



FILE

xc: Stack Team – UR Bldg.
A. A. Linero

Certified Mail 7099 3400 0005 0929 3262
Return Receipt Requested

September 14, 2000

RECEIVED

SEP 18 2000

BUREAU OF AIR REGULATION

Mr. W. C. Thomas, P. E.
Florida Department of
Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619-8318

RE: Multifos C-Kiln
Permit ID No. 1050059-024-AC
Unit ID No. 074
New Wales Plant

Dear Mr. Thomas:

Enclosed are the results of the compliance test for the above-referenced permit.

If you have any questions, please contact me at 863-428-7106.

Sincerely,

P. A. Steadham, Manager
Environmental Services
Concentrates - Florida

PAS:oan

Enclosures

a:M_1108

Report of Compliance Sampling

IMC-Phosphates Company

Project: Multifos C-Kiln

Facility: New Wales Operations

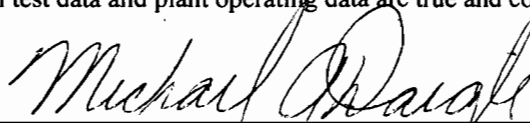
Point ID: 74

AIRS: 1050059

Permit Number: 1050059-014-AV (1050059-024-AC)

Test Date: August 4 & 8, 2000

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



Signature, Owner or Authorized Representative
Michael A. Daigle, General Manager, New Wales

IMC-Phosphates Company

P.O. Box 2000

Mulberry, FL 33860

(863) 428-2500

Company ID #: 1108

09/12/2000

Introduction:

This report details the compliance sampling results for the following source:

Project: Multifos C-Kiln
 Facility: New Wales Operations
 Point ID: 74
 AIRS: 1050059
 Permit Number: 1050059-014-AV (1050059-024-AC)
 Test Date: August 4 & 8 2000

Summary of Results

The source was found to be in compliance with the conditions of the above-referenced permit with the exception of fluoride and particulate matter emission limitations. Compliance issues with these two pollutants are being addressed by staff of the Florida Department of Environmental Protection Bureau of Air Quality Management in Tallahassee, who issued the PSD construction permit in September, 1998. The process data and emissions testing results are summarized below:

Process Data:

Date	Kiln Feed Rate TPH	P2O5 Feed Rate TPH	Emission Type Tested
08/04/2000	7.5	2.59	Particulate, Fluoride & Visible Emissions
08/08/2000	7.5	2.58	Sulfur Dioxide

Fuel Firing Information

Date	Kiln Fuel	Kiln Fuel Rate
08/04/2000	Natural Gas	40.0 MMBtu/hr
08/08/2000	Natural Gas	39.1 MMBtu/hr

Emissions:

Allowables by Permit Condition Number P.5, P.6, P.8, & P.9

	Actual	Allowable	
Fluorides: lb/hr	0.58	0.10	based on P2O5 input rate on 8/4/2000
lb/ton P2O5	0.224	0.038	
Particulates: lb/hr	4.50	3.88	based on P2O5 input rate on 8/4/2000
lb/ton P2O5	1.739	1.5	
Sulfur Dioxide: lb/hr	4.06	8.70	
Visible Emissions: %	7.3	15	

Emissions Testing Methods:

Methods in accordance with Specific Condition Number P.15

Fluorides: Method 5 & 13B Combined with modifications as allowed by Department for analysis.

Particulate: Method 5 & 13B Combined.

Sulfur Dioxide: Method 8 without analysis for Acid Mist

Visible Emissions: Method 9

IMC-Phosphates Company

Process Information

Project: Multifos C-Kiln
 Facility: New Wales Operations
 Point ID: 74
 AIRS: 1050059
 Permit Number: 1050059-014-AV (1050059-024-AC)
 Test Date: August 4 & 8, 2000
 Test Time: 1224-1700; 0840-1220

Process Rate Data & Calculations

Kiln Feed Rate

Date	Time of Test Run	Kiln	Kiln Feed Rate	Kiln Feed Moisture	% P	/.43646 %P2O5/%P	= P2O5 TPH
8/4/00	1224-1330	C Kiln	7.5	6.46	16.1	0.43646	2.59
8/4/00	1430-1537	C Kiln	7.5	6.46	16.1	0.43646	2.59
8/4/00	1555-1700	C Kiln	7.5	6.46	16.1	0.43646	2.59
Average Kiln Feed Rate			7.5	Average P2O5 TPH			2.59
8/8/00	0840-0945	C Kiln	7.5	6.6	16.1	0.43646	2.58
8/8/00	1000-1105	C Kiln	7.5	6.6	16.1	0.43646	2.58
8/8/00	1114-1220	C Kiln	7.5	6.6	16.1	0.43646	2.58
Average Kiln Feed Rate			7.5	Average P2O5 TPH			2.58

Scrubber Data Collected During Test Periods

Date	Time	Sulfite Sump ph	Caustic Scrubber			Cross flow Scrubber		
			50 % Caustic Flow gph	Recirc Flow gpm	Total Liquid gpm	Delta p inches H2O	Fan Amps	
8/4/00	12:00	9.3	26	201	1985	0.82	105	
	13:00	9.5	26	201	1968	0.81	104	
	14:00	9.4	26	201	1951	0.82	106	
	15:00	7.8	25	202	1933	0.88	110	
	16:00	6.4	26	201	1903	0.84	110	
	17:00	6.5	23	201	1880	0.84	109	
	Test Day Average			25	201	1937	0.84	107
8/8/00	8:00	7.8	10	202	1809	0.58	87	
	9:00	8.3	11	202	1782	0.60	88	
	10:00	7.2	14	203	1835	0.67	92	
	11:00	6.5	24	203	1936	0.68	93	
	12:00	6.5	25	202	1935	0.67	94	
	Test Day Average			17	202	1859	0.64	91

Fuel Usage Information

Date	Time	Fuel Type	C Kiln Fuel Rate mmBTU/hr	Date	Time	Fuel Type	C Kiln Fuel Rate mmBTU/hr
8/4/00	1224-1330	Natural Gas	39.6	8/8/00	0840-0945	Natural Gas	39.0
8/4/00	1430-1537	Natural Gas	40.2	8/8/00	1000-1105	Natural Gas	39.1
8/4/00	1555-1700	Natural Gas	40.2	8/8/00	1114-1220	Natural Gas	39.1
Average Fuel Firing Rates			40.0	Average Fuel Firing Rates			39.1

Process Statement:

I certify that the above statements are true and correct to the best of my knowledge.

Signature:

Pete Green for JOHN CLEMENTS
 SUPERINTENDENT FOR JOHN CLEMENTS

Title:

Date:

9/13/00

Source Sampling Summary Sheet						
	Facility:	New Wales				
	Plant:	Multifos C-Kiln				
	Company ID:	1108				
	FDEP AIRS & Pt. ID:	1050059 & 074				
	Test Team:	FB,DC,RS				
	Parameter	Unit	Run 1	Run 2	Run 3	Average
	Date:		8/8/00	8/8/00	8/8/00	
	Time Start:		840	1000	1114	
	Time End:		945	1105	1220	
	Barometric Pressure:	Inch Hg	30.15	30.15	30.15	
	Static Pressure:	Inch H2O	0.32	0.32	0.32	
	Stack Pressure:	Inch Hg	30.174	30.174	30.174	
	Average Sqrt Delta P:	Inch HOH 1/2	0.583	0.589	0.602	
	Average Delta H:	Inch HOH	1.767	1.813	1.858	1.813
	Maximum Run Vacuum:	Inch Hg	10.0	9.0	12.0	
	Meter Box Number:	Unity	3187	3187	3187	
	Average Meter Temp:	Degrees F	84.0	89.3	85.7	
	Average Stack Temp:	Degrees F	111.6	112.6	113.5	112.6
	Metered Sample Volume:	Cubic Feet	46.67	46.66	47.04	
	Standard Meter Volume:	Cubic Feet	45.69	45.24	45.91	
	Moisture Measured:	%	0.0906	0.0891	0.0894	
	Moisture Saturation:	%	0.0902	0.0928	0.0953	
	Moisture Used for Calculations:	%	0.0902	0.0891	0.0894	0.0895
	Pitot Coefficient:	Unity	0.84	0.84	0.84	
	Nozzle Diameter:	Inch	0.28	0.28	0.28	
	Stack Area:	Square Feet	7.07	7.07	7.07	
	Traverse Points:	Unity	24	24	24	
	Sampling Time:	Minutes	60	60	60	
	Stack Gas Molecular Weight:	lb/lb-mol	27.980	27.992	27.989	
	Actual Stack Velocity:	Feet/sec	34.452	34.826	35.628	34.969
	Actual Stack Gas Flow:	ACFM	14604	14763	15103	14823
	Dry Standard Stack Gas Flow:	DSCFM	12377	12504	12768	12550
	Isokinetic Rate:	%	101.78	99.71	99.11	
	Sulfur Dioxide Emission:	lb/day	64.71	75.66	151.71	97.36
	Sulfur Dioxide Emission:	lb/hr	2.70	3.15	6.32	4.06

Source Sampling Summary Sheet							
		Facility:	NEW WALES				
		Plant:	MULTIFOS C- KILN				
		Company ID:	1108				
		FDEP AIRS & Pt. ID:	1050059 & 074				
		Test Team:	RS/FB				
		Parameter	Unit	Run 1	Run 2	Run 3	Average
		Date:		08/04/00	08/04/00	08/04/00	
		Time Start:		1224	1430	1555	
		Time End:		1330	1537	1700	
		Barometric Pressure:	Inch Hg	30.11	30.11	30.11	
		Static Pressure:	Inch H2O	0.31	0.31	0.31	
		Stack Pressure:	Inch Hg	30.133	30.133	30.133	
		Average Sqrt Delta P:	Inch HOH 1/2	0.646	0.682	0.690	
		Average Delta H:	Inch HOH	1.363	1.517	1.533	1.471
		Maximum Run Vacuum:	Inch Hg	15.0	12.0	10.0	
		Meter Box Number:	Unity	3187	3187	3187	
		Average Meter Temp:	Degrees F	82.9	83.8	82.2	
		Average Stack Temp:	Degrees F	111.8	112.0	112.7	112.2
		Metered Sample Volume:	Cubic Feet	40.02	42.61	43.30	
		Standard Meter Volume:	Cubic Feet	39.16	41.65	42.44	
		Moisture Measured:	%	0.0886	0.0824	0.0808	
		Moisture Saturation:	%	0.0908	0.0912	0.0931	
		Moisture Used for Calculations:	%	0.0886	0.0824	0.0808	0.0839
		Pitot Coefficient:	Unity	0.84	0.84	0.84	
		Nozzle Diameter:	Inch	0.250	0.250	0.250	
		Stack Area:	Square Feet	7.07	7.07	7.07	
		Traverse Points:	Unity	24	24	24	
		Sampling Time:	Minutes	60	60	60	
		Stack Gas Molecular Weight:	lb/lb-mol	27.997	28.066	28.083	
		Actual Stack Velocity:	Feet/sec	38.220	40.275	40.786	39.760
		Actual Stack Gas Flow:	ACFM	16201	17072	17289	16854
		Dry Standard Stack Gas Flow:	DSCFM	13730	14565	14756	14350
		Isokinetic Rate:	%	98.61	98.87	99.44	
		Fluoride Emission:	lb/day	17.54	15.14	8.90	13.86
		Fluoride Emission:	lb/hr	0.73	0.63	0.37	0.58
		Particulate Emission:	lb/day	156.02	101.93	65.73	107.89
		Particulate Emission:	lb/hr	6.50	4.25	2.74	4.50

