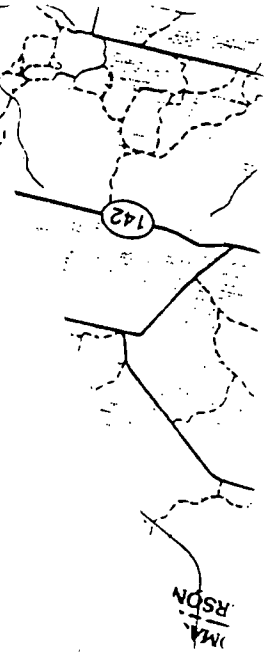


Check Sheet

Company Name: Olin Corporation
Permit Number: AC 65-109412
PSD Number:
Permit Engineer:

Cross References:
- ☑ AC 65-041130
- ☑ -052785
- ☑ -079867
- ☐
- ☐

Application:
- ☑ Initial Application
- ☐ Incompleteness Letters
- ☐ Responses
- ☐ Waiver of Department Action
- ☐ Department Response
- ☐ Other

Intent:
- ☑ Intent to Issue
- ☑ Notice of Intent to Issue
- ☑ Technical Evaluation
- ☒ BACT or LAER Determination
- ☑ Unsigned Permit
- ☑ Correspondence with:
  - ☐ EPA
  - ☐ Park Services
  - ☐ Other
- ☑ Proof of Publication
- ☐ Petitions - (Related to extensions, hearings, etc.)
- ☐ Waiver of Department Action
- ☐ Other

Final Determination:
- ☑ Final Determination
- ☑ Signed Permit
- ☒ BACT or LAER Determination
- ☐ Other

Post Permit Correspondence:
- ☑ Extensions/Amendments/Modifications
- ☐ Other

Revision #5

CM-RRR P-408-531-151
Sent 1-28-87
See AC 65-115861

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

January 21, 1987

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. D. E. Findley
Director of Powder Operations
Olin Corporation
St. Marks, Florida 32355

Dear Mr. Findley:

Re: Modification of Conditions
Permit No. AC 65-115861
Permit No. AC 65-109412

The department received your letter, dated November 24, 1986, which requested an extension of the expiration date of the above referenced permits to construct a solvent dryer with condenser and a salt coating and glazing facility at your chemical complex. This request is acceptable and the expiration date is changed as follows:

From: March 31, 1987
To: September 30, 1987

A copy of this letter must be attached to the referenced construction permits and shall become a part of the permits.

Attachment to be Incorporated:

Mr. D. E. Findley's letter of November 24, 1986.

Sincerely,

Howard L. Rhodes

Howard L. Rhodes, P.E.
Director, Division of
Environmental Programs

HLR/ks

cc: J. Preece

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE

To: _____ Locth: _____
To: _____ Locth: _____
To: _____ Locth: _____
From: _____ Date: _____

TO: Howard L. Rhodes, Director

FROM: C. H. Fancy, Deputy Chief, BAQM

DATE: January 22, 1987

SUBJ: Modifications of Conditions

RECEIVED
JAN 22 1987
DIRECTOR - PROGRAMS

Attached for your approval and signature are five letters that will extend the expiration dates of the following air construction permits:

AC 48-118328, Cirtus Central, Inc.
AC 16-100644, USG Corporation
AC 05-103832, Kennedy Space Center
AC 65-115861 and AC 65-109412, Olin Corporation
AC 17-098127 and AC 17-104265, Reichhold Chemicals Inc.

The bureau recommends these extensions be approved.

CHF/s

attachments

DER
JAN 23 1987
BAQM

11-35-65
St Marks, FL

Olin

St. Marks, Florida 32355
AC 904 925-6111

DER

NOV 26 1986

BAQM

November 24, 1986

C. H. Fancy, P.E., Deputy Chief
Bureau of Air Quality Management
State of Florida
Dept. of Environmental Regulation
2600 Blairstone Road
Tallahassee, FL 32301-8241

RE: Permit Nos. AC-65-115861 and AC-65-109412

Dear Mr. Fancy:

Compliance testing for the two (2) facilities has been delayed because of late equipment deliveries, construction delays and start-up problems. In addition, the 1987 production schedules do not provide material for salt-coating and glazing facility until the second quarter of 1987. Because of these unanticipated problems, we request the expiration date for both permits be extended from March 31, 1987 to September 30, 1987. This extension will provide ample time to solve all the problems and make applications for Operating Permits by June 30, 1987.

Your consideration of this request will be appreciated.

Sincerely,

D. E. Findley, Director
Powder Operations

DEF/RLM/kaj
RLM

P 408 532 074

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. D. E. Findley	
Street and No.	
P.O., State and ZIP Code	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date 10/13/86	

PS Form 3800, Feb. 1982

PS Form 3811, July 1983 447-845

SENDER: Complete items 1, 2, 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☐ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:
Mr. D. E. Findley
Director, Powder Operations
Olin Corporation
St. Marks, FL 32355

4. Type of Service:	Article Number
☐ Registered ☐ Insured ☒ Certified ☐ COD ☐ Express Mail	P 408 532 074

Always obtain signature of addressee or agent and **DATE DELIVERED.**

5. Signature – Addressee
X

6. Signature – Agent
X

7. Date of Delivery
10/14/86

8. Addressee's Address *(ONLY if requested and fee paid)*

DOMESTIC RETURN RECEIPT

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

October 7, 1986

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. D. E. Findley
Director of Power Operations
Olin Corporation
St. Marks, Florida 32355

Dear Mr. Findley:

Re: Modification of Condition Permit No. AC 65-109412

The department received your letter, dated September 8, 1986, which requested an extension of the expiration date of the referenced permit to construct a salt coating and glazing facility at the Olin Corporation complex in St. Marks, Florida. This request is acceptable and the expiration date is changed as follows:

From: December 31, 1986
To: March 31, 1987

A copy of this letter must be attached to the referenced construction permit and shall become a part of this permit.

Attachment to be Incorporated:

Mr. D. E. Findley's letter dated September 8, 1986.

Sincerely,

Victoria J. Tschinkel
Secretary

VJT/ks

cc: Jack Preece

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE

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

TO: Victoria J. Tschinkel

FROM: Clair Fancy BA for Clair Fancy

DATE: October 7, 1986

SUBJ: Extension of Permit No. AC 65-109412
Olin Corporation

RECEIVED
OCT 8 1986
Office of the Secretary

Attached for your approval and signature is a letter extending the expiration date of the above referenced permit.

CF/pa

Attachment

Olin
St. Marks, Florida 32355
AC 904 925-6111

September 8, 1986

Mr. C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
State of Florida
Dept. of Environmental Regulation
2600 Blairstone Road
Tallahassee, FL 32301-8241

RE: Permit Number AC 65 - 109412

Dear Mr. Fancy:

We request an extension of the December, 1986 expiration date of the subject permit to March 31, 1987. Construction delays have moved the completion date forward to the extent that Specific Condition No. 6 cannot be met without the extension.

Your consideration of this request will be appreciated.

Sincerely,

D. E. Findley, Director
Powder Operations

DEF/RLM/kaj

P 408 533 737

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. D. E. Findley	
Street and No.	
P.O., State and ZIP Code	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date	

2/18/86

PS Form 3800, Feb. 1982

PS Form 3811, July 1983

SENDER: Complete items 1, 2, 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☐ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:
Mr. D. E. Findley
Olin Corporation
Post Office Box 222
St. Marks, FL 32355

4. Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail

Article Number
P 408 533 737

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X [signature]

6. Signature — Agent
X

7. Date of Delivery
2/19/86

8. Addressee's Address *(ONLY if requested and fee paid)*

DOMESTIC RETURN RECEIPT

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

Mr. D. E. Findley
Director Powder Operations
Olin Corporation
Post Office Box 222
St. Marks, Florida 32355

Enclosed is Permit Number AC 65-109412 to Olin Corporation to construct a salt coating and glazing facility at the Olin Corporation complex in St. Marks, Wakulla County, Florida.

Any Party to this permit has the right to seek judicial review of the permit 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 this permit is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

Copies furnished to:

Charles Nichols, P.E.
Jack Preece

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT and all copies were mailed before the close of business on Feb. 14, 1986 to the listed persons.

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.

Patricia G. Adams — Clerk

Feb. 14, 1986 — Date

Final Determination

Olin Corporation
St. Marks, Wakulla County, Florida

Salt Coating and Glazing Facility
Permit No. 65-109412

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

February 12, 1986

Final Determination

Olin Corporation's application for a permit to construct a salt coating and glazing facility at the Olin Corporation complex in St. Marks, Wakulla County, Florida, has been reviewed by the Bureau of Air Quality Management.

Public Notice of the Department's Intent to Issue the construction permit was published in the Wakulla News on January 9, 1986.

Copies of the preliminary determination have been available for public inspection at the Department's District office in Pensacola and the Bureau of Air Quality Management office in Tallahassee.

No comments were received as a result of the public notice period.

The final action of the Department will be to issue the permit as noticed during the public notice period.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

PERMITTEE:
Olin Corporation
P. O. Box 222
St. Marks, Florida 32355

Permit Number: AC 65-109412
Expiration Date: December 31, 1986
County: Wakulla
Latitude/Longitude: 30° 10' 41"N/
84° 13' 19" W
Project: Salt Coating and
Glazing Facility

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

For the construction of a Salt Coating and Glazing Facility (dryer alcohol scrubber with exhaust blower) to be located at the Olin Corporation Complex, in St. Marks, Wakulla County, Florida.

Attachments:

1. Application to construct Air Pollution Sources, DER Form 17-1.122(16).

2. Incompleteness letter of October 9, 1985.

3. Olin's letter of November 7, 1985 (response to technical discrepancies).

PERMITTEE:
Olin Corporation

Permit Number: AC 65-109412
Expiration Date: December 31, 1986

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties 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, unless specifically authorized by an order from the department.

GENERAL CONDITIONS:

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

a. Having access to and copying any records that must be kept under the conditions of the permit;

b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

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

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

a. a description of and cause of non-compliance; and

b. the period of noncompliance, including exact 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.

GENERAL CONDITIONS:

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

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

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

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

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

13. This permit also constitutes:

( ) Determination of Best Available Control Technology (BACT)
( ) Determination of Prevention of Significant Deterioration (PSD).
( ) Compliance with New Source Performance Standards.

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

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

GENERAL CONDITIONS:

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

c. Records of monitoring information shall include:

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

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

SPECIFIC CONDITIONS:

1. Total volatile organic emissions (VOC) from this source shall not exceed 12.9 lb/hr and 18 tons/yr isopropyl alcohol. Total particulate matter emissions (PM) shall not exceed 1.71 lb/hr and 2.25 tons/yr (graphite), 0.57 lb/hr and 0.75 tons/hr (powder).

2. Compliance with VOC emission standard will be determined by Method 25 or other methods approved by the department. Concentration data and calculated mass emission rate will be reported. Thereafter, compliance with the VOC emission limitations will be maintained based on the VOC inventory. The district office shall be notified 15 days prior to test.

PERMITTEE:
Olin Corporation

Permit Number: AC 05-109412
Expiration Date: December 31, 1986

SPECIFIC CONDITIONS:

3. Visible emissions shall not exceed 5% opacity during any 6 minute period. Compliance with this standard shall be determined by EPA Method 9, Visual Determination of the Opacity of Emissions from Stationary Sources as described in Appendix A of 40 CFR 60. The district office shall be notified 15 days prior to test.

4. No objectionable odors are allowed from this facility.

5. The construction shall reasonably conform to the plans and schedule submitted in the application. If the permittee is unable to complete construction on schedule, he must notify the Department in writing 60 days prior to the expiration date of the construction permit and submit a new schedule and request for an extension of the construction permit. (Rule 17-4.09, Florida Administrative Code)

6. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit a complete application for an operating permit, including the application fee, along with compliance test results and Certificate of Completion, to the Department's District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. Operation beyond the construction permit expiration date requires a valid permit to operate. (Rule 17-4.22 and 17-4.23, Florida Administrative Code)

7. Upon obtaining an operating permit, the permittee will be required to submit annual reports on the actual operation and emissions of the facility. Annual material balance reports (24-hour) shall be required and sent to the Department's district office to assess emissions and maintain VOC inventory. Visible emissions test shall be performed on an annual basis.

8. If the construction permit expires prior to the permittee requesting an extension or obtaining a permit to operate, then <u>all activities</u> at the project must cease and the permittee must apply for a new permit to construct which can take up to 90 days to process a complete application. (Rule 17-4.10, Florida Administrative Code)

9. Reasonable precautions to prevent fugitive particulate emissions during construction such as coating or spraying road and construction sites will be taken by the permittee.

PERMITTEE:
Olin Corporation

Permit Number: AC 65-109412
Expiration Date: December 31, 1986

SPECIFIC CONDITIONS:

Issued this 13th day of Feb, 1986

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

VICTORIA J. TSCHINKEL, Secretary

____ pages attached.

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE

To: _____ Loc/Tn: _____
To: _____ Loc/Tn: _____
To: _____ Loc/Tn: _____
From: _____ Date: _____

TO: Victoria J. Tschinkel

FROM: for Clair Fancy

DATE: February 12, 1986

SUBJ: Approval of Attached Air Construction Permit

Attached for your approval and signature is one Air Construction Permit to Olin Corporation to construct a salt coating and glazing facility at the Olin Corporation complex in St. Marks, Wakulla County, Florida.

Day 90, after which the permit would be issued by default, is March 1, 1986.

The Bureau recommends your approval and signature.

CF/pa

Attachment

RECEIVED
FEB 13 1986
Office of the Secretary

THE WAKULLA NEWS
Crawfordville, Wakulla County, Florida

STATE OF FLORIDA

COUNTY OF WAKULLA ss

Before the undersigned authority personally appeared Marjorie Phillips, who on oath says she is publisher of The Wakulla News, a newspaper published at Crawfordville in Wakulla County, Florida; the attached copy of advertisement, in the matter of

Dept. of Environmental Regulation
Notice of Proposed Agency Action on
Permit Application

was published in the said newspaper in the issues of .....

January 9, 1986

.....

.....

Affiant further says said Wakulla News is a newspaper published at Crawfordville, in said Wakulla County, Florida, and the said newspaper has heretofore been continuously published in said Wakulla County, Florida, each Thursday and has been entered as second class mail matter at the post office in Crawfordville in said Wakulla County, Florida; for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says he has neither paid nor promised any person, firm or corporation any discount, in securing this advertisement for publication in the said newspaper.

Marjorie H. Phillips

Sworn to and subscribed before me this 9 day of January, 1986

SHANNON P. TURNBULL NOTARY PUBLIC STATE OF FLORIDA

Shannon P. Turnbull
Notary Public, State of Florida at Large

Notary Public, State of Florida
My Commission Expires Feb. 10, 1989
Bonded Thru Troy Fain - Insurance, Inc.

DER

JAN 13 1986

BAQM

Legal Notice

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION
NOTICE OF PROPOSED AGENCY
ACTION ON PERMIT APPLICATION

The Department of Environmental Regulation gives notice of its intent to issue a permit to Olin Corporation to construct a salt coating and glazing facility to be located at the Olin Corporation Complex in St. Marks, Wakulla County, Florida. A determination of best available control technology (BACT) was not required.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period constitutes a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Dept. of Environmental Regulation
Northwest District
106 Governmental Center
Pensacola, Florida 32501

Any person may send written comments on the proposed action to Mr. Bill Thomas at the department's Tallahassee address. All comments mailed within 30 days of the publication of this notice will be considered in the department's final determination.

9

PS Form 3811, July 1983

SENDER: Complete items 1, 2, 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☐ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:

Mr. D. E. Findley
Olin Corporation
P. O. Box 222
St. Marks, Florida 32355

4. Type of Service:

☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail

Article Number: P 408 533 646

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X Olin

6. Signature — Agent
X

7. Date of Delivery
1/3/86

8. Addressee's Address *(ONLY if requested and fee paid)*

DOMESTIC RETURN RECEIPT

P 408 533 646

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. D. E. Findley	
Street and No.	
P.O., State and ZIP Code	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date 1/2/86	

PS Form 3800, Feb. 1982

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

January 2, 1986

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. D. E. Findley
Director Powder Operations
Olin Corporation
Post Office Box 222
St. Marks, Florida 32355

Dear Mr. Findley:

Attached is one copy of the Technical Evaluation and Preliminary Determination, and proposed permit to modify your existing facility in St. Marks, Wakulla County, Florida.

Before final action can be taken on your draft permit, you are required by Florida Administrative Code Rule 17-103.150 to publish the attached Notice of Proposed Agency Action in the legal advertising section of a newspaper of general circulation in Wakulla County no later than fourteen days after receipt of this letter. The department must be provided with proof of publication within seven days of the date the notice is published. Failure to publish the notice may be grounds for denial of the permits.

Please submit, in writing, any comments which you wish to have considered concerning the department's proposed action to Mr. Bill Thomas of the Bureau of Air Quality Management.

Sincerely,

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/pa

Attachments

cc: Charles Nichols, P.E.
Jack Preece

State of Florida
Department of Environmental Regulation
Notice of Proposed Agency Action
on Permit Application

The Department of Environmental Regulation gives notice of its intent to issue a permit to Olin Corporation to construct a salt coating and glazing facility to be located at the Olin Corporation Complex in St. Marks, Wakulla County, Florida. A determination of best available control technology (BACT) was not required.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period constitutes a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009, Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Dept. of Environmental Regulation
Northwest District
106 Governmental Center
Pensacola, Florida 32501

Any person may send written comments on the proposed action to Mr. Bill Thomas at the department's Tallahassee address. All comments mailed within 30 days of the publication of this notice will be considered in the department's final determination.

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of Application for Permit by:	)	
Olin Corporation P. O. Box 222 St. Marks, Florida 32355	)	DER File No. AC 65-109412

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its Intent to Issue, and proposed order of issuance for, a permit pursuant to Chapter 403, Florida Statutes, for the proposed project as detailed in the application specified above. The Department is issuing this Intent to Issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, Olin Corporation, applied on September 9, 1985, to DER for a permit to construct a salt coating and glazing facility to be located at the applicant's existing facility in St. Marks, Wakulla County, Florida

The Department has permitting jurisdiction under Chapter 403, Florida Statutes and Florida Administrative Code Rules 17-2 and 17-4. The project is not exempt from permitting procedures. The applicant was officially notified by the Department that an air construction permit was required for the proposed work.

This intent to issue shall be placed before the Secretary for final action unless an appropriate petition for a hearing pursuant to the provisions of Section 120.57, Florida Statutes, is filed within fourteen (14) days from receipt of this letter or

publication of the public notice (copy attached) required pursuant to Rule 17-103.150, Florida Administrative Code, whichever occurs first. The petition must comply with the requirements of Section 17-103.155 and Rule 28-5.201, Florida Administrative Code (copy attached) and be filed pursuant to Rule 17-103.155(1) in the Office of General Counsel of the Department of Environmental Regulation at 2600 Blair Stone Road, Tallahassee, Florida 32301.

Petitions which are not filed in accordance with the above provisions are subject to dismissal by the Department. In the event a formal hearing is conducted pursuant to Section 120.57(1), all parties shall have an opportunity to respond, to present evidence and argument on all issues involved, to conduct cross-examination of witnesses and submit rebuttal evidence, to submit proposed findings of facts and orders, to file exceptions to any order or hearing officer's recommended order, and to be represented by counsel. If an informal hearing is requested, the agency, in accordance with its rules of procedure, will provide affected persons or parties or their counsel an opportunity, at a convenient time and place, to present to the agency or hearing officer, written or oral evidence in opposition to the agency's action or refusal to act, or a written statement challenging the grounds upon which the agency has chosen to justify its action or inaction, pursuant to Section 120.57(2), Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition, may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207 at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of

Administrative Hearings, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

Executed the 2 day of JANUARY, 1986, in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

Copies furnished to:

Mr. D. E. Findley
Mr. Charles Nichols, P.E.
Mr. Jack Preece

CERTIFICATION

This is to certify that the foregoing Intent to Issue and all copies were mailed before the close of business on 2 JAN, 1986.

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management
2600 Blair Stone Road
Tallahassee, Florida 32301

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.

Patricia G. Adams Jan. 2, 1986
Clerk Date

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

28-5.15 Requests for Formal and Informal Proceedings

(1) Requests for proceedings shall be made by petition to the agency involved. Each petition shall 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;

(c) All disputed issues of material fact. If there are none, the petition must so indicate;

(d) A concise statement of the ultimate facts alleged, and the rules, regulations and constitutional provisions which entitle the petitioner to relief;

(e) A statement summarizing any informal action taken to resolve the issues, and the results of that action;

(f) A demand for the relief to which the petitioner deems himself entitled; and

(g) Such other information which the petitioner contends is material.

