

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.



Seminole Fertilizer Corporation
 P.O. Box 471 Highway 60 West
 Bartow, Florida 33830
 (813) 533-2171
 Fax (813) 533-1319

May 13, 1991

D. E. R.

MAY 16 1991

Mr. C. S. Lee
 Air Compliance Engineer
 Dept. of Environmental Regulation
 4520 Oak Fair Blvd.
 Tampa, Florida 33610-7347

SOUTHWEST DISTRICT
 TAMPA

Dear Mr. Lee:

RE: PERMIT NO. A053-167775
 NO. 4 PHOS. ACID PLANT

Stack No. 22 semiannual test was taken on April 4, 1991,
 and the results are summarized below for your convenience.

Line No.		(1)	(2)
		<u>Actual</u>	<u>Permitted</u>
(1)	Total Fluorides, lbs/hr	0.3	2.56
	Rate TPH of Acid, as 100% P ₂ O ₅	32.0	34.0

Sincerely,


 M. J. Martinasek
 Sr. Environmental Engineer

db

Enclosure - Test

cc: M. A. Castle
 K. V. Ford
 R. C. Stewart

SEMINOLE FERTILIZER CORP., BARTOW PLANT

PLANT: NEW PHOSPHORIC ACID; PERMIT NO. A058-167775; POINT NO. 10
 STACK NO. 1 PERMITTED EMISSIONS: SO₂ ACID MIST FLUORIDE: % OF ACT.
 LB/HR --- --- 0.288 --- ---
 LB/TON --- --- 0.002 --- ---

DATE: 04/04/91 RUN #1 RUN #2 RUN #3 AVERAGE
 TIME: 10:15 - 12:45 12:45-13:00 01:30-02:45 1.00 HR.E.

BAROMETRIC PRESSURE: IN. HG. 30.20 30.20 30.20 30.20
 STACK PRESSURE (PS): IN. HG. 30.20 30.20 30.20 30.20

STACK:
 I.D. = 3.92 FT.
 GAS TEMP (T_s): DEG. F. 86 87 87 86
 MOISTURE (S_w): BY VOLUME 0.027 0.026 0.027 0.027
 VELOCITY (V_s): FT./SEC. 36.05 36.56 35.46 36.02
 VOLUME (Q): ACFM 26060 26429 26034 26041
 VOLUME (Q STD.): DSCFM 24773 25077 24500 24717
 NO. OF POINTS SAMPLED: 12 12 12 12
 SAMPLE DURATION: MIN. 60 60 60 60

LEAK CHECK: CU. FT. 0.01 0.02 0.00 0.01
 VOLUME METERED: ACF 45.50 45.40 45.40 45.43
 VOLUME METERED (V_m): DSCF 43.11 42.91 42.90 42.97
 AVG. METER TEMP. (T_m): DEG. F 103.25 104.75 104.75 104.25
 AVG. PUMP VACUUM: IN. HG. 4.58 5.24 5.42 5.08
 AVG. ORIF. PRES. DIF. (ΔH): IN. WTR 1.83 1.88 1.77 1.83
 AVG. ISOMETRIC RATIO (%I): 104.1 102.4 105.6 104.0

RATE: TONS PER HOUR P2O5 IN 35.2 35.3 35.2 35.2 ✓
 RATE: TONS PER HOUR ROCK 115.0 115.0 115.0 115.0 ✓
 RATE: TONS PER HOUR H3PO4 32.0 32.1 32.0 32.0 ✓

-----CONTAMINANTS-----

FLUORIDE LBS./HR. 0.42 ✓ 0.23 ✓ 0.18 0.28 ✓
 FLUORIDE LBS./TON 0.004 0.002 0.002 0.003

SAMPLED AND ANALYZED BY EPA & DER METHODS 1, 2, 4, 5, 6, 8, & 10-B.
 I CERTIFY THAT THE DATA SUBMITTED ARE TRUE TO THE BEST OF MY KNOWLEDGE

SIGNATURE

M. J. Martinsen
 M. J. MARTINSEN

SR. ENVIRONMENTAL ENGINEER

I HAVE REVIEWED THIS REPORT AND IT (DOES NOT) INDICATE COMPLIANCE WITH PERMIT FOR THIS SOURCE.