VISIBLE EMISSION OBSERVATION FORM

SOURCE NAME
IMC PHOSPHATES

ADDRESS
NEW WALES PLANT

P.O. BOX 2000 3095 C.R. 640

CITY **MULBERRY** STATE **FL** ZIP **33860**

PHONE **863-428-7383** SOURCE ID NUMBER **074**

PROCESS EQUIPMENT **MULTI-PHOS C-KILN** OPERATING MODE **7.5 TPH**

CONTROL EQUIPMENT **WET SCRUBBER** OPERATING MODE **NORMAL**

DESCRIBE EMISSION POINT
START **CIRCULAR STACK** STOP **SAME**

HEIGHT ABOVE GROUND LEVEL
START **125** STOP **SAME**

HEIGHT RELATIVE TO OBSERVER
START **125** STOP **SAME**

DISTANCE FROM OBSERVER
START **350** STOP **SAME**

DIRECTION FROM OBSERVER
START **NNE** STOP **NNE**

DESCRIBE EMISSIONS
START **LOFTING PLUME** STOP **SAME**

EMISSION COLOR
START **WHITE** STOP **WHITE**

PLUME TYPE CONTINUOUS FUGITIVE INTERMITTENT

WATER DROPLETS PRESENT
NO YES

IS WATER DROPLET PLUME ATTACHED N/A DETACHED

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED
START **20 ABOVE STACK** STOP **SAME**

DESCRIBE BACKGROUND
START **SKY** STOP **SKY**

BACKGROUND COLOR
START **WHITE** STOP **SAME**

WIND SPEED **mph**
START **3-6** STOP **SAME**

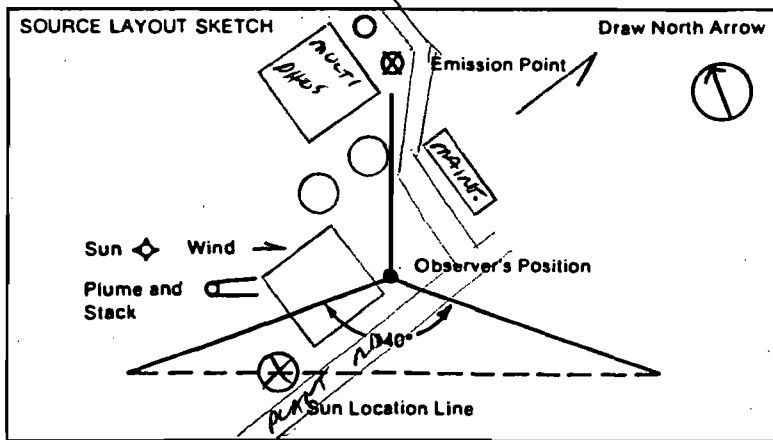
AMBIENT TEMP
START **95** STOP **95**

SKY CONDITIONS
START **SCATT** STOP **SAME**

WIND DIRECTION
START **W** STOP **W**

WET BULB TEMP
83

RH, percent
60%



COMMENTS

I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS

SIGNATURE

TITLE

DATE

OBSERVATION DATE		START TIME				STOP TIME			
8-4-00		14:30				15:30			
SEC	0	15	30	45	SEC	0	15	30	45
MIN					MIN				
1	5	5	5	5	31	5	10	10	10
2	5	5	5	5	32	10	10	5	5
3	5	5	5	5	33	5	5	5	5
4	10	5	5	5	34	5	5	5	5
5	5	5	5	5	35	5	5	5	10
6	5	5	5	5	36	10	5	5	10
7	5	5	5	5	37	10	10	5	5
8	5	5	10	10	38	5	5	5	5
9	5	5	5	5	39	5	5	10	10
10	5	5	5	5	40	10	5	5	5
11	5	5	5	5	41	10	10	10	5
12	5	10	5	5	42	5	5	5	5
13	5	5	5	5	43	5	5	5	5
14	5	5	5	5	44	5	5	5	5
15	10	10	10	5	45	5	5	10	10
16	5	5	5	5	46	5	5	5	5
17	5	5	5	5	47	5	5	5	5
18	5	5	10	10	48	5	5	5	5
19	5	5	5	5	49	5	10	5	5
20	5	5	5	5	50	10	10	5	5
21	5	5	5	5	51	5	5	5	5
22	5	5	5	5	52	5	5	5	5
23	5	5	5	5	53	5	5	5	5
24	5	5	5	5	54	5	5	10	10
25	5	5	5	10	55	5	5	5	5
26	10	10	5	5	56	5	5	5	5
27	5	5	5	5	57	5	5	5	5
28	5	5	5	5	58	5	5	5	10
29	5	5	5	5	59	10	10	10	5
30	5	5	5	5	60	5	5	5	5

AVERAGE OPACITY FOR HIGHEST PERIOD **7.3%** NUMBER OF READINGS ABOVE **15** % WERE **0**

RANGE OF OPACITY READINGS
MINIMUM **5%** MAXIMUM **10%**

OBSERVER'S NAME (PRINT)
JEFFREY J. KENT

OBSERVER'S SIGNATURE
Jeffrey J. Kent DATE **8/4/00**

ORGANIZATION
IMC PHOSPHATES

CERTIFIED BY
ETA TAMPA - FDEP DATE **2/22/00**

VERIFIED BY

DATE

Test Participants

Conducted the Field Testing

- 1 F. Barnes
- 2 R. Sellers
- 3 D.Carroll

Performed the Laboratory Analysis

- 1 F. Barnes
- 2 R. Sellers
- 3 D.Carroll

Provided the Process Data

- 1 J. Clements

Prepared the Test Report

- 1 R. Sellers
- 2 F.Barnes

Field Data
&
Run Calculations

Run 1 Data

Facility: NEW WALES
 Plant: MULTIFOS C- KILN
 Company ID: 1108
 FDEP AIRS & Pt. ID: 1050059 & 074
 Test Team: RS/FB

Date: 08/04/00
 Start Time: 1224 End Time: 1330

Number of Traverse Points: 24
 Dwell Time/Point: 2.5 min.
 Total Test Time: 60 min.

Stack Diameter: 36 inches
 Stack Area: 7.07 sq. ft.

Molecular Weight Dry Md: 28.969
 Volume of Water Vapor Condensed: 70 ml
 Weight of Water Collected in Silica Gel: 10.9 gram
 Moisture Volume Fraction Bwo: 0.0886
 Moisture Volume Saturated Bwo: 0.0908
 Moisture Percent Saturation: 98
 Moisture Used for Calculations: 0.0886
 Stack Molecular Weight Ms: 27.997

Barometric Pressure Pb: 30.11 in Hg
 Stack Static Pressure Pv: 0.31 in H₂O
 Stack Pressure Ps: 30.133 in Hg
 Average Meter Delta H: 1.363 in H₂O
 Meter Pressure Pm: 30.210 in Hg
 Console Number: 3187
 Meter Delta Ha: 1.742
 Meter Correction Factor: 0.9969

Average Meter Temperature: 82.9 deg. F
 Average Stack Temperature: 111.8 deg. F 44.4 deg C

Average Square Root Delta P: 0.646
 Meter Volume Vm: 40.02 cu. ft.
 Probe Length/Liner: 3' SS
 Cp: 0.84
 Nozzle Ident.: 0.250
 Nozzle Diameter Dn: 0.250 in.
 Impinger Set Number: P-2
 Average Computer K: 3.3473

Run 1 Data Sheet

Facility: NEW WALES
 Plant: MULTIFOS C- KILN
 Team (CB/PR): RS/FB

Company ID: 1108
 FDEP AIRS & Pt. ID: 1050059 & 074

Date	08/04/00
Dwell Time	2.5 min.
Traverse Points	24
Stack Diameter	36 inches
Est % Saturation	90 %
Stack Static Pressure	0.31 in H2O
Barometric Pressure	30.11 in Hg
Dry Molecular Weight	28.969

Meter Box Number	3187
Meter Delta Ha (in. H2O)	1.742
Meter Correction Factor	0.9969
Nozzle Ident.:	0.250
Nozzle Diameter Dn:	0.250
Impinger Set Number:	P-2
Probe length/Liner:	3' SS
Filter Set Number	4

Pitot Check	
pos	4.0 in H2O
neg	4.0 in H2O
Leak Check	
cfm	0.010 cfm
vac	15 in Hg

Time Start 1224

Point	Time	Meter Volume	Delta P	Calc'd Delta H	Actual Delta H	Stack Temp	Probe Temp	Hot Box Temp	Meter In Temp	Meter Out Temp	Impinger Temp	Pump Vac
1	0.0	530.577	0.48	1.612	1.6	111	224	255	82	82	66	10
2	2.5	532.32	0.5	1.679	1.6	111	250	225	82	82	65	12
3	5.0	534.08	0.46	1.545	1.5	111	256	227	84	82	63	12
4	7.5	535.86	0.48	1.615	1.6	111	254	260	82	82	63	13
5	10.0	537.65	0.5	1.679	1.6	111	234	260	83	82	63	13
6	12.5	539.42	0.51	1.714	1.7	111	227	251	83	82	62	13
7	15.0	541.22	0.47	1.580	1.5	112	226	232	83	82	62	14
8	17.5	542.97	0.47	1.570	1.5	112	226	231	83	82	60	14
9	20.0	544.75	0.43	1.437	1.4	112	226	233	83	82	60	14
10	22.5	546.5	0.43	1.437	1.4	112	225	237	83	82	63	14
11	25.0	548.28	0.43	1.437	1.4	112	225	240	83	82	64	15
12	27.5	550.01	0.46	1.537	1.5	112	225	243	83	82	65	15
13	30.0	551.777	0.34	1.136	1.1	112	225	237	83	82	65	10
14	32.5	553.28	0.33	1.103	1.1	112	226	240	83	82	63	10
15	35.0	554.79	0.35	1.169	1.1	112	225	240	84	82	62	11
16	37.5	556.34	0.34	1.137	1.1	112	225	240	84	82	61	11
17	40.0	557.88	0.33	1.104	1.1	112	225	239	84	82	62	11
18	42.5	559.42	0.32	1.070	1	112	225	236	85	82	62	10
19	45.0	560.88	0.32	1.071	1	112	225	236	86	82	63	10
20	47.5	562.33	0.37	1.240	1.2	112	225	240	86	82	63	11
21	50.0	563.88	0.4	1.340	1.3	112	225	240	86	82	64	13
22	52.5	565.5	0.44	1.474	1.4	113	225	241	87	82	65	14
23	55.0	567.17	0.46	1.533	1.5	113	225	239	86	82	65	15
24	57.5	568.9	0.47	1.565	1.5	112	225	237	85	82	66	15
End	60.0	570.599										
Average						111.8			82.9		63.2	
Max							256	260			66	15
Min							224	225			60	
Range							223-273	223-273			32-68	

Time End 1330

Pitot Check		Min Value
pos	4.3	0.51 in H2O
neg	4.5	0.51 in H2O
Leak Check		
cfm	0.010	<0.020 cfm
vac	15	15 in Hg

