FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

RICK SCOTT
GOVERNOR

CARLOS LOPEZ-CANTERA
LT. GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

DRAFT PERMIT

PERMITTEE

Mosaic Fertilizer, LLC
13830 Circa Crossing Drive
Lithia, FL 33547

Authorized Representative:
Mr. Larry Simpson, General Manager-Operations

Air Permit No. 1050059-093-AC
Permit Expires: 12/31/2017
New Wales Facility
Minor Air Construction Permit
Project: SAP 1 Miscellaneous Modifications

This is the final construction permit to carry out the miscellaneous modifications in the Sulfuric Acid Plant (SAP) No. 1, Emissions Unit (EU) ID No. 002. The proposed work will be conducted at the Mosaic Fertilizer, LLC, New Wales Facility (Standard Classification No. 2874). The facility is located in Polk County at 3095 Highway 640 West, Mulberry, Florida. The UTM coordinates are Zone 17, 396.67 km East, and 3079.30 km North. As noted in the Final Determination provided with this final permit, no changes or only minor changes and clarifications were made to the draft permit.

This final permit is organized by the following sections:

Section 1. General Information

Section 2. Administrative Requirements

Section 3. Emissions Unit Specific Conditions

Section 4. Appendices

Due to the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

This air pollution permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Hillsborough County, Florida

DRAFT

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Kelley M. Boatwright Effective Date
Permitting & Waste Cleanup Program Administrator
Southwest District

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination, the Final Permit and the Appendices) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on the date indicated below to the persons listed below.

Mr. Larry Simpson: larry.simpson@mosaicco.com

Mr. Rama Iyer, P.E.: rama.iyer@mosaicco.com

Veronica Figueroa, P.E., Mosaic Fertilizer, LLC (veronica.figueroa@mosaicco.com)

Ms. Danielle D. Henry: Danielle.d.henry@dep.state.fl.us

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

DRAFT

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(Clerk) (Date)

FACILITY AND PROJECT DESCRIPTION

Existing Facility

This facility is a phosphate fertilizer manufacturing complex. The fertilizer complex processes phosphate rock into several different fertilizer products and animal feed ingredients. This is accomplished by reacting phosphate rock with sulfuric acid to produce phosphoric acid and then converting the phosphoric acid to fertilizer and animal feed ingredient products. This facility consists of five double absorption sulfuric acid plants; three phosphoric acid plants; a phosphoric acid clarification and storage area; three diammonium phosphate (DAP) plants; a monoammonium phosphate (MAP) plant; a granular monoammonium phosphate (GMAP) plant; an animal feed ingredients (AFI) plant; a molten sulfur storage & handling system; a limestone storage silo/rock grinding operation; and a phosphogypsum stack.

The existing facility consists of the following emissions units (EUs).

Facility ID No. 1050059

EU No.	Brief Description
Regulated Emissions Units	
002	No. 1 Sulfuric Acid Plant
003	No. 2 Sulfuric Acid Plant
004	No. 3 Sulfuric Acid Plant
042	No. 4 Sulfuric Acid Plant
044	No. 5 Sulfuric Acid Plant
008	Phosphoric Acid Plant (East)
017	Phosphoric Acid Plant (West)
039	Phosphoric Acid Plant No. 3
053	Phosphoric Acid Clarification and Storage Area
048	30% Clarification Area (Area 10)
009	DAP Plant No. 1
045	DAP Plant No. 2 - East Train
046	DAP Plant No. 2 - West Train
047	DAP Plant No. 2 - West Product Cooler
056	DAP Plant No. 2 - East Product Cooler
011	MAP Prill Plant
055	MAP Plant Cooler
015	Animal Feed Ingredients (AFI) Shipping/Truck Loadout
023	AFI Storage Silos (3)--North Side
024	AFI Storage/Shipping/Rail Car Loading
025	AFI Limestone Storage Silos (2)

