



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

December 7, 1989

Mr. Willard Hanks, P. E.  
Dept. of Environmental Regulation  
Bureau of Air Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Dear Mr. Hanks:

RE: NO. 5 PHOSPHORIC ACID PLANT

The enclosed application for construction permit consists primarily of using the Prayon 18-B filter and evaporator from the previously permitted No. 3 phosphoric acid plant (A053-94457) in parallel to No. 5 plant.

Facilities to pump reacted slurry to said 18-B filter, and return the filtrate to No. 5 phosphoric acid plant will be new; the scrubbing systems in both plants will remain unchanged, as permitted.

The above modification will increase the  $P_2O_5$  input to No. 5 phosphoric acid plant reactors from the presently permitted 67.5 TPH to maximum peaks of 92 TPH.


Increased fluoride emissions, permitted as well as actual, will not be significant, i.e. well below 3 tons per year.

Please call me at (813) 534-9796 if you require any additional information.

Sincerely,

  
M. J. Martinasek  
Sr. Environmental Engineer

db

Enclosure - ~~Check for \$1,500.00~~ None 

cc: Al Castle  
K. V. Ford  
W. C. Thomas (DER Tampa)  
A. F. Vondrasek

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION  
DIVISION OF AIR RESOURCES MANAGEMENT

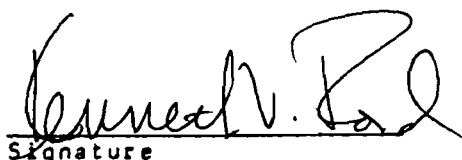
APPLICATION FOR AIR CONSTRUCTION PERMIT

See Specific Instructions for Form 17-220.900(1)

APPLICANT CERTIFICATION

I, the undersigned, as the owner or authorized representative\* of the facility described in this application. I certify that the statements made in this application for permit are true, correct, and complete to the best of my knowledge. Further, I agree to operate and maintain the source(s) of air pollutants and air pollution control equipment described in this application so as to comply with all provisions of Chapter 403, Florida Statutes, and all applicable rules and regulations of the Department of Environmental Regulation and revisions thereof. I also understand that any permit, if granted by the Department, will be nontransferable, and I will promptly notify the Department upon sale or legal transfer of any permitted source.

\*Attach letter of authorization if not currently on file.

  
Signature

December 7, 1989  
Date (See note below)

Note: Each subsequent page of this form must also be so dated.

APPLICATION TYPE

This Application Involves (Check One):

- A single air pollutant emission source.
- A group of similar sources regulated collectively and addressed on this copy only of Form 17-220.900(1).
- A group of similar sources regulated individually and addressed on separate copies of Form 17-220.900(1).

This is copy \_\_\_\_\_ of \_\_\_\_\_.

AFFIDAVIT OF AUTHORIZATION

I, A. F. Vondrasek, Vice President and General Manager Florida Operations, hereby authorize Kenneth V. Ford, as Manager Environmental Affairs, to sign permit applications on behalf of Seminole Fertilizer Corporation for the Hookers Prairie Mine and the Bartow chemical complex.

SEMINOLE FERTILIZER CORP.

By: A. F. Vondrasek  
A. F. Vondrasek  
Vice President and General  
Manager Florida Operations

STATE OF FLORIDA  
COUNTY OF POLK

SWORN and subscribed to before me this 9<sup>th</sup> day of January, 1989.

Linda H. Cyalla  
Notary Public

My Commission Expires:

Notary Public, State of Florida at Large

My Commission Expires Sept. 20, 1993

APPLICATION PURPOSE

This Application is Submitted to (Check One):

- Obtain permit to construct new source or similar-source group.
- Obtain permit to modify existing source or similar-source group.

Current Air Operation Permit No. A053-139168

- Supplement application for air operation permit for previously unpermitted source or similar-source group.
- Supplement application for power-plant site certification.

PROJECT INFORMATION (Required for Air Construction/Modification Projects Only)

1. Description of Proposed Project (Attach Additional Information as Necessary)

Install pipelines to pump approximately 20% of the slurry from No. 5 phos acid reaction to the presently inactive 18-B filter of No. 3 phos acid plant (A053-94457; expired in 1988) and to return 22% filtrate produced to No. 5 plant. Reactivate said filter, and the existing fume control system.

2. Projected Dates of Commencement and Completion of Construction

February 15, 1990

May 31, 1990

PROFESSIONAL ENGINEER CERTIFICATION (Where Required by Chapter 471, F.S.)

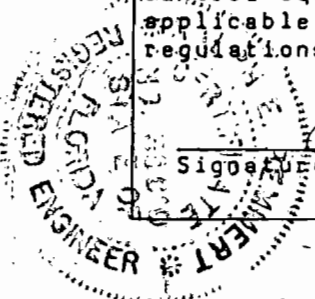
Professional Engineer Information	Name Ralph E. Remmert	Florida Registration Number 39610
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Organization/Firm Seminole Fertilizer Corporation	Telephone Number 533-2171
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I, the undersigned, certify that the engineering features of the source(s) of air pollutant emissions described in this permit application been designed or examined by me or individuals under my direct supervision and found to be in conformity with modern engineering principles applicable to the control of emissions of the air pollutants characterized in this application. There is reasonable assurance, in my professional judgement, that the source(s) of air pollutants and the air pollution control equipment, when properly operated and maintained, will comply with all applicable statutes of the State of Florida and all applicable rules and regulations of the Department of Environmental Regulation.

