
| Probe Wash            | 0.00300        | 0.00214                     |
| Filter                | 0.13899        | 0.13899                     |
| <i>CONDENSIBLE PM</i> |                |                             |
| Organic CPM           | 0.00610        | 0.00526                     |
| Inorganic CPM         | 0.00770        | 0.00286                     |
| TOTAL CPM             | 0.01380        | 0.00812                     |
| <b>TOTAL PM</b>       | <b>0.15579</b> | <b>0.14925</b>              |

**ANALYTICAL DATA:**

| METHOD 5 COMPONENTS      | TARE (grams) | FINAL (grams) | NET (grams) | VOLUME (ml) |
|--------------------------|--------------|---------------|-------------|-------------|
| Acetone Probe Wash       | 67.21800     | 67.22100      | 0.00300     | 110.0       |
| Acetone Blank Residue    | 64.57250     | 64.57410      | 0.00160     | 125.0       |
| Applicable Acetone Blank |              |               | 0.00141     |             |
| Max. Allowable Blank     |              |               | 0.00086     |             |
| Filter                   | 0.40801      | 0.54700       | 0.13899     |             |

| METHOD 202 COMPONENTS   | TARE (grams) | FINAL (grams) | NET (grams) | REAGENT VOLUME (ml) | CONC. (mg/l) |
|-------------------------|--------------|---------------|-------------|---------------------|--------------|
| Volume of Cont.#4       |              |               |             | 660.0               |              |
| Organic CPM (Uncorr.)   | 67.36500     | 67.37110      | 0.00610     | 210.0               |              |
| MeCl2 Blank             | 67.01750     | 67.01810      | 0.00060     | 150.0               |              |
| Inorganic CPM (Uncorr.) | 66.64450     | 66.65220      | 0.00770     | 660.0               |              |
| H2O Blank               | 66.83840     | 66.84060      | 0.00220     | 300.0               |              |
| Inorganic CPM (Corr.)   |              |               | 0.00770     |                     |              |

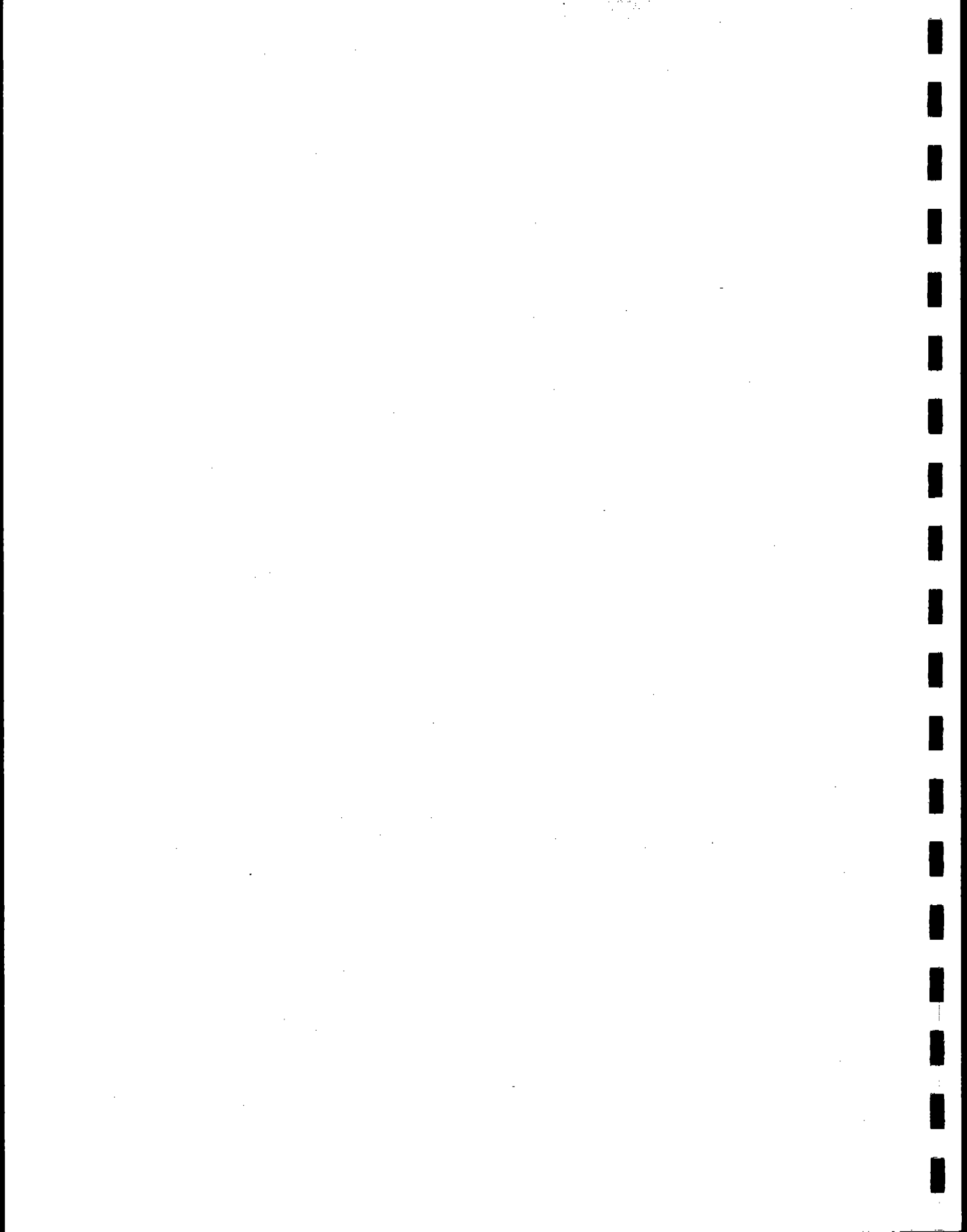
**PARTICULATE EMISSIONS:**

|                                | FILTERABLE   | CPM         | TOTAL        |
|--------------------------------|--------------|-------------|--------------|
| Actual Grain Loading (gr/dscf) | 0.0531       | 0.0031      | 0.0562       |
| Corrected to 7% O2 (gr/dscf)   | 0.2734       | 0.0157      | 0.2891       |
| Corrected to 12% CO2 (gr/dscf) | 0.2549       | 0.0147      | 0.2695       |
| <b>Mass Rate (lb/hr)</b>       | <b>15.88</b> | <b>0.91</b> | <b>16.80</b> |

APPENDIX B.3

DATA AND RESULTS FOR EPA METHOD 5/202 TESTING

- RTO STACK -





**RUN NUMBER**

**RTO-M5-R1**

Date 08/31/95  
 Start Time 09:55  
 End Time 11:17  
 Stack Diam. 96 inches  
 Nozzle I.D. 0.258 inches  
 Meter Box Gamma 0.9993  
 Meter Box dH@ 1.7109  
 Barometric 28.75 in.Hg  
 Cp 0.84  
 Test Duration 60 minutes

**METHOD 4 DATA**

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 162.0         | 62.0        |
| IMP.2 | 100.0         | 122.0         | 22.0        |
| IMP.3 | 100.0         | 104.0         | 4.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 300.0         | 388.0         | 88.0        |
| S.G.  | 200.0         | 210.5         | 10.5        |

**METHOD 1-4 RESULTS**

Metered Volume 47.539 dcf  
 Volume @ Std.Cond. 44.453 dscf  
 % Water 9.45 %  
 % Isokinetics 97.3 %  
 Velocity 52.80 ft/sec  
 Actual Flow 159244 acfm  
 Std. Flow 116439 scfm  
 Dry Std. Flow 105440 dscfm

**METHOD 3 DATA**

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 19.0 | Md  | 28.95 |
| %CO2   | 1.2  | Ms  | 27.92 |
| %CO    | 0.0  | Ps  | 28.72 |
| %N2    | 79.8 | Fo  | 1.583 |
| O2+CO2 | 20.2 | %EA | 919   |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER             | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|-------------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf)   | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 230            | -0.35             | 0.47          | 1.43          | 353.728           | 81                | 78               |
| 2     | 230            | -0.34             | 0.58          | 1.79          | 401.267           | 81                | 78               |
| 3     | 230            |                   | 0.64          | 1.95          |                   | 82                | 78               |
| 4     | 233            |                   | 0.62          | 1.89          |                   | 83                | 78               |
| 5     | 235            |                   | 0.66          | 2.01          |                   | 84                | 79               |
| 6     | 232            |                   | 0.66          | 2.01          |                   | 84                | 79               |
| 7     | 233            |                   | 0.66          | 2.01          |                   | 84                | 79               |
| 8     | 232            |                   | 0.67          | 2.02          |                   | 85                | 80               |
| 9     | 233            |                   | 0.67          | 2.02          |                   | 86                | 80               |
| 10    | 233            |                   | 0.67          | 2.02          |                   | 86                | 81               |
| 11    | 235            |                   | 0.55          | 1.66          |                   | 87                | 82               |
| 12    | 235            |                   | 0.58          | 1.75          |                   | 88                | 82               |
| 13    | 239            |                   | 0.46          | 1.38          |                   | 88                | 83               |
| 14    | 230            |                   | 0.55          | 1.66          |                   | 88                | 83               |
| 15    | 231            |                   | 0.63          | 1.90          |                   | 89                | 83               |
| 16    | 235            |                   | 0.63          | 1.90          |                   | 89                | 83               |
| 17    | 233            |                   | 0.64          | 1.93          |                   | 90                | 84               |
| 18    | 235            |                   | 0.66          | 1.99          |                   | 90                | 84               |
| 19    | 233            |                   | 0.66          | 1.99          |                   | 91                | 84               |
| 20    | 234            |                   | 0.69          | 2.08          |                   | 91                | 85               |
| 21    | 233            |                   | 0.70          | 2.11          |                   | 92                | 85               |
| 22    | 234            |                   | 0.67          | 2.02          |                   | 92                | 85               |
| 23    | 235            |                   | 0.69          | 2.08          |                   | 93                | 85               |
| 24    | 235            |                   | 0.64          | 1.93          |                   | 93                | 86               |
| AVG.  | 233            | -0.35             | 0.63          | 1.90          | 401.267<br>47.539 |                   | 85               |

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

**SAMPLING DATA:**

Run Number: RTO-M5-R1  
Corr. Sample Volume: 44.453 dscf  
Corr. Flowrate: 105440 dscfm  
O2 Content: 19.0 %  
CO2 Content: 1.2 %

**SUMMARY:**

| COMPONENT             | NET<br>(grams) | CORRECTED<br>FOR BLANK<br>(grams) |
|-----------------------|----------------|-----------------------------------|
| <i>SUSPENDED PM</i>   |                |                                   |
| Probe Wash            | 0.00400        | 0.00329                           |
| Filter                | 0.00760        | 0.00760                           |
| <i>CONDENSIBLE PM</i> |                |                                   |
| Organic CPM           | 0.00290        | 0.00184                           |
| Inorganic CPM*        | 0.00660        | 0.00176                           |
| TOTAL CPM             | 0.00950        | 0.00360                           |
| <b>TOTAL PM</b>       | <b>0.02110</b> | <b>0.01449</b>                    |

**ANALYTICAL DATA:**

| METHOD 5 COMPONENTS      | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | VOLUME<br>(ml) |
|--------------------------|-----------------|------------------|----------------|----------------|
| Acetone Probe Wash       | 65.12170        | 65.12570         | 0.00400        | 90.0           |
| Acetone Blank Residue    | 64.57250        | 64.57410         | 0.00160        | 125.0          |
| Applicable Acetone Blank |                 |                  | 0.00115        |                |
| Max. Allowable Blank     |                 |                  | 0.00071        |                |
| Filter                   | 0.40660         | 0.41420          | 0.00760        |                |

| METHOD 202 COMPONENTS   | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | REAGENT<br>VOLUME<br>(ml) | CONC.<br>(mg/l) |
|-------------------------|-----------------|------------------|----------------|---------------------------|-----------------|
| Volume of Cont.#4       |                 |                  |                | 660.0                     |                 |
| Organic CPM (Uncorr.)   | 67.87070        | 67.87360         | 0.00290        | 265.0                     |                 |
| MeCl2 Blank             | 67.01750        | 67.01810         | 0.00060        | 150.0                     |                 |
| Inorganic CPM (Uncorr.) | 64.14820        | 64.15480         | 0.00660        | 660.0                     |                 |
| H2O Blank               | 66.83840        | 66.84060         | 0.00220        | 300.0                     |                 |
| Inorganic CPM (Corr.)   |                 |                  | 0.00660        |                           |                 |

**PARTICULATE EMISSIONS:**

|                                | FILTERABLE  | CPM         | TOTAL       |
|--------------------------------|-------------|-------------|-------------|
| Actual Grain Loading (gr/dscf) | 0.0038      | 0.0012      | 0.0050      |
| Corrected to 7% O2 (gr/dscf)   | 0.0277      | 0.0091      | 0.0368      |
| Corrected to 12% CO2 (gr/dscf) | 0.0378      | 0.0125      | 0.0503      |
| <b>Mass Rate (lb/hr)</b>       | <b>3.42</b> | <b>1.13</b> | <b>4.55</b> |

**RUN NUMBER**

**RTO-M5-R2**

Date 08/31/95  
 Start Time 12:40  
 End Time 14:22  
 Stack Diam. 96 inches  
 Nozzle I.D. 0.258 inches  
 Meter Box Gamma 0.9993  
 Meter Box dH@ 1.7109  
 Barometric 28.75 in.Hg  
 Cp 0.84  
 Test Duration 60 minutes

**METHOD 4 DATA**

|       | INIT. | FINAL | NET  |
|-------|-------|-------|------|
|       | (ml)  | (ml)  | (ml) |
| IMP.1 | 100.0 | 168.0 | 68.0 |
| IMP.2 | 100.0 | 112.0 | 12.0 |
| IMP.3 | 100.0 | 104.0 | 4.0  |
| IMP.4 |       |       | 0.0  |
| IMP.5 |       |       | 0.0  |
| IMP.6 |       |       | 0.0  |
| IMP.7 |       |       | 0.0  |
| TOTAL | 300.0 | 384.0 | 84.0 |
| S.G.  | 200.0 | 210.0 | 10.0 |

**METHOD 1-4 RESULTS**

Metered Volume 46.886 dcf  
 Volume @ Std.Cond. 42.940 dscf  
 % Water 9.34 %  
 % Isokinetics 93.4 %  
 Velocity 53.44 ft/sec  
 Actual Flow 161165 acfm  
 Std. Flow 117127 scfm  
 Dry Std. Flow 106184 dscfm

**METHOD 3 DATA**

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 19.1 | Md  | 28.94 |
| %CO2   | 1.1  | Ms  | 27.92 |
| %CO    | 0.0  | Ps  | 28.72 |
| %N2    | 79.8 | Fo  | 1.636 |
| O2+CO2 | 20.2 | %EA | 971   |

| POINT | STACK  | STATIC  | DP      | DH      | METER             | METER TEMPERATURE |        |
|-------|--------|---------|---------|---------|-------------------|-------------------|--------|
|       | TEMP   |         |         |         | VOLUME            | INLET             | OUTLET |
|       | (DegF) | (in.WC) | (in.WC) | (in.WC) | (dcf)             | (DegF)            | (DegF) |
| 1     | 236    | -0.36   | 0.57    | 1.63    | 402.101           | 88                | 86     |
| 2     | 239    | -0.37   | 0.60    | 1.72    | 448.987           | 90                | 87     |
| 3     | 237    |         | 0.63    | 1.80    |                   | 91                | 88     |
| 4     | 230    |         | 0.64    | 1.83    |                   | 93                | 89     |
| 5     | 230    |         | 0.64    | 1.83    |                   | 94                | 89     |
| 6     | 230    |         | 0.63    | 1.80    |                   | 95                | 90     |
| 7     | 231    |         | 0.65    | 1.86    |                   | 96                | 91     |
| 8     | 237    |         | 0.64    | 1.83    |                   | 96                | 91     |
| 9     | 239    |         | 0.66    | 1.89    |                   | 96                | 91     |
| 10    | 241    |         | 0.64    | 1.83    |                   | 97                | 92     |
| 11    | 240    |         | 0.68    | 1.95    |                   | 97                | 92     |
| 12    | 239    |         | 0.60    | 1.72    |                   | 98                | 93     |
| 13    | 240    |         | 0.48    | 1.34    |                   | 98                | 95     |
| 14    | 240    |         | 0.62    | 1.77    |                   | 99                | 95     |
| 15    | 238    |         | 0.65    | 1.86    |                   | 100               | 95     |
| 16    | 233    |         | 0.61    | 1.78    |                   | 102               | 96     |
| 17    | 242    |         | 0.68    | 1.98    |                   | 103               | 96     |
| 18    | 238    |         | 0.68    | 1.98    |                   | 104               | 97     |
| 19    | 239    |         | 0.67    | 1.95    |                   | 104               | 97     |
| 20    | 240    |         | 0.67    | 1.95    |                   | 105               | 98     |
| 21    | 242    |         | 0.69    | 2.00    |                   | 105               | 98     |
| 22    | 239    |         | 0.69    | 2.00    |                   | 105               | 98     |
| 23    | 241    |         | 0.66    | 1.92    |                   | 105               | 98     |
| 24    | 238    |         | 0.62    | 1.80    |                   | 105               | 98     |
| AVG.  | 237    | -0.37   | 0.64    | 1.83    | 448.987<br>46.886 | 96                |        |

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

**SAMPLING DATA:**

Run Number: RTO-M5-R2  
Corr. Sample Volume: 42.940 dscf  
Corr. Flowrate: 106184 dscfm  
O2 Content: 19.1 %  
CO2 Content: 1.1 %

**SUMMARY:**

| COMPONENT             | NET<br>(grams) | CORRECTED<br>FOR BLANK<br>(grams) |
|-----------------------|----------------|-----------------------------------|
| <i>SUSPENDED PM</i>   |                |                                   |
| Probe Wash            | 0.00580        | 0.00513                           |
| Filter                | 0.00590        | 0.00590                           |
| <i>CONDENSIBLE PM</i> |                |                                   |
| Organic CPM           | 0.00320        | 0.00224                           |
| Inorganic CPM*        | 0.00610        | 0.00192                           |
| TOTAL CPM             | 0.00930        | 0.00416                           |
| <b>TOTAL PM</b>       | <b>0.02100</b> | <b>0.01519</b>                    |

**ANALYTICAL DATA:**

| METHOD 5 COMPONENTS      | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | VOLUME<br>(ml) |
|--------------------------|-----------------|------------------|----------------|----------------|
| Acetone Probe Wash       | 66.80200        | 66.80780         | 0.00580        | 85.0           |
| Acetone Blank Residue    | 64.57250        | 64.57410         | 0.00160        | 125.0          |
| Applicable Acetone Blank |                 |                  | 0.00109        |                |
| Max. Allowable Blank     |                 |                  | 0.00067        |                |
| Filter                   | 0.40760         | 0.41350          | 0.00590        |                |

| METHOD 202 COMPONENTS   | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | REAGENT<br>VOLUME<br>(ml) | CONC.<br>(mg/l) |
|-------------------------|-----------------|------------------|----------------|---------------------------|-----------------|
| Volume of Cont.#4       |                 |                  |                | 570.0                     |                 |
| Organic CPM (Uncorr.)   | 67.17870        | 67.18190         | 0.00320        | 240.0                     |                 |
| MeCl2 Blank             | 67.01750        | 67.01810         | 0.00060        | 150.0                     |                 |
| Inorganic CPM (Uncorr.) | 67.24870        | 67.25480         | 0.00610        | 570.0                     |                 |
| H2O Blank               | 66.83840        | 66.84060         | 0.00220        | 300.0                     |                 |
| Inorganic CPM (Corr.)   |                 |                  | 0.00610        |                           |                 |

**PARTICULATE EMISSIONS:**

|                                | FILTERABLE | CPM    | TOTAL  |
|--------------------------------|------------|--------|--------|
| Actual Grain Loading (gr/dscf) | 0.0040     | 0.0015 | 0.0055 |
| Corrected to 7% O2 (gr/dscf)   | 0.0306     | 0.0115 | 0.0422 |
| Corrected to 12% CO2 (gr/dscf) | 0.0433     | 0.0163 | 0.0596 |
| Mass Rate (lb/hr)              | 3.61       | 1.36   | 4.97   |

RUN NUMBER

RTO-M5-R3

Date 08/31/95  
 Start Time 16:25  
 End Time 17:32  
 Stack Diam. 96 inches  
 Nozzle I.D. 0.258 inches  
 Meter Box Gamma 0.9993  
 Meter Box dH@ 1.7109  
 Barometric 28.75 in.Hg  
 Cp 0.84  
 Test Duration 60 minutes

METHOD 4 DATA

|       | INIT. | FINAL | NET  |
|-------|-------|-------|------|
|       | (ml)  | (ml)  | (ml) |
| IMP.1 | 100.0 | 172.0 | 72.0 |
| IMP.2 | 100.0 | 112.0 | 12.0 |
| IMP.3 | 100.0 | 102.0 | 2.0  |
| IMP.4 |       |       | 0.0  |
| IMP.5 |       |       | 0.0  |
| IMP.6 |       |       | 0.0  |
| IMP.7 |       |       | 0.0  |
| TOTAL | 300.0 | 386.0 | 86.0 |
| S.G.  | 200.0 | 210.0 | 10.0 |

METHOD 1-4 RESULTS

Metered Volume 49.040 dcf  
 Volume @ Std.Cond. 43.731 dscf  
 % Water 9.37 %  
 % Isokinetics 97.9 %  
 Velocity 52.33 ft/sec  
 Actual Flow 157835 acfm  
 Std. Flow 113776 scfm  
 Dry Std. Flow 103119 dscfm

METHOD 3 DATA

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 18.9 | Md  | 28.94 |
| %CO2   | 1.2  | Ms  | 27.92 |
| %CO    | 0.0  | Ps  | 28.73 |
| %N2    | 80.0 | Fo  | 1.739 |
| O2+CO2 | 20.1 | %EA | 856   |

| POINT | STACK  | STATIC  | DP      | DH      | METER   | METER TEMPERATURE |        |
|-------|--------|---------|---------|---------|---------|-------------------|--------|
|       | TEMP   |         |         |         | VOLUME  | INLET             | OUTLET |
|       | (DegF) | (in.WC) | (in.WC) | (in.WC) | (dcf)   | (DegF)            | (DegF) |
| 1     | 238    | -0.29   | 0.50    | 1.55    | 450.208 | 108               | 105    |
| 2     | 244    | -0.30   | 0.54    | 1.68    | 499.248 | 108               | 105    |
| 3     | 242    |         | 0.60    | 1.87    |         | 109               | 106    |
| 4     | 246    |         | 0.60    | 1.87    |         | 110               | 106    |
| 5     | 245    |         | 0.62    | 1.93    |         | 111               | 107    |
| 6     | 247    |         | 0.60    | 1.87    |         | 112               | 108    |
| 7     | 243    |         | 0.62    | 1.93    |         | 114               | 109    |
| 8     | 245    |         | 0.63    | 1.96    |         | 115               | 110    |
| 9     | 245    |         | 0.63    | 1.96    |         | 115               | 110    |
| 10    | 246    |         | 0.63    | 1.96    |         | 115               | 110    |
| 11    | 244    |         | 0.62    | 1.93    |         | 116               | 111    |
| 12    | 244    |         | 0.55    | 1.72    |         | 117               | 112    |
| 13    | 241    |         | 0.47    | 1.47    |         | 116               | 112    |
| 14    | 242    |         | 0.58    | 1.80    |         | 116               | 112    |
| 15    | 242    |         | 0.59    | 1.84    |         | 116               | 112    |
| 16    | 244    |         | 0.62    | 1.93    |         | 115               | 112    |
| 17    | 243    |         | 0.62    | 1.93    |         | 115               | 112    |
| 18    | 242    |         | 0.64    | 2.00    |         | 115               | 111    |
| 19    | 245    |         | 0.63    | 1.97    |         | 114               | 110    |
| 20    | 243    |         | 0.66    | 2.06    |         | 113               | 109    |
| 21    | 244    |         | 0.65    | 2.03    |         | 112               | 108    |
| 22    | 241    |         | 0.69    | 2.15    |         | 111               | 108    |
| 23    | 241    |         | 0.67    | 2.09    |         | 110               | 107    |
| 24    | 242    |         | 0.60    | 1.87    |         | 109               | 107    |
| AVG.  | 243    | -0.30   | 0.61    | 1.89    | 499.248 |                   | 111    |

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

**SAMPLING DATA:**

Run Number: RTO-M5-R3  
Corr. Sample Volume: 43.731 dscf  
Corr. Flowrate: 103119 dscfm  
O2 Content: 18.9 %  
CO2 Content: 1.2 %

**SUMMARY:**

| COMPONENT             | NET<br>(grams) | CORRECTED<br>FOR BLANK<br>(grams) |
|-----------------------|----------------|-----------------------------------|
| <i>SUSPENDED PM</i>   |                |                                   |
| Probe Wash            | 0.00450        | 0.00375                           |
| Filter                | 0.00620        | 0.00620                           |
| <i>CONDENSIBLE PM</i> |                |                                   |
| Organic CPM           | 0.00250        | 0.00142                           |
| Inorganic CPM         | 0.00310        | 0.00000                           |
| TOTAL CPM             | 0.00560        | 0.00142                           |
| <b>TOTAL PM</b>       | <b>0.01630</b> | <b>0.01137</b>                    |

**ANALYTICAL DATA:**

| METHOD 5 COMPONENTS      | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | VOLUME<br>(ml) |
|--------------------------|-----------------|------------------|----------------|----------------|
| Acetone Probe Wash       | 66.85380        | 66.85830         | 0.00450        | 95.0           |
| Acetone Blank Residue    | 64.57250        | 64.57410         | 0.00160        | 125.0          |
| Applicable Acetone Blank |                 |                  | 0.00122        |                |
| Max. Allowable Blank     |                 |                  | 0.00075        |                |
| Filter                   | 0.40610         | 0.41230          | 0.00620        |                |

| METHOD 202 COMPONENTS   | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | REAGENT<br>VOLUME<br>(ml) | CONC.<br>(mg/l) |
|-------------------------|-----------------|------------------|----------------|---------------------------|-----------------|
| Volume of Cont.#4       |                 |                  |                | 650.0                     |                 |
| Organic CPM (Uncorr.)   | 65.04520        | 65.04770         | 0.00250        | 270.0                     |                 |
| MeCl2 Blank             | 67.01750        | 67.01810         | 0.00060        | 150.0                     |                 |
| Inorganic CPM (Uncorr.) | 67.15150        | 67.15460         | 0.00310        | 650.0                     |                 |
| H2O Blank               | 66.83840        | 66.84060         | 0.00220        | 300.0                     |                 |
| Inorganic CPM (Corr.)   |                 |                  | 0.00310        |                           |                 |

**PARTICULATE EMISSIONS:**

|                                | FILTERABLE  | CPM         | TOTAL       |
|--------------------------------|-------------|-------------|-------------|
| Actual Grain Loading (gr/dscf) | 0.0035      | 0.0005      | 0.0040      |
| Corrected to 7% O2 (gr/dscf)   | 0.0244      | 0.0035      | 0.0279      |
| Corrected to 12% CO2 (gr/dscf) | 0.0367      | 0.0052      | 0.0419      |
| <b>Mass Rate (lb/hr)</b>       | <b>3.10</b> | <b>0.44</b> | <b>3.55</b> |

**APPENDIX B.4**

**DATA AND RESULTS FOR EPA METHOD 5/202 TESTING**

**- KONUS STACK -**





RUN NUMBER

KS-M202-R1

Date 09/13/95  
 Start Time 09:27  
 End Time 10:45  
 Stack Diam. 41.5 inches  
 Nozzle I.D. 0.302 inches  
 Meter Box Gamma 0.99079  
 Meter Box dH@ 1.76407  
 Barometric 28.85 in.Hg  
 Cp 0.835  
 Test Duration 60 minutes

METHOD 4 DATA

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 128.0         | 28.0        |
| IMP.2 | 100.0         | 110.0         | 10.0        |
| IMP.3 | 0.0           | 2.0           | 2.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 240.0         | 40.0        |
| S.G.  | 200.0         | 202.5         | 2.5         |

METHOD 1-4 RESULTS

Metered Volume 45.632 dcf  
 Volume @ Std.Cond. 42.128 dscf  
 % Water 4.53 %  
 % Isokinetics 102.2 %  
 Velocity 35.31 ft/sec  
 Actual Flow 19900 acfm  
 Std. Flow 13602 scfm  
 Dry Std. Flow 12986 dscfm

METHOD 3 DATA

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 19.1 | Md  | 29.00 |
| %CO2   | 1.5  | Ms  | 28.51 |
| %CO    | 0.0  | Ps  | 28.84 |
| %N2    | 79.4 | Fo  | 1.200 |
| O2+CO2 | 20.6 | %EA | 1026  |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER             | METER           | TEMPERATURE      |
|-------|----------------|-------------------|---------------|---------------|-------------------|-----------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf)   | INLET<br>(DegF) | OUTLET<br>(DegF) |
| 1     | 287            | -0.16             | 0.29          | 1.70          | 374.554           | 77              | 76               |
| 2     | 285            | -0.15             | 0.30          | 1.76          |                   | 78              | 75               |
| 3     | 287            |                   | 0.30          | 1.76          |                   | 80              | 75               |
| 4     | 286            |                   | 0.30          | 1.76          |                   | 82              | 75               |
| 5     | 286            |                   | 0.30          | 1.76          |                   | 85              | 76               |
| 6     | 286            |                   | 0.29          | 1.70          |                   | 85              | 77               |
| 7     | 286            |                   | 0.27          | 1.58          |                   | 86              | 77               |
| 8     | 282            |                   | 0.25          | 1.47          |                   | 87              | 77               |
| 9     | 282            |                   | 0.24          | 1.40          |                   | 89              | 78               |
| 10    | 280            |                   | 0.24          | 1.40          | 397.537           | 89              | 79               |
| 11    | 285            |                   | 0.25          | 1.47          | 397.662           | 100             | 99               |
| 12    | 286            |                   | 0.26          | 1.58          |                   | 101             | 99               |
| 13    | 286            |                   | 0.27          | 1.62          |                   | 98              | 97               |
| 14    | 285            |                   | 0.27          | 1.62          |                   | 97              | 97               |
| 15    | 285            |                   | 0.28          | 1.68          |                   | 98              | 95               |
| 16    | 285            |                   | 0.27          | 1.62          |                   | 97              | 95               |
| 17    | 283            |                   | 0.27          | 1.62          |                   | 98              | 96               |
| 18    | 282            |                   | 0.26          | 1.58          |                   | 97              | 93               |
| 19    | 283            |                   | 0.25          | 1.47          |                   | 97              | 91               |
| 20    | 284            |                   | 0.25          | 1.47          |                   | 98              | 90               |
| AVG.  | 285            | -0.16             | 0.27          | 1.60          | 420.311<br>45.632 |                 | 88               |

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

**SAMPLING DATA:**

Run Number: **KS-M202-R1**  
 Corr. Sample Volume: 42.128 dscf  
 Corr. Flowrate: 12986 dscfm  
 O2 Content: 19.1 %  
 CO2 Content: 1.5 %

**SUMMARY:**

| COMPONENT             | NET<br>(grams) | CORRECTED<br>FOR BLANK<br>(grams) |
|-----------------------|----------------|-----------------------------------|
| <b>SUSPENDED PM</b>   |                |                                   |
| Probe Wash            | 0.00090        | 0.00040                           |
| Filter                | 0.00650        | 0.00650                           |
| <b>CONDENSIBLE PM</b> |                |                                   |
| Organic CPM           | 0.00490        | 0.00283                           |
| Inorganic CPM         | 0.04720        | 0.04188                           |
| TOTAL CPM             | 0.05210        | 0.04471                           |
| <b>TOTAL PM</b>       | <b>0.05950</b> | <b>0.05161</b>                    |

**ANALYTICAL DATA:**

| METHOD 5 COMPONENTS      | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | VOLUME<br>(ml) |
|--------------------------|-----------------|------------------|----------------|----------------|
| Acetone Probe Wash       | 67.49010        | 67.49100         | 0.00090        | 125.0          |
| Acetone Blank Residue    | 67.17930        | 67.17980         | 0.00050        | 125.0          |
| Applicable Acetone Blank |                 |                  | 0.00050        |                |
| Max. Allowable Blank     |                 |                  | 0.00098        |                |
| Filter                   | 0.39760         | 0.40410          | 0.00650        |                |

| METHOD 202 COMPONENTS   | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | REAGENT<br>VOLUME<br>(ml) | CONC.<br>(mg/l) |
|-------------------------|-----------------|------------------|----------------|---------------------------|-----------------|
| Volume of Cont.#4       |                 |                  |                | 420.0                     |                 |
| Organic CPM (Uncorr.)   | 67.03260        | 67.03750         | 0.00490        | 290.0                     |                 |
| MeCl2 Blank             | 67.88020        | 67.88120         | 0.00100        | 140.0                     |                 |
| Inorganic CPM (Uncorr.) | 65.08520        | 65.13240         | 0.04720        | 420.0                     |                 |
| H2O Blank               | 67.05460        | 67.05650         | 0.00190        | 150.0                     |                 |
| Inorganic CPM (Corr.)   |                 |                  | 0.04720        |                           |                 |

**PARTICULATE EMISSIONS:**

|                                | FILTERABLE  | CPM         | TOTAL       |
|--------------------------------|-------------|-------------|-------------|
| Actual Grain Loading (gr/dscf) | 0.0025      | 0.0164      | 0.0189      |
| Corrected to 7% O2 (gr/dscf)   | 0.0195      | 0.1265      | 0.1460      |
| Corrected to 12% CO2 (gr/dscf) | 0.0202      | 0.1310      | 0.1512      |
| <b>Mass Rate (lb/hr)</b>       | <b>0.28</b> | <b>1.82</b> | <b>2.10</b> |

**RUN NUMBER**

**KS-M202-R2**

Date 09/13/95  
 Start Time 11:45  
 End Time 13:17  
 Stack Diam. 41.5 inches  
 Nozzle I.D. 0.302 inches  
 Meter Box Gamma 0.99079  
 Meter Box dH@ 1.76407  
 Barometric 28.85 in.Hg  
 Cp 0.835  
 Test Duration 60 minutes

**METHOD 4 DATA**

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 134.0         | 34.0        |
| IMP.2 | 100.0         | 106.0         | 6.0         |
| IMP.3 | 0.0           | 4.0           | 4.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 244.0         | 44.0        |
| S.G.  | 200.0         | 210.8         | 10.8        |

**METHOD 1-4 RESULTS**

Metered Volume 46.354 dcf  
 Volume @ Std.Cond. 42.160 dscf  
 % Water 5.77 %  
 % Isokinetics 105.4 %  
 Velocity 34.72 ft/sec  
 Actual Flow 19570 acfm  
 Std. Flow 13374 scfm  
 Dry Std. Flow 12602 dscfm

**METHOD 3 DATA**

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 18.2 | Md  | 29.05 |
| %CO2   | 2.0  | Ms  | 28.41 |
| %CO    | 0.0  | Ps  | 28.84 |
| %N2    | 79.8 | Fo  | 1.337 |
| O2+CO2 | 20.2 | %EA | 636   |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER             | METER           | TEMPERATURE      |
|-------|----------------|-------------------|---------------|---------------|-------------------|-----------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf)   | INLET<br>(DegF) | OUTLET<br>(DegF) |
| 1     | 285            | -0.15             | 0.26          | 1.57          | 420.592           | 93              | 95               |
| 2     | 283            | -0.15             | 0.26          | 1.57          |                   | 94              | 95               |
| 3     | 283            |                   | 0.27          | 1.63          |                   | 94              | 94               |
| 4     | 284            |                   | 0.26          | 1.57          |                   | 96              | 94               |
| 5     | 285            |                   | 0.27          | 1.63          |                   | 98              | 95               |
| 6     | 283            |                   | 0.27          | 1.63          |                   | 99              | 95               |
| 7     | 285            |                   | 0.28          | 1.68          |                   | 99              | 95               |
| 8     | 286            |                   | 0.27          | 1.63          |                   | 100             | 95               |
| 9     | 286            |                   | 0.25          | 1.50          |                   | 100             | 95               |
| 10    | 285            |                   | 0.24          | 1.45          | 444.218           | 100             | 96               |
| 11    | 284            |                   | 0.26          | 1.57          | 444.367           | 96              | 96               |
| 12    | 283            |                   | 0.27          | 1.63          |                   | 96              | 95               |
| 13    | 284            |                   | 0.27          | 1.63          |                   | 96              | 95               |
| 14    | 286            |                   | 0.28          | 1.68          |                   | 97              | 95               |
| 15    | 286            |                   | 0.27          | 1.63          |                   | 98              | 95               |
| 16    | 287            |                   | 0.26          | 1.57          |                   | 99              | 96               |
| 17    | 287            |                   | 0.25          | 1.50          |                   | 100             | 97               |
| 18    | 285            |                   | 0.24          | 1.45          |                   | 101             | 95               |
| 19    | 284            |                   | 0.24          | 1.45          |                   | 102             | 96               |
| 20    | 283            |                   | 0.24          | 1.45          |                   | 102             | 97               |
| AVG.  | 285            | -0.15             | 0.26          | 1.57          | 467.095<br>46.354 |                 | 97               |

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

**SAMPLING DATA:**

Run Number: KS-M202-R2  
 Corr. Sample Volume: 42.160 dscf  
 Corr. Flowrate: 12602 dscfm  
 O2 Content: 18.2 %  
 CO2 Content: 2.0 %

**SUMMARY:**

| COMPONENT             | NET<br>(grams) | CORRECTED<br>FOR BLANK<br>(grams) |
|-----------------------|----------------|-----------------------------------|
| <b>SUSPENDED PM</b>   |                |                                   |
| Probe Wash            | 0.00180        | 0.00130                           |
| Filter                | 0.00190        | 0.00190                           |
| <b>CONDENSIBLE PM</b> |                |                                   |
| Organic CPM           | 0.00580        | 0.00387                           |
| Inorganic CPM         | 0.03410        | 0.02891                           |
| TOTAL CPM             | 0.03990        | 0.03278                           |
| <b>TOTAL PM</b>       | <b>0.04360</b> | <b>0.03598</b>                    |

**ANALYTICAL DATA:**

| METHOD 5 COMPONENTS      | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | VOLUME<br>(ml) |
|--------------------------|-----------------|------------------|----------------|----------------|
| Acetone Probe Wash       | 67.51430        | 67.51610         | 0.00180        | 125.0          |
| Acetone Blank Residue    | 67.17930        | 67.17980         | 0.00050        | 125.0          |
| Applicable Acetone Blank |                 |                  | 0.00050        |                |
| Max. Allowable Blank     |                 |                  | 0.00098        |                |
| Filter                   | 0.39860         | 0.40050          | 0.00190        |                |

| METHOD 202 COMPONENTS   | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | REAGENT<br>VOLUME<br>(ml) | CONC.<br>(mg/l) |
|-------------------------|-----------------|------------------|----------------|---------------------------|-----------------|
| Volume of Cont.#4       |                 |                  |                | 410.0                     |                 |
| Organic CPM (Uncorr.)   | 67.80600        | 67.81180         | 0.00580        | 270.0                     |                 |
| MeCl2 Blank             | 67.88020        | 67.88120         | 0.00100        | 140.0                     |                 |
| Inorganic CPM (Uncorr.) | 64.84070        | 64.87480         | 0.03410        | 410.0                     |                 |
| H2O Blank               | 67.05460        | 67.05650         | 0.00190        | 150.0                     |                 |
| Inorganic CPM (Corr.)   |                 |                  | 0.03410        |                           |                 |

**PARTICULATE EMISSIONS:**

|                                | FILTERABLE  | CPM         | TOTAL       |
|--------------------------------|-------------|-------------|-------------|
| Actual Grain Loading (gr/dscf) | 0.0012      | 0.0120      | 0.0132      |
| Corrected to 7% O2 (gr/dscf)   | 0.0060      | 0.0618      | 0.0678      |
| Corrected to 12% CO2 (gr/dscf) | 0.0070      | 0.0713      | 0.0782      |
| <b>Mass Rate (lb/hr)</b>       | <b>0.13</b> | <b>1.30</b> | <b>1.42</b> |

**RUN NUMBER**

**KS-M202-R3**

Date 09/13/95  
 Start Time 14:20  
 End Time 15:32  
 Stack Diam. 41.5 inches  
 Nozzle I.D. 0.302 inches  
 Meter Box Gamma 0.99079  
 Meter Box dH@ 1.76407  
 Barometric 28.85 in.Hg  
 Cp 0.835  
 Test Duration 60 minutes

**METHOD 4 DATA**

|       | INIT. | FINAL | NET  |
|-------|-------|-------|------|
|       | (ml)  | (ml)  | (ml) |
| IMP.1 | 100.0 | 126.0 | 26.0 |
| IMP.2 | 100.0 | 108.0 | 8.0  |
| IMP.3 | 0.0   | 2.0   | 2.0  |
| IMP.4 |       |       | 0.0  |
| IMP.5 |       |       | 0.0  |
| IMP.6 |       |       | 0.0  |
| IMP.7 |       |       | 0.0  |
| TOTAL | 200.0 | 236.0 | 36.0 |
| S.G.  | 200.0 | 210.5 | 10.5 |

**METHOD 1-4 RESULTS**

Metered Volume 45.445 dcf  
 Volume @ Std.Cond. 41.407 dscf  
 % Water 5.02 %  
 % Isokinetics 103.4 %  
 Velocity 34.42 ft/sec  
 Actual Flow 19399 acfm  
 Std. Flow 13273 scfm  
 Dry Std. Flow 12607 dscfm

**METHOD 3 DATA**

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 18.4 | Md  | 29.04 |
| %CO2   | 1.9  | Ms  | 28.49 |
| %CO    | 0.0  | Ps  | 28.84 |
| %N2    | 79.7 | Fo  | 1.316 |
| O2+CO2 | 20.3 | %EA | 697   |

| POINT | STACK  | STATIC  | DP      | DH      | METER             | METER TEMPERATURE |        |
|-------|--------|---------|---------|---------|-------------------|-------------------|--------|
|       | TEMP   |         |         |         | VOLUME            | INLET             | OUTLET |
|       | (DegF) | (in.WC) | (in.WC) | (in.WC) | (dcf)             | (DegF)            | (DegF) |
| 1     | 282    | -0.16   | 0.26    | 1.55    | 467.403           | 92                | 92     |
| 2     | 284    | -0.15   | 0.27    | 1.61    | 512.848           | 93                | 92     |
| 3     | 285    |         | 0.27    | 1.61    |                   | 94                | 92     |
| 4     | 285    |         | 0.28    | 1.67    |                   | 95                | 92     |
| 5     | 284    |         | 0.29    | 1.73    |                   | 96                | 92     |
| 6     | 284    |         | 0.27    | 1.61    |                   | 98                | 92     |
| 7     | 282    |         | 0.25    | 1.48    |                   | 99                | 92     |
| 8     | 282    |         | 0.25    | 1.48    |                   | 99                | 92     |
| 9     | 283    |         | 0.24    | 1.43    |                   | 100               | 93     |
| 10    | 284    |         | 0.24    | 1.43    |                   | 100               | 93     |
| 11    | 283    |         | 0.25    | 1.48    |                   | 95                | 93     |
| 12    | 284    |         | 0.25    | 1.48    |                   | 98                | 93     |
| 13    | 283    |         | 0.26    | 1.55    |                   | 98                | 93     |
| 14    | 285    |         | 0.26    | 1.55    |                   | 99                | 93     |
| 15    | 283    |         | 0.27    | 1.61    |                   | 100               | 93     |
| 16    | 286    |         | 0.27    | 1.61    |                   | 101               | 93     |
| 17    | 285    |         | 0.25    | 1.48    |                   | 101               | 93     |
| 18    | 285    |         | 0.24    | 1.43    |                   | 102               | 93     |
| 19    | 283    |         | 0.24    | 1.43    |                   | 103               | 95     |
| 20    | 284    |         | 0.23    | 1.37    |                   | 103               | 95     |
| AVG.  | 284    | -0.16   | 0.26    | 1.53    | 512.848<br>45.445 | 96                |        |

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

**SAMPLING DATA:**

Run Number: KS-M202-R3  
 Corr. Sample Volume: 41.407 dscf  
 Corr. Flowrate: 12607 dscfm  
 O2 Content: 18.4 %  
 CO2 Content: 1.9 %

**SUMMARY:**

| COMPONENT             | NET<br>(grams) | CORRECTED<br>FOR BLANK<br>(grams) |
|-----------------------|----------------|-----------------------------------|
| <b>SUSPENDED PM</b>   |                |                                   |
| Probe Wash            | 0.00220        | 0.00176                           |
| Filter                | 0.00110        | 0.00110                           |
| <b>CONDENSIBLE PM</b> |                |                                   |
| Organic CPM           | 0.00260        | 0.00046                           |
| Inorganic CPM         | 0.00650        | 0.00156                           |
| TOTAL CPM             | 0.00910        | 0.00202                           |
| <b>TOTAL PM</b>       | <b>0.01240</b> | <b>0.00488</b>                    |

**ANALYTICAL DATA:**

| METHOD 5 COMPONENTS      | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | VOLUME<br>(ml) |
|--------------------------|-----------------|------------------|----------------|----------------|
| Acetone Probe Wash       | 67.13490        | 67.13710         | 0.00220        | 110.0          |
| Acetone Blank Residue    | 67.17930        | 67.17980         | 0.00050        | 125.0          |
| Applicable Acetone Blank |                 |                  | 0.00044        |                |
| Max. Allowable Blank     |                 |                  | 0.00086        |                |
| Filter                   | 0.40020         | 0.40130          | 0.00110        |                |

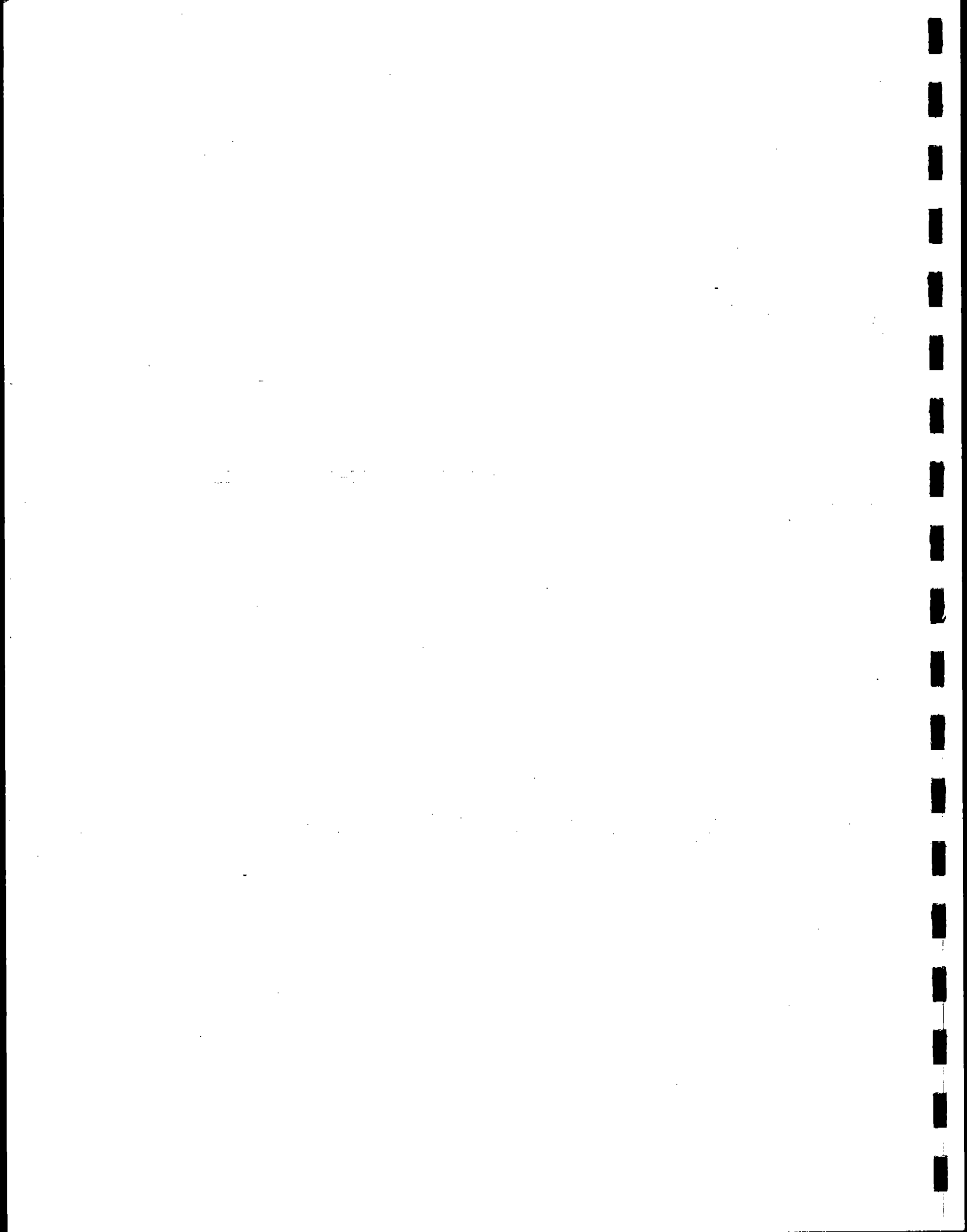
| METHOD 202 COMPONENTS   | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | REAGENT<br>VOLUME<br>(ml) | CONC.<br>(mg/l) |
|-------------------------|-----------------|------------------|----------------|---------------------------|-----------------|
| Volume of Cont.#4       |                 |                  |                | 390.0                     |                 |
| Organic CPM (Uncorr.)   | 66.94710        | 66.94970         | 0.00260        | 300.0                     |                 |
| MeCl2 Blank             | 67.88020        | 67.88120         | 0.00100        | 140.0                     |                 |
| Inorganic CPM (Uncorr.) | 66.35740        | 66.36390         | 0.00650        | 390.0                     |                 |
| H2O Blank               | 67.05460        | 67.05650         | 0.00190        | 150.0                     |                 |
| Inorganic CPM (Corr.)   |                 |                  | 0.00650        |                           |                 |

**PARTICULATE EMISSIONS:**

|                                | FILTERABLE  | CPM         | TOTAL       |
|--------------------------------|-------------|-------------|-------------|
| Actual Grain Loading (gr/dscf) | 0.0011      | 0.0008      | 0.0018      |
| Corrected to 7% O2 (gr/dscf)   | 0.0059      | 0.0042      | 0.0101      |
| Corrected to 12% CO2 (gr/dscf) | 0.0067      | 0.0047      | 0.0115      |
| <b>Mass Rate (lb/hr)</b>       | <b>0.12</b> | <b>0.08</b> | <b>0.20</b> |

**APPENDIX C**

**DATA AND RESULTS APPENDICES FOR EPA METHOD 201A TESTING**

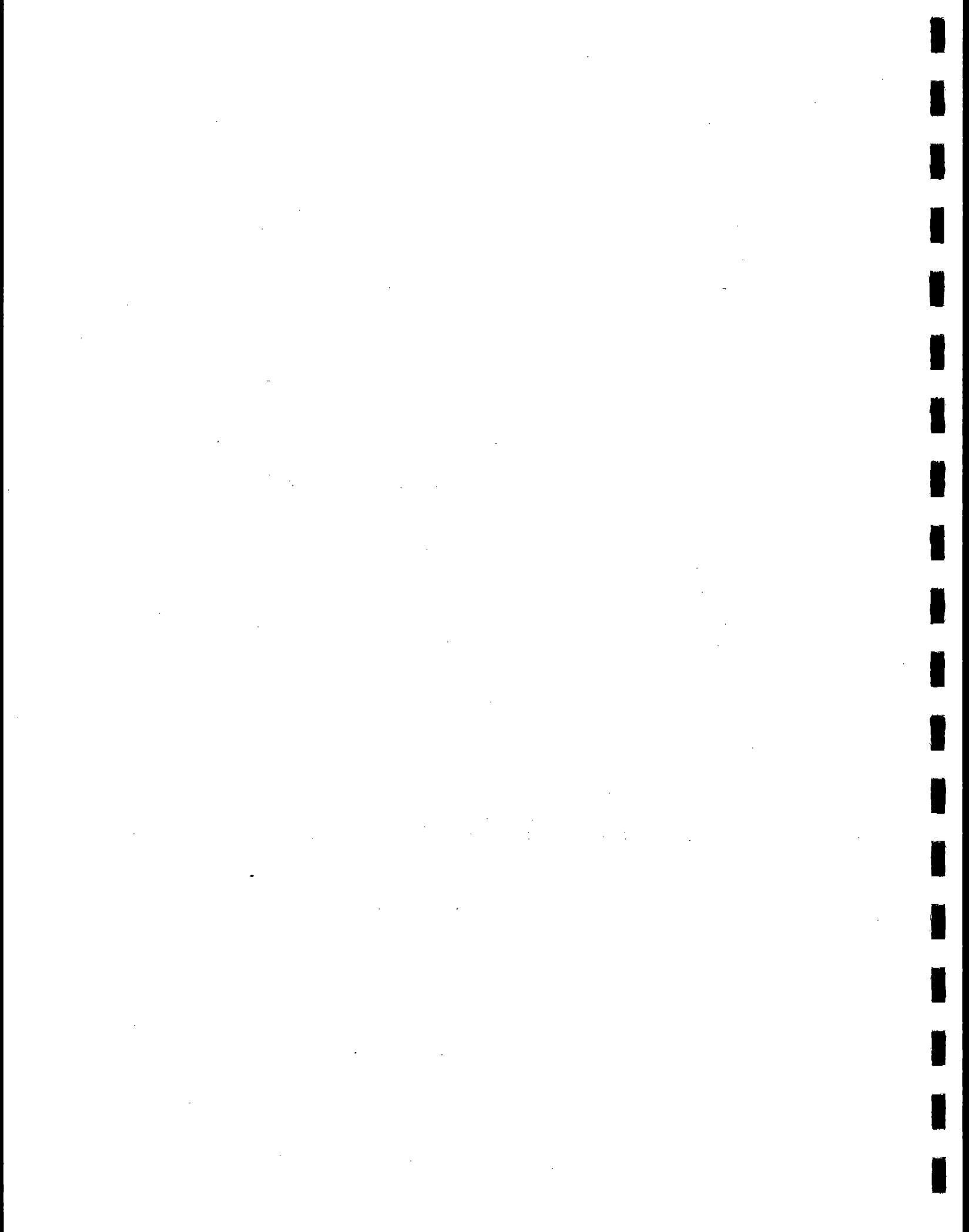




APPENDIX C.1

DATA AND RESULTS FOR EPA METHOD 201A TESTING

- RTO STACK -



**RUN NUMBER**

**RTO-M201A-R1**

Date 08/31/95  
 Start Time 09:55  
 End Time 11:08  
 Stack Diam. 96 inches  
 Nozzle I.D. 0.180 inches  
 Meter Box Gamma 0.9991  
 Meter Box dH@ 1.7367  
 Barometric 28.75 in.Hg  
 Cp 0.84  
 Test Duration 43 minutes

**METHOD 4 DATA**

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 132.0         | 32.0        |
| IMP.2 | 100.0         | 104.0         | 4.0         |
| IMP.3 | 0.0           | 0.0           | 0.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 236.0         | 36.0        |
| S.G.  | 200.0         | 207.0         | 7.0         |

**METHOD 1-4 RESULTS**

Metered Volume 18.855 dcf  
 Volume @ Std.Cond. 16.918 dscf  
 % Water 10.69 %  
 % Isokinetics 105.7 %  
 Velocity 53.74 ft/sec  
 Actual Flow 162066 acfm  
 Std. Flow 117581 scfm  
 Dry Std. Flow 105014 dscfm

**METHOD 3 DATA**

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 19.0 | Md  | 28.95 |
| %CO2   | 1.20 | Ms  | 27.78 |
| %CO    | 0.0  | Ps  | 28.72 |
| %N2    | 79.8 | Fo  | 1.583 |
| O2+CO2 | 20.2 | %EA | 919   |

| POINT | DWELL TIME (Min.) | STACK TEMP (DegF) | STATIC (in.WC) | DP (in.WC) | DH (in.WC) | METER VOLUME (dcf) | METER TEMPERATURE INLET (DegF) | METER TEMPERATURE OUTLET (DegF) |
|-------|-------------------|-------------------|----------------|------------|------------|--------------------|--------------------------------|---------------------------------|
| 1     | 4.50              | 238               | -0.350         | 0.670      | 0.53       | 913.050            | 97                             | 95                              |
| 2     | 3.90              | 239               | -0.360         | 0.700      | 0.53       | 931.905            | 97                             | 95                              |
| 3     | 3.60              | 240               |                | 0.650      | 0.53       |                    | 101                            | 97                              |
| 4     | 3.70              | 240               |                | 0.670      | 0.53       |                    | 105                            | 99                              |
| 5     | 3.50              | 238               |                | 0.630      | 0.53       |                    | 107                            | 102                             |
| 6     | 2.50              | 239               |                | 0.450      | 0.53       |                    | 110                            | 104                             |
| 7     | 3.90              | 237               |                | 0.700      | 0.53       |                    | 108                            | 105                             |
| 8     | 3.63              | 242               |                | 0.660      | 0.53       |                    | 110                            | 106                             |
| 9     | 3.79              | 240               |                | 0.690      | 0.53       |                    | 112                            | 107                             |
| 10    | 3.60              | 238               |                | 0.650      | 0.53       |                    | 114                            | 108                             |
| 11    | 3.74              | 238               |                | 0.680      | 0.53       |                    | 116                            | 109                             |
| 12    | 3.00              | 235               |                | 0.550      | 0.53       |                    | 117                            | 110                             |
| AVG.  | 43.36             | 239               | -0.355         | 0.642      | 0.53       | 931.905<br>18.855  |                                | 105                             |

LOUISIANA PACIFIC  
RTO STACK  
EPA METHOD 201A ANALYTICAL DATA AND RESULTS

**SAMPLING DATA:**

Run Number: RTO-M201A-R1  
Corr. Sample Volume: 16.918 dscf  
Corr. Flowrate 105014 dscfm  
O2 Content: 19.0 %  
CO2 Content: 1.2 %

**SUMMARY**

| COMPONENT         | NET<br>(grams) | CORRECTED<br>FOR BLANK<br>(grams) |
|-------------------|----------------|-----------------------------------|
| PM10:             |                |                                   |
| Probe Wash < 10 µ | 0.00140        | 0.00054                           |
| Filter            | 0.00120        | 0.00120                           |
| TOTAL PM10        | 0.00260        | 0.00174                           |

**ANALYTICAL DATA**

|                                   | SAMPLE<br>ID | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | VOLUME<br>(ml) |
|-----------------------------------|--------------|-----------------|------------------|----------------|----------------|
| <b>Components of PM&lt; 10 µ:</b> |              |                 |                  |                |                |
| Filter                            | 95-576-535   | 0.50810         | 0.50930          | 0.00120        | NA             |
| Probe Wash Residue <= PM10        | 95-576-537   | 65.20730        | 65.20870         | 0.00140        | 110.0          |
| Acetone Blank Residue             | 95-576-550   | 67.19880        | 67.20010         | 0.00130        | 125.0          |
| Applicable Acetone Blank          |              |                 |                  | 0.00114        |                |
| Max. Allowable Blank              |              |                 |                  | 0.00086        | NA             |

**PARTICULATE EMISSIONS:**

|                                | PM10    |
|--------------------------------|---------|
| Actual Grain Loading (gr/dscf) | 0.00158 |
| Mass Rate (lb/hr)              | 1.426   |

LOUISIANA PACIFIC  
RTO STACK  
EPA METHOD 201A PERFORMANCE CRITERIA CALCULATIONS

RUN I.D. RTO-M201A-R1

Stack Gas Viscosity (micropoise) 213.663  
Cyclone Flow Rate (dscf/min) 0.390  
Cyclone Flow Rate (acfm) 0.602  
D50 9.769

*dPmin and dPmax Calculations and Performance:*

Stack Gas Viscosity (micropoise) 217.342  
Cyclone Flow Rate (acfm) 0.593

Vmstd - dscf 16.918  
Sample Time - min 43.360  
Ts 238.667  
% O2 19.000  
% Water 10.688  
Vwc 1.695  
Vsg 0.330  
Ps 28.724  
Mw 27.781  
Cp 0.84

Nozzle Size(s) Used For Test: 0.18  
Minimum dP During Test: 0.45  
Maximum dP During Test: 0.7

| Nozzle No. | Dn (in.) | vn (ft/s) | vmin (ft/s) | vmax (ft/s) | dPmin (in. H2O) | dPmax (in. H2O) |
|------------|----------|-----------|-------------|-------------|-----------------|-----------------|
| 1          | 0.136    | 97.961    | 74.238      | 120.418     | 1.221           | 3.212           |
| 2          | 0.15     | 80.529    | 59.801      | 99.773      | 0.792           | 2.205           |
| 3          | 0.164    | 67.367    | 48.748      | 84.245      | 0.526           | 1.572           |
| 4          | 0.18     | 55.923    | 38.939      | 70.807      | 0.336           | 1.111           |
| 5          | 0.197    | 46.687    | 30.757      | 60.025      | 0.210           | 0.798           |
| 6          | 0.215    | 39.197    | 23.747      | 51.337      | 0.125           | 0.584           |
| 7          | 0.233    | 33.375    | 17.715      | 44.632      | 0.070           | 0.441           |
| 8          | 0.264    | 25.997    | 12.999      | 36.218      | 0.037           | 0.291           |
| 9          | 0.3      | 20.132    | 10.066      | 29.615      | 0.022           | 0.194           |
| 10         | 0.342    | 15.491    | 7.746       | 23.237      | 0.013           | 0.120           |
| 11         | 0.39     | 11.913    | 5.956       | 17.869      | 0.008           | 0.071           |

RUN NUMBER

RTO-201A-R2

Date 08/31/95  
 Start Time 12:40  
 End Time 14:12  
 Stack Diam. 96 inches  
 Nozzle I.D. 0.180 inches  
 Meter Box Gamma 0.9991  
 Meter Box dH@ 1.7367  
 Barometric 28.75 in.Hg  
 Cp 0.84  
 Test Duration 39 minutes

METHOD 4 DATA

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 128.0         | 28.0        |
| IMP.2 | 100.0         | 102.0         | 2.0         |
| IMP.3 | 0.0           | 1.0           | 1.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 231.0         | 31.0        |
| S.G.  | 200.0         | 214.0         | 14.0        |

METHOD 1-4 RESULTS

Metered Volume 15.750 dcf  
 Volume @ Std.Cond. 13.840 dscf  
 % Water 13.28 %  
 % Isokinetics 94.2 %  
 Velocity 56.86 ft/sec  
 Actual Flow 171476 acfm  
 Std. Flow 123934 scfm  
 Dry Std. Flow 107476 dscfm

METHOD 3 DATA

| %O2    | 19.1 | Md  | 28.94 |
|--------|------|-----|-------|
| %CO2   | 1.10 | Ms  | 27.49 |
| %CO    | 0.0  | Ps  | 28.72 |
| %N2    | 79.8 | Fo  | 1.636 |
| O2+CO2 | 20.2 | %EA | 971   |

| POINT | DWELL  | STACK  | STATIC  | DP      | DH      | METER             | METER TEMPERATURE |        |
|-------|--------|--------|---------|---------|---------|-------------------|-------------------|--------|
|       | TIME   | TEMP   |         |         |         |                   | VOLUME            | INLET  |
|       | (Min.) | (DegF) | (in.WC) | (in.WC) | (in.WC) | (dcf)             | (DegF)            | (DegF) |
| 1     | 3.69   | 239    | -0.420  | 0.670   | 0.46    | 932.600           | 118               | 115    |
| 2     | 3.34   | 244    | -0.390  | 0.740   | 0.46    | 948.350           | 121               | 116    |
| 3     | 3.38   | 242    |         | 0.750   | 0.46    |                   | 121               | 116    |
| 4     | 3.02   | 244    |         | 0.670   | 0.46    |                   | 123               | 117    |
| 5     | 3.15   | 242    |         | 0.700   | 0.46    |                   | 122               | 117    |
| 6     | 2.84   | 238    |         | 0.630   | 0.46    |                   | 124               | 119    |
| 7     | 3.47   | 244    |         | 0.770   | 0.46    |                   | 116               | 115    |
| 8     | 3.34   | 240    |         | 0.740   | 0.46    |                   | 117               | 115    |
| 9     | 3.38   | 243    |         | 0.750   | 0.46    |                   | 117               | 115    |
| 10    | 3.38   | 244    |         | 0.750   | 0.46    |                   | 117               | 115    |
| 11    | 3.20   | 238    |         | 0.710   | 0.46    |                   | 117               | 114    |
| 12    | 2.70   | 237    |         | 0.600   | 0.46    |                   | 115               | 113    |
| AVG.  | 38.89  | 241    | -0.405  | 0.707   | 0.46    | 948.350<br>15.750 |                   | 117    |

LOUISIANA PACIFIC  
 RTO STACK  
 EPA METHOD 201A ANALYTICAL DATA AND RESULTS

**SAMPLING DATA:**

Run Number: RTO-201A-R2  
 Corr. Sample Volume: 13.840 dscf  
 Corr. Flowrate 107476 dscfm  
 O2 Content: 19.1 %  
 CO2 Content: 1.1 %

**SUMMARY**

| COMPONENT         | NET<br>(grams) | CORRECTED<br>FOR BLANK<br>(grams) |
|-------------------|----------------|-----------------------------------|
| PM10:             |                |                                   |
| Probe Wash < 10 µ | 0.00170        | 0.00107                           |
| Filter            | 0.00130        | 0.00130                           |
| TOTAL PM10        | 0.00300        | 0.00237                           |

**ANALYTICAL DATA**

|                            | SAMPLE<br>ID | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | VOLUME<br>(ml) |
|----------------------------|--------------|-----------------|------------------|----------------|----------------|
| Components of PM< 10 µ:    |              |                 |                  |                |                |
| Filter                     | 95-576-528   | 0.51240         | 0.51370          | 0.00130        | NA             |
| Probe Wash Residue <= PM10 | 95-576-530   | 65.94360        | 65.94530         | 0.00170        | 80.0           |
| Acetone Blank Residue      | 95-576-550   | 67.19880        | 67.20010         | 0.00130        | 125.0          |
| Applicable Acetone Blank   |              |                 |                  | 0.00083        |                |
| Max. Allowable Blank       |              |                 |                  | 0.00063        | NA             |

**PARTICULATE EMISSIONS:**

|                                | PM10    |
|--------------------------------|---------|
| Actual Grain Loading (gr/dscf) | 0.00264 |
| Mass Rate (lb/hr)              | 2.437   |

LOUISIANA PACIFIC  
RTO STACK  
EPA METHOD 201A PERFORMANCE CRITERIA CALCULATIONS

RUN I.D. RTO-201A-R2

Stack Gas Viscosity (micropoise) 212.447  
Cyclone Flow Rate (dscf/min) 0.356  
Cyclone Flow Rate (acfm) 0.568  
D50 10.174

*dPmin and dPmax Calculations and Performance:*

Stack Gas Viscosity (micropoise) 216.174  
Cyclone Flow Rate (acfm) 0.592

Vmstd - dscf 13.840  
Sample Time - min 38.890  
Ts 241.250  
% O2 19.100  
% Water 13.279  
Vwc 1.459  
Vsg 0.660  
Ps 28.720  
Mw 27.487  
Cp 0.84

Nozzle Size(s) Used For Test: 0.18  
Minimum dP During Test: 0.6  
Maximum dP During Test: 0.77

| Nozzle No. | Dn (in.) | vn (ft/s) | vmin (ft/s) | vmax (ft/s) | dPmin (in. H2O) | dPmax (in. H2O) |
|------------|----------|-----------|-------------|-------------|-----------------|-----------------|
| 1          | 0.136    | 97.851    | 74.172      | 120.270     | 1.201           | 3.159           |
| 2          | 0.15     | 80.438    | 59.755      | 99.647      | 0.780           | 2.168           |
| 3          | 0.164    | 67.291    | 48.717      | 84.137      | 0.518           | 1.546           |
| 4          | 0.18     | 55.860    | 38.922      | 70.713      | 0.331           | 1.092           |
| 5          | 0.197    | 46.635    | 30.756      | 59.941      | 0.207           | 0.785           |
| 6          | 0.215    | 39.153    | 23.761      | 51.262      | 0.123           | 0.574           |
| 7          | 0.233    | 33.337    | 17.751      | 44.564      | 0.069           | 0.434           |
| 8          | 0.264    | 25.968    | 12.984      | 36.158      | 0.037           | 0.285           |
| 9          | 0.3      | 20.110    | 10.055      | 29.561      | 0.022           | 0.191           |
| 10         | 0.342    | 15.474    | 7.737       | 23.210      | 0.013           | 0.118           |
| 11         | 0.39     | 11.899    | 5.950       | 17.849      | 0.008           | 0.070           |



**RUN NUMBER**

**RTO-201A-R3**

Date 08/31/95  
 Start Time 16:25  
 End Time 17:34  
 Stack Diam. 96 inches  
 Nozzle I.D. 0.180 inches  
 Meter Box Gamma 0.9991  
 Meter Box dH@ 1.7367  
 Barometric 28.75 in.Hg  
 Cp 0.84  
 Test Duration 32 minutes

**METHOD 4 DATA**

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 127.0         | 27.0        |
| IMP.2 | 100.0         | 103.0         | 3.0         |
| IMP.3 | 0.0           | 1.0           | 1.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 231.0         | 31.0        |
| S.G.  | 200.0         | 211.0         | 11.0        |

**METHOD 1-4 RESULTS**

Metered Volume 13.385 dcf  
 Volume @ Std.Cond. 11.998 dscf  
 % Water 14.15 %  
 % Isokinetics 101.7 %  
 Velocity 56.07 ft/sec  
 Actual Flow 169108 acfm  
 Std. Flow 121633 scfm  
 Dry Std. Flow 104420 dscfm

**METHOD 3 DATA**

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 18.9 | Md  | 28.94 |
| %CO2   | 1.15 | Ms  | 27.39 |
| %CO    | 0.0  | Ps  | 28.72 |
| %N2    | 80.0 | Fo  | 1.739 |
| O2+CO2 | 20.1 | %EA | 856   |

| POINT | DWELL  | STACK  | STATIC  | DP      | DH      | METER VOLUME      | METER TEMPERATURE |        |
|-------|--------|--------|---------|---------|---------|-------------------|-------------------|--------|
|       | TIME   | TEMP   |         |         |         |                   | INLET             | OUTLET |
|       | (Min.) | (DegF) | (in.WC) | (in.WC) | (in.WC) | (dcf)             | (DegF)            | (DegF) |
| 1     | 3.16   | 245    | -0.390  | 0.670   | 0.49    | 976.500           | 105               | 105    |
| 2     | 2.86   | 246    | -0.400  | 0.730   | 0.49    | 989.885           | 106               | 105    |
| 3     | 2.70   | 247    |         | 0.700   | 0.49    |                   | 106               | 104    |
| 4     | 2.66   | 246    |         | 0.690   | 0.49    |                   | 107               | 105    |
| 5     | 2.62   | 244    |         | 0.680   | 0.49    |                   | 108               | 106    |
| 6     | 2.43   | 240    |         | 0.630   | 0.49    |                   | 108               | 106    |
| 7     | 2.70   | 240    |         | 0.700   | 0.49    |                   | 103               | 104    |
| 8     | 2.77   | 245    |         | 0.720   | 0.49    |                   | 106               | 104    |
| 9     | 2.89   | 247    |         | 0.750   | 0.49    |                   | 107               | 105    |
| 10    | 2.74   | 248    |         | 0.710   | 0.49    |                   | 108               | 106    |
| 11    | 2.50   | 245    |         | 0.650   | 0.49    |                   | 109               | 106    |
| 12    | 2.12   | 243    |         | 0.550   | 0.49    |                   | 109               | 105    |
| AVG.  | 32.15  | 245    | -0.395  | 0.682   | 0.49    | 989.885<br>13.385 |                   | 106    |

LOUISIANA PACIFIC  
RTO STACK  
EPA METHOD 201A ANALYTICAL DATA AND RESULTS

**SAMPLING DATA:**

Run Number: RTO-201A-R3  
Corr. Sample Volume: 11.998 dscf  
Corr. Flowrate 104420 dscfm  
O2 Content: 18.9 %  
CO2 Content: 1.2 %

**SUMMARY**

| COMPONENT         | NET<br>(grams) | CORRECTED<br>FOR BLANK<br>(grams) |
|-------------------|----------------|-----------------------------------|
| PM10:             |                |                                   |
| Probe Wash < 10 μ | 0.00150        | 0.00056                           |
| Filter            | 0.00190        | 0.00190                           |
| TOTAL PM10        | 0.00340        | 0.00246                           |

**ANALYTICAL DATA**

|                            | SAMPLE<br>ID | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | VOLUME<br>(ml) |
|----------------------------|--------------|-----------------|------------------|----------------|----------------|
| Components of PM< 10 μ:    |              |                 |                  |                |                |
| Filter                     | 95-576-521   | 0.51650         | 0.51840          | 0.00190        | NA             |
| Probe Wash Residue <= PM10 | 95-576-523   | 65.11100        | 65.11250         | 0.00150        | 120.0          |
| Acetone Blank Residue      | 95-576-550   | 67.19880        | 67.20010         | 0.00130        | 125.0          |
| Applicable Acetone Blank   |              |                 |                  | 0.00125        |                |
| Max. Allowable Blank       |              |                 |                  | 0.00094        | NA             |

**PARTICULATE EMISSIONS:**

|                                | PM10    |
|--------------------------------|---------|
| Actual Grain Loading (gr/dscf) | 0.00316 |
| Mass Rate (lb/hr)              | 2.830   |

LOUISIANA PACIFIC  
 RTO STACK  
 EPA METHOD 201A PERFORMANCE CRITERIA CALCULATIONS

RUN I.D. RTO-201A-R3

Stack Gas Viscosity (micropoise) 212.557  
 Cyclone Flow Rate (dscf/min) 0.373  
 Cyclone Flow Rate (acfm) 0.605  
 D50 9.754

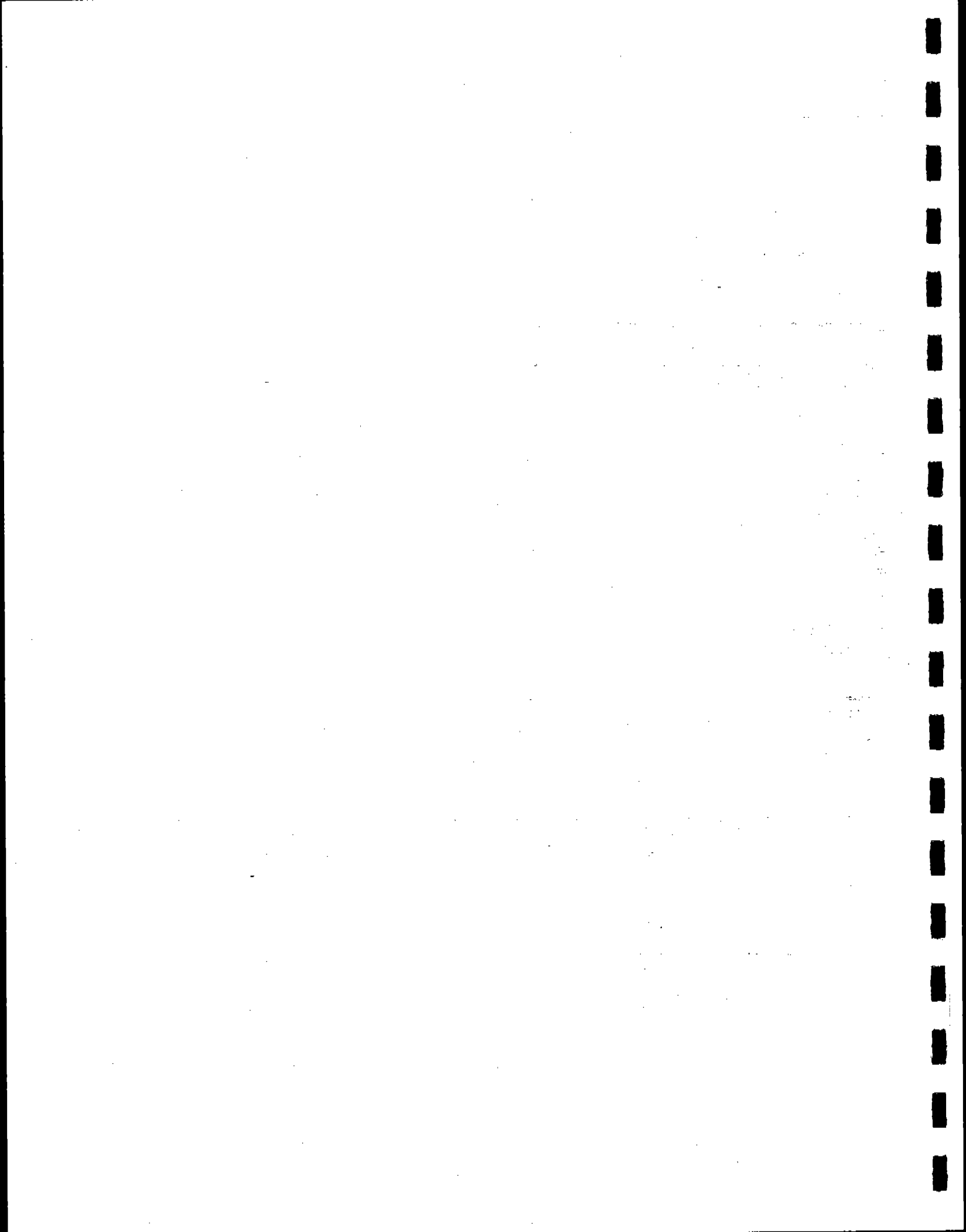
*dPmin and dPmax Calculations and Performance:*

Stack Gas Viscosity (micropoise) 216.346  
 Cyclone Flow Rate (acfm) 0.594

Vmstd - dscf 11.998  
 Sample Time - min 32.150  
 Ts 244.667  
 % O2 18.900  
 % Water 14.151  
 Vwc 1.459  
 Vsg 0.519  
 Ps 28.721  
 Mw 27.392  
 Cp 0.84

Nozzle Size(s) Used For Test: 0.18  
 Minimum dP During Test: 0.55  
 Maximum dP During Test: 0.75

| Nozzle No. | Dn (in.) | vn (ft/s) | vmin (ft/s) | vmax (ft/s) | dPmin (in. H2O) | dPmax (in. H2O) |
|------------|----------|-----------|-------------|-------------|-----------------|-----------------|
| 1          | 0.136    | 98.170    | 74.424      | 120.655     | 1.199           | 3.152           |
| 2          | 0.15     | 80.700    | 59.961      | 99.964      | 0.779           | 2.164           |
| 3          | 0.164    | 67.510    | 48.889      | 84.402      | 0.518           | 1.543           |
| 4          | 0.18     | 56.042    | 39.065      | 70.934      | 0.330           | 1.090           |
| 5          | 0.197    | 46.787    | 30.874      | 60.127      | 0.206           | 0.783           |
| 6          | 0.215    | 39.281    | 23.862      | 51.419      | 0.123           | 0.573           |
| 7          | 0.233    | 33.446    | 17.841      | 44.699      | 0.069           | 0.433           |
| 8          | 0.264    | 26.052    | 13.026      | 36.264      | 0.037           | 0.285           |
| 9          | 0.3      | 20.175    | 10.087      | 29.646      | 0.022           | 0.190           |
| 10         | 0.342    | 15.524    | 7.762       | 23.286      | 0.013           | 0.117           |
| 11         | 0.39     | 11.938    | 5.969       | 17.907      | 0.008           | 0.069           |



**APPENDIX C.2**

**DATA AND RESULTS FOR EPA METHOD 201A TESTING**

**- KONUS STACK -**



**RUN NUMBER**

**KS-M201A-R1**

Date 09/13/95  
 Start Time 09:27  
 End Time 10:46  
 Stack Diam. 41.5 inches  
 Nozzle I.D. 0.233 inches  
 Meter Box Gamma 1.0166  
 Meter Box dH@ 1.7393  
 Barometric 28.85 in.Hg  
 Cp 0.84  
 Test Duration 62.9 minutes

**METHOD 4 DATA**

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 112.0         | 12.0        |
| IMP.2 | 100.0         | 100.0         | 0.0         |
| IMP.3 | 0.0           | 3.0           | 3.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 215.0         | 15.0        |
| S.G.  | 200.0         | 205.6         | 5.6         |

**METHOD 1-4 RESULTS**

Metered Volume 27.481 dcf  
 Volume @ Std.Cond. 26.678 dscf  
 % Water 3.51 %  
 % Isokinetics 104.7 %  
 Velocity 34.55 ft/sec  
 Actual Flow 19473 acfm  
 Std. Flow 13331 scfm  
 Dry Std. Flow 12863 dscfm

**METHOD 3 DATA**

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 19.1 | Md  | 29.00 |
| %CO2   | 1.5  | Ms  | 28.62 |
| %CO    | 0.0  | Ps  | 28.84 |
| %N2    | 79.4 | Fo  | 1.200 |
| O2+CO2 | 20.6 | %EA | 1026  |

| POINT | DWELL TIME (Min.) | STACK TEMP (DegF) | STATIC (in.WC) | DP (in.WC) | DH (in.WC) | METER VOLUME (dcf) | METER TEMPERATURE INLET (DegF) | METER TEMPERATURE OUTLET (DegF) |
|-------|-------------------|-------------------|----------------|------------|------------|--------------------|--------------------------------|---------------------------------|
| 1     | 4.92              | 280               | -0.19          | 0.23       | 0.574      | 761.564            | 67                             | 66                              |
| 2     | 5.59              | 284               | -0.17          | 0.27       | 0.574      | 789.045            | 71                             | 69                              |
| 3     | 5.99              | 284               |                | 0.31       | 0.574      |                    | 72                             | 69                              |
| 4     | 5.27              | 285               |                | 0.24       | 0.574      |                    | 78                             | 72                              |
| 5     | 5.38              | 283               |                | 0.25       | 0.574      |                    | 74                             | 70                              |
| 6     | 5.38              | 280               |                | 0.25       | 0.574      |                    | 75                             | 71                              |
| 7     | 5.00              | 281               |                | 0.25       | 0.574      |                    | 74                             | 74                              |
| 8     | 4.90              | 286               |                | 0.24       | 0.574      |                    | 75                             | 73                              |
| 9     | 5.00              | 283               |                | 0.25       | 0.574      |                    | 77                             | 76                              |
| 10    | 5.47              | 284               |                | 0.30       | 0.574      |                    | 77                             | 74                              |
| 11    | 5.10              | 285               |                | 0.26       | 0.574      |                    | 79                             | 76                              |
| 12    | 4.90              | 285               |                | 0.24       | 0.574      |                    | 83                             | 77                              |
| AVG.  | 62.9              | 283               | -0.18          | 0.26       | 0.574      | 789.045<br>27.481  |                                | 74                              |

LA PACIFIC - DUNGANNON  
 KONUS STACK  
 EPA METHOD 201A ANALYTICAL DATA AND RESULTS

**SAMPLING DATA:**

Run Number: **KS-M201A-R1**  
 Corr. Sample Volume: 26.678 dscf  
 Corr. Flowrate 12863 dscfm  
 O2 Content 19.1 %  
 CO2 Content 1.5 %

**SUMMARY**

| COMPONENT         | NET<br>(grams) | CORRECTED<br>FOR BLANK<br>(grams) |
|-------------------|----------------|-----------------------------------|
| PM10:             |                |                                   |
| Probe Wash < 10 µ | 0.00030        | 0.00000                           |
| Filter            | 0.00100        | 0.00100                           |
| TOTAL PM10        | 0.00130        | 0.00100                           |

**ANALYTICAL DATA**

|                                   | SAMPLE<br>ID | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | VOLUME<br>(ml) |
|-----------------------------------|--------------|-----------------|------------------|----------------|----------------|
| <b>Components of PM&lt; 10 µ:</b> |              |                 |                  |                |                |
| Filter                            | 95-576-200   | 0.50820         | 0.50920          | 0.00100        | NA             |
| Probe Wash Residue <= PM10        | 95-576-202   | 65.96140        | 65.96170         | 0.00030        | 90.0           |
| Acetone Blank Residue             | 95-576-219   | 67.20710        | 67.20760         | 0.00050        | 125.0          |
| Applicable Acetone Blank          |              |                 |                  | 0.00036        |                |
| Max. Allowable Blank              |              |                 |                  | 0.00071        | NA             |

**PARTICULATE EMISSIONS:**

| PM10                           |         |
|--------------------------------|---------|
| Actual Grain Loading (gr/dscf) | 0.00058 |
| Mass Rate (lb/hr)              | 0.064   |



LA PACIFIC - DUNGANNON  
 KONUS STACK  
 EPA METHOD 201A PERFORMANCE CRITERIA CALCULATIONS

RUN I.D. KS-M201A-R1

Stack Gas Viscosity (micropoise) 230.372  
 Cyclone Flow Rate (dscf/min) 0.424  
 Cyclone Flow Rate (acfm) 0.642  
 D50 9.905

*dPmin and dPmax Calculations and Performance:*

Stack Gas Viscosity (micropoise) 234.872  
 Cyclone Flow Rate (acfm) 0.646

Vmstd - dscf 26.678  
 Sample Time - min 62.900  
 Ts 283.333  
 % O2 19.100  
 % Water 3.509  
 Vwc 0.706  
 Vsg 0.264  
 Ps 28.837  
 Mw 28.618  
 Cp 0.84

Nozzle Size(s) Used For Test: 0.233  
 Minimum dP During Test: 0.23  
 Maximum dP During Test: 0.31

| Nozzle No. | Dn (in.) | vn (ft/s) | vmin (ft/s) | vmax (ft/s) | dPmin (in. H2O) | dPmax (in. H2O) |
|------------|----------|-----------|-------------|-------------|-----------------|-----------------|
| 1          | 0.136    | 106.752   | 80.938      | 131.198     | 1.411           | 3.707           |
| 2          | 0.15     | 87.755    | 65.212      | 108.698     | 0.916           | 2.544           |
| 3          | 0.164    | 73.412    | 53.173      | 91.775      | 0.609           | 1.814           |
| 4          | 0.18     | 60.941    | 42.491      | 77.129      | 0.389           | 1.281           |
| 5          | 0.197    | 50.877    | 33.587      | 65.377      | 0.243           | 0.920           |
| 6          | 0.215    | 42.715    | 25.965      | 55.907      | 0.145           | 0.673           |
| 7          | 0.233    | 36.370    | 19.424      | 48.599      | 0.081           | 0.509           |
| 8          | 0.264    | 28.330    | 14.165      | 39.427      | 0.043           | 0.335           |
| 9          | 0.3      | 21.939    | 10.969      | 32.229      | 0.026           | 0.224           |
| 10         | 0.342    | 16.881    | 8.441       | 25.322      | 0.015           | 0.138           |
| 11         | 0.39     | 12.982    | 6.491       | 19.472      | 0.009           | 0.082           |

RUN NUMBER

KS-201A-R2

Date 09/13/95  
 Start Time 11:45  
 End Time 13:15  
 Stack Diam. 41.5 inches  
 Nozzle I.D. 0.233 inches  
 Meter Box Gamma 1.0166  
 Meter Box dH@ 1.7393  
 Barometric 28.85 in.Hg  
 Cp 0.84  
 Test Duration 58.1 minutes

METHOD 4 DATA

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 120.0         | 20.0        |
| IMP.2 | 100.0         | 100.0         | 0.0         |
| IMP.3 | 0.0           | 2.0           | 2.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 222.0         | 22.0        |
| S.G.  | 200.0         | 205.2         | 5.2         |

METHOD 1-4 RESULTS

Metered Volume 25.924 dcf  
 Volume @ Std.Cond. 24.571 dscf  
 % Water 4.95 %  
 % Isokinetics 114.1 %  
 Velocity 32.02 ft/sec  
 Actual Flow 18048 acfm  
 Std. Flow 12373 scfm  
 Dry Std. Flow 11760 dscfm

METHOD 3 DATA

| %O2    | 18.2 | Md  | 29.05 |
|--------|------|-----|-------|
| %CO2   | 2.0  | Ms  | 28.50 |
| %CO    | 0.0  | Ps  | 28.84 |
| %N2    | 79.8 | Fo  | 1.337 |
| O2+CO2 | 20.2 | %EA | 636   |

| POINT | DWELL TIME (Min.) | STACK TEMP (DegF) | STATIC (in.WC) | DP (in.WC) | DH (in.WC) | METER VOLUME (dcf) | METER INLET TEMPERATURE (DegF) | METER OUTLET TEMPERATURE (DegF) |
|-------|-------------------|-------------------|----------------|------------|------------|--------------------|--------------------------------|---------------------------------|
| 1     | 4.95              | 283               | -0.10          | 0.23       | 0.561      | 789.260            | 81                             | 81                              |
| 2     | 5.36              | 284               | -0.13          | 0.27       | 0.561      | 815.184            | 86                             | 84                              |
| 3     | 5.36              | 285               |                | 0.27       | 0.561      |                    | 86                             | 82                              |
| 4     | 4.73              | 282               |                | 0.21       | 0.561      |                    | 86                             | 81                              |
| 5     | 4.73              | 280               |                | 0.21       | 0.561      |                    | 89                             | 84                              |
| 6     | 4.50              | 279               |                | 0.19       | 0.561      |                    | 88                             | 84                              |
| 7     | 4.84              | 280               |                | 0.22       | 0.561      |                    | 87                             | 86                              |
| 8     | 4.62              | 284               |                | 0.20       | 0.561      |                    | 89                             | 87                              |
| 9     | 4.73              | 282               |                | 0.21       | 0.561      |                    | 90                             | 88                              |
| 10    | 4.84              | 282               |                | 0.22       | 0.561      |                    | 91                             | 88                              |
| 11    | 4.84              | 284               |                | 0.22       | 0.561      |                    | 92                             | 88                              |
| 12    | 4.62              | 284               |                | 0.20       | 0.561      |                    | 92                             | 89                              |
| AVG.  | 58.12             | 282               | -0.12          | 0.22       | 0.561      | 815.184<br>25.924  |                                | 87                              |

LA PACIFIC - DUNGANNON  
 KONUS STACK  
 EPA METHOD 201A ANALYTICAL DATA AND RESULTS

**SAMPLING DATA:**

Run Number: **KS-201A-R2**  
 Corr. Sample Volume: 24.571 dscf  
 Corr. Flowrate 11760 dscfm  
 O2 Content 18.2 %  
 CO2 Content 2.0 %

**SUMMARY**

| COMPONENT         | NET<br>(grams) | CORRECTED<br>FOR BLANK<br>(grams) |
|-------------------|----------------|-----------------------------------|
| PM10:             |                |                                   |
| Probe Wash < 10 µ | 0.00020        | 0.00000                           |
| Filter            | 0.00020        | 0.00020                           |
| TOTAL PM10        | 0.00040        | 0.00020                           |

**ANALYTICAL DATA**

|                                    | SAMPLE<br>ID | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | VOLUME<br>(ml) |
|------------------------------------|--------------|-----------------|------------------|----------------|----------------|
| <b>Components of PM &lt; 10 µ:</b> |              |                 |                  |                |                |
| Filter                             | 95-576-206   | 0.51000         | 0.51020          | 0.00020        | NA             |
| Probe Wash Residue <= PM10         | 95-576-208   | 64.51180        | 64.51200         | 0.00020        | 110.0          |
| Acetone Blank Residue              | 95-576-219   | 67.20710        | 67.20760         | 0.00050        | 125.0          |
| Applicable Acetone Blank           |              |                 |                  | 0.00044        |                |
| Max. Allowable Blank               |              |                 |                  | 0.00086        | NA             |

**PARTICULATE EMISSIONS:**

|                                | PM10    |
|--------------------------------|---------|
| Actual Grain Loading (gr/dscf) | 0.00013 |
| Mass Rate (lb/hr)              | 0.013   |

LA PACIFIC - DUNGANNON  
 KONUS STACK  
 EPA METHOD 201A PERFORMANCE CRITERIA CALCULATIONS

RUN I.D. KS-201A-R2

Stack Gas Viscosity (micropoise) 228.588  
 Cyclone Flow Rate (dscf/min) 0.423  
 Cyclone Flow Rate (acfm) 0.649  
 D50 9.783

*dPmin and dPmax Calculations and Performance:*

Stack Gas Viscosity (micropoise) 233.071  
 Cyclone Flow Rate (acfm) 0.642

Vmstd - dscf 24.571  
 Sample Time - min 58.120  
 Ts 282.417  
 % O2 18.200  
 % Water 4.954  
 Vwc 1.036  
 Vsg 0.245  
 Ps 28.842  
 Mw 28.504  
 Cp 0.84

Nozzle Size(s) Used For Test: 0.233  
 Minimum dP During Test: 0.19  
 Maximum dP During Test: 0.27

| Nozzle No. | Dn (in.) | vn (ft/s) | vmin (ft/s) | vmax (ft/s) | dPmin (in. H2O) | dPmax (in. H2O) |
|------------|----------|-----------|-------------|-------------|-----------------|-----------------|
| 1          | 0.136    | 106.015   | 80.383      | 130.290     | 1.388           | 3.646           |
| 2          | 0.15     | 87.149    | 64.766      | 107.945     | 0.901           | 2.503           |
| 3          | 0.164    | 72.905    | 52.811      | 91.139      | 0.599           | 1.784           |
| 4          | 0.18     | 60.520    | 42.203      | 76.594      | 0.383           | 1.260           |
| 5          | 0.197    | 50.526    | 33.362      | 64.922      | 0.239           | 0.905           |
| 6          | 0.215    | 42.420    | 25.794      | 55.518      | 0.143           | 0.662           |
| 7          | 0.233    | 36.119    | 19.300      | 48.260      | 0.080           | 0.500           |
| 8          | 0.264    | 28.134    | 14.067      | 39.151      | 0.043           | 0.329           |
| 9          | 0.3      | 21.787    | 10.894      | 32.003      | 0.025           | 0.220           |
| 10         | 0.342    | 16.765    | 8.382       | 25.147      | 0.015           | 0.136           |
| 11         | 0.39     | 12.892    | 6.446       | 19.338      | 0.009           | 0.080           |

RUN NUMBER

KS-201A-R3

Date 09/13/95  
 Start Time 14:20  
 End Time 15:27  
 Stack Diam. 41.5 inches  
 Nozzze I.D. 0.233 inches  
 Meter Box Gamma 1.0166  
 Meter Box dH@ 1.7393  
 Barometric 28.85 in.Hg  
 Cp 0.84  
 Test Duration 54.8 minutes

METHOD 4 DATA

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 120.0         | 20.0        |
| IMP.2 | 100.0         | 102.0         | 2.0         |
| IMP.3 | 0.0           | -2.0          | 2.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 224.0         | 24.0        |
| S.G.  | 200.0         | 204.5         | 4.5         |

METHOD 1-4 RESULTS

Metered Volume 24.946 dcf  
 Volume @ Std.Cond. 23.569 dscf  
 % Water 5.38 %  
 % Isokinetics 123.4 %  
 Velocity 30.31 ft/sec  
 Actual Flow 17081 acfm  
 Std. Flow 11693 scfm  
 Dry Std. Flow 11064 dscfm

METHOD 3 DATA

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 18.4 | Md  | 29.04 |
| %CO2   | 1.9  | Ms  | 28.45 |
| %CO    | 0.0  | Ps  | 28.84 |
| %N2    | 79.7 | Fo  | 1.316 |
| O2+CO2 | 20.3 | %EA | 697   |

| POINT | DWELL TIME<br>(Min.) | STACK TEMP<br>(DegF) | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER VOLUME<br>(dcf) | METER TEMPERATURE INLET<br>(DegF) | METER TEMPERATURE OUTLET<br>(DegF) |
|-------|----------------------|----------------------|-------------------|---------------|---------------|-----------------------|-----------------------------------|------------------------------------|
| 1     | 4.94                 | 281                  | -0.10             | 0.23          | 0.569         | 815.346               | 88                                | 87                                 |
| 2     | 4.61                 | 282                  | -0.10             | 0.20          | 0.569         | 840.292               | 87                                | 86                                 |
| 3     | 4.72                 | 282                  |                   | 0.21          | 0.569         |                       | 88                                | 87                                 |
| 4     | 4.94                 | 284                  |                   | 0.23          | 0.569         |                       | 90                                | 88                                 |
| 5     | 4.72                 | 284                  |                   | 0.21          | 0.569         |                       | 90                                | 88                                 |
| 6     | 4.72                 | 283                  |                   | 0.21          | 0.569         |                       | 90                                | 88                                 |
| 7     | 4.37                 | 285                  |                   | 0.18          | 0.569         |                       | 88                                | 88                                 |
| 8     | 4.83                 | 285                  |                   | 0.22          | 0.569         |                       | 89                                | 88                                 |
| 9     | 4.12                 | 284                  |                   | 0.16          | 0.569         |                       | 89                                | 89                                 |
| 10    | 4.72                 | 284                  |                   | 0.21          | 0.569         |                       | 89                                | 88                                 |
| 11    | 4.12                 | 285                  |                   | 0.16          | 0.569         |                       | 90                                | 88                                 |
| 12    | 3.99                 | 283                  |                   | 0.15          | 0.569         |                       | 90                                | 88                                 |
| AVG.  | 54.8                 | 284                  | -0.10             | 0.20          | 0.569         | 840.292<br>24.946     |                                   | 88                                 |

LA PACIFIC - DUNGANNON  
 KONUS STACK  
 EPA METHOD 201A ANALYTICAL DATA AND RESULTS

**SAMPLING DATA:**

Run Number: **KS-201A-R3**  
 Corr. Sample Volume: 23.569 dscf  
 Corr. Flowrate: 11064 dscfm  
 O2 Content: 18.4 %  
 CO2 Content: 1.9 %

**SUMMARY**

| COMPONENT         | NET<br>(grams) | CORRECTED<br>FOR BLANK<br>(grams) |
|-------------------|----------------|-----------------------------------|
| PM10:             |                |                                   |
| Probe Wash < 10 µ | 0.00040        | 0.00000                           |
| Filter            | 0.00010        | 0.00010                           |
| TOTAL PM10        | 0.00050        | 0.00010                           |

**ANALYTICAL DATA**

|                                   | SAMPLE<br>ID | TARE<br>(grams) | FINAL<br>(grams) | NET<br>(grams) | VOLUME<br>(ml) |
|-----------------------------------|--------------|-----------------|------------------|----------------|----------------|
| <b>Components of PM&lt; 10 µ:</b> |              |                 |                  |                |                |
| Filter                            | 95-576-212   | 0.51350         | 0.51360          | 0.00010        | NA             |
| Probe Wash Residue <= PM10        | 95-576-214   | 64.51730        | 64.51770         | 0.00040        | 120.0          |
| Acetone Blank Residue             | 95-576-219   | 67.20710        | 67.20760         | 0.00050        | 125.0          |
| Applicable Acetone Blank          |              |                 |                  | 0.00048        |                |
| Max. Allowable Blank              |              |                 |                  | 0.00094        | NA             |

**PARTICULATE EMISSIONS:**

| PM10                           |         |
|--------------------------------|---------|
| Actual Grain Loading (gr/dscf) | 0.00007 |
| Mass Rate (lb/hr)              | 0.006   |

LA PACIFIC - DUNGANNON  
 KONUS STACK  
 EPA METHOD 201A PERFORMANCE CRITERIA CALCULATIONS

RUN I.D. KS-201A-R3

Stack Gas Viscosity (micropoise) 228.654  
 Cyclone Flow Rate (dscf/min) 0.430  
 Cyclone Flow Rate (acfm) 0.664  
 D50 9.633

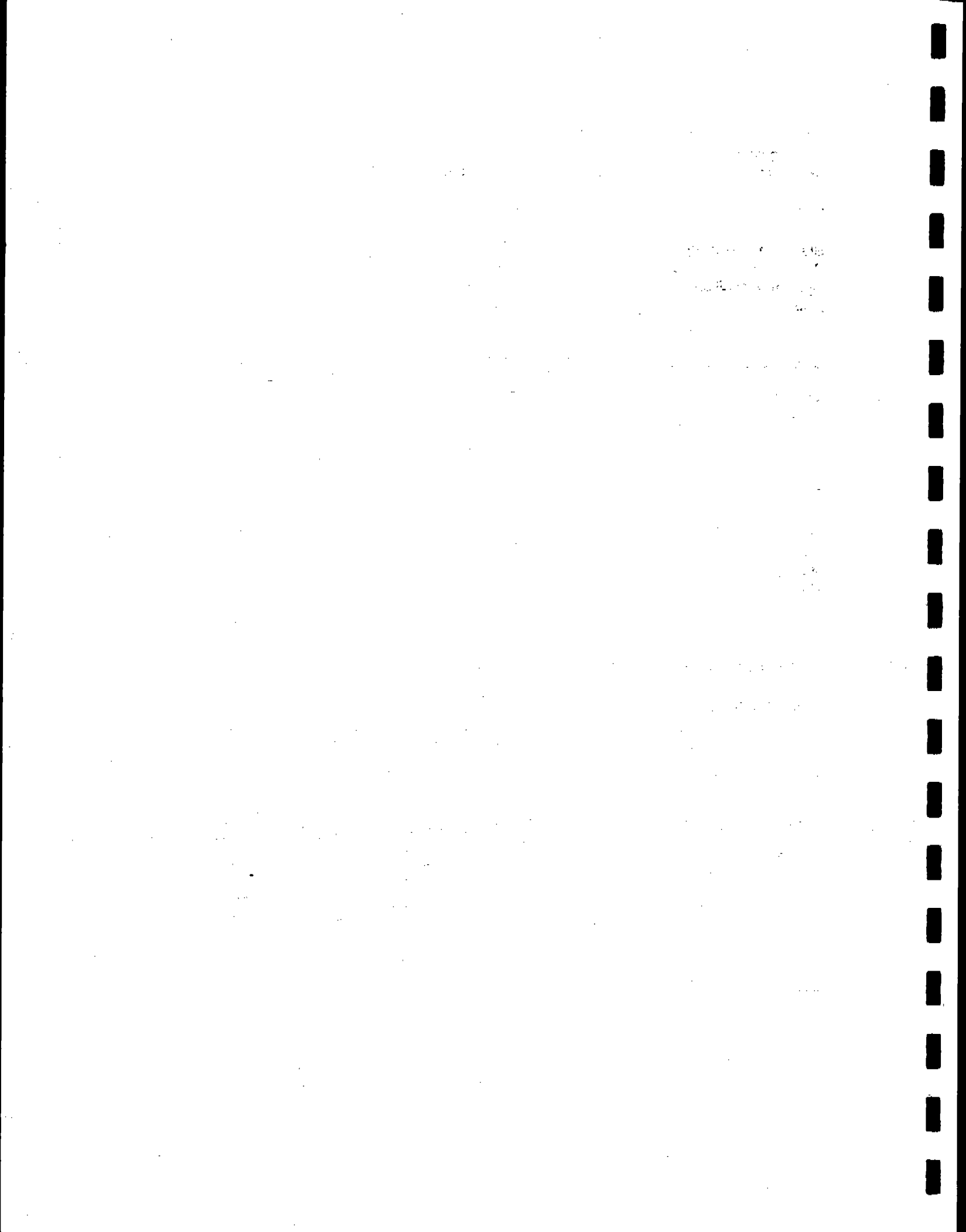
*dPmin and dPmax Calculations and Performance:*

Stack Gas Viscosity (micropoise) 233.157  
 Cyclone Flow Rate (acfm) 0.643

Vmstd - dscf 23.569  
 Sample Time - min 54.800  
 Ts 283.500  
 % O2 18.400  
 % Water 5.381  
 Vwc 1.130  
 Vsg 0.211  
 Ps 28.843  
 Mw 28.446  
 Cp 0.84

Nozzle Size(s) Used For Test: 0.233  
 Minimum dP During Test: 0.15  
 Maximum dP During Test: 0.23

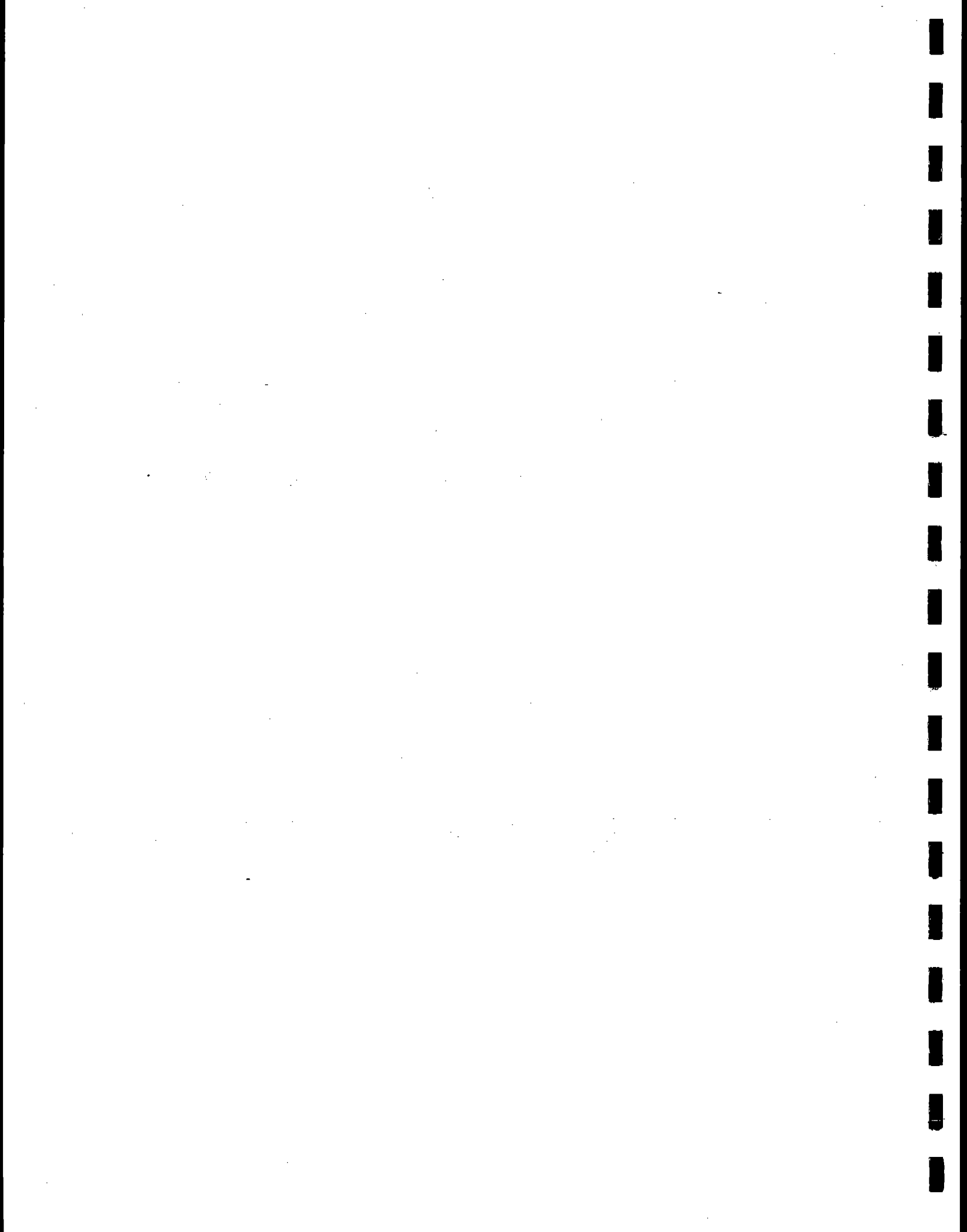
| Nozzle No. | Dn (in.) | vn (ft/s) | vmin (ft/s) | vmax (ft/s) | dPmin (in. H2O) | dPmax (in. H2O) |
|------------|----------|-----------|-------------|-------------|-----------------|-----------------|
| 1          | 0.136    | 106.162   | 80.499      | 130.467     | 1.387           | 3.643           |
| 2          | 0.15     | 87.270    | 64.861      | 108.091     | 0.900           | 2.501           |
| 3          | 0.164    | 73.006    | 52.890      | 91.262      | 0.599           | 1.783           |
| 4          | 0.18     | 60.604    | 42.269      | 76.696      | 0.382           | 1.259           |
| 5          | 0.197    | 50.596    | 33.416      | 65.008      | 0.239           | 0.905           |
| 6          | 0.215    | 42.479    | 25.840      | 55.590      | 0.143           | 0.661           |
| 7          | 0.233    | 36.169    | 19.341      | 48.322      | 0.080           | 0.500           |
| 8          | 0.264    | 28.173    | 14.087      | 39.200      | 0.042           | 0.329           |
| 9          | 0.3      | 21.817    | 10.909      | 32.042      | 0.025           | 0.220           |
| 10         | 0.342    | 16.788    | 8.394       | 25.182      | 0.015           | 0.136           |
| 11         | 0.39     | 12.910    | 6.455       | 19.365      | 0.009           | 0.080           |





**APPENDIX D**

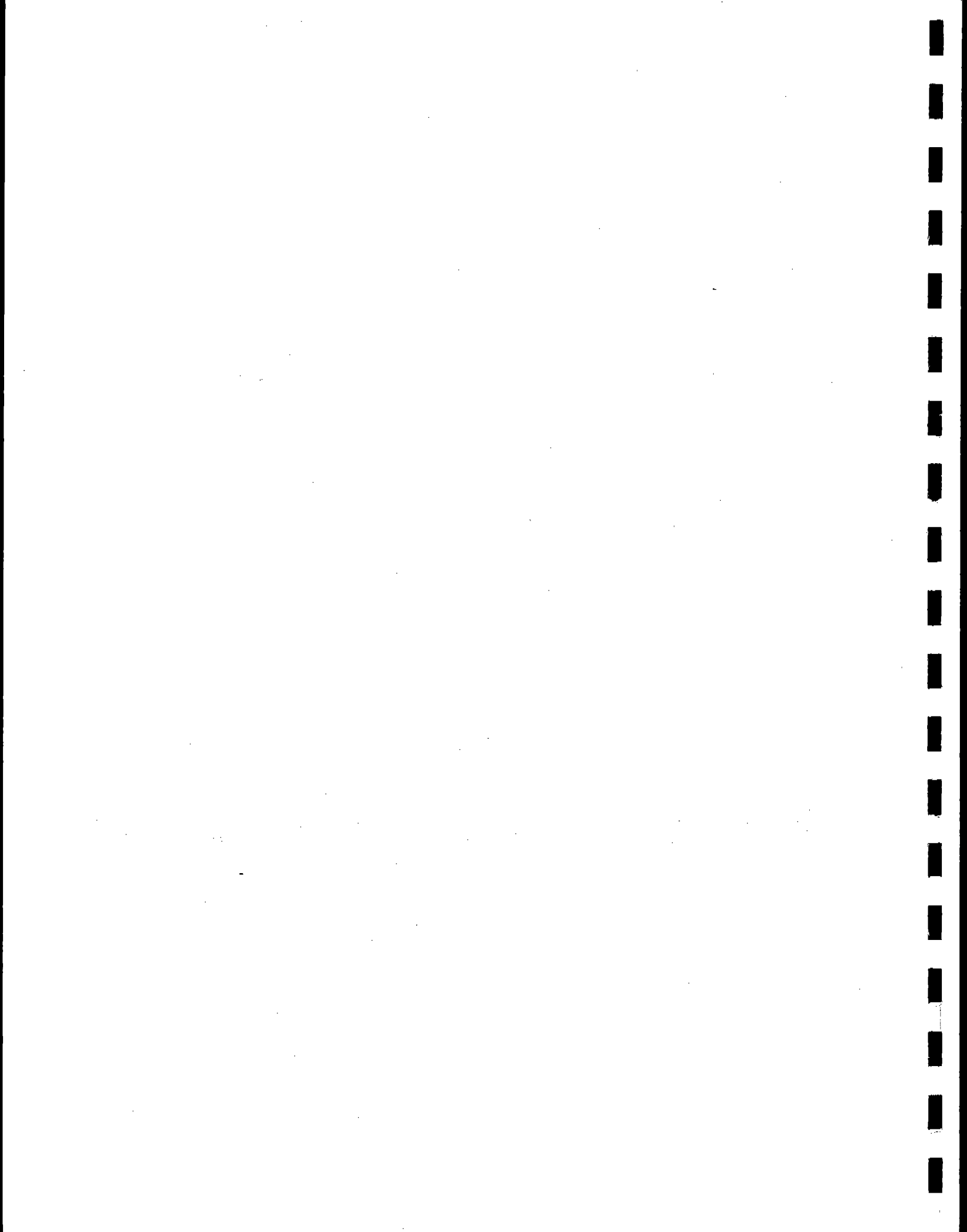
**DATA AND RESULTS APPENDICES FOR BIF METHOD 0011 TESTING**



**APPENDIX D.1**

**DATA AND RESULTS FOR BIF METHOD 0011 TESTING**

**- SCRUBBER INLET -**



RUN NUMBER

SI-0011-R1

Date 08/30/95  
 Start Time 09:55  
 End Time 11:17  
 Stack Diam. 48 inches  
 Nozzle I.D. 0.214 inches  
 Meter Box Gamma 0.9908  
 Meter Box dH@ 1.7641  
 Barometric 28.75 in.Hg  
 Cp 0.84  
 Test Duration 60 minutes

METHOD 4 DATA

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 232.0         | 132.0       |
| IMP.2 | 100.0         | 142.0         | 42.0        |
| IMP.3 | 0.0           | 5.0           | 5.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 379.0         | 179.0       |
| S.G.  | 666.9         | 679.7         | 12.8        |

METHOD 1-4 RESULTS

Metered Volume 45.249 dcf  
 Volume @ Std.Cond. 40.234 dscf  
 % Water 18.33 %  
 % Isokinetics 98.7 %  
 Velocity 71.96 ft/sec  
 Actual Flow 54258 acfm  
 Std. Flow 41890 scfm  
 Dry Std. Flow 34213 dscfm

METHOD 3 DATA

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 17.4 | Md  | 29.10 |
| %CO2   | 2.6  | Ms  | 27.07 |
| %CO    | 0.0  | Ps  | 28.00 |
| %N2    | 80.1 | Fo  | 1.373 |
| O2+CO2 | 20.0 | %EA | 466   |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER             | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|-------------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf)   | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 179            | -10.00            | 1.05          | 1.42          | 895.262           | 105               | 102              |
| 2     | 179            | -10.50            | 1.15          | 1.53          | 940.511           | 105               | 103              |
| 3     | 179            |                   | 1.20          | 1.60          |                   | 105               | 102              |
| 4     | 179            |                   | 1.30          | 1.73          |                   | 105               | 102              |
| 5     | 179            |                   | 1.40          | 1.86          |                   | 106               | 102              |
| 6     | 179            |                   | 1.30          | 1.73          |                   | 107               | 102              |
| 7     | 182            |                   | 1.25          | 1.66          |                   | 108               | 101              |
| 8     | 181            |                   | 1.20          | 1.60          |                   | 108               | 102              |
| 9     | 180            |                   | 1.20          | 1.60          |                   | 109               | 102              |
| 10    | 180            |                   | 1.15          | 1.53          |                   | 110               | 103              |
| 11    | 180            |                   | 1.10          | 1.46          |                   | 110               | 102              |
| 12    | 180            |                   | 1.00          | 1.33          |                   | 111               | 103              |
| 13    | 181            |                   | 1.50          | 2.00          |                   | 110               | 104              |
| 14    | 181            |                   | 1.45          | 1.90          |                   | 111               | 105              |
| 15    | 181            |                   | 1.30          | 1.73          |                   | 111               | 105              |
| 16    | 180            |                   | 1.40          | 1.86          |                   | 112               | 106              |
| 17    | 181            |                   | 1.30          | 1.73          |                   | 113               | 107              |
| 18    | 180            |                   | 1.25          | 1.66          |                   | 114               | 107              |
| 19    | 180            |                   | 1.15          | 1.53          |                   | 115               | 106              |
| 20    | 180            |                   | 1.10          | 1.86          |                   | 115               | 107              |
| 21    | 180            |                   | 1.05          | 1.40          |                   | 116               | 107              |
| 22    | 179            |                   | 0.90          | 1.20          |                   | 116               | 107              |
| 23    | 179            |                   | 0.87          | 1.16          |                   | 116               | 107              |
| 24    | 179            |                   | 0.84          | 1.12          |                   | 116               | 108              |
| AVG.  | 180            | -10.25            | 1.18          | 1.59          | 940.511<br>45.249 |                   | 107              |

**RUN NUMBER**

**SI-0011-R2**

Date 08/30/95  
 Start Time 13:25  
 End Time 15:10  
 Stack Diam. 48.00 inches  
 Nozzle I.D. 0.214 inches  
 Meter Box Gamma 0.991  
 Meter Box dH@ 1.764  
 Barometric 28.75 in.Hg  
 Cp 0.840  
 Test Duration 60 minutes

**METHOD 4 DATA**

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 270.0         | 170.0       |
| IMP.2 | 100.0         | 122.0         | 22.0        |
| IMP.3 | 0.0           | 6.0           | 6.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 398.0         | 198.0       |
| S.G.  | 200.0         | 211.9         | 11.9        |

**METHOD 1-4 RESULTS**

Metered Volume 46.333 dcf  
 Volume @ Std.Cond. 40.641 dscf  
 % Water 19.56 %  
 % Isokinetics 102.1 %  
 Velocity 71.44 ft/sec  
 Actual Flow 53862 acfm  
 Std. Flow 41514 scfm  
 Dry Std. Flow 33395 dscfm

**METHOD 3 DATA**

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 17.6 | Md  | 29.11 |
| %CO2   | 2.6  | Ms  | 26.94 |
| %CO    | 0.0  | Ps  | 27.97 |
| %N2    | 79.9 | Fo  | 1.304 |
| O2+CO2 | 20.1 | %EA | 496   |

| POINT | STACK  | STATIC  | DP      | DH      | METER             | METER TEMPERATURE |        |
|-------|--------|---------|---------|---------|-------------------|-------------------|--------|
|       | TEMP   |         |         |         |                   | VOLUME            | INLET  |
|       | (DegF) | (in.WC) | (in.WC) | (in.WC) | (dcf)             | (DegF)            | (DegF) |
| 1     | 179    | -10.75  | 0.95    | 1.27    | 940.882           | 114               | 112    |
| 2     | 179    | -10.50  | 1.00    | 1.40    | 987.215           | 115               | 112    |
| 3     | 180    |         | 1.25    | 1.67    |                   | 115               | 112    |
| 4     | 180    |         | 1.30    | 1.74    |                   | 117               | 112    |
| 5     | 180    |         | 1.30    | 1.74    |                   | 118               | 112    |
| 6     | 180    |         | 1.30    | 1.74    |                   | 118               | 113    |
| 7     | 180    |         | 1.40    | 1.87    |                   | 119               | 112    |
| 8     | 180    |         | 1.35    | 1.80    |                   | 120               | 112    |
| 9     | 181    |         | 1.25    | 1.61    |                   | 120               | 113    |
| 10    | 180    |         | 1.10    | 1.47    |                   | 120               | 113    |
| 11    | 180    |         | 0.95    | 1.27    |                   | 120               | 113    |
| 12    | 180    |         | 0.90    | 1.21    |                   | 120               | 112    |
| 13    | 181    |         | 1.20    | 1.61    |                   | 115               | 112    |
| 14    | 181    |         | 1.30    | 1.74    |                   | 117               | 112    |
| 15    | 181    |         | 1.40    | 1.87    |                   | 118               | 112    |
| 16    | 181    |         | 1.50    | 2.00    |                   | 120               | 112    |
| 17    | 181    |         | 1.50    | 2.00    |                   | 114               | 112    |
| 18    | 181    |         | 1.40    | 1.87    |                   | 117               | 112    |
| 19    | 180    |         | 1.20    | 1.61    |                   | 118               | 112    |
| 20    | 181    |         | 1.15    | 1.54    |                   | 119               | 112    |
| 21    | 181    |         | 1.10    | 1.47    |                   | 120               | 112    |
| 22    | 181    |         | 1.00    | 1.40    |                   | 120               | 113    |
| 23    | 181    |         | 0.94    | 1.26    |                   | 120               | 113    |
| 24    | 180    |         | 0.87    | 1.17    |                   | 120               | 113    |
| AVG.  | 180    | -10.63  | 1.19    | 1.60    | 987.215<br>46.333 | 115               |        |

RUN NUMBER

SI-0011-R3

Date 08/30/95  
 Start Time 19:40  
 End Time 20:51  
 Stack Diam. 48 inches  
 Nozzle I.D. 0.214 inches  
 Meter Box Gamma 0.99079  
 Meter Box dH@ 1.76407  
 Barometric 28.75 in.Hg  
 Cp 0.84  
 Test Duration 60 minutes

METHOD 4 DATA

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 246.0         | 146.0       |
| IMP.2 | 100.0         | 128.0         | 28.0        |
| IMP.3 | 0.0           | -2.0          | 2.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 376.0         | 176.0       |
| S.G.  | 200.0         | 215.3         | 15.3        |

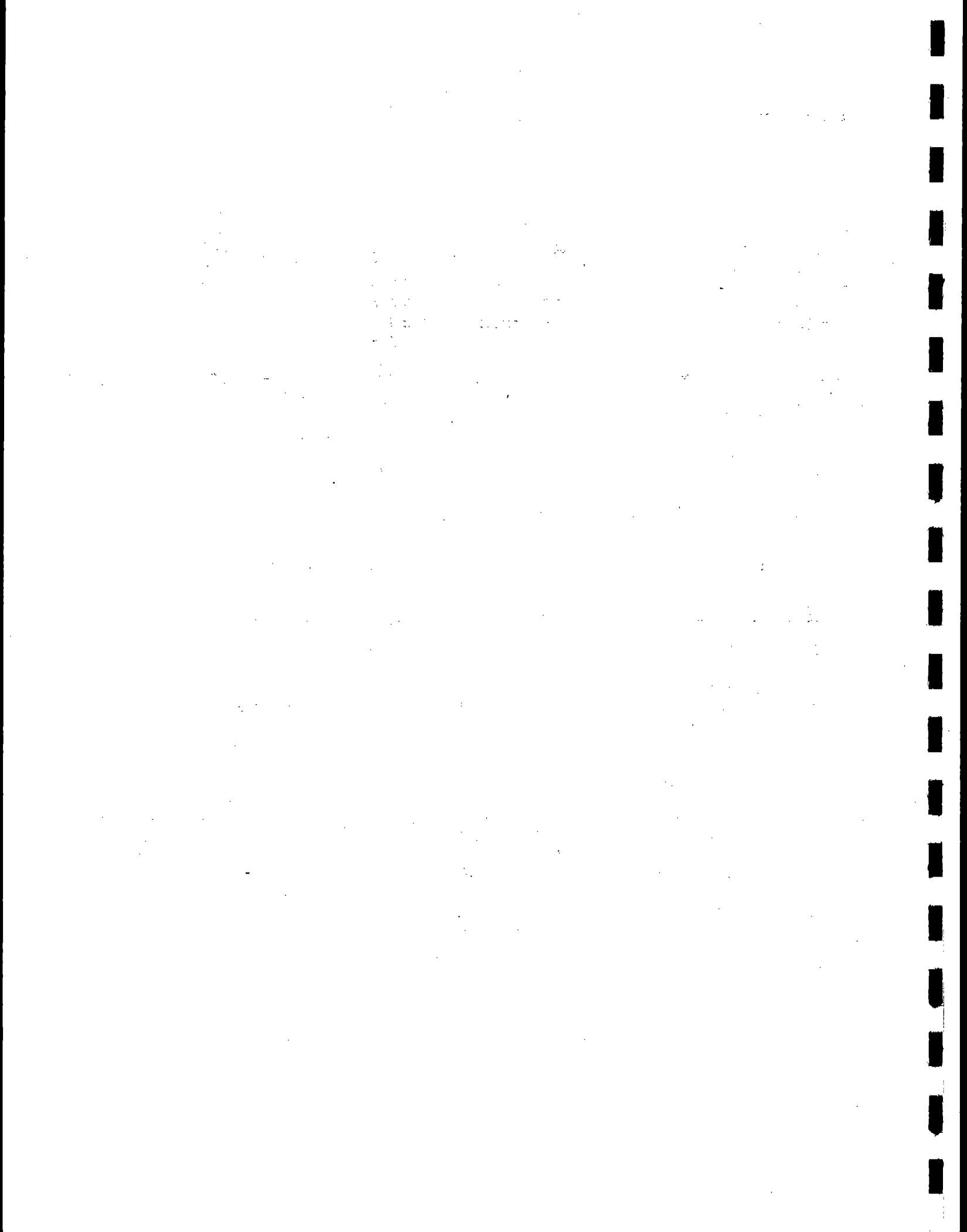
METHOD 1-4 RESULTS

Metered Volume 45.081 dcf  
 Volume @ Std.Cond. 39.946 dscf  
 % Water 18.40 %  
 % Isokinetics 108.2 %  
 Velocity 65.19 ft/sec  
 Actual Flow 49155 acfm  
 Std. Flow 37963 scfm  
 Dry Std. Flow 30979 dscfm

METHOD 3 DATA

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 17.5 | Md  | 29.13 |
| %CO2   | 2.7  | Ms  | 27.08 |
| %CO    | 0.0  | Ps  | 28.03 |
| %N2    | 79.8 | Fo  | 1.259 |
| O2+CO2 | 20.2 | %EA | 491   |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER<br>VOLUME<br>(dcf) | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|--------------------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               |                          | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 181            | -9.70             | 1.25          | 1.67          | 988.245                  | 105               | 106              |
| 2     | 181            | -10.00            | 1.30          | 1.74          | 1033.326                 | 105               | 106              |
| 3     | 181            |                   | 1.30          | 1.74          |                          | 106               | 106              |
| 4     | 181            |                   | 1.25          | 1.67          |                          | 107               | 105              |
| 5     | 181            |                   | 1.20          | 1.61          |                          | 108               | 106              |
| 6     | 180            |                   | 1.00          | 1.40          |                          | 108               | 106              |
| 7     | 179            |                   | 0.85          | 1.14          |                          | 109               | 106              |
| 8     | 179            |                   | 0.83          | 1.10          |                          | 110               | 107              |
| 9     | 179            |                   | 0.78          | 1.04          |                          | 110               | 106              |
| 10    | 179            |                   | 0.77          | 1.03          |                          | 110               | 106              |
| 11    | 179            |                   | 0.70          | 0.94          |                          | 110               | 106              |
| 12    | 179            |                   | 0.67          | 0.90          |                          | 111               | 107              |
| 13    | 180            |                   | 0.90          | 1.21          |                          | 109               | 107              |
| 14    | 180            |                   | 1.20          | 1.61          |                          | 110               | 107              |
| 15    | 181            |                   | 1.30          | 1.74          |                          | 112               | 107              |
| 16    | 181            |                   | 1.30          | 1.74          |                          | 113               | 107              |
| 17    | 181            |                   | 1.40          | 1.88          |                          | 114               | 107              |
| 18    | 181            |                   | 1.40          | 1.88          |                          | 115               | 108              |
| 19    | 181            |                   | 1.45          | 1.94          |                          | 116               | 108              |
| 20    | 181            |                   | 1.40          | 1.88          |                          | 117               | 109              |
| 21    | 181            |                   | 1.35          | 1.81          |                          | 117               | 109              |
| 22    | 181            |                   | 1.25          | 1.67          |                          | 118               | 109              |
| 23    | 181            |                   | 1.20          | 1.61          |                          | 118               | 109              |
| 24    | 181            |                   | 1.10          | 1.47          |                          | 118               | 109              |
| AVG.  | 180            | -9.85             | 1.13          | 1.52          | 1033.326<br>45.081       | 109               |                  |





**APPENDIX D.2**

**DATA AND RESULTS FOR BIF METHOD 0011 TESTING**

**- SCRUBBER OUTLET -**



RUN NUMBER

SCO-0011-R1

Date 08/30/95  
 Start Time 09:55  
 End Time 11:17  
 Stack Diam. 48 inches  
 Nozzle I.D. 0.211 inches  
 Meter Box Gamma 1.0058  
 Meter Box dH@ 1.7581  
 Barometric 28.75 in.Hg  
 Cp 0.835  
 Test Duration 60 minutes

METHOD 4 DATA

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 236.0         | 136.0       |
| IMP.2 | 100.0         | 132.0         | 32.0        |
| IMP.3 | 0.0           | 2.0           | 2.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 370.0         | 170.0       |
| S.G.  | 200.0         | 206.0         | 6.0         |

METHOD 1-4 RESULTS

Metered Volume 45.084 dcf  
 Volume @ Std.Cond. 41.247 dscf  
 % Water 16.73 %  
 % Isokinetics 95.3 %  
 Velocity 72.39 ft/sec  
 Actual Flow 54578 acfm  
 Std. Flow 44876 scfm  
 Dry Std. Flow 37370 dscfm

METHOD 3 DATA

|        |      | Md  |       |
|--------|------|-----|-------|
| %O2    | 18.4 |     | 29.12 |
| %CO2   | 2.4  | Ms  | 27.26 |
| %CO    | 0.0  | Ps  | 28.58 |
| %N2    | 79.2 | Fo  | 1.058 |
| O2+CO2 | 20.8 | %EA | 715   |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER<br>VOLUME<br>(dcf) | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|--------------------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               |                          | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 155            | -2.20             | 0.82          | 1.00          | 738.018                  | 92                | 92               |
| 2     | 153            | -2.30             | 0.89          | 1.10          | 759.387                  | 93                | 93               |
| 3     | 153            |                   | 1.10          | 1.30          | 21.369                   | 95                | 94               |
| 4     | 154            |                   | 1.20          | 1.50          | 759.470                  | 95                | 94               |
| 5     | 154            |                   | 1.30          | 1.60          | 783.185                  | 95                | 94               |
| 6     | 154            |                   | 1.40          | 1.74          | 23.715                   | 99                | 95               |
| 7     | 153            |                   | 1.70          | 2.10          |                          | 100               | 95               |
| 8     | 153            |                   | 1.70          | 2.10          |                          | 100               | 95               |
| 9     | 152            |                   | 1.60          | 2.00          |                          | 102               | 96               |
| 10    | 151            |                   | 1.20          | 1.50          |                          | 102               | 96               |
| 11    | 151            |                   | 1.10          | 1.30          |                          | 102               | 96               |
| 12    | 150            |                   | 0.89          | 1.10          |                          | 103               | 97               |
| 13    | 152            |                   | 1.20          | 1.50          |                          | 101               | 99               |
| 14    | 154            |                   | 1.50          | 1.80          |                          | 101               | 100              |
| 15    | 153            |                   | 1.60          | 2.00          |                          | 101               | 99               |
| 16    | 154            |                   | 1.70          | 2.10          |                          | 105               | 101              |
| 17    | 155            |                   | 1.70          | 2.10          |                          | 107               | 102              |
| 18    | 154            |                   | 1.70          | 2.10          |                          | 105               | 101              |
| 19    | 155            |                   | 1.60          | 2.00          |                          | 106               | 101              |
| 20    | 155            |                   | 1.60          | 2.00          |                          | 106               | 101              |
| 21    | 154            |                   | 1.20          | 1.50          |                          | 107               | 102              |
| 22    | 155            |                   | 1.20          | 1.50          |                          | 108               | 102              |
| 23    | 156            |                   | 0.98          | 1.20          |                          | 109               | 103              |
| 24    | 154            |                   | 0.89          | 1.10          |                          | 110               | 102              |
| AVG.  | 154            | -2.25             | 1.32          | 1.64          | 45.084                   | 100               |                  |

RUN NUMBER

SCO-0011-R2

Date 08/30/95  
 Start Time 13:25  
 End Time 15:10  
 Stack Diam. 48 inches  
 Nozzle I.D. 0.211 inches  
 Meter Box Gamma 1.0058  
 Meter Box dH@ 1.7581  
 Barometric 28.75 in.Hg  
 Cp 0.835  
 Test Duration 60 minutes

METHOD 4 DATA

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 274.0         | 174.0       |
| IMP.2 | 100.0         | 126.0         | 26.0        |
| IMP.3 | 0.0           | 2.0           | 2.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 402.0         | 202.0       |
| S.G.  | 200.0         | 210.6         | 10.6        |

METHOD 1-4 RESULTS

Metered Volume 48.579 dcf  
 Volume @ Std.Cond. 43.668 dscf  
 % Water 18.65 %  
 % Isokinetics 100.6 %  
 Velocity 74.60 ft/sec  
 Actual Flow 56245 acfm  
 Std. Flow 46053 scfm  
 Dry Std. Flow 37466 dscfm

METHOD 3 DATA

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 18.4 | Md  | 29.12 |
| %CO2   | 2.4  | Ms  | 27.05 |
| %CO    | 0.0  | Ps  | 28.58 |
| %N2    | 79.2 | Fo  | 1.058 |
| O2+CO2 | 20.8 | %EA | 715   |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER           | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|-----------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf) | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 156            | -2.40             | 0.85          | 1.00          | 783.385         | 105               | 104              |
| 2     | 157            | -2.20             | 0.98          | 1.36          | 831.964         | 105               | 104              |
| 3     | 157            |                   | 1.10          | 1.50          | 48.579          | 106               | 104              |
| 4     | 159            |                   | 1.10          | 1.50          |                 | 106               | 105              |
| 5     | 158            |                   | 1.30          | 1.80          |                 | 108               | 106              |
| 6     | 158            |                   | 1.60          | 2.20          |                 | 107               | 106              |
| 7     | 158            |                   | 1.90          | 2.65          |                 | 110               | 106              |
| 8     | 158            |                   | 1.70          | 2.36          |                 | 111               | 106              |
| 9     | 158            |                   | 1.60          | 2.20          |                 | 112               | 106              |
| 10    | 158            |                   | 1.60          | 2.20          |                 | 114               | 107              |
| 11    | 158            |                   | 1.20          | 1.80          |                 | 114               | 107              |
| 12    | 158            |                   | 1.10          | 1.50          |                 | 114               | 107              |
| 13    | 156            |                   | 1.50          | 2.00          |                 | 111               | 109              |
| 14    | 155            |                   | 1.50          | 2.00          |                 | 112               | 109              |
| 15    | 155            |                   | 1.70          | 2.30          |                 | 114               | 109              |
| 16    | 155            |                   | 1.70          | 2.30          |                 | 114               | 109              |
| 17    | 150            |                   | 1.90          | 2.65          |                 | 111               | 110              |
| 18    | 153            |                   | 1.90          | 2.65          |                 | 114               | 111              |
| 19    | 155            |                   | 1.60          | 2.20          |                 | 116               | 111              |
| 20    | 154            |                   | 1.40          | 1.95          |                 | 119               | 112              |
| 21    | 155            |                   | 1.20          | 1.67          |                 | 118               | 111              |
| 22    | 155            |                   | 1.10          | 1.50          |                 | 118               | 111              |
| 23    | 154            |                   | 0.95          | 1.32          |                 | 119               | 112              |
| 24    | 154            |                   | 0.89          | 1.20          | 0.000           | 119               | 112              |
| AVG.  | 156            | -2.30             | 1.39          | 1.91          | 48.579          | 110               |                  |

RUN NUMBER

SCO-0011-R3

Date 08/30/95  
 Start Time 19:40  
 End Time 20:51  
 Stack Diam. 48 inches  
 Nozzle I.D. 0.211 inches  
 Meter Box Gamma 1.0058  
 Meter Box dH@ 1.7581  
 Barometric 28.75 in.Hg  
 Cp 0.835  
 Test Duration 60 minutes

METHOD 4 DATA

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 280.0         | 180.0       |
| IMP.2 | 100.0         | 131.0         | 31.0        |
| IMP.3 | 0.0           | 2.0           | 2.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 413.0         | 213.0       |
| S.G.  | 200.0         | 210.2         | 10.2        |

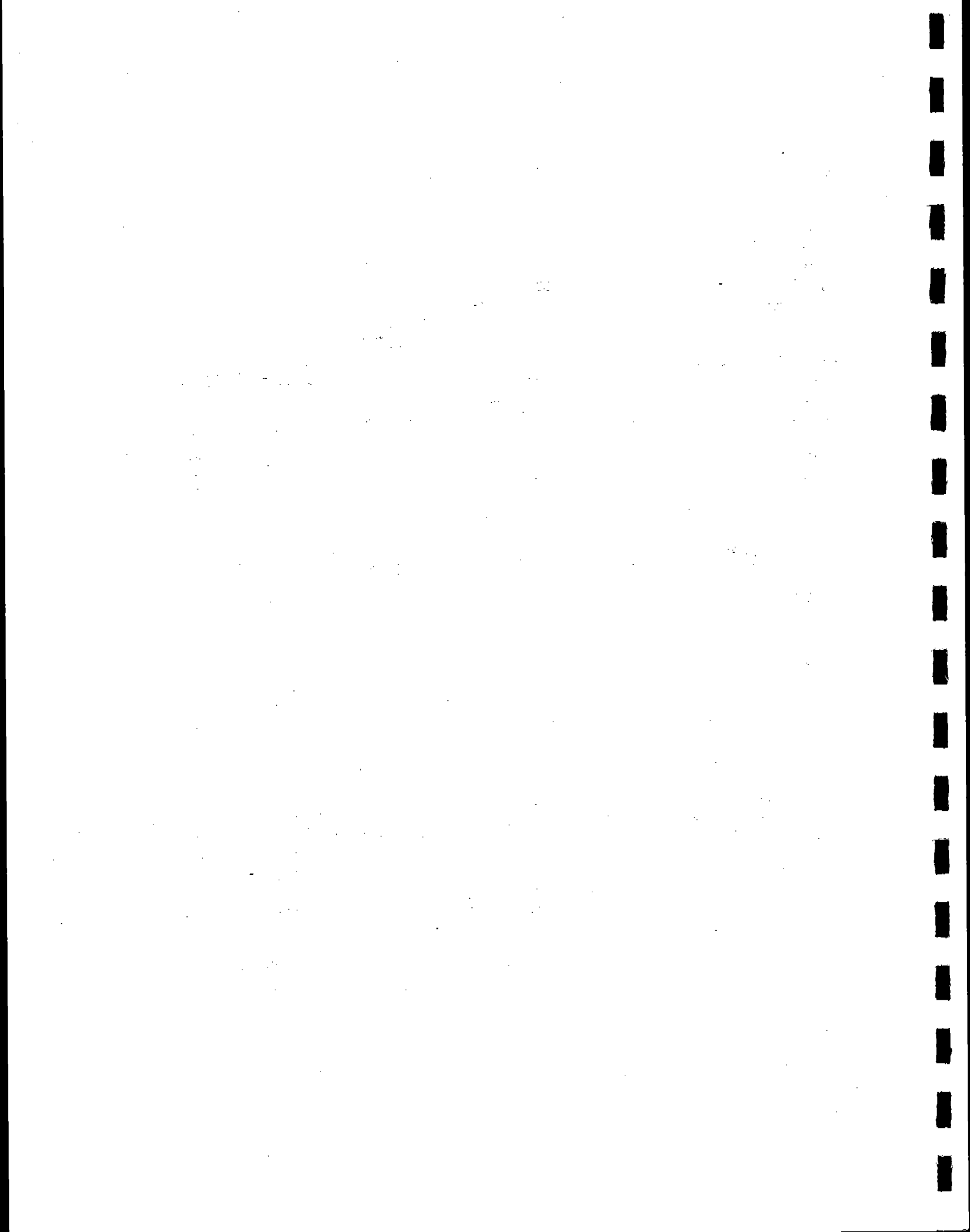
METHOD 1-4 RESULTS

Metered Volume 45.736 dcf  
 Volume @ Std.Cond. 41.204 dscf  
 % Water 20.32 %  
 % Isokinetics 105.5 %  
 Velocity 68.68 ft/sec  
 Actual Flow 51782 acfm  
 Std. Flow 42295 scfm  
 Dry Std. Flow 33702 dscfm

METHOD 3 DATA

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 17.7 | Md  | 29.18 |
| %CO2   | 2.9  | Ms  | 26.91 |
| %CO    | 0.0  | Ps  | 28.58 |
| %N2    | 79.4 | Fo  | 1.091 |
| O2+CO2 | 20.6 | %EA | 547   |

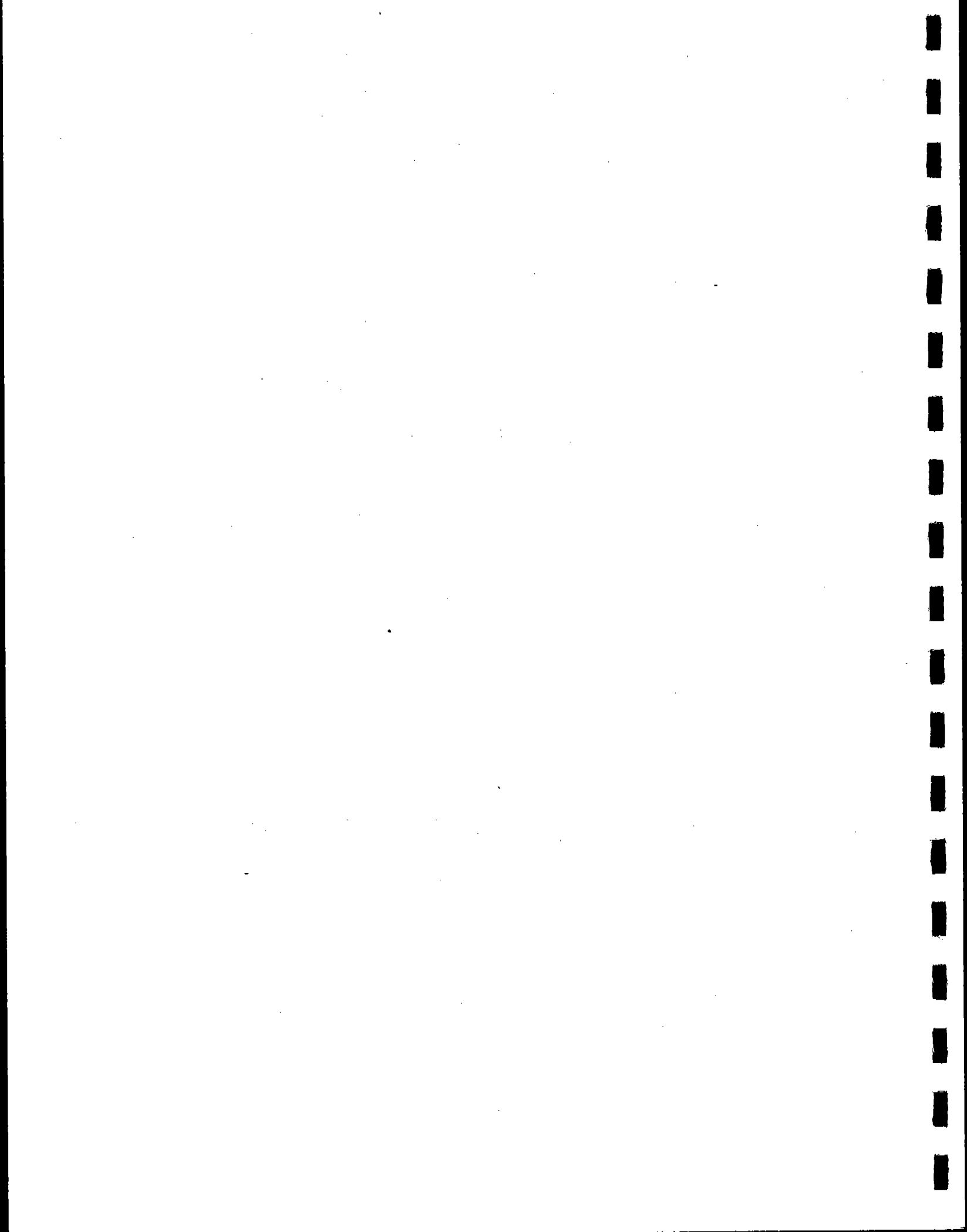
| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER             | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|-------------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf)   | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 154            | -2.40             | 0.81          | 1.10          | 832.154           | 103               | 103              |
| 2     | 154            | -2.20             | 0.83          | 1.15          | 877.890           | 104               | 103              |
| 3     | 154            |                   | 0.90          | 1.25          |                   | 104               | 103              |
| 4     | 155            |                   | 1.00          | 1.34          |                   | 105               | 104              |
| 5     | 156            |                   | 1.30          | 1.80          |                   | 106               | 104              |
| 6     | 156            |                   | 1.40          | 1.90          |                   | 107               | 105              |
| 7     | 157            |                   | 1.60          | 2.20          |                   | 108               | 105              |
| 8     | 158            |                   | 1.40          | 1.90          |                   | 109               | 105              |
| 9     | 158            |                   | 1.40          | 1.90          |                   | 110               | 105              |
| 10    | 158            |                   | 1.20          | 1.66          |                   | 111               | 105              |
| 11    | 158            |                   | 1.20          | 1.66          |                   | 111               | 105              |
| 12    | 159            |                   | 1.00          | 1.34          |                   | 112               | 106              |
| 13    | 159            |                   | 1.10          | 1.50          |                   | 109               | 107              |
| 14    | 159            |                   | 1.20          | 1.66          |                   | 111               | 107              |
| 15    | 160            |                   | 1.40          | 1.90          |                   | 112               | 108              |
| 16    | 159            |                   | 1.40          | 1.90          |                   | 113               | 108              |
| 17    | 159            |                   | 1.50          | 2.20          |                   | 115               | 108              |
| 18    | 158            |                   | 1.60          | 2.20          |                   | 115               | 108              |
| 19    | 158            |                   | 1.30          | 1.80          |                   | 115               | 108              |
| 20    | 158            |                   | 1.10          | 1.50          |                   | 116               | 109              |
| 21    | 158            |                   | 0.99          | 1.30          |                   | 115               | 109              |
| 22    | 158            |                   | 0.82          | 1.10          |                   | 115               | 109              |
| 23    | 159            |                   | 0.79          | 1.00          |                   | 115               | 109              |
| 24    | 158            |                   | 0.78          | 1.00          |                   | 115               | 109              |
| AVG.  | 158            | -2.30             | 1.17          | 1.59          | 877.890<br>45.736 | 109               |                  |



**APPENDIX D.3**

**DATA AND RESULTS FOR BIF METHOD 0011 TESTING**

**- PRESS OUTLET -**





RUN NUMBER

PO-0011-R1

Date 08/30/95  
 Start Time 09:55  
 End Time 11:17  
 Stack Diam. 53.5 inches  
 Nozzle I.D. 0.192 inches  
 Meter Box Gamma 1.0027  
 Meter Box dH@ 1.8375  
 Barometric 28.75 in.Hg  
 Cp 0.82  
 Test Duration 60 minutes

METHOD 4 DATA

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 104.0         | 4.0         |
| IMP.2 | 100.0         | 100.0         | 0.0         |
| IMP.3 | 0.0           | 2.0           | 2.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 206.0         | 6.0         |
| S.G.  | 200.0         | 213.0         | 13.0        |

METHOD 1-4 RESULTS

Metered Volume 51.261 dcf  
 Volume @ Std.Cond. 48.894 dscf  
 % Water 1.80 %  
 % Isokinetics 100.1 %  
 Velocity 75.16 ft/sec  
 Actual Flow 70401 acfm  
 Std. Flow 64394 scfm  
 Dry Std. Flow 63236 dscfm

METHOD 3 DATA

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 20.9 | Md  | 28.84 |
| %CO2   | 0.0  | Ms  | 28.65 |
| %CO    | 0.0  | Ps  | 28.58 |
| %N2    | 79.1 | Fo  | 1.000 |
| O2+CO2 | 20.9 | %EA | 93125 |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER<br>VOLUME<br>(dcf) | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|--------------------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               |                          | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 86             | -2.50             | 1.60          | 2.10          | 356.012                  | 71                | 69               |
| 2     | 85             | -2.10             | 1.70          | 2.20          | 407.273                  | 71                | 69               |
| 3     | 84             |                   | 1.90          | 2.50          |                          | 72                | 70               |
| 4     | 84             |                   | 2.10          | 2.70          |                          | 74                | 71               |
| 5     | 87             |                   | 2.00          | 2.60          |                          | 75                | 71               |
| 6     | 87             |                   | 1.60          | 2.10          |                          | 76                | 72               |
| 7     | 95             |                   | 0.95          | 1.25          |                          | 78                | 76               |
| 8     | 95             |                   | 1.60          | 2.10          |                          | 79                | 76               |
| 9     | 98             |                   | 1.80          | 2.40          |                          | 83                | 77               |
| 10    | 100            |                   | 2.00          | 2.60          |                          | 86                | 78               |
| 11    | 97             |                   | 1.60          | 2.10          |                          | 88                | 78               |
| 12    | 99             |                   | 1.80          | 2.40          |                          | 89                | 80               |
| AVG.  | 91             | -2.30             | 1.72          | 2.25          | 407.273<br>51.261        |                   | 76               |

RUN NUMBER

PO-0011-R2

Date 08/30/95  
 Start Time 13:25  
 End Time 15:11  
 Stack Diam. 53.50 inches  
 Nozzle I.D. 0.192 inches  
 Meter Box Gamma 1.003  
 Meter Box dH@ 1.838  
 Barometric 28.75 in.Hg  
 Cp 0.82  
 Test Duration 60 minutes

METHOD 4 DATA

|       | INIT. | FINAL | NET  |
|-------|-------|-------|------|
|       | (ml)  | (ml)  | (ml) |
| IMP.1 | 100.0 | 103.0 | 3.0  |
| IMP.2 | 100.0 | 101.0 | 1.0  |
| IMP.3 | 0.0   | 2.0   | 2.0  |
| IMP.4 |       |       | 0.0  |
| IMP.5 |       |       | 0.0  |
| IMP.6 |       |       | 0.0  |
| IMP.7 |       |       | 0.0  |
| TOTAL | 200.0 | 206.0 | 6.0  |
| S.G.  | 200.0 | 211.3 | 11.3 |

METHOD 1-4 RESULTS

Metered Volume 49.631 dcf  
 Volume @ Std.Cond. 45.991 dscf  
 % Water 1.74 %  
 % Isokinetics 98.2 %  
 Velocity 73.58 ft/sec  
 Actual Flow 68917 acfm  
 Std. Flow 61718 scfm  
 Dry Std. Flow 60644 dscfm

METHOD 3 DATA

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 19.1 | Md  | 28.95 |
| %CO2   | 1.2  | Ms  | 28.76 |
| %CO    | 0.0  | Ps  | 28.59 |
| %N2    | 79.7 | Fo  | 1.524 |
| O2+CO2 | 20.3 | %EA | 994   |

| POINT | STACK  | STATIC  | DP      | DH      | METER             | METER  | TEMPERATURE |
|-------|--------|---------|---------|---------|-------------------|--------|-------------|
|       | TEMP   |         |         |         | VOLUME            | INLET  | OUTLET      |
|       | (DegF) | (in.WC) | (in.WC) | (in.WC) | (dcf)             | (DegF) | (DegF)      |
| 1     | 101    | -2.10   | 1.20    | 1.70    | 411.259           | 90     | 90          |
| 2     | 103    | -2.20   | 1.30    | 1.80    | 460.890           | 91     | 91          |
| 3     | 101    |         | 1.70    | 2.40    |                   | 91     | 90          |
| 4     | 102    |         | 1.70    | 2.40    |                   | 92     | 90          |
| 5     | 98     |         | 1.50    | 2.20    |                   | 92     | 90          |
| 6     | 98     |         | 1.30    | 1.80    |                   | 93     | 90          |
| 7     | 111    |         | 1.80    | 2.60    |                   | 93     | 92          |
| 8     | 107    |         | 1.80    | 2.60    |                   | 94     | 92          |
| 9     | 107    |         | 2.00    | 2.80    |                   | 93     | 93          |
| 10    | 107    |         | 1.70    | 2.40    |                   | 93     | 92          |
| 11    | 104    |         | 1.80    | 2.60    |                   | 95     | 92          |
| 12    | 102    |         | 1.60    | 2.30    |                   | 96     | 93          |
| AVG.  | 103    | -2.15   | 1.62    | 2.30    | 460.890<br>49.631 |        | 92          |

RUN NUMBER

PO-0011-R3

Date 08/30/95  
 Start Time 19:40  
 End Time 20:51  
 Stack Diam. 53.5 inches  
 Nozzle I.D. 0.192 inches  
 Meter Box Gamma 1.0027  
 Meter Box dH@ 1.8375  
 Barometric 28.75 in.Hg  
 Cp 0.82  
 Test Duration 60 minutes

METHOD 4 DATA

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 118.0         | 18.0        |
| IMP.2 | 100.0         | 102.0         | 2.0         |
| IMP.3 | 0.0           | 2.0           | 2.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 222.0         | 22.0        |
| S.G.  | 200.0         | 209.2         | 9.2         |

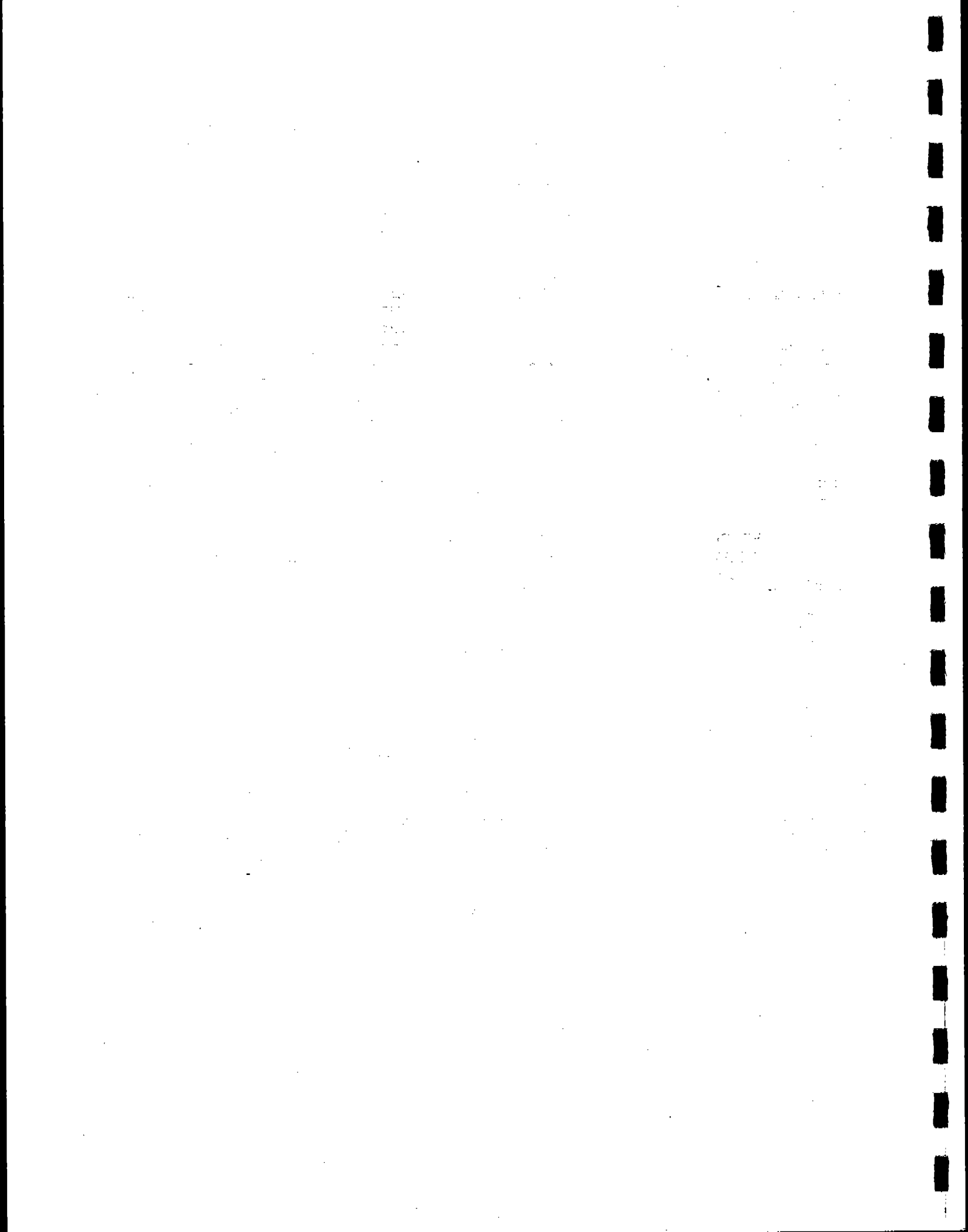
METHOD 1-4 RESULTS

Metered Volume 52.509 dcf  
 Volume @ Std.Cond. 48.921 dscf  
 % Water 2.92 %  
 % Isokinetics 105.2 %  
 Velocity 72.86 ft/sec  
 Actual Flow 68244 acfm  
 Std. Flow 62049 scfm  
 Dry Std. Flow 60240 dscfm

METHOD 3 DATA

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 20.9 | Md  | 28.84 |
| %CO2   | 0.1  | Ms  | 28.53 |
| %CO    | 0.0  | Ps  | 28.57 |
| %N2    | 79.1 | Fo  | 0.200 |
| O2+CO2 | 20.9 | %EA | ***** |

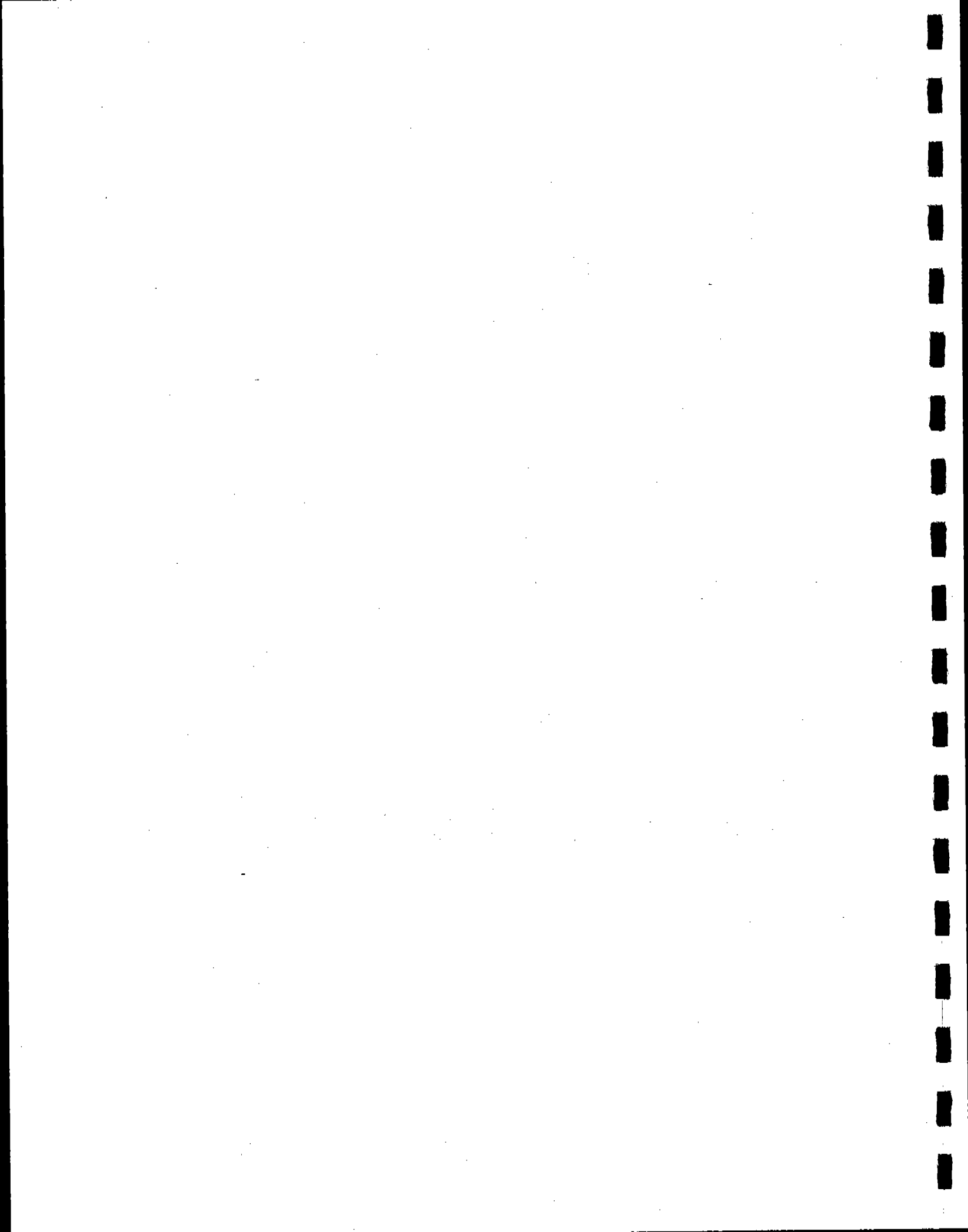
| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER             | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|-------------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf)   | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 91             | -2.30             | 1.40          | 2.00          | 461.558           | 90                | 90               |
| 2     | 98             | -2.50             | 1.40          | 2.00          | 514.067           | 89                | 90               |
| 3     | 96             |                   | 1.60          | 2.30          |                   | 89                | 89               |
| 4     | 95             |                   | 1.90          | 2.70          |                   | 89                | 90               |
| 5     | 97             |                   | 1.80          | 2.60          |                   | 91                | 89               |
| 6     | 98             |                   | 1.40          | 2.00          |                   | 91                | 89               |
| 7     | 94             |                   | 1.70          | 2.40          |                   | 89                | 87               |
| 8     | 95             |                   | 1.50          | 2.20          |                   | 89                | 87               |
| 9     | 94             |                   | 1.70          | 2.40          |                   | 89                | 87               |
| 10    | 93             |                   | 1.70          | 2.40          |                   | 90                | 87               |
| 11    | 92             |                   | 1.50          | 2.20          |                   | 91                | 87               |
| 12    | 92             |                   | 1.50          | 2.20          |                   | 90                | 87               |
| AVG.  | 95             | -2.40             | 1.59          | 2.28          | 514.067<br>52.509 | 89                | 89               |



APPENDIX D.4

DATA AND RESULTS FOR BIF METHOD 0011 TESTING

- RTO STACK -



**RUN NUMBER**

**RT0-0011-R1**

Date 08/30/95  
 Start Time 09:55  
 End Time 11:17  
 Stack Diam. 96 inches  
 Nozzle I.D. 0.258 inches  
 Meter Box Gamma 0.9991  
 Meter Box dH@ 1.7367  
 Barometric 28.75 in.Hg  
 Cp 0.825  
 Test Duration 60 minutes

**METHOD 4 DATA**

|       | INIT. | FINAL | NET  |
|-------|-------|-------|------|
|       | (ml)  | (ml)  | (ml) |
| IMP.1 | 100.0 | 169.0 | 69.0 |
| IMP.2 | 100.0 | 104.0 | 4.0  |
| IMP.3 | 0.0   | 2.0   | 2.0  |
| IMP.4 |       |       | 0.0  |
| IMP.5 |       |       | 0.0  |
| IMP.6 |       |       | 0.0  |
| IMP.7 |       |       | 0.0  |
| TOTAL | 200.0 | 275.0 | 75.0 |
| S.G.  | 200.0 | 209.0 | 9.0  |

**METHOD 1-4 RESULTS**

Metered Volume 46.513 dcf  
 Volume @ Std.Cond. 41.905 dscf  
 % Water 8.62 %  
 % Isokinetics 94.8 %  
 Velocity 50.92 ft/sec  
 Actual Flow 153570 acfm  
 Std. Flow 111680 scfm  
 Dry Std. Flow 102049 dscfm

**METHOD 3 DATA**

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 19.6 | Md  | 28.96 |
| %CO2   | 1.1  | Ms  | 28.01 |
| %CO    | 0.0  | Ps  | 28.72 |
| %N2    | 79.3 | Fo  | 1.216 |
| O2+CO2 | 20.7 | %EA | 1401  |

| POINT | STACK  | STATIC  | DP      | DH      | METER VOLUME      | METER TEMPERATURE |        |
|-------|--------|---------|---------|---------|-------------------|-------------------|--------|
|       | TEMP   |         |         |         |                   | INLET             | OUTLET |
|       | (DegF) | (in.WC) | (in.WC) | (in.WC) | (dcf)             | (DegF)            | (DegF) |
| 1     | 233    | -0.35   | 0.65    | 1.97    | 758.675           | 98                | 96     |
| 2     | 238    | -0.32   | 0.65    | 1.97    | 805.188           | 99                | 96     |
| 3     | 235    | -0.36   | 0.67    | 2.03    |                   | 100               | 96     |
| 4     | 239    | -0.35   | 0.61    | 1.85    |                   | 102               | 96     |
| 5     | 236    |         | 0.64    | 1.94    |                   | 104               | 97     |
| 6     | 241    |         | 0.62    | 1.88    |                   | 105               | 98     |
| 7     | 237    |         | 0.62    | 1.88    |                   | 107               | 98     |
| 8     | 241    |         | 0.62    | 1.88    |                   | 108               | 99     |
| 9     | 235    |         | 0.63    | 1.90    |                   | 110               | 100    |
| 10    | 240    |         | 0.60    | 1.82    |                   | 111               | 100    |
| 11    | 236    |         | 0.55    | 1.66    |                   | 112               | 101    |
| 12    | 220    |         | 0.39    | 1.18    |                   | 113               | 101    |
| 13    | 236    |         | 0.63    | 1.90    |                   | 109               | 103    |
| 14    | 237    |         | 0.67    | 2.03    |                   | 110               | 103    |
| 15    | 243    |         | 0.70    | 2.12    |                   | 112               | 104    |
| 16    | 238    |         | 0.65    | 1.97    |                   | 112               | 104    |
| 17    | 240    |         | 0.65    | 1.97    |                   | 111               | 105    |
| 18    | 242    |         | 0.50    | 1.51    |                   | 111               | 105    |
| 19    | 239    |         | 0.67    | 2.03    |                   | 111               | 105    |
| 20    | 239    |         | 0.67    | 2.03    |                   | 112               | 105    |
| 21    | 239    |         | 0.63    | 1.90    |                   | 113               | 106    |
| 22    | 243    |         | 0.63    | 1.90    |                   | 113               | 105    |
| 23    | 237    |         | 0.55    | 1.66    |                   | 113               | 105    |
| 24    | 225    |         | 0.32    | 0.97    |                   | 113               | 105    |
| AVG.  | 237    | -0.35   | 0.61    | 1.83    | 805.188<br>46.513 |                   | 105    |

RUN NUMBER

RTO-0011-R2

Date 08/30/95  
 Start Time 13:25  
 End Time 15:10  
 Stack Diam. 96.00 inches  
 Nozzle I.D. 0.258 inches  
 Meter Box Gamma 0.999  
 Meter Box dH@ 1.737  
 Barometric 28.75 in.Hg  
 Cp 0.825  
 Test Duration 60 minutes

METHOD 4 DATA

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 178.0         | 78.0        |
| IMP.2 | 100.0         | 113.0         | 13.0        |
| IMP.3 | 0.0           | 44.0          | 44.0        |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 335.0         | 135.0       |
| S.G.  | 200.0         | 209.3         | 9.3         |

METHOD 1-4 RESULTS

Metered Volume 47.931 dcf  
 Volume @ Std.Cond. 42.939 dscf  
 % Water 13.66 %  
 % Isokinetics 102.9 %  
 Velocity 51.31 ft/sec  
 Actual Flow 154760 acfm  
 Std. Flow 111641 scfm  
 Dry Std. Flow 96392 dscfm

METHOD 3 DATA

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 19.1 | Md  | 28.95 |
| %CO2   | 1.2  | Ms  | 27.46 |
| %CO    | 0.0  | Ps  | 28.72 |
| %N2    | 79.7 | Fo  | 1.524 |
| O2+CO2 | 20.3 | %EA | 994   |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER           | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|-----------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf) | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 242            | -0.39             | 0.65          | 2.08          | 805.800         | 102               | 102              |
| 2     | 243            | -0.37             | 0.64          | 2.04          | 853.731         | 105               | 103              |
| 3     | 246            | -0.38             | 0.64          | 2.04          |                 | 107               | 103              |
| 4     | 242            |                   | 0.67          | 2.14          |                 | 107               | 104              |
| 5     | 247            |                   | 0.62          | 1.98          |                 | 108               | 103              |
| 6     | 244            |                   | 0.60          | 1.92          |                 | 109               | 103              |
| 7     | 245            |                   | 0.62          | 1.98          |                 | 110               | 104              |
| 8     | 244            |                   | 0.66          | 2.11          |                 | 111               | 105              |
| 9     | 248            |                   | 0.62          | 1.98          |                 | 113               | 106              |
| 10    | 244            |                   | 0.59          | 1.88          |                 | 114               | 105              |
| 11    | 247            |                   | 0.55          | 1.76          |                 | 115               | 106              |
| 12    | 225            |                   | 0.32          | 1.12          |                 | 115               | 106              |
| 13    | 244            |                   | 0.63          | 2.01          |                 | 110               | 108              |
| 14    | 244            |                   | 0.70          | 2.24          |                 | 113               | 108              |
| 15    | 244            |                   | 0.65          | 2.08          |                 | 115               | 108              |
| 16    | 244            |                   | 0.68          | 2.17          |                 | 116               | 109              |
| 17    | 241            |                   | 0.66          | 2.11          |                 | 108               | 107              |
| 18    | 241            |                   | 0.66          | 2.11          |                 | 109               | 107              |
| 19    | 245            |                   | 0.65          | 2.08          |                 | 110               | 108              |
| 20    | 243            |                   | 0.64          | 2.05          |                 | 111               | 108              |
| 21    | 245            |                   | 0.63          | 2.02          |                 | 112               | 108              |
| 22    | 242            |                   | 0.62          | 1.98          |                 | 112               | 107              |
| 23    | 244            |                   | 0.55          | 1.78          |                 | 114               | 108              |
| 24    | 229            |                   | 0.35          | 1.12          |                 | 114               | 108              |
|       |                |                   |               |               | 853.731         |                   |                  |
| AVG.  | 243            | -0.38             | 0.61          | 1.95          | 47.931          |                   | 108              |



RUN NUMBER

RTO-0011-R3

Date 08/30/95  
 Start Time 19:40  
 End Time 20:51  
 Stack Diam. 96 inches  
 Nozzle I.D. 0.258 inches  
 Meter Box Gamma 0.9991  
 Meter Box dH@ 1.73672  
 Barometric 28.75 in.Hg  
 Cp 0.825  
 Test Duration 60 minutes

METHOD 4 DATA

|       | INIT. | FINAL | NET  |
|-------|-------|-------|------|
|       | (ml)  | (ml)  | (ml) |
| IMP.1 | 100.0 | 181.0 | 81.0 |
| IMP.2 | 100.0 | 114.0 | 14.0 |
| IMP.3 | 0.0   | 2.0   | 2.0  |
| IMP.4 |       |       | 0.0  |
| IMP.5 |       |       | 0.0  |
| IMP.6 |       |       | 0.0  |
| IMP.7 |       |       | 0.0  |
| TOTAL | 200.0 | 297.0 | 97.0 |
| S.G.  | 200.0 | 209.0 | 9.0  |

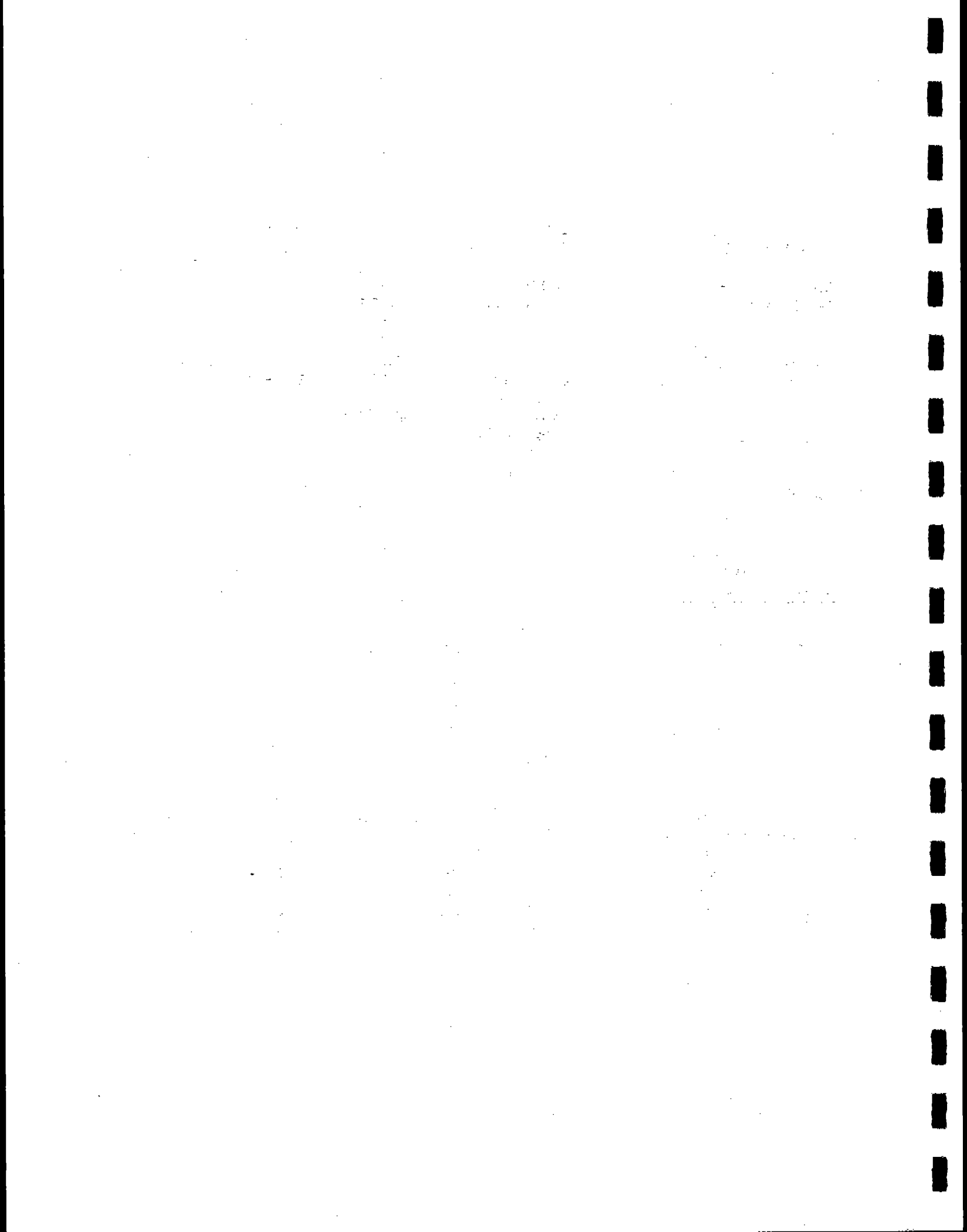
METHOD 1-4 RESULTS

Metered Volume 46.976 dcf  
 Volume @ Std.Cond. 42.661 dscf  
 % Water 10.47 %  
 % Isokinetics 99.4 %  
 Velocity 50.69 ft/sec  
 Actual Flow 152868 acfm  
 Std. Flow 110656 scfm  
 Dry Std. Flow 99068 dscfm

METHOD 3 DATA

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 19.6 | Md  | 28.98 |
| %CO2   | 1.3  | Ms  | 27.83 |
| %CO    | 0.0  | Ps  | 28.73 |
| %N2    | 79.2 | Fo  | 1.072 |
| O2+CO2 | 20.8 | %EA | 1453  |

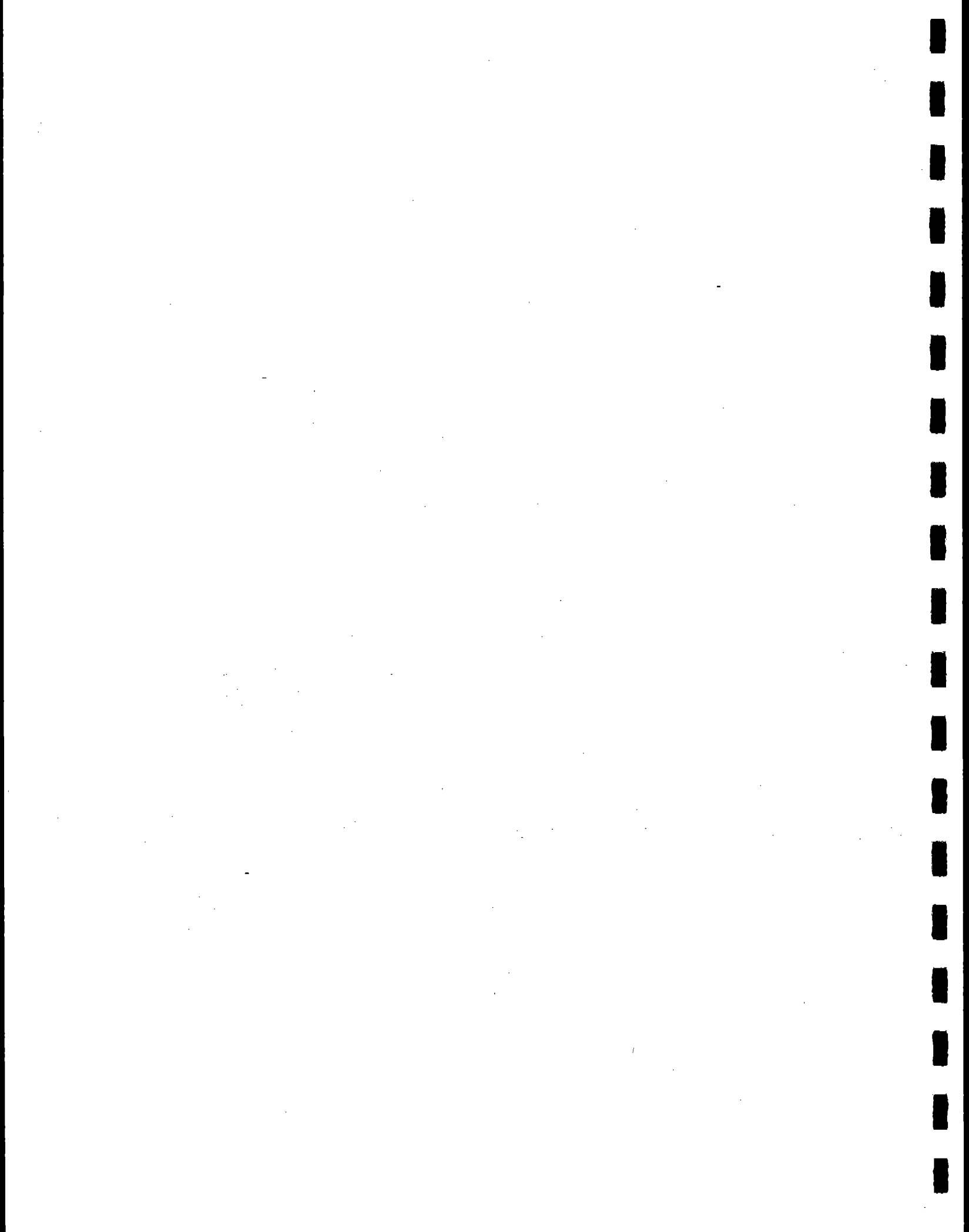
| POINT | STACK  | STATIC  | DP      | DH      | METER             | METER TEMPERATURE |        |
|-------|--------|---------|---------|---------|-------------------|-------------------|--------|
|       | TEMP   |         |         |         |                   | VOLUME            | INLET  |
|       | (DegF) | (in.WC) | (in.WC) | (in.WC) | (dcf)             | (DegF)            | (DegF) |
| 1     | 238    | -0.32   | 0.65    | 2.08    | 854.300           | 95                | 94     |
| 2     | 240    | -0.32   | 0.63    | 2.01    | 901.276           | 97                | 95     |
| 3     | 239    | -0.34   | 0.65    | 2.08    |                   | 99                | 96     |
| 4     | 240    | -0.37   | 0.64    | 2.05    |                   | 100               | 96     |
| 5     | 240    |         | 0.64    | 2.05    |                   | 103               | 97     |
| 6     | 242    |         | 0.60    | 1.92    |                   | 103               | 97     |
| 7     | 242    |         | 0.61    | 1.95    |                   | 104               | 97     |
| 8     | 242    |         | 0.61    | 1.95    |                   | 108               | 97     |
| 9     | 240    |         | 0.58    | 1.86    |                   | 105               | 97     |
| 10    | 239    |         | 0.57    | 1.82    |                   | 106               | 98     |
| 11    | 240    |         | 0.50    | 1.60    |                   | 106               | 98     |
| 12    | 221    |         | 0.42    | 1.34    |                   | 106               | 98     |
| 13    | 241    |         | 0.60    | 1.92    |                   | 100               | 97     |
| 14    | 241    |         | 0.61    | 1.95    |                   | 102               | 97     |
| 15    | 241    |         | 0.61    | 1.95    |                   | 102               | 97     |
| 16    | 241    |         | 0.65    | 2.08    |                   | 103               | 97     |
| 17    | 242    |         | 0.62    | 1.98    |                   | 104               | 97     |
| 18    | 241    |         | 0.60    | 1.92    |                   | 103               | 98     |
| 19    | 245    |         | 0.63    | 2.01    |                   | 106               | 98     |
| 20    | 243    |         | 0.62    | 1.98    |                   | 108               | 99     |
| 21    | 243    |         | 0.63    | 2.01    |                   | 108               | 99     |
| 22    | 244    |         | 0.60    | 1.92    |                   | 109               | 99     |
| 23    | 241    |         | 0.57    | 1.82    |                   | 109               | 99     |
| 24    | 241    |         | 0.39    | 1.28    |                   | 109               | 99     |
| AVG.  | 240    | -0.34   | 0.59    | 1.90    | 901.276<br>46.976 | 101               |        |



**APPENDIX D.5**

**DATA AND RESULTS FOR BIF METHOD 0011 TESTING**

**- KONUS STACK -**



**RUN NUMBER**

**KS-M0011-R1**

Date 09/12/95  
 Start Time 10:10  
 End Time 11:45  
 Stack Diam. 41.5 inches  
 Nozzle I.D. 0.369 inches  
 Meter Box Gamma 0.99079  
 Meter Box dH@ 1.76407  
 Barometric 28.90 in.Hg  
 Cp 0.84  
 Test Duration 60 minutes

**METHOD 4 DATA**

|       | INIT.<br>(m) | FINAL<br>(m) | NET<br>(m) |
|-------|--------------|--------------|------------|
| IMP.1 | 100.0        | 140.0        | 40.0       |
| IMP.2 | 100.0        | 120.0        | 20.0       |
| IMP.3 | 0.0          | 6.0          | 6.0        |
| IMP.4 |              |              | 0.0        |
| IMP.5 |              |              | 0.0        |
| IMP.6 |              |              | 0.0        |
| IMP.7 |              |              | 0.0        |
| TOTAL | 200.0        | 266.0        | 66.0       |
| S.G.  | 200.0        | 223.9        | 23.9       |

**METHOD 1-4 RESULTS**

Metered Volume 61.997 dcf  
 Volume @ Std.Cond. 57.595 dscf  
 % Water 6.85 %  
 % Isokinetics 100.0 %  
 Velocity 33.82 ft/sec  
 Actual Flow 19060 acfm  
 Std. Flow 13042 scfm  
 Dry Std. Flow 12149 dscfm

**METHOD 3 DATA**

|        |       |     |       |
|--------|-------|-----|-------|
| %O2    | 19.00 | Md  | 29.04 |
| %CO2   | 1.72  | Ms  | 28.28 |
| %CO    | 0.0   | Ps  | 28.89 |
| %N2    | 79.3  | Fo  | 1.105 |
| O2+CO2 | 20.7  | %EA | 984   |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER             | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|-------------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf)   | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 285            | -0.15             | 0.25          | 3.09          | 180.320           | 75                | 75               |
| 2     | 284            | -0.18             | 0.23          | 2.85          | 242.317           | 76                | 75               |
| 3     | 284            |                   | 0.23          | 2.85          |                   | 82                | 79               |
| 4     | 287            |                   | 0.24          | 2.97          |                   | 83                | 81               |
| 5     | 288            |                   | 0.22          | 2.72          |                   | 83                | 81               |
| 6     | 289            |                   | 0.25          | 3.09          |                   | 85                | 82               |
| 7     | 288            |                   | 0.25          | 3.09          |                   | 88                | 83               |
| 8     | 285            |                   | 0.24          | 2.97          |                   | 90                | 84               |
| 9     | 286            |                   | 0.26          | 3.28          |                   | 92                | 85               |
| 10    | 285            |                   | 0.25          | 3.15          |                   | 95                | 87               |
| 11    | 282            |                   | 0.26          | 3.28          |                   | 92                | 86               |
| 12    | 283            |                   | 0.24          | 3.03          |                   | 94                | 86               |
| 13    | 285            |                   | 0.24          | 3.03          |                   | 95                | 87               |
| 14    | 284            |                   | 0.27          | 3.40          |                   | 97                | 87               |
| 15    | 285            |                   | 0.21          | 2.65          |                   | 97                | 87               |
| 16    | 284            |                   | 0.25          | 3.15          |                   | 99                | 89               |
| 17    | 284            |                   | 0.26          | 3.28          |                   | 100               | 89               |
| 18    | 282            |                   | 0.25          | 3.15          |                   | 100               | 90               |
| 19    | 284            |                   | 0.25          | 3.15          |                   | 100               | 90               |
| 20    | 286            |                   | 0.22          | 2.77          |                   | 101               | 90               |
| AVG.  | 285            | -0.17             | 0.24          | 3.05          | 242.317<br>61.997 | 88                |                  |

RUN NUMBER **KS-M0011-R2**

Date **09/12/95**  
 Start Time **12:25**  
 End Time **13:40**  
 Stack Diam. **41.50 inches**  
 Nozzle I.D. **0.369 inches**  
 Meter Box Gamma **0.99079**  
 Meter Box dH@ **1.76407**  
 Barometric **28.90 in.Hg**  
 Cp **0.84**  
 Test Duration **60 minutes**

**METHOD 4 DATA**

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 127.0         | 27.0        |
| IMP.2 | 100.0         | 118.0         | 18.0        |
| IMP.3 | 0.0           | 5.0           | 5.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 250.0         | 50.0        |
| S.G.  | 200.0         | 215.8         | 15.8        |

**METHOD 1-4 RESULTS**

Metered Volume **61.625 dcf**  
 Volume @ Std.Cond. **56.228 dscf**  
 % Water **5.22 %**  
 % Isokinetics **99.3 %**  
 Velocity **32.65 ft/sec**  
 Actual Flow **18401 acfm**  
 Std. Flow **12603 scfm**  
 Dry Std. Flow **11945 dscfm**

**METHOD 3 DATA**

|        |       |     |       |
|--------|-------|-----|-------|
| %O2    | 18.14 | Md  | 29.12 |
| %CO2   | 2.49  | Ms  | 28.54 |
| %CO    | 0.0   | Ps  | 28.89 |
| %N2    | 79.4  | Fo  | 1.108 |
| O2+CO2 | 20.6  | %EA | 645   |

| POINT | STACK          | STATIC | DP   | DH   | METER VOLUME<br>(dcf) | METER TEMPERATURE |                  |
|-------|----------------|--------|------|------|-----------------------|-------------------|------------------|
|       | TEMP<br>(DegF) |        |      |      |                       | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 281            | -0.17  | 0.21 | 2.65 | 245.336               | 92                | 91               |
| 2     | 284            | -0.10  | 0.22 | 2.77 | 306.961               | 92                | 90               |
| 3     | 283            |        | 0.23 | 3.00 |                       | 94                | 90               |
| 4     | 287            |        | 0.23 | 3.00 |                       | 96                | 91               |
| 5     | 285            |        | 0.22 | 2.77 |                       | 97                | 91               |
| 6     | 285            |        | 0.25 | 3.27 |                       | 101               | 92               |
| 7     | 285            |        | 0.24 | 3.13 |                       | 103               | 92               |
| 8     | 284            |        | 0.24 | 3.13 |                       | 104               | 93               |
| 9     | 284            |        | 0.25 | 3.27 |                       | 104               | 93               |
| 10    | 285            |        | 0.23 | 3.00 |                       | 105               | 95               |
| 11    | 284            |        | 0.21 | 2.65 |                       | 98                | 96               |
| 12    | 286            |        | 0.22 | 2.77 |                       | 101               | 96               |
| 13    | 285            |        | 0.22 | 2.77 |                       | 102               | 96               |
| 14    | 284            |        | 0.23 | 3.00 |                       | 103               | 96               |
| 15    | 285            |        | 0.24 | 3.13 |                       | 104               | 97               |
| 16    | 285            |        | 0.25 | 3.27 |                       | 105               | 97               |
| 17    | 286            |        | 0.26 | 3.40 |                       | 105               | 97               |
| 18    | 281            |        | 0.24 | 3.13 |                       | 106               | 98               |
| 19    | 284            |        | 0.22 | 2.77 |                       | 107               | 97               |
| 20    | 284            |        | 0.20 | 2.61 |                       | 107               | 97               |
| AVG.  | 284            | -0.14  | 0.23 | 2.97 | 306.961<br>61.625     | 98                |                  |

**RUN NUMBER**

**KS-M0011-R3**

Date 09/12/95  
 Start Time 14:06  
 End Time 15:14  
 Stack Diam. 41.5 inches  
 Nozzle I.D. 0.369 inches  
 Meter Box Gamma 0.99079  
 Meter Box dH@ 1.76407  
 Barometric 28.90 in.Hg  
 Cp 0.84  
 Test Duration 60 minutes

**METHOD 4 DATA**

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 116.0         | 16.0        |
| IMP.2 | 100.0         | 120.0         | 20.0        |
| IMP.3 | 0.0           | 8.0           | 8.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 244.0         | 44.0        |
| S.G.  | 200.0         | 219.9         | 19.9        |

