

Oxy, SR - AP
Dical Acid Prep
Prod rate increase review

06-12-87

4/8 test rpt. submitted w/ request
was rec'd 48 days after test completed.
So, 3 days late.

The test prod rate data does not
properly document the stated rate.

Need copy of all data required to
determine the prod rate during the
test period.

Called BT & discussed should this
permit change be processed by CAPS.
We agreed that CAPS will. *[Signature]*

DER

JUN 15 1987

BAQM

FACIL: OUN: OCCIDENTAL CHEMID N/L: SUWANNEE RIVER LAST UPDATED:
SRC: 039 MAJOR FAC: Y CITY: STATUS: A = ACTIVE
SOURC DESC: DICAL ACID PREP W/BH .032HTSP/H ALLOW ?TEST
PERMIT/PPS: AD24--65096 MAJOR SRC: . STATUS: A = ACTIVE
NSPS: ... NESHAP: ... 1110: FL PSD: ... NAA/NSR: ... RACT: ...

CURRENT TEST DATE: 05 / 14 / 86 NEXT TEST DATE: 01 / 24 / 87

NAME: 3

MAX PROCESS RATE: 0065844 ACTUAL: _____ UNITS: _____
MAX PRODUCTION RATE: 0064815 ACTUAL: 0000012 UNITS: TONF
POLLUTANT ID: FL = FLUORIDE TEST PASS? (Y OR N)
PERMIT ALLOWABLE EMIS: UNITS:
TEST ALLOW EMIS: 00000 . 470000 TEST ACT EMIS: 00000 . 060000
UNITS: AUDIT TYPE: _
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: SIGN: .
COMMENTS: _____

MORE SOURCE TESTS ON FILE? YES
7969701633

ACTION TAKEN: _ TRANSMIT HERE: _

FACIL: OUN: OCCIDENTAL CHEMIC N/L: SUWANNEE RIVER LAST UPDATED: 06/08/87
SRC: 039 MAJOR FAC: Y CITY: STATUS: A = ACTIVE
SOURC DESC: DICAL ACID PREP W/BH .032HTSP/H ALLOW ?TEST
PERMIT/PPS: AD24--65096 MAJOR SRC: . STATUS: A = ACTIVE
NSPS: ... NESHAP: ... 1110: FL PSD: ... NAA/NSR: ... RACT: ...

CURRENT TEST DATE: 05 / 02 / 87 NEXT TEST DATE: 07 / 24 / 87

NAME: 3 OXY

MAX PROCESS RATE: 0065844 ACTUAL: _____ UNITS: _____
MAX PRODUCTION RATE: 0064815 ACTUAL: _____ UNITS: _____
POLLUTANT ID: FL = FLUORIDE TEST PASS? (Y OR N)
PERMIT ALLOWABLE EMIS: UNITS:
TEST ALLOW EMIS: _____ TEST ACT EMIS: _____
UNITS: AUDIT TYPE: 3
% TEST ACTUAL BELOW (-) OR ABOVE (+) TEST ALLOWABLE: SIGN: .
COMMENTS: UNVERIFIED TEST FOR RATE INCREASE 16HR PROC RATE 4 HR TEST PER
SOME POINTS > 1 CFM UNCLEAR FL CALCULATION DGM CALIB <TEST
NO APC DATA FOR TEST

MORE SOURCE TESTS ON FILE? ...
7982194433

ACTION TAKEN: _ TRANSMIT HERE: _

*Very questionable Test for verifying Process rate and FI mass
emission rate. See comments on title page.
We should request FI & DGM calib hand calculations and process wt (if
J. Cole agrees.)
Springer 6/8/87*

AIR040 31JAX24000241 FL AIR POLLUTANT INFORMATION SYSTEM 06/08/87

SOURCE POLLUTANT RECORD 15:44:45

FACIL: GWN: OCCIDENTAL CHEMIC N/L: SHANNON RIVER POLL UPDATED: 03/10/87

SRC: 039 MAJOR FAC: Y CITY: ... FAC STATUS: A = ACTIVE

SOURC DESC: DIGAL ACID PREP W/BH .032MTSP/H ALLOW ?TEST

PERMIT/PPS: A024--65096 MAJOR SRC: . SRC STATUS: A = ACTIVE

NSPS: ... NESMAP: ... 111D: FL PSD: ... NAA/NSR: ... RACT: ...

***** POLLUTANT/CONTROL INFORMATION ***** FL

POLLUTANT ID: FL = FLUORIDE % EFF: 94 . 5

PRI: 001 = WET SCRUBBER HIGH EFF SEC: ___ =

***** EMISSION INFORMATION *****

POTENTIAL EMISSION: 00000 . 7000 (LB/HR) (TON/YR)

ESTIMATED EMISSION: 000001 . 0000 (TON/YR) EST CODE: 1

ACTUAL EMISSION: 000001 . 9600 (TON/YR) AOR CODE: 1 AOR YR: 86

ALLOWABLE EMISSION: _____ (LB/HR) 000003 . 0000 (TON/YR)

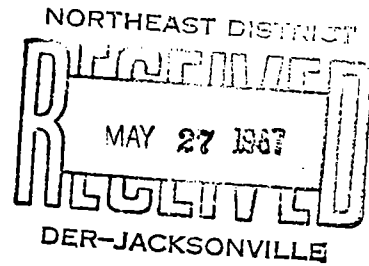
ALLOWABLE EMISSION: _____ (LB/HR) OTHER UNIT

REGULATION CODE: _____ CEM?: _ (Y OR N)

TEST FREQUENCY: 6 = EVERY 6 MONTHS FREQUENCY BASE DATE: 01 / 24 / 83

COMMENT: _____

MORE SOURCE POLLUTANTS ON FILE? NO ACTION TAKEN: _ TRANSMIT HERE: _



DICAL ACID PREP

April 8, 1987

When is Oxy going to Post-TEST the DGM, as required by RMS
DGM Calibration does not cover range of δH of Test
Calculation check of $\delta H_{2.5}$ indicates missing data used in calculations for γ
or improper equation used.

No sample calculation check to ensure computer calculations are OK.
Process input data sheet unclear/error in time calculations
Process input data sheet does not show process unit during test times
Test 0915 - 13:08. Data - 0406 - 2200
Test 4 hrs Process data - 16 hours.

Scrubber data (operating) during test not reported.

Return to S.C. for process weight determination since this is
a permit rate increase.

Fluoride Analysis not properly documented. Unable to determine
Mass of Fluoride (mg F⁻). Lab Sheet mg/l should possibly be converted to
mg/l 15 l. Since Sample Volume was 200 ml (1/5 l). aliquot assumed 200 ml.
or $\frac{mg}{25/1000 l} \times 8$ if 25 ml Aliquot was analyzed.

