

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

**NORTHEAST DISTRICT**

3428 BILLS ROAD  
JACKSONVILLE, FLORIDA 32207  
904/798-4200



BOB MARTINEZ  
GOVERNOR  
DALE TWACHTMANN  
SECRETARY  
ERNEST E. FREY  
DISTRICT MANAGER  
GARY L. SHAEFFER  
ASSISTANT DISTRICT MANAGER

Mr. Lawrence M. Hickey  
Plant Manager  
The Celotex Corporation  
P. O. Box 40569  
Jacksonville, FL 32203

October 15, 1987

**Re: Duval County - AP  
The Celotex Corporation  
Wallboard Drying Kiln - Permit No. A016-107129**

Dear Mr. Hickey:

The Bio-Environmental Services Division (BESD) and the Department of Environmental Regulation (DER) have approved the revision of the captioned permit as follows:

**FROM:** For operation of the wallboard drying kiln firing propane or No. 5 fuel oil. Emissions from the three Hauck Model 784 PAE LX burners having a maximum total heat input of  $50 \times 10^6$  BTU/hr and the Urquhart Model MK IV Size 10 burner having a maximum heat input of  $25 \times 10^6$  BTU/hr are uncontrolled.

Emission points shall be as follows:

| <u>Point</u> | <u>Source</u>                                  |
|--------------|--|
| 08           | Urquhart burner located in Zone "A" (west end) |
| 13           | Hauck burner located in Zone 1 (middle)        |
| 14           | Hauck burner located in Zone 2 (middle)        |
| 15           | Hauck burner located in Zone 3 (east end)      |

**TO:** For the operation of the wallboard drying kiln with four (4) burners. Emissions from the burners vent through three (3) thirty foot and one (1) fifty foot stack to the ambient air.

Emission points shall be as follows:

| <u>Point</u> | <u>Source</u>  |
|--------------|--|
| 08           | Urquhart burner located in Zone 1 (west end)               |
| 13           | Maxon LO NO <sub>x</sub> burner located in Zone 2 (middle) |
| 14           | Hauck burner located in Zone 3 (middle)                    |
| 15           | Hauck burner located in Zone 4 (east end)                  |

**Specific Condition No. 8**

**FROM:** The allowable emissions shall be as follows:

| <u>Pt. No.</u> | <u>Pollutant</u>  | <u>lbs/hr</u> | <u>T/yr</u> | <u>Other</u> | <u>Opacity</u> |
|----------------|-------------------|---------------|-------------|--------------|----------------|
| 08             | Particulates      | 2.5           | 11.0        |              |                |
|                | Visible Emissions |               |             |              | 20% continuous |
| 13             | Particulates      | 2.0           | 8.8         |              |                |
|                | Visible Emissions |               |             |              | 20% continuous |
| 14             | Particulates      | 1.5           | 6.6         |              |                |
|                | Visible Emissions |               |             |              | 20% continuous |
| 15             | Particulates      | 1.5           | 6.6         |              |                |
|                | Visible Emissions |               |             |              | 20% continuous |

**TO:** The maximum allowable emissions shall be as follows:

| <u>Pt. No.</u> | <u>Pollutant</u>        | <u>lbs/hr</u> | <u>T/yr</u> | <u>Other</u> | <u>Opacity</u> |
|----------------|-------------------------|---------------|-------------|--------------|----------------|
| 08             | Particulate Matter (PM) | 2.5           | 11.0        |              |                |
|                | Visible Emissions (VE)  |               |             |              | 20% continuous |
| 13             | PM                      | 0.15          | .66         |              |                |
|                | VE                      |               |             |              | 20% continuous |
| 14             | PM                      | 1.5           | 6.6         |              |                |
|                | VE                      |               |             |              | 20% continuous |
| 15             | PM                      | 1.5           | 6.6         |              |                |
|                | VE                      |               |             |              | 20% continuous |

**Specific Condition No. 14**

Heat input shall be limited as follows:

| <u>Point</u> | <u>Maximum Heat Input</u>       | <u>Fuel</u>           |
|--------------|---------------------------------|-----------------------|
| 08           | 25 x 10 <sup>6</sup> BTUs/hr    | Propane or No. 5 fuel |
| 13           | 30 x 10 <sup>6</sup> BTUs/hr    | Propane only          |
| 14           | 15 50 x 10 <sup>6</sup> BTUs/hr | Propane or No. 5 fuel |
| 15           | 15 50 x 10 <sup>6</sup> BTUs/hr | Propane or No. 5 fuel |

This letter shall be attached to, and becomes part of, the referenced permit.

Please direct any questions concerning this matter to the BESD office at (904) 630-3210.


Very truly yours,

City of Jacksonville  
 Bio-Environmental Services Division

State of Florida  
 Department of Environmental Regulation

  
 Donald C. Bayly, Division Chief

  
 Ernest E. Frey, District Manager

 EEF/DCB/JL/bgm

cc: Mr. Bill Stewart, P.E., DER  
 BESD Air Permitting File  
 BESD File 1230 D

Disc: 1, 51

## Best Available Copy



The Celotex Corporation

a  Walter company9225 Darnes Point Road  
P.O. Box 40569  
Jacksonville, Florida 32203

December 23, 1986

Allan J. Luther  
Pollution Control Specialist  
Bio-Environmental Services Division  
515 West 6th Street,  
Jacksonville, Florida 32206-4397

Re: Wallboard Drying Kiln - Permit A016-107129

Dear Mr. Luther:

In our continuing effort to upgrade our facility, we have concluded plans which call for a change in the above stated permit.

Specifically: Point -13, and Source - Houck burner located in Zone 1 (Middle) will be upgraded by the replacement of the existing Houck burner (#5 fuel oil and propane) with a new, Maxon, Lo-nox, 30 million (max) BTU/Hr. burner (propane only). We feel that the replacement of this burner, in addition to the increased reliability for our own operation, will further reduce the possibility of our burning #5 fuel oil which reduces the potential particulate emissions.

We do expect that within 18 months, we will be converting to Natural Gas, which should improve our own operation, and further reduce potential emissions.

The replacement of the burner is scheduled to be performed during a 25 day plant shutdown beginning March 1, 1987.

If you have any questions concerning this matter, please contact me.

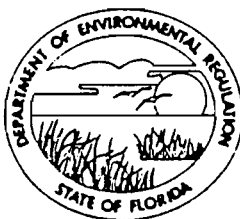
Yours truly,

Laurence M. Hickey  
Plant Manager

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

3428 BILLS ROAD  
JACKSONVILLE, FLORIDA 32207  
(904) 396-6959



BOB GRAHAM  
GOVERNOR  
VICTORIA J. TSCHINKEL  
SECRETARY  
G. DOUG DUTTON  
DISTRICT MANAGER

October 4, 1985

Mr. Laurence M. Hickey  
Plant Manager  
The Celotex Corporation  
Post Office Box 40569  
Jacksonville, FL 32203

Dear Mr. Hickey:

Duval County - AP  
The Celotex Corporation  
Wallboard Drying Kiln

Attached is Permit No. AO16-107129. Should you object to the issuance of this permit or the specific conditions of the permit, you have a right to petition for a hearing pursuant to the provisions of Section 120.57, Florida Statutes.

The petition must be filed within fourteen (14) days from receipt of this letter. The petition must comply with the requirements of Section 17-103.155 and Rule 28-5.201, Florida Administrative Code, (copies attached) and be filed pursuant to Rule 17-103.155(1) in the Office of General Counsel of the Department of Environmental Regulation at 2600 Blair Stone Road, Tallahassee, Florida 32301. Petitions which are not filed in accordance with the above provisions are subject to dismissal by the Department.

In the event a formal hearing is conducted pursuant to Section 120.57(1), all parties shall have an opportunity to respond, to present evidence and argument on all issues involved, to conduct cross-examination of witnesses and submit rebuttal evidence, to submit proposed findings of facts and orders, to file exceptions to any order or hearing officer's recommended order, and to be represented by counsel.

If an informal hearing is requested, the agency, in accordance with its rules of procedure, will provide affected persons or parties or their counsel an opportunity, at a convenient time and place, to present to the agency or hearing officer, written or oral evidence in opposition to the agency's action or refusal to act, or a written statement challenging the grounds upon which the agency has chosen to justify its action or inaction, pursuant to Section 120.57(2), Florida Statutes.

Sincerely,

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

FW:vk

cc: Jacksonville BES

RULES OF THE ADMINISTRATION COMMISSION  
MODEL RULES OF PROCEDURE  
CHAPTER 28-5  
DECISIONS DETERMINING SUBSTANTIAL INTEREST

PART II  
FORMAL PROCEEDINGS

28-5.201 Initiation of Formal Proceedings.

- (1) Initiation of formal proceedings shall be made by petition to the agency responsible for rendering final agency action. The term petition as used herein includes any application or other document which expresses a request for formal proceedings. Each petition should be printed, typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be indented.
- (2) All petitions filed under these rules should contain:
  - (a) The name and address of each agency affected and each agency's file or identification number, if known;
  - (b) The name and address of the petitioner or petitioners, and an explanation of how his/her substantial interests will be affected by the agency determination;
  - (c) A statement of when and how petitioner received notice of the agency decision or intent to render a decision;
  - (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
  - (e) A concise statement of the ultimate facts alleged, as the rules and statutes which entitle the petitioner to relief;
  - (f) A demand for relief to which the petitioner deems himself entitled; and
  - (g) Other information which the petition contends is material.

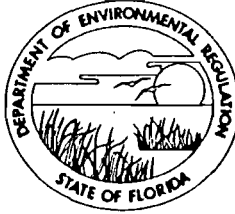
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A petition may be denied if the petitioner does not state adequately a material factual allegation, such as substantial interest in the agency determination, or if the petition is untimely. (Section 28-5.201(3)(a), FAC)

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

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



BOB GRAHAM  
GOVERNOR  
VICTORIA J. TSCHINKEL  
SECRETARY  
ERNEST E. FREY  
DISTRICT MANAGER

Permittee: I.D. Number: 31-16-0202-(08,13,14,15)  
The Celotex Corporation Permit/Certification Number: A016-107129  
P. O. Box 40569 Date of Issue: October 4, 1985  
Jacksonville, Florida 32203 Expiration Date: August 31, 1990  
County: Duval  
Latitude/Longitude: 30:23:37/81:33:30  
UTM: E-7446.430 N-3362.370  
Project: Wallboard Drying Kiln

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 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 operation of the wallboard drying kiln firing propane or No. 5 fuel oil. Emissions from the three Hauck Model 784 PAE LX burners having a maximum total heat input of  $50 \times 10^6$  BTU/hr and the Urquhart Model MK IV Size 10 burner having a maximum heat input of  $25 \times 10^6$  BTU/hr are uncontrolled.

Emission points shall be as follows:

| <u>Point</u> | <u>Source</u>                                  |
|--------------|--|
| 08           | Urquhart burner located in Zone "A" (west end) |
| 13           | Hauck burner located in Zone 1 (middle)        |
| 14           | Hauck burner located in Zone 2 (middle)        |
| 15           | Hauck burner located in Zone 3 (east end)      |

Located at 9225 Dames Point Road, Jacksonville, Florida 32226

Supporting documents shall be as follows:

- (1) Permit renewal application dated July 3, 1985
- (2) Permit A016-32636 and all attachments
- (3) Visible emissions test dated July 11, 1985
- (4) Celotex Particulate Matter Emissions computer modeling dated August 10, 1985

PERMITTEE:

The Celotex Corporation

I.D. Number:  
Permit/Certification Number:  
Date of Issue:  
Expiration Date:

31-16-0202-(08,13,14,15)  
A016-107129  
October 4, 1985  
August 31, 1990

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefor caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, unless specifically authorized by an order from the department.
6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:
  - a. Having access to and copying any records that must be kept under the conditions of the permit;
  - b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
  - c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information:
  - a. a description of and cause of non-compliance; and

PERMITTEE:

The Celotex Corporation

I.D. Number:

Permit/Certification Number:

Date of Issue:

Expiration Date:

31-16-0202-(08.13,14,15)

A016-107129

October 4, 1985

August 31, 1990

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:
  - ( ) 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:              | I.D. Number:                 | 31-16-0202-(08,13,14,15) |
| The Celotex Corporation | Permit/Certification Number: | A016-107129              |
|                         | Date of Issue:               | October 4, 1985          |
|                         | Expiration Date:             | August 31, 1990          |

**SPECIFIC CONDITIONS:**

1. Permittee shall notify the Bio-Environmental Services Division (BESD) fifteen (15) days prior to source testing. Copies of the test report(s) shall be submitted to BESD within forty-five (45) days after completion of testing.
2. Testing of emissions shall be accomplished at a minimum of 90% of the permitted capacity. If testing is performed at a rate less than 90% of the permitted capacity, operation shall be limited to a maximum of 110% of the tested capacity until such time as an acceptable test is performed at a minimum of 90% of the permitted capacity. When operation is restricted to a lower capacity because of testing at such a level, BESD, upon advanced notification, will allow operation at higher capacities if such operation is for demonstrating compliance at a higher capacity.
3. Any revision(s) to a permit (and application) shall be submitted and approved prior to implementing.
4. Control equipment shall be provided with a method of access that is safe and reasonably accessible. Stack sampling ports and/or platforms shall not be required.
5. Permittee shall submit an annual operation report to BESD for this source on the form supplied for each calendar year on or before March 1.
6. The following pollutant(s) shall be tested at intervals indicated from the date of July 1, 1985.

| <u>PT. NO.</u> | <u>POLLUTANT</u>  | <u>INTERVAL</u> |
|----------------|-------------------|-----------------|
| 08             | Particulates      | Upon Request    |
|                | Visible Emissions | Upon Request    |
| 13             | Particulates      | Upon Request    |
|                | Visible Emissions | Upon Request    |
| 14             | Particulates      | Upon Request    |
|                | Visible Emissions | Upon Request    |
| 15             | Particulates      | Upon Request    |
|                | Visible Emissions | Upon Request    |

7. The applicable emission limiting rules shall be as follows:

| <u>PT. NO.</u> | <u>POLLUTANT</u>  | <u>1FAC</u>     | <u>2JEPB</u> |
|----------------|-------------------|-----------------|--------------|
| 08             | Particulates      | 17-2.650(2)(b)2 | 2.207        |
|                | Visible Emissions | 17-2.610(2)(a)  | 2.203        |
| 13             | Particulates      | 17-2.650(2)(b)2 | 2.207        |
|                | Visible Emissions | 17-2.610(2)(a)  | 2.203        |
| 14             | Particulates      | 17-2.650(2)(b)2 | 2.207        |
|                | Visible Emissions | 17-2.610(2)(a)  | 2.203        |
| 15             | Particulates      | 17-2.650(2)(b)2 | 2.207        |
|                | Visible Emissions | 17-2.610(2)(a)  | 2.203        |

Permittee: The Celotex Corporation  
 I.D. Number: 31-16-0202-(08,13,14,15)  
 Permit/Certification Number: A016-107129  
 Date of Issue: October 4, 1985  
 Expiration Date: August 31, 1990

8. The allowable emissions shall be as follows:

| <u>PT. NO.</u> | <u>POLLUTANT</u>  | <u>lbs/hr</u> | <u>T/yr</u> | <u>OTHER</u> | <u>OPACITY</u> |
|----------------|-------------------|---------------|-------------|--------------|----------------|
| 08             | Particulates      | 2.5           | 11.0        |              |                |
|                | Visible Emissions |               |             |              | 20% continuous |
| 13             | Particulates      | 2.0           | 8.8         |              |                |
|                | Visible Emissions |               |             |              | 20% continuous |
| 14             | Particulates      | 1.5           | 6.6         |              |                |
|                | Visible Emissions |               |             |              | 20% continuous |
| 15             | Particulates      | 1.5           | 6.6         |              |                |
|                | Visible Emissions |               |             |              | 20% continuous |

9. Operation shall be limited to 8760 hours per year.

10. Testing shall be performed in accordance with EPA Reference Method No. 5 for particulates.

11. Testing shall be performed in accordance with EPA Reference Method No. 9 for the visual determination of opacity.

12. The process weight shall be limited to a maximum of 100,674 pounds per hour.


13. The No. 5 fuel oil shall be limited to a maximum of 1.5% sulfur content by weight. Sulfur analysis of the fuel oil shall be performed in accordance with ASTM D 2622-82 (Sulfur in Petroleum Products - X-RAY Spectrographic Method) or other method approved in advance by BESD. Analysis shall be submitted to BESD upon request.

Issued this 4th day of October, 1985

City of Jacksonville  
 Bio-Environmental Services Division

State of Florida  
 Department of Environmental Regulation

  
 Donald C. Bayly, Division Chief

  
 Ernest E. Frey, Manager  
 Northeast District

<sup>1</sup>FAC---Florida Administrative Code

<sup>2</sup>JEPB--Jacksonville Environmental Protection Board

PERMITTEE:

The Celotex Corporation

I.D. Number:

31-16-0202-(08,13,14,15)

Permit/Certification Number:

A016-107129

Date of Issue:

October 4, 1985

Expiration Date:

August 31, 1990

This is to certify that this document was mailed to the applicant, interested parties or their attorneys and persons who have requested in writing notice of the agency's action or proposed action before the close of business on the date indicated below:

Date:

10/4/85

FILING AND ACKNOWLEDGEMENT  
FILED, on this date, pursuant to S120.52 (9), Florida  
Statutes, with the designated Department Clerk,  
receipt of which is hereby acknowledged.

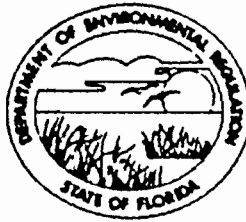
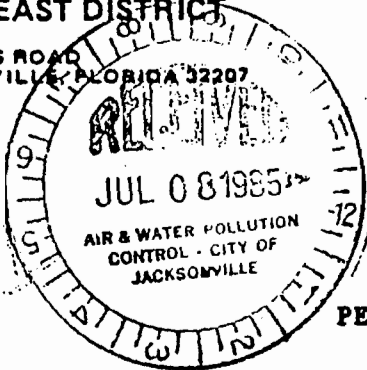
[Signature] 10/4/85  
Clerk

[Signature]

Signature

## DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

3426 BILLS ROAD  
JACKSONVILLE, FLORIDA 32207

Best Available Copy

BOB GRA  
GOVERNORVICTORIA J. TSCHIN  
SECRETARYG. DOUG DUT  
DISTRICT MANAGERAPPLICATION FOR RENEWAL OF  
PERMIT TO OPERATE AIR POLLUTION SOURCE(S)

If major alterations have occurred, the applicant should complete the Standard Air Permit Application Form.

Source Type: Kiln Renewal of DER Permit No. A016-32636Company Name: The Celotex Corporation County: Duval

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):

Wallboard Drying KilnSource Location: Street: 9225 Dames Point Road City: JacksonvilleUTM: East 7446.430 North 3362.370Latitude: 30° 23' 37" N. Longitude: 81° 33' 30" W.

1. Attach a check made payable to the Department of Environmental Regulation in accordance with operation permit fee schedule set forth in Florida Administrative Code R 17-4.05.
2. Have there been any alterations to the plant since last permitted?  Yes  No  
If minor alterations have occurred, describe on a separate sheet and attach.
3. Attach the last compliance test report required per permit conditions if not submitted previously. V.E. Test Results previously submitted to B.E.S.
4. Have previous permit conditions been adhered to?  Yes  No If no, explain on separate sheet and attach.
5. Has there been any malfunction of the pollution control equipment during tenure of current permit?  Yes  No If yes, and not previously reported, give brief details and what action was taken on a separate sheet and attach.
6. Has the pollution control equipment been maintained to preserve the collection efficiency last permitted by the Department?  Yes  No
7. Has the annual operating report for the last calendar year been submitted?  Yes  No If no, please attach.

