P 408 531 157

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. Henry Hirschman	
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 2/6/87	

PS Form 3800, Feb. 1982

2 4

PS Form 3811, July 1983 447-845

DOMESTIC RETURN RECEIPT

● **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. Henry Hirschman
Georgia-Pacific Corp.
P. O. Box 919
Palatka, FL 32078-0919

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

Article Number: P 408 531 157

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X Georgia Pacific

6. Signature – Agent
X L J Brown

7. Date of Delivery 2/19/87

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

TOP AC

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

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

Mr. Henry Hirschman
General Manager
Georgia-Pacific Corporation
Post Office Box 919
Palatka, Florida 32078-0919

February 4, 1987

Enclosed is Permit Number AC 54-108945 to Georgia-Pacific Corporation which authorizes the installation of a scrubber system on the existing tall oil plant reactor to control TRS emissions at the applicant's facility in Palatka, Putnam County, Florida. This permit is issued pursuant to Section 403, Florida Statutes.

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 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date 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:

Faustino Prado, P.E.
Bill Stewart
Bob Wilson

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT and all copies were mailed before the close of business on Feb. 6, 1987 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. 6, 1987 — Date

Final Determination

Georgia-Pacific Corporation
Putnam County
Palatka, Florida

Permit Number:

AC 54-108945

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

January 30, 1987

Final Determination
Georgia-Pacific Corporation
Putnam County

The construction application and attachments have been reviewed by the department. Public notice of the department's intent to issue was published in The Palatka Daily News on January 8, 1987. The technical evaluation and preliminary determination were available for public inspection at the DER's Northeast District office and Bureau of Air Quality Management office.

There were no comments received on the proposed action. Therefore, it is recommended that the proposed construction permit be issued as drafted.

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:
Georgia-Pacific Corporation
P. O. Box 919
Palatka, Florida 32078-0919

Permit Number: AC 54-108945
Expiration Date: June 30, 1987
County: Putnam
Latitude/Longitude: 29° 41' 00"N
81° 40' 45"W
Project: Tall Oil Plant with Associated Scrubber System

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, 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/installation of a scrubber system on the existing tall oil plant reactor to control TRS emissions at the permittee's existing facility. The UTM coordinates are Zone 17, 434.0 km East and 3283.4 km North.

The standard industrial classification codes are: Major Group 28: Chemicals and Allied Products; Group No. 286: Industrial Organic Chemicals; and, Industry No. 2861: Gum and Wood Chemicals.

The project shall be as reflected in the permit application, plans, documents, drawings, and amendments, except as otherwise noted in the Specific Conditions.

Attachments:

1. Application to Construct/Modify Air Pollution Sources, DER Form 17-1.202(1), received on August 25, 1985, by the FDER's Northeast District office.
2. Mr. John Brown's letter dated September 13, 1985.
3. Application to Construct/Modify Air Pollution Sources, DER Form 17-1.202(1), received on February 17, 1986, by the FDER's BAQM.
4. Mr. W. P. Stewart's letter dated February 25, 1986.
5. Mr. C. H. Fancy's letter dated August 13, 1986.
6. Revised Application to Construct/Modify Air Pollution Sources, DER Form 17-1.202(1) with Mr. W. R. Wilson's cover letter dated October 17, 1986, and received October 20, 1986, by the FDER's BAQM.

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.
( ) Determination of Lowest Achievable Emission Rate (LAER)

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. Annual hours of operation are 8760.

2. Crude oil production shall not exceed 1.246 tons per hour and 10,920 tons per year.

3. Maximum TRS emissions shall not exceed 0.05 lb/ton crude oil produced (0.06 lb/hr, 0.27 TPY).

4. The permittee shall satisfy requirements pursuant to FAC Rule 17-2.600(4)(c)2.b., which requires compliance with FAC Rule 17-2.710 (Continuous Emissions Monitoring) and FAC Rule 17-2.960(1) (Compliance Schedules).

SPECIFIC CONDITIONS:

5. The source is subject to the provisions of FAC Rule 17-2.240, Circumvention.

6. Objectionable odors shall not be allowed off plant property in accordance with FAC Rule 17-2.620(2).

7. In accordance with FAC Rule 17-2.700 Table I, EPA Method 16, or other method approved by the department, shall be used to conduct a compliance test to verify the TRS emissions being discharged from the scrubber system.

8. An annual operating report (AOR) shall be submitted to the FDER's Northeast District office by March 31 of each calendar year accounting for the previous year's operation. The AOR shall contain the annual emissions of TRS and the annual amount of crude oil produced.

