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

The file name refers to the reference number, the AP42 chapter and section. The file name "ref02_c01s02.pdf" would mean the reference is from AP42 chapter 1 section 2. The reference may be from a previous version of the section and no longer cited. The primary source should always be checked.

Background Report Reference

AP-42 Section Number: 11.17

Background Chapter: 4

Reference Number: 42

Title: Stack Sampling Report at United States Gypsum

Texas State Department of Health

Texas State Department of Health

November 1972

(12)

[illegible]

#1 [illegible]

#2 - rotary kiln

see NEDS data

NOT USED!

NO PROCESS DATA

STACK

United
New Br
October 3

Conducted By
Texas State Department of Health
Air Pollution Control Services
Technical Programs

Compiled By James H. Knipstein

Team Captain John W. Key

Group Randolph Wood

Program Dorian L. Harris

Division Dick Brown

TABLE OF CONTENTS

	Page
Introduction	1
Conclusion	1
Background Information	1
Summary of Results	2
Computer Printout	
Begins on	5
Average Results	
No. 1 Kiln Scrubber	11
No. 2 Kiln Scrubber	18
No. 1 Kiln Bypass	25
Appendices	
A. Laboratory Report	26
B. Plant Operational Status	27

Introduction

Three kiln stacks were sampled to determine if the stacks were in compliance with Regulation I of the Texas Air Control Board. Regulation I covers particulate emission.

Conclusion

At the time of sampling, the No. 1 Kiln Bypass stack was in violation of Regulation I. Particulate pollution mass rate was 171.4 lbs/hr; Regulation I, allowable emission rate was 33.3 lbs/hr for land use type A. No. 1 and No. 2 Kiln Scrubber stacks were not in violation at the time the samples were taken.

Background Information

The stack sampling was performed by a team from Technical Programs, Air Pollution Control, Texas State Department of Health. Mr. John Key, Engineering Assistant, I was the team captain.

New Regulations

New regulation allowable particulate emission rates are as follows:

No. 1 Kiln Scrubber	27.5	lb/hr.
No. 2 Kiln Scrubber	40.4	lb/hr.
No. 3 Kiln Bypass	18.3	lb/hr.

No. 1

U. S. Gypsum
SUMMARY OF RESULTS
No. 1 Kiln Scrubber

Average Percent Water	10.91	%
Average Specific Heat	.2532	Btu/lb °F
Average Density of Stack Gas	.06581	lb/ft^3
Average Velocity	28.84	ft/sec
Average Stack Temperature	125	°F

Results shown below were calculated according to Regulation I which covers particulate emissions.

	Traverse One	Traverse Two	Traverse Three	Traverse Four	Average Value
time date	0849-0925 31 Oct. '72	1015-1051 31 Oct. '72	1140-1216 31 Oct. '72		
Mass Flow Rate of Stack, in tons/hr	58.34	55.06	53.25		55.50
Total Gas Emission Rate, in ft^3/hr	1.77×10^6	1.67×10^6	1.62×10^6		1.69×10^6
Effective Stack Height, in feet	120.7	119.6	119.0		119.7
Particulate Allowable Emission Rate in lb/hour (based on 100 $\mu g/M^3$)	34.9	34.2	33.9		34.3
Particulate Pollutant Mass Rate, in lb/hour (based on area ratio)	9.84	16.0	8.20		11.3
Percent Isokinetic	94.2	97.9	97.0		96.4
Downwind Concentration at Xmax $\mu g/M^3$	28.2	46.7	24.2		33.0

U.S. Gypsum
SUMMARY OF RESULTS
No. 2 Kiln Scrubber

Average Percent Water	9.88	%
Average Specific Heat	.2508	Btu/lb °F
Average Density of Stack Gas	.6748	lb/ft^3
Average Velocity	37.6	ft/sec
Average Stack Temperature	117	°F

Results shown below were calculated according to Regulation I which covers particulate emissions.

	Traverse One	Traverse Two	Traverse Three	Traverse Four	Average Value
time date	1635-1723 31 Oct. '72	0824-0912 1 Nov. '72	0944-1032 1 Nov. '72		
Mass Flow Rate of Stack, in tons/hr	107.9	104.6	104.8		105.8
Total Gas Emission Rate, in ft^3/hr	3.25×10^6	3.08×10^6	3.08×10^6		3.14×10^6
Effective Stack Height, in feet	123.5	121.3	121.3		122.0
Particulate Allowable Emission Rate in lb/hour (based on 100 μg/M^3)	36.5	35.2	35.3		35.7
Particulate Pollutant Mass Rate, in lb/hour (based on area ratio)	4.401	4.34	6.20		4.98
Percent Isokinetic	99.3	95.8	95.1		96.7
Downwind Concentration at Xmax μg/M^3	12.05	12.32	17.60		13.99

U.S. Gypsum
SUMMARY OF RESULTS
No. 1 Kiln Bypass

Average Percent Water	8.24	%
Average Specific Heat	.2686	Btu/lb °F
Average Density of Stack Gas	.03411	lb/ft^3
Average Velocity	7.99	ft/sec
Average Stack Temperature	675	°F

Results shown below were calculated according to Regulation I which covers particulate emissions.

	Traverse One	Traverse Two	Traverse Three	Traverse Four	Average Value
time date	1555-1655 1 Nov. '72	0835-0935 2 Nov. '72	1005-1105 2 Nov. '72		
Mass Flow Rate of Stack, in tons/hr	15.0	15.0	14.9		15.0
Total Gas Emission Rate, in ft^3/hr	8.72×10^5	8.76×10^5	8.81×10^5		8.76×10^5
Effective Stack Height, in feet	117.9	118.0	118.2		118.0
Particulate Allowable Emission Rate in lb/hour (based on 100 $\mu g/M^3$)	33.3	33.3	33.4		33.3
Particulate Pollutant Mass Rate, in lb/hour (based on area ratio)	162.6	155.3	202.3		173.4
Percent Isokinetic	106.4	104.0	108.1		106.2
Downwind Concentration at Xmax $\mu g/M^3$	488.6	465.7	605.2		519.8