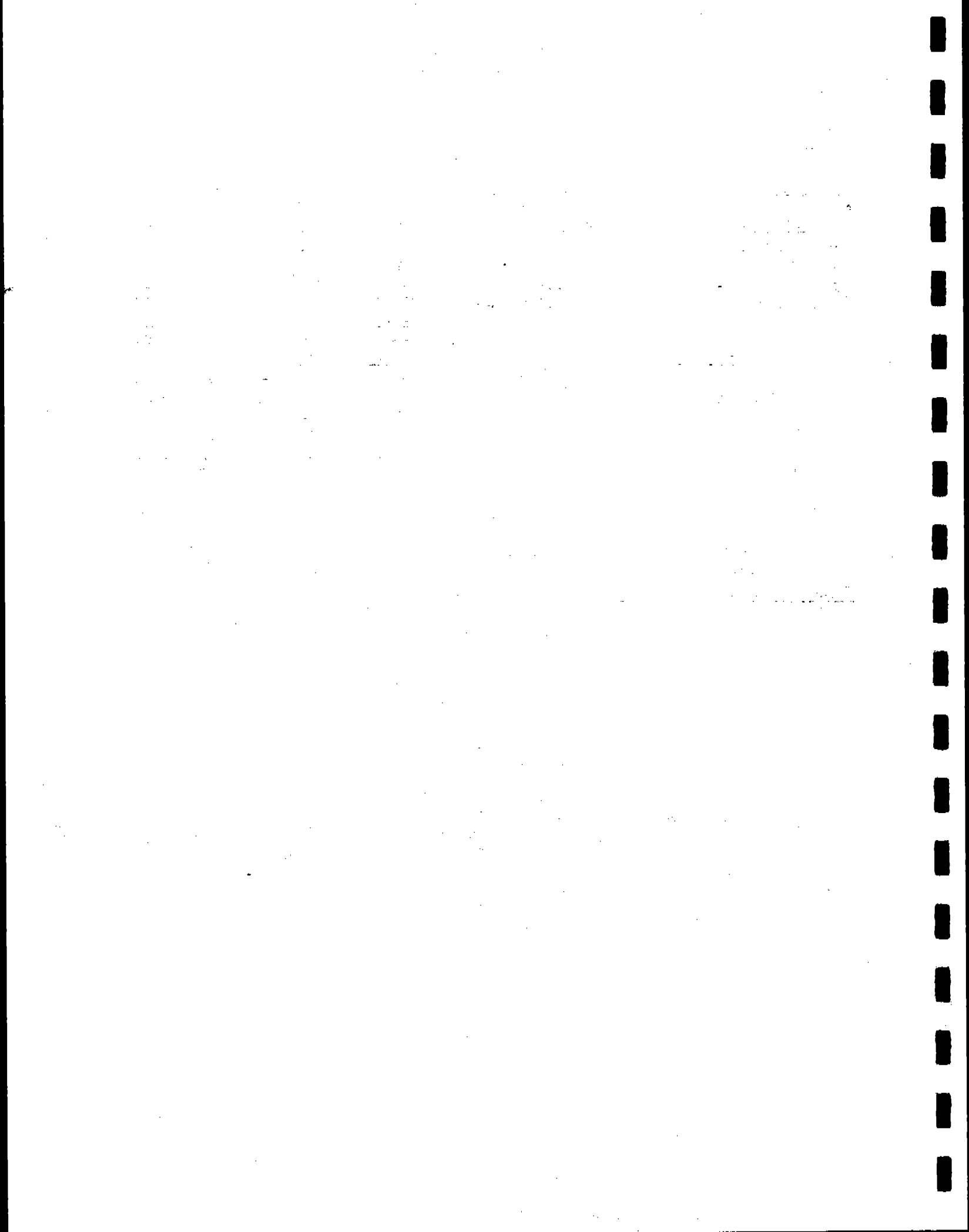
**METHOD 1-4 RESULTS**

Metered Volume 63.916 dcf  
 Volume @ Std.Cond. 58.195 dscf  
 % Water 4.92 %  
 % Isokinetics 100.8 %  
 Velocity 33.23 ft/sec  
 Actual Flow 18726 acfm  
 Std. Flow 12812 scfm  
 Dry Std. Flow 12182 dscfm

**METHOD 3 DATA**

|        |       |     |       |
|--------|-------|-----|-------|
| %O2    | 18.42 | Md  | 29.13 |
| %CO2   | 2.47  | Ms  | 28.58 |
| %CO    | 0.0   | Ps  | 28.89 |
| %N2    | 79.1  | Fo  | 1.004 |
| O2+CO2 | 20.9  | %EA | 747   |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER VOLUME<br>(dcf) | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|-----------------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               |                       | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 285            | -0.15             | 0.23          | 3.13          | 307.346               | 98                | 96               |
| 2     | 284            | -0.20             | 0.23          | 3.13          | 371.262               | 98                | 96               |
| 3     | 284            |                   | 0.24          | 3.26          |                       | 100               | 96               |
| 4     | 285            |                   | 0.22          | 2.99          |                       | 102               | 95               |
| 5     | 285            |                   | 0.25          | 3.40          |                       | 102               | 96               |
| 6     | 284            |                   | 0.26          | 3.54          |                       | 103               | 96               |
| 7     | 285            |                   | 0.25          | 3.40          |                       | 103               | 97               |
| 8     | 285            |                   | 0.24          | 3.26          |                       | 105               | 96               |
| 9     | 284            |                   | 0.24          | 3.26          |                       | 105               | 97               |
| 10    | 284            |                   | 0.20          | 2.72          |                       | 105               | 97               |
| 11    | 289            |                   | 0.24          | 3.26          |                       | 99                | 96               |
| 12    | 285            |                   | 0.25          | 3.40          |                       | 102               | 96               |
| 13    | 284            |                   | 0.25          | 3.40          |                       | 102               | 96               |
| 14    | 286            |                   | 0.24          | 3.26          |                       | 102               | 97               |
| 15    | 282            |                   | 0.20          | 2.72          |                       | 103               | 96               |
| 16    | 287            |                   | 0.24          | 3.26          |                       | 103               | 96               |
| 17    | 289            |                   | 0.25          | 3.40          |                       | 104               | 95               |
| 18    | 286            |                   | 0.23          | 3.13          |                       | 105               | 96               |
| 19    | 284            |                   | 0.23          | 3.13          |                       | 105               | 96               |
| 20    | 284            |                   | 0.22          | 2.99          |                       | 104               | 95               |
| AVG.  | 285            | -0.18             | 0.24          | 3.20          | 371.262<br>63.916     | 99                |                  |





**APPENDIX E**

**DATA AND RESULTS APPENDICES FOR MDI TESTING**



**APPENDIX E.1**

**DATA AND RESULTS FOR MDI TESTING**

**- PRESS OUTLET -**



**RUN NUMBER**

**PO-MDI-R1**

Date 08/30/95  
 Start Time 09:55  
 End Time 11:17  
 Stack Diam. 53.5 inches  
 Nozzle I.D. 0.190 inches  
 Meter Box Gamma 1.0020  
 Meter Box dH@ 1.7027  
 Barometric 28.75 in.Hg  
 Cp 0.835  
 Test Duration 60 minutes

**METHOD 4 DATA**

|       | INIT. | FINAL | NET    |
|-------|-------|-------|--------|
|       | (ml)  | (ml)  | (ml)   |
| IMP.1 | 300.0 | 200.0 | -100.0 |
| IMP.2 | 200.0 | 224.0 | 24.0   |
| IMP.3 | 200.0 | 200.0 | 0.0    |
| IMP.4 | 0.0   | -3.0  | 3.0    |
| IMP.5 | 200.0 | 254.4 | 54.4   |
| IMP.6 |       |       | 0.0    |
| IMP.7 |       |       | 0.0    |
| TOTAL | 900.0 | 881.4 | -18.6  |
| S.G.  | 200.0 | 231.7 | 31.7   |

**METHOD 1-4 RESULTS**

Metered Volume 54.119 dcf  
 Volume @ Std.Cond. 51.624 dscf  
 % Water 1.19 %  
 % Isokinetics 104.4 %  
 Velocity 79.03 ft/sec  
 Actual Flow 74029 acfm  
 Std. Flow 66192 scfm  
 Dry Std. Flow 65408 dscfm

**METHOD 3 DATA**

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 20.9 | Md  | 28.84 |
| %CO2   | 0.0  | Ms  | 28.71 |
| %CO    | 0.0  | Ps  | 28.58 |
| %N2    | 79.1 | Fo  | 1.000 |
| O2+CO2 | 20.9 | %EA | 93125 |

| POINT | STACK  | STATIC  | DP      | DH      | METER   | METER TEMPERATURE |        |
|-------|--------|---------|---------|---------|---------|-------------------|--------|
|       | TEMP   |         |         |         |         | VOLUME            | INLET  |
|       | (DegF) | (in.WC) | (in.WC) | (in.WC) | (dcf)   | (DegF)            | (DegF) |
| 1     | 101    | -2.10   | 1.50    | 1.76    | 651.918 | 67                | 68     |
| 2     | 101    | -2.50   | 1.70    | 1.99    | 706.037 | 69                | 66     |
| 3     | 104    |         | 2.00    | 2.34    |         | 71                | 66     |
| 4     | 103    |         | 2.00    | 2.34    |         | 74                | 69     |
| 5     | 107    |         | 2.10    | 2.46    |         | 78                | 70     |
| 6     | 105    |         | 2.10    | 2.46    |         | 80                | 70     |
| 7     | 98     |         | 1.40    | 1.64    |         | 76                | 73     |
| 8     | 104    |         | 1.70    | 1.99    |         | 80                | 74     |
| 9     | 107    |         | 1.80    | 2.10    |         | 84                | 76     |
| 10    | 106    |         | 2.00    | 2.34    |         | 87                | 78     |
| 11    | 106    |         | 1.70    | 1.99    |         | 89                | 79     |
| 12    | 107    |         | 1.50    | 1.75    |         | 89                | 81     |
|       |        |         |         |         | 706.037 |                   |        |
| AVG.  | 104    | -2.30   | 1.79    | 2.10    | 54.119  | 76                |        |

**RUN NUMBER**

**PO-MDI-R2**

Date 08/30/95  
 Start Time 13:25  
 End Time 15:10  
 Stack Diam. 53.5 inches  
 Nozzle I.D. 0.19 inches  
 Meter Box Gamma 1.002  
 Meter Box dH@ 1.7027  
 Barometric 28.75 in.Hg  
 Cp 0.835  
 Test Duration 60 minutes

**METHOD 4 DATA**

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 300.0         | 214.0         | -86.0       |
| IMP.2 | 200.0         | 224.0         | 24.0        |
| IMP.3 | 200.0         | 206.0         | 6.0         |
| IMP.4 | 0.0           | 0.0           | 0.0         |
| IMP.5 | 200.0         | 256.0         | 56.0        |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 900.0         | 900.0         | 0.0         |
| S.G.  | 200.0         | 224.5         | 24.5        |

**METHOD 1-4 RESULTS**

Metered Volume 56.948 dcf  
 Volume @ Std.Cond. 52.206 dscf  
 % Water 2.16 %  
 % Isokinetics 106.9 %  
 Velocity 79.06 ft/sec  
 Actual Flow 74051 acfm  
 Std. Flow 65987 scfm  
 Dry Std. Flow 64559 dscfm

**METHOD 3 DATA**

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 20.1 | Md  | 28.96 |
| %CO2   | 1.0  | Ms  | 28.73 |
| %CO    | 0.0  | Ps  | 28.58 |
| %N2    | 78.9 | Fo  | 0.800 |
| O2+CO2 | 21.1 | %EA | 2755  |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER             | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|-------------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf)   | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 101            | -2.10             | 1.80          | 2.23          | 709.464           | 99                | 98               |
| 2     | 103            | -2.50             | 1.90          | 2.36          | 766.412           | 94                | 94               |
| 3     | 104            |                   | 2.10          | 2.60          |                   | 97                | 95               |
| 4     | 103            |                   | 1.80          | 2.23          |                   | 104               | 98               |
| 5     | 103            |                   | 1.80          | 2.23          |                   | 101               | 96               |
| 6     | 106            |                   | 2.00          | 2.48          |                   | 103               | 93               |
| 7     | 107            |                   | 1.60          | 1.98          |                   | 99                | 98               |
| 8     | 108            |                   | 1.80          | 2.23          |                   | 97                | 95               |
| 9     | 108            |                   | 1.80          | 2.23          |                   | 101               | 97               |
| 10    | 111            |                   | 1.70          | 2.11          |                   | 94                | 94               |
| 11    | 111            |                   | 1.50          | 1.86          |                   | 100               | 96               |
| 12    | 107            |                   | 1.60          | 1.98          |                   | 100               | 96               |
| AVG.  | 106            | -2.30             | 1.78          | 2.21          | 766.412<br>56.948 |                   | 97               |

RUN NUMBER

PO-MDI-R3

Date 08/30/95  
 Start Time 19:40  
 End Time 20:51  
 Stack Diam. 53.5 inches  
 Nozzle I.D. 0.19 inches  
 Meter Box Gamma 1.002  
 Meter Box dH@ 1.7027  
 Barometric 28.75 in.Hg  
 Cp 0.835  
 Test Duration 60 minutes

METHOD 4 DATA

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 300.0         | 170.0         | -130.0      |
| IMP.2 | 200.0         | 224.0         | 24.0        |
| IMP.3 | 200.0         | 214.0         | 14.0        |
| IMP.4 | 0.0           | 2.0           | 2.0         |
| IMP.5 | 200.0         | 251.8         | 51.8        |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 900.0         | 861.8         | -38.2       |
| S.G.  | 200.0         | 246.4         | 46.4        |

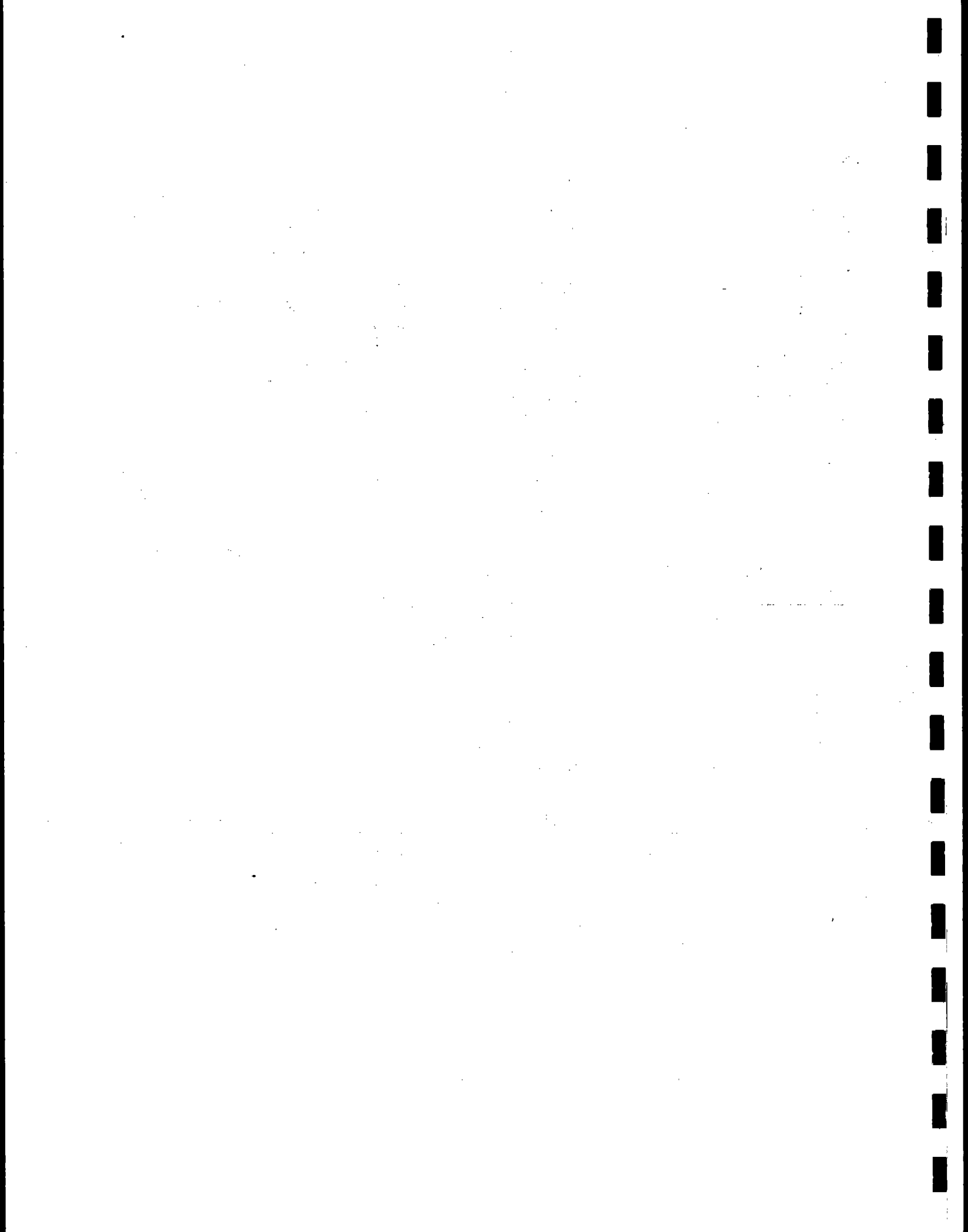
METHOD 1-4 RESULTS

Metered Volume 55.643 dcf  
 Volume @ Std.Cond. 51.969 dscf  
 % Water 0.74 %  
 % Isokinetics 106.7 %  
 Velocity 77.59 ft/sec  
 Actual Flow 72680 acfm  
 Std. Flow 64855 scfm  
 Dry Std. Flow 64372 dscfm

METHOD 3 DATA

|        |      |     |         |
|--------|------|-----|---------|
| %O2    | 20.9 | Md  | 28.84   |
| %CO2   | 0.1  | Ms  | 28.76   |
| %CO    | 0.0  | Ps  | 28.60   |
| %N2    | 79.1 | Fo  | 0.200   |
| O2+CO2 | 20.9 | %EA | -115033 |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER             | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|-------------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf)   | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 106            | -2.00             | 1.60          | 2.02          | 767.282           | 88                | 88               |
| 2     | 108            | -2.10             | 1.60          | 2.06          | 822.925           | 88                | 89               |
| 3     | 109            |                   | 1.90          | 2.40          |                   | 87                | 89               |
| 4     | 102            |                   | 1.90          | 2.40          |                   | 87                | 84               |
| 5     | 107            |                   | 2.00          | 2.52          |                   | 89                | 84               |
| 6     | 110            |                   | 1.90          | 2.40          |                   | 94                | 86               |
| 7     | 108            |                   | 1.40          | 1.76          |                   | 84                | 83               |
| 8     | 103            |                   | 1.50          | 1.89          |                   | 88                | 86               |
| 9     | 103            |                   | 1.50          | 1.89          |                   | 89                | 85               |
| 10    | 103            |                   | 2.00          | 2.52          |                   | 89                | 85               |
| 11    | 104            |                   | 1.80          | 2.27          |                   | 89                | 84               |
| 12    | 104            |                   | 1.60          | 2.02          |                   | 92                | 84               |
| AVG.  | 106            | -2.05             | 1.73          | 2.18          | 822.925<br>55.643 |                   | 87               |





**APPENDIX E.2**

**DATA AND RESULTS FOR MDI TESTING**

**- RTO STACK -**



RUN NUMBER

RTO-MDI-R1

Date 08/30/95  
 Start Time 09:55  
 End Time 11:17  
 Stack Diam. 96 inches  
 Nozzle I.D. 0.258 inches  
 Meter Box Gamma 0.9993  
 Meter Box dH@ 1.7109  
 Barometric 28.75 in.Hg  
 Cp 0.84  
 Test Duration 60 minutes

METHOD 4 DATA

|       | INIT.<br>(m) | FINAL<br>(m) | NET<br>(m) |
|-------|--------------|--------------|------------|
| IMP.1 | 300.0        | 185.0        | -115.0     |
| IMP.2 | 200.0        | 305.0        | 105.0      |
| IMP.3 | 200.0        | 202.0        | 2.0        |
| IMP.4 | 0.0          | -3.0         | 3.0        |
| IMP.5 | 200.0        | 248.0        | 48.0       |
| IMP.6 |              |              | 0.0        |
| IMP.7 |              |              | 0.0        |
| TOTAL | 900.0        | 943.0        | 43.0       |
| S.G.  | 200.0        | 238.0        | 38.0       |

METHOD 1-4 RESULTS

Metered Volume 48.589 dcf  
 Volume @ Std.Cond. 45.496 dscf  
 % Water 7.74 %  
 % Isokinetics 97.1 %  
 Velocity 53.28 ft/sec  
 Actual Flow 160690 acfm  
 Std. Flow 117242 scfm  
 Dry Std. Flow 108170 dscfm

METHOD 3 DATA

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 19.6 | Md  | 28.96 |
| %CO2   | 1.1  | Ms  | 28.11 |
| %CO    | 0.0  | Ps  | 28.72 |
| %N2    | 79.3 | Fo  | 1.216 |
| O2+CO2 | 20.7 | %EA | 1401  |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER           | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|-----------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf) | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 232            | -0.37             | 0.52          | 1.56          | 204.994         | 82                | 80               |
| 2     | 235            | -0.37             | 0.63          | 1.89          | 253.583         | 83                | 80               |
| 3     | 232            |                   | 0.69          | 2.07          |                 | 83                | 80               |
| 4     | 237            |                   | 0.70          | 2.10          |                 | 84                | 80               |
| 5     | 232            |                   | 0.66          | 1.98          |                 | 85                | 80               |
| 6     | 236            |                   | 0.70          | 2.10          |                 | 86                | 81               |
| 7     | 232            |                   | 0.60          | 1.80          |                 | 87                | 81               |
| 8     | 235            |                   | 0.60          | 1.80          |                 | 88                | 82               |
| 9     | 231            |                   | 0.67          | 2.01          |                 | 89                | 82               |
| 10    | 231            |                   | 0.63          | 1.89          |                 | 90                | 83               |
| 11    | 233            |                   | 0.67          | 2.01          |                 | 90                | 83               |
| 12    | 236            |                   | 0.62          | 1.86          |                 | 91                | 84               |
| 13    | 234            |                   | 0.51          | 1.53          |                 | 92                | 84               |
| 14    | 232            |                   | 0.62          | 1.86          |                 | 94                | 86               |
| 15    | 233            |                   | 0.63          | 1.89          |                 | 95                | 87               |
| 16    | 238            |                   | 0.67          | 2.01          |                 | 97                | 89               |
| 17    | 235            |                   | 0.69          | 2.07          |                 | 97                | 89               |
| 18    | 238            |                   | 0.69          | 2.07          |                 | 98                | 90               |
| 19    | 236            |                   | 0.67          | 2.01          |                 | 99                | 90               |
| 20    | 238            |                   | 0.66          | 1.98          |                 | 100               | 91               |
| 21    | 237            |                   | 0.68          | 2.04          |                 | 101               | 92               |
| 22    | 238            |                   | 0.66          | 1.98          |                 | 102               | 93               |
| 23    | 235            |                   | 0.66          | 1.98          |                 | 103               | 93               |
| 24    | 237            |                   | 0.60          | 1.80          |                 | 104               | 94               |
|       |                |                   |               |               | 253.583         |                   |                  |
| AVG.  | 235            | -0.37             | 0.64          | 1.93          | 48.589          | 84                |                  |

**RUN NUMBER**

**RTO-MDI-R2**

Date 08/30/95  
 Start Time 13:25  
 End Time 15:10  
 Stack Diam. 96 inches  
 Nozzle I.D. 0.258 inches  
 Meter Box Gamma 0.9993  
 Meter Box dH@ 1.7109  
 Barometric 28.75 in.Hg  
 Cp 0.84  
 Test Duration 60 minutes

**METHOD 4 DATA**

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 300.0         | 230.0         | -70.0       |
| IMP.2 | 200.0         | 274.0         | 74.0        |
| IMP.3 | 200.0         | 203.0         | 3.0         |
| IMP.4 | 0.0           | 2.0           | 2.0         |
| IMP.5 | 200.0         | 256.0         | 56.0        |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 900.0         | 965.0         | 65.0        |
| S.G.  | 200.0         | 239.5         | 39.5        |

**METHOD 1-4 RESULTS**

Metered Volume 49.505 dcf  
 Volume @ Std.Cond. 44.636 dscf  
 % Water 9.93 %  
 % Isokinetics 98.7 %  
 Velocity 53.12 ft/sec  
 Actual Flow 160197 acfm  
 Std. Flow 115886 scfm  
 Dry Std. Flow 104376 dscfm

**METHOD 3 DATA**

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 20.1 | Md  | 28.96 |
| %CO2   | 1.0  | Ms  | 27.88 |
| %CO    | 0.0  | Ps  | 28.73 |
| %N2    | 78.9 | Fo  | 0.800 |
| O2+CO2 | 21.1 | %EA | 2755  |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER           | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|-----------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf) | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 237            | -0.32             | 0.43          | 1.33          | 254.078         | 101               | 99               |
| 2     | 237            | -0.35             | 0.54          | 1.67          | 303.583         | 101               | 99               |
| 3     | 243            |                   | 0.59          | 1.83          |                 | 102               | 100              |
| 4     | 239            |                   | 0.66          | 2.05          |                 | 102               | 100              |
| 5     | 243            |                   | 0.64          | 1.98          |                 | 103               | 100              |
| 6     | 243            |                   | 0.67          | 2.08          |                 | 105               | 101              |
| 7     | 245            |                   | 0.67          | 2.08          |                 | 106               | 102              |
| 8     | 243            |                   | 0.67          | 2.08          |                 | 107               | 102              |
| 9     | 243            |                   | 0.69          | 2.14          |                 | 108               | 102              |
| 10    | 240            |                   | 0.66          | 2.05          |                 | 109               | 103              |
| 11    | 243            |                   | 0.68          | 2.11          |                 | 110               | 103              |
| 12    | 239            |                   | 0.63          | 1.93          |                 | 110               | 103              |
| 13    | 238            |                   | 0.49          | 1.52          |                 | 107               | 103              |
| 14    | 242            |                   | 0.63          | 1.95          |                 | 107               | 103              |
| 15    | 243            |                   | 0.62          | 1.92          |                 | 106               | 103              |
| 16    | 238            |                   | 0.69          | 2.14          |                 | 105               | 102              |
| 17    | 238            |                   | 0.68          | 2.11          |                 | 107               | 103              |
| 18    | 242            |                   | 0.70          | 2.17          |                 | 108               | 103              |
| 19    | 240            |                   | 0.57          | 1.77          |                 | 109               | 104              |
| 20    | 240            |                   | 0.64          | 1.98          |                 | 110               | 105              |
| 21    | 241            |                   | 0.68          | 2.11          |                 | 111               | 105              |
| 22    | 240            |                   | 0.67          | 2.08          |                 | 112               | 106              |
| 23    | 242            |                   | 0.68          | 2.11          |                 | 113               | 106              |
| 24    | 239            |                   | 0.61          | 1.89          |                 | 113               | 106              |
|       |                |                   |               |               | 303.583         |                   |                  |
| AVG.  | 241            | -0.34             | 0.63          | 1.96          | 49.505          |                   | 105              |

**RUN NUMBER**

**RTO-MDI-R3**

Date 08/30/95  
 Start Time 19:40  
 End Time 20:51  
 Stack Diam. 96 inches  
 Nozzle I.D. 0.258 inches  
 Meter Box Gamma 0.9993  
 Meter Box dH@ 1.7109  
 Barometric 28.75 in.Hg  
 Cp 0.84  
 Test Duration 60 minutes

**METHOD 4 DATA**

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 300.0         | 249.0         | -51.0       |
| IMP.2 | 200.0         | 312.0         | 112.0       |
| IMP.3 | 200.0         | 151.0         | -49.0       |
| IMP.4 | 0.0           | 2.0           | 2.0         |
| IMP.5 | 200.0         | 248.0         | 48.0        |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 900.0         | 962.0         | 62.0        |
| S.G.  | 200.0         | 237.0         | 37.0        |

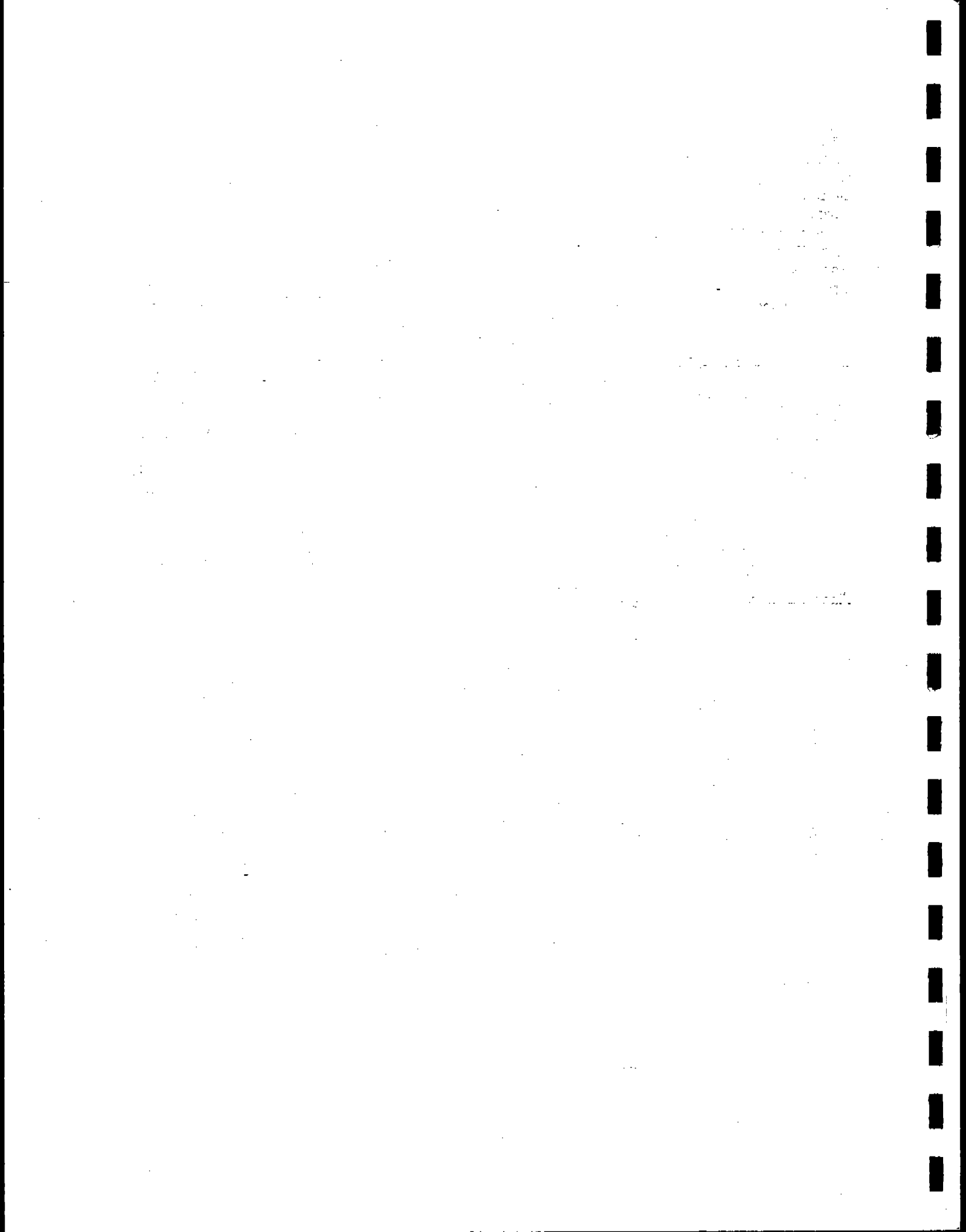
**METHOD 1-4 RESULTS**

Metered Volume 48.047 dcf  
 Volume @ Std.Cond. 43.720 dscf  
 % Water 9.64 %  
 % Isokinetics 97.7 %  
 Velocity 52.03 ft/sec  
 Actual Flow 156918 acfm  
 Std. Flow 114345 scfm  
 Dry Std. Flow 103325 dscfm

**METHOD 3 DATA**

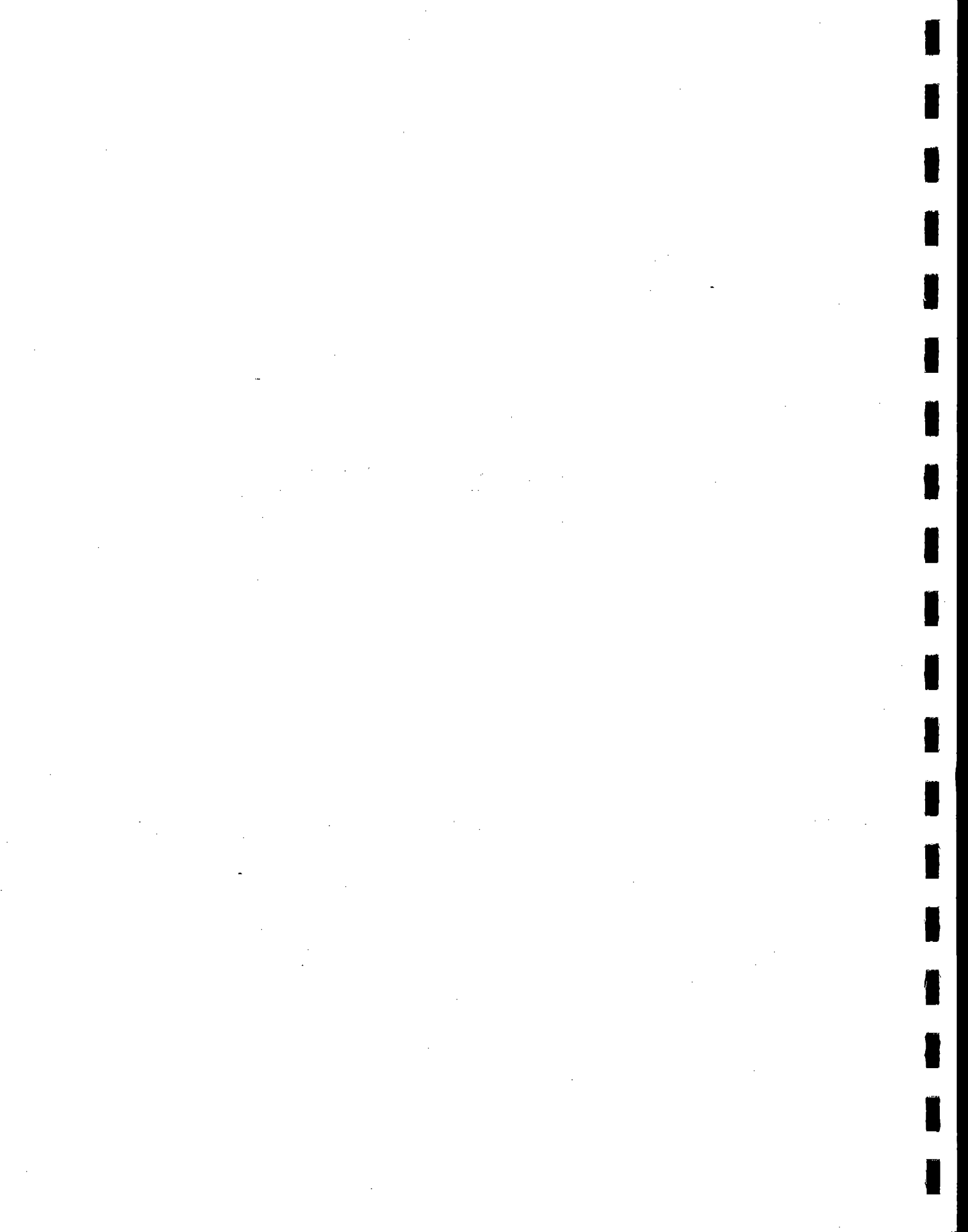
|        |      | Md | Ms    | Ps    | Fo    | %EA  |
|--------|------|----|-------|-------|-------|------|
| %O2    | 19.6 |    | 28.98 |       |       |      |
| %CO2   | 1.3  |    | 27.92 |       |       |      |
| %CO    | 0.0  |    |       | 28.73 |       |      |
| %N2    | 79.2 |    |       |       | 1.072 |      |
| O2+CO2 | 20.8 |    |       |       |       | 1453 |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER<br>VOLUME<br>(dcf) | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|--------------------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               |                          | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 235            | -0.31             | 0.52          | 1.61          | 304.403                  | 101               | 101              |
| 2     | 233            | -0.35             | 0.60          | 1.86          | 352.450                  | 100               | 100              |
| 3     | 233            |                   | 0.61          | 1.89          |                          | 100               | 99               |
| 4     | 232            |                   | 0.65          | 2.02          |                          | 99                | 98               |
| 5     | 233            |                   | 0.65          | 2.02          |                          | 99                | 98               |
| 6     | 237            |                   | 0.66          | 2.05          |                          | 99                | 98               |
| 7     | 238            |                   | 0.51          | 1.58          |                          | 99                | 98               |
| 8     | 229            |                   | 0.51          | 1.58          |                          | 100               | 99               |
| 9     | 228            |                   | 0.64          | 1.98          |                          | 101               | 99               |
| 10    | 235            |                   | 0.65          | 2.01          |                          | 102               | 99               |
| 11    | 235            |                   | 0.65          | 2.01          |                          | 102               | 99               |
| 12    | 238            |                   | 0.63          | 1.95          |                          | 103               | 99               |
| 13    | 235            |                   | 0.58          | 1.80          |                          | 104               | 99               |
| 14    | 235            |                   | 0.56          | 1.74          |                          | 102               | 98               |
| 15    | 236            |                   | 0.61          | 1.89          |                          | 102               | 98               |
| 16    | 237            |                   | 0.62          | 1.92          |                          | 103               | 98               |
| 17    | 238            |                   | 0.65          | 2.02          |                          | 104               | 98               |
| 18    | 237            |                   | 0.66          | 2.05          |                          | 104               | 99               |
| 19    | 240            |                   | 0.64          | 1.98          |                          | 105               | 99               |
| 20    | 236            |                   | 0.64          | 1.98          |                          | 105               | 99               |
| 21    | 240            |                   | 0.62          | 1.92          |                          | 105               | 99               |
| 22    | 237            |                   | 0.66          | 2.05          |                          | 105               | 98               |
| 23    | 240            |                   | 0.62          | 1.92          |                          | 105               | 98               |
| 24    | 239            |                   | 0.59          | 1.83          |                          | 105               | 98               |
| AVG.  | 236            | -0.33             | 0.61          | 1.90          | 352.450<br>48.047        | 100               |                  |



**APPENDIX F**

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





APPENDIX F.1

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

- SCRUBBER OUTLET -



LOUISIANA PACIFIC - DUNGANNON  
 METHODS 3A, 6C, 7E, AND 10  
 REFERENCE METHOD DATA  
 SCRUBBER OUTLET - RUN 1

Starting  
 8-30-95

| Time  | SCRUBBER<br>OUTLET<br>O2 %dv | SCRUBBER<br>OUTLET<br>CO2 %dv | SCRUBBER<br>OUTLET<br>SO2ppmdv | SCRUBBER<br>OUTLET<br>NOxppmdv | SCRUBBER<br>OUTLET<br>CO ppmv |
|-------|------------------------------|-------------------------------|--------------------------------|--------------------------------|-------------------------------|
| 09:56 | 17.920                       | 2.591                         | 1.18                           | 17.35                          | 95.50                         |
| 09:57 | 17.930                       | 2.588                         | 1.25                           | 17.14                          | 109.20                        |
| 09:58 | 18.040                       | 2.485                         | 1.27                           | 20.47                          | 107.00                        |
| 09:59 | 18.180                       | 2.356                         | 1.25                           | 23.43                          | 87.20                         |
| 10:00 | 18.200                       | 2.341                         | 1.17                           | 23.78                          | 69.72                         |
| 10:01 | 18.050                       | 2.480                         | 1.23                           | 21.46                          | 74.80                         |
| 10:02 | 18.000                       | 2.522                         | 1.25                           | 20.87                          | 88.30                         |
| 10:03 | 17.940                       | 2.580                         | 1.30                           | 20.16                          | 86.40                         |
| 10:04 | 17.810                       | 2.723                         | 1.29                           | 16.65                          | 96.00                         |
| 10:05 | 17.800                       | 2.728                         | 1.35                           | 16.45                          | 113.70                        |
| 10:06 | 17.920                       | 2.610                         | 1.33                           | 17.89                          | 99.00                         |
| 10:07 | 17.970                       | 2.547                         | 1.40                           | 18.92                          | 91.00                         |
| 10:08 | 18.130                       | 2.386                         | 1.32                           | 21.73                          | 77.90                         |
| 10:09 | 18.260                       | 2.268                         | 1.24                           | 24.27                          | 65.75                         |
| 10:10 | 18.250                       | 2.266                         | 1.23                           | 24.02                          | 71.30                         |
| 10:11 | 18.220                       | 2.303                         | 1.21                           | 24.10                          | 71.10                         |
| 10:12 | 18.200                       | 2.325                         | 1.21                           | 24.25                          | 75.10                         |
| 10:13 | 18.210                       | 2.312                         | 1.22                           | 23.81                          | 77.20                         |
| 10:14 | 18.200                       | 2.303                         | 1.23                           | 23.19                          | 81.50                         |
| 10:15 | 18.160                       | 2.354                         | 1.21                           | 21.47                          | 65.78                         |
| 10:16 | 18.110                       | 2.393                         | 1.19                           | 20.45                          | 68.61                         |
| 10:17 | 18.200                       | 2.306                         | 1.20                           | 21.37                          | 65.66                         |
| 10:18 | 18.310                       | 2.199                         | 1.22                           | 23.15                          | 51.99                         |
| 10:19 | 18.350                       | 2.168                         | 1.16                           | 23.91                          | 47.26                         |
| 10:20 | 18.330                       | 2.176                         | 1.08                           | 23.65                          | 50.21                         |
| 10:21 | 18.370                       | 2.140                         | 1.20                           | 25.10                          | 56.32                         |
| 10:22 | 18.340                       | 2.169                         | 1.08                           | 25.59                          | 64.37                         |
| 10:23 | 18.220                       | 2.275                         | 1.01                           | 24.47                          | 65.65                         |
| 10:24 | 18.180                       | 2.312                         | 1.08                           | 23.19                          | 73.00                         |
| 10:25 | 18.160                       | 2.332                         | 1.23                           | 21.68                          | 72.90                         |
| 10:26 | 18.090p                      | 2.392p                        | 1.20p                          | 20.94p                         | 69.98p                        |
| 10:27 | 18.150p                      | 2.331p                        | 1.15p                          | 21.06p                         | 70.80p                        |
| 10:28 | 18.100p                      | 2.371p                        | 1.18p                          | 19.70p                         | 73.70p                        |
| 10:29 | 18.220p                      | 2.243p                        | 1.24p                          | 21.79p                         | 76.60p                        |
| 10:30 | 18.320p                      | 2.146p                        | 1.19p                          | 23.56p                         | 69.26p                        |
| 10:31 | 18.250p                      | 2.221p                        | 1.13p                          | 22.11p                         | 60.81p                        |
| 10:32 | 18.200p                      | 2.252p                        | 1.11p                          | 21.65p                         | 59.94p                        |
| 10:33 | 18.140p                      | 2.308p                        | 1.13p                          | 21.36p                         | 62.88p                        |
| 10:34 | 18.150p                      | 2.294p                        | 1.08p                          | 21.59p                         | 62.97p                        |
| 10:35 | 18.020p                      | 2.428p                        | 1.19p                          | 19.09p                         | 70.40p                        |
| 10:36 | 17.920p                      | 2.522p                        | 1.17p                          | 17.55p                         | 84.00p                        |

LOUISIANA PACIFIC - DUNGANNON  
METHODS 3A, 6C, 7E, AND 10  
REFERENCE METHOD DATA  
SCRUBBER OUTLET - RUN 1

Starting  
08-30-95

| Time  | SCRUBBER<br>OUTLET<br>O2 %dv | SCRUBBER<br>OUTLET<br>CO2 %dv | SCRUBBER<br>OUTLET<br>SO2ppmdv | SCRUBBER<br>OUTLET<br>NOxppmdv | SCRUBBER<br>OUTLET<br>CO ppmdv |
|-------|------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 10:37 | 17.970p                      | 2.463p                        | 1.16p                          | 18.51p                         | 95.60p                         |
| 10:38 | 18.030p                      | 2.412p                        | 1.23p                          | 19.46p                         | 77.60p                         |
| 10:39 | 18.050p                      | 2.391p                        | 1.24p                          | 19.42p                         | 78.60p                         |
| 10:40 | 18.130p                      | 2.304p                        | 1.18p                          | 20.43p                         | 81.40p                         |
| 10:41 | 18.230p                      | 2.210p                        | 1.17p                          | 21.66p                         | 73.40p                         |
| 10:42 | 18.260p                      | 2.186p                        | 1.21p                          | 21.69p                         | 65.06p                         |
| 10:43 | 18.280p                      | 2.152p                        | 1.10p                          | 22.64p                         | 61.30p                         |
| 10:44 | 18.230p                      | 2.205p                        | 1.08p                          | 21.67p                         | 64.71p                         |
| 10:45 | 18.220p                      | 2.213p                        | 1.16p                          | 21.92p                         | 66.28p                         |
| 10:46 | 18.130p                      | 2.293p                        | 1.21p                          | 21.21p                         | 73.60p                         |
| 10:47 | 18.080p                      | 2.352p                        | 1.12p                          | 20.62p                         | 73.00p                         |
| 10:48 | 18.020                       | 2.389                         | 1.14                           | 20.02                          | 74.30                          |
| 10:49 | 18.010                       | 2.403                         | 1.14                           | 19.11                          | 81.50                          |
| 10:50 | 17.980                       | 2.397                         | 1.03                           | 19.93                          | 84.30                          |
| 10:51 | 18.040                       | 2.353                         | 1.09                           | 21.27                          | 83.70                          |
| 10:52 | 18.060                       | 2.357                         | 1.10                           | 21.03                          | 76.70                          |
| 10:53 | 17.970                       | 2.423                         | 1.14                           | 19.68                          | 80.30                          |
| 10:54 | 18.010                       | 2.384                         | 1.08                           | 20.47                          | 75.40                          |
| 10:55 | 17.860                       | 2.533                         | 1.18                           | 17.90                          | 80.10                          |
| 10:56 | 17.800                       | 2.582                         | 1.22                           | 17.13                          | 102.50                         |
| 10:57 | 17.710                       | 2.672                         | 1.22                           | 15.92                          | 112.40                         |
| 10:58 | 17.660                       | 2.712                         | 1.27                           | 16.04                          | 112.80                         |
| 10:59 | 17.730                       | 2.635                         | 1.29                           | 17.18                          | 100.50                         |
| 11:00 | 17.740                       | 2.629                         | 1.26                           | 17.67                          | 92.10                          |
| 11:01 | 17.770                       | 2.592                         | 1.34                           | 18.21                          | 89.40                          |
| 11:02 | 17.860                       | 2.537                         | 1.28                           | 19.36                          | 81.80                          |
| 11:03 | 17.820                       | 2.523                         | 1.32                           | 19.28                          | 70.50                          |
| 11:04 | 17.840                       | 2.490                         | 1.25                           | 20.35                          | 64.93                          |
| 11:05 | 17.810                       | 2.533                         | 1.21                           | 20.19                          | 61.91                          |
| 11:06 | 17.800                       | 2.528                         | 1.26                           | 20.84                          | 61.56                          |
| 11:07 | 17.730                       | 2.595                         | 1.24                           | 20.53                          | 64.24                          |
| 11:08 | 17.550                       | 2.773                         | 1.29                           | 19.16                          | 70.90                          |
| 11:09 | 17.430                       | 2.880                         | 1.35                           | 18.18                          | 101.20                         |
| 11:10 | 17.460                       | 2.846                         | 1.32                           | 19.06                          | 104.60                         |
| 11:11 | 17.390                       | 2.914                         | 1.36                           | 19.48                          | 101.10                         |
| 11:12 | 17.330                       | 2.968                         | 1.32                           | 19.37                          | 112.70                         |
| 11:13 | 17.350                       | 2.955                         | 1.35                           | 20.04                          | 119.20                         |
| 11:14 | 17.450                       | 2.834                         | 1.39                           | 21.54                          | 106.20                         |
| 11:15 | 17.450                       | 2.836                         | 1.32                           | 21.19                          | 85.00                          |
| 11:16 | 17.510                       | 2.770                         | 1.33                           | 21.73                          | 93.70                          |
| 11:17 | 17.530                       | 2.742                         | 1.27                           | 22.34                          | 73.50                          |

LOUISIANA PACIFIC - DUNGANNON  
 METHODS 3A, 6C, 7E, AND 10  
 REFERENCE METHOD DATA  
 SCRUBBER OUTLET - RUN 1

Starting  
 01-30-95

| Time      | SCRUBBER<br>OUTLET<br>O2 %dv | SCRUBBER<br>OUTLET<br>CO2 %dv | SCRUBBER<br>OUTLET<br>SO2ppmdv | SCRUBBER<br>OUTLET<br>NOxppmdv | SCRUBBER<br>OUTLET<br>CO ppmdv |
|-----------|------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 32 MinAvg | 17.927                       | 2.505                         | 1.23                           | 20.64                          | 82.31                          |

Data Corrected for Calibrations

|           |        |       |      |       |       |
|-----------|--------|-------|------|-------|-------|
| 32 MinAvg | 18.353 | 2.408 | 0.32 | 21.22 | 85.78 |
|-----------|--------|-------|------|-------|-------|

LOUISIANA PACIFIC - DUNGANNON  
METHOD 25A  
REFERENCE METHOD DATA  
SCRUBBER OUTLET - RUN 1

Starting  
08-30-95

| Time  | SCRUBBER<br>OUTLET<br>VOCppmw |
|-------|-------------------------------|
| 09:56 | 25.220                        |
| 09:57 | 25.620                        |
| 09:58 | 24.280                        |
| 09:59 | 22.880                        |
| 10:00 | 22.240                        |
| 10:01 | 23.940                        |
| 10:02 | 24.180                        |
| 10:03 | 24.210                        |
| 10:04 | 26.240                        |
| 10:05 | 26.220                        |
| 10:06 | 25.320                        |
| 10:07 | 24.930                        |
| 10:08 | 23.440                        |
| 10:09 | 22.880                        |
| 10:10 | 22.440                        |
| 10:11 | 22.180                        |
| 10:12 | 21.810                        |
| 10:13 | 21.540                        |
| 10:14 | 21.020                        |
| 10:15 | 21.400                        |
| 10:16 | 21.670                        |
| 10:17 | 21.140                        |
| 10:18 | 20.240                        |
| 10:19 | 19.890                        |
| 10:20 | 20.230                        |
| 10:21 | 20.300                        |
| 10:22 | 20.350                        |
| 10:23 | 21.110                        |
| 10:24 | 22.050                        |
| 10:25 | 22.370                        |
| 10:26 | 22.860p                       |
| 10:27 | 22.970p                       |
| 10:28 | 23.510p                       |
| 10:29 | 22.900p                       |
| 10:30 | 22.530p                       |
| 10:31 | 22.400p                       |
| 10:32 | 22.670p                       |
| 10:33 | 22.770p                       |
| 10:34 | 23.240p                       |
| 10:35 | 24.540p                       |
| 10:36 | 26.190p                       |

LOUISIANA PACIFIC - DUNGANNON  
METHOD 25A  
REFERENCE METHOD DATA  
SCRUBBER OUTLET - RUN 1

Starting  
08-30-95

| Time  | SCRUBBER<br>OUTLET<br>VOCppmw |
|-------|-------------------------------|
| 10:37 | 25.540p                       |
| 10:38 | 25.480p                       |
| 10:39 | 25.830p                       |
| 10:40 | 25.490p                       |
| 10:41 | 25.290p                       |
| 10:42 | 24.280p                       |
| 10:43 | 23.660p                       |
| 10:44 | 24.310p                       |
| 10:45 | 24.730p                       |
| 10:46 | 24.820p                       |
| 10:47 | 25.470p                       |
| 10:48 | 26.280p                       |
| 10:49 | 26.930                        |
| 10:50 | 27.120                        |
| 10:51 | 26.620                        |
| 10:52 | 26.690                        |
| 10:53 | 26.750                        |
| 10:54 | 26.810                        |
| 10:55 | 29.170                        |
| 10:56 | 29.490                        |
| 10:57 | 30.390                        |
| 10:58 | 30.060                        |
| 10:59 | 29.600                        |
| 11:00 | 29.370                        |
| 11:01 | 29.020                        |
| 11:02 | 28.090                        |
| 11:03 | 27.960                        |
| 11:04 | 27.420                        |
| 11:05 | 27.490                        |
| 11:06 | 27.660                        |
| 11:07 | 28.660                        |
| 11:08 | 31.160                        |
| 11:09 | 33.270                        |
| 11:10 | 33.860                        |
| 11:11 | 35.280                        |
| 11:12 | 36.570                        |
| 11:13 | 36.650                        |
| 11:14 | 35.520                        |
| 11:15 | 36.260                        |
| 11:16 | 35.510                        |
| 11:17 | 34.840                        |

LOUISIANA PACIFIC - DUNGANNON  
METHOD 25A  
REFERENCE METHOD DATA  
SCRUBBER OUTLET - RUN 1

Starting  
08-30-95

| Time      | SCRUBBER<br>OUTLET<br>VOCppmwv |
|-----------|--------------------------------|
| 82 MinAvg | 26.535                         |



LOUISIANA PACIFIC - DUNGANNON  
 METHODS 3A, 6C, 7E, AND 10  
 REFERENCE METHOD DATA  
 SCRUBBER OUTLET - RUN 2

Starting  
 8-30-95

| Time  | SCRUBBER<br>OUTLET<br>O2 %dv | SCRUBBER<br>OUTLET<br>CO2 %dv | SCRUBBER<br>OUTLET<br>SO2ppmdv | SCRUBBER<br>OUTLET<br>NOxppmdv | SCRUBBER<br>OUTLET<br>CO ppmv |
|-------|------------------------------|-------------------------------|--------------------------------|--------------------------------|-------------------------------|
| 13:26 | 17.130                       | 2.717                         | 1.23                           | 18.43                          | 125.40                        |
| 13:27 | 17.170                       | 2.678                         | 1.28                           | 19.29                          | 118.70                        |
| 13:28 | 17.210                       | 2.653                         | 1.22                           | 20.04                          | 110.40                        |
| 13:29 | 17.240                       | 2.634                         | 1.17                           | 19.75                          | 114.10                        |
| 13:30 | 17.170                       | 2.707                         | 1.09                           | 18.50                          | 112.10                        |
| 13:31 | 17.150                       | 2.731                         | 1.09                           | 18.15                          | 121.40                        |
| 13:32 | 17.150                       | 2.746                         | 1.11                           | 17.45                          | 126.90                        |
| 13:33 | 17.150                       | 2.743                         | 1.12                           | 16.87                          | 138.50                        |
| 13:34 | 17.180                       | 2.710                         | 1.15                           | 16.83                          | 137.70                        |
| 13:35 | 17.180                       | 2.737                         | 1.23                           | 15.93                          | 143.60                        |
| 13:36 | 17.160                       | 2.759                         | 1.23                           | 15.88                          | 165.00                        |
| 13:37 | 17.180                       | 2.747                         | 1.31                           | 15.93                          | 191.00                        |
| 13:38 | 17.260                       | 2.660                         | 1.29                           | 16.84                          | 166.20                        |
| 13:39 | 17.340                       | 2.586                         | 1.33                           | 17.16                          | 154.80                        |
| 13:40 | 17.390                       | 2.539                         | 1.15                           | 17.70                          | 126.10                        |
| 13:41 | 17.410                       | 2.534                         | 1.17                           | 17.82                          | 125.70                        |
| 13:42 | 17.400                       | 2.555                         | 1.26                           | 17.00                          | 111.60                        |
| 13:43 | 17.420                       | 2.545                         | 1.29                           | 17.43                          | 113.50                        |
| 13:44 | 17.330                       | 2.640                         | 1.35                           | 15.75                          | 127.50                        |
| 13:45 | 17.300                       | 2.672                         | 1.28                           | 16.00                          | 136.90                        |
| 13:46 | 17.290                       | 2.687                         | 1.30                           | 15.72                          | 140.50                        |
| 13:47 | 17.210                       | 2.763                         | 1.28                           | 15.60                          | 162.50                        |
| 13:48 | 17.310                       | 2.673                         | 1.31                           | 16.14                          | 174.00                        |
| 13:49 | 17.370                       | 2.617                         | 1.30                           | 15.78                          | 147.00                        |
| 13:50 | 17.330                       | 2.666                         | 1.29                           | 16.96                          | 137.80                        |
| 13:51 | 17.360                       | 2.642                         | 1.37                           | 16.81                          | 138.20                        |
| 13:52 | 17.360                       | 2.650                         | 1.40                           | 16.78                          | 134.80                        |
| 13:53 | 17.430                       | 2.570                         | 1.40                           | 17.83                          | 131.10                        |
| 13:54 | 17.510                       | 2.505                         | 1.34                           | 18.12                          | 116.50                        |
| 13:55 | 17.570                       | 2.456                         | 1.37                           | 19.22                          | 105.50                        |
| 13:56 | 17.550p                      | 2.470p                        | 1.39p                          | 18.77p                         | 86.60p                        |
| 13:57 | 17.630p                      | 2.410p                        | 1.31p                          | 19.50p                         | 90.30p                        |
| 13:58 | 17.630p                      | 2.401p                        | 1.26p                          | 19.15p                         | 84.60p                        |
| 13:59 | 17.720p                      | 2.334p                        | 1.39p                          | 18.89p                         | 78.00p                        |
| 14:00 | 17.640p                      | 2.406p                        | 1.27p                          | 18.14p                         | 83.80p                        |
| 14:01 | 17.620p                      | 2.438p                        | 1.31p                          | 18.11p                         | 91.80p                        |
| 14:02 | 17.660p                      | 2.400p                        | 1.28p                          | 18.63p                         | 101.10p                       |
| 14:03 | 17.620p                      | 2.437p                        | 1.25p                          | 17.84p                         | 95.10p                        |
| 14:04 | 17.580p                      | 2.480p                        | 1.29p                          | 17.13p                         | 97.60p                        |
| 14:05 | 17.580p                      | 2.478p                        | 1.34p                          | 17.12p                         | 104.80p                       |
| 14:06 | 17.580p                      | 2.500p                        | 1.29p                          | 17.38p                         | 105.60p                       |

LOUISIANA PACIFIC - DUNGANNON  
METHODS 3A, 6C, 7E, AND 10  
REFERENCE METHOD DATA  
SCRUBBER OUTLET - RUN 2

Starting  
08-30-95

| Time  | SCRUBBER<br>OUTLET<br>O2 %dv | SCRUBBER<br>OUTLET<br>CO2 %dv | SCRUBBER<br>OUTLET<br>SO2ppmdv | SCRUBBER<br>OUTLET<br>NOxppmdv | SCRUBBER<br>OUTLET<br>CO ppm dv |
|-------|------------------------------|-------------------------------|--------------------------------|--------------------------------|---------------------------------|
| 14:07 | 17.550p                      | 2.525p                        | 1.35p                          | 15.73p                         | 108.00p                         |
| 14:08 | 17.560p                      | 2.521p                        | 1.40p                          | 16.22p                         | 113.70p                         |
| 14:09 | 17.640p                      | 2.442p                        | 1.38p                          | 16.49p                         | 104.70p                         |
| 14:10 | 17.690p                      | 2.403p                        | 1.32p                          | 17.88p                         | 99.20p                          |
| 14:11 | 17.750                       | 2.355                         | 1.37                           | 18.04                          | 88.60                           |
| 14:12 | 17.790                       | 2.310                         | 1.37                           | 19.41                          | 82.40                           |
| 14:13 | 17.810                       | 2.306                         | 1.29                           | 18.81                          | 73.40                           |
| 14:14 | 17.710                       | 2.403                         | 1.37                           | 17.20                          | 80.50                           |
| 14:15 | 17.840                       | 2.274                         | 1.39                           | 18.92                          | 82.40                           |
| 14:16 | 17.970                       | 2.147                         | 1.30                           | 21.13                          | 63.13                           |
| 14:17 | 18.010                       | 2.126                         | 1.22                           | 21.69                          | 56.34                           |
| 14:18 | 18.000                       | 2.128                         | 1.27                           | 21.44                          | 49.56                           |
| 14:19 | 18.560d                      | 1.484d                        | 1.26d                          | 15.39d                         | 155.10d                         |
| 14:20 | 19.840d                      | 0.282d                        | 1.25d                          | 4.90d                          | 484.30d                         |
| 14:21 | 19.950d                      | 0.198d                        | 1.19d                          | 2.98d                          | 314.50d                         |
| 14:22 | 19.960d                      | 0.179d                        | 0.96d                          | 2.66d                          | 76.40d                          |
| 14:23 | 19.980d                      | 0.171d                        | 1.02d                          | 2.50d                          | 43.14d                          |
| 14:24 | 19.980d                      | 0.169d                        | 1.10d                          | 2.35d                          | 33.00d                          |
| 14:25 | 19.990d                      | 0.165d                        | 1.00d                          | 2.23d                          | 26.75d                          |
| 14:26 | 20.000d                      | 0.174d                        | 1.06d                          | 2.18d                          | 22.51d                          |
| 14:27 | 19.900d                      | 0.167d                        | 1.02d                          | 2.13d                          | 29.05d                          |
| 14:28 | 20.020d                      | 0.163d                        | 0.95d                          | 2.04d                          | 20.16d                          |
| 14:29 | 20.010d                      | 0.164d                        | 0.74d                          | 1.95d                          | 10.52d                          |
| 14:30 | 20.010d                      | 0.156d                        | 0.77d                          | 1.85d                          | 7.42d                           |
| 14:31 | 20.010d                      | 0.161d                        | 0.81d                          | 1.81d                          | 5.56d                           |
| 14:32 | 19.950d                      | 0.235d                        | 0.84d                          | 2.95d                          | 6.97d                           |
| 14:33 | 19.150d                      | 0.994d                        | 0.83                           | 16.33d                         | 154.20d                         |
| 14:34 | 18.710d                      | 1.383d                        | 0.82d                          | 19.05d                         | 151.40d                         |
| 14:35 | 19.060d                      | 1.109d                        | 0.79d                          | 18.63d                         | 48.07d                          |
| 14:36 | 18.510d                      | 1.627d                        | 0.85d                          | 22.66d                         | 47.58d                          |
| 14:37 | 18.560d                      | 1.583d                        | 0.95d                          | 23.12d                         | 49.92d                          |
| 14:38 | 18.470d                      | 1.740d                        | 0.74d                          | 23.39d                         | 53.59d                          |
| 14:39 | 18.710d                      | 1.606d                        | 0.75d                          | 23.22d                         | 48.04d                          |
| 14:40 | 18.720d                      | 1.640d                        | 0.70d                          | 23.40d                         | 41.46d                          |
| 14:41 | 18.500d                      | 1.699d                        | 0.68d                          | 23.74d                         | 43.94d                          |
| 14:42 | 18.310d                      | 1.874d                        | 0.64d                          | 23.93d                         | 48.42d                          |
| 14:43 | 18.120d                      | 2.063d                        | 0.67d                          | 22.82d                         | 40.90d                          |
| 14:44 | 17.990d                      | 2.193d                        | 0.65d                          | 21.59d                         | 48.11d                          |
| 14:45 | 17.980d                      | 2.194d                        | 0.71d                          | 21.29d                         | 56.85d                          |
| 14:46 | 17.910d                      | 2.290d                        | 0.91d                          | 20.41d                         | 65.50d                          |
| 14:47 | 17.830d                      | 2.354d                        | 0.85d                          | 19.27d                         | 65.24d                          |

LOUISIANA PACIFIC - DUNGANNON  
 METHODS 3A, 6C, 7E, AND 10  
 REFERENCE METHOD DATA  
 SCRUBBER OUTLET - RUN 2

Starting  
 08-30-95

| Time       | SCRUBBER<br>OUTLET<br>O2 %dv | SCRUBBER<br>OUTLET<br>CO2 %dv | SCRUBBER<br>OUTLET<br>SO2ppmdv | SCRUBBER<br>OUTLET<br>NOxppmdv | SCRUBBER<br>OUTLET<br>CO ppmdv |
|------------|------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 14:48      | 17.640d                      | 2.559d                        | 1.00d                          | 15.45d                         | 87.10d                         |
| 14:49      | 17.580d                      | 2.612d                        | 1.03d                          | 14.21d                         | 117.40d                        |
| 14:50      | 17.720d                      | 2.474d                        | 1.11d                          | 17.54d                         | 109.80d                        |
| 14:51      | 17.750                       | 2.445                         | 1.21                           | 17.33                          | 94.40                          |
| 14:52      | 17.740                       | 2.454                         | 1.24                           | 17.52                          | 94.60                          |
| 14:53      | 17.680                       | 2.511                         | 1.22                           | 17.97                          | 93.80                          |
| 14:54      | 17.590                       | 2.598                         | 1.35                           | 16.88                          | 97.00                          |
| 14:55      | 17.580                       | 2.629                         | 1.32                           | 16.76                          | 116.10                         |
| 14:56      | 17.600                       | 2.588                         | 1.23                           | 17.55                          | 114.60                         |
| 14:57      | 17.620                       | 2.576                         | 1.33                           | 17.89                          | 114.20                         |
| 14:58      | 17.620                       | 2.599                         | 1.37                           | 17.85                          | 102.50                         |
| 14:59      | 17.570                       | 2.639                         | 1.46                           | 16.63                          | 116.80                         |
| 15:00      | 17.590                       | 2.616                         | 1.39                           | 16.96                          | 116.20                         |
| 15:01      | 17.580                       | 2.640                         | 1.36                           | 16.41                          | 120.70                         |
| 15:02      | 17.640                       | 2.571                         | 1.36                           | 17.36                          | 118.90                         |
| 15:03      | 17.780                       | 2.440                         | 1.27                           | 19.18                          | 96.60                          |
| 15:04      | 17.810                       | 2.417                         | 1.27                           | 19.86                          | 80.90                          |
| 15:05      | 17.810                       | 2.408                         | 1.24                           | 20.11                          | 83.50                          |
| 15:06      | 17.880                       | 2.353                         | 1.34                           | 20.90                          | 79.40                          |
| 15:07      | 17.880                       | 2.367                         | 1.34                           | 21.65                          | 75.90                          |
| 15:08      | 17.880                       | 2.349                         | 1.25                           | 22.47                          | 65.74                          |
| 15:09      | 17.850                       | 2.373                         | 1.25                           | 21.44                          | 63.11                          |
| 15:10      | 17.850                       | 2.384                         | 1.31                           | 21.17                          | 65.49                          |
| 105 MinAvg | 17.514                       | 2.544                         | 1.28                           | 18.07                          | 112.79                         |

Data Corrected for Calibrations

|            |        |       |      |       |        |
|------------|--------|-------|------|-------|--------|
| 105 MinAvg | 18.041 | 2.438 | 0.29 | 17.69 | 118.95 |
|------------|--------|-------|------|-------|--------|

LOUISIANA PACIFIC - DUNGANNON  
METHOD 25A  
REFERENCE METHOD DATA  
SCRUBBER OUTLET - RUN 2

Starting  
08-30-95

| Time  | SCRUBBER<br>OUTLET<br>VOCppmv |
|-------|-------------------------------|
| 13:26 | 36.910                        |
| 13:27 | 36.150                        |
| 13:28 | 36.650                        |
| 13:29 | 35.710                        |
| 13:30 | 36.660                        |
| 13:31 | 37.240                        |
| 13:32 | 38.050                        |
| 13:33 | 38.410                        |
| 13:34 | 38.490                        |
| 13:35 | 39.860                        |
| 13:36 | 41.920                        |
| 13:37 | 40.570                        |
| 13:38 | 39.190                        |
| 13:39 | 36.980                        |
| 13:40 | 36.410                        |
| 13:41 | 35.520                        |
| 13:42 | 35.230                        |
| 13:43 | 35.080                        |
| 13:44 | 35.810                        |
| 13:45 | 36.190                        |
| 13:46 | 36.750                        |
| 13:47 | 38.380                        |
| 13:48 | 36.840                        |
| 13:49 | 35.970                        |
| 13:50 | 36.160                        |
| 13:51 | 34.970                        |
| 13:52 | 34.540                        |
| 13:53 | 33.300                        |
| 13:54 | 32.630                        |
| 13:55 | 29.800                        |
| 13:56 | 29.450p                       |
| 13:57 | 28.040p                       |
| 13:58 | 27.250p                       |
| 13:59 | 26.680p                       |
| 14:00 | 27.040p                       |
| 14:01 | 28.490p                       |
| 14:02 | 27.600p                       |
| 14:03 | 28.190p                       |
| 14:04 | 28.540p                       |
| 14:05 | 28.700p                       |
| 14:06 | 28.910p                       |

LOUISIANA PACIFIC - DUNGANNON  
METHOD 25A  
REFERENCE METHOD DATA  
SCRUBBER OUTLET - RUN 2

Starting  
08-30-95

| Time  | SCRUBBER<br>OUTLET<br>VOCppmwv |
|-------|--------------------------------|
| 14:07 | 29.010p                        |
| 14:08 | 29.180p                        |
| 14:09 | 28.680p                        |
| 14:10 | 28.270p                        |
| 14:11 | 27.360                         |
| 14:12 | 26.200                         |
| 14:13 | 25.740                         |
| 14:14 | 26.940                         |
| 14:15 | 24.750                         |
| 14:16 | 23.740                         |
| 14:17 | 22.750                         |
| 14:18 | 27.500                         |
| 14:19 | 17.670d                        |
| 14:20 | 12.890d                        |
| 14:21 | 11.330d                        |
| 14:22 | 10.580d                        |
| 14:23 | 9.160d                         |
| 14:24 | 7.660d                         |
| 14:25 | 6.872d                         |
| 14:26 | 6.046d                         |
| 14:27 | 5.313d                         |
| 14:28 | 4.442d                         |
| 14:29 | 3.904d                         |
| 14:30 | 3.302d                         |
| 14:31 | 3.456d                         |
| 14:32 | 22.790d                        |
| 14:33 | 6.453d                         |
| 14:34 | 4.266d                         |
| 14:35 | 4.999d                         |
| 14:36 | 6.774d                         |
| 14:37 | 7.570d                         |
| 14:38 | 7.810d                         |
| 14:39 | 7.800d                         |
| 14:40 | 8.270d                         |
| 14:41 | 9.390d                         |
| 14:42 | 10.130d                        |
| 14:43 | 11.790d                        |
| 14:44 | 13.630d                        |
| 14:45 | 15.480d                        |
| 14:46 | 17.040d                        |
| 14:47 | 19.920d                        |

LOUISIANA PACIFIC - DUNGANNON  
METHOD 25A  
REFERENCE METHOD DATA  
SCRUBBER OUTLET - RUN 2

Starting  
08-30-95

| Time       | SCRUBBER<br>OUTLET<br>VOCppmw |
|------------|-------------------------------|
| 14:48      | 23.550d                       |
| 14:49      | 24.750d                       |
| 14:50      | 24.470d                       |
| 14:51      | 25.200                        |
| 14:52      | 25.510                        |
| 14:53      | 26.250                        |
| 14:54      | 28.070                        |
| 14:55      | 28.390                        |
| 14:56      | 29.280                        |
| 14:57      | 28.650                        |
| 14:58      | 29.460                        |
| 14:59      | 30.450                        |
| 15:00      | 30.360                        |
| 15:01      | 30.370                        |
| 15:02      | 29.270                        |
| 15:03      | 27.390                        |
| 15:04      | 26.630                        |
| 15:05      | 26.080                        |
| 15:06      | 25.630                        |
| 15:07      | 24.930                        |
| 15:08      | 24.240                        |
| 15:09      | 24.400                        |
| 15:10      | 24.290                        |
| 105 MinAvg | 31.831                        |

LOUISIANA PACIFIC - DUNGANNON  
 METHODS 3A, 6C, 7E, AND 10  
 REFERENCE METHOD DATA  
 SCRUBBER OUTLET - RUN 3

Starting  
 8-30-95

| Time  | SCRUBBER<br>OUTLET<br>O2 %dv | SCRUBBER<br>OUTLET<br>CO2 %dv | SCRUBBER<br>OUTLET<br>SO2ppmdv | SCRUBBER<br>OUTLET<br>NOxppmdv | SCRUBBER<br>OUTLET<br>CO ppmdv |
|-------|------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 19:41 | 17.770                       | 2.589                         | 1.63                           | 22.79                          | 77.10                          |
| 19:42 | 17.720                       | 2.645                         | 1.63                           | 21.96                          | 78.50                          |
| 19:43 | 17.640                       | 2.730                         | 1.65                           | 21.03                          | 82.40                          |
| 19:44 | 17.720                       | 2.645                         | 1.75                           | 22.21                          | 85.80                          |
| 19:45 | 17.980                       | 2.398                         | 1.59                           | 23.76                          | 66.90                          |
| 19:46 | 17.990                       | 2.389                         | 1.65                           | 23.91                          | 53.56                          |
| 19:47 | 17.960                       | 2.418                         | 1.77                           | 23.43                          | 63.60                          |
| 19:48 | 17.900                       | 2.469                         | 1.78                           | 22.89                          | 70.70                          |
| 19:49 | 17.830                       | 2.541                         | 1.67                           | 21.86                          | 74.60                          |
| 19:50 | 17.710                       | 2.647                         | 1.80                           | 21.20                          | 90.90                          |
| 19:51 | 17.670                       | 2.698                         | 1.92                           | 20.85                          | 93.20                          |
| 19:52 | 17.640                       | 2.731                         | 1.79                           | 20.77                          | 101.00                         |
| 19:53 | 17.590                       | 2.770                         | 1.95                           | 21.08                          | 105.70                         |
| 19:54 | 17.540                       | 2.824                         | 1.95                           | 20.81                          | 119.20                         |
| 19:55 | 17.470                       | 2.890                         | 2.04                           | 20.70                          | 127.40                         |
| 19:56 | 17.440                       | 2.916                         | 2.10                           | 20.90                          | 142.70                         |
| 19:57 | 17.390                       | 2.979                         | 2.11                           | 21.01                          | 157.70                         |
| 19:58 | 17.360                       | 2.993                         | 2.16                           | 21.00                          | 170.40                         |
| 19:59 | 17.300                       | 3.053                         | 2.29                           | 19.24                          | 168.70                         |
| 20:00 | 17.330                       | 3.029                         | 2.19                           | 20.85                          | 225.10                         |
| 20:01 | 17.270                       | 3.104                         | 2.26                           | 20.93                          | 183.40                         |
| 20:02 | 17.200                       | 3.160                         | 2.35                           | 20.51                          | 218.60                         |
| 20:03 | 17.200                       | 3.155                         | 2.30                           | 20.84                          | 228.20                         |
| 20:04 | 17.160                       | 3.183                         | 2.43                           | 20.50                          | 224.90                         |
| 20:05 | 17.230                       | 3.121                         | 2.52                           | 20.61                          | 245.30                         |
| 20:06 | 16.900                       | 3.447                         | 2.61                           | 21.05                          | 251.50                         |
| 20:07 | 17.150                       | 3.204                         | 2.53                           | 19.99                          | 326.20                         |
| 20:08 | 17.220                       | 3.139                         | 2.61                           | 19.70                          | 249.10                         |
| 20:09 | 17.220                       | 3.139                         | 2.57                           | 19.91                          | 237.00                         |
| 20:10 | 17.230                       | 3.129                         | 2.68                           | 20.01                          | 233.20                         |
| 20:11 | 17.170p                      | 3.184p                        | 2.67p                          | 20.79p                         | 233.70p                        |
| 20:12 | 17.220p                      | 3.137p                        | 2.60p                          | 20.81p                         | 241.20p                        |
| 20:13 | 17.190p                      | 3.162p                        | 2.68p                          | 20.82p                         | 227.50p                        |
| 20:14 | 17.170p                      | 3.169p                        | 2.68p                          | 20.87p                         | 242.70p                        |
| 20:15 | 17.240p                      | 3.102p                        | 2.75p                          | 20.50p                         | 240.00p                        |
| 20:16 | 17.820p                      | 2.508p                        | 2.72p                          | 16.94p                         | 234.60p                        |
| 20:17 | 17.310p                      | 3.065p                        | 2.71p                          | 20.64p                         | 185.00p                        |
| 20:18 | 17.270p                      | 3.097p                        | 2.74p                          | 20.79p                         | 232.50p                        |
| 20:19 | 17.590p                      | 2.786p                        | 2.84p                          | 18.66p                         | 235.90p                        |
| 20:20 | 17.270p                      | 3.110p                        | 2.94p                          | 20.20p                         | 226.00p                        |
| 20:21 | 17.220p                      | 3.152p                        | 3.04p                          | 19.98p                         | 255.60p                        |

LOUISIANA PACIFIC - DUNGANNON  
 METHODS 3A, 6C, 7E, AND 10  
 REFERENCE METHOD DATA  
 SCRUBBER OUTLET - RUN 3

Starting  
 08-30-95

| Time      | SCRUBBER<br>OUTLET<br>O2 %dv | SCRUBBER<br>OUTLET<br>CO2 %dv | SCRUBBER<br>OUTLET<br>SO2ppmdv | SCRUBBER<br>OUTLET<br>NOxppmdv | SCRUBBER<br>OUTLET<br>CO ppmdv |
|-----------|------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 20:22     | 17.180                       | 3.186                         | 3.03                           | 19.27                          | 282.80                         |
| 20:23     | 17.150                       | 3.217                         | 3.01                           | 19.22                          | 312.60                         |
| 20:24     | 17.120                       | 3.235                         | 3.12                           | 19.62                          | 325.30                         |
| 20:25     | 17.220                       | 3.158                         | 3.16                           | 19.68                          | 313.90                         |
| 20:26     | 17.230                       | 3.139                         | 3.32                           | 19.72                          | 293.20                         |
| 20:27     | 17.240                       | 3.115                         | 3.26                           | 20.06                          | 292.00                         |
| 20:28     | 17.430                       | 2.949                         | 3.24                           | 20.69                          | 252.60                         |
| 20:29     | 17.270                       | 3.107                         | 3.27                           | 20.17                          | 228.70                         |
| 20:30     | 17.420                       | 2.956                         | 3.28                           | 20.95                          | 278.40                         |
| 20:31     | 17.490                       | 2.877                         | 3.24                           | 21.23                          | 202.70                         |
| 20:32     | 17.520                       | 2.863                         | 3.26                           | 21.38                          | 174.00                         |
| 20:33     | 17.600                       | 2.785                         | 3.27                           | 22.07                          | 171.00                         |
| 20:34     | 17.660                       | 2.725                         | 3.23                           | 22.69                          | 151.40                         |
| 20:35     | 17.610                       | 2.804                         | 3.24                           | 22.69                          | 134.40                         |
| 20:36     | 17.420                       | 2.956                         | 3.25                           | 22.49                          | 190.30                         |
| 20:37     | 17.420                       | 2.986                         | 3.28                           | 22.58                          | 180.60                         |
| 20:38     | 17.340                       | 3.033                         | 3.27                           | 22.29                          | 213.30                         |
| 20:39     | 17.330                       | 3.059                         | 3.27                           | 21.78                          | 213.40                         |
| 20:40     | 17.120                       | 3.228                         | 3.35                           | 21.70                          | 288.90                         |
| 20:41     | 17.270                       | 3.123                         | 3.39                           | 22.34                          | 275.60                         |
| 20:42     | 17.090                       | 3.278                         | 3.36                           | 21.65                          | 300.50                         |
| 20:43     | 16.920                       | 3.438                         | 3.56                           | 22.19                          | 376.30                         |
| 20:44     | 16.940                       | 3.397                         | 3.63                           | 23.84                          | 405.00                         |
| 20:45     | 16.940                       | 3.408                         | 3.76                           | 23.97                          | 374.00                         |
| 20:46     | 16.860                       | 3.483                         | 3.60                           | 23.99                          | 392.10                         |
| 20:47     | 16.960                       | 3.382                         | 3.53                           | 23.16                          | 396.70                         |
| 20:48     | 17.010                       | 3.335                         | 3.56                           | 23.67                          | 369.60                         |
| 20:49     | 16.950                       | 3.413                         | 3.62                           | 24.43                          | 348.50                         |
| 20:50     | 16.910                       | 3.426                         | 3.68                           | 24.28                          | 369.60                         |
| 20:51     | 16.980                       | 3.385                         | 3.69                           | 25.03                          | 375.70                         |
| 20:52     | 16.970                       | 3.388                         | 3.66                           | 24.70                          | 365.10                         |
| 72 MinAvg | 17.349                       | 3.016                         | 2.73                           | 21.64                          | 219.68                         |



LOUISIANA PACIFIC - DUNGANNON  
 METHODS 3A, 6C, 7E, AND 10  
 REFERENCE METHOD DATA  
 SCRUBBER OUTLET - RUN 3

Starting  
 8-30-95

| Time | SCRUBBER<br>OUTLET<br>O2 %dv | SCRUBBER<br>OUTLET<br>CO2 %dv | SCRUBBER<br>OUTLET<br>SO2ppmdv | SCRUBBER<br>OUTLET<br>NOxppmdv | SCRUBBER<br>OUTLET<br>CO ppmdv |
|------|------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|
|------|------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|

Data Corrected for Calibrations

|           |        |       |      |       |        |
|-----------|--------|-------|------|-------|--------|
| 72 MinAvg | 17.713 | 2.922 | 1.16 | 20.80 | 230.08 |
|-----------|--------|-------|------|-------|--------|

LOUISIANA PACIFIC - DUNGANNON  
METHOD 25A  
REFERENCE METHOD DATA  
SCRUBBER OUTLET - RUN 3

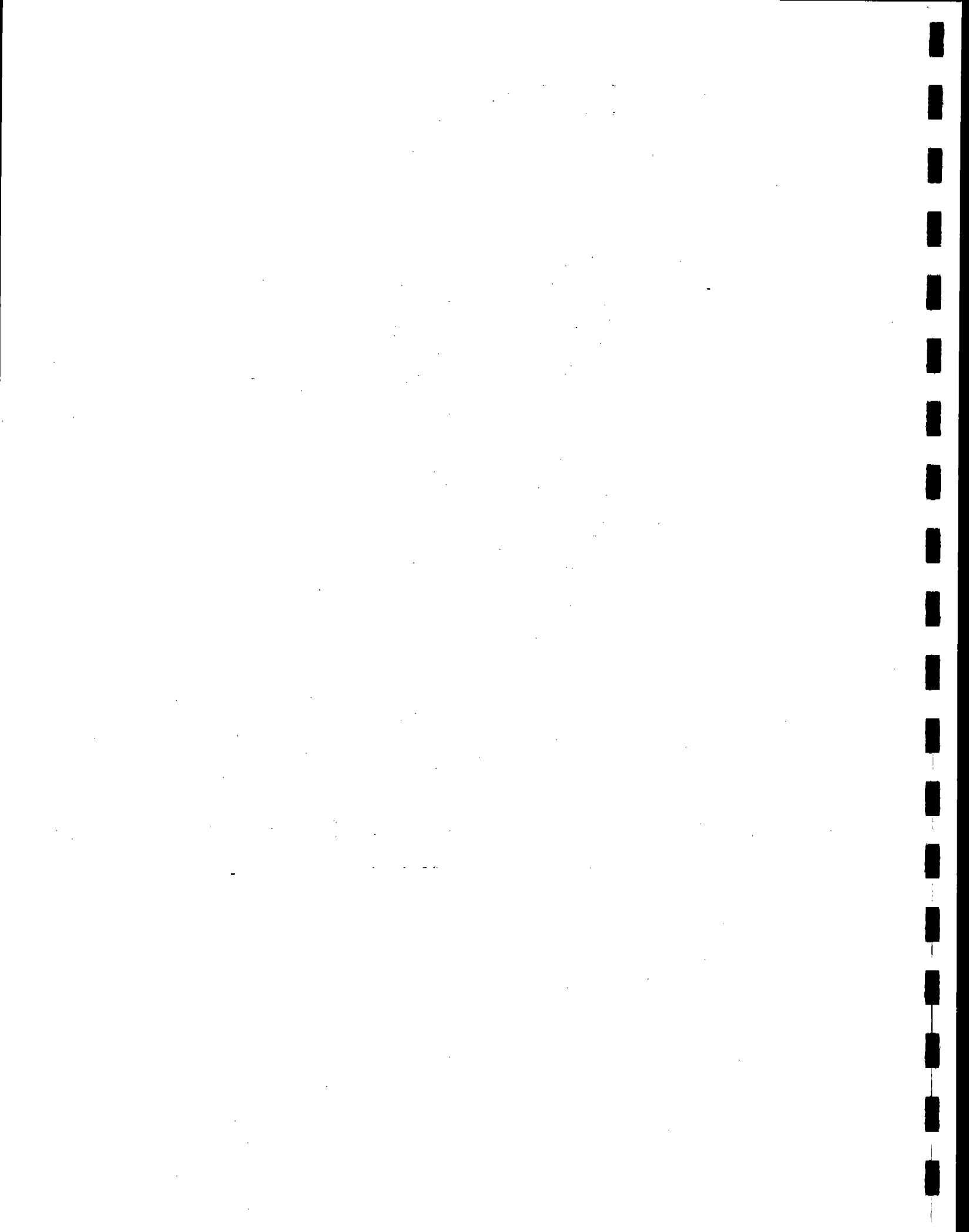
Starting  
08-30-95

| Time  | SCRUBBER<br>OUTLET<br>VOCppmw |
|-------|-------------------------------|
| 19:41 | 29.340                        |
| 19:42 | 29.290                        |
| 19:43 | 29.840                        |
| 19:44 | 28.710                        |
| 19:45 | 26.660                        |
| 19:46 | 26.870                        |
| 19:47 | 27.540                        |
| 19:48 | 27.770                        |
| 19:49 | 29.080                        |
| 19:50 | 29.080                        |
| 19:51 | 30.360                        |
| 19:52 | 31.120                        |
| 19:53 | 32.110                        |
| 19:54 | 32.720                        |
| 19:55 | 34.270                        |
| 19:56 | 35.930                        |
| 19:57 | 36.630                        |
| 19:58 | 36.430                        |
| 19:59 | 40.470                        |
| 20:00 | 37.770                        |
| 20:01 | 39.780                        |
| 20:02 | 40.830                        |
| 20:03 | 40.670                        |
| 20:04 | 41.860                        |
| 20:05 | 39.840                        |
| 20:06 | 48.480                        |
| 20:07 | 43.040                        |
| 20:08 | 42.430                        |
| 20:09 | 42.070                        |
| 20:10 | 41.980                        |
| 20:11 | 42.920p                       |
| 20:12 | 41.860p                       |
| 20:13 | 42.230p                       |
| 20:14 | 42.690p                       |
| 20:15 | 42.440p                       |
| 20:16 | 42.280p                       |
| 20:17 | 42.580p                       |
| 20:18 | 43.230p                       |
| 20:19 | 44.120p                       |
| 20:20 | 44.420p                       |
| 20:21 | 46.140p                       |

LOUISIANA PACIFIC - DUNGANNON  
METHOD 25A  
REFERENCE METHOD DATA  
SCRUBBER OUTLET - RUN 3

Starting  
08-30-95

| Time      | SCRUBBER<br>OUTLET<br>VOCppmwv |
|-----------|--------------------------------|
| 20:22     | 48.350                         |
| 20:23     | 49.700                         |
| 20:24     | 49.910                         |
| 20:25     | 48.910                         |
| 20:26     | 48.660                         |
| 20:27     | 46.900                         |
| 20:28     | 43.370                         |
| 20:29     | 48.410                         |
| 20:30     | 42.820                         |
| 20:31     | 40.030                         |
| 20:32     | 39.690                         |
| 20:33     | 37.510                         |
| 20:34     | 35.940                         |
| 20:35     | 38.280                         |
| 20:36     | 37.840                         |
| 20:37     | 39.170                         |
| 20:38     | 39.510                         |
| 20:39     | 43.160                         |
| 20:40     | 44.300                         |
| 20:41     | 44.420                         |
| 20:42     | 48.730                         |
| 20:43     | 49.480                         |
| 20:44     | 49.580                         |
| 20:45     | 49.540                         |
| 20:46     | 49.340                         |
| 20:47     | 49.300                         |
| 20:48     | 48.360                         |
| 20:49     | 49.410                         |
| 20:50     | 49.150                         |
| 20:51     | 49.210                         |
| 20:52     | 48.500                         |
| 72 MinAvg | 40.335                         |



**APPENDIX F.2**

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

**- PRESS OUTLET -**



LA PACIFIC  
PRESS LOCATION  
RUN 1: 09:55 - 10:25; 10:47 - 11:17  
8/30/95

Starting  
8-30-95

| Time  | PRESS<br>O2<br>(%dv) | PRESS<br>CO2<br>(%dv) | PRESS<br>CO<br>(ppmdv) | PRESS<br>SO2<br>(ppmdv) | PRESS<br>NOx<br>(ppmdv) | PRESS<br>VOC<br>(ppmwv) |
|-------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 09:56 | 20.86                | 0.03                  | 8.69                   | 0.69                    | 0.68                    | 3.69                    |
| 09:57 | 20.87                | 0.04                  | 9.25                   | 0.54                    | 0.59                    | 2.89                    |
| 09:58 | 20.87                | 0.03                  | 9.16                   | 0.54                    | 0.59                    | 3.25                    |
| 09:59 | 20.88                | 0.03                  | 8.87                   | 0.51                    | 0.79                    | 3.35                    |
| 10:00 | 20.89                | 0.04                  | 8.64                   | 0.66                    | 0.67                    | 4.42                    |
| 10:01 | 20.90                | 0.03                  | 7.70                   | 0.51                    | 0.59                    | 5.79                    |
| 10:02 | 20.92                | 0.03                  | 7.33                   | 0.47                    | 0.73                    | 6.65                    |
| 10:03 | 20.93                | 0.03                  | 7.82                   | 0.59                    | 0.85                    | 6.46                    |
| 10:04 | 20.92                | 0.04                  | 8.58                   | 0.63                    | 0.76                    | 6.22                    |
| 10:05 | 20.93                | 0.03                  | 9.41                   | 0.58                    | 0.75                    | 6.40                    |
| 10:06 | 20.93                | 0.03                  | 10.38                  | 0.58                    | 1.00                    | 6.04                    |
| 10:07 | 20.93                | 0.03                  | 10.38                  | 0.48                    | 0.90                    | 6.43                    |
| 10:08 | 20.93                | 0.03                  | 10.28                  | 0.59                    | 0.77                    | 6.96                    |
| 10:09 | 20.94                | 0.02                  | 10.67                  | 0.53                    | 0.80                    | 6.68                    |
| 10:10 | 20.94                | 0.03                  | 11.35                  | 0.44                    | 1.01                    | 6.47                    |
| 10:11 | 20.94                | 0.04                  | 11.61                  | 0.48                    | 0.86                    | 5.84                    |
| 10:12 | 20.95                | 0.03                  | 11.38                  | 0.53                    | 0.79                    | 5.51                    |
| 10:13 | 20.95                | 0.03                  | 11.36                  | 0.54                    | 1.02                    | 5.58                    |
| 10:14 | 20.96                | 0.03                  | 11.30                  | 0.52                    | 1.10                    | 5.16                    |
| 10:15 | 20.96                | 0.04                  | 10.55                  | 0.54                    | 0.93                    | 5.24                    |
| 10:16 | 20.97                | 0.03                  | 9.66                   | 0.47                    | 0.83                    | 5.89                    |
| 10:17 | 20.97                | 0.03                  | 9.59                   | 0.44                    | 1.09                    | 5.39                    |
| 10:18 | 20.96                | 0.04                  | 11.10                  | 0.51                    | 1.03                    | 5.28                    |
| 10:19 | 20.96                | 0.04                  | 11.46                  | 0.46                    | 0.96                    | 4.74                    |
| 10:20 | 20.97                | 0.03                  | 12.58                  | 0.42                    | 1.00                    | 4.25                    |
| 10:21 | 20.98                | 0.03                  | 14.41                  | 0.55                    | 1.30                    | 4.19                    |
| 10:22 | 20.97                | 0.04                  | 13.16                  | 0.52                    | 1.10                    | 4.29                    |
| 10:23 | 20.95                | 0.03                  | 11.29                  | 0.56                    | 0.94                    | 5.10                    |
| 10:24 | 20.93                | 0.03                  | 12.05                  | 0.54                    | 1.10                    | 5.36                    |
| 10:25 | 20.92                | 0.03                  | 14.39                  | 0.57                    | 1.23                    | 5.59                    |
| 10:26 | 20.91P               | 0.03P                 | 15.58P                 | 0.63P                   | 1.06P                   | 5.76P                   |
| 10:27 | 20.89P               | 0.03P                 | 16.39P                 | 0.65P                   | 0.98P                   | 6.11P                   |
| 10:28 | 20.89P               | 0.03P                 | 19.47P                 | 0.64P                   | 1.25P                   | 6.71P                   |
| 10:29 | 20.89P               | 0.04P                 | 19.94P                 | 0.61P                   | 1.19P                   | 6.46P                   |
| 10:30 | 20.89P               | 0.04P                 | 18.66P                 | 0.63P                   | 1.07P                   | 6.46P                   |
| 10:31 | 20.89P               | 0.03P                 | 17.96P                 | 0.58P                   | 1.08P                   | 6.10P                   |
| 10:32 | 20.89P               | 0.03P                 | 19.95P                 | 0.59P                   | 1.33P                   | 6.35P                   |
| 10:33 | 20.88P               | 0.04P                 | 20.60P                 | 0.58P                   | 1.18P                   | 6.30P                   |
| 10:34 | 20.88P               | 0.04P                 | 17.30P                 | 0.68P                   | 1.05P                   | 6.37P                   |
| 10:35 | 20.88P               | 0.03P                 | 15.90P                 | 0.62P                   | 1.20P                   | 6.78P                   |
| 10:36 | 20.88P               | 0.04P                 | 14.37P                 | 0.67P                   | 1.35P                   | 6.17P                   |

LA PACIFIC  
 PRESS LOCATION  
 RUN 1: 09:55 - 10:25; 10:47 - 11:17  
 8/30/95

Starting  
 08-30-95

| Time  | PRESS<br>O2<br>(%dv) | PRESS<br>CO2<br>(%dv) | PRESS<br>CO<br>(ppmdv) | PRESS<br>SO2<br>(ppmdv) | PRESS<br>NOx<br>(ppmdv) | PRESS<br>VOC<br>(ppmwv) |
|-------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 10:37 | 20.86P               | 0.04P                 | 12.31P                 | 0.60P                   | 1.17P                   | 6.08P                   |
| 10:38 | 20.85P               | 0.03P                 | 12.49P                 | 0.60P                   | 1.09P                   | 6.08P                   |
| 10:39 | 20.84P               | 0.03P                 | 12.01P                 | 0.66P                   | 1.34P                   | 6.73P                   |
| 10:40 | 20.84P               | 0.04P                 | 10.99P                 | 0.77P                   | 1.25P                   | 6.90P                   |
| 10:41 | 20.84P               | 0.04P                 | 10.34P                 | 0.64P                   | 1.13P                   | 6.48P                   |
| 10:42 | 20.84P               | 0.03P                 | 11.65P                 | 0.65P                   | 1.14P                   | 6.54P                   |
| 10:43 | 20.84P               | 0.03P                 | 12.41P                 | 0.77P                   | 1.42P                   | 6.31P                   |
| 10:44 | 20.84P               | 0.04P                 | 12.71P                 | 0.78P                   | 1.26P                   | 5.51P                   |
| 10:45 | 20.85P               | 0.04P                 | 12.48P                 | 0.64P                   | 1.12P                   | 5.04P                   |
| 10:46 | 20.85P               | 0.03P                 | 12.11P                 | 0.61P                   | 1.30P                   | 4.82P                   |
| 10:47 | 20.85                | 0.04                  | 12.74                  | 0.75                    | 1.40                    | 5.40                    |
| 10:48 | 20.86                | 0.04                  | 13.51                  | 0.69                    | 1.25                    | 6.57                    |
| 10:49 | 20.85                | 0.03                  | 16.24                  | 0.69                    | 1.19                    | 6.15                    |
| 10:50 | 20.84                | 0.03                  | 19.01                  | 0.76                    | 1.49                    | 6.17                    |
| 10:51 | 20.82                | 0.04                  | 20.24                  | 0.66                    | 1.40                    | 6.51                    |
| 10:52 | 20.80                | 0.04                  | 20.48                  | 0.80                    | 1.29                    | 6.51                    |
| 10:53 | 20.79                | 0.03                  | 20.54                  | 0.80                    | 1.39                    | 6.24                    |
| 10:54 | 20.78                | 0.03                  | 19.48                  | 0.91                    | 1.71                    | 5.97                    |
| 10:55 | 20.77                | 0.04                  | 20.37                  | 0.86                    | 1.53                    | 6.23                    |
| 10:56 | 20.77                | 0.04                  | 18.29                  | 0.82                    | 1.40                    | 6.23                    |
| 10:57 | 20.77                | 0.03                  | 15.32                  | 0.85                    | 1.65                    | 6.63                    |
| 10:58 | 20.77                | 0.04                  | 11.94                  | 0.89                    | 1.71                    | 6.33                    |
| 10:59 | 20.77                | 0.04                  | 10.57                  | 0.87                    | 1.49                    | 6.04                    |
| 11:00 | 20.80                | 0.03                  | 13.04                  | 0.75                    | 1.43                    | 6.28                    |
| 11:01 | 20.80                | 0.03                  | 14.56                  | 0.90                    | 1.86                    | 6.14                    |
| 11:02 | 20.76                | 0.04                  | 12.57                  | 0.88                    | 1.70                    | 6.07                    |
| 11:03 | 20.75                | 0.04                  | 11.32                  | 0.85                    | 1.50                    | 6.67                    |
| 11:04 | 20.74                | 0.03                  | 10.70                  | 0.89                    | 1.60                    | 5.98                    |
| 11:05 | 20.74                | 0.03                  | 10.63                  | 0.98                    | 1.98                    | 5.01                    |
| 11:06 | 20.74                | 0.04                  | 10.37                  | 0.89                    | 1.72                    | 6.72                    |
| 11:07 | 20.75                | 0.03                  | 10.01                  | 0.87                    | 1.54                    | 4.64                    |
| 11:08 | 20.75                | 0.03                  | 10.08                  | 0.88                    | 1.88                    | 3.27                    |
| 11:09 | 20.73                | 0.03                  | 12.17                  | 0.96                    | 1.95                    | 5.76                    |
| 11:10 | 20.72                | 0.04                  | 11.85                  | 1.01                    | 1.69                    | 6.10                    |
| 11:11 | 20.71                | 0.03                  | 11.09                  | 0.99                    | 1.61                    | 3.47                    |
| 11:12 | 20.70                | 0.03                  | 10.92                  | 1.04                    | 2.08                    | 3.96                    |
| 11:13 | 20.70                | 0.04                  | 13.70                  | 0.98                    | 1.90                    | 6.59                    |
| 11:14 | 20.71                | 0.04                  | 15.42                  | 0.99                    | 1.66                    | 5.62                    |
| 11:15 | 20.72                | 0.03                  | 15.48                  | 0.99                    | 1.82                    | 3.53                    |
| 11:16 | 20.71                | 0.03                  | 14.90                  | 1.07                    | 2.17                    | 5.82                    |
| 11:17 | 20.70                | 0.04                  | 14.60                  | 1.09                    | 1.88                    | 7.32                    |



LA PACIFIC  
 PRESS LOCATION  
 RUN 1: 09:55 - 10:25; 10:47 - 11:17  
 8/30/95

Starting  
 8-30-95

| Time     | PRESS<br>O2<br>(%dv) | PRESS<br>CO2<br>(%dv) | PRESS<br>CO<br>(ppmdv) | PRESS<br>SO2<br>(ppmdv) | PRESS<br>NOx<br>(ppmdv) | PRESS<br>VOC<br>(ppmwv) |
|----------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 8 MinAvg | 20.85                | 0.03                  | 12.40                  | 0.71                    | 1.27                    | 5.56                    |

Data Corrected for Calibrations

|          |       |      |       |      |      |  |
|----------|-------|------|-------|------|------|--|
| 8 MinAvg | 20.86 | 0.04 | 12.45 | 0.71 | 0.19 |  |
|----------|-------|------|-------|------|------|--|

LA PACIFIC  
PRESS LOCATION

RUN 2: 13:25 - 13:55; 14:10 - 14:19; 14:50 - 15:11  
8/30/95

Starting  
08-30-95

| Time  | PRESS<br>O2<br>(%dv) | PRESS<br>CO2<br>(%dv) | PRESS<br>CO<br>(ppmdv) | PRESS<br>SO2<br>(ppmdv) | PRESS<br>NOx<br>(ppmdv) | PRESS<br>VOC<br>(ppmwv) |
|-------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 13:26 | 20.38                | 0.04                  | 13.33                  | 2.77                    | 4.13                    | 6.97                    |
| 13:27 | 20.38                | 0.04                  | 13.33                  | 2.72                    | 3.91                    | 6.76                    |
| 13:28 | 20.39                | 0.03                  | 12.72                  | 2.63                    | 3.86                    | 4.72                    |
| 13:29 | 20.39                | 0.03                  | 13.21                  | 2.71                    | 3.84                    | 4.10                    |
| 13:30 | 20.40                | 0.03                  | 14.31                  | 2.70                    | 4.00                    | 3.92                    |
| 13:31 | 20.40                | 0.04                  | 14.68                  | 2.68                    | 4.30                    | 5.27                    |
| 13:32 | 20.40                | 0.04                  | 13.40                  | 2.62                    | 4.11                    | 7.22                    |
| 13:33 | 20.39                | 0.04                  | 12.83                  | 2.68                    | 3.96                    | 5.64                    |
| 13:34 | 20.40                | 0.03                  | 13.32                  | 2.66                    | 4.20                    | 4.16                    |
| 13:35 | 20.39                | 0.04                  | 13.13                  | 2.75                    | 4.42                    | 5.55                    |
| 13:36 | 20.38                | 0.04                  | 12.61                  | 2.69                    | 4.21                    | 7.12                    |
| 13:37 | 20.38                | 0.04                  | 11.76                  | 2.70                    | 4.07                    | 5.22                    |
| 13:38 | 20.39                | 0.03                  | 11.34                  | 2.73                    | 4.38                    | 4.76                    |
| 13:39 | 20.39                | 0.04                  | 12.79                  | 2.88                    | 4.34                    | 7.31                    |
| 13:40 | 20.38                | 0.04                  | 11.88                  | 2.83                    | 4.14                    | 7.40                    |
| 13:41 | 20.37                | 0.03                  | 10.51                  | 2.82                    | 4.16                    | 4.72                    |
| 13:42 | 20.36                | 0.03                  | 10.28                  | 2.94                    | 4.53                    | 5.57                    |
| 13:43 | 20.36                | 0.04                  | 9.74                   | 3.11                    | 4.31                    | 7.64                    |
| 13:44 | 20.35                | 0.04                  | 9.97                   | 3.04                    | 4.13                    | 6.11                    |
| 13:45 | 20.35                | 0.03                  | 10.37                  | 3.00                    | 4.46                    | 4.40                    |
| 13:46 | 20.34                | 0.04                  | 10.69                  | 3.03                    | 4.62                    | 6.22                    |
| 13:47 | 20.34                | 0.04                  | 9.75                   | 3.07                    | 4.27                    | 6.89                    |
| 13:48 | 20.35                | 0.04                  | 8.25                   | 3.10                    | 4.15                    | 4.59                    |
| 13:49 | 20.35                | 0.03                  | 7.72                   | 2.99                    | 4.62                    | 4.39                    |
| 13:50 | 20.34                | 0.04                  | 7.63                   | 2.98                    | 4.46                    | 6.67                    |
| 13:51 | 20.35                | 0.04                  | 8.48                   | 3.12                    | 4.23                    | 6.08                    |
| 13:52 | 20.36                | 0.03                  | 8.62                   | 3.10                    | 4.40                    | 4.19                    |
| 13:53 | 20.39                | 0.03                  | 9.13                   | 3.16                    | 4.78                    | 6.00                    |
| 13:54 | 20.42                | 0.04                  | 9.11                   | 3.16                    | 4.45                    | 7.34                    |
| 13:55 | 20.45                | 0.04                  | 8.66                   | 3.20                    | 4.27                    | 5.50                    |
| 13:56 | 20.47P               | 0.03P                 | 8.76P                  | 3.15P                   | 4.73P                   | 4.52P                   |
| 13:57 | 20.47P               | 0.04P                 | 9.18P                  | 3.11P                   | 4.73P                   | 6.93P                   |
| 13:58 | 20.48P               | 0.04P                 | 8.85P                  | 3.20P                   | 4.43P                   | 6.62P                   |
| 13:59 | 20.50P               | 0.03P                 | 8.99P                  | 3.18P                   | 4.41P                   | 4.60P                   |
| 14:00 | 20.52P               | 0.03P                 | 9.62P                  | 3.16P                   | 5.00P                   | 5.04P                   |
| 14:01 | 20.53P               | 0.04P                 | 9.94P                  | 3.18P                   | 4.71P                   | 6.95P                   |
| 14:02 | 20.55P               | 0.04P                 | 9.99P                  | 3.21P                   | 4.42P                   | 5.83P                   |
| 14:03 | 20.55P               | 0.03P                 | 10.22P                 | 3.18P                   | 4.67P                   | 4.34P                   |
| 14:04 | 20.54P               | 0.03P                 | 10.56P                 | 3.24P                   | 4.96P                   | 6.27P                   |
| 14:05 | 20.54P               | 0.04P                 | 9.89P                  | 3.15P                   | 4.56P                   | 6.78P                   |
| 14:06 | 20.54P               | 0.04P                 | 9.21P                  | 3.29P                   | 4.35P                   | 4.88P                   |

LA PACIFIC  
PRESS LOCATION

RUN 2: 13:25 - 13:55; 14:10 - 14:19; 14:50 - 15:11  
8/30/95

Starting  
8-30-95

| Time  | PRESS<br>O2<br>(%dv) | PRESS<br>CO2<br>(%dv) | PRESS<br>CO<br>(ppmdv) | PRESS<br>SO2<br>(ppmdv) | PRESS<br>NOx<br>(ppmdv) | PRESS<br>VOC<br>(ppmwv) |
|-------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 14:07 | 20.55P               | 0.03P                 | 8.53P                  | 3.20P                   | 4.86P                   | 4.40P                   |
| 14:08 | 20.55P               | 0.04P                 | 7.67P                  | 3.27P                   | 4.70P                   | 6.72P                   |
| 14:09 | 20.56P               | 0.04P                 | 7.33P                  | 3.30P                   | 4.40P                   | 5.84P                   |
| 14:10 | 20.56P               | 0.03P                 | 7.08P                  | 3.43P                   | 4.41P                   | 4.12P                   |
| 14:11 | 20.55                | 0.03                  | 7.00                   | 3.34                    | 5.08                    | 4.96                    |
| 14:12 | 20.54                | 0.04                  | 6.95                   | 3.39                    | 4.89                    | 6.74                    |
| 14:13 | 20.52                | 0.04                  | 6.86                   | 3.35                    | 4.54                    | 5.37                    |
| 14:14 | 20.52                | 0.03                  | 6.24                   | 3.40                    | 4.82                    | 3.83                    |
| 14:15 | 20.51                | 0.04                  | 5.94                   | 3.35                    | 5.08                    | 6.03                    |
| 14:16 | 20.52                | 0.04                  | 5.39                   | 3.36                    | 4.73                    | 6.53                    |
| 14:17 | 20.52                | 0.04                  | 4.91                   | 3.35                    | 4.53                    | 4.42                    |
| 14:18 | 20.52                | 0.03                  | 4.69                   | 3.34                    | 5.03                    | 4.36                    |
| 14:19 | 20.52                | 0.04                  | 4.52                   | 3.31                    | 4.82                    | 6.63                    |
| 14:20 | 20.53D               | 0.04D                 | 4.31D                  | 3.38D                   | 4.57D                   | 4.96D                   |
| 14:21 | 20.54D               | 0.03D                 | 4.41D                  | 3.33D                   | 4.46D                   | 3.38D                   |
| 14:22 | 20.53D               | 0.03D                 | 4.68D                  | 3.34D                   | 4.47D                   | 2.96D                   |
| 14:23 | 20.42D               | 0.03D                 | 4.67D                  | 3.35D                   | 4.70D                   | 3.81D                   |
| 14:24 | 20.38D               | 0.03D                 | 4.75D                  | 3.38D                   | 4.77D                   | 5.90D                   |
| 14:25 | 20.37D               | 0.03D                 | 4.71D                  | 3.45D                   | 4.67D                   | 5.17D                   |
| 14:26 | 20.35D               | 0.03D                 | 4.72D                  | 3.38D                   | 4.56D                   | 3.48D                   |
| 14:27 | 20.34D               | 0.03D                 | 4.80D                  | 3.45D                   | 4.54D                   | 4.13D                   |
| 14:28 | 20.32D               | 0.03D                 | 4.69D                  | 3.43D                   | 4.55D                   | 5.88D                   |
| 14:29 | 20.31D               | 0.03D                 | 4.76D                  | 3.41D                   | 4.56D                   | 5.20D                   |
| 14:30 | 20.29D               | 0.03D                 | 4.75D                  | 3.43D                   | 4.57D                   | 3.60D                   |
| 14:31 | 20.27D               | 0.03D                 | 4.77D                  | 3.42D                   | 4.58D                   | 3.13D                   |
| 14:32 | 20.25D               | 0.03D                 | 4.74D                  | 3.43D                   | 4.59D                   | 2.94D                   |
| 14:33 | 20.23D               | 0.03D                 | 4.67D                  | 3.51D                   | 4.59D                   | 2.80D                   |
| 14:34 | 20.22D               | 0.03D                 | 4.70D                  | 3.44D                   | 4.59D                   | 2.71D                   |
| 14:35 | 20.20D               | 0.03D                 | 4.74D                  | 3.37D                   | 4.59D                   | 2.63D                   |
| 14:36 | 20.19D               | 0.03D                 | 4.76D                  | 3.49D                   | 4.60D                   | 2.60D                   |
| 14:37 | 20.17D               | 0.03D                 | 4.78D                  | 3.46D                   | 4.60D                   | 2.64D                   |
| 14:38 | 20.16D               | 0.03D                 | 4.68D                  | 3.56D                   | 4.59D                   | 2.67D                   |
| 14:39 | 20.14D               | 0.03D                 | 4.74D                  | 3.46D                   | 4.59D                   | 2.60D                   |
| 14:40 | 20.13D               | 0.03D                 | 4.71D                  | 3.51D                   | 4.54D                   | 2.58D                   |
| 14:41 | 20.11D               | 0.03D                 | 4.70D                  | 3.48D                   | 4.51D                   | 2.51D                   |
| 14:42 | 20.09D               | 0.03D                 | 4.71D                  | 3.47D                   | 4.49D                   | 2.46D                   |
| 14:43 | 20.08D               | 0.03D                 | 4.69D                  | 3.54D                   | 4.49D                   | 2.49D                   |
| 14:44 | 20.06D               | 0.03D                 | 4.69D                  | 3.55D                   | 4.50D                   | 2.45D                   |
| 14:45 | 20.04D               | 0.03D                 | 4.72D                  | 3.51D                   | 4.49D                   | 2.40D                   |
| 14:46 | 20.13D               | 0.03D                 | 4.79D                  | 3.50D                   | 4.50D                   | 2.30D                   |
| 14:47 | 20.39D               | 0.03D                 | 5.95D                  | 3.34D                   | 4.44D                   | 2.24D                   |

LA PACIFIC  
PRESS LOCATION

RUN 2: 13:25 - 13:55; 14:10 - 14:19; 14:50 - 15:11  
8/30/95

Starting  
08-30-95

| Time                            | PRESS<br>O2<br>(%dv) | PRESS<br>CO2<br>(%dv) | PRESS<br>CO<br>(ppmdv) | PRESS<br>SO2<br>(ppmdv) | PRESS<br>NOx<br>(ppmdv) | PRESS<br>VOC<br>(ppmwv) |
|---------------------------------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 14:48                           | 20.35D               | 0.03D                 | 6.37D                  | 3.32D                   | 4.42D                   | 2.20D                   |
| 14:49                           | 20.35D               | 0.03D                 | 6.66D                  | 3.35D                   | 4.42D                   | 2.19D                   |
| 14:50                           | 20.38D               | 0.03D                 | 6.02D                  | 3.49D                   | 4.41D                   | 2.11D                   |
| 14:51                           | 20.41                | 0.03                  | 5.59                   | 3.34                    | 4.48                    | 2.03                    |
| 14:52                           | 20.42                | 0.03                  | 5.55                   | 3.41                    | 5.08                    | 2.76                    |
| 14:53                           | 20.44                | 0.04                  | 5.45                   | 3.46                    | 5.11                    | 5.27                    |
| 14:54                           | 20.46                | 0.04                  | 5.03                   | 3.47                    | 4.80                    | 4.96                    |
| 14:55                           | 20.47                | 0.03                  | 4.74                   | 3.42                    | 4.67                    | 3.10                    |
| 14:56                           | 20.50                | 0.03                  | 4.54                   | 3.45                    | 5.02                    | 2.91                    |
| 14:57                           | 20.52                | 0.04                  | 4.55                   | 3.37                    | 5.30                    | 5.21                    |
| 14:58                           | 20.53                | 0.04                  | 4.95                   | 3.39                    | 4.96                    | 6.05                    |
| 14:59                           | 20.54                | 0.04                  | 5.64                   | 3.41                    | 4.82                    | 3.84                    |
| 15:00                           | 20.55                | 0.03                  | 6.41                   | 3.43                    | 5.34                    | 3.85                    |
| 15:01                           | 20.55                | 0.04                  | 6.49                   | 3.32                    | 5.31                    | 6.22                    |
| 15:02                           | 20.55                | 0.04                  | 5.95                   | 3.50                    | 4.86                    | 5.61                    |
| 15:03                           | 20.55                | 0.03                  | 5.16                   | 3.42                    | 4.98                    | 3.43                    |
| 15:04                           | 20.55                | 0.03                  | 4.77                   | 3.47                    | 5.47                    | 4.93                    |
| 15:05                           | 20.55                | 0.04                  | 4.38                   | 3.41                    | 5.11                    | 6.30                    |
| 15:06                           | 20.55                | 0.03                  | 4.07                   | 3.36                    | 4.84                    | 4.50                    |
| 15:07                           | 20.55                | 0.03                  | 4.60                   | 3.41                    | 5.34                    | 3.72                    |
| 15:08                           | 20.55                | 0.04                  | 5.44                   | 3.47                    | 5.47                    | 6.27                    |
| 15:09                           | 20.51                | 0.04                  | 5.46                   | 3.58                    | 5.07                    | 6.15                    |
| 15:10                           | 20.47                | 0.03                  | 5.44                   | 3.55                    | 4.98                    | 3.92                    |
| 15:11                           | 20.45                | 0.03                  | 5.68                   | 3.57                    | 5.59                    | 4.63                    |
| 106 MinAvg                      | 20.45                | 0.04                  | 8.27                   | 3.15                    | 4.63                    | 5.28                    |
| Data Corrected for Calibrations |                      |                       |                        |                         |                         |                         |
| 106 MinAvg                      | 20.59                | 0.05                  | 8.33                   | 1.00                    | 2.93                    |                         |

LA PACIFIC  
PRESS LOCATION  
RUN 3: 19:40 - 20:10; 20:21 - 20:51  
8/30/95

Starting  
8-30-95

| Time  | PRESS<br>O2<br>(%dv) | PRESS<br>CO2<br>(%dv) | PRESS<br>CO<br>(ppmdv) | PRESS<br>SO2<br>(ppmdv) | PRESS<br>NOx<br>(ppmdv) | PRESS<br>VOC<br>(ppmwv) |
|-------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 19:41 | 20.54                | 0.05                  | 4.33                   | 4.48                    | 1.50                    | 3.89                    |
| 19:42 | 20.57                | 0.04                  | 4.37                   | 4.40                    | 1.38                    | 2.90                    |
| 19:43 | 20.59                | 0.04                  | 4.32                   | 4.38                    | 1.60                    | 2.27                    |
| 19:44 | 20.62                | 0.04                  | 4.66                   | 4.45                    | 1.62                    | 3.43                    |
| 19:45 | 20.64                | 0.05                  | 4.76                   | 4.49                    | 1.44                    | 3.49                    |
| 19:46 | 20.65                | 0.04                  | 5.19                   | 4.48                    | 1.40                    | 2.41                    |
| 19:47 | 20.67                | 0.04                  | 5.77                   | 4.50                    | 1.68                    | 2.60                    |
| 19:48 | 20.68                | 0.05                  | 6.11                   | 4.56                    | 1.49                    | 3.66                    |
| 19:49 | 20.70                | 0.05                  | 6.18                   | 4.51                    | 1.34                    | 3.08                    |
| 19:50 | 20.71                | 0.04                  | 7.27                   | 4.43                    | 1.46                    | 2.35                    |
| 19:51 | 20.72                | 0.04                  | 8.47                   | 4.62                    | 1.61                    | 3.22                    |
| 19:52 | 20.73                | 0.05                  | 8.76                   | 4.60                    | 1.35                    | 3.89                    |
| 19:53 | 20.74                | 0.04                  | 8.15                   | 4.54                    | 1.24                    | 2.84                    |
| 19:54 | 20.74                | 0.04                  | 7.55                   | 4.51                    | 1.54                    | 2.59                    |
| 19:55 | 20.75                | 0.04                  | 7.15                   | 4.63                    | 1.39                    | 3.88                    |
| 19:56 | 20.76                | 0.05                  | 7.21                   | 4.69                    | 1.20                    | 3.66                    |
| 19:57 | 20.77                | 0.04                  | 7.90                   | 4.50                    | 1.22                    | 2.62                    |
| 19:58 | 20.78                | 0.04                  | 8.41                   | 4.47                    | 1.48                    | 3.22                    |
| 19:59 | 20.79                | 0.05                  | 8.73                   | 4.44                    | 1.25                    | 4.06                    |
| 20:00 | 20.79                | 0.04                  | 8.58                   | 4.49                    | 1.11                    | 3.15                    |
| 20:01 | 20.78                | 0.04                  | 8.46                   | 4.53                    | 1.29                    | 2.50                    |
| 20:02 | 20.75                | 0.05                  | 8.32                   | 4.46                    | 1.31                    | 3.82                    |
| 20:03 | 20.74                | 0.05                  | 7.94                   | 4.52                    | 1.09                    | 3.96                    |
| 20:04 | 20.74                | 0.04                  | 8.10                   | 4.46                    | 1.01                    | 2.95                    |
| 20:05 | 20.75                | 0.04                  | 9.20                   | 4.46                    | 1.31                    | 3.03                    |
| 20:06 | 20.75                | 0.05                  | 9.58                   | 4.55                    | 1.14                    | 4.55                    |
| 20:07 | 20.74                | 0.05                  | 9.46                   | 4.53                    | 0.97                    | 3.93                    |
| 20:08 | 20.74                | 0.04                  | 9.08                   | 4.55                    | 1.01                    | 2.78                    |
| 20:09 | 20.74                | 0.05                  | 8.85                   | 4.40                    | 1.18                    | 3.88                    |
| 20:10 | 20.74                | 0.05                  | 8.64                   | 4.54                    | 0.96                    | 4.59                    |
| 20:11 | 20.73P               | 0.05P                 | 8.26P                  | 4.46P                   | 0.84P                   | 3.40P                   |
| 20:12 | 20.74P               | 0.04P                 | 8.18P                  | 4.63P                   | 1.04P                   | 2.79P                   |
| 20:13 | 20.74P               | 0.05P                 | 8.32P                  | 4.53P                   | 0.98P                   | 4.60P                   |
| 20:14 | 20.74P               | 0.05P                 | 9.23P                  | 4.57P                   | 0.84P                   | 4.55P                   |
| 20:15 | 20.75P               | 0.04P                 | 9.61P                  | 4.57P                   | 0.78P                   | 3.03P                   |
| 20:16 | 20.74P               | 0.04P                 | 8.83P                  | 4.55P                   | 1.02P                   | 3.36P                   |
| 20:17 | 20.74P               | 0.05P                 | 8.76P                  | 4.67P                   | 0.83P                   | 4.62P                   |
| 20:18 | 20.73P               | 0.04P                 | 8.44P                  | 4.52P                   | 0.71P                   | 3.81P                   |
| 20:19 | 20.74P               | 0.04P                 | 8.16P                  | 4.55P                   | 0.84P                   | 2.71P                   |
| 20:20 | 20.74P               | 0.04P                 | 9.38P                  | 4.52P                   | 0.94P                   | 3.93P                   |
| 20:21 | 20.75                | 0.05                  | 9.57                   | 4.61                    | 0.76                    | 4.48                    |

LA PACIFIC  
PRESS LOCATION  
RUN 3: 19:40 - 20:10; 20:21 - 20:51  
8/30/95

Starting  
08-30-95

| Time      | PRESS<br>O2<br>(%dv) | PRESS<br>CO2<br>(%dv) | PRESS<br>CO<br>(ppmdv) | PRESS<br>SO2<br>(ppmdv) | PRESS<br>NOx<br>(ppmdv) | PRESS<br>VOC<br>(ppmwv) |
|-----------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 20:22     | 20.75                | 0.05                  | 9.08                   | 4.63                    | 0.70                    | 3.19                    |
| 20:23     | 20.75                | 0.04                  | 8.96                   | 4.54                    | 0.97                    | 2.82                    |
| 20:24     | 20.75                | 0.05                  | 8.83                   | 4.70                    | 0.88                    | 4.38                    |
| 20:25     | 20.76                | 0.05                  | 7.97                   | 4.62                    | 0.69                    | 4.25                    |
| 20:26     | 20.77                | 0.04                  | 7.30                   | 4.51                    | 0.68                    | 2.83                    |
| 20:27     | 20.77                | 0.05                  | 7.72                   | 4.68                    | 0.93                    | 3.39                    |
| 20:28     | 20.77                | 0.05                  | 8.13                   | 4.68                    | 0.72                    | 4.73                    |
| 20:29     | 20.77                | 0.05                  | 8.07                   | 4.60                    | 0.57                    | 3.84                    |
| 20:30     | 20.78                | 0.04                  | 8.27                   | 4.55                    | 0.76                    | 2.74                    |
| 20:31     | 20.77                | 0.05                  | 8.37                   | 4.57                    | 0.82                    | 3.93                    |
| 20:32     | 20.77                | 0.05                  | 8.29                   | 4.52                    | 0.62                    | 4.58                    |
| 20:33     | 20.78                | 0.04                  | 7.79                   | 4.52                    | 0.54                    | 3.12                    |
| 20:34     | 20.78                | 0.04                  | 8.34                   | 4.57                    | 0.86                    | 2.98                    |
| 20:35     | 20.78                | 0.05                  | 8.44                   | 4.69                    | 0.70                    | 4.42                    |
| 20:36     | 20.79                | 0.05                  | 8.21                   | 4.56                    | 0.50                    | 4.20                    |
| 20:37     | 20.79                | 0.04                  | 8.09                   | 4.60                    | 0.42                    | 2.72                    |
| 20:38     | 20.80                | 0.04                  | 8.21                   | 4.72                    | 0.38                    | 2.45                    |
| 20:39     | 20.81                | 0.04                  | 8.24                   | 4.64                    | 0.68                    | 2.67                    |
| 20:40     | 20.80                | 0.05                  | 8.34                   | 4.66                    | 0.71                    | 3.86                    |
| 20:41     | 20.80                | 0.05                  | 8.31                   | 4.68                    | 0.50                    | 4.31                    |
| 20:42     | 20.80                | 0.05                  | 8.81                   | 4.63                    | 0.48                    | 2.88                    |
| 20:43     | 20.80                | 0.05                  | 8.80                   | 4.68                    | 0.81                    | 3.10                    |
| 20:44     | 20.80                | 0.05                  | 8.97                   | 4.78                    | 0.62                    | 4.55                    |
| 20:45     | 20.80                | 0.05                  | 8.91                   | 4.59                    | 0.40                    | 3.91                    |
| 20:46     | 20.80                | 0.04                  | 8.81                   | 4.68                    | 0.59                    | 2.63                    |
| 20:47     | 20.81                | 0.05                  | 8.92                   | 4.76                    | 0.79                    | 3.66                    |
| 20:48     | 20.81                | 0.06                  | 9.03                   | 4.76                    | 0.50                    | 4.58                    |
| 20:49     | 20.81                | 0.05                  | 8.47                   | 4.63                    | 0.36                    | 3.15                    |
| 20:50     | 20.82                | 0.04                  | 8.26                   | 4.63                    | 0.79                    | 2.96                    |
| 20:51     | 20.82                | 0.05                  | 8.98                   | 4.67                    | 0.65                    | 4.37                    |
| 71 MinAvg | 20.75                | 0.05                  | 7.93                   | 4.57                    | 0.98                    | 3.46                    |

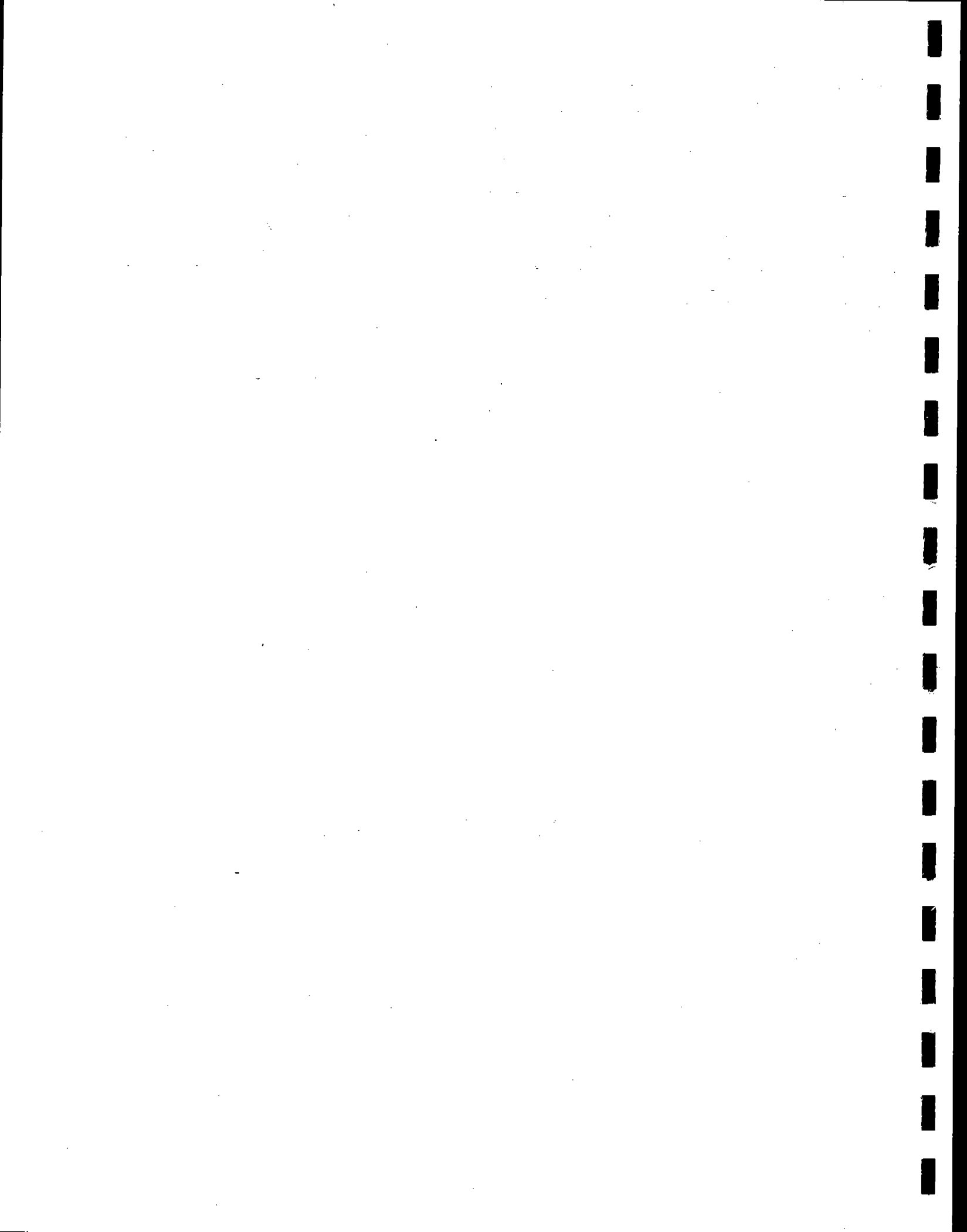
LA PACIFIC  
PRESS LOCATION  
RUN 3: 19:40 - 20:10; 20:21 - 20:51  
8/30/95

Starting  
8-30-95

| Time | PRESS<br>O2<br>(%dv) | PRESS<br>CO2<br>(%dv) | PRESS<br>CO<br>(ppmdv) | PRESS<br>SO2<br>(ppmdv) | PRESS<br>NOx<br>(ppmdv) | PRESS<br>VOC<br>(ppmwv) |
|------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|
|------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|

Data Corrected for Calibrations

71 MinAvg      20.89      0.05      8.07      0.52      -0.11

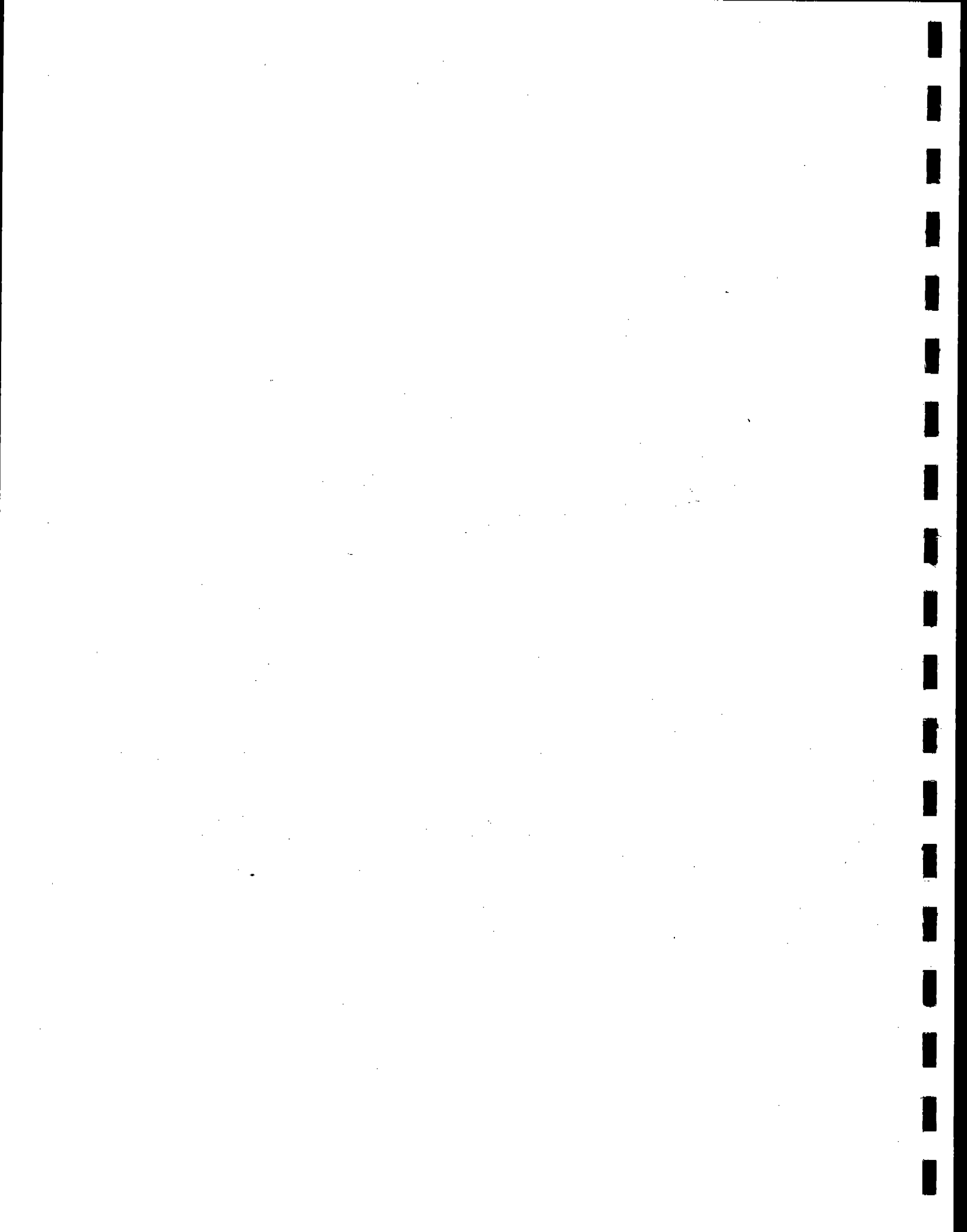




**APPENDIX F.3**

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

**- RTO STACK -  
- 08/30/95 -**



LA PACIFIC  
RTO LOCATION  
RUN 1: 09:55 - 10:25; 10:47 - 11:17  
8/30/95

Starting  
08-30-95

| Time  | RTO<br>O2<br>(%dv) | RTO<br>CO2<br>(%dv) | RTO<br>CO<br>(ppmdv) | RTO<br>SO2<br>(ppmdv) | RTO<br>NOx<br>(ppmdv) | RTO<br>VOC<br>(ppmwv) |
|-------|--------------------|---------------------|----------------------|-----------------------|-----------------------|-----------------------|
| 09:56 | 19.43              | 1.12                | 33.00                | 0.12                  | 13.68                 | 5.00                  |
| 09:57 | 19.53              | 1.04                | 36.63                | 0.04                  | 14.53                 | 4.99                  |
| 09:58 | 19.47              | 1.06                | 37.42                | 0.05                  | 14.76                 | 5.00                  |
| 09:59 | 19.41              | 1.08                | 29.35                | 0.04                  | 17.45                 | 4.49                  |
| 10:00 | 19.26              | 1.17                | 29.47                | 0.10                  | 17.59                 | 4.43                  |
| 10:01 | 19.40              | 1.07                | 30.74                | 0.13                  | 13.58                 | 4.52                  |
| 10:02 | 19.56              | 0.99                | 28.98                | 0.07                  | 14.97                 | 4.32                  |
| 10:03 | 19.51              | 1.01                | 28.93                | 0.05                  | 15.30                 | 4.42                  |
| 10:04 | 19.38              | 1.11                | 34.77                | 0.07                  | 16.45                 | 4.83                  |
| 10:05 | 19.12              | 1.28                | 39.50                | 0.07                  | 15.73                 | 5.30                  |
| 10:06 | 19.20              | 1.20                | 33.79                | 0.10                  | 12.76                 | 6.78                  |
| 10:07 | 19.45              | 1.04                | 32.28                | 0.10                  | 14.68                 | 5.71                  |
| 10:08 | 19.42              | 1.05                | 36.38                | 0.12                  | 14.59                 | 5.59                  |
| 10:09 | 19.41              | 1.04                | 31.02                | 0.08                  | 17.70                 | 5.43                  |
| 10:10 | 19.23              | 1.14                | 25.91                | 0.10                  | 18.61                 | 5.81                  |
| 10:11 | 19.30              | 1.08                | 30.70                | 0.08                  | 14.93                 | 6.04                  |
| 10:12 | 19.53              | 0.95                | 31.75                | 0.13                  | 15.71                 | 5.65                  |
| 10:13 | 19.53              | 0.95                | 28.23                | 0.03                  | 16.35                 | 5.35                  |
| 10:14 | 19.47              | 1.00                | 27.30                | 0.00                  | 18.12                 | 4.98                  |
| 10:15 | 19.25              | 1.15                | 30.89                | 0.00                  | 17.33                 | 5.20                  |
| 10:16 | 19.36              | 1.06                | 30.11                | 0.00                  | 13.91                 | 5.47                  |
| 10:17 | 19.52              | 0.97                | 24.36                | 0.00                  | 15.86                 | 5.17                  |
| 10:18 | 19.50              | 0.96                | 25.45                | 0.00                  | 16.77                 | 11.10                 |
| 10:19 | 19.41              | 1.02                | 27.66                | 0.00                  | 18.14                 | 9.97                  |
| 10:20 | 19.24              | 1.11                | 25.79                | 0.00                  | 18.24                 | 9.11                  |
| 10:21 | 19.35              | 1.02                | 23.32                | 0.00                  | 14.83                 | 8.63                  |
| 10:22 | 19.57              | 0.88                | 27.47                | 0.01                  | 16.37                 | 8.43                  |
| 10:23 | 19.54              | 0.91                | 31.26                | 0.03                  | 16.43                 | 8.21                  |
| 10:24 | 19.43              | 0.99                | 28.37                | 0.00                  | 18.62                 | 7.37                  |
| 10:25 | 19.19              | 1.15                | 28.12                | 0.00                  | 18.29                 | 6.55                  |
| 10:26 | 19.23P             | 1.11P               | 33.96P               | 0.00P                 | 14.66P                | 6.15P                 |
| 10:27 | 19.45P             | 0.98P               | 33.12P               | 0.00P                 | 15.78P                | 5.70P                 |
| 10:28 | 19.46P             | 0.96P               | 29.54P               | 0.00P                 | 15.59P                | 5.26P                 |
| 10:29 | 19.38P             | 1.02P               | 33.05P               | 0.00P                 | 17.92P                | 5.21P                 |
| 10:30 | 19.18P             | 1.14P               | 34.94P               | 0.01P                 | 18.76P                | 5.22P                 |
| 10:31 | 19.28P             | 1.04P               | 30.81P               | 0.00P                 | 15.60P                | 5.02P                 |
| 10:32 | 19.51P             | 0.90P               | 25.49P               | 0.03P                 | 16.44P                | 4.49P                 |
| 10:33 | 19.48P             | 0.94P               | 32.32P               | 0.08P                 | 16.37P                | 4.66P                 |
| 10:34 | 19.39P             | 1.00P               | 34.66P               | 0.14P                 | 18.23P                | 4.93P                 |
| 10:35 | 19.15P             | 1.16P               | 30.57P               | 0.07P                 | 17.90P                | 4.72P                 |
| 10:36 | 19.22P             | 1.10P               | 31.19P               | 0.06P                 | 14.05P                | 4.93P                 |
| 10:37 | 19.40P             | 1.01P               | 38.79P               | 0.08P                 | 14.87P                | 5.36P                 |
| 10:38 | 19.38P             | 1.01P               | 38.39P               | 0.07P                 | 15.83P                | 5.62P                 |

LA PACIFIC  
RTO LOCATION  
RUN 1: 09:55 - 10:25; 10:47 - 11:17  
8/30/95

Starting  
08-30-95

| Time      | RTO<br>O2<br>(%dv) | RTO<br>CO2<br>(%dv) | RTO<br>CO<br>(ppmdv) | RTO<br>SO2<br>(ppmdv) | RTO<br>NOx<br>(ppmdv) | RTO<br>VOC<br>(ppmwv) |
|-----------|--------------------|---------------------|----------------------|-----------------------|-----------------------|-----------------------|
| 10:39     | 19.34P             | 1.04P               | 30.31P               | 0.08P                 | 17.56P                | 5.19P                 |
| 10:40     | 19.14P             | 1.18P               | 33.40P               | 0.07P                 | 17.74P                | 5.08P                 |
| 10:41     | 19.28P             | 1.06P               | 35.18P               | 0.06P                 | 15.00P                | 5.24P                 |
| 10:42     | 19.48P             | 0.93P               | 29.26P               | 0.00P                 | 16.52P                | 4.97P                 |
| 10:43     | 19.47P             | 0.93P               | 26.16P               | 0.00P                 | 17.05P                | 4.74P                 |
| 10:44     | 19.36P             | 1.00P               | 30.41P               | 0.00P                 | 18.67P                | 4.77P                 |
| 10:45     | 19.17P             | 1.13P               | 33.42P               | 0.00P                 | 18.41P                | 4.71P                 |
| 10:46     | 19.29P             | 1.02P               | 28.97P               | 0.00P                 | 14.72P                | 4.46P                 |
| 10:47     | 19.47              | 0.93                | 28.01                | 0.00                  | 15.98                 | 4.44                  |
| 10:48     | 19.40              | 0.98                | 36.45                | 0.05                  | 16.03                 | 4.89                  |
| 10:49     | 19.27              | 1.06                | 37.79                | 0.00                  | 17.70                 | 5.11                  |
| 10:50     | 19.04              | 1.20                | 33.46                | 0.00                  | 18.27                 | 4.79                  |
| 10:51     | 19.12              | 1.11                | 36.84                | 0.00                  | 15.36                 | 4.88                  |
| 10:52     | 19.31              | 1.00                | 38.20                | 0.00                  | 16.51                 | 4.98                  |
| 10:53     | 19.32              | 0.99                | 36.30                | 0.02                  | 16.06                 | 4.98                  |
| 10:54     | 19.20              | 1.07                | 31.71                | 0.00                  | 18.41                 | 4.72                  |
| 10:55     | 19.02              | 1.19                | 36.80                | 0.01                  | 18.69                 | 4.72                  |
| 10:56     | 19.07              | 1.15                | 41.33                | 0.02                  | 14.73                 | 4.99                  |
| 10:57     | 19.26              | 1.05                | 36.97                | 0.00                  | 15.19                 | 4.59                  |
| 10:58     | 19.22              | 1.08                | 39.43                | 0.02                  | 15.30                 | 4.59                  |
| 10:59     | 19.10              | 1.17                | 41.62                | 0.00                  | 17.19                 | 4.72                  |
| 11:00     | 18.92              | 1.28                | 40.18                | 0.00                  | 17.20                 | 4.74                  |
| 11:01     | 19.08              | 1.14                | 33.80                | 0.06                  | 14.51                 | 4.36                  |
| 11:02     | 19.25              | 1.05                | 34.05                | 0.20                  | 15.88                 | 5.18                  |
| 11:03     | 19.24              | 1.05                | 35.70                | 0.14                  | 15.88                 | 5.31                  |
| 11:04     | 19.14              | 1.12                | 31.88                | 0.09                  | 18.16                 | 4.69                  |
| 11:05     | 18.96              | 1.23                | 28.35                | 0.16                  | 18.50                 | 4.29                  |
| 11:06     | 19.09              | 1.12                | 32.83                | 0.09                  | 15.24                 | 4.17                  |
| 11:07     | 19.26              | 1.03                | 33.34                | 0.03                  | 16.45                 | 4.15                  |
| 11:08     | 19.24              | 1.04                | 30.38                | 0.22                  | 16.14                 | 3.98                  |
| 11:09     | 19.10              | 1.15                | 34.77                | 0.25                  | 17.89                 | 5.58                  |
| 11:10     | 18.84              | 1.34                | 44.03                | 0.18                  | 18.40                 | 4.68                  |
| 11:11     | 18.94              | 1.24                | 42.09                | 0.19                  | 15.37                 | 4.61                  |
| 11:12     | 19.11              | 1.14                | 36.32                | 0.22                  | 16.49                 | 5.28                  |
| 11:13     | 19.07              | 1.17                | 43.49                | 0.21                  | 16.29                 | 5.74                  |
| 11:14     | 18.97              | 1.24                | 45.09                | 0.22                  | 18.17                 | 6.51                  |
| 11:15     | 18.81              | 1.34                | 38.97                | 0.30                  | 18.14                 | 5.84                  |
| 11:16     | 19.04              | 1.16                | 36.67                | 0.28                  | 16.13                 | 5.36                  |
| 11:17     | 19.13              | 1.12                | 39.26                | 0.16                  | 17.43                 | 5.47                  |
| 82 MinAvg | 19.26              | 1.09                | 33.53                | 0.08                  | 16.39                 | 5.51                  |

Data Corrected for Calibrations

|           |       |      |       |       |       |
|-----------|-------|------|-------|-------|-------|
| 82 MinAvg | 19.55 | 1.11 | 34.07 | -0.30 | 14.62 |
|-----------|-------|------|-------|-------|-------|

LA PACIFIC  
RTO LOCATION

RUN 2: 13:25 - 13:55; 14:10 - 14:19; 14:50 - 15:11  
8/30/95

Starting  
8-30-95

| Time  | RTO<br>O2<br>(%dv) | RTO<br>CO2<br>(%dv) | RTO<br>CO<br>(ppmdv) | RTO<br>SO2<br>(ppmdv) | RTO<br>NOx<br>(ppmdv) | RTO<br>VOC<br>(ppmwv) |
|-------|--------------------|---------------------|----------------------|-----------------------|-----------------------|-----------------------|
| 13:26 | 18.83              | 1.06                | 43.59                | 1.01                  | 18.11                 | 3.30                  |
| 13:27 | 18.71              | 1.16                | 48.89                | 1.02                  | 20.06                 | 3.47                  |
| 13:28 | 18.51              | 1.30                | 45.54                | 1.03                  | 20.03                 | 3.44                  |
| 13:29 | 18.62              | 1.18                | 38.98                | 1.02                  | 17.64                 | 3.37                  |
| 13:30 | 18.85              | 1.08                | 37.01                | 1.02                  | 18.52                 | 3.34                  |
| 13:31 | 18.79              | 1.10                | 40.39                | 1.01                  | 18.37                 | 3.26                  |
| 13:32 | 18.66              | 1.20                | 45.05                | 1.02                  | 20.14                 | 3.30                  |
| 13:33 | 18.50              | 1.31                | 51.16                | 1.01                  | 18.58                 | 3.37                  |
| 13:34 | 18.72              | 1.15                | 45.79                | 1.01                  | 16.97                 | 3.14                  |
| 13:35 | 18.83              | 1.10                | 44.29                | 1.01                  | 18.03                 | 3.07                  |
| 13:36 | 18.80              | 1.12                | 53.52                | 1.01                  | 18.03                 | 3.26                  |
| 13:37 | 18.63              | 1.25                | 57.88                | 1.01                  | 19.82                 | 3.40                  |
| 13:38 | 18.54              | 1.31                | 52.44                | 1.02                  | 18.37                 | 3.07                  |
| 13:39 | 18.75              | 1.13                | 48.06                | 1.01                  | 17.43                 | 3.07                  |
| 13:40 | 18.84              | 1.08                | 50.93                | 1.01                  | 18.18                 | 4.00                  |
| 13:41 | 18.85              | 1.06                | 47.70                | 1.01                  | 18.49                 | 3.32                  |
| 13:42 | 18.68              | 1.19                | 39.76                | 1.01                  | 20.35                 | 3.07                  |
| 13:43 | 18.59              | 1.23                | 43.30                | 1.01                  | 17.84                 | 3.22                  |
| 13:44 | 18.83              | 1.07                | 46.68                | 1.01                  | 17.73                 | 3.35                  |
| 13:45 | 18.83              | 1.08                | 45.65                | 1.01                  | 17.87                 | 3.40                  |
| 13:46 | 18.81              | 1.10                | 45.40                | 1.02                  | 18.94                 | 3.45                  |
| 13:47 | 18.61              | 1.25                | 51.02                | 1.01                  | 20.21                 | 3.65                  |
| 13:48 | 18.52              | 1.31                | 54.08                | 1.01                  | 18.30                 | 3.71                  |
| 13:49 | 18.76              | 1.13                | 44.32                | 1.03                  | 17.81                 | 3.26                  |
| 13:50 | 18.83              | 1.08                | 45.46                | 1.01                  | 18.25                 | 3.30                  |
| 13:51 | 18.81              | 1.11                | 49.53                | 1.01                  | 19.76                 | 3.44                  |
| 13:52 | 18.57              | 1.26                | 45.41                | 1.01                  | 20.25                 | 3.30                  |
| 13:53 | 18.60              | 1.23                | 42.16                | 1.01                  | 17.27                 | 3.20                  |
| 13:54 | 18.87              | 1.05                | 43.67                | 1.01                  | 18.13                 | 3.23                  |
| 13:55 | 18.89              | 1.04                | 44.50                | 1.02                  | 18.38                 | 3.34                  |
| 13:56 | 18.87P             | 1.05P               | 35.08P               | 1.01P                 | 21.00P                | 3.06P                 |
| 13:57 | 18.63P             | 1.20P               | 35.32P               | 1.01P                 | 21.46P                | 2.98P                 |
| 13:58 | 18.54P             | 1.19P               | 38.24P               | 1.01P                 | 8.57P                 | 3.05P                 |
| 13:59 | 18.52P             | 1.19P               | 37.94P               | 1.01P                 | 7.13P                 | 2.95P                 |
| 14:00 | 18.51P             | 1.19P               | 37.92P               | 1.01P                 | 7.13P                 | 2.84P                 |
| 14:01 | 18.50P             | 1.18P               | 37.92P               | 1.01P                 | 14.31P                | 2.91P                 |
| 14:02 | 18.61P             | 1.20P               | 36.10P               | 1.10P                 | 21.17P                | 3.05P                 |
| 14:03 | 18.55P             | 1.07P               | 34.00P               | 1.02P                 | 18.21P                | 2.90P                 |

LA PACIFIC  
RTO LOCATION

RUN 2: 13:25 - 13:55; 14:10 - 14:19; 14:50 - 15:11  
8/30/95

Starting  
08-30-95

| Time  | RTO<br>O2<br>(%dv) | RTO<br>CO2<br>(%dv) | RTO<br>CO<br>(ppmdv) | RTO<br>SO2<br>(ppmdv) | RTO<br>NOx<br>(ppmdv) | RTO<br>VOC<br>(ppmwv) |
|-------|--------------------|---------------------|----------------------|-----------------------|-----------------------|-----------------------|
| 14:04 | 19.07P             | 1.01P               | 32.80P               | 1.01P                 | 19.21P                | 2.84P                 |
| 14:05 | 19.03P             | 1.04P               | 40.66P               | 1.01P                 | 18.59P                | 2.98P                 |
| 14:06 | 18.94P             | 1.10P               | 39.45P               | 1.01P                 | 20.79P                | 3.03P                 |
| 14:07 | 18.73P             | 1.24P               | 36.60P               | 1.01P                 | 20.24P                | 2.88P                 |
| 14:08 | 18.91P             | 1.10P               | 38.29P               | 1.01P                 | 17.96P                | 2.82P                 |
| 14:09 | 18.99P             | 1.06P               | 40.67P               | 1.01P                 | 18.96P                | 2.85P                 |
| 14:10 | 18.98P             | 1.05P               | 38.01P               | 1.01P                 | 18.59P                | 2.79P                 |
| 14:11 | 18.86              | 1.12                | 31.62                | 1.01                  | 20.91                 | 2.58                  |
| 14:12 | 18.75              | 1.19                | 34.67                | 1.01                  | 20.70                 | 2.68                  |
| 14:13 | 18.94              | 1.04                | 35.64                | 1.01                  | 17.37                 | 2.72                  |
| 14:14 | 19.08              | 0.96                | 30.55                | 1.01                  | 18.14                 | 2.53                  |
| 14:15 | 19.02              | 1.00                | 32.10                | 1.01                  | 19.06                 | 2.52                  |
| 14:16 | 18.90              | 1.09                | 32.13                | 1.01                  | 21.36                 | 2.60                  |
| 14:17 | 18.79              | 1.13                | 30.56                | 1.01                  | 21.39                 | 2.76                  |
| 14:18 | 18.93              | 1.00                | 26.49                | 1.01                  | 19.12                 | 2.61                  |
| 14:19 | 19.09              | 0.91                | 34.27                | 1.01                  | 19.59                 | 2.61                  |
| 14:20 | 19.35D             | 0.62D               | 24.16D               | 1.01D                 | 18.65D                | 2.48D                 |
| 14:21 | 19.57D             | 0.42D               | 13.89D               | 1.01D                 | 19.75D                | 2.48D                 |
| 14:22 | 19.51D             | 0.43D               | 7.02D                | 1.01D                 | 14.71D                | 2.05D                 |
| 14:23 | 19.48D             | 0.35D               | 6.53D                | 1.01D                 | 11.32D                | 1.85D                 |
| 14:24 | 19.44D             | 0.35D               | 6.18D                | 1.01D                 | 7.31D                 | 1.84D                 |
| 14:25 | 19.43D             | 0.35D               | 6.21D                | 1.01D                 | 7.15D                 | 1.91D                 |
| 14:26 | 19.41D             | 0.35D               | 6.16D                | 1.01D                 | 7.14D                 | 1.74D                 |
| 14:27 | 19.39D             | 0.34D               | 6.17D                | 1.01D                 | 7.14D                 | 1.52D                 |
| 14:28 | 19.38D             | 0.35D               | 6.20D                | 1.01D                 | 7.14D                 | 1.47D                 |
| 14:29 | 19.37D             | 0.35D               | 6.21D                | 1.01D                 | 7.14D                 | 1.52D                 |
| 14:30 | 19.35D             | 0.35D               | 6.22D                | 1.01D                 | 7.14D                 | 1.48D                 |
| 14:31 | 19.35D             | 0.36D               | 6.21D                | 1.01D                 | 7.15D                 | 1.30D                 |
| 14:32 | 19.35D             | 0.36D               | 6.20D                | 1.01D                 | 7.14D                 | 1.28D                 |
| 14:33 | 19.34D             | 0.36D               | 6.24D                | 1.02D                 | 7.13D                 | 1.32D                 |
| 14:34 | 19.34D             | 0.36D               | 6.23D                | 1.02D                 | 7.12D                 | 1.20D                 |
| 14:35 | 19.32D             | 0.36D               | 6.21D                | 1.01D                 | 7.12D                 | 1.16D                 |
| 14:36 | 19.32D             | 0.36D               | 6.20D                | 1.02D                 | 7.26D                 | 1.22D                 |
| 14:37 | 19.28D             | 0.37D               | 6.23D                | 1.01D                 | 7.63D                 | 1.44D                 |
| 14:38 | 19.34D             | 0.36D               | 6.20D                | 1.03D                 | 6.95D                 | 1.50D                 |
| 14:39 | 19.20D             | 0.37D               | 6.20D                | 1.12D                 | 6.95D                 | 1.55D                 |
| 14:40 | 19.31D             | 0.36D               | 6.23D                | 1.12D                 | 7.02D                 | 1.57D                 |
| 14:41 | 19.25D             | 0.37D               | 6.23D                | 1.22D                 | 6.98D                 | 1.62D                 |

LA PACIFIC  
RTO LOCATION

RUN 2: 13:25 - 13:55; 14:10 - 14:19; 14:50 - 15:11  
8/30/95

Starting  
8-30-95

| Time       | RTO<br>O2<br>(%dv) | RTO<br>CO2<br>(%dv) | RTO<br>CO<br>(ppmdv) | RTO<br>SO2<br>(ppmdv) | RTO<br>NOx<br>(ppmdv) | RTO<br>VOC<br>(ppmwv) |
|------------|--------------------|---------------------|----------------------|-----------------------|-----------------------|-----------------------|
| 14:42      | 19.26D             | 0.37D               | 6.20D                | 1.28D                 | 6.98D                 | 1.71D                 |
| 14:43      | 19.26D             | 0.37D               | 6.23D                | 1.23D                 | 6.98D                 | 1.69D                 |
| 14:44      | 19.26D             | 0.38D               | 6.23D                | 1.17D                 | 6.98D                 | 1.76D                 |
| 14:45      | 19.26D             | 0.37D               | 6.18D                | 1.24D                 | 7.00D                 | 1.81D                 |
| 14:46      | 19.30D             | 0.35D               | 6.19D                | 1.35D                 | 11.90D                | 1.90D                 |
| 14:47      | 19.62D             | 0.26D               | 7.20D                | 1.52D                 | 18.47D                | 1.94D                 |
| 14:48      | 18.99D             | 0.79D               | 21.47D               | 1.03D                 | 19.20D                | 2.01D                 |
| 14:49      | 18.91D             | 1.07D               | 31.57D               | 1.02D                 | 19.10D                | 2.14D                 |
| 14:50      | 18.73D             | 1.21D               | 31.16D               | 1.01D                 | 21.15D                | 2.13D                 |
| 14:51      | 18.77              | 1.25                | 29.29                | 1.01                  | 21.27                 | 2.14                  |
| 14:52      | 18.84              | 1.10                | 28.66                | 1.01                  | 18.30                 | 2.15                  |
| 14:53      | 18.98              | 1.03                | 33.14                | 1.01                  | 19.65                 | 2.27                  |
| 14:54      | 18.94              | 1.07                | 39.59                | 1.01                  | 18.95                 | 2.50                  |
| 14:55      | 18.81              | 1.17                | 38.80                | 1.01                  | 20.86                 | 2.52                  |
| 14:56      | 18.63              | 1.28                | 36.26                | 1.01                  | 21.48                 | 2.42                  |
| 14:57      | 18.79              | 1.15                | 36.19                | 1.01                  | 18.65                 | 2.46                  |
| 14:58      | 18.93              | 1.08                | 41.02                | 1.01                  | 19.48                 | 2.62                  |
| 14:59      | 18.91              | 1.08                | 42.21                | 1.01                  | 18.76                 | 2.72                  |
| 15:00      | 18.73              | 1.21                | 37.02                | 1.01                  | 21.11                 | 2.50                  |
| 15:01      | 18.63              | 1.27                | 40.89                | 1.01                  | 20.05                 | 2.64                  |
| 15:02      | 18.84              | 1.12                | 46.39                | 1.01                  | 18.40                 | 2.79                  |
| 15:03      | 18.91              | 1.07                | 38.91                | 1.01                  | 19.47                 | 2.62                  |
| 15:04      | 18.93              | 1.04                | 31.14                | 1.01                  | 20.26                 | 2.44                  |
| 15:05      | 18.74              | 1.18                | 33.83                | 1.01                  | 21.76                 | 2.49                  |
| 15:06      | 18.72              | 1.17                | 35.88                | 1.01                  | 18.85                 | 2.59                  |
| 15:07      | 19.00              | 0.97                | 29.22                | 1.01                  | 19.86                 | 2.37                  |
| 15:08      | 18.99              | 1.00                | 28.46                | 1.01                  | 20.84                 | 2.34                  |
| 15:09      | 18.93              | 1.03                | 32.06                | 1.02                  | 21.43                 | 2.48                  |
| 15:10      | 18.72              | 1.18                | 29.87                | 1.03                  | 22.16                 | 2.45                  |
| 15:11      | 18.82              | 1.11                | 26.75                | 1.01                  | 18.47                 | 2.29                  |
| 156 MinAvg | 18.79              | 1.13                | 40.26                | 1.01                  | 19.26                 | 2.93                  |

LA PACIFIC  
RTO LOCATION  
RUN 3: 19:40 - 20:10; 20:21 - 20:51  
8/30/95

Starting  
08-30-95

| Time      | RTO<br>O2<br>(%dv) | RTO<br>CO2<br>(%dv) | RTO<br>CO<br>(ppmdv) | RTO<br>SO2<br>(ppmdv) | RTO<br>NOx<br>(ppmdv) | RTO<br>VOC<br>(ppmwv) |
|-----------|--------------------|---------------------|----------------------|-----------------------|-----------------------|-----------------------|
| 20:19     | 18.95P             | 1.23P               | 50.50P               | 1.08P                 | 11.92P                | 0.92P                 |
| 20:20     | 19.12P             | 1.15P               | 50.05P               | 1.07P                 | 13.05P                | 0.86P                 |
| 20:21     | 19.09              | 1.16                | 57.13                | 1.01                  | 12.34                 | 1.05                  |
| 20:22     | 19.00              | 1.24                | 58.51                | 1.02                  | 14.48                 | 1.16                  |
| 20:23     | 18.79              | 1.38                | 60.41                | 1.02                  | 13.67                 | 1.51                  |
| 20:24     | 19.02              | 1.21                | 62.13                | 1.02                  | 11.76                 | 1.39                  |
| 20:25     | 19.11              | 1.19                | 66.72                | 1.02                  | 12.59                 | 1.33                  |
| 20:26     | 19.10              | 1.17                | 61.87                | 1.01                  | 12.24                 | 2.70                  |
| 20:27     | 18.97              | 1.26                | 54.78                | 1.02                  | 14.54                 | 2.53                  |
| 20:28     | 18.82              | 1.35                | 58.35                | 1.01                  | 13.83                 | 2.14                  |
| 20:29     | 19.07              | 1.15                | 52.90                | 1.02                  | 10.80                 | 1.68                  |
| 20:30     | 19.17              | 1.13                | 57.15                | 1.01                  | 12.08                 | 1.52                  |
| 20:31     | 19.19              | 1.10                | 47.56                | 1.03                  | 12.47                 | 1.53                  |
| 20:32     | 19.07              | 1.18                | 46.02                | 1.06                  | 15.03                 | 1.38                  |
| 20:33     | 18.93              | 1.28                | 46.58                | 1.01                  | 14.58                 | 1.15                  |
| 20:34     | 19.13              | 1.13                | 35.99                | 1.01                  | 12.01                 | 0.90                  |
| 20:35     | 19.30              | 1.04                | 36.53                | 1.09                  | 13.35                 | 0.94                  |
| 20:36     | 19.28              | 1.07                | 45.99                | 1.01                  | 12.96                 | 1.12                  |
| 20:37     | 19.10              | 1.21                | 43.49                | 1.01                  | 15.19                 | 0.96                  |
| 20:38     | 18.95              | 1.31                | 41.78                | 1.03                  | 13.94                 | 0.96                  |
| 20:39     | 19.15              | 1.15                | 41.70                | 1.01                  | 11.95                 | 1.02                  |
| 20:40     | 19.20              | 1.12                | 50.81                | 1.01                  | 13.14                 | 1.24                  |
| 20:41     | 19.11              | 1.20                | 59.72                | 1.01                  | 13.20                 | 1.47                  |
| 20:42     | 18.94              | 1.30                | 56.01                | 1.01                  | 14.98                 | 1.44                  |
| 20:43     | 18.85              | 1.36                | 63.36                | 1.01                  | 12.54                 | 1.45                  |
| 20:44     | 19.10              | 1.21                | 73.70                | 1.02                  | 12.94                 | 1.49                  |
| 20:45     | 19.07              | 1.24                | 74.40                | 1.02                  | 13.31                 | 1.51                  |
| 20:46     | 19.06              | 1.25                | 69.47                | 1.02                  | 13.87                 | 1.43                  |
| 20:47     | 18.83              | 1.42                | 66.95                | 1.01                  | 15.50                 | 1.33                  |
| 20:48     | 18.88              | 1.38                | 71.50                | 1.01                  | 11.99                 | 1.43                  |
| 20:49     | 19.17              | 1.19                | 66.95                | 1.02                  | 12.82                 | 1.26                  |
| 20:50     | 19.12              | 1.23                | 64.43                | 1.01                  | 13.55                 | 1.23                  |
| 20:51     | 19.07              | 1.27                | 66.57                | 1.01                  | 14.52                 | 1.36                  |
| 71 MinAvg | 19.07              | 1.18                | 47.81                | 1.06                  | 13.46                 | 1.09                  |



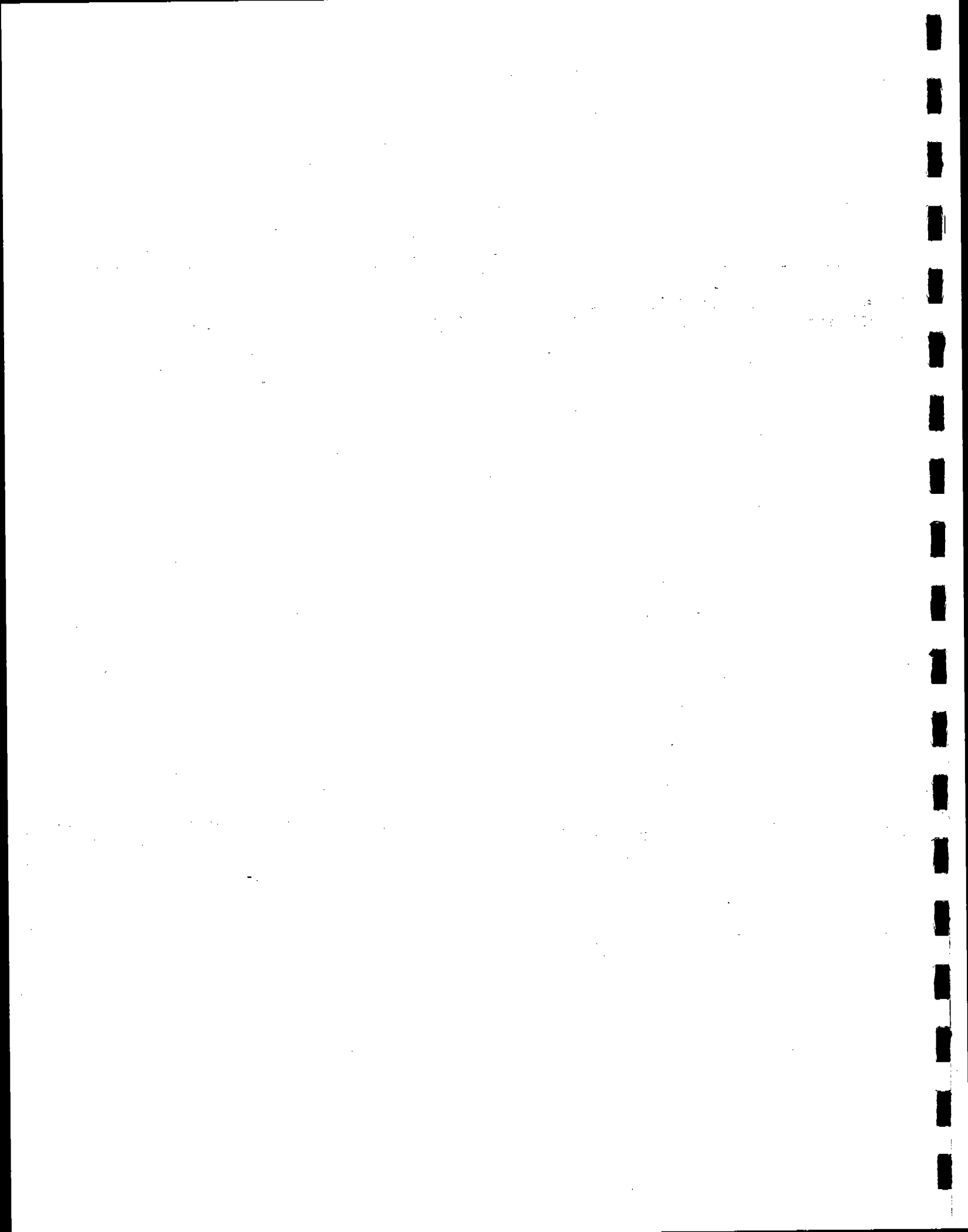
LA PACIFIC  
RTO LOCATION  
RUN 3: 19:40 - 20:10; 20:21 - 20:51  
8/30/95

Starting  
08-30-95

| Time | RTO<br>O2<br>(%dv) | RTO<br>CO2<br>(%dv) | RTO<br>CO<br>(ppmdv) | RTO<br>SO2<br>(ppmdv) | RTO<br>NOx<br>(ppmdv) | RTO<br>VOC<br>(ppmwv) |
|------|--------------------|---------------------|----------------------|-----------------------|-----------------------|-----------------------|
|------|--------------------|---------------------|----------------------|-----------------------|-----------------------|-----------------------|

Data Corrected for Calibrations

|           |       |      |       |      |       |  |
|-----------|-------|------|-------|------|-------|--|
| 71 MinAvg | 19.56 | 1.25 | 48.41 | 0.05 | 12.20 |  |
|-----------|-------|------|-------|------|-------|--|



**APPENDIX F.4**

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

**- KONUS STACK -**



LA PACIFIC DUNGANON  
 KONUS STACK  
 RUN 1: 10:45 - 11:45  
 9/12/95

Starting  
 9-12-95

| Time  | KONUS<br>O2<br>(%dv) | KONUS<br>CO2<br>(%dv) | KONUS<br>CO<br>(ppmdv) | KONUS<br>SO2<br>(ppmdv) | KONUS<br>NOx<br>(ppmdv) | KONUS<br>VOC<br>(ppmdv) |
|-------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 10:46 | 18.32                | 2.08                  | 299.30                 | -0.11                   | 23.97                   | 4.79                    |
| 10:47 | 18.55                | 1.86                  | 292.60                 | -0.34                   | 21.76                   | 5.61                    |
| 10:48 | 18.64                | 1.80                  | 330.70                 | -0.19                   | 24.97                   | 5.04                    |
| 10:49 | 18.37                | 2.00                  | 303.00                 | -0.10                   | 22.63                   | 5.48                    |
| 10:50 | 18.54                | 1.85                  | 339.90                 | -0.32                   | 21.65                   | 8.17                    |
| 10:51 | 18.87                | 1.53                  | 373.90                 | -0.39                   | 20.90                   | 8.58                    |
| 10:52 | 19.06                | 1.40                  | 422.90                 | -0.45                   | 27.11                   | 9.01                    |
| 10:53 | 18.52                | 1.87                  | 295.60                 | -0.41                   | 22.38                   | 5.44                    |
| 10:54 | 18.86                | 1.56                  | 275.50                 | -0.50                   | 20.94                   | 6.21                    |
| 10:55 | 18.93                | 1.48                  | 291.60                 | -0.45                   | 21.62                   | 8.20                    |
| 10:56 | 18.94                | 1.48                  | 379.80                 | -0.30                   | 31.92                   | 8.32                    |
| 10:57 | 18.61                | 1.80                  | 384.10                 | -0.11                   | 34.28                   | 5.48                    |
| 10:58 | 18.60                | 1.77                  | 282.60                 | -0.24                   | 31.04                   | 6.00                    |
| 10:59 | 18.75                | 1.64                  | 307.80                 | -0.23                   | 29.94                   | 6.12                    |
| 11:00 | 18.83                | 1.58                  | 267.60                 | -0.32                   | 25.92                   | 6.70                    |
| 11:01 | 19.14                | 1.29                  | 276.10                 | -0.56                   | 22.53                   | 8.60                    |
| 11:02 | 19.34                | 1.10                  | 285.60                 | -0.63                   | 21.01                   | 9.72                    |
| 11:03 | 19.41                | 1.05                  | 292.80                 | -0.58                   | 23.04                   | 10.68                   |
| 11:04 | 19.24                | 1.19                  | 297.00                 | -0.50                   | 23.94                   | 9.59                    |
| 11:05 | 19.27                | 1.15                  | 311.20                 | -0.53                   | 22.66                   | 10.43                   |
| 11:06 | 19.38                | 1.03                  | 320.40                 | -0.43                   | 20.84                   | 11.60                   |
| 11:07 | 19.47                | 0.96                  | 315.60                 | -0.51                   | 19.87                   | 12.93                   |
| 11:08 | 19.51                | 0.90                  | 341.50                 | -0.42                   | 19.94                   | 15.69                   |
| 11:09 | 19.56                | 0.87                  | 306.30                 | -0.37                   | 19.75                   | 15.23                   |
| 11:10 | 19.46                | 1.00                  | 354.60                 | -0.15                   | 25.79                   | 13.83                   |
| 11:11 | 19.13                | 1.27                  | 295.00                 | -0.03                   | 23.70                   | 11.90                   |
| 11:12 | 19.33                | 1.13                  | 335.90                 | 0.02                    | 23.93                   | 14.92                   |
| 11:13 | 19.32                | 1.09                  | 370.90                 | -0.09                   | 23.93                   | 14.44                   |
| 11:14 | 19.30                | 1.13                  | 403.60                 | -0.04                   | 25.69                   | 17.59                   |
| 11:15 | 19.16                | 1.23                  | 397.80                 | 0.14                    | 25.73                   | 17.18                   |
| 11:16 | 19.16                | 1.22                  | 368.80                 | 0.12                    | 25.77                   | 14.18                   |
| 11:17 | 19.14                | 1.25                  | 384.50                 | 0.20                    | 28.60                   | 12.45                   |
| 11:18 | 18.82                | 1.55                  | 413.80                 | 0.24                    | 32.58                   | 9.30                    |
| 11:19 | 18.68                | 1.70                  | 360.80                 | 0.25                    | 32.25                   | 7.86                    |
| 11:20 | 18.77                | 1.57                  | 333.90                 | 0.15                    | 28.45                   | 9.26                    |
| 11:21 | 18.95                | 1.41                  | 369.00                 | 0.06                    | 28.25                   | 11.96                   |
| 11:22 | 18.90                | 1.49                  | 423.10                 | 0.18                    | 35.79                   | 11.65                   |
| 11:23 | 18.25                | 2.10                  | 294.10                 | 0.43                    | 40.09                   | 4.32                    |
| 11:24 | 18.19                | 2.12                  | 288.70                 | 0.40                    | 37.19                   | 5.28                    |
| 11:25 | 18.30                | 2.00                  | 304.10                 | 0.26                    | 33.93                   | 5.70                    |
| 11:26 | 18.46                | 1.86                  | 338.50                 | 0.11                    | 32.64                   | 7.07                    |

LA PACIFIC DUNGANON  
 KONUS STACK  
 RUN 1: 10:45 - 11:45  
 9/12/95

Starting  
 09-12-95

| Time                            | KONUS<br>O2<br>(%dv) | KONUS<br>CO2<br>(%dv) | KONUS<br>CO<br>(ppmdv) | KONUS<br>SO2<br>(ppmdv) | KONUS<br>NOx<br>(ppmdv) | KONUS<br>VOC<br>(ppmdv) |
|---------------------------------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 11:27                           | 18.61                | 1.71                  | 380.20                 | 0.08                    | 34.28                   | 9.36                    |
| 11:28                           | 18.30                | 2.03                  | 358.50                 | 0.17                    | 38.47                   | 5.41                    |
| 11:29                           | 18.33                | 1.95                  | 381.40                 | 0.00                    | 29.13                   | 9.76                    |
| 11:30                           | 18.85                | 1.48                  | 419.40                 | -0.14                   | 27.71                   | 13.45                   |
| 11:31                           | 18.62                | 1.75                  | 435.20                 | 0.12                    | 40.48                   | 10.06                   |
| 11:32                           | 17.81                | 2.52                  | 287.00                 | 0.24                    | 49.67                   | 2.92                    |
| 11:33                           | 17.57                | 2.69                  | 182.70                 | 0.38                    | 41.25                   | 3.14                    |
| 11:34                           | 18.11                | 2.17                  | 309.90                 | 0.16                    | 35.30                   | 5.95                    |
| 11:35                           | 18.40                | 1.89                  | 337.60                 | 0.13                    | 32.67                   | 7.64                    |
| 11:36                           | 18.49                | 1.84                  | 342.40                 | 0.15                    | 35.04                   | 5.49                    |
| 11:37                           | 18.52                | 1.81                  | 319.70                 | 0.13                    | 32.57                   | 6.06                    |
| 11:38                           | 18.60                | 1.75                  | 321.20                 | 0.16                    | 36.53                   | 4.85                    |
| 11:39                           | 18.14                | 2.21                  | 191.20                 | 0.38                    | 39.21                   | 2.60                    |
| 11:40                           | 18.16                | 2.13                  | 209.50                 | 0.17                    | 34.82                   | 3.16                    |
| 11:41                           | 18.53                | 1.77                  | 312.00                 | -0.06                   | 29.73                   | 5.92                    |
| 11:42                           | 18.78                | 1.55                  | 351.10                 | 0.00                    | 27.78                   | 7.48                    |
| 11:43                           | 18.86                | 1.48                  | 333.40                 | 0.05                    | 26.41                   | 8.83                    |
| 11:44                           | 18.94                | 1.39                  | 361.20                 | -0.01                   | 28.13                   | 11.91                   |
| 11:45                           | 18.76                | 1.60                  | 447.90                 | 0.20                    | 38.51                   | 10.27                   |
| 60 MinAvg                       | 18.77                | 1.60                  | 331.87                 | -0.07                   | 28.94                   | 8.78                    |
| Data Corrected for Calibrations |                      |                       |                        |                         |                         |                         |
| 60 MinAvg                       | 19.00                | 1.72                  | 320.46                 | -0.13                   | 28.19                   |                         |

LA PACIFIC DUNGANON  
KONUS STACK  
RUN 2: 12:25 - 13:35  
9/12/95

Starting  
09-12-95

| Time  | KONUS<br>O2<br>(%dv) | KONUS<br>CO2<br>(%dv) | KONUS<br>CO<br>(ppmdv) | KONUS<br>SO2<br>(ppmdv) | KONUS<br>NOx<br>(ppmdv) | KONUS<br>VOC<br>(ppmdv) |
|-------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 12:26 | 18.38                | 1.84                  | 356.30                 | 0.63                    | 35.80                   | 6.86                    |
| 12:27 | 18.29                | 1.99                  | 339.80                 | 0.75                    | 40.38                   | 5.72                    |
| 12:28 | 17.77                | 2.52                  | 227.80                 | 0.83                    | 48.04                   | 2.25                    |
| 12:29 | 17.56                | 2.64                  | 203.50                 | 0.87                    | 42.28                   | 3.41                    |
| 12:30 | 18.03                | 2.20                  | 320.80                 | 0.80                    | 37.03                   | 5.21                    |
| 12:31 | 18.34                | 1.92                  | 362.10                 | 0.61                    | 36.04                   | 6.38                    |
| 12:32 | 18.20                | 2.10                  | 336.00                 | 0.86                    | 44.72                   | 3.89                    |
| 12:33 | 17.78                | 2.47                  | 242.30                 | 0.79                    | 42.68                   | 2.89                    |
| 12:34 | 17.98                | 2.29                  | 267.30                 | 0.72                    | 41.80                   | 3.43                    |
| 12:35 | 17.96                | 2.28                  | 306.20                 | 0.78                    | 39.90                   | 5.02                    |
| 12:36 | 17.95                | 2.31                  | 377.90                 | 0.78                    | 43.54                   | 4.43                    |
| 12:37 | 17.67                | 2.58                  | 300.50                 | 0.89                    | 50.16                   | 2.27                    |
| 12:38 | 17.35                | 2.87                  | 144.00                 | 0.87                    | 51.90                   | 1.49                    |
| 12:39 | 17.31                | 2.91                  | 127.20                 | 0.90                    | 52.89                   | 1.43                    |
| 12:40 | 17.36                | 2.84                  | 147.60                 | 0.92                    | 49.58                   | 1.69                    |
| 12:41 | 17.47                | 2.75                  | 129.80                 | 0.96                    | 52.33                   | 1.54                    |
| 12:42 | 17.18                | 3.05                  | 94.90                  | 0.94                    | 56.97                   | 1.49                    |
| 12:43 | 16.80                | 3.39                  | 86.30                  | 1.01                    | 52.38                   | 1.65                    |
| 12:44 | 17.14                | 3.08                  | 106.00                 | 0.88                    | 56.05                   | 1.49                    |
| 12:45 | 17.17                | 2.99                  | 116.10                 | 0.85                    | 46.82                   | 1.74                    |
| 12:46 | 17.68                | 2.52                  | 204.80                 | 0.81                    | 45.65                   | 2.16                    |
| 12:47 | 17.65                | 2.54                  | 231.00                 | 0.78                    | 45.18                   | 2.39                    |
| 12:48 | 17.56                | 2.63                  | 175.80                 | 0.61                    | 46.85                   | 2.00                    |
| 12:49 | 17.47                | 2.69                  | 189.40                 | 0.67                    | 41.95                   | 2.51                    |
| 12:50 | 17.86                | 2.32                  | 246.60                 | 0.61                    | 38.18                   | 3.33                    |
| 12:51 | 18.02                | 2.18                  | 256.40                 | 0.64                    | 39.48                   | 3.49                    |
| 12:52 | 17.93                | 2.27                  | 268.70                 | 0.70                    | 41.42                   | 3.23                    |
| 12:53 | 17.76                | 2.44                  | 209.00                 | 0.57                    | 47.13                   | 2.09                    |
| 12:54 | 17.43                | 2.75                  | 169.00                 | 0.66                    | 47.56                   | 1.71                    |
| 12:55 | 17.53                | 2.64                  | 173.90                 | 0.66                    | 44.74                   | 2.10                    |
| 12:56 | 17.58                | 2.59                  | 182.60                 | 0.59                    | 42.42                   | 2.54                    |
| 12:57 | 17.57                | 2.63                  | 210.90                 | 0.61                    | 44.29                   | 2.51                    |
| 12:58 | 17.40                | 2.74                  | 183.30                 | 0.72                    | 46.29                   | 1.55                    |
| 12:59 | 17.55                | 2.59                  | 158.80                 | 0.75                    | 43.43                   | 1.76                    |
| 13:00 | 17.81                | 2.34                  | 234.00                 | 0.68                    | 41.32                   | 3.17                    |
| 13:01 | 17.72P               | 2.39P                 | 268.10P                | 0.54P                   | 40.86P                  | 2.16P                   |
| 13:02 | 17.64P               | 2.42P                 | 237.40P                | 0.48P                   | 97.50P                  | 1.51P                   |
| 13:03 | 17.64P               | 2.41P                 | 237.50P                | 0.54P                   | 120.20P                 | 1.58P                   |
| 13:04 | 17.64P               | 2.41P                 | 238.90P                | 0.56P                   | 58.17P                  | 2.02P                   |
| 13:05 | 17.65P               | 2.42P                 | 238.90P                | 0.47P                   | 31.22P                  | 1.70P                   |
| 13:06 | 17.79P               | 2.33P                 | 226.80P                | 0.30P                   | 39.61P                  | 2.90P                   |

LA PACIFIC DUNGANON  
 KONUS STACK  
 RUN 2: 12:25 - 13:35  
 9/12/95

Starting  
 09-12-95

| Time      | KONUS<br>O2<br>(%dv) | KONUS<br>CO2<br>(%dv) | KONUS<br>CO<br>(ppmdv) | KONUS<br>SO2<br>(ppmdv) | KONUS<br>NOx<br>(ppmdv) | KONUS<br>VOC<br>(ppmdv) |
|-----------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 13:07     | 17.84P               | 2.32P                 | 268.50P                | 0.44P                   | 40.23P                  | 3.22P                   |
| 13:08     | 17.92P               | 2.24P                 | 220.00P                | 0.47P                   | 41.80P                  | 2.27P                   |
| 13:09     | 17.79P               | 2.33P                 | 243.20P                | 0.56P                   | 37.82P                  | 4.44P                   |
| 13:10     | 17.91P               | 2.22P                 | 301.20P                | 0.61P                   | 41.74P                  | 2.80P                   |
| 13:11     | 17.79                | 2.32                  | 211.50                 | 0.55                    | 35.55                   | 3.29                    |
| 13:12     | 18.09                | 2.01                  | 290.10                 | 0.51                    | 33.80                   | 5.80                    |
| 13:13     | 18.28                | 1.86                  | 336.90                 | 0.40                    | 32.03                   | 6.34                    |
| 13:14     | 18.38                | 1.77                  | 275.70                 | 0.59                    | 33.04                   | 4.97                    |
| 13:15     | 18.27                | 1.86                  | 262.20                 | 0.41                    | 32.74                   | 4.95                    |
| 13:16     | 18.40                | 1.74                  | 286.00                 | 0.44                    | 29.28                   | 6.12                    |
| 13:17     | 18.61                | 1.55                  | 397.70                 | 0.42                    | 31.20                   | 9.04                    |
| 13:18     | 18.47                | 1.74                  | 351.10                 | 0.57                    | 34.12                   | 5.40                    |
| 13:19     | 18.38                | 1.82                  | 317.70                 | 0.77                    | 36.50                   | 4.82                    |
| 13:20     | 18.21                | 1.97                  | 310.10                 | 0.76                    | 35.60                   | 5.10                    |
| 13:21     | 18.19                | 1.97                  | 307.90                 | 0.68                    | 37.42                   | 4.38                    |
| 13:22     | 17.99                | 2.18                  | 261.00                 | 0.64                    | 38.90                   | 3.97                    |
| 13:23     | 18.08                | 2.08                  | 319.20                 | 0.59                    | 36.63                   | 5.20                    |
| 13:24     | 18.24                | 1.93                  | 327.90                 | 0.68                    | 32.90                   | 5.99                    |
| 13:25     | 18.36                | 1.83                  | 382.80                 | 0.63                    | 34.35                   | 6.05                    |
| 13:26     | 18.32                | 1.88                  | 344.20                 | 0.71                    | 37.40                   | 5.11                    |
| 13:27     | 17.88                | 2.34                  | 257.50                 | 0.82                    | 45.09                   | 2.58                    |
| 13:28     | 17.19                | 2.99                  | 156.00                 | 0.87                    | 44.85                   | 1.99                    |
| 13:29     | 17.44                | 2.70                  | 261.90                 | 0.82                    | 40.46                   | 3.81                    |
| 13:30     | 17.81                | 2.39                  | 264.20                 | 0.75                    | 41.26                   | 2.99                    |
| 13:31     | 17.86                | 2.33                  | 289.60                 | 0.77                    | 40.87                   | 3.91                    |
| 13:32     | 17.93                | 2.27                  | 325.00                 | 0.77                    | 40.63                   | 3.88                    |
| 13:33     | 18.00                | 2.23                  | 296.30                 | 0.81                    | 42.83                   | 2.87                    |
| 13:34     | 17.87                | 2.33                  | 264.70                 | 0.78                    | 39.23                   | 4.05                    |
| 13:35     | 18.03                | 2.17                  | 326.60                 | 0.69                    | 36.65                   | 4.95                    |
| 70 MinAvg | 17.84                | 2.35                  | 251.84                 | 0.72                    | 41.68                   | 3.64                    |



LA PACIFIC DUNGANON  
KONUS STACK  
RUN 2: 12:25 - 13:35  
9/12/95

Starting  
09-12-95

| Time | KONUS<br>O2<br>(%dv) | KONUS<br>CO2<br>(%dv) | KONUS<br>CO<br>(ppmdv) | KONUS<br>SO2<br>(ppmdv) | KONUS<br>NOx<br>(ppmdv) | KONUS<br>VOC<br>(ppmdv) |
|------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|
|------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|

Data Corrected for Calibrations

|          |       |      |        |      |       |  |
|----------|-------|------|--------|------|-------|--|
| 0 MinAvg | 18.14 | 2.49 | 241.52 | 0.74 | 40.39 |  |
|----------|-------|------|--------|------|-------|--|

LA PACIFIC DUNGANON  
 KONUS STACK  
 RUN 3: 14:06 - 15:14  
 9/12/95

Starting  
 09-12-95

| Time  | KONUS<br>O2<br>(%dv) | KONUS<br>CO2<br>(%dv) | KONUS<br>CO<br>(ppmdv) | KONUS<br>SO2<br>(ppmdv) | KONUS<br>NOx<br>(ppmdv) | KONUS<br>VOC<br>(ppmdv) |
|-------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 14:07 | 18.20                | 2.21                  | 301.20                 | 1.26                    | 40.23                   | 3.66                    |
| 14:08 | 18.26                | 2.25                  | 299.00                 | 1.36                    | 40.21                   | 2.22                    |
| 14:09 | 18.50                | 2.55                  | 297.56                 | 1.37                    | 41.25                   | 2.25                    |
| 14:10 | 18.30                | 2.24                  | 295.60                 | 1.35                    | 41.36                   | 2.36                    |
| 14:11 | 18.31                | 2.60                  | 123.30                 | 1.30                    | 40.33                   | 3.36                    |
| 14:12 | 18.22                | 2.00                  | 122.50                 | 1.25                    | 39.54                   | 3.45                    |
| 14:13 | 18.42                | 2.58                  | 122.30                 | 1.20                    | 38.45                   | 4.58                    |
| 14:14 | 18.33                | 2.60                  | 245.30                 | 1.56                    | 37.25                   | 7.80                    |
| 14:15 | 18.42                | 2.52                  | 248.80                 | 2.01                    | 36.22                   | 4.22                    |
| 14:16 | 18.21                | 2.25                  | 211.50                 | 2.00                    | 37.46                   | 6.32                    |
| 14:17 | 18.11                | 2.69                  | 211.40                 | 1.98                    | 37.40                   | 9.54                    |
| 14:18 | 18.10                | 2.40                  | 215.90                 | 1.99                    | 38.20                   | 2.00                    |
| 14:19 | 18.09                | 2.11                  | 245.00                 | 1.65                    | 38.12                   | 1.36                    |
| 14:20 | 18.02                | 2.54                  | 256.00                 | 1.45                    | 38.90                   | 2.28                    |
| 14:21 | 18.35                | 2.66                  | 256.80                 | 1.36                    | 39.68                   | 2.14                    |
| 14:22 | 18.25                | 2.54                  | 289.80                 | 1.25                    | 39.45                   | 2.45                    |
| 14:23 | 18.11                | 2.32                  | 252.80                 | 1.32                    | 39.25                   | 2.69                    |
| 14:24 | 18.02                | 2.36                  | 254.90                 | 1.25                    | 40.12                   | 2.50                    |
| 14:25 | 18.33                | 2.54                  | 277.80                 | 1.20                    | 40.56                   | 2.35                    |
| 14:26 | 18.24                | 2.36                  | 253.50                 | 1.33                    | 40.39                   | 2.68                    |
| 14:27 | 18.11                | 2.50                  | 301.20                 | 1.52                    | 40.25                   | 2.50                    |
| 14:28 | 18.05                | 2.24                  | 305.80                 | 1.20                    | 40.23                   | 2.56                    |
| 14:29 | 18.01                | 2.30                  | 309.60                 | 1.45                    | 40.58                   | 2.30                    |
| 14:30 | 17.99                | 2.21                  | 311.40                 | 1.62                    | 40.77                   | 2.49                    |
| 14:31 | 17.99                | 2.55                  | 311.00                 | 1.58                    | 40.67                   | 2.60                    |
| 14:32 | 17.88                | 2.58                  | 312.50                 | 1.50                    | 40.24                   | 2.54                    |
| 14:33 | 18.90                | 2.29                  | 322.20                 | 1.69                    | 40.25                   | 5.50                    |
| 14:34 | 17.89                | 2.25                  | 110.20                 | 1.57                    | 40.99                   | 5.36                    |
| 14:35 | 18.02                | 2.24                  | 132.30                 | 1.59                    | 40.25                   | 5.24                    |
| 14:36 | 17.98P               | 2.25P                 | 278.90P                | 1.56P                   | 40.28P                  | 7.21P                   |
| 14:37 | 17.88P               | 2.26P                 | 214.60P                | 1.12P                   | 45.66P                  | 6.65P                   |
| 14:38 | 17.84P               | 2.24P                 | 283.50P                | 1.26P                   | 44.22P                  | 6.66P                   |
| 14:39 | 17.66P               | 2.40P                 | 272.60P                | 1.58P                   | 44.12P                  | 5.20P                   |
| 14:40 | 17.32P               | 2.66P                 | 302.20P                | 1.50P                   | 44.80P                  | 5.30P                   |
| 14:41 | 17.90P               | 2.57P                 | 255.60P                | 1.59P                   | 44.50P                  | 1.40P                   |
| 14:42 | 18.30P               | 2.25P                 | 248.90P                | 1.50P                   | 42.30P                  | 2.65P                   |
| 14:43 | 18.08P               | 2.45P                 | 274.50P                | 1.25P                   | 42.90P                  | 2.69P                   |
| 14:44 | 17.47P               | 2.58P                 | 240.20P                | 1.13P                   | 42.16P                  | 3.97P                   |
| 14:45 | 17.56                | 2.49                  | 260.20                 | 1.08                    | 36.66                   | 4.37                    |
| 14:46 | 17.89                | 2.19                  | 288.10                 | 0.94                    | 34.40                   | 5.23                    |
| 14:47 | 18.23                | 1.90                  | 326.50                 | 1.00                    | 32.19                   | 6.81                    |