9. 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 of the construction permit and submit a new schedule and request for an extension of the construction permit. (FAC Rule 17-4.09)

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 test results and Certificate of Completion, to the Department's Northeast 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. (FAC Rules 17-4.22 and 17-4.23)

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. (FAC Rule 17-4.10)

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-108945
Expiration Date: June 30, 1987

SPECIFIC CONDITIONS:

Issued this 2 day of Feb, 1987

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION

Howard L Rhodes

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

____ pages attached.

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE
To: Clair Fancy LOCTN: BAQM
To: _____ LOCTN: _____
To: _____ LOCTN: _____
FROM: _____ DATE: _____

FEB 2 1987

DIRECTOR - PROGRAMS

TO: Howard Rhodes

FROM: Clair Fancy

DATE: January 30, 1987

SUBJ: Approval of Air Construction Permit

Attached for your approval and signature is one air construction permit to Georgia-Pacific Corporation to install a scrubber system on the existing tall oil plant reactor to control TRS at the applicant's facility in Palatka, Putnam County, Florida.

Day 90, after which the permit would be issued by default, is March 25, 1987.

The Bureau recommends your approval and signature.

CF/pa

Attachment

Check Sheet

Company Name: Georgia-Pacific Corp
Permit Number: AC 54-108945
PSD Number:
Permit Engineer:

Application:

- [x] Initial Application
  - [x] Incompleteness Letters
  - [x] Responses
  - [ ] Waiver of Department Action
  - [ ] Department Response
  - [x] Other

Cross References:

- [ ]
- [ ]
- [ ]

Intent:

- [x] Intent to Issue
- [x] Notice of Intent to Issue
- [x] Technical Evaluation
- [ ] BACT Determination
- [x] Unsigned Permit

missing attachment # 1 & 2 of final

Correspondence with:

- [ ] EPA
- [ ] Park Services
- [ ] Other

- [x] Proof of Publication
  - [ ] Petitions - (Related to extensions, hearings, etc.)
  - [ ] Waiver of Department Action
  - [ ] Other

Final Determination:

- [x] Final Determination
- [x] Signed Permit
- [ ] BACT Determination
  - [ ] Other

Post Permit Correspondence:

- [x] Extensions/Amendments/Modifications
- [ ] Other

P 274 010 472

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to Henry Hirschman
Georgia-Pacific Corp.
Street and No. P.O. Box 919
P.O., State and ZIP Code Palatka, FL 32078

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

Mailed: 01/20/88
Permit: AC 54-108945
Tall Oil Plant

PS Form 3800, June 1985 ★ U.S.G.P.O. 1985-480-794

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. Henry Hirschman
General Manager
Georgia-Pacidic Corporation
Post Office Box 919
Palatka, FL 32078

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

Article Number: P 274 010 472

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

5. Signature – Addressee
X Georgia-Pacific Corp

6. Signature – Agent
X BY Brown

7. Date of Delivery
1-24-88

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

DOMESTIC RETURN RECEIPT

file

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 11, 1988

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Henry Hirschman
General Manager
Georgia-Pacific Corporation
Post Office Box 919
Palatka, Florida 32078-0919

Dear Mr. Hirschman:

Re: Amendments to Construction Permit
AC 54-108945: Tall Oil Plant
Georgia-Pacific Corporation

The Department is in receipt of Mr. Vernon L. Adam's letter dated December 14, 1987, and received December 18, 1987, which requested amendments to the above referenced construction permit. The following shall be changed and added:

Expiration Date:

From: December 31, 1987
To: April 30, 1988

Specific Conditions:

No. 2:

From: Crude oil production shall not exceed 1.246 tons per hour and 10,920 tons per year.

To: The maximum operating rate is one cook of 55 tons of crude tall oil per 12-hour period with a yearly maximum of 20,020 tons of crude tall oil. This shall not be exceeded without prior approval.

No. 3:

From: Maximum TRS emissions shall not exceed 0.05 lb/ton crude oil produced (0.06 lb/hr, 0.27 TPY).

To: Maximum TRS emissions shall not exceed 0.05 lb/ton crude tall oil produced (0.23 lb/hr; 0.50 TPY; based on 12-hour average).

No. 10: (New)

As a surrogate parameter for TRS control, the scrubber liquor outlet flow rate shall be monitored and maintained at 149 GPM (gallons per minute) or greater during the entire acidulation and neutralization process of each cook. The scrubber medium is white liquor and must be at least digester quality type of white liquor.

Attachment to be Incorporated:

8. Mr. Vernon L. Adam's letter dated December 14, 1987, and received December 18, 1987.

This letter must be attached to your construction permit, No. AC 54-108945, and shall become a part of the permit.

Sincerely,

Dale Twachtmann

Dale Twachtmann
Secretary

DT/ks

attachment

cc: B. Stewart, NE Dist.
B. Pittman, Esq.
V. Adams, GPC

ATTACHMENT

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

RECEIVED
JAN 15 1988
Office of the Secretary

For Routing to Other Than The Addressee
To: _____ Location: _____
To: _____ Location: _____
To: _____ Location: _____
From: _____ Date: _____

FOR SIGNATURE

TO: Dale Twachtmann

THRU: Howard Rhodes

FROM: Clair Fancy

DATE: January 11, 1988

SUBJ: Amendments to Construction Permit No. AC 54-108945
Tall Oil Plant; Georgia-Pacific Corporation

Georgia-Pacific Corporation has requested amendments to the referenced construction permit issued February 2, 1987. The Bureau recommends approval and signature.

