STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207
(904) 396-6959
798-4200

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ERNEST E. FREY
DISTRICT MANAGER

January 20, 1987

Mr. H. C. Smith, General Manager
Occidental Chemical Agricultural
Products, Inc.
Post Office Box 300
White Springs, Florida 32096

Dear Mr. Smith:

Hamilton County - AP
Swuannee River Plant

The permittee on the permits listed on Attachment 2 is changed as follows:

From: Occidental Chemical Company

TO: Occidental Chemical Agricultural Products, Inc.

Attachments to be incorporated:

Attachment 1. Letter from David T. Sawyer dated May 7, 1982
Attachment 2. List of permits and sources

This letter and the attachments must be attached to each permit listed on Attachment 2 and shall become a part of each permit listed.

Sincerely,

Ernest E. Frey
District Manager

EEF:jck

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

G. DOUG DUTTON
DISTRICT MANAGER

June 6, 1983

file

M. M. P. McArthur
Vice President and General Manager
Occidental Chemical Company
Post Office Box 300
White Springs, Florida 32096

Dear Mr. McArthur:

Hamilton County - AP
Occidental Chemical Company - SR
Dical Acid Prep Unit

Enclosed is Permit Number A024-65096, dated June 6, 1983

to operate the subject pollution source

issued pursuant to Section(s) 403.087, Florida Statutes.

Should you object to this permit, including any and all of the conditions contained therein, you may file an appropriate petition for administrative hearing. This petition must be filed within fourteen (14) days of the receipt of this letter. Further, the petition must conform to the requirements of Florida Administrative Code Rule 28-5.201 (see reverse side of this letter). The petition must be filed with the Office of General Counsel, Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32301.

If no petition is filed within the prescribed time, you will be deemed to have accepted this permit and waived your right to request an administrative hearing on this matter.

Acceptance of the permit constitutes notice and agreement that the Department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement action for violation of the conditions and requirements thereof.

Sincerely,

Frank Watkins Jr.

Frank Watkins, Jr., P.E.
District Manager

FW:jck
Enclosure
cc: John B. Koogler, P.E.

OCCIDENTAL CHEMICAL COMPANY, FLORIDA OPERATIONS, Post Office Box 300, White Springs, Florida 32096, Telephone 904 397-8101

May 7, 1982

Mr. Stephen J. Fox, Director
Division of Environmental Permitting
State of Florida
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: Change of Corporate Name

Dear Mr. Fox:

As the company is now operating under a number of Department air, water and dredge and fill permits, please accept this letter as the appropriate notification of the change of corporate name of Occidental Chemical Company to Occidental Chemical Agricultural Products, Inc., effective April 22, 1982.

Even though the corporate name has been changed, there has been no change in the ownership or control of the corporate entity itself, nor has a sale or legal transfer of a permitted facility as discussed in Chapter 17-4.12, Florida Administrative Code occurred. As an additional change of name may occur in the near future, may I suggest that current Occidental permits be modified by letter to avoid duplication of work effort, should a subsequent name change occur. If you require further information to effectuate this notification or to assist in the modification of permits, I would appreciate your contacting me immediately.

Sincerely yours,

David T. Sawyer
Operations Counsel

DTS/is

cc: Ms. Suzanne Walker
Mr. G. Doug Dutton
Mr. Alex Senkevich

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

ATTACHMENT 2
Suwannee River Plant

AO24- 90783 - No. 2 Phosphoric Rock Grinder
- 94331 - "A" Phosphoric Acid Plant
- 31725 - "A" Pollyphos Plant
" - Pollyphos Feed
" - "A" Cooler (Pollyphos)
" - "B" Cooler (Pollyphos)
- 28283 - X-Train (Dical/TSP)
" - Dical Storage
- " - Limestone Storage
- " - Dical Shipping
- 56172 - Minerals Storage Silos
-103966 - "A" Sulfuric Acid Plant
- 94339 - No. 1 DAP Plant
- 94334 - East Dryer
- 94817 - No. 1 Storage/Shipping
-103964 - "B" Sulfuric Acid Plant
- 94333 - Rock Grinder
-105392 - MAP/DAP Screen/Shipping
- 94332 - No. 1 Phosphoric Rock Grinder Plant
- 94335 - West Dryer
- 94336 - "A" Auxiliary Boiler
-107484 - "C" Phosphoric Acid Plant
-107483 - "B" Phosphoric Acid Plant
-125595 - "C" Sulfuric Acid Plant
-107480 - "D" Sulfuric Acid Plant
-103968 - No. 2 GTSP Storage
- 90778 - "B" Auxiliary Boiler
-109607 - No. 2 DAP
- 96878 - ACP Plant
- 94818 - ACF (Acid Clarification Filter)
- " - FA-ACF (Filter Aid)
- " - FM-ACF (Filter Media)
- 94819 - ACF -N (Acid Clarification Filter)
- 96968 - "A" SPA Plant
- 96968 - "B" SPA Plant
- 63294 - "B" Pollyphos Plant
- 90779 - "C" Auxiliary Boiler
- 90780 - "D" Auxiliary Boiler
- 65096 - Dical Acid Prep

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

PERMITTEE:

Occidental Chemical Company
P. O. Box 300
White Springs, FL 32096

I.D. Number: 3124000241
Permit/Certification Number: A024-65096
Date of Issue: June 6, 1983
Expiration Date: February 28, 1988
County: Hamilton
~~Latitude/Longitude:~~ UTM: E-328.32 N-3368.81
~~Section/Township/Range:~~
Project: Dical Acid Prep Unit - SR

This permit is issued under the provisions of Chapter(s) 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-2 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

For the operation of the Dical Acid Prep Unit for preparation of phosphoric acid for Dical production. Unit is four batch tanks with Particulate Matter (PM) and Fluoride (F) emissions controlled by a Spray, Cross-flow, Packed Scrubber (Stack, Pt. 3). Diatomaceous Earth (DE) PM is controlled by a Baghouse (Vent, Pt. 4).

Located east of S.R. 137, east of U.S. 41, north of White Springs, Hamilton County, FL.

In accordance with ACP dated September 30, 1980, Certificate of Completion of Construction dated December 15, 1982 and last additional information received May 25, 1983.

b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

(X) Determination of Best Available Control Technology (BACT)
( ) Determination of Prevention of Significant Deterioration (PSD)
( ) Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)
( ) Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

PERMITTEE:

idental Chemical Company

I.D. Number: 3124000241
Permit/Certification Number: A024-65096
Date of Issue: June 6, 1983
Expiration Date: February 28, 1988

SPECIFIC CONDITIONS:

1. Testing of emissions must be accomplished at an input rate of at least 90% of 17.6 TPH of 100% P_2O_5.

2. The permitted maximum allowable emission rate for each pollutant is as follows:

Pollutant	Emission Rate (lbs/hr)	Emission Rate (TPY)
Fluoride (F)	0.70	2.94
Particulate (stack)	1.12 (or 5% opacity)	4.70
Particulate (vent)	0.32	1.34

3. Test the emission for the following pollutants at intervals indicated from the date of January 24, 1983, notify us 14 days prior to testing, and submit the test report documentation to this office within 15 days after completion of the testing:

Pollutant	Interval
F	6 mos.
PM (stack)	12 mos. (VE); stack test on request
PM (vent)	5 yrs. (VE) or on request

Tests and test reports shall comply with the requirements of Sections 17-2.700(6) and (7), Florida Administrative Code, respectively.

4. Submit an annual operation report for this source on the form supplied by the Department for each calendar year on or before March 1.

5. Any revision(s) to a permit (and application) must be submitted and approved prior to implementing.

6. Forms for renewal will be sent 5 months prior to February 28, 1988, and the completed forms with test results are due 90 days prior to February 28, 1988.

Issued this 6th day of June, 19 83

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Frank Wetherell for

G. Doug Dutton, District Manager

_____ Pages attached.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207
(904) 396-6959

file

February 18, 1983

Mr. W. W. Atwood
Occidental Chemical Company
Post Office Box 300
White Springs, Florida 32096

Dear Mr. Atwood:

Hamilton County - AP
Occidental Chemical Company - SR
Dical Acid Prep

Review of the data submitted January 21, 1983 for an operation permit resulted in this request for the following information by March 15, 1983:

1. As required by Section 17-2.700(7)(C)5., Florida Administrative Code, send all data and calculations necessary to determine the P_2O_5 input during the test.

2. Explain why the test report was submitted nearly nine (9) months after the test instead of within 45 days per Section 17-2.700(7)(b), Florida Administrative Code.

3. Advise as to reason Greg DeMuth was not notified prior to the test.

4. Send the input rate to the DE (silica) storage tank during the VE reporting period for the baghouse vent (pt. 4).

If there are any questions please contact us.

Sincerely,

John Ketteringham, P.E.
Air Section

pfw
JK:jck
cc: Greg DeMuth, Gainesville

2-4-83

Dfg, SR - AP
Dical acid prep
AOP (cert + ACP) Review Notes

1. Submit input data and calc's to determine P_2O_5 input.
2. ~~Check to~~ Get comments from Greg on ~~test~~ rpt.

2/7/83
Asked Greg for his comments on the ~~rpt~~ test rpt in about 1 week. ℰ

2/16/83
Called Greg. Left message for him to call 2/17. ℰ

2/17/83
Greg called. He did not have any comment ~~Re~~ other than input data is needed. He will be at Dfg 2/18 & will discuss w/ Marvin. I will write more info letter. ℰ

2-17-83

Rfg - AP
Dical Acid Prep

1. Did not comply w/ Sp. Cond. #5 - -
   1. No testing notice to Greg
   2. Input rate not included w/ rept VE

* 2. Did not comply w/ 17-2.700(7)(b) - -
   send test rpt within 45 days.
   Submitted nearly 9 mos after test.
3. Did not comply w/ 17-2.700(7)(c)5.
   data for compliance calc's

* 2/17/83 Greg said he did not receive this report
   ~ 82.

