Mosaic Fertilizer, LLC
8813 Highway 41 South
Riverview, FL 33569
www.mosaicco.com

Tel 813-677-9111

Via Overnight Mail

RECEIVED
JUN 28 2006
BUREAU OF AIR REGULATION

June 27, 2006

Florida Department of Environmental Protection
Bureau of Air Regulation
111 S. Magnolia Drive, Suite 4
Tallahassee, FL 32399-2400.

Re: Mosaic Fertilizer, LLC Riverview Facility
DEP File no. 0570008-053-AC; PSD-FL-315G
Animal Feed Ingredient (AFI) Plant Modification
Response to Request for Additional Information

Dear Mr. Arif:

Mosaic has received the Departments Request for Additional information on the proposed modifications to the AFI No. 1 and No. 2 Plants at the Riverview facility and has the following response:

Item 1 (A): *"Please provide necessary documentation to the Department that the control equipments were designed as suggested by the consultants and the reasons why the control equipments did not performed as designed."*

Response: The scrubber was designed and constructed per Mr. Greenwood's (formerly with Kemworks) October 24, 2002 letter. While the scrubber has met the required duty in meeting allowable emissions, the defluorination process developed by Cargill Crop Nutrition did not deliver the promised production volume. Problems with the scrubber that negatively impacted production volume included weekly cleaning to remove silica build-up in the scrubber. The silica precipitate is an inherent result of the reaction process, and collects on the Kimre packing and causes excessive pressure drop and loss of ventilation.

As a result of these shortcomings, a venturi throat section was added up-stream of the packed scrubber in order to collect as much of the silica precipitate with the venturi section as possible before the gas contacts the packing. The service of the packed scrubber has improved, with cleaning now occurring much less frequently.

Item 1 (B): *"Also, provide PE sealed statement from the vendor concerning the modifications to the scrubbers and the ability of the scrubbers to meet the increased load and the emission limits established for the acid defluorination system."*

Response: The vendor who sold the packed scrubber was "Kemworks" which is no longer in business. It will not be possible for "Kemworks" to approve modifications because of this. However, the Oct 24, 2002 letter states that the design load to the scrubber is 1300 lb/hr fluorine. The requested modifications do not affect the fluorine loading as stated by Mr. Greenwood.

Mosaic believes the best measure of compliance with the previously approved emission limitations is to conduct stack tests. Mosaic has demonstrated compliance with the permitted emission limits on numerous occasions including a test completed on June 23, 2006. Further testing will be performed following completion of the requested modifications as outlined in the February 23, 2006 letter to the Department.

Item 1-C: *This should include detailed engineering descriptions of the modified scrubbers as well as calculations of their design efficiencies for PM/PM10 and fluorides.*

Response: The fan airflow is approximately 20,000 actual cubic feet per minute (ACFM) depending on the scrubber condition. The venturi throat cross section is currently 2.5 square feet (ft^2), with packing cross section of 10 feet (ft) high by 6 ft wide = 60 ft^2. Targeted airflow is 25,000 ACFM after the fan upgrade, providing a nominal throat velocity of over 9,000 feet per minute (fpm) in the venturi and 375 fpm through the packing.

The defluorination fan is operating at 90 to 100 horsepower (hp), or 5.3 hp/1,000 ACFM. The new fan will allow higher power application, expected to be 150 hp, or 6.7 hp/1,000 ACFM. About 30% of this power is lost across the venturi based on pressure surveys. As discussed above and the reduction in pad fouling, the venturi section removes particulate matter and will also collect some gaseous silica fluorides. Based on the higher power application to the venturi from the upgraded fan, Mosaic anticipates an efficiency increase of approximately 10% for particulate.

The proposed modification to the crossflow packed scrubber includes the installation of a weir in the sump between the second and third packing sections to allow recirculation of the fresh water that is introduced on the fourth stage. This fresh water will then be pumped to, and sprayed on the third packed section via the existing header (see sketch). The third stage flow will be similar to current flows (220 to 260 gallons per minute [gpm]), maintaining coverage at the recommended 4 gpm/ft^2 per Mr. Greenwood. The principle improvement is the substitution of recirculated fresh water for pond water as the scrubbing fluid. The fluoride content of pond water is approximately 0.6%, while the recirculated fresh water will be approximately half of that concentration. This produces a lower fluoride vapor pressure and lower concentration of soluble fluoride in the gas stream. This modification will also allow further control of the overall fresh water usage at the facility which is an important component of the Process Water Reduction Plan and pond water reduction initiatives.

Overall scrubber performance (venturi + packed) will be less than 2 pounds per hour (lb/hr)fluoride emissions with an inlet loading of 260 lb/hr at a 450 tons per day (TPD) P_2O_5 defluorination rate. This is a removal efficiency of at least 99.4%.

Item 2(A): *"Please submit compliance test data for the AFI plants. This should include the recent test done in November 2005."*

Mosaic has reviewed all compliance test data for the AFI plants and has found no record of a test performed in November of 2005. Mosaic has conducted compliance testing on the AFI No. 1 and No. 2 Plants as follows:

AFI No. 1: May 7, 2003
May 13, 2004
July 29, 2005
June 23, 2006

AFI No. 2: May 8, 2003
May 20, 2004
August 4, 2005

Mosaic has enclosed emission test summaries and process data for the each compliance tests referenced above, including fluoride and particulate matter emission results, as well as the volumetric flow, pressure drop, and fan amperage readings for the corresponding pollution control equipment.

Item 2(B): "*The test data should also include emissions from the limestone silo (EU 080)...*"

Emissions testing of the Limestone Silo has been limited to visual emission evaluations in accordance with Rule 62-296.711(3)(c), F.A.C. that establishes an opacity limitation of 5% in lieu of a particulate stack test. Visual emission Evaluations were conducted as follows:

Limestone Silo: May 8, 2003
June 3, 2004
August 29, 2005

In each case, the resultant visual emissions were zero. Mosaic has enclosed a copy of each of these visual emissions evaluations.

Item 2(C): "*The test data should also include... actual operating hours and production rates.*"

Mosaic has also enclosed operating hours and production data on the AFI Plant No. 1, AFI Plant No. 2, and the Limestone Silo.

Item 3(A): *"Please provide documentation to the Department which reflects that the phosphoric acid storage tank is classified as an unregulated emission unit. Indicate which phosphoric acid storage tank will be used to store defluorinated acid..."*

The proposed project involves converting the No. 2 Evaporator Feed Tank (formerly known as the No. 2 Aging Tank) into a defluorinated acid storage tank. This tank is classified in the Riverview facility Title V Permit, 0570008-045-AV, Appendix U-1, "List of Unregulated Emission units and/or Activities" as part of Emission Unit No. 105, "Aging, filtrate, raw material, and product storage tanks". A copy of Appendix U-1 is attached.

Item 3(B): *"...indicate the quantity of defluorinated acid being presently produced."*

Since the start-up of the AFI Plant No. 2, the highest month of production was March of 2006. In March the facility defluorinated a total of 11,267 tons of acid, or 363.4 TPD.

Item 3(C): *"Is it being stored in any storage tank?"*

There are currently six reaction/process vessels in the production area: two dilution vessels and four defluorination vessels. Each of these vessels is inherent to the production process and are therefore not storage tanks. Currently, the defluorinated acid must be used in the AFI Plants as it is produced.

Item 3(D): *"Is the amount of defluorinated acid being produced equivalent to the allowable production rate for the two AFI plants?"*

No, the amounts are not equal. The rate of acid defluorination is not directly linked to the rate of granulation. For example, if the defluorination system was down for maintenance, defluorinated acid could be obtained from other sources for use in the granulation plant, allowing continued production of animal feed ingredients. Having the capability to store defluorinated acid would allow the AFI plants to continue production of feed products while the defluorination system is down (pulling defluorinated acid from the proposed defluorinated acid storage tank), Capturing these opportunities will lead to decreased production unit downtime and result in annual production more consistent with the currently permitted production rates.

Item 4(A) *"Enclosed are comments submitted by the Hillsborough County Environmental Protection Commission. Please respond to their concerns."*

"Within the application submitted, Mosaic specifies that the construction authorized by those permits (0570008-043-AC and 0570008-036-AC) *was completed. Per rule 62-210.300(1)(a), F.A.C. a construction permit is issued for a period of time to allow for construction and to demonstrate compliance. It does not appear appropriate to process an application for modification of a construction permit that should be included into a revised operating permit as already submitted. Incorporation of the existing construction permit into an operating permit is necessary to establish operating parameters to define its operation. Continual modification of construction permits never allows for these parameters to be established. Therefore EPC believes that a new standalone construction application should be processed regarding the changes requested. In accordance with Rule 62-213.420(1)(a)4., F.A.C, the facility should submit a revised TV application no later than 180 days after the emission unit commences operation."*

Obtaining a new construction permit for minor process changes which result in no increase over the previously permitted emission or production rates unnecessarily delays the future incorporation of the AC permit into the facility Title V permit. Modifying the existing construction permit is the most appropriate means as it enables Mosaic to achieve the production rates intended by the

previous construction permit, and will expedite the future establishment of operating parameters. Also, since the existing construction permit remains in effect beyond its incorporation into the Title V Permit, the proper approach is to modify the existing construction permit if the proposed project requires a change to its conditions or modification of the specified equipment.

Item 4(B) *"...an updated process flow diagram detailing the changes requested as part of the application was not included with the package received by EPC. A diagram from a former application was reviewed; however, sufficient time to evaluate the application was not available. EPC believes that detailed analysis of an updated diagram is necessary to provide reasonable assurance that the changes will maintain compliance with emission standards. A better description of how the "recirculated fresh water" scrubber will operate should be included with a response."*

Mosaic has included an updated process flow diagram and scrubber layout highlighting the requested changes. As stated in the air construction permit modification request, the proposed upgrades include conversion of the third stage of the Kimre scrubber into a recirculated freshwater scrubber and the potential replacement of the existing 100 hp induced draft fan and motor with a 200 hp motor and associated induced draft fan.

Conversion of the third stage will be accomplished by installing a sump at the base of the Kimre scrubber, which will collect freshwater from the third and fourth stages of the Kimre packing. This recycled freshwater will be pumped back to the spray nozzles to irrigate the surfaces of the third stage of the Kimre Packing. Again, this modification will aid the facility in the reduction of freshwater use, and aid in the attainment of the facility's Process Water Reduction Plan and process water inventory reduction initiatives that were mandated by Consent Order No. 04-1548 as part of the facility response to the 2004 Hurricane Frances release. The existing 100 hp induced fan may be replaced to recapture air flow that was lost following the installation of the venturi in 2005. No increases in the current permitted fluoride emission rates are requested as a result of these modifications.

Sincerely,

Jeffrey M. Stewart
Environmental Superintendent

cc: Giblin, Lulf, Provenzano
File P-05-01
D. Lee, HCEPC Certified Mail 7003 2260 0004 7571 3306
Scott McCann - Golder

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name :

   Mr. Jeffrey M. Stewart, Environmental Superintendent

2. Owner/Authorized Representative Mailing Address...
   Organization/Firm: **Mosaic Fertilizer, LLC**
   Street Address: **8813 U.S. Highway 41 South**
   City: **Riverview** State: **FL** Zip Code: **33569**

3. Owner/Authorized Representative Telephone Numbers...
   Telephone: **(813) 671-6369** ext. Fax: **(813) 671-6149**

4. Owner/Authorized Representative Email Address: **Jeff.Stewart@mosaicco.com**

5. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other requirements identified in this application to which the facility is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit.

   Jeffrey M. Stewart — Signature

   6/27/06 — Date

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Professional Engineer Certification

1. Professional Engineer Name: **Scott A. McCann**
   Registration Number: **54172**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Golder Associates Inc.****
   Street Address: **6241 NW 23rd Street, Suite 500**
   City: **Gainesville** State: **FL** Zip Code: **32653**
3. Professional Engineer Telephone Numbers...
   Telephone: **(352) 336-5600** ext. Fax: **(352) 336-6603**
4. Professional Engineer Email Address: **smccann@golder.com**
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(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.

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Signature: [signature] Date: 6/26/06

(seal) [seal] 6/26/06

* Attach any exception to certification statement.

** **Board of Professional Engineers Certificate of Authorization #00001670**

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Signature 6/26/06
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Signature 6/26/06 Date

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Production and Operating Hours

EU ID	EU Description	Month	Operating Hours	Tons Monocal/Dical Produced	Month	Operating Hours	Tons Monocal/Dical Produced	Month	Operating Hours	Tons Monocal/Dical Produced
078	AFI #1 (common stack w / defluorination scrubber)	January	474	9115	January	517	9040	January	545	10940
		February	492	8635	February	382	9988	February	572	6658
		March	531	9808	March	516	9615	March	588	10809
		April	602	10472	April	613	10771	April	629	8701
		May	602	9721	May	602	11084	May	484	7444
		June	572	9454	June	618	10695	June	300	5635
		July	572	9493	July	606	10105	July	391	4902
		August	611	11026	August	440	7967	August	323	6851
		September	657	11089	September	267	5217	September	555	11114
		October	567	9119	October	542	9710	October	403	5080
		November	385	6786	November	609	10848	November	603	11820
		December	635	10889	December	544	10766	December	611	7923
		TOTAL	6698	115607	TOTAL	6256	115806	TOTAL	6004	97877

Production and Operating Hours

EU ID	EU Description	Month	Operating Hours	Tons Monocal/Dical Produced	Month	Operating Hours	Tons Monocal/Dical Produced	Month	Operating Hours	Tons Monocal/Dical Produced
103	AFI #2	January	381	6957	January	517	10303	January	628	7936
		February	432	6482	February	382	11408	February	640	12243
		March	597	11296	March	605	13084	March	633	11885
		April	498	8322	April	572	11913	April	611	7050
		May	548	8739	May	681	12397	May	637	13105
		June	526	9412	June	658	13174	June	552	8506
		July	522	10596	July	677	11686	July	713	11082
		August	614	10242	August	649	10804	August	692	9208
		September	580	8548	September	615	6346	September	694	12057
		October	423	6675	October	695	9904	October	663	10276
		November	587	9709	November	690	11194	November	694	12789
		December	541	10019	December	674	14803	December	651	9812
		TOTAL	6249	106997	TOTAL	7415	137016	TOTAL	7808	125949

2003

Mosaic

Riverview Chemical Complex Limestone Tons Processed

	080
	Limestone Silo
Month	Tons Processed
1	14,070
2	14,344
3	17,360
4	17,965
5	16,961
6	15,782
7	16,711
8	18,783
9	19,536
10	12,524
11	14,223
12	18,009
TOTAL TONS PROCESSED	196,268

2004

Riverview Chemical Complex Limestone Tons Processed

Month	080 Limestone Silo Tons Processed
1	8,812
2	9,227
3	9,192
4	9,784
5	10,549
6	10,220
7	9,301
8	7,501
9	4,600
10	9,065
11	9,289
12	10,097
TOTAL TONS PROCESSED	107,637

2005

Riverview Chemical Complex Limestone Tons Processed

Month	080 Limestone Silo Tons Processed
1	8,260
2	10,070
3	9,533
4	7,611
5	8,936
6	5,291
7	7,042
8	5,868
9	8,443
10	6,527
11	9,614
12	8,264
TOTAL TONS PROCESSED	95,459

Appendix U-1, List of Unregulated Emissions Units and/or Activities.

Mosaic Fertilizer, LLC.
Riverview Facility

Revised Draft Permit Renewal No. 0570008-045-AV
(Initial Title V Permit No.: 0570008-014-AV)
Facility ID No.: 0570008

Unregulated Emissions Units and/or Activities. An emissions unit which emits no "emissions-limited pollutant" and which is subject to no unit-specific work practice standard, though it may be subject to regulations applied on a facility-wide basis (e.g., unconfined emissions, odor, general opacity) or to regulations that require only that it be able to prove exemption from unit-specific emissions or work practice standards.

The below listed emissions units and/or activities are neither 'regulated emissions units' nor 'insignificant emissions units'.

{Permitting Notes: 1. Letter dated 9/19/2005 from David Buff, P.E. of Golder Associates Inc. was received by the Department on 9/29/2005 concerning the phosphoric acid clarifier, clarifier feed tank and associated wet scrubbers and is being reviewed by the Department.
2. There will be no GTSP production/handling at the Riverview facility. So, GTSP handling related activities are removed from the list below except coating oil tank that may be used for dust suppression for other types of fertilizer at the facility.
3. Construction permit application for ammoniated phosphates storage and loadouts dated 9/27/2005 was received by the Department on 9/29/2005 and it is currently being processed.}

E.U. ID No.	Brief Description of Emissions Units and/or Activity
	Fertilizer Plants
-105	Coating drums (containing coating oil that is used for dust suppression)
-105	Raw material and product storage tanks, bins, and storage buildings
-105	Grinding mills, chain mills, cage mills, lump breakers
-105	Cooling tower, slurry pumps, scrubber water sumps
-105	DAP rail loading system, truck unloading
-105	Material conveyors, elevators, and screens
-105	Ammonia chillers and vaporizers
-105	Product Recovery Units
-105	Ammonia Flare
-105	Coating Oil Tank – 17,233 gallons (installed 1986)
	Material Handling System
-105	Choke feeder, covered conveyors, screening tower (fugitive only)
	Phosphoric Acid Production Facility
-105	Flash Cooler Hotwells
-105	Flash coolers, vacuum pumps, seal pumps and seal tanks
-105	Nos. 1, 2 and 3 Filters - unevacuated area (fugitive only)
-105	Centrifuges, pumps
-105	East, north, and south coolers
-105	Truck loading/unloading
-105	Clarifier and clarifier feed tank

E.U. ID No.	Brief Description of Emissions Units and/or Activity
-105	Aging, filtrate, raw material, and product storage tanks
-105	Auxiliary power diesel generator with tank
	Molten Sulfur Handling
-105	Dock unloading/truck loading (fugitive only)
-105	Molten sulfur storage tank fires
-105	Molten Sulfur Tank # 2 – 3,104,714 gallons (installed 1990)*
	Sulfuric Acid Plants
-105	Water reuse tanks, water storage tanks, condensate tanks
-105	Economizers
-105	Sulfuric acid storage tanks
-105	Sulfuric acid truck loading/unloading
-105	Cooling towers
	Animal Feed Plant
-105	Acid heaters and dilution tank
-105	High speed mixer
-105	Diatomaceous earth weigh bin and feed splitters
-105	Limestone metering feeder and screen feed splitter
-105	Weigh bin slide gate and weighing belt
-105	Conveyors
	Ammonia Handling
-105	Bullets, pipeline, pop off valves, truck unloading
	Facilitywide
-105	Fuel tanks and dispensers
-105	Compressors, generators (6 MW, 35 MW)
-105	Wastewater treatment plant and collection system
-105	Locomotive Engines
-105	Laboratory, lime hopper, refrigerators
-105	Pressure/steam relief valves
-105	Railcar/truck unloading, conveyor belts (fugitive only)
-105	Wet rock pile, rock hoppers, rock grinding mills (fugitive only)
-105	Safety kleen solvent cleaners
-105	Sand blasters, welding equipment, supersucker
-105	Raw material and product storage tanks
-105	Minor fugitive leaks from process equipment
-105	Diesel pump at NPDES Outfall 005
-105	Diesel pump at active phosphogypsum stack
-105	Asbestos Waste and hazardous waste removal
-105	Refrigeration equipment < 50 lbs charge
-105	Oil-fired catalyst
-105	400 hp emergency generator

* Tanks subject to 40 CFR 60, Subpart Kb, NSPS for VOC Storage Tanks.

TABLE 1. PARTICULATE EMISSIONS TEST SUMMARY

Company: Cargill Crop Nutrition - Riverview
Source: AFI - Plant No. 1

	Run 1	Run 2	Run 3	
Date of Run	5/7/03	5/7/03	5/7/03	
Process Rate (TPH)	701	604	655	
Start Time (24-hr. clock)	0824	1056	1115	
End Time (24-hr. clock)	0928	1056	1218	
Vol. Dry Gas Sampled Meter Cond. (DCF)	47.553	44.698	43.438	
Gas Meter Calibration Factor	0.994	0.994	0.994	
Barometric Pressure at Barom. (in. Hg.)	30.09	30.09	30.12	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	45.122	42.429	40.642	
Vol. Liquid Collected Std. Cond. (SCF)	8.638	8.214	7.586	
Moisture in Stack Gas (% Vol.)	16.10	16.20	15.73	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.23	27.22	29.00	
Stack Gas Static Press. (in. H2O gauge)	-0.41	-0.42	-0.41	
Stack Gas Static Press. (in. Hg. abs.)	30.06	30.06	30.09	
Average Square Root Velocity Head	0.955	0.882	0.862	
Average Orifice Differential (in. H2O)	1.535	1.317	1.249	
Average Gas Meter Temperature (°F)	98.3	97.8	106.4	
Average Stack Gas Temperature (°F)	144.8	144.8	144.3	
Pitot Tube Coefficient	0.84	0.84	0.84	
Stack Gas Vel. Stack Cond. (ft./sec.)	58.93	54.47	51.49	
Effective Stack Area (sq. ft.)	28.27	28.27	28.27	
Stack Gas Flow Rate Std. Cond. (DSCFM)	73,592	67,913	64,673	
Stack Gas Flow Rate Stack Cond. (ACFM)	99,972	92,413	87,345	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.227	0.227	0.227	
Percent Isokinetic	102.9	104.8	105.4	
				Average
Particulate Collected (mg.)	15.8	12.7	18.7	15.7
Particulate Emissions (grains/DSCF)	0.005	0.005	0.007	0.01
Particulate Emissions (lb./hr.)	**3.4**	**2.7**	**3.9**	**3.34**
Allowable Particulate Emissions (lb./hr.)				**13.0**
Fluoride Collected (mg.)	1.733	1.260	1.353	1.448
Fluoride Emissions (mg/DSCF)	0.038	0.030	0.033	0.034
Fluoride Emissions (lb./hr.)	**0.37**	**0.27**	**0.28**	**0.31**
Allowable Fluoride Emissions (lb./hr.)				**2.1**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 1 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Source: EU ID No. 078 AFI 1 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		05/07/2003 8:24	05/07/2003 9:53	05/07/2003 11:15	
End Time		05/07/2003 9:28	05/07/2003 10:56	05/07/2003 12:18	
Granulation Plant Scrubber					
Recirc Flow	GPM	1171	1169	1168	1169
Make-up Flow	GPM	47	49	44	46
Pressure Drop	"H2O	24	23	23	23
Fan Amps	amps	115	115	115	115
Defluorination Scrubber					
Pondwater Flow	GPM	856	855	854	855
Demister Flow	GPM	82	82	79	81
Pressure Drop	"H2O	6	6	6	6
Fan Amps	amps	68	68	68	68
Plant Production					
AFI	TPD	701	604	655	653

Area Superintendent: 

TABLE 1. PARTICULATE EMISSIONS TEST SUMMARY

Company: **Cargill Crop Nutrition - Riverview**
Source: **AFI - Plant No. 1**

	Run 1	Run 2	Run 3	
Date of Run	5/13/04	5/13/04	5/13/04	
Process Rate (TPH)	23.3	22.6	21.1	
Start Time (24-hr. clock)	0807	0944	1113	
End Time (24-hr. clock)	0914	1047	1216	
Vol. Dry Gas Sampled Meter Cond. (DCF)	45.876	45.424	45.210	
Gas Meter Calibration Factor	1.015	1.015	1.015	
Barometric Pressure at Barom. (in. Hg.)	30.12	30.12	30.12	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	45.641	44.913	44.319	
Vol. Liquid Collected Std. Cond. (SCF)	7.313	8.152	7.318	
Moisture in Stack Gas (% Vol.)	13.8	15.4	14.2	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.48	27.31	27.44	
Stack Gas Static Press. (in. H2O gauge)	-0.35	-0.32	-0.31	
Stack Gas Static Press. (in. Hg. abs.)	30.01	30.02	30.02	
Average Square Root Velocity Head	0.940	0.934	0.923	
Average Orifice Differential (in. H2O)	2.008	1.984	1.941	
Average Gas Meter Temperature (°F)	83.5	86.8	91.5	
Average Stack Gas Temperature (°F)	145.7	144.6	145.4	
Pitot Tube Coefficient	0.84	0.84	0.84	
Stack Gas Vel. Stack Cond. (ft./sec.)	57.84	57.61	56.83	
Effective Stack Area (sq. ft.)	28.27	28.27	28.27	
Stack Gas Flow Rate Std. Cond. (DSCFM)	73,963	72,478	72,403	
Stack Gas Flow Rate Stack Cond. (ACFM)	98,127	97,739	96,414	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.234	0.234	0.234	
Percent Isokinetic	97.4	97.8	96.6	
				Average
Particulate Collected (mg.)	19.3	21.7	21.3	20.7
Particulate Emissions (grains/DSCF)	0.007	0.007	0.007	0.01
Particulate Emissions (lb./hr.)	**4.1**	**4.6**	**4.6**	**4.5**
Allowable Particulate Emissions (lb./hr.)				**13.0**
Fluoride Collected (mg.)	1.9	2.5	1.7	2.0
Fluoride Emissions (mg/DSCF)	0.04	0.06	0.04	0.05
Fluoride Emissions (lb./hr.)	**0.40**	**0.54**	**0.38**	**0.44**
Allowable Fluoride Emissions (lb./hr.)				**2.1**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 1 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Source: EU ID No. 078 AFI 1 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		05/13/2004 08:07	05/13/2004 09:44	05/13/2004 11:13	
End Time		05/13/2004 09:14	05/13/2004 10:47	05/13/2004 12:16	
Granulation Plant Scrubber					
Recirc Flow	GPM	1294	1295	1295	1294
Make-up Flow	GPM	64	61	60	63
Pressure Drop	"H2O	25	26	26	26
Fan Amps	amps	108	109	109	108
Defluorination Scrubber					
Pondwater Flow	GPM	798	798	798	798
Demister Flow	GPM	34	38	39	36
Pressure Drop	"H2O	8	8	8	8
Fan Amps	amps	72	72	72	72
Plant Production					
AFI	TPH	23.3	22.6	21.1	22.3
AFI	TPD	559	543	507	536

