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Return Receipt Showing to Whom, Date, & Address of Delivery

Return Receipt Showing to Whom & Date Delivered

Special Delivery Fee Restricted Delivery Fee

Mailed: Permit:

10-14-91 PSD Applicability

s form so	'I also wish to receive the following services (for an extra fee): 1. Addressee's Address 2. Restricted Delivery Consult postmaster for fee.
4a. Arti	cle Number
4b. Server Registration Control Registration Control Registration Control Registration Registrat	fied COD
	essee's Address (Only if requested ee is paid)
) 3-861 D C	MESTIC RETURN RECEIPT
	P 832 4b. Serving Regis Certing Expres 7. Date 8. Addr



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400 Lawton Chiles, Governor Carol M. Browner, Secretary

October 14, 1991

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Ms. Lynne Stevenson, President Stevenson and Associates 333 Faulkenburg N., A-115 Tampa, Florida 33619

Dear Ms. Stevenson:

Re: Franklin Limestone Company PSD Applicability

The Department has reviewed your letter with attachments received September 9, 1991. Based on the information received, the Department's Bureau of Air Regulation (BAR) is unable to establish a conclusion regarding PSD (Prevention of Significant Deterioration) applicability or non-applicability. Since PSD evaluation is based on the facility's maximum potential/allowable emissions for proposed new construction and/or modification versus previous actual pollutant emissions, the following information will have to be provided Department's BAR in order to properly assess the previous construction and/or modification events at the facility and to make a PSD applicability decision:

- List each source and its facility ID designation;
- 2) In chronological order of events, list each source's construction permits (i.e., new or modification) received, by number, and their issue dates; if there is no construction permit(s), then provide the same for the operation permit(s);
- 3) For each permit listed, list all of the pollutants that have an emissions standard/rate established and provide their potential/allowable emissions standard/rate in lbs/hr and tons/yr;
- 4) For each permit listed, provide the permitted hours of operation in hrs/yr (i.e., 8760 hrs/yr, etc.);

Ms. Lynne Stevenson Page Two

- 5) For each new construction and/or modification that has occurred, what was the facility's and/or affected source's actual pollutant emissions (i.e. tons/yr) prior to the proposed new construction and/or modification and the net change in pollutant emissions (i.e., tons/yr) from the proposed maximum potential/allowable pollutant emissions; and,
- 6) Provide the permit number of all PSD permits issued, the date(s) issued, and the affected source(s).

Once the Department's BAR has received the above information, it will be quickly evaluated for completeness. If the information submitted is not complete, then additional information will be requested. If the information is complete, a decision will be made regarding PSD applicability or non-applicability.

If there are any questions, please call Mr. Bruce Mitchell at (904)488-1344 or write to me at the above address.

Sincerely,

C. H. Fancy, P.E.

Chief

Bureau of Air Regulation

CHF/BM/rbm

cc: C. Collins, Central District

G. Worley, EPA

STEVENSON AND ASSOCIATES

RECEIVED

August 19, 1991

Claire Fancy
Bureau of Air Quality
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

3EP 0 9 1991

Division of Air Resources Management

RE: Franklin Limestone Company
Prevention of Significant Deterioration (PSD)
Limestone Fluidized Bed Dryer (A042-189828)

Dear Mr. Fancy:

As per recent correspondence with your office, the following is a request for an appeal of the Prevention of Significant Deterioration (PSD) stigma imposed on Franklin Limestone Company's Fluidized Bed Dryer.

Franklin Limestone purchased Southern Materials Corporation on December 1, 1988. The facility is engaged in the processing, handling and transfer of limestone (CaCO₃). The raw material is mined, dried in either the fluidized bed dryer or rotary kiln, further processed at the permitted mills and transported off premises by truck or railcar.

The fluidized bed dryer, upon review by the U. S. Environmental Protection Agency (EPA), was originally permitted under PSD on December 19, 1979 (Permit Nos. AC42-19763/AO42-35090). (Attachment 1 & 1A) Although the original intention was to replace the rotary kiln with this permitted dryer, the kiln was kept in operation. There were two (2) letters originating from the EPA on May 15, 1980. The first stated that Southern Materials "may be exempt from PSD review requirements." The second letter was an actual permit, but implied the subject case would "have a significant impact on the EPA Prevention of Significant Deterioration (PSD) program and permits issued thereunder". This statement was based on the precedent of Alabama Power Co. vs Douglas M. Castle,

wherein the ruling essentially changed the definition of potential from without controls to with controls. The letter states further that the ruling will require modification of the PSD regulations and could effect permits issued under the existing program; therefore, the permit may be subject to reevaluation. (Attachment 3)

DER Permit No. AO42-35090 was issued November 10, 1980; (Attachment 1A) subsequently, on August 8, 1985 an application to modify was filed for the existing construction permit and Permit No. AO42-109788 was issued February 6, 1986. (Attachment 4) PSD was not indicated on this permit and the allowable emissions for particulate matter was increased from the initial permitted rate of 6 lbs/hr to 16 lbs/hr or 58.2 tons/year. Furthermore, the dryer was permitted for 462.3 tons/year of SO₂ emissions although the actual emission rate is much lower and will be discussed and examined further in this letter. On February 2, 1991 the permit was again renewed with no mention of previous PSD requirements (AO42-189828). (Attachment 5) The particulate and SO₂ allowable emission rates remained the same as in Permit No. AO42-109788.

As previously stated, Franklin Limestone acquired Southern Materials on December 1, 1988. Since 1990 there has also been a change of consultants which may have resulted in a loss of some "institutional memory". As a result of the aforementioned combination of circumstances, the fact that the dryer was ever possibly subject to PSD only became apparent when Franklin Limestone entered into a Consent Order in July, 1990 due to a Visible Emission violation. actual violation fell into DER "moderate" matrix, but because there were some records indicating that at one time Southern Materials was under PSD, the resulting fine placed the facility into a "major moderate category" which created much more significant monetary compensation. The Consent Order has since been rectified. However, this Consent Order created the circumstances that originally brought the PSD matter to the attention of Franklin Limestone and Franklin Limestone's consultant in environmental matters.

A complete record search through the files of EPA, DER and old archived files provided by Franklin Limestone which had previously belonged to Southern Materials, has been undertaken to determine whether PSD should ever have been imposed. This file and record investigation has become a very time-consuming and lengthy process. At the time this matter was brought to the attention of Franklin Limestone consultant, Stevenson & Associates, an attempt was made to establish a correspondence with U. S. EPA Region IV (Attachment 6) in order to review the matter. Furthermore,

DER - Orlando District indicated that the PSD may also be a result of Franklin's SO₂ emissions.

For both the rotary and fluid bed dryer permitted emissions were based on AP-42 factors. There were never any actual stack tests performed on either unit. Therefore, to further clarify the SO₂ emission issue, Stevenson & Associates performed an EPA Method 6 (Determination of Sulphur Dioxide from Stationary Sources) in March, 1991. (See Attachment 7 (Fluid Bed Dryer) and Attachment 8 (Rotary Dryer)

The actual emission (or potential) from both sources, running 8760 hours per year amounted to 11.26 tons per year, as opposed to the current permitted level of collectively 515.94 tons per year. This permitted level reflects actual annual hours of operation of 1,440 for the rotary dryer and 7,280 for the fluid bed dryer. As you can see, the actual tested SO₂ emissions are one per cent (1%) of the current permitted value. This alone removes Franklin Limestone from a "major source" category for SO₂.

The following is a listing of all sources at Franklin Limestone Company, as well as a listing of lbs/hour and tons/year potential emissions based on continuous operation (8760 hrs/yr) with controls:

SOURCE	PERMIT NO.	PARTICULATE ACTUAL EMISSION LBS/HR	POTENTIAL EMISSION (8,760 HRS/YR) TONS/YR
Limestone fluidized bed dryer	AO42-189828	3 4.02 *	17.61
Limestone Rotary Dryer	AO42-120357	25.97 *	113.75
Silo #7**	AO42-120358	3 1.71	7.49
Baghouse Wet & Dry Bag Systems	AO42-148258	3 1.31	5.74
Raymond Mill 73" & 66"	ls AO42-165014	6.29	27.55
Truck Blow- Off Bin	AO42-190060	.0011	.005
TOTAL EMISSIONS			172 Tons/yr Total Facility
SOURCE	PERMIT NO.	ACTUAL SO ₂ EMISSION LBS/HR	POTENTIAL EMISSION (8,760 HRS/YR) TONS/YR

11.26 Tons/yr Total Facility

10.91

0.35

AO42-189828

Rotary Dryer AO42-120357

Fluidized Bed Dryer

Limestone

2.49

.08

^{*} Based on stack test data of 03/05/91

^{**} Currently being modified under Permit No. AC42-193348. Emissions will not change.

As you can see, Franklin does fall into the major source category for particulate, but is well under the PSD level for Particulate and SO_2 .

On behalf of Franklin Limestone Company, based on the information outlined, a request for appeal from PSD is hereby submitted.

Sincerely,

Lynne Stevenson

ynne &

President

Enclosures: as stated

Copies furnished to:
Richard Brann, Franklin Limestone
(w/enclosure)
Glenn McCloskey, Franklin Limestone
(w/enclosures)
Chuck Collins, DER - Orlando
(w/enclosures)
Mr. Worley, EPA Region IV

ATTACHMENT 1

P. & C. C. SOULVARD

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DEPARTMENT OF PRATEOURISTAL REQUESTIÓN

\$1, JOHNSO MVER, PROJEKA

. B. Roberts, Jr. ice President outhorn Matchiels Corporation ost Office Box 218 cale, Florida 32670

Documber 19, 1979

ear Mr. Roberts:

Marion County AP Southern Materials Corporation Limestone Fluidized Bed Dryen (90 tons/hour) Lowell, Florida

whole is Pennit Weeker AC42-19763 , dated December 19, 1979to construct the majors rollinion source, issued pursuant to Scation 403.001 (16), Florida Statutes.

there you object to this parmit, including may are all of the conditions contained to die, you may file an appropriate position for a beinful vive lasting. This patition ask he filed within forteen (I4) days of the receipt of this letter. Further, the wiften must confine to the requirements of Section 28-5.15, Florida Administrative C 1: (e.g., coclesso). The position must be filed with the utility of General Cocasel, here not of Universental Degulation, Twin Towns Office Enthalting, 2600 Chair Section 2015 and Painted 23301.

of may, dition is filed within the prescribed time, you will be done to have eccepted his possit and vaived your night to request an administrative beening on this watter.

resplicate of the possit constitutes notice and the savet that the dates it will pask a solly anxion this persit for compliance, including also into the endicate a policy of any half late enforcement action for violation of the conditions and requirements thereof.

Since of v.

A. Senkevich, V. E.

District Renager

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GDT: ALL ACORD, MARRI SECRETARY

ALEX SERVI MOR H 10 COLM THEOLOGICAL

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS MYER DISTRICT

APPLICANT:

H. B. Roberts, Jr.
Vice President
Southern Materials Corporation
Post Office Box 218
Ocala, Florida 32670

PERMIT/CERTIFICATION

NO.: AC42-19763

COUNTY: Marion

PROJECT: Limestone Fluidized Bed Drycer (90 tons/hour)

Lowell, Florida

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

Permittee can construct a 90 tons/hour limestone fluidized bed dryer utilizing a baghouse (Dustex Model 3610-14-38 SP Api-Jet Dust Collector) with 98+ percent efficiency to control emissions.