OCcidental CHEMICAL COMPANY
SOURCE SAMPLING FIELD DATA SHEET

? operating date

Test Date: 4-8-87
 Plant Acid "Prep" Run Number one
 Sampling Location SRC Time Start 0915 Time End 10:24
 Type of Control Wet Scrubber Sample Time 5 min/pt 60 Total min.
 P_b 30.08 " Hg Ambient Temp. 70 °F Sample Box A Meter Box B
 Weather clear Meter dH@ 1.59

Leak Check: Initial .00 cfm @ 15 " Hg
 Final .00 cfm @ 15 " Hg

Pitot Tube ID No. 3.1 Correction Factor .84
 Average Nozzle Dia. .256 in. Probe Length 3 ft.
 Probe Liner Mat'l. stainless steel Probe Heater Setting 5
 Nomograph C_f .87
 Stack Height 128' ft. Stack Diameter 22" in.
 Stack Area 2.63 ft² Effective Stack Area 2.63 ft²

Final Gas Meter Reading 340.538 ft³ 367.241 ft³
 Initial Gas Meter Reading 314.434 ft³ 340.704 ft³
 Difference 26.104 ft³ + 26.537 ft³ = 56.641

Pitot Tubes: Impact 3" H₂O for 15 sec. Yes No
 Static 3" H₂O for 15 sec. Yes No

Silica Gel Container No. 1 Filter No. N/A
 Condensate Increase in Impingers _____ ml
 Maximum Calculated Moisture 3 %

Test Conducted By: Tommy Observers: DAN McCurdy
Andy
WAYNE

$$V_{msip} = 17.64 (56.641) (1.003) \frac{30124}{525.9} = 57.625$$

OCCIDENTAL CHEMICAL COMPANY
SOURCE SAMPLING FIELD DATA SHEET

SF.

Wet

| Port and Traverse Point No. | Distance From Inside Stack Wall (in.) | Clock Time | Gas Meter Reading (ft ³) | Stack Velocity Head (" H ₂ O) | Meter Orifice Press. Diff. (" H ₂ O) | | Stack Gas Temp. (°F) | Gas Sample Temp. @ Dry Gas Meter (°F) | | Sample Box Temp. (°F) | Last Impinger Temp. (°F) | Vacuum On Sample Train (" Hg) |
|-----------------------------|---------------------------------------|------------|--------------------------------------|--|---|--------|----------------------|---------------------------------------|-----|-----------------------|--------------------------|-------------------------------|
| | | | | | Calc. | Actual | | In | Out | | | |
| 1 .34 70 | | 3.33 | 340.704 314.434 | .32 | 1.23 | 1.23 | 70 | 59 | 58 | 58.5 | 56 | .5 |
| 2 .53 71 | | 3.97 | 17.76 | .48 | 1.85 | 1.85 | 70 | 62 | 58 | 60 | 56 | 1.7 |
| 3 .62 72 | | 4.53 | 21.73 | .61 | 2.35 | 2.35 | 71 | 64 | 59 | 61.5 | 56 | 2.8 |
| 4 .77 72 | | 5.02 | 26.26 | .75 | 2.89 | 2.89 | 71 | 66 | 59 | 62.5 | 58 | 3.7 |
| 5 .71 71 | | 4.77 | 31.28 | .68 | 2.62 | 2.62 | 72 | 69 | 60 | 64.5 | 59 | 3.5 |
| 6 .60 72 | | 4.49 | 36.05 | .59 | 2.27 | 2.27 | 71 | 71 | 60 | 65.5 | 61 | 2.7 |
| | | | 340.533 | | | | | | | | | 2.8 |
| 6 | | 4.64 | 340.704 340.704 | .61 | 2.35 | 2.35 | 71 | 72 | 62 | 67 | 63 | 2.8 |
| 5 | | 4.68 | 45.34 | .68 | 2.62 | 2.62 | 72 | 74 | 62 | 68 | 63 | 3.5 |
| 4 | | 5.09 | 50.02 | .74 | 2.85 | 2.85 | 72 | 75 | 63 | 69 | 64 | 4.0 |
| 3 | | 4.57 | 55.11 | .60 | 2.31 | 2.31 | 72 | 77 | 64 | 70.5 | 65 | 2.8 |
| 2 | | 4.11 | 59.68 | .49 | 1.89 | 1.89 | 72 | 78 | 65 | 71.5 | 66 | 2.0 |
| 1 | | 3.45 | 63.79 | .34 | 1.31 | 1.31 | 72 | 78 | 66 | 72 | 68 | .9 |
| | | | 367.241 | | | | | | | | | |

RUN # onc

DATE 4-8-87

PLANT Acid Prep

65.9 / 525.9
K = 3.85

REMARKS:

MAX H₂S 1.09 Pm Ms dte
Tm

1.09 (30.24) 28.74 1.59

525.9

2.87

Pb = 30.08

~~2.12~~

2.214 + 30.08 = 30.24 Pm.
13.6

OCCIDENTAL CHEMICAL COMPANY
SOURCE SAMPLING FIELD DATA SHEET

Site

| Port and Traverse Point No. | Distance From Inside Stack Wall (in.) | Clock Time | Gas Meter Reading (ft ³) | Stack Velocity Head (" H ₂ O) | Meter Orifice Press. Diff. (" H ₂ O) | | Stack Gas Temp. (°F) | Gas Sample Temp. @ Dry Gas Meter (°F) | | Sample Box Temp. (°F) | Last Impinger Temp. (°F) | Vacuum On Sample Train (" Hg) | |
|-----------------------------|---------------------------------------|------------|--------------------------------------|--|---|--------|----------------------|---------------------------------------|-----|-----------------------|--------------------------|-------------------------------|--|
| | | | | | Calc. | Actual | | In | Out | | | | |
| 1 | | 3.02 | 367.490 | .28 | 1.10 | 1.10 | 72 | 71 | 67 | } | 59 | 1.6 | |
| 2 | | 3.89 | 70.51 | .46 | 1.77 | 1.77 | 73 | 73 | 67 | | 59 | 3.6 | |
| 3 | | 4.52 | 74.40 | .61 | 2.35 | 2.35 | 73 | 75 | 67 | | 58 | 6.0 | |
| 4 | | 4.97 | 78.92 | .73 | 2.81 | 2.81 | 73 | 77 | 67 | | 59 | 7.7 | |
| 5 | | 4.85 | 83.89 | .68 | 2.62 | 2.62 | 73 | 79 | 68 | | 62 | 7.5 | |
| 6 | | 4.59 | 88.74 | .60 | 2.31 | 2.31 | 74 | 80 | 69 | | 64 | 6.1 | |
| | | | 393.333 | | | | | | | | | | |
| 6 | | 4.69 | 393.458 | .63 | 2.43 | 2.43 | 74 | 81 | 70 | | 65 | 6.1 | |
| 5 | | 4.76 | 98.15 | .66 | 2.54 | 2.54 | 74 | 82 | 71 | | 66 | 7.0 | |
| 4 | | 5.01 | 402.91 | .73 | 2.81 | 2.81 | 74 | 84 | 73 | | 66 | 8.0 | |
| 3 | | 4.72 | 67.92 | .62 | 2.39 | 2.39 | 74 | 86 | 74 | 67 | 6.8 | | |
| 2 | | 4.14 | 12.64 | .47 | 1.81 | 1.81 | 74 | 87 | 75 | 68 | 4.5 | | |
| 1 | | 3.36 | 16.78 | .33 | 1.27 | 1.27 | 74 | 87 | 75 | 68 | 2.1 | | |
| | | | 420.139 | | | | | | | | | | |