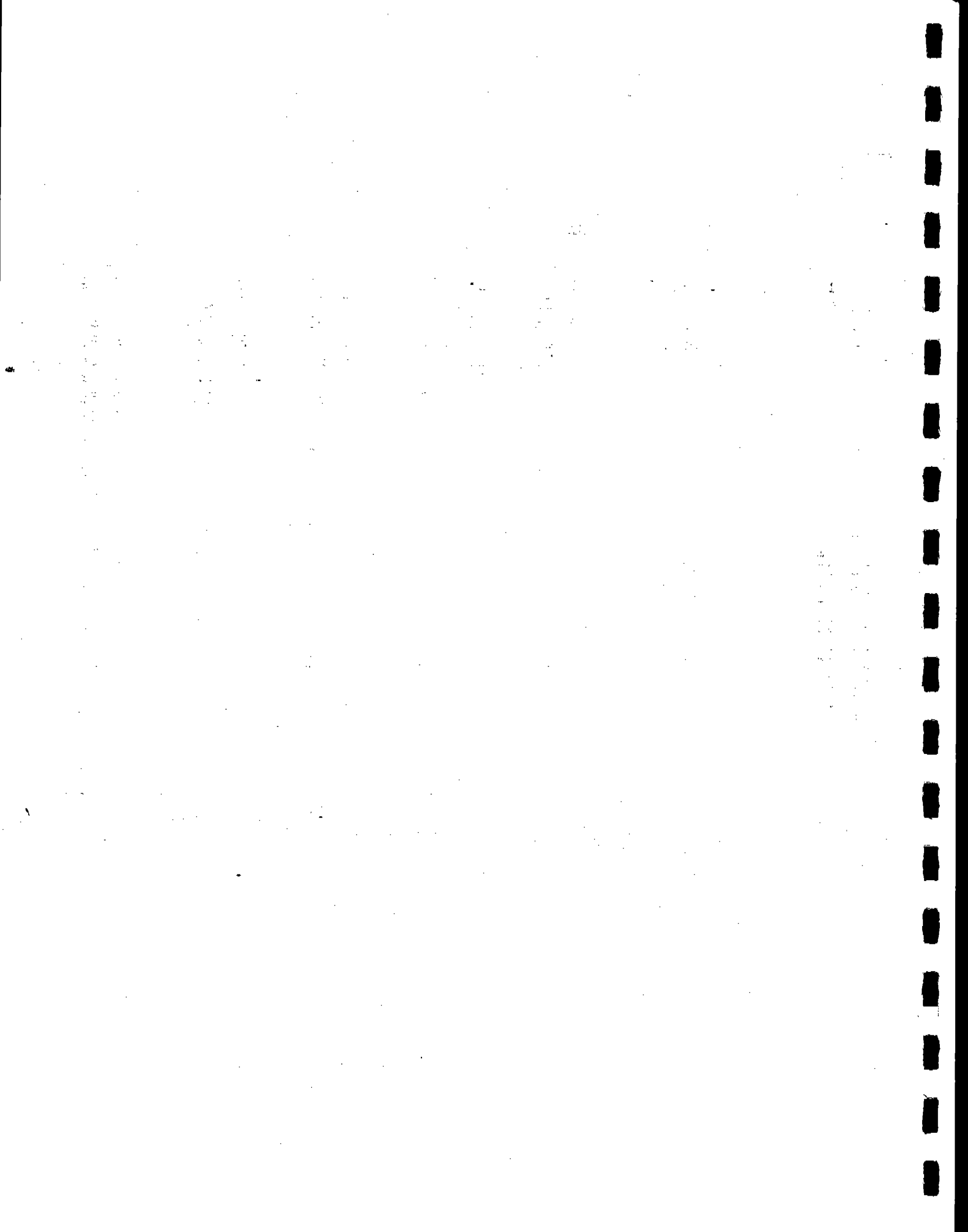
LA PACIFIC DUNGANON  
 KONUS STACK  
 RUN 3: 14:06 - 15:14  
 9/12/95

Starting  
 9-12-95

| Time     | KONUS<br>O2<br>(%dv) | KONUS<br>CO2<br>(%dv) | KONUS<br>CO<br>(ppmdv) | KONUS<br>SO2<br>(ppmdv) | KONUS<br>NOx<br>(ppmdv) | KONUS<br>VOC<br>(ppmdv) |
|----------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 14:48    | 18.40                | 1.75                  | 266.60                 | 0.88                    | 30.77                   | 6.73                    |
| 14:49    | 18.46                | 1.68                  | 371.40                 | 0.90                    | 35.49                   | 6.99                    |
| 14:50    | 18.27                | 1.86                  | 335.00                 | 1.03                    | 37.09                   | 5.87                    |
| 14:51    | 18.11                | 2.02                  | 287.20                 | 1.04                    | 33.34                   | 5.98                    |
| 14:52    | 18.42                | 1.70                  | 264.10                 | 0.94                    | 30.69                   | 7.64                    |
| 14:53    | 18.44                | 1.72                  | 302.20                 | 0.99                    | 36.44                   | 7.54                    |
| 14:54    | 17.99                | 2.14                  | 270.90                 | 1.18                    | 49.32                   | 3.65                    |
| 14:55    | 17.35                | 2.71                  | 170.00                 | 1.14                    | 46.54                   | 1.98                    |
| 14:56    | 17.68                | 2.39                  | 279.30                 | 1.15                    | 42.67                   | 3.88                    |
| 14:57    | 17.77                | 2.34                  | 312.30                 | 1.17                    | 49.16                   | 2.40                    |
| 14:58    | 17.16                | 2.92                  | 119.10                 | 1.17                    | 50.17                   | 1.14                    |
| 14:59    | 17.35                | 2.72                  | 143.60                 | 1.21                    | 46.58                   | 1.40                    |
| 15:00    | 17.66                | 2.43                  | 257.00                 | 1.18                    | 44.58                   | 2.74                    |
| 15:01    | 17.55                | 2.62                  | 189.50                 | 1.32                    | 51.61                   | 1.27                    |
| 15:02    | 17.45                | 2.61                  | 197.70                 | 1.16                    | 41.83                   | 2.49                    |
| 15:03    | 17.98                | 2.13                  | 284.00                 | 1.21                    | 43.31                   | 2.81                    |
| 15:04    | 17.55                | 2.56                  | 230.20                 | 1.21                    | 46.21                   | 1.89                    |
| 15:05    | 17.54                | 2.53                  | 209.40                 | 1.18                    | 43.51                   | 2.10                    |
| 15:06    | 17.70                | 2.40                  | 227.20                 | 1.23                    | 46.28                   | 2.32                    |
| 15:07    | 17.38                | 2.71                  | 189.80                 | 1.27                    | 44.90                   | 1.84                    |
| 15:08    | 17.55                | 2.54                  | 228.60                 | 1.18                    | 47.25                   | 2.13                    |
| 15:09    | 17.36                | 2.73                  | 191.30                 | 1.21                    | 49.14                   | 1.39                    |
| 15:10    | 17.40                | 2.66                  | 204.40                 | 1.14                    | 45.19                   | 2.07                    |
| 15:11    | 17.58                | 2.50                  | 223.70                 | 1.08                    | 44.21                   | 2.04                    |
| 15:12    | 17.94                | 2.14                  | 299.10                 | 0.95                    | 37.19                   | 4.47                    |
| 15:13    | 18.25                | 1.87                  | 349.30                 | 1.00                    | 36.55                   | 4.83                    |
| 15:14    | 18.31                | 1.82                  | 325.50                 | 0.94                    | 38.68                   | 4.08                    |
| 6 MinAvg | 18.00                | 2.34                  | 250.85                 | 1.29                    | 40.69                   | 3.58                    |

Data Corrected for Calibrations

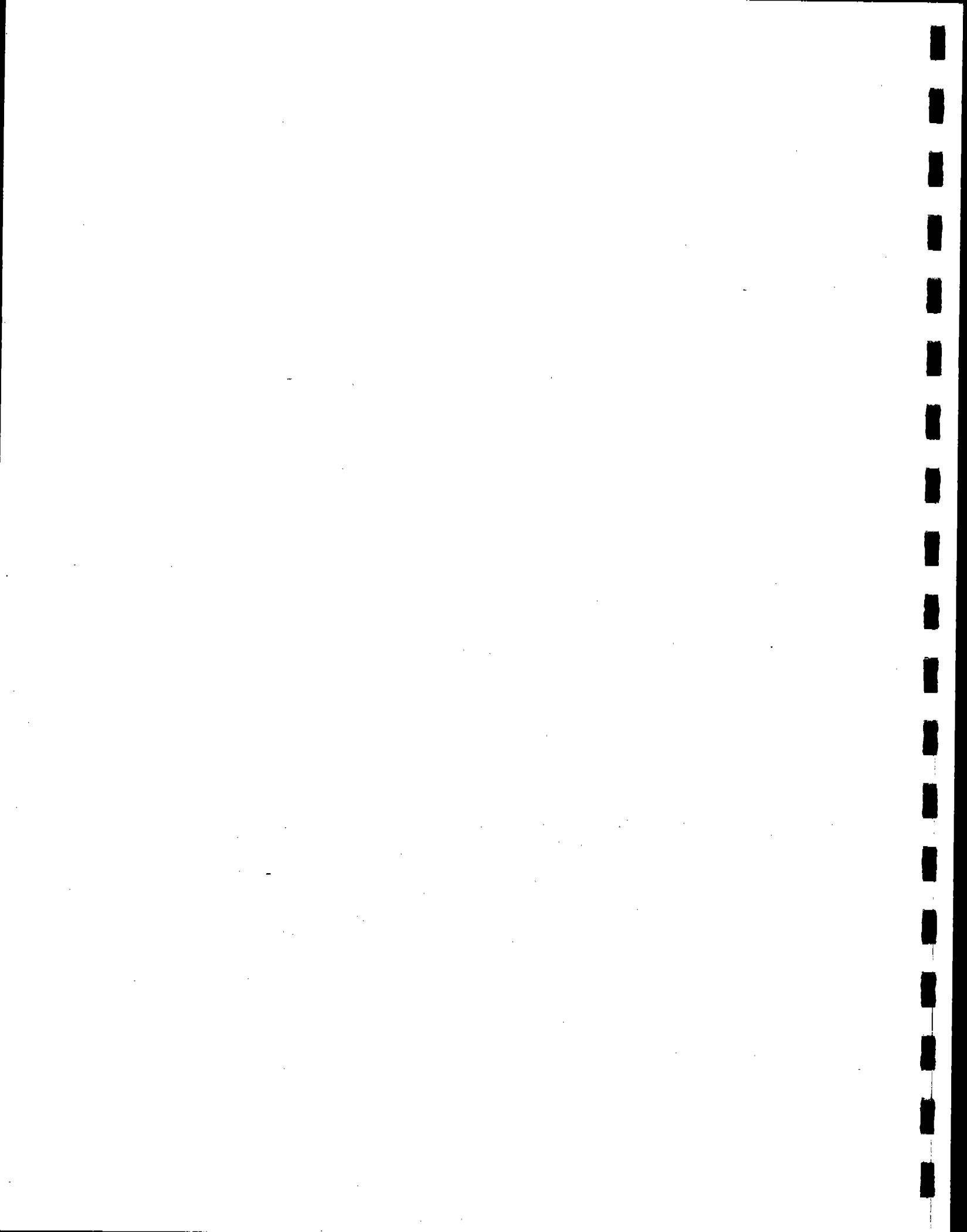
6 MinAvg      18.42      2.47      242.21      1.29      38.87



APPENDIX G

DATA AND RESULTS FOR EPA METHODS 2, 3, AND 4 TESTING

- RTO STACK -  
- 09/13/95 -



RUN NUMBER

RTO-M2-R1

Date 09/13/93  
 Start Time 11:25  
 End Time 12:05  
 Stack Diam. 96 inches  
 Meter Box Gamma 0.9907  
 Meter Box dH@ 1.87099  
 Barometric 28.85 in.Hg  
 Cp 0.834  
 Test Duration 30 minutes

METHOD 4 DATA

|       | INIT.<br>(ml) | FINAL<br>(ml) | NET<br>(ml) |
|-------|---------------|---------------|-------------|
| IMP.1 | 100.0         | 120.0         | 20.0        |
| IMP.2 | 100.0         | 103.0         | 3.0         |
| IMP.3 | 0.0           | 0.0           | 0.0         |
| IMP.4 |               |               | 0.0         |
| IMP.5 |               |               | 0.0         |
| IMP.6 |               |               | 0.0         |
| IMP.7 |               |               | 0.0         |
| TOTAL | 200.0         | 223.0         | 23.0        |
| S.G.  | 200.0         | 206.0         | 6.0         |

METHOD 1-4 RESULTS

Metered Volume 28.996 dcf  
 Volume @ Std.Cond. 26.090 dscf  
 % Water 4.97 %  
 Velocity 48.92 ft/sec  
 Actual Flow 147539 acfm  
 Std. Flow 108719 scfm  
 Dry Std. Flow 103312 dscfm

METHOD 3 DATA

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 19.0 | Md  | 29.02 |
| %CO2   | 1.6  | Ms  | 28.47 |
| %CO    | 0.0  | Ps  | 28.82 |
| %N2    | 79.4 | Fo  | 1.187 |
| O2+CO2 | 20.6 | %EA | 969   |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER             | METER           | TEMPERATURE      |
|-------|----------------|-------------------|---------------|---------------|-------------------|-----------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf)   | INLET<br>(DegF) | OUTLET<br>(DegF) |
| 1     | 233            | -0.33             | 0.60          | 1.87          | 655.083           | 98              | 98               |
| 2     | 234            | -0.37             | 0.60          | 1.87          | 684.079           | 108             | 108              |
| 3     | 236            |                   | 0.61          |               |                   |                 |                  |
| 4     | 237            |                   | 0.58          |               |                   |                 |                  |
| 5     | 238            |                   | 0.60          |               |                   |                 |                  |
| 6     | 240            |                   | 0.55          |               |                   |                 |                  |
| 7     | 240            |                   | 0.58          |               |                   |                 |                  |
| 8     | 240            |                   | 0.60          |               |                   |                 |                  |
| 9     | 237            |                   | 0.60          |               |                   |                 |                  |
| 10    | 233            |                   | 0.55          |               |                   |                 |                  |
| 11    | 229            |                   | 0.53          |               |                   |                 |                  |
| 12    | 218            |                   | 0.51          |               |                   |                 |                  |
| 13    | 226            |                   | 0.56          |               |                   |                 |                  |
| 14    | 212            |                   | 0.62          |               |                   |                 |                  |
| 15    | 228            |                   | 0.60          |               |                   |                 |                  |
| 16    | 230            |                   | 0.61          |               |                   |                 |                  |
| 17    | 232            |                   | 0.61          |               |                   |                 |                  |
| 18    | 233            |                   | 0.59          |               |                   |                 |                  |
| 19    | 234            |                   | 0.59          |               |                   |                 |                  |
| 20    | 230            |                   | 0.56          |               |                   |                 |                  |
| 21    | 227            |                   | 0.56          |               |                   |                 |                  |
| 22    | 225            |                   | 0.50          |               |                   |                 |                  |
| 23    | 224            |                   | 0.40          |               |                   |                 |                  |
| 24    | 211            |                   | 0.36          |               |                   |                 |                  |
| AVG.  | 230            | -0.35             | 0.56          | 1.87          | 684.079<br>28.996 | 103             |                  |

**RUN NUMBER**

**RTO-M2-R2**

Date 09/13/93  
 Start Time 13:00  
 End Time 13:30  
 Stack Diam. 96 inches  
 Meter Box Gamma 0.9907  
 Meter Box dH@ 1.87099  
 Barometric 28.85 in.Hg  
 Cp 0.834  
 Test Duration 30 minutes

**METHOD 4 DATA**

|       | INIT. | FINAL | NET  |
|-------|-------|-------|------|
|       | (ml)  | (ml)  | (ml) |
| IMP.1 | 120.0 | 150.0 | 30.0 |
| IMP.2 | 100.0 | 101.0 | 1.0  |
| IMP.3 | 0.0   | 0.0   | 0.0  |
| IMP.4 |       |       | 0.0  |
| IMP.5 |       |       | 0.0  |
| IMP.6 |       |       | 0.0  |
| IMP.7 |       |       | 0.0  |
| TOTAL | 220.0 | 251.0 | 31.0 |
| S.G.  | 200.0 | 204.2 | 4.2  |

**METHOD 1-4 RESULTS**

Metered Volume 23.569 dcf  
 Volume @ Std.Cond. 21.142 dscf  
 % Water 7.27 %  
 Velocity 48.97 ft/sec  
 Actual Flow 147700 acfm  
 Std. Flow 107733 scfm  
 Dry Std. Flow 99902 dscfm

**METHOD 3 DATA**

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 19.2 | Md  | 28.99 |
| %CO2   | 1.4  | Ms  | 28.19 |
| %CO    | 0.0  | Ps  | 28.82 |
| %N2    | 79.4 | Fo  | 1.214 |
| O2+CO2 | 20.6 | %EA | 1090  |

| POINT | STACK  | STATIC  | DP      | DH      | METER VOLUME | METER TEMPERATURE |        |
|-------|--------|---------|---------|---------|--------------|-------------------|--------|
|       | TEMP   |         |         |         |              | INLET             | OUTLET |
|       | (DegF) | (in.WC) | (in.WC) | (in.WC) | (dcf)        | (DegF)            | (DegF) |
| 1     | 232    | -0.34   | 0.39    | 1.87    | 684.196      | 105               | 103    |
| 2     | 236    | -0.35   | 0.49    | 1.87    | 707.765      | 107               | 104    |
| 3     | 239    |         | 0.51    |         |              |                   |        |
| 4     | 242    |         | 0.56    |         |              |                   |        |
| 5     | 240    |         | 0.50    |         |              |                   |        |
| 6     | 240    |         | 0.54    |         |              |                   |        |
| 7     | 240    |         | 0.52    |         |              |                   |        |
| 8     | 240    |         | 0.60    |         |              |                   |        |
| 9     | 241    |         | 0.61    |         |              |                   |        |
| 10    | 238    |         | 0.63    |         |              |                   |        |
| 11    | 231    |         | 0.61    |         |              |                   |        |
| 12    | 225    |         | 0.60    |         |              |                   |        |
| 13    | 242    |         | 0.45    |         |              |                   |        |
| 14    | 242    |         | 0.51    |         |              |                   |        |
| 15    | 249    |         | 0.54    |         |              |                   |        |
| 16    | 241    |         | 0.58    |         |              |                   |        |
| 17    | 239    |         | 0.59    |         |              |                   |        |
| 18    | 239    |         | 0.55    |         |              |                   |        |
| 19    | 239    |         | 0.57    |         |              |                   |        |
| 20    | 240    |         | 0.59    |         |              |                   |        |
| 21    | 238    |         | 0.58    |         |              |                   |        |
| 22    | 238    |         | 0.58    |         |              |                   |        |
| 23    | 225    |         | 0.57    |         |              |                   |        |
| 24    | 221    |         | 0.55    |         |              |                   |        |
| AVG.  | 237    | -0.35   | 0.55    | 1.87    | 707.765      | 105               |        |



**RUN NUMBER**

**RTO-M2-R3**

Date 09/13/93  
 Start Time 14:12  
 End Time 14:42  
 Stack Diam. 96 inches  
 Meter Box Gamma 0.9907  
 Meter Box dH@ 1.87099  
 Barometric 28.85 in.Hg  
 Cp 0.834  
 Test Duration 30 minutes

**METHOD 4 DATA**

|       | INIT.<br>(m) | FINAL<br>(m) | NET<br>(m) |
|-------|--------------|--------------|------------|
| IMP.1 | 142.0        | 186.0        | 44.0       |
| IMP.2 | 100.0        | 102.0        | 2.0        |
| IMP.3 | 0.0          | 0.0          | 0.0        |
| IMP.4 |              |              | 0.0        |
| IMP.5 |              |              | 0.0        |
| IMP.6 |              |              | 0.0        |
| IMP.7 |              |              | 0.0        |
| TOTAL | 242.0        | 288.0        | 46.0       |
| S.G.  | 200.0        | 206.1        | 6.1        |

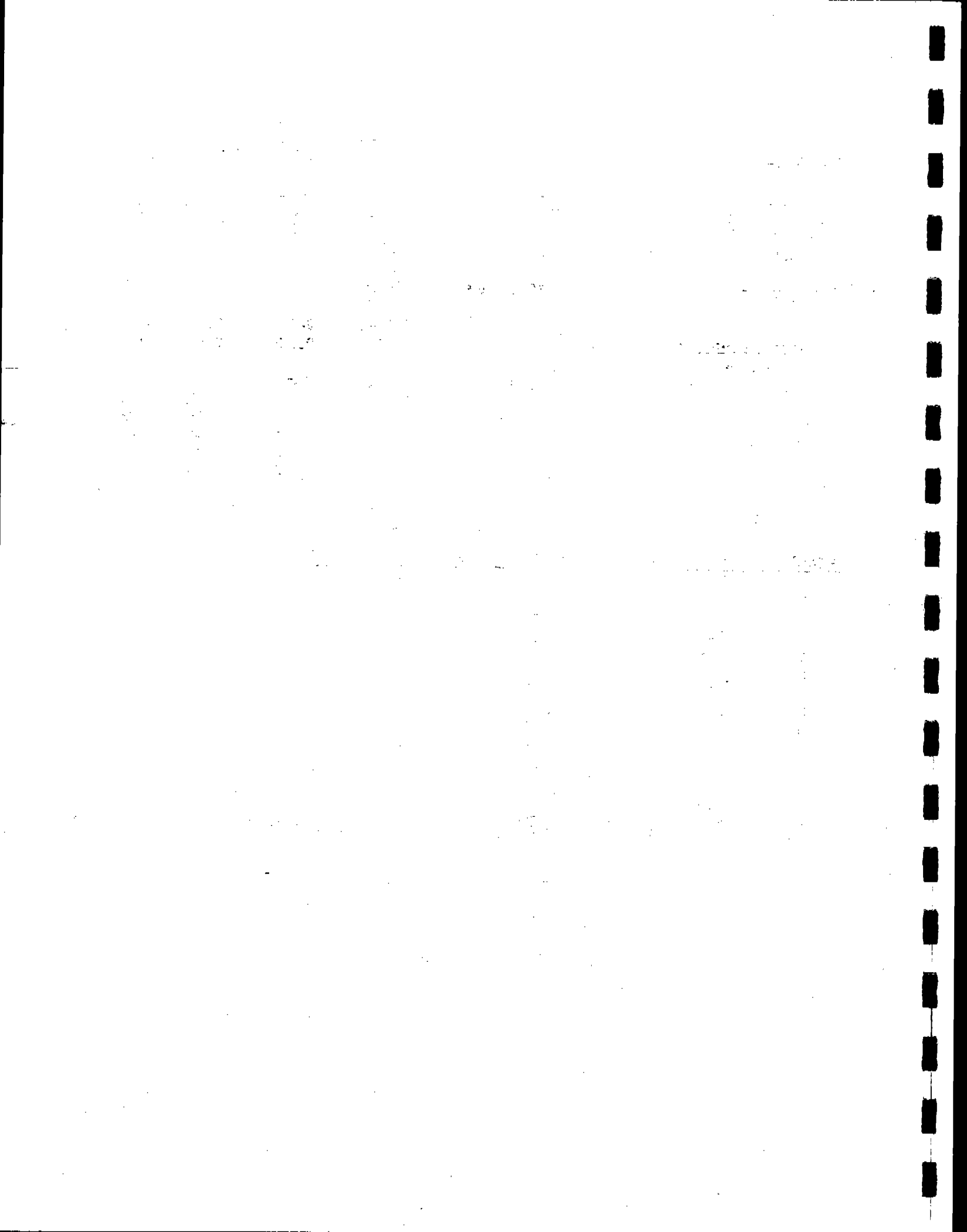
**METHOD 1-4 RESULTS**

Metered Volume 24.210 dcf  
 Volume @ Std.Cond. 21.755 dscf  
 % Water 10.13 %  
 Velocity 50.17 ft/sec  
 Actual Flow 151305 acfm  
 Std. Flow 110815 scfm  
 Dry Std. Flow 99587 dscfm

**METHOD 3 DATA**

|        |      |     |       |
|--------|------|-----|-------|
| %O2    | 19.2 | Md  | 28.98 |
| %CO2   | 1.3  | Ms  | 27.86 |
| %CO    | 0.0  | Ps  | 28.83 |
| %N2    | 79.5 | Fo  | 1.308 |
| O2+CO2 | 20.5 | %EA | 1074  |

| POINT | STACK          | STATIC<br>(in.WC) | DP<br>(in.WC) | DH<br>(in.WC) | METER             | METER TEMPERATURE |                  |
|-------|----------------|-------------------|---------------|---------------|-------------------|-------------------|------------------|
|       | TEMP<br>(DegF) |                   |               |               | VOLUME<br>(dcf)   | INLET<br>(DegF)   | OUTLET<br>(DegF) |
| 1     | 245            | -0.21             | 0.60          | 1.87          | 707.871           | 102               | 101              |
| 2     | 242            | -0.42             | 0.60          | 1.87          | 732.081           | 110               | 102              |
| 3     | 244            |                   | 0.59          |               |                   |                   |                  |
| 4     | 245            |                   | 0.61          |               |                   |                   |                  |
| 5     | 245            |                   | 0.63          |               |                   |                   |                  |
| 6     | 243            |                   | 0.59          |               |                   |                   |                  |
| 7     | 242            |                   | 0.57          |               |                   |                   |                  |
| 8     | 233            |                   | 0.59          |               |                   |                   |                  |
| 9     | 228            |                   | 0.57          |               |                   |                   |                  |
| 10    | 223            |                   | 0.55          |               |                   |                   |                  |
| 11    | 219            |                   | 0.51          |               |                   |                   |                  |
| 12    | 216            |                   | 0.47          |               |                   |                   |                  |
| 13    | 239            |                   | 0.66          |               |                   |                   |                  |
| 14    | 240            |                   | 0.63          |               |                   |                   |                  |
| 15    | 242            |                   | 0.62          |               |                   |                   |                  |
| 16    | 242            |                   | 0.64          |               |                   |                   |                  |
| 17    | 242            |                   | 0.58          |               |                   |                   |                  |
| 18    | 242            |                   | 0.61          |               |                   |                   |                  |
| 19    | 241            |                   | 0.60          |               |                   |                   |                  |
| 20    | 236            |                   | 0.58          |               |                   |                   |                  |
| 21    | 231            |                   | 0.58          |               |                   |                   |                  |
| 22    | 222            |                   | 0.52          |               |                   |                   |                  |
| 23    | 217            |                   | 0.44          |               |                   |                   |                  |
| 24    | 211            |                   | 0.43          |               |                   |                   |                  |
| AVG.  | 235            | -0.32             | 0.57          | 1.87          | 732.081<br>24.210 |                   | 104              |



APPENDIX H

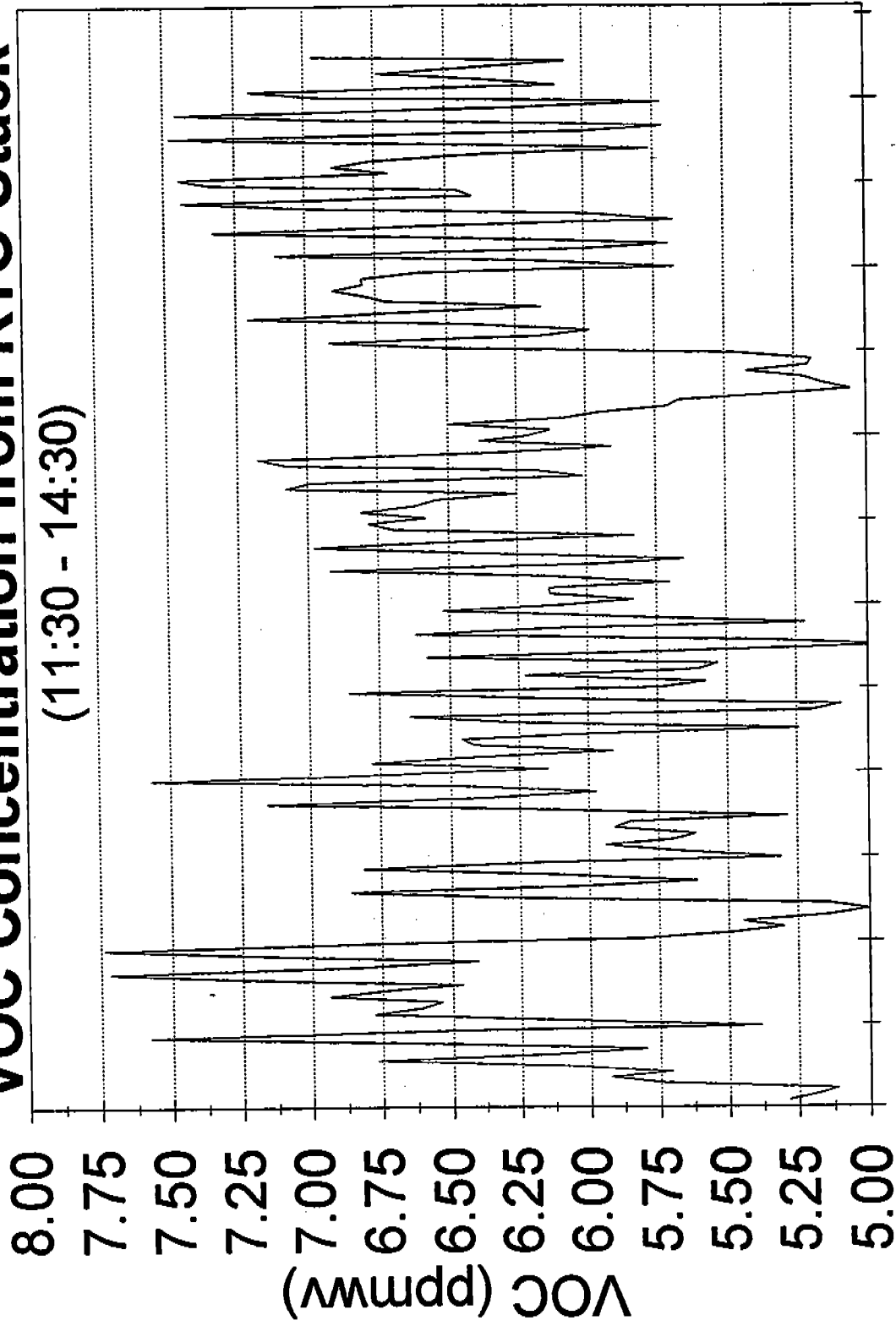
DATA AND RESULTS FOR EPA METHOD 25A TESTING

- RTO STACK -  
- 09/13/95 -



# VOC Concentration from RTO Stack

(11:30 - 14:30)



11:29 11:58 12:27 12:56 13:24 13:53 14:22  
Time

LA PACIFIC DUNGANON  
RTO STACK  
11:30 - 14:30  
9/13/95

Starting  
09-13-95

| Time  | RTO<br>VOC<br>(ppmwv) |
|-------|-----------------------|
| 11:31 | 5.29                  |
| 11:32 | 5.19                  |
| 11:33 | 5.11                  |
| 11:34 | 5.73                  |
| 11:35 | 5.93                  |
| 11:36 | 5.71                  |
| 11:37 | 6.09                  |
| 11:38 | 6.77                  |
| 11:39 | 6.13                  |
| 11:40 | 5.80                  |
| 11:41 | 6.66                  |
| 11:42 | 7.58                  |
| 11:43 | 6.59                  |
| 11:44 | 5.39                  |
| 11:45 | 6.11                  |
| 11:46 | 6.78                  |
| 11:47 | 6.61                  |
| 11:48 | 6.54                  |
| 11:49 | 6.94                  |
| 11:50 | 6.73                  |
| 11:51 | 6.47                  |
| 11:52 | 7.24                  |
| 11:53 | 7.72                  |
| 11:54 | 6.84                  |
| 11:55 | 6.41                  |
| 11:56 | 7.16                  |
| 11:57 | 7.74                  |
| 11:58 | 6.79                  |
| 11:59 | 5.82                  |
| 12:00 | 5.49                  |
| 12:01 | 5.30                  |
| 12:02 | 5.45                  |
| 12:03 | 5.14                  |
| 12:04 | 5.01                  |
| 12:05 | 5.15                  |
| 12:06 | 6.29                  |
| 12:07 | 6.86                  |
| 12:08 | 6.05                  |
| 12:09 | 5.61                  |
| 12:10 | 6.11                  |
| 12:11 | 6.82                  |

LA PACIFIC DUNGANON  
RTO STACK  
11:30 - 14:30  
9/13/95

Starting  
09-13-95

| Time  | RTO<br>VOC<br>(ppmwv) |
|-------|-----------------------|
| 12:12 | 6.18                  |
| 12:13 | 5.31                  |
| 12:14 | 5.68                  |
| 12:15 | 5.94                  |
| 12:16 | 5.70                  |
| 12:17 | 5.62                  |
| 12:18 | 5.91                  |
| 12:19 | 5.85                  |
| 12:20 | 5.29                  |
| 12:21 | 6.14                  |
| 12:22 | 7.16                  |
| 12:23 | 6.38                  |
| 12:24 | 5.97                  |
| 12:25 | 6.47                  |
| 12:26 | 7.57                  |
| 12:27 | 6.82                  |
| 12:28 | 6.15                  |
| 12:29 | 6.78                  |
| 12:30 | 6.40                  |
| 12:31 | 5.91                  |
| 12:32 | 6.41                  |
| 12:33 | 6.46                  |
| 12:34 | 5.93                  |
| 12:35 | 5.24                  |
| 12:36 | 6.27                  |
| 12:37 | 6.64                  |
| 12:38 | 5.20                  |
| 12:39 | 5.09                  |
| 12:40 | 6.16                  |
| 12:41 | 6.86                  |
| 12:42 | 5.74                  |
| 12:43 | 5.58                  |
| 12:44 | 6.23                  |
| 12:45 | 5.60                  |
| 12:46 | 5.53                  |
| 12:47 | 6.58                  |
| 12:48 | 5.69                  |
| 12:49 | 4.94                  |
| 12:50 | 5.34                  |
| 12:51 | 6.62                  |
| 12:52 | 6.14                  |

LA PACIFIC DUNGANON  
RTO STACK  
11:30 - 14:30  
9/13/95

Starting  
09-13-95

| Time  | RTO<br>VOC<br>(ppmwv) |
|-------|-----------------------|
| 12:53 | 5.22                  |
| 12:54 | 5.89                  |
| 12:55 | 6.52                  |
| 12:56 | 6.10                  |
| 12:57 | 5.83                  |
| 12:58 | 6.14                  |
| 12:59 | 6.14                  |
| 13:00 | 5.70                  |
| 13:01 | 6.17                  |
| 13:02 | 6.92                  |
| 13:03 | 5.97                  |
| 13:04 | 5.65                  |
| 13:05 | 6.42                  |
| 13:06 | 6.98                  |
| 13:07 | 6.39                  |
| 13:08 | 5.83                  |
| 13:09 | 6.70                  |
| 13:10 | 6.78                  |
| 13:11 | 6.58                  |
| 13:12 | 6.81                  |
| 13:13 | 6.62                  |
| 13:14 | 6.54                  |
| 13:15 | 6.25                  |
| 13:16 | 7.08                  |
| 13:17 | 6.99                  |
| 13:18 | 6.01                  |
| 13:19 | 6.18                  |
| 13:20 | 7.08                  |
| 13:21 | 7.18                  |
| 13:22 | 6.34                  |
| 13:23 | 5.91                  |
| 13:24 | 6.39                  |
| 13:25 | 6.21                  |
| 13:26 | 6.13                  |
| 13:27 | 6.50                  |
| 13:28 | 6.08                  |
| 13:29 | 5.95                  |
| 13:30 | 5.71                  |
| 13:31 | 5.66                  |
| 13:32 | 5.38                  |
| 13:33 | 5.06                  |



LA PACIFIC DUNGANON  
RTO STACK  
11:30 - 14:30  
9/13/95

Starting  
09-13-95

| Time  | RTO<br>VOC<br>(ppmwv) |
|-------|-----------------------|
| 13:34 | 5.15                  |
| 13:35 | 5.22                  |
| 13:36 | 5.42                  |
| 13:37 | 5.20                  |
| 13:38 | 5.19                  |
| 13:39 | 5.48                  |
| 13:40 | 6.50                  |
| 13:41 | 6.92                  |
| 13:42 | 6.16                  |
| 13:43 | 5.98                  |
| 13:44 | 6.42                  |
| 13:45 | 7.21                  |
| 13:46 | 6.70                  |
| 13:47 | 6.16                  |
| 13:48 | 6.72                  |
| 13:49 | 6.79                  |
| 13:50 | 6.91                  |
| 13:51 | 6.80                  |
| 13:52 | 6.80                  |
| 13:53 | 6.59                  |
| 13:54 | 5.68                  |
| 13:55 | 6.20                  |
| 13:56 | 7.11                  |
| 13:57 | 6.01                  |
| 13:58 | 5.70                  |
| 13:59 | 6.51                  |
| 14:00 | 7.33                  |
| 14:01 | 6.65                  |
| 14:02 | 5.68                  |
| 14:03 | 5.98                  |
| 14:04 | 6.97                  |
| 14:05 | 7.44                  |
| 14:06 | 6.41                  |
| 14:07 | 6.46                  |
| 14:08 | 7.34                  |
| 14:09 | 7.45                  |
| 14:10 | 6.70                  |
| 14:11 | 6.90                  |
| 14:12 | 6.76                  |
| 14:13 | 6.40                  |
| 14:14 | 5.77                  |

LA PACIFIC DUNGANON  
RTO STACK  
11:30 - 14:30  
9/13/95

Starting  
09-13-95

| Time       | RTO<br>VOC<br>(ppmwv) |
|------------|-----------------------|
| 14:15      | 6.81                  |
| 14:16      | 7.48                  |
| 14:17      | 6.02                  |
| 14:18      | 5.72                  |
| 14:19      | 6.86                  |
| 14:20      | 7.46                  |
| 14:21      | 6.26                  |
| 14:22      | 5.72                  |
| 14:23      | 6.93                  |
| 14:24      | 7.20                  |
| 14:25      | 6.10                  |
| 14:26      | 6.36                  |
| 14:27      | 6.74                  |
| 14:28      | 6.40                  |
| 14:29      | 6.06                  |
| 14:30      | 6.97                  |
| 180 MinAvg | 6.25                  |

LA PACIFIC DUNGANON  
RTO STACK  
RUN 1: 11:30 - 12:30  
9/13/95

Starting  
09-13-95

| Time  | RTO<br>VOC<br>(ppmwv) |
|-------|-----------------------|
| 11:31 | 5.29                  |
| 11:32 | 5.19                  |
| 11:33 | 5.11                  |
| 11:34 | 5.73                  |
| 11:35 | 5.93                  |
| 11:36 | 5.71                  |
| 11:37 | 6.09                  |
| 11:38 | 6.77                  |
| 11:39 | 6.13                  |
| 11:40 | 5.80                  |
| 11:41 | 6.66                  |
| 11:42 | 7.58                  |
| 11:43 | 6.59                  |
| 11:44 | 5.39                  |
| 11:45 | 6.11                  |
| 11:46 | 6.78                  |
| 11:47 | 6.61                  |
| 11:48 | 6.54                  |
| 11:49 | 6.94                  |
| 11:50 | 6.73                  |
| 11:51 | 6.47                  |
| 11:52 | 7.24                  |
| 11:53 | 7.72                  |
| 11:54 | 6.84                  |
| 11:55 | 6.41                  |
| 11:56 | 7.16                  |
| 11:57 | 7.74                  |
| 11:58 | 6.79                  |
| 11:59 | 5.82                  |
| 12:00 | 5.49                  |
| 12:01 | 5.30                  |
| 12:02 | 5.45                  |
| 12:03 | 5.14                  |
| 12:04 | 5.01                  |
| 12:05 | 5.15                  |
| 12:06 | 6.29                  |
| 12:07 | 6.86                  |
| 12:08 | 6.05                  |
| 12:09 | 5.61                  |
| 12:10 | 6.11                  |
| 12:11 | 6.82                  |

LA PACIFIC DUNGANON  
RTO STACK  
RUN 1: 11:30 - 12:30  
9/13/95

Starting  
09-13-95

| Time      | RTO<br>VOC<br>(ppmwv) |
|-----------|-----------------------|
| 12:12     | 6.18                  |
| 12:13     | 5.31                  |
| 12:14     | 5.68                  |
| 12:15     | 5.94                  |
| 12:16     | 5.70                  |
| 12:17     | 5.62                  |
| 12:18     | 5.91                  |
| 12:19     | 5.85                  |
| 12:20     | 5.29                  |
| 12:21     | 6.14                  |
| 12:22     | 7.16                  |
| 12:23     | 6.38                  |
| 12:24     | 5.97                  |
| 12:25     | 6.47                  |
| 12:26     | 7.57                  |
| 12:27     | 6.82                  |
| 12:28     | 6.15                  |
| 12:29     | 6.78                  |
| 12:30     | 6.40                  |
| 60 MinAvg | 6.21                  |

LA PACIFIC DUNGANON  
RTO STACK  
RUN 2: 12:30 - 13:30  
9/13/95

Starting  
09-13-95

| Time  | RTO<br>VOC<br>(ppmwv) |
|-------|-----------------------|
| 12:31 | 5.91                  |
| 12:32 | 6.41                  |
| 12:33 | 6.46                  |
| 12:34 | 5.93                  |
| 12:35 | 5.24                  |
| 12:36 | 6.27                  |
| 12:37 | 6.64                  |
| 12:38 | 5.20                  |
| 12:39 | 5.09                  |
| 12:40 | 6.16                  |
| 12:41 | 6.86                  |
| 12:42 | 5.74                  |
| 12:43 | 5.58                  |
| 12:44 | 6.23                  |
| 12:45 | 5.60                  |
| 12:46 | 5.53                  |
| 12:47 | 6.58                  |
| 12:48 | 5.69                  |
| 12:49 | 4.94                  |
| 12:50 | 5.34                  |
| 12:51 | 6.62                  |
| 12:52 | 6.14                  |
| 12:53 | 5.22                  |
| 12:54 | 5.89                  |
| 12:55 | 6.52                  |
| 12:56 | 6.10                  |
| 12:57 | 5.83                  |
| 12:58 | 6.14                  |
| 12:59 | 6.14                  |
| 13:00 | 5.70                  |
| 13:01 | 6.17                  |
| 13:02 | 6.92                  |
| 13:03 | 5.97                  |
| 13:04 | 5.65                  |
| 13:05 | 6.42                  |
| 13:06 | 6.98                  |
| 13:07 | 6.39                  |
| 13:08 | 5.83                  |
| 13:09 | 6.70                  |
| 13:10 | 6.78                  |
| 13:11 | 6.58                  |

LA PACIFIC DUNGANON  
RTO STACK  
RUN 2: 12:30 - 13:30  
9/13/95

Starting  
09-13-95

| Time      | RTO<br>VOC<br>(ppmwv) |
|-----------|-----------------------|
| 13:12     | 6.81                  |
| 13:13     | 6.62                  |
| 13:14     | 6.54                  |
| 13:15     | 6.25                  |
| 13:16     | 7.08                  |
| 13:17     | 6.99                  |
| 13:18     | 6.01                  |
| 13:19     | 6.18                  |
| 13:20     | 7.08                  |
| 13:21     | 7.18                  |
| 13:22     | 6.34                  |
| 13:23     | 5.91                  |
| 13:24     | 6.39                  |
| 13:25     | 6.21                  |
| 13:26     | 6.13                  |
| 13:27     | 6.50                  |
| 13:28     | 6.08                  |
| 13:29     | 5.95                  |
| 13:30     | 5.71                  |
| 60 MinAvg | 6.17                  |

LA PACIFIC DUNGANON  
RTO STACK  
RUN 3: 13:30 - 14:30  
9/13/95

Starting  
09-13-95

| Time  | RTO<br>VOC<br>(ppmwv) |
|-------|-----------------------|
| 13:31 | 5.66                  |
| 13:32 | 5.38                  |
| 13:33 | 5.06                  |
| 13:34 | 5.15                  |
| 13:35 | 5.22                  |
| 13:36 | 5.42                  |
| 13:37 | 5.20                  |
| 13:38 | 5.19                  |
| 13:39 | 5.48                  |
| 13:40 | 6.50                  |
| 13:41 | 6.92                  |
| 13:42 | 6.16                  |
| 13:43 | 5.98                  |
| 13:44 | 6.42                  |
| 13:45 | 7.21                  |
| 13:46 | 6.70                  |
| 13:47 | 6.16                  |
| 13:48 | 6.72                  |
| 13:49 | 6.79                  |
| 13:50 | 6.91                  |
| 13:51 | 6.80                  |
| 13:52 | 6.80                  |
| 13:53 | 6.59                  |
| 13:54 | 5.68                  |
| 13:55 | 6.20                  |
| 13:56 | 7.11                  |
| 13:57 | 6.01                  |
| 13:58 | 5.70                  |
| 13:59 | 6.51                  |
| 14:00 | 7.33                  |
| 14:01 | 6.65                  |
| 14:02 | 5.68                  |
| 14:03 | 5.98                  |
| 14:04 | 6.97                  |
| 14:05 | 7.44                  |
| 14:06 | 6.41                  |
| 14:07 | 6.46                  |
| 14:08 | 7.34                  |
| 14:09 | 7.45                  |
| 14:10 | 6.70                  |
| 14:11 | 6.90                  |

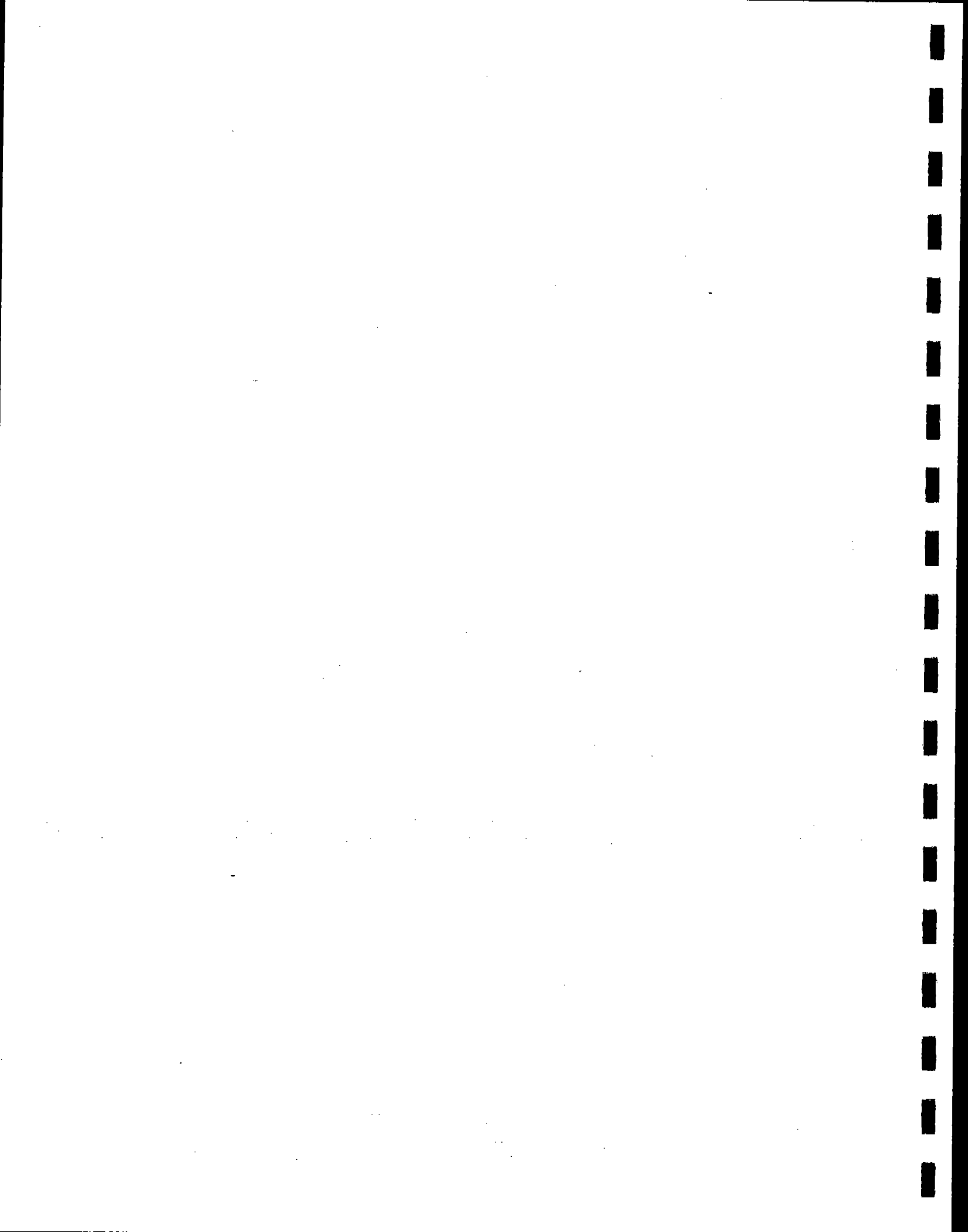
LA PACIFIC DUNGANON  
RTO STACK  
RUN 3: 13:30 - 14:30  
9/13/95

Starting  
09-13-95

| Time      | RTO<br>VOC<br>(ppmwv) |
|-----------|-----------------------|
| 14:12     | 6.76                  |
| 14:13     | 6.40                  |
| 14:14     | 5.77                  |
| 14:15     | 6.81                  |
| 14:16     | 7.48                  |
| 14:17     | 6.02                  |
| 14:18     | 5.72                  |
| 14:19     | 6.86                  |
| 14:20     | 7.46                  |
| 14:21     | 6.26                  |
| 14:22     | 5.72                  |
| 14:23     | 6.93                  |
| 14:24     | 7.20                  |
| 14:25     | 6.10                  |
| 14:26     | 6.36                  |
| 14:27     | 6.74                  |
| 14:28     | 6.40                  |
| 14:29     | 6.06                  |
| 14:30     | 6.97                  |
| 60 MinAvg | 6.38                  |



**APPENDIX I**  
**EQUATIONS AND CALCULATIONS**



## EPA METHODS 2-4 CALCULATIONS

1. Metered Gas Sample Volume at Standard Conditions

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

2. Gas Volume of Water Vapor Collected in Impinger Liquid

$$V_{wc(std)} = (V_f - V_i) \times 0.04707$$

3. Gas Volume of Water Vapor Collected in Silica Gel

$$V_{wsg(std)} = (W_f - W_i) \times 0.04715$$

4. Moisture Volume Fraction in Flue Gas

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

5. Moisture Volume Percentage in Flue Gas

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

6. Absolute Pressure of Flue Gas

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

7. Nitrogen Content of Flue Gas

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

8. Dry Molecular Weight of Flue Gas

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

9. Wet Molecular Weight of Flue Gas

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

10. Fuel Factor Based on Flue Gas Composition

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

EPA METHODS 2-4 CALCULATIONS - continued

11. Excess Air of Flue Gas

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

12. Average Gas Velocity, ft/sec

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

13. Area of Round Duct or Stack

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

14. Area of Rectangular Duct

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

15. Actual Volumetric Flow Rate of Flue Gas

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

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

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

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

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

NOMENCLATURE FOR EPA METHODS 2-4

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

## EPA METHOD 5 GRAVIMETRIC CALCULATIONS

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

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

2. Applicable Acetone Blank Correction -  $B_{apw}$

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

3. Maximum Allowable Acetone Blank -  $B_{amax}$

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

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

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

5. PM Collected on Filter -  $M_f$

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

6. Total PM Collected for Method 5 Calculations -  $M_5$

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

### NOMENCLATURE

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

METHOD 202 GRAVIMETRIC CALCULATIONS

1. Organic CPM -  $M_o$

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

2. Organic Blank Correction -  $B_o$

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

3. Inorganic CPM (Uncorrected for  $NH_4$  and Cl ions) -  $M_{iu}$

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

4. Inorganic Blank Correction -  $B_i$

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

5. Inorganic Correction for Ammonia addition -  $m_a$

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

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

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

7. Inorganic CPM (Corrected for  $NH_4$  and Cl ions) -  $M_{ic}$

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

8. Total CPM -  $M_{CPM}$

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

## METHOD 202 GRAVIMETRIC NOMENCLATURE

|                    |   |   |
|--------------------|---|---|
| $B_i$              | = | Inorganic blank correction, grams   |
| $B_o$              | = | Organic blank correction, grams   |
| $C_{Cl}$           | = | Concentration of chloride in reconstituted inorganic fraction, mg/liter         |
| $C_{SO_4}$         | = | Concentration of sulfate in inorganic fraction, mg/liter                        |
| $m_a$              | = | Inorganic correction for ammonia addition step, grams                           |
| $m_{Cl}$           | = | Inorganic correction for ammonium chloride in reconstituted sample, grams       |
| $M_{CPM}$          | = | Total Mass of CPM in sample, grams  |
| $M_{ic}$           | = | Inorganic CPM corrected for $NH_4$ and $Cl$ ions, grams                         |
| $M_{iu}$           | = | Inorganic CPM uncorrected for $NH_4$ and $Cl$ ions, grams                       |
| $M_o$              | = | Mass of organic CPM in sample, grams  |
| $V_4$              | = | Liquid volume of container 4 (Impingers + water rinses), ml                     |
| $V_a$              | = | Volume of aliquot used for IC analysis of sulfates, ml                          |
| $V_i$              | = | Liquid volume of water used in sample collection and rinses, ml                 |
| $V_{ib}$           | = | Liquid volume of water used in blank, ml  |
| $V_o$              | = | Liquid volume of Methylene Chloride used in sample recovery and extractions, ml |
| $V_{ob}$           | = | Liquid volume of Methylene Chloride used in blank, ml                           |
| $(W_{ib})_{final}$ | = | Final weight of beaker containing $H_2O$ blank residue, grams                   |
| $(W_{ib})_{tare}$  | = | Tare weight of beaker containing $H_2O$ blank residue, grams                    |
| $(W_i)_{final}$    | = | Final weight of beaker containing inorganic sample residue, grams               |
| $(W_i)_{tare}$     | = | Tare weight of beaker containing inorganic sample residue, grams                |
| $(W_{ob})_{final}$ | = | Final weight of beaker containing $MeCl_2$ blank residue, grams                 |
| $(W_{ob})_{tare}$  | = | Tare weight of beaker containing $MeCl_2$ blank residue, grams                  |
| $(W_o)_{final}$    | = | Final weight of beaker containing organic sample residue, grams                 |
| $(W_o)_{tare}$     | = | Tare weight of beaker containing organic sample residue, grams                  |



## PARTICULATE EMISSIONS CALCULATIONS

1. Particulate Concentration -  $C_{sd}$

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

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

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

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

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

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

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

5. Particulate Mass Rate -  $M_p$

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

6. Isokinetic Variation - %ISO

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

### NOMENCLATURE

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

CALCULATIONS FOR EPA METHOD 201A

Determination of cyclone flow rate and orifice pressure head:

Molecular weight of stack gas, dry basis,  $M_d$ :

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

where  $M_d = \text{lb/lbmol}$ .

Molecular weight of stack gas, wet basis,  $M_w$ :

$$M_w = M_d(1 - B_{ws}) + 18(B_{ws})$$

where  $B_{ws}$  = moisture fraction of the stack gas;  
 $M_w = \text{lb/lbmol}$ .

Absolute stack pressure,  $P_s$ :

$$P_s = P_{bar} + \frac{P_g}{13.6}$$

where  $P_{bar}$  = barometric pressure ("Hg);  
 $P_g$  = stack static pressure ("H<sub>2</sub>O);  
 $P_s$  = "Hg.

Viscosity of stack gas,  $\mu_s$ :

$$\mu_s = 152.418 + 0.2552t_s + 3.2355 \times 10^{-5}t_s^2 + 0.53147(\%O_2) - 74.143B_{ws}$$

where  $t_s$  = average stack temperature (°F);  
 $\mu_s$  = micropoise.

Cyclone flow rate,  $Q_s$ :

$$Q_s = 0.002837 \mu_s \left[ \frac{(t_s + 460)}{M_w P_s} \right]^{0.2949}$$

where  $Q_s = \text{ft}^3/\text{min}$ .

CALCULATIONS FOR EPA METHOD 201A (continued)

Orifice pressure head,  $\Delta H$ , needed for cyclone flow rate:

$$\Delta H = \left[ \frac{Q_s (1 - B_{ws}) P_s}{t_s + 460} \right]^2 \frac{(t_n + 460) M_d 1.083 \Delta H_e}{P_{bar}}$$

where  $t_n$  = meter temperature ( $^{\circ}\text{F}$ );  
 $\Delta H$  = "H<sub>2</sub>O.

Equations for Nozzle Selection:

Nozzle velocity,  $v_n$ :

$$v_n = \frac{3.056 Q_s}{D_n^2}$$

where  $D_n$  = nozzle diameter (in.);  
 $v_n$  = ft/sec.

Minimum and maximum velocities,  $v_{min}$  and  $v_{max}$ , in ft/sec:

Calculate  $R_{min}$ :

$$R_{min} = 0.2457 + \sqrt{0.3072 - \frac{0.2603 \sqrt{Q_s} \mu_s}{v_n^{1.5}}}$$

If  $R_{min}$  is less than 0.5 or imaginary then:

$$v_{min} = 0.5 v_n$$

Otherwise use:

$$v_{min} = v_n R_{min}$$

CALCULATIONS FOR EPA METHOD 201A (continued)

Calculate  $R_{\max}$ :

$$R_{\max} = 0.4457 + \sqrt{0.5690 + \frac{0.2603 \sqrt{Q_s} \mu_s}{V_n^{1.5}}}$$

If  $R_{\max}$  is greater than 1.5 then:

$$V_{\max} = 1.5 V_n$$

Otherwise use:

$$V_{\max} = V_n R_{\max}$$

Minimum and maximum velocity head values,  $\Delta p_{\min}$  and  $\Delta p_{\max}$ :

$$\Delta p_{\min} = 1.3686 \times 10^{-4} \frac{P_s M_w v_{\min}^2}{(t_s + 460) C_p^2}$$

$$\Delta p_{\max} = 1.3686 \times 10^{-4} \frac{P_s M_w v_{\max}^2}{(t_s + 460) C_p^2}$$

where  $C_p$  = pitot coefficient  
 $\Delta p_{\min}$  and  $\Delta p_{\max}$  = "H<sub>2</sub>O.

Dwell time:

Dwell time at first traverse point,  $t_1$ :

$$t_1 = \frac{\theta}{N} \sqrt{\frac{\Delta p'_1}{\Delta p'_{\text{avg}}}}$$

where  $\theta$  = total run time (min);  
 $N$  = total number of traverse points;  
 $\Delta p'_1$  = velocity head at the first traverse point  
(from a previous traverse) ("H<sub>2</sub>O);  
 $\Delta p'_{\text{avg}}$  = the square of the average square root of the  
 $\Delta p$ 's (from a previous traverse) ("H<sub>2</sub>O);  
 $t_1$  = min.

CALCULATIONS FOR EPA METHOD 201A (continued)

Dwell time at subsequent traverse points,  $t_n$ :

$$t_n = \frac{t_1}{\sqrt{\Delta P_1}} \sqrt{\Delta P_n}, n=2,3,\dots,N$$

$\Delta p_n$  = measured velocity head at point n ( $"H_2O$ );  
 $\Delta p_1$  = measured velocity head at point 1 ( $"H_2O$ );  
 $t_n$  = min.

Determination of  $D_{50}$ :

Stack gas viscosity,  $\mu_{cyc}$ :

$$\mu_{cyc} = C_1 + C_2 T_s + C_3 T_s^2 + C_4 f_{O_2} - C_5 B_{ws}$$

where  $C_1$  = 51.05 micropoise;  
 $C_2$  = 0.207 micropoise/R;  
 $C_3$  =  $3.24 \times 10^{-5}$  micropoise/R $_2$ ;  
 $C_4$  = 53.147 micropoise/fraction  $O_2$ ;  
 $C_5$  = 74.143 micropoise/fraction  $H_2O$ ;  
 $T_s$  = average absolute stack gas temperature (R);  
 $f_{O_2}$  = stack gas  $O_2$  volume fraction, dry basis;  
 $B_{ws}$  = stack gas moisture volume fraction;  
 $\mu_{cyc}$  = micropoise.

Total cyclone flow rate at standard conditions,  $Q_{s(std)}$ :

$$Q_{s(std)} = \frac{V_{m(std)}}{\theta}$$

where  $V_{m(std)}$  = volume of gas measured by DGM corrected to standard conditions (dscf);  
 $\theta$  = total sampling time (min);  
 $Q_{s(std)}$  = dscf/min.

$PM_{10}$  flow rate, at actual cyclone conditions,  $Q_s$ :

$$Q_s = \frac{T_s}{K_1 P_s} \left[ Q_{s(std)} + \frac{V_{w(std)}}{\theta} \right]$$

CALCULATIONS FOR EPA METHOD 201A (continued)

where  $K_1 = 17.64 \text{ R/"Hg}$ ;  
 $V_{w(\text{std})}$  = volume of water vapor in gas sample at  
standard conditions (scf);  
 $Q_s = \text{ft}_3/\text{min.}$

Diameter of particles having a 50% probability of  
penetration,  $D_{50}$ :

$$D_{50} = \beta_1 \left[ \frac{T_s}{M_w P_s} \right]^{0.2091} \left[ \frac{\mu_{\text{cyc}}}{Q_s} \right]^{0.7091}$$

where  $\beta_1 = 0.15625$   
 $D_{50} = \mu\text{m.}$

## ORGANIC POLLUTANT EMISSIONS CALCULATIONS

### 1. Concentration

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

### 2. Mass Emissions Rate

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

### NOMENCLATURE

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

## INSTRUMENT ANALYZER CALCULATIONS

1. Analyzer Calibration Error is determined by:

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

2. System Bias is determined by:

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

3. Calibration Drift is determined by:

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

4. The Adjusted Data Value is determined by:

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



Nomenclature:

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

## GASEOUS EMISSIONS MONITORING CALCULATIONS

### 1. HOURLY EMISSIONS RATE - $M_i$

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

### NOMENCLATURE

|          |   |  |
|----------|---|--|
| $i$      | = | $\text{NO}_x$ , $\text{SO}_2$ , $\text{CO}$ , or total hydrocarbons (as propane) |
| $M_i$    | = | Mass emissions rate of $i$ , lb/hr   |
| $C_i$    | = | Concentration of $i$ in stack gas, ppm <sub>dv</sub>                             |
| $MW_i$   | = | Molecular weight of $i$  |
|          | = | 46.01 for $\text{NO}_2$  |
|          | = | 28.01 for $\text{CO}$  |
|          | = | 64.06 for $\text{SO}_2$  |
|          | = | 44.10 for propane  |
| $Q_{sd}$ | = | Average flue gas flow rate, dscfm  |
| $F_i$    | = | Annual mass emissions rate of $i$ , tons/year                                    |
| 0.84948  | = | Molar volume of ideal gas, ft <sup>3</sup> /mole                                 |
| 453.593  | = | grams per pound  |
| $10^6$   | = | parts per million  |
| 60       | = | minutes per hour   |

## METHOD 25A EMISSIONS CALCULATIONS

### 1. Dry VOC Concentration

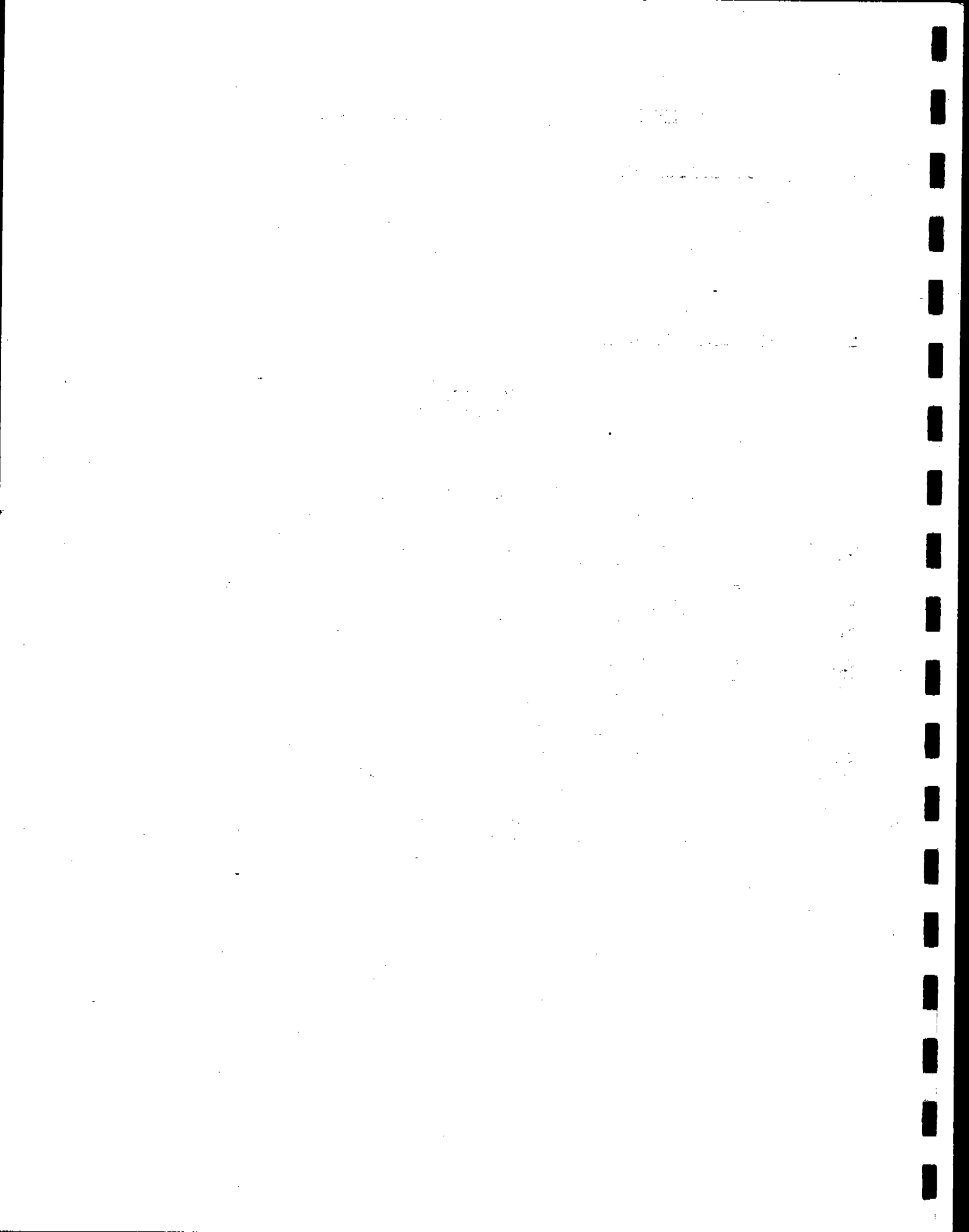
$$C_c = \frac{C_w}{(1 - B_{wg})}$$

### 2. Hourly emissions rate

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

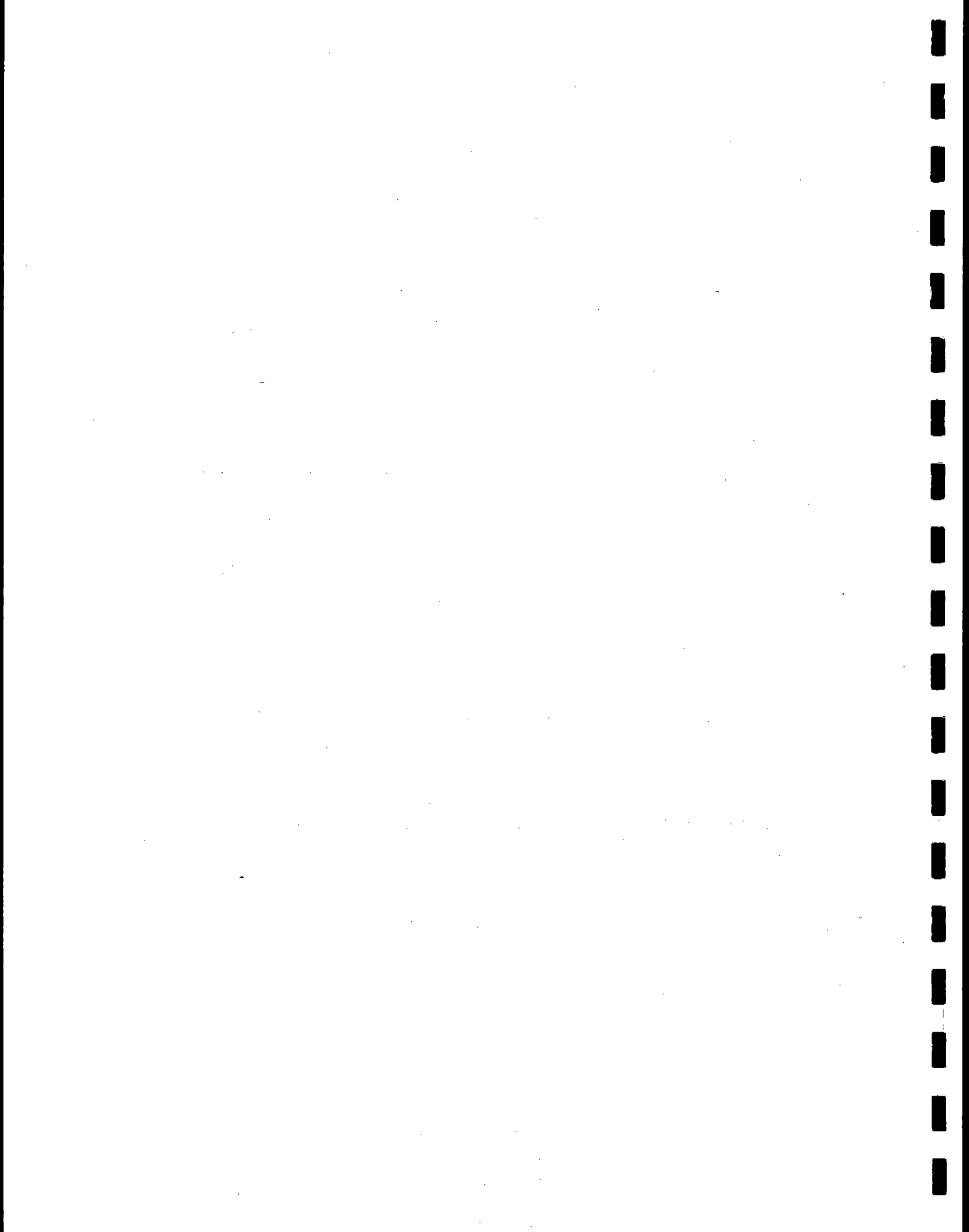
## EPA METHOD 25A EMISSIONS NOMENCLATURE

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



**APPENDIX J**

**RAW FIELD DATA APPENDICES FOR EPA METHOD 5/202 TESTING**



**APPENDIX J.1**

**RAW FIELD DATA FOR EPA METHOD 5/202 TESTING**

**- SCRUBBER INLET -**





ISOKINETIC SAMPLING DATA SHEET

FACILITY: LA. PACIFIC TEST LOCATION: SCRIBBERS INLET DATE: 8/31/95  
 START TIME: 9:55 END TIME: 11:17 POLLUTANT: Particulate RUN I.D.: ST-5620-1

| POINT | SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 100   | 0           | 9:55  |        | 182         | 1.2      | 1.896    | 033.650                    | 99              | 96               | 47             | 230          | 5"         |
| 11    | 2.5         |       | 10.0   | 180         | 1.45     | 1.93     | 035.6                      | 99              | 96               | 48             | 232          | 7"         |
| 10    | 5           |       |        | 181         | 1.4      | 1.86     | 037.9                      | 102             | 97               | 45             | 234          | 8"         |
| 9     | 7.5         |       |        | 182         | 1.5      | 1.92     | 039.7                      | 104             | 98               | 50             | 230          | 10"        |
| 9     | 10          |       |        | 182         | 1.4      | 1.86     | 041.9                      | 104             | 98               | 51             | 231          | 10"        |
| 7     | 12.5        |       |        | 180         | 1.3      | 1.73     | 043.9                      | 105             | 98               | 52             | 234          | 8"         |
| 6     | 15          |       |        | 178         | .85      | 1.17     | 045.9                      | 105             | 98               | 52             | 237          | 8"         |
| 5     | 17.5        |       |        | 177         | .8       | 1.1      | 047.6                      | 105             | 98               | 53             | 235          | 5.5"       |
| 4     | 20          |       |        | 177         | .98      | 1.04     | 049.2                      | 107             | 99               | 53             | 233          | 5.4"       |
| 3     | 22.5        |       |        | 177         | .75      | 1.0      | 050.9                      | 106             | 99               | 53             | 234          | 4.5"       |
| 2     | 25          |       |        | 176         | .73      | .971     | 052.4                      | 106             | .99              | 54             | 236          | 4.5"       |
| 1     | 27.5        | 10:25 |        | 175         | .69      | .92      | 053.9                      | 107             | 100              | 55             | 238          | 4"         |
| 12    | 30          | 10:47 |        | 176         | .85      | 1.13     | 055.449                    | 104             | 101              | 58             | 239          | 5"         |
| 11    | 32.5        |       | -9.75  | 186         | 1.1      | 1.46     | 057.5                      | 106             | 101              | 58             | 239          | 1.5"       |
| 10    | 35          |       |        | 185         | 1.4      | 1.86     | 058.8                      | 107             | 102              | 59             | 236          | 9"         |
| 9     | 37.5        |       |        | 183         | 1.2      | 1.596    | 061.0                      | 109             | 102              | 59             | 237          | 6.5"       |
| 7     | 40          |       |        | 183         | 1.3      | 1.73     | 063.0                      | 111             | 102              | 59             | 234          | 6.5"       |
| 7     | 42.5        |       |        | 182         | 1.15     | 1.53     | 065.0                      | 112             | 102              | 61             | 243          | 6"         |
| 6     | 45          |       |        | 181         | 1.1      | 1.46     | 066.8                      | 112             | 104              | 61             | 246          | 7"         |
| 5     | 47.5        |       |        | 181         | 1.1      | 1.46     | 068.9                      | 113             | 104              | 62             | 242          | 8"         |
| 4     | 50          |       |        | 180         | 1.05     | 1.376    | 070.5                      | 112             | 104              | 63             | 239          | 7"         |
| 3     | 52.5        |       |        | 179         | 1.0      | 1.33     | 072.4                      | 112             | 104              | 63             | 234          | 8"         |
| 2     | 55          |       |        | 179         | .85      | 1.26     | 074.2                      | 113             | 104              | 64             | 238          | 9"         |
| 1     | 57.5        |       |        | 179         | .9       | 1.2      | 076.0                      | 113             | 105              | 65             | 244          | 9"         |
|       | 60          | 11:17 |        |             |          |          | 077.675                    |                 |                  |                |              |            |

CHAIN OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION |
|-----------|-------------|-------------|
| F10       | 00118       | Pipe & 123  |
| F10       | 00111       | 2108        |
| F20       | 00115       | Med Line    |
| F24       | 00145       | S.G.        |

LEAK CHECK:

|        |      |      |  |  |
|--------|------|------|--|--|
| VACUUM | 10"  | 10"  |  |  |
| RATE   | .001 | .001 |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 100ml   | 242ml |
| #2       | 100ml   | 132ml |
| #3       | 100ml   | 104ml |
| #4       | 200g    | 212g  |
| #5       |         |       |
| #6       |         |       |

|          |           |
|----------|-----------|
| NOZZLE # | .214      |
| PITOT #  |           |
| BOX I.D. | 12        |
| GAMMA Y  | .99029    |
| ΔHG      | 1.76407   |
| PBAR     |           |
| FILTER   |           |
| TECH.    | CS / S.D. |

ISOKINETIC SAMPLING DATA SHEET

FACILITY: L.A. Pacific

TEST LOCATION: Sevolder Inlet

DATE: 2/3/95

START TIME: 12:40

END TIME: 1422

POLLUTANT: Particulate

RLM I.D.: SE - NS120<sup>2</sup> - R2

| POINT | SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 11/2  | 0           | 12:40 |        | 183         | 1.1      | 1.465    | 078.937                    | 110             | 109              | 54             | 250          | 5"         |
| 11    | 2.5         |       | -10    | 182         | 1.25     | 1.68     | 079.8                      | 111             | 109              | 54             | 238          | 7"         |
| 10    | 5           | 12:47 |        | 182         | 1.4      | 1.96     | 081.8                      | 111             | 109              | 55             | 241          | 8"         |
| 9     | 7.5         | 12:50 |        | 182         | 1.5      | 2.005    | 082.831                    | 111             | 109              | 55             | 240          | 10"        |
| 8     | 10          | 12:54 |        | 182         | 1.4      | 1.96     | 086.642                    | 112             | 109              | 56             | 243          | 10"        |
| 7     | 12.5        |       |        | 180         | 1.4      | 1.96     | 088.963                    | 112             | 109              | 50             | 244          | 8"         |
| 6     | 15          | 13:24 |        | 178         | 1.3      | 1.73     | 091.1                      | 113             | 110              | 50             | 254          | 7"         |
| 5     | 17.5        |       |        | 179         | 1.85     | 1.13     | 093.1                      | 113             | 110              | 51             | 241          | 8"         |
| 4     | 20          |       |        | 177         | 1.76     | 1.01     | 093.8                      | 114             | 110              | 52             | 236          | 9"         |
| 3     | 22.5        |       |        | 178         | 1.76     | 1.01     | 094.5                      | 114             | 110              | 52             | 237          | 6"         |
| 2     | 25          |       |        | 175         | 1.7      | 1.931    | 096.0                      | 115             | 110              | 52             | 240          | 5.5"       |
| 1     | 27.5        | 13:38 |        | 175         | 1.62     | 1.873    | 097.2                      | 115             | 112              | 53             | 242          | 5"         |
| A0    | 30          | 13:52 |        | 185         | 1.8      | 1.06     | 099.738                    | 117             | 113              | 52             | 243          | 8"         |
| 11    | 32.5        |       | -9.5   | 185         | 1.05     | 1.4      | 101.6                      | 118             | 114              | 54             | 241          | 8"         |
| 10    | 35          |       |        | 184         | 1.3      | 1.73     | 103.8                      | 118             | 114              | 55             | 241          | 7"         |
| 9     | 37.5        |       |        | 183         | 1.15     | 1.83     | 106.6                      | 118             | 114              | 55             | 244          | 6"         |
| 8     | 40          |       |        | 182         | 1.2      | 1.59     | 108.6                      | 119             | 115              | 56             | 247          | 7"         |
| 7     | 42.5        |       |        | 181         | 1.15     | 1.53     | 111.4                      | 119             | 115              | 57             | 245          | 6.5"       |
| 6     | 45          |       |        | 181         | 1.0      | 1.33     | 113.2                      | 119             | 115              | 57             | 246          | 6"         |
| 5     | 47.5        |       |        | 181         | 1.0      | 1.33     | 115.6                      | 119             | 115              | 42             | 246          | 6"         |
| 4     | 50          |       |        | 181         | 1.0      | 1.33     | 116.4                      | 120             | 115              | 43             | 245          | 6"         |
| 3     | 52.5        |       |        | 181         | 1.1      | 1.46     | 118.95                     | 120             | 115              | 43             | 246          | 6.5"       |
| 2     | 55          |       |        | 180         | .95      | 1.26     | 119.7                      | 121             | 116              | 44             | 240          | 6"         |
| 1     | 57.5        |       |        | 179         | .85      | 1.1      | 120.5                      | 121             | 117              | 46             | 242          | 6"         |
|       | 60          | 14:00 |        |             |          |          |                            |                 |                  |                |              |            |

stop at 12:40 For repair

CHAIN OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION                       |
|-----------|-------------|-----------------------------------|
| FP1       | 00121       | A <sub>2</sub> O <sub>2</sub> IMP |
| FL        | 00112       | A <sub>2</sub> O <sub>2</sub> LM  |
| FW        | 00124       | S.G.                              |
|           |             |                                   |
|           |             |                                   |
|           |             |                                   |
|           |             |                                   |
|           |             |                                   |
|           |             |                                   |

LEAK CHECK: 122-510

| VACUUM | 10"  | 10"  |
|--------|------|------|
| RATE   | .005 | .007 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 100     | 249ul |
| #2       | 100     | 129ul |
| #3       | 100     | 101ul |
| #4       | 200     | 210ul |
| #5       |         |       |
| #6       |         |       |

|          |           |
|----------|-----------|
| NOZZLE # | .214      |
| PITOT #  |           |
| BOX I.D. | 12        |
| GAMMA Y  | .99079    |
| ΔH       | 1.76407   |
| PBAR     | 28.75     |
| FILTER   |           |
| TECH.    | C.S./J.B. |

ISOKINETIC SAMPLING DATA SHEET

Company: L.A. Pacific TEST LOCATION: 42' Under Inlet DATE: 3/31/95  
 TIME: 16:25 END TIME: 17:32 POLLUTANT: 1st Inlet RUN I.D.: SI-N202 R13

| SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK AP | METER AH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 0           | 16:25 |        | 184         | 1.1      | 1.51     | 125.82                     | 116             | 115              | 58             | 232          | 5"         |
| 2.5         |       | -10.0  | 184         | 1.5      | 2.1      | 127.5                      | 117             | 114              | 45             | 237          | 6"         |
| 5           |       |        | 187         | 1.45     | 1.99     | 129.9                      | 118             | 115              | 45             | 232          | 6"         |
| 7.5         |       |        | 183         | 1.4      | 1.92     | 132.2                      | 120             | 115              | 46             | 235          | 6.5"       |
| 10          |       |        | 187         | 1.4      | 1.92     | 131.3                      | 121             | 115              | 47             | 234          | 6.5"       |
| 12.5        |       |        | 182         | 1.25     | 1.71     | 136.5                      | 122             | 115              | 47             | 233          | 6.5"       |
| 15          |       |        | 180         | .9       | 1.23     | 138.5                      | 123             | 115              | 48             | 234          | 6.5"       |
| 17.5        |       |        | 180         | .9       | 1.23     | 140.3                      | 122             | 115              | 49             | 235          | 6"         |
| 20          |       |        | 178         | .82      | 1.12     | 142.0                      | 123             | 115              | 46             | 235          | 6.5"       |
| 22.5        |       |        | 177         | .75      | 1.07     | 143.7                      | 123             | 115              | 46             | 231          | 5"         |
| 25          |       |        | 177         | .74      | 1.01     | 145.7                      | 123             | 115              | 46             | 230          | 5"         |
| 27.5        | 16:55 |        | 177         | .71      | .973     | 146.9                      | 123             | 116              | 47             | 232          | 5"         |
| 30          | 17:02 |        | 189         | 1.0      | 1.37     | 148.474                    | 118             | 116              | 49             | 233          | 6"         |
| 32.5        |       | -10.0  | 187         | 1.2      | 1.64     | 150.3                      | 121             | 116              | 49             | 235          | 7"         |
| 35          |       |        | 187         | 1.45     | 1.99     | 152.4                      | 123             | 117              | 50             | 237          | 8.5"       |
| 37.5        |       |        | 187         | 1.3      | 1.78     | 154.5                      | 123             | 116              | 51             | 231          | 8.5"       |
| 40          |       |        | 187         | 1.25     | 1.71     | 156.6                      | 124             | 117              | 51             | 238          | 8.5"       |
| 42.5        |       |        | 186         | 1.15     | 1.58     | 158.7                      | 126             | 118              | 52             | 235          | 8"         |
| 45          |       |        | 186         | 1.1      | 1.51     | 160.7                      | 126             | 118              | 53             | 237          | 8"         |
| 47.5        |       |        | 186         | 1.15     | 1.58     | 162.6                      | 126             | 119              | 54             | 239          | 8"         |
| 50          |       |        | 186         | 1.0      | 1.37     | 164.7                      | 127             | 120              | 56             | 238          | 8"         |
| 52.5        |       |        | 186         | 1.0      | 1.37     | 166.5                      | 127             | 120              | 57             | 234          | 8"         |
| 55          |       |        | 185         | .9       | 1.23     | 168.5                      | 127             | 120              | 59             | 238          | 7.5"       |
| 57.5        |       |        | 184         | .85      | 1.17     | 170.2                      | 128             | 121              | 61             | 240          | 7"         |
| 60          | 17:32 |        |             |          |          | 171.924                    |                 |                  |                |              |            |

INVENTORY OF CUSTODY:

| DATE | NUMBER | SAMPLE I.D. | DESCRIPTION           |
|------|--------|-------------|-----------------------|
|      | 3      | 00123       | Helet all             |
|      | 6      | 00116       | H <sub>2</sub> O line |
|      | 7      | 00120       | H <sub>2</sub> O line |
|      |        |             |                       |
|      |        |             |                       |
|      |        |             |                       |
|      |        |             |                       |
|      |        |             |                       |
|      |        |             |                       |
|      |        |             |                       |

LEAK CHECK:

|        |      |      |  |  |
|--------|------|------|--|--|
| VACUUM | 10"  | 10"  |  |  |
| RATE   | .002 | .001 |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL  |
|----------|---------|--------|
| #1       | 100ul   | 253ul  |
| #2       | 100ul   | 122ul  |
| #3       | 100ul   | 103ul  |
| #4       | 200ul   | 211.19 |
| #5       |         |        |
| #6       |         |        |

|          |            |
|----------|------------|
| NOZZLE # | 214        |
| PITOT #  |            |
| BOX I.D. | 12         |
| GAMMA T  | .98079     |
| ΔHD      | 1.76407    |
| PBAR     |            |
| FILTER   |            |
| TECH.    | C.S. / T.D |

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

|                              |                            |
|------------------------------|----------------------------|
| O2/CO2 CALIBRATION           | DATE: 8-31-95              |
| O2 SPAN = 25% CO2 SPAN = 20% | TIME:                      |
| O2 MONITOR ID: 3             | CO2 MONITOR ID: 2          |
| CALIBRATION GAS VALUES       | CALIBRATION GAS ID         |
| ZERO 0                       |                            |
| MID = O2 = 9.708 CO2 = 9.85  | 4027                       |
| HIGH = 22.8 17.62            | 4007                       |
| ANALYZER RESPONSE            | ANALYZER CALIBRATION ERROR |
| ZERO O2 0.051 0.000          |                            |
| MID = 10.15 9.91             |                            |
| HIGH = 22.91 17.66           |                            |

|                          |                       |
|--------------------------|-----------------------|
| SOURCE: LA Pacific       | DATE OF TEST: 8-31-95 |
| LOCATION: Scrubber Inlet | RUN ID: SI-M3-R1      |
| %O2 17.4                 | %CO2 2.6              |
| %O2 17.4                 | %CO2 2.6              |
| %O2 17.4                 | %CO2 2.6              |
| AVERAGE 17.4             | AVERAGE 2.6           |
|                          | Fo FACTOR: 1.398      |

|                          |                  |
|--------------------------|------------------|
| LOCATION: Scrubber Inlet | RUN ID: SI-M3-R2 |
| %O2 17.4                 | %CO2 2.55        |
| %O2 17.4                 | %CO2 2.55        |
| %O2 17.4                 | %CO2 2.55        |
| AVERAGE 17.4             | AVERAGE 2.55     |
|                          | Fo FACTOR: 1.373 |

|                          |                  |
|--------------------------|------------------|
| LOCATION: Scrubber Inlet | RUN ID: SI-M3-R3 |
| %O2 17.6                 | %CO2 2.4         |
| %O2 17.6                 | %CO2 2.4         |
| %O2 17.6                 | %CO2 2.4         |
| AVERAGE 17.6             | AVERAGE 2.4      |
|                          | Fo FACTOR: 1.375 |

$Fo = (20.9 - \%O2) / \%CO2$

COMMON Fo FACTORS:

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

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

**APPENDIX J.2**

**RAW FIELD DATA FOR EPA METHOD 5/202 TESTING**

**- SCRUBBER OUTLET -**



ISO KINETIC SAMPLING DATA SHEET

LA Pacific

TEST LOCATION: Scrubber Outlet

DATE: 8-31-95

TIME: 9:55

END TIME: 11:17

POLLUTANT: T.S.P.

RUN I.D.: SCRO-NS-R1

| SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK ΔP       | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------------|-------|--------|-------------|----------------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 0           | 9:55  | -2.2   | 152         | .72            | .97      | 871.25                     | 99              | 99               | 59             | 252          | 6          |
| 2.5         |       |        | 154         | .89            | 1.2      | 878.5                      | 99              | 99               | 59             | 250          | 6          |
| 5           |       |        | 154         | .96            | 1.3      | 880.1                      | 95              | 99               | 60             | 253          | 7          |
| 7.5         |       |        | 154         | 1.1            | 1.5      | 881.8                      | 96              | 99               | 59             | 259          | 8          |
| 10          |       |        | 154         | 1.3            | 1.74     | 883.6                      | 98              | 95               | 60             | 251          | 9          |
| 12.5        |       |        | 154         | 1.6            | 2.14     | 885.5                      | 99              | 95               | 60             | 252          | 11         |
| 15          |       |        | 154         | 1.8            | 2.4      | 887.5                      | 100             | 96               | 61             | 253          | 14         |
| 17.5        |       |        | 155         | 1.7            | 2.3      | 889.7                      | 102             | 96               | 61             | 253          | 14         |
| 20          |       |        | 154         | 1.7            | 2.3      | 892.0                      | 102             | 96               | 62             | 252          | 14         |
| 22.5        |       |        | 154         | 1.6            | 2.14     | 894.3                      | 103             | 96               | 62             | 254          | 13         |
| 25          |       |        | 154         | 1.3            | 1.74     | 896.5                      | 104             | 97               | 62             | 257          | 12         |
| 27.5        |       |        | 158         | 1.9            | 1.0      | 898.4                      | 104             | 97               | 62             | 254          | 9          |
| 30          | 10:25 |        |             | (1.1) < (1.5)  |          | 900.100                    | LEAK CK.        |                  |                |              |            |
| 30          | 10:47 | -2.2   | 153         | <del>1.2</del> | 1.35     | 900.148                    | 100             | 99               | 59             | 250          | 10         |
| 32.5        |       |        | 154         | 1.6            | 2.14     | 902.1                      | 102             | 99               | 60             | 265          | 14         |
| 35          |       |        | 154         | 1.6            | 2.14     | 903.9                      | 102             | 99               | 59             | 260          | 15         |
| 37.5        |       |        | 154         | 1.8            | 2.4      | 906.2                      | 104             | 100              | 61             | 270          | 16         |
| 40          |       |        | 154         | 1.9            | 2.5      | 908.6                      | 105             | 100              | 61             | 255          | 17         |
| 42.5        |       |        | 154         | 1.8            | 2.4      | 910.9                      | 105             | 100              | 61             | 259          | 16         |
| 45          |       |        | 154         | 1.6            | 2.14     | 913.8                      | 107             | 101              | 62             | 252          | 16         |
| 47.5        |       |        | 155         | 1.4            | 1.8      | 915.8                      | 107             | 101              | 62             | 255          | 15         |
| 50          |       |        | 156         | 1.3            | 1.74     | 917.5                      | 108             | 101              | 62             | 255          | 14         |
| 52.5        |       |        | 155         | .97            | 1.3      | 919.8                      | 109             | 102              | 63             | 269          | 12         |
| 55          |       |        | 155         | .87            | 1.0      | 921.3                      | 109             | 103              | 63             | 260          | 11         |
| 57.5        |       |        | 155         | .76            | 1.0      | 923.0                      | 104             | 103              | 64             | 259          | 10         |

IN OF CUSTODY: 11:17

LEAK CHECK: 929.305

| TAINER | SAMPLE I.D. | DESCRIPTION                |
|--------|-------------|----------------------------|
| 1      | 576-00300   | Filter                     |
| 2      | 1-00301     | Ace Rinse                  |
| 3      | -00302      | Imp. Cont.                 |
| 4      | -00304      | Imp Rinse H <sub>2</sub> O |
| 5      | -00305      | Imp. Rinse                 |
|        |             | MCC-CH-                    |

| VACUUM | 15   | 18   |  |  |  |
|--------|------|------|--|--|--|
| RATE   | .002 | .003 |  |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL  |
|----------|---------|--------|
| #1       | 236 ml  | 238 ml |
| #2       | 100 ml  | 136 ml |
| #3       | 100 ml  | 102 ml |
| #4       |         |        |
| #5       |         |        |
| #6       | 200 g   | 211.0  |

|                  |                 |
|------------------|-----------------|
| NOZZLE #         | 7/32 .211       |
| PITOT #          | 105             |
| BOX I.D.         | 4               |
| GAMMA γ          | 1.0058          |
| ΔH               | 1.7581          |
| P <sub>BAR</sub> | 28.75           |
| FILTER           | 95-145          |
| TECH.            | R. Graham Terry |

Ka 1.24

ISOKINETIC SAMPLING DATA SHEET

CITY: LA Pacific

TEST LOCATION: Scrubber/Outlet

DATE: 8-31-95

TIME: 12:40

END TIME: 14:22

POLLUTANT: T.S.P

RUN I.D.: ScrO-MS-R2

| TIME | SAMPLE TIME | TIME                      | STATIC | STACK TEMP.    | STACK AP | METER AH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|------|-------------|---------------------------|--------|----------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 0    | 0           | 12:40                     | -2.2   | <del>155</del> | .82      | 1.0      | 924.985                    | 107             | 106              | 60             | 256          | 6          |
| 2.5  | 2.5         |                           |        | 153            | .87      | 1.1      | 926.1                      | 107             | 106              | 58             | 250          | 5          |
| 5.0  | 5.0         |                           |        | 151            | .94      | 1.2      | 927.7                      | 108             | 107              | 56             | 253          | 5          |
| 7.5  | 7.5         | <del>13:07</del><br>13:08 |        | 154            | 1.0      | 1.24     | 929.3                      | 109             | 108              | 58             | 250          | 6          |
| 10   | 10          |                           |        | 153            | 1.2      | 1.5      | 930.8                      | 109             | 108              | 58             | 254          | 6          |
| 12.5 | 12.5        |                           |        | 154            | 1.5      | 1.9      | 932.6                      | 110             | 108              | 59             | 251          | 8          |
| 15   | 15          |                           |        | 154            | 1.7      | 2.15     | 934.6                      | 112             | 108              | 60             | 253          | 10         |
| 17.5 | 17.5        | <del>13:19</del><br>13:20 |        | 152            | 1.7      | 2.15     | 936.1                      | 110             | 109              | 61             | 270          | 10         |
| 20   | 20          |                           |        | 151            | 1.5      | 1.9      | 938.9                      | 111             | 109              | 60             | 260          | 10         |
| 22.5 | 22.5        |                           |        | 151            | 1.3      | 1.6      | 940.9                      | 112             | 110              | 61             | 250          | 9          |
| 25   | 25          |                           |        | 151            | 1.0      | 1.24     | 942.8                      | 113             | 110              | 62             | 250          | 7          |
| 27.5 | 27.5        |                           |        | 150            | .74      | .93      | 944.6                      | 114             | 110              | 62             | 252          | 7          |
| 30   | 30          | 12:38                     |        |                |          |          | 946.012                    |                 |                  |                |              |            |
| 30   | 30          | 13:52                     | -2.2   | 154            | 1.4      | 1.76     | 946.012                    | 110             | 110              | 60             | 256          | 9          |
| 32.5 | 32.5        |                           |        | 153            | 1.5      | 1.9      | 947.9                      | 111             | 110              | 60             | 253          | 11         |
| 35   | 35          |                           |        | 154            | 1.6      | 2.0      | 949.9                      | 113             | 111              | 58             | 254          | 11         |
| 37.5 | 37.5        |                           |        | 154            | 1.8      | 2.26     | 951.9                      | 114             | 111              | 59             | 255          | 14         |
| 40   | 40          |                           |        | 155            | 1.9      | 2.4      | 954.3                      | 115             | 111              | 60             | 254          | 15         |
| 42.5 | 42.5        |                           |        | 155            | 1.8      | 2.26     | 956.7                      | 117             | 111              | 60             | 256          | 15         |
| 45   | 45          |                           |        | 153            | 1.5      | 1.9      | 959.0                      | 117             | 112              | 61             | 256          | 13         |
| 47.5 | 47.5        |                           |        | 153            | 1.3      | 1.5      | 961.0                      | 118             | 112              | 62             | 254          | 12         |
| 50   | 50          |                           |        | 153            | 1.2      | 1.5      | 962.9                      | 118             | 112              | 63             | 254          | 12         |
| 52.5 | 52.5        |                           |        | 152            | .94      | 1.18     | 964.9                      | 118             | 112              | 63             | 255          | 10         |
| 55   | 55          |                           |        | 152            | .89      | 1.1      | 966.4                      | 119             | 112              | 64             | 255          | 9          |
| 57.5 | 57.5        |                           |        | 151            | .68      | .85      | 968.0                      | 119             | 113              | 64             | 255          | 8          |

\* Equipment Delay

O<sub>2</sub>-18.6

CO<sub>2</sub>-2.11

60 OF CUSTODY: 14:22

LEAK CHECK: 969.520

| CONTAINER | SAMPLE I.D. | DESCRIPTION            |
|-----------|-------------|------------------------|
| 1         | 576-308     | Filter                 |
| 2         | 576-309     | Acc Rins               |
| 3         | "-310       | Imp. Cont              |
| 5         | 576-312     | H <sub>2</sub> O-Rinse |
| 6         | 576-313     | Meta-Rinse             |
| 8         | 576-00315   | BAG                    |

| VACUUM | 15   |     |  |
|--------|------|-----|--|
| RATE   | .003 | 002 |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 100ml   | 242ml |
| #2       | 100ml   | 120ml |
| #3       | 89      | 86ml  |
| #4       |         |       |
| #5       |         |       |
| #6       | 211.0   | 218.5 |

|                  |                 |
|------------------|-----------------|
| NOZZLE #         | 1/32 / .211     |
| PITOT #          | 105             |
| BOX I.D.         | 4               |
| GAMMA Y          | 1.0058          |
| ΔH <sub>B</sub>  | 1.7581          |
| P <sub>BAR</sub> | 28.75           |
| FILTER           | 45-146          |
| TECH.            | R. Graham/Terry |

1.26 = K/



ISOKINETIC SAMPLING DATA SHEET

LA Pacific

TEST LOCATION: Scrubber/Outlet

DATE: 8-31-95

TIME: 16:25

END TIME: 17:32

POLLUTANT: T.S.P.

RUN I.D.: SCAD<sup>202</sup> 5-R 3

| SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK AP | METER ΔH | DGN VOLUME ft <sup>3</sup> | DGN TEMP. INLET | DGN TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 0           | 16:25 | -2.4   | 157         | .68      | .97      | 969.775                    | 111             | 111              | 56             | 251          | 4          |
| 2.5         |       |        | 158         | .80      | 1.1      | 971.4                      | 111             | 111              | 55             | 254          | 4          |
| 5           |       |        | 158         | .88      | 1.25     | 973.0                      | 112             | 111              | 57             | 251          | 4          |
| 7.5         |       |        | 158         | 1.1      | 1.57     | 974.6                      | 112             | 111              | 58             | 250          | 5          |
| 10          |       |        | 158         | 1.2      | 1.7      | 976.2                      | 114             | 112              | 59             | 250          | 6          |
| 12.5        |       |        | 159         | 1.4      | 2.0      | 978.4                      | 115             | 112              | 60             | 250          | 7          |
| 15          |       |        | 159         | 1.6      | 2.28     | 980.2                      | 116             | 112              | 60             | 254          | 9          |
| 17.5        |       |        | 157         | 1.5      | 2.15     | 982.6                      | 117             | 112              | 61             | 251          | 9          |
| 20          |       |        | 157         | 1.6      | 2.28     | 985.0                      | 118             | 112              | 61             | 251          | 10         |
| 22.5        |       |        | 156         | 1.2      | 1.7      | 987.0                      | 118             | 112              | 60             | 250          | 8          |
| 25          |       |        | 156         | 1.0      | 1.4      | 989.1                      | 119             | 113              | 60             | 251          | 7          |
| 27.5        |       |        | 155         | .94      | 1.3      | 990.9                      | 120             | 113              | 62             | 254          | 7          |
| 30          | 16:55 |        |             |          |          | 992.561                    |                 |                  |                |              |            |
| 30          | 17:02 | -2.2   | 156         | 1.3      | 1.8      | 992.561                    | 114             | 112              | 60             | 254          | 9          |
| 32.5        |       |        | 157         | 1.4      | 2.28     | 994.8                      | 116             | 113              | 61             | 270          | 11         |
| 35          |       |        | 157         | 1.6      | 2.28     | 996.8                      | 117             | 114              | 60             | 268          | 12         |
| 37.5        |       |        | 156         | 1.7      | 2.4      | 999.0                      | 118             | 114              | 61             | 260          | 14         |
| 40          |       |        | 156         | 1.8      | 2.5      | 1001.5                     | 119             | 114              | 62             | 260          | 15         |
| 42.5        |       |        | 156         | 1.6      | 2.28     | 1003.7                     | 120             | 114              | 62             | 250          | 14         |
| 45          |       |        | 158         | 1.4      | 2.0      | 1006.2                     | 120             | 114              | 62             | 255          | 14         |
| 47.5        |       |        | 156         | 1.2      | 1.7      | 1008.1                     | 121             | 114              | 63             | 270          | 12         |
| 50          |       |        | 156         | 1.2      | 1.7      | 1010.1                     | 120             | 115              | 63             | 270          | 12         |
| 52.5        |       |        | 156         | .90      | 1.28     | 1012.2                     | 121             | 115              | 63             | 249          | 10         |
| 55          |       |        | 156         | .87      | 1.24     | 1013.9                     | 121             | 115              | 63             | 251          | 10         |
| 57.5        |       |        | 157         | .68      | .97      | 1015.8                     | 121             | 115              | 63             | 250          | 9          |

OF CUSTODY: 60 17:32

LEAK CHECK: 017.235

| DATE | SAMPLE I.D. | DESCRIPTION            |
|------|-------------|------------------------|
| 1    | 576-316     | Filter                 |
| 2    | 576-317     | Acetic Rinse           |
| 3    | 576-318     | Imp. Cont.             |
| 5    | 576-320     | H <sub>2</sub> O Rinse |
| 6    | 576-321     | MCC Rinse              |

| VACUUM | 15   | 16   |
|--------|------|------|
| RATE   | .002 | .003 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 100ml   | 275ml |
| #2       | 100ml   | 128ml |
| #3       | 100ml   | 102ml |
| #4       |         |       |
| #5       |         |       |
| #6       | 210.7   | 218.8 |

|                  |                |
|------------------|----------------|
| NOZZLE #         | 7/32 .211      |
| PITOT #          | 105            |
| BOX I.D.         | 4              |
| GAMMA Y          | 1.0058         |
| ΔH <sub>0</sub>  | 1.7581         |
| P <sub>BAR</sub> |                |
| FILTER           | 95-197         |
| TECH.            | R. Grahn/Terry |

143/15

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

|                              |                            |
|------------------------------|----------------------------|
| O2/CO2 CALIBRATION           | DATE: 8-31-95              |
| O2 SPAN = 25% CO2 SPAN = 20% | TIME:                      |
| O2 MONITOR ID: 3             | CO2 MONITOR ID: 2          |
| CALIBRATION GAS VALUES       | CALIBRATION GAS ID         |
| ZERO 0                       |                            |
| MID = O2 9.918 CO2 9.85      | 4027                       |
| HIGH = 22.8 17.62            | 4007                       |
| ANALYZER RESPONSE            | ANALYZER CALIBRATION ERROR |
| ZERO 0.051 0.000             |                            |
| MID = 10.15 9.91             |                            |
| HIGH = 22.91 17.66           |                            |

|  |                               |
|--|-------------------------------|
| SOURCE: LA Pacific                         | DATE OF TEST: 8-31-95         |
| LOCATION: <del>Stack</del> scrubber outlet | RUN ID: 50- <del>MB</del> -R1 |
| %O2 17.9                                   | %CO2 2.9                      |
| %O2 17.9                                   | %CO2 2.9                      |
| %O2 17.9                                   | %CO2 2.9                      |
| AVERAGE 17.9                               | AVERAGE 2.9                   |
| Fo FACTOR: 1.034                           |                               |

|                           |                  |
|---------------------------|------------------|
| LOCATION: Scrubber outlet | RUN ID: 50-M3-R2 |
| %O2 18.1                  | %CO2 2.5         |
| %O2 18.1                  | %CO2 2.5         |
| %O2 18.1                  | %CO2 2.5         |
| AVERAGE 18.1              | AVERAGE 2.5      |
| Fo FACTOR: 1.120          |                  |

|                           |                  |
|---------------------------|------------------|
| LOCATION: scrubber outlet | RUN ID: 50-M3-R3 |
| %O2 18.2                  | %CO2 2.5         |
| %O2 18.2                  | %CO2 2.5         |
| %O2 18.2                  | %CO2 2.5         |
| AVERAGE 18.2              | AVERAGE 2.5      |
| Fo FACTOR: 1.080          |                  |

$F_o = (20.9 - \%O_2) / \%CO_2$

COMMON Fo FACTORS:

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

**APPENDIX J.3**

**RAW FIELD DATA FOR EPA METHOD 5/202 TESTING**

**- RTO STACK -**



ISOKINETIC SAMPLING DATA SHEET

6.5  
pvin

STATE: LOUISIANA PARCEC TEST LOCATION: RTO DATE: 8/31/95  
TIME: 09:55 END TIME: 11:07 POLLUTANT: TSP / CPM RUN I.D.: RTO - N5/200 - R1

| SAMPLE TIME | TIME                   | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGN VOLUME ft <sup>3</sup> | DGN TEMP. INLET | DGN TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------------|------------------------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 0           | 09:55                  |        | 230         | 0.47     | 1.43     | 353.728                    | 81              | 78               | 57             | 243          | 3          |
| 2.5         |                        |        | 230         | 0.58     | 1.79     | 355.4                      | 82              | 78               | 57             | 245          | 3          |
| 5           |                        |        | 230         | 0.64     | 1.95     | 357.6                      | 82              | 78               | 57             | 247          | 4          |
| 7.5         |                        |        | 233         | 0.62     | 1.89     | 359.0                      | 83              | 78               | 57             | 245          | 3          |
| 10          |                        |        | 235         | 0.66     | 2.01     | 361.1                      | 84              | 79               | 57             | 241          | 3          |
| 12.5        |                        |        | 232         | 0.66     | 2.01     | 362.9                      | 84              | 79               | 58             | 242          | 3          |
| 15          |                        |        | 233         | 0.66     | 2.01     | 364.9                      | 84              | 79               | 58             | 241          | 3          |
| 17.5        |                        |        | 232         | 0.67     | 2.02     | 367.1                      | 85              | 80               | 58             | 247          | 3          |
| 20          |                        | -0.35  | 233         | 0.67     | 2.02     | 369.2                      | 86              | 80               | 58             | 247          | 3          |
| 22.5        |                        |        | 233         | 0.67     | 2.02     | 371.2                      | 86              | 81               | 58             | 248          | 3          |
| 25          |                        |        | 235         | 0.55     | 1.66     | 373.2                      | 87              | 82               | 58             | 247          | 3          |
| 27.5        | 10:25                  |        | 235         | 0.58     | 1.75     | 375.15                     | 88              | 82               | 59             | 248          | 3          |
| 30          | <del>10:25</del> 10:47 |        | 239         | 0.46     | 1.38     | 377.153                    | 88              | 83               | 59             | 246          | 3          |
| 32.5        |                        |        | 230         | 0.55     | 1.66     | 378.7                      | 88              | 83               | 60             | 247          | 3          |
| 35          |                        |        | 231         | 0.63     | 1.90     | 380.9                      | 89              | 83               | 60             | 250          | 3          |
| 37.5        |                        |        | 235         | 0.63     | 1.90     | 382.7                      | 89              | 83               | 60             | 253          | 4          |
| 40          |                        | -0.34  | 233         | 0.64     | 1.93     | 384.6                      | 90              | 84               | 60             | 252          | 4          |
| 42.5        |                        |        | 235         | 0.66     | 1.99     | 386.7                      | 90              | 84               | 61             | 249          | 4          |
| 45          |                        |        | 233         | 0.66     | 1.99     | 388.8                      | 91              | 84               | 61             | 249          | 4          |
| 47.5        |                        |        | 234         | 0.69     | 2.08     | 390.7                      | 91              | 85               | 61             | 250          | 4          |
| 50          |                        |        | 233         | 0.70     | 2.11     | 392.9                      | 92              | 85               | 61             | 249          | 4          |
| 52.5        |                        |        | 234         | 0.67     | 2.02     | 395.1                      | 92              | 85               | 61             | 250          | 4          |
| 55          |                        |        | 235         | 0.69     | 2.08     | 397.1                      | 93              | 85               | 61             | 246          | 4          |
| 57.5        |                        |        | 235         | 0.64     | 1.93     | 399.1                      | 93              | 86               | 60             | 245          | 4          |
| 60          | 11:07                  |        |             |          |          | 401.267                    |                 |                  |                |              |            |

16302

OF CUSTODY:

| NO. | SAMPLE I.D. | DESCRIPTION |
|-----|-------------|-------------|
|     |             |             |
|     |             |             |
|     |             |             |
|     |             |             |
|     |             |             |
|     |             |             |
|     |             |             |
|     |             |             |
|     |             |             |
|     |             |             |

LEAK CHECK:

| VACUUM | 15in | 15in |
|--------|------|------|
| RATE   | 0.00 | 0.00 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
|          |         |       |
| #1       | 100ml   | 162ml |
| #2       | 100ml   | 122ml |
| #3       | 100ml   | 104ml |
| #4       | 200g    | 210.5 |
| #5       |         |       |
| #6       |         |       |

|                  |        |
|------------------|--------|
| NOZZLE #         | 0.258  |
| PITOT #          |        |
| BOX I.D.         | #10    |
| GAMMA γ          | 0.993  |
| ΔH <sub>2</sub>  | 1.7109 |
| P <sub>BAR</sub> | 29.75  |
| FILTER           | 95-148 |
| TECH.            | AAH    |

ISO KINETIC SAMPLING DATA SHEET

UTILITY: LOUISIANA PACIFIC

TEST LOCATION: RTO STACK

DATE: 3/30/95

START TIME: 12:40

END TIME: 14:22

POLLUTANT: TSP/CPM

RUN I.D.: RTO-5/100-12

| NT | SAMPLE TIME | TIME          | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|----|-------------|---------------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
|    | 0           | 12:40         |        | 236         | 0.57     | 1.63     | 402.101                    | 88              | 86               | 57             | 240          | 3          |
|    | 2.5         |               |        | 237         | 0.60     | 1.72     | 403.7                      | 90              | 87               | 58             | 241          | 3          |
|    | 5           | 12:47         |        | 237         | 0.63     | 1.80     | 405.6                      | 91              | 88               | 58             | 243          | 3          |
|    | 7.5         | 13:03         |        | 230         | 0.64     | 1.83     | 407.9                      | 93              | 89               | 59             | 252          | 3          |
|    | 10          |               |        | 230         | 0.64     | 1.83     | 409.8                      | 94              | 89               | 59             | 251          | 3          |
|    | 12.5        |               | -0.36  | 230         | 0.63     | 1.80     | 411.8                      | 95              | 90               | 60             | 249          | 3          |
|    | 15          | 13:16<br>3:24 |        | 231         | 0.65     | 1.86     | 413.7                      | 96              | 91               | 60             | 249          | 3          |
|    | 17.5        |               |        | 237         | 0.64     | 1.83     | 415.7                      | 96              | 91               | 57             | 249          | 3          |
|    | 20          |               |        | 239         | 0.66     | 1.89     | 417.7                      | 96              | 91               | 58             | 249          | 3          |
|    | 22.5        |               |        | 241         | 0.64     | 1.83     | 419.7                      | 97              | 92               | 59             | 250          | 3          |
|    | 25          |               |        | 240         | 0.68     | 1.95     | 421.9                      | 97              | 92               | 60             | 251          | 3          |
|    | 27.5        | 13:38         |        | 239         | 0.60     | 1.72     | 423.9                      | 98              | 93               | 60             | 250          | 3          |
|    | 30          | 13:52         |        | 240         | 0.48     | 1.34     | 425.757                    | 98              | 95               | 57             | 252          | 3          |
|    | 32.5        |               |        | 240         | 0.62     | 1.77     | 427.6                      | 99              | 95               | 58             | 251          | 3          |
|    | 35          |               |        | 238         | 0.65     | 1.86     | 429.2                      | 100             | 95               | 58             | 247          | 3          |
|    | 37.5        |               |        | 233         | 0.61     | 1.78     | 431.0                      | 102             | 96               | 59             | 245          | 3          |
|    | 40          |               | -0.37  | 242         | 0.68     | 1.98     | 432.5                      | 103             | 96               | 59             | 251          | 3          |
|    | 42.5        |               |        | 238         | 0.68     | 1.98     | 434.4                      | 104             | 97               | 60             | 250          | 3          |
|    | 45          |               |        | 239         | 0.67     | 1.95     | 436.7                      | 104             | 97               | 61             | 255          | 3          |
|    | 47.5        |               |        | 240         | 0.67     | 1.95     | 438.6                      | 105             | 98               | 62             | 252          | 3          |
|    | 50          |               |        | 242         | 0.69     | 2.00     | 440.6                      | 105             | 98               | 62             | 251          | 3          |
|    | 52.5        |               |        | 239         | 0.69     | 2.00     | 442.7                      | 105             | 98               | 62             | 249          | 3          |
|    | 55          |               |        | 241         | 0.66     | 1.92     | 444.8                      | 105             | 98               | 62             | 250          | 3          |
|    | 57.5        |               |        | 238         | 0.62     | 1.80     | 446.8                      | 105             | 98               | 62             | 253          | 3          |
| AL | 60          | 14:22         |        |             |          |          | 448.987                    |                 |                  |                |              |            |

LC=2.86

LC=2.91

IN CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION |
|-----------|-------------|-------------|
|           |             |             |
|           |             |             |
|           |             |             |
|           |             |             |
|           |             |             |
|           |             |             |
|           |             |             |
|           |             |             |
|           |             |             |
|           |             |             |

LEAK CHECK:

| VACUUM | 15 min | 15 min |  |  |
|--------|--------|--------|--|--|
| RATE   | 602    | 0.01   |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
|          |         |       |
| #1       | 100ml   | 108ml |
| #2       | 100ml   | 112ml |
| #3       | 100ml   | 104ml |
| #4       | 200g    | 210g  |
| #5       |         |       |
| #6       |         |       |

|          |        |
|----------|--------|
| NOZZLE # | 0.258  |
| PITOT #  | CP-604 |
| BOX I.D. | 10     |
| GAMMA γ  | 0.9973 |
| ΔH       | 1.7100 |
| P BAR    | 28.75  |
| FILTER   | 95-155 |
| TECH.    | AAH    |

ISOKINETIC SAMPLING DATA SHEET

LOUISIANA PACIFIC

TEST LOCATION: RTO STACK

DATE: 8/31/95

TIME: 16:25

END TIME: 17:32

POLLUTANT: TSP

RUN I.D.: RTO - 17 - R3

k-3-12

| SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK AP | METER AH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 0           | 16:25 |        | 238         | 0.50     | 1.55     | 452.28                     | 108             | 105              | 65             | 249          | 6          |
| 2.5         |       |        | 244         | 0.54     | 1.68     | 451.9                      | 108             | 105              | 69             | 250          | 7          |
| 5           |       |        | 242         | 0.60     | 1.87     | 454.3                      | 109             | 106              | 63             | 250          | 6          |
| 7.5         |       | -0.29  | 246         | 0.60     | 1.87     | 456.0                      | 110             | 106              | 63             | 251          | 6          |
| 10          |       |        | 245         | 0.62     | 1.93     | 457.9                      | 111             | 107              | 63             | 253          | 6          |
| 12.5        |       |        | 247         | 0.60     | 1.87     | 460.0                      | 112             | 108              | 63             | 251          | 6          |
| 15          |       |        | 243         | 0.62     | 1.93     | 462.0                      | 114             | 109              | 61             | 253          | 6          |
| 17.5        |       |        | 245         | 0.63     | 1.96     | 464.0                      | 115             | 110              | 60             | 249          | 6          |
| 20          |       |        | 245         | 0.63     | 1.96     | 466.2                      | 115             | 110              | 60             | 254          | 7          |
| 22.5        |       |        | 246         | 0.63     | 1.96     | 468.3                      | 115             | 110              | 59             | 252          | 7          |
| 25          |       |        | 244         | 0.62     | 1.93     | 470.4                      | 116             | 111              | 60             | 249          | 7          |
| 27.5        | 16:55 |        | 244         | 0.55     | 1.72     | 472.4                      | 117             | 112              | 61             | 250          | 7          |
| 30          | 17:02 |        | 241         | 0.47     | 1.47     | 474.381                    | 116             | 112              | 62             | 252          | 6          |
| 32.5        |       |        | 242         | 0.58     | 1.80     | 476.2                      | 116             | 112              | 62             | 252          | 6          |
| 35          |       |        | 242         | 0.59     | 1.84     | 478.1                      | 116             | 112              | 62             | 251          | 6          |
| 37.5        |       |        | 244         | 0.62     | 1.93     | 480.2                      | 115             | 112              | 62             | 249          | 6          |
| 40          |       | -0.30  | 243         | 0.62     | 1.93     | 482.4                      | 115             | 112              | 62             | 249          | 7          |
| 42.5        |       |        | 242         | 0.64     | 2.00     | 484.4                      | 115             | 111              | 62             | 250          | 7          |
| 45          |       |        | 245         | 0.63     | 1.97     | 486.4                      | 114             | 110              | 62             | 252          | 7          |
| 47.5        |       |        | 243         | 0.66     | 2.06     | 488.6                      | 113             | 109              | 63             | 250          | 7          |
| 50          |       |        | 244         | 0.65     | 2.03     | 490.7                      | 112             | 108              | 61             | 249          | 6          |
| 52.5        |       |        | 241         | 0.69     | 2.15     | 492.8                      | 111             | 108              | 61             | 250          | 7          |
| 55          |       |        | 241         | 0.67     | 2.09     | 495.0                      | 110             | 107              | 61             | 251          | 7          |
| 57.5        |       |        | 242         | 0.60     | 1.87     | 497.2                      | 109             | 107              | 61             | 250          | 7          |
|             | 17:32 |        |             |          |          | 499.248                    |                 |                  |                |              |            |

OF CUSTODY:

| DATE | SAMPLE I.D. | DESCRIPTION |
|------|-------------|-------------|
|      |             |             |
|      |             |             |
|      |             |             |
|      |             |             |
|      |             |             |
|      |             |             |
|      |             |             |
|      |             |             |
|      |             |             |
|      |             |             |

LEAK CHECK:

| VACUUM | 15m  | 15m  |  |  |
|--------|------|------|--|--|
| RATE   | 0.01 | 0.01 |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
|          |         |       |
|          |         |       |
| #1       | 100ml   | 172ml |
| #2       | 100ml   | 112ml |
| #3       | 100ml   | 162ml |
| #4       | 200g    | 210.5 |
| #5       |         |       |
| #6       |         |       |

|                  |        |
|------------------|--------|
| NOZZLE #         | 0.258  |
| PITOT #          | 3      |
| BOX I.D.         | #10    |
| GAMMA Y          | 0.9993 |
| ΔH               | 1.7109 |
| P <sub>BAR</sub> | 28.75  |
| FILTER           | 95-156 |
| TECH.            | ANDY   |

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

|                              |                            |
|------------------------------|----------------------------|
| O2/CO2 CALIBRATION           | DATE: 8-31-95              |
| O2 SPAN = 25% CO2 SPAN = 20% | TIME:                      |
| O2 MONITOR ID: 3             | CO2 MONITOR ID: 2          |
| CALIBRATION GAS VALUES       | CALIBRATION GAS ID         |
| ZERO 0                       |                            |
| MID = O2 9.908 CO2 9.85      | 4027                       |
| HIGH = 22.9 17.62            | 4007                       |
| ANALYZER RESPONSE            | ANALYZER CALIBRATION ERROR |
| ZERO 0.051 0.000             |                            |
| MID = 10.15 9.91             |                            |
| HIGH = 22.91 17.66           |                            |

LA - Pacific

|                              |                       |
|------------------------------|-----------------------|
| SOURCE: <del>RTO-m3-R1</del> | DATE OF TEST: 8-31-95 |
| LOCATION: RTO-stack          | RUN ID: RTO-m3-R1     |
| %O2 19.0                     | %CO2 1.2              |
| %O2 19.0                     | %CO2 1.2              |
| %O2 19.0                     | %CO2 1.2              |
| AVERAGE 19.0                 | AVERAGE 1.2           |
| Fo FACTOR: 1.583             |                       |

|                      |                              |
|----------------------|------------------------------|
| LOCATION: RTO-outlet | RUN ID: <del>RTO-m3-R2</del> |
| %O2 19.1             | %CO2 1.1                     |
| %O2 19.1             | %CO2 1.1                     |
| %O2 19.1             | %CO2 1.1                     |
| AVERAGE 19.1         | AVERAGE 1.1                  |
| Fo FACTOR: 1.636     |                              |

|                      |                   |
|----------------------|-------------------|
| LOCATION: RTO-outlet | RUN ID: RTO-m3-R3 |
| %O2 18.9             | %CO2 1.15         |
| %O2 18.9             | %CO2 1.15         |
| %O2 18.9             | %CO2 1.15         |
| AVERAGE 18.9         | AVERAGE 1.15      |
| Fo FACTOR: 1.739     |                   |

$F_o = (20.9 - \%O_2) / \%CO_2$

COMMON Fo FACTORS:

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

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



**APPENDIX J.4**

**RAW FIELD DATA FOR EPA METHOD 5/202 TESTING**

**- KONUS STACK -**



ISOKINETIC SAMPLING DATA SHEET

U. Pacific

TEST LOCATION: Koos

DATE: 9/13

TIME: 9:27

END TIME: 1045

POLLUTANT: TSP

RUN I.D.: KS-M 2021

| SAMPLE TIME | TIME          | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------------|---------------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 0           | 9:27          |        | 287         | .29      | 1.70     | 374.554                    | 77              | 76               | 63             | 241          | 6          |
| 3           |               |        | 285         | .30      | 1.76     | 376.9                      | 78              | 75               | 55             | 238          | 6          |
| 6           |               |        | 287         | .30      | 1.76     | 379.2                      | 80              | 75               | 54             | 238          | 6          |
| 9           |               |        | 286         | .30      | 1.76     | 381.6                      | 82              | 75               | 54             | 245          | 6          |
| 12          |               | -16    | 286         | .30      | 1.76     | 384.0                      | 85              | 76               | 54             | 247          | 7          |
| 15          |               |        | 286         | .29      | 1.70     | 386.8                      | 85              | 77               | 55             | 277          | 7          |
| 18          |               |        | 286         | .27      | 1.58     | 388.9                      | 86              | 77               | 55             | 248          | 7          |
| 21          |               |        | 282         | .25      | 1.47     | 391.0                      | 87              | 77               | 56             | 248          | 7          |
| 24          |               |        | 282         | .24      | 1.40     | 393.5                      | 89              | 78               | 55             | 250          | 6          |
| 27          |               |        | 280         | .24      | 1.40     | 395.4                      | 89              | 79               | 56             | 250          | 6          |
| 30          |               |        |             |          |          | 397.537                    |                 |                  |                |              |            |
| 30          | 9:57<br>10:15 |        | 285         | .25      | 1.47     | 397.662                    | 100             | 99               | 56             | 248          | 6          |
| 33          |               |        | 286         | .26      | 1.58     | 400.5                      | 101             | 99               | 55             | 248          | 6          |
| 36          |               |        | 286         | .27      | 1.62     | 402.1                      | 98              | 97               | 56             | 251          | 6          |
| 39          |               |        | 285         | .27      | 1.62     | 404.4                      | 97              | 97               | 56             | 252          | 6          |
| 42          |               | -15    | 285         | .28      | 1.68     | 406.6                      | 98              | 95               | 55             | 250          | 6          |
| 45          |               |        | 285         | .27      | 1.62     | 409.1                      | 97              | 95               | 56             | 250          | 6          |
| 48          |               |        | 283         | .27      | 1.62     | 411.5                      | 98              | 96               | 56             | 251          | 6          |
| 51          |               |        | 282         | .26      | 1.58     | 413.9                      | 97              | 93               | 57             | 249          | 6          |
| 54          |               |        | 283         | .25      | 1.47     | 415.8                      | 97              | 91               | 60             | 252          | 6          |
| 57          |               |        | 284         | .25      | 1.47     | 418.0                      | 98              | 90               | 61             | 252          | 6          |
| 60          | 1045          |        |             |          |          | 420.311                    |                 |                  |                |              |            |

OF CUSTODY:

| NO. | SAMPLE I.D. | DESCRIPTION    |
|-----|-------------|----------------|
| 1   | 100         | Filter         |
| 2   | 101         | FH Auctor      |
| 3   | 102         | Imp 13 + EXTRA |
| 4   | 103         |                |
| 5   | 104         | H2O Rinses     |
| 6   | 105         | Mell Rinses    |
| 7   | 106         | S. bel         |

LEAK CHECK:

| VACUUM | 15" | 10   |
|--------|-----|------|
| RATE   | .01 | 0.01 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
|          | 100     | 128   |
| #1       | 100     | 110   |
| #2       | 0       | 3     |
| #3       | 200     | 2025  |
| #4       |         |       |
| #5       |         |       |
| #6       |         |       |

|                  |         |
|------------------|---------|
| NOZZLE #         | 0.312   |
| PITOT #          | 50521   |
| BOX I.D.         | 12      |
| GAMMA γ          | 1.76407 |
| ΔH <sub>0</sub>  | 0.9071  |
| P <sub>BAR</sub> | 2885    |
| FILTER           | 95-188  |
| TECH.            |         |

ISOKINETIC SAMPLING DATA SHEET

FACILITY: CA. Pacific TEST LOCATION: Konus DATE: 9/13  
 START TIME: 11:45 END TIME: 1317 POLLUTANT: TSP RUN I.D.: KS - H 90V R2

| POINT | SAMPLE TIME | TIME                      | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------|-------------|---------------------------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 10    | 0           | 11:45                     |        | 285         | .26      | 1.57     | 420.592                    | 93              | 95               | 52             | 248          | 6          |
| 9     | 3           |                           |        | 283         | .26      | 1.57     | 422.9                      | 94              | 95               | 59             | 249          | 6          |
| 8     | 6           |                           |        | 283         | .27      | 1.63     | 425.3                      | 94              | 95               | 58             | 250          | 6          |
| 7     | 9           |                           |        | 284         | .26      | 1.57     | 427.7                      | 96              | 94               | 57             | 252          | 6          |
| 6     | 12          |                           | -.15   | 285         | .27      | 1.63     | 430.0                      | 98              | 85               | 57             | 248          | 6          |
| 5     | 15          |                           |        | 283         | .27      | 1.63     | 432.9                      | 99              | 95               | 57             | 249          | 5          |
| 4     | 18          |                           |        | 285         | .28      | 1.68     | 435.0                      | 99              | 95               | 58             | 253          | 5          |
| 3     | 21          |                           |        | 286         | .27      | 1.63     | 437.3                      | 100             | 95               | 57             | 249          | 5          |
| 2     | 24          |                           |        | 286         | .25      | 1.50     | 439.3                      | 100             | 95               | 57             | 251          | 5          |
| 1     | 27          |                           |        | 285         | .24      | 1.45     | 442.0                      | 100             | 96               | 57             | 252          | 5          |
| 0     | 30          |                           |        |             |          |          | 444.218                    |                 |                  |                |              |            |
| 10    | 30          | <del>12:12</del><br>12:47 |        | 284         | .26      | 1.57     | 444.267                    | 98              | 96               | 59             | 250          | 5          |
| 9     | 33          |                           |        | 283         | .27      | 1.63     | 446.5                      | 96              | 95               | 58             | 255          | 5          |
| 8     | 36          |                           |        | 284         | .27      | 1.63     | 448.8                      | 96              | 95               | 57             | 249          | 5          |
| 7     | 39          |                           |        | 286         | .28      | 1.68     | 451.2                      | 97              | 95               | 58             | 253          | 5          |
| 6     | 42          |                           | -.15   | 286         | .27      | 1.63     | 453.9                      | 98              | 95               | 58             | 251          | 5          |
| 5     | 45          |                           |        | 287         | .28      | 1.57     | 455.9                      | 99              | 96               | 57             | 252          | 5          |
| 4     | 48          |                           |        | 287         | .25      | 1.50     | 458.2                      | 100             | 95               | 59             | 252          | 5          |
| 3     | 51          |                           |        | 285         | .24      | 1.45     | 460.4                      | 101             | 95               | 59             | 250          | 5          |
| 2     | 54          |                           |        | 284         | .24      | 1.45     | 462.7                      | 102             | 96               | 61             | 251          | 5          |
| 1     | 57          |                           |        | 283         | .24      | 1.45     | 464.9                      | 102             | 97               | 62             | 251          | 5          |
|       | 60          | 1317                      |        |             |          |          | 467.095                    |                 |                  |                |              |            |

CHAIN OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION           |
|-----------|-------------|-----------------------|
| F1        | 108         | Filter                |
| F2        | 109         | FHA Action            |
| F3        | 110         | Imp Contents          |
| F4        | 111         | Imp Contents Ext      |
| F5        | 112         | H <sub>2</sub> O Line |
| F6        | 113         | Mel Line              |
| F6        | 114         | S. Gel                |
| F7        | 115         | Ted. Bag              |

LEAK CHECK:

| VACUUM | 1.5" | 8   |
|--------|------|-----|
| RATE   | .01  | .01 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 100     | 134   |
| #2       | 100     | 106   |
| #3       | 0       | 4     |
| #4       | 200     | 208   |
| #5       |         |       |
| #6       |         |       |

|                  |           |
|------------------|-----------|
| NOZZLE #         | 0.302     |
| PITOT #          | 50521     |
| BOX I.D.         | 12        |
| GAMMA Y          | 0.99679   |
| ΔH               | 1.76407   |
| P <sub>BAR</sub> | 28.85     |
| FILTER           | 95-189    |
| TECH.            | J. Maiden |

ISOKINETIC SAMPL. DATA SHEET

CITY: C.A. Pacific

TEST LOCATION: ORUS

DATE: 9/13

START TIME: 2:20 14:20 END TIME: 13:57

POLLUTANT: TSP

RUN I.D.: K5-N2-R3

| POINT | SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 10    | 0           | 14:20 |        | 282         | .26      | 1.55     | 467.403                    | 92              | 92               | 63             | 247          | 6          |
| 9     | 3           |       |        | 284         | .27      | 1.61     | 469.7                      | 93              | 92               | 61             | 250          | 6          |
| 8     | 6           |       |        | 285         | .27      | 1.61     | 472.0                      | 94              | 92               | 62             | 254          | 6          |
| 7     | 9           |       |        | 285         | .28      | 1.67     | 474.4                      | 95              | 92               | 61             | 251          | 6          |
| 6     | 12          |       | -.16   | 284         | .29      | 1.73     | 476.6                      | 96              | 92               | 60             | 254          | 6          |
| 5     | 15          |       |        | 284         | .27      | 1.61     | 479.1                      | 98              | 92               | 61             | 254          | 6          |
| 4     | 18          |       |        | 282         | .25      | 1.48     | 481.4                      | 99              | 92               | 62             | 250          | 6          |
| 3     | 21          |       |        | 282         | .25      | 1.48     | 483.7                      | 99              | 92               | 61             | 250          | 6          |
| 2     | 24          |       |        | 283         | .24      | 1.43     | 485.8                      | 100             | 93               | 61             | 252          | 6          |
| 1     | 27          |       |        | 284         | .24      | 1.43     | 488.0                      | 100             | 93               | 60             | 250          | 6          |
| 0     | 30          |       |        |             |          |          | 490.235                    |                 |                  |                |              |            |
| A10   | 30          | 14:30 |        | 283         | .25      | 1.48     | 490.235                    | 95              | 93               | 68             | 253          | 6          |
| 9     | 33          | 14:30 |        | 284         | .25      | 1.48     | 492.5                      | 98              | 93               | 63             | 254          | 6          |
| 8     | 36          |       |        | 283         | .26      | 1.55     | 494.7                      | 98              | 93               | 63             | 252          | 6          |
| 7     | 39          |       |        | 285         | .26      | 1.55     | 497.0                      | 99              | 93               | 62             | 253          | 6          |
| 6     | 42          |       | -.15   | 283         | .27      | 1.61     | 499.3                      | 100             | 93               | 61             | 252          | 6          |
| 5     | 45          |       |        | 286         | .27      | 1.61     | 501.5                      | 101             | 93               | 60             | 252          | 6          |
| 4     | 48          |       |        | 285         | .25      | 1.48     | 503.8                      | 101             | 93               | 60             | 252          | 6          |
| 3     | 51          |       |        | 285         | .24      | 1.43     | 506.1                      | 102             | 93               | 61             | 253          | 6          |
| 2     | 54          |       |        | 283         | .24      | 1.43     | 508.8                      | 103             | 95               | 60             | 252          | 6          |
| 1     | 57          |       |        | 284         | .23      | 1.37     | 510.7                      | 103             | 95               | 60             | 251          | 6          |
| 0     | 60          | 15:32 |        |             |          |          | 512.948                    |                 |                  |                |              |            |

CHAIN OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION |
|-----------|-------------|-------------|
| F1        | 116         | 1           |
| F2        | 117         | FH Acar     |
| F3        | 118         | Imp 17      |
| F4        | 119         | Imp 17      |
| F5        | 120         | H2O Ring    |
| F6        | 121         | Vol / Ring  |
| F7        | 122         | S. Port     |
| F8        | 123         | Ted Bay     |

LEAK CHECK:

| VACUUM | 15" | 10"  |
|--------|-----|------|
| RATE   | .01 | .008 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 100     | 126   |
| #2       | 100     | 108   |
| #3       | 0       | 2     |
| #4       | 200     | 210.9 |
| #5       |         |       |
| #6       |         |       |

|          |            |
|----------|------------|
| NOZZLE # | 1.307      |
| PITOT #  | 0.84 50826 |
| BOX I.D. | 12         |
| GAMMA γ  | 0.99079    |
| ΔH       | 1.76407    |
| P BAR    | 28.85      |
| FILTER   | 95-190     |
| TECH.    | S. Maiden  |

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

|                              |                            |
|------------------------------|----------------------------|
| O2/CO2 CALIBRATION           | DATE: 9-13-95              |
| O2 SPAN = 25% CO2 SPAN = 20% | TIME:                      |
| O2 MONITOR ID: 3             | CO2 MONITOR ID: 2          |
| CALIBRATION GAS VALUES       | CALIBRATION GAS ID         |
| ZERO 0 0                     |                            |
| MID = O2 - 9.908 CO2 - 9.85  |                            |
| HIGH = O2 - 22.8 CO2 - 17.62 |                            |
| ANALYZER RESPONSE            | ANALYZER CALIBRATION ERROR |
| ZERO 0.1 0.00                |                            |
| MID = 9.97 10.00             |                            |
| HIGH = 22.8 17.63            |                            |

|                                |                       |
|--------------------------------|-----------------------|
| SOURCE: LA Pacific - Dungeness | DATE OF TEST: 9-13-95 |
| LOCATION: Korus Stack          | RUN ID: KS-m3-R1      |
| %O2 19.1                       | %CO2 1.5              |
| %O2 19.1                       | %CO2 1.5              |
| %O2 19.1                       | %CO2 1.5              |
| AVERAGE 19.1                   | AVERAGE 1.5           |
|                                | Fo FACTOR: 1.200      |

|                       |                  |
|-----------------------|------------------|
| LOCATION: Korus Stack | RUN ID: KS-m3-R2 |
| %O2 18.2              | %CO2 2.02        |
| %O2 18.2              | %CO2 2.02        |
| %O2 18.2              | %CO2 2.02        |
| AVERAGE 18.2          | AVERAGE 2.02     |
|                       | Fo FACTOR: 1.337 |

|                       |                  |
|-----------------------|------------------|
| LOCATION: Korus Stack | RUN ID: KS-m3-R3 |
| %O2 18.4              | %CO2 1.9         |
| %O2 18.4              | %CO2 1.9         |
| %O2 18.4              | %CO2 1.9         |
| AVERAGE 18.4          | AVERAGE 1.9      |
|                       | Fo FACTOR: 1.314 |

$$Fo = (20.9 - \%O2) / \%CO2$$

COMMON Fo FACTORS:

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

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

**APPENDIX K**

**RAW FIELD DATA APPENDICES FOR EPA METHOD 201A TESTING**





**APPENDIX K.1**

**RAW FIELD DATA FOR EPA METHOD 201A TESTING**

**- RTO STACK -**



FACILITY LOUISIANA PACIFIC

START TIME 9:55

TEST LOCATION RTO-outlet

DATE 8-31-95

RUN NUMBER RTO-1m0-~~1~~

RI

| Point | Sample Time | Clock Time | Static | Stack Temp. | Stack dP | Dwell Time | Meter dH | Meter Volume cu.ft. | Meter Temp. |        | Imp. Temp. | Meter Vac. |
|-------|-------------|------------|--------|-------------|----------|------------|----------|---------------------|-------------|--------|------------|------------|
|       |             |            |        |             |          |            |          |                     | Inlet       | Outlet |            |            |
| A 1   | 0           | 9:55       |        | 238         | 067      | 4.5        | 0.525    | 913.050             | 17          | 95     | 70         | 2          |
| 3     | 5.5         |            |        | 239         | 70       | 3.90       | 0.525    | 914.5               | 97          | 95     | 65         | 2          |
| 4     | 9.4         |            |        | 240         | 65       | 3.6        | 0.525    | 916.7               | 101         | 97     | 63         | 2          |
| 3     | 13          |            | -35    | 240         | 67       | 3.7        | 0.525    | 918.7               | 105         | 99     | 62         | 2          |
| 3     | 16.7        |            |        | 238         | 63       | 3.5        | 0.525    | 920.0               | 107         | 102    | 61         | 2          |
|       | 20.2        |            |        | 239         | 45       | 2.5        | 0.525    | 921.3               | 110         | 104    | 60         | 2          |
|       | 22.7        | 10:18      |        |             |          |            |          | 922.888             |             |        |            |            |
| 2 1   | 22.7        | 10:47      |        | 237         | 570      | 3.90       | 0.525    | 922.888             | 108         | 105    | 65         | 2          |
| 5     | 26.6        |            |        | 242         | 66       | 3.63       | 0.525    | 924.600             | 110         | 106    | 62         | 2          |
| 4     | 30.2        |            | -36    | 240         | 69       | 3.79       | 0.525    | 926.15              | 112         | 107    | 61         | 2          |
| 3     | 34.0        |            |        | 238         | 65       | 3.6        | 0.525    | 927.7               | 114         | 108    | 61         | 2          |
| 2     | 37.6        |            |        | 238         | 68       | 3.74       | 0.525    | 929.5               | 118         | 109    | 60         | 2          |
| 1     | 41.3        |            |        | 235         | 55       | 3.0        | 0.525    | 930.83              | 117         | 110    | 63         | 2          |
|       | 43.3        | 11:09      |        |             |          |            |          | 931.905             |             |        |            |            |

CHAIN OF CUSTODY INFORMATION

| Container Number | Sample I.D. | Description |
|------------------|-------------|-------------|
| E1               | 535         | Filter      |
| E2               | 536         | 7 Pm10      |
| E3               | 537         | 6 Pm10      |

LEAK CHECK

|        |     |  |  |  |
|--------|-----|--|--|--|
| Vacuum | 15  |  |  |  |
| Rate   | 808 |  |  |  |

Dwell Time for Point 1 = 4.5

$t_1 - t_2 = 5.5 = K$

IMPINGER VOLUMES

|    | Initial | Final |
|----|---------|-------|
| #1 | 100     | 132   |
| #2 | 100     | 104   |
| #3 | 0       | 0     |
| #4 |         |       |
| #5 | 200     | 2070  |

|                      |         |
|----------------------|---------|
| METER BOX I.D.       | S       |
| GAMMA                | .99910  |
| DELTA H <sub>2</sub> | 1.73672 |
| OPERATOR             | J.P.    |
| BAR. PRESS.          | 29.75   |
| FILTER I.D.          | G95-98  |

$K \times AP_2 = T_2$

t = time  
P = AP

B

| Point | Sample Time | Clock Time | Static | Stack Temp. | Stack dP | Dwell Time | Meter dH | Meter Volume cu.ft. | Meter Temp. |        | Imp. Temp. | Meter Vac. |
|-------|-------------|------------|--------|-------------|----------|------------|----------|---------------------|-------------|--------|------------|------------|
|       |             |            |        |             |          |            |          |                     | Inlet       | Outlet |            |            |
| 6     | 0           | 12:40      |        | 239         | .67      | 3.69       | .457     | 932.600             | 118         | 115    | 78         | 2          |
| 5     | 3.69        |            |        | 244         | .74      | 3.34       | .457     | 934.2               | 121         | 116    | 68         | 2          |
| 4     | 7.02        |            |        | 242         | .75      | 3.38       | .457     | 935.5               | 121         | 116    | 63         | 2          |
| 3     | 10.4        | STOP 12:42 |        | 244         | .67      | 3.02       | .457     | 937.0               | 123         | 117    | 61         | 2          |
| 2     | 13.42       |            |        | 242         | .70      | 3.15       | .457     | 938.0               | 122         | 117    | 61         | 2          |
| 1     | 16.57       |            |        | 238         | .63      | 2.84       | .457     | 939.1               | 124         | 119    | 60         | 2          |
|       | 19.4        | STOP 13:12 |        |             |          |            |          | 940.450             |             |        |            |            |

A

|   |       |       |     |     |     |      |      |         |     |     |    |   |
|---|-------|-------|-----|-----|-----|------|------|---------|-----|-----|----|---|
| 6 | 19.4  | 13:52 |     | 244 | .77 | 3.47 | .457 | 940.450 | 116 | 115 | 66 | 2 |
| 5 | 22.87 |       |     | 240 | .74 | 3.34 | .457 | 941.8   | 117 | 115 | 61 | 2 |
| 4 | 26.2  |       | -39 | 243 | .75 | 3.38 | .457 | 943.4   | 117 | 115 | 62 | 2 |
| 3 | 29.58 |       |     | 244 | .75 | 3.38 | .457 | 944.7   | 117 | 115 | 68 | 2 |
| 2 | 32.96 |       |     | 238 | .71 | 3.2  | .457 | 945.95  | 117 | 114 | 68 | 2 |
| 1 | 36.16 |       |     | 237 | .60 | 2.70 | .457 | 947.1   | 115 | 113 | 63 | 2 |
|   | 38.9  | 14:12 |     |     |     |      |      | 948.350 |     |     |    |   |

CHAIN OF CUSTODY INFORMATION

| Container Number | Sample I.D. | Description |
|------------------|-------------|-------------|
|                  |             |             |
|                  |             |             |
|                  |             |             |
|                  |             |             |
|                  |             |             |
|                  |             |             |
|                  |             |             |
|                  |             |             |
|                  |             |             |
|                  |             |             |

LEAK CHECK

|        |    |   |  |  |  |
|--------|----|---|--|--|--|
| Vacuum | 15 | 5 |  |  |  |
| Rate   | 0  | 0 |  |  |  |

Dwell Time for Point 1 = 3.69  
~~4.51~~  
 $t_1 - t_2 = \text{circle} = K$

IMPINGER VOLUMES

|    | Initial | Final |
|----|---------|-------|
| #1 | 100     | 128   |
| #2 | 100     | 102   |
| #3 | 0       | 1     |
| #4 |         |       |
| #5 | 200     | 214   |

|                      |         |
|----------------------|---------|
| METER BOX I.D.       | 5       |
| GAMMA                | .99910  |
| DELTA H <sub>0</sub> | 1.73672 |
| OPERATOR             | J.P.    |
| BAR. PRESS.          | 28.75   |
| FILTER I.D.          | 6-8589  |

$K * A P_2 = T_2$

| Point | Sample Time | Clock Time | Static | Stack Temp. | Stack dP | Dwell Time | Meter dH | Meter Volume cu.ft. | Meter Temp. |        | Imp. Temp. | Meter Vac. |
|-------|-------------|------------|--------|-------------|----------|------------|----------|---------------------|-------------|--------|------------|------------|
|       |             |            |        |             |          |            |          |                     | Inlet       | Outlet |            |            |
| 1     | 0           | 16.25      |        | 245         | 0.67     | 3.16       | 0.491    | 976.500             | 105         | 105    | 99         | 2          |
| 5     | 3.56        |            |        | 246         | .73      | 2.86       | 0.491    | 977.900             | 106         | 105    | 63         | 2          |
| 7     | 5.77        |            |        | 247         | .70      | 2.70       | 0.491    | 978.900             | 106         | 104    | 62         | 2          |
| 3     | 8.67        |            | -39    | 248         | .69      | 2.66       | 0.491    | 980.1               | 107         | 105    | 58         | 2          |
| 7     | 11.33       |            |        | 244         | .68      | 2.62       | 0.491    | 981.2               | 108         | 106    | 59         | 2          |
| 1     | 13.75       |            |        | 240         | .63      | 2.43       | 0.491    | 982.1               | 108         | 106    | 59         | 2          |
|       | 16.38       |            |        |             |          |            |          | 983.285             |             |        |            |            |
| 6     | 16.38       | 17.02      |        | 240         | .70      | 2.70       | 0.491    | 983.285             | 103         | 104    | 65         | 2          |
| 5     | 19.08       |            |        | 245         | .72      | 2.77       | 0.491    | 984.2               | 106         | 104    | 65         | 2          |
| 7     | 21.85       |            | -39    | 247         | .75      | 2.87       | 0.491    | 985.5               | 107         | 105    | 66         | 2          |
| 3     | 24.75       |            |        | 248         | .71      | 2.74       | 0.491    | 986.75              | 108         | 106    | 67         | 2          |
| 7     | 27.47       |            |        | 245         | .65      | 2.5        | 0.491    | 987.9               | 109         | 108    | 68         | 2          |
| 1     | 29.99       |            |        | 243         | .55      | 2.12       | 0.491    | 989.5               | 109         | 105    | 68         | 2          |
|       | 32.13       | 1734       |        |             |          |            |          | 989.885             |             |        |            |            |

CHAIN OF CUSTODY INFORMATION

| Container Number | Sample I.D. | Description |
|------------------|-------------|-------------|
|                  |             |             |
|                  |             |             |
|                  |             |             |
|                  |             |             |
|                  |             |             |
|                  |             |             |
|                  |             |             |
|                  |             |             |
|                  |             |             |
|                  |             |             |

LEAK CHECK

|        |     |     |  |  |  |
|--------|-----|-----|--|--|--|
| Vacuum | 9   | 8   |  |  |  |
| Rate   | 000 | 001 |  |  |  |

Dwell Time for Point 1 = 3.16

$\Delta P = 3.86 = K$

IMPINGER VOLUMES

|    | Initial | Final |
|----|---------|-------|
| #1 | 100 mL  | 167   |
| #2 | 100 mL  | 103   |
| #3 | 0 mL    | 1     |
| #4 |         |       |
| #5 | 200 g   | 2.11  |

|                |         |
|----------------|---------|
| METER BOX I.D. | 5       |
| GAMMA          | 9910    |
| DELTA He       | 1.75572 |
| OPERATOR       | J.P.    |
| BAR. PRESS.    |         |
| FILTER I.D.    |         |

$K + AP_2 = T_2$

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

|                              |                            |
|------------------------------|----------------------------|
| O2/CO2 CALIBRATION           | DATE: 8-31-95              |
| O2 SPAN = 25% CO2 SPAN = 20% | TIME:                      |
| O2 MONITOR ID: 3             | CO2 MONITOR ID: 2          |
| CALIBRATION GAS VALUES       | CALIBRATION GAS ID         |
| ZERO 0                       |                            |
| MID = O2 9.908 CO2 9.85      | 4027                       |
| HIGH = 22.8 17.62            | 4007                       |
| ANALYZER RESPONSE            | ANALYZER CALIBRATION ERROR |
| ZERO 0.051 0.000             |                            |
| MID = 10.15 9.91             |                            |
| HIGH = 22.91 17.66           |                            |

LA - Pacific

|                              |                       |
|------------------------------|-----------------------|
| SOURCE: <del>RTO-m3-R1</del> | DATE OF TEST: 8-31-95 |
| LOCATION: RTO-stack          | RUN ID: RTO-m3-R1     |
| %O2 19.0                     | %CO2 1.2              |
| %O2 19.0                     | %CO2 1.2              |
| %O2 19.0                     | %CO2 1.2              |
| AVERAGE 19.0                 | AVERAGE 1.2           |
|                              | Fo FACTOR: 1.583      |

|                      |                              |
|----------------------|------------------------------|
| LOCATION: RTO-outlet | RUN ID: <del>RTO-m3-R2</del> |
| %O2 19.1             | %CO2 1.1                     |
| %O2 19.1             | %CO2 1.1                     |
| %O2 19.1             | %CO2 1.1                     |
| AVERAGE 19.1         | AVERAGE 1.1                  |
|                      | Fo FACTOR: 1.636             |

|                      |                   |
|----------------------|-------------------|
| LOCATION: RTO-outlet | RUN ID: RTO-m3-R3 |
| %O2 18.9             | %CO2 1.15         |
| %O2 18.9             | %CO2 1.15         |
| %O2 18.9             | %CO2 1.15         |
| AVERAGE 18.9         | AVERAGE 1.15      |
|                      | Fo FACTOR: 1.739  |

$$Fo = (20.9 - \%O2) \%CO2$$

COMMON Fo FACTORS:

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

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

**APPENDIX K.2**

**RAW FIELD DATA FOR EPA METHOD 201A TESTING**

**- KONUS STACK -**





METHOD 201A SAMPLING DATA SHEET

FACILITY: LA Pacific TEST LOCATION: Konus Stack DATE: 9-13-95  
 START TIME: 9:27 END TIME: 10:46 POLLUTANT: PM-10 RUN I.D.: KS - M21A R 1

| POINT | SAMPLE TIME | 9:27 TIME      | STATIC | STACK TEMP. | STACK ΔP | DWELL TIME | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | METER VAC. |
|-------|-------------|----------------|--------|-------------|----------|------------|----------|----------------------------|-----------------|------------------|----------------|------------|
| A-6   | 0           |                |        | 280         | 0.23     | 4.92       | 0.574    | 761.564                    | 67              | 66               | 59             | 2          |
| A-5   | 4.92        |                |        | 284         | .27      | 5.59       |          | 764.9                      | 71              | 69               | 55             | 2          |
| 4     | 10.51       |                | -.19   | 284         | .31      | 5.99       |          | 767.4                      | 72              | 69               | 54             | 2          |
| 3     | 16.50       |                |        | 285         | .24      | 5.27       | ↓        | 770.0                      | 78              | 72               | 56             | 2          |
| 2     | 21.77       |                |        | 283         | .25      | 5.38       |          | 772.2                      | 74              | 70               | 56             | 2          |
| 1     | 27.15       |                |        | 280         | .25      | 5.38       |          | 774.5                      | 75              | 71               | 57             | 2          |
|       |             |                |        |             |          |            |          |                            |                 |                  |                |            |
| B-6   | 32.53       | 10:00<br>10:15 |        | 281         | .25      | 5.00       |          | 776.9                      | 74              | 74               | 57             | 2          |
| 5     | 37.53       |                |        | 286         | .24      | 4.90       |          | 779.0                      | 75              | 73               | 57             | 2          |
| 4     | 42.43       |                | -.17   | 293         | .25      | 5.00       |          | 781.3                      | 77              | 76               | 59             | 2          |
| 3     | 47.43       |                |        | 284         | .30      | 5.47       |          | 783.5                      | 77              | 74               | 60             | 2          |
| 2     | 52.9        |                |        | 285         | .26      | 5.10       |          | 786.1                      | 79              | 76               | 60             | 2          |
| 1     | 58.0        |                |        | 285         | .24      | 4.96       | ↓        | 788.3                      | 83              | 77               | 62             | 2          |
|       | 62.9        | 10:46          |        |             |          |            |          | 789.045                    |                 |                  |                |            |

CHAIN OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION |
|-----------|-------------|-------------|
| F1        | Filter      | 200         |
| F2        | > PM10      | 201         |
| F3        | < PM10      | 202         |
|           |             |             |
|           |             |             |
|           |             |             |
|           |             |             |

LEAK CHECK:

|        |      |       |
|--------|------|-------|
| VACUUM | 15"  | 5     |
| RATE   | .004 | 0.000 |

|                                 |           |
|---------------------------------|-----------|
| DWELL TIME POINT 1              | 4.92      |
| t <sub>1</sub> /V <sub>P1</sub> | 10.26 = K |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
|          | 100     | 112   |
| #1       | 100     | 100   |
| #2       | 0       | 3     |
| #3       |         |       |
| #4       |         |       |
| #5       |         |       |
| #6       | 200     | 205.6 |

$T_2 = K * \sqrt{\Delta P_2}$

|                  |         |
|------------------|---------|
| NOZZLE #         | #7 .233 |
| PITOT #          | 0.84    |
| BOX I.D.         | 2       |
| GAMMA Y          | 1.0166  |
| ΔH <sub>2</sub>  | 1.7393  |
| P <sub>BAR</sub> | 28.85   |
| FILTER           | G95-82  |
| TECH.            | Bauman  |

METHOD 201A SAMPLING DATA SHEET

FACILITY: LA Pacific TEST LOCATION: Konus Stack DATE: 9-13-95  
 START TIME: 11:45 END TIME: 12:15 POLLUTANT: Pm-10 RUN I.D.: KS-H201R2

| POINT | SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK ΔP | DWELL TIME | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | METER VAC. |
|-------|-------------|-------|--------|-------------|----------|------------|----------|----------------------------|-----------------|------------------|----------------|------------|
| A6    | 0           | 11:45 |        | 283         | .23      | 4.95       | .561     | 789.260                    | 81              | 81               | 49             | 2          |
| 5     | 4.95        |       |        | 284         | .27      | 5.36       |          | 791.4                      | 86              | 84               | 47             | 2          |
| 4     | 10.31       |       | -.10   | 285         | .27      | 5.36       |          | 793.9                      | 86              | 82               | 45             | 2          |
| 3     | 15.67       |       |        | 282         | .21      | 4.73       |          | 796.1                      | 86              | 81               | 49             | 2          |
| 2     | 20.04       |       |        | 280         | .21      | 4.73       |          | 798.1                      | 89              | 84               | 53             | 2          |
| 1     | 25.40       |       |        | 279         | .19      | 4.50       |          | 799.9                      | 88              | 84               | 55             | 2          |
|       | 27.27       |       |        |             |          |            |          | 802.157                    |                 |                  |                |            |
| B6    | 29.63       | 12:15 |        | 280         | .22      | 4.84       |          | 802.152                    | 87              | 86               | 59             | 2          |
| 5     | 34.47       |       |        | 284         | .20      | 4.62       |          | 804.4                      | 89              | 87               | 60             | 2          |
| 4     | 38.53       |       | -.13   | 282         | .21      | 4.73       |          | 806.5                      | 90              | 88               | 55             | 2          |
| 3     | 43.46       |       |        | 282         | .22      | 4.84       |          | 808.7                      | 91              | 88               | 54             | 2          |
| 2     | 49.66       |       |        | 284         | .22      | 4.84       |          | 810.9                      | 92              | 88               | 55             | 2          |
| 1     | 55.5        |       |        | 284         | .20      | 4.62       |          | 813.0                      | 92              | 89               | 57             | 2          |
|       | 58.12       | 12:15 |        |             |          |            |          | 815.184                    |                 |                  |                |            |

CHAIN OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION |
|-----------|-------------|-------------|
| F1        | 206         | Filter      |
| F2        | 207         | 7 Pmc       |
| F3        | 208         | L/Pm10      |
|           |             |             |
|           |             |             |
|           |             |             |
|           |             |             |

LEAK CHECK:

| VACUUM | 15"  | 15°  |
|--------|------|------|
| RATE   | .002 | .001 |

| DWELL TIME POINT 1             | 4.95  |
|--------------------------------|-------|
| c <sub>1</sub> /V <sub>1</sub> | 10.32 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL              |
|----------|---------|--------------------|
| #1       | 100     | <del>100</del> 120 |
| #2       | 100     | <del>100</del> 100 |
| #3       | 0       | <del>0</del> 2     |
| #4       |         |                    |
| #5       | 200     | 205.2              |
| #6       |         |                    |

|                 |           |
|-----------------|-----------|
| NOZZLE #        | #7 = .233 |
| PITOT #         | 0.84      |
| BOX I.D.        | 8         |
| GAMMA Y         | 1.0166    |
| ΔH <sub>0</sub> | 1.7393    |
| PBAR            | 28.85     |
| FILTER          | 95-83     |
| TECH.           | Bauman    |

METHOD 201A SAMPLING DATA SHEET

FACILITY: La Pacific TEST LOCATION: Konus Stack DATE: 9-13-95  
 START TIME: 14:20 END TIME: 15:27 POLLUTANT: Pm-10 RUN I.D.: KS-201A-23

| POINT | SAMPLE TIME | TIME           | STATIC | STACK TEMP. | STACK ΔP | DWELL TIME | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | METER VAC. |
|-------|-------------|----------------|--------|-------------|----------|------------|----------|----------------------------|-----------------|------------------|----------------|------------|
| A1    | 0           | 14:20          |        | 281         | .23      | 4.94       | .569     | 815.346                    | 88              | 87               | 60             | 3          |
|       | 4.94        |                |        | 282         | .20      | 4.61       |          | 817.5                      | 87              | 86               | 61             | 3          |
|       | 9.55        |                |        | 282         | .21      | 4.72       |          | 819.5                      | 88              | 87               | 62             | 3          |
|       | 14.27       |                | -.10   | 284         | .23      | 4.94       |          | 821.5                      | 90              | 88               | 60             | 3          |
|       | 19.21       |                |        | 284         | .21      | 4.72       |          | 824.0                      | 90              | 88               | 55             | 3          |
|       | 23.93       |                |        | 283         | .21      | 4.72       |          | 826.1                      | 90              | 88               | 57             | 3          |
| B1    | 28.65       | 14.49<br>15.02 |        | 285         | .18      | 4.37       |          | 828.356                    | 89              | 84               | 55             | 3          |
|       | 33.02       |                |        | 285         | .22      | 4.83       |          | 830.2                      | 89              | 88               | 54             | 3          |
|       | 37.85       |                |        | 284         | .16      | 4.12       |          | 832.5                      | 89              | 89               | 57             | 3          |
|       | 41.97       |                | -.10   | 284         | .21      | 4.72       |          | 834.4                      | 89              | 88               | 58             | 3          |
|       | 46.69       |                |        | 285         | .16      | 4.12       |          | 836.5                      | 90              | 88               | 59             | 3          |
|       | 50.81       |                |        | 283         | .15      | 3.99       |          | 838.4                      | 90              | 88               | 62             | 3          |
|       | 54.9        | 15:27          |        |             |          |            |          | 840.292                    |                 |                  |                |            |

CHAIN OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION |
|-----------|-------------|-------------|
| 1         | 212         | Filter      |
| 2         | 213         | SAI > Pm10  |
| 3         | 214         | L Pm10      |
| 4         | 215         |             |
| 5         | 216         | Sigdel      |

LEAK CHECK:

|        |      |       |
|--------|------|-------|
| VACUUM | 15"  | 5     |
| RATE   | .008 | 0.001 |

|                                |       |
|--------------------------------|-------|
| DWELL TIME POINT 1             | 4.94  |
| t <sub>1</sub> /V <sub>1</sub> | 10.30 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 100     | 120   |
| #2       | 100     | 102   |
| #3       | 0       | 2     |
| #4       | 200     | 205   |
| #5       |         |       |
| #6       |         |       |

|                  |          |
|------------------|----------|
| NOZZLE #         | 7 = .233 |
| PITOT #          | 0.84     |
| BOX I.D.         | 8        |
| GAMMA Y          | 1.0166   |
| ΔH <sub>2</sub>  | 1.7393   |
| P <sub>BAR</sub> | 28.85    |
| FILTER           | 95-84    |
| TECH.            | Bjerman  |

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

|                              |                            |
|------------------------------|----------------------------|
| O2/CO2 CALIBRATION           | DATE: 9-13-95              |
| O2 SPAN = 25% CO2 SPAN = 20% | TIME:                      |
| O2 MONITOR ID: 3             | CO2 MONITOR ID: 2          |
| CALIBRATION GAS VALUES       | CALIBRATION GAS ID         |
| ZERO 0 0                     |                            |
| MID = O2 - 9.908 CO2 - 9.85  |                            |
| HIGH = O2 22.8 CO2 - 17.62   |                            |
| ANALYZER RESPONSE            | ANALYZER CALIBRATION ERROR |
| ZERO 0.1 0.00                |                            |
| MID = 9.97 10.00             |                            |
| HIGH = 22.8 17.67            |                            |

|                               |                       |
|-------------------------------|-----------------------|
| SOURCE: LA Pacific - Dunsmuir | DATE OF TEST: 9-13-95 |
| LOCATION: Korus Stack         | RUN ID: KS-m3-R1      |
| %O2 19.1                      | %CO2 1.5              |
| %O2 19.1                      | %CO2 1.5              |
| %O2 19.1                      | %CO2 1.5              |
| AVERAGE 19.1                  | AVERAGE 1.5           |
| Fo FACTOR: 1.200              |                       |

|                       |                  |
|-----------------------|------------------|
| LOCATION: Korus Stack | RUN ID: KS-m3-R2 |
| %O2 18.2              | %CO2 2.02        |
| %O2 18.2              | %CO2 2.02        |
| %O2 18.2              | %CO2 2.02        |
| AVERAGE 18.2          | AVERAGE 2.02     |
| Fo FACTOR: 1.337      |                  |

|                       |                  |
|-----------------------|------------------|
| LOCATION: Korus Stack | RUN ID: KS-m3-R3 |
| %O2 18.4              | %CO2 1.9         |
| %O2 18.4              | %CO2 1.9         |
| %O2 18.4              | %CO2 1.9         |
| AVERAGE 18.4          | AVERAGE 1.9      |
| Fo FACTOR: 1.318      |                  |

$F_o = (20.9 - \%O_2) / \%CO_2$

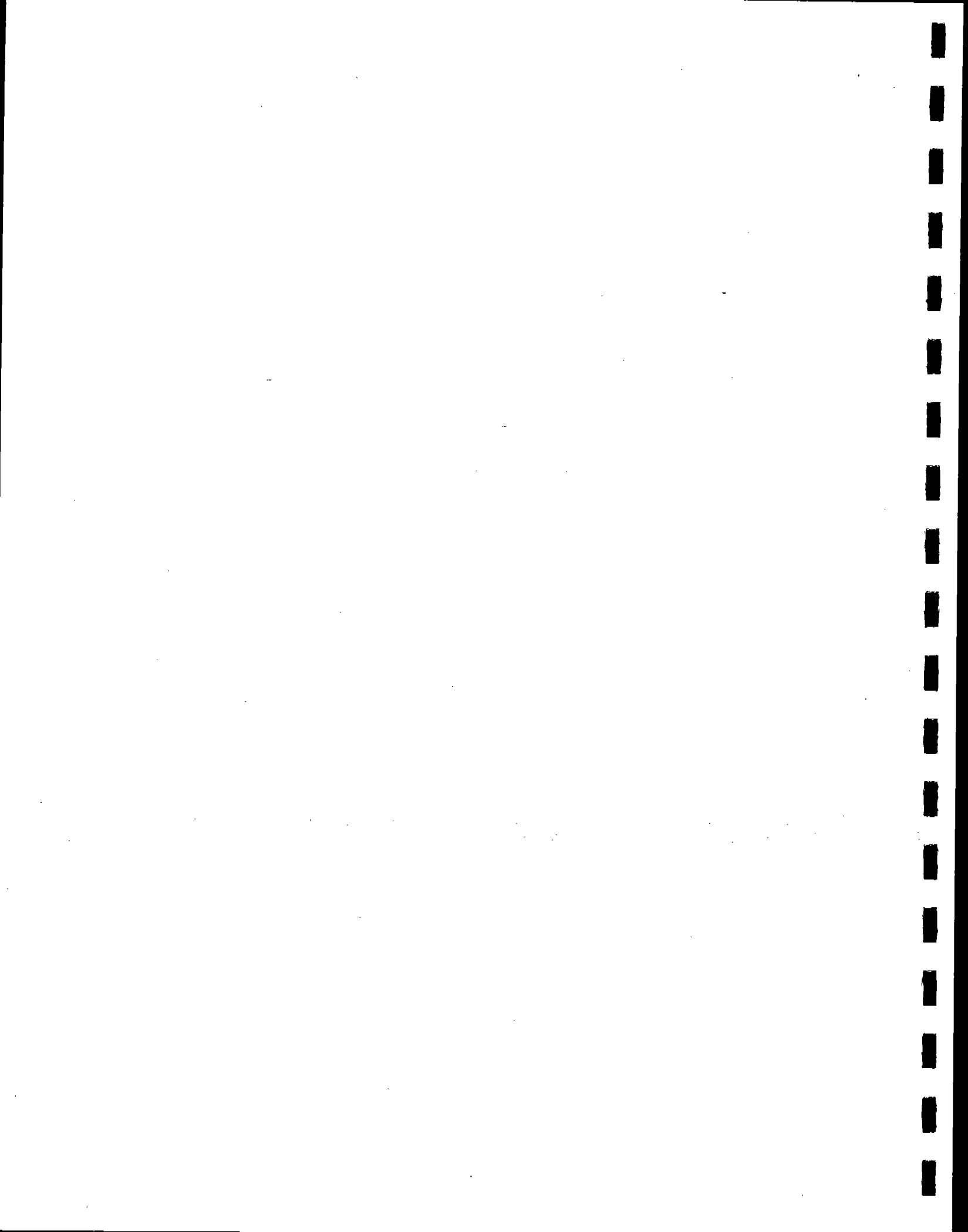
COMMON Fo FACTORS:

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

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

**APPENDIX L**

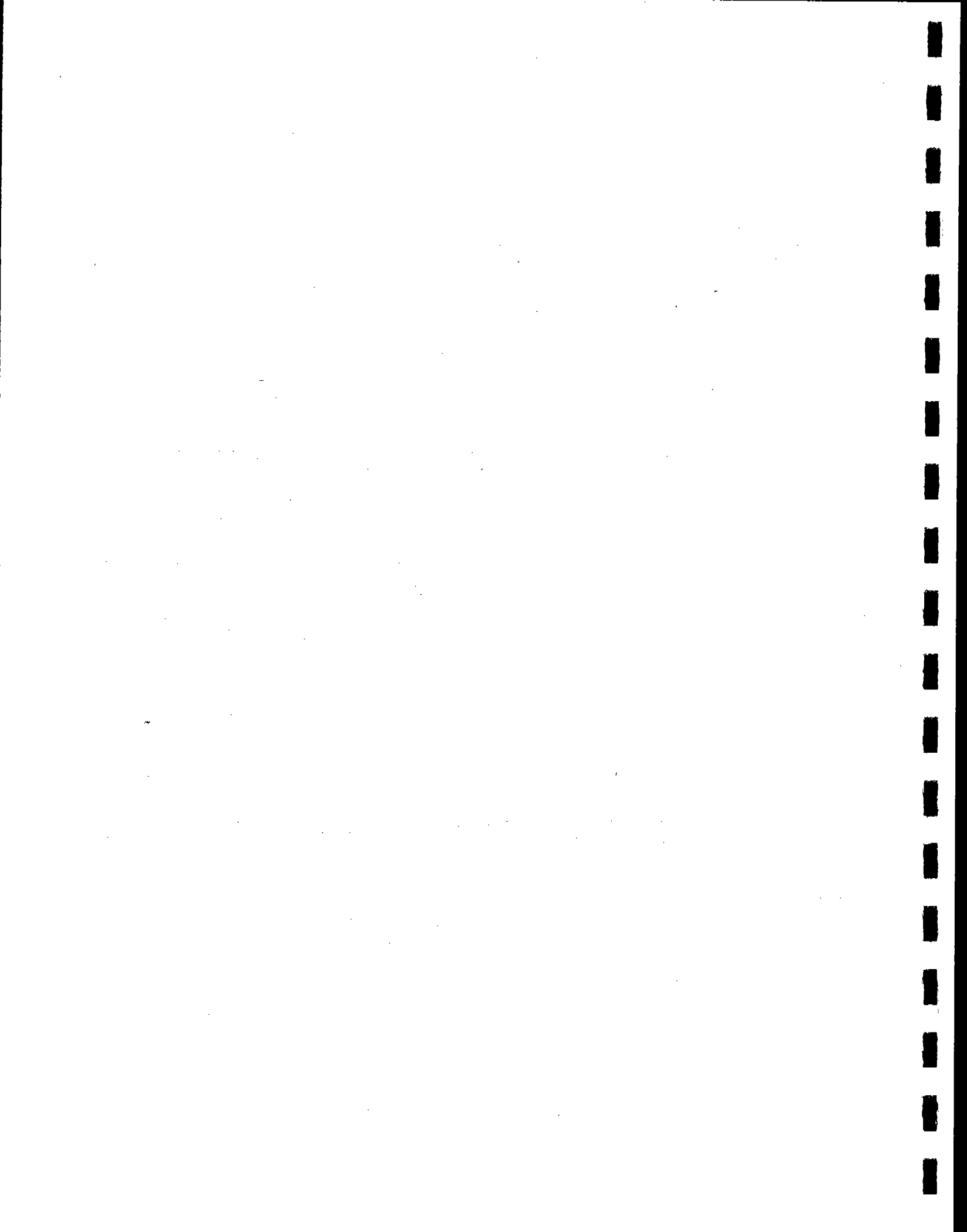
**RAW FIELD DATA APPENDICES FOR BIF METHOD 0011 TESTING**



APPENDIX L.1

RAW FIELD DATA FOR BIF METHOD 0011 TESTING

- SCRUBBER INLET -





FACILITY: LA Pacific

TEST LOCATION: S.T.