Area Superintendent: _____

TABLE 1. PARTICULATE AND FLUORIDE EMISSIONS TEST SUMMARY

Company: **MOSAIC FERTILIZER, LLC - Riverview**
Source: **AFI - Plant No. 1**

	Run 1	Run 2	Run 3	
Date of Run	07/29/05	07/29/05	07/29/05	
Process Rate (TPH)	20.8	20.7	20.8	
Start Time (24-hr. clock)	1016	1133	1505	
End Time (24-hr. clock)	1119	1338	1607	
Vol. Dry Gas Sampled Meter Cond. (DCF)	55.871	48.110	58.397	
Gas Meter Calibration Factor	0.976	0.976	0.976	
Barometric Pressure at Barom. (in. Hg.)	30.06	30.06	30.03	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	52.111	44.274	53.473	
Vol. Liquid Collected Std. Cond. (SCF)	8.855	9.675	10.562	
Moisture in Stack Gas (% Vol.)	14.5	17.9	16.5	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.40	27.03	27.19	
Stack Gas Static Press. (in. H2O gauge)	-0.52	-0.24	-0.64	
Stack Gas Static Press. (in. Hg. abs.)	30.02	30.04	29.98	
Average Square Root Velocity Head	0.949	0.961	0.952	
Average Orifice Differential (in. H2O)	2.568	2.658	2.763	
Average Gas Meter Temperature (°F)	98.6	106.3	108.7	
Average Stack Gas Temperature (°F)	150.8	151.3	154.2	
Pitot Tube Coefficient	0.79	0.79	0.79	
Stack Gas Vel. Stack Cond. (ft./sec.)	55.25	56.30	55.83	
Effective Stack Area (sq. ft.)	28.27	28.27	28.27	
Stack Gas Flow Rate Std. Cond. (DSCFM)	69,500	67,983	68,137	
Stack Gas Flow Rate Stack Cond. (ACFM)	93,734	95,510	94,712	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.249	0.249	0.249	
Percent Isokinetic	104.5	90.8	109.4	
				Average
Particulate Collected (mg.)	38.3	35.8	44.1	39.4
Particulate Emissions (grains/DSCF)	0.011	0.012	0.013	0.01
Particulate Emissions (lb./hr.)	**6.76**	**7.27**	**7.43**	**7.2**
Allowable Particulate Emissions (lb./hr.)				**13.0**
Fluoride Collected (mg.)	3.325	3.691	6.331	4.449
Fluoride Emissions (mg/DSCF)	0.064	0.083	0.118	0.089
Fluoride Emissions (lb./hr.)	**0.59**	**0.75**	**1.07**	**0.8**
Allowable Fluoride Emissions (lb./hr.)				**2.1**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 1 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Source: EU ID No. 078 AFI 1 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		07/29/2005 10:16	07/29/2005 11:33	07/29/2005 15:05	
End Time		07/29/2005 11:19	07/29/2005 13:33	07/29/2005 16:07	
Granulation Plant Scrubber					
Recirc Flow	GPM	1237	1241	1246	1239
Make-up Flow	GPM	46	45	26	46
Pressure Drop	"H2O	20	20	20	20
Fan Amps	amps	108	108	110	108
Defluorination Scrubber					
Pondwater Flow	GPM	758	756	749	757
Demister Flow	GPM	69	70	73	70
Pressure Drop	"H2O	8	8	8	8
Fan Amps	amps	83	84	82	83
Plant Production					
AFI	TPH	20.8	20.7	20.8	20.7
AFI	TPD	498	496	499	498

Area Superintendent: _____

TABLE 2. PARTICULATE EMISSIONS TEST SUMMARY

Company: Cargill Crop Nutrition - Riverview
Source: AFI - Plant No. 2

	Run 1	Run 2	Run 3	
Date of Run	5/8/03	5/8/03	5/8/03	
Process Rate (TPH)	522	522	521	
Start Time (24-hr. clock)	0848	1029	1310	
End Time (24-hr. clock)	0952	1230	1415	
Vol. Dry Gas Sampled Meter Cond. (DCF)	31.254	31.692	31.760	
Gas Meter Calibration Factor	0.997	0.997	0.997	
Barometric Pressure at Barom. (in. Hg.)	30.11	30.11	30.12	
Elev. Diff. Manom. to Barom. (ft.)	116	116	116	
Vol. Gas Sampled Std. Cond. (DSCF)	30.120	30.517	30.100	
Vol. Liquid Collected Std. Cond. (SCF)	2.414	2.315	1.504	
Moisture in Stack Gas (% Vol.)	7.4	7.1	4.8	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	28.18	28.22	28.48	
Stack Gas Static Press. (in. H2O gauge)	-0.35	-0.42	-0.29	
Stack Gas Static Press. (in. Hg. abs.)	30.08	30.08	30.10	
Average Square Root Velocity Head	0.796	0.751	0.743	
Average Orifice Differential (in. H2O)	0.722	0.629	0.496	
Average Gas Meter Temperature (°F)	90.7	91.0	99.8	
Average Stack Gas Temperature (°F)	142.4	141.8	141.9	
Pitot Tube Coefficient	0.84	0.84	0.84	
Stack Gas Vel. Stack Cond. (ft./sec.)	48.18	45.42	44.69	
Effective Stack Area (sq. ft.)	34.91	34.91	34.91	
Stack Gas Flow Rate Std. Cond. (DSCFM)	82,322	77,983	78,666	
Stack Gas Flow Rate Stack Cond. (ACFM)	100,898	95,125	93,601	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.195	0.195	0.195	
Percent Isokinetic	102.7	109.8	107.4	
				Average
Particulate Collected (mg.)	20.3	7.2	10.0	12.5
Particulate Emissions (grains/DSCF)	0.010	0.004	0.005	0.006
Particulate Emissions (lb./hr.)	**7.4**	**2.4**	**3.5**	**4.43**
Allowable Particulate Emissions (lb./hr.)				**13.0**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 2 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Test Date(s): May 8, 2003
Source: EU ID No. 103 AFI 2 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		05/08/2003 8:48	05/08/2003 10:29	05/08/2003 13:10	
End Time		05/08/2003 9:52	05/08/2003 12:30	05/08/2003 14:15	
Equipment Scrubber					
Flow	GPM	1083	1031	1219	1111
Pressure Drop	"H2O	14	14	15	15
Dryer Scubber					
Flow	GPM	1482	1478	1469	1476
Pressure Drop	"H2O	20	19	20	20
Fan Amps	amps	120	120	120	120
Production Rate					
AFI Product Rate	TPD	522	522	521	522
Emissions					
PM Emissions	lb/hr	7.4	2.4	3.5	4.4

Area Superintendent: _____

TABLE 1. PARTICULATE EMISSIONS TEST SUMMARY

Company: **Cargill Crop Nutrition - Riverview**
Source: **AFI - Plant No. 2**

	Run 1	Run 2	Run 3	
Date of Run	5/20/04	5/20/04	5/20/04	
Process Rate (TPH)	25.7	25.7	25.8	
Start Time (24-hr. clock)	0802	0928	1049	
End Time (24-hr. clock)	0905	1032	1151	
Vol. Dry Gas Sampled Meter Cond. (DCF)	32.550	34.752	34.665	
Gas Meter Calibration Factor	1.015	1.015	1.015	
Barometric Pressure at Barom. (in. Hg.)	30.21	30.21	30.21	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	31.957	33.857	33.571	
Vol. Liquid Collected Std. Cond. (SCF)	6.078	7.228	6.455	
Moisture in Stack Gas (% Vol.)	16.0	17.6	16.1	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.24	27.06	27.23	
Stack Gas Static Press. (in. H2O gauge)	-0.30	-0.32	-0.34	
Stack Gas Static Press. (in. Hg. abs.)	30.07	30.09	30.10	
Average Square Root Velocity Head	0.739	0.747	0.742	
Average Orifice Differential (in. H2O)	1.152	1.117	1.106	
Average Gas Meter Temperature (°F)	90.6	95.2	98.7	
Average Stack Gas Temperature (°F)	140.7	143.2	144.7	
Pitot Tube Coefficient	0.84	0.84	0.84	
Stack Gas Vel. Stack Cond. (ft./sec.)	45.43	46.15	45.76	
Effective Stack Area (sq. ft.)	34.91	34.91	34.91	
Stack Gas Flow Rate Std. Cond. (DSCFM)	70,637	70,120	70,607	
Stack Gas Flow Rate Stack Cond. (ACFM)	95,157	96,653	95,833	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.227	0.227	0.227	
Percent Isokinetic	93.7	100.0	98.5	
				Average
Particulate Collected (mg.)	14.4	20.0	18.6	17.7
Particulate Emissions (grains/DSCF)	0.007	0.009	0.009	0.008
Particulate Emissions (lb./hr.)	**4.2**	**5.5**	**5.2**	**5.0**
Allowable Particulate Emissions (lb./hr.)				**13.0**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 2 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Test Date(s): May 20, 03
Test For: PM
Source: AFI 2 Plant

Compliance Test

		Run 1	Run 2	Run 3	AVG
Start Time		5/20/04 8:02	5/20/04 9:28	5/20/04 10:49	
End Time		5/20/04 9:05	5/20/04 10:32	5/20/04 11:51	
Equipment Scrubber					
Flow	GPM	1480.2	1478.6	1478.6	1447
Pressure Drop	"H2O	11.7	11.7	11.7	16
Dryer Scubber					
Flow	GPM	1409.8	1404.7	1404.7	1544
Pressure Drop	"H2O	20.2	20.4	20.4	21
Production					
AFI	TPH	25.7	25.7	25.8	25.7
AFI	TPD	617	617	618	617

Area Superintendent: _____

TABLE 2. PARTICULATE EMISSIONS TEST SUMMARY

Company: **MOSAIC FERTILIZER, LLC - Riverview**
Source: **AFI - Plant No. 2**

	Run 1	Run 2	Run 3	
Date of Run	8/4/05	8/4/05	8/4/05	
Process Rate (TPH)	23.7	23.8	23.7	
Start Time (24-hr. clock)	0828	0952	1121	
End Time (24-hr. clock)	0931	1056	1223	
Vol. Dry Gas Sampled Meter Cond. (DCF)	40.592	42.723	40.713	
Gas Meter Calibration Factor	0.976	0.976	0.976	
Barometric Pressure at Barom. (in. Hg.)	30.05	30.05	30.05	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	38.386	39.916	37.940	
Vol. Liquid Collected Std. Cond. (SCF)	5.031	8.133	8.723	
Moisture in Stack Gas (% Vol.)	11.6	16.9	18.7	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.73	27.14	26.94	
Stack Gas Static Press. (in. H2O gauge)	-0.29	-0.26	-0.26	
Stack Gas Static Press. (in. Hg. abs.)	30.03	30.03	30.03	
Average Square Root Velocity Head	0.726	0.728	0.724	
Average Orifice Differential (in. H2O)	1.328	1.438	1.246	
Average Gas Meter Temperature (°F)	89.1	95.9	97.1	
Average Stack Gas Temperature (°F)	148.5	149.0	148.1	
Pitot Tube Coefficient	0.79	0.79	0.79	
Stack Gas Vel. Stack Cond. (ft./sec.)	41.91	42.50	42.40	
Effective Stack Area (sq. ft.)	34.91	34.91	34.91	
Stack Gas Flow Rate Std. Cond. (DSCFM)	67,578	64,351	62,925	
Stack Gas Flow Rate Stack Cond. (ACFM)	87,770	89,018	88,801	
Net Time of Run (min.)	60.0	60.0	60.0	
Nozzle Diameter (in.)	0.246	0.246	0.246	
Percent Isokinetic	100.2	109.4	106.3	
				Average
Particulate Collected (mg.)	19.5	17.6	23.6	20.2
Particulate Emissions (grains/DSCF)	0.008	0.007	0.010	0.008
Particulate Emissions (lb./hr.)	**4.5**	**3.8**	**5.2**	**4.5**
Allowable Particulate Emissions (lb./hr.)				**13.0**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 2 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Test Date(s): August 4, 2005
Test For: PM
Source: AFI 2 Plant

Compliance Test

		Run 1	Run 2	Run 3	AVG
Start Time		08/04/2005 08:28	08/04/2005 09:52	08/04/2005 11:21	
End Time		08/04/2005 09:31	08/04/2005 10:56	08/04/2005 12:23	
Equipment Scrubber					
Flow	GPM	1236.0	1239.5	1243.1	1240
Pressure Drop	"H2O	12.6	12.5	12.4	13
Dryer Scubber					
Flow	GPM	1227.6	1230.5	1229.7	1229
Pressure Drop	"H2O	20.5	20.3	20.0	20
Production					
AFI	TPH	23.7	23.8	23.7	24
AFI	TPD	569	570	569	569

Southern Environmental Sciences, Inc.

1204 North Wheeler Street ☐ Plant City, Florida 33563 ☐ (813) 752-5014, Fax (813) 752-2475

VISIBLE EMISSIONS EVALUATION

Limestone Silo

COMPANY: Cargill Crop Nutrition - Tampa

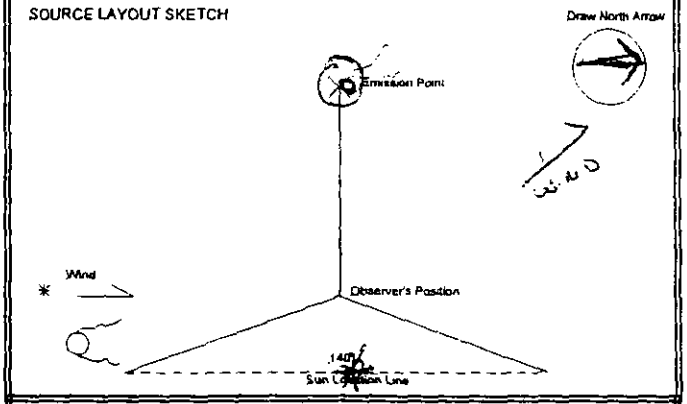
UNIT: Limestone Silo

ADDRESS: US 41 & Riverview Dr

Riverview, FL

PERMIT NO. 0570005-014-AV	COMPLIANCE? YES ☑ NO ☐
AIRS NO. 0570005	EU NO. 080
PROCESS RATE NA	PERMITTED RATE NA
PROCESS EQUIPMENT: Limestone Storage Silo	
CONTROL EQUIPMENT: Baghouse	
OPERATING MODE: Normal	AMBIENT TEMP. (° F) START 80° STOP ✓
HEIGHT ABOVE GROUND LEVEL START ~100' STOP ✓	HEIGHT RELATIVE TO OBSERVER START ~100' STOP ✓
DISTANCE FROM OBSERVER START ~300' STOP ✓	DIRECTION FROM OBSERVER START 270° STOP
EMISSION COLOR: None	PLUME TYPE NA CONTIN. ☐ INTERMITTENT ☐
WATER DROPLETS PRESENT? NO ☒ YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐ NA
POINT IN PLUME AT WHICH OPACITY WAS DETERMINED START Baghouse Vent STOP ✓	
DESCRIBE BACKGROUND START Sky	STOP ✓
BACKGROUND COLOR START Blue STOP ✓	SKY CONDITIONS START ✓ STOP ✓ Scattered
WIND SPEED (MPH) START 2-4 STOP ✓	WIND DIRECTION START SE STOP ✓
AVERAGE OPACITY FOR HIGHEST PERIOD 0%	RANGE OF OPACITY READINGS MIN. 0% MAX. 0%

SOURCE LAYOUT SKETCH



Comments

OBSERVATION DATE	START TIME	STOP TIME
5/8/03	0745	0815

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

OBSERVER: Ken Roberts

Certified by: FDEP Certif. # 303821 Certified at: Tampa

Date Certified: 2/18/03 Exp. Date: 8/20/03

I certify that all data provided to the person conducting the test was true and correct to the best of my knowledge:

Signature: See process data

Title:

SOUTHERN ENVIRONMENTAL SCIENCES, INC.

1204 North Wheeler Street, Plant City, Florida 33566 (813)752-5014

VISIBLE EMISSIONS EVALUATION

COMPANY: Cargill - Tampa

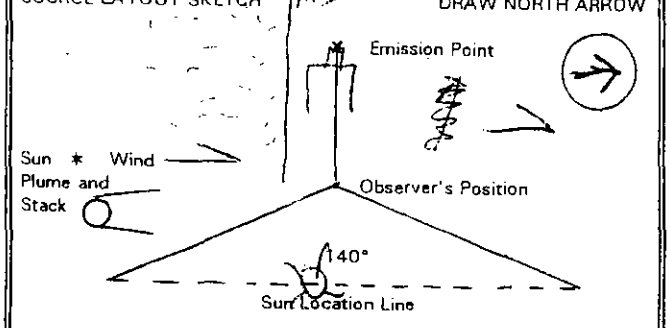
UNIT: Limestone Silo

ADDRESS: US Hwy 41 & River View Dr

Riverview, FL

PERMIT NO. 0570005	COMPLIANCE? YES X NO ☐
AIRS NO. 0570005	EU NO. 080
PROCESS RATE N/A	PERMITTED RATE N/A
PROCESS EQUIPMENT: Limestone Storage Silo	
CONTROL EQUIPMENT: Baghouse	
OPERATING MODE: Filling Silo w/Railcar	AMBIENT TEMP. (°F) START 87 STOP 87
HEIGHT ABOVE GROUND LEVEL START ~100' STOP same	HEIGHT REL. TO OBSERVER START ~100' STOP same
DISTANCE FROM OBSERVER START ~300' STOP same	DIRECTION FROM OBSERVER START 280° STOP 280°
EMISSION COLOR: None	PLUME TYPE N/A CONTIN. ☐ INTERMITTENT ☐
WATER DROPLETS PRESENT NO X YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐ N/A
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START Baghouse Vent STOP same	
DESCRIBE BACKGROUND START Sky STOP Sky	
BACKGROUND COLOR START Bl/Wht STOP same	SKY CONDITIONS START Scattered STOP same
WIND SPEED (MPH) START 3-15 STOP same	WIND DIRECTION START S STOP S
AVERAGE OPACITY FOR HIGHEST PERIOD 0%	RANGE OF OPAC. READINGS MIN. 0 MAX. 0

SOURCE LAYOUT SKETCH — DRAW NORTH ARROW



COMMENTS

OBSERVATION DATE	START TIME	STOP TIME
6/3/04	0928	0958

SEC MIN	0	15	30	45	SEC MIN	0	15	30	45
0	0	0	0	0	30				
1	0	0	0	0	31				
2	0	0	0	0	32				
3	0	0	0	0	33				
4	0	0	0	0	34				
5	0	0	0	0	35				
6	0	0	0	0	36				
7	0	0	0	0	37				
8	0	0	0	0	38				
9	0	0	0	0	39				
10	0	0	0	0	40				
11	0	0	0	0	41				
12	0	0	0	0	42				
13	0	0	0	0	43				
14	0	0	0	0	44				
15	0	0	0	0	45				
16	0	0	0	0	46				
17	0	0	0	0	47				
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25	0	0	0	0	55				
26	0	0	0	0	56				
27	0	0	0	0	57				
28	0	0	0	0	58				
29	0	0	0	0	59				

Observer: Mark Gickle

Certified by: FDEP Certified at: Tampa

Date Certified: 2/04 Exp. Date: 8/04

I certify that all data provided to the person conducting the test was true and correct to the best of my knowledge:

Signature: See Process Data

Title:

EPA
VISIBLE EMISSION OBSERVATION FORM 1

Method Used (Circle One): Method 9 | 203A | 203B | Other: _____

Form Number: _ | Page: 1 of 1

Continued on VEO Form Number:

Company Name	Mosaic Fertilizer, LLC
Facility Name	Riverview
Street Address	8813 US Highway 41
City	Riverview
State	FL
Zip	33569

Process	Limestone Storage Silo	Unit #	Operating Mode: Normal
Control Equipment	Bydouse		Operating Mode: Normal

Describe Emission Point: Bydouse Vent on Top of Limestone Silo

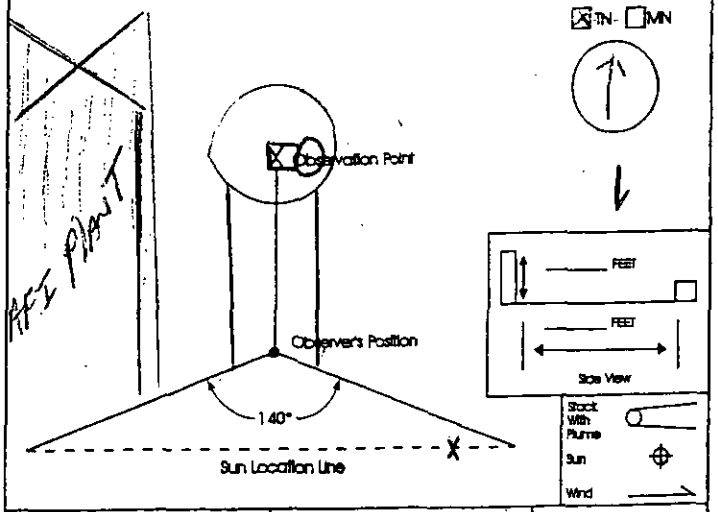
Height of Emiss. Pt. Start	~100	End	Same
Height of Emiss. Pt. Rel. to Observer Start	~100	End	Same
Distance to Emiss. Pt. Start	~300	End	Same
Direction to Emiss. Pt. (Degrees) Start	~180°	End	Same
Vertical Angle to Obs. Pt. Start	~10°	End	Same
Direction to Obs. Pt. (Degrees) Start	350°	End	Same
Distance and Direction to Observation Point from Emission Point Start	~300 SE	End	Same

Describe Emissions Start	NONE	End	Same
Emission Color Start	NONE	End	Same
Water Droplet Plume	Attached ☐	Detached ☐	None ☒

Describe Plume Background Start	Blue/Grey	End	Same
Background Color Start	Blue/Grey	End	Same
Sky Conditions Start	Broken	End	Same
Wind Speed Start	5-10	End	Same
Wind Direction Start	South	End	Same
Ambient Temp. Start	88°	End	87°
Wet Bulb Temp.	N/A	RH Percent	N/A

Source Layout Sketch

Draw North Arrow: ☒ TN ☐ MN



Longitude	Latitude	Declination

Additional Information:

Observation Date	Time Zone	Start Time	End Time
8/29/05	EST	950	1020

Min \ Sec	0	15	30	45	Comments
1	0	0	0	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11	0	0	0	0	
12	0	0	0	0	
13	0	0	0	0	
14	0	0	0	0	
15	0	0	0	0	
16	0	0	0	0	
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24	0	0	0	0	
25	0	0	0	0	
26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

Observer's Name (Print)	Flint Barnes
Observer's Signature	Flint Barnes
Date	8/29/05
Organization	Mosaic
Certified By	ETA
Date	8/16/05

PARTICULATE & FLUORIDE EMISSIONS TEST SUMMARY

Company: MOSAIC RIVERVIEW
Source: AFI NO. 1 STACK

	Run 1	Run 2	Run 3	
Date of Run	06/23/06	06/23/06	06/23/06	
Process Rate (TPH)				
Start Time (24-hr. clock)	1526	1656	1822	
End Time (24-hr. clock)	1628	1758	1924	
Vol. Dry Gas Sampled Meter Cond. (DCF)	54.782	58.805	57.746	
Gas Meter Calibration Factor	0.991	0.991	0.991	
Barometric Pressure at Barom. (In. Hg.)	30.01	30.01	30.01	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	52.147	55.232	53.949	
Vol. Liquid Collected Std. Cond. (SCF)	7.275	8.110	8.364	
Moisture in Stack Gas (% Vol.)	12.2	12.8	13.4	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.65	27.59	27.52	
Stack Gas Static Press. (in. H2O gauge)	-0.38	-0.27	-0.38	
Stack Gas Static Press. (in. Hg. abs.)	29.98	29.99	29.98	
Average Square Root Velocity Head	0.967	0.978	0.966	
Average Orifice Differential (In. H2O)	2.527	2.903	2.778	
Average Gas Meter Temperature (°F)	94.8	102.8	105.6	
Average Stack Gas Temperature (°F)	148.9	149.7	148.8	
Pitot Tube Coefficient	0.82	0.82	0.82	
Stack Gas Vel. Stack Cond. (ft./sec.)	58.10	58.83	58.17	
Effective Stack Area (sq. ft.)	28.27	28.27	28.27	
Stack Gas Flow Rate Std. Cond. (DSCFM)	75,160	75,538	74,248	
Stack Gas Flow Rate Stack Cond. (ACFM)	98,567	99,795	98,684	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (In.)	0.249	0.249	0.249	
Percent Isokinetic	96.7	102.0	101.3	
				Average
Particulate Collected (mg.)	14.916667	16.55	14.866667	16.111111
Particulate Emissions (grains/DSCF)	0.004	0.005	0.004	0.00
Particulate Emissions (lb./hr.)	**2.84**	**3.36**	**2.71**	**2.97**
Total				
Fluoride Collected (mg.)	0.716	1.416	1.350	1.161
Fluoride Emissions (mg/DSCF)	0.014	0.026	0.025	0.021
Fluoride Emissions (lb./hr.)	**0.14**	**0.26**	**0.25**	**0.21**
Probe Wash				
Fluoride Collected (mg.)	0.037	0.014	0.018	0.023
Fluoride Emissions (mg/DSCF)	0.001	0.000	0.000	0.000
Fluoride Emissions (lb./hr.)	0.007	0.003	0.003	0.004
Filter				
Fluoride Collected (mg.)	0.014	0.012	0.013	0.013
Fluoride Emissions (mg/DSCF)	0.000	0.000	0.000	0.000
Fluoride Emissions (lb./hr.)	0.003	0.002	0.002	0.002
Impingers				
Fluoride Collected (mg.)	0.6650	1.3900	1.3200	1.125
Fluoride Emissions (mg/DSCF)	0.013	0.025	0.024	0.021
Fluoride Emissions (lb./hr.)	0.127	0.251	0.240	0.206