026	AFI Silica Storage Bin
027	AFI Granulation Plant
028	AFI Storage Silos (3)—South Side
052	AFI Limestone Feed Bin
030	Soda Ash Unloading System
060	7,500 Ton Rail Storage Molten Sulfur Storage Tank
062	15,000 Ton Molten Sulfur Storage Tank
063	1,500 Ton Truck Unloading Pit, Sulfur Pit (North)
067	1,500 Ton Truck Unloading Pit, Sulfur Pit Front Vent
068	1,500 Ton Truck Unloading Pit, Sulfur Pit Rear Vent
064	350 Ton Truck Unloading Pit, Sulfur Pit (South)
069	350 Ton Truck Unloading Pit, Sulfur Pit Vent
065	800 Ton Railcar Unloading Pit
066	200 Ton Molten Sulfur Transfer Pit
080	1 Molten Sulfur Loading Station
070	Limestone Storage Silo/Rock Grinding
071	Phosphogypsum Stack
078	GMAP Plant
087	Existing Emergency CI RICE $\leq$ 500 HP
Unregulated Emissions Units and Activities	
072	Facility-Wide Fugitive Emissions - SO_2, SO_3, SAM and NOx emissions from the 1, 2, 3, 4 and 5 Sulfuric Acid Plants (SAPs) - Fluoride emissions from the Phosphoric Acid Plants (PAPs) East and West and No. 3 PAP - Fluoride, NH_3, PM emissions from Diammonium Phosphate (DAP), Monoammonium Phosphate (MAP) and Granular Monoammonium Phosphate (GMAP) Plants. - Hydrogen Fluoride (HF) emissions from the Phosphogypsum Stack and Cooling Pond *Note: For this emission unit, Annual Operation Report (AOR) emissions estimates are required only for Hydrogen Fluoride emissions from the Phosphogypsum Stack and Cooling Pond.*
012	GMAP Plant Storage Building

Project Description and Affected/Proposed Emission Units

This project is to carry out miscellaneous modifications in the sulfuric acid plant (SAP) 1, EU ID # 002 as detailed below:

- Replace the waste heat boilers and heat exchangers.
- Replace the sulfur burning furnace.
- Replace the drying tower mist eliminator.
- Replace the stack.

- In addition to the items listed above, additional minor maintenance related tasks may be carried out during the plant turnaround, such as repair or replace pumps, valves, blowers, piping, ducting, and dampers, etc.

This project will modify the following emissions unit (EU):

EU ID No.	Emissions Unit Description
002	No. 1 Sulfuric Acid Plant

NOTE: *Please reference the Permit No., Facility ID, and Emission Unit ID in all correspondence, test report submittals, applications, etc.*

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAPs).
- The facility has no units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

PERMIT HISTORY/AFFECTED PERMITS

This permit references with current Title V Permit No. 1050059-088-AV.

1. Permitting Authority - The permitting authority for this project is the Florida Department of Environmental Protection (Department), Southwest District Office's Air and Solid Waste Permitting Program. The mailing address and phone number is:

Florida Department of Environmental Protection
Southwest District Office
Air and Solid Waste Permitting Program
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926
Telephone: 813-470-5700

All documents related to applications for permits shall be submitted to the above address.

2. Compliance Authority - The compliance authority for this project is the Florida Department of Environmental Protection (Department), Southwest District Office's Compliance Assurance Program. The mailing address and phone number is:

Florida Department of Environmental Protection
Southwest District Office
Compliance Assurance Program
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926
Telephone: 813-470-5700

All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the above address.

3. Appendices - The following Appendices are attached as part of this permit:

a. Appendix A. Citation Formats and Glossary of Common Terms;

b. Appendix B. General Conditions;

c. Appendix C. Common Conditions; and

d. Appendix D. Common Testing Requirements.

4. Applicable Regulations, Forms and Application Procedures - Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions - For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.
[Rule 62-4.080, F.A.C.]