CHF/BM/s

attachment

DER
JAN 19
BAQM

PM
12-16-87
Palatka

File Copy

Georgia-Pacific Corporation *Palatka Operations*
Southern Pulp & Paper Division
P.O. Box 919
Palatka, Florida 32078-0919
Telephone (904) 325-2001

December 14, 1987

DER
DEC 18 1987
BAQM

Mr. Bruce Mitchell
Florida Department of
Environmental Regulation
Twin Towers Office Bldg.
2600 Blairstone Road
Tallahassee, FL 32301

Dear Bruce:

Pursuant to our phone conversation and my earlier discussions with Mr. Johnny Cole, I am sending you requested changes in the wording for our Tall Oil plant operating permit No. A054-130511. It is imperative that the permit reflect and allow for the operation of a batch type operation.

Please change the numbered specific conditions listed in the permit to read as modified below:

1. The maximum operating rate is one 55 ton cook of crude tall oil per 12 hour period with a yearly maximum of 20,020 tons of crude tall oil. This shall not be exceeded without prior approval.

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

Pollutant	Rule	Emission Rate Lbs./Hr.	TPY
TRS	17-2.600(4)(c)2.a.,FAC	.229*	.501

*Basis: Based on .05 lbs. TRS/Ton CTO produced at a 12-hour average. (Note: This is a 12-hour average emission limit. Instantaneous emission rates will exceed this limit)

8. As the surrogate parameter for TRS control, the scrubber liquor outlet flow rate (in GPM) shall be monitored and maintained at 149 GPM or greater during the entire acidulation and neutralization process of each cook. The quality of the scrubber liquor which is "white" liquor shall be maintained at process specifications.

1-11-88 spoke D V.A. - alkali of 0.95 ppl

The reason for the change in the flow rate specified in Condition 8 is that an error was made in the original calculations since an incorrect pump flow was used. In reviewing specifications for the pump, the error was discovered and corrected. The improper flow number produced a factor which was 1.56 times the correct reading. Thus the 233 GPM flow rate which was recorded during the compliance test was in reality 149 GPM. Since we have demonstrated compliance at 149 GPM, this is the proper surrogate parameter.

Sincerely,

Vernon L. Adams

Vernon L. Adams
Supervisor of
Environmental Affairs

VLA:ps

cc: W. L. Baxter
H. Hirschman
E. J. Schmidt

Johnny Cole 1-11-88 ABM (spoke D JC)

P 274 007 624

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to Henry Hirschman Georgia-Pacific Corporation	
Post Office Box 919 P.O., State and ZIP Code Palatka, Florida 32078-0919	
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 06/30/87 AC 54-108945	

PS Form 3800, June 1985 ★ U.S.G.P.O. 1985-480-794

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. Henry Hirschman
Georgia-Pacific Corporation
Post Office Box 919
Palatka, Florida 32078-0919

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

Article Number
P 274 007 624

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X Georgia-Pacific

6. Signature – Agent
X

7. Date of Delivery
7-2-87

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

DOMESTIC RETURN RECEIPT

File Copy

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

June 20, 1987

Mr. Henry Hirschman
General Manager
Georgia-Pacific Corporation
Post Office Box 919
Palatka, Florida 32078-0919

Dear Mr. Hirschman:

Re: Expiration Date Extension for the Construction Permit:
AC 54-108945

The Department is in receipt of Mr. Vernon L. Adams's letter dated June 16, 1987, which requested an extension of the expiration date for the above referenced permit. The following shall be changed and added:

Expiration Date:

From: June 30, 1987
To: December 31, 1987

Attachment to be Incorporated:

7. Mr. Vernon L. Adams's letter dated June 16, 1987, and received June 18, 1987.

This letter must be attached to your construction permit, No. AC 54-108945, and shall become a part of the permit.

Sincerely,

Dale Twachtmann

Dale Twachtmann
Secretary

DT/ks

cc: J. Cole
V. Adams

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE
To: _____ LOCTN: _____
To: _____ LOCTN: _____
To: _____ LOCTN: _____
FROM: _____ DATE: _____

RECEIVED
JUN 23 1987
Office of the Secretary

TO: Dale Twachtmann

THRU: Howard Rhodes

FROM: Clair Fancy

DATE: June 20, 1987

SUBJ: Amendment to Construction Permit No. AC 54-108945
Georgia-Pacific Corporation

Georgia-Pacific Corporation has requested an expiration date extension for the referenced construction permit issued February 2, 1987. The Bureau recommends approval.