RUN # TWO

DATE 4-8-87

PLANT Acid Prep

K= 3.85

REMARKS:

1.07 pm Ms & He

Tm

Wing DTK

1.09 30.24 28.28 1.59 2.81

58512

OCCIDENTAL CHEMICAL COMPANY
SOURCE SAMPLING FIELD DATA SHEET

| Port and Traverse Point No. | Distance From Inside Stack Wall (in.) | Clock Time | Gas Meter Reading (ft ³) | Stack Velocity Head (" H ₂ O) | Meter Orifice Press. Diff. (" H ₂ O) | | Stack Gas Temp. (°F) | Gas Sample Temp. @ Dry Gas Meter (°F) | | Sample Box Temp. (°F) | Last Impinger Temp. (°F) | Vacuum On Sample Train (" Hg) | |
|-----------------------------|---------------------------------------|------------|--------------------------------------|--|---|--------|----------------------|---------------------------------------|-----|-----------------------|--------------------------|-------------------------------|--|
| | | | | | Calc. | Actual | | In | Out | | | | |
| | | | 420.421 | | | | | | | | | | |
| 1 | | 2.44 | | .34 | 1.31 | 1.31 | 73 | 80 | 76 | } | 62 | .8 | |
| 2 | | 4.58 | 23.36 | .52 | 2.00 | 2.00 | 73 | 81 | 76 | | 58 | 2.4 | |
| 3 | | 4.66 | 27.94 | .64 | 2.46 | 2.46 | 74 | 82 | 76 | | 59 | 3.2 | |
| 4 | | 5.0 | 32.60 | .73 | 2.81 | 2.81 | 74 | 83 | 76 | | 60 | 4.1 | |
| 5 | | 4.92 | 37.60 | .70 | 2.70 | 2.70 | 74 | 85 | 76 | | 61 | 3.9 | |
| 6 | | 4.43 | 42.52 | .55 | 2.12 | 2.12 | 74 | 86 | 77 | | 62 | 2.7 | |
| | | | 446.952 | | | | | | | | | | |
| 6 | | 4.66 | 447.077 | .63 | 2.43 | 2.43 | 74 | 86 | 78 | | 64 | 3.2 | |
| 5 | | 4.76 | 51.74 | .66 | 2.54 | 2.54 | 74 | 90 | 80 | | 63 | 3.6 | |
| 4 | | 5.02 | 56.50 | .73 | 2.81 | 2.81 | 74 | 94 | 83 | | 64 | 4.3 | |
| 3 | | 4.61 | 61.52 | .60 | 2.31 | 2.31 | 74 | 97 | 85 | 66 | 3.2 | | |
| 2 | | 4.50 | 66.13 | .45 | 1.73 | 1.73 | 74 | 97 | 86 | 67 | 2.0 | | |
| 1 | | 2.42 | 70.63 | .31 | 1.19 | 1.19 | 74 | 98 | 87 | 69 | .8 | | |
| | | | 473.551 | | | | | | | | | | |

RUN # Three

DATE 4-8-87

PLANT Acid Prep

K= 3.85

REMARKS:

Max ΔH ≤ 1.09 Pm M ΔHe
Tm

Computer manipulated

1.09 30.24 28.25 1.59

544

2.78

PRETEST METER ORIFICE CHECK

Meter Box B Y = 1.003 dHa of Box 1.59

Date: 4-8-87 Run Number _____

Po = Pressure at the dry test meter orifice = (Pb + (dHa/13.6))

$$Yc = (10 \text{ min./Vm}) (0.0319 \text{ Tm/Pb})^{1/2}$$

PROCEDURE: Set the flow rate of the meter box at dHa and hold for 10 minutes.
Perform the calculations for Po and Yc. Yc should be in the range:

$$0.97Y < Yc < 1.03Y$$

0.97Y = _____
1.03Y = _____

$$Po = (30.08 + (1.59/13.6)) = \underline{30.20}$$

$$Yc = (10/7.412) (0.0319 \text{ } 527/30.08)^{1/2} = \underline{100.8}$$

Pretest performed by: Wayne Keen

*This is not a post test
calibration check -*

POST-TEST METER ORIFICE CHECK

Meter Box B Y = 1.003 dHa of Box 1.59

Date: 4/9/87 Run Number _____

Po = Pressure at the dry test meter orifice = (Pb + (dHa/13.6))

$$Yc = (10 \text{ min./Vm}) (0.0319 \text{ Tm/Pb})^{1/2}$$

PROCEDURE: Set the flow rate of the meter box at dHa and hold for 10 minutes.
Perform the calculations for Po and Yc. Yc should be in the range:

$$0.97Y < Yc < 1.03Y$$

0.97Y = _____
1.03Y = _____

$$Po = (29.95 + (\overset{1.59}{530}/13.6)) = \underline{30.06}$$

$$Yc = (10/ \quad) (0.0319 \text{ } 530/30.06)^{1/2} = \underline{100.2}$$

Post-test performed by: JM

METER CALIBRATION FORM

GAS METER METHOD

Run
 1. 1.23 to 2.89
 2. 1.10 to 2.81
 3. 1.19 to 2.81

DATE: 8-27-86
 METER BOX NO: 02V-B
 BAROMETRIC PRESSURE: 30.11

Pm

| TEST Δ HD | ORI- FICE Δ HD | TEST GAS METER VOLUME | | | DRY GAS METER VOLUME | | | TEMP OF TEST METER °F | TEMP OF DRY METER °F | RUN TIME MINUTES |
|--------------|----------------------|-----------------------|---------|---------------------------|----------------------|---------|---------------------------|--------------------------------|-------------------------------|------------------------|
| | | FINAL | INITIAL | ACTUAL FT ³ | FINAL | INITIAL | ACTUAL FT ³ | | | |
| 3.1 | 1.0 | 129.652 | 123.029 | 6.623 | 586.496 | 579.872 | 6.624 | 78 | 91 | 11 |
| 4.5 | 1.5 | 135.946 | 129.652 | 6.294 | 592.806 | 586.496 | 6.310 | 78 | 90 | 8.5 |
| 5.55 | 2.0 | 141.432 | 135.946 | 5.486 | 598.322 | 592.806 | 5.516 | 78 | 91 | 6.5 |
| 6.8 | 2.5 | 147.479 | 141.432 | 6.047 | 604.415 | 598.322 | 6.093 | 78 | 91 | 6.5 |