Administrative Hearings, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

Executed the 2 day of JANUARY, 1986, in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

Copies furnished to:

Mr. D. E. Findley
Mr. Charles Nichols, P.E.
Mr. Jack Preece

Technical Evaluation
and
Preliminary Determination

Olin Corporation
St. Marks, Wakulla County, Florida

Salt Coating and Glazing Facility
Permit No. 65-109412

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

January 2, 1986

I. NAME AND ADDRESS OF APPLICANT

Olin Corporation
P. O. Box 222
St. Marks, Florida

II. REVIEWING AND PROCESS SCHEDULE

Date of receipt of application: September 9, 1985.

Completeness Review (30 days):

Request for additional information: Incompleteness letter of October 9, 1985.

Response to Incompleteness letter: November 7, 1985.

Application's completeness date: November 7, 1985.

III. FACILITY INFORMATION

Facility Location

The proposed facility will be located at U.S. 98 and S.R. 363 (Olin Corporation) in St. Marks, Wakulla County, Florida. The latitude and longitude of this site are 30°, 10', 41" North and 84°, 13', 19" West respectively.

Standard Industrial Classification

This new facility will be classified as follows:

Major Group 28: Chemicals and Allied Products
Group 289: Miscellaneous Chemical Products
Industry No. 2892: Explosives

Facility Category

Olin Corporation is classified as a major emitting facility for sulfur dioxide (SO_2). Permitted SO_2 emissions are 245 tons per year. The proposed project, installing a continuous salt coating and glazing facility, will increase the overall VOC emissions at Olin Corporation's complex by 18 tons per year.

IV. PROJECT DESCRIPTION

The proposed project consists of the installation of a continuous salt coating and glazing facility to coat low and high density powders. These surface coatings consisting of various salts are added to "ball power" to enhance ballistic characteristics and to control muzzle flash.

Background Information

The Olin Corporation facility at St. Marks produces BALL POWDER propellant for small and intermediate caliber ammunition. The basic raw material for the manufacture of this propellant is nitrocellulose. Part of the nitrocellulose is purchased from an outside vendor and the rest is obtained by recovering it from surplus smokeless powder propellants by extraction of non-nitrocellulose materials with a solvent, benzene, in the single-base extraction facility. In addition, off-specification BALL POWDER propellants are processed to recover nitrocellulose by extraction of non-nitrocellulose materials with benzene in the double-base extraction facility. The waste residue from the extraction operations contains some or all of the following: benzene, di-n-butyl phthalate, dinitrotoluene, diphenylamine, and nitroglycerine. These waste residues are disposed of by incineration in their hazardous waste incinerator.

Currently, the Company holds three operating air permits: 1) a sweetie barrel exhaust (AO 65-79867), 2) a mixing ventilation system (AO 65-52785) and 3) two 33.45 million Btu/hr boilers (AO 65-52785). A hazardous waste incinerator is being permitted by the DER Hazardous Waste Section.

V. PROCESS DESCRIPTION AND POLLUTION CONTROL SYSTEM

The operation takes place in a single rotating drum in three steps: coating, drying and graphite polishing. During the drying step, isopropyl alcohol (IPA) is evaporated by passing hot air through the drum. The air flows from the drum to the isopropyl alcohol wet scrubber where 80% of the IPA is recaptured. All wash water from the scrubber will be contained and handled via sump and pump. Washdown and scrubber wash water from the area will be transferred to the wash water from the area will be transferred to the waste treatment plant for further treatment. The scrubber dryer air will be routed to the atmosphere through an exhaust blower. In addition to IPA, the scrubber air is expected to contain trace amounts of solid graphite and powder.

VI. RULE APPLICABILITY

The proposed project is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, and Rule 17-2, Florida Administrative Code.

The proposed facility, a continuous salt coating and glazing facility, is located at Olin Corporation complex in an area (Wakulla County) currently designated attainment for all criteria pollutants in accordance with Florida Administrative Code Rule 17-2.420. This facility site is close to the St. Marks National Wildlife Refuge (Class I area).

The proposed project is exempt from provisions of Rule 12-2.500, Prevention of Significant Deterioration because its emissions do not exceed the PSD significance level.

The proposed project shall be permitted under Rule 17.2.520, Source not Subject to Prevention of Significant Deterioration or Nonattainment Requirements.

The proposed facility shall comply with rule 17-2.620(1) and (2) General Pollutant Emission Limiting Standard.

VII. SOURCE IMPACT ANALYSIS

VII.1 Emissions Summary

The operation of the salt coating and glazing facility will produce emissions of volatile organic compounds (VOC). Specifically, isopropyl alcohol (IPA). In addition trace amount of solid graphite and powder is also produced.

The amount of isopropyl alcohol used during the process and its emissions is limited by permit conditions. These permitted emissions are in compliance with all applicable requirements of Chapter 17-2, Florida Admininstrative Code.

Table 1 summarizes potential to emit of all pollutants during this process.

VII.2 Air Quality Analysis

From a technical review of the application, the Department has determined that the construction and operation of this source will not have a detrimental impact on Florida's ambient air quality standards.

VII.3 Air Toxics Information

Currently, the Department is developing acceptable air emissions levels for toxics substances. Specifically, sources classified as Category A (carcinogens and highly toxics) and Category B (moderately toxic substances).

In the event toxics emission limits are set during the term of this permit or any subsequent permit which are different than the permitted emissions, the department may seek modification pursuant to 17-4.08, Florida Administrative Code.

VII. CONCLUSION

Based on a review of the data submitted by Olin, the Florida Department of Environmental Regulation (FDER) concludes that compliance with all applicable state air quality regulations will be achieved, provided certain specific conditions are met. The impact of constructing and operating a salt coating and glazing facility at the Olin Corporation plant will not cause or contribute to a violation of any ambient air quality standard.

Table 1

SUMMARY OF EMISSIONS

SOURCE	POLLUTANT (1)		
	VOC	PM	
	ton/yr	ton/yr	
Salt Coating and Glazing Facility	IPA 90	Graphite 4.5	Powder 1.5

(1) Uncontrolled Emissions

ALLOWABLE EMISSIONS

SOURCE	POLLUTANT (2)			
	VOC		PM	
	lb/hr	ton/yr	lb/hr	ton/yr
Salt Coating and Glazing Facility	12.9	18.0	2.28	3.00

(2) controlled emissions

The efficiency of the wet scrubber to absorb the alcohol vapors is estimated to be 80%.

The operating time for this facility will be limited by annual emissions (12.9 lb/hr and 18 tons per year isopropyl alcohol) and (2.28 lb/hr and 3.00 ton/yr particulate matter).

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

PERMITTEE:
Olin Corporation
P. O. Box 222
St. Marks, Florida 32355

Permit Number: AC 65-109412
Expiration Date: December 31, 1986
County: Wakulla
Latitude/Longitude: 30° 10' 41"N/
84° 13' 19" W
Project: Salt Coating and
Glazing Facility

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

For the construction of a Salt Coating and Glazing Facility (dryer alcohol scrubber with exhaust blower) to be located at the Olin Corporation Complex, in St. Marks, Wakulla County, Florida.

Attachments:

1. Application to construct Air Pollution Sources, DER Form 17-1.122(16).

2. Incompleteness letter of October 9, 1985.

3. Olin's letter of November 7, 1985 (response to technical descrepancies).

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties 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, unless specifically authorized by an order from the department.

GENERAL CONDITIONS:

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

a. Having access to and copying any records that must be kept under the conditions of the permit;

b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

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

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

a. a description of and cause of non-compliance; and

b. the period of noncompliance, including exact 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.

GENERAL CONDITIONS:

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

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

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

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

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

13. This permit also constitutes:

( ) Determination of Best Available Control Technology (BACT)
( ) Determination of Prevention of Significant Deterioration (PSD).
( ) Compliance with New Source Performance Standards.

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

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

GENERAL CONDITIONS:

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

c. Records of monitoring information shall include:

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

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

SPECIFIC CONDITIONS:

1. Total volatile organic emissions (VOC) from this source shall not exceed 12.9 lb/hr and 18 tons/yr isopropyl alcohol. Total particulate matter emissions (PM) shall not exceed 1.71 lb/hr and 2.25 tons/yr (graphite), 0.57 lb/hr and 0.75 tons/hr (powder).

2. Compliance with VOC emission standard will be determined by Method 25 or other methods approved by the department. Concentration data and calculated mass emission rate will be reported. Thereafter, compliance with the VOC emission limitations will be maintained based on the VOC inventory. The district office shall be notified 15 days prior to test.

SPECIFIC CONDITIONS:

3. Visible emissions shall not exceed 5% opacity during any 6 minute period. Compliance with this standard shall be determined by EPA Method 9, Visual Determination of the Opacity of Emissions from Stationary Sources as described in Appendix A of 40 CFR 60. The district office shall be notified 15 days prior to test.

4. No objectionable odors are allowed from this facility.

5. The construction shall reasonably conform to the plans and schedule submitted in the application. If the permittee is unable to complete construction on schedule, he must notify the Department in writing 60 days prior to the expiration date of the construction permit and submit a new schedule and request for an extension of the construction permit. (Rule 17-4.09 Florida Administrative Code)

6. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit a complete application for an operating permit, including the application fee, along with compliance test results and Certificate of Completion, to the Department's District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. Operation beyond the construction permit expiration date requires a valid permit to operate. (Rule 17-4.22 and 17-4.23, Florida Administrative Code.)

7. Upon obtaining an operating permit, the permittee will be required to submit annual reports on the actual operation and emissions of the facility. Annual material balance reports (24-hour) shall be required and sent to the Department's district office to assess emissions and maintain VOC inventory. Visible emissions test shall be performed on an annual basis.

8. If the construction permit expires prior to the permittee requesting an extension or obtaining a permit to operate, then all activities at the project must cease and the permittee must apply for a new permit to construct which can take up to 90 days to process a complete application. (Rule 17-4.10 Florida Administrative Code)

9. Reasonable precautions to prevent fugitive particulate emissions during construction such as coating or spraying road and construction sites will be taken by the permittee.

PERMITTEE:
Olin Corporation

Permit Number: AC 65-109412
Expiration Date: December 31, 1986

SPECIFIC CONDITIONS:

Issued this_____day of_____,
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

_____
VICTORIA J. TSCHINKEL, Secretary

____ pages attached.

Olin
St. Marks, Florida 32355
AC 904 925-6111

November 4, 1985

DER
NOV 7 1985
BAQM

Mr. C. H. Fancy, P.E.
Deputy Chief, Bureau of Air Quality Management
Twin Towers Office Building
2600 Blairstone Road
Tallahassee, Florida 32301-8241

Dear Mr. Fancy:

This memo is in response to your letter of October 9, 1985 in which you requested additional information to allow you to proceed with the processing of our application to construct a salt coater and alcohol scrubber. We offer the following answers to your questions in the same order you asked them.

Question 1. Yes, Olin is a major emitting facility. The permit for our oil-fired steam boilers allows up to 245 tons/yr. SO_2. We normally exceed 200 tons/yr. SO_2.

Question 2. No.

Question 3. See attached Exhibit I, Process Description.

Question 4. N/A

Question 5. See attached Exhibit II for operating permits along with permit applications showing emissions before and after control equipment.

Question 6. No answer required.

Question 7. The dryers operate by heating air with steam from our boilers. The boilers are fired with #6 fuel oil.

Question 8. No answer required.

If additional clarification is required, please contact R. L. Myers at 904-925-6111, ext. 221.

Sincerely,

D. E. Findley, Director
Powder Operations

DEF/RLM/rlb
RLM
Attachments

EXHIBIT I

PROCESS DESCRIPTION

The Olin Corporation facility at St. Marks produces BALL POWDER® propellant for small and intermediate caliber ammunition. The basic raw material for the manufacture of this propellant is nitrocellulose. Part of the nitrocellulose is purchased from an outside vendor and the rest is obtained by recovering it from surplus smokeless powder propellants by extraction of non-nitrocellulose materials with a solvent, benzene, in the single-base extraction facility. In addition, off-specification BALL POWDER® propellants are processed to recover nitrocellulose by extraction of non-nitrocellulose materials with benzene in the double-base extraction facility. The waste residue from the extraction operations contains some or all of the following: benzene, di-n-butyl phthalate, dinitrotoluene, diphenylamine and nitroglycerine. These waste residues are disposed of by incineration in our hazardous waste incinerator.

The purchased and recovered nitrocellulose are both processed to form a lacquer by dissolving in ethyl acetate in a batch-operated lacquer make-up step. This lacquer is continuously processed into single-base, hardened spherical grains in the graining step. The aqueous solution used for suspension of the graining step contains bone glue and sodium sulfate which serve specific functions in grain control. The ethyl acetate used to form the lacquer is removed by distillation and recovered by condensation for reuse in the lacquer make-up step. The hardened grains are screened in Size Separation to segregate the grains into specific granulation ranges for further processing.

The next step is the coating operation in which single-base grains are processed, batch-wise, to incorporate nitroglycerine, followed in some cases by the addition of a deterrent for the purpose of energy potential modification and burning rate control. The carrying solvent, ethyl acetate, is removed by distillation, condensed and recovered for reuse. Some of these coated powders require rolling to change the surface area and to further modify the burning rate. This is done in the rolling step by flowing the double-base grains in a water slurry between two opposing steel rolls.

The propellant is then dried in continuous flow driers in which the propellant is contacted with hot air. Graphite is added during the drying operation for static control and improved flow characteristics.

Some powders receive a surface coating for control of ignition and also as a flash suppressant. This coating is applied continuously in a rotating drum by the addition of a slurry consisting of the required salt with isopropyl alcohol as the carrier. Hot air flows through the drum and evaporates the alcohol leaving the salt on the surface of the grain.

The propellant is then blended to meet final ballistic specifications and packed out ready for shipment.

All heat applied throughout the process is provided by steam from two Cleaver Brooks boilers. The boilers are fired with #6 Fuel Oil.

All waste waters from the plant are treated through a 500,000 gpd activated sludge waste treatment facility.

EXHIBIT II

A065-41130
Mixing Ventilation System

A065-52785
Two Steam Boilers

A065-79867
Sweetie Barrel Exhaust

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHWEST DISTRICT

160 GOVERNMENTAL CENTER
PENSACOLA, FLORIDA 32501-5794

PERMITTEE:

Olin Corporation

I.D. Number: 10/65/0003/05
Permit/Certification Number: A065-79867
Date of Issue: January 20, 1984

Expiration Date: January 1, 1989
County: Wakulla
Latitude/Longitude: 30°10'41"N/84°13'19"W
Section/Township/Range: 34/3S/1E
Project: Vinsol addition in a Sweetie Barrel

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 and 17-4. The above named applicant, hereinafter called 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:

Operation of a Vinsol addition process in a Sweetie Barrel. Surface deterrent dissolved in isopropyl alcohol is applied to powder in a Sweetie Barrel. Alcohol and particulate emissions are controlled by a water scrubber, manufactured by Fisher-Klosterman, model WL-260. Scrubber water is discharged to wastewater treatment plant.

Located: Intersection U.S. 98 and State Road 363 north of St. Marks.

PERMITTEE:
Olin Corporation

I.D. Number: 10/65/0003/05
Permit/Certification Number: A065-79867
Date of Issue: January 20, 1984

Expiration Date: January 1, 1989

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions", and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefor caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, unless specifically authorized by an order from the department.

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

PERMITTEE:
Olin Corporation

I.D. Number: 10/65/0003/05
Permit/Certification Number: A065-79867
Date of Issue: January 20, 1984

Expiration Date: January 1, 1989

GENERAL CONDITIONS:

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 noncompliance; and

b. The period of noncompliance, including exact 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 revocation of this permit.

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

PERMITTEE:
Olin Corporation

I.D. Number: 10/65/0003/05
Permit/Certification Number: A065-79867
Date of Issue: January 20, 1984

Expiration Date: January 1, 1989

GENERAL CONDITIONS:

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

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

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

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

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

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

c. Records of monitoring information shall include:

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

PERMITTEE:
Olin Corporation

I.D. Number: 10/65/0003/05
Permit/Certification Number: A065-79867
Date of Issue: January 20, 1984

Expiration Date: January 1, 1988

GENERAL CONDITIONS:

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

SPECIFIC CONDITIONS:

15. The scrubber shall be operated in the manner used during compliance testing of November 8 and December 5, 1983. This constitutes applying known and existing vapor emission control device deemed necessary and ordered by the Department to comply with Section 17-2.620(1), Florida Administrative Code.

16. An annual operation report (DER Form 17-1.202(6) attached) shall be submitted by March 1 each year. The attached form shall be reproduced by the permittee and used for future annual submittals.

Expiration Date:

January 1, 1989

Issued this 20th day of June, 1984.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

ROBERT V. KRIEGEL
District Manager

7/0

AO65-79867

RECEIVED

DEC 20 1983

NORTHWEST FLORIDA
DER

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

AIR POLLUTION SOURCES
CERTIFICATE OF COMPLETION OF CONSTRUCTION*

79757

PERMIT NO. AC65-64760 DATE: December 15, 1983

Company Name: Olin Corporation County: Wakulla

Source Identification(s): Air Scrubber Exhaust at Sweetie Barrel

Actual costs of serving pollution control purpose: $ 32,000.00

Operating Rates: 3340 cfm Design Capacity: 3340 cfm

Expected Normal 3340 cfm During Compliance Test 3340 cfm

Date of Compliance Test: Nov. 8 and Dec. 5, 1983 (Attach detailed test report)

Test Results: Pollutant	Actual Discharge	Allowed Discharge
Isopropyl Alcohol Vapors	8.24 tons/yr	-
Ball Powder dust & Graphite	0.0067 tons/yr	-

Date plant placed in operation: December 6, 1983

This is to certify that, with the exception of deviations noted**, the construction of the project has been completed in accordance with the application to construct and Construction Permit No. AC 65-64760 dated February 24, 1983.

A. Applicant:

D.E. Findley
Name of Person Signing (Type)

D E Findley
Signature of Owner or Authorized Representative and Title

Date: 12/15/83 Telephone: 904-925-6111

B. Professional Engineer:

Alan F. McElfresh
Name of Person Signing (Type)

Alan F McElfresh
Signature of Professional Engineer

Olin Corporation
Company Name

Florida Registration No. 12892

Date: 1/12/83

(Seal)

P.O. Box 222, St. Marks, Florida 32355
Mailing Address

(904) 925-6111
Telephone Number

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

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

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 50 ;

if power plant, hrs/yr ____ ; if seasonal, describe: ____

Operating time shown is maximum.

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

1. Is this source in a non-attainment area for a particular pollutant? No

   a. If yes, has "offset" been applied? -

   b. If yes, has "Lowest Achievable Emission Rate" been applied? -

   c. If yes, list non-attainment pollutants. -

2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. NO

3. Does the State "Prevention of Significant Deterioration" (PSD) requirement apply to this source? If yes, see Sections VI and VII. No

4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? No

5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? No

H. Do "Reasonably Available Control Technology" (RACT) requirements apply to this source? No

   a. If yes, for what pollutants? -

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

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

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

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

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
N/A				

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

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

2. Product Weight (lbs/hr): N/A

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

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/xxhr.	T/yr	
Isopropyl Alcohol Vapors	10.8	8.2	-	-	11.6	8.9	"To Atmos."
BALL POWDER Dust and Graphite	0.009	0.007	-	-	0.017	0.013	"To ATMOS."

[1]See Section V, Item 2.

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

[3]Calculated from operating rate and applicable standard.

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

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Fisher-Klosterman	Alcohol Vapors	7%		See Attached
Wet Dust Collector	Graphite and powder dust	~50%	Unknown	Supplemental information for Section III,C.
Model WL-260				

E. Fuels

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

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

Fuel Analysis:

Percent Sulfur: N/A Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

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

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

Annual Average _____ Maximum _____

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

7% of the isoprophyl alcohol will be absorbed by the scrubber water and routed to the waste treatment plant in a constant 1 gpm water bleed from the seal pot. The alcohol portion of this bleed is 0.013 pounds per hour.

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

Stack Height: Fan Discharge to be directed to floor drain ft. Stack Diameter: 1.25 ft.

Gas Flow Rate: 3340 ACFM 3340 DSCFM Gas Exit Temperature: Ambient °F.

