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.

D. E. R.

AUG 13 1991

SOUTHWEST DISTRICT
TAMPA

IMC FERTILIZER, INC.

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

August 8, 1991

Mr. W.C. Thomas, P.E.
Florida Department of Environmental
Regulation
4520 Oak Fair Boulevard
Tampa Fl. 33610-7347

Dear Bill:

Enclosed please find the results of the semi-annual compliance test on the New Wales East Phos Acid Plant Scrubber, Operating permit A053-167797.

If you have any questions, please notify me.

Very truly yours,

J. M. Baretincic

JMB:jrb

Enclosure:

cc: J.A. Brafford - New Wales
A.L. Girardin - New Wales

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

DATE 8-30-91 BY

IMC Fertilizer, Inc., New Wales Operations, P.O. Box 1035, Mulberry, Florida 33860, (813) 428-2531

IMC FERTILIZER, INC.

To the best of my knowledge, all applicable field and analytical procedures comply with FDER requirements and all test data and plant operating data are true and correct.

SIGNATURE, OWNER or AUTHORIZED REPRESENTATIVE

J. M. Baretincic - Director Environmental Services

NAME and TITLE

P.O. Box 1035

ADDRESS

Mulberry, Fl 33860

CITY STATE ZIP

08-08-91 (813) 428-2531

DATE TELEPHONE NO.

INTRODUCTION

The New Wales Operation of IMC is a phosphate fertilizer facility located in western Polk County, Fl. At this facility phos acid is produced as an intermediate product in the production of phosphate fertilizer products. This report details the gaseous and water soluble fluoride emission measurements conducted on the East Phos Acid Scrubber on July 16, 1991. The purpose of the measurements was to demonstrate compliance with FDER standards.

During the period of testing , the plant was operating at a P_2O_5 feed rate of 1695 tons per day. This rate was determined from flow totalizers and lab analyses.

The allowable emission rate of gaseous and water soluble fluoride on the East Phos Acid Plant is 1.27 lbs/hr. (Operating Permit #AO53-167797). During the period of testing on July 15, 1991 the emission rate for gaseous and water soluble fluoride was 0.27 lbs/hr.

We conclude from the emission measurements made on July 16, 1991 that the East Phos Acid Plant Scrubber meets the emission requirements set forth in Operating Permit #AO53-167797.

LOCATION OF SAMPLE PORTS

Two sampling ports for emission measurements are located in the 54 inch diameter stack 16 feet 6 inches below the top of the stack and 34 feet 6 inches above the point where the tail gases enter the stack. The ports are located in the stack wall 90° to one another. Using criteria established by EPA Test Method 1 (40 CFR 60, Appendix A) it was determined six sampling points on each of the two perpendicular diameters would be required. A diagram of the stack and table listing the distance from the stack wall to each sampling point is included in this report.

FIELD AND ANALYTICAL PROCEDURES

Emission measurements for gaseous and water soluble fluoride were conducted in accordance with EPA Test Method 13 B. The only modification was that five feet of flexible tygon tubing was used between the probe and the first impinger. Nutech Model No. 201 stack sampling equipment was used.

Prior to performing the actual emission measurements, preliminary stack and stack gas measurements were made. These measurements included the average velocity head, wet and dry bulb stack gas temperatures, and the dimensions of the stack at the point where the tests were to be made. The moisture content of the stack gas, using pounds of dry air from the psychrometric chart, was assumed to be 4.2%.

Each of the three replicate test runs consisted of sampling for

a specific time at each traverse point. An "S Type" pitot tube was connected to the sampling probe so that the velocity head could be measured at each traverse point and the sampling rate adjusted to ensure isokinetic sampling.

The field and laboratory data sheets for the three test runs are included in this report.

SUMMARY OF EMISSION MEASUREMENTS
EAST PHOS ACID
INTERNATIONAL MINERALS and CHEMICAL CORPORATION
NEW WALES OPERATIONS
POLK COUNTY, FLORIDA

August 8, 1991

COMPLIANCE REPORT

PLANT: EAST PHOS ACID PLANT SCRUBBER

PERMIT NO.:A053-167797

TEST DATE: July 16, 1991

PLANT RATE: 1695 TPD P2O5 FEED

TEST AVERAGE, LBS.\HR (WHERE APPLICABLE)	ACTUAL - ALLOWABLE
FLUORIDE:	0.27 - 1.27
PARTICULATE:	-
SO2 (LBS./TON)	-
ACID MIST: (LBS./TON)	-
V.E.	-
REPORT DATE:	08-08-91

IMC FERTILIZER, INC.
SOURCE SAMPLING CALCULATION REPORT

TEST ON EPAP STACK AT NEW WALES PLANT, FL CONDUCTED ON 07/16/91

DATA SUMMATIONS

PARAMETER	UNITS	RUN 1	RUN 2	RUN 3
BAROMETER PRESSURE	IN OF HG	29.96	29.96	29.96
STATIC PRESSURE	IN OF HOH	0.25	0.25	0.25
STACK PRESSURE	IN OF HG	29.98	29.98	29.98
AVERAGE SQR. DELTA P	IN HOH1/2	0.595	0.594	0.591
AVERAGE DELTA H	IN OF HOH	1.85	1.90	1.88
AVERAGE METER TEMP.	DEGREES F	93	96	100
AVERAGE STACK TEMP.	DEGREES F	103	103	103
METERED SAMPLE VOL.	CUBIC FT.	44.95	44.90	44.50
STD. METER VOLUME	CUBIC FT.	43.09	42.81	42.09
PITOT COFFICIENT	UNITY	0.81	0.81	0.81
NOZZLE DIAMETER	IN	0.275	0.275	0.275
STACK AREA	SQUARE FT	15.90	15.90	15.90
TRAVERSE POINTS	UNITY	12	12	12
SAMPLING TIME	MINUTES	60	60	60
MOL. WT. OF GAS	LB/LB-MOLE	28.36	28.36	28.35
ACT. STK. VELOCITY	FT/SEC	33.5	33.5	33.3
ACT. STK. GAS FLOW	CU-FT/MIN	31,972	31,930	31,792
STD. GAS FLOW	CU-FT/MIN.	28,274	28,244	28,087
FLUORIDE EMISSION	LB/DAY	6.5	8.4	4.7
ISOKINETIC RATE	%	97.9	97.4	96.3