Field Data Sheet

Run Number: 1

Facility: New Wales
 Plant: Mulfas C-KLN
 Test Team: RS/FB

Company ID: 1108
 FDEP AIRS & Pt. ID: 1050059 E'074

Date: 8-4-00
 Traverse Points: 24
 Stack Diameter: 36 inches
 Dwell Time: 2.5 min.
 Est % Saturation: 90 %
 Stack Static Pressure: .31 in H2O
 Barometric Pressure: 30.11 in Hg
 Dry Molecular Weight: 28.969

Meter Box Number: 3187
 Meter Delta Ha (in. H2O): 1.742
 Meter Correction Factor: .9969
 Nozzle Identification: .250
 Nozzle Diameter Dn: .250
 Impinger Set Number: P-2
 Probe length/Liner: 3'55
 Filter Set Number: 4

Pitot Check
 pos: 4.0 in H2O
 neg: 4.0 in H2O
 Leak Check
 cfm: .010
 vac: 15 in Hg

Time Start: 1224

Point	Time	Meter Volume	Delta P	Actual Delta H	Stack Temp	Probe Temp	Hot Box Temp.	Meter In Temp	Meter Out Temp	Impinger Temp	Pump Vac
1	0	530.577	.48	1.6	111	224	255	82	82	66	10
2	2.5	532.32	.50	1.6	111	250	225	82	82	65	12
3	5	534.08	.46	1.5	111	256	227	84	82	63	12
4	7.5	535.86	.48	1.6	111	254	260	82	82	63	13
5	10	537.65	.50	1.6	111	234	260	83	82	63	13
6	12.5	539.42	.51	1.7	111	227	251	83	82	62	13
7	15	541.22	.47	1.5	112	226	232	83	82	62	14
8	17.5	542.97	.47	1.5	112	226	231	83	82	60	14
9	20	544.75	.43	1.4	112	226	233	83	82	60	14
10	22.5	546.50	.43	1.4	112	225	237	83	82	63	14
11	25	548.28	.43	1.4	112	225	240	83	82	64	15
12	27.5	550.01	.46	1.5	112	225	243	83	82	65	15
13	30	551.777	.34	1.1	112	225	237	83	82	65	10
14	32.5	553.28	.33	1.1	112	226	240	83	82	63	10
15	35	554.79	.35	1.1	112	225	240	84	82	62	11
16	37.5	556.34	.34	1.1	112	225	240	84	82	61	11
17	40	557.88	.33	1.1	112	225	239	84	82	62	11
18	42.5	559.42	.32	1.0	112	225	236	85	82	62	10
19	45	560.88	.32	1.0	112	225	236	86	82	63	10
20	47.5	562.33	.37	1.2	112	225	240	86	82	63	11
21	50	563.88	.40	1.3	112	225	240	86	82	64	13
22	52.5	565.50	.44	1.4	113	225	241	87	82	65	14
23	55	567.17	.46	1.5	113	225	239	86	82	65	15
24	57.5	568.90	.47	1.5	112	225	237	85	82	66	15
25	60	570.599									
End											

Time End: 1330

Pitot Check
 pos: 4.3 in H2O
 neg: 4.5 in H2O

Leak Check
 cfm: .010
 vac: 15 in Hg

Run 2 Data

Facility: NEW WALES
 Plant: MULTIFOS C- KILN
 Company ID: 1108
 FDEP AIRS & Pt. ID: 1050059 & 074
 Test Team: RS/FB

Date: 08/04/00
 Start Time: 1430 End Time: 1537

Number of Traverse Points: 24
 Dwell Time/Point: 2.5 min.
 Total Test Time: 60 min.

Stack Diameter: 36 inches
 Stack Area: 7.07 sq. ft.

Molecular Weight Dry Md: 28.969
 Volume of Water Vapor Condensed: 70 ml
 Weight of Water Collected in Silica Gel: 9.4 gram
 Moisture Volume Fraction Bwo: 0.0824
 Moisture Volume Saturated Bwo: 0.0912
 Moisture Percent Saturation: 90
 Moisture Used for Calculations: 0.0824
 Stack Molecular Weight Ms: 28.066

Barometric Pressure Pb: 30.11 in Hg
 Stack Static Pressure Pv: 0.31 in H2O
 Stack Pressure Ps: 30.133 in Hg
 Average Meter Delta H: 1.517 in H2O
 Meter Pressure Pm: 30.222 in Hg
 Console Number: 3187
 Meter Delta Ha: 1.742
 Meter Correction Factor: 0.9969

Average Meter Temperature: 83.8 deg. F
 Average Stack Temperature: 112.0 deg. F 44.4 deg C

Average Square Root Delta P: 0.682
 Meter Volume Vm: 42.61 cu. ft.
 Probe Length/Liner: 5'SS
 Cp: 0.84
 Nozzle Ident.: 0.250
 Nozzle Diameter Dn: 0.250 in.
 Impinger Set Number: F-3
 Average Computer K: 3.3499

Run 2 Data Sheet

Facility: NEW WALES
 Plant: MULTIFOS C- KILN
 Team (CB/PR): RS/FB

Company ID: 1108
 FDEP AIRS & Pt. ID: 1050059 & 074

Date 08/04/00
 Dwell Time 2.5 min.
 Traverse Points 24
 Stack Diameter 36 inches
 Est % Saturation 90 %
 Stack Static Pressure 0.31 in H2O
 Barometric Pressure 30.11 in Hg
 Dry Molecular Weight 28.969

Meter Box Number 3187
 Meter Delta Ha (in. H2O) 1.742
 Meter Correction Factor 0.9969
 Nozzle Ident.: 0.250
 Nozzle Diameter Dn: 0.250
 Impinger Set Number: F-3
 Probe length/Liner: 5'SS
 Filter Set Number 5

Pitot Check
 pos 4.6 in H2O
 neg 4.7 in H2O
 Leak Check
 cfm 0.000 cfm
 vac 15 in Hg

Time Start 1430

Point	Time	Meter Volume	Delta P	Calc'd Delta H	Actual Delta H	Stack Temp	Probe Temp	Hot Box Temp.	Meter In Temp	Meter Out Temp	Impinger Temp	Pump Vac
1	0.0	571.839	0.5	1.682	1.6	111	255	242	83	83	67	6
2	2.5	573.63	0.51	1.716	1.7	111	246	242	82	82	58	7
3	5.0	575.48	0.53	1.780	1.7	112	247	242	83	82	56	8
4	7.5	577.33	0.55	1.838	1.8	112	245	242	83	82	55	10
5	10.0	579.25	0.55	1.838	1.8	112	246	242	84	82	55	10
6	12.5	581.15	0.47	1.572	1.5	112	247	242	84	83	56	9
7	15.0	582.95	0.46	1.540	1.5	113	245	242	85	83	56	9
8	17.5	584.72	0.47	1.565	1.5	112	244	242	85	83	57	9
9	20.0	586.48	0.48	1.608	1.6	112	242	245	85	82	58	10
10	22.5	588.28	0.48	1.607	1.6	112	245	242	86	83	58	10
11	25.0	590.08	0.47	1.576	1.5	112	245	243	86	83	60	10
12	27.5	591.87	0.4	1.341	1.3	112	247	243	86	83	62	9
13	30.0	593.602	0.44	1.475	1.4	112	252	245	84	82	66	9
14	32.5	595.31	0.47	1.572	1.5	112	248	245	84	83	63	9
15	35.0	597.04	0.52	1.740	1.7	112	246	236	85	83	60	11
16	37.5	598.9	0.54	1.809	1.8	112	247	235	85	83	57	12
17	40.0	600.82	0.53	1.776	1.7	112	246	238	85	83	53	12
18	42.5	602.73	0.45	1.508	1.5	112	245	241	85	82	51	10
19	45.0	604.55	0.42	1.406	1.4	112	246	242	85	83	51	10
20	47.5	606.3	0.38	1.273	1.2	112	246	241	85	83	51	9
21	50.0	607.95	0.37	1.240	1.2	112	246	241	86	83	52	8
22	52.5	609.55	0.4	1.341	1.3	112	246	239	86	83	53	9
23	55.0	611.19	0.41	1.375	1.3	112	247	250	87	83	55	9
24	57.5	612.82	0.4	1.343	1.3	112	246	250	87	83	55	9
End	60.0	614.454										

Average 112.0 83.8 56.9
 0.55 Max 255 250 67 12
 Min 242 235 51
 Range 223-273 223-273 32-68

Time End 1537

Pitot Check Min Value
 pos 5.0 0.55 in H2O
 neg 4.5 0.55 in H2O
 Leak Check
 cfm 0.000 <0.020 cfm
 vac 13 12 in Hg

Field Data Sheet

Run Number: 2

Facility: New Wales
 Plant: Multifos C-Kiln
 Test Team: RS/FB

Company ID: 1108
 FDEP AIRS & Pt. ID: 1050059 5'074

Date: 8-4-00
 Traverse Points: 24
 Stack Diameter: 36 inches
 Dwell Time: 25 min.
 Est % Saturation: 90 %
 Stack Static Pressure: 131 in H2O
 Barometric Pressure: 30.11 in Hg
 Dry Molecular Weight: 28.969

Meter Box Number: 7187
 Meter Delta Ha (in. H2O): 1.742
 Meter Correction Factor: .9969
 Nozzle Identification: .250
 Nozzle Diameter Dn: .250
 Impinger Set Number: P-3
 Probe length/Liner: 5'55
 Filter Set Number: 9

Pitot Check
 pos: 4.6 in H2O
 neg: 4.7 in H2O
 Leak Check
 cfm: .00
 vac: 15 in Hg

Time Start: 1430

Point	Time	Meter Volume	Delta P	Actual Delta H	Stack Temp	Probe Temp	Hot Box Temp	Meter In Temp	Meter Out Temp	Impinger Temp	Pump Vac
1	0	571.839	.50	1.6	111	255	242	83	83	67	6
2	2.5	573.63	.51	1.7	111	246	242	82	82	58	7
3	5	575.48	.53	1.7	112	247	242	83	82	56	8
4	7.5	577.33	.55	1.8	112	245	242	83	82	55	10
5	10	579.25	.55	1.8	112	246	242	84	82	55	10
6	12.5	581.15	.47	1.5	112	247	242	84	83	56	9
7	15	582.95	.46	1.5	113	245	242	85	83	56	9
8	17.5	584.72	.47	1.5	112	244	242	85	83	57	9
9	20	586.48	.48	1.6	112	242	245	85	82	58	10
10	22.5	588.28	.48	1.6	112	245	242	86	83	58	10
11	25	590.08	.47	1.5	112	245	243	86	83	60	10
12	27.5	591.87	.40	1.3	112	247	243	86	83	62	9
13	30	593.602	.44	1.4	112	252	245	84	82	66	9
14	32.5	595.31	.47	1.5	112	248	245	84	83	63	9
15	35	597.04	.52	1.7	112	246	236	85	83	60	11
16	37.5	598.90	.54	1.8	112	247	235	85	83	57	12
17	40	600.82	.53	1.7	112	246	238	85	83	53	12
18	42.5	602.73	.45	1.5	112	245	241	85	82	51	10
19	45	604.55	.42	1.4	112	246	242	85	83	51	10
20	47.5	606.30	.38	1.2	112	246	241	85	83	51	9
21	50	607.95	.37	1.2	112	246	241	86	83	52	8
22	52.5	609.55	.40	1.3	112	246	239	86	83	53	9
23	55	611.19	.41	1.3	112	247	250	87	83	55	9
24	57.5	612.82	.40	1.3	112	246	250	87	83	55	9
25	60	614.454									
End											

Time End: 1537

Pitot Check
 pos: 5.0 in H2O
 neg: 4.5 in H2O

Leak Check
 cfm: .00
 vac: 13 in Hg

Run 3 Data

Facility: NEW WALES
 Plant: MULTIFOS C- KILN
 Company ID: 1108
 FDEP AIRS & Pt. ID: 1050059 & 074
 Test Team: RS/FB

Date: 08/04/00
 Start Time: 1555 End Time: 1700

Number of Traverse Points: 24
 Dwell Time/Point: 2.5 min.
 Total Test Time: 60 min.