The operating time of this plant is limited to 20 hours/day, 7 days/week, 52 weeks/year.

The process weight limit of this plant is limited to 655,200 tons/year with a process rate of 90 tons/hour.
This plant is located on Old Highway 441 in Lowell, Florida
UTM East 17,384,610 UTM North 3,244,140
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 Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court 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 indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

DER Form 17-1.122(63) Page 1 of 4,

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H. B. Roberts, Jr. pl. Name: Southern Materials Corporation moject; Page' 4 of 4 of Permit No.; AC42-19763

- 5. Satisfactory ladders, platforms, and other safety devices shall be provided/available as well as necessary ports to facilitate the carrying out of an adequate sampling program.
- 6. All fugitive dust generated at this site shall be adequately controlled.
- The emission limitation for this Limestone Fluidized Red Dryer is 6 / hour as stated in your permit application and your PSD review . unless approved by this department.
- The Department must be notified at least 10 days in advance of the test so that we may be present.
- The stack testing must be conducted in accordance with the latest Department of Environmental Regulation Stack Sampling Manual in effect at that time. The method will be the General Particulate Method.
- The maximum sulfur content in the oil is 2.25% by weight.
- 11. The actual SO2 emission levels reported in III C is in error; the information should be updated in the operation permit application.
- The permitted fuel is #6 residual oil, 12.

EEPIRATION DATE Hovember 18, 1980 Issued this May of free which

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

DISTRICT MANAGER

B. Senkevich, P.E.

or to you AV 5 AVO (63) Army 4 p.h. 4

3315 MAGUIRE BOULEVARD SUITE 232 ORLANDO, FLORIDA 32803



BOB GRAHAM GOVERNOR

JACOB D. VARN SECRETARY

ALEX SENKEVICH DISTRICT MANAGER

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT

H. B. Roberts, Jr. Vice President Southern Materials Corporation Post Office Box 218 Ocala, Florida 32670

Dear Mr. Roberts:

Marion County AP

Southern Materials Corporation

Enclosed is Permit Number A042-35090, dated 11-10-80, to operate the subject pollution source, issued pursuant to Section 403.061 (16), Florida Statutes.

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

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

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

Sincerely,

C.M.C

Senkevich, P. E.

District Manager

AS:jrm | Enclosure

cc: Frank L. Cross, P.E.

Records Center, Tallahassee

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

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 double-spaced and 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 well 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 petitioner contends is material.

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



BOB GRAHAM GOVERNOR

JACOB D. VARN SECRETARY

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ALEX SENKEVICH DISTRICT MANAGER

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT

APPLICANT:

H. B. Roberts, Jr. Vice President Southern Materials Corporation Post Office Box 218 Ocala, Florida 32670 PERMIT/CERTIFICATION

NO.: AO42-35090

COUNTY: Marion

PROJECT: Limestone Fluidized

Bed Dryer

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

Permittee can operate a 90 tons/hour limestone fluidized bed dryer utilizing a baghouse (Dustex Model 3610-14-38 SP Api-Jet Dust Collector) with 98+ percent efficiency to control emissions.

The operating time of this plant is limited to 20 hours/day, 7 days/week, 52 weeks/year or a maximum of 7280 hours/year.

The process weight limit of this plant is limited to 655,200 tons/year with a process rate of 90 tons/hour.

This plant is located on Old Highway 441 in Lowell, Florida.

UTM: East 17,384,610 UTM: North 3,244,140

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 Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court 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 indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

Appl. Name: H. B. Roberts, Jr.

Project: Southern Materials Corporation

Page 2 of 4 of Permit No.: A042-35090

- 3. 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 (b) the period of non-compliance, 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.
- 4. As provided in subsection 403.087(6), 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 infrigement of federal, state or local laws or regulations.
- 5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.
- 6. 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 prescribed by Section 403.111, F.S.
- 7. In the case of an operation permit, 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.
- 8. 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 therefore 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, except where granting a variance or exception from department rules or state statutes.
- 9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

Appl. Name: H. B. Roberts, Jr.

Project: Southern Materials Corporation Page 3 of 4 of Permit No.: A042-35090

- 10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.
- 11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.
- 12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.
- 13. This permit also constitutes:
 - () Determination of Best Available Control Technology (BACT)
 - (X) Determination of Prevention of Significant Deterioration (PSD)
 - () Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)
- * If particulate emissions are no greater than 6#/hour, the PSD requirement is satisfied. SPECIFIC CONDITIONS:
- 1. Drawings, plans, documents or specifications submitted by the permittee, not attached hereto, but retained on file at the St. Johns River District Office, are made a part hereof.
- 2. The dryer must be stack tested for particulates at yearly intervals from the date of September 5, 1980, in accordance with EPA's Method No. 5 or DER's General Particulate Method.
- 3. Two copies of the test report must be submitted to this office no later than thirty (30) days of such testing as per Chapter 17-2.08, F.A.C.
 - 4. This plant is required to operate within 10 percent of permitted capacity during the compliance tests.
- √ 5. This office (Florida Department of Environmental Regulation, Air Permitting, Orlando) shall be notified at least ten (10) days in advance of compliance tests so that we can witness them.

Appl. Name: H. B. Roberts, Jr.

Project: Southern Materials Corporation Page 4 of 4 of Permit No.: AO42-35090

- 6. Submit for this facility, each calendar year, on or before March 1, an Annual Operations Report for the preceding calendar year as per Chapter 17-4.14, F.A.C.
 - 7. Satisfactory ladders, platforms, and other safety devices shall be provided/available as well as necessary ports to facilitate the carrying out of an adequate sampling program.
 - 8. All fugitive dust generated at this site shall be adequately controlled.
- 9. The emission limitation for this plant is set forth in Chapter 17-2.05(2), F.A.C. (Table I Process Weight Table), with the exception that the maximum limitation for this Limestone Fluidized Bed Dryer is 6#/hour as stated in your permit application and your PSD review unless approved by this department.
- 10. The permitted fuel is #6 residual oil.
- 11. This unit is replacing a dryer Permit No. A042-2261 which will never again be operated.

EXPIRATION DATE November 6, 1985

Issued this 10 day of har

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

C.M.C

DISTRICT MANAGER

A. Senkevich, P. E.

ATTACHMENT 2



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET ATLANTA, GEORGIA 30308

MAY 15 1980

REF: 4AH-AF

Mr. H. B. Roberts, Jr. Vice President Southern Materials Corporation P. O. Box 218 Ocala, Florida 32670

RE: Limestone Dryer Permit File Application Number PSD-FL-037

Dear Mr. Roberts:

Review of the referenced file has shown that the limestone dryer proposed for construction may be exempt from PSD review requirements in light of the Partial Stay of Prevention of Significant Deterioration Regulations published February 5, 1980 (45 FR 7800). Since review requirements have been completed for this source, a permit has been issued (in an accompanying letter) to avoid delay in granting authority to construct. Should you so desire, clarification of applicability for this source can be made through further correspondence with this office.

A determination of applicability will require additional information on emissions from existing facilities at the Lowell Plant. Included should be:

- 1. Estimates of emissions from all existing emitting facilities at the source (i.e. plant) to determine if the existing plant is a major stationary source as defined in the proposed revised PSD regulations (published September 5, 1979).
- 2. Estimates of all emissions increases and decreases at the plant since August 7, 1977.

These emissions estimates should be based on continuous (8760 hrs/yr) operation at maximum capacity and should consider the application of control technology. The basis for each estimate should be stated. Also, if allowable emissions under existing State permits differ from the previous estimates, submit information on allowable emission rates.

It should be clear that submittal of this information is not required. It is needed only if you desire a determination of applicability under the Partial Stay of Regulations mentioned previously. Should you have any questions, please call.

Sincerely yours,

Kent Williams, Chief

Kadilliams

New Source Review Section

KW:JS:jt



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET ATLANTA, GEORGIA 30308

MAY 1 5 1980

REF: 4AH-AF

Mr. H. B. Roberts, Jr. Vice-President Southern Materials Division P.O. Box 218 Ocala, FL 32670

Re: Limestone Dryer Permit Application No. PSD-FL-037

Dear Mr. Roberts:

Review of your August 29, 1979 application to construct a limestone dryer near Lowell, Florida has been completed. The construction is subject to rules for the Prevention of Significant Air Quality Deterioration (PSD), contained in 40 CFR 52.21.

We have determined that the construction, as described in the application, meets all applicable requirements of the PSD regulations, subject to the conditions in the conclusions section to the final determination (enclosed). EPA has performed the Preliminary Determination concerning the proposed construction, and published a request for public comment in February, 1980. No comments were received. Authority to Construct a Stationary Source is hereby issued for the facility above, subject to the conditions in the conclusions section to the final determination. This Authority to Construct is based solely on the requirements of 40 CFR 52.21, the federal regulations governing significant deterioration of air quality. does not apply to NPDES or other permits issued by this agency or permits issued by other agencies. Information regarding EPA permitting requirements can be provided if you contact Mr. Joe Franzmathes, Director, Office of Program Integration and Operations, at 404/881-3476. Additionally, construction convered by this Authority to Construct must be initiated within 18 months from the receipt of this letter.

Mr. H. B. Roherts, Jr. Southern Materials Division Page 2

The United States Court of Appeals for the D. C. Circuit issued a ruling (December 14, 1979) in the case of Alabama Power Co. vs. Douglas M. Costle (78-1006 and consolidated cases) which has significant impact on the EPA Prevention of Significant Deterioration (PSD) program and permits issued thereunder. The ruling will require modification of the PSD regulations and could affect permits issued under the existing program. You are hereby advised that this permit may be subject to reevaluation.

Please be advised that a violation of any condition issued as part of this approval, as well as any construction which proceeds in material variance with information submitted in your application will be subject to enforcement action.

Authority to Construct will take effect on the date of this letter. The complete analysis which justifies this approval has been fully documented for future reference, if necessary. Any questions concerning this approval may be directed to Dr. Kent Williams, Chief, New Source Review Section at 404/881-4552.

Sincerely yours,

Thomas W. Devine

Director

Air and Hazardous Materials Division

cc: Steve Smallwood

FL Dept. of Environmental Regulation

APPLICATION PSD-FL-037 FINAL DETERMINATION

I. Applicant

Southern Materials Corporation P.O. Box 218 Ocala, Florida 32670

II. Location

The proposed modification is to an existing source located off Old Highway 441 in the city of Lowell, Marion County, Florida. The UTM coordinates are 17,384,610 East and 3,244,140 North.

III. Project Description

The applicant proposes to replace an existing Barber-Green rotary limestone dryer equipped with a wet scrubber with a 100 TPH (maximum capacity) Heyl & Patterson fluid bed limestone dryer equipped with a fabric filter at their limestone mining and preparation plant. The existing dryer utilizes 543,902 BTU/ton limestone feed and reduces the moisture content of the crushed limestone from 11 percent to 1/2 of 1 percent. The new fluid bed dryer will require less fuel (435,000 BTU/ton) and is designed to reduce the moisture content from 12 percent to 1/2 of 1 percent. The Dustex fabric filter is designed for a flow rate of 45,000 ACFM and has an air to cloth ratio of 5.4 to 1. It has 532 single polyester bags which are 6 inches in diameter and 10 feet in length. Fugitive emissions from the new dryer are expected to decrease since the fixed bed unit is a closed system. A simplified flow diagram of the facility is given in Figure 1.