REGULATION I

INPUT DATA REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#1 KILN SCRUBBER THREE TRAVERSES TAKEN

TRAVERSE #1 TAKEN 31 OCTOBER 1972 8:49-9:25

TIME REQ. FOR TRAVERSE 36.00 MINUTES

BAROMETRIC PRESS 29.200 INCHES MERCURY ABSO

PRESS, DRYGAS METER 29.200 INCHES MERCURY ABSO

PRESS, STATIC, STACK 0.000 INCHES WATER GAUGE

PRESS DROPS, PITOT TUBE INCHES WATER GAUGE

0.340	0.390	0.400	0.260	0.120	0.050
0.290	0.390	0.420	0.420	0.370	0.250

TEMP, AMBIENT 75. DEGREES FAHRENHEIT

TEMP, DRYGAS METER 85. DEGREES FAHRENHEIT

TEMP, STACK, AVERAGE 125. DEGREES FAHRENHEIT

ORSAT ANALYSIS: CO2= 0.102 O2= 0.124 CO= 0.000 N2= 0.774

AREA OF NOZZLE 0.3286E-03 SQUARE FEET

PITOT TUBE CALIB FACTOR 0.7855

DISTANCE TO NEAREST PROP. LINE 1340.0 FEET

PHYSICAL STACK HEIGHT 100.00 FEET

SAMPLE VOLUME, DRYGAS METER 16.85 CUBIC FEET

MASS OF WATER CAUGHT 41.1 GRAMS

MASS OF PARTICULATE CAUGHT 0.0541 GRAMS

OVERRIDE MOISTURE FRACTION 0.000

OVERRIDE, VELOCITY 0.0 FEET PER SECOND

DIAMETER OF STACK, EXIT 4.550 FEET

DIAMETER OF STACK, SAMPLE PORT 4.550 FEET

PARTICLE SIZE FLAG - LARGE

REGULATION 1

CALCULATION RESULTS REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#1 KILN SCRUBBER THREE TRAVERSES TAKEN

TRAVERSE #1 TAKEN 31 OCTOBER 1972 8:49-9:25

10.60 PERCENT WATER 89.40 PERCENT DRYGAS

FOR COMPARISON ONLY BW2= 0.000 SPECIFIC GRAVITY= 0.996 AIR=1.00

SPECIFIC HEATS AT SAMPLE POINT TEMPERATURE BTU/LB DEG. F
H2O= 0.4488 CO2= 0.2076 O2= 0.2215 CO= 0.2488
N2= 0.2485 COMBINED SPHEAT= 0.2527

MOLECULAR WEIGHT 28.84 DENSITY 0.06589 LBS/CUFT

AVERAGE VELOCITY 30.25 FEET PER SECOND

MASS FLOW RATE 0.11668738E 06 LBS/HOUR

VOL FLOW RATE 0.17708700E 07 CUFT/HOUR

NOZZLE VOLUME 20.231 CUBIC FEET

EFFECTIVE STACK HEIGHT 120.7 FEET

ALLOWABLE EMISSION RATE AT XMAX 34.9 LBS/HOUR

DOWNWIND DISTANCE, XMAX 2808.9 FEET

ALLOWABLE EMISSION RATE, REG. I, PROP. LINE 0.34884582E 02 LBS/HOUR

POLLUTANT MASS RATE, AREA RATIO 9.836 LBS/HOUR

CONCENTRATION 0.58952874E-05 LBS/CUFT

POLLUTANT MASS RATE, CONCENTRATION 10.440 LBS/HOUR

PERCENT ISOKINETIC 94.2 PERCENT

POLLUTANT MASS RATES AVERAGED 10.138 LBS/HOUR

DOWNWIND CONCENTRATION 28.20 MICROGRAMS/CUBIC METER

REGULATION I

INPUT DATA REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#1 KILN SCRUBBER THREE TRAVERSES TAKEN

TRAVERSE #2 TAKEN 31 OCTOBER 1972 10:15-10:51

TIME REQ. FOR TRAVERSE 36.00 MINUTES

BAROMETRIC PRESS 29.200 INCHES MERCURY ABSO

PRESS, DRYGAS METER 29.200 INCHES MERCURY ABSO

PRESS, STATIC, STACK 0.000 INCHES WATER GAUGE

PRESS DROPS, PITOT TUBE INCHES WATER GAUGE

0.230	0.220	0.300	0.200	0.100	0.050
0.340	0.400	0.430	0.450	0.410	0.210

TEMP, AMBIENT 78. DEGREES FAHRENHEIT

TEMP, DRYGAS METER 92. DEGREES FAHRENHEIT

TEMP, STACK, AVERAGE 125. DEGREES FAHRENHEIT

ORSAT ANALYSIS: CO2= 0.102 O2= 0.124 CO= 0.000 N2= 0.774

AREA OF NOZZLE 0.3286E-03 SQUARE FEET

PITOT TUBE CALIB FACTOR 0.7855

DISTANCE TO NEAREST PROP. LINE 1340.0 FEET

PHYSICAL STACK HEIGHT 100.00 FEET

SAMPLE VOLUME, DRYGAS METER 16.73 CUBIC FEET

MASS OF WATER CAUGHT 40.8 GRAMS

MASS OF PARTICULATE CAUGHT 0.0878 GRAMS

OVERRIDE MOISTURE FRACTION 0.000

OVERRIDE, VELOCITY 0.0 FEET PER SECOND

DIAMETER OF STACK, EXIT 4.550 FEET

DIAMETER OF STACK, SAMPLE PORT 4.550 FEET

PARTICLE SIZE FLAG - LARGE

REGULATION I

CALCULATION RESULTS REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#1 KILN SCRUBBER THREE TRAVERSES TAKEN

TRAVERSE #2 TAKEN 31 OCTOBER 1972 10:15-10:51

10.72 PERCENT WATER 89.28 PERCENT DRYGAS

FOR COMPARISON ONLY BW2= 0.000 SPECIFIC GRAVITY= 0.996 AIR=1.00

SPECIFIC HEATS AT SAMPLE POINT TEMPERATURE BTU/LB DEG. F.
H2O= 0.4488 CO2= 0.2076 O2= 0.2215 CO= 0.2488
N2= 0.2485 COMBINED SPHEAT= 0.2529