Signature/Seal

12-7-89  
Date



AIRQ20	Dist. <input type="checkbox"/>	Office <input type="checkbox"/>	County <input type="checkbox"/>	Facility <input type="checkbox"/>	APIS <input type="checkbox"/>
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FACILITY INFORMATION

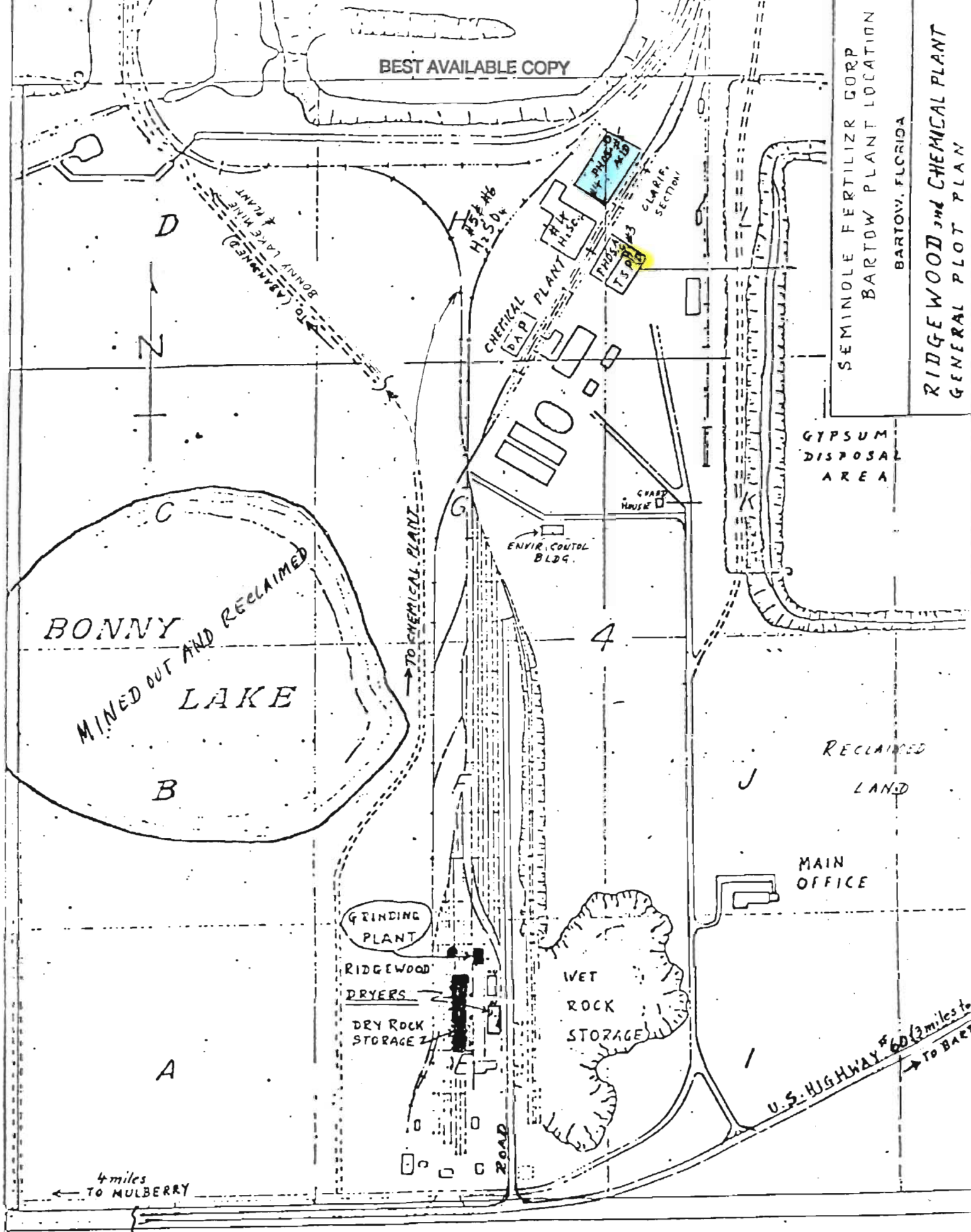
1. Facility Owner (40 Characters) Seminole Fertilizer Corporation			
2. Facility Name/Street Address or Location Description Seminole Fertilizer Corp., 3 miles west of Bartow Bartow Plant		3. Facility Loc. Zip Code FL 33830	
4. Facility City Bartow		5. Major Facility? N	
6. Facility Type Code/Description Wet-process phosphoric acid plant			
7. Facility UTM Coordinates (km)		8. Facility Latitude	
Zone 17		East 409.9	
North 3,086.8		Longitude 81° 54' 55.9" N.A.	
9. Facility Compliance Tracking Codes		10. Facility Comment (60 Characters)	
CDS Other Class B		VOC 69.5	

SUPPLEMENTAL FACILITY INFORMATION No change in presently permitted No. 5 phos acid plant except for increased through-put from 76.5 to 92 TPH P<sub>2</sub>O<sub>5</sub> input.

1. Area Map Showing Facility Location (2) [X] Attached No changes in present location of equipment in Nos. 3 & 5 phos acid plants
2. Facility Plot Plan (Including Building Dimensions) [X] Attached Unchanged, except for new 6" and 4" dia. pipes between Nos. 3 & 5 plants to carry filter feed slurry and the 22% filtrate.
3. Facility Flow Diagram [X] Attached