IV. Source Impact Analysis

The proposed modification has the potential to emit greater than 250 tons per year of particulates (including increases from previous modifications since August 7, 1977) as shown in Table I. Therefore, in accordance with the provisions of Federal Regulation 40 CFR 52.21 promulgated 19 June 1978, Prevention of Significant Deterioration (PSD) review is required for this pollutant only.

Actual emissions of 6 lbs/hr are estimated for the new dryer-fabric filter system compared to 33.6 lbs/hr being emitted from the existing dryer-scrubber unit. The 6 lbs/hr emission rate is based on the 0.02 gr/dscf outlet concentration shown in the literature for the Dustex fabric filter.

Full PSD review includes analyses of Best Available Control Technology (BACT), class I area impact, National Ambient Air Quality Standards (NAAQS) impact, increment impact, grwoth impact and additional impacts on soils, vegetation and visibility. However, because allowable emissions of particulates are less than 50 tons per year as shown in Table I, and no class I area is impacted, the modification is exempt from these impact analyses consistent with paragraphs (j) and (k) of the PSD regulation. On this same basis, the source is also exempt from the monitoring requirements of paragraph (n) of the PSD regulation. PSD review for this modification is limited to a class I area impact analysis and ensuring that the applicable facilities meet emission limitations under the Florida State Implementation Plan.

V. Class I Area Impact

The nearest mandatory class I PSD area is (Chassahowitzka National Wilderness) at a distance of approximately 85 kilometers from the proposed modification. However, since the actual emissions from the dryer systems will decrease from 33.6 lbs/hr to 6 lbs/hr with the installation of the new fluid bed dryer-fabric filter system, no adverse air quality impact to the class I area is predicted.

VI. State and Federal Regulations

The applicable state rule to determine the allowable emission rate from the proposed modification is Florida Department of Environmental Regulation 17-2.05(2) Table I. Based on the above rule a 100 TPH maximum capacity dryer can emit up to 36.17 lbs/hr of particulate emissions. This is however, greater than the actual emissions projected from the new dryer. It must also be noted that the proposed modification has yet to receive a state permit which when granted is expected to include emission limitations for TSP, SO₂, CO, HC and NO₂.

No federal emission limitations or standards of performance under CFR 60 or 61 are applicable to the proposed modification.

VII. Conclusions

EPA Region IV proposes a Final determination of approval for construction of the modification to the Southern Material Corporation limestone dryer system proposed in their application submitted August 28, 1979. This approval is based on the information provided in their application and additional information submitted in correspondence dated October 5, 1979 and October 16, 1979. The conditions set forth in the permit are as follows:

- Prior to startup of the new 100 TPH (maximum capacity) Heyl & Patterson fluid bed dryer the existing Barber-Green rotary dryer will be shut down.
- The modification and the facilities constructed will be in accordance with the capacities and specifications stated in the application. This specifically includes a limestone dryer capacity of 100 TPH with a maximum heat input rate of 45 MM BTU/hr.
- 3. The facilities will also comply with the following emission rates:

Pollutant

TSP

Allowable Emission Rate

6 1bs/hr 0.13 1bs/10⁶ BTU 21,8 tons/year

4. Compliance with the allowable emission rates will be determined by performance tests in accordance with the provisions of 40 CFR 60.8 and using Standard EPA methods. These tests will be carried out during a period when operation is continuous and when the process and gas flow rates are operating at design rates specified in the application. Testing of particulate matter emissions will be carried out isokinetically using EPA Standard Method 5 and with a minimum sampling time of 60 minutes for each run and three runs per test.

- 5. During the compliance testing required in condition 4, simultaneous visible emissions tests will be performed in accordance with EPA Method 9. Subsequent operation of the dryer will not exceed the allowable opacity limit determined by this test.
- 6. The applicant will comply with the requirements and provisions of the attached General Conditions.

- A. Wet Solids Feed
- B. Air and Fuel Oil to Burner
- C. Coarse Product (+35 Mesh)
- D. Fine Product (-35 Mesh)
- E. Exhaust Stack Outlet

EXHAUST GAS 45,500 ACFM @ 220° F

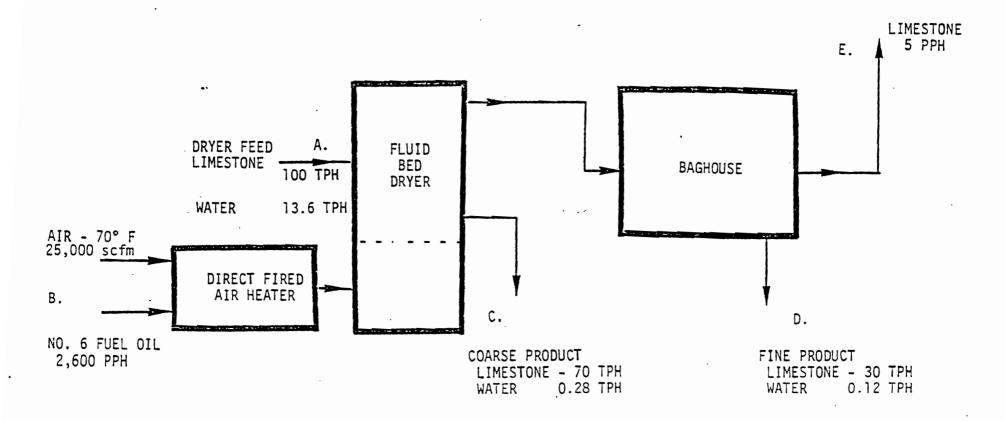


Figure 1. Flow diagram of fluid bed dryer system.

ATTACHMENT 4

BEST AVAILABLE COPY

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767



BOB GRAHAM GOVERNOR

VICTORIA J. TSCHINKEL SECRETARY

> ALEX ALEXANDER DISTRICT MANAGER

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

Hugh N. Cannon, General Manager Southern Materials P.O. Box 188 Lowell, Florida 32663

Dear Mr. Cannon::

Marion County - AP Limestone Fluidized Bed Dryer

FEB 6 1986

Enclosed is Permit Number AO42-109788, dated to operate a 100 ton per hour Limestone Fluidized Bed Dryer, issued pursuant to Section 403.087, Florida Statutes.

Persons whose substantial interests are affected by this permit have a right, pursuant to Section 120.57, Florida Statutes, to petition for an administrative determination (hearing) on it. The petition must conform to the requirements of Chapters 17-103 and 28-5.201, FAC, and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee 32301, within fourteen (14) days of receipt of this Failure to file a petition within the fourteen (14) days constitutes a waiver of any right such person has to an" administrative determination (hearing) pursuant to Section 120.57, This permit is final and effective on the date Florida Statutes. filed with the Clerk of the Department unless a petition is filed in accordance with this paragraph 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, FAC. 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 32301; 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 Orlando, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Cm o

A/ Alexander, P.E.
District Manager
3319 Maguire Boulevard
Suite 232
Orlando, Florida 32803
(305) 894-7555

AA:atsm

Copies furnished to:

Frank L. Cross, P.E. Cross/Tessitore & Associates, P.A. 4759 S. Conway Road, Suite D Orlando, FL 32812

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT and all copies were mailed before the close of business on FEB 0.6 1986 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGEMENT FILED, on this date, pursuant to §120.52(9), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged,

Clerk

6 1986

RULES OF THE ADMINISTRATIVE COMMISSION MODEL RULES OF PROCEDURE RULE 28-5.201 DECISIONS DETERMINING SUBSTANTIAL INTERESTS

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 double-spaced and 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 well 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 petitioner contends is material.

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

Section 17-103.155(1), Florida Administrative Code Petition for Administrative Hearing; Waiver of Right to Administrative Proceeding

- (1)(a) Any person whose substantial interests may be affected by proposed or final agency action may file a petition for administrative proceeding. A petition shall be in the form required by this Chapter and Chapter 28-5, FAC, and shall be filed (received) in the Office of General Counsel of the Department within fourteen (14) days of receipt of notice of proposed agency action or within fourteen (14) days of receipt of notice of agency action whenever there is no public notice of proposed agency action. In addition to the requirements of Rule 28-5.201, FAC, the Petition must specify the county in which the project is or will be located.
- (b) Failure to file a petition within fourteen (14) days of receipt of notice of agency action or fourteen (14) days of receipt of notice of proposed agency action, whichever notice first occurs, shall constitute a waiver of any right to request an administrative proceeding under Chapter 120, F.S.
- (c) When there has been no publication of notice of agency action or notice of proposed agency action as prescribed in Rule 17-103.150, FAC, a person who has actual knowledge of the agency action or has knowledge which would lead a reasonable person to conclude that the Department has taken final agency action, has a duty to make further inquiry within fourteen (14) days of obtaining such knowledge by contacting the Department to ascertain whether action has occurred. The Department shall upon receipt of such an inquiry, if agency action has occurred, promptly provide the person with notice as prescribed by Rule 17-103.150, FAC. Failure of the person to make inquiry with the Department within fourteen (14) days after obtaining such knowledge may estop the person from obtaining an administrative proceeding on the agency action.
- (2)(a) "Receipt of notice of agency action" means receipt of written notice of final agency action, as prescribed by Department rule, or the publication, pursuant to Department rule, of notice of final agency action, whichever first occurs.
- (b) "Receipt of notice of proposed agency action" means receipt of written notice (such as a letter of intent) that the Department proposes to take certain action, or the publication pursuant to Department rule of notice of proposed agency action, whichever first occurs.
- (3) Notwithstanding any other provision in this Chapter, should a substantially affected person who fails to timely request a hearing under Section 120.57, F.S., administratively appeal the final Department action or order, the record on appeal should be limited to:
- (a) the application, and accompanying documentation submitted by the applicant prior to the issuance of the agency's intent to issue or deny the requested permit.
- (b) the materials and information relied upon by the agency in determining the final agency action or order;
 - (c) any notices issued or published; and
 - (d) the final agency action or order entered concerning the permit application.
- (4) In such cases where persons do not timely exercise their rights accorded by Section 120.57(1), Florida Statutes, the allegations of fact contained in or incorporated by the final agency action shall be deemed uncontested and true, and appellants may not dispute the truth of such allegations upon subsequent appeal.
- (5) Any applicant may challenge the Department's request for additional information by filing with the Office of General Counsel an appropriate petition for administrative proceeding pursuant to Section 120.60, F.S., following receipt by the applicant of the Department's notification, pursuant to Section 403.0876, F.S., that additional information is required.
- Specific Authority: 120.53, 403.0876, 403.815, F.S. Law Implemented: 120.53, F.S. History: New 9-20-79, Amended 4-28-81, Transferred from 17-1.62 and Amended 6-1-84.
- (5) Any applicant may challenge the Department's request for additional information by filing with the Office of General Counsel an appropriate petition for administrative proceeding pursuant to Section 120.60, F.S., following receipt by the applicant of the Department's notification, pursuant to Section 403.0876, F.S., that additional information is required.
- Specific Authority: 120.53, 403.0876, 403.815, F.S. taw Implemented: 120.53, F.S. History: New 9-20-79, Amended 4-28-81, Transferred from 17-1.62 and Amended 6-1-84.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767



BOB GRAHAM GOVERNOR VICTORIA J. TSCHINKEL SECRETARY ALEX ALEXANDER DISTRICT MANAGER

Permittee:
Hugh N. Cannon, General Manager
Southern Materials
P.O. Box 188
Lowell, Florida 32663

I. D. Number:
Permit/Certification
Number: A042-109788
Date of Issue: 2/6/86
Expiration Date: 2/5/91
County: Marion
Latitude/Longitude:
29°19'80"N;82°11'30"W
UTM: 17-384.61 KmE
UTM: 3244.10 KmN
Project: Limestone Fluidized
Bed Dryer.