MOLECULAR WEIGHT 28.83 DENSITY 0.06586 LBS/CUFT

AVERAGE VELOCITY 28.57 FEET PER SECOND

MASS FLOW RATE 0.11012450E 06 LBS/HOUR

VOL FLOW RATE 0.16721130E 07 CUFT/HOUR

NOZZLE VOLUME 19.859 CUBIC FEET

EFFECTIVE STACK HEIGHT 119.6 FEET

ALLOWABLE EMISSION RATE AT XMAX 34.2 LBS/HOUR

DOWNWIND DISTANCE, XMAX 2778.2 FEET

ALLOWABLE EMISSION RATE, REG. I, PROP. LINE 0.34220458E 02 LBS/HOUR

POLLUTANT MASS RATE, AREA RATIO 15.963 LBS/HOUR

CONCENTRATION 0.97468983E-05 LBS/CUFT

POLLUTANT MASS RATE, CONCENTRATION 16.298 LBS/HOUR

PERCENT ISOKINETIC 97.9 PERCENT

POLLUTANT MASS RATES AVERAGED 16.131 LBS/HOUR

DOWNWIND CONCENTRATION 46.65 MICROGRAMS/CUBIC METER

REGULATION I

INPUT DATA REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#1 KILN SCRUBBER THREE TRAVERSES TAKEN

TRAVERSE #3 TAKEN 31 OCTOBER 1972 11:40-12:16

TIME REQ. FOR TRAVERSE 36.00 MINUTES

BAROMETRIC PRESS 29.200 INCHES MERCURY ABSO

PRESS, DRYGAS METER 29.200 INCHES MERCURY ABSO

PRESS, STATIC, STACK 0.000 INCHES WATER GAUGE

PRESS DROPS, PITOT TUBE INCHES WATER GAUGE

0.270	0.290	0.240	0.130	0.060	0.040
0.320	0.400	0.420	0.440	0.400	0.190

TEMP, AMBIENT 78. DEGREES FAHRENHEIT

TEMP, DRYGAS METER 91. DEGREES FAHRENHEIT

TEMP, STACK, AVERAGE 125. DEGREES FAHRENHEIT

ORSAT ANALYSIS: CO2= 0.102 O2= 0.124 CO= 0.000 N2= 0.774

AREA OF NOZZLE 0.3286E-03 SQUARE FEET

PITOT TUBE CALIB FACTOR 0.7855

DISTANCE TO NEAREST PROP. LINE 1340.0 FEET

PHYSICAL STACK HEIGHT 100.00 FEET

SAMPLE VOLUME, DRYGAS METER 15.92 CUBIC FEET

MASS OF WATER CAUGHT 41.7 GRAMS

MASS OF PARTICULATE CAUGHT 0.0451 GRAMS

OVERRIDE MOISTURE FRACTION 0.000

OVERRIDE, VELOCITY 0.0 FEET PER SECOND

DIAMETER OF STACK, EXIT 4.550 FEET

DIAMETER OF STACK, SAMPLE PORT 4.550 FEET

PARTICLE SIZE FLAG - LARGE

REGULATION I

CALCULATION RESULTS REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#1 KILN SCRUBBER THREE TRAVERSES TAKEN

TRAVERSE #3 TAKEN 31 OCTOBER 1972 11:40-12:16

11.41 PERCENT WATER 88.59 PERCENT DRYGAS

FOR COMPARISON ONLY BW2= 0.000 SPECIFIC GRAVITY= 0.993 AIR=1.00

SPECIFIC HEATS AT SAMPLE POINT TEMPERATURE BTU/LB DEG. F
H2O= 0.4488 CO2= 0.2076 O2= 0.2215 CO= 0.2488
N2= 0.2485 COMBINED SPHEAT= 0.2538

MOLECULAR WEIGHT 28.74 DENSITY 0.06567 LBS/CUFT

AVERAGE VELOCITY 27.71 FEET PER SECOND

MASS FLOW RATE 0.10650619E 06 LBS/HOUR

VOL FLOW RATE 0.16218470E 07 CUFT/HOUR

NOZZLE VOLUME 19.078 CUBIC FEET

EFFECTIVE STACK HEIGHT 119.0 FEET

ALLOWABLE EMISSION RATE AT XMAX 33.9 LBS/HOUR

DOWNWIND DISTANCE, XMAX 2762.7 FEET

ALLOWABLE EMISSION RATE, REG. I, PROP. LINE 0.33886505E 02 LBS/HOUR

POLLUTANT MASS RATE, AREA RATIO 8.200 LBS/HOUR

CONCENTRATION 0.52115756E-05 LBS/CUFT

POLLUTANT MASS RATE, CONCENTRATION 8.452 LBS/HOUR

PERCENT ISOKINETIC 97.0 PERCENT

POLLUTANT MASS RATES AVERAGED 8.326 LBS/HOUR

DOWNWIND CONCENTRATION 24.20 MICROGRAMS/CUBIC METER

REGULATION I

AVERAGE RESULTS REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#1 KILN SCRUBBER THREE TRAVERSES TAKEN

TEMP, STACK 125. DEGREES FAHRENHEIT

10.91 PERCENT WATER 89.09 PERCENT DRYGAS

FOR COMPARISON ONLY BW2= 0.000 SPECIFIC GRAVITY= 0.995 AIR=1.00

SPECIFIC HEATS AT SAMPLE POINT TEMPERATURE BTU/LB DEG. F
H2O= 0.4488 CO2= 0.2076 O2= 0.2215 CO= 0.2488
N2= 0.2485 COMBINED SPHEAT= 0.2532

