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|               |            |
|---------------|------------|
| AP-42 Section | <u>9.7</u> |
| Reference     | <u>17</u>  |
| Report Sect.  | <u>4</u>   |
| Reference     | <u>9</u>   |

**DOS PALOS COOPERATIVE**  
7870 W. Hutchins Road  
Dos Palos, CA

**PM10 & TOTAL PARTICULATE TESTING  
MOTES, SUCTION, LINT CLEANER,  
OVERFLOW, #1 DRYING,  
BATTERY CONDENSER AND  
#2 DRYING CYLONES**

**November 27 - 29, 1992**

Prepared By:

**BTC ENVIRONMENTAL, INC.**  
1536 Eastman Avenue  
Ventura, CA 93003

Job Number  
5019

Laboratory Report Number  
292-157

Test Team Leader  
Cam Donnahoo

Results Verified By:  
Tom Porter  
Vice President - Air Test Division

*for Banking emissions*

**RECEIVED**

DEC 31 1992

SAN JOAQUIN COUNTY  
AIR POLLUTION CONTROL DISTRICT

| Cuplar  | X    | TSP<br>per<br>apba<br>16/hr | per<br>apba<br>16/hr | of<br>PM <sub>10</sub> | per<br>apba<br>16/hr<br>PM <sub>10</sub> | per<br>apba<br>16/hr<br>PM <sub>10</sub> | 1000<br>balay<br>hr | 16<br>hr | 16<br>hr |        |
|---------|------|-----------------------------|----------------------|------------------------|--|--|---------------------|----------|----------|--------|
| No. 4   | good | 16/hr                       | 16/hr                | PM <sub>10</sub>       | 16/hr<br>PM <sub>10</sub>                | 16/hr<br>PM <sub>10</sub>                | 1000<br>balay<br>hr | 16<br>hr | 16<br>hr |        |
| Suction | 3046 | 0.0123                      | 0.74                 | 2.22                   | 60.52                                    | 0.44                                     | 1.92                | 24.6     | 0.0902   | 0.0526 |

AP-42 Section 9.7  
Reference 17  
Report Sect. 4  
Reference 9

**DOS PALOS COOPERATIVE**  
7870 W. Hutchins Road  
Dos Palos, CA

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*for Bantag emissions*

**RECEIVED**

DEC 31 1992

SAN JOAQUIN COUNTY  
AIR POLLUTION CONTROL DISTRICT

FEB-05-'00 SUN 18:22 ID:

TEL NO:

#060 P01

10/92

Captain  
No. 10

X  
good

TOP  
per  
16/hr

per  
16/hr

9/0  
PM 10

per  
16/hr  
PM 10

per  
16/hr  
PM 10

10/92  
hr

10/92  
hr

10/92  
hr

| Caplines   | TSP         | per capline | per capline      | per capline      | per capline      | per capline      | STD   | STD   | STD    |        |
|--|-------------|-------------|------------------|------------------|------------------|------------------|-------|-------|--------|--------|
| No. of   | per capline | lb/hr       | of               | lb/hr            | lb/hr            | lb/hr            | lb/hr | lb/hr | lb/hr  |        |
|  | lb/hr       |             | PM <sub>10</sub> | PM <sub>10</sub> | PM <sub>10</sub> | PM <sub>10</sub> | hr    | hr    | hr     |        |
| Suction  | 3046        | 0.0123      | 0.74             | 2.22             | 60.52            | 0.44             | 1.92  | 24.6  | 0.0902 | 0.0624 |
| #1 Dry   | 2250        | 0.0044      | 4.75             | 9.50             | 22.96            | 1.08             | 1.16  | 24.3  | 0.0709 | 0.0889 |
| #2 Dry   | 2250        | 0.0371      | 2.49             | 4.98             | 22.62            | 0.59             | 1.18  | 24.3  | 0.2049 | 0.0460 |
| Overload   | 1036        | 0.0073      | 0.27             | 0.27             | 39.03            | 0.11             | 0.11  | 23.8  | 0.0112 | 0.0052 |
| Motes  | 4042        | 0.0162      | 0.94             | 3.76             | 64.05            | 0.59             | 2.36  | 22.4  | 0.1679 | 0.1050 |
| LC   | 6048        | 0.0095      | 0.52             | 3.12             | 49.44            | 0.25             | 1.50  | 24.5  | 0.1873 | 0.0422 |
| BC   | 4048        | 0.0047      | 0.23             | 0.92             | 71.82            | 0.16             | 0.64  | 25.4  | 0.0362 | 0.0252 |
| 62 Trench<br>not memo<br>use notes<br>x 0.51<br>etc. bales/hr 24.0 | 1250        | 0.0162      | 0.48             | 0.48             | 64.06            | 0.30             | 0.30  | 24.0  | 0.0200 | 0.0125 |

$1.05 \text{ PM}_{10}$   
 $0.4007 \text{ TSP}$   
 $0.400 \text{ lb/bale} \text{ PM}_{10}$   
 $0.002$   
 $0.402 \text{ lb/bale PM}_{10}$   
 $\text{PM}_{10} = 38\% \text{ of TSP}$   
 $\text{PM}_{10} = 0.40 \text{ lb/bale}$

From notes bales work sheet

Wendy Eckley  
 12/00/92  
 Eckley Engineering  
 205 N. Fulton  
 Fresno CA 93701-1614  
 Phone (209) 233-1217  
 FAX 209-233-5756

Dos Palos Cooperative Grain  
 Source Test, Calco

Post-It™ brand fax transmittal memo 7671 # of pages 1

|       |                |         |                |
|-------|----------------|---------|----------------|
| To    | Brian Shrager  | From    | Kai Chan       |
| Co.   |                | Co.     | SSVUAPCD       |
| Dept. |                | Phone # | (209) 545-7000 |
| Fax # | (919) 677-0065 | Fax #   |                |

# SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT PUBLIC RECORD RELEASE REQUEST

(Please fill out a separate form for each company)

REQUESTING AGENCY: MIDWEST RESEARCH INSTITUTE

CONTACT NAME: TOM LAPP PHONE NO: (919) 677-0249 ext. 5258

ADDRESS: Suite 350, 401 HARRISON OAKS BLVD, CARY, NC 27513

COMPANY NAME: DOS PALOS COOP GIN

PREMISE ADDRESS: (UNKNOWN)

PERMIT NUMBER(S): (UNKNOWN)

ITEM(S) REQUESTED: Emissions Test Report Prepared in 1992.

PURPOSE OF REQUEST: To obtain Particulate Emissions Data and Process

DATA to be used in the update of AP-42 section 9.7 -- Cotton Ginning

Signature: Tom Lapp DATE: 5/25/94

## SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT USE ONLY

SIGNATURE OF RELEASING OFFICIAL: \_\_\_\_\_ DATE: \_\_\_\_\_

SIGNATURE OF STAFF MEMBERS INVOLVED IN THE RELEASE OF RECORDS: \_\_\_\_\_

● 4230 Kieran Avenue, Suite 130 ● Modesto, CA ● 95356 ● Phone (209) 545-7000 ● Fax (209) 545-8652

|  |                |            |   |
|--|----------------|------------|---|
| Post-It™ brand fax transmittal memo 7671 |                | # of pages | 1 |
| To                                       | Tom Lapp       |            |   |
| From                                     | Kai Chan       |            |   |
| Co.                                      | MRI            |            |   |
| Co.                                      | SJVUAPCD       |            |   |
| Dept.                                    |                |            |   |
| Phone #                                  | (209) 545-7000 |            |   |
| Fax #                                    | (919) 677-0065 |            |   |
| Fax #                                    | (209) 545-8652 |            |   |

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## PARTICULATE EMISSION SUMMARY

### MOTES CYCLONE

|                                      | Run #1 | Run #2 | Run #3 | Average       |
|--------------------------------------|--------|--------|--------|---------------|
| <b>Total Particulate</b>             |        |        |        |               |
| gr/DSCF                              | 0.0156 | 0.0126 | 0.0174 | <b>0.0152</b> |
| lb/hr                                | 0.96   | 0.79   | 1.06   | <b>0.94</b>   |
| <b>Particulate Size Distribution</b> |        |        |        |               |
| +10 $\mu$ (%)                        | 33.78  | 29.22  | 44.84  | <b>35.95</b>  |
| +10 $\mu$ (lb/hr)                    | 0.32   | 0.23   | 0.48   | <b>0.34</b>   |
| -10 $\mu$ (%)                        | 66.22  | 70.78  | 55.16  | <b>64.05</b>  |
| -10 $\mu$ (lb/hr)                    | 0.64   | 0.56   | 0.58   | <b>0.59</b>   |

### BATTERY CONDENSER CYCLONE

|                                      | Run #1 | Run #2 | Run #3 | Average       |
|--------------------------------------|--------|--------|--------|---------------|
| <b>Total Particulate</b>             |        |        |        |               |
| gr/DSCF                              | 0.0054 | 0.0049 | 0.0038 | <b>0.0047</b> |
| lb/hr                                | 0.26   | 0.24   | 0.18   | <b>0.23</b>   |
| <b>Particulate Size Distribution</b> |        |        |        |               |
| +10 $\mu$ (%)                        | 43.40  | 33.73  | 7.42   | <b>28.18</b>  |
| +10 $\mu$ (lb/hr)                    | 0.11   | 0.08   | 0.01   | <b>0.07</b>   |
| -10 $\mu$ (%)                        | 56.60  | 66.27  | 92.58  | <b>71.82</b>  |
| -10 $\mu$ (lb/hr)                    | 0.15   | 0.16   | 0.17   | <b>0.16</b>   |

### OVERFLOW CYCLONE

|                                      | Run #1 | Run #2 | Run #3 | Average       |
|--------------------------------------|--------|--------|--------|---------------|
| <b>Total Particulate</b>             |        |        |        |               |
| gr/DSCF                              | 0.0046 | 0.0091 | 0.0082 | <b>0.0073</b> |
| lb/hr                                | 0.17   | 0.33   | 0.30   | <b>0.27</b>   |
| <b>Particulate Size Distribution</b> |        |        |        |               |
| +10 $\mu$ (%)                        | 67.47  | 57.50  | 57.96  | <b>60.98</b>  |
| +10 $\mu$ (lb/hr)                    | 0.11   | 0.19   | 0.17   | <b>0.16</b>   |
| -10 $\mu$ (%)                        | 32.53  | 42.50  | 42.04  | <b>39.02</b>  |
| -10 $\mu$ (lb/hr)                    | 0.06   | 0.14   | 0.13   | <b>0.11</b>   |

**PARTICULATE EMISSION SUMMARY (Cont)**

**LINT CLEANER CYCLONE**

|                                      | Run #1 | Run #2 | Run #3 | Average       |
|--------------------------------------|--------|--------|--------|---------------|
| <b>Total Particulate</b>             |        |        |        |               |
| gr/DSCF                              | 0.0115 | 0.0087 | 0.0084 | <b>0.0095</b> |
| lb/hr                                | 0.63   | 0.46   | 0.46   | <b>0.52</b>   |
| <b>Particulate Size Distribution</b> |        |        |        |               |
| +10μ (%)                             | 53.66  | 51.60  | 46.43  | <b>50.56</b>  |
| +10μ (lb/hr)                         | 0.34   | 0.24   | 0.21   | <b>0.26</b>   |
| -10μ (%)                             | 46.34  | 48.40  | 53.57  | <b>49.44</b>  |
| -10μ (lb/hr)                         | 0.29   | 0.22   | 0.25   | <b>0.25</b>   |

**#1 DRYING CYCLONE**

|                                      | Run #1 | Run #2 | Run #3 | Average       |
|--------------------------------------|--------|--------|--------|---------------|
| <b>Total Particulate</b>             |        |        |        |               |
| gr/DSCF                              | 0.0841 | 0.0927 | 0.0780 | <b>0.0849</b> |
| lb/hr                                | 4.71   | 5.15   | 4.38   | <b>4.75</b>   |
| <b>Particulate Size Distribution</b> |        |        |        |               |
| +10μ (%)                             | 79.75  | 76.98  | 74.70  | <b>77.14</b>  |
| +10μ (lb/hr)                         | 3.76   | 3.96   | 3.27   | <b>3.66</b>   |
| -10μ (%)                             | 20.25  | 23.02  | 25.30  | <b>22.86</b>  |
| -10μ (lb/hr)                         | 0.95   | 1.19   | 1.11   | <b>1.08</b>   |

**SUCTION CYCLONE**

|                                      | Run #1 | Run #2 | Run #3 | Average       |
|--------------------------------------|--------|--------|--------|---------------|
| <b>Total Particulate</b>             |        |        |        |               |
| gr/DSCF                              | 0.0120 | 0.0201 | 0.0194 | <b>0.0172</b> |
| lb/hr                                | 0.52   | 0.91   | 0.79   | <b>0.74</b>   |
| <b>Particulate Size Distribution</b> |        |        |        |               |
| +10μ (%)                             | 30.74  | 43.60  | 44.11  | <b>39.48</b>  |
| +10μ (lb/hr)                         | 0.16   | 0.40   | 0.35   | <b>0.30</b>   |
| -10μ (%)                             | 69.26  | 56.40  | 55.89  | <b>60.52</b>  |
| -10μ (lb/hr)                         | 0.36   | 0.51   | 0.44   | <b>0.44</b>   |

2

**PARTICULATE EMISSION SUMMARY (Cont)**

**#2 DRYER CYCLONE**

|                                      | <b>Run #1</b> | <b>Run #2</b> | <b>Run #3</b> | <b>Average</b> |
|--------------------------------------|---------------|---------------|---------------|----------------|
| <b>Total Particulate</b>             |               |               |               |                |
| <b>gr/DSCF</b>                       | 0.0366        | 0.0426        | 0.0320        | <b>0.0371</b>  |
| <b>lb/hr</b>                         | 2.43          | 2.92          | 2.13          | <b>2.49</b>    |
| <b>Particulate Size Distribution</b> |               |               |               |                |
| <b>+10<math>\mu</math> (%)</b>       | 73.17         | 70.31         | 88.64         | <b>77.37</b>   |
| <b>+10<math>\mu</math> (lb/hr)</b>   | 1.78          | 2.05          | 1.89          | <b>1.91</b>    |
| <b>-10<math>\mu</math> (%)</b>       | 26.85         | 29.69         | 11.36         | <b>22.63</b>   |
| <b>-10<math>\mu</math> (lb/hr)</b>   | 0.65          | 0.87          | 0.24          | <b>0.59</b>    |

**PARTICULATE TESTING TIME SUMMARY**

**MOTES CYCLONE (10/27/92)**

| Testing Time | Run #1  | Run #2   | Run #3   |
|--------------|---------|----------|----------|
| Start        | 8:20 AM | 9:57 AM  | 11:36 AM |
| Stop         | 9:27 AM | 11:17 AM | 1:50 PM  |

**BATTERY CONDENSER CYCLONE (10/27/92)**

| Testing Time | Run #1  | Run #2  | Run #3  |
|--------------|---------|---------|---------|
| Start        | 2:22 PM | 3:46 PM | 5:04 PM |
| Stop         | 3:28 PM | 4:53 PM | 6:10 PM |

**OVERFLOW CYCLONE (10/28/92)**

| Testing Time | Run #1  | Run #2  | Run #3   |
|--------------|---------|---------|----------|
| Start        | 6:23 AM | 7:50 AM | 9:14 AM  |
| Stop         | 7:32 AM | 8:57 AM | 10:22 AM |

**LINT CLEANER CYCLONE (10/28/92)**

| Testing Time | Run #1   | Run #2  | Run #3  |
|--------------|----------|---------|---------|
| Start        | 11:10 AM | 1:28 PM | 2:55 PM |
| Stop         | 1:09 PM  | 2:34 PM | 4:01 PM |

**#1 DRYING CYCLONE (10/28/92)**

| Testing Time | Run #1  | Run #2  | Run #3  |
|--------------|---------|---------|---------|
| Start        | 4:54 PM | 6:31 PM | 7:46 PM |
| Stop         | 6:02 PM | 7:35 PM | 8:52 PM |

**SUCTION CYCLONE (10/29/92)**

| Testing Time | Run #1  | Run #2  | Run #3   |
|--------------|---------|---------|----------|
| Start        | 6:48 AM | 8:15 AM | 9:49 AM  |
| Stop         | 7:56 AM | 9:23 AM | 10:55 AM |

4

**PARTICULATE EMISSION SUMMARY (Cont)**

**#2 DRYER CYCLONE (10/29/92)**

| <b>Testing Time</b> | <b>Run #1</b> | <b>Run #2</b> | <b>Run #3</b> |
|---------------------|---------------|---------------|---------------|
| <b>Start</b>        | 1:14 PM       | 2:51 PM       | 4:18 PM       |
| <b>Stop</b>         | 2:22 PM       | 3:56 PM       | 5:24 PM       |

5

**I. INTRODUCTION**

## INTRODUCTION

On November 27 - 29, 1992, BTC Environmental performed source emissions tests for PM-10 particulate matter on a Motes Cyclone, Suction Cyclone, Lint Cleaner Cyclone, Overflow Cleaner, #1 Drying Cyclone, Battery Condenser Cyclone and the #2 Drying Cyclone. The cyclones are located at the Dos Palos Cooperative #2 Gin, 7870 West Hutchins Road, Dos Palos, California. Sampling was done in triplicate for total particulate and PM-10 particulate size distribution. Production rates, in bales per hour, was taken by Robert Eckley with Eckley Engineering.