1-24-83
PD
500.00
65096

file

NORTHEAST DISTRICT
RECEIVED
JAN 24 1983
DER-JACKSONVILLE

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

AIR POLLUTION SOURCES
CERTIFICATE OF COMPLETION OF CONSTRUCTION*

PERMIT NO. AC24-35248 DATE: November 18, 1982

Company Name: Occidental Chemical Co. County: Hamilton

Source Identification(s): Dical Acid Preparation Unit

Actual costs of serving pollution control purpose: $ 250,000

Operating Rates: 16.0 - 17.0 TPH Design Capacity: 17.6 TPH ✓

Expected Normal 17.0 TPH During Compliance Test 15.8 TPH

Date of Compliance Test: 4/30/82 (Attach detailed test report) Submitted to FDER previously

Test Results:	Pollutant	Actual Discharge	Allowed Discharge
	Fluoride	0.08 lbs/hr	0.63 ~~0.7~~ lbs/hr ✓
	Particulate(stack)	0.50 lbs/hr	0.92 ~~1.12~~ lbs/hr ✓
	Particulate vent		5% opacity ✓

Date plant placed in operation: March 1, 1982

This is to certify that, with the exception of deviations noted**, the construction of the project has been completed in accordance with the application to construct and Construction Permit No. AC24-35248 ✓ dated December 22, 1980 ✓.

A. Applicant:

M. P. McArthur, Vice Pres.&General Mgr. [signature]
Name of Person Signing (Type) Signature of Owner or Authorized Representative and Title

Date: _____ Telephone: (904) 397-8101

B. Professional Engineer:

John B. Koogler, P.E. [signature]
Name of Person Signing (Type) Signature of Professional Engineer

SHOLTES & KOOGLER ENVIRONMENTAL CONSULTANTS INC. Company Name
Florida Registration No. 12925

Date: 12/15/82 ✓

82 (Seal)

1213 NW 6th Street
Gainesville, FL 32601
Mailing Address

(904) 377-5822
Telephone Number

*This form, satisfactorily completed, submitted in conjunction with an existing application to construct permit and payment of application processing fee will be accepted in lieu of an application to operate.

**As built, if not built as indicated include process flow sketch, plot plan sketch, and updates of applicable pages of application form.

OCCIDENTAL CHEMICAL COMPANY
A SUBSIDIARY OF HOOKER CHEMICAL CORPORATION
POST OFFICE BOX 1185 HOUSTON, TEXAS 77001

CHECK NO 64862

WACHOVIA BANK AND TRUST COMPANY
WINSTON - SALEM

66-49
531

PAY $500 AND 00 CTS

DATE Jan. 20, 1983 PAY

$ 500.00**

TO THE ORDER OF
DEPARTMENT OF ENVIRONMENTAL REGULATION
3426 BILLS ROAD
JACKSONVILLE, FL 32207

OCCIDENTAL CHEMICAL COMPANY
BY [signature]
AS DISBURSING AGENT(S) FOR THE COMPANY

⑈0006486 2⑈ [redacted]

DETACH BEFORE DEPOSITING

DATE	THIS CHECK IS IN PAYMENT OF THE FOLLOWING	AMOUNT
1/20/83	DICAL ACID PREP. APPL. CO 202	$500.00**

OCC-144 (REV. 1-80)

OCCIDENTAL CHEMICAL COMPANY • POST OFFICE BOX 1185, HOUSTON, TEXAS 77001 CHECK NO. 64862

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
№ 68215

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Occidental Chemical Company Date 1-24-83

Address P.O. Box 1185 - Houston, Texas 77001 Dollars $ 500.00

Applicant Name & Address Same

Source of Revenue Same

Revenue Code 0101 Ck# 64862 Application Number AO 34 65096

By [signature]

OCCIDENTAL CHEMICAL COMPANY, FLORIDA OPERATIONS, Post Office Box 300, White Springs, Florida 32096, Telephone 904 397-8101

January 21, 1983

Johnny Cole
Department of Environmental
Regulation
3426 Bills Road
Jacksonville, Florida 32207

Dear Mr. Cole:

Enclosed are four copies of the results of the compliance test performed at the Dical Acid Preparation Unit. These test results, the Certificate of Completion of Construction, and the $500 application fee are being submitted in support of the operating permit application which was submitted previously to your office. not rec'd

If you have any questions regarding the application or compliance test, please let me know.

Sincerely,

OCCIDENTAL CHEMICAL COMPANY

Marvin Miller

W. Marvin Miller
Biologist/Hydrologist

psb

Enclosures

cc: Greg DeMuth
Wes Atwood

Dpg, SR-AP

Dical Acid Prep

Fluoride Test Rpt Review

6-2-83
4
6-3-83

Tank	A	B	C	D	Cook
input, car #					start 4/30 0025 stop 5/1 0800
6043	89.90				
6003	87.20				hrs 31.58
6046	44.70	44.70			
6054		89.55			4/29 2350 5/1 0500
6058		89.40			hrs 29.17
6010			89.40		4/29 2200 5/1 0800
6044			89.25		
6073			43.075	43.075	hrs 34.0
6038				95.05	4/29 2315 5/1 0500
6014				89.45	hrs 29.75
acid Tons	221.80	223.65	221.625	227.475	
acid TPH	7.02	7.67	6.52	7.65	
% F	.58	.59	.58	.57	
% P_2O_5 ~~input~~	54.83	54.36	54.88	54.91	
TPH, P_2O_5 ~~Acc~~	3.85	4.17	3.58	4.2	Total TPH = 15.8

89.90% of 17.6

11 x .04 =

Time F, test	4/30/82 R#1 1123 1021	R-2 1254 1152	R-3 1410 1307	
Test, F	.07	.09	.09	avg .08 lb/hr ~~Test allowed~~
allowed F	~~0.38~~ 0.15	~~0.31~~ .17	~~0.26~~ .14	~~0.31~~ .17
F, emitted at design eff (leak) .58% → .2%	.05 0.03	.06 0.03	.05 0.03	.06 0.03 Total F 0.12 lb/hr
F, emitted at design eff (test) .45% → .2%	.001	.002	.003	.004 Total .010

0.63 lb/hr Test allowed

.21 - .08 / .21 = .62 %

NTU ≈ 1-2

6-2-85
& 6/3

During Cooking,

F emitted at design eff.

$F = (\%F_{in} - \%F_{out})(\text{tons acid/batch})(1 - \text{eff})(2000)$ lbs/hr

49.2 $A = (.0058 - .0023)\left(\frac{221.8}{31.58}\right)(1 - .999)(2000) = .0269 = .0492$

56.7 $B = (.0059 - .0022)\left(\frac{223.63}{29.17}\right)(\quad\quad)(\quad\quad) = .0309 = .0567$

48.2 $C = (.0058 - .0021)\left(\frac{221.63}{34.0}\right)(\quad\quad)(\quad\quad) = .0265 = .0482$

55.1 $D = (.0057 - .0021)\left(\frac{227.48}{29.75}\right)(\quad\quad)(\quad\quad) = .0302 = .0551$

$.1145 = .2092$

209.2 lb F/hr to scrubber $\times \frac{3 \text{ hr}}{12 \text{ hr}} = 540$ lb/hr when feeding 0.58% F Acid following the modification to stainless exchangers

$\frac{.209}{15.8} = .0131 \frac{\text{lb}}{\text{ton}}$

During Test, F emitted at design eff.