Water Vapor Content: Saturated % Velocity: 44.9 FPS

SECTION IV: INCINERATOR INFORMATION

Not Applicable

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

Description of Waste _____

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

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

Manufacturer _____

Date Constructed _____ Model No. _____

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

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

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

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

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

[ ] Other (specify) _____

SUPPLEMENTARY INFORMATION

Section III C

Emission Calculations

Below are the calculations for determination of emissions for isopropyl alcohol (IPA) and for particulates from the operation of processing of Ball Powder Propellant in the Sweetie Barrel facility.

1) IPA Emissions Annual Average

Annual emissions are based on the average amount of IPA vapors per increment exhausted from the Sweetie Barrel to the scrubber and the efficiency of the scrubber for absorption of IPA vapors from the gas stream

$$E = \frac{(A_A)(\frac{100-S_E}{100})(N)(12\text{mos/yr.})}{2000\ \text{lbs/ton}}$$

Where

E = IPA emissions, tons per year

A_A = Average IPA input to scrubber, 36.9 lbs per increment, as determined by the average IPA input to the Sweetie Barrel less the amount of IPA remaining on the powder discharged from the Sweetie Barrel.

S_E = Scrubber efficiency for absorption of IPA vapors from the Sweetie Barrel exhaust gases, 7%, as determined by test (See Part 7 below in this section).

N = Number of increments of powder processed in the Sweetie Barrel, 40 per month.

$$E = \frac{(36.9)(\frac{100-7}{100})(40)(12)}{2000} = 8.24 \text{ tons/year of IPA}$$

2) IPA Emissions, Maximum Rate

Maximum emissions for IPA is based on the average emissions from the scrubber while the powder increment is being processed in the Sweetie Barrel.

$$R_{MAX} = \frac{(A_A)(\frac{100-SE}{100})}{T}$$

On this basis:

Emission rate = .054 lbs/increment

= 0.017 lbs/hour of particulates over 3.17 hour cycle

$$\text{Emission Annual Output} = \frac{(.054 \text{ lbs/increment})(40 \text{ increments/mo})(12 \text{mo/yr})}{2000 \text{ lbs/ton}}$$

= .013 tons/year

7) Scrubber Efficiency for Isopropyl Alcohol Absorption

A material balance was made on November 8, 1983, (See figure 2) for the processing of a powder increment through Sweetie Barrel. During the test the concentration of Isopropyl alcohol (IPA) in the srubber overflow water was determined (See figure 3). By this means the scrubber efficiency for absorption of IPA in water was determined as well as the IPA emission rate. Following is data from the test.

A_I = 37.7 lbs = Average IPA Content of solids slurry input to the Sweetie Barrel.

A_0 = 1.1 lbs = IPA content in powder discharged from the Sweetie Barrel.

W_0 = 1584 lbs. = Weight of water in scrubber overflow during the test discharging at the rate of 1 GPM

C_0 = 0.152% IPA = Average concentration of IPA in the scrubber water overflow as analyzed (See figure 3).

W_{sp} = 355 lbs. = Weight of water holdup in the scrubber seal pot.

C_{sp} = 0.04% IPA = Concentration of IPA in the water holdup at the end of the test run.

S_E = Scrubber Efficiency

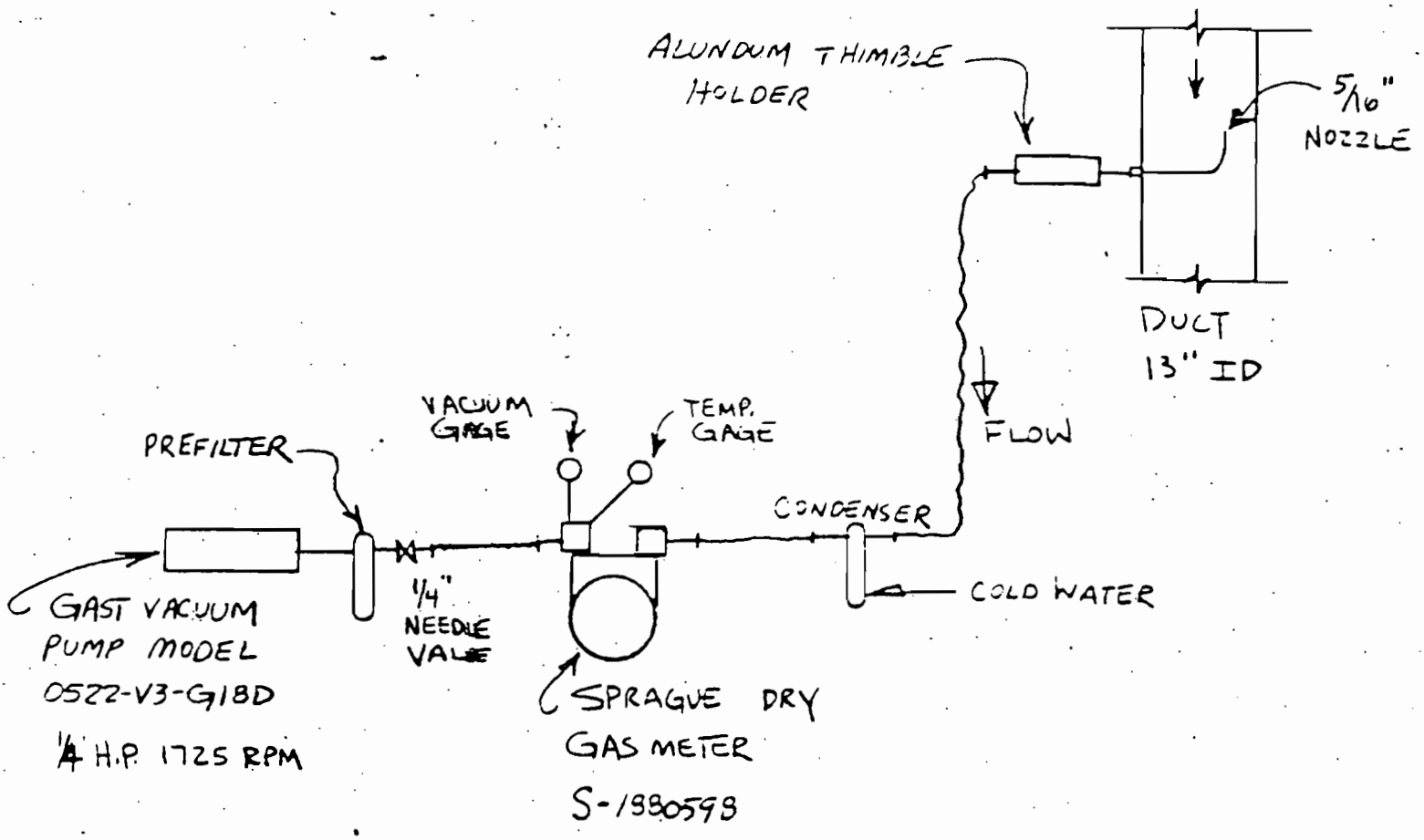
$$= \frac{W_0 C_0 + W_{sp} C_{sp}}{A_I - A_0}$$

$$= \frac{(1584)(.00152) + (355)(.0004)}{37.7 - 1.1}$$

$$= .070 = 7.0\%$$

The scrubber efficiency is low due to the low IPA concentration in input gases to the scrubber and this concentration is about 350 ppm.

TEST SETUP FOR PARTICULATE MEASUREMENT

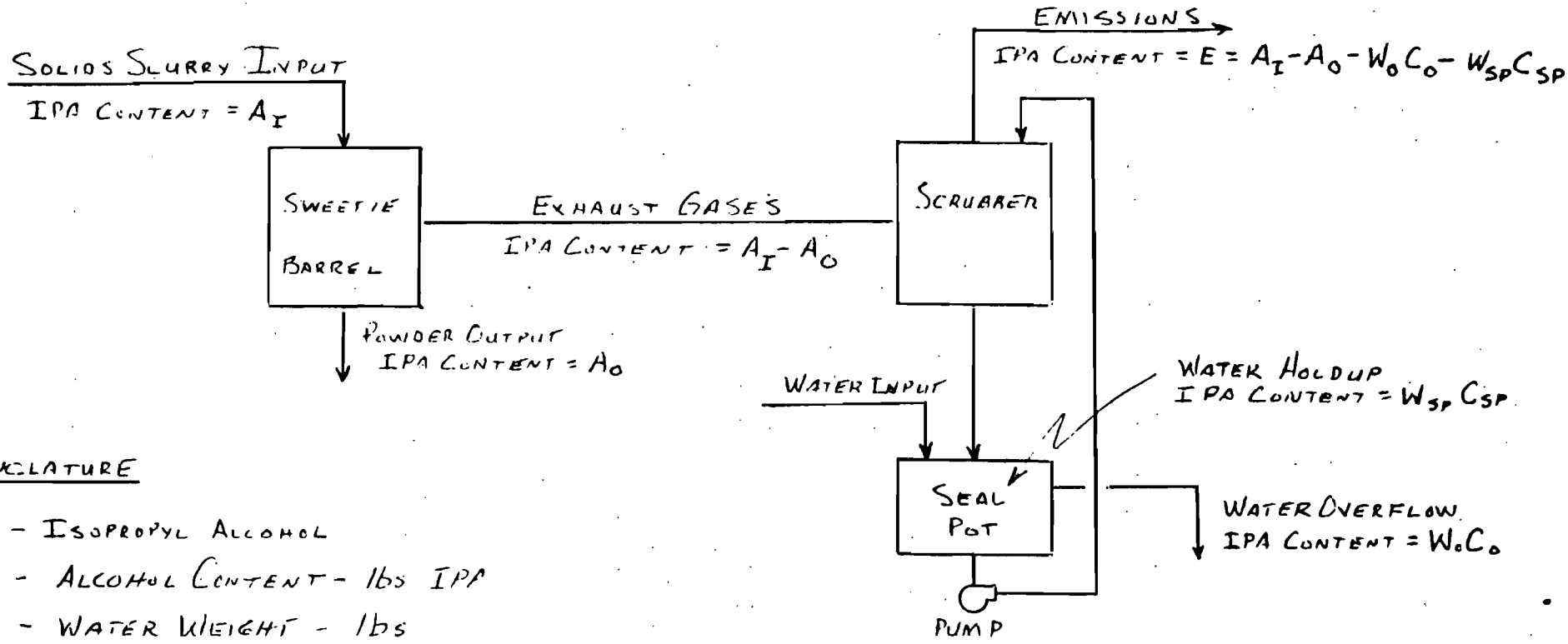


NOTE: DUCT PRESSURES TAKEN WITH DWYER PITOT TUBE & DWYER # 1211 SLACK TUBE MANOMETER

FIGURE 1

Isopropyl Alcohol Material Balance

Schematic Diagram



Nomenclature

IPA - Isopropyl Alcohol

A - Alcohol Content - lbs IPA

W - Water Weight - lbs

E - Emissions - lbs IPA

C - Concentration of I

Subscripts

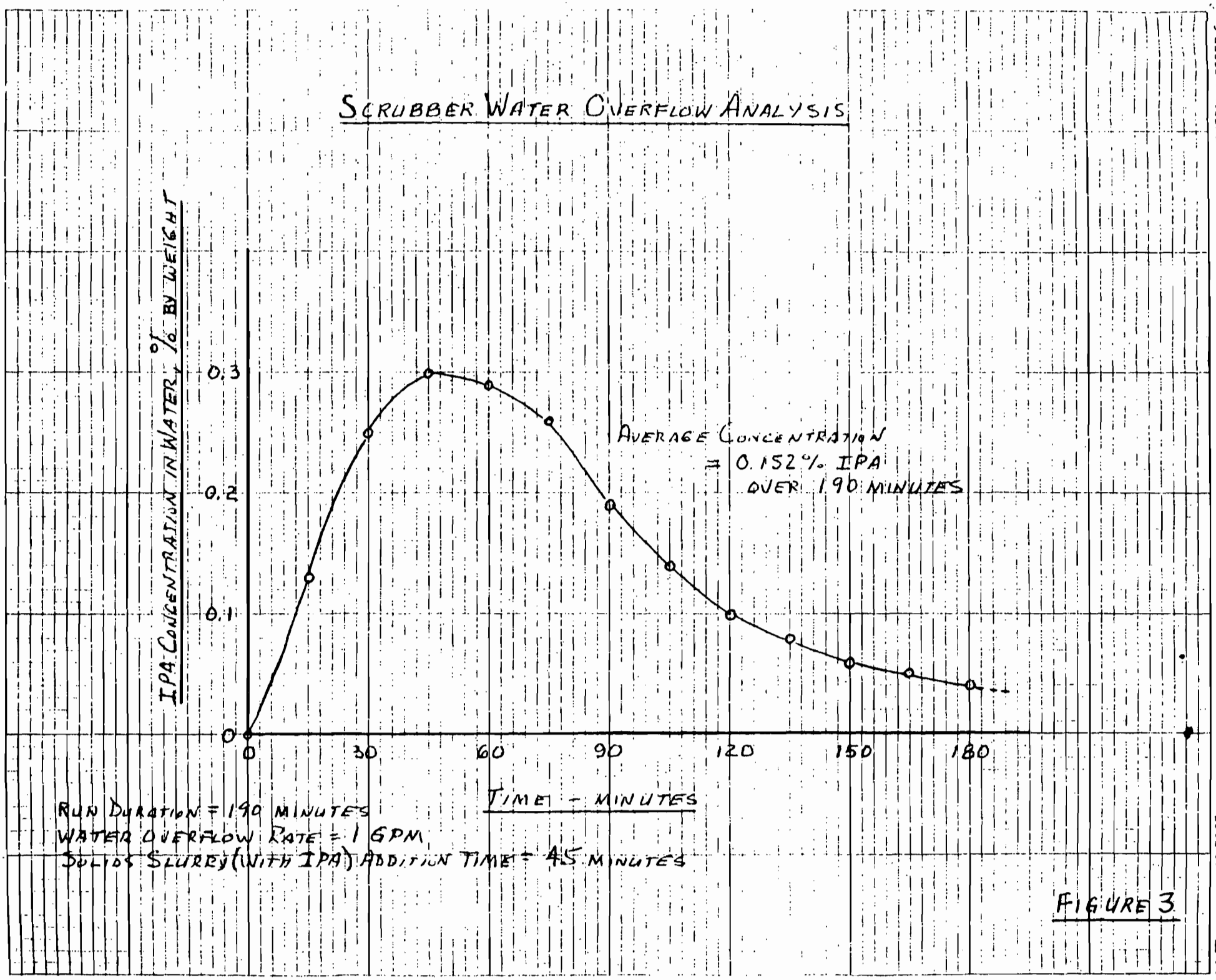
I - Input

O - Output

SP - Seal Pot

Scrubber Efficiency = $\dfrac{W_O C_O + W_{SP} C_{SP}}{A_I - A_O}$

Figure 2


SCRUBBER WATER OVERFLOW ANALYSIS
IPA CONCENTRATION IN WATER, % BY WEIGHT
0.3
0.2
0.1
0
0
30
60
90
120
150
180
TIME - MINUTES
AVERAGE CONCENTRATION
= 0.152% IPA
OVER 190 MINUTES
RUN DURATION = 190 MINUTES
WATER OVERFLOW RATE = 1 GPM
SOLIDS SLURRY (WITH IPA) ADDITION TIME = 45 MINUTES
FIGURE 3
KEUFFEL & ESSER C.
12 5265

Myers

Olin
St. Marks, Florida 32355
AC 904 925-6111

February 26, 1985

Mr. Robert V. Kriegel
District Manager, Florida
Department of Environmental Regulation
Northwest District
160 Governmental Center
Pensacola, FL 32501-5794

Re: Operation Permit No. A065 - 79867

Dear Mr. Kriegel:

Condition 16 of the subject permit requires Olin to submit an annual operation report by March 1, of each year. That report is attached for your review.

Sincerely,

D E Findley

D. E. Findley, Director
Powder Operations

RLM/DEF/ec
Rbm
Attachment

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHWEST DISTRICT
160 GOVERNMENTAL CENTER
PENSACOLA, FLORIDA 32501

ANNUAL OPERATION REPORT FORM FOR AIR EMISSIONS SOURCES

For each permitted emission point, please submit a separate report for calendar year 19 84 prior to March 1st of the following year.

I **GENERAL INFORMATION**

1. Source Name: Olin Corporation
2. Permit Number: AO 65-79867
3. Source Address: P. O. Box 222
   St. Marks, Fl 32355
4. Description of Source: Sweetie Barrel Scrubber

II **ACTUAL OPERATING HOURS:** 24 hrs/day 7 days/wk 50 wks/yr

III **RAW MATERIAL INPUT PROCESS WEIGHT:** (List separately all materials put into process and specify applicable units if other than tons/yr)

Raw Material	Input Process Weight	
		tons/yr
Isoprophyl Alcohol (IPA)	2.9	tons/yr
		tons/yr
		tons/yr
		tons/yr

IV **PRODUCT OUTPUT** (Specify applicable units)

N/A

V **TOTAL FUEL USAGE** including standby fuels. If fuel is oil, specify type and sulfur content (e.g., No. 6 oil with 1% S).

N/A	10^6 cubic feet Natural Gas	N/A	10^3 Kerosene
N/A	10^3 gallons _____ Oil, _____ %S	N/A	tons Coal
N/A	10^3 gallons Propane	N/A	tons Carbonaceous
N/A	10^6 Black Liquor Solids	N/A	tons Refuse

Other (Specify type and units) _____

VI **EMISSION RATE(S)** (tons/yr)

_____ Particulates	_____ Sulfur Dioxide	_____ Total Reduced Sulfur
_____ Nitrogen Oxide	_____ Carbon Monoxide	_____ Fluoride
2.7 Hydrocarbon (IPA)	Other (Specify type and units) _____	

VII **METHOD OF CALCULATING EMISSION RATES** (e.g., use of fuel and materials balance, emission factors drawn from AP 42, etc.)

$$\frac{\text{IPA input \#} - \text{IPA input} \times \text{scrubber efficiency}}{2000\#} = \text{IPA emmissons, tons}$$

$$\frac{5791\ \# - 405\ \#}{2000\#} = 2.7 \text{ tons IPA emission in 1984}$$

VIII **CERTIFICATION:**

I hereby certify that the information given in this report is correct to the best of my knowledge.

D. E. Findley

SIGNATURE OF OWNER OR AUTHORIZED REPRESENTATIVE

D. E. Findley, Director
Powder Operations

TYPED NAME AND TITLE

February 26, 1985

DATE

R. Myers

Olin
St. Marks, Florida 32355
AC 904 925-6111

August 20, 1979

State of Florida
Department of Environmental Regulation
160 Governmental Center
Pensacola, Florida 32501

RE: Air Pollution Source Construction Permit
Application for Plant Modification

Dear Sir:

We are planning to make a modification to the Olin BALL POWDER Plant in St. Marks, Florida and are applying for an Air Pollution Source Construction Permit.

Attached Are:

Four copies of the application along with supplemental information, a letter of authorization for Mr. J. R. Katic and a copy of a Certificate of Good Standing for the Olin Corporation.

Check for $20.00 for the application filing fee.

We will meet with you at your convenience if you require further information or clarification.

Sincerely yours,

J. R. Katic, Director
Powder & GOCO Operations

JRK:csp
Attachments

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: _____ [X] New[1] [ ] Existing[1]

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

COMPANY NAME: Olin Corporation COUNTY: Wakulla

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

SOURCE LOCATION: Street Intersection US 98 and SR 363 City Near St, Marks

UTM: East 768230 North 3341750

Latitude 30 ° 10 ' 41 "N Longitude 84 ° 13 ' 19 "W

APPLICANT NAME AND TITLE: J. R. Katic, Director, Powder & COCO Operations

APPLICANT ADDRESS: P. O. Box 222, St. Marks, Florida 32355

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Olin Corporation

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

*Attach letter of authorization

Signed: J. R. Katic

J. R. Katic, Director, Powder & COCO Operations
Name and Title (Please Type)

Date: 8-20-79 Telephone No. 904-925-6111

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

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed: O. Charles Swallows, Jr.

O. Charles Swallows, Jr.
Name (Please Type)

(Affix Seal)

Sverdrup & Parcel and Associates, Inc.
Company Name (Please Type)

2002 N.W. 13th St., Suite 201, Gainesville, Fl. 32601
Mailing Address (Please Type)

Florida Registration No. 19947 Date: Aug 18, 1979 Telephone No. 904-372-6338

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

SECTION II: GENERAL PROJECT INFORMATION

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

A modification of the BALL POWDER (gunpowder) plant will be made to allow usage of an alternate source of the basic raw material, nitrocellulose. In the operation of dumping of drums of virgin nitrocellulose into a mixing kettle a ventilation system will be provided for personnel protection - See attached supplementary data.