6. Modifications - Unless otherwise exempt by rule, the permittee shall not initiate any construction, reconstruction, or modification at the facility and shall not install/modify any pollution control device at the facility without obtaining prior authorization from the Department. Modification is defined as: Any physical change or changes in the method of operations or addition to a facility that would result in an increase in the

actual emissions of any air pollutant subject to air regulations, including any not previously emitted, from any emission unit or facility.
[Rules 62-210.200 - Definition of "Modification" and 62-210.300(1)(a), F.A.C.]

7. Source Obligation -

a. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

b. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

[Rule 62-212.400(12), F.A.C.]

8. Actual Emissions Reporting - This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions.

a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix C of this permit.

b. The permittee shall report to the Department within 60 days after the end of each calendar year during the 5-year period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:

1) The name, address and telephone number of the owner or operator of the major stationary source;

2) The annual emissions as calculated pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;

3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and

4) Any other information that the owner or operator wishes to include in the report.

c. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.

For this project, the Department requires the annual reporting of actual SO_2 and SAM emissions for the Emissions Unit No. 002.
[Permit Application dated 10/13/2014; Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

9. Annual Operating Report - On or before **April 1** of each year, the permittee shall submit a completed DEP Form 62-210.900(5), "Annual Operating Report for Air Pollutant Emitting Facility" (AOR) for the preceding calendar year. The report may be submitted electronically in accordance with the instructions received with the AOR package sent by the Department, or a hardcopy may be sent to the Compliance Authority. [Rule 62-210.370(3), F.A.C.]

10. Application for Title V Air Operation Permit - This permit authorizes construction or modification of the permitted emissions unit(s) and initial operation to determine compliance with Department rules. A Title V air operation permit is required for continued operation of the permitted emissions unit(s). The permittee shall apply for a Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation or commencing operation as modified. Commencing operation means setting into operation of any emissions unit for any purpose. To apply for a Title V air operation permit, the applicant shall submit the following:

a. the appropriate permit application form *(see current version of Rule 62-210.900, F.A.C. (Forms and Instructions), and/or FDEP Division of Air Resource Management website at: http://www.dep.state.fl.us/air/)*;

b. a copy of the initial compliance test report required by Specific Condition No. A.11, if not previously submitted.

The application shall be submitted to the Permitting Authority.
[Rules 62-4.030, 62-4.050 and Chapter 62-213, F.A.C.]

A. EU No. 002: N.1 Sulfuric Acid Plant

This section of the permit addresses the following emissions unit (EU).

EU ID No.	Emissions Unit Description
002	Sulfuric Acid Plant (SAP) No. 1 has a design capacity of 3,400 TPD of 100% sulfuric acid. The SAP No. 1 recovers a portion of the waste heat (steam) for process use and to generate electricity. Waste heat recovery reduces plume visibility. This plant is a sulfur burning, double conversion, double absorption system. Sulfur is burned with dried atmospheric oxygen to produce sulfur dioxide (SO_2). The sulfur dioxide is catalytically oxidized to sulfur trioxide (SO_3) over a catalyst bed. The sulfur trioxide is then absorbed in sulfuric acid. The remaining sulfur dioxide, not previously oxidized, is passed over a final converter bed of catalyst and the further sulfur trioxide produced is then absorbed in sulfuric acid. *Air pollution control systems and measures:* The control of SO_2 emissions is primarily by the process itself. Currently, a double conversion, double absorption plant efficiently converts SO_2 to SO_3 then SO_3 reacts in a mixture of water and sulfuric acid to produce sulfuric acid. This plant uses a vanadium catalyst in the converter. Sulfuric acid mist (SAM) emissions are controlled by the use of Brownian diffusion-type candles in the final absorption tower. Best operational practices are followed to minimize excess emissions during startup and shutdown. *Monitors:* The SAP No. 1 is equipped with an existing SO_2 continuous emissions monitoring system (CEMS). *Stack*: Emissions not absorbed by the double absorption system are vented through the SAP No. 1's stack.