This permit is issued under the provisions of Chapter(s) 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-2. 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:

The permittee can operate a 100 ton per hour Limestone Fluidized Bed Dryer whose Particulate Matter air emissions are controlled to 58.2 tons per year by a Dustex Fabric Filter Collector made by the Dustex Division of American Precision Industries, Model 3610-14-SP Serial No.798010, air to cloth ratio of 5.4:1, containing 532 Polyster bags and having a collector efficiency of 99.9 percent. The use of No.6 Fuel Oil results in actual Sulfur Dioxide emissions of 231.2 tons per year (potential emissions of 462.3 tons per year reduced by 50% by chemical reaction with alkaline dust, ref. Table 8.6-1 of AP-42).

This source is located at the Southern Materials facility on Old Highway 441 in Lowell, Marion County, Florida.

General Conditions 1 through 15 are attached to be distributed to the permittee only.

DER FORM 17-1.201(5) Effective November 30, 1982 Page 1 of 6.

PERMITTEE:

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

GENERAL CONDITIONS:

- 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.
- 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 schieve 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

DER Form 17-1.201(5) Effective November 30, 1982 Page 2 of 6

Permittee:
Hugh N. Cannon, General Manager
Southern Materials

I. D. Number:
Permit/Certification
Number: AO42-109788
Date of Issue: 2/6/86
Expiration Date: 2/5/91

SPECIFIC CONDITIONS:

- 1. No objectionable odors will be allowed, as per Rule 17-2.620(2), F.A.C.
- 2. There shall be no discharges of liquid effluents or contaminated runoff to surface or groundwater without prior approval from this office.
- 3. All unconfined emissions of particulate matter generated at this site shall be adequately controlled. (Rule 17-2.610(3), F.A.C.)
 Area must be watered down should unconfined emissions occur.
- 4. This permit does not preclude compliance with any applicable local permitting requirements and regulations.
- 5. This source must be tested for particulate emissions in accordance with EPA Method 5 and concurrently for visible emissions in accordance with EPA Method 9 yearly from the date of May 5, 1985 (Rule 17-2.700(6)(b) F.A.C.).
- 6. The yearly Particulate Matter and Sulfur Dioxide emissions allowed by this permit are respectively 58.2 tons per year and 462.3 tons/year.
- 7. Each baghouse should be properly maintained to operate at its design efficiency.
- 8. This office (Florida Department of Environmental Regulation, Air Permitting, Orlando) shall be notified at least fifteen (15) days in advance of the compliance tests so that we can witness them.

DER FORM 17-1.201(5) Effective November 30, 1982 Page 4 of 6.

Permittee: Hugh N. Cannon, General Manager Southern Materials I. D. Number:
Permit/Certification
Number: AO42-109788
Date of Issue: 2/6/86
Expiration Date: 2/5/91

SPECIFIC CONDITIONS:

- 9. This plant is required to operate within 10 percent of permitted capacity during the compliance tests.
- 10. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed (Rule 17-2.700(7)(a),(b) and (c), F.A.C).
- 11. This source must be tested for visible emissions at least ninety (90) days prior to permit expiration date.
- 12. An operation permit renewal must be submitted at least 60 days prior to the expiration date of this permit (Rule 17-4.09, F.A.C.).

DER FORM 17-1.201(5) Effective November 30, 1982 Page 5 of 6.

Permittee:
Hugh N. Cannon, General Manager
Southern Materials

I. D. Number: Permit/Certification Number: AO42-109788

Date of Issue:

Expiration Date: 2/5/91

SPECIFIC CONDITIONS:

FEB 6 1986

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

come

A. Alexander, P.E. District Manager

Filing and Acknowledgment Filed on this date, pursuant to §120.52(9), Florida Statutes, with the designated Clerk, receipt of whigh is acknowledged.

LER P 1200

DATE

CLERK

This is to certify that this Notice of Permit was mailed before the close of business on \overline{FFB} 06 1986 $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$

DER FORM 17-1.201(5) Effective November 30, 1982 Page 6 of 6



BEST AVAILABLE COPY

STAIR OF FLORES

Florida

ATTACHMENT 5

ntal Regulation

Central District

Lawton Chiles, Governor

3319 Maguire Roulevard, Suite 232

Orlando, Florida 32803-3767

Carol M. Browner, Secretary

6000

NOTICE OF PERMIT

Franklin Limestone Company Post Office Box 188 Lowell, Florida 32563

Attention: Richard W. Brann, Vice President

of Production

Marion County - AP Limestone Fluidized Bed Dryer

Dear Mr. Brann:

Enclosed is Permit Number AO42-189828, dated , to operate the above referenced source, issued pursuant to Section 403.087, Florida Statutes.

Persons whose substantial interests are affected by this permit have a right, pursuant to Section 120.57, Florida Statutes, to petition for an administrative determination (hearing), unless the right to petition has been waived. The petition must conform to the requirements of Chapters 17-103 F.A.C., and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee 32399-2400, within fourteen (14) days of receipt of this notice. Failure to file a petition within that time constitutes a waiver of any right such person has to an administrative determination pursuant to 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.

This Order (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 paragraph. Upon the timely filing of a petition this Permit will not be effective until further Order of the Department.

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 Orlando, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

CM 6

A. Alexander

Deputy Assistant Secretary 3319 Maguire Boulevard

Suite 232

Orlando, Florida 32803

FILING AND ACKNOWLEDGEMENT FILED, on this date, pursuant to Section 120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Clark

Date

UY AA/jtj 97

Copies furnished to: Kenneth E. Given, P.E.

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT and all copies were mailed before the close of business on $\frac{2-1/-9}{2}$ to the listed persons, by



Florida Department of Environmental Regulation

Central District • 3319 Maguire Boulevard, Suite 232

Orlando, Florida 32803-3767

Lawton Chiles, Governor

Carol M. Browner, Secretary

Permittee: Franklin Limestone Company Post Office Box 188 Lowell, Florida 32663

Attention: Richard W. Brann, Vice President

of Production

I. D. Number: Permit/Certification Number: A042-189828 Date of Issue:

Expiration Date: 1/25/96

County: Marion Latitude/Longitude: 29°19'80"N/82°11'30"W

UTM: 17-384.61 KmE: 3244.10 KmN Project: Limestone Fluidized Bed

Dryer

This permit is issued under the provisions of Chapter(s) 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-2. 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 heretoor on file with the department and made a part hereof and specifically described as follows:

The permittee can operate a Limestone Fluidized Bed Dryer fired by No. 5 or No. 6 Fuel Oil only. The Dryer is equipped with a Dustex Model 3610-14-SP, Serial No. 798010, Baghouse having an air to cloth ratio of 5.4 to 1 and a Particulate reduction efficiency of approximately 99.9 percent.

This source is located at Old Highway 441 in Lowell, Marion County, Florida.

General Conditions are attached to be distributed to the permittee only.

DER FORM 17-1.201(5) Effective November 30, 1982 Page 1 of 5



GENERAL CONDITIONS:

- 1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. 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), F.S., 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 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, 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 noncompliance; and
 - (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

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 for revocation of this permit.

GENERAL CONDITIONS:

- 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 involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Section 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- 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. 10.
- This permit is transferable only upon Department approval in accordance with Rule 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department. 11.
- 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
- The permittee shall comply with the following: 14.
 - 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 the 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:

 - 1. the date, exact place, and time of sampling or measurements;
 2. the person responsible for performing the sampling or measurements;
 3. the dates analyses were performed;
 4. the person responsible for performing the analyses;
 5. the analytical techniques or methods used;
 6. the results of such analyses.
- 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 the 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 corrected 15. promptly.

PERMITTEE:

Franklin Limestone Company

I. D. Number:

Permit/Certification Number:

AO42-189828

Date of Issue:

Expiration Date: 1/25/96

Attention: Richard W. Brann,

Vice President of Production

GENERAL CONDITIONS:

16. No objectionable odors will be allowed, as per Rule 17-2.620(2), F.A.C.

- 17. All unconfined emissions of particulate matter generated at this site shall be adequately controlled. (Rule 17-2.610(3), F.A.C.) Area must be watered down should unconfined emissions occur.
- 18. This permit does not preclude compliance with any applicable local permitting requirements and regulations.

SPECIFIC CONDITIONS:

1

OPERATING LIMITS

- 1. This source is permitted to operate 7280 hours/year.
- 2. This source will be fired with No. 5 or No. 6 Fuel Oil only.
- 3. The permitted heat input rate for this source is 45.4 MMBTU/hr.
- 4. The maximum permitted process rate is 100 tons/hour.
- 5. Each Baghouse must be properly operated and maintained (Rule 17-2.210(2) F.A.C.). No person shall circumvent any pollution control device or allow the emissions of air pollutants without the applicable air pollution control device operating properly (Rule 17-2.240 F.A.C.).

EMISSION LIMITS

- 6. The maximum permitted Particulate emissions are 16.0 lbs/hour and 58.2 tons/year. The maximum permitted Sulfur Dioxide emissions are 462.3 tons/year.
- 7. The visible emissions from this source must comply with Rule 17-2.610(2)(a), F.A.C. (20 percent opacity).

COMPLIANCE TESTING

8. This source must be tested for particulate emissions in accordance with EPA Method 5 and concurrently for visible emissions in accordance with DER Method 9 yearly from the date of February 22, 1990 (Rule 17-2.700(6)(b) F.A.C.).

PERMITTEE:

Franklin Limestone Company

I. D. Number:
Permit/Certification Number:
A042-189828
Date of Issue:

Attention: Richard W. Brann,

Vice President of Production

Expiration Date: 1/25/96

9. This office (Florida Department of Environmental Regulation, Air Permitting, Orlando) shall be notified at least fifteen (15) days in advance of the compliance tests so that we can witness them (Rule 17-2.700(2)(a)5, F.A.C.).

- 10. This plant is required to operate within 90 to 100 percent of permitted capacity during the compliance tests.
- 11. The required test report shall be filed with the department as soon as practical but no later than 45 days after the last sampling run of each test is completed (Rule 17-2.700(7)(a),(b) and (c), F.A.C).
- 12. A differential pressure gauge is required to measure the pressure drop across the baghouse a minimum of 10 days before the stack test is performed (Rule 17-2.700(7)(c) F.A.C.).
- 13. The stack sampling facility must comply with Rule 17-2.700(4) Florida Administrative Code before the next stack test.
- 14. Each calendar year on or before March 1, submit for each source, an Annual Operations Report DER Form 17-1.202(6) for the preceding calendar year in accordance with Rule 17-4.14, F.A.C.

