P.O. Drawer L.
Plant City, Florida 33564-9007
Telephone: 813/782-1591

CF Industries, Inc.
Plant City Phosphate Complex

September 25, 1990

Mr. Barry Andrews
State of Florida
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

SUBJECT: Modification to Construction Permit - AC29-167204 - Sulfur Storage and Handling

Dear Mr. Andrews:

Per your telephone conversation with Jim Martin on September 21, 1990, enclosed are four copies of an application to modify the Construction Permit AC29-167204 and a check for $200.00 to cover the application fee. A copy of the application and the required fee has also been sent to the Hillsborough County Environmental Protection Commission.

It is requested that the expiration date of the permit be extended by 90 days, or until April 30, 1991, to allow sufficient time for the modification to the permit and submittal of the application for an operation permit.

The required Visible Emissions evaluation as required by AC29-167204 has been performed and is attached. It is requested that another VE not be required since the instantaneous unloading rate will not change, and therefore the VE will not change.

This modification is requested because applications for sulfuric acid produciton increases of 10% have been submitte.d

If you have any questions please call Jim Martin at 813/782-1591.

Sincerely,

J. E. Parsons

J.E. Parsons
General Manager

JEP/CJM/lh
Attachments
\ENVRPT\167204.doc
Copies to: P.R. Roberts/T.A. Edwards
Daryl Graziani, HCEPC (with check)
C.J. Martin/Environmental File
B. Thomas, SWDist. 10-3-90 RAL
Cindy Phillips/Mirza Bais

PLANT CITY PHOSPHATE COMPLEX
CF Industries, Inc.

P.O. Drawer L, Plant City, Florida 33564

VENDOR INVOICE DATE	VENDOR INVOICE NUMBER	VOUCHER NUMBER	INVOICE GROSS AMOUNT	CASH DISCOUNT	INVOICE NET AMOUNT
09-24-90	APPFEE	91227	200.00		200.00
09-24-90	M9712	106452	200.00		200.00
CHECK DATE	CHECK NUMBER	VENDOR NUMBER	CHECK GROSS AMOUNT	CASH DISCOUNT	CHECK NET AMOUNT

RECEIVED
OCT 1 1990
DER - BAQM

RECEIVED
DER - MAIL ROOM
1990 OCT -1 AM 8:50

PLANT CITY PHOSPHATE COMPLEX

70-1558/719

CF Industries, Inc.

P.O. Drawer L
Plant City, Florida 33564

M 009712

PAY TO THE ORDER OF

FLORIDA DEPT OF ENVIRONMENTAL
REGULATION
2600 BLAIR STONE ROAD
TALLAHASSEE, FL 32399-2400

OPERATING ACCOUNT

DATE	AMOUNT
09-24-90	$*****200.00*****

James E. Parsons
AUTHORIZED SIGNATURE

AUTHORIZED SIGNATURE

HARRIS BANK ROSELLE
ROSELLE, ILLINOIS

[redacted]

AC 29-187327
Rec # 151179
#200.00

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTHWEST DISTRICT
7601 HIGHWAY 301 NORTH
TAMPA, FLORIDA 33610

RECEIVED
OCT 1 1990
DER - BAQM

BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY
WILLIAM K. HENNESSEY
DISTRICT MANAGER

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Sulfur Storage Vents [ ] New[1] [x] Existing[1]

APPLICATION TYPE: [xx] Construction [ ] Operation [xx] Modification

COMPANY NAME: CF Industries, Inc., Plant City Phosphate Complex COUNTY: Hillsborough

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) 3 Sulfur Storage Vents

SOURCE LOCATION: Street 10609 Highway 39 North City Plant City

UTM: East 17-388.3 North 3115.7

Latitude 28 ° 09 ' 52 "N Longitude 82 ° 08 ' 30 "W

APPLICANT NAME AND TITLE: J.E. Parsons, General Manager

APPLICANT ADDRESS: P.O. Drawer L, Plant City, Florida 33564

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of CF Industries, Inc., Plant City Phosphate Complex Modifications to Construction Permit

I certify that the statements made in this application for a permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: J. E. Parsons

J.E. Parsons, General Manager
Name and Title (Please Type)

Date: 9/26/90 Telephone No. (813)782-1591

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

[1] See Florida Administrative Code Rule 17-2.100(57) and (104)

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed _____

C. Fred Deuel

Name (Please Type)

C. Fred Deuel & Associates

Company Name (Please Type)

5151 Gall Boulevard, Zephyrhills, FL 33541

Mailing Address (Please Type)

Florida Registration No. 3896 Date: 9/24/90 Telephone No. 822-4157

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

This modification is to increase the daily average allowable throughput from 2255 tons to 2484 tons of sulfur as a result of increasing sulfuric acid produciton from 6900 TPD to 7600 TPD. The system will be in full compliance and VE's will not increase.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction N/A Completion of Construction N/A

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

No alterations will need to be made to the existing system. See attached sketch for an alteration made during the existing construction permit period.

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Existing Construction Permit No. AC29-167204

Issued 1/17/90

Expires 1/31/91

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ;

if power plant, hrs/yr_____; if seasonal, describe:_____

F. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant?	No
a. If yes, has "offset" been applied?	-
b. If yes, has "Lowest Achievable Emission Rate" been applied?	-
c. If yes, list non-attainment pollutants.	-
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.	No
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirement apply to this source? If yes, see Sections VI and VII.	No
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?	No
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source?	No
H. Do "Reasonably Available Control Technology" (RACT) requirements apply to this source?	No*

a. If yes, for what pollutants?_____

b. If yes, in addition to the information required in this form, any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

*This source is in the area of influence of the particulate non-attainment area in Hillsborough County. The source was exempted from RACT by modeling.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - ~~lbs/hr~~	Relate to Flow Diagram
	Type	% Wt		
Sulfur	Particulate		104 Tons/Hour	

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): N/A

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
See attached letter of September 14, 1990 showing emissions expected referenced to Specific Condition 8 of AC29-167204							

[1]See Section V, Item 2.