CHF/BM/s

Attachment

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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

June 19, 1987

Mr. Vernon Adams
Supervisor Environmental Affairs
Georgia-Pacific Corporation
Post Office Box 919
Palatka, Florida 32077

DER
JUN 24 1987
BAQM

Dear Mr. Adams:

Putnam County - AP
Georgia-Pacific Corporation
Pulp & Paper Mill
Tall Oil Plant

This is in response to your May 29 letter, our June 18 meeting and the June 18 telecon about the production rate in the proposed operation permit No. AO54-130511.

Please send a request to Clair Fancy that the construction permit be revised to include the production rate desired, along with documentation that supports it.

If there are any questions please contact us.

Yours very truly,

W. P. Stewart

W. P. Stewart, P.E.
Supervisor Air Section

WPS:jck

cc: Bruce Mitchell, CAPS

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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

June 19, 1987

file

Mr. Vernon Adams
Supervisor Environmental Affairs
Georgia-Pacific Corporation
Post Office Box 919
Palatka, Florida 32077

Dear Mr. Adams:

Putnam County - AP
Georgia-Pacific Corporation
Pulp & Paper Mill
Tall Oil Plant

This is in response to your May 29 letter, our June 18 meeting and the June 18 telecon about the production rate in the proposed operation permit No. AO54-130511.

Please send a request to Clair Fancy that the construction permit be revised to include the production rate desired, along with documentation that supports it.

If there are any questions please contact us.

Yours very truly,

W. P. Stewart

W. P. Stewart, P.E.
Supervisor Air Section

WPS:jck

cc: Bruce Mitchell, CAPS

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION) Bruce Mitchell, BAQM, CAPS	Initial / Date
2.	Initial / Date
3.	Initial / Date
4.	Initial / Date

REMARKS:

9-27-87

@ 1130 called V.A. and left a message for a return call. RBR

9-28-87

@ 2:55

Spoke w B. Wilson and requested language from them. RBR

@ 3:10 Spoke w V. Adams and requested language. RBR

DER
SEP 22 1987
BAQM

INFORMATION

- Review & Return
- Review & File
- Initial & Forward

DISPOSITION

- Review & Respond
- Prepare Response
- For My Signature
- For Your Signature
- Let's Discuss
- Set Up Meeting
- Investigate & Report
- Initial & Forward
- Distribute
- Concurrence
- For Processing
- Initial & Return

FROM: Johnny C.

DATE 09-21-87

PHONE

MOAB

PM
6-17-87
Palatka, FL

File Copy

Georgia-Pacific Corporation *Palatka Operations*
Southern Pulp & Paper Division
P.O. Box 919
Palatka, Florida 32078-0919
Telephone (904) 325-2001

June 16, 1987

DER
JUN 18 1987
BAQM

Mr. Bruce Mitchell
State of Florida
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

DER
JUN 18 1987
BAQM

Dear Mr. Mitchell:

Pursuant to my conversation with Mr. Cole of the Northeast District, and at your suggestion, Georgia-Pacific would like to request an extension of Construction Permit No. AC54-10845 in order to allow time for the development of appropriate verbiage for our tall oil plant operating permit. As you are aware, the problems with the current verbiage revolves around the difference between batch and continuous processes.

Your interest and cooperation are appreciated.

Sincerely,

Vernon L. Adams

Vernon L. Adams
Supervisor of Environmental Affairs

mg

cc W. L. Baxter
H. Hirschman

PM
1-16-87
FAX, FL.
Palatka, FL.

Georgia-Pacific Corporation *Palatka Operations*
Southern Pulp & Paper Division
P.O. Box 919
Palatka, Florida 32078-0919
Telephone (904) 325-2001

January 15, 1987

DER

JAN 20 1987

BAQM

Mr. Bruce Mitchell
State of Florida
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Mitchell:

Please find attached the Certification of Public Notice pertaining to Georgia-Pacific's Tall Oil Plant Scrubber. The notice was published on January 8, 1987 which should begin the 14 day comment period.

We look forward to receiving the construction permit as soon as possible.

Sincerely,

Vernon L. Adams

Vernon L. Adams
Supr. of Environmental Affairs

mg

enclosure

cc W. L. Baxter

Best Available Copy

STATE OF FLORIDA
County of Putnam } **ss:**

Personally appeared before me, a Notary Public for the State of Florida at Large, Joyce Guthrie who deposes and says that she is Business Office Manager of The Palatka Daily News, a daily newspaper printed in the English Language and of general circulation, published in the City of Palatka, in said County and State; and that the attached order, notice, publication and/or advertisement of Notice of Intent: The otice of its intent to issue a permit Georgia- to install a scrubber system on the existing tor to control TRS (total reducted sulfur)...

ewspaper Palatka Daily News

One Insertion consecutively,

1987 and ending Jan. 8, 1987

made on the following dates:

says that The Palatka Daily News has been continuously spaper, and has been entered as second class mail matter at y of Palatka, Putnam County, Florida, each for a period of t preceding the date of the first publication of the above de- ublication and/or advertisement.