DATE 5/28/91 BY *[Signature]*

STACK TEST REPORT
SEMINOLE FERTILIZER COOP., BARTOW PLANT

I. INTRODUCTION

a) Scrubbing System on No. 4 PHOSPHORIC ACID PLT.

1. Designed by: Wellman Lord Engr. Co.

2. Manufactured by: "NASCO" (locally)

b) Testing Organization: Dept. of Environmental
Affairs (DEA)

Bartow, Florida

c) Test Data (see attached test sheets) of stack No. 22

1. Test Date: April 4, 1991

2. Persons present during test: Jim Boyd,
Supervisor; David Blanc, Technician; Mark
Becker, Technician; occasionally Mickey
Martinasek, Sr. Environmental Engineer.

3. Location of test: Middle ^{North side} ~~side~~ OF CHEMICAL COMPLEX
(see summary sheet & plot plan)

d) Schematic drawing of scrubber:

1. Stack Section (schematic) sketch with
sampling points: enclosed

2. Stack sampling points: indicated above (2
ports @ 90°)

e) Operating Principles of scrubber tested: HYDROLIZATION, CENTRIFUGAL FORCE,
IMPACT.

1. Maximum production rate: 35,2 TPH ^{input} during the test
(Does NOT AFFECT SCRUBBER)

2. Operating parameters of scrubbing system: >20,000 ACFM
(see our application for construction permit 1,000 gpm
or for the first operating permit for

details)

II. SUMMARY (see:)

- a) Computerized summary sheet (FRONT PAGE)
- b) Computerized summary sheet of each run
- c) Operating level: See ³⁵⁻³⁶TPH ^{input} rate in #1 summary sheet

III. PROCEDURE

Environmental Protection Agency reference methods as adopted by DER, Chapter 17-2, and approved by EPA.

- a) Enclosed is a schematic of our EPA stack sampler, Andersen Universal #1283 ✓
- b) Reference methods Nos. 1, 2, 4, 5, and 13-B. ✓

IV. ANALYTICAL TECHNIQUE

- a) Equipment operation calibration and maintenance as per EPA's book APTD-0576
- b) Laboratory procedure as per EPA reference methods 5, and 13-B ~~for particulates~~ and fluorides. ✓

V. DATA AND CALCULATIONS

- a) Field data: Handwritten, and as entered into the computer
- b) Laboratory data
- c) Calculations used in determination of emission rates: EPA formulas from the above EPA reference methods are programmed into the computer, examined, and approved by DER in 1984
- d) Determination of the traverse points, EPA reference method 1, revised 9/22/83, Federal
1/14/87.

See also 'STACK SAMPLING POINTS', I, d) 2.

Register Appendix A of 40 CFR, Part 60. (Marked tables are attached.)

- e) Determination of moisture sheet

VI. CHAIN OF CUSTODY

The same Environmental Affairs technicians sample all stacks and give the filters and bottles to the Environmental Affairs chemist, W. T. Tjong, who runs all the analyses. A form to this effect is attached at your request;

VII. APPENDIX

Calibration sheets for sampling equipment:

- a) Pitot tube; ALWAYS: 0.830 ✓
- b) Pitot tube post-test inspection
- c) Meter box (against wet meter)
- d) Meter box pre-test Y coefficient check ($Y < 3\%$)
- e) Meter box post-test calibration check (3@10 CF) at maximum vacuum encountered during test
- f) Probe nozzle calibration and post-check
- g) Thermocouple and thermometer calibration sheets, pre- and post-test

VIII. VERIFICATION OF PRODUCTION

- a) All data & Log sheet available for your inspection.
- b) Process statement sheet enclosed. (strip charts are stored and may be verified.)

MJM:lhc
2/20/88