## SAMPLING AND ANALYTICAL PROCEDURES

**STACK GAS ANALYSIS:** The oxygen and carbon dioxide content of the exhaust gases were assumed to be ambient air. Oxygen = 20.9% and Carbon Dioxide = 0.05%.

**STACK GAS VELOCITY:** The stack gas velocity was determined using an "S" type pitot tube connected to a magnehelic gauge. The "S" type pitot was used to determine the stack velocity profile for each run. Sampling was conducted from two (2) horizontal ports. A total of twelve (8) traverse points was utilized at each port for a total of 16 sample points.

The stack temperature was determined using a thermocouple and an indicating pyrometer. The proportion of water was determined gravimetrically and the dry molecular weight of the stack gas determined by E.P.A. Method 3, equation 3-2. Stack velocities were calculated using E.P.A. Method 2, equation 2-9; gas volumetric flow rate was determined by equation 2-10.

**TOTAL PARTICULATE EMISSIONS:** A CARB Method 5 sampling train was utilized to determine the total particulate emission from the cyclones. The sample train consisted of a stainless steel nozzle, a heated stainless steel probe, a heated glass fiber filter and cooled impingers. After the weight is obtained from the filter, probe and nozzle rinses; the total solids in the impingers is added to the front-end catch to satisfy APCD rules.

**PARTICULE SIZE DITRIBUTION:** A sample was taken isokinetically from the stack using a GII cascade impactor. A modified CARB Method 501 was utilized. The impactor consisted of two (2) slotted discs, a back up filter and cooled impingers. The first two (2) discs are +10 $\mu$  and the backup filter and impingers are -10 $\mu$ . The total weights obtained from each fraction were added together to obtain the total particulate weight. The total weight was used to determine the % of the +10 $\mu$  and the -10 $\mu$  fraction. The total weight obtained from the total particulate runs are used to determine the +10 $\mu$  and the -10 $\mu$  results reported in lb/hr.

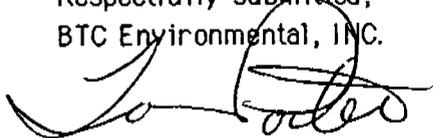
**LEAK CHECKS:** Leak rates were conducted on the sampling train and the pitot tubes before and after each test. The leak check for the sampling train was done at the nozzle. Any leak rate greater than 0.02 cfm was corrected for in the volume calculations.

All calculations for lb/hr were done by using the flow rate of the stack gas. All values were calculated by using APCD standard conditions (60°F & 29.92 in Hg).

All glassware was inspected before and after each run to insure that no breakage had occurred during the sampling. No problems were encountered during the sampling except for an occasional plug-up in the gin system.

If you have any questions concerning the above results please contact the undersigned at 805-644-1095.

Respectfully submitted,  
BTC Environmental, INC.



Tom Porter  
Vice President - Air Test Division

cc: Eckley Engineering (3)  
Attn: Wendy Eckley

**II. WET TEST METHODS DATA SUMMARIES**

a

**FIELD DATA SUMMARY  
TOTAL PARTICULATE  
NOTES CYCLONE**

|   | Run#1     | Run#2     | Run#3     |
|---|-----------|-----------|-----------|
| Vlc - Volume of water collected, ml               | 7.4       | 6.1       | 6.4       |
| Vm - Gas volume, meter cond., dcf                 | 37.907    | 39.719    | 39.415    |
| Y - Meter calibration factor                      | 0.999     | 0.999     | 0.999     |
| Pbar - Barometric pressure, in. Hg                | 30.05     | 30.05     | 30.05     |
| Pg - Stack static pressure, in. H2O               | -0.18     | -0.18     | -0.18     |
| $\Delta H$ - Avg. meter press. diff., in. H2O     | 1.243     | 1.296     | 1.249     |
| Tm - Absolute meter temperature, °R               | 535.1     | 539.7     | 538.9     |
| Vm(std) - Standard sample gas vol., dscf          | 37.0642   | 38.5059   | 38.2622   |
| Bws - Water vapor part in gas stream              | 0.9       | 0.7       | 0.8       |
| CO2 - Dry concentration, volume %                 | 0.1       | 0.1       | 0.1       |
| O2 - Dry concentration, volume %                  | 20.9      | 20.9      | 20.9      |
| Md - Mol wt. stack gas, dry, g/gmole              | 28.844    | 28.844    | 28.844    |
| Ms - Mol wt. stack gas, wet, g/gmole              | 28.744    | 28.765    | 28.760    |
| Cp - Pitot tube coef., dimensionless              | 0.874     | 0.874     | 0.874     |
| $\Delta p$ - Avg. of sq. roots of each $\Delta p$ | 0.575     | 0.584     | 0.573     |
| Ts - Absolute stack Temp. °R                      | 541.0     | 545.3     | 546.1     |
| A - Area of stack, square feet                    | 3.69      | 3.69      | 3.69      |
| Qstd - Volumetric flow rate, dscfm                | 7199      | 7293      | 7148      |
| An - Area of nozzle, square feet                  | 0.0002986 | 0.0002986 | 0.0002986 |
| t - Sampling time, minutes                        | 64        | 64        | 64        |
| I - Isokinetic variation, percent                 | 99.4      | 102.0     | 103.4     |

Aug.  
72 13.3

**FIELD DATA SUMMARY  
TOTAL PARTICULATE  
BATTERY CONDENSER CYCLONE**

|   | Run# 1    | Run# 2    | Run# 3    |
|---|-----------|-----------|-----------|
| Vlc - Volume of water collected, ml               | 24.4      | 13.1      | 30.9      |
| Vm - Gas volume, meter cond., dcf                 | 41.491    | 41.365    | 43.147    |
| Y - Meter calibration factor                      | 0.999     | 0.999     | 0.999     |
| Pbar - Barometric pressure, in. Hg                | 29.93     | 29.93     | 29.91     |
| Pg - Stack static pressure, in. H2O               | -0.10     | -0.10     | -0.10     |
| $\Delta H$ - Avg. meter press. diff., in. H2O     | 1.370     | 1.370     | 1.370     |
| Tm - Absolute meter temperature, °R               | 540.8     | 543.8     | 546.4     |
| Vm(std) - Standard sample gas vol., dscf          | 39.9876   | 39.6508   | 41.1328   |
| Bws - Water vapor part in gas stream              | 2.8       | 1.5       | 3.4       |
| CO2 - Dry concentration, volume %                 | 0.1       | 0.1       | 0.1       |
| O2 - Dry concentration, volume %                  | 20.9      | 20.9      | 20.9      |
| Md - Mol wt. stack gas, dry, g/gmole              | 28.844    | 28.844    | 28.844    |
| Ms - Mol wt. stack gas, wet, g/gmole              | 28.545    | 28.680    | 28.479    |
| Cp - Pitot tube coef., dimensionless              | 0.874     | 0.874     | 0.874     |
| $\Delta p$ - Avg. of sq. roots of each $\Delta p$ | 0.460     | 0.460     | 0.460     |
| Ts - Absolute stack Temp. °R                      | 550.4     | 547.8     | 547.3     |
| A - Area of stack, square feet                    | 3.69      | 3.69      | 3.69      |
| Qstd - Volumetric flow rate, dscfm                | 5613      | 5685      | 5598      |
| An - Area of nozzle, square feet                  | 0.0003917 | 0.0003917 | 0.0003917 |
| $\bar{t}$ - Sampling time, minutes                | 64        | 64        | 64        |
| I - Isokinetic variation, percent                 | 104.9     | 102.7     | 108.2     |

Avg  
5632

11

**FIELD DATA SUMMARY  
TOTAL PARTICULATE  
OVERFLOW CYCLONE**

|  | Run# 1    | Run# 2    | Run# 3    |
|--|-----------|-----------|-----------|
| Vlc - Volume of water collected, ml      | 9.2       | 7.7       | 7.3       |
| Vm - Gas volume, meter cond., dcf        | 41.518    | 41.795    | 43.059    |
| Y - Meter calibration factor             | 0.999     | 0.999     | 0.999     |
| Pbar - Barometric pressure, in. Hg       | 30.05     | 30.05     | 30.05     |
| Pg - Stack static pressure, in. H2O      | -0.07     | -0.07     | -0.07     |
| ΔH - Avg. meter press. diff., in. H2O    | 1.432     | 1.418     | 1.415     |
| Tm - Absolute meter temperature, °R      | 531.5     | 540.4     | 539.0     |
| Vm(std) - Standard sample gas vol., dscf | 40.8859   | 40.4813   | 41.7400   |
| Bws - Water vapor part in gas stream     | 1.0       | 0.9       | 0.8       |
| CO2 - Dry concentration, volume %        | 0.1       | 0.1       | 0.1       |
| O2 - Dry concentration, volume %         | 20.9      | 20.9      | 20.9      |
| Md - Mol wt. stack gas, dry, g/gmole     | 28.844    | 28.844    | 28.844    |
| Ms - Mol wt. stack gas, wet, g/gmole     | 28.732    | 28.749    | 28.756    |
| Cp - Pitot tube coef., dimensionless     | 0.874     | 0.874     | 0.874     |
| Δp - Avg. of sq. roots of each Δp        | 0.336     | 0.333     | 0.335     |
| Ts - Absolute stack Temp. °R             | 530.4     | 532.8     | 537.9     |
| A - Area of stack, square feet           | 3.69      | 3.69      | 3.69      |
| Qstd - Volumetric flow rate, dscfm       | 4243      | 4204      | 4200      |
| An - Area of nozzle, square feet         | 0.0005378 | 0.0005378 | 0.0005378 |
| ø - Sampling time, minutes               | 64        | 64        | 64        |
| I - Isokinetic variation, percent        | 103.4     | 103.3     | 106.6     |

Avg:  
4215.7

12

**FIELD DATA SUMMARY  
TOTAL PARTICULATE  
LINT CLEANER CYCLONE**

|   | Run#1     | Run#2     | Run#3     |
|---|-----------|-----------|-----------|
| Vlc - Volume of water collected, ml               | 7.3       | 6.8       | 7.9       |
| Vm - Gas volume, meter cond., dcf                 | 45.524    | 43.315    | 46.146    |
| Y - Meter calibration factor                      | 0.999     | 0.999     | 0.999     |
| Pbar - Barometric pressure, in. Hg                | 30.00     | 30.00     | 30.00     |
| Pg - Stack static pressure, in. H2O               | -0.07     | -0.07     | -0.07     |
| $\Delta H$ - Avg. meter press. diff., in. H2O     | 1.730     | 1.638     | 1.765     |
| Tm - Absolute meter temperature, °R               | 538.7     | 540.4     | 539.4     |
| Vm(std) - Standard sample gas vol., dscf          | 44.1941   | 41.9016   | 44.7421   |
| Bws - Water vapor part in gas stream              | 0.8       | 0.7       | 0.8       |
| CO2 - Dry concentration, volume %                 | 0.1       | 0.1       | 0.1       |
| O2 - Dry concentration, volume %                  | 20.9      | 20.9      | 20.9      |
| Md - Mol wt. stack gas, dry, g/gmole              | 28.844    | 28.844    | 28.844    |
| Ms - Mol wt. stack gas, wet, g/gmole              | 28.761    | 28.763    | 28.756    |
| Cp - Pitot tube coef., dimensionless              | 0.874     | 0.874     | 0.874     |
| $\Delta p$ - Avg. of sq. roots of each $\Delta p$ | 0.509     | 0.495     | 0.514     |
| Ts - Absolute stack Temp. °R                      | 544.6     | 544.4     | 544.8     |
| A - Area of stack, square feet                    | 3.69      | 3.69      | 3.69      |
| Qstd - Volumetric flow rate, dscfm                | 6353      | 6178      | 6412      |
| An - Area of nozzle, square feet                  | 0.0003917 | 0.0003917 | 0.0003917 |
| $\phi$ - Sampling time, minutes                   | 64        | 64        | 64        |
| I - Isokinetic variation, percent                 | 102.4     | 99.9      | 102.7     |

*Avg.  
6351 dscfm*

**FIELD DATA SUMMARY  
TOTAL PARTICULATE  
#1 DRYER CYCLONE**

|   | Run#1     | Run#2     | Run#3     |
|---|-----------|-----------|-----------|
| Vlc - Volume of water collected, ml               | 18.9      | 17.4      | 19.4      |
| Vm - Gas volume, meter cond., dcf                 | 38.425    | 37.330    | 38.430    |
| Y - Meter calibration factor                      | 0.999     | 0.999     | 0.999     |
| Pbar - Barometric pressure, in. Hg                | 29.97     | 29.97     | 29.97     |
| Pg - Stack static pressure, in. H2O               | -0.17     | -0.17     | -0.17     |
| $\Delta H$ - Avg. meter press. diff., in. H2O     | 1.134     | 1.092     | 1.102     |
| Tm - Absolute meter temperature, °R               | 541.8     | 545.9     | 545.4     |
| Vm(std) - Standard sample gas vol., dscf          | 36.9922   | 35.5838   | 36.7525   |
| Bws - Water vapor part in gas stream              | 2.3       | 2.2       | 2.4       |
| CO2 - Dry concentration, volume %                 | 0.1       | 0.1       | 0.1       |
| O2 - Dry concentration, volume %                  | 20.9      | 20.9      | 20.9      |
| Md - Mol wt. stack gas, dry, g/gmole              | 28.844    | 28.844    | 28.844    |
| Ms - Mol wt. stack gas, wet, g/gmole              | 28.592    | 28.603    | 28.584    |
| Cp - Pitot tube coef., dimensionless              | 0.874     | 0.874     | 0.874     |
| $\Delta p$ - Avg. of sq. roots of each $\Delta p$ | 0.555     | 0.549     | 0.552     |
| Ts - Absolute stack Temp. °R                      | 594.9     | 590.4     | 586.2     |
| A - Area of stack, square feet                    | 3.69      | 3.69      | 3.69      |
| Qstd - Volumetric flow rate, dscfm                | 6534      | 6482      | 6541      |
| An - Area of nozzle, square feet                  | 0.0002986 | 0.0002986 | 0.0002986 |
| $t$ - Sampling time, minutes                      | 64        | 64        | 64        |
| I - Isokinetic variation, percent                 | 109.3     | 106.0     | 108.5     |