[2]Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

[3]Calculated from operating rate and applicable standard.

[4]Emission, if source operated without control (See Section V, Item 3).

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
NONE				

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
NONE			

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average N/A Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

No liquid wastes are generated. Sulfur from spills and cleanup is disposed of in the chemical dump site on the gypsum stack.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: _____ ft. Stack Diameter: _____ ft.

Gas Flow Rate: _____ ACFM _____ DSCFM Gas Exit Temperature: _____ °F.

Water Vapor Content: _____ % Velocity: _____ FPS

SEE ATTACHED DESCRIPTION

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq.& Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated		N/A					
Uncontrolled (lbs/hr)							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diamter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner

[ ] Other (specify) _____

Brief description of operating characteristics of control devices: _____

_____

_____

_____

_____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

_____

_____

_____

_____

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]

2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.

3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).

4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)

5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).

6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).

8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

[ ] Yes [ ] No N/A

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

[ ] Yes [ ] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (if any).

1. Control Device/System:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height: ft.

b. Diameter: ft.

c. Flow Rate: ACFM

d. Temperature: °F.

e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

[1]Explain method of determining efficiency.
[2]Energy to be reported in units of electrical power - KWH design rate.

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency:[1]

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:[2]

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

[1]Explain method of determining efficiency.
[2]Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

b. (1) Company:

(2) Mailing Address:

(3) City: (4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

10. Reason for selection and description of systems:

[1]Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data N/A

1. _____no. sites _____ TSP _____( ) SO^{2}* _____ Wind spd/dir

Period of Monitoring ____/____/____ to ____/____/____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

a. Was instrumentation EPA referenced or its equivalent? [ ] Yes [ ] No

b. Was instrumentation calibrated in accordance with Department procedures?

[ ] Yes [ ] No [ ] Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from ____/____/____ to ____/____/____
month day year month day year

2. Surface data obtained from (location)_____

3. Upper air (mixing height) data obtained from (location)_____

4. Stability wind rose (STAR) data obtained from (location)_____

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate	
TSP	_____	grams/sec
SO^2	_____	grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

DEVIATION FROM CONSTRUCTION PERMIT FOR SULFUR PIT UNLOADING CHUTES AND STACKS

A Cuppus Engineering #3 JectAir air eductor was installed on both A & B sulfur pit stacks for the purpose of minimizing truck driver exposure to fumes while unloading molten sulfur. It operates by inducing a draft which pulls fumes into the unloading chute and up the stack. The JectAir operates on 20psig of compressed instrument air. It consumes 20 SCFM of air and produces an air flow of approximately 100 ACFM. DSCFM should be approximately the same as previously stated.

The overall volume of fumes has been reduced by limiting the use of steam heating of the unloading chute. Steam heating will be used only to melt sulfur in the chute when build up threatens to plug the unloading chute.