BEST AVAILABLE COPY

SEMINOLE FERTILIZER CORP  
BARTOW PLANT LOCATION  
BARTOW, FLORIDA  
RIDGEWOOD and CHEMICAL PLANT  
GENERAL PLOT PLAN

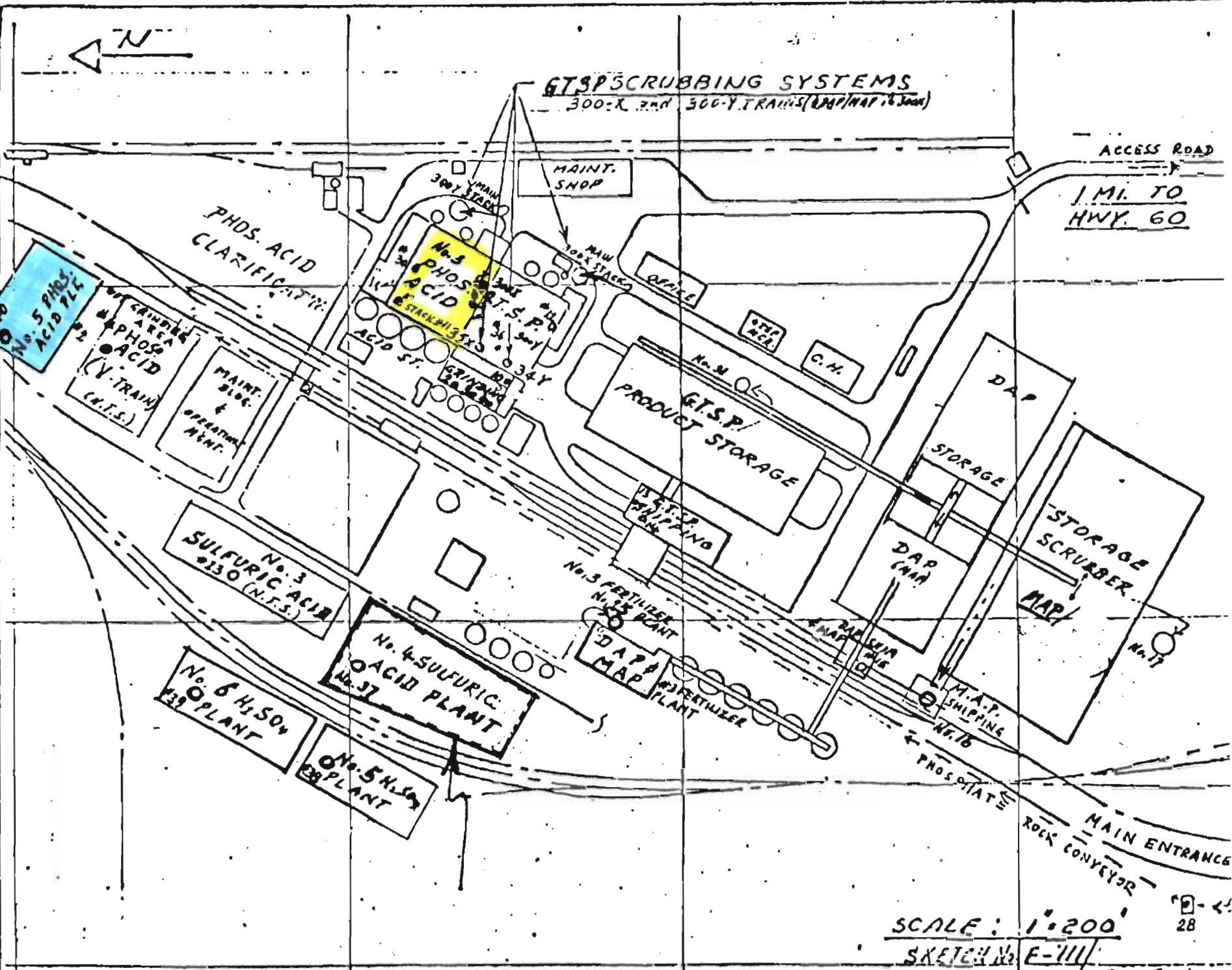


SEMINOLE FERTILIZER CORP. CHEMICAL COMPLEX

STU. NO. F-111  
REV. #3: MJM  
DATE 6-11-75

BEST AVAILABLE COPY  
PLANT PLAN, BARTOW, FLA.