6519

14

**FIELD DATA SUMMARY  
TOTAL PARTICULATE  
SUCTION CYCLONE**

|  | Run#1     | Run#2     | Run#3     |
|--|-----------|-----------|-----------|
| Vlc - Volume of water collected, ml      | 4.7       | 8.6       | 6.7       |
| Vm - Gas volume, meter cond., dcf        | 44.135    | 41.555    | 42.650    |
| Y - Meter calibration factor             | 0.999     | 0.999     | 0.999     |
| Pbar - Barometric pressure, in. Hg       | 29.87     | 29.87     | 29.87     |
| Pg - Stack static pressure, in. H2O      | -0.05     | -0.05     | -0.05     |
| ΔH - Avg. meter press. diff., in. H2O    | 1.549     | 1.403     | 1.391     |
| Tm - Absolute meter temperature, °R      | 531.6     | 540.5     | 538.5     |
| Vm(std) - Standard sample gas vol., dscf | 43.2059   | 39.9955   | 41.2031   |
| Bws - Water vapor part in gas stream     | 0.5       | 1.0       | 0.8       |
| CO2 - Dry concentration, volume %        | 0.1       | 0.1       | 0.1       |
| O2 - Dry concentration, volume %         | 20.9      | 20.9      | 20.9      |
| Md - Mol wt. stack gas, dry, g/gmole     | 28.844    | 28.844    | 28.844    |
| Ms - Mol wt. stack gas, wet, g/gmole     | 28.789    | 28.737    | 28.763    |
| Cp - Pitot tube coef., dimensionless     | 0.874     | 0.874     | 0.874     |
| Δp - Avg. of sq. roots of each Δp        | 0.397     | 0.417     | 0.376     |
| Ts - Absolute stack Temp. °R             | 526.8     | 527.0     | 530.0     |
| A - Area of stack, square feet           | 3.69      | 3.69      | 3.69      |
| Qstd - Volumetric flow rate, dscfm       | 5041      | 5267      | 4746      |
| An - Area of nozzle, square feet         | 0.0004714 | 0.0004714 | 0.0004714 |
| ø - Sampling time, minutes               | 64        | 64        | 64        |
| I - Isokinetic variation, percent        | 104.9     | 92.9      | 106.2     |

5018

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**FIELD DATA SUMMARY  
TOTAL PARTICULATE  
#2 DRYER CYCLONE**

|  | Run#1     | Run#2     | Run#3     |
|--|-----------|-----------|-----------|
| Vlc - Volume of water collected, ml      | 12.9      | 18.3      | 10.3      |
| Vm - Gas volume, meter cond., dcf        | 41.037    | 40.050    | 41.855    |
| Y - Meter calibration factor             | 0.999     | 0.999     | 0.999     |
| Pbar - Barometric pressure, in. Hg       | 29.92     | 29.92     | 29.92     |
| Pg - Stack static pressure, in. H2O      | -0.13     | -0.13     | -0.13     |
| ΔH - Avg. meter press. diff., in. H2O    | 1.351     | 1.471     | 1.370     |
| Tm - Absolute meter temperature, °R      | 536.5     | 542.2     | 541.6     |
| Vm(std) - Standard sample gas vol., dscf | 39.8528   | 38.4976   | 40.2668   |
| Bws - Water vapor part in gas stream     | 1.5       | 2.2       | 1.2       |
| CO2 - Dry concentration, volume %        | 0.1       | 0.1       | 0.1       |
| O2 - Dry concentration, volume %         | 20.9      | 20.9      | 20.9      |
| Md - Mol wt. stack gas, dry, g/gmole     | 28.844    | 28.844    | 28.844    |
| Ms - Mol wt. stack gas, wet, g/gmole     | 28.683    | 28.609    | 28.716    |
| Cp - Pitot tube coef., dimensionless     | 0.874     | 0.874     | 0.874     |
| Δp - Avg. of sq. roots of each Δp        | 0.642     | 0.669     | 0.646     |
| Ts - Absolute stack Temp. °R             | 574.8     | 580.1     | 580.1     |
| A - Area of stack, square feet           | 3.69      | 3.69      | 3.69      |
| Qstd - Volumetric flow rate, dscfm       | 7736      | 7986      | 7772      |
| An - Area of nozzle, square feet         | 0.0002986 | 0.0002986 | 0.0002986 |
| ø - Sampling time, minutes               | 64        | 64        | 64        |
| I - Isokinetic variation, percent        | 99.5      | 93.1      | 100.1     |

*Avg*  
7831.3

16

**FIELD DATA SUMMARY  
PM10 PARTICULATE  
NOTES CYCLONE**

|  | Run#1     | Run#2     | Run#3     |
|--|-----------|-----------|-----------|
| Vlc - Volume of water collected, ml      | -         | -         | -         |
| Vm - Gas volume, meter cond., dcf        | 40.066    | 38.049    | 39.051    |
| Y - Meter calibration factor             | 0.916     | 0.916     | 0.916     |
| Pbar - Barometric pressure, in. Hg       | 30.05     | 30.05     | 30.05     |
| Pg - Stack static pressure, in. H2O      | -0.18     | -0.18     | -0.18     |
| ΔH - Avg. meter press. diff., in. H2O    | 1.579     | 1.357     | 1.308     |
| Tm - Absolute meter temperature, °R      | 548.3     | 568.6     | 558.8     |
| Vm(std) - Standard sample gas vol., dscf | 35.0802   | 32.1067   | 33.5250   |
| Bws - Water vapor part in gas stream     | 0.9       | 0.7       | 0.8       |
| CO2 - Dry concentration, volume %        | 0.1       | 0.1       | 0.1       |
| O2 - Dry concentration, volume %         | 20.9      | 20.9      | 20.9      |
| Md - Mol wt. stack gas, dry, g/gmole     | 28.844    | 28.844    | 28.844    |
| Ms - Mol wt. stack gas, wet, g/gmole     | 28.746    | 28.768    | 28.757    |
| Cp - Pitot tube coef., dimensionless     | 0.874     | 0.874     | 0.874     |
| Δp - Avg. of sq. roots of each Δp        | 0.550     | 0.590     | 0.579     |
| Ts - Absolute stack Temp. °R             | 541.0     | 545.6     | 546.1     |
| A - Area of stack, square feet           | 3.69      | 3.69      | 3.69      |
| Qstd - Volumetric flow rate, dscfm       | 6882      | 7365      | 7219      |
| An - Area of nozzle, square feet         | 0.0002986 | 0.0002986 | 0.0002986 |
| ø - Sampling time, minutes               | 64        | 64        | 64        |
| I - Isokinetic variation, percent        | 98.2      | 84.0      | 89.5      |

**FIELD DATA SUMMARY  
PM10 PARTICULATE  
BATTERY CONDENSER CYCLONE**

|  | Run#1     | Run#2     | Run#3     |
|--|-----------|-----------|-----------|
| Vlc - Volume of water collected, ml      | -         | -         | -         |
| Vm - Gas volume, meter cond., dcf        | 38.617    | 41.581    | 43.893    |
| Y - Meter calibration factor             | 0.916     | 0.916     | 0.916     |
| Pbar - Barometric pressure, in. Hg       | 29.93     | 29.93     | 29.91     |
| Pg - Stack static pressure, in. H2O      | -0.10     | -0.10     | -0.10     |
| ΔH - Avg. meter press. diff., in. H2O    | 1.399     | 1.420     | 1.417     |
| Tm - Absolute meter temperature, °R      | 568.7     | 576.3     | 578.1     |
| Vm(std) - Standard sample gas vol., dscf | 32.4562   | 34.4904   | 36.2695   |
| Bws - Water vapor part in gas stream     | 2.8       | 1.5       | 3.4       |
| CO2 - Dry concentration, volume %        | 0.1       | 0.1       | 0.1       |
| O2 - Dry concentration, volume %         | 20.9      | 20.9      | 20.9      |
| Md - Mol wt. stack gas, dry, g/gmole     | 28.844    | 28.844    | 28.844    |
| Ms - Mol wt. stack gas, wet, g/gmole     | 28.540    | 28.681    | 28.475    |
| Cp - Pitot tube coef., dimensionless     | 0.874     | 0.874     | 0.874     |
| Δp - Avg. of sq. roots of each Δp        | 0.457     | 0.460     | 0.460     |
| Ts - Absolute stack Temp. °R             | 550.4     | 547.9     | 547.4     |
| A - Area of stack, square feet           | 3.69      | 3.69      | 3.69      |
| Qstd - Volumetric flow rate, dscfm       | 5565      | 5685      | 5596      |
| An - Area of nozzle, square feet         | 0.0003917 | 0.0003917 | 0.0003917 |
| t - Sampling time, minutes               | 64        | 64        | 64        |
| I - Isokinetic variation, percent        | 85.7      | 89.2      | 95.2      |

**FIELD DATA SUMMARY  
PM10 PARTICULATE  
OVERFLOW CYCLONE**

|   | Run#1     | Run#2     | Run#3     |
|---|-----------|-----------|-----------|
| Vlc - Volume of water collected, ml               | -         | -         | -         |
| Vm - Gas volume, meter cond., dcf                 | 38.630    | 41.933    | 41.957    |
| Y - Meter calibration factor                      | 0.916     | 0.916     | 0.916     |
| Pbar - Barometric pressure, in. Hg                | 30.05     | 30.05     | 30.05     |
| Pg - Stack static pressure, in. H2O               | -0.07     | -0.07     | -0.07     |
| $\Delta H$ - Avg. meter press. diff., in. H2O     | 1.323     | 1.497     | 1.439     |
| Tm - Absolute meter temperature, °R               | 544.2     | 569.1     | 570.3     |
| Vm(std) - Standard sample gas vol., dscf          | 34.0560   | 35.3671   | 35.3087   |
| Bws - Water vapor part in gas stream              | 1.0       | 0.9       | 0.8       |
| CO2 - Dry concentration, volume %                 | 0.1       | 0.1       | 0.1       |
| O2 - Dry concentration, volume %                  | 20.9      | 20.9      | 20.9      |
| Md - Mol wt. stack gas, dry, g/gmole              | 28.844    | 28.844    | 28.844    |
| Ms - Mol wt. stack gas, wet, g/gmole              | 28.736    | 28.746    | 28.757    |
| Cp - Pitot tube coef., dimensionless              | 0.874     | 0.874     | 0.874     |
| $\Delta p$ - Avg. of sq. roots of each $\Delta p$ | 0.320     | 0.336     | 0.331     |
| Ts - Absolute stack Temp. °R                      | 530.4     | 532.8     | 537.9     |
| A - Area of stack, square feet                    | 3.69      | 3.69      | 3.69      |
| Qstd - Volumetric flow rate, dscfm                | 4045      | 4237      | 4156      |
| An - Area of nozzle, square feet                  | 0.0005378 | 0.0005378 | 0.0005378 |
| $\bar{t}$ - Sampling time, minutes                | 64        | 64        | 64        |
| I - Isokinetic variation, percent                 | 90.1      | 89.3      | 90.9      |

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**FIELD DATA SUMMARY  
PM10 PARTICULATE  
LINT CLEANER CYCLONE**

|   | Run#1     | Run#2     | Run#3     |
|---|-----------|-----------|-----------|
| Vlc - Volume of water collected, ml               | -         | -         | -         |
| Vm - Gas volume, meter cond., dcf                 | 45.384    | 41.714    | 46.144    |
| Y - Meter calibration factor                      | 0.916     | 0.916     | 0.916     |
| Pbar - Barometric pressure, in. Hg                | 30.00     | 30.00     | 30.00     |
| Pg - Stack static pressure, in. H2O               | -0.07     | -0.07     | -0.07     |
| $\Delta H$ - Avg. meter press. diff., in. H2O     | 1.762     | 1.726     | 1.763     |
| Tm - Absolute meter temperature, °R               | 556.9     | 568.1     | 570.8     |
| Vm(std) - Standard sample gas vol., dscf          | 39.0780   | 35.2075   | 38.7645   |
| Bws - Water vapor part in gas stream              | 0.8       | 0.7       | 0.8       |
| CO2 - Dry concentration, volume %                 | 0.1       | 0.1       | 0.1       |
| O2 - Dry concentration, volume %                  | 20.9      | 20.9      | 20.9      |
| Md - Mol wt. stack gas, dry, g/gmole              | 28.844    | 28.844    | 28.844    |
| Ms - Mol wt. stack gas, wet, g/gmole              | 28.757    | 28.768    | 28.757    |
| Cp - Pitot tube coef., dimensionless              | 0.874     | 0.874     | 0.874     |
| $\Delta p$ - Avg. of sq. roots of each $\Delta p$ | 0.505     | 0.500     | 0.508     |
| Ts - Absolute stack Temp. °R                      | 544.6     | 544.4     | 544.8     |
| A - Area of stack, square feet                    | 3.69      | 3.69      | 3.69      |
| Qstd - Volumetric flow rate, dscfm                | 6298      | 6237      | 6335      |
| An - Area of nozzle, square feet                  | 0.0003917 | 0.0003917 | 0.0003917 |
| t - Sampling time, minutes                        | 64        | 64        | 64        |
| I - Isokinetic variation, percent                 | 91.2      | 82.9      | 89.9      |

**FIELD DATA SUMMARY  
PM10 PARTICULATE  
#1 DRYER CYCLONE**

|   | Run#1     | Run#2     | Run#3     |
|---|-----------|-----------|-----------|
| Vlc - Volume of water collected, ml               | -         | -         | -         |
| Vm - Gas volume, meter cond., dcf                 | 36.630    | 36.919    | 36.639    |
| Y - Meter calibration factor                      | 0.916     | 0.916     | 0.916     |
| Pbar - Barometric pressure, in. Hg                | 29.97     | 29.97     | 29.97     |
| Pg - Stack static pressure, in. H2O               | -0.17     | -0.17     | -0.17     |
| $\Delta H$ - Avg. meter press. diff., in. H2O     | 1.095     | 1.125     | 1.145     |
| Tm - Absolute meter temperature, °R               | 562.6     | 569.0     | 569.0     |
| Vm(std) - Standard sample gas vol., dscf          | 31.1379   | 31.0325   | 30.8003   |
| Bws - Water vapor part in gas stream              | 2.3       | 2.2       | 2.4       |
| CO2 - Dry concentration, volume %                 | 0.1       | 0.1       | 0.1       |
| O2 - Dry concentration, volume %                  | 20.9      | 20.9      | 20.9      |
| Md - Mol wt. stack gas, dry, g/gmole              | 28.844    | 28.844    | 28.844    |
| Ms - Mol wt. stack gas, wet, g/gmole              | 28.595    | 28.605    | 28.584    |
| Cp - Pitot tube coef., dimensionless              | 0.874     | 0.874     | 0.874     |
| $\Delta p$ - Avg. of sq. roots of each $\Delta p$ | 0.546     | 0.553     | 0.570     |
| Ts - Absolute stack Temp. °R                      | 594.9     | 590.4     | 586.2     |
| A - Area of stack, square feet                    | 3.69      | 3.69      | 3.69      |
| Qstd - Volumetric flow rate, dscfm                | 6435      | 6540      | 6757      |
| An - Area of nozzle, square feet                  | 0.0002986 | 0.0002986 | 0.0002986 |
| $\theta$ - Sampling time, minutes                 | 64        | 64        | 64        |
| I - Isokinetic variation, percent                 | 93.3      | 91.5      | 87.9      |