$100\ ACFM \Rightarrow 1.66\ ACFS$

$m^3 T^{-1}$ $m^2 m T^{-1}$

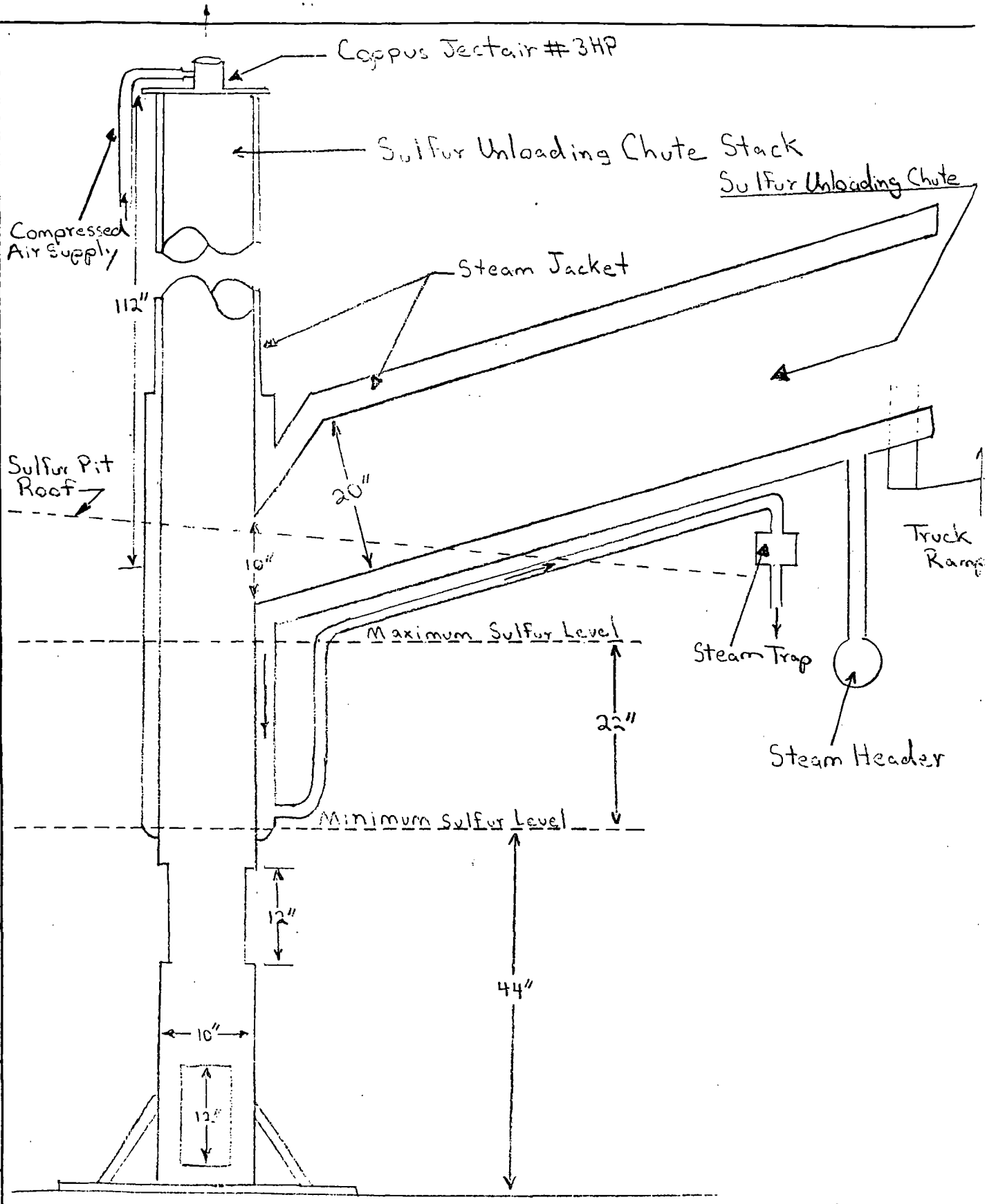
$Q = A v$

$Q = \pi r^2 v$ $5.8\ m^3 s^{-1}$

~~$62.4\ m^3 s^{-1}$~~

$.0145\ s^{-1}$

24.71
15.20



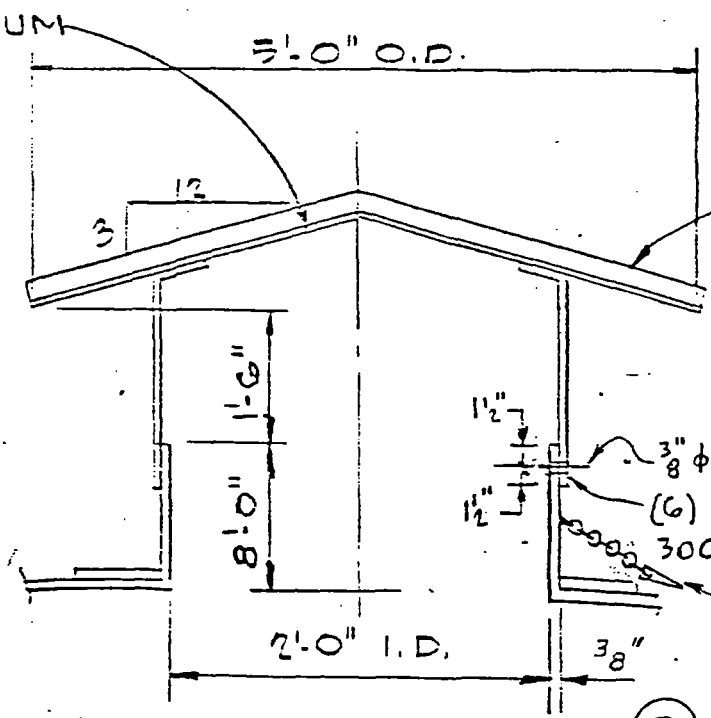
DESCRIPTION	BY	DATE	REV.

DRAWN BY: R.C.
DATE: 9/7/90
SCALE: ~
REVISION:

TITLE: Sulfur Pit Unloading Chute & Stack

CF Industries, Inc.
Plant City Phosphate Complex
P. O. Drawer L
PLANT CITY, FLORIDA 33566

Page ____ of ____



(6) 1½" x ¼" STIFFS
3003-H14 ALUMINUM
OR EQUAL

1½"
1½"
3/8" ϕ HOLE
(2)
(6) 1½" x ¼" BENT BARS
3003-H14 ALUMINUM OR EQ.

PROVIDE 6- 3/8" ϕ TAPER PINS. ATTACH TO CHAIN. WELD CHAIN TO NOZZLE NECK. CHAIN & PINS CARBON STEEL.