PERFORMANCE RESTRICTIONS

A.1. Federal Regulatory Requirements - This emissions unit is subject to the requirement of the federal regulation: 40 CFR 60, Subpart H - Standards of Performance for Sulfuric Acid Plants, adopted and incorporated by reference in Rule 62-204.800, F.A.C.
[Rule 62-204.800(8)11., F.A.C.; and, 40 CFR 60, Subpart H]

A.2. Restricted Operation - The hours of operation are not limited (8,760 hours per year).
[Rules 62-4.070(1) & (3) and 62-210.200 (Definitions – Potential to Emit (PTE)), F.A.C.]

COMPLIANCE TESTING REQUIREMENTS

A.3. Initial Compliance Tests - The emissions unit shall be tested to demonstrate initial compliance with the emissions standards for SAM, NO_x and VE. The initial tests shall be conducted no later than 60 days after initial operation of the emissions unit after the completion of the modifications.
[Rules 62-4.070(3) and 62-297.310(7)(a)1, F.A.C.]
{Permitting Note: Under the escape BART permit, Permit No. 1050059-061-AC, SO_2 CEM is required for SAP No. 1 to demonstrate compliance on a continuous basis, therefore, no annual compliance test for SO_2 is necessary on the SAP No. 1.}

A.4. Compliance Tests after Initial Testing - During each federal fiscal year (October 1st to September 30th), the emissions unit shall be tested to demonstrate compliance with the emissions standards for SAM, and VE.
[Rule 62-297.310, F.A.C.]

A.5. NO_x Compliance Testing - Nitrogen Oxide (NO_x) emissions are to be tested every five years prior to renewal. Within the 12-month period prior to but not later than 270 days prior to the expiration date of the facility's Title V air operation permit, the emissions unit shall be tested to demonstrate compliance with the emissions standards for NO_x.
[Rule 62-297.310(7), F.A.C.]

A.6. Compliance Test Requirements - Compliance tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit.
[Rule 62-297.310, F.A.C.]

A.7. Compliance Test Method(s) - Required compliance tests shall be performed in accordance with the following reference method(s).

Method(s)	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
8	Determination of Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department.
[Rule 62-204.800, F.A.C.; Appendix A of 40 CFR 60]

MONITORING REQUIREMENTS

A.8. Continuous Emission Monitoring (CEM) - A continuous emission monitoring system for the measurement of SO_2 shall be calibrated, maintained and operated as specified in 40 CFR 60.84. The span value of the continuous monitor shall be set at 1000 ppm of SO_2.
[Rules 62-204.800(8) and 62-296.402(4), F.A.C.; 40 CFR 60.84]

NOTIFICATION REQUIREMENTS

A.9. Test Notification - The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. The notification must include the following information: the date, time, and location of each test; the name and telephone number of the facility's contact person who will be responsible for coordinating the test; and the name, company, and the telephone number of the person conducting the test.

(*Permitting Note - The notification should also include the relevant emission unit ID No(s)., test method(s) to be used, and pollutants to be tested.*)

[Rules 62-4.070(3) and 62-297.310(7)(a)9., F.A.C.]

A.10. Notification of Operation Commencement - The permittee shall notify the Compliance Authority in writing of the date of commencing operation of the EU No. 002 after completing the modifications authorized by this permit, no later than fifteen (15) days after that date. Commencing operation means setting into operation of any emissions unit for any purpose.
[Rules 62-4.070, and 62-210.200, F.A.C., (definition of Commence Operation)]

RECORDKEEPING AND REPORTING REQUIREMENTS

A.11. Compliance Test Reports - The permittee shall prepare and submit reports for all required compliance tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit.
[Rule 62-297.310(8), F.A.C.]

{Permitting Note - EU No. 002 remains subject to all valid conditions contained in the current Title V Air Operation permit.}