THE CELOTEX CORPORATION

JACKSONVILLE, FLORIDA

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APPLICATION TO CONSTRUCT AIR  
POLLUTION SOURCES  
(REVISED)

\*\*\*\*\*

By-Product Gypsum Handling  
and Drying System

\*\*\*\*\*

September 1990  
(Revised January 1991)  
(Second Revision March 1991)

Prepared by:

H. R. Sanders  
Jim Walter Corporation  
Tampa, Florida

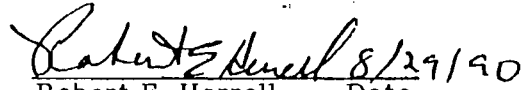
# Authorization

Jim  Walter corporation

POST OFFICE BOX 31075 (33631-3075) · 4010 BOY SCOUT BOULEVARD (33607)  
TAMPA, FLORIDA

August 29, 1990

Notice is hereby given that Alan H. Elwell, Plant Manager, The Celotex Corporation, Dames Point Road, Jacksonville, Duval County, Florida is the authorized representative for The Celotex Corporation at the Jacksonville facility and has full signatory authority for environmental matters.

  
Robert E. Herrell      Date  
Vice President-Manufacturing  
Building Products Division

Application

NORTHEAST DISTRICT  
3426 BILLS ROAD  
JACKSONVILLE, FLORIDA 32207  
904/798-4200



BOB MARTINEZ  
GOVERNOR  
DALE TWACHTMANN  
SECRETARY  
ERNEST E. FREY  
DISTRICT MANAGER  
GARY L. SHAEFFER  
ASSISTANT DISTRICT MANAGER

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Process [X] New<sup>1</sup> [ ] Existing<sup>1</sup>  
APPLICATION TYPE: [X] Construction [ ] Operation [ ] Modification  
COMPANY NAME: The Celotex Corporation COUNTY: Duval

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) By-Product Gypsum Process-  
ing

SOURCE LOCATION: Street Dames Point Road City Jacksonville  
UTM: East 7446.430 North 3362.370  
Latitude 30° 23' 37"N Longitude 81° 33' 30"W

APPLICANT NAME AND TITLE: Alan H. Elwell, Plant Manager

APPLICANT ADDRESS: P.O.Box 28830; Jacksonville, FL 32218

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative\* of The Celotex Corporation

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: *Alan H. Elwell*  
Alan H. Elwell - Plant Manager  
Name and Title (Please Type)

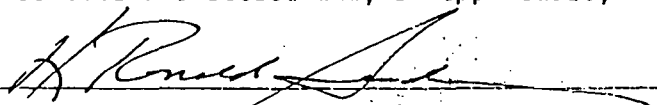
Date: 8/31/90 Telephone No. 904/751-4400

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

<sup>1</sup> 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 

H. R. Sanders

Name (Please Type)

Jim Walter Corporation

Company Name (Please Type)

4010 Boy Scout Blvd.; Tampa, FL 33607-5750

Mailing Address (Please Type)

Florida Registration No. PE0035237

Date: 8/23/90

Telephone No. 813/873-4351

**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.

See Attachment A

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

Start of Construction 4-29-91

Completion of Construction 12-13-91

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.)

Baghouse and associated equipment - \$200,000

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

N/A



Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wka/yr 52 ;  
power plant, hra/yr \_\_\_\_\_; if seasonal, describe: N/A

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 Deterioration" (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? Yes
  5. Do "National Emission Standards for Hazardous Air Pollutants"  
(NESHAP) apply to this source? No
- Do "Reasonably Available Control Technology" (RACT) requirements apply  
to this source? Yes
- a. If yes, for what pollutants? Particulates
  - 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 justifi-  
cation for any answer of "No" that might be considered questionable.

See Attachment B.

**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 |                            |                        |
| By-Product Gypsum | None         | -    | 65,800 (wet)               | A                      |
| Reclaimed Gypsum  | None         | -    | 14,200 (wet)               | B                      |
| *Natural Gas      | None         | -    | 28,990 Ft <sup>3</sup> /hr | G                      |
| *No. 6 Fuel Oil   | Sulfur       | 1.8  | 1602                       | G                      |
| *Propane          | None         | -    | 11,970 Ft <sup>3</sup> /hr | G                      |

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

1. Total Process Input Rate (lbs/hr): 81,602 (wet)

2. Product Weight (lbs/hr): 66,000 (dry)

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

Note: 40 CFR Part 60 Subpart 000. PM allowable is 0.022 grains/dscf.

| Name of Contaminant | Emission <sup>1</sup> |             | Allowed Emission Rate per Rule 17-2 | Allowable <sup>3</sup> Emission lbs/hr | Potential <sup>4</sup> Emission |        | Relate to Flow Diagram |
|---------------------|-----------------------|-------------|-------------------------------------|--|---------------------------------|--------|------------------------|
|                     | Maximum lbs/hr        | Actual I/yr |                                     |  | lbs/yr                          | I/yr   |                        |
| PM                  | 3.17                  | 13.9        | 40CFR Part 60 Subpart 000           | 3.46                                   | 3304.22                         | 14,472 | F                      |
| SO <sub>x</sub>     | 56.6                  | 248.4       | N/A                                 | N/A                                    | 56.6                            | 248.4  | F                      |
| No <sub>x</sub>     | 11.0                  | 48.3        | N/A                                 | N/A                                    | 11.0                            | 48.3   | F                      |
| CO                  | 1.0                   | 4.4         | N/A                                 | N/A                                    | 1.0                             | 4.4    | F                      |
| VOC                 | 0.23                  | 1.0         | N/A                                 | N/A                                    | 0.23                            | 1.0    | F                      |

<sup>1</sup>See Section V, Item 2.

<sup>2</sup>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)

<sup>3</sup>Calculated from operating rate and applicable standard.

<sup>4</sup>Emission, if source operated without control (See Section V, Item 3).

**Best Available Copy**

Control Devices: (See Section V, Item 4) See attached MAC Bulletin.

| Name and Type<br>(Model & Serial No.) | Contaminant | Efficiency | Range of Particles<br>Size Collected<br>(in microns)<br>(If applicable) | Basis for<br>Efficiency<br>(Section V<br>Item 5) |
|---------------------------------------|-------------|------------|---|--|
| MAC Equipment, Inc.                   | PM          | 99.9       | N/A   | Mfg. guarantee                                   |
| Baghouse Model                        |             |            |   |  |
| 120 RPT 476                           |             |            |   |  |
|                                       |             |            |   |  |
|                                       |             |            |   |  |

**Fuels**

| Type (Be Specific) | Consumption* |         | Maximum Heat Input<br>(MMBTU/hr) |
|--------------------|--------------|---------|----------------------------------|
|                    | avg/hr       | max./hr |                                  |
| Natural Gas        | 0.019        | 0.029   | 30.0                             |
| No. 6 Fuel Oil     | 133.8        | 200.7   | 30.0                             |
| Propane            | 0.008        | 0.012   | 30.0                             |

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

Fuel Analysis: See Attachment D.

Percent Sulfur: \_\_\_\_\_ Percent Ash: \_\_\_\_\_

Density: \_\_\_\_\_ lbs/gal Typical Percent Nitrogen: \_\_\_\_\_

Heat Capacity: \_\_\_\_\_ BTU/lb \_\_\_\_\_ BTU/gal

Other Fuel Contaminants (which may cause air pollution): \_\_\_\_\_

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

Annual Average \_\_\_\_\_ Maximum \_\_\_\_\_

Indicate liquid or solid wastes generated and method of disposal.

All material is recovered as product or reprocessed in a closed

cycle system.

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

Stack Height: 73 ft. Stack Diameter: 3.0 ft.  
 Gas Flow Rate: 28,500 ACFM 18,500 DSCFM Gas Exit Temperature: 160 °F.  
 Water Vapor Content: 15.6 (by weight) % Velocity: 67.2 FPS

SECTION IV: INCINERATOR INFORMATION

N/A

| 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 |                   |                  |                  |                    |                        |                              |                          |
| 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) <sup>3</sup> | 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) \_\_\_\_\_

rief description of operating characteristics of control devices: \_\_\_\_\_

N/A

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

N/A

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

SECTION V: SUPPLEMENTAL REQUIREMENTS

ease provide the following supplements where required for this application.

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

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.

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

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.)

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).

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. Figures 3-7.

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).

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. Figures 1 & 2.

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

| 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

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:<sup>1</sup>
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:<sup>2</sup>
- 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:<sup>1</sup>
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:<sup>2</sup>
- h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

Explain method of determining efficiency.  
Energy to be reported in units of electrical power - KWII 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:<sup>1</sup> d. Capital Costs:

e. Useful Life: f. Operating Costs:

g. Energy:<sup>2</sup> 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:

4.

a. Control Device: b. Operating Principles:

c. Efficiency:<sup>1</sup> d. Capital Costs:

e. Useful Life: f. Operating Costs:

g. Energy:<sup>2</sup> 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:

F. Describe the control technology selected:

1. Control Device: 2. Efficiency:<sup>1</sup>

3. Capital Cost: 4. Useful Life:

5. Operating Cost: 6. Energy:<sup>2</sup>

7. Maintenance Cost: 8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City: (4) State:

<sup>1</sup>Explain method of determining efficiency.

<sup>2</sup>Energy to be reported in units of electrical power - KWH design rate.



(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:<sup>1</sup>

Contaminant

Rate or Concentration

(8) Process Rate:<sup>1</sup>

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:<sup>1</sup>

Contaminant

Rate or Concentration

(8) Process Rate:<sup>1</sup>

10. Reason for selection and description of systems:

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

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

Company Monitored Data

1. \_\_\_\_\_ no. sites \_\_\_\_\_ TSP ( ) SO<sub>2</sub>\* \_\_\_\_\_ 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. Applicant's Maximum Allowable Emission Data

| Pollutant       | Emission Rate   |
|-----------------|-----------------|
| ISP             | _____ grams/sec |
| SO <sub>2</sub> | _____ 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.

# Sect V - Supplement

THE CELOTEX CORPORATION  
JACKSONVILLE, FLORIDA

Application to Construct a By Product  
Gypsum Handling and Drying System

SECTION V: SUPPLEMENTAL REQUIREMENTS

1. RAW MATERIALS

- a. By-Product Gypsum - 28 dry tons/hour (Design) @ 15% Moisture

$$\frac{28}{.85} = \underline{32.9 \text{ wet tons/hour}}$$
$$= \underline{65,800 \text{ wet lb/hour}}$$

- b. Reclaim Gypsum - 5 dry tons/hour (Design) @ 30% Moisture

$$\frac{5}{0.7} = \underline{7.1 \text{ wet tons/hour}}$$
$$= \underline{14,200 \text{ wet lb/hour}}$$

- c. Fuel Oil (No. 6)

$$\frac{30.0 \times 10^6 \text{ Btuh}}{1.49506 \times 10^5 \text{ Btu/gal}} \times 7.984 \frac{\text{lb}}{\text{gal}} = \underline{1602 \text{ lb/hour}}$$

(200.7 gal/hr)

- d. Natural Gas

$$\frac{30.0 \times 10^6 \text{ Btuh}}{1.035 \times 10^3 \text{ Btu/ft}^3} = 28.99 \times 10^3 \text{ ft}^3/\text{hour}$$
$$= \underline{28,990 \text{ ft}^3/\text{hr}}$$

- e. Propane

$$\frac{30.0 \times 10^6 \text{ Btuh}}{2.507 \times 10^3 \text{ Btu/ft}^3} = 11.97 \times 10^3 \text{ ft}^3/\text{hour}$$
$$= \underline{11,970 \text{ ft}^3/\text{hour}}$$

Total Process Input (Maximum)

|                   |   |                     |
|-------------------|---|---------------------|
| By-Product Gypsum | = | 65,800 lb/hr        |
| Reclaim Gypsum    | = | 14,200 lb/hr        |
| Fuel Oil          | = | <u>1,602 lb/hr</u>  |
| Total             | = | <u>81,602 lb/hr</u> |

Product

Equal Dry Weight of Gypsum = 33 tons/hour  
= 66,000 lb/hour

2. BASIS OF EMISSION ESTIMATES

a. Particulate Matter (Baghouse Stack)

Maximum Emission Rate = 0.02 gr/dscf

Qs = 18,500 dscfm

$$\frac{0.02 \text{ gr/dscf} \times 18,500 \text{ dscfm} \times 60 \text{ min/hr}}{7000 \text{ gr/lb}} = \underline{3.17 \text{ lb/hr}}$$

$$3.17 \text{ lb/hr} \times \frac{8760 \text{ hr/yr}}{2000 \text{ lb/ton}} = \underline{13.9 \text{ tons/yr}}$$

Due to the high moisture content of the gypsum prior to the dryer, no emissions are expected from the handling operations.

b. Sulfur Dioxide, Nitrogen Oxides, Carbon Monoxide and Volatile Organic Compounds

See Table section for calculation of emissions.

3. BASIS FOR POTENTIAL EMISSIONS

a. Particulate Matter

Sources of particulate matter emissions are BPG, Reclaim and Fuel Oil. Particulate matter after passing through the dryer enters a cyclone which recovers the dried gypsum from the conveying air stream. It is estimated that the cyclone will recover 95% of the dried gypsum. Particulate from combustion of fuel oil is assumed to pass through to the baghouse.

PM From Fuel Oil (S = 1.8%)

AP-42 Factor =  $[10S + 3] \text{ lb}/10^3\text{gal}$

$[10(1.8) + 3] \text{ lb}/10^3\text{gal} \times 0.2007 \text{ } 10^3\text{gal} = \underline{4.22 \text{ lb/hr}}$

Dry Gypsum = 33 tons/hr = 66,000 lb/hr

$66,000 \text{ lb/hr} \times 0.05 = \underline{3300 \text{ lb/hr}}$

PM Potential Uncontrolled Emissions = 3300 + 4.22 = 3304.22 lb/hr

$3304.22 \text{ lb/hr} \times \frac{8760 \text{ hr/yr}}{2000 \text{ lb/ton}} = \underline{14,472 \text{ tons/yr}}$

b. SO<sub>x</sub>, NO<sub>x</sub>, CO, VOC

No controls are planned. Potential uncontrolled emissions are the same as emissions.

4. CONTROL SYSTEM DETAILS

a. Baghouse

b. MAC Equipment, Inc.

Model 120RPT476

- c. Bags: 476, 12 oz/sq.yd. dacron polyester needled felt, 6" nominal diameter X 10 ft. long, 7901 ft<sup>2</sup> total.
- d. Cleaning Mechanism: Reverse jet
- e. A/C Ratio: 3.61/1
- f. See attached MAC Equipment bulletin for additional details.

5. CONTROL SYSTEM EFFICIENCY

From 3. above

Uncontrolled Particulate Emission Rate = 3304.22 lb/hr

From 2. above

Particulate emissions = 3.17 lb/hr (based on mfg. guarantee of 0.02 grains/dscf)

Required Efficiency

$$\frac{[3304.22 \text{ lb/hr} - 3.17 \text{ lb/hr}]}{3304.22} \times 100\% = \underline{\underline{99.9\%}}$$

# Attachments

Attachment A  
The Celotex Corporation  
Jacksonville, Florida

It is proposed to construct a system to receive and store, transfer, grind and dry a blend of by-product gypsum (BPG) and reclaimed gypsum board (in-plant recycle only).

BPG will be received by truck from Jacksonville Electric Authority and stockpiled on-site in a covered storage area (see Figure 2). BPG will be delivered only during daytime hours, five days per week. Only that quantity of BPG necessary to operate through a weekend will be accumulated. It may be necessary occasionally to hold material for a short time (hours) on a concrete pad outside the covered storage. All material is received in a moist condition. Material temporarily stored outside will be moved into covered storage before it becomes dry enough to permit fugitive emission losses. BPG from the storage area will be introduced into the system via a hopper and belt conveyor (see Figure 3).

Unsaleable gypsum board from plant manufacturing operation is presently stockpiled on-site for recycling. The existing recycle handling system will be incorporated into the proposed system (see Figure 3). The reclaim gypsum will be added to the system on the belt conveyor from the BPG hopper. The combined reclaim gypsum and BPG (mixture) will be conveyed to a surge hopper for metering into the dryer system.

From the surge hopper, the mixture is fed into the Impact Mill (see Figure 4). In the Impact Mill the mixture is crushed and drying begins. Hot air is added at the Impact Mill to dry the mixture and to convey the ground material through the system. From this point to the Bucket Elevator the system is totally enclosed. Crushed mixture leaving the Impact Mill passes through a Classifier which separates oversize material and returns it to the Impact Mill.

Hot air is generated in the Air Heater. The Air Heater is equipped with a single burner capable of burning No. 6 fuel oil, natural gas or propane (see Figure 5). The burner will have a rated output of  $30 \times 10^6$  Btuh. The air from the air heater will be mixed with recycled air from the system prior to entering the Impact Mill.

From the Classifier the mixture is air conveyed to a Cyclone which separates most of the mixture from the conveying air. The removed mixture is passed out of the cyclone through an airlock into a closed screw conveyor. Exhaust air from the Cyclone returns to the System Fan.

From the System Fan a portion of the air is returned to the Impact Mill as a heat recovery measure. The remaining air enters the Baghouse. An emergency air relief valve is supplied in case of over-temperature conditions. In the Baghouse the remaining fines in the conveying air are removed. The removed mixture is discharged to the same enclosed Screw Conveyor serving the Cyclone. The exhaust air from the baghouse discharges through the Exhaust Fan into the Stack. The Stack is provided with a testing platform and sampling ports (see Figure 6).

From the Screw Conveyor the mixture enters a Bucket Elevator (see Figure 7). The Bucket Elevator transfers the mixture to the existing board production system. Potential dust from the Bucket Elevator will be controlled by exhausting air from the Bucket Elevator housing. The exhaust will be combined with the system conveying air at the entrance to the Baghouse.



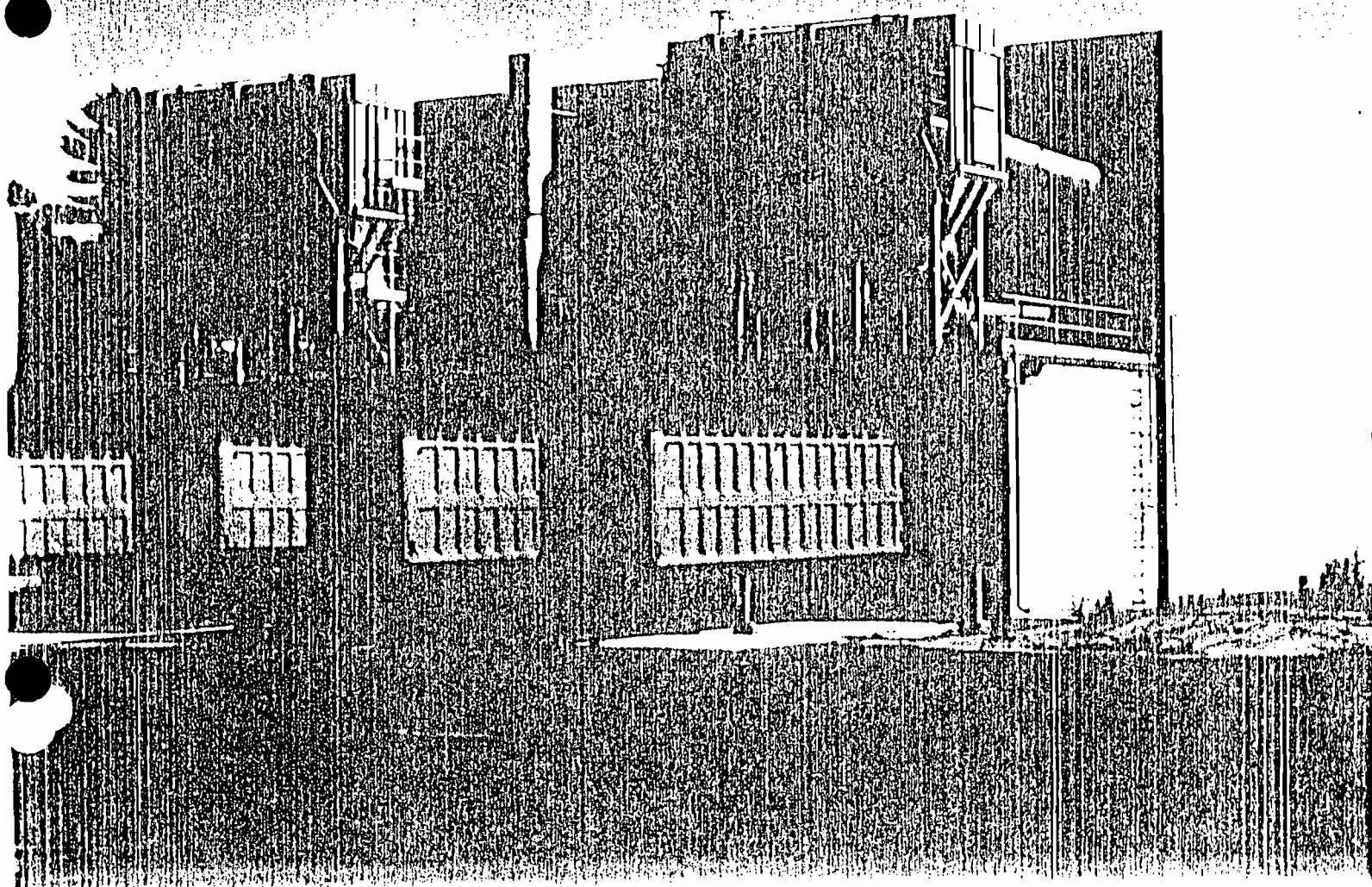
Justification for Non-NSR Status

The attached New Source Review (NSR) checklist (Table I) summarizes the results of determinations of applicability of pertinent questions establishing NSR requirements. Based on the checklist, the proposed facility modification is not subject to NSR.