MOLECULAR WEIGHT 28.80 DENSITY 0.06581 LBS/CUFT

AVERAGE VELOCITY 28.84 FEET PER SECOND

MASS FLOW RATE 0.11110600E 06 LBS/HOUR

VOL FLOW RATE 0.16882760E 07 CUFT/HOUR

NOZZLE VOLUME 19.723 CUBIC FEET

EFFECTIVE STACK HEIGHT 119.7 FEET

ALLOWABLE EMISSION RATE AT XMAX 34.3 LBS/HOUR

DOWNWIND DISTANCE, XMAX 2783.3 FEET

ALLOWABLE EMISSION RATE, REG. I, PROP. LINE 0.34330505E 02 LBS/HOUR

POLLUTANT MASS RATE, AREA RATIO 11.333 LBS/HOUR

CONCENTRATION 0.69512462E-05 LBS/CUFT

POLLUTANT MASS RATE, CONCENTRATION 11.730 LBS/HOUR

PERCENT ISOKINETIC 96.4 PERCENT

POLLUTANT MASS RATES AVERAGED 11.532 LBS/HOUR

DOWNWIND CONCENTRATION 33.01 MICROGRAMS/CUBIC METER

REGULATION I

INPUT DATA REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#2 KILN SCRUBBER THREE TRAVERSES TAKEN

TRAVERSE #1 TAKEN 31 OCTOBER 1972 16:35-17:23

TIME REQ. FOR TRAVERSE 48.00 MINUTES

BAROMETRIC PRESS 29.200 INCHES MERCURY ABSO

PRESS, DRYGAS METER 29.200 INCHES MERCURY ABSO

PRESS, STATIC, STACK 0.000 INCHES WATER GAUGE

PRESS DROPS, PITOT TUBE INCHES WATER GAUGE

1.000	1.000	1.100	1.100	0.830	0.470
0.100	0.170	0.210	0.240	0.290	0.230

TEMP, AMBIENT 80. DEGREES FAHRENHEIT

TEMP, DRYGAS METER 95. DEGREES FAHRENHEIT

TEMP, STACK, AVERAGE 120. DEGREES FAHRENHEIT

ORSAT ANALYSIS: CO2= 0.116 O2= 0.120 CO= 0.000 N2= 0.764

AREA OF NOZZLE 0.2088E-03 SQUARE FEET

PITOT TUBE CALIB FACTOR 0.7655

DISTANCE TO NEAREST PROP. LINE 1340.0 FEET

PHYSICAL STACK HEIGHT 91.00 FEET

SAMPLE VOLUME, DRYGAS METER 19.53 CUBIC FEET

MASS OF WATER CAUGHT 55.0 GRAMS

MASS OF PARTICULATE CAUGHT 0.0144 GRAMS

OVERRIDE MOISTURE FRACTION 0.000

OVERRIDE, VELOCITY 0.0 FEET PER SECOND

DIAMETER OF STACK, EXIT 5.430 FEET

DIAMETER OF STACK, SAMPLE PORT 5.430 FEET

PARTICLE SIZE FLAG - LARGE

REGULATION I

CALCULATION RESULTS REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#2 KILN SCRUBBER THREE TRAVERSES TAKEN

TRAVERSE #1 TAKEN 31 OCTOBER 1972 16:35-17:23

12.24 PERCENT WATER 87.76 PERCENT DRYGAS

FOR COMPARISON ONLY BW2= 0.000 SPECIFIC GRAVITY= 0.996 AIR=1.00

SPECIFIC HEATS AT SAMPLE POINT TEMPERATURE BTU/LB DEG. F
H2O= 0.4485 CO2= 0.2070 O2= 0.2213 CO= 0.2486
N2= 0.2464 COMBINED SPHEAT= 0.2541

MOLECULAR WEIGHT 28.83 DENSITY 0.06642 LBS/CUFT

AVERAGE VELOCITY 38.96 FEET PER SECOND

MASS FLOW RATE 0.21576738E 06 LBS/HOUR

VOL FLOW RATE 0.32483170E 07 CUFT/HOUR

NOZZLE VOLUME 23.255 CUBIC FEET

EFFECTIVE STACK HEIGHT 123.5 FEET

ALLOWABLE EMISSION RATE AT XMAX 36.5 LBS/HOUR

DOWNWIND DISTANCE, XMAX 2883.1 FEET

ALLOWABLE EMISSION RATE, REG. I, PROP. LINE 0.36512313E 02 LBS/HOUR

POLLUTANT MASS RATE, AREA RATIO 4.401 LBS/HOUR

CONCENTRATION 0.13651343E-05 LBS/CUFT

POLLUTANT MASS RATE, CONCENTRATION 4.434 LBS/HOUR

PERCENT ISOKINETIC 99.3 PERCENT

POLLUTANT MASS RATES AVERAGED 4.418 LBS/HOUR

DOWNWIND CONCENTRATION 12.05 MICROGRAMS/CUBIC METER

REGULATION I

INPUT DATA REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#2 KILN SCRUBBER THREE TRAVERSES TAKEN

TRAVERSE #2 TAKEN 1 NOVEMBER 1972 8:24-9:12

TIME REQ. FOR TRAVERSE 48.00 MINUTES

BAROMETRIC PRESS 29.200 INCHES MERCURY ABSO

PRESS, DRYGAS METER 29.200 INCHES MERCURY ABSO

PRESS, STATIC, STACK 0.000 INCHES WATER GAUGE

PRESS DROPS, PITOT TUBE INCHES WATER GAUGE

1.050	1.100	1.100	1.100	0.850	0.450
0.080	0.130	0.150	0.180	0.180	0.160

TEMP, AMBIENT 45. DEGREES FAHRENHEIT

TEMP, DRYGAS METER 68. DEGREES FAHRENHEIT

TEMP, STACK, AVERAGE 116. DEGREES FAHRENHEIT

ORSAT ANALYSIS: CO2= 0.116 O2= 0.120 CO= 0.000 N2= 0.764

AREA OF NOZZLE 0.2088E-03 SQUARE FEET

PITOT TUBE CALIB FACTOR 0.7855

DISTANCE TO NEAREST PROP. LINE 1340.0 FEET

PHYSICAL STACK HEIGHT 91.00 FEET

SAMPLE VOLUME, DRYGAS METER 17.87 CUBIC FEET

MASS OF WATER CAUGHT 34.7 GRAMS

MASS OF PARTICULATE CAUGHT 0.0142 GRAMS

OVERRIDE MOISTURE FRACTION 0.000

OVERRIDE, VELOCITY 0.0 FEET PER SECOND

DIAMETER OF STACK, EXIT 5.430 FEET

DIAMETER OF STACK, SAMPLE PORT 5.430 FEET

PARTICLE SIZE FLAG - LARGE

REGULATION I

CALCULATION RESULTS REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#2 KILN SCRUBBER THREE TRAVERSES TAKEN

TRAVERSE #2 TAKEN 1 NOVEMBER 1972 8:24-9:12

8.38 PERCENT WATER 91.62 PERCENT DRYGAS

FOR COMPARISON ONLY BW2= 0.000 SPECIFIC GRAVITY= 1.012 AIR=1.00

SPECIFIC HEATS AT SAMPLE POINT TEMPERATURE BTU/LB DEG. F
H2O= 0.4483 CO2= 0.2065 O2= 0.2211 CO= 0.2486
N2= 0.2484 COMBINED SPHEAT= 0.2487