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**FIELD DATA SUMMARY  
PM10 PARTICULATE  
SUCTION CYCLONE**

|   | Run#1     | Run#2     | Run#3     |
|---|-----------|-----------|-----------|
| Vlc - Volume of water collected, ml               | -         | -         | -         |
| Vm - Gas volume, meter cond., dcf                 | 41.013    | 41.900    | 43.034    |
| Y - Meter calibration factor                      | 0.916     | 0.916     | 0.916     |
| Pbar - Barometric pressure, in. Hg                | 29.87     | 29.87     | 29.87     |
| Pg - Stack static pressure, in. H2O               | -0.05     | -0.05     | -0.05     |
| $\Delta H$ - Avg. meter press. diff., in. H2O     | 1.541     | 1.436     | 1.569     |
| Tm - Absolute meter temperature, °R               | 541.6     | 565.3     | 566.8     |
| Vm(std) - Standard sample gas vol., dscf          | 36.1345   | 35.3619   | 36.2307   |
| Bws - Water vapor part in gas stream              | 0.5       | 1.0       | 0.8       |
| CO2 - Dry concentration, volume %                 | 0.1       | 0.1       | 0.1       |
| O2 - Dry concentration, volume %                  | 20.9      | 20.9      | 20.9      |
| Md - Mol wt. stack gas, dry, g/gmole              | 28.844    | 28.844    | 28.844    |
| Ms - Mol wt. stack gas, wet, g/gmole              | 28.790    | 28.736    | 28.757    |
| Cp - Pitot tube coef., dimensionless              | 0.874     | 0.874     | 0.874     |
| $\Delta p$ - Avg. of sq. roots of each $\Delta p$ | 0.391     | 0.377     | 0.395     |
| Ts - Absolute stack Temp. °R                      | 526.9     | 527.6     | 530.0     |
| A - Area of stack, square feet                    | 3.69      | 3.69      | 3.69      |
| Qstd - Volumetric flow rate, dscfm                | 4955      | 4765      | 4986      |
| An - Area of nozzle, square feet                  | 0.0004714 | 0.0004714 | 0.0004714 |
| $\bar{t}$ - Sampling time, minutes                | 64        | 64        | 64        |
| I - Isokinetic variation, percent                 | 89.0      | 90.6      | 88.7      |

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**FIELD DATA SUMMARY  
PM10 PARTICULATE  
#2 DRYER CYCLONE**

|   | Run#1     | Run#2     | Run#3     |
|---|-----------|-----------|-----------|
| Vlc - Volume of water collected, ml               | -         | -         | -         |
| Vm - Gas volume, meter cond., dcf                 | 40.669    | 37.362    | 40.138    |
| Y - Meter calibration factor                      | 0.916     | 0.916     | 0.916     |
| Pbar - Barometric pressure, in. Hg                | 29.92     | 29.92     | 29.92     |
| Pg - Stack static pressure, in. H2O               | -0.13     | -0.13     | -0.13     |
| $\Delta H$ - Avg. meter press. diff., in. H2O     | 1.423     | 1.312     | 1.371     |
| Tm - Absolute meter temperature, °R               | 550.3     | 565.2     | 567.8     |
| Vm(std) - Standard sample gas vol., dscf          | 35.3104   | 31.5803   | 33.7748   |
| Bws - Water vapor part in gas stream              | 1.5       | 2.2       | 1.2       |
| CO2 - Dry concentration, volume %                 | 0.1       | 0.1       | 0.1       |
| O2 - Dry concentration, volume %                  | 20.9      | 20.9      | 20.9      |
| Md - Mol wt. stack gas, dry, g/gmole              | 28.844    | 28.844    | 28.844    |
| Ms - Mol wt. stack gas, wet, g/gmole              | 28.681    | 28.605    | 28.714    |
| Cp - Pitot tube coef., dimensionless              | 0.874     | 0.874     | 0.874     |
| $\Delta p$ - Avg. of sq. roots of each $\Delta p$ | 0.652     | 0.625     | 0.639     |
| Ts - Absolute stack Temp. °R                      | 575.5     | 579.5     | 580.2     |
| A - Area of stack, square feet                    | 3.69      | 3.69      | 3.69      |
| Qstd - Volumetric flow rate, dscfm                | 7853      | 7461      | 7691      |
| An - Area of nozzle, square feet                  | 0.0002986 | 0.0002986 | 0.0002986 |
| $\bar{x}$ - Sampling time, minutes                | 64        | 64        | 64        |
| I - Isokinetic variation, percent                 | 86.7      | 81.6      | 84.6      |

MOTES  
CYCLONE

24

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Notes**

Date: **10/27/92**  
 Type: **T std = 60 F**  
 Run: **1-Part**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Wlc</b>     | Water Condensate Weight                    | 7.4              | g                 |              |               |
| <b>Vlc</b>     | Water Condensate Volume                    | 7.4              | ml                |              |               |
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>37.907</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 37.907           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.999</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>30.05</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.18</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 30.04            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.243</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 75.1             | deg. F            | <b>535.1</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>37.0642</b>   | <b>dscf</b>       |              |               |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 37.4085          | scf               |              |               |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.3442           | scf               |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.009            |                   | <b>0.9</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.744</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.575</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>81.0</b>      | deg. F            | 541.0        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 34.04            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 7,530            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 7,460            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>7,199</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0002986</b> | <b>sq ft</b>      | 0.234        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>99.4</b>      | <b>%</b>          |              |               |

### FIELD DATA & CALCULATIONS SUMMARY

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Notes**

Date: **10/27/92**  
 Type: **T std = 60 F**  
 Run: **2-Part**

|                |  |           |            |       |          |
|----------------|--|-----------|------------|-------|----------|
| <b>Wlc</b>     | Water Condensate Weight                    | 6.1       | g          |       |          |
| <b>Vlc</b>     | Water Condensate Volume                    | 6.1       | ml         |       |          |
| <b>Vm</b>      | Metered Sample Gas Volume                  | 39.719    | dcf        |       |          |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000     | cf         |       |          |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 39.719    | dcf        |       |          |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | 0.999     |            |       |          |
| <b>Pbar</b>    | Barometric Pressure                        | 30.05     | in. Hg     |       |          |
| <b>Pg</b>      | Static Pressure                            | -0.18     | in. H2O    |       |          |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 30.04     | in. Hg     |       |          |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | 1.296     | in. H2O    |       |          |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 79.7      | deg. F     | 539.7 | deg. R   |
| <b>Vm(std)</b> | Sample Gas Volume                          | 38.5059   | dscf       |       |          |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 38.7897   | scf        |       |          |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.2838    | scf        |       |          |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.007     |            | 0.7   | %        |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | 0.1       | %          |       |          |
| <b>O2</b>      | Oxygen, Dry                                | 20.9      | %          |       |          |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1      | %          |       |          |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | 28.844    | lb/lb mole |       |          |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | 28.765    | lb/lb mole |       |          |
| <b>Cp</b>      | Pitot Calibration Factor                   | 0.874     |            |       |          |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | 0.584     | in. H2O    |       |          |
| <b>Ts</b>      | Stack Gas Temperature, Average             | 85.3      | deg. F     | 545.3 | deg. R   |
| <b>As</b>      | Area of Stack                              | 3.69      | sq ft      | 26.0  | in. dia. |
| <b>Vs</b>      | Stack Gas Velocity                         | 34.69     | ft/sec     |       |          |
| <b>Qa</b>      | Actual Flow Rate                           | 7,673     | cfm        |       |          |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 7,617     | dcfm       |       |          |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | 7.293     | dscfm      |       |          |
| <b>An</b>      | Nozzle Area                                | 0.0002986 | sq ft      | 0.234 | in. dia. |
| <b>Theta</b>   | Sampling Time                              | 64        | min.       |       |          |
| <b>I</b>       | Isokinetics                                | 102.0     | %          |       |          |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Notes**

Date: **10/27/92**  
 Type: **T std = 60 F**  
 Run: **3-Part**

|                |  |           |            |       |          |
|----------------|--|-----------|------------|-------|----------|
| <b>Wlc</b>     | Water Condensate Weight                    | 6.4       | g          |       |          |
| <b>Vlc</b>     | Water Condensate Volume                    | 6.4       | ml         |       |          |
| <b>Vm</b>      | Metered Sample Gas Volume                  | 39.415    | dcf        |       |          |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000     | cf         |       |          |
| <b>Vh</b>      | Leak Corrected Sample Gas Volume           | 39.415    | dcf        |       |          |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | 0.999     |            |       |          |
| <b>Pbar</b>    | Barometric Pressure                        | 30.05     | in. Hg     |       |          |
| <b>Pg</b>      | Static Pressure                            | -0.18     | in. H2O    |       |          |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 30.04     | in. Hg     |       |          |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | 1.249     | in. H2O    |       |          |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 78.9      | deg. F     | 538.9 | deg. R   |
| <b>Vm(std)</b> | Sample Gas Volume                          | 38.2622   | dscf       |       |          |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 38.5599   | scf        |       |          |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.2977    | scf        |       |          |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.008     |            | 0.8   | %        |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | 0.1       | %          |       |          |
| <b>O2</b>      | Oxygen, Dry                                | 20.9      | %          |       |          |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1      | %          |       |          |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | 28.844    | lb/lb mole |       |          |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | 28.760    | lb/lb mole |       |          |
| <b>Cp</b>      | Pitot Calibration Factor                   | 0.874     |            |       |          |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | 0.573     | in. H2O    |       |          |
| <b>Ts</b>      | Stack Gas Temperature, Average             | 86.1      | deg. F     | 546.1 | deg. R   |
| <b>As</b>      | Area of Stack                              | 3.69      | sq ft      | 26.0  | in. dia. |
| <b>Vs</b>      | Stack Gas Velocity                         | 34.06     | ft/sec     |       |          |
| <b>Qa</b>      | Actual Flow Rate                           | 7,535     | cfm        |       |          |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 7,477     | dcfm       |       |          |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | 7,148     | dscfm      |       |          |
| <b>An</b>      | Nozzle Area                                | 0.0002986 | sq ft      | 0.234 | in. dia. |
| <b>Theta</b>   | Sampling Time                              | 64        | min.       |       |          |
| <b>I</b>       | Isokinetics                                | 103.4     | %          |       |          |

BATTERY CONDENSER  
CYCLONE

28

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Battery Condenser**

Date: **10/27/92**  
 Type: **T std - 60 F**  
 Run: **1-Part**

|                |  |           |            |       |          |
|----------------|--|-----------|------------|-------|----------|
| <b>Wlc</b>     | Water Condensate Weight                    | 24.4      | g          |       |          |
| <b>Vlc</b>     | Water Condensate Volume                    | 24.4      | ml         |       |          |
| <b>Vm</b>      | Metered Sample Gas Volume                  | 41.491    | dcf        |       |          |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000     | cf         |       |          |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 41.491    | dcf        |       |          |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | 0.999     |            |       |          |
| <b>Pbar</b>    | Barometric Pressure                        | 29.93     | in. Hg     |       |          |
| <b>Pg</b>      | Static Pressure                            | -0.1      | in. H2O    |       |          |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.92     | in. Hg     |       |          |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | 1.370     | in. H2O    |       |          |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 80.8      | deg. F     | 540.8 | deg. R   |
| <b>Vm(std)</b> | Sample Gas Volume                          | 39.9876   | dscf       |       |          |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 41.1226   | scf        |       |          |
| <b>Vw(std)</b> | Water Vapor Volume                         | 1.1350    | scf        |       |          |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.028     |            | 2.8   | %        |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | 0.1       | %          |       |          |
| <b>O2</b>      | Oxygen, Dry                                | 20.9      | %          |       |          |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1      | %          |       |          |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | 28.844    | lb/lb mole |       |          |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | 28.545    | lb/lb mole |       |          |
| <b>Cp</b>      | Pitot Calibration Factor                   | 0.874     |            |       |          |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | 0.460     | in. H2O    |       |          |
| <b>Ts</b>      | Stack Gas Temperature, Average             | 90.4      | deg. F     | 550.4 | deg. R   |
| <b>As</b>      | Area of Stack                              | 3.69      | sq ft      | 26.0  | in. dia. |
| <b>Vs</b>      | Stack Gas Velocity                         | 27.62     | ft/sec     |       |          |
| <b>Qa</b>      | Actual Flow Rate                           | 6,109     | cfm        |       |          |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 5,941     | dcfm       |       |          |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | 5.613     | dscfm      |       |          |
| <b>An</b>      | Nozzle Area                                | 0.0003917 | sq ft      | 0.268 | in. dia. |
| <b>Theta</b>   | Sampling Time                              | 64        | min.       |       |          |
| <b>I</b>       | Isokinetics                                | 104.9     | %          |       |          |

### FIELD DATA & CALCULATIONS SUMMARY

Client: **Des Palos Gin**  
 Site: **Des Palos**  
 Unit: **Battery Condenser**

Date: **10/27/92**  
 Type: **T std = 60 F**  
 Run: **2-Part**

|                |  |           |            |       |          |
|----------------|--|-----------|------------|-------|----------|
| <b>Wlc</b>     | Water Condensate Weight                    | 13.1      | g          |       |          |
| <b>Vlc</b>     | Water Condensate Volume                    | 13.1      | ml         |       |          |
| <b>Vm</b>      | Metered Sample Gas Volume                  | 41.365    | dcf        |       |          |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000     | cf         |       |          |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 41.365    | dcf        |       |          |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | 0.999     |            |       |          |
| <b>Pbar</b>    | Barometric Pressure                        | 29.93     | in. Hg     |       |          |
| <b>Pg</b>      | Static Pressure                            | -0.1      | in. H2O    |       |          |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.92     | in. Hg     |       |          |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | 1.370     | in. H2O    |       |          |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 83.8      | deg. F     | 543.8 | deg. R   |
| <b>Vm(std)</b> | Sample Gas Volume                          | 39.6508   | dscf       |       |          |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 40.2602   | scf        |       |          |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.6094    | scf        |       |          |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.015     |            | 1.5   | %        |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | 0.1       | %          |       |          |
| <b>O2</b>      | Oxygen, Dry                                | 20.9      | %          |       |          |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1      | %          |       |          |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | 28.844    | lb/lb mole |       |          |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | 28.680    | lb/lb mole |       |          |
| <b>Cp</b>      | Pitot Calibration Factor                   | 0.874     |            |       |          |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | 0.460     | in. H2O    |       |          |
| <b>Ts</b>      | Stack Gas Temperature, Average             | 87.8      | deg. F     | 547.8 | deg. R   |
| <b>As</b>      | Area of Stack                              | 3.69      | sq ft      | 26.0  | in. dia. |
| <b>Vs</b>      | Stack Gas Velocity                         | 27.49     | ft/sec     |       |          |
| <b>Qa</b>      | Actual Flow Rate                           | 6,080     | cfm        |       |          |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 5,988     | dcfm       |       |          |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | 5.685     | dscfm      |       |          |
| <b>An</b>      | Nozzle Area                                | 0.0003917 | sq ft      | 0.268 | in. dia. |
| <b>Theta</b>   | Sampling Time                              | 64        | min.       |       |          |
| <b>I</b>       | Isokinetics                                | 102.7     | %          |       |          |

### FIELD DATA & CALCULATIONS SUMMARY

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Battery Condenser**

Date: **10/27/92**  
 Type: **T std = 60 F**  
 Run: **3-Part**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Wlc</b>     | Water Condensate Weight                    | 30.8             | g                 |              |               |
| <b>Vlc</b>     | Water Condensate Volume                    | <b>30.9</b>      | <b>ml</b>         |              |               |
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>43.147</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 43.147           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.999</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.91</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.1</b>      | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.90            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.370</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 86.4             | deg. F            | <b>546.4</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>41.1328</b>   | <b>dscf</b>       |              |               |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 42.5656          | scf               |              |               |
| <b>Vw(std)</b> | Water Vapor Volume                         | 1.4328           | scf               |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.034            |                   | <b>3.4</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.479</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.460</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>87.3</b>      | deg. F            | 547.3        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 27.58            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 6,101            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 5,896            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>5,598</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0003917</b> | <b>sq ft</b>      | 0.268        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>108.2</b>     | <b>%</b>          |              |               |