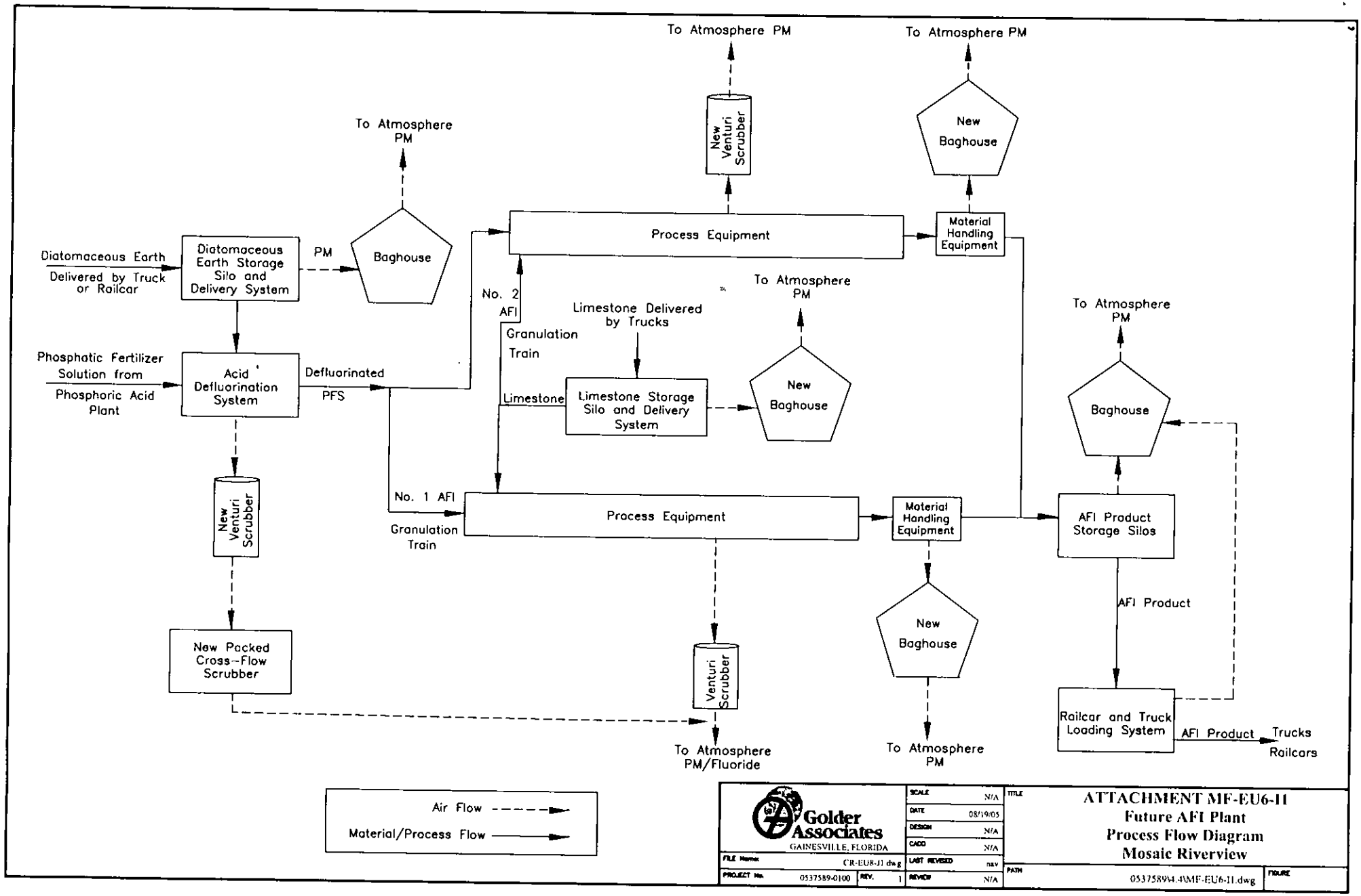
Note: Standard conditions 68°F, 29.92 in. Hg

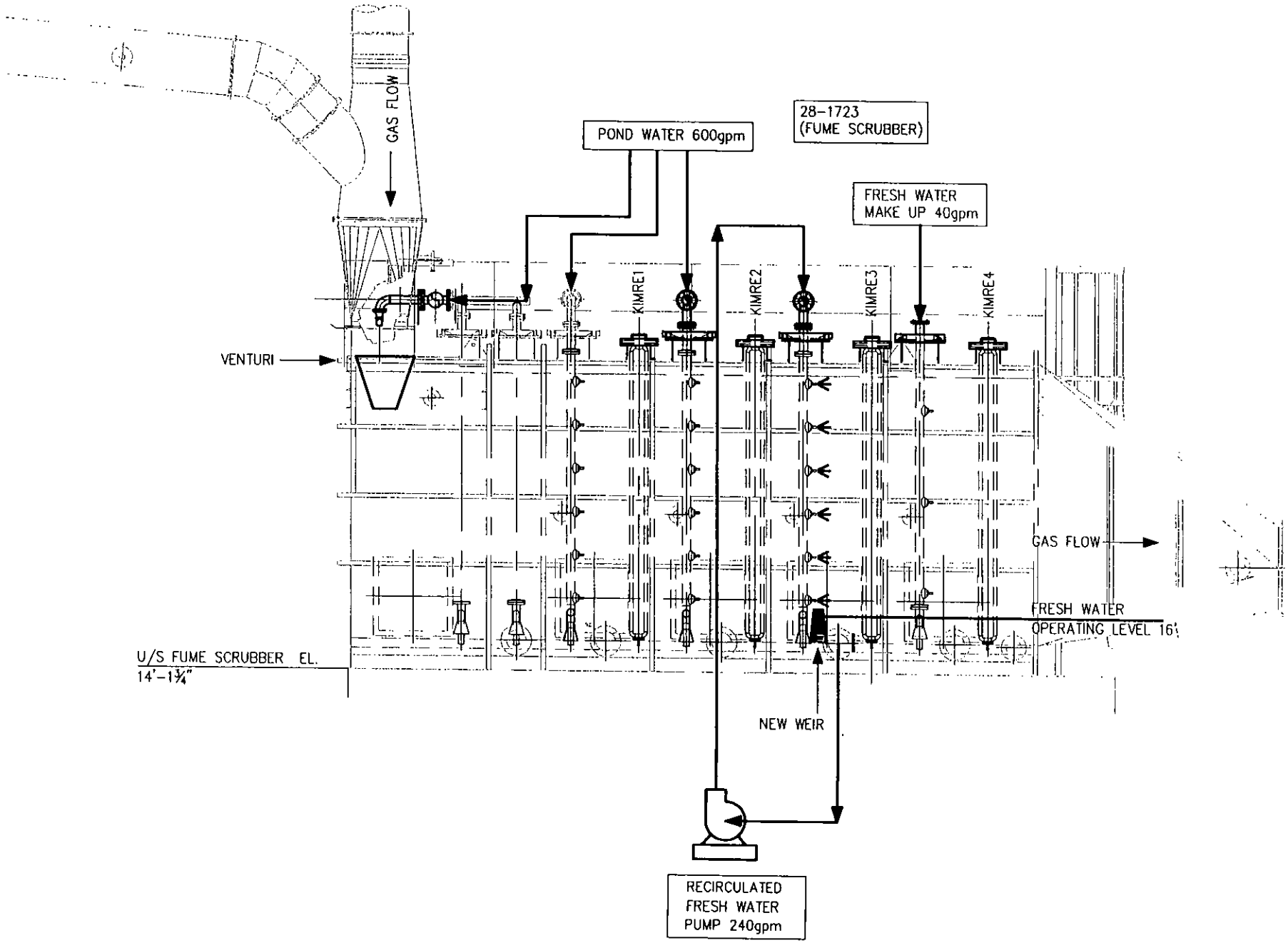
AFI 1 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Source: EU ID No. 078 AFI 1 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		06/23/2006 15:26	06/23/2006 16:56	06/23/2006 18:22	
End Time		06/23/2006 16:28	06/23/2006 17:58	06/23/2006 19:24	
Granulation Plant Scrubber					
Recirc Flow	GPM	1281	1277	1276	1278
Make-up Flow	GPM	46	37	42	42
Pressure Drop	"H2O	19	18	19	19
Fan Amps	amps	112	112	111	112
Defluorination Scrubber					
Pondwater Flow	GPM	886	857	821	855
Demister Flow	GPM	58	73	69	67
Pressure Drop	"H2O	14	14	14	14
Fan Amps	amps	101	100	98	100
Plant Production					
AFI	TPH	19.5	19.3	19.8	19.5
AFI	TPD	469	463	475	469

Area Superintendent: _____


To Atmosphere PM
To Atmosphere PM
New Venturi Scrubber
New Baghouse
To Atmosphere PM
Diatomaceous Earth Delivered by Truck or Railcar
Diatomaceous Earth Storage Silo and Delivery System
PM
Baghouse
Process Equipment
Material Handling Equipment
No. 2 AFI Granulation Train
Limestone Delivered by Trucks
To Atmosphere PM
To Atmosphere PM
Phosphatic Fertilizer Solution from Phosphoric Acid Plant
Acid Defluorination System
Defluorinated PFS
Limestone
Limestone Storage Silo and Delivery System
New Baghouse
Baghouse
New Venturi Scrubber
No. 1 AFI Granulation Train
Process Equipment
Material Handling Equipment
AFI Product Storage Silos
AFI Product
New Packed Cross-Flow Scrubber
Venturi Scrubber
New Baghouse
Railcar and Truck Loading System
AFI Product
Trucks
Railcars
To Atmosphere PM/Fluoride
To Atmosphere PM
Air Flow
Material/Process Flow
Golder Associates
GAINESVILLE, FLORIDA
SCALE N/A
DATE 08/19/05
DESIGN N/A
CADD N/A
LAST REVISED nav
REVIEW N/A
FILE Name: CR-EU8-J1.dwg
PROJECT No. 0537589-0100
REV. 1
TITLE
ATTACHMENT MF-EU6-11
Future AFI Plant
Process Flow Diagram
Mosaic Riverview
PATH 0537589\4.4\MF-EU6-11.dwg
FIGURE


GAS FLOW
28-1723
(FUME SCRUBBER)
POND WATER 600gpm
FRESH WATER
MAKE UP 40gpm
KIMRE1
KIMRE2
KIMRE3
KIMRE4
VENTURI
GAS FLOW
FRESH WATER
OPERATING LEVEL 16'
U/S FUME SCRUBBER EL.
14'-1¾"
NEW WEIR
RECIRCULATED
FRESH WATER
PUMP 240gpm

Production and Operating Hours

		2003			2004			2005		
EU ID	EU Description	Month	Operating Hours	Tons Monocal/Dical Produced	Month	Operating Hours	Tons Monocal/Dical Produced	Month	Operating Hours	Tons Monocal/Dical Produced
078	AFI #1 (common stack w / deflounnation scrubber)	January	474	9115	January	517	9040	January	545	10940
		February	492	8635	February	382	9988	February	572	6658
		March	531	9808	March	516	9615	March	588	10809
		April	602	10472	April	613	10771	April	629	8701
		May	602	9721	May	602	11084	May	484	7444
		June	572	9454	June	618	10695	June	300	5635
		July	572	9493	July	606	10105	July	391	4902
		August	611	11026	August	440	7967	August	323	6851
		September	657	11089	September	267	5217	September	555	11114
		October	567	9119	October	542	9710	October	403	5080
		November	385	6786	November	609	10848	November	603	11820
		December	635	10889	December	544	10766	December	611	7923
		TOTAL	6698	115607	TOTAL	6256	115806	TOTAL	6004	97877

Production and Operating Hours

		2003			2004			2005		
EU ID	EU Description	Month	Operating Hours	Tons Monocal/Dical Produced	Month	Operating Hours	Tons Monocal/Dical Produced	Month	Operating Hours	Tons Monocal/Dical Produced
103	AFI #2	January	381	6957	January	517	10303	January	628	7936
		February	432	6482	February	382	11408	February	640	12243
		March	597	11296	March	605	13084	March	633	11885
		April	498	8322	April	572	11913	April	611	7050
		May	548	8739	May	681	12397	May	637	13105
		June	526	9412	June	658	13174	June	552	8506
		July	522	10596	July	677	11686	July	713	11082
		August	614	10242	August	649	10804	August	692	9208
		September	580	8548	September	615	6346	September	694	12057
		October	423	6675	October	695	9904	October	663	10276
		November	587	9709	November	690	11194	November	694	12789
		December	541	10019	December	674	14803	December	651	9812
		TOTAL	6249	106997	TOTAL	7415	137016	TOTAL	7808	125949

2004

Riverview Chemical Complex Limestone Tons Processed

	080
	Limestone Silo
Month	Tons Processed
1	8,812
2	9,227
3	9,192
4	9,784
5	10,549
6	10,220
7	9,301
8	7,501
9	4,600
10	9,065
11	9,289
12	10,097
TOTAL TONS PROCESSED	107,637

2005

Riverview Chemical Complex Limestone Tons Processed

	080
	Limestone Silo
Month	Tons Processed
1	8,260
2	10,070
3	9,533
4	7,611
5	8,936
6	5,291
7	7,042
8	5,868
9	8,443
10	6,527
11	9,614
12	8,264
TOTAL TONS PROCESSED	95,459

Appendix U-1, List of Unregulated Emissions Units and/or Activities.

Mosaic Fertilizer, LLC.
Riverview Facility

Revised Draft Permit Renewal No. 0570008-045-AV
(Initial Title V Permit No.: 0570008-014-AV)
Facility ID No.: 0570008

Unregulated Emissions Units and/or Activities. An emissions unit which emits no "emissions-limited pollutant" and which is subject to no unit-specific work practice standard, though it may be subject to regulations applied on a facility-wide basis (e.g., unconfined emissions, odor, general opacity) or to regulations that require only that it be able to prove exemption from unit-specific emissions or work practice standards.

The below listed emissions units and/or activities are neither 'regulated emissions units' nor 'insignificant emissions units'.

{Permitting Notes: 1. Letter dated 9/19/2005 from David Buff, P.E. of Golder Associates Inc. was received by the Department on 9/29/2005 concerning the phosphoric acid clarifier, clarifier feed tank and associated wet scrubbers and is being reviewed by the Department.
2. There will be no GTSP production/handling at the Riverview facility. So, GTSP handling related activities are removed from the list below except coating oil tank that may be used for dust suppression for other types of fertilizer at the facility.
3. Construction permit application for ammoniated phosphates storage and loadouts dated 9/27/2005 was received by the Department on 9/29/2005 and it is currently being processed.}

E.U. ID No.	Brief Description of Emissions Units and/or Activity
	Fertilizer Plants
-105	Coating drums (containing coating oil that is used for dust suppression)
-105	Raw material and product storage tanks, bins, and storage buildings
-105	Grinding mills, chain mills, cage mills, lump breakers
-105	Cooling tower, slurry pumps, scrubber water sumps
-105	DAP rail loading system, truck unloading
-105	Material conveyors, elevators, and screens
-105	Ammonia chillers and vaporizers
-105	Product Recovery Units
-105	Ammonia Flare
-105	Coating Oil Tank – 17,233 gallons (installed 1986)
	Material Handling System
-105	Choke feeder, covered conveyors, screening tower (fugitive only)
	Phosphoric Acid Production Facility
-105	Flash Cooler Hotwells
-105	Flash coolers, vacuum pumps, seal pumps and seal tanks
-105	Nos. 1, 2 and 3 Filters - unevacuated area (fugitive only)
-105	Centrifuges, pumps
-105	East, north, and south coolers
-105	Truck loading/unloading
-105	Clarifier and clarifier feed tank

E.U. ID No.	Brief Description of Emissions Units and/or Activity
-105	Aging, filtrate, raw material, and product storage tanks
-105	Auxiliary power diesel generator with tank
	Molten Sulfur Handling
-105	Dock unloading/truck loading (fugitive only)
-105	Molten sulfur storage tank fires
-105	Molten Sulfur Tank # 2 – 3,104,714 gallons (installed 1990)*
	Sulfuric Acid Plants
-105	Water reuse tanks, water storage tanks, condensate tanks
-105	Economizers
-105	Sulfuric acid storage tanks
-105	Sulfuric acid truck loading/unloading
-105	Cooling towers
	Animal Feed Plant
-105	Acid heaters and dilution tank
-105	High speed mixer
-105	Diatomaceous earth weigh bin and feed splitters
-105	Limestone metering feeder and screen feed splitter
-105	Weigh bin slide gate and weighing belt
-105	Conveyors
	Ammonia Handling
-105	Bullets, pipeline, pop off valves, truck unloading
	Facilitywide
-105	Fuel tanks and dispensers
-105	Compressors, generators (6 MW, 35 MW)
-105	Wastewater treatment plant and collection system
-105	Locomotive Engines
-105	Laboratory, lime hopper, refrigerators
-105	Pressure/steam relief valves
-105	Railcar/truck unloading, conveyor belts (fugitive only)
-105	Wet rock pile, rock hoppers, rock grinding mills (fugitive only)
-105	Safety kleen solvent cleaners
-105	Sand blasters, welding equipment, supersucker
-105	Raw material and product storage tanks
-105	Minor fugitive leaks from process equipment
-105	Diesel pump at NPDES Outfall 005
-105	Diesel pump at active phosphogypsum stack
-105	Asbestos Waste and hazardous waste removal
-105	Refrigeration equipment < 50 lbs charge
-105	Oil-fired catalyst
-105	400 hp emergency generator

* Tanks subject to 40 CFR 60, Subpart Kb, NSPS for VOC Storage Tanks.

TABLE 1. PARTICULATE EMISSIONS TEST SUMMARY

Company: Cargill Crop Nutrition - Riverview
Source: AFI - Plant No. 1

	Run 1	Run 2	Run 3	
Date of Run	5/7/03	5/7/03	5/7/03	
Process Rate (TPH)	701	604	655	
Start Time (24-hr. clock)	0824	1056	1115	
End Time (24-hr. clock)	0928	1056	1218	
Vol. Dry Gas Sampled Meter Cond. (DCF)	47.553	44.698	43.438	
Gas Meter Calibration Factor	0.994	0.994	0.994	
Barometric Pressure at Barom. (in. Hg.)	30.09	30.09	30.12	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	45.122	42.429	40.642	
Vol. Liquid Collected Std. Cond. (SCF)	8.638	8.214	7.586	
Moisture in Stack Gas (% Vol.)	16.10	16.20	15.73	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.23	27.22	29.00	
Stack Gas Static Press. (in. H2O gauge)	-0.41	-0.42	-0.41	
Stack Gas Static Press. (in. Hg. abs.)	30.06	30.06	30.09	
Average Square Root Velocity Head	0.955	0.882	0.862	
Average Orifice Differential (in. H2O)	1.535	1.317	1.249	
Average Gas Meter Temperature (°F)	98.3	97.8	106.4	
Average Stack Gas Temperature (°F)	144.8	144.8	144.3	
Pitot Tube Coefficient	0.84	0.84	0.84	
Stack Gas Vel. Stack Cond. (ft./sec.)	58.93	54.47	51.49	
Effective Stack Area (sq. ft.)	28.27	28.27	28.27	
Stack Gas Flow Rate Std. Cond. (DSCFM)	73,592	67,913	64,673	
Stack Gas Flow Rate Stack Cond. (ACFM)	99,972	92,413	87,345	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.227	0.227	0.227	
Percent Isokinetic	102.9	104.8	105.4	
				Average
Particulate Collected (mg.)	15.8	12.7	18.7	15.7
Particulate Emissions (grains/DSCF)	0.005	0.005	0.007	0.01
Particulate Emissions (lb./hr.)	**3.4**	**2.7**	**3.9**	**3.34**
Allowable Particulate Emissions (lb./hr.)				**13.0**
Fluoride Collected (mg.)	1.733	1.260	1.353	1.448
Fluoride Emissions (mg/DSCF)	0.038	0.030	0.033	0.034
Fluoride Emissions (lb./hr.)	**0.37**	**0.27**	**0.28**	**0.31**
Allowable Fluoride Emissions (lb./hr.)				**2.1**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 1 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Source: EU ID No. 078 AFI 1 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		05/07/2003 8:24	05/07/2003 9:53	05/07/2003 11:15	
End Time		05/07/2003 9:28	05/07/2003 10:56	05/07/2003 12:18	
Granulation Plant Scrubber					
Recirc Flow	GPM	1171	1169	1168	1169
Make-up Flow	GPM	47	49	44	46
Pressure Drop	"H2O	24	23	23	23
Fan Amps	amps	115	115	115	115
Defluorination Scrubber					
Pondwater Flow	GPM	856	855	854	855
Demister Flow	GPM	82	82	79	81
Pressure Drop	"H2O	6	6	6	6
Fan Amps	amps	68	68	68	68
Plant Production					
AFI	TPD	701	604	655	653

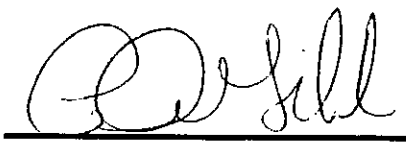
Area Superintendent: 

TABLE 1. PARTICULATE EMISSIONS TEST SUMMARY

Company: **Cargill Crop Nutrition - Riverview**
Source: **AFI - Plant No. 1**

	Run 1	Run 2	Run 3	
Date of Run	5/13/04	5/13/04	5/13/04	
Process Rate (TPH)	23.3	22.6	21.1	
Start Time (24-hr. clock)	0807	0944	1113	
End Time (24-hr. clock)	0914	1047	1216	
Vol. Dry Gas Sampled Meter Cond. (DCF)	45.876	45.424	45.210	
Gas Meter Calibration Factor	1.015	1.015	1.015	
Barometric Pressure at Barom. (in. Hg.)	30.12	30.12	30.12	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	45.641	44.913	44.319	
Vol. Liquid Collected Std. Cond. (SCF)	7.313	8.152	7.318	
Moisture in Stack Gas (% Vol.)	13.8	15.4	14.2	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.48	27.31	27.44	
Stack Gas Static Press. (in. H2O gauge)	-0.35	-0.32	-0.31	
Stack Gas Static Press. (in. Hg. abs.)	30.01	30.02	30.02	
Average Square Root Velocity Head	0.940	0.934	0.923	
Average Orifice Differential (in. H2O)	2.008	1.984	1.941	
Average Gas Meter Temperature (°F)	83.5	86.8	91.5	
Average Stack Gas Temperature (°F)	145.7	144.6	145.4	
Pitot Tube Coefficient	0.84	0.84	0.84	
Stack Gas Vel. Stack Cond. (ft./sec.)	57.84	57.61	56.83	
Effective Stack Area (sq. ft.)	28.27	28.27	28.27	
Stack Gas Flow Rate Std. Cond. (DSCFM)	73,963	72,478	72,403	
Stack Gas Flow Rate Stack Cond. (ACFM)	98,127	97,739	96,414	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.234	0.234	0.234	
Percent Isokinetic	97.4	97.8	96.6	
				Average
Particulate Collected (mg.)	19.3	21.7	21.3	20.7
Particulate Emissions (grains/DSCF)	0.007	0.007	0.007	0.01
Particulate Emissions (lb./hr.)	**4.1**	**4.6**	**4.6**	**4.5**
Allowable Particulate Emissions (lb./hr.)				**13.0**
Fluoride Collected (mg.)	1.9	2.5	1.7	2.0
Fluoride Emissions (mg/DSCF)	0.04	0.06	0.04	0.05
Fluoride Emissions (lb./hr.)	**0.40**	**0.54**	**0.38**	**0.44**
Allowable Fluoride Emissions (lb./hr.)				**2.1**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 1 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Source: EU ID No. 078 AFI 1 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		05/13/2004 08:07	05/13/2004 09:44	05/13/2004 11:13	
End Time		05/13/2004 09:14	05/13/2004 10:47	05/13/2004 12:16	
Granulation Plant Scrubber					
Recirc Flow	GPM	1294	1295	1295	1294
Make-up Flow	GPM	64	61	60	63
Pressure Drop	"H2O	25	26	26	26
Fan Amps	amps	108	109	109	108
Defluorination Scrubber					
Pondwater Flow	GPM	798	798	798	798
Demister Flow	GPM	34	38	39	36
Pressure Drop	"H2O	8	8	8	8
Fan Amps	amps	72	72	72	72
Plant Production					
AFI	TPH	23.3	22.6	21.1	22.3
AFI	TPD	559	543	507	536

Area Superintendent: _____

TABLE 1. PARTICULATE AND FLUORIDE EMISSIONS TEST SUMMARY

Company: **MOSAIC FERTILIZER, LLC - Riverview**
Source: **AFI - Plant No. 1**

	Run 1	Run 2	Run 3	
Date of Run	07/29/05	07/29/05	07/29/05	
Process Rate (TPH)	20.8	20.7	20.8	
Start Time (24-hr. clock)	1016	1133	1505	
End Time (24-hr. clock)	1119	1338	1607	
Vol. Dry Gas Sampled Meter Cond. (DCF)	55.871	48.110	58.397	
Gas Meter Calibration Factor	0.976	0.976	0.976	
Barometric Pressure at Barom. (in. Hg.)	30.06	30.06	30.03	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	52.111	44.274	53.473	
Vol. Liquid Collected Std. Cond. (SCF)	8.855	9.675	10.562	
Moisture in Stack Gas (% Vol.)	14.5	17.9	16.5	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.40	27.03	27.19	
Stack Gas Static Press. (in. H2O gauge)	-0.52	-0.24	-0.64	
Stack Gas Static Press. (in. Hg. abs.)	30.02	30.04	29.98	
Average Square Root Velocity Head	0.949	0.961	0.952	
Average Orifice Differential (in. H2O)	2.568	2.658	2.763	
Average Gas Meter Temperature (°F)	98.6	106.3	108.7	
Average Stack Gas Temperature (°F)	150.8	151.3	154.2	
Pitot Tube Coefficient	0.79	0.79	0.79	
Stack Gas Vel. Stack Cond. (ft./sec.)	55.25	56.30	55.83	
Effective Stack Area (sq. ft.)	28.27	28.27	28.27	
Stack Gas Flow Rate Std. Cond. (DSCFM)	69,500	67,983	68,137	
Stack Gas Flow Rate Stack Cond. (ACFM)	93,734	95,510	94,712	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.249	0.249	0.249	
Percent Isokinetic	104.5	90.8	109.4	
				Average
Particulate Collected (mg.)	38.3	35.8	44.1	39.4
Particulate Emissions (grains/DSCF)	0.011	0.012	0.013	0.01
Particulate Emissions (lb./hr.)	**6.76**	**7.27**	**7.43**	**7.2**
Allowable Particulate Emissions (lb./hr.)				**13.0**
Fluoride Collected (mg.)	3.325	3.691	6.331	4.449
Fluoride Emissions (mg/DSCF)	0.064	0.083	0.118	0.089
Fluoride Emissions (lb./hr.)	**0.59**	**0.75**	**1.07**	**0.8**
Allowable Fluoride Emissions (lb./hr.)				**2.1**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 1 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Source: EU ID No. 078 AFI 1 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		07/29/2005 10:16	07/29/2005 11:33	07/29/2005 15:05	
End Time		07/29/2005 11:19	07/29/2005 13:33	07/29/2005 16:07	
Granulation Plant Scrubber					
Recirc Flow	GPM	1237	1241	1246	1239
Make-up Flow	GPM	46	45	26	46
Pressure Drop	"H2O	20	20	20	20
Fan Amps	amps	108	108	110	108
Defluorination Scrubber					
Pondwater Flow	GPM	758	756	749	757
Demister Flow	GPM	69	70	73	70
Pressure Drop	"H2O	8	8	8	8
Fan Amps	amps	83	84	82	83
Plant Production					
AFI	TPH	20.8	20.7	20.8	20.7
AFI	TPD	498	496	499	498