30.29

--MEAN--

| | | | | | |
|-----------|-------|-------|-------|-------|---------|
| DELTA-H : | 1.549 | 1.560 | 1.596 | 1.652 | 1.587 ✓ |
| Y : | 1.014 | 1.005 | 1.000 | 0.993 | 1.003 |
| SCFM : | 0.590 | 0.723 | 0.822 | 0.904 | |
| CF : | 4.278 | 5.234 | 6.050 | 6.764 | |

GAS METER THERMOMETER CALIBRATION

| N.S.S. MERCURY °F | METER BOX °F |
|----------------------|-----------------|
| | |
| | |
| | |
| | |
| | |

$\frac{1}{215} = \frac{6.047}{6.093} \frac{30.29}{30.29} \frac{538}{551} = 1.01$

SIGNATURE: RC Paul

DATE 9/3/85

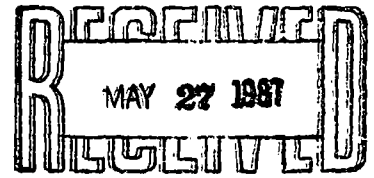
CALIBRATED BY *DH Curdy*

"B"
CONSOLE

| Thermocouple | °F | NBS - Traceable Thermometer °F | Correction Factor |
|-----------------------------|-----|-----------------------------------|----------------------|
| Meter Inlet | 69 | 71 | None |
| Meter Outlet | 70 | 71.5 | None |
| Oven | 255 | 253 | None |
| Effluent (Last Impinger) | 60 | 62 | None |

*test 4/8/87,
Overdue. ?*

NORTHEAST DISTRICT



DER-JACKSONVILLE

DICAL ACID PREP

April 8, 1987

05/02/87

AIR EMISSIONS
POINT SOURCE TEST RESULTS

PERMIT TITLE: DICAL ACID PREP
PERMIT NUMBER: A024-65096
TEST DATE: 4-8-87

| POLL'NT | RUN NO. | PROCESS OPERAT'G RATE | ALLOWED EMISSION (lb/hr) | ACTUAL EMISSION (lb/hr) | ACFM | TEMP (F) | %H2O (BY VOL.) |
|--------------|---------|-----------------------|--------------------------|-------------------------|------|----------|----------------|
| FLUORIDE | 1 | 37.66 | 0.70 | 0.02 | 6687 | 71 | 1.9 |
| | 2 | 37.66 | | 0.03 | 6649 | 74 | 2.0 |
| | 3 | 37.66 | | 0.02 | 6692 | 74 | 2.3 |
| | AVG | 37.66 | | 0.03 | 6676 | 73 | 2.0 |
| PARTI-CULATE | 1 | 37.66 | 30.93 | 0.00 | | | |
| | 2 | 37.66 | | 0.00 | | | |
| | 3 | 37.66 | | 0.00 | | | |
| | AVG | 37.66 | | 0.00 | | | |

.58% → .2% F

.08 $\frac{lb}{hr}$ (4-30-82)

$\frac{.08}{15.8} = .005 \frac{lb}{Ton P_{2}O_5}$ vs. $\frac{.03}{37.7} = .0008 \frac{lb}{ton P_{2}O_5}$

05/02/87

PARTICULATE AND FLUORIDE CALCULATIONS

0287cp

PERMIT TITLE: DICAL ACID PREP
PERMIT NUMBER: A024-65096
TEST DATE: 4-8-87

PROCESS RATE: RUN 1 37.66 RUN 2 37.66 RUN 3 37.66 AVG. 37.66

ALLOWED EMISSIONS: FLUORIDE (lb/hr) 0.7 PARTICULATE (lb/hr) 30.93

SAMPLE HEIGHT (H)= 128 METER BOX "Y" VALUE 1.003
Ps = 29.952

M.W. GAS (Md) = 29 CALC. Bws (max) = 3.0

Table with 3 columns of calculations for Run #1, Run #2, and Run #3. Parameters include Cp, ts, Fb, Cd, V(1c), Vm, dH, tm, F (mg/l), Part (mg), An, Theta, Ts(R), Tm(R), Pm, SumdP^0.5, v(s), ACFM, Vm(s), Vw(s), Bws, %Bws, F (conc), Q(std), F (lb/hr), Part (lb/hr), and %Iso.

ALL CALCULATIONS WERE PERFORMED USING THE FOLLOWING EQUATIONS:

v(s) = (Avg(dP)^0.5) * (85.49) * (Cp) * ((Ts+460) / (Ps * (Md * (1-Bws) + (18*Bws))))^0.5 = 42.37408
ACFM = (v(s)) * (A^2) * (60) = 6687.190
Vm(s) = (17.64) * (Vm) * ((Pb + (dH/13.6)) / (Tm+460)) * Y = 53.55970
Vw(s) = (.04707) * (V1c) = 1.012005
Bws = (Vw(s) / (Vm(s) + Vw(s))) * (100) = 0.018544
%Bws = (Bws) * (100) = 1.854449
F (conc) = (Weight (mg)) / (453900 * Vm(s)) = 5.72E-08 lb/ft3
Q(std) = (1058.824) * (1-Bws) * (v(s)) * (A) * (Pb / (Ts+460)) = 6557.296 SCFM
F (lb/hr) = (Fconc) * (Qstd) * (60) = 0.022495 lb/hr
Part (lb/hr) = (.001) * (.002205) * (Part/Vm(s)) * (Qstd) * (60) = 0
%ISO = 100 * Ts * ((.002669 * V(1c)) + (Vm/Tm) * (Pb + (dH/13.6))) / (60 * Theta * v(s) * Ps * An) = 100.4701

OCCIDENTAL CHEMICAL COMPANY
SOURCE SAMPLING FIELD DATA SHEET

Test Date: 4-8-87

Plant Acid "Prep"

Run Number one

Sampling Location SRC

Time Start 0915 Time End 10:24

Type of Control Wet Scrubber

Sample Time 5 min/pt 60 Total min.

P_b 30.08 " Hg Ambient Temp. 70 °F

Sample Box A Meter Box B

Weather clear

Meter dH@ 1.59

Leak Check: Initial .00 cfm @ 15 " Hg

Final .00 cfm @ 15 " Hg

Pitot Tube ID No. 3.1

Correction Factor .84

Average Nozzle Dia. .256 in.

Probe Length 3 ft.

Probe Liner Mat'l. stainless steel

Probe Heater Setting 5

Nomograph C_f .87

Stack Height 128' ft.