$A = (.0046 - .0037)(3.85)(1 - .999)(2000) = .00077 = .00231$

$B = (.0040 - .0037)(4.17) \quad " \quad " = .00250$

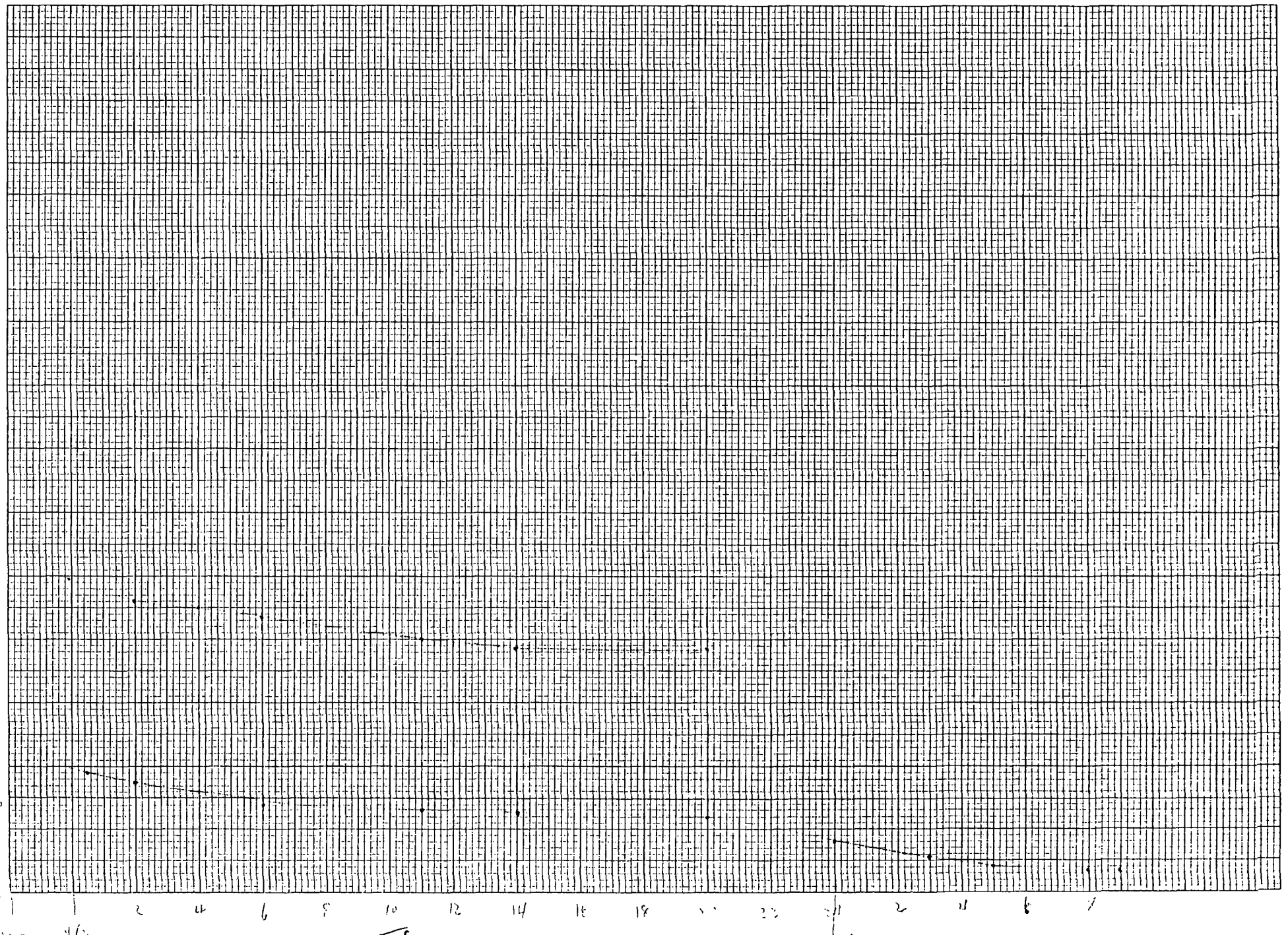
$C = (.0046 - .0042)(3.58) \quad " \quad " = .00286$

$D = (.0043 - .0038)(4.2) \quad " \quad " = .0042$

$.01033$

NO. 341-10½ DIETZGEN GRAPH PAPER
10 X 10 PER HALF INCH

DIETZGEN CORPORATION
MADE IN U.S.A.



Ag, SR
Dical

4-28-83

Test time 4/30/82

R-1	R-2	R-3
1123	1254	1410
1021	1152	1307

Tank A
P_2O_5 ~ 55%
F ~ .58%
S.G. 1.704
Cook start { 4/30 0025
end 5/1 0800
level ~~16.~~ 16.3 ft

Greg to call 4/29
5/16 ~~Fri~~ Called; he out.
Then I called Miller.

OCCIDENTAL CHEMICAL COMPANY, FLORIDA OPERATIONS, Post Office Box 300, White Springs, Florida 32096, Telephone 904 397-8101

May 24, 1983

Mr. Johnny Cole
Department of Environmental
Regulation
3426 Bills Road
Jacksonville, Florida 32207

Dear Mr. Cole:

Enclosed are the scale tickets on the phosphoric acid off-loaded prior to the test performed on the Dical Acid Preparation unit (defluorination). The tickets include the following information:

Name of Railroad
Date
Car initial and number
Content
Time
Name of weigher
and
The weight of the car loaded, the tare weight (weight of the car empty) and the difference, indicating the amount of acid in pounds. This is converted to tons and is listed just above the blocks for time.

The weight in tons is transferred to the right hand column of the sheet headed "54 Percent for Dical" which is included in the compliance test report. As an example, car OCCX 6073 was unloaded on April 23, 1982, its weight loaded was 238,500 pounds with a tare weight of 66,200 pounds resulting in an acid weight of 172,300 pounds or 86.15 tons. Referring then to the page titled "Phos Acid Defluorination" in the test report, it may be seen that one-half of the 86.15 tons was pumped to the "C" tank and one-half to the "D" tank.

If you have any questions regarding the above, please call our office.

Sincerely,

OCCIDENTAL CHEMICAL COMPANY

Marvin Miller

Marvin Miller
Biologist/Hydrologist

mp
Enc.

cc: G. Demuth, DER Gainesville
W. Atwood
G. Allen, Sholtes & Koogler

RR Sou Date Weighed 4-23-82 Date Shipped

Car Initial & No. OCCX 6038

Contents D. F. Acid

245 300

65 800

190 100

95.05

3:00 AM
PM
FAIR
RAIN

Weigher Martha Smith

RR Sou Date Weighed 4-23-82 Date Shipped

Car Initial & No. OCCX 6010

Contents D F Acid

243 800

65 000

178 800

89.40

3:00 AM
PM
FAIR
RAIN

Weigher Martha Smith

RR Sou Date Weighed 4-23-82 Date Shipped

Car Initial & No. OCCX 6014

Contents D F Acid

245 400

65 500

178 900

89.45

3:00 AM
PM
FAIR
RAIN

Weigher Martha Smith

RR Sou Date Weighed 4-23-82 Date Shipped

Car Initial & No. OCCX 6073

Contents D. F. Acid

2[illegible]500

65 200

172 300

86.15 ✓

3:00 AM
PM
FAIR
RAIN

Weigher Martha Smith

RR Sou Date Weighed 4-23-82 Date Shipped

Car Initial & No. OCCX 6044

Contents D F Acid

244 300

65 800

178 500

89.25

3:00 AM
PM
FAIR
RAIN

Weigher Martha Smith

RR SOU Date Weighed 4-24-82 Date Shipped

Car Initial & No. OCCX 6055 Contents DF Acid

240700	89.40
65900	AM
175800	5:00 PM
	FAIR
	RAIN

Weigher Martha Smith

RR SOU Date Weighed 4-24-82 Date Shipped

Car Initial & No. OCCX 6046 Contents DF Acid

235000	89.40
65200	AM
178800	5:00 PM
	FAIR
	RAIN

Weigher Martha Smith

RR SOU Date Weighed 4-24-82 Date Shipped

Car Initial & No. OCCX 6054 Contents DF Acid

245300	89.55
65700	AM
179100	5:00 PM
	FAIR
	RAIN

Weigher Martha Smith

RR SOU Date Weighed 4-24-82 Date Shipped

Car Initial & No. OCCX 6043 Contents DF Acid

245300	89.90
66500	AM
179800	5:00 PM
	FAIR
	RAIN

Weigher Martha Smith

RR SOU Date Weighed 4-24-82 Date Shipped

Car Initial & No. OCCX 6003 Contents DF Acid

234200	89.20
66300	AM
178400	5:00 PM
	FAIR
	RAIN

Weigher Martha Smith

Orig, SR - AP
Dical Acid Prep

5-16-83
Called Miller. He returned.
Requested data below to verify
Tons of acid cooked:
(1) tank diam's (or dimensions)
or
(2) wt & tare of 3 cars.
He will phone w/ data this PM or
in the AM.
ask for copy of the data documents.
He called back; will send copy of
microfilm record 5/17.

OCCIDENTAL CHEMICAL COMPANY, FLORIDA OPERATIONS, Post Office Box 300, White Springs, Florida 32096, Telephone 904 397-8101

April 11, 1983

Mr. John Ketteringham
Department of Environmental
Regulation
3426 Bills Road
Jacksonville, FL 32207

Dear Mr. Ketteringham:

In response to your letter of February 18, 1983, the following information is provided. This information has been discussed with Greg DeMuth in a meeting on April 7, 1982. The responses are numbered in the same sequence as your questions for clarity.

1. All necessary information needed to determine P_2O_5 input to the process is included in the appendix of the report. The rail car numbers, total tons of acid per car, and tons of P_2O_5 per car is included. The defluorination tank into which the acid was pumped, the percent P_2O_5, fluoride content of the acid, and the rail car number are also given in addition to the time cooking started and ended. Thus, the total tons of P_2O_5 divided by the total time yeilds the production rate. I discussed with Greg DeMuth the method used to determine production rate using the above information. Greg now understands the method and also the difficulty involved with devising a "production rate sheet", which is meaningful since this process does not lend itself well to a relatively straight forward application of the "rate sheet." We will attempt to develop a concise rate sheet format, possibly with references to apendicies which include all the data.

2. The test was conducted on April 30, 1982, in anticipation of the final construction phases being completed within a few weeks with subsequent submittal of the Certificate of Completion of Construction. Due to various construction problems the total unit was not completed for several months resulting in the extended period between testing and completion of construction.

3. Greg DeMuth was advised by the contractor (Sholtes & Koogler) of the test which was initially scheduled for April 27th. Due to a broken pipe line the test had to be postponed until April 30th. It appears that there was some misunderstanding among the parties as to the revised schedule although the contractor is certain that Greg was notified of the April 30th date.