Area Superintendent: _____

TABLE 2. PARTICULATE EMISSIONS TEST SUMMARY

Company: Cargill Crop Nutrition - Riverview
Source: AFI - Plant No. 2

	Run 1	Run 2	Run 3	
Date of Run	5/8/03	5/8/03	5/8/03	
Process Rate (TPH)	522	522	521	
Start Time (24-hr. clock)	0848	1029	1310	
End Time (24-hr. clock)	0952	1230	1415	
Vol. Dry Gas Sampled Meter Cond. (DCF)	31.254	31.692	31.760	
Gas Meter Calibration Factor	0.997	0.997	0.997	
Barometric Pressure at Barom. (in. Hg.)	30.11	30.11	30.12	
Elev. Diff. Manom. to Barom. (ft.)	116	116	116	
Vol. Gas Sampled Std. Cond. (DSCF)	30.120	30.517	30.100	
Vol. Liquid Collected Std. Cond. (SCF)	2.414	2.315	1.504	
Moisture in Stack Gas (% Vol.)	7.4	7.1	4.8	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	28.18	28.22	28.48	
Stack Gas Static Press. (in. H2O gauge)	-0.35	-0.42	-0.29	
Stack Gas Static Press. (in. Hg. abs.)	30.08	30.08	30.10	
Average Square Root Velocity Head	0.796	0.751	0.743	
Average Orifice Differential (in. H2O)	0.722	0.629	0.496	
Average Gas Meter Temperature (°F)	90.7	91.0	99.8	
Average Stack Gas Temperature (°F)	142.4	141.8	141.9	
Pitot Tube Coefficient	0.84	0.84	0.84	
Stack Gas Vel. Stack Cond. (ft./sec.)	48.18	45.42	44.69	
Effective Stack Area (sq. ft.)	34.91	34.91	34.91	
Stack Gas Flow Rate Std. Cond. (DSCFM)	82,322	77,983	78,666	
Stack Gas Flow Rate Stack Cond. (ACFM)	100,898	95,125	93,601	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.195	0.195	0.195	
Percent Isokinetic	102.7	109.8	107.4	
				Average
Particulate Collected (mg.)	20.3	7.2	10.0	12.5
Particulate Emissions (grains/DSCF)	0.010	0.004	0.005	0.006
Particulate Emissions (lb./hr.)	**7.4**	**2.4**	**3.5**	**4.43**
Allowable Particulate Emissions (lb./hr.)				**13.0**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 2 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Test Date(s): May 8, 2003
Source: EU ID No. 103 AFI 2 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		05/08/2003 8:48	05/08/2003 10:29	05/08/2003 13:10	
End Time		05/08/2003 9:52	05/08/2003 12:30	05/08/2003 14:15	
Equipment Scrubber					
Flow	GPM	1083	1031	1219	1111
Pressure Drop	"H2O	14	14	15	15
Dryer Scubber					
Flow	GPM	1482	1478	1469	1476
Pressure Drop	"H2O	20	19	20	20
Fan Amps	amps	120	120	120	120
Production Rate					
AFI Product Rate	TPD	522	522	521	522
Emissions					
PM Emissions	lb/hr	7.4	2.4	3.5	4.4

Area Superintendent: _____

TABLE 1. PARTICULATE EMISSIONS TEST SUMMARY

Company: **Cargill Crop Nutrition - Riverview**
Source: **AFI - Plant No. 2**

	Run 1	Run 2	Run 3	
Date of Run	5/20/04	5/20/04	5/20/04	
Process Rate (TPH)	25.7	25.7	25.8	
Start Time (24-hr. clock)	0802	0928	1049	
End Time (24-hr. clock)	0905	1032	1151	
Vol. Dry Gas Sampled Meter Cond. (DCF)	32.550	34.752	34.665	
Gas Meter Calibration Factor	1.015	1.015	1.015	
Barometric Pressure at Barom. (in. Hg.)	30.21	30.21	30.21	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	31.957	33.857	33.571	
Vol. Liquid Collected Std. Cond. (SCF)	6.078	7.228	6.455	
Moisture in Stack Gas (% Vol.)	16.0	17.6	16.1	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.24	27.06	27.23	
Stack Gas Static Press. (in. H2O gauge)	-0.30	-0.32	-0.34	
Stack Gas Static Press. (in. Hg. abs.)	30.07	30.09	30.10	
Average Square Root Velocity Head	0.739	0.747	0.742	
Average Orifice Differential (in. H2O)	1.152	1.117	1.106	
Average Gas Meter Temperature (°F)	90.6	95.2	98.7	
Average Stack Gas Temperature (°F)	140.7	143.2	144.7	
Pitot Tube Coefficient	0.84	0.84	0.84	
Stack Gas Vel. Stack Cond. (ft./sec.)	45.43	46.15	45.76	
Effective Stack Area (sq. ft.)	34.91	34.91	34.91	
Stack Gas Flow Rate Std. Cond. (DSCFM)	70,637	70,120	70,607	
Stack Gas Flow Rate Stack Cond. (ACFM)	95,157	96,653	95,833	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.227	0.227	0.227	
Percent Isokinetic	93.7	100.0	98.5	
				Average
Particulate Collected (mg.)	14.4	20.0	18.6	17.7
Particulate Emissions (grains/DSCF)	0.007	0.009	0.009	0.008
Particulate Emissions (lb./hr.)	**4.2**	**5.5**	**5.2**	**5.0**
Allowable Particulate Emissions (lb./hr.)				**13.0**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 2 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Test Date(s): May 20, 03
Test For: PM
Source: AFI 2 Plant

Compliance Test

		Run 1	Run 2	Run 3	AVG
Start Time		5/20/04 8:02	5/20/04 9:28	5/20/04 10:49	
End Time		5/20/04 9:05	5/20/04 10:32	5/20/04 11:51	
Equipment Scrubber					
Flow	GPM	1480.2	1478.6	1478.6	1447
Pressure Drop	"H2O	11.7	11.7	11.7	16
Dryer Scubber					
Flow	GPM	1409.8	1404.7	1404.7	1544
Pressure Drop	"H2O	20.2	20.4	20.4	21
Production					
AFI	TPH	25.7	25.7	25.8	25.7
AFI	TPD	617	617	618	617

Area Superintendent: _____

TABLE 2. PARTICULATE EMISSIONS TEST SUMMARY

Company: **MOSAIC FERTILIZER, LLC - Riverview**
Source: **AFI - Plant No. 2**

	Run 1	Run 2	Run 3	
Date of Run	8/4/05	8/4/05	8/4/05	
Process Rate (TPH)	23.7	23.8	23.7	
Start Time (24-hr. clock)	0828	0952	1121	
End Time (24-hr. clock)	0931	1056	1223	
Vol. Dry Gas Sampled Meter Cond. (DCF)	40.592	42.723	40.713	
Gas Meter Calibration Factor	0.976	0.976	0.976	
Barometric Pressure at Barom. (in. Hg.)	30.05	30.05	30.05	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	38.386	39.916	37.940	
Vol. Liquid Collected Std. Cond. (SCF)	5.031	8.133	8.723	
Moisture in Stack Gas (% Vol.)	11.6	16.9	18.7	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.73	27.14	26.94	
Stack Gas Static Press. (in. H2O gauge)	-0.29	-0.26	-0.26	
Stack Gas Static Press. (in. Hg. abs.)	30.03	30.03	30.03	
Average Square Root Velocity Head	0.726	0.728	0.724	
Average Orifice Differential (in. H2O)	1.328	1.438	1.246	
Average Gas Meter Temperature (°F)	89.1	95.9	97.1	
Average Stack Gas Temperature (°F)	148.5	149.0	148.1	
Pitot Tube Coefficient	0.79	0.79	0.79	
Stack Gas Vel. Stack Cond. (ft./sec.)	41.91	42.50	42.40	
Effective Stack Area (sq. ft.)	34.91	34.91	34.91	
Stack Gas Flow Rate Std. Cond. (DSCFM)	67,578	64,351	62,925	
Stack Gas Flow Rate Stack Cond. (ACFM)	87,770	89,018	88,801	
Net Time of Run (min.)	60.0	60.0	60.0	
Nozzle Diameter (in.)	0.246	0.246	0.246	
Percent Isokinetic	100.2	109.4	106.3	
				Average
Particulate Collected (mg.)	19.5	17.6	23.6	20.2
Particulate Emissions (grains/DSCF)	0.008	0.007	0.010	0.008
Particulate Emissions (lb./hr.)	**4.5**	**3.8**	**5.2**	**4.5**
Allowable Particulate Emissions (lb./hr.)				**13.0**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 2 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Test Date(s): August 4, 2005
Test For: PM
Source: AFI 2 Plant

Compliance Test

		Run 1	Run 2	Run 3	AVG
Start Time		08/04/2005 08:28	08/04/2005 09:52	08/04/2005 11:21	
End Time		08/04/2005 09:31	08/04/2005 10:56	08/04/2005 12:23	
Equipment Scrubber					
Flow	GPM	1236.0	1239.5	1243.1	1240
Pressure Drop	"H2O	12.6	12.5	12.4	13
Dryer Scubber					
Flow	GPM	1227.6	1230.5	1229.7	1229
Pressure Drop	"H2O	20.5	20.3	20.0	20
Production					
AFI	TPH	23.7	23.8	23.7	24
AFI	TPD	569	570	569	569

Southern Environmental Sciences, Inc.

1204 North Wheeler Street ☐ Plant City, Florida 33563 ☐ (813) 752-5014, Fax (813) 752-2475

VISIBLE EMISSIONS EVALUATION

Limestone Silo

COMPANY: Cargill Crop Nutrition - Tampa

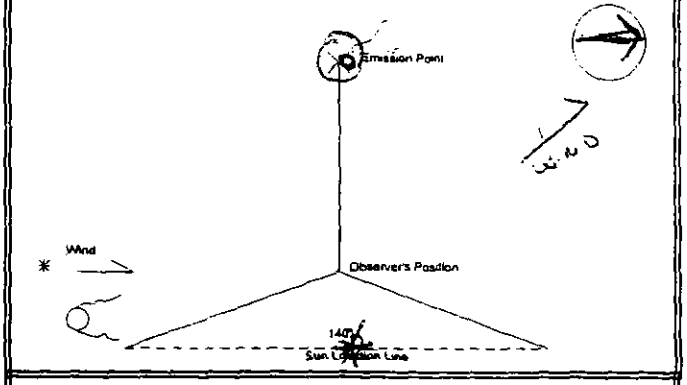
UNIT: Limestone Silo

ADDRESS: US 41 & Riverview Dr

Riverview, FL

PERMIT NO. 0570005-014-AV	COMPLIANCE? YES ☑ NO ☐
AIRS NO. 05700005	EU NO. 080
PROCESS RATE NA	PERMITTED RATE NA
PROCESS EQUIPMENT: Limestone Storage Silo	
CONTROL EQUIPMENT: Baghouse	
OPERATING MODE: Normal	AMBIENT TEMP. (° F) START 80° STOP ✓
HEIGHT ABOVE GROUND LEVEL START ~100' STOP ✓	HEIGHT RELATIVE TO OBSERVER START ~100' STOP ✓
DISTANCE FROM OBSERVER START ~300' STOP ✓	DIRECTION FROM OBSERVER START 270° STOP
EMISSION COLOR: None	PLUME TYPE: NA CONTIN. ☐ INTERMITTENT ☐
WATER DROPLETS PRESENT? NO ☒ YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐ NA
POINT IN PLUME AT WHICH OPACITY WAS DETERMINED START Baghouse Vent STOP ✓	
DESCRIBE BACKGROUND START Sky STOP ✓	
BACKGROUND COLOR START Blue STOP ✓	SKY CONDITIONS START ✓ STOP ✓ Scattered
WIND SPEED (MPH) START 2-4 STOP ✓	WIND DIRECTION START SE STOP ✓
AVERAGE OPACITY FOR HIGHEST PERIOD 0%	RANGE OF OPACITY READINGS MIN. 0% MAX. 0%

SOURCE LAYOUT SKETCH



Comments

OBSERVATION DATE	START TIME	STOP TIME
5/8/03	0745	0815

SEC MIN	0	15	30	45	SEC MIN	0	15	30	45
0	0	0	0	0	30				
1	0	0	0	0	31				
2	0	0	0	0	32				
3	0	0	0	0	33				
4	0	0	0	0	34				
5	0	0	0	0	35				
6	0	0	0	0	36				
7	0	0	0	0	37				
8	0	0	0	0	38				
9	0	0	0	0	39				
10	0	0	0	0	40				
11	0	0	0	0	41				
12	0	0	0	0	42				
13	0	0	0	0	43				
14	0	0	0	0	44				
15	0	0	0	0	45				
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20	0	0	0	0	50				
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25	0	0	0	0	55				
26	0	0	0	0	56				
27	0	0	0	0	57				
28	0	0	0	0	58				
29	0	0	0	0	59				

OBSERVER: Ken Roberts

Certified by: FDEP Certif. # 303821 Certified at: Tampa

Date Certified: 2/18/03 Exp. Date: 8/20/03

I certify that all data provided to the person conducting the test was true and correct to the best of my knowledge:

Signature: See process data

Title:

SOUTHERN ENVIRONMENTAL SCIENCES, INC.

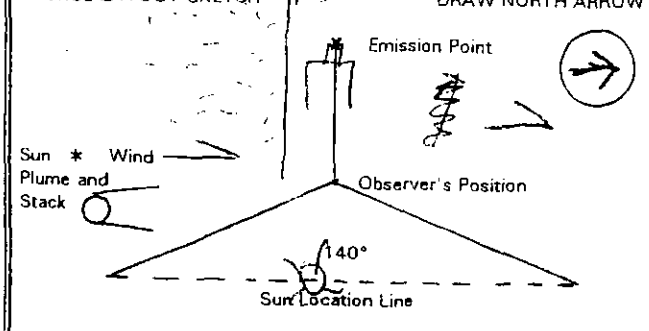
1204 North Wheeler Street, Plant City, Florida 33566 (813)752-5014

VISIBLE EMISSIONS EVALUATION

COMPANY	Cargill - Tampa
UNIT	Limestone Silo
ADDRESS	US Hwy 41 & Riverview Dr
	Riverview, FL

PERMIT NO. 0570008	COMPLIANCE? YES X NO ☐
AIRS NO. 0570008	EU NO. 080
PROCESS RATE N/A	PERMITTED RATE N/A
PROCESS EQUIPMENT Limestone Storage Silo	
CONTROL EQUIPMENT Baghouse	
OPERATING MODE Filling Silo w/Railcar	AMBIENT TEMP. (°F) START 87 STOP 87
HEIGHT ABOVE GROUND LEVEL START ~100' STOP same	HEIGHT REL. TO OBSERVER START ~100' STOP same
DISTANCE FROM OBSERVER START ~300' STOP same	DIRECTION FROM OBSERVER START 280° STOP 280°
EMISSION COLOR None	PLUME TYPE N/A CONTIN. ☐ INTERMITTENT ☐
WATER DROPLETS PRESENT NO X YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐ N/A
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START Baghouse Vent STOP same	
DESCRIBE BACKGROUND START Sky	STOP Sky
BACKGROUND COLOR START Bi/Wht STOP same	SKY CONDITIONS START Scat. Cl. STOP same
WIND SPEED (MPH) START 3-15 STOP same	WIND DIRECTION START S STOP S
AVERAGE OPACITY FOR HIGHEST PERIOD 0%	RANGE OF OPAC. READINGS MIN. 0 MAX. 0

SOURCE LAYOUT SKETCH — DRAW NORTH ARROW



COMMENTS

OBSERVATION DATE	START TIME	STOP TIME
6/3/04	0928	0958

SEC MIN	0	15	30	45	SEC MIN	0	15	30	45
0	0	0	0	0	30				
1	0	0	0	0	31				
2	0	0	0	0	32				
3	0	0	0	0	33				
4	0	0	0	0	34				
5	0	0	0	0	35				
6	0	0	0	0	36				
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13	0	0	0	0	43				
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25	0	0	0	0	55				
26	0	0	0	0	56				
27	0	0	0	0	57				
28	0	0	0	0	58				
29	0	0	0	0	59				

Observer: Mark Gierke

Certified by: FDEP Certified at: Tampa

Date Certified: 2/04 Exp. Date: 8/04

I certify that all data provided to the person conducting the test was true and correct to the best of my knowledge:

Signature: See Process Data

Title:

EPA
VISIBLE EMISSION OBSERVATION FORM 1

Method Used (Circle One): Method 9 | 203A | 203B | Other: _____

Form Number: _ | Page: 1 of 1

Continued on VEO Form Number:

Company Name: Mosaic Fertilizer, LLC

Facility Name: Riverview

Street Address: 8813 US Highway 41

City: Riverview | State: FL | Zip: 33569

Process: Limestone Storage S-10 | Unit #: | Operating Mode: Normal

Control Equipment: Bydouse | Operating Mode: Normal

Describe Emission Point: Bydouse Vent on Top of Limestone S-10

Height of Emiss. Pt. Start: 100 End: Same | Height of Emiss. Pt. Rel. to Observer Start: ~100 End: Same

Distance to Emiss. Pt. Start: ~300 End: Same | Direction to Emiss. Pt. (Degrees) Start: 350° End: Same

Vertical Angle to Obs. Pt. Start: ~18° End: Same | Direction to Obs. Pt. (Degrees) Start: 350° End: Same

Distance and Direction to Observation Point from Emission Point Start: ~300 SE End: Same

Describe Emissions Start: NONE End: Same

Emission Color Start: NONE End: Same | Water Droplet Plume: Attached ☐ Detached ☐ None ☒

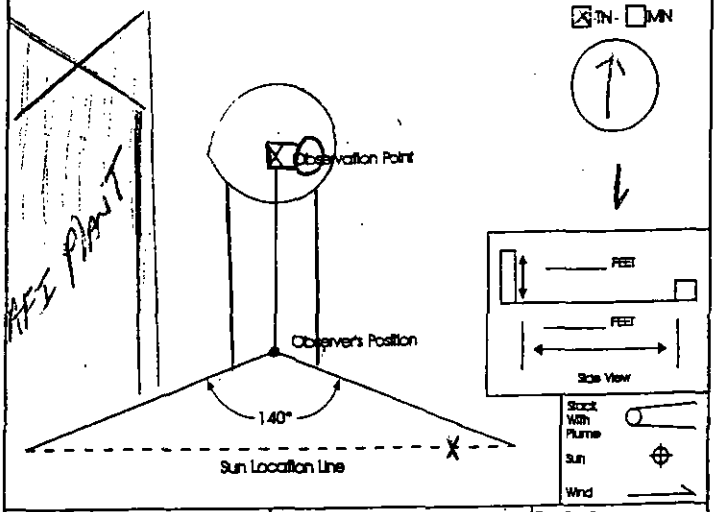
Describe Plume Background Start: Blue/Grey End: Same

Background Color Start: Blue/Grey End: Same | Sky Conditions Start: Broken End: Same

Wind Speed Start: 5-10 End: Same | Wind Direction Start: South End: Same

Ambient Temp. Start: 88° End: 89° | Wet Bulb Temp.: N/A | RH Percent: N/A

Source Layout Sketch



Longitude | Latitude | Declination

Additional Information

Observation Date	Time Zone	Start Time	End Time
8/29/05	EST	950	1020

Min \ Sec	0	15	30	45	Comments
1	0	0	0	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11	0	0	0	0	
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14	0	0	0	0	
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25	0	0	0	0	
26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

Observer's Name (Print): Flint Barnes

Observer's Signature: Flint Barnes | Date: 8/29/05

Organization: Mosaic

Certified By: ETA | Date: 8/16/05

VEOF1.1

PARTICULATE & FLUORIDE EMISSIONS TEST SUMMARY

Company: MOSAIC RIVERVIEW
Source: AFI NO. 1 STACK

	Run 1	Run 2	Run 3	
Date of Run	06/23/06	06/23/06	06/23/06	
Process Rate (TPH)				
Start Time (24-hr. clock)	1526	1656	1822	
End Time (24-hr. clock)	1628	1758	1924	
Vol. Dry Gas Sampled Meter Cond. (DCF)	54.782	58.805	57.746	
Gas Meter Calibration Factor	0.991	0.991	0.991	
Barometric Pressure at Barom. (In. Hg.)	30.01	30.01	30.01	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	52.147	55.232	53.949	
Vol. Liquid Collected Std. Cond. (SCF)	7.275	8.110	8.364	
Moisture in Stack Gas (% Vol.)	12.2	12.8	13.4	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.65	27.59	27.52	
Stack Gas Static Press. (in. H2O gauge)	-0.38	-0.27	-0.38	
Stack Gas Static Press. (in. Hg. abs.)	29.98	29.99	29.98	
Average Square Root Velocity Head	0.967	0.978	0.966	
Average Orifice Differential (In. H2O)	2.527	2.903	2.778	
Average Gas Meter Temperature (°F)	94.8	102.8	105.6	
Average Stack Gas Temperature (°F)	148.9	149.7	148.8	
Pitot Tube Coefficient	0.82	0.82	0.82	
Stack Gas Vel. Stack Cond. (ft./sec.)	58.10	58.83	56.17	
Effective Stack Area (sq. ft.)	28.27	28.27	28.27	
Stack Gas Flow Rate Std. Cond. (DSCFM)	75,160	75,538	74,248	
Stack Gas Flow Rate Stack Cond. (ACFM)	98,567	99,795	98,684	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (In.)	0.249	0.249	0.249	
Percent Isokinetic	96.7	102.0	101.3	
				Average
Particulate Collected (mg.)	14.916667	18.55	14.866667	16.111111
Particulate Emissions (grains/DSCF)	0.004	0.005	0.004	0.00
Particulate Emissions (lb./hr.)	**2.84**	**3.36**	**2.71**	**2.97**
Total				
Fluoride Collected (mg.)	0.716	1.416	1.350	1.161
Fluoride Emissions (mg/DSCF)	0.014	0.026	0.025	0.021
Fluoride Emissions (lb./hr.)	**0.14**	**0.26**	**0.25**	**0.21**
Probe Wash				
Fluoride Collected (mg.)	0.037	0.014	0.018	0.023
Fluoride Emissions (mg/DSCF)	0.001	0.000	0.000	0.000
Fluoride Emissions (lb./hr.)	0.007	0.003	0.003	0.004
Filter				
Fluoride Collected (mg.)	0.014	0.012	0.013	0.013
Fluoride Emissions (mg/DSCF)	0.000	0.000	0.000	0.000
Fluoride Emissions (lb./hr.)	0.003	0.002	0.002	0.002
Impingers				
Fluoride Collected (mg.)	0.6650	1.3900	1.3200	1.125
Fluoride Emissions (mg/DSCF)	0.013	0.025	0.024	0.021
Fluoride Emissions (lb./hr.)	0.127	0.251	0.240	0.206