Subscribed and sworn to before me this

8 day of January A. D. 19 87

Audrey Alveta Beckwith

Notary Public, State of Florida
My Commission Expires Oct. 23, 1988
Bonded Thru Troy Fain-Insurance, Inc.

No. 19087

PUBLIC NOTICE

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION NOTICE OF INTENT

The Department gives notice of its intent to issue a permit Georgia-Pacific Corporation to install a scrubber system on the existing tall oil plant reactor to control TRS (total reduced sulfur) emissions at the applicant's existing facility in Palatka, Putnam 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 determination (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 Department's Office of General Counsel, 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a petition within this time period constitutes a waiver of any right such person has to request an administrative determination (hearing) under Section 120.57, Florida Statute.

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 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 32399-2400

Dept. of Environmental Regulation
Northeast District
3426 Bills Road
Jacksonville, Florida 32207

Any person may send written comments on the proposed action to Mr. Bill Thomas at the department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the department's final determination.

Jan.8,1987 19087

STATE OF FLORIDA
County of Putnam } ss:

Personally appeared before me, a Notary Public for the State of Florida at Large, Joyce Guthrie who deposes and says that she is Business Office Manager of The Palatka Daily News, a daily newspaper printed in the English Language and of general circulation, published in the City of Palatka, in said County and State; and that the attached order, notice, publication and/or advertisement of Notice of Intent: The Department gives notice of its intent to issue a permit Georgia-Pacific Corporation to install a scrubber system on the existing tall oil plant reactor to control TRS (total reducted sulfur)...

was published in said newspaper Palatka Daily News

for a period of One Insertion consecutively,

Beginning Jan. 8, 1987 and ending Jan. 8, 1987

said publication being made on the following dates:

January 8, 1987

And deponent further says that The Palatka Daily News has been continuously published as a daily newspaper, and has been entered as second class mail matter at the postoffice at the City of Palatka, Putnam County, Florida, each for a period of more than one year next preceding the date of the first publication of the above described order, notice, publication and/or advertisement.

Subscribed and sworn to before me this

8 day of January A. D. 19 87

Audrey Aleta Blackwell

Notary Public, State of Florida
My Commission Expires Oct. 23, 1988
Bonded Thru Loyr Fain Insurance, Inc.

No. 19087

Joyce Guthrie

P 408 532 065

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Henry Hirschman	
Street and No. P.O. Box 919	
P.O., State and ZIP Code Palatka, FL 32078-0919	
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	

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. Henry Hirschman
Georgia-Pacific Corporation
P.O.Box 919
Palatka, FL 32078-0919

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

Article Number
P408532065

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X Georgia Pacific

6. Signature – Agent
X D. Brown

7. Date of Delivery
11/3/86

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 30, 1986

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Henry Hirschman
General Manager
Georgia-Pacific Corporation
Post Offic Box 919
Palatka, Florida 32078-0919

Dear Mr. Hirschman:

Attached is one copy of the Technical Evaluation and Preliminary Determination, and proposed permit to install a scrubber system on the existing tall oil plant reactor at your facility in Palatka, Putnam County, Florida.

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: Faustino Prado, P.E.
Bill Stewart
Bob Wilson

State of Florida
Department of Environmental Regulation
Notice of Intent

The Department gives notice of its intent to issue a permit Georgia-Pacific Corporation to install a scrubber system on the existing tall oil plant reactor to control TRS (total reduced sulfur) emissions at the applicant's existing facility in Palatka, Putnam 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 determination (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 Department's Office of General Counsel, 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a petition within this time period constitutes a waiver of any right such person has 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 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 32399-2400

Dept. of Environmental Regulation
Northeast District
3426 Bills Road
Jacksonville, Florida 32207

Any person may send written comments on the proposed action to Mr. Bill Thomas at the department's Tallahassee address. All comments mailed within 14 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:

Georgia-Pacific Corporation
Post Office Box 919
Palatka, Florida 32078-0191

DER File No. AC 54-108945

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit (copy attached) 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, Georgia-Pacific Corporation, applied on August 29, 1985, to the Department of Environmental Regulation for a permit to install a scrubber system on the existing tall oil plant reactor to control TRS emissions at the applicant's facility in Palatka, Putnam 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 Department has determined that an air construction permit was needed for the proposed work.