Emissions for the existing facility, the proposed modification and contemporaneous emissions changes are summarized on attached Table II. Calculation of contemporaneous emissions changes including base-line year, present existing emissions and emissions from the proposed modification are given in the Tables section and in the Section V Supplement.



# RPT PULSE JET FILTERS



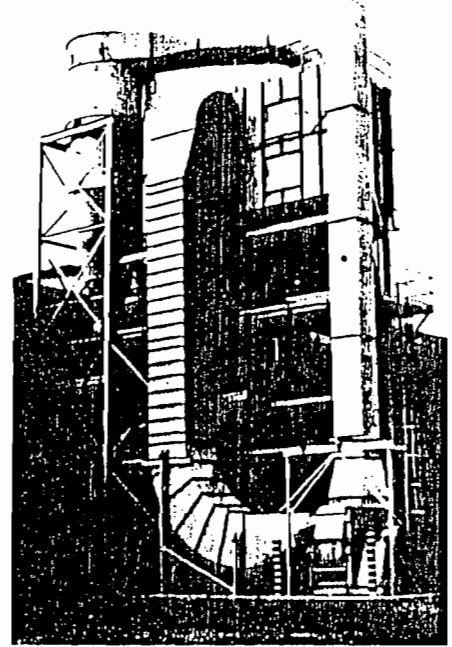
## **MAC RPT Pulse Jet Filter**

The MAC RPT is a state of the art pulse jet filter which incorporates the latest bag cleaning technology in a filter design- ed to be simple and readily maintainable. The RPT design includes a walk-in plenum, top bag (clean air side) removal and live bottom trough hoppers as standard equipment. To reduce your field installation costs, the MAC RPT is supplied with the header pipe, diaphragm valves and timer factory installed. Each row of bags is cleaned by a 1½" diaphragm air valve which is piped in the factory to a pilot solenoid valve. The solenoid is factory wired to an adjustable solid state timer.

RPT units are available in sizes ranging from 2789 sq. ft. of cloth to 8400 sq. ft. of cloth. Bag lengths are 10 ft. or 12 ft. The units may be manifolded to provide larger capacities. In multiple module installations, valving is available to provide for off-line cleaning or for maintenance isolation.

The RPT filter is furnished in welded sections with reinforced 12 ga. steel as standard construction suitable for 20" W.G. The tube sheet is of all welded 7 ga. construction. Filter housing and hopper thickness up to ¼" are available as required for certain applications.

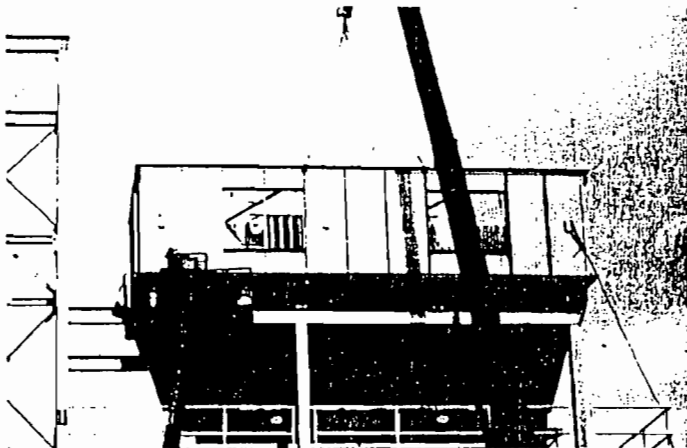
Bag cleaning is accomplished by use of 100 PSIG compressed air. Bag tops are protected from the air blast by use of the upper section of a venturi shape. Bag cages are of rigid wire construction. Standard bag fabrics are available for operation up to 550 degrees F.



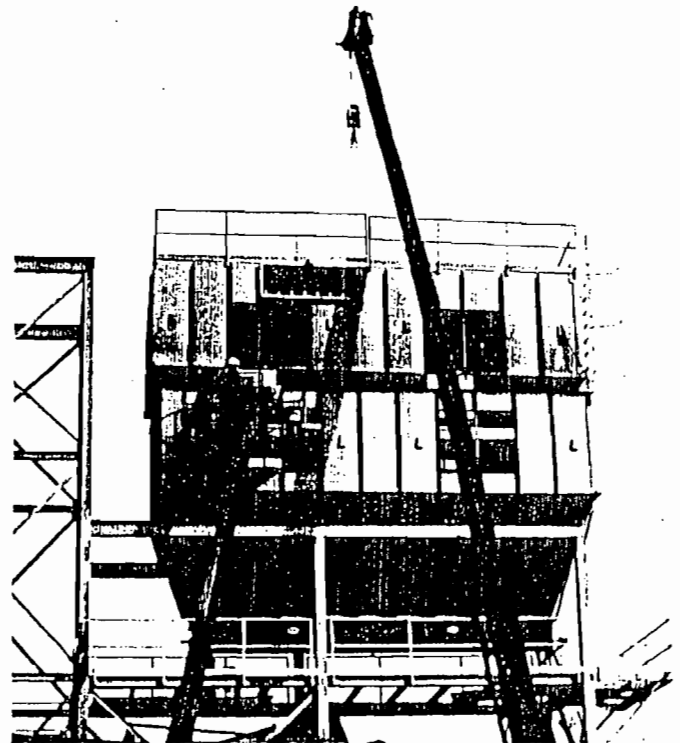
## **Hopper, Housing, and Plenum**



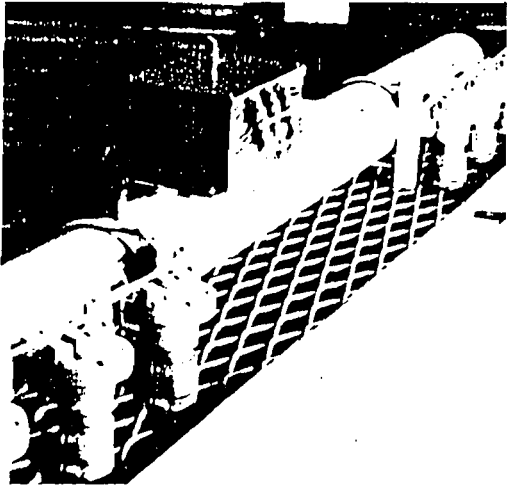
**Hopper is placed on support steel.**



**Housing is set in place on hopper.**



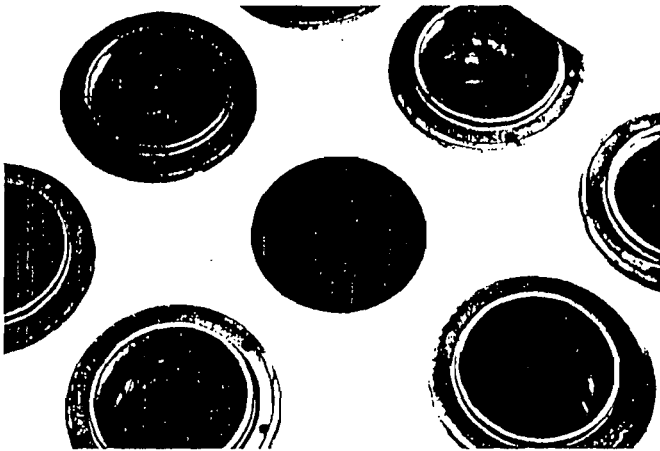
**Plenum is installed.**



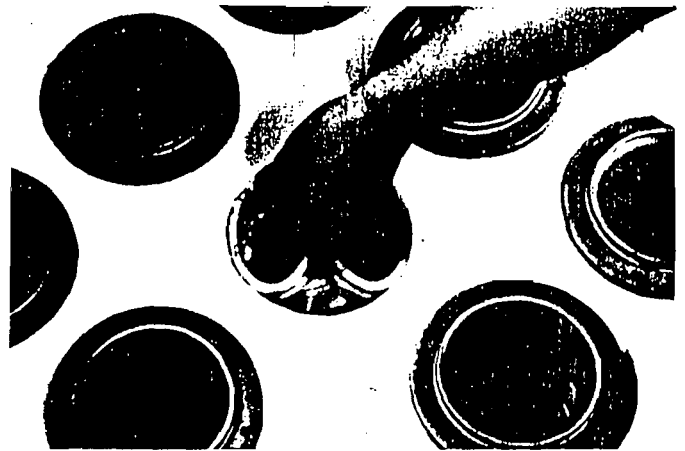
## Features

- Factory prewired solenoid valves and timer.
- Shop installed piping for solenoids and diaphragm valves.
- External access to timer, solenoids and diaphragm valves.
- 1½" diaphragm valves for maximum cleaning energy.
- All welded plenum, housing and hopper.
- Walk-in clean air plenum and top bag removal.
- Rigid wire bag cages.
- Bolted manhole in hopper.
- Flanged inlet and outlet.
- Pressure differential gauge mounted on housing.
- Air pressure gauge mounted on air manifold.
- Hopper inlet diffuser baffle.
- 9" flared trough screw conveyor in trough hoppers.

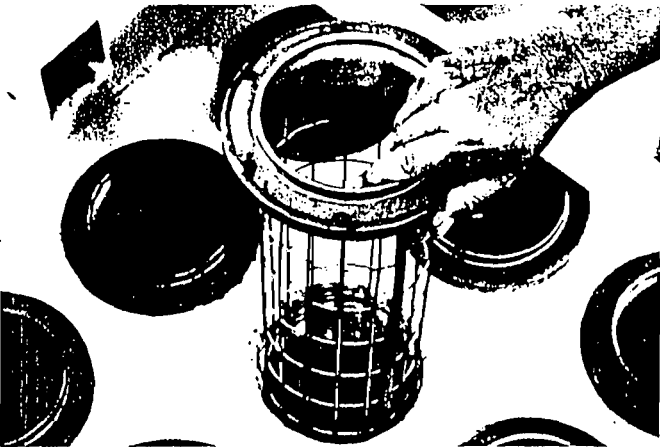
## Top Bag Removal



**Step 1** — Entry into the dirty side of the filter is unnecessary.



**Step 2** — Snap band with high profile lip seals secure the bag to the tube sheet.



**Step 3** — The cage snaps into place by merely lowering it into the bag and pushing down.

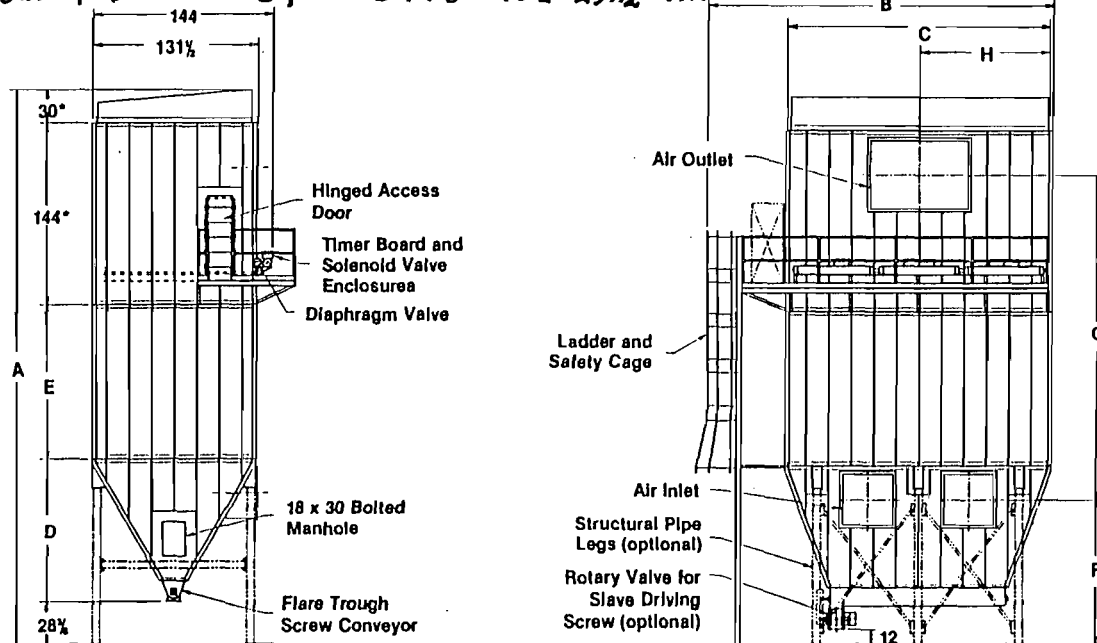


**Step 4** — The header pipes can only fit one way, thus insuring alignment of the blow nozzles.

# Specifications

| Filter Model | Sq. Ft. Cloth | Approx. Weight | A    | B    | C    | D    | E   | F    | G    | H    |
|--------------|---------------|----------------|------|------|------|------|-----|------|------|------|
| 120RPT168    | 2789          | 14245          | 372% | 183½ | 104½ | 96½  | 104 | 97%  | 239  | 52¼  |
| 144RPT168    | 3360          | 15730          | 420% | 183½ | 104½ | 96½  | 104 | 97%  | 268  | 52¼  |
| 120RPT196    | 3254          | 15930          | 387% | 200½ | 121½ | 111¼ | 104 | 111% | 237½ | 60¾  |
| 144RPT196    | 3920          | 17530          | 435% | 200½ | 121½ | 111¼ | 122 | 111% | 266½ | 60¾  |
| 120RPT224    | 3719          | 17400          | 389% | 217½ | 138½ | 113% | 104 | 112% | 236½ | 69¼  |
| 144RPT224    | 4480          | 19110          | 437% | 217½ | 138½ | 113% | 122 | 112% | 265½ | 69¼  |
| 120RPT252    | 4183          | 18890          | 389% | 234½ | 155½ | 113% | 104 | 111% | 237½ | 77¾  |
| 144RPT252    | 5040          | 20710          | 437% | 234½ | 155½ | 113% | 122 | 111% | 266½ | 77¾  |
| 120RPT280    | 4648          | 20630          | 389% | 251½ | 172½ | 113% | 104 | 116% | 230  | 86¼  |
| 144RPT280    | 5600          | 22550          | 437% | 251½ | 172½ | 113% | 122 | 116% | 259  | 86¼  |
| 120RPT308    | 5113          | 22090          | 389% | 268½ | 189½ | 113% | 104 | 115% | 231  | 94¾  |
| 144RPT308    | 6160          | 24130          | 437% | 268½ | 189½ | 113% | 122 | 115% | 260  | 94¾  |
| 120RPT336    | 5578          | 23580          | 389% | 285½ | 206½ | 113% | 104 | 114% | 229½ | 103¼ |
| 144RPT336    | 6720          | 25730          | 437% | 285½ | 206½ | 113% | 122 | 114% | 258½ | 103¼ |
| 120RPT364    | 6042          | 25100          | 389% | 302½ | 223½ | 113% | 104 | 113% | 230  | 111¾ |
| 144RPT364    | 7280          | 27310          | 437% | 302½ | 223½ | 113% | 122 | 113% | 259  | 111¾ |
| 120RPT392    | 6507          | 26540          | 389% | 319½ | 240½ | 113% | 104 | 112% | 230  | 120¼ |
| 144RPT392    | 7840          | 28910          | 437% | 319½ | 240½ | 113% | 122 | 112% | 259  | 120¼ |
| 120RPT420    | 6972          | 28060          | 389% | 336½ | 257½ | 113% | 104 | 111% | 231  | 128¾ |
| 144RPT420    | 8400          | 30510          | 437% | 336½ | 257½ | 113% | 122 | 111% | 260  | 128¾ |

120RPT476 7901 31,100 387½ 370½ 291½ 111¼ 104 " B 233 145¾



\*The filters with 120" bags and cages do not have a bolted sloped roof section. The sloped roof is an integral part of the walk-in plenum. The overall height of the walk-in plenum becomes 144", and the 30" dimension does not apply.



## Applications

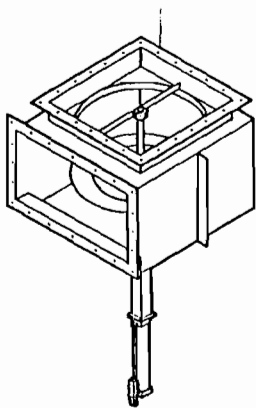
The MAC RPT has been utilized to control particulate emissions in a variety of industrial applications including foundry sand, grain dust, sander dust, rice, sugar, phosphorous, asbestos, barium metaborate, alumina, salt, gypsum, limestone, refuse derived fuels, soda ash, trisodium phosphate, coal, and many others.

## Options

The following standard options are available on RPT filters:

- Outlet weatherhood
- Epoxy coating
- Level indicators
- Temperature controller
- Explosion vents
- Structural steel supports
- NEMA 4 & 9 enclosures
- Sprinkler taps
- Extended auger
- 304 S.S. construction

For other options consult factory.

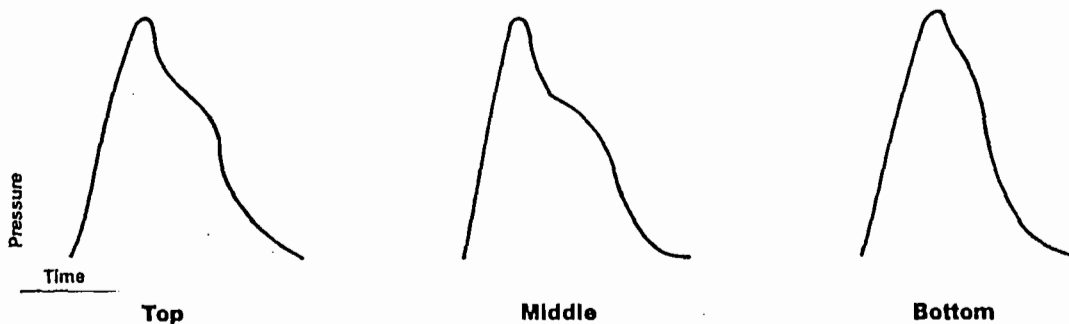


## Poppet Valve

The MAC Poppet Valve is designed to be used for module isolation in multiple module air pollution control systems for either "off-line" cleaning or maintenance. This valve will provide tight shut-off over a temperature range from 0 degrees F. to 550 degrees F.