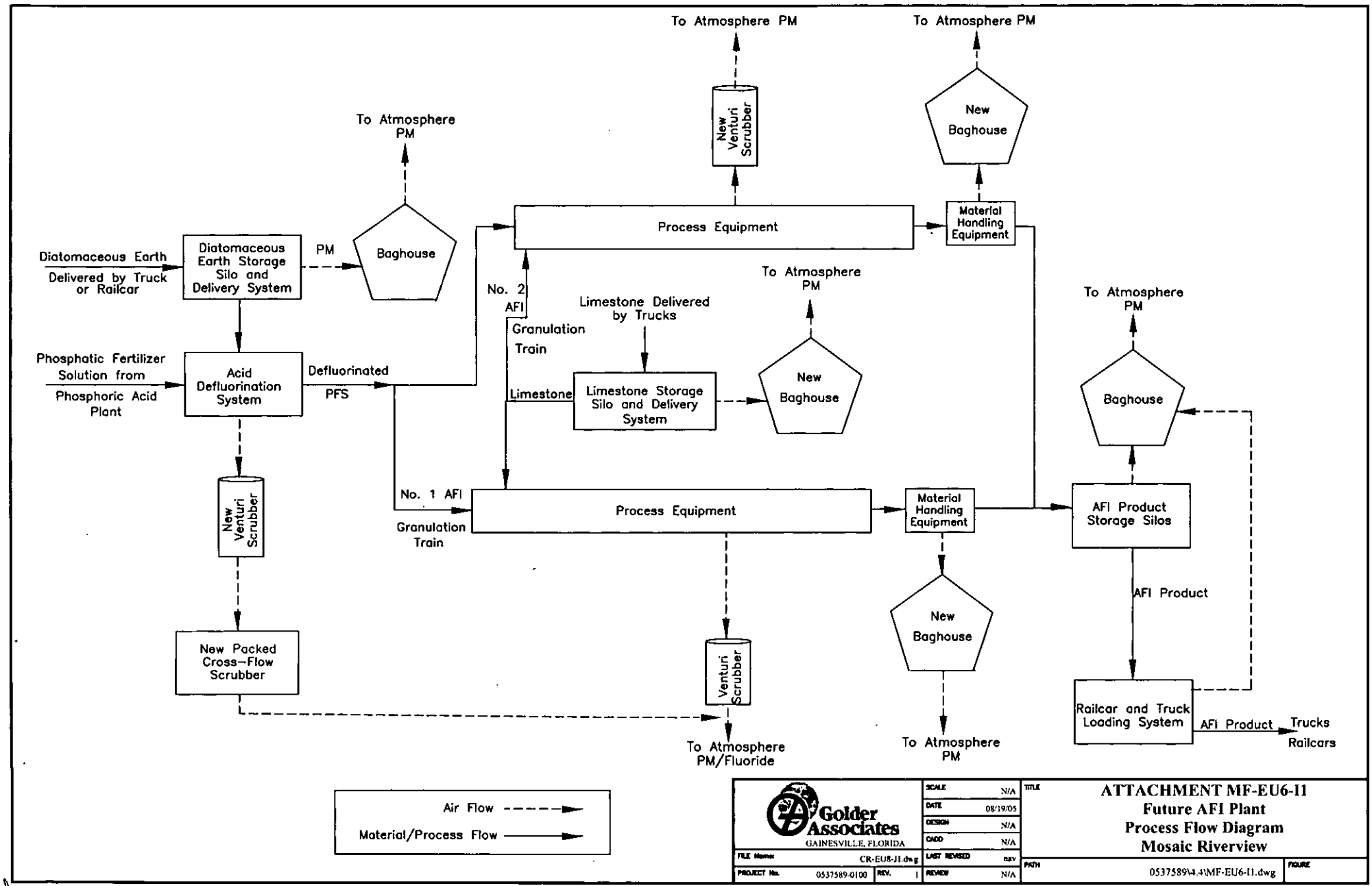
Note: Standard conditions 68°F, 29.92 in. Hg

AFI 1 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Source: EU ID No. 078 AFI 1 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		06/23/2006 15:26	06/23/2006 16:56	06/23/2006 18:22	
End Time		06/23/2006 16:28	06/23/2006 17:58	06/23/2006 19:24	
Granulation Plant Scrubber					
Recirc Flow	GPM	1281	1277	1276	1278
Make-up Flow	GPM	46	37	42	42
Pressure Drop	"H2O	19	18	19	19
Fan Amps	amps	112	112	111	112
Defluorination Scrubber					
Pondwater Flow	GPM	886	857	821	855
Demister Flow	GPM	58	73	69	67
Pressure Drop	"H2O	14	14	14	14
Fan Amps	amps	101	100	98	100
Plant Production					
AFI	TPH	19.5	19.3	19.8	19.5
AFI	TPD	469	463	475	469

Area Superintendent: _____


To Atmosphere PM
To Atmosphere PM
New Venturi Scrubber
New Baghouse
To Atmosphere PM
Material Handling Equipment
Process Equipment
Diatomaceous Earth Delivered by Truck or Railcar
Diatomaceous Earth Storage Silo and Delivery System
PM
Baghouse
No. 2 AFI Granulation Train
Limestone Delivered by Trucks
To Atmosphere PM
To Atmosphere PM
Phosphatic Fertilizer Solution from Phosphoric Acid Plant
Acid Defluorination System
Defluorinated PFS
Limestone
Limestone Storage Silo and Delivery System
New Baghouse
Baghouse
New Venturi Scrubber
No. 1 AFI Granulation Train
Process Equipment
Material Handling Equipment
AFI Product Storage Silos
AFI Product
New Packed Cross-Flow Scrubber
Venturi Scrubber
New Baghouse
Railcar and Truck Loading System
AFI Product
Trucks
Railcars
To Atmosphere PM/Fluoride
To Atmosphere PM
Air Flow
Material/Process Flow
Golder Associates
GAINESVILLE, FLORIDA
SCALE N/A
DATE 08/19/05
DESIGN N/A
CADD N/A
LAST REVISED nav
REVIEW N/A
FILE Name CR-EU8-I1.dwg
PROJECT No. 0537589-0100
REV. 1
TITLE
ATTACHMENT MF-EU6-I1
Future AFI Plant
Process Flow Diagram
Mosaic Riverview
PATH 0537589\4.4\MF-EU6-I1.dwg
FIGURE

Production and Operating Hours

EU ID	EU Description	Month	Operating Hours	Tons Monocal/Dical Produced	Month	Operating Hours	Tons Monocal/Dical Produced	Month	Operating Hours	Tons Monocal/Dical Produced
078	AFI #1 (common stack w / defluorination scrubber)	January	474	9115	January	517	9040	January	545	10940
		February	492	8635	February	382	9988	February	572	6658
		March	531	9808	March	516	9615	March	588	10809
		April	602	10472	April	613	10771	April	629	8701
		May	602	9721	May	602	11084	May	484	7444
		June	572	9454	June	618	10695	June	300	5635
		July	572	9493	July	606	10105	July	391	4902
		August	611	11026	August	440	7967	August	323	6851
		September	657	11089	September	267	5217	September	555	11114
		October	567	9119	October	542	9710	October	403	5080
		November	385	6786	November	609	10848	November	603	11820
		December	635	10889	December	544	10766	December	611	7923
		TOTAL	6698	115607	TOTAL	6256	115806	TOTAL	6004	97877

Production and Operating Hours

EU ID	EU Description	Month	Operating Hours	Tons Monocal/Dical Produced	Month	Operating Hours	Tons Monocal/Dical Produced	Month	Operating Hours	Tons Monocal/Dical Produced
103	AFI #2	January	381	6957	January	517	10303	January	628	7936
		February	432	6482	February	382	11408	February	640	12243
		March	597	11296	March	605	13084	March	633	11885
		April	498	8322	April	572	11913	April	611	7050
		May	548	8739	May	681	12397	May	637	13105
		June	526	9412	June	658	13174	June	552	8506
		July	522	10596	July	677	11686	July	713	11082
		August	614	10242	August	649	10804	August	692	9208
		September	580	8548	September	615	6346	September	694	12057
		October	423	6675	October	695	9904	October	663	10276
		November	587	9709	November	690	11194	November	694	12789
		December	541	10019	December	674	14803	December	651	9812
		TOTAL	6249	106997	TOTAL	7415	137016	TOTAL	7808	125949

2003

Riverview Chemical Complex Limestone Tons Processed

	080
	Limestone Silo
Month	Tons Processed
1	14,070
2	14,344
3	17,360
4	17,965
5	16,961
6	15,782
7	16,711
8	18,783
9	19,536
10	12,524
11	14,223
12	18,009
TOTAL TONS PROCESSED	196,268

2004

Riverview Chemical Complex Limestone Tons Processed

	080
	Limestone Silo
Month	Tons Processed
1	8,812
2	9,227
3	9,192
4	9,784
5	10,549
6	10,220
7	9,301
8	7,501
9	4,600
10	9,065
11	9,289
12	10,097
TOTAL TONS PROCESSED	107,637

2005

Riverview Chemical Complex Limestone Tons Processed

Month	080 Limestone Silo Tons Processed
1	8,260
2	10,070
3	9,533
4	7,611
5	8,936
6	5,291
7	7,042
8	5,868
9	8,443
10	6,527
11	9,614
12	8,264
TOTAL TONS PROCESSED	95,459

Appendix U-1, List of Unregulated Emissions Units and/or Activities.

Mosaic Fertilizer, LLC.
Riverview Facility

Revised Draft Permit Renewal No. 0570008-045-AV
(Initial Title V Permit No.: 0570008-014-AV)
Facility ID No.: 0570008

Unregulated Emissions Units and/or Activities. An emissions unit which emits no "emissions-limited pollutant" and which is subject to no unit-specific work practice standard, though it may be subject to regulations applied on a facility-wide basis (e.g., unconfined emissions, odor, general opacity) or to regulations that require only that it be able to prove exemption from unit-specific emissions or work practice standards.

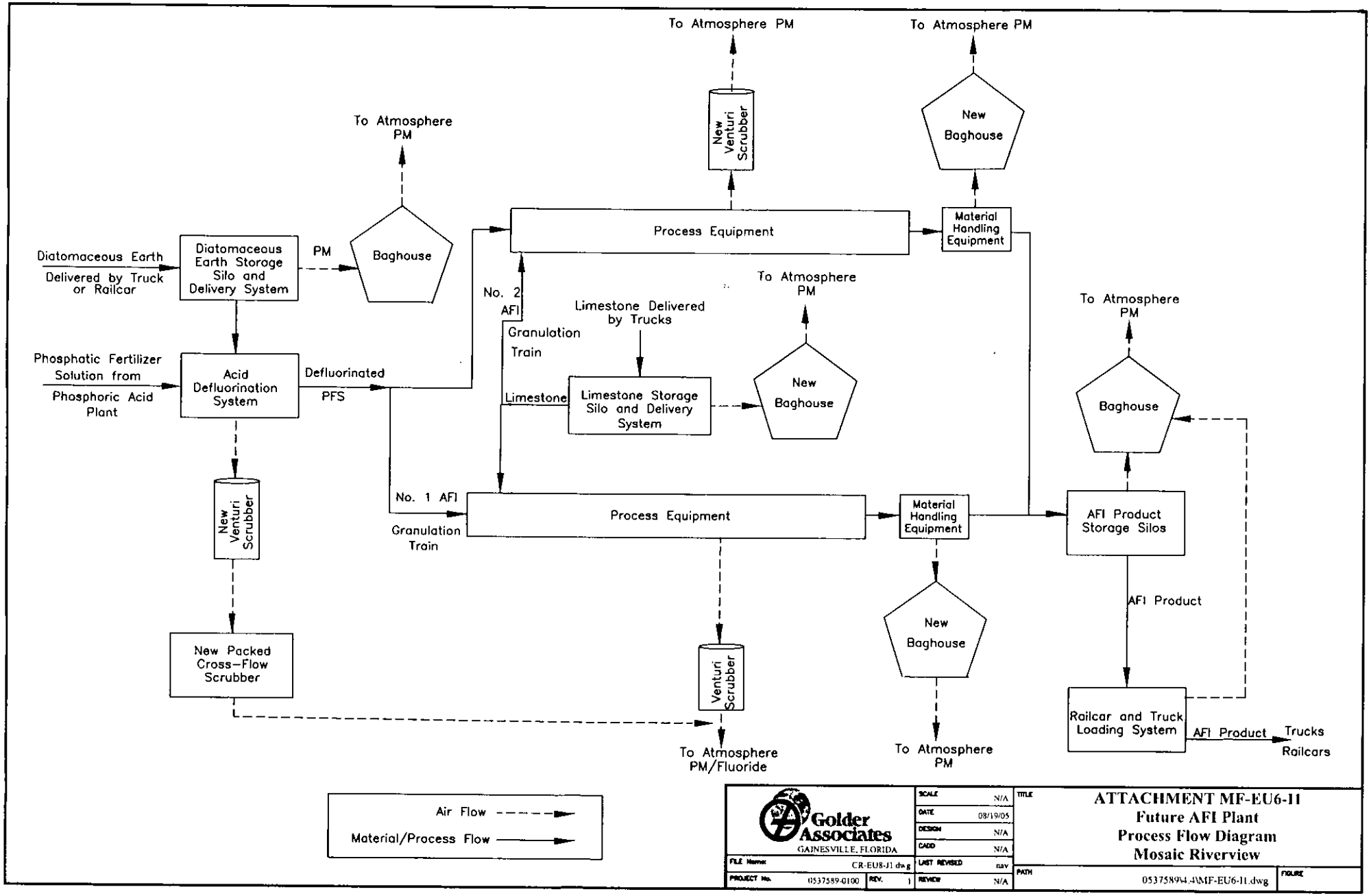
The below listed emissions units and/or activities are neither 'regulated emissions units' nor 'insignificant emissions units'.

{Permitting Notes: 1. Letter dated 9/19/2005 from David Buff, P.E. of Golder Associates Inc. was received by the Department on 9/29/2005 concerning the phosphoric acid clarifier, clarifier feed tank and associated wet scrubbers and is being reviewed by the Department.
2. There will be no GTSP production/handling at the Riverview facility. So, GTSP handling related activities are removed from the list below except coating oil tank that may be used for dust suppression for other types of fertilizer at the facility.
3. Construction permit application for ammoniated phosphates storage and loadouts dated 9/27/2005 was received by the Department on 9/29/2005 and it is currently being processed.}

E.U. ID No.	Brief Description of Emissions Units and/or Activity
	Fertilizer Plants
-105	Coating drums (containing coating oil that is used for dust suppression)
-105	Raw material and product storage tanks, bins, and storage buildings
-105	Grinding mills, chain mills, cage mills, lump breakers
-105	Cooling tower, slurry pumps, scrubber water sumps
-105	DAP rail loading system, truck unloading
-105	Material conveyors, elevators, and screens
-105	Ammonia chillers and vaporizers
-105	Product Recovery Units
-105	Ammonia Flare
-105	Coating Oil Tank – 17,233 gallons (installed 1986)
	Material Handling System
-105	Choke feeder, covered conveyors, screening tower (fugitive only)
	Phosphoric Acid Production Facility
-105	Flash Cooler Hotwells
-105	Flash coolers, vacuum pumps, seal pumps and seal tanks
-105	Nos. 1, 2 and 3 Filters - unevacuated area (fugitive only)
-105	Centrifuges, pumps
-105	East, north, and south coolers
-105	Truck loading/unloading
-105	Clarifier and clarifier feed tank

E.U. ID No.	Brief Description of Emissions Units and/or Activity
-105	Aging, filtrate, raw material, and product storage tanks
-105	Auxiliary power diesel generator with tank
	Molten Sulfur Handling
-105	Dock unloading/truck loading (fugitive only)
-105	Molten sulfur storage tank fires
-105	Molten Sulfur Tank # 2 – 3,104,714 gallons (installed 1990)*
	Sulfuric Acid Plants
-105	Water reuse tanks, water storage tanks, condensate tanks
-105	Economizers
-105	Sulfuric acid storage tanks
-105	Sulfuric acid truck loading/unloading
-105	Cooling towers
	Animal Feed Plant
-105	Acid heaters and dilution tank
-105	High speed mixer
-105	Diatomaceous earth weigh bin and feed splitters
-105	Limestone metering feeder and screen feed splitter
-105	Weigh bin slide gate and weighing belt
-105	Conveyors
	Ammonia Handling
-105	Bullets, pipeline, pop off valves, truck unloading
	Facilitywide
-105	Fuel tanks and dispensers
-105	Compressors, generators (6 MW, 35 MW)
-105	Wastewater treatment plant and collection system
-105	Locomotive Engines
-105	Laboratory, lime hopper, refrigerators
-105	Pressure/steam relief valves
-105	Railcar/truck unloading, conveyor belts (fugitive only)
-105	Wet rock pile, rock hoppers, rock grinding mills (fugitive only)
-105	Safety kleen solvent cleaners
-105	Sand blasters, welding equipment, supersucker
-105	Raw material and product storage tanks
-105	Minor fugitive leaks from process equipment
-105	Diesel pump at NPDES Outfall 005
-105	Diesel pump at active phosphogypsum stack
-105	Asbestos Waste and hazardous waste removal
-105	Refrigeration equipment < 50 lbs charge
-105	Oil-fired catalyst
-105	400 hp emergency generator

* Tanks subject to 40 CFR 60, Subpart Kb, NSPS for VOC Storage Tanks.


To Atmosphere PM
To Atmosphere PM
New Venturi Scrubber
New Baghouse
To Atmosphere PM
Diatomaceous Earth Delivered by Truck or Railcar
Diatomaceous Earth Storage Silo and Delivery System
PM
Baghouse
Process Equipment
Material Handling Equipment
No. 2 AFI Granulation Train
Limestone Delivered by Trucks
To Atmosphere PM
To Atmosphere PM
Phosphatic Fertilizer Solution from Phosphoric Acid Plant
Acid Defluorination System
Defluorinated PFS
Limestone
Limestone Storage Silo and Delivery System
New Baghouse
Baghouse
New Venturi Scrubber
No. 1 AFI Granulation Train
Process Equipment
Material Handling Equipment
AFI Product Storage Silos
AFI Product
New Packed Cross-Flow Scrubber
Venturi Scrubber
New Baghouse
Railcar and Truck Loading System
AFI Product
Trucks
Railcars
To Atmosphere PM/Fluoride
To Atmosphere PM
Air Flow
Material/Process Flow
Golder Associates
GAINESVILLE, FLORIDA
SCALE N/A
DATE 08/19/05
DESIGN N/A
CADD N/A
FILE Name CR-EU8-J1.dwg
LAST REVISED nav
PROJECT No. 0537589-0100
REV. 1
REVIEW N/A
TITLE
ATTACHMENT MF-EU6-11
Future AFI Plant
Process Flow Diagram
Mosaic Riverview
PATH 0537589\4.4\MF-EU6-11.dwg
FIGURE

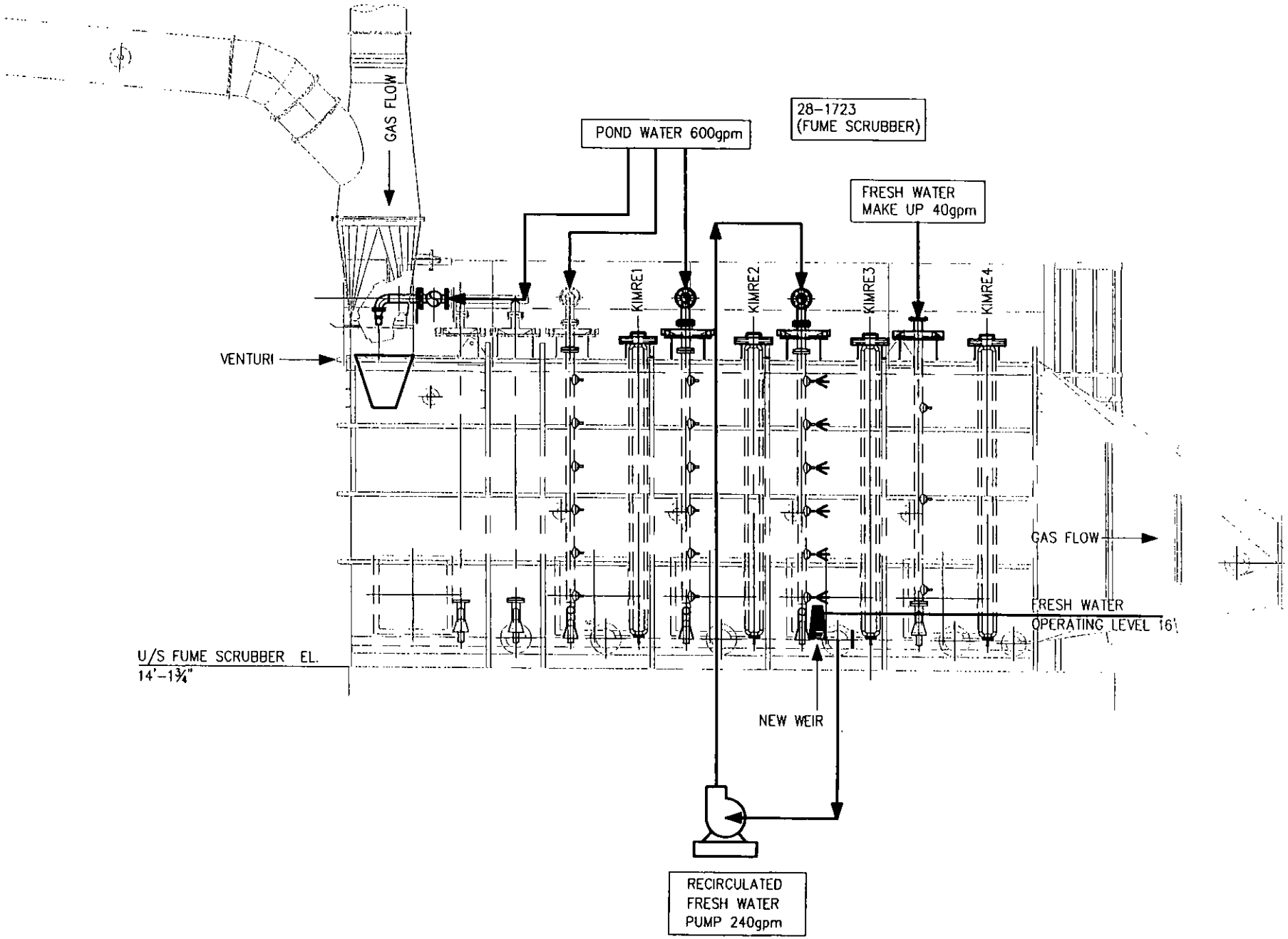

GAS FLOW
POND WATER 600gpm
28-1723
(FUME SCRUBBER)
FRESH WATER
MAKE UP 40gpm
KIMRE1
KIMRE2
KIMRE3
KIMRE4
VENTURI
GAS FLOW
FRESH WATER
OPERATING LEVEL 16'
U/S FUME SCRUBBER EL.
14'-1¾"
NEW WEIR
RECIRCULATED
FRESH WATER
PUMP 240gpm

TABLE 1. PARTICULATE EMISSIONS TEST SUMMARY

Company: Cargill Crop Nutrition - Riverview
Source: AFI - Plant No. 1

	Run 1	Run 2	Run 3	
Date of Run	5/7/03	5/7/03	5/7/03	
Process Rate (TPH)	701	604	655	
Start Time (24-hr. clock)	0824	1056	1115	
End Time (24-hr. clock)	0928	1056	1218	
Vol. Dry Gas Sampled Meter Cond. (DCF)	47.553	44.698	43.438	
Gas Meter Calibration Factor	0.994	0.994	0.994	
Barometric Pressure at Barom. (in. Hg.)	30.09	30.09	30.12	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	45.122	42.429	40.642	
Vol. Liquid Collected Std. Cond. (SCF)	8.638	8.214	7.586	
Moisture in Stack Gas (% Vol.)	16.10	16.20	15.73	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.23	27.22	29.00	
Stack Gas Static Press. (in. H2O gauge)	-0.41	-0.42	-0.41	
Stack Gas Static Press. (in. Hg. abs.)	30.06	30.06	30.09	
Average Square Root Velocity Head	0.955	0.882	0.862	
Average Orifice Differential (in. H2O)	1.535	1.317	1.249	
Average Gas Meter Temperature (°F)	98.3	97.8	106.4	
Average Stack Gas Temperature (°F)	144.8	144.8	144.3	
Pitot Tube Coefficient	0.84	0.84	0.84	
Stack Gas Vel. Stack Cond. (ft./sec.)	58.93	54.47	51.49	
Effective Stack Area (sq. ft.)	28.27	28.27	28.27	
Stack Gas Flow Rate Std. Cond. (DSCFM)	73,592	67,913	64,673	
Stack Gas Flow Rate Stack Cond. (ACFM)	99,972	92,413	87,345	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.227	0.227	0.227	
Percent Isokinetic	102.9	104.8	105.4	
				Average
Particulate Collected (mg.)	15.8	12.7	18.7	15.7
Particulate Emissions (grains/DSCF)	0.005	0.005	0.007	0.01
Particulate Emissions (lb./hr.)	**3.4**	**2.7**	**3.9**	**3.34**
Allowable Particulate Emissions (lb./hr.)				**13.0**
Fluoride Collected (mg.)	1.733	1.260	1.353	1.448
Fluoride Emissions (mg/DSCF)	0.038	0.030	0.033	0.034
Fluoride Emissions (lb./hr.)	**0.37**	**0.27**	**0.28**	**0.31**
Allowable Fluoride Emissions (lb./hr.)				**2.1**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 1 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Source: EU ID No. 078 AFI 1 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		05/07/2003 8:24	05/07/2003 9:53	05/07/2003 11:15	
End Time		05/07/2003 9:28	05/07/2003 10:56	05/07/2003 12:18	
Granulation Plant Scrubber					
Recirc Flow	GPM	1171	1169	1168	1169
Make-up Flow	GPM	47	49	44	46
Pressure Drop	"H2O	24	23	23	23
Fan Amps	amps	115	115	115	115
Defluorination Scrubber					
Pondwater Flow	GPM	856	855	854	855
Demister Flow	GPM	82	82	79	81
Pressure Drop	"H2O	6	6	6	6
Fan Amps	amps	68	68	68	68
Plant Production					
AFI	TPD	701	604	655	653

Area Superintendent: 