DATE: 8/30/95

START TIME: 9:55

END TIME: 11:17

POLLUTANT: Formaldehyde

RUN I.D.: S.T. - M2011-R1

| POINT | SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 12    | 0           | 9:55  | -10.0  | 179         | 1.05     | 1.42     | 895.262                    | 105             | 102              | 58             | 232          | 5"         |
| 11    | 2.5         |       |        | 179         | 1.15     | 1.53     | 897.2                      | 105             | 102              | 53             | 235          | 5"         |
| 10    | 5.5         |       |        | 179         | 1.2      | 1.6      | 899.0                      | 105             | 102              | 53             | 233          | 5.5"       |
| 9     | 7.5         |       |        | 179         | 1.3      | 1.73     | 900.9                      | 105             | 102              | 53             | 231          | 6"         |
| 8     | 10          |       |        | 179         | 1.4      | 1.82     | 902.8                      | 106             | 102              | 54             | 235          | 6"         |
| 7     | 12.5        |       |        | 179         | 1.3      | 1.73     | 904.9                      | 107             | 102              | 54             | 236          | 6"         |
| 6     | 15          |       |        | 182         | 1.25     | 1.66     | 907.8                      | 108             | 101              | 54             | 241          | 6.5"       |
| 5     | 17.5        |       |        | 181         | 1.2      | 1.6      | 908.8                      | 108             | 102              | 55             | 246          | 6.5"       |
| 4     | 20          |       |        | 180         | 1.2      | 1.6      | 910.9                      | 109             | 102              | 55             | 246          | 7"         |
| 3     | 22.5        |       |        | 180         | 1.15     | 1.53     | 912.6                      | 110             | 103              | 56             | 240          | 7"         |
| 2     | 25          |       |        | 180         | 1.1      | 1.46     | 914.5                      | 110             | 102              | 57             | 237          | 7"         |
| 1     | 27.5        | 10:25 |        | 180         | 1.0      | 1.33     | 916.4                      | 111             | 103              | 58             | 240          | 7"         |
| 12    | 30          | 10:47 | -10.5  | 181         | 1.5      | 2.09     | 918.225                    | 110             | 104              | 50             | 244          | 9.5"       |
| 11    | 32.5        |       |        | 181         | 1.45     | 1.9      | 920.5                      | 111             | 105              | 45             | 248          | 10"        |
| 10    | 35          |       |        | 181         | 1.3      | 1.73     | 922.6                      | 111             | 105              | 47             | 243          | 9"         |
| 9     | 37.5        |       |        | 180         | 1.4      | 1.86     | 924.4                      | 112             | 106              | 49             | 245          | 9.5"       |
| 8     | 40          |       |        | 191         | 1.3      | 1.73     | 926.2                      | 113             | 107              | 50             | 245          | 10"        |
| 7     | 42.5        |       |        | 185         | 1.25     | 1.66     | 928.2                      | 114             | 107              | 50             | 242          | 10.5"      |
| 6     | 45          |       |        | 180         | 1.15     | 1.53     | 930.1                      | 115             | 106              | 51             | 238          | 11"        |
| 5     | 47.5        |       |        | 180         | 1.1      | 1.46     | 932.0                      | 115             | 107              | 52             | 238          | 11"        |
| 4     | 50          |       |        | 180         | 1.05     | 1.4      | 933.8                      | 116             | 107              | 54             | 241          | 11"        |
| 3     | 52.5        |       |        | 179         | .9       | 1.32     | 935.6                      | 116             | 107              | 55             | 243          | 11.5"      |
| 2     | 55          |       |        | 179         | .87      | 1.16     | 937.3                      | 116             | 107              | 57             | 243          | 12"        |
| 1     | 57.5        |       |        | 179         | .84      | 1.12     | 939.0                      | 116             | 108              | 58             | 241          | 12.5"      |
|       | 60          | 11:17 |        |             |          |          | 940.5"                     |                 |                  |                |              |            |

918285

CHAIN OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION    |
|-----------|-------------|----------------|
| F4        | 00510       | From Imp. Room |
| F7        | 00506       | S.G.           |
|           |             |                |
|           |             |                |
|           |             |                |
|           |             |                |
|           |             |                |
|           |             |                |
|           |             |                |

LEAK CHECK:

|        |         |      |  |
|--------|---------|------|--|
| VACUUM | 15" 25" |      |  |
| RATE   | .01     | .017 |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
|          |         |       |
|          |         |       |
| #1       | 100ml   | 232ml |
| #2       | 150ml   | 142ml |
| #3       | 0       | 5ml   |
| #4       | 666.9   | 674.7 |
| #5       |         |       |
| #6       |         |       |

|          |           |
|----------|-----------|
| NOZZLE # | .214      |
| PITOT #  |           |
| BOX I.D. | 12        |
| GAMMA T  | .99079    |
| ΔHD      | 1.76 407  |
| P BAR    | 28-25     |
| FILTER   | H/A       |
| TECH.    | C.S. 10.B |

FACILITY: V.A. Pacific

TEST LOCATION: Scraper Int

DATE: 8/30/75

START TIME: 13:25 END TIME: 15:10

POLLUTANT: Formaldehyde RUN I.D.: SI-M001R2

| POINT | SAMPLE TIME | TIME   | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | OGM VOLUME ft <sup>3</sup> | OGM TEMP. INLET | OGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------|-------------|--------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| A10   | 0           | 13:25  |        | 179         | 0.95     | 1.27     | 940.852                    | 114             | 112              | 60             | 275          | 4"         |
| 11    | 2.5         | -10:25 |        | 177         | 1.0      | 1.4      | 943.6                      | 115             | 112              | 48             | 274          | 4.5"       |
| 10    | 5           |        |        | 180         | 1.25     | 1.67     | 944.4                      | 115             | 112              | 49             | 272          | 5"         |
| 9     | 7.5         |        |        | 180         | 1.3      | 1.74     | 946.4                      | 117             | 112              | 50             | 274          | 5.5"       |
| 8     | 10          |        |        | 180         | 1.3      | 1.74     | 948.4                      | 118             | 112              | 50             | 273          | 5.5"       |
| 7     | 12.5        |        |        | 180         | 1.3      | 1.74     | 950.4                      | 118             | 113              | 51             | 271          | 5.5"       |
| 6     | 15          |        |        | 180         | 1.4      | 1.97     | 952.5                      | 119             | 112              | 52             | 279          | 6"         |
| 5     | 17.5        |        |        | 180         | 1.35     | 1.9      | 954.5                      | 120             | 112              | 52             | 278          | 6"         |
| 4     | 20          |        |        | 181         | 1.25     | 1.61     | 956.5                      | 120             | 113              | 53             | 272          | 6"         |
| 3     | 22.5        |        |        | 180         | 1.1      | 1.47     | 958.5                      | 120             | 113              | 54             | 272          | 5"         |
| 2     | 25          |        |        | 180         | 0.95     | 1.27     | 960.4                      | 120             | 113              | 55             | 270          | 5"         |
| 1     | 27.5        | 13:55  |        | 180         | 0.9      | 1.21     | 962.2                      | 120             | 112              | 57             | 270          | 5"         |
| B12   | 30          | 14:10  |        | 181         | 1.2      | 1.61     | 963.858                    | 115             | 112              | 50             | 273          | 5.5"       |
| 11    | 32.5        |        |        | 181         | 1.3      | 1.74     | 965.8                      | 117             | 112              | 48             | 270          | 5.5"       |
| 10    | 35          | -10:5  |        | 181         | 1.4      | 1.87     | 967.8                      | 118             | 112              | 49             | 279          | 6"         |
| 9     | 37.5        | 14:15  |        | 181         | 1.5      | 2        | 970                        | 120             | 112              | 49             | 271          | 6.5"       |
| 8     | 40          |        |        | 181         | 1.5      | 2        | 972                        | 114             | 112              | 59             | 271          | 7"         |
| 7     | 42.5        |        |        | 181         | 1.4      | 1.87     | 974.1                      | 117             | 112              | 52             | 271          | 7"         |
| 6     | 45          |        |        | 180         | 1.2      | 1.61     | 976.2                      | 118             | 112              | 52             | 272          | 7"         |
| 5     | 47.5        |        |        | 181         | 1.15     | 1.54     | 978.2                      | 119             | 112              | 53             | 270          | 7"         |
| 4     | 50          |        |        | 181         | 1.1      | 1.47     | 980.2                      | 120             | 112              | 50             | 271          | 6.5"       |
| 3     | 52.5        |        |        | 181         | 1.0      | 1.4      | 982                        | 120             | 113              | 48             | 270          | 6"         |
| 2     | 55          |        |        | 181         | 0.94     | 1.26     | 983.8                      | 120             | 113              | 49             | 279          | 5"         |
| 1     | 57.5        |        |        | 180         | 0.87     | 1.17     | 985.5                      | 120             | 113              | 51             | 271          | 5"         |
|       | 60          | 15:10  |        |             |          |          | 987.215                    |                 |                  |                |              |            |

PAPER 11/19 12/50

CHAIN OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION     |
|-----------|-------------|-----------------|
| F4        | 503         | Kinase + Carles |
| F7        | 513         | S. Gel          |
|           |             |                 |
|           |             |                 |
|           |             |                 |
|           |             |                 |
|           |             |                 |
|           |             |                 |
|           |             |                 |

LEAK CHECK:

|        |            |  |  |
|--------|------------|--|--|
| VACUUM | 25" 10"    |  |  |
| RATE   | 1.008 1009 |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 100ml   | 270ml |
| #2       | 100ml   | 122ml |
| #3       | 0       | 6ml   |
| #4       | 200g    | 211g  |
| #5       |         |       |
| #6       |         |       |

|          |           |
|----------|-----------|
| NOZZLE # | .214      |
| PITOT #  |           |
| BOX I.D. | 12        |
| GAMMA γ  | .99079    |
| ΔH       | 1.76407   |
| P BAR    |           |
| FILTER   |           |
| TECH.    | C.S./J.B. |

FACILITY: L.A. Pacific

TEST LOCATION: Submarine Turret

DATE: 8/30/95

START TIME: 19:40

END TIME: 20:51

POLLUTANT: Formaldehyde RUN I.D.: SE-MULT-R-03

| POINT | SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGH VOLUME ft <sup>3</sup> | DGH TEMP. INLET | DGH TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 11a   | 1.0         | 19:40 | -9.7   | 181         | 1.25     | 1.67     | 992.3                      | 105             | 106              | 47             | 241          | 4.5"       |
| 11    | 2.5         |       |        | 181         | 1.2      | 1.74     | 990.3                      | 105             | 106              | 48             | 238          | 5"         |
| 10    | 5           |       |        | 181         | 1.23     | 1.74     | 992.3                      | 106             | 106              | 49             | 236          | 5"         |
| 9     | 7.5         |       |        | 181         | 1.25     | 1.67     | 994.4                      | 107             | 105              | 51             | 239          | 5"         |
| 8     | 10          |       |        | 181         | 1.2      | 1.61     | 996.3                      | 108             | 106              | 51             | 236          | 5"         |
| 7     | 12.5        |       |        | 180         | 1.0      | 1.4      | 998.3                      | 108             | 106              | 52             | 217          | 5"         |
| 6     | 15          |       |        | 179         | .85      | 1.14     | 000.1                      | 109             | 106              | 53             | 243          | 4.5"       |
| 5     | 17.5        |       |        | 179         | .83      | 1.1      | 000.5                      | 110             | 107              | 53             | 239          | 4"         |
| 4     | 20          |       |        | 179         | .78      | 1.04     | 003.4                      | 110             | 106              | 54             | 239          | 4"         |
| 3     | 22.5        |       |        | 179         | .77      | 1.03     | 005                        | 110             | 106              | 54             | 239          | 3"-3"      |
| 2     | 25          |       |        | 179         | .70      | .94      | 006.5                      | 110             | 106              | 54             | 241          | 3"         |
| 1     | 27.5        | 20:10 |        | 179         | .67      | .9       | 008.0                      | 110             | 107              | 56             | 242          | 3"         |
| 11a   | 30          | 20:21 |        | 180         | .9       | 1.21     | 009.43                     | 109             | 107              | 59             | 243          | 4"         |
| 11    | 32.5        |       | -10.0  | 180         | 1.02     | 1.61     | 011.0                      | 110             | 107              | 58             | 244          | 4.5"       |
| 10    | 35          |       |        | 181         | 1.13     | 1.74     | 013                        | 112             | 107              | 59             | 244          | 5"         |
| 9     | 37.5        |       |        | 181         | 1.13     | 1.74     | 015.1                      | 113             | 107              | 60             | 240          | 5"         |
| 8     | 40          |       |        | 181         | 1.4      | 1.88     | 017                        | 114             | 107              | 61             | 239          | 5"         |
| 7     | 42.5        |       |        | 181         | 1.4      | 1.98     | 019.1                      | 115             | 108              | 58             | 239          | 5"         |
| 6     | 45          |       |        | 181         | 1.45     | 1.94     | 021.2                      | 116             | 108              | 50             | 240          | 5"         |
| 5     | 47.5        |       |        | 181         | 1.4      | 1.93     | 023.3                      | 117             | 109              | 51             | 242          | 5"         |
| 4     | 50          |       |        | 181         | 1.35     | 1.81     | 025.4                      | 117             | 109              | 52             | 242          | 5"         |
| 3     | 52.5        |       |        | 181         | 1.25     | 1.67     | 027.5                      | 118             | 109              | 52             | 242          | 5"         |
| 2     | 55          |       |        | 181         | 1.2      | 1.61     | 029.5                      | 118             | 109              | 52             | 241          | 5"         |
| 1     | 57.5        |       |        | 181         | 1.10     | 1.47     | 031.4                      | 118             | 109              | 53             | 240          | 5"         |
|       | 60          | 20:51 |        |             |          |          | 033.326                    |                 |                  |                |              |            |

CHAIN OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION    |
|-----------|-------------|----------------|
| F4        | 00559       | 100ml Impinger |
|           |             |                |
|           |             |                |
| Find      | 246 ml      | →              |
| 10"       | 128 ml      | →              |
|           |             |                |
|           |             |                |

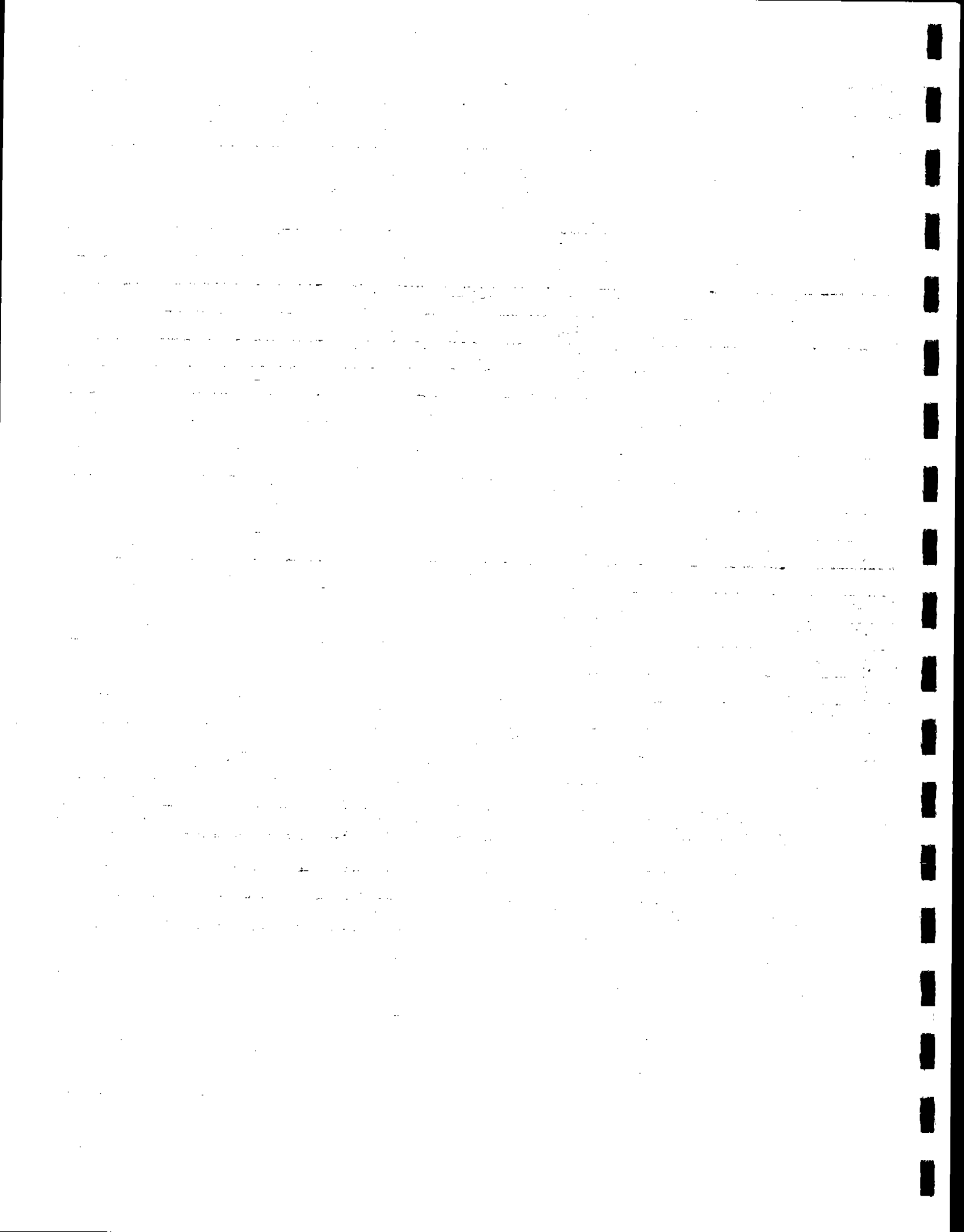
LEAK CHECK:

| VACUUM: | 15"  | 15"   |  |  |
|---------|------|-------|--|--|
| RATE    | .001 | .0001 |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 100.0   | 25.0  |
| #2       | 100.0   | 11.0  |
| #3       | 0.4     | 2     |
| #4       | 200.0   | 215.0 |
| #5       |         |       |
| #6       |         |       |

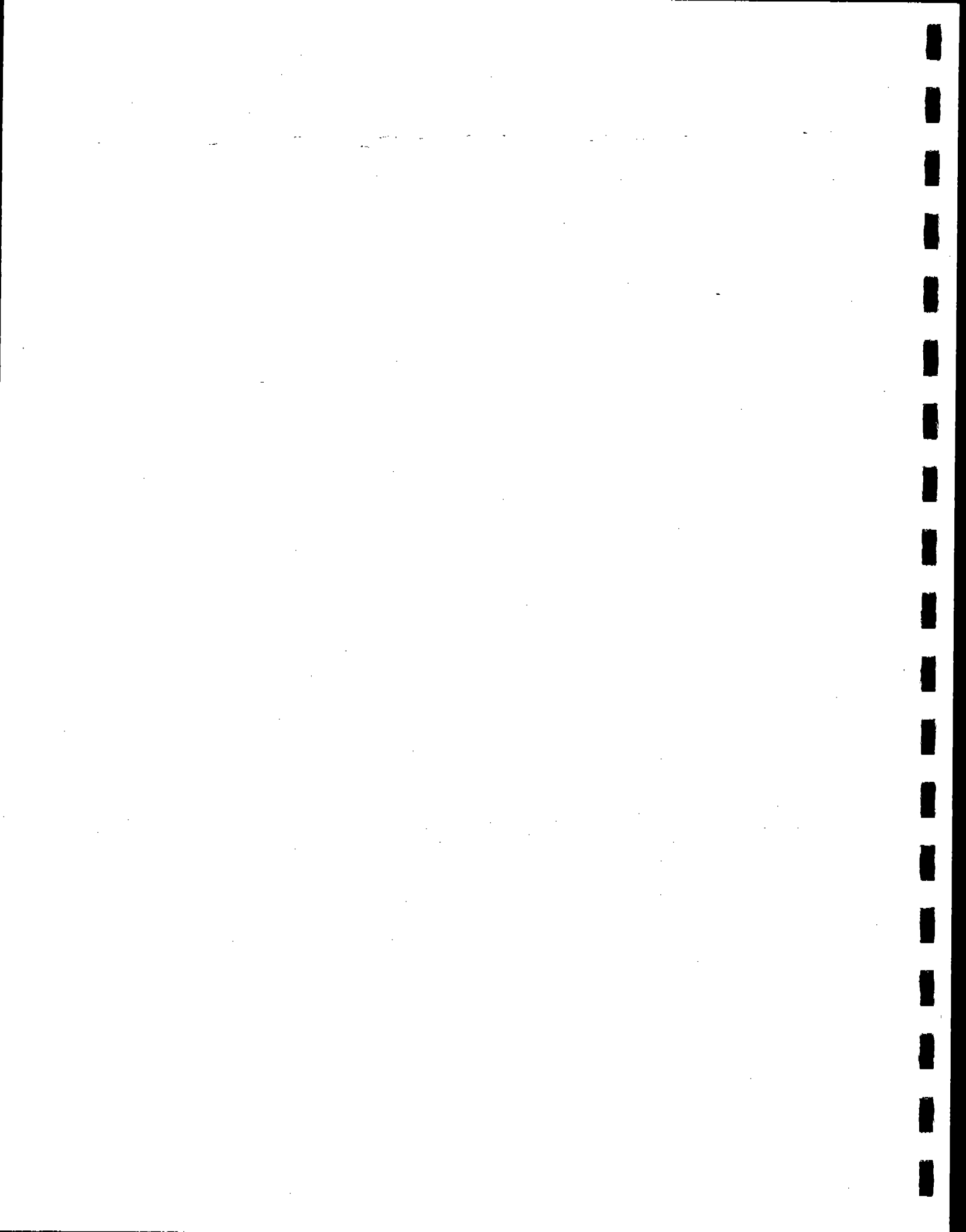
|          |           |
|----------|-----------|
| NOZZLE # | .214      |
| PITOT #  |           |
| BOX I.D. | 12        |
| GAMMA #  | .99079    |
| ΔH       | 176707    |
| P BAR    |           |
| FILTER   |           |
| TECH.    | C.S./J.D. |



APPENDIX L.2

RAW FIELD DATA FOR BIF METHOD 0011 TESTING

- SCRUBBER OUTLET -



FACILITY: LA Pacific

TEST LOCATION: Scrubber Outlet

DATE: 8-30-95

START TIME: 9:55

END TIME: 11:17

POLLUTANT: Formaldehyde

RUN I.D.: Scr 0 - M 11-R 1

| POINT | SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 12    | 0           | 9:55  | -2.2   | 155         | .82      | 1.0      | 738.018                    | 92              | 92               | 58             | N/A          | 7          |
| 11    | 2.5         |       |        | 153         | .89      | 1.1      | 739.6                      | 93              | 93               | 58             |              | 7          |
| 10    | 5.0         |       |        | 153         | 1.1      | 1.3      | 741.0                      | 95              | 94               | 59             |              | 8          |
| 9     | 7.5         |       |        | 154         | 1.2      | 1.5      | 742.7                      | 95              | 94               | 59             |              | 9          |
| 8     | 10.0        |       |        | 154         | 1.3      | 1.6      | 744.4                      | 96              | 94               | 59             |              | 10         |
| 7     | 12.5        |       |        | 154         | 1.4      | 1.7      | 746.4                      | 99              | 95               | 60             |              | 11         |
| 6     | 15.0        |       |        | 153         | 1.7      | 2.1      | 748.2                      | 100             | 95               | 60             |              | 13         |
| 5     | 17.5        |       |        | 153         | 1.7      | 2.1      | 750.2                      | 100             | 95               | 60             |              | 14         |
| 4     | 20.0        |       |        | 152         | 1.6      | 2.0      | 752.5                      | 102             | 96               | 60             |              | 15         |
| 3     | 22.5        |       |        | 151         | 1.2      | 1.5      | 754.3                      | 102             | 96               | 60             |              | 14         |
| 2     | 25.0        |       |        | 151         | 1.1      | 1.3      | 756.2                      | 102             | 96               | 60             |              | 12         |
| 1     | 27.5        |       |        | 150         | .89      | 1.1      | 757.9                      | 103             | 97               | 62             |              | 11         |
| -     | 30.0        | 10:25 |        |             |          |          | 759.387                    | LEAK ✓          |                  |                |              |            |
| B12   | 30          | 10:45 | -2.3   | 152         | 1.2      | 1.5      | 759.470                    | 101             | 99               | 59             |              | 12         |
| 11    | 32.5        |       |        | 154         | 1.5      | 1.8      | 761.3                      | 101             | 100              | 60             |              | 15         |
| 10    | 35          |       |        | 153         | 1.6      | 2.0      | 763.2                      | 101             | 99               | 59             |              | 19         |
| 9     | 37.5        |       |        | 154         | 1.7      | 2.1      | 765.0                      | 105             | 101              | 59             |              | 22         |
| 8     | 40          |       |        | 155         | 1.7      | 2.1      | 767.0                      | 107             | 102              | 60             |              | 23         |
| 7     | 42.5        |       |        | 154         | 1.7      | 2.1      | 769.4                      | 105             | 101              | 61             |              | 15         |
| 6     | 45          |       |        | 155         | 1.8      | 2.0      | 770.9                      | 104             | 101              | 61             |              | 12         |
| 5     | 47.5        |       |        | 155         | 1.6      | 2.0      | 773.4                      | 106             | 101              | 60             |              | 12         |
| 4     | 50          |       |        | 154         | 1.2      | 1.5      | 775.2                      | 107             | 102              | 61             |              | 9          |
| 3     | 52.5        |       |        | 155         | 1.2      | 1.5      | 777.1                      | 108             | 102              | 61             |              | 9          |
| 2     | 55          |       |        | 156         | .98      | 1.2      | 779.1                      | 109             | 103              | 62             |              | 8          |
| 1     | 57.5        |       |        | 154         | .89      | 1.1      | 786.5                      | 110             | 102              | 62             |              | 8          |

60  
MAIN OF CUSTODY: 11:17

LEAK CHECK: 783.185

| CONTAINER | SAMPLE I.D.  | DESCRIPTION  |
|-----------|--------------|--------------|
| F1A       | 95-57L-00229 | F.M.D. Catch |
| F2        | 95-57L-00025 | S.G.         |
|           |              | Raise        |

| VACUUM | 12   | 15   |  |  |  |
|--------|------|------|--|--|--|
| RATE   | .002 | .003 |  |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL  |
|----------|---------|--------|
| #1       | 100 ml  | 236 ml |
| #2       | 100 ml  | 132 ml |
| #3       | 0       | 2 ml   |
| #4       |         |        |
| #5       |         |        |
| #6       | 200 g   | 206 g  |

|                  |                  |
|------------------|------------------|
| NOZZLE #         | 7/32 .211        |
| PITOT #          | 105              |
| BOX I.D.         | 4                |
| GAMMA T          | 1.0058           |
| ΔH               | 1.7581           |
| P <sub>BAR</sub> | 28.75            |
| FILTER           | N/A              |
| TECH.            | R.Graham / Schen |

K = 1.244

ISOKINETIC SAMPLING DATA SHEET

CITY: LA Pacific

TEST LOCATION: Scrubber / Outlet

DATE: 8-30-95

TIP : 13:25

END TIME: 19:10

POLLUTANT: Formaldehyde

RUN I.D.: Scr0 - R 11 - R 9

| TIME | SAMPLE TIME | TIME | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|------|-------------|------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 0    | 13:25       | -2.4 | 156    | .85         | 1.0      | 783.385  | 105                        | 104             | 57               | N/A            | 5            |            |
| 2.5  |             |      | 157    | .98         | 1.36     | 785.6    | 105                        | 104             | 57               |                | 6            |            |
| 5.0  |             |      | 157    | 1.1         | 1.5      | 786.5    | 106                        | 104             | 58               |                | 5            |            |
| 7.5  |             |      | 159    | 1.1         | 1.5      | 788.3    | 106                        | 105             | 57               |                | 6            |            |
| 10   |             |      | 158    | 1.3         | 1.8      | 790.0    | 108                        | 106             | 58               |                | 7            |            |
| 12.5 |             |      | 158    | 1.6         | 2.2      | 792.0    | 107                        | 106             | 59               |                | 8            |            |
| 15   |             |      | 158    | 1.9         | 2.65     | 794.3    | 110                        | 106             | 60               |                | 11           |            |
| 17.5 |             |      | 158    | 1.7         | 2.34     | 796.5    | 111                        | 106             | 60               |                | 10           |            |
| 20   |             |      | 158    | 1.6         | 2.2      | 798.8    | 112                        | 106             | 61               |                | 9            |            |
| 22.5 |             |      | 158    | 1.6         | 2.2      | 800.9    | 114                        | 107             | 61               |                | 10           |            |
| 25   |             |      | 158    | 1.2         | 1.8      | 802.3    | 114                        | 107             | 61               |                | 8            |            |
| 27.5 |             |      | 158    | 1.1         | 1.5      | 805.3    | 114                        | 107             | 61               |                | 7            |            |
| 30   | 13:55       |      |        |             |          | 807.18   |                            |                 |                  |                |              |            |
| 30   | 14:10       | -2.2 | 156    | 1.5         | 2.0      | 807.140  | 111                        | 109             | 58               |                | 8            |            |
| 32.5 |             |      | 155    | 1.5         | 2.0      | 808.4    | 112                        | 109             | 57               |                | 8            |            |
| 35   |             |      | 155    | 1.7         | 2.3      | 811.3    | 114                        | 109             | 57               |                | 10           |            |
| 37.5 | 14:19       |      | 155    | 1.7         | 2.3      | 813.6    | 114                        | 109             | 57               |                | 10           |            |
| 40   | 14:50       |      | 150    | 1.9         | 2.35     | 815.8    | 111                        | 110             | 60               |                | 11           |            |
| 42.5 |             |      | 153    | 1.9         | 2.65     | 818.5    | 114                        | 111             | 59               |                | 12           |            |
| 45   |             |      | 155    | 1.6         | 2.2      | 820.9    | 116                        | 111             | 60               |                | 10           |            |
| 47.5 |             |      | 154    | 1.4         | 1.95     | 822.9    | 119                        | 112             | 60               |                | 9            |            |
| 50   |             |      | 155    | 1.2         | 1.67     | 825.1    | 118                        | 111             | 61               |                | 8            |            |
| 52.5 |             |      | 155    | 1.1         | 1.5      | 827.1    | 118                        | 111             | 61               |                | 8            |            |
| 55   |             |      | 154    | .85         | 1.32     | 828.8    | 119                        | 112             | 62               |                | 7            |            |
| 57.5 | 14:10       |      | 154    | .89         | 1.2      | 830.0    | 119                        | 112             | 62               |                | 7            |            |

\* Plant Stop

Final Vol: 831.969

LEAK CHECK: \* STOP - 10:19

| CONTAINER | SAMPLE I.D. | DESCRIPTION                 |
|-----------|-------------|-----------------------------|
| F 1A      | 576-00298   | Imp. <del>5.6 R</del> Rinse |
| F 2       | 576-00299   | 5.6 R <del>Imp.</del>       |
| L         |             |                             |
|           |             |                             |
|           |             |                             |
|           |             |                             |
|           |             |                             |

| VACUUM | 15   | 15   |
|--------|------|------|
| RATE   | .003 | .002 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL  |
|----------|---------|--------|
| #1       | 100 ml  | 274 ml |
| #2       | 100 ml  | 126 ml |
| #3       | 0       | 2 ml   |
| #4       |         |        |
| #5       |         |        |
| #6       | 200g    | 240.6  |

|                  |                   |
|------------------|-------------------|
| NOZZLE #         | 7/32 .211         |
| PITOT #          | 105               |
| BOX I.D.         | 4                 |
| GAMMA γ          | 1.0058            |
| ΔHG              | 1.7581            |
| P <sub>BAR</sub> | 28.75             |
| FILTER           | N/A               |
| TECH.            | R. Graham / Schen |



ISOKINETIC SAMPLING DATA SHEET

LA Pacific

TEST LOCATION: Scrubber / Outlet

DATE: 8-30-95

TIME: 19:40

END TIME: 20:51

POLLUTANT:

RUN I.D.: SCRO - M1 - R3

BIF

| IT | SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|----|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 2  | 0           | 19:40 | -2.4   | 154         | .81      | 1.1      | 832.154                    | 103             | 103              | 60             | N/A          | 4          |
|    | 2.5         |       |        | 154         | .83      | 1.15     | 834.0                      | 104             | 103              | 56             |              | 4          |
|    | 5           |       |        | 154         | .90      | 1.25     | 835.5                      | 104             | 103              | 57             |              | 4          |
|    | 7.5         |       |        | 155         | 1.0      | 1.39     | 837.1                      | 105             | 104              | 58             |              | 4          |
|    | 10          |       |        | 156         | 1.3      | 1.8      | 838.9                      | 106             | 104              | 58             |              | 5          |
|    | 12.5        |       |        | 156         | 1.4      | 1.9      | 840.8                      | 107             | 105              | 58             |              | 5          |
|    | 15          |       |        | 157         | 1.6      | 2.2      | 843.0                      | 108             | 105              | 59             |              | 6          |
|    | 17.5        |       |        | 158         | 1.4      | 1.9      | 845.0                      | 109             | 105              | 59             |              | 5          |
|    | 20          |       |        | 158         | 1.4      | 1.9      | 847.1                      | 110             | 105              | 60             |              | 5          |
|    | 22.5        |       |        | 158         | 1.2      | 1.66     | 849.1                      | 111             | 105              | 59             |              | 5          |
|    | 25          |       |        | 158         | 1.2      | 1.66     | 851.1                      | 111             | 105              | 60             |              | 5          |
|    | 27.5        |       |        | 159         | 1.0      | 1.34     | 852.9                      | 112             | 106              | 60             |              | 5          |
|    | 30          | 20:10 |        |             |          |          | 854.780                    | LEAK            |                  |                |              |            |
| 2  | 30          | 20:21 | -2.2   | 159         | 1.1      | 1.5      | 854.860                    | 109             | 107              | 61             |              | 5          |
|    | 32.5        |       |        | 159         | 1.2      | 1.66     | 856.7                      | 111             | 107              | 62             |              | 5          |
|    | 35          |       |        | 160         | 1.1      | 1.9      | 858.7                      | 112             | 108              | 61             |              | 6          |
|    | 37.5        |       |        | 159         | 1.4      | 1.9      | 860.6                      | 113             | 108              | 62             |              | 6          |
|    | 40          |       |        | 159         | 1.6      | 2.2      | 862.9                      | 115             | 108              | 63             |              | 7          |
|    | 42.5        |       |        | 158         | 1.6      | 2.2      | 865.0                      | 115             | 108              | 63             |              | 7          |
|    | 45          |       |        | 158         | 1.3      | 1.8      | 866.8                      | 115             | 108              | 63             |              | 7          |
|    | 47.5        |       |        | 158         | 1.1      | 1.5      | 868.7                      | 116             | 109              | 64             |              | 5          |
|    | 50          |       |        | 158         | .94      | 1.3      | 871.0                      | 115             | 109              | 64             |              | 5          |
|    | 52.5        |       |        | 158         | .82      | 1.1      | 872.3                      | 115             | 109              | 65             |              | 4          |
|    | 55          |       |        | 159         | .79      | 1.0      | 873.8                      | 115             | 109              | 65             |              | 4          |
|    | 57.5        | 20:51 |        | 158         | .78      | 1.0      | 875.9                      | 115             | 109              | 66             |              | 4          |

NO. OF CUSTODY: 60

| NUMBER | SAMPLE I.D. | DESCRIPTION |
|--------|-------------|-------------|
| 1A     | 596-06230   | Rinse/Imp   |
| 2      | - 231       | S.G         |
|        |             |             |
|        |             |             |
|        |             |             |
|        |             |             |

LEAK CHECK: 874.890

| VACUUM | 15   | 12   |  |  |
|--------|------|------|--|--|
| RATE   | .002 | 1002 |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL  |
|----------|---------|--------|
| #1       | 100 ml  | 280 ml |
| #2       | 100 ml  | 132 ml |
| #3       | 0       | 2 ml   |
| #4       |         |        |
| #5       |         |        |
| #6       | 200 g   | 210 g  |

|          |                   |
|----------|-------------------|
| NOZZLE # | 7/32 .211         |
| PITOT #  | 105               |
| BOX I.D. | 4                 |
| GAMMA Y  | 1.0058            |
| ΔH       | 1.7581            |
| PBAR     | 28.75             |
| FILTER   | N/A               |
| TECH.    | R. Graham/Sheehan |

1395

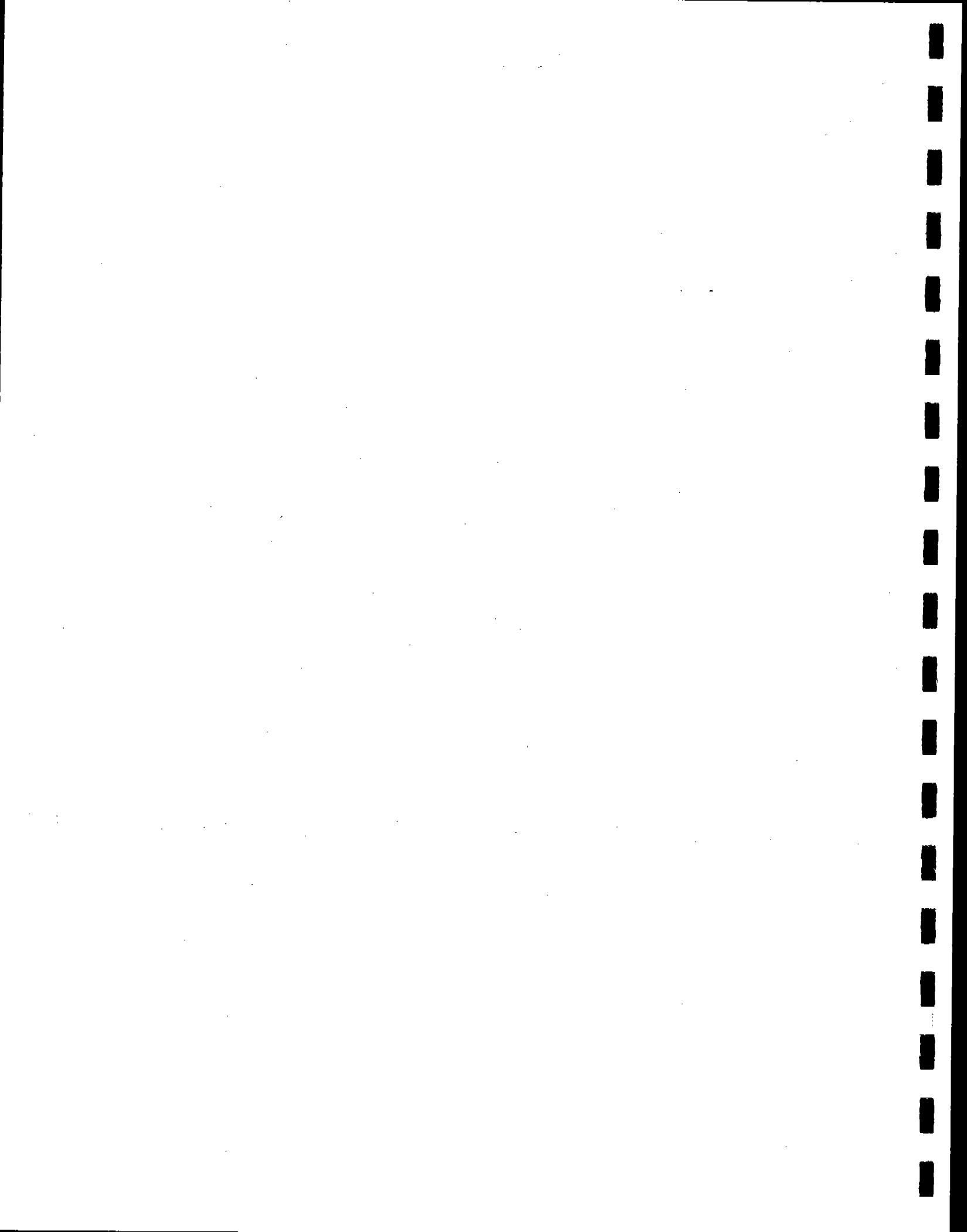
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**APPENDIX L.3**

**RAW FIELD DATA FOR BIF METHOD 0011 TESTING**

**- PRESS OUTLET -**



ISOKINETIC SAMPLING DATA SHEET

FACILITY: L.A. Pacific TEST LOCATION: Press Stack DATE: 8/30  
 START TIME: 9:55 END TIME: 11:17 POLLUTANT: Formaldehyde RUN I.D.: Press-1011-R1

| POINT | SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK ΔP | METER ΔP | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| A 6   | 9:55        | 9:55  |        | 86          | 1.6      | 2.1      | 356.012                    | 71              | 69               | 52             | NA           | 15         |
| 5     | 5           |       |        | 85          | 1.7      | 2.2      | 360.3                      | 71              | 69               | 54             | 1            | 15         |
| 4     | 10          |       | -2.5   | 84          | 1.9      | 2.5      | 364.4                      | 72              | 70               | 60             | 1            | 15         |
| 3     | 15          |       |        | 84          | 2.1      | 2.7      | 368.6                      | 74              | 71               | 62             |              | 15         |
| 2     | 20          |       |        | 87          | 2.0      | 2.6      | 373.9                      | 75              | 71               | 61             |              | 15         |
| 1     | 25          |       |        | 87          | 1.6      | 2.1      | 378.0                      | 76              | 72               | 62             |              | 15         |
| 1     | 30          | 10:25 |        | 95          | .95      | 1.25     | 382.235                    | 78              | 76               | 61             |              | 3          |
| 2     | 35          |       |        | 95          | 1.6      | 2.1      | 385.6                      | 79              | 76               | 60             |              | 3          |
| 3     | 40          |       |        | 98          | 1.8      | 2.4      | 389.5                      | 83              | 77               | 60             |              | 5          |
| 4     | 45          |       | -2.1   | 100         | 2.0      | 2.6      | 393.9                      | 86              | 78               | 61             |              | 6          |
| 5     | 50          |       |        | 97          | 1.6      | 2.1      | 398.5                      | 88              | 78               | 63             |              | 6          |
| 6     | 55          |       |        | 99          | 1.8      | 2.4      | 402.9                      | 89              | 80               | 63             |              | 5          |
|       | 60          | 11:17 |        |             |          |          | 407.273                    |                 |                  |                |              |            |

CHAIN OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION     |
|-----------|-------------|-----------------|
| 1         | 135         | Imp + H Rinse   |
| 2         | 136         | Imp 234 + Rinse |
|           |             |                 |
|           |             |                 |
|           |             |                 |
|           |             |                 |

LEAK CHECK:

| VACUUM | 15" | 15" |
|--------|-----|-----|
| RATE:  | .01 | .01 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 100     | 104   |
| #2       | 100     | 100   |
| #3       | 0       | 2     |
| #4       | 200     | 213.0 |
| #5       |         |       |
| #6       |         |       |

|                  |          |
|------------------|----------|
| NOZZLE #         | 0192     |
| PITOT #          | 103      |
| BOX I.D.         | 13       |
| GAMMA γ          | 1.0027   |
| ΔH <sub>0</sub>  | 1.8375   |
| P <sub>BAR</sub> | 28.75    |
| FILTER           | -        |
| TECH.            | J. Mader |

ISOKINETIC SAMPLING DATA SHEET

CITY: L.A. Pacific

TEST LOCATION: Process

DATE: 8/30

TIME: 13:25 END TIME: 15:11

POLLUTANT: Formaldehyde

RUN I.D.: Pass - No 11 - R2

| TIME | SAMPLE TIME | TIME                      | STATIC | STACK TEMP. | STACK ΔP | METER ΔP | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|------|-------------|---------------------------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
|      | 0           | 13:25                     | -21    | 101         | 1.2      | 1.7      | 411.259                    | 90              | 90               | 65             | NA           | 9          |
|      | 5           |                           |        | 103         | 1.3      | 1.8      | 415.0                      | 91              | 91               | 66             |              | 9          |
|      | 10          |                           |        | 101         | 1.7      | 2.4      | 419.2                      | 91              | 90               | 62             |              | 9          |
|      | 15          |                           |        | 102         | 1.7      | 2.4      | 422.1                      | 92              | 90               | 65             |              | 9          |
|      | 20          |                           |        | 98          | 1.5      | 2.2      | 426.7                      | 92              | 90               | 64             |              | 8          |
|      | 25          | 13:55                     |        | 98          | 1.3      | 1.8      | 430.6                      | 93              | 90               | 64             |              | 8          |
|      | 30          |                           |        |             |          |          | 434.702                    |                 |                  |                |              |            |
|      | 30          | 14:10                     |        | 111         | 1.8      | 2.6      | 434.825                    | 93              | 92               | 65             |              | 9          |
|      | 35          |                           | -22    | 107         | 1.8      | 2.6      | 438.2                      | 94              | 92               | 62             |              | 8          |
|      | 40          | <del>14:14</del><br>14:19 |        | 107         | 2.0      | 2.8      | 442.4                      | 93              | 93               | 61             |              | 7          |
|      | 45          |                           |        | 107         | 1.7      | 2.4      | 446.8                      | 93              | 92               | 61             |              | 7          |
|      | 50          |                           |        | 104         | 1.8      | 2.6      | 451.2                      | 95              | 92               | 62             |              | 7          |
|      | 55          |                           |        | 102         | 1.6      | 2.3      | 456.4                      | 96              | 93               | 62             |              | 7          |
|      | 60          | 15:11                     |        |             |          |          | 460.890                    |                 |                  |                |              |            |

OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION    |
|-----------|-------------|----------------|
| A         | 218         | Imp-3 + Rinses |
|           | 219         | SL             |

LEAK CHECK:

| VACUUM | 15" | 10" |
|--------|-----|-----|
| RATE   | .01 | .01 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 100     | 103   |
| #2       | 100     | 101   |
| #3       | 0       | 2     |
| #4       | 200     | 211.3 |
| #5       |         |       |
| #6       |         |       |

|                  |           |
|------------------|-----------|
| NOZZLE #         | 192       |
| PITOT #          | 103       |
| BOX I.D.         | 17        |
| GAMMA Y          | 1.0027    |
| ΔH <sub>g</sub>  | 1.8378    |
| P <sub>BAR</sub> | 28.75     |
| FILTER           |           |
| TECH.            | J. Maiden |

1.44

ISOKINETIC SAMPLING DATA SHEET

CA Pacific

TEST LOCATION: Press

DATE: 8/30

START TIME: 19:40

END TIME: 8:51  
20:51

POLLUTANT: Ferric chloride

RUN I.D.: Press - No. 11 - RJ

| SAMPLE TIME | TIME          | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------------|---------------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 0           | 19:40         |        | 91          | 1.4      | 2.0      | 461.558                    | 90              | 90               | 67             | N/A          | 4          |
| 5           |               |        | 98          | 1.4      | 2.0      | 465.7                      | 89              | 90               | 61             |              | 4          |
| 10          |               | -2.3   | 96          | 1.6      | 2.3      | 469.8                      | 89              | 89               | 60             |              | 4          |
| 15          |               |        | 95          | 1.9      | 2.7      | 474.1                      | 89              | 90               | 60             |              | 4          |
| 20          |               |        | 97          | 1.8      | 2.6      | 478.9                      | 91              | 89               | 61             |              | 4          |
| 25          |               |        | 98          | 1.4      | 2.0      | 483.5                      | 91              | 89               | 62             |              | 4          |
| 30          | 8:10          |        |             |          |          | 487.548                    |                 |                  |                |              |            |
| 35          | 8:21          |        | 94          | 1.7      | 2.4      | 487.774                    | 89              | 87               | 60             |              | 4          |
| 40          |               |        | 95          | 1.5      | 2.2      | 492.1                      | 89              | 87               | 61             |              | 4          |
| 45          |               | -2.5   | 94          | 1.7      | 2.4      | 496.1                      | 89              | 87               | 60             |              | 4          |
| 50          |               |        | 93          | 1.7      | 2.4      | 500.2                      | 90              | 87               | 61             |              | 4          |
| 55          |               |        | 92          | 1.5      | 2.2      | 504.9                      | 91              | 87               | 61             |              | 4          |
| 60          | 8:51<br>20:51 |        | 92          | 1.5      | 2.2      | 509.5                      | 90              | 87               | 60             |              | 4          |
|             |               |        |             |          |          | 514.067                    |                 |                  |                |              |            |

OF CUSTODY:

| AI | SAMPLE I.D. | DESCRIPTION    |
|----|-------------|----------------|
| 1  | 7220        | R. 2.4/1.4/9.0 |
| 2  |             |                |
|    |             |                |
|    |             |                |
|    |             |                |
|    |             |                |
|    |             |                |

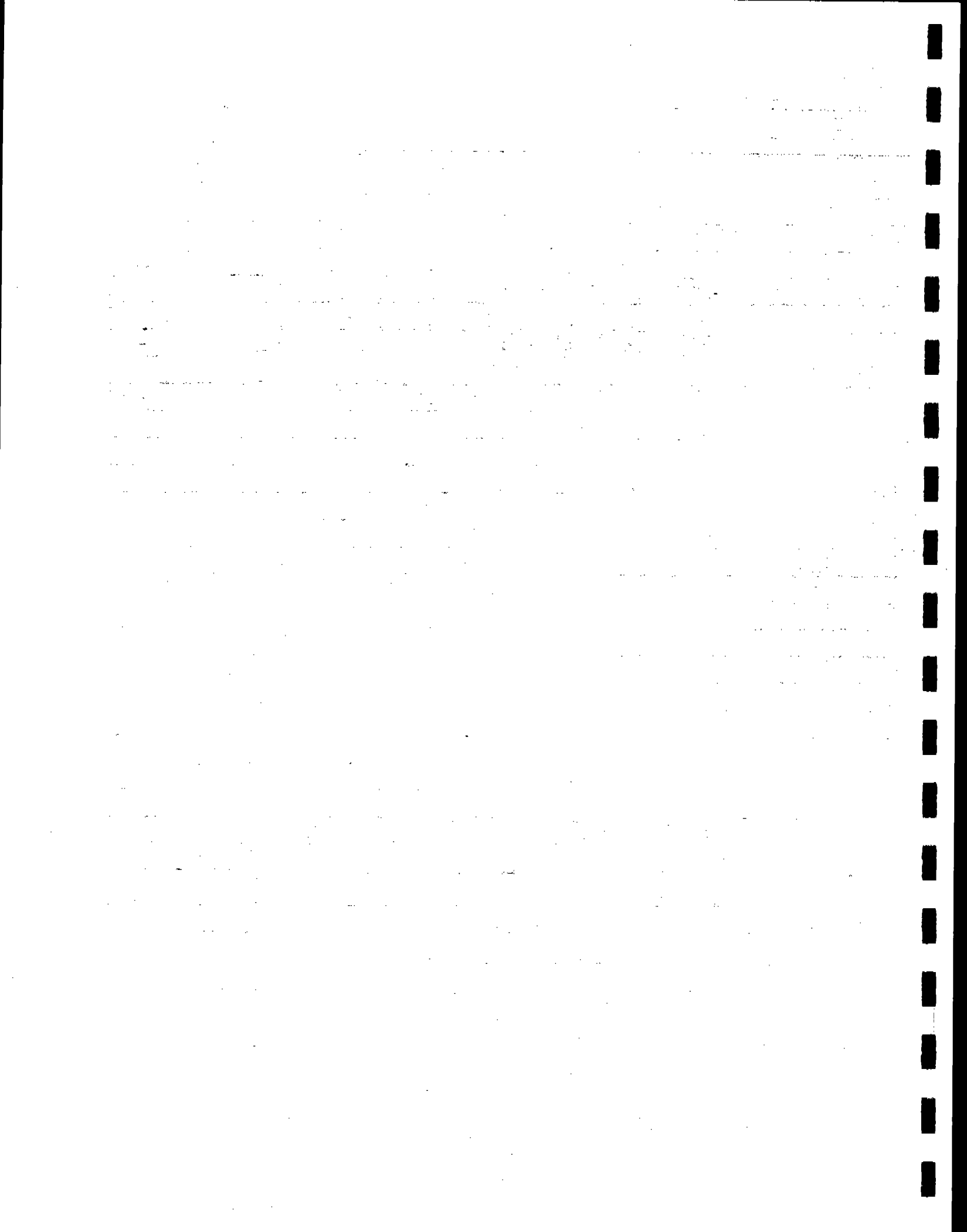
LEAK CHECK:

| VACUUM | 15" | 6"  |
|--------|-----|-----|
| RATE   | .01 | .01 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 100     | 119   |
| #2       | 100     | 102   |
| #3       | 0       | 2     |
| #4       | 200     | 202   |
| #5       |         |       |
| #6       |         |       |

|                  |           |
|------------------|-----------|
| NOZZLE #         | 192       |
| PITOT #          | 103       |
| BOX I.D.         | 13        |
| GAMMA Y          | 1.0027    |
| ΔH               | 1.8375    |
| P <sub>BAR</sub> | 28.75     |
| FILTER           |           |
| TECH.            | J. Maiden |





APPENDIX L.4

RAW FIELD DATA FOR BIF METHOD 0011 TESTING

- RTO STACK -



ISOKINETIC SAMPLING DATA SHEET

TY: L.A. Pacific

TEST LOCATION: RTO stack

DATE: 8-20-95

TIME: 9:55

END TIME: 11:47

POLLUTANT: PCOH - Formulation

RUN I.D.: 805-158

R=3.03

| SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK AP | METER AH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 0           | 9:55  |        | 233         | .65      | 1.97     | 758.675                    | 98              | 96               | 87             | 251          | 2          |
| 2.5         |       |        | 236         | .65      | 1.97     | 760.700                    | 99              | 96               | 88             | 251          | 2          |
| 5.0         |       |        | 235         | .67      | 2.03     | 762.5                      | 100             | 96               | 87             | 251          | 2          |
| 7.5         |       | -35    | 239         | .61      | 1.85     | 764.8                      | 102             | 96               | 80             | 250          | 2          |
| 10.0        |       |        | 236         | .64      | 1.94     | 766.65                     | 104             | 97               | 81             | 251          | 2          |
| 12.5        |       |        | 241         | .62      | 1.85     | 768.6                      | 105             | 98               | 80             | 251          | 2          |
| 15.0        |       |        | 237         | .62      | 1.88     | 770.6                      | 107             | 98               | 81             | 251          | 2          |
| 17.5        |       |        | 241         | .62      | 1.86     | 772.6                      | 108             | 99               | 59             | 249          | 2          |
| 20.0        |       |        | 237         | .63      | 1.90     | 774.6                      | 110             | 100              | 59             | 251          | 2          |
| 22.5        |       |        | 240         | .60      | 1.82     | 776.1                      | 111             | 100              | 51             | 251          | 2          |
| 25.0        |       | -32    | 236         | .55      | 1.66     | 778.1                      | 112             | 101              | 61             | 250          | 2          |
| 27.5        |       |        | 220         | .39      | 1.18     | 779.9                      | 113             | 101              | 60             | 250          | 2          |
| 30.0        | 9:25  |        |             |          |          | 781.847                    |                 |                  |                |              | 0          |
| 32.5        | 10:47 |        | 236         | .63      | 1.90     | 781.847                    | 109             | 103              | 56             | 249          | 2          |
| 35.0        |       |        | 237         | .67      | 2.03     | 783.9                      | 110             | 103              | 54             | 249          | 2          |
| 37.5        |       |        | 243         | .70      | 2.12     | 785.0                      | 112             | 104              | 58             | 241          | 2          |
| 40.0        |       | -36    | 238         | .65      | 1.97     | 787.95                     | 112             | 104              | 58             | 250          | 2          |
| 42.5        |       |        | 240         | .65      | 1.97     | 790.0                      | 111             | 103              | 56             | 247          | 2          |
| 45.0        |       |        | 242         | .50      | 1.51     | 792.0                      | 111             | 105              | 58             | 246          | 2          |
| 47.5        |       |        | 239         | .67      | 2.03     | 794.0                      | 111             | 105              | 60             | 245          | 2          |
| 50.0        |       |        | 239         | .67      | 2.03     | 796.5                      | 112             | 105              | 60             | 245          | 2          |
| 52.5        |       |        | 239         | .63      | 1.90     | 799.6                      | 113             | 106              | 62             | 246          | 2          |
| 55.0        |       | -35    | 243         | .63      | 1.90     | 799.7                      | 113             | 105              | 61             | 241          | 2          |
| 57.5        |       |        | 237         | .55      | 1.66     | 802.0                      | 113             | 105              | 60             | 245          | 2          |
| 60.0        |       |        | 225         | .32      | .97      | 803.0                      | 113             | 105              | 60             | 245          | 2          |

OF CUSTODY: 11:47

LEAK CHECK: 805.158

| CONTAINER | SAMPLE I.D. | DESCRIPTION      |
|-----------|-------------|------------------|
|           | 208         | 1 imp + FH Rinse |
|           |             | 2, 3, 4 + Rinse  |
|           | 211         | 5 Gel            |

| VACUUM | 10.00 | 5     |
|--------|-------|-------|
| RATE   | 000   | 0.000 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL    |
|----------|---------|----------|
| #1       | 100 ml  | 109 ml   |
| #2       | 100 ml  | 104 ml   |
| #3       | 0 ml    | 2 ml     |
| #4       |         |          |
| #5       |         |          |
| #6       | 200 ml  | 209.5 ml |

|                 |         |
|-----------------|---------|
| NOZZLE #        | 0.258   |
| PITOT #         | 117     |
| BOX I.D.        | #5      |
| GAMMA Y         | .99910  |
| ΔH <sub>0</sub> | 1.73672 |
| P BAR           | 0       |
| FILTER          | nil     |
| TECH.           | J.P.    |

ISOKINETIC SAMPLING DATA SHEET

CITY: LA Pacific

TEST LOCATION: RTO stack

DATE: 8-30-75

START TIME: 13:25 END TIME: 15:10

POLLUTANT: HC<sub>2</sub>H<sub>4</sub> - *Simons* RUN I.D.: RTO 5-NB/F/R 22

| NO. | SAMPLE TIME | TIME  | STATIC     | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-----|-------------|-------|------------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 12  | 0           | 13:25 |            | 242         | .65      | 2.06     | 805.800                    | 102             | 102              | 97             | 246          | 2          |
| 11  | 2.5         |       |            | 243         | .64      | 2.04     | 807.3                      | 103             | 103              | 69             | 247          | 2          |
| 10  | 5.0         |       |            | 246         | .64      | 2.04     | 804.3                      | 107             | 103              | 65             | 249          | 2          |
| 9   | 7.5         |       | -39        | 242         | .67      | 2.14     | 812.0                      | 107             | 104              | 65             | 249          | 2          |
| 8   | 10.0        |       |            | 247         | .62      | 1.98     | 814.1                      | 108             | 103              | 63             | 248          | 2          |
| 7   | 12.5        |       |            | 244         | .60      | 1.92     | 816.1                      | 109             | 103              | 62             | 244          | 2          |
| 6   | 15.0        |       |            | 245         | .62      | 1.98     | 818.0                      | 110             | 104              | 62             | 245          | 2          |
| 5   | 17.5        |       |            | 244         | .66      | 2.11     | 819.0                      | 111             | 105              | 61             | 249          | 2          |
| 4   | 20.0        |       | -37        | 246         | .62      | 1.98     | 822.0                      | 113             | 106              | 60             | 249          | 2          |
| 3   | 22.5        |       |            | 244         | .59      | 1.88     | 824.2                      | 114             | 105              | 61             | 247          | 2          |
| 2   | 25.0        |       |            | 247         | .55      | 1.76     | 826.1                      | 115             | 106              | 62             | 248          | 2          |
| 1   | 27.5        |       |            | 225         | 3.2      | 1.12     | 828.1                      | 115             | 106              | 52             | 248          | 2          |
|     | 30.0        | 13:55 |            |             |          |          | 829.455                    |                 |                  |                |              |            |
| 12  | 30.0        | 14:10 |            | 244         | .63      | 2.01     | 829.455                    | 110             | 108              | 69             | 249          | 2          |
| 11  | 32.5        |       |            | 244         | .70      | 2.24     | 831.7                      | 113             | 108              | 65             | 248          | 2          |
| 10  | 35.0        |       | -38        | 244         | .65      | 2.06     | 833.9                      | 115             | 108              | 64             | 248          | 2          |
| 9   | 37.5        | 14:19 | Start down | 244         | .68      | 2.17     | 835.5                      | 116             | 109              | 64             | 250          | 2          |
| 8   | 40.0        | 14:30 | Start      | 241         | .55      | 2.11     | 838.10                     | 108             | 107              | 64             | 250          | 2          |
| 7   | 42.5        |       |            | 241         | .66      | 2.11     | 840.0                      | 109             | 107              | 61             | 245          | 2          |
| 6   | 45.0        |       |            | 245         | .65      | 2.08     | 842.0                      | 110             | 108              | 63             | 249          | 2          |
| 5   | 47.5        |       |            | 243         | .64      | 2.04     | 844.1                      | 111             | 108              | 64             | 245          | 2          |
| 4   | 50.0        |       |            | 243         | .63      | 2.06     | 846.2                      | 112             | 108              | 63             | 249          | 2          |
| 3   | 52.5        |       |            | 242         | .62      | 1.98     | 848.2                      | 112             | 107              | 63             | 249          | 2          |
| 2   | 55.0        |       |            | 244         | .55      | 1.71     | 850.4                      | 114             | 108              | 62             | 250          | 2          |
| 1   | 57.5        | 15:10 |            | 229         | .35      | 1.12     | 852.4                      | 114             | 108              | 60             | 250          | 2          |

k = 3.2

50.0 OF CUSTODY:

LEAK CHECK: 853.731

| AINER | SAMPLE I.D.       | DESCRIPTION            |
|-------|-------------------|------------------------|
| 1     | RTO-M01-21<br>210 | 11 MD + Fil<br>Rinse   |
| 2     | RTO-M01-22        | 11 MD C 324<br>+ Rinse |
| 7     | 209               | Label                  |

|        |                |      |  |  |
|--------|----------------|------|--|--|
| VACUUM | <del>1.2</del> | 1.2  |  |  |
| RATE   | .009           | .002 |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 20 ml   | 178   |
| #2       | 20 ml   | 113   |
| #3       | 20 ml   | 31    |
| #4       |         |       |
| #5       |         |       |
| #6       | 200 ml  | 209.3 |

|          |        |
|----------|--------|
| NOZZLE # |        |
| PITOT #  | 717    |
| BOX I.D. | # 5    |
| GAMMA Y  | .4910  |
| ΔHG      | 1.7372 |
| P BAR    | 28.75  |
| FILTER   | N/A    |
| TECH.    | S.P    |

ISOKINETIC SAMPLING DATA SHEET

CITY: LA Pacific

TEST LOCATION: RTD stack

DATE: 3-20-94

START TIME: 19:40

END TIME: 20:51

POLLUTANT: HCOH Formaldehyde

RUN I.D.: RTD-011-013

| POINT | SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 12    | 0           | 19:40 |        | 238         | .65      | 2.08     | 854.300                    | 95              | 94               | 67             | 251          | 3          |
| 11    | 2.5         |       |        | 240         | .63      | 2.01     | 856.400                    | 97              | 95               | 65             | 250          | 3          |
| 10    | 5.0         |       |        | 237         | .65      | 2.08     | 858.300                    | 99              | 96               | 61             | 250          | 3          |
| 9     | 7.5         |       | -32    | 240         | .64      | 2.048    | 860.4                      | 100             | 96               | 60             | 250          | 3          |
| 8     | 10.0        |       |        | 240         | .64      | 2.048    | 863.0                      | 103             | 97               | 59             | 251          | 3          |
| 7     | 12.5        |       |        | 242         | .60      | 1.92     | 864.4                      | 103             | 97               | 59             | 250          | 3          |
| 6     | 15.0        |       |        | 242         | .61      | 1.952    | 866.3                      | 104             | 97               | 60             | 249          | 3          |
| 5     | 17.5        |       |        | 242         | .61      | 1.952    | 868.5                      | 104             | 97               | 67             | 248          | 3          |
| 4     | 20.0        |       | -32    | 240         | .58      | 1.856    | 870.5                      | 105             | 97               | 60             | 250          | 3          |
| 3     | 22.5        |       |        | 239         | .57      | 1.824    | 872.4                      | 106             | 98               | 59             | 248          | 3          |
| 2     | 25.0        |       |        | 240         | .50      | 1.6      | 874.2                      | 106             | 98               | 59             | 250          | 3          |
| 1     | 27.5        |       |        | 221         | .42      | 1.34     | 876.0                      | 105             | 98               | 58             | 248          | 3          |
|       | 30          |       |        |             |          |          | 877.754                    |                 |                  |                |              |            |
| 12    | 30          | 20:21 |        | 241         | .60      | 1.92     | 877.754                    | 100             | 97               | 59             | 252          | 3          |
| 11    | 32.5        |       |        | 241         | .61      | 1.952    | 879.7                      | 102             | 97               | 60             | 248          | 3          |
| 10    | 35.0        |       | -34    | 241         | .62      | 1.952    | 881.0                      | 102             | 97               | 59             | 248          | 3          |
| 9     | 37.5        |       |        | 241         | .65      | 2.08     | 884.0                      | 103             | 97               | 58             | 251          | 3          |
| 8     | 40.0        |       |        | 242         | .62      | 1.96     | 885.9                      | 104             | 97               | 57             | 250          | 3          |
| 7     | 42.5        |       |        | 241         | .60      | 1.82     | 887.0                      | 105             | 98               | 57             | 247          | 3          |
| 6     | 45.0        |       |        | 243         | .63      | 2.01     | 889.7                      | 106             | 98               | 57             | 250          | 3          |
| 5     | 47.5        |       |        | 243         | .62      | 1.98     | 891.2                      | 108             | 99               | 58             | 250          | 3          |
| 4     | 50.0        |       | -37    | 243         | .63      | 2.01     | 893.7                      | 108             | 99               | 59             | 251          | 3          |
| 3     | 52.5        |       |        | 244         | .60      | 1.92     | 896.1                      | 109             | 99               | 58             | 250          | 3          |
| 2     | 55.0        |       |        | 241         | .57      | 1.824    | 898.0                      | 109             | 99               | 58             | 250          | 3          |
| 1     | 57.5        |       |        | 241         | .39      | 1.284    | 899.7                      | 109             | 99               | 57             | 259          | 3          |

CHAIN OF CUSTODY: 20:51

LEAK CHECK: 901.276

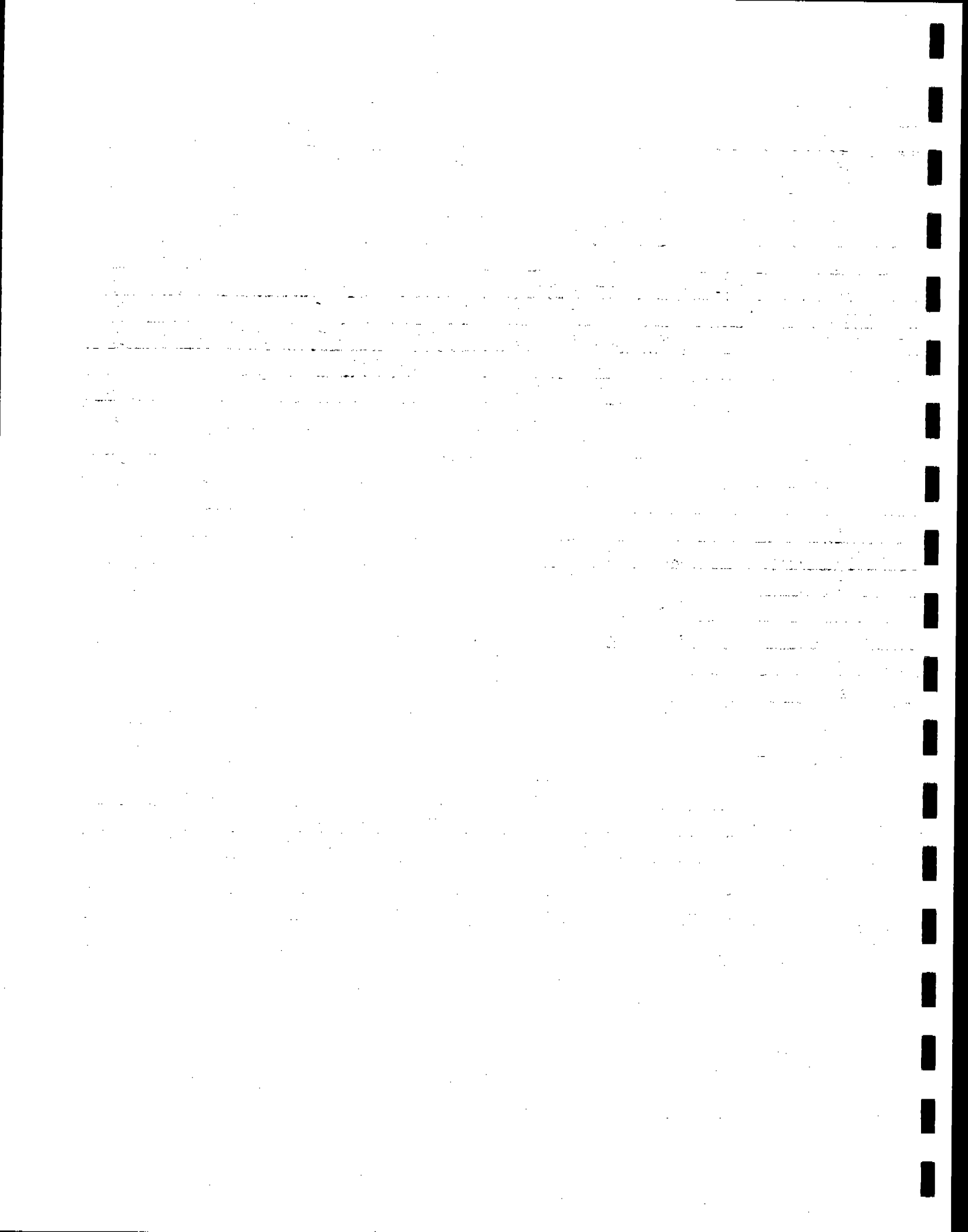
| CONTAINER | SAMPLE I.D.        | DESCRIPTION   |
|-----------|--------------------|---------------|
|           | <u>45-176</u>      | <u>IMP-3</u>  |
|           | <u>00212</u>       | <u>TRAP-5</u> |
|           | <u>RTD-011-013</u> |               |
|           |                    |               |
|           |                    |               |
|           |                    |               |
|           |                    |               |
|           |                    |               |
|           |                    |               |

| VACUUM | 12   | 12   |  |  |
|--------|------|------|--|--|
| RATE   | .000 | 0.00 |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL  |
|----------|---------|--------|
| #1       | 100 mL  | 181 μl |
| #2       | 100 mL  | 114 μl |
| #3       | 0 mL    | 24     |
| #4       |         |        |
| #5       |         |        |
| #6       | 100 μg  | 200    |

| NOZZLE # |         |
|----------|---------|
| PITOT #  | 17      |
| BOX I.D. | #3      |
| GAMMA Y  | .71910  |
| ΔHG      | 1.73672 |
| PBAR     |         |
| FILTER   | N/A     |
| TECH.    | J.P.    |



APPENDIX L.5

RAW FIELD DATA FOR BIF METHOD 0011 TESTING

- KONUS STACK -





245  
Revision 1

3.78 75 2.85

03/16/94

ISOKINETIC SAMPLING DATA SHEET

PAGE 1 OF 1

CITY: La. Pacific

TEST LOCATION: <sup>Konig</sup> Konig Stack

DATE: 4-12-95

TIME: 10:10

END TIME: 11:45

POLLUTANT: <sup>CO<sub>2</sub></sup> HCHO

RUN I.D.: K.S. - 10216-R1

| SAMPLE TIME | TIME        | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------------|-------------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 0           | 10:10       |        | 285         | .25      | 3.01     | 180.320                    | 75              | 75               | 60             | 250          | 3          |
| 3           | 10:12/10:45 |        | 284         | .23      | 2.85     | 183.5                      | 76              | 75               | 62             | 254          | 3          |
| 6           |             |        | 284         | .23      | 2.85     | 186.5                      | 82              | 79               | 60             | 255          | 3          |
| 9           |             |        | 287         | .24      | 2.97     | 189.4                      | 83              | 81               | 58             | 254          | 3          |
| 12          |             | - .15  | 288         | .22      | 2.72     | 192.4                      | 83              | 81               | 55             | 255          | 3          |
| 15          |             |        | 289         | .25      | 3.09     | 195.4                      | 85              | 82               | 54             | 254          | 3          |
| 18          |             |        | 288         | .25      | 3.09     | 198.3                      | 88              | 83               | 50             | 255          | 3          |
| 21          |             |        | 285         | .24      | 2.97     | 201.5                      | 90              | 84               | 49             | 254          | 3          |
| 24          |             |        | 286         | .26      | 3.28     | 204.4                      | 92              | 85               | 49             | 255          | 3          |
| 27          |             |        | 285         | .25      | 3.09     | 207.7                      | 95              | 87               | 52             | 253          | 3          |
| 30          | 11:15/11:45 |        | 282         | .26      | 3.28     | 210.970                    | 92              | 86               | 54             | 250          | 3          |
| 33          |             |        | 283         | .24      | 3.03     | 214.1                      | 94              | 86               | 55             | 250          | 3          |
| 36          |             |        | 285         | .24      | 3.03     | 217.3                      | 95              | 87               | 55             | 249          | 3          |
| 39          |             |        | 284         | .27      | 3.40     | 220.4                      | 97              | 87               | 56             | 251          | 4          |
| 42          |             | - .18  | 285         | .21      | 2.65     | 224.0                      | 97              | 87               | 57             | 251          | 4          |
| 45          |             |        | 284         | .25      | 3.15     | 226.7                      | 99              | 89               | 57             | 253          | 4          |
| 48          |             |        | 284         | .26      | 3.28     | 229.7                      | 100             | 89               | 59             | 254          | 4          |
| 51          |             |        | 282         | .25      | 3.15     | 232.9                      | 100             | 90               | 59             | 251          | 4          |
| 54          |             |        | 284         | .25      | 3.15     | 236.7                      | 100             | 90               | 60             | 251          | 4          |
| 57          |             |        | 286         | .22      | 2.77     | 239.3                      | 101             | 90               | 62             | 252          | 4          |
| 60          | 11:45       |        |             |          |          | 242.317                    |                 |                  |                |              |            |

OF CUSTODY:

| AIN | SAMPLE I.D. | DESCRIPTION |
|-----|-------------|-------------|
| FIA | 300         | Imp 1-3     |
| F   | 301         | S. 621      |
|     |             |             |
|     |             |             |
|     |             |             |
|     |             |             |
|     |             |             |
|     |             |             |

LEAK CHECK:

| VACUUM | 15"  | 7"   |  |  |
|--------|------|------|--|--|
| RATE   | .002 | .002 |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| 1        | 100     | 140   |
| 2        | 100     | 120   |
| 3        | 0       | 6     |
| 4        | 200     | 223.9 |
| 5        |         |       |
| 6        |         |       |

|                  |           |
|------------------|-----------|
| NOZZLE #         | .369      |
| PITOT #          | 0-84      |
| BOX I.D.         | 12        |
| GAMMA T          | 0.99079   |
| ΔH <sub>2</sub>  | 1.76407   |
| P <sub>BAR</sub> | 28.2 28.9 |
| FILTER           | NA        |
| TECH.            | Beumen    |

ISOKINETIC SAMPLING DATA SHEET

Facility: La. Pacific TEST LOCATION: Konus Stack DATE: 9-12-95  
 START TIME: 12:25 END TIME: 13:40 POLLUTANT: HClH<sub>2</sub> RUN I.D.: KS - 0001 R.2

| MIN | SAMPLE TIME | TIME                      | STATIC | STACK TEMP. | STACK ΔP              | METER ΔH                | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-----|-------------|---------------------------|--------|-------------|-----------------------|-------------------------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 0   | 0           | 12:25                     |        | 281         | .21                   | 2.65                    | 245.336                    | 92              | 91               | 60             | 254          | 4          |
| 9   | 3           |                           |        | 284         | .22                   | 2.77                    | 248.2                      | 92              | 90               | 55             | 255          | 4          |
| 8   | 6           |                           |        | 283         | .23                   | 3.00                    | 251.2                      | 94              | 90               | 55             | 256          | 4          |
| 7   | 9           |                           |        | 287         | .23                   | 3.00                    | 254.2                      | 96              | 91               | 52             | 256          | 4          |
| 6   | 12          |                           | - .17  | 285         | .22                   | 2.77                    | 257.2                      | 97              | 91               | 50             | 255          | 4          |
| 5   | 15          |                           |        | 285         | .25                   | 3.27                    | 260.4                      | 101             | 92               | 49             | 254          | 5          |
| 4   | 18          |                           |        | 285         | .24                   | 3.13                    | 263.5                      | 103             | 92               | 49             | 255          | 5          |
| 3   | 21          |                           |        | 284         | .24                   | 3.13                    | 266.5                      | 104             | 93               | 51             | 255          | 5          |
| 2   | 24          |                           |        | 284         | .25                   | 3.27                    | 269.8                      | 104             | 93               | 53             | 256          | 5          |
| 1   | 27          |                           |        | 285         | .23                   | 3.00                    | 273.0                      | 105             | 95               | 54             | 256          | 5          |
| 16  | 30          | <del>12:55</del><br>13:40 |        | 284         | <del>.23</del><br>.21 | <del>3.00</del><br>2.65 | 276.134                    | 98              | 96               | 55             | 255          | 5          |
| 9   | 33          |                           |        | 286         | .22                   | 2.77                    | 279.1                      | 101             | 96               | 59             | 257          | 4          |
| 8   | 36          |                           |        | 285         | .22                   | 2.77                    | 282.0                      | 102             | 96               | 60             | 256          | 4          |
| 7   | 39          |                           |        | 284         | .23                   | 3.00                    | 285.0                      | 103             | 96               | 57             | 256          | 4          |
| 6   | 42          |                           | - .10  | 285         | .24                   | 3.13                    | 288.0                      | 104             | 97               | 55             | 255          | 4          |
| 5   | 45          |                           |        | 285         | .25                   | 3.27                    | 291.1                      | 105             | 97               | 54             | 255          | 4          |
| 4   | 48          |                           |        | 286         | .26                   | 3.40                    | 294.5                      | 105             | 97               | 55             | 256          | 5          |
| 3   | 51          |                           |        | 281         | .24                   | 3.13                    | 297.8                      | 106             | 98               | 57             | 256          | 4          |
| 2   | 54          |                           |        | 284         | .22                   | 2.77                    | 301.1                      | 107             | 97               | 59             | 255          | 4          |
| 1   | 57          |                           |        | 284         | .20                   | 2.61                    | 304.0                      | 107             | 97               | 61             | 255          | 4          |
|     | 60          | 13:40                     |        |             |                       |                         | 306.961                    |                 |                  |                |              |            |

CONTAINER OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION |
|-----------|-------------|-------------|
| F1A       | 302         | Zy 1-3      |
| F2        | 303         | S.61        |

LEAK CHECK:

| VACUUM | 15"  | 8"   |
|--------|------|------|
| RATE   | .007 | .005 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL            |
|----------|---------|------------------|
| #1       | 100     | 127              |
| #2       | 100     | 118              |
| #3       | 0       | 5                |
| #4       | 200     | <del>215.8</del> |
| #5       |         | 215.8            |
| #6       |         |                  |

|                  |         |
|------------------|---------|
| NOZZLE #         | 0.369   |
| PITOT #          | 0.84    |
| BOX I.D.         | 12      |
| GAMMA Y          | 0.99079 |
| ΔH <sub>0</sub>  | 1.76407 |
| P <sub>BAR</sub> | 28.90   |
| FILTER           | NA      |
| TECH.            | Bauman  |

13.60

ISOKINETIC SAMPLING DATA SHEET

C.A. Pacific

TEST LOCATION: Konus Stack

DATE: 9/12/95

TIME: 14:06

END TIME: 15:14

POLLUTANT: \_\_\_\_\_

RUN I.D.: KS - 0001 R3

| SAMPLE TIME | TIME                      | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------------|---------------------------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 0           | 14:06                     |        | 285         | .23      | 3.02     | 307.346                    | 99              | 96               | 60             | 250          | 2          |
| 3           |                           |        | 284         | .23      | 3.13     | 310.2                      | 98              | 95               | 60             | 251          | 2          |
| 6           |                           |        | 284         | .24      | 3.26     | 313.5                      | 100             | 96               | 61             | 252          | 2          |
| 9           |                           |        | 285         | .22      | 2.99     | 316.7                      | 102             | 95               | 59             | 251          | 2          |
| 12          |                           | - .15  | 285         | .25      | 3.40     | 319.9                      | 102             | 96               | 60             | 250          | 2          |
| 15          |                           |        | 284         | .26      | 3.54     | 323.0                      | 103             | 96               | 60             | 250          | 2          |
| 18          |                           |        | 285         | .25      | 3.40     | 326.3                      | 103             | 97               | 61             | 252          | 2          |
| 21          |                           |        | 285         | .24      | 3.26     | 329.6                      | 105             | 96               | 60             | 251          | 2          |
| 24          |                           |        | 284         | .24      | 3.26     | 332.9                      | 105             | 97               | 61             | 251          | 2          |
| 27          |                           |        | 284         | .20      | 2.72     | 335.9                      | 105             | 97               | 60             | 254          | 2          |
| 30          | <del>14:36</del><br>14:34 |        | 289         | .24      | 3.26     | 338.982                    | 99              | 96               | 64             | 255          | 4          |
| 33          |                           |        | 285         | .25      | 3.40     | 342.1                      | 102             | 96               | 60             | 256          | 4          |
| 36          |                           |        | 284         | .25      | 3.40     | 345.5                      | 102             | 96               | 59             | 256          | 4          |
| 39          |                           |        | 286         | .24      | 3.26     | 348.8                      | 102             | 97               | 58             | 255          | 4          |
| 42          |                           | - .2   | 282         | .20      | 2.72     | 352.1                      | 103             | 96               | 55             | 254          | 4          |
| 45          |                           |        | 287         | .24      | 3.26     | 355.1                      | 103             | 96               | 55             | 255          | 4          |
| 48          |                           |        | 289         | .25      | 3.40     | 358.3                      | 104             | 95               | 55             | 257          | 4          |
| 51          |                           |        | 286         | .23      | 3.13     | 362.7                      | 105             | 96               | 57             | 254          | 4          |
| 54          |                           |        | 284         | .23      | 3.13     | 365.0                      | 105             | 96               | 59             | 254          | 4          |
| 57          |                           |        | 284         | .22      | 2.99     | 368.1                      | 104             | 95               | 60             | 254          | 4          |
| 60          | 15:14                     |        |             |          |          | 371.262                    |                 |                  |                |              |            |

IN CHARGE OF CUSTODY:

| NUMBER | SAMPLE I.D. | DESCRIPTION |
|--------|-------------|-------------|
|        |             |             |
|        |             |             |
|        |             |             |
|        |             |             |
|        |             |             |
|        |             |             |
|        |             |             |

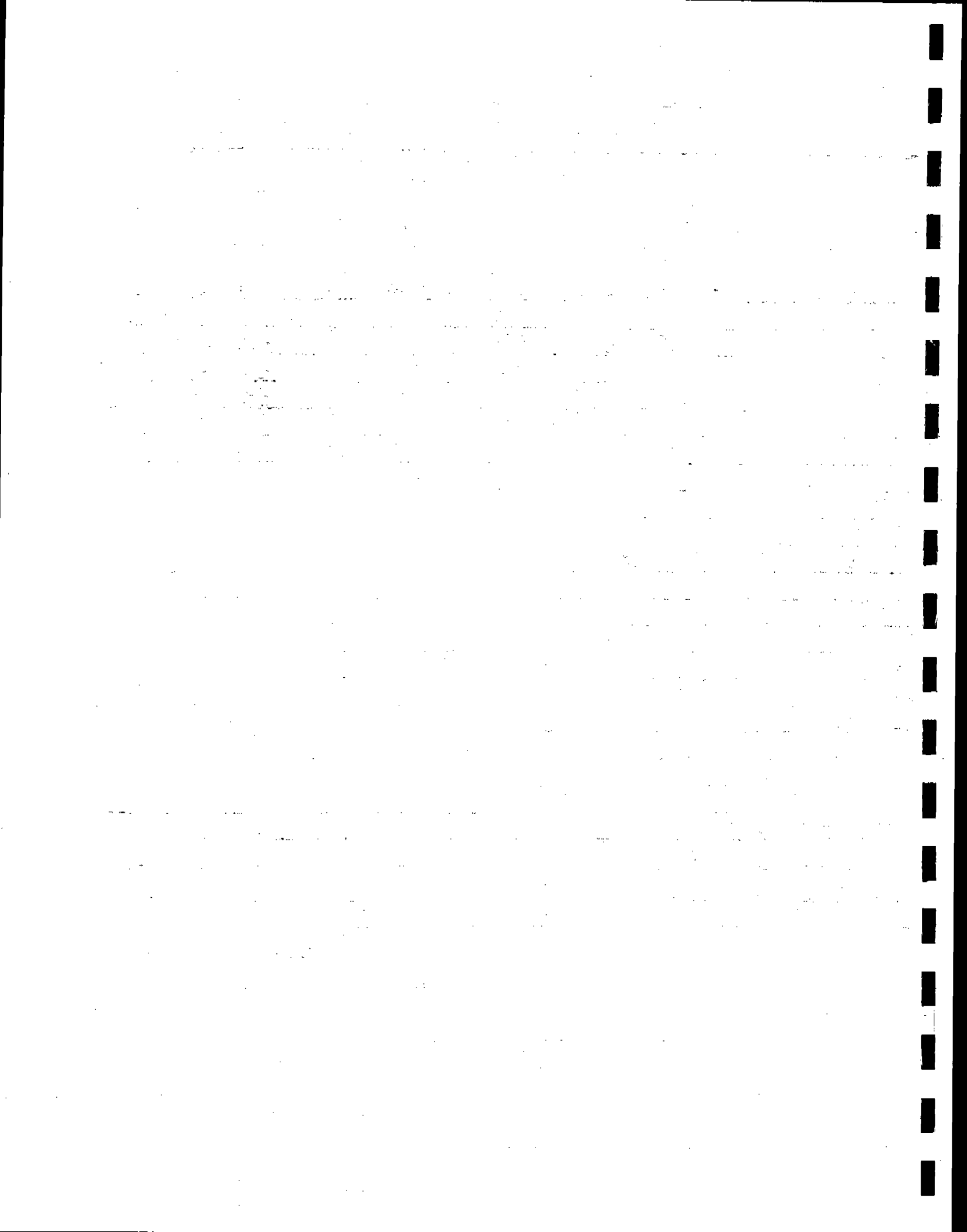
LEAK CHECK:

|        |      |      |  |  |  |
|--------|------|------|--|--|--|
| VACUUM | 15"  | 7"   |  |  |  |
| RATE   | .008 | .007 |  |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL          |
|----------|---------|----------------|
|          |         |                |
| #1       | 100     | 116            |
| #2       | 100     | 120            |
| #3       | 0       | 8              |
| #4       |         |                |
| #5       | 200     | <del>215</del> |
| #6       |         | 219            |

|                  |         |
|------------------|---------|
| NOZZLE #         | 0.369   |
| PITOT #          | 0.84    |
| BOX I.D.         | 12      |
| GAMMA Y          | 0.99079 |
| ΔH <sub>B</sub>  | 1.76407 |
| F <sub>BAR</sub> | 28.9    |
| FILTER           | NA      |
| TECH.            | Bauman  |



ISOKINETIC SAMPLING DATA SHEET

LA Pacific

TEST LOCATION: Scrubber / outlet

DATE: 8-30-95

TIME: 19:40

END TIME: 20:51

POLLUTANT:

RUN I.D.: SCRO - <sup>BIF</sup> - R 3

| NT | SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|----|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 2  | 0           | 19:40 | -2.4   | 154         | .81      | 1.1      | 832.154                    | 103             | 103              | 60             | N/A          | 4          |
|    | 2.5         |       |        | 154         | .83      | 1.15     | 834.0                      | 104             | 103              | 56             |              | 4          |
|    | 5           |       |        | 154         | .90      | 1.25     | 835.5                      | 104             | 103              | 57             |              | 4          |
|    | 7.5         |       |        | 155         | 1.0      | 1.39     | 837.7                      | 105             | 104              | 58             |              | 4          |
| 3  | 10          |       |        | 156         | 1.3      | 1.8      | 838.9                      | 106             | 104              | 58             |              | 5          |
| 7  | 12.5        |       |        | 156         | 1.4      | 1.9      | 840.8                      | 107             | 105              | 58             |              | 5          |
| 6  | 15          |       |        | 157         | 1.6      | 2.2      | 843.0                      | 108             | 105              | 59             |              | 6          |
| 5  | 17.5        |       |        | 158         | 1.4      | 1.9      | 845.0                      | 109             | 105              | 59             |              | 5          |
| 4  | 20          |       |        | 158         | 1.4      | 1.9      | 847.1                      | 110             | 105              | 60             |              | 5          |
| 3  | 22.5        |       |        | 158         | 1.2      | 1.66     | 849.1                      | 111             | 105              | 59             |              | 5          |
| 2  | 25          |       |        | 158         | 1.2      | 1.66     | 851.1                      | 111             | 105              | 60             |              | 5          |
| 1  | 27.5        |       |        | 159         | 1.0      | 1.34     | 852.9                      | 112             | 106              | 60             |              | 5          |
|    | 30          | 20:10 |        |             |          |          | 854.780                    | LEAK            | 20               |                |              |            |
| 12 | 30          | 20:21 | -2.2   | 159         | 1.1      | 1.5      | 854.860                    | 109             | 107              | 61             |              | 5          |
| 11 | 32.5        |       |        | 159         | 1.2      | 1.66     | 856.7                      | 111             | 107              | 62             |              | 5          |
| 10 | 35          |       |        | 160         | 1.1      | 1.9      | 858.7                      | 112             | 108              | 61             |              | 6          |
| 9  | 37.5        |       |        | 159         | 1.4      | 1.9      | 860.6                      | 113             | 108              | 62             |              | 6          |
| 8  | 40          |       |        | 159         | 1.6      | 2.2      | 862.9                      | 115             | 108              | 63             |              | 7          |
| 7  | 42.5        |       |        | 158         | 1.6      | 2.2      | 865.0                      | 115             | 108              | 63             |              | 7          |
|    | 45          |       |        | 158         | 1.3      | 1.8      | 866.8                      | 115             | 108              | 63             |              | 7          |
| 5  | 47.5        |       |        | 158         | 1.2      | 1.5      | 868.7                      | 116             | 109              | 64             |              | 5          |
| 4  | 50          |       |        | 158         | .94      | 1.3      | 871.0                      | 115             | 109              | 64             |              | 5          |
| 3  | 52.5        |       |        | 158         | .82      | 1.1      | 872.3                      | 115             | 109              | 65             |              | 4          |
| 2  | 55          |       |        | 159         | .79      | 1.0      | 873.8                      | 115             | 109              | 65             |              | 4          |
| 1  | 57.5        | 20:51 |        | 158         | .78      | 1.0      | 875.9                      | 115             | 109              | 66             |              | 4          |

IN OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION |
|-----------|-------------|-------------|
| 1A        | 596-00230   | Rinse/Imp   |
| 2         | - 231       | S.G.        |
|           |             |             |
|           |             |             |
|           |             |             |
|           |             |             |

LEAK CHECK: 878.890

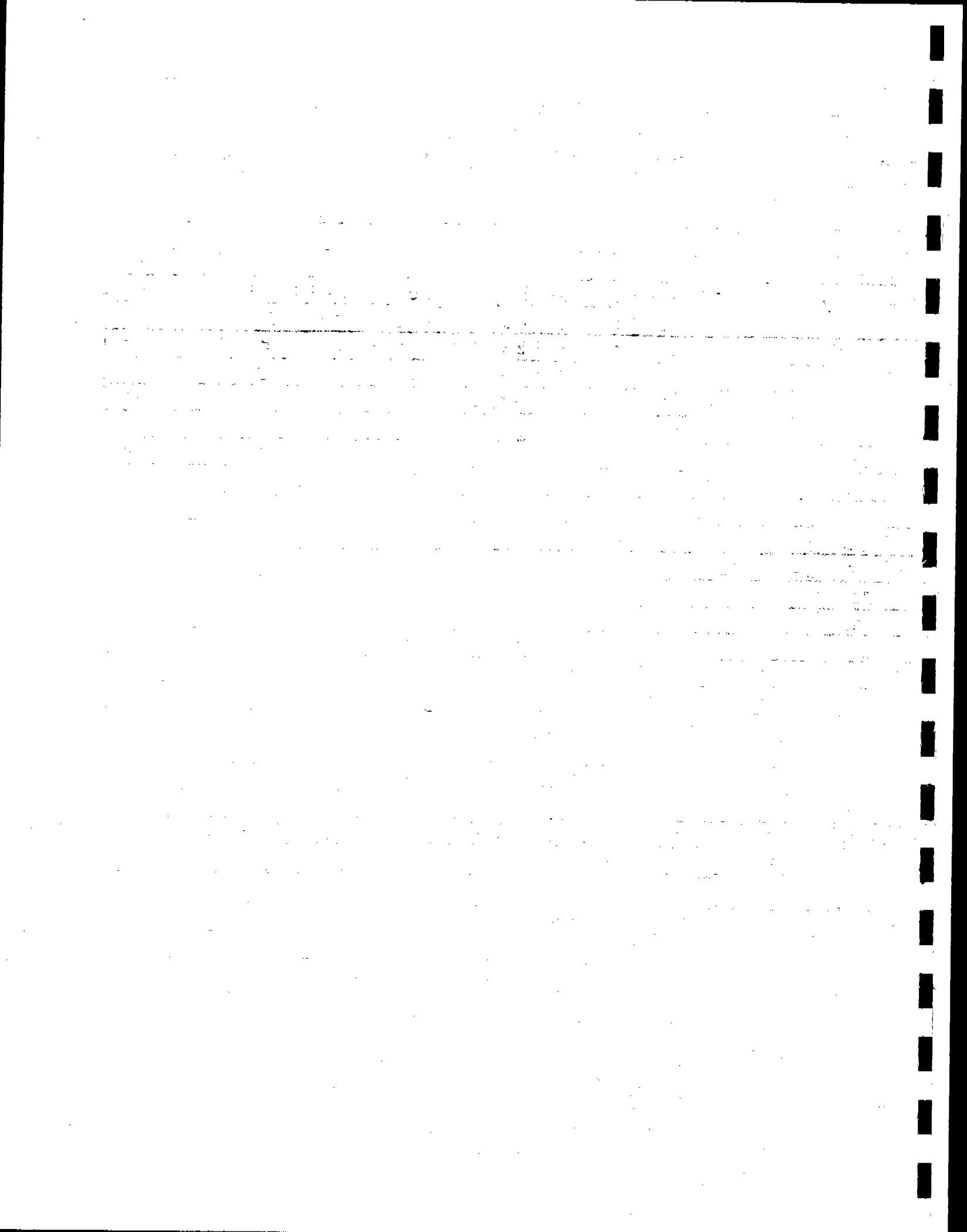
| VACUUM | 15   | 12   |  |  |
|--------|------|------|--|--|
| RATE   | 1002 | 1002 |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL  |
|----------|---------|--------|
| #1       | 100 ml  | 280 ml |
| #2       | 100 ml  | 134 ml |
| #3       | 0       | 2 ml   |
| #4       |         |        |
| #5       |         |        |
| #6       | 200 g   | 210 ml |

|                  |                   |
|------------------|-------------------|
| NOZZLE #         | 1/32 - 211        |
| PITOT #          | 105               |
| BOX I.D.         | 4                 |
| GAMMA Y          | 1.0058            |
| ΔHG              | 1.7581            |
| P <sub>BAR</sub> | 28.75             |
| FILTER           | N/A               |
| TECH.            | R. Graham/Shedden |

K = 1.385



APPENDIX L.3

RAW FIELD DATA FOR BIF METHOD 0011 TESTING

- PRESS OUTLET -





ISOKINETIC SAMPLING DATA SHEET

FACILITY: C.A. Pacific TEST LOCATION: Press Stack DATE: 8/30  
 START TIME: 9:55 END TIME: 11:17 POLLUTANT: formaldehyde RUN I.D.: Press-H011-R1

| POINT | SAMPLE TIME     | TIME                      | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------|-----------------|---------------------------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| A 6   | <del>9:55</del> | 9:55                      |        | 86          | 1.6      | 2.1      | 356.012                    | 71              | 69               | 53             | NA           | 15         |
| 5     | 5               |                           |        | 85          | 1.7      | 2.2      | 360.3                      | 71              | 69               | 54             |              | 15         |
| 4     | 10              |                           | -2.5   | 84          | 1.9      | 2.5      | 364.4                      | 72              | 70               | 60             |              | 15         |
| 3     | 15              |                           |        | 84          | 2.1      | 2.7      | 368.6                      | 74              | 71               | 62             |              | 15         |
| 2     | 20              |                           |        | 87          | 2.0      | 2.6      | 373.9                      | 75              | 71               | 61             |              | 15         |
| 1     | 25              |                           |        | 87          | 1.6      | 2.1      | 378.0                      | 76              | 72               | 62             |              | 15         |
| 0     | 30              | <del>10:25</del><br>10:27 |        | 95          | .95      | 1.25     | 382.335                    | 78              | 76               | 61             |              | 3          |
| 2     | 35              |                           |        | 95          | 1.6      | 2.1      | 385.6                      | 79              | 76               | 60             |              | 3          |
| 2     | 40              |                           |        | 98          | 1.8      | 2.4      | 389.5                      | 83              | 77               | 60             |              | 5          |
| 1     | 45              |                           | -2.1   | 100         | 2.0      | 2.6      | 393.9                      | 86              | 78               | 61             |              | 6          |
| 5     | 50              |                           |        | 97          | 1.6      | 2.1      | 398.5                      | 88              | 78               | 63             |              | 6          |
| 6     | 55              |                           |        | 99          | 1.8      | 2.4      | 402.9                      | 89              | 80               | 63             |              | 5          |
|       | 60              | 11:17                     |        |             |          |          | 407.273                    |                 |                  |                |              |            |

CHAIN OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION    |
|-----------|-------------|----------------|
| 1         | 135         | Imp + H Ring   |
| 2         | 136         | Imp 234 + Ring |
|           |             |                |
|           |             |                |
|           |             |                |
|           |             |                |
|           |             |                |

LEAK CHECK:

| VACUUM | 15" | 15" |  |  |  |
|--------|-----|-----|--|--|--|
| RATE:  | .01 | .01 |  |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 100     | 104   |
| #2       | 100     | 100   |
| #3       | 0       | 2     |
| #4       | 200     | 213.0 |
| #5       |         |       |
| #6       |         |       |

|                  |          |
|------------------|----------|
| NOZZLE #         | 0192     |
| PITOT #          | 103      |
| BOX I.D.         | 13       |
| GAMMA Y          | 1.0027   |
| ΔH <sub>0</sub>  | 1.8375   |
| P <sub>BAR</sub> | 28.75    |
| FILTER           | -        |
| TECH.            | J. Mader |

ISOKINETIC SAMPLING DATA SHEET

UTILITY: L.A. Pacific

TEST LOCATION: Acres

DATE: 8/30

START TIME: 13:25 END TIME: 15:11

POLLUTANT: Formaldehyde

RUN I.D.: Acres - M011 - R2

| SAMPLE NO. | SAMPLE TIME | TIME                      | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|------------|-------------|---------------------------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 1          | 0           | 13:25                     | -2.1   | 101         | 1.2      | 1.7      | 411.259                    | 90              | 90               | 65             | NA           | 9          |
| 2          | 5           |                           |        | 103         | 1.3      | 1.8      | 415.0                      | 91              | 91               | 66             |              | 9          |
| 3          | 10          |                           |        | 101         | 1.7      | 2.4      | 419.2                      | 91              | 90               | 62             |              | 9          |
| 4          | 15          |                           |        | 102         | 1.7      | 2.4      | 422.1                      | 92              | 90               | 65             |              | 9          |
| 5          | 20          |                           |        | 98          | 1.5      | 2.2      | 426.7                      | 92              | 90               | 64             |              | 8          |
| 6          | 25          | 13:55                     |        | 98          | 1.3      | 1.8      | 430.6                      | 93              | 90               | 64             |              | 8          |
| 7          | 30          |                           |        |             |          |          | 434.702                    |                 |                  |                |              |            |
| 8          | 30          | 14:10                     |        | 111         | 1.8      | 2.6      | 434.825                    | 93              | 92               | 65             |              | 9          |
| 9          | 35          |                           | -2.2   | 107         | 1.8      | 2.6      | 438.2                      | 94              | 92               | 62             |              | 8          |
| 10         | 40          | <del>14:14</del><br>14:19 |        | 107         | 2.0      | 2.8      | 442.4                      | 93              | 93               | 61             |              | 7          |
| 11         | 45          |                           |        | 107         | 1.7      | 2.4      | 446.8                      | 93              | 92               | 61             |              | 7          |
| 12         | 50          |                           |        | 104         | 1.8      | 2.6      | 451.2                      | 95              | 92               | 62             |              | 7          |
| 13         | 55          |                           |        | 102         | 1.6      | 2.3      | 456.4                      | 96              | 93               | 62             |              | 7          |
| 14         | 60          | 15:11                     |        |             |          |          | 460.890                    |                 |                  |                |              |            |

CHAIN OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION    |
|-----------|-------------|----------------|
| 1A        | 218         | Imp-3 + Rinses |
|           | 219         | SL             |

LEAK CHECK:

| VACUUM | 15" | 10" |  |  |
|--------|-----|-----|--|--|
| RATE   | .01 | .01 |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 100     | 103   |
| #2       | 100     | 101   |
| #3       | 0       | 2     |
| #4       | 200     | 211.3 |
| #5       |         |       |
| #6       |         |       |

|          |           |
|----------|-----------|
| NOZZLE # | .192      |
| PITOT #  | 103       |
| BOX I.D. | 17        |
| GAMMA Y  | 1.0027    |
| ΔHG      | 1.8278    |
| PBAR     | 28.25     |
| FILTER   |           |
| TECH.    | J. Maiden |

1.44

ISOKINETIC SAMPLING DATA SHEET

CA Pacific

TEST LOCATION: Press

DATE: 8/30

START TIME: 19:40

END TIME: 20:51  
20:51

POLLUTANT: Formic Acid

RUN I.D.: Press. #011 - R3

| NO. | SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK ΔP | METER ΔP | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-----|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 1   | 0           | 19:40 |        | 91          | 1.4      | 2.0      | 461.558                    | 90              | 90               | 67             | N/A          | 4          |
| 2   | 5           |       |        | 98          | 1.4      | 2.0      | 465.7                      | 89              | 90               | 61             |              | 4          |
| 3   | 10          |       | -2.3   | 96          | 1.6      | 2.3      | 469.8                      | 89              | 89               | 60             |              | 4          |
| 4   | 15          |       |        | 95          | 1.9      | 2.7      | 474.1                      | 89              | 90               | 60             |              | 4          |
| 5   | 20          |       |        | 97          | 1.8      | 2.6      | 478.9                      | 91              | 89               | 61             |              | 4          |
| 6   | 25          |       |        | 98          | 1.4      | 2.0      | 480.5                      | 91              | 89               | 62             |              | 4          |
| 7   | 30          | 8:10  |        |             |          |          | 487.548                    |                 |                  |                |              |            |
| 8   | 35          | 8:21  |        | 94          | 1.7      | 2.4      | 487.774                    | 89              | 87               | 60             |              | 4          |
| 9   | 40          |       |        | 95          | 1.5      | 2.2      | 492.1                      | 89              | 87               | 61             |              | 4          |
| 10  | 45          |       | -2.5   | 94          | 1.7      | 2.4      | 496.1                      | 89              | 87               | 60             |              | 4          |
| 11  | 50          |       |        | 93          | 1.7      | 2.4      | 500.2                      | 90              | 87               | 61             |              | 4          |
| 12  | 55          |       |        | 92          | 1.5      | 2.2      | 504.9                      | 91              | 87               | 61             |              | 4          |
| 13  | 60          | 8:51  |        | 92          | 1.5      | 2.2      | 509.5                      | 90              | 87               | 60             |              | 4          |
|     |             | 20:51 |        |             |          |          | 514.067                    |                 |                  |                |              |            |

CHAIN OF CUSTODY:

| TAINER | SAMPLE I.D. | DESCRIPTION |
|--------|-------------|-------------|
| 1      | 220         | Risk/Reason |
|        |             |             |
|        |             |             |
|        |             |             |
|        |             |             |
|        |             |             |

LEAK CHECK:

| VACUUM | 15" | 6"  |
|--------|-----|-----|
| RATE   | .01 | .01 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 100     | 118   |
| #2       | 100     | 102   |
| #3       | 0       | 2     |
| #4       | 200     | 200   |
| #5       |         |       |
| #6       |         |       |

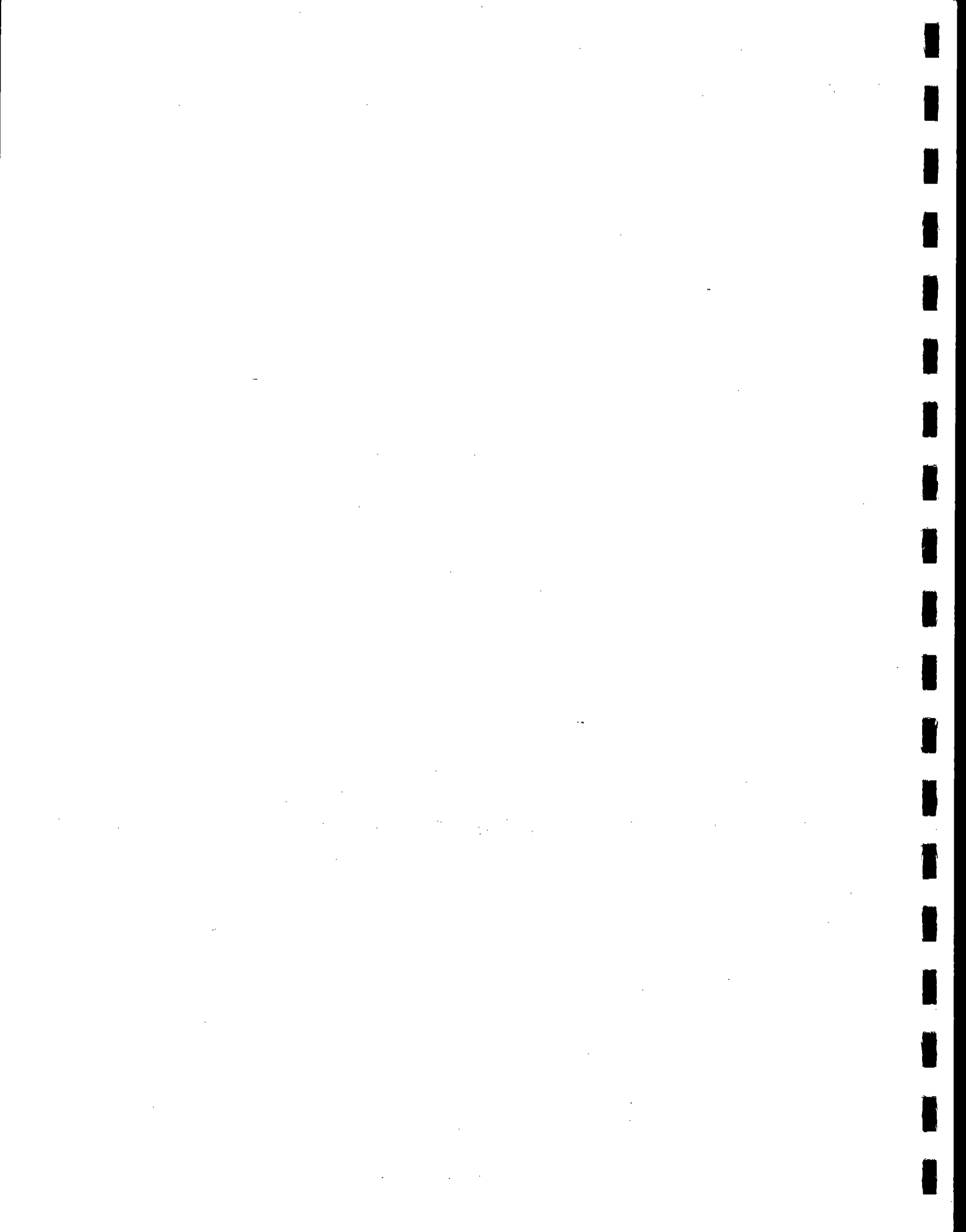
|                  |           |
|------------------|-----------|
| NOZZLE #         | 192       |
| PITOT #          | 103       |
| BOX I.D.         | 13        |
| GAMMA Y          | 1.0027    |
| ΔH <sub>0</sub>  | 1.8375    |
| P <sub>BAR</sub> | 28.75     |
| FILTER           | —         |
| TECH.            | J. Maiden |



**APPENDIX L.4**

**RAW FIELD DATA FOR BIF METHOD 0011 TESTING**

**- RTO STACK -**



ISOKINETIC SAMPLING DATA SHEET

L.A. Pacific

TEST LOCATION: RTO Stack

DATE: 8-30-95

TIME: 9:55

END TIME: 11:47

POLLUTANT: PCOH - Formulation

RUN I.D.: 208 - MBF- R1

K=3.03

| SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 0           | 9:55  |        | 233         | .65      | 1.97     | 758.675                    | 98              | 96               | 87             | 251          | 2          |
| 2.5         |       |        | 236         | .65      | 1.97     | 760.700                    | 99              | 96               | 88             | 251          | 2          |
| 5.0         |       |        | 235         | .67      | 2.03     | 762.5                      | 100             | 96               | 87             | 251          | 2          |
| 7.5         |       | -.35   | 237         | .67      | 1.85     | 764.8                      | 102             | 96               | 80             | 250          | 2          |
| 10.0        |       |        | 236         | .64      | 1.94     | 766.65                     | 104             | 97               | 81             | 251          | 2          |
| 12.5        |       |        | 241         | .62      | 1.85     | 768.6                      | 105             | 98               | 80             | 251          | 2          |
| 15.0        |       |        | 237         | .62      | 1.88     | 770.6                      | 107             | 98               | 81             | 251          | 2          |
| 17.5        |       |        | 241         | .62      | 1.88     | 772.6                      | 108             | 99               | 59             | 239          | 2          |
| 20.0        |       |        | 237         | .63      | 1.90     | 774.6                      | 110             | 100              | 59             | 251          | 2          |
| 22.5        |       |        | 240         | .60      | 1.82     | 776.1                      | 111             | 100              | 51             | 251          | 2          |
| 25.0        |       | -.32   | 236         | .55      | 1.86     | 778.1                      | 112             | 101              | 61             | 250          | 2          |
| 27.5        |       |        | 220         | .39      | 1.18     | 779.9                      | 113             | 101              | 60             | 250          | 2          |
| 30.0        | 9:25  |        |             |          |          | 781.847                    |                 |                  |                |              | 0          |
| 32.5        | 10:47 |        | 236         | .63      | 1.90     | 781.847                    | 109             | 103              | 56             | 249          | 2          |
| 35.0        |       |        | 237         | .67      | 2.03     | 783.9                      | 110             | 103              | 54             | 249          | 2          |
| 37.5        |       |        | 243         | .70      | 2.12     | 785.0                      | 112             | 104              | 58             | 241          | 2          |
| 40.0        |       | -.36   | 238         | .65      | 1.97     | 787.95                     | 112             | 104              | 58             | 250          | 2          |
| 42.5        |       |        | 240         | .65      | 1.97     | 790.0                      | 111             | 105              | 56             | 247          | 2          |
| 45.0        |       |        | 242         | .60      | 1.51     | 792.0                      | 111             | 105              | 58             | 246          | 2          |
| 47.5        |       |        | 239         | .67      | 2.03     | 794.0                      | 111             | 105              | 60             | 245          | 2          |
| 50.0        |       |        | 239         | .67      | 2.03     | 796.5                      | 112             | 105              | 60             | 245          | 2          |
| 52.5        |       |        | 239         | .63      | 1.90     | 798.6                      | 113             | 106              | 62             | 246          | 2          |
| 55.0        |       | -.35   | 243         | .63      | 1.90     | 799.7                      | 113             | 105              | 61             | 241          | 2          |
| 57.5        |       |        | 237         | .55      | 1.66     | 802.0                      | 113             | 105              | 60             | 245          | 2          |
| 60.0        |       |        | 225         | .32      | .97      | 803.0                      | 113             | 105              | 60             | 245          | 2          |

OF CUSTODY: 11:47

LEAK CHECK: 8.5-198

| SAMPLE I.D. | DESCRIPTION          |
|-------------|----------------------|
| 208         | 1 Imp + FH / Rinse   |
| 211         | 3-0, 2, 3, 4 + Rinse |
| 211         | Sub                  |

|        |              |              |  |  |  |
|--------|--------------|--------------|--|--|--|
| VACUUM | <u>10.00</u> | <u>5</u>     |  |  |  |
| RATE   | <u>0.00</u>  | <u>0.000</u> |  |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL   |
|----------|---------|---------|
| #1       | 100 ml  | 169 ml  |
| #2       | 100 ml  | 104 ml  |
| #3       | 0 ml    | 2 ml    |
| #4       |         |         |
| #5       |         |         |
| #6       | 200 g   | 209.5 g |

|          |                |
|----------|----------------|
| NOZZLE # | <u>0.258</u>   |
| PITOT #  | <u>117</u>     |
| BOX I.D. | <u>#5</u>      |
| GAMMA T  | <u>.99910</u>  |
| ΔHQ      | <u>1.73672</u> |
| P BAR    | <u>    </u>    |
| FILTER   | <u>N/A</u>     |
| TECH.    | <u>J.P.</u>    |

ISOKINETIC SAMPLING DATA SHEET

ITY: LA Pacific

TEST LOCATION: RTO Stack

DATE: 5-30-75

TIME: 13:25

END TIME: 1510

POLLUTANT: HCN

RUN I.D.: RTO S. N. S. R 22

| TIME | SAMPLE TIME | TIME  | STATIC            | STACK TEMP. | STACK AP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|------|-------------|-------|-------------------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 2    | 0           | 13:25 |                   | 242         | .65      | 2.06     | 805.800                    | 102             | 102              | 97             | 245          | 2          |
| 11   | 2.5         |       |                   | 243         | .64      | 2.04     | 807.8                      | 103             | 103              | 69             | 247          | 2          |
| 10   | 5.0         |       |                   | 246         | .64      | 2.04     | 804.3                      | 107             | 103              | 65             | 249          | 2          |
| 4    | 7.5         |       | -39               | 242         | .67      | 2.14     | 812.0                      | 107             | 104              | 65             | 249          | 2          |
| 8    | 10.0        |       |                   | 247         | .62      | 1.94     | 814.1                      | 108             | 103              | 63             | 248          | 2          |
| 7    | 12.5        |       |                   | 244         | .60      | 1.92     | 816.1                      | 109             | 103              | 62             | 244          | 2          |
| 5    | 15.0        |       |                   | 245         | .62      | 1.98     | 818.0                      | 110             | 104              | 62             | 245          | 2          |
| 6    | 17.5        |       |                   | 244         | .66      | 2.11     | 819.0                      | 111             | 105              | 61             | 249          | 2          |
| 3    | 20.0        |       | -35               | 246         | .62      | 1.98     | 822.0                      | 113             | 106              | 60             | 247          | 2          |
| 3    | 22.5        |       |                   | 244         | .59      | 1.88     | 824.2                      | 114             | 105              | 61             | 247          | 2          |
| 1    | 25.0        |       |                   | 247         | .55      | 1.76     | 826.1                      | 115             | 106              | 62             | 248          | 2          |
| 1    | 27.5        |       |                   | 225         | 3.2      | 1.12     | 828.1                      | 115             | 106              | 62             | 248          | 2          |
|      | 30.0        | 13:55 |                   |             |          |          | 829.455                    |                 |                  |                |              |            |
| 2    | 30.0        | 14:10 |                   | 244         | .63      | 2.01     | 829.455                    | 110             | 108              | 69             | 249          | 2          |
| 11   | 32.5        |       |                   | 244         | .70      | 2.24     | 831.7                      | 113             | 108              | 65             | 248          | 2          |
| 6    | 35.0        |       | -38               | 244         | .65      | 2.06     | 833.9                      | 115             | 108              | 64             | 248          | 2          |
| 7    | 37.5        | 14:19 | SP<br>AP<br>+ JAW | 244         | .68      | 2.17     | 835.5                      | 116             | 109              | 64             | 250          | 2          |
| 1    | 40.0        | 14:50 | STAT              | 241         | .65      | 2.11     | 838.10                     | 108             | 107              | 64             | 250          | 2          |
| 7    | 42.5        |       |                   | 241         | .66      | 2.11     | 840.0                      | 109             | 107              | 61             | 245          | 2          |
| 6    | 45.0        |       |                   | 245         | .65      | 2.08     | 842.0                      | 110             | 108              | 63             | 249          | 2          |
| 1    | 47.5        |       |                   | 243         | .64      | 2.04     | 844.1                      | 111             | 108              | 64             | 245          | 2          |
| 2    | 50.0        |       |                   | 243         | .63      | 2.06     | 846.2                      | 112             | 108              | 63             | 249          | 2          |
| 3    | 52.5        |       |                   | 242         | .62      | 1.98     | 848.2                      | 112             | 107              | 63             | 249          | 2          |
| 7    | 55.0        |       |                   | 244         | .55      | 1.71     | 850.4                      | 114             | 108              | 62             | 250          | 2          |
|      | 57.5        | 15:10 |                   | 229         | .35      | 1.12     | 852.4                      | 114             | 108              | 60             | 250          | 2          |

k  
=32

50.0  
OF CUSTODY:

| CONTAINER | SAMPLE I.D.       | DESCRIPTION           |
|-----------|-------------------|-----------------------|
| 1         | RTO-MDI-21<br>210 | 11 MDI FH<br>RIUSE    |
| 2         | RTO-MDI-22        | 1 MDI 3/24<br>+ RIUSE |
| 7         | 209               | Sebel                 |

LEAK CHECK: 853.731

|        |               |      |  |  |
|--------|---------------|------|--|--|
| VACUUM | <del>12</del> | 12   |  |  |
| RATE   | .009          | .002 |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | ND ml   | 178   |
| #2       | ND ml   | 113   |
| #3       | S ml    | 431   |
| #4       |         |       |
| #5       |         |       |
| #6       | 200 S   | 209.3 |

|          |        |
|----------|--------|
| NOZZLE # |        |
| PITOT #  | 717    |
| BOX I.D. | #5     |
| GAMMA Y  | 4910   |
| ΔHG      | 1.7872 |
| ΔP BAR   | 28.75  |
| FILTER   | N/A    |
| TECH.    | S.P    |



ISOKINETIC SAMPLING DATA SHEET

CITY: LA Pacific

TEST LOCATION: RTD stack

DATE: 3-20-94

START TIME: 19:40

END TIME: 20:51

POLLUTANT: HCOH Formaldehyde

RUN I.D.: RTD Stack No. 11-R3

| PT | SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|----|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 12 | 0           | 19:40 |        | 238         | .65      | 2.08     | 854.300                    | 93              | 94               | 67             | 251          | 3          |
| 11 | 2.5         |       |        | 240         | .63      | 2.01     | 856.400                    | 97              | 95               | 65             | 250          | 3          |
| 10 | 5.0         |       |        | 239         | .65      | 2.08     | 858.300                    | 99              | 96               | 61             | 250          | 3          |
| 9  | 7.5         |       | -32    | 240         | .64      | 2.048    | 860.4                      | 100             | 96               | 60             | 250          | 3          |
| 8  | 10.0        |       |        | 240         | .64      | 2.048    | 863.0                      | 103             | 97               | 59             | 251          | 3          |
| 7  | 12.5        |       |        | 242         | .60      | 1.92     | 864.4                      | 103             | 97               | 59             | 250          | 3          |
| 6  | 15.0        |       |        | 242         | .61      | 1.952    | 866.3                      | 104             | 97               | 60             | 249          | 3          |
| 5  | 17.5        |       |        | 242         | .61      | 1.952    | 869.5                      | 104             | 97               | 67             | 248          | 3          |
| 4  | 20.0        |       | -32    | 241         | .58      | 1.856    | 870.5                      | 105             | 97               | 60             | 250          | 3          |
| 3  | 22.5        |       |        | 239         | .57      | 1.824    | 872.4                      | 106             | 98               | 59             | 248          | 3          |
| 2  | 25.0        |       |        | 240         | .50      | 1.6      | 874.2                      | 106             | 98               | 58             | 250          | 3          |
| 1  | 27.5        |       |        | 221         | .42      | 1.34     | 876.0                      | 106             | 98               | 58             | 248          | 3          |
|    | 30          |       |        |             |          |          | 877.754                    |                 |                  |                |              |            |
| 12 | 30          | 20:21 |        | 241         | .60      | 1.92     | 877.754                    | 100             | 97               | 59             | 252          | 3          |
| 11 | 32.5        |       |        | 241         | .61      | 1.952    | 879.7                      | 102             | 97               | 60             | 248          | 3          |
| 10 | 35.0        |       | -34    | 241         | .62      | 1.952    | 881.0                      | 102             | 97               | 59             | 248          | 3          |
| 9  | 37.5        |       |        | 241         | .65      | 2.08     | 884.0                      | 103             | 97               | 58             | 251          | 3          |
| 8  | 40.0        |       |        | 242         | .62      | 1.98     | 885.9                      | 104             | 97               | 57             | 250          | 3          |
| 7  | 42.5        |       |        | 241         | .60      | 1.92     | 887.0                      | 105             | 98               | 57             | 247          | 3          |
| 6  | 45.0        |       |        | 243         | .63      | 2.01     | 889.7                      | 106             | 98               | 57             | 250          | 3          |
| 5  | 47.5        |       |        | 243         | .62      | 1.98     | 891.2                      | 108             | 99               | 58             | 250          | 3          |
| 4  | 50.0        |       | -37    | 243         | .63      | 2.01     | 893.7                      | 108             | 99               | 59             | 251          | 3          |
| 3  | 52.5        |       |        | 244         | .60      | 1.92     | 896.1                      | 109             | 99               | 58             | 250          | 3          |
| 2  | 55.0        |       |        | 241         | .57      | 1.824    | 898.0                      | 109             | 99               | 58             | 250          | 3          |
| 1  | 57.5        |       |        | 241         | .39      | 1.284    | 899.7                      | 109             | 99               | 57             | 259          | 3          |

CHAIN OF CUSTODY: 20:51

LEAK CHECK: 901.276

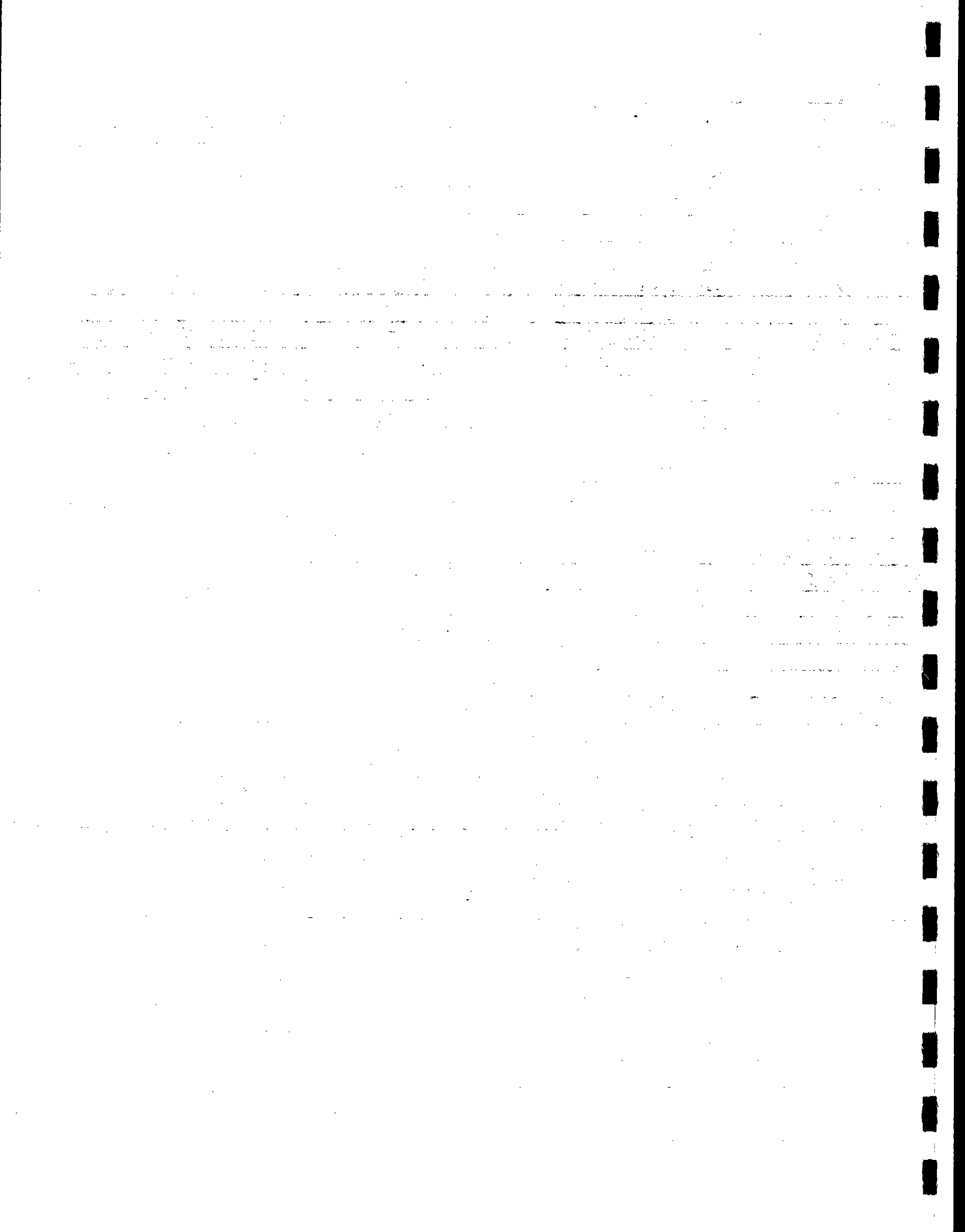
| CONTAINER | SAMPLE I.D.     | DESCRIPTION     |
|-----------|-----------------|-----------------|
|           | 45-176<br>00212 | EMPTY<br>FRAMES |
|           | RTD-011-003     |                 |
|           |                 |                 |
|           |                 |                 |
|           |                 |                 |
|           |                 |                 |
|           |                 |                 |
|           |                 |                 |

| VACUUM | 12   | 12   |  |  |  |
|--------|------|------|--|--|--|
| RATE   | .000 | 0.00 |  |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 100 mL  | 1814  |
| #2       | 100 mL  | 1144  |
| #3       | 0 mL    | 24    |
| #4       |         |       |
| #5       |         |       |
| #6       | 100 g   | 209   |

| NOZZLE # |         |
|----------|---------|
| PITOT #  | 17      |
| BOX I.D. | 7.5     |
| GAMMA Y  | .91910  |
| ΔHG      | 1.73672 |
| P BAR    |         |
| FILTER   | N/A     |
| TECH.    | J.P.    |



APPENDIX L.5

RAW FIELD DATA FOR BIF METHOD 0011 TESTING

- KONUS STACK -



245  
Division 1

3.78 75 2.85

03/16/94

ISOKINETIC SAMPLING DATA SHEET

PAGE 1 OF 1

La. Pacific

TEST LOCATION: Konis

Konis  
Konis  
Stack  
CHHO

DATE: 4-12-95

TIME: 10:10

END TIME: 11:45

POLLUTANT: CHHO

RUN I.D.: KS - 0011-R1

| SAMPLE TIME | TIME        | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------------|-------------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 0           | 10:10       |        | 285         | .25      | 3.00     | 180.320                    | 75              | 75               | 60             | 250          | 3          |
| 3           | 10:12/10:45 |        | 284         | .23      | 2.85     | 183.5                      | 76              | 75               | 62             | 254          | 3          |
| 6           |             |        | 284         | .23      | 2.85     | 186.5                      | 82              | 79               | 60             | 255          | 3          |
| 9           |             |        | 287         | .24      | 2.97     | 189.4                      | 83              | 81               | 58             | 254          | 3          |
| 12          |             | - .15  | 288         | .22      | 2.72     | 192.4                      | 83              | 81               | 55             | 255          | 3          |
| 15          |             |        | 289         | .25      | 3.09     | 195.4                      | 85              | 82               | 54             | 254          | 3          |
| 18          |             |        | 288         | .25      | 3.09     | 198.3                      | 88              | 83               | 50             | 255          | 3          |
| 21          |             |        | 285         | .24      | 2.97     | 201.5                      | 90              | 84               | 49             | 254          | 3          |
| 24          |             |        | 286         | .26      | 3.28     | 204.4                      | 92              | 85               | 49             | 255          | 3          |
| 27          |             |        | 285         | .25      | 3.08     | 207.7                      | 95              | 87               | 52             | 253          | 3          |
| 30          | 11:13/11:15 |        | 282         | .26      | 3.28     | 210.970                    | 92              | 86               | 54             | 250          | 3          |
| 33          |             |        | 283         | .24      | 3.03     | 214.1                      | 94              | 86               | 55             | 250          | 3          |
| 36          |             |        | 285         | .24      | 3.03     | 217.3                      | 95              | 87               | 55             | 249          | 3          |
| 39          |             |        | 284         | .27      | 3.40     | 220.4                      | 97              | 87               | 56             | 251          | 4          |
| 42          |             | - .18  | 285         | .21      | 2.65     | 224.0                      | 97              | 87               | 57             | 251          | 4          |
| 45          |             |        | 284         | .25      | 3.15     | 226.7                      | 99              | 89               | 57             | 253          | 4          |
| 48          |             |        | 284         | .26      | 3.28     | 229.7                      | 100             | 89               | 59             | 254          | 4          |
| 51          |             |        | 282         | .25      | 3.15     | 232.9                      | 100             | 90               | 59             | 251          | 4          |
| 54          |             |        | 284         | .25      | 3.15     | 236.7                      | 100             | 90               | 60             | 251          | 4          |
| 57          |             |        | 286         | .22      | 2.77     | 239.3                      | 101             | 90               | 62             | 252          | 4          |
| 60          | 11:45       |        |             |          |          | 242.317                    |                 |                  |                |              |            |

OF CUSTODY:

| ANALYST | SAMPLE I.D. | DESCRIPTION |
|---------|-------------|-------------|
| FIA     | 300         | Imp 1-3     |
|         | 301         | S. 64       |
|         |             |             |
|         |             |             |
|         |             |             |
|         |             |             |
|         |             |             |

LEAK CHECK:

| VACUUM | 15"  | 7"   |  |  |
|--------|------|------|--|--|
| RATE   | .002 | .002 |  |  |

IMPINGER CONTENTS:

| IMPINGER # | INITIAL | FINAL |
|------------|---------|-------|
| 1          | 100     | 140   |
| 2          | 100     | 120   |
| 3          | 0       | 6     |
| 34         | 200     | 223.9 |
| 4          |         |       |
| 5          |         |       |
| 6          |         |       |

|          |           |
|----------|-----------|
| NOZZLE # | .369      |
| PITOT #  | 0.84      |
| BOX I.D. | 12        |
| GAMMA T  | 0.99079   |
| ΔH       | 1.76467   |
| P BAR    | 28.0 28.9 |
| FILTER   | NA        |
| TECH.    | Beuman    |

ISOKINETIC SAMPLING DATA SHEET

Facility: La. Pacific

TEST LOCATION: Konus Stack

DATE: 9-12-95

TIME: 12:25 END TIME: 13:40

POLLUTANT: HCHO

RUN I.D.: K5 - hood R2

| TIME | SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK ΔP | METER ΔP | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|------|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 0    | 12:25       |       |        | 281         | .21      | 2.65     | 245.336                    | 92              | 91               | 60             | 254          | 4          |
| 3    |             |       |        | 284         | .22      | 2.77     | 248.2                      | 92              | 90               | 55             | 255          | 4          |
| 6    |             |       |        | 283         | .23      | 3.00     | 251.2                      | 94              | 90               | 55             | 256          | 4          |
| 9    |             |       |        | 287         | .23      | 3.00     | 254.2                      | 96              | 91               | 52             | 256          | 4          |
| 12   |             |       | - .17  | 285         | .22      | 2.77     | 257.2                      | 97              | 91               | 50             | 255          | 4          |
| 15   |             |       |        | 285         | .25      | 3.27     | 260.4                      | 101             | 92               | 49             | 254          | 5          |
| 18   |             |       |        | 285         | .24      | 3.13     | 263.5                      | 103             | 92               | 49             | 255          | 5          |
| 21   |             |       |        | 284         | .24      | 3.13     | 266.5                      | 104             | 93               | 51             | 255          | 5          |
| 24   |             |       |        | 284         | .25      | 3.27     | 269.5                      | 104             | 93               | 53             | 256          | 5          |
| 27   |             |       |        | 285         | .23      | 3.00     | 273.0                      | 105             | 95               | 54             | 256          | 5          |
| 30   | 12:55       | 13:00 |        | 284         | .21      | 2.65     | 276.136                    | 99              | 96               | 55             | 255          | 5          |
| 33   |             |       |        | 286         | .22      | 2.77     | 279.1                      | 101             | 96               | 59             | 257          | 4          |
| 36   |             |       |        | 285         | .22      | 2.77     | 282.0                      | 102             | 96               | 60             | 256          | 4          |
| 39   |             |       |        | 284         | .23      | 3.00     | 285.0                      | 103             | 96               | 57             | 256          | 4          |
| 42   |             |       | - .10  | 285         | .24      | 3.13     | 288.0                      | 104             | 97               | 55             | 255          | 4          |
| 45   |             |       |        | 285         | .25      | 3.27     | 291.1                      | 105             | 97               | 54             | 255          | 4          |
| 48   |             |       |        | 286         | .26      | 3.40     | 294.5                      | 105             | 97               | 55             | 256          | 5          |
| 51   |             |       |        | 281         | .24      | 3.13     | 297.8                      | 106             | 98               | 57             | 256          | 4          |
| 54   |             |       |        | 284         | .22      | 2.77     | 301.1                      | 107             | 97               | 59             | 255          | 4          |
| 57   |             |       |        | 284         | .20      | 2.61     | 304.0                      | 107             | 97               | 61             | 255          | 4          |
| 60   | 13:40       |       |        |             |          |          | 306.961                    |                 |                  |                |              |            |

OF CUSTODY:

| RAINER | SAMPLE I.D. | DESCRIPTION |
|--------|-------------|-------------|
| A      | 302         | Zy 13       |
| P2     | 303         | S. 621      |

LEAK CHECK:

| VACUUM | 15"  | 8"   |
|--------|------|------|
| RATE   | .007 | .005 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL            |
|----------|---------|------------------|
| #1       | 100     | 127              |
| #2       | 100     | 118              |
| #3       | 0       | 5                |
| #4       | 200     | <del>215.8</del> |
| #5       |         | 215.8            |
| #6       |         |                  |

|                  |         |
|------------------|---------|
| NOZZLE #         | 0.369   |
| PITOT #          | 0.84    |
| BOX I.D.         | 12      |
| GAMMA Y          | 0.99079 |
| ΔH <sub>0</sub>  | 1.76407 |
| P <sub>BAR</sub> | 28.90   |
| FILTER           | NA      |
| TECH.            | Bauman  |

13.60

ISOKINETIC SAMPLING DATA SHEET

C.A Pacific

TEST LOCATION: Korus Stack

DATE: 9/12/95

START TIME: 14:06

END TIME: 15:14

POLLUTANT:

RUN I.D.: KS - 00011 R3

| NO. | SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-----|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 0   | 14:06       |       |        | 285         | .23      | 3.02     | 307.346                    | 99              | 96               | 60             | 250          | 2          |
| 3   |             |       |        | 284         | .23      | 3.13     | 310.2                      | 98              | 95               | 60             | 251          | 2          |
| 6   |             |       |        | 284         | .24      | 3.26     | 313.5                      | 100             | 96               | 61             | 252          | 2          |
| 9   |             |       |        | 285         | .22      | 2.99     | 316.7                      | 102             | 95               | 59             | 251          | 2          |
| 12  |             |       | -.15   | 285         | .25      | 3.40     | 319.9                      | 102             | 96               | 60             | 250          | 2          |
| 15  |             |       |        | 284         | .26      | 3.54     | 323.0                      | 103             | 96               | 60             | 250          | 2          |
| 18  |             |       |        | 285         | .25      | 3.40     | 326.3                      | 103             | 97               | 61             | 252          | 2          |
| 21  |             |       |        | 285         | .24      | 3.26     | 329.6                      | 105             | 96               | 60             | 251          | 2          |
| 24  |             |       |        | 284         | .24      | 3.26     | 332.9                      | 105             | 97               | 61             | 251          | 2          |
| 27  |             |       |        | 284         | .20      | 2.72     | 335.9                      | 105             | 97               | 60             | 254          | 2          |
| 30  | 14:36       | 14:36 |        | 289         | .24      | 3.26     | 338.982                    | 99              | 96               | 64             | 255          | 4          |
| 33  |             |       |        | 285         | .25      | 3.40     | 342.1                      | 102             | 96               | 60             | 256          | 4          |
| 36  |             |       |        | 284         | .25      | 3.40     | 345.5                      | 102             | 96               | 59             | 256          | 4          |
| 39  |             |       |        | 286         | .24      | 3.26     | 348.8                      | 102             | 97               | 58             | 255          | 4          |
| 42  |             |       | -.2    | 282         | .20      | 2.72     | 352.1                      | 103             | 96               | 55             | 254          | 4          |
| 45  |             |       |        | 287         | .24      | 3.26     | 355.1                      | 103             | 96               | 55             | 255          | 4          |
| 48  |             |       |        | 289         | .25      | 3.40     | 358.3                      | 104             | 95               | 55             | 257          | 4          |
| 51  |             |       |        | 286         | .23      | 3.13     | 362.7                      | 105             | 96               | 57             | 254          | 4          |
| 54  |             |       |        | 284         | .23      | 3.13     | 365.0                      | 105             | 96               | 59             | 254          | 4          |
| 57  |             |       |        | 284         | .22      | 2.99     | 368.1                      | 104             | 95               | 60             | 254          | 4          |
| 60  | 15:14       |       |        |             |          |          | 371.262                    |                 |                  |                |              |            |

IN CHARGE OF CUSTODY:

| TASK # | SAMPLE I.D. | DESCRIPTION |
|--------|-------------|-------------|
|        |             |             |
|        |             |             |
|        |             |             |
|        |             |             |
|        |             |             |
|        |             |             |
|        |             |             |
|        |             |             |
|        |             |             |
|        |             |             |

LEAK CHECK:

| VACUUM | 15"  | 7"   |  |  |  |
|--------|------|------|--|--|--|
| RATE   | .008 | .007 |  |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL          |
|----------|---------|----------------|
|          |         |                |
| #1       | 100     | 116            |
| #2       | 100     | 120            |
| #3       | 0       | 8              |
| #4       |         |                |
| #5       | 200     | <del>200</del> |
| #6       |         | 2199           |

|                  |         |
|------------------|---------|
| NOZZLE #         | 0.369   |
| PITOT #          | 0.84    |
| BOX I.D.         | 12      |
| GAMMA Y          | 0.99079 |
| ΔHD              | 1.76407 |
| F <sub>BAR</sub> | 28.9    |
| FILTER           | N/A     |
| TECH.            | Bauman  |

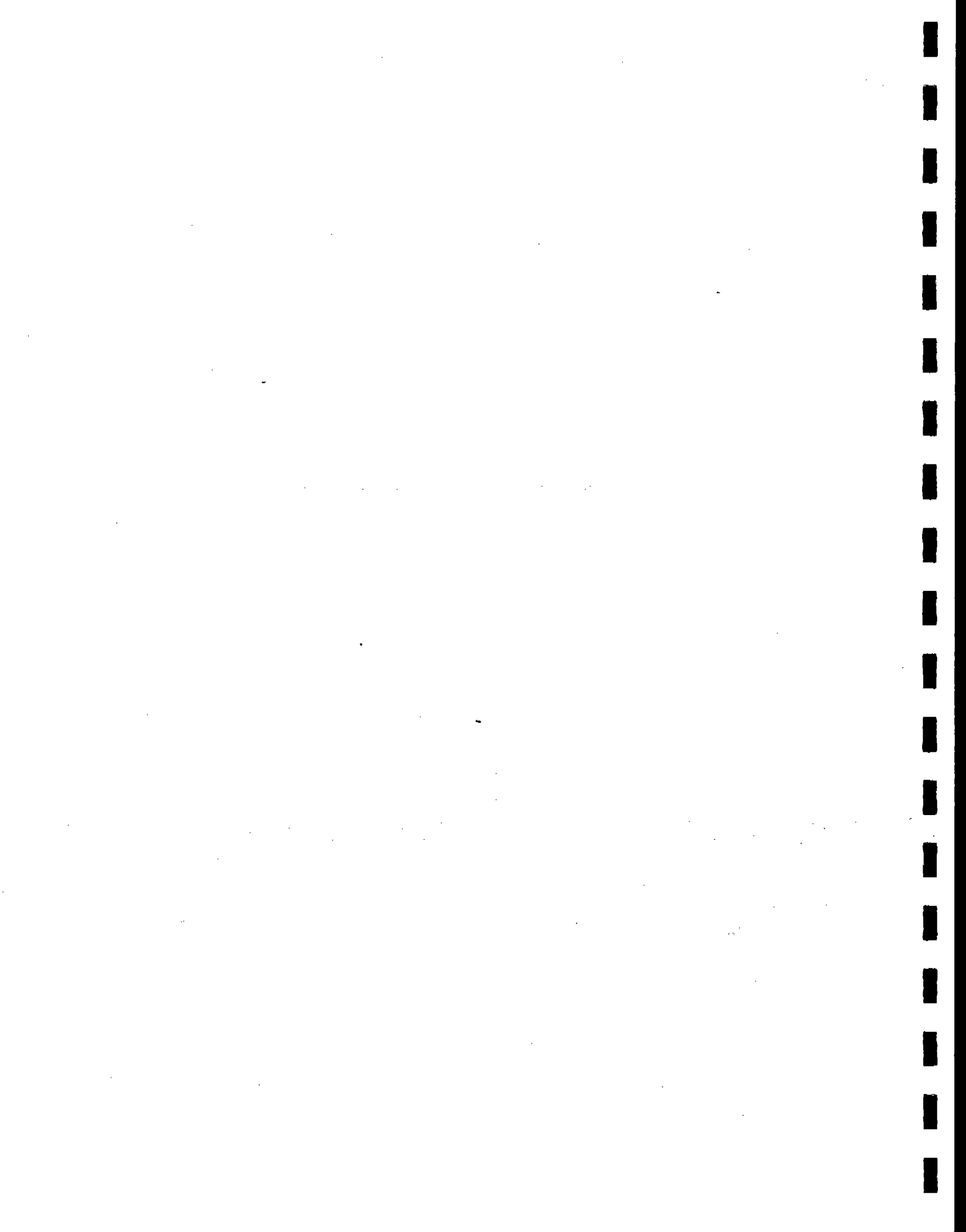
[The page contains extremely faint and illegible text, likely bleed-through from the reverse side of the document. The text is too light to transcribe accurately.]





**APPENDIX M**

**RAW FIELD DATA APPENDICES FOR MDI TESTING**



**APPENDIX M.1**

**RAW FIELD DATA FOR MDI TESTING**

**- PRESS OUTLET -**



ISOKINETIC SAMPLING DATA SHEET

FACILITY: LAD TEST LOCATION: Press stack DATE: 8/22/95  
 START TIME: 09:55 END TIME: 11:17 POLLUTANT: MOI RUN I.D.: Press-NAME R/1

| PNT | SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK AP | METER AH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. | probe |
|-----|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|-------|
| B1  | 0           | 09:55 | -2.1   | 101         | 1.5      | 1.758    | 651.918                    | 67              | 68               | 60             | NA           | 15         | 240   |
| B2  | 5           |       |        | 101         | 1.7      | 1.992    | 654.7                      | 69              | 66               | 60             |              | 15         | 240   |
| B3  | 10          |       |        | 104         | 2.0      | 2.344    | 658.9                      | 71              | 66               | 61             |              | 18         | 235   |
| B4  | 15          |       |        | 108         | 2.0      | 2.341    | 663.1                      | 74              | 69               | 61             |              | 16         | 230   |
| B5  | 20          |       |        | 107         | 2.1      | 2.46     | 667.9                      | 78              | 70               | 61             |              | 17         | 230   |
| B6  | 25          |       |        | 105         | 2.1      | 2.46     | 673.0                      | 80              | 70               | 61             |              | 16         | 230   |
|     | 30          | 10:25 |        | 104         |          |          | 671.908                    | 82              | 73               | 61             |              | 16         | 230   |
| A6  | 30          | 10:47 | -2.5   | 98          | 1.4      | 1.64     | 679.493                    | 76              | 73               | 61             |              | 9          | 233   |
| A5  | 35          |       |        | 104         | 1.7      | 1.99     | 683.6                      | 80              | 74               | 61             |              | 9          | 235   |
| A4  | 40          |       |        | 107         | 1.8      | 2.10     | 687.9                      | 84              | 76               | 61             |              | 11         | 235   |
| A3  | 45          |       |        | 106         | 2.0      | 2.34     | 692.5                      | 87              | 78               | 60             |              | 12         | 231   |
| A2  | 50          |       |        | 106         | 1.7      | 1.99     | 697.3                      | 89              | 79               | 60             |              | 11         | 230   |
| A1  | 55          |       |        | 107         | 1.5      | 1.758    | 701.8                      | 89              | 81               | 60             |              | 11         | 225   |
|     | 60          | 11:17 |        |             |          |          | 706.237                    |                 |                  |                |              |            |       |

CHAIN OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION      |
|-----------|-------------|------------------|
| 1         | 149         | 1 Imp + FH Rinse |
| 2         | 150         | Imp 234 + Rinse  |
|           |             |                  |
|           |             |                  |
|           |             |                  |
|           |             |                  |

LEAK CHECK: *mid*

| VACUUM | 15  | 15  | 18    |
|--------|-----|-----|-------|
| RATE   | .01 | .01 | .01/2 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 300     | 200   |
| #2       | 200     | 224   |
| #3       | 200     | 200   |
| #4       | 200     | 3     |
| #5       | 200     | 254.4 |
| #6       | 200     | 231.7 |

|                  |        |
|------------------|--------|
| NOZZLE #         | -190   |
| PITOT #          | 50521  |
| BOX I.D.         | 7      |
| GAMMA Y          | 1.0020 |
| ΔH <sub>2</sub>  | 1.7027 |
| P <sub>BAR</sub> | 28.75  |
| FILTER           | NA     |
| TECH.            | Rob R. |

K = 1.172

ISOKINETIC SAMPLING DATA SHEET

FACILITY: L.A.P.

TEST LOCATION: PRESS OUTLET

DATE: 3/30/95

START TIME: 13:25

END TIME: 15:10

POLLUTANT: NO<sub>2</sub>

NUM I.D.: EXP. W. M. 102 R. 2

| POINT | SAMPLE TIME | TIME  | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. | PROB |
|-------|-------------|-------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|------|
| A1    | 0           | 13:25 | -2.1   | 101         | 1.8      | 2.23     | 709.464                    | 99              | 98               | 57             | NA           | 10         | 231  |
| B2    | 5           |       |        | 103         | 1.9      | 2.36     | 714.2                      | 94              | 94               | 57             | NA           | 11         | 232  |
| B3    | 10          |       |        | 104         | 2.1      | 2.60     | 718.8                      | 97              | 95               | 56             | NA           | 11         | 238  |
| B4    | 15          |       |        | 103         | 1.8      | 2.23     | 724.1                      | 104             | 98               | 57             | NA           | 10         | 239  |
| B5    | 20          |       |        | 103         | 1.8      | 2.23     | 728.9                      | 101             | 96               | 58             | NA           | 10         | 238  |
| B6    | 25          |       |        | 106         | 2.0      | 2.48     | 733.7                      | 103             | 93               | 59             | NA           | 11         | 238  |
|       | 30          | 13:55 |        | 105         |          |          | 738.697                    | 103             | 93               | 59             | NA           |            | 235  |
| A6    | 30          | 14:10 |        | 107         | 1.6      | 1.98     | 774.887                    | 99              | 98               | 59             | NA           | 10         | 230  |
| S     | 35          |       | -2.5   | 108         | 1.8      | 2.23     | 743.2                      | 97              | 95               | 59             | NA           | 10         | 235  |
| 4     | 40          | 14:19 |        | 108         | 1.8      | 2.23     | 748.1                      | 101             | 97               | 59             | NA           | 10         | 235  |
| 3     | 45          | 14:50 |        | 111         | 1.7      | 2.11     | 752.8                      | 94              | 94               | 58             | NA           | 10         | 232  |
| 2     | 50          |       |        | 111         | 1.5      | 1.86     | 757.7                      | 100             | 96               | 58             | NA           | 8          | 230  |
| 1     | 55          |       |        | 107         | 1.6      | 1.98     | 761.8                      | 100             | 96               | 58             | NA           | 8          | 230  |
|       | 60          | 15:10 |        |             |          |          | 766.412                    |                 |                  |                |              |            |      |

CHAIN OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION   |
|-----------|-------------|---------------|
| F1        | 149         | FHEMPRESS     |
| F2        | 150         | 2344 + filter |
| F3        | 144         | charcoal      |
| F4        | 145         | silgel        |

LEAK CHECK:

| VACUUM | 15  | 15   | 15    |
|--------|-----|------|-------|
| RATE   | -01 | .005 | -.008 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
| #1       | 200     | 214   |
| #2       | 200     | 204   |
| #3       | 200     | 206   |
| #4       | 0       | 0     |
| #5       | 200     | 256.0 |
| #6       | 200     | 245   |

|                  |        |
|------------------|--------|
| NOZZLE #         | .190   |
| PITOT #          | 50521  |
| BOX I.D.         | #7     |
| GAMMA T          | 1.0020 |
| ANG              | 1.7027 |
| P <sub>BAR</sub> | 29.75  |
| FILTER           | NA     |
| TECH.            | ROBR   |

K=1.24

ISOKINETIC SAMPLING DATA SHEET

L.A.P.

TEST LOCATION: PRESS

DATE: 8/30/95

TIME: 19:40

END TIME: 20:51

POLLUTANT: MDI

RUN I.D.: PRESS MAX R 3

| SAMPLE TIME | TIME | STATIC | STACK TEMP.    | STACK ΔP       | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------------|------|--------|----------------|----------------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 19:40       | 0    | -2.0   | 106            | 1.6            | 2.02     | 767.282                    | 88              | 88               | 53             | NA           | 14         |
|             | 5    |        | 108            | 1.6            | 2.06     | 771.7                      | 88              | 89               | 54             | NA           | 14         |
|             | 10   |        | 109            | 1.9            | 2.40     | 776.1                      | 89              | 89               | 54             | NA           | 12         |
|             | 15   |        | 102            | 1.9            | 2.4      | 781.0                      | 87              | 84               | 54             | NA           | 10         |
|             | 20   |        | 107            | 2.0            | 2.5      | 786.1                      | 89              | 84               | 54             | NA           | 9          |
|             | 25   |        | 110            | 1.9            | 2.4      | 791.0                      | 94              | 86               | 54             | NA           | 8          |
| 20:10       | 30   | -2.1   | <del>105</del> | <del>1.4</del> | 1.64     | 795.937                    | 92              | 85               | 55             | NA           |            |
| 20:21       | 30   |        | 108            | 1.8            | 2.27     | 796.07                     | 84              | 83               | 55             | NA           | 7          |
|             | 35   |        | 103            | 1.5            | 1.89     | 800.2                      | 88              | 86               | 55             | NA           | 6          |
|             | 40   |        | 103            | 1.5            | 1.89     | 804.5                      | 89              | 85               | 55             | NA           | 6          |
|             | 45   |        | 103            | 2.0            | 2.51     | 808.8                      | 89              | 85               | 57             | NA           | 7          |
|             | 50   |        | 104            | 1.8            | 2.27     | 813.8                      | 89              | 84               | 57             | NA           | 6          |
|             | 55   |        | 109            | 1.6            | 2.02     | 818.5                      | 92              | 89               | 59             | NA           | 6          |
| 20:51       | 60   |        |                |                |          | 822.925                    |                 |                  |                |              |            |

probe  
231  
231  
234  
230  
238  
235  
225  
222  
227  
230  
227  
229  
230

OF CUSTODY:

| AIN | SAMPLE I.D. | DESCRIPTION |
|-----|-------------|-------------|
| 1   | 128         | FH          |
| 2   | 129         | BH          |
| 3   | 130         | (Chamber)   |
| 4   | 131         | SL          |

LEAK CHECK:

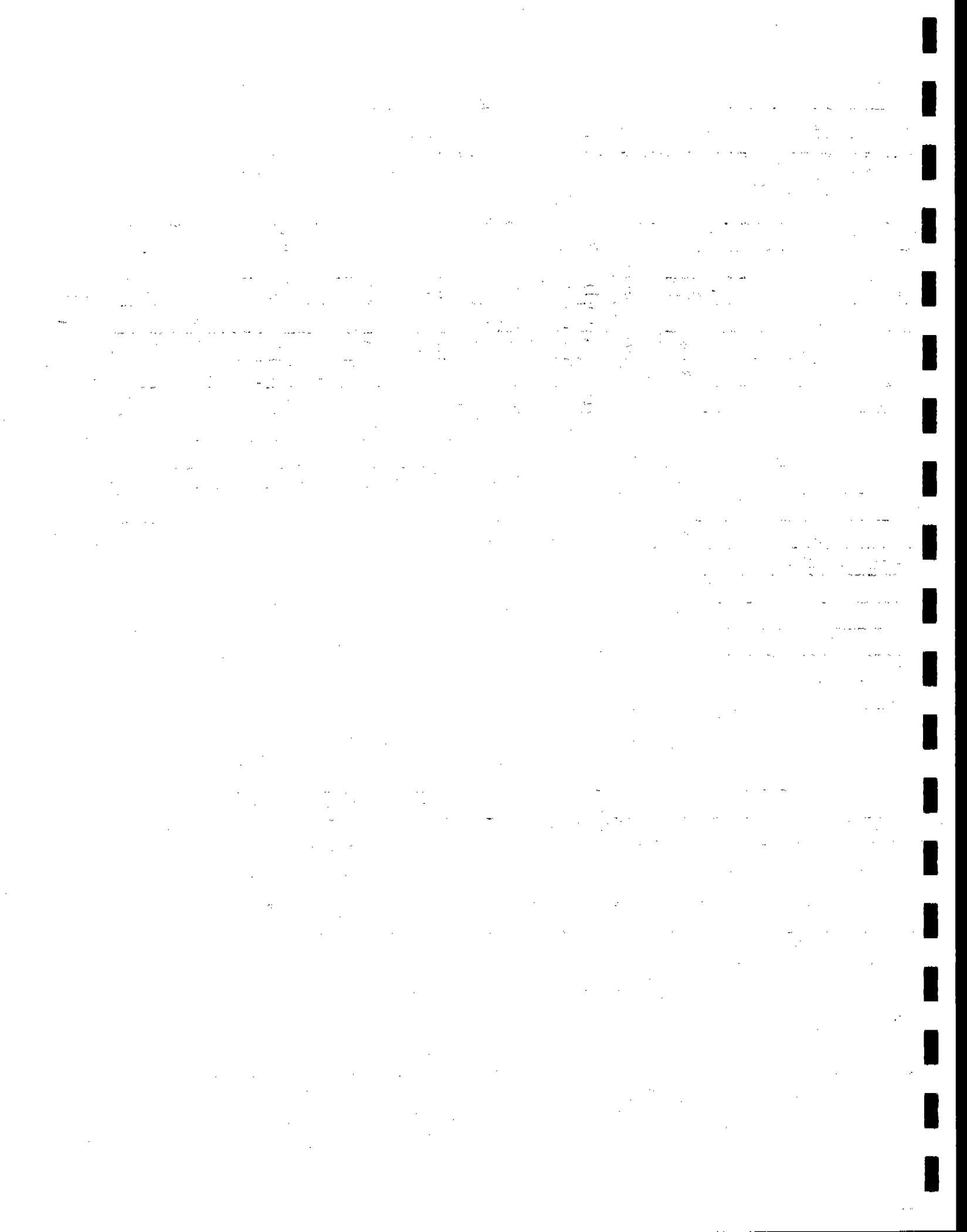
| VACUUM | 15   | 15   | 15   |
|--------|------|------|------|
| RATE   | .005 | .005 | .010 |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL              |
|----------|---------|--------------------|
| #1       | 300     | 170                |
| #2       | 200     | <del>100</del> 224 |
| #3       | 200     | <del>100</del> 214 |
| #4       | 0       | 2                  |
| #5       | 200g    | 251.8              |
| #6       | 200g    | 246.4              |

|          |        |
|----------|--------|
| NOZZLE # | .190   |
| PITOT #  | 50521  |
| BOX I.D. | 7      |
| GAMMA Y  | 1.0020 |
| ΔH       | 1.7027 |
| P BAR    | 28.75  |
| FILTER   | NA     |
| TECH.    | ROBAR  |

4155





**APPENDIX M.2**

**RAW FIELD DATA FOR MDI TESTING**

**- RTO STACK -**



ISOKINETIC SAMPLING DATA SHEET

CLIENT: LOUISIANA PACIFIC TEST LOCATION: RTO STACK DATE: 8/29/95  
 START TIME: 09:55 END TIME: 11:07 POLLUTANT: MDI RUN I.D.: RTO - MDI - R1

| INT | SAMPLE TIME | TIME | STATIC | STACK TEMP. | STACK AP | METER AH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-----|-------------|------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 1   | 09:55       | 0    |        | 232         | 0.52     | 1.56     | 204.994                    | 82              | 80               | 59             | 237          | 12         |
| 2   |             | 2.5  |        | 235         | 0.63     | 1.89     | 206.952                    | 83              | 80               | 60             | 239          | 15         |
| 3   |             | 5    |        | 232         | 0.69     | 2.07     | 209.5                      | 83              | 80               | 60             | 231          | 16         |
| 4   |             | 7.5  |        | 237         | 0.70     | 2.10     | 211.2                      | 84              | 80               | 60             | 231          | 17         |
| 5   |             | 10   |        | 232         | 0.66     | 1.98     | 213.3                      | 85              | 80               | 60             | 233          | 17         |
| 6   |             | 12.5 |        | 236         | 0.70     | 2.10     | 215.0                      | 86              | 81               | 60             | 236          | 17         |
| 7   |             | 15   |        | 232         | 0.60     | 1.80     | 217.7                      | 87              | 81               | 60             | 239          | 19         |
| 8   |             | 17.5 |        | 235         | 0.60     | 1.80     | 219.2                      | 88              | 82               | 60             | 243          | 14         |
| 9   |             | 20   |        | 231         | 0.67     | 2.01     | 221.5                      | 89              | 82               | 61             | 245          | 14         |
| 10  |             | 22.5 | -0.57  | 231         | 0.63     | 1.89     | 222.7                      | 90              | 83               | 61             | 247          | 15         |
| 11  |             | 25   |        | 233         | 0.67     | 2.01     | 224.9                      | 90              | 83               | 61             | 249          | 15         |
| 12  | 10:25       | 27.5 |        | 236         | 0.62     | 1.86     | 227.1                      | 91              | 84               | 61             | 252          | 14         |
| 13  | 10:47       | 30   |        | 234         | 0.51     | 1.53     | 228.947                    | 92              | 84               | 61             | 230          | 11         |
| 14  |             | 32.5 |        | 232         | 0.62     | 1.86     | 231.3                      | 94              | 86               | 61             | 249          | 13         |
| 15  |             | 35   |        | 233         | 0.63     | 1.89     | 233.0                      | 95              | 87               | 62             | 250          | 14         |
| 16  |             | 37.5 | -0.37  | 238         | 0.67     | 2.01     | 234.7                      | 97              | 89               | 62             | 250          | 14         |
| 17  |             | 40   |        | 235         | 0.69     | 2.07     | 237.1                      | 97              | 89               | 62             | 251          | 16         |
| 18  |             | 42.5 |        | 238         | 0.69     | 2.07     | 238.0                      | 98              | 90               | 62             | 250          | 16         |
| 19  |             | 45   |        | 236         | 0.67     | 2.01     | 241.0                      | 99              | 90               | 62             | 248          | 15         |
| 20  |             | 47.5 |        | 238         | 0.66     | 1.98     | 243.5                      | 100             | 91               | 62             | 246          | 15         |
| 21  |             | 50   |        | 237         | 0.68     | 2.04     | 246.0                      | 101             | 92               | 62             | 249          | 15         |
| 22  |             | 52.5 |        | 238         | 0.66     | 1.98     | 248.0                      | 102             | 93               | 63             | 250          | 14         |
| 23  |             | 55   |        | 235         | 0.66     | 1.98     | 250.1                      | 103             | 93               | 63             | 252          | 14         |
| 24  |             | 57.5 |        | 237         | 0.60     | 1.80     | 251.7                      | 104             | 94               |                |              |            |
| 25  | 11:07       | 60   |        |             |          |          | 253.83                     |                 |                  |                |              |            |

NO. OF CUSTODY:

| NUMBER | SAMPLE I.D.    | DESCRIPTION      |
|--------|----------------|------------------|
| 1      | <del>232</del> | 1 Imp + 4H Ring  |
| 2      | 105            | Top 2-3-4 H Ring |
| 3      | 103            | Pal              |
| 4      | 102            | Chocanal         |
| 5      |                |                  |
| 6      |                |                  |
| 7      |                |                  |
| 8      |                |                  |
| 9      |                |                  |
| 10     |                |                  |

LEAK CHECK:

|        |         |      |  |  |  |
|--------|---------|------|--|--|--|
| VACUUM | 15 in   | 15   |  |  |  |
| RATE   | 0.01/10 | 0.01 |  |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL   |
|----------|---------|---------|
|          |         | 155/104 |
| #1       | 300ul   | 105ul   |
| #2       | 200ul   | 305ul   |
| #3       | 200ul   | 202ul   |
| #4       | 0ul     | 7ul     |
| #5       | 200g    | 248g    |
| #6       | 200g    | 208g    |

|          |        |
|----------|--------|
| NOZZLE # | 0.258  |
| PITOT #  |        |
| BOX I.D. | #10    |
| GAMMA T  | 0.9993 |
| AH9      | 1.7109 |
| PBAR     | 27.65  |
| FILTER   | N/A    |
| TECH.    | A44    |

ISO KINETIC SAMPLING DATA SHEET

SITE: LOUISIANA PACIFIC TEST LOCATION: RTO STACK DATE: 3/29/95  
 START TIME: 13:25 END TIME: 15:10 POLLUTANT: MDI RUN I.D.: RTO-MDI-R2

| POINT | SAMPLE TIME | TIME     | STATIC | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------|-------------|----------|--------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 1     | 0           | 13:25    |        | 237         | 0.43     | 1.33     | 254.078                    | 101             | 99               | 64             | 243          | 6          |
| 2     | 2.5         |          | -0.32  | 237         | 0.54     | 1.67     | 255.9                      | 101             | 99               | 61             | 246          | 5          |
| 3     | 5           |          |        | 243         | 0.59     | 1.83     | 257.9                      | 102             | 100              | 58             | 248          | 6          |
| 4     | 7.5         |          |        | 239         | 0.66     | 2.05     | 259.8                      | 102             | 100              | 61             | 248          | 6          |
| 5     | 10          |          |        | 243         | 0.64     | 1.98     | 260.7                      | 103             | 100              | 61             | 249          | 7          |
| 6     | 12.5        |          |        | 243         | 0.67     | 2.08     | 263.2                      | 105             | 101              | 61             | 250          | 7          |
| 7     | 15          |          |        | 245         | 0.67     | 2.08     | 266.3                      | 106             | 102              | 62             | 251          | 7          |
| 8     | 17.5        |          |        | 243         | 0.87     | 2.08     | 268.3                      | 107             | 102              | 62             | 251          | 7          |
| 9     | 20          |          |        | 243         | 0.69     | 2.14     | 270.5                      | 108             | 102              | 63             | 251          | 7          |
| 10    | 22.5        |          |        | 240         | 0.66     | 2.05     | 272.6                      | 109             | 103              | 63             | 252          | 7          |
| 11    | 25          |          |        | 243         | 0.68     | 2.11     | 274.5                      | 110             | 103              | 63             | 252          | 7          |
| 12    | 27.5        | 13:55    |        | 239         | 0.63     | 1.95     | 276.9                      | 110             | 103              | 63             | 252          | 5          |
| 13    | 30          | 14:10    |        | 238         | 0.49     | 1.52     | 278.572                    | 107             | 103              | 60             | 250          | 6          |
| 14    | 32.5        |          |        | 242         | 0.63     | 1.95     | 280.9                      | 107             | 103              | 61             | 247          | 7          |
| 15    | 35          |          | -0.35  | 243         | 0.62     | 1.92     | 282.2                      | 106             | 103              | 61             | 247          | 7          |
| 16    | 37.5        | 14:19:30 |        | 238         | 0.69     | 2.14     | 284.8                      | 105             | 102              | 62             | 249          | 7          |
| 17    | 40          | 14:20    |        | 238         | 0.68     | 2.11     | 287.0                      | 107             | 103              | 60             | 249          | 6          |
| 18    | 42.5        |          |        | 242         | 0.70     | 2.17     | 288.9                      | 108             | 103              | 59             | 252          | 7          |
| 19    | 45          |          |        | 240         | 0.57     | 1.77     | 291.1                      | 109             | 104              | 59             | 249          | 6          |
| 20    | 47.5        |          |        | 240         | 0.64     | 1.98     | 292.9                      | 110             | 105              | 60             | 250          | 7          |
| 21    | 50          |          |        | 241         | 0.68     | 2.11     | 294.8                      | 111             | 105              | 60             | 251          | 7          |
| 22    | 52.5        |          |        | 240         | 0.67     | 2.08     | 297.1                      | 112             | 106              | 61             | 251          | 7          |
| 23    | 55          |          |        | 242         | 0.68     | 2.11     | 299.3                      | 113             | 106              | 61             | 251          | 7          |
| 24    | 57.5        |          |        | 239         | 0.61     | 1.89     | 302.9                      | 113             | 106              | 61             | 251          | 7          |
| 25    | 60          | 15:10    |        |             |          |          | 303.583                    |                 |                  |                |              |            |

k=3.1

NAME OF CUSTODY:

| CONTAINER | SAMPLE I.D. | DESCRIPTION         |
|-----------|-------------|---------------------|
| 1         | RTO-MDI-R2  | Imp → FH RWSP       |
| 2         | RTO-MDI-R2  | Imp 2, 3, 4, 5 RWSP |
| 3         | 109         | Charcoal            |
| 4         | 110         | S.G.I               |

LEAK CHECK:

| VACUUM | 15 <sup>th</sup> | 7 <sup>th</sup> |
|--------|------------------|-----------------|
| RATE   | 0.01             | 0.00            |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL  |
|----------|---------|--------|
| #1       | 300g    | 230g   |
| #2       | 200g    | 274g   |
| #3       | 200g    | 203g   |
| #4       | 0g      | 2g     |
| #5       | 200g    | 256g   |
| #6       | 200g    | 239.5g |

|                 |        |
|-----------------|--------|
| NOZZLE #        | 0.550  |
| PITOT #         |        |
| BOX I.D.        | #10    |
| GAMMA γ         | →      |
| ΔH <sub>3</sub> | 1.7109 |
| PBAR            | 27.65  |
| FILTER          | NA     |
| TECH.           | ALL    |

56  
40

ISOKINETIC SAMPLING DATA SHEET

LOUISIANA PACIFIC TEST LOCATION: RTO STACK DATE: 8/20/95

TIME: 19:40 END TIME: 2:51 POLLUTANT: MDI RUN I.D.: RTO-MDI-23

| SAMPLE TIME | TIME             | STATIC          | STACK TEMP. | STACK ΔP | METER ΔH | DGM VOLUME ft <sup>3</sup> | DGM TEMP. INLET | DGM TEMP. OUTLET | IMPINGER TEMP. | FILTER TEMP. | METER VAC. |
|-------------|------------------|-----------------|-------------|----------|----------|----------------------------|-----------------|------------------|----------------|--------------|------------|
| 0           | 19:40            |                 | 235         | 0.52     | 1.61     | 304.403                    | 101             | 101              | 59             | 250          | 14         |
| 2.5         |                  |                 | 233         | 0.60     | 1.86     | 306.1                      | 100             | 100              | 59             | 250          | 18         |
| 5           |                  | <del>0.31</del> | 233         | 0.61     | 1.89     | 308.11                     | 100             | 99               | 60             | 250          | 20         |
| 7.5         |                  |                 | 232         | 0.65     | 2.02     | 310.0                      | 99              | 98               | 60             | 251          | 21         |
| 10          |                  |                 | 233         | 0.65     | 2.02     | 312.6                      | 99              | 98               | 60             | 251          | 21         |
| 12.5        |                  |                 | 237         | 0.66     | 2.05     | 314.9                      | 99              | 98               | 60             | 250          | 13         |
| 15          |                  |                 | 238         | 0.51     | 1.58     | 316.6                      | 99              | 98               | 61             | 250          | 6          |
| 17.5        |                  |                 | 229         | 0.51     | 1.58     | 318.9                      | 100             | 99               | 61             | 250          | 5          |
| 20          |                  |                 | 228         | 0.64     | 1.99     | 320.7                      | 101             | 99               | 61             | 250          | 6          |
| 22.5        |                  |                 | 235         | 0.65     | 2.01     | 322.4                      | 102             | 99               | 61             | 251          | 6          |
| 25          |                  |                 | 235         | 0.65     | 2.01     | 324.4                      | 102             | 99               | 61             | 250          | 5          |
| 27.5        | <del>20:10</del> |                 | 238         | 0.63     | 1.95     | 326.6                      | 103             | 99               | 61             | 250          | 6          |
| 30          | <del>20:10</del> |                 | 235         | 0.58     | 1.80     | 328.485                    | 104             | 99               | 61             | 249          | 6          |
| 32.5        | <del>20:21</del> | 20:21           | 235         | 0.56     | 1.74     | 330.0                      | 102             | 99               | 58             | 250          | 6          |
| 35          |                  |                 | 236         | 0.61     | 1.89     | 332.0                      | 102             | 98               | 57             | 249          | 6          |
| 37.5        |                  |                 | 237         | 0.62     | 1.92     | 334.2                      | 103             | 98               | 58             | 250          | 6          |
| 40          |                  |                 | 238         | 0.65     | 2.02     | 336.1                      | 104             | 98               | 58             | 250          | 6          |
| 42.5        |                  |                 | 237         | 0.66     | 2.05     | 338.2                      | 104             | 99               | 58             | 251          | 6          |
| 45          |                  |                 | 240         | 0.64     | 1.98     | 340.3                      | 105             | 99               | 58             | 245          | 6          |
| 47.5        |                  |                 | 236         | 0.64     | 1.98     | 342.3                      | 105             | 99               | 58             | 247          | 6          |
| 50          |                  |                 | 240         | 0.62     | 1.92     | 344.7                      | 105             | 99               | 57             | 250          | 6          |
| 52.5        |                  |                 | 237         | 0.66     | 2.05     | 346.4                      | 105             | 98               | 57             | 250          | 6          |
| 55          |                  | -0.35           | 240         | 0.62     | 1.92     | 348.4                      | 105             | 98               | 57             | 251          | 6          |
| 57.5        |                  |                 | 239         | 0.59     | 1.83     | 350.2                      | 105             | 98               | 57             | 251          | 6          |
| 60          | 20:51            |                 |             |          |          | 352.45                     |                 |                  |                |              |            |

L=3.1

PULLED STEM UP ON SK-GRZ IMPINGER

OF CUSTODY:

| DATE | SAMPLE I.D. | DESCRIPTION |
|------|-------------|-------------|
|      |             |             |
|      |             |             |
|      |             |             |
|      |             |             |
|      |             |             |
|      |             |             |
|      |             |             |
|      |             |             |
|      |             |             |
|      |             |             |

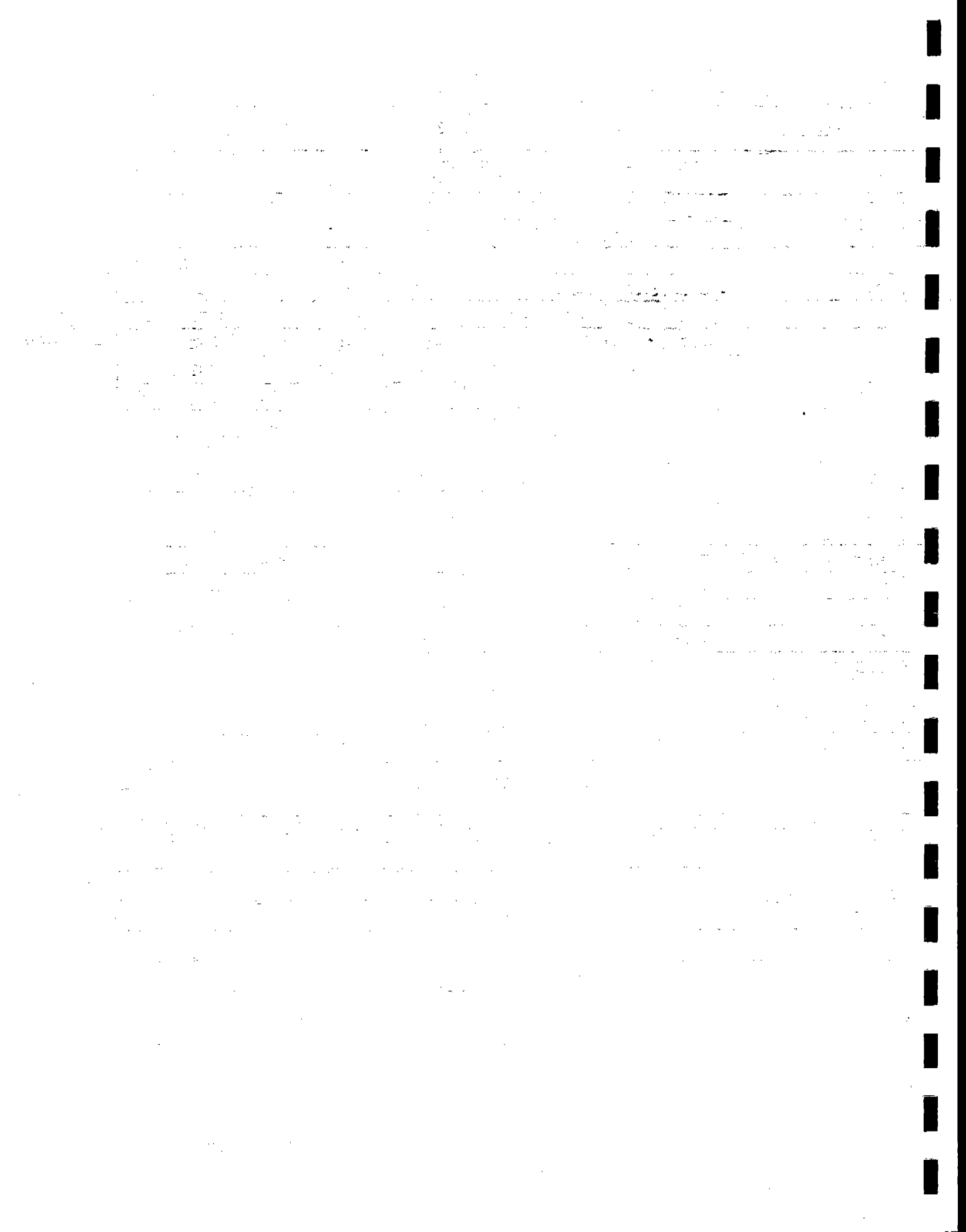
LEAK CHECK:

|        |         |       |  |  |
|--------|---------|-------|--|--|
| VACUUM | 4 15 in | 15 in |  |  |
| RATE   | 0.01    | 0.02  |  |  |

IMPINGER CONTENTS:

| IMPINGER | INITIAL | FINAL |
|----------|---------|-------|
|          |         |       |
| #1       | 300ul   | 249ul |
| #2       | 200ul   | 312ul |
| #3       | 200ul   | 151ul |
| #4       | 0ul     | 2ul   |
| #5       | 200g    | 248g  |
| #6       | 200g    | 237g  |

|                  |        |
|------------------|--------|
| NOZZLE #         | 0.250  |
| PITOT #          |        |
| BOX I.D.         | #10    |
| GAMMA Y          | 0.9993 |
| ΔH               | 1.7109 |
| P <sub>BAR</sub> | 27.65  |
| FILTER           | M      |
| TECH.            | ANDY   |



**APPENDIX N**

**CEMS ANALYZER CALIBRATION DATA AND SAMPLING SYSTEM CALIBRATION  
DRIFT DATA AND RESULTS APPENDICES**





**APPENDIX N.1**

**CEMS ANALYZER CALIBRATION DATA AND SAMPLING SYSTEM CALIBRATION  
DRIFT DATA AND RESULTS**

**- SCRUBBER OUTLET -**



LOUISIANA PACIFIC - DUNGANNON  
 SCRUBBER OUTLET  
 REFERENCE METHOD DATA  
 LOCAL CALIBRATION

Starting  
 8-30-95

| Time  | SCRUBBER<br>OUTLET<br>O2 %dv | SCRUBBER<br>OUTLET<br>CO2 %dv | SCRUBBER<br>OUTLET<br>SO2ppmdv | SCRUBBER<br>OUTLET<br>NOxppmdv | SCRUBBER<br>OUTLET<br>CO ppm dv |
|-------|------------------------------|-------------------------------|--------------------------------|--------------------------------|---------------------------------|
| 07:08 | -0.008C                      | 0.022C                        | 0.08C                          | -0.03C                         | -0.18C                          |
| 07:09 | 0.074                        | 0.023                         | 143.40                         | 1.95                           | -0.18                           |
| 07:10 | -0.011                       | 0.022                         | 229.60                         | 0.56                           | -0.19                           |
| 07:11 | -0.024                       | 0.023                         | 227.30C                        | 0.05                           | -0.19                           |
| 07:12 | -0.023                       | 0.027                         | 227.80                         | 0.02                           | -0.20                           |
| 07:13 | 0.151                        | 0.031                         | 182.10                         | 0.05                           | -0.13                           |
| 07:14 | 0.052                        | 0.028                         | 145.90                         | 0.09                           | -0.14                           |
| 07:15 | -0.031                       | 0.045                         | 146.40C                        | 0.35                           | 0.11                            |
| 07:16 | 0.069                        | 0.035                         | 147.00                         | 0.06                           | 1.00                            |
| 07:17 | 11.110                       | 8.980                         | 70.50                          | -0.10                          | 0.09                            |
| 07:18 | 22.770                       | 16.990                        | 0.29                           | -0.12                          | -0.13                           |
| 07:19 | 22.110                       | 17.020                        | 0.19                           | -0.15                          | -0.14                           |
| 07:20 | 21.990                       | 17.030                        | 0.13                           | -0.18                          | -0.21                           |
| 07:21 | 21.890C                      | 17.020C                       | 0.28                           | -0.17                          | -0.14                           |
| 07:22 | 15.630                       | 7.140                         | 0.15                           | -0.19                          | -0.17                           |
| 07:23 | 10.210                       | 0.051                         | 0.13                           | -0.20                          | -0.17                           |
| 07:24 | 10.240C                      | 0.042                         | 0.14                           | -0.20                          | -0.11                           |
| 07:25 | 4.750                        | 5.876                         | 0.15                           | -0.22                          | -0.16                           |
| 07:26 | 0.039                        | 10.060                        | 0.17                           | -0.22                          | -0.12                           |
| 07:27 | -0.021                       | 10.070C                       | 0.16                           | -0.24                          | -0.18                           |
| 07:28 | -0.486                       | 2.037                         | 0.38                           | 170.10                         | -0.08                           |
| 07:29 | -0.133                       | 0.075                         | 0.35                           | 228.80                         | -0.11                           |
| 07:30 | -0.048                       | 0.066                         | 0.31                           | 230.00                         | -0.12                           |
| 07:31 | -0.020                       | 0.058                         | 0.36                           | 229.90                         | -0.11                           |
| 07:32 | -0.024                       | 0.053                         | 0.25                           | 230.00                         | -0.17                           |
| 07:33 | -0.039                       | 0.069                         | 0.15                           | 230.50C                        | -0.13                           |
| 07:34 | -0.036                       | 0.056                         | 0.32                           | 142.10                         | -0.16                           |
| 07:35 | -0.028                       | 0.055                         | 0.16                           | 151.20                         | -0.19                           |
| 07:36 | -0.031                       | 0.054                         | 0.23                           | 153.60C                        | -0.14                           |
| 07:37 | 0.109                        | 0.086                         | -0.19                          | 38.07                          | 107.10                          |
| 07:38 | -0.037                       | 0.053                         | 0.16                           | 0.17                           | 824.00                          |
| 07:39 | -0.033                       | 0.053                         | 0.19                           | 0.07                           | 909.00                          |
| 07:40 | -0.034                       | 0.061                         | 0.25                           | 0.03                           | 911.00C                         |
| 07:41 | 0.547                        | 0.060                         | 0.27                           | 0.29                           | 902.00                          |
| 07:42 | 4.823                        | 0.095                         | 0.41                           | 0.32                           | 898.00                          |
| 07:43 | 6.774                        | 0.118                         | 0.81                           | 0.24                           | 875.00                          |
| 07:44 | 7.290                        | 0.105                         | 1.13                           | 0.17                           | 807.00                          |
| 07:45 | 7.460                        | 0.107                         | 1.47                           | 0.17                           | 743.00                          |
| 07:46 | 7.600                        | 0.113                         | 1.67                           | 0.10                           | 679.60                          |
| 07:47 | 1.282                        | 8.050                         | 0.65                           | 0.15                           | 544.70                          |
| 07:48 | -0.022                       | 10.090                        | 0.20                           | -0.09                          | 37.24                           |

LOUISIANA PACIFIC - DUNGANNON  
 SCRUBBER OUTLET  
 REFERENCE METHOD DATA  
 LOCAL CALIBRATION

Starting  
 08-30-95

| Time  | SCRUBBER<br>OUTLET<br>O2 %dv | SCRUBBER<br>OUTLET<br>CO2 %dv | SCRUBBER<br>OUTLET<br>SO2ppmdv | SCRUBBER<br>OUTLET<br>NOxppmdv | SCRUBBER<br>OUTLET<br>CO ppmv |
|-------|------------------------------|-------------------------------|--------------------------------|--------------------------------|-------------------------------|
| 07:49 | -0.001                       | 10.040                        | 0.20                           | -0.10                          | -0.14                         |
| 07:50 | -0.026                       | 3.134                         | 0.23                           | -0.08                          | 83.80                         |
| 07:51 | -0.011                       | 0.090                         | 0.14                           | -0.12                          | 528.00                        |
| 07:52 | 0.285                        | 0.095                         | 0.18                           | -0.13                          | 582.30C                       |
| 07:53 | 0.000                        | 0.083                         | 0.19                           | -0.09                          | 579.30                        |
| 07:54 | 1.350                        | 0.101                         | 0.19                           | -0.05                          | 574.30                        |
| 07:55 | -0.031                       | 0.086                         | 0.16                           | -0.14                          | 575.30                        |
| 07:56 | -0.038                       | 0.087                         | 0.13                           | -0.15                          | 578.80                        |
| 07:57 | -0.030                       | 0.089                         | 0.14                           | -0.14                          | 581.50                        |
| 07:58 | 0.417                        | 0.096                         | 0.19                           | -0.07                          | 575.10                        |
| 07:59 | -0.030                       | 0.092                         | 0.14                           | -0.03                          | 436.80                        |
| 08:00 | -0.036                       | 0.087                         | 0.14                           | -0.06                          | 289.20                        |
| 08:01 | -0.037                       | 0.093                         | 0.15                           | -0.05                          | 289.60C                       |

LOUISIANA PACIFIC - DUNGANNON  
SCRUBBER OUTLET  
REFERENCE METHOD DATA  
LOCAL CALIBRATION

Starting  
08-30-95

| Time  | SCRUBBER<br>OUTLET<br>VOCppmw |
|-------|-------------------------------|
| 07:21 | 0.184C                        |
| 07:22 | 0.988                         |
| 07:23 | 24.410                        |
| 07:24 | 41.720                        |
| 07:25 | 42.550                        |
| 07:26 | 44.870                        |
| 07:27 | 44.660C                       |
| 07:28 | 31.930                        |
| 07:29 | 3.309                         |
| 07:30 | 0.325                         |
| 07:31 | 1.405                         |
| 07:32 | 1.990                         |
| 07:33 | 5.456                         |
| 07:34 | 14.560                        |
| 07:35 | 14.620C                       |
| 07:36 | 12.530                        |
| 07:37 | 12.270                        |
| 07:38 | 24.150                        |
| 07:39 | 24.310                        |
| 07:40 | 24.300C                       |

Marker Description

Display Average

A Data was Absent from original raw data file.  
C CALIBRATION POINT  
N NOx CONVERTER TEST  
P port change  
\* Data was not used in calculated parameter averages.