Stack Diameter 22" in.

Stack Area 21.63 ft²

Effective Stack Area 21.63 ft²

Final Gas Meter Reading 340.538 ft³

367.241 ft³

Initial Gas Meter Reading 314.434 ft³

340.704 ft³

Difference 26.104 ft³

26.537 ft³ = 56.64

Pitot Tubes: Impact 3" H₂O for 15 sec. Yes No

Static 3" H₂O for 15 sec. Yes No

Silica Gel Container No. 1

Filter No. N/A

Condensate Increase in Impingers _____ ml

Maximum Calculated Moisture 3 %

Test Conducted By: Tommy

Observers: DAN McCurdy

Andy

WAYNE

OCCIDENTAL CHEMICAL COMPANY
SOURCE SAMPLING FIELD DATA SHEET

| Port and Traverse Point No. | Distance From Inside Stack Wall (in.) | Clock Time | Gas Meter Reading (ft ³) | Stack Velocity Head (" H ₂ O) | Meter Orifice Press. Diff. (" H ₂ O) | | Stack Gas Temp. (°F) | Gas Sample Temp. @ Dry Gas Meter (°F) | | Sample Box Temp. (°F) | Last Impinger Temp. (°F) | Vacuum On Sample Train (" Hg) |
|-----------------------------|---------------------------------------|------------|--------------------------------------|--|---|--------|----------------------|---------------------------------------|-----|-----------------------|--------------------------|-------------------------------|
| | | | | | Calc. | Actual | | In | Out | | | |
| 1 .34 70 | | | | .32 | 1.23 | 1.23 | 70 | 59 | 58 | | 56 | .5 |
| 2 .53 71 | | | 7.76 | .48 | 1.85 | 1.85 | 70 | 62 | 58 | | 56 | 1.7 |
| 3 .62 72 | | | 1.73 | .61 | 2.35 | 2.35 | 71 | 64 | 59 | | 56 | 2.8 |
| 4 .77 72 | | | 6.26 | .75 | 2.89 | 2.89 | 71 | 66 | 59 | | 58 | 3.7 |
| 5 .71 71 | | | 1.28 | .68 | 2.62 | 2.62 | 72 | 69 | 60 | | 59 | 3.5 |
| 6 .60 72 | | | 6.05 | .59 | 2.27 | 2.27 | 71 | 71 | 60 | | 61 | 2.7 |
| | | | | | | | | | | | | 2.8 |
| 6 | | | | .61 | 2.35 | 2.35 | 71 | 72 | 62 | | 63 | 2.8 |
| 5 | | | 5.34 | .68 | 2.62 | 2.62 | 72 | 74 | 62 | | 63 | 3.5 |
| 4 | | | 0.02 | .74 | 2.85 | 2.85 | 72 | 75 | 63 | | 64 | 4.0 |
| 3 | | | 5.11 | .60 | 2.31 | 2.31 | 72 | 77 | 64 | | 65 | 2.8 |
| 2 | | | 9.68 | .49 | 1.89 | 1.89 | 72 | 78 | 65 | | 66 | 2.0 |
| 1 | | | 3.79 | .34 | 1.31 | 1.31 | 72 | 78 | 66 | | 68 | .9 |

RUN # one

DATE 4-8-87

PLANT Acid Prep

K= 3.85

REMARKS:

OCCIDENTAL CHEMICAL COMPANY
SOURCE SAMPLING FIELD DATA SHEET

Test Date: 4-8-87

Plant Acid Prep

Run Number Two

Sampling Location SRC

Time Start 10:34 Time End 11:45

Type of Control Wet Scrubber

Sample Time 5 min/pt 60 Total min.

P_b 30.08 " Hg Ambient Temp. 70 °F

Sample Box A Meter Box B

Weather clear

Meter dH@ 1.59

Leak Check: Initial 00 cfm @ 15 " Hg

Final 00 cfm @ 15 " Hg

Pitot Tube ID No. 3.1

Correction Factor 1.84

Average Nozzle Dia. .256 in.

Probe Length 3 ft.

Probe Liner Mat'l. stainless steel

Probe Heater Setting 5

Nomograph C_f .87

Stack Height 128' ft.

Stack Diameter 22" in.

Stack Area 2.63 ft²

Effective Stack Area 2.63 ft²

Final Gas Meter Reading 393.333 ft³ 420.139 ft³

Initial Gas Meter Reading 367.490 ft³ 393.458 ft³

Difference 25.843 ft³ 26.681 ft³

Pitot Tubes: Impact 3" H₂O for 15 sec. Yes No

Static 3" H₂O for 15 sec. Yes No

Silica Gel Container No. 2

Filter No. N/A

Condensate Increase in Impingers _____ ml

Maximum Calculated Moisture 3 %

Test Conducted By: Tommy

Observers: DAN McCurdy

Andy

WAYNE

OCCIDENTAL CHEMICAL COMPANY
SOURCE SAMPLING FIELD DATA SHEET

| Port and Traverse Point No. | Distance From Inside Stack Wall (in.) | Clock Time | Gas Meter. Reading (ft ³) | Stack Velocity Head (" H ₂ O) | Meter Orifice Press. Diff. (" H ₂ O) | | Stack Gas Temp. (°F) | Gas Sample Temp. @Dry Gas Meter (°F) | | Sample Box Temp. (°F) | Last Impinger Temp. (°F) | Vacuum On Sample Train (" Hg) |
|-----------------------------|---------------------------------------|------------|---------------------------------------|--|---|--------|----------------------|--------------------------------------|-----|-----------------------|--------------------------|-------------------------------|
| | | | | | Calc. | Actual | | In | Out | | | |
| 1 | | | | .28 | 1.10 | 1.10 | 72 | 71 | 67 | } | 59 | 1.6 |
| 2 | | | 0.51 | .46 | 1.77 | 1.77 | 73 | 73 | 67 | | 59 | 3.6 |
| 3 | | | 4.40 | .61 | 2.35 | 2.35 | 73 | 75 | 67 | | 58 | 6.0 |
| 4 | | | 8.92 | .73 | 2.81 | 2.81 | 73 | 77 | 67 | | 59 | 7.7 |
| 5 | | | 3.89 | .68 | 2.62 | 2.62 | 73 | 79 | 68 | | 62 | 7.5 |
| 6 | | | 8.74 | .60 | 2.31 | 2.31 | 74 | 80 | 69 | | 64 | 6.1 |
| 6 | | | | .63 | 2.43 | 2.43 | 74 | 81 | 70 | | 65 | 6.1 |
| 5 | | | 8.15 | .66 | 2.54 | 2.54 | 74 | 82 | 71 | | 66 | 7.0 |
| 4 | | | 2.91 | .73 | 2.81 | 2.81 | 74 | 84 | 73 | | 66 | 8.0 |
| 3 | | | 7.92 | .62 | 2.39 | 2.39 | 74 | 86 | 74 | | 67 | 6.8 |
| 2 | | | 2.64 | .47 | 1.81 | 1.81 | 74 | 87 | 75 | | 68 | 4.5 |
| 1 | | | 6.78 | .33 | 1.27 | 1.27 | 74 | 87 | 75 | | 68 | 2.1 |

RUN # TWD

DATE 4-8-87

PLANT Acid Prep

K= 3.85

REMARKS:

OCcidental CHEMICAL COMPANY
SOURCE SAMPLING FIELD DATA SHEET

Test Date: 4-8-87

Plant Acid Prep

Run Number Three

Sampling Location SRC

Time Start 11:59 Time End 13:08

Type of Control Wet Scrubber

Sample Time 5 min/pt 60 Total min.