Stack Diameter: 36 inches
 Stack Area: 7.07 sq. ft.

Molecular Weight Dry Md: 28.969
 Volume of Water Vapor Condensed: 70 ml
 Weight of Water Collected in Silica Gel: 9.2 gram
 Moisture Volume Fraction Bwo: 0.0808
 Moisture Volume Saturated Bwo: 0.0931
 Moisture Percent Saturation: 87
 Moisture Used for Calculations: 0.0808
 Stack Molecular Weight Ms: 28.083

Barometric Pressure Pb: 30.11 in Hg
 Stack Static Pressure Pv: 0.31 in H2O
 Stack Pressure Ps: 30.133 in Hg
 Average Meter Delta H: 1.533 in H2O
 Meter Pressure Pm: 30.223 in Hg
 Console Number: 3187
 Meter Delta Ha: 1.742
 Meter Correction Factor: 0.9969

Average Meter Temperature: 82.2 deg. F
 Average Stack Temperature: 112.7 deg. F 44.8 deg C

Average Square Root Delta P: 0.690
 Meter Volume Vm: 43.30 cu. ft.
 Probe Length/Liner: 3' SS
 Cp: 0.84
 Nozzle Ident.: 0.250
 Nozzle Diameter Dn: 0.250 in.
 Impinger Set Number: P-3
 Average Computer K: 3.3240

Run 3 Data Sheet

Facility: NEW WALES
 Plant: MULTIFOS C- KILN
 Team (CB/PR): RS/FB

Company ID: 1108
 FDEP AIRS & Pt. ID: 1050059 & 074

Date 08/04/00
 Dwell Time 2.5 min.
 Traverse Points 24
 Stack Diameter 36 inches
 Est % Saturation 90 %
 Stack Static Pressure 0.31 in H2O
 Barometric Pressure 30.11 in Hg
 Dry Molecular Weight 28.969

Meter Box Number 3187
 Meter Delta Ha (in. H2O) 1.742
 Meter Correction Factor 0.9969
 Nozzle Ident.: 0.250
 Nozzle Diameter Dn: 0.250
 Impinger Set Number: P-3
 Probe length/Liner: 3' SS
 Filter Set Number 6

Pitot Check
 pos 4.6 in H2O
 neg 4.5 in H2O

Leak Check
 cfm 0.010 cfm
 vac 15 in Hg

Time Start 1555

Point	Time	Meter Volume	Delta P	Calc'd Delta H	Actual Delta H	Stack Temp	Probe Temp	Hot Box Temp.	Meter In Temp	Meter Out Temp	Impinger Temp	Pump Vac
1	0.0	614.702	0.47	1.559	1.5	113	228	225	82	82	67	5
2	2.5	616.49	0.5	1.659	1.6	113	248	254	81	82	56	6
3	5.0	618.3	0.52	1.724	1.7	112	247	251	82	82	50	7
4	7.5	620.17	0.55	1.836	1.8	113	246	241	82	81	49	8
5	10.0	622.1	0.57	1.889	1.8	113	245	238	83	82	50	8
6	12.5	624.04	0.55	1.826	1.8	113	244	239	83	81	51	8
7	15.0	625.97	0.54	1.792	1.7	113	245	242	83	81	53	8
8	17.5	627.87	0.5	1.659	1.6	113	244	241	83	82	54	8
9	20.0	629.73	0.48	1.594	1.5	113	247	241	83	81	54	8
10	22.5	631.54	0.48	1.593	1.5	113	247	241	84	81	55	8
11	25.0	633.34	0.46	1.528	1.5	113	246	242	84	81	56	8
12	27.5	635.14	0.41	1.362	1.3	113	245	243	84	81	56	7
13	30.0	636.846	0.37	1.229	1.2	113	248	244	83	81	63	7
14	32.5	638.49	0.36	1.194	1.1	113	246	244	83	81	58	6
15	35.0	640.04	0.38	1.261	1.2	113	248	243	84	81	56	7
16	37.5	641.62	0.42	1.395	1.2	112	248	243	84	81	56	7
17	40.0	643.22	0.45	1.503	1.5	112	247	243	84	81	56	7
18	42.5	645.03	0.46	1.537	1.5	112	247	244	84	81	57	8
19	45.0	646.84	0.48	1.604	1.6	112	246	244	84	81	59	9
20	47.5	648.66	0.5	1.670	1.6	113	245	244	83	81	59	9
21	50.0	650.49	0.52	1.725	1.7	113	246	244	83	81	60	10
22	52.5	652.39	0.52	1.725	1.7	113	247	244	83	81	61	10
23	55.0	654.28	0.51	1.692	1.6	112	247	244	84	81	62	9
24	57.5	656.14	0.48	1.604	1.6	112	247	244	84	81	63	9
End	60.0	657.999										
Average						112.7			82.2		56.7	
0.57 Max							248	254			67	10
Min							228	225			49	
Range							223-273	223-273			32-68	

Time End 1700

Pitot Check
 pos 4.1 0.57 in H2O
 neg 4.2 0.57 in H2O

Leak Check
 cfm 0.010 <0.020 cfm
 vac 11 10 in Hg

Field Data Sheet

Run Number: 3

Facility: New Wales
 Plant: Multifos C-Kiln
 Test Team: RS/PB

Company ID: 1108
 FDEP AIRS & Pt. ID: 10500595074

Date: 8-4-00
 Traverse Points: 24
 Stack Diameter: 36 inches
 Dwell Time: 2.5 min.
 Est % Saturation: 90 %
 Stack Static Pressure: .31 in H2O
 Barometric Pressure: 30.11 in Hg
 Dry Molecular Weight: 28.969

Meter Box Number: 3187
 Meter Delta Ha (in. H2O): 1.742
 Meter Correction Factor: .9969
 Nozzle Identification: .250
 Nozzle Diameter Dn: .250
 Impinger Set Number: P-3
 Probe length/Liner: 5'53
 Filter Set Number: 6

Pitot Check
 pos: 4.6 in H2O
 neg: 4.5 in H2O
 Leak Check
 cfm: .010
 vac: 15 in Hg

Time Start: 1555

Point	Time	Meter Volume	Delta P	Actual Delta H	Stack Temp	Probe Temp	Hot Box Temp.	Meter In Temp	Meter Out Temp	Impinger Temp	Pump Vac
1	0	614.702	.47	1.5	113	228	225	82	82	67	5
2	2.5	616.49	.50	1.6	113	248	254	81	82	56	6
3	5	618.30	.52	1.7	112	247	251	82	82	50	7
4	7.5	620.17	.55	1.8	113	246	241	82	81	49	8
5	10	622.10	.57	1.8	113	245	238	83	82	50	8
6	12.5	624.04	.55	1.8	113	244	239	83	81	51	8
7	15	625.97	.54	1.7	113	245	242	83	81	53	8
8	17.5	627.87	.50	1.6	113	244	241	83	82	54	8
9	20	629.73	.48	1.5	113	247	241	83	81	54	8
10	22.5	631.54	.48	1.5	113	247	241	83	81	55	8
11	25	633.34	.46	1.5	113	246	242	84	81	56	8
12	27.5	635.14	.41	1.3	113	245	243	84	81	56	7
13	30	636.846	.37	1.2	113	248	244	83	81	63	7
14	32.5	638.49	.36	1.1	113	246	244	83	81	58	6
15	35	640.04	.38	1.2	113	248	243	84	81	56	7
16	37.5	641.62	.42	1.2	112	248	243	84	81	56	7
17	40	643.22	.45	1.5	112	247	243	84	81	56	7
18	42.5	645.03	.46	1.5	112	247	244	84	81	57	8
19	45	646.84	.48	1.6	112	246	244	84	81	59	9
20	47.5	648.66	.50	1.6	113	245	244	83	81	59	9
21	50	650.49	.52	1.7	113	246	244	83	81	60	10
22	52.5	652.39	.52	1.7	113	247	244	83	81	61	10
23	55	654.28	.51	1.6	112	247	244	84	81	62	9
24	57.5	656.14	.48	1.6	112	247	244	84	81	63	9
25	60	657.999									
End											

Time End: 1700

Pitot Check
 pos: 4.1 in H2O
 neg: 4.2 in H2O

Leak Check
 cfm: .010
 vac: 11 in Hg

Run 1 Data

Facility: New Wales
 Plant: Multifos C-Kiln
 Company ID: 1108
 FDEP AIRS & Pt. ID: 1050059 & 074
 Test Team: FB,DC,RS

Date: 8/8/00
 Start Time: 840 End Time: 945

Number of Traverse Points: 24
 Dwell Time/Point: 2.5 min.
 Total Test Time: 60 min.

Stack Diameter: 36 inches
 Stack Area: 7.07 sq. ft.

Molecular Weight Dry Md: 28.969
 Volume of Water Vapor Condensed: 82 ml
 Weight of Water Collected in Silica Gel: 14.7 gram
 Moisture Volume Fraction Bwo: 0.0906
 Moisture Volume Saturated Bwo: 0.0902
 Moisture Percent Saturation: 101
 Moisture Used for Calculations: 0.0902
 Stack Molecular Weight Ms: 27.980

Barometric Pressure Pb: 30.15 in Hg
 Stack Static Pressure Pv: 0.32 in H2O
 Stack Pressure Ps: 30.174 in Hg
 Average Meter Delta H: 1.767 in H2O
 Meter Pressure Pm: 30.280 in Hg
 Console Number: 3187
 Meter Delta Ha: 1.742
 Meter Correction Factor: 0.9969

Average Meter Temperature: 84.0 deg. F
 Average Stack Temperature: 111.6 deg. F 44.2 deg C

Average Square Root Delta P: 0.583
 Meter Volume Vm: 46.67 cu. ft.
 Probe Length/Liner: 3' Glass
 Cp: 0.84
 Nozzle Ident.: 0.280
 Nozzle Diameter Dn: 0.280 in.
 Impinger Set Number: S-1
 Average Computer K: 5.2849

Run 1 Data Sheet

Facility: New Wales
 Plant: Multifos C-Kiln
 Team (CB/PR): FB,DC,RS

Company ID: 1108
 FDEP AIRS & Pt. ID: 1050059 & 074

Date	8/8/00
Dwell Time	2.5 min.
Traverse Points	24
Stack Diameter	36 inches
Est % Saturation	90 %
Stack Static Pressure	0.32 in H2O
Barometric Pressure	30.15 in Hg
Dry Molecular Weight	28.969

Meter Box Number	3187
Meter Delta Ha (in. H2O)	1.742
Meter Correction Factor	0.9969
Nozzle Ident.:	0.280
Nozzle Diameter Dn:	0.280
Impinger Set Number:	S-1
Probe length/Liner:	3' Glass
Filter Set Number	1

Pitot Check	
pos	4.2 in H2O
neg	4.4 in H2O
Leak Check	
cfm	0.000 cfm
vac	15 in Hg