TABLE 1. PARTICULATE EMISSIONS TEST SUMMARY

Company: **Cargill Crop Nutrition - Riverview**
Source: **AFI - Plant No. 1**

	Run 1	Run 2	Run 3	
Date of Run	5/13/04	5/13/04	5/13/04	
Process Rate (TPH)	23.3	22.6	21.1	
Start Time (24-hr. clock)	0807	0944	1113	
End Time (24-hr. clock)	0914	1047	1216	
Vol. Dry Gas Sampled Meter Cond. (DCF)	45.876	45.424	45.210	
Gas Meter Calibration Factor	1.015	1.015	1.015	
Barometric Pressure at Barom. (in. Hg.)	30.12	30.12	30.12	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	45.641	44.913	44.319	
Vol. Liquid Collected Std. Cond. (SCF)	7.313	8.152	7.318	
Moisture in Stack Gas (% Vol.)	13.8	15.4	14.2	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.48	27.31	27.44	
Stack Gas Static Press. (in. H2O gauge)	-0.35	-0.32	-0.31	
Stack Gas Static Press. (in. Hg. abs.)	30.01	30.02	30.02	
Average Square Root Velocity Head	0.940	0.934	0.923	
Average Orifice Differential (in. H2O)	2.008	1.984	1.941	
Average Gas Meter Temperature (°F)	83.5	86.8	91.5	
Average Stack Gas Temperature (°F)	145.7	144.6	145.4	
Pitot Tube Coefficient	0.84	0.84	0.84	
Stack Gas Vel. Stack Cond. (ft./sec.)	57.84	57.61	56.83	
Effective Stack Area (sq. ft.)	28.27	28.27	28.27	
Stack Gas Flow Rate Std. Cond. (DSCFM)	73,963	72,478	72,403	
Stack Gas Flow Rate Stack Cond. (ACFM)	98,127	97,739	96,414	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.234	0.234	0.234	
Percent Isokinetic	97.4	97.8	96.6	
				Average
Particulate Collected (mg.)	19.3	21.7	21.3	20.7
Particulate Emissions (grains/DSCF)	0.007	0.007	0.007	0.01
Particulate Emissions (lb./hr.)	**4.1**	**4.6**	**4.6**	**4.5**
Allowable Particulate Emissions (lb./hr.)				**13.0**
Fluoride Collected (mg.)	1.9	2.5	1.7	2.0
Fluoride Emissions (mg/DSCF)	0.04	0.06	0.04	0.05
Fluoride Emissions (lb./hr.)	**0.40**	**0.54**	**0.38**	**0.44**
Allowable Fluoride Emissions (lb./hr.)				**2.1**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 1 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Source: EU ID No. 078 AFI 1 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		05/13/2004 08:07	05/13/2004 09:44	05/13/2004 11:13	
End Time		05/13/2004 09:14	05/13/2004 10:47	05/13/2004 12:16	
Granulation Plant Scrubber					
Recirc Flow	GPM	1294	1295	1295	1294
Make-up Flow	GPM	64	61	60	63
Pressure Drop	"H2O	25	26	26	26
Fan Amps	amps	108	109	109	108
Defluorination Scrubber					
Pondwater Flow	GPM	798	798	798	798
Demister Flow	GPM	34	38	39	36
Pressure Drop	"H2O	8	8	8	8
Fan Amps	amps	72	72	72	72
Plant Production					
AFI	TPH	23.3	22.6	21.1	22.3
AFI	TPD	559	543	507	536

Area Superintendent: _____

TABLE 1. PARTICULATE AND FLUORIDE EMISSIONS TEST SUMMARY

Company: **MOSAIC FERTILIZER, LLC - Riverview**
Source: **AFI - Plant No. 1**

	Run 1	Run 2	Run 3	
Date of Run	07/29/05	07/29/05	07/29/05	
Process Rate (TPH)	20.8	20.7	20.8	
Start Time (24-hr. clock)	1016	1133	1505	
End Time (24-hr. clock)	1119	1338	1607	
Vol. Dry Gas Sampled Meter Cond. (DCF)	55.871	48.110	58.397	
Gas Meter Calibration Factor	0.976	0.976	0.976	
Barometric Pressure at Barom. (in. Hg.)	30.06	30.06	30.03	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	52.111	44.274	53.473	
Vol. Liquid Collected Std. Cond. (SCF)	8.855	9.675	10.562	
Moisture in Stack Gas (% Vol.)	14.5	17.9	16.5	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.40	27.03	27.19	
Stack Gas Static Press. (in. H2O gauge)	-0.52	-0.24	-0.64	
Stack Gas Static Press. (in. Hg. abs.)	30.02	30.04	29.98	
Average Square Root Velocity Head	0.949	0.961	0.952	
Average Orifice Differential (in. H2O)	2.568	2.658	2.763	
Average Gas Meter Temperature (°F)	98.6	106.3	108.7	
Average Stack Gas Temperature (°F)	150.8	151.3	154.2	
Pitot Tube Coefficient	0.79	0.79	0.79	
Stack Gas Vel. Stack Cond. (ft./sec.)	55.25	56.30	55.83	
Effective Stack Area (sq. ft.)	28.27	28.27	28.27	
Stack Gas Flow Rate Std. Cond. (DSCFM)	69,500	67,983	68,137	
Stack Gas Flow Rate Stack Cond. (ACFM)	93,734	95,510	94,712	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.249	0.249	0.249	
Percent Isokinetic	104.5	90.8	109.4	
				Average
Particulate Collected (mg.)	38.3	35.8	44.1	39.4
Particulate Emissions (grains/DSCF)	0.011	0.012	0.013	0.01
Particulate Emissions (lb./hr.)	**6.76**	**7.27**	**7.43**	**7.2**
Allowable Particulate Emissions (lb./hr.)				**13.0**
Fluoride Collected (mg.)	3.325	3.691	6.331	4.449
Fluoride Emissions (mg/DSCF)	0.064	0.083	0.118	0.089
Fluoride Emissions (lb./hr.)	**0.59**	**0.75**	**1.07**	**0.8**
Allowable Fluoride Emissions (lb./hr.)				**2.1**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 1 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Source: EU ID No. 078 AFI 1 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		07/29/2005 10:16	07/29/2005 11:33	07/29/2005 15:05	
End Time		07/29/2005 11:19	07/29/2005 13:33	07/29/2005 16:07	
Granulation Plant Scrubber					
Recirc Flow	GPM	1237	1241	1246	1239
Make-up Flow	GPM	46	45	26	46
Pressure Drop	"H2O	20	20	20	20
Fan Amps	amps	108	108	110	108
Defluorination Scrubber					
Pondwater Flow	GPM	758	756	749	757
Demister Flow	GPM	69	70	73	70
Pressure Drop	"H2O	8	8	8	8
Fan Amps	amps	83	84	82	83
Plant Production					
AFI	TPH	20.8	20.7	20.8	20.7
AFI	TPD	498	496	499	498

Area Superintendent: _____

TABLE 2. PARTICULATE EMISSIONS TEST SUMMARY

Company: Cargill Crop Nutrition - Riverview
Source: AFI - Plant No. 2

	Run 1	Run 2	Run 3	
Date of Run	5/8/03	5/8/03	5/8/03	
Process Rate (TPH)	522	522	521	
Start Time (24-hr. clock)	0848	1029	1310	
End Time (24-hr. clock)	0952	1230	1415	
Vol. Dry Gas Sampled Meter Cond. (DCF)	31.254	31.692	31.760	
Gas Meter Calibration Factor	0.997	0.997	0.997	
Barometric Pressure at Barom. (in. Hg.)	30.11	30.11	30.12	
Elev. Diff. Manom. to Barom. (ft.)	116	116	116	
Vol. Gas Sampled Std. Cond. (DSCF)	30.120	30.517	30.100	
Vol. Liquid Collected Std. Cond. (SCF)	2.414	2.315	1.504	
Moisture in Stack Gas (% Vol.)	7.4	7.1	4.8	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	28.18	28.22	28.48	
Stack Gas Static Press. (in. H2O gauge)	-0.35	-0.42	-0.29	
Stack Gas Static Press. (in. Hg. abs.)	30.08	30.08	30.10	
Average Square Root Velocity Head	0.796	0.751	0.743	
Average Orifice Differential (in. H2O)	0.722	0.629	0.496	
Average Gas Meter Temperature (°F)	90.7	91.0	99.8	
Average Stack Gas Temperature (°F)	142.4	141.8	141.9	
Pitot Tube Coefficient	0.84	0.84	0.84	
Stack Gas Vel. Stack Cond. (ft./sec.)	48.18	45.42	44.69	
Effective Stack Area (sq. ft.)	34.91	34.91	34.91	
Stack Gas Flow Rate Std. Cond. (DSCFM)	82,322	77,983	78,666	
Stack Gas Flow Rate Stack Cond. (ACFM)	100,898	95,125	93,601	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.195	0.195	0.195	
Percent Isokinetic	102.7	109.8	107.4	
				Average
Particulate Collected (mg.)	20.3	7.2	10.0	12.5
Particulate Emissions (grains/DSCF)	0.010	0.004	0.005	0.006
Particulate Emissions (lb./hr.)	**7.4**	**2.4**	**3.5**	**4.43**
Allowable Particulate Emissions (lb./hr.)				**13.0**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 2 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Test Date(s): May 8, 2003
Source: EU ID No. 103 AFI 2 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		05/08/2003 8:48	05/08/2003 10:29	05/08/2003 13:10	
End Time		05/08/2003 9:52	05/08/2003 12:30	05/08/2003 14:15	
Equipment Scrubber					
Flow	GPM	1083	1031	1219	1111
Pressure Drop	"H2O	14	14	15	15
Dryer Scubber					
Flow	GPM	1482	1478	1469	1476
Pressure Drop	"H2O	20	19	20	20
Fan Amps	amps	120	120	120	120
Production Rate					
AFI Product Rate	TPD	522	522	521	522
Emissions					
PM Emissions	lb/hr	7.4	2.4	3.5	4.4

Area Superintendent: _____

TABLE 1. PARTICULATE EMISSIONS TEST SUMMARY

Company: **Cargill Crop Nutrition - Riverview**
Source: **AFI - Plant No. 2**

	Run 1	Run 2	Run 3	
Date of Run	5/20/04	5/20/04	5/20/04	
Process Rate (TPH)	25.7	25.7	25.8	
Start Time (24-hr. clock)	0802	0928	1049	
End Time (24-hr. clock)	0905	1032	1151	
Vol. Dry Gas Sampled Meter Cond. (DCF)	32.550	34.752	34.665	
Gas Meter Calibration Factor	1.015	1.015	1.015	
Barometric Pressure at Barom. (in. Hg.)	30.21	30.21	30.21	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	31.957	33.857	33.571	
Vol. Liquid Collected Std. Cond. (SCF)	6.078	7.228	6.455	
Moisture in Stack Gas (% Vol.)	16.0	17.6	16.1	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.24	27.06	27.23	
Stack Gas Static Press. (in. H2O gauge)	-0.30	-0.32	-0.34	
Stack Gas Static Press. (in. Hg. abs.)	30.07	30.09	30.10	
Average Square Root Velocity Head	0.739	0.747	0.742	
Average Orifice Differential (in. H2O)	1.152	1.117	1.106	
Average Gas Meter Temperature (°F)	90.6	95.2	98.7	
Average Stack Gas Temperature (°F)	140.7	143.2	144.7	
Pitot Tube Coefficient	0.84	0.84	0.84	
Stack Gas Vel. Stack Cond. (ft./sec.)	45.43	46.15	45.76	
Effective Stack Area (sq. ft.)	34.91	34.91	34.91	
Stack Gas Flow Rate Std. Cond. (DSCFM)	70,637	70,120	70,607	
Stack Gas Flow Rate Stack Cond. (ACFM)	95,157	96,653	95,833	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.227	0.227	0.227	
Percent Isokinetic	93.7	100.0	98.5	
				Average
Particulate Collected (mg.)	14.4	20.0	18.6	17.7
Particulate Emissions (grains/DSCF)	0.007	0.009	0.009	0.008
Particulate Emissions (lb./hr.)	**4.2**	**5.5**	**5.2**	**5.0**
Allowable Particulate Emissions (lb./hr.)				**13.0**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 2 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Test Date(s): May 20, 03
Test For: PM
Source: AFI 2 Plant

Compliance Test

		Run 1	Run 2	Run 3	AVG
Start Time		5/20/04 8:02	5/20/04 9:28	5/20/04 10:49	
End Time		5/20/04 9:05	5/20/04 10:32	5/20/04 11:51	
Equipment Scrubber					
Flow	GPM	1480.2	1478.6	1478.6	1447
Pressure Drop	"H2O	11.7	11.7	11.7	16
Dryer Scubber					
Flow	GPM	1409.8	1404.7	1404.7	1544
Pressure Drop	"H2O	20.2	20.4	20.4	21
Production					
AFI	TPH	25.7	25.7	25.8	25.7
AFI	TPD	617	617	618	617

Area Superintendent: _____

TABLE 2. PARTICULATE EMISSIONS TEST SUMMARY

Company: **MOSAIC FERTILIZER, LLC - Riverview**
Source: **AFI - Plant No. 2**

	Run 1	Run 2	Run 3	
Date of Run	8/4/05	8/4/05	8/4/05	
Process Rate (TPH)	23.7	23.8	23.7	
Start Time (24-hr. clock)	0828	0952	1121	
End Time (24-hr. clock)	0931	1056	1223	
Vol. Dry Gas Sampled Meter Cond. (DCF)	40.592	42.723	40.713	
Gas Meter Calibration Factor	0.976	0.976	0.976	
Barometric Pressure at Barom. (in. Hg.)	30.05	30.05	30.05	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	38.386	39.916	37.940	
Vol. Liquid Collected Std. Cond. (SCF)	5.031	8.133	8.723	
Moisture in Stack Gas (% Vol.)	11.6	16.9	18.7	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.73	27.14	26.94	
Stack Gas Static Press. (in. H2O gauge)	-0.29	-0.26	-0.26	
Stack Gas Static Press. (in. Hg. abs.)	30.03	30.03	30.03	
Average Square Root Velocity Head	0.726	0.728	0.724	
Average Orifice Differential (in. H2O)	1.328	1.438	1.246	
Average Gas Meter Temperature (°F)	89.1	95.9	97.1	
Average Stack Gas Temperature (°F)	148.5	149.0	148.1	
Pitot Tube Coefficient	0.79	0.79	0.79	
Stack Gas Vel. Stack Cond. (ft./sec.)	41.91	42.50	42.40	
Effective Stack Area (sq. ft.)	34.91	34.91	34.91	
Stack Gas Flow Rate Std. Cond. (DSCFM)	67,578	64,351	62,925	
Stack Gas Flow Rate Stack Cond. (ACFM)	87,770	89,018	88,801	
Net Time of Run (min.)	60.0	60.0	60.0	
Nozzle Diameter (in.)	0.246	0.246	0.246	
Percent Isokinetic	100.2	109.4	106.3	
				Average
Particulate Collected (mg.)	19.5	17.6	23.6	20.2
Particulate Emissions (grains/DSCF)	0.008	0.007	0.010	0.008
Particulate Emissions (lb./hr.)	**4.5**	**3.8**	**5.2**	**4.5**
Allowable Particulate Emissions (lb./hr.)				**13.0**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 2 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Test Date(s): August 4, 2005
Test For: PM
Source: AFI 2 Plant

Compliance Test

		Run 1	Run 2	Run 3	AVG
Start Time		08/04/2005 08:28	08/04/2005 09:52	08/04/2005 11:21	
End Time		08/04/2005 09:31	08/04/2005 10:56	08/04/2005 12:23	
Equipment Scrubber					
Flow	GPM	1236.0	1239.5	1243.1	1240
Pressure Drop	"H2O	12.6	12.5	12.4	13
Dryer Scubber					
Flow	GPM	1227.6	1230.5	1229.7	1229
Pressure Drop	"H2O	20.5	20.3	20.0	20
Production					
AFI	TPH	23.7	23.8	23.7	24
AFI	TPD	569	570	569	569

Southern Environmental Sciences, Inc.

1204 North Wheeler Street ☐ Plant City, Florida 33563 ☐ (813) 752-5014, Fax (813) 752-2475

VISIBLE EMISSIONS EVALUATION

Limestone Silo

COMPANY: Cargill Crop Nutrition - Tampa

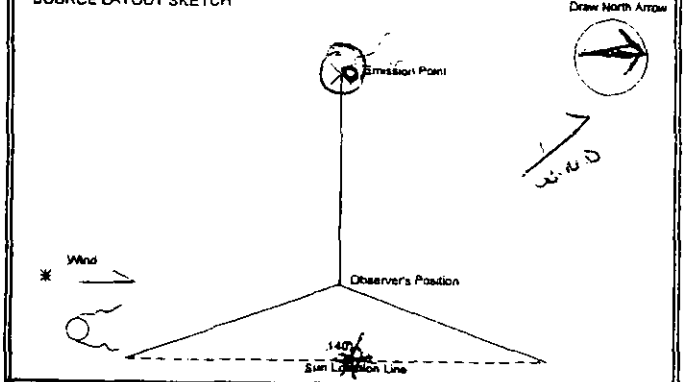
UNIT: Limestone Silo

ADDRESS: US 41 & Riverview Dr

Riverview, FL

PERMIT NO. 0570005-014-AV	COMPLIANCE? YES ☑ NO ☐
AIRS NO. 05700018	EU NO. 080
PROCESS RATE NA	PERMITTED RATE NA
PROCESS EQUIPMENT: Limestone Storage Silo	
CONTROL EQUIPMENT: Baghouse	
OPERATING MODE: Normal	AMBIENT TEMP. (° F) START 80° STOP ✓
HEIGHT ABOVE GROUND LEVEL START ~100' STOP ✓	HEIGHT RELATIVE TO OBSERVER START ~10W STOP ✓
DISTANCE FROM OBSERVER START ~300' STOP ✓	DIRECTION FROM OBSERVER START 270° STOP
EMISSION COLOR: None	PLUME TYPE NA CONTIN. ☐ INTERMITTENT ☐
WATER DROPLETS PRESENT? NO ☒ YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐ NA
POINT IN PLUME AT WHICH OPACITY WAS DETERMINED START Baghouse Vent STOP ✓	
DESCRIBE BACKGROUND START Sky STOP ✓	
BACKGROUND COLOR START Blue STOP ✓	SKY CONDITIONS START ✓ STOP ✓ Scattered
WIND SPEED (MPH) START 2-4 STOP ✓	WIND DIRECTION START SE STOP ✓
AVERAGE OPACITY FOR HIGHEST PERIOD 0%	RANGE OF OPACITY READINGS MIN. 0% MAX. 0%

SOURCE LAYOUT SKETCH



Comments

OBSERVATION DATE	START TIME	STOP TIME
5/8/03	0745	0815

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

OBSERVER: Ken Roberts

Certified by: FDEP Certif. # 303921 Certified at: Tampa

Date Certified: 2/18/03 Exp. Date: 8/20/03

I certify that all data provided to the person conducting the test was true and correct to the best of my knowledge:

Signature: See process data

Title:

SOUTHERN ENVIRONMENTAL SCIENCES, INC.

1204 North Wheeler Street, Plant City, Florida 33566 (813)752-5014

VISIBLE EMISSIONS EVALUATION

COMPANY: Cargill - Tampa

UNIT: Limestone Silo

ADDRESS: US Hwy 41 & Riverview Dr

Riverview, FL

PERMIT NO: 0570008 | COMPLIANCE? YES ☒ NO ☐

AIRS NO.: 0570008 | EU NO.: 080

PROCESS RATE: N/A | PERMITTED RATE: N/A

PROCESS EQUIPMENT: Limestone Storage Silo

CONTROL EQUIPMENT: Baghouse

OPERATING MODE: Filling Silo w/ Railcar | AMBIENT TEMP. (°F) START 87 STOP 87

HEIGHT ABOVE GROUND LEVEL START ~100' STOP same | HEIGHT REL. TO OBSERVER START ~100' STOP same

DISTANCE FROM OBSERVER START ~300' STOP same | DIRECTION FROM OBSERVER START 280° STOP 280°

EMISSION COLOR: NONE | PLUME TYPE: N/A CONTIN. ☐ INTERMITTENT ☐

WATER DROPLETS PRESENT NO ☒ YES ☐ | IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐ N/A

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START Baghouse Vent STOP same

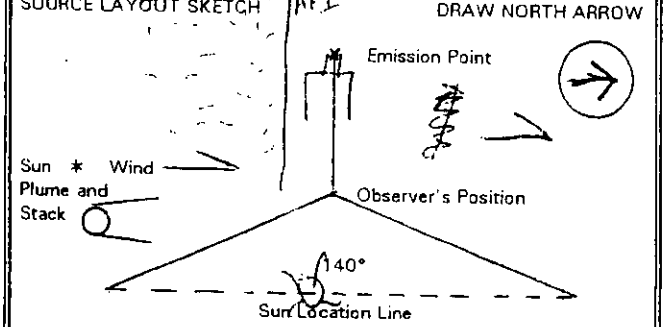
DESCRIBE BACKGROUND START SKY STOP SKY

BACKGROUND COLOR START Bl/Wht STOP same | SKY CONDITIONS START Scatt. STOP same

WIND SPEED (MPH) START 3-15 STOP same | WIND DIRECTION START S STOP S

AVERAGE OPACITY FOR HIGHEST PERIOD 0% | RANGE OF OPAC. READINGS MIN. 0 MAX. 0

SOURCE LAYOUT SKETCH — DRAW NORTH ARROW



COMMENTS

OBSERVATION DATE: 6/3/04 | START TIME: 0928 | STOP TIME: 0958

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

Observer: Mark Gickle

Certified by: FDEP | Certified at: Tampa

Date Certified: 2/04 | Exp. Date: 8/04

I certify that all data provided to the person conducting the test was true and correct to the best of my knowledge:

Signature: See Process Data

Title:

EPA
VISIBLE EMISSION OBSERVATION FORM 1

Form Number							Page 1 of 1
Continued on VEO Form Number							

Method Used (Circle One): (Method 9) 203A 203B Other: _____

Company Name: Mosaic Fertilizer, LLC		
Facility Name: Riverview		
Street Address: 8813 US Highway 41		
City: Riverview	State: FL	Zip: 33569

Process: Limestone Storage Silo	Unit #:	Operating Mode: Normal
Control Equipment: Bydouse		Operating Mode: Normal

Describe Emission Point: Bydouse Vent on Top of Limestone Silo

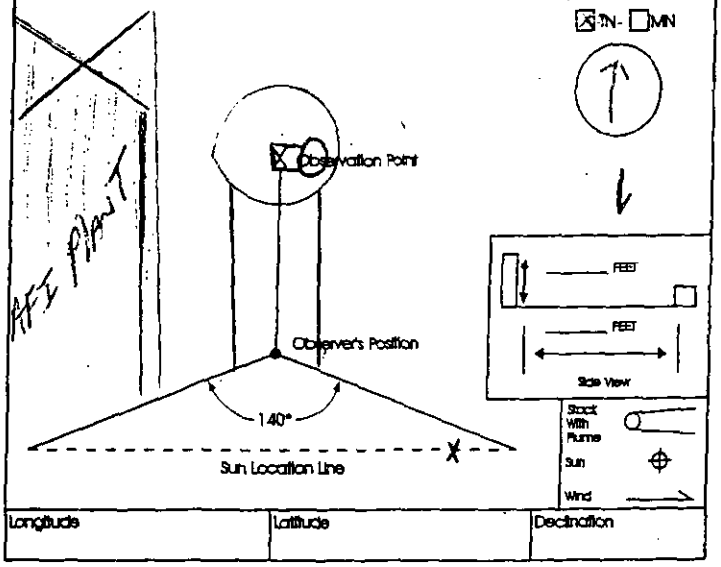
Height of Emiss. Pt. Start: 100	End: Same	Height of Emiss. Pt. Rel. to Observer Start: 100	End: Same
Distance to Emiss. Pt. Start: 300	End: Same	Direction to Emiss. Pt. (Degrees) Start: 350°	End: Same
Vertical Angle to Obs. Pt. Start: 10°	End: Same	Direction to Obs. Pt. (Degrees) Start: 350°	End: Same
Distance and Direction to Observation Point from Emission Point Start: 300 SE		End: Same	

Describe Emissions Start: NONE		End: Same	
Emission Color Start: NONE	End: Same	Water Droplet Plume: Attached ☐ Detached ☐ None ☒	

Describe Plume Background Start: Blue Sky		End: Same	
Background Color Start: Blue Sky	End: Same	Sky Conditions Start: Broken	End: Same
Wind Speed Start: 5-10	End: Same	Wind Direction Start: South	End: Same
Ambient Temp. Start: 88°	End: 89°	Wet Bulb Temp.: N/A	RH Percent: N/A

Source Layout Sketch

Draw North Arrow: ☒ TN- ☐ MN



Longitude	Latitude	Declination

Observation Date: 8/29/05	Time Zone: EST	Start Time: 950	End Time: 1020

Min \ Sec	0	15	30	45	Comments
1	0	0	0	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11	0	0	0	0	
12	0	0	0	0	
13	0	0	0	0	
14	0	0	0	0	
15	0	0	0	0	
16	0	0	0	0	
17	0	0	0	0	
18	0	0	0	0	
19	0	0	0	0	
20	0	0	0	0	
21	0	0	0	0	
22	0	0	0	0	
23	0	0	0	0	
24	0	0	0	0	
25	0	0	0	0	
26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

Additional Information:

Observer's Name (Print): Flint Barnes	
Observer's Signature: Flint Barnes	Date: 8/29/05
Organization: Mosaic	
Certified By: ETA	Date: 8/10/05

PARTICULATE & FLUORIDE EMISSIONS TEST SUMMARY

Company: MOSAIC RIVERVIEW
Source: AFI NO. 1 STACK

	Run 1	Run 2	Run 3	
Date of Run	06/23/06	06/23/06	06/23/06	
Process Rate (TPH)				
Start Time (24-hr. clock)	1526	1656	1822	
End Time (24-hr. clock)	1628	1758	1924	
Vol. Dry Gas Sampled Meter Cond. (DCF)	54.782	58.805	57.746	
Gas Meter Calibration Factor	0.991	0.991	0.991	
Barometric Pressure at Barom. (In. Hg.)	30.01	30.01	30.01	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	52.147	55.232	53.949	
Vol. Liquid Collected Std. Cond. (SCF)	7.275	8.110	8.364	
Moisture In Stack Gas (% Vol.)	12.2	12.8	13.4	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.65	27.59	27.52	
Stack Gas Static Press. (in. H2O gauge)	-0.38	-0.27	-0.38	
Stack Gas Static Press. (in. Hg. abs.)	29.98	29.99	29.98	
Average Square Root Velocity Head	0.967	0.978	0.966	
Average Orifice Differential (in. H2O)	2.527	2.903	2.778	
Average Gas Meter Temperature (°F)	94.8	102.8	105.6	
Average Stack Gas Temperature (°F)	148.9	149.7	148.8	
Pitot Tube Coefficient	0.82	0.82	0.82	
Stack Gas Vel. Stack Cond. (ft./sec.)	58.10	58.83	58.17	
Effective Stack Area (sq. ft.)	28.27	28.27	28.27	
Stack Gas Flow Rate Std. Cond. (DSCFM)	75,160	75,538	74,248	
Stack Gas Flow Rate Stack Cond. (ACFM)	98,567	99,795	98,684	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.249	0.249	0.249	
Percent Isokinetic	96.7	102.0	101.3	
				Average
Particulate Collected (mg.)	14.916667	16.55	14.666667	16.111111
Particulate Emissions (grains/DSCF)	0.004	0.005	0.004	0.00
Particulate Emissions (lb./hr.)	**2.84**	**3.36**	**2.71**	**2.97**
Total				
Fluoride Collected (mg.)	0.716	1.416	1.350	1.161
Fluoride Emissions (mg/DSCF)	0.014	0.026	0.025	0.021
Fluoride Emissions (lb./hr.)	**0.14**	**0.26**	**0.25**	**0.21**
Probe Wash				
Fluoride Collected (mg.)	0.037	0.014	0.018	0.023
Fluoride Emissions (mg/DSCF)	0.001	0.000	0.000	0.000
Fluoride Emissions (lb./hr.)	0.007	0.003	0.003	0.004
Filter				
Fluoride Collected (mg.)	0.014	0.012	0.013	0.013
Fluoride Emissions (mg/DSCF)	0.000	0.000	0.000	0.000
Fluoride Emissions (lb./hr.)	0.003	0.002	0.002	0.002
Impingers				
Fluoride Collected (mg.)	0.6660	1.3900	1.3200	1.125
Fluoride Emissions (mg/DSCF)	0.013	0.025	0.024	0.021
Fluoride Emissions (lb./hr.)	0.127	0.251	0.240	0.206