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

Start of Construction December 15, 1979 Completion of Construction July 1, 1980

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

None

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

None

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

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 50 ; if power plant, hrs/yr ____ ; if seasonal, describe: The modification involves use of an alternate source of nitrocellulose since primary source material will no longer be readily available. Consequently the operating time with the new nitrocellulose will increase as current source supplies decrease. Operating time shown is maximum.

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

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

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

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

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

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

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

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

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Nitrocellulose	2.6	10	-	3.6	2.6	10	Fig. 2
Dust							
Ethyl Acetate	4.1	15	-	-	4.1	15	Fig. 2

D. Control Devices: (See Section V, Item 4) None

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5]

[1]See Section V, Item 2.

[2]Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

[3]Calculated from operating rate and applicable standard

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

[5]If Applicable

E. Fuels Not applicable

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

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

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

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

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.
Not applicable

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

Stack Height: 50 ft. Stack Diameter: 0,5 ft.

Gas Flow Rate: 1000 ACFM Gas Exit Temperature: Ambient °F.

Water Vapor Content: Ambient % Velocity: 84 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

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

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

Manufacturer _____

Date Constructed _____ Model No. _____

SUPPLEMENTARY INFORMATION

DESCRIPTION OF MODIFICATION

BALL POWDER (gunpowder) is made at the St. Marks plant by mixing nitrocellulose recovered from scrap powder with solvent to make a lacquer which is then processed to make BALL POWDER. Since scrap powder, the present source of our basic raw material, is no longer readily available it is necessary to provide for use of an alternate source, virgin nitrocellulose. This material cannot be processed through our existing continuous lacquer preparation system. Consequently a batch mixing system will be installed for processing of virgin nitrocellulose to lacquer which is then processed through existing equipment to make finished BALL POWDER. The relationship between the planned modifications and the existing facilities is shown in Figure 1. In addition, use of virgin nitrocellulose requires the use of a higher purity solvent than is currently used so that a distillation system will be added to remove dissolved water in the solvent.

In Figure 2 is given a schematic diagram of the batch lacquer mixing system. Virgin nitrocellulose is received in drums. This nitrocellulose is fibrous and contains about 30% water, wet basis. Drums of nitrocellulose will be dumped into a mixing vessel containing solvent. As the drum is dumped a small amount of dust escapes and this is picked up by a ventilation system which creates a slight suction in the dumping area. In addition, as the nitrocellulose is dumped into the kettle it displaces some solvent rich vapors from the kettle. These vapors are picked up by the ventilation system and discharged in the ventilation exhaust duct. The ventilation system discharge air goes through a duct system and exhausts in a 6 inch stack. All three mixing vessels are connected to one common ventilation system.

After the dumping is completed, the vessel is closed and mixing begins for the formation of lacquer. The mixing kettles have a vapor balance system in which the mixing vessels are equalized with the solvent storage tank so that there is no venting of solvent vapors during transfer operations. Similarly the distillation will have a vapor balance system. The largest tank in the modification is an 11,000 gallon storage tank used in the distillation system.

EMISSION CALCULATIONS - NITROCELLULOSE DUST

The amount of nitrocellulose dust lost is estimated at less than 0.1 pounds per drum based on observations made at vendor site and at other BALL POWDER plants. The fibrous nitrocellulose with 30% moisture is dumped directly into a hopper arrangement at the mixing kettle so that minimal losses occur.

$$\text{Loss per year} = (W)\ (DR_D)\ (D_Y)$$

$$= (0.1)\ (545)\ (350) = 19075 \text{ pounds per year}$$

$$= 10 \text{ tons per year}$$

Max loss per hour = $(W)\ (DR_H)$

= (0.1) (25.6)

= 2.6 pounds per hour

Where

W = 0.1 pounds loss of nitrocellulose dust per drum

DR_D = 545 drums dumped per day

D_Y = 350 operating days per year

DR_H = 25.6 drums dumped per hour

EMISSION CALCULATIONS - SOLVENT IN DISPLACED AIR

When nitrocellulose is dumped into the mixing vessels containing solvent, the increase in volume of kettle contents results in the displacement of air containing solvent vapors. These vapors are discharged through the ventilation exhaust. Some of the air entrapped in the nitrocellulose will also displace some of the tank vapors. It was assumed that the displaced air was saturated with solvent although some of the vapors will be absorbed by the falling nitrocellulose.

Loss of solvent per year = $(V_A)\ (C_A)\ (DR_D)\ (D_Y)$

= (2.01) (0.080) (545) (350)

= 30,670 pounds per year

= 15 tons per year

Loss of solvent per hour = $(V_A)\ (C_A)\ (DR_H)$

= (2.01) (0.080) (25.6)

= 4.1 pounds per hour

Where

V_A = 2.01 cu. ft. of displaced air per drum

C_A = 0.080 pounds of solvent per cu. ft. of displaced air

DR_D = 545 drums dumped per day

D_Y = 350 operating days per year

DR_H = 25.6 drums dumped per hour

V_A Calculation

$$V_A = V_{NC} + V_W + V_A$$

$$= 0.80 + 0,54 + 0.67 = 2.01 \text{ cu. ft.}$$

Where

V_{NC} = 0.80 cu. ft. of nitrocellulose per drum - 80 pounds per drum at a density of 100 pounds per cu. ft.

V_W = 0.54 cu. ft. of water per drum - 34 pounds at 62.4 pounds per cu. ft.

V_A = 0.67 cu. ft. of entrapped air assuming it to be 50% of volume of nitrocellulose and water

C_A Calculation

$$C_A = PM/RT$$

$$= \frac{(294)\ (88.1)}{(999)\ (323)}$$

$$= 0.080 \text{ pounds of solvent per cu. ft. of displaced air}$$

Where

T = $323^{o}K$ average temperature - temperature in kettle $60^{o}C$ at start and $40^{o}C$ at end of drum dumping - ave. $50^{o}C$

R = Gas constant =

$$999 \frac{(\text{mmHg})\ (\text{Ft}^3)}{(\text{lb-mole})\ (^{o}K)}$$

P = 294 mmHg average pressure - average of vapor pressure of ethyl acetate of 405 mmHg at $60^{o}C$ and 183 mmHg at $40^{o}C$

M = 88.1 molecular weight of ethyl acetate

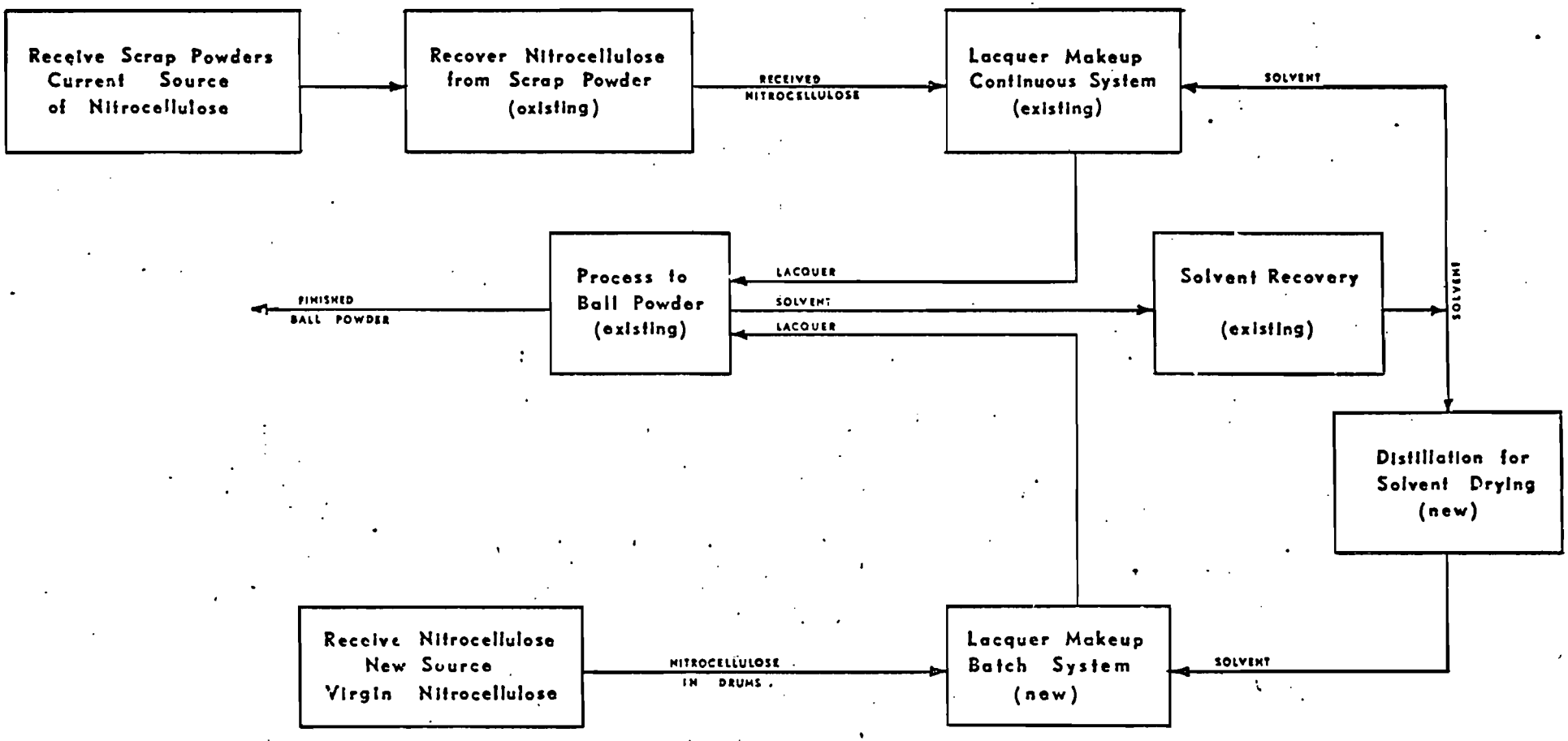


FIGURE 1

MODIFICATION to BALL POWDER PROCESS

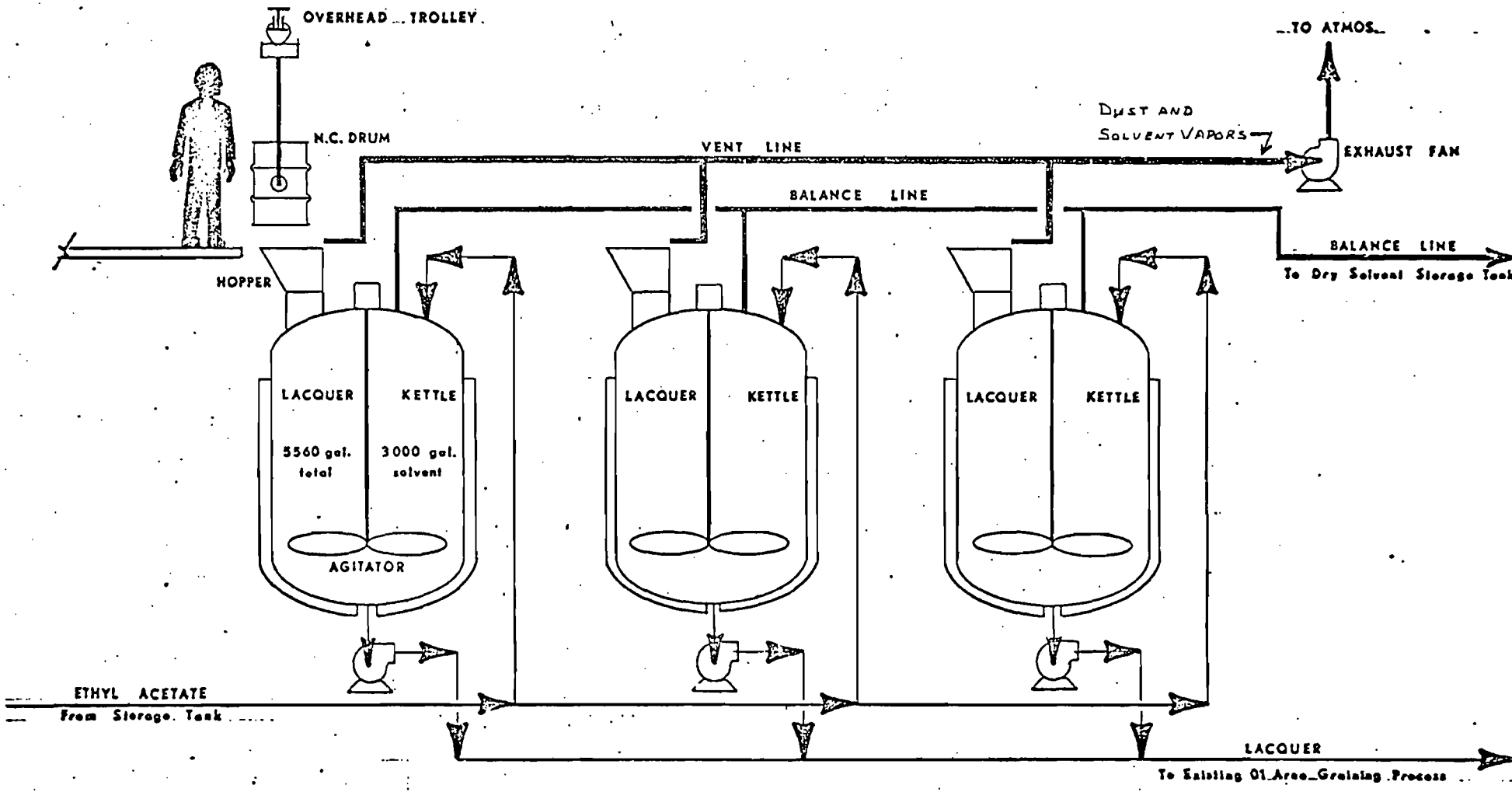


FIGURE 2

LACQUER KETTLE VENTILATION SYSTEM

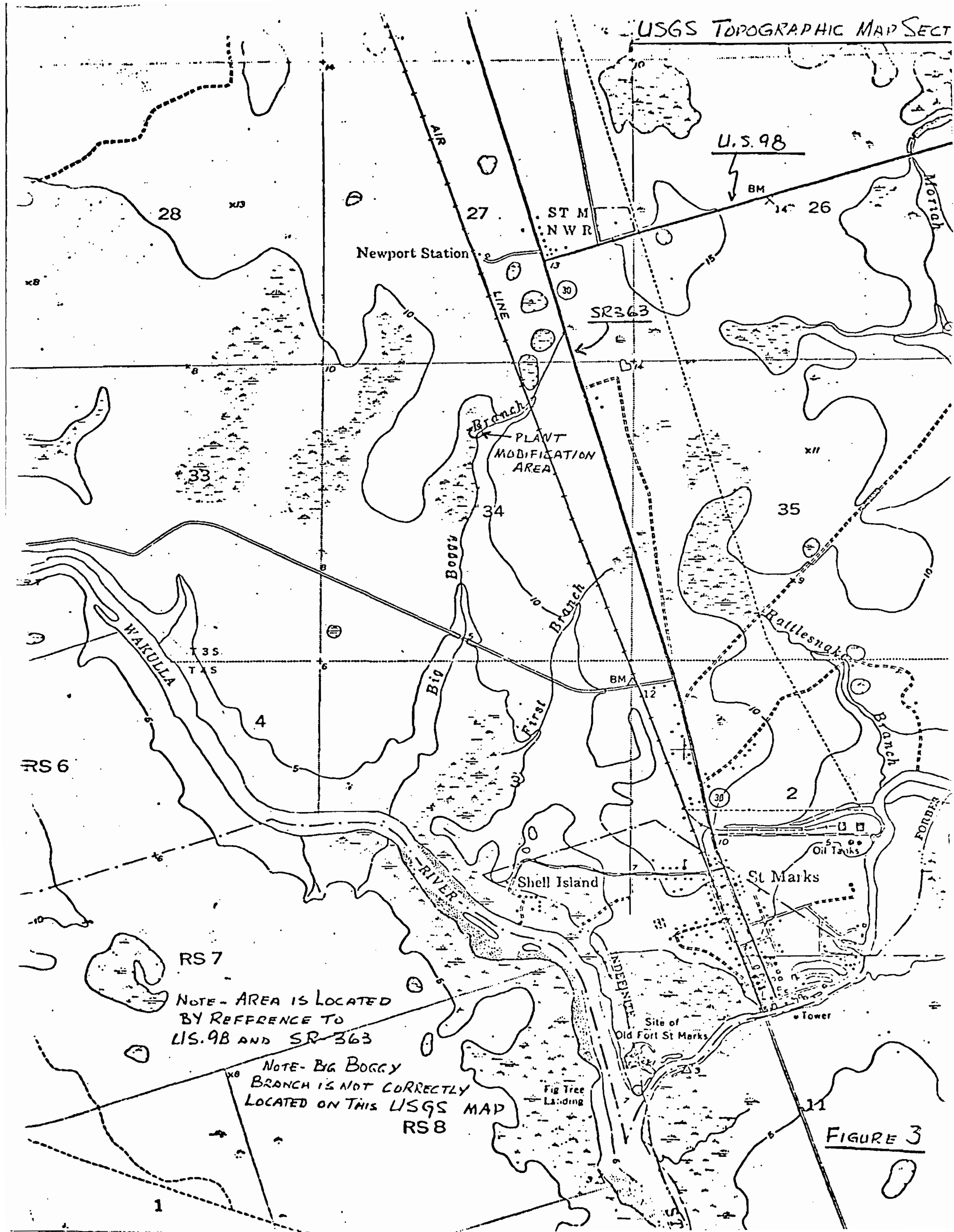

USGS TOPOGRAPHIC MAP SECT
U.S. 98
SR363
PLANT MODIFICATION AREA
NOTE- AREA IS LOCATED BY REFFRENCE TO US.98 AND SR-363
NOTE- BIG BOGGY BRANCH IS NOT CORRECTLY LOCATED ON THIS USGS MAP
Newport Station
ST M NWR
AIR LINE
Big Boggy Branch
First Branch
Rattlesnake Branch
WAKULLA RIVER
Shell Island
St Marks
Oil Tanks
Site of Old Fort St Marks
Fig Tree Landing
Tower
T 3 S
T 4 S
RS 6
RS 7
RS 8
28
27
26
33
34
35
4
2
1
11