VENT OUTLET (C)
SULPHUR TANK

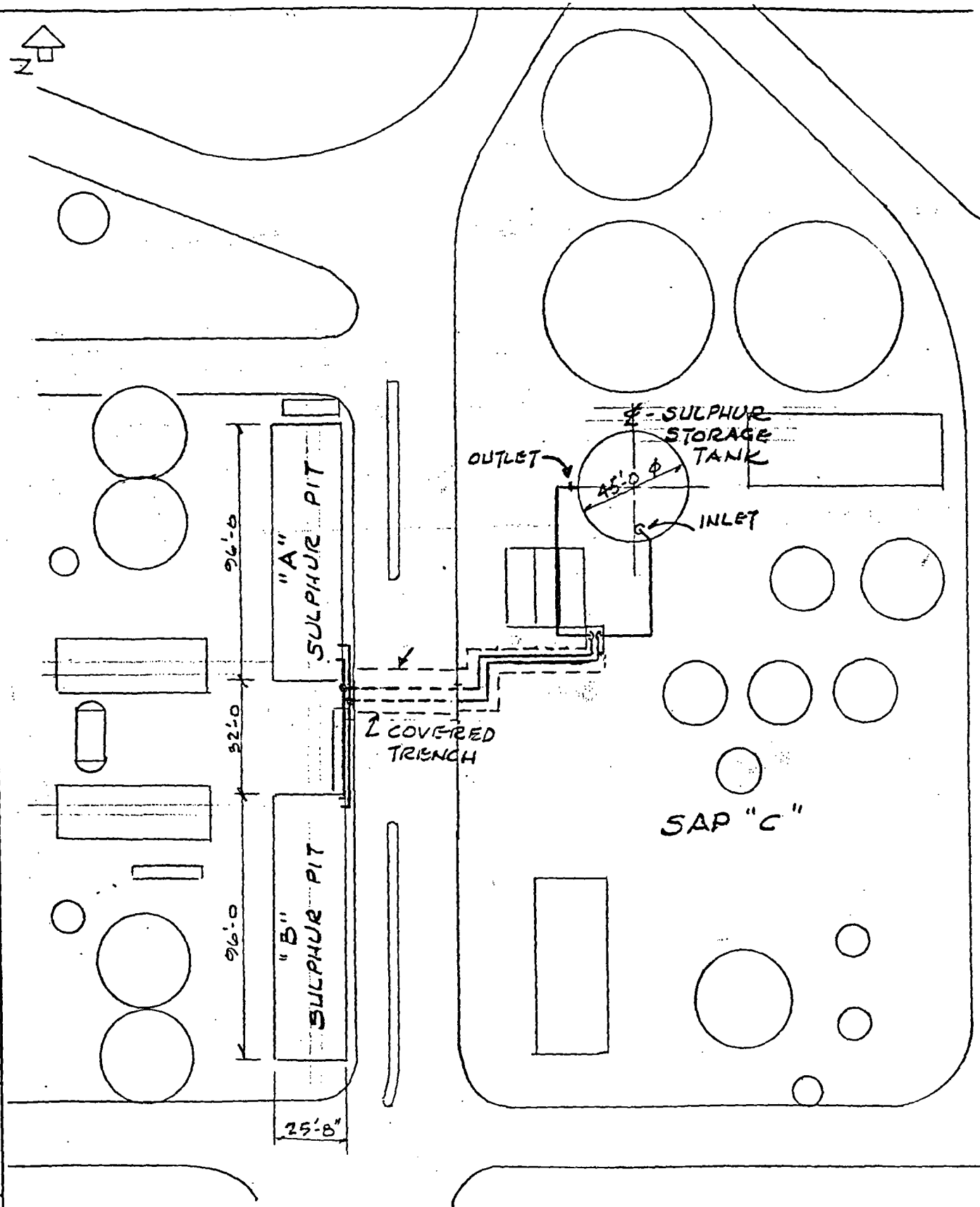
REV.	DESCRIPTION	BY	DATE

DRAWN BY: T.M.M
DATE: 6-22-89
SCALE:
REVISION:

TITLE:
SULPHUR STORAGE TANK
VENT DETAIL

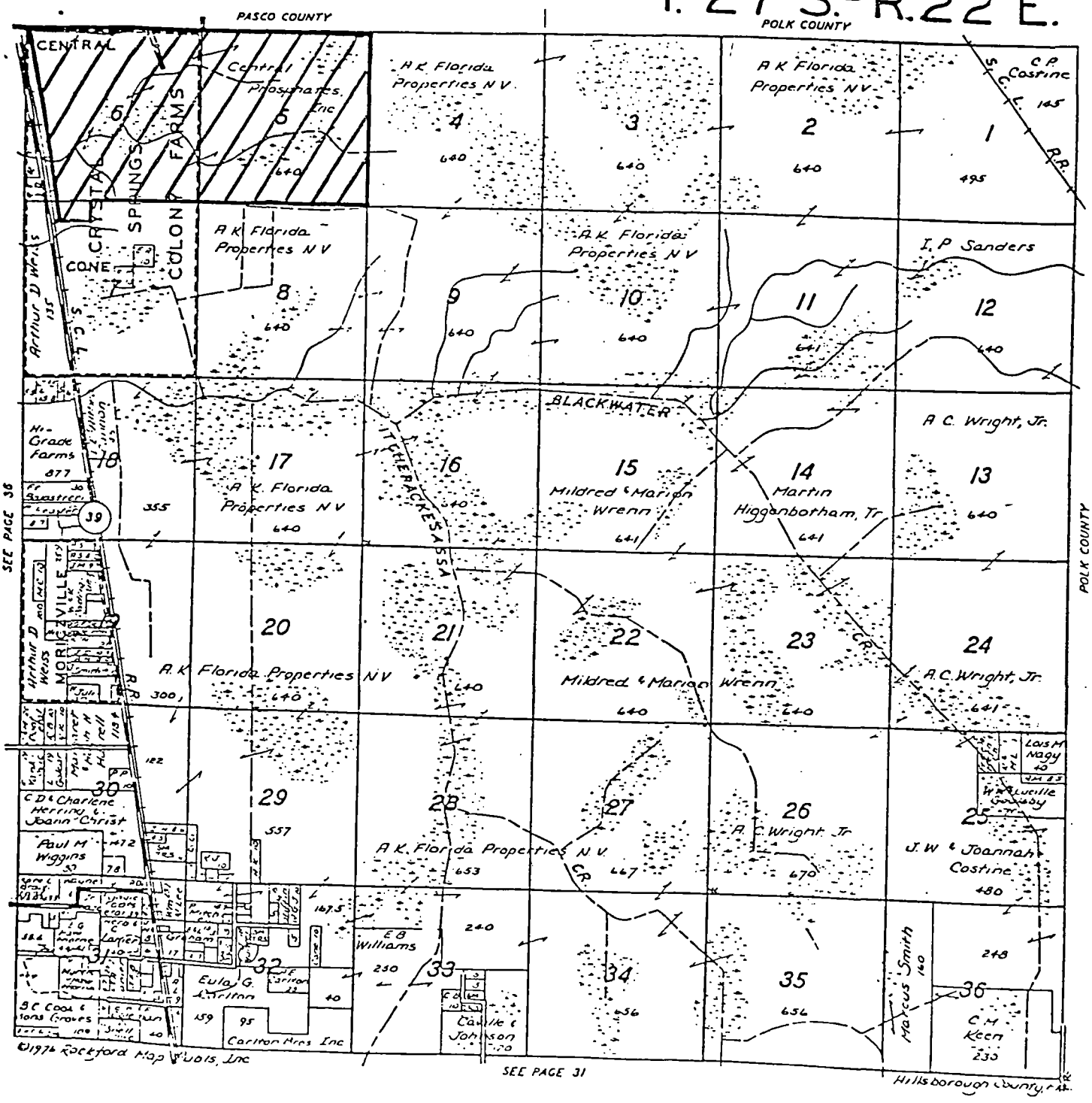
CF Industries, Inc.
Plant City Phosphate Complex
P. O. Drawer L
PLANT CITY, FLORIDA 33566