## Uniform Bag Cleaning

In order to provide optimum pressure drop and bag life bag cleaning must be both instantaneous and uniform. The oscilloscope traces show the sharp pressure wave and its uniformity over the length of the filter bags in the RPT filter.





## AVS and AVR Filters

MAC AVS and AVR filters are electronically timed compressed air units which feature no moving parts construction. The MAC AVR may also be utilized as a receiver. MAC offers a complete line of compressed air units.

## Airlocks

Pictured is the MAC Heavy Duty Airlock. Our line of Heavy Duty Airlocks are used in a variety of industries.

MAC also manufactures a complete line of High Efficiency Airlocks, No Shear Airlocks, and Light Duty Airlocks for your pneumatic conveying needs plus a complete line of airlock accessories.

## Fans

MAC has a complete line of Backward Inclined, High Static, Straight Bladed, and Material Handling Fans for your air handling requirements available in Arrangements 1, 4, and 9.

## Pneumatic Conveying Systems

MAC Offers a complete line of valves, airlocks, blowers, filters, receivers and electrical control panels for your pneumatic conveying needs. MAC also offers a rail unload system and vacuum sequencing system to meet your applications. The picture above features line diverters conveying to two distinct locations, one being the pneumatic receiver to the left.


Contact MAC for your complete line of dilute and dense phase pneumatic conveying systems and components. Ask about our solution engineering services available. We also offer MAC Service Center for quick service on new equipment or replacement parts for your pneumatic conveying system.

## MWP Dust Filter

The MAC Model MWP is a high-velocity, reverse-air dust filter designed to handle larger dust problems. It may be applied to a variety of operations, including hay, grain, flour, feed, and many other materials. The Model MWP requires no compressed air supply and may be used as either a dust filter or a pneumatic receiver.

**MAC Equipment, Inc.**  
P.O. Box 205  
Sabetha, Kansas 66534  
Call Toll Free 1-800-223-2191  
or in KS Call Collect (913) 284-2191  
FAX 913-284-3565  
RPT(11/87)

**MAC**



# MAC

P.O. Box 203 • Sedona, Kansas 66634 • Toll Free 1-800-223-2191  
or In Kansas Call Collect 813-284-2191  
FAX 813-284-3555

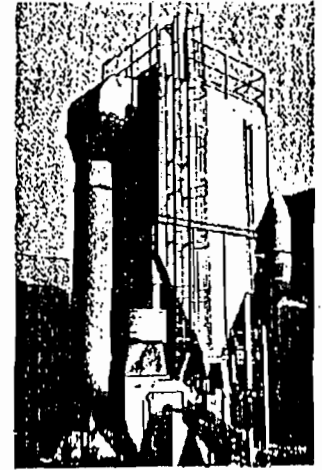
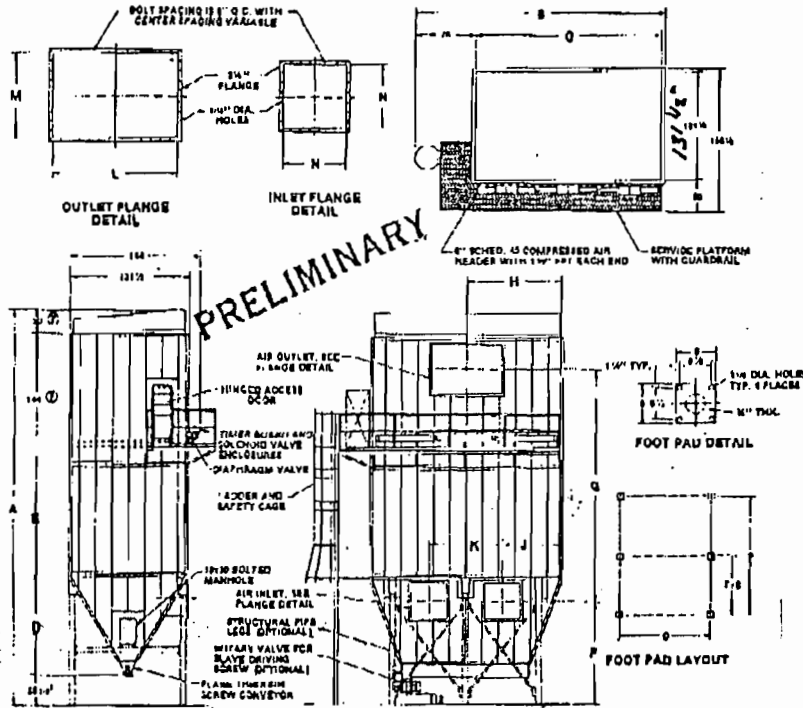
## SECTION 2

### DATA SHEET

#### PULSE JET FILTERS

Effective 7-15-88  
Supersedes 8-1-86

## RPT FILTER



- NOTES:**
- ① All dimensions are in inches.
  - ② Construction is 12 ga. C.S. with reinforcement ribs for 17" W.C. differential pressure maximum.
  - ③ Filter cleaning mechanism requires:
    - 100 PSIG of clean, dry plant air as required by application.
    - 105-115 volt A.C. single phase, 30-60 HZ power supply for filter and solenoid valve operation.
  - ④ Filter sizes 144RPT252 and smaller have four legs, size 144RPT280 and above have six legs.
  - ⑤ Filter sizes 144RPT252 and smaller have one inlet centered along the length of the hopper. Size 144RPT280 and above have two equal sized inlets located as indicated.
  - ⑥ On the RPT196 and RPT196 filters, the hopper is rotated 90° from the views shown.
  - ⑦ The filters with 120" bags and cages do not have a belted sloped roof section, the sloped roof is an integral part of the walk-in plenum. The overall height of the walk-in plenum becomes 144", and the 30" dimension does not apply.

| FILTER MODEL | SQ. FT. CLOTH | APPROX. WEIGHT | A    | B       | C       | D       | E   | F       | G       | H       | J      | K       | L  | M  | N  | O   | P      |
|--------------|---------------|----------------|------|---------|---------|---------|-----|---------|---------|---------|--------|---------|----|----|----|-----|--------|
| 120RPT168    | 2289          | 3345           | 302% | 163 1/8 | 104 1/4 | 263 1/2 | 104 | 97 1/2  | 250     | 52 1/2  | ..     | ..      | 64 | 34 | 40 | 91  | 77 1/2 |
| 144RPT168    | 3360          | 15730          | 420% | 183 1/4 | 104 1/4 | 96 1/4  | 104 | 97 1/2  | 250     | 52 1/2  | ..     | ..      | 64 | 34 | 40 | 91  | 77 1/2 |
| 120RPT196    | 1890          | 3877           | 387% | 200 1/4 | 121 1/4 | 111 1/4 | 122 | 111 1/2 | 266 1/4 | 60 1/4  | ..     | ..      | 60 | 39 | 42 | 108 | 79 1/2 |
| 144RPT196    | 3920          | 17530          | 435% | 200 1/4 | 121 1/4 | 111 1/4 | 122 | 111 1/2 | 266 1/4 | 60 1/4  | ..     | ..      | 60 | 39 | 42 | 108 | 79 1/2 |
| 120RPT224    | 2700          | 4700           | 374% | 217 1/4 | 138 1/4 | 111 1/4 | 122 | 110 1/2 | 263 1/4 | 69 1/4  | ..     | ..      | 66 | 43 | 44 | 114 | 94     |
| 144RPT224    | 4400          | 19110          | 435% | 217 1/4 | 138 1/4 | 111 1/4 | 122 | 110 1/2 | 263 1/4 | 69 1/4  | ..     | ..      | 66 | 43 | 44 | 114 | 94     |
| 120RPT252    | 3600          | 7189           | 394% | 234 1/4 | 155 1/4 | 111 1/4 | 122 | 109 1/2 | 266 1/4 | 77 1/4  | ..     | ..      | 66 | 43 | 46 | 114 | 111    |
| 144RPT252    | 5040          | 20710          | 435% | 234 1/4 | 155 1/4 | 111 1/4 | 122 | 109 1/2 | 266 1/4 | 77 1/4  | ..     | ..      | 66 | 43 | 46 | 114 | 111    |
| 120RPT280    | 5600          | 22550          | 435% | 251 1/4 | 172 1/4 | 111 1/4 | 122 | 114 1/2 | 259     | 86 1/4  | 54 1/4 | 64      | 72 | 48 | 36 | 114 | 128    |
| 144RPT280    | 5600          | 22550          | 435% | 251 1/4 | 172 1/4 | 111 1/4 | 122 | 114 1/2 | 259     | 86 1/4  | 54 1/4 | 64      | 72 | 48 | 36 | 114 | 128    |
| 120RPT308    | 6160          | 24130          | 435% | 268 1/4 | 189 1/4 | 111 1/4 | 122 | 113 1/2 | 260     | 94 1/4  | 58 1/4 | 72 1/4  | 72 | 48 | 38 | 114 | 145    |
| 144RPT308    | 6160          | 24130          | 435% | 268 1/4 | 189 1/4 | 111 1/4 | 122 | 113 1/2 | 260     | 94 1/4  | 58 1/4 | 72 1/4  | 72 | 48 | 38 | 114 | 145    |
| 120RPT336    | 6720          | 25730          | 435% | 285 1/4 | 206 1/4 | 111 1/4 | 122 | 112 1/2 | 258 1/4 | 103 1/4 | 62 1/4 | 81      | 78 | 63 | 40 | 114 | 162    |
| 144RPT336    | 6720          | 25730          | 435% | 285 1/4 | 206 1/4 | 111 1/4 | 122 | 112 1/2 | 258 1/4 | 103 1/4 | 62 1/4 | 81      | 78 | 63 | 40 | 114 | 162    |
| 120RPT364    | 7280          | 27310          | 435% | 302 1/4 | 223 1/4 | 111 1/4 | 122 | 111 1/2 | 269     | 111 1/4 | 67     | 87 1/4  | 82 | 54 | 42 | 114 | 179    |
| 144RPT364    | 7280          | 27310          | 435% | 302 1/4 | 223 1/4 | 111 1/4 | 122 | 111 1/2 | 269     | 111 1/4 | 67     | 87 1/4  | 82 | 54 | 42 | 114 | 179    |
| 120RPT392    | 7840          | 28910          | 435% | 319 1/4 | 240 1/4 | 111 1/4 | 122 | 110 1/2 | 259     | 120 1/4 | 71 1/4 | 98      | 86 | 56 | 44 | 114 | 196    |
| 144RPT392    | 7840          | 28910          | 435% | 319 1/4 | 240 1/4 | 111 1/4 | 122 | 110 1/2 | 259     | 120 1/4 | 71 1/4 | 98      | 86 | 56 | 44 | 114 | 196    |
| 120RPT420    | 8400          | 30510          | 435% | 336 1/4 | 257 1/4 | 111 1/4 | 122 | 109 1/2 | 260     | 128 1/4 | 75 1/4 | 105 1/4 | 96 | 56 | 46 | 114 | 213    |
| 144RPT420    | 8400          | 30510          | 435% | 336 1/4 | 257 1/4 | 111 1/4 | 122 | 109 1/2 | 260     | 128 1/4 | 75 1/4 | 105 1/4 | 96 | 56 | 46 | 114 | 213    |

- STANDARD SPECIFICATIONS FOR MAC MODEL RPT REVERSE PULSE FILTER**
- Materials of Construction*
- 12 ga. C.S. reinforced for 17" W.C.
  - Full welded stainless steel or reinforced ship welded interior
  - Major Components
  - Walk in plenum, bag house and hopper section. All tubs located in hoppers w perforated diffuser battel.
  - Timing board window: NEMA 12 1/4" diaphragm air valves
  - Bag Cuffs. Combination venturi and he down assembly galvanized carbon steel
  - Dogs - snap End 12 oz. sinced polyester dacron
  - Lifting hooks - 4 ea.
  - Pressure differential gauge kit
  - Bolt on access door in hopper support brackets
  - 1" Haze through cover
  - Service door and header assembly serv. platform and guard rail
  - Ladder and safety cage
  - Air pressure gauge
- Painting*
- Standard cleaning and metal preparation
  - Exterior and clear air-pneum interior prim with one coat 32429 grey primer
  - Exterior to have one finish coat.
  - Color to be specified.
  - Standard color is MAC blue.
  - Alternate standard color is MAC White.

For more information see print #D00269.  
Information on this page subject to change without notice.

FILTER MODEL 120 RPT 476, 7901<sup>1/2</sup> CLOTH, APPROX. WT. 31100

"A" = 387 3/8      "Q" = 233      "N" = 50

"B" = 370 1/2      "H" = 145 3/4      "O" = 114

"C" = 291 1/2      "J" = 83 1/2      "P" = 247

"D" = 111 1/4      "K" = 123 1/2

"E" = 104      "L" = 116

"F" = 111 3/4      "M" = 56

PRELIMINARY



Attachment D

FUEL DATA  
JACKSONVILLE PLANTCONTENTS

|               | <u>AMERADA HESS<br/>#0 FUEL OIL</u> | <u>WARREN PETRO.<br/>PROPANE</u> | <u>PEOPLE'S GAS<br/>NATURAL GAS</u> |
|---------------|-------------------------------------|----------------------------------|-------------------------------------|
| Sulfur        | 1.45%                               | 0%                               | 0.2 grams/100 cu.ft                 |
| Ash           | .02%                                | 0%                               | 0%                                  |
| Density       | 7.984 lb./gal.                      | 0.116 lb./cu.ft.<br>60° F        | 0.045 lb./cu.ft.<br>60° F           |
| Heat Capacity | 149,506 BTU/gal.                    | 2507 BTU/CF<br>dry vapor         | 1030-1040 BTU/CF                    |
| Nitrogen      | N/A                                 | 0%                               | 0.4%                                |

Contacts: Amerada Hess - 904/757-4498 - Richard  
Warren Petroleum - 813/960-1500 - Mike  
People's Gas - 904/739-1211 - Todd Widely

NEW SOURCE REVIEW (NSR) CHECKLIST

| <u>Question and Rule</u>   | <u>Pollutant (TPY)</u> |                        |                       |                       |                  |                 |
|--|------------------------|------------------------|-----------------------|-----------------------|------------------|-----------------|
|  | <u>PM</u>              | <u>PM<sub>10</sub></u> | <u>SO<sub>2</sub></u> | <u>NO<sub>x</sub></u> | <u>CO</u>        | <u>VOC</u>      |
| 1. Is the existing facility a <u>major</u> facility as defined by 17-2.100 (113)? (>100 TPY)                                       | Y(267)                 | Y(267)                 | Y(522)                | Y(127)                | N(14.3)          | N(3.4)          |
| 2. Would the existing facility be subject to NSR review under 17-2.500(2)(d)2. if it were new? (>250 TPY) [17-2.500 (2)(d)4.a.(i)] | Y(267)                 | Y(267)                 | Y(522)                | N(127)                | N(14.3)          | N(3.4)          |
| 3. Will the modification result in a significant net emissions increase (Table 500-2)? [17-2.500(2)(d)4.a.(ii)]                    | N(-4.58)<br>(>25)      | N(-4.58)<br>(>15)      | N(25.0)<br>(>40)      | N(1.2)<br>(>40)       | N(2.9)<br>(>100) | N(0.8)<br>(>40) |
| 4. Would the modification in and of itself be subject to NSR review under 17-2.500(2)(d)2.? (>250) [17-2.500(2)(d)3.]              | N(13.9)                | N(13.9)                | N(248.4)<br>Y         | N(48.3)<br>Y<br>17.96 | N(4.4)           | N(1.0)          |
| 5. Is the modification subject to NSR review?  |                        |                        |                       |                       |                  |                 |
| a. 17-2.500(2)(d)3.  | N/A                    | N/A                    | N/A--                 | N/A                   | No               | No              |
| b. 17-2.500(2)(d)4.a.  | No                     | No                     | No                    | No                    | N/A              | N/A             |
| c. 17-2.500(2)(d)4.b.  | N/A                    | N/A                    | N/A                   | N/A                   | N/A              | N/A             |
| 6. NSR required?   | No                     | No                     | No                    | No                    | No               | No              |

EMISSIONS SUMMARY FOR EXISTING FACILITY

AND PROPOSED MODIFICATION (TONS/YEAR)

| <u>Source</u>                       | <u>Total Particulate<br/>Matter</u> | <u>PM<sub>10</sub></u> | <u>SO<sub>2</sub></u> | <u>NO<sub>2</sub></u> | <u>CO</u> | <u>VOC</u> |
|-------------------------------------|-------------------------------------|------------------------|-----------------------|-----------------------|-----------|------------|
| Existing<br>Facility                | 267.22                              | 267.22                 | 521.8                 | 126.9                 | 14.3      | 3.4        |
| Modification                        | 13.9                                | 13.9                   | 248.4                 | 48.3                  | 4.4       | 1.0        |
| Contemporaneous<br>Emission Changes | (4.58)                              | (4.58)                 | 25.0                  | 1.2                   | 2.9       | 0.8        |

Note: ( ) denotes reduction.

THE CELOTEX CORPORATION  
JACKSONVILLE, FLORIDA

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SO<sub>2</sub>: CONTEMPORANEOUS CHANGES IN EMISSIONS

|   | <u>Source</u>                   | <u>Eff. Date</u>    | <u>P/C Number</u>                            | <u>SO<sub>2</sub> Emissions<br/>(tons/yr)</u>                                    | <u>Margin(tons/yr)</u> |
|---|---------------------------------|---------------------|--|--|------------------------|
| 1985<br>Permits                                     | (3) Calcining Kettle<br>Burners | 10-4-85             | A016-107128                                  | 227.7  |                        |
|   | Wallboard Drying Kiln           | 10-4-85             | A016-107129                                  | 517.5  | 75 BPG/hr max          |
|   |                                 |                     | Base as of <u>10-14-87</u>                   | =  | 745.2                  |
| <hr/>   |                                 |                     |  |  |                        |
| 1987<br>Modification<br>of<br>Permits<br>(10-15-87) | Wallboard Drying Kiln           | 10-15-87            | A016-107129                                  | 379.5  | (138.0) ✓              |
|   |                                 |                     |  | 875/95 ratio<br>max  | (138.0)                |
| <hr/>   |                                 |                     |  |  |                        |
| 1990<br>Permit<br>(As Corrected)                    | (3) Calcining Kettle<br>Burners | 11-14-90            | A016-185808                                  | 273.2  | 45.5                   |
|   | Wallboard Drying Kiln           | 3-6-91<br>(Request) | A016-185805                                  | 248.6<br>521.8   | (130.9)<br>(223.4)     |
|   |                                 |                     |  | F.O. Sulfur content<br>1.87%<br>lowered to 3.0 mmSO <sub>2</sub> /hr<br>at 1.87% |                        |
|   |                                 |                     | Net Changes Before By-Product Dryer Addition | =  | (223.4)                |
| <hr/>   |                                 |                     |  |  |                        |
| By-Product<br>Gypsum<br>Process                     | Dryer                           | Application         | A016-186133                                  | 248.4  | = <u>248.4</u>         |
|   |                                 |                     | Contemporaneous Changes, Including BPG Dryer | =  | 25.0                   |

What  
about  
actuals  
prior  
to & below

THE CELOTEX CORPORATION  
 JACKSONVILLE, FLORIDA

PARTICULATE MATTER (PM<sub>10</sub>): CONTEMPORANEOUS CHANGES IN EMISSIONS

|                             | <u>Source</u>                                    | <u>Eff. Date</u>    | <u>P/C Number</u> | <u>PM Emissions<br/>(tons/yr)</u> | <u>Margin (tons/yr)</u> |
|-----------------------------|--|---------------------|-------------------|-----------------------------------|-------------------------|
| 1985<br>Permits             | 1. Gypsum Ore Crushing<br>System and Conveyors   | 10-4-85             | A016-107130       | 21.9                              |                         |
|                             | 2. Wallboard Drying Kiln                         | 10-4-85             | A016-107129       | 33.0                              |                         |
|                             | 3. Calcining Kettles &<br>Material Handling      | 10-4-85             | A016-107127       | 172.6                             |                         |
|                             | 4. (3) Calcining Kettle<br>Fireboxes             | 10-4-85             | A016-107128       | 1.4                               |                         |
|                             | 5. Material Handling<br>Equipment & Storage Bins | 10-4-85             | A016-107131       | 21.9                              |                         |
|                             | 6. Wallboard End Trim System                     | 10-4-85             | A016-107097       | <u>21.9</u>                       |                         |
|                             |  | Base as of 10-14-87 |                   | 285.7                             |                         |
| 1977<br>Permit<br>Amendment | Wallboard Drying Kiln                            | 10-15-87            | A016-107129       | 24.86                             | <u>(8.14)</u>           |
|                             |  |                     | Net Change        |                                   | (8.14)                  |