FIGURE 3

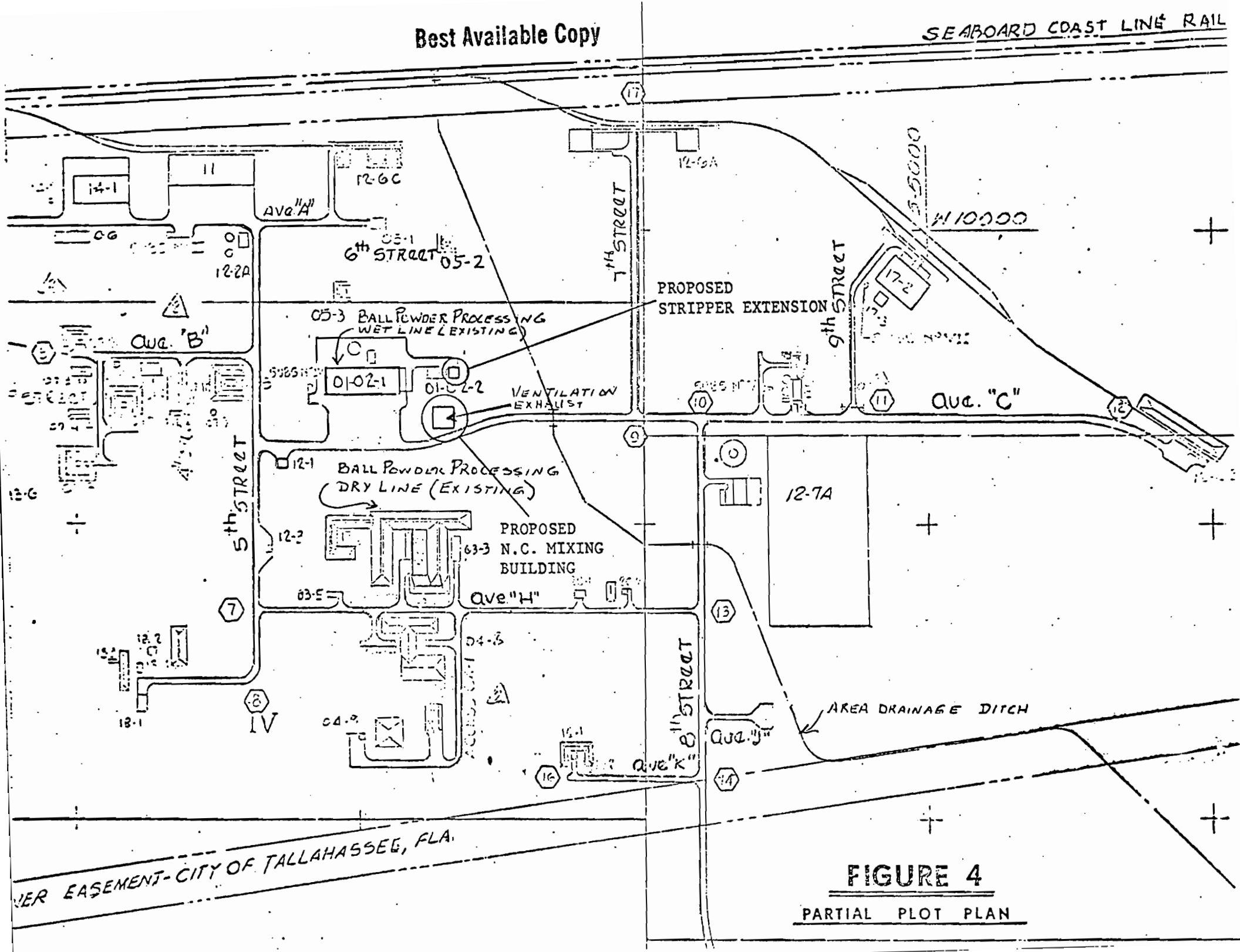
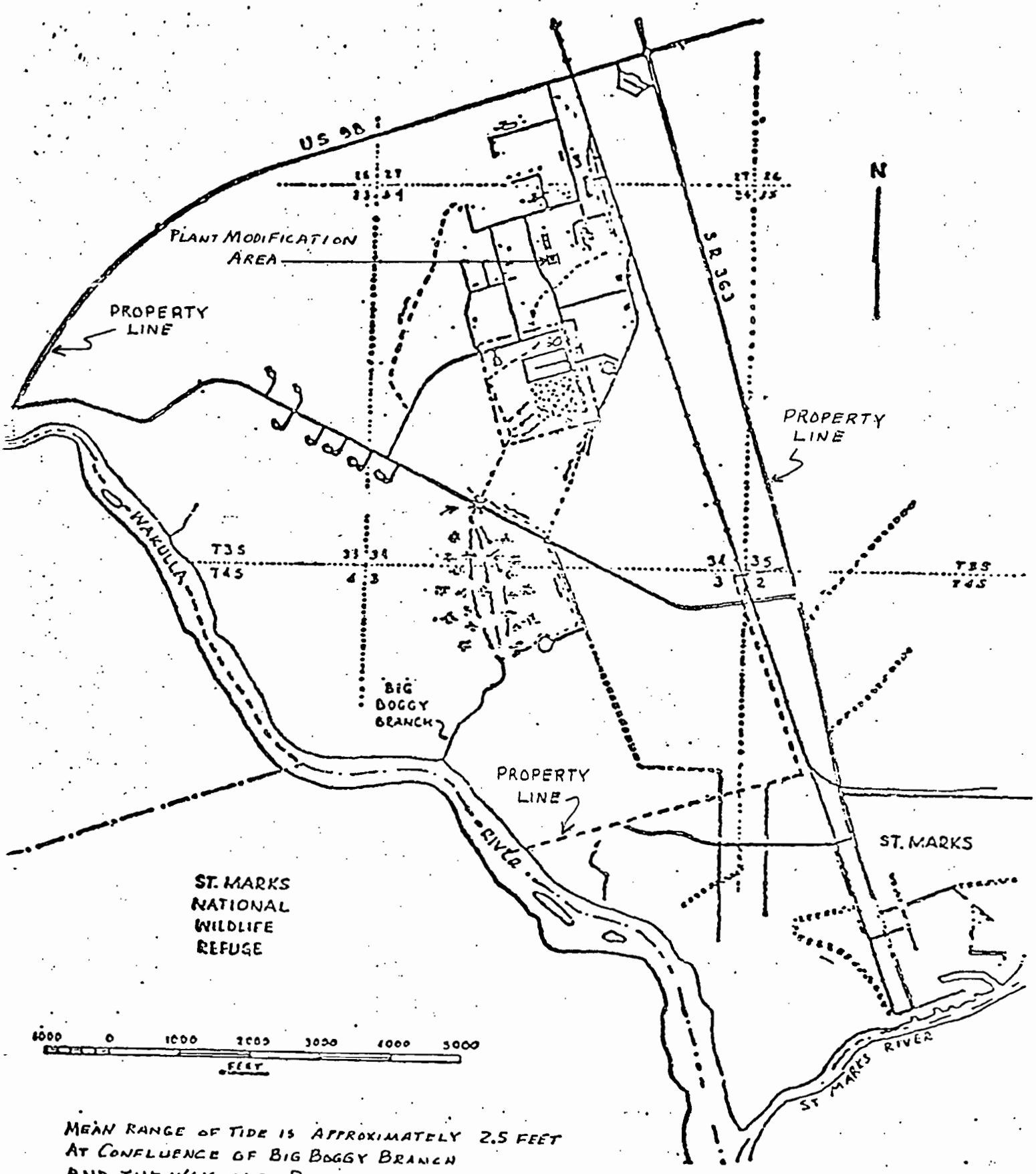


FIGURE 4

PARTIAL PLOT PLAN



MEAN RANGE OF TIDE IS APPROXIMATELY 2.5 FEET AT CONFLUENCE OF BIG BOGGY BRANCH AND THE WAKULLA RIVER.

OLIN SMOKELESS POWDER PLANT
LOCATION MAP
County of Wakulla, State of Florida
Olin Corporation, P. O. Box 222
St. Marks, Florida 32355

FIGURE 5

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

Mixing Ventilation System
Olin Corporation
Wakulla County

OPERATION
PERMIT

NO. A065-41130

DATE OF ISSUANCE

APR 17 1981

DATE OF EXPIRATION

April 1, 1986

Robert V. Kriegel
District Manager

DER FORM PERM 11-40

160 GOVERNMENTAL CENTER
PENSACOLA, FLORIDA 32501

BOB GRAHAM
GOVERNOR

Victoria J. Tschinkel
SECRETARY

ROBERT V. KRIEGEL
DISTRICT MANAGER

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHWEST DISTRICT

Operation

APPLICANT:

APR 17 1981

PERMIT/CERTIFICATION
NO. AO65-41130

Olin Corporation

COUNTY: Wakulla

PROJECT: Mixing Ventilation System

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

Operation of a Mixing Ventilation System - Mixing of Nitrocellulose in Ethyl Acetate.

Particulate emissions are minimized by the fibrous nature and 30% water content of the nitrocellulose. Volatile organic compounds (VOC) emission are minimized with a vapor balance system during solvent transfer. No control of particulates or VOC emissions are in the ventilation system.

Located at: Intersection of U.S. 98 and State Road 363 near St. Marks

Latitude: 30° 10' 26"N

Longitude: 84° 13' 15"W

PERMIT NO.: AO65-41130
APPLICANT: Olin Corporation

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.

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 infringement 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 proscribed 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 penalities 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 specifically authorized by an order from the department 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.

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)
[ ] Determination of Prevention of Significant Deterioration (PSD)
[ ] Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AO65-41130
APPLICANT: Olin Corporation

SPECIFIC CONDITIONS:

14. Visible emissions shall not exceed 20% opacity under normal operating conditions.

15. Visible emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Tests shall be conducted in accordance with EPA Method 9. Such tests shall be conducted in 1986 prior to February to be submitted with the application for renewal of this permit. Annual tests may be required if Department inspections show a need for such tests.

PERMIT NO.: AO65-41130
APPLICANT: Olin Corporation

Expiration Date: April 1, 1986

Issued this 17th day of April, 19 87.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Signature
Robert V. Kriegel
District Manager

Cc: Myers 4-5-82

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHWEST DISTRICT

160 GOVERNMENTAL CENTER
PENSACOLA, FLORIDA 32501

April 1, 1982

Mr. D. E. Findley, Director
Power Operations
Olin Corporation
St. Marks, Florida 32355

Dear Mr. Findley:

In response to your request of March 22, 1982, air operation permit AO65-52785 is amended by this letter.

Annual SO_2 emissions from the two boilers permitted shall not exceed 245 tons. Thus 262 shall be replaced by 245 in the description on the first page of the permit and in Condition 17.

This letter shall be attached to and made a part of permit AO65-52785.

Sincerely,

Robert V. Kriegel
District Manager

RVK/jps

RECEIVED
APR 5 1982
D.E. FINDLEY

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

Two Boilers
Olin Corporation
Wakulla County

OPERATION
PERMIT

NO. A065-52785

DATE OF ISSUANCE

MAR 11 1982

Robert V. Kriegel
District Manager

DATE OF EXPIRATION

April 1, 1986

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHWEST DISTRICT

160 GOVERNMENTAL CENTER
PENSACOLA, FLORIDA 32501

APPLICANT:

Olin Corporation

OPERATION
PERMIT/CERTIFICATION
NO. A065-52785

COUNTY: Wakulla

PROJECT:
Two Boilers

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

Operation of two boilers, manufactured by Cleaver Brooks. Each boiler has a rated capacity of 23,900 pounds of steam per hour at 150 psig. The maximum heat input for each of these boilers shall be 33.45 million BTU per hour. Visible emissions shall be controlled by proper combustion control. Sulfur dioxide emissions are to be controlled by using 2.5% maximum sulfur in the fuel oil. Annual SO_2 emissions are not to exceed ~~262~~ 245 tons per year. These two boilers replace an existing boiler permitted under A065-2010. The existing boiler has been shut down and permit A065-2010 is rescinded by issuance of this permit.

Location: US 98 and State Road 363 in St. Marks

LATITUDE: 30° 10' 45"N
LONGITUDE: 84° 13' 25"W

Now 245

4/5/82
RLm.

PERMIT NO.: A065-52785
APPLICANT: Olin Corporation

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.

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 noncompliance; and b) the period of noncompliance, including exact 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 revocation of this permit.

4. As provided in Section 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested right 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.

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 proscribed 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 specifically authorized by an order from the Department 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 noncompliance of the permitted source until the transferee applies for and receives a transfer of permit.

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 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.

PERMIT NO.: AO65-52785
APPLICANT: Olin Corporation

SPECIFIC CONDITIONS:

13. The maximum allowable heat input for each boiler is 33.45 million BTU per hour. This is the heat input at which compliance with standards shall be demonstrated.

14. The maximum allowable fuel oil sulfur content shall be 2.5%. The visible emissions compliance test shall be observed using the maximum sulfur content fuel.

15. Visible emissions shall not exceed 20% opacity under normal operation except for up to 2 minutes in any one hour at not more than 40% opacity.

16. Visible emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Tests shall be conducted in accordance with EPA method 9. Such tests shall be conducted once per year before the end of December. Results shall be submitted to the Department within 45 days after testing. The Department shall be notified at least 15 days prior to testing to allow witnessing.

17. Maximum SO_2 emissions shall not exceed ~~262~~ 245 tons per year. Compliance with this limit shall be demonstrated by records of accumulative SO_2 emissions plus projections of oil consumption. Oil containing 1% sulfur shall be maintained in readiness and used as necessary to assure compliance with the annual limit. This condition has been proposed by the permittee to ensure non-applicability of Prevention of Significant Deterioration (PSD) review to this proposed modification. Any future requests for increased SO_2 annual emission could be subject to a PSD review which would include this modification.

18. An annual operation report (DER Form 17-1.122(44) attached) shall be submitted by March 1 each year. The attached form shall be reproduced by the permittee and used for future annual submittals.

Expiration Date:

April 1, 1986

Issued this 11th day of March, 1982.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

ROBERT V. KRIEGEL
District Manager

AO65-52779
52785

PAID
$20.00 MEL
FEB 26 1982

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

AIR POLLUTION SOURCES
CERTIFICATE OF COMPLETION OF CONSTRUCTION*

PERMIT NO. AC-65-42779 DATE: February 22, 1982

Company Name: Olin Corporation County: Wakulla

Source Identification(s): Two Cleaver Brooks Boilers

Actual costs of serving pollution control purpose: $ NA

Operating Rates: 20000-30000# Steam/hour with both boilers on stream Design Capacity: 23,900#/Steam/Hour each

Expected Normal 18000-20000# steam/hour * During Compliance Test 21000-24000# steam/Hr. **

Date of Compliance Test: 2/19/82 Visible Emission Tests Attached (Attach detailed test report)

Test Results:	Pollutant	Actual Discharge	Allowed Discharge
Boiler # 1	Opacity	0	20%
Boiler # 2	Opacity	0	20%

Date plant placed in operation: # 1 on stream 10/13/81 and # 2 on stream 2/3/82 ***

This is to certify that, with the exception of deviations noted**, the construction of the project has been completed in accordance with the application to construct and Construction Permit No. AC-65-42779 dated July 9, 1981.

A. Applicant:

David E. Findley — D E Findley
Name of Person Signing (Type) — Signature of Owner or Authorized Representative and Title

Date: 2/22/82 Telephone: (904) 925-6111

B. Professional Engineer:

Alan F. McElfresh — Alan F. McElfresh
Name of Person Signing (Type) — Signature of Professional Engineer

Olin Corporation — Florida Registration No. 12892
Company Name

Date: 2-23-82

(Seal)

P.O. Box 222, St. Marks, Florida 32355
Mailing Address

(904) 925-6111
Telephone Number

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

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

* Boilers will operate with one carrying load. The other will idle and respond to increased demand as needed.

** Main steam line vented during test to achieve high loading.

*** Dates debugging commenced.

DER FORM 17-1.122(20) Page 1 of 1

04

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

ANNUAL OPERATIONS REPORT FORM FOR AIR EMISSIONS SOURCES

For each permitted emission point, please submit a separate report for calendar year 19 8 4 prior to March 1st of the following year.

I GENERAL INFORMATION

1. Source Name: Olin Corporation
2. Permit Number: AO 65 52785
3. Source Address: P. O. Box 222
   St. Marks, Florida 32355
4. Description of Source: Boilers for Steam Generation

II OPERATING SCHEDULE: 24 hrs/day 7 days/wk 50 wks/yr

III RAW MATERIAL INPUT PROCESS WEIGHT:

Raw Material	Input Process Weight	
N/A	N/A	tons/yr
N/A	N/A	tons/yr
N/A	N/A	tons/yr
N/A	N/A	tons/yr
N/A	N/A	tons/yr

IV TOTAL FUEL USAGE, including standby fuels. If fuel is oil, specify type and sulfur content (e.g., No. 6 oil with 1 % S).

N/A 10^6 cubic feet Natural Gas
1,187.8 10^3 gallons #6 Oil, 2.32 %S (Average
N/A 10^3 gallons Propane
7242 [redacted] gallons ~~Kerosene~~ #2 Fuel Oil
N/A tons Coal
N/A 10^6 lb Black Liquid Solids
N/A tons Carbonaceous
N/A tons Refuse

Other (Specify type and units) _____

V EMISSION LEVEL (tons/yr):

A.

N/A Particulates	216.38 Sulfur Dioxide	N/A Total Reduced Sulfur
N/A Nitrogen Oxide	N/A Carbon Monoxide	N/A Fluoride
N/A Hydrocarbon	Other (Specify type and units) N/A	

B. Method of calculating emission rates (e.g., use of fuel and materials balance, emission factors drawn from AP 42, etc.)
% Sulfur x 157 = SO_2/1000 Gals.

VI CERTIFICATION:

I hereby certify that the information given in this report is correct to the best of my knowledge.

D. E. Findley

SIGNATURE OF OWNER OR AUTHORIZED REPRESENTATIVE

D. E. Findley, Director Powder Operations
RFM
TYPED NAME AND TITLE

January 17, 1985
DATE

PS Form 3811, July 1983

SENDER: Complete items 1, 2, 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☐ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:
Mr. D. E. Findley
Olin Corporation
P. O. Box 222
St. Marks, FL 32355

4. Type of Service:	Article Number
☐ Registered ☐ Insured ☒ Certified ☐ COD ☐ Express Mail	P 408 533 621

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X

6. Signature — Agent
X Debbie Frazey

7. Date of Delivery
10-14-85

8. Addressee's Address *(ONLY if requested and fee paid)*

DOMESTIC RETURN RECEIPT

P 408 533 621

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. D. E. Findley	
Street and No.	
P.O., State and ZIP Code	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date 10-9-85	

PS Form 3800, Feb. 1982

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

October 9, 1985

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. D. E. Findley
Director Powder Operations
P.O. Box 222
St. Marks, Florida 32355

Dear Mr. Findley:

The Bureau of Air Quality Management has received your application for a permit to construct a salt coater/dryer alcohol scrubber at Olin Corporation's complex in St. Marks.

Based on our inital review of your proposal, it has been determined that additional information is needed before we can continue processing your application. The information needed is as follows:

1. Is your facility, Olin Corporation, a major emitting facility? Please refer to Rule 17-2.100(98) Florida Administrative Code.

2. Are the potential emissions of any criteria pollutant from any equipment operation and any other chemical or manufacturing process at this facility over 250 tons per year? If so, list each process, raw materials, products and wastes, and each source of air emissions related to each individual process.

3. Give a general description of the process(s) performed at your facility.

4. When listing hydrocarbon emissions (VOC) please indicate chemical composition, generic name and vapor pressure of each compound.

5. Please send a list of the operating permits showing allowable and actual emissions of criteria and non criteria pollutants from each source. Include a material balance showing the quantity of pollutants escaping from the process equipment, the amount removed by the control equipment, and emissions to the atmosphere.

6. The construction permit fee for this source is $100. The department will be sending a refund ($650) as soon as practicable. The permit fee is based on potential emissions (controlled emissions).

7. What type of fuel is going to be used to fire the dryer?

8. Confidential Records
Pursant to Section 403.111, Florida Statutes, the review committee will ensure confidentiality of the information as requested. Please indicate and separate all information you consider to be confidential.

As soon as the above information is received, we will resume processing your application. If you have any questions on this matter, please call Teresa M. Heron at (904) 488-1344, or write to me at the above address.

Sincerely,

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/TH/ps

cc: Charles Nichols
Jack Preece

OLIN WINCHESTER CASHIER ACCOUNT
PH 925-6111
P. O. BOX 222
SAINT MARKS, FL 32355

2918

63-970/631

September 5 19 85

PAY TO THE ORDER OF Florida Department of Environmental Regulation $ 750.00

Seven Hundred Fifty and no/100 ---------------------------- DOLLARS

WAKULLA COUNTY STATE BANK Crawfordville, Florida 32327

FOR

[redacted] [redacted]

HARLAND-2

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Nº 76088

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Olin Corporation Date Sept. 20, 1985

Address P.O. Box 222 St. Marks FL 32355 Dollars $ 750.00

Applicant Name & Address Same as above

Source of Revenue

Revenue Code 001031 Application Number AC 65-109412

By Patricia G. Adams

Olin
St. Marks, Florida 32355
AC 904 925-6111

September 5, 1985

Mr. Clair Fancy
State of Florida
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blairstone Road
Tallahassee, Florida 32301

Re: Application for a construction permit to install an air scrubber on a new Salt Coater exhaust system.

Dear Mr. Fancy:

Surface coatings consisting of various salts are added to "BALL POWDER" to enhance ballistic characteristics and to control muzzle flash. Our requirement for these surface coated powders has increased to the point that additional facilities are required. A new coating drum will be installed where BALL POWDER will be continuously coated by addition of the salts in an isopropyl alcohol slurry. A hot air stream will then be scrubbed. The attached application for a construction permit covers that air scrubber system.

Attached are:

- Four (4) copies of the application and supplemental information.
- A check for $750.00 as stipulated in Rule 17-4.05 to cover the application fee.

Please advise if any additional information is required to process the application.