Page ____ of ____



DESCRIPTION

DRAWN BY: T.M.M.	TITLE: SULPHUR PIPING PIT TO STORAGE PLAN	CF Industries, Inc. Plant City Phosphate Complex P. O. Drawer L PLANT CITY, FLORIDA 33566
DATE: 6-22-89		
SCALE:		Page ___ of ___
REVISION:		



CENTRAL PHOSPHATES, INC.
SITE LOCATION MAP

VISIBLE EMISSION OBSERVATION FORM

No.

COMPANY NAME: C.F. Industries, Inc. Plant City Complex

STREET ADDRESS: 10609 Highway 39

10 miles north of Plant City

CITY: Plant City | STATE: FL | ZIP: 33564

PHONE (KEY CONTACT): (813) 223-7093 | SOURCE ID NUMBER: 'A' Loading Chute

PROCESS EQUIPMENT: sulfur pit; truck sulfur unloading | OPERATING MODE: Normal

CONTROL EQUIPMENT: air flow | OPERATING MODE: Normal

DESCRIBE EMISSION POINT: circular opening approx. 2 feet in diameter

HEIGHT ABOVE GROUND LEVEL: 2' | HEIGHT RELATIVE TO OBSERVER: Start 2' End 2'

DISTANCE FROM OBSERVER: Start 35' End 35' | DIRECTION FROM OBSERVER: Start NE End NE

DESCRIBE EMISSIONS: Start sulfur vapors End sulfur vapors

EMISSION COLOR: Start yellow/white End white | IF WATER DROPLET PLUME: Attached ☐ Detached ☐

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED: Start 1 Ft From opening End 1 Ft From opening

DESCRIBE PLUME BACKGROUND: Start piping and supports End piping and supports

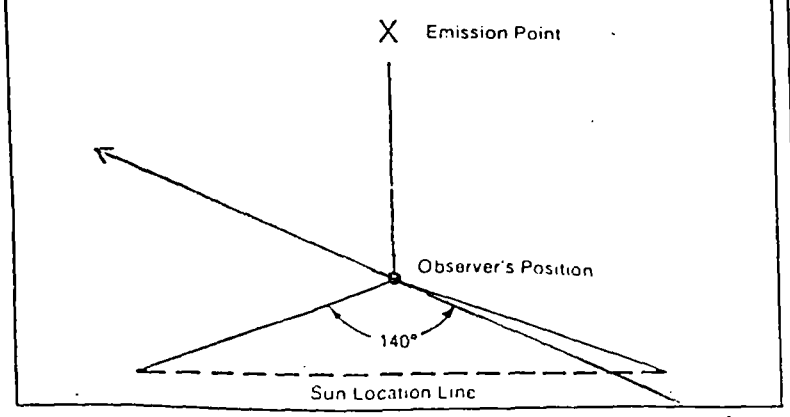
BACKGROUND COLOR: Start gray End gray | SKY CONDITIONS: Start mostly cloudy End mostly cloudy

WIND SPEED: Start 6-8 mph End 4-8 mph | WIND DIRECTION: Start NE End NE

AMBIENT TEMP: Start 87°F End 89°F | WET BULB TEMP: | RH, percent: 55

Stack with Plume
Sun
Wind

SOURCE LAYOUT SKETCH — Draw North Arrow



ADDITIONAL INFORMATION: Plant Asst Prod Supt

OBSERVATION DATE: 9/10/90 | START TIME: 12:57 pm | END TIME: 3:22 pm

SEC / MIN	0	15	30	45	COMMENTS
1	0	0	5	5	Trailer # 225
2	0	0	5	5	
3	5	5	0	0	
4	0	0	5	0	
5	0	0	5	0	
6	*0	0	0	0	*1:19 Start
7	5	5	0	0	Trailer # 602
8	0	0	5	5	
9	5	5	0	5	
10	0	0	0	0	
11	0	0	*0	0	*1:45 pm Start
12	5	5	0	5	Trailer # 907
13	5	0	0	5	
14	5	0	5	5	
15	0	5	0	5	
16	0	5	0	*0	*2:51 pm Start
17	0	0	0	0	Trailer #
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	*3:01 pm Start
23	0	0	0	0	Trailer # 610
24	0	0	0	0	
25	0	0	5	0	
26	0	0	5	0	
27	0	0	0	0	
28	5	0	0	0	
29	0	0	*0	0	3:21 pm Start
30	0	0	0	0	Trailer #

OBSERVER'S NAME (PRINT): Lloyd G. Camp

OBSERVER'S SIGNATURE: Lloyd G. Camp | DATE: 9/10/90

ORGANIZATION: C.F. Industries, Inc. Plant City Complex

CERTIFIED BY: Eastern Technical Associates | DATE: 8/31/90

CONTINUED ON VEO FORM NUMBER:

Travel -

.014 g s^{-1}

62.4 SV

.102 SD

3.65 m SH

VISIBLE EMISSION OBSERVATION FORM

No.