EXPIRATION DATE

15. An operation permit renewal must be submitted at least 60 days prior to the expiration date of this permit (Rule 17-4.09, F.A.C.).

ISSUED

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

CMC

A. Alexander

Deputy Assistant Secretary
3319 Maquire Boulevard

Suite 232

Orlando, Florida 32803

October 15, 1990

U.S. Environmental Protection Agency Region IV 345 Courtland Street Atlanta, Georgia 30365 Attention: Mr. Worley

Dear Mr. Worley:

Enclosed are copies of the permit status for Franklin Limestone (formerly Southern Materials) as we have discussed. As authorized consultant to same, I am requesting review of the PSD status of this source. When it was initially reviewed the definition of potential was without controls. However, as we both know, that definitely has now changed. I am requesting E.P.A. review on this matter to allow the above source relieved of the P.S.D..

I appreciate your past and present help in this matter.

Sincerely,

Lynne Stevenson

President

cc: Glen McCloskey, Franklin Limestone
 Richard Vail, DER - Tallahassee
 Caroline Shine, DER - Orlando

ATTACHMENT 7

EPA METHOD 6 (SO2) REPORT Performed on Fluid Bed Dryer

FRANKLIN LIMESTONE CO.

Lowell, Florida March 6, 1991

STEVENSON & ASSOCIATES

333 Falkenburg Road, Suite A-115 Tampa, Florida 33619

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- 7.0 LABORATORY DATA
- 8.0 CALCULATIONS
- 9.0 CALIBRATION INFORMATION
- 10.0 PROJECT PARTICIPANTS

1.0 INTRODUCTION

1.0 INTRODUCTION

On March 6, 1991, Stevenson & Associates, represented by Lynne Stevenson, Ron Oliver, and Tim Capelle, conducted SO₂ emission (EPA Method 6) and Franklin Limestone, represented by Glenn McCloskey and F. M. Carrol on the fluid bed dryer for Franklin Limestone.

2.0 SUMMARY OF RESULTS

2.0 SUMMARY OF RESULTS

The results of the ${\rm SO}_2$ testing are presented in Table 1. The ${\rm SO}_2$ emissions averaged 2.49 lbs/hour.

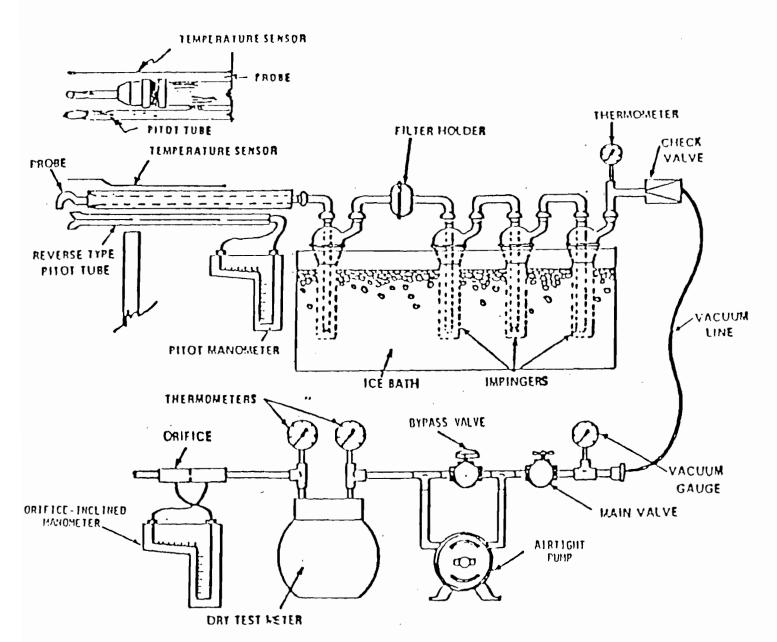
TABLE 1

TEST SUMMARY - SO₂

FRANKLIN LIMESTONE - FLUID BED DRYER

RUN NO.	POLLTNT (LBS/HR)	GAS FLOW (ACFM)	VOL. AIR (VMSTD)
1	1.44	41,223	44.44
2	2.91	39,684	36.84
. 3	3.11	39,338	36.39
AVG	2.49	40,082	39.22

3.0 SKETCH OF SAMPLING EQUIPMENT



Schematic of Method 8 sampling train.

4.0 SO₂ ANALYTICAL & SAMPLING PROCEDURE

SO2_SAMPLING_AND_ANALYTICAL_FROCEDURES

SAMPLING

SO2 was determined using EPA Method 8 sampling train and analytical procedures as specified in EFA Method 6. The Method 8 sampling train was assembled as shown in the sketch for each SO2 run. A six foot heated stainless steel probe was used for all test runs.

The first impinger was charged with 100 mls. of 80% isopropanol; the second and third were charged with 100 mls. each of 3% hydrogen proxide, the forth was filled with 200 grams of silicagel. Crushed ice was placed around the impingers during sampling to maintain the temperature of the gas leaving the last impinger below 68 degrees F.

A heated filter was placed between the probe and isopropanol impinger and glass wool was placed in the end of the probe.

Leak tests were performed on the sampling train by plugging the inlet to the probe, before and after each sampling run. No leakages were observed at vacuum levels at or exceeding those observed during sampling.

At the end of each 60 minute run, the system was purged for 20 minutes by drawing clean air through the system at the sampling rate. The first impinger contents were measured and placed in a clean container for transport to the lab. The second and third

impingers were measured and put in another clean container for transport to the lab. The fourth impinger was weighed to the nearest 0.5 grams to determine the volume of water collected.

The probe, first impinger and connecting glass ware were rinsed with 80% isopropanal and placed in the first sample bottle. The second and third impingers and connecting glass were were rinsed with deionized water and placed in the second sample bottles.

ANALYSIS

Samples were taken to Legion Laboratories, Inc. for analysis.

5.0 PRODUCTION DATA

FRANKLIN LIMESTONE COMPANY



P.O. BOX 188 HWY. 25 A LOWELL, FL 32663-0188 PHONE 904-829-7997 FAX 904-867-7211

April 3, 1991

Lynne Stevenson, P.G. Stevenson and Associates 333 Falkenburg Road North Unit A-115 Tampa, FL 33619

Dear Lynne:

We conducted voluntary stack testing for SO2 on the fluid bed and rotary dryers at the Lowell Plant on March 6, 1991.

The following table lists operating conditions at the time of testing. We intentionally ran both dryers at the normal rates of production to best determine actual levels of SO2 emissions. The dryer production rates were obtained from our new belt scales.

System Description	FDER Permit #	Production Rate	Other Comments
Fluid Bed Dryer	A042,-109788	55 tons/hr	BH dif pres 4.0
Rotary Dryer	A042-120357	35 tons/hr	Scrubber 375 GPM

We understand that we will use these test results in a request to the FDER for reclassification of the plant as a moderate rather than a major source. We will also request removal of the PSD status of the fluid bed dryer, assuming the results indicate minimal SO2 emissions.

We will look forward to obtaining the results as soon as possible. Please contact me so that we can discuss any problems or questions.

Glenn R. McCfoskey, P.E. Plant Manager

oc: Richard W. Brann, P.E.

6.0 FIELD DATA

7.0 LABORATORY DATA

CERTIFICATE OF ANALYSIS

1 NO:00036 :

LEGION LABORATORIES INC. 736 SO. 50th ST. TAMPA. FL. 33607

SANGLE SUBMISSION DATE: MARCH 8, 1991

SAMPLES SUBMITTED BY:

STEVESON & ASSOCIATES 333 FALKENBURG ROAD TAMPA, FL. 33619

SAMPLE ANALYSIS DATE: MARCH 10. 1991 SAMPLE ANALYSIS TIME: 10:00-14:00

SAMPLE ANALYST: JDT

SAMPLE SOURCE: FRANKLIN LIMESTONE

Results:

Sample Designation	Analysis Method	Aliquot	Analysis Onality Result' Control
EOTARY EILN: SECON	O AND THIED	IMPINGERS SO-	Analysis
Run 1 Peroxides	EFA Method 6	3 40/1000	<u> </u>
Run 2 Feroxides	EPA Method 9	3 40/1000	Ø. Ø5
Run 3 Feroxides	EPA Method 6	5 4@/T@@@	ø. Ø5
Blank Feroxides	EFA Method (3 40/1000	ø. 05
Run I Isopropanol	EFA Method 6	8 8	0.05
FLUID BED: SECOND /	AND THIRD IN	PINGERS SOF A	nalvsis
Run I Feroxides	EPA Nethod 6	5 40/1000	1.45
Run 2 Peroxides	EPA Method 6	5 40/1000	
Run 3 Peroxides	EFA Method 6	3 40/1000	3.94
Run 3 Duplicate	EPA Method 9	5 40/1000	2.95
Blank Peroxides	EFA Method 6	3 40/1000	ϕ , ϕ ς
Run 1 Isopropanol	EFA Method	5 <u>80/1000</u>	Ø. 73

¹ Results in units of mls barium chloride 0.00973 M

Analysis certified by:

Lee Carreiro, Legion Laboratories Inc.



Calculations: 50, Plant: Franklin Linuxone Date 3/6/91 System: Fluid Bed Dayou RUN# / $\frac{1}{29.22} = 39.22 \text{ stdcuft}$ a) Vm std = (17.65) (b) $SO_21b/SCFM = (7.06X10^{-5})(.00973)(.1.45-.05)(-1000) = 6 \times 10^{-7} \text{lb/}$ (.39.22) C) $1bs/hr = 60(6 \times 10^{-7})(.46,082) = 1.44$ 1bs/hrRUN#_2 a) Vm std = (17.65) ($\frac{1}{1} = \frac{39.22}{39.22}$ stdcuft b) 50_{2} 1b/SCFM = $(7.06\times10^{-5})(.00913)(2.81-.05)(\frac{1000}{4/0}) = .1.2\times10^{-6}$ 1b/ C) $1bs/hr = 60(1.2 \times 10^{-6})(40,082) = 2.91$ 1bs/hrRUN! 3 a) Vm std = (17.65) () $\frac{1}{1} = \frac{39.22}{1}$ stdcuft b) $SO_21b/SCFM = (7.06\times10^{-5})(0.00973)(3.00-0.05)(\frac{1000}{40}) = 1.3\times10^{-6}1b/$ (39.22)

C) $1bs/hr = 60(1.3 \times 10^{-6})(40,082) = 3.11$ 1bs/hr

Aug= 2.49

, e la lasta foi paícolactorio.