MOLECULAR WEIGHT 29.30 DENSITY 0.06799 LBS/CUFT

AVERAGE VELOCITY 36.93 FEET PER SECOND

MASS FLOW RATE 0.20929400E 06 LBS/HOUR

VOL FLOW RATE 0.30783250E 07 CUFT/HOUR

NOZZLE VOLUME 21.277 CUBIC FEET

EFFECTIVE STACK HEIGHT 121.3 FEET

ALLOWABLE EMISSION RATE AT XMAX 35.2 LBS/HOUR

DOWNWIND DISTANCE, XMAX 2824.4 FEET

ALLOWABLE EMISSION RATE, REG. I, PROP. LINE 0.35221359E 02 LBS/HOUR

POLLUTANT MASS RATE, AREA RATIO 4.340 LBS/HOUR

CONCENTRATION 0.14713059E-05 LBS/CUFT

POLLUTANT MASS RATE, CONCENTRATION 4.529 LBS/HOUR

PERCENT ISOKINETIC 95.8 PERCENT

POLLUTANT MASS RATES AVERAGED 4.435 LBS/HOUR

DOWNWIND CONCENTRATION 12.32 MICROGRAMS/CUBIC METER

REGULATION I

INPUT DATA REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#2 KILN SCRUBBER THREE TRAVERSES TAKEN

TRAVERSE #3 TAKEN 1 NOVEMBER 1972 9:44-10:32

TIME REQ. FOR TRAVERSE 48.00 MINUTES

BAROMETRIC PRESS 29.300 INCHES MERCURY ABSO

PRESS, DRYGAS METER 29.300 INCHES MERCURY ABSO

PRESS, STATIC, STACK 0.000 INCHES WATER GAUGE

PRESS DROPS, PITOT TUBE INCHES WATER GAUGE

1.100	1.100	1.100	1.100	0.830	0.470
0.070	0.130	0.150	0.180	0.180	0.160

TEMP, AMBIENT 50. DEGREES FAHRENHEIT

TEMP, DRYGAS METER 77. DEGREES FAHRENHEIT

TEMP, STACK, AVERAGE 116. DEGREES FAHRENHEIT

ORSAT ANALYSIS: CO2= 0.116 O2= 0.120 CO= 0.000 N2= 0.764

AREA OF NOZZLE 0.2088E-03 SQUARE FEET

PITOT TUBE CALIB FACTOR 0.7855

DISTANCE TO NEAREST PROP. LINE 1340.0 FEET

PHYSICAL STACK HEIGHT 91.00 FEET

SAMPLE VOLUME, DRYGAS METER 17.92 CUBIC FEET

MASS OF WATER CAUGHT 37.1 GRAMS

MASS OF PARTICULATE CAUGHT 0.0203 GRAMS

OVERRIDE MOISTURE FRACTION 0.000

OVERRIDE, VELOCITY 0.0 FEET PER SECOND

DIAMETER OF STACK, EXIT 5.430 FEET

DIAMETER OF STACK, SAMPLE PORT 5.430 FEET

PARTICLE SIZE FLAG - LARGE

REGULATION I

CALCULATION RESULTS REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#2 KILN SCRUBBER THREE TRAVERSES TAKEN

TRAVERSE #3 TAKEN 1 NOVEMBER 1972 9:44-10:32

9.02 PERCENT WATER 90.98 PERCENT DRYGAS

FOR COMPARISON ONLY BW2= 0.000 SPECIFIC GRAVITY= 1.009 AIR=1.00

SPECIFIC HEATS AT SAMPLE POINT TEMPERATURE BTU/LB DEG. F
H2O= 0.4483 CO2= 0.2065 O2= 0.2211 CO= 0.2486
N2= 0.2484 COMBINED SPHEAT= 0.2496

MOLECULAR WEIGHT 29.22 DENSITY 0.06804 LBS/CUFT

AVERAGE VELOCITY 36.96 FEET PER SECOND

MASS FLOW RATE 0.20962038E 06 LBS/HOUR

VOL FLOW RATE 0.30809400E 07 CUFT/HOUR

NOZZLE VOLUME 21.128 CUBIC FEET

EFFECTIVE STACK HEIGHT 121.3 FEET

ALLOWABLE EMISSION RATE AT XMAX 35.3 LBS/HOUR

DOWNWIND DISTANCE, XMAX 2825.7 FEET

ALLOWABLE EMISSION RATE, REG. I, PROP. LINE 0.35251312E 02 LBS/HOUR

POLLUTANT MASS RATE, AREA RATIO 6.204 LBS/HOUR

CONCENTRATION 0.21182586E-05 LBS/CUFT

POLLUTANT MASS RATE, CONCENTRATION 6.526 LBS/HOUR

PERCENT ISOKINETIC 95.1 PERCENT

POLLUTANT MASS RATES AVERAGED 6.365 LBS/HOUR

DOWNWIND CONCENTRATION 17.60 MICROGRAMS/CUBIC METER

REGULATION I

AVERAGE RESULTS REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#2 KILN SCRUBBER THREE TRAVERSES TAKEN

TEMP, STACK 117. DEGREES FAHRENHEIT

9.88 PERCENT WATER 90.12 PERCENT DRYGAS

FOR COMPARISON ONLY BW2= 0.000 SPECIFIC GRAVITY= 1.006 AIR=1.00

SPECIFIC HEATS AT SAMPLE POINT TEMPERATURE BTU/LB DEG. F
H2O= 0.4484 CO2= 0.2067 O2= 0.2212 CO= 0.2486
N2= 0.2484 COMBINED SPHEAT= 0.2508