COMPANY NAME: C.F. Industries, Inc. Plant City Complex

STREET ADDRESS: 10609 Highway 39

10 miles north of Plant City

CITY: Plant City | STATE: FL | ZIP: 33564

PHONE (KEY CONTACT): (813) 223-7093 | SOURCE ID NUMBER: 'A' Stack

PROCESS EQUIPMENT: sulfur pit; truck sulfur unloading | OPERATING MODE: Normal

CONTROL EQUIPMENT: air flow | OPERATING MODE: Normal

DESCRIBE EMISSION POINT: Circular stack opening approx. 4 inches in diameter

HEIGHT ABOVE GROUND LEVEL: 12' | HEIGHT RELATIVE TO OBSERVER: Start 12' End 12'

DISTANCE FROM OBSERVER: Start 35' End 35' | DIRECTION FROM OBSERVER: Start NE End NE

DESCRIBE EMISSIONS: Start sulfur vapors End sulfur vapors

EMISSION COLOR: Start yellow/white End yellow/white | IF WATER DROPLET PLUME: Attached ☐ Detached ☐

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED: Start 1ft above stack End 1ft above stack

DESCRIBE PLUME BACKGROUND: Start I-beam pipe supports End I-beam pipe supports

BACKGROUND COLOR: Start gray End gray | SKY CONDITIONS: Start mostly cloudy End mostly cloudy

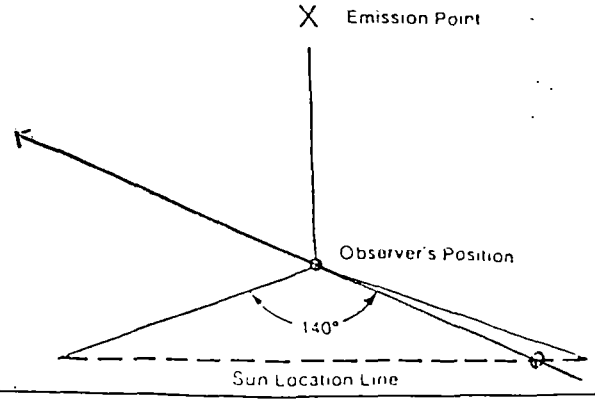
WIND SPEED: Start 6-8 mph End 4-8 mph | WIND DIRECTION: Start NE End NE

AMBIENT TEMP: Start 87°F End 89°F | WET BULB TEMP: | RH, percent: 55

Stack with Plume
Sun
Wind

SOURCE LAYOUT SKETCH

Draw North Arrow



ADDITIONAL INFORMATION: Environmental Coord Supt

OBSERVATION DATE: 9/10/90 | START TIME: 12:57pm | END TIME: 3:22pm

SEC / MIN	0	15	30	45	COMMENTS
1	0	0	0	0	Trailer # 225
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	* 1:19pm Start
7	0	0	0	0	Trailer # 602
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9	0	0	0	0	
10	0	0	0	0	
11	0	0	*0	0	* 1:45pm Start
12	0	0	0	0	Trailer # 407
13	0	0	0	0	
14	0	0	0	0	
15	0	0	0	0	
16	0	0	0	*0	* 2:51pm Start
17	0	0	0	0	Trailer # 214
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	* 3:01pm Start
23	0	0	0	0	Trailer # 610
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	* 3:21pm Start
30	0	0	0	0	Trailer # 418

OBSERVER'S NAME (PRINT): Lloyd G. Camp

OBSERVER'S SIGNATURE: Lloyd G. Camp | DATE: 9/10/90

ORGANIZATION: C.F. Industries, Inc. Plant City Complex

CERTIFIED BY: Eastern Technical Associates | DATE: 8/31/90

CONTINUED ON VEO FORM NUMBER

VISIBLE EMISSION OBSERVATION FORM

No.

COMPANY NAME: C.F. Industries, Inc Plant City Complex

STREET ADDRESS: 10609 Highway 39

10 miles north of Plant City

CITY: Plant City | STATE: FL | ZIP: 33564

PHONE (KEY CONTACT): (813) 223-7093 | SOURCE ID NUMBER: 'B' Loading Chute

PROCESS EQUIPMENT: sulfur pit; truck sulfur unloading | OPERATING MODE: Normal

CONTROL EQUIPMENT: air flow | OPERATING MODE: Normal

DESCRIBE EMISSION POINT: circular opening approx. 2 feet in diameter

HEIGHT ABOVE GROUND LEVEL: 2' | HEIGHT RELATIVE TO OBSERVER: Start 2' End 2'

DISTANCE FROM OBSERVER: Start 50' End 50' | DIRECTION FROM OBSERVER: Start NW End NW

DESCRIBE EMISSIONS: Start sulfur vapors End sulfur vapors

EMISSION COLOR: Start yellow/white End yellow/white | IF WATER DROPLET PLUME: Attached ☐ Detached ☐

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED: Start 1 ft from opening End 1 ft from opening

DESCRIBE PLUME BACKGROUND: Start I-beam supports End I-beam supports

BACKGROUND COLOR: Start dark gray End gray | SKY CONDITIONS: Start mostly cloudy End cloudy