- average pressure on pitot tube Ts - average temperature of stack, degrees absolute - average temperature of dry gas meter, degrees absolute - volume of dry gas meter, actual cubic feet
- total time of the test run, minutes - area of the nozzle tip, square feet - barometric pressure - average pressure on the limiting orfice Vwc - volume of Water collected from impingers and silica gel, grams Vmstd - volume of the dry meter in standard cubic feet Bwo - percent of moisture in flue gas Md - molecular weight of dry flue gas - molecular weight of flue gas ~ velocity of flue gas Qs - volumetric flow of flue gas, cubic feet per minute Qs std - volumetric flow of flue gas, standard cubic feet dry #1 - percent of theoretical ideal sampling rate 'Wt collected - total weight of particulate collected by sampling train, in grams diameter avg - average diameter of nozzle tip, inches

35

DERIVATION OF CALCULATIONS

A) Volume Of Water Vapor Collected

Vwc = (0.0471) (gms/mls of water collected)

B) Volume Of Air Metered To 68 Deg.F, 29.92 *Hg,Dry

Vmstd = (17.64) (Y) (Vm) (Pm)/(Tm)

C) Moisture Content Of Flue Gas

 $BWO = \frac{VWC \times 100}{VWC + Vmstd} = % H2O$

D) Dry Gas Molecular Weight

Md = 0.44 (% CO2) + 0.32 (% O2) + 0.28 (% N + % CO)

= Assume 29 for ambient sources. 30 for combustion sources.

E) Stack Gas Molecular Weight

Ms = Md (1-Bwo) + (18) (Bwo)

F) Stack Gas Velocity

$$Vs = Kp \quad Cp \quad \sqrt{\frac{(Ts \ avg.)}{Ps \ Ms}}$$

G) Stack Gas Flowrate

Qs = (60 sec/min.) (As) (Vs)

Qs std = $\frac{Qs (Tstd) (Ps) (1-Bwo)}{(Ts) (Pstd)}$

H) Isokinetic Sampling Rate

 $8I = 0.0945 \quad \frac{Ts}{Ps \ Vs \ An \ 0 \ (1-Bwo)}$

I) Concentration

= (15 grains/gram) (Wt collected) / (Vm std)

J) Emission Rate

= (0.00857) (grains/dscf) (Qstd)

- A) VOLUME OF WATER : GRAMS COLLECTED - 84 (Vwc) - 3.9564
- B) VOLUME OF AIR : (VMSTD) -33.30906
- C) MOISTURE CONTRT: % H2O =0.106168 (1-Bwo) =0.893832
- D) DRY GAS MLC WGT : (Md) = 29
- E) STACK GAS M WGT : (Ms) = 27.83215
- F) VEL. FT/SC (Vs) =30.24149
- G) VOL CU FT/M(Qs) =80161.68 DSCFM (Qs std) =65749.15
- H) ISOKIN SMP RATE (%I) = 101.0289
- I) CONCENTRATION : WEIGHT COLLECTED = 0.0732 CONCENTRATION =0.033909

EMISSION RATE = 19.1067

VALUES FROM TEST :Ave \/DF -0.506718 "H20 Ts = 577 °P Tm -533.6923 °E 1: Vm = 33.12 cu. ft. Y - 1.012 THETA = 65 min. An =0.000341 sq ft PЪ - 30 in. He Dh -0.905376 in. Hg Cr = 0.84 Fs -30.01544 in. Hg As =44.17865 sq ft Md = 29 lb/cu.ft. : Vwc = 3.9564 grams | Wt Col. = 0.0732 grams

A) VOLUME OF WATER : GRAMS COLLECTED = 110 (Vwc) = 5.181

B) VOLUME OF AIR: (VMSTD) =37.97563

C) MOISTURE CONTRT: % H2O =0.120051 (1-Bwo) = 0.879949

D) DRY GAS MLC WGT : $(\mathrm{Md}) = 29$

E) STACK GAS M WGT : (Ms) = 27.67944

F) VEL. FT/SC (Vs) =24.74657

G) VOL CU FT/M(Qs) =65596.21 DSCFM (Os std) -52795.23

H) ISOKIN SMP RATE (%I) = 101.0654

I) CONCENTRATION: WEIGHT COLLECTED = 0.1457 CONCENTRATION = 0.0592

EMISSION RATE =26.78527

VALUES FROM TEST						
Avg \vDP	-0.412837	"H20				
Ts	- 578.875	° P				
Tm	+542.4375	c P				
V m	= 38.325	cu. ft.				
Ÿ	= 1.012					
THETA	- 69	min.				
An	-0.000524	są ft				
Pb	= 30	in. Hg				
Dh	-1.479667	in. Hg				
Ср	- 0.84	:				
Ps	-30.01544	in. Hg				
As	-44.17865	sq ft				
Ma Ma	+ 29	lb/cu.ft.				
У МС	- 5.181	grams				
Ht Col.	- 0.1457	grams				

FRANKLIN LIME - ROTARY DRYER CALCULATIONS - RUN #3 3/5/91

A) VOLUME OF WATER : GRAMS COLLECTED = 108 (Vwc) = 5.0868

B) VOLUME OF AIR: (VMSTD) -38.21239

C) MOISTURE CONTRT: % H2O = 0.11748 (1-Bwo) = 0.88252

D) DRY GAS MLC WGT : (Md) = 29

E) STACK GAS M WGT : (Ms) = 27.70772

F) VEL. FT/SC (Vs) =25.10361

G) VOL CU FT/M(Os) = 66542.6

DSCFM (Qs std) +53980.25

H) ISOKIN SMF RATE (%I) -99.46294

1) CONCENTRATION : WEIGHT COLLECTED = 0.1714 CONCENTRATION =0.069211

EMISSION RATE =32.01757

VALUES FROM TEST lAve NVDP =0.420047 "H20 Ts =576.0417 °R Tm -546.1875 °R Vm - 38.825 cu. ft. Y = 1.012 THETA = 60 min. =0.000524 sq ft An PЬ = 30 in. Hg Dh = 1.538067 in. Hg Cr = 0.84 Рs -30.01691 in. Hg As -44.17865 sq ft ! Md = 29 lb/cu.ft. Vwc = 5.0868 grams

9.0 CALIBRATION INFORMATION

BEST AVAILABLE COPY

CALIBRATION OF EQUIPMENT

Calibration of the stack sampling equipment was performed as directed by Chapter 17-2.700 (6)(a) 5.f. of the Florida Administrative Code and the Federal EPA handbook on Quality Assurance. While in the field the following quality assurance is performed.

- A. Nozzles. Prior to starting the test, the nozzle selected for the test is calibrated by micrometer. This is normally found listed on the first run field data sheet in the blank after nozzle diameter. The general appearance of the pitot and probe is noted before and after the test.
- B. Dry Gas Meter. Before beginning each series of tests, the back half of the sample train (in the control box) is checked for leaks.
- C. Sampling Train. Before the test and after the train has been assembled, a leak check is performed from the nozzle back. A vacuum of 15" or greater is used. During the test the vacuum on the sampling train is recorded to allow a final (after the test run) leak check equal to or greater than the highest vacuum during the run.

Other calibration as required by the above listed code, was performed in the lab in a manner prescribed by the State Code.

Calibration Schedule (Reference: 17-2.700(6)(a)5.f.)

DER 17 - 2.700

10/83

Item	Minimum Calibration	Reference Instrument Frequency	Tolerance
Thermometers Liquid In glass	Annually	ASIM Hg in glass ref. thermometer or equivalent or thermometric points.	±2%
Bimetallic	Quarterly	Calib. liq. in glass thermometer	5°F
Thermocouple	Annually	ASIM fig in glass ref. thermometer, NBS call-brated reference thermocouple and potentiometer.	5°F
Barometer	Monthly	Ilg barometer, or NOAA station	±1% scale
Pitol Tube	1. When required	By construction or measurements or wind	See EPA Method 2
	2. When damaged	tunnel D greater than 16" and standard pitot tube	Figs. 2-2 & 2-3
Probe Nozzles ·	1. Before each test or	Micrometer	±0.001" mean of at least 3 readings.
	2. When nicked, dented, corroded		Maximum deviation between rendings 0.004"
Dry Gas Meter and Orifice Meter	1. Full Scale: When received; When 5% change observed; annually	Spirometer of cali- brated wet test or dry gas test meter	2%
	2. One Pointi seminnually	•	
	3. Check after each test series	Comparison check	5 %

AIR CONSULTING & ENGINEERING

ANNUAL METER CALIBRATION

DATE 2-15-91

LEAK CHECK D. 500 CFM at 5 In. Hg.

METER BOX NUMBER 3126 190

BAROMETRIC PRESSURE 29.72 In. Hg.

STEVENSON SASS.

DRY GAS METER TEMPERATURE 69 °F/ASTM GLASS THERMOMETER TEMPERATURE 69 °F

		GAS VOL	UME, STANDAR	D METER	GAS VO	LUME, DRY GAS	METER	TEMP	TEMP		
днз -	AVERAGE	INITIAL	FINAL	ACTUAL ft ³	INITIAL	FINAL	ACTUAL ft ³	STD METER	OF DRY METER	TIME (Minutes)	TIMER
06	0.5	801,356	806.896	5.640	250.208	255,840	5.632	67	73	14	14
12	1.0	807,222	812.313	5.091	256.152	261,231	5,079	67	.74	9	
20	1.5	812,710	818.170	5.460	261,627	267,044	5.417	67	74	8	
-,28	2,25	718,533	324.268	5.735	267,406	273.105	5.699	67	76	7	
37	3.0	824.609				279.053	5.627	67	77	6	
51	4.0	330,708	836.238	5.530	279.467	284.898	5.431	67	77	5	

DELTA H 1.712 1.734 1.786 1.853 1.838 1.804	Ya 1.012 1.013 1.018 1.018 1.023 1.027	SCFM 0.401 0.563 0.679 0.815 0.944 1.101	Ys 1.000 0.997 0.995 0.992 0.991	Y 1.012 1.010 1.012 1.010 1.014 1.014	
			0.994	1.012	

CALIBRATED BY:

MEAN:

POSTTEST DRY GAS METER CALIBRATION DATA FORM (English units)

		Date 3//9/9/ Neter box number 5+A / O.00 in. Ilg Dry gas meter number					Plant Pretest Y 46/2			
Orifice manometer setting, (ΔII), in. II ₂ 0	Gas vo	Dry gas meter (Vd),	Wet test meter (tw), °F		ry gas m Outlet		Time (0),	Vacuum setting, in. Hg	Yi	$ \frac{Y_{i}}{V_{w}P_{b}(t_{d} + 460)} \\ \frac{V_{w}P_{b} + \Delta II}{13.6} t_{w} + 460 $
1.0	10.07	10	70	70	69	70	18.05	10"	1. 005	(10.00) (30.00) (330) (10.00) (30.00) (530)
1.0	10.18	10,12	74	74	7/	73	1.8.15	10"	1.002	(40.18)(30)(533) (10.12)(30.01)(534)
1.0	10:01	10.00	76	76	75	76	18.1	10"	.9997	(10.61)(30)(536)
		_							Y = /	1002

 v_{w} = Gas volume passing through the wet test meter, ft³.

 $V_{d} = Gas$ volume passing through the dry gas meter, ft³.

t, = Temperature of the gas in the wet test meter, °F.

t_d = Temperature of the inlet gas of the dry gas meter, °F.

t = Temperature of the outlet gas of the dry gas meter, °F.

 t_{d}° = Average temperature of the gas in the dry gas meter, obtained by the average of t_{d} , of.

 $\Delta II = Pressure differential across orifice, in II₂0.$

Y; = Ratio of accuracy of wet test meter to dry gas meter for each run.

Y = Average ratio of accuracy of wet test meter to dry gas meter for all three runs; tolerance = pretest Y +0.05Y

 $P_h = Barometric pressure, in. Hg.$

 Θ = Time of calibration run, min.