Pursuant to Section 403.815, F.S. and DER Rule 17-103.150, FAC, you (the applicant) are required to publish at your own expense the enclosed Notice of Proposed Agency Action on permit application. The notice must be published one time only in a section of a major local newspaper of general circulation in the county in which the project is located and within thirty (30) days from receipt of this intent. Proof of publication must be provided to the Department within seven days of publication of

the notice. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

The Department will issue the permit with the attached conditions unless petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S. A person 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. Petitions must comply with the requirement of Florida Administrative Code Rules 17-103.155 and 28-5.201 (copies enclosed) and be filed with (received by) the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32301-8241. Petitions filed by the permit applicant must be filed within fourteen (14) days of receipt of this intent. Petitions filed by other persons must be filed within fourteen (14) days of publication of the public notice or within fourteen (14) days of receipt of this intent, whichever first occurs. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes, concerning the subject permit application. Petitions which are not filed in accordance with the above provisions will be dismissed.

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:

Henry Hirschman
Faustino Prado, P.E.
Bill Stewart

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF INTENT TO ISSUE and all copies were mailed before the close of business on October 31, 1986.

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

Oct. 31, 1986 — 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.

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 an administrative determination (hearing) under Section 120.57, F.S.

---

(4) Notice to substantially affected persons concerning applications for Department permits is an essential and integral part of the state environmental licensing process. Therefore, no application for a permit for which publication of notice is required shall be granted until and unless proof of publication of Notice is furnished to the appropriate Department permitting office.

(5)(a) Any applicant or person benefiting from the Department's action may elect to publish notice of proposed agency action in the manner provided by subsection (2) or (3). Any person who elects to publish notice of proposed agency action, upon presentation of proof of publication to the Department, prior to final agency action, shall be entitled to the same benefits under this rule as a person who is required to publish notice of proposed agency action. Since persons whose substantial interests are affected by a Department decision on a permit application may petition for an administrative proceeding within fourteen (14) days after receipt of notice and since, unless notice is given or published as prescribed in this rule, receipt of notice can occur at any time, the applicant or persons benefiting from the Department's action cannot justifiably rely on the finality of the Department's decision without the notice having been duly given or published.

(b) The notices required by this rule may be combined with other notices required by the Department pursuant to Chapter 403, 376, or 253, F.S., or Chapter 17, FAC.

(c) The provisions of this section shall also apply to the permitting of hazardous waste facilities, but only to the extent it is consistent with Chapter 17-30, Part IV, FAC. Whenever Chapter 17-30, Part IV, FAC, provides for a different time or notice procedure than that set forth in this section the time and notice provisions of Chapter 17-30 shall govern.

(6) Failure to publish any notice of application, notice of proposed agency action, or notice of agency action required by the Department shall be an independent basis for the denial of a permit.

Specific Authority: 120.53, 403.0876, 403.815, F.S. Law Implemented: 120.53, F.S. History: New 9-20-79, Amended 4-28-81, Transferred from 17-1.62 and Amended 6-1-84.

17-103.155 Petition for Administrative Hearing; Waiver of Right to Administrative Proceeding.

(1)(a) Any person whose substantial interests may be affected by proposed or final agency action may file a petition for administrative proceeding. A petition shall be in the form required by this Chapter and Chapter 28-5, FAC, and shall be filed (received) in the Office of General Counsel of the Department within fourteen (14) days of receipt of notice of proposed agency action or within fourteen (14) days of receipt of notice of

agency action whenever there is no public notice of proposed agency action. In addition to the requirements of Rule 28-5.201, FAC, the Petition must specify the county in which the project is or will be located.

(b) Failure to file a petition within fourteen (14) days of receipt of notice of agency action or fourteen (14) days of receipt of notice of proposed agency action, whichever notice first occurs, shall constitute a waiver of any right to request an administrative proceeding under Chapter 120, F.S.

(c) When there has been no publication of notice of agency action or notice of proposed agency action as prescribed in Rule 17-103.150, FAC, a person who has actual knowledge of the agency action or has knowledge which would lead a reasonable person to conclude that the Department has taken final agency action, has a duty to make further inquiry within fourteen (14) days of obtaining such knowledge by contacting the Department to ascertain whether action has occurred. The Department shall upon receipt of such an inquiry, if agency action has occurred, promptly provide the person with notice as prescribed by Rule 17-103.150, FAC. Failure of the person to make inquiry with the Department within fourteen (14) days after obtaining such knowledge may estop the person from obtaining an administrative proceeding on the agency action.

(2)(a) "Receipt of notice of agency action" means receipt of written notice of final agency action, as prescribed by Department rule, or the publication, pursuant to Department rule, of notice of final agency action, whichever first occurs.

(b) "Receipt of notice of proposed agency action" means receipt of written notice (such as a letter of intent) that the Department proposes to take certain action, or the publication pursuant to Department rule of notice of proposed agency action, whichever first occurs.

(3) Notwithstanding any other provision in this Chapter, should a substantially affected person who fails to timely request a hearing under Section 120.57, F.S., administratively appeal the final Department action or order, the record on appeal should be limited to:

(a) the application, and accompanying documentation submitted by the applicant prior to the issuance of the agency's intent to issue or deny the requested permit.