Time Start **840**

Point	Time	Meter Volume	Delta P	Calc'd Delta H	Actual Delta H	Stack Temp	Probe Temp	Hot Box Temp.	Meter In Temp	Meter Out Temp	Impinger Temp	Pump Vac
1	0.0	662.61	0.3	1.598	1.5	109			79	81	60	7
2	2.5	664.36	0.4	2.130	2.1	110			79	79	55	8
3	5.0	666.48	0.4	2.114	2.1	111			82	81	55	9
4	7.5	668.6	0.4	2.112	2.1	112			83	81	55	10
5	10.0	670.67	0.4	2.101	2.1	112			83	81	55	10
6	12.5	672.71	0.37	1.944	1.9	112			84	81	55	10
7	15.0	674.71	0.37	1.946	1.9	112			85	81	55	10
8	17.5	676.85	0.33	1.737	1.7	111			86	81	56	9
9	20.0	678.88	0.3	1.590	1.5	111			87	81	57	7
10	22.5	680.71	0.25	1.326	1.3	113			88	81	57	6
11	25.0	682.41	0.22	1.154	1.1	112			88	81	57	5
12	27.5	684.01	0.2	1.056	1	112			88	81	58	5
13	30.0	685.51	0.35	1.847	1.8	111			86	79	62	7
14	32.5	687.45	0.4	2.116	2.1	112			88	80	58	10
15	35.0	689.48	0.35	1.845	1.8	112			88	80	55	9
16	37.5	691.41	0.39	2.056	2	111			90	80	55	9
17	40.0	693.55	0.35	1.860	1.8	112			90	80	57	9
18	42.5	695.51	0.36	1.902	1.9	112			91	80	57	9
19	45.0	697.54	0.4	2.115	2.1	112			91	80	57	10
20	47.5	699.55	0.35	1.851	1.8	112			91	80	58	9
21	50.0	701.56	0.35	1.851	1.8	112			92	80	58	9
22	52.5	703.58	0.34	1.799	1.7	112			92	82	59	9
23	55.0	705.56	0.29	1.538	1.5	112			92	82	59	9
24	57.5	707.31	0.35	1.856	1.8	112			92	82	60	8
End	60.0	709.28										

Average	111.6	84.0	57.1
0.4 Max			62
Min			55
Range			32-68

Time End **945**

Pitot Check		Min Value
pos	4.4	0.4 in H2O
neg	4.6	0.4 in H2O
Leak Check		
cfm	0.000	<0.020 cfm
vac	12	10 in Hg

Field Data Sheet

Run Number: 1

Facility: New Wales
 Plant: MULTI-PHASE C-KITN SO2
 Test Team: FB, DC, RS

Company ID: 1108
 FDEP AIRS & Pt. ID: 1050059-074-AV

Date: 8/8/00
 Traverse Points: 24
 Stack Diameter: 36 inches
 Dwell Time: 2.5 min.
 Est % Saturation: 90 %
 Stack Static Pressure: .32 in H2O
 Barometric Pressure: 30.15 in Hg
 Dry Molecular Weight: 28.969

Meter Box Number: 387
 Meter Delta Ha (in. H2O): 1.742
 Meter Correction Factor: .9969
 Nozzle Identification: .280
 Nozzle Diameter Dn: .280
 Impinger Set Number: 5-1
 Probe length/Liner: 3' 6 1/8"
 Filter Set Number: 1

Pitot Check
 pos: 4.2 in H2O
 neg: 4.4 in H2O
 Leak Check
 cfm: .000
 vac: 15 in Hg

Time Start: 840

Point	Time	Meter Volume	Delta P	Actual Delta H	Stack Temp	Probe Temp	Hot Box Temp.	Meter In Temp	Meter Out Temp	Impinger Temp	Pump Vac
1	0	662.61	.30	1.5	109	N/A	N/A	79	81	62	7
2	2.5	664.36	.40	2.1	110			79	79	55	8
3	5	666.48	.40	2.1	111			82	81	55	9
4	7.5	668.60	.40	2.1	112			83	81	55	10
5	10	670.67	.40	2.1	112			83	81	55	10
6	12.5	672.71	.37	1.9	112			84	81	55	10
7	15	674.71	.37	1.9	112			85	81	55	10
8	17.5	676.85	.33	1.7	111			86	81	56	9
9	20	678.88	.30	1.5	111			87	81	57	7
10	22.5	680.71	.25	1.3	113			88	81	57	6
11	25	682.41	.22	1.1	112			88	81	57	5
12	27.5	684.01	.20	1.0	112			88	81	58	5
13	30	685.51	.35	1.8	111			86	79	62	7
14	32.5	687.45	.40	2.1	112			88	80	58	10
15	35	689.48	.35	1.8	112			88	80	55	9
16	37.5	691.41	.39	2.0	111			90	80	55	9
17	40	693.55	.35	1.8	112			90	80	57	9
18	42.5	695.51	.36	1.9	112			91	80	57	9
19	45	697.54	.40	2.1	112			91	80	57	10
20	47.5	699.55	.35	1.8	112			91	80	58	9
21	50	701.56	.35	1.8	112			92	80	58	9
22	52.5	703.58	.34	1.7	112			92	82	59	9
23	55	705.56	.29	1.5	112			92	82	59	9
24	57.5	707.31	.35	1.8	112			92	82	60	8
25	60	709.28									
End											

Time End: 945

Pitot Check
 pos: 4.4 in H2O
 neg: 4.6 in H2O

Leak Check
 cfm: .000
 vac: 12 in Hg

Run 2 **Calculations and Results**

Facility: New Wales
Plant: Multifos C-Kiln
Company ID: 1108
FDEP AIRS & Pt. ID: 1050059 & 074
Test Team: FB,DC,RS

Date: 8/8/00
Start Time: 1000 End Time: 1105

Standard Meter Volume Vms: 45.24 dscf

Average Stack Velocity: 34.83 fps

Stack Gas Volume: 14763 ACFM

Stack Gas Dry Volume: 12504 DSCFM

Isokinetic Variation: 99.71 %

Isokinetics Adjusted For Bws>Saturation: NA %

Vlc calculated for Saturated Conditions: NA ml H2O

Emission Calculations

Sulfur Dioxide Total mg: 86.3 mg
3.15 lb/hr
75.66 lb/day

Run 2 Data

Facility: New Wales
 Plant: Multifos C-Kiln
 Company ID: 1108
 FDEP AIRS & Pt. ID: 1050059 & 074
 Test Team: FB,DC,RS

Date: 8/8/00
 Start Time: 1000 End Time: 1105

Number of Traverse Points: 24
 Dwell Time/Point: 2.5 min.
 Total Test Time: 60 min.

Stack Diameter: 36 inches
 Stack Area: 7.07 sq. ft.

Molecular Weight Dry Md: 28.969
 Volume of Water Vapor Condensed: 84 ml
 Weight of Water Collected in Silica Gel: 10.0 gram
 Moisture Volume Fraction Bwo: 0.0891
 Moisture Volume Saturated Bwo: 0.0928
 Moisture Percent Saturation: 96
 Moisture Used for Calculations: 0.0891
 Stack Molecular Weight Ms: 27.992

Barometric Pressure Pb: 30.15 in Hg
 Stack Static Pressure Pv: 0.32 in H2O
 Stack Pressure Ps: 30.174 in Hg
 Average Meter Delta H: 1.813 in H2O
 Meter Pressure Pm: 30.283 in Hg
 Console Number: 3187
 Meter Delta Ha: 1.742
 Meter Correction Factor: 0.9969

Average Meter Temperature: 89.3 deg. F
 Average Stack Temperature: 112.6 deg. F 44.8 deg C

Average Square Root Delta P: 0.589
 Meter Volume Vm: 46.66 cu. ft.
 Probe Length/Liner: 3' Glass
 Cp: 0.84
 Nozzle Ident.: 0.280
 Nozzle Diameter Dn: 0.280 in.
 Impinger Set Number: S-3
 Average Computer K: 5.3005

Run 2 Data Sheet

Facility: New Wales
 Plant: Multifos C-Kiln
 Team (CB/PR): FB,DC,RS

Company ID: 1108
 FDEP AIRS & Pt. ID: 1050059 & 074

Date 8/8/00
 Dwell Time 2.5 min.
 Traverse Points 24
 Stack Diameter 36 inches
 Est % Saturation 90 %
 Stack Static Pressure 0.32 in H2O
 Barometric Pressure 30.15 in Hg
 Dry Molecular Weight 28.969

Meter Box Number 3187
 Meter Delta Ha (in. H2O) 1.742
 Meter Correction Factor 0.9969
 Nozzle Ident.: 0.280
 Nozzle Diameter Dn: 0.280
 Impinger Set Number: S-3
 Probe length/Liner: 3' Glass
 Filter Set Number 2

Pitot Check
 pos 4.3 in H2O
 neg 4.7 in H2O
 Leak Check
 cfm 0.010 cfm
 vac 15 in Hg

Time Start 1000

Point	Time	Meter Volume	Delta P	Calc'd Delta H	Actual Delta H	Stack Temp	Probe Temp	Hot Box Temp.	Meter In Temp	Meter Out Temp	Impinger Temp	Pump Vac
1	0.0	709.664	0.44	2.309	2.3	112			82	81	65	9
2	2.5	711.81	0.43	2.257	2.5	112			87	82	60	9
3	5.0	714.05	0.41	2.164	2.1	113			89	82	56	8
4	7.5	716.2	0.39	2.050	2	113			90	82	55	8
5	10.0	718.24	0.35	1.841	1.8	112			92	82	54	7
6	12.5	720.21	0.35	1.856	1.8	112			94	83	54	7
7	15.0	722.17	0.34	1.808	1.8	113			96	83	56	7
8	17.5	724.15	0.33	1.747	1.7	113			97	83	56	7
9	20.0	726.06	0.34	1.802	1.8	113			97	84	57	7
10	22.5	727.99	0.35	1.856	1.8	113			98	84	60	7
11	25.0	729.92	0.32	1.699	1.6	113			98	84	60	6
12	27.5	731.79	0.29	1.539	1.5	112			98	84	62	6
13	30.0	733.593	0.27	1.442	1.4	113			91	83	66	5
14	32.5	735.29	0.3	1.581	1.5	112			95	84	62	6
15	35.0	737.05	0.34	1.811	1.8	113			96	84	60	7
16	37.5	738.96	0.36	1.908	1.9	113			97	84	58	7
17	40.0	740.93	0.36	1.909	1.9	113			97	84	56	7
18	42.5	742.9	0.39	2.068	2	113			98	85	57	8
19	45.0	744.92	0.41	2.179	2.1	112			98	85	57	8
20	47.5	746.98	0.37	1.978	1.9	112			98	85	58	7
21	50.0	748.98	0.32	1.711	1.7	113			98	85	60	7
22	52.5	750.91	0.3	1.594	1.5	113			98	85	62	6
23	55.0	752.71	0.32	1.700	1.7	113			98	85	64	6
24	57.5	754.56	0.28	1.488	1.4	112			98	85	65	6
End	60.0	756.328										

Average 112.6
 0.44 Max 89.3
 Min 59.2
 Range 32-68

Time End 1105

Pitot Check Min Value
 pos 4.6 0.44 in H2O
 neg 5.0 0.44 in H2O
 Leak Check
 cfm 0.010 <0.020 cfm
 vac 10 9 in Hg