OVERFLOW SEPARATOR  
CYCLONE

32

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Overflow**

Date: **10/28/92**  
 Type: **T std = 60 F**  
 Run: **1-Part**

|                |  |           |            |       |          |
|----------------|--|-----------|------------|-------|----------|
| <b>Wlc</b>     | Water Condensate Weight                    | 9.2       | g          |       |          |
| <b>Vlc</b>     | Water Condensate Volume                    | 9.2       | ml         |       |          |
| <b>Vm</b>      | Metered Sample Gas Volume                  | 41.518    | dcf        |       |          |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000     | cf         |       |          |
| <b>Vh</b>      | Leak Corrected Sample Gas Volume           | 41.518    | dcf        |       |          |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | 0.999     |            |       |          |
| <b>Pbar</b>    | Barometric Pressure                        | 30.05     | in. Hg     |       |          |
| <b>Pg</b>      | Static Pressure                            | -0.07     | in. H2O    |       |          |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 30.04     | in. Hg     |       |          |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | 1.432     | in. H2O    |       |          |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 71.5      | deg. F     | 531.5 | deg. R   |
| <b>Vm(std)</b> | Sample Gas Volume                          | 40.8859   | dscf       |       |          |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 41.3139   | scf        |       |          |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.4280    | scf        |       |          |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.010     |            | 1.0   | %        |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | 0.1       | %          |       |          |
| <b>O2</b>      | Oxygen, Dry                                | 20.9      | %          |       |          |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1      | %          |       |          |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | 28.844    | lb/lb mole |       |          |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | 28.732    | lb/lb mole |       |          |
| <b>Cp</b>      | Pitot Calibration Factor                   | 0.874     |            |       |          |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | 0.336     | in. H2O    |       |          |
| <b>Ts</b>      | Stack Gas Temperature, Average             | 70.4      | deg. F     | 530.4 | deg. R   |
| <b>As</b>      | Area of Stack                              | 3.69      | sq ft      | 26.0  | in. dia. |
| <b>Vs</b>      | Stack Gas Velocity                         | 19.68     | ft/sec     |       |          |
| <b>Qa</b>      | Actual Flow Rate                           | 4,355     | cfm        |       |          |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 4,310     | dcfm       |       |          |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | 4,243     | dscfm      |       |          |
| <b>An</b>      | Nozzle Area                                | 0.0005378 | sq ft      | 0.314 | in. dia. |
| <b>Theta</b>   | Sampling Time                              | 64        | min.       |       |          |
| <b>I</b>       | Isokinetics                                | 103.4     | %          |       |          |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Overflow**

Date: **10/28/92**  
 Type: **T std = 60 F**  
 Run: **2-Part**

|                |  |           |            |       |          |  |
|----------------|--|-----------|------------|-------|----------|--|
| <b>Wlc</b>     | Water Condensate Weight                    | 7.7       | g          |       |          |  |
| <b>Vlc</b>     | Water Condensate Volume                    | 7.7       | ml         |       |          |  |
| <b>Vm</b>      | Metered Sample Gas Volume                  | 41.795    | dcf        |       |          |  |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000     | cf         |       |          |  |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 41.795    | dcf        |       |          |  |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | 0.999     |            |       |          |  |
| <b>Pbar</b>    | Barometric Pressure                        | 30.05     | in. Hg     |       |          |  |
| <b>Pg</b>      | Static Pressure                            | -0.07     | in. H2O    |       |          |  |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 30.04     | in. Hg     |       |          |  |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | 1.418     | in. H2O    |       |          |  |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 80.4      | deg. F     | 540.4 | deg. R   |  |
| <b>Vm(std)</b> | Sample Gas Volume                          | 40.4813   | dscf       |       |          |  |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 40.8395   | scf        |       |          |  |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.3582    | scf        |       |          |  |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.009     |            | 0.9   | %        |  |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | 0.1       | %          |       |          |  |
| <b>O2</b>      | Oxygen, Dry                                | 20.9      | %          |       |          |  |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1      | %          |       |          |  |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | 28.844    | lb/lb mole |       |          |  |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | 28.749    | lb/lb mole |       |          |  |
| <b>Cp</b>      | Pitot Calibration Factor                   | 0.874     |            |       |          |  |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | 0.333     | in. H2O    |       |          |  |
| <b>Ts</b>      | Stack Gas Temperature, Average             | 72.8      | deg. F     | 532.8 | deg. R   |  |
| <b>As</b>      | Area of Stack                              | 3.69      | sq ft      | 26.0  | in. dia. |  |
| <b>Vs</b>      | Stack Gas Velocity                         | 19.56     | ft/sec     |       |          |  |
| <b>Qa</b>      | Actual Flow Rate                           | 4.327     | cfm        |       |          |  |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 4.289     | dcfm       |       |          |  |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | 4.204     | dscfm      |       |          |  |
| <b>An</b>      | Nozzle Area                                | 0.0005378 | sq ft      | 0.314 | in. dia. |  |
| <b>Theta</b>   | Sampling Time                              | 64        | min.       |       |          |  |
| <b>I</b>       | Isokinetics                                | 103.3     | %          |       |          |  |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Overflow**

Date: **10/28/92**  
 Type: **T std = 60 F**  
 Run: **3-Part**

|                |  |           |            |       |          |
|----------------|--|-----------|------------|-------|----------|
| <b>Wlc</b>     | Water Condensate Weight                    | 7.3       | g          |       |          |
| <b>Vlc</b>     | Water Condensate Volume                    | 7.3       | ml         |       |          |
| <b>Vm</b>      | Metered Sample Gas Volume                  | 43.059    | dcf        |       |          |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000     | cf         |       |          |
| <b>Vh</b>      | Leak Corrected Sample Gas Volume           | 43.059    | dcf        |       |          |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | 0.999     |            |       |          |
| <b>Pbar</b>    | Barometric Pressure                        | 30.00     | in. Hg     |       |          |
| <b>Pg</b>      | Static Pressure                            | -0.07     | in. H2O    |       |          |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.99     | in. Hg     |       |          |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | 1.415     | in. H2O    |       |          |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 79.0      | deg. F     | 539.0 | deg. R   |
| <b>Vm(std)</b> | Sample Gas Volume                          | 41.7400   | dscf       |       |          |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 42.0795   | scf        |       |          |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.3396    | scf        |       |          |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.008     |            | 0.8   | %        |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | 0.1       | %          |       |          |
| <b>O2</b>      | Oxygen, Dry                                | 20.9      | %          |       |          |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1      | %          |       |          |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | 28.844    | lb/lb mole |       |          |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | 28.756    | lb/lb mole |       |          |
| <b>Cp</b>      | Pitot Calibration Factor                   | 0.874     |            |       |          |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | 0.335     | in. H2O    |       |          |
| <b>Ts</b>      | Stack Gas Temperature, Average             | 77.9      | deg. F     | 537.9 | deg. R   |
| <b>As</b>      | Area of Stack                              | 3.69      | sq ft      | 26.0  | in. dia. |
| <b>Vs</b>      | Stack Gas Velocity                         | 19.75     | ft/sec     |       |          |
| <b>Qa</b>      | Actual Flow Rate                           | 4,369     | cfm        |       |          |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 4,334     | dcfm       |       |          |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | 4,200     | dscfm      |       |          |
| <b>An</b>      | Nozzle Area                                | 0.0005378 | sq ft      | 0.314 | in. dia. |
| <b>Theta</b>   | Sampling Time                              | 64        | min.       |       |          |
| <b>I</b>       | Isokinetics                                | 106.6     | %          |       |          |

LINT CLEANER  
CYCLONE

36

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Lint Cleaner**

Date: **10/28/92**  
 Type: **T std = 60 F**  
 Run: **1-Part**

|                |  |           |            |       |          |
|----------------|--|-----------|------------|-------|----------|
| <b>Wlc</b>     | Water Condensate Weight                    | 7.3       | g          |       |          |
| <b>Vlc</b>     | Water Condensate Volume                    | 7.3       | ml         |       |          |
| <b>Vm</b>      | Metered Sample Gas Volume                  | 45.524    | dcf        |       |          |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000     | cf         |       |          |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 45.524    | dcf        |       |          |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | 0.999     |            |       |          |
| <b>Pbar</b>    | Barometric Pressure                        | 30.00     | in. Hg     |       |          |
| <b>Pg</b>      | Static Pressure                            | -0.07     | in. H2O    |       |          |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.99     | in. Hg     |       |          |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | 1.730     | in. H2O    |       |          |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 78.7      | deg. F     | 538.7 | deg. R   |
| <b>Vm(std)</b> | Sample Gas Volume                          | 44.1941   | dscf       |       |          |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 44.5337   | scf        |       |          |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.3396    | scf        |       |          |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.008     |            | 0.8   | %        |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | 0.1       | %          |       |          |
| <b>O2</b>      | Oxygen, Dry                                | 20.9      | %          |       |          |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1      | %          |       |          |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | 28.844    | lb/lb mole |       |          |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | 28.761    | lb/lb mole |       |          |
| <b>Cp</b>      | Pitot Calibration Factor                   | 0.874     |            |       |          |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | 0.509     | in. H2O    |       |          |
| <b>Ts</b>      | Stack Gas Temperature, Average             | 84.6      | deg. F     | 544.6 | deg. R   |
| <b>As</b>      | Area of Stack                              | 3.69      | sq ft      | 26.0  | in. dia. |
| <b>Vs</b>      | Stack Gas Velocity                         | 30.23     | ft/sec     |       |          |
| <b>Qa</b>      | Actual Flow Rate                           | 6,687     | cfm        |       |          |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 6,636     | dcfm       |       |          |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | 6,353     | dscfm      |       |          |
| <b>An</b>      | Nozzle Area                                | 0.0003917 | sq ft      | 0.268 | in. dia. |
| <b>Theta</b>   | Sampling Time                              | 64        | min.       |       |          |
| <b>I</b>       | Isokinetics                                | 102.4     | %          |       |          |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Lint Cleaner**

Date: **10/28/92**  
 Type: **T std = 60 F**  
 Run: **2-Part**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Wlc</b>     | Water Condensate Weight                    | 6.8              | g                 |              |               |
| <b>Vlc</b>     | Water Condensate Volume                    | <b>6.8</b>       | <b>ml</b>         |              |               |
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>43.315</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 43.315           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.999</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>30.00</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.07</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.99            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.638</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 80.4             | deg. F            | <b>540.4</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>41.9016</b>   | <b>dscf</b>       |              |               |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 42.2179          | scf               |              |               |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.3163           | scf               |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.007            |                   | <b>0.7</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.763</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.495</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>84.4</b>      | deg. F            | 544.4        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 29.39            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 6,501            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 6,453            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>6,178</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0003917</b> | <b>sq ft</b>      | 0.268        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>99.9</b>      | <b>%</b>          |              |               |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Lint Cleaner**

Date: **10/28/92**  
 Type: **T std - 60 F**  
 Run: **3-Part**

|                |  |           |            |       |          |
|----------------|--|-----------|------------|-------|----------|
| <b>Wlc</b>     | Water Condensate Weight                    | 7.9       | g          |       |          |
| <b>Vlc</b>     | Water Condensate Volume                    | 7.9       | ml         |       |          |
| <b>Vm</b>      | Metered Sample Gas Volume                  | 46.146    | dcf        |       |          |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000     | cf         |       |          |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 46.146    | dcf        |       |          |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | 0.999     |            |       |          |
| <b>Pbar</b>    | Barometric Pressure                        | 30.00     | in. Hg     |       |          |
| <b>Pg</b>      | Static Pressure                            | -0.07     | in. H2O    |       |          |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.99     | in. Hg     |       |          |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | 1.765     | in. H2O    |       |          |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 79.4      | deg. F     | 539.4 | deg. R   |
| <b>Vm(std)</b> | Sample Gas Volume                          | 44.7421   | dscf       |       |          |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 45.1096   | scf        |       |          |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.3675    | scf        |       |          |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.008     |            | 0.8   | %        |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | 0.1       | %          |       |          |
| <b>O2</b>      | Oxygen, Dry                                | 20.9      | %          |       |          |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1      | %          |       |          |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | 28.844    | lb/lb mole |       |          |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | 28.756    | lb/lb mole |       |          |
| <b>Cp</b>      | Pitot Calibration Factor                   | 0.874     |            |       |          |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | 0.514     | in. H2O    |       |          |
| <b>Ts</b>      | Stack Gas Temperature, Average             | 84.8      | deg. F     | 544.8 | deg. R   |
| <b>As</b>      | Area of Stack                              | 3.69      | sq ft      | 26.0  | in. dia. |
| <b>Vs</b>      | Stack Gas Velocity                         | 30.54     | ft/sec     |       |          |
| <b>Qa</b>      | Actual Flow Rate                           | 6,756     | cfm        |       |          |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 6,701     | dcfm       |       |          |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | 6,412     | dscfm      |       |          |
| <b>An</b>      | Nozzle Area                                | 0.0003917 | sq ft      | 0.268 | in. dia. |
| <b>Theta</b>   | Sampling Time                              | 64        | min.       |       |          |
| <b>I</b>       | Isokinetics                                | 102.7     | %          |       |          |

# 1 DRYING  
CYCLONE

40

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **#1 Dryer**

Date: **10/28/92**  
 Type: **T std - 60 F**  
 Run: **1-Part**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Wlc</b>     | Water Condensate Weight                    | 18.9             | g                 |              |               |
| <b>Vlc</b>     | Water Condensate Volume                    | <b>18.9</b>      | <b>ml</b>         |              |               |
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>38.425</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 38.425           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.999</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.97</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.17</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.96            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.134</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 81.8             | deg. F            | <b>541.8</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>36.9922</b>   | <b>dscf</b>       |              |               |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 37.8714          | scf               |              |               |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.8792           | scf               |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.023            |                   | <b>2.3</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.592</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.555</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>134.9</b>     | deg. F            | 594.9        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 34.55            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 7,643            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 7,466            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>6.534</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0002986</b> | <b>sq ft</b>      | 0.234        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>109.3</b>     | <b>%</b>          |              |               |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **#1 Dryer**

Date: **10/28/92**  
 Type: **T std = 60 F**  
 Run: **2-Part**

|                |  |                  |            |              |          |
|----------------|--|------------------|------------|--------------|----------|
| <b>Wlc</b>     | Water Condensate Weight                    | 17.4             | g          |              |          |
| <b>Vlc</b>     | Water Condensate Volume                    | <b>17.4</b>      | ml         |              |          |
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>37.330</b>    | dcf        |              |          |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf         |              |          |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 37.330           | dcf        |              |          |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.999</b>     |            |              |          |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.90</b>     | in. Hg     |              |          |
| <b>Pg</b>      | Static Pressure                            | <b>-0.17</b>     | in. H2O    |              |          |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.89            | in. Hg     |              |          |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.092</b>     | in. H2O    |              |          |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 85.9             | deg. F     | <b>545.9</b> | deg. R   |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>35.5838</b>   | dscf       |              |          |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 36.3932          | scf        |              |          |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.8094           | scf        |              |          |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.022            |            | <b>2.2</b>   | <b>%</b> |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>   |              |          |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>   |              |          |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | <b>%</b>   |              |          |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | lb/lb mole |              |          |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.603</b>    | lb/lb mole |              |          |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |            |              |          |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.549</b>     | in. H2O    |              |          |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>130.4</b>     | deg. F     | 590.4        | deg. R   |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | sq ft      | 26.0         | in. dia. |
| <b>Vs</b>      | Stack Gas Velocity                         | 34.07            | ft/sec     |              |          |
| <b>Qa</b>      | Actual Flow Rate                           | 7,536            | cfm        |              |          |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 7,368            | dcfm       |              |          |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>6.482</b>     | dscfm      |              |          |
| <b>An</b>      | Nozzle Area                                | <b>0.0002986</b> | sq ft      | 0.234        | in. dia. |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | min.       |              |          |
| <b>I</b>       | Isokinetics                                | <b>106.0</b>     | <b>%</b>   |              |          |