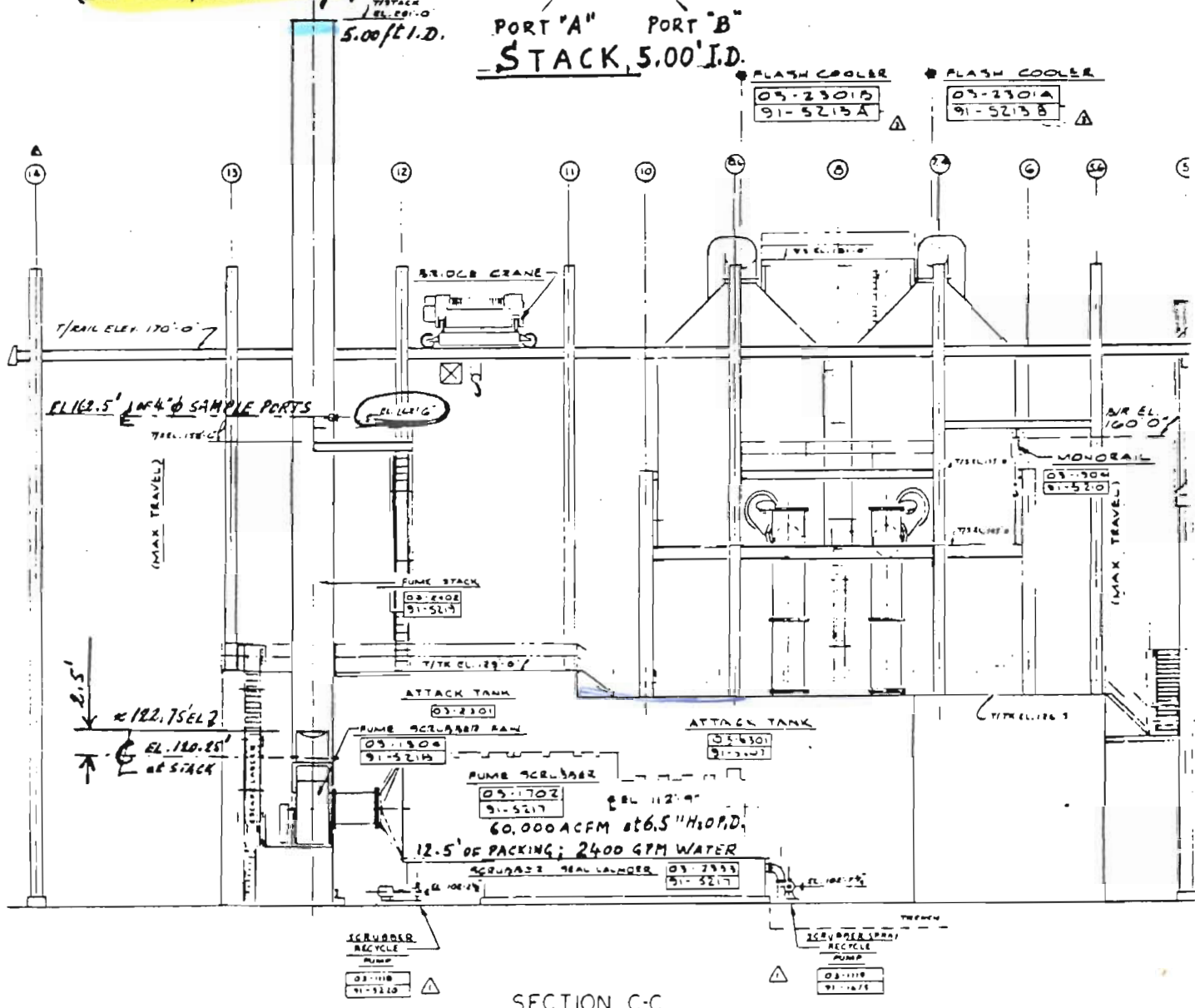
TITLE



SCALE: 1"=200'  
 SKETCH No. E-111  
 Page 3, 1.  
 28

# "U"-TRAIN No. 5 PLANT

DESIGN: 28.3 lbs. F/24 hrs. max.  
(20 lbs. F/24 hrs. average)



SECTION C-C  
DWG. 03-A-0301  
West Elevation

SEMINOLE FERTILIZER CORP.

EX-W.R. GRACE & CO. BARTOW WORKS, 8-25-25

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
1		REV. CLIENTS EQUIP			
2		REV. CLIENTS EQUIP			
3		REV. CLIENTS EQUIP			

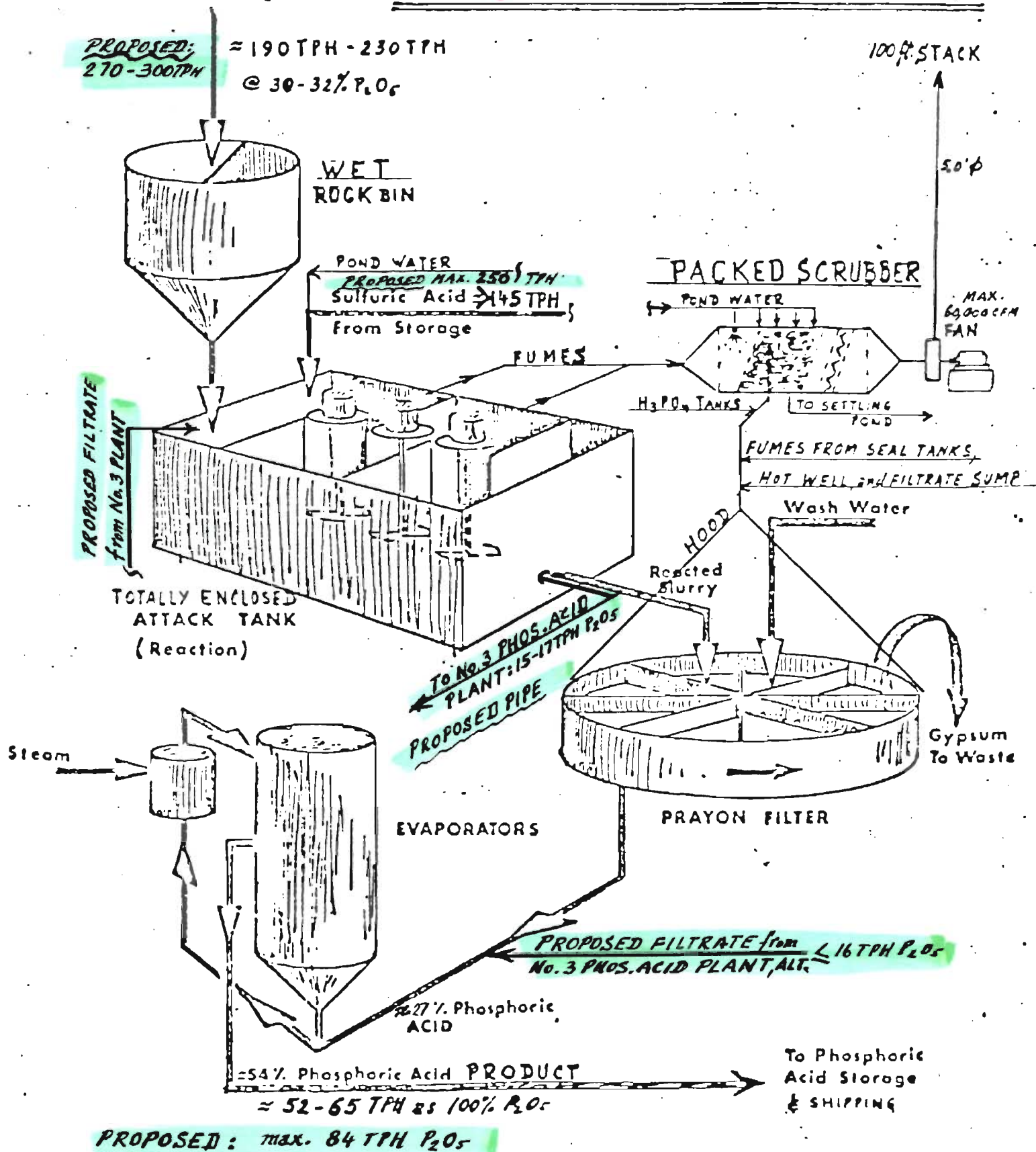


PRAYON PROCESS

BEST AVAILABLE COPY

WET-Ground Phosphate Rock  
From Grinding Plant

No. 5 PHOS. ACID PLT.