Sincerely,

D. E. Findley, Director
Powder Operations

DEF/RLM/rlb
RLM
Attachment

AC 65-109462

DER

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

SEP 9 1985

BAQM

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: SALT COATER/AIR SCRUBBER [X] New[1] [ ] Existing[1]

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

COMPANY NAME: OLIN CORPORATION COUNTY: WAKULLA

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) Dryer Alcohol Scrubber with Exhaust Blower

SOURCE LOCATION: Street Interstate U.S. 98 & S.R. 363 City St. Marks

UTM: East 768230 North 3341750

Latitude 30° 10' 41"N Longitude 84° 13' 19"W

APPLICANT NAME AND TITLE: D.E. FINDLEY, DIRECTOR POWDER OPERATIONS

APPLICANT ADDRESS: P.O. Box 222, St. Marks, Florida 32355

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of OLIN CORPORATION

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

*Attach letter of authorization

Signed: D E Findley

D.E. FINDLEY DIRECTOR, POWDER OPERATIONS
Name and Title (Please Type)

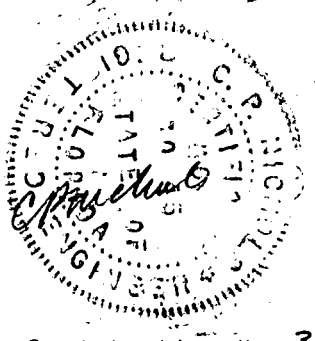
Date: 9-6-85 Telephone No. (904) 925-6111

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

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

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

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



Signed Charles Nichols

Charles Nichols
Name (Please Type)

Lockwood Greene Engineers, Inc.
Company Name (Please Type)

1330 West Peachtree Street, Atlanta, Ga. 30367
Mailing Address (Please Type)

Florida Registration No. 30845 Date: Sept. 4, 1985 Telephone No. 404/873-3261

SECTION II: GENERAL PROJECT INFORMATION

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

SEE ATTACHED SUPPLEMENTARY INFORMATION

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

Start of Construction Dec. 1, 1985 Completion of Construction June 30, 1986

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

Alcohol Scrubber (468-039)	$20,000	Electrical	$ 15,000
Air Blower (468-040)	$11,000	Structural/Foundation	20,000
Piping	$ 6,000	Instruments/Parts	18,000
Engineering	$15,000	TOTAL	$105,000

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

NONE

E. Requested permitted equipment operating time: hrs/day 24; days/wk 7; wks/yr 50;

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

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

1. Is this source in a non-attainment area for a particular pollutant? NO

   a. If yes, has "offset" been applied? ---

   b. If yes, has "Lowest Achievable Emission Rate" been applied? ---

   c. If yes, list non-attainment pollutants. ---

2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. NO

3. Does the State "Prevention of Significant Deterioriation" (PSD) requirement apply to this source? If yes, see Sections VI and VII. NO

4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? NO

5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? NO

H. Do "Reasonably Available Control Technology" (RACT) requirements apply to this source? NO

   a. If yes, for what pollutants? _____

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

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

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

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

Description	Contaminants Type	% Wt Max	% Wt Min	Utilization Rate - lbs/hr Max	Utilization Rate - lbs/hr Min	Relate to Flow Diagram
Powder	Particulate	95	95.4	2,280	700	Line 17 Dwg. D-23.1-9-1
Graphite	Particulate	0.7	0.3	17	2	Line 19 Dwg. D-23.1-9-1
Coating Slurry	Solids in Solution	1.3	1.4	31	10	Line 13,14,15 or 16
	Solvent	3.0	2.9	73	22	Depends on desired product. D-23.1-9-1

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

1. Total Process Input Rate (lbs/hr): 2401 Max/734 Min

2. Product Weight (lbs/hr): 2336 High Density/711 Low Density

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

Name of Contaminant	Emission[1] Maximum lbs/hr	Emission[1] Actual T/yr	Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission lbs/hr	Potential[4] Emission T/yr	Relate to Flow Diagram
Isopropanol Vapor	12.9	18.0	N/A	- - -	64.7	90.0	D-23.1-9-1
Graphite	1.71	2.25	*	**	3.42	4.5	D-23.1-9-1
Powder	0.57	0.75	*	**	1.14	1.5	D-23.1-9-1

* Rule 17.2610

** 4.02 lb/hr Total Particulate

[1]See Section V, Item 2.

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

[3]Calculated from operating rate and applicable standard.

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

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Alcohol Wet Scrubber	Alcohol Vapor	80%		*
Alcohol Wet Scrubber	Powder/ Graphite	50%	> 1 micron	*
* Vendor calculations for scrubber efficiency and scrubber drawings will be available when vendor proposal is received.				

E. Fuels

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

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

Fuel Analysis:

Percent Sulfur: N/A Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

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

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

Annual Average _____ Maximum _____

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

80% of the isopropyl alcohol will be absorbed by the scrubber water and routed to the waste treatment plant. Anticipated flow from the scrubber is 30 GPM.

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

See Dwg. D-23.1-5-4

Stack Height: 15 Ft. above blower discharge Stack Diameter: 10 in. N/

Gas Flow Rate: 1900 ACFM 1900 DSCFM Gas Exit Temperature: AMB °F.

Water Vapor Content: Saturated % Velocity: 57.8 FPS

SECTION IV: INCINERATOR INFORMATION
(NOT APPLICABLE)

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

Description of Waste _____

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

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

Manufacturer _____

Date Constructed _____ Model No. _____

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

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

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

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

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

[ ] Other (specify) _____

Brief description of operating characteristics of control devices: _____

_____

_____

_____

_____

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

_____

_____

_____

_____

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

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

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

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

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

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

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

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

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

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

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

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

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

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

[ ] Yes [X] No

Contaminant	Rate or Concentration
N/A	

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

[ ] Yes [ ] No

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration

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

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

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height: ft.

b. Diameter: ft.

c. Flow Rate: ACFM

d. Temperature: °F.

e. Velocity: FPS

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

1.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

2.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

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

j. Applicability to manufacturing processes:

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

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

F. Describe the control technology selected:

1. Control Device:

2. Efficiency:[1]

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:[2]

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

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

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

b. (1) Company:

(2) Mailing Address:

(3) City: (4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

10. Reason for selection and description of systems:

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

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data N/A

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

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

Other data recorded _____

Attach all data or statistical summaries to this application.

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

2. Instrumentation, Field and Laboratory

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

b. Was instrumentation calibrated in accordance with Department procedures?

[ ] Yes [ ] No [ ] Unknown

B. Meteorological Data Used for Air Quality Modeling

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

2. Surface data obtained from (location)_____

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

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

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

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

D. Applicants Maximum Allowable Emission Data

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

E. Emission Data Used in Modeling

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

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

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

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

LOCKWOOD GREENE
Planners/Engineers/Architects/Managers
Atlanta, Georgia

JOB NO. 84336.02
SHEET NO. 13 OF 21
DATE 8-27-85
JOB NAME OLIN CORPORATION
COMPUTED BY EAS
SUBJECT DER APPLICATION
CHECKED BY LEC

SECTION II: A

REFERENCE: DWG. D-23.1-9-1 SHEETS 2 AND 3, FLOW DIAGRAM

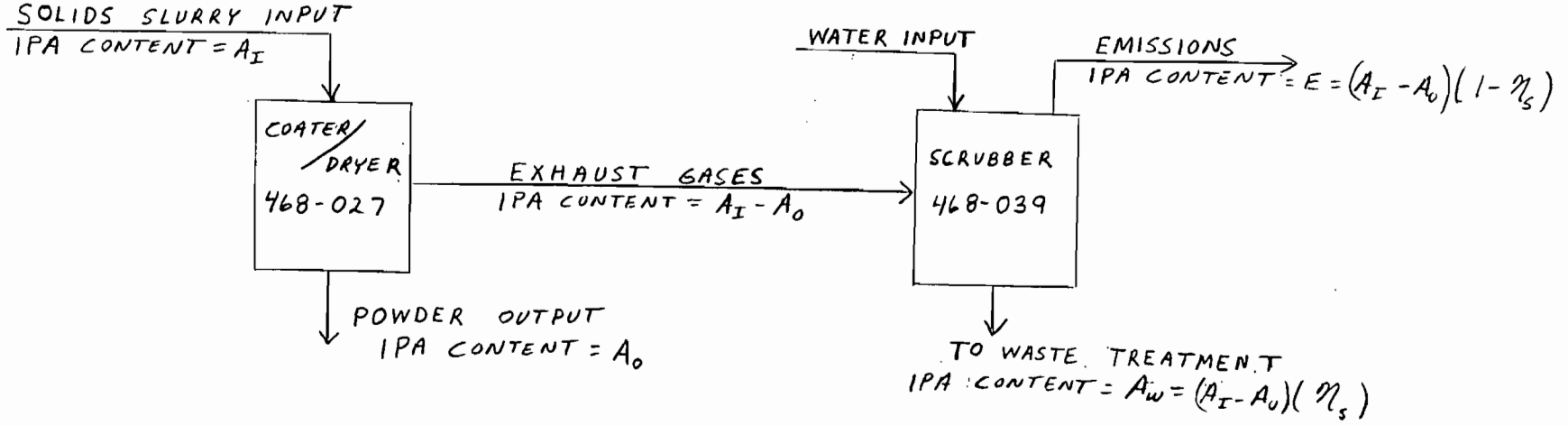
THE OBJECTIVE OF THIS PROJECT IS TO INSTALL A CONTINUOUS SALT COATING AND GLAZING FACILITY TO COAT LOW DENSITY POWDERS AND HIGH DENSITY POWDER.

THE OPERATION TAKES PLACE IN A SINGLE ROTATING DRUM IN THREE STEPS; COATING, DRYING AND GRAPHITE POLISHING. DURING THE DRYING STEP ISOPROPYL ALCOHOL (IPA) IS EVAPORATED BY PASSING HOT AIR THRU THE DRUM.

THE AIR FLOWS FROM THE DRUM TO THE ISOPROPYL ALCOHOL WET SCRUBBER WERE 80% OF THE IPA IS RECAPTURED. ALL WASH WATER FROM THE SCRUBBER WILL BE CONTAINED AND HANDLED VIA SUMP AND PUMP. WASHDOWN AND SCRUBBER WASH WATER FROM THE AREA WILL BE TRANSFERED TO THE WASTE TREATMENT PLANT FOR FURTHER TREATMENT. SCRUBBED DRYER AIR WILL BE ROUTED TO ATMOSPHERE THROUGH AN EXHAUST BLOWER. IN ADDITION TO IPA THE SCRUBBED AIR IS EXPECTED TO CONTAIN TRACE AMOUNTS OF SOLID GRAPHITE AND POWDER.

Isopropyl Alcohol Material Balance

Schematic Diagram



Nomenclature

IPA - Isopropyl Alcohol

A - Alcohol Content (lbs IPA)

η_s - Scrubber Efficiency

E - Emissions - lbs IPA

Subscripts

I - Input

O - Output

W - IPA to Waste Treatment

FIG 1

With Emissions Calculations

Section III : C

SECTION III : C

EMISSIONS CALCULATIONS FOR ISOPROPYL ALCOHOL VAPORS

IT HAS BEEN ESTIMATED THAT 0.2% ISOPROPYL ALCOHOL LEAVES WITH THE PRODUCT, THE REMAINDER OF THE ALCOHOL IS EVAPORATED AND PROCEEDS TO THE WET SCRUBBER SYSTEM. THE EFFICIENCY OF THE WET SCRUBBER TO ABSORB THE ALCOHOL VAPORS IS ESTIMATED TO BE 80%. 6×10^6 LBS/YR OF POWDER IS EXPECTED TO BE COATED. THE SOLID SLURRY INPUT TO DRYER WILL CONTAIN 3.2 LB IPA/100 LBS POWDER.

REFER TO FIG 1

$$A_I = (6 \times 10^6 \text{ LB POWDER/YR})\left(\frac{3.2 \text{ LB IPA}}{100 \text{ LBS POWDER}}\right) = 192{,}000 \text{ LB/YR IPA}$$

THE POWDER LEAVING THE DRYER WILL CONTAIN 0.2% IPA

$$A_o = (6 \times 10^6 \text{ LB/YR})(.002 \text{ IPA/LB}) = 12{,}000 \text{ LB/YR IPA WITH PRODUCT}$$

IPA IN EXHAUST GASES TO SCRUBBER

$$A_I - A_o = 192{,}000 - 12{,}000 = 180{,}000 \text{ LB/YR}$$
$$= 90 \text{ T/YR}$$

IPA EMITTED TO ATMOSPHERE

$$E = (A_I - A_o)(1 - \eta_s) = (180{,}000 \text{ LB/YR})(1 - .80)$$
$$= 36{,}000 \text{ LB/YR}$$
$$= 18 \text{ T/YR}$$

IPA TO WASTE TREATMENT

$$A_W = (180{,}000 \text{ LB/YR})(.80) = 144{,}000 \text{ LB/YR}$$

LOCKWOOD GREENE
Planners/Engineers/Architects/Managers
Atlanta, Georgia

JOB NO. 84336.02
SHEET NO. 16 OF 21
DATE 8-27-85
JOB NAME OLIN CORPORATION
COMPUTED BY EAS
SUBJECT DER APPLICATION
CHECKED BY LEC

THE MAXIMUM POTENTIAL EMISSIONS TO THE ATMOSPHERE OCCURS DURING THE PRODUCTION OF HIGH DENSITY POWDER, DESIGN CONDITION II IN WET SCRUBBER SPECIFICATION GIVEN WITH SECTION III: D INFORMATION. THE FLOW IS 64.7 LB/HR. WITH 80% REMOVAL OF IPA BY THE SCRUBBER THE MAX ACTUAL EMISSIONS IS 12.9 LB/HR.

SECTION III : C

EMISSIONS CALCULATIONS FOR SOLIDS

SOLIDS TO THE ALCOHOL SCRUBBER ARE FINES COMPOSED OF SMOKELESS POWDER PROPELLANT ® AND GRAPHITE DUST. PRODUCTION TIME IN THE COATER / DRYER / GLAZING DRUM IS SPLIT ACCORDING TO THE FOLLOWING TABLE.

	LOW DENSITY PRODUCT	HIGH DENSITY PRODUCT
QUANTITY PRODUCED	4,800,000 LB/YR	1,200,000 LB/YR
PRODUCTION RATE	700 LB/HR	2,280 LB/HR
PRODUCTION TIME	286 DAY/YR	22 DAY/YR

IT HAS BEEN ESTIMATED THAT A 2000 LB/HR CHARGE OF POWDER TO THE COATER/DRYER/GLAZING DRUM WILL RESULT IN 3 LB/HR (0.15%) GRAPHITE AND 1 LB/HR (0.05%) POWDER CARRIED TO THE ALCOHOL SCRUBBER IN THE EXHAUST GASES. PAST PLANT EXPERIENCE WITH SIMILAR SCRUBBERS AND SOLID FINES HAS SHOWN THAT APPROXIMATELY 50% OF FINES WILL BE KNOCKED OUT OF THE EXHAUST GASES. THE FINES KNOCKED OUT BY THE SCRUBBER WATER WILL BE SENT TO THE WASTE TREATMENT PLANT FOR FURTHER PROCESSING, THE REMAINDER OF THE FINES WILL LEAVE THE SCRUBBER AS EMISSIONS TO THE ATMOSPHERE.

TO DETERMINE THE POTENTIAL EMISSIONS AND ACTUAL EMISSIONS THE ANNUAL QUANTITY PRODUCED IS USED.

E_P = POTENTIAL EMISSION = (QUANTITY PRODUCED) X (% CARRY OVER)

E_A = ACTUAL EMISSIONS = (E_P)(SCRUBBER EFFICIENCY)

FOR GRAPHITE

$$E_P = \frac{(6 \times 10^6 \text{ LB/YR})(.0015)}{(2000 \text{ LB/TON})} = 4.5 \text{ T/YR}$$

$$E_A = (4.5 \text{ T/YR})(0.5) = 2.25 \text{ T/YR}$$

FOR POWDER

$$E_P = \frac{(6 \times 10^6 \text{ LB/YR})(0.0005)}{(2000 \text{ LB/TON})} = 1.5 \text{ T/YR}$$

$$E_A = (1.5)(0.5) = 0.75 \text{ T/YR}$$

TO DETERMINE THE MAXIMUM POTENTIAL EMISSIONS AND MAXIMUM ACTUAL EMISSIONS THE PRODUCTION RATE FOR THE HIGH DENSITY PRODUCT IS USED

E_{Pm} = MAX. POTENTIAL EMISSIONS = (PRODUCTION RATE) X (% CARRY OVER)

E_{Am} = MAX ACTUAL EMISSIONS = (E_{Pm})(SCRUBBER EFFICIENCY)

FOR GRAPHITE

$$E_{Pm} = (2{,}280 \text{ LB/HR})(.0015) = 3.42 \text{ LB/HR}$$

$$E_{Am} = (3.42)(0.50) = 1.71 \text{ LB/HR}$$

LOCKWOOD GREENE
Planners/Engineers/Architects/Managers
Atlanta, Georgia

JOB NO. 84336.02
SHEET NO. 19
DATE 8-27-85
JOB NAME OLIN CORPORATION
COMPUTED BY EAS
SUBJECT DER APPLICATION
CHECKED BY LEC
SECTION III: C

FOR POWDER

$E_{pm} = (2,280\ LB/HR)(.0005) = 1.14\ LB/HR$

$E_{AM} = (1.14\ LB/HR)(0.50) = 0.57\ LB/HR$

SCRUBBER DESIGN DETAILS

1.0 GENERAL REQUIREMENTS

1.1 The vendor shall furnish one packed type scrubber with Venturi section and flooded elbow or one baffle/toroidal vortex scrubber with wetted mist eliminator section per this specification and the General Terms and Conditions of the Standard Contract.

1.2 The unit will water scrub a dryer exhaust air stream to remove 80% by weight of the inlet isopropyl alcohol (IPA) and remove Smokeless Powder Propellant ® fines and powdered graphite to an efficiency specified in Section 3.0.

1.3 Water disposal, utility supply, and external piping will be by others.

1.4 Equipment Tag Number: 468-039.

1.5 Number Required: One.

2.0 SERVICE CONDITIONS

2.1 Service Criteria:

	Condition I Minimum	Condition II Design
Inlet Gas Stream		
Gas Flow Rate:	415 acfm	1350 acfm
Gas Temperature (Normal):	116°F	116°F
Gas Temperature (Maximum):	158°F	158°F
Gas Pressure (Gage):	-2" WC	-2" WC
Dry Air:	1643.5 #/hr	5347.4 #/hr
Water Vapor:	30.8 #/hr	100.1 #/hr
IPA Vapor:	19.9 #/hr	64.7 #/hr
Solids (Fines)**:	0.1% wt (Max.)	0.1% wt (Max.)
MW of Gas:	28.701 #/# mole	28.701 #/# mole
Density of Gas:	0.068#/ft^3	0.068 #/ft^3

Exit Gas Stream: (Based on Design Condition II and Inlet Temp. Normal)

Gas Flow Rate:	* acfm
Gas Temperature:	* °F
Gas Pressure:	*" WC
Dry Air:	5347 #/hr
Water Vapor:	Approach saturation
IPA Vapor:	80% of weight removal efficiency
Solids (Fines)**:	Removal as spec'd in Sec. 3.0

**Solids (fines) are Smokeless Powder Propellant® and graphite dust

SCRUBBER DESIGN DETAILS

Scrubber Fluid: (Once through)

Fluid:	Water
Temperature:	80°F
Pressure:	50 psig (available)
Flowrate:	* gpm **

*Vendor to specify.
**If Venturi and packed bed are specified, vendor shall quote water flowrate for each.

2.2 The dryer exhaust gas is primarily outside air. No water is evaporated with the IPA in the dryer. Ambient air design basis is:

95°F dry bulb
80°F wet bulb

2.3 Scrubber Pressure Drops

	Acceptable	Design
Venturi (if specified)	10" WC	*" WC
Column	4" WC	*" WC

*Vendor to specify.

3.0 DESIGN

3.1 The alcohol scrubber shall consist of a fixed throat Venturi, attached by a flooded elbow, to a packed tower design or a baffle/toroidal vortex with a wetted wire mesh section design. Either shall have a final mist eliminator section to remove 90% of 1.0 micron diameter water droplets from the exit gas.