MOLECULAR WEIGHT 29.12 DENSITY 0.06748 LBS/CUFT

AVERAGE VELOCITY 37.62 FEET PER SECOND

MASS FLOW RATE 0.21156056E 06 LBS/HOUR

VOL FLOW RATE 0.31358600E 07 CUFT/HOUR

NOZZLE VOLUME 21.887 CUBIC FEET

EFFECTIVE STACK HEIGHT 122.0 FEET

ALLOWABLE EMISSION RATE AT XMAX 35.7 LBS/HOUR

DOWNWIND DISTANCE, XMAX 2844.4 FEET

ALLOWABLE EMISSION RATE, REG. I, PROP. LINE 0.35661651E 02 LBS/HOUR

POLLUTANT MASS RATE, AREA RATIO 4.982 LBS/HOUR

CONCENTRATION 0.16515660E-05 LBS/CUFT

POLLUTANT MASS RATE, CONCENTRATION 5.163 LBS/HOUR

PERCENT ISOKINETIC 96.7 PERCENT

POLLUTANT MASS RATES AVERAGED 5.073 LBS/HOUR

DOWNWIND CONCENTRATION 13.99 MICROGRAMS/CUBIC METER

REGULATION I

INPUT DATA REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#1 KILN BYPASS THREE TRAVERSES TAKEN

TRAVERSE #1 TAKEN 1 NOVEMBER 1972 15:55-16:55

TIME REQ. FOR TRAVERSE 60.00 MINUTES

BAROMETRIC PRESS 29.300 INCHES MERCURY ABSO

PRESS, DRYGAS METER 29.300 INCHES MERCURY ABSO

PRESS, STATIC, STACK 0.000 INCHES WATER GAUGE

PRESS DROPS, PITOT TUBE INCHES WATER GAUGE

0.010	0.010	0.010	0.010	0.010	0.010
0.010	0.010	0.010	0.010	0.010	0.010

TEMP, AMBIENT 60. DEGREES FAHRENHEIT

TEMP, DRYGAS METER 80. DEGREES FAHRENHEIT

TEMP, STACK, AVERAGE 675. DEGREES FAHRENHEIT

ORSAT ANALYSIS: CO2= 0.080 O2= 0.141 CO= 0.000 N2= 0.779

AREA OF NOZZLE 0.9584E-03 SQUARE FEET

PITOT TUBE CALIB FACTOR 0.8065

DISTANCE TO NEAREST PROP. LINE 1340.0 FEET

PHYSICAL STACK HEIGHT 100.00 FEET

SAMPLE VOLUME, DRYGAS METER 13.05 CUBIC FEET

MASS OF WATER CAUGHT 17.2 GRAMS

MASS OF PARTICULATE CAUGHT 2.3189 GRAMS

OVERRIDE MOISTURE FRACTION 0.000

OVERRIDE, VELOCITY 0.0 FEET PER SECOND

DIAMETER OF STACK, EXIT 6.230 FEET

DIAMETER OF STACK, SAMPLE PORT 6.230 FEET

PARTICLE SIZE FLAG - LARGE

REGULATION I

CALCULATION RESULTS REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#1 KILN BYPASS THREE TRAVERSES TAKEN

TRAVERSE #1 TAKEN 1 NOVEMBER 1972 15:55-16:55

5.97 PERCENT WATER 94.03 PERCENT DRYGAS

FOR COMPARISON ONLY BW2= 0.000 SPECIFIC GRAVITY= 1.006 AIR=1.00

SPECIFIC HEATS AT SAMPLE POINT TEMPERATURE BTU/LB DEG. F
H2O= 0.4872 CO2= 0.2601 O2= 0.2420 CO= 0.2619
N2= 0.2592 COMBINED SPHEAT= 0.2652

MOLECULAR WEIGHT 29.14 DENSITY 0.03443 LBS/CUFT

AVERAGE VELOCITY 7.95 FEET PER SECOND

MASS FLOW RATE 0.30031344E 05 LBS/HOUR

VOL FLOW RATE 0.87232531E 06 CUFT/HOUR

NOZZLE VOLUME 29.171 CUBIC FEET

EFFECTIVE STACK HEIGHT 117.9 FEET

ALLOWABLE EMISSION RATE AT XMAX 33.3 LBS/HOUR

DOWNWIND DISTANCE, XMAX 2734.3 FEET

ALLOWABLE EMISSION RATE, REG. I, PROP. LINE 0.33279266E 02 LBS/HOUR

POLLUTANT MASS RATE, AREA RATIO 162.605 LBS/HOUR

CONCENTRATION 0.17525550E-03 LBS/CUFT

POLLUTANT MASS RATE, CONCENTRATION 152.880 LBS/HOUR

PERCENT ISOKINETIC 106.4 PERCENT

POLLUTANT MASS RATES AVERAGED 157.743 LBS/HOUR

DOWNWIND CONCENTRATION 488.61 MICROGRAMS/CUBIC METER

REGULATION I

INPUT DATA REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#1 KILN BYPASS THREE TRAVERSES TAKEN

TRAVERSE #2 TAKEN 2 NOVEMBER 1972 8:35-9:35

TIME REQ. FOR TRAVERSE 60.00 MINUTES

BAROMETRIC PRESS 29.300 INCHES MERCURY ABSO

PRESS, DRYGAS METER 29.300 INCHES MERCURY ABSO

PRESS, STATIC, STACK 0.000 INCHES WATER GAUGE

PRESS DROPS, PITOT TUBE INCHES WATER GAUGE

0.010	0.010	0.010	0.010	0.010	0.010
0.010	0.010	0.010	0.010	0.010	0.010

TEMP, AMBIENT 50. DEGREES FAHRENHEIT

TEMP, DRYGAS METER 72. DEGREES FAHRENHEIT

TEMP, STACK, AVERAGE 675. DEGREES FAHRENHEIT

ORSAT ANALYSIS: CO2= 0.080 O2= 0.141 CO= 0.000 N2= 0.779

AREA OF NOZZLE 0.9584E-03 SQUARE FEET

PITOT TUBE CALIB FACTOR 0.8065

DISTANCE TO NEAREST PROP. LINE 1340.0 FEET

PHYSICAL STACK HEIGHT 100.00 FEET

SAMPLE VOLUME, DRYGAS METER 12.34 CUBIC FEET

MASS OF WATER CAUGHT 22.9 GRAMS

MASS OF PARTICULATE CAUGHT 2.2145 GRAMS

OVERRIDE MOISTURE FRACTION 0.000

OVERRIDE, VELOCITY 0.0 FEET PER SECOND

DIAMETER OF STACK, EXIT 6.230 FEET

DIAMETER OF STACK, SAMPLE PORT 6.230 FEET

PARTICLE SIZE FLAG - LARGE

REGULATION I

CALCULATION RESULTS REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#1 KILN BYPASS THREE TRAVERSES TAKEN

TRAVERSE #2 TAKEN 2 NOVEMBER 1972 8:35-9:35

8.09 PERCENT WATER 91.91 PERCENT DRYGAS

FOR COMPARISON ONLY BW2= 0.000 SPECIFIC GRAVITY= 0.998 AIR=1.00

SPECIFIC HEATS AT SAMPLE POINT TEMPERATURE BTU/LB DEG. F
H2O= 0.4872 CO2= 0.2601 O2= 0.2420 CO= 0.2619
N2= 0.2592 COMBINED SPHEAT= 0.2683