Quality Assurance Handbook M5-2.4A

 $^{^{}a}$ If there is only one thermometer on the dry gas meter, record the temperature under t_{d}^{-} .

STACK TEMPERATURE SENSOR CALIBRATION

CALIBRATION DATE: 1-4-91	: -
THERMOCOUPLE NUMBER: 3T	AMBIENT TEMPERATURE: 72
BAROMETRIC PRESSURE: 30.04	CALIBRATOR: Oliver
REFERENCE TEMPERATURE SENSOR: Fisher S	cientific Hg/in Glass O -

REFERENCE PT. No. (a)	CAL. MEDIUM (b)	REFERENCE TEMPERATURE °F	THERMOCOUPLE TEMPERATURE °F	DIFFERENCE % DEGREES (c)
1	Water Bath	77	. 76	< 1.5%
2	Water Bath	128 =	130	< 1.5%
3	Water Bath	143	144	<1.5%
4	Water Bath	212	214	<1.5%
			·	
,				,
	1			
			;	
		·		

a. Every (50°F).

- (test thermon temp. deg. F + 460) (ref temp deg F + 460) ref temp. deg. F + 460

b. Type of calibration system used.
c. calculation of % difference. MUST BE LTEQ TO 1.5 %

10.0 PROJECT PARTICIPANTS

10.0 PROJECT PARTICIPANTS

Lynne Stevenson President

Environmental Engineer

Ron Oliver Environmental Scientist

Test Team Leader

Tim Capelle Environmental Technician

ATTACHMENT 8

EPA METHOD 6 (SO2) REPORT Performed on Rotary Dryer

FRANKLIN LIMESTONE CO.

Lowell, Florida March 6, 1991

STEVENSON & ASSOCIATES

333 Falkenburg Road, Suite A-115 Tampa, Florida 33619

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- 10.0 PROJECT PARTICIPANTS

1.0 INTRODUCTION

1.0 INTRODUCTION

On March 6, 1991, Stevenson & Associates, represented by Lynne Stevenson, Ron Oliver, and Tim Capelle, conducted SO_2 emission (EPA Method 6) and Franklin Limestone, represented by Glenn McCloskey and F. M. Carrol on the rotary dryer for Franklin Limestone.

2.0 SUMMARY OF RESULTS

2.0 SUMMARY OF RESULTS

The results of the SO_2 testing are presented in Table 1. The SO_2 emissions averaged .08 lbs/hour.

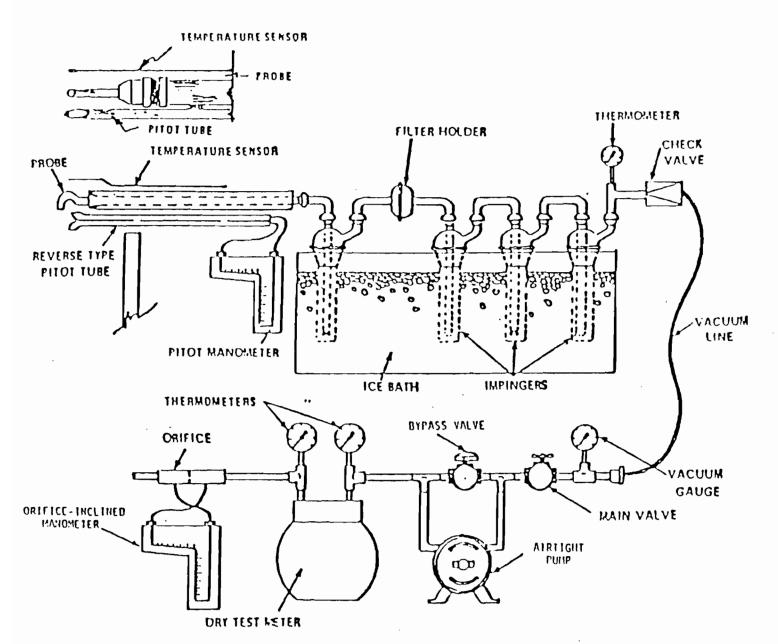
TABLE 1

TEST SUMMARY - SO₂

FRANKLIN LIMESTONE - ROTARY DRYER

RUN NO.	POLLTNT (LBS/HR)	GAS FLOW (ACFM)	VOL. AIR (VMSTD)
1	.08	65,749	33.31
2	.08	52,795	37.38
3	.08	53,980	38.21
AVG	. 08	57,508	36.50

3.0 SKETCH OF SAMPLING EQUIPMENT



Schematic of Method 8 sampling train.

4.0 SO₂ ANALYTICAL & SAMPLING PROCEDURE

SO2_SAMPLING_AND_ANALYTICAL FROCEDURES

SAMPLING

SO2 was determined using EPA Method 8 sampling train and analytical procedures as specified in EFA Method 6. The Method 8 sampling train was assembled as shown in the sketch for each SO2 run. A six foot heated stainless steel probe was used for all test runs.

The first impinger was charged with 100 mls. of 80% isopropanol: the second and third were charged with 100 mls. each of 3% hydrogen proxide, the forth was filled with 200 grams of silicagel. Crushed ice was placed around the impingers during sampling to maintain the temperature of the gas leaving the last impinger below 68 degrees F.

A heated filter was placed between the probe and isopropanol impinger and glass wool was placed in the end of the probe.

Leak tests were performed on the sampling train by plugging the inlet to the probe, before and after each sampling run. We leakages were observed at vacuum levels at or exceeding those observed during sampling.

At the end of each 60 minute run, the system was purged for 20 minutes by drawing clean air through the system at the sampling rate. The first impinger contents were measured and placed in a clean container for transport to the lab. The second and third

impingers were measured and put in another clean container for transport to the lab. The fourth impinger was weighed to the nearest 0.5 grams to determine the volume of water collected.

The probe, first impinger and connecting glass were were rinsed with 80% isopropanal and placed in the first sample bottle. The second and third impingers and connecting glass were were rinsed with deionized water and placed in the second sample bottles.

VNVFARIZ

Samples were taken to Legion Laboratories, Inc. for analysis.

5.0 PRODUCTION DATA

FRANKLIN LIMESTONE COMPANY



P.O. BOX 188 HWY: 25 A LOWELL, FL 32963-0188 PHONE 904-829-7997 FAX 904-867-7211

April 3, 1991

Lynne Stevenson, P.G. Stevenson and Associates 333 Falkenburg Road North Unit A-115 Tampa, FL 33619

Dear Lynne:

We conducted voluntary stack testing for SO2 on the fluid bed and rotary dryers at the Lowell Plant on March 6, 1991.

The following table lists operating conditions at the time of testing. We intentionally ran both dryers at the normal rates of production to best determine actual levels of SO2 emissions. The dryer production rates were obtained from our new belt scales.

System Description	FDER Permit #	Production Rate	Other Comments
Fluid Bed Dryer	A042-109788	55 tons/hr	BH dif pres 4.0
Rotary Dryer	A042-120357	35 tons/hr	Scrubber 375 GPM

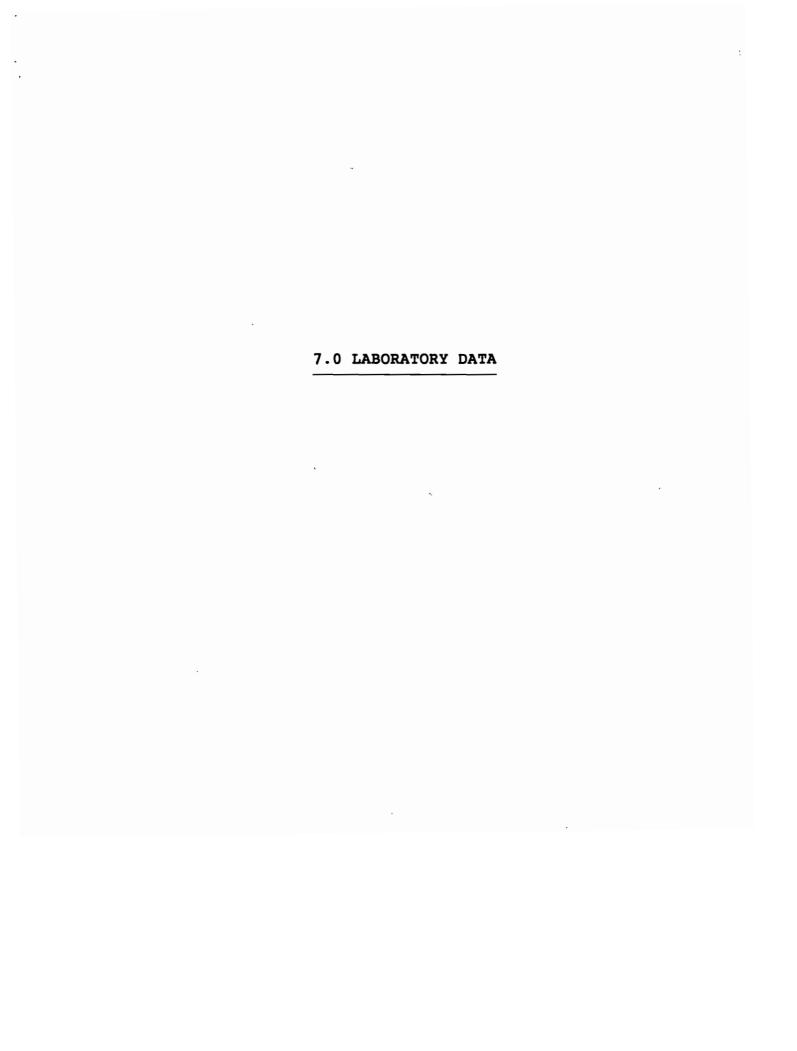
We understand that we will use these test results in a request to the FDER for reclassification of the plant as a moderate rather than a major source. We will also request removal of the PSD status of the fluid bed dryer, assuming the results indicate minimal SO2 emissions.

We will look forward to obtaining the results as soon as possible. Please contact me so that we can discuss any problems or questions.

Glenn R. McCfoskey, P.E.

Plant Manager

6.0 FIELD DATA



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CERTIFICATE OF ANALYSIS

: NO:00036 :

LEGION LABORATORIES INC. 736 SO. 50th ST. TAMPA, FL. 20607

SAMPLE SUBMISSION DATE: MARCH 8. 1991

SAMPLES SUBMITTED BY: STEVESON & ASSOCIATES

BBB FALKEMBURG ROAD TAMPA, FL. BBBBB

SAMPLE ANALYSIS DATE: MARCH 10. [1931 SAMPLE ANALYSIS TIME: 10:00-14:00

SAMPLE ANALYST: JDT

SAMPLE SOURCE: FRANKLIN LIMESTONE

Results:

Sample Designation	Analysis Method	Aliquot	Analysis Ouality Result 1 Control
ROTARY KILN: SECONI) AND THIRD II	FINGERS 30-	Analysis
Run i Peroxides Run 2 Peroxides Run 3 Peroxides Blank Peroxides Run i Isopropanol	EPA Method 6 EPA Method 6 EPA Method 6 EFA Method 6	4월 2 : 학원회 4월 2 일원회 4월 2 1월원회 5월 2 1월원회	ଡି.ଡି5 ଡି.ଡି5 ଡି.ଡି5
Run i Peroxides Run i Feroxides Run i Isopropanol	EPA Method 6 EPA Method 6 EPA Method 6 EPA Method 6 EPA Method 6	40×1000 40×1000 40×1000 40×1000	1,45 2,51 3,04 2,95

^{*} Results in units of mir barram chloride 0.00973 X

Analysis certified by:

Lee Barreiro. Legion Laboratories Inc.