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 1 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Source: EU ID No. 078 AFI 1 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		06/23/2006 15:26	06/23/2006 16:56	06/23/2006 18:22	
End Time		06/23/2006 16:28	06/23/2006 17:58	06/23/2006 19:24	
Granulation Plant Scrubber					
Recirc Flow	GPM	1281	1277	1276	1278
Make-up Flow	GPM	46	37	42	42
Pressure Drop	"H2O	19	18	19	19
Fan Amps	amps	112	112	111	112
Defluorination Scrubber					
Pondwater Flow	GPM	886	857	821	855
Demister Flow	GPM	58	73	69	67
Pressure Drop	"H2O	14	14	14	14
Fan Amps	amps	101	100	98	100
Plant Production					
AFI	TPH	19.5	19.3	19.8	19.5
AFI	TPD	469	463	475	469

Area Superintendent: _____

Production and Operating Hours

		2003			2004			2005		
EU ID	EU Description	Month	Operating Hours	Tons Monocal/Dical Produced	Month	Operating Hours	Tons Monocal/Dical Produced	Month	Operating Hours	Tons Monocal/Dical Produced
078	AFI #1 (common stack w / defluorination scrubber)	January	474	9115	January	517	9040	January	545	10940
		February	492	8635	February	382	9988	February	572	6658
		March	531	9808	March	516	9615	March	588	10809
		April	602	10472	April	613	10771	April	629	8701
		May	602	9721	May	602	11084	May	484	7444
		June	572	9454	June	618	10695	June	300	5635
		July	572	9493	July	606	10105	July	391	4902
		August	611	11026	August	440	7967	August	323	6851
		September	657	11089	September	267	5217	September	555	11114
		October	567	9119	October	542	9710	October	403	5080
		November	385	6786	November	609	10848	November	603	11820
		December	635	10889	December	544	10766	December	611	7923
		TOTAL	6698	115607	TOTAL	6256	115806	TOTAL	6004	97877

Production and Operating Hours

		2003			2004			2005		
EU ID	EU Description	Month	Operating Hours	Tons Monocal/Dical Produced	Month	Operating Hours	Tons Monocal/Dical Produced	Month	Operating Hours	Tons Monocal/Dical Produced
103	AFI #2	January	381	6957	January	517	10303	January	628	7936
		February	432	6482	February	382	11408	February	640	12243
		March	597	11296	March	605	13084	March	633	11885
		April	498	8322	April	572	11913	April	611	7050
		May	548	8739	May	681	12397	May	637	13105
		June	526	9412	June	658	13174	June	552	8506
		July	522	10596	July	677	11686	July	713	11082
		August	614	10242	August	649	10804	August	692	9208
		September	580	8548	September	615	6346	September	694	12057
		October	423	6675	October	695	9904	October	663	10276
		November	587	9709	November	690	11194	November	694	12789
		December	541	10019	December	674	14803	December	651	9812
		TOTAL	6249	106997	TOTAL	7415	137016	TOTAL	7808	125949

2003

Riverview Chemical Complex Limestone Tons Processed

	080
	Limestone Silo
Month	Tons Processed
1	14,070
2	14,344
3	17,360
4	17,965
5	16,961
6	15,782
7	16,711
8	18,783
9	19,536
10	12,524
11	14,223
12	18,009
TOTAL TONS PROCESSED	196,268

2004

Riverview Chemical Complex Limestone Tons Processed

	080
	Limestone Silo
Month	Tons Processed
1	8,812
2	9,227
3	9,192
4	9,784
5	10,549
6	10,220
7	9,301
8	7,501
9	4,600
10	9,065
11	9,289
12	10,097
TOTAL TONS PROCESSED	107,637

2005

Riverview Chemical Complex Limestone Tons Processed

	080
	Limestone Silo
Month	Tons Processed
1	8,260
2	10,070
3	9,533
4	7,611
5	8,936
6	5,291
7	7,042
8	5,868
9	8,443
10	6,527
11	9,614
12	8,264
TOTAL TONS PROCESSED	95,459

Appendix U-1, List of Unregulated Emissions Units and/or Activities.

Mosaic Fertilizer, LLC.
Riverview Facility

Revised Draft Permit Renewal No. 0570008-045-AV
(Initial Title V Permit No.: 0570008-014-AV)
Facility ID No.: 0570008

Unregulated Emissions Units and/or Activities. An emissions unit which emits no "emissions-limited pollutant" and which is subject to no unit-specific work practice standard, though it may be subject to regulations applied on a facility-wide basis (e.g., unconfined emissions, odor, general opacity) or to regulations that require only that it be able to prove exemption from unit-specific emissions or work practice standards.

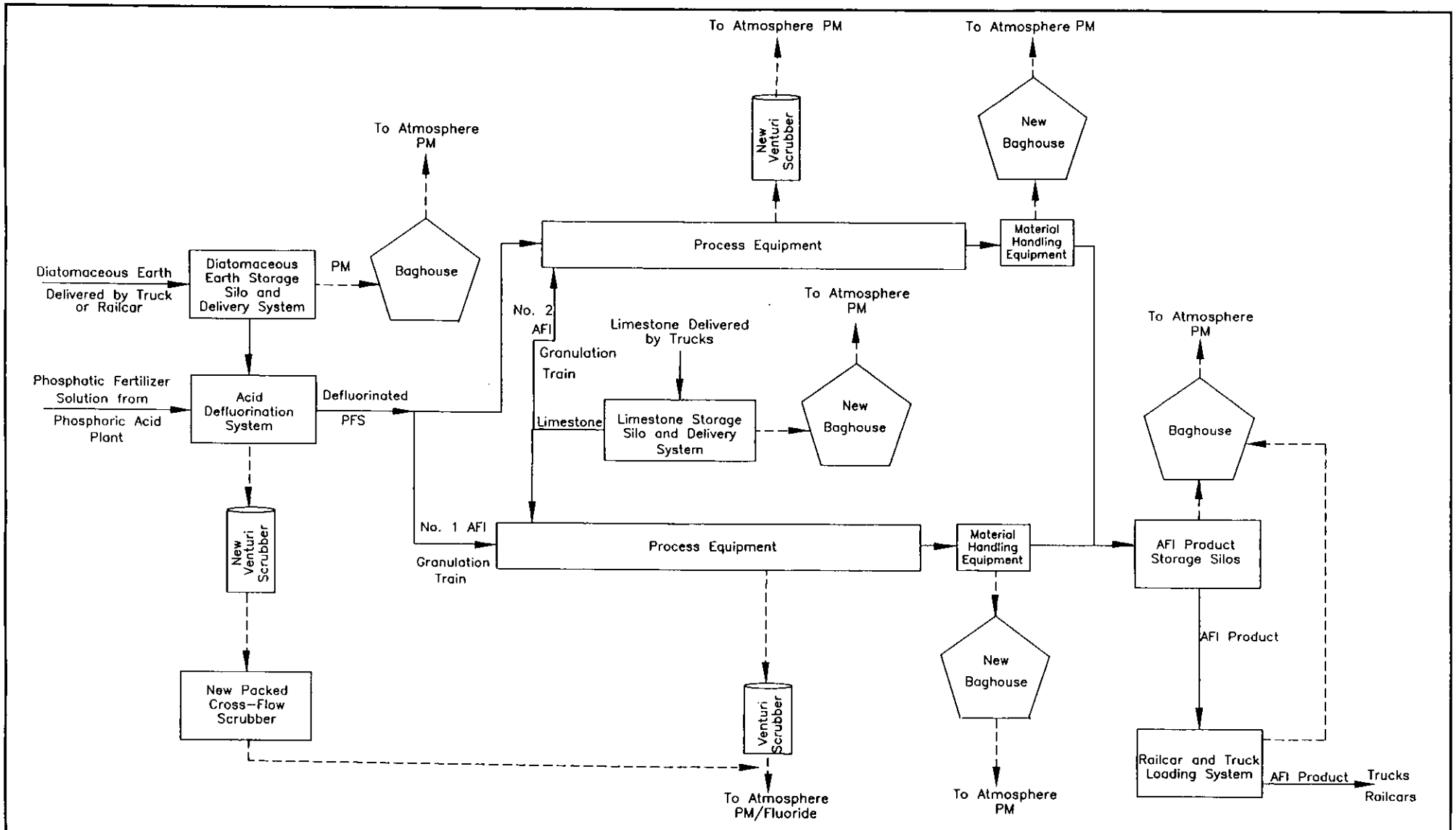
The below listed emissions units and/or activities are neither 'regulated emissions units' nor 'insignificant emissions units'.

{Permitting Notes: 1. Letter dated 9/19/2005 from David Buff, P.E. of Golder Associates Inc. was received by the Department on 9/29/2005 concerning the phosphoric acid clarifier, clarifier feed tank and associated wet scrubbers and is being reviewed by the Department.
2. There will be no GTSP production/handling at the Riverview facility. So, GTSP handling related activities are removed from the list below except coating oil tank that may be used for dust suppression for other types of fertilizer at the facility.
3. Construction permit application for ammoniated phosphates storage and loadouts dated 9/27/2005 was received by the Department on 9/29/2005 and it is currently being processed.}

E.U. ID No.	Brief Description of Emissions Units and/or Activity
	Fertilizer Plants
-105	Coating drums (containing coating oil that is used for dust suppression)
-105	Raw material and product storage tanks, bins, and storage buildings
-105	Grinding mills, chain mills, cage mills, lump breakers
-105	Cooling tower, slurry pumps, scrubber water sumps
-105	DAP rail loading system, truck unloading
-105	Material conveyors, elevators, and screens
-105	Ammonia chillers and vaporizers
-105	Product Recovery Units
-105	Ammonia Flare
-105	Coating Oil Tank – 17,233 gallons (installed 1986)
	Material Handling System
-105	Choke feeder, covered conveyors, screening tower (fugitive only)
	Phosphoric Acid Production Facility
-105	Flash Cooler Hotwells
-105	Flash coolers, vacuum pumps, seal pumps and seal tanks
-105	Nos. 1, 2 and 3 Filters - unevacuated area (fugitive only)
-105	Centrifuges, pumps
-105	East, north, and south coolers
-105	Truck loading/unloading
-105	Clarifier and clarifier feed tank

E.U. ID No.	Brief Description of Emissions Units and/or Activity
-105	Aging, filtrate, raw material, and product storage tanks
-105	Auxiliary power diesel generator with tank
	Molten Sulfur Handling
-105	Dock unloading/truck loading (fugitive only)
-105	Molten sulfur storage tank fires
-105	Molten Sulfur Tank # 2 – 3,104,714 gallons (installed 1990)*
	Sulfuric Acid Plants
-105	Water reuse tanks, water storage tanks, condensate tanks
-105	Economizers
-105	Sulfuric acid storage tanks
-105	Sulfuric acid truck loading/unloading
-105	Cooling towers
	Animal Feed Plant
-105	Acid heaters and dilution tank
-105	High speed mixer
-105	Diatomaceous earth weigh bin and feed splitters
-105	Limestone metering feeder and screen feed splitter
-105	Weigh bin slide gate and weighing belt
-105	Conveyors
	Ammonia Handling
-105	Bullets, pipeline, pop off valves, truck unloading
	Facilitywide
-105	Fuel tanks and dispensers
-105	Compressors, generators (6 MW, 35 MW)
-105	Wastewater treatment plant and collection system
-105	Locomotive Engines
-105	Laboratory, lime hopper, refrigerators
-105	Pressure/steam relief valves
-105	Railcar/truck unloading, conveyor belts (fugitive only)
-105	Wet rock pile, rock hoppers, rock grinding mills (fugitive only)
-105	Safety kleen solvent cleaners
-105	Sand blasters, welding equipment, supersucker
-105	Raw material and product storage tanks
-105	Minor fugitive leaks from process equipment
-105	Diesel pump at NPDES Outfall 005
-105	Diesel pump at active phosphogypsum stack
-105	Asbestos Waste and hazardous waste removal
-105	Refrigeration equipment < 50 lbs charge
-105	Oil-fired catalyst
-105	400 hp emergency generator

* Tanks subject to 40 CFR 60, Subpart Kb, NSPS for VOC Storage Tanks.



Golder Associates
GAINESVILLE, FLORIDA

SCALE	N/A
DATE	08/19/05
DESIGN	N/A
CADD	N/A
LAST REVISED	nav
REVIEW	N/A
FILE Name	CR-EUR-J1.dwg
PROJECT No.	0537589-0100
REV.	1

TITLE

ATTACHMENT MF-EU6-11
Future AFI Plant
Process Flow Diagram
Mosaic Riverview

PATH 0537589\4-MF-EU6-11.dwg

FIGURE

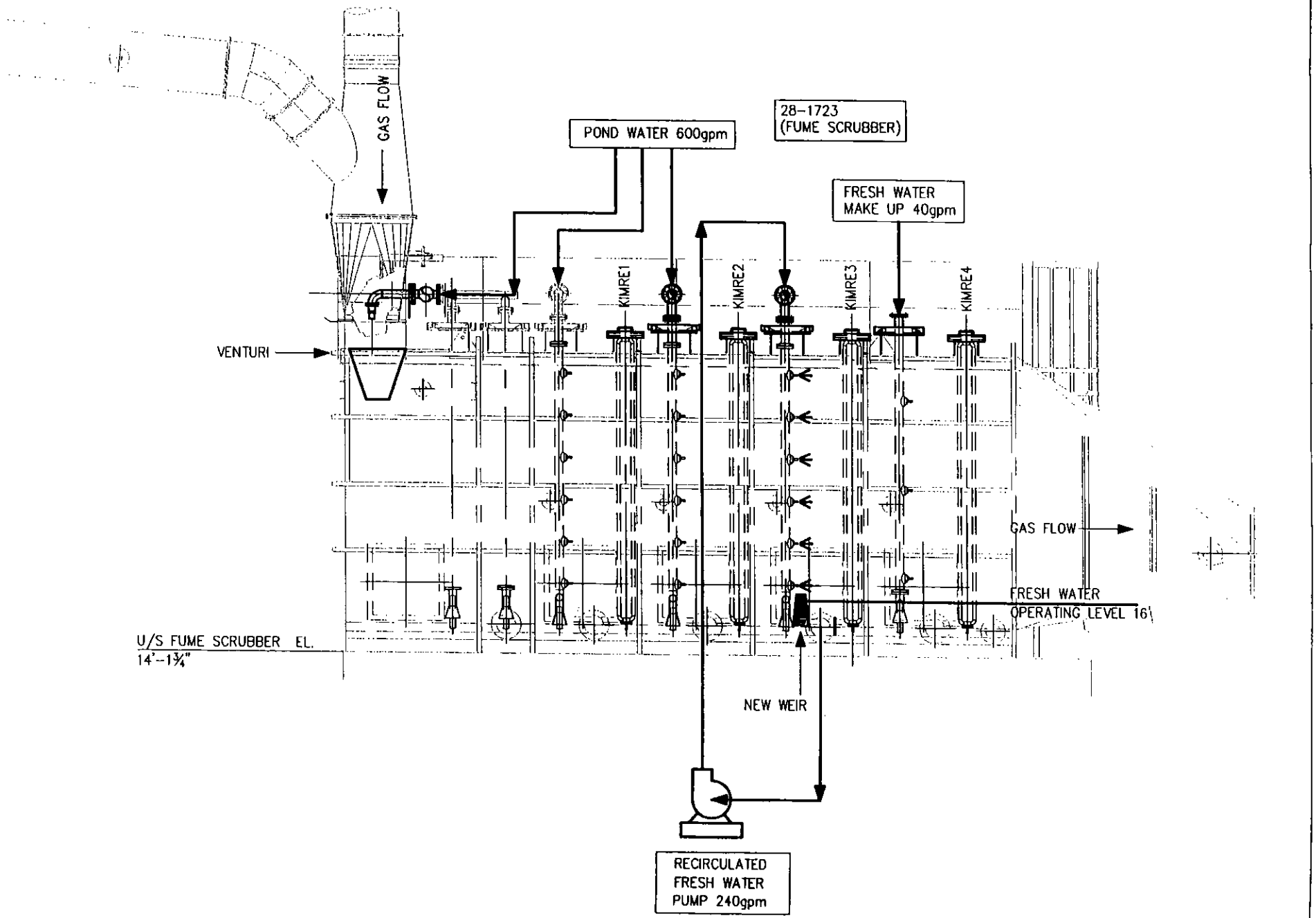

GAS FLOW
POND WATER 600gpm
28-1723
(FUME SCRUBBER)
FRESH WATER
MAKE UP 40gpm
KIMRE1
KIMRE2
KIMRE3
KIMRE4
VENTURI
GAS FLOW
FRESH WATER
OPERATING LEVEL 16'
U/S FUME SCRUBBER EL.
14'-1¾"
NEW WEIR
RECIRCULATED
FRESH WATER
PUMP 240gpm

TABLE 1. PARTICULATE EMISSIONS TEST SUMMARY

Company: Cargill Crop Nutrition - Riverview
Source: AFI - Plant No. 1

	Run 1	Run 2	Run 3	
Date of Run	5/7/03	5/7/03	5/7/03	
Process Rate (TPH)	701	604	655	
Start Time (24-hr. clock)	0824	1056	1115	
End Time (24-hr. clock)	0928	1056	1218	
Vol. Dry Gas Sampled Meter Cond. (DCF)	47.553	44.698	43.438	
Gas Meter Calibration Factor	0.994	0.994	0.994	
Barometric Pressure at Barom. (in. Hg.)	30.09	30.09	30.12	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	45.122	42.429	40.642	
Vol. Liquid Collected Std. Cond. (SCF)	8.638	8.214	7.586	
Moisture in Stack Gas (% Vol.)	16.10	16.20	15.73	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.23	27.22	29.00	
Stack Gas Static Press. (in. H2O gauge)	-0.41	-0.42	-0.41	
Stack Gas Static Press. (in. Hg. abs.)	30.06	30.06	30.09	
Average Square Root Velocity Head	0.955	0.882	0.862	
Average Orifice Differential (in. H2O)	1.535	1.317	1.249	
Average Gas Meter Temperature (°F)	98.3	97.8	106.4	
Average Stack Gas Temperature (°F)	144.8	144.8	144.3	
Pitot Tube Coefficient	0.84	0.84	0.84	
Stack Gas Vel. Stack Cond. (ft./sec.)	58.93	54.47	51.49	
Effective Stack Area (sq. ft.)	28.27	28.27	28.27	
Stack Gas Flow Rate Std. Cond. (DSCFM)	73,592	67,913	64,673	
Stack Gas Flow Rate Stack Cond. (ACFM)	99,972	92,413	87,345	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.227	0.227	0.227	
Percent Isokinetic	102.9	104.8	105.4	
				Average
Particulate Collected (mg.)	15.8	12.7	18.7	15.7
Particulate Emissions (grains/DSCF)	0.005	0.005	0.007	0.01
Particulate Emissions (lb./hr.)	**3.4**	**2.7**	**3.9**	**3.34**
Allowable Particulate Emissions (lb./hr.)				**13.0**
Fluoride Collected (mg.)	1.733	1.260	1.353	1.448
Fluoride Emissions (mg/DSCF)	0.038	0.030	0.033	0.034
Fluoride Emissions (lb./hr.)	**0.37**	**0.27**	**0.28**	**0.31**
Allowable Fluoride Emissions (lb./hr.)				**2.1**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 1 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Source: EU ID No. 078 AFI 1 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		05/07/2003 8:24	05/07/2003 9:53	05/07/2003 11:15	
End Time		05/07/2003 9:28	05/07/2003 10:56	05/07/2003 12:18	
Granulation Plant Scrubber					
Recirc Flow	GPM	1171	1169	1168	1169
Make-up Flow	GPM	47	49	44	46
Pressure Drop	"H2O	24	23	23	23
Fan Amps	amps	115	115	115	115
Defluorination Scrubber					
Pondwater Flow	GPM	856	855	854	855
Demister Flow	GPM	82	82	79	81
Pressure Drop	"H2O	6	6	6	6
Fan Amps	amps	68	68	68	68
Plant Production					
AFI	TPD	701	604	655	653

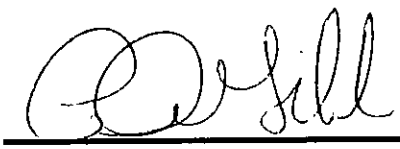
Area Superintendent: 

TABLE 1. PARTICULATE EMISSIONS TEST SUMMARY

Company: **Cargill Crop Nutrition - Riverview**
Source: **AFI - Plant No. 1**

	Run 1	Run 2	Run 3	
Date of Run	5/13/04	5/13/04	5/13/04	
Process Rate (TPH)	23.3	22.6	21.1	
Start Time (24-hr. clock)	0807	0944	1113	
End Time (24-hr. clock)	0914	1047	1216	
Vol. Dry Gas Sampled Meter Cond. (DCF)	45.876	45.424	45.210	
Gas Meter Calibration Factor	1.015	1.015	1.015	
Barometric Pressure at Barom. (in. Hg.)	30.12	30.12	30.12	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	45.641	44.913	44.319	
Vol. Liquid Collected Std. Cond. (SCF)	7.313	8.152	7.318	
Moisture in Stack Gas (% Vol.)	13.8	15.4	14.2	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.48	27.31	27.44	
Stack Gas Static Press. (in. H2O gauge)	-0.35	-0.32	-0.31	
Stack Gas Static Press. (in. Hg. abs.)	30.01	30.02	30.02	
Average Square Root Velocity Head	0.940	0.934	0.923	
Average Orifice Differential (in. H2O)	2.008	1.984	1.941	
Average Gas Meter Temperature (°F)	83.5	86.8	91.5	
Average Stack Gas Temperature (°F)	145.7	144.6	145.4	
Pitot Tube Coefficient	0.84	0.84	0.84	
Stack Gas Vel. Stack Cond. (ft./sec.)	57.84	57.61	56.83	
Effective Stack Area (sq. ft.)	28.27	28.27	28.27	
Stack Gas Flow Rate Std. Cond. (DSCFM)	73,963	72,478	72,403	
Stack Gas Flow Rate Stack Cond. (ACFM)	98,127	97,739	96,414	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.234	0.234	0.234	
Percent Isokinetic	97.4	97.8	96.6	
				Average
Particulate Collected (mg.)	19.3	21.7	21.3	20.7
Particulate Emissions (grains/DSCF)	0.007	0.007	0.007	0.01
Particulate Emissions (lb./hr.)	**4.1**	**4.6**	**4.6**	**4.5**
Allowable Particulate Emissions (lb./hr.)				**13.0**
Fluoride Collected (mg.)	1.9	2.5	1.7	2.0
Fluoride Emissions (mg/DSCF)	0.04	0.06	0.04	0.05
Fluoride Emissions (lb./hr.)	**0.40**	**0.54**	**0.38**	**0.44**
Allowable Fluoride Emissions (lb./hr.)				**2.1**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 1 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Source: EU ID No. 078 AFI 1 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		05/13/2004 08:07	05/13/2004 09:44	05/13/2004 11:13	
End Time		05/13/2004 09:14	05/13/2004 10:47	05/13/2004 12:16	
Granulation Plant Scrubber					
Recirc Flow	GPM	1294	1295	1295	1294
Make-up Flow	GPM	64	61	60	63
Pressure Drop	"H2O	25	26	26	26
Fan Amps	amps	108	109	109	108
Defluorination Scrubber					
Pondwater Flow	GPM	798	798	798	798
Demister Flow	GPM	34	38	39	36
Pressure Drop	"H2O	8	8	8	8
Fan Amps	amps	72	72	72	72
Plant Production					
AFI	TPH	23.3	22.6	21.1	22.3
AFI	TPD	559	543	507	536