MOLECULAR WEIGHT 28.89 DENSITY 0.03413 LBS/CUFT

AVERAGE VELOCITY 7.98 FEET PER SECOND

MASS FLOW RATE 0.29901410E 05 LBS/HOUR

VOL FLOW RATE 0.87611569E 06 CUFT/HOUR

NOZZLE VOLUME 28.645 CUBIC FEET

EFFECTIVE STACK HEIGHT 118.0 FEET

ALLOWABLE EMISSION RATE AT XMAX 33.3 LBS/HOUR

DOWNWIND DISTANCE, XMAX 2737.3 FEET

ALLOWABLE EMISSION RATE, REG. I, PROP. LINE 0.33343841E 02 LBS/HOUR

POLLUTANT MASS RATE, AREA RATIO 155.285 LBS/HOUR

CONCENTRATION 0.17043381E-03 LBS/CUFT

POLLUTANT MASS RATE, CONCENTRATION 149.320 LBS/HOUR

PERCENT ISOKINETIC 104.0 PERCENT

POLLUTANT MASS RATES AVERAGED 152.302 LBS/HOUR

DOWNWIND CONCENTRATION 465.71 MICROGRAMS/CUBIC METER

REGULATION I

INPUT DATA REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#1 KILN BYPASS THREE TRAVERSES TAKEN

TRAVERSE #3 TAKEN 2 NOVEMBER 1972 10:05-11:05

TIME REQ. FOR TRAVERSE 60.00 MINUTES

BAROMETRIC PRESS 29.300 INCHES MERCURY ABSO

PRESS, DRYGAS METER 29.300 INCHES MERCURY ABSO

PRESS, STATIC, STACK 0.000 INCHES WATER GAUGE

PRESS DROPS, PITOT TUBE INCHES WATER GAUGE

0.010	0.010	0.010	0.010	0.010	0.010
0.010	0.010	0.010	0.010	0.010	0.010

TEMP, AMBIENT 65. DEGREES FAHRENHEIT

TEMP, DRYGAS METER 84. DEGREES FAHRENHEIT

TEMP, STACK, AVERAGE 675. DEGREES FAHRENHEIT

ORSAT ANALYSIS: CO2= 0.080 O2= 0.141 CO= 0.000 N2= 0.779

AREA OF NOZZLE 0.9584E-03 SQUARE FEET

PITOT TUBE CALIB FACTOR 0.8065

DISTANCE TO NEAREST PROP. LINE 1340.0 FEET

PHYSICAL STACK HEIGHT 100.00 FEET

SAMPLE VOLUME, DRYGAS METER 12.82 CUBIC FEET

MASS OF WATER CAUGHT 31.5 GRAMS

MASS OF PARTICULATE CAUGHT 2.8846 GRAMS

OVERRIDE MOISTURE FRACTION 0.000

OVERRIDE, VELOCITY 0.0 FEET PER SECOND

DIAMETER OF STACK, EXIT 6.230 FEET

DIAMETER OF STACK, SAMPLE PORT 6.230 FEET

PARTICLE SIZE FLAG - LARGE

REGULATION I

CALCULATION RESULTS REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#1 KILN BYPASS THREE TRAVERSES TAKEN

TRAVERSE #3 TAKEN 2 NOVEMBER 1972 10:05-11:05

10.65 PERCENT WATER 89.35 PERCENT DRYGAS

FOR COMPARISON ONLY BW2= 0.000 SPECIFIC GRAVITY= 0.987 AIR=1.00

SPECIFIC HEATS AT SAMPLE POINT TEMPERATURE BTU/LB DEG. F
H2O= 0.4872 CO2= 0.2601 O2= 0.2420 CO= 0.2619
N2= 0.2592 COMBINED SPHEAT= 0.2722

MOLECULAR WEIGHT 28.58 DENSITY 0.03377 LBS/CUFT

AVERAGE VELOCITY 8.03 FEET PER SECOND

MASS FLOW RATE 0.29744137E 05 LBS/HOUR

VOL FLOW RATE 0.88074963E 06 CUFT/HOUR

NOZZLE VOLUME 29.937 CUBIC FEET

EFFECTIVE STACK HEIGHT 118.2 FEET

ALLOWABLE EMISSION RATE AT XMAX 33.4 LBS/HOUR

DOWNWIND DISTANCE, XMAX 2741.0 FEET

ALLOWABLE EMISSION RATE, REG. I, PROP. LINE 0.33422744E 02 LBS/HOUR

POLLUTANT MASS RATE, AREA RATIO 202.273 LBS/HOUR

CONCENTRATION 0.21242928E-03 LBS/CUFT

POLLUTANT MASS RATE, CONCENTRATION 187.097 LBS/HOUR

PERCENT ISOKINETIC 108.1 PERCENT

POLLUTANT MASS RATES AVERAGED 194.685 LBS/HOUR

DOWNWIND CONCENTRATION 605.20 MICROGRAMS/CUBIC METER

REGULATION I

AVERAGE RESULTS REPORT N13003

UNITED STATES GYPSUM NEW BRAUNFELS TX

#1 KILN BYPASS THREE TRAVERSES TAKEN

TEMP, STACK 675. DEGREES FAHRENHEIT

8.24 PERCENT WATER 91.76 PERCENT DRYGAS

FOR COMPARISON ONLY BW2= 0.000 SPECIFIC GRAVITY= 0.997 AIR=1.00

SPECIFIC HEATS AT SAMPLE POINT TEMPERATURE BTU/LB DEG. F
H2O= 0.4872 CO2= 0.2601 O2= 0.2420 CO= 0.2619
N2= 0.2592 COMBINED SPHEAT= 0.2686

MOLECULAR WEIGHT 28.87 DENSITY 0.03411 LBS/CUFT

AVERAGE VELOCITY 7.99 FEET PER SECOND

MASS FLOW RATE 0.29892289E 05 LBS/HOUR

VOL FLOW RATE 0.87639663E 06 CUFT/HOUR

NOZZLE VOLUME 29.251 CUBIC FEET

EFFECTIVE STACK HEIGHT 118.0 FEET

ALLOWABLE EMISSION RATE AT XMAX 33.3 LBS/HOUR

DOWNWIND DISTANCE, XMAX 2737.5 FEET

ALLOWABLE EMISSION RATE, REG. I, PROP. LINE 0.33348617E 02 LBS/HOUR

POLLUTANT MASS RATE, AREA RATIO 173.388 LBS/HOUR

CONCENTRATION 0.18603944E-03 LBS/CUFT

POLLUTANT MASS RATE, CONCENTRATION 163.099 LBS/HOUR

PERCENT ISOKINETIC 106.2 PERCENT

POLLUTANT MASS RATES AVERAGED 168.243 LBS/HOUR

DOWNWIND CONCENTRATION 519.84 MICROGRAMS/CUBIC METER

Appendix A

TEXAS STATE DEPARTMENT OF HEALTH
Air Pollution Control Services
820 East 53rd Street
Austin, Texas