Column Design:

- Operating Temperature: 50°C (122°F)
- Operating Pressure: -15" WC
- Design Temperature: 100°C (212°F).
- Design Pressure: +14 psig/-30" WC

3.2 The minimum solids (fines) removal efficiency is:

Aerodynamic Particle Diameter, microns (SG - 1.0)	% Removal Efficiency
4	92
2	66
1	41

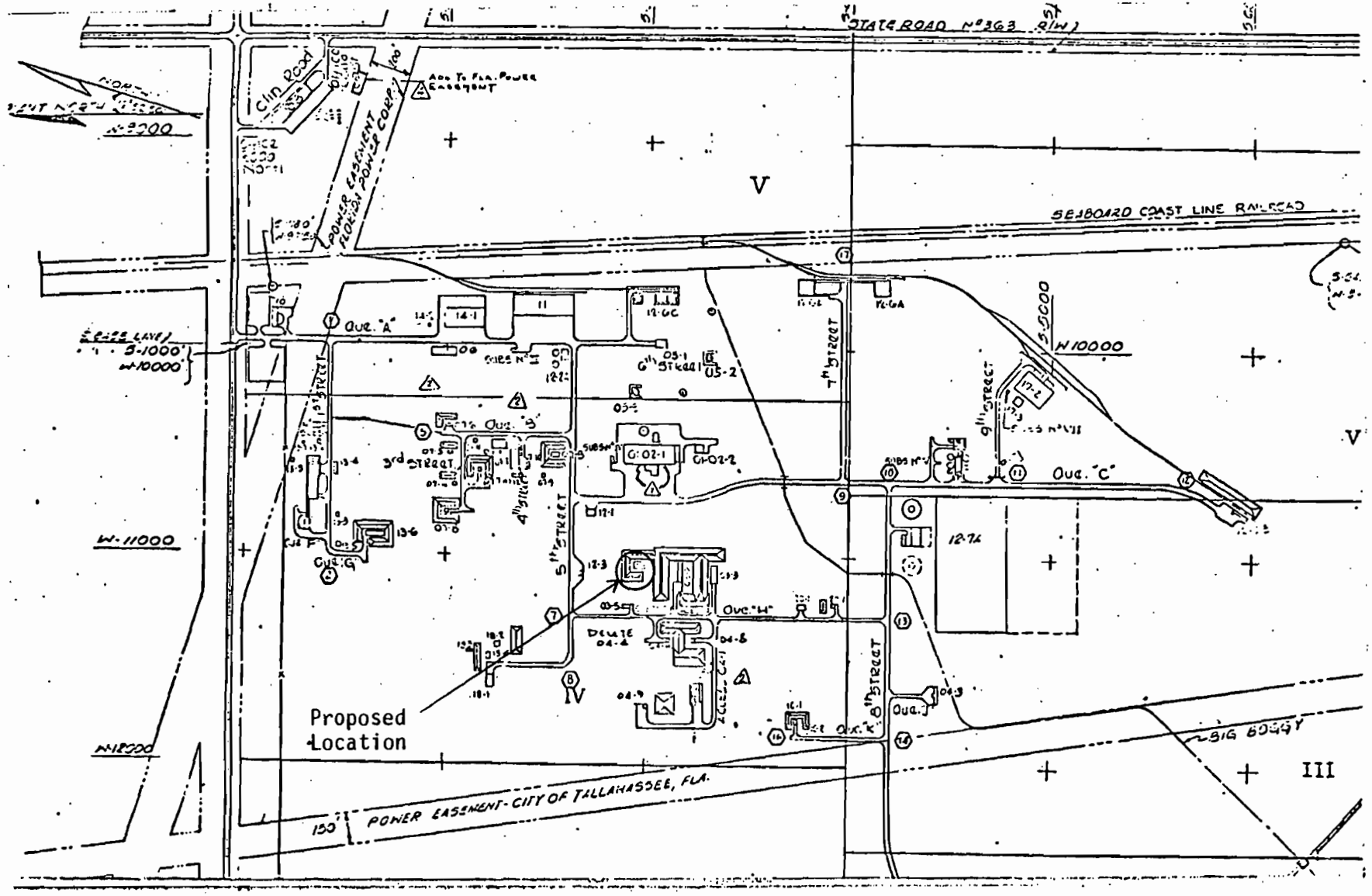
CAPITAL APPROPRIATION REQUEST - WGSM 5.037

PROJECT: North Dryer Continuous Salt Coater

OPERATING DIVISION: WW/ESO

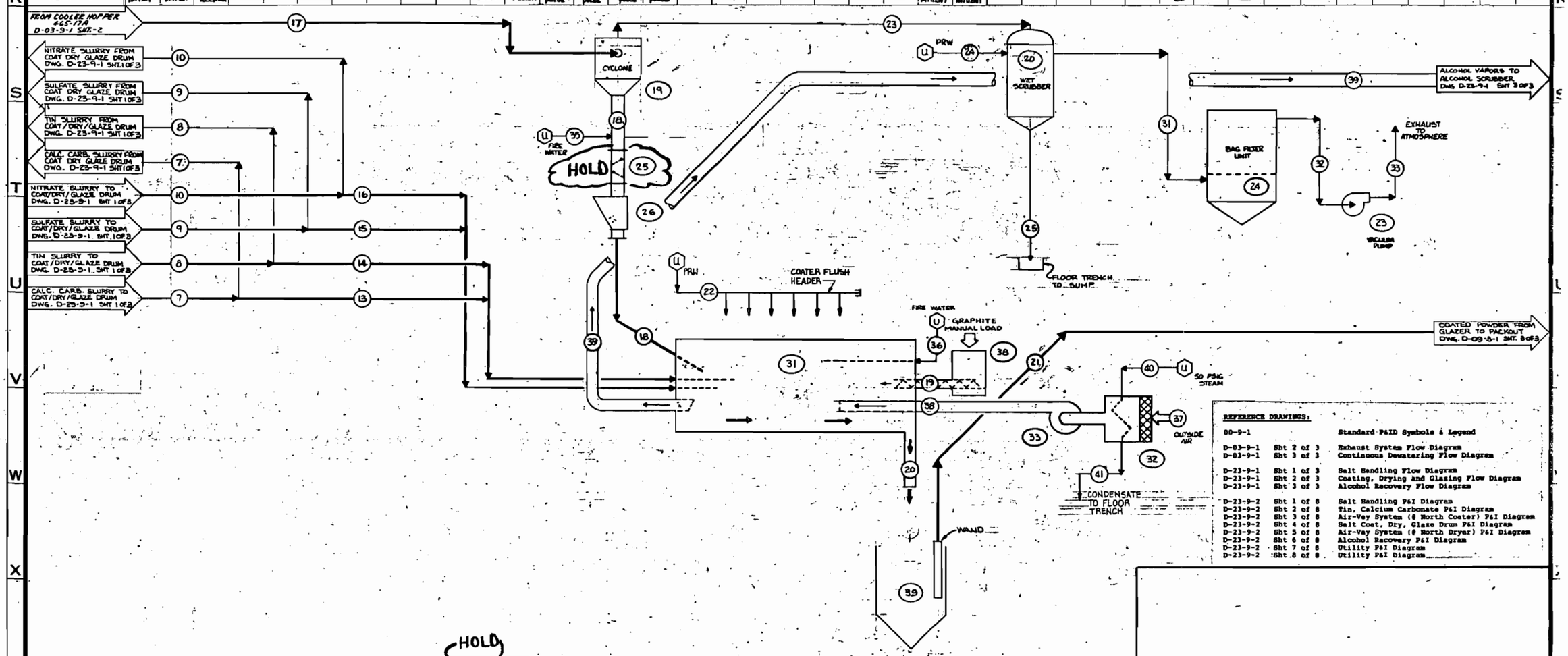
PLOT PLAN

LOCATION: ST. MARKS



DRAWING NO. D-23-1-9-1 SHT 2 OF 3

LINE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
MATERIAL	SULFATE SLURRY	NITRATE SLURRY	NITRATE SLURRY	SULFATE SLURRY	TIN SLURRY	CARBONATE SLURRY	CARBONATE SLURRY	TIN SLURRY	SULFATE SLURRY	NITRATE SLURRY	IPA	PROCESS WATER	CARBONATE SLURRY	TIN SLURRY	SULFATE SLURRY	NITRATE SLURRY	UNCOATED POWDER	UNCOATED POWDER	GRAPHITE	COATED POWDER	COATED POWDER	PROCESS WATER	EXHAUST AIR	PROCESS WATER	SLUDGE					EXHAUST AIR	EXHAUST MIX	EXHAUST AIR		FIRE WATER	FIRE WATER	OUTSIDE AIR	HOT AIR	DRYER EXIT AIR	STEAM	COND
LBS./HR. (SOLIDS)	6440	6110	2990	3083	1922	3083	3083	1922	3083	2290	—	—	VARIES	20.5	VARIES	31.2	2,280	2,280	17	2,280	2,280	—	TRACE	—	TRACE					TRACE	TRACE	TRACE		0	0	—	—	TRACE	0	0
GPM/CFM	25	25	20	20	20	20	20	20	20	20	15.0	15-20	10-1.5	10-1.5	10-1.5	10-1.5	255	—	—	—	255	1-5.0	255	30	90					255	255	255				920	1142	1350	185#/HR	185#/HR
TEMP. °C	49	49	45	45	AMB.	AMB.	AMB.	AMB.	45	45	AMB.	AMB.	AMB.	AMB.	45	45	55	55	AMB.	50	50	AMB.	50	AMB.	50					50	50			AMB.	AMB.	0	70	44	148	148
P.S.I.G.	50	50	2	2	2	2	25	25	25	25	85	50	5	5	5	5	—	GRAVITY	ATM	ATM	—	50	—	50	GRAVITY					—	—	—				ATM	-1" W.C.	-1" W.C.	50	50
SPEC. GRAVITY	1.17	1.11	0.98	1.01	0.96	1.01	1.01	0.96	1.01	0.98	0.789	1.0	1.01	0.96	1.01	0.98	~1.55	~1.55	—	~1.55	~1.55	1.0	—	1.0	~1.0					—	—	—		1.0	1.0	—	—	—	—	—
VISC. CPS	—	—	10-15	10-15	10-15	10-15	10-15	10-15	10-15	10-15	—	—	10-15	10-15	10-15	10-15	—	—	—	—	—	—	—	—	—					—	—	—		—	—	—	—	—	—	—
% SOLIDS (WT.)	44	44	30.5	30.5	20	30.5	30.5	20	30.5	30.5	0	0	30.5	20	30.5	30.5	0.15 LBS/CFM	~99%	100	~99%	0 LBS/CFM	—	—	0	TRACE					—	—	—		—	—	—	—	<2%	—	—
LBS./BATCH	910	910	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—					—	—	—		—	—	—	—	—	—	—
REMARKS	BATCH	BATCH	RECIRC.								FLUSH	FLUSH	TIMED PULSE	TIMED PULSE	TIMED PULSE	TIMED PULSE	—	—	—	—	—	—	—	INTER-MITTENT	INTER-MITTENT					—	—	—		—	—	—	—	—	—	—



REFERENCE DRAWINGS:

00-9-1		Standard P&ID Symbols & Legend
D-03-9-1	Sht 2 of 3	Exhaust System Flow Diagram
D-03-9-1	Sht 3 of 3	Continuous Dewatering Flow Diagram
D-23-9-1	Sht 1 of 3	Salt Handling Flow Diagram
D-23-9-1	Sht 2 of 3	Coating, Drying and Glazing Flow Diagram
D-23-9-1	Sht 3 of 3	Alcohol Recovery Flow Diagram
D-23-9-2	Sht 1 of 8	Salt Handling P&I Diagram
D-23-9-2	Sht 2 of 8	Tin, Calcium Carbonate P&I Diagram
D-23-9-2	Sht 3 of 8	Air-Vey System (@ North Coater) P&I Diagram
D-23-9-2	Sht 4 of 8	Salt Coat, Dry, Glaze Drum P&I Diagram
D-23-9-2	Sht 5 of 8	Air-Vay System (@ North Dryer) P&I Diagram
D-23-9-2	Sht 6 of 8	Alcohol Recovery P&I Diagram
D-23-9-2	Sht 7 of 8	Utility P&I Diagram
D-23-9-2	Sht 8 of 8	Utility P&I Diagram

EQUIP. NO.	468-015	468-016			468-019	468-020	468-021	468-022					468-027	468-028	468-029			
DESCRIPTION	CYCLONE	WET SCRUBBER			VACUUM PUMP	BAG FILTER UNIT	TIPPING VALVE	MASS FLOW METER					COAT/DRY/GLAZE/DRUM	HOT AIR COIL	HOT AIR BLOWER			
REMARKS	304L SS CONSTRUCTION W/ RUPTURE DISC & SPROUT ASSEM. (FURNISHED W/ ITEM 468-019)	304 SS CONSTRUCTION (FURNISHED W/ ITEM 468-019)			NON-SPARKING, MILD STEEL CASING WITH ALUMINUM IMPELLER EXPLOSION-PROOF MOTOR	304 SS CONSTRUCTION CYLINDRICAL UNIT; VERTICAL BAGS W/SHAKER (FURNISHED W/ ITEM 468-019)	NON-SPARKING CONSTRUCTION EXPLOSION PROOF MOTOR						5'-0" ϕ x 16'-0" LG 304 SS CONSTRUCTION SHELL TK = 3/16" MINIMUM 15 HR 1800 RPM DRIVE MOTOR & REDUCER.	AEROFIN SERIES 12, TYPE A NON-FREEZE COIL. 1" O.D. COPPER TUBES ALUMINUM FINS. DESIGN PRESS. 200 PSIG DESIGN TEMP. 400°F	NON-SPARKING CONSTRUCTION 1750 RPM EXPLOSION PROOF MOTOR.			
	19	20			23	24	25	26					31	32	33			

Olin — ENERGY SYSTEMS OPERATION, SMOKELESS POWDER OPERATION

PROJECT: CONTINUOUS COATER (EDI-142B) AREA: 23 NORTH COATER

TITLE: COATING/DRYING/GLAZING FLOW DIAGRAM

REVISIONS NO.	DATE	DESCRIPTION	BY
A	4/14/85	PRELIMINARY	LEC
B		CLIENT REVIEW	

SCALE: NONE

DRAWN BY: A. KAFCAS 1-28-85 (DATE)

CHECKED: (DATE)

ENG. SUPT. APPROVAL (DATE)

MAINT. SUPT. (DATE)

ORIG. DEPT. APPROVAL (SIGNATURE) (DATE)

SAFETY DEPT. APPROVAL (SIGNATURE) (DATE)

DRAWING NO.: D-23.1-9-1 REV. B

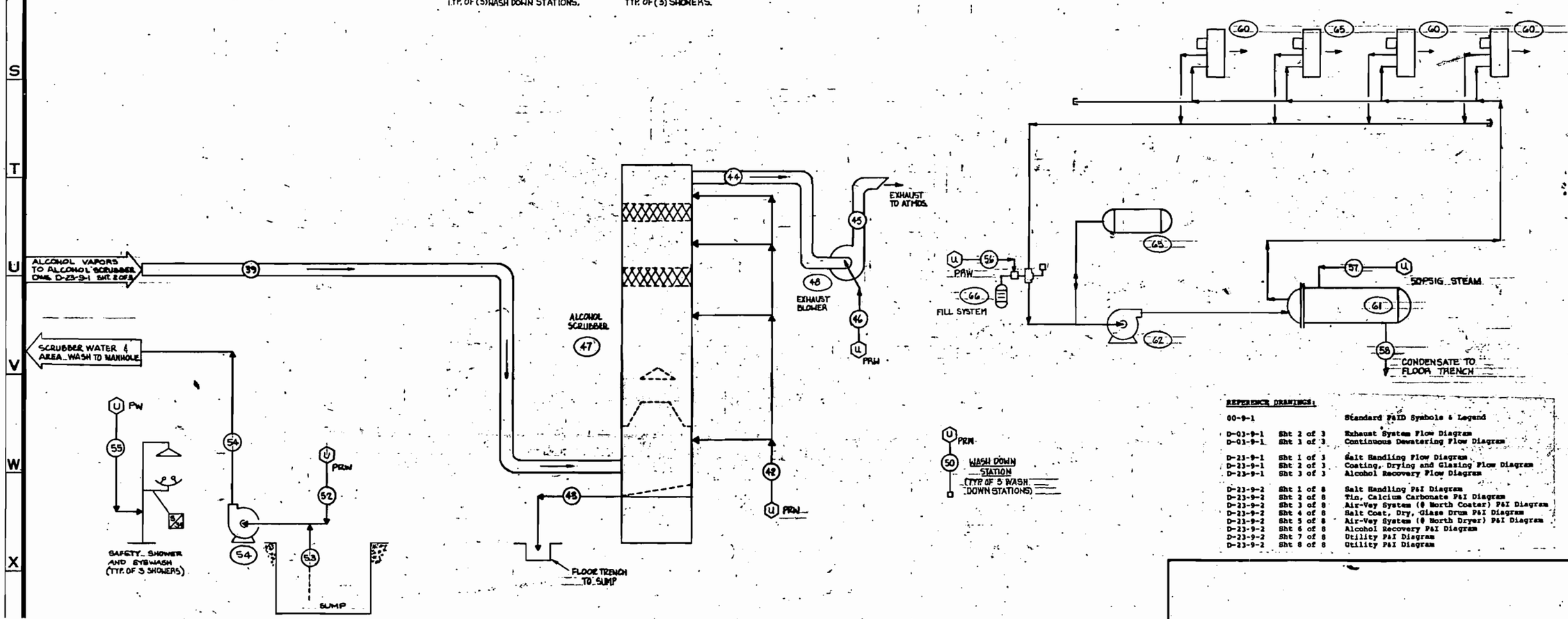
SHEET 2 OF 3

OLIN CORPORATION

LINE NO.	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
MATERIAL	PROCESS WATER	SCRUBBER WATER	SCRUBBED GAS	SCRUBBED GAS	SPRAY WATER				PROCESS WATER		PROCESS WATER	RW	RW	POTABLE WATER	PROCESS WATER	STEAM	COND.
LBS./HR.(SOLIDS)	—	TRACE	TRACE	TRACE	—				—		—	TRACE	TRACE	—	—	0	0
GPM/CFM	15-30	15-30	1305	1230	0.5-1.0				~20		~30	250	250			150#/HR	150#/HR
TEMP. °C	AMB	AMB	~27	~27	AMB				AMB		AMB	21	21	AMB	AMB	148	148
P.S.I.G.	50	ATM	-4"W.C.	+2"W.C.	50				50		50	~2	20		50	50	50
SPEC. GRAVITY	1.0	1.0	—	—	1.0				1.0		1.0	~1	~1	1.0	1.0	—	—
VISC. CPS	—	—	—	—	—				—		—	—	—	—	—	—	—
% SOLIDS (WT.)	—	<1	—	—	—				—		—	<1	<1	—	—	—	—
LBS./BATCH	—	—	—	—	—				—		—	—	—	—	—	—	—
REMARKS	—	—	80% BY WEIGHT ALCHOL REMOVAL		—				INTER-MITTENT		FLUSH	INTER-MITTENT	INTER-MITTENT	INTER-MITTENT	INTER-MITTENT	—	—

NOTE: TYP. OF (3) WASH DOWN STATIONS.

NOTE: TYP. OF (3) SHOWERS.



REFERENCE DRAWINGS:

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D-23-9-1	Sht 3 of 3	Alcohol Recovery Flow Diagram
D-23-9-2	Sht 1 of 8	Salt Handling P&I Diagram
D-23-9-2	Sht 2 of 8	Tin, Calcium Carbonate P&I Diagram
D-23-9-2	Sht 3 of 8	Air-Vey System (@ North Coater) P&I Diagram
D-23-9-2	Sht 4 of 8	Salt Coat, Dry, Glaze Drum P&I Diagram
D-23-9-2	Sht 5 of 8	Air-Vey System (@ North Dryer) P&I Diagram
D-23-9-2	Sht 6 of 8	Alcohol Recovery P&I Diagram
D-23-9-2	Sht 7 of 8	Utility P&I Diagram
D-23-9-2	Sht 8 of 8	Utility P&I Diagram

EQUIP. NO.	46B-034	46B-035	46B-039	46B-040	46B-050	46B-051A,B,C	46B-052	46B-053	46B-054	46B-056	46B-057
DESCRIPTION	GRAPHITE FEEDER	GLAZER HOPPER	ALCOHOL SCRUBBER	EXHAUST BLOWER	SUMP PUMP	UNIT HEATERS	HOT WATER CONVERTER	CIRCULATING PUMP	EXPANSION TANK	UNIT HEATER	FILL SYSTEM
REMARKS	TYPE 316 SS CONSTRUCTION 7.5 Ft³ HOPPER W/MECHANICAL BIN VIBRATOR VARIABLE SPEED D.C. DRIVE MOTOR. W/LID COVER.	TYPE 304LSS CONSTRUCTION 45° CONE BOT. 30"OD x 20"SS - OPEN TOP (3) STRUCTURAL STEEL LEGS.	304 SS CONSTRUCTION	NON-SPARKING CONSTRUCTION 1750 RPM EXPLOSION PROOF MOTOR	GORMAN RUPP MODEL T3A3B						
	38	39	47	48		60	61	62	63	65	66

Olin — ENERGY SYSTEMS OPERATION
SMOKELESS POWDER OPERATION

PROJECT: CONTINUOUS COATER (EDI 1428) AREA: 23 NORTH COATER

TITLE: ALCOHOL RECOVERY FLOW DIAGRAM

NO.	DATE	REVISIONS DESCRIPTION	BY
A	4/15/85	PRELIMINARY	GC
B		CLIENT REVIEW	

SCALE: NONE

DRAWN BY: (DATE)

CHECKED: (DATE)

ENG. SUPT. APPROVAL (DATE)

MAINT. SUPT.