AIRC01	□□	□□□□	□□	□□□□□□		APIS	□□
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OWNER/CONTACT INFORMATION

1. Individual Owner or Authorized Representative	:	Name Kenneth V. Ford			
Organization/Firm Seminole Fertilizer Corporation, Bartow Plant					
Street Address or P. O. Box P. O. Box 471			:	City Bartow	
State Florida	:	Zip FL 33830	:	Telephone (813) 533-2171	
2. Facility Contact for Air Regulatory Matters	:	Name Mickey J. Martinasek			
Organization/Firm Seminole Fertilizer Corporation, Bartow Plant					
Street Address or P. O. Box P. O. Box 471			:	City Bartow	
State Florida	:	Zip FL 33830	:	Telephone (813) 534-9796	

DESCRIPTION OF SOURCE OR COLLECTIVELY-REGULATED SIMILAR-SOURCE GROUP

Existing phosphoric acid plants Nos. 3 & 5: Stack No. I.D. Points 34 & 11. Approximately 20% reacted slurry of phosphate rock and sulfuric acid will be pumped to the previously permitted filter at No. 3 phos. acid plant, and the fumes scrubbed by existing system.

SUPPLEMENTAL SOURCE INFORMATION

1. Flow Diagram	<input checked="" type="checkbox"/> Attached
2. Fuel Analysis	<input type="checkbox"/> Attached <input checked="" type="checkbox"/> Not Applicable
3. Control Equipment Details	Same as permitted under A053-139168 and 94457: exist. cross-flow and "Doyle" scrubbers. <input type="checkbox"/> Attached <input checked="" type="checkbox"/> Not Applicable (No Control Equipment Used)
4. Other Information Required by Rule or Statute (Check if Attached)	<input type="checkbox"/> PSD <input type="checkbox"/> NAA NSR <input type="checkbox"/> Other: _____

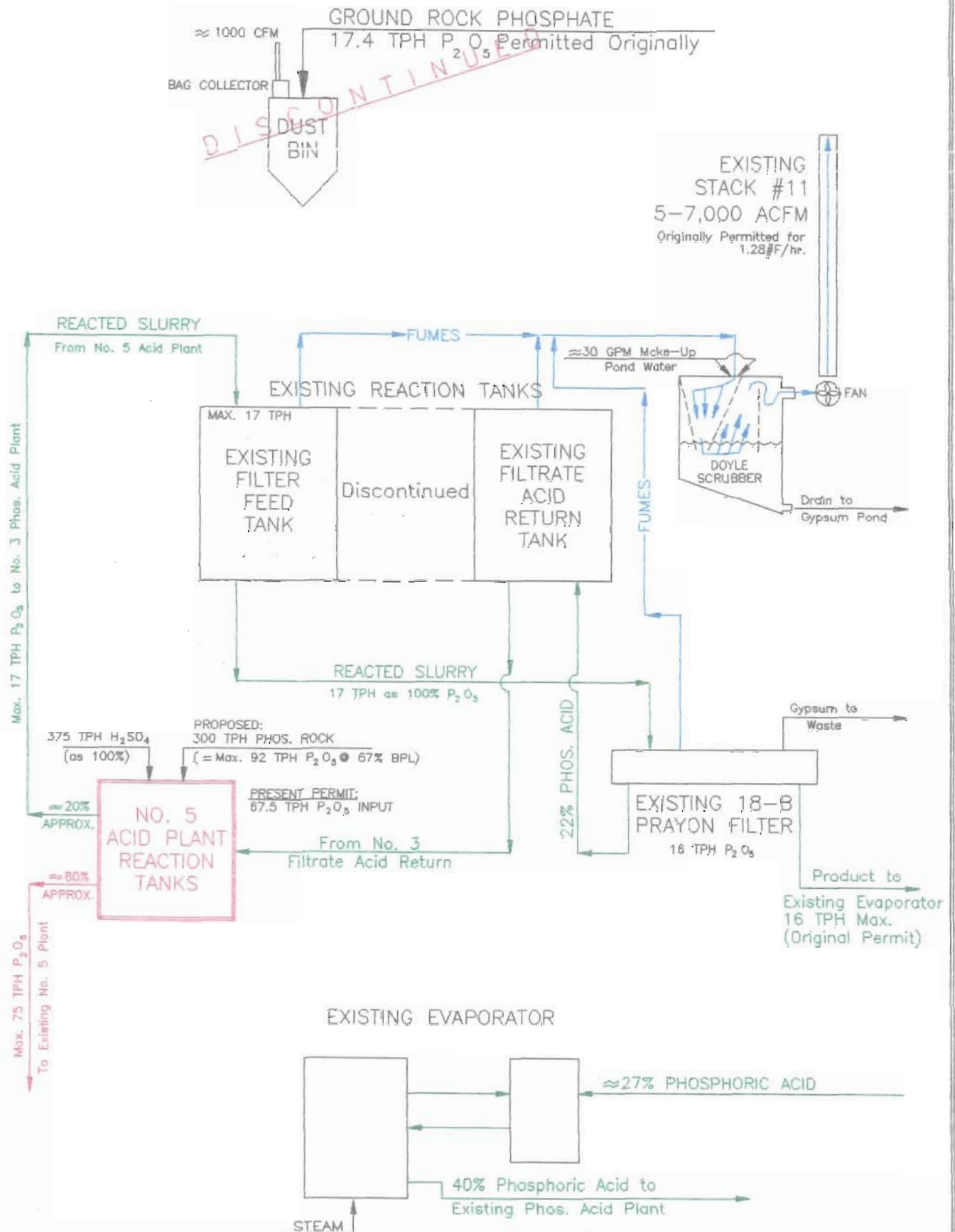
SOURCE OR SOURCE-GROUP IDENTIFIER

Source APIS ID	
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NOTES:

- A. No. 5 phosphoric acid plant is permitted to emit 1.18 lbF/hr
- B. After proposed construction, the maximum P<sub>2</sub>O<sub>5</sub> of input to said No. 5 plant will be 92 TPH P<sub>2</sub>O<sub>5</sub> input
- C. 92 TPH X 0.02 lbF/ton = 1.84 lbF/hr is therefore the requested maximum simultaneous emission from both stacks
- D. The incremental permitted increase } 1.84-1.18 = 0.66 lb/hr. x 8400 hrs/yr = 2.77 TPY F  
is not significant
- E. Actual F emissions, 1984 through 1989, ranged between 0.27 and 1.07 lb/hr. Even an assumed 50% increase, corresponding to increased input, would be far below 3 TPY.

# FLWSHEET of NO. 3 PHOSPHORIC ACID PLANT



M-29 12-6-89 grl



AIR030

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APIS

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APPLICATION PROCESSING AND SOURCE TRACKING INFORMATION

1. Construction Permit/PPS Information:

Permit Number Assigned This App.	PPS Number Assigned This App.	Fee Paid
AC -		
Date Permit Issued/Site Cert. Approved MM/DD/YY	Date Permit Expires MM/DD/YY	

2. Similar-Source APIS ID's (For Single Application Fee)

3. Description of Source or Source-Group for APIS Tracking (60 Characters)

4. Major Source? No

5. ~~Construction/Modification Date~~  
February 15 - April 15, 1990

6. Source Type Code

7. Source SIC Code  
2874

8. Source Potential Limited?

9. NSPS

10. NESHAP

11. 111(d)

12. PSD

13. NAA NSR

14. RACT

15. Source Comment (104 Characters)

AIRD32	□	□	□	□	□	□	APIS	□	□
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**SOURCE OPERATING SCHEDULE INFORMATION**

<p>1. Typical Operating Schedule : hr/dy : dy/wk</p> <p style="padding-left: 40px;">20-24 / : 7</p>	<p>2. Average Annual Operation : wk/yr : hr/yr</p> <p style="padding-left: 40px;">50 / : 8000</p>
<p>3. Typical % Hours of Operation By Season : DJF : MAM : JJA : SON</p> <p style="padding-left: 40px;">estimated at: : 22 : 28 : 22 : 28</p>	
<p>4. Maximum Operating Schedule : hr/dy : dy/wk : wk/yr : hr/yr</p> <p style="padding-left: 40px;">24 : 7 : 50 : 8400</p>	<p>5. Schedule Limited?</p>

**SOURCE OPERATING RATE INFORMATION**

<p>1. Maximum Heat Input Rate</p> <p style="padding-left: 40px;">None</p>	<p>Units</p> <p style="padding-left: 40px;">Million Btu/per Hour</p>
<p>2. Maximum Process Rate</p> <p style="padding-left: 40px;">300 TPH phosphate rock, or ✓ 92 TPH P<sub>2</sub>O<sub>5</sub> input</p>	<p>Units</p> <p style="padding-left: 40px;">tons</p>
<p>3. Maximum Production Rate</p> <p style="padding-left: 40px;">84 TPH phosphoric acid, as P<sub>2</sub>O<sub>5</sub> ✓</p>	<p>Units</p> <p style="padding-left: 40px;">tons</p>

SOURCE EMISSION POINT INFORMATION

1. Emission Point Stacks Type No. 40 & No. 11		2. Point (DER) ID on No. 34 Dia-gram No.11		3. Sources with Common Stack	
4. Stack Height (ft) 100 ft. & 90 ft.		5. Exit Diameter (ft) 60" & 22"		6. Exit Temperature (°F) 85° 85°	
7. Actual Volumetric Flow Rate (acfm) 46,000 & 5,000			8. Dry Standard Flow Rate (dscfm) N.A. (43,000 & 4,500)		
9. Non-stack Emission Point Description and Height (ft)		10. Building Description(s) & Dimensions (ft)		Height Width UNCHANGED	
11. Point UTM Coordinates - East 17-409.9		North 3,086.8		12. Good Engineering Practice Stack Height (ft)	
13. Emission Point Comment (52 Characters)					

SOURCE CONTROL EQUIPMENT INFORMATION

1a. Description of Control Equipment 'a' Exist. packed horizontal cross flow scrubber at No. 5 phos. acid plant ✓
1b. Description of Control Equipment 'b' Exist. "Doyle" scrubber-demister at No. 3 phos acid plant ✓

SOURCE PROCESS INFORMATION

1a. Component Process or Fuel Type Employed 'a' Phosphate Rock - 300 TPH Sulfuric Acid - 275 TPH		2a. Source Classification Code	
3a. Rate Units TPH of input P <sub>2</sub> O <sub>5</sub>	4a. Max Rate/Hour 92	5a. Rate Limit/Hour	
	6a. Est. Rate/Year 750,000	7a. Rate Limit/Year	
8a. Max % Sulfur N.A.	9a. Max % Ash N.A.	10a. 10 <sup>6</sup> Btu/Unit N.A.	11a. % Sulfur Limit
12a. SCC Comment for Above Process/Fuel (52 Characters)			