✓  
✓  
✓  
✓  
✓

LOUISIANA PACIFIC - DUNGANNON  
METHODS 3A, 6C, 7E, AND 10  
REFERENCE METHOD DATA  
SCRUBBER OUTLET - RUN 1

Calibrations:

[SO2 ] Span Value = 250  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 146.20  
INITIAL CALIBRATION TIME --> 830  
LOW Cal. Response = 0.80 HIGH Cal. Response = 141.85  
FINAL CALIBRATION TIME ----> 1154  
LOW Cal. Response = 1.07 HIGH Cal. Response = 136.36

---

LOW System Drift = 0.11 % HIGH System Drift = -2.20 %

[CO2 ] Span Value = 20  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 10.14  
INITIAL CALIBRATION TIME --> 830  
LOW Cal. Response = 0.12 HIGH Cal. Response = 10.03  
FINAL CALIBRATION TIME ----> 1154  
LOW Cal. Response = 0.16 HIGH Cal. Response = 10.18

---

LOW System Drift = 0.23 % HIGH System Drift = 0.75 %

[CO ] Span Value = 1000  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 300.00  
INITIAL CALIBRATION TIME --> 830  
LOW Cal. Response = 1.89 HIGH Cal. Response = 287.52  
FINAL CALIBRATION TIME ----> 1154  
LOW Cal. Response = -0.12 HIGH Cal. Response = 283.78

---

LOW System Drift = -0.20 % HIGH System Drift = -0.37 %

LOUISIANA PACIFIC - DUNGANNON  
METHODS 3A, 6C, 7E, AND 10  
REFERENCE METHOD DATA  
SCRUBBER OUTLET - RUN 1

Calibrations:

[O2 ] Span Value = 25  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 21.70  
INITIAL CALIBRATION TIME --> 830  
LOW Cal. Response = 0.04 HIGH Cal. Response = 21.35  
FINAL CALIBRATION TIME ----> 1154  
LOW Cal. Response = 0.01 HIGH Cal. Response = 21.03  
-----  
LOW System Drift = -0.11 % HIGH System Drift = -1.27 %

[NOx ] Span Value = 250  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 150.00  
INITIAL CALIBRATION TIME --> 830  
LOW Cal. Response = 0.08 HIGH Cal. Response = 141.85  
FINAL CALIBRATION TIME ----> 1154  
LOW Cal. Response = 0.52 HIGH Cal. Response = 146.21  
-----  
LOW System Drift = 0.18 % HIGH System Drift = 1.74 %



LOUISIANA PACIFIC - DUNGANNON  
METHODS 3A, 6C, 7E, AND 10  
REFERENCE METHOD DATA  
SCRUBBER OUTLET - RUN 2

Calibrations:

[SO2 ] Span Value = 250  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 146.20  
INITIAL CALIBRATION TIME --> 1154  
LOW Cal. Response = 1.07 HIGH Cal. Response = 136.36  
FINAL CALIBRATION TIME ----> 1547  
LOW Cal. Response = 0.94 HIGH Cal. Response = 134.31

---

LOW System Drift = -0.05 % HIGH System Drift = -0.82 %

[CO2 ] Span Value = 20  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 10.14  
INITIAL CALIBRATION TIME --> 1154  
LOW Cal. Response = 0.16 HIGH Cal. Response = 10.18  
FINAL CALIBRATION TIME ----> 1547  
LOW Cal. Response = 0.14 HIGH Cal. Response = 10.03

---

LOW System Drift = -0.11 % HIGH System Drift = -0.75 %

[CO ] Span Value = 1000  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 300.00  
INITIAL CALIBRATION TIME --> 1154  
LOW Cal. Response = -0.12 HIGH Cal. Response = 283.78  
FINAL CALIBRATION TIME ----> 1547  
LOW Cal. Response = -0.07 HIGH Cal. Response = 285.42

---

LOW System Drift = 0.00 % HIGH System Drift = 0.16 %

LOUISIANA PACIFIC - DUNGANNON  
METHODS 3A, 6C, 7E, AND 10  
REFERENCE METHOD DATA  
SCRUBBER OUTLET - RUN 2

Calibrations:

[O2 ] Span Value = 25  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 21.70  
INITIAL CALIBRATION TIME --> 1154  
LOW Cal. Response = 0.01 HIGH Cal. Response = 21.03  
FINAL CALIBRATION TIME ----> 1547  
LOW Cal. Response = 0.02 HIGH Cal. Response = 21.09

---

LOW System Drift = 0.01 % HIGH System Drift = 0.24 %

[NOx ] Span Value = 250  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 150.00  
INITIAL CALIBRATION TIME --> 1154  
LOW Cal. Response = 0.52 HIGH Cal. Response = 146.21  
FINAL CALIBRATION TIME ----> 1547  
LOW Cal. Response = 0.57 HIGH Cal. Response = 152.22

---

LOW System Drift = 0.02 % HIGH System Drift = 2.40 %

LOUISIANA PACIFIC - DUNGANNON  
METHODS 3A, 6C, 7E, AND 10  
REFERENCE METHOD DATA  
SCRUBBER OUTLET - RUN 3

Calibrations:

[SO2 ] Span Value = 250  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 146.20  
INITIAL CALIBRATION TIME --> 1745  
LOW Cal. Response = 1.20 HIGH Cal. Response = 134.45  
FINAL CALIBRATION TIME ----> 2115  
LOW Cal. Response = 2.16 HIGH Cal. Response = 134.25

---

LOW System Drift = 0.38 % HIGH System Drift = -0.08 %

[CO2 ] Span Value = 20  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 10.14  
INITIAL CALIBRATION TIME --> 1745  
LOW Cal. Response = 0.15 HIGH Cal. Response = 10.05  
FINAL CALIBRATION TIME ----> 2115  
LOW Cal. Response = 0.19 HIGH Cal. Response = 10.06

---

LOW System Drift = 0.20 % HIGH System Drift = 0.05 %

[CO ] Span Value = 1000  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 300.00  
INITIAL CALIBRATION TIME --> 1745  
LOW Cal. Response = -0.15 HIGH Cal. Response = 286.85  
FINAL CALIBRATION TIME ----> 2115  
LOW Cal. Response = -0.02 HIGH Cal. Response = 286.10

---

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

LOUISIANA PACIFIC - DUNGANNON  
METHODS 3A, 6C, 7E, AND 10  
REFERENCE METHOD DATA  
SCRUBBER OUTLET - RUN 3

Calibrations:

[O2 ] Span Value = 25  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 21.70  
INITIAL CALIBRATION TIME --> 1745  
LOW Cal. Response = 0.02 HIGH Cal. Response = 21.20  
FINAL CALIBRATION TIME ----> 2115  
LOW Cal. Response = 0.02 HIGH Cal. Response = 21.30

---

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

[NOx ] Span Value = 250  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 150.00  
INITIAL CALIBRATION TIME --> 1745  
LOW Cal. Response = 0.59 HIGH Cal. Response = 153.50  
FINAL CALIBRATION TIME ----> 2115  
LOW Cal. Response = 0.91 HIGH Cal. Response = 149.21

---

LOW System Drift = 0.13 % HIGH System Drift = -1.72 %

**APPENDIX N.2**

**CEMS ANALYZER CALIBRATION DATA AND SAMPLING SYSTEM CALIBRATION  
DRIFT DATA AND RESULTS**

**- PRESS OUTLET -**



LA PACIFIC  
 PRESS SAMPLE LOCATION  
 LOCAL CEM CALIBRATION  
 8/30/95; 07:05 - 07:43

Starting  
 08-30-95

| Time  | PRESS<br>O2<br>(%dv) | PRESS<br>CO2<br>(%dv) | PRESS<br>CO<br>(ppmdv) | PRESS<br>SO2<br>(ppmdv) | PRESS<br>NOx<br>(ppmdv) |
|-------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|
| 07:06 | 0.01Z                | 0.00Z                 | 0.03Z                  | 0.01Z                   | -0.17Z                  |
| 07:07 | 0.02                 | 0.00                  | 0.03                   | -0.01                   | -0.17                   |
| 07:08 | 0.02                 | 0.00                  | 0.02                   | 0.04                    | -0.14                   |
| 07:09 | 0.02                 | -0.00                 | 0.68                   | -0.05                   | -0.13                   |
| 07:10 | 0.03                 | -0.00                 | 0.00                   | -0.08                   | -0.13                   |
| 07:11 | 0.04                 | -0.00                 | 0.12                   | -0.04                   | -0.13                   |
| 07:12 | 0.23                 | -0.00                 | 0.08                   | 0.04                    | -0.08                   |
| 07:13 | 2.38                 | 2.80                  | -0.39                  | 0.01                    | -0.07                   |
| 07:14 | 10.06                | 9.77                  | -0.56                  | -0.06                   | -0.01                   |
| 07:15 | 10.05M               | 9.88M                 | -0.56                  | -0.07                   | -0.01                   |
| 07:16 | 10.09                | 9.79                  | -0.55                  | -0.06                   | 0.02                    |
| 07:17 | 16.26                | 14.24                 | -0.84                  | 0.04                    | 0.03                    |
| 07:18 | 22.50H               | 17.60H                | -0.83                  | -0.10                   | 0.04                    |
| 07:19 | 22.36                | 17.44                 | -0.68                  | -0.01                   | 0.03                    |
| 07:20 | 12.18                | 7.80                  | 20.05                  | -0.05                   | 0.03                    |
| 07:21 | 0.45                 | 0.08                  | 30.52                  | -0.03                   | 0.05                    |
| 07:22 | 0.11                 | 0.01                  | 31.10                  | -0.01                   | 0.05                    |
| 07:23 | 0.06                 | 0.00                  | 31.52                  | -0.04                   | 0.05                    |
| 07:24 | 0.04                 | 0.00                  | 32.20L                 | -0.11                   | 0.05                    |
| 07:25 | 0.04                 | -0.00                 | 40.25                  | 0.03                    | 0.06                    |
| 07:26 | 0.05                 | -0.00                 | 50.66                  | -0.02                   | 0.08                    |
| 07:27 | 0.19                 | -0.00                 | 51.00M                 | 1.66                    | 0.09                    |
| 07:28 | 0.06                 | 0.00                  | 22.78                  | 49.92                   | 0.08                    |
| 07:29 | 0.01                 | -0.01                 | 84.70H                 | 51.37                   | 0.08                    |
| 07:30 | 0.01                 | -0.01                 | 0.25                   | 50.07M                  | 0.09                    |
| 07:31 | 0.01                 | -0.01                 | 0.26                   | 49.88                   | 0.10                    |
| 07:32 | 0.12                 | -0.01                 | 0.25                   | 48.83                   | 0.10                    |
| 07:33 | 0.09                 | -0.00                 | 0.24                   | 71.60                   | 0.08                    |
| 07:34 | 0.02                 | -0.00                 | 0.16                   | 92.60                   | 0.11                    |
| 07:35 | 0.01                 | -0.01                 | 0.09                   | 93.90H                  | 0.11                    |
| 07:36 | 0.06                 | -0.01                 | 0.12                   | 92.40                   | 10.48                   |
| 07:37 | 0.16                 | -0.00                 | 0.09                   | 90.80                   | 189.50                  |
| 07:38 | 0.32                 | -0.01                 | 0.03                   | 90.60                   | 217.90                  |
| 07:39 | 0.47                 | -0.00                 | 0.10                   | 90.30                   | 224.10H                 |
| 07:40 | 0.60                 | -0.00                 | 0.10                   | 90.00                   | 222.80                  |
| 07:41 | 0.74                 | -0.00                 | 0.07                   | 89.80                   | 206.70                  |
| 07:42 | 0.87                 | -0.00                 | 0.08                   | 89.60                   | 141.70                  |
| 07:43 | 1.00                 | 0.00                  | 0.07                   | 89.40                   | 122.80M                 |

Marker Description

Display Average

|   |   |   |
|---|---|---|
| A | Data was Absent from original raw data file.        | ✓ |
| H | HI CALIBRATION GAS INTRODUCED THROUGH MONITOR       | ✓ |
| L | LOW CALIBRATION GAS INTRODUCED TO THE MONITOR       | ✓ |
| M | MID CALIBRATION GAS INTRODUCED THROUGH MONITOR      | ✓ |
| P | PORT CHANGE   | ✓ |
| Z | ZERO CALIBRATION GAS INTRODUCED TO MONITOR          | ✓ |
| m | MID CALIBRATION GAS INTRODUCED THROUGH THE SYSTEM   | ✓ |
| z | ZERO CALIBRATION GAS INTRODUCED THROUGH THE SYSTEM  | ✓ |
| * | Data was not used in calculated parameter averages. |   |



LA PACIFIC  
PRESS LOCATION  
RUN 1: 09:55 - 10:25; 10:47 - 11:17  
8/30/95

Calibrations:

[L CO2 ] Span Value = 20  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 9.85  
INITIAL CALIBRATION TIME --> 758  
LOW Cal. Response = -0.01 HIGH Cal. Response = 9.70  
FINAL CALIBRATION TIME ----> 1150  
LOW Cal. Response = -0.02 HIGH Cal. Response = 9.62

---

LOW System Drift = -0.05 % HIGH System Drift = -0.40 %

[L CO ] Span Value = 100  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 32.30  
INITIAL CALIBRATION TIME --> 758  
LOW Cal. Response = 0.19 HIGH Cal. Response = 32.10  
FINAL CALIBRATION TIME ----> 1150  
LOW Cal. Response = 0.27 HIGH Cal. Response = 31.51

---

LOW System Drift = 0.08 % HIGH System Drift = -0.59 %

[L O2 ] Span Value = 25  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 9.91  
INITIAL CALIBRATION TIME --> 758  
LOW Cal. Response = 0.03 HIGH Cal. Response = 10.00  
FINAL CALIBRATION TIME ----> 1150  
LOW Cal. Response = 0.07 HIGH Cal. Response = 9.86

---

LOW System Drift = 0.15 % HIGH System Drift = -0.55 %

LA PACIFIC  
PRESS LOCATION

RUN 1: 09:55 - 10:25; 10:47 - 11:17  
8/30/95

Calibrations:

[L NOx ] Span Value = 225  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 124.00  
INITIAL CALIBRATION TIME --> 758  
LOW Cal. Response = 0.31 HIGH Cal. Response = 118.00  
FINAL CALIBRATION TIME ----> 1150  
LOW Cal. Response = 1.89 HIGH Cal. Response = 113.27

---

LOW System Drift = 0.70 % HIGH System Drift = -2.10 %

LA PACIFIC  
PRESS LOCATION

RUN 2: 13:25 - 13:55; 14:10 - 14:19; 14:50 - 15:11  
8/30/95

Calibrations:

[L SO2 ] Span Value = 100  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 50.00  
INITIAL CALIBRATION TIME --> 1150  
LOW Cal. Response = 1.02 HIGH Cal. Response = 44.78  
FINAL CALIBRATION TIME ----> 1628  
LOW Cal. Response = 3.54 HIGH Cal. Response = 46.23  
-----  
LOW System Drift = 2.53 % HIGH System Drift = 1.45 %

[L CO2 ] Span Value = 20  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 9.85  
INITIAL CALIBRATION TIME --> 1233  
LOW Cal. Response = -0.02 HIGH Cal. Response = 9.62  
FINAL CALIBRATION TIME ----> 1628  
LOW Cal. Response = -0.01 HIGH Cal. Response = 9.80  
-----  
LOW System Drift = 0.05 % HIGH System Drift = 0.88 %

[L CO ] Span Value = 100  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 32.30  
INITIAL CALIBRATION TIME --> 1233  
LOW Cal. Response = 0.27 HIGH Cal. Response = 31.51  
FINAL CALIBRATION TIME ----> 1628  
LOW Cal. Response = 0.17 HIGH Cal. Response = 31.32  
-----  
LOW System Drift = -0.10 % HIGH System Drift = -0.19 %

LA PACIFIC  
PRESS LOCATION

RUN 2: 13:25 - 13:55; 14:10 - 14:19; 14:50 - 15:11  
8/30/95

Calibrations:

[L O2 ] Span Value = 25  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 9.91  
INITIAL CALIBRATION TIME --> 1233  
LOW Cal. Response = 0.07 HIGH Cal. Response = 9.86  
FINAL CALIBRATION TIME ----> 1628  
LOW Cal. Response = 0.10 HIGH Cal. Response = 9.91

---

LOW System Drift = 0.14 % HIGH System Drift = 0.18 %

[L NOx ] Span Value = 225  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 124.00  
INITIAL CALIBRATION TIME --> 1233  
LOW Cal. Response = 1.89 HIGH Cal. Response = 113.27  
FINAL CALIBRATION TIME ----> 1628  
LOW Cal. Response = 2.07 HIGH Cal. Response = 115.30

---

LOW System Drift = 0.08 % HIGH System Drift = 0.90 %

[L VOC ] Span Value = 50  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 25.59  
INITIAL CALIBRATION TIME --> 1233  
LOW Cal. Response = 0.02 HIGH Cal. Response = 25.67  
FINAL CALIBRATION TIME ----> 1628  
LOW Cal. Response = 0.43 HIGH Cal. Response = 25.20

---

LOW System Drift = 0.82 % HIGH System Drift = -0.95 %

LA PACIFIC  
PRESS LOCATION  
RUN 3: 19:40 - 20:10; 20:21 - 20:51  
8/30/95

Calibrations:

[L SO2 ] Span Value = 100  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 50.00  
INITIAL CALIBRATION TIME --> 1628  
LOW Cal. Response = 3.54 HIGH Cal. Response = 46.23  
FINAL CALIBRATION TIME ----> 2133  
LOW Cal. Response = 4.72 HIGH Cal. Response = 46.03  
-----  
LOW System Drift = 1.18 % HIGH System Drift = -0.21 %

[L CO2 ] Span Value = 20  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 9.85  
INITIAL CALIBRATION TIME --> 1628  
LOW Cal. Response = -0.01 HIGH Cal. Response = 9.80  
FINAL CALIBRATION TIME ----> 2133  
LOW Cal. Response = -0.00 HIGH Cal. Response = 9.49  
-----  
LOW System Drift = 0.02 % HIGH System Drift = -1.53 %

[L CO ] Span Value = 100  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 32.30  
INITIAL CALIBRATION TIME --> 1628  
LOW Cal. Response = 0.17 HIGH Cal. Response = 31.32  
FINAL CALIBRATION TIME ----> 2133  
LOW Cal. Response = 0.17 HIGH Cal. Response = 31.19  
-----  
LOW System Drift = 0.00 % HIGH System Drift = -0.13 %

LA PACIFIC  
PRESS LOCATION

RUN 3: 19:40 - 20:10; 20:21 - 20:51  
8/30/95

Calibrations:

[L O2 ] Span Value = 25  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 9.91  
INITIAL CALIBRATION TIME --> 1628  
LOW Cal. Response = 0.10 HIGH Cal. Response = 9.91  
FINAL CALIBRATION TIME ----> 2133  
LOW Cal. Response = 0.07 HIGH Cal. Response = 9.87

---

LOW System Drift = -0.13 % HIGH System Drift = -0.14 %

[L NOx ] Span Value = 225  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 124.00  
INITIAL CALIBRATION TIME --> 1628  
LOW Cal. Response = 2.07 HIGH Cal. Response = 115.30  
FINAL CALIBRATION TIME ----> 2133  
LOW Cal. Response = 0.10 HIGH Cal. Response = 115.34

---

LOW System Drift = -0.88 % HIGH System Drift = 0.02 %

[L VOC ] Span Value = 50  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 25.59  
INITIAL CALIBRATION TIME --> 1835  
LOW Cal. Response = -0.09 HIGH Cal. Response = 24.50  
FINAL CALIBRATION TIME ----> 2133  
LOW Cal. Response = -0.48 HIGH Cal. Response = 23.65

---

LOW System Drift = -0.78 % HIGH System Drift = -1.71 %

**APPENDIX N.3**

**CEMS ANALYZER CALIBRATION DATA AND SAMPLING SYSTEM CALIBRATION  
DRIFT DATA AND RESULTS**

**- RTO STACK -  
- 08/30/95 -**





LA PACIFIC  
 RTO SAMPLE LOCATION  
 LOCAL CEM CALIBRATION  
 8/30/95; 07:05 - 07:43

Starting  
 08-30-95

| Time  | RTO<br>O2<br>(%dv) | RTO<br>CO2<br>(%dv) | RTO<br>CO<br>(ppmdv) | RTO<br>SO2<br>(ppmdv) | RTO<br>NOx<br>(ppmdv) |
|-------|--------------------|---------------------|----------------------|-----------------------|-----------------------|
| 07:06 | 0.03Z              | 0.02Z               | 0.03Z                | -0.17Z                | 0.00Z                 |
| 07:07 | 0.03               | 0.02                | 0.01                 | -2.48                 | 0.00                  |
| 07:08 | 0.02               | 0.01                | 0.01                 | -1.48                 | 0.00                  |
| 07:09 | 0.02               | 0.01                | 0.01                 | -0.33                 | 0.00                  |
| 07:10 | 0.02               | 0.02                | -0.01                | -0.33                 | 0.00                  |
| 07:11 | 0.03               | 0.01                | 0.30                 | -0.33                 | 0.04                  |
| 07:12 | 0.18               | 0.01                | 0.09                 | -0.31                 | 0.05                  |
| 07:13 | 1.84               | 2.21                | -0.12                | -0.33                 | 0.05                  |
| 07:14 | 9.37               | 9.17                | -0.33                | -0.34                 | 0.06                  |
| 07:15 | 10.00M             | 9.84M               | -0.37                | -0.32                 | 0.09                  |
| 07:16 | 10.09              | 9.84                | -0.38                | -0.34                 | 0.13                  |
| 07:17 | 19.13              | 15.32               | -0.48                | -0.33                 | 0.12                  |
| 07:18 | 22.60H             | 17.50H              | -0.27                | -0.34                 | 0.16                  |
| 07:19 | 22.18              | 16.89               | 0.84                 | -0.34                 | 0.16                  |
| 07:20 | 7.52               | 4.91                | 39.51                | -0.35                 | 0.19                  |
| 07:21 | 0.15               | 0.09                | 33.39                | -0.34                 | 0.21                  |
| 07:22 | 0.03               | 0.02                | 33.21                | -0.34                 | 0.24                  |
| 07:23 | 0.03               | 0.02                | 32.91                | -0.36                 | 0.25                  |
| 07:24 | 0.02               | 0.02                | 32.50L               | -0.35                 | 0.27                  |
| 07:25 | 0.06               | 0.02                | 41.43                | -0.41                 | 0.29                  |
| 07:26 | 0.05               | 0.02                | 51.00M               | -0.36                 | 0.31                  |
| 07:27 | 0.20               | 0.03                | 52.17                | -0.10                 | 0.32                  |
| 07:28 | 0.31               | 0.02                | 68.29                | 38.51                 | 0.36                  |
| 07:29 | 0.06               | 0.01                | 84.90H               | 47.97                 | 0.39                  |
| 07:30 | 0.01               | 0.01                | 35.90                | 48.32M                | 0.40                  |
| 07:31 | 0.01               | 0.01                | 14.70                | 66.24                 | 0.43                  |
| 07:32 | 0.10               | 0.02                | 3.08                 | 76.70                 | 0.43                  |
| 07:33 | 0.10               | 0.02                | 0.29                 | 86.20                 | 0.47                  |
| 07:34 | 0.03               | 0.01                | 0.08                 | 93.80                 | 0.46                  |
| 07:35 | 0.01               | 0.01                | 0.07                 | 94.80H                | 0.50                  |
| 07:36 | 0.04               | 0.02                | 0.17                 | 79.50                 | 18.90                 |
| 07:37 | 0.09               | 0.01                | 0.09                 | 20.91                 | 190.70                |
| 07:38 | 0.23               | 0.01                | 0.04                 | 17.54                 | 203.80                |
| 07:39 | 0.38               | 0.02                | 0.05                 | 17.54                 | 223.90H               |
| 07:40 | 0.51               | 0.01                | 0.06                 | 17.47                 | 198.40                |
| 07:41 | 0.65               | 0.01                | 0.04                 | 17.51                 | 26.78                 |
| 07:42 | 0.78               | 0.02                | 0.06                 | 17.43                 | 143.90                |
| 07:43 | 0.89               | 0.02                | 0.07                 | 17.35                 | 124.30M               |

Marker Description

Display Average

|   |   |   |
|---|---|---|
| A | Data was Absent from original raw data file.        | ✓ |
| H | HI CALIBRATION GAS INTRODUCED THROUGH MONITOR       | ✓ |
| L | LOW CALIBRATION GAS INTRODUCED TO THE MONITOR       | ✓ |
| M | MID CALIBRATION GAS INTRODUCED THROUGH MONITOR      | ✓ |
| P | PORT CHANGE   | ✓ |
| Z | ZERO CALIBRATION GAS INTRODUCED TO MONITOR          | ✓ |
| m | MID CALIBRATION GAS INTRODUCED THROUGH THE SYSTEM   | ✓ |
| z | ZERO CALIBRATION GAS INTRODUCED THROUGH THE SYSTEM  | ✓ |
| * | Data was not used in calculated parameter averages. |   |

LA PACIFIC  
RTO LOCATION

RUN 1: 09:55 - 10:25; 10:47 - 11:17  
8/30/95

Calibrations:

[R SO2 ] Span Value = 100  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 50.00  
INITIAL CALIBRATION TIME --> 837  
LOW Cal. Response = 0.01 HIGH Cal. Response = 45.20  
FINAL CALIBRATION TIME ----> 1233  
LOW Cal. Response = 0.67 HIGH Cal. Response = 43.98

---

LOW System Drift = 0.67 % HIGH System Drift = -1.22 %

[R CO2 ] Span Value = 20  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 9.85  
INITIAL CALIBRATION TIME --> 853  
LOW Cal. Response = 0.02 HIGH Cal. Response = 9.80  
FINAL CALIBRATION TIME ----> 1233  
LOW Cal. Response = 0.00 HIGH Cal. Response = 9.33

---

LOW System Drift = -0.08 % HIGH System Drift = -2.35 %

[R CO ] Span Value = 100  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 32.30  
INITIAL CALIBRATION TIME --> 850  
LOW Cal. Response = 0.07 HIGH Cal. Response = 31.90  
FINAL CALIBRATION TIME ----> 1233  
LOW Cal. Response = 0.68 HIGH Cal. Response = 31.71

---

LOW System Drift = 0.61 % HIGH System Drift = -0.19 %

LA PACIFIC  
RTO LOCATION

RUN 1: 09:55 - 10:25; 10:47 - 11:17  
8/30/95

Calibrations:

[R O2 ] Span Value = 25  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 9.91  
INITIAL CALIBRATION TIME --> 853  
LOW Cal. Response = 0.30 HIGH Cal. Response = 9.90  
FINAL CALIBRATION TIME ----> 1233  
LOW Cal. Response = 0.04 HIGH Cal. Response = 9.79

---

LOW System Drift = -1.05 % HIGH System Drift = -0.44 %

[R NOx ] Span Value = 225  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 124.00  
INITIAL CALIBRATION TIME --> 847  
LOW Cal. Response = 1.28 HIGH Cal. Response = 120.00  
FINAL CALIBRATION TIME ----> 1233  
LOW Cal. Response = 3.71 HIGH Cal. Response = 120.76

---

LOW System Drift = 1.08 % HIGH System Drift = 0.34 %

LA PACIFIC  
RTO LOCATION

RUN 2: 13:25 - 13:55; 14:10 - 14:19; 14:50 - 15:11  
8/30/95

Calibrations:

[R SO2 ] Span Value = 100  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 50.00  
INITIAL CALIBRATION TIME --> 1233  
LOW Cal. Response = 0.67 HIGH Cal. Response = 43.98  
FINAL CALIBRATION TIME ----> 1628  
LOW Cal. Response = 1.01 HIGH Cal. Response = 44.13

---

LOW System Drift = 0.34 % HIGH System Drift = 0.15 %

[R CO2 ] Span Value = 20  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 9.85  
INITIAL CALIBRATION TIME --> 1233  
LOW Cal. Response = 0.00 HIGH Cal. Response = 9.33  
FINAL CALIBRATION TIME ----> 1628  
LOW Cal. Response = 0.01 HIGH Cal. Response = 9.40

---

LOW System Drift = 0.02 % HIGH System Drift = 0.37 %

[R CO ] Span Value = 100  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 32.30  
INITIAL CALIBRATION TIME --> 1233  
LOW Cal. Response = 0.68 HIGH Cal. Response = 31.71  
FINAL CALIBRATION TIME ----> 1628  
LOW Cal. Response = 0.68 HIGH Cal. Response = 32.05

---

LOW System Drift = -0.00 % HIGH System Drift = 0.33 %

LA PACIFIC  
RTO LOCATION

RUN 2: 13:25 - 13:55; 14:10 - 14:19; 14:50 - 15:11  
8/30/95

Calibrations:

[R O2 ] Span Value = 25  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 9.91  
INITIAL CALIBRATION TIME --> 1233  
LOW Cal. Response = 0.04 HIGH Cal. Response = 9.79  
FINAL CALIBRATION TIME ----> 1628  
LOW Cal. Response = 0.16 HIGH Cal. Response = 9.63

---

LOW System Drift = 0.50 % HIGH System Drift = -0.63 %

[R NOx ] Span Value = 225  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 124.00  
INITIAL CALIBRATION TIME --> 1233  
LOW Cal. Response = 3.71 HIGH Cal. Response = 120.76  
FINAL CALIBRATION TIME ----> 1628  
LOW Cal. Response = 2.96 HIGH Cal. Response = 123.73

---

LOW System Drift = -0.34 % HIGH System Drift = 1.32 %

[R VOC ] Span Value = 50  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 25.59  
INITIAL CALIBRATION TIME --> 1233  
LOW Cal. Response = -0.17 HIGH Cal. Response = 26.16  
FINAL CALIBRATION TIME ----> 1628  
LOW Cal. Response = 0.05 HIGH Cal. Response = 25.36

---

LOW System Drift = 0.43 % HIGH System Drift = -1.61 %

LA PACIFIC  
RTO LOCATION

RUN 3: 19:40 - 20:10; 20:21 - 20:51

8/30/95

Calibrations:

[R SO2 ] Span Value = 100  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 50.00  
INITIAL CALIBRATION TIME --> 1628  
LOW Cal. Response = 1.01 HIGH Cal. Response = 44.13  
FINAL CALIBRATION TIME ----> 2133  
LOW Cal. Response = 1.01 HIGH Cal. Response = 44.10

---

LOW System Drift = 0.00 % HIGH System Drift = -0.03 %

[R CO2 ] Span Value = 20  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 9.85  
INITIAL CALIBRATION TIME --> 1628  
LOW Cal. Response = 0.01 HIGH Cal. Response = 9.40  
FINAL CALIBRATION TIME ----> 2133  
LOW Cal. Response = 0.01 HIGH Cal. Response = 9.20

---

LOW System Drift = 0.00 % HIGH System Drift = -1.02 %

[R CO ] Span Value = 100  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 32.30  
INITIAL CALIBRATION TIME --> 1628  
LOW Cal. Response = 0.68 HIGH Cal. Response = 32.05  
FINAL CALIBRATION TIME ----> 2133  
LOW Cal. Response = 0.50 HIGH Cal. Response = 32.14

---

LOW System Drift = -0.18 % HIGH System Drift = 0.09 %

LA PACIFIC  
RTO LOCATION

RUN 3: 19:40 - 20:10; 20:21 - 20:51  
8/30/95

Calibrations:

[R O2 ] Span Value = 25  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 9.91  
INITIAL CALIBRATION TIME --> 1628  
LOW Cal. Response = 0.16 HIGH Cal. Response = 9.63  
FINAL CALIBRATION TIME ----> 2133  
LOW Cal. Response = 0.20 HIGH Cal. Response = 9.87

---

LOW System Drift = 0.17 % HIGH System Drift = 0.94 %

[R NOx ] Span Value = 225  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 124.00  
INITIAL CALIBRATION TIME --> 1628  
LOW Cal. Response = 2.96 HIGH Cal. Response = 123.73  
FINAL CALIBRATION TIME ----> 2133  
LOW Cal. Response = 0.04 HIGH Cal. Response = 122.36

---

LOW System Drift = -1.30 % HIGH System Drift = -0.61 %

[R VOC ] Span Value = 50  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 25.59  
INITIAL CALIBRATION TIME --> 1835  
LOW Cal. Response = 0.12 HIGH Cal. Response = 25.27  
FINAL CALIBRATION TIME ----> 2133  
LOW Cal. Response = -0.59 HIGH Cal. Response = 24.32

---

LOW System Drift = -1.41 % HIGH System Drift = -1.91 %



**APPENDIX N.4**

**CEMS ANALYZER CALIBRATION DATA AND SAMPLING SYSTEM CALIBRATION  
DRIFT DATA AND RESULTS**

**- KONUS STACK -**



LA PACIFIC; DUNGANON PLANT  
 KONUS STACK  
 INITIAL LOCAL CALIBRATION  
 9/12/95

Starting  
 9-12-95

| Time  | KONUS<br>O2<br>(%dv) | KONUS<br>CO2<br>(%dv) | KONUS<br>CO<br>(ppmdv) | KONUS<br>SO2<br>(ppmdv) | KONUS<br>NOx<br>(ppmdv) | KONUS<br>VOC<br>(ppmwv) |
|-------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 07:21 | 0.03Z                | -0.09                 | 0.17                   | -0.86                   | -0.14                   | 2.74                    |
| 07:22 | 0.03                 | -0.09                 | 0.06Z                  | -0.79                   | 0.03                    | 2.83                    |
| 07:23 | 0.01                 | -0.09                 | 0.06                   | -0.77                   | 0.01Z                   | 3.43                    |
| 07:24 | 0.01                 | -0.10                 | 0.06                   | -0.83                   | 0.03                    | 3.02                    |
| 07:25 | 6.06                 | 6.21                  | -0.85                  | -0.75                   | 0.01                    | 3.97                    |
| 07:26 | 9.90M                | 9.85M                 | -0.79                  | -0.69                   | 0.02                    | 1.70                    |
| 07:27 | 10.65                | 10.49                 | -0.85                  | -0.77                   | 0.02                    | 0.49                    |
| 07:28 | 22.53H               | 17.68H                | -1.01                  | -0.83                   | 0.02                    | 1.14                    |
| 07:29 | 20.79                | 16.23                 | -0.85                  | -0.82                   | 0.02                    | 2.27                    |
| 07:30 | 10.51                | 10.13                 | -0.73                  | -0.82                   | 0.02                    | 2.76                    |
| 07:31 | 9.97                 | 9.77                  | -0.85                  | -0.87                   | 0.02                    | 2.31                    |
| 07:32 | 8.00                 | 7.26                  | 54.59                  | -0.82                   | 0.02                    | 2.16                    |
| 07:33 | 0.34                 | 0.08                  | 148.10                 | -0.91                   | 0.02                    | 2.52                    |
| 07:34 | 0.04                 | -0.09                 | 150.00M                | -0.93                   | 0.02                    | 1.65                    |
| 07:35 | 0.13                 | -0.09                 | 185.30                 | -0.93                   | 0.04                    | 1.92                    |
| 07:36 | 0.09                 | -0.09                 | 300.90M                | -0.98                   | 0.05                    | 1.12                    |
| 07:37 | 0.08                 | -0.09                 | 305.50                 | -0.90                   | 0.08                    | 1.44                    |
| 07:38 | 0.21                 | -0.09                 | 298.70                 | 20.46                   | 0.48                    | 2.29                    |
| 07:39 | 0.18                 | -0.10                 | 486.40                 | 126.50M                 | 0.12                    | 2.35                    |
| 07:40 | 0.02                 | -0.10                 | 499.90H                | 176.90                  | 0.10                    | 1.96                    |
| 07:41 | 0.11                 | -0.10                 | 499.90                 | 240.50H                 | 0.09                    | 2.72                    |
| 07:42 | 0.15                 | -0.10                 | 499.90                 | 214.90                  | 5.16                    | 3.32                    |
| 07:43 | 0.14                 | -0.09                 | 499.90                 | 2.01                    | 97.30                   | 2.42                    |
| 07:44 | 0.02                 | -0.10                 | 499.90                 | -0.50                   | 138.30                  | 2.17                    |
| 07:45 | 0.00                 | -0.10                 | 500.00                 | -0.62                   | 154.20                  | 1.12                    |
| 07:46 | 0.06                 | -0.10                 | 500.00                 | -0.75                   | 235.70                  | 0.78                    |
| 07:47 | 0.01                 | -0.10                 | 500.00                 | -0.73                   | 232.00                  | 1.92                    |
| 07:48 | 0.01                 | -0.10                 | 500.00                 | -0.83                   | 126.50M                 | 1.79                    |
| 07:49 | -0.01                | -0.11                 | 500.00                 | -0.79                   | 212.10                  | 2.64                    |
| 07:50 | 0.11                 | -0.11                 | 500.00                 | -1.01                   | 227.40                  | 3.07                    |
| 07:51 | 0.37                 | -0.11                 | 500.00                 | -0.79                   | 227.80H                 | 3.05                    |
| 07:52 | 0.62                 | -0.11                 | 500.00                 | -0.71                   | 222.30                  | 3.54                    |
| 07:53 | 0.86                 | -0.10                 | 500.00                 | -0.64                   | 218.20                  | 3.33                    |
| 07:54 | 1.10                 | -0.10                 | 500.00                 | -0.59                   | 155.80                  | 3.67                    |
| 07:55 | 1.29                 | -0.10                 | 500.00                 | -0.57                   | 104.90                  | 5.30                    |
| 07:56 | 1.50                 | -0.10                 | 500.00                 | -0.58                   | 93.90                   | 3.24                    |
| 07:57 | 1.69                 | -0.10                 | 500.00                 | -0.55                   | 90.70                   | 1.97                    |
| 07:58 | 1.89                 | -0.10                 | 500.00                 | -0.36                   | 89.20                   | 1.46                    |
| 07:59 | 2.06                 | -0.10                 | 500.00                 | -0.28                   | 86.30                   | 1.64                    |
| 08:00 | 2.23                 | -0.10                 | 500.00                 | -0.38                   | 82.80                   | 2.23                    |
| 08:01 | 2.41                 | -0.09                 | 500.00                 | -0.36                   | 81.70                   | 1.60                    |

LA PACIFIC; DUNGANON PLANT  
 KONUS STACK  
 INITIAL LOCAL CALIBRATION  
 9/12/95

Starting  
 09-12-95

| Time  | KONUS<br>O2<br>(%dv) | KONUS<br>CO2<br>(%dv) | KONUS<br>CO<br>(ppmdv) | KONUS<br>SO2<br>(ppmdv) | KONUS<br>NOx<br>(ppmdv) | KONUS<br>VOC<br>(ppmwv) |
|-------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 08:02 | 2.56                 | -0.10                 | 500.00                 | -0.31                   | 83.40                   | 2.56                    |
| 08:03 | 2.71                 | -0.09                 | 500.00                 | -0.23                   | 87.60                   | 5.30                    |
| 08:04 | 2.85                 | -0.10                 | 500.00                 | -0.14                   | 91.70                   | 11.41                   |
| 08:05 | 2.98                 | -0.10                 | 441.70                 | -0.15                   | 93.00                   | 13.89                   |
| 08:06 | 3.14                 | -0.09                 | 0.17                   | -0.15                   | 91.60                   | 15.77                   |
| 08:07 | 3.27                 | -0.09                 | 0.17                   | -0.19                   | 90.50                   | 12.78                   |
| 08:08 | 3.39                 | -0.09                 | 0.17                   | -0.11                   | 89.30                   | 9.55                    |
| 08:09 | 3.51                 | -0.09                 | 0.17                   | -0.10                   | 89.30                   | 9.76                    |
| 08:10 | 3.63                 | -0.09                 | 0.17                   | -0.08                   | 90.10                   | 14.46                   |
| 08:11 | 2.71                 | -0.09                 | 0.30                   | 0.05                    | 89.50                   | 15.85                   |
| 08:12 | 7.15                 | 0.79                  | 363.70                 | 0.10                    | 31.77                   | 8.74                    |
| 08:13 | 18.09                | 2.49                  | 384.70                 | 0.26                    | 48.09                   | 3.01                    |
| 08:14 | 17.78                | 2.68                  | 389.90                 | 0.22                    | 36.70                   | 7.53                    |
| 08:15 | 18.47                | 2.01                  | 500.00                 | 0.19                    | 34.57                   | 8.58                    |
| 08:16 | 18.74                | 1.69                  | 500.00                 | 0.19                    | 26.87                   | 11.53                   |
| 08:17 | 19.10                | 1.35                  | 500.00                 | 0.31                    | 25.32                   | 14.06                   |
| 08:18 | 19.20                | 1.25                  | 500.00                 | 0.51                    | 26.56                   | 17.86                   |
| 08:19 | 19.14                | 1.28                  | 500.00                 | 0.74                    | 28.42                   | 28.82                   |
| 08:20 | 18.91                | 1.57                  | 500.00                 | 0.81                    | 42.99                   | 11.83                   |
| 08:21 | 17.55                | 2.86                  | 329.00                 | 0.96                    | 47.72                   | -0.20Z                  |
| 08:22 | 17.62                | 2.75                  | 319.40                 | 0.76                    | 48.95                   | -0.33                   |
| 08:23 | 17.03                | 3.23                  | 145.30                 | 0.69                    | 59.42                   | 5.14                    |
| 08:24 | 16.42                | 3.95                  | 48.29                  | 0.79                    | 61.70                   | 16.24                   |
| 08:25 | 16.63                | 3.67                  | 64.95                  | 0.59                    | 50.69                   | 17.91                   |
| 08:26 | 17.64                | 2.64                  | 384.60                 | 0.19                    | 36.17                   | 17.84                   |
| 08:27 | 18.57                | 1.75                  | 500.00                 | 0.23                    | 31.62                   | 9.38                    |
| 08:28 | 18.77                | 1.57                  | 500.00                 | 0.31                    | 26.36                   | -1.21                   |
| 08:29 | 18.98                | 1.40                  | 500.00                 | 0.43                    | 28.82                   | -0.10                   |
| 08:30 | 18.84                | 1.54                  | 500.00                 | 0.49                    | 34.96                   | 3.28                    |
| 08:31 | 18.18                | 2.19                  | 500.00                 | 0.61                    | 43.34                   | 13.36                   |
| 08:32 | 17.86                | 2.53                  | 468.10                 | 0.57                    | 55.40                   | 14.43L                  |
| 08:33 | 16.76                | 3.57                  | 148.00                 | 0.65                    | 64.24                   | 5.26                    |
| 08:34 | 16.16                | 4.25                  | 58.48                  | 0.84                    | 77.70                   | 25.85                   |
| 08:35 | 15.89                | 4.34                  | 34.29                  | 0.83                    | 60.75                   | 44.56H                  |
| 08:36 | 16.87                | 3.40                  | 138.50                 | 0.54                    | 49.64                   | 41.73                   |
| 08:37 | 17.28                | 3.05                  | 191.20                 | 0.30                    | 47.69                   | 24.69M                  |
| 08:38 | 17.73                | 2.60                  | 395.00                 | 0.18                    | 43.99                   | 17.16                   |
| 08:39 | 17.56                | 2.80                  | 407.20                 | 0.37                    | 43.77                   | 5.78                    |
| 08:40 | 17.34                | 3.03                  | 331.80                 | 0.63                    | 45.95                   | 4.87                    |

rk r Description

Display Average

|   |   |   |
|---|---|---|
| A | Data was Absent from original raw data file.        | ✓ |
| D | PLANT IS DOWN                                       | ✓ |
| H | HI CALIBRATION GAS INTRODUCED THROUGH MONITOR       | ✓ |
| L | LOW CALIBRATION GAS INTRODUCED TO THE MONITOR       | ✓ |
| M | MID CALIBRATION GAS INTRODUCED THROUGH MONITOR      | ✓ |
| P | PORT CHANGE   | ✓ |
| Z | ZERO CALIBRATION GAS INTRODUCED TO MONITOR          | ✓ |
| m | MID CALIBRATION GAS INTRODUCED THROUGH THE SYSTEM   | ✓ |
| z | ZERO CALIBRATION GAS INTRODUCED THROUGH THE SYSTEM  | ✓ |
| * | Data was not used in calculated parameter averages. |   |

LA PACIFIC DUNGANON  
KONUS STACK  
RUN 1: 10:45 - 11:45  
9/12/95

Calibrations:

[L O2 ] Span Value = 25  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 9.90  
INITIAL CALIBRATION TIME --> 858  
LOW Cal. Response = 0.03 HIGH Cal. Response = 9.80  
FINAL CALIBRATION TIME ----> 1204  
LOW Cal. Response = 0.08 HIGH Cal. Response = 9.81

---

LOW System Drift = 0.20 % HIGH System Drift = 0.02 %

[L NOx ] Span Value = 225  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 126.50  
INITIAL CALIBRATION TIME --> 858  
LOW Cal. Response = 1.50 HIGH Cal. Response = 121.69  
FINAL CALIBRATION TIME ----> 1204  
LOW Cal. Response = 1.87 HIGH Cal. Response = 126.34

---

LOW System Drift = 0.16 % HIGH System Drift = 2.07 %

[R VOC ] Span Value = 50  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 14.84  
INITIAL CALIBRATION TIME --> 830  
LOW Cal. Response = 0.00 HIGH Cal. Response = 14.84  
FINAL CALIBRATION TIME ----> 1204  
LOW Cal. Response = -0.50 HIGH Cal. Response = 14.72

---

LOW System Drift = -0.99 % HIGH System Drift = -0.24 %

LA PACIFIC DUNGANON  
KONUS STACK  
RUN 1: 10:45 - 11:45  
9/12/95

Calibrations:

[L SO2 ] Span Value = 250  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 128.20  
INITIAL CALIBRATION TIME --> 858  
LOW Cal. Response = 0.12 HIGH Cal. Response = 121.01  
FINAL CALIBRATION TIME ----> 1204  
LOW Cal. Response = -0.03 HIGH Cal. Response = 120.49

---

LOW System Drift = -0.06 % HIGH System Drift = -0.21 %

[L CO2 ] Span Value = 20  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 9.85  
INITIAL CALIBRATION TIME --> 858  
LOW Cal. Response = -0.09 HIGH Cal. Response = 9.69  
FINAL CALIBRATION TIME ----> 1204  
LOW Cal. Response = -0.10 HIGH Cal. Response = 9.54

---

LOW System Drift = -0.02 % HIGH System Drift = -0.74 %

[L CO ] Span Value = 600  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 300.00  
INITIAL CALIBRATION TIME --> 858  
LOW Cal. Response = 7.65 HIGH Cal. Response = 310.20  
FINAL CALIBRATION TIME ----> 1204  
LOW Cal. Response = 7.78 HIGH Cal. Response = 312.15

---

LOW System Drift = 0.02 % HIGH System Drift = 0.32 %

LA PACIFIC DUNGANON  
KONUS STACK  
RUN 2: 12:25 - 13:35  
9/12/95

Calibrations:

[L SO2 ] Span Value = 250  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 128.20  
INITIAL CALIBRATION TIME --> 1204  
LOW Cal. Response = -0.03 HIGH Cal. Response = 120.49  
FINAL CALIBRATION TIME ----> 1353  
LOW Cal. Response = 0.07 HIGH Cal. Response = 120.28

---

LOW System Drift = 0.04 % HIGH System Drift = -0.08 %

[L CO2 ] Span Value = 20  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 9.85  
INITIAL CALIBRATION TIME --> 1204  
LOW Cal. Response = -0.10 HIGH Cal. Response = 9.54  
FINAL CALIBRATION TIME ----> 1353  
LOW Cal. Response = -0.08 HIGH Cal. Response = 9.58

---

LOW System Drift = 0.09 % HIGH System Drift = 0.21 %

[L CO ] Span Value = 600  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 300.00  
INITIAL CALIBRATION TIME --> 1204  
LOW Cal. Response = 7.78 HIGH Cal. Response = 312.15  
FINAL CALIBRATION TIME ----> 1353  
LOW Cal. Response = 7.78 HIGH Cal. Response = 309.73

---

LOW System Drift = -0.00 % HIGH System Drift = -0.40 %



LA PACIFIC DUNGANON  
KONUS STACK  
RUN 2: 12:25 - 13:35  
9/12/95

Calibrations:

[L O2 ] Span Value = 25  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 9.90  
INITIAL CALIBRATION TIME --> 1204  
LOW Cal. Response = 0.08 HIGH Cal. Response = 9.81  
FINAL CALIBRATION TIME ----> 1353  
LOW Cal. Response = 0.07 HIGH Cal. Response = 9.73  
-----  
LOW System Drift = -0.02 % HIGH System Drift = -0.30 %

[L NOx ] Span Value = 225  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 126.50  
INITIAL CALIBRATION TIME --> 1204  
LOW Cal. Response = 1.87 HIGH Cal. Response = 126.34  
FINAL CALIBRATION TIME ----> 1353  
LOW Cal. Response = 2.13 HIGH Cal. Response = 126.18  
-----  
LOW System Drift = 0.11 % HIGH System Drift = -0.07 %

[R VOC ] Span Value = 50  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 14.84  
INITIAL CALIBRATION TIME --> 1204  
LOW Cal. Response = -0.50 HIGH Cal. Response = 14.72  
FINAL CALIBRATION TIME ----> 1353  
LOW Cal. Response = -0.33 HIGH Cal. Response = 14.36  
-----  
LOW System Drift = 0.34 % HIGH System Drift = -0.72 %

LA PACIFIC DUNGANON  
KONUS STACK  
RUN 3: 14:06 - 15:14  
9/12/95

Calibrations:

[L SO2 ] Span Value = 250  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 128.20  
INITIAL CALIBRATION TIME --> 1353  
LOW Cal. Response = 0.07 HIGH Cal. Response = 120.28  
FINAL CALIBRATION TIME ----> 1539  
LOW Cal. Response = 0.08 HIGH Cal. Response = 121.08

---

LOW System Drift = 0.00 % HIGH System Drift = 0.32 %

[L CO2 ] Span Value = 20  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 9.85  
INITIAL CALIBRATION TIME --> 1353  
LOW Cal. Response = -0.08 HIGH Cal. Response = 9.58  
FINAL CALIBRATION TIME ----> 1539  
LOW Cal. Response = -0.07 HIGH Cal. Response = 9.56

---

LOW System Drift = 0.03 % HIGH System Drift = -0.09 %

[L CO ] Span Value = 600  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 300.00  
INITIAL CALIBRATION TIME --> 1353  
LOW Cal. Response = 7.78 HIGH Cal. Response = 309.73  
FINAL CALIBRATION TIME ----> 1539  
LOW Cal. Response = 6.77 HIGH Cal. Response = 308.21

---

LOW System Drift = -0.17 % HIGH System Drift = -0.25 %

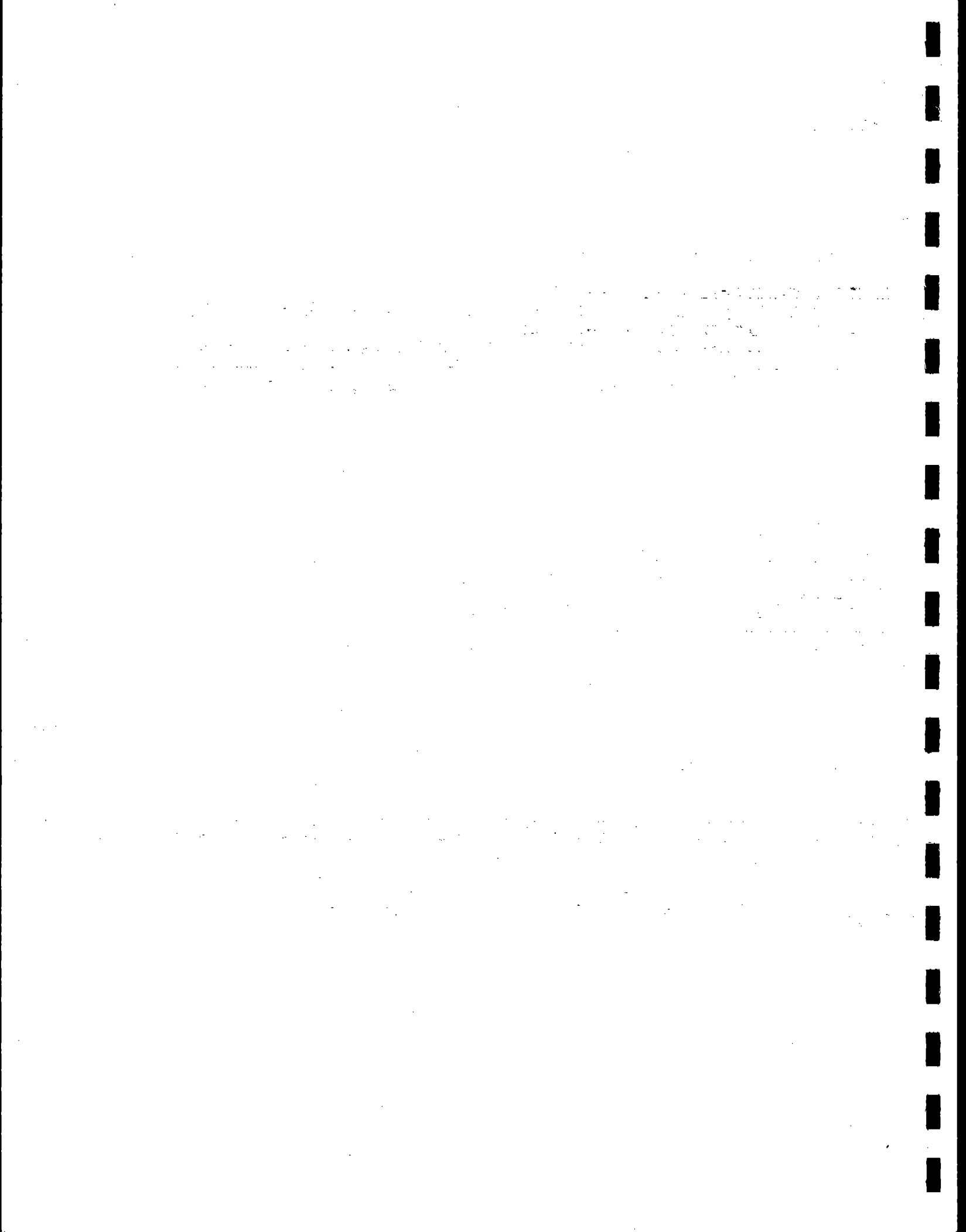
LA PACIFIC DUNGANON  
KONUS STACK  
RUN 3: 14:06 - 15:14  
9/12/95

Calibrations:

[L O2 ] Span Value = 25  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 9.90  
INITIAL CALIBRATION TIME --> 1353  
LOW Cal. Response = 0.07 HIGH Cal. Response = 9.73  
FINAL CALIBRATION TIME ----> 1539  
LOW Cal. Response = 0.07 HIGH Cal. Response = 9.68  
-----  
LOW System Drift = -0.03 % HIGH System Drift = -0.23 %

[L NOx ] Span Value = 225  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 126.50  
INITIAL CALIBRATION TIME --> 1353  
LOW Cal. Response = 2.13 HIGH Cal. Response = 126.18  
FINAL CALIBRATION TIME ----> 1539  
LOW Cal. Response = 3.62 HIGH Cal. Response = 125.66  
-----  
LOW System Drift = 0.66 % HIGH System Drift = -0.23 %

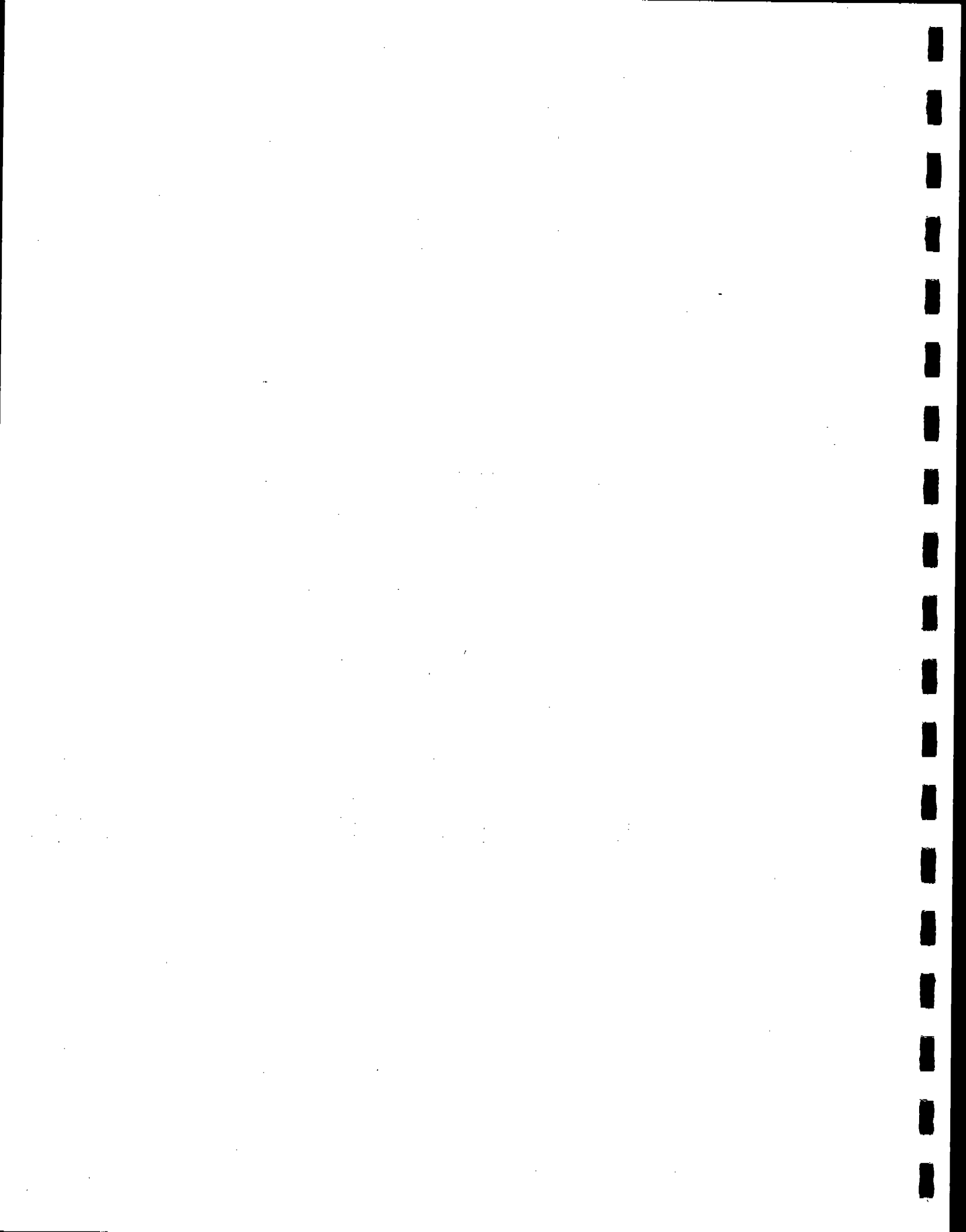
[R VOC ] Span Value = 50  
LOW Calibration Gas = 0.00 HIGH Calibration Gas = 14.84  
INITIAL CALIBRATION TIME --> 1353  
LOW Cal. Response = -0.33 HIGH Cal. Response = 14.36  
FINAL CALIBRATION TIME ----> 1539  
LOW Cal. Response = -0.44 HIGH Cal. Response = 14.44  
-----  
LOW System Drift = -0.22 % HIGH System Drift = 0.16 %



APPENDIX O

RAW FIELD DATA FOR EPA METHODS 2, 3, AND 4 TESTING

- RTO STACK -



**ETS Inc.**  
METHOD 2/4 DATA SHEET

**GENERAL INFORMATION**

|             |             |
|-------------|-------------|
| PLANT NAME  | L A Pacific |
| LOCATION    | RTO Stack   |
| RUN NUMBER  | R50-114-R1  |
| TECHNICIAN  | BK, KA      |
| DATE        | 9/13/95     |
| START TIME  | 1125        |
| END TIME    | 1205        |
| BAROMETRIC  | 28.85       |
| METER BOX # | 9           |
| Gamma       | 0.9907      |
| Delta H@    | 1.8299      |
| PITOT #     |             |
| CP          | 50524       |
| TEST TIME   | 30          |

**METHOD 4 DATA**

|       | INITIAL<br>(g) | FINAL<br>(g)   | NET<br>(g) |
|-------|----------------|----------------|------------|
| IMP.1 | 100            | 110            |            |
| IMP.2 | 100            | 103            |            |
| IMP.3 | 0              | 0              |            |
| IMP.4 |                |                |            |
| IMP.5 |                |                |            |
| IMP.6 |                |                |            |
| IMP.7 |                |                |            |
| S.G.  | 200            | <del>200</del> | 206        |
| TOTAL |                |                |            |

*reads wt.*

| VOLUME METER | delta H<br>(in.WC) | METER VOLUME<br>(ccf) | DGM INLET<br>(DegF) | DGM OUTLET<br>(DegF) |
|--------------|--------------------|-----------------------|---------------------|----------------------|
| INITIAL      | 1.87               | 655.033               | 98                  | 98                   |
| FINAL        | 1.87               | 634.074               | 108                 | 108                  |
| AVG.         |                    |                       |                     |                      |

**METHOD 2 DATA**

| PORT/POINT | TIME | STACK TEMP.<br>(Deg. F) | DELTA P<br>(in.W.C.) | STATIC<br>(in.W.C.) |
|------------|------|-------------------------|----------------------|---------------------|
| A1         |      | 233                     | 0.60                 |                     |
| A2         |      | 234                     | 0.60                 |                     |
| A3         |      | 236                     | 0.61                 |                     |
| A4         |      | 237                     | 0.58                 | -0.33               |
| A5         |      | 238                     | 0.60                 |                     |
| A6         |      | 240                     | 0.55                 |                     |
| A7         |      | 240                     | 0.58                 |                     |
| A8         |      | 240                     | 0.60                 |                     |
| A9         |      | 237                     | 0.60                 |                     |
| A10        |      | 233                     | 0.55                 |                     |
| A11        |      | 229                     | 0.53                 |                     |
| A12        |      | 219                     | 0.51                 |                     |
| B12        |      | 226                     | 0.62                 | 0.56                |
| B11        |      | 212                     | 0.62                 |                     |
| 110        |      | 228                     | 0.60                 |                     |
| 9          |      | 230                     | 0.61                 |                     |
| 8          |      | 232                     | 0.61                 |                     |
| 7          |      | 233                     | 0.59                 |                     |
| 6          |      | 234                     | 0.59                 | -0.37               |
| 5          |      | 230                     | 0.56                 |                     |
| 4          |      | 227                     | 0.56                 |                     |
| 3          |      | 225                     | 0.50                 |                     |
| 2          |      | 224                     | 0.40                 |                     |
| 1          |      | 211                     | 0.36                 |                     |
| AVERAGE    |      |                         |                      |                     |

**PITOT LEAK CHECK**

|           |                                     |
|-----------|-------------------------------------|
| PRE-TEST  | <input checked="" type="checkbox"/> |
| POST-TEST | <input checked="" type="checkbox"/> |

**M4 LEAK CHECK**

|           |                                     |
|-----------|-------------------------------------|
| PRE-TEST  | <input checked="" type="checkbox"/> |
| POST-TEST | <input checked="" type="checkbox"/> |

ETS Inc.  
METHOD 2/4 DATA SHEET

GENERAL INFORMATION

|               |            |
|---------------|------------|
| PLANT NAME    | LA Pacific |
| LOCATION NAME | RTO Stack  |
| RUN NUMBER    | RTO-114-R2 |
| TECHNICIAN    | KA KB      |
| DATE          | 9/13/95    |
| START TIME    | 1300       |
| END TIME      | 1330       |
| BAROMETRIC    | 29.85      |
| METER BOX #   | 9          |
| Gamma (Y)     | 0.99007    |
| delta H@      | 1.87099    |
| PITOT #       | #50524     |
| TEST TIME     | 30         |

METHOD 4 DATA

|       | INITIAL | FINAL | NET |
|-------|---------|-------|-----|
|       | (a)     | (a)   | (a) |
| IMP.1 | 120     | 150   |     |
| IMP.2 | 100     | 101   |     |
| IMP.3 | 0       | 0     |     |
| IMP.4 |         |       |     |
| IMP.5 |         |       |     |
| IMP.6 |         |       |     |
| IMP.7 |         |       |     |
| S.G.  | 200     | 204.2 |     |
| TOTAL |         |       |     |

# 50524

METER DGM DGM

| VOLUME  | delta H  | VOLUME  | DGM INLET | DGM OUTLET |
|---------|----------|---------|-----------|------------|
| METERED | (in. WC) | (dcr)   | (DegF)    | (DegF)     |
| INITIAL | 1.87     | 684.196 | 105       | 103        |
| FINAL   | 1.87     | 707.765 | 107       | 104        |
| AVG.    |          |         |           |            |

METHOD 2

| PORT/POINT | TIME | STACK TEMP. (Deg F) | delta P (in. WC) | STATIC (in. WC) |
|------------|------|---------------------|------------------|-----------------|
| T312       | 1300 | 232                 | 0.39             |                 |
| 11         |      | 236                 | 0.49             |                 |
| 10         |      | 239                 | 0.51             |                 |
| 9          |      | 242                 | 0.56             |                 |
| 8          |      | 240                 | 0.50             | -0.34           |
| 7          |      | 240                 | 0.54             |                 |
| 6          |      | 240                 | 0.52             |                 |
| 5          |      | 240                 | 0.60             |                 |
| 4          |      | 241                 | 0.61             |                 |
| 3          |      | 238                 | 0.63             |                 |
| 2          |      | 231                 | 0.61             |                 |
| 1          | 1305 | 225                 | 0.60             |                 |
| A12        | 1306 | 242                 | 0.45             |                 |
| 11         |      | 242                 | 0.51             |                 |
| 10         |      | 249                 | 0.54             |                 |
| 9          |      | 241                 | 0.58             |                 |
| 8          |      | 239                 | 0.59             | -0.35           |
| 7          |      | 239                 | 0.55             |                 |
| 6          |      | 239                 | 0.57             |                 |
| 5          |      | 240                 | 0.59             |                 |
| 4          |      | 239                 | 0.58             |                 |
| 3          |      | 238                 | 0.58             |                 |
| 2          |      | 225                 | 0.57             |                 |
| 1          | 1312 | 221                 | 0.55             |                 |

PITOT LEAK CHECK

|           |                                     |
|-----------|-------------------------------------|
| pre-test  | <input checked="" type="checkbox"/> |
| post-test | <input checked="" type="checkbox"/> |

M4 LEAK CHECK

|           |                                     |
|-----------|-------------------------------------|
| pre-test  | <input type="checkbox"/>            |
| post-test | <input checked="" type="checkbox"/> |



**ETS Inc.**  
METHOD 2/4 DATA SHEET

**GENERAL INFORMATION**

|             |            |
|-------------|------------|
| PLANT NAME  | 2A Pank    |
| LOCATION    | RTO Stack  |
| RUN NUMBER  | RTO-114-R3 |
| TECHNICIAN  | KA         |
| DATE        | 9/10/95    |
| START TIME  | 1412       |
| END TIME    | 1452       |
| BAROMETRIC  | 28.85      |
| METER EOX # | 13         |
| Gamma       | 0.99007    |
| Delta H@    | 1.87049    |
| PITOT #     | 50524      |
| Cp          |            |
| TEST TIME   | 30         |

**METHOD 4 DATA**

|              | INITIAL<br>(g) | FINAL<br>(g) | NET<br>(g) |
|--------------|----------------|--------------|------------|
| IMP.1        | 142            | 100          |            |
| IMP.2        | 100            | 12           |            |
| IMP.3        | 0              | 0            |            |
| IMP.4        | ←              |              |            |
| IMP.5        |                |              |            |
| IMP.6        |                |              |            |
| IMP.7        |                |              |            |
| S.G.         | 200            | 206.1        |            |
| <b>TOTAL</b> |                |              |            |

| VOLUME METER | delta H (in.W.C.) | METER VOLUME (cc) | DGM INLET (DegF) | DGM OUTLET (DegF) |
|--------------|-------------------|-------------------|------------------|-------------------|
| INITIAL      | 1.07              | 707.81            | 102              | 101               |
| FINAL        | 1.07              | 732.09            | 110              | 102               |
| AVG.         |                   |                   |                  |                   |

**METHOD 2 DATA**

| PORT/POINT     | TIME | STACK TEMP. (Deg. F) | DELTA P (in.W.C.) | STATIC (in.W.C.) |
|----------------|------|----------------------|-------------------|------------------|
| A12            | 1412 | 245                  | 0.60              |                  |
| 11             |      | 242                  | 0.60              |                  |
| 10             |      | 244                  | 0.59              |                  |
| 9              |      | 245                  | 0.61              |                  |
| 8              |      | 245                  | 0.63              |                  |
| 7              |      | 243                  | 0.59              | -0.21            |
| 6              |      | 242                  | 0.57              |                  |
| 5              |      | 233                  | 0.59              |                  |
| 4              |      | 228                  | 0.57              |                  |
| 3              |      | 223                  | 0.55              |                  |
| 2              |      | 219                  | 0.51              |                  |
| 1              | 1420 | 216                  | 0.47              |                  |
| B12            | 1424 | 239                  | 0.66              |                  |
| 11             |      | 240                  | 0.63              |                  |
| 10             |      | 242                  | 0.62              |                  |
| 9              |      | 242                  | 0.64              |                  |
| 8              |      | 242                  | 0.58              |                  |
| 7              |      | 242                  | 0.61              | -0.42            |
| 6              |      | 242                  | 0.60              |                  |
| 5              |      | 236                  | 0.58              |                  |
| 4              |      | 231                  | 0.58              |                  |
| 3              |      | 222                  | 0.52              |                  |
| 2              |      | 217                  | 0.44              |                  |
| 1              |      | 211                  | 0.43              |                  |
| <b>AVERAGE</b> |      |                      |                   |                  |

**PITOT LEAK CHECK**  
PRE-TEST   
POST-TEST

**M4 LEAK CHECK**  
PRE-TEST   
POST-TEST

R2  
 $V_d = 707.7650$   
 $T_s = 107$   
 $T_b = 104$   
 $\pm 1 = 150 \text{ ml}$   
 (last 0 ml)  $\pm 3 = 0$

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

|  |                            |
|--|----------------------------|
| O2/CO2 CALIBRATION                                   | DATE: 9-13-95              |
| O2 SPAN = 25% CO2 SPAN = 20%                         | TIME:                      |
| O2 MONITOR ID: 3                                     | CO2 MONITOR ID: 7          |
| CALIBRATION GAS VALUES                               | CALIBRATION GAS ID         |
| ZERO O <sub>2</sub> 0 CO <sub>2</sub> 0              |                            |
| MID = O <sub>2</sub> - 9.908 CO <sub>2</sub> - 9.85  |                            |
| HIGH = O <sub>2</sub> - 22.8 CO <sub>2</sub> - 17.62 |                            |
| ANALYZER RESPONSE                                    | ANALYZER CALIBRATION ERROR |
| ZERO 0.1 0.00  |                            |
| MID = 9.97 10.00                                     |                            |
| HIGH = 22.8 17.63                                    |                            |

|                               |                       |
|-------------------------------|-----------------------|
| SOURCE: RTO-Stack             | DATE OF TEST: 9-13    |
| LOCATION: LA Pacific Dungenon | RUN ID: RTO-m3-R1     |
| %O2 19.1 19.0                 | %CO2 1.5 1.6          |
| %O2 19.1 19.0                 | %CO2 1.5 1.6          |
| %O2 19.1 19.0                 | %CO2 1.5 1.6          |
| AVERAGE 19.1 19.0             | AVERAGE 1.5 1.6       |
|                               | Fo FACTOR: 1200 1.187 |

|                     |                   |
|---------------------|-------------------|
| LOCATION: RTO stack | RUN ID: RTO-m3-R2 |
| %O2 19.2            | %CO2 1.4          |
| %O2 19.2            | %CO2 1.4          |
| %O2 19.2            | %CO2 1.4          |
| AVERAGE 19.2        | AVERAGE 1.4       |
|                     | Fo FACTOR: 1214   |

|                     |                   |
|---------------------|-------------------|
| LOCATION: RTO stack | RUN ID: RTO-m3-R3 |
| %O2 19.2            | %CO2 1.3          |
| %O2 19.2            | %CO2 1.3          |
| %O2 19.2            | %CO2 1.3          |
| AVERAGE 19.2        | AVERAGE 1.3       |
|                     | Fo FACTOR: 11308  |

$F_o = (20.9 - \%O_2) / \%CO_2$

COMMON Fo FACTORS:

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

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

**APPENDIX P**

**CEMS ANALYZER CALIBRATION DATA AND SAMPLING SYSTEM CALIBRATION  
DRIFT DATA AND RESULTS**

**- RTO STACK -  
- 09/13/95 -**



LA PACIFIC; DUNGANON PLANT  
RTO STACK  
INITIAL LOCAL CALIBRATION  
9/13/95

Starting  
09-13-95

| Time  | RTO<br>VOC<br>(ppmv) |
|-------|----------------------|
| 07:48 | -0.07                |
| 07:49 | -0.01Z               |
| 07:50 | 0.11                 |
| 07:51 | 5.78                 |
| 07:52 | 14.69                |
| 07:53 | 14.77L               |
| 07:54 | 10.65                |
| 07:55 | 19.92                |
| 07:56 | 24.78                |
| 07:57 | 24.80M               |
| 07:58 | 24.20                |
| 07:59 | 12.53                |
| 08:00 | 15.28                |
| 08:01 | 44.05                |
| 08:02 | 44.71H               |
| 08:03 | 44.85                |

| <u>Marker</u> | <u>Description</u>                                  | <u>Display</u> | <u>Average</u> |
|---------------|---|----------------|----------------|
| A             | Data was Absent from original raw data file.        | ✓              |                |
| C             | CALIBRATION CHECK                                   | ✓              |                |
| D             | PLANT IS DOWN                                       | ✓              |                |
| H             | HI CALIBRATION GAS INTRODUCED THROUGH MONITOR       | ✓              |                |
| L             | LOW CALIBRATION GAS INTRODUCED TO THE MONITOR       | ✓              |                |
| M             | MID CALIBRATION GAS INTRODUCED THROUGH MONITOR      | ✓              |                |
| P             | PORT CHANGE   | ✓              |                |
| Z             | ZERO CALIBRATION GAS INTRODUCED TO MONITOR          | ✓              |                |
| m             | MID CALIBRATION GAS INTRODUCED THROUGH THE SYSTEM   | ✓              |                |
| z             | ZERO CALIBRATION GAS INTRODUCED THROUGH THE SYSTEM  | ✓              |                |
| *             | Data was not used in calculated parameter averages. |                |                |

**APPENDIX Q**

**GRAVIMETRIC LABORATORY DATA**





ETS, INC.

FIELD SAMPLE LOG

Contract No. 95-576  
 Job I.D.  
 Test Method 5/202

Print Date 09/06/95 Time 14:58:33  
 Page 1

| Sample No. | Container No. | Other I.D. | Run I.D.    | Sample Type          | Volume, ml no Rinses | Volume, ml w/ Rinses | Analyst | Date     | Comments |
|------------|---------------|------------|-------------|----------------------|----------------------|----------------------|---------|----------|----------|
| 00300      | F1            | 95-0145    | SOU -202-R1 | Filter               |                      |                      | TGW     | 09/06/95 |          |
| 00301      | F2            |            | SOU -202-R1 | FH Acetone Rinse     |                      |                      | TGW     | 09/06/95 |          |
| 00302      | F3            |            | SOU -202-R1 | Impinger contents    |                      |                      | TGW     | 09/06/95 |          |
| 00303      | F4            |            | SOU -202-R1 | Imp. Contents extra  |                      |                      | TGW     | 09/06/95 |          |
| 00304      | F5            |            | SOU -202-R1 | H20 Impinger Rinse   |                      |                      | TGW     | 09/06/95 |          |
| 00305      | F6            |            | SOU -202-R1 | MECL2 Impinger Rinse |                      |                      | TGW     | 09/06/95 |          |
| 00306      | F7            |            | SOU -202-R1 | Silica Gel           |                      |                      | TGW     | 09/06/95 |          |
| 00307      | F8            |            | SOU -202-R1 | TEDLAR BAG           |                      |                      | TGW     | 09/06/95 |          |
| 00308      | F1            | 95-0146    | SOU -202-R2 | Filter               |                      |                      | TGW     | 09/06/95 |          |
| 00309      | F2            |            | SOU -202-R2 | FH Acetone Rinse     |                      |                      | TGW     | 09/06/95 |          |
| 00310      | F3            |            | SOU -202-R2 | Impinger contents    |                      |                      | TGW     | 09/06/95 |          |
| 00311      | F4            |            | SOU -202-R2 | Imp. Contents extra  |                      |                      | TGW     | 09/06/95 |          |
| 00312      | F5            |            | SOU -202-R2 | H20 Impinger Rinse   |                      |                      | TGW     | 09/06/95 |          |
| 00313      | F6            |            | SOU -202-R2 | MECL2 Impinger Rinse |                      |                      | TGW     | 09/06/95 |          |
| 00314      | F7            |            | SOU -202-R2 | Silica Gel           |                      |                      | TGW     | 09/06/95 |          |
| 00315      | F8            |            | SOU -202-R2 | TEDLAR BAG           |                      |                      | TGW     | 09/06/95 |          |
| 00316      | F1            | 95-0147    | SOU -202-R3 | Filter               |                      |                      | TGW     | 09/06/95 |          |
| 00317      | F2            |            | SOU -202-R3 | FH Acetone Rinse     |                      |                      | TGW     | 09/06/95 |          |
| 00318      | F3            |            | SOU -202-R3 | Impinger contents    |                      |                      | TGW     | 09/06/95 |          |
| 00319      | F4            |            | SOU -202-R3 | Imp. Contents extra  |                      |                      | TGW     | 09/06/95 |          |
| 00320      | F5            |            | SOU -202-R3 | H20 Impinger Rinse   |                      |                      | TGW     | 09/06/95 |          |
| 00321      | F6            |            | SOU -202-R3 | MECL2 Impinger Rinse |                      |                      | TGW     | 09/06/95 |          |
| 00322      | F7            |            | SOU -202-R3 | Silica Gel           |                      |                      | TGW     | 09/06/95 |          |
| 00323      | F8            |            | SOU -202-R3 | TEDLAR BAG           |                      |                      | TGW     | 09/06/95 |          |
| 00324      | F1            |            | SIN -202-R1 | Filter               |                      |                      | TGW     | 09/06/95 |          |
| 00325      | F2            |            | SIN -202-R1 | FH Acetone Rinse     |                      |                      | TGW     | 09/06/95 |          |
| 00326      | F3            |            | SIN -202-R1 | Impinger contents    |                      |                      | TGW     | 09/06/95 |          |

FIELD SAMPLE LOG

Contract No. 95-576  
 Job I.D.  
 Test Method 5/202

Print Date 09/06/95  
 Page 2

| Sample No. | Container No. | Other I.D. | Run I.D.    | Sample Type          | Volume, ml no Rinses | Volume, ml w/ Rinses | Analyst | Date     | Comments |
|------------|---------------|------------|-------------|----------------------|----------------------|----------------------|---------|----------|----------|
| 00327      | F4            |            | SIN -202-R1 | Imp. Contents extra  |                      |                      | TGW     | 09/06/95 |          |
| 00328      | F5            |            | SIN -202-R1 | H2O Impinger Rinse   |                      |                      | TGW     | 09/06/95 |          |
| 00329      | F6            |            | SIN -202-R1 | MECL2 Impinger Rinse |                      |                      | TGW     | 09/06/95 |          |
| 00330      | F7            |            | SIN -202-R1 | Silica Gel           |                      |                      | TGW     | 09/06/95 |          |
| 00331      | F8            |            | SIN -202-R1 | TEDLAR BAG           |                      |                      | TGW     | 09/06/95 |          |
| 00332      | F1            |            | SIN -202-R2 | Filter               |                      |                      | TGW     | 09/06/95 |          |
| 00333      | F2            |            | SIN -202-R2 | FH Acetone Rinse     |                      |                      | TGW     | 09/06/95 |          |
| 00334      | F3            |            | SIN -202-R2 | Impinger contents    |                      |                      | TGW     | 09/06/95 |          |
| 00335      | F4            |            | SIN -202-R2 | Imp. Contents extra  |                      |                      | TGW     | 09/06/95 |          |
| 00336      | F5            |            | SIN -202-R2 | H2O Impinger Rinse   |                      |                      | TGW     | 09/06/95 |          |
| 00337      | F6            |            | SIN -202-R2 | MECL2 Impinger Rinse |                      |                      | TGW     | 09/06/95 |          |
| 00338      | F7            |            | SIN -202-R2 | Silica Gel           |                      |                      | TGW     | 09/06/95 |          |
| 00339      | F8            |            | SIN -202-R2 | TEDLAR BAG           |                      |                      | TGW     | 09/06/95 |          |
| 00340      | F1            |            | SIN -202-R3 | Filter               |                      |                      | TGW     | 09/06/95 |          |
| 00341      | F2            |            | SIN -202-R3 | FH Acetone Rinse     |                      |                      | TGW     | 09/06/95 |          |
| 00342      | F3            |            | SIN -202-R3 | Impinger contents    |                      |                      | TGW     | 09/06/95 |          |
| 00343      | F4            |            | SIN -202-R3 | Imp. Contents extra  |                      |                      | TGW     | 09/06/95 |          |
| 00344      | F5            |            | SIN -202-R3 | H2O Impinger Rinse   |                      |                      | TGW     | 09/06/95 |          |
| 00345      | F6            |            | SIN -202-R3 | MECL2 Impinger Rinse |                      |                      | TGW     | 09/06/95 |          |
| 00346      | F7            |            | SIN -202-R3 | Silica Gel           |                      |                      | TGW     | 09/06/95 |          |
| 00347      | F8            |            | SIN -202-R3 | TEDLAR BAG           |                      |                      | TGW     | 09/06/95 |          |
| 00380      | F1            | 95-0156    | RTO -202-R3 | Filter               |                      |                      | TGW     | 09/06/95 |          |
| 00381      | F2            |            | RTO -202-R3 | FH Acetone Rinse     |                      |                      | TGW     | 09/06/95 |          |
| 00382      | F3            |            | RTO -202-R3 | Impinger contents    |                      |                      | TGW     | 09/06/95 |          |
| 00383      | F4            |            | RTO -202-R3 | Imp. Contents extra  |                      |                      | TGW     | 09/06/95 |          |
| 00384      | F5            |            | RTO -202-R3 | H2O Impinger Rinse   |                      |                      | TGW     | 09/06/95 |          |
| 00385      | F6            |            | RTO -202-R3 | MECL2 Impinger Rinse |                      |                      | TGW     | 09/06/95 |          |

E T S , I N C .

F I E L D S A M P L E L O G

Contract No. 95-576  
 Job I.D.  
 Test Method 5/202

Print Date 09/06/95  
 Page 3

| Sample No. | Container No. | Other I.D. | Run I.D.    | Sample Type          | Volume, ml no Rinses | Volume, ml w/ Rinses | Analyst | Date     | Comments |
|------------|---------------|------------|-------------|----------------------|----------------------|----------------------|---------|----------|----------|
| 00386      | F7            |            | RTO -202-R3 | Silica Gel           |                      |                      | TGW     | 09/06/95 |          |
| 00387      | F8            |            | RTO -202-R3 | TEDLAR BAG           |                      |                      | TGW     | 09/06/95 |          |
| 00388      | F1            | 95-0155    | RTO -202-R2 | Filter               |                      |                      | TGW     | 09/06/95 |          |
| 00389      | F2            |            | RTO -202-R2 | FH Acetone Rinse     |                      |                      | TGW     | 09/06/95 |          |
| 00390      | F3            |            | RTO -202-R2 | Impinger contents    |                      |                      | TGW     | 09/06/95 |          |
| 00391      | F4            |            | RTO -202-R2 | Imp. Contents extra  |                      |                      | TGW     | 09/06/95 |          |
| 00392      | F5            |            | RTO -202-R2 | H2O Impinger Rinse   |                      |                      | TGW     | 09/06/95 |          |
| 00393      | F6            |            | RTO -202-R2 | MECL2 Impinger Rinse |                      |                      | TGW     | 09/06/95 |          |
| 00394      | F7            |            | RTO -202-R2 | Silica Gel           |                      |                      | TGW     | 09/06/95 |          |
| 00395      | F8            |            | RTO -202-R2 | TEDLAR BAG           |                      |                      | TGW     | 09/06/95 |          |
| 00396      | F1            | 95-0148    | RTO -202-R1 | Filter               |                      |                      | TGW     | 09/06/95 |          |
| 00397      | F2            |            | RTO -202-R1 | FH Acetone Rinse     |                      |                      | TGW     | 09/06/95 |          |
| 00398      | F3            |            | RTO -202-R1 | Impinger contents    |                      |                      | TGW     | 09/06/95 |          |
| 00399      | F4            |            | RTO -202-R1 | Imp. Contents extra  |                      |                      | TGW     | 09/06/95 |          |
| 00400      | F5            |            | RTO -202-R1 | H2O Impinger Rinse   |                      |                      | TGW     | 09/06/95 |          |
| 00401      | F6            |            | RTO -202-R1 | MECL2 Impinger Rinse |                      |                      | TGW     | 09/06/95 |          |
| 00402      | F7            |            | RTO -202-R1 | Silica Gel           |                      |                      | TGW     | 09/06/95 |          |
| 00403      | F8            |            | RTO -202-R1 | TEDLAR BAG           |                      |                      | TGW     | 09/06/95 |          |
| 00404      | F1            | 95-0157    | BLK -202-R0 | Filter               |                      |                      | TGW     | 09/06/95 |          |
| 00405      | F2            |            | BLK -202-R0 | FH Acetone Rinse     |                      |                      | TGW     | 09/06/95 |          |
| 00406      | F3            |            | BLK -202-R0 | Impinger contents    |                      |                      | TGW     | 09/06/95 |          |
| 00407      | F4            |            | BLK -202-R0 | Imp. Contents extra  |                      |                      | TGW     | 09/06/95 |          |
| 00408      | F5            |            | BLK -202-R0 | H2O Impinger Rinse   |                      |                      | TGW     | 09/06/95 |          |
| 00409      | F6            |            | BLK -202-R0 | MECL2 Impinger Rinse |                      |                      | TGW     | 09/06/95 |          |
| 00410      | F7            |            | BLK -202-R0 | Silica Gel           |                      |                      | TGW     | 09/06/95 |          |
| 00411      | F8            |            | BLK -202-R0 | TEDLAR BAG           |                      |                      | TGW     | 09/06/95 |          |

FIELD SAMPLE LOG

Contract No. 95-576

Job I.D.

Test Method 201A/202

Print Date 09/06/95

Page 1

Time 15:10:37

| Sample No. | Container No. | Other I.D. | Run I.D.    | Sample Type          | Volume, ml no Rinses | Volume, ml w/ Rinses | Analyst | Date     | Comments |
|------------|---------------|------------|-------------|----------------------|----------------------|----------------------|---------|----------|----------|
| 00521      | F1            | G95-0090   | RTO -1A2-R3 | FGLASS FILTER#       |                      |                      | TGW     | 09/06/95 |          |
| 00522      | F2            |            | RTO -1A2-R3 | >PM10 ACETONE RINSE  |                      |                      | TGW     | 09/06/95 |          |
| 00523      | F3            |            | RTO -1A2-R3 | <=PM10 ACETONE RINSE |                      |                      | TGW     | 09/06/95 |          |
| 00524      | F4            |            | RTO -1A2-R3 | IMPINGER CONTENTS    |                      |                      | TGW     | 09/06/95 |          |
| 00525      | F5            |            | RTO -1A2-R3 | IMP CONT EXTRA STORE |                      |                      | TGW     | 09/06/95 |          |
| 00526      | F6            |            | RTO -1A2-R3 | BACK HALF MeCL2      |                      |                      | TGW     | 09/06/95 |          |
| 00527      | F7            |            | RTO -1A2-R3 | SILICA GEL           |                      |                      | TGW     | 09/06/95 |          |
| 00528      | F1            | G95-0089   | RTO -1A2-R2 | FGLASS FILTER#       |                      |                      | TGW     | 09/06/95 |          |
| 00529      | F2            |            | RTO -1A2-R2 | >PM10 ACETONE RINSE  |                      |                      | TGW     | 09/06/95 |          |
| 00530      | F3            |            | RTO -1A2-R2 | <=PM10 ACETONE RINSE |                      |                      | TGW     | 09/06/95 |          |
| 00531      | F4            |            | RTO -1A2-R2 | IMPINGER CONTENTS    |                      |                      | TGW     | 09/06/95 |          |
| 00532      | F5            |            | RTO -1A2-R2 | IMP CONT EXTRA STORE |                      |                      | TGW     | 09/06/95 |          |
| 00533      | F6            |            | RTO -1A2-R2 | BACK HALF MeCL2      |                      |                      | TGW     | 09/06/95 |          |
| 00534      | F7            |            | RTO -1A2-R2 | SILICA GEL           |                      |                      | TGW     | 09/06/95 |          |
| 00535      | F1            | G95-0088   | RTO -1A2-R1 | FGLASS FILTER#       |                      |                      | TGW     | 09/06/95 |          |
| 00536      | F2            |            | RTO -1A2-R1 | >PM10 ACETONE RINSE  |                      |                      | TGW     | 09/06/95 |          |
| 00537      | F3            |            | RTO -1A2-R1 | <=PM10 ACETONE RINSE |                      |                      | TGW     | 09/06/95 |          |
| 00538      | F4            |            | RTO -1A2-R1 | IMPINGER CONTENTS    |                      |                      | TGW     | 09/06/95 |          |
| 00539      | F5            |            | RTO -1A2-R1 | IMP CONT EXTRA STORE |                      |                      | TGW     | 09/06/95 |          |
| 00540      | F6            |            | RTO -1A2-R1 | BACK HALF MeCL2      |                      |                      | TGW     | 09/06/95 |          |
| 00541      | F7            |            | RTO -1A2-R1 | SILICA GEL           |                      |                      | TGW     | 09/06/95 |          |
| 00549      | F1            | G95-0091   | BLK -1A2-R0 | FGLASS FILTER#       |                      |                      | TGW     | 09/06/95 |          |
| 00550      | F2            |            | BLK -1A2-R0 | >PM10 ACETONE RINSE  |                      |                      | TGW     | 09/06/95 |          |
| 00551      | F3            |            | BLK -1A2-R0 | <=PM10 ACETONE RINSE |                      |                      | TGW     | 09/06/95 |          |
| 00552      | F4            |            | BLK -1A2-R0 | IMPINGER CONTENTS    |                      |                      | TGW     | 09/06/95 |          |
| 00553      | F5            |            | BLK -1A2-R0 | IMP CONT EXTRA STORE |                      |                      | TGW     | 09/06/95 |          |
| 00554      | F6            |            | BLK -1A2-R0 | BACK HALF MeCL2      |                      |                      | TGW     | 09/06/95 |          |

E T S , I N C .

F I E L D S A M P L E L O G

Contract No. 95-576  
Job I.D.  
Test Method 201A/202

Print Date 09/06/95  
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| Sample No. | Container No. | Other I.D. | Run I.D.    | Sample Type | Volume, ml no Rinses | Volume, ml w/ Rinses | Analyst | Date     | Comments |
|------------|---------------|------------|-------------|-------------|----------------------|----------------------|---------|----------|----------|
| 00555      | F7            |            | BLK -1A2-R0 | SILICA GEL  |                      |                      | TGW     | 09/06/95 |          |

F I E L D S A M P L E L O G

Contract No. A95576  
 Job I.D.  
 Test Method 5/202

Print Date 09/21/95 Time 14:29:12  
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| Sample No. | Container No. | Other I.D. | Run I.D.    | Sample Type          | Volume, ml no Rinses | Volume, ml w/ Rinses | Analyst | Date     | Comments |
|------------|---------------|------------|-------------|----------------------|----------------------|----------------------|---------|----------|----------|
| 00100      | F1            | 95-0188    | KO -202-R1  | Filter               |                      |                      | TGW     | 09/21/95 |          |
| 00101      | F2            |            | KO -202-R1  | FH Acetone Rinse     |                      |                      | TGW     | 09/21/95 |          |
| 00102      | F3            |            | KO -202-R1  | Impinger contents    |                      |                      | TGW     | 09/21/95 |          |
| 00103      | F4            |            | KO -202-R1  | Imp. Contents extra  |                      |                      | TGW     | 09/21/95 |          |
| 00104      | F5            |            | KO -202-R1  | H2O Impinger Rinse   |                      |                      | TGW     | 09/21/95 |          |
| 00105      | F6            |            | KO -202-R1  | MECL2 Impinger Rinse |                      |                      | TGW     | 09/21/95 |          |
| 00106      | F7            |            | KO -202-R1  | Silica Gel           |                      |                      | TGW     | 09/21/95 |          |
| 00107      | F8            |            | KO -202-R1  | TEDLAR BAG           |                      |                      | TGW     | 09/21/95 |          |
| 00108      | F1            | 95-0189    | KO -202-R2  | Filter               |                      |                      | TGW     | 09/21/95 |          |
| 00109      | F2            |            | KO -202-R2  | FH Acetone Rinse     |                      |                      | TGW     | 09/21/95 |          |
| 00110      | F3            |            | KO -202-R2  | Impinger contents    |                      |                      | TGW     | 09/21/95 |          |
| 00111      | F4            |            | KO -202-R2  | Imp. Contents extra  |                      |                      | TGW     | 09/21/95 |          |
| 00112      | F5            |            | KO -202-R2  | H2O Impinger Rinse   |                      |                      | TGW     | 09/21/95 |          |
| 00113      | F6            |            | KO -202-R2  | MECL2 Impinger Rinse |                      |                      | TGW     | 09/21/95 |          |
| 00114      | F7            |            | KO -202-R2  | Silica Gel           |                      |                      | TGW     | 09/21/95 |          |
| 00115      | F8            |            | KO -202-R2  | TEDLAR BAG           |                      |                      | TGW     | 09/21/95 |          |
| 00116      | F1            | 95-0190    | KO -202-R3  | Filter               |                      |                      | TGW     | 09/21/95 |          |
| 00117      | F2            |            | KO -202-R3  | FH Acetone Rinse     |                      |                      | TGW     | 09/21/95 |          |
| 00118      | F3            |            | KO -202-R3  | Impinger contents    |                      |                      | TGW     | 09/21/95 |          |
| 00119      | F4            |            | KO -202-R3  | Imp. Contents extra  |                      |                      | TGW     | 09/21/95 |          |
| 00120      | F5            |            | KO -202-R3  | H2O Impinger Rinse   |                      |                      | TGW     | 09/21/95 |          |
| 00121      | F6            |            | KO -202-R3  | MECL2 Impinger Rinse |                      |                      | TGW     | 09/21/95 |          |
| 00122      | F7            |            | KO -202-R3  | Silica Gel           |                      |                      | TGW     | 09/21/95 |          |
| 00123      | F8            |            | KO -202-R3  | TEDLAR BAG           |                      |                      | TGW     | 09/21/95 |          |
| 00124      | F1            | 95-0151    | BLK -202-R0 | Filter               |                      |                      | TGW     | 09/21/95 |          |
| 00125      | F2            |            | BLK -202-R0 | FH Acetone Rinse     |                      |                      | TGW     | 09/21/95 |          |
| 00126      | F3            |            | BLK -202-R0 | Impinger contents    |                      |                      | TGW     | 09/21/95 |          |

ETS, INC.

F I E L D S A M P L E L O G

Contract No. A95576  
 Job I.D.  
 Test Method 5/202

Print Date 09/21/95  
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| Sample No. | Container No. | Other I.D. | Run I.D.    | Sample Type          | Volume, ml no Rinses | Volume, ml w/ Rinses | Analyst | Date     | Comments |
|------------|---------------|------------|-------------|----------------------|----------------------|----------------------|---------|----------|----------|
| 00127      | F4            |            | BLK -202-R0 | Imp. Contents extra  |                      |                      | TGW     | 09/21/95 |          |
| 00128      | F5            |            | BLK -202-R0 | H2O Impinger Rinse   |                      |                      | TGW     | 09/21/95 |          |
| 00129      | F6            |            | BLK -202-R0 | MECL2 Impinger Rinse |                      |                      | TGW     | 09/21/95 |          |
| 00130      | F7            |            | BLK -202-R0 | Silica Gel           |                      |                      | TGW     | 09/21/95 |          |
| 00131      | F8            |            | BLK -202-R0 | TEDLAR BAG           |                      |                      | TGW     | 09/21/95 |          |

F I E L D S A M P L E L O G

Contract No. A95576  
 Job I.D.  
 Test Method 201A

Print Date 09/21/95 Time 14:18:18  
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| Sample No. | Container No. | Other I.D. | Run I.D.    | Sample Type          | Volume, ml no Rinses | Volume, ml w/ Rinses | Analyst | Date     | Comments |
|------------|---------------|------------|-------------|----------------------|----------------------|----------------------|---------|----------|----------|
| 00200      | F1            | G95-0082   | KO -201-R1  | Gelman Filter#       |                      |                      | TGW     | 09/21/95 |          |
| 00201      | F2            |            | KO -201-R1  | >=PM10 Acetone Rinse |                      |                      | TGW     | 09/21/95 |          |
| 00202      | F3            |            | KO -201-R1  | <=PM10 Acetone Rinse |                      |                      | TGW     | 09/21/95 |          |
| 00203      | F4            |            | KO -201-R1  | Impinger Liquids     |                      |                      | TGW     | 09/21/95 |          |
| 00204      | F5            |            | KO -201-R1  | Imp. 4 Silica Gel    |                      |                      | TGW     | 09/21/95 |          |
| 00205      | F6            |            | KO -201-R1  | TEDLAR BAG           |                      |                      | TGW     | 09/21/95 |          |
| 00206      | F1            | G95-0083   | KO -201-R2  | Gelman Filter#       |                      |                      | TGW     | 09/21/95 |          |
| 00207      | F2            |            | KO -201-R2  | >=PM10 Acetone Rinse |                      |                      | TGW     | 09/21/95 |          |
| 00208      | F3            |            | KO -201-R2  | <=PM10 Acetone Rinse |                      |                      | TGW     | 09/21/95 |          |
| 00209      | F4            |            | KO -201-R2  | Impinger Liquids     |                      |                      | TGW     | 09/21/95 |          |
| 00210      | F5            |            | KO -201-R2  | Imp. 4 Silica Gel    |                      |                      | TGW     | 09/21/95 |          |
| 00211      | F6            |            | KO -201-R2  | TEDLAR BAG           |                      |                      | TGW     | 09/21/95 |          |
| 00212      | F1            | G95-0084   | KO -201-R3  | Gelman Filter#       |                      |                      | TGW     | 09/21/95 |          |
| 00213      | F2            |            | KO -201-R3  | >=PM10 Acetone Rinse |                      |                      | TGW     | 09/21/95 |          |
| 00214      | F3            |            | KO -201-R3  | <=PM10 Acetone Rinse |                      |                      | TGW     | 09/21/95 |          |
| 00215      | F4            |            | KO -201-R3  | Impinger Liquids     |                      |                      | TGW     | 09/21/95 |          |
| 00216      | F5            |            | KO -201-R3  | Imp. 4 Silica Gel    |                      |                      | TGW     | 09/21/95 |          |
| 00217      | F6            |            | KO -201-R3  | TEDLAR BAG           |                      |                      | TGW     | 09/21/95 |          |
| 00218      | F1            | G95-0085   | BLK -201-R0 | Gelman Filter#       |                      |                      | TGW     | 09/21/95 |          |
| 00219      | F2            |            | BLK -201-R0 | >=PM10 Acetone Rinse |                      |                      | TGW     | 09/21/95 |          |
| 00220      | F3            |            | BLK -201-R0 | <=PM10 Acetone Rinse |                      |                      | TGW     | 09/21/95 |          |
| 00221      | F4            |            | BLK -201-R0 | Impinger Liquids     |                      |                      | TGW     | 09/21/95 |          |
| 00222      | F5            |            | BLK -201-R0 | Imp. 4 Silica Gel    |                      |                      | TGW     | 09/21/95 |          |
| 00223      | F6            |            | BLK -201-R0 | TEDLAR BAG           |                      |                      | TGW     | 09/21/95 |          |



ETS, Inc.  
GRAVIMETRIC LABORATORY DATA  
Final Beaker Weights

Job Number: 95-576

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| Beaker #<br>Filter #<br>Sample #<br>Run I.D.<br>Total Vol., ml<br>Aliquot Vol. | Constant<br>Tare<br>Weight (g)<br><br>Beaker<br>Filter | Final Weight Data                            |                                  |  |                          | Constant<br>Final<br>Weight (g) |
|--|--|--|----------------------------------|--|--------------------------|---------------------------------|
|  |  | Date   | Time                             | Weight (g)                                   | Analyst                  |                                 |
| 09/06/95-012<br>95-0145<br>95-576-00300<br>SOU -202-R1                         | 65.78090<br>0.41060                                    | 09/12/95<br>09/13/95                         | 16:04<br>09:44                   | 66.29740<br>66.29780                         | TGW<br>TGW               | 66.29780                        |
| 09/06/95-013<br>95-576-00301<br>SOU -202-R1<br>115.00000<br>115.00000          | 64.45940<br>0.00000                                    | 09/12/95<br>09/13/95<br>09/13/95<br>09/14/95 | 16:05<br>09:44<br>17:38<br>10:04 | 64.46390<br>64.46270<br>64.46330<br>64.46290 | TGW<br>TGW<br>TGW<br>TGW | 64.46290                        |
| 09/06/95-030<br>95-576-00302<br>SOU -202-R1<br>600.00000<br>600.00000          | 66.86740<br>0.00000                                    | 09/13/95<br>09/14/95<br>09/14/95             | 17:40<br>10:06<br>16:58          | 66.87870<br>66.87790<br>66.87830             | TGW<br>TGW<br>TGW        | 66.87830                        |
| 09/06/95-031<br>95-576-00305<br>SOU -202-R1<br>210.00000<br>210.00000          | 64.96070<br>0.00000                                    | 09/12/95<br>09/13/95<br>09/13/95             | 16:11<br>09:47<br>17:41          | 64.96960<br>64.96890<br>64.96880             | TGW<br>TGW<br>TGW        | 64.96880                        |
| 09/06/95-014<br>95-0146<br>95-576-00308<br>SOU -202-R2                         | 66.09290<br>0.41080                                    | 09/12/95<br>09/13/95                         | 16:05<br>09:44                   | 66.60130<br>66.60130                         | TGW<br>TGW               | 66.60130                        |

ETS, Inc.  
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Final Beaker Weights

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| Beaker #<br>Filter #<br>Sample #<br>Run I.D.<br>Total Vol., ml<br>Aliquot Vol. | Constant<br>Tare<br>Weight (g)<br><br>Beaker<br>Filter | Final Weight Data |       |            |         | Constant<br>Final<br>Weight (g) |
|--|--|-------------------|-------|------------|---------|---------------------------------|
|  |  | Date              | Time  | Weight (g) | Analyst |                                 |
| 09/06/95-015<br><br>95-576-00309<br>SOU -202-R2<br>135.00000<br>135.00000      | 67.81360<br>0.00000                                    | 09/12/95          | 16:05 | 67.82080   | TGW     | 67.82030                        |
|  |  | 09/13/95          | 09:44 | 67.81940   | TGW     |                                 |
|  |  | 09/13/95          | 17:39 | 67.82010   | TGW     |                                 |
|  |  | 09/14/95          | 10:04 | 67.82030   | TGW     |                                 |
| 09/06/95-032<br><br>95-576-00310<br>SOU -202-R2<br>670.00000<br>670.00000      | 66.26140<br>0.00000                                    | 09/13/95          | 17:41 | 66.26770   | TGW     | 66.26740                        |
|  |  | 09/14/95          | 09:14 | 66.26740   | TGW     |                                 |
| 09/06/95-033<br><br>95-576-00313<br>SOU -202-R2<br>190.00000<br>190.00000      | 65.00220<br>0.00000                                    | 09/12/95          | 16:12 | 65.00710   | TGW     | 65.00620                        |
|  |  | 09/13/95          | 09:47 | 65.00620   | TGW     |                                 |
|  |  | 09/13/95          | 17:41 | 65.00620   | TGW     |                                 |
| 09/06/95-016<br>95-0147<br>95-576-00316<br>SOU -202-R3                         | 64.56110<br>0.40810                                    | 09/12/95          | 16:05 | 65.10770   | TGW     | 65.10810                        |
|  |  | 09/13/95          | 09:44 | 65.10810   | TGW     |                                 |
| 09/06/95-017<br><br>95-576-00317<br>SOU -202-R3<br>110.00000<br>110.00000      | 67.21800<br>0.00000                                    | 09/12/95          | 16:05 | 67.22110   | TGW     | 67.22100                        |
|  |  | 09/13/95          | 09:45 | 67.22100   | TGW     |                                 |

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Final Beaker Weights

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| Beaker #<br>Filter #<br>Sample #<br>Run I.D.<br>Total Vol., ml<br>Aliquot Vol. | Constant<br>Tare<br>Weight (g)<br><br>Beaker<br>Filter | Final Weight Data |       |            |         | Constant<br>Final<br>Weight (g) |
|--|--|-------------------|-------|------------|---------|---------------------------------|
|  |  | Date              | Time  | Weight (g) | Analyst |                                 |
| 09/06/95-034<br><br>95-576-00318<br>SOU -202-R3<br>660.00000<br>660.00000      | 66.64450<br>0.00000                                    | 09/13/95          | 17:41 | 66.65230   | TGW     | 66.65220                        |
|  |  | 09/14/95          | 09:15 | 66.65220   | TGW     |                                 |
| 09/06/95-035<br><br>95-576-00321<br>SOU -202-R3<br>210.00000<br>210.00000      | 67.36500<br>0.00000                                    | 09/12/95          | 16:12 | 67.37190   | TGW     | 67.37110                        |
|  |  | 09/13/95          | 09:47 | 67.37090   | TGW     |                                 |
| 09/06/95-026<br>95-0194<br>95-576-00324<br>SIN -202-R1                         | 64.43580<br>0.41230                                    | 09/12/95          | 16:09 | 65.21600   | TGW     | 65.22030                        |
|  |  | 09/13/95          | 09:46 | 65.21760   | TGW     |                                 |
| 09/06/95-044<br><br>95-576-00326<br>SIN -202-R1<br>850.00000<br>850.00000      | 64.22090<br>0.00000                                    | 09/13/95          | 17:40 | 65.22000   | TGW     | 65.22030                        |
|  |  | 09/14/95          | 10:05 | 65.22030   | TGW     |                                 |
| 09/06/95-045<br><br>95-576-00329<br>SIN -202-R1<br>350.00000<br>350.00000      | 64.22090<br>0.00000                                    | 09/14/95          | 10:08 | 64.38250   | TGW     | 64.38300                        |
|  |  | 09/14/95          | 16:58 | 64.38300   | TGW     |                                 |
| 09/06/95-045<br><br>95-576-00329<br>SIN -202-R1<br>350.00000<br>350.00000      | 67.32150<br>0.00000                                    | 09/12/95          | 16:14 | 67.44750   | TGW     | 67.44770                        |
|  |  | 09/13/95          | 09:49 | 67.44770   | TGW     |                                 |

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Job Number: 95-576

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| Beaker #<br>Filter #<br>Sample #<br>Run I.D.<br>Total Vol., ml<br>Aliquot Vol. | Constant<br>Tare<br>Weight (g)<br><br>Beaker<br>Filter | Final Weight Data                            |                                  |  |                          | Constant<br>Final<br>Weight (g) |
|--|--|--|----------------------------------|--|--------------------------|---------------------------------|
|  |  | Date   | Time                             | Weight (g)                                   | Analyst                  |                                 |
| 09/06/95-027<br>95-0195<br>95-576-00332<br>SIN -202-R2                         | 66.49630<br>0.41260                                    | 09/12/95<br>09/13/95                         | 16:09<br>09:46                   | 67.30730<br>66.30750                         | TGW<br>TGW               | 67.30750                        |
| 09/06/95-046<br>95-576-00334<br>SIN -202-R2<br>670.00000<br>670.00000          | 66.96230<br>0.00000                                    | 09/13/95<br>09/14/95                         | 17:43<br>10:08                   | 67.05500<br>67.05520                         | TGW<br>TGW               | 67.05520                        |
| 09/06/95-047<br>95-576-00337<br>SIN -202-R2<br>300.00000<br>300.00000          | 66.62190<br>0.00000                                    | 09/12/95<br>09/13/95                         | 16:14<br>09:49                   | 66.65510<br>66.65500                         | TGW<br>TGW               | 66.65500                        |
| 09/06/95-028<br>95-0196<br>95-576-00340<br>SIN -202-R3                         | 67.03750<br>0.41190                                    | 09/12/95<br>09/13/95<br>09/13/95<br>09/14/95 | 16:11<br>09:46<br>17:40<br>10:06 | 67.90740<br>67.90860<br>67.91390<br>67.91350 | TGW<br>TGW<br>TGW<br>TGW | 67.91350                        |
| 09/06/95-029<br>95-0197<br>95-576-00341<br>SIN - -R3                           | 67.06080<br>0.41090                                    | 09/12/95<br>09/13/95                         | 16:11<br>09:47                   | 67.74040<br>67.74090                         | TGW<br>TGW               | 67.74090                        |

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GRAVIMETRIC LABORATORY DATA  
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Job Number: 95-576

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| Beaker #<br>Filter #<br>Sample #<br>Run I.D.<br>Total Vol., ml<br>Aliquot Vol. | Constant<br>Tare<br>Weight (g)<br><br>Beaker<br>Filter | Final Weight Data |       |            |         | Constant<br>Final<br>Weight (g) |
|--|--|-------------------|-------|------------|---------|---------------------------------|
|  |  | Date              | Time  | Weight (g) | Analyst |                                 |
| 09/06/95-048   | 67.27180   | 09/13/95          | 17:43 | 67.44430   | TGW     | 67.44570                        |
|  | 0.00000  | 09/14/95          | 10:08 | 67.44530   | TGW     |                                 |
| 95-576-00342<br>SIN -202-R3<br>720.00000<br>720.00000                          |  | 09/14/95          | 16:59 | 67.44570   | TGW     |                                 |
| 06/21/95-045   | 64.91790   | 09/13/95          | 09:50 | 64.97460   | TGW     | 64.97480                        |
|  | 0.00000  | 09/13/95          | 17:44 | 64.97480   | TGW     |                                 |
| 95-576-00345<br>SIN -202-R3<br>300.00000<br>300.00000                          |  |                   |       |            |         |                                 |
| 09/06/95-022   | 66.44180   | 09/12/95          | 16:06 | 66.85460   | TGW     | 66.85410                        |
|  | 0.40610  | 09/13/95          | 09:45 | 66.85410   | TGW     |                                 |
| 95-0156<br>95-576-00380<br>RTO -202-R3   |  |                   |       |            |         |                                 |
| 09/06/95-023   | 66.85380   | 09/12/95          | 16:07 | 66.85920   | TGW     | 66.85830                        |
|  | 0.00000  | 09/13/95          | 09:46 | 66.85820   | TGW     |                                 |
| 95-576-00381<br>RTO -202-R3<br>95.00000<br>95.00000                            |  | 09/13/95          | 17:39 | 66.85830   | TGW     |                                 |
| 09/06/95-040   | 67.15150   | 09/13/95          | 09:48 | 67.15450   | TGW     | 67.15460                        |
|  | 0.00000  | 09/13/95          | 17:42 | 67.15460   | TGW     |                                 |
| 95-576-00382<br>RTO -202-R3<br>650.00000<br>650.00000                          |  |                   |       |            |         |                                 |

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| Beaker #<br>Filter #<br>Sample #<br>Run I.D.<br>Total Vol., ml<br>Aliquot Vol. | Constant<br>Tare<br>Weight (g)<br><br>Beaker<br>Filter | Final Weight Data                |                         |                                  |                   | Constant<br>Final<br>Weight (g) |
|--|--|----------------------------------|-------------------------|----------------------------------|-------------------|---------------------------------|
|  |  | Date                             | Time                    | Weight (g)                       | Analyst           |                                 |
| 09/06/95-041<br><br>95-576-00385<br>RTO -202-R3<br>270.00000<br>270.00000      | 65.04520<br>0.00000                                    | 09/12/95<br>09/13/95             | 16:13<br>09:48          | 65.04820<br>65.04770             | TGW<br>TGW        | 65.04770                        |
| 09/06/95-020<br>95-0155<br>95-576-00388<br>RTO -202-R2                         | 64.64690<br>0.40760                                    | 09/12/95<br>09/13/95             | 16:06<br>09:45          | 65.06090<br>65.06040             | TGW<br>TGW        | 65.06040                        |
| 09/06/95-021<br><br>95-576-00389<br>RTO -202-R2<br>85.00000<br>85.00000        | 66.80200<br>0.00000                                    | 09/12/95<br>09/13/95             | 16:06<br>09:45          | 66.80830<br>66.80780             | TGW<br>TGW        | 66.80780                        |
| 09/06/95-038<br><br>95-576-00390<br>RTO -202-R2<br>570.00000<br>570.00000      | 67.24870<br>0.00000                                    | 09/13/95<br>09/13/95<br>09/14/95 | 09:48<br>17:42<br>10:07 | 67.25460<br>67.25480<br>67.25480 | TGW<br>TGW<br>TGW | 67.25480                        |
| 09/06/95-039<br><br>95-576-00393<br>RTO -202-R2<br>240.00000<br>240.00000      | 67.17870<br>0.00000                                    | 09/12/95<br>09/13/95<br>09/13/95 | 16:13<br>09:48<br>17:42 | 67.18270<br>67.18180<br>67.18190 | TGW<br>TGW<br>TGW | 67.18190                        |

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| Beaker #<br>Filter #<br>Sample #<br>Run I.D.<br>Total Vol., ml<br>Aliquot Vol. | Constant<br>Tare<br>Weight (g)<br><br>Beaker<br>Filter | Final Weight Data                |                         |                                  |                   | Constant<br>Final<br>Weight (g) |
|--|--|----------------------------------|-------------------------|----------------------------------|-------------------|---------------------------------|
|  |  | Date                             | Time                    | Weight (g)                       | Analyst           |                                 |
| 09/06/95-018<br>95-0148<br>95-576-00396<br>RTO -202-R1                         | 66.76150<br>0.40660                                    | 09/12/95<br>09/13/95             | 16:05<br>09:45          | 67.17600<br>67.17570             | TGW<br>TGW        | 67.17570                        |
| 09/06/95-019<br><br>95-576-00397<br>RTO -202-R1<br>90.00000<br>90.00000        | 65.12170<br>0.00000                                    | 09/12/95<br>09/13/95             | 16:06<br>09:45          | 65.12620<br>65.12570             | TGW<br>TGW        | 65.12570                        |
| 09/06/95-036<br><br>95-576-00398<br>RTO -202-R1<br>660.00000<br>660.00000      | 64.14820<br>0.00000                                    | 09/13/95<br>09/14/95             | 17:41<br>10:07          | 64.15460<br>64.15480             | TGW<br>TGW        | 64.15480                        |
| 09/06/95-037<br><br>95-576-00401<br>RTO -202-R1<br>265.00000<br>265.00000      | 67.87070<br>0.00000                                    | 09/12/95<br>09/13/95<br>09/13/95 | 16:13<br>09:48<br>17:42 | 67.87390<br>67.87320<br>67.87360 | TGW<br>TGW<br>TGW | 67.87360                        |
| 09/06/95-024<br>95-0157<br>95-576-00404<br>BLK -202-R0                         | 64.38620<br>0.40330                                    | 09/12/95<br>09/13/95<br>09/13/95 | 16:08<br>09:46<br>17:40 | 64.79140<br>64.79070<br>64.79080 | TGW<br>TGW<br>TGW | 64.79080                        |

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| Beaker #<br>Filter #<br>Sample #<br>Run I.D.<br>Total Vol., ml<br>Aliquot Vol. | Constant<br>Tare<br>Weight (g)<br><br>Beaker<br>Filter | Final Weight Data |       |            |         | Constant<br>Final<br>Weight (g) |
|--|--|-------------------|-------|------------|---------|---------------------------------|
|  |  | Date              | Time  | Weight (g) | Analyst |                                 |
| 09/06/95-025<br><br>95-576-00405<br>BLK -202-R0<br>125.00000<br>125.00000      | 64.57250<br>0.00000                                    | 09/12/95          | 16:09 | 64.57460   | TGW     | 64.57410                        |
|  |  | 09/13/95          | 09:46 | 64.57390   | TGW     |                                 |
|  |  | 09/13/95          | 17:40 | 64.57410   | TGW     |                                 |
| 09/06/95-042<br><br>95-576-00406<br>BLK -202-R0<br>300.00000<br>300.00000      | 66.83840<br>0.00000                                    | 09/12/95          | 16:13 | 66.84100   | TGW     | 66.84060                        |
|  |  | 09/13/95          | 09:48 | 66.84060   | TGW     |                                 |
|  |  |                   |       |            |         |                                 |
| 09/06/95-043<br><br>95-576-00409<br>BLK -202-R0<br>150.00000<br>150.00000      | 67.01750<br>0.00000                                    | 09/12/95          | 16:14 | 67.01790   | TGW     | 67.01810                        |
|  |  | 09/13/95          | 09:49 | 67.01810   | TGW     |                                 |
|  |  |                   |       |            |         |                                 |
| 09/06/95-007<br>G95-0090<br>95-576-00521<br>RTO -1A2-R3                        | 67.23060<br>0.51650                                    | 09/12/95          | 16:03 | 67.74970   | TGW     | 67.74900                        |
|  |  | 09/13/95          | 09:43 | 67.74870   | TGW     |                                 |
|  |  | 09/13/95          | 17:37 | 67.74900   | TGW     |                                 |
| 09/06/95-008<br><br>95-576-00522<br>RTO -1A2-R3<br>120.00000<br>120.00000      | 64.22210<br>0.00000                                    | 09/12/95          | 16:03 | 64.23110   | TGW     | 64.23010                        |
|  |  | 09/13/95          | 09:43 | 64.23000   | TGW     |                                 |
|  |  | 09/13/95          | 17:37 | 64.23010   | TGW     |                                 |



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| Beaker #<br>Filter #<br>Sample #<br>Run I.D.<br>Total Vol., ml<br>Aliquot Vol. | Constant<br>Tare<br>Weight (g)<br><br>Beaker<br>Filter | Final Weight Data |       |            |         | Constant<br>Final<br>Weight (g) |
|--|--|-------------------|-------|------------|---------|---------------------------------|
|  |  | Date              | Time  | Weight (g) | Analyst |                                 |
| 09/06/95-009   | 65.11100   | 09/12/95          | 16:04 | 65.11270   | TGW     | 65.11250                        |
|  | 0.00000  | 09/13/95          | 09:43 | 65.11180   | TGW     |                                 |
| 95-576-00523   |  | 09/13/95          | 17:37 | 65.11220   | TGW     |                                 |
| RTO -1A2-R3  |  | 09/14/95          | 10:04 | 65.11250   | TGW     |                                 |
| 120.00000<br>120.00000   |  |                   |       |            |         |                                 |
| 09/06/95-004   | 67.04480   | 09/12/95          | 16:03 | 67.55830   | TGW     | 67.55850                        |
| G95-0089   | 0.51240  | 09/13/95          | 09:43 | 67.55850   | TGW     |                                 |
| 95-576-00528<br>RTO -1A2-R2  |  |                   |       |            |         |                                 |
| 09/06/95-005   | 70.04010   | 09/12/95          | 16:03 | 70.04400   | TGW     | 70.04360                        |
|  | 0.00000  | 09/13/95          | 09:43 | 70.04290   | TGW     |                                 |
| 95-576-00529   |  | 09/13/95          | 17:37 | 70.04360   | TGW     |                                 |
| RTO -1A2-R2  |  | 09/14/95          | 10:03 | 70.04360   | TGW     |                                 |
| 90.00000<br>90.00000   |  |                   |       |            |         |                                 |
| 09/06/95-006   | 65.94360   | 09/12/95          | 16:03 | 65.94590   | TGW     | 65.94530                        |
|  | 0.00000  | 09/13/95          | 09:43 | 65.94510   | TGW     |                                 |
| 95-576-00530   |  | 09/13/95          | 17:37 | 65.94530   | TGW     |                                 |
| RTO -1A2-R2<br>80.00000<br>80.00000  |  |                   |       |            |         |                                 |
| 09/06/95-001   | 66.59850   | 09/12/95          | 16:02 | 67.10760   | TGW     | 67.10780                        |
| G95-0088   | 0.50810  | 09/13/95          | 09:42 | 67.10780   | TGW     |                                 |
| 95-576-00535<br>RTO -1A2-R1  |  |                   |       |            |         |                                 |

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| Beaker #<br>Filter #<br>Sample #<br>Run I.D.<br>Total Vol., ml<br>Aliquot Vol. | Constant<br>Tare<br>Weight (g)<br><br>Beaker<br>Filter | Final Weight Data |       |            |         | Constant<br>Final<br>Weight (g) |
|--|--|-------------------|-------|------------|---------|---------------------------------|
|  |  | Date              | Time  | Weight (g) | Analyst |                                 |
| 09/06/95-002<br><br>95-576-00536<br>RTO -1A2-R1<br>60.00000<br>60.00000        | 67.31570<br>0.00000                                    | 09/12/95          | 16:02 | 67.32130   | TGW     | 67.32080                        |
|  |  | 09/13/95          | 09:42 | 67.32060   | TGW     |                                 |
|  |  | 09/13/95          | 17:36 | 67.32080   | TGW     |                                 |
| 09/06/95-003<br><br>95-576-00537<br>RTO -1A2-R1<br>110.00000<br>110.00000      | 65.20730<br>0.00000                                    | 09/12/95          | 16:02 | 65.20920   | TGW     | 65.20870                        |
|  |  | 09/13/95          | 09:42 | 65.20820   | TGW     |                                 |
|  |  | 09/13/95          | 17:36 | 65.20870   | TGW     |                                 |
| 09/06/95-010<br>G95-0091<br>95-576-00549<br>BLK -1A2-R0                        | 64.86430<br>0.51610                                    | 09/12/95          | 16:04 | 65.38180   | TGW     | 65.38070                        |
|  |  | 09/13/95          | 09:43 | 65.38080   | TGW     |                                 |
|  |  | 09/13/95          | 17:38 | 65.38070   | TGW     |                                 |
| 09/06/95-011<br><br>95-576-00550<br>BLK -1A2-R0<br>125.00000<br>125.00000      | 67.19880<br>0.00000                                    | 09/12/95          | 16:04 | 67.20100   | TGW     | 67.20010                        |
|  |  | 09/13/95          | 09:44 | 67.20000   | TGW     |                                 |
|  |  | 09/13/95          | 17:38 | 67.20010   | TGW     |                                 |

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| Beaker #<br>Filter #<br>Sample #<br>Run I.D.<br>Total Vol., ml<br>Aliquot Vol. | Constant<br>Tare<br>Weight (g)<br><br>Beaker<br>Filter | Final Weight Data |       |            |         | Constant<br>Final<br>Weight (g) |
|--|--|-------------------|-------|------------|---------|---------------------------------|
|  |  | Date              | Time  | Weight (g) | Analyst |                                 |
| 09/21/95-034<br>95-0188<br>A95576-00100<br>KO -202-R1                          | 63.93390   | 09/25/95          | 15:11 | 64.33800   | TGW     | 64.33800                        |
|  | 0.39760  | 09/26/95          | 09:40 | 64.33800   | TGW     |                                 |
| 09/21/95-035<br><br>A95576-00101<br>KO -202-R1<br>125.00000<br>125.00000       | 67.49010   | 09/25/95          | 15:11 | 67.49100   | TGW     | 67.49100                        |
|  | 0.00000  | 09/26/95          | 09:40 | 67.49100   | TGW     |                                 |
| 09/21/95-045<br><br>A95576-00102<br>KO -202-R1<br>420.00000<br>420.00000       | 65.08520   | 09/29/95          | 09:32 | 65.12910   | TGW     | 65.13240                        |
|  | 0.00000  | 10/03/95          | 13:39 | 65.13200   | TGW     |                                 |
|  |  | 10/04/95          | 08:37 | 65.13240   | TGW     |                                 |
| 09/21/95-044<br><br>A95576-00105<br>KO -202-R1<br>290.00000<br>290.00000       | 67.03260   | 09/29/95          | 09:32 | 67.03710   | TGW     | 67.03750                        |
|  | 0.00000  | 10/03/95          | 13:39 | 67.03750   | TGW     |                                 |
| 09/21/95-036<br>95-0189<br>A95576-00108<br>KO -202-R2                          | 64.03960   | 09/25/95          | 15:11 | 64.44000   | TGW     | 64.44010                        |
|  | 0.39860  | 09/26/95          | 09:40 | 64.44010   | TGW     |                                 |

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| Beaker #<br>Filter #<br>Sample #<br>Run I.D.<br>Total Vol., ml<br>Aliquot Vol. | Constant<br>Tare<br>Weight (g)<br><br>Beaker<br>Filter | Final Weight Data                |                         |                                  | Analyst           | Constant<br>Final<br>Weight (g) |
|--|--|----------------------------------|-------------------------|----------------------------------|-------------------|---------------------------------|
|  |  | Date                             | Time                    | Weight (g)                       |                   |                                 |
| 09/21/95-037<br><br>A95576-00109<br>KO -202-R2<br>125.00000<br>125.00000       | 67.51430<br>0.00000                                    | 09/25/95<br>09/26/95             | 15:11<br>09:41          | 67.51610<br>67.51610             | TGW<br>TGW        | 67.51610                        |
| 09/21/95-047<br><br>A95576-00110<br>KO -202-R2<br>410.00000<br>410.00000       | 64.84070<br>0.00000                                    | 09/29/95<br>10/03/95<br>10/04/95 | 09:32<br>13:39<br>08:38 | 64.87240<br>64.87460<br>64.87480 | TGW<br>TGW<br>TGW | 64.87480                        |
| 09/21/95-046<br><br>A95576-00113<br>KO -202-R2<br>270.00000<br>270.00000       | 67.80600<br>0.00000                                    | 09/29/95<br>10/03/95<br>10/04/95 | 09:32<br>13:39<br>08:37 | 67.81110<br>67.81200<br>67.81180 | TGW<br>TGW<br>TGW | 67.81180                        |
| 09/21/95-038<br>95-0190<br>A95576-00116<br>KO -202-R3                          | 67.30770<br>0.40020                                    | 09/25/95<br>09/26/95             | 15:12<br>09:41          | 67.70890<br>67.70900             | TGW<br>TGW        | 67.70900                        |
| 09/21/95-039<br><br>A95576-00117<br>KO -202-R3<br>110.00000<br>110.00000       | 67.13490<br>0.00000                                    | 09/25/95<br>09/26/95             | 15:12<br>09:41          | 67.13740<br>67.13710             | TGW<br>TGW        | 67.13710                        |

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| Beaker #<br>Filter #<br>Sample #<br>Run I.D.<br>Total Vol., ml<br>Aliquot Vol. | Constant<br>Tare<br>Weight (g)<br><br>Beaker<br>Filter | Final Weight Data |       |            |         | Constant<br>Final<br>Weight (g) |
|--|--|-------------------|-------|------------|---------|---------------------------------|
|  |  | Date              | Time  | Weight (g) | Analyst |                                 |
| 08/08/95-048<br><br>A95576-00118<br>KO -202-R3<br>390.00000<br>390.00000       | 66.35740<br>0.00000                                    | 09/29/95          | 09:32 | 66.36300   | TGW     | 66.36390                        |
|  |  | 10/03/95          | 13:40 | 66.36390   | TGW     |                                 |
|  |  | 10/04/95          | 08:38 | 66.36390   | TGW     |                                 |
| 09/21/95-048<br><br>A95576-00121<br>KO -202-R3<br>300.00000<br>300.00000       | 66.94710<br>0.00000                                    | 09/29/95          | 09:32 | 66.94900   | TGW     | 66.94970                        |
|  |  | 10/03/95          | 13:40 | 66.94970   | TGW     |                                 |
|  |  | 10/04/95          | 08:38 | 66.94970   | TGW     |                                 |
| 09/21/95-040<br>95-0151<br>A95576-00124<br>BLK -202-R0                         | 67.50760<br>0.40830                                    | 09/25/95          | 15:12 | 67.91640   | TGW     | 67.91620                        |
|  |  | 09/26/95          | 09:41 | 67.91620   | TGW     |                                 |
| 09/21/95-041<br><br>A95576-00125<br>BLK -202-R0<br>125.00000<br>125.00000      | 67.17930<br>0.00000                                    | 09/25/95          | 15:15 | 67.18020   | TGW     | 67.17980                        |
|  |  | 09/26/95          | 09:41 | 67.17980   | TGW     |                                 |
| 09/21/95-043<br><br>A95576-00127<br>BLK -202-R0<br>150.00000<br>150.00000      | 67.05460<br>0.00000                                    | 09/29/95          | 09:31 | 67.05600   | TGW     | 67.05650                        |
|  |  | 10/03/95          | 13:39 | 67.05650   | TGW     |                                 |

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| Beaker #<br>Filter #<br>Sample #<br>Run I.D.<br>Total Vol., ml<br>Aliquot Vol. | Constant<br>Tare<br>Weight (g)<br><br>Beaker<br>Filter | Final Weight Data |       |            | Analyst | Constant<br>Final<br>Weight (g) |
|--|--|-------------------|-------|------------|---------|---------------------------------|
|  |  | Date              | Time  | Weight (g) |         |                                 |
| 09/21/95-042<br><br>A95576-00129<br>BLK -202-R0<br>140.00000<br>140.00000      | 67.88020<br>0.00000                                    | 09/29/95          | 09:31 | 67.88080   | TGW     | 67.88120                        |
|  |  | 10/03/95          | 13:38 | 67.88120   | TGW     |                                 |
| 09/21/95-023<br>G95-0082<br>A95576-00200<br>KO -201-R1                         | 64.62940<br>0.50820                                    | 09/25/95          | 15:09 | 65.13870   | TGW     | 65.13860                        |
|  |  | 09/26/95          | 09:38 | 65.13860   | TGW     |                                 |
| 09/21/95-024<br><br>A95576-00201<br>KO -201-R1<br>130.00000<br>130.00000       | 67.24250<br>0.00000                                    | 09/25/95          | 15:10 | 67.24710   | TGW     | 67.24690                        |
|  |  | 09/26/95          | 09:38 | 67.24690   | TGW     |                                 |
| 09/21/95-025<br><br>A95576-00202<br>KO -201-R1<br>90.00000<br>90.00000         | 65.96140<br>0.00000                                    | 09/25/95          | 15:10 | 65.96170   | TGW     | 65.96170                        |
|  |  | 09/26/95          | 09:38 | 65.96170   | TGW     |                                 |
| 09/21/95-026<br>G95-0083<br>A95576-00206<br>KO -201-R2                         | 64.95100<br>0.51000                                    | 09/25/95          | 15:10 | 65.46070   | TGW     | 65.46120                        |
|  |  | 09/26/95          | 09:38 | 65.46120   | TGW     |                                 |

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| Beaker #<br>Filter #<br>Sample #<br>Run I.D.<br>Total Vol., ml<br>Aliquot Vol. | Constant<br>Tare<br>Weight (g)<br><br>Beaker<br>Filter | Final Weight Data    |                |                      |            | Constant<br>Final<br>Weight (g) |
|--|--|----------------------|----------------|----------------------|------------|---------------------------------|
|  |  | Date                 | Time           | Weight (g)           | Analyst    |                                 |
| 09/21/95-027<br><br>A95576-00207<br>KO -201-R2<br>120.00000<br>120.00000       | 66.80850<br>0.00000                                    | 09/25/95<br>09/26/95 | 15:10<br>09:39 | 66.81000<br>66.81000 | TGW<br>TGW | 66.81000                        |
| 09/21/95-028<br><br>A95576-00208<br>KO -201-R2<br>110.00000<br>110.00000       | 64.51180<br>0.00000                                    | 09/25/95<br>09/26/95 | 15:10<br>09:39 | 64.51210<br>64.51200 | TGW<br>TGW | 64.51200                        |
| 09/21/95-029<br>G95-0084<br>A95576-00212<br>KO -201-R3                         | 65.00990<br>0.51350                                    | 09/25/95<br>09/26/95 | 15:10<br>09:39 | 65.52310<br>65.52350 | TGW<br>TGW | 65.52350                        |
| 09/21/95-030<br><br>A95576-00213<br>KO -201-R3<br>115.00000<br>115.00000       | 64.38610<br>0.00000                                    | 09/25/95<br>09/26/95 | 15:10<br>09:39 | 64.38990<br>64.38990 | TGW<br>TGW | 64.38990                        |
| 09/21/95-031<br><br>A95576-00214<br>KO -201-R3<br>120.00000<br>120.00000       | 64.51730<br>0.00000                                    | 09/25/95<br>09/26/95 | 15:11<br>09:39 | 64.51770<br>64.51770 | TGW<br>TGW | 64.51770                        |

ETS, Inc.  
GRAVIMETRIC LABORATORY DATA  
Final Beaker Weights

Job Number: A95576

Report Prepared on: 10/04/95

Page

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| Beaker #<br>Filter #<br>Sample #<br>Run I.D.<br>Total Vol., ml<br>Aliquot Vol. | Constant<br>Tare<br>Weight (g)<br><br>Beaker<br>Filter | Final Weight Data |       |            |         | Constant<br>Final<br>Weight (g) |
|--|--|-------------------|-------|------------|---------|---------------------------------|
|  |  | Date              | Time  | Weight (g) | Analyst |                                 |
| 09/21/95-032   | 66.28660   | 09/25/95          | 15:11 | 66.80000   | TGW     | 66.80040                        |
| G95-0085   | 0.51370  | 09/26/95          | 09:39 | 66.80040   | TGW     |                                 |
| A95576-00218<br>BLK -201-R0  |  |                   |       |            |         |                                 |
| 09/21/95-033   | 67.20710   | 09/25/95          | 15:11 | 67.20760   | TGW     | 67.20760                        |
|  | 0.00000  | 09/26/95          | 09:40 | 67.20760   | TGW     |                                 |
| A95576-00219<br>BLK -201-R0<br>125.00000<br>125.00000                          |  |                   |       |            |         |                                 |



APPENDIX R  
FORMALDEHYDE LABORATORY DATA



ETS, INC.

FIELD SAMPLE LOG

Contract No. 95-576  
Job I.D.  
Test Method BIF 0011

Print Date 09/05/95 Time 13:11:32  
Page 1

| Sample No. | Container No. | Other I.D. | Run I.D.    | Sample Type      | Volume, ml no Rinses | Volume, ml w/ Rinses | Analyst | Date     | Comments |
|------------|---------------|------------|-------------|------------------|----------------------|----------------------|---------|----------|----------|
| 00208      | F1A           |            | RTO -011-R1 | IMP 1-3 + RINSES |                      |                      | TGW     | 09/05/95 |          |
| 00209      | F2            |            | RTO -011-R1 | IMP 4 SILICA GEL |                      |                      | TGW     | 09/05/95 |          |
| 00210      | F1A           |            | RTO -011-R2 | IMP 1-3 + RINSES |                      |                      | TGW     | 09/05/95 |          |
| 00211      | F2            |            | RTO -011-R2 | IMP 4 SILICA GEL |                      |                      | TGW     | 09/05/95 |          |
| 00212      | F1A           |            | RTO -011-R3 | IMP 1-3 + RINSES |                      |                      | TGW     | 09/05/95 |          |
| 00213      | F2            |            | RTO -011-R3 | IMP 4 SILICA GEL |                      |                      | TGW     | 09/05/95 |          |
| 00216      | F1A           |            | PRS -011-R1 | IMP 1-3 + RINSES |                      |                      | TGW     | 09/05/95 |          |
| 00217      | F2            |            | PRS -011-R1 | IMP 4 SILICA GEL |                      |                      | TGW     | 09/05/95 |          |
| 00218      | F1A           |            | PRS -011-R2 | IMP 1-3 + RINSES |                      |                      | TGW     | 09/05/95 |          |
| 00219      | F2            |            | PRS -011-R2 | IMP 4 SILICA GEL |                      |                      | TGW     | 09/05/95 |          |
| 00220      | F1A           |            | PRS -011-R3 | IMP 1-3 + RINSES |                      |                      | TGW     | 09/05/95 |          |
| 00221      | F2            |            | PRS -011-R3 | IMP 4 SILICA GEL |                      |                      | TGW     | 09/05/95 |          |
| 00222      | F1A           |            | BLK -011-R0 | IMP 1-3 + RINSES |                      |                      | TGW     | 09/05/95 |          |
| 00223      | F2            |            | BLK -011-R0 | IMP 4 SILICA GEL |                      |                      | TGW     | 09/05/95 |          |
| 00224      | F1A           |            | SOU -011-R1 | IMP 1-3 + RINSES |                      |                      | TGW     | 09/05/95 |          |
| 00225      | F2            |            | SOU -011-R1 | IMP 4 SILICA GEL |                      |                      | TGW     | 09/05/95 |          |
| 00228      | F1A           |            | SOU -011-R2 | IMP 1-3 + RINSES |                      |                      | TGW     | 09/05/95 |          |
| 00229      | F2            |            | SOU -011-R2 | IMP 4 SILICA GEL |                      |                      | TGW     | 09/05/95 |          |
| 00230      | F1A           |            | SOU -011-R3 | IMP 1-3 + RINSES |                      |                      | TGW     | 09/05/95 |          |
| 00231      | F2            |            | SOU -011-R3 | IMP 4 SILICA GEL |                      |                      | TGW     | 09/05/95 |          |
| 00503      | F1A           |            | SIN -011-R2 | IMP 1-3 + RINSES |                      |                      | TGW     | 09/05/95 |          |
| 00504      | F2            |            | SIN -011-R2 | IMP 4 SILICA GEL |                      |                      | TGW     | 09/05/95 |          |
| 00510      | F1A           |            | SIN -011-R1 | IMP 1-3 + RINSES |                      |                      | TGW     | 09/05/95 |          |
| 00511      | F2            |            | SIN -011-R1 | IMP 4 SILICA GEL |                      |                      | TGW     | 09/05/95 |          |
| 00559      | F1A           |            | SIN -011-R3 | IMP 1-3 + RINSES |                      |                      | TGW     | 09/05/95 |          |
| 00560      | F2            |            | SIN -011-R3 | IMP 4 SILICA GEL |                      |                      | TGW     | 09/05/95 |          |

Table 1  
Analytical Results  
for  
ETS, INC.  
Clayton Project No. 30461.00  
Client Reference#: 95-576

Sample Type: Impinger / Bubbler Date Received: 09/06/95  
 Method Reference: EPA 0011 Date Analyzed: 09/19/95  
 LOD (mg): 0.001  
 Analyst: KB

| Lab No. | Sample Identification      | Air Volume (liters) | Formaldehyde |         |       |
|---------|----------------------------|---------------------|--------------|---------|-------|
|         |                            |                     | (mg)         | (mg/m3) | (ppm) |
| 001a    | RTO-R1 #208 08/30/95       | --                  | 0.42         | --      | --    |
| 002a    | RTO-R2 #210 08/30/95       | --                  | 0.41         | --      | --    |
| 003a    | RTO-R3 #212 08/30/95       | --                  | 0.43         | --      | --    |
| 004a    | PRESS-R1 #216 08/30/95     | --                  | 2.6          | --      | --    |
| 005a    | PRESS-R2 #218 08/30/95     | --                  | 3.4          | --      | --    |
| 006a    | PRESS-R3 #220 08/30/95     | --                  | 0.88         | --      | --    |
| 007a    | BLANK #222                 | --                  | 0.012 (a)    | --      | --    |
| 008a    | SCRUB-OUT-R1 #224 08/30/95 | --                  | 1.1          | --      | --    |
| 009a    | SCRUB-OUT-R2 #228 08/30/95 | --                  | 2.1          | --      | --    |
| 010a    | SCRUB-OUT-R3 #230 08/30/95 | --                  | 2.8          | --      | --    |
| 011a    | SCRUB-IN-R1 #510 08/30/95  | --                  | 3.0          | --      | --    |
| 012a    | SCRUB-IN-R2 #503 08/30/95  | --                  | 3.7          | --      | --    |
| 013a    | SCRUB-IN-R3 #559 08/30/95  | --                  | 3.4          | --      | --    |

(a) Actual value of client blank; results are not blank corrected.

General Notes

--: Information not available or not applicable.

**ENVIRONMENTAL CONSULTANTS**  
**ANALYTICAL SERVICES**  
**REQUEST FOR LABORATORY**

Project No. 5680  
 Ind. Code W.P.  
 Date Logged In By

Purchase Order No. 5680 Client Job No. 95-576  
 Name Lyons Sexton  
 Company ETS, Inc  
 Address 1401 Municipal Road N.W.  
 City, State, Zip Roanoke, VA 24012  
 Telephone No. 540-265-6004 Teletax No. 540-265-0131

Title Dept.  
 Mailing Address ETS, Inc  
 City, State, Zip Roanoke, VA 24012  
 Telephone No. 540-265-6004 Teletax No. 540-265-0131

ANALYSIS REQUESTED  
 (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. \*)

Date Results Req. 9/20/95 Rush Charges Authorized?  Yes  No  X  
 Special Instructions: (method, limit of detection, etc.)  
BIF-0011 / Formaldehyde  
 \* Explanation of Preservative:

| CLIENT SAMPLE IDENTIFICATION | DATE SAMPLED | MATRIX/MEDIA | AIR VOLUME (specify units) | FOR LAB USE ONLY |
|------------------------------|--------------|--------------|----------------------------|------------------|
| RTO-R1 # 208 ✓               | 8/30/95      | DWPH         |                            | X                |
| RTO-R2 # 210 ✓               |              |              |                            | X                |
| RTO-R3 # 212 ✓               |              |              |                            | X                |
| Press-R1 # 216 ✓             |              |              |                            | X                |
| Press-R2 # 218 ✓             |              |              |                            | X                |
| Press-R3 # 220 ✓             |              |              |                            | X                |
| Blank # 222 ✓                |              |              |                            | X                |

| CHAIN OF CUSTODY | Collected by:    | Relinquished by: | Relinquished by: | Method of Shipment: | Date   |
|------------------|------------------|------------------|------------------|---------------------|--------|
|                  | Terry Williamson | Terry Williamson | Terry Williamson | Fed-X               | 9/5/95 |

Collector's Signature: Terry Williamson  
 Received by: Carol Gorman  
 Received at Lab by: Carol Gorman  
 Sample Condition Upon Receipt:  Acceptable  Other (explain)

Authorized by: Terry Williamson Date 9/5/95  
 (Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive Raritan Center 400 Chastain Center Blvd., N.W. 1252 Quarry Lane  
 Novi, MI 48375 160 Fieldcrest Ave. Suite 490 Pleasanton, CA 94566  
 (810) 344-1770 Edison, NJ 08837 Kennesaw, GA 30144 (510) 426-2657  
 (908) 225-6040 (404) 499-7500

DISTRIBUTION:  
 WHITE - Clayton Laboratory  
 YELLOW - Clayton Accounting  
 PINK - Client Retains

2/92

**RECEIVED SEP 06 1995**

# REQUEST FOR LABORATORY ANALYTICAL SERVICES

**ENVIRONMENTAL CONSULTANTS**

Project No. 3096  
 Batch No. \_\_\_\_\_  
 Ind. Code \_\_\_\_\_  
 Date Logged In \_\_\_\_\_  
 W.P. \_\_\_\_\_  
 By \_\_\_\_\_

Purchase Order No. 5680 Client Job No. 95-576  
 Name \_\_\_\_\_  
 Company \_\_\_\_\_  
 Address \_\_\_\_\_  
 City, State, Zip \_\_\_\_\_

SEND INVOICE TO \_\_\_\_\_  
 Dept. \_\_\_\_\_  
 ANALYSIS REQUESTED (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added.)\*

| CLIENT SAMPLE IDENTIFICATION | DATE SAMPLED | MATRIX/MEDIA | AIR VOLUME (specify units) | Samples are: (check if applicable)      |   | FOR LAB USE ONLY |
|------------------------------|--------------|--------------|----------------------------|---|---|------------------|
|                              |              |              |                            | <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Collected in the State of New York |                  |
| Scrub-Out - R1 # 204 ✓       | 8/30/95      | DUPH         |                            | <input type="checkbox"/>                | <input type="checkbox"/>                                    | X                |
| Scrub-Out - R2 # 228 ✓       |              |              |                            | <input type="checkbox"/>                | <input type="checkbox"/>                                    | X                |
| Scrub-Out - R3 # 230 ✓       |              |              |                            | <input type="checkbox"/>                | <input type="checkbox"/>                                    | X                |
| Scrub-In - R1 # 510 ✓        |              |              |                            | <input type="checkbox"/>                | <input type="checkbox"/>                                    | X                |
| Scrub-In - R2 # 503 ✓        |              |              |                            | <input type="checkbox"/>                | <input type="checkbox"/>                                    | X                |
| Scrub-In - R3 # 559 ✓        |              |              |                            | <input type="checkbox"/>                | <input type="checkbox"/>                                    | X                |

Number of Containers: \_\_\_\_\_  
 Special Instructions: (method, limit of detection, etc.)  
BIF-0011  
 \* Explanation of Preservative: \_\_\_\_\_

Collected by: Terry Williamson (print)  
 Relinquished by: Terry Williamson  
 Relinquished by: \_\_\_\_\_  
 Method of Shipment: \_\_\_\_\_

Chain of Custody Table:  
 Date/Time: 9/5/95  
 Date/Time: \_\_\_\_\_  
 Date/Time: \_\_\_\_\_  
 Date/Time: \_\_\_\_\_

Authorized by: Terry Williamson Date 9/5/95  
 (Client Signature Must Accompany Request)

RECEIVED SEP 06 1995

DISTRIBUTION:  
 WHITE - Clayton Laboratory  
 YELLOW - Clayton Accounting  
 PINK - Client Retains

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:  
 22345 Roethel Drive Raritan Center 400 Chastain Center Blvd., N.W. 1252 Quarry Lane  
 Novi, MI 48375 160 Fieldcrest Ave. Suite 490 Pleasanton, CA 94566  
 (810) 344-1770 Edison, NJ 08837 Kennesaw, GA 30144 (510) 426-2657  
 (908) 225-6040 (404) 499-7500

E T S , I N C .

F I E L D S A M P L E L O G

Contract No. A95576

Job I.D.

Test Method BIF 0011

Print Date 09/14/95

Page 1

Time 13:38:02

| Sample No. | Container No. | Other I.D. | Run I.D.    | Sample Type      | Volume, ml no Rinses | Volume, ml w/ Rinses | Analyst | Date     | Comments |
|------------|---------------|------------|-------------|------------------|----------------------|----------------------|---------|----------|----------|
| 00300      | F1A           |            | KO -011-R1  | IMP 1-3 + RINSES |                      |                      | TGW     | 09/14/95 |          |
| 00301      | F2            |            | KO -011-R1  | IMP 4 SILICA GEL |                      |                      | TGW     | 09/14/95 |          |
| 00302      | F1A           |            | KO -011-R2  | IMP 1-3 + RINSES |                      |                      | TGW     | 09/14/95 |          |
| 00303      | F2            |            | KO -011-R2  | IMP 4 SILICA GEL |                      |                      | TGW     | 09/14/95 |          |
| 00304      | F1A           |            | KO -011-R3  | IMP 1-3 + RINSES |                      |                      | TGW     | 09/14/95 |          |
| 00305      | F2            |            | KO -011-R3  | IMP 4 SILICA GEL |                      |                      | TGW     | 09/14/95 |          |
| 00306      | F1A           |            | BLK -011-R0 | IMP 1-3 + RINSES |                      |                      | TGW     | 09/14/95 |          |
| 00307      | F2            |            | BLK -011-R0 | IMP 4 SILICA GEL |                      |                      | TGW     | 09/14/95 |          |

Table 1  
 Analytical Results  
 for  
 ETS, INC.  
 Clayton Project No. 30797.00  
 Client Reference#: 95-576

Sample Identification: 00300 F1A RUN #KO-011-R1      Date Sampled: 09/12/95  
 Lab Number: 001a      Date Received: 09/15/95  
 Sample Type: Impinger / Bubbler      Air Volume (L): --  
 Analyst: KB

Analytical Results

| Analyte      | (mg) | (mg/m3) | (ppm) | LOD (mg) | Method Reference | Date Analyzed |
|--------------|------|---------|-------|----------|------------------|---------------|
| Formaldehyde | 1.5  | --      | --    | 0.006    | EPA 0011         | 10/04/95      |

Sample Identification: 00302 F1A RUN #KO-011-R2      Date Sampled: 09/12/95  
 Lab Number: 002a      Date Received: 09/15/95  
 Sample Type: Impinger / Bubbler      Air Volume (L): --  
 Analyst: KB

Analytical Results

| Analyte      | (mg)  | (mg/m3) | (ppm) | LOD (mg) | Method Reference | Date Analyzed |
|--------------|-------|---------|-------|----------|------------------|---------------|
| Formaldehyde | 0.088 | --      | --    | 0.006    | EPA 0011         | 10/04/95      |



Table 1 (continued)

Analytical Results

for

ETS, INC.

Clayton Project No. 30797.00

Client Reference#: 95-576

Sample Identification: 00304 F1A RUN #KO-011-R3  
 Lab Number: 003a  
 Sample Type: Impinger / Bubbler  
 Analyst: KB

Date Sampled: 09/12/95  
 Date Received: 09/15/95  
 Air Volume (L): --

Analytical Results

| Analyte      | (mg) | (mg/m3) | (ppm) | LOD<br>(mg) | Method<br>Reference | Date<br>Analyzed |
|--------------|------|---------|-------|-------------|---------------------|------------------|
| Formaldehyde | 0.33 | --      | --    | 0.006       | EPA 0011            | 10/04/95         |

Sample Identification: 00306 F1A RUN #BLK-011-R0 BLANK  
 Lab Number: 004a  
 Sample Type: Impinger / Bubbler  
 Analyst: KB

Date Sampled: 09/12/95  
 Date Received: 09/15/95  
 Air Volume (L): --

Analytical Results

| Analyte      | (mg)  | (mg/m3) | (ppm) | LOD<br>(mg) | Method<br>Reference | Date<br>Analyzed |
|--------------|-------|---------|-------|-------------|---------------------|------------------|
| Formaldehyde | 0.016 | --      | --    | 0.006       | EPA 0011            | 10/04/95         |

General Notes

--: Information not available or not applicable.

Project No. \_\_\_\_\_  
Batch No. \_\_\_\_\_  
Ind. Code \_\_\_\_\_ W.P. \_\_\_\_\_  
Date Logged In \_\_\_\_\_ By \_\_\_\_\_

Name: Lynne Sexton Title: Report Manager Dept. \_\_\_\_\_  
Company: ETS, Inc.  
Mailing Address: 1401 Municipal Rd  
City, State, Zip: Roanoke, Va 24012-1309  
Telephone No.: 703-265-0004 Telefax No.: 703-265-0131  
Date Results Req.:  Rush Charges Authorized?  Yes  No  No  
Special Instructions: (method, limit of detection, etc.) \_\_\_\_\_

Purchase Order No. 5180 Client Job No. 95-516  
Name: Sampla Custody  
Company: Clayton Environmental Consultants Dept. \_\_\_\_\_  
Address: 1401 Municipal Rd  
City, State, Zip: Roanoke VA 24012

SEND INVOICE   
ANALYSIS REQUESTED  
(Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added.)

| CLIENT SAMPLE IDENTIFICATION  | DATE SAMPLED   | MATRIX/MEDIA | AIR VOLUME (specify units) | Samples are:<br>(check if applicable)   |   | FOR LAB USE ONLY |
|-------------------------------|----------------|--------------|----------------------------|---|---|------------------|
|                               |                |              |                            | <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Collected in the State of New York |                  |
| <u>00300 FIA # KO-011-R1</u>  | <u>9-13-95</u> | <u>DUPH</u>  |                            | <input checked="" type="checkbox"/>     |   | <u>HC HO</u>     |
| <u>00302 FIA</u>              | <u>↓</u>       | <u>↓</u>     |                            | <input checked="" type="checkbox"/>     |   |                  |
| <u>00304 FIA</u>              | <u>↓</u>       | <u>↓</u>     |                            | <input checked="" type="checkbox"/>     |   |                  |
| <u>00306 FIA # K1K-011-R0</u> | <u>↓</u>       | <u>↓</u>     |                            | <input checked="" type="checkbox"/>     |   |                  |

Number of Containers: \_\_\_\_\_

Collector's Signature: \_\_\_\_\_ Date/Time \_\_\_\_\_  
Received by: \_\_\_\_\_ Date/Time 9-14-95  
Received at Lab by: Marta Ballman Date/Time 10:50 AM  
Sample Condition Upon Receipt:  Acceptable  Other (explain) \_\_\_\_\_  
**RECEIVED SEP 15 1995**

Authorized by: Marta Ballman Date 9/14/95  
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

|   |   |  |  |
|---|---|--|--|
| 22345 Roethel Drive<br>Novi, MI 48375<br>(810) 344-1770 | Raritan Center<br>160 Fieldcrest Ave.<br>Edison, NJ 08837<br>(908) 225-6040 | 400 Chastein Center Blvd., N.W.<br>Suite 490<br>Kennesaw, GA 30144<br>(404) 499-7500 | 1252 Quarry Lane<br>Pleasanton, CA 94566<br>(510) 426-2657 |
|---|---|--|--|

DISTRIBUTION:  
WHITE - Clayton Laboratory  
YELLOW - Clayton Accounting  
PINK - Client Retains

2/92

**APPENDIX S**  
**MDI LABORATORY DATA**



ETS, INC.

FIELD SAMPLE LOG

Contract No. 95-576  
 Job I.D.  
 Test Method MDI

Print Date 09/05/95 Time 13:20:22  
 Page 1

| Sample No. | Container No. | Other I.D. | Run I.D.    | Sample Type           | Volume, ml no Rinses | Volume, ml w/ Rinses | Analyst | Date     | Comments |
|------------|---------------|------------|-------------|-----------------------|----------------------|----------------------|---------|----------|----------|
| 00104      | F1B           |            | RTO -MDI-R1 | EXTRA FH, IMP 1+RINSE |                      |                      | TGW     | 09/05/95 |          |
| 00105      | F2B           |            | RTO -MDI-R1 | EXTRA IMP 2+3+4       |                      |                      | TGW     | 09/05/95 |          |
| 00106      | F7            |            | RTO -MDI-R1 | TEDLAR BAG            |                      |                      | TGW     | 09/05/95 |          |
| 00107      | F1            |            | RTO -MDI-R3 | FH, IMP 1 +RINSES     |                      |                      | TGW     | 09/05/95 |          |
| 00108      | F2            |            | RTO -MDI-R3 | IMP 2+3+4+RINSES      |                      |                      | TGW     | 09/05/95 |          |
| 00109      | F3            |            | RTO -MDI-R3 | CHARCOAL              |                      |                      | TGW     | 09/05/95 |          |
| 00110      | F4            |            | RTO -MDI-R3 | SILICA GEL            |                      |                      | TGW     | 09/05/95 |          |
| 00111      | F1B           |            | RTO -MDI-R3 | EXTRA FH, IMP 1+RINSE |                      |                      | TGW     | 09/05/95 |          |
| 00112      | F2B           |            | RTO -MDI-R3 | EXTRA IMP 2+3+4       |                      |                      | TGW     | 09/05/95 |          |
| 00113      | F7            |            | RTO -MDI-R3 | TEDLAR BAG            |                      |                      | TGW     | 09/05/95 |          |
| 00128      | F1            |            | PRS -MDI-R3 | FH, IMP 1 +RINSES     |                      |                      | TGW     | 09/05/95 |          |
| 00129      | F2            |            | PRS -MDI-R3 | IMP 2+3+4+RINSES      |                      |                      | TGW     | 09/05/95 |          |
| 00130      | F3            |            | PRS -MDI-R3 | CHARCOAL              |                      |                      | TGW     | 09/05/95 |          |
| 00131      | F4            |            | PRS -MDI-R3 | SILICA GEL            |                      |                      | TGW     | 09/05/95 |          |
| 00132      | F1B           |            | PRS -MDI-R3 | EXTRA FH, IMP 1+RINSE |                      |                      | TGW     | 09/05/95 |          |
| 00133      | F2B           |            | PRS -MDI-R3 | EXTRA IMP 2+3+4       |                      |                      | TGW     | 09/05/95 |          |
| 00134      | F7            |            | PRS -MDI-R3 | TEDLAR BAG            |                      |                      | TGW     | 09/05/95 |          |
| 00135      | F1            |            | PRS -MDI-R1 | FH, IMP 1 +RINSES     |                      |                      | TGW     | 09/05/95 |          |
| 00136      | F2            |            | PRS -MDI-R1 | IMP 2+3+4+RINSES      |                      |                      | TGW     | 09/05/95 |          |
| 00137      | F3            |            | PRS -MDI-R1 | CHARCOAL              |                      |                      | TGW     | 09/05/95 |          |
| 00138      | F4            |            | PRS -MDI-R1 | SILICA GEL            |                      |                      | TGW     | 09/05/95 |          |
| 00139      | F1B           |            | PRS -MDI-R1 | EXTRA FH, IMP 1+RINSE |                      |                      | TGW     | 09/05/95 |          |
| 00140      | F2B           |            | PRS -MDI-R1 | EXTRA IMP 2+3+4       |                      |                      | TGW     | 09/05/95 |          |
| 00141      | F7            |            | PRS -MDI-R1 | TEDLAR BAG            |                      |                      | TGW     | 09/05/95 |          |
| 00149      | F1            |            | PRS -MDI-R2 | FH, IMP 1 +RINSES     |                      |                      | TGW     | 09/05/95 |          |
| 00150      | F2            |            | PRS -MDI-R2 | IMP 2+3+4+RINSES      |                      |                      | TGW     | 09/05/95 |          |
| 00151      | F3            |            | PRS -MDI-R2 | CHARCOAL              |                      |                      | TGW     | 09/05/95 |          |

F I E L D S A M P L E L O G

Contract No. 95-576  
 Job I.D.  
 Test Method MDI

Print Date 09/05/95  
 Page 2

| Sample No. | Container No. | Other I.D. | Run I.D.    | Sample Type          | Volume, ml no Rinses | Volume, ml w/ Rinses | Analyst | Date     | Comments |
|------------|---------------|------------|-------------|----------------------|----------------------|----------------------|---------|----------|----------|
| 00152      | F4            |            | PRS -MDI-R2 | SILICA GEL           |                      |                      | TGW     | 09/05/95 |          |
| 00153      | F1B           |            | PRS -MDI-R2 | EXTRA FH,IMP 1+RINSE |                      |                      | TGW     | 09/05/95 |          |
| 00154      | F2B           |            | PRS -MDI-R2 | EXTRA IMP 2+3+4      |                      |                      | TGW     | 09/05/95 |          |
| 00155      | F7            |            | PRS -MDI-R2 | TEDLAR BAG           |                      |                      | TGW     | 09/05/95 |          |
| 00170      | F1            |            | BLK -MDI-R0 | FH, IMP 1 +RINSES    |                      |                      | TGW     | 09/05/95 |          |
| 00171      | F2            |            | BLK -MDI-R0 | IMP 2+3+4+RINSES     |                      |                      | TGW     | 09/05/95 |          |
| 00172      | F3            |            | BLK -MDI-R0 | CHARCOAL             |                      |                      | TGW     | 09/05/95 |          |
| 00173      | F4            |            | BLK -MDI-R0 | SILICA GEL           |                      |                      | TGW     | 09/05/95 |          |
| 00174      | F1B           |            | BLK -MDI-R0 | EXTRA FH,IMP 1+RINSE |                      |                      | TGW     | 09/05/95 |          |
| 00175      | F2B           |            | BLK -MDI-R0 | EXTRA IMP 2+3+4      |                      |                      | TGW     | 09/05/95 |          |
| 00176      | F7            |            | BLK -MDI-R0 | TEDLAR BAG           |                      |                      | TGW     | 09/05/95 |          |
| 00177      | F1            |            | RTO -MDI-R2 | FH, IMP 1 +RINSES    |                      |                      | TGW     | 09/05/95 |          |
| 00178      | F2            |            | RTO -MDI-R2 | IMP 2+3+4+RINSES     |                      |                      | TGW     | 09/05/95 |          |
| 00179      | F3            |            | RTO -MDI-R2 | CHARCOAL             |                      |                      | TGW     | 09/03/95 |          |
| 00180      | F4            |            | RTO -MDI-R2 | SILICA GEL           |                      |                      | TGW     | 09/05/95 |          |
| 00181      | F1B           |            | RTO -MDI-R2 | EXTRA FH,IMP 1+RINSE |                      |                      | TGW     | 09/05/95 |          |
| 00182      | F2B           |            | RTO -MDI-R2 | EXTRA IMP 2+3+4      |                      |                      | TGW     | 09/05/95 |          |
| 00183      | F7            |            | RTO -MDI-R2 | TEDLAR BAG           |                      |                      | TGW     | 09/05/95 |          |

Table 1  
Analytical Results  
for  
ETS, INC.  
Clayton Project No. 30460.00  
Client Reference#: 95-576

Sample Type: Impinger / Bubbler Date Received: 09/06/95  
Method Reference: Draft 9/94 Date Analyzed: 09/20/95  
LOD (mg): 0.001  
Analyst: KB

| Lab No. | Sample Identification  | Air Volume (liters) | Methylene bisphenyl |         |       |
|---------|------------------------|---------------------|---------------------|---------|-------|
|         |                        |                     | (mg)                | (mg/m3) | (ppm) |
| 001a    | PRESS-R1 #135 08/30/95 | --                  | 0.025               | --      | --    |
| 002a    | PRESS-R2 #149 08/30/95 | --                  | 0.042               | --      | --    |
| 003a    | PRESS-R2 #150 08/30/95 | --                  | 0.007               | --      | --    |
| 004a    | PRESS-R3 #128 08/30/95 | --                  | 0.041               | --      | --    |
| 005a    | PRESS-R3 #129 08/30/95 | --                  | 0.005               | --      | --    |
| 006a    | RTO-R1 #104 08/30/95   | --                  | <0.001              | --      | --    |
| 007a    | RTO-R1 #105 08/30/95   | --                  | 0.002               | --      | --    |
| 008a    | RTO-R2 #177 08/30/95   | --                  | <0.001              | --      | --    |
| 009a    | RTO-R2 #178 08/30/95   | --                  | 0.004               | --      | --    |
| 010a    | RTO-R3 #107 08/30/95   | --                  | <0.001              | --      | --    |
| 011a    | RTO-R3 #108 08/30/95   | --                  | 0.005               | --      | --    |
| 012a    | BLANK #170             | --                  | <0.001              | --      | --    |
| 013a    | BLANK #171             | --                  | <0.001              | --      | --    |

General Notes

- <: Less than the indicated limit of detection (LOD)
- : Information not available or not applicable.

**Clayton**  
 ENVIRONMENTAL  
 CONSULTANTS

**REQUEST FOR LABORATORY  
 ANALYTICAL SERVICES**

For Clayton Use Only Page 30460 of   

Project No. 30460  
 Batch No.           
 Ind. Code W.P.  
 Date Logged In          By         

Purchase Order No. 5680 Client Job No. 95-576  
 Name          Dept.           
 Company           
 Address           
 City, State, Zip         

Name Lynn Sexton Title          Dept.           
 Company ETS, Inc.  
 Mailing Address 1401 Municipal Road N.W.  
 City, State, Zip Roanoke, VA 24012  
 Telephone No. 540-265-0004 Telefax No. 540-265-0131

Date Results Req. 9/30/95 Rush Charges Authorized? Phone / Fax Results  Yes  No  
 Special Instructions: (method, limi. of detection, etc.)  
MDI / EPA Draft

ANALYSIS REQUESTED  
 (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. \*)

|     |  |  |  |  |  |  |  |  |  |
|-----|--|--|--|--|--|--|--|--|--|
| MDI |  |  |  |  |  |  |  |  |  |
|     |  |  |  |  |  |  |  |  |  |
|     |  |  |  |  |  |  |  |  |  |
|     |  |  |  |  |  |  |  |  |  |
|     |  |  |  |  |  |  |  |  |  |
|     |  |  |  |  |  |  |  |  |  |
|     |  |  |  |  |  |  |  |  |  |
|     |  |  |  |  |  |  |  |  |  |
|     |  |  |  |  |  |  |  |  |  |
|     |  |  |  |  |  |  |  |  |  |
|     |  |  |  |  |  |  |  |  |  |

| CLIENT SAMPLE IDENTIFICATION | DATE SAMPLED | MATRIX/MEDIA | AIR VOLUME (specify units) | Number of Containers |     | FOR LAB USE ONLY |
|------------------------------|--------------|--------------|----------------------------|----------------------|-----|------------------|
|                              |              |              |                            | IN                   | OUT |                  |
| Press-R1 #135V (36)          | 9/30/95      | 1,2 PP       |                            | 2                    | 2   |                  |
| Press-R2 #149V (150V)        |              |              |                            | 2                    | 2   |                  |
| Press-R3 #128V (129V)        |              |              |                            | 2                    | 2   |                  |
| RTO-R1 #104V (105V)          |              |              |                            | 2                    | 2   |                  |
| RTO-R2 #177V (178V)          |              |              |                            | 2                    | 2   |                  |
| RTO-R3 #107V (108V)          |              |              |                            | 2                    | 2   |                  |
| Blank #120V (121V)           |              |              |                            | 2                    | 2   |                  |

Collected by: Terry Williams (print)  
 Relinquished by: Terry Williams Date/Time 9/5/95  
 Relinquished by: Terry Williams Date/Time 9/5/95  
 Method of Shipment:         

Authorized by: Terry Williams Date 9/5/95  
 (Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:  
 22345 Roethel Drive Raritan Center 400 Chastain Center Blvd., N.W. 1252 Quarry Lane  
 Novi, MI 48375 Edison, NJ 08837 Kennesaw, GA 30144 Pleasanton, CA 94566  
 (810) 344-1770 (908) 225-6040 (404) 499-7500 (510) 426-2657

DISTRIBUTION:  
 WHITE - Clayton Laboratory  
 YELLOW - Clayton Accounting  
 PINK - Client Retains

RECEIVED SEP 05 1995



**APPENDIX T**  
**FACILITY OPERATING DATA**

CONSULTING CHEMISTS &amp; LABORATORY SERVICES

**ENVIROCOMPLIANCE**  
LABORATORIES, INC.

10357 OLD KEETON ROAD

GLEN ALLEN, VIRGINIA 23059

(804) 550-3971 FAX 550-3826

Certificate of Analysis

ETS Inc.  
Attn: Terry Williamson  
1401 Municipal Road, NW  
Roanoke, VA 24012-1309

Project No. : 95-576-T  
Project Name :  
Date Received: September 07, 1995  
Date Sampled : August 30, 1995  
Time Sampled : Unknown  
Date Issued : September 08, 1995

Reference Method: ASTM

One solid sample labeled McConnell Bin Fuel was analyzed for BTU.

| <u>Sample ID</u> | BTU/lb. |
|------------------|---------|
| McConnell Bin    | 8051    |

Mark D. Williams  
Laboratory Manager

R5911417-1

CONSULTING CHEMISTS &amp; LABORATORY SERVICES

**ENVIROCOMPLIANCE**  
LABORATORIES, INC.

10357 OLD KEETON ROAD

GLEN ALLEN, VIRGINIA 23059

(804) 550-3971 FAX 550-3826

Certificate of Analysis

ETSI Inc.  
Attn: Terry Williamson  
1401 Municipal Road, NW  
Roanoke, VA 24012-1309

Project No. :  
Project Name : #95-576-T  
Date Received: September 15, 1995  
Date Sampled : September 12, 1995  
Time Sampled : Unknown  
Date Issued : September 22, 1995

Reference Method: ASTM D240

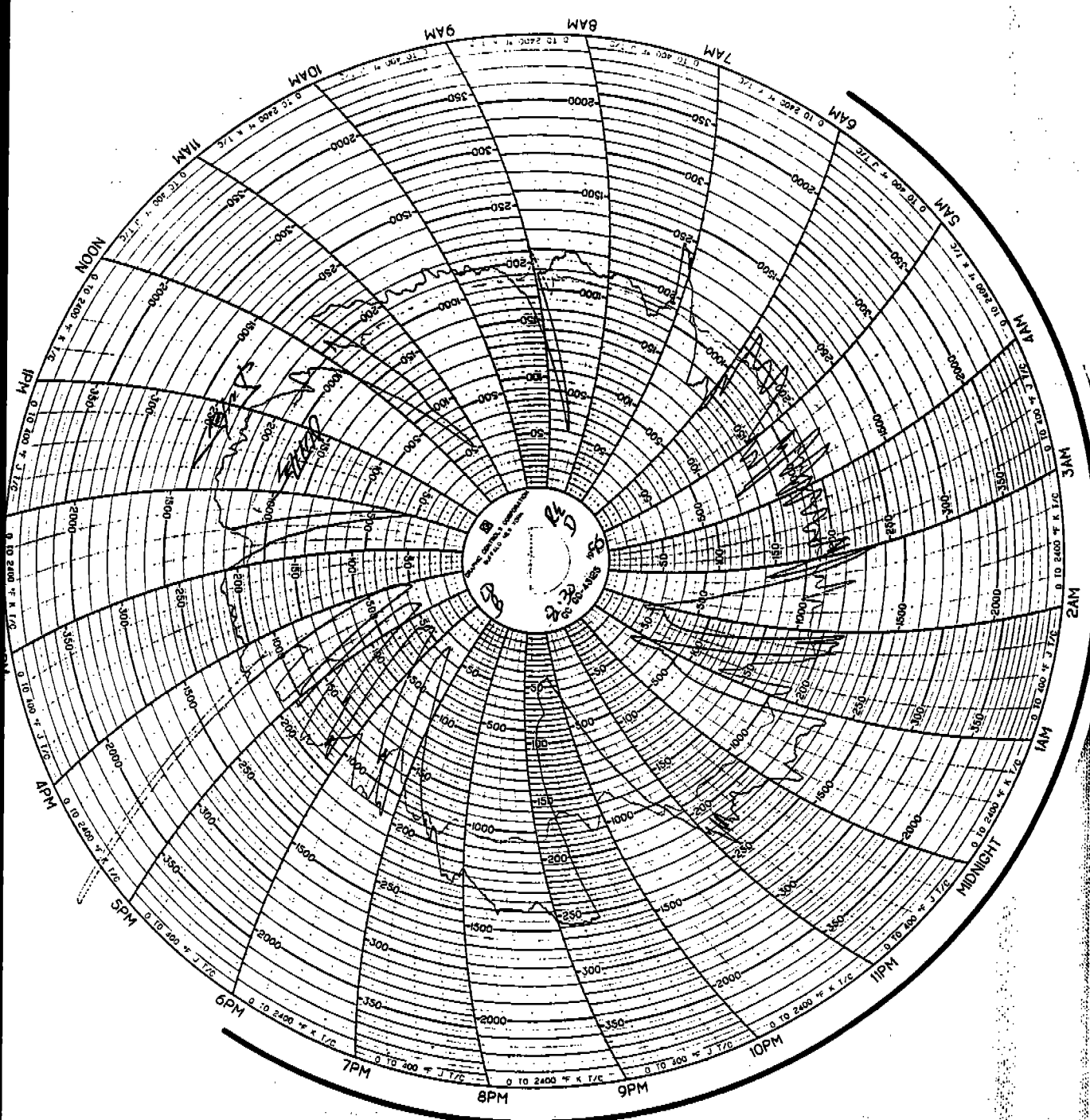
One solid sample labeled Konus Bark Fuel was analyzed for BTU.

| <u>Sample ID</u> | <u>BTU</u> |
|------------------|------------|
| Konus Bark Fuel  | 3469       |

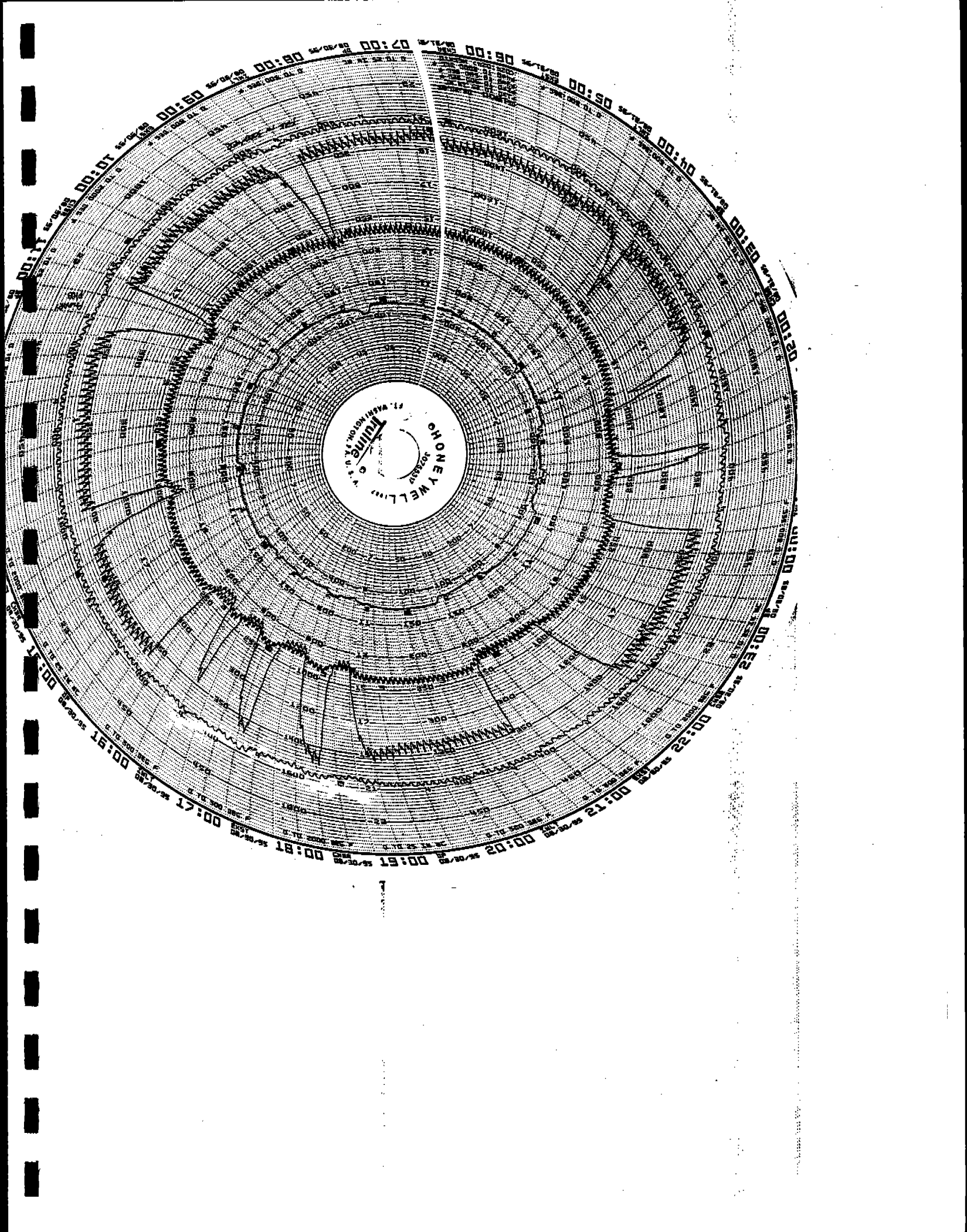


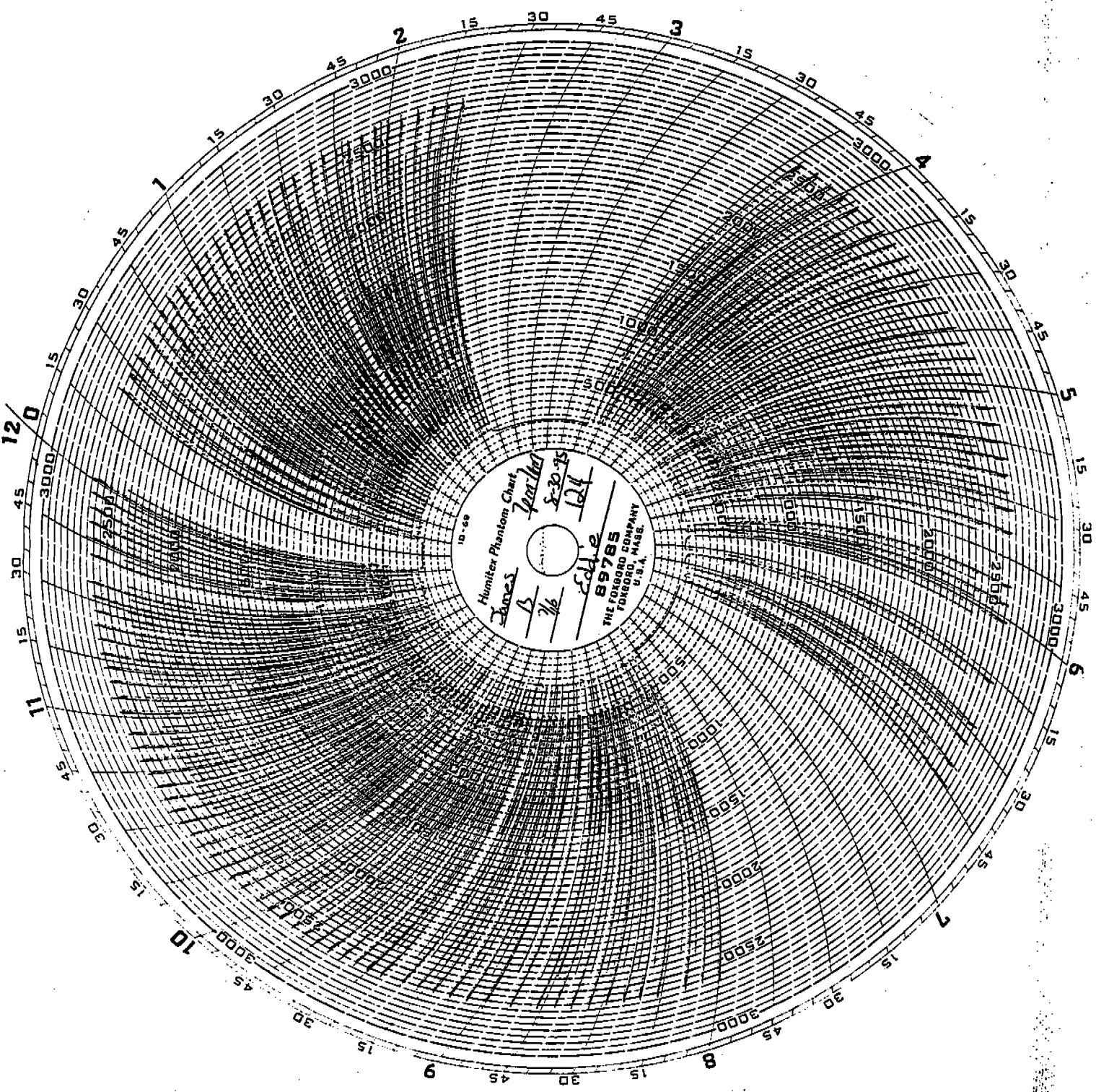
Mark D. Williams  
Laboratory Manager

R5911530-1



8-30-95

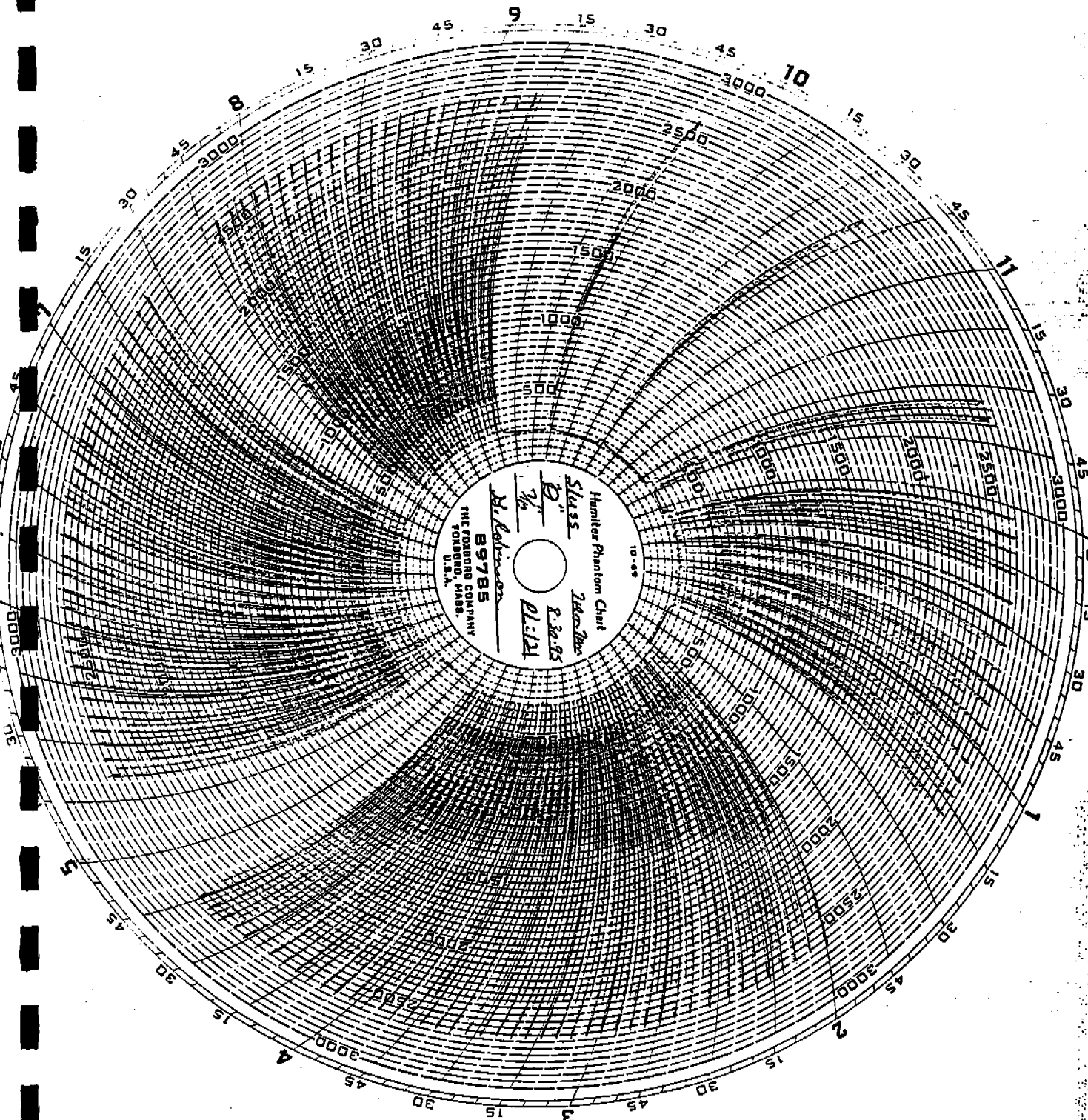




Humiter Phantom Chart  
10-58  
James  
1/2  
1000  
8-20-45  
10/11  
89785  
THE FORBORD COMPANY  
U.S.A.



Press



Hunter Phantom Chart  
Glass  
24mm Dia  
P. 30:85  
D.L. 111  
M. Robinson  
89785  
THE FORDOR COMPANY  
FORDOR, MASS.  
U.S.A.

12/0

72571

### VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME  
**LOUISIANA PACIFIC CORP.**

LOCATION  
**scott county**

LOCATION  
**Hwy 65 south**

CITY  
**Durham** STATE  
**VA** ZIP  
**24245**

PROCESS EQUIPMENT  
**Dryer - Pass** OPERATING MODE  
**Auto**

CONTROL EQUIPMENT  
**scrubber - Rto** OPERATING MODE  
**Auto**

DESCRIBE EMISSION POINT  
**96" vertical stack**

HEIGHT ABOVE GROUND LEVEL  
START **100'** END **100'** HEIGHT RELATIVE TO OBSERVER  
START **94'** END **94'**

DISTANCE FROM OBSERVER  
START **100yds** END **100yds** DIRECTION FROM OBSERVER  
START **NW** END **NW**

VERTICAL ANGLE TO OBS. PT.  
START **28°** END **28°** DIRECTION TO OBS. PT.  
START **SE** END **SE**

DESCRIBE EMISSIONS  
START **NONE** END **NONE**

EMISSION COLOR  
START **-** END **-** IF WATER DROPLET PLUME  
ATTACHED  DETACHED  NA

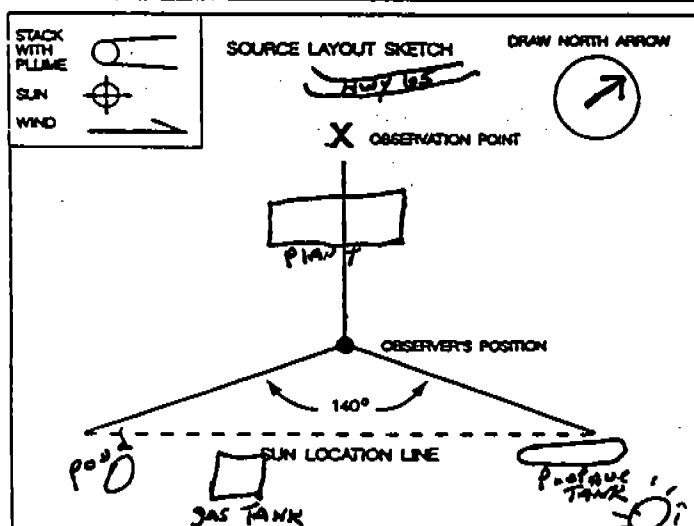
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET  
START **100yds** END **100yds**

DESCRIBE PLUME BACKGROUND  
START **Blue Sky** END **Blue Sky**

BACKGROUND COLOR  
START **Blue** END **Blue** SKY CONDITIONS  
START **clear** END **clear**

WIND SPEED  
START **0** END **0** WIND DIRECTION  
START **0** END **0**

AMBEINT TEMP  
START **0** END **0** WET BULB TEMP  
RH PERCENT



ADDITIONAL INFORMATION

FORM NUMBER PAGE 1 OF 3

OBSERVATION DATE **8-30-95** START TIME **9:56** END TIME **10:26**

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

OBSERVER'S NAME (PRINT)  
**DANNY HANEY**

OBSERVER'S SIGNATURE  
*[Signature]* DATE  
**8-30-95**

ORGANIZATION  
**ETA**

CERTIFIED BY  
**ETA** DATE  
**8-29-95**

CONTINUED ON VEO FORM NUMBER



Test 1

# VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME  
**LOUISIANA PAPER CORP.**

LOCATION  
**Scott county**

LOCATION  
**Hwy 65 south**

**DUNGANNON** STATE **LA** ZIP **71245**

PROCESS EQUIPMENT  
**Drayer - Press** OPERATING MODE **Auto**

CONTROL EQUIPMENT  
**Scrubber - RTO** OPERATING MODE **Auto**

DESCRIBE EMISSION POINT  
**96" vertical stack**

HEIGHT ABOVE GROUND LEVEL  
START **100'** END **same** HEIGHT RELATIVE TO OBSERVER  
START **94'** END **94'**

DISTANCE FROM OBSERVER  
START **100 yds** END **same** DIRECTION FROM OBSERVER  
START **NW** END **NW**

VERTICAL ANGLE TO OBS. PT.  
START **28°** END **28°** DIRECTION TO OBS. PT.  
START **SE** END **SE**

DESCRIBE EMISSIONS  
START **—** END **—**

EMISSION COLOR  
START **—** END **—** IF WATER DROPLET PLUME  
ATTACHED  DETACHED  NA

DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET  
START **100 yds** END **100 yds**

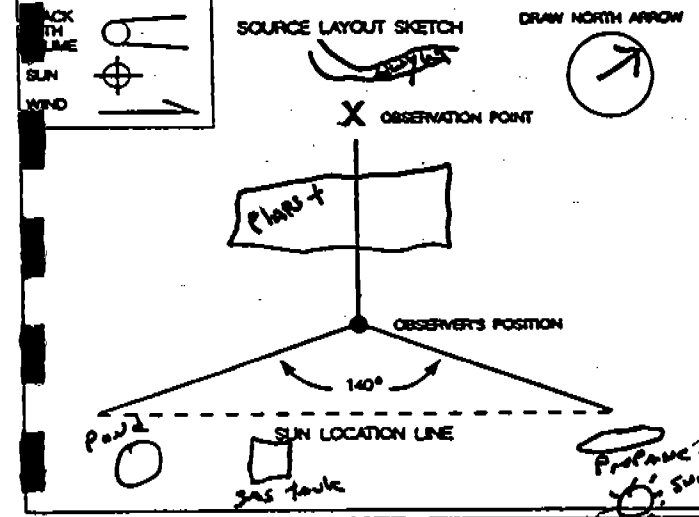
DESCRIBE PLUME BACKGROUND  
START **Blue sky** END **Blue**

BACKGROUND COLOR  
START **Blue** END **Blue** SKY CONDITIONS  
START **clear** END **clear**

WIND SPEED  
START **0** END **0** WIND DIRECTION  
START **0** END **0**

WET BULB TEMP  
START **—** END **—** RH PERCENT  
START **—** END **—**

BACK SIGHT LINE  
SUN  
WIND



ADDITIONAL INFORMATION

FORM NUMBER \_\_\_\_\_ PAGE **2** OF **3**

OBSERVATION DATE \_\_\_\_\_ START TIME **10:26** END TIME **10:26**

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

OBSERVERS NAME (PRINT)  
**DANNY HANEY**

OBSERVERS SIGNATURE  
*[Signature]* DATE \_\_\_\_\_

ORGANIZATION  
*[Signature]*

CERTIFIED BY \_\_\_\_\_ DATE \_\_\_\_\_

CONTINUED ON VEO FORM NUMBER \_\_\_\_\_

Test 1

### VISIBLE EMISSION OBSERVATION FORM

|   |                    |  |
|---|--------------------|--|
| COMPANY NAME<br><b>LOUISIANA PACIFIC CORP.</b>  |                    |  |
| LOCATION<br><b>Scott county</b>   |                    |  |
| LOCATION<br><b>Hwy 65 south</b>   |                    |  |
| CITY<br><b>DUGANNOU</b>   | STATE<br><b>LA</b> | ZIP<br><b>24245</b>  |
| PROCESS EQUIPMENT<br><b>Scrubber - 2to</b>  |                    | OPERATING MODE<br><b>Auto</b>  |
| CONTROL EQUIPMENT<br><b>Dryer Press</b>   |                    | OPERATING MODE<br><b>Auto</b>  |
| DESCRIBE EMISSION POINT<br><b>96" vertical stack</b>  |                    |  |
| HEIGHT ABOVE GROUND LEVEL<br>START <b>100'</b> END <b>SAME</b>  |                    | HEIGHT RELATIVE TO OBSERVER<br>START <b>9'</b> END <b>SAME</b>   |
| DISTANCE FROM OBSERVER<br>START <b>100 yds</b> END <b>✓</b>   |                    | DIRECTION FROM OBSERVER<br>START <b>60° NW</b> END <b>✓</b>  |
| VERTICAL ANGLE TO OBS. PT.<br>START <b>28°</b> END <b>✓</b>   |                    | DIRECTION TO OBS. PT.<br>START <b>SE</b> END <b>✓</b>  |
| DESCRIBE EMISSIONS  |                    |  |
| START <b>—</b> END <b>—</b>   |                    | IF WATER DROPLET PLUME   |
| EMISSION COLOR  |                    | ATTACHED <input type="checkbox"/> DETACHED <input type="checkbox"/> NA <input checked="" type="checkbox"/> |
| DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET  |                    |  |
| START <b>100 yds</b> END <b>100 yds</b>   |                    |  |
| DESCRIBE PLUME BACKGROUND   |                    |  |
| START <b>Blue sky</b> END <b>Blue sky</b>   |                    | SKY CONDITIONS   |
| BACKGROUND COLOR  |                    | START <b>clear</b> END <b>clear</b>  |
| START <b>Blue</b> END <b>—</b>  |                    | WIND DIRECTION   |
| WIND SPEED  |                    | START <b>0</b> END <b>0</b>  |
| START <b>0</b> END <b>0</b>   |                    | WET BULB TEMP  |
| AMBEINT TEMP  |                    | RH PERCENT   |
| START <b>—</b> END <b>—</b>   |                    |  |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 15%;"> <p>STACK WITH PLUME </p> <p>SUN </p> <p>WIND </p> </div> <div style="width: 60%;"> <p>SOURCE LAYOUT SKETCH</p> <p style="text-align: center;">X OBSERVATION POINT</p> <p style="text-align: center;">OBSERVER'S POSITION</p> <p style="text-align: center;">140°</p> <p style="text-align: center;">SUN LOCATION LINE</p> <p>pond </p> <p>gas tank </p> <p>Propane Tank </p> </div> <div style="width: 15%;"> <p>DRAW NORTH ARROW </p> </div> </div> |                    |  |
| ADDITIONAL INFORMATION  |                    |  |

| FORM NUMBER      |   | PAGE <b>2</b> OF <b>3</b>  |                          |    |          |
|------------------|---|----------------------------|--------------------------|----|----------|
| OBSERVATION DATE |   | START TIME<br><b>10:56</b> | END TIME<br><b>11:20</b> |    |          |
| SEC              | 0 | 15                         | 30                       | 45 | COMMENTS |
| MIN              |   |                            |                          |    |          |
| 1                | 0 | 0                          | 0                        | 0  |          |
| 2                | 0 | 0                          | 0                        | 0  |          |
| 3                | 0 | 0                          | 0                        | 0  |          |
| 4                | 0 | 0                          | 0                        | 0  |          |
| 5                | 0 | 0                          | 0                        | 0  |          |
| 6                | 0 | 0                          | 0                        | 0  |          |
| 6                | 0 | 0                          | 0                        | 0  |          |
| 7                | 0 | 0                          | 0                        | 0  |          |
| 8                | 0 | 0                          | 0                        | 0  |          |
| 9                | 0 | 0                          | 0                        | 0  |          |
| 10               | 0 | 0                          | 0                        | 0  |          |
| 11               | 0 | 0                          | 0                        | 0  |          |
| 12               | 0 | 0                          | 0                        | 0  |          |
| 13               | 0 | 0                          | 0                        | 0  |          |
| 14               | 0 | 0                          | 0                        | 0  |          |
| 15               | 0 | 0                          | 0                        | 0  |          |
| 16               | 0 | 0                          | 0                        | 0  |          |
| 17               | 0 | 0                          | 0                        | 0  |          |
| 18               | 0 | 0                          | 0                        | 0  |          |
| 19               | 0 | 0                          | 0                        | 0  |          |
| 20               | 0 | 0                          | 0                        | 0  |          |
| 21               | 0 | 0                          | 0                        | 0  |          |
| 22               | 0 | 0                          | 0                        | 0  |          |
| 23               | 0 | 0                          | 0                        | 0  |          |
| 24               | 0 | 0                          | 0                        | 0  |          |
| 25               |   |                            |                          |    |          |
| 26               |   |                            |                          |    |          |
| 27               |   |                            |                          |    |          |
| 28               |   |                            |                          |    |          |
| 29               |   |                            |                          |    |          |
| 30               |   |                            |                          |    |          |

|   |      |
|---|------|
| OBSERVER'S NAME (PRINT)<br><b>DANNY HANEY</b> |      |
| OBSERVER'S SIGNATURE<br>                      | DATE |
| ORGANIZATION<br><b>—</b>                      |      |
| CERTIFIED BY                                  | DATE |

|                              |  |  |  |  |
|------------------------------|--|--|--|--|
| CONTINUED ON VEO FORM NUMBER |  |  |  |  |
|------------------------------|--|--|--|--|

Test 2

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME  
LOUISIANA PAPER CORP.

LOCATION  
Scott county

LOCATION  
Hwy 65 south

CITY  
DUNCANSON

STATE  
VA

ZIP  
24245

PROCESS EQUIPMENT  
Dryer - Press

OPERATING MODE  
Auto

CONTROL EQUIPMENT  
scrubber - Rto

OPERATING MODE  
Auto

DESCRIBE EMISSION POINT  
96" vertical stack

HEIGHT ABOVE GROUND LEVEL  
START 100' END 100'

HEIGHT RELATIVE TO OBSERVER  
START 94' END 94'

DISTANCE FROM OBSERVER  
START 100yds END 100yds

DIRECTION FROM OBSERVER  
START NW END NW

VERTICAL ANGLE TO OBS. PT.  
START 28° END 28°

DIRECTION TO OBS. PT.  
START SE END SE

DESCRIBE EMISSIONS

START END

EMISSION COLOR IF WATER DROPLET PLUME

START END ATTACHED  DETACHED  NA

DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET  
START 12" END 12"

DESCRIBE PLUME BACKGROUND

START Blue sky END Blue sky

BACKGROUND COLOR SKY CONDITIONS

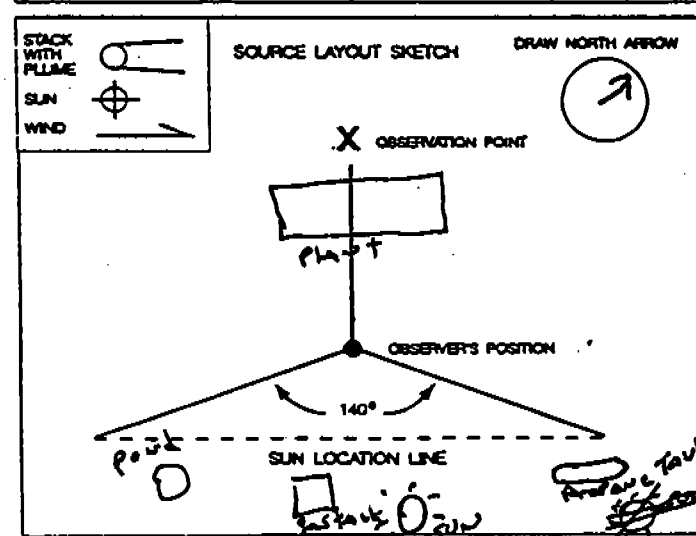
START Blue END Blue START clear END clear

WIND SPEED WIND DIRECTION

START 0 END 0 START 0 END 0

AMBIENT TEMP WET BULB TEMP RH PERCENT

START END



ADDITIONAL INFORMATION

FORM NUMBER

PAGE 1 OF 5

OBSERVATION DATE  
8-30-95

START TIME  
1:25

END TIME

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

OBSERVER'S NAME (PRINT)  
DANNY HAWCY

OBSERVER'S SIGNATURE  
[Signature]

DATE  
8-30-95

ORGANIZATION  
ETA

CERTIFIED BY  
ETA

DATE  
8-29-95

CONTINUED ON VEO FORM NUMBER

Test 2

42

# VISIBLE EMISSION OBSERVATION FORM

Pacific Corp.  
 county  
 5 south  
 STATE VA ZIP 24245

FORM NUMBER PAGE 2 OF 5

5

Press  
 - Rto  
 OPERATING MODE Auto  
 OPERATING MODE Auto

OBSERVATION DATE START TIME 2:55 END TIME ~~3:05~~

TIME

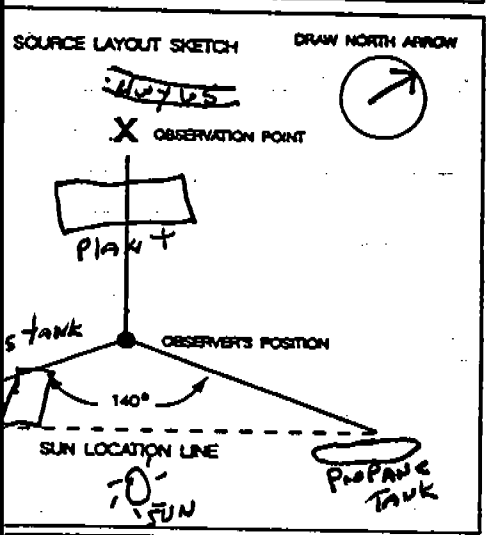
POINT  
 96" vertical stack  
 NO LEVEL, HEIGHT RELATIVE TO OBSERVER  
 END 100 START 96' END 96'  
 SERVER DIRECTION FROM OBSERVER  
 100yds START NW END NW  
 OBS. PT. DIRECTION TO OBS. PT.  
 28° START SE END SE

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

S

END  
 IF WATER DROPLET PLUME  
 ATTACHED  DETACHED  NA   
 POSITION POINT FROM EMISSION OUTLET  
 12" END 12"

BACKGROUND  
 Sky END Blue Sky  
 SKY CONDITIONS  
 Blue START clear END clear  
 WIND DIRECTION  
 START 0 END 0  
 WET BULB TEMP RH PERCENT



OBSERVER'S NAME (PRINT) DANNY HANCY  
 OBSERVER'S SIGNATURE DATE  
 ORGANIZATION  
 CERTIFIED BY DATE

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CONTINUED ON VEO FORM NUMBER

Test 2

### VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME  
**LOUISIANA PAPER CORP.**

LOCATION  
**Scott County**

LOCATION  
**Hwy 65 South**

CITY  
**Dunsmuir** STATE  
**VA** ZIP  
**24245**

PROCESS EQUIPMENT  
**Dryer - Press** OPERATING MODE  
**Auto**

CONTROL EQUIPMENT  
**Scrubber - R40** OPERATING MODE  
**Auto**

DESCRIBE EMISSION POINT  
**96" Vertical stack**

|   |  |
|---|--|
| HEIGHT ABOVE GROUND LEVEL<br>START <b>100'</b> END <b>100'</b>    | HEIGHT RELATIVE TO OBSERVER<br>START <b>94'</b> END <b>94'</b> |
| DISTANCE FROM OBSERVER<br>START <b>100 yds</b> END <b>100 yds</b> | DIRECTION FROM OBSERVER<br>START <b>NW</b> END <b>NW</b>       |
| VERTICAL ANGLE TO OBS. PT.<br>START <b>28°</b> END <b>28°</b>     | DIRECTION TO OBS. PT.<br>START <b>SE</b> END <b>SE</b>         |

DESCRIBE EMISSIONS

START **—** END **—**

EMISSION COLOR  
START **—** END **—** IF WATER DROPLET PLUME

START **—** END **—** ATTACHED  DETACHED  NA

DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET  
START **12"** END **12"**

DESCRIBE PLUME BACKGROUND

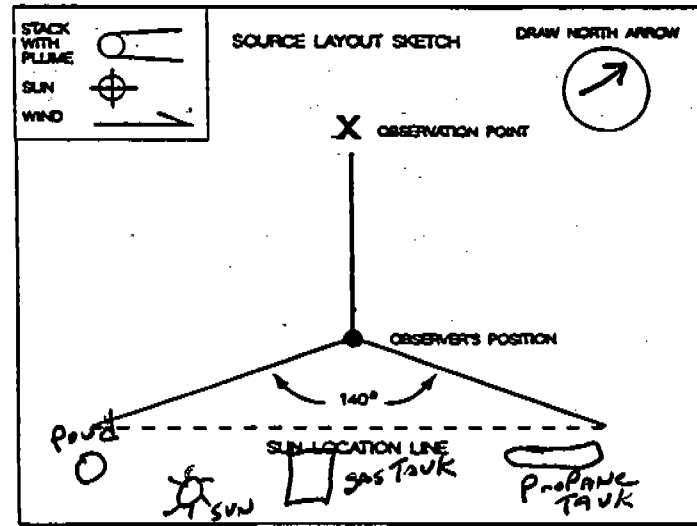
START **Blue sky** END **cloudy Gray**

BACKGROUND COLOR  
START **Blue** END **Gray** SKY CONDITIONS  
**partly**

START **Clear** END **cloudy**

WIND SPEED  
START **0** END **0** WIND DIRECTION  
START **0** END **0**

AMBIENT TEMP  
START **—** END **—** WET BULB TEMP  
START **—** END **—** RH PERCENT  
START **—** END **—**



ADDITIONAL INFORMATION

FORM NUMBER \_\_\_\_\_ PAGE **5** OF **5**

OBSERVATION DATE \_\_\_\_\_ START TIME **2:25** END TIME **2:41.30**

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

OBSERVER'S NAME (PRINT)  
**DANNY HANEY**

OBSERVER'S SIGNATURE DATE \_\_\_\_\_

ORGANIZATION \_\_\_\_\_

CERTIFIED BY \_\_\_\_\_ DATE \_\_\_\_\_

CONTINUED ON VEO FORM NUMBER \_\_\_\_\_

Test 3

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME  
LOUISIANA Pacific Corp.