(b) the materials and information relied upon by the agency in determining the final agency action or order;

(c) any notices issued or published; and

(d) the final agency action or order entered concerning the permit application.

(4) In such cases where persons do not timely exercise their rights accorded by Section 120.57(1), Florida Statutes, the allegations of fact contained in or incorporated by the final agency action shall be deemed uncontested and true, and appellants may not dispute the truth of such allegations upon subsequent appeal.

(5) Any applicant may challenge the Department's request for additional information by filing with the Office of General Counsel an appropriate petition for administrative proceeding pursuant to Section 120.60, F.S., following receipt by

the applicant of the Department's notification, pursuant to Section 403.0876, F.S., that additional information is required.
Specific Authority: 120.53, 403.0876, 403.815, F.S. Law Implemented: 120.53, F.S.
History: New 9-20-79, Amended 4-28-81, Transferred from 17-1.62 and Amended 6-1-84.

17-103.160 Uniformity in Approval and Denial of Applications for Department Permits and Certifications. To the extent possible and consistent with the public interest, the Department approves and denies applications for permits and certifications on a uniform and consistent basis. Final Department actions on applications for permits and certifications shall be consistent with prior Department actions, unless deviation therefrom is explained by the Department in writing or the hearing officer who submits a recommended order to the Department for final agency action in accordance with Section 120.57, Florida Statutes.
Specific Authority: 120.53(1), F.S. Law Implemented: 120.53(1), 120.68(12), F.S. History: New 2-6-78, Transferred from 17-1.63, 6-1-84.

17-103.170 Designation, Preparation and Transmittal of Record for Administrative Appeals.

When any Department action or order is the subject of an administrative appeal under Chapter 17-103, Part II, FAC, the following requirements shall apply:

(1) Designation of Record. Within fifteen (15) days of rendition of the Department's final order, the appellant shall designate to the Department, in writing, with copies to other parties, those documents or things under the control of or in the possession of the Department which the appellant desires to have included in the record, and which were received or considered in the Department proceeding below. If a proceeding was reported by mechanical recording devices, the appellant shall designate those portions of the proceeding for which it requires written transcription or tapes for transcription. Any other party may designate other portions of the record in the manner provided herein. Such cross-designation shall be filed with the Department, with copies provided other parties, within seven (7) days after receipt of the designation by the appellant.

(2) Original Record. The Department shall thereupon include in the record all of the designated portions of the original papers and exhibits in the proceedings or matter from which administrative appeal is taken, together with a copy of any such parts of the proceedings as were stenographically reported or transcribed from tapes, and as have been designated by the parties and certified by a notary public, the reporter, or other officer for inclusion in the record on appeal or review, and certified copies of the order, if any, of which review is sought. The Department may, at its discretion, substitute certified copies for original papers or documents in its possession.

(3) Preparation of Record. Upon tender or deposit by appellant of the estimated cost of preparation, the Department shall prepare the record in accordance with the designations of the parties. The cost of preparation, and reproduction,

Technical Evaluation
and
Preliminary Determination

Georgia-Pacific Corporation
Putnam County
Palatka, Florida

Construction Permit No:
AC 54-108945

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

October 30, 1986

I. Project Description

A. Applicant

Georgia-Pacific Corporation
Post Office 919
Palatka, Florida 32077

B. Project Description

The applicant proposes to install a liquid scrubber system to control TRS (total reduced sulfur) emissions from the tall oil plant reactor. The projected removal efficiency of H_2S (hydrogen sulfide), which is the major TRS pollutant emitted, is 99.5 percent.

The Standard Industrial Classification codes are:

Major Group 28: Chemicals and Allied Products; Group No. 286: Industrial Organic Chemicals; and, Industry No. 2861: Gum and Wood Chemicals.

The UTM coordinates are Zone 17, 434.0 km East and 3283.4 km North.

C. Process and Controls

Tall Oil is produced by the addition of sulfuric acid to black liquor soap in a reaction vessel. Steam is added to bring the temperature to approximately 200°F. After decanting the oil, caustic is added to the reactor and the residue is transferred to a tank to be used back in the process.

TRS emissions are the result of the reaction between the soap and acid. The liquid scrubber system will be retrofitted to the existing reactor to control the TRS emissions.

II. Rule Applicability

The proposed project is subject to preconstruction review in accordance with Chapter 403, Florida Statutes, and Florida Administrative Code (FAC) Rules 17-2 and 17-4.

The construction permit application package was deemed complete on October 20, 1986.

The existing facility is located in Putnam County, which is an area designated attainment for all pollutants. The existing mill is a major emitting facility in accordance with FAC Rule 2.100(110).