P_b 30.08 " Hg Ambient Temp. 70 °F

Sample Box A Meter Box B

Weather clear

Meter dH@ 1.59

Leak Check: Initial 00 cfm @ 15 " Hg

Final _____ cfm @ _____ " Hg

Pitot Tube ID No. 3.1

Correction Factor .84

Average Nozzle Dia. .256 in.

Probe Length 3 ft.

Probe Liner Mat'l. stainless steel

Probe Heater Setting 5

Nomograph C_f .84

Stack Height 128' ft.

Stack Diameter 22" in.

Stack Area 2.63 ft²

Effective Stack Area 2.63 ft²

Final Gas Meter Reading 446.953 ft³ 473.551 ft³

Initial Gas Meter Reading 420.421 ft³ 447.077 ft³

Difference 26.532 ft³ 26.474 ft³

Pitot Tubes: Impact 3" H₂O for 15 sec. Yes No

Static 3" H₂O for 15 sec. Yes No

Silica Gel Container No. 3

Filter No. N/A

Condensate Increase in Impingers _____ ml

Maximum Calculated Moisture 3 %

Test Conducted By: Tommy

Observers: DAN m^cCurdy

Andy

WAYNE

OCCIDENTAL CHEMICAL COMPANY
SOURCE SAMPLING FIELD DATA SHEET

| Port and Traverse Point No. | Distance From Inside Stack Wall (in.) | Clock Time | Gas Meter Reading (ft ³) | Stack Velocity Head (" H ₂ O) | Meter Orifice Press. Diff. (" H ₂ O) | | Stack Gas Temp. (°F) | Gas Sample Temp. @ Dry Gas Meter (°F) | | Sample Box Temp. (°F) | Last Impinger Temp. (°F) | Vacuum On Sample Train (" Hg) |
|-----------------------------|---------------------------------------|------------|--------------------------------------|--|---|--------|----------------------|---------------------------------------|-----|-----------------------|--------------------------|-------------------------------|
| | | | | | Calc. | Actual | | In | Out | | | |
| 1 | | | | .34 | 1.31 | 1.31 | 73 | 80 | 76 | } | 62 | .8 |
| 2 | | | 3.36 | .52 | 2.00 | 2.00 | 73 | 81 | 76 | | 58 | 2.4 |
| 3 | | | 7.94 | .64 | 2.46 | 2.46 | 74 | 82 | 76 | | 59 | 3.2 |
| 4 | | | 2.60 | .73 | 2.81 | 2.81 | 74 | 83 | 76 | | 60 | 4.1 |
| 5 | | | 7.60 | .70 | 2.70 | 2.70 | 74 | 85 | 76 | | 61 | 3.9 |
| 6 | | | 2.52 | .55 | 2.12 | 2.12 | 74 | 86 | 77 | | 62 | 2.7 |
| 6 | | | | .63 | 2.43 | 2.43 | 74 | 86 | 78 | | 64 | 3.2 |
| 5 | | | 1.74 | .66 | 2.54 | 2.54 | 74 | 90 | 80 | | 63 | 3.6 |
| 4 | | | 6.50 | .73 | 2.81 | 2.81 | 74 | 94 | 83 | | 64 | 4.3 |
| 3 | | | 1.52 | .60 | 2.31 | 2.31 | 74 | 97 | 85 | | 66 | 3.2 |
| 2 | | | 6.13 | .45 | 1.73 | 1.73 | 74 | 97 | 86 | 67 | 2.0 | |
| 1 | | | 0.63 | .31 | 1.19 | 1.19 | 74 | 98 | 87 | 69 | .8 | |

RUN # Three

DATE 4-8-87

PLANT Acid Prep

K= 3.85

REMARKS:

LABORATORY DATA SHEET

DATE: 4/8/87

TIME: 1400

| SAMPLE NO. | MATERIAL | F mg/l | PARTICULATE mg | INCREASE (Total) |
|------------|--------------------------------------|-----------|----------------------------|---|
| #1 | Impingers | 1.05 | Final _____ Orig. _____ | Final <u>305</u> Orig. <u>300</u> |
| | Beaker Weight Filter & Probe Wash | | Final _____ Orig. _____ | |
| | Filter Weight | | Final _____ Orig. _____ | |
| | Silica Gel Weight | | | Final <u>216.45</u> Orig. <u>300</u> |
| #2 | Impingers | 1.86 | Final _____ Orig. _____ | Final <u>305</u> Orig. <u>300</u> |
| | Beaker Weight Filter & Probe Wash | | Final _____ Orig. _____ | |
| | Filter Weight | | Final _____ Orig. _____ | |
| | Silica Gel Weight | | | Final <u>317.57</u> Orig. <u>300</u> |
| #3 | Impingers | 1.04 | Final _____ Orig. _____ | Final <u>310</u> Orig. <u>300</u> |
| | Beaker Weight Filter & Probe Wash | | Final _____ Orig. _____ | |
| | Filter Weight | | Final _____ Orig. _____ | |
| | Silica Gel Weight | | | Final <u>315.56</u> Orig. <u>300</u> |

ANALYST DM

All samples were handled in accordance with 40 CFR 60. Filters were dried and weighed in accordance with CFR 40, Pt. 60, App. A, Meth. 5, Para. 4.1.1, Alternate Method.

$$P = 31 \times 2 = 62$$

$$O = 16 \times 5 \frac{80}{142}$$

$$\frac{480}{.548} = 876 \text{ TONS ACID @ } 0.2\% F = 1.75 \text{ TON F remaining}$$

$$480 \left(\frac{62}{142} \right) = 209.6 \text{ TON F} \cdot \frac{209.6}{1.75} = \underline{\underline{119.8}} \text{ vs. } \underline{\underline{100}} \text{ Ratio Required}$$