1b. Component Process or Fuel Type Employed 'b'		2b. Source Classification Code	
3b. Rate Units	4b. Max Rate/Hour	5b. Rate Limit/Hour	
	6b. Est. Rate/Year	7b. Rate Limit/Year	
8b. Max % Sulfur	9b. Max % Ash	10b. 10 <sup>6</sup> Btu/Unit	11b. % Sulfur Limit
12b. SCC Comment for Above Process/Fuel (52 Characters)			



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## SOURCE PROCESS INFORMATION (Continued) None

1c. Component Process or Fuel Type Employed 'c'		2c. Source Classification Code	
3c. Rate Units	4c. Max Rate/Hour	5c. Rate Limit/Hour	
	6c. Est. Rate/Year	7c. Rate Limit/Year	
8c. Max % Sulfur	9c. Max % Ash	10c. 10 <sup>6</sup> Btu/Unit	11c. % Sulfur Limit
12c. SCC Comment for Above Process/Fuel (52 Characters)			

1d. Component Process or Fuel Type Employed 'd'		2d. Source Classification Code	
3d. Rate Units	4d. Max Rate/Hour	5d. Rate Limit/Hour	
	6d. Est. Rate/Year	7d. Rate Limit/Year	
8d. Max % Sulfur	9d. Max % Ash	10d. 10 <sup>6</sup> Btu/Unit	11d. % Sulfur Limit
12c. SCC Comment for Above Process/Fuel (52 Characters)			

AIRJ40							APIS	
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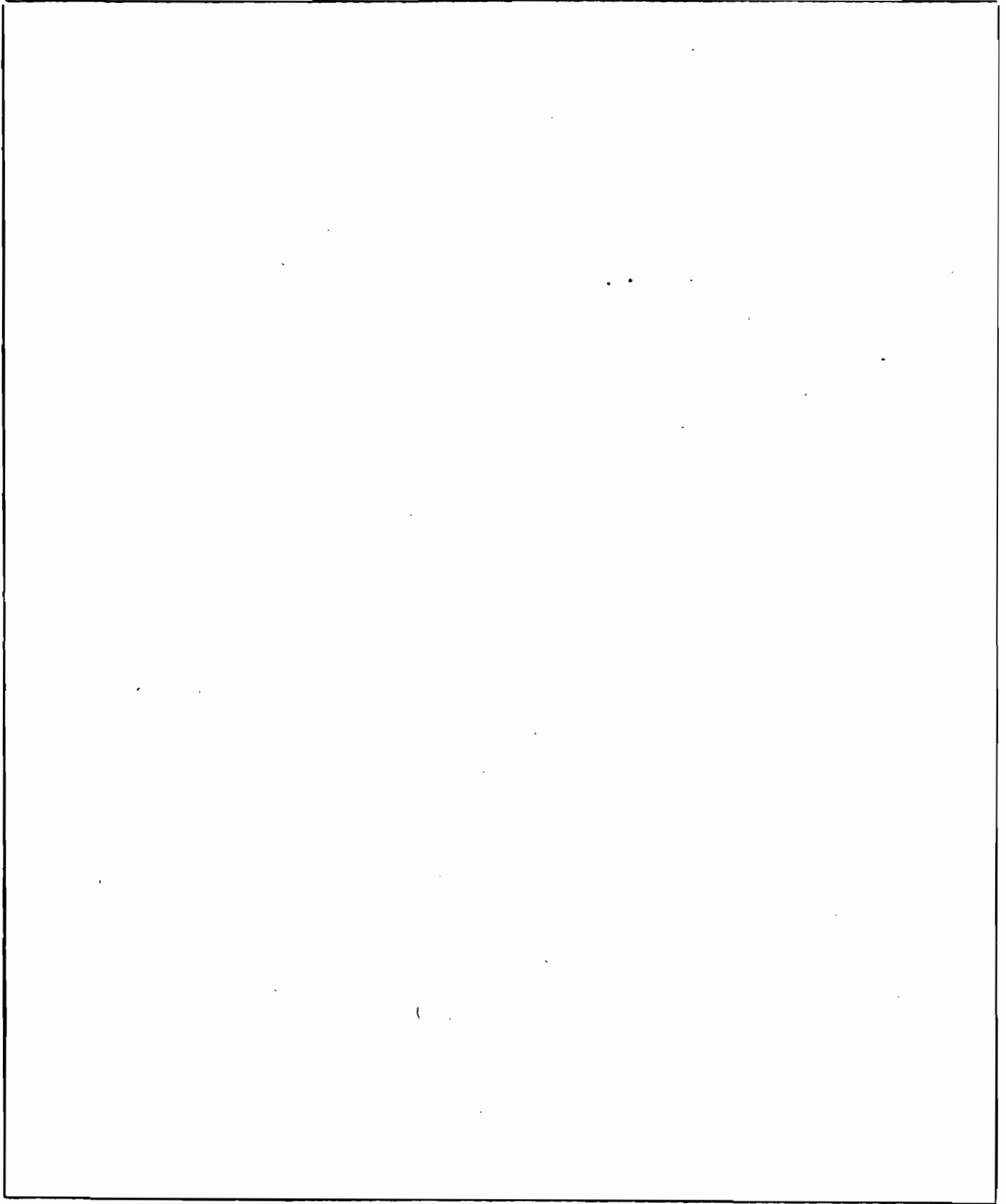
POLLUTANT EMISSIONS INFORMATION (SHEET \_ OF \_)

1. Pollutant Emitted ID FL	2. Total % Efficiency of Control 93%
3. Primary Control Device Code 002	4. Secondary Control Device Code None
5. Emission Factor = 7% (93% removal of fluorides)	6. Emission Factor Reference Code 1
7. Potential Emission (scrubber inlet) (lb/hr) 8	(ton/yr) 33.5
8. Estimated Emission (ton/yr) 2.5	9. Emission Calculation 3 yr. (1986-88) average Method 0.6 #F/hr x 8.400 hrs/yr = 2.5 TPY Code