LOCATION  
Scott county

LOCATION  
Hwy 65 south

CITY  
DUNSMON

STATE  
LA

ZIP  
7246

PROCESS EQUIPMENT  
Dryer - Press

OPERATING MODE  
Auto

CONTROL EQUIPMENT  
Scrubber - Rto

OPERATING MODE  
Auto

DESCRIBE EMISSION POINT  
96" vertical stack

HEIGHT ABOVE GROUND LEVEL  
START 100' END 100'

HEIGHT RELATIVE TO OBSERVER  
START 94' END 94'

DISTANCE FROM OBSERVER  
START 84 yds END 84 yds

DIRECTION FROM OBSERVER  
START SE END SE

VERTICAL ANGLE TO OBS. PT.  
START 23° END 23°

DIRECTION TO OBS. PT.  
START NW END NW

DESCRIBE EMISSIONS

START - END -

EMISSION COLOR - IF WATER DROPLET PLUME

START - END - ATTACHED  DETACHED  NA

DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET  
START 12" END 12"

DESCRIBE PLUME BACKGROUND

START cloudy END cloudy

BACKGROUND COLOR - SKY CONDITIONS

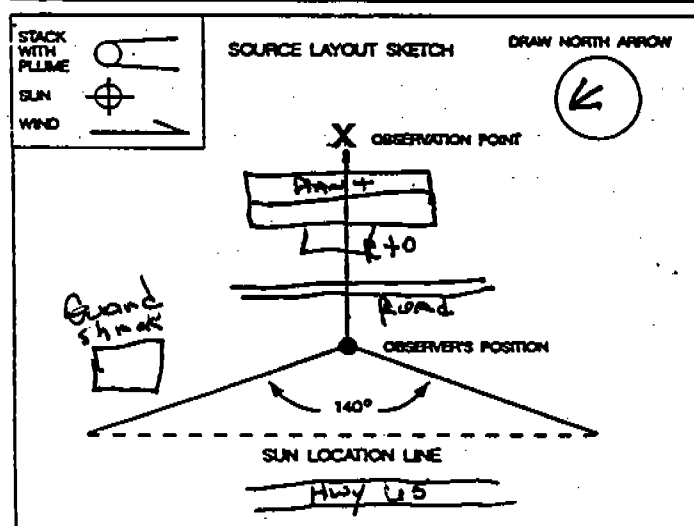
START white END - START Bury END DARK

WIND SPEED - WIND DIRECTION

START 0 END 0 START 0 END 0

AMBIENT TEMP - WET BULB TEMP - RH PERCENT

START - END -



ADDITIONAL INFORMATION

FORM NUMBER PAGE 11 OF 2

OBSERVATION DATE 8-30-95 START TIME 7:47 END TIME

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

OBSERVER'S NAME (PRINT)  
DANNY HANEY

OBSERVER'S SIGNATURE DATE 8-30-95

ORGANIZATION

CERTIFIED BY ETA DATE 8-29-95

CONTINUED ON VEO FORM NUMBER

Test 3

# VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME  
LOUISIANA Pacific corp.

LOCATION  
Scott County

LOCATION  
Hwy 65 South

CITY  
DUNSAUNOJ

STATE  
LA

ZIP  
72425

PROCESS EQUIPMENT  
Dryer - Press

OPERATING MODE  
Auto

CONTROL EQUIPMENT  
Scrubber - Rto

OPERATING MODE  
Auto

DESCRIBE EMISSION POINT  
.96" vertical stack

HEIGHT ABOVE GROUND LEVEL  
START 100' END 100'

HEIGHT RELATIVE TO OBSERVER  
START 100' END 100'

DISTANCE FROM OBSERVER  
START 84yds END 84yds

VERTICAL ANGLE TO OBS. PT.  
START 23° END 23°

DIRECTION FROM OBSERVER  
START SE END SE

DIRECTION TO OBS. PT.  
START W END W

DESCRIBE EMISSIONS

EMISSION COLOR  
START - END -

IF WATER DROPLET PLUME  
START - END -

ATTACHED  DETACHED  NA

DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET  
START 12" END 12"

DESCRIBE PLUME BACKGROUND

BACKGROUND COLOR  
START Haze Gray END -

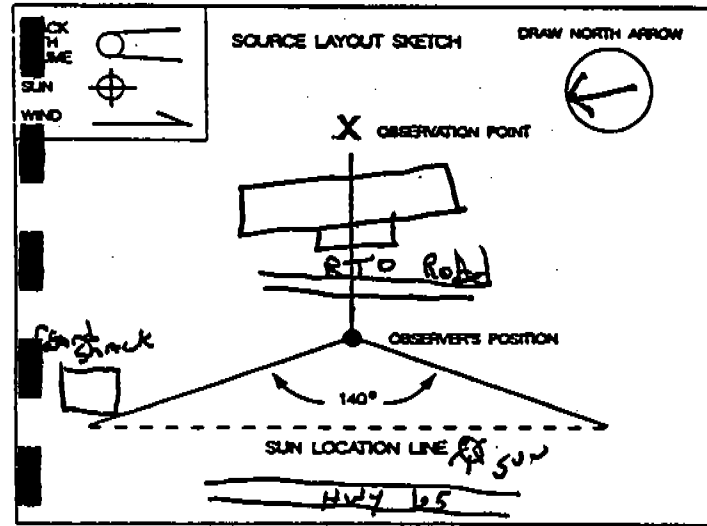
SKY CONDITIONS  
START Partly cloudy END Partly cloudy

WIND SPEED  
START 5 mph END 0

WIND DIRECTION  
START S END 0

WET BULB TEMP  
START - END -

RH PERCENT  
START - END -



ADDITIONAL INFORMATION

FORM NUMBER \_\_\_\_\_ PAGE 2 OF 2

OBSERVATION DATE \_\_\_\_\_ START TIME \_\_\_\_\_ END TIME 8:25.45

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

OBSERVER'S NAME (PRINT) \_\_\_\_\_

OBSERVER'S SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

ORGANIZATION \_\_\_\_\_

CERTIFIED BY \_\_\_\_\_ DATE \_\_\_\_\_

CONTINUED ON VEO FORM NUMBER \_\_\_\_\_

DRYER DATA SHEETDATE 8:30:95BY TRACY SHEW

PLANT: \_\_\_\_\_

REVOLUTIONS per MINUTE: \_\_\_\_\_

FUEL CALIBRATION: \_\_\_\_\_

(NOTE ANY CHANGES IN SETPOINTS)

| TIME  | OUTLET SET POINT | FEED RATE | DRYER INLET TEMP | DRYER OUTLET TEMP | FUEL COUNT | WET BIN LEVEL | DRY BIN LEVEL |      | EVERY HOUR FLAKE MOISTURE |      |
|-------|------------------|-----------|------------------|-------------------|------------|---------------|---------------|------|---------------------------|------|
|       |                  |           |                  |                   |            |               | SUR.          | CORE | IN                        | OUT  |
| 7:00  | 191              | 80        | 1088             | 192               | 37         | 1/4           | 1/2           | 1/2  |                           |      |
| 7:15  | 191              | 85        | 992              | 191               | 134        | 1/4           | 1/2           | 1/2  |                           |      |
| 7:30  | 191              | 83        | 1114             | 189               | 230        | 1/2           | 1/2           | 1/2  |                           |      |
| 7:45  | 191              | 83        | 1117             | 191               | 347        | 1/2           | 1/2           | 1/2  |                           |      |
| 8:00  | 191              | 83        | 1115             | 190               | 452        | 1/2           | 1/2           | 1/2  | 42%                       | 80%  |
| 8:15  | 191              | 83        | 1204             | 189               | 607        | 1/2           | 3/4           | 3/4  |                           |      |
| 8:30  | 191              | 77        | 1171             | 191               | 700        | Full          | Full          | Full |                           |      |
| 8:45  | 191              | 77        | 1095             | 191               | 809        | Full          | Full          | Full |                           |      |
| 9:00  | START UP         | UP        | START UP         | UP                | 835        | Full          | Full          | Full | N/A                       | Down |
| 9:15  | 191              | 77        | 1112             | 190               | 948        | Full          | 3/4           | 3/4  |                           |      |
| 9:30  | 191              | 80        | 1108             | 190               | 1075       | Full          | 3/4           | 3/4  |                           |      |
| 9:45  | 191              | 83        | 1137             | 190               | 1193       | Full          | 3/4           | 7/8  |                           |      |
| 10:00 | 191              | 83        | 1142             | 180               | 1335       | Full          | 3/4           | 3/4  | 40%                       | 80%  |
| 10:15 | 191              | 83        | 1148             | 191               | 1472       | 3/4           | 3/4           | 3/4  |                           |      |
| 10:30 | 191              | 83        | 1151             | 191               | 1602       | 1/2           | 3/4           | 3/4  |                           |      |
| 10:45 | 191              | 83        | 1148             | 190               | 1742       | 1/2           | 3/4           | 3/4  |                           |      |
| 11:00 | 191              | 83        | 1241             | 190               | 1876       | 3/4           | 3/4           | 3/4  | 41%                       | 80%  |
| 11:15 | 191              | 83        | 1294             | 190               | 2019       | Full          | 3/4           | 5/8  |                           |      |
| 11:30 | Down             | Down      | Down             | Down              | 2139       | Full          | 1/4           | 1/4  |                           |      |
| 11:45 | Down             | Down      | Down             | Down              | 2139       | Full          | 1/4           | 1/4  |                           |      |
| 12:00 | 195              | 60        | 1099             | 195               | 2209       | Full          | 1/4           | 1/4  |                           |      |
| 12:15 | 200              | 70        | 1202             | 198               | 2326       | Full          | 1/4           | 1/4  |                           |      |
| 12:30 | 195              | 80        | 1200             | 196               | 2471       | Full          | 1/4           | 1/4  |                           |      |
| 12:45 | 195              | 83        | 1278             | 195               | 2582       | Full          | 1/2           | 1/2  |                           |      |
| 1:00  | 195              | 83        | 1238             | 195               | 2685       | Full          | 1/4           | 1/4  | 42%                       | 80%  |
| 1:15  | 195              | 83        | 1292             | 193               | 2829       | Full          | 1/4           | 1/4  |                           |      |
| 1:30  | 195              | 83        | 1289             | 191               | 2955       | Full          | 1/2           | 1/2  |                           |      |
| 1:45  | 195              | 83        | 1289             | 194               | 3086       | Full          | 1/2           | 1/2  |                           |      |
| 2:00  | 195              | 83        | 1254             | 195               | 3218       | Full          | 1/2           | 1/2  | 43%                       | 80%  |
| 2:15  | 195              | 83        | 1194             | 196               | 3377       | Full          | 1/2           | 1/2  |                           |      |





LOUISIANA - PACIFIC CORPORATION  
 DUNGANNON, VIRGINIA  
 SCRUBBER FILTER CAKE WEIGHTS

| SCALER'S NAME    | TIME WEIGHED | DATE    | SHIFT WORKING | HOPPER + FILTER CAKE WT/POUNDS | MINUS 680 LBS (EMPTY HOPPER) | FILTER CAKE WEIGHT IN POUNDS |
|------------------|--------------|---------|---------------|--------------------------------|------------------------------|------------------------------|
| 1. Ron Skowpa    | 7:56 Am      | 8-30-95 | 7Am-3pm       | 14,180                         | -13,900 (FRESH)              | 280 lbs. 14 ton              |
| 2. Ron Skowpa    | 9:01 Am      | 8-30-95 | 7Am-3pm       | 14,200                         | -13,900                      | 300 lbs. 15 ton              |
| 3. Ron Skowpa    | 9:49 Am      | 8-30-95 | 7Am-3pm       | 14,200                         | -13,900                      | 300 lbs. 15 ton              |
| 4. Ron Skowpa    | 11:39 Am     | 8-30-95 | 7Am-3pm       | 14,200                         | -13,900                      | 300 lbs. 15 ton              |
| 5. Ron Skowpa    | 12:51 pm     | 8-30-95 | 7Am-3pm       | 14,160                         | -13,900                      | 260 lbs. 13 ton              |
| 6. Donald Skowpa | 1:30 pm      | 11      | 11            | 14,160                         | -11                          | 260 lbs. 13 ton              |
| 7. Ron Skowpa    | 3:34 pm      | 11      | 11            | 14,340                         | -11                          | 440 lbs. 22 ton              |
| 8. Eldia Skowpa  | 7:35 pm      | 8-30-95 | 7pm.          | 14,980                         | 13,980                       | 1040 lbs.                    |
| 9. Eldia Skowpa  | 8:30 pm      | 8-30-95 | 7pm.          | 14,020                         | 13,900                       | 180 lbs. TEST                |
| 10.              |              |         |               |                                |                              |                              |
| 11.              |              |         |               |                                |                              |                              |
| 12.              |              |         |               |                                |                              |                              |
| 13.              |              |         |               |                                |                              |                              |
| 14.              |              |         |               |                                |                              |                              |
| 15.              |              |         |               |                                |                              |                              |
| 16.              |              |         |               |                                |                              |                              |
| 17.              |              |         |               |                                |                              |                              |
| 18.              |              |         |               |                                |                              |                              |
| 19.              |              |         |               |                                |                              |                              |
| 20.              |              |         |               |                                |                              |                              |

KOMLINE - SANDERSON DRUM FILTER DOWNTIME IN MINUTES THIS SHIFT \_\_\_\_\_

REASON FOR DOWN TIME: \_\_\_\_\_

TURN SHEET IN TO FOREMAN AT THE END OF THE SHIFT

OTHER COMMENTS: \_\_\_\_\_

SCRUBBER DATA SHEET - A

DATE 8-30-95

| TIME  | DRYER ID<br>FAN<br>"OF WATER | SCRUBBER PUMP PRESSURE |                 | SCRUBBER<br>pH | VDF FEEDING<br>OUT MATERIAL<br>YES/NO | K-S FILTER<br>WEIGHTS |
|-------|------------------------------|------------------------|-----------------|----------------|---------------------------------------|-----------------------|
|       |                              | UPPER<br>NOZZLE        | LOWER<br>NOZZLE |                |                                       |                       |
| 7:00  | 40                           | 21                     | 18              |                | Yes                                   |                       |
| 7:15  | 40                           | 21                     | 17              |                | Yes                                   |                       |
| 7:30  | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 7:45  | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 8:00  | 40                           | 20                     | 20              |                | Yes                                   | 250 lbs               |
| 8:15  | 40                           | 20                     | 21              |                | Yes                                   |                       |
| 8:30  | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 8:45  | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 9:00  | 40                           | 21                     | 21              |                | Yes                                   | 300 lbs               |
| 9:15  | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 9:30  | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 9:45  | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 10:00 | 40                           | 20                     | 20              |                | Yes                                   | 300 lbs               |
| 10:15 | 40                           | 20                     | 19              |                | Yes                                   |                       |
| 10:30 | 40                           | 21                     | 20              |                | Yes                                   |                       |
| 10:45 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 11:00 | 40                           | 21                     | 20              | 12             | Yes                                   |                       |
| 11:15 | 40                           | 21                     | 20              |                | Yes                                   | 300 lbs               |
| 11:30 | Down                         | Down                   | Down            |                | Yes                                   |                       |
| 11:45 | Down                         | Down                   | Down            |                | Yes                                   |                       |
| 12:00 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 12:15 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 12:30 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 12:45 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 1:00  | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 1:15  | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 1:30  | 40                           | 21                     | 21              |                | Yes                                   | 260                   |

SIGNATURE Michael Dacey

# SCRUBBER DATA SHEET - A

DATE 8:30-95

| TIME | DRYER ID<br>FAN<br>"OF WATER | SCRUBBER PUMP PRESSURE |                 | SCRUBBER<br>pH | VDF FEEDING<br>OUT MATERIAL<br>YES/NO | K-S FILTER<br>WEIGHTS |
|------|------------------------------|------------------------|-----------------|----------------|---------------------------------------|-----------------------|
|      |                              | UPPER<br>NOZZLE        | LOWER<br>NOZZLE |                |                                       |                       |
| 1:45 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 2:00 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 2:15 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 2:30 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 2:45 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 3:00 | 40                           | 21                     | 21              | 6              | Yes                                   |                       |
| 3:15 | 40                           | 21                     | 21              |                | Yes                                   | 440                   |
| 3:30 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 3:45 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 4:00 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 4:15 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 4:30 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 4:45 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 5:00 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 5:15 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 5:30 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 5:45 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 6:00 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 6:15 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 6:30 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 6:45 | 40                           | 21                     | 21              |                | Yes                                   |                       |
| 7:00 | 40                           | 21                     | 21              |                | Yes                                   |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |

SIGNATURE Michael Doolley

SCRUBBER DATA SHEET - A

DATE 8-30-95

| TIME | DRYER ID<br>FAN<br>"OF WATER | SCRUBBER PUMP PRESSURE |                 | SCRUBBER<br>pH | VDF FEEDING<br>OUT MATERIAL<br>YES/NO | K-S FILTER<br>WEIGHTS |
|------|------------------------------|------------------------|-----------------|----------------|---------------------------------------|-----------------------|
|      |                              | UPPER<br>NOZZLE        | LOWER<br>NOZZLE |                |                                       |                       |
| 8:00 | 40                           | 21                     | 18              |                | YES                                   | 1040                  |
| 8:20 | 40                           | 21                     | 18              |                | YES                                   |                       |
| 8:28 | 40                           | 20                     | 12              |                | YES                                   |                       |
| 8:05 | 40                           | 21                     | 18              |                | YES                                   |                       |
| 8:14 | 40                           | 21                     | 18              |                | YES                                   | 14020                 |
| 8:50 | 40                           | 21                     | 18              |                | YES                                   |                       |
| 8:56 | 40                           | 21                     | 18              |                | YES                                   |                       |
| 8:03 |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |

SIGNATURE Steven L. [Signature]

SCRUBBER DATA SHEET - B

DATE 8-30-95

| TIME  | WATER LEVEL SIGHT GLASS | SCRUBBER " OF WATER | " OF WATER LOWER CHEVRON | " OF WATER UPPER CHEVRON | MAKE UP WATER ADDED | INLET TEMP TO SCRUBBER |
|-------|-------------------------|---------------------|--------------------------|--------------------------|---------------------|------------------------|
| 7:00  | 1/2                     | 26                  | NA                       | 35                       | 0                   | 175                    |
| 7:15  | 1/2                     | 27                  | NA                       | 35                       | 0                   | 174                    |
| 7:30  | 1/2                     | 27                  | NA                       | 35                       | 0                   | 173                    |
| 7:45  | 1/2                     | 26                  | NA                       | 35                       | 0                   | 174                    |
| 8:00  | 1/2                     | 27                  | NA                       | 35                       | 0                   | 175                    |
| 8:15  | 1/2                     | 27                  | NA                       | 35                       | 0                   | 172                    |
| 8:30  | 1/2                     | 26                  | NA                       | 35                       | 0                   | 174                    |
| 8:45  | 1/2                     | 27                  | NA                       | 35                       | 0                   | 174                    |
| 9:00  | 1/2                     | 27                  | NA                       | 35                       | 0                   | 174                    |
| 9:15  | 1/2                     | 27                  | NA                       | 35                       | 0                   | 166                    |
| 9:30  | 1/2                     | 27                  | NA                       | 35                       | 0                   | 171                    |
| 9:45  | 1/2                     | 27                  | NA                       | 35                       | 0                   | 174                    |
| 10:00 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 173                    |
| 10:15 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 176                    |
| 10:30 | 1/2                     | 26                  | NA                       | 35                       | 0                   | 174                    |
| 10:45 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 174                    |
| 11:00 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 174                    |
| 11:15 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 174                    |
| 11:30 | 1/2                     | Down                | NA                       | Down                     | 600 gal             | 152                    |
| 11:45 | 1/2                     | Down                | NA                       | Down                     | 0                   | 152                    |
| 12:00 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 172                    |
| 12:15 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 180                    |
| 12:30 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 180                    |
| 12:45 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 178                    |
| 1:00  | 1/2                     | 27                  | NA                       | 35                       | 0                   | 178                    |
| 1:15  | 1/2                     | 27                  | NA                       | 35                       | 0                   | 178                    |
| 1:30  | 1/2                     | 27                  | NA                       | 35                       | 0                   | 180                    |

SIGNATURE Michael Dacey

SCRUBBER DATA SHEET - B

DATE 8-30-95

| TIME | WATER LEVEL SIGHT GLASS | SCRUBBER " OF WATER | " OF WATER LOWER CHEVRON | " OF WATER UPPER CHEVRON | MAKE UP WATER ADDED | INLET TEMP TO SCRUBBER |
|------|-------------------------|---------------------|--------------------------|--------------------------|---------------------|------------------------|
| 1:45 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 175                    |
| 2:00 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 178                    |
| 2:15 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 178                    |
| 2:30 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 153                    |
| 2:45 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 174                    |
| 3:00 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 176                    |
| 3:15 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 179                    |
| 3:30 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 178                    |
| 3:45 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 178                    |
| 4:00 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 178                    |
| 4:15 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 195                    |
| 4:30 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 187                    |
| 4:45 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 160                    |
| 5:00 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 157                    |
| 5:15 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 144                    |
| 5:30 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 160                    |
| 5:45 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 157                    |
| 6:00 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 142                    |
| 6:15 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 143                    |
| 6:30 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 170                    |
| 6:45 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 134                    |
| 7:00 | 1/2                     | 27                  | NA                       | 35                       | 0                   | 134                    |
|      |                         |                     |                          |                          |                     |                        |
|      |                         |                     |                          |                          |                     |                        |
|      |                         |                     |                          |                          |                     |                        |
|      |                         |                     |                          |                          |                     |                        |
|      |                         |                     |                          |                          |                     |                        |
|      |                         |                     |                          |                          |                     |                        |
|      |                         |                     |                          |                          |                     |                        |
|      |                         |                     |                          |                          |                     |                        |

SIGNATURE Michael Dooly

# SCRUBBER DATA SHEET - B

DATE 6-30-55

| TIME | WATER LEVEL<br>SIGHT GLASS | SCRUBBER<br>" OF WATER | " OF WATER<br>LOWER<br>CHEVRON | " OF WATER<br>UPPER<br>CHEVRON | MAKE UP<br>WATER<br>ADDED | INLET<br>TEMP TO<br>SCRUBBER |
|------|----------------------------|------------------------|--------------------------------|--------------------------------|---------------------------|------------------------------|
| 7:00 | 1/2                        | 27                     | NA                             | 35                             | 0                         | 176                          |
| 7:15 | 1/2                        | 27                     | NA                             | 35                             | 0                         | 177                          |
| 7:50 | 1/2                        | 27                     | NA                             | 35                             | 0                         | 176                          |
| 8:10 | 1/2                        | 27                     | NA                             | 35                             | 0                         | 166                          |
| 8:14 | 1/2                        | 27                     | NA                             | 35                             | 0                         | 169                          |
| 8:50 | 1/2                        | 27                     | NA                             | 35                             | 0                         | 168                          |
| 8:56 | 1/2                        | 27                     | NA                             | 35                             | 0                         | 172                          |
| 9:03 |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |

SIGNATURE *Steve G. News*





LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

WET! 15 mins

DATE: 8-30-95  
TIME: 10:00  
NAME: [Signature]

| SIEVE ANALYSIS: |                 | WEIGHT       |
|-----------------|-----------------|--------------|
| 1 1/2"          | = <u>2.25</u> % | <u>182.1</u> |
| 3/4"            | = <u>19.2</u> % | <u>125.8</u> |
| 1/2"            | = <u>15.7</u> % | <u>102.7</u> |
| 1/4"            | = <u>15.0</u> % | <u>124.7</u> |
| 3/16"           | = <u>10.6</u> % | <u>69.3</u>  |
| PAN             | = <u>5.9</u> %  | <u>48.5</u>  |
| TOTAL           | = <u>89.2%</u>  | <u>253.1</u> |

DATE: 8-30-95  
TIME: 11:00  
NAME: K. Anderson

DRY 10 mins

| SIEVE ANALYSIS: |                                 | WEIGHT       |
|-----------------|---------------------------------|--------------|
| 1 1/2"          | = <del>20.3</del> <u>3.7</u> %  | <u>21.5</u>  |
| 3/4"            | = <del>100</del> <u>35.9</u> %  | <u>203.5</u> |
| 1/2"            | = <del>50.8</del> <u>19.7</u> % | <u>100.5</u> |
| 1/4"            | = <del>60.1</del> <u>25.1</u> % | <u>143.5</u> |
| 3/16"           | = <u>12.1</u> %                 | <u>68.7</u>  |
| PAN             | = <u>5.1</u> %                  | <u>29.2</u>  |
| TOTAL           | = <u>99.6</u> %                 | <u>565.9</u> |

WET

DATE: 8-30  
TIME: 12:00  
NAME: K.A.

| SIEVE ANALYSIS: |                  | WEIGHT                        |
|-----------------|------------------|-------------------------------|
| 1 1/2"          | = <u>22.4</u> %  | <u>101.5</u>                  |
| 3/4"            | = <u>30.0</u> %  | <del>135.5</del> <u>135.5</u> |
| 1/2"            | = <u>16.7</u> %  | <u>75.4</u>                   |
| 1/4"            | = <u>14.4</u> %  | <u>65.2</u>                   |
| 3/16"           | = <u>8.3</u> %   | <u>36.1</u>                   |
| PAN             | = <u>8.3</u> %   | <u>37.6</u>                   |
| TOTAL           | = <u>100.1</u> % | <u>451.3</u>                  |

DATE: 8-30  
TIME: 1:00  
NAME: K.A.

DRY

| SIEVE ANALYSIS: |                              | WEIGHT       |
|-----------------|------------------------------|--------------|
| 1 1/2"          | = <del>10</del> <u>5.5</u> % | <u>20.5</u>  |
| 3/4"            | = <u>34.6</u> %              | <u>128.3</u> |
| 1/2"            | = <u>21.5</u> %              | <u>79.7</u>  |
| 1/4"            | = <u>23.8</u> %              | <u>88.2</u>  |
| 3/16"           | = <u>10.6</u> %              | <u>39.6</u>  |
| PAN             | = <u>3.8</u> %               | <u>14.2</u>  |
| TOTAL           | = <u>99.8</u> %              | <u>370.5</u> |

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

WET

DATE: 8-30  
TIME: 2:00  
NAME: KA

| SIEVE ANALYSIS: |                 | WEIGHT       |
|-----------------|-----------------|--------------|
| 1 1/2"          | = <u>2.6</u> %  | <u>105.6</u> |
| 3/4"            | = <u>34.9</u> % | <u>136.0</u> |
| 1/2"            | = <u>16.9</u> % | <u>65.9</u>  |
| 1/4"            | = <u>14.5</u> % | <u>56.7</u>  |
| 3/16"           | = <u>5.4</u> %  | <u>21.4</u>  |
| PAN             | = <u>1.8</u> %  | <u>7.4</u>   |
| TOTAL           | = <u>75.8</u> % | <u>391</u>   |

DATE: 8-30  
TIME: 3:00  
NAME: KA

| DRY SIEVE ANALYSIS: |                 | WEIGHT       |
|---------------------|-----------------|--------------|
| 1 1/2"              | = <u>1.6</u> %  | <u>5.3</u>   |
| 3/4"                | = <u>26.8</u> % | <u>88.0</u>  |
| 1/2"                | = <u>14.9</u> % | <u>48.9</u>  |
| 1/4"                | = <u>25.8</u> % | <u>84.6</u>  |
| 3/16"               | = <u>12.3</u> % | <u>40.3</u>  |
| PAN                 | = <u>18.4</u> % | <u>60.5</u>  |
| TOTAL               | = <u>99.8</u> % | <u>322.6</u> |

WET

DATE: 8-30  
TIME: 4:00  
NAME: KA

| SIEVE ANALYSIS: |                 | WEIGHT       |
|-----------------|-----------------|--------------|
| 1 1/2"          | = <u>55.8</u> % | <u>293.0</u> |
| 3/4"            | = <u>18.7</u> % | <u>92.1</u>  |
| 1/2"            | = <u>9.9</u> %  | <u>50.3</u>  |
| 1/4"            | = <u>9.9</u> %  | <u>51.9</u>  |
| 3/16"           | = <u>3.7</u> %  | <u>19.9</u>  |
| PAN             | = <u>1.8</u> %  | <u>9.5</u>   |
| TOTAL           | = <u>99.8</u> % | <u>524.2</u> |

DATE: 8-30  
TIME: 5:00  
NAME: KA

| DRY SIEVE ANALYSIS: |                 | WEIGHT       |
|---------------------|-----------------|--------------|
| 1 1/2"              | = <u>5.9</u> %  | <u>13.3</u>  |
| 3/4"                | = <u>32.9</u> % | <u>74.3</u>  |
| 1/2"                | = <u>23.9</u> % | <u>53.9</u>  |
| 1/4"                | = <u>24.3</u> % | <u>54.8</u>  |
| 3/16"               | = <u>10.6</u> % | <u>23.9</u>  |
| PAN                 | = <u>2.2</u> %  | <u>5.1</u>   |
| TOTAL               | = <u>99.8</u> % | <u>225.3</u> |

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

WET

DATE: 8-30  
TIME: 6:00  
NAME: K.L.A.

| SIEVE ANALYSIS: |                 | WEIGHT       |
|-----------------|-----------------|--------------|
| 1 1/2"          | = <u>22.1</u> % | <u>100.5</u> |
| 3/4"            | = <u>30.1</u> % | <u>136.7</u> |
| 1/2"            | = <u>15.5</u> % | <u>20.4</u>  |
| 1/4"            | = <u>15.0</u> % | <u>68.2</u>  |
| 3/16"           | = <u>8.6</u> %  | <u>39.1</u>  |
| PAN             | = <u>8.5</u> %  | <u>38.7</u>  |
| TOTAL           | = <u>99.8</u> % | <u>453.6</u> |

DRY

DATE: \_\_\_\_\_  
TIME: \_\_\_\_\_  
NAME: \_\_\_\_\_

| SIEVE ANALYSIS: |           | WEIGHT |
|-----------------|-----------|--------|
| 1 1/2"          | = _____ % | _____  |
| 3/4"            | = _____ % | _____  |
| 1/2"            | = _____ % | _____  |
| 1/4"            | = _____ % | _____  |
| 3/16"           | = _____ % | _____  |
| PAN             | = _____ % | _____  |
| TOTAL           | = _____ % | _____  |

WET

DATE: \_\_\_\_\_  
TIME: \_\_\_\_\_  
NAME: \_\_\_\_\_

| SIEVE ANALYSIS: |           | WEIGHT |
|-----------------|-----------|--------|
| 1 1/2"          | = _____ % | _____  |
| 3/4"            | = _____ % | _____  |
| 1/2"            | = _____ % | _____  |
| 1/4"            | = _____ % | _____  |
| 3/16"           | = _____ % | _____  |
| PAN             | = _____ % | _____  |
| TOTAL           | = _____ % | _____  |

DRY

DATE: \_\_\_\_\_  
TIME: \_\_\_\_\_  
NAME: \_\_\_\_\_

| SIEVE ANALYSIS: |           | WEIGHT |
|-----------------|-----------|--------|
| 1 1/2"          | = _____ % | _____  |
| 3/4"            | = _____ % | _____  |
| 1/2"            | = _____ % | _____  |
| 1/4"            | = _____ % | _____  |
| 3/16"           | = _____ % | _____  |
| PAN             | = _____ % | _____  |
| TOTAL           | = _____ % | _____  |

WAFER THICKNESS

|    |    |
|----|----|
| 48 | 34 |
| 42 | 40 |
| 46 | 33 |
| 39 | 26 |
| 40 | 23 |
| 40 | 60 |
| 34 | 42 |
| 21 | 18 |
| 26 | 54 |
| 31 | 36 |
| 36 | 14 |
| 35 | 41 |
| 36 | 30 |
| 23 | 39 |
| 41 | 37 |
| 42 | 36 |
| 54 | 40 |
| 31 | 23 |
| 38 | 24 |
| 46 | 40 |
| 25 | 41 |
| 24 | 34 |
| 54 | 28 |
| 40 | 26 |
| 36 | 41 |

Avg = 0.36  
Dev 10

10:00  
H. Anderson

Every  
2 hrs

3rd  
SSR

Avg =  $\frac{2.09}{7}$

Dev  $\frac{2.09}{OXN}$

WAFER THICKNESS

1200

|    |    |  |
|----|----|--|
| 28 | 36 |  |
| 36 | 60 |  |
| 40 | 42 |  |
| 27 | 18 |  |
| 34 | 14 |  |
| 39 | 41 |  |
| 42 | 48 |  |
| 52 | 51 |  |
| 54 | 47 |  |
| 37 | 23 |  |
| 39 | 24 |  |
| 42 | 40 |  |
| 48 | 36 |  |
| 50 | 39 |  |
| 30 | 30 |  |
| 28 | 41 |  |
| 32 | 54 |  |
| 35 | 23 |  |
| 29 | 26 |  |
| 40 | 34 |  |
| 42 | 23 |  |
| 47 | 41 |  |
| 52 | 43 |  |
| 54 | 45 |  |
| 36 | 40 |  |

WAFER THICKNESS

200

|    |    |  |
|----|----|--|
| 36 | 22 |  |
| 50 | 40 |  |
| 40 | 25 |  |
| 23 | 27 |  |
| 17 | 35 |  |
| 18 | 34 |  |
| 26 | 20 |  |
| 26 | 28 |  |
| 36 | 46 |  |
| 46 | 40 |  |
| 38 | 25 |  |
| 23 | 38 |  |
| 36 | 50 |  |
| 22 | 26 |  |
| 41 | 29 |  |
| 31 | 44 |  |
| 43 | 44 |  |
| 30 | 21 |  |
| 40 | 36 |  |
| 39 | 23 |  |
| 35 | 24 |  |
| 40 | 30 |  |
| 30 | 27 |  |
| 44 | 41 |  |
| 24 | 40 |  |

WAFER THICKNESS

400

|    |    |  |
|----|----|--|
| 40 | 44 |  |
| 25 | 31 |  |
| 49 | 33 |  |
| 34 | 50 |  |
| 22 | 45 |  |
| 34 | 50 |  |
| 36 | 33 |  |
| 26 | 42 |  |
| 25 | 21 |  |
| 36 | 39 |  |
| 47 | 35 |  |
| 23 | 48 |  |
| 39 | 59 |  |
| 40 | 42 |  |
| 30 | 42 |  |
| 37 | 30 |  |
| 53 | 28 |  |
| 40 | 33 |  |
| 38 | 35 |  |
| 35 | 21 |  |
| 36 | 32 |  |
| 45 | 52 |  |
| 35 | 41 |  |
| 44 | 33 |  |
| 43 | 34 |  |



WAFER THICKNESS

500

|    |    |  |
|----|----|--|
| 42 | 37 |  |
| 36 | 42 |  |
| 41 | 50 |  |
| 51 | 40 |  |
| 37 | 27 |  |
| 23 | 32 |  |
| 40 | 37 |  |
| 37 | 34 |  |
| 33 | 36 |  |
| 53 | 48 |  |
| 40 | 27 |  |
| 35 | 43 |  |
| 37 | 37 |  |
| 40 | 34 |  |
| 41 | 28 |  |
| 50 | 47 |  |
| 37 | 34 |  |
| 35 | 28 |  |
| 30 | 39 |  |
| 27 | 40 |  |
| 34 | 31 |  |
| 33 | 33 |  |
| 29 | 30 |  |
| 32 | 33 |  |
| 29 | 32 |  |

### RTO DATA SHEET

DATE: 8-30-95

UNIT: Dungannon

Time From: 7:00 A.M. To: 9:00 A.M.

|                               | <u>off</u> |      |      |      |      |      |      |      |      |
|-------------------------------|------------|------|------|------|------|------|------|------|------|
| BTUE (On or Off)              |            |      |      |      |      |      |      |      |      |
| Temp-Comb.Chamber             | 1571       | 1571 | 1570 | 1562 | 1562 | 1562 | 1558 | 1555 | 1526 |
| Temp - Inlet                  | 111        | 111  | 110  | 110  | 110  | 111  | 112  | 109  | 100  |
| Temp - Exhaust                | 227        | 219  | 222  | 223  | 227  | 227  | 228  | 220  | 211  |
| Temp - Cham. #1 lower bed     | 295        | 291  | 293  | 294  | 295  | 294  | 295  | 293  | 285  |
| Temp - Cham. #2 lower bed     | 274        | 272  | 271  | 272  | 273  | 272  | 274  | 271  | 266  |
| Temp - Cham #3 lower bed      | 299        | 302  | 301  | 301  | 297  | 300  | 298  | 302  | 294  |
| Temp - Cham #4 lower bed      | 324        | 315  | 319  | 318  | 328  | 322  | 327  | 317  | 317  |
| Temp - Cham #5 lower bed      | 286        | 289  | 285  | 286  | 285  | 286  | 286  | 297  | 282  |
| Temp - Cham #6 lower bed      | 324        | 320  | 325  | 323  | 322  | 323  | 324  | 324  | 318  |
| Temp - Cham #7 lower bed      | 346        | 343  | 343  | 343  | 346  | 344  | 345  | 342  | 339  |
| Temp - Cham #8 lower bed      | 344        | 348  | 345  | 346  | 341  | 343  | 341  | 346  | 343  |
| RTO Δ P                       | 20         | 20   | 21   | 19   | 20   | 19   | 19   | 13   | 15   |
| Pressure - Inlet Duct         | 2.64       | 2.66 | 2.47 | 2.67 | 2.38 | 2.39 | 2.44 | 3.38 | 1.93 |
| Temp - Burner #1              | 1492       | 1498 | 1491 | 1492 | 1494 | 1493 | 1497 | 1500 | 1492 |
| Temp - Burner #2              | 1519       | 1502 | 1524 | 1514 | 1518 | 1521 | 1515 | 1516 | 1505 |
| Temp - Burner #3              | 1527       | 1513 | 1528 | 1524 | 1527 | 1533 | 1521 | 1530 | 1509 |
| Output - Burner #1 Cont. %    | 50.0       | 51.1 | 50.3 | 52.1 | 50.6 | 50.7 | 48.4 | 45.8 | 45.7 |
| Output - Burner #2 Cont. %    | 28.3       | 32.1 | 25.3 | 31.5 | 31.1 | 24.9 | 32.4 | 27.1 | 32.0 |
| Output - Burner #3 Cont. %    | 10.0       | 10.3 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 46.1 |
| Setpoint - Burner #1 Cont. °F | 1500       | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Setpoint - Burner #2 Cont. °F | 1500       | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Setpoint - Burner #3 Cont. °F | 1500       | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Motor Amps - Fan #1           | 460        | 500  | 460  | 480  | 470  | 440  | 480  | 370  | 400  |
| Motor Amps - Fan #2           | 460        | 510  | 440  | 480  | 440  | 440  | 440  | 370  | 390  |
| motor Speed - Fan #1          | 90         | 91   | 88   | 89   | 88   | 89   | 88   | 75   | 82   |
| Motor Speed - Fan #2          | 88         | 87   | 85   | 86   | 84   | 86   | 85   | 71   | 79   |
| CO out from CEM               | NA         |      |      |      |      |      |      |      |      |
| Air flow from CEM             | NA         |      |      |      |      |      |      |      |      |
|                               | 7:00       | 7:15 | 7:30 | 7:45 | 8:00 | 8:15 | 8:30 | 8:45 | 9:00 |

10:05 - 10:25 - Knife Change

### RTO DATA SHEET

DATE: 8-30-95

UNIT: Duggan

Time From: 9:15 A.M. To: 10:45 A.M.

|                               | 9:15 | 9:30 | 9:45 | 9:55 | 10:00 | 10:15 | 10:30 | 10:45 |
|-------------------------------|------|------|------|------|-------|-------|-------|-------|
| BTUE (On or Off)              | DEF  |      |      |      |       |       |       |       |
| Temp-Comb.Chamber             | 1555 | 1553 | 1546 | 1547 | 1528  | 1529  | 1550  |       |
| Temp - Inlet                  | 110  | 113  | 114  | 115  | 115   | 116   | 117   |       |
| Temp - Exhaust                | 224  | 221  | 223  | 225  | 230   | 230   | 227   |       |
| Temp - Cham. #1 lower bed     | 285  | 286  | 290  | 291  | 296   | 297   | 294   |       |
| Temp - Cham. #2 lower bed     | 268  | 274  | 277  | 278  | 276   | 277   | 280   |       |
| Temp - Cham #3 lower bed      | 295  | 296  | 297  | 299  | 302   | 304   | 300   |       |
| Temp - Cham #4 lower bed      | 317  | 327  | 330  | 331  | 326   | 323   | 334   |       |
| Temp - Cham #5 lower bed      | 284  | 288  | 290  | 291  | 289   | 290   | 292   |       |
| Temp - Cham #6 lower bed      | 320  | 316  | 316  | 317  | 327   | 328   | 321   |       |
| Temp - Cham #7 lower bed      | 340  | 345  | 347  | 349  | 345   | 345   | 351   |       |
| Temp - Cham #8 lower bed      | 345  | 343  | 343  | 344  | 345   | 346   | 343   |       |
| RTO Δ P                       | 21   | 17   | 18   | 21   | 19    | 20    | 19    |       |
| Pressure - Inlet Duct         | 2.42 | 2.45 | 2.46 | 2.48 | 2.40  | 2.50  | 2.47  |       |
| Temp - Burner #1              | 1492 | 1504 | 1504 | 1505 | 1495  | 1492  | 1499  |       |
| Temp - Burner #2              | 1518 | 1494 | 1499 | 1488 | 1526  | 1521  | 1496  |       |
| Temp - Burner #3              | 1520 | 1488 | 1476 | 1474 | 1529  | 1529  | 1491  |       |
| Output - Burner #1 Cont. %    | 49.6 | 42.7 | 43.7 | 43.8 | 48.4  | 57.9  | 47.4  |       |
| Output - Burner #2 Cont. %    | 30.2 | 37.9 | 45.0 | 46.7 | 26.2  | 28.1  | 42.8  |       |
| Output - Burner #3 Cont. %    | 10.0 | 35.2 | 10.5 | 63.2 | 10.0  | 10.0  | 53.0  |       |
| Setpoint - Burner #1 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500  | 1500  | 1500  |       |
| Setpoint - Burner #2 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500  | 1500  | 1500  |       |
| Setpoint - Burner #3 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500  | 1500  | 1500  |       |
| Motor Amps - Fan #1           | 460  | 500  | 460  | 460  | 460   | 480   | 480   |       |
| Motor Amps - Fan #2           | 460  | 500  | 440  | 440  | 440   | 480   | 480   |       |
| motor Speed - Fan #1          | 89   | 82   | 89   | 89   | 88    | 88    | 90    |       |
| Motor Speed - Fan #2          | 86   | 85   | 86   | 86   | 84    | 84    | 87    |       |
| CO out from CEM               | NA   |      |      |      |       |       |       |       |
| Air flow from CEM             | NA   |      |      |      |       |       |       |       |

9:15  
9:30  
9:45  
9:55  
10:00  
10:15  
10:30  
10:45

TEST 1  
↓

### RTO DATA SHEET

DATE: 8-30-95

UNIT: Dungannon

Time From: 11:00 A.M. To: ~~11:00~~ 1:00 P.M.

| BTUE (On or Off)              | DEF  |      |      |      |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|------|------|------|------|
| Temp - Comb. Chamber          | 1561 | 1564 | 1541 | 1542 | 1557 | 1564 | 1567 | 1565 | 1568 |
| Temp - Inlet                  | 113  | 120  | 110  | 110  | 120  | 120  | 118  | 121  | 121  |
| Temp - Exhaust                | 231  | 232  | 224  | 217  | 224  | 229  | 227  | 229  | 235  |
| Temp - Cham. #1 lower bed     | 297  | 298  | 299  | 293  | 294  | 298  | 299  | 300  | 302  |
| Temp - Cham. #2 lower bed     | 290  | 281  | 279  | 270  | 271  | 277  | 278  | 279  | 281  |
| Temp - Cham #3 lower bed      | 302  | 301  | 302  | 297  | 296  | 302  | 304  | 305  | 305  |
| Temp - Cham #4 lower bed      | 331  | 336  | 333  | 324  | 323  | 331  | 323  | 326  | 331  |
| Temp - Cham #5 lower bed      | 290  | 292  | 290  | 285  | 285  | 291  | 293  | 292  | 294  |
| Temp - Cham #6 lower bed      | 328  | 327  | 330  | 327  | 328  | 332  | 329  | 333  | 331  |
| Temp - Cham #7 lower bed      | 349  | 352  | 350  | 346  | 350  | 354  | 351  | 351  | 356  |
| Temp - Cham #8 lower bed      | 343  | 344  | 343  | 341  | 344  | 344  | 349  | 347  | 345  |
| RTO Δ P                       | 19   | 17   | 12   | 12   | 19   | 21   | 20   | 20   | 19   |
| Pressure - Inlet Duct         | 2.46 | 2.35 | 2.62 | 2.47 | 2.41 | 2.41 | 2.63 | 2.54 | 2.43 |
| Temp - Burner #1              | 1492 | 1501 | 1496 | 1495 | 1494 | 1497 | 1493 | 1493 | 1496 |
| Temp - Burner #2              | 1512 | 1503 | 1504 | 1512 | 1519 | 1520 | 1504 | 1517 | 1518 |
| Temp - Burner #3              | 1511 | 1504 | 1509 | 1525 | 1533 | 1519 | 1514 | 1528 | 1518 |
| Output - Burner #1 Cont. %    | 46.9 | 43.9 | 35.4 | 40.5 | 51.5 | 50.3 | 52.3 | 49.3 | 48.2 |
| Output - Burner #2 Cont. %    | 31.6 | 31.0 | 29.3 | 29.1 | 27.7 | 29.5 | 34.8 | 31.3 | 28.4 |
| Output - Burner #3 Cont. %    | 44.0 | 51.2 | 50.1 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Setpoint - Burner #1 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Setpoint - Burner #2 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Setpoint - Burner #3 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Motor Amps - Fan #1           | 460  | 440  | 340  | 320  | 440  | 480  | 460  | 460  | 460  |
| Motor Amps - Fan #2           | 460  | 420  | 320  | 300  | 460  | 440  | 460  | 440  | 420  |
| motor Speed - Fan #1          | 88   | 88   | 72   | 69   | 88   | 89   | 88   | 89   | 89   |
| Motor Speed - Fan #2          | 85   | 84   | 68   | 64   | 85   | 86   | 85   | 86   | 85   |
| CO out from CEM               | NA   |      |      |      |      |      |      |      |      |
| Air flow from CEM             | NA   |      |      |      |      |      |      |      |      |

11:00 11:15 11:17 11:30 11:45 12:00 12:15 12:30 12:45 1:00

TEST  
- Ended -> 11:17

### RTO DATA SHEET

DATE: 8-30-95

UNIT: Dungannon

Time From 1:15 p.m. To: 3:00 p.m.

| BTUE (On or Off)              | OFF  |      |      |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|------|------|------|
| Temp-Comb.Chamber             | 1570 | 1550 | 1544 | 1540 | 1558 | 1533 | 1542 | 1551 |
| Temp - Inlet                  | 122  | 123  | 123  | 123  | 123  | 115  | 123  | 123  |
| Temp - Exhaust                | 233  | 226  | 227  | 233  | 225  | 216  | 231  | 231  |
| Temp - Cham. #1 lower bed     | 302  | 298  | 300  | 302  | 300  | 296  | 299  | 298  |
| Temp - Cham. #2 lower bed     | 281  | 285  | 284  | 286  | 284  | 280  | 280  | 284  |
| Temp - Cham #3 lower bed      | 305  | 305  | 307  | 303  | 306  | 298  | 295  | 297  |
| Temp - Cham #4 lower bed      | 331  | 331  | 327  | 340  | 329  | 331  | 336  | 340  |
| Temp - Cham #5 lower bed      | 294  | 299  | 300  | 297  | 300  | 294  | 291  | 296  |
| Temp - Cham #6 lower bed      | 335  | 325  | 327  | 332  | 328  | 322  | 330  | 325  |
| Temp - Cham #7 lower bed      | 352  | 356  | 355  | 357  | 354  | 357  | 359  | 362  |
| Temp - Cham #8 lower bed      | 346  | 349  | 352  | 345  | 350  | 343  | 341  | 343  |
| RTO Δ P                       | 19   | 17   | 18   | 18   | 18   | 11   | 19   | 20   |
| Pressure - Inlet Duct         | 263  | 246  | 257  | 241  | 256  | 249  | 243  | 254  |
| Temp - Burner #1              | 1499 | 1502 | 1509 | 1500 | 1508 | 1502 | 1500 | 1504 |
| Temp - Burner #2              | 1498 | 1492 | 1501 | 1499 | 1489 | 1484 | 1505 | 1487 |
| Temp - Burner #3              | 1501 | 1499 | 1491 | 1495 | 1487 | 1481 | 1508 | 1474 |
| Output - Burner #1 Cont. %    | 45.2 | 42.8 | 39.8 | 42.9 | 42.9 | 38.4 | 46.7 | 44.4 |
| Output - Burner #2 Cont. %    | 36   | 41.8 | 45.5 | 40.5 | 45.4 | 42.1 | 34.7 | 50.9 |
| Output - Burner #3 Cont. %    | 22   | 52.1 | 43.1 | 55.1 | 51.3 | 59.6 | 52.2 | 59.5 |
| Setpoint - Burner #1 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Setpoint - Burner #2 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Setpoint - Burner #3 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Motor Amps - Fan #1           | 480  | 460  | 480  | 460  | 380  | 310  | 460  | 460  |
| Motor Amps - Fan #2           | 440  | 460  | 480  | 460  | 380  | 300  | 460  | 460  |
| motor Speed - Fan #1          | 90   | 90   | 90   | 91   | 78   | 70   | 91   | 90   |
| Motor Speed - Fan #2          | 85   | 85   | 86   | 88   | 76   | 66   | 87   | 86   |
| CO out from CEM               | NA   |      |      |      |      |      |      |      |
| Air flow from CEM             | NA   |      |      |      |      |      |      |      |

1:15  
 Test  
 Started  
 (Part 1)  
 1:30  
 1:45  
 2:00  
 2:15  
 Test 2  
 (Part 1)  
 Ended  
 2:30  
 2:45  
 Test 2  
 (Part 2)  
 Started  
 2:50  
 3:00

### RTO DATA SHEET

DATE: 8-30-95

UNIT: Dugganoo

Time From: 3:15 P.M. To: 5:00 P.M.

| BTUE (On or Off)              | DEF  |      |      |      |      |       |      |       |
|-------------------------------|------|------|------|------|------|-------|------|-------|
| Temp-Comb.Chamber             | 1543 | 1548 | 1555 | 1562 | 1570 | 1541  | 1534 | 1539  |
| Temp - Inlet                  | 123  | 123  | 123  | 123  | 116  | 117   | 117  | 116   |
| Temp - Exhaust                | 233  | 233  | 233  | 232  | 226  | 219   | 215  | 214   |
| Temp - Cham. #1 lower bed     | 300  | 302  | 302  | 300  | 300  | 296   | 290  | 293   |
| Temp - Cham. #2 lower bed     | 287  | 286  | 286  | 283  | 283  | 279   | 284  | 277   |
| Temp - Cham #3 lower bed      | 300  | 300  | 300  | 305  | 303  | 297   | 293  | 295   |
| Temp - Cham #4 lower bed      | 340  | 341  | 341  | 327  | 328  | 325   | 325  | 324   |
| Temp - Cham #5 lower bed      | 298  | 296  | 296  | 298  | 297  | 294   | 296  | 293   |
| Temp - Cham #6 lower bed      | 325  | 332  | 332  | 333  | 330  | 326   | 320  | 325   |
| Temp - Cham #7 lower bed      | 361  | 359  | 359  | 354  | 356  | 356   | 358  | 356   |
| Temp - Cham #8 lower bed      | 344  | 343  | 343  | 348  | 347  | 346   | 346  | 346   |
| RTO Δ P                       | 19   | 20   | 20   | 17   | 11   | 11    | 15   | 11    |
| Pressure - Inlet Duct         | 2.50 | 2.39 | 2.37 | 2.59 | 2.90 | 2.160 | 2.00 | 2.164 |
| Temp - Burner #1              | 1506 | 1502 | 1502 | 1499 | 1497 | 1495  | 1500 | 1497  |
| Temp - Burner #2              | 1484 | 1501 | 1523 | 1496 | 1511 | 1513  | 1492 | 1500  |
| Temp - Burner #3              | 1469 | 1496 | 1500 | 1500 | 1513 | 1523  | 1478 | 1506  |
| Output - Burner #1 Cont. %    | 44.4 | 43.2 | 41.6 | 46.6 | 34.9 | 41.6  | 44.4 | 41.3  |
| Output - Burner #2 Cont. %    | 48.4 | 43.3 | 39.7 | 38.8 | 26.7 | 23.2  | 50.1 | 32.5  |
| Output - Burner #3 Cont. %    | 66.7 | 51.1 | 52.0 | 20.4 | 10.0 | 10.0  | 62.0 | 11.8  |
| Setpoint - Burner #1 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500  | 1500 | 1500  |
| Setpoint - Burner #2 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500  | 1500 | 1500  |
| Setpoint - Burner #3 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500  | 1500 | 1500  |
| Motor Amps - Fan #1           | 500  | 480  | 480  | 460  | 320  | 300   | 440  | 340   |
| Motor Amps - Fan #2           | 500  | 480  | 500  | 480  | 300  | 300   | 460  | 320   |
| motor Speed - Fan #1          | 91   | 91   | 91   | 90   | 72   | 70    | 86   | 72    |
| Motor Speed - Fan #2          | 88   | 88   | 88   | 87   | 68   | 65    | 82   | 68    |
| CO out from CEM               | NA   |      |      |      |      |       |      |       |
| Air flow from CEM             | NA   |      |      |      |      |       |      |       |

Test 2  
 (Part 2)  
 Ended  
 3:10  
 3:15  
 3:30  
 3:45  
 4:00  
 4:15  
 4:30  
 4:45  
 5:00

### RTO DATA SHEET

DATE: 2-30-95

UNIT: Dungannon

Time From: 5:15 p.m. To: 7:00 p.m.

| BTUE (On or Off)              | DEF  |      |      |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|------|------|------|
| Temp-Comb. Chamber            | 1539 | 1555 | 1539 | 1530 | 1536 | 1559 | 1538 | 1533 |
| Temp - Inlet                  | 114  | 117  | 115  | 114  | 113  | 117  | 114  | 112  |
| Temp - Exhaust                | 214  | 216  | 220  | 215  | 208  | 225  | 219  | 214  |
| Temp - Cham. #1 lower bed     | 290  | 291  | 294  | 292  | 290  | 298  | 292  | 296  |
| Temp - Cham. #2 lower bed     | 277  | 274  | 277  | 275  | 273  | 274  | 277  | 272  |
| Temp - Cham #3 lower bed      | 293  | 295  | 294  | 292  | 293  | 291  | 293  | 292  |
| Temp - Cham #4 lower bed      | 325  | 322  | 333  | 331  | 322  | 335  | 337  | 327  |
| Temp - Cham #5 lower bed      | 292  | 290  | 289  | 287  | 287  | 283  | 286  | 283  |
| Temp - Cham #6 lower bed      | 321  | 325  | 325  | 322  | 322  | 331  | 326  | 329  |
| Temp - Cham #7 lower bed      | 356  | 354  | 359  | 357  | 355  | 357  | 359  | 354  |
| Temp - Cham #8 lower bed      | 346  | 347  | 342  | 341  | 344  | 338  | 338  | 340  |
| RTO Δ P                       | 12   | 17   | 13   | 11   | 11   | 20   | 12   | 11   |
| Pressure - Inlet Duct         | 2.47 | 2.37 | 2.67 | 2.41 | 2.54 | 2.42 | 2.61 | 2.43 |
| Temp - Burner #1              | 1507 | 1499 | 1505 | 1504 | 1502 | 1500 | 1499 | 1499 |
| Temp - Burner #2              | 1489 | 1495 | 1483 | 1485 | 1491 | 1510 | 1494 | 1515 |
| Temp - Burner #3              | 1494 | 1497 | 1473 | 1478 | 1493 | 1512 | 1491 | 1528 |
| Output - Burner #1 Cont. %    | 38.3 | 49.1 | 34.9 | 39.9 | 40.2 | 47.7 | 37.6 | 40.2 |
| Output - Burner #2 Cont. %    | 40.7 | 36.2 | 40.8 | 41.2 | 35.6 | 37.1 | 37.4 | 25.4 |
| Output - Burner #3 Cont. %    | 55.6 | 27.1 | 64.5 | 61.8 | 35.6 | 44.3 | 55.2 | 10.0 |
| Setpoint - Burner #1 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Setpoint - Burner #2 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Setpoint - Burner #3 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Motor Amps - Fan #1           | 320  | 500  | 340  | 320  | 340  | 500  | 340  | 320  |
| Motor Amps - Fan #2           | 300  | 480  | 320  | 320  | 320  | 480  | 340  | 300  |
| motor Speed - Fan #1          | 70   | 89   | 72   | 70   | 70   | 91   | 72   | 70   |
| Motor Speed - Fan #2          | 166  | 85   | 68   | 65   | 65   | 87   | 68   | 65   |
| CO out from CEM               | NA   |      |      |      |      |      |      |      |
| Air flow from CEM             | NA   |      |      |      |      |      |      |      |
|                               | 5:15 | 5:30 | 5:45 | 6:00 | 6:15 | 6:30 | 6:45 | 7:00 |

### RTO DATA SHEET

DATE: 8-30-95

UNIT: Dungenoo

Time From: 7:15 p.m. To: 9:00 p.m.

| BTUE (On or Off)              | OFF  |      |      |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|------|------|------|
| Temp-Comb. Chamber            | 1545 | 1563 | 1571 | 1568 | 1560 | 1557 | 1567 | 1550 |
| Temp - Inlet                  | 116  | 117  | 119  | 120  | 119  | 120  | 120  | 120  |
| Temp - Exhaust                | 223  | 225  | 226  | 229  | 228  | 225  | 225  | 231  |
| Temp - Cham. #1 lower bed     | 297  | 298  | 300  | 303  | 303  | 300  | 300  | 300  |
| Temp - Cham. #2 lower bed     | 273  | 276  | 278  | 281  | 281  | 284  | 284  | 287  |
| Temp - Cham #3 lower bed      | 293  | 296  | 302  | 301  | 304  | 306  | 306  | 302  |
| Temp - Cham #4 lower bed      | 330  | 328  | 326  | 331  | 328  | 326  | 326  | 339  |
| Temp - Cham #5 lower bed      | 283  | 286  | 290  | 290  | 292  | 296  | 296  | 295  |
| Temp - Cham #6 lower bed      | 328  | 331  | 331  | 335  | 335  | 329  | 330  | 329  |
| Temp - Cham #7 lower bed      | 357  | 355  | 353  | 355  | 352  | 353  | 352  | 357  |
| Temp - Cham #8 lower bed      | 339  | 341  | 345  | 343  | 346  | 348  | 348  | 343  |
| RTO Δ P                       | 19   | 18   | 19   | 17   | 20   | 16   | 17   | 17   |
| Pressure - Inlet Duct         | 2.32 | 2.42 | 2.64 | 2.35 | 2.54 | 2.59 | 2.60 | 2.47 |
| Temp - Burner #1              | 1502 | 1493 | 1494 | 1495 | 1493 | 1498 | 1498 | 1503 |
| Temp - Burner #2              | 1514 | 1520 | 1510 | 1520 | 1512 | 1498 | 1494 | 1490 |
| Temp - Burner #3              | 1516 | 1530 | 1522 | 1529 | 1529 | 1508 | 1498 | 1477 |
| Output - Burner #1 Cont. %    | 48.2 | 50.1 | 49.3 | 48.9 | 49.6 | 46.6 | 46.1 | 43.2 |
| Output - Burner #2 Cont. %    | 26.0 | 27.1 | 33.5 | 29.0 | 35.8 | 38.8 | 40.3 | 46.0 |
| Output - Burner #3 Cont. %    | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 11.5 | 22.9 | 59.0 |
| Setpoint - Burner #1 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Setpoint - Burner #2 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Setpoint - Burner #3 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Motor Amps - Fan #1           | 440  | 440  | 440  | 420  | 400  | 420  | 440  | 440  |
| Motor Amps - Fan #2           | 440  | 420  | 440  | 400  | 400  | 420  | 420  | 420  |
| motor Speed - Fan #1          | 86   | 87   | 86   | 86   | 86   | 87   | 88   | 88   |
| Motor Speed - Fan #2          | 83   | 83   | 82   | 82   | 82   | 84   | 84   | 84   |
| CO out from CEM               | NA   |      |      |      |      |      |      |      |
| Air flow from CEM             | NA   |      |      |      |      |      |      |      |

7:15      7:30      7:40 → 7:45      8:00      8:15      8:30      8:45      8:55 → 9:00

TEST 3 started

TEST 3 Ended



LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

8.23

11.64

SHIFT OPERATING REPORT

SUPERVISOR STARVES SHIFT 7M 7AM CREW B DATE 8-30-92

PRESS OPERATION

| FROM   | TO     | LINE SPEED | THICKNESS | PRESS LOADS | 3/8" FOOTAGE | MINS. DOWNTIME |   |   |           |
|--------|--------|------------|-----------|-------------|--------------|----------------|---|---|-----------|
|        |        |            |           |             |              | M              | E | O |           |
| 7:00pm | 7:00am | 31 - 32.75 | 3/16"     | 124         | 148          | 143            |   |   |           |
|        |        |            |           |             |              |                |   |   |           |
|        |        |            |           |             |              |                |   |   |           |
|        |        |            |           |             |              |                |   |   |           |
| TOTAL  |        |            |           |             |              |                |   |   | Total 226 |

CONUS OPERATION

|            |            |
|------------|------------|
| HOURS FUEL | HOURS FUEL |
| USAGE WOOD | USAGE OIL  |
| 12         | 0          |

|                    |    |
|--------------------|----|
| NO. OF 'A' BUNDLES | 58 |
| NO. OF 'U' BUNDLES | /  |
| NO. OF 'E' BUNDLES | /  |

DRYER OPERATION

| DRY FUEL  | OIL FUEL  | AVERAGE |        | RUNNING    | DOWNTIME  | AVG. WET | AVG. DRY |
|-----------|-----------|---------|--------|------------|-----------|----------|----------|
| IN COUNTS | USAGE HRS | INLET   | OUTLET | TIME (MIN) | (MINUTES) | MOISTURE | MOISTURE |
| 2150      | 4 1/2 min | 1153    | 188    | 550        | 170       | 37       | 7.7      |

BARK MOISTURE % (AVG.) 37%

FUEL MOISTURE 2%

SCRUBBER WATER METER READING

BEGINNING OF SHIFT 480.900

END OF SHIFT 481.300

TOTAL GALLONS USED THIS SHIFT \_\_\_\_\_

OPERATOR Eddie SHIFT 7pm-7am CREW B DATE 8-30-95  
 THICKNESS: 7/16 PRESS LOADS 124 148, 143 BLENDER SHUTDOWNS CORE 23  
 OVERALL TIMER: \_\_\_\_\_ DECOMPRESSION TIME \_\_\_\_\_ SURFACE 21  
 PRESS TEMP: 245 CORE RESIN SURFACE RESIN

| LINE SPEED | FROM  | TO    |
|------------|-------|-------|
| 37.75      | 7:00  | 10:46 |
| 31         | 10:46 | 4:14  |
| 37.75      | 4:14  | 7:00  |
|            |       |       |
|            |       |       |

BEGIN 299787 1321213  
 END 2998561 1321900  
 Cleaned Blender Shrouds & Tracks  
 Formed hydraulic and radiator blown out  
 FCOS hydraulic unit and radiator blown out  
 Blender outfeed conv. tail pulleys cleaned

| DOWNTIME (Mins.) |       |   |   |     | KEY | REASONS FOR DOWNTIME             |
|------------------|-------|---|---|-----|-----|----------------------------------|
| FROM             | TO    | M | E | O   |     |                                  |
| 7:00             | 7:22  | ✓ |   |     | 22  | Dryer Drum plugged               |
| 7:30             | 7:32  | ✓ |   | 24  | 2   | #8 pulled out of the press       |
| 7:36             | 7:37  |   | ✓ |     | 1   | Had to Jog load out of the press |
| 8:35             | 8:36  | ✓ |   | 26  | 1   | #1 came unclamped                |
| 9:05             | 9:06  | ✓ |   | 27  | ✓   | #6                               |
| 9:21             | 10:46 | ✓ |   | 112 | 85  | Dryer Drum plugged               |
| 12:35            | 12:36 | ✓ |   | 113 | 1   | #3 pulled out of the press       |
| 12:40            | 12:50 | ✓ |   | 123 | 10  | primary plugged                  |
| 1:03             | 1:13  | ✓ |   | 133 | 10  | " " low feed rate.               |
| 1:19             | 1:26  | ✓ |   | 140 | 7   | Dryer pulling low feed rate      |

DOWNTIME CODE: M-MECHANICAL E-ELECTRICAL O-OPERATOR

\*\*\*\* MAINTENANCE/LOCK-OUT LOG \*\*\*\*

| MOTOR # LOCKED OUT | FROM | TO | BRIEF DESCRIPTION OF WORK BEING DONE | INITIALS OF PERSON LOCKING OUT |
|--------------------|------|----|--------------------------------------|--------------------------------|
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |

OPERATOR Eddie SHIFT 7pm-7am CREW B DATE 8-30-95  
 THICKNESS: 710 PRESS LOADS \_\_\_\_\_ BLENDER SHUTDOWNS  
 CORE \_\_\_\_\_  
 OVERALL TIMER: \_\_\_\_\_ DECOMPRESSION TIME \_\_\_\_\_ SURFACE \_\_\_\_\_  
 PRESS TEMP: 415 CORE RESIN \_\_\_\_\_ SURFACE RESIN \_\_\_\_\_

| LINE SPEED | FROM | TO |
|------------|------|----|
|            |      |    |
|            |      |    |
|            |      |    |
|            |      |    |

BEGIN \_\_\_\_\_ TO \_\_\_\_\_  
 END \_\_\_\_\_  
 Cleaned Blender Shrouds & Tracks \_\_\_\_\_  
 Formed hydraulic and radiator blown out \_\_\_\_\_  
 FCOS hydraulic unit and radiator blown out \_\_\_\_\_  
 Blender outfeed conv. tail pulleys cleaned \_\_\_\_\_

| DOWNTIME |      | DOWNTIME (Mins.) |   |     | KEY | REASONS FOR DOWNTIME                      |
|----------|------|------------------|---|-----|-----|---|
| FROM     | TO   | M                | E | O   |     |   |
| 1:35     | 1:57 | ✓                |   | 142 | 2   | #6 screen fell out of the dogs            |
| 2:47     | 2:58 | ✓                |   | 213 | 1   | primary plugged                           |
| 3:12     | 3:14 | ✓                |   | 215 | 2   | #1 came unclamped                         |
| 3:49     | 3:51 | ✓                |   |     | 2   | #3 pulled out of PRESS, pulled screen off |
| 3:53     | 3:54 |                  | ✓ | 218 | 1   | shuttle                                   |
| 4:21     | 4:22 |                  | ✓ | 219 | 1   | #6 screen not up far enough               |
| 5:05     | 5:07 | ✓                |   | 221 | 2   | #1 came unclamped                         |
| 5:58     | 6:00 | ✓                |   | 223 | 2   | " " "                                     |
| 6:37     | 6:40 | ✓                |   | 226 | 3   | #6 screen fell out of the dogs            |

page 2

DOWNTIME CODE: M-MECHANICAL E-ELECTRICAL O-OPERATOR

\*\*\*\* MAINTENANCE/LOCK-OUT LOG \*\*\*\* 226 total Down Time

| MOTOR # | LOCKED OUT | FROM | TO | BRIEF DESCRIPTION OF WORK BEING DONE | INITIALS OF PERSON LOCKING OUT |
|---------|------------|------|----|--------------------------------------|--------------------------------|
|         |            |      |    |                                      |                                |
|         |            |      |    |                                      |                                |
|         |            |      |    |                                      |                                |
|         |            |      |    |                                      |                                |

LOUISIANA-PACIFIC CORPORATION

Dungannon, Virginia

OPERATOR

C. DOTSON

SHIFT

7PM-7AM

CREW

B

DATE

8.30.95

KONUS CHECK LIST

|   |                      |           |
|---|----------------------|-----------|
| Thermal Oil Level<br>Inches above bottom <u>0</u> |                      |           |
| Clarke Bin (quarters) <u>1/4</u>                  |                      |           |
| Diesel Fuel Level <u>3/4</u><br>(Emergency Pump)  |                      |           |
| Diesel Oil Level <u>3/4</u><br>(Emergency Pump)   |                      |           |
| Space Heating                                     | Inlet Temp <u>80</u> |           |
|   | Outlet Temp          |           |
|   | Discharge Pressure   |           |
| Press Pump <u>1</u> (Running)                     |                      |           |
| Press Pump 2 (Running)                            |                      |           |
| T.O. Pump Pressure                                | Suction              | Discharge |
| Primary Pump <u>I</u>                             |                      |           |
| Primary Pump II                                   |                      |           |
| Konus Baghouse Pressure                           |                      |           |
| Was Baghouse Pulsed? <u>YES</u> /NO               |                      |           |
| List any other problems:                          |                      |           |
|   |                      |           |
|   |                      |           |
|   |                      |           |
|   |                      |           |
|   |                      |           |

|  |                          |
|--|--------------------------|
| <u>Indicate Konus Problems</u>                   |                          |
| Flow Control                                     |                          |
| Level Control                                    |                          |
| Fan Disturb                                      |                          |
| Internal Press                                   |                          |
| High Flue Gas                                    |                          |
| Other:   |                          |
| LEFT (Counts)                                    | <u>2919</u> x ( ) =      |
| RIGHT (Counts)                                   | <u>1767</u> x ( ) =      |
|  |                          |
| <u>Indicate Temp. Set Points</u>                 |                          |
| Space Heat                                       | <u>80</u>                |
| Hot Pond   |                          |
| Emergency Cooling Tank - Full <u>YES</u> /NO     |                          |
| Konus  | Water Pressure _____ PSI |
| Emergency Diesel (run each shift) <u>YES</u> /NO |                          |
| Konus  |                          |
| Fuel Oil Level (gallons)                         |                          |
| L.P. Level                                       |                          |
| Fire Dump Cleaned:                               | <u>Yes</u>               |
| Bark Fuel Used _____                             |                          |

FOREMANS REPORT CHECK LIST TO BE TURNED IN EVERY SHIFT

DATE: 8/30/95

SHIFT: 70-74

SUPERVISOR: J. Stamer

- SHIFT OPERATING REPORT
- PRESS REPORT
- PRESS LOAD & TIME TO POSITION
- PESIN CHART RECORDER CHECKLIST
- DRYER OPERATION REPORT
- DRYER DATA SHEET
- KONUS CHECK LIST
- DRYER OPACITY REPORT
- KNIFE GRINDER REPORT
- FLAKER OPERATOR PM SHEET
- DEBARKER OPERATOR PM SHEET
- PRENTICE OPERATOR PM SHEET
- BOBCAT OPERATOR PM SHEET
- FLAKER UTILITY
- DEBARKER UTILITY
- DRYER UTILITY
- LINEMAN
- SHIFT MILLWRIGHT REPORT
- FLAKER KNIFE CHANGE PM SHEET
- 930 LOADER
- 966 LOADER PM SHEET
- TROJAN LOADER PM SHEET
- PRESS CIRCLE CHART
- DRYER CIRCLE CHART
- DRYER BY-PASS CHART
- FORKLIFT PM SHEET
- UPSET CONDITION REPORT  
(When Necessary)

OTHER COMMENTS OR PROBLEMS NOT TAKEN CARE OF: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

DATE 8-30-95

CREW B

SHIFT 7pm-7am

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

|    | TIME         | NAME       |
|----|--------------|------------|
| 1  | <u>7:00</u>  | <u>EC</u>  |
| 2  | <u>8:00</u>  | <u>EC</u>  |
| 3  | <u>9:00</u>  | <u>EC</u>  |
| 4  | <u>10:00</u> | <u>EC</u>  |
| 5  | <u>11:00</u> | <u>EC</u>  |
| 6  | <u>12:00</u> | <u>EC</u>  |
| 7  | <u>1:00</u>  | <u>EC</u>  |
| 8  | <u>2:00</u>  | <u>EC</u>  |
| 9  | <u>3:00</u>  | <u>EC</u>  |
| 10 | <u>4:00</u>  | <u>T.B</u> |
| 11 | <u>5:00</u>  | <u>EC</u>  |
| 12 | <u>6:00</u>  | <u>EC</u>  |

REPORT ANY PROBLEMS TO THE SUPERVISOR.

NOTES: Back Flushed surface Flowmeter at 10:00p.m James More

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PRESS LOADS & TIME TO POSITION

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

TURN IN WITH PRESS REPORT!

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

DAILY PM CHECKLIST

Debarcker Utility SMV-4 Date 8-30-55 Shift 7-7 Crew \_\_\_\_\_

|  | Yes | No | Problem found or Maint. Done |
|--|-----|----|------------------------------|
| Check and maintain fire fighting equipment (hoses in place, fire extinguishers, etc.). | ✓   |    |                              |
| Keep log wash pond full and bark cleaned off.  | ✓   |    |                              |
| Clean all tail rollers.  | ✓   |    |                              |
| Check all hydraulic units (oil level, blow out radiator).                              | ✓   |    |                              |
| Check bark hog and belts (problems, plugs etc.).                                       | ✓   |    |                              |
| Empty all hoppers.   | ✓   |    |                              |
| Clean bark under log decks.  | ✓   |    |                              |
| Blow down entire area.   | ✓   |    |                              |
| Keep hog, mobile equipment, and old greenend area floor clean.                         | ✓   |    |                              |
| Wash down floor in debarker area (11-7 shift).   | ✓   |    |                              |
| PM and service loader when used.   | ✓   |    |                              |

Comments or suggestions: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



PM CHECKLIST BOBCAT

CR W B

FOREMAN \_\_\_\_\_ DATE 7-7 SHIFT 1-7 NAME Stevie

BOBCAT OPERATOR

| DAILY | A. Bobcat - fluid levels   | Done<br>yes/no | How much added |
|-------|--|----------------|----------------|
|       | 1. Check hydraulic fluid   | YES            |                |
|       | 2. Check motor oil   | YES            |                |
|       | 3. Check air pressure in tires   | NO             |                |
|       | B. Blow entire machine off,<br>including motor.                                | NO             |                |
|       | C. Check for any leaks around<br>fittings, filters, motor oil,<br>transmission | YES            |                |
|       |  | YES            |                |
|       | D. Breakage  | NO             |                |
|       | 1. Control levers right side   | YES            |                |
|       | 2. Control levers left side  | YES            |                |
|       | 3. Cracks in bucket or boom  | YES            |                |
|       | 4. Safety cage broke away  | YES            |                |

Motor oil 15W-40

Hydraulic Oil HD-46  
Transmission - Dextron

Radiator 1/2 water 1/2 prestone (winter)

All water in summer months. Mike will service before winter months.

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

DAILY PM AND CHECK LIST

Dryer Utility JOE ADKINS Date 8 31 98 Shift 7PM 7A0 Crew B

|   | Yes | No | Problem found or Maint. done |
|---|-----|----|------------------------------|
| 1. Check and maintain fire fighting equipment (hoses in place, fire extinguishers full, etc.) | /   |    |                              |
| 2. Keep EFB gravel flowing and system full.   | /   |    |                              |
| 3. Deash both cells on konus.   | /   |    |                              |
| 4. Check clarkbin level (beginning and ending of each shift).                                 | /   |    |                              |
| 5. Clean screener pit.  | /   |    |                              |
| 6. Clean all tail rollers.  | /   |    |                              |
| 7. Empty all barrels when full.   | /   |    |                              |
| 8. Blow down entire area (3-11 shift)   | /   |    |                              |
| 9. Blow off inlet and outlet tube.  | /   |    |                              |
| 10. Grease dryer drum trunions.   | /   |    |                              |
| 11. Have fire dump and ash pit emptied when necessary.  | /   |    |                              |
| 12. Check for and seal all leaks on conveyors, augers, etc.                                   | /   |    |                              |
| 13. Clean konus room and baghouse pad area outside.   | /   |    |                              |
| 14. Keep dryer area floor clean.  | /   |    |                              |

Comments or Suggestions: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

DAILY FORKLIFT CHECK LIST

NAME Jerry B

SHIFT 7pm 7am

ORKLIFT# 2 Sawline

OK TO RUN

DO NOT RUN

1. Oil Level

2. Water Level

3. Brakes

4. Transmission

Horn

5. Lights

7. Tires

8. Steering

9. Rack & Cage

0. Used air hose to blow down radiator and other things

YES

NO

REMARKS:

- NOTES:
1. Use TEXACO 15W40 Motor oil-located in Mobile Equipment Shop.
  2. Hydraulic Oil-located outside Mobile Equipment Shop-Large black tank.
  3. Use water for radiator.

**LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA**

**SHIFT MILLWRIGHTS DAILY PM AND PROJECTS REPORT**

DATE: 8-29-95 SHIFT: Night

DONE BY: MAINTENANCE  
DONE & COMMENTS

| SCREENS  | DONE BY:      | MAINTENANCE<br>DONE & COMMENTS   |
|--|---------------|--|
| Inspect, remove bad ones & log in screens book   | <i>Mark B</i> |  |
| Inspect fire pump house  | /             |  |
| Inspect air compressors  | /             |  |
| Inspect Hydraulic Room (fix leaks)   | /             |  |
| PM Debarker  | /             | <i>Planning going to do work on bed cones going bad. right side tail rollers</i> |
| Inspect R.T.O. fans, rotating valves, chamber walls, key-ways in place etc.                    | /             |  |
| PM Flaker  | /             |  |
| PM Baghouse 1 & 2 including fans (w/checklist) (1-Each Week) (Visual Daily)                    | /             |  |
| Inspect all conv. belts on sawline to stacker  | /             |  |
| Inspect all conv. belts on return line in pit.   | /             |  |
| PM McConnel Bin Baghouse (visually inspect fans, ductwork, airlocks, cyclone, etc.)            | /             |  |
| Inspect scrubber pump & belts check all pipes & gauges for cracks & leakage, etc.              | /             |  |
| PM Konus Baghouse (visually inspect fans, ductwork, airlocks, cyclone, etc)                    | /             |  |
| Inspect Komline-Sanderson vacuum drum filter, pumps, sprays, filters, filter belt & splice etc | /             |  |
| Review and work on Supervisors list  | /             |  |

*Sprocket is in bad shape on the broken speed rollers #1 set.  
Primary leather door on top of air lock is in bad shape.*

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

PRENTICE LOADER  
DAILY OPERATOR'S LIST

OPERATOR Erest Delph DATE 8-31-95

1. Check engine oil  Amount Added \_\_\_\_\_
2. Check Hyd. oil  Amount Added \_\_\_\_\_
3. Check radiator level  Amount Added \_\_\_\_\_
4. Check brake fluid  Amount Added \_\_\_\_\_
5. Check tires for proper inflation and condition
6. Inspect all hoses & fittings for leaks
7. Check welds for cracks
8. Blow out radiator daily
9. Tighten all nuts & bolts on gear boxes & swivels
10. Visually inspect complete machine every shift!!
11. Grease items 1-5 daily every (8) hours \_\_\_\_\_
12. Check hour meter reading each shift and record below:  
\_\_\_\_\_
13. Check grapple pins and motor
14. Check swing motors

CONDITION OF MACHINE AT START OF SHIFT

1. Hoses
2. Cab Clean
3. Machine Clean
4. Visual Damage \_\_\_\_\_
5. Condition of machine at end of shift \_\_\_\_\_

LOUISIANA-PACIFIC CORPORATION

DUNGANNON, VIRGINIA

LOADER # 936

DAILY OPERATOR'S CHECK

OPERATOR Emerit Delpa DATE 8-31-95  
HOUR METER READING \_\_\_\_\_

1. Radiator level OK Amount added \_\_\_\_\_
2. Engine oil level Full Amount added \_\_\_\_\_
3. Restriction indicator of engine air cleaner CLEAN
4. Fuel level - fill at end of shift Full
5. Drain moisture from air reservoir - at end of shift \_\_\_\_\_
6. Torque converter level OK Amount added \_\_\_\_\_
7. Drop box transmission level OK Amount added \_\_\_\_\_
8. Hydraulic reservoir Full
9. Lubricate boom grease fittings \_\_\_\_\_
10. Check tires for proper inflation and condition - 65 PSI OK
11. Clean operator's cab YES
12. Check for hydraulic leaks YES
13. Does steering work properly? YES
14. Is the fire extinguisher present and charged? YES
15. Does horn work properly? NO
16. Do service brakes work properly? YES
17. Does parking brakes work properly? NO
18. COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

DAILY PM AND CHECKLIST

Lineman Terry Date 5-30-95 Shift NIGHTS Crew B

|   | Yes | No | Problem found or maintenance done |
|---|-----|----|-----------------------------------|
| Check & maintain fire fighting equipment (hoses in place, extinguishers full, etc.) | ✓   |    |                                   |
| Check release agent spray can (when necessary)                                      | ✓   |    |                                   |
| Check all screens & head bar pins   | ✓   |    |                                   |
| Check formers & spreading rolls (At least 3 times a shift)                          | ✓   |    |                                   |
| Blow down entire area   |     | λ  |                                   |
| Check all hydraulic units (oil level & blow out radiators)                          | ✓   |    |                                   |
| Check magnet for metal & position   | ✓   |    |                                   |
| Check incline & decline chain dogs (In time, cracked, etc.)                         | ✓   |    |                                   |
| Check press hydraulic oil level   |     | ✓  |                                   |
| 10. Clean press pit, bucket elevator pit  | ✓   |    |                                   |
| 11. Check FCOS allock   | ✓   |    |                                   |
| 12. Check for leaks on press hydraulic & T-oil system                               | ✓   |    |                                   |
| 13. Blow off both sides of press including Symo Arms (2 times shift)                | ✓   |    |                                   |
| 14. Blow out sides of formers (behind clear curtain)                                | ✓   |    |                                   |
| 15. Check return line belts   | ✓   |    |                                   |
| 16. Keep area floor clean   | ✓   |    |                                   |
| 17. Grease slides on press  |     | ✓  |                                   |
| 18. Clean lunchroom when necessary  | ✓   |    |                                   |

COMMENTS OR SUGGESTIONS:

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

DAI Y PM AND CHECKLIST

Flaker Utility Reflex Date 5-28-87 Shift 27 Crew B

|  | Yes | No | Problem found or Maint. Done |
|--|-----|----|------------------------------|
| 1. Check and maintain fire fighting equipment (hoses in place, extinguishers full, etc.) | ✓   |    |                              |
| 2. Clean flaker clamps and replace tips.   | ✓   |    | 30 clamps                    |
| 3. Keep air and torque wrenches oiled and in place for knife changes.                    | ✓   |    |                              |
| 4. Blow off both flaker disc bearings every knife change.                                | ✓   |    |                              |
| 5. Check all hydraulic units (oil level, and blow out radiators).                        | ✓   |    |                              |
| 6. Clean all tail pulleys.   | ✓   |    |                              |
| 7. Clean flaker pit (pump water out also).   | ✓   |    |                              |
| 8. Blow down entire area.  | ✓   |    |                              |
| 9. Keep flaker area floor clean.   | ✓   |    |                              |
| 10. Clean catwalk and platform for the haul up conveyour.                                | ✓   |    |                              |
| 11. Empty haul up conveyour clean up bin.  | ✓   |    |                              |

Comments or Suggestions: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



KNIFE GRINDER

NAME Alice S. DATE 8-30-95

SETS ON SHELF

6

SETS - NEED TO GRIND

0

SETS THAT I HAVE GROUND

3

# OF KNIVES DISCARDED

NONE

GRINDING ROOM CLEANED

YES OR NO

FLAT GRINDER GREASED

YES OR NO

SPRAY BARS CLEANED  
(EACH KNIFE CHANGE)

YES OR NO

SETTER

OKAY OR NOT OKAY

COMMENTS OR CORRECTIVE ACTION TAKEN: \_\_\_\_\_

TOTAL KNIVES IN THE GRINDING ROOM \_\_\_\_\_

SETS OF KNIVES RECEIVED \_\_\_\_\_

TOTAL KNIVES DISCARDED (MTD) \_\_\_\_\_

MAINTENANCE DONE TO EQUIPMENT IN THE GRINDING ROOM: \_\_\_\_\_

KNIFE CHANGES DONE:

TIME DOWN 11:45 START UP 12:15 TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

TIME DOWN 1:00 START UP 1:30 TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_ TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_ TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_ TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_ TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

LOUISIANA-PACIFIC CORPORATION

DUNGANNON, VIRGINIA

LOADER # 966

DAILY OPERATOR'S CHECK

OPERATOR Scott Maness DATE 8-31-95

HOUR METER READING \_\_\_\_\_

1. Radiator level \_\_\_\_\_ Amount added ✓
2. Engine oil level \_\_\_\_\_ Amount added ✓
3. Restriction indicator of engine air cleaner ✓
4. Fuel level - fill at end of shift ✓
5. Drain moisture from air reservoir - at end of shift ✓
6. Torque converter level \_\_\_\_\_ Amount added ✓
7. Drop box transmission level \_\_\_\_\_ Amount added ✓
8. Hydraulic reservoir ✓
9. Lubricate boom grease fittings \_\_\_\_\_
10. Check tires for proper inflation and condition - 65 PSI ✓
11. Clean operator's cab \_\_\_\_\_
12. Check for hydraulic leaks ✓
13. Does steering work properly? ✓
14. Is the fire extinguisher present and charged? ✓
15. Does horn work properly? ✓
16. Do service brakes work properly? ✓
17. Does parking brakes work properly? ✓
18. COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DAILY P.M. CHECKLIST

FOREMAN: James T. ...

DATE: 8-30-95

SHIFT: 2-7

CREW: J

DEBARKER OPERATOR

| INSPECT/DO                                    | YES/NO | COMMENTS |
|---|--------|----------|
| GREASE ENTIRE MACHINE--ONCE EACH SHIFT        | X      |          |
| RELEASE WATER FROM DEBARKER & KICKER AIRLINES | X      |          |
| GREASE BEARINGS # 1 AND # 2 LOG INFEED CHAINS | X      |          |
| CHECK HYDRAULIC LEVEL IN HYDRAULIC UNIT       | X      |          |
| CHECK OIL LEVEL IN RING LUBE PUMP BARREL      | X      |          |
| INSPECT ARM TIPS FOR LOSS OR BREAKAGE         | X      |          |
| INSPECT ARMS FOR CRACKS                       | X      |          |
| GREASE FRONT & REAR HOLD DOWN SLIDES          | X      |          |
| GREASE LOG OUTFEED CHAIN BEARINGS             | X      |          |
| CLEAN HYDRAULIC UNIT ( ON DAY SHIFT)          |        |          |
| COMMENTS:                                     |        |          |
|   |        |          |
|   |        |          |
|   |        |          |
|   |        |          |

DAILY P.M. & CHECK LIST

FOREMAN J. Jarno DATE: 8-20-95 SHIFT: 7am-7am CREW: B

FLAKER OPERATOR

| ITEM            | INSPECT/DO                                     | YES/NO | COMMENTS |
|-----------------|--|--------|----------|
| HYDRAULIC UNITS | FLAKER & BOOM UNITS KEEP FULL                  | YES    |          |
|                 | GREASE ENTIRE BOOM -ALL PINS                   | YES    |          |
|                 | GREASE ALL BUSHINGS                            | NO     |          |
|                 | GREASE TURN TABLE                              | YES    |          |
|                 | TIGHTEN ALL PIN NUTS ON BOOM<br>--EACH SHIFT-- | NO     |          |
|                 | GREASE LOG HOLD DOWN PINS                      | NO     |          |
|                 | CHECK ALL MULTI CHANS                          | YES    |          |
|                 | GREASE LOG INCLINE CONVEYOR<br>CHAIN BEARINGS  | NO     |          |
|                 | INSPECT KNIFE CLAMPS & PLATES                  | YES    |          |
|                 | INSPECT SCORING KNIVES<br>(EACH KNIFE CHANGE)  | YES    |          |
|                 | INSPECT ALL BEARINGS                           | NO     |          |
|                 | INSPECT DRIVE BELTS                            | NO     |          |
| ENTIRE SYSTEM   | CHECK FOR LOOSE NUTS & BOLTS                   | NO     |          |

ADDITIONAL COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

KNIFE CHANGE PM CHECKLIST

OPERATOR: R. Burton SHIFT: PM-7A CREW: B DATE: 4-00-95

1. Time of knife changes: 11:15 - 6:00
2. All clamps removed from disc and cleaned? YES
3. All knife carriers cleaned (use wirebrush) YES
4. Number of clamps replaced: 1st 24 2nd 35  
3rd \_\_\_\_\_ 4th \_\_\_\_\_ 5th \_\_\_\_\_
5. All bolts torqued at 70PSI. YES
6. Never seize all clamp bolts, replace bad ones. NO
7. Bottom & side anvil checked. YES
8. Spray bar cleaned YES
9. Arbor bearing blown down YES
10. Multi-chain track cleaned. (once per shift) YES
11. Torque wrench set on 0 PSI after knife changed completed YES
12. Knife change area cleaned after knife change YES
13. Air wrenches lubricated or oiled YES
14. Check knife protection. NO
15. Hood loader greased - turntable & boom pin (once per shift) YES
16. Any maintenance done during knife change: NO



# DRYER DATA SHEET

ODL  
GT

DATE: 8.30.95  
 SHIFT: 7pm-7am  
 CREW: B  
 NAME: C. Johnson

OPACITY/DRYER CHARTS: \_\_\_\_\_ CHECK AND INITIAL EVERY 30 MINUTES  
 BURNER OUTLET SET POINT: \_\_\_\_\_ READING EVERY 30 MINUTES  
 OUTLET TEMP SET POINT: \_\_\_\_\_ MOISTURE % EVERY HOUR  
 REVOLUTIONS PER MINUTE: \_\_\_\_\_ BIN LEVEL EVERY HOUR  
 FUEL CALABRATION: \_\_\_\_\_ NOTE ANY CHANGES IN SETPOINTS

| TIME  | FEED RATE | DRYER IN TEMP | DRYER OUT TEMP | FLAKE IN | MOIST. OUT | DRY BIN LEVEL | OPACITY MONITOR | DRYER CHT. CIRCULAR | RTD CHAMBER TEMP |
|-------|-----------|---------------|----------------|----------|------------|---------------|-----------------|---------------------|------------------|
| 7:30  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               | 1563             |
| 8:00  | 80        | 1263          | 185            | 37%      | 80         | 1/2 1/2       | OK CD           | OK CD               | 1563             |
| 8:30  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               | 1562             |
| 9:00  | 80        | 1492          | 187            | 38%      | 80         | 1/4 1/4       | OK CD           | OK CD               | 1564             |
| 9:30  |           | Down          |                |          |            | 1/4 1/4       | OK CD           | OK CD               | -                |
| 10:00 |           | Down          |                |          |            | 1/4 1/4       | OK CD           | OK CD               | -                |
| 10:30 |           | START-UP      |                |          |            | 1/4 1/4       | OK CD           | OK CD               | 1545             |
| 11:00 | 82        | 1273          | 190            |          | 90         | 1/4 1/4       | OK CD           | OK CD               | 1547             |
| 11:30 |           |               |                |          |            | 1/4 1/4       | OK CD           | OK CD               | 1571             |
| 12:00 | 80        | 1335          | 186            |          | 80         | 1/4 1/4       | OK CD           | OK CD               | 1547             |
| 12:30 |           |               |                |          |            | 1/4 1/4       | OK CD           | OK CD               | 1568             |
| 1:00  |           | Down          |                |          |            | 1/4 1/4       | OK CD           | OK CD               | -                |
| 1:30  |           | START-UP      |                |          |            | 1/4 1/4       | OK CD           | OK CD               | -                |
| 2:00  |           | Down          |                |          |            | 1/4 1/4       | OK CD           | OK CD               | -                |
| 2:30  |           |               |                |          |            | 1/4 1/4       | OK CD           | OK CD               | 1534             |
| 3:00  | 75        | 1097          | 183            | 39       | 70         | 1/4 1/4       | OK CD           | OK CD               | 1534             |
| 3:30  |           |               |                |          |            | 1/4 1/4       | OK CD           | OK CD               | 1546             |
| 4:00  | 85        | 1106          | 187            | 36%      | 70         | 1/4 1/4       | OK CD           | OK CD               | 1549             |
| 4:30  |           |               |                |          |            | 1/4 1/4       | OK CD           | OK CD               | 1575             |
| 5:00  | 85        | 800           | 195            |          | 80         | 1/4 1/4       | OK CD           | OK CD               | 1558             |
| 5:30  |           |               |                |          |            | 1/4 1/4       | OK CD           | OK CD               | 1552             |
| 6:00  | 85        | 954           | 193            |          | 70         | 1/4 1/4       | OK CD           | OK CD               | 1570             |
| 6:30  |           |               |                |          |            | 1/4 1/4       | OK CD           | OK CD               | 1564             |
| 7:00  | 75        | 1063          | 193            |          | 80         | 1/4 1/4       | OK CD           | OK CD               | 1560             |

1153      188      7.7

NAME: C. DOLSON SHIFT: 7pm-7am DATE: 8-30-95

TOTAL DRYER RUN TIME 550  
 MONITOR DOWNTIME 0

**DRYER OPACITY CHART**  
 LOUISIANA-PACIFIC CORPORATION  
 DUNGANNON, VIRGINIA

ENTER ALL OPACITY READINGS GREATER THAN 10%

| DATE    | TIME FROM | TIME TO | MINUTES | OPACITY                        | CODE | DESCRIPTION OF OCCURANCE |
|---------|-----------|---------|---------|--------------------------------|------|--------------------------|
| 8-30-95 | 19:00     | 07:00   |         | DRYER RUN Below 100% All Shift |      |                          |
|         |           |         |         |                                |      | Corrective action taken: |
|         |           |         |         |                                |      |                          |
|         |           |         |         |                                |      | Corrective action taken: |
|         |           |         |         |                                |      |                          |
|         |           |         |         |                                |      | Corrective action taken: |
|         |           |         |         |                                |      |                          |
|         |           |         |         |                                |      | Corrective action taken: |
|         |           |         |         |                                |      |                          |
|         |           |         |         |                                |      | Corrective action taken: |
|         |           |         |         |                                |      |                          |

BE SURE ENTRIES ON THIS CHART MATCH THE STRIP CHART

TIME IN INCREMENTS  
 OF SIX MINUTES

- CODES**
- 1 BAKE OUT
  - 2 CLEANING RTO VALVES
  - 3 RE-CALIBRATION
  - 4 CLEANING LENS
  - 5 MONITOR FAILURE
  - 6 CONDENSATION
  - 7 BURNER MALFUNCTION
  - 8 MAINTENANCE
  - 9 CHANGE (CERAMIC)
  - 10 OTHER (DESCRIBE)
  - 11 POWER FAILURE
  - 12 DRUM FIRE

- MILITARY TIME**
- 7AM=0700
  - 8AM=0800
  - 9AM=0900
  - 10AM=1000
  - 11AM=1100
  - 12AM=1200
  - 1PM=1300
  - 2PM=1400
  - 3PM=1500
  - 4PM=1600
  - 5PM=1700
  - 7PM=1900
  - 8PM=2000
  - 9PM=2100
  - 10PM=2200
  - 11PM=2300
  - 12PM=2400
  - 1AM=0100
  - 2AM=0200
  - 3AM=0300
  - 4AM=0400
  - 5AM=0500

| FROM | TO   |
|------|------|
| 0700 | 0706 |
| 0706 | 0712 |
| 0712 | 0718 |
| 0718 | 0724 |
| 0724 | 0730 |
| 0730 | 0736 |
| 0736 | 0742 |
| 0742 | 0748 |
| 0748 | 0754 |
| 0754 | 0800 |



LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

2.70

12.14

SHIFT OPERATING REPORT

SUPERVISOR Yug Robinson SHIFT 7am to 2pm CREW 1 DATE 8-30-75

RESS OPERATION

| FROM  | TO | LINE SPEED | THICKNESS | PRESS LOADS | 3/8" FOOTAGE | MINS. DOWNTIME |   |        |
|-------|----|------------|-----------|-------------|--------------|----------------|---|--------|
|       |    |            |           |             |              | M              | E | O      |
| 7A    | 7P | 31-37.75   | 7/16      | 121         | 144,559      |                |   |        |
|       |    |            |           |             |              |                |   |        |
|       |    |            |           |             |              |                |   |        |
| TOTAL |    |            |           | 121         | 144,559      |                |   | 258.10 |

ONUS OPERATION

|            |            |
|------------|------------|
| HOURS FUEL | HOURS FUEL |
| USAGE WOOD | USAGE OIL  |
| 12         | 0          |

|                    |    |
|--------------------|----|
| NO. OF 'A' BUNDLES | 55 |
| NO. OF 'U' BUNDLES | 0  |
| NO. OF 'E' BUNDLES | 0  |

RYER OPERATION

1-66 Bundle bograde

| DRY FUEL<br>IN COUNTS | OIL FUEL<br>USAGE HRS | AVERAGE<br>INLET OUTLET | RUNNING<br>TIME (MIN) | DOWNTIME<br>(MINUTES) | AVG. WET<br>MOISTURE | AVG. DRY<br>MOISTURE |
|-----------------------|-----------------------|-------------------------|-----------------------|-----------------------|----------------------|----------------------|
| 4594                  | 0                     | 1189 193                | 575                   | 145                   | 41.0                 | 80                   |

BARK MOISTURE % (AVG.) 34.0 FUEL MOISTURE 3.0

SCRUBBER WATER METER READING

BEGINNING OF SHIFT 480.300  
END OF SHIFT 480.900

TOTAL GALLONS USED THIS SHIFT 600

LOUISIANA-PACIFIC CORPORATION  
 BUNGANNON, VIRGINIA

PRESS REPORT

OPERATOR E. S. WESS SHIFT 7am 7pm CREW 9" DATE 8-30-95  
 THICKNESS: 3/16" PRESS LOADS 121:144559 BLENDER SHUTDOWNS  
 CORE 35  
 OVERALL TIMER: \_\_\_\_\_ DECOMPRESSION TIME \_\_\_\_\_ SURFACE 53  
 PRESS TEMP: 415°

| LINE SPEED | FROM  | TO    |
|------------|-------|-------|
| 37.75      | 7:00  | 7:05  |
| 37.25      | 7:05  | 11:48 |
| 31         | 11:48 | 12:21 |
| 57         | 12:21 | 2:23  |
| 31         | 2:23  | 2:49  |
| 37.75      | 2:49  |       |

BEGIN CORE RESIN SURFACE RESIN  
2995631 13204731  
 END 2997887 13212113  
 Cleaned Blender Shrouds & Tracks  
 Forme hydraulic and radiator  
 blown out  
 FCOS hydraulic unit and radiator  
 blown out  
 Blender outfeed conv. tail pulleys  
 cleaned

| DOWNTIME |      | DOWNTIME (Mins.) |   |   | KEY | REASONS FOR DOWNTIME                        |
|----------|------|------------------|---|---|-----|---|
| FROM     | TO   | M                | E | O |     |   |
| 7:03     | 7:04 |                  |   |   | 1   | #1 head bar flipped                         |
| 7:16     | 7:18 |                  |   |   | 2   | #6 dropped                                  |
| 7:21     | 7:24 |                  |   |   | 3   | mett come out of F.L. dogs                  |
| 7:34     | 7:35 |                  |   |   | 1   | dropped #8 on unloader                      |
| 7:39     | 7:41 |                  |   |   | 2   | unloader dropped #1                         |
| 7:54     | 7:57 |                  |   |   | 3   | #2 started out of press                     |
| 8:04     | 8:06 |                  |   |   | 2   | unloader dropped #8                         |
| 8:08     | 8:09 |                  |   |   | 1   | unloader dropped #8                         |
| 8:23     | 8:58 |                  |   |   | 35  | worked on loader & unloader & unloader boom |
| 9:04     | 9:06 |                  |   |   | 2   | #2 started out of Press                     |

DOWNTIME CODE: M-MECHANICAL E-ELECTRICAL O-OPERATOR

\*\*\*\* MAINTENANCE/LOCK-OUT LOG \*\*\*\*

| MOTOR # LOCKED OUT | FROM | TO | BRIEF DESCRIPTION OF WORK BEING DONE | INITIALS OF PERSON LOCKING OUT |
|--------------------|------|----|--------------------------------------|--------------------------------|
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |

WINGANNON, VIRGINIA

OPERATOR \_\_\_\_\_ SHIFT \_\_\_\_\_ CREW \_\_\_\_\_ DATE \_\_\_\_\_

THICKNESS: \_\_\_\_\_ PRESS LOADS \_\_\_\_\_ BLENDER SHUTDOWNS  
CORE \_\_\_\_\_

OVERALL TIMER: \_\_\_\_\_ DECOMPRESSION TIME \_\_\_\_\_ SURFACE \_\_\_\_\_

PRESS TEMP: \_\_\_\_\_ CORE RESIN \_\_\_\_\_ SURFACE RESIN \_\_\_\_\_

| LINE SPEED | FROM | TO |
|------------|------|----|
|            |      |    |
|            |      |    |
|            |      |    |
|            |      |    |
|            |      |    |

BEGIN \_\_\_\_\_  
END \_\_\_\_\_  
Cleaned Blender Shrouds & Tracks \_\_\_\_\_  
Formed hydraulic and radiator blown out \_\_\_\_\_  
FCOS hydraulic unit and radiator blown out \_\_\_\_\_  
Blender outfeed conv. tail pulleys cleaned \_\_\_\_\_

| DOWNTIME |      | DOWNTIME (Mins.) |   |   | KEY    | REASONS FOR DOWNTIME |
|----------|------|------------------|---|---|--------|----------------------|
| FROM     | TO   | M                | E | O |        |                      |
| 4:58     | 5:41 |                  |   |   | 43     | (High Pressure)      |
| 5:45     | 6:35 |                  |   |   | 24/50  | High Pressure        |
| 6:43     | 7:00 |                  |   |   | 258/17 | High Pressure        |
|          |      |                  |   |   |        |                      |
|          |      |                  |   |   |        |                      |
|          |      |                  |   |   |        |                      |
|          |      |                  |   |   |        |                      |
|          |      |                  |   |   |        |                      |
|          |      |                  |   |   |        |                      |
|          |      |                  |   |   |        |                      |

DOWNTIME CODE: M-MECHANICAL E-ELECTRICAL O-OPERATOR

\*\*\*\* MAINTENANCE/LOCK-OUT LOG \*\*\*\*

| MOTOR # | LOCKED OUT | FROM | TO | BRIEF DESCRIPTION OF WORK BEING DONE | INITIALS OF PERSON LOCKING OUT |
|---------|------------|------|----|--------------------------------------|--------------------------------|
|         |            |      |    |                                      |                                |
|         |            |      |    |                                      |                                |
|         |            |      |    |                                      |                                |
|         |            |      |    |                                      |                                |

OPERATOR \_\_\_\_\_ SHIFT \_\_\_\_\_ CREW \_\_\_\_\_ DATE \_\_\_\_\_

THICKNESS: \_\_\_\_\_ PRESS LOADS \_\_\_\_\_ BLENDER SHUTDOWNS CORE \_\_\_\_\_

OVERALL TIMER: \_\_\_\_\_ DECOMPRESSION TIME \_\_\_\_\_ SURFACE \_\_\_\_\_

PRESS TEMP: \_\_\_\_\_ CORE RESIN \_\_\_\_\_ SURFACE RESIN \_\_\_\_\_

| LINE SPEED | FROM | TO |
|------------|------|----|
|            |      |    |
|            |      |    |
|            |      |    |
|            |      |    |
|            |      |    |

BEGIN \_\_\_\_\_

END \_\_\_\_\_

Cleaned Blender Shrouds & Tracks \_\_\_\_\_

Formed hydraulic and radiator blown out \_\_\_\_\_

FCOS hydraulic unit and radiator blown out \_\_\_\_\_

Blender outfeed conv. tail pulleys cleaned \_\_\_\_\_

| DOWNTIME (Mins.) |       |   |   |     | KEY | REASONS FOR DOWNTIME          |
|------------------|-------|---|---|-----|-----|-------------------------------|
| FROM             | TO    | M | E | O   |     |                               |
| 9:33             | 9:34  |   |   |     | 1   | #2 pulled back                |
| 9:37             | 9:38  |   |   | 54  | 1   | #2 pulled back                |
| 11:49            | 12:21 |   |   | 80  | 52  | Low Dry Bin (primary plugged) |
| 12:41            | 12:42 |   |   |     | 1   | #2 started out of press       |
| 1:07             | 1:09  |   |   |     | 2   | #2 started out of press       |
| 1:18             | 1:22  |   |   |     | 3   | pulled badscreen off line     |
| 1:24             | 1:25  |   |   |     | 1   | H.B. Por. nor.                |
| 2:19             | 2:20  |   |   |     | 1   | unloader dropped #1           |
| 2:29             | 2:49  |   |   |     | 20  | Primary fire                  |
| 4:18             | 4:54  |   |   | 148 | 34  | Dryer Drum plugged            |

DOWNTIME CODE: M-MECHANICAL E-ELECTRICAL O-OPERATOR

\*\*\*\* MAINTENANCE/LOCK-OUT LOG \*\*\*\*

| MOTOR # LOCKED OUT | FROM | TO | BRIEF DESCRIPTION OF WORK BEING DONE | INITIALS OF PERSON LOCKING OUT |
|--------------------|------|----|--------------------------------------|--------------------------------|
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |

LOUISIANA-PACIFIC CORPORATION

Dungannon, Virginia

OPERATOR Ronald

SHIFT 7am to 7pm

CREW D

DATE 8-30-95

KONUS CHECK LIST

|   |                    |         |           |
|---|--------------------|---------|-----------|
| Normal Oil Level<br>Inches above bottom |                    | 0       |           |
| Clarke Bin (quarters)                   |                    | 1/2     |           |
| Diesel Fuel Level<br>(Emergency Pump)   |                    | Full    |           |
| Diesel Oil Level<br>(Emergency Pump)    |                    | Full    |           |
| Space<br>Heating                        | Inlet Temp         | 87      |           |
|   | Outlet Temp        |         |           |
|   | Discharge Pressure |         |           |
| Press Pump 1 (Running)                  |                    |         |           |
| Press Pump 2 (Running)                  |                    |         |           |
| P. Pump Pressure                        |                    | Suction | Discharge |
| Primary Pump I                          |                    |         |           |
| Primary Pump II                         |                    |         |           |
| Konus Baghouse Pressure                 |                    |         |           |
| Baghouse Pulsed? <u>YES/NO</u>          |                    |         |           |
| List any other problems:                |                    |         |           |
|   |                    |         |           |
|   |                    |         |           |
|   |                    |         |           |
|   |                    |         |           |
|   |                    |         |           |

|   |                          |
|---|--------------------------|
| <u>Indicate Konus Problems</u>                  |                          |
| Flow Control                                    |                          |
| Level Control                                   |                          |
| Fan Disturb                                     |                          |
| Internal Press                                  |                          |
| High Flue Gas                                   |                          |
| Other:  |                          |
| LEFT (Counts) <u>2959</u> x ( ) =               |                          |
| RIGHT (Counts) <u>1860</u> x ( ) =              |                          |
|   |                          |
| <u>Indicate Temp. Set Points</u>                |                          |
| Space Heat <u>87</u>                            |                          |
| Hot Pond <u>0</u>                               |                          |
| Emergency Cooling Tank - Full <u>YES/NO</u>     |                          |
| Konus   | Water Pressure _____ PSI |
| Emergency Diesel (run each shift) <u>YES/NO</u> |                          |
| Konus   |                          |
| Fuel Oil Level (gallons)                        |                          |
| <u>L.P. Level</u>                               |                          |
| Fire Dump Cleaned: <u>yes</u>                   |                          |
| Bark Fuel Used _____                            |                          |

FOREMANS REPORT CHECK LIST TO BE TURNED IN EVERY SHIFT

DATE: 8-30-55 SHIFT: 7A-7P SUPERVISOR: G. Robinson

SHIFT OPERATING REPORT

PRESS REPORT

PRESS LOAD & TIME TO POSITION

RESIN CHART RECORDER CHECKLIST

DRYER OPERATION REPORT

DRYER DATA SHEET

KONUS CHECK LIST

DRYER OPACITY REPORT

KNIFE GRINDER REPORT

FLAKER OPERATOR PM SHEET

DEBARKER OPERATOR PM SHEET

PRENTICE OPERATOR PM SHEET

BOBCAT OPERATOR PM SHEET

FLAKER UTILITY

DEBARKER UTILITY

DRYER UTILITY

LINEMAN

SHIFT MILLWRIGHT REPORT

FLAKER KNIFE CHANGE PM SHEET

930 LOADER

966 LOADER PM SHEET

TROJAN LOADER PM SHEET

PRESS CIRCLE CHART

DRYER CIRCLE CHART

DRYER BY-PASS CHART

FORKLIFT PM SHEET

UPSET CONDITION REPORT

(When Necessary)

OTHER COMMENTS OR PROBLEMS NOT TAKEN CARE OF:

*Fire & Damp Curtain is torn at top*

# DRYER DATA SHEET

DATE: 8-30-95

SHIFT: 7am to 7pm

CREW: [Signature]

NAME: Ronald

OPACITY/DRYER CHARTS: \_\_\_\_\_ CHECK AND INITIAL EVERY 30 MINUTES  
 BURNER OUTLET SET POINT: \_\_\_\_\_ READING EVERY 30 MINUTES  
 OUTLET TEMP SET POINT: \_\_\_\_\_ MOISTURE % EVERY HOUR  
 REVOLUTIONS PER MINUTE: \_\_\_\_\_ BIN LEVEL EVERY HOUR  
 FUEL CALABRATION: \_\_\_\_\_ NOTE ANY CHANGES IN SETPOINTS

| TIME  | FEED RATE | DRYER IN TEMP | DRYER OUT TEMP | FLAKE IN | MOIST. OUT | DRY BIN LEVEL | OPACITY MONITOR | DRYER CHT. CIRCULAR | RTO CHAMBER TEMP |
|-------|-----------|---------------|----------------|----------|------------|---------------|-----------------|---------------------|------------------|
| 7:30  |           |               |                |          | 8.0        |               | OK RE           | OK                  | 1523             |
| 8:00  | 83        | 1111          | 190            | 42.0     | 8.0        | 1/2 1/2       | OK RE           | OK                  | 1547             |
| 8:30  |           |               |                |          | 8.0        |               | OK RE           | OK                  | 1562             |
| 9:00  | Start up  |               |                |          |            |               | OK RE           | OK                  | 1552             |
| 9:30  |           |               |                |          | 9.0        |               | OK RE           | OK                  | 1572             |
| 10:00 | 83        | 1139          | 190            | 40.0     | 8.0        | 1/2 1/2       | OK RE           | OK                  | 1569             |
| 10:30 |           |               |                |          | 8.0        |               | OK RE           | OK                  | 1558             |
| 11:00 | 83        | 1237          | 189            | 43.0     | 9.0        | 1/2 1/2       | OK RE           | OK                  | 1575             |
| 11:30 | Down      |               |                |          |            |               | OK RE           | OK                  | 1566             |
| 12:00 | 100       | 1098          | 195            | 41.0     | 10.0       | 1/4 1/4       | OK RE           | OK                  | 1546             |
| 12:30 |           |               |                |          | 9.0        |               | OK RE           | OK                  | 1563             |
| 1:00  | 83        | 1238          | 195            | 42.0     | 8.0        | 1/4 1/4       | OK RE           | OK                  | 1553             |
| 1:30  |           |               |                |          | 10.0       |               | OK RE           | OK                  | 1531             |
| 2:00  | 83        | 1254          | 195            | 43.0     | 8.0        | 1/2 1/2       | OK RE           | OK                  | 1500             |
| 2:30  | Start up  |               |                |          |            |               | OK RE           | OK                  | 1544             |
| 3:00  | 93        | 1208          | 196            | 38.0     | 8.0        | 1/2 1/2       | OK RE           | OK                  | 1572             |
| 3:30  |           |               |                |          | 9.0        |               | OK RE           | OK                  | 1557             |
| 4:00  | 83        | 1229          | 193            | 36.0     | 9.0        | 1/2 1/2       | OK RE           | OK                  | 1548             |
| 4:30  | Down      |               |                |          |            |               | OK RE           | OK                  | 1542             |
| 5:00  | Down      |               |                |          |            |               | OK RE           | OK                  | 1545             |
| 5:30  | Start up  |               |                |          |            |               | OK RE           | OK                  | 1535             |
| 6:00  | Down      |               |                |          |            |               | OK RE           | OK                  | 1536             |
| 6:30  |           |               |                |          | 10.0       |               | OK RE           | OK                  | 1560             |
| 7:00  | Down      |               |                |          |            |               | OK RE           | OK                  | 1546             |

# DRYER OPERATION REPORT

OPERATOR Ronald SHIFT Mon to 7pm CREW D DATE 8-30-85

**#1 BAGHOUSE**

TIMES CHECKED

HAMMER MILL MAGNET      TIME      TIME      TIME      TIME      TIME      TIME

CLEANED (3TIMES)

LEVEL IN MCCONNELL      TIME      TIME      TIME

BINS (3 TIMES)

WOOD BURNER FILTER      CHECKED CLEANED (ONCE A SHIFT)

OIL BURNER FILTER      CHECKED CLEANED (ONCE A SHIFT)

WOOD BLOWER BELT TENS      CHECKED CLEANED (ONCE A SHIFT)

DRY BIN INFEED BELT      CHECKED TAIL PULLEY CLEANED (IF NEEDED)

DRYER TRUNIONS      CHECKED (WHEN NEEDED)

DRYER INLET TUBE BLOWN DOWN (ONCE A SHIFT)

AIR CONDENSOR BLOWN DOWN (ONCE A SHIFT)

DRYER DRUM DILUGE VALVES ON X (AT START OF SHIFT)

**ONCE A SHIFT:**

|                                       |     |
|---------------------------------------|-----|
| #1 BAGHOUSE MAGNEHELIC READING        | 2.2 |
| #2 BAGHOUSE MAGNEHELIC READING        | 0.8 |
| KONUS BAGHOUSE MAGNEHELIC READING     | 1.0 |
| MCCONNELL BAGHOUSE MAGNEHELIC READING | 0   |
| SCRUBBER MAGNEHELIC READING           | 2.7 |

**DRYER DOWN TIME**

| DOWN  | UP    | MINUTES | WHY             |
|-------|-------|---------|-----------------|
| 8:50  | 9:00  | 10      | Screened Feed   |
| 11:30 | 11:50 | 20      | Primary Pacey   |
| 2:20  | 2:30  | 10      | Feed in Primary |
| 4:15  | 4:45  | 30      | High Pressure   |
| 4:55  | 5:25  | 30      | High Pressure   |
| 5:45  | 6:20  | 35      | High Pressure   |
| 6:40  | 7:00  | 20      | High Pressure.  |
|       |       |         |                 |
|       |       |         |                 |



NAME: Ronald SHIFT: 6:00 AM to 12:00 PM DATE: 8-30-95

TOTAL DRYER RUN TIME 575  
 MONITOR DOWNTIME 0

**DRYER OPACITY CHART**  
 LOUISIANA-PACIFIC CORPORATION  
 DUNGANNON, VIRGINIA

ENTER ALL OPACITY READINGS GREATER THAN 10%

| DATE | TIME FROM                          | TIME TO | MINUTES | OPACITY | CODE | DESCRIPTION OF OCCURANCE |
|------|------------------------------------|---------|---------|---------|------|--------------------------|
|      | <i>Sup ran below 10% all Shift</i> |         |         |         |      |                          |
|      |                                    |         |         |         |      | Corrective action taken: |
|      |                                    |         |         |         |      | Corrective action taken: |
|      |                                    |         |         |         |      | Corrective action taken: |
|      |                                    |         |         |         |      | Corrective action taken: |
|      |                                    |         |         |         |      | Corrective action taken: |

BE SURE ENTRIES ON THIS CHART MATCH THE STRIP CHART

TIME IN INCREMENTS

| OF SIX MINUTES |      |
|----------------|------|
| FROM           | TO   |
| 0700           | 0706 |
| 0706           | 0712 |
| 0712           | 0718 |
| 0718           | 0724 |
| 0724           | 0730 |
| 0730           | 0736 |
| 0736           | 0742 |
| 0742           | 0748 |
| 0748           | 0754 |
| 0754           | 0800 |

- CODES**
- 1 BAKE OUT
  - 2 CLEANING RTO VALVES
  - 3 RE-CALIBRATION
  - 4 CLEANING LENS
  - 5 MONITOR FAILURE
  - 6 CONDENSATION
  - 7 BURNER MALFUNCTION
  - 8 MAINTENANCE
  - 9 CHANGE (CERAMIC)
  - 10 OTHER (DESCRIBE)
  - 11 POWER FAILURE
  - 12 DRUM FIRE

**MILITARY TIME**

|           |           |
|-----------|-----------|
| 7AM=0700  | 7PM=1900  |
| 8AM=0800  | 8PM=2000  |
| 9AM=0900  | 9PM=2100  |
| 10AM=1000 | 10PM=2200 |
| 11AM=1100 | 11PM=2300 |
| 12AM=1200 | 12PM=2400 |
| 1PM=1300  | 1AM=0100  |
| 2PM=1400  | 2AM=0200  |
| 3PM=1500  | 3AM=0300  |
| 4PM=1600  | 4AM=0400  |
| 5PM=1700  | 5AM=0500  |

DATE 8-30-95

CREW "D"

SHIFT 7AM-7PM

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

|    | TIME         | NAME      |
|----|--------------|-----------|
| 1  | <u>7:00</u>  | <u>ES</u> |
| 2  | <u>8:00</u>  | <u>ES</u> |
| 3  | <u>9:00</u>  | <u>ES</u> |
| 4  | <u>10:00</u> | <u>ES</u> |
| 5  | <u>11:00</u> | <u>ES</u> |
| 6  | <u>12:00</u> | <u>ES</u> |
| 7  | <u>1:00</u>  | <u>ES</u> |
| 8  | <u>2:00</u>  | <u>ES</u> |
| 9  | <u>3:00</u>  | <u>ES</u> |
| 10 | <u>4:00</u>  | <u>ES</u> |
| 11 |              |           |
| 12 |              |           |

REPORT ANY PROBLEMS TO THE SUPERVISOR.

NOTES:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PRESS LOADS & TIME TO POSITION

E. Sluss  
7Am-7pm  
8-80-95  
D 3/6

121

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

TURN IN WITH PRESS REPORT!

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

DAI Y PM AND CHECKLIST

Flaker Utility Shewey Date 8-30-98 Shift 10m-7m Crew D

Yes No Problem found or Maint. Done

|  | Yes | No | Problem found | or Maint. | Done |
|--|-----|----|---------------|-----------|------|
| 1. Check and maintain fire fighting equipment (hoses in place, extinguishers full, etc.) | ✓   |    |               |           |      |
| 2. Clean flaker clamps and replace tips.   | ✓   |    |               |           |      |
| 3. Keep air and torque wrenches oiled and in place for knife changes.                    | ✓   |    |               |           |      |
| 4. Blow off both flaker disc bearings every knife change.                                | ✓   |    |               |           |      |
| 5. Check all hydraulic units (oil level, and blow out radiators).                        | ✓   |    |               |           |      |
| 6. Clean all tail pulleys.   | ✓   |    |               |           |      |
| 7. Clean flaker pit (pump water out also).   | ✓   |    |               |           |      |
| 8. Blow down entire area.  | ✓   |    |               |           |      |
| 9. Keep flaker area floor clean.   | ✓   |    |               |           |      |
| 10. Clean catwalk and platform for the haul up conveyour.                                | ✓   |    |               |           |      |
| 11. Empty haul up conveyour; clean up bin.   | ✓   |    |               |           |      |

Comments or Suggestions: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

DAILY PM AND CHECKLIST

Lineman George Fitzpatrick Date 8-30-95 Shift 1st Crew D

|  | Yes | No | Problem found or maintenance done |
|--|-----|----|-----------------------------------|
| 1. Check & maintain fire fighting equipment (hoses in place, extinguishers full, etc.) | ✓   |    |                                   |
| 2. Check release agent spray can (when necessary)                                      | ✓   |    |                                   |
| 3. Check all screens & head bar pins   | ✓   |    |                                   |
| 4. Check formers & spreading rolls (At least 3 times a shift)                          | ✓   |    |                                   |
| 5. Blow down entire area   |     | ✓  |                                   |
| 6. Check all hydraulic units (oil level & blow out radiators)                          | ✓   |    |                                   |
| 7. Check magnet for metal & position   | ✓   |    |                                   |
| 8. Check incline & decline chain dogs (in time, cracked, etc.)                         | ✓   |    |                                   |
| 9. Check press hydraulic oil level   | ✓   |    |                                   |
| 10. Clean press pit, bucket elevator pit   | ✓   |    |                                   |
| 11. Check FCOS allock  | ✓   |    |                                   |
| 12. Check for leaks on press hydraulic T-oil system                                    | ✓   |    |                                   |
| 13. Blow off both sides of press including Symo Arms (2 times shift)                   |     | ✓  |                                   |
| 14. Blow out sides of formers (behind clear curtain)                                   |     | ✓  |                                   |
| 15. Check return line belts  | ✓   |    |                                   |
| 16. Keep area floor clean  | ✓   |    |                                   |
| 17. Grease slides on press   |     | ✓  |                                   |
| 18. Clean lunchroom when necessary   |     | ✓  |                                   |

COMMENTS OR SUGGESTIONS:

DAILY FORKLIFT CHECK LIST

NAME Beir &  
SHIFT 7AM 7PM  
ORKLIFT# 2

|  | <u>OK TO RUN</u>      | <u>DO NOT RUN</u>    |
|--|-----------------------|----------------------|
| 1. Oil Level   | <u>✓</u>              | <u>          </u>    |
| 2. Water Level   | <u>✓</u>              | <u>          </u>    |
| 3. Brakes  | <u>✓</u>              | <u>          </u>    |
| 4. Transmission  | <u>✓</u>              | <u>          </u>    |
| 5. Horn  | <u>✓</u>              | <u>          </u>    |
| 6. Lights  | <u>✓</u>              | <u>          </u>    |
| 7. Tires   | <u>✓</u>              | <u>          </u>    |
| 8. Steering  | <u>✓</u>              | <u>          </u>    |
| 9. Rack & Cage   | <u>See Blow</u>       | <u>          </u>    |
| 10. Used air hose to blow down radiator and other things | YES <u>          </u> | NO <u>          </u> |

COMMENTS: Ruck <sup>gives</sup> ~~is~~ as it so <sup>to</sup> ~~th~~ left

- NOTES:
1. Use TEXACO 15W40 Motor oil-located in Mobile Equipment Shop.
  2. Hydraulic Oil-located outside Mobile Equipment Shop-Large black tank.
  3. Use water for radiator.

DAILY P.M. & CHECK LIST

FOREMAN: Greg      DATE: 8-30-95      SHIFT: 7am-7pm CREW: D

FLAKER OPERATOR

| ITEM            | INSPECT/DO                                     | YES/NO | COMMENTS |
|-----------------|--|--------|----------|
| HYDRAULIC UNITS | FLAKER & BOOM UNITS KEEP FULL                  | ✓      |          |
|                 | GREASE ENTIRE BOOM -ALL PINS                   | ✓      |          |
|                 | GREASE ALL BUSHINGS                            | ✓      |          |
|                 | GREASE TURN TABLE                              | ✓      |          |
|                 | TIGHTEN ALL PIN NUTS ON BOOM<br>--EACH SHIFT-- | ✓      |          |
|                 | GREASE LOG HOLD DOWN PINS                      | ✓      |          |
|                 | CHECK ALL MULTI CHANS                          | ✓      |          |
|                 | GREASE LOG INCLINE CONVEYOR<br>CHAIN BEARINGS  | ✓      |          |
|                 | INSPECT KNIFE CLAMPS & PLATES                  | ✓      |          |
|                 | INSPECT SCORING KNIVES<br>(EACH KNIFE CHANGE)  | ✓      |          |
|                 | INSPECT ALL BEARINGS                           | ✓      |          |
|                 | INSPECT DRIVE BELTS                            | ✓      |          |
| ENTIRE SYSTEM   | CHECK FOR LOOSE NUTS & BOLTS                   | ✓      |          |

ADDITIONAL COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

KNIFE CHANGE PM CHECKLIST

OPERATOR: Shannon SHIFT: 7am PREW: D DATE: 8-30-95

1. Time of knife changes: 10:10 1:40 4:00  
5:45
2. All clamps removed from disc and cleaned? ✓
3. All knife carriers cleaned (use wirebrush) ✓
4. Number of clamps replaced: 1st 21 2nd 25  
3rd 30 4th 20 5th
5. All bolts torqued at 70PSI. ✓
6. Never seize all clamp bolts, replace bad ones. ✓
7. Bottom & side anvils checked. ✓
8. Spray bar cleaned ✓
9. Arbor bearing blown down ✓
10. Multi-chain track cleaned (once per shift) ✓
11. Torque wrench set on 0 PSI after knife changed completed ✓
12. Knife-change area cleaned after knife change ✓
13. Air wrenches lubricated or oiled ✓
14. Check knife protection. ✓
15. Hood loader greased - turntable & boom pin ✓  
(once per shift)
16. Any maintenance done during knife change:



LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

DAILY PM CHECKLIST

Debarcker Utility W. Hall Date 5-30-95 Shift 7 AM thru Crew

|  | Yes | No                                  | Problem found or Maint. Done |
|--|-----|-------------------------------------|------------------------------|
| Check and maintain fire fighting equipment (hoses in place, fire extinguishers, etc.). |     | <input checked="" type="checkbox"/> |                              |
| Keep log wash pond full and bark cleaned off.  |     | <input checked="" type="checkbox"/> |                              |
| Clean all tail rollers.  |     | <input checked="" type="checkbox"/> |                              |
| Check all hydraulic units (oil level, blow out radiator).                              |     | <input checked="" type="checkbox"/> |                              |
| Check bark hog and belts (problems, plugs etc.).                                       |     | <input checked="" type="checkbox"/> |                              |
| Empty all hoppers.   |     | <input checked="" type="checkbox"/> |                              |
| Clean bark under log decks.  |     | <input checked="" type="checkbox"/> |                              |
| Blow down entire area.   |     | <input checked="" type="checkbox"/> |                              |
| Keep hog, mobile equipment, and old greenend area floor clean.                         |     | <input checked="" type="checkbox"/> |                              |
| Wash down floor in debarker area (11-7 shift).   |     | <input checked="" type="checkbox"/> |                              |
| M and service loader when used.  |     | <input checked="" type="checkbox"/> |                              |

Comments or suggestions: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

PM CHECKLIST BOBCAT

CR # D

FOREMAN Gray

DATE 8/3/09

SHIFT 7 AM PM

NAME B. Hall

BOBCAT OPERATOR

| DAILY | A. Bobcat - fluid levels   | Done<br>yes/no | How much added |
|-------|--|----------------|----------------|
|       | 1. Check hydraulic fluid   | YES            |                |
|       | 2. Check motor oil   | YES            |                |
|       | 3. Check air pressure in tires   | NO             |                |
|       | B. Blow entire machine off,<br>including motor.                                | NO             |                |
|       | C. Check for any leaks around<br>fittings, filters, motor oil,<br>transmission | NO             |                |
|       | D. Breakage  | NO             |                |
|       | 1. Control levers right side   | NO             |                |
|       | 2. Control levers left side  | NO             |                |
|       | 3. Cracks in bucket or boom  | NO             |                |
|       | 4. Safety cage broke away  | NO             |                |

Motor oil 15W-40

Hydraulic Oil HD-46  
Transmission - Dextron

Radiator 1/2 water 1/2 prestone (winter)

All water in summer months. Mike will service before winter months.

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

DAILY PM AND CHECK LIST

Dryer Utility Paula Date 8-30 Shift 7Am Crew 7pm D

|   | Yes | No | Problem found or Maint. done |
|---|-----|----|------------------------------|
| 1. Check and maintain fire fighting equipment (hoses in place, fire extinguishers full, etc.) | ✓   |    |                              |
| 2. Keep EFB gravel flowing and system full.   | X   |    |                              |
| 3. Deash both cells on konus.   | ✓   |    |                              |
| 4. Check clarkbin level (beginning and ending of each shift).                                 | ✓   |    |                              |
| 5. Clean screener pit.  | ✓   |    |                              |
| 6. Clean all tail rollers.  | ✓   |    |                              |
| 7. Empty all barrels when full.   | ✓   |    |                              |
| 8. Blow down entire area (3-11 shift)   |     | ✓  |                              |
| 9. Blow off inlet and outlet tube.  | ✓   |    |                              |
| 10. Grease dryer drum trunions.   | ✓   |    |                              |
| 11. Have fire dump and ash pit emptied when necessary.  | ✓   |    |                              |
| 12. Check for and seal all leaks on conveyors, augers, etc.                                   | ✓   |    |                              |
| 13. Clean konus room and baghouse pad area outside.   | ✓   |    |                              |
| 14. Keep dryer area floor clean.  | ✓   |    |                              |

Comments or suggestions: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

DAILY P.M. CHECKLIST

FOREMAN: *Greg R*

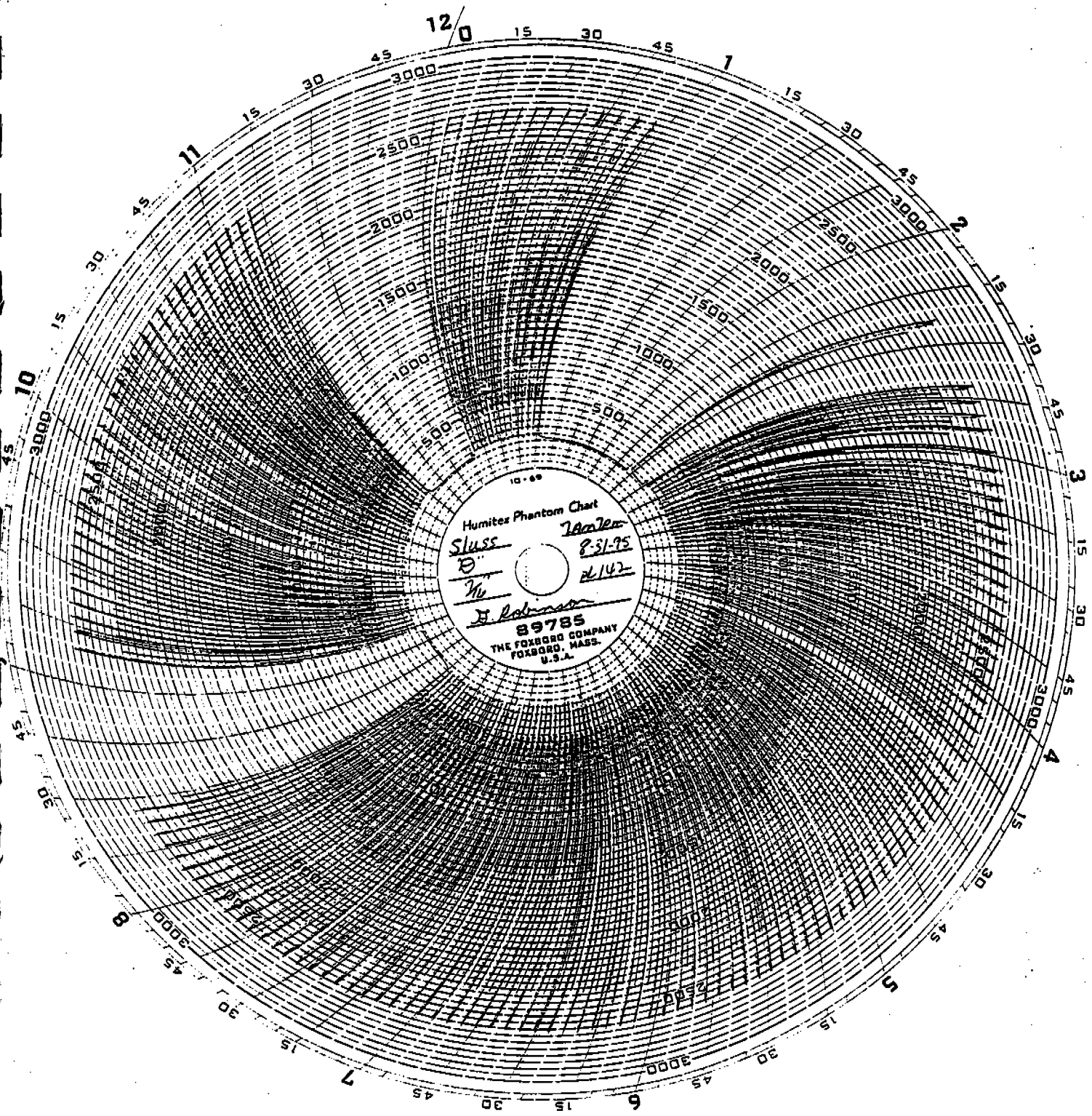
DATE: *8-30-95*

SHIFT: *7-7*

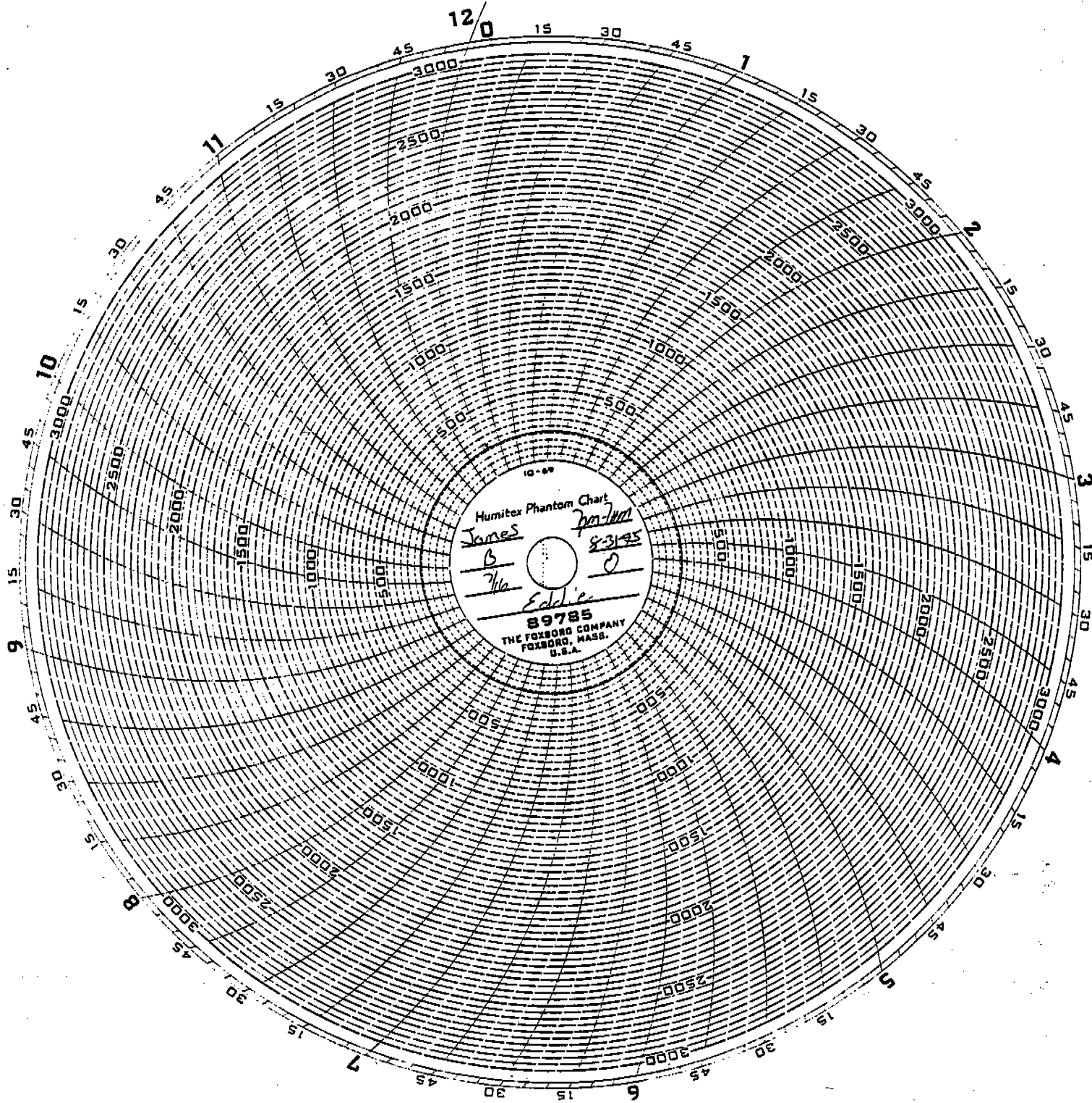
CREW: *1*

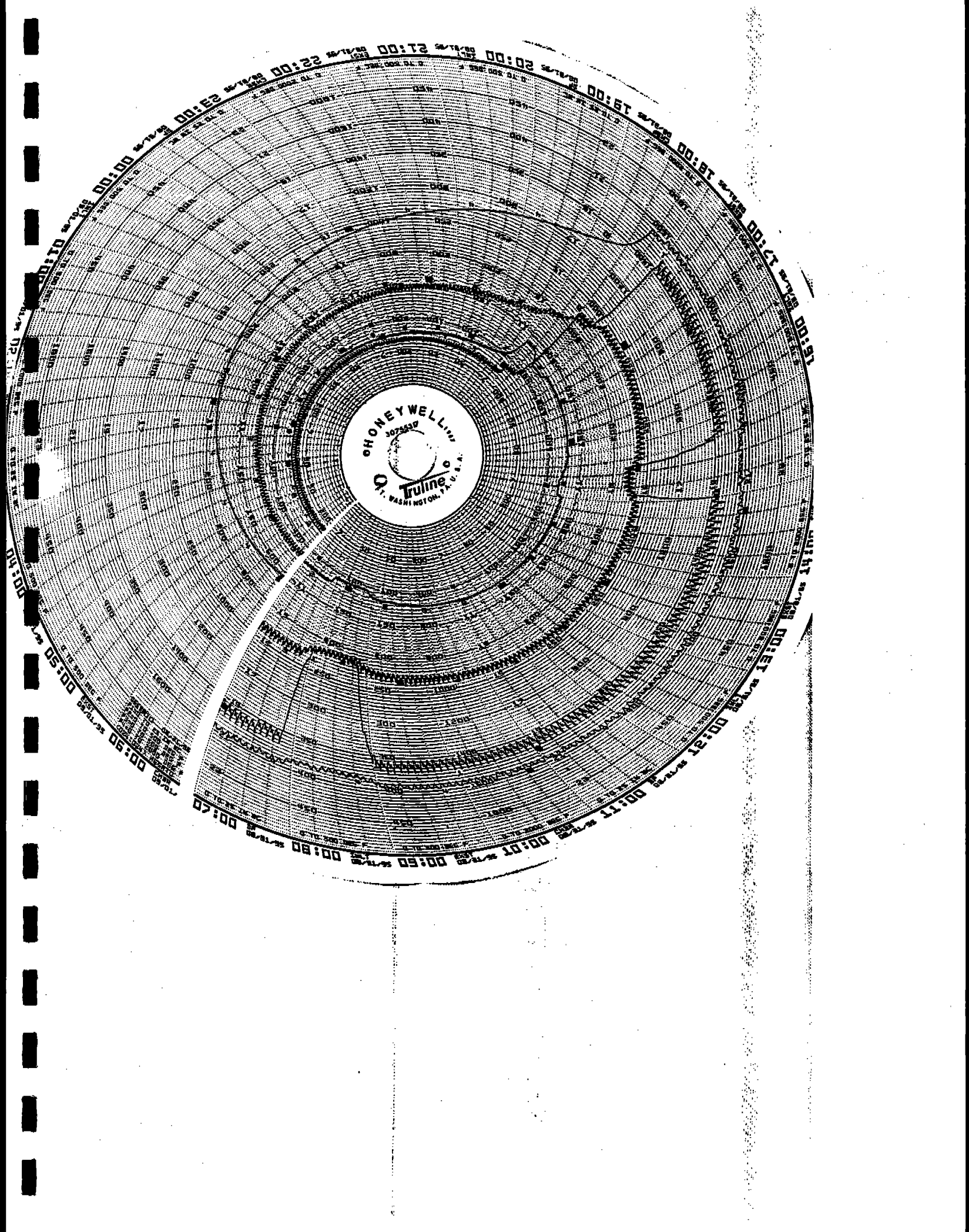
DEBARKER OPERATOR

| INSPECT/DO                                    | YES/NO | COMMENTS |
|---|--------|----------|
| GREASE ENTIRE MACHINE--ONCE EACH SHIFT        | ✓      |          |
| RELEASE WATER FROM DEBARKER & KICKER AIRLINES | ✓      |          |
| GREASE BEARINGS # 1 AND # 2 LOG INFEED CHAINS | ✓      |          |
| CHECK HYDRAULIC LEVEL IN HYDRAULIC UNIT       | ✓      |          |
| CHECK OIL LEVEL IN RING LUBE PUMP BARREL      | ✓      |          |
| INSPECT ARM TIPS FOR LOSS OR BREAKAGE         | ✓      |          |
| INSPECT ARMS FOR CRACKS                       | ✓      |          |
| GREASE FRONT & REAR HOLD DOWN SLIDES          | ✓      |          |
| GREASE LOG OUTFEED CHAIN BEARINGS             | ✓      |          |
| CLEAN HYDRAULIC UNIT ( ON DAY SHIFT)          | ✓      |          |
| COMMENTS:                                     |        |          |
|   |        |          |
|   |        |          |
|   |        |          |

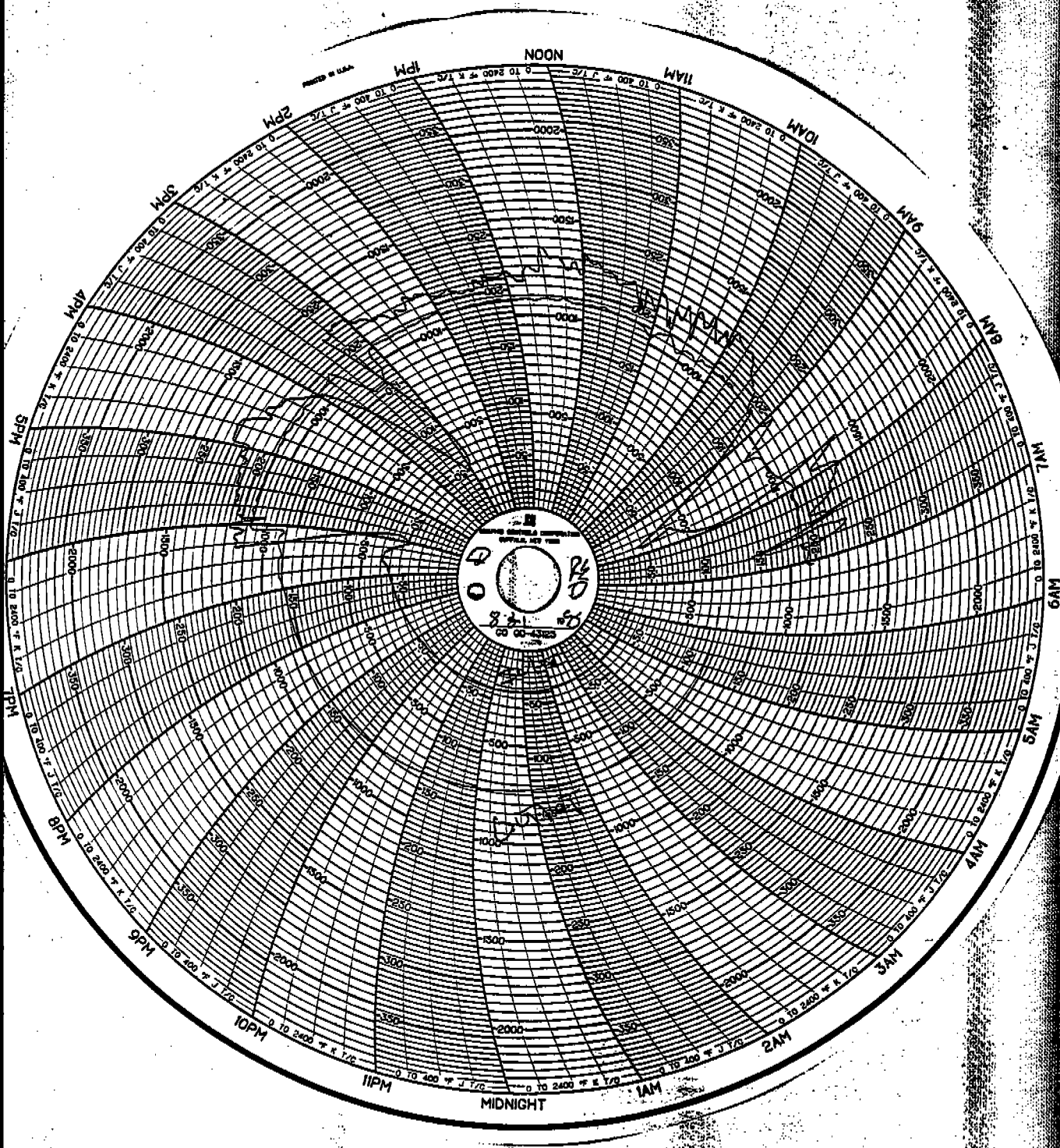


8-31-95











LOUISIANA - PACIFIC CORPORATION  
 DUNGANNON, VIRGINIA  
 SCRUBBER FILTER CAKE WEIGHTS

| SCALER'S NAME   | TIME WEIGHED | DATE    | SHIFT WORKING | HOPPER + FILTER CAKE WT/POUNDS | MINUS 680 LBS (EMPTY HOPPER) | FILTER CAKE WEIGHT IN POUNDS |
|-----------------|--------------|---------|---------------|--------------------------------|------------------------------|------------------------------|
| 1. Ron Skemp    | 7:55 AM      | 8-31-95 | 7am-3pm       | 14,540                         | -13,900                      | 640 lbs. 32 lbs              |
| 2. Ron Skemp    | 9:18 AM      | "       | "             | 14,140                         | "                            | 240 lbs. 12 lbs              |
| 3. R. S. Skemp  | 10:23 AM     | "       | "             | 14,220                         | "                            | 520 lbs. 46 lbs              |
| 4. Ronald Skemp | Filteration  | "       | System        | Down                           | "                            | "                            |
| 5. Ron Skemp    | 12:00 pm     | "       | "             | 14,220                         | "                            | "                            |
| 6. Ron Skemp    | 1:00 pm      | "       | Filteration   | System Down                    | "                            | "                            |
| 7.              |              |         |               |                                |                              |                              |
| 8.              |              |         |               |                                |                              |                              |
| 9.              |              |         |               |                                |                              |                              |
| 10.             |              |         |               |                                |                              |                              |
| 11.             |              |         |               |                                |                              |                              |
| 12.             |              |         |               |                                |                              |                              |
| 13.             |              |         |               |                                |                              |                              |
| 14.             |              |         |               |                                |                              |                              |
| 15.             |              |         |               |                                |                              |                              |
| 16.             |              |         |               |                                |                              |                              |
| 17.             |              |         |               |                                |                              |                              |
| 18.             |              |         |               |                                |                              |                              |
| 19.             |              |         |               |                                |                              |                              |
| 20.             |              |         |               |                                |                              |                              |

KOMLINE - SANDERSON DRUM FILTER DOWNTIME IN MINUTES THIS SHIFT \_\_\_\_\_  
 REASON FOR DOWN TIME: \_\_\_\_\_

TURN SHEET IN TO FOREMAN AT THE END OF THE SHIFT  
 OTHER COMMENTS: \_\_\_\_\_

# KONUS DATA

DATE 8:31:95  
BY TRACY SUPER

PLANT: Dougannon

## OIL SETPOINT

(NOTE ANY CHANGES IN SETPOINTS)

| TIME  | PRIMARY AIR LEFT | I.D. FAN | PRIMARY AIR RIGHT | OIL IN deg. F | OIL OUT deg. F | FUEL COUNT |      | FEED RATE SETTING |     | EVERY HOUR    |               |
|-------|------------------|----------|-------------------|---------------|----------------|------------|------|-------------------|-----|---------------|---------------|
|       |                  |          |                   |               |                | LT         | RT   | LT                | RT  | BAG H. PRESS. | BARK MOISTURE |
| 7:30  | 250              | -8       | 50                | 510           | 529            |            |      | 650               | 450 |               |               |
| 7:45  | 250              | -8       | 50                | 524           | 547            | 68         | 54   | 650               | 450 |               |               |
| 8:00  | 250              | -8       | 50                | 521           | 539            | 131        | 104  | 650               | 450 | .8            | 43%           |
| 8:15  | 250              | -8       | 50                | 521           | 536            | 177        | 141  | 650               | 450 |               |               |
| 8:30  | 250              | -8       | 50                | 540           | 550            | 277        | 225  | 650               | 450 |               |               |
| 8:45  | 250              | -8       | 50                | 541           | 547            | 277        | 225  | 650               | 450 |               |               |
| 9:00  | 250              | -8       | 50                | 539           | 550            | 342        | 276  | 650               | 450 | 1.0           | 43%           |
| 9:05  | 250              | -8       | 50                | 533           | 543            | 365        | 294  | 650               | 450 |               |               |
| 9:30  | 250              | -8       | 50                | 528           | 542            | 457        | 368  | 650               | 450 |               |               |
| 9:45  | 250              | -8       | 50                | 475           | 494            | 540        | 427  | 650               | 450 |               |               |
| 10:00 | 250              | -8       | 50                | 518           | 525            | 654        | 519  | 650               | 450 |               |               |
| 10:15 | 250              | -8       | 50                | 476           | 493            | 705        | 625  | 650               | 450 |               |               |
| 10:30 | 250              | -8       | 50                | 478           | 498            | 725        | 654  | 650               | 450 |               |               |
| 10:45 | 250              | -8       | 50                | 478           | 500            | 775        | 679  | 650               | 450 |               |               |
| 11:00 | 250              | -8       | 50                | 460           | 476            | 865        | 702  | 650               | 450 | 1.0           | 43%           |
| 11:15 | 250              | -8       | 50                | 480           | 503            | 937        | 761  | 650               | 450 |               |               |
| 11:30 | 250              | -8       | 50                | 489           | 519            | 1020       | 795  | 650               | 450 |               |               |
| 11:45 | 250              | -8       | 50                | 520           | 538            | 1088       | 883  | 650               | 450 |               |               |
| 12:00 | 250              | -8       | 50                | 487           | 505            | 1171       | 949  | 650               | 450 | 1.0           | 48%           |
| 12:15 | 250              | -8       | 50                | 487           | 512            | 1239       | 971  | 650               | 450 |               |               |
| 12:30 | 250              | -8       | 50                | 486           | 505            | 1305       | 996  | 650               | 450 |               |               |
| 12:45 | 250              | -8       | 50                | 474           | 489            | 1391       | 1047 | 650               | 450 |               |               |
| 1:00  | 250              | -8       | 50                | 470           | 488            | 1460       | 1049 | 650               | 450 | 1.2           | 48%           |
| 1:15  | 250              | -8       | 50                | 470           | 490            | 1520       | 1070 | 650               | 350 |               |               |
| 1:30  | 250              | -8       | 50                | 469           | 491            | 1645       | 1157 | 650               | 350 |               |               |
| 1:45  | 250              | -8       | 75                | 470           | 490            | 1684       | 1175 | 650               | 350 |               |               |
| 2:00  | 250              | -8       | 75                | 463           | 483            | 1765       | 1175 | 650               | 350 | 1.2           | 47%           |
| 2:15  | 250              | -8       | 75                | 464           | 482            | 1855       | 1175 | 650               | 350 |               |               |
| 2:30  | 250              | -8       | 75                | 461           | 462            | 1917       | 1200 | 650               | 450 |               |               |
| 2:45  | 250              | -8       | 75                | 464           | 492            | 2013       | 1274 | 650               | 450 |               |               |



**DRYER DATA SHEET**

DATE 8:30:95

BY TERRY SUEEN

PLANT: DUNSMOND

REVOLUTIONS per MINUTE: \_\_\_\_\_

FUEL CALIBRATION: \_\_\_\_\_

(NOTE ANY CHANGES IN SETPOINTS)

| TIME  | OUTLET SET POINT | FEED RATE | DRYER INLET TEMP | DRYER OUTLET TEMP | FUEL COUNT | WET BIN LEVEL | DRY BIN LEVEL |      | EVERY HOUR FLAKE MOISTURE |      |
|-------|------------------|-----------|------------------|-------------------|------------|---------------|---------------|------|---------------------------|------|
|       |                  |           |                  |                   |            |               | SUR.          | CORE | IN                        | OUT  |
| 7:30  | 195              | 76        | 1296             | 192               | 163        | Full          | 1/4           | 1/4  |                           |      |
| 7:45  | 195              | 81        | 1345             | 195               | 276        | Full          | 1/4           | 1/4  |                           |      |
| 8:00  | Down             | Down      | Down             |                   | 400        | Full          | 1/4           | 1/4  | 42%                       | Down |
| 8:15  | Down             | Down      | Down             |                   | 400        | Full          | 1/4           | 1/4  |                           |      |
| 8:30  | Down             | Down      | Down             |                   | 400        | Full          | 1/4           | 1/4  |                           |      |
| 8:45  | Down             | Down      | Down             |                   | 400        | Full          | 1/4           | 1/4  |                           |      |
| 9:00  | STARTUP          | STARTUP   | STARTUP          |                   | 443        | Full          | 3/4           | 1/4  | 40%                       | 8%   |
| 9:15  | 195              | 77        | 1199             | 194               | 558        | 3/4           | 1/4           | 1/4  |                           |      |
| 9:30  | 195              | 80        | 1288             | 194               | 697        | 3/4           | 1/2           | 1/2  |                           |      |
| 9:45  | 195              | 82        | 1204             | 198               | 815        | 3/4           | 1/2           | 1/2  |                           |      |
| 10:00 | 195              | 83        | 1303             | 193               | 965        | 3/4           | 1/2           | 1/2  |                           |      |
| 10:15 | 195              | 83        | 1248             | 192               | 1200       | 3/4           | 1/2           | 1/2  | 43%                       | 8%   |
| 10:30 | 195              | 83        | 1252             | 192               | 1295       | 3/4           | 1/2           | 1/2  |                           |      |
| 10:45 | 195              | 83        | 1274             | 195               | 1315       | 3/4           | 1/2           | 1/2  |                           |      |
| 11:00 | 195              | 83        | 1136             | 187               | 1431       | 1/4           | 1/2           | 1/2  | 44%                       | 8%   |
| 11:15 | 195              | 83        | 1223             | 194               | 1509       | 1/4           | 1/2           | 1/2  |                           |      |
| 11:30 | 195              | 83        | 1256             | 194               | 1743       | 1/2           | 1/2           | 1/2  |                           |      |
| 11:45 | 195              | 83        | 1227             | 196               | 1829       | Full          | 1/2           | 1/2  |                           |      |
| 12:00 | 195              | 83        | 1323             | 192               | 1965       | Full          | 1/2           | 1/2  | 42%                       | 8%   |
| 12:15 | 195              | 83        | 1300             | 195               | 2091       | 1/2           | 1/2           | 1/2  |                           |      |
| 12:30 | 195              | 83        | 1238             | 194               | 2190       | 1/4           | 1/2           | 1/2  |                           |      |
| 12:45 | 195              | 83        | 1239             | 192               | 2310       | 1/2           | 1/2           | 1/2  |                           |      |
| 1:00  | 195              | 83        | 1213             | 193               | 2403       | 1/2           | 1/2           | 1/2  | 42%                       | 8%   |
| 1:15  | 195              | 83        | 1213             | 193               | 2540       | 1/2           | 1/2           | 1/2  |                           |      |
| 1:30  | 195              | 83        | 1182             | 194               | 2649       | Full          | 1/2           | 1/2  |                           |      |
| 1:45  | 195              | 83        | 1182             | 194               | 2712       | Full          | 1/2           | 1/2  |                           |      |
| 2:00  | 195              | 83        | 1207             | 194               | 2825       | 1/2           | 1/2           | 1/2  | 41%                       | 9%   |
| 2:15  | 195              | 83        | 1161             | 195               | 2946       | 1/2           | 1/2           | 1/2  |                           |      |
| 2:30  | 195              | 83        | 1199             | 193               | 3033       | 1/2           | 1/2           | 1/2  |                           |      |
| 2:45  | 195              | 83        | 1300             | 192               | 3191       | Full          | 1/2           | 1/2  |                           |      |



SCRUBBER DATA SHEET - A

DATE 8/31/95

| TIME | DRYER ID<br>FAN<br>"OF WATER | SCRUBBER PUMP PRESSURE |                 | SCRUBBER<br>pH | VDF FEEDING<br>OUT MATERIAL<br>YES/NO | K-S FILTER<br>WEIGHTS |
|------|------------------------------|------------------------|-----------------|----------------|---------------------------------------|-----------------------|
|      |                              | UPPER<br>NOZZLE        | LOWER<br>NOZZLE |                |                                       |                       |
| 2:15 | 40                           | 21                     | 21              |                | NO                                    |                       |
| 2:30 | 40                           | 21                     | 21              |                | NO                                    |                       |
| 2:45 | 40                           | 21                     | 21              |                | NO                                    |                       |
| 3:00 | 40                           | 21                     | 21              |                | NO                                    |                       |
| 3:15 | 40                           | 21                     | 21              |                | NO                                    |                       |
| 3:30 | 40                           | 21                     | 21              |                | NO                                    |                       |
| 3:45 | 40                           | 21                     | 21              |                | NO                                    |                       |
| 4:00 | 40                           | 21                     | 21              |                | NO                                    |                       |
| 4:15 | 40                           | 21                     | 21              |                | NO                                    |                       |
| 4:30 | 40                           | 21                     | 21              |                | NO                                    |                       |
| 4:45 | 40                           | 21                     | 21              |                | NO                                    |                       |
| 5:00 | 40                           | 21                     | 21              |                | NO                                    |                       |
| 5:15 | 40                           | 21                     | 21              |                | NO                                    |                       |
| 5:30 | 40                           | 21                     | 21              |                | NO                                    |                       |
| 5:45 |                              |                        |                 |                |                                       |                       |
| 6:00 |                              |                        |                 |                |                                       |                       |
| 6:15 |                              |                        |                 |                |                                       |                       |
| 6:30 |                              |                        |                 |                |                                       |                       |
| 6:45 |                              |                        |                 |                |                                       |                       |
| 7:00 |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |
|      |                              |                        |                 |                |                                       |                       |

SIGNATURE \_\_\_\_\_

SCRUBBER DATA SHEET - B

DATE 8/31/95

| TIME | WATER LEVEL<br>SIGHT GLASS | SCRUBBER<br>" OF WATER | " OF WATER<br>LOWER<br>CHEVRON | " OF WATER<br>UPPER<br>CHEVRON | MAKE UP<br>WATER<br>ADDED | INLET<br>TEMP TO<br>SCRUBBER |
|------|----------------------------|------------------------|--------------------------------|--------------------------------|---------------------------|------------------------------|
| 2:15 | 1/2                        | 25                     | NA                             | 35                             | 0                         | 179                          |
| 2:30 | 1/2                        | 25                     | NA                             | 35                             | 0                         | 178                          |
| 2:45 | 1/2                        | 25                     | NA                             | 35                             | 0                         | 177                          |
| 3:00 | 1/2                        | 25                     | NA                             | 35                             | 0                         | 178                          |
| 3:15 | 1/2                        | 25                     | NA                             | 35                             | 0                         | 175                          |
| 3:30 | 1/2                        | 25                     | NA                             | 35                             | 0                         | 150                          |
| 3:45 | 1/2                        | 25                     | NA                             | 35                             | 0                         | 146                          |
| 4:00 | 1/2                        | 25                     | NA                             | 35                             | 0                         | 176                          |
| 4:15 | 1/2                        | 25                     | NA                             | 35                             | 0                         | 177                          |
| 4:30 | 1/2                        | 25                     | NA                             | 35                             | 0                         | 178                          |
| 4:45 | 1/2                        | 25                     | NA                             | 35                             | 0                         | 179                          |
| 5:00 | 1/2                        | 25                     | NA                             | 35                             | 0                         | 179                          |
| 5:15 | 1/2                        | 25                     | NA                             | 35                             | 0                         | 178                          |
| 5:30 | 1/2                        | 25                     | NA                             | 35                             | 0                         | 179                          |
| 5:45 |                            |                        |                                |                                |                           |                              |
| 6:00 |                            |                        |                                |                                |                           |                              |
| 6:15 |                            |                        |                                |                                |                           |                              |
| 6:30 |                            |                        |                                |                                |                           |                              |
| 7:00 |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |
|      |                            |                        |                                |                                |                           |                              |

SIGNATURE \_\_\_\_\_

### RTO DATA SHEET

DATE: 2-31-95

UNIT: Dungannon

Time From: 7:30 A.M. To: 9:00 A.M.

| BTUE (On or Off)              | OFF         |             |             |             |             |             |             |
|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Temp-Comb.Chamber             | <u>1563</u> | <u>1562</u> | <u>1567</u> | <u>1535</u> | <u>1538</u> | <u>1538</u> | <u>1529</u> |
| Temp - Inlet                  | <u>112</u>  | <u>112</u>  | <u>104</u>  | <u>102</u>  | <u>101</u>  | <u>100</u>  | <u>109</u>  |
| Temp - Exhaust                | <u>218</u>  | <u>220</u>  | <u>218</u>  | <u>203</u>  | <u>201</u>  | <u>200</u>  | <u>211</u>  |
| Temp - Cham #1 lower bed      | <u>292</u>  | <u>292</u>  | <u>295</u>  | <u>285</u>  | <u>282</u>  | <u>279</u>  | <u>290</u>  |
| Temp - Cham #2 lower bed      | <u>277</u>  | <u>277</u>  | <u>274</u>  | <u>267</u>  | <u>262</u>  | <u>260</u>  | <u>263</u>  |
| Temp - Cham #3 lower bed      | <u>300</u>  | <u>300</u>  | <u>300</u>  | <u>289</u>  | <u>285</u>  | <u>284</u>  | <u>283</u>  |
| Temp - Cham #4 lower bed      | <u>321</u>  | <u>320</u>  | <u>321</u>  | <u>315</u>  | <u>310</u>  | <u>308</u>  | <u>318</u>  |
| Temp - Cham #5 lower bed      | <u>290</u>  | <u>291</u>  | <u>297</u>  | <u>291</u>  | <u>278</u>  | <u>277</u>  | <u>277</u>  |
| Temp - Cham #6 lower bed      | <u>317</u>  | <u>317</u>  | <u>322</u>  | <u>311</u>  | <u>311</u>  | <u>310</u>  | <u>309</u>  |
| Temp - Cham #7 lower bed      | <u>344</u>  | <u>344</u>  | <u>343</u>  | <u>343</u>  | <u>341</u>  | <u>341</u>  | <u>343</u>  |
| Temp - Cham #8 lower bed      | <u>344</u>  | <u>344</u>  | <u>339</u>  | <u>337</u>  | <u>337</u>  | <u>338</u>  | <u>336</u>  |
| RTO Δ P                       | <u>18</u>   | <u>20</u>   | <u>15</u>   | <u>10</u>   | <u>10</u>   | <u>10</u>   | <u>12</u>   |
| Pressure - Inlet Duct         | <u>2.52</u> | <u>2.54</u> | <u>3.00</u> | <u>2.55</u> | <u>2.61</u> | <u>2.58</u> | <u>2.20</u> |
| Temp - Burner #1              | <u>1507</u> | <u>1504</u> | <u>1503</u> | <u>1499</u> | <u>1499</u> | <u>1497</u> | <u>1505</u> |
| Temp - Burner #2              | <u>1484</u> | <u>1493</u> | <u>1519</u> | <u>1493</u> | <u>1495</u> | <u>1500</u> | <u>1477</u> |
| Temp - Burner #3              | <u>1482</u> | <u>1495</u> | <u>1525</u> | <u>1497</u> | <u>1500</u> | <u>1503</u> | <u>1473</u> |
| Output - Burner #1 Cont. %    | <u>43.0</u> | <u>43.5</u> | <u>35.3</u> | <u>41.7</u> | <u>41.2</u> | <u>42.8</u> | <u>50.0</u> |
| Output - Burner #2 Cont. %    | <u>50.7</u> | <u>46.0</u> | <u>24.8</u> | <u>32.1</u> | <u>27.1</u> | <u>27.7</u> | <u>47.2</u> |
| Output - Burner #3 Cont. %    | <u>57.9</u> | <u>31.8</u> | <u>10.0</u> | <u>24.0</u> | <u>19.7</u> | <u>14.3</u> | <u>46.0</u> |
| Setpoint - Burner #1 Cont. °F | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> |
| Setpoint - Burner #2 Cont. °F | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> |
| Setpoint - Burner #3 Cont. °F | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> |
| Motor Amps - Fan #1           | <u>460</u>  | <u>440</u>  | <u>320</u>  | <u>320</u>  | <u>300</u>  | <u>300</u>  | <u>460</u>  |
| Motor Amps - Fan #2           | <u>460</u>  | <u>420</u>  | <u>320</u>  | <u>300</u>  | <u>300</u>  | <u>300</u>  | <u>460</u>  |
| motor Speed - Fan #1          | <u>90</u>   | <u>89</u>   | <u>72</u>   | <u>70</u>   | <u>70</u>   | <u>69</u>   | <u>88</u>   |
| Motor Speed - Fan #2          | <u>86</u>   | <u>84</u>   | <u>69</u>   | <u>66</u>   | <u>67</u>   | <u>64</u>   | <u>84</u>   |
| CO out from CEM               | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   |
| Air flow from CEM             | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   |
|                               | <u>7:30</u> | <u>7:45</u> | <u>8:00</u> | <u>8:15</u> | <u>8:30</u> | <u>8:45</u> | <u>9:00</u> |



### RTO DATA SHEET

DATE: 8-31-95

UNIT: Dungannon

Time From: 9:15 A.M. To: 11:00 A.M.

| BTUE (On or Off)              | OFF  |      |      |       |       |       |       |       |
|-------------------------------|------|------|------|-------|-------|-------|-------|-------|
| Temp-Comb.Chamber             | 1552 | 1562 | 1562 | 1561  | 1569  | 1577  | 1569  | 1565  |
| Temp - Inlet                  | 110  | 110  | 111  | 112   | 113   | 114   | 115   | 115   |
| Temp - Exhaust                | 214  | 225  | 219  | 226   | 223   | 230   | 223   | 222   |
| Temp - Cham. #1 lower bed     | 296  | 294  | 293  | 297   | 295   | 298   | 295   | 295   |
| Temp - Cham. #2 lower bed     | 268  | 270  | 274  | 274   | 274   | 275   | 275   | 276   |
| Temp - Cham #3 lower bed      | 292  | 297  | 300  | 298   | 300   | 298   | 301   | 301   |
| Temp - Cham #4 lower bed      | 317  | 319  | 318  | 324   | 318   | 327   | 319   | 320   |
| Temp - Cham #5 lower bed      | 283  | 281  | 287  | 284   | 287   | 286   | 289   | 291   |
| Temp - Cham #6 lower bed      | 314  | 324  | 319  | 326   | 322   | 327   | 322   | 319   |
| Temp - Cham #7 lower bed      | 342  | 341  | 341  | 342   | 342   | 344   | 342   | 345   |
| Temp - Cham #8 lower bed      | 341  | 339  | 343  | 340   | 342   | 338   | 343   | 343   |
| RTO Δ P                       | 19   | 19   | 19   | 20    | 18    | 22    | 17    | 21    |
| Pressure - Inlet Duct         | 2.51 | 2.36 | 2.47 | 2.33  | 2.44  | 2.40  | 2.52  | 2.57  |
| Temp - Burner #1              | 1506 | 1494 | 1493 | 1493  | 1493  | 1496  | 1495  | 1505  |
| Temp - Burner #2              | 1486 | 1522 | 1496 | 1520  | 1505  | 1529  | 1501  | 1489  |
| Temp - Burner #3              | 1481 | 1529 | 1507 | 1531  | 1511  | 1535  | 1510  | 1487  |
| Output - Burner #1 Cont. %    | 47.0 | 49.3 | 51.5 | 49.9  | 50.4  | 48.5  | 50.5  | 43.9  |
| Output - Burner #2 Cont. %    | 47.3 | 29.9 | 41.7 | 27.0  | 35.3  | 22.9  | 34.8  | 48.2  |
| Output - Burner #3 Cont. %    | 57.4 | 10.0 | 13.5 | 10.0  | 10.3  | 10.0  | 10.4  | 55.7  |
| Setpoint - Burner #1 Cont. °F | 1500 | 1500 | 1500 | 1500  | 1500  | 1500  | 1500  | 1500  |
| Setpoint - Burner #2 Cont. °F | 1500 | 1500 | 1500 | 1500  | 1500  | 1500  | 1500  | 1500  |
| Setpoint - Burner #3 Cont. °F | 1500 | 1500 | 1500 | 1500  | 1500  | 1500  | 1500  | 1500  |
| Motor Amps - Fan #1           | 440  | 480  | 460  | 500   | 420   | 410   | 440   | 440   |
| Motor Amps - Fan #2           | 440  | 460  | 480  | 500   | 440   | 440   | 440   | 440   |
| motor Speed - Fan #1          | 88   | 89   | 90   | 88    | 89    | 88    | 89    | 89    |
| Motor Speed - Fan #2          | 85   | 85   | 82   | 85    | 86    | 85    | 86    | 85    |
| CO out from CEM               | NA   |      |      |       |       |       |       |       |
| Air flow from CEM             | NA   |      |      |       |       |       |       |       |
|                               | 9:15 | 9:30 | 9:45 | 10:00 | 10:15 | 10:30 | 10:45 | 11:00 |

### RTO DATA SHEET

DATE: 2-31-95

UNIT: Dunannon

Time From: 11:15 A.M. To: 1:00 P.M.

| BTUE (On or Off)              | OFF  |      |      |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|------|------|------|
| Temp-Comb.Chamber             | 1576 | 1566 | 1569 | 1557 | 1550 | 1566 | 1555 | 1557 |
| Temp - Inlet                  | 115  | 117  | 117  | 119  | 120  | 119  | 119  | 119  |
| Temp - Exhaust                | 222  | 223  | 229  | 223  | 225  | 226  | 224  | 224  |
| Temp - Cham. #1 lower bed     | 294  | 295  | 299  | 296  | 298  | 298  | 296  | 296  |
| Temp - Cham. #2 lower bed     | 277  | 281  | 278  | 282  | 281  | 279  | 281  | 282  |
| Temp - Cham #3 lower bed      | 300  | 299  | 302  | 289  | 298  | 302  | 300  | 299  |
| Temp - Cham #4 lower bed      | 320  | 324  | 321  | 330  | 326  | 323  | 327  | 330  |
| Temp - Cham #5 lower bed      | 291  | 294  | 293  | 295  | 294  | 294  | 296  | 296  |
| Temp - Cham #6 lower bed      | 321  | 319  | 325  | 319  | 322  | 326  | 322  | 321  |
| Temp - Cham #7 lower bed      | 344  | 347  | 344  | 349  | 348  | 347  | 349  | 351  |
| Temp - Cham #8 lower bed      | 343  | 343  | 343  | 342  | 343  | 344  | 342  | 341  |
| RTO Δ P                       | 18   | 17   | 20   | 19   | 18   | 18   | 18   | 18   |
| Pressure - Inlet Duct         | 2.54 | 2.63 | 2.60 | 2.44 | 2.55 | 2.64 | 2.50 | 2.56 |
| Temp - Burner #1              | 1504 | 1495 | 1495 | 1501 | 1502 | 1495 | 1505 | 1496 |
| Temp - Burner #2              | 1495 | 1490 | 1502 | 1483 | 1481 | 1503 | 1487 | 1498 |
| Temp - Burner #3              | 1491 | 1491 | 1515 | 1482 | 1478 | 1512 | 1484 | 1509 |
| Output - Burner #1 Cont. %    | 45.0 | 42.7 | 50.1 | 44.2 | 45.9 | 46.8 | 44.0 | 45.0 |
| Output - Burner #2 Cont. %    | 39.1 | 42.3 | 36.1 | 51.5 | 45.5 | 40.1 | 47.3 | 45.2 |
| Output - Burner #3 Cont. %    | 39.2 | 52.2 | 10.0 | 58.5 | 64.4 | 17.2 | 54.7 | 41.8 |
| Setpoint - Burner #1 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Setpoint - Burner #2 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Setpoint - Burner #3 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Motor Amps - Fan #1           | 480  | 460  | 470  | 446  | 440  | 500  | 440  | 460  |
| Motor Amps - Fan #2           | 460  | 460  | 480  | 440  | 440  | 500  | 440  | 460  |
| motor Speed - Fan #1          | 90   | 89   | 88   | 89   | 90   | 90   | 89   | 89   |
| Motor Speed - Fan #2          | 86   | 85   | 85   | 86   | 87   | 87   | 85   | 86   |
| CO out from CEM               | NA   |      |      |      |      |      |      |      |
| Air flow from CEM             | NA   |      |      |      |      |      |      |      |

11:15 11:30 11:45 12:00 12:15 12:30 12:40 12:45 1:00  
 12:30 started → 12:40

### RTO DATA SHEET

DATE: 2-31-95

UNIT: Duggannon

Time From: 1:15 p.m. To: 3:00 p.m.

| BTUE (On or Off)              | OFF  |      |      |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|------|------|------|
| Temp-Comb.Chamber             | 1552 | 1550 | 1506 | 1376 | 1553 | 1563 | 1556 | 1560 |
| Temp - Inlet                  | 120  | 119  | 119  | 120  | 120  | 120  | 121  | 122  |
| Temp - Exhaust                | 231  | 230  | 229  | 234  | 233  | 230  | 235  | 233  |
| Temp - Cham. #1 lower bed     | 299  | 296  | 300  | 302  | 300  | 301  | 302  | 302  |
| Temp - Cham. #2 lower bed     | 281  | 281  | 277  | 278  | 281  | 278  | 279  | 279  |
| Temp - Cham #3 lower bed      | 297  | 297  | 301  | 298  | 296  | 300  | 298  | 300  |
| Temp - Cham #4 lower bed      | 337  | 332  | 323  | 333  | 337  | 325  | 330  | 328  |
| Temp - Cham #5 lower bed      | 293  | 296  | 293  | 292  | 293  | 292  | 292  | 293  |
| Temp - Cham #6 lower bed      | 325  | 321  | 330  | 331  | 329  | 334  | 333  | 335  |
| Temp - Cham #7 lower bed      | 352  | 352  | 346  | 350  | 352  | 348  | 350  | 349  |
| Temp - Cham #8 lower bed      | 337  | 340  | 341  | 336  | 335  | 338  | 337  | 338  |
| RTO Δ P                       | 19   | 18   | 19   | 22   | 20   | 20   | 21   | 19   |
| Pressure - Inlet Duct         | 2.47 | 2.35 | 2.63 | 2.52 | 2.40 | 2.56 | 2.40 | 2.39 |
| Temp - Burner #1              | 1503 | 1509 | 1495 | 1494 | 1496 | 1492 | 1495 | 1494 |
| Temp - Burner #2              | 1493 | 1480 | 1505 | 1519 | 1516 | 1520 | 1514 | 1517 |
| Temp - Burner #3              | 1477 | 1472 | 1518 | 1529 | 1517 | 1531 | 1519 | 1525 |
| Output - Burner #1 Cont. %    | 44.3 | 40.6 | 52.6 | 48.1 | 49.2 | 49.9 | 50.1 | 49.3 |
| Output - Burner #2 Cont. %    | 45.6 | 49.2 | 36.5 | 29.6 | 27.1 | 27.2 | 30.2 | 29.2 |
| Output - Burner #3 Cont. %    | 62.0 | 46.5 | 10.0 | 10.0 | 10.0 | 10.0 | 15.0 | 10.0 |
| Setpoint - Burner #1 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Setpoint - Burner #2 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Setpoint - Burner #3 Cont. °F | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Motor Amps - Fan #1           | 430  | 430  | 460  | 460  | 460  | 460  | 460  | 440  |
| Motor Amps - Fan #2           | 460  | 480  | 460  | 460  | 440  | 440  | 440  | 420  |
| motor Speed - Fan #1          | 90   | 90   | 89   | 89   | 90   | 89   | 89   | 88   |
| Motor Speed - Fan #2          | 87   | 86   | 85   | 85   | 85   | 85   | 86   | 85   |
| CO out from CEM               | NA   |      |      |      |      |      |      |      |
| Air flow from CEM             | NA   |      |      |      |      |      |      |      |
|                               | 1:15 | 1:30 | 1:45 | 2:00 | 2:15 | 2:30 | 2:45 | 3:00 |

### RTO DATA SHEET

DATE: 8-31-95

UNIT: Dampman

Time From: 3:15 P.M. To: 5:00 P.M.

| BTUE (On or Off)              | <u>OFF</u>  |             |             |             |             |             |             |             |
|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Temp-Comb. Chamber            | <u>1542</u> | <u>1546</u> | <u>1539</u> | <u>1524</u> | <u>1544</u> | <u>1555</u> | <u>1565</u> | <u>1566</u> |
| Temp - Inlet                  | <u>114</u>  | <u>114</u>  | <u>119</u>  | <u>122</u>  | <u>122</u>  | <u>124</u>  | <u>124</u>  | <u>125</u>  |
| Temp - Exhaust                | <u>220</u>  | <u>218</u>  | <u>216</u>  | <u>222</u>  | <u>232</u>  | <u>227</u>  | <u>236</u>  | <u>239</u>  |
| Temp - Cham. #1 lower bed     | <u>294</u>  | <u>290</u>  | <u>286</u>  | <u>288</u>  | <u>293</u>  | <u>294</u>  | <u>301</u>  | <u>301</u>  |
| Temp - Cham. #2 lower bed     | <u>275</u>  | <u>272</u>  | <u>273</u>  | <u>279</u>  | <u>283</u>  | <u>283</u>  | <u>282</u>  | <u>283</u>  |
| Temp - Cham #3 lower bed      | <u>297</u>  | <u>294</u>  | <u>294</u>  | <u>295</u>  | <u>298</u>  | <u>301</u>  | <u>302</u>  | <u>302</u>  |
| Temp - Cham #4 lower bed      | <u>318</u>  | <u>316</u>  | <u>313</u>  | <u>324</u>  | <u>330</u>  | <u>325</u>  | <u>330</u>  | <u>333</u>  |
| Temp - Cham #5 lower bed      | <u>294</u>  | <u>291</u>  | <u>294</u>  | <u>297</u>  | <u>299</u>  | <u>308</u>  | <u>296</u>  | <u>297</u>  |
| Temp - Cham #6 lower bed      | <u>329</u>  | <u>327</u>  | <u>321</u>  | <u>323</u>  | <u>324</u>  | <u>327</u>  | <u>337</u>  | <u>337</u>  |
| Temp - Cham #7 lower bed      | <u>346</u>  | <u>345</u>  | <u>347</u>  | <u>353</u>  | <u>355</u>  | <u>353</u>  | <u>353</u>  | <u>354</u>  |
| Temp - Cham #8 lower bed      | <u>341</u>  | <u>340</u>  | <u>344</u>  | <u>344</u>  | <u>343</u>  | <u>345</u>  | <u>341</u>  | <u>341</u>  |
| RTO Δ P                       | <u>13</u>   | <u>10</u>   | <u>16</u>   | <u>18</u>   | <u>21</u>   | <u>20</u>   | <u>21</u>   | <u>20</u>   |
| Pressure - Inlet Duct         | <u>2.14</u> | <u>2.14</u> | <u>2.25</u> | <u>2.40</u> | <u>2.38</u> | <u>2.55</u> | <u>2.43</u> | <u>2.46</u> |
| Temp - Burner #1              | <u>1494</u> | <u>1496</u> | <u>1495</u> | <u>1509</u> | <u>1508</u> | <u>1506</u> | <u>1495</u> | <u>1499</u> |
| Temp - Burner #2              | <u>1513</u> | <u>1511</u> | <u>1494</u> | <u>1484</u> | <u>1482</u> | <u>1489</u> | <u>1516</u> | <u>1515</u> |
| Temp - Burner #3              | <u>1529</u> | <u>1524</u> | <u>1498</u> | <u>1475</u> | <u>1473</u> | <u>1486</u> | <u>1521</u> | <u>1520</u> |
| Output - Burner #1 Cont. %    | <u>40.6</u> | <u>41.3</u> | <u>48.1</u> | <u>42.5</u> | <u>45.1</u> | <u>44.0</u> | <u>49.3</u> | <u>45.7</u> |
| Output - Burner #2 Cont. %    | <u>27.0</u> | <u>28.6</u> | <u>41.0</u> | <u>49.6</u> | <u>50.3</u> | <u>44.8</u> | <u>31.6</u> | <u>31.2</u> |
| Output - Burner #3 Cont. %    | <u>10.0</u> | <u>10.0</u> | <u>22.9</u> | <u>63.7</u> | <u>63.3</u> | <u>52.1</u> | <u>10.0</u> | <u>16.5</u> |
| Setpoint - Burner #1 Cont. °F | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> |
| Setpoint - Burner #2 Cont. °F | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> |
| Setpoint - Burner #3 Cont. °F | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> | <u>1500</u> |
| Motor Amps - Fan #1           | <u>320</u>  | <u>320</u>  | <u>440</u>  | <u>460</u>  | <u>460</u>  | <u>460</u>  | <u>440</u>  | <u>440</u>  |
| Motor Amps - Fan #2           | <u>300</u>  | <u>320</u>  | <u>420</u>  | <u>460</u>  | <u>460</u>  | <u>460</u>  | <u>440</u>  | <u>440</u>  |
| motor Speed - Fan #1          | <u>78</u>   | <u>79</u>   | <u>86</u>   | <u>89</u>   | <u>90</u>   | <u>90</u>   | <u>88</u>   | <u>89</u>   |
| Motor Speed - Fan #2          | <u>86</u>   | <u>86</u>   | <u>83</u>   | <u>86</u>   | <u>87</u>   | <u>86</u>   | <u>84</u>   | <u>86</u>   |
| CO out from CEM               | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   |
| Air flow from CEM             | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   | <u>NA</u>   |
|                               | <u>3:15</u> | <u>3:30</u> | <u>3:45</u> | <u>4:00</u> | <u>4:15</u> | <u>4:30</u> | <u>4:45</u> | <u>5:00</u> |

### RTO DATA SHEET

DATE: 2-31-95

UNIT: Dungannon

Time From: 5:15p.m. To:

|                               |             |  |  |  |  |  |  |  |  |
|-------------------------------|-------------|--|--|--|--|--|--|--|--|
| BTUE (On or Off)              | <u>OFF</u>  |  |  |  |  |  |  |  |  |
| Temp-Comb.Chamber             | <u>4567</u> |  |  |  |  |  |  |  |  |
| Temp - Inlet                  | <u>433</u>  |  |  |  |  |  |  |  |  |
| Temp - Exhaust                | <u>233</u>  |  |  |  |  |  |  |  |  |
| Temp - Cham. #1 lower bed     | <u>300</u>  |  |  |  |  |  |  |  |  |
| Temp - Cham. #2 lower bed     | <u>281</u>  |  |  |  |  |  |  |  |  |
| Temp - Cham #3 lower bed      | <u>304</u>  |  |  |  |  |  |  |  |  |
| Temp - Cham #4 lower bed      | <u>324</u>  |  |  |  |  |  |  |  |  |
| Temp - Cham #5 lower bed      | <u>298</u>  |  |  |  |  |  |  |  |  |
| Temp - Cham #6 lower bed      | <u>337</u>  |  |  |  |  |  |  |  |  |
| Temp - Cham #7 lower bed      | <u>352</u>  |  |  |  |  |  |  |  |  |
| Temp - Cham #8 lower bed      | <u>345</u>  |  |  |  |  |  |  |  |  |
| RTO Δ P                       | <u>20</u>   |  |  |  |  |  |  |  |  |
| Pressure - Inlet Duct         | <u>2.65</u> |  |  |  |  |  |  |  |  |
| Temp - Burner #1              | <u>1493</u> |  |  |  |  |  |  |  |  |
| Temp - Burner #2              | <u>1514</u> |  |  |  |  |  |  |  |  |
| Temp - Burner #3              | <u>1523</u> |  |  |  |  |  |  |  |  |
| Output - Burner #1 Cont. %    | <u>49.7</u> |  |  |  |  |  |  |  |  |
| Output - Burner #2 Cont. %    | <u>30.9</u> |  |  |  |  |  |  |  |  |
| Output - Burner #3 Cont. %    | <u>10.2</u> |  |  |  |  |  |  |  |  |
| Setpoint - Burner #1 Cont. °F | <u>1500</u> |  |  |  |  |  |  |  |  |
| Setpoint - Burner #2 Cont. °F | <u>1500</u> |  |  |  |  |  |  |  |  |
| Setpoint - Burner #3 Cont. °F | <u>1500</u> |  |  |  |  |  |  |  |  |
| Motor Amps - Fan #1           | <u>440</u>  |  |  |  |  |  |  |  |  |
| Motor Amps - Fan #2           | <u>440</u>  |  |  |  |  |  |  |  |  |
| motor Speed - Fan #1          | <u>89</u>   |  |  |  |  |  |  |  |  |
| Motor Speed - Fan #2          | <u>86</u>   |  |  |  |  |  |  |  |  |
| CO out from CEM               | <u>NA</u>   |  |  |  |  |  |  |  |  |
| Air flow from CEM             | <u>NA</u>   |  |  |  |  |  |  |  |  |

5:15

TEST #1

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME  
**LOUISIANA PAPER CORP.**

LOCATION  
**Scott county**

LOCATION  
**Hwy 65 south**

CITY  
**DUNSMON** STATE  
**LA** ZIP  
**72425**

PROCESS EQUIPMENT  
**Dryer - Press** OPERATING MODE  
**Auto**

CONTROL EQUIPMENT  
**Scrubber - R40** OPERATING MODE  
**Auto**

DESCRIBE EMISSION POINT  
**96" vertical stack**

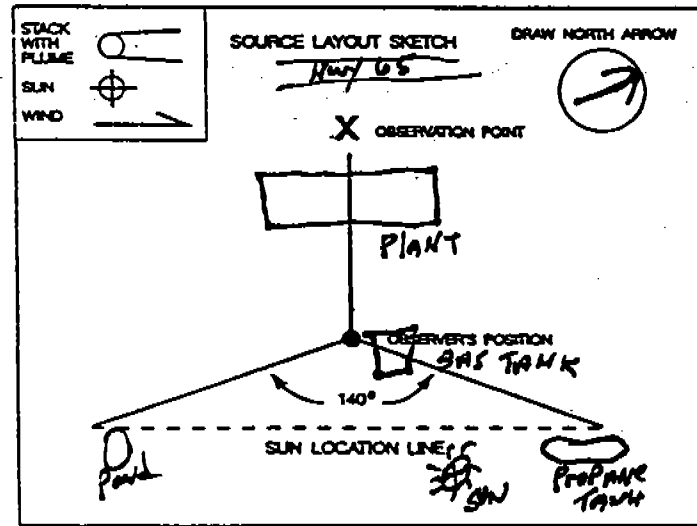
HEIGHT ABOVE GROUND LEVEL  
START **100'** END  
DISTANCE FROM OBSERVER  
START **100 yds** END  
VERTICAL ANGLE TO OBS. PT.  
START **26** END **26**

HEIGHT RELATIVE TO OBSERVER  
START **97** END  
DIRECTION FROM OBSERVER  
START **NW 80°** END  
DIRECTION TO OBS. PT.  
START **SE** END **SE**

DESCRIBE EMISSIONS  
START - END -  
EMISSION COLOR - IF WATER DROPLET PLUME  
START - END - ATTACHED  DETACHED  NA   
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET  
START **12"** END **12"**

DESCRIBE PLUME BACKGROUND  
START **Blue sky** END **Blue sky**  
BACKGROUND COLOR  
START **Blue** END  
WIND SPEED  
START **0** END **0**  
AMBIENT TEMP  
START  
END

SKY CONDITIONS  
START **clear** END **clear**  
WIND DIRECTION  
START **0** END **0**  
WET BULB TEMP  
RH PERCENT



ADDITIONAL INFORMATION

FORM NUMBER  
**1** OF  
**3**

OBSERVATION DATE  
**8-31-95** START TIME  
**10:00** END TIME  
**11:26**

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

OBSERVER'S NAME (PRINT)  
**DANNY HANEY**

OBSERVER'S SIGNATURE

DATE  
**8-31-95**

ORGANIZATION  
**E.T.A.**

CERTIFIED BY  
**E.T.A.**

DATE  
**8-29-95**

CONTINUED ON VEO FORM NUMBER

#1

### VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME  
**LOUISIANA PAPER CORP.**

LOCATION  
**Scott county**

LOCATION  
**Hwy 65 south**

CITY  
**DUNSMON** STATE  
**LA** ZIP  
**24245**

PROCESS EQUIPMENT  
OPERATING MODE  
**Auto**

CONTROL EQUIPMENT  
OPERATING MODE  
**Auto**

DESCRIBE EMISSION POINT  
**96" vertical stack**

HEIGHT ABOVE GROUND LEVEL  
START **100'** END

HEIGHT RELATIVE TO OBSERVER  
START **97'** END

DISTANCE FROM OBSERVER  
START **100 ft** END

DIRECTION FROM OBSERVER  
START **NW** END **NW**

VERTICAL ANGLE TO OBS. PT.  
START **28°** END

DIRECTION TO OBS. PT.  
START **SE** END **SE**

DESCRIBE EMISSIONS

EMISSION COLOR  
IF WATER DROPLET PLUME

ATTACHED  DETACHED  NA

DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET  
START **12"** END

DESCRIBE PLUME BACKGROUND

BACKGROUND COLOR  
START **Blue** END

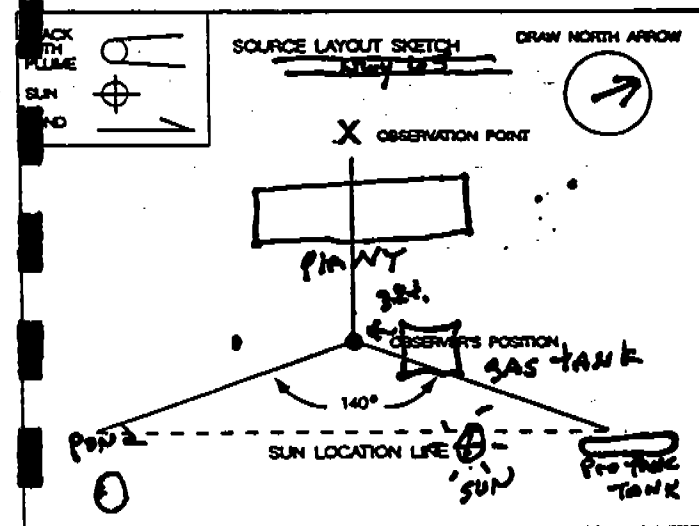
SKY CONDITIONS  
START **Clear** END

WIND SPEED  
START **0** END

WIND DIRECTION

WET BULB TEMP

RH PERCENT



ADDITIONAL INFORMATION

FORM NUMBER

PAGE **2** OF **3**

OBSERVATION DATE  
**8-31-95**

START TIME  
**10:30**

END TIME

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

OBSERVER'S NAME (PRINT)  
**DANNY HANEY**

OBSERVER'S SIGNATURE  
*Danny Haney* DATE  
**8-31-95**

ORGANIZATION  
**LOUISIANA PAPER CORP.**

CERTIFIED BY

DATE

CONTINUED ON VEO FORM NUMBER

#1

### VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME  
**LOUISIANA PAPER CORP.**

LOCATION  
**Scott County**

LOCATION  
**Hwy 65 south**

CITY  
**DUNCANSON** STATE  
**VA** ZIP  
**24245**

PROCESS EQUIPMENT  
**Dryer - Press** OPERATING MODE  
**Auto**

CONTROL EQUIPMENT  
**Scrubber - Rto** OPERATING MODE  
**Auto**

DESCRIBE EMISSION POINT  
**96" vertical stack**

HEIGHT ABOVE GROUND LEVEL  
START **100'** END **100'**

HEIGHT RELATIVE TO OBSERVER  
START **97'** END **97'**

DISTANCE FROM OBSERVER  
START **100yds** END **100yds**

VERTICAL ANGLE TO OBS. PT.  
START **26** END **26**

DIRECTION FROM OBSERVER  
START **33° NW** END **33° NW**

DIRECTION TO OBS. PT.  
START **SE** END **SE**

DESCRIBE EMISSIONS

START **-** END **-**

EMISSION COLOR  
START **-** END **-**

IF WATER DROPLET PLUME  
ATTACHED  DETACHED  NA

DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET  
START **12"** END **12"**

DESCRIBE PLUME BACKGROUND

START **Blue Sky** END **Blue Sky**

BACKGROUND COLOR  
START **Blue** END **-**

SKY CONDITIONS  
START **Clear** END **Clear**

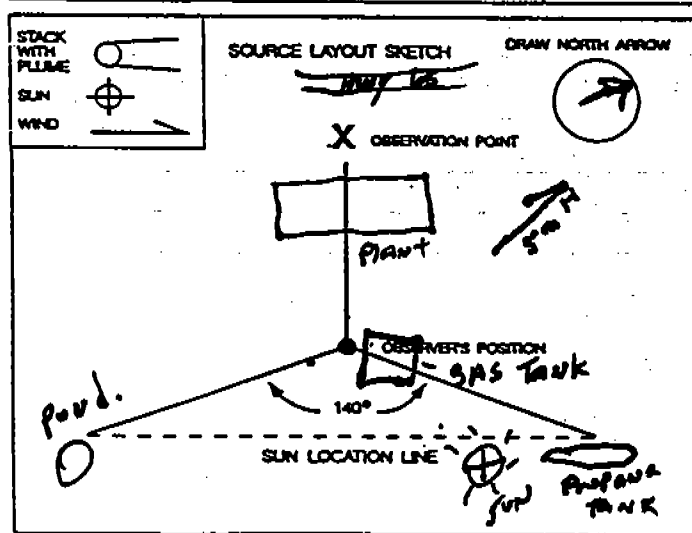
WIND SPEED  
START **0** END **5 mph.**

WIND DIRECTION  
START **0** END **S**

AMBIENT TEMP  
START **-** END **-**

WET BULB TEMP  
START **-** END **-**

RH PERCENT  
START **-** END **-**



ADDITIONAL INFORMATION

FORM NUMBER  
**3** OF **3**

OBSERVATION DATE  
**8-31-95** START TIME  
**11:00** END TIME  
**11:26.15**

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

OBSERVERS NAME (PRINT)  
**DANNY HANEY**

OBSERVERS SIGNATURE

DATE  
**8-31-95**

ORGANIZATION  
**LOUISIANA PAPER CORP.**

CERTIFIED BY  
**DANNY HANEY**

DATE

CONTINUED ON VEO FORM NUMBER



VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME  
**LOUISIANA PACIFIC CORP.**

LOCATION  
**Scott county**

LOCATION  
**May 65 S**

CITY  
**DUNGAUNON**

STATE  
**LA**

ZIP  
**24245**

PROCESS EQUIPMENT  
**Dryer - Press**

OPERATING MODE  
**Auto**

CONTROL EQUIPMENT  
**Scrubber - Rto**

OPERATING MODE  
**Auto**

DESCRIBE EMISSION POINT  
**90° Vertical stack**

HEIGHT ABOVE GROUND LEVEL  
START **100'** END **100'**

HEIGHT RELATIVE TO OBSERVER  
START **97'** END **97'**

DISTANCE FROM OBSERVER  
START **100yds** END **100yds**

DIRECTION FROM OBSERVER  
START **NW** END **NW**

VERTICAL ANGLE TO OBS. PT.  
START **26°** END **26°**

DIRECTION TO OBS. PT.  
START **SE** END **SE**

DESCRIBE EMISSIONS

START  
END

EMISSION COLOR  
IF WATER DROPLET PLUME

START  
END

ATTACHED  DETACHED  NA

DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET

START **12"** END **12"**

DESCRIBE PLUME BACKGROUND

START **cloudy white** END **white**

BACKGROUND COLOR  
SKY CONDITIONS **Partly cloudy**

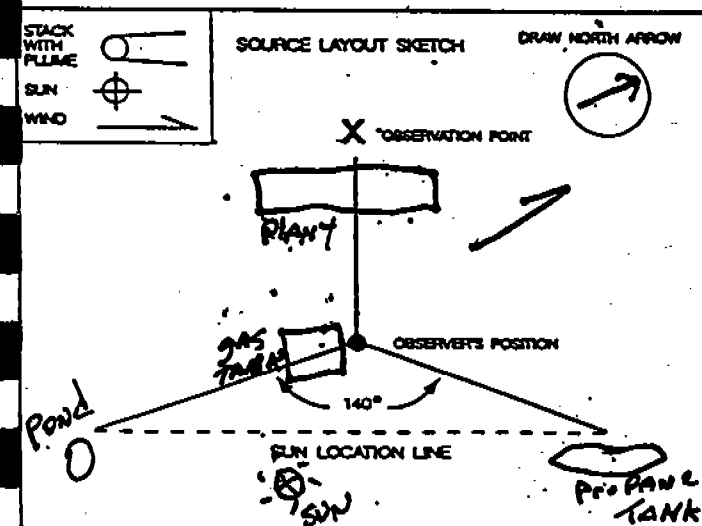
START **white** END **white** START **cloudy** END **cloudy**

WIND SPEED  
WIND DIRECTION

START **8 mph** END **0** START **N** END **0**

AMBIENT TEMP  
WET BULB TEMP  
RH PERCENT

START  
END



ADDITIONAL INFORMATION

FORM NUMBER

PAGE **1** OF **2**

OBSERVATION DATE  
**8-31-95**

START TIME  
**1:40**

END TIME  
**2:39**

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

OBSERVER'S NAME (PRINT)  
**DANNY HANCY**

OBSERVER'S SIGNATURE

DATE  
**8-31-95**

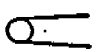

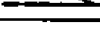
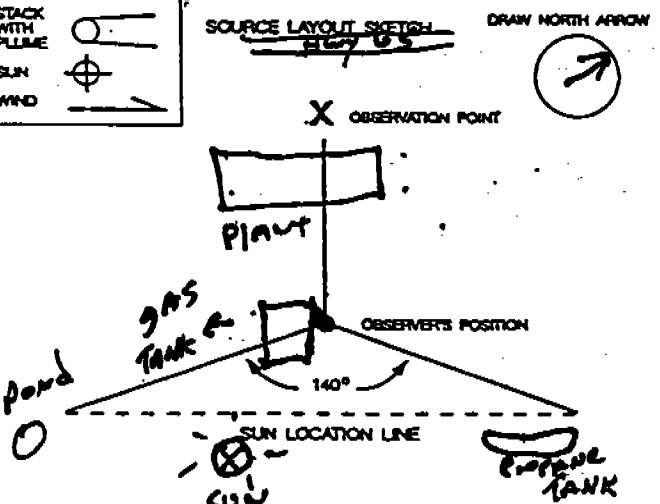

ORGANIZATION  
**LP**

CERTIFIED BY  
**ETA**


DATE  
**8-29-95**

CONTINUED ON VEO FORM NUMBER

### VISIBLE EMISSION OBSERVATION FORM

|   |                    |  |
|---|--------------------|--|
| COMPANY NAME<br><b>LOUISIANA PACIFIC CORP</b>   |                    |  |
| LOCATION<br><b>Scott county</b>   |                    |  |
| LOCATION<br><b>Hwy 65 South</b>   |                    |  |
| CITY<br><b>DUNSMON</b>  | STATE<br><b>UA</b> | ZIP<br><b>24245</b>  |
| PROCESS EQUIPMENT<br><b>Dyer - Press</b>  |                    | OPERATING MODE<br><b>AUTO</b>  |
| CONTROL EQUIPMENT<br><b>Scrubber - Rto</b>  |                    | OPERATING MODE<br><b>AUTO</b>  |
| DESCRIBE EMISSION POINT<br><b>96" vertical stack</b>  |                    |  |
| HEIGHT ABOVE GROUND LEVEL<br>START <b>100'</b> END <b>100'</b>  |                    | HEIGHT RELATIVE TO OBSERVER<br>START <b>97'</b> END <b>97'</b>   |
| DISTANCE FROM OBSERVER<br>START <b>100yds</b> END <b>100yds</b>   |                    | DIRECTION FROM OBSERVER<br>START <b>NW</b> END <b>NW</b>   |
| VERTICAL ANGLE TO OBS. PT.<br>START <b>26°</b> END <b>26°</b>   |                    | DIRECTION TO OBS. PT.<br>START <b>SE</b> END <b>SE</b>   |
| DESCRIBE EMISSIONS  |                    |  |
| START <b>-</b> END <b>-</b>   |                    | IF WATER DROPLET PLUME   |
| EMISSION COLOR  |                    | ATTACHED <input type="checkbox"/> DETACHED <input type="checkbox"/> NA <input checked="" type="checkbox"/> |
| DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET<br>START <b>12"</b> END <b>12"</b>   |                    |  |
| DESCRIBE PLUME BACKGROUND   |                    |  |
| START <b>cloudy white</b> END <b>-</b>  |                    |  |
| BACKGROUND COLOR  |                    | SKY CONDITIONS <b>Partly Cloudy</b>  |
| START <b>white</b> END <b>-</b>   |                    | START <b>Cloudy</b> END <b>Cloudy</b>  |
| WIND SPEED  |                    | WIND DIRECTION   |
| START <b>0</b> END <b>0</b>   |                    | START <b>0</b> END <b>0</b>  |
| AMBIENT TEMP  |                    | WET BULB TEMP  |
| START <b>-</b> END <b>-</b>   |                    | RH PERCENT   |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 15%;"> <p>STACK WITH PLUME</p>  <p>SUN</p>  <p>WIND</p>  </div> <div style="width: 60%;"> <p>SOURCE LAYOUT SKETCH</p> <p><b>Hwy 65</b></p>  <p>X OBSERVATION POINT</p> <p>PLANT</p> <p>OBSERVER'S POSITION</p> <p>140°</p> <p>SUN LOCATION LINE</p> <p>pond</p> <p>gas tank</p> <p>propane tank</p> </div> <div style="width: 15%;"> <p>DRAW NORTH ARROW</p>  </div> </div> |                    |  |
| ADDITIONAL INFORMATION  |                    |  |

| FORM NUMBER                        |   | PAGE <b>2</b> OF <b>2</b> |                            |    |          |
|------------------------------------|---|---------------------------|----------------------------|----|----------|
| OBSERVATION DATE<br><b>8-31-95</b> |   | START TIME<br><b>2:10</b> | END TIME<br><b>2:39.15</b> |    |          |
| SEC MIN                            | 0 | 15                        | 30                         | 45 | COMMENTS |
| 1                                  | 0 | 0                         | 0                          | 0  |          |
| 2                                  | 0 | 0                         | 0                          | 0  |          |
| 3                                  | 0 | 0                         | 0                          | 0  |          |
| 4                                  | 0 | 0                         | 0                          | 0  |          |
| 5                                  | 0 | 0                         | 0                          | 0  |          |
| 6                                  | 0 | 0                         | 0                          | 0  |          |
| 7                                  | 0 | 0                         | 0                          | 0  |          |
| 8                                  | 0 | 0                         | 0                          | 0  |          |
| 9                                  | 0 | 0                         | 0                          | 0  |          |
| 10                                 | 0 | 0                         | 0                          | 0  |          |
| 11                                 | 0 | 0                         | 0                          | 0  |          |
| 12                                 | 0 | 0                         | 0                          | 0  |          |
| 13                                 | 0 | 0                         | 0                          | 0  |          |
| 14                                 | 0 | 0                         | 0                          | 0  |          |
| 15                                 | 0 | 0                         | 0                          | 0  |          |
| 16                                 | 0 | 0                         | 0                          | 0  |          |
| 17                                 | 0 | 0                         | 0                          | 0  |          |
| 18                                 | 0 | 0                         | 0                          | 0  |          |
| 19                                 | 0 | 0                         | 0                          | 0  |          |
| 20                                 | 0 | 0                         | 0                          | 0  |          |
| 21                                 | 0 | 0                         | 0                          | 0  |          |
| 22                                 | 0 | 0                         | 0                          | 0  |          |
| 23                                 | 0 | 0                         | 0                          | 0  |          |
| 24                                 | 0 | 0                         | 0                          | 0  |          |
| 25                                 | 0 | 0                         | 0                          | 0  |          |
| 26                                 | 0 | 0                         | 0                          | 0  |          |
| 27                                 | 0 | 0                         | 0                          | 0  |          |
| 28                                 | 0 | 0                         | 0                          | 0  |          |
| 29                                 | 0 | 0                         | 0                          | 0  |          |
| 30                                 | 0 | 0                         |                            |    |          |

|  |                        |
|--|------------------------|
| OBSERVER'S NAME (PRINT)<br><b>DANNY LANEY</b>  |                        |
| OBSERVER'S SIGNATURE<br> | DATE<br><b>8-31-95</b> |
| ORGANIZATION<br><b>ETA</b>   |                        |
| CERTIFIED BY<br><b>ETA</b>   | DATE<br><b>8-29-95</b> |

|                              |  |  |  |  |
|------------------------------|--|--|--|--|
| CONTINUED ON VEO FORM NUMBER |  |  |  |  |
|------------------------------|--|--|--|--|

TEST #3

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME  
**LOUISIANA PACIFIC CORP**

CITY  
**Scott county**

LOCATION  
**Hwy 65 S**

CITY  
**DUGANNOON** STATE **LA** ZIP **74245**

PROCESS EQUIPMENT  
**Dyer - Press** OPERATING MODE **Auto**

CONTROL EQUIPMENT  
**Scrubber - Rto** OPERATING MODE **Auto**

DESCRIBE EMISSION POINT  
**96" vertical stack**

HEIGHT ABOVE GROUND LEVEL  
START **100'** END **100'**

HEIGHT RELATIVE TO OBSERVER  
START **97'** END **97'**

DIRECTION FROM OBSERVER  
START **75yds** END **75yds**

DIRECTION TO OBS. PT.  
START **SW** END **SW**

DESCRIBE EMISSIONS

EMISSION COLOR  
START **Blue** END **Blue**

ATTACHED  DETACHED  NA

DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET  
START **12"** END **12"**

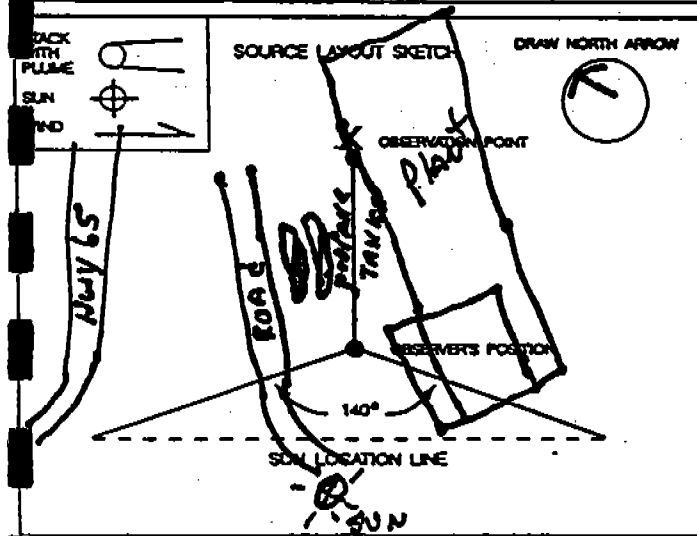
DESCRIBE PLUME BACKGROUND

BACKGROUND COLOR  
START **Blue sky** END **Blue**

SKY CONDITIONS  
START **cloudy** END **cloudy**

WIND DIRECTION  
START **0** END **0**

WET BULB TEMP. RH PERCENT



ADDITIONAL INFORMATION

FORM NUMBER \_\_\_\_\_ PAGE **1** OF **2**

OBSERVATION DATE **8-31-95** START TIME **4:28.30** END TIME **5:28**

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

OBSERVER'S NAME (PRINT)  
**DANNY HANEY**

OBSERVER'S SIGNATURE  
*[Signature]* DATE **8-31-95**

ORGANIZATION

CERTIFIED BY  
**E-T-A** DATE **8-29-95**

CONTINUED ON VEO FORM NUMBER

#3

### VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME  
**LOUISIANA Pacific Corp.**

LOCATION  
**Scott County**

LOCATION  
**Hwy 65 South**

CITY  
**DUNSMON**

STATE  
**LA**

ZIP  
**70425**

PROCESS EQUIPMENT  
**Dyer - Press**

OPERATING MODE  
**Auto**

CONTROL/EQUIPMENT  
**Scrubber - Rto**

OPERATING MODE

DESCRIBE EMISSION POINT  
**96" vertical stack**

HEIGHT ABOVE GROUND LEVEL  
START **100'** END **100'**

HEIGHT RELATIVE TO OBSERVER  
START **97'** END **97'**

DISTANCE FROM OBSERVER  
START **75yds** END **75yds**

DIRECTION FROM OBSERVER  
START **NE** END **NE**

VERTICAL ANGLE TO OBS. PT.  
START **15°** END **15°**

DIRECTION TO OBS. PT.  
START **SW** END **SW**

DESCRIBE EMISSIONS

START — END —

EMISSION COLOR  
IF WATER DROPLET PLUME

START — END — ATTACHED  DETACHED  NA

DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET  
START **12"** END **12"**

DESCRIBE PLUME BACKGROUND

START **Blue sky** END **Blue**

BACKGROUND COLOR  
SKY CONDITIONS

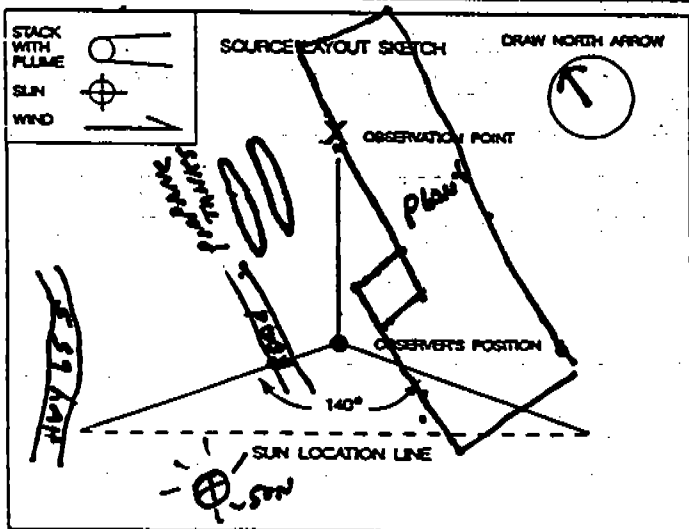
START **Blue** END **partly cloudy**

WIND SPEED  
WIND DIRECTION

START **0** END **0** START **0** END **0**

AMBIENT TEMP  
WET BULB TEMP RH PERCENT

START — END —



ADDITIONAL INFORMATION

FORM NUMBER

PAGE **2** OF **2**

OBSERVATION DATE  
**8-31-95**

START TIME  
**4:58**

END TIME  
**5:28**

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

OBSERVERS NAME (PRINT)  
**DANNY HANEY**

OBSERVERS SIGNATURE  
*Danny Haney*

DATE  
**8-31-95**

ORGANIZATION  
**L.P.**

CERTIFIED BY  
**ETA**

DATE  
**5-29-95**

CONTINUED ON VEO FORM NUMBER

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

SHIFT OPERATING REPORT

SUPERVISOR LIARUES SHIFT 7PM-7AM CREW B DATE 8-31-95

PRESS OPERATION

| FROM  | TO    | LINE SPEED | THICKNESS | PRESS LOADS | 3/8" FOOTAGE | MINS. DOWNTIME |   |           |
|-------|-------|------------|-----------|-------------|--------------|----------------|---|-----------|
|       |       |            |           |             |              | M              | E | O         |
| 7:00P | 7:00A | 0          | 0         | 0           | 0            |                |   |           |
|       |       |            |           |             |              |                |   |           |
|       |       |            |           |             |              |                |   |           |
| TOTAL |       |            |           |             |              |                |   | Total 720 |

CONUS OPERATION

|                          |                         |
|--------------------------|-------------------------|
| HOURS FUEL<br>USAGE WOOD | HOURS FUEL<br>USAGE OIL |
| 0                        | 0                       |

|                    |   |
|--------------------|---|
| NO. OF 'A' BUNDLES | 4 |
| NO. OF 'U' BUNDLES | 1 |
| NO. OF 'E' BUNDLES |   |

} from Regode.