Assume Worst case @ 1.5% F ^(1.2% removed) → 0.3% F ≈ 18 hrs. cooking time for 480 TON BATCH

$$\frac{480}{18} = 26.7 \text{ TPH}$$

$$\frac{26.7}{0.548} (0.13)(2000) = 1265 \frac{\text{lb F}}{\text{hr}} \text{ to scrubber}$$

$$\text{@ } NTU = 8.0 \text{ (99.9\% eff)} : \ln \left(\frac{1265}{.42} = 3000 \right) \approx 8.0 \therefore .42 \frac{\text{lb F}}{\text{hr}} \text{ OUT}$$

$$\frac{0.42}{26.7} = .0157 \frac{\text{lb}}{\text{TON}}$$

BACT Range is .01 - .016 $\frac{\text{lb}}{\text{TON}}$ depending on F concentration
 Say .02

DICAL ACID PREP

BATCH TANKS :

| | A | B | C | D | |
|-----------------|---------------|--------|--------|--------|--------|
| 1-7-87 - 4-8-87 | START TIME : | 0330 | 0820 | 0400 | 0400 |
| 4-8-87 | FINISH TIME : | 0400 | 2200 | 1900 | 1900 |
| 4-8-87 | TOTAL TIME : | 14 HR | 20 HR | 12 HR | 12 HR |
| | GALS/TANK : | 32,500 | 31,900 | 28,300 | 32,200 |

$$\text{TONS } P_2O_5 = \frac{\text{Gals.} \times P_2O_5}{2000} = \frac{(124,900) \times (5.482)}{2000} = 3.39$$

$$\text{TONS/DAY} = \frac{\text{(tons } P_2O_5)}{\text{TIME}}$$

$$\frac{480.24}{(12.75)} = 37.66 \text{ TPH } P_2O_5 @ .95\%$$

$37.66 \times (0.0075) (2000) = 1,030 \text{ lb/hr F}$
 @ 99.9% eff ~ 1.0 lb/hr F OUT
 to scrubber @ NTU = 7.0
 For 0.3 lb/hr - NTU = 11.0*

A - Batch down at 0850 (4-7) Back Running at 0400 (4-8) Sand blast scrubber fan

Don McCue

* $1.36 \times 1000 = 1409 \text{ lb/hr SIF}$

NTU = $\frac{0.036 - (5.7)(10^{-5})}{(5.7)(10^{-5})} = 10.7$

DICAL ACID PREP

This is incompatible with packing app. DP of gas streams scrubbing medium (cond H₂O) etc.

TANK FARM CC(730)/TANK FARM EVAP. CC(733)

Table with columns for CC730 SAMPLE, D-O FAST CLARIFIER, STRONG ACID, PRIMARY SETTLER, SECONDARY SETTLER, EAST AGING, WEST AGING, WEST CLARIFIER, EAST 54X, WEST 54X, PRIMARY UF, CTC 28X STORAGE, 45X STORAGE, 54X STORAGE, 44X HEMI STORAGE. Includes numerical data and sample IDs.

Table with columns for (CC730) MISC, CC 733, ISAMP, 24HR COMPI, P205, IDEN#40CISOLIDSIFE2031AL2031, HGO, CAO, S04, F, LAMELLA FD. TK., LAMELLA PDT. TK., 148X PRODUCT, 154X FEED, 140X DAY TANK, SHIPPING TK, SHIPPING TK, CEN. Includes numerical data and sample IDs.

Y-TRAIN CC-860-----GRANULATION CONTROL-----

Table with columns for Z-TRAIN CC-866, COMPOSITE ANALYSIS, ROCK FEED, TIME, P205, N/FA, H2O, +6, +16, +20, -20, COMPI, VS, CI, APA, +6, +16, +20, -20, SANPI, P205, INS, H2O, -20, 17P7A, 17A7P, 1AVG, FEED ACID, 1AVG, 1TK1 TH, P205, SOL, DENS, 1TK1 TH, P205, SOL, DENS, HISSCELLANEOUS SAMPLES, 1A-AVG, 1B-AVG, 1C-AVG, 1D-AVG, SPECIAL SCREENS, TIME, TRN, +6, +16, +20, -20, AVG.

Table with columns for WATER ANALYSIS, CC720, CC722, CC724, WATER ANALYSIS, CC720, CC722, CC724, ICC(711) A & B, SULFURIC ACID, CC(714) C & D, P205 (24 HR.), D-O, IPRAYON, OXY, IP205 (24 HR.), D-O, IPRAYON, OXY, TIME, PLANT, TIME, PLANT, A EVAP HOTWELL, B EVAP HOTWELL, C EVAP HOTWELL, ITNK FARM DITCH, A F.C. HOTWELL, ITN, 1.826, 1.635, B F.C. HOTWELL, IOUT, 1.825, 1.552, EFC HOTWELL, IVAC SUMP PUMP, WFC HOTWELL, ILAB IN 24 HR, CRYSTLIZER H/W, ILAB OUT 24 HR, PRI VAC SCRIB, ILAB PAD 24 HR, SEC VAC SCRIB.

Summary table with columns for RUSH, H2S04, P205, COUNT, RUSH, P205, CI, APA, N, H2O, WS, DENS, SOL, SCREENS, AVG, COUNT(711), COUNT(714), COUNT(720), COUNT(722), COUNT(724).

DATE..... DAILY INSTRUCTIONS

AREA.....

BY..... #1

5526

A - Batch TK 32,500 GAL Acid.

12:40 PM 2014

1689

A - Batch TK started at 0330 4-7-87

1300 / Fan

E

A - Batch TK down at 0850 4-7-87

scrubbed

Clar.

A - Batch Back running at 0400 4-8-87

5516

D - Batch TK 32,200 GAL Acid

1900 12:40

1687

" " " started at 0400 4-8-87

5488

C - Batch TK 28,300 GAL. Acid

1900 12'

1687

" " " started at 0400 4-8-87

5463

B - Batch TK 31,900 GAL. Acid

2000

1686

" " " started at 0820 4-8-87 12' 40"

NOZZLE CALIBRATION SHEET

NOZZLE NO. 7

DATE: 4/7/87

NOZZLE SIZE 1/4

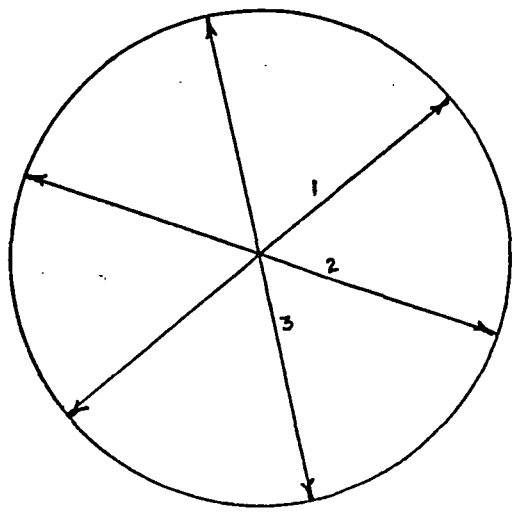
TIME: 0900

| <u>Measurement No.</u> | <u>Inside Diameter (inches)</u> |
|------------------------|---------------------------------|
| 1) | <u>.256</u> |
| 2) | <u>.256</u> |
| 3) | <u>.256</u> |

Average .256 in.