Area Superintendent: _____

TABLE 1. PARTICULATE AND FLUORIDE EMISSIONS TEST SUMMARY

Company: **MOSAIC FERTILIZER, LLC - Riverview**
Source: **AFI - Plant No. 1**

	Run 1	Run 2	Run 3	
Date of Run	07/29/05	07/29/05	07/29/05	
Process Rate (TPH)	20.8	20.7	20.8	
Start Time (24-hr. clock)	1016	1133	1505	
End Time (24-hr. clock)	1119	1338	1607	
Vol. Dry Gas Sampled Meter Cond. (DCF)	55.871	48.110	58.397	
Gas Meter Calibration Factor	0.976	0.976	0.976	
Barometric Pressure at Barom. (in. Hg.)	30.06	30.06	30.03	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	52.111	44.274	53.473	
Vol. Liquid Collected Std. Cond. (SCF)	8.855	9.675	10.562	
Moisture in Stack Gas (% Vol.)	14.5	17.9	16.5	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.40	27.03	27.19	
Stack Gas Static Press. (in. H2O gauge)	-0.52	-0.24	-0.64	
Stack Gas Static Press. (in. Hg. abs.)	30.02	30.04	29.98	
Average Square Root Velocity Head	0.949	0.961	0.952	
Average Orifice Differential (in. H2O)	2.568	2.658	2.763	
Average Gas Meter Temperature (°F)	98.6	106.3	108.7	
Average Stack Gas Temperature (°F)	150.8	151.3	154.2	
Pitot Tube Coefficient	0.79	0.79	0.79	
Stack Gas Vel. Stack Cond. (ft./sec.)	55.25	56.30	55.83	
Effective Stack Area (sq. ft.)	28.27	28.27	28.27	
Stack Gas Flow Rate Std. Cond. (DSCFM)	69,500	67,983	68,137	
Stack Gas Flow Rate Stack Cond. (ACFM)	93,734	95,510	94,712	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.249	0.249	0.249	
Percent Isokinetic	104.5	90.8	109.4	
				Average
Particulate Collected (mg.)	38.3	35.8	44.1	39.4
Particulate Emissions (grains/DSCF)	0.011	0.012	0.013	0.01
Particulate Emissions (lb./hr.)	**6.76**	**7.27**	**7.43**	**7.2**
Allowable Particulate Emissions (lb./hr.)				**13.0**
Fluoride Collected (mg.)	3.325	3.691	6.331	4.449
Fluoride Emissions (mg/DSCF)	0.064	0.083	0.118	0.089
Fluoride Emissions (lb./hr.)	**0.59**	**0.75**	**1.07**	**0.8**
Allowable Fluoride Emissions (lb./hr.)				**2.1**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 1 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Source: EU ID No. 078 AFI 1 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		07/29/2005 10:16	07/29/2005 11:33	07/29/2005 15:05	
End Time		07/29/2005 11:19	07/29/2005 13:33	07/29/2005 16:07	
Granulation Plant Scrubber					
Recirc Flow	GPM	1237	1241	1246	1239
Make-up Flow	GPM	46	45	26	46
Pressure Drop	"H2O	20	20	20	20
Fan Amps	amps	108	108	110	108
Defluorination Scrubber					
Pondwater Flow	GPM	758	756	749	757
Demister Flow	GPM	69	70	73	70
Pressure Drop	"H2O	8	8	8	8
Fan Amps	amps	83	84	82	83
Plant Production					
AFI	TPH	20.8	20.7	20.8	20.7
AFI	TPD	498	496	499	498

Area Superintendent: _____

TABLE 2. PARTICULATE EMISSIONS TEST SUMMARY

Company: Cargill Crop Nutrition - Riverview
Source: AFI - Plant No. 2

	Run 1	Run 2	Run 3	
Date of Run	5/8/03	5/8/03	5/8/03	
Process Rate (TPH)	522	522	521	
Start Time (24-hr. clock)	0848	1029	1310	
End Time (24-hr. clock)	0952	1230	1415	
Vol. Dry Gas Sampled Meter Cond. (DCF)	31.254	31.692	31.760	
Gas Meter Calibration Factor	0.997	0.997	0.997	
Barometric Pressure at Barom. (in. Hg.)	30.11	30.11	30.12	
Elev. Diff. Manom. to Barom. (ft.)	116	116	116	
Vol. Gas Sampled Std. Cond. (DSCF)	30.120	30.517	30.100	
Vol. Liquid Collected Std. Cond. (SCF)	2.414	2.315	1.504	
Moisture in Stack Gas (% Vol.)	7.4	7.1	4.8	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	28.18	28.22	28.48	
Stack Gas Static Press. (in. H2O gauge)	-0.35	-0.42	-0.29	
Stack Gas Static Press. (in. Hg. abs.)	30.08	30.08	30.10	
Average Square Root Velocity Head	0.796	0.751	0.743	
Average Orifice Differential (in. H2O)	0.722	0.629	0.496	
Average Gas Meter Temperature (°F)	90.7	91.0	99.8	
Average Stack Gas Temperature (°F)	142.4	141.8	141.9	
Pitot Tube Coefficient	0.84	0.84	0.84	
Stack Gas Vel. Stack Cond. (ft./sec.)	48.18	45.42	44.69	
Effective Stack Area (sq. ft.)	34.91	34.91	34.91	
Stack Gas Flow Rate Std. Cond. (DSCFM)	82,322	77,983	78,666	
Stack Gas Flow Rate Stack Cond. (ACFM)	100,898	95,125	93,601	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.195	0.195	0.195	
Percent Isokinetic	102.7	109.8	107.4	
				Average
Particulate Collected (mg.)	20.3	7.2	10.0	12.5
Particulate Emissions (grains/DSCF)	0.010	0.004	0.005	0.006
Particulate Emissions (lb./hr.)	**7.4**	**2.4**	**3.5**	**4.43**
Allowable Particulate Emissions (lb./hr.)				**13.0**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 2 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Test Date(s): May 8, 2003
Source: EU ID No. 103 AFI 2 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		05/08/2003 8:48	05/08/2003 10:29	05/08/2003 13:10	
End Time		05/08/2003 9:52	05/08/2003 12:30	05/08/2003 14:15	
Equipment Scrubber					
Flow	GPM	1083	1031	1219	1111
Pressure Drop	"H2O	14	14	15	15
Dryer Scubber					
Flow	GPM	1482	1478	1469	1476
Pressure Drop	"H2O	20	19	20	20
Fan Amps	amps	120	120	120	120
Production Rate					
AFI Product Rate	TPD	522	522	521	522
Emissions					
PM Emissions	lb/hr	7.4	2.4	3.5	4.4

Area Superintendent: _____

TABLE 1. PARTICULATE EMISSIONS TEST SUMMARY

Company: **Cargill Crop Nutrition - Riverview**
Source: **AFI - Plant No. 2**

	Run 1	Run 2	Run 3	
Date of Run	5/20/04	5/20/04	5/20/04	
Process Rate (TPH)	25.7	25.7	25.8	
Start Time (24-hr. clock)	0802	0928	1049	
End Time (24-hr. clock)	0905	1032	1151	
Vol. Dry Gas Sampled Meter Cond. (DCF)	32.550	34.752	34.665	
Gas Meter Calibration Factor	1.015	1.015	1.015	
Barometric Pressure at Barom. (in. Hg.)	30.21	30.21	30.21	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	31.957	33.857	33.571	
Vol. Liquid Collected Std. Cond. (SCF)	6.078	7.228	6.455	
Moisture in Stack Gas (% Vol.)	16.0	17.6	16.1	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.24	27.06	27.23	
Stack Gas Static Press. (in. H2O gauge)	-0.30	-0.32	-0.34	
Stack Gas Static Press. (in. Hg. abs.)	30.07	30.09	30.10	
Average Square Root Velocity Head	0.739	0.747	0.742	
Average Orifice Differential (in. H2O)	1.152	1.117	1.106	
Average Gas Meter Temperature (°F)	90.6	95.2	98.7	
Average Stack Gas Temperature (°F)	140.7	143.2	144.7	
Pitot Tube Coefficient	0.84	0.84	0.84	
Stack Gas Vel. Stack Cond. (ft./sec.)	45.43	46.15	45.76	
Effective Stack Area (sq. ft.)	34.91	34.91	34.91	
Stack Gas Flow Rate Std. Cond. (DSCFM)	70,637	70,120	70,607	
Stack Gas Flow Rate Stack Cond. (ACFM)	95,157	96,653	95,833	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (in.)	0.227	0.227	0.227	
Percent Isokinetic	93.7	100.0	98.5	
				Average
Particulate Collected (mg.)	14.4	20.0	18.6	17.7
Particulate Emissions (grains/DSCF)	0.007	0.009	0.009	0.008
Particulate Emissions (lb./hr.)	**4.2**	**5.5**	**5.2**	**5.0**
Allowable Particulate Emissions (lb./hr.)				**13.0**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 2 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Test Date(s): May 20, 03
Test For: PM
Source: AFI 2 Plant

Compliance Test

		Run 1	Run 2	Run 3	AVG
Start Time		5/20/04 8:02	5/20/04 9:28	5/20/04 10:49	
End Time		5/20/04 9:05	5/20/04 10:32	5/20/04 11:51	
Equipment Scrubber					
Flow	GPM	1480.2	1478.6	1478.6	1447
Pressure Drop	"H2O	11.7	11.7	11.7	16
Dryer Scubber					
Flow	GPM	1409.8	1404.7	1404.7	1544
Pressure Drop	"H2O	20.2	20.4	20.4	21
Production					
AFI	TPH	25.7	25.7	25.8	25.7
AFI	TPD	617	617	618	617

Area Superintendent: _____

TABLE 2. PARTICULATE EMISSIONS TEST SUMMARY

Company: **MOSAIC FERTILIZER, LLC - Riverview**
Source: **AFI - Plant No. 2**

	Run 1	Run 2	Run 3	
Date of Run	8/4/05	8/4/05	8/4/05	
Process Rate (TPH)	23.7	23.8	23.7	
Start Time (24-hr. clock)	0828	0952	1121	
End Time (24-hr. clock)	0931	1056	1223	
Vol. Dry Gas Sampled Meter Cond. (DCF)	40.592	42.723	40.713	
Gas Meter Calibration Factor	0.976	0.976	0.976	
Barometric Pressure at Barom. (in. Hg.)	30.05	30.05	30.05	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	38.386	39.916	37.940	
Vol. Liquid Collected Std. Cond. (SCF)	5.031	8.133	8.723	
Moisture in Stack Gas (% Vol.)	11.6	16.9	18.7	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.73	27.14	26.94	
Stack Gas Static Press. (in. H2O gauge)	-0.29	-0.26	-0.26	
Stack Gas Static Press. (in. Hg. abs.)	30.03	30.03	30.03	
Average Square Root Velocity Head	0.726	0.728	0.724	
Average Orifice Differential (in. H2O)	1.328	1.438	1.246	
Average Gas Meter Temperature (°F)	89.1	95.9	97.1	
Average Stack Gas Temperature (°F)	148.5	149.0	148.1	
Pitot Tube Coefficient	0.79	0.79	0.79	
Stack Gas Vel. Stack Cond. (ft./sec.)	41.91	42.50	42.40	
Effective Stack Area (sq. ft.)	34.91	34.91	34.91	
Stack Gas Flow Rate Std. Cond. (DSCFM)	67,578	64,351	62,925	
Stack Gas Flow Rate Stack Cond. (ACFM)	87,770	89,018	88,801	
Net Time of Run (min.)	60.0	60.0	60.0	
Nozzle Diameter (in.)	0.246	0.246	0.246	
Percent Isokinetic	100.2	109.4	106.3	
				Average
Particulate Collected (mg.)	19.5	17.6	23.6	20.2
Particulate Emissions (grains/DSCF)	0.008	0.007	0.010	0.008
Particulate Emissions (lb./hr.)	**4.5**	**3.8**	**5.2**	**4.5**
Allowable Particulate Emissions (lb./hr.)				**13.0**

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 2 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Test Date(s): August 4, 2005
Test For: PM
Source: AFI 2 Plant

Compliance Test

		Run 1	Run 2	Run 3	AVG
Start Time		08/04/2005 08:28	08/04/2005 09:52	08/04/2005 11:21	
End Time		08/04/2005 09:31	08/04/2005 10:56	08/04/2005 12:23	
Equipment Scrubber					
Flow	GPM	1236.0	1239.5	1243.1	1240
Pressure Drop	"H2O	12.6	12.5	12.4	13
Dryer Scubber					
Flow	GPM	1227.6	1230.5	1229.7	1229
Pressure Drop	"H2O	20.5	20.3	20.0	20
Production					
AFI	TPH	23.7	23.8	23.7	24
AFI	TPD	569	570	569	569

Southern Environmental Sciences, Inc.

1204 North Wheeler Street ☐ Plant City, Florida 33563 ☐ (813) 752-5014, Fax (813) 752-2475

VISIBLE EMISSIONS EVALUATION

Limestone Silo

COMPANY: Cargill Crop Nutrition - Tampa

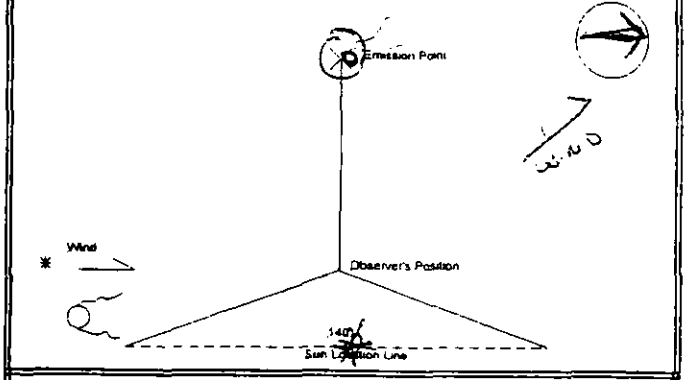
UNIT: Limestone Silo

ADDRESS: US 41 & Riverview Dr

Riverview, FL

PERMIT NO: 0570005-014-AV	COMPLIANCE? YES ☑ NO ☐
AIRS NO: 0570008	EU NO: 080
PROCESS RATE: NA	PERMITTED RATE: NA
PROCESS EQUIPMENT: Limestone Storage Silo	
CONTROL EQUIPMENT: Baghouse	
OPERATING MODE: Normal	AMBIENT TEMP. (° F) START 80° STOP ✓
HEIGHT ABOVE GROUND LEVEL START ~100' STOP ✓	HEIGHT RELATIVE TO OBSERVER START ~100' STOP ✓
DISTANCE FROM OBSERVER START ~300' STOP ✓	DIRECTION FROM OBSERVER START 270° STOP
EMISSION COLOR: None	PLUME TYPE: NA CONTIN. ☐ INTERMITTENT ☐
WATER DROPLETS PRESENT? NO ☒ YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐ NA
POINT IN PLUME AT WHICH OPACITY WAS DETERMINED START Baghouse Vent STOP ✓	
DESCRIBE BACKGROUND START SKY STOP ✓	
BACKGROUND COLOR START Blue STOP ✓	SKY CONDITIONS START ✓ Scattered STOP ✓
WIND SPEED (MPH) START 2-4 STOP ✓	WIND DIRECTION START SE STOP ✓
AVERAGE OPACITY FOR HIGHEST PERIOD: 0%	RANGE OF OPACITY READINGS MIN. 0% MAX. 0%

SOURCE LAYOUT SKETCH



Comments

OBSERVATION DATE	START TIME	STOP TIME
5/8/03	0745	0815

SEC MIN	0	15	30	45	SEC MIN	0	15	30	45
0	0	0	0	0	30				
1	0	0	0	0	31				
2	0	0	0	0	32				
3	0	0	0	0	33				
4	0	0	0	0	34				
5	0	0	0	0	35				
6	0	0	0	0	36				
7	0	0	0	0	37				
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11	0	0	0	0	41				
12	0	0	0	0	42				
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15	0	0	0	0	45				
16	0	0	0	0	46				
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24	0	0	0	0	54				
25	0	0	0	0	55				
26	0	0	0	0	56				
27	0	0	0	0	57				
28	0	0	0	0	58				
29	0	0	0	0	59				

OBSERVER: Ken Roberts

Certified by: FDEP Certif. # 303321 Certified at: Tampa

Date Certified: 2/18/03 Exp. Date: 8/20/03

I certify that all data provided to the person conducting the test was true and correct to the best of my knowledge:

Signature: See process data

Title:

SOUTHERN ENVIRONMENTAL SCIENCES, INC.

1204 North Wheeler Street, Plant City, Florida 33566 (813)752-5014

VISIBLE EMISSIONS EVALUATION

COMPANY: Cargill - Tampa

UNIT: Limestone Silo

ADDRESS: US Hwy 41 & Riverview Dr

Riverview, FL

PERMIT NO.: 0570008 | COMPLIANCE? YES [X] NO [ ]

AIRS NO.: 0570008 | EU NO.: 080

PROCESS RATE: N/A | PERMITTED RATE: N/A

PROCESS EQUIPMENT: Limestone Storage Silo

CONTROL EQUIPMENT: Baghouse

OPERATING MODE: Filling Silo w/Railcar | AMBIENT TEMP. (°F) START 87 STOP 87

HEIGHT ABOVE GROUND LEVEL START ~100' STOP same | HEIGHT REL. TO OBSERVER START ~100' STOP same

DISTANCE FROM OBSERVER START ~300' STOP same | DIRECTION FROM OBSERVER START 280° STOP 280°

EMISSION COLOR: NONE | PLUME TYPE: N/A CONTIN. [ ] INTERMITTENT [ ]

WATER DROPLETS PRESENT NO [X] YES [ ] | IS WATER DROPLET PLUME ATTACHED [ ] DETACHED [ ] N/A

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START Baghouse Vent STOP same

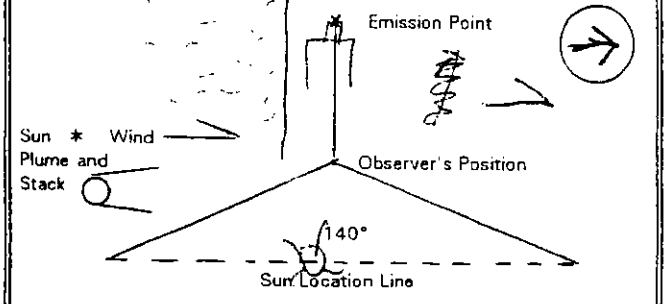
DESCRIBE BACKGROUND START SKY STOP SKY

BACKGROUND COLOR START Bi/Wht STOP same | SKY CONDITIONS START Scat. STOP same

WIND SPEED (MPH) START 3-15 STOP same | WIND DIRECTION START S STOP S

AVERAGE OPACITY FOR HIGHEST PERIOD 0 % | RANGE OF OPAC. READINGS MIN. 0 MAX. 0

SOURCE LAYOUT SKETCH — DRAW NORTH ARROW



COMMENTS:

OBSERVATION DATE: 6/3/04 | START TIME: 0928 | STOP TIME: 0958

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

Observer: Mark Gierke

Certified by: FDEP | Certified at: Tampa

Date Certified: 2/04 | Exp. Date: 8/04

I certify that all data provided to the person conducting the test was true and correct to the best of my knowledge:

Signature: See Process Data

Title:

EPA
VISIBLE EMISSION OBSERVATION FORM 1

Method Used (Circle One): Method 9 | 203A | 203B | Other: _____

Form Number: _ _ _ _ _ | Page: 1 of 1

Continued on VEO Form Number:

Company Name: Mosaic Fertilizer, LLC

Facility Name: Riverview

Street Address: 8813 US Highway 41

City: Riverview | State: FL | Zip: 33569

Process: Limestone Storage S-10 | Unit #: | Operating Mode: Normal

Control Equipment: Bydouse | Operating Mode: Normal

Describe Emission Point: Bydouse Vent on Top of Limestone S-10

Height of Emiss. Pt. — Start: 100 End: Same
Height of Emiss. Pt. Rel. to Observer — Start: 100 End: Same
Distance to Emiss. Pt. — Start: ~300 End: Same
Direction to Emiss. Pt. (Degrees) — Start: ~350° End: Same

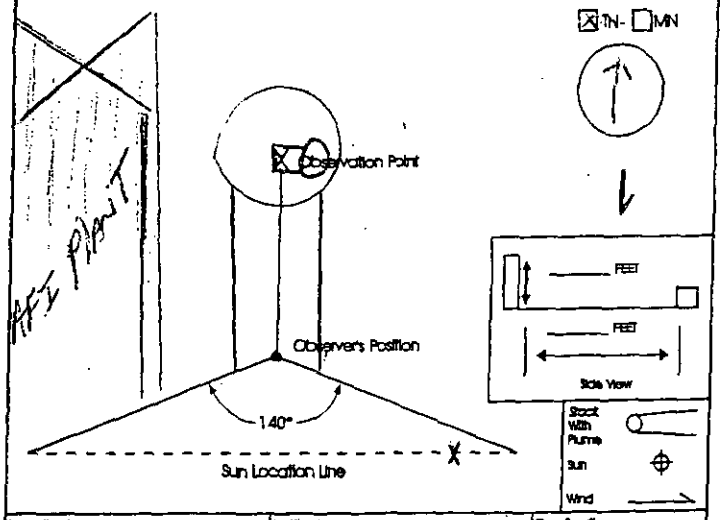
Vertical Angle to Obs. Pt. — Start: ~10° End: Same
Direction to Obs. Pt. (Degrees) — Start: 350° End: Same
Distance and Direction to Observation Point from Emission Point — Start: ~300 SE End: Same

Describe Emissions — Start: NONE End: Same
Emission Color — Start: NONE End: Same
Water Droplet Plume — Attached ☐ Detached ☐ None ☒

Describe Plume Background — Start: Blue/Grey End: Same
Background Color — Start: Blue/Grey End: Same
Sky Conditions — Start: Broken End: Same
Wind Speed — Start: 5-10 End: Same
Wind Direction — Start: South End: Same
Ambient Temp. — Start: 88° End: 89°
Wet Bulb Temp.: N/A
RH Percent: N/A

Source Layout Sketch

Draw North Arrow: ☒ TN- ☐ MN



Longitude | Latitude | Declination

Additional Information

Observation Date	Time Zone	Start Time	End Time
8/29/05	EST	930	1020

Min \ Sec	0	15	30	45	Comments
1	0	0	0	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11	0	0	0	0	
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25	0	0	0	0	
26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

Observer's Name (Print): Flint Barnes

Observer's Signature: Flint Barnes | Date: 8/29/05

Organization: Mosaic

Certified By: ETA | Date: 8/16/05

VEOF1.1

PARTICULATE & FLUORIDE EMISSIONS TEST SUMMARY

Company: MOSAIC RIVERVIEW
Source: AFI NO. 1 STACK

	Run 1	Run 2	Run 3	
Date of Run	06/23/06	06/23/06	06/23/06	
Process Rate (TPH)				
Start Time (24-hr. clock)	1526	1656	1822	
End Time (24-hr. clock)	1628	1756	1924	
Vol. Dry Gas Sampled Meter Cond. (DCF)	54.782	58.805	57.746	
Gas Meter Calibration Factor	0.991	0.991	0.991	
Barometric Pressure at Barom. (In. Hg.)	30.01	30.01	30.01	
Elev. Diff. Manom. to Barom. (ft.)	0	0	0	
Vol. Gas Sampled Std. Cond. (DSCF)	52.147	55.232	53.949	
Vol. Liquid Collected Std. Cond. (SCF)	7.275	8.110	8.364	
Moisture in Stack Gas (% Vol.)	12.2	12.8	13.4	
Molecular Weight Dry Stack Gas	29.00	29.00	29.00	
Molecular Weight Wet Stack Gas	27.65	27.59	27.52	
Stack Gas Static Press. (in. H2O gauge)	-0.38	-0.27	-0.38	
Stack Gas Static Press. (in. Hg. abs.)	29.98	29.99	29.98	
Average Square Root Velocity Head	0.987	0.978	0.966	
Average Orifice Differential (In. H2O)	2.527	2.903	2.778	
Average Gas Meter Temperature (°F)	94.8	102.8	105.6	
Average Stack Gas Temperature (°F)	148.9	149.7	148.8	
Pitot Tube Coefficient	0.82	0.82	0.82	
Stack Gas Vel. Stack Cond. (ft./sec.)	58.10	58.83	58.17	
Effective Stack Area (sq. ft.)	28.27	28.27	28.27	
Stack Gas Flow Rate Std. Cond. (DSCFM)	75,160	75,538	74,248	
Stack Gas Flow Rate Stack Cond. (ACFM)	98,567	99,795	98,684	
Net Time of Run (min.)	60	60	60	
Nozzle Diameter (In.)	0.249	0.249	0.249	
Percent Isokinetic	96.7	102.0	101.3	
				Average
Particulate Collected (mg.)	14.916667	16.55	14.866667	16.111111
Particulate Emissions (grains/DSCF)	0.004	0.005	0.004	0.00
Particulate Emissions (lb./hr.)	**2.84**	**3.36**	**2.71**	**2.97**
Total				
Fluoride Collected (mg.)	0.716	1.416	1.350	1.161
Fluoride Emissions (mg/DSCF)	0.014	0.026	0.025	0.021
Fluoride Emissions (lb./hr.)	**0.14**	**0.26**	**0.25**	**0.21**
Probe Wash				
Fluoride Collected (mg.)	0.037	0.014	0.018	0.023
Fluoride Emissions (mg/DSCF)	0.001	0.000	0.000	0.000
Fluoride Emissions (lb./hr.)	0.007	0.003	0.003	0.004
Filter				
Fluoride Collected (mg.)	0.014	0.012	0.013	0.013
Fluoride Emissions (mg/DSCF)	0.000	0.000	0.000	0.000
Fluoride Emissions (lb./hr.)	0.003	0.002	0.002	0.002
Impingers				
Fluoride Collected (mg)	0.6650	1.3900	1.3200	1.125
Fluoride Emissions (mg/DSCF)	0.013	0.025	0.024	0.021
Fluoride Emissions (lb./hr.)	0.127	0.251	0.240	0.206

Note: Standard conditions 68°F, 29.92 in. Hg

AFI 1 Plant Process Data

Plant Name: Cargill Fertilizer, Inc.
Source: EU ID No. 078 AFI 1 Plant

		Run 1	Run 2	Run 3	AVG
Start Time		06/23/2006 15:26	06/23/2006 16:56	06/23/2006 18:22	
End Time		06/23/2006 16:28	06/23/2006 17:58	06/23/2006 19:24	
Granulation Plant Scrubber					
Recirc Flow	GPM	1281	1277	1276	1278
Make-up Flow	GPM	46	37	42	42
Pressure Drop	"H2O	19	18	19	19
Fan Amps	amps	112	112	111	112
Defluorination Scrubber					
Pondwater Flow	GPM	886	857	821	855
Demister Flow	GPM	58	73	69	67
Pressure Drop	"H2O	14	14	14	14
Fan Amps	amps	101	100	98	100
Plant Production					
AFI	TPH	19.5	19.3	19.8	19.5
AFI	TPD	469	463	475	469

Area Superintendent: _____