Field Data Sheet

Run Number: 2

Facility: New Wales
 Plant: Multifos C-KLN 502
 Test Team: FB, DC, MS

Company ID: 1108
 FDEP AIRS & Pt. ID: 1050059 E 074

Date: 8/18/00
 Traverse Points: 24
 Stack Diameter: 36 inches
 Dwell Time: 2.5 min.
 Est % Saturation: 90 %
 Stack Static Pressure: .32 in H2O
 Barometric Pressure: 30.15 in Hg
 Dry Molecular Weight: 28.969

Meter Box Number: 3187
 Meter Delta Ha (in. H2O): 1.742
 Meter Correction Factor: .9869
 Nozzle Identification: .280
 Nozzle Diameter Dn: .280
 Impinger Set Number: 5-2
 Probe length/Liner: 3' 6/16
 Filter Set Number: 2

Pitot Check
 pos: 4.3 in H2O
 neg: 4.7 in H2O
 Leak Check
 cfm: .010
 vac: 15 in Hg

Time Start: 1000

Point	Time	Meter Volume	Delta P	Actual Delta H	Stack Temp	Probe Temp	Hot Box Temp.	Meter In Temp	Meter Out Temp	Impinger Temp	Pump Vac
1	0	709.664	.44	2.3	112			82	81	65	9
2	2.5	711.81	.43	2.5	112			87	82	60	9
3	5	714.05	.41	2.1	113			89	82	56	8
4	7.5	716.20	.39	2.0	113			90	82	55	8
5	10	718.24	.35	1.8	112			92	82	54	7
6	12.5	720.21	.35	1.8	112			94	83	54	7
7	15	722.17	.34	1.8	113			96	83	56	7
8	17.5	724.15	.33	1.7	113			97	83	56	7
9	20	726.06	.34	1.8	113			97	84	57	7
10	22.5	727.99	.35	1.8	113			98	84	60	7
11	25	729.92	.32	1.6	113			98	84	60	6
12	27.5	731.79	.29	1.5	112			98	84	62	6
13	30	733.593	.27	1.4	113			91	83	66	5
14	32.5	735.29	.30	1.5	112			95	84	62	6
15	35	737.05	.34	1.8	113			96	84	60	7
16	37.5	738.96	.36	1.9	113			97	84	58	7
17	40	740.93	.36	1.9	113			97	84	56	7
18	42.5	742.90	.39	2.0	113			98	85	57	8
19	45	744.92	.41	2.1	112			98	85	57	8
20	47.5	746.98	.37	1.9	112			98	85	58	7
21	50	748.98	.32	1.7	113			98	85	60	7
22	52.5	750.91	.30	1.5	113			98	85	62	6
23	55	752.71	.32	1.7	113			98	85	64	6
24	57.5	754.56	.28	1.4	112			98	85	65	6
25	60	756.328									
End											

Time End: 1105

Pitot Check
 pos: 4.6 in H2O
 neg: 5.0 in H2O

Leak Check
 cfm: .010
 vac: 10 in Hg

Run 3 **Calculations and Results**

Facility: New Wales
Plant: Multifos C-Kiln
Company ID: 1108
FDEP AIRS & Pt. ID: 1050059 & 074
Test Team: FB,DC,RS

Date: 8/8/00
Start Time: 1114 End Time: 1220

Standard Meter Volume Vms: 45.91 dscf

Average Stack Velocity: 35.63 fps

Stack Gas Volume: 15103 ACFM

Stack Gas Dry Volume: 12768 DSCFM

Isokinetic Variation: 99.11 %

Isokinetics Adjusted For Bws>Saturation: NA %

Vlc calculated for Saturated Conditions: NA ml H2O

Emission Calculations

Sulfur Dioxide	Total mg:	172.0 mg
		6.32 lb/hr
		151.71 lb/day

Run 3 Data

Facility: New Wales
 Plant: Multifos C-Kiln
 Company ID: 1108
 FDEP AIRS & Pt. ID: 1050059 & 074
 Test Team: FB,DC,RS

Date: 8/8/00
 Start Time: 1114 End Time: 1220

Number of Traverse Points: 24
 Dwell Time/Point: 2.5 min.
 Total Test Time: 60 min.

Stack Diameter: 36 inches
 Stack Area: 7.07 sq. ft.

Molecular Weight Dry Md: 28.969
 Volume of Water Vapor Condensed: 85 ml
 Weight of Water Collected in Silica Gel: 10.7 gram
 Moisture Volume Fraction Bwo: 0.0894
 Moisture Volume Saturated Bwo: 0.0953
 Moisture Percent Saturation: 94
 Moisture Used for Calculations: 0.0894
 Stack Molecular Weight Ms: 27.989

Barometric Pressure Pb: 30.15 in Hg
 Stack Static Pressure Pv: 0.32 in H2O
 Stack Pressure Ps: 30.174 in Hg
 Average Meter Delta H: 1.858 in H2O
 Meter Pressure Pm: 30.287 in Hg
 Console Number: 3187
 Meter Delta Ha: 1.742
 Meter Correction Factor: 0.9969

Average Meter Temperature: 85.7 deg. F
 Average Stack Temperature: 113.5 deg. F 45.3 deg C

Average Square Root Delta P: 0.602
 Meter Volume Vm: 47.04 cu. ft.
 Probe Length/Liner: 3' Glass
 Cp: 0.84
 Nozzle Ident.: 0.280
 Nozzle Diameter Dn: 0.280 in.
 Impinger Set Number: S-2
 Average Computer K: 5.2391

Run 3 Data Sheet

Facility: New Wales
 Plant: Multifos C-Kiln
 Team (CB/PR): FB,DC,RS

Company ID: 1108
 FDEP AIRS & Pt. ID: 1050059 & 074

Date 8/8/00
 Dwell Time 2.5 min.
 Traverse Points 24
 Stack Diameter 36 inches
 Est % Saturation 90 %
 Stack Static Pressure 0.32 in. H2O
 Barometric Pressure 30.15 in Hg
 Dry Molecular Weight 28.969

Meter Box Number 3187
 Meter Delta Ha (in. H2O) 1.742
 Meter Correction Factor 0.9969
 Nozzle Ident.: 0.280
 Nozzle Diameter Dn: 0.280
 Impinger Set Number: S-2
 Probe length/Liner: 3' Glass
 Filter Set Number 3

Pitot Check
 pos 4.5 in H2O
 neg 4.6 in H2O

Leak Check
 cfm 0.005 cfm
 vac 15 in Hg

Point	Time	Meter Volume	Delta P	Time Start Calc'd Delta H	Actual Delta H	Stack Temp	Probe Temp	Hot Box Temp.	Meter In Temp	Meter Out Temp	Impinger Temp	Pump Vac
1	0.0	756.793	0.28	1.463	1.4	113			83	82	67	5
2	2.5	758.51	0.33	1.725	1.7	113			86	81	62	7
3	5.0	760.37	0.36	1.885	1.8	112			88	82	55	8
4	7.5	762.3	0.38	2.007	2	113			90	82	55	9
5	10.0	764.34	0.42	2.209	2.2	113			91	82	54	10
6	12.5	766.43	0.41	2.159	2.1	112			92	83	54	10
7	15.0	768.53	0.4	2.123	2.1	113			93	83	53	10
8	17.5	770.61	0.38	2.006	2	114			93	82	53	10
9	20.0	772.67	0.39	2.045	2	114			94	83	53	10
10	22.5	774.67	0.37	1.943	1.9	114			93	83	55	11
11	25.0	776.64	0.34	1.784	1.7	114			93	83	56	11
12	27.5	778.53	0.35	1.837	1.8	113			93	83	57	12
13	30.0	780.417	0.38	2.006	2	114			84	81	64	12
14	32.5	782.43	0.44	2.286	2.2	114			84	81	58	9
15	35.0	784.55	0.42	2.182	2.1	114			84	81	55	9
16	37.5	786.66	0.44	2.286	2.2	114			84	81	55	9
17	40.0	788.77	0.37	1.922	1.9	114			87	81	56	8
18	42.5	790.75	0.34	1.771	1.7	113			86	81	57	8
19	45.0	792.65	0.34	1.780	1.7	114			89	81	59	7
20	47.5	794.55	0.33	1.722	1.7	114			90	81	60	7
21	50.0	796.43	0.35	1.828	1.8	114			91	82	62	8
22	52.5	798.37	0.31	1.622	1.6	114			93	82	64	8
23	55.0	800.26	0.3	1.573	1.5	114			93	82	65	7
24	57.5	802.05	0.3	1.573	1.5	114			94	82	66	7
End	60.0	803.835										
						Average	113.5		85.7		58.1	
						0.44 Max					67	12
						Min					53	
						Range					32-68	

Time End 1220

Pitot Check Min Value
 pos 4.4 0.44 in H2O
 neg 4.9 0.44 in H2O

Leak Check
 cfm 0.005 <0.020 cfm
 vac 13 12 in Hg

Field Data Sheet

Run Number: 3

Facility: New Wales
 Plant: Multifas C-Kiln SO₂
 Test Team: OC, RS, FB

Company ID: 1108
 FDEP AIRS & Pt. ID: 1050059, 074

Date: 8-8-00
 Traverse Points: 24
 Stack Diameter: 36 inches
 Dwell Time: 2.5 min.
 Est % Saturation: 90 %
 Stack Static Pressure: .32 in H₂O
 Barometric Pressure: 30.15 in Hg
 Dry Molecular Weight: 28.969

Meter Box Number: 3187
 Meter Delta Ha (in. H₂O): 1.742
 Meter Correction Factor: .9969
 Nozzle Identification: .280
 Nozzle Diameter Dn: .280
 Impinger Set Number: S-2
 Probe length/Liner: 3' GLASS
 Filter Set Number: 3

Pitot Check
 pos: 4.5 in H₂O
 neg: 4.6 in H₂O
 Leak Check
 cfm: .005
 vac: 15 in Hg

Time Start: 1114

Point	Time	Meter Volume	Delta P	Actual Delta H	Stack Temp	Probe Temp	Hot Box Temp.	Meter In Temp	Meter Out Temp	Impinger Temp	Pump Vac
1	0	756.793	.28	1.4	113			94	84	67	5
2	2.5	758.51	.33	1.7	113			86	81	62	7
3	5	760.37	.36	1.8	112			88	82	55	8
4	7.5	762.30	.38	2.0	113			90	82	55	9
5	10	764.34	.42	2.2	113			91	82	54	10
6	12.5	766.43	.41	2.1	112			92	83	54	10
7	15	768.53	.40	2.1	113			93	83	53	10
8	17.5	770.61	.38	2.0	114			93	82	53	10
9	20	772.67	.39	2.0	114			94	83	53	10
10	22.5	774.67	.37	1.9	114			93	83	55	11
11	25	776.64	.34	1.7	114			93	83	56	11
12	27.5	778.53	.35	1.8	113			93	83	57	12
13	30	780.417	.38	2.0	114			84	81	64	12
14	32.5	782.43	.44	2.2	114			84	81	58	9
15	35	784.55	.42	2.1	114			84	81	55	9
16	37.5	786.66	.44	2.2	114			84	81	55	9
17	40	788.77	.37	1.9	114			87	81	56	8
18	42.5	790.75	.34	1.7	113			86	81	57	8
19	45	792.65	.34	1.7	114			89	81	59	7
20	47.5	794.55	.33	1.7	114			90	81	60	7
21	50	796.43	.35	1.8	114			91	82	62	8
22	52.5	798.37	.31	1.6	114			93	82	64	8
23	55	800.26	.30	1.5	114			93	82	65	7
24	57.5	802.05	.30	1.5	114			94	82	66	7
25	60	803.875									
End											