THE CELOTEX CORPORATION  
 JACKSONVILLE, FLORIDA

PARTICULATE MATTER (PM<sub>10</sub>): CONTEMPORANEOUS CHANGES IN EMISSIONS

|                                      | <u>Source</u>  | <u>Eff. Date</u> | <u>P/C Number</u> | <u>PM Emissions<br/>(tons/yr)</u> | <u>Margin(tons/yr)</u>                 |
|--------------------------------------|--|------------------|-------------------|-----------------------------------|--|
| 1990<br>Permits<br>(as<br>corrected) | 1. Gypsum Ore Crushing<br>System and Conveyors           | 11-19-90         | A016-185811       | No Change                         |  |
|                                      | 2. Wallboard Drying Kiln                                 | 11-14-90         | A016-185805       | 14.52                             | (10.34)                                |
|                                      | 3. Calcining Kettles &<br>Material Handling              | 11-9-90          | A016-185812       | No Change                         |  |
|                                      | 4. (3) Calcining Kettle Burners                          | 11-14-90         | A016-185808       | No Change                         |  |
|                                      | 5. Natural Handling<br>Equipment & Storage Bins          | 11-9-90          | A016-185809       | No Change                         |  |
|                                      | 6. Wallboard End Trim<br>System                          | 11-14-90         | A016-185806       | <u>No Change</u><br>267.22        | <u>                    </u><br>(18.48) |
| <hr/>                                |  |                  |                   |                                   |  |
|                                      | By-Product Gypsum Process                                | Application      | A016-186133       | 13.9                              | 13.9                                   |
| <hr/>                                |  |                  |                   |                                   |  |
|                                      | Contemporaneous PM (PM <sub>10</sub> ) Emissions Changes |                  |                   |                                   | (4.58)                                 |
| <hr/>                                |  |                  |                   |                                   |  |

THE CELOTEX CORPORATION

JACKSONVILLE, FLORIDA

NITROGEN OXIDES: CONTEMPORANEOUS CHANGES IN EMISSIONS

|                              | <u>Source</u>                  | <u>Eff. Date</u>      | <u>P/C Number</u> | <u>NO<sub>x</sub> Emissions<br/>(tons/yr)</u> | <u>Margin(tons/yr)</u> |
|------------------------------|--------------------------------|-----------------------|-------------------|---|------------------------|
| 1985                         | Wallboard Drying Kiln          | 10-4-85               | A016-107129       |   |                        |
| Permits                      | (3) Calcining Kettle Fireboxes | 10-4-85               | A016-107128       |   |                        |
|                              |                                | Base as of 10-14-87 = |                   | 174   |                        |
| -----                        |                                |                       |                   |   |                        |
| 1990                         | Wallboard Drying Kiln          | 11-14-90              | A016-185805       |   |                        |
| Permits<br>(as<br>corrected) | (3) Calcining Kettle Fireboxes | 11-14-90              | A016-185808       |   |                        |
|                              |                                |                       |                   | 126.9   | (47.1)                 |
| -----                        |                                |                       |                   |   |                        |
|                              | By-Product Gypsum Process      |                       | A016-186133       | 48.3  | 1.2                    |
| -----                        |                                |                       |                   |   |                        |

THE CELOTEX CORPORATION  
JACKSONVILLE, FLORIDA

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CARBON MONOXIDE: CONTEMPORANEOUS CHANGES IN EMISSIONS

|         | <u>Source</u>                  | <u>Eff. Date</u>      | <u>P/C Number</u> | <u>CO Emissions<br/>(tons/yr)</u> | <u>Margin(tons/yr)</u> |
|---------|--------------------------------|-----------------------|-------------------|-----------------------------------|------------------------|
| 1985    | Wallboard Drying Kiln          | 10-4-85               | A016-107129       |                                   |                        |
| Permits | (3) Calcining Kettle Fireboxes | 10-4-85               | A016-107129       |                                   |                        |
|         |                                | Base as of 10-14-87 = |                   | 15.8                              |                        |
| -----   |                                |                       |                   |                                   |                        |
| 1990    | Wallboard Drying Kiln          | 11-14-90              | A016-185805       |                                   |                        |
| Permits | (3) Calcining Kettle Burners   | 11-14-90              | A016-185808       |                                   |                        |
|         |                                |                       |                   | 14.3                              | (1.5)                  |
| -----   |                                |                       |                   |                                   |                        |
|         | By-Product Gypsum Process      |                       | A016-186133       | 4.4                               | 2.9                    |
| -----   |                                |                       |                   |                                   |                        |



THE CELOTEX CORPORATION  
 JACKSONVILLE, FLORIDA

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VOC: CONTEMPORANEOUS CHANGES IN EMISSIONS

|         | <u>Source</u>                  | <u>Eff. Date</u> | <u>P/C Number</u> | <u>VOC Emissions<br/>(tons/yr)</u> | <u>Margin(tons/yr)</u> |
|---------|--------------------------------|------------------|-------------------|------------------------------------|------------------------|
| 1985    | Wallboard Drying Kiln          | 10-4-85          | A016-107129       |                                    |                        |
| Permits | (3) Calcining Kettle Fireboxes | 10-4-85          | A016-107128       | _____                              |                        |
|         | Base as of 10-14-87            |                  | =                 | 3.6                                |                        |
| -----   |                                |                  |                   |                                    |                        |
| 1990    | Wallboard Drying Kiln          | 11-14-90         | A016-185805       |                                    |                        |
| Permits | (3) Calcining Kettle Burners   | 11-14-90         | A016-185808       | _____                              |                        |
|         |                                |                  |                   | 3.4                                | (0.2)                  |
| -----   |                                |                  |                   |                                    |                        |
|         | By-Product Gypsum Process      |                  | A016-186133       | 1.0                                | 0.8                    |
| -----   |                                |                  |                   |                                    |                        |

A. Calculate SO<sub>2</sub> Emission Rates

1. Emission Factors

From AP-42

Fuel Oil: 1575 lb, SO<sub>2</sub>/10<sup>3</sup> gallons

Natural Gas: 0.6 lb, SO<sub>2</sub>/10<sup>6</sup>ft<sup>3</sup>  
 (Propane)

2. Fuel Heating Values and Sulfur Content

a. Fuel Oil: 149,506 Btu/gallon @ 1.5%,S

b. Propane: 2,507 Btu/ft<sup>3</sup>

c. Natural Gas: 1,035 Btu/ft<sup>3</sup>

3. Base-Line

Base on limits set in permits effective 10-4-85.

a. Calcining Kettle Burners (A016-107128)

1) Fuel Oil Quantity

Maximum Firing Rate = 33 x 10<sup>6</sup> Btuh

$$\frac{33 \times 10^6 \text{ Btuh}}{0.149506 \times 10^6 \text{ Btu/gal}} = \underline{220.7 \text{ gal/hr}}$$

2) Fuel Oil SO<sub>2</sub> (Maximum)

$$\frac{157(1.5) \frac{\text{lb SO}_2}{10^3 \text{ gal}} \times 0.2207 \frac{10^3 \text{ gal}}{\text{hr}} \times 8760 \frac{\text{hrs}}{\text{yr}}}{2000 \text{ lb/ton}} = \underline{227.7 \text{ tons/yr}}$$

b. Wallboard Drying Kiln (A016-107129)

1) Fuel Oil Quantity

All burners capable of burning fuel oil. Maximum firing rate = 75 x 10<sup>6</sup> Btuh.

$$\frac{75 \times 10^6 \text{ Btuh}}{0.149506 \times 10^6 \text{ Btu/gal}} = \underline{501.7 \text{ gal/hr}}$$

2) Fuel Oil SO<sub>2</sub>

$$\frac{157(1.5) \frac{\text{lb SO}_2}{10^3 \text{gal}} \times 0.5017 \frac{10^3 \text{gal}}{\text{hr}} \times 8760 \frac{\text{hrs}}{\text{yr}}}{2000 \text{ lbs/ton}} = \underline{517.5} \text{ tons/yr}$$

4. Permit Modification - 1987

a. Calcining Kettle Burners (A016-107128)

Not changed.

b. Wallboard Drying Kiln (A016-107129)

Base on correct burner capacities as of 10-15-87. See permit correction letter to FlaDER dated 3-4-91.

1) Burner Capacities

| <u>Pt. No.</u> | <u>Capacity (10<sup>6</sup>Btuh)</u> | <u>Fuel</u>                          |
|----------------|--------------------------------------|--------------------------------------|
| 08             | 25                                   | Propane or No. 5 F.O.                |
| 13             | 30                                   | Propane only. <i>No F.O. anymore</i> |
| 14             | 15                                   | Propane or No. 5 F.O.                |
| 15             | 15                                   | Propane or No. 5 F.O.                |

Fuel Oil = 55 x 10<sup>6</sup> Btuh  
 Propane = 30 x 10<sup>6</sup> Btuh

*was 75*

2) Fuel Oil SO<sub>2</sub>

a) Fuel Oil Quantity

$$\frac{55 \times 10^6 \text{ Btuh}}{0.149506 \times 10^6 \text{ Btu/gal}} = \underline{367.9} \text{ gal/hr}$$

*direct ratio*

b) Fuel Oil SO<sub>2</sub>

$$\frac{157(1.5) \frac{\text{lbs SO}_2}{10^3 \text{gal}} \times 0.3679 \frac{10^3 \text{ gal}}{\text{hr}} \times 8760 \frac{\text{hrs}}{\text{yr}}}{2000 \text{ lbs/ton}} = \underline{379.5} \text{ tons/yr}$$

*ok*

3) Propane SO<sub>2</sub>

a) Propane Quantity

$$\frac{30 \times 10^6 \text{ Btuh}}{2,507 \times 10^6 \text{ Btu}/10^6 \text{ft}^3} = \underline{0.012} \frac{10^6 \text{ft}^3}{\text{hr}}$$

b) Propane SO<sub>2</sub>

$$\frac{0.012 \frac{10^6 \text{ft}^3}{\text{hr}} \times 0.6 \frac{\text{lb SO}_2}{10^6 \text{ft}^3} \times 8760 \frac{\text{hrs}}{\text{yr}}}{2000 \text{ lb/ton}} = 0.03 \text{ tons/yr } \underline{\underline{\text{Negligible}}}$$

4) Total SO<sub>2</sub>

$$379.5 + 0 = \underline{\underline{379.5}} \text{ tons/yr}$$

5. 1990 Permits

a. Calcining Kettle Burners (A016-185808)

1) Fuel Oil Sulfur Content

The allowable fuel oil sulfur was increased to 1.8%.

2) Fuel Oil Quantity

From 3.a.(1) - 220.7 gal/hr

3) Fuel Oil SO<sub>2</sub>

$$227.7 \text{ tons/yr} \times \frac{1.8}{1.5} = \underline{\underline{273.2}} \text{ tons/yr}$$

b. Wallboard Drying Kiln (A016-185805)

(Burner capacities and fuel capability are as corrected by permit correction letter to FlADER dated 3-4-91.)

1) Burner Capacities

| <u>Pt. No.</u> | <u>Capacity<br/>(10<sup>6</sup> Btuh)</u> | <u>Fuel</u>                     |
|----------------|---|---------------------------------|
| 08             | 30  | Natural gas or propane.         |
| 13             | 30  | Natural gas or propane.         |
| 14             | 15  | N.g., propane or No. 5 Fuel Oil |
| 15             | 15  | N.g., propane or No. 5 Fuel Oil |

2) Fuel Oil Sulfur Content

The allowable fuel oil sulfur content was increased 1.8%.

3) Fuel Oil SO<sub>2</sub>

3) (cont'd)

a) Fuel Oil Quantity

$$\frac{30 \times 10^6 \text{ Btuh}}{0.149506 \times 10^6 \text{ Btu/gal}} = \underline{200.7 \text{ gal/hr}}$$

b) Fuel Oil SO<sub>2</sub>

$$\frac{157(1.8) \frac{\text{lb SO}_2}{10^3 \text{ gal}} \times 0.2007 \frac{10^3 \text{ gal}}{\text{hr}} \times 8760 \frac{\text{hr}}{\text{yr}}}{2000 \text{ lbs/ton}} = \underline{248.4 \text{ tons/yr}}$$

4) Natural Gas Sulfur

a) Natural Gas Quantity

$$\frac{60 \times 10^6 \text{ Btuh}}{1035 \times 10^6 \text{ Btu}/10^6 \text{ ft}^3} = \underline{0.058 \frac{10^6 \text{ ft}^3}{\text{hr}}}$$

b) Natural Gas SO<sub>2</sub>

$$\frac{0.6 \frac{\text{lbs SO}_2}{10^6 \text{ ft}^3} \times 0.058 \frac{10^6 \text{ ft}^3}{\text{hr}} \times 8760 \frac{\text{hrs}}{\text{yr}}}{2000 \text{ lbs/ton}} = \underline{0.15 \text{ tons/yr}}$$

Say, 0.2 tons/yr

5) Total SO<sub>2</sub>

$$248.4 \text{ tons/yr} + 0.2 \text{ tons/yr} = \underline{248.6 \text{ tons/yr}}$$

6. By-Product Gypsum Dryer

a. Fuel Oil Quantity

$$\frac{30 \times 10^6 \text{ Btuh}}{0.149506 \times 10^6 \text{ Btu/gal}} = \underline{200.7 \text{ gal/hr}}$$

b. Fuel Sulfur Content

Fuel sulfur content is 1.8%. Same as other fuel burning sources.

c. Fuel Oil SO<sub>2</sub>

$$\frac{157(1.8) \frac{\text{lbs SO}_2}{10^3 \text{ gal}} \times 0.2007 \frac{10^3 \text{ gal}}{\text{hr}} \times 8760 \frac{\text{hr}}{\text{yr}}}{2000 \text{ lbs/ton}} = \underline{248.4 \text{ tons/yr}}$$

B. Calculate PM (PM<sub>10</sub>) Emission Rates

All allowable PM values are taken directly from operating permits except for the 11/14/90 permit for the Wallboard Drying Kiln. The PM value for the Wallboard Drying Kiln has been corrected. (See request for permit correction sent to Northeast District Office, FlaDER on 3/5/91.) Point No. 08 has been changed to a burner which only fires natural gas or propane. The 08 burner is rated at  $30 \times 10^6$  Btuh as is the Point No. 13 burner which also fires only propane or natural gas. Therefore, the PM emission rates should be the same. This will result in a decrease in allowable emissions of  $(11.0 - 0.66 = 10.34)$  10.34 tons/yr.

The PM emissions increase for the By-Product Gypsum Process is taken directly from the application.

C. Calculate NO<sub>x</sub> Emission Rates

The only sources of NO<sub>x</sub> emissions are fuel burning sources. Maximum emissions of NO<sub>x</sub> occur when burning fuel oil.

1. Base-Line

Base emissions on permit conditions in effect on 10-14-87.

a. Fuel Oil Quantity

|                         |   |  |
|-------------------------|---|--|
| Wallboard Drying Kiln   | - | 75 x 10 <sup>6</sup> Btuh  |
| (3) Calcining Fireboxes | - | $\frac{33 \times 10^6 \text{ Btuh}}{108 \times 10^6 \text{ Btuh}}$ |

All burners were capable of burning fuel oil.

$$\frac{108 \times 10^6 \text{ Btuh}}{0.149506 \times 10^6 \text{ Btu/gal}} = \underline{722.4 \text{ gal/hr}}$$

b. Emission Factor

AP-42 Factor

Fuel Oil: 55 lbs, NO<sub>x</sub>/10<sup>3</sup> gal

c. Base-Line NO<sub>x</sub> Emission Rate

$$\frac{0.7224 \frac{10^3 \text{ gal}}{\text{hr}} \times 55 \frac{\text{lbs, NO}_x}{10^3 \text{ gal}} \times 8760 \frac{\text{hrs}}{\text{yr}}}{2000 \text{ lbs/ton}} = \underline{174 \text{ tons/yr}}$$

2. 1990 Permit (as corrected)

a. Fuel Useage

| <u>Source</u>                | <u>Capacity(10<sup>6</sup> Btuh)</u> |                 |
|------------------------------|--------------------------------------|-----------------|
|                              | <u>Natural Gas</u>                   | <u>Fuel Oil</u> |
| Wallboard Drying Kiln        | 90                                   | 30              |
| (3) Calcining Kettle Burners | 33                                   | 33              |

-Maximum NO<sub>x</sub> emissions are from firing fuel oil.

(1) Fuel Oil (63 x 10<sup>6</sup> Btuh)

$$\frac{63 \times 10^6 \text{ Btuh}}{0.149506 \times 10^6 \text{ Btu/gal}} = \underline{421.4 \text{ gal/hr}}$$

(2) Natural Gas (60 x 10<sup>6</sup> Btuh remaining capacity on natural gas.)

$$\frac{60 \times 10^6 \text{ Btuh}}{1.035 \times 10^3 \text{ Btu/ft}^3} = 57,971 \text{ ft}^3/\text{hr}$$

$$= \underline{0.058 \times 10^6 \text{ ft}^3/\text{hr}}$$

b. Emission Factors

AP-42 Factors

Natural Gas: 100 lbs, NO<sub>x</sub>/10<sup>6</sup> ft<sup>3</sup>

Fuel Oil: 55 lbs, NO<sub>x</sub>/10<sup>3</sup> gal

c. NO<sub>x</sub> Emissions

(1) Fuel Oil NO<sub>x</sub>

$$\frac{0.4214 \times 10^3 \frac{\text{gal}}{\text{hr}} \times 55 \frac{\text{lbs, NO}_x}{10^3 \text{gal}} \times 8760 \frac{\text{hrs}}{\text{yr}}}{2000 \text{ lbs/ton}} = \underline{\underline{101.5 \text{ tons/yr}}}$$

(2) Natural Gas NO<sub>x</sub>

$$\frac{0.058 \times 10^6 \frac{\text{ft}^3}{\text{hr}} \times 100 \frac{\text{lbs, NO}_x}{10^6 \text{ft}^3} \times 8760 \frac{\text{hrs}}{\text{yr}}}{2000 \text{ lbs/ton}} = \underline{\underline{25.4 \text{ tons/yr}}}$$

(3) Total NO<sub>x</sub>

$$101.5 + 25.4 = \underline{\underline{126.9 \text{ tons/yr}}}$$

3. By-Product Gypsum Process

The only sources of NO<sub>x</sub> are fuel burning sources. Maximum emission of NO<sub>x</sub> is with fuel oil. The burner is capable of firing fuel oil, natural gas or propane.

a. Fuel Oil Quantity

Maximum capacity of burner = 30 x 10<sup>6</sup> Btuh

$$\frac{30 \times 10^6 \text{ Btuh}}{0.149506 \times 10^6 \text{ Btu/gal}} = \underline{200.7 \text{ gal/hr}}$$

b. Emission Factor

See above.



c. Fuel Oil NO<sub>x</sub>

$$\frac{0.2007 \times 10^3 \frac{\text{gal}}{\text{hr}} \times 55 \frac{\text{lbs, NO}_x}{10^3 \text{ gal}} \times 8760 \frac{\text{hrs}}{\text{yr}}}{2000 \text{ lbs/ton}} = \underline{\underline{48.3 \text{ tons/yr}}}$$

D. Calculate CO Emission Rates

The only sources of CO emissions are fuel burning sources. Maximum emissions of CO occur when burning fuel oil.