POLLUTANT EMISSIONS LIMITATION INFORMATION

1. Allowable Emissions (lb/hr, ton/yr)	2. Allowable Emission in Units Other Than lb/hr
3. Regulation Code	4. CEM Required?
5. Pollutant Comment (60 Characters)	

BASIS OF POLLUTANT INFORMATION ON REVERSE



AIRQ38	□	□	□	□	□	□	□	APIS	□	□
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**SOURCE PSD BASELINE INFORMATION**

<b>1. PSD Baseline Dates (MM/DD/YY)</b>			
SO <sub>2</sub>	PM		NO <sub>2</sub>
<b>2. PSD Baseline Emissions</b>			
SO <sub>2</sub>	(lb/hr)		(ton/yr)
PM	(lb/hr)		(ton/yr)
NO <sub>x</sub>	N/A		(ton/yr)
<b>3. PSD Comment</b>			

AIRO42

□□

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APIS

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SOURCE VISIBLE EMISSIONS INFORMATION

1a. Visible Emissions Subtype 'a'		
2a. Allowable Opacity	Normal Conditions	Exceptional Conditions
	%	% min/hr
3a. Regulation Code	4a. CEM Required?	

1b. Visible Emissions Subtype 'b'		
2b. Allowable Opacity	Normal Conditions	Exceptional Conditions
	%	% min/hr
3b. Regulation Code	4b. CEM Required?	

1c. Visible Emissions Subtype 'c'		
2c. Allowable Opacity	Normal Conditions	Exceptional Conditions
	%	% min/hr
3c. Regulation Code	4c. CEM Required	

AIR260	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	APIS	<input type="checkbox"/>
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**BOILER INFORMATION**    Not Applicable

1. Boiler Manufacturer
2. Boiler Model Number
3. Boiler Type
4. Maximum Steam Production Rate (lb/hr) and/or Horsepower:
5. Generator Nameplate Rating (gross MW)
6. Boiler Comment (104 Characters)

AIRD61	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	APIS	<input type="checkbox"/>	<input type="checkbox"/>
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INCINERATOR/RESOURCE RECOVERY INFORMATION    Not Applicable

1. Incinerator Manufacturer				
2. Incinerator Type				
3. Incinerator Maximum Capacity	lb/hr	ton/day		
4. Dwell Time/Temperature	sec. @	5. Afterburner Temperature		
	°F	°F		
6. Type(s) of Waste Incinerated (Check All That Apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> 0 - Trash  <input type="checkbox"/> 1 - Rubbish  <input type="checkbox"/> 2 - Refuse  <input type="checkbox"/> 3 - Garbage  <input type="checkbox"/> 4 - Biological (Including Biohazardous)         </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> 5 - Nonsolid By-products  <input type="checkbox"/> 6 - Solid By-products  <input type="checkbox"/> 7 - Municipal Solid Waste  <input type="checkbox"/> 8 - Hazardous Waste  <input type="checkbox"/> Other: _____         </td> </tr> </table>			<input type="checkbox"/> 0 - Trash <input type="checkbox"/> 1 - Rubbish <input type="checkbox"/> 2 - Refuse <input type="checkbox"/> 3 - Garbage <input type="checkbox"/> 4 - Biological (Including Biohazardous)	<input type="checkbox"/> 5 - Nonsolid By-products <input type="checkbox"/> 6 - Solid By-products <input type="checkbox"/> 7 - Municipal Solid Waste <input type="checkbox"/> 8 - Hazardous Waste <input type="checkbox"/> Other: _____
<input type="checkbox"/> 0 - Trash <input type="checkbox"/> 1 - Rubbish <input type="checkbox"/> 2 - Refuse <input type="checkbox"/> 3 - Garbage <input type="checkbox"/> 4 - Biological (Including Biohazardous)	<input type="checkbox"/> 5 - Nonsolid By-products <input type="checkbox"/> 6 - Solid By-products <input type="checkbox"/> 7 - Municipal Solid Waste <input type="checkbox"/> 8 - Hazardous Waste <input type="checkbox"/> Other: _____			
7. Generator Nameplate Rating (gross MW)				
8. Incinerator Comment (104 Characters)				

BULK PLANT/TERMINAL PETROLEUM STORAGE TANK INFORMATION (PAGE \_\_ OF \_\_ )

1. Petroleum Storage Tank ID None	2. Storage Tank Type of Control
3. Storage Tank Product	4. Storage Tank Size Category (bbl) [ ] ' [ ] ' [ ] 10,500 ' 67,000 ' 250,000
5. Storage Tank Capacity (10 <sup>3</sup> gal)	6. Storage Tank Est. Annual Throughput (10 <sup>3</sup> gal)
7. Storage Tank Comment (60 Characters)	

1. Petroleum Storage Tank ID	2. Storage Tank Type of Control
3. Storage Tank Product	4. Storage Tank Size Category (bbl) [ ] ' [ ] ' [ ] 10,500 ' 67,000 ' 250,000
5. Storage Tank Capacity (10 <sup>3</sup> gal)	6. Storage Tank Est. Annual Throughput (10 <sup>3</sup> gal)
7. Storage Tank Comment (60 Characters)	



J.P.  
877-0099

Seminole Fertil. Corp APIS

40TPA 530046

Plus Acid No 3 A053-94457

Plus Acid No. 5 A053-139168 Ser # 24

also called "U-Train"

7840 lbs/yr

Impressos wet 343 lbs p

55 TMM

100' S' Ø 100' F 59,000 acfm 50 #/ac

plumbe F

0.71 #/hr

3.0 TBY

act. 1.7 TBY

allowable 0.71 lb/hr

← why different than apply?

NO PM EMISSION DATA IN FILE