DRYER OPERATION

| DRY FUEL<br>IN COUNTS | OIL FUEL<br>USAGE HRS | AVERAGE<br>INLET OUTLET |   | RUNNING<br>TIME (MIN) | DOWNTIME<br>(MINUTES) | AVG. WET<br>MOISTURE | AVG. DRY<br>MOISTURE |
|-----------------------|-----------------------|-------------------------|---|-----------------------|-----------------------|----------------------|----------------------|
| 0                     | 0                     | 0                       | 0 | 0                     | 720                   | 0                    | 0                    |

BARK MOISTURE % (AVG.) 0

FUEL MOISTURE 0

SCRUBBER WATER METER READING

BEGINNING OF SHIFT 481.300  
END OF SHIFT 481.300

TOTAL GALLONS USED THIS SHIFT 0

LOUISIANA-PACIFIC CORPORATION  
 HUNGANNON, VIRGINIA

PRESS REPORT

OPERATOR Eddie SHIFT 7m-7m CREW B DATE 8-31-75  
 THICKNESS: 7/16 PRESS LOADS 0 000,000 BLENDER SHUTDOWNS  
 OVERALL TIMER: \_\_\_\_\_ CORE \_\_\_\_\_  
 PRESS TEMP: 415 DECOMPRESSION TIME \_\_\_\_\_ SURFACE \_\_\_\_\_

|       |                |                |
|-------|----------------|----------------|
|       | CORE           | SURFACE        |
|       | RESIN          | RESIN          |
| BEGIN | <u>3000306</u> | <u>1328363</u> |
| END   | <u>3000306</u> | <u>1328363</u> |

Cleaned Blender Shrouds & Tracks  
 Forms & hydraulic and radiator  
 blown out  
 FCOS hydraulic unit and radiator  
 blown out  
 Blender outfeed conv. tail pulleys  
 cleaned

| LINE SPEED | FROM | TO   |
|------------|------|------|
| 0          | 7:00 | 7:00 |
|            |      |      |
|            |      |      |
|            |      |      |

| DOWNTIME (Mins.) |      |   |   |   | KEY | REASONS FOR DOWNTIME |
|------------------|------|---|---|---|-----|----------------------|
| FROM             | TO   | M | E | O |     |                      |
| 7:00             | 7:00 | ✓ |   |   |     | 720 Maint            |
|                  |      |   |   |   |     |                      |
|                  |      |   |   |   |     |                      |
|                  |      |   |   |   |     |                      |
|                  |      |   |   |   |     |                      |
|                  |      |   |   |   |     |                      |
|                  |      |   |   |   |     |                      |
|                  |      |   |   |   |     |                      |
|                  |      |   |   |   |     |                      |
|                  |      |   |   |   |     |                      |

720m total Down time

DOWNTIME CODE: M-MECHANICAL E-ELECTRICAL O-OPERATOR

\*\*\*\* MAINTENANCE/LOCK-OUT LOG \*\*\*\*

| MOTOR # LOCKED OUT | FROM | TO | BRIEF DESCRIPTION OF WORK BEING DONE | INITIALS OF PERSON LOCKING OUT |
|--------------------|------|----|--------------------------------------|--------------------------------|
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |

LOUISIANA-PACIFIC CORPORATION

Dungannon, Virginia

OPERATOR

C. DOLSON

SHIFT

7A-7AM

CREW

B

DATE

8-21-95

KONUS CHECK LIST

|   |                      |           |
|---|----------------------|-----------|
| Thermal Oil Level<br>Inches above bottom <u>0</u> |                      |           |
| Clarke Bin (quarters) <u>1/2</u>                  |                      |           |
| Diesel Fuel Level<br>(Emergency Pump) <u>3/4</u>  |                      |           |
| Diesel Oil Level<br>(Emergency Pump) <u>3/4</u>   |                      |           |
| Space Heating                                     | Inlet Temp <u>77</u> |           |
|   | Outlet Temp          |           |
|   | Discharge Pressure   |           |
| Press Pump <u>1</u> (Running)                     |                      |           |
| Press Pump 2 (Running)                            |                      |           |
| O. Pump Pressure                                  | Suction              | Discharge |
| Primary Pump <u>I</u>                             |                      |           |
| Primary Pump II                                   |                      |           |
| Konus Baghouse Pressure                           |                      |           |
| Gas Baghouse Pulsed? <u>YES/NO</u>                |                      |           |
| List any other problems:                          |                      |           |
|   |                      |           |
|   |                      |           |
|   |                      |           |
|   |                      |           |
|   |                      |           |

|   |     |
|---|-----|
| <u>Indicate Konus Problems</u>                  |     |
| Flow Control                                    |     |
| Level Control                                   |     |
| Fan Disturb                                     |     |
| Internal Press                                  |     |
| High Flue Gas                                   |     |
| Other:  |     |
| LEFT (Counts) <u>0</u> x ( ) =                  |     |
| RIGHT (Counts) <u>9</u> x ( ) =                 |     |
| <u>Indicate Temp. Set Points</u>                |     |
| Space Heat <u>77</u>                            |     |
| Hot Pond  |     |
| Emergency Cooling Tank - Full <u>YES/NO</u>     |     |
| Konus Water Pressure                            | PSI |
| Emergency Diesel (run each shift) <u>YES/NO</u> |     |
| Konus   |     |
| Fuel Oil Level (gallons)                        |     |
| L.P. Level                                      |     |
| Fire Dump Cleaned: <u>Yes</u>                   |     |
| Bark Fuel Used                                  |     |





DATE 8-31-95

CREW B

SHIFT 7pm-7am

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

|    | TIME         | NAME      |
|----|--------------|-----------|
| 1  | <u>7:00</u>  | <u>EC</u> |
| 2  | <u>8:00</u>  | <u>EC</u> |
| 3  | <u>9:00</u>  | <u>EC</u> |
| 4  | <u>10:00</u> | <u>EC</u> |
| 5  | <u>11:00</u> | <u>EC</u> |
| 6  | <u>12:00</u> | <u>EC</u> |
| 7  | <u>1:00</u>  | <u>EC</u> |
| 8  | <u>2:00</u>  | <u>EC</u> |
| 9  | <u>3:00</u>  | <u>EC</u> |
| 10 | <u>4:00</u>  | <u>EC</u> |
| 11 | <u>5:00</u>  | <u>EC</u> |
| 12 | <u>6:00</u>  | <u>EC</u> |

REPORT ANY PROBLEMS TO THE SUPERVISOR.

NOTES:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NAME: C. J. Seal SHIFT: 7PM-7am DATE: 8-31-95

TOTAL DRYER RUN TIME 0  
 MONITOR DOWNTIME 0

**DRYER OPACITY CHART**  
 LOUISIANA-PACIFIC CORPORATION  
 DUNGANNON, VIRGINIA

ENTER ALL OPACITY READINGS GREATER THAN 10%

| DATE    | TIME FROM | TIME TO | MINUTES | OPACITY | CODE      | DESCRIPTION OF OCCURANCE |
|---------|-----------|---------|---------|---------|-----------|--------------------------|
| 8/31/95 | 1900      | 0700    | DRYER   | Down    | All Shift |                          |
|         |           |         |         |         |           | Corrective action taken: |
|         |           |         |         |         |           |                          |
|         |           |         |         |         |           | Corrective action taken: |
|         |           |         |         |         |           |                          |
|         |           |         |         |         |           | Corrective action taken: |
|         |           |         |         |         |           |                          |
|         |           |         |         |         |           | Corrective action taken: |
|         |           |         |         |         |           |                          |
|         |           |         |         |         |           | Corrective action taken: |
|         |           |         |         |         |           |                          |

BE SURE ENTRIES ON THIS CHART MATCH THE STRIP CHART

TIME IN INCREMENTS

OF SIX MINUTES

CODES

MILITARY TIME

| FROM | TO   |
|------|------|
| 0700 | 0706 |
| 0706 | 0712 |
| 0712 | 0718 |
| 0718 | 0724 |
| 0724 | 0730 |
| 0730 | 0736 |
| 0736 | 0742 |
| 0742 | 0748 |
| 0748 | 0754 |
| 0754 | 0800 |

- 1 BAKE OUT
- 2 CLEANING RTO VALVES
- 3 RE-CALIBRATION
- 4 CLEANING LENS
- 5 MONITOR FAILURE
- 6 CONDENSATION
- 7 BURNER MALFUNCTION
- 8 MAINTENANCE
- 9 CHANGE (CERAMIC)
- 10 OTHER (DESCRIBE)
- 11 POWER FAILURE
- 12 DRUM FIRE

|           |           |
|-----------|-----------|
| 7AM=0700  | 7PM=1900  |
| 8AM=0800  | 8PM=2000  |
| 9AM=0900  | 9PM=2100  |
| 10AM=1000 | 10PM=2200 |
| 11AM=1100 |           |
| 12AM=1200 | 11PM=2300 |
| 1PM=1300  | 12PM=2400 |
| 2PM=1400  | 1AM=0100  |
|           | 2AM=0200  |
| 3PM=1500  | 3AM=0300  |
| 4PM=1600  | 4AM=0400  |
| 5PM=1700  | 5AM=0500  |

# DRYER DATA SHEET

DATE: 8.31.95

SHIFT: 7AM-7AM

CREW: 3

NAME: Chasen

OPACITY/DRYER CHARTS: \_\_\_\_\_ CHECK AND INITIAL EVERY 30 MINUTES  
 BURNER OUTLET SET POINT: \_\_\_\_\_ READING EVERY 30 MINUTES  
 OUTLET TEMP SET POINT: \_\_\_\_\_ MOISTURE % EVERY HOUR  
 REVOLUTIONS PER MINUTE: \_\_\_\_\_ BIN LEVEL EVERY HOUR  
 FUEL CALABRATION: \_\_\_\_\_ NOTE ANY CHANGES IN SETPOINTS

| TIME  | FEED RATE | DRYER IN TEMP | DRYER OUT TEMP | FLAKE IN | MOIST. OUT | DRY BIN LEVEL | OPACITY MONITOR | DRYER CHT. CIRCULAR | RTO CHAMBER TEMP |
|-------|-----------|---------------|----------------|----------|------------|---------------|-----------------|---------------------|------------------|
| 7:30  |           | DOWN          |                |          |            | 1/2 1/2       | OK CD           | OK CD               | DOWN             |
| 8:00  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 8:30  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 9:00  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 9:30  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 10:00 |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 10:30 |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 11:00 |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 11:30 |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 12:00 |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 12:30 |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 1:00  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 1:30  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 2:00  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 2:30  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 3:00  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 3:30  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 4:00  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 4:30  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 5:00  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 5:30  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 6:00  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 6:30  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |
| 7:00  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               |                  |

FOREMANS REPORT CHECK LIST TO BE TURNED IN EVERY SHIFT

DATE: 98/3/95

SHIFT: 7p-7a

SUPERVISOR: J. Haines

SHIFT OPERATING REPORT

PRESS REPORT

PRESS LOAD & TIME TO POSITION

RESIN CHART RECORDER CHECKLIST

DRYER OPERATION REPORT

DRYER DATA SHEET

KONUS CHECK LIST

DRYER OPACITY REPORT

KNIFE GRINDER REPORT

FLAKER OPERATOR PM SHEET

DEBARKER OPERATOR PM SHEET

PRENTICE OPERATOR PM SHEET

BOBCAT OPERATOR PM SHEET

FLAKER UTILITY

DEBARKER UTILITY

DRYER UTILITY

LINEMAN

SHIFT MILLWRIGHT REPORT

FLAKER KNIFE CHANGE PM SHEET

930 LOADER

966 LOADER PM SHEET

TROJAN LOADER PM SHEET

PRESS CIRCLE CHART

DRYER CIRCLE CHART

DRYER BY-PASS CHART

FORKLIFT PM SHEET

SUPSET CONDITION REPORT

(When Necessary)

OTHER COMMENTS OR PROBLEMS NOT TAKEN CARE OF:

LOUISIANA-PACIFIC CORPORATION

DUNGANNON, VIRGINIA

LOADER # 936

DAILY OPERATOR'S CHECK

OPERATOR Ernest Delph DATE 9-1-95

HOUR METER READING \_\_\_\_\_

1. Radiator level OK Amount added \_\_\_\_\_
2. Engine oil level OK Amount added \_\_\_\_\_
3. Restriction indicator of engine air cleaner CLEAN
4. Fuel level - fill at end of shift FULL
5. Drain moisture from air reservoir - at end of shift \_\_\_\_\_
6. Torque converter level OK Amount added \_\_\_\_\_
7. Drop box transmission level OK Amount added \_\_\_\_\_
8. Hydraulic reservoir FULL
9. Lubricate boom grease fittings 1
10. Check tires for proper inflation and condition - 65 PSI OK
11. Clean operator's cab YES
12. Check for hydraulic leaks YES
13. Does steering work properly? YES
14. Is the fire extinguisher present and charged? YES
15. Does horn work properly? NO
16. Do service brakes work properly? YES
17. Does parking brakes work properly? ~~NO~~ NO
18. COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

PRENTICE LOADER  
DAILY OPERATOR'S LIST

OPERATOR Ernest J. Delph DATE 9-1-95

1. Check engine oil Full Amount Added \_\_\_\_\_
2. Check Hyd. oil Full Amount Added \_\_\_\_\_
3. Check radiator level Full Amount Added \_\_\_\_\_
4. Check brake fluid \_\_\_\_\_ Amount Added \_\_\_\_\_
5. Check tires for proper inflation and condition OK
6. Inspect all hoses & fittings for leaks YES
7. Check welds for cracks YES
8. Blow out radiator daily YES
9. Tighten all nuts & bolts on gear boxes & swivels YES
10. Visually inspect complete machine every shift!!
11. Grease items 1-5 daily every (8) hours YES
12. Check hour meter reading each shift and record below:  
\_\_\_\_\_
13. Check grapple pins and motor OK
14. Check swing motors OK

CONDITION OF MACHINE AT START OF SHIFT

1. Hoses OK
2. Cab Clean YES
3. Machine Clean YES
4. Visual Damage NONE
5. Condition of machine at end of shift SAME

DAILY FORKLIFT CHECK LIST

Operator Jerry B

Shift 1pm 7am

Forklift # 2 Saw/ve

OK TO RUN

DO NOT RUN

1. Oil Level

/

2. Water Level

/

3. Brakes

/

4. Transmission

/

5. Horn

/

6. Lights

/

7. Tires

/

8. Steering

/

9. Rack & Cage

/

10. Used air hose to blow down radiator and other things

YES

/

NO

COMMENTS:

- NOTES: 1. Use TEXACO 15W40 Motor oil-located in Mobile Equipment Shop.
- 2. Hydraulic Oil-located outside Mobile Equipment Shop-Large black tank.
- 3. Use water for radiator.

KNIFE GRINDER

NAME

Alvie

DATE

8-31-95

SETS ON SHELF

0

SETS - NEED TO GRIND

0

SETS THAT I HAVE GROUND

2 1/2

# OF KNIVES DISCARDED

1 set

GRINDING ROOM CLEANED

YES OR NO

FLAT GRINDER GREASED

YES OR NO

SPRAY BARS CLEANED  
(EACH KNIFE CHANGE)

YES OR NO

SETTER

OKAY OR NOT OKAY

COMMENTS OR CORRECTIVE ACTION TAKEN: \_\_\_\_\_

TOTAL KNIVES IN THE GRINDING ROOM \_\_\_\_\_

SETS OF KNIVES RECEIVED \_\_\_\_\_

TOTAL KNIVES DISCARDED (MTD) \_\_\_\_\_

MAINTENANCE DONE TO EQUIPMENT IN THE GRINDING ROOM: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

KNIFE CHANGES DONE:

TIME DOWN 1 START UP 1 TIME DOWN 1 START UP 1

TIME DOWN 1 START UP 1 TIME DOWN 1 START UP 1

TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_ TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_ TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_ TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_ TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_



LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

DAILY PM AND CHECKLIST

Lineman Terry Date 8-31-95 Shift Night Crew B

|   | Yes | No | Problem found or maintenance done |
|---|-----|----|-----------------------------------|
| Check & maintain fire fighting equipment (hoses in place, extinguishers full, etc.) | ✓   |    |                                   |
| Check release agent spray can (fill when necessary)                                 | ✓   |    |                                   |
| 3. Check all screens & head bar pins  |     | ✓  |                                   |
| Check formers & spreading rolls (At least 3 times a shift)                          |     | ✓  |                                   |
| Blow down entire area   | ✓   |    |                                   |
| Check all hydraulic units (Oil level & blow out radiators)                          | ✓   |    |                                   |
| Check magnet for metal & position   |     | ✓  |                                   |
| 4. Check incline & decline chain dogs (In time, cracked, etc.)                      |     | ✓  |                                   |
| 5. Check press hydraulic oil level  |     | ✓  |                                   |
| 6. Clean press pit, bucket elevator pit   | ✓   |    |                                   |
| 7. Check FCOS airlock   |     | ✓  |                                   |
| 12. Check for leaks on press hydraulic & T-oil system                               | ✓   |    |                                   |
| 13. Blow off both sides of press including Symo Arms (2 times shift)                | ✓   |    |                                   |
| 14. Blow out sides of formers (behind clear curtain)                                | ✓   |    |                                   |
| 15. Check return line belts   |     | ✓  |                                   |
| 16. Keep area floor clean   | ✓   |    |                                   |
| 17. Grease slides on press  |     | ✓  |                                   |
| 18. Clean lunchroom when necessary  | ✓   |    |                                   |

COMMENTS OR SUGGESTIONS:

8.90

12.33

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

SHIFT OPERATING REPORT

SUPERVISOR Greg Robinson SHIFT 7am to 7pm CREW D DATE 8-31-95

PRESS OPERATION

| FROM  | TO   | LINE SPEED | THICKNESS | PRESS LOADS | 3/8' FOOTAGE | MINS. DOWNTIME |   |         |
|-------|------|------------|-----------|-------------|--------------|----------------|---|---------|
|       |      |            |           |             |              | M              | E | O       |
| 7 AM  | 7 PM | 31-37.75   | 7/16      | 142         | 169,647      |                |   |         |
|       |      |            |           |             |              |                |   |         |
|       |      |            |           |             |              |                |   |         |
|       |      |            |           |             |              |                |   |         |
| TOTAL |      |            |           | 142         | 169,647      |                |   | 186 min |

KONUS OPERATION

|                 |            |
|-----------------|------------|
| HOURS FUEL      | HOURS FUEL |
| USAGE WOOD      | USAGE OIL  |
| <u>14 hours</u> | <u>0</u>   |

50 min

|                    |           |
|--------------------|-----------|
| NO. OF 'A' BUNDLES | <u>69</u> |
| NO. OF 'U' BUNDLES | <u>4</u>  |
| NO. OF 'E' BUNDLES | <u>0</u>  |

DRYER OPERATION

| DRY FUEL<br>IN COUNTS | OIL FUEL<br>USAGE HRS | AVERAGE<br>INLET | AVERAGE<br>OUTLET | RUNNING<br>TIME (MIN) | DOWNTIME<br>(MINUTES) | AVG. WET<br>MOISTURE | AVG. DRY<br>MOISTURE |
|-----------------------|-----------------------|------------------|-------------------|-----------------------|-----------------------|----------------------|----------------------|
| <u>4478</u>           | <u>15 min</u>         | <u>227</u>       | <u>192</u>        | <u>585</u>            | <u>135</u>            | <u>41.0</u>          | <u>8.0</u>           |

BARK MOISTURE % (AVG.) 34.0

FUEL MOISTURE 3.0

SCRUBBER WATER METER READING

BEGINNING OF SHIFT 481.300

END OF SHIFT 481.300

TOTAL GALLONS USED THIS SHIFT 0

OPERATOR E. Sluss SHIFT 7am 2pm CREW D' DATE 8-31-95

THICKNESS: 3/16 PRESS LOADS 142-169,647 BLENDER SHUTDOWNS  
 CORE 9

OVERALL TIMER: \_\_\_\_\_ DECOMPRESSION TIME \_\_\_\_\_ SURFACE 11

PRESS TEMP: 415°

| LINE SPEED | FROM | TO   |
|------------|------|------|
| 37.75      | 7:00 | 7:30 |
| 31         | 7:30 | 9:24 |
| 37.75      | 9:24 |      |
|            |      |      |
|            |      |      |

CORE SURFACE  
 RESIN RESIN  
 BEGIN 2998561 13219506  
 END 3000306 13228163

Cleaned Blender Shrouds & Tracks  
 Formed hydraulic and radiator  
 blown out  
 FCOS hydraulic unit and radiator  
 blown out  
 Blender outfeed conv. tail pulleys  
 cleaned

| DOWNTIME |       | DOWNTIME (Mins.) |   |   | KEY    | REASONS FOR DOWNTIME           |
|----------|-------|------------------|---|---|--------|--------------------------------|
| FROM     | TO    | M                | E | O |        |                                |
| 8:03     | 9:24  |                  |   |   | 81     | low Dry Bin (Primary plugged)  |
| 9:27     | 9:39  |                  |   |   | 12     | screen hung on return conveyor |
| 9:57     | 9:59  |                  |   |   | 2      | #6 did not make pos.           |
| 10:59    | 10:00 |                  |   |   | 1      | #5 started out of press        |
| 10:03    | 10:04 |                  |   |   | 1      | #6 screen crashed at bottom    |
| 11:21    | 11:23 |                  |   |   | 99 2   | unloader dropped #1            |
| 11:32    | 4:10  |                  |   |   | 137 38 | low Dry Bin (Fire in screen)   |
| 5:02     | 5:03  |                  |   |   | 1      | unloader did not unload        |
| 5:30     | 5:31  |                  |   |   | 1      | unloader dropped #1            |
| 6:13     | 7:00  |                  |   |   | 186 47 | down for maint.                |

DOWNTIME CODE: M-MECHANICAL E-ELECTRICAL O-OPERATOR

\*\*\*\* MAINTENANCE/LOCK-OUT LOG \*\*\*\*

| MOTOR # | LOCKED OUT | FROM | TO | BRIEF DESCRIPTION OF WORK BEING DONE | INITIALS OF PERSON LOCKING OUT |
|---------|------------|------|----|--------------------------------------|--------------------------------|
|         |            |      |    |                                      |                                |
|         |            |      |    |                                      |                                |
|         |            |      |    |                                      |                                |
|         |            |      |    |                                      |                                |

LOUISIANA-PACIFIC CORPORATION

Dungannon, Virginia

OPERATOR Ronald SHIFT 7am to 7pm CREW 1 DATE 8-31-95

KONUS CHECK LIST

|  |                    |           |  |
|--|--------------------|-----------|--|
| Thermal Oil Level<br>Inches above bottom |                    | 0         |  |
| Clarke Bin (quarters)                    |                    | 1/2       |  |
| Diesel Fuel Level<br>(Emergency Pump)    |                    | Full      |  |
| Diesel Oil Level<br>(Emergency Pump)     |                    | Full      |  |
| Space Heating                            | Inlet Temp         | 91        |  |
|  | Outlet Temp        |           |  |
|  | Discharge Pressure |           |  |
| Press Pump 1 (Running)                   |                    |           |  |
| Press Pump 2 (Running)                   |                    |           |  |
| T.O. Pump Pressure                       | Suction            | Discharge |  |
| Primary Pump I                           |                    |           |  |
| Primary Pump II                          |                    |           |  |
| Konus Baghouse Pressure                  |                    |           |  |
| Was Baghouse Pulsed?                     |                    | YES/NO    |  |
| List any other problems:                 |                    |           |  |
|  |                    |           |  |
|  |                    |           |  |
|  |                    |           |  |
|  |                    |           |  |
|  |                    |           |  |
|  |                    |           |  |

|  |                          |
|--|--------------------------|
| <u>Indicate Konus Problems</u>           |                          |
| Flow Control                             |                          |
| Level Control                            |                          |
| Fan Disturb                              |                          |
| Internal Press                           |                          |
| High Flue Gas                            |                          |
| Other:                                   |                          |
| LEFT (Counts) 2723 x ( ) =               |                          |
| RIGHT (Counts) 1826 x ( ) =              |                          |
|  |                          |
|  |                          |
| <u>Indicate Temp. Set Points</u>         |                          |
| Space Heat 91                            |                          |
| Hot Pond 0                               |                          |
| Emergency Cooling Tank - Full YES/NO     |                          |
| Konus                                    | Water Pressure _____ PSI |
| Emergency Diesel (run each shift) YES/NO |                          |
| Konus                                    |                          |
| Fuel Oil Level (gallons)                 |                          |
| L.P. Level                               |                          |
| Fire Dump Cleaned: <u>JS</u>             |                          |
| Bark Fuel Used                           |                          |

FOREMANS REPORT CHECK LIST TO BE TURNED IN EVERY SHIFT

DATE: 8-3-95

SHIFT: 7AM-7PM

SUPERVISOR: G. Robinson

- SHIFT OPERATING REPORT
- PRESS REPORT
- PRESS LOAD & TIME TO POSITION
- RESIN CHART RECORDER CHECKLIST
- DRYER OPERATION REPORT
- DRYER DATA SHEET
- KONUS CHECK LIST
- DRYER OPACITY REPORT
- KNIFE GRINDER REPORT
- FLAKER OPERATOR PM SHEET
- DEBARKER OPERATION PM SHEET
- PRENTICE OPERATOR PM SHEET
- BOBCAT OPERATOR PM SHEET
- FLAKER UTILITY
- DEBARKER UTILITY
- DRYER UTILITY
- LINEMAN
- SHIFT MILLWRIGHT REPORT
- FLAKER KNIFE CHANGE PM SHEET
- 930 LOADER
- 966 LOADER PM SHEET
- TROJAN LOADER PM SHEET
- PRESS CIRCLE CHART
- DRYER CIRCLE CHART
- DRYER BY-PASS CHART
- FORKLIFT PM SHEET
- UPSET CONDITION REPORT  
(When Necessary)

OTHER COMMENTS OR PROBLEMS NOT TAKEN CARE OF:

Fire Dumpcart - HAS rest at top of F.T.

DATE 8-31-95

CREW 'D'

SHIFT 2 AM 2 PM

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

|    | TIME         | NAME      |
|----|--------------|-----------|
| 1  | <u>7:00</u>  | <u>ES</u> |
| 2  | <u>8:00</u>  | <u>ES</u> |
| 3  | <u>9:00</u>  | <u>ES</u> |
| 4  | <u>10:00</u> | <u>ES</u> |
| 5  | <u>11:00</u> | <u>ES</u> |
| 6  | <u>12:00</u> | <u>ES</u> |
| 7  | <u>1:00</u>  | <u>ES</u> |
| 8  | <u>2:00</u>  | <u>ES</u> |
| 9  | <u>3:00</u>  | <u>ES</u> |
| 10 | <u>4:00</u>  | <u>ES</u> |
| 11 | <u>5:00</u>  | <u>ES</u> |
| 12 | <u>6:00</u>  | <u>ES</u> |

REPORT ANY PROBLEMS TO THE SUPERVISOR.

NOTES: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PRESS LOADS & TIME TO POSITION

(142)

C. Sluss  
7Am 7pm  
8-31-95  
"D" 7/8"

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

TURN IN WITH PRESS REPORT!

# DRYER DATA SHEET

DATE: 8-31-95

SHIFT: 7am to 7pm

CREW: D

NAME: Ronald

OPACITY/DRYER CHARTS: \_\_\_\_\_ CHECK AND INITIAL EVERY 30 MINUTES  
 BURNER OUTLET SET POINT: \_\_\_\_\_ READING EVERY 30 MINUTES  
 OUTLET TEMP SET POINT: \_\_\_\_\_ MOISTURE % EVERY HOUR  
 REVOLUTIONS PER MINUTE: \_\_\_\_\_ BIN LEVEL EVERY HOUR  
 FUEL CALABRATION: \_\_\_\_\_ NOTE ANY CHANGES IN SETPOINTS

| TIME  | FEED RATE | DRYER IN TEMP | DRYER OUT TEMP | FLAKE IN | MOIST. OUT | DRY BIN LEVEL | OPACITY MONITOR | DRYER CHT. CIRCULAR | RTO CHAMBER TEMP |
|-------|-----------|---------------|----------------|----------|------------|---------------|-----------------|---------------------|------------------|
| 7:30  |           |               |                |          | 9.0        |               | OK RE           | OK                  | 1560             |
| 8:00  | Down      |               |                |          |            |               | OK RE           | OK                  | 1566             |
| 8:30  | Down      |               |                |          |            |               | OK RE           | OK                  | 1547             |
| 9:00  | Start up  |               |                |          |            |               | OK RE           | OK                  | 1537             |
| 9:30  |           |               |                |          | 9.0        |               | OK RE           | OK                  | 1555             |
| 10:00 | 83        | 1304          | 192            | 41.0     | 9.0        | 1/2 1/2       | OK RE           | OK                  | 1562             |
| 10:30 |           |               |                |          | 8.0        |               | OK RE           | OK                  | 1578             |
| 11:00 | 83        | 1752          | 184            | 43.0     | 9.0        | 1/2 1/2       | OK RE           | OK                  | 1568             |
| 11:30 |           |               |                |          | 8.0        |               | OK RE           | OK                  | 1564             |
| 12:00 | 83        | 1310          | 192            | 42.0     | 9.0        | 1/2 1/2       | OK RE           | OK                  | 1566             |
| 12:30 |           |               |                |          | 8.0        |               | OK RE           | OK                  | 1544             |
| 1:00  | 53        | 1213          | 193            | 38.0     | 8.0        | 1/2 1/2       | OK RE           | OK                  | 1550             |
| 1:30  |           |               |                |          | 8.0        |               | OK RE           | OK                  | 1560             |
| 2:00  | 83        | 1222          | 193            | 41.0     | 8.0        | 1/2 1/2       | OK RE           | OK                  | 1570             |
| 2:30  |           |               |                |          | 9.0        |               | OK RE           | OK                  | 1572             |
| 3:00  | 83        | 1225          | 194            | 44.0     | 9.0        | 1/2 1/2       | OK RE           | OK                  | 1561             |
| 3:30  | Down      |               |                |          |            |               | OK RE           | OK                  | 1538             |
| 4:00  | 75        | 1186          | 193            | 40.0     | 9.0        | 1/4 1/4       | OK RE           | OK                  | 1551             |
| 4:30  |           |               |                |          | 9.0        |               | OK RE           | OK                  | 1567             |
| 5:00  | 83        | 1218          | 194            | 38.0     | 8.0        | 1/2 1/2       | OK RE           | OK                  | 1558             |
| 5:30  |           |               |                |          | 8.0        |               | OK RE           | OK                  | 1558             |
| 6:00  | 83        | 1654          | 194            | 40.0     | 8.0        | 1/4 1/4       | OK RE           | OK                  | 1549             |
| 6:30  | Down      |               |                |          |            |               | OK RE           | OK                  | 1496             |
| 7:00  | Down      |               |                |          |            |               | OK RE           | OK                  | 1320             |



# DRYER OPERATION REPORT

OPERATOR Ronald SHIFT 17:00 to 21:00 CREW 0 DATE 8-31-95

#1 BAGHOUSE  
TIMES CHECKED

HAMMER MILL MAGNET      TIME      TIME      TIME      TIME      TIME      TIME

CLEANED (3TIMES)  
LEVEL IN MCCONNELL  
BINS (3 TIMES)      TIME      TIME      TIME

WOOD BURNER FILTER      CHECKED CLEANED (ONCE A SHIFT)

OIL BURNER FILTER      CHECKED CLEANED (ONCE A SHIFT)

WOOD BLOWER BELT TENS      CHECKED CLEANED (ONCE A SHIFT)

DRY BIN INFEED BELT      CHECKED TAIL PULLEY CLEANED (IF NEEDED)

DRYER TRUNIONS      CHECKED (WHEN NEEDED)

DRYER INLET TUBE BLOWN DOWN (ONCE A SHIFT)

AIR CONDENSOR BLOWN DOWN (ONCE A SHIFT)

DRYER DRUM DILUGE VALVES ON X (AT START OF SHIFT)

ONCE A SHIFT:

|                                       |            |
|---------------------------------------|------------|
| #1 BAGHOUSE MAGNEHELIC READING        | <u>0</u>   |
| #2 BAGHOUSE MAGNEHELIC READING        | <u>6</u>   |
| KONUS BAGHOUSE MAGNEHELIC READING     | <u>1.0</u> |
| MCCONNELL BAGHOUSE MAGNEHELIC READING | <u>-</u>   |
| SCRUBBER MAGNEHELIC READING           | <u>2.5</u> |

### DRYER DOWN TIME

| DOWN | UP   | MINUTES | WHY                     |
|------|------|---------|-------------------------|
| 8:00 | 8:55 | 55      | PRIMARY Plug JBMS Wiper |
| 8:10 | 8:40 | 30      | Screening Feed          |
| 6:10 | 7:00 | 50      | Down Days for Konus     |
|      |      | 135     |                         |
|      |      |         |                         |
|      |      |         |                         |
|      |      |         |                         |
|      |      |         |                         |
|      |      |         |                         |

NAME: Ronald SHIFT: 7:30 to 7:00 PM DATE: 8-31-95

TOTAL DRYER RUN TIME 585  
 MONITOR DOWNTIME 0

**DRYER OPACITY CHART**  
 LOUISIANA-PACIFIC CORPORATION  
 DUNGANNON, VIRGINIA

ENTER ALL OPACITY READINGS GREATER THAN 10%

| DATE | TIME FROM | TIME TO | MINUTES | OPACITY | CODE | DESCRIPTION OF OCCURANCE |
|------|-----------|---------|---------|---------|------|--------------------------|
|      |           |         |         |         |      |                          |
|      |           |         |         |         |      |                          |
|      |           |         |         |         |      | Corrective action taken: |
|      |           |         |         |         |      |                          |
|      |           |         |         |         |      | Corrective action taken: |
|      |           |         |         |         |      |                          |
|      |           |         |         |         |      | Corrective action taken: |
|      |           |         |         |         |      |                          |
|      |           |         |         |         |      | Corrective action taken: |
|      |           |         |         |         |      |                          |
|      |           |         |         |         |      | Corrective action taken: |
|      |           |         |         |         |      |                          |

BE SURE ENTRIES ON THIS CHART MATCH THE STRIP CHART

**TIME IN INCREMENTS**

OF SIX MINUTES

| FROM | TO   |
|------|------|
| 0700 | 0706 |
| 0706 | 0712 |
| 0712 | 0718 |
| 0718 | 0724 |
| 0724 | 0730 |
| 0730 | 0736 |
| 0736 | 0742 |
| 0742 | 0748 |
| 0748 | 0754 |
| 0754 | 0800 |

- CODES**
- 1 BAKE OUT
  - 2 CLEANING RTO VALVES
  - 3 RE-CALIBRATION
  - 4 CLEANING LENS
  - 5 MONITOR FAILURE
  - 6 CONDENSATION
  - 7 BURNER MALFUNCTION
  - 8 MAINTENANCE
  - 9 CHANGE (CERAMIC)
  - 10 OTHER (DESCRIBE)
  - 11 POWER FAILURE
  - 12 DRUM FIRE

**MILITARY TIME**

|           |          |
|-----------|----------|
| 7AM=0700  | 7PM=190  |
| 8AM=0800  | 8PM=200  |
| 9AM=0900  | 9PM=210  |
| 10AM=1000 | 10PM=220 |
| 11AM=1100 |          |
| 12AM=1200 | 11PM=230 |
| 1PM=1300  | 12PM=240 |
| 2PM=1400  | 1AM=010  |
|           | 2AM=020  |
| 3PM=1500  | 3AM=030  |
| 4PM=1600  | 4AM=040  |
| 5PM=1700  | 5AM=050  |

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

DAILY PM AND CHECKLIST

Lineman Georg Fitzpatrick Date 4-31-95 Shift 1st Crew D

|  | Yes | No | Problem found or maintenance done |
|--|-----|----|-----------------------------------|
| 1. Check & maintain fire fighting equipment (hoses in place, extinguishers full, etc.) | ✓   |    |                                   |
| 2. Check release agent spray can when necessary)                                       | ✓   |    |                                   |
| 3. Check all screens & head bar pins   | ✓   |    |                                   |
| 4. Check formers & spreading rolls (At least 3 times a shift)                          | ✓   |    |                                   |
| 5. Blow down entire area   |     | ✓  |                                   |
| 6. Check all hydraulic units (Oil level & blow out radiators)                          | ✓   |    |                                   |
| 7. Check magnet for metal & position   | ✓   |    |                                   |
| 8. Check incline & decline chain dogs (In time, cracked, etc.)                         | ✓   |    |                                   |
| 9. Check press hydraulic oil level   | ✓   |    |                                   |
| 10. Clean press pit, bucket elevator pit   | ✓   |    |                                   |
| 11. Check FCOS allock  | ✓   |    |                                   |
| 12. Check for leaks on press hydraulic & T-oil system                                  | ✓   |    |                                   |
| 13. Blow off both sides of press including Symo Arms (2 times shift)                   |     | ✓  |                                   |
| 14. Blow out sides of formers (behind clear curtain)                                   |     | ✓  |                                   |
| 15. Check return line belts  | ✓   |    |                                   |
| 16. Keep area floor clean  | ✓   |    |                                   |
| 17. Grease slides on press   |     | ✓  |                                   |
| 18. Clean lunchroom when necessary   |     | ✓  |                                   |

COMMENTS OR SUGGESTIONS:

DAILY P.M. CHECKLIST

FOREMAN: *Greg R*

DATE: *8-31-95*

SHIFT: *7-7*

CREW: *D*

DEBARKER OPERATOR *Bruce*

| INSPECT/DO                                    | YES/NO | COMMENTS |
|---|--------|----------|
| GREASE ENTIRE MACHINE--ONCE EACH SHIFT        | ✓      |          |
| RELEASE WATER FROM DEBARKER & KICKER AIRLINES | ✓      |          |
| GREASE BEARINGS # 1 AND # 2 LOG INFEED CHAINS | ✓      |          |
| CHECK HYDRAULIC LEVEL IN HYDRAULIC UNIT       | ✓      |          |
| CHECK OIL LEVEL IN RING LUBE PUMP BARREL      | ✓      |          |
| INSPECT ARM TIPS FOR LOSS OR BREAKAGE         | ✓      |          |
| INSPECT ARMS FOR CRACKS                       | ✓      |          |
| GREASE FRONT & REAR HOLD DOWN SLIDES          | ✓      |          |
| GREASE LOG OUTFEED CHAIN BEARINGS             | ✓      |          |
| CLEAN HYDRAULIC UNIT ( ON DAY SHIFT)          | ✓      |          |
| COMMENTS:                                     |        |          |
|   |        |          |
|   |        |          |
|   |        |          |
|   |        |          |
|   |        |          |

LOUISIANA-PACIFIC CORPORATION

DUNGANNON, VIRGINIA

LOADER # 966

DAILY OPERATOR'S CHECK

OPERATOR *John Miller* DATE 8-31-95

HOUR METER READING \_\_\_\_\_

1. Radiator level OK Amount added \_\_\_\_\_

2. Engine oil level OK Amount added \_\_\_\_\_

3. Restriction indicator of engine air cleaner OK

4. Fuel level - fill at end of shift yes

5. Drain moisture from air reservoir - at end of shift yes

6. Torque converter level OK Amount added \_\_\_\_\_

7. Drop box transmission level OK Amount added \_\_\_\_\_

8. Hydraulic reservoir OK

9. Lubricate boom grease fittings yes

10. Check tires for proper inflation and condition - 65 PSI OK

11. Clean operator's cab yes

12. Check for hydraulic leaks yes

13. Does steering work properly? yes

14. Is the fire extinguisher present and charged? yes

15. Does horn work properly? yes

16. Do service brakes work properly? yes

17. Does parking brakes work properly? yes

18. COMMENTS: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

DAILY PM CHECKLIST

Debarker Utility [Signature] Date 8/31/95 Shift 7AM-3PM Crew D

|  | Yes | No                                  | Problem found or Maint. | Done |
|--|-----|-------------------------------------|-------------------------|------|
| Check and maintain fire fighting equipment (hoses in place, fire extinguishers, etc.). |     | <input checked="" type="checkbox"/> |                         |      |
| Keep log wash pond full and bark cleaned off.  |     | <input checked="" type="checkbox"/> |                         |      |
| Clean all tail rollers.  |     | <input checked="" type="checkbox"/> |                         |      |
| Check all hydraulic units (oil level, blow out radiator).                              |     | <input checked="" type="checkbox"/> |                         |      |
| Check bark hog and belts (problems, plugs etc.).                                       |     | <input checked="" type="checkbox"/> |                         |      |
| Empty all hoppers.   |     | <input checked="" type="checkbox"/> |                         |      |
| Clean bark under log decks.  |     | <input checked="" type="checkbox"/> |                         |      |
| Blow down entire area.   |     | <input checked="" type="checkbox"/> |                         |      |
| Keep hog, mobile equipment, and old greenend area floor clean.                         |     | <input checked="" type="checkbox"/> |                         |      |
| Wash down floor in debarker area (11-7 shift).   |     | <input checked="" type="checkbox"/> |                         |      |
| PM and service loader when used.   |     | <input checked="" type="checkbox"/> |                         |      |

Comments or suggestions: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

PM CHECKLIST BOBCAT

CR W P

FOREMAN Gray

DATE 8-31-95 SHIFT 7AM 7PM

NAME D. H. Hill

BOBCAT OPERATOR

| DAILY | A. Bobcat - fluid levels   | Done<br>yes/no | How much added |
|-------|--|----------------|----------------|
|       | 1. Check hydraulic fluid   | YES            |                |
|       | 2. Check motor oil   | YES            |                |
|       | 3. Check air pressure in tires   | NO             |                |
|       | B. Blow entire machine off,<br>including motor.                                | NO             |                |
|       | C. Check for any leaks around<br>fittings, filters, motor oil,<br>transmission | NO             |                |
|       | D. Breakage  | NO             |                |
|       | 1. Control levers right side   | NO             |                |
|       | 2. Control levers left side  | NO             |                |
|       | 3. Cracks in bucket or boom  | NO             |                |
|       | 4. Safety cage broke away  | NO             |                |

Motor oil 15W-40

Hydraulic Oil HD-46  
Transmission - Dextron

Radiator 1/2 water 1/2 prestone (winter)

All water in summer months. Mike will service before winter months.

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

KNIFE CHANGE PM CHECKLIST

OPERATOR: Shannon SHIFT: 1st CREW: D DATE: 8-31-95

1. Time of knife changes: 10:30 1:45  
5:30
2. All clamps removed from disc and cleaned?
3. All knife carriers cleaned (use wirebrush)
4. Number of clamps replaced: 1st 20 2nd 29  
3rd 25 4th \_\_\_\_\_ 5th \_\_\_\_\_
5. All bolts torqued at 70PSI.
6. Never seize all clamp bolts, replace bad ones.
7. Bottom & side anvils checked.
8. Spray bar cleaned
9. Arbor bearing blown down
10. Multi-chain track cleaned (once per shift)
11. Torque wrench set on 0 PSI after knife changed completed
12. Knife change area cleaned after knife change
13. Air wrenches lubricated or oiled
14. Check knife protection.
15. Hood loader greased - turntable & boom pin   
(once per shift)
16. Any maintenance done during knife change: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



DAILY P.M. & CHECK LIST

FOREMAN: Greg      DATE: 8-31-95      SHIFT: 7am-7pm CREW: D

FLAKER OPERATOR

| ITEM            | INSPECT/DO                                     | YES/NO | COMMENTS |
|-----------------|--|--------|----------|
| HYDRAULIC UNITS | FLAKER & BOOM UNITS KEEP FULL                  | ✓      |          |
|                 | GREASE ENTIRE BOOM -ALL PINS                   | ✓      |          |
|                 | GREASE ALL BUSHINGS                            | ✓      |          |
|                 | GREASE TURN TABLE                              | ✓      |          |
|                 | TIGHTEN ALL PIN NUTS ON BOOM<br>--EACH SHIFT-- | ✓      |          |
|                 | GREASE LOG HOLD DOWN PINS                      | ✓      |          |
|                 | CHECK ALL MULTI CHANS                          | ✓      |          |
|                 | GREASE LOG INCLINE CONVEYOR<br>CHAIN BEARINGS  | ✓      |          |
|                 | INSPECT KNIFE CLAMPS & PLATES                  | ✓      |          |
|                 | INSPECT SCORING KNIVES<br>(EACH KNIFE CHANGE)  | ✓      |          |
|                 | INSPECT ALL BEARINGS                           | ✓      |          |
|                 | INSPECT DRIVE BELTS                            | ✓      |          |
| ENTIRE SYSTEM   | CHECK FOR LOOSE NUTS & BOLTS                   | ✓      |          |

ADDITIONAL COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

KNIFE GRINDER

NAME DANNY

DATE 8-30-95

SETS ON SHELF 6

SETS - NEED TO GRIND \_\_\_\_\_

SETS THAT I HAVE GROUND 3 1/2

# OF KNIVES DISCARDED \_\_\_\_\_

GRINDING ROOM CLEANED  YES OR NO

FLAT GRINDER GREASED  YES OR NO

SPRAY BARS CLEANED (EACH KNIFE CHANGE)  YES OR NO

SETTER  OKAY OR NOT OKAY

COMMENTS OR CORRECTIVE ACTION TAKEN: \_\_\_\_\_

TOTAL KNIVES IN THE GRINDING ROOM \_\_\_\_\_

SETS OF KNIVES RECEIVED \_\_\_\_\_

TOTAL KNIVES DISCARDED (MTD) \_\_\_\_\_

MAINTENANCE DONE TO EQUIPMENT IN THE GRINDING ROOM: \_\_\_\_\_

KNIFE CHANGES DONE:

TIME DOWN 10:00 START UP 10:30 TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

TIME DOWN 11:30 START UP 2:00 TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

TIME DOWN 5:30 START UP 6:00 TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_ TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_ TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_ TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

DAILY FORKLIFT CHECK LIST

67A

44

AM M. Maddy

SHIFT I

ORKLIFT# 2

OK TO RUN

DO NOT RUN

Oil Level

✓

\_\_\_\_\_

Water Level

✓

\_\_\_\_\_

Brakes

✓

\_\_\_\_\_

Transmission

✓

\_\_\_\_\_

Horn

✓

\_\_\_\_\_

Lights

✓

\_\_\_\_\_

Tires

✓

\_\_\_\_\_

Steering

✓

\_\_\_\_\_

Rack & Cage

✓

\_\_\_\_\_

Used air hose to blow down radiator and other things

YES

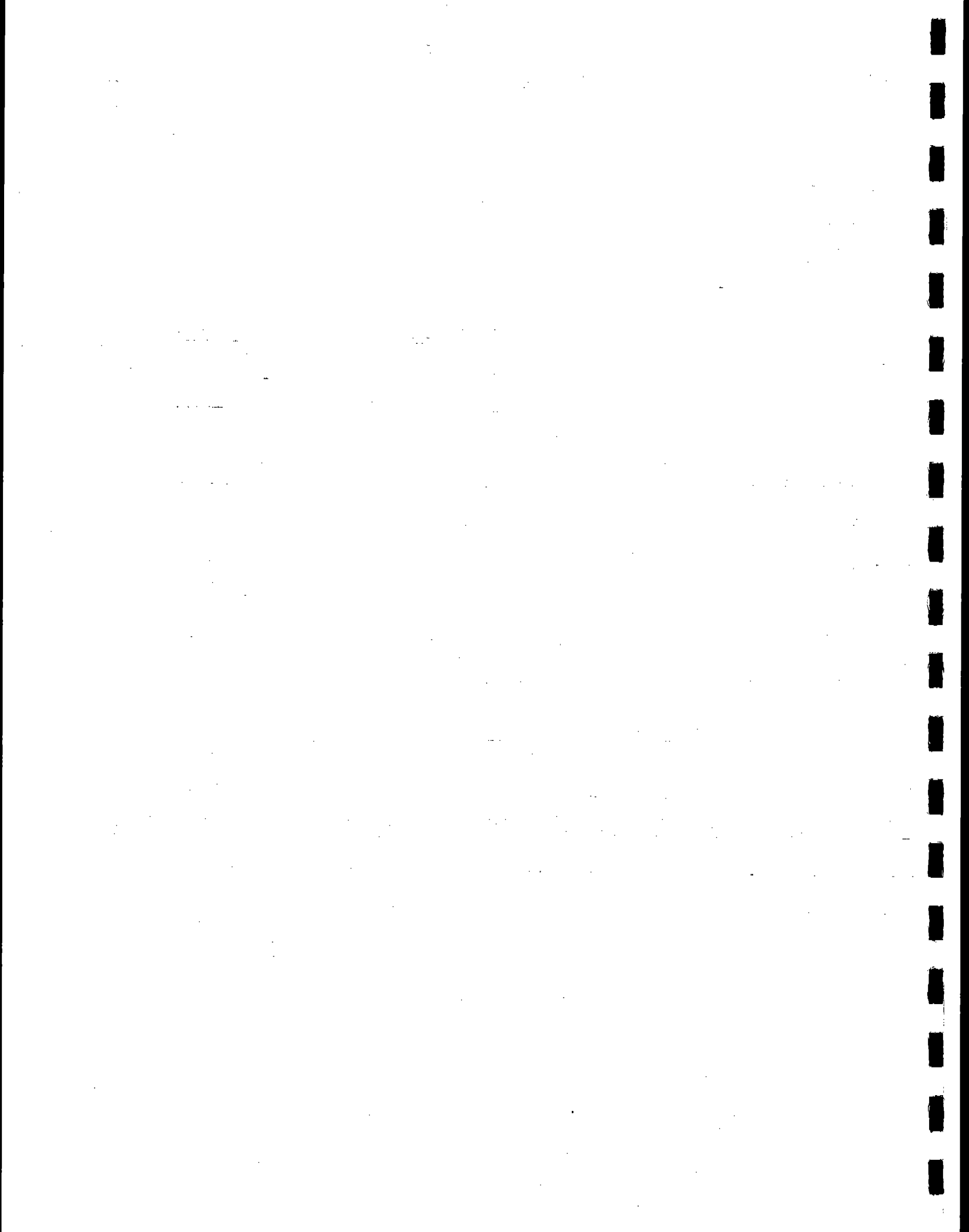
✓

NO

\_\_\_\_\_

REMARKS:

- NOTES:
1. Use TEXACO 15W40 Motor oil-located in Mobile Equipment Shop.
  2. Hydraulic Oil-located outside Mobile Equipment Shop-Large black tank.
  3. Use water for radiator.



DATE 9-12-95

BY Eddie Jones

**KONUS DATA**

PLANT: DUNGAUNON VA.

**OIL SETPOINT**

(NOTE ANY CHANGES IN SETPOINTS)

| TIME  | PRIMARY AIR LEFT | LD. FAN | PRIMARY AIR RIGHT | OIL IN deg. C | OIL OUT deg. F | FUEL COUNT |     | FEED RATE SETTING |     | EVERY HOUR    |               |
|-------|------------------|---------|-------------------|---------------|----------------|------------|-----|-------------------|-----|---------------|---------------|
|       |                  |         |                   |               |                | LT         | RT  | LT                | RT  | BAG W. PRESS. | WARK MOISTURE |
| 7:10  | 240              | -0.8    | 280               | 498           | 516            | 264        | 269 | 420               | 420 | 0.6           | 258           |
| 8:20  | 240              | -0.8    | 280               | 497           | 514            | 302        | 309 | 420               | 420 | 0.6           |               |
| 8:30  | 240              | -0.8    | 280               | 497           | 519            | 338        | 345 | 420               | 420 |               |               |
| 8:40  | 240              | -0.8    | 280               | 499           | 516            | 372        | 380 | 420               | 420 |               |               |
| 8:50  | 240              | -0.8    | 280               | 508           | 532            | 408        | 416 | 420               | 420 |               |               |
| 9:00  | 240              | -0.8    | 280               | 521           | 545            | 444        | 453 | 420               | 420 | 0.6           | 208           |
| 9:10  | 240              | -0.8    | 280               | 530           | 558            | 465        | 474 | 420               | 420 | 0.6           |               |
| 9:20  | 240              | -0.8    | 280               | 526           | 549            | 476        | 484 | 420               | 420 |               |               |
| 9:30  | 240              | -0.8    | 280               | 519           | 545            | 490        | 497 | 280               | 280 |               |               |
| 9:40  | 240              | -0.8    | 280               | 525           | 541            | 505        | 510 | 220               | 220 |               |               |
| 9:50  | 240              | -0.8    | 280               | 521           | 555            | 525        | 525 | 150               | 150 |               |               |
| 10:00 | 240              | -0.8    | 280               | 507           | 523            | 547        | 542 | 220               | 220 | 0.6           | 258           |
| 10:10 | 240              | -0.8    | 280               | 510           | 529            | 566        | 557 | 150               | 150 |               |               |
| 10:20 | 240              | -0.8    | 280               | 507           | 522            | 581        | 567 | 110               | 110 |               |               |
| 10:30 | 240              | -0.8    | 280               | 498           | 512            | 599        | 579 | 140               | 130 |               |               |
| 10:40 | 230              | -0.8    | 280               | 484           | 499            | 619        | 593 | 160               | 160 |               |               |
| 10:50 | 230              | -0.8    | 280               | 498           | 511            | 636        | 605 | 110               | 110 |               |               |
| 11:00 | 240              | -0.8    | 280               | 495           | 508            | 656        | 618 | 110               | 160 | 0.6           | 258           |
| 11:10 | 230              | -0.8    | 260               | 497           | 506            | 671        | 629 | 160               | 160 |               |               |
| 11:20 | 230              | -0.8    | 260               | 503           | 522            | 693        | 645 | 120               | 120 |               |               |
| 11:30 | 230              | -0.8    | 260               | 497           | 514            | 705        | 653 | 110               | 110 | 0.8           |               |
| 11:40 | 230              | -0.8    | 280               | 489           | 506            | 722        | 664 | 130               | 130 | 0.6           |               |
| 11:50 | 230              | -0.8    | 260               | 484           | 506            | 739        | 675 | 130               | 130 |               |               |
| 12:00 | 230              | -0.8    | 275               | 476           | 493            | 756        | 687 | 140               | 140 | 0.8           | 208           |
| 12:10 | 230              | -0.8    | 260               | 481           | 497            | 776        | 700 | 150               | 150 | 0.8           |               |
| 12:20 | 230              | -0.8    | 280               | 479           | 501            | 792        | 712 | 140               | 140 | 0.8           |               |
| 12:30 | 230              | -0.8    | 280               | 479           | 501            | 810        | 725 | 150               | 150 | 1.0           |               |
| 12:40 | 230              | -0.8    | 260               | 486           | 511            | 828        | 738 | 130               | 130 | 0.8           |               |
| 12:50 | 240              | -0.8    | 280               | 489           | 512            | 844        | 749 | 110               | 110 |               |               |
| 1:00  | 240              | -0.8    | 280               | 492           | 513            | 860        | 758 | 100               | 100 | 1.2           | 258           |



Particulate

KONUS DATA

DATE 9-13-95

PLANT: DUNGANNOVA VA

BY Eddie Davis

OIL SETPOINT

(NOTE ANY CHANGES IN SETPOINTS)

| TIME  | PRIMARY AIR LEFT | LD. FAN | PRIMARY AIR RIGHT | OIL IN deg. C | OIL OUT deg. F | FUEL COUNT |     | FEED RATE SETTING |     | EVERY HOUR    |               |
|-------|------------------|---------|-------------------|---------------|----------------|------------|-----|-------------------|-----|---------------|---------------|
|       |                  |         |                   |               |                | LT         | RT  | LT                | RT  | BAG N. PRESS. | BANK MOISTURE |
| 8:00  | 240              | -0.8    | 280               | 515           | 538            | 232        | 135 | 170               | 170 | 0.8           | 30%           |
| 8:10  | 240              | -0.8    | 280               | 522           | 545            | 258        | 145 | 110               | 110 |               |               |
| 8:20  | 240              | -0.8    | 280               | 521           | 539            | 280        | 153 |                   |     |               |               |
| 8:30  | 240              | -0.8    | 280               | 509           | 533            | 299        | 164 |                   |     |               |               |
| 8:40  | 240              | -0.8    | 260               | 495           | 519            | 316        | 174 |                   |     |               |               |
| 8:50  | 240              | -0.8    | 260               | 487           | 501            | 331        | 183 |                   |     |               |               |
| 9:00  | 240              | -0.8    | 260               | 471           | 484            | 350        | 197 | 150               | 150 | 0.8           | 30%           |
| 9:10  | 240              | -0.8    | 260               | 464           | 482            | 380        | 223 | 400               | 400 |               |               |
| 9:20  | 240              | -0.8    | 260               | 479           | 503            | 423        | 264 | 300               | 300 |               |               |
| 9:30  | 240              | -0.8    | 260               | 481           | 508            | 440        | 280 | 441               | 280 |               |               |
| 9:40  | 240              | -0.8    | 280               | 492           | 513            | 460        | 296 | 160               | 160 |               |               |
| 9:50  | 240              | -0.8    | 280               | 520           | 536            | 474        | 306 | 100               | 100 |               |               |
| 10:00 | 240              | -0.8    | 280               | 542           | 558            | 488        | 312 |                   |     | 0.8           | 35%           |
| 10:10 | 240              | -0.8    | 280               | 545           | 555            | 500        | 312 | 10                | 10  |               |               |
| 10:20 | 240              | -0.8    | 280               | 512           | 543            | 508        | 312 |                   |     |               |               |
| 10:30 | 240              | -0.8    | 280               | 508           | 524            | 520        | 318 | 110               | 110 | 1.0           |               |
| 10:40 | 240              | -0.8    | 280               | 487           | 509            | 535        | 328 | 130               | 130 | 0.8           |               |
| 10:50 | 240              | -0.8    | 280               | 499           | 516            | 554        | 342 | 150               | 150 |               |               |
| 11:00 | 240              | -0.8    | 280               | 496           | 509            | 573        | 355 |                   |     |               | 30%           |
| 11:10 | 240              | -0.8    | 280               | 494           | 505            | 584        | 367 |                   |     |               |               |
| 11:20 | 240              | -0.8    | 280               | 503           | 520            | 609        | 382 | 130               | 130 | 1.0           |               |
| 11:30 | 240              | -0.8    | 280               | 505           | 522            | 624        | 391 | 100               | 100 | 1.2           |               |
| 11:40 | 240              | -0.8    | 260               | 503           | 520            | 639        | 401 |                   |     | 0.8           |               |
| 11:50 | 240              | -0.8    | 260               | 492           | 512            | 653        | 409 |                   |     | 1.0           |               |
| 12:00 | 240              | -0.8    | 260               | 495           | 510            | 669        | 419 | 130               | 130 | 0.8           | 30%           |
| 12:10 | 240              | -0.8    | 280               | 497           | 522            | 686        | 430 | 110               | 110 |               |               |
| 12:20 | 240              | -0.8    | 260               | 490           | 514            | 700        | 439 |                   |     |               |               |
| 12:30 | 240              | -0.8    | 260               | 472           | 496            | 716        | 449 | 130               | 130 |               |               |
| 12:40 | 240              | -0.8    | 260               | 473           | 496            | 749        | 480 | 300               | 300 | 0.10          |               |
| 12:50 | 240              | -0.8    | 260               | 478           | 496            | 778        | 507 | 300               | 300 | 0.8           |               |





DRYER DATA SHEET

DATE 9-13-95

BY Eddie Brown

PLANT: \_\_\_\_\_

REVOLUTIONS per MINUTE: \_\_\_\_\_

FUEL CALIBRATION: \_\_\_\_\_

(NOTE ANY CHANGES IN SETPOINTS)

| TIME  | OUTLET SET POINT | FEED RATE | DRYER INLET TEMP | DRYER OUTLET TEMP | FUEL COUNT | WET BIN LEVEL | DRY BIN LEVEL |       | EVERY HOUR FLAKE MOISTURE |     |
|-------|------------------|-----------|------------------|-------------------|------------|---------------|---------------|-------|---------------------------|-----|
|       |                  |           |                  |                   |            |               | BURL          | CORE  | IN                        | OUT |
| 8:00  | 187              | 78        | 1115             | 186               | 441        | Full          | 1/2           | 1/2   | 30                        | 7.0 |
| 8:10  | 187              | 78        | 1150             | 187               | 519        | 1/2           | 1/2           | 1/2   |                           |     |
| 8:20  | 187              | 80        | 1125             | 184               | 584        | 1/2           | 1/2           | 1/2   |                           |     |
| 8:30  | 186              | 80        | 1110             | 186               | 650        | 1/4           | 1/2           | 1/2   |                           |     |
| 8:40  | 186              | 81        | 1051             | 187               | 717        | 1/4           | 1/2           | 1/2   |                           |     |
| 8:50  | 186              | 81        | 1023             | 189               | 789        | 1/4           | 1/2           | 1/2   |                           |     |
| 9:00  | 185              | 81        | 981              | 186               | 850        | 1/4           | 1/2           | 1/2   | 35                        | 7.0 |
| 9:10  | DOWN             |           |                  |                   |            |               |               |       |                           |     |
| 9:20  | DOWN             |           |                  |                   |            |               |               |       |                           |     |
| 9:30  | DOWN             |           |                  |                   |            |               |               |       |                           |     |
| 9:40  | DOWN             |           |                  |                   |            |               |               |       |                           |     |
| 9:50  | DOWN             |           |                  |                   |            |               |               |       |                           |     |
| 10:00 | 186              | 72        | 816              | 195               | 951        | Full          | 1/4           | 1/4   | 30                        | 6   |
| 10:10 | 186              | 80        | 969              | 186               | 1011       | 1/2           | 1/4           | 1/4   |                           |     |
| 10:20 | 186              | 82        | 1106             | 186               | 1124       | 1/2           | 1/4           | 1/4   |                           |     |
| 10:30 | 186              | 82        | 1088             | 187               | 1204       | 1/2           | 1/4           | 1/4   |                           |     |
| 10:40 | 186              | 82        | 1135             | 184               | 1212       | 1/2           | 1/4           | 1/4   |                           |     |
| 10:50 | DOWN             |           |                  |                   |            |               |               |       |                           |     |
| 11:00 |                  |           |                  |                   |            |               |               |       |                           |     |
| 11:10 | 186              | 78        | 968              | 195               | 1331       | Full          | 1/4           | 1/4   | 35                        | 6.5 |
| 11:20 | 186              | 80        | 976              | 189               | 1352       | 1/2           | 1/4           | 1/4   |                           |     |
| 11:30 | 185              | 80        | 935              | 186               | 1405       | 1/2           | 1/4           | 1/4   |                           |     |
| 11:40 | 184              | 80        | 1023             | 183               | 1470       | Full          | 1/4           | 1/4   |                           |     |
| 11:50 | 184              | 80        | 1074             | 182               | 1532       | Full          | 1/4           | Empty |                           |     |
| 12:00 | 184              | 81        | 945              | 184               | 1586       | 1/2           | 1/4           | 1/4   | 45                        | 7.0 |
| 12:10 | 184              | 81        | 1014             | 185               | 1654       | Full          | 1/4           | 1/4   |                           |     |
| 12:20 | 184              | 82        | 1024             | 183               | 1718       | Full          | 1/4           | 1/4   |                           |     |
| 12:30 | 184              | 82        | 1009             | 183               | 1782       | 1/2           | 1/4           | 1/4   |                           |     |
| 12:40 | 186              | 82        | 919              | 186               | 1922       | 1/4           | 1/4           | 1/4   |                           |     |
| 12:50 | 186              | 82        | 916              | 186               | 1930       | 1/4           | 1/4           | 1/4   |                           |     |



Test 1

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME  
LOUISIANA PACIFIC CORP.

LOCATION  
Scott County

LOCATION  
PO Box 227 Hwy 65 south

CITY STATE ZIP  
DUNGANNON VA 24245

FORM NUMBER PAGE OF  
1 3

OBSERVATION DATE START TIME END TIME  
9-13-95 9:27 9:57

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

PROCESS EQUIPMENT OPERATING MODE  
Konus Auto

CONTROL EQUIPMENT OPERATING MODE

DESCRIBE EMISSION POINT  
42" vertical stack

HEIGHT ABOVE GROUND LEVEL HEIGHT RELATIVE TO OBSERVER  
START 100' END START 97' END 97'

DISTANCE FROM OBSERVER DIRECTION FROM OBSERVER  
START 40 yds END START NW END NW  
VERTICAL ANGLE TO OSS. FT. DIRECTION TO OSS. FT.  
START 88 END START SW END SW

DESCRIBE EMISSIONS  
START cloudy white gray END

EMISSION COLOR IF WATER DROPLET PLUME  
START END ATTACHED  DETACHED  NA

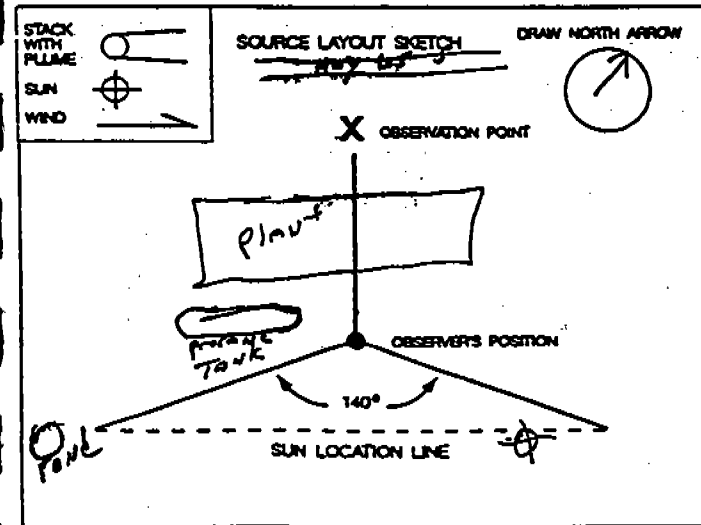
DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET  
START 98 END 77'

DESCRIBE PLUME BACKGROUND  
START Cloudy (gray) white END gray

BACKGROUND COLOR SKY CONDITIONS  
START gray END gray START cloudy END cloudy

WIND SPEED WIND DIRECTION  
START 0 END 0 START 0 END 0

AMBEINT TEMP. WET BULB TEMP RH PERCENT  
START END



OBSERVERS NAME (PRINT) DATE  
DANNY HANEY 9-13-95

OBSERVERS SIGNATURE ORGANIZATION  
[Signature] L.P.

CERTIFIED BY DATE  
" E.T.A. 3-29-95

CONTINUED ON VEO FORM NUMBER

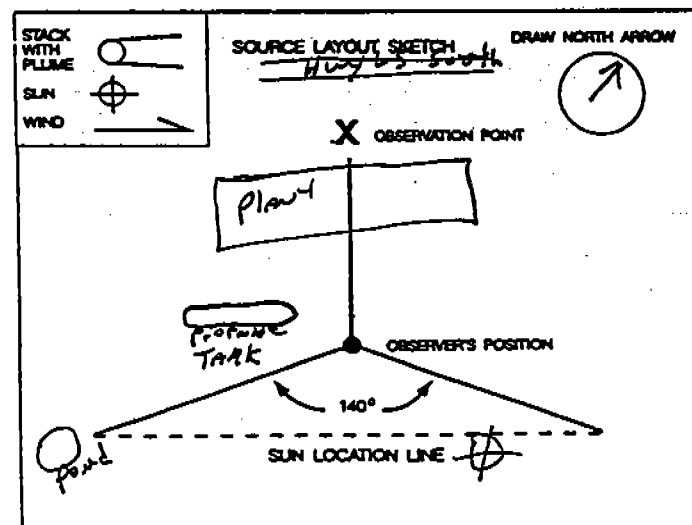
## VISIBLE EMISSION OBSERVATION FORM

|  |                    |                               |
|--|--------------------|-------------------------------|
| COMPANY NAME<br><b>LOUISIANA PACIFIC CORP.</b> |                    |                               |
| LOCATION<br><b>Scott County</b>                |                    |                               |
| LOCATION<br><b>Po Box 227 Hwy 65 south</b>     |                    |                               |
| CITY<br><b>DUNSMON</b>                         | STATE<br><b>LA</b> | ZIP<br><b>24245</b>           |
| PROCESS EQUIPMENT<br><b>KONOS</b>              |                    | OPERATING MODE<br><b>Auto</b> |
| CONTROL EQUIPMENT                              |                    | OPERATING MODE                |

|  |  |
|--|--|
| DESCRIBE EMISSION POINT<br><b>42" vertical stack</b> |  |
| HEIGHT ABOVE GROUND LEVEL<br>START <b>100'</b> END   | HEIGHT RELATIVE TO OBSERVER<br>START <b>97'</b> END <b>97'</b> |
| DISTANCE FROM OBSERVER<br>START <b>40 yds</b> END    | DIRECTION FROM OBSERVER<br>START <b>2° NW</b> END <b>2° NW</b> |
| VERTICAL ANGLE TO OBS. PT.<br>START <b>38°</b> END   | DIRECTION TO OBS. PT.<br>START <b>SW</b> END <b>SW</b>         |

|  |                        |
|--|------------------------|
| DESCRIBE EMISSIONS                                 |                        |
| START  | END                    |
| EMISSION COLOR                                     | IF WATER DROPLET PLUME |
| START  | END                    |
| DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET |                        |
| START <b>98'</b>                                   | END <b>98'</b>         |

|                                   |                                       |
|-----------------------------------|---------------------------------------|
| DESCRIBE PLUME BACKGROUND         |                                       |
| START <b>Blue + gray (cloudy)</b> | END <b>Gray</b>                       |
| BACKGROUND COLOR                  | SKY CONDITIONS                        |
| START <b>blue</b>                 | START <b>cloudy</b> END <b>cloudy</b> |
| WIND SPEED                        | WIND DIRECTION                        |
| START <b>0</b> END <b>0</b>       | START <b>0</b> END <b>0</b>           |
| AMBIENT TEMP                      | WET BULB TEMP                         |
| START                             | END                                   |
|                                   | RH PERCENT                            |



|                        |
|------------------------|
| ADDITIONAL INFORMATION |
|                        |

|             |                           |
|-------------|---------------------------|
| FORM NUMBER | PAGE <b>2</b> OF <b>3</b> |
|-------------|---------------------------|

|                                    |                           |                          |
|------------------------------------|---------------------------|--------------------------|
| OBSERVATION DATE<br><b>9-13-95</b> | START TIME<br><b>9:57</b> | END TIME<br><b>10:27</b> |
|------------------------------------|---------------------------|--------------------------|

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

|   |                        |
|---|------------------------|
| OBSERVER'S NAME (PRINT)<br><b>DANNY LANCY</b> |                        |
| OBSERVER'S SIGNATURE<br>                      | DATE<br><b>9-13-95</b> |
| ORGANIZATION<br><b>L.P.</b>                   |                        |
| CERTIFIED BY<br><b>E.T.A.</b>                 | DATE<br><b>3-29-95</b> |

|                              |  |  |  |  |
|------------------------------|--|--|--|--|
| CONTINUED ON VEO FORM NUMBER |  |  |  |  |
|------------------------------|--|--|--|--|

# VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME  
**LOUISIANA PACIFIC CORP.**

LOCATION  
**South county**

LOCATION  
**Po Box 227 Hwy 65 South**

CITY  
**DUNSMITH**

STATE  
**LA**

ZIP  
**70425**

PROCESS EQUIPMENT  
**Konus**

OPERATING MODE  
**Auto**

CONTROL EQUIPMENT

OPERATING MODE

DESCRIBE EMISSION POINT  
**42" vertical stack**

HEIGHT ABOVE GROUND LEVEL  
START **100'** END **100'**

HEIGHT RELATIVE TO OBSERVER  
START **77'** END

DISTANCE FROM OBSERVER  
START **40 yds** END **40 yds**

DIRECTION FROM OBSERVER  
START **NW** END

VERTICAL ANGLE TO OBS. PT.  
START **34°** END **34°**

DIRECTION TO OBS. PT.  
START **SE** END

DESCRIBE EMISSIONS

START

END

EMISSION COLOR

IF WATER DROPLET PLUME

START

END

ATTACHED  DETACHED  NA

DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET  
START **90'** END **90'**

DESCRIBE PLUME BACKGROUND

START **cloudy (sunny)** END **white**

BACKGROUND COLOR

SKY CONDITIONS  
START **cloudy** END **cloudy**

WIND DIRECTION

START **0** END **0**

WIND SPEED

START **0** END **0**

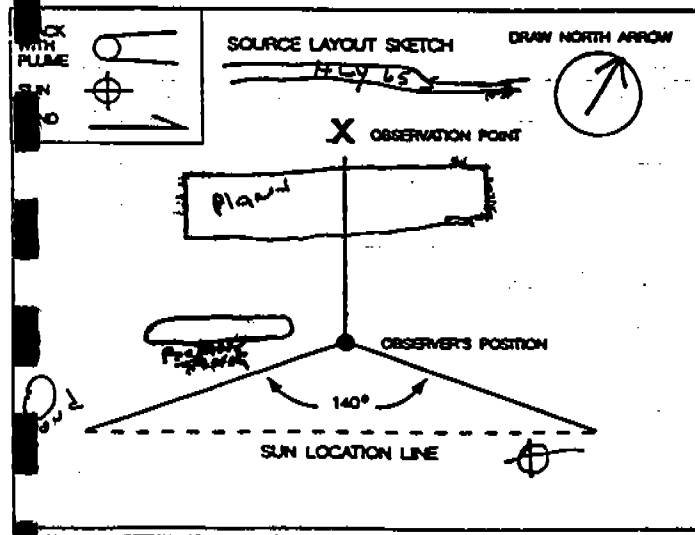
AMBIENT TEMP

WET BULB TEMP

RH PERCENT

START

END



ADDITIONAL INFORMATION

FORM NUMBER

PAGE **3** OF **3**

OBSERVATION DATE  
**9-13-95**

START TIME  
**10:27**

END TIME  
**10:46**

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

OBSERVERS NAME (PRINT)  
**DANNY HANCY**

OBSERVERS SIGNATURE  
*[Signature]*

DATE  
**9-13-95**

ORGANIZATION  
**E.P.**

CERTIFIED BY  
**E.T.A.**

DATE  
**3-29-95**

CONTINUED ON VEO FORM NUMBER

Test 2

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME  
LOUISIANA PACIFIC DUNGANNON

LOCATION  
Scott County

LOCATION  
Hwy 65 south Po Box 227

CITY STATE ZIP  
Dunsmuir VA 24245

FORM NUMBER \_\_\_\_\_ PAGE 1 OF 3

OBSERVATION DATE \_\_\_\_\_ START TIME 11:44 END TIME \_\_\_\_\_

PROCESS EQUIPMENT  
KOUUS

OPERATING MODE  
Auto

CONTROL EQUIPMENT \_\_\_\_\_

OPERATING MODE \_\_\_\_\_

DESCRIBE EMISSION POINT  
42" vertical stack

HEIGHT ABOVE GROUND LEVEL: START 100' END \_\_\_\_\_

HEIGHT RELATIVE TO OBSERVER: START 97' END \_\_\_\_\_

DISTANCE FROM OBSERVER: START 40 yds END \_\_\_\_\_

VERTICAL ANGLE TO OBS. PT.: START 27° END \_\_\_\_\_

DIRECTION FROM OBSERVER: START NE END NE

DIRECTION TO OBS. PT.: START SW END SW

DESCRIBE EMISSIONS

EMISSION COLOR: \_\_\_\_\_

IF WATER DROPLET PLUME: \_\_\_\_\_

ATTACHED  DETACHED  NA

DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET: START 120' END 120'

DESCRIBE PLUME BACKGROUND

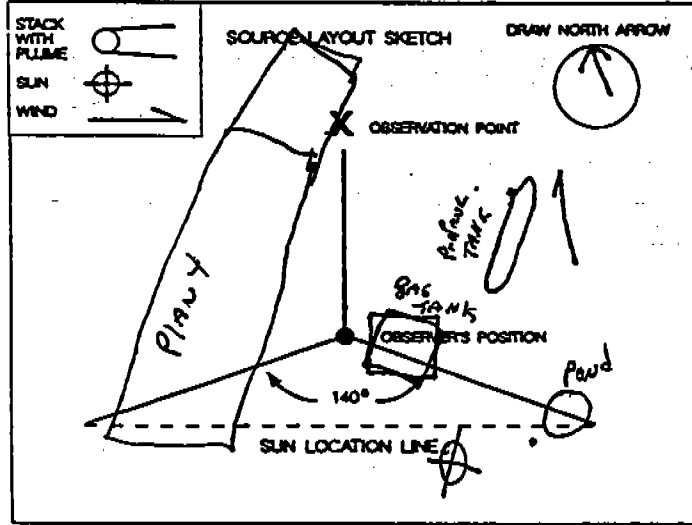
BACKGROUND COLOR: START Blue END Blue

SKY CONDITIONS: START cloudy END cloudy

WIND SPEED: START 5mph END 5mph

WIND DIRECTION: START N END N

AMBIENT TEMP: \_\_\_\_\_ WET BULB TEMP: \_\_\_\_\_ RH PERCENT: \_\_\_\_\_



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

OBSERVER'S NAME (PRINT)  
DANNY LANEY

OBSERVER'S SIGNATURE \_\_\_\_\_ DATE 9-13-95

ORGANIZATION  
L.P.

CERTIFIED BY  
E.T.A. DATE 3-29-95

ADDITIONAL INFORMATION  
company sun glasses

CONTINUED ON VEO FORM NUMBER \_\_\_\_\_

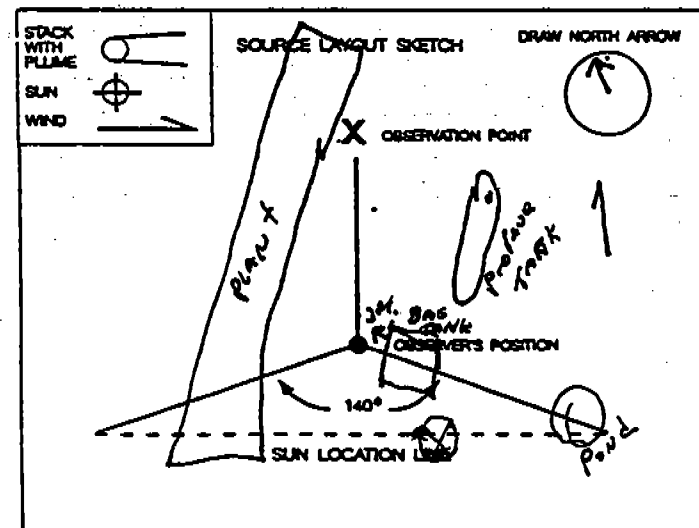
## VISIBLE EMISSION OBSERVATION FORM

|  |                    |                               |
|--|--------------------|-------------------------------|
| COMPANY NAME<br><b>LOUISIANA PACIFIC Corp.</b> |                    |                               |
| LOCATION<br><b>SCOTT COUNTY</b>                |                    |                               |
| LOCATION<br><b>Hwy 65 S P.O. Box 227</b>       |                    |                               |
| CITY<br><b>DUVANNOY</b>                        | STATE<br><b>LA</b> | ZIP<br><b>71245</b>           |
| PROCESS EQUIPMENT<br><b>KANUS</b>              |                    | OPERATING MODE<br><b>AUTO</b> |
| CONTROL EQUIPMENT                              |                    | OPERATING MODE                |

|  |  |
|--|--|
| DESCRIBE EMISSION POINT<br><b>42" vertical stack</b>           |  |
| HEIGHT ABOVE GROUND LEVEL<br>START <b>100'</b> END <b>100'</b> | HEIGHT RELATIVE TO OBSERVER<br>START <b>97'</b> END <b>97'</b> |
| DISTANCE FROM OBSERVER<br>START <b>40yds</b> END <b>40'</b>    | DIRECTION FROM OBSERVER<br>START <b>NE</b> END <b>NE</b>       |
| VERTICAL ANGLE TO OBS. PT.<br>START <b>27°</b> END <b>27°</b>  | DIRECTION TO OBS. PT.<br>START <b>SW</b> END <b>SW</b>         |

|  |                        |
|--|------------------------|
| DESCRIBE EMISSIONS                                 |                        |
| START  | END                    |
| EMISSION COLOR                                     | IF WATER DROPLET FLUME |
| START  | END                    |
| DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET |                        |
| START <b>120'</b>                                  | END <b>120'</b>        |

|                                     |                                       |
|-------------------------------------|---------------------------------------|
| DESCRIBE FLUME BACKGROUND           |                                       |
| START <b>cloudy (white)</b>         | END <b>cloudy (white)</b>             |
| BACKGROUND COLOR                    | SKY CONDITIONS                        |
| START <b>white</b> END <b>white</b> | START <b>cloudy</b> END <b>cloudy</b> |
| WIND SPEED                          | WIND DIRECTION                        |
| START <b>5mb</b> END <b>5mb</b>     | START <b>N</b> END <b>N</b>           |
| AMBIENT TEMP                        | WET BULB TEMP                         |
| START                               | END                                   |



|                        |
|------------------------|
| ADDITIONAL INFORMATION |
|                        |

|             |               |             |
|-------------|---------------|-------------|
| FORM NUMBER | PAGE <b>2</b> | OF <b>3</b> |
|-------------|---------------|-------------|

|                  |            |          |
|------------------|------------|----------|
| OBSERVATION DATE | START TIME | END TIME |
|------------------|------------|----------|

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

|   |  |                        |
|---|--|------------------------|
| OBSERVER'S NAME (PRINT)<br><b>DANNY HANEY</b> |  | DATE<br><b>9-13-95</b> |
| OBSERVER'S SIGNATURE<br>                      |  |                        |
| ORGANIZATION<br><b>L.P.</b>                   |  |                        |
| CERTIFIED BY<br><b>E.T.A.</b>                 |  | DATE<br><b>3-29-95</b> |

|                              |  |  |  |  |
|------------------------------|--|--|--|--|
| CONTINUED ON VEO FORM NUMBER |  |  |  |  |
|------------------------------|--|--|--|--|

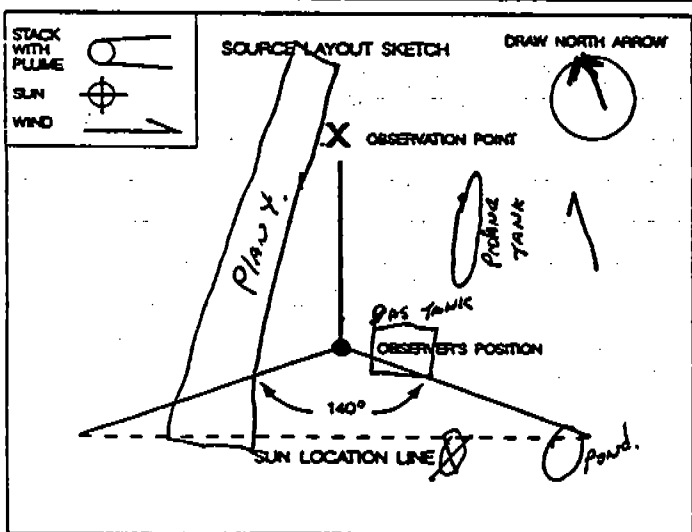
## VISIBLE EMISSION OBSERVATION FORM

|   |                    |                               |
|---|--------------------|-------------------------------|
| COMPANY NAME<br><b>LOUISIANA PACIFIC CORP</b> |                    |                               |
| LOCATION<br><b>Scott County</b>               |                    |                               |
| LOCATION<br><b> Hwy 66 S Po Box 227</b>       |                    |                               |
| CITY<br><b>DUNSMON</b>                        | STATE<br><b>LA</b> | ZIP<br><b>72445</b>           |
| PROCESS EQUIPMENT<br><b>Konus</b>             |                    | OPERATING MODE<br><b>Auto</b> |
| CONTROL EQUIPMENT                             |                    | OPERATING MODE                |

|  |  |
|--|--|
| DESCRIBE EMISSION POINT<br><b>42" vertical stack</b>           |  |
| HEIGHT ABOVE GROUND LEVEL<br>START <b>100'</b> END <b>100'</b> | HEIGHT RELATIVE TO OBSERVER<br>START <b>97'</b> END <b>97'</b> |
| DISTANCE FROM OBSERVER<br>START <b>40yds</b> END <b>40yds</b>  | DIRECTION FROM OBSERVER <b>20° NE</b>                          |
| VERTICAL ANGLE TO OBS. FT.<br>START <b>27°</b> END <b>27°</b>  | DIRECTION TO OBS. FT.<br>START <b>SW</b> END <b>SW</b>         |

|  |                        |
|--|------------------------|
| DESCRIBE EMISSIONS                                 |                        |
| START  | END                    |
| EMISSION COLOR                                     | IF WATER DROPLET PLUME |
| START  | END                    |
| DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET |                        |
| START <b>120'</b>                                  | END <b>120'</b>        |

|   |   |
|---|---|
| DESCRIBE PLUME BACKGROUND                     |   |
| START <b>cloudy (white)</b> END <b>white</b>  | BACKGROUND COLOR  |
| START <b>white</b> END <b>white</b>           | SKY CONDITIONS<br>START <b>cloudy</b> END <b>cloudy</b> |
| WIND SPEED<br>START <b>5mh</b> END <b>5mh</b> | WIND DIRECTION<br>START <b>N</b> END <b>N</b>           |
| AMBIENT TEMP                                  | WET BULB TEMP   |
| START   | END   |



|                        |
|------------------------|
| ADDITIONAL INFORMATION |
|                        |

|             |                           |
|-------------|---------------------------|
| FORM NUMBER | PAGE <b>3</b> OF <b>3</b> |
|-------------|---------------------------|

|                                    |            |                          |
|------------------------------------|------------|--------------------------|
| OBSERVATION DATE<br><b>9-13-95</b> | START TIME | END TIME<br><b>11:14</b> |
|------------------------------------|------------|--------------------------|

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

|  |  |
|--|--|
| OBSERVERS NAME (PRINT)<br><b>DANNY HANCY</b> |  |
|--|--|

|   |                        |
|---|------------------------|
| OBSERVERS SIGNATURE<br> | DATE<br><b>9-13-95</b> |
|---|------------------------|

|                             |  |
|-----------------------------|--|
| ORGANIZATION<br><b>L.P.</b> |  |
|-----------------------------|--|

|                               |                        |
|-------------------------------|------------------------|
| CERTIFIED BY<br><b>E.T.A.</b> | DATE<br><b>9-29-95</b> |
|-------------------------------|------------------------|

|                              |  |  |  |  |
|------------------------------|--|--|--|--|
| CONTINUED ON VEO FORM NUMBER |  |  |  |  |
|------------------------------|--|--|--|--|



Test 3

### VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME  
**LOUISIANA PACIFIC CORP.**

LOCATION  
**Scott County**

LOCATION  
**P.O. Box 227 Hwy 65 south**

CITY STATE ZIP  
**DUNGANNON UA 24245**

PROCESS EQUIPMENT OPERATING MODE  
**KOVOS Auto**

CONTROL EQUIPMENT OPERATING MODE

FORM NUMBER PAGE OF  
**1 3**

OBSERVATION DATE START TIME END TIME  
**9-13-95 2:20**

DESCRIBE EMISSION POINT  
**42" vertical stack**

HEIGHT ABOVE GROUND LEVEL HEIGHT RELATIVE TO OBSERVER  
START **100'** END **100'** START **97'** END **97'**

DISTANCE FROM OBSERVER DIRECTION FROM OBSERVER  
START **40 yds.** END **40 yds.** START **NE** END **NE**

VERTICAL ANGLE TO OBS. PT. DIRECTION TO OBS. PT.  
START **27°** END **27°** START **SW** END **SW**

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

DESCRIBE EMISSIONS

START END

EMISSION COLOR IF WATER DROPLET PLUME

START END ATTACHED  DETACHED  NA

DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET

START **0/90'** END **1/90'**

DESCRIBE PLUME BACKGROUND

START **cloudy** END **cloudy (white)**

BACKGROUND COLOR SKY CONDITIONS

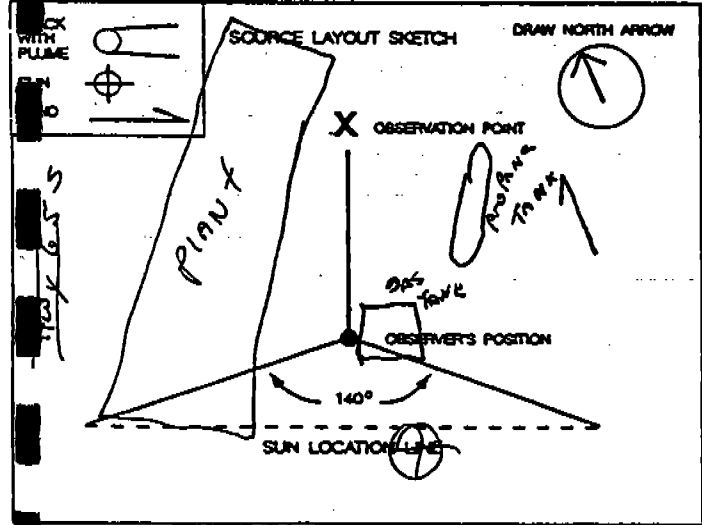
START **gray** END **white** START **cloudy** END **cloudy**

WIND SPEED WIND DIRECTION

START **5 mi.** END **5 mi.** START **N** END **N**

AMBIENT TEMP MET BULB TEMP RH PERCENT

START END



OBSERVER'S NAME (PRINT) **DANNY HANEY**

OBSERVER'S SIGNATURE *[Signature]* DATE **9-13-95**

ORGANIZATION **L.P.**

CERTIFIED BY **E.T.A.** DATE **3-29-95**

ADDITIONAL INFORMATION  
**company sun glasses**

CONTINUED ON VEO FORM NUMBER

## VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME  
**LOUISIANA PLASTIC CORP.**

LOCATION  
**Scott County**

LOCATION  
**P.O. Box 227 Hwy 65 south**

CITY STATE ZIP  
**DUNSMON LA 71245**

PROCESS EQUIPMENT  
**KONUS**

OPERATING MODE  
**Auto**

CONTROL EQUIPMENT

OPERATING MODE

DESCRIBE EMISSION POINT  
**42" vertical stack**

HEIGHT ABOVE GROUND LEVEL  
START **100'** END **100'**

HEIGHT RELATIVE TO OBSERVER  
START **97'** END **97'**

DISTANCE FROM OBSERVER  
START **40yds** END **40yds**

DIRECTION FROM OBSERVER  
START **NE** END **NE**

VERTICAL ANGLE TO OBS. PT.  
START **27°** END **27°**

DIRECTION TO OBS. PT.  
START **SW** END **SW**

DESCRIBE EMISSIONS

START — END —

EMISSION COLOR — IF WATER DROPLET PLUME

START — END — ATTACHED  DETACHED  NA

DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET  
START **120'** END **120'**

DESCRIBE PLUME BACKGROUND

START **white (cloudys)** END **white (cloudys)**

BACKGROUND COLOR — SKY CONDITIONS

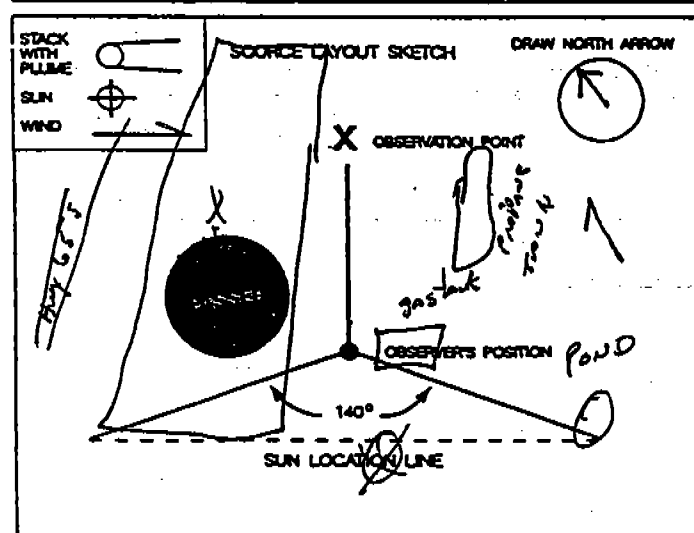
START **white** END **white** START **cloudy** END **cloudy**

WIND SPEED — WIND DIRECTION

START **5 ml** END **5 ml** START **N** END **N**

AMBIENT TEMP — WET BULB TEMP — RH PERCENT

START — END —



ADDITIONAL INFORMATION

FORM NUMBER

PAGE **2** OF **3**

OBSERVATION DATE

START TIME

END TIME

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

OBSERVER'S NAME (PRINT)  
**DANNY HANCY**

OBSERVER'S SIGNATURE  
*[Signature]* DATE  
**9-13-95**

ORGANIZATION  
**L.P.**

CERTIFIED BY  
**E.T.A.** DATE  
**3-29-95**

CONTINUED ON VEO FORM NUMBER

## VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME  
**LOUISIANA Pacific Corp.**

LOCATION  
**Scott County**

LOCATION  
**Box 227 Hwy 68 south**

CITY STATE ZIP  
**DUNSMON UA 24245**

FORM NUMBER \_\_\_\_\_ PAGE **3** OF **3**

OBSERVATION DATE **9-13-95** START TIME \_\_\_\_\_ END TIME **3:31.15**

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

PROCESS EQUIPMENT **ROADS** OPERATING MODE **Auto**

CONTROL EQUIPMENT \_\_\_\_\_ OPERATING MODE \_\_\_\_\_

DESCRIBE EMISSION POINT

HEIGHT ABOVE GROUND LEVEL START **100'** END **100'** HEIGHT RELATIVE TO OBSERVER START **97'** END **97'**

DISTANCE FROM OBSERVER START **40 yds** END **40 yds** DIRECTION FROM OBSERVER START **NE** END **NE**

VERTICAL ANGLE TO OBS. PT. START **27°** END **27°** DIRECTION TO OBS. PT. START **SW** END **SW**

DESCRIBE EMISSIONS

START \_\_\_\_\_ END \_\_\_\_\_ EMISSION COLOR \_\_\_\_\_ IF WATER DROPLET PLUME

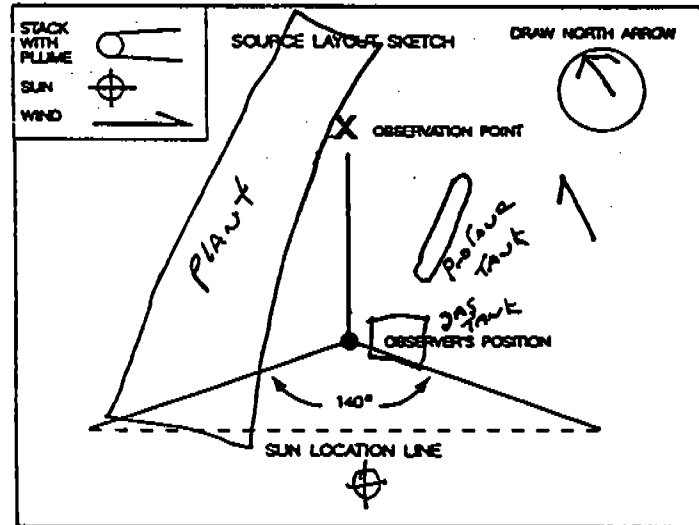
START \_\_\_\_\_ END \_\_\_\_\_ ATTACHED  DETACHED  NA

DISTANCE OF OBSERVATION POINT FROM EMISSION OUTLET START **120'** END **120'**

DESCRIBE PLUME BACKGROUND START **Gray + white** END **Gray + white** SKY CONDITIONS START **cloudy** END **cloudy**

BACKGROUND COLOR START **white** END **white** WIND DIRECTION START **N** END **N**

WIND SPEED START **5ml** END **5ml** AMBIENT TEMP \_\_\_\_\_ WET BULB TEMP \_\_\_\_\_ RH PERCENT \_\_\_\_\_



OBSERVER'S NAME (PRINT) **DANNY HANLY**

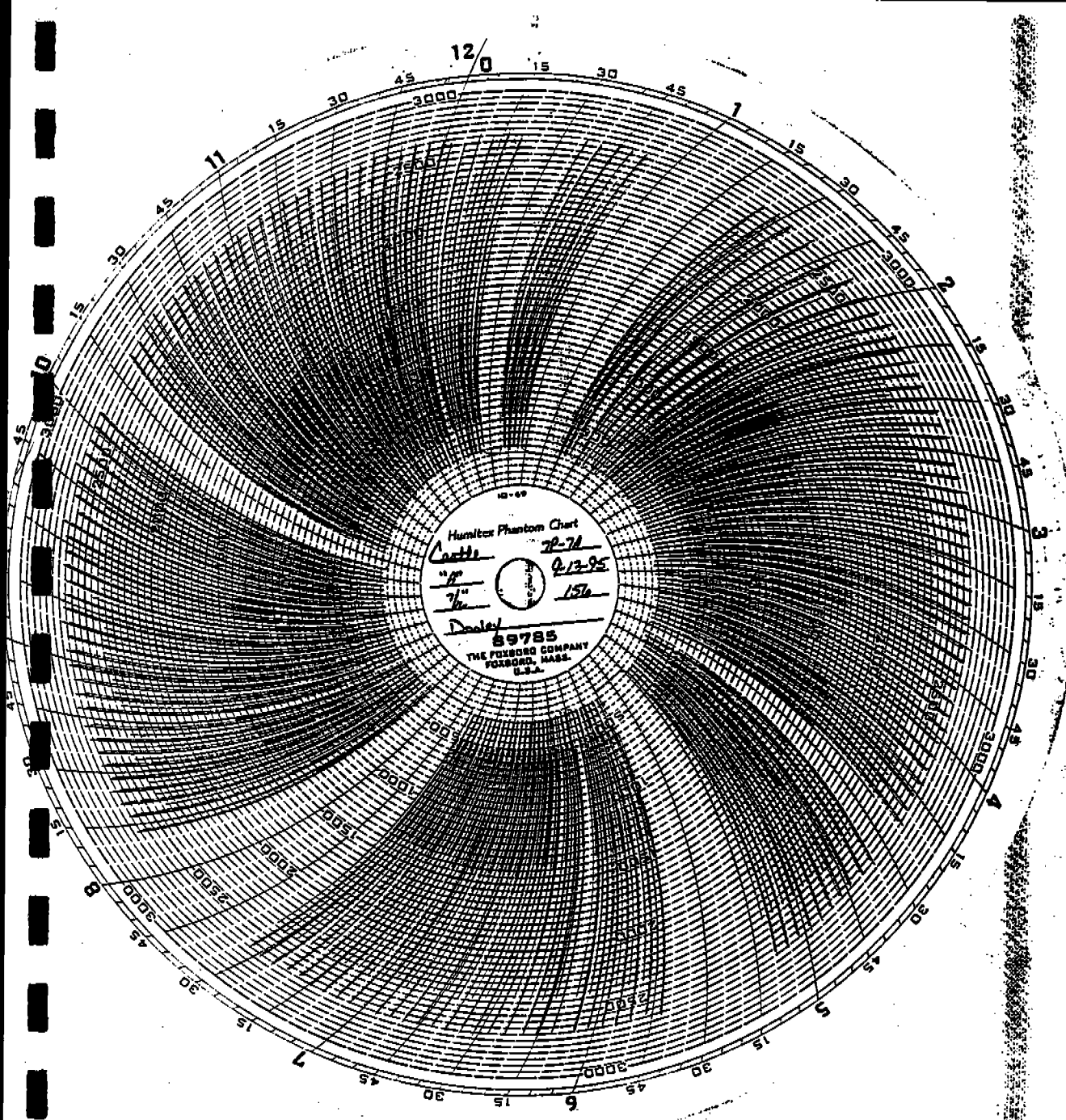
OBSERVER'S SIGNATURE *[Signature]* DATE **9-13-95**

ORGANIZATION **L.P.**

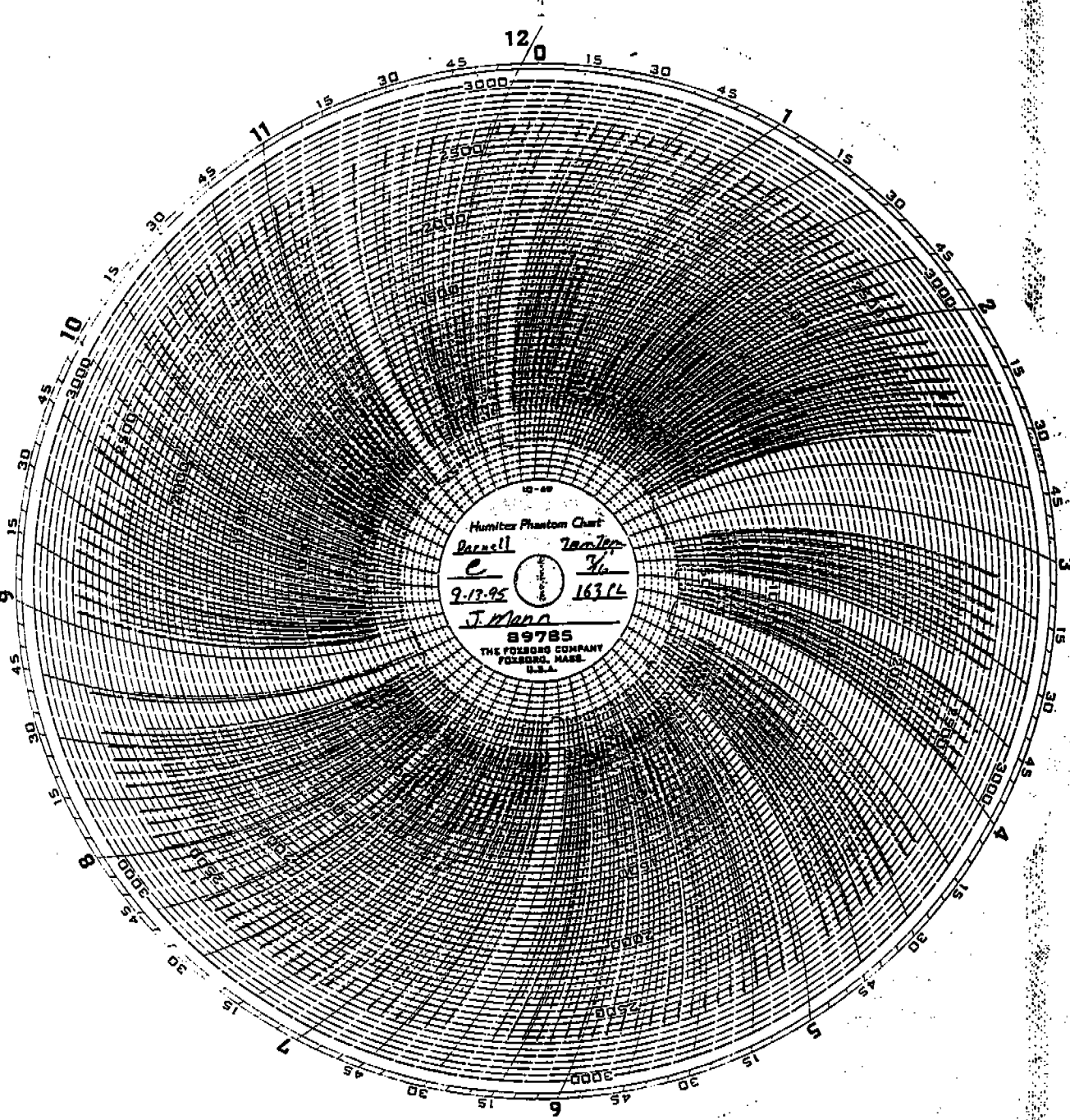
CERTIFIED BY **EJA** DATE **3-29-95**

CONTINUED ON VEO FORM NUMBER \_\_\_\_\_

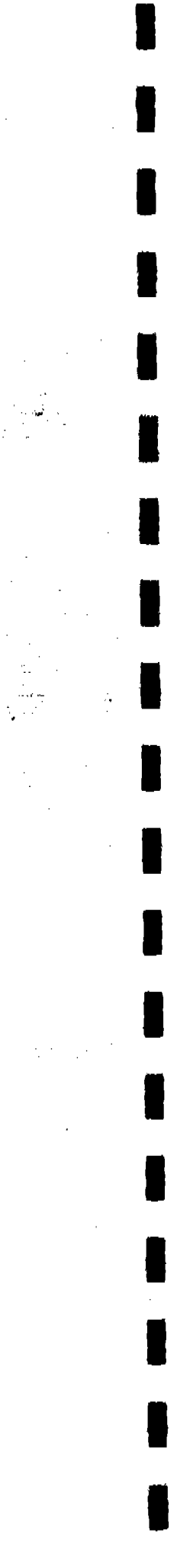




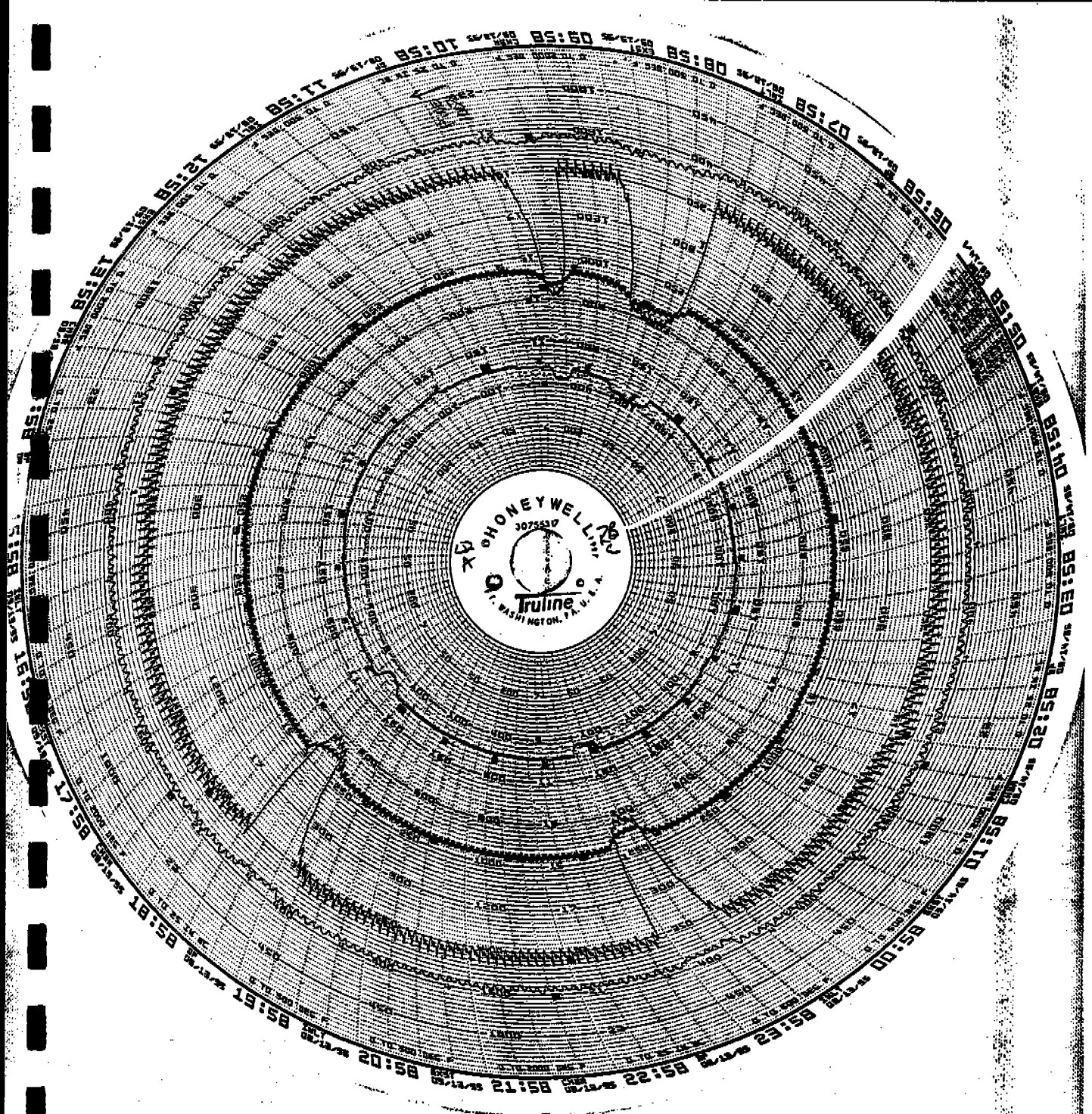
Hamilton Phantom Chart  
Cable 72-71  
Date 9-13-95  
Dial 156  
89785  
THE FOXBORO COMPANY  
FOXBORO, MASS.  
U.S.A.



Humiter Phantom Chart  
Barnell Tanner  
9-17-95 1637L  
J. Mann  
89785  
THE FORBES COMPANY  
FORDHAM, MASS.  
U.S.A.







9.97

12.63

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

SHIFT OPERATING REPORT

SUPERVISOR Jeff Mann SHIFT 7am 7pm CREW e DATE 9-13-95

PRESS OPERATION

| FROM  | TO   | LINE SPEED | THICKNESS | PRESS LOADS | 3/8" FOOTAGE | MINS. DOWNTIME |   |    |
|-------|------|------------|-----------|-------------|--------------|----------------|---|----|
|       |      |            |           |             |              | M              | E | O  |
| 7 AM  | 7 PM | 37.25      | 7/16"     | 163         | 194,736      |                |   |    |
|       |      |            |           |             |              |                |   |    |
|       |      |            |           |             |              |                |   |    |
| TOTAL |      |            |           | 163         | 194,736      | 10             | 6 | 16 |

KONUS OPERATION

|            |            |
|------------|------------|
| HOURS FUEL | HOURS FUEL |
| USAGE WOOD | USAGE OIL  |
| 12         | 0          |

(2 1/2 bundle 50 panels)

|                    |    |
|--------------------|----|
| NO. OF 'A' BUNDLES | 75 |
| NO. OF 'U' BUNDLES | 1  |
| NO. OF 'E' BUNDLES |    |

DRYER OPERATION

| DRY FUEL IN COUNTS | OIL FUEL USAGE HRS | AVERAGE INLET | AVERAGE OUTLET | RUNNING TIME (MIN) | DOWNTIME (MINUTES) | AVG. WET MOISTURE | AVG. DRY MOISTURE |
|--------------------|--------------------|---------------|----------------|--------------------|--------------------|-------------------|-------------------|
| 4295               | 0                  | 1024          | 185            | 648                | 72                 | 48                | 7.3               |

BARK MOISTURE % (AVG.) 40

FUEL MOISTURE 2.0

SCRUBBER WATER METER READING

BEGINNING OF SHIFT 488,800

END OF SHIFT 488,800

TOTAL GALLONS USED THIS SHIFT 0



OPERATOR R. Darnell SHIFT 7Am 7pm CREW C DATE 9-13-95

THICKNESS: 3/16" PRESS LOADS 163 194,736 BLENDER SHUTDOWNS 17  
 CORE

OVERALL TIMER: \_\_\_\_\_ DECOMPRESSION TIME \_\_\_\_\_ SURFACE 20

PRESS TEMP: 410° CORE RESIN SURFACE RESIN

| LINE SPEED | FROM | TO   |
|------------|------|------|
| 37.75      | 7:00 | 7:00 |
|            |      |      |
|            |      |      |

BEGIN 3043254 1344424  
 END 3045273 13454781  
 Cleaned Blender, Shrouds & Tracks  
 Formed hydraulic and radiator blown out  
 FCOS hydraulic unit and radiator blown out  
 Blender outfeed conv. tail pulleys cleaned

| DOWNTIME |       | DOWNTIME (Mins.) |   |   | KEY   | REASONS FOR DOWNTIME                   |
|----------|-------|------------------|---|---|-------|--|
| FROM     | TO    | M                | E | O |       |  |
| 7:12     | 7:19  | /                |   |   | 2     | mat came out of F.L. dogs              |
| 8:35     | 10:08 | /                |   |   | 33    | low Dry Bins clogging up Bypass Damper |
| 10:09    | 10:00 | /                |   |   | 41 1  | triangle missed #1 screen              |
| 10:32    | 10:39 | /                |   |   | 48 7  | mat came out of F.L. dogs              |
| 11:02    | 11:18 | /                |   |   | 64 16 | primary plugged                        |
| 11:26    | 11:28 | /                |   |   | 66 2  | #2 pulled out press                    |
| 11:54    | 12:00 | /                |   |   | 72 6  | low Density in Dry Bins                |
| 1:24     | 1:34  | /                |   |   | 82 10 | low Density in Dry Bins                |
| 1:56     | 1:58  | /                |   |   | 84 2  | Had to Job load out of press           |
| 2:44     | 2:46  | /                |   |   | 86 2  | missed screen at Bottom of #6          |

DOWNTIME CODE: M-MECHANICAL E-ELECTRICAL O-OPERATOR

\*\*\*\* MAINTENANCE/LOCK-OUT LOG \*\*\*\*

| MOTOR # | LOCKED OUT | FROM | TO | BRIEF DESCRIPTION OF WORK BEING DONE | INITIALS OF PERSON LOCKING OUT |
|---------|------------|------|----|--------------------------------------|--------------------------------|
|         |            |      |    |                                      |                                |
|         |            |      |    |                                      |                                |
|         |            |      |    |                                      |                                |

BUNGANNON, VIRGINIA

OPERATOR R. Darnell SHIFT 7a-7p CREW 'C' DATE 9-13-95

THICKNESS: 7/16 PRESS LOADS \_\_\_\_\_ BLENDER SHUTDOWNS  
CORE \_\_\_\_\_

OVERALL TIMER: \_\_\_\_\_ DECOMPRESSION TIME \_\_\_\_\_ SURFACE \_\_\_\_\_

PRESS TEMP: 410 CORE RESIN \_\_\_\_\_ SURFACE RESIN \_\_\_\_\_

| LINE SPEED | FROM | TO |
|------------|------|----|
|            |      |    |
|            |      |    |
|            |      |    |
|            |      |    |
|            |      |    |

BEGIN \_\_\_\_\_ TO \_\_\_\_\_  
END \_\_\_\_\_  
Cleaned Blender Shrouds & Tracks \_\_\_\_\_  
Formed hydraulic and radiator blown out \_\_\_\_\_  
FCOS hydraulic unit and radiator blown out \_\_\_\_\_  
Blender outfeed conv. tail pulleys cleaned \_\_\_\_\_

| DOWNTIME |      | DOWNTIME (Mins.) |   |     | KEY | REASONS FOR DOWNTIME                 |
|----------|------|------------------|---|-----|-----|--------------------------------------|
| FROM     | TO   | M                | E | O   |     |                                      |
| 3:32     | 3:36 | /                |   | 90  | 4   | Drop mat at FCOS                     |
| 3:37     | 3:39 | /                |   | 92  | 2   | Screen Hung up in pit                |
| 3:43     | 3:59 | /                |   | 108 | 16  | Surface Dry Bin Live Bottom Kick out |
| 6:14     | 6:24 | /                |   | 118 | 10  | #3 stuck to the press                |
| 6:27     | 6:31 | /                |   | 122 | 4   | missed screen at Bottom of #6        |
|          |      |                  |   | 122 |     | total                                |

DOWNTIME CODE: M-MECHANICAL E-ELECTRICAL O-OPERATOR

\*\*\*\* MAINTENANCE/LOCK-OUT LOG \*\*\*\*

| MOTOR # LOCKED OUT | FROM | TO | BRIEF DESCRIPTION OF WORK BEING DONE | INITIALS OF PERSON LOCKING OUT |
|--------------------|------|----|--------------------------------------|--------------------------------|
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |

LOUISIANA-PACIFIC CORPORATION

Dungannon, Virginia

OPERATOR Randy Bed SHIFT 7am 7pm CREW C DATE 9-13-95

KONUS CHECK LIST

|  |                    |            |
|--|--------------------|------------|
| Thermal Oil Level<br>Inches above bottom         |                    |            |
| Clarke Bin (quarters) <u>-1/2</u>                |                    |            |
| Diesel Fuel Level<br>(Emergency Pump) <u>3/4</u> |                    |            |
| Diesel Oil Level<br>(Emergency Pump) <u>Full</u> |                    |            |
| Space Heating                                    | Inlet Temp         | <u>off</u> |
|  | Outlet Temp        | <u>off</u> |
|  | Discharge Pressure | <u>off</u> |
| Press Pump 1 (Running)                           |                    |            |
| Press Pump 2 (Running) <u>✓</u>                  |                    |            |
| T.O. Pump Pressure                               | Suction            | Discharge  |
| Primary Pump I                                   |                    |            |
| Primary Pump II                                  | <u>✓</u>           |            |
| Konus Baghouse Pressure                          |                    |            |
| Was Baghouse Pulsed? <u>YES/NO</u>               |                    |            |
| List any other problems:                         |                    |            |
|  |                    |            |
|  |                    |            |
|  |                    |            |
|  |                    |            |
|  |                    |            |

|  |                          |
|--|--------------------------|
| <u>Indicate Konus Problems</u>                   |                          |
| Flow Control                                     |                          |
| Level Control                                    |                          |
| Fan Disturb                                      |                          |
| Internal Press                                   |                          |
| High Flue Gas                                    |                          |
| Other:   |                          |
| LEFT (Counts)                                    | <u>1655</u> x ( ) =      |
| RIGHT (Counts)                                   | <u>1295</u> x ( ) =      |
|  |                          |
| <u>Indicate Temp. Set Points</u>                 |                          |
| Space Heat                                       |                          |
| Hot Pond   |                          |
| Emergency Cooling Tank - Full <u>YES</u> NO      |                          |
| Konus  | Water Pressure _____ PSI |
| Emergency Diesel (run each shift) <u>YES</u> /NO |                          |
| Konus  |                          |
| Fuel Oil Level (gallons)                         |                          |
| L.P. Level                                       |                          |
| Fire Dump Cleaned: <u>yes</u>                    |                          |
|  |                          |
| Bark Fuel Used                                   |                          |



DATE 9-13-85

CREW C

SHIFT 7Am 7P.m.

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

|    | TIME         | NAME              |
|----|--------------|-------------------|
| 1  | <u>7:00</u>  | <u>ES</u>         |
| 2  | <u>8:00</u>  | <u>R. Darnell</u> |
| 3  | <u>9:00</u>  | <u>R. Darnell</u> |
| 4  | <u>10:00</u> | <u>R. Darnell</u> |
| 5  | <u>11:00</u> | <u>R. Darnell</u> |
| 6  | <u>12:00</u> | <u>R. Darnell</u> |
| 7  | <u>1:00</u>  | <u>R. Darnell</u> |
| 8  | <u>2:00</u>  | <u>R. Darnell</u> |
| 9  | <u>3:00</u>  | <u>R. Darnell</u> |
| 10 | <u>4:00</u>  | <u>R. Darnell</u> |
| 11 | <u>5:00</u>  | <u>R. Darnell</u> |
| 12 | <u>6:00</u>  | <u>R. Darnell</u> |

REPORT ANY PROBLEMS TO THE SUPERVISOR.

NOTES: one resin spiked over ES.

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PRESS LOADS & TIME TO POSITION

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

Dannell

7am-7pm

9-13-95

7/16 "2"

183

TURN IN WITH PRESS REPORT!

NAME: Randy Beck SHIFT: 7am 7pm crew DATE: 9-13-95

TOTAL DRYER RUN TIME 643  
 MONITOR DOWNTIME 0

**DRYER OPACITY CHART**  
 LOUISIANA-PACIFIC CORPORATION  
 DUNGANNON, VIRGINIA

ENTER ALL OPACITY READINGS GREATER THAN 10%

| DATE    | TIME FROM | TIME TO | MINUTES   | OPACITY | CODE      | DESCRIPTION OF OCCURAN   |
|---------|-----------|---------|-----------|---------|-----------|--------------------------|
| 9-13-95 | 7am       | 7pm     | Dryer run | Now 10% | All shift |                          |
|         |           |         |           |         |           | Corrective action taken: |
|         |           |         |           |         |           |                          |
|         |           |         |           |         |           | Corrective action taken: |
|         |           |         |           |         |           |                          |
|         |           |         |           |         |           | Corrective action taken: |
|         |           |         |           |         |           |                          |
|         |           |         |           |         |           | Corrective action taken: |
|         |           |         |           |         |           |                          |
|         |           |         |           |         |           | Corrective action taken: |
|         |           |         |           |         |           |                          |

BE SURE ENTRIES ON THIS CHART MATCH THE STRIP CHART

TIME IN INCREMENTS  
 OF SIX MINUTES

| FROM | TO   |
|------|------|
| 0700 | 0706 |
| 0706 | 0712 |
| 0712 | 0718 |
| 0718 | 0724 |
| 0724 | 0730 |
| 0730 | 0736 |
| 0736 | 0742 |
| 0742 | 0748 |
| 0748 | 0754 |
| 0754 | 0800 |

- CODES
- 1 BAKE OUT
  - 2 CLEANING RTO VALVES
  - 3 RE-CALIBRATION
  - 4 CLEANING LENS
  - 5 MONITOR FAILURE
  - 6 CONDENSATION
  - 7 BURNER MALFUNCTION
  - 8 MAINTENANCE
  - 9 CHANGE (CERAMIC)
  - 10 OTHER (DESCRIBE)
  - 11 POWER FAILURE
  - 12 DRUM FIRE

MILITARY TIME

|           |           |
|-----------|-----------|
| 7AM=0700  | 7PM=1900  |
| 8AM=0800  | 8PM=2000  |
| 9AM=0900  | 9PM=2100  |
| 10AM=1000 | 10PM=2200 |
| 11AM=1100 | 11PM=2300 |
| 12AM=1200 | 12PM=2400 |
| 1PM=1300  | 1AM=0100  |
| 2PM=1400  | 2AM=0200  |
| 3PM=1500  | 3AM=0300  |
| 4PM=1600  | 4AM=0400  |
| 5PM=1700  | 5AM=0500  |

# DRYER DATA SHEET

DATE: 9-13-95

SHIFT: 7am 7pm

CREW: e

NAME: RANDY BECK

OPACITY/DRYER CHARTS: \_\_\_\_\_ CHECK AND INITIAL EVERY 30 MINUTES  
 BURNER OUTLET SET POINT: \_\_\_\_\_ READING EVERY 30 MINUTES  
 OUTLET TEMP SET POINT: \_\_\_\_\_ MOISTURE % EVERY HOUR  
 REVOLUTIONS PER MINUTE: \_\_\_\_\_ BIN LEVEL EVERY HOUR  
 FUEL CALABRATION: \_\_\_\_\_ NOTE ANY CHANGES IN SETPOINTS

| TIME  | FEED RATE     | DRYER IN TEMP | DRYER OUT TEMP | FLAKE IN | MOIST. OUT | DRY BIN LEVEL | OPACITY MONITOR | DRYER CHT. CIRCULAR | RTD CHAMBER TEMP |
|-------|---------------|---------------|----------------|----------|------------|---------------|-----------------|---------------------|------------------|
| 7:30  | 77            | 1106          | 186            |          | 8.0        | 1/2 1/2       | R.B. O.K        | O.K                 | 1555             |
| 8:00  | 78            | 1112          | 187            | 30       | 7.0        | 1/2 1/2       | R.B. O.K        | O.K                 | 1565             |
| 8:30  | 80            | 1110          | 186            |          | 7.0        | 1/2 1/2       | R.B. O.K        | O.K                 | 1548             |
| 9:00  | 81            | 981           | 186            | 35       | 7.0        | 1/2 1/2       | R.B. O.K        | O.K                 | 1557             |
| 9:30  |               |               |                |          |            |               |                 |                     |                  |
| 10:00 | 72            | 816           | 195            |          | 6.0        | 1/4 1/4       | R.B. O.K        | O.K                 | 1542             |
| 10:30 | 82            | 1088          | 187            | 30       | 7.0        | 1/4 1/4       | R.B. O.K        | O.K                 | 1554             |
| 11:00 | <del>80</del> |               |                |          |            |               |                 |                     |                  |
| 11:30 | 80            | 935           | 186            |          | 7.0        | 1/4 1/4       | R.B. O.K        | O.K                 | 1554             |
| 12:00 | 81            | 945           | 184            | 45       | 7.0        | 1/4 1/4       | R.B. O.K        | O.K                 | 1558             |
| 12:30 | 82            | 1009          | 183            |          | 7.0        | 1/4 1/4       | R.B. O.K        | O.K                 | 1548             |
| 1:00  | 82            | 841           | 185            | 35       | 7.0        | 1/4 1/4       | R.B. O.K        | O.K                 | 1565             |
| 1:30  | 82            | 861           | 182            |          | 7.0        | 1/4 1/4       | R.B. O.K        | O.K                 | 1542             |
| 2:00  | 82            | 1012          | 181            | 35       | 8.0        | 1/4 1/4       | R.B. O.K        | O.K                 | 1557             |
| 2:30  | 82            | 1105          | 184            |          | 7.0        | 1/4 1/4       | R.B. O.K        | O.K                 | 1549             |
| 3:00  | 82            | 1150          | 184            | 40       | 8.0        | 1/4 1/4       | R.B. O.K        | O.K                 | 1555             |
| 3:30  | 82            | 1144          | 185            |          | 8.0        | 1/4 1/4       | R.B. O.K        | O.K                 | 1563             |
| 4:00  | 82            | 1084          | 185            | 35       | 8.0        | 1/4 1/4       | R.B. O.K        | O.K                 | 1562             |
| 4:30  | 82            | 1140          | 186            |          | 7.0        | 1/2 1/2       | R.B. O.K        | O.K                 | 1566             |
| 5:00  | 82            | 1231          | 184            | 30       | 9.0        | 1/4 1/2       | R.B. O.K        | O.K                 | 1559             |
| 5:30  | 82            | 1049          | 185            |          | 8.0        | 1/4 1/4       | R.B. O.K        | O.K                 | 1565             |
| 6:00  | 82            | 799           | 186            | 40       | 6.0        | 1/4 1/4       | R.B. O.K        | O.K                 | 1564             |
| 6:30  | 82            | 1007          | 187            |          | 8.0        | 1/4 1/4       | R.B. O.K        | O.K                 | 1566             |
| 7:00  | 82            | 1015          | 186            | 35       | 7.0        | 1/4 1/4       | R.B. O.K        | O.K                 |                  |





LOUISIANA-PACIFIC CORPORATION

DUNGANNON, VIRGINIA

LOADER # 970

DAILY OPERATOR'S CHECK

OPERATOR Sh. [Signature] DATE 9-13-98

HOUR METER READING \_\_\_\_\_

1. Radiator level \_\_\_\_\_ Amount added \_\_\_\_\_
2. Engine oil level \_\_\_\_\_ Amount added \_\_\_\_\_
3. Restriction indicator of engine air cleaner \_\_\_\_\_
4. Fuel level - fill at end of shift \_\_\_\_\_
5. Drain moisture from air reservoir - at end of shift \_\_\_\_\_
6. Torque converter level \_\_\_\_\_ Amount added \_\_\_\_\_
7. Drop box transmission level \_\_\_\_\_ Amount added \_\_\_\_\_
8. Hydraulic reservoir \_\_\_\_\_
9. Lubricate boom grease fittings \_\_\_\_\_
10. Check tires for proper inflation and condition - 65 PSI \_\_\_\_\_
11. Clean operator's cab \_\_\_\_\_
12. Check for hydraulic leaks \_\_\_\_\_
13. Does steering work properly? \_\_\_\_\_
14. Is the fire extinguisher present and charged? \_\_\_\_\_
15. Does horn work properly? \_\_\_\_\_
16. Do service brakes work properly? \_\_\_\_\_
17. Does parking brakes work properly? \_\_\_\_\_
18. COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

LOUISIANA-PACIFIC CORPORATION

DUNGANNON, VIRGINIA

LOADER # 936

DAILY OPERATOR'S CHECK

OPERATOR Alan DATE 9-13-95

HOUR METER READING \_\_\_\_\_

1. Radiator level /// Amount added \_\_\_\_\_
2. Engine oil level /// Amount added \_\_\_\_\_
3. Restriction indicator of engine air cleaner ///
4. Fuel level - fill at end of shift ///
5. Drain moisture from air reservoir - at end of shift ///
6. Torque converter level /// Amount added \_\_\_\_\_
7. Drop box transmission level /// Amount added \_\_\_\_\_
8. Hydraulic reservoir ///
9. Lubricate boom grease fittings ///
10. Check tires for proper inflation and condition - 65 PSI ///
11. Clean operator's cab ///
12. Check for hydraulic leaks ///
13. Does steering work properly? ///
14. Is the fire extinguisher present and charged? ///
15. Does horn work properly? ///
16. Do service brakes work properly? ///
17. Does parking brakes work properly? ///
18. COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

DAILY PM AND CHECK LIST

Dryer Utility K Wanfe Date 9-13-95 Shift 7AM-7PM Crew C

|   | Yes | No | Problem found or Maint. done |
|---|-----|----|------------------------------|
| 1. Check and maintain fire fighting equipment (hoses in place, fire extinguishers full, etc.) | ✓   |    |                              |
| 2. <del>Keep EFB gravel flowing and system full.</del>  |     |    |                              |
| 3. Deash both cells on konus.   | ✓   |    |                              |
| 4. Check clarkbin level (beginning and ending of each shift).                                 | ✓   |    |                              |
| 5. Clean screener pit.  | ✓   |    |                              |
| 6. Clean all tail rollers.  | ✓   |    |                              |
| 7. Empty all barrels when full.   | ✓   |    |                              |
| 8. Blow down entire area (3-11 shift)   |     | ✓  |                              |
| 9. Blow off inlet and outlet tube.  | ✓   |    |                              |
| 10. Grease dryer drum trunions.   | ✓   |    |                              |
| 11. Have fire dump and ash pit emptied when necessary.  | ✓   |    |                              |
| 12. Check for and seal all leaks on conveyors, augers, etc.                                   | ✓   |    |                              |
| 13. Clean konus room and baghouse pad area outside.   | ✓   |    |                              |
| 14. Keep dryer area floor clean.  | ✓   |    |                              |

Comments or  
Suggestions: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

PM CHECKLIST BOBCAT

CREW C  
 OPERATOR Jeff M. DATE 9/13/88 SHIFT 7-7 NAME Frank Dealy

BOBCAT OPERATOR

| DAILY | A. Bobcat - fluid levels   | Done<br>yes/no | How much added |
|-------|--|----------------|----------------|
|       | 1. Check hydraulic fluid   | /              |                |
|       | 2. Check motor oil   | /              |                |
|       | 3. Check air pressure in tires   | /              |                |
|       | B. Blow entire machine off,<br>including motor.                                | /              |                |
|       | C. Check for any leaks around<br>fittings, filters, motor oil,<br>transmission | /              |                |
|       | D. Breakage  |                |                |
|       | 1. Control levers right side   | /              |                |
|       | 2. Control levers left side  | /              |                |
|       | 3. Cracks in bucket or boom  | /              |                |
|       | 4. Safety cage broke away  | /              |                |

Motor oil 15W-40

Hydraulic Oil HD-46

Transmission - Dextron

Radiator 1/2 water 1/2 prestone (winter)

All water in summer months. Mike will service before winter months.

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

DAILY PM CHECKLIST

Darbaker Utility Wayne Date 9/13/95 Shift 7-7 Crew C  
Thurby

|  | Yes | No | Problem found or Maint. | Done |
|--|-----|----|-------------------------|------|
| Check and maintain fire fighting equipment (hoses in place, fire extinguishers, etc.). |     |    | /                       |      |
| Keep log wash pond full and bark cleaned off.  |     |    | /                       |      |
| Clean all tail rollers.  |     |    | /                       |      |
| Check all hydraulic units (oil level, blow out radiator).                              |     |    | /                       |      |
| Check bark hog and belts (problems, plugs etc.).                                       |     |    | /                       |      |
| Empty all hoppers.   |     |    | /                       |      |
| Clean bark under log decks.  |     |    | /                       |      |
| Blow down entire area.   |     |    | /                       |      |
| Keep hog, mobile equipment, and old greenend area floor clean.                         |     |    | /                       |      |
| Wash down floor in debarker area (11-7 shift).   |     |    | /                       |      |
| 1. PM and service loader when used.  |     |    | /                       |      |

Comments or suggestions: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

LOUISIANA-PACIFIC CORPORATION  
DINGANNON, VIRGINIA

DAILY PM AND CHECKLIST

Flaker Utility Frank Denny Date 9/13/95 Shift 1-2 Crew C

|  | Yes | No | Problem found | or Maint. | Done |
|--|-----|----|---------------|-----------|------|
| 1. Check and maintain fire fighting equipment (hoses in place, extinguishers full, etc.) | ✓   |    |               |           |      |
| 2. Clean flaker clamps and replace tips.   | ✓   |    |               |           |      |
| 3. Keep air and torque wrenches oiled and in place for knife changes.                    | ✓   |    |               |           |      |
| 4. Blow off both flaker disc bearings every knife change.                                | ✓   |    |               |           |      |
| 5. Check all hydraulic units (oil level, and blow out radiators).                        | ✓   |    |               |           |      |
| 6. Clean all tail pulleys.   | ✓   |    |               |           |      |
| 7. Clean flaker pit (pump water out also).   | ✓   |    |               |           |      |
| 8. Blow down entire area.  | ✓   |    |               |           |      |
| 9. Keep flaker area floor clean.   | ✓   |    |               |           |      |
| 10. Clean catwalk and platform for the haul up conveyour.                                | ✓   |    |               |           |      |
| 11. Empty haul up conveyour clean up bin.  | ✓   |    |               |           |      |

Comments or Suggestions:

DAILY FORKLIFT CHECK LIST

NAME Jeff Madh  
SHIFT C-Crow  
FORKLIFT# 2

|  | OK TO RUN    | DO NOT RUN       |
|--|--------------|------------------|
| 1. Oil Level   | <u>✓</u>     | <u>      </u>    |
| 2. Water Level   | <u>✓</u>     | <u>      </u>    |
| 3. Brakes  | <u>✓</u>     | <u>      </u>    |
| 4. Transmission  | <u>✓</u>     | <u>      </u>    |
| 5. Horn  | <u>✓</u>     | <u>      </u>    |
| 6. Lights  | <u>✓</u>     | <u>      </u>    |
| 7. Tires   | <u>✓</u>     | <u>      </u>    |
| 8. Steering  | <u>✓</u>     | <u>      </u>    |
| 9. Rack & Cage   | <u>✓</u>     | <u>      </u>    |
| 10. Used air hose to blow down radiator and other things | YES <u>✓</u> | NO <u>      </u> |

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- NOTES:
1. Use TEXACO 15W40 Motor oil-located in Mobile Equipment Shop.
  2. Hydraulic Oil-located outside Mobile Equipment Shop-Large black tank
  3. Use water for radiator.



7A-7P

KNIFE GRINDER

NAME Madeline DATE 9/13/95

SETS ON SHELF

6

SETS - NEED TO GRIND

1

SETS THAT I HAVE GROUND

3

# OF KNIVES DISCARDED

0

GRINDING ROOM CLEANED

YES OR NO

FLAT GRINDER GREASED

YES OR NO

SPRAY BARS CLEANED  
(EACH KNIFE CHANGE)

YES OR NO

SETTER

OKAY OR NOT OKAY

COMMENTS OR CORRECTIVE ACTION TAKEN: \_\_\_\_\_

TOTAL KNIVES IN THE GRINDING ROOM \_\_\_\_\_

SETS OF KNIVES RECEIVED \_\_\_\_\_

TOTAL KNIVES DISCARDED (MTD) \_\_\_\_\_

MAINTENANCE DONE TO EQUIPMENT IN THE GRINDING ROOM: \_\_\_\_\_

1/2 set EK's in F/G, other on table  
1 set of new K's on table, to put together

KNIFE CHANGES DONE:

TIME DOWN 8:20 START UP 8:50 TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

TIME DOWN 12:20 START UP 12:50 TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

TIME DOWN 3:15 START UP 3:45 TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

5:05 5:35

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

KNIFE CHANGE PM CHECKLIST

OPERATOR: Derwin SHIFT: 10m-2pm CREW: C DATE: 9/13/95

1. Time of knife changes: 4:20 12:20 3:15  
5:05

2. All clamps removed from disc and cleaned? Yes

3. All knife carriers cleaned (use wirebrush) Yes

4. Number of clamps replaced: 1st 18 2nd 10  
3rd 15 4th 12 5th     

5. All bolts torqued at 70PSI. Yes

6. Never seize all clamp bolts, replace bad ones. No

7. Bottom & side anvil checked. Yes

8. Spray bar cleaned Yes

9. Arbor bearing blown down Yes

10. Multi-chain track cleaned (once per shift) Yes

11. Torque wrench set on 0 PSI after knife change completed Yes

12. Knife-change area cleaned after knife change Yes

13. Air wrenches lubricated or oiled Yes

14. Check knife protection. Yes

15. Hood loader greased - turntable & boom pin No  
(once per shift)

16. Any maintenance done during knife change:

DAILY P.M. & CHECK LIST

FOREMAN: J. J. Mann

DATE: 9/13/75

SHIFT: 2pm-8pm CREW: C

FLAKER OPERATOR

| ITEM            | INSPECT/DO                                     | YES/NO | COMMENTS |
|-----------------|--|--------|----------|
| HYDRAULIC UNITS | FLAKER & BOOM UNITS KEEP FULL                  | yes    |          |
|                 | GREASE ENTIRE BOOM -ALL PINS                   | No     |          |
|                 | GREASE ALL BUSHINGS                            | No     |          |
|                 | GREASE TURN TABLE                              | No     |          |
|                 | TIGHTEN ALL PIN NUTS ON BOOM<br>--EACH SHIFT-- | yes    |          |
|                 | GREASE LOG HOLD DOWN PINS                      | No     |          |
|                 | CHECK ALL MULTI CHANS                          | yes    |          |
|                 | GREASE LOG INCLINE CONVEYOR<br>CHAIN BEARINGS  | No     |          |
|                 | INSPECT KNIFE CLAMPS & PLATES                  | yes    |          |
|                 | INSPECT SCORING KNIVES<br>(EACH KNIFE CHANGE)  | yes    |          |
|                 | INSPECT ALL BEARINGS                           | yes    |          |
|                 | INSPECT DRIVE BELTS                            | yes    |          |
| ENTIRE SYSTEM   | CHECK FOR LOOSE NUTS & BOLTS                   | yes    |          |

ADDITIONAL COMMENTS:

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DAILY P.M. CHECKLIST

FOREMAN: *Jeff M*

DATE: *9-13-95*

SHIFT: *7am-7pm* CREW: *C*

DEBARKER OPERATOR

| INSPECT/DO                                    | YES/NO | COMMENTS |
|---|--------|----------|
| GREASE ENTIRE MACHINE--ONCE EACH SHIFT        | ✓      |          |
| RELEASE WATER FROM DEBARKER & KICKER AIRLINES | ✓      |          |
| GREASE BEARINGS # 1 AND # 2 LOG INFEED CHAINS | ✓      |          |
| CHECK HYDRAULIC LEVEL IN HYDRAULIC UNIT       | ✓      |          |
| CHECK OIL LEVEL IN RING LUBE PUMP BARREL      | ✓      |          |
| INSPECT ARM TIPS FOR LOSS OR BREAKAGE         | ✓      |          |
| INSPECT ARMS FOR CRACKS                       | ✓      |          |
| GREASE FRONT & REAR HOLD DOWN SLIDES          | ✓      |          |
| GREASE LOG OUTFEED CHAIN BEARINGS             | ✓      |          |
| CLEAN HYDRAULIC UNIT ( ON DAY SHIFT)          | ✓      |          |
| COMMENTS: <i>Infeed chain No 1</i>            |        |          |
| <i>Needs loss and log west</i>                |        |          |
| <i>chain.</i>                                 |        |          |
|   |        |          |
|   |        |          |
|   |        |          |

LOUISIANA-PACIFIC CORPORATION

DUNGANNON, VIRGINIA

LOADER # 966

DAILY OPERATOR'S CHECK

OPERATOR GROVER DATE 9-13-95

HOUR METER READING \_\_\_\_\_

1. Radiator level OK Amount added \_\_\_\_\_
2. Engine oil level OK Amount added \_\_\_\_\_
3. Restriction indicator of engine air cleaner \_\_\_\_\_
4. Fuel level - fill at end of shift FULL
5. Drain moisture from air reservoir - at end of shift \_\_\_\_\_
6. Torque converter level OK Amount added \_\_\_\_\_
7. Drop box transmission level OK Amount added \_\_\_\_\_
8. Hydraulic reservoir OK
9. Lubricate boom grease fittings \_\_\_\_\_
10. Check tires for proper inflation and condition - 65 PSI OK
11. Clean operator's cab OK
12. Check for hydraulic leaks OK
13. Does steering work properly? OK
14. Is the fire extinguisher present and charged? YES
15. Does horn work properly? OK
16. Do service brakes work properly? OK
17. Does parking brakes work properly? OK
18. COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

PRENTICE LOADER  
DAILY OPERATOR'S LIST

OPERATOR Sh. [Signature] DATE 9-13-95

1. Check engine oil ✓ Amount Added
2. Check Hyd. oil ✓ Amount Added
3. Check radiator level ✓ Amount Added
4. Check brake fluid ✓ Amount Added
5. Check tires for proper inflation and condition ✓
6. Inspect all hoses & fittings for leaks
7. Check welds for cracks
8. Blow out radiator daily ✓
9. Tighten all nuts & bolts on gear boxes & swivels
10. Visually inspect complete machine every shift ✓
11. Grease items 1-5 daily every (8) hours
12. Check hour meter reading each shift and record below:
13. Check grapple pins and motor
14. Check swing motors

CONDITION OF MACHINE AT START OF SHIFT

1. Hoses
2. Cab Clean
3. Machine Clean
4. Visual Damage
5. Condition of machine at end of shift

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

DAILY PM AND CHECKLIST

Lineman KEVIN ALBISON Date 9-13-95 Shift 7-7 Crew C

|   | Yes | No | Problem found or maintenance done |
|---|-----|----|-----------------------------------|
| Check & maintain fire fighting equipment (hoses in place, extinguishers full, etc.) | /   |    |                                   |
| Check release agent spray can (fill when necessary)                                 | /   |    |                                   |
| 3. Check all screens & head bar pins  | /   |    |                                   |
| Check formers & spreading rolls (At least 3 times a shift)                          | /   |    |                                   |
| 4. Blow down entire area  | /   |    |                                   |
| 5. Check all hydraulic units (Oil level & blow out radiators)                       | /   |    |                                   |
| 6. Check magnet for metal & position  | /   |    |                                   |
| 7. Check incline & decline chain dogs (In time, cracked, etc.)                      | /   |    |                                   |
| 8. Check press hydraulic oil level  | /   |    |                                   |
| 9. Clean press pit, bucket elevator pit   | /   |    |                                   |
| 10. Check FCOS alllock  | /   |    |                                   |
| 11. Check for leaks on press hydraulic & T-oil system                               | /   |    |                                   |
| 12. Blow off both sides of press including Symo Arms (2 times shift)                | /   |    |                                   |
| 13. Blow out sides of formers (behind clear curtain)                                | /   |    |                                   |
| 14. Check return line belts   | /   |    |                                   |
| 15. Keep area floor clean   | /   |    |                                   |
| 16. Grease slides on press  | /   |    |                                   |
| 17. Clean lunchroom when necessary  | /   |    |                                   |
| 18. Clean lunchroom when necessary  | /   |    |                                   |

COMMENTS OR SUGGESTIONS:

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

9.53

12.45

SHIFT OPERATING REPORT

SUPERVISOR Doddy SHIFT 7pm 7am CREW (12) DATE 9.13.95

PRESS OPERATION

| FROM  | TO   | LINE SPEED | THICKNESS | PRESS LOADS | 3/8" FOOTAGE | MINS. DOWNTIME |   |   |
|-------|------|------------|-----------|-------------|--------------|----------------|---|---|
|       |      |            |           |             |              | M              | E | O |
| 7:00  | 7:00 | 37.75      | 7/16"     | 156         | 186,373      |                |   |   |
|       |      |            |           |             |              |                |   |   |
|       |      |            |           |             |              |                |   |   |
| TOTAL |      |            |           | 156         | 186,373      | 148            |   |   |

KONUS OPERATION

|            |            |
|------------|------------|
| HOURS FUEL | HOURS FUEL |
| USAGE WOOD | USAGE OIL  |
| 12         | 0          |

|                    |     |
|--------------------|-----|
| NO. OF 'A' BUNDLES | 77  |
| NO. OF 'U' BUNDLES | 2   |
| NO. OF 'E' BUNDLES | -0- |

DRYER OPERATION

| DRY FUEL IN COUNTS | OIL FUEL USAGE HRS | AVERAGE INLET | AVERAGE OUTLET | RUNNING TIME (MIN) | DOWNTIME (MINUTES) | AVG. WET MOISTURE | AVG. DRY MOISTURE |
|--------------------|--------------------|---------------|----------------|--------------------|--------------------|-------------------|-------------------|
| 4802               | 0                  | 1239          | 192            | 680                | 40                 | 38                | 74                |

BARK MOISTURE % (AVG.) 35% FUEL MOISTURE 2%

SCRUBBER WATER METER READING

BEGINNING OF SHIFT 488,800  
END OF SHIFT 488,800

TOTAL GALLONS USED THIS SHIFT 0



OPERATOR Conto SHIFT 7P-7A CREW A DATE 9-13-95

THICKNESS: 7/16" PRESS LOADS 156 = 186,373 BLENDER SHUTDOWNS CORE 13

OVERALL TIMER: \_\_\_\_\_ DECOMPRESSION TIME \_\_\_\_\_ SURFACE 24

PRESS TEMP: 410°

| LINE SPEED | FROM | TO   |
|------------|------|------|
| 37.75'     | 7:00 | 7:00 |
|            |      |      |
|            |      |      |
|            |      |      |

|       |                |                 |
|-------|----------------|-----------------|
| BEGIN | CORE RESIN     | SURFACE RESIN   |
|       | <u>3045273</u> | <u>13454781</u> |
| END   | <u>3047218</u> | <u>13464361</u> |

Cleaned Blender Shrouds & Tracks  
 Formed hydraulic and radiator blown out  
 FCOS hydraulic unit and radiator blown out  
 Blender outfeed conv. tail pulleys cleaned

| DOWNTIME |       | DOWNTIME (Mins.) |   |   | KEY   | REASONS FOR DOWNTIME                 |
|----------|-------|------------------|---|---|-------|--------------------------------------|
| FROM     | TO    | M                | E | O |       |                                      |
| 7:22     | 7:36  |                  |   |   | 14    | Low Density in Dry Bins              |
| 7:54     | 8:24  |                  |   |   | 44 30 | Low Dry Bins - Primary Plug          |
| 8:33     | 8:34  |                  |   |   | 47 3  | Screen fell out of Fl. Dags          |
| 8:43     | 8:46  |                  |   |   | 50 3  | #5 Didn't clamp on unloader          |
| 8:51     | 8:53  |                  |   |   | 52 2  | Unloader out of sequence             |
| 8:57     | 8:59  |                  |   |   | 54 2  | #5 started out of press              |
| 9:03     | 9:04  |                  |   |   | 55 1  | log load out of press                |
| 11:25    | 11:34 |                  |   |   | 64 9  | Low Dry Bins - Screen fire           |
| 12:11    | 12:41 |                  |   |   | 94 30 | Low Dry Bins - Primary Plug          |
| 1:04     | 1:07  |                  |   |   | 97 3  | Screen hung in track at bottom of #6 |

DOWNTIME CODE: M-MECHANICAL E-ELECTRICAL O-OPERATOR

\*\*\*\* MAINTENANCE/LOCK-OUT LOG \*\*\*\*

| MOTOR # | LOCKED OUT | FROM | TO | BRIEF DESCRIPTION OF WORK BEING DONE | INITIALS OF PERSON LOCKING OUT |
|---------|------------|------|----|--------------------------------------|--------------------------------|
|         |            |      |    | 148 Min. TDT                         |                                |
|         |            |      |    |                                      |                                |
|         |            |      |    |                                      |                                |

OPERATOR Castle SHIFT 7P-7A CREW A DATE 9-13-95  
 THICKNESS: 7/16" PRESS LOADS \_\_\_\_\_ BLENDER SHUTDOWNS  
 OVERALL TIMER: \_\_\_\_\_ DECOMPRESSION TIME \_\_\_\_\_ CORE \_\_\_\_\_ SURFACE \_\_\_\_\_  
 PRESS TEMP: 410° CORE RESIN \_\_\_\_\_ SURFACE RESIN \_\_\_\_\_

| LINE SPEED | FROM | TO |
|------------|------|----|
|            |      |    |
|            |      |    |
|            |      |    |
|            |      |    |
|            |      |    |

BEGIN \_\_\_\_\_  
 END \_\_\_\_\_  
 Cleaned Blender Shrouds & Tracks \_\_\_\_\_  
 Formed hydraulic and radiator blown out \_\_\_\_\_  
 FCOS hydraulic unit and radiator blown out \_\_\_\_\_  
 Blender outfeed conv. tail pulleys cleaned \_\_\_\_\_

| DOWNTIME |      | DOWNTIME (Mins.) |   |     | KEY | REASONS FOR DOWNTIME                 |
|----------|------|------------------|---|-----|-----|--------------------------------------|
| FROM     | TO   | M                | E | O   |     |                                      |
| 1:21     | 1:22 |                  |   | 98  | 1   | Unloader behind                      |
| 2:33     | 3:09 |                  |   | 134 | 36  | Adjusting arm linkage on F.C.O.S.    |
| 3:44     | 3:45 |                  |   | 135 | 1   | Screen missed position at top of #16 |
| 5:06     | 5:19 |                  |   | 148 | 13  | Screen hung in track on A-Cover      |
|          |      |                  |   |     |     |                                      |
|          |      |                  |   |     |     |                                      |
|          |      |                  |   |     |     |                                      |
|          |      |                  |   |     |     |                                      |
|          |      |                  |   |     |     |                                      |
|          |      |                  |   |     |     |                                      |

DOWNTIME CODE: M-MECHANICAL E-ELECTRICAL O-OPERATOR

\*\*\*\* MAINTENANCE/LOCK-OUT LOG \*\*\*\*

| MOTOR # LOCKED OUT | FROM | TO | BRIEF DESCRIPTION OF WORK BEING DONE | INITIALS OF PERSON LOCKING OUT |
|--------------------|------|----|--------------------------------------|--------------------------------|
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |
|                    |      |    |                                      |                                |

LOUISIANA-PACIFIC CORPORATION

Dungannon, Virginia

OPERATOR J. Johnson

SHIFT 7M-7AM

CREW DA

DATE 9-13-95

KONUS CHECK LIST

|   |                      |           |
|---|----------------------|-----------|
| Thermal Oil Level<br>Inches above bottom <u>0</u> |                      |           |
| Clarke Bin (quarters) <u>1/4</u>                  |                      |           |
| Diesel Fuel Level<br>(Emergency Pump) <u>3/4</u>  |                      |           |
| Diesel Oil Level<br>(Emergency Pump) <u>3/4</u>   |                      |           |
| Space Heating                                     | Inlet Temp <u>85</u> |           |
|   | Outlet Temp          |           |
|   | Discharge Pressure   |           |
| Press Pump 1 (Running)                            |                      |           |
| Press Pump <u>2</u> (Running)                     |                      |           |
| T.O. Pump Pressure                                | Suction              | Discharge |
| Primary Pump I                                    |                      |           |
| Primary Pump <u>II</u>                            |                      |           |
| Konus Baghouse Pressure                           |                      |           |
| Was Baghouse Pulsed? <u>YES</u> /NO               |                      |           |
| List any other problems:                          |                      |           |
|   |                      |           |
|   |                      |           |
|   |                      |           |
|   |                      |           |
|   |                      |           |

|  |            |
|--|------------|
| <u>Indicate Konus Problems</u>               |            |
| Flow Control                                 |            |
| Level Control                                |            |
| Fan Disturb                                  |            |
| Internal Press                               |            |
| High Flue Gas                                |            |
| Other:                                       |            |
| LEFT (Counts) <u>2102</u> x ( ) =            |            |
| RIGHT (Counts) <u>2126</u> x ( ) =           |            |
| <u>Indicate Temp. Set Points</u>             |            |
| Space Heat <u>85</u>                         |            |
| Hot Pond                                     |            |
| Emergency Cooling Tank - Full <u>YES</u> /NO |            |
| Konus Water Pressure                         | PSI        |
| Emergency Diesel (run each shift) <u>YES</u> |            |
| Konus  |            |
| Fuel Oil Level (gallons)                     |            |
| <u>L.P. Level</u>                            |            |
| Fire Dump Cleaned:                           | <u>YES</u> |
| Bark Fuel Used                               |            |

FOREMANS REPORT CHECK LIST TO BE TURNED IN EVERY SHIFT

DATE: 9-13-95

SHIFT: 7M-7AM

SUPERVISOR: Mike Dealy

- SHIFT OPERATING REPORT
- PRESS REPORT
- PRESS LOAD & TIME TO POSITION
- RESIN CHART RECORDER CHECKLIST
- DRYER OPERATION REPORT
- DRYER DATA SHEET
- KONUS CHECK LIST
- DRYER OPACITY REPORT
- KNIFE GRINDER REPORT
- FLAKER OPERATOR PM SHEET
- DEBARKER OPERATOR PM SHEET
- PRENTICE OPERATOR PM SHEET
- BOBCAT OPERATOR PM SHEET
- ~~NO~~ EFB REPORT
- FLAKER UTILITY
- DEBARKER UTILITY
- DRYER UTILITY
- LINEMAN
- SHIFT MILLWRIGHT REPORT
- FLAKER KNIFE CHANGE PM SHEET
- 936 LOADER PM SHEET
- 966 LOADER PM SHEET
- ~~NO~~ TROJAN LOADER PM SHEET
- PRESS CIRCLE CHART
- DRYER CIRCLE CHART
- ~~NO~~ UPSET CONDITION REPORT  
(When Necessary)
- FORK LIFT PM SHEET

OTHER COMMENTS OR PROBLEMS NOT TAKEN CARE OF: \_\_\_\_\_

Fire dump center in good shape.

PRESS LOADS & TIME TO POSITION

Castle  
7P-7A  
"A"  
9-13-95  
7/16  
156

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

TURN IN WITH PRESS REPORT!

DATE 9-13-95

CREW A

SHIFT 7P-7A

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

|    | TIME         | NAME        |
|----|--------------|-------------|
| 1  | <u>7:00</u>  | <u>L.C.</u> |
| 2  | <u>8:00</u>  | <u>L.C.</u> |
| 3  | <u>9:00</u>  | <u>L.C.</u> |
| 4  | <u>10:00</u> | <u>L.C.</u> |
| 5  | <u>11:00</u> | <u>L.C.</u> |
| 6  | <u>12:00</u> | <u>L.C.</u> |
| 7  | <u>1:00</u>  | <u>L.C.</u> |
| 8  | <u>2:00</u>  | <u>L.C.</u> |
| 9  | <u>3:00</u>  | <u>L.C.</u> |
| 10 | <u>4:00</u>  | <u>L.C.</u> |
| 11 | <u>5:00</u>  | <u>L.C.</u> |
| 12 | <u>6:00</u>  | <u>L.C.</u> |

REPORT ANY PROBLEMS TO THE SUPERVISOR.

NOTES:

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NAME: C. Wilson SHIFT: 7m-7am DATE: 9.13.90

TOTAL DRYER RUN TIME 680  
 MONITOR DOWNTIME 0

**DRYER OPACITY CHART**  
 LOUISIANA-PACIFIC CORPORATION  
 DUNGANNON, VIRGINIA

ENTER ALL OPACITY READINGS GREATER THAN 10%

| DATE    | TIME FROM | TIME TO | MINUTES | OPACITY | CODE | DESCRIPTION OF OCCURAN   |
|---------|-----------|---------|---------|---------|------|--------------------------|
| 9.13.90 | 7:00      | 07:00   |         |         |      |                          |
|         |           |         |         |         |      | Corrective action taken: |
|         |           |         |         |         |      |                          |
|         |           |         |         |         |      | Corrective action taken: |
|         |           |         |         |         |      |                          |
|         |           |         |         |         |      | Corrective action taken: |
|         |           |         |         |         |      |                          |
|         |           |         |         |         |      | Corrective action taken: |
|         |           |         |         |         |      |                          |
|         |           |         |         |         |      | Corrective action taken: |
|         |           |         |         |         |      |                          |

BE SURE ENTRIES ON THIS CHART MATCH THE STRIP CHART

**TIME IN INCREMENTS OF SIX MINUTES**

| FROM | TO   |
|------|------|
| 0700 | 0706 |
| 0706 | 0712 |
| 0712 | 0718 |
| 0718 | 0724 |
| 0724 | 0730 |
| 0730 | 0736 |
| 0736 | 0742 |
| 0742 | 0748 |
| 0748 | 0754 |
| 0754 | 0800 |

- CODES**
- 1 BAKE OUT
  - 2 CLEANING RTO VALVES
  - 3 RE-CALIBRATION
  - 4 CLEANING LENS
  - 5 MONITOR FAILURE
  - 6 CONDENSATION
  - 7 BURNER MALFUNCTION
  - 8 MAINTENANCE
  - 9 CHANGE (CERAMIC)
  - 10 OTHER (DESCRIBE)
  - 11 POWER FAILURE
  - 12 DRUM FIRE

**MILITARY TIME**

|           |           |
|-----------|-----------|
| 7AM=0700  | 7PM=1900  |
| 8AM=0800  | 8PM=2000  |
| 9AM=0900  | 9PM=2100  |
| 10AM=1000 | 10PM=2200 |
| 11AM=1100 | 11PM=2300 |
| 12AM=1200 | 12PM=1200 |
| 1PM=1300  | 1AM=0100  |
| 2PM=1400  | 2AM=0200  |
| 3PM=1500  | 3AM=0300  |
| 4PM=1600  | 4AM=0400  |
| 5PM=1700  | 5AM=0500  |

### DRYER DATA SHEET

DATE: 9.13.95

SHIFT: 7pm-7am

CREW: RA

NAME: C. D. D. 500

OPACITY/DRYER CHARTS: \_\_\_\_\_ CHECK AND INITIAL EVERY 30 MINUTES  
 BURNER OUTLET SET POINT: \_\_\_\_\_ READING EVERY 30 MINUTES  
 OUTLET TEMP SET POINT: \_\_\_\_\_ MOISTURE % EVERY HOUR  
 REVOLUTIONS PER MINUTE: \_\_\_\_\_ BIN LEVEL EVERY HOUR  
 FUEL CALABRATION: \_\_\_\_\_ NOTE ANY CHANGES IN SETPOINTS

| TIME  | FEED RATE | DRYER IN TEMP | DRYER OUT TEMP | FLAKE IN | MOIST. OUT | DRY BIN LEVEL | OPACITY MONITOR | DRYER CHT. CIRCULAR | RTO CHAMBER TEMP |
|-------|-----------|---------------|----------------|----------|------------|---------------|-----------------|---------------------|------------------|
| 7:30  |           |               |                |          |            | 1/4 1/4       | OK CD           | OK CD               | 1568             |
| 8:00  |           |               |                |          |            | 1/4 1/4       | OK CD           | OK CD               | 1567             |
| 8:30  |           |               |                |          |            | 1/4 1/4       | OK CD           | OK CD               | 1557             |
| 9:00  | 78        | 1399          | 195            | 37%      | 80         | 1/4 1/4       | OK CD           | OK CD               | 1546             |
| 9:30  |           |               |                |          |            | 1/4 1/4       | OK CD           | OK CD               | 1561             |
| 10:00 | 80        | 1307          | 190            |          | 70         | 1/4 1/4       | OK CD           | OK CD               | 1557             |
| 10:30 |           |               |                |          |            | 1/4 1/4       | OK CD           | OK CD               | 1574             |
| 11:00 | 82        | 1281          | 192            | 36%      | 70         | 1/4 1/4       | OK CD           | OK CD               | 1559             |
| 11:30 |           |               |                |          |            | 1/4 1/4       | OK CD           | OK CD               | 1563             |
| 12:00 | 80        | 1386          | 193            |          | 80         | 1/4 1/4       | OK CD           | OK CD               | 1568             |
| 12:30 |           |               |                |          |            | 1/4 1/4       | OK CD           | OK CD               | -                |
| 1:00  | 78        | 1004          | 195            | 35%      | 70         | 1/4 1/4       | OK CD           | OK CD               | 1571             |
| 1:30  |           |               |                |          |            | 1/4 1/4       | OK CD           | OK CD               | 1564             |
| 2:00  | 71        | 1321          | 203            |          | 80         | 1/4 1/4       | OK CD           | OK CD               | 1548             |
| 2:30  |           |               |                |          |            | 1/4 1/4       | OK CD           | OK CD               | 1558             |
| 3:00  | 70        | 1474          | 187            |          | 80         | 1/2 1/2       | OK CD           | OK CD               | 1570             |
| 3:30  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               | 1568             |
| 4:00  | 79        | 1198          | 190            | 40%      | 70         | 1/2 1/2       | OK CD           | OK CD               | 1557             |
| 4:30  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               | 1560             |
| 5:00  | 77        | 1183          | 192            |          | 70         | 1/2 1/2       | OK CD           | OK CD               | 1569             |
| 5:30  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               | 1569             |
| 6:00  | 79        | 987           | 187            | 43%      | 80         | 1/2 1/2       | OK CD           | OK CD               | 1548             |
| 6:30  |           |               |                |          |            | 1/2 1/2       | OK CD           | OK CD               | 1569             |
| 7:00  | 99        | 1099          | 189            |          | 70         | 1/2 1/2       | OK CD           | OK CD               | 1567             |

1239 192 74





DAILY P.M. CHECKLIST

FOREMAN *Mik D*

DATE: *9-13-95*

SHIFT: *7-7* CREW: *A*

DEBARKER OPERATOR *Bill Finch*

| INSPECT/DO                                    | YES/NO     | COMMENTS |
|---|------------|----------|
| GREASE ENTIRE MACHINE--ONCE EACH SHIFT        | <i>yes</i> |          |
| RELEASE WATER FROM DEBARKER & KICKER AIRLINES | <i>yes</i> |          |
| GREASE BEARINGS # 1 AND # 2 LOG INFEED CHAINS | <i>yes</i> |          |
| CHECK HYDRAULIC LEVEL IN HYDRAULIC UNIT       | <i>yes</i> |          |
| CHECK OIL LEVEL IN RING LUBE PUMP BARREL      | <i>yes</i> |          |
| INSPECT ARM TIPS FOR LOSS OR BREAKAGE         | <i>yes</i> |          |
| INSPECT ARMS FOR CRACKS                       | <i>yes</i> |          |
| GREASE FRONT & REAR HOLD DOWN SLIDES          | <i>yes</i> |          |
| GREASES LOG OUTFEED CHAIN BEARINGS            | <i>yes</i> |          |
| CLEAN HYDRAULIC UNIT ( ON DAY SHIFT)          | <i>yes</i> |          |
| COMMENTS:                                     |            |          |
|   |            |          |
|   |            |          |
|   |            |          |
|   |            |          |

**LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA**

**SHIFT MILLWRIGHTS DAILY PM AND PROJECTS REPORT**

DATE: 9-13-95

SHIFT: 7m-7am

*Crest A*

|   | DONE BY: | MAINTENANCE<br>DONE & COMMENTS              |
|---|----------|---|
| <b>SCREENS</b>  |          |   |
| Inspect, remove bad ones & log in<br>screens book   | 11       | OK  |
| Inspect fire pump house   | 11       | OK  |
| Inspect air compressors   | 11       | OK  |
| Inspect Hydraulic Room (fix leaks)  | 11       | OK  |
| PM Debarker   | 11       | OK put drive chain on #1 & #2<br>Feed rolls |
| Inspect R.T.O. fans, rotating valves,<br>chamber walls, key-ways in place etc.                    | 11       | OK  |
| PM Flaker   | 11       | OK  |
| PM Baghouse 1 & 2 including fans<br>(w/checklist)   |          |   |
| (1-Each Week) (Visual Daily)  | 11       | OK  |
| Inspect all conv. belts on sawline<br>to stacker  | 11       | OK  |
| Inspect all conv. belts on return line<br>in pit.   | 11       | OK  |
| PM McConnel Bin Baghouse (visually inspect<br>fans, ductwork, airlocks, cyclone, etc.)            | 11       | OK  |
| Inspect scrubber pump & belts check all<br>pipes & gauges for cracks & leakage, etc.              | 11       | OK  |
| PM Konus Baghouse (visually inspect<br>fans, ductwork, airlocks, cyclone, etc)                    | 11       | OK  |
| Inspect Komline-Sanderson vacuum drum filter,<br>pumps, sprays, filters, filter belt & splice etc | 11       | OK  |
| Review and work on Supervisors list   |          |   |

*Need to Fix Gear Box on Kicker chain - all the  
bolts are broke off in it.*

PM CHECKLIST BOBCAT

CREW A

FOREMAN M. DOOLEY DATE 8-13-88 SHIFT 7-7 NAME R. Hoton

BOBCAT OPERATOR

| DAILY | A. Bobcat - fluid levels   | Done<br>yes/no | How much added |
|-------|--|----------------|----------------|
|       | 1. Check hydraulic fluid   | YES            |                |
|       | 2. Check motor oil   | YES            |                |
|       | 3. Check air pressure in tires   | NO             |                |
|       | B. Blow entire machine off,<br>including motor.                                | YES            |                |
|       | C. Check for any leaks around<br>fittings, filters, motor oil,<br>transmission | YES<br>YES     |                |
|       | D. Breakage  | NO             |                |
|       | 1. Control levers right side   | NO             |                |
|       | 2. Control levers left side  | NO             |                |
|       | 3. Cracks in bucket or boom  | NO             |                |
|       | 4. Safety cage broke away  | NO             |                |

Motor oil 15W-40

Hydraulic Oil HD-46  
Transmission - Dextron

Radiator 1/2 water 1/2 prestone (winter)

All water in summer months. Mike will service before winter months.

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

DAILY PM CHECKLIST

Debarcker Utility B. Horton Date 4-19-85 Shift 3-2 Crew A

|  | Yes | No | Problem found or Maint. Done |
|--|-----|----|------------------------------|
| Check and maintain fire fighting equipment (hoses in place, fire extinguishers, etc.). | ✓   |    |                              |
| Keep log wash pond full and bark cleaned off.  | ✓   |    |                              |
| Clean all tail rollers.  | ✓   |    |                              |
| Check all hydraulic units (oil level, blow out radiator).                              | ✓   |    |                              |
| Check bark hog and belts (problems, plugs etc.).                                       | ✓   |    |                              |
| Empty all hoppers.   | ✓   |    |                              |
| Clean bark under log decks.  | ✓   |    |                              |
| Blow down entire area.   | ✓   |    |                              |
| Keep hog, mobile equipment, and old greenend area floor clean.                         | ✓   |    |                              |
| Wash down floor in debarker area (11-7 shift).   | ✓   |    |                              |
| PM and service loader when used.   |     |    |                              |

Comments or suggestions: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

DAI LY PM AND CHECKLIST

Flaker Utility ✓ Date 9-13-95 Shift PM Crew A

Yes No Problem found or Maint. Done

|  | Yes | No | Problem found or Maint. | Done |
|--|-----|----|-------------------------|------|
| 1. Check and maintain fire fighting equipment (hoses in place, extinguishers full, etc.) | ✓   |    |                         |      |
| 2. Clean flaker clamps and replace tips.   | ✓   |    |                         |      |
| 3. Keep air and torque wrenches oiled and in place for knife changes.                    | ✓   |    |                         |      |
| 4. Blow off both flaker disc bearings every knife change.                                | ✓   |    |                         |      |
| 5. Check all hydraulic units (oil level, and blow out radiators).                        | ✓   |    |                         |      |
| 6. Clean all tail pulleys.   | ✓   |    |                         |      |
| 7. Clean flaker pit (pump water out also).   | ✓   |    |                         |      |
| 8. Blow down entire area.  | ✓   |    |                         |      |
| 9. Keep flaker area floor clean.   | ✓   |    |                         |      |
| 10. Clean catwalk and platform for the haul up conveyour.                                | ✓   |    |                         |      |
| 11. Empty haul up conveyour clean up bin.  | ✓   |    |                         |      |

Comments or Suggestions: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

DAILY PM AND CHECKLIST

Lineman Peggy Date 9-13-95 Shift PM - 7:00 Crew A

|   | Yes | No | Problem found or maintenance done |
|---|-----|----|-----------------------------------|
| Check & maintain fire fighting equipment (hoses in place, extinguishers full, etc.) | ✓   |    |                                   |
| Check release agent spray can (fill when necessary)                                 | ✓   |    |                                   |
| 3. Check all screens & head bar pins  | ✓   |    |                                   |
| Check formers & spreading rolls (At least 3 times a shift)                          | ✓   |    |                                   |
| Blow down entire area   | ✓   |    |                                   |
| Check all hydraulic units (Oil level & blow out radiators)                          | ✓   |    |                                   |
| Check magnet for metal & position   | ✓   |    |                                   |
| 4. Check incline & decline chain dogs (In time, cracked, etc.)                      | ✓   |    |                                   |
| 5. Check press hydraulic oil level  | ✓   |    |                                   |
| 6. Clean press pit, bucket elevator pit   | ✓   |    |                                   |
| 11. Check FCOS alllock  | ✓   |    |                                   |
| 12. Check for leaks on press hydraulic & T-oil system                               | ✓   |    |                                   |
| 13. Blow off both sides of press including Symo Arms (2 times shift)                | ✓   |    |                                   |
| 14. Blow out sides of formers (behind clear curtain)                                | ✓   |    |                                   |
| 15. Check return line belts   | ✓   |    |                                   |
| 16. Keep area floor clean   | ✓   |    |                                   |
| 17. Grease slides on press  | ✓   |    |                                   |
| 18. Clean lunchroom when necessary  | ✓   |    |                                   |

COMMENTS OR SUGGESTIONS:

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KNIFE GRINDER

NAME Doug DATE 9-13-95

SETS ON SHELF 06

SETS - NEED TO GRIND 1

SETS THAT I HAVE GROUND 4

# OF KNIVES DISCARDED \_\_\_\_\_

GRINDING ROOM CLEANED YES OR NO

FLAT GRINDER GREASED YES OR NO

SPRAY BARS CLEANED  
(EACH KNIFE CHANGE) YES OR NO

SETTER OKAY OR NOT OKAY

COMMENTS OR CORRECTIVE ACTION TAKEN: \_\_\_\_\_

TOTAL KNIVES IN THE GRINDING ROOM \_\_\_\_\_

SETS OF KNIVES RECEIVED \_\_\_\_\_

TOTAL KNIVES DISCARDED (MTD) \_\_\_\_\_

MAINTENANCE DONE TO EQUIPMENT IN THE GRINDING ROOM: \_\_\_\_\_

KNIFE CHANGES DONE:

TIME DOWN 9:00 START UP 9:30 TIME DOWN 5:30 START UP 6:00

TIME DOWN 11:30 START UP 12:00 TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_

TIME DOWN 2:30 START UP 3:00 TIME DOWN \_\_\_\_\_ START UP \_\_\_\_\_



LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

DAILY PM AND CHECK LIST

Dryer Utility Ron Skorupa Date 9-13-95 Shift 7pm-7AM Crew A

|   | Yes | No | Problem found or Maint. done                        |
|---|-----|----|---|
| 1. Check and maintain fire fighting equipment (hoses in place, fire extinguishers full, etc.) | /   |    |   |
| 2. Keep EFB gravel flowing and system full.   | /   |    |   |
| 3. Deash both cells on konus.   | /   |    | Why do we have to put the plates back in the konus? |
| 4. Check clarkbin level (beginning and ending of each shift).                                 | /   |    | Empty at beginning.<br>1/4 at end.                  |
| 5. Clean screener pit.  | /   |    |   |
| 6. Clean all tail rollers.  | /   |    |   |
| 7. Empty all barrels when full.   | /   |    |   |
| 8. Blow down entire area (3-11 shift)   | /   |    |   |
| 9. Blow off inlet and outlet tube.  | /   |    |   |
| 10. Grease dryer drum trunions.   | /   |    |   |
| 11. Have fire dump and ash pit emptied when necessary.  | /   |    |   |
| 12. Check for and seal all leaks on conveyors, augers, etc.                                   | /   |    |   |
| 13. Clean konus room and baghouse pad area outside.   | /   |    |   |
| 14. Keep dryer area floor clean.  | /   |    |   |

Comments or suggestions: ① Need to fix conveyors on top of Clark bin !!