Area .000357 ft²

Calibrated by: DM



Nozzle X-Section

PRETEST METER ORIFICE CHECK

Meter Box B Y = 1.003 dHa of Box 1.59
 Date: 4-8-87 Run Number _____

Po = Pressure at the dry test meter orifice = (Pb + (dHa/13.6))

$$Yc = (10 \text{ min./Vm}) (0.0319 \text{ Tm/Pb})^{1/2}$$

PROCEDURE: Set the flow rate of the meter box at dHa and hold for 10 minutes.
 Perform the calculations for Po and Yc. Yc should be in the range:

$$0.97Y < Yc < 1.03Y$$

0.97Y = _____
 1.03Y = _____

$$Po = (30.08 + (1.59/13.6)) = \underline{30.20}$$

$$Yc = (10/17.412) (0.0319 \text{ } 527/30.08)^{1/2} = \underline{100.8}$$

Pretest performed by: Wayne Keen

POST-TEST METER ORIFICE CHECK

Meter Box B Y = 1.003 dHa of Box 1.59
 Date: 4/9/87 Run Number _____

Po = Pressure at the dry test meter orifice = (Pb + (dHa/13.6))

$$Yc = (10 \text{ min./Vm}) (0.0319 \text{ Tm/Pb})^{1/2}$$

PROCEDURE: Set the flow rate of the meter box at dHa and hold for 10 minutes.
 Perform the calculations for Po and Yc. Yc should be in the range:

$$0.97Y < Yc < 1.03Y$$

0.97Y = _____
 1.03Y = _____

$$Po = (29.95 + (\overset{1.59}{\cancel{530}}/13.6)) = \underline{30.06}$$

$$Yc = (10/ \quad) (0.0319 \text{ } 530/30.06)^{1/2} = \underline{100.2}$$

Post-test performed by: DM

METER CALIBRATION FORM

GAS METER METHOD

DATE: 8-27-86

METER BOX NO: 024-B

BAROMETRIC PRESSURE: 30.11

| TEST Δ HD | ORI- FICE Δ HD | TEST GAS METER VOLUME | | | DRY GAS METER VOLUME | | | TEMP OF TEST METER °F | TEMP OF DRY METER °F | RUN TIME MINUTES |
|--------------|----------------------|-----------------------|---------|---------------------------|----------------------|---------|---------------------------|--------------------------------|-------------------------------|------------------------|
| | | FINAL | INITIAL | ACTUAL FT ³ | FINAL | INITIAL | ACTUAL FT ³ | | | |
| 3.1 | 1.0 | 129.652 | 123.029 | 6.623 | 586.496 | 579.872 | 6.624 | 78 | 91 | 11 |
| 4.5 | 1.5 | 135.946 | 129.652 | 6.294 | 592.806 | 586.496 | 6.310 | 78 | 90 | 8.5 |
| 5.55 | 2.0 | 141.432 | 135.946 | 5.486 | 598.322 | 592.806 | 5.516 | 78 | 91 | 6.5 |
| 6.8 | 2.5 | 147.479 | 141.432 | 6.047 | 604.415 | 598.322 | 6.093 | 78 | 91 | 6.5 |

--MEAN--

| | | | | | |
|-----------|-------|-------|-------|-------|-------|
| DELTA-H : | 1.549 | 1.550 | 1.596 | 1.652 | 1.587 |
| Y : | 1.014 | 1.005 | 1.000 | 0.998 | 1.003 |
| SCFM : | 0.590 | 0.723 | 0.822 | 0.904 | |
| DF : | 4.278 | 5.234 | 6.050 | 6.764 | |

GAS METER THERMOMETER CALIBRATION

| N.B.S. MERCURY °F | METER BOX °F |
|----------------------|-----------------|
| | |
| | |
| | |
| | |

SIGNATURE: RC Paul

PITOT TUBE CALIBRATION

Probe Number 3-1

Today's Date 4/7/87

Probe Length 3 ft

Calibration Date 3/3/87

Calibration performed by: Dan McCurdy

Pitot tube assembly level? XX yes _____ no

Pitot tube openings damaged? _____ yes (explain below) XX no

$$\alpha_1 = \underline{1.5}^\circ (10), \alpha_2 = \underline{1.0}^\circ (10), \beta_1 = \underline{0.5}^\circ (5),$$

$$\beta_2 = \underline{0.5}^\circ (5)$$

$$\gamma = \underline{0.5}^\circ, \theta = \underline{0.5}^\circ, A = \underline{1.084} \text{ cm (in.)}$$

$$z = A \sin \gamma = \underline{0.008} \text{ cm (in.); } 0.32 \text{ cm (1/8 in.)},$$

$$w = A \sin \theta = \underline{0.008} \text{ cm (in.); } 0.08 \text{ cm (1/32 in.)}$$

$$P_A = \underline{0.538} \text{ cm (in.); } P_b = \underline{0.546} \text{ cm (in.)}$$

$$D_t = \underline{0.463} \text{ cm (in.)}$$

Comments: _____

Calibration required? _____ yes XX no

This probe was examined by me this date and found to be in good condition.

Signed DM

DATE 9/3/85

CALIBRATED BY D.H. Curdy

"B"
CONSOLE

| Thermocouple | °F | NBS - Traceable Thermometer °F | Correction Factor |
|-----------------------------|-----|-----------------------------------|----------------------|
| Meter Inlet | 69 | 71 | None |
| Meter Outlet | 70 | 71.5 | None |
| Oven | 255 | 253 | None |
| Effluent (Last Impinger) | 60 | 62 | None |

LABORATORY BALANCE CALIBRATION CHECK

Date: _____

Checked by: _____

"S" Weight (grams)

Balance Reading (grams)

FLUORIDE METER CALIBRATION CHECK

Date: 4/8/87

Checked by: DM

Fluoride Standard (mg/l)

Meter Reading (mg/l)

10.00

10.06

Is the SO₂/Flouride EPA Audit still in effect? Yes No

Date of last Audit Sample _____

Analysis by: _____

NOTE: Audit Samples are good for 30 days and apply only to the analyst who performed the work.

STACK TEST PARTICIPANTS

Stack Test Coordinator Dan McCurdy

Field Test Crew and Analyst Wayne Keen

Field Test Crew and Analyst Andy Day

Field Test Crew and Analyst Tommy Phillips

To the best of my knowledge, all tests and analyses were performed by
EPA/FDER approved methods and the data submitted are true and correct.

Signed: Dan McCurdy

Date: 4/8/86

Report Prepared By: C. Puts