1. Base-Line

Base emissions on permit conditions in effect on 10-14-87.

a. Fuel Oil Quantity

-Fuel oil quantity is the same as for NO<sub>x</sub>. All burners were capable of burning fuel oil.

b. Emission Factor

AP-42 Factor

Fuel Oil: 5 lbs, CO/10<sup>3</sup> gal

c. Base-Line CO Emission Rate

$$\frac{0.7224 \times 10^3 \frac{\text{gal}}{\text{hr}} \times 5 \frac{\text{lbs, CO}}{10^3 \text{ gal}} \times 8760 \frac{\text{hrs}}{\text{Yr}}}{2000 \text{ lbs/ton}} = \underline{\underline{15.8 \text{ tons/yr}}}$$

2. 1990 Permit (as corrected)

a. Fuel useage will be the same as for NO<sub>x</sub>.

b. Emission Factor

AP-42 Factor

Natural Gas: 20 lbs, CO/10<sup>6</sup> ft<sup>3</sup>

Fuel Oil: 5 lbs, CO/10<sup>3</sup> gal

c. CO Emissions

(1) Fuel Oil CO

$$\frac{0.4214 \times 10^3 \frac{\text{gal}}{\text{hr}} \times 5 \frac{\text{lbs CO}}{10^3 \text{ gal}} \times 8760 \frac{\text{hrs}}{\text{yr}}}{2000 \text{ lbs/ton}} = \underline{\underline{9.2 \text{ tons/yr}}}$$

(2) Natural Gas CO

$$\frac{0.058 \times 10^6 \frac{\text{ft}^3}{\text{hr}} \times 20 \frac{\text{lbs CO}}{10^6 \text{ ft}^3} \times 8760 \frac{\text{hrs}}{\text{yr}}}{2000 \text{ lbs/ton}} = \underline{\underline{5.1 \text{ tons/yr}}}$$

(3) Total CO

$$9.2 + 5.1 = \underline{\underline{14.3 \text{ tons/yr}}}$$

3. By-Product Gypsum Process

The only source of CO is from fuel burning. Maximum CO emissions occur when burning oil. The burner is capable of firing fuel oil, natural gas or propane.

a. Fuel Oil Quantity

Same as for NO<sub>x</sub>.

b. Fuel Oil CO

$$\frac{0.2007 \times 10^3 \frac{\text{gal}}{\text{hr}} \times 5 \frac{\text{lbs CO}}{10^3 \text{ gal}} \times 8760 \frac{\text{hrs}}{\text{yr}}}{2000 \text{ lbs/ton}} = \underline{\underline{4.4 \text{ tons/yr}}}$$

E. Calculate VOC Emission Rate

The only sources of VOC emissions are fuel burning sources. Maximum emissions of VOC occur when burning fuel oil.

1. Base-Line

Base emissions on permit conditions in effect on 10-14-87.

a. Fuel Oil Quantity

Same as for NO<sub>x</sub>. All burners were capable of burning fuel oil.

b. Emission Factor

AP-42 Factor

Fuel Oil: 1.13 lbs, VOC/10<sup>3</sup> gal

c. Base-Line VOC Emission Rate

$$\frac{0.7224 \times 10^3 \frac{\text{gal}}{\text{hr}} \times 1.13 \frac{\text{lbs VOC}}{10^3 \text{ gal}} \times 8760 \frac{\text{hrs}}{\text{yr}}}{2000 \text{ lbs/ton}} = \underline{\underline{3.6 \text{ tons/yr}}}$$

2. 1990 Permit (as corrected)

a. Fuel useage will be the same as for NO<sub>x</sub>.

b. Emission Factor

AP-42 Factors

Fuel Oil: 1.13 lbs, VOC/10<sup>3</sup> gal

Natural Gas: 5.3 lbs, VOC/10<sup>6</sup> ft<sup>3</sup>

c. VOC Emissions

(1) Fuel Oil VOC

$$\frac{0.4214 \times 10^3 \frac{\text{gal}}{\text{hr}} \times 1.13 \frac{\text{lbs, VOC}}{10^3 \text{ ft}^3} \times 8760 \frac{\text{hr}}{\text{yr}}}{2000 \text{ lbs/ton}} = \underline{\underline{2.1 \text{ tons/yr}}}$$

(2) Natural Gas VOC

$$\frac{0.058 \times 10^6 \frac{\text{ft}^3}{\text{hr}} \times 5.3 \frac{\text{lbs, VOC}}{10^6 \text{ ft}^3} \times 8760 \frac{\text{hrs}}{\text{yr}}}{2000 \text{ lbs/ton}} = \underline{\underline{1.3 \text{ tons/yr}}}$$

(3) Total VOC

$$2.1 + 1.3 = \underline{\underline{3.4 \text{ tons/yr}}}$$

3. By-Product Gypsum Process

The only source of VOC is from fuel burning. Maximum VOC emissions occur when burning fuel oil. The burner is capable of burning fuel oil, natural gas or propane.

a. Fuel Oil Quantity

Same as for NO<sub>x</sub>.

b. Fuel Oil VOC

$$\frac{0.2007 \times 10^3 \frac{\text{gal}}{\text{hr}} \times 1.13 \frac{\text{lbs, VOC}}{10^3 \text{ gal}} \times 8760 \frac{\text{hrs}}{\text{yr}}}{2000 \text{ lbs/ton}} = \underline{\underline{1.0 \text{ lbs/yr}}}$$

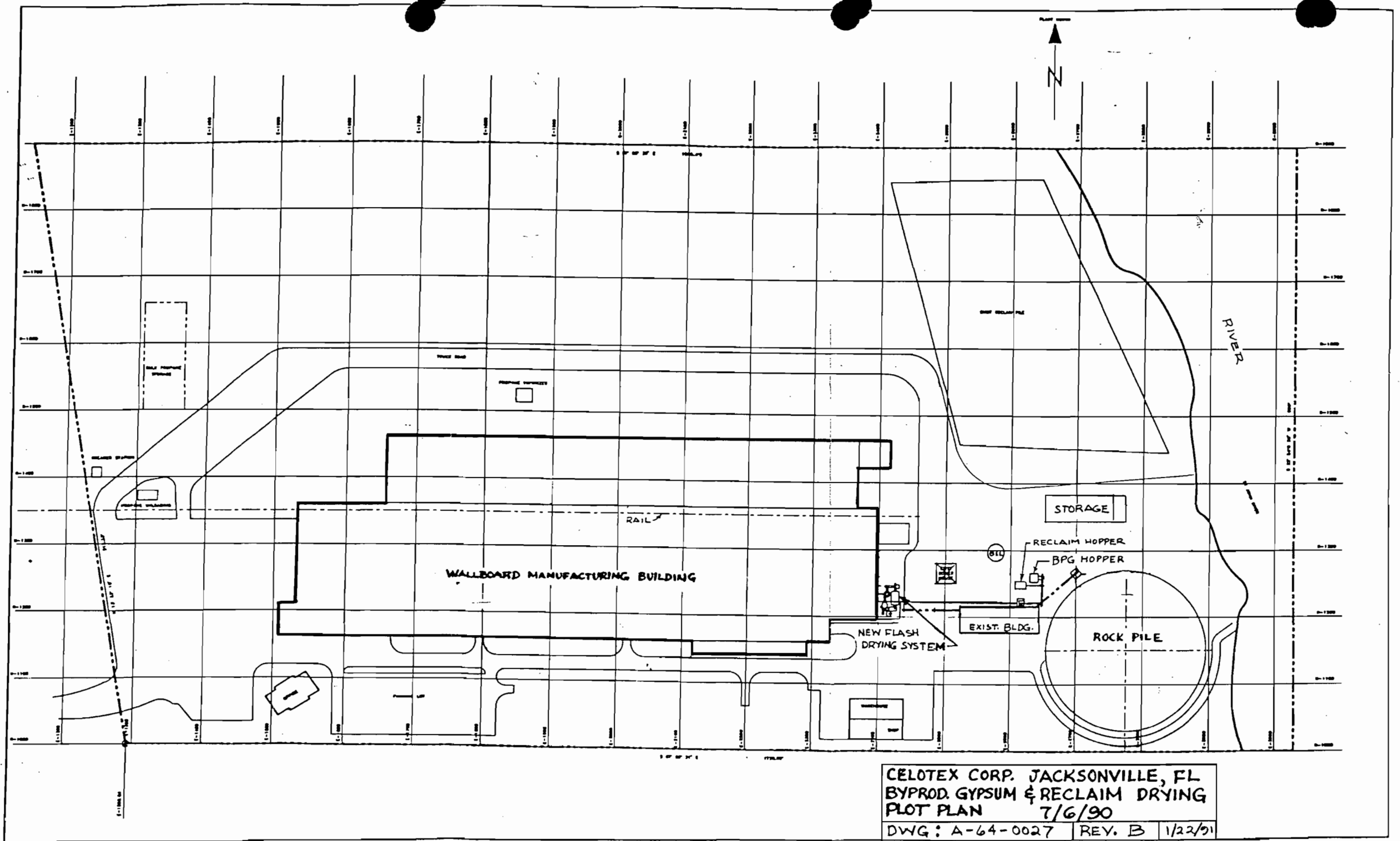
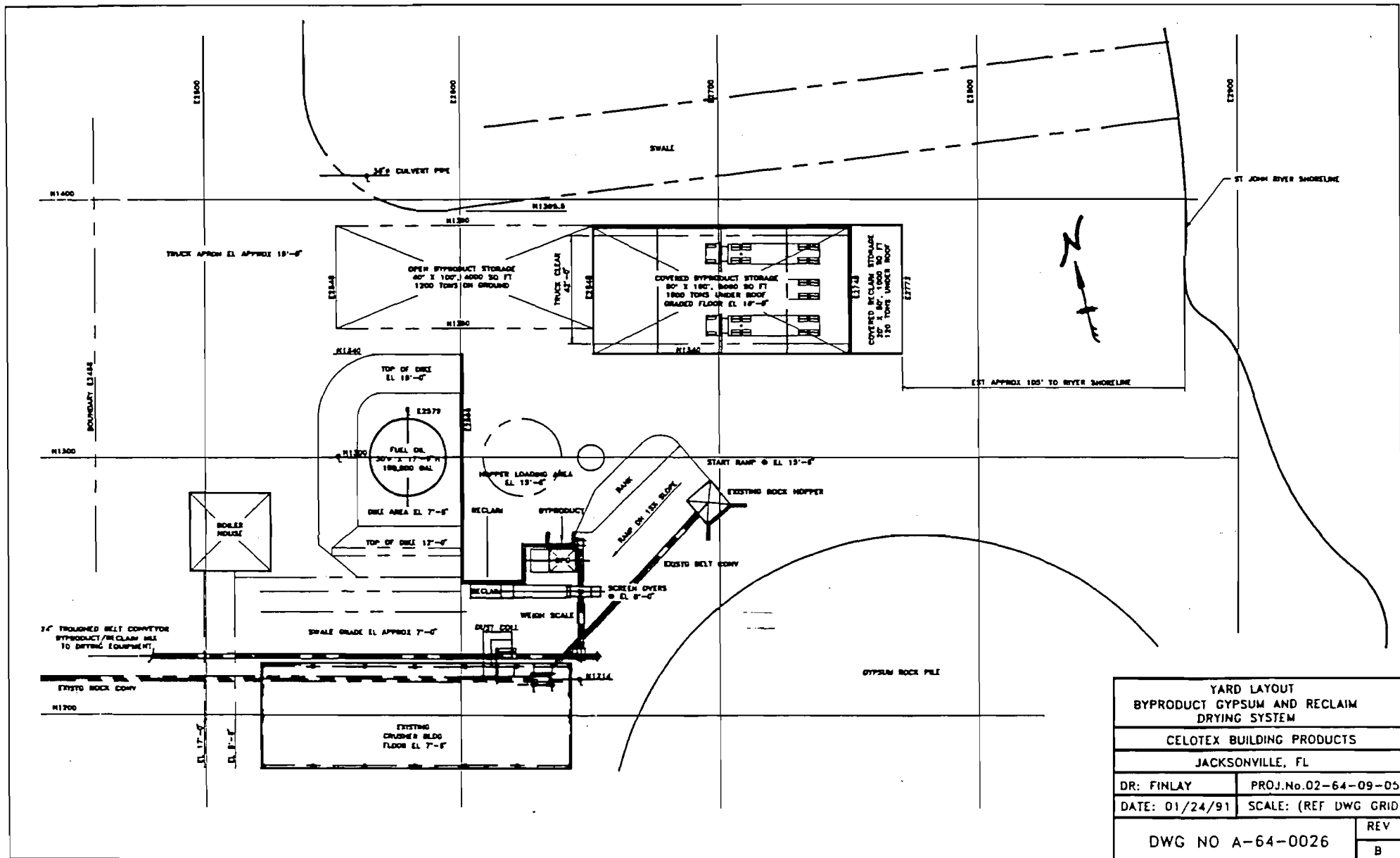


FIGURE 1



|  |                       |
|--|-----------------------|
| YARD LAYOUT<br>BYPRODUCT GYPSUM AND RECLAIM<br>DRYING SYSTEM |                       |
| CELOTEX BUILDING PRODUCTS                                    |                       |
| JACKSONVILLE, FL   |                       |
| DR: FINLAY   | PROJ.No.02-64-09-05   |
| DATE: 01/24/91   | SCALE: (REF DWG GRID) |
| DWG NO A-64-0026   |                       |
| REV  |                       |
| B  |                       |