### FIELD DATA & CALCULATIONS SUMMARY

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **#1 Dryer**

Date: **10/28/92**  
 Type: **T std = 60 F**  
 Run: **3-Part**

|                |  |           |            |       |          |
|----------------|--|-----------|------------|-------|----------|
| <b>Wlc</b>     | Water Condensate Weight                    | 19.4      | g          |       |          |
| <b>Vlc</b>     | Water Condensate Volume                    | 19.4      | ml         |       |          |
| <b>Vm</b>      | Metered Sample Gas Volume                  | 38.430    | dcf        |       |          |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000     | cf         |       |          |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 38.430    | dcf        |       |          |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | 0.999     |            |       |          |
| <b>Pbar</b>    | Barometric Pressure                        | 29.97     | in. Hg     |       |          |
| <b>Pg</b>      | Static Pressure                            | -0.17     | in. H2O    |       |          |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.96     | in. Hg     |       |          |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | 1.102     | in. H2O    |       |          |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 85.4      | deg. F     | 545.4 | deg. R   |
| <b>Vm(std)</b> | Sample Gas Volume                          | 36.7525   | dscf       |       |          |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 37.6549   | scf        |       |          |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.9025    | scf        |       |          |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.024     |            | 2.4   | %        |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | 0.1       | %          |       |          |
| <b>O2</b>      | Oxygen, Dry                                | 20.9      | %          |       |          |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1      | %          |       |          |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | 28.844    | lb/lb mole |       |          |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | 28.584    | lb/lb mole |       |          |
| <b>Cp</b>      | Pitot Calibration Factor                   | 0.874     |            |       |          |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | 0.552     | in. H2O    |       |          |
| <b>Ts</b>      | Stack Gas Temperature, Average             | 126.2     | deg. F     | 586.2 | deg. R   |
| <b>As</b>      | Area of Stack                              | 3.69      | sq ft      | 26.0  | in. dia. |
| <b>Vs</b>      | Stack Gas Velocity                         | 34.11     | ft/sec     |       |          |
| <b>Qa</b>      | Actual Flow Rate                           | 7,545     | cfm        |       |          |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 7,365     | dcfm       |       |          |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | 6,541     | dscfm      |       |          |
| <b>An</b>      | Nozzle Area                                | 0.0002986 | sq ft      | 0.234 | in. dia. |
| <b>Theta</b>   | Sampling Time                              | 64        | min.       |       |          |
| <b>I</b>       | Isokinetics                                | 108.5     | %          |       |          |

SUCTION  
CYCLONE

**BTC**

ENVIRONMENTAL  
INCORPORATED

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### FIELD DATA & CALCULATIONS SUMMARY

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Suction**

Date: **10/29/92**  
 Type: **T std = 60 F**  
 Run: **1-Part**

|                |  |           |            |       |          |
|----------------|--|-----------|------------|-------|----------|
| <b>Wlc</b>     | Water Condensate Weight                    | 4.7       | g          |       |          |
| <b>Vlc</b>     | Water Condensate Volume                    | 4.7       | ml         |       |          |
| <b>Vm</b>      | Metered Sample Gas Volume                  | 44.135    | dcf        |       |          |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000     | cf         |       |          |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 44.135    | dcf        |       |          |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | 0.999     |            |       |          |
| <b>Pbar</b>    | Barometric Pressure                        | 29.87     | in. Hg     |       |          |
| <b>Pg</b>      | Static Pressure                            | -0.05     | in. H2O    |       |          |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.87     | in. Hg     |       |          |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | 1.549     | in. H2O    |       |          |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 71.6      | deg. F     | 531.6 | deg. R   |
| <b>Vm(std)</b> | Sample Gas Volume                          | 43.2059   | dscf       |       |          |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 43.4245   | scf        |       |          |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.2186    | scf        |       |          |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.005     |            | 0.5   | %        |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | 0.1       | %          |       |          |
| <b>O2</b>      | Oxygen, Dry                                | 20.9      | %          |       |          |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1      | %          |       |          |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | 28.844    | lb/lb mole |       |          |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | 28.789    | lb/lb mole |       |          |
| <b>Cp</b>      | Pitot Calibration Factor                   | 0.874     |            |       |          |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | 0.397     | in. H2O    |       |          |
| <b>Ts</b>      | Stack Gas Temperature, Average             | 66.8      | deg. F     | 526.8 | deg. R   |
| <b>As</b>      | Area of Stack                              | 3.69      | sq ft      | 26.0  | in. dia. |
| <b>Vs</b>      | Stack Gas Velocity                         | 23.25     | ft/sec     |       |          |
| <b>Qa</b>      | Actual Flow Rate                           | 5,143     | cfm        |       |          |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 5,117     | dcfm       |       |          |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | 5,041     | dscfm      |       |          |
| <b>An</b>      | Nozzle Area                                | 0.0004714 | sq ft      | 0.294 | in. dia. |
| <b>Theta</b>   | Sampling Time                              | 64        | min.       |       |          |
| <b>I</b>       | Isokinetics                                | 104.9     | %          |       |          |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Suction**

Date: **10/29/92**  
 Type: **T std = 60 F**  
 Run: **2-Part**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Wlc</b>     | Water Condensate Weight                    | 8.6              | g                 |              |               |
| <b>Vlc</b>     | Water Condensate Volume                    | <b>8.6</b>       | <b>ml</b>         |              |               |
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>41.555</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 41.555           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.999</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.87</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.05</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.87            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.403</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 80.5             | deg. F            | <b>540.5</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>39.9955</b>   | <b>dscf</b>       |              |               |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 40.3956          | scf               |              |               |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.4001           | scf               |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.010            |                   | <b>1.0</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.737</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.417</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>67.0</b>      | deg. F            | 527.0        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 24.42            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 5,401            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 5,348            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>5,267</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0004714</b> | <b>sq ft</b>      | 0.294        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>92.9</b>      | <b>%</b>          |              |               |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Suction**

Date: **10/29/92**  
 Type: **T std = 60 F**  
 Run: **3-Part**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Wlc</b>     | Water Condensate Weight                    | 6.7              | g                 |              |               |
| <b>Vlc</b>     | Water Condensate Volume                    | <b>6.7</b>       | <b>ml</b>         |              |               |
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>42.650</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 42.650           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.999</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.87</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.05</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.87            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.391</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 78.5             | deg. F            | <b>538.5</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>41.2031</b>   | <b>dscf</b>       |              |               |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 41.5147          | scf               |              |               |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.3117           | scf               |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.008            |                   | <b>0.8</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.763</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.376</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>70.0</b>      | deg. F            | 530.0        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 22.07            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 4,882            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 4,846            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>4,746</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0004714</b> | <b>sq ft</b>      | 0.294        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>106.2</b>     | <b>%</b>          |              |               |

#2 DRYING  
CYCLONE

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**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Des Palos Gin**  
 Site: **Des Palos**  
 Unit: **#2 Dryer**

Date: **10/29/92**  
 Type: **T std = 60 F**  
 Run: **1-Part**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Wlc</b>     | Water Condensate Weight                    | 12.9             | g                 |              |               |
| <b>Vlc</b>     | Water Condensate Volume                    | <b>12.9</b>      | <b>ml</b>         |              |               |
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>41.037</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 41.037           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.999</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.92</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.13</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.91            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.351</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 76.5             | deg. F            | <b>536.5</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>39.8528</b>   | <b>dscf</b>       |              |               |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 40.4528          | scf               |              |               |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.6001           | scf               |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.015            |                   | <b>1.5</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.683</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.642</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>114.8</b>     | deg. F            | 574.8        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 39.25            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 8,682            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 8,553            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>7,736</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0002986</b> | <b>sq ft</b>      | 0.234        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>99.5</b>      | <b>%</b>          |              |               |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **#2 Dryer**

Date: **10/29/92**  
 Type: **T std = 60 F**  
 Run: **2-Part**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Wlc</b>     | Water Condensate Weight                    | 18.3             | g                 |              |               |
| <b>Vlc</b>     | Water Condensate Volume                    | <b>18.3</b>      | <b>ml</b>         |              |               |
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>40.050</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 40.050           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.999</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.92</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.13</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.91            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.471</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 82.2             | deg. F            | <b>542.2</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>38.4976</b>   | <b>dscf</b>       |              |               |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 39.3488          | scf               |              |               |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.8513           | scf               |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.022            |                   | <b>2.2</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.609</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.669</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>120.1</b>     | deg. F            | 580.1        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 41.17            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 9,108            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 8,911            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>7,986</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0002986</b> | <b>sq ft</b>      | 0.234        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>93.1</b>      | <b>%</b>          |              |               |

### FIELD DATA & CALCULATIONS SUMMARY

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **#2 Dryer**

Date: **10/29/92**  
 Type: **T std = 60 F**  
 Run: **3-Part**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Wlc</b>     | Water Condensate Weight                    | 10.3             | g                 |              |               |
| <b>Vlc</b>     | Water Condensate Volume                    | <b>10.3</b>      | <b>ml</b>         |              |               |
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>41.855</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 41.855           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.999</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.92</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.13</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.91            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.370</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 81.6             | deg. F            | <b>541.6</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>40.2668</b>   | <b>dscf</b>       |              |               |
| <b>Vm(wet)</b> | Sample Gas Volume, Wet                     | 40.7459          | scf               |              |               |
| <b>Vw(std)</b> | Water Vapor Volume                         | 0.4791           | scf               |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.012            |                   | <b>1.2</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.716</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.646</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>120.1</b>     | deg. F            | 580.1        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 39.67            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 8,777            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 8,674            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>7.772</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0002986</b> | <b>sq ft</b>      | 0.234        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>100.1</b>     | <b>%</b>          |              |               |

MOTES  
CYCLONE

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**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Notes**

Date: **10/27/92**  
 Type: **T std = 60 F**  
 Run: **1-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>40.066</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 40.066           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>30.05</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.18</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 30.04            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.579</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 88.3             | deg. F            | <b>548.3</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>35.0802</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.009            |                   | <b>0.9</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Mw</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.746</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.550</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>81.0</b>      | deg. F            | 541.0        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 32.53            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 7,197            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 7,132            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>6,882</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0002986</b> | <b>sq ft</b>      | 0.234        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>98.2</b>      | <b>%</b>          |              |               |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Notes**

Date: **10/27/92**  
 Type: **T std = 60 F**  
 Run: **2-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>38.049</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 38.049           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>30.05</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.18</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 30.04            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.357</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 108.6            | deg. F            | <b>568.6</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>32.1067</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.007            |                   | <b>0.7</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.768</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.590</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>85.6</b>      | deg. F            | 545.6        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 35.04            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 7,752            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 7,698            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>7,365</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0002986</b> | <b>sq ft</b>      | 0.234        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>84.0</b>      | <b>%</b>          |              |               |

### FIELD DATA & CALCULATIONS SUMMARY

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Notes**

Date: **10/27/92**  
 Type: **T std = 60 F**  
 Run: **3-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>39.051</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 39.051           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>30.05</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.18</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 30.04            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.308</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 98.8             | deg. F            | <b>558.8</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>33.5250</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.008            |                   | <b>0.8</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.757</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.579</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>86.1</b>      | deg. F            | 546.1        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 34.41            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 7,612            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 7,551            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>7,219</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0002986</b> | <b>sq ft</b>      | 0.234        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>89.5</b>      | <b>%</b>          |              |               |

BATTERY CONDENSER  
CYCLONE

56

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Battery Condenser**

Date: **10/27/92**  
 Type: **T std = 60 F**  
 Run: **1-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>38.617</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 38.617           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.93</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.1</b>      | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.92            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.399</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 108.7            | deg. F            | <b>568.7</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>32.4562</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.028            |                   | <b>2.8</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.540</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.457</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>90.4</b>      | deg. F            | 550.4        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 27.39            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 6,060            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 5,890            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>5,565</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0003917</b> | <b>sq ft</b>      | 0.268        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>85.7</b>      | <b>%</b>          |              |               |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Battery Condenser**

Date: **10/27/92**  
 Type: **T std = 60 F**  
 Run: **2-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>41.581</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 41.581           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.93</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.1</b>      | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.92            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.420</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 116.3            | deg. F            | <b>576.3</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>34.4904</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.015            |                   | <b>1.5</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.681</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.460</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>87.9</b>      | deg. F            | 547.9        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 27.49            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 6,081            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 5,990            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>5,685</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0003917</b> | <b>sq ft</b>      | 0.268        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>89.2</b>      | <b>%</b>          |              |               |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Battery Condenser**

Date: **10/27/92**  
 Type: **T std = 60 F**  
 Run: **3-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>43.893</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 43.893           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.91</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.1</b>      | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.90            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.417</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 118.1            | deg. F            | <b>578.1</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>36.2695</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.034            |                   | <b>3.4</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.475</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.460</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>87.4</b>      | deg. F            | 547.4        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 27.58            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 6,102            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 5,894            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>5.596</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0003917</b> | <b>sq ft</b>      | 0.268        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>95.2</b>      | <b>%</b>          |              |               |

OVERFLOW SEPARATOR  
CYCLONE

**BTC**

ENVIRONMENTAL  
INCORPORATED

60

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Des Palos Gin**  
 Site: **Des Palos**  
 Unit: **Overflow**

Date: **10/28/92**  
 Type: **T std = 60 F**  
 Run: **1-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>38.630</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 38.630           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>30.05</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.07</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 30.04            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.323</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 84.2             | deg. F            | <b>544.2</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>34.0560</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.010            |                   | <b>1.0</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.736</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.320</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>70.4</b>      | deg. F            | 530.4        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 18.76            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 4,150            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 4,108            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>4.045</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0005378</b> | <b>sq ft</b>      | 0.314        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>90.1</b>      | <b>%</b>          |              |               |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Overflow**

Date: **10/28/92**  
 Type: **T std = 60 F**  
 Run: **2-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>41.933</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 41.933           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>30.05</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.07</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 30.04            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential; Average | <b>1.497</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 109.1            | deg. F            | <b>569.1</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>35.3671</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.009            |                   | <b>0.9</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | <b>%</b>          |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.746</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.336</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>72.8</b>      | deg. F            | 532.8        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 19.72            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 4,363            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 4,323            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>4,237</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0005378</b> | <b>sq ft</b>      | 0.314        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>89.3</b>      | <b>%</b>          |              |               |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Des Pales Gin**  
 Site: **Des Pales**  
 Unit: **Overflow**

Date: **10/28/92**  
 Type: **T std - 60 F**  
 Run: **3-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>41.957</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 41.957           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>30.05</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.07</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 30.04            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.439</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 110.3            | deg. F            | <b>570.3</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>35.3087</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.008            |                   | <b>0.8</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.757</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.331</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>77.9</b>      | deg. F            | 537.9        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 19.51            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 4,316            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 4,281            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>4.156</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0005378</b> | <b>sq ft</b>      | 0.314        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>90.9</b>      | <b>%</b>          |              |               |

LINT CLEANER  
CYCLONE

64

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Lint Cleaner**

Date: **10/28/92**  
 Type: **T std = 60 F**  
 Run: **1-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>45.384</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 45.384           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>30.00</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.07</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.99            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.762</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 96.9             | deg. F            | <b>556.9</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>39.0780</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.008            |                   | <b>0.8</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.757</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.505</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>84.6</b>      | deg. F            | 544.6        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 29.98            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 6,633            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 6,580            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>6,298</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0003917</b> | <b>sq ft</b>      | 0.268        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>91.2</b>      | <b>%</b>          |              |               |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Lint Cleaner**