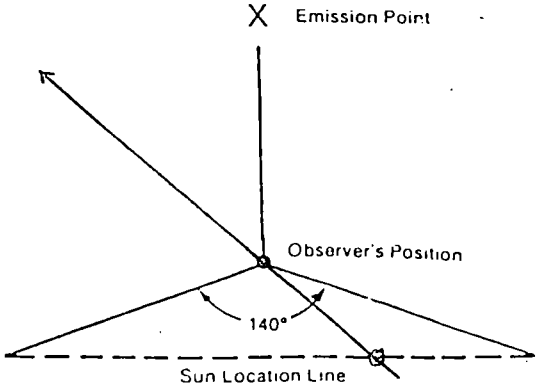
WIND SPEED: Start 6-8 mph End 6-8 mph | WIND DIRECTION: Start NE End NE

AMBIENT TEMP: Start 83°F End 86°F | WET BULB TEMP | RH, percent: 71

Stack with Plume
Sun
Wind

SOURCE LAYOUT SKETCH

Draw North Arrow



ADDITIONAL INFORMATION: C.F. Valley Prod Supt

OBSERVATION DATE: 9/10/90 | START TIME: 10:41am | END TIME: 12:05 pm

SEC / MIN	0	15	30	45	COMMENTS
1	0	0	5	0	Trailer #907
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3	5	0	5	5	
4	0	5	10	5	
5	0	5	5	*0	*10:56 Start
6	0	0	5	0	Trailer # 603
7	0	0	0	0	
8	0	0	0	5	
9	5	5	5	0	
10	0	5	0	0	
11	*0	0	0	0	11:27am Start
12	0	0	0	0	Trailer # 916
13	0	0	0	0	
14	5	0	0	0	
15	0	0	*0	0	11:34am Start
16	0	0	0	0	Trailer #612
17	0	0	0	0	
18	0	0	0	5	
19	5	5	5	5	
20	5	5	0	0	
21	5	0	*0	0	11:42 Start
22	5	0	0	0	Trailer #913
23	0	0	0	0	
24	0	0	0	0	
25	5	0	0	0	
26	5	0	0	0	
27	*0	0	0	0	12:02pm Start
28	5	0	0	0	Trailer # 214
29	5	0	5	0	
30	5	0	5	0	

OBSERVER'S NAME (PRINT): Lloyd G. Camp

OBSERVER'S SIGNATURE: Lloyd G. Camp | DATE:

ORGANIZATION: C.F. Industries, Inc. Plant City Complex

CERTIFIED BY: Eastern Technical Associates | DATE: 8/31/90

CONTINUED ON VEO FORM NUMBER:

VISIBLE EMISSION OBSERVATION FORM

No.

COMPANY NAME: C.F. Industries, Inc. Plant City Complex
STREET ADDRESS: 10609 Highway 39
10 miles north of Plant City
CITY: Plant City | STATE: FL | ZIP: 33564
PHONE (KEY CONTACT): (813) 223-7093 | SOURCE ID NUMBER: 'B' Stack

PROCESS EQUIPMENT: sulfur pit; truck sulfur unloading | OPERATING MODE: Normal
CONTROL EQUIPMENT: air flow | OPERATING MODE: Normal

DESCRIBE EMISSION POINT: Circular stack opening approx. 4 inches in diameter
HEIGHT ABOVE GROUND LEVEL: 12' | HEIGHT RELATIVE TO OBSERVER: Start 12' End 12'
DISTANCE FROM OBSERVER: Start 50' End 50' | DIRECTION FROM OBSERVER: Start NW End NW

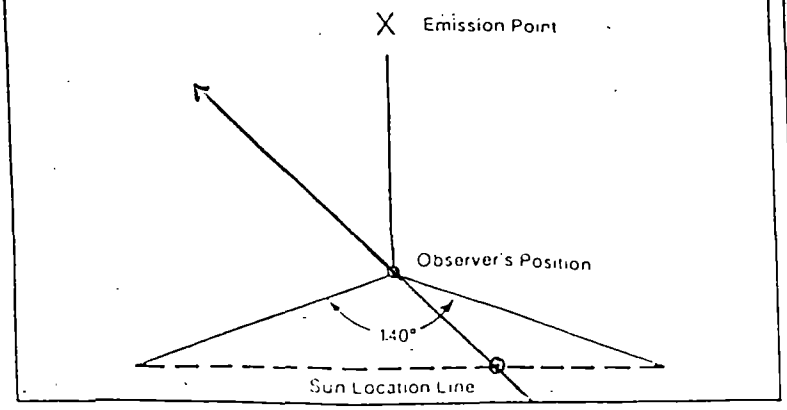
DESCRIBE EMISSIONS: Start sulfur vapors End sulfur vapors
EMISSION COLOR: Start yellow/white End white | IF WATER DROPLET PLUME: Attached ☐ Detached ☐
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED: Start 1ft above stack End 1ft above stack

DESCRIBE PLUME BACKGROUND: Start shaded tank housing End shaded tank housing
BACKGROUND COLOR: Start dark gray End gray | SKY CONDITIONS: Start mostly cloudy End mostly cloudy
WIND SPEED: Start 6-8mph End 6-8mph | WIND DIRECTION: Start NE End NE
AMBIENT TEMP: Start 80°F End 86°F | WET BULB TEMP | RH, percent: 74

SOURCE LAYOUT SKETCH

Stack with Plume
Sun
Wind

Draw North Arrow



ADDITIONAL INFORMATION: Eastern Pond Supt

OBSERVATION DATE: 9/10/90 | START TIME: 10:18am | END TIME: 11:45am

SEC / MIN	0	15	30	45	COMMENTS
1	0	0	0	0	Trailer # 2448
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3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	*5	0	*10:41 start
7	0	0	0	0	Trailer #907
8	0	0	0	0	
9	0	0	0	0	
10	0	0	5	5	
11	0	0	*0	0	*10:56 start
12	0	0	0	0	Trailer #603
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15	0	0	0	0	
16	0	0	0	*0	11:27am Start
17	0	0	0	0	Trailer # 916
18	0	0	0	0	
19	0	0	0	0	
20	0	0	0	0	
21	0	0	*0	0	11:34am Start
22	0	0	0	0	Trailer #612
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	11:42am Start
28	0	0	0	0	Trailer # 913
29	0	0	0	0	
30	0	0	0	0	