4. The V.E. included with the compliance test report was for the scrubber stack, not the D. E. storage tanks. A V.E. For the D.E. silo is included with this letter.

If you have any further questions please write or call our office.

Sincerely,

Marvin Miller

Marvin Miller
Biologist/Hydrologist

psb

cc: Greg DeMuth
W. W. Atwood

5/16
Call Greg!
Dical
Greg out this week.

4/28
Greg to call 4/29 to discuss Dical test rpt. data for P2O5 input.

VISIBLE EMISSION OBSERVATION FORM

23 1983

DER-JACKSONVILLE

SOURCE NAME: Occidental Chem. Co.

ADDRESS: P.O. Box 300 White Springs

STATE: Fla | ZIP: 32096 | TELEPHONE: 397-8269

SOURCE ID NUMBER: HC 24-35248 | OBSERVATION DATE: 4-22-83

PROCESS | OPERATING MODE: 27.8 TPH

CONTROL EQUIPMENT: Dust Bags | OPERATING MODE: Diatomaceous Earth Unloading

DESCRIBE EMISSION POINT

HEIGHT ABOVE GROUND LEVEL: 103' | HEIGHT RELATIVE TO OBSERVER: 145'

DISTANCE FROM OBSERVER: 102' | DIRECTION FROM OBSERVER: NW

DESCRIBE EMISSIONS

EMISSION COLOR | PLUME TYPE ☐ CONTINUOUS ☐ INTERMITTENT ☐ FUGITIVE ☐

WATER DROPLETS PRESENT: NO ☑ YES ☐ | IF YES, IS PLUME ATTACHED ☐ DETACHED ☐

AT WHAT POINT WAS OPACITY DETERMINED

DESCRIBE BACKGROUND: Blue sky

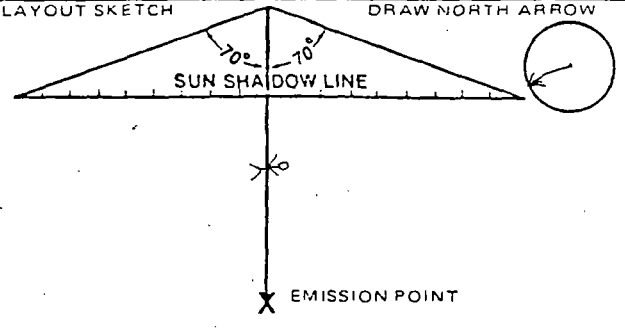
BACKGROUND COLOR: Blue | SKY CONDITIONS: Clear

WIND SPEED: 2mph | WIND DIRECTION: South

AMBIENT TEMPERATURE: 78°F | RELATIVE HUMIDITY: 54%

COMMENTS: Truck unloaded for 43 minutes

SOURCE LAYOUT SKETCH — DRAW NORTH ARROW



OBSERVER'S NAME (PRINT): Dale Baker

ORGANIZATION: Occidental Chem. Co.

CERTIFIED BY: Eastern Tech. Assoc. 212078 | DATE: 12-9-82

START TIME: 1120 | STOP TIME: 1203

	0	15	30	45		0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0			
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				
30	0	0	0	0	60				

AVERAGE OPACITY FOR FOR HIGHEST PERIOD: 0

NUMBER OF READINGS ABOVE: % WERE

RANGE OF OPACITY READINGS: MINIMUM 0 MAXIMUM 0

I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS.

OBSERVER'S SIGNATURE: Dale M Baker | DATE: 4-22-83

RR MFM Date Weighed 4-22-83 Date Shipped

Car Initial & No. 1072 Contents Emallite 300 (DE.)

AM
PM
FAIR
RAIN

39800#

Weigher Lee

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION) Ed Barber	INITIAL	
	DATE	
2.	INITIAL	
	DATE	
3.	INITIAL	
	DATE	
4.	INITIAL	
	DATE	

35248

REMARKS: AC 27-35248

DICAL ACID PREP
PERMIT EXPIRED
FEB 28 1983

PLS ISSUE WN OR NOV

INFORMATION
- REVIEW & RETURN
- REVIEW & FILE
- INITIAL & FORWARD

DISPOSITION
- REVIEW & RESPOND
- PREPARE RESPONSE
- FOR MY SIGNATURE
- FOR YOUR SIGNATURE
- LET'S DISCUSS
- SET UP MEETING
- INVESTIGATE & REPT
- INITIAL & FORWARD
- DISTRIBUTE
- CONCURRENCE
- FOR PROCESSING
- INITIAL & RETURN

FROM: JK

DATE 3-28-83

PHONE

9-23-82

MEMO TO FILES

OXYCHEM

DISCUSSION WITH WES ATWOOD, MARVIN MILLER

(1) DICAL - WAS PERMITTED AT LOW RATE. WILL RETEST AT INCREASED RATE AND REQUEST REVISION TO PERMIT IF COMPLIANCE IS SHOWN AT HIGHER RATE

(2) POLYPHOS B - MUST REPLACE DAMAGED REFRACTORY IN COOLER & MODIFY REACTOR. WILL REQUIRE 2 WEEKS DOWNTIME. ALTHOUGH LAST TEST INDICATED COMPLIANCE OXY WILL RETEST REACTOR & COOLER (INSPECTION OF COOLERS INDICATES NEED FOR EXTENSIVE REHAB)

POLYPHOS FEED PREP STACK - WILL RETEST BECAUSE OF NG LEAK TEST - WILL CONTACT GREGG DEMUTH

JK

REQUESTED REVIEW OF SULFUR VAT PROPOSAL.

JK

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER
SUBDISTRICT

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

G. DOUG DUTTON
SUBDISTRICT MANAGER

LAPIS file

March 2, 1982

Mr. W. W. Atwood
Occidental Chemical Company
Post Office Box 300
White Springs, Florida 32096

Dear Mr. Atwood:

Hamilton County - AP
Occidental Chemical Co. - SR
Dical Acid Preparation Unit
Permit No. AC24-35248

In response to your February 23 request, the referenced permit is revised as follows:

1. Expiration date: extended to February 28, 1983.

2. Specific Condition #2: completion of construction by June 1, 1982 and submittal of an operation permit application, including the test report, by November 1, 1982.

If there are any questions please contact us.

Sincerely,

John Ketteringham

John Ketteringham, P.E.
Air Quality Section

JK:vk

OCCIDENTAL CHEMICAL COMPANY, FLORIDA OPERATIONS, Post Office Box 300, White Springs, Florida 32096, Telephone 904 397-8101

February 23, 1982

Johnny Cole
Department of Environmental
Regulation
3426 Bills Road
Jacksonville, Florida 32207

Dear Johnny:

Please extend until June 1 Dical Acid Preparation construction permit (AC24-35248). Major portions of this unit are still under construction and are expected to be complete the 1st of June.

Sincerely,

OCCIDENTAL CHEMICAL COMPANY

W. W. Atwood

W. W. Atwood M.M.
Manager of Environmental Control

pb

3-1-82 Called & Miller returned. The June 1 date is just for completion of construction. So add startup & AOP processing. JE

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

G. DOUG DUTTON
SUBDISTRICT MANAGER

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER SUBDISTRICT

December 22, 1980

Mr. M. P. McArthur
Vice President and General Manager
Occidental Chemical Company
Post Office Box 300
White Springs, Florida 32096

Dear Mr. McArthur:

Hamilton County - AP
Occidental Chemical Co. - SR
Dical Acid Preparation Unit

Enclosed is Permit Number AC24-35248 , dated December 22, 1980 , to operate the subject pollution source, issued pursuant to Section 403.061(14), Florida Statutes.

Should you object to this permit, including any and all of the conditions contained therein, you may file an appropriate petition for administrative hearing. This petition must be filed within fourteen (14) days of the receipt of this letter. Further, the petition must conform to the requirements of Section 28-5.201, Florida Administrative Code (see reverse side). The petition must be filed with the Office of General Counsel, Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32301.

If no petition is filed within the prescribed time, you will be deemed to have accepted this permit and waived your right to request an administrative hearing on this matter.

Acceptance of the permit constitutes notice and agreement that the department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement action for violation of the conditions and requirements thereof.

Sincerely,

Frank Watkins, Jr., P.E.
Subdistrict Engineer

FW:jck

cc: Records Center, Tallahassee
John B. Koogler, P.E.

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

OCCIDENTAL CHEMICAL COMPANY
East of SR 137, East of US 41
North of White Springs, FL
SUWANNEE RIVER

CONSTRUCTION
PERMIT

NO. AC24-35248
Dical Acid Preparation Unit

DATE OF ISSUANCE

December 22, 1980

for Frank Watkins Jr.

G. Doug Dutton
Subdistrict Manager

DATE OF EXPIRATION

~~April 10, 1982~~

DER FORM PERM 11-42

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER SUBDISTRICT

APPLICANT:

Occidental Chemical Company
Post Office Box 300
White Springs, FL 32096

PERMIT/CERTIFICATION NO.
AC24-35248

COUNTY: Hamilton

PROJECT: Dical Acid Preparation Unit - SR

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

Phosphoric Acid Feed Preparation Plant for Dical Production. Emissions Controlled by a Spray, Cross-Flow, Packed Scrubber (Stack Pt. 3). DE Controlled by a Baghouse (Vent Pt. 4).

Located: Suwannee River - East of SR 137, East of US 41, North of White Springs, Hamilton County, FL

UTM: E-328.32 N-3368.81

In accordance with the application dated September 30, 1980.