Time End: 1220

Pitot Check
 pos: 4.4 in H₂O
 neg: 4.9 in H₂O

Leak Check
 cfm: .005
 vac: 13 in Hg

Analytical Data

IMC Phosphates Company

Particulate and Moisture Data Sheet Method 5 & 13B Combined

Facility NEW WALES

Date : 08/04/00

Plant MULTIFOS C- KILN

Run 1

Impinger Set Number: P-2

Impinger Number:	1	2	3	4
Final (grams/mls):	156	114	0	331.5
Initial (grams/mls):	100	100	0	320.6
Difference (grams/mls):	56	14	0	10.9
Total Moisture Collected:			70 mls	10.9 gram

Filter Set Number: 4

Filter Analysis		Probe Wash Analysis	
Filter Number:	66	Beaker Number:	70
Final Weight	0.8132	Final Weight:	104.0672
Initial Weight:	0.6769	Initial Weight:	104.0632
Difference:	0.1363	Difference:	0.0040

Fluoride and Particulate Calculations

Fluoride

Probe Wash Fluoride mg	0.63
Impinger Fluoride mg:	0.15
Filter Fluoride mg:	15.00
Total Fluoride mg:	15.78

Particulate

Probe Wash Particulate mg	4.0
Filter Particulate mg:	136.3

Total Particulate mg:	140.3
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IMC Phosphates Company

Particulate and Moisture Data Sheet Method 5 & 13B Combined

Facility NEW WALES

Date: 08/04/00

Plant MULTIFOS C- KILN

Run 2

Impinger Set Number: F-3

Impinger Number:	1	2	3	4
Final (grams/mls):	160	110	0	343.7
Initial (grams/mls):	100	100	0	334.3
Difference (grams/mls):	60	10	0	9.4
Total Moisture Collected:			70 mls	9.4 gram

Filter Set Number: 5

Filter Analysis		Probe Wash Analysis	
Filter Number:	67	Beaker Number:	M
Final Weight	0.7813	Final Weight:	144.2870
Initial Weight:	0.6964	Initial Weight:	144.2800
Difference:	0.0849	Difference:	0.0070

Fluoride and Particulate Calculations

Fluoride

Probe Wash Fluoride mg	0.51
Impinger Fluoride mg:	0.14
Filter Fluoride mg:	13.00
Total Fluoride mg:	13.65

Particulate

Probe Wash Particulate mg	7.0
Filter Particulate mg:	84.9

Total Particulate mg:	91.9
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IMC Phosphates Company

Particulate and Moisture Data Sheet Method 5 & 13B Combined

Facility NEW WALES

Date : 08/04/00

Plant MULTIFOS C- KILN

Run 3

Impinger Set Number: P-3

Impinger Number:	1	2	3	4
Final (grams/mls):	160	110	0	371.5
Initial (grams/mls):	100	100	0	362.3
Difference (grams/mls):	60	10	0	9.2
Total Moisture Collected:			70 mls	9.2 gram

Filter Set Number: 6

Filter Analysis		Probe Wash Analysis	
Filter Number:	68	Beaker Number:	10
Final Weight	0.7357	Final Weight:	97.6201
Initial Weight:	0.6777	Initial Weight:	97.6185
Difference:	0.0580	Difference:	0.0016

Fluoride and Particulate Calculations

Fluoride

Probe Wash Fluoride mg	2.08
Impinger Fluoride mg:	0.19
Filter Fluoride mg:	5.80
Total Fluoride mg:	8.07

Particulate

Probe Wash Particulate mg	1.6
Filter Particulate mg:	58.0

Total Particulate mg:	59.6
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Run 1

IMC-Agrico Company

Moisture Data Sheet Method 8

Facility New Wales

Date : 8/8/00

Plant Multifos C-Kiln

Run 1

Impinger Set Number:	S-1			
Impinger Number:	1	2	3	4
Final (grams/mls):	163	114	105	341.7
Initial (grams/mls):	100	100	100	327.0
Difference (grams/mls):	63	14	5	14.7
Total Moisture Collected:			82 mls	14.7 gram

Sulfur Dioxide

Laboratory mg 75.30

IMC-Agrico Company

Moisture Data Sheet Method 8

Facility New Wales

Date : 8/8/00

Plant Multifos C-Kiln

Run 2

Impinger Set Number:	S-3			
Impinger Number:	1	2	3	4
Final (grams/mls):	164	116	104	323.5
Initial (grams/mls):	100	100	100	313.5
Difference (grams/mls):	64	16	4	10.0
Total Moisture Collected:			84 mls	10.0 gram

Sulfur Dioxide

Laboratory mg 86.30

IMC-Agrico Company**Moisture Data Sheet
Method 8**Facility New Wales

Date : 8/8/00

Plant Multifos C-Kiln

Run 3

Impinger Set Number:	S-2			
Impinger Number:	1	2	3	4
Final (grams/mls):	164	116	105	311.3
Initial (grams/mls):	100	100	100	300.6
Difference (grams/mls):	64	16	5	10.7
Total Moisture Collected:			85 mls	10.7 gram

Sulfur Dioxide

Laboratory mg 172.00

Laboratory Analysis Data

This report details the laboratory analysis results for the following source:

Project: Multifos C-Kiln
 Facility: New Wales Operations
 Point ID: 74
 AIRS: 1050059
 Permit Number: 1050059-014-AV (1050059-024-AC)
 Test Date: August 4 & 8, 2000
 Test Time: 1224-1700, 0840-1220

				Run 1	Run 2	Run 3
Titrant Blank		Vtb	ml	0.02	0.02	0.02
Barium Perchlorate Normality		N	meq/ml	0.0105	0.0105	0.0105
Volume of aliquot SO2		Va(SO2)	ml	20	20	20
Volume of Solution SO2		Vsoln(SO2)	ml	1000	1000	1000
Volume of Titrant SO2		Vt(SO2)	ml	4.6	5.2	10.2
Replicant						
Volume of aliquot SO2		Va(SO2)	ml	20	20	20
Volume of Solution SO2		Vsoln(SO2)	ml	1000	1000	1000
Volume of Titrant SO2		Vt(SO2)	ml	4.4	5.1	10.3
Average						
Volume of Titrant SO2		Vt(SO2)	ml	4.5	5.15	10.25
Calculated mg SO2		SO2 mg	mg	75.3	86.3	172.0

Calibrations

BEST AVAILABLE COPY

IMC Phosphates Company

Post Test Dry Gas Meter Calibration Form

Facility: New Wales

Plant: Multifos C-Kiln

Meter Box Number: 3187

Date: 9/7/00

Barometric Pressure, Pb: 30.05

Standard Test Meter Number: 693497

Delta H	Gas Volume				Temperature, F				Time min.	Yi	Delta H@
	Standard Meter		Dry Gas Meter		Standard Meter		Dry Gas Meter				
	Initial	Final	Initial	Final	Inlet	Outlet	Inlet	Outlet			
1.8	862.72	873.63	109.44	120.51	62	66	72	72	15	0.9962	1.8526
1.8	873.63	884.56	120.51	131.58	62	66	72	72	15	0.9980	1.8458
1.8	884.56	895.5	131.58	142.66	62	66	74	72	15	0.9999	1.8390

Delta H to be at intermediate setting from test.

Test Performed at Vacuum: 12 in Hg

Tolerance	+/- 0.02	+/- 0.15
Deviation	0.0019	0.0068
Average	0.998	1.846

Percentage Difference in Yi Pretest vs Post Test. 0.12 %

Pretest Yi Value 0.9969

Percentage Difference cannot exceed 5%

Person Performing Calibration:

Flint Barnes

 Flint Barnes

IMC Phosphates Company

Post Test Dry Gas Meter Calibration Form

Facility: NEW WALES

Plant: MULTIFOS C - KILN

Meter Box Number: 3187

Date: 8/16/00

Barometric Pressure, Pb: 30.16

Standard Test Meter Number: 693497

Delta H	Gas Volume				Temperature, F				Time min.	Yi	Delta H@
	Standard Meter		Dry Gas Meter		Standard Meter		Dry Gas Meter				
	Initial	Final	Initial	Final	Inlet	Outlet	Inlet	Outlet			
1.5	792.019	802.431	174.974	185.633	67	70	81	73	15	0.9889	1.7020
1.5	802.431	812.852	185.633	196.304	68	70	83	75	15	0.9914	1.6959
1.5	812.852	823.263	196.304	206.978	68	70	84	76	15	0.9920	1.6960

Delta H to be at intermediate setting from test.

Test Performed at Vacuum: 15 in Hg

Tolerance	+/- 0.02	+/- 0.15
Deviation	0.0019	0.0040
Average	0.9908	1.698

Percentage Difference in Yi Pretest vs Post Test. 0.61 %

Pretest Yi Value 0.9969

Percentage Difference cannot exceed 5%

Person Performing Calibration:

Ross Sellers

 Ross Sellers

IMC-Agrico Company

Dry Gas Meter Calibration Form

Meter Box Number: 3187

Date: 02/08/00

Barometric Pressure, Pb: 30.25

Standard Test Meter Number: 693497

Delta H	Gas Volume				Temperature, F				Time min.	Yi	Delta H@
	Standard Meter		Dry Gas Meter		Standard Meter		Dry Gas Meter				
	Initial	Final	Initial	Final	Inlet	Outlet	Inlet	Outlet			
0.5	60.271	65.638	43.039	48.515	70	71	75	74	14	0.9863	1.8772
1	65.969	71.027	48.852	53.982	70	71	75	74	9	0.9910	1.7470
1.5	71.662	77.16	54.624	60.198	70	71	80	74	8	0.9948	1.7442
2	77.793	83.385	60.736	66.395	70	71	81	74	7	0.9964	1.7196
3	84.125	90.099	67.238	73.163	70	71	81	74	6	1.0142	1.6604
4	91.448	97.122	74.617	80.318	70	71	80	75	5	0.9987	1.7043
									Tolerance	+/- 0.02	+/- 0.15
									Deviation	0.0173	0.1351
									Average	0.9969	1.742

Person Performing Calibration:

Flint Barnes

Flint Barnes

IMC-AGRICO CO. NEW WALES

ENVIRONMENTAL Department

THERMOMETER CALIBRATIONS

Calibrated BY

Flint Barnes
FLINT BARNES

DATE	ID NO.	TYPE	RANGE	ICE BATH			TEPID WATER			BOILING WATER		
				STD THERM	TEMP	% or o DIFF	STD THERM	TEMP	% or o DIFF	STD THERM	TEMP	
6/26/00	OM1	Them	Dig	38	38	0	62	62	0	210	210	0
6/26/00												
6/26/00	OM2	Them	Dig	38	38	0	62	62	0	210	210	0
6/26/00												
6/26/00	OM3	Them	Dig	38	38	0	62	62	0	210	210	0
6/26/00												
6/26/00	OM4	Them	Dig	34	34	0	62	62	0	210	210	0
6/26/00												
6/26/00	PS3	T/T	Dig	34	34	0	72	72	0	212	212	0
6/26/00												
6/26/00	PSA (5)	T/T	Dig	34	34	0	68	68	0	210	210	0
6/26/00												
6/26/00	PSB (5)	T/T	Dig	34	34	0	70	69	1	210	210	0
6/26/00												
6/26/00	PSC (5)	T/T	Dig	34	34	0	70	70	0	210	210	0
6/26/00												
6/26/00	PS8-OLD	T/T	Dig	34	34	0	72	72	0	210	210	0
6/26/00												
6/26/00	PS6.5	T/T	Dig	34	34	0	68	68	0	212	212	0
6/26/00												
6/26/00	PG3	T/T	Dig	34	34	0	72	72	0	210	210	0
6/26/00												
6/26/00	PG5	T/T	Dig	34	34	0	70	70	0	212	212	0
6/26/00												
6/26/00	E1	T/T	Dig	34	34	0	68	68	0	0		0
6/26/00												
6/26/00	E2	T/T	Dig	34	34	0	68	68	0	0		0
6/26/00												
6/26/00	E3	T/T	Dig	34	34	0	70	70	0	0		0
6/26/00												
6/26/00	E4	T/T	Dig	34	34	0	68	68	0	0		0
6/26/00												
6/26/00	HB1	T/T	Dig	0	0	0	70	70	0	212	212	0
6/26/00												
6/26/00	HB2	T/T	Dig	0	0	0	70	70	0	210	210	0
6/26/00												
6/26/00	HB3	T/T	Dig	0	0	0	72	72	0	212	212	0
6/26/00												
6/26/00	HB4	T/T	Dig	0	0	0	70	70	0	210	210	0
6/26/00												
6/26/00	PS 8 NE	T/T	Dig	34	34	0	68	68	0	210	210	0
								PS	STEEL	PROBE		
								PG	GLASS	PROBE		
								E	EXIT	ADAPTOR		
								HB	HOT	BOX		
								Them	Digital	Thermometer		
								T/T	Thermometer-Them-Couple			

IMC-Agrico Company

Environmental Department

Nozzle Size Calibration

Facility: New Wales

Plant: Multifas C-KILN

Date: 8-4-00

Nozzle ID	Run Number	D-1	D-2	D-3	Delta	Average
.250	1, 2, 3	.250	.250	.251	.001	.251

D-1, D-2, D-3 Measurement of Diameter at Three locations
Three Decimal Places required.

Delta Maximum Difference in a D-1, D-2, D-3.
Value not to exceed 0.004.

Average Average of D-1, D-2, D-3.
Three Decimal Places required.

Person Performing Calibration:

Stephen L. Sellers

IMC-Agrico Company

Environmental Department

Nozzle Size Calibration

Facility: New Wales

Plant: Multifos C-Kiln

Date: 8-8-00

Nozzle ID	Run Number	D-1	D-2	D-3	Delta	Average
.280	1, 2, 3	.280	.281	.280	.001	.280

D-1, D-2, D-3

Measurement of Diameter at Three locations
Three Decimal Places required.

Delta

Maximum Difference in a D-1, D-2, D-3.
Value not to exceed 0.004.

Average

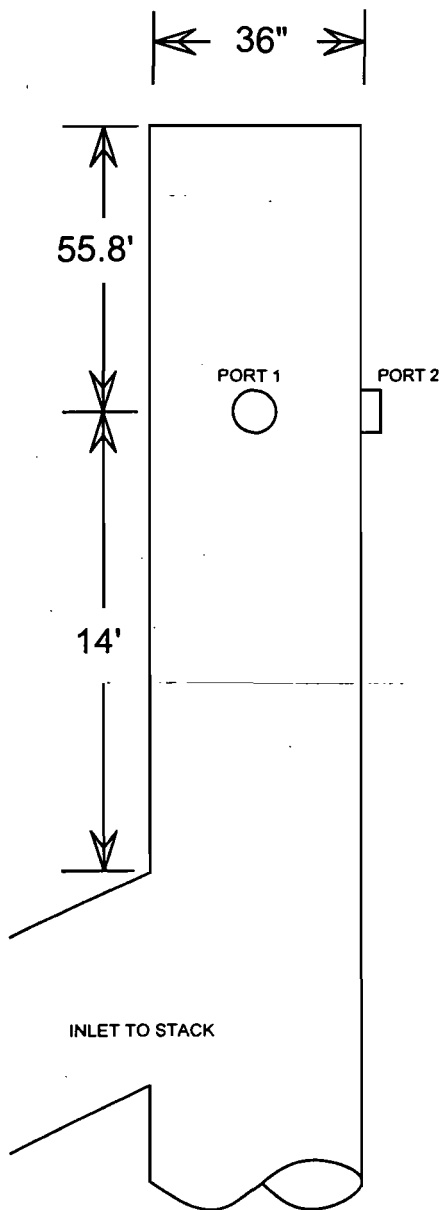
Average of D-1, D-2, D-3.
Three Decimal Places required.

Person Performing Calibration:

Stephen R. Sellers

Stack Diagram and Sampling Locations

SAMPLE PORT LOCATION
 NEW WALES OPERATIONS
 MULTIFOS C KILN



POINT NO.	INCHES INSIDE STACK WALL
1	1.00
2	2.41
3	4.25
4	6.38
5	9.00
6	12.80
7	23.20
8	27.00
9	29.62
10	31.75
11	33.59
12	35.00

PREPARED: CDT	TITLE: TRAVERSE POINT LOCATION	IMC-AGRIC CO.	
DATE:		LOCATION: NEW WALES	FILE:
REVISED:		SCALE:	DRAWING NO.:



IMC

xc: Stack Team – UR Bldg.
A. A. Linero

Certified Mail 7099 3400 0005 0929 3477
Return Receipt Requested

September 11, 2000

Mr. W. C. Thomas, P. E.
Florida Department of
Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619-8318

RECEIVED

SEP 13 2000

BUREAU OF AIR REGULATION

RE: Multifos C-Kiln
Permit ID No. 1050059-014-AV (1050059-024-AC)
Unit ID No. 074
New Wales Plant

Dear Mr. Thomas:

Enclosed is a corrected data summary page for the above referenced emissions test report. The testing was conducted July 11, 12, 13, 2000.

If you have any questions, please contact me at 863-428-7106.

Sincerely,

P. A. Steadham, Manager
Environmental Services
Concentrates - Florida

PAS: oan

Enclosures

a:\t_1108

Introduction:

This report details the compliance sampling results for the following source:

Project: Multifos C-Kiln
Facility: New Wales Operations
Point ID: 74
AIRS: 1050059
Permit Number: 1050059-014-AV (1050059-024-AC)
Test Date: July 11, 12, 13, 2000

Summary of Results

The source was found to be in compliance with the permits and regulations of the Florida Department of Environmental Protection except for the fluoride emission limit. The process data and emissions testing results are summarized below:
(revised 8/31/00)

Process Data:

Kiln P2O5 Feed Rate 2.05 TPH
Avg Kiln Feed Rate 5.8 TPH

Fuel Firing Information

Fuel: Natural Gas

C Kiln Fuel Rate 32.1 MMBtu/hr

Emissions:

Allowables by Permit Condition Number P.5, P.6, P.8, & P.9

	Actual	Allowable	
Fluorides: lb/hr	0.45	0.08	based on operating rate
lb/ton P2O5	0.220	0.038	
Particulates: lb/hr	2.23	3.08	based on operating rate
lb/ton P2O5	1.09	1.5	
Sulfur Dioxide: lb/hr	2.27	8.70	
Nitrogen Oxides: lb/hr	6.25	NA	
Visible Emissions: %	12.9	15	

Emissions Testing Methods:

Methods in accordance with Specific Condition Number P.15

Fluorides: Method 5 & 13B Combined with modifications as allowed by Department for analysis.

Particulate: Method 5 & 13B Combined.

Sulfur Dioxide: Method 8

Nitrogen Oxides: Method 7E

Visible Emissions: Method 9



IMC

CERTIFIED MAIL 7099-3400-0005-0929-6355
RETURN RECEIPT REQUESTED

RECEIVED

SEP 06 2000

August 31, 2000

BUREAU OF AIR REGULATION

Mr. A. A. Linero, P.E.
Administrator, New Source Review Section
Bureau of Air Regulation
Florida Department of
Environmental Protection
2600 Blair Stone Road MS 5505
Tallahassee, Florida 32399-2400

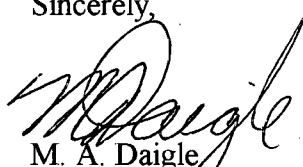
RE: Construction Permit Extension Response
Permit No. 1050059-024-AC (PSD-FL-244)
AIRS No. 1050059
Emissions Units Nos. 074, 075 and 076
New Wales Plant

Dear Mr. Linero:

In the letter dated August 28, 2000 in which IMC responded to your letter of August 7, 2000, which requested additional information related to IMC Phosphates' request to extend the Mulifos Kiln "C" construction permit. IMC requests that the second sentence of the first paragraph be considered confidential pursuant to Section 403.111, Florida Statutes. IMC wishes to keep its production plans confidential.

Thank you for your attention to this matter. If you have any questions, please contact P.A. Steadham at 863/428-7106 or C.D. Turley at 863/428-7153.

Sincerely,

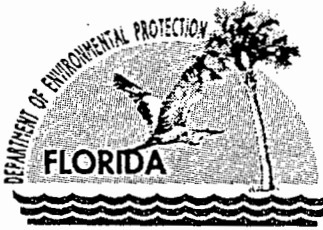

M. A. Daigle
General Manager
New Wales Plant

MAD: oan
QACDTKILNC03.doc

cc: J. R. Gruber
W.C. Tims
G. J. Kissel, FDEP Tampa
Koogler and Associates

Kofax Separator

PSD



Jeb Bush
Governor

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

August 22, 2000

RECEIVED

AUG 31 2000

BUREAU OF AIR REGULATION

Mr. Richard Krakowski
Vice President and General Manager
IMC Phosphate Company
P.O. Box 2000
Mulberry, FL 33860-1100

Dear Mr. Krakowski:

RE: Responsible Official (RO) for IMC Phosphates Company Facilities

As we discussed on the phone on August 18, 2000, your recent request to process Title V permit Administrative Corrections for five IMC facilities to reflect the recent company name change raised the question of the designation of the Responsible Official (RO) for each of the facilities. This is an important Title V concept as this person is required to sign all Title V permit applications and compliance statements and thereby accepts responsibility for the accuracy of the information contained in them.

The recent Administrative Correction requests, in which the Application for Transfer of Permit documents were signed by you and included a letter delegating to you the designation of a Responsible Corporate Official, raised the question as to whether this was indicating that you were now the designated RO for these five facilities under the new company name of IMC Phosphate Company, superceding other individual facility RO designations that we had previously received under the name IMC – Agrico Co. Based on our conversation, this was not your intent, and we agreed that it would be appropriate and useful for all parties if there were an official designation and acceptance of RO status for each of the facilities under the new company name. To that end please respond by indicating who is the responsible official (name and title) for each of the following Title V facilities, along with a signature from each of those so designated stating that they are aware of and accept this RO designation.:

- Central Florida Mineral Operations (facility ID 1050034)
- South Pierce Facility (facility ID 1050055)
- Prairie Facility (facility ID 1050056)
- Nichols Facility (facility ID 1050057)
- New Wales Facility (facility ID 1050059)

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

Printed on recycled paper.

If you have any questions concerning this letter please contact me (ext. 107) or David Zell (ext. 118) of my staff at (813) 744-6100.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Kissel".

Jerry Kissel, P.E.
District Air Engineer
Southwest District

dz/
IMC_RO.doc