Date: **10/28/92**  
 Type: **T std = 60 F**  
 Run: **2-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>41.714</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 41.714           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>30.00</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.07</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.99            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.726</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 108.1            | deg. F            | <b>568.1</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>35.2075</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.007            |                   | <b>0.7</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.768</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.500</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>84.4</b>      | deg. F            | 544.4        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 29.65            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 6,560            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 6,514            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>6,237</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0003917</b> | <b>sq ft</b>      | 0.268        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>82.9</b>      | <b>%</b>          |              |               |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Des Palos Gin**  
 Site: **Des Palos**  
 Unit: **Lint Cleaner**

Date: **10/28/92**  
 Type: **T std = 60 F**  
 Run: **3-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>46.144</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 46.144           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>30.00</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.07</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.99            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.763</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 110.8            | deg. F            | <b>570.8</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>38.7645</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.008            |                   | <b>0.8</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.757</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.508</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>84.8</b>      | deg. F            | 544.8        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 30.16            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 6,673            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 6,620            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>6,335</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0003917</b> | <b>sq ft</b>      | 0.268        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>89.9</b>      | <b>%</b>          |              |               |

# 1 DRYING  
CYCLONE

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**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Des Palos Gin**  
 Site: **Des Palos**  
 Unit: **#1 Dryer**

Date: **10/28/92**  
 Type: **T std = 60 F**  
 Run: **1-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>36.630</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 36.630           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.97</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.17</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.96            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.095</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 102.6            | deg. F            | <b>562.6</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>31.1379</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.023            |                   | <b>2.3</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.595</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.546</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>134.9</b>     | deg. F            | 594.9        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 34.02            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 7,526            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 7,353            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>6.435</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0002986</b> | <b>sq ft</b>      | 0.234        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>93.3</b>      | <b>%</b>          |              |               |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Des Palos Gin**  
 Site: **Des Palos**  
 Unit: **#1 Dryer**

Date: **10/28/92**  
 Type: **T std = 60 F**  
 Run: **2-PH10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>36.919</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 36.919           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.97</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.17</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.96            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.125</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 109.0            | deg. F            | <b>569.0</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>31.0325</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.022            |                   | <b>2.2</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.605</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.553</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>130.4</b>     | deg. F            | 590.4        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 34.28            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 7,584            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 7,417            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>6,540</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0002986</b> | <b>sq ft</b>      | 0.234        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>91.5</b>      | <b>%</b>          |              |               |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Des Palos Gin**  
 Site: **Des Palos**  
 Unit: **#1 Dryer**

Date: **10/28/92**  
 Type: **T std = 60 F**  
 Run: **3-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>36.639</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 36.639           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.97</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.17</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.96            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.145</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 109.0            | deg. F            | <b>569.0</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>30.8003</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.024            |                   | <b>2.4</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.584</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.570</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>126.2</b>     | deg. F            | 586.2        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 35.24            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 7,795            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 7,608            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>6,757</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0002986</b> | <b>sq ft</b>      | 0.234        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>87.9</b>      | <b>%</b>          |              |               |

SUCTION  
CYCLONE

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**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Suction**

Date: **10/29/92**  
 Type: **T std = 60 F**  
 Run: **1-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>41.013</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 41.013           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.87</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.05</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.87            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.541</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 81.6             | deg. F            | <b>541.6</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>36.1345</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.005            |                   | <b>0.5</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.790</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.391</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>66.9</b>      | deg. F            | 526.9        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 22.85            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 5,055            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 5,030            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>4,955</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0004714</b> | <b>sq ft</b>      | 0.294        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>89.0</b>      | <b>%</b>          |              |               |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Des Palos Gin**  
 Site: **Des Palos**  
 Unit: **Suction**

Date: **10/29/92**  
 Type: **T std = 60 F**  
 Run: **2-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>41.900</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 41.900           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.87</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.05</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.87            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.436</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 105.3            | deg. F            | <b>565.3</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>35.3619</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.010            |                   | <b>1.0</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.736</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.377</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>67.6</b>      | deg. F            | 527.6        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 22.11            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 4,892            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 4,843            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>4,765</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0004714</b> | <b>sq ft</b>      | 0.294        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>90.6</b>      | <b>%</b>          |              |               |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**  
 Site: **Dos Palos**  
 Unit: **Suction**

Date: **10/29/92**  
 Type: **T std = 60 F**  
 Run: **3-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>43.034</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 43.034           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.87</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.05</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.87            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.569</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 106.8            | deg. F            | <b>566.8</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>36.2307</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.008            |                   | <b>0.8</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.757</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.395</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>70.0</b>      | deg. F            | 530.0        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 23.20            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 5,132            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 5,091            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>4,986</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0004714</b> | <b>sq ft</b>      | 0.294        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>88.7</b>      | <b>%</b>          |              |               |

#2 DRYING  
CYCLONE

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos 6in**  
 Site: **Dos Palos**  
 Unit: **#2 Dryer**

Date: **10/29/92**  
 Type: **T std = 60 F**  
 Run: **1-PH10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>40.669</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 40.669           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.92</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.13</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.91            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.423</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 90.3             | deg. F            | <b>550.3</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>35.3104</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.015            |                   | <b>1.5</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.681</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.652</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>115.5</b>     | deg. F            | 575.5        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 39.90            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 8,827            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 8,694            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>7,853</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0002986</b> | <b>sq ft</b>      | 0.234        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>86.7</b>      | <b>%</b>          |              |               |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Dos Palos Gin**

Site: **Dos Palos**

Unit: **\*2 Dryer**

Date: **10/29/92**

Type: **T std = 60 F**

Run: **2-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>37.362</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 37.362           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     |                   |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.92</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.13</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.91            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.312</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 105.2            | deg. F            | <b>565.2</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>31.5803</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.022            |                   | <b>2.2</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.605</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.625</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>119.5</b>     | deg. F            | 579.5        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 38.44            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 8,504            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 8,317            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>7,461</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0002986</b> | <b>sq ft</b>      | 0.234        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>81.6</b>      | <b>%</b>          |              |               |

**FIELD DATA & CALCULATIONS SUMMARY**

Client: **Des Palos Gin**  
 Site: **Des Palos**  
 Unit: **#2 Dryer**

Date: **10/29/92**  
 Type: **T std = 60 F**  
 Run: **3-PM10**

|                |  |                  |                   |              |               |
|----------------|--|------------------|-------------------|--------------|---------------|
| <b>Vm</b>      | Metered Sample Gas Volume                  | <b>40.138</b>    | <b>dcf</b>        |              |               |
| <b>Lp</b>      | Avg. Leak Rate                             | 0.000            | cf                |              |               |
| <b>Vn</b>      | Leak Corrected Sample Gas Volume           | 40.138           | dcf               |              |               |
| <b>Y</b>       | Dry Gas Meter Calibration Factor           | <b>0.916</b>     | .                 |              |               |
| <b>Pbar</b>    | Barometric Pressure                        | <b>29.92</b>     | <b>in. Hg</b>     |              |               |
| <b>Pg</b>      | Static Pressure                            | <b>-0.13</b>     | <b>in. H2O</b>    |              |               |
| <b>Ps</b>      | Stack Pressure, Absolute                   | 29.91            | in. Hg            |              |               |
| <b>Δ H</b>     | Dry Gas Meter Press. Differential, Average | <b>1.371</b>     | <b>in. H2O</b>    |              |               |
| <b>Tm</b>      | Dry Gas Meter Temperature, Average         | 107.8            | deg. F            | <b>567.8</b> | <b>deg. R</b> |
| <b>Vm(std)</b> | Sample Gas Volume                          | <b>33.7748</b>   | <b>dscf</b>       |              |               |
| <b>Bws</b>     | Water Content of Stack Gas                 | 0.012            |                   | <b>1.2</b>   | <b>%</b>      |
| <b>CO2</b>     | Carbon Dioxide, Dry                        | <b>0.1</b>       | <b>%</b>          |              |               |
| <b>O2</b>      | Oxygen, Dry                                | <b>20.9</b>      | <b>%</b>          |              |               |
| <b>N2</b>      | Nitrogen, Dry                              | 79.1             | %                 |              |               |
| <b>Md</b>      | Molecular Wt. of Stack Gas, Dry            | <b>28.844</b>    | <b>lb/lb mole</b> |              |               |
| <b>Ms</b>      | Molecular Wt. of Stack Gas, Wet            | <b>28.714</b>    | <b>lb/lb mole</b> |              |               |
| <b>Cp</b>      | Pitot Calibration Factor                   | <b>0.874</b>     |                   |              |               |
| <b>Δ P</b>     | Velocity Head, Average Square Root         | <b>0.639</b>     | <b>in. H2O</b>    |              |               |
| <b>Ts</b>      | Stack Gas Temperature, Average             | <b>120.2</b>     | deg. F            | 580.2        | deg. R        |
| <b>As</b>      | Area of Stack                              | <b>3.69</b>      | <b>sq ft</b>      | 26.0         | in. dia.      |
| <b>Vs</b>      | Stack Gas Velocity                         | 39.27            | ft/sec            |              |               |
| <b>Qa</b>      | Actual Flow Rate                           | 8,688            | cfm               |              |               |
| <b>Qad</b>     | Actual Flow Rate, Dry                      | 8,583            | dcfm              |              |               |
| <b>Q(std)</b>  | Stack Gas Flow Rate                        | <b>7,691</b>     | <b>dscfm</b>      |              |               |
| <b>An</b>      | Nozzle Area                                | <b>0.0002986</b> | <b>sq ft</b>      | 0.234        | in. dia.      |
| <b>Theta</b>   | Sampling Time                              | <b>64</b>        | <b>min.</b>       |              |               |
| <b>I</b>       | Isokinetics                                | <b>84.6</b>      | <b>%</b>          |              |               |

**BTC ENVIRONMENTAL**  
**EPA methods 2, 3, 4, 5, 6, 8**

**CONSTANTS & CONVERSIONS**

|   |   |
|---|---|
| Tstd = 60, 68, or 70 °F   | 1 in. Hg = 13.6 in. H <sub>2</sub> O    |
| Pstd = 29.92 in. Hg   | 1 lb = 453.6 g                          |
| R = 21.85(in. Hg-cu ft/lb mole-°R)                                  | 1 lb = 7000 grain                       |
| Dw = 0.9982(g/ml)   | 1 g = 15.432 grain                      |
| MW(H <sub>2</sub> O) = 18.0 lb/lb mole                              | 1 mg = 0.001 g                          |
| MW(Sulfur) = 32.03 lb/lb mole                                       | 1 hr = 60 min.                          |
| M(H <sub>2</sub> SO <sub>4</sub> ) = 98.08 lb/lb mole               | 1 part/vol X = 1*10 <sup>6</sup> ppmv X |
| MW(SO <sub>2</sub> ) = 64.06 lb/lb mole                             | 1 bbl = 42 gal                          |
| K(H <sub>2</sub> SO <sub>4</sub> ) = 0.5 mg-g mole/g-meq            | M = 1000                                |
| K(SO <sub>2</sub> ) = 0.5 mg-g mole/g-meq                           | La = 0.02 cfm                           |
| Kp = 85.49(ft/sec(sqrt{lb/lb mole-in.Hg/°R-in. H <sub>2</sub> O}))  |   |
| Kw,[cu ft/g-°R] = R / (453.6*MW(H <sub>2</sub> O)*Pstd)             |   |
| Kf,[scf-ppm/lb mole] = R * (Tstd+460) * (1*10 <sup>6</sup> ) / Pstd |   |

**INTERMEDIATE CALCULATIONS**

|  |
|--|
| F,[scf/MMBtu] = F Factor * ( Tstd + 460 ) / 528                    |
| Ph,[in. Hg] = Pbar + ( ΔH / 13.6)                                  |
| N <sub>2</sub> ,[%] = 100 - (O <sub>2</sub> % + CO <sub>2</sub> %) |
| Vlc,[ml] = Ww / Dw   |
| Qa,[cfm] = 60 * Vs * As  |
| Qad,[dcfm] = Qa * (1 - Bws)  |

**CFR 40 - EPA EQUATIONS**

|           |   |
|-----------|---|
| eq. 2-8   | T[°R] = T[°F]+460   |
| eq. 2-6   | Ps, [in. Hg] = Pbar+(Pg/13.6)   |
| eq. 5-3   | Bws, [%] = Vw(std) / { Vw(std) + Vm(std) }  |
| eq. 3-2   | Md, [lb/lb-mole] = 0.44*CO <sub>2</sub> %+0.32*O <sub>2</sub> %+0.28*(N <sub>2</sub> %+CO%) |
| eq. 2-5   | Ms, [lb/lb mol] = Md*(1-Bws)+(MW(H <sub>2</sub> O)*Bws )                                    |
| eq. 5-2   | Vw(std), [scf] = Ww * Kw * (Tstd+460)   |
| eq. 5-1   | Vn, [cf] = Vm - ((Lp-La) * Theta)   |
| eq. 5-1   | Vm(std), [sdcf] = Vm * Y * ( (Tstd+460) / (Tm+460) ) * Ph / Pstd                            |
| eq. 2-9   | Vs, [ft./sec.] = Kp*Cp*(ΔP*(Ts+460))/ ( Ps*Ms))^0.5   |
| eq. 2-10  | Qstd, [dscfm] =Qad*(Tstd+460)*Ps/((Ts+460)*Pstd)  |
| eq. 5-8   | l, [%] =100*(Ts+460)*Vm(std)*Pstd/(60*Vs*Theta*An*Ps*(1-Bws)*(Tstd+460))                    |
| eq. 5-6   | Cx, [grain/dscf] = Wx,g*15.432/Vm(std)  |
| eq. 8-2,3 | Wx, [mg] = (Vt-Vtb)*N(std)*(Vsoln/Valq)*MWx*Kx  |
|           | Cx, [grain/dscf] = Wx,mg*0.001*15.432/Vm(std)   |
|           | CWx, [grain/scf] = Cx*(1-Bws)   |
|           | CCx, [grain/dscf @ 12% CO <sub>2</sub> ] = Cx*12.0/CO <sub>2</sub> %                        |
|           | CWCx, [grain/scf @ 12% CO <sub>2</sub> %] = CCx   |
|           | CPx, [ppmv dry] = Cx*Kf/(MWx*7000)  |
|           | CPCx, [ppmv @ N% O <sub>2</sub> ] = CPX* ((20.9-N%)/(20.9-O <sub>2</sub> %))                |
|           | CFx, [lb/hr] = Cx*Q(std)*60/7000  |
|           | CEx, [lb/MMBtu] = F*(Cx/7000)*(20.9/(20.9-O <sub>2</sub> %))                                |
|           | CBx, [lb/bbl] = CEx*(Fuel Btu/MM)*(Fuel lb/gal)*42  |
|           | CEsx, [lb S/MMBtu] = CEx*(MW(S) / MWx)  |

Where x represents, Particulate, Sulfuric Acid, Sulfate, or Sulfur Dioxide respectively.