DER FORM 17-1.122(63) 1/4 (1/80)

PERMIT NO.: AC24-35248 SR,Dical Acid Prep. Unit
APPLICANT: Occidental Chemical Company

SPECIFIC CONDITIONS:

1. Supporting documents are retained in file of office to which it was submitted and not attached as stated in the leading paragraph and General Condition No. 2. They are as follows:

   a. September 30, 1980 construction application
   b. Application attachments

2. The construction of this installation shall be completed by July 1, 1981, and the operation permit application is to be submitted by January 10, 1982.

3. Testing of emissions must be accomplished at least at 90% of 17.6 TPH of 100% P_2O_5 input.

4. The maximum allowable emission rate for each pollutant is as follows:

Pollutant	Emission rate (lbs/hr)	Emission rate (TPY)
Fluoride	0.70	2.94
Particulate (stack)	1.12	4.70
Particulate (vent)	0.32	1.34

5. Test the emissions for the following pollutants within 180 days after startup, notify us 14 days prior to testing, and submit a copy of the test report to this office with the operation permit application:

Pollutant	
Fluoride	stack test
Particulate (stack)	stack test
Particulate (vent)	In lieu of stact test, VE observation report (BACT-5%opacity limit) include input rate

6. Any revision(s) to a permit (and application) must be submitted and approved prior to implementing.

7. Stack sampling ports and platform are to be provided with a method of access that is safe and reasonably accessible.

8. Forms for an operation permit will be sent five (5) months prior to April 10,.1982 and the completed forms with test results are due 90 days prior to April 10. 1982.

9. Compliance to be determined by reference methods 1, 2, 3, 4, 5, 9, 13A or 13B as published in 40 CFR60, Appendix A or by other DER approved procedures. Minimum sample rate per run is 0.5 DSCFM for 60 minutes. Fluoride emission compliance test is to be conducted near permitted capacity during the time the process pond water is expected to be near its maximum annual temperature.

Expiration Date: ~~April 10, 1982~~ 2-28-83

Issued this 22nd day of December 1980.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Frank Watkins Jr. for

G. Doug Dutton, Subdistrict Manager

DER FORM 17-1.122(63)

10/2 Per Hanks, B&M rec'd 10/1. file

PERMITTED
BY
LOWER ST. JOHNS RIVER SUB DISTRICT
DEPARTMENT OF ENVIRONMENTAL REGULATION
PERMIT NO. AC 24-35248
DATE 12/22/80

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER
RECEIVED
OCT 2 1980
SUB DISTRICT - JAX

APPLICATION TO [redacted]/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Animal Feed Plant [X] New[1] [ ] Existing[1]

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

COMPANY NAME: Occidental Chemical Company COUNTY: Hamilton

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) Phosphoric Acid Feed Preparation

SOURCE LOCATION: Street S.R. 137 City White Springs

UTM: East 328.32 km E. North 3368.81 km N.

Latitude ____ ° ____ ' ____ "N Longitude ____ ° ____ ' ____ "W

APPLICANT NAME AND TITLE: Occidental Chemical Company

APPLICANT ADDRESS: Post Office Box 300, White Springs, FL 32096

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Occidental Chemical Company

I certify that the statements made in this application for a Construction 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: M.P. McArthur

M.P. McArthur, Vice President, General Manager
Name and Title (Please Type)

Date: 9.30.80 Telephone No. (904) 397-8101

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 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: John B. Koogler

John B. Koogler, Ph.D., P.E.
Name (Please Type)

(Affix Seal)

SHOLTES & KOOGLER, ENVIRONMENTAL CONSULTANTS
Company Name (Please Type)

1213 N. W. 6th Street, Gainesville, FL 32601
Mailing Address (Please Type)

Florida Registration No. 12925 Date: _____ Telephone No. (904) 377-5822

[1]See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

SHOLTES & KOOGLER, ENVIRONMENTAL CONSULTANTS
1213 N.W. 6th Street Gainesville, Florida 32601 (904) 377-5822

SKEC 102-75-06

November 10, 1980

Mr. Johnny Cole
Florida Department of Environmental Regulation
3426 Bills Road
Jacksonville, FL 32207

Subject: Occidental Chemical Company
Hamilton County, FL
Phosphoric Acid Feed Preparation Construction Permit Application

Dear Johnny:

As we agreed during our meeting with you on Friday, November 7, 1980, I am submitting herewith revised pages to the subject Air Pollution Construction Permit Application.

The revision in Section II, F, reduces the normal equipment operating time from 52 weeks per year to 50 weeks per year. The changes in Section III, C, change potential and allowable emission rates to reflect the particulate matter and fluoride BACT determination for Occidental dated October 31, 1980, and the aforementioned change in the annual operating time. Changes in Section III, D, modify the expected pollution control equipment efficiency to be consistent with the revised potential and allowable emission rates. Changes in Section V, 2, 3, & 5, are changes in the calculations to reflect changes in the annual operating schedule and emission rates as determined by the FDER BACT determination.

The attached sheets are to replace the handwritten draft that I prepared for you during our meeting. If there are any questions regarding these modifications, please feel free to contact me.

Very truly yours,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS

John B. Koogler, Ph.D., P.E.

JBK:bh
Enclosure
cc: Mr. W. W. Atwood

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.

Phosphoric acid feed preparation plant reacting diatomaceous earth with heated, air sparged, phosphoric acid is vented to a packed cross-flow scrubber. Facility produces a defluorinated acid feed suitable for further processing to dicalcium phosphate animal feed in an existing facility.

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

Start of Construction December 1, 1980 Completion of Construction June 1, 1981

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.)

$250,000.00

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

Not Applicable

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes X No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 50 ; if power plant, hrs/yr ____ ;

if seasonal, describe: ____

G. 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. Yes
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements 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

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

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.

Phosphoric acid feed preparation plant reacting diatomaceous earth with heated, air sparged, phosphoric acid is vented to a packed cross-flow scrubber. Facility produces a defluorinated acid feed suitable for further processing to dicalcium phosphate animal feed in an existing facility.

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

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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.)

$250,000.00

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

Not Applicable

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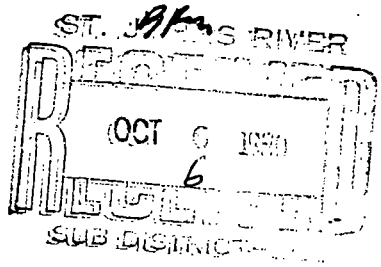
F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 (50) ; if power plant, hrs/yr ____ ; if seasonal, describe: ____

G. 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. Yes
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements 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

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

SHOLTES & KOOGLER, ENVIRONMENTAL CONSULTANTS
1213 N.W. 6th Street Gainesville, Florida 32601 (904) 377-5822



SKEC 102-75-06

October 3, 1980

Mr. Johnny Cole
State of Florida
Department of Environmental Regulation
3426 Bills Road
Jacksonville, FL 32207

Subject: Acid Feed Preparation Plant
Construction Permit Application
Occidental Chemical Company

Dear Johnny:

Enclosed are revised pages for the permit application recently delivered to you by Wes Atwood to cover the construction of a Phosphoric Acid Feed Preparation Plant. The modifications were made to more accurately represent the particulate matter sources within the facility. The modifications were prompted by a conversation Wes Atwood had with Willard Hanks in Tallahassee on October 1, 1980.

There are two potential sources of particulate matter in the proposed facilities; the diatomaceous earth receiving area and the acid defluorination scrubber stack. In the DE area the material is received and transferred by airveyor to a bulk storage facility. The air from the transfer and storage operations is vented through a bag collector for particulate matter control. This collector will control particulate matter emissions to 0.01 grains per standard cubic foot. The acid scrubber stack, in our opinion, will have no particulate matter emissions at all. To cover permitting requirements, however, we are proposing a particulate matter emission rate from this source of 1.05 pounds per hour (0.015 grains per standard cubic foot).

Since there are two separate vents for the proposed facility, each with potential to emit particulate matter, we feel more comfortable in having particulate matter emission rates specified for each source rather than having a combined particulate matter emission rate specified. We further feel that the two emission rates assigned to represent the facility as proposed better than a single emission rate for the acid scrubber stack; a source which we feel will have no particulate matter emissions.

Another matter brought up by Willard Hanks during his conversation with Mr. Atwood related to the PSD review. Willard stated that your office would conduct the PSD review and would ultimately issue the construction permit. Willard stated that his responsibility in the review related to the BACT determination. To clarify matters and to assist you in your review of the application, I would like to point out the following facts as related to PSD. The proposed phosphoric acid feed preparation plant will operate in conjunction with the modified "X" Train and the newly proposed dical storage and shipping facility. The only pollutants emitted from these facilities, which were not emitted previously are fluorides and particulate matter. An application for PSD approval for fluorides has been submitted to EPA. The increases in particulate matter emission rates are subject to neither State nor Federal PSD approval, since the proposed increases in emissions are below deminimus levels established by both agencies.

The total particulate matter emission rate proposed for the dical storage and shipping facility was 2.1 pounds per hour, or 9.3 tons per year. The total particulate matter emission rate proposed for the phosphoric acid feed preparation plant is 1.26 pounds per hour or 5.5 tons per year. The total increase in particulate matter emission rate is 3.36 pounds per hour or 14.8 tons per year. These emission rates are below the deminimus levels of five pounds per hour and 15 tons per year established by DER and below the 25 ton per year deminimus level established by EPA.