OBSERVER'S NAME (PRINT): Lloyd G. Camp
OBSERVER'S SIGNATURE: Lloyd G. Camp | DATE: 9/10/90
ORGANIZATION: C.F. Industries, Inc. Plant City Complex
CERTIFIED BY: Eastern Technical Associates | DATE: 8/31/90

CONTINUED ON VEO FORM NUMBER

VISIBLE EMISSION OBSERVATION FORM

No.

COMPANY NAME: C.F. Industries, Inc. Plant City Complex
STREET ADDRESS: 10609 Highway 39
10 miles north of Plant City
CITY: Plant City | STATE: FL | ZIP: 33564
PHONE (KEY CONTACT): (813) 223-7093 | SOURCE ID NUMBER:

PROCESS EQUIPMENT: sulfur storage tank | OPERATING MODE: Normal
CONTROL EQUIPMENT: vent to atmosphere | OPERATING MODE: Normal

DESCRIBE EMISSION POINT: circular vent opening approx. 2 Ft in diameter
HEIGHT ABOVE GROUND LEVEL: 60' | HEIGHT RELATIVE TO OBSERVER: Start 10' End 10'
DISTANCE FROM OBSERVER: Start 80' End 80' | DIRECTION FROM OBSERVER: Start North End North

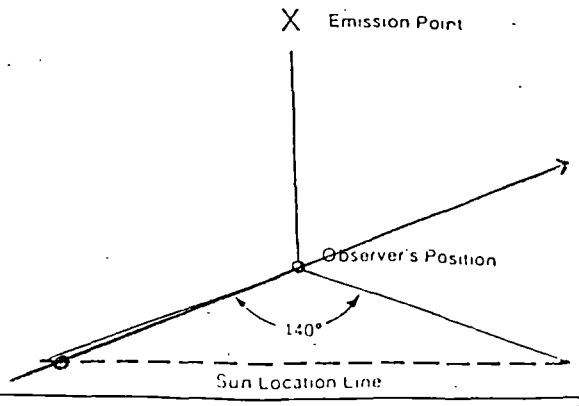
DESCRIBE EMISSIONS: Start N/A End N/A
EMISSION COLOR: Start N/A End N/A | IF WATER DROPLET PLUME: Attached ☐ Detached ☐
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED: Start 6" above vent End 6" above vent

DESCRIBE PLUME BACKGROUND: Start support of vent covering End support of vent covering
BACKGROUND COLOR: Start dark gray End dark gray | SKY CONDITIONS: Start partly cloudy End partly cloudy
WIND SPEED: Start 4-8 mph End 6-10 mph | WIND DIRECTION: Start NE End NE
AMBIENT TEMP: Start 90°F End | WET BULB TEMP: | RH, percent: 54

SOURCE LAYOUT SKETCH

Stack with Plume
Sun
Wind

Draw North Arrow



OBSERVATION DATE: 9/10/90 | START TIME: 3:29 pm | END TIME: 3:59 pm

SEC / MIN	0	15	30	45	COMMENTS
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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	
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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	

Tanks
g^{-1} S = .171
SH = 18.3 m
SD = .61 m

OBSERVER'S NAME (PRINT): Lloyd G. Camp
OBSERVER'S SIGNATURE: Lloyd G. Camp | DATE: 9/10/90
ORGANIZATION: C.F. Industries, Inc. Plant City Complex
CERTIFIED BY: Eastern Technical Associates | DATE: 8/31/90

ADDITIONAL INFORMATION:

CONTINUED ON VEO FORM NUMBER:

P.O. Drawer L.
Plant City, Florida 33564-9007
Telephone: 813/782-1591

CF Industries, Inc.
Plant City Phosphate Complex

September 14, 1990

Mr. C.H. Fancy
State of Florida
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

SUBJECT: Molten Sulfur Storage and Handling System
Permit No. AC29-167204

Dear Mr. Fancy:

CF Industries, Inc., Plant City Phosphate Complex, is in the process of submitting applications for an increase in production rates for the four sulfuric acid plants from 6900 tons/day to 7600 tons/day.

Therefore it will be necessary to revise the Sulfur Storage and Handling System Construction permit to reflect the increase in throughput.

Specific Condition 2 should be changed to allow an average of 2,484 tons per day throughput and a maximum of 908,700 tons per year.

Specific Condition 8 should be changed to reflect the increased emissions due to the increased throughput as follows:

EXPECTED EMISSIONS

SOURCE		PM/PM_{10}	SO_2	TRS/H_2S	VOC
Tanks	lb/hr.	0.22	0.99	0.44	0.66
	TPY	0.33	1.32	0.66	0.88
Truck Pit (Each)	lb/hr.	0.11	0.11	0.11	0.11
	TPY	0.11	0.11	0.11	0.11

Mr. John Koogler has been preparing the applications for the sulfuric and production rate increase and has been working with Mr. Barry Andrews in the Department.

If anything additional is required in order to make this revision, please call Mr. Jim Martin at (813)782-1591.

Sincerely,

J.E. Parsons
General Manager

JEP/CJM/lh
ENVRPT\167204.doc

cc: P.R. Roberts/T.A. Edwards
C.J. Martin/Environmental File
J. Koogler