Laboratory Report

Sample: United States Gypsum
New Braunfels, Texas

Laboratory # 512

Delivered By: Jim Lindgren

Description: #1 and #2 Kiln Scrubber and #1 Kiln Bypass for Particulate

Date: 31 October 1972

LABORATORY ANALYSIS

#1 Kiln Scrubber

Run	Filter wt.gm.	Probe Wash wt.gm.	Impinger wt.gm.
1	0.0111	0.0424	0.0006
2	0.0080	0.0743	0.0055
3	0.0081	0.0360	0.0010

#2 Kiln Scrubber

Run	Filter wt.gm.	Probe Wash wt.gm.	Impinger wt.gm.
1	0.0116	0.0022	0.0006
2	0.0101	0.0032	0.0009
3	0.0102	0.0040	0.0061

#1 Kiln Bypass

Run	Filter wt.gm.	Probe Wash wt.gm.	Impinger wt.gm.
1	0.0659	2.2515	0.0015
2	0.0660	2.1464	0.0021
3	0.0732	2.8107	0.0007

November 8, 1972
Date Reported

Jim Cunningham

Appendix B
Texas Air Control Board
1100 West 49th Street
Austin, Texas - 78756

Date 31 October 1978

SAMPLING DATA AND PLANT OPERATIONAL STATUS

Firm Name United States Gypsum
Location of Plant New Braunfels
Type of Operation Lime Manufacture

SAMPLING DATA*

Type of Sample	Location	Duration
Isokinetic [Run #1]	#1 Kiln Scrubber	From 8:49 to 9:25 AM
Isokinetic [Run #2]	#1 Kiln Scrubber	From 10:15 to 10:51 AM
Isokinetic [Run #3]	#1 Kiln Scrubber	From 11:40 to 12:16 PM

Special Conditions None

I certify that the above sample(s) ~~is~~(are) representative of conditions at the time of the investigation:

Signature John W. Key
Title Engineering Assistant I

PLANT OPERATIONAL STATUS (During the sampling period)**

Process	Percent Capacity	Abatement Controls
#1 Rotary Kiln	100 %	Ducon Scrubber

Special Conditions None

I certify that the above statement is true to the best of my knowledge and belief:

Signature D. J. George
Title Works Manager

* To be completed and acknowledged by Air Control Program representative.
** To be completed and acknowledged by plant representative. It is understood that all the above information will be considered confidential.

Appendix B Cont.
Texas Air Control Board
1100 West 49th Street
Austin, Texas - 78756

Date 31 OCTOBER 1972

SAMPLING DATA AND PLANT OPERATIONAL STATUS

Firm Name UNITED STATES GYPSUM
Location of Plant NEW BRAUNFELS
Type of Operation LIME MANUFACTURE

SAMPLING DATA*

Type of Sample	Location	Duration
ISOKINETIC [RUN #1]	#2 KILN SCRUBBER	From 4:35 to 5:23 PM
		From ____ to ____
		From ____ to ____

Special Conditions NONE

I certify that the above sample(~~s~~) is(~~are~~) representative of conditions at the time of the investigation:

Signature John W. Key
Title ENGINEERING ASSISTANT I

PLANT OPERATIONAL STATUS (During the sampling period)**

Process	Percent Capacity	Abatement Controls
#2 Rotary Kiln	100 %	Ducon Scrubber

Special Conditions None

I certify that the above statement is true to the best of my knowledge and belief:

Signature D. George
Title Plant Manager

* To be completed and acknowledged by Air Control Program representative.
** To be completed and acknowledged by plant representative. It is understood that all the above information will be considered confidential.

Appendix B Cont.
Texas Air Control Board
1100 West 49th Street
Austin, Texas - 78756

Date 1 NOVEMBER 1972

SAMPLING DATA AND PLANT OPERATIONAL STATUS

Firm Name UNITED STATES GYPSUM
Location of Plant NEW BRAUNFELS
Type of Operation LIME MANUFACTURE

SAMPLING DATA*

Type of Sample	Location	Duration
ISOKINETIC [RUN #2]	#2 KILN SCRUBBER	From 8:24 to 9:12 AM
ISOKINETIC [RUN #3]	#2 KILN SCRUBBER	From 9:44 to 10:32 AM
ISOKINETIC [RUN #1]	#1 KILN BYPASS	From 3:55 to 4:55 PM

Special Conditions NONE

I certify that the above sample(s) is(are) representative of conditions at the time of the investigation:

Signature John W. Kay
Title ENGINEERING ASSISTANT I

PLANT OPERATIONAL STATUS (During the sampling period)**

Process	Percent Capacity	Abatement Controls
#1 & 2 Rotary Kilns	100 %	Ducon Scrubbers

Special Conditions None

I certify that the above statement is true to the best of my knowledge and belief:

Signature [illegible]
Title Plant Manager

* To be completed and acknowledged by Air Control Program representative.
** To be completed and acknowledged by plant representative. It is understood that all the above information will be considered confidential.

Appendix B Cont.
Texas Air Control Board
1100 West 49th Street
Austin, Texas - 78756

Date 2 NOVEMBER 1972

SAMPLING DATA AND PLANT OPERATIONAL STATUS

Firm Name UNITED STATES GYPSUM
Location of Plant NEW BRAUNFELS
Type of Operation LIME MANUFACTURE

SAMPLING DATA*

Type of Sample	Location	Duration
ISOKINETIC [RUN #2]	#1 KILN BYPASS	From 8:35 to 9:35 AM
ISOKINETIC [RUN #3]	#1 KILN BYPASS	From 10:05 to 11:05 AM
		From ____ to ____

Special Conditions NONE

I certify that the above sample(s) ~~is~~(are) representative of conditions at the time of the investigation:

Signature John N. Key
Title ENGINEERING ASSISTANT I

PLANT OPERATIONAL STATUS (During the sampling period)**

Process	Percent Capacity	Abatement Controls
#1 Rotary Kiln	100 %	Ducon Scrubber

Special Conditions None

I certify that the above statement is true to the best of my knowledge and belief:

Signature [illegible]
Title Plant Manager

* To be completed and acknowledged by Air Control Program representative.
** To be completed and acknowledged by plant representative. It is understood that all the above information will be considered confidential.