Since the particulate matter emission rates fall below the deminimus levels the particulate matter emitting sources should not be subject to either an air quality review (State PSD review) or a BACT determination.

If you have any questions regarding these modifications, please feel free to contact me.

Very truly yours,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS

John B. Koogler, Ph.D.,P.E.

JBK:bh
Enclosure

cc: Mr. Willard Hanks
Mr. W. W. Atwood

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		
Diatomaceous Earth	Part.	1-2	703	1
Phosphoric Acid	F.	1.65	65,141	2
				(Attachment 1)

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

1. Total Process Input Rate (lbs/hr): 65,844 / 64,815

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Fluoride	0.70	2.9	BACT 0.04#/ton	0.70	977.5	4105	3
			P_2O_5 Input				
Particulate	1.12 ①	4.70	Best Technology	1.12	1.12	4.7	3
** Particulate	0.32	1.3	17-2.05(1)	0.32	7.0	29	4

**V.E. observations instead of stack test on points 3 and 4.

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5]
Spray, Cross-Flow	Fluoride	99.9%	N/A	Design
Packed Scrubber	Part.	N/A	N/A	(See Att.3)
Baghouse	Part.	95.4	< 1 to 40	Mfr. Guar.

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 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)

① see calc (over)

[5] If Applicable

Revised Page

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		
Diatomaceous Earth	Part.	1-2	703	1
Phosphoric Acid	F.	1.65	65,141	2
				(Attachment 1)

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

1. Total Process Input Rate (lbs/hr): 65,844 / 64,815
2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: Changes per BACT Determination

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Fluoride	~~0.88~~ 0.7	~~3.85~~ 3.07	BACT 0.05#/ton P_2O_5 Input	0.7 ~~0.88~~	977.5	4281	3
** Particulate	~~1.05~~ 1.12	~~4.60~~ 4.91	~~17-2.05(1)~~ ~~Best Technology~~ BACT	1.12 ~~1.05~~	1.05	4.60	3
** Particulate	~~0.27~~ .32	~~0.92~~ 1.40	~~17-2.05(1)~~ BACT	.32 ~~0.27~~	7.0	31	4
VE			~~BACT~~ BACT	5%			4

**V.E. observations instead of stack test on points 3 and 4.

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5])
Spray, Cross-Flow	Fluoride	99.9%	N/A	Design
Packed Scrubber	Part.	N/A	N/A	(See Att.3)
Baghouse	Part.	97.0%	< 1 to 40	Mfr. Guar.

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 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)

[5] If Applicable

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		
Diatomaceous Earth	Part.	1-2	703	1
Phosphoric Acid	F.	1.65	65,141	2
				(Attachment 1)

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

1. Total Process Input Rate (lbs/hr): 65,844
2. Product Weight (lbs/hr): 64,815

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Fluoride	0.88	3.85	BACT 0.05#F/ton P_2O_5 Input	0.88	977.5	4281	3
Particulate	2.1	9.2	Best Technology	2.1	7.0	31	3
** Particulate	---	---	17-2.05(1)	20.0%			4

**V.E. observations instead of stack test on point 4.

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5])
Spray, Cross-Flow Packed Scrubber	Fluoride	99.9%	N/A	Design (See Att.3)
Baghouse	Part.	70%	< 1 to 40	Mfr. Guar.

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 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)

[5] If Applicable

E. Fuels None

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, 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 _____ Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.
Scrubber effluent is pumped to recirculated gypsum/cooling pond.

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

Stack Height: 75'/35' ft. Stack Diameter: 2/1 ft.

Gas Flow Rate: 8700*/2500 ACFM Gas Exit Temperature: 115/90 °F.

Water Vapor Content: 6/0.1 % Velocity: 46/53 FPS

*8177 SCFMD

SECTION IV: INCINERATOR INFORMATION

Not Applicable

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.)
Lbs/hr Incinerated							

Description of Waste _____

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

Approximate Number of Hours of Operation per day _____ days/week _____

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 Diameter _____ 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.):

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight – show derivation.
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, etc.). (See Attachment 3)
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 8½" 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. (Attachment 1)
7. An 8½" 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 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram. (Attachment 2)

SUPPLEMENTAL INFORMATION

Section V, 1

Total Process Input Rate

Product: Defluorinated phosphoric acid at about 54% P_2O_5

Product Rate: 420 short tons per day (STPD) of 100% P_2O_5 as 54% P_2O_5 acid

-or-

64,815 lbs/hr as 54% acid solution
(420 ÷ 0.54 x 2000 ÷ 24)

Process Input: 422 STPD of 100% P_2O_5 as 54% P_2O_5 acid solution (420 ÷ 0.995)

-or-

782 STPD of 54% P_2O_5 acid solution
(422 ÷ 0.54)

-or-

65,141 lbs/hr of 54% P_2O_5 acid solution
(782 ÷ 24 x 2000)

-or-

17.6 Short tons per hour of 100% P_2O_5.
(422 ÷ 24)

Diatomaceous Earth: 703 lbs/hr at a usage rate of 40 lbs/ton P_2O_5 and feed rate of 422 TPD P_2O_5
(422 ÷ 24 x 40)

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee	
To:	Loctn.:
To:	Loctn.:
To:	Loctn.:
From:	Date:

TO: District, Subdistrict and Local Program Air Engineers

FROM: Ed Palagyi

DATE: October 31, 1980

SUBJ: B.A.C.T. as determined for Occidental Chemical Company, Phosphoric Acid Feed Preparation Plant, Hamilton County, Florida.

Attached please find one copy of the BACT as determined by the Florida Department of Environmental Regulation, for the subject plant.

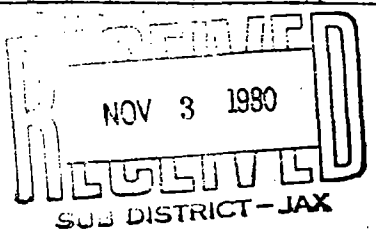
Should you have any questions regarding this determination, please contact me at (904) 488-1344. or Suncom 278-1344.

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee

To: _____ Loctn.: _____
To: _____ Loctn.: _____
To: _____ Loctn.: _____
From: _____ Date: _____



TO: Jacob D. Varn

FROM: Steve Smallwood

DATE: October 24, 1980

SUBJ: BACT - Occidental Chemical Company
Phosphoric Acid Feed Preparation

Facility: A 422 TPD P_2O_5 acid defluorination plant where diatomaceous earth is mixed with 54 percent phosphoric acid, heated and then air is blown through the mixture to remove fluorides from the acid. The fluoride is removed from this air with a cross-flow packed scrubber before the air is discharged to the atmosphere. Dust from the diatomaceous earth handling equipment is controlled with a baghouse.

BACT Determination Requested by the Applicant:

Fluoride: 0.05 lb F/ton P_2O_5 feed

Particulate: 1.26 lb/hr.

Date of Receipt of a BACT Application:

October 1 , 1980

Date of Publication in the Florida Administrative Weekly:

October 10,1980

Study Group Members:

Johnny Cole, St. Johns River Subdistrict
Teresa Heron, Bureau of Air Quality Management
Bob King, Bureau of Air Quality Management

Study Group Recommendation:

	Fluoride (lb F/TP_2O_5 in.)	Particulate
Johnny Cole	0.05	20% opacity
Teresa Heron	0.04	1.05 lb/hr (scrubb
Bob King	0.02	0.21 lb/hr (baghous

BACT Determination by the DER:

Maximum Allowable Emission Rate are as follows:

Fluoride - 0.04 $\frac{\text{lb. total F}}{TP_2O_5 \text{ input}}$ and 0.~~65~~ .70 lb F/hr.

Particulate - 0.015 grains/ACF or 5% opacity

Compliance to be determined by reference methods 1, 2, 3, 4, 5, 9, 13A or 13B as published in 40 CFR 60, Appendix A or by other DER approved procedures. Minimum sample volume per run is 30 DSCF collected during an integral number of cycles over a period of 60 minutes are longer. Fluoride emission compliance test are to be conducted near permitted capcity during the time the process pond water is expected to be near its maximum annual temperature.

Justification of DER Determination:

The cross-flow packed scrubber and baghouses are the most satisfactory types of control devices for this service. The BACT standard can be met with properly designed, maintained and operated control devices. Lower fluoride emission from this plant is possible if the scrubber water is treated to remove fluoride. The expense of treating the water to obtain lower emission is not justified at this time.

Details of the Determination:

Details of the determination may be obtained by contacting:

Willard Hanks
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommendation from the Bureau of Air Quality Management:

By: Steve Smallwood

Date: 10/28/80

Department of Environmental Regulation approval:

By: Jacob D. Varn

Date: 29 OCT 1980

Attachment: Application
Recommendation (3)

Section V, 2 & 3

Calculation of Potential and Actual Emissions

Fluorides

Acid feed 782 STPD 54% phosphate acid at 1.65% F or 422 STPD P_2O_5

Potential

= 782 ton/day(1.65 - 0.15)/100 lbs F/lb acid
x 2000 x 1/24

= 977.5 lb/hour.