ORIG. DEPT. APPROVAL (SIGNATURE) (DATE)

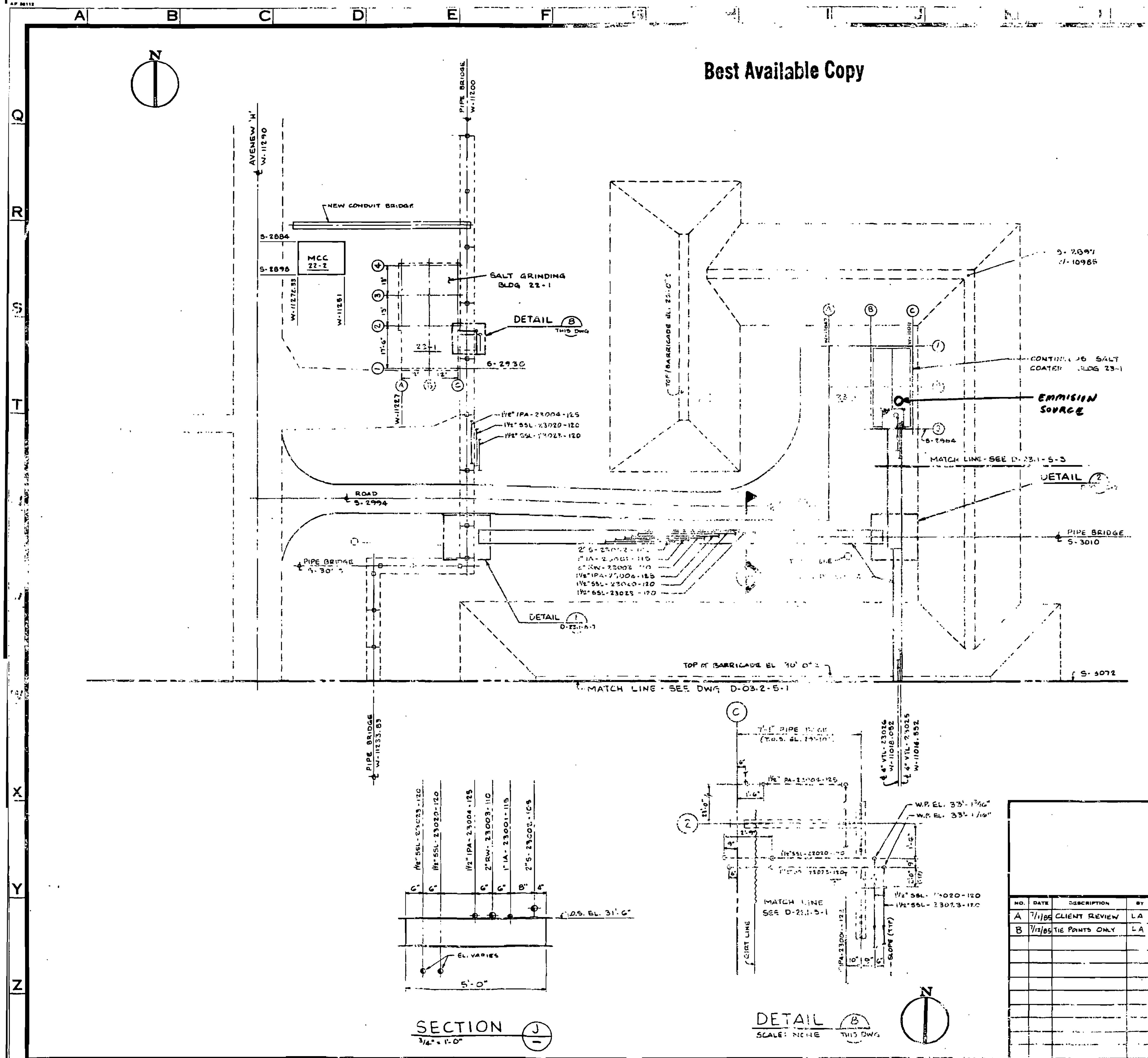
SAFETY DEPT. APPROVAL (SIGNATURE) (DATE)

DRAWING NO.: D-23.1-9-1 REV. B

SHEET 3 OF 3

OLIN CORPORATION

Best Available Copy



[illegible] STOP [illegible]
[illegible] SCHEDULE [illegible]

2. [illegible] HORIZONTAL RUNS OF POWDER TRANSFER LINES [illegible] WITH A 1/16" THK. ALUMINUM HEAT SHIELD. SHIELD [illegible] BE NOMINALLY [illegible] LONG AND WILL OVERLAP THE [illegible] SECTION APPROX. 6". EACH OVERLAPPED SECTION [illegible] TOGETHER AND THE SHIELD WILL BE C-CLAMPED [illegible] STRUCTURAL STEEL MEMBERS AT EACH ONE IT CROSSES.

[illegible] TO FIELD VERIFY DIMENSIONS AND ELEVATIONS [illegible] TO PREFABRICATING ANY PIPE AND TO ALLOW FOR ANY [illegible] AND FIELD ADJUSTMENTS.

4. [illegible] TO INSTALL A SCR'D UNION APPROX EVERY [illegible] IN [illegible] 23004-125 ON PIPE BRIDGE.

5. [illegible] 23020-120 AND 1½" SSL-23023-120 ARE TO BE CONNECTED [illegible] WELD FLANGES APPROX EVERY 20'-0" ON PIPE BRIDGE.

[illegible] EQUIPMENT.

ABBREVIATIONS:

[illegible]

REFERENCE DRAWINGS:

D-[illegible] 03-9-1 SHT. 2 & 3 OF 3 - PROCESS FLOW DIAGRAM
D-23.[illegible]-1 SHT. 1 THRU 3 [illegible] PROCESS [illegible]
D-23.1 [illegible] 2. SHT. 1 THRU 8 OF 8 [illegible]
D-[illegible] 1 THRU 4 — NORTH COATER EQUIPMENT LAYOUTS
D-2[illegible]-2 THRU 9 — NORTH COATER PIPING DRAWINGS
D-[illegible] 1 ——— NORTH DRYER PIPING [illegible] PLAN

NO.	DATE	DESCRIPTION	BY	SAFETY DEPT.	ORIG. DEPT.	MAINT. DEPT.	ENG. SUPT.
A	7/1/85	CLIENT REVIEW	LA				
B	7/12/85	TIE POINTS ONLY	LA				

Olin — POWDER OPERATIONS, WINCHESTER GROUP

PROJECT: CONTINUOUS COATER (EDI-1428) AREA: 23.1 NORTH COATER

TITLE: PIPING SITE PLAN : NORTH COATER AREA

SCALE: 1" = 20'

DRAWN BY: L. ARGO DATE: [illegible] 85

CHECKED:

ENG. SUPT. APPROVAL:

MAINT. SUPT.

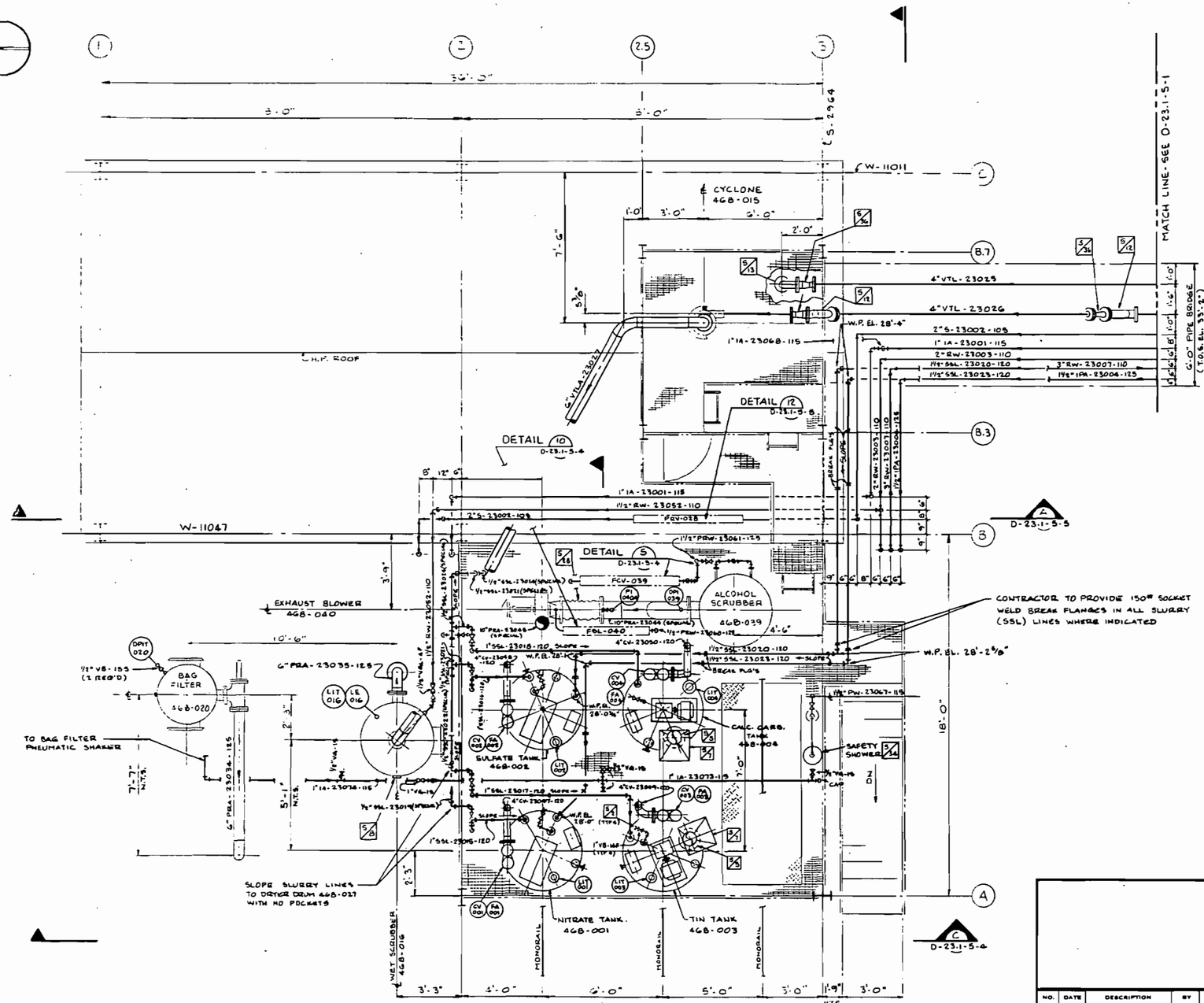
ORIG. DEPT. APPROVAL

SAFETY DEPT. APPROVAL

DRAWING NO.: D-23[illegible]

NOTES:

SEE DWG D-23.1-5-1 FOR GENERAL NOTES, PIPE SPECIFICATIONS AND REFERENCE DRAWINGS.



PLAN ABOVE EL. 21'-0"

NO.	DATE	DESCRIPTION	BY	SAFETY DEPT.	ORIG. DEPT.	MAINT. DEPT.	ENG. SUPT.

Olin — POWDER OPERATIONS WINCHESTER GROUP

PROJECT: CONTINUOUS COATER (EDI-1428) — AREA: 23.1 NORTH COATER

TITLE: NORTH COATER - PIPING - PLAN ABOVE EL. 21'-0"

SCALE: 3/8" = 1'-0"

DRAWN BY: L. ARGO 7/31/85 (DATE)

CHECKED: (DATE)

ENG. SUPT. APPROVAL (DATE)

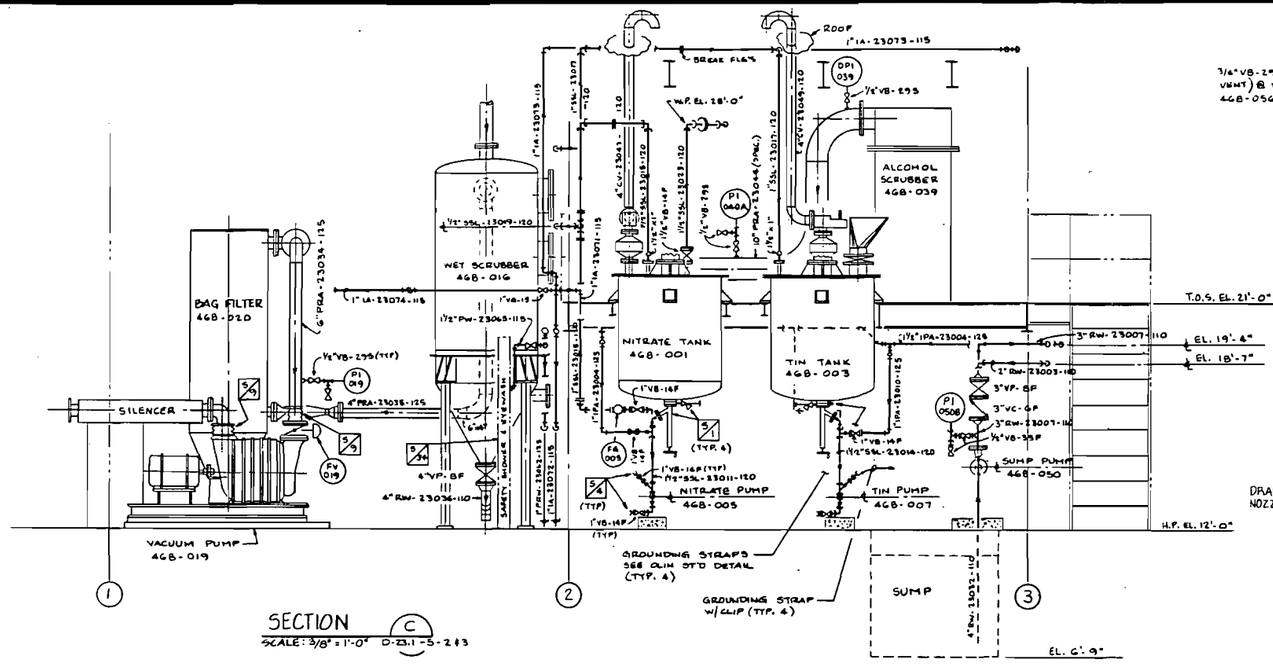
MAINT. SUPT. (DATE)

ORIG. DEPT. APPROVAL (SIGNATURE) (DATE)

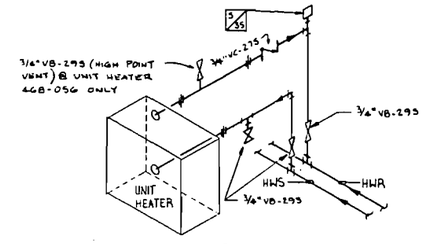
SAFETY DEPT. APPROVAL (SIGNATURE) (DATE)

DRAWING NO.: D-23.1-5-3 REV.

SHEET OF

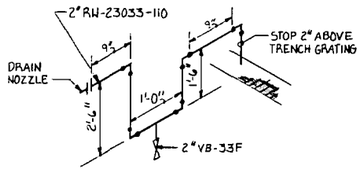


SECTION C
SCALE: 3/8" = 1'-0" D-23.1-5-2 & 3



UNIT HEATER TYP. HOOK-UP

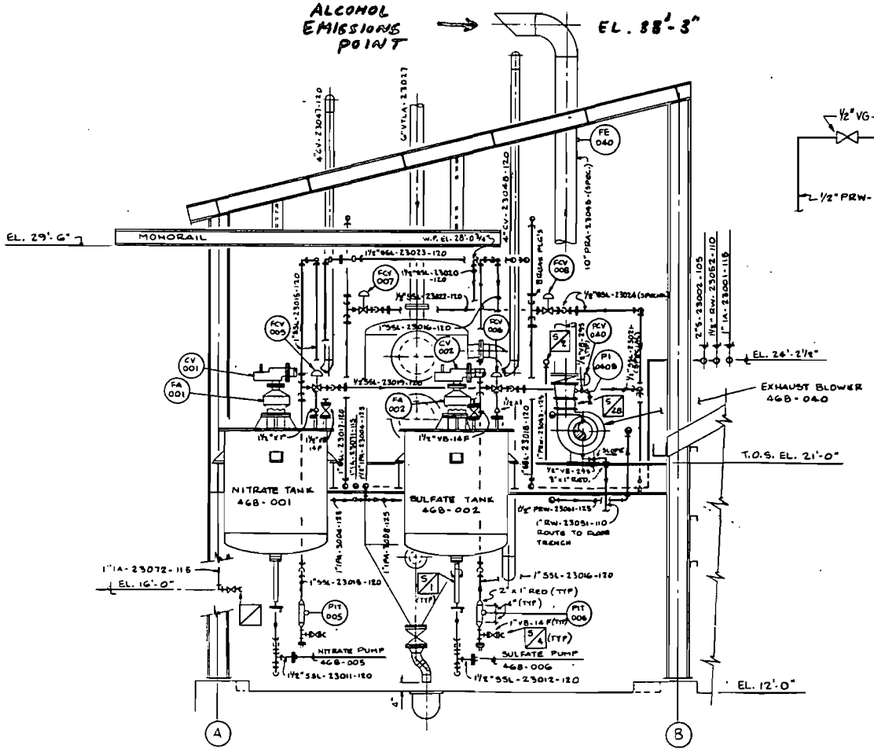
DETAIL 13 (N.T.S.) D-23.1-5-2



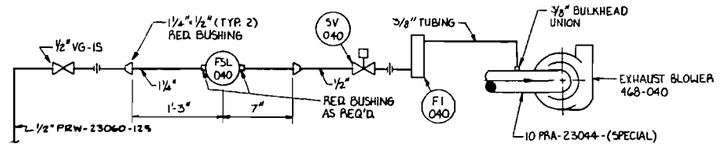
DETAIL 11 (N.T.S.) D-23.1-5-2

NOTES:

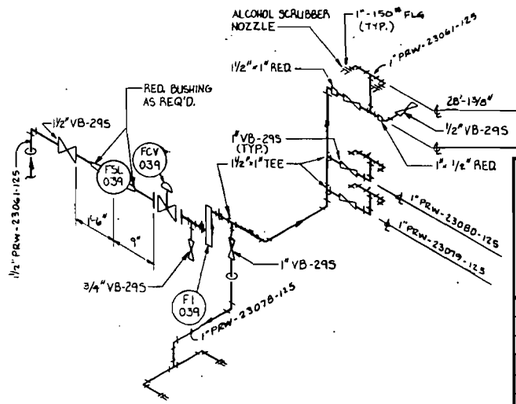
SEE DWG D-23.1-5-1 FOR GENERAL NOTES, PIPE SPECIFICATIONS AND REFERENCE DRAWINGS.



SECTION D
3/8" = 1'-0" D-23.1-5-2 & 3



DETAIL 10 (N.T.S.) D-23.1-5-3



DETAIL 5 (N.T.S.) D-23.1-5-2 & D-28.1-5-3

NO.	DATE	DESCRIPTION	BY	SAFETY DEPT.	ORIG. DEPT.	MAINT. DEPT.	ENG. SUPT.

Olin — POWDER OPERATIONS WINCHESTER GROUP

PROJECT: CONTINUOUS COATER (EDI-1428) AREA: 23.1 NORTH COATER

TITLE: NORTH COATER - PIPING - MISC. SECTIONS & DETAILS

SCALE: NOTED

DRAWN BY: L. ARGO 7/19/89 (DATE)

CHECKED: (DATE)

ENG. SUPT. APPROVAL (DATE)

MAINT. SUPT. (DATE)

ORIG. DEPT. APPROVAL (SIGNATURE) (DATE)

SAFETY DEPT. APPROVAL (SIGNATURE) (DATE)

DRAWING NO.: D-23.1-5-4 REV.

SHEET OF