FIGURE 2

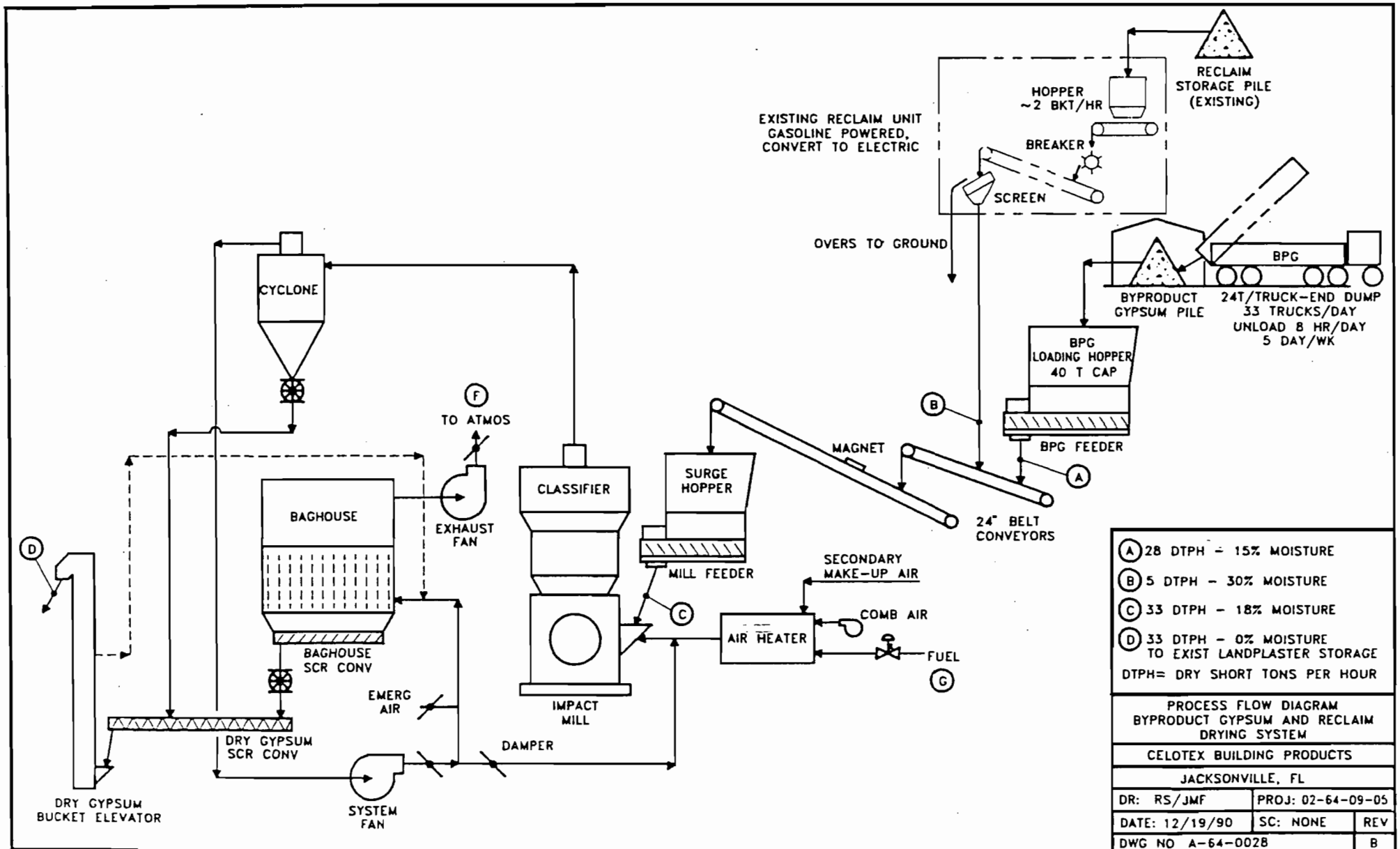


FIGURE 3

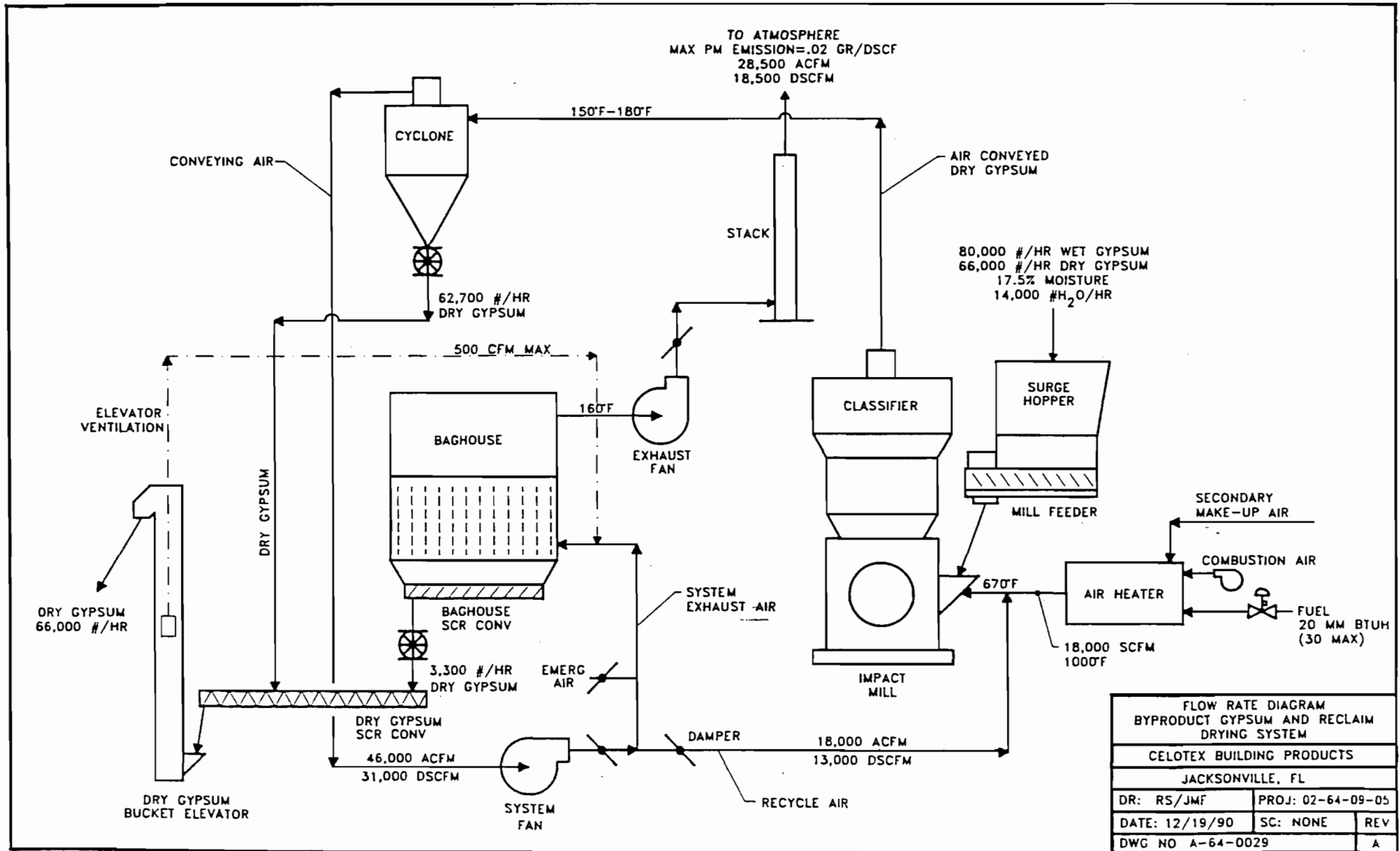
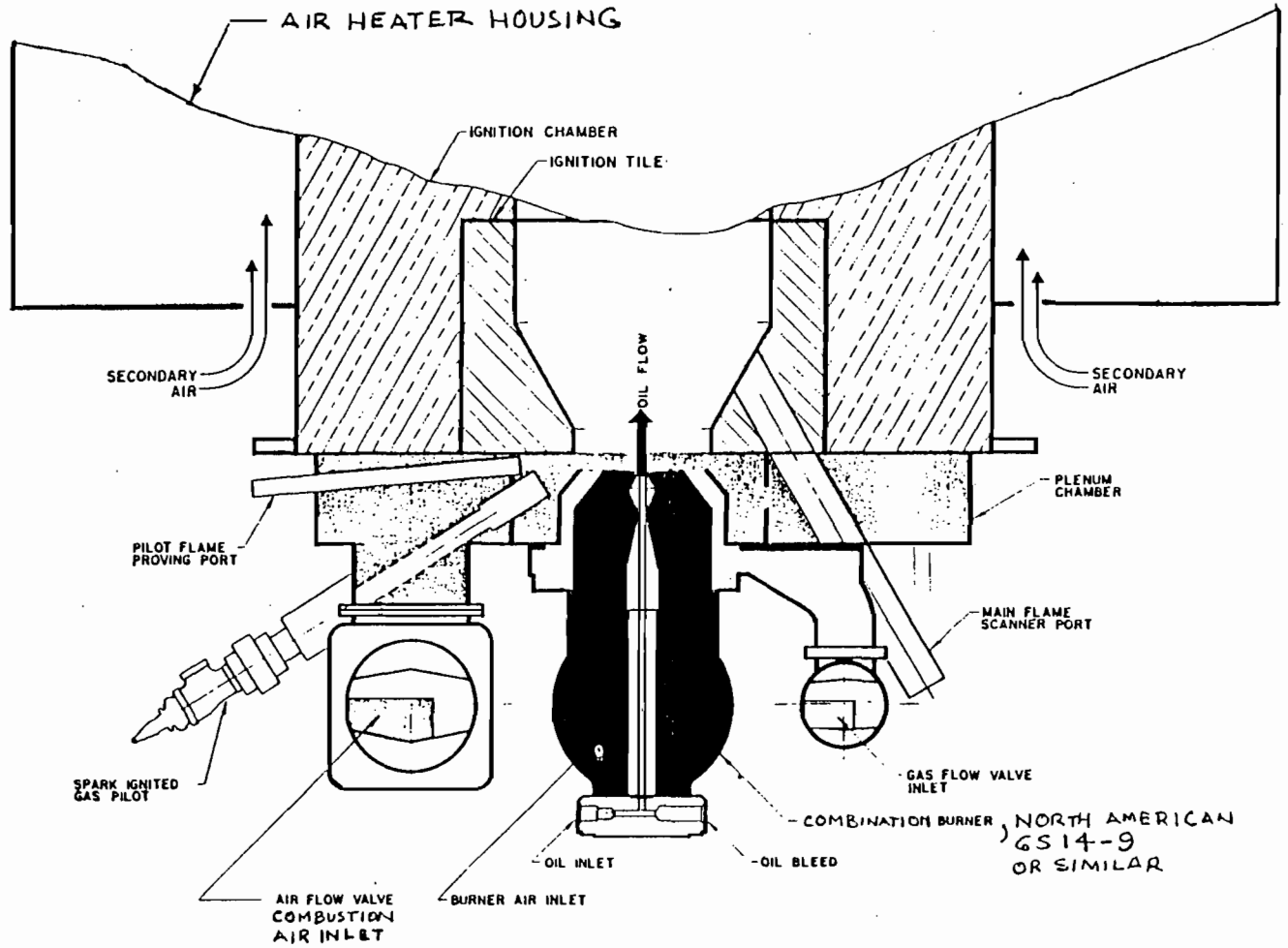


FIGURE 4





|  |          |
|--|----------|
| AIR HEATER BURNER SCHEMATIC  |          |
| BPG & RECLAIM DRYING SYSTEM<br>CELOTEX BUILDING PRODUCTS<br>JACKSONVILLE, FL |          |
| DATE: 11/8/90  | DR: F.G. |
| DWG: A-64-0025   | REV. B   |

12/18/90

FIGURE 5

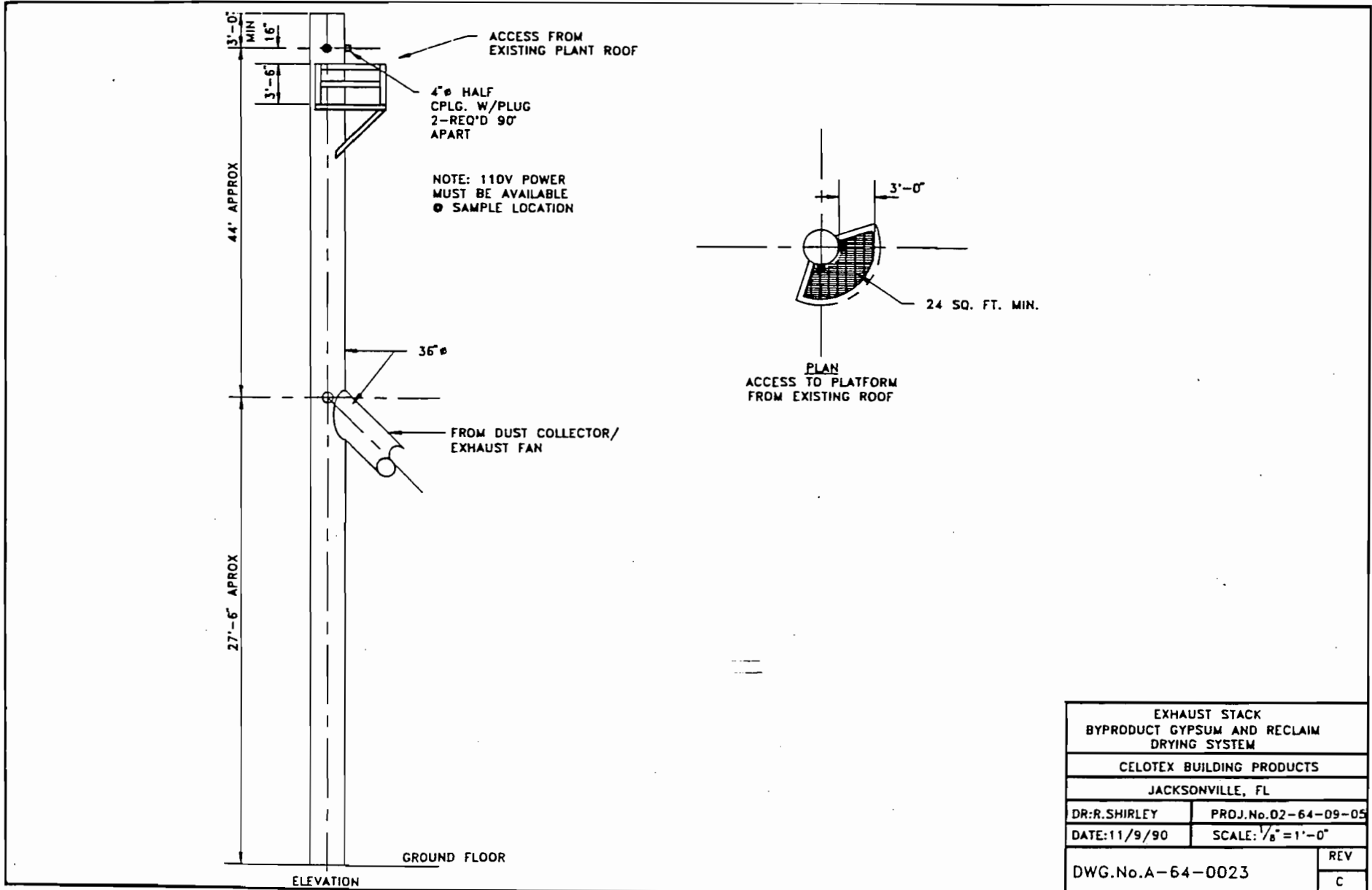
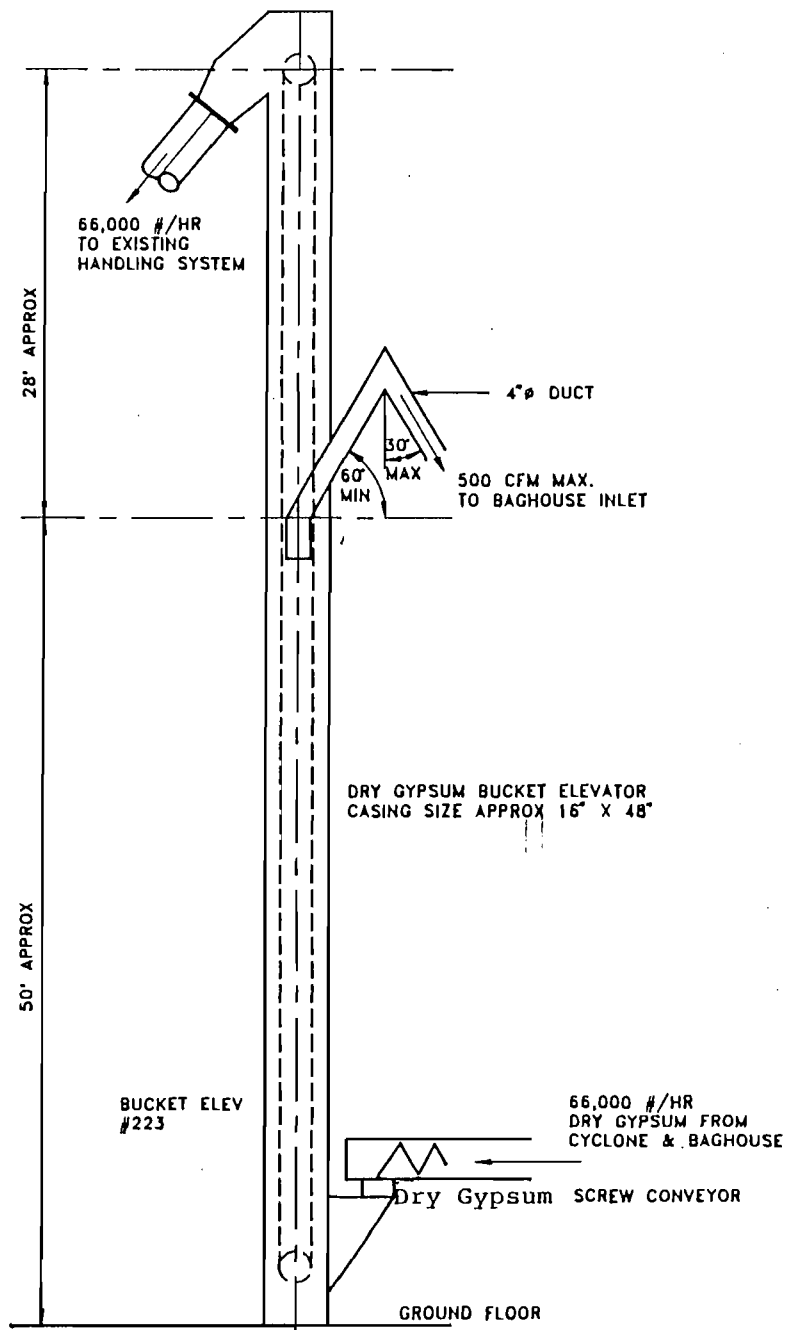


FIGURE 6



ELEVATION

|   |                     |
|---|---------------------|
| DRY GYPSUM BUCKET ELEVATOR VENTILATION<br>BYPRODUCT GYPSUM AND RECLAIM<br>DRYING SYSTEM |                     |
| CELOTEX BUILDING PRODUCTS   |                     |
| JACKSONVILLE, FL  |                     |
| DR: R.SHIRLEY   | PROJ: 02-64-09-05   |
| DATE: 11/9/90   | SCALE: 1/8" = 1'-0" |
| DWG NO A-64-0024  | REV                 |
|   | B                   |

FIGURE 7



# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

April 10, 1991

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Alan H. Elwell, Plant Manager  
The Celotex Corporation  
P. O. Box 28830  
Jacksonville, Florida 32218

Re: Duval County - A.P.  
The Celotex Corporation  
New By-Product Gypsum Process  
AC 16-186133

Dear Mr. Elwell:

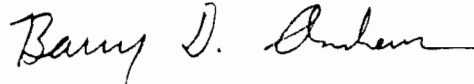
The Department has reviewed your March 8, 1991 response to its incompleteness letter of February 25, 1991, and has deemed your response incomplete.

Based on the information provided in your response, your proposed modification appears to be subject to PSD analysis for the pollutants SO<sub>2</sub> and NO<sub>x</sub>. According to Question and Rule No. 4 of the New Source Review table in the tables section of your response, the proposed modification will result in emissions greater than the PSD significant emission rates for SO<sub>2</sub> and NO<sub>x</sub> by itself (248.4 tons per year (TPY) increase for SO<sub>2</sub> and 48.3 TPY for NO<sub>x</sub> compared to the 40 TPY significant emission rates for both pollutants). In subsequent tables in this section, you detail the emissions decreases and increases which could result in contemporaneous changes of only 25.0 TPY for SO<sub>2</sub> and 2.9 TPY for NO<sub>x</sub>. These changes would then be less than the PSD significant emission rates for SO<sub>2</sub> and NO<sub>x</sub> emissions. However, your decreases are based on decreases in allowable emissions, and not in actual emissions. In addition, based on the information provided, these decreases are not federally enforceable. Please recalculate the contemporaneous emission changes for comparison with the PSD significant emission rates for SO<sub>2</sub> and NO<sub>x</sub> using actual emissions, not allowable emissions. The actual emissions for existing sources should be based on the previous two years of operating data (F.A.C. Rule 17-2.100(3)). The correct calculations should be proposed allowable emissions minus existing actual emissions (based on data) for comparison with the significant emission rates. We have included two letters from EPA to two other applicants stating this procedure.

Mr. Alan H. Elwell  
Page 2 of 2

The processing of your application will continue as soon as the above requested information and any required PSD analysis is received. If you have any questions, please contact Mirza Baig or Cleve Holladay at 904-488-1344.

Sincerely,



*for* C. H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

CHF/CH/plm

Enclosures

c: H. R. Sanders, P.E.  
R. Roberson, BESD  
A. Kutyna, NED



ENVIRONMENTAL AFFAIRS DEPARTMENT  
POST OFFICE BOX 31075 (33631-3075) • 4010 BOY SCOUT BOULEVARD (33607)  
TAMPA, FLORIDA

March 8, 1991

Mr. C. H. Fancy, P.E.  
Chief  
Bureau of Air Regulation  
Florida Department of Environmental Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

- Re: 1. Duval County - A.P.  
The Celotex Corporation  
New By-Product Gypsum Process  
AO 16-186133
2. Letter from C.H.Fancy, FlaDER to Alan H. Elwell,  
Celotex, dated February 25, 1991

Dear Mr. Fancy:

As a result of your February 25, 1991 letter, The Celotex Corporation (Celotex) reviewed the operating permits for all sources at its Jacksonville, Florida facility with regard to contemporaneous emissions changes. Two major facts have been noted: the operating permits for the entire facility have been renewed (November 14, 1990) since the initial filing of the permit application and incorrect data is included on the present and past permit for the Wallboard Drying Kiln. A request to correct the inaccuracies in the kiln permit has been sent to the Northeast District Office of the FlaDER. A copy of the request is enclosed.

The base date for contemporaneous changes is October 14, 1987. This is one day prior to the earliest change in permitted emission rates within the five years contemporaneous period. (See enclosed copy of the request for permit corrections sent to the Northeast District Office.) As of October 14, 1987 the emission rates were the same as those determined by the operating permits in effect as of October 4, 1985.

Using the 1987 base data, changes up to and including those made to the 1990 permits (as corrected) and the proposed By-Product Gypsum Process increases, contemporaneous changes in emissions have been calculated and tabulated. The results of the calculations necessitate changes to the By-Product Gypsum Process permit application. The changes should answer both questions posed in your February 25, 1991 letter.

Two copies of the second revision of the BPG Process application are enclosed.

Should you have questions, please contact me at 813/873-4351.

Sincerely,

A handwritten signature in black ink, appearing to read 'H. R. Sanders', with a long horizontal flourish extending to the right.

H. R. Sanders, P.E.  
Senior Environmental Engineer

cc: R. P. Kipper, Celotex-Tampa  
A. H. Elwell, Celotex-Jacksonville



The Celotex Corporation

9225 Dames Point Road  
Box 28830  
Jacksonville, Florida 32218

March 8, 1991

Florida Department of Environmental Regulation  
Northeast District  
7825 Baymeadows Way - Suite 200  
Jacksonville, Fl 32256-7577

Subject: Request for Revision of Permit

Re: Duval County - AP  
The Celotex Corporation  
Wallboard Drying Kiln  
P/C NO. A016-185805

Review of the referenced permit and prior permits for the referenced source indicates several instances of incorrect data. Apparently information supplied by Celotex to the Department regarding this source has been misinterpreted. By this letter it is hoped that an accurate characterization of the source can be conveyed. Documents pertinent to the discussion are enclosed and include:

1. P/C No. A016-107129; effective October 4, 1985 Wallboard Drying Kiln.
2. Letter dated December 23, 1986 from Mr. Lawrence M. Hickey, Celotex, to Mr. Allan J. Luther, BESD - Jacksonville.
3. Revision to P/C No. A016-107129 dated October 15, 1987.
4. Application for Renewal of P/C No. A016-107129 dated August 14, 1990.
5. P/C No. A016-185805, effective November 14, 1990, Wallboard Drying Kiln.

The primary concern involves the maximum heat capacity and fuel firing capability of the burners serving the Wallboard Drying Kiln. The October 4, 1985 permit indicates that the kiln was equipped with four separate burners. Three were Hauck burners with a



Page 2  
March 8, 1991

combined firing capacity not in excess of 50 million Btu/hr. The fourth was an Urquhart burner rated at 25 million Btu/hr. All of the burners were capable of firing either propane or No. 5 fuel oil. The information as shown in the 1985 permit was accurate at the time of permit issuance.

On December 23, 1986 a letter was sent by Celotex to BESD-Jacksonville requesting a change in the permit. The Hauck burner serving Emission Point 13 was to be replaced with a Maxon, Lo Nox burner rated at 30 million Btu/hr. and capable of burning propane only. All other burners remained the same.

Based on Celotex's request, a revision to the permit was issued on October 15, 1987. The revised permit incorrectly showed each of the remaining Hauck burners as being rated at 50 million Btu/hr. The actual individual rating should have been 15 million Btu/hr. The error was not noted by Celotex at the time and therefore remained in the permit.