**III. WET TEST METHODS CALCULATIONS**

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MOTES  
CYCLONE

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### CALCULATED EMISSION RESULTS

Client: **Des Pales Gin**  
Site: **Des Pales**  
Unit: **Notes**

Date: **10/27/92**  
Type: **T std = 60 F**  
Run: **1-Part**

### PM10 PARTICULATE

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>Wt</b>  | Total Particulate Weight    | 0.0375        | g          |
| <b>Ct</b>  | Total Particulate Emissions | <b>0.0156</b> | grain/dscf |
| <b>Cft</b> | Particulate Flow Rate       | <b>0.96</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>33.78</b>  | %          |
|            | +10 $\mu$ Particulate       | <b>0.33</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>66.22</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>0.64</b>   | lb/hr      |

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### CALCULATED EMISSION RESULTS

Client: **Des Palos Gin**  
Site: **Des Palos**  
Unit: **Notes**

Date: **10/27/92**  
Type: **T std = 60 F**  
Run: **2-Part**

### PM10 PARTICULATE

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>Wt</b>  | Total Particulate Weight    | 0.0315        | g          |
| <b>Ct</b>  | Total Particulate Emissions | <b>0.0126</b> | grain/dscf |
| <b>Cft</b> | Particulate Flow Rate       | <b>0.79</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>29.22</b>  | %          |
|            | +10 $\mu$ Particulate       | <b>0.23</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>70.78</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>0.56</b>   | lb/hr      |

BTC Environmental, Inc. - 1989

**CALCULATED EMISSION RESULTS**

Client: **Des Palos Gin**  
Site: **Des Palos**  
Unit: **Notes**

Date: **10/27/92**  
Type: **T std = 60 F**  
Run: **3-Part**

**PM10 PARTICULATE**

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>WT</b>  | Total Particulate Weight    | 0.0431        | g          |
| <b>CE</b>  | Total Particulate Emissions | <b>0.0174</b> | grain/dscf |
| <b>CFL</b> | Particulate Flow Rate       | <b>1.06</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>44.84</b>  | %          |
|            | +10 $\mu$ Particulate       | <b>0.48</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>55.16</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>0.59</b>   | lb/hr      |

*BTC Environmental, Inc. - 1989*

BATTERY CONDENSER  
CYCLONE

**CALCULATED EMISSION RESULTS**

Client: **Des Palos Gin**  
Site: **Des Palos**  
Unit: **Battery Condenser**

Date: **10/27/92**  
Type: **T std - 60 F**  
Run: **1-Part**

**PM10 PARTICULATE**

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>WT</b>  | Total Particulate Weight    | 0.0139        | g          |
| <b>CE</b>  | Total Particulate Emissions | <b>0.0054</b> | grain/dscf |
| <b>CFL</b> | Particulate Flow Rate       | <b>0.26</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>43.40</b>  | %          |
|            | +10 $\mu$ Particulate       | <b>0.11</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>56.60</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>0.15</b>   | lb/hr      |

*BTC Environmental, Inc. - 1989*

**CALCULATED EMISSION RESULTS**

Client: **Dos Palos Gin**  
Site: **Dos Palos**  
Unit: **Battery Condenser**

Date: **10/27/92**  
Type: **T std = 60 F**  
Run: **2-Part**

**PM10 PARTICULATE**

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>WT</b>  | Total Particulate Weight    | 0.0126        | g          |
| <b>CT</b>  | Total Particulate Emissions | <b>0.0049</b> | grain/dscf |
| <b>CFL</b> | Particulate Flow Rate       | <b>0.24</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>33.73</b>  | %          |
|            | +10 $\mu$ Particulate       | <b>0.08</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>66.27</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>0.16</b>   | lb/hr      |

*BTC Environmental, Inc. - 1989*

### CALCULATED EMISSION RESULTS

Client: **Dos Palos Gin**  
Site: **Dos Palos**  
Unit: **Battery Condenser**

Date: **10/27/92**  
Type: **T std = 60 F**  
Run: **3-Part**

### PM10 PARTICULATE

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>WT</b>  | Total Particulate Weight    | 0.0102        | g          |
| <b>Ct</b>  | Total Particulate Emissions | <b>0.0038</b> | grain/dscf |
| <b>Cft</b> | Particulate Flow Rate       | <b>0.18</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>7.42</b>   | %          |
|            | +10 $\mu$ Particulate       | <b>0.01</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>92.58</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>0.17</b>   | lb/hr      |

BTC Environmental, Inc. - 1989

OVERFLOW SEPARATOR  
CYCLONE

**CALCULATED EMISSION RESULTS**

Client: **Des Palos Gin**  
Site: **Des Palos**  
Unit: **Overflow**

Date: **10/28/92**  
Type: **T std = 60 F**  
Run: **1-Part**

**PM10 PARTICULATE**

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>Wt</b>  | Total Particulate Weight    | 0.0123        | g          |
| <b>Ct</b>  | Total Particulate Emissions | <b>0.0046</b> | grain/dscf |
| <b>Cft</b> | Particulate Flow Rate       | <b>0.17</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>67.47</b>  | %          |
|            | +10 $\mu$ Particulate       | <b>0.11</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>32.53</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>0.05</b>   | lb/hr      |

BTC Environmental, Inc. - 1989

**CALCULATED EMISSION RESULTS**

Client: **Des Pales Gin**  
Site: **Des Pales**  
Unit: **Overflow**

Date: **10/28/92**  
Type: **T std = 60 F**  
Run: **2-Part**

**PM10 PARTICULATE**

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>Wt</b>  | Total Particulate Weight    | <b>0.0239</b> | g          |
| <b>Ct</b>  | Total Particulate Emissions | <b>0.0091</b> | grain/dscf |
| <b>Cft</b> | Particulate Flow Rate       | <b>0.33</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>57.50</b>  | %          |
|            | +10 $\mu$ Particulate       | <b>0.19</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>42.50</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>0.14</b>   | lb/hr      |

BTC Environmental, Inc. - 1989

**CALCULATED EMISSION RESULTS**

Client: **Des Palos Gin**  
Site: **Des Palos**  
Unit: **Overflow**

Date: **10/28/92**  
Type: **T std = 60 F**  
Run: **3-Part**

**PM10 PARTICULATE**

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>Wt</b>  | Total Particulate Weight    | 0.0222        | g          |
| <b>Ct</b>  | Total Particulate Emissions | <b>0.0082</b> | grain/dscf |
| <b>Cft</b> | Particulate Flow Rate       | <b>0.30</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>57.96</b>  | %          |
|            | +10 $\mu$ Particulate       | <b>0.17</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>42.04</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>0.12</b>   | lb/hr      |

BTC Environmental, Inc. - 1989

LINT CLEANER  
CYCLONE

### CALCULATED EMISSION RESULTS

Client: **Des Pales Gin**  
Site: **Des Pales**  
Unit: **Lint Cleaner**

Date: **10/28/92**  
Type: **T std = 60 F**  
Run: **1-Part**

### PM10 PARTICULATE

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>Wt</b>  | Total Particulate Weight    | 0.0330        | g          |
| <b>Ct</b>  | Total Particulate Emissions | <b>0.0115</b> | grain/dscf |
| <b>Cft</b> | Particulate Flow Rate       | <b>0.63</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>53.66</b>  | %          |
|            | +10 $\mu$ Particulate       | <b>0.34</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>46.34</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>0.29</b>   | lb/hr      |

BTC Environmental, Inc. - 1989

**CALCULATED EMISSION RESULTS**

Client: **Dos Pales Gin**  
Site: **Dos Pales**  
Unit: **Lint Cleaner**

Date: **10/28/92**  
Type: **T std = 60 F**  
Run: **2-Part**

**PM10 PARTICULATE**

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>Wt</b>  | Total Particulate Weight    | 0.0235        | g          |
| <b>Ct</b>  | Total Particulate Emissions | <b>0.0087</b> | grain/dscf |
| <b>Cft</b> | Particulate Flow Rate       | <b>0.46</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>51.60</b>  | %          |
|            | +10 $\mu$ Particulate       | <b>0.24</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>48.40</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>0.22</b>   | lb/hr      |

BTC Environmental, Inc. - 1989

**CALCULATED EMISSION RESULTS**

Client: **Dos Palos Gin**  
Site: **Dos Palos**  
Unit: **Lint Cleaner**

Date: **10/28/92**  
Type: **T std = 60 F**  
Run: **3-Part**

**PH10 PARTICULATE**

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>Wt</b>  | Total Particulate Weight    | <b>0.0243</b> | g          |
| <b>Ct</b>  | Total Particulate Emissions | <b>0.0084</b> | grain/dscf |
| <b>Cft</b> | Particulate Flow Rate       | <b>0.46</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>46.43</b>  | %          |
|            | +10 $\mu$ Particulate       | <b>0.21</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>53.57</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>0.25</b>   | lb/hr      |

BTC Environmental, Inc. - 1989

# 1 DRYING  
CYCLONE

**CALCULATED EMISSION RESULTS**

Client: **Des Palos Gin**  
Site: **Des Palos**  
Unit: **#1 Dryer**

Date: **10/28/92**  
Type: **T std = 60 F**  
Run: **1-Part**

**PM10 PARTICULATE**

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>Wt</b>  | Total Particulate Weight    | 0.2016        | g          |
| <b>Ct</b>  | Total Particulate Emissions | <b>0.0841</b> | grain/dscf |
| <b>Cft</b> | Particulate Flow Rate       | <b>4.71</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>79.75</b>  | %          |
|            | +10 $\mu$ Particulate       | <b>3.76</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>20.25</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>0.95</b>   | lb/hr      |

BTC Environmental, Inc. - 1989

**CALCULATED EMISSION RESULTS**

Client: **Des Palos Gin**  
Site: **Des Palos**  
Unit: **#1 Dryer**

Date: **10/28/92**  
Type: **T std = 60 F**  
Run: **2-Part**

**PM10 PARTICULATE**

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>Wt</b>  | Total Particulate Weight    | 0.2137        | g          |
| <b>Ct</b>  | Total Particulate Emissions | <b>0.0927</b> | grain/dscf |
| <b>Cft</b> | Particulate Flow Rate       | <b>5.15</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>76.98</b>  | %          |
|            | +10 $\mu$ Particulate       | <b>3.96</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>23.02</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>1.19</b>   | lb/hr      |

BTC Environmental, Inc. - 1989

### CALCULATED EMISSION RESULTS

Client: **Des Palos Gin**  
Site: **Des Palos**  
Unit: **#1 Dryer**

Date: **10/28/92**  
Type: **T std = 60 F**  
Run: **3-Part**

### PM10 PARTICULATE

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>Wt</b>  | Total Particulate Weight    | 0.1859        | g          |
| <b>Ct</b>  | Total Particulate Emissions | <b>0.0780</b> | grain/dscf |
| <b>CFl</b> | Particulate Flow Rate       | <b>4.38</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>74.70</b>  | %          |
|            | +10 $\mu$ Particulate       | <b>3.27</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>25.30</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>1.11</b>   | lb/hr      |

BTC Environmental, Inc. - 1989

SUCTION  
CYCLONE

102

**CALCULATED EMISSION RESULTS**

Client: **Des Pales Gin**  
Site: **Des Pales**  
Unit: **Suction**

Date: **10/29/92**  
Type: **T std = 60 F**  
Run: **1-Part**

**PM10 PARTICULATE**

|            |                             |               |                   |
|------------|-----------------------------|---------------|-------------------|
| <b>Wt</b>  | Total Particulate Weight    | <b>0.0336</b> | <b>g</b>          |
| <b>Ct</b>  | Total Particulate Emissions | <b>0.0120</b> | <b>grain/dscf</b> |
| <b>Cft</b> | Particulate Flow Rate       | <b>0.52</b>   | <b>lb/hr</b>      |
|            | +10 $\mu$ Particulate       | <b>30.74</b>  | <b>%</b>          |
|            | +10 $\mu$ Particulate       | <b>0.16</b>   | <b>lb/hr</b>      |
|            | -10 $\mu$ Particulate       | <b>69.26</b>  | <b>%</b>          |
|            | -10 $\mu$ Particulate       | <b>0.36</b>   | <b>lb/hr</b>      |

*BTC Environmental, Inc. - 1989*

**CALCULATED EMISSION RESULTS**

Client: **Dos Palos Gin**  
Site: **Dos Palos**  
Unit: **Suction**

Date: **10/29/92**  
Type: **T std = 60 F**  
Run: **2-Part**

**PM10 PARTICULATE**

|            |                             |               |                   |
|------------|-----------------------------|---------------|-------------------|
| <b>Wt</b>  | Total Particulate Weight    | <b>0.0520</b> | <b>g</b>          |
| <b>Ct</b>  | Total Particulate Emissions | <b>0.0201</b> | <b>grain/dscf</b> |
| <b>Cft</b> | Particulate Flow Rate       | <b>0.91</b>   | <b>lb/hr</b>      |
|            | +10 $\mu$ Particulate       | <b>43.60</b>  | <b>%</b>          |
|            | +10 $\mu$ Particulate       | <b>0.39</b>   | <b>lb/hr</b>      |
|            | -10 $\mu$ Particulate       | <b>56.40</b>  | <b>%</b>          |
|            | -10 $\mu$ Particulate       | <b>0.51</b>   | <b>lb/hr</b>      |

*BTC Environmental, Inc. - 1989*

### CALCULATED EMISSION RESULTS

Client: **Des Pales Gin**  
Site: **Des Pales**  
Unit: **Suction**

Date: **10/29/92**  
Type: **T std - 60 F**  
Run: **3-Part**

### PM10 PARTICULATE

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>Wt</b>  | Total Particulate Weight    | 0.0517        | g          |
| <b>Ct</b>  | Total Particulate Emissions | <b>0.0194</b> | grain/dscf |
| <b>Cft</b> | Particulate Flow Rate       | <b>0.79</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>44.11</b>  | %          |
|            | +10 $\mu$ Particulate       | <b>0.35</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>55.89</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>0.44</b>   | lb/hr      |

BTC Environmental, Inc. - 1989

#2 DRYING  
CYCLONE

### CALCULATED EMISSION RESULTS

Client: **Dos Palos Gin**  
Site: **Dos Palos**  
Unit: **#2 Dryer**

Date: **10/29/92**  
Type: **T std = 60 F**  
Run: **1-Part**

### PM10 PARTICULATE

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>Wt</b>  | Total Particulate Weight    | 0.0945        | g          |
| <b>Ct</b>  | Total Particulate Emissions | <b>0.0366</b> | grain/dscf |
| <b>CFt</b> | Particulate Flow Rate       | <b>2.43</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>73.17</b>  | %          |
|            | +10 $\mu$ Particulate       | <b>1.78</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>26.85</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>0.65</b>   | lb/hr      |

BTC Environmental, Inc. - 1989

### CALCULATED EMISSION RESULTS

Client: **Dos Palos Gin**  
Site: **Dos Palos**  
Unit: **#2 Dryer**

Date: **10/29/92**  
Type: **T std = 60 F**  
Run: **2-Part**

### PM10 PARTICULATE

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>Wt</b>  | Total Particulate Weight    | 0.1064        | g          |
| <b>Ct</b>  | Total Particulate Emissions | <b>0.0426</b> | grain/dscf |
| <b>Cft</b> | Particulate Flow Rate       | <b>2.92</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>70.31</b>  | %          |
|            | +10 $\mu$ Particulate       | <b>2.05</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>29.69</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>0.87</b>   | lb/hr      |

*BTC Environmental, Inc. - 1989*

**CALCULATED EMISSION RESULTS**

Client: **Des Palos Gin**  
Site: **Des Palos**  
Unit: **#2 Dryer**

Date: **10/29/92**  
Type: **T std = 60 F**  
Run: **3-Part**

**PM10 PARTICULATE**

|            |                             |               |            |
|------------|-----------------------------|---------------|------------|
| <b>Wt</b>  | Total Particulate Weight    | 0.0834        | g          |
| <b>Ct</b>  | Total Particulate Emissions | <b>0.0320</b> | grain/dscf |
| <b>Cft</b> | Particulate Flow Rate       | <b>2.13</b>   | lb/hr      |
|            | +10 $\mu$ Particulate       | <b>88.64</b>  | %          |
|            | +10 $\mu$ Particulate       | <b>1.89</b>   | lb/hr      |
|            | -10 $\mu$ Particulate       | <b>11.36</b>  | %          |
|            | -10 $\mu$ Particulate       | <b>0.24</b>   | lb/hr      |

BTC Environmental, Inc. - 1989