= 4105.5 ton/year

Actual

= 422 ton/day x 0.04 lbF/ton x 1/24

✓ = 0.70 lb/hour

✓ = 2.9 ton/year

Particulate Matter pt 4

Diatomaceous Earth Receiving

DE feed rate is 703 lb/hour

Potential

= 703 lb/hour x 10 lb/1000* lb DE

= 7.0 lb/hour

✓ = 29.4 ton/year

Actual

= 2500 $ft.^3$/min x 0.015 gr/ft^3 x 60 x 1/7000

✓ = 0.32 lb/hr

✓ = 1.3 tons/year

Section V, 2 & 3

Calculation of Potential and Actual Emissions

Fluorides

Acid feed 782 STPD 54% phosphate acid at 1.65% F or 422 STPD P_2O_5

Potential

= 782 ton/day(1.65 - 0.15)/100 lbs F/lb acid
x 2000 x 1/24

= 977.5 lb/hour.

= 4281.5 ton/year

Actual

= 422 ton/day x ~~0.05~~ 0.04 lbF/ton x 1/24

= ~~0.88~~ 0.70 lb/hour

= ~~3.85~~ 2.85 ton/year

Particulate Matter

Diatomaceous Earth Receiving

DE feed rate is 703 lb/hour

Potential

= 703 lb/hour x 10 lb/1000* lb DE

= 7.0 lb/hour

= 30.8 ton/year

Actual

= 2500 ft.^{3}/min x ~~0.01~~ 0.015 gr/ft^3 x 60 x 1/7000

= ~~0.21~~ 0.32 lb/hr

= ~~0.92~~ 1.34 tons/year

Section V, 2 & 3

Calculation of Potential and Actual Emissions

Fluorides

Acid feed 782 STPD 54% phosphate acid at 1.65% F or 422 STPD P_2O_5

Potential

= 782 ton/day (1.65 - 0.15)/100 lbs F/lb acid
x 2000 x 1/24

= 977.5 lb/hour

= 4281.5 ton/year

Actual

= 422 ton/day x 0.05 lbF/ton x 1/24

= 0.88 lb/hour

= 3.85 ton/year

Particulate Matter

DE feed rate is 703 lb/hour

Potential

= 703 lb/hour x 10 lb/1000* lb DE

= 7.0 lb/hour

= 30.8 ton/year

Actual

= 8177 $ft.^3$/min x 0.03 gr/ft^3 x 60 x 1/7000

= 2.10 lb/hr

= 9.21 tons/year

* Technical guidance for Control of industrial process fugitive particulate emissions.

Acid Scrubber

Potential and Actual

= 8700 ft^3/min x 0.015 gr/ft^3 x 60 x 1/7000

= 1.12 lb/hr

= 4.70 tons/year

* Technical guidance for Control of industrial process fugitive particulate emissions.

Section V, 5

Control Efficiency

Fluoride

E_f = (977.5-0.88) x 100/977.5 .7

= 99.93% no change

Particulate Matter

E_p = (7.0 - 0.21) x 100/7.0 .32

= 95.4 %

Revised Page

Acid Scrubber

Potential and Actual

= ~~8177~~ 8700 ft^3/min x 0.015 gr/ft^3 x 60 x 1/7000

= ~~1.05~~ 1.12 lb/hr

= ~~4.60~~ 4.20 tons/year

* Technical guidance for Control of industrial process fugitive particulate emissions.

Section V, 5

Control Efficiency

Fluoride

E_f = (977.5-~~0.88~~ 0.70) x 100/977.5

= ~~99.91~~%

Particulate Matter

E_p = (7.0 - ~~0.21~~ 0.32) x 100/7.0

= ~~97.0~~%

Section V, 5

Control Efficiency

Fluoride

E_f = (977.5-0.88) x 100/977.5

= 99.91%

Particulate Matter

E_p = (7.0 - 2.10) x 100/7.0

= 70.0%

9. An application fee of $20, unless exempted by Section 17-4.05(3), F.A.C. 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 [X] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) [ ] Yes [X] No

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration
Fluoride	0.05 lb F/ton P_2O_5 fed
Particulate Matter 1.26	~~2.7~~ lb/hour

D. Describe the existing control and treatment technology (if any). (Not Applicable - New Source)

1. Control Device/System:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions:

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

Revised Page

10. Stack Parameters

a. Height: ft. b. Diameter: ft.

c. Flow Rate: ACFM d. Temperature:

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: Cross-flow packed scrubber

b. Operating Principles: Impingment - absorption

c. Efficiency*: 99.91% d. Capital Cost: $250,000

e. Useful Life: 20 years f. Operating Cost: $6600/yr.

g. Energy*: 131 x 10^3 kwh/year h. Maintenance Cost: $25,000/yr.

i. Availability of construction materials and process chemicals: Available and proven.

j. Applicability to manufacturing processes: Proven applicability throughout industry.

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

2.

a. Control Device: Vertical - flow packed scrubber

b. Operating Principles: Same as above.

c. Efficiency*: Same d. Capital Cost: Higher

e. Useful Life: Same f. Operating Cost: Slightly higher

g. Energy**: Same h. Maintenance Costs: Slightly higher

i. Availability of construction materials and process chemicals: Same

j. Applicability to manufacturing processes: Same

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

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power – KWH design rate.

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

*Explain method of determining efficiency above.

10. Stack Parameters

a. Height: 75 ft. b. Diameter: 2 ft.

c. Flow Rate: 8700 ACFM d. Temperature: 115 °F

e. Velocity: 46 FPS

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

1.

a. Control Device: Cross-flow packed scrubber

b. Operating Principles: Impingment - absorption

c. Efficiency*: 99.91% d. Capital Cost: $250,000

e. Useful Life: 20 years f. Operating Cost: $6600/yr

g. Energy*: 131 x 10^3 kwh/year h. Maintenance Cost: $25,000/yr.

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: Vertical - flow packed scrubber

b. Operating Principles: Same as above

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy**: h. Maintenance Costs:

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:

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power – KWH design rate.

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

*Explain method of determining efficiency above.

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*:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

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: (See Section E, 1)

1. Control Device:

2. Efficiency*:

3. Capital Cost:

4. Life:

5. Operating Cost:

6. Energy:

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes: The cross-flow packed scrubber is widely used by the entire phosphate industry for fluoride control.

a.

(1) Company: Occidental Chemical Company

(2) Mailing Address: P. O. Box 300

(3) City: White Springs (4) State: Florida

(5) Environmental Manager: Mr. W. W. Atwood

(6) Telephone No.: 392-8269

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration
Fluoride	99.0 to 99.9

(8) Process Rate*:

b.

(1) Company: Occidental Chemical Company

(2) Mailing Address: P.O. Box 500

(3) City: Buffalo (4) State: Iowa

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

(5) Environmental Manager: Ronald Ingelby

(6) Telephone No.: (319) 381-1130

(7) Emissions*:

Contaminant	Rate or Concentration
Fluoride	Not Available

(8) Process Rate*: 325 TPD P_2O_5

10. Reason for selection and description of systems:

Packed scrubbers are used exclusively by the phosphate industry to control fluoride emissions; The configuration of the scrubber; i.e., whether it is a vertical counter-current flow scrubber or a cross-flow scrubber, seems to depend more on individual preference and/or physical constraints rather than on fluoride removal efficiency. In this particular case, Occidental has elected to use a cross-flow packed scrubber with a fluoride removal efficiency of 99.91 percent (See Section V,5).

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

This section is not applicable since PSD is not required by Florida law for fluorides and the source is not significant (< 5 lb/hr and <15 tons/year) for particulate matter.

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION

Not Applicable

A. Company Monitored Data

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.

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

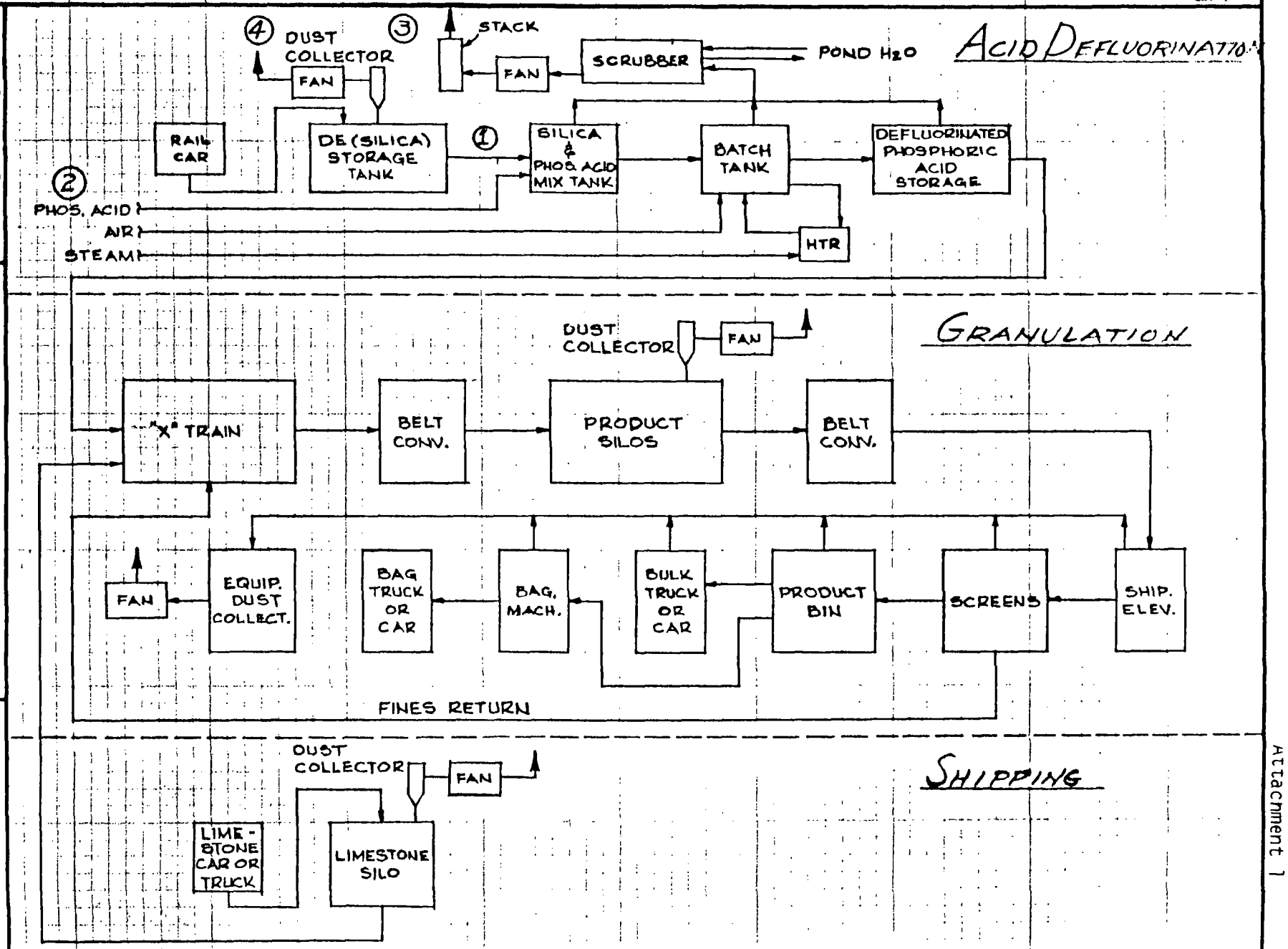
Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