On August 14, 1990, Celotex applied for renewal of the 1985 permit. Attached to the application was a letter indicating that the Urquhart burner serving Emission Point 08 was to be replaced with a Maxon, Megafire burner rated for 30 million Btu/hr. and capable of burning only propane or natural gas. This left only the two 15 million Btu/hr., Hauck burners capable of burning No. 5 fuel oil. The letter further indicated that natural gas was now available and would become a primary fuel. The renewal application indicated a total heat capacity on natural gas or propane to be 85 million Btu/hr. This was based on the Maxon, Lo Nox burner being rated to be 25 million Btu/hr. which was in error. As pointed out earlier, it should be 30 million Btu/hr. This gives a present total capacity of 90 million Btu/hr. on natural gas or propane. The renewal application also indicated a total capacity of 85 million Btu/hr. on No. 5 fuel oil. This also is incorrect as the only burners capable of burning No. 5 fuel oil are the Hauck burners. The heating capacity on No. 5 fuel oil only should be 30 million Btu/hr.

The new permit issued on November 14, 1990 indicates that all four burners are capable of firing propane, natural gas and No. 5 fuel oil. It also shows Emission Point No. 08 to be an Urquhart burner which has been replaced with the Maxon, Megafire burner. The 85 million Btu/hr. total capacity is also included. This should be 90 million Btu/hr. when firing natural gas or propane. The capacity on No. 5 fuel oil only is 30 million Btu/hr. Attached is a table which gives the present, accurate account of the burners serving the Wallboard Drying Kiln.

Page 3  
March 8, 1991

As the Point No. 08 burner can burn only natural gas and propane and is a 30 million Btu/hr. burner as is the Point No. 13 burner, both should have the same allowable particulate matter emission rates, i. e., 0.15 lb/hr. and 0.66 ton/yr.

Please correct the Wallboard Drying Kiln permit to reflect the information as shown on the attached table and the adjusted particulate matter rate. Your assistance is appreciated.

Sincerely,



Alan H. Elwell  
Plant Manager

AHE:s1

cc: BESD - Jacksonville/attach.  
C. H. Fancy, Fla. DER - Tallahassee/attach. ✓  
R. P. Kipper - Celotex, Tampa  
H. R. Sanders - J. W. C., Tampa

Attachment

The Celotex Corporation  
Jacksonville, Florida  
Wallboard Drying Kiln  
P/C No. A016-185805

| <u>Point</u> | <u>Source</u>                              | <u>Firing Capacity (10<sup>6</sup> Btuh)</u> |                |                       |
|--------------|--|--|----------------|-----------------------|
|              |  | <u>Natural Gas</u>                           | <u>Propane</u> | <u>No. 5 Fuel Oil</u> |
| 08           | Maxon, Megafire (Zone "A", West End)       | 30   | 30             | —                     |
| 13           | Maxon, Lo Nox (Zone 1, Middle)             | 30   | 30             | —                     |
| 14           | Hauck, Model 784 PAE LX (Zone 2, Middle)   | 15   | 15             | 15                    |
| 15           | Hauck, Model 784 PAE LX (Zone 3, East End) | 15   | 15             | 15                    |
|              |  | —  | —              | —                     |
|              | TOTAL                                      | 90   | 90             | 30                    |

March 4, 1991



# Florida Department of Environmental Regulation

Northeast District • Suite 200, 7825 Baymeadows Way • Jacksonville, Florida 32256-7577 • 904-448-4300

Bob Martinez, Governor

Dale Twachmann, Secretary

John Shearer, Assistant Secretary

Ernest Frey, Deputy Assistant Secretary

RECEIVED

NOV 15 1990

NOTICE OF PERMIT ISSUANCE

CERTIFIED - RETURN RECEIPT

Mr. Alan H. Elwell, Plant Manager  
The Celotex Corporation  
Post Office Box 28830  
Jacksonville, Florida 32218

Dear Mr. Elwell:

Duval County - AP  
The Celotex Corporation  
Wallboard Drying Kiln

Enclosed is Permit Number A016-185805 to operate the subject air pollution source, pursuant to Section 403.087, Florida Statutes (FS).

A person whose substantial interests are affected by this permit may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of receipt of this Permit. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information;

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

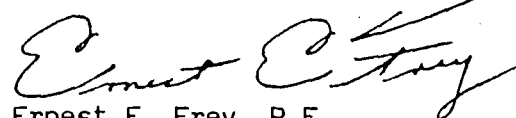
If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this permit. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

This permit is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rule 17-103.070, F.A.C. Upon timely filing of a petition or a request for an extension of time this permit will not be effective until further Order of the Department.

When the Order (Permit) is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.

Executed in Jacksonville, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION



Ernest E. Frey, P.E.

Deputy Assistant Secretary

EEF:dhk

Copies furnished to: Jacksonville BES  
H.R. Sanders, P.E.

FILING AND ACKNOWLEDGEMENT  
FILED, on this date, pursuant to S120.52, Florida  
Statutes, with the designated Department Clerk,  
receipt of which is hereby acknowledged.

Debra J. Davis 11-14-90  
Clerk Date

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT and all copies were mailed before the close of business on 11-14-90 to the listed persons.



# Florida Department of Environmental Regulation

Northeast District • Suite 200, 7825 Baymeadows Way • Jacksonville, Florida 32256-7577 • 904-448-4300

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary  
Ernest Frey, Deputy Assistant Secretary

## Permittee:

The Celotex Corporation  
P.O. Box 28830  
Jacksonville, FL 32218

## I.D. Number:

31-16-0202-(08,13,14,15)

## Permit/Certification Number:

AO16-185805

## Date of Issue:

11-14-90

## Expiration Date:

September 30, 1995

## County:

Duval

## Latitude/Longitude:

30:23:37/81:33:30

## UTM: Zone 17

E-446.430 N-3362.370

## Project:

Wallboard Drying Kiln

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 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 Wallboard Drying Kiln consisting of four (4) burners fired by propane, natural gas, or No. 5 fuel oil.

Emission source(s) shall be as follows:

*Only points 14 & 15 are capable of firing fuel oil.*

## Point

## Source *Maxon Mega five*

08

~~Urquhart Model MK IV burner~~

(Zone "A", west end) *30 x 10<sup>6</sup> Btu/h*

13

Maxon Model LO NO<sub>x</sub> burner

(Zone 1, middle) *30 x 10<sup>6</sup> Btu/h*

14

Hauck Model 784 PAE LX burner

(Zone 2, middle) *15 x 10<sup>6</sup> Btu/h*

15

Hauck Model 784 PAE LX burner

(Zone 3, east end) *15 x 10<sup>6</sup> Btu/h*

Located at 9225 Dames Point Road, Jacksonville, Florida 32226.

*90 x 10<sup>6</sup> Btu/h*

Supporting documents shall be as follows:

- (1) Permit AO16-107129
- (2) Permit application received August 17, 1990
- (3) Celotex particulate matter emissions modeling dated August 10, 1982

Permittee:  
The Celotex Corporation

I.D. Number:  
Permit/Certification Number:  
Date of Issue:  
Expiration Date:

31-16-0202-(08,13,14,15)  
AO16-185805  
September 30, 1995

**GENERAL CONDITIONS:**

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law, and at reasonable times, access to the premises where the permitted activity is located or conducted to:
  - a. Have access to and copy any records that must be kept under conditions of the permit;
  - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
  - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.Reasonable time may depend on the nature of the concern being investigated.
8. If, for any reason, the permittee does not comply with, or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
  - a. A description of and cause of non-compliance; and
  - b. The period of non-compliance, including 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.

Permittee:  
The Celotex Corporation

I.D. Number:  
Permit/Certification Number:  
Date of Issue:  
Expiration Date:

31-16-0202-(08,13,14,15)  
AO16-185805--  
September 30, 1995

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 reports, 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 involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.111 and 403.73, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
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 Rules 17-4.120 and 17-30.300, FAC, 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, or a copy thereof, shall be kept at the work site of the permitted activity.
13. This permit also constitutes:
  - 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:
  - a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
  - b. The permittee shall hold 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), required by this permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained 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.



|                         |                                     |                          |
|-------------------------|-------------------------------------|--------------------------|
| <b>Permittee:</b>       | <b>I.D. Number:</b>                 | 31-16-0202-(08,13,14,15) |
| The Celotex Corporation | <b>Permit/Certification Number:</b> | AO16-185805              |
|                         | <b>Date of Issue:</b>               |                          |
|                         | <b>Expiration Date:</b>             | September 30, 1995       |

**SPECIFIC CONDITIONS:**

1. Permittee shall notify the Air Resources Division (ARD) at least fifteen (15) days prior to source testing in accordance with Rule 17-2.700(2)(a)9., Florida Administrative Code (FAC), and Rule 2.501, Jacksonville Environmental Protection Board (JEPB).
2. Copies of the test report(s) shall be submitted to ARD within forty-five (45) days of completion of testing in accordance with Rule 17-2.700(7)(b), FAC, and Rule 2.501, JEPB.
3. Testing of emissions shall be accomplished at a minimum of 90% of the permitted capacity. If testing is performed at a rate less than 90% of the permitted capacity, operation shall be limited to a maximum of 110% of the tested capacity until such time as an acceptable test is performed at a minimum of 90% of the permitted capacity. When operation is restricted to a lower capacity because of testing at such a level, ARD, upon advanced notification, will allow operation at higher capacities if such operation is for demonstrating compliance at a higher capacity.
4. Any revision(s) to a permit (and application) shall be submitted and approved prior to implementing.
5. Control equipment shall be provided with a method of access that is safe and readily accessible.
6. Stack sampling ports and platforms shall not be required.
7. Permittee shall submit an annual operation report to ARD for this source on the form supplied for each calendar year on or before March 1 in accordance with Rule 17-4.140, FAC.
8. The following pollutant(s) shall be tested at intervals indicated from the date of July 1, 1990:

| <u>Pt. No.</u> | <u>Pollutant</u>        | <u>Interval</u> | <u>*Test Method</u>         |
|----------------|-------------------------|-----------------|-----------------------------|
| 08,13,14,15    | Particulate Matter (PM) | Upon request    | EPA Reference Method (RM) 5 |
|                | Visible Emissions (VE)  | 60 months       | EPA RM 9                    |

\*As described in 40 CFR 60, Appendix A (July 1, 1988)

9. The applicable emission limiting rules shall be as follows:

| <u>Pt. No.</u> | <u>Pollutant</u> | <u><sup>1</sup>FAC</u> | <u><sup>2</sup>JEPB</u> | <u>Other</u> |
|----------------|------------------|------------------------|-------------------------|--------------|
| 08,13,14,15    | PM               | 17-2.650(2)(b)2.       | 2.207                   |              |
|                | VE               | 17-2.610(2)(a)         | 2.203                   |              |

Permittee: The Celotex Corporation

I.D. Number: 31-16-0202-(08,13,14,15)  
Permit/Certification Number: AO16-185805  
Date of Issue:  
Expiration Date: September 30, 1995

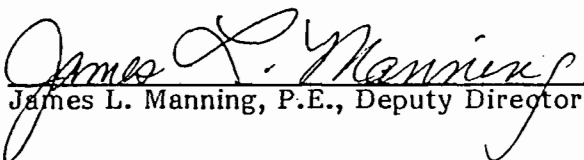
10. The maximum allowable emissions shall be as follows:

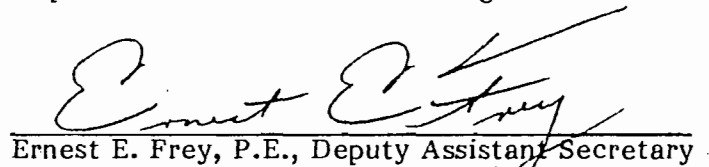
| <u>Pt. No.</u> | <u>Pollutant</u> | <u>lbs/hr</u> | <u>T/yr</u> | <u>Other</u> | <u>Opacity</u> |
|----------------|------------------|---------------|-------------|--------------|----------------|
| 08             | PM<br>VE         | 2.5           | 11.0        |              | < 20%          |
| 13             | PM<br>VE         | 0.15          | 0.66        |              | < 20%          |
| 14             | PM<br>VE         | 1.5           | 6.6         |              | < 20%          |
| 15             | PM<br>VE         | 1.5           | 6.6         |              | < 20%          |

- 11. Operation shall be limited to 8760 hours per year.
- 12. The maximum process input shall be limited to 120,000 pounds per hour of gypsum board.
- 13. The maximum heat input shall be limited to <sup>90.0</sup>85.0 x 10<sup>6</sup> BTUs per hour of propane, natural gas, or No. 5 fuel oil.
- 14. The maximum sulfur content of No. 5 fuel oil shall be limited to 1.8% by weight.
- 15. Sulfur analysis of the fuel oil shall be performed in accordance with ASTM-D 2622 (Sulfur in Petroleum Products - X-Ray Spectrographic Method) or other method approved in advance by ARD. Analysis shall be submitted to ARD upon request.
- 16. The permittee shall apply for a renewal operation permit sixty (60) days prior to the expiration date of this permit in accordance with Rule 17-4.090, FAC. Failure to submit a renewal application sixty (60) days prior to the expiration date shall result in the assessment of a penalty in accordance with Section 360.701(a)19., Ordinance Code, City of Jacksonville.

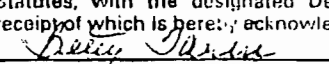
City of Jacksonville  
Department of Health, Welfare, and  
Bio-Environmental Services

State of Florida  
Department of Environmental Regulation

  
James L. Manning, P.E., Deputy Director

  
Ernest E. Frey, P.E., Deputy Assistant Secretary

<sup>1</sup>Florida Administrative Code  
<sup>2</sup>Jacksonville Environmental Protection Board

FILING AND ACKNOWLEDGEMENT  
FILED, on this date, pursuant to S120.52 Florida  
Statutes, with the designated Department Clerk,  
receipt of which is hereby acknowledged.  
 11-14-80  
Clerk Date

5 Pages Attached

Page 5 of 5

DER Form 17-1.201(5) Effective November 30, 1982

(Disc: 19/35 & 36 rlj)

DEPARTMENT OF HEALTH, WELFARE  
& BIO-ENVIRONMENTAL SERVICES  
Air Resources Division



Permittee: The Celotex Corporation

Permit/Certificate Number: AO16-185805

This permit has been reviewed, and

  X   No one requested a copy (in writing)

                     Copy(s) shall be sent to:

\_\_\_\_\_

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                    W. Hall                      
Signature

                    October 24, 1990                      
Date

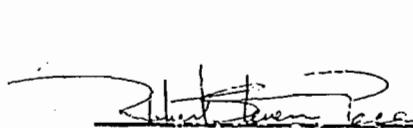


CERTIFICATION

FACILITY The Celotex Corporation  
SOURCE Wallboard Drying Kiln  
APPLICATION NUMBER AO16-185805

I HEREBY CERTIFY that the engineering features described in the referenced application provide reasonable assurance of compliance with the applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Title 17. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including but not limited to the electrical, mechanical, structural, hydrological, and geological features).

Robert S. Pace, P.E.  
NAME, P.E.

  
Signature and Seal

10/6/20  
Date

Re: Renewal of D.E.R. Air Pollution Permit A016-107129

Dear Mr. Hall:

A major rebuild of the wallboard drying kiln in 1987 included replacing the zone 2 burner with a Maxon LO NOX burner. Attached is the B.E.S.D. revision to the existing operating permit.

In August, 1990, we will be converting all plant burners for the use of natural gas. At the time of conversion, the zone one burner (Point 08) will be replaced with a Maxon Megafire 30MMBTU/HR burner, making the maximum heat input available 85.0 MMBTU/HR.

Included in the renewal application are the anticipated utilization rates for natural gas based upon information from People's Gas Service. We will maintain the capability of utilizing all other fuels included in past permits.

If you have any questions, please contact me at (904)751-4400.

Sincerely yours,

Alan H. Elwell  
Plant Manager

ANE:s1

Enclosure



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

|                     |  |
|---------------------|--|
| DER Form            |  |
| Form Title          |  |
| Effective Date      |  |
| DER Application No. |  |

APPLICATION FOR RENEWAL OF  
PERMIT TO OPERATE AIR POLLUTION SOURCE(S)

If major alterations have occurred, the applicant should complete the Standard Air Permit Application Form.

Source Type: Kiln Renewal of DER Permit No. A016-107129  
Company Name: The Celotex Corporation County: Duval

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):

Wallboard Drying Kiln

Source Location: Street: 9225 Dames Point Road City: Jacksonville  
UTM: East 7446.430 North 3362.370  
Latitude: 30° 23' 37"N. Longitude: 81° 33' 30"W.

1. Attach a check made payable to the Department of Environmental Regulation in accordance with operation permit fee schedule set forth in Florida Administrative Code Rule 17-4.05.
2. Have there been any alterations to the plant since last permitted?  Yes  No  
If minor alterations have occurred, describe on a separate sheet and attach.
3. Attach the last compliance test report required per permit conditions if not submitted previously. V.E. Test reports submitted to B.E.S.D. on 7/16/90
4. Have previous permit conditions been adhered to?  Yes  No If no, explain on a separate sheet and attach.

**Best Available Copy**

5. Has there been any malfunction of the pollution control equipment during tenure of current permit?  Yes  No If yes, and not previously reported, give brief details and what action was taken on a separate sheet and attach.
6. Has the pollution control equipment been maintained to preserve the collection efficiency last permitted by the Department?  Yes  No
7. Has the annual operating report for the last calendar year been submitted?  Yes  No If no, please attach.

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Effective November 30, 1982

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B. Please provide the following information if applicable:

A. Raw Materials and Chemical Used in Your Process:

| Description      | Type | Contaminant | %Wt | Utilization |        |
|------------------|------|-------------|-----|-------------|--------|
|                  |      |             |     | Rate        | lbs/hr |
| Wet Gypsum Board |      | None        |     | 120,000     |        |
|                  |      |             |     |             |        |
|                  |      |             |     |             |        |

D. Product Weight (lbs/hr): 79,200 Dry board weight

C. Fuels

| Type<br>(Be Specific) | Consumption* |              | Maximum Heat<br>Input (MMBTU/hr) |
|-----------------------|--------------|--------------|----------------------------------|
|                       | Avg/hr*      | Max/hr**     |                                  |
| Propane (or)          | 612 Gal./hr. | 934 gal./hr. | 85.0                             |
| Natural Gas (or)      | 0.056        | 0.085        | 85.0                             |
| No. 5 Fuel Oil        | 9.2          | 13.3         | 85.0                             |
|                       |              |              |                                  |

D. Normal Equipment Operating Time: hrs/day 24, days/wk 7, wks/yr 52,  
hrs/yr (power plants only) \_\_\_\_\_; if seasonal, describe \_\_\_\_\_

The undersigned owner or authorized representative\*\*\* of The Celotex Corporation is fully aware that the statements made in this application for a renewal of a permit to operate an air pollution source are true, correct and complete to the best of his knowledge and belief. Further, the undersigned agrees to maintain and operate the pollution source and pollution control facilities in such a manner as to comply with the provisions of Chapter 403, Florida Statutes, and all the rules and regulations of the Department. He also understands that a permit, if granted by the Department, will be non-transferable and he will promptly notify the Department upon sale or legal transfer of the permitted facility.

\*During actual time of operation.

\*\*Units: Natural Gas-MMCF/hr;  
Fuel Oils-barrels/hr; Coal-lbs/hr.

\*\*\*Attach letter of authorization if not previously submitted

  
Signature, Owner or Authorized Representative  
(Notarization is mandatory)  
Alan H. Elwell, Plant Manager

Typed Name and Title  
P.O. Box 28830  
Address  
Jacksonville, FL 32218  
City State Zip  
August 14 1990 Date  
904-751-4400 Telephone No.

DER Form 17-1.202(4)  
Effective November 30, 1982