LOUISIANA-PACIFIC CORPORATION

DUNGANNON, VIRGINIA

LOADER # 936

DAILY OPERATOR'S CHECK

OPERATOR Art Ruce DATE 9-13-95

HOUR METER READING \_\_\_\_\_

1. Radiator level \_\_\_\_\_ Amount added \_\_\_\_\_
2. Engine oil level Full Amount added 0
3. Restriction indicator of engine air cleaner \_\_\_\_\_
4. Fuel level - fill at end of shift if
5. Drain moisture from air reservoir - at end of shift \_\_\_\_\_
6. Torque converter level \_\_\_\_\_ Amount added \_\_\_\_\_
7. Drop box transmission level Full Amount added 0
8. Hydraulic reservoir Full
9. Lubricate boom grease fittings \_\_\_\_\_
10. Check tires for proper inflation and condition - 65 PSI \_\_\_\_\_
11. Clean operator's cab \_\_\_\_\_
12. Check for hydraulic leaks if
13. Does steering work properly? if
14. Is the fire extinguisher present and charged? if
15. Does horn work properly? \_\_\_\_\_
16. Do service brakes work properly? if
17. Does parking brakes work properly? NO
18. COMMENTS: Need Back up lights. Need to fix Parking Brake

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



DAILY P.M. & CHECK LIST

FOREMAN: Mike Boyle DATE: 9/13/95 SHIFT: 2 CREW: A

FLAKER OPERATOR Bryan Culbertson

| ITEM            | INSPECT/DO                                     | YES/NO | COMMENTS |
|-----------------|--|--------|----------|
| HYDRAULIC UNITS | FLAKER & BOOM UNITS KEEP FULL                  | YES    |          |
|                 | GREASE ENTIRE BOOM -ALL PINS                   | YES    |          |
|                 | GREASE ALL BUSHINGS                            | YES    |          |
|                 | GREASE TURN TABLE                              | YES    |          |
|                 | TIGHTEN ALL PIN NUTS ON BOOM<br>--EACH SHIFT-- | YES    |          |
|                 | GREASE LOG HOLD DOWN PINS                      | YES    |          |
|                 | CHECK ALL MULTI CHANS                          | YES    |          |
|                 | GREASE LOG INCLINE CONVEYOR<br>CHAIN BEARINGS  | /      |          |
|                 | INSPECT KNIFE CLAMPS & PLATES                  | YES    |          |
|                 | INSPECT SCORING KNIVES<br>(EACH KNIFE CHANGE)  | YES    |          |
|                 | INSPECT ALL BEARINGS                           | YES    |          |
|                 | INSPECT DRIVE BELTS                            | YES    |          |
| ENTIRE SYSTEM   | CHECK FOR LOOSE NUTS & BOLTS                   | YES    |          |

ADDITIONAL COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

LOUISIANA-PACIFIC CORPORATION  
DUNGANNON, VIRGINIA

KNIFE CHANGE PM CHECKLIST

OPERATOR: Dryan C SHIFT: 2 CREW: A DATE: 9/13/95

1. Time of knife changes: \_\_\_\_\_
2. All clamps removed from disc and cleaned? Yes
3. All knife carriers cleaned (use wirebrush) Yes
4. Number of clamps replaced: 1st \_\_\_\_\_ 2nd \_\_\_\_\_  
3rd \_\_\_\_\_ 4th \_\_\_\_\_ 5th \_\_\_\_\_
5. All bolts torqued at 70PSI. Yes
6. Never seize all clamp bolts, replace bad ones. Yes
7. Bottom & side anvil checked. Yes
8. Spray bar cleaned Yes
9. Arbor bearing blown down Yes
10. Multi-chain track cleaned (once per shift) Yes
11. Torque wrench set on 0 PSI after knife changed completed Yes
12. Knife-change area cleaned after knife change Yes
13. Air wrenches lubricated or oiled Yes
14. Check knife protection. Yes
15. Hood loader greased - turntable & boom pin (once per shift) Yes
16. Any maintenance done during knife change: \_\_\_\_\_

LOUISIANA-PACIFIC CORPORATION

DUNGANNON, VIRGINIA

LOADER # 966

DAILY OPERATOR'S CHECK

OPERATOR Perry Selzer DATE 9-13-95

HOUR METER READING \_\_\_\_\_

1. Radiator level ✓ Amount added \_\_\_\_\_
2. Engine oil level ✓ Amount added \_\_\_\_\_
3. Restriction indicator of engine air cleaner \_\_\_\_\_
4. Fuel level - fill at end of shift ✓
5. Drain moisture from air reservoir - at end of shift \_\_\_\_\_
6. Torque converter level ✓ Amount added \_\_\_\_\_
7. Drop box transmission level ✓ Amount added \_\_\_\_\_
8. Hydraulic reservoir ✓
9. Lubricate boom grease fittings ✓
10. Check tires for proper inflation and condition - 65 PSI ✓
11. Clean operator's cab ✓
12. Check for hydraulic leaks ✓
13. Does steering work properly? ✓
14. Is the fire extinguisher present and charged? ✓
15. Does horn work properly? ✓
16. Do service brakes work properly? ✓
17. Does parking brakes work properly? ✓
18. COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DAILY FORKLIFT CHECK LIST

NAME Cruiq

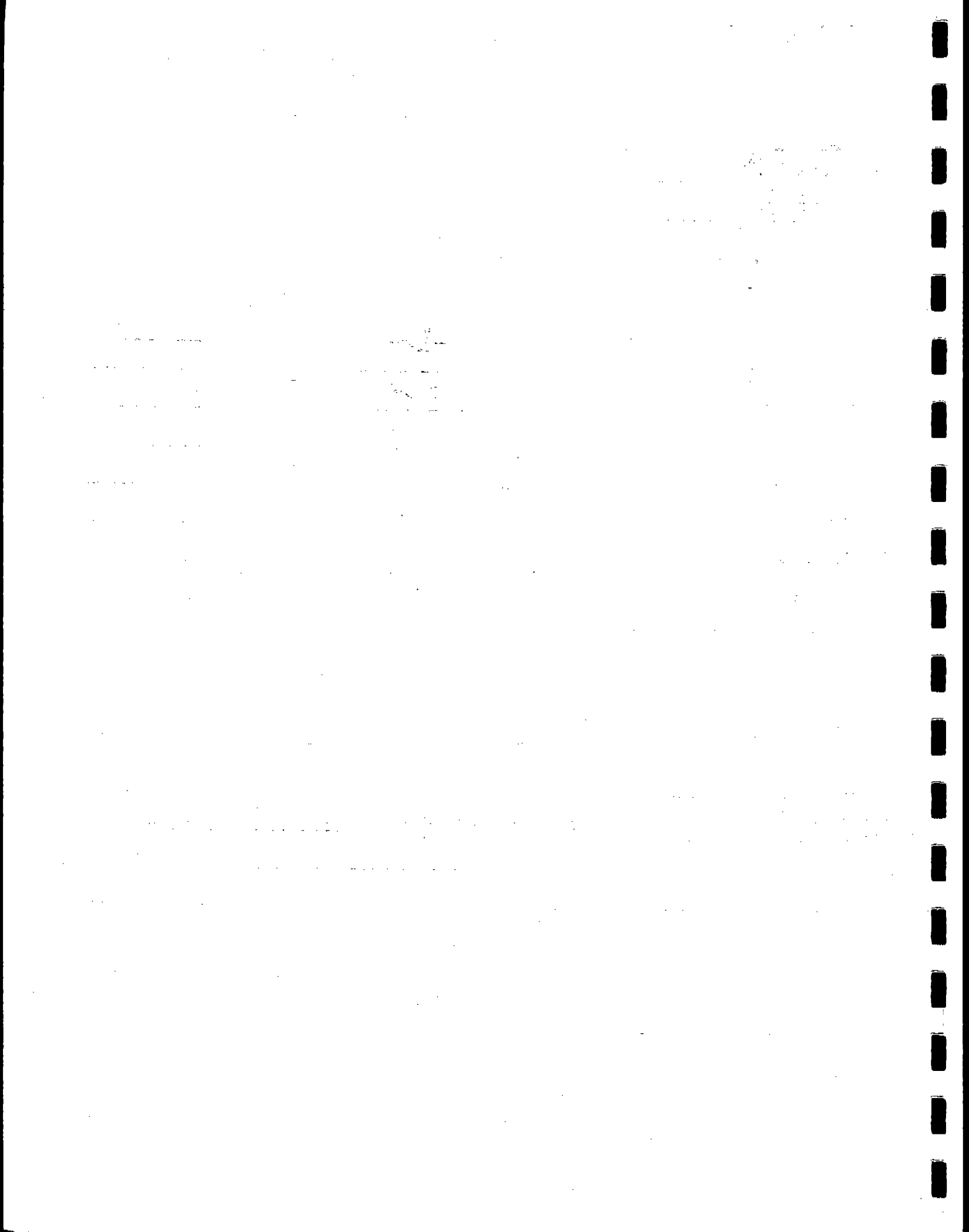
SHIFT 2A

FORKLIFT# 2

|  | <u>OK TO RUN</u>                        | <u>DO NOT RUN</u>           |
|--|---|-----------------------------|
| 1. Oil Level   | <input checked="" type="checkbox"/>     | <input type="checkbox"/>    |
| 2. Water Level   | <input checked="" type="checkbox"/>     | <input type="checkbox"/>    |
| 3. Brakes  | <input checked="" type="checkbox"/>     | <input type="checkbox"/>    |
| 4. Transmission  | <input checked="" type="checkbox"/>     | <input type="checkbox"/>    |
| 5. Horn  | <input checked="" type="checkbox"/>     | <input type="checkbox"/>    |
| 6. Lights  | <input checked="" type="checkbox"/>     | <input type="checkbox"/>    |
| 7. Tires   | <input checked="" type="checkbox"/>     | <input type="checkbox"/>    |
| 8. Steering  | <input checked="" type="checkbox"/>     | <input type="checkbox"/>    |
| 9. Rack & Cage   | <input checked="" type="checkbox"/>     | <input type="checkbox"/>    |
| 10. Used air hose to blow down radiator and other things | YES <input checked="" type="checkbox"/> | NO <input type="checkbox"/> |

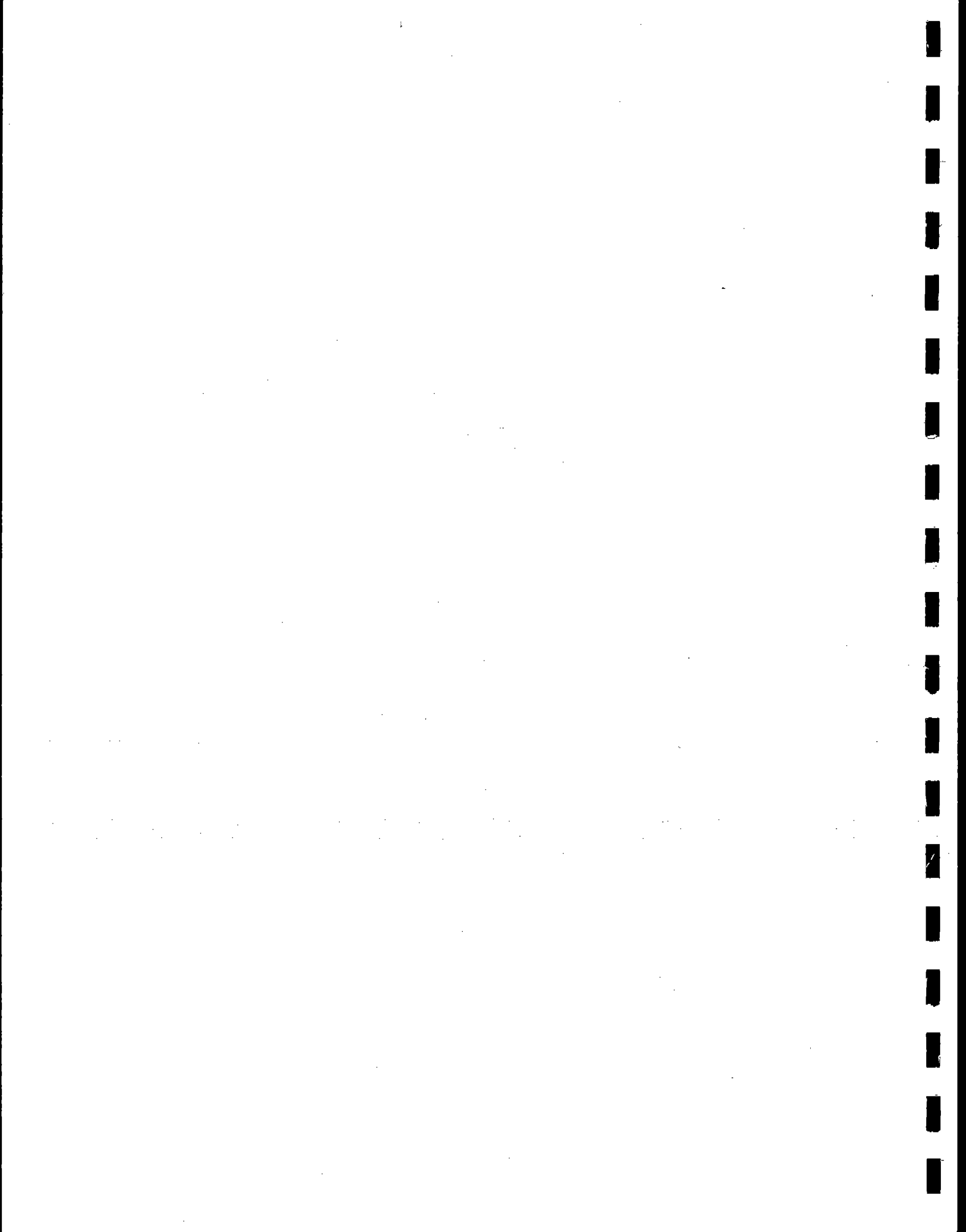
COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- NOTES:
1. Use TEXACO 15W40 Motor oil-located in Mobile Equipment Shop.
  2. Hydraulic Oil-located outside Mobile Equipment Shop-Large black tank.
  3. Use water for radiator.





**APPENDIX U**  
**FIELD EQUIPMENT CALIBRATION DATA**



ETS, INC.

METER CONSOLE CALIBRATION FORM

Print Date 04/12/95

Contract No. 95-416  
Job I.D.

Meter Box No.: 4  
Delta H: 1.7581  
Gamma: 1.0058

Analyst: *[Signature]*  
Calibration Date: 04/12/95  
Test Meter No. 9548  
Barometric Pressure 28.83

QA/QC Check: *[Signature]* 4/17/95  
Previous Calibration Date: 12/29/94  
Previous Gamma: 1.0083

| Run | Orf Set | Initial Test | Final Test | Volume Test | Init Temp | Finl Temp | Test Temp | Initial Box | Final Box | Volume Box | I-I Temp | I-O Temp | F-I Temp | F-O Temp | Temp  | Time | Delta H | Gamma   |
|-----|---------|--------------|------------|-------------|-----------|-----------|-----------|-------------|-----------|------------|----------|----------|----------|----------|-------|------|---------|---------|
| 1   | 0.5     | 697.058      | 707.329    | 10.271      | 73.0      | 74.0      | 73.50     | 100.471     | 110.640   | 10.169     | 75.0     | 74.0     | 76.0     | 79.0     | 76.00 | 25.0 | 1.72959 | 1.01347 |
| 2   | 1.0     | 707.548      | 718.168    | 10.620      | 74.0      | 73.0      | 73.50     | 110.850     | 121.443   | 10.593     | 79.0     | 76.0     | 78.0     | 82.0     | 78.75 | 18.5 | 1.76275 | 1.00984 |
| 3   | 1.5     | 718.312      | 730.193    | 11.881      | 73.0      | 74.0      | 73.50     | 121.592     | 133.507   | 11.915     | 81.0     | 77.0     | 79.0     | 82.0     | 79.75 | 17.0 | 1.78063 | 1.00498 |
| 4   | 2.0     | 730.320      | 743.335    | 13.015      | 73.0      | 74.0      | 73.50     | 133.634     | 146.723   | 13.089     | 82.0     | 78.0     | 79.0     | 85.0     | 81.00 | 16.0 | 1.74851 | 1.00321 |
| 5   | 2.5     | 743.557      | 756.190    | 12.633      | 74.0      | 74.0      | 74.00     | 146.922     | 159.653   | 12.731     | 84.0     | 79.0     | 80.0     | 87.0     | 82.50 | 14.0 | 1.77452 | 1.00171 |
| 6   | 3.0     | 756.398      | 766.824    | 10.426      | 74.0      | 73.0      | 73.50     | 159.869     | 170.391   | 10.522     | 86.0     | 80.0     | 80.0     | 87.0     | 83.25 | 10.5 | 1.75286 | 1.00132 |

E. T. S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 4 REFERENCE CALIBRATOR 1971 CAL-K  
THERMOCOUPLE NUMBER 1 Date ..... 17-Aug-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 2                           | -0.435          |
| 2  | 32                       | 33                          | -0.203          |
| 3  | 100                      | 101                         | -0.179          |
| 4  | 200                      | 203                         | -0.455          |
| 5  | 300                      | 303                         | -0.395          |
| 6  | 400                      | 402                         | -0.233          |
| 7  | 500                      | 502                         | -0.208          |
| 8  | 600                      | 604                         | -0.377          |
| 9  | 700                      | 704                         | -0.345          |
| 10 | 800                      | 803                         | -0.233          |
| 11 | 900                      | 904                         | -0.294          |

-0.306 AVERAGE DIFF

Calibration Performed By ..... S. WARDEN

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 4 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 2 Date ..... 17-Aug-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |              |
|----|--------------------------|-----------------------------|-----------------|--------------|
| 1  | 0                        | 2                           | -0.435          |              |
| 2  | 32                       | 33                          | -0.203          |              |
| 3  | 100                      | 101                         | -0.179          |              |
| 4  | 200                      | 202                         | -0.303          |              |
| 5  | 300                      | 304                         | -0.325          |              |
| 6  | 400                      | 402                         | -0.233          |              |
| 7  | 500                      | 502                         | -0.208          |              |
| 8  | 600                      | 604                         | -0.377          |              |
| 9  | 700                      | 703                         | -0.259          |              |
| 10 | 800                      | 803                         | -0.238          |              |
| 11 | 900                      | 903                         | -0.251          |              |
|    |                          |                             | -0.289          | AVERAGE DIFF |

Calibration Performed By ..... S.WARDEN

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 4 REFERENCE CALIBRATOR HM71 CAL-K  
THERMOCOUPLE NUMBER 3 Date ..... 17-Aug-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |              |
|----|--------------------------|-----------------------------|-----------------|--------------|
| 1  | 0                        | 2                           | -0.435          |              |
| 2  | 32                       | 33                          | -0.203          |              |
| 3  | 100                      | 100                         | 0.000           |              |
| 4  | 200                      | 202                         | -0.303          |              |
| 5  | 300                      | 304                         | -0.333          |              |
| 6  | 400                      | 402                         | -0.233          |              |
| 7  | 500                      | 502                         | -0.208          |              |
| 8  | 600                      | 603                         | -0.283          |              |
| 9  | 700                      | 703                         | -0.259          |              |
| 10 | 800                      | 803                         | -0.238          |              |
| 11 | 900                      | 903                         | -0.221          |              |
|    |                          |                             | -0.264          | AVERAGE DIFF |

Calibration Performed By ..... S. WARDEN

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No. .... 4 REFERENCE CALIBRATOR HW71 CAL-K  
THERMOCOUPLE NUMBER 4 Date ..... 17-Aug-95

|    | Reference Temperature | Thermocouple Temperature | Difference % |
|----|-----------------------|--------------------------|--------------|
| 1  | 0                     | 1                        | -0.217       |
| 2  | 32                    | 33                       | -0.203       |
| 3  | 100                   | 101                      | -0.179       |
| 4  | 200                   | 202                      | -0.303       |
| 5  | 300                   | 303                      | -0.395       |
| 6  | 400                   | 402                      | -0.233       |
| 7  | 500                   | 502                      | -0.208       |
| 8  | 600                   | 603                      | -0.283       |
| 9  | 700                   | 703                      | -0.259       |
| 10 | 800                   | 802                      | -0.159       |
| 11 | 900                   | 903                      | -0.221       |

-0.242 AVERAGE DIFF

Calibration Performed By ..... S. WARDEN

Post Test Calibration-Contract #1- \_\_\_\_\_

Pre-Test Calibration-Contract #2- \_\_\_\_\_

Comments:

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 4 REFERENCE CALIBRATOR HH71 CAL-R  
THERMOCOUPLE NUMBER 5 Date ..... 17-Aug-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 2                           | -0.435          |
| 2  | 32                       | 33                          | -0.203          |
| 3  | 100                      | 101                         | -0.179          |
| 4  | 200                      | 203                         | -0.455          |
| 5  | 300                      | 304                         | -0.526          |
| 6  | 400                      | 402                         | -0.233          |
| 7  | 500                      | 501                         | -0.104          |
| 8  | 600                      | 604                         | -0.377          |
| 9  | 700                      | 704                         | -0.345          |
| 10 | 800                      | 803                         | -0.238          |
| 11 | 900                      | 903                         | -0.221          |

-0.301 AVERAGE DIFF

Calibration Performed By ..... S. WARDEN

Post Test Calibration-Contract #\- \_\_\_\_\_

Pre-Test Calibration-Contract #>- \_\_\_\_\_

Comments:



E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Number Box No..... 4 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 6 Date ..... 17-Aug-95

|    | Reference Temperature | Thermocouple Temperature | Difference % |
|----|-----------------------|--------------------------|--------------|
| 1  | 0                     | 1                        | -0.217       |
| 2  | 32                    | 33                       | -0.203       |
| 3  | 100                   | 102                      | -0.357       |
| 4  | 200                   | 201                      | -0.152       |
| 5  | 300                   | 302                      | -0.263       |
| 6  | 400                   | 404                      | -0.465       |
| 7  | 500                   | 502                      | -0.208       |
| 8  | 600                   | 603                      | -0.283       |
| 9  | 700                   | 703                      | -0.259       |
| 10 | 800                   | 803                      | -0.238       |
| 11 | 900                   | 902                      | -0.147       |

-0.254 AVERAGE DIFF

Calibration Performed By ..... S. WARDEN

Post Test Calibration-Contract #1- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 4 REFERENCE CALIBRATOR HW71 CAL-K  
THERMOCOUPLE NUMBER 7 Date ..... 17-Aug-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |              |
|----|--------------------------|-----------------------------|-----------------|--------------|
| 1  | 0                        | 2                           | -0.435          |              |
| 2  | 32                       | 33                          | -0.293          |              |
| 3  | 100                      | 102                         | -0.357          |              |
| 4  | 200                      | 201                         | -0.152          |              |
| 5  | 300                      | 301                         | -0.132          |              |
| 6  | 400                      | 402                         | -0.233          |              |
| 7  | 500                      | 503                         | -0.313          |              |
| 8  | 600                      | 602                         | -0.189          |              |
| 9  | 700                      | 701                         | -0.086          |              |
| 10 | 800                      | 801                         | -0.079          |              |
| 11 | 900                      | 903                         | -0.221          |              |
|    |                          |                             | -0.216          | AVERAGE DIFF |

Calibration Performed By ..... S.WARDEN

Post Test Calibration-Contract #1- \_\_\_\_\_

Pre-Test Calibration-Contract # \_\_\_\_\_

Comments:

METER BOX AUDIT

Plant Name LA Pacific Job No. 95-576  
 City/State Douglass, VA. Auditor R. Graham  
 Test Location Outlet Scrubber Date 8-29-95

Isokinetic Meter Box  
 I.D. 4 Gamma (Y) 1.0058 dHe 1.7581  
 Zero/Level Manometer?  Barometric Pressure (Pbar) 28.85

| Dry Gas Meter Reading (Cubic Ft.)  | Meter Temperature (F)         | Lower and Upper Limits for Audit Gamma |                        |
|------------------------------------|-------------------------------|--|------------------------|
| Final <u>737.635</u>               | Final <u>108/105</u>          | 0.96 >                                 | <u>.965568</u>         |
| Initial <u>729.394</u>             | Initial <u>109/103</u>        | 1.04 <                                 | <u>1.096</u>           |
| Dry Gas Volume Metered (Cubic Ft.) | Average Meter Temperature (F) | Audit Test Time                        |                        |
| Vm = <u>21.259</u>                 | Tm = <u>105</u>               | (Minutes)<br><u>10</u>                 | (Seconds)<br><u>30</u> |

$$Y_c = \frac{[\text{Min. } 10 + (\text{Sec. } 30 / 60)]}{V_m \ 8.241} * \sqrt{\frac{0.0319 (T_m \ 105 + 460)}{BP \ 28.85}}$$

~~1.274~~      ~~0.79177~~

Yc = 1.0088 Audit Gamma within 4% limits? Yes (Y/N)  
 Audit Gamma

Positive Pressure/Back half leak check OK? Yes (Y/N)

E T S , I N C .

METER CONSOLE CALIBRATION FORM

Contract No. 95-504  
Job I.D.

Print Date 07/20/95

Meter Box No.: 5  
Delta H: 1.7367  
Gamma: 0.9991

Analyst: S. A. G. G.  
Calibration Date: 07/20/95  
Test Meter No. 9548  
Barometric Pressure 26.81

QA/QC Check: Sydney Sutton 7/21/95  
Previous Calibration Date: 03/17/95  
Previous Gamma: 0.9820

| Run | Orf Set | Initial Test | Final Test | Volume Test | Init Temp | Finl Temp | Test Temp | Initial Box | Final Box | Volume Box | I-I Temp | I-O Temp | F-I Temp | F-O Temp | Temp  | Time | Delta H | Gamma   |
|-----|---------|--------------|------------|-------------|-----------|-----------|-----------|-------------|-----------|------------|----------|----------|----------|----------|-------|------|---------|---------|
| 1   | 0.5     | 351.260      | 361.625    | 10.365      | 79.0      | 78.0      | 78.50     | 523.402     | 533.838   | 10.436     | 80.0     | 81.0     | 86.0     | 82.0     | 82.25 | 25.0 | 1.71159 | 0.99884 |
| 2   | 1.0     | 362.352      | 372.915    | 10.563      | 78.0      | 78.0      | 78.00     | 534.567     | 545.267   | 10.700     | 86.0     | 82.0     | 84.0     | 91.0     | 85.75 | 18.0 | 1.69456 | 0.99887 |
| 3   | 1.5     | 373.112      | 383.013    | 9.901       | 78.0      | 78.0      | 78.00     | 545.474     | 555.527   | 10.053     | 89.0     | 93.0     | 84.0     | 86.0     | 88.00 | 14.0 | 1.74297 | 0.99936 |
| 4   | 2.0     | 383.189      | 394.474    | 11.285      | 78.0      | 78.0      | 78.00     | 555.700     | 567.182   | 11.482     | 92.0     | 86.0     | 96.0     | 87.0     | 90.25 | 14.0 | 1.78157 | 1.00012 |
| 5   | 2.5     | 394.658      | 405.618    | 10.960      | 78.0      | 79.0      | 78.50     | 567.368     | 578.532   | 11.164     | 95.0     | 87.0     | 96.0     | 88.0     | 91.50 | 12.0 | 1.73390 | 0.99905 |
| 6   | 3.0     | 405.812      | 416.744    | 10.938      | 78.0      | 79.0      | 78.50     | 578.724     | 589.863   | 11.139     | 94.0     | 99.0     | 87.0     | 88.0     | 92.00 | 11.0 | 1.75572 | 0.99838 |

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Order Box No..... 5 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 1 Date ..... 16-Dec-94

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 34                       | 32                          | 0.485           |
| 3  | 100                      | 98                          | 0.357           |
| 4  | 200                      | 199                         | 0.152           |
| 5  | 300                      | 300                         | 0.000           |
| 6  | 401                      | 400                         | 0.116           |
| 7  | 500                      | 498                         | 0.208           |
| 8  | 600                      | 600                         | 0.000           |
| 9  | 700                      | 699                         | 0.086           |
| 10 | 801                      | 800                         | 0.079           |
| 11 | 900                      | 899                         | 0.074           |

0.134 AVERAGE DIFF

Calibration Performed By ..... W.R. GRAHAM

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 5 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 2 Date ..... 16-Dec-94

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 32                       | 30                          | 0.487           |
| 3  | 100                      | 97                          | 0.536           |
| 4  | 200                      | 199                         | 0.152           |
| 5  | 300                      | 300                         | 0.000           |
| 6  | 400                      | 399                         | 0.116           |
| 7  | 502                      | 500                         | 0.208           |
| 8  | 599                      | 600                         | -0.294          |
| 9  | 700                      | 700                         | 0.000           |
| 10 | 800                      | 800                         | 0.000           |
| 11 | 900                      | 901                         | -0.074          |

0.114 AVERAGE DIFF

Calibration Performed By ..... M.R. GRAHAM

Post Test Calibration-Contract #1- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

R

E. T. S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 5 REFERENCE CALIBRATOR HW71 CAL-K  
THERMOCOUPLE NUMBER 3 Date ..... 15-Dec-94

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 30                       | 29                          | 0.204           |
| 3  | 100                      | 98                          | 0.357           |
| 4  | 200                      | 199                         | 0.152           |
| 5  | 302                      | 302                         | 0.000           |
| 6  | 402                      | 400                         | 0.232           |
| 7  | 502                      | 500                         | 0.208           |
| 8  | 600                      | 600                         | 0.000           |
| 9  | 701                      | 701                         | 0.000           |
| 10 | 800                      | 800                         | 0.000           |
| 11 | 900                      | 900                         | 0.000           |

0.105 AVERAGE DIFF

Calibration Performed By ..... W.R. GRAHAM

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

R

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 5 REFERENCE CALIBRATOR HW71 CAL-K  
THERMOCOUPLE NUMBER 6 Date ..... 29-Dec-94

|    | Reference Temperature | Thermocouple Temperature | Difference % |
|----|-----------------------|--------------------------|--------------|
| 1  | 0                     | 0                        | 0.000        |
| 2  | 33                    | 33                       | 0.000        |
| 3  | 100                   | 100                      | 0.000        |
| 4  | 200                   | 202                      | -0.303       |
| 5  | 300                   | 302                      | -0.253       |
| 6  | 400                   | 401                      | -0.116       |
| 7  | 501                   | 501                      | 0.000        |
| 8  | 600                   | 602                      | -0.189       |
| 9  | 701                   | 703                      | -0.172       |
| 10 | 800                   | 801                      | -0.079       |
| 11 | 900                   | 902                      | -0.147       |

-0.115 AVERAGE DIFF

Calibration Performed By ..... W.R. Graham

Post Test Calibration-Contract #1- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:



E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 5 REFERENCE CALIBRATOR MH71 CAL-K  
THERMOCOUPLE NUMBER 7 Date ..... 29-Dec-94

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 33                       | 32                          | 0.203           |
| 3  | 100                      | 99                          | 0.179           |
| 4  | 200                      | 201                         | -0.152          |
| 5  | 300                      | 301                         | -0.132          |
| 6  | 401                      | 401                         | 0.000           |
| 7  | 500                      | 500                         | 0.000           |
| 8  | 600                      | 601                         | -0.094          |
| 9  | 701                      | 702                         | -0.066          |
| 10 | 800                      | 801                         | -0.079          |
| 11 | 901                      | 902                         | -0.073          |

-0.021 AVERAGE DIFF

Calibration Performed By ..... W.R. Graham

Post Test Calibration-Contract #\- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

E T S , I N C .

METER CONSOLE CALIBRATION FORM

Print Date 03/29/95

Contract No. reset1  
Job I.D.

Meter Box No.: 7  
Delta H: 1.7027  
Gamma: 1.0020

Analyst: *[Signature]*

QA/QC Check: *[Signature]* 3/31/95

Calibration Date: 03/29/95

Previous Calibration Date: 01/16/95

Test Meter No. 9548

Previous Gamma: 1.0001

Barometric Pressure 28.79

| Run | Orf Set | Initial Test | Final Test | Volume Test | Init Temp | Finl Temp | Test Temp | Initial Box | Final Box | Volume Box | I-I Temp | I-O Temp | F-I Temp | F-O Temp | Temp  | Time | Delta H | Gamma   |
|-----|---------|--------------|------------|-------------|-----------|-----------|-----------|-------------|-----------|------------|----------|----------|----------|----------|-------|------|---------|---------|
| 1   | 0.5     | 622.873      | 633.302    | 10.429      | 80.0      | 81.0      | 80.50     | 251.023     | 261.482   | 10.459     | 83.0     | 80.0     | 82.0     | 89.0     | 83.50 | 24.5 | 1.63315 | 1.00139 |
| 2   | 1.0     | 633.502      | 644.747    | 11.245      | 81.0      | 79.0      | 80.00     | 261.702     | 272.999   | 11.297     | 89.0     | 82.0     | 80.0     | 91.0     | 85.50 | 19.0 | 1.68035 | 1.00297 |
| 3   | 1.5     | 644.942      | 654.975    | 10.033      | 79.0      | 80.0      | 79.50     | 273.195     | 283.302   | 10.107     | 89.0     | 80.0     | 81.0     | 94.0     | 86.00 | 14.0 | 1.71433 | 1.00080 |
| 4   | 2.0     | 655.153      | 665.856    | 10.703      | 79.0      | 81.0      | 80.00     | 283.466     | 294.245   | 10.779     | 93.0     | 81.0     | 82.0     | 96.0     | 88.00 | 13.0 | 1.72874 | 1.00254 |
| 5   | 2.5     | 666.149      | 676.282    | 10.133      | 80.0      | 81.0      | 80.50     | 294.534     | 304.733   | 10.199     | 95.0     | 82.0     | 82.0     | 97.0     | 89.00 | 11.0 | 1.72618 | 1.00275 |
| 6   | 3.0     | 676.508      | 687.586    | 11.078      | 81.0      | 81.0      | 81.00     | 304.970     | 316.129   | 11.159     | 96.0     | 82.0     | 83.0     | 99.0     | 90.00 | 11.0 | 1.73314 | 1.00158 |

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

meter Box No..... 7 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 1 Date ..... 13-Apr-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 30                       | 29                          | 0.204           |
| 3  | 99                       | 98                          | 0.179           |
| 4  | 199                      | 199                         | 0.000           |
| 5  | 299                      | 299                         | -0.132          |
| 6  | 401                      | 401                         | 0.000           |
| 7  | 501                      | 500                         | 0.104           |
| 8  | 602                      | 603                         | -0.094          |
| 9  | 702                      | 702                         | 0.000           |
| 10 | 798                      | 798                         | 0.000           |
| 11 | 900                      | 900                         | 0.000           |

0.024 AVERAGE DIFF

Calibration Performed By ..... R. Graham

Post Test Calibration-Contract #1- \_\_\_\_\_

Pre-Test Calibration-Contract #2- \_\_\_\_\_

Comments:

R

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 7 REFERENCE CALIBRATOR HM71 CAL-K  
THERMOCOUPLE NUMBER 4 Date ..... 13-Apr-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 31                       | 31                          | 0.000           |
| 3  | 100                      | 99                          | 0.179           |
| 4  | 199                      | 199                         | 0.000           |
| 5  | 300                      | 302                         | -0.263          |
| 6  | 401                      | 401                         | 0.000           |
| 7  | 500                      | 500                         | 0.000           |
| 8  | 600                      | 601                         | -0.294          |
| 9  | 698                      | 699                         | -0.086          |
| 10 | 801                      | 801                         | 0.000           |
| 11 | 900                      | 900                         | 0.000           |

-0.024 AVERAGE DIFF

Calibration Performed By ..... R. Graham

Post Test Calibration-Contract #1- \_\_\_\_\_

Pre-Test Calibration-Contract #2- \_\_\_\_\_

Comments:

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Master Box No..... 7 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 5 Date ..... 13-Apr-95

|    | Reference Temperature | Thermocouple Temperature | Difference % |
|----|-----------------------|--------------------------|--------------|
| 1  | 0                     | 0                        | 0.000        |
| 2  | 30                    | 30                       | 0.000        |
| 3  | 99                    | 98                       | 0.179        |
| 4  | 201                   | 201                      | 0.000        |
| 5  | 300                   | 301                      | -0.132       |
| 6  | 400                   | 400                      | 0.000        |
| 7  | 501                   | 501                      | 0.000        |
| 8  | 601                   | 603                      | -0.189       |
| 9  | 700                   | 700                      | 0.000        |
| 10 | 801                   | 801                      | 0.000        |
| 11 | 900                   | 900                      | 0.000        |

-0.013 AVERAGE DIFF

Calibration Performed By ..... R.Graham

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

R

E.T.G. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 7 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 6 Date ..... 13-Apr-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 32                       | 31                          | 0.203           |
| 3  | 101                      | 100                         | 0.178           |
| 4  | 200                      | 200                         | 0.000           |
| 5  | 300                      | 301                         | -0.132          |
| 6  | 400                      | 400                         | 0.000           |
| 7  | 500                      | 500                         | 0.000           |
| 8  | 600                      | 599                         | 0.094           |
| 9  | 699                      | 699                         | 0.000           |
| 10 | 801                      | 801                         | 0.000           |
| 11 | 900                      | 900                         | 0.000           |

0.031 AVERAGE DIFF

Calibration Performed By ..... R. Graham

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

R

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 7 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 7 Date ..... 13-Apr-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 32                       | 32                          | 0.000           |
| 3  | 102                      | 101                         | 0.178           |
| 4  | 201                      | 201                         | 0.000           |
| 5  | 300                      | 299                         | 0.122           |
| 6  | 401                      | 400                         | 0.116           |
| 7  | 500                      | 500                         | 0.000           |
| 8  | 602                      | 601                         | 0.094           |
| 9  | 701                      | 700                         | 0.386           |
| 10 | 803                      | 801                         | 0.158           |
| 11 | 899                      | 899                         | 0.000           |

0.069 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

E T S , I N C .

METER CONSOLE CALIBRATION FORM

Contract No. RECO  
Job I.D.

Print Date 05/23/95

Meter Box No.: 8  
Delta H: 1.7393  
Gamma: 1.0166

Analyst: *[Signature]*  
Calibration Date: 05/22/95  
Test Meter No. 9548  
Barometric Pressure 28.97

QA/QC Check: *[Signature]* Section 15/25/95  
Previous Calibration Date: 12/29/94  
Previous Gamma: 1.0054

| Run | Orf Set | Initial Test | Final Test | Volume Test | Init Temp | Finl Temp | Test Temp | Initial Box | Final Box | Volume Box | I-I Temp | I-O Temp | F-I Temp | F-O Temp | Temp  | Time | Delta H | Gamma   |
|-----|---------|--------------|------------|-------------|-----------|-----------|-----------|-------------|-----------|------------|----------|----------|----------|----------|-------|------|---------|---------|
| 1   | 0.5     | 845.339      | 858.146    | 12.807      | 72.0      | 73.0      | 72.50     | 738.079     | 750.668   | 12.589     | 75.0     | 73.0     | 79.0     | 76.0     | 75.75 | 30.0 | 1.58893 | 1.02223 |
| 2   | 1.0     | 858.458      | 870.278    | 11.820      | 73.0      | 73.0      | 73.00     | 750.972     | 762.647   | 11.675     | 79.0     | 76.0     | 78.0     | 83.0     | 79.00 | 20.0 | 1.65121 | 1.02122 |
| 3   | 1.5     | 870.816      | 885.086    | 14.270      | 73.0      | 74.0      | 73.50     | 763.182     | 777.321   | 14.139     | 75.0     | 75.0     | 83.0     | 78.0     | 77.75 | 22.0 | 2.06485 | 1.01345 |
| 4   | 2.0     | 885.316      | 895.901    | 10.585      | 74.0      | 75.0      | 74.50     | 777.541     | 788.090   | 10.549     | 80.0     | 77.0     | 79.0     | 81.0     | 79.25 | 13.0 | 1.74884 | 1.00722 |
| 5   | 2.5     | 896.067      | 906.673    | 10.606      | 74.0      | 74.0      | 74.00     | 788.267     | 798.861   | 10.594     | 82.0     | 79.0     | 78.0     | 86.0     | 81.25 | 11.5 | 1.69445 | 1.00833 |
| 6   | 3.0     | 906.865      | 918.492    | 11.627      | 74.0      | 75.0      | 74.50     | 799.071     | 810.501   | 11.430     | 85.0     | 80.0     | 81.0     | 89.0     | 83.75 | 11.5 | 1.68729 | 1.02702 |



E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 8 REFERENCE CALIBRATOR HM71 CAL-K  
THERMOCOUPLE NUMBER 1 Date ..... 18-Nov-94

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 30                       | 28                          | 0.408           |
| 3  | 100                      | 98                          | 3.337           |
| 4  | 200                      | 200                         | 0.000           |
| 5  | 301                      | 301                         | 0.000           |
| 6  | 400                      | 400                         | 0.000           |
| 7  | 501                      | 499                         | 0.208           |
| 8  | 601                      | 600                         | 0.094           |
| 9  | 701                      | 699                         | 0.172           |
| 10 | 800                      | 797                         | 0.238           |
| 11 | 900                      | 898                         | 0.147           |

0.148 AVERAGE DIFF

Calibration Performed By ..... R. Roberson

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

R

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 8 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 2 Date ..... 18-Nov-94

|   | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|---|--------------------------|-----------------------------|-----------------|
| 1 | 0                        | 0                           | 0.000           |
| 2 | 30                       | 28                          | 0.408           |
| 3 | 101                      | 98                          | 2.335           |
| 4 | 200                      | 200                         | 0.000           |
| 5 | 300                      | 300                         | 0.000           |
| 6 | 400                      | 399                         | 0.116           |
| 7 | 500                      | 500                         | 0.000           |
| 8 | 600                      | 597                         | 0.283           |
| 9 | 700                      | 699                         | 0.286           |

|    |     |     |       |
|----|-----|-----|-------|
| 10 | 900 | 798 | 0.159 |
| 11 | 900 | 898 | 0.147 |

0.158 AVERAGE DIFF

Calibration Performed By ..... R. Roberson

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 8 REFERENCE CALIBRATOR HM71 CAL-K  
THERMOCOUPLE NUMBER 3 Date ..... 10-Nov-94

|   | Reference<br>Teaperature | Thermocouple<br>Temperature | Difference<br>% |
|---|--------------------------|-----------------------------|-----------------|
| 1 | 0                        | 0                           | 0.000           |
| 2 | 30                       | 29                          | 0.284           |
| 3 | 100                      | 97                          | 0.535           |
| 4 | 200                      | 199                         | 0.152           |
| 5 | 300                      | 300                         | 0.000           |
| 6 | 400                      | 398                         | 0.233           |
| 7 | 500                      | 498                         | 0.200           |
| 8 | 600                      | 597                         | 0.283           |
| 9 | 700                      | 698                         | 0.172           |

|    |     |     |       |
|----|-----|-----|-------|
| 10 | 800 | 798 | 0.159 |
| 11 | 901 | 899 | 0.147 |

0.190 AVERAGE DIFF

Calibration Performed By ..... R. Roberson

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 8 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 4 Date ..... 18-Nov-94

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 30                       | 29                          | 0.204           |
| 3  | 100                      | 97                          | 3.536           |
| 4  | 200                      | 199                         | 0.152           |
| 5  | 300                      | 300                         | 0.000           |
| 6  | 400                      | 398                         | 0.233           |
| 7  | 500                      | 498                         | 0.208           |
| 8  | 600                      | 599                         | 0.254           |
| 9  | 701                      | 700                         | 0.086           |
| 10 | 800                      | 799                         | 0.079           |
| 11 | 900                      | 898                         | 0.147           |

0.158 AVERAGE DIFF

Calibration Performed By ..... R. Roberson

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 8 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 5 Date ..... 10-Nov-94

|   | Reference Temperature | Thermocouple Temperature | Difference % |
|---|-----------------------|--------------------------|--------------|
| 1 | 0                     | 0                        | 0.000        |
| 2 | 30                    | 29                       | 0.204        |
| 3 | 100                   | 98                       | 0.357        |
| 4 | 200                   | 200                      | 0.000        |
| 5 | 300                   | 300                      | 0.000        |
| 6 | 400                   | 398                      | 0.233        |
| 7 | 500                   | 498                      | 0.200        |
| 8 | 600                   | 600                      | 0.000        |
| 9 | 700                   | 698                      | 0.172        |

|    |     |     |       |
|----|-----|-----|-------|
| 10 | 800 | 798 | 0.159 |
| 11 | 900 | 898 | 0.147 |

0.135 AVERAGE DIFF

Calibration Performed By ..... R. Roberson

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

R

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 8 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 6 Date ..... 10-Nov-94

|   | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|---|--------------------------|-----------------------------|-----------------|
| 1 | 0                        | 0                           | 0.000           |
| 2 | 30                       | 28                          | 0.408           |
| 3 | 100                      | 98                          | 0.357           |
| 4 | 199                      | 198                         | 0.152           |
| 5 | 300                      | 300                         | 0.000           |
| 6 | 400                      | 399                         | 0.116           |
| 7 | 500                      | 497                         | 0.313           |
| 8 | 600                      | 599                         | 0.200           |
| 9 | 700                      | 699                         | 0.086           |

|    |     |     |       |
|----|-----|-----|-------|
| 10 | 800 | 798 | 0.159 |
| 11 | 900 | 898 | 0.147 |

0.158 AVERAGE DIFF

Calibration Performed By ..... R. Roberson

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

R

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 8 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 7 Date ..... 10-Nov-94

|   | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|---|--------------------------|-----------------------------|-----------------|
| 1 | 0                        | 0                           | 0.000           |
| 2 | 38                       | 29                          | 0.204           |
| 3 | 100                      | 98                          | 0.357           |
| 4 | 200                      | 200                         | 0.000           |
| 5 | 300                      | 300                         | 0.000           |
| 6 | 400                      | 398                         | 0.233           |
| 7 | 500                      | 498                         | 0.208           |
| 8 | 600                      | 600                         | 0.000           |
| 9 | 700                      | 698                         | 0.172           |

|    |     |     |       |
|----|-----|-----|-------|
| 10 | 800 | 798 | 0.159 |
| 11 | 900 | 898 | 0.147 |

0.135 AVERAGE DIFF

Calibration Performed By ..... R. Roberson

Post Test Calibration-Contract #1- \_\_\_\_\_

Pre-Test Calibration-Contract #2- \_\_\_\_\_

Comments:

METER BOX AUDIT

Plant Name LA Pacific Job No. 95-576  
 City/State Danham, VA Auditor MB/JM  
 Test Location Konvs Stock Date 9-11-95

Isokinetic Meter Box I.D. 8 Gamma (Y) 1.0166 dHe 1.7393  
 Zero/Level Manometer?  Barometric Pressure (Pbar) 28.75

| Dry Gas Meter Reading (Cubic Ft.)  | Meter Temperature (F)         | Lower and Upper Limits for Audit Gamma |                       |
|------------------------------------|-------------------------------|--|-----------------------|
| Final <u>761.312</u>               | Final <u>76/78</u>            | 0.96 >                                 |                       |
| Initial <u>746.051</u>             | Initial <u>78/78</u>          | 1.04 <                                 |                       |
| Dry Gas Volume Metered (Cubic Ft.) | Average Meter Temperature (F) | Audit Test Time                        |                       |
| Vm = <u>15.261</u>                 | Tm = <u>77</u>                | (Minutes)<br><u>21</u>                 | (Seconds)<br><u>0</u> |

$$Y_c = \frac{[\text{Min. } 21 + (\text{Sec. } 0 / 60)]}{V_m \ 15.261} * \sqrt{\frac{0.0319 (T_m \ 77 + 460)}{BP \ 28.75}}$$

Yc = 1.0351 / Audit Gamma      Audit Gamma within 4% limits? Y (Y/N)

Positive Pressure/Back half leak check OK? Y (Y/N)



E T S , I N C .

METER CONSOLE CALIBRATION FORM

Print Date 06/13/95

Contract No. 95-515  
Job I.D.

Meter Box No.: 10  
Delta H: 1.7109  
Gamma: 0.9993

Analyst: *John R. P. Williams*  
Calibration Date: 06/13/95  
Test Meter No. 9548  
Barometric Pressure 28.69

QA/QC Check: *Dynne Sexton* 6/14/95  
Previous Calibration Date: 05/25/95  
Previous Gamma: 1.0110

| Run | Orf Set | Initial Test | Final Test | Volume Test | Init Temp | Finl Temp | Test Temp | Initial Box | Final Box | Volume Box | I-I Temp | I-O Temp | F-I Temp | F-O Temp | Temp  | Time | Delta H | Gamma   |
|-----|---------|--------------|------------|-------------|-----------|-----------|-----------|-------------|-----------|------------|----------|----------|----------|----------|-------|------|---------|---------|
| 1   | 0.5     | 49.995       | 60.682     | 10.687      | 74.0      | 75.0      | 74.50     | 31.851      | 42.602    | 10.751     | 74.0     | 79.0     | 74.0     | 76.0     | 75.75 | 25.0 | 1.61213 | 0.99510 |
| 2   | 1.0     | 60.881       | 71.465     | 10.584      | 74.0      | 75.0      | 74.50     | 42.820      | 53.467    | 10.647     | 77.0     | 82.0     | 75.0     | 77.0     | 77.75 | 18.0 | 1.69781 | 0.99757 |
| 3   | 1.5     | 71.720       | 82.346     | 10.626      | 75.0      | 75.0      | 75.00     | 53.722      | 64.450    | 10.728     | 80.0     | 84.0     | 77.0     | 79.0     | 80.00 | 15.0 | 1.75056 | 0.99592 |
| 4   | 2.0     | 82.665       | 93.311     | 10.646      | 75.0      | 75.0      | 75.00     | 64.708      | 75.404    | 10.696     | 82.0     | 86.0     | 78.0     | 79.0     | 81.25 | 13.0 | 1.74254 | 1.00182 |
| 5   | 2.5     | 93.467       | 104.484    | 11.017      | 75.0      | 75.0      | 75.00     | 75.571      | 86.632    | 11.061     | 84.0     | 79.0     | 80.0     | 87.0     | 82.50 | 12.0 | 1.72907 | 1.00355 |
| 6   | 3.0     | 105.185      | 116.742    | 11.557      | 75.0      | 75.0      | 75.00     | 87.328      | 98.927    | 11.599     | 82.0     | 79.0     | 87.0     | 80.0     | 82.00 | 11.5 | 1.73326 | 1.00171 |

E. T. S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 10 REFERENCE CALIBRATOR ..... JAN71 CAL-X  
THERMOCOUPLE NUMBER : Date ..... 25 Sep 85

|    | Reference Temperature | Thermocouple Temperature | Difference % |
|----|-----------------------|--------------------------|--------------|
| 1  | 0                     | 0                        | 0.000        |
| 2  | 32                    | 30                       | 0.487        |
| 3  | 100                   | 95                       | 0.357        |
| 4  | 200                   | 199                      | 0.152        |
| 5  | 300                   | 300                      | 0.000        |
| 6  | 400                   | 398                      | 0.223        |
| 7  | 500                   | 499                      | 0.184        |
| 8  | 600                   | 601                      | -0.394       |
| 9  | 700                   | 700                      | 0.000        |
| 10 | 800                   | 800                      | 0.000        |
| 11 | 900                   | 900                      | 0.000        |

0.105 AVERAGE DIFF

Calibration Performed By ..... B.M. Schenski

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

R

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 10 REFERENCE CALIBRATOR 4471 CAL-K  
THERMOCOUPLE NUMBER 2 Date ..... 25 Sep 95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 32                       | 30                          | 0.487           |
| 3  | 100                      | 97                          | 0.556           |
| 4  | 200                      | 199                         | 0.152           |
| 5  | 300                      | 299                         | 0.162           |
| 6  | 400                      | 398                         | 0.233           |
| 7  | 500                      | 497                         | 0.313           |
| 8  | 600                      | 591                         | -0.394          |
| 9  | 700                      | 698                         | 0.172           |
| 10 | 800                      | 798                         | 0.159           |
| 11 | 900                      | 898                         | 0.147           |

0.196 AVERAGE DIFF

Calibration Performed By ..... B.M.Schenski

Post Test Calibration-Contract #\- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

R

E. T. S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 10 REFERENCE CALIBRATOR      HH71 CAL-K  
THERMOCOUPLE NUMBER      3 Date .....      25 Sep 35

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 32                       | 31                          | 0.203           |
| 3  | 100                      | 99                          | 0.179           |
| 4  | 200                      | 200                         | 0.000           |
| 5  | 300                      | 301                         | -0.132          |
| 6  | 400                      | 399                         | 0.116           |
| 7  | 500                      | 498                         | 0.208           |
| 8  | 600                      | 600                         | 0.000           |
| 9  | 700                      | 700                         | 0.000           |
| 10 | 800                      | 799                         | 0.079           |
| 11 | 900                      | 900                         | 0.000           |

0.059 AVERAGE DIFF

Calibration Performed By ..... S.M. Schenski

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

E. T. S. INC.  
METER CONSOLE CALIBRATION FORM

meter box No..... 10 REFERENCE CALIBRATOR 1471 CAL-K  
THERMOCOUPLE NUMBER 4 Data ..... 25 Sep 55

|    | Reference Temperature | Thermocouple Temperature | Difference % |
|----|-----------------------|--------------------------|--------------|
| 1  | 0                     | 1                        | -0.217       |
| 2  | 32                    | 30                       | 0.407        |
| 3  | 100                   | 93                       | 0.237        |
| 4  | 200                   | 199                      | 0.152        |
| 5  | 300                   | 300                      | 0.000        |
| 6  | 400                   | 399                      | 0.116        |
| 7  | 500                   | 498                      | 0.208        |
| 8  | 600                   | 600                      | 0.000        |
| 9  | 700                   | 699                      | 0.066        |
| 10 | 800                   | 799                      | 0.079        |
| 11 | 900                   | 899                      | 0.074        |

0.115 AVERAGE DIFF

Calibration Performed By ..... S.A. Schenski

Post Test Calibration-Contract #1- \_\_\_\_\_

Pre-Test Calibration-Contract #2- \_\_\_\_\_

Comments:

R

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 10 REFERENCE CALIBRATOR AH71 CAL-K  
THERMOCOUPLE NUMBER 5 Date ..... 25 Sep 95

|    | Reference<br>Teaperature | Thermocouple<br>Teaperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 32                       | 30                          | 0.407           |
| 3  | 100                      | 97                          | 0.536           |
| 4  | 200                      | 200                         | 0.000           |
| 5  | 300                      | 300                         | 0.000           |
| 6  | 400                      | 399                         | 0.116           |
| 7  | 500                      | 496                         | 0.128           |
| 8  | 600                      | 601                         | -0.094          |
| 9  | 700                      | 700                         | 0.000           |
| 10 | 800                      | 799                         | 0.079           |
| 11 | 900                      | 899                         | 0.074           |

0.120 AVERAGE DIFF

Calibration Performed By ..... B.M.Schenski

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

R

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 10 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 6 Date ..... 25 Sep 95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | -1                          | 0.217           |
| 2  | 32                       | 28                          | 0.913           |
| 3  | 100                      | 97                          | 0.536           |
| 4  | 200                      | 198                         | 0.333           |
| 5  | 300                      | 300                         | 0.000           |
| 6  | 400                      | 399                         | 0.116           |
| 7  | 500                      | 499                         | 0.104           |
| 8  | 600                      | 602                         | -0.189          |
| 9  | 700                      | 700                         | 0.000           |
| 10 | 800                      | 799                         | 0.079           |
| 11 | 900                      | 899                         | 0.074           |

0.187 AVERAGE DIFF

Calibration Performed By ..... B.A. Schenski

Post Test Calibration-Contract #\- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

R

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 10 REFERENCE CALIBRATOR MH71 CAL-K  
THERMOCOUPLE NUMBER 7 Date ..... 25 Sep 95

|    | Reference Temperature | Thermocouple Temperature | Difference % |
|----|-----------------------|--------------------------|--------------|
| 1  | 0                     | 2                        | -0.435       |
| 2  | 32                    | 38                       | 0.487        |
| 3  | 100                   | 97                       | 3.536        |
| 4  | 200                   | 199                      | 0.152        |
| 5  | 300                   | 299                      | 3.132        |
| 6  | 400                   | 397                      | 0.349        |
| 7  | 500                   | 497                      | 0.313        |
| 8  | 600                   | 596                      | 0.139        |
| 9  | 700                   | 699                      | 0.286        |
| 10 | 800                   | 799                      | 0.279        |
| 11 | 900                   | 901                      | -0.274       |

0.158 AVERAGE DIFF

Calibration Performed By ..... S.M. Schenski

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:



E T S , I N C .

METER CONSOLE CALIBRATION FORM

Print Date 07/14/95

Contract No. 95-524  
Job I.D.

Meter Box No.: 12  
Delta H: 1.7641  
Gamma: 0.9908

Analyst: *[Signature]*  
Calibration Date: 07/14/95

QA/QC Check: *[Signature]* 7/14/95  
Previous Calibration Date: 03/14/95  
Test Meter No. 9548  
Barometric Pressure 28.93  
Previous Gamma: 1.0012

| Run | Orf | Initial | Final   | Volume | Init | Final | Test  | Initial | Final   | Volume | I-I  | I-O  | F-I  | F-O  | Temp  | Time | Delta H | Gamma   |
|-----|-----|---------|---------|--------|------|-------|-------|---------|---------|--------|------|------|------|------|-------|------|---------|---------|
|     | Set | Test    | Test    | Test   | Temp | Temp  | Temp  | Box     | Box     | Box    | Temp | Temp | Temp | Temp |       |      |         |         |
| 1   | 0.5 | 222.115 | 232.227 | 10.112 | 78.0 | 78.0  | 78.00 | 671.458 | 681.696 | 10.238 | 78.0 | 78.0 | 79.0 | 81.0 | 79.00 | 24.5 | 1.72709 | 0.98827 |
| 2   | 1.0 | 232.447 | 242.696 | 10.249 | 78.0 | 78.0  | 78.00 | 681.916 | 692.293 | 10.377 | 81.0 | 79.0 | 80.0 | 84.0 | 81.00 | 17.5 | 1.70919 | 0.99065 |
| 3   | 1.5 | 242.831 | 253.353 | 10.522 | 78.0 | 78.0  | 78.00 | 692.434 | 703.093 | 10.659 | 84.0 | 80.0 | 81.0 | 83.0 | 82.00 | 15.0 | 1.78383 | 0.99071 |
| 4   | 2.0 | 253.556 | 267.312 | 13.756 | 78.0 | 78.0  | 78.00 | 703.290 | 717.230 | 13.940 | 83.0 | 81.0 | 83.0 | 87.0 | 83.50 | 17.0 | 1.78246 | 0.99185 |
| 5   | 2.5 | 267.516 | 283.829 | 16.313 | 78.0 | 78.0  | 78.00 | 717.449 | 733.982 | 16.533 | 86.0 | 82.0 | 83.0 | 87.0 | 84.50 | 18.0 | 1.77294 | 0.99231 |
| 6   | 3.0 | 284.058 | 294.862 | 10.804 | 78.0 | 78.0  | 78.00 | 734.215 | 745.181 | 10.966 | 87.0 | 83.0 | 84.0 | 87.0 | 85.25 | 11.0 | 1.80891 | 0.99095 |

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 12 REFERENCE CALIBRATOR HW71 CAL-K  
THERMOCOUPLE NUMBER 1 Date ..... 17-Aug-95

|    | Reference Temperature | Thermocouple Temperature | Difference % |
|----|-----------------------|--------------------------|--------------|
| 1  | 0                     | 1                        | -0.217       |
| 2  | 32                    | 31                       | 0.293        |
| 3  | 100                   | 100                      | 0.000        |
| 4  | 200                   | 199                      | 0.152        |
| 5  | 300                   | 299                      | 0.132        |
| 6  | 400                   | 399                      | 0.115        |
| 7  | 500                   | 500                      | 0.000        |
| 8  | 600                   | 599                      | 0.094        |
| 9  | 700                   | 699                      | 0.086        |
| 10 | 800                   | 799                      | 0.079        |
| 11 | 900                   | 899                      | 0.074        |

0.065 AVERAGE DIFF

Calibration Performed By ..... S.WARDEN

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

R

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 12 REFERENCE CALIBRATOR MH71 CAL-K  
THERMOCOUPLE NUMBER 2 Date ..... 17-Aug-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 1                           | -0.217          |
| 2  | 32                       | 32                          | 0.000           |
| 3  | 100                      | 101                         | -0.179          |
| 4  | 200                      | 200                         | 0.000           |
| 5  | 300                      | 302                         | -0.253          |
| 6  | 400                      | 401                         | -0.115          |
| 7  | 500                      | 501                         | -0.104          |
| 8  | 600                      | 600                         | 0.000           |
| 9  | 700                      | 701                         | -0.086          |
| 10 | 800                      | 801                         | -0.079          |
| 11 | 900                      | 901                         | -0.074          |

-0.102 AVERAGE DIFF

Calibration Performed By ..... S. WARDEN

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

R

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 12 REFERENCE CALIBRATOR MH71 CAL-K  
THERMOCOUPLE NUMBER 3 Date ..... 17-Aug-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 32                       | 30                          | 0.407           |
| 3  | 100                      | 99                          | 0.179           |
| 4  | 200                      | 198                         | 0.303           |
| 5  | 300                      | 299                         | 0.166           |
| 6  | 400                      | 399                         | 0.116           |
| 7  | 500                      | 500                         | 0.000           |
| 8  | 600                      | 598                         | 0.189           |
| 9  | 700                      | 697                         | 0.259           |
| 10 | 800                      | 798                         | 0.159           |
| 11 | 900                      | 899                         | 0.074           |

0.165 AVERAGE DIFF

Calibration Performed By ..... S. WARDEN

Post Test Calibration-Contract #1- \_\_\_\_\_

Pre-Test Calibration-Contract #2- \_\_\_\_\_

Comments:

E.T.G. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No. .... 12 REFERENCE CALIBRATOR NH71 CAL-K  
THERMOCOUPLE NUMBER 4 Date ..... 17-Aug-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |              |
|----|--------------------------|-----------------------------|-----------------|--------------|
| 1  | 0                        | 2                           | -0.435          |              |
| 2  | 32                       | 33                          | -0.203          |              |
| 3  | 100                      | 101                         | -0.179          |              |
| 4  | 200                      | 199                         | 0.152           |              |
| 5  | 300                      | 302                         | -0.333          |              |
| 6  | 400                      | 399                         | 0.115           |              |
| 7  | 500                      | 499                         | 0.104           |              |
| 8  | 600                      | 598                         | 0.189           |              |
| 9  | 700                      | 701                         | -0.086          |              |
| 10 | 800                      | 797                         | 0.238           |              |
| 11 | 900                      | 899                         | 0.274           |              |
|    |                          |                             | -0.027          | AVERAGE DIFF |

Calibration Performed By ..... S. WARDEN

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments: \_\_\_\_\_

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 12 REFERENCE CALIBRATOR MH71 CAL-K  
THERMOCOUPLE NUMBER 5 Date ..... 17-Aug-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 1                           | -0.217          |
| 2  | 32                       | 31                          | 0.203           |
| 3  | 100                      | 98                          | 0.357           |
| 4  | 200                      | 199                         | 0.152           |
| 5  | 300                      | 297                         | 0.335           |
| 6  | 400                      | 398                         | 0.233           |
| 7  | 500                      | 501                         | -0.104          |
| 8  | 600                      | 600                         | 0.000           |
| 9  | 700                      | 698                         | 0.172           |
| 10 | 800                      | 798                         | 0.159           |
| 11 | 900                      | 898                         | 0.147           |

0.136 AVERAGE DIFF

Calibration Performed By ..... S. WARDEN

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

R

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 12 REFERENCE CALIBRATOR MH71 CAL-H  
THERMOCOUPLE NUMBER 6 Date ..... 17-Aug-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 32                       | 30                          | 0.407           |
| 3  | 100                      | 98                          | 0.357           |
| 4  | 200                      | 198                         | 0.303           |
| 5  | 300                      | 298                         | 0.263           |
| 6  | 400                      | 399                         | 0.116           |
| 7  | 500                      | 498                         | 0.208           |
| 8  | 600                      | 599                         | 0.094           |
| 9  | 700                      | 698                         | 0.172           |
| 10 | 800                      | 799                         | 0.079           |
| 11 | 900                      | 899                         | 0.074           |

0.189 AVERAGE DIFF

Calibration Performed By ..... S.WARDEN

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

R

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 12 REFERENCE CALIBRATOR      HH71 CAL-K  
THERMOCOUPLE NUMBER      7 Date ..... 17-Aug-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 1                           | -0.217          |
| 2  | 32                       | 33                          | -0.203          |
| 3  | 100                      | 101                         | -0.179          |
| 4  | 200                      | 199                         | 0.152           |
| 5  | 300                      | 302                         | -0.253          |
| 6  | 400                      | 401                         | -0.115          |
| 7  | 500                      | 500                         | 0.000           |
| 8  | 600                      | 602                         | -0.189          |
| 9  | 700                      | 701                         | -0.066          |
| 10 | 800                      | 802                         | -0.159          |
| 11 | 900                      | 901                         | -0.074          |

-0.121 AVERAGE DIFF

Calibration Performed By ..... S.WARDEN

Post Test Calibration-Contract #1- \_\_\_\_\_

Pre-Test Calibration-Contract #2- \_\_\_\_\_

Comments:



METER BOX AUDIT

Plant Name LA Pacific Job No. 75-576  
 City/State Dungeness, V.A. Auditor C.S.  
 Test Location Scrubber Inlet Date 8/29/95

Isokinetic Meter Box  
 I.D. 12 Gamma (Y) .99079 dHe 1.76407  
 Zero/Level Manometer? Y Barometric Pressure (Pbar) 28.75

| Dry Gas Meter Reading (Cubic Ft.)  | Meter Temperature (F)         | Lower and Upper Limits for Audit Gamma |                  |
|------------------------------------|-------------------------------|--|------------------|
| Final <u>897.220</u>               | Final <u>110.5</u>            | 0.96 >                                 | <u>.9511584</u>  |
| Initial <u>886.290</u>             | Initial <u>109</u>            | 1.04 <                                 | <u>1.0307216</u> |
| Dry Gas Volume Metered (Cubic Ft.) | Average Meter Temperature (F) | Audit Test Time                        |                  |
| Vm = <u>7.93</u>                   | Tm = <u>110.25</u>            | (Minutes)                              | (Seconds)        |
|                                    |                               | <u>10</u>                              | <u>0</u>         |

$$Y_c = \frac{[\text{Min. } \underline{0} + (\text{Sec. } \underline{0} / 60)]}{V_m \underline{7.93}} * \sqrt{\frac{0.0319 (T_m \underline{110.25} + 460)}{BP \underline{28.75}}}$$

Yc = 1.00312 Audit Gamma within 4% limits? Y (Y/N)  
 Audit Gamma

Positive Pressure/Back half leak check OK? Y (Y/N)

METER BOX AUDIT

Plant Name LA. Pacific Job No. 95-576  
 City/State Dungenon, Va Auditor MB/SM  
 Test Location Konw's Stack Date 9-11-95

Isokinetic Meter Box I.D. 12 Gamma (Y) 0.9907 dHe 1.76482  
 Zero/Level Manometer?  Barometric Pressure (Pbar) 28.75

| Dry Gas Meter Reading (Cubic Ft.)  | Meter Temperature (F)         | Lower and Upper Limits for Audit Gamma |                       |
|------------------------------------|-------------------------------|--|-----------------------|
| Final <u>172.285</u>               | Final <u>76.76</u>            | 0.96 >                                 |                       |
| Initial <u>180.173</u>             | Initial <u>89.86</u>          | 1.04 <                                 |                       |
| Dry Gas Volume Metered (Cubic Ft.) | Average Meter Temperature (F) | Audit Test Time                        |                       |
| Vm = <u>7.888</u>                  | Tm = <u>79</u>                | (Minutes)<br><u>10</u>                 | (Seconds)<br><u>0</u> |

0.77334

$$Y_c = \frac{[\text{Min. } 10 + (\text{Sec. } 0 / 60)]}{V_m \text{ } 7.888} * \sqrt{\frac{0.0319 (T_m \text{ } 79 + 460)}{BP \text{ } 28.75}}$$

Yc = 0.9804 Audit Gamma within 4% limits? Y (Y/N)

Positive Pressure/Back half leak check OK? Y (Y/N)

E T S , I N C .

METER CONSOLE CALIBRATION FORM

Print Date 08/14/95

Contract No. reset  
Job I.D.

Meter Box No.: 13  
Delta H: 1.8375  
Gamma: 1.0027

Analyst: *[Signature]*

Calibration Date: 08/14/95  
Test Meter No. 9548  
Barometric Pressure 28.80

QA/QC Check: *[Signature]* 8/14/95  
Previous Calibration Date: 08/11/95  
Previous Gamma: 1.0274

| Run | Orf Set | Initial Test | Final Test | Volume Test | Init Temp | Finl Temp | Test Temp | Initial Box | Final Box | Volume Box | I-I Temp | I-O Temp | F-I Temp | F-O Temp | Temp  | Time | Delta H | Gamma   |
|-----|---------|--------------|------------|-------------|-----------|-----------|-----------|-------------|-----------|------------|----------|----------|----------|----------|-------|------|---------|---------|
| 1   | 0.7     | 548.335      | 559.802    | 11.467      | 75.0      | 75.0      | 75.00     | 881.536     | 893.021   | 11.485     | 77.0     | 76.0     | 77.0     | 79.0     | 77.25 | 26.0 | 1.95956 | 1.00097 |
| 2   | 1.2     | 560.082      | 570.619    | 10.537      | 75.0      | 75.0      | 75.00     | 893.306     | 903.873   | 10.567     | 79.0     | 77.0     | 78.0     | 81.0     | 78.75 | 17.0 | 1.82655 | 1.00108 |
| 3   | 1.7     | 570.934      | 584.260    | 13.326      | 75.0      | 76.0      | 75.50     | 904.175     | 917.500   | 13.325     | 80.0     | 78.0     | 78.0     | 80.0     | 79.00 | 18.0 | 1.81632 | 1.00226 |
| 4   | 2.2     | 584.561      | 597.687    | 13.126      | 75.0      | 75.0      | 75.00     | 917.796     | 930.912   | 13.116     | 80.0     | 78.0     | 78.0     | 83.0     | 79.75 | 15.5 | 1.79062 | 1.00401 |
| 5   | 2.8     | 598.154      | 610.341    | 12.187      | 75.0      | 75.0      | 75.00     | 931.372     | 943.547   | 12.175     | 83.0     | 78.0     | 79.0     | 84.0     | 81.00 | 13.0 | 1.82223 | 1.00515 |
| 6   | 3.0     | 612.711      | 625.516    | 12.805      | 75.0      | 75.0      | 75.00     | 945.916     | 958.670   | 12.754     | 78.0     | 77.0     | 77.0     | 81.0     | 78.25 | 13.0 | 1.80984 | 1.00242 |

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 13 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 1 Date ..... 15-Sep-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 31                       | 31                          | 0.000           |
| 3  | 100                      | 100                         | 0.000           |
| 4  | 199                      | 198                         | 0.152           |
| 5  | 301                      | 301                         | 0.000           |
| 6  | 399                      | 399                         | 0.000           |
| 7  | 502                      | 502                         | 0.000           |
| 8  | 606                      | 607                         | -0.094          |
| 9  | 702                      | 702                         | 0.000           |
| 10 | 800                      | 800                         | 0.000           |
| 11 | 901                      | 901                         | 0.000           |

0.005 AVERAGE DIFF

Calibration Performed By ..... W.C. Hayes

Post Test Calibration-Contract #\- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 13 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 2 Date ..... 15-Sep-95

|    | Reference Temperature | Thermocouple Temperature | Difference % |
|----|-----------------------|--------------------------|--------------|
| 1  | 0                     | 0                        | 0.000        |
| 2  | 32                    | 32                       | 0.000        |
| 3  | 100                   | 100                      | 0.000        |
| 4  | 200                   | 200                      | 0.000        |
| 5  | 299                   | 300                      | -0.132       |
| 6  | 400                   | 400                      | 0.000        |
| 7  | 500                   | 500                      | 0.000        |
| 8  | 600                   | 600                      | 0.000        |
| 9  | 700                   | 700                      | 0.000        |
| 10 | 800                   | 800                      | 0.000        |
| 11 | 900                   | 901                      | -0.074       |

-0.019 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #- \_\_\_\_\_

Pre Test Calibration-Contract #- \_\_\_\_\_

Comments:

R

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 13 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 3 Date ..... 15-Sep-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 32                       | 31                          | 0.203           |
| 3  | 101                      | 100                         | 0.178           |
| 4  | 200                      | 199                         | 0.152           |
| 5  | 302                      | 301                         | 0.131           |
| 6  | 402                      | 402                         | 0.000           |
| 7  | 501                      | 501                         | 0.000           |
| 8  | 603                      | 603                         | 0.000           |
| 9  | 705                      | 706                         | -0.086          |
| 10 | 804                      | 804                         | 0.000           |
| 11 | 901                      | 900                         | 0.073           |

0.059 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #1- \_\_\_\_\_

Pre-Test Calibration-Contract # \_\_\_\_\_

Comments:

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 13 REFERENCE CALIBRATOR -HN71 CAL-K  
THERMOCOUPLE NUMBER 4 Date ..... 15-Sep-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 31                       | 32                          | -0.204          |
| 3  | 100                      | 100                         | 0.000           |
| 4  | 201                      | 200                         | 0.151           |
| 5  | 303                      | 302                         | 0.131           |
| 6  | 405                      | 404                         | 0.116           |
| 7  | 503                      | 502                         | 0.194           |
| 8  | 602                      | 602                         | 0.000           |
| 9  | 701                      | 700                         | 0.066           |
| 10 | 800                      | 800                         | 0.000           |
| 11 | 900                      | 901                         | -0.074          |

0.028 AVERAGE DIFF

Calibration Performed By ..... W.C. Hayes

Post Test Calibration-Contract #1- \_\_\_\_\_

Pre-Test Calibration-Contract # \_\_\_\_\_

Comments:

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 13 REFERENCE CALIBRATOR      HH71 CAL-K  
THERMOCOUPLE NUMBER      5 Date ..... 15-Sep-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 31                       | 30                          | 0.204           |
| 3  | 99                       | 100                         | -0.179          |
| 4  | 202                      | 200                         | 0.302           |
| 5  | 303                      | 303                         | 0.000           |
| 6  | 403                      | 404                         | -0.116          |
| 7  | 504                      | 503                         | 0.104           |
| 8  | 602                      | 602                         | 0.000           |
| 9  | 700                      | 699                         | 0.086           |
| 10 | 803                      | 802                         | 0.079           |
| 11 | 904                      | 903                         | 0.073           |

0.050 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #1- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:



E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Box No..... 13 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 6 Date ..... 15-Sep-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 32                       | 32                          | 0.000           |
| 3  | 103                      | 102                         | 0.178           |
| 4  | 205                      | 204                         | 0.150           |
| 5  | 300                      | 301                         | -0.122          |
| 6  | 401                      | 403                         | -0.232          |
| 7  | 500                      | 502                         | -0.200          |
| 8  | 601                      | 602                         | -0.094          |
| 9  | 706                      | 707                         | -0.086          |
| 10 | 800                      | 802                         | -0.159          |
| 11 | 901                      | 902                         | -0.073          |

-0.060 AVERAGE DIFF

Calibration Performed By ..... W.C.Hayes

Post Test Calibration-Contract #- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:

R

E.T.S. INC.  
METER CONSOLE CALIBRATION FORM

Meter Box No..... 13 REFERENCE CALIBRATOR HH71 CAL-K  
THERMOCOUPLE NUMBER 7 Date ..... 15-Sep-95

|    | Reference<br>Temperature | Thermocouple<br>Temperature | Difference<br>% |
|----|--------------------------|-----------------------------|-----------------|
| 1  | 0                        | 0                           | 0.000           |
| 2  | 30                       | 30                          | 0.000           |
| 3  | 100                      | 101                         | -0.179          |
| 4  | 201                      | 200                         | 0.151           |
| 5  | 303                      | 305                         | -0.262          |
| 6  | 405                      | 404                         | 0.116           |
| 7  | 503                      | 502                         | 0.104           |
| 8  | 600                      | 600                         | 0.000           |
| 9  | 701                      | 702                         | -0.086          |
| 10 | 802                      | 800                         | 0.158           |
| 11 | 900                      | 901                         | -0.074          |

-0.006 AVERAGE DIFF

Calibration Performed By ..... W.C. Hayes

Post Test Calibration-Contract #1- \_\_\_\_\_

Pre-Test Calibration-Contract #- \_\_\_\_\_

Comments:



PILOT TUBE CALIBRATION WORKSHEET

Pitot Tube I.D.: 103 Pitot Tube Type: S  
 Standard Pitot I.D.: #1  $C_p(\text{std})$ : .99  
 Calibration Technician: L. Humphries Date: 10/19/91

| Side "A" Calibration                  |                            |              |           |
|---------------------------------------|----------------------------|--------------|-----------|
| $\Delta P_{\text{std}}$<br>(in. W.C.) | $\Delta P_s$<br>(in. W.C.) | $C_{p(S),A}$ | Deviation |
| 0.46                                  | 0.67                       | .820         | -.002     |
| 0.46                                  | 0.66                       | .827         | .005      |
| 0.46                                  | 0.67                       | .820         | -.002     |
|                                       |                            |              |           |
|                                       |                            |              |           |
| Average                               |                            | .822         |           |

| Side "B" Calibration                  |                            |              |           |
|---------------------------------------|----------------------------|--------------|-----------|
| $\Delta P_{\text{std}}$<br>(in. W.C.) | $\Delta P_s$<br>(in. W.C.) | $C_{p(S),B}$ | Deviation |
| 0.45                                  | 0.66                       | .818         | .000      |
| 0.45                                  | 0.66                       | .818         | -.000     |
| 0.45                                  | 0.66                       | .818         | .000      |
|                                       |                            |              |           |
|                                       |                            |              |           |
| Average                               |                            | .818         |           |

$$C_{p(S)} = C_{p(\text{std})} \times \sqrt{\frac{\Delta P_{\text{std}}}{\Delta P_s}}$$

$$\text{Deviation} = C_{p(S)} - \text{Average } C_{p(S)} \leq 0.01$$

$$\text{Avg. } C_{p(S),A} - \text{Avg. } C_{p(S),B} \leq 0.01$$

$$C_p = \boxed{0.820}$$

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_



PITOT TUBE CALIBRATION WORKSHEET

Pitot Tube I.D.: 105 Pitot Tube Type: S  
 Standard Pitot I.D.: #1  $C_{sum}$ : 0.99  
 Calibration Technician: D. Vecellio Date: 08 Feb 94

SIDE "A" CALIBRATION

| RUN NO.              | delta P std (in. WATER) | delta P (s) (in. WATER) | Cp (s) | DEVIATION Cp(s) - Cp(A) |
|----------------------|-------------------------|-------------------------|--------|-------------------------|
| 1                    | 0.46                    | 0.65                    | 0.83   | 0                       |
| 2                    | 0.46                    | 0.65                    | 0.83   | 0                       |
| 3                    | 0.46                    | 0.65                    | 0.83   | 0                       |
| $\bar{C}_p$ (side A) |                         |                         | 0.83   |                         |

SIDE "B" CALIBRATION

| RUN NO.              | delta P std (in. WATER) | delta P (s) (in. WATER) | Cp (s) | DEVIATION Cp(s) - Cp(B) |
|----------------------|-------------------------|-------------------------|--------|-------------------------|
| 1                    | 0.46                    | 0.64                    | 0.84   | 0                       |
| 2                    | 0.46                    | 0.64                    | 0.84   | 0                       |
| 3                    | 0.46                    | 0.64                    | 0.84   | 0                       |
| $\bar{C}_p$ (side B) |                         |                         | 0.84   |                         |

Avg Dev Side "A" 0 (< 0.01)  
 Avg Dev Side "B" 0 (< 0.01)  
 $C_p(\text{side A}) - C_p(\text{side B})$  .01 (< 0.01)

$$C_{sum} = C_{sum} \times \sqrt{\frac{12}{2}}$$

$$\text{Deviation} = C_{sum} - \text{Average } C_{sum} \leq 0.01$$

$$\text{avg. } C_{sum} = \text{avg. } C_{sum} \leq 0.01$$

$C_s =$  0.835



PITOT TUBE CALIBRATION WORKSHEET

Pitot Tube I.D.: 117 Pitot Tube Type: 5  
 Standard Pitot I.D.: \_\_\_\_\_  $C_p(\text{std})$ : .99  
 Calibration Technician: Jeff Maiden Date: 5/9/75

| Side "2" Calibration             |                                  |             |           |
|----------------------------------|----------------------------------|-------------|-----------|
| $\frac{L_2}{W.C.}$<br>(in. W.C.) | $\frac{L_3}{W.C.}$<br>(in. W.C.) | $C_{PSI,2}$ | Deviation |
| .42                              | .61                              | .821        | .002      |
| .41                              | .59                              | .825        | .002      |
| .41                              | .59                              | .825        | .002      |
|                                  |                                  |             |           |
|                                  |                                  |             |           |
| Average                          |                                  | .823        |           |

| Side "3" Calibration             |                                  |             |           |
|----------------------------------|----------------------------------|-------------|-----------|
| $\frac{L_2}{W.C.}$<br>(in. W.C.) | $\frac{L_3}{W.C.}$<br>(in. W.C.) | $C_{PSI,3}$ | Deviation |
| .41                              | .58                              | .832        | .005      |
| .41                              | .59                              | .825        | .002      |
| .41                              | .59                              | .825        | .002      |
|                                  |                                  |             |           |
|                                  |                                  |             |           |
| Average                          |                                  | .827        |           |

$$C_{PSI} = C_{PSI, \text{std}} \times \frac{L_3}{L_2}$$

$$\text{Deviation} = C_{PSI} - \text{Average } C_{PSI} \leq 0.01$$

$$\text{Avg. } C_{PSI,2} - \text{Avg. } C_{PSI,3} \leq 0.01$$

$C =$  0.95



PISTON TUBE CALIBRATION WORKSHEET

Piston Tube I.D.: #1 50521 Piston Tube Type: \_\_\_\_\_

Standard Piston I.D.: #1 C<sub>2</sub>(std): -89

Calibration Technician: Robert Richards Date: 2-21-95

| Side "2" Calibration          |                               |                     |           |
|-------------------------------|-------------------------------|---------------------|-----------|
| $\frac{13}{16}$<br>(in. W.C.) | $\frac{13}{16}$<br>(in. W.C.) | C <sub>2(S),A</sub> | Deviation |
| .42                           | .59                           | .8352               | .00025    |
| .43                           | .60                           | .8380               | .00306    |
| .43                           | .61                           | .8311               | .00384    |
| .42                           | .59                           | .8352               | .00026    |
| .42                           | .59                           | .8352               | .00026    |
| Average                       |                               | .8349               | .001536   |

| Side "3" Calibration          |                               |                     |           |
|-------------------------------|-------------------------------|---------------------|-----------|
| $\frac{13}{16}$<br>(in. W.C.) | $\frac{13}{16}$<br>(in. W.C.) | C <sub>2(S),B</sub> | Deviation |
| .43                           | .60                           | .8380               | .0031     |
| .43                           | .61                           | .8311               | .0038     |
| .42                           | .59                           | .8352               | .0003     |
| .42                           | .59                           | .8352               | .0003     |
| .42                           | .59                           | .8352               | .0003     |
| Average                       |                               | .8349               | .0078     |

$$C_{2(S)} = C_{2(Std)} \times \frac{\frac{13}{16}}{\frac{13}{16}}$$

$$\text{Deviation} = C_{2(S)} - \text{Average } C_{2(S)} \leq 0.1\%$$

$$\text{Avg. } C_{2(S)} = \text{Avg. } C_{2(S)} \leq 0.1\%$$

C<sub>2</sub> = .8349

EPA METHOD 20  
INTERFERENCE RESPONSE TABLE

Date: 04/16/93  
Analyzer Type: Oxygen  
Serial Number: 11909  
Span Value: 25 %

| Test Gas Type | Concentration (ppmdv) | Analyzer Output | % of Span |
|---------------|-----------------------|-----------------|-----------|
| CO            | 488                   | -0.024          | 0.0010    |
| CO2           | 9.98                  | 0.01            | 0.0004    |
| SO2           | 231                   | -0.019          | 0.0008    |
| NOx           | 232                   | -0.019          | 0.0008    |
| Total         |                       |                 | 0.0029    |

% of Span = (Analyzer output response / Instrument span) x 100  
The sum of the (% of Span) values should not exceed 2%.

EPA METHOD 20  
INTERFERENCE RESPONSE TABLE

Date: 04/15/93  
Analyzer Type: Oxygen  
Serial Number: 111917  
Span Value: 25 %

| Test Gas Type | Concentration (ppmdv) | Analyzer Output | % of Span |
|---------------|-----------------------|-----------------|-----------|
| CO            | 488                   | 0.009           | 0.0004    |
| CO2           | 9.98                  | 0.015           | 0.0006    |
| SO2           | 231                   | -0.022          | 0.0009    |
| NOx           | 232                   | -0.014          | 0.0006    |
| Total         |                       |                 | 0.0024    |

% of Span = (Analyzer output response / Instrument span) x 100  
The sum of the (% of Span) values should not exceed 2%.



EPA METHOD 20  
INTERFERENCE RESPONSE TABLE

Date: 04/19/93  
Analyzer Type: Carbon Dioxide  
Serial Number: 91-20-16  
Span Value: 20 %

| Test Gas Type | Concentration (ppmdv) | Analyzer Output | % of Span |
|---------------|-----------------------|-----------------|-----------|
| CO            | 488                   | 0.291           | 0.0146    |
| O2            | 21.9                  | 0.051           | 0.0026    |
| SO2           | 231                   | 0.034           | 0.0017    |
| NOx           | 232                   | -0.067          | 0.0034    |
| Total         |                       |                 | 0.0222    |

% of Span = (Analyzer output response / Instrument span) x 100  
The sum of the (% of Span) values should not exceed 2%.

METHOD 20  
INTERFERENCE RESPONSE TABLE

DATE: 10/11/94

ANALYZER TYPE: CO<sub>2</sub> #1

SERIAL NUMBER: N3K43197

| TEST GAS TYPE   | CONCENTRATION<br>(ppm <sub>v</sub> ) | ANALYZER<br>OUTPUT | % OF SPAN |
|-----------------|--------------------------------------|--------------------|-----------|
| SO <sub>2</sub> | 250.8                                | 0.00               | 0.00      |
| NO <sub>x</sub> | 223                                  | 0.01               | 0.05      |
| CO              | 594                                  | 0.00               | 0.00      |
| O <sub>2</sub>  | 22.0%                                | 0.03               | 0.15      |
| TOTAL           |                                      |                    | 0.20      |

----- % OF SPAN = (ANALYZER OUTPUT RESPONSE / INSTRUMENT SPAN) x 100 -----

The sum of the (% of Span) values should not exceed 2%.

ANALYZER ID: N3K4319T CO<sub>2</sub> #1  
 UNITS: % SPAN: 20%  
 SOURCE ID: 1  
 LOCATION: Truck III  
 TECHNICIAN: L. Humphries  
 DATE(S): 10/11/94

ANALYZER CALIBRATION

| RANGE | GAS CYLINDER ID            | GAS VALUE | ANALYZER RESPONSE | ERROR % SPAN | TIME  |
|-------|----------------------------|-----------|-------------------|--------------|-------|
| ZERO  | N <sub>2</sub> AX-18304    | 0         | 0.0000            | 0.0          | 11:43 |
| LOW   | CO <sub>2</sub> ALM 018745 | 11.24     | 11.42             | 0.9          | 11:55 |
| HIGH  | CO <sub>2</sub> ALM 044853 | 17.71     | 17.71             | 0.0          | 11:51 |
| OTHER |                            |           |                   |              |       |

| SYSTEM BIAS AND DRIFT |         |                   |                 | SYSTEM BIAS    |              |      |                 | SYSTEM DRIFT   |              |      |  |
|-----------------------|---------|-------------------|-----------------|----------------|--------------|------|-----------------|----------------|--------------|------|--|
| RUN ID                | RANGE   | ANALYZER RESPONSE | SYSTEM RESPONSE | ABSOLUTE ERROR | ERROR % SPAN | TIME | SYSTEM RESPONSE | ABSOLUTE ERROR | ERROR % SPAN | TIME |  |
|                       | ZERO    |                   |                 |                |              |      |                 |                |              |      |  |
|                       | UPSCALE |                   |                 |                |              |      |                 |                |              |      |  |
|                       | ZERO    |                   |                 |                |              |      |                 |                |              |      |  |
|                       | UPSCALE |                   |                 |                |              |      |                 |                |              |      |  |
|                       | ZERO    |                   |                 |                |              |      |                 |                |              |      |  |
|                       | UPSCALE |                   |                 |                |              |      |                 |                |              |      |  |
|                       | ZERO    |                   |                 |                |              |      |                 |                |              |      |  |
|                       | UPSCALE |                   |                 |                |              |      |                 |                |              |      |  |
|                       | ZERO    |                   |                 |                |              |      |                 |                |              |      |  |
|                       | UPSCALE |                   |                 |                |              |      |                 |                |              |      |  |
|                       | ZERO    |                   |                 |                |              |      |                 |                |              |      |  |
|                       | UPSCALE |                   |                 |                |              |      |                 |                |              |      |  |

EPA METHOD 20  
INTERFERENCE RESPONSE TABLE

Date: 01/17/94  
Analyzer Type: Carbon Monoxide  
Serial Number: 48-28884-233  
Span Value: 5 ppm

| Test Gas Type | Concentration (ppmdv) | Analyzer Output | % of Span |
|---------------|-----------------------|-----------------|-----------|
| O2            | 19.24                 | 0.18            | 0.0360    |
| CO2           | 12.13                 | 0.002           | 0.0004    |
| SO2           | 74.2                  | 0               | 0.0000    |
| NOx           | 1000                  | 1.081           | 0.2162    |
| Total         |                       |                 | 0.2526    |

% of Span = (Analyzer output response / Instrument span) x 100  
The sum of the (% of Span) values should not exceed 2%.

METHOD 20  
INTERFERENCE RESPONSE TABLE

DATE: 10/6/94

ANALYZER TYPE: CO #2

SERIAL NUMBER: 78-28883-233

| TEST GAS TYPE   | CONCENTRATION<br>(ppm/v) | ANALYZER<br>OUTPUT | % OF SPAN |
|-----------------|--------------------------|--------------------|-----------|
| O <sub>2</sub>  | 21.7                     | -0.6               | -0.067    |
| NO <sub>x</sub> | 223                      | 0.0                | 0.000     |
| CO <sub>2</sub> | 17.04                    | 0.00               | 0.000     |
| SO <sub>2</sub> | 224                      | 0.0                | 0.000     |
| TOTAL           |                          | -0.600             | -0.067    |

12:25  
12:30  
12:35  
12:38

% OF SPAN = (ANALYZER OUTPUT RESPONSE / INSTRUMENT SPAN) X 100  
The sum of the (% of Span) values should not exceed 2%.

ANALYZER ID: CO Serial to 48-2883-233

UNITS: ppm SPAN: 900

SOURCE ID: Interference Check

LOCATION: EPB

TECHNICIAN: C.S.

DATE(S): 10/06/24

| ANALYZER CALIBRATION |                 |                     |                   |              |      |
|----------------------|-----------------|---------------------|-------------------|--------------|------|
| RANGE                | GAS CYLINDER ID | GAS VALUE           | ANALYZER RESPONSE | ERROR % SPAN | TIME |
| ZERO                 | A-24336         | 0 (N <sub>2</sub> ) | 0.0               | 0            | 1120 |
| LOW                  | ALM-10803       | 288                 | 300               | 0.22         | 1125 |
| HIGH                 | ALM-14281       | 294                 | 507               | 0.33         | 1128 |
| OTHER                | SA 10323        | 297                 | 700               | 0.33         | 1123 |

| SYSTEM BIAS AND DRIFT |         |                   |                 | SYSTEM BIAS    |              |      |                 | SYSTEM DRIFT   |              |      |  |
|-----------------------|---------|-------------------|-----------------|----------------|--------------|------|-----------------|----------------|--------------|------|--|
| RUN ID                | RANGE   | ANALYZER RESPONSE | SYSTEM RESPONSE | ABSOLUTE ERROR | ERROR % SPAN | TIME | SYSTEM RESPONSE | ABSOLUTE ERROR | ERROR % SPAN | TIME |  |
|                       | ZERO    |                   |                 |                |              |      |                 |                |              |      |  |
|                       | UPSCALE |                   |                 |                |              |      |                 |                |              |      |  |
|                       | ZERO    |                   |                 |                |              |      |                 |                |              |      |  |
|                       | UPSCALE |                   |                 |                |              |      |                 |                |              |      |  |
|                       | ZERO    |                   |                 |                |              |      |                 |                |              |      |  |
|                       | UPSCALE |                   |                 |                |              |      |                 |                |              |      |  |
|                       | ZERO    |                   |                 |                |              |      |                 |                |              |      |  |
|                       | UPSCALE |                   |                 |                |              |      |                 |                |              |      |  |
|                       | ZERO    |                   |                 |                |              |      |                 |                |              |      |  |
|                       | UPSCALE |                   |                 |                |              |      |                 |                |              |      |  |
|                       | ZERO    |                   |                 |                |              |      |                 |                |              |      |  |
|                       | UPSCALE |                   |                 |                |              |      |                 |                |              |      |  |

EPA METHOD 20  
INTERFERENCE RESPONSE TABLE

Date: 04/15/93  
Analyzer Type: Nitrogen Oxides  
Serial Number: 28304-231  
Span Value: 250 ppm

| Test Gas Type | Concentration (ppmdv) | Analyzer Output | % of Span |
|---------------|-----------------------|-----------------|-----------|
| O2            | 21.9                  | 0.137           | 0.0005    |
| CO            | 488                   | 0.168           | 0.0007    |
| CO2           | 9.98                  | 0.202           | 0.0008    |
| SO2           | 231                   | -0.004          | 0.0000    |
| Total         |                       |                 | 0.0020    |

% of Span = (Analyzer output response / Instrument span) x 100  
The sum of the (% of Span) values should not exceed 2%.

METHOD 20  
INTERFERENCE RESPONSE TABLE

DATE: 10/6/94

ANALYZER TYPE: NO<sub>x</sub> #1

SERIAL NUMBER: 10 A/R 242-62-214

| TEST GAS TYPE   | CONCENTRATION<br>(ppm/v) | ANALYZER<br>OUTPUT | % OF SPAN |
|-----------------|--------------------------|--------------------|-----------|
| O <sub>3</sub>  | 21.7                     | 0.015              | 0.003     |
| CO              | <del>442</del> 504       | 0.02               | 0.004     |
| CO <sub>2</sub> | 17.04                    | 0.003              | 0.001     |
| SO <sub>2</sub> | 224                      | 0.017              | 0.002     |
| TOTAL           |                          | 0.049              | 0.010     |

12:28

12:32

12:35

12:38

% OF SPAN = (ANALYZER OUTPUT RESPONSE / INSTRUMENT SPAN) x 100

The sum of the (% of Span) values should not exceed 2%.



ANALYZER ID: NOX 10 A/R 242-62-241  
 UNITS: PPM SPAN: 500  
 SOURCE ID: Ind reference check  
 LOCATION: ETS  
 TECHNICIAN: CS.  
 DATE(S): 10 / 6 / 94

ANALYZER CALIBRATION

| RANGE | GAS CYLINDER ID                 | GAS VALUE      | ANALYZER RESPONSE | ERROR % SPAN | TIME  |
|-------|---------------------------------|----------------|-------------------|--------------|-------|
| ZERO  | AX-24336                        | N <sub>2</sub> | 0                 | 0            | 12:20 |
| LOW   | 3203 <sup>ALA-02136</sup> 00451 | 223            | 227               | 0            | 12:25 |
| HIGH  | 3405 ALA-02136                  | 451            | 451               | 0            | 12:29 |
| OTHER |                                 |                |                   |              |       |

| SYSTEM BIAS |                   | SYSTEM DRIFT   |              |      |                |              |      |
|-------------|-------------------|----------------|--------------|------|----------------|--------------|------|
| RUN ID      | ANALYZER RESPONSE | ABSOLUTE ERROR | ERROR % SPAN | TIME | ABSOLUTE ERROR | ERROR % SPAN | TIME |
|             | ZERO              |                |              |      |                |              |      |
|             | UPSCALE           |                |              |      |                |              |      |
|             | ZERO              |                |              |      |                |              |      |
|             | UPSCALE           |                |              |      |                |              |      |
|             | ZERO              |                |              |      |                |              |      |
|             | UPSCALE           |                |              |      |                |              |      |
|             | ZERO              |                |              |      |                |              |      |
|             | UPSCALE           |                |              |      |                |              |      |
|             | ZERO              |                |              |      |                |              |      |
|             | UPSCALE           |                |              |      |                |              |      |
|             | ZERO              |                |              |      |                |              |      |
|             | UPSCALE           |                |              |      |                |              |      |

# ETS, Inc

## NOx ANALYZER CONVERTER CHECK

### TEST INFORMATION

Analyzer Manufacturer:

Model No.:

Serial No.:

Span Setting (ppm):

NO Gas Value:

NO2 Gas Value:

Date:

Technician:

|                      |
|----------------------|
| THERMO ENVIRONMENTAL |
| 10 AIR               |
| 27304-231            |
| 250                  |
| 223                  |
| 95.5                 |
| 4 Oct 95             |
| W.C. HAYES           |

### ANALYZER RESPONSE

Prepared Sample

| time (min) | response (ppm) | time (min) | response (ppm) |
|------------|----------------|------------|----------------|
| 1          | 95.5           | 16         | 95.0           |
| 2          | 95.5           | 17         | 95.0           |
| 3          | 95.5           | 18         | 95.0           |
| 4          | 95.5           | 19         | 95.0           |
| 5          | 95.5           | 20         | 95.0           |
| 6          | 95.5           | 21         | 95.0           |
| 7          | 95.5           | 22         | 94.5           |
| 8          | 95.5           | 23         | 94.5           |
| 9          | 95.5           | 24         | 94.5           |
| 10         | 95.5           | 25         | 94.5           |
| 11         | 95.5           | 26         | 94.5           |
| 12         | 95.5           | 27         | 94.5           |
| 13         | 95.5           | 28         | 94.5           |
| 14         | 95.0           | 29         | 94.5           |
| 15         | 95.0           | 30         | 94.5           |

|                        |
|------------------------|
| Highest Response (ppm) |
| 95.5                   |

|                      |
|----------------------|
| Final Response (ppm) |
| 94.5                 |

|               |
|---------------|
| Reduction (%) |
| 1.05          |

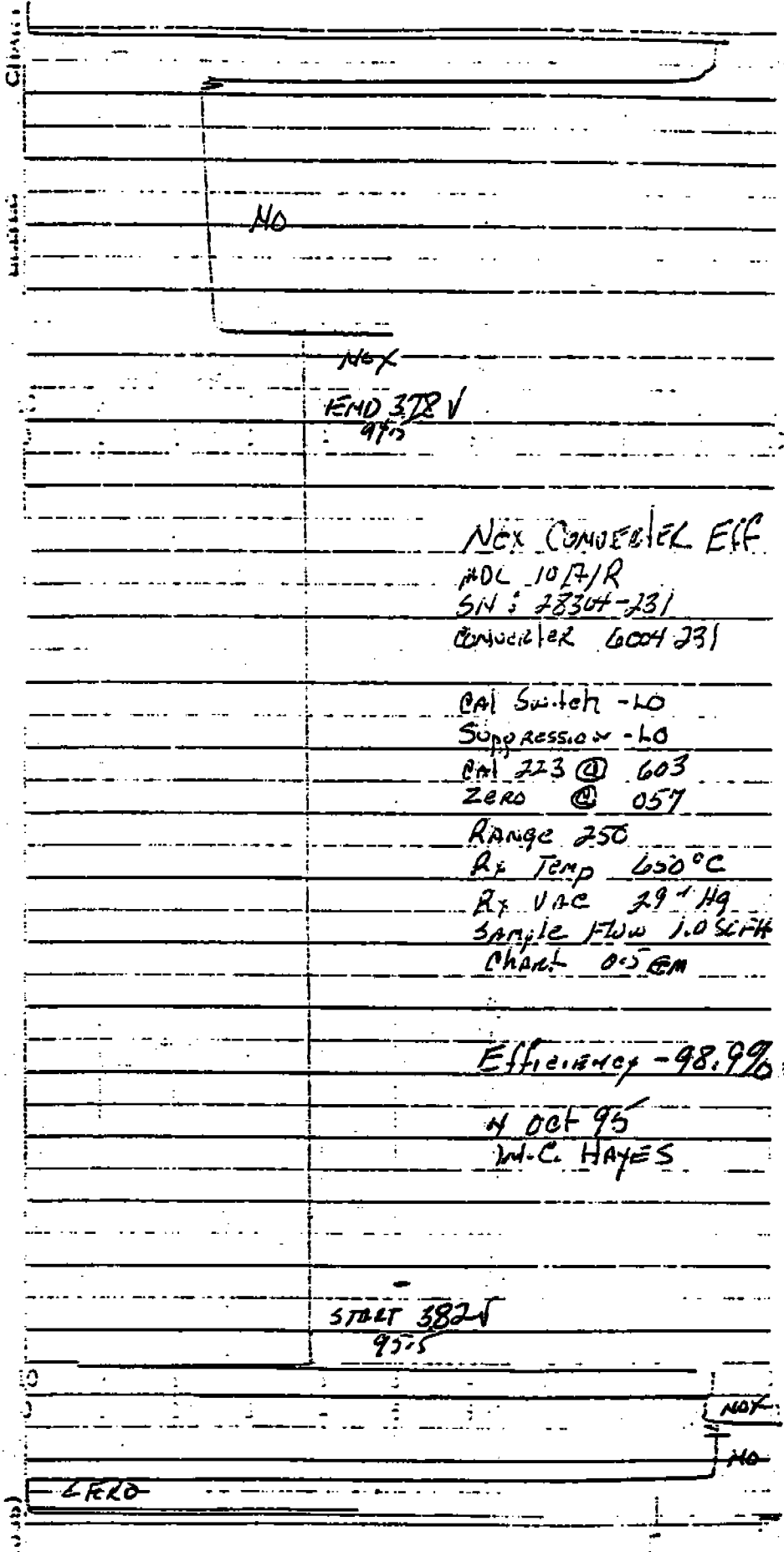
NO2 Gas

NO2 Gas (ppm):

Stable Response (ppm):

Conversion Eff. (%):

|      |
|------|
| 95.5 |
| 94.5 |
| 98.9 |



NOX CONVERTER EFF  
 MOL 10 F/R  
 SN: 28304-231  
 Converter 6004 231

Cal Switch - LO  
 Suppression - LO  
 Cal 223 @ 603  
 Zero @ 057

Range 250  
 Rx Temp 650°C  
 Rx VAC 29" Hg  
 Sample Flow 1.0 SCFH  
 Chart 0.5 CM

Efficiency - 98.9%

4 Oct 95  
 W.C. HAYES

START 382 V  
 95.5

ZERO

NOX  
 NO

# ETS, Inc

## NOx ANALYZER CONVERTER CHECK

### TEST INFORMATION

Analyzer Manufacturer:  
 Model No.:  
 Serial No.:  
 Span Setting (ppm):  
 NO Gas Value:  
 NO2 Gas Value:  
 Date:  
 Technician:

|                         |
|-------------------------|
| Thorn Engineering, Inc. |
| 10AR                    |
| 24253-214               |
| 257                     |
| 223                     |
| 95                      |
| 9/25/95                 |
| R. H. Richards          |

### ANALYZER RESPONSE

#### Prepared Sample

| time (min) | response (ppm) | time (min) | response (ppm) |
|------------|----------------|------------|----------------|
| 1          | 95             | 16         | 95             |
| 2          | 95             | 17         | 95             |
| 3          | 95             | 18         | 95             |
| 4          | 95             | 19         | 95             |
| 5          | 95             | 20         | 95             |
| 6          | 95             | 21         | 95             |
| 7          | 95             | 22         | 94             |
| 8          | 95             | 23         | 94             |
| 9          | 95             | 24         | 94             |
| 10         | 95             | 25         | 94             |
| 11         | 95             | 25         | 94             |
| 12         | 95             | 27         | 94             |
| 13         | 95             | 28         | 94             |
| 14         | 95             | 29         | 94             |
| 15         | 95             | 30         | 94             |

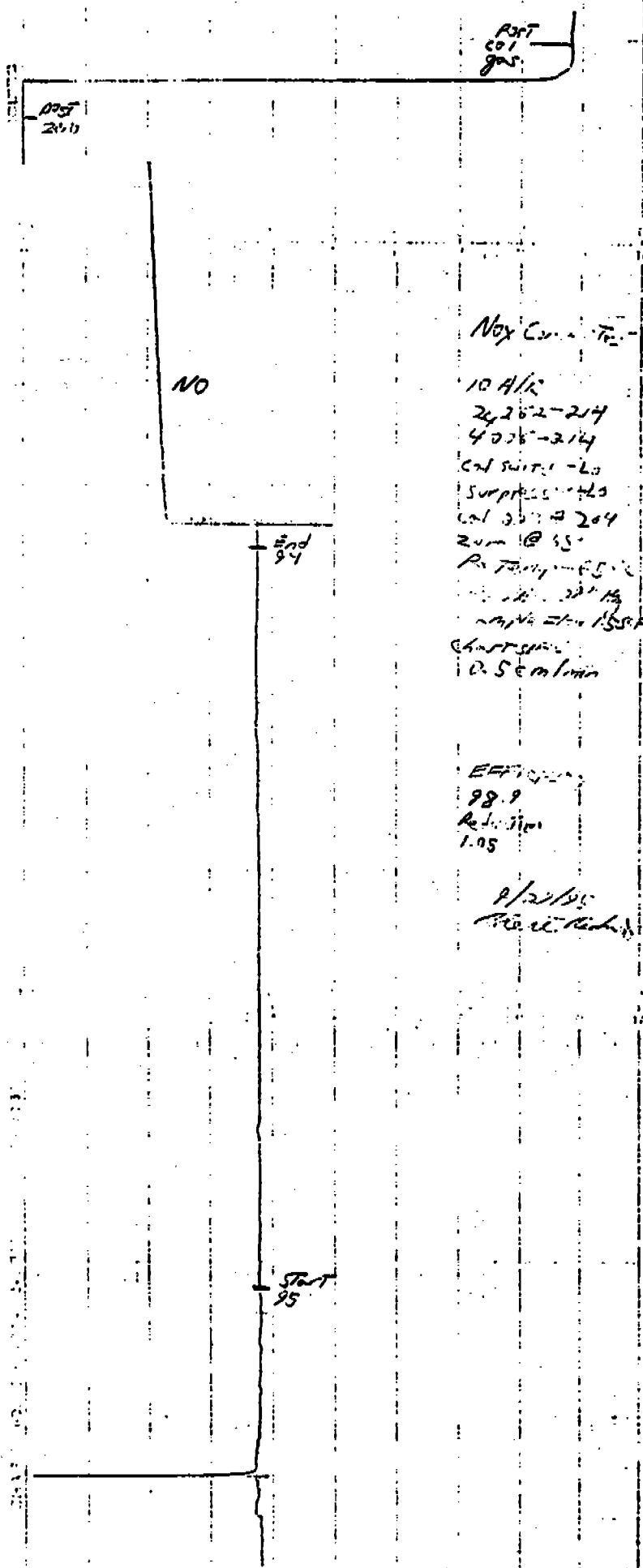
|                        |
|------------------------|
| Highest Response (ppm) |
| 95                     |

|                      |
|----------------------|
| Final Response (ppm) |
| 94                   |

|               |
|---------------|
| Reduction (%) |
| 1.05          |

NO2 Gas  
 NO2 Gas (ppm):  
 Stable Response (ppm):  
 Conversion Eff. (%):

|      |
|------|
| 95   |
| 94   |
| 98.9 |



POST  
COI  
gas.

POST  
210

NO

END  
94

START  
95

Nox Control Test

10 AIR  
24202-214  
4000-214  
CAL SWIT. - 20  
SURPRESS - 20  
CAL 200 @ 204  
200 @ 55  
P. Temp - 65°C  
... 20°C  
... 1.5°C  
Chart speed  
D. 5 cm/min

EFFICIENCY  
98.9  
Reduction  
1.05

9/21/85  
Paul R. ...



# Scott Specialty Gases, Inc.

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0803

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
ETS Inc.  
Attn: Ted Barham  
1401 Municipal Road N.W.  
Roanoke, VA 24012

**Assay Laboratory**  
Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

**Purchase C**  
**Sept Proje**

### ANALYTICAL INFORMATION

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

|                   |            |                        |          |                 |  |
|-------------------|------------|------------------------|----------|-----------------|--|
| Cylinder Number   | ALM-006955 | Certification Date     | 03-23-93 | Expiration Date |  |
| Cylinder Pressure | 2000 PSIG  | Previous Certification | None     | Acid Rain Expi  |  |

### ANALYZED CYLINDER

#### Components

Oxygen  
Nitrogen

**Certified Concentration**  
10.01%

**Analytical Un**  
**+/- 1% NIST**  
**Balance**

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

### REFERENCE STANDARD

Type CRM #2658  
Expiration Date 05-15-94

Cylinder Number  
ALM-017598

Concentration  
9.56% Balance:

### INSTRUMENTATION

Instrument/Model/Serial #  
Varian 3400

Last Date Calibrated  
03-23-93

Analytical Princ  
Gas Chromatogra

### ANALYZER READINGS

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

#### Components

#### First Triad Analysis

|                |                      |
|----------------|----------------------|
| Date: 03-23-93 | Response Units: Area |
| STD=6178       | SPL=6312             |
| SPL=6294       | SPL=6478             |
| STD=6026       | STD=6021             |

#### Second Triad Analysis

|       |                 |
|-------|-----------------|
| Date: | Response Units: |
| STD=  | SPL=            |
| SPL=  | SPL=            |
| STD=  | STD=            |

#### Calibration Curve

|                |
|----------------|
| Date: 03-23-93 |
|----------------|

|       |                 |
|-------|-----------------|
| Date: | Response Units: |
| STD=  | SPL=            |
| SPL=  | SPL=            |
| STD=  | STD=            |

|       |                 |
|-------|-----------------|
| Date: | Response Units: |
| STD=  | SPL=            |
| SPL=  | SPL=            |
| STD=  | STD=            |

#### Date: 03-17-93

|       |                 |
|-------|-----------------|
| Date: | Response Units: |
| STD=  | SPL=            |
| SPL=  | SPL=            |
| STD=  | STD=            |

|       |                 |
|-------|-----------------|
| Date: | Response Units: |
| STD=  | SPL=            |
| SPL=  | SPL=            |
| STD=  | STD=            |

#### Special Notes:

If this product is used for Acid Rain Rule compliance under 40 CFR Part 75, the Acid Rain Expiration Date applies per Appendix E.  
If for use with other than 40 CFR Part 75 compliance, the General Expiration Date applies.

*A Barber*  
Analyst A. Barber



# Scott Specialty Gases, Inc.

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0808

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
ETS, INC.  
Attn: Bill Hayes  
1401 Municipal Road NW  
Roanoke, VA 24012

**Assay Laboratory**  
Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

**Purchase Order** 4886  
**Scott Project #** 12-07484

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

|                          |            |                               |          |                        |          |
|--------------------------|------------|-------------------------------|----------|------------------------|----------|
| <b>Cylinder Number</b>   | ALM-028817 | <b>Certification Date</b>     | 06-21-94 | <b>Expiration Date</b> | 06-21-97 |
| <b>Cylinder Pressure</b> | 1915 PSIG  | <b>Previous Certification</b> | None     |                        |          |

### ANALYZED CYLINDER

|                   |                                |  |
|-------------------|--------------------------------|--|
| <b>Components</b> | <b>Certified Concentration</b> | <b>Analytical Uncertainty*</b>         |
| Carbon Dioxide    | 10.14 %                        | +/- 1% NIST Directly Traceable Balance |
| Nitrogen          |                                |  |

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

|             |                        |                        |                             |
|-------------|------------------------|------------------------|-----------------------------|
| <b>Type</b> | <b>Expiration Date</b> | <b>Cylinder Number</b> | <b>Concentration</b>        |
| NIRM # 1675 | 06/94                  | ALM-001138             | 14.02 % Balance in Nitrogen |

### INSTRUMENTATION

|                                  |                             |                             |
|----------------------------------|-----------------------------|-----------------------------|
| <b>Instrument/Model/Serial #</b> | <b>Last Date Calibrated</b> | <b>Analytical Principle</b> |
| Varian /3400/0160                | 05-27-94                    | Gas Chromatography          |

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

| Components     | First Triad Analysis   | Second Triad Analysis  | Calibration Curve |
|----------------|--|--|-------------------|
| Carbon Dioxide | Date: 06-21-94      Response Units: Area<br>STD-564181      SPL-408354<br>SPL-408277      SPL-408368<br>STD-564813      STD-564544               | Date:                      Response Units:<br>STD-                      SPL-<br>SPL-                      SPL-<br>STD-                      STD- | Date: 05-27-94    |
|                | Date:                      Response Units:<br>STD-                      SPL-<br>SPL-                      SPL-<br>STD-                      STD- | Date:                      Response Units:<br>STD-                      SPL-<br>SPL-                      SPL-<br>STD-                      STD- | Date:             |
|                | Date:                      Response Units:<br>STD-                      SPL-<br>SPL-                      SPL-<br>STD-                      STD- | Date:                      Response Units:<br>STD-                      SPL-<br>SPL-                      SPL-<br>STD-                      STD- |                   |

*A. Barber*  
Analyst A. Barber



# Scott Specialty Gases

4027

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0803

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
ETS, INC.  
Attn: Bill Hayes  
1401 Municipal Road NW  
Roanoke, VA 24012

**Assay Laboratory**  
Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

**Purchase Order** 5502  
**Scott Project #** 12-11635

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

|                          |            |                               |          |                        |          |
|--------------------------|------------|-------------------------------|----------|------------------------|----------|
| <b>Cylinder Number</b>   | ALM-009269 | <b>Certification Date</b>     | 05-12-95 | <b>Expiration Date</b> | 05-12-98 |
| <b>Cylinder Pressure</b> | 2000 PSIG  | <b>Previous Certification</b> | None     |                        |          |

### ANALYZED CYLINDER

| <u>Components</u> | <u>Certified Concentration</u> | <u>Analytical Uncertainty*</u> |
|-------------------|--------------------------------|--------------------------------|
| Oxygen            | 9.908 %                        | +/- 1% NIST Directly Traceable |
| Carbon Dioxide    | 9.85 %                         | +/- 1% NIST Directly Traceable |
| Nitrogen          |                                | Balance                        |

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

| <u>Type</u> | <u>Expiration Date</u> | <u>Cylinder Number</u> | <u>Concentration</u>     |
|-------------|------------------------|------------------------|--------------------------|
| NTRM # 2658 | 11-96                  | ALM-031888             | 9.68 % O2 Balance in N2  |
| NTRM # 1675 | 09-95                  | ALM-032766             | 14.01% CO2 Balance in N2 |

### INSTRUMENTATION

| <u>Instrument/Model/Serial #</u> | <u>Last Date Calibrated</u> | <u>Analytical Principle</u> |
|----------------------------------|-----------------------------|-----------------------------|
| Varian /3400/16804               | 04-19-95                    | Gas Chromatography          |

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

| Components     | First Triad Analysis  | Second Triad Analysis   | Calibration Curve |
|----------------|---|---|-------------------|
| Oxygen         | Date: 05-12-95      Response Unit: Area<br>STD-255529      SPL-261930<br>SPL-261108      STD-235437<br>STD-255811      SPL-261797               | Date:                      Response Unit:<br>STD-                      SPL-<br>SPL-                      STD-<br>STD-                      SPL- | Date: 04-19-95    |
| Carbon Dioxide | Date: 05-12-95      Response Unit: Area<br>STD-263333      SPL-185031<br>SPL-184580      STD-262361<br>STD-263124      SPL-183563               | Date:                      Response Unit:<br>STD-                      SPL-<br>SPL-                      STD-<br>STD-                      SPL- | Date: 04-19-95    |
|                | Date:                      Response Unit:<br>STD-                      SPL-<br>SPL-                      STD-<br>STD-                      SPL- | Date:                      Response Unit:<br>STD-                      SPL-<br>SPL-                      STD-<br>STD-                      SPL- |                   |

*B. Becton*  
Analyst B. Becton



# Scott Specialty Gases, Inc.

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0808

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer  
ETS, INC.  
Attn: Bill Hayes  
1401 Municipal Road NW  
Roanoke, VA 24012

Assay Laboratory  
Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

Purchase Order 5102  
Scott Project # 12-08618

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

|                   |            |                        |          |                 |          |
|-------------------|------------|------------------------|----------|-----------------|----------|
| Cylinder Number   | ALM-044169 | Certification Date     | 09-23-94 | Expiration Date | 09-23-97 |
| Cylinder Pressure | 1915 PSIG  | Previous Certification | None     |                 |          |

### ANALYZED CYLINDER

| Components     | Certified Concentration | Analytical Uncertainty*        |
|----------------|-------------------------|--------------------------------|
| Oxygen         | 21.7 %                  | +/- 1% NIST Traceable          |
| Carbon Dioxide | 17.07 %                 | +/- 1% NIST Directly Traceable |
| Nitrogen       |                         | Balance                        |

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

| Type       | Expiration Date | Cylinder Number | Concentration              |
|------------|-----------------|-----------------|----------------------------|
| GMIS       | 12/95           | K-000279        | 20.98% Balance in Nitrogen |
| NTRM# 1675 | 09/95           | ALM-032766      | 14.01% Balance in Nitrogen |

### INSTRUMENTATION

| Instrument/Model/Serial # | Last Date Calibrated | Analytical Principle |
|---------------------------|----------------------|----------------------|
| Varian /3400/16804        | 09-14-94             | Gas Chromatography   |
| Varian /3400/0160         | 09-14-94             | Gas Chromatography   |

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

| Components     | First Triad Analysis  | Second Triad Analysis   | Calibration Curve |
|----------------|---|---|-------------------|
| Oxygen         | Date: 09-23-94      Response Unit: Area<br>STD=401211      SPL=415271<br>SPL=417541      SPL=415619<br>STD=402605      STD=401371               | Date:                      Response Unit:<br>STD=                      SPL=<br>SPL=                      SPL=<br>STD=                      STD= | Date: 09-14-94    |
| Carbon Dioxide | Date: 09-23-94      Response Unit: Area<br>STD=597606      SPL=728214<br>SPL=727505      SPL=727541<br>STD=596821      STD=597407               | Date:                      Response Unit:<br>STD=                      SPL=<br>SPL=                      SPL=<br>STD=                      STD= | Date: 09-14-94    |
|                | Date:                      Response Unit:<br>STD=                      SPL=<br>SPL=                      SPL=<br>STD=                      STD= | Date:                      Response Unit:<br>STD=                      SPL=<br>SPL=                      SPL=<br>STD=                      STD= |                   |

*A. Barber*  
Analyst A. Barber PS.



# Scott Specialty Gases, Inc.

4009

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0808

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
ETS, INC.  
Attn: Bill Hayes  
1401 Municipal Road NW  
Roanoke, VA 24012

**Assay Laboratory**  
Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

**Purchase Order** 4886  
**Scott Project #** 12-07484

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

|                          |            |                               |          |                        |          |
|--------------------------|------------|-------------------------------|----------|------------------------|----------|
| <b>Cylinder Number</b>   | ALM-044831 | <b>Certification Date</b>     | 06-23-94 | <b>Expiration Date</b> | 06-23-97 |
| <b>Cylinder Pressure</b> | 1915 PSIG  | <b>Previous Certification</b> | None     |                        |          |

### ANALYZED CYLINDER

| <u>Components</u> | <u>Certified Concentration</u> | <u>Analytical Uncertainty*</u> |
|-------------------|--------------------------------|--------------------------------|
| Oxygen            | 22.8 %                         | +/- 1% NIST Traceable          |
| Carbon Dioxide    | 17.62 %                        | +/- 1% NIST Directly Traceable |
| Nitrogen          |                                | Balance                        |

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

| <u>Type</u> | <u>Expiration Date</u> | <u>Cylinder Number</u> | <u>Concentration</u>        |
|-------------|------------------------|------------------------|-----------------------------|
| GMIS        | 12/95                  | K-000274               | 20.98 % Balance in Nitrogen |
| NTRM # 1675 | 06/94                  | ALM-001138             | 14.02 % Balance in Nitrogen |

### INSTRUMENTATION

| <u>Instrument/Model/Serial #</u> | <u>Last Date Calibrated</u> | <u>Analytical Principle</u> |
|----------------------------------|-----------------------------|-----------------------------|
| Varian /3400/16804               | 06-21-94                    | Gas Chromatography          |
| Varian /3400/0160                | 06-17-94                    | Gas Chromatography          |

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

| Components     | First Triad Analysis   | Second Triad Analysis  | Calibration Curve |
|----------------|--|--|-------------------|
| Oxygen         | Date: 06-23-94      Response Units: Amt.<br>STD-982972      SPL-1046785<br>SPL-1047018      SEL-1046385<br>STD-961332      SED-962541            | Date:                      Response Units:<br>STD-                      SPL-<br>SPL-                      SEL-<br>STD-                      SED- | Date: 06-21-94    |
| Carbon Dioxide | Date: 06-23-94      Response Units: Amt.<br>STD-552604      SPL-696711<br>SPL-694877      SEL-696889<br>STD-555795      SED-552688               | Date:                      Response Units:<br>STD-                      SPL-<br>SPL-                      SEL-<br>STD-                      SED- | Date: 06-17-94    |
|                | Date:                      Response Units:<br>STD-                      SPL-<br>SPL-                      SEL-<br>STD-                      SED- | Date:                      Response Units:<br>STD-                      SPL-<br>SPL-                      SEL-<br>STD-                      SED- |                   |

*A. Barber*  
Analyst A. Barber



213-585-2154  
FAX# 213-585-0582

# LIQUID CARBONIC

CYLINDER GAS PRODUCTS

5700 SOUTH ALAMEDA STREET • LOS ANGELES, CALIFORNIA 90058

68

## CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER ENV. & INDUST. DIST.

P.O NUMBER 120793-1

### REFERENCE STANDARD

|                      |              |              |               |
|----------------------|--------------|--------------|---------------|
| COMPONENT            | NIST SRM NO. | CYLINDER NO. | CONCENTRATION |
| CARBON MONOXIDE GHIS | vs 1678c     | SA 3125      | 50.3 ppm      |

### ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

|                      |                       |                         |                                 |
|----------------------|-----------------------|-------------------------|---------------------------------|
| L. COMPONENT         | CARBON MONOXIDE GHIS. | ANALYZER MAKE-MODEL-S/N | Siemens Ultramat 5E S/N A12-729 |
| ANALYTICAL PRINCIPLE | NDIR                  | LAST CALIBRATION DATE   | 12/06/93                        |
| FIRST ANALYSIS DATE  | 12/15/93              | SECOND ANALYSIS DATE    | 12/22/93                        |
| Z 0.0                | R 50.3                | C 32.2                  | CONC. 32.2 ppm                  |
| R 50.3               | Z 0.0                 | C 32.3                  | CONC. 32.3 ppm                  |
| Z 0.0                | C 32.3                | R 50.3                  | CONC. 32.3 ppm                  |
| U/M. ppm             | MEAN TEST ASSAY       | 32.3 ppm                | U/M ppm                         |

THIS CYLINDER NO. SA 8570  
 HAS BEEN CERTIFIED ACCORDING TO SECTION 3.0.4  
 OF TRACEABILITY PROTOCOL NO. 1  
 PROCEDURE G1  
 CERTIFIED ACCURACY ± 1 % NIST TRACEABLE  
 CYLINDER PRESSURE 1650 PSIG  
 CERTIFICATION DATE 12/22/93  
 EXPIRATION DATE 12/22/96 TERM 36 MONTHS

CERTIFIED CONCENTRATION  
 CARBON MONOXIDE 32.3 ppm  
 NITROGEN BALANCE

ANALYZED BY

CERTIFIED BY



213-585-2154  
FAX# 213-585-0582

# LIQUID CARBONIC

CYLINDER GAS PRODUCTS

5700 SOUTH ALAMEDA STREET • LOS ANGELES, CALIFORNIA 90058

42

## CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER ENV. & INDUST. DIST.

P.O NUMBER 011894-2

### REFERENCE STANDARD

COMPONENT  
CARBON MONOXIDE GHIS

NIST SRM NO.  
vs 1678c

CYLINDER NO.  
SA 3125

CONCENTRATION  
50.3 ppm

### ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

| 1. COMPONENT CARBON MONOXIDE GHIS |        | ANALYZER MAKE-MODEL-S/N |                | Siemens Ultramat SE S/N A12-729 |                          |
|-----------------------------------|--------|-------------------------|----------------|---------------------------------|--------------------------|
| ANALYTICAL PRINCIPLE NDIR         |        |                         |                | LAST CALIBRATION DATE 12/06/93  |                          |
| FIRST ANALYSIS DATE 01/31/94      |        |                         |                | SECOND ANALYSIS DATE 02/07/94   |                          |
| Z 0.0                             | R 50.3 | C 51.2                  | CONC. 51.2 ppm | Z 0.0                           | R 50.3                   |
| R 50.4                            | Z 0.0  | C 51.2                  | CONC. 51.1 ppm | R 50.3                          | Z 0.0                    |
| Z 0.0                             | C 51.1 | R 50.3                  | CONC. 51.1 ppm | Z 0.0                           | C 51.4                   |
| U/M ppm                           |        | MEAN TEST ASSAY         | 51.1 ppm       | U/M ppm                         |                          |
|                                   |        |                         |                |                                 | MEAN TEST ASSAY 51.4 ppm |

THIS CYLINDER NO. SA 7539  
 HAS BEEN CERTIFIED ACCORDING TO SECTION 3.0.4  
 OF TRACEABILITY PROTOCOL NO. 1  
 PROCEDURE G1  
 CERTIFIED ACCURACY ± 1 % NIST TRACEABLE  
 CYLINDER PRESSURE 1650 PSIG  
 CERTIFICATION DATE 02/07/94  
 EXPIRATION DATE 02/07/97 TERM 36 MONTHS

CERTIFIED CONCENTRATION  
 CARBON MONOXIDE 51.3 ppm  
 NITROGEN BALANCE

ANALYZED BY

CERTIFIED BY

  
KHAN T. YOUNG



# Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48083

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

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
CAE INSTRUMENT RENTAL  
246 WOODWORK LANE  
PALATINE, IL, 60067-5000

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

**Purchase Order** 10084-71500  
**Scott Project #** 559264

### ANALYTICAL INFORMATION

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

**Cylinder Number** ALM018454  
**Cylinder Pressure** 1900 psig

**Certification Date** 12-14-93  
**Previous Certification Dates** None

**Expiration Date** 12-14-96

### ANALYZED CYLINDER

**Components**  
Carbon Monoxide

**Certified Concentration**  
85.05 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** CRM 1679A  
**Expiration Date** 6-22-97

**Cylinder Number**  
ALM024840

**Concentration:**  
96.21 PPM CO IN N<sub>2</sub>

### INSTRUMENTATION

**Instrument/Model/Serial #**  
CO: Beckman/867/0100157

**Last Date Calibrated**  
11-10-93

**Analytical Principle**  
Non-Dispersive Infrared

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

| Components      | First Triad Analysis   | Second Triad Analysis   | Calibration Curve   |
|-----------------|--|---|---|
| Carbon Monoxide | Date: 12-6-93<br>Response Units: mv<br>Z1=0.00 R1=96.40 T1=85.50<br>R2=96.40 Z2=0.00 T2=85.50<br>Z3=0.00 T3=85.50 R3=96.40<br>Avg. Conc. of Cust. Cyl. 85.05 ppm | Date: 12-14-93<br>Response Units: mv<br>Z1=0.00 R1=96.40 T1=85.50<br>R2=96.40 Z2=0.00 T2=85.50<br>Z3=0.00 T3=85.50 R3=96.40<br>Avg. Conc. of Cust. Cyl. 85.05 ppm | Concentration=A+Bx+Cx <sup>2</sup> +Dx <sup>3</sup> +Ex <sup>4</sup><br>r=0.99999 CRM 1679A<br>Constants: A=0.3465483<br>B=0.9339077 C=0.00095399<br>D=-0.000003327 E=0 |
|                 |  |   | Concentration=A+Bx+Cx <sup>2</sup> +Dx <sup>3</sup> +Ex <sup>4</sup>  |
|                 |  |   | Concentration=A+Bx+Cx <sup>2</sup> +Dx <sup>3</sup> +Ex <sup>4</sup>  |

Special Notes

*Tim Sanderson*  
Analyst Tim Sanderson



# Scott Specialty Gases, Inc.

6141 EASTON ROAD, P.O. BOX 310, PLUMSTEADVILLE, PA 18949-0310 (215) 766-8861 FAX: (215) 766-0320

#H

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

|   |   |  |
|---|---|--|
| <b>Customer</b><br>Ets Inc<br>1401 Municipal Road Nw<br>Roanoke, VA 24012 | <b>Assay Laboratory</b><br>Scott Specialty Gases, Inc.<br>6141 Easton Road<br>P.O. Box 310<br>Plumsteadville, PA 18949-0310 | <b>Purchase Order 4261</b><br>Scott Project # 01-46684-001 |
|---|---|--|

### ANALYTICAL INFORMATION

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

|                   |           |                              |          |                     |          |
|-------------------|-----------|------------------------------|----------|---------------------|----------|
| Cylinder Number   | AAL9824   | Certification Date           | 04-21-93 | General Exp. Date   | 04-21-96 |
| Cylinder Pressure | 2000 psig | Previous Certification Dates | None     | Acid Rain Exp. Date | 10-21-94 |

### ANALYZED CYLINDER

|                       |                                |                                |
|-----------------------|--------------------------------|--------------------------------|
| <u>Components</u>     | <u>Certified Concentration</u> | <u>Analytical Uncertainty*</u> |
| Carbon monoxide       | 150.5 ppm                      | ±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 | Expiration Date | Cylinder Number | Concentration                |
| GMIS | 07-13-93        | ALM016721       | 201 ppm CO in N <sub>2</sub> |

### INSTRUMENTATION

|                           |                      |                      |
|---------------------------|----------------------|----------------------|
| Instrument/Model/Serial # | Last Date Calibrated | Analytical Principle |
| CO: Horiba/CFA310A/474091 | 04-13-93             | NDIR                 |

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

| Components      | First Triad Analysis   | Second Triad Analysis  | Calibration Curve   |
|-----------------|--|--|---|
| Carbon monoxide | Date: 04-13-93    Response Units: Volts<br>Z1=0.0000   R1=1.0060   T1=0.7529<br>R2=1.0060   Z2=0.0000   T2=0.7535<br>Z3=0.0000   T3=0.7530   R3=1.0060<br>Avg. Conc. of Cust. Cyl. 150.5 ppm | Date: 04-21-93    Response Units: Volts<br>Z1=0.0000   R1=1.0000   T1=0.7496<br>R2=1.0010   Z2=0.0000   T2=0.7490<br>Z3=0.0000   T3=0.7489   R3=1.0010<br>Avg. Conc. of Cust. Cyl. 150.5 ppm | Concentration = A + Bx + Cx <sup>2</sup> + Dx <sup>3</sup> + Ex <sup>4</sup><br>r=0.99999<br>Constants:    A=0.0000E+00<br>B=0.0000E+00    C=0.0000E+00<br>D=0.0000E+00    E=0.0000E+00 |
|                 |  |  |   |
|                 |  |  |   |

**Special Notes** If this product is used for Acid Rain Rule compliance under 40 CFR Part 75, the Acid Rain Expiration Date applies per Appendix H. If for use with other than 40 CFR Part 75 compliance, the General Expiration Date applies.

*Paul Witte*  
Analyst Paul Witte



# Scott Specialty Gases, Inc.

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0808

5301

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
ETS, INC.  
Attn: Bill Hayes  
1401 Municipal Road NW  
Roanoke, VA 24012

**Assay Laboratory**  
Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

**Purchase Order** 4886  
**Scott Project #** 12-07484

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

|                          |            |                               |          |                        |          |
|--------------------------|------------|-------------------------------|----------|------------------------|----------|
| <b>Cylinder Number</b>   | ALM-009574 | <b>Certification Date</b>     | 06-27-94 | <b>Expiration Date</b> | 06-27-97 |
| <b>Cylinder Pressure</b> | 1915 PSIG  | <b>Previous Certification</b> | None     |                        |          |

### ANALYZED CYLINDER

#### Components

Carbon Monoxide  
Nitrogen

**Certified Concentration**  
300 PPM

#### Analytical Uncertainty\*

+/- 1% NIST Directly Traceable  
Balance

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

**Type**                      **Expiration Date**  
NIRM # 2636              12/94

**Cylinder Number**  
ALM-024902

**Concentration**  
243.2 PPM Balance in Nitrogen

### INSTRUMENTATION

**Instrument/Model/Serial #**  
Varian /3400/16804

**Last Data Calibrated**  
06-03-94

**Analytical Principle**  
Gas Chromatography

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

| Components      | First Triad Analysis   | Second Triad Analysis  | Calibration Curve |
|-----------------|--|--|-------------------|
| Carbon Monoxide | Date: 06-17-94      Response Units: Area<br>STD-11717      SPL-14459<br>SPL-14473      SPL-14441<br>STD-11757      STD-11728                     | Date: 06-27-94      Response Units: Area<br>STD-12152      SPL-14834<br>SPL-14876      SPL-15085<br>STD-11968      STD-12192                     | Date: 06-03-94    |
|                 | Date:                      Response Units:<br>STD-                      SPL-<br>SPL-                      SPL-<br>STD-                      STD- | Date:                      Response Units:<br>STD-                      SPL-<br>SPL-                      SPL-<br>STD-                      STD- | Date:             |
|                 | Date:                      Response Units:<br>STD-                      SPL-<br>SPL-                      SPL-<br>STD-                      STD- | Date:                      Response Units:<br>STD-                      SPL-<br>SPL-                      SPL-<br>STD-                      STD- |                   |

Analyst T. Richards



# Scott Specialty Gases, Inc.

6141 EASTON ROAD, P.O. BOX 310, PLUMSTEADVILLE, PA 18949-0310 (215) 766-8861 FAX: (215) 766-0320

*Handwritten initials and number 29*

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer  
Ets Inc  
1401 Municipal Road Nw  
Roanoke, VA 24012

Assay Laboratory  
Scott Specialty Gases, Inc.  
6141 Easton Road  
P.O. Box 310  
Plumsteadville, PA 18949-0310

Purchase Order 4553  
Scott Project # 01-52173-002

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol 1 Procedure #G1, Section Number 3.0.4  
Cylinder Number ALM034721 Certification Date 11-26-93 Expiration Date 11-22-96  
Cylinder Pressure 2000 psig Previous Certification Dates None

### ANALYZED CYLINDER

| Components            | Certified Concentration | Analytical Uncertainty*     |
|-----------------------|-------------------------|-----------------------------|
| Carbon dioxide        | 9.98 %                  | ±1% NIST Directly Traceable |
| Carbon monoxide       | 504 ppm                 | ±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      | Expiration Date | Cylinder Number | Concentration                             |
|-----------|-----------------|-----------------|---|
| NTRM1675  | 09-28-95        | ALM032672       | 14.01 % CO <sub>2</sub> in N <sub>2</sub> |
| NTRM1681B | 09-24-94        | ALM021485       | 978 ppm CO in N <sub>2</sub>              |

### INSTRUMENTATION

| Instrument/Model/Serial #                           | Last Date Calibrated | Analytical Principle |
|---|----------------------|----------------------|
| CO <sub>2</sub> : Perkin-Elmer/SIGMA3B/002490700023 | 09-30-93             | TCD                  |
| CO: Horiba/CFA310A/474091                           | 10-04-93             | NDIR                 |

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

| Components      | First Triad Analysis  | Second Triad Analysis   | Calibration Curve   |
|-----------------|---|---|---|
| Carbon dioxide  | Date: 11-22-93 Response Units: Area<br>Z1=000000 R1=027199 T1=019365<br>R2=027154 Z2=000000 T2=019358<br>Z3=000000 T3=019280 R3=027099<br>Avg. Conc. of Cust. Cyl. 9.98 %   |   | Concentration = A + Bx + Cx <sup>2</sup> + Dx <sup>3</sup> + Ex <sup>4</sup><br>r=0.99999 SEM2745<br>Constants: A=2.0114E-02<br>B=5.2675E-04 C=0.0000E+00<br>D=0.0000E+00 E=0.0000E+00  |
| Carbon monoxide | Date: 11-19-93 Response Units: Volts<br>Z1=0.0000 R1=0.6490 T1=0.3594<br>R2=0.6500 Z2=0.0000 T2=0.3596<br>Z3=0.0000 T3=0.3595 R3=0.6494<br>Avg. Conc. of Cust. Cyl. 504 ppm | Date: 11-26-93 Response Units: Volts<br>Z1=0.0018 R1=0.6517 T1=0.3614<br>R2=0.6523 Z2=0.0026 T2=0.3619<br>Z3=0.0024 T3=0.3619 R3=0.6523<br>Avg. Conc. of Cust. Cyl. 504 ppm | Concentration = A + Bx + Cx <sup>2</sup> + Dx <sup>3</sup> + Ex <sup>4</sup><br>r=0.99996 NTRM1681<br>Constants: A=6.5330E-01<br>B=1.4447E+03 C=9.4575E+01<br>D=0.0000E+00 E=0.0000E+00 |
|                 |   |   |   |

Special Notes

*Analyst signature: Al Rojas*  
Analyst Al Rojas





# Scott Specialty Gases, Inc.

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0808

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
ETS, INC.  
Attn: Bill Hayes  
1401 Municipal Road NW  
Roanoke, VA 24012

**Assay Laboratory**  
Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

**Purchase Order** 4886  
**Scott Project #** 12-07484

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

**Cylinder Number** ALM-044198      **Certification Date** 06-27-94      **Expiration Date** 06-27-97  
**Cylinder Pressure** 1915 PSIG      **Previous Certification** None

### ANALYZED CYLINDER

#### Components

Carbon Monoxide  
Nitrogen

**Certified Concentration**  
594 PPM

#### Analytical Uncertainty\*

+/- 1% NIST Directly Traceable Balance

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

**Type**      **Expiration Date**  
NIRM # 1681      07/94

**Cylinder Number**  
ALM-024751

**Concentration**  
966.1 PPM Balance in Nitrogen

### INSTRUMENTATION

**Instrument/Model/Serial #**  
Varian /3400/16804

**Last Date Calibrated**  
06-03-94

**Analytical Principle**  
Gas Chromatography

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

#### Components

Carbon Monoxide

#### First Triad Analysis

| Date:     | Response Unit: |
|-----------|----------------|
| 06-20-94  | Assn           |
| STD-49151 | SPL-30318      |
| SPL-30199 | SPL-30251      |
| STD-49208 | STD-49187      |

#### Second Triad Analysis

| Date:     | Response Unit: |
|-----------|----------------|
| 06-27-94  | Assn           |
| STD-49644 | SPL-30177      |
| SPL-30407 | SPL-30367      |
| STD-49235 | STD-49222      |

#### Calibration Curve

| Date:    |
|----------|
| 06-03-94 |

| Date: | Response Unit: |
|-------|----------------|
| STD-  | SPL-           |
| SPL-  | SPL-           |
| STD-  | STD-           |

| Date: | Response Unit: |
|-------|----------------|
| STD-  | SPL-           |
| SPL-  | SPL-           |
| STD-  | STD-           |

| Date: |
|-------|
|       |

| Date: | Response Unit: |
|-------|----------------|
| STD-  | SPL-           |
| SPL-  | SPL-           |
| STD-  | STD-           |

| Date: | Response Unit: |
|-------|----------------|
| STD-  | SPL-           |
| SPL-  | SPL-           |
| STD-  | STD-           |

| Date: |
|-------|
|       |

*T. Richards*  
Analyst T. Richards



213-585-2154  
FAX# 213-585-0582

# LIQUID CARBONIC

CYLINDER GAS PRODUCTS

5700 SOUTH ALAMEDA STREET • LOS ANGELES, CALIFORNIA 90058

44

## CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER ENV. & INDUST. DIST.

P.O NUMBER 011894-2

### REFERENCE STANDARD

|                      |              |              |               |
|----------------------|--------------|--------------|---------------|
| COMPONENT            | NIST SRM NO. | CYLINDER NO. | CONCENTRATION |
| CARBON MONOXIDE GMIS | vs 1681b     | CC 43665     | 950 ppm       |

### ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

|                      |                 |                 |                         |                       |             |                 |               |
|----------------------|-----------------|-----------------|-------------------------|-----------------------|-------------|-----------------|---------------|
| 1. COMPONENT         | CARBON MONOXIDE | GMIS            | ANALYZER MAKE-MODEL-S/N | Siemens Ultramat 5E   | S/N A12-729 |                 |               |
| ANALYTICAL PRINCIPLE | NDIR            |                 |                         | LAST CALIBRATION DATE | 12/06/93    |                 |               |
| FIRST ANALYSIS DATE  | 01/31/94        |                 |                         | SECOND ANALYSIS DATE  | 02/07/94    |                 |               |
| Z 0                  | R 950           | C 897           | CONC. 897 ppm           | Z 0                   | R 950       | C 896           | CONC. 896 ppm |
| R 950                | Z 0             | C 897           | CONC. 897 ppm           | R 950                 | Z 0         | C 896           | CONC. 896 ppm |
| Z 0                  | C 897           | R 950           | CONC. 897 ppm           | Z 0                   | C 896       | R 950           | CONC. 896 ppm |
| U/M ppm              |                 | MEAN TEST ASSAY | 897 ppm                 | U/M ppm               |             | MEAN TEST ASSAY | 896 ppm       |

THIS CYLINDER NO. SA 10333  
 HAS BEEN CERTIFIED ACCORDING TO SECTION 10.4  
 OF TRACEABILITY PROTOCOL NO. 1  
 PROCEDURE G1  
 CERTIFIED ACCURACY ± 1 % NIST TRACEABLE  
 CYLINDER PRESSURE 1650 PSIG  
 CERTIFICATION DATE 02/07/94  
 EXPIRATION DATE 02/07/97 TERM 36 MONTHS

CERTIFIED CONCENTRATION  
 CARBON MONOXIDE 897 ppm  
 NITROGEN BALANCE

ANALYZED BY

*Maureen E. Pichon*

CERTIFIED BY

*Kwan T. Young*

KWAN T. YOUNG



# Scott Specialty Gases, Inc.

2001

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0803

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
ETS, INC.  
Attn: Bill Hayes  
1401 Municipal Road NW  
Roanoke, VA 24012

**Assay Laboratory**  
Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

**Purchase Order** 4886  
**Scott Project #** 12-07484

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

|                          |            |                               |          |                        |          |
|--------------------------|------------|-------------------------------|----------|------------------------|----------|
| <b>Cylinder Number</b>   | ALM-011158 | <b>Certification Date</b>     | 06-24-94 | <b>Expiration Date</b> | 06-24-96 |
| <b>Cylinder Pressure</b> | 2000 PSIG  | <b>Previous Certification</b> | None     |                        |          |

### ANALYZED CYLINDER

|                   |                                |  |
|-------------------|--------------------------------|--|
| <b>Components</b> | <b>Certified Concentration</b> | <b>Analytical Uncertainty*</b>         |
| Sulfur Dioxide    | 50.0 PPM                       | +/- 1% NIST Directly Traceable Balance |
| Nitrogen          |                                |  |

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

|             |                        |                        |                              |
|-------------|------------------------|------------------------|------------------------------|
| <b>Type</b> | <b>Expiration Date</b> | <b>Cylinder Number</b> | <b>Concentration</b>         |
| NTRM# 1693  | 09/94                  | ALM-021564             | 47.2 PPM Balance in Nitrogen |

### INSTRUMENTATION

|                                   |                             |                             |
|-----------------------------------|-----------------------------|-----------------------------|
| <b>Instrument/Model/Serial #</b>  | <b>Last Date Calibrated</b> | <b>Analytical Principle</b> |
| LOW SO2: Horiba/AIA23AS/850658161 | 06-09-94                    | NDIR                        |

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

| Components     | First Triad Analysis   | Second Triad Analysis  | Calibration Curve |
|----------------|--|--|-------------------|
| Sulfur Dioxide | Date: 06-17-94      Response Unit: PPM<br>Z1=0.02    R2=47.20    Z3=0.03<br>R1=47.14    Z2=0.03    T3=50.40<br>T1=50.14    T2=50.26    R3=47.31  | Date: 06-24-94      Response Unit: PPM<br>Z1=0.04    R2=47.39    Z3=0.00<br>R1=47.34    Z2=0.04    T3=50.32<br>T1=49.91    T2=50.19    R3=47.47  | Date: 06-09-94    |
|                | Date:                  Response Unit:<br>Z1=                  R2=                  Z3=<br>R1=                  Z2=                  T3=<br>T1=                  T2=                  R3= | Date:                  Response Unit:<br>Z1=                  R2=                  Z3=<br>R1=                  Z2=                  T3=<br>T1=                  T2=                  R3= | Date:             |
|                | Date:                  Response Unit:<br>Z1=                  R2=                  Z3=<br>R1=                  Z2=                  T3=<br>T1=                  T2=                  R3= | Date:                  Response Unit:<br>Z1=                  R2=                  Z3=<br>R1=                  Z2=                  T3=<br>T1=                  T2=                  R3= | Date:             |

*W. Gilbert*  
Analyst W. Gilbert

2005



213-585-2154  
FAX# 213-585-0582

# LIQUID CARBONIC

CYLINDER GAS PRODUCTS

5700 SOUTH ALAMEDA STREET • LOS ANGELES, CA 90058

## CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER ENV. & INDUST. DIST.

P.O NUMBER 041994-1

### REFERENCE STANDARD

|                    |              |              |               |
|--------------------|--------------|--------------|---------------|
| COMPONENT          | NIST SRM NO. | CYLINDER NO. | CONCENTRATION |
| SULFUR DIOXIDE GMS | vs. 1694a    | SA 6231      | 98.4 ppm      |

### ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

|                      |                |                 |                         |                       |            |        |                |
|----------------------|----------------|-----------------|-------------------------|-----------------------|------------|--------|----------------|
| 1. COMPONENT         | SULFUR DIOXIDE | GMS             | ANALYZER MAKE-MODEL/S/N | Siemens Ultramat 5E   | S/N C1-009 |        |                |
| ANALYTICAL PRINCIPLE | NDIR           |                 |                         | LAST CALIBRATION DATE | 05/20/94   |        |                |
| FIRST ANALYSIS DATE  | 05/16/94       |                 |                         | SECOND ANALYSIS DATE  | 05/24/94   |        |                |
| Z 0.0                | R 98.6         | C 94.9          | CONC. 94.7 ppm          | Z 0.0                 | R 96.1     | C 92.2 | CONC. 94.4 ppm |
| R 98.9               | Z 0.0          | C 95.4          | CONC. 94.9 ppm          | R 96.2                | Z 0.0      | C 91.9 | CONC. 94.0 ppm |
| Z 0.0                | C 95.4         | R 98.9          | CONC. 94.9 ppm          | Z 0.0                 | C 92.4     | R 96.2 | CONC. 94.5 ppm |
| U/M ppm              |                | MEAN TEST ASSAY | 94.8 ppm                | U/M ppm               |            |        |                |

Values not valid below 150 psig

|   |                      |                         |           |
|---|----------------------|-------------------------|-----------|
| THIS CYLINDER NO.                       | SA 4778              | CERTIFIED CONCENTRATION |           |
| HAS BEEN CERTIFIED ACCORDING TO SECTION | EPA-600/893/224      | SULFUR DIOXIDE          | 94.6 ppm  |
| OF TRACEABILITY PROTOCOL NO.            | Rev. 9/93            | NITROGEN                | BALANCE   |
| PROCEDURE                               | G1                   |                         |           |
| CERTIFIED ACCURACY                      | ± 2 % NIST TRACEABLE |                         |           |
| CYLINDER PRESSURE                       | 2000 PSIG            |                         |           |
| CERTIFICATION DATE                      | 05/24/94             |                         |           |
| EXPIRATION DATE                         | 05/24/96             | TERM                    | 24 MONTHS |

ANALYZED BY

CERTIFIED BY

DOUG GRANT



# Scott Specialty Gases

2135

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0808

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
ETS Inc.  
Attn: Bill Hayes  
1401 Municipal Road NW  
Roanoke, VA 24012

**Assay Laboratory**  
Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

**Purchase Order** 5661  
**Scott Project #** 12-13247

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

**Cylinder Number** ALM-044201      **Certification Date** 08-29-95      **Expiration Date** 08-29-97  
**Cylinder Pressure** 1897 PSIG      **Previous Certification** None

### ANALYZED CYLINDER

**Components**      **Certified Concentration**      **Analytical Uncertainty\***  
Sulfur Dioxide      128.2 PPM      +/- 1% NIST Directly Traceable Balance  
Nitrogen

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

**Type**      **Expiration Date**      **Cylinder Number**      **Concentration**  
NTRM# 1661      05-96      ALM-040322      48.3 PPM SO2 Balance in N2

### INSTRUMENTATION

**Instrument/Model/Serial #**      **Last Date Calibrated**      **Analytical Principle**  
NICOLET / 8220 / AAB9400252      08-01-95      FTIR

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

| Components     | First Triad Analysis   | Second Triad Analysis  | Calibration Curve |
|----------------|--|--|-------------------|
| Sulfur Dioxide | Date: 08-22-95      Response Unit: PPM<br>Z1=0.049    R2=48.24    Z3=0.237<br>R1=48.30    Z2=0.054    T3=128.1<br>T1=128.3    T2=128.1    R3=48.27 | Date: 08-29-95      Response Unit: PPM<br>Z1=0.033    R2=48.67    Z3=0.540<br>R1=48.30    Z2=0.108    T3=128.5<br>T1=128.5    T2=128.2    R3=48.75 | Date: 08-01-95    |
|                | Date:      Response Unit:<br>Z1=      R2=      Z3=<br>R1=      Z2=      T3=<br>T1=      T2=      R3=   | Date:      Response Unit:<br>Z1=      R2=      Z3=<br>R1=      Z2=      T3=<br>T1=      T2=      R3=   | Date:             |
|                | Date:      Response Unit:<br>Z1=      R2=      Z3=<br>R1=      Z2=      T3=<br>T1=      T2=      R3=   | Date:      Response Unit:<br>Z1=      R2=      Z3=<br>R1=      Z2=      T3=<br>T1=      T2=      R3=   | Date:             |

*R. Becton*  
Analyst R. Becton



# Scott Specialty Gases, Inc.

1290 COMBERMERE STREET, TROY, MI 48083

(810) 589-2950 FAX:(810) 589-2134

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
CASE INSTRUMENT RENTAL  
246 WOODWORK LANE  
PALATINE, IL 60067

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

**Purchase Order :** 1332-71500  
**Scott Project # :** 578931

### ANALYTICAL INFORMATION

This certification was performed according to EPA Tracability Protocol For Assay and Certification of Gaseous Calibration Standards; Procedure G1; September, 1993.

**Cylinder Number :** ALM058300  
**Cylinder Pressure + :** 1900 psig

**Certificate Date :** 4/7/95  
**Previous Certificate Date :** None

**Expiration Date :** 4/7/97

### ANALYZED CYLINDER

**Components**  
Sulfur Dioxide

**Certified Concentration**  
146.2 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      | Expiration Date | Cylinder Number | Concentration                        |
|-----------|-----------------|-----------------|--------------------------------------|
| NTRM 1661 | 5/25/96         | ALM-041665      | 468.9 ppm Sulfur Dioxide in Nitrogen |

### INSTRUMENTATION

**Instrument/Model/Serial #**  
HORIE A AIA 210 566844011

**Last Date Calibrated**  
4/4/95

**Analytical Principle**  
Non-Dispersive Infrared

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

| Components     | First Triad Analysis  | Second Triad Analysis  | Calibration Curve  |
|----------------|---|--|--|
| Sulfur Dioxide | Date: 3/31/95      Response Units: mv<br>Z1=0.00    R1=100.00    T1=33.60<br>R2=100.00    Z2=0.00      T2=33.60<br>Z3=0.00      T3=33.60      R3=100.00<br>Avg. Conc. of Cust. Cyl. 146.4 ppm | Date: 4/7/95      Response Units: mv<br>Z1=0.00    R1=100.00    T1=33.50<br>R2=100.00    Z2=0.00      T2=33.50<br>Z3=0.00      T3=33.50      R3=100.00<br>Avg. Conc. of Cust. Cyl. 145.9 ppm | Concentration=A+Bx+Cx <sup>2</sup> +Dx <sup>3</sup> +Ex <sup>4</sup><br>r=0.99999                      NTRM 1661<br>Constants:                      A=-0.102582800<br>B=4.192802000<br>C=0.004974238<br>D=0.000000000<br>E=0.000000000 |

**Special Notes**

Cylinder

Analyst

2700



213-585-2154  
FAX# 213-585-0582

# LIQUID CARBONIC

CYLINDER GAS PRODUCTS

5700 SOUTH ALAMEDA STREET • LOS ANGELES, CA 90058

#16

## CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER ENV. & IND. DIST.

P.O NUMBER 040494-2

### REFERENCE STANDARD

| COMPONENT          | NIST SRM NO. | CYLINDER NO. | CONCENTRATION |
|--------------------|--------------|--------------|---------------|
| SULFUR DIOXIDE GMS | vs. 1661a    | SA 5772      | 237 ppm       |

### ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

| COMPONENT            | SULFUR DIOXIDE | GMS             | ANALYZER MAKE-MODEL-S/N        | Siemens Ultramat SE S/N C1-009  |
|----------------------|----------------|-----------------|--------------------------------|---------------------------------|
| ANALYTICAL PRINCIPLE |                | NDIR            | LAST CALIBRATION DATE 04/22/94 |                                 |
| FIRST ANALYSIS DATE  |                | 04/19/94        | SECOND ANALYSIS DATE 04/26/94  |                                 |
| Z 0                  | R 237          | C 224           | CONC. 224 ppm                  | Z 0 R 237 C 224 CONC. 224 ppm   |
| R 237                | Z 0            | C 224           | CONC. 224 ppm                  | R 237 Z 0 C 224 CONC. 224 ppm   |
| Z 0                  | C 224          | R 237           | CONC. 224 ppm                  | Z 0 C 224 R 237 CONC. 224 ppm   |
| U/M                  | ppm            | MEAN TEST ASSAY | 224 ppm                        | U/M ppm MEAN TEST ASSAY 224 ppm |

Values not valid below 150 psig

|   |                      |                         |           |
|---|----------------------|-------------------------|-----------|
| THIS CYLINDER NO.                       | SGAL 2156            | CERTIFIED CONCENTRATION |           |
| HAS BEEN CERTIFIED ACCORDING TO SECTION | EPA-600/R93/224      | SULFUR DIOXIDE          | 224 ppm   |
| OF TRACEABILITY PROTOCOL NO.            | Rev. 9/93            | NITROGEN                | BALANCE   |
| PROCEDURE                               | G1                   |                         |           |
| CERTIFIED ACCURACY                      | ± 1 % NIST TRACEABLE |                         |           |
| CYLINDER PRESSURE                       | 2000 PSIG            |                         |           |
| CERTIFICATION DATE                      | 04/26/94             |                         |           |
| EXPIRATION DATE                         | 04/26/96             | TERM                    | 24 MONTHS |

ANALYZED BY

*Maria E. Resuen*  
MARIA E. RESUEN

CERTIFIED BY

*Doug Grant*  
DOUG GRANT



# Scott Specialty Gases, Inc.

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0803

2703

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
ETS, INC.  
Attn: Bill Hayes  
1401 Municipal Road NW  
Roanoke, VA 24012

**Assay Laboratory**  
Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

**Purchase Order** 4886  
**Scott Project #** 12-07484

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

|                          |            |                               |          |                        |          |
|--------------------------|------------|-------------------------------|----------|------------------------|----------|
| <b>Cylinder Number</b>   | ALM-028829 | <b>Certification Date</b>     | 06-27-94 | <b>Expiration Date</b> | 06-27-96 |
| <b>Cylinder Pressure</b> | 2000 PSIG  | <b>Previous Certification</b> | None     |                        |          |

### ANALYZED CYLINDER

|                   |                                |  |
|-------------------|--------------------------------|--|
| <b>Components</b> | <b>Certified Concentration</b> | <b>Analytical Uncertainty*</b>         |
| Sulfur Dioxide    | 237 PPM                        | +/- 1% NIST Directly Traceable Balance |
| Nitrogen          |                                |  |

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

|             |                        |                        |                               |
|-------------|------------------------|------------------------|-------------------------------|
| <b>Type</b> | <b>Expiration Date</b> | <b>Cylinder Number</b> | <b>Concentration</b>          |
| NTRM# 0260  | 05/95                  | AAL-14148              | 260.5 PPM Balance in Nitrogen |

### INSTRUMENTATION

|                                   |                             |                             |
|-----------------------------------|-----------------------------|-----------------------------|
| <b>Instrument/Model/Serial #</b>  | <b>Last Date Calibrated</b> | <b>Analytical Principle</b> |
| LOW SO2: Horiba/AIA23AS/850658161 | 06-26-94                    | NDIR                        |

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

| Components     | First Triad Analysis   | Second Triad Analysis  | Calibration Curve |
|----------------|--|--|-------------------|
| Sulfur Dioxide | Date: 06-16-94      Response Unit: PPM<br>Z1=0.2    R2=260.5    Z3=0.3<br>R1=260.5    Z2=0.3    T3=237.3<br>T1=237.1    T2=237.1    R3=260.6   | Date: 06-27-94      Response Unit: PPM<br>Z1=0.0    R2=260.6    Z3=0.2<br>R1=260.5    Z2=0.2    T3=237.3<br>T1=237.1    T2=237.3    R3=260.6   | Date: 06-26-94    |
|                | Date:                      Response Unit:<br>Z1=                      R2=                      Z3=<br>R1=                      Z2=                      T3=<br>T1=                      T2=                      R3= | Date:                      Response Unit:<br>Z1=                      R2=                      Z3=<br>R1=                      Z2=                      T3=<br>T1=                      T2=                      R3= | Date:             |
|                | Date:                      Response Unit:<br>Z1=                      R2=                      Z3=<br>R1=                      Z2=                      T3=<br>T1=                      T2=                      R3= | Date:                      Response Unit:<br>Z1=                      R2=                      Z3=<br>R1=                      Z2=                      T3=<br>T1=                      T2=                      R3= | Date:             |

W. Gilbert  
Analyst W. Gilbert





# Scott Specialty Gases, Inc.

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0808

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

|   |  |   |
|---|--|---|
| <b>Customer</b><br>ETS, INC.<br>Attn: Bill Hayes<br>1401 Municipal Road NW<br>Roanoke, VA 24012 | <b>Assay Laboratory</b><br>Scott Specialty Gases, Inc.<br>1750 East Club Boulevard<br>Durham, NC 27704 | <b>Purchase Order</b> 4886<br><b>Scott Project #</b> 12-07484 |
|---|--|---|

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

|                                    |                                    |                                 |
|------------------------------------|------------------------------------|---------------------------------|
| <b>Cylinder Number</b> AAL-21323   | <b>Certification Date</b> 06-27-94 | <b>Expiration Date</b> 06-27-97 |
| <b>Cylinder Pressure</b> 1915 PSIG | <b>Previous Certification</b> None |                                 |

### ANALYZED CYLINDER

|  |   |  |
|--|---|--|
| <b>Components</b><br>Carbon Monoxide<br>Nitrogen | <b>Certified Concentration</b><br>300 PPM | <b>Analytical Uncertainty*</b><br>± 1% NIST Directly Traceable Balance |
|--|---|--|

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD


|                            |                                 |                                      |   |
|----------------------------|---------------------------------|--------------------------------------|---|
| <b>Type</b><br>NTRM # 2636 | <b>Expiration Date</b><br>12/94 | <b>Cylinder Number</b><br>ALM-024902 | <b>Concentration</b><br>243.2 PPM Balance in Nitrogen |
|----------------------------|---------------------------------|--------------------------------------|---|

### INSTRUMENTATION

|  |   |   |
|--|---|---|
| <b>Instrument/Model/Serial #</b><br>Varian /3400/16804 | <b>Last Date Calibrated</b><br>06-03-94 | <b>Analytical Principle</b><br>Gas Chromatography |
|--|---|---|

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

| Components      | First Triad Analysis  | Second Triad Analysis   | Calibration Curve |
|-----------------|---|---|-------------------|
| Carbon Monoxide | Date: 06-17-94      Response Unit: Area<br>STD=11685      SPL=14545<br>SPL=14404      SPL=14502<br>STD=11585      STD=11791                     | Date: 06-27-94      Response Unit: Area<br>STD=12132      SPL=14910<br>SPL=14831      SPL=14908<br>STD=11963      STD=12192                     | Date: 06-03-94    |
|                 | Date:                      Response Unit:<br>STD=                      SPL=<br>SPL=                      SPL=<br>STD=                      STD= | Date:                      Response Unit:<br>STD=                      SPL=<br>SPL=                      SPL=<br>STD=                      STD= | Date:             |
|                 | Date:                      Response Unit:<br>STD=                      SPL=<br>SPL=                      SPL=<br>STD=                      STD= | Date:                      Response Unit:<br>STD=                      SPL=<br>SPL=                      SPL=<br>STD=                      STD= |                   |



Analyst T. Richards



# Scott Specialty Gases, Inc.

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0808

3105  
RECEIVED AUG 31 1994

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
ETS, INC.  
Attn: Bill Hayes  
1401 Municipal Road NW  
Roanoke, VA 24012

**Assay Laboratory**  
Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

**Purchase Order** 5000  
**Scott Project #** 12-08091

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

|                          |           |                               |          |                        |          |
|--------------------------|-----------|-------------------------------|----------|------------------------|----------|
| <b>Cylinder Number</b>   | AAL-17068 | <b>Certification Date</b>     | 08-25-94 | <b>Expiration Date</b> | 08-25-96 |
| <b>Cylinder Pressure</b> | 2000 PSIG | <b>Previous Certification</b> | None     |                        |          |

### ANALYZED CYLINDER

| <u>Components</u> | <u>Certified Concentration</u> | <u>Analytical Uncertainty*</u> |
|-------------------|--------------------------------|--------------------------------|
| Nitric Oxide      | 124.0 PPM                      | +/- 1% NIST Traceable          |
| NOX               | 125.0 PPM                      | Reference Value Only           |
| Nitrogen          |                                | Balance                        |

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

| <u>Type</u> | <u>Expiration Date</u> | <u>Cylinder Number</u> | <u>Concentration</u>          |
|-------------|------------------------|------------------------|-------------------------------|
| GMS         | 06/96                  | AAL-21031              | 139.6 PPM Balance in Nitrogen |
| *NIRM# 1685 | 08/96                  | ALM-036516             | 245.4 PPM Balance in Nitrogen |

SECOND ANALYSIS

### INSTRUMENTATION

|   |   |   |
|---|---|---|
| <b>Instrument/Model/Serial #</b><br>NO: Horiba/CLAS3A/850658093 | <b>Last Date Calibrated</b><br>08-08-94 | <b>Analytical Principle</b><br>Chemiluminescent |
|---|---|---|

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

| Components   | First Triad Analysis  | Second Triad Analysis   | Calibration Curve |
|--------------|---|---|-------------------|
| Nitric Oxide | Date: 08-17-94      Response Units: PPM<br>Z1=0.0    R2=139.2    Z3=0.0<br>R1=139.1    Z2=0.0      T3=124.1<br>T1=123.8    T2=123.9    R3=139.2   | Date: 08-25-94      Response Units: PPM<br>Z1=0.3    R2=245.5    Z3=0.6<br>R1=245.6    Z2=0.6      T3=124.5<br>T1=124.6    T2=124.5    R3=245.7   | Date: 08-08-94    |
|              | Date:                  Response Units:<br>Z1=                  R2=                  Z3=<br>R1=                  Z2=                  T3=<br>T1=                  T2=                  R3= | Date:                  Response Units:<br>Z1=                  R2=                  Z3=<br>R1=                  Z2=                  T3=<br>T1=                  T2=                  R3= | Date:             |
|              | Date:                  Response Units:<br>Z1=                  R2=                  Z3=<br>R1=                  Z2=                  T3=<br>T1=                  T2=                  R3= | Date:                  Response Units:<br>Z1=                  R2=                  Z3=<br>R1=                  Z2=                  T3=<br>T1=                  T2=                  R3= | Date:             |

*K. Cooke*  
Analyst K. Cooke



# Scott Specialty Gases, Inc.

3205

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0808

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
ETS, Inc.  
Attn: Bill Hayes  
1401 Municipal Road NW  
Roanoke, VA 24012

**Assay Laboratory**  
Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

**Purchase Order** 5129  
**Scott Project #** 12-08743

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

|                          |           |                               |          |                        |          |
|--------------------------|-----------|-------------------------------|----------|------------------------|----------|
| <b>Cylinder Number</b>   | AAL-3884  | <b>Certification Date</b>     | 10-11-94 | <b>Expiration Date</b> | 10-11-96 |
| <b>Cylinder Pressure</b> | 1950 PSIG | <b>Previous Certification</b> | None     |                        |          |

### ANALYZED CYLINDER

| <u>Components</u> | <u>Certified Concentration</u> | <u>Analytical Uncertainty*</u> |
|-------------------|--------------------------------|--------------------------------|
| Nitric Oxide      | 224 PPM                        | +/- 1% NIST Directly Traceable |
| NOX               | 226 PPM                        | Reference Value Only           |
| Nitrogen          |                                | Balance                        |

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

| Type       | Expiration Date | Cylinder Number | Concentration                 |
|------------|-----------------|-----------------|-------------------------------|
| NTRM# 1685 | 08/96           | ALM-036516      | 245.4 PPM Balance in Nitrogen |
| NTRM# 1686 | 07/95           | ALM-022384      | 492 PPM Balance in Nitrogen   |

### INSTRUMENTATION

| Instrument/Model/Serial #   | Last Date Calibrated | Analytical Principle |
|-----------------------------|----------------------|----------------------|
| NICOLET / 8220 / AAB9400252 | 09-24-94             | FTIR                 |
| NO: Horiba/CLA53A/850658093 | 10-10-94             | Chemiluminescent     |

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

| Components   | First Triad Analysis  | Second Triad Analysis   | Calibration Curve |
|--------------|---|---|-------------------|
| Nitric Oxide | Date: 10-04-94      Response Units: PPM<br>Z1=0.1    R2=365.2    T3=0.5<br>R1=245.4    Z2=0.3    T2=223.2<br>T1=224.5    T2=224.6    R3=344.2   | Date: 10-11-94      Response Units: PPM<br>Z1=0.5    R2=492.2    T3=0.7<br>R1=492.1    Z2=0.3    T2=224.6<br>T1=224.4    T2=224.6    R3=491.6   | Date: 10-10-94    |
|              | Date:                      Response Units:<br>Z1=                      R2=                      T3=<br>R1=                      Z2=                      T2=<br>T1=                      T2=                      R3= | Date:                      Response Units:<br>Z1=                      R2=                      T3=<br>R1=                      Z2=                      T2=<br>T1=                      T2=                      R3= | Date:             |
|              | Date:                      Response Units:<br>Z1=                      R2=                      T3=<br>R1=                      Z2=                      T2=<br>T1=                      T2=                      R3= | Date:                      Response Units:<br>Z1=                      R2=                      T3=<br>R1=                      Z2=                      T2=<br>T1=                      T2=                      R3= | Date:             |

Analyst K. Cooke



# Scott Specialty Gases, Inc.

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0903 FAX: (919) 220-0908

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
ETS, INC.  
Attn: Bill Hayes  
1401 Municipal Road NW  
Roanoke, VA 24012

**Assay Laboratory**  
Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

**Purchase Order** 4886  
**Scott Project #** 12-07484

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

**Cylinder Number** ALM-028956      **Certification Date** 06-22-94      **Expiration Date** 06-22-96  
**Cylinder Pressure** 2000 PSIG      **Previous Certification** None

### ANALYZED CYLINDER

**Components**  
Nitric Oxide  
NOX  
Nitrogen

**Certified Concentration**  
125.5 PPM  
126.5 PPM

**Analytical Uncertainty\***  
+/- 1% NIST Traceable  
Reference Value Only  
Balance

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

**Type** GMS      **Expiration Date** 05/96

**Cylinder Number** IL-3192

**Concentration** 304 PPM Balance in Nitrogen

### INSTRUMENTATION

**Instrument/Model/Serial #**  
NO: Horiba/CLA53A/850658093

**Last Date Calibrated**  
06-09-94

**Analytical Principle**  
Chemiluminescent

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

**Components**

**First Triad Analysis**

**Second Triad Analysis**

**Calibration Curve**

Nitric Oxide

| Date:    | Response Units: PPM |          |          |
|----------|---------------------|----------|----------|
| 06-15-94 | Z1=0.7              | R2=303.2 | Z3=0.7   |
|          | R1=303.7            | Z2=0.7   | T3=126.4 |
|          | T1=126.7            | T2=126.4 | R3=303.9 |

| Date:    | Response Units: PPM |          |          |
|----------|---------------------|----------|----------|
| 06-22-94 | Z1=0.7              | R2=139.2 | Z3=0.7   |
|          | R1=139.7            | Z2=0.5   | T3=125.0 |
|          | T1=125.0            | T2=124.8 | R3=139.7 |

| Date:    |
|----------|
| 06-09-94 |

| Date: | Response Units: |     |  |
|-------|-----------------|-----|--|
| Z1=   | R2=             | Z3= |  |
| R1=   | Z2=             | T3= |  |
| T1=   | T2=             | R3= |  |

| Date: | Response Units: |     |  |
|-------|-----------------|-----|--|
| Z1=   | R2=             | Z3= |  |
| R1=   | Z2=             | T3= |  |
| T1=   | T2=             | R3= |  |

| Date: |
|-------|
|       |

| Date: | Response Units: |     |  |
|-------|-----------------|-----|--|
| Z1=   | R2=             | Z3= |  |
| R1=   | Z2=             | T3= |  |
| T1=   | T2=             | R3= |  |

| Date: | Response Units: |     |  |
|-------|-----------------|-----|--|
| Z1=   | R2=             | Z3= |  |
| R1=   | Z2=             | T3= |  |
| T1=   | T2=             | R3= |  |

| Date: |
|-------|
|       |

*K. Cooke*  
Analyst K. Cooke



# Scott Specialty Gases, Inc.

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0808

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

|  |  |   |
|--|--|---|
| <b>Customer</b><br>ETS, Inc.<br>Attn: Bill Hays<br>1401 Municipal Road NW<br>Roanoke, VA 24012 | <b>Assay Laboratory</b><br>Scott Specialty Gases, Inc.<br>1750 East Club Boulevard<br>Durham, NC 27704 | <b>Purchase Order</b> 5345<br><b>Scott Project #</b> 12-10343 |
|--|--|---|

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

|                                    |                                    |                                 |
|------------------------------------|------------------------------------|---------------------------------|
| <b>Cylinder Number</b> AAL-7446    | <b>Certification Date</b> 02-14-95 | <b>Expiration Date</b> 02-14-97 |
| <b>Cylinder Pressure</b> 1841 PSIG | <b>Previous Certification</b> None |                                 |

### ANALYZED CYLINDER

|                   |                                |                                |
|-------------------|--------------------------------|--------------------------------|
| <b>Components</b> | <b>Certified Concentration</b> | <b>Analytical Uncertainty*</b> |
| Nitric Oxide      | 150.0 PPM                      | +/- 1% NIST Directly Traceable |
| NOX               | 150.0 PPM                      | Reference Value Only           |
| Nitrogen          |                                | Balance                        |

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

|             |                        |                        |                               |
|-------------|------------------------|------------------------|-------------------------------|
| <b>Type</b> | <b>Expiration Date</b> | <b>Cylinder Number</b> | <b>Concentration</b>          |
| NTRM# 1695  | 08-96                  | ALM-036429             | 245.3 PPM Balance in Nitrogen |
| NTRM# 1686  | 08-96                  | ALM-025095             | 495 PPM Balance in Nitrogen   |

### INSTRUMENTATION

|                                  |                             |                             |
|----------------------------------|-----------------------------|-----------------------------|
| <b>Instrument/Model/Serial #</b> | <b>Last Date Calibrated</b> | <b>Analytical Principle</b> |
| NICOLET / 8220 / AAB9400252      | 01-26-95                    | FTIR                        |

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

| Components   | First Triad Analysis  | Second Triad Analysis   | Calibration Curve |
|--------------|---|---|-------------------|
| Nitric Oxide | Date: 02-07-95      Response Units: PPM<br>Z1=-0.460    R2=246.8    Z3=0.214<br>R1=245.3    Z2=-0.180    T3=149.5<br>T1=149.7    T2=149.6    R3=246.4   | Date: 02-14-95      Response Units: PPM<br>Z1=-0.559    R2=495.4    Z3=-0.220<br>R1=495.0    Z2=0.072    T3=149.2<br>T1=149.7    T2=149.1    R3=495.6   | Date: 01-26-95    |
|              | Date:                      Response Units:<br>Z1=                      R2=                      Z3=<br>R1=                      Z2=                      T3=<br>T1=                      T2=                      R3= | Date:                      Response Units:<br>Z1=                      R2=                      Z3=<br>R1=                      Z2=                      T3=<br>T1=                      T2=                      R3= | Date:             |
|              | Date:                      Response Units:<br>Z1=                      R2=                      Z3=<br>R1=                      Z2=                      T3=<br>T1=                      T2=                      R3= | Date:                      Response Units:<br>Z1=                      R2=                      Z3=<br>R1=                      Z2=                      T3=<br>T1=                      T2=                      R3= | Date:             |

*M. Morris*  
 Analyst M. Morris



# Scott Specialty Gases, Inc.

3205

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0803

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

### Customer

ETS, Inc.  
Attn: Bill Hayes  
1401 Municipal Road NW  
Roanoke, VA 24012

### Assay Laboratory

Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

Purchase Order 5129  
Scott Project # 12-08743

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

|                   |           |                        |          |                 |          |
|-------------------|-----------|------------------------|----------|-----------------|----------|
| Cylinder Number   | AAL-3884  | Certification Date     | 10-11-94 | Expiration Date | 10-11-96 |
| Cylinder Pressure | 1950 PSIG | Previous Certification | None     |                 |          |

### ANALYZED CYLINDER

#### Components

Nitric Oxide  
NOX  
Nitrogen

#### Certified Concentration

224 PPM  
226 PPM

#### Analytical Uncertainty\*

+/- 1% NIST Directly Traceable  
Reference Value Only  
Balance

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

|            |                 |                 |                               |
|------------|-----------------|-----------------|-------------------------------|
| Type       | Expiration Date | Cylinder Number | Concentration                 |
| NTRM# 1685 | 08/96           | ALM-036516      | 245.4 PPM Balance in Nitrogen |
| NTRM# 1686 | 07/95           | ALM-022384      | 492 PPM Balance in Nitrogen   |

### INSTRUMENTATION

|                             |                      |                      |
|-----------------------------|----------------------|----------------------|
| Instrument/Model/Serial #   | Last Date Calibrated | Analytical Principle |
| NICOLET / S220 / AAB9400252 | 09-24-94             | FTIR                 |
| NO: Horiba/CLA53A/850658093 | 10-10-94             | Chemiluminescent     |

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

| Components   | First Triad Analysis  | Second Triad Analysis   | Calibration Curve |
|--------------|---|---|-------------------|
| Nitric Oxide | Date: 10-04-94      Response Units: PPM<br>Z1=0.1    R2=243.2    Z3=0.5<br>R1=245.4    Z2=0.3    T3=223.2<br>T1=224.5    T2=224.6    R3=244.2   | Date: 10-11-94      Response Units: PPM<br>Z1=0.5    R2=492.2    Z3=0.7<br>R1=492.1    Z2=0.3    T3=224.6<br>T1=224.4    T2=224.6    R3=491.6   | Date: 10-10-94    |
|              | Date:                      Response Units:<br>Z1=                      R2=                      Z3=<br>R1=                      Z2=                      T3=<br>T1=                      T2=                      R3= | Date:                      Response Units:<br>Z1=                      R2=                      Z3=<br>R1=                      Z2=                      T3=<br>T1=                      T2=                      R3= | Date:             |
|              | Date:                      Response Units:<br>Z1=                      R2=                      Z3=<br>R1=                      Z2=                      T3=<br>T1=                      T2=                      R3= | Date:                      Response Units:<br>Z1=                      R2=                      Z3=<br>R1=                      Z2=                      T3=<br>T1=                      T2=                      R3= | Date:             |

*K. Cooke*  
Analyst K. Cooke



# Scott Specialty Gases, Inc.

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0803

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
 ETS, INC.  
 Attn: Bill Hayes  
 1401 Municipal Road NW  
 Roanoke, VA 24012

**Assay Laboratory**  
 Scott Specialty Gases, Inc.  
 1750 East Club Boulevard  
 Durham, NC 27704

**Purchase Order** 4886  
**Scott Project #** 12-07484

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

|                          |            |                               |          |                        |          |
|--------------------------|------------|-------------------------------|----------|------------------------|----------|
| <b>Cylinder Number</b>   | ALM-018958 | <b>Certification Date</b>     | 06-24-94 | <b>Expiration Date</b> | 06-24-96 |
| <b>Cylinder Pressure</b> | 2000 PSIG  | <b>Previous Certification</b> | None     |                        |          |

### ANALYZED CYLINDER

| <u>Components</u> | <u>Certified Concentration</u> | <u>Analytical Uncertainty*</u> |
|-------------------|--------------------------------|--------------------------------|
| Nitric Oxide      | 227 PPM                        | +/- 1% NIST Traceable          |
| NOX               | 228 PPM                        | Reference Value Only           |
| Nitrogen          |                                | Balance                        |

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

| Type | Expiration Date | Cylinder Number | Concentration               |
|------|-----------------|-----------------|-----------------------------|
| GMS  | 05/96           | 1L-3194         | 304 PPM Balance in Nitrogen |
| GMS  | 06/96           | AAL-19803       | 242 PPM Balance in Nitrogen |

### INSTRUMENTATION

|                                  |                             |                             |
|----------------------------------|-----------------------------|-----------------------------|
| <b>Instrument/Model/Serial #</b> | <b>Last Date Calibrated</b> | <b>Analytical Principle</b> |
| NO: Horiba/CLA53A/850658093      | 06-09-94                    | Chemiluminescent            |

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

| Components   | First Triad Analysis  | Second Triad Analysis   | Calibration Curve |
|--------------|---|---|-------------------|
| Nitric Oxide | Date: 06-15-94<br>Response Unit: PPM<br>Z1=0.70 R2=303.3 Z3=0.7<br>R1=303.4 Z2=0.7 T3=227.3<br>T1=227.4 T2=227.4 R3=303.5 | Date: 06-24-94<br>Response Unit: PPM<br>Z1=0.7 R2=241.6 Z3=0.7<br>R1=241.3 Z2=0.70 T3=226.5<br>T1=226.4 T2=226.4 R3=241.9 | Date: 06-09-94    |
|              | Date: Response Unit:<br>Z1- R2- Z3-<br>R1- Z2- T3-<br>T1- T2- R3-   | Date: Response Unit:<br>Z1- R2- Z3-<br>R1- Z2- T3-<br>T1- T2- R3-   | Date:             |
|              | Date: Response Unit:<br>Z1- R2- Z3-<br>R1- Z2- T3-<br>T1- T2- R3-   | Date: Response Unit:<br>Z1- R2- Z3-<br>R1- Z2- T3-<br>T1- T2- R3-   | Date:             |

*K. Cooke*  
 Analyst K. Cooke



# Scott Specialty Gases

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0808

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
ETS, INC.  
Attn: Mr. Bill Hayes  
1401 Municipal Road NW  
Roanoke, VA 24012

**Assay Laboratory**  
Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

**Purchase Order** 5661  
**Scott Project #** 12-13247

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

**Cylinder Number** ALM-019243      **Certification Date** 08-21-95      **Expiration Date** 08-21-98  
**Cylinder Pressure** 2000 PSIG      **Previous Certification** None

### ANALYZED CYLINDER

#### Components

Propane  
Nitrogen

#### Certified Concentration

14.83 PPM

#### Analytical Uncertainty\*

+/- 1% NIST Directly Traceable  
Balance

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

**Type** NTRM # 1666      **Expiration Date** 08-95      **Cylinder Number** AAL-8237      **Concentration** 9.62 PPM C3H8 Balance in Air

### INSTRUMENTATION

**Instrument/Model/Serial #** Varian /3400/16804      **Last Date Calibrated** 08-16-95      **Analytical Principle** Gas Chromatography

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

| Components | First Triad Analysis  | Second Triad Analysis   | Calibration Curve |
|------------|---|---|-------------------|
| Propane    | Date: 08-21-95      Response Unit: Area<br>STD-122448      SPL-189498<br>SPL-189128      STD-123101<br>STD-122683      SPL-189929 | Date:      Response Unit:<br>STD-      SPL-<br>SPL-      STD-<br>STD-      SPL- | Date: 08-16-95    |
|            | Date:      Response Unit:<br>STD-      SPL-<br>SPL-      STD-<br>STD-      SPL-   | Date:      Response Unit:<br>STD-      SPL-<br>SPL-      STD-<br>STD-      SPL- | Date:             |
|            | Date:      Response Unit:<br>STD-      SPL-<br>SPL-      STD-<br>STD-      SPL-   | Date:      Response Unit:<br>STD-      SPL-<br>SPL-      STD-<br>STD-      SPL- | Date:             |

*S. Vaughan*  
Analyst S. Vaughan





# Scott Specialty Gases

1507

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0808

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
ETS, INC.  
Attn: Mr. Bill Hayes  
1401 Municipal Road NW  
Roanoke, VA 24012

**Assay Laboratory**  
Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

**Purchase Order** 5661  
**Scott Project #** 12-13247

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

|                          |           |                               |          |                        |          |
|--------------------------|-----------|-------------------------------|----------|------------------------|----------|
| <b>Cylinder Number</b>   | AAL-16530 | <b>Certification Date</b>     | 08-21-95 | <b>Expiration Date</b> | 08-21-98 |
| <b>Cylinder Pressure</b> | 2000 PSIG | <b>Previous Certification</b> | None     |                        |          |

### ANALYZED CYLINDER

|                   |                                |                                |
|-------------------|--------------------------------|--------------------------------|
| <b>Components</b> | <b>Certified Concentration</b> | <b>Analytical Uncertainty*</b> |
| Propane           | 24.50 PPM                      | +/- 1% NIST Directly Traceable |
| Nitrogen          |                                | Balance                        |

Do not use when cylinder pressure is less than 150 PSIG.

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

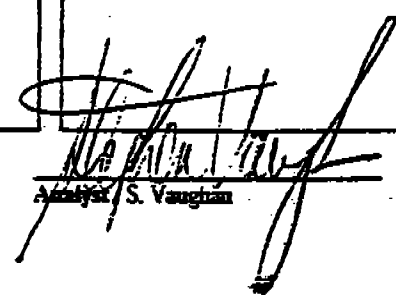
### REFERENCE STANDARD

|             |                        |                        |                              |
|-------------|------------------------|------------------------|------------------------------|
| <b>Type</b> | <b>Expiration Date</b> | <b>Cylinder Number</b> | <b>Concentration</b>         |
| NTRM # 1666 | 08-95                  | AAL-8237               | 9.62 PPM C3H8 Balance in Air |

### INSTRUMENTATION

|                                  |                             |                             |
|----------------------------------|-----------------------------|-----------------------------|
| <b>Instrument/Model/Serial #</b> | <b>Last Date Calibrated</b> | <b>Analytical Principle</b> |
| Varian /3408/16804               | 08-16-95                    | Gas Chromatography          |

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

| Components | First Triad Analysis   | Second Triad Analysis  | Calibration Curve   |
|------------|--|--|---|
| Propane    | Date: 08-21-95      Response Units: Area<br>STD-122448      SPL-312488<br>SPL-312617      STD-123101<br>STD-122683      SPL-312728               | Date:                      Response Units:<br>STD-                      SPL-<br>SPL-                      STD-<br>STD-                      SPL- | Date: 08-16-95  |
|            | Date:                      Response Units:<br>STD-                      SPL-<br>SPL-                      STD-<br>STD-                      SPL- | Date:                      Response Units:<br>STD-                      SPL-<br>SPL-                      STD-<br>STD-                      SPL- | Date:   |
|            | Date:                      Response Units:<br>STD-                      SPL-<br>SPL-                      STD-<br>STD-                      SPL- | Date:                      Response Units:<br>STD-                      SPL-<br>SPL-                      STD-<br>STD-                      SPL- | <br>Analyst S. Vaughan |



# Scott Specialty Gases

1208

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0808

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
ETS, INC.  
Attn: Mr. Bill Hayes  
1401 Municipal Road NW  
Roanoke, VA 24012

**Assay Laboratory**  
Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

**Purchase Order** 5661  
**Scott Project #** 12-13247

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1995.

**Cylinder Number** AAL-13506      **Certification Date** 08-21-95      **Expiration Date** 08-21-98  
**Cylinder Pressure** 2000 PSIG      **Previous Certification** None

### ANALYZED CYLINDER

#### Components

Propane  
Nitrogen

#### Certified Concentration

24.59 PPM

#### Analytical Uncertainty\*

+/- 1% NIST Directly Traceable  
Balance

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

**Type** NTRM # 1666      **Expiration Date** 08-95      **Cylinder Number** AAL-8237      **Concentration** 9.62 PPM C3H8 Balance in Air

### INSTRUMENTATION

**Instrument/Model/Serial #** Varian /3400/16804      **Last Date Calibrated** 08-16-95      **Analytical Principle** Gas Chromatography

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

| Components | First Triad Analysis   | Second Triad Analysis  | Calibration Curve |
|------------|--|--|-------------------|
| Propane    | Date: 08-21-95      Response Units: Ave.<br>STD=122448      SPL=313778<br>SPL=313707      STD=123101<br>STD=122683      SPL=313675 | Date:      Response Units:<br>STD=      SPL=<br>SPL=      STD=<br>STD=      SPL= | Date: 08-16-95    |
|            | Date:      Response Units:<br>STD=      SPL=<br>SPL=      STD=<br>STD=      SPL=   | Date:      Response Units:<br>STD=      SPL=<br>SPL=      STD=<br>STD=      SPL= | Date:             |
|            | Date:      Response Units:<br>STD=      SPL=<br>SPL=      STD=<br>STD=      SPL=   | Date:      Response Units:<br>STD=      SPL=<br>SPL=      STD=<br>STD=      SPL= | Date:             |

*[Signature]*  
Analyst S. Vaughan



# Scott Specialty Gases

1009

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0808

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
ETS, INC.  
Attn: Mr. Bill Hayes  
1401 Municipal Road NW  
Roanoke, VA 24012

**Assay Laboratory**  
Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

**Purchase Order** 5661  
**Scott Project #** 12-15247

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

|                          |            |                               |          |                        |          |
|--------------------------|------------|-------------------------------|----------|------------------------|----------|
| <b>Cylinder Number</b>   | ALM-036804 | <b>Certification Date</b>     | 08-21-95 | <b>Expiration Date</b> | 08-21-98 |
| <b>Cylinder Pressure</b> | 2000 PSIG  | <b>Previous Certification</b> | None     |                        |          |

### ANALYZED CYLINDER

#### Components

Propane  
Nitrogen

#### Certified Concentration

44.65 PPM

#### Analytical Uncertainty\*

+/- 1% NIST Directly Traceable  
Balance

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

**Type** NTRM # 1666  
**Expiration Date** 08-95

**Cylinder Number**  
AAL-8237

**Concentration**  
9.62 PPM C3H8 Balance in Air

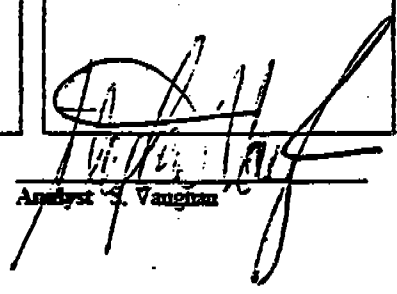
### INSTRUMENTATION

**Instrument/Model/Serial #**  
Varian /3400/16804

**Last Date Calibrated**  
08-16-95

**Analytical Principle**  
Gas Chromatography

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

| Components | First Triad Analysis  | Second Triad Analysis   | Calibration Curve   |
|------------|---|---|---|
| Propane    | Date: 08-21-95<br>Response Units: Area<br>STD=122445 SPL=570707<br>SPL=570609 STD=123101<br>STD=122683 SPL=570543 | Date:<br>Response Units:<br>STD- SPL-<br>SPL- STD-<br>STD- SPL- | Date: 08-16-95  |
|            | Date:<br>Response Units:<br>STD- SPL-<br>SPL- STD-<br>STD- SPL-   | Date:<br>Response Units:<br>STD- SPL-<br>SPL- STD-<br>STD- SPL- | Date:   |
|            | Date:<br>Response Units:<br>STD- SPL-<br>SPL- STD-<br>STD- SPL-   | Date:<br>Response Units:<br>STD- SPL-<br>SPL- STD-<br>STD- SPL- |  |

Analyst J. Vaughan



# Scott Specialty Gases

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704

(919) 220-0803 FAX: (919) 220-0808

## CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

**Customer**  
ETS, INC.  
Attn: Mr. Bill Hayes  
1401 Municipal Road NW  
Roanoke, VA 24012

**Assay Laboratory**  
Scott Specialty Gases, Inc.  
1750 East Club Boulevard  
Durham, NC 27704

**Purchase Order** 5661  
**Scott Project #** 12-13247

### ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, issued September, 1993.

**Cylinder Number** ALM-032829      **Certification Date** 08-21-95      **Expiration Date** 08-21-98  
**Cylinder Pressure** 2000 PSIG      **Previous Certification** None

### ANALYZED CYLINDER

#### Components

Propane  
Nitrogen

#### Certified Concentration

44.82 PPM

#### Analytical Uncertainty\*

+/- 1% NIST Directly Traceable  
Balance

Do not use when cylinder pressure is less than 150 PSIG.

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

### REFERENCE STANDARD

**Type** NTRM # 1666      **Expiration Date** 08-95

**Cylinder Number** AAL-8237

**Concentration** 9.62 PPM C3H8 Balance in Air

### INSTRUMENTATION

**Instrument/Model/Serial #**  
Varian /3400/16804

**Last Date Calibrated**  
08-16-95

**Analytical Principle**  
Gas Chromatography

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

#### Components

Propane

#### First Triad Analysis

| Date:      | Response Units: |
|------------|-----------------|
| 08-21-95   | Area            |
| STD-122448 | SPL-571784      |
| SPL-572814 | STD-123101      |
| STD-122683 | SPL-571929      |

#### Second Triad Analysis

| Date: | Response Units: |
|-------|-----------------|
| STD-  | SPL-            |
| SPL-  | STD-            |
| STD-  | SPL-            |

#### Calibration Curve

| Date:    |
|----------|
| 08-16-95 |

| Date: | Response Units: |
|-------|-----------------|
| STD-  | SPL-            |
| SPL-  | STD-            |
| STD-  | SPL-            |

| Date: | Response Units: |
|-------|-----------------|
| STD-  | SPL-            |
| SPL-  | STD-            |
| STD-  | SPL-            |

| Date: |
|-------|
|       |

| Date: | Response Units: |
|-------|-----------------|
| STD-  | SPL-            |
| SPL-  | STD-            |
| STD-  | SPL-            |

| Date: | Response Units: |
|-------|-----------------|
| STD-  | SPL-            |
| SPL-  | STD-            |
| STD-  | SPL-            |

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Analyst: S. Vaughan