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

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

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.



DRAWN BY R.L. DUPREE
DATE MAY 23, 1980
SCALE NONE
REVISION
REVISION
REVISION

TITLE
DICAL PRODUCTION FACILITIES
WITH ACID DEFLUORINATION

OCCIDENTAL CHEMICAL CO.

JOB NO
CHARGE NO
REV NO
SKETCH NO

Attachment 1

SHOLTES & KOOGLER, ENVIRONMENTAL CONSULTANTS
1213 N.W. 6th Street Gainesville, Florida 32601 (904) 377-5822

SKEC 102-75-06

October 13, 1980

Mr. Willard Hanks
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Dear Mr. Hanks:

Enclosed is a copy of Attachment 1(a) to the Occidental Chemical Company's Phosphoric Acid Feed Preparation Construction Application forwarded to you by Mr. W. W. Atwood on October 3, 1980. This page may have been omitted from the application sent on October 3rd. If so, please accept our apologies and insert this page in the application.

Thank you for your cooperation in this matter.

Very truly yours,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS

Sharon

Sharon S. Crown
Office Manager

SSC:bh
Enclosure

cc: Mr. W. W. Atwood (w/ enc.)
Mr. Johnny Cole (w/ enc.)

DESCRIPTION OF PROCESS

Attachment 1, Flow diagram describes three process areas.

- Phosphoric Acid Feed Preparation or Acid Defluorination -- a new facility covered under this application.

- Granulation -- an existing facility ("X"-Train) revised from production of granular phosphate fertilizer to production of granular phosphate feed ingredient ("Dical")

  Also shown are new product silos, product screens controlled by two dust collectors. These are currently permitted.

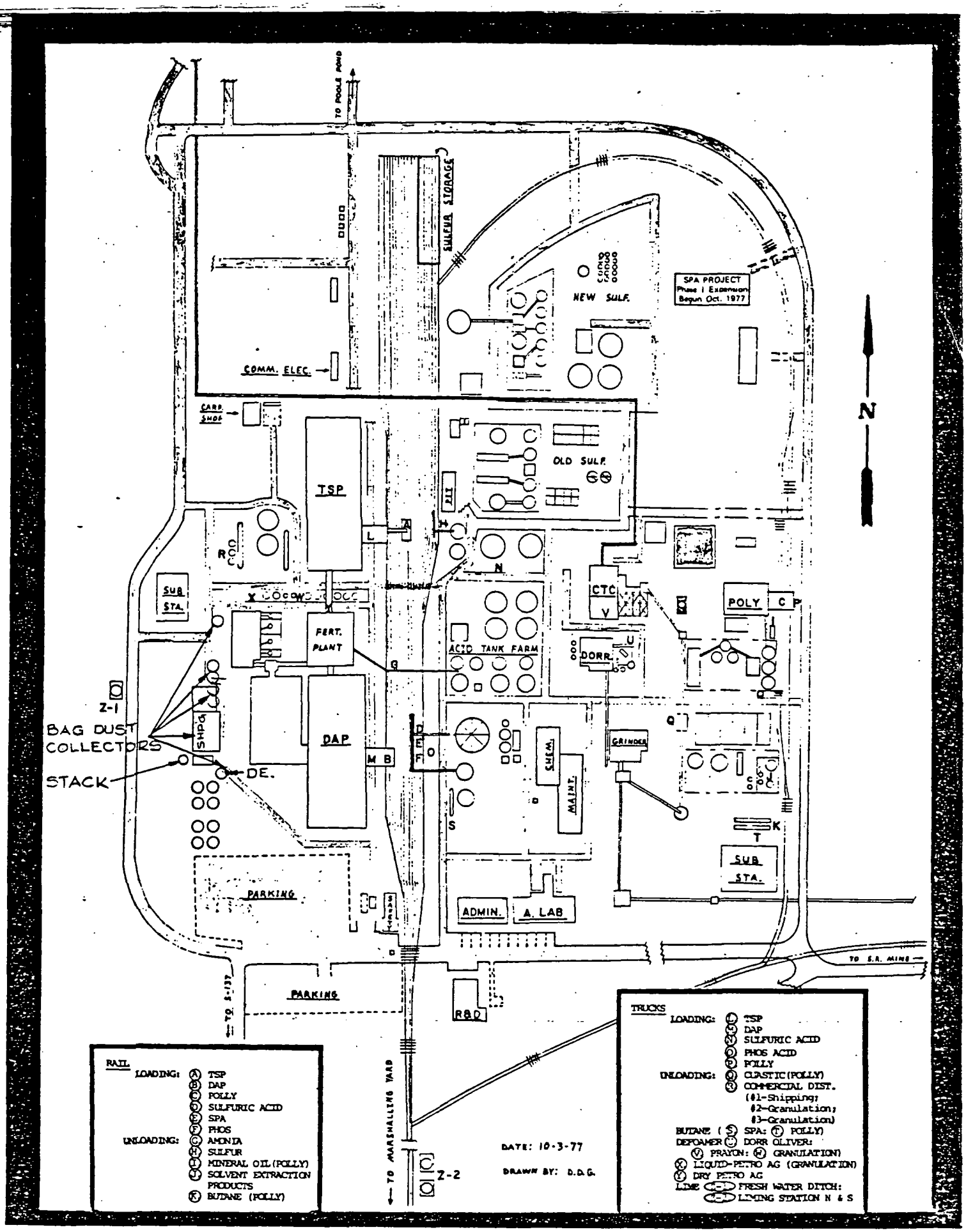
- Shipping -- a new facility to receive limerock; a raw material for mixing with the defluorinated phosphoric acid to make a granular dicalcium phosphate.

  The phosphoric acid feed preparation area shows receipt of diatomaceous earth (DE) which is an additive to assist in defluorination.

  The diatomaceous earth will be transferred by a totally enclosed airveyor to storage. The excess air exhausted through a bag collector.

  The diatomaceous earth will be fed to a mix tank through a totally enclosed screw conveyor. After premixing of diatomaceous earth and acid the slurry will be added to the batch tanks along with more acid to be defluorinated.

  The addition of heat and air will strip off fluorides mainly in the batch tanks, but all three tanks shown (Mix tank, batch tank and acid storage) will be vented to the scrubber. The scrubber is further described in Attachment 3.


TO POOLE POND
SULFUR STORAGE
SPA PROJECT
Phase I Expansion
Begun Oct. 1977
NEW SULF.
COMM. ELEC.
CARP. SHOP
OLD SULF.
TSP
R&D
SUB STA.
FERT. PLANT
ACID TANK FARM
CTC
DORR
POLY
DAP
SHPG.
Z-1
BAG DUST COLLECTORS
STACK
DE.
SHEM. MAINT.
GRINDER
SUB STA.
PARKING
ADMIN.
A. LAB
TO S.R. MINE
TO MARSHALLING YARD
Z-2
N
RAIL
LOADING: TSP, DAP, POLLY, SULFURIC ACID, SPA
UNLOADING: PHOS, AMONIA, SULFUR, MINERAL OIL (POLLY), SOLVENT EXTRACTION PRODUCTS, BUTANE (POLLY)
TRUCKS
LOADING: TSP, DAP, SULFURIC ACID, PHOS ACID, POLLY
UNLOADING: CLASTIC (POLLY), COMMERCIAL DIST. (#1-Shipping; #2-Granulation; #3-Granulation)
BUTANE (S) SPA: (T) POLLY)
DEFOAMER (C) DORR OLIVER: (V) PRAYON: (W) GRANULATION)
LIQUID-PETRO AG (GRANULATION)
DRY PETRO AG
LIME FRESH WATER DITCH:
LIVING STATION N & S
DATE: 10-3-77
DRAWN BY: D.D.G.