8.0 CALCULATIONS

Calculations: 50, Plant: Franklin Limestone Date 3/6/9/ System: Rolan Dryce RUN# / $\frac{16.50}{100} = 36.50$ stdcuft a) Vm std = (17.65) (b) $SO_2 lb/SCFM = (7.06 \times 10^{-5}) (.00973) (...05) (...05) (...00973) (...05) (...00973) (...05) (...00973) (...05) (...00973) (...05) (...00973) (...05) (...00973) (...00973) (...00973) (...00973) (...00973) (...00973) (...00973) (...00973) (...00973) (...0000973) (...0000973) (...00000973) (...0000973) (...0000973) (...0000000000) (...000000000000$ C) $1bs/hr = 60(2.4y/0^{-8})(.57,508) = 0.08$ 1bs/hr RUN# 2. a) Vm std = (17.65) ($\frac{1}{1} = 36.50 \text{ stdcuft}$ b) 50_2 1b/SCFM = $(7.06\times10^{-5})(.00973)(...05)(...05) = .2.4410^{-8}$ 1b/ C) $1bs/hr = 60(2.4 \times 10^{-8})(57,508) = 0.08$ lbs/hr RUN# 3 a) Vm std = (17.65) () = ____ stdcuft b) 50_2 1b/SCFN = 17.06×10^{-5}) 1.00923) 1.005 1(-90) 1= (36.50)

C) $1bs/hr = 60(2.4 \times 10^{-8})(57.508) = 0.08$ 1bs/hr

aug = 0.08

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```
Dp
    - average pressure on pitot tube
    - average temperature of stack, degrees absolute
Ts
   - average temperature of dry gas meter, degrees absolute
٧m
    - volume of dry gas meter, actual cubic feet
    - total time of the test run, minutes
9
    - area of the nozzle tip, square feet
PЬ
    - barometric pressure
Dh
    - average pressure on the limiting orfice
Vwc - volume of water collected from impingers and silica gel, grams Vmstd - volume of the dry meter in standard cubic feet
Bwo - percent of moisture in flue gas
Md - molecular weight of dry flue gas
Ms - molecular weight of flue gas
Vs - velocity of flue gas
Qs - volumetric flow of flue gas, cubic feet per minute
Qs std - volumetric flow of flue gas, standard cubic feet dry
#1 - percent of theoretical ideal sampling rate
"Wit collected - total weight of particulate collected by sampling
                train, in grams
diameter avg - average diameter of nozzle tip, inches
```

9.0 CALIBRATION INFORMATION

DERIVATION OF CALCULATIONS

A) Volume Of Water Vapor Collected

Vwc = (0.0471) (gms/mls of water collected)

B) Volume Of Air Metered To 68 Deg.F, 29.92 *Hg,Dry

Vmstd = (17.64) (Y) (Vm) (Pm)/(Tm)

C) Moisture Content Of Flue Gas

 $BWO = \frac{VWC \times 100}{VWC + Vmstd} = % H2O$

D) Dry Gas Molecular Weight

Md = 0.44 (% CO2) + 0.32 (% O2) + 0.28 (% N + % CO)

= Assume 29 for ambient sources. 30 for combustion sources.

E) Stack Gas Molecular Weight

Ms = Md (1-Bwo) + (18) (Bwo)

F) Stack Gas Velocity

$$Vs = Kp \quad Cp \quad \sqrt{Dp} \quad \sqrt{\frac{(Ts \text{ avg.})}{Ps \text{ Ms}}}$$

G) Stack Gas Flowrate

Qs = (60 sec/min.) (As) (Vs)

Qs std = $\frac{Qs (Tstd) (Ps) (1-Bwo)}{(Ts) (Pstd)}$

H) Isokinetic Sampling Rate

I) Concentration

= (15 grains/gram) (Wt collected) / (Vm std)

J) Emission Rate

= (0.00857) (grains/dscf) (Qstd)

CALIBRATION OF EQUIPMENT

Calibration of the stack sampling equipment was performed as directed by Chapter 17-2.700 (6)(a) 5.f. of the Florida Administrative Code and the Federal EPA handbook on Quality Assurance. While in the field the following quality assurance is performed.

- A. Nozzles. Prior to starting the test, the nozzle selected for the test is calibrated by micrometer. This is normally found listed on the first run field data sheet in the blank after nozzle diameter. The general appearance of the pitot and probe is noted before and after the test.
- B. Dry Gas Meter. Before beginning each series of tests, the back half of the sample train (in the control box) is checked for leaks.
- C. Sampling Train. Before the test and after the train has been assembled, a leak check is performed from the nozzle back. A vacuum of 15" or greater is used. During the test the vacuum on the sampling train is recorded to allow a final (after the test run) leak check equal to or greater than the highest vacuum during the run.

Other calibration as required by the above listed code, was performed in the lab in a manner prescribed by the State Code.

Calibration Schedule (Reference: 17-2.700(6)(a)5.f.)

DER 17 - 2.700

10/83

İtem	Minimum Calibration	Reference Instrument Frequency	Tolerance
Thermometers Liquid in glass	Annually	ASIM lig in glass ref. thermometer or equiv- alent or thermometric points.	±2%
Bimetallic	Quarterly	Calib. liq. in glass thermometer	5°F
Thermocouple	Annually	ASIM lig in glass ref. thermometer, NBS calibrated reference thermocouple and potentiometer.	5°F
Barometer	Monthly	Hg barometer, or NOAA station	±1% scale
Pitot Tube	1. When required	By construction or measurements or wind	See EPA Method 2
	2. When damaged	tunnel D greater than 16" and standard pitot tube	Figs. 2-2 . & 2-3
Probe Nozzles •	1. Before each test or	Micrometer	±0.001" mean of at least 3 readings.
	2. When nicked, dented, corroded		Maximum deviation between readings 0.004"
Ory Gas Meter and Orifice Meter	1. Full Scale: When received; When 5% change observed; annually	Spirometer of cali- brated wet test or dry gas test meter	2%
·	2. One Point: semiannually	•	
	3. Check after each test series	Comparison check	5%

AIR CONSULTING & ENGINEERING

ANNUAL METER CALIBRATION

DATE 2-15-91

LEAK CHECK _____

METER BOX NUMBER 3126 190

BAROMETRIC PRESSURE 34.72 In Hg

STEVENSON SASS.

DRY GAS METER TEMPERATURE 69 °F/ASTM GLASS THERMOMETER TEMPERATURE 69 °F

		GAS VOL	GAS VOLUME, STANDARD METER GAS VOLUME, DRY GAS METER		METER	TEMP	TEMP				
ДНS	AVERAGE	INITIAL	FINAL	ACTUAL ft ³	INITIAL	FINAL	ACTUAL ft ³	STD METER	OF DRY METER	TIME (Minutes)	TIMER
06	0.5	801.356	806.896	5.640	250.208	255,840	5.632	67	73	14	14
-,12	1.0	807,222	812,313	5.091	256.152	261,231	5,079	67	.74	9	
20	1.5	812,710	818,170	5.460	261,627	267,044	5.417	67	74	8	
-,28	2.25	818,533	324.268	5.735	267,406	273,105	5.699	67	76	7	
37	3.0	824.608	830.301	5.693	273.426	279.053	5.627	67	77	6	
51	4.0	830,708	836.238	5.530	279.467	284.898	5.431	67	77	5	

DELTA H 1.712 1.734 1.786 1.853 1.838 1.804	Ya	SCFM	Ys	Y
	1.012	0.401	1.000	1.012
	1.013	0.563	0.997	1.010
	1.018	0.679	0.995	1.012
	1.018	0.815	0.992	1.010
	1.023	0.944	0.991	1.014
	1.027	1.101	0.987	1.014
1.788	1.018		0.994	1.012

CALIBRATED BY:

MEAN:

STACK TEMPERATURE SENSOR CALIBRATION

CALIBRATION DATE: 1-4-91	
THERMOCOUPLE NUMBER: 3T	AMBIENT TEMPERATURE: 72
BAROMETRIC PRESSURE: 30.04	CALIBRATOR: Oliver
REFERENCE TEMPERATURE SENSOR: Fisher Sci	entific Hg/in Glass O -

REFERENCE PT. No. (a)	CAL. MEDIUM (b)	REFERENCE TEMPERATURE °F	THERMOCOUPLE TEMPERATURE °F	DIFFERENCE % DEGREES (c)
1	Water Bath	77	76	< 1.5%
2	Water Bath	128;	130	< 1.5%
3	Water Bath	143	144	<1.5%
4	Water Bath	212	214	<1.5%
			·	
	•		,	, ,
			·	
		·	·	
			·	

a. Every (50°F).

$$\frac{\left(\frac{\text{ref temp deg F} + 460}{\text{ref temp. deg. F} + 460}\right) - \left(\frac{\text{test thermon temp. deg. F} + 460}{\text{ref temp. deg. F} + 460}\right)}{100}$$

b. Type of calibration system used.c. calculation of % difference. MUST BE LTEQ TO 1.5 %

POSTTEST DRY GAS NETER CALIBRATION DATA FORM (English units)

Date 3//9/9/ Neter box number SYA Plant Barometric pressure, P. =30.00 in. Hg Dry gas meter number Pretest Y 46/2 Orifice Gas volume Temperature manometer Wet Lest Dry gas Wet test Dry gas meter Outlet Average V P (t, + 460) setting. meter meter meter Inlet $(V_{..})$, (ΔII) . Time Vacuum in. 11,0 setting, ft³ 1,53 (Θ) OF ٥F o F min in. llg 10.07) (30.00) (530) 70 69 70 1.0 10 ... 70 18.05 10" 10.07 1011 1.0 10.18 18.15 10,12 10" 76 75 1.0 18. 10:01 10.00

 v_{ω} = Gas volume passing through the wet test meter, ft³.

 $V_d = Gas$ volume passing through the dry gas meter, ft³.

t. = Temperature of the gas in the wet test meter, °F.

 t_{d} = Temperature of the inlet gas of the dry gas meter, °F.

t_d = Temperature of the outlet gas of the dry gas meter, °F.

 $t_d^\circ = \Lambda verage temperature of the gas in the dry gas meter, obtained by the average of <math>t_d$, and t_d , °F.

 $\Delta II = Pressure differential across orifice, in <math>II_2O$.

Y; = Ratio of accuracy of wet test meter to dry gas meter for each run.

Y = Average ratio of accuracy of wet test meter to dry gas meter for all three runs; tolerance = pretest Y ±0.05Y

P_b = Barometric pressure, in. Hg.

 Θ = Time of calibration run, min.

Quality Assurance Handbook M5-2.4A

a If there is only one thermometer on the dry gas meter, record the temperature under t_d.

10.0 PROJECT PARTICIPANTS

10.0 PROJECT PARTICIPANTS

Lynne Stevenson

President

Environmental Engineer

Ron Oliver

Environmental Scientist

Test Team Leader

Tim Capelle

Environmental Technician