



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

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.

September 18, 1990

Mr. C. S. Lee
 Compliance Engineer
 Department of Environmental Regulation
 4520 Oak Fair Blvd.
 Tampa, FL 33610-7347

Dear Mr. Lee:

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

Enclosed are two tests stack No. 22 corresponding to the referenced plant, one taken on August 15, 1990, and the semi-annual test pulled on September 17, 1990. The tests are summarized below for your convenience.

	<u>Actual</u>	<u>Permitted</u>
August 15, 1990		
Total Fluorides, lbs/hr	2.65	2.56
Rate TPH of Acid as P ₂ O ₅	30.0	34.0
September 17, 1990		
Total Fluorides, lbs/hr	0.2	2.56
Rate of Acid, TPH as P ₂ O ₅	31.5	34.0

The first test was pulled immediately after the plant "turn around" which included cleaning the scrubber, the sprays, and replacing packing. The results were several times higher than is normal, because one of the two water headers supplying scrubbing water to the packing was inadvertently not re-opened after cleaning, during the plant start-up. The valve was opened in the afternoon of the first shift, but our

D. E. R.
 I HAVE REVIEWED THIS REPORT AND IT (05)
 DOES NOT INDICATE COMPLIANCE WITH THE
 SEP 21 1990 FOR THIS SOURCE.
 DATE 9-27-90 BY [Signature]
 SOUTHWEST DISTRICT
 TAMPA

stack test was completed by then. It is submitted, nevertheless, as required by DER regulations, together with the regular semiannual test of September 17th.

Sincerely,


M. J. Martinasek
Sr. Environmental Engineer

db

Enclosure

cc: M. A. Castle
K. V. Ford
A. F. Vondrasek

SEMINOLE FERTILIZER CORP., BARTOW PLANT

PLANT: No. 4 PHOSPHORIC ACID; PERMIT NO. ACS8-167725; POINT I.D. NO. 11
 STACK NO. 22; PERMITTED EMISSIONS: SO₂ --- ACID MIST --- FLUORIDE 02.56 P.M. % OPACIT ---
LB/HR --- --- --- ---
LB/TON --- --- --- ---

DATE: <u>09/17/90</u>	RUN #1	RUN #2	RUN #3	AVERAGE
TIME: 12:15 - 16:30	12:15-13:25	13:45-15:00	15:15-16:30	1.00 HF. EA
BAROMETRIC PRESSURE: IN. HG.	30.08	30.08	30.08	30.08
STACK PRESSURE (PS): IN. HG.	30.08	30.08	30.08	30.08
STACK:				
I.D. = 3.92 FT.				
GAS TEMP (TS): DEG. F.	104	105	107	105
MOISTURE (Bws): BY VOLUME	0.029	0.037	0.034	0.033
VELOCITY (Vs): FT./SEC.	32.02	32.77	32.38	32.39
VOLUME (Q): ACFM	23147	23689	23407	23415
VOLUME (Q STD.): DSCFM	21161	21472	21188	21254
NO. OF POINTS SAMPLED:	12	12	12	12
SAMPLE DURATION: MIN.	60	60	60	60
LEAK CHECK: CU. FT.	0.00	0.00	0.00	0.00
VOLUME METERED: ACF	46.90	47.80	47.90	47.53
VOLUME METERED (Vm): DSCF	43.83	44.11	44.26	44.07
AVG. METER TEMP. (Tm): DEG. F	109.00	116.42	115.67	113.70
AVG. PUMP VACUUM: IN. HG.	4.04	4.55	5.41	4.67
AVG. ORIF. PRES. DIF. (CH): IN. WTR	1.97	2.09	2.08	2.05
AVG. ISOMETRIC RATIO (%I):	95.2	94.7	96.0	95.3
RATE: TONS PER HOUR P2O5 IN	34.2	34.2	34.2	34.2
RATE: TONS PER HOUR ROCK	110.0	110.0	110.0	110.0
RATE: TONS PER HOUR H3PO4	31.5	31.5	31.5	31.5

-----CONTAMINANTS-----

FLUORIDE	LBS./HF.	0.18	0.12	<u>0.20</u>	0.17
FLUORIDE	LBS./TON	0.002	0.001	<u>0.002</u>	0.002

SAMPLED AND ANALYZED BY EPA & DER METHODS 1, 2, 4, ~~5, 8 or~~ 9, & 13-B. ✓
 I CERTIFY THAT THE DATA SUBMITTED ARE TRUE TO THE BEST OF MY KNOWLEDGE

SIGNATURE

M. J. Martinsek
 M. J. MARTINSEK

SR. ENVIRONMENTAL ENGINEER

STACK TEST REPORT
SEMINOLE FERTILIZER CORP., 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: 9/17/90
 2. Persons present during test: Jim Boyd, Supervisor; David Blanc, Technician; Richard Reeves, Technician; occasionally Mickey Martinasek, Sr. Environmental Engineer.
 3. Location of test: North 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: 31.5 TON PA during the test (on 100% P₂O₅)
(Does NOT AFFECT SCRUBBER) (20-30,000 is normal) 23,000
 2. Operating parameters of scrubbing system: > 2,500 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 $\frac{3.5}{\text{product}}$ TPH 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 $\frac{1}{14/87}$.

✓ 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