The proposed project is a modification to a major facility and will be discharging TRS emissions. The projected potential TRS emissions are subject to review pursuant to FAC Rule 17-2.500, Prevention of Significant Deterioration (PSD). The following table will exhibit the annual potential TRS emissions in pounds per year (lbs/yr) for the proposed project:

Table 1

	Annual Potential TRS Emissions
Tall Oil Plant Reactor TRS Scrubber System	78.2 lbs/yr

Note: Emissions are based on:
- o 11,000 tons tall oil produced per year
- o 1.425 lbs/ton tall oil-based on TRS emissions tests
- o TRS removal efficiency projected to be 99.5%

Since the annual potential TRS emissions are less than the significant level contained in FAC Rule 17-2.500 Table 500-2, the proposed project's emissions are exempt from new source review pursuant to FAC Rule 17-2.500(4) and shall be subject to review in accordance with FAC Rule 17-2.520, Sources Not Subject to PSD or Nonattainment Review.

The proposed project will be permitted in accordance with the specific source emission limiting standard pursuant to FAC Rule 17-2.600(4)(c)2., Tall Oil Plants. The TRS emissions limiting standard is 0.5 pound per ton of crude oil produced as a 12-hour average in accordance with FAC Rule 17-2.600(4)(c)2.a. The proposed project is also subject to the provisions of FAC Rule 17-2.600(4)(c)2.b., which requires compliance with FAC Rule 17-2.710 (Continuous Emission Monitoring) and FAC Rule 17-2.960(1) (Compliance Schedules).

The proposed project is subject to FAC Rule 17-2.620(2), General Pollutant Emissions Limiting Standards-Objectionable Odors, which states that no person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

The proposed project is subject to the provisions of FAC Rule 17-2.240, Circumvention, which states that no person shall circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly.

In accordance with FAC Rule 17-2.700 Table I, EPA Method 16, or other approved method by the department, shall be used to conduct a compliance test to verify the TRS emissions being discharged from the tall oil plant reactor scrubber system.

Annual TRS emissions shall be included in an annual operating report (AOR) and submitted to the Northeast District office no later than March 1 of each calendar year accounting for the previous year's operation. The AOR is to also include the annual amount of crude oil produced.

III. Summary of Emissions and Air Quality Analysis

A. Emission Limitations

The regulated pollutant emissions from the proposed project are TRS. The following table will reflect the maximum allowable TRS emissions from the proposed project:

Table 2

	Maximum Allowable TRS Emissions	
Tall Oil Plant Reactor TRS Scrubber System	0.06 lb/hr	0.27 TPY

Note: Emissions are based on:
- o 1.246 tons tall oil produced per hour
- o 910 tons tall oil produced per month
- o 0.05 pounds TRS allowed per ton tall oil produced
- o 8760 hours per year operation

The permitted pollutant emissions are in compliance with all applicable requirements of FAC Rules 17-2 and 17-4.

B. Air Quality Analysis

From a technical review of the application, attachments and amendments, an air quality analysis was not required.

IV. Conclusion

The permitted TRS emissions from the tall oil plant reactor scrubber system should not cause any violation of Florida's ambient air quality standards.

The General and Specific Conditions listed in the proposed permit (attached) will assure compliance with all applicable requirements of FAC Rules 17-2 and 17-4.

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:
Georgia-Pacific Corporation
P. O. Box 919
Palatka, Florida 32078-0919

Permit Number: AC 54-108945
Expiration Date: June 30, 1987
County: Putnam
Latitude/Longitude: 29° 41' 00"N
81° 40' 45"W
Project: Tall Oil Plant with Associated Scrubber System

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, 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/installation of a scrubber system on the existing tall oil plant reactor to control TRS emissions at the permittee's existing facility. The UTM coordinates are Zone 17, 434.0 km East and 3283.4 km North.

The standard industrial classification codes are: Major Group 28: Chemicals and Allied Products; Group No. 286: Industrial Organic Chemicals; and, Industry No. 2861: Gum and Wood Chemicals.

The project shall be as reflected in the permit application, plans, documents, drawings, and amendments, except as otherwise noted in the Specific Conditions.

Attachments:

1. Application to Construct/Modify Air Pollution Sources, DER Form 17-1.202(1), received on August 25, 1985, by the FDER's Northeast District office.
2. Mr. John Brown's letter dated September 13, 1985.
3. Application to Construct/Modify Air Pollution Sources, DER Form 17-1.202(1), received on February 17, 1986, by the FDER's BAQM.
4. Mr. W. P. Stewart's letter dated February 25, 1986.
5. Mr. C. H. Fancy's letter dated August 13, 1986.
6. Revised Application to Construct/Modify Air Pollution Sources, DER Form 17-1.202(1) with Mr. W. R. Wilson's cover letter dated October 17, 1986, and received October 20, 1986, by the FDER's BAQM.

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-108945
Expiration Date: June 30, 1987

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.
( ) Determination of Lowest Achievable Emission Rate (LAER)

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. Annual hours of operation are 8760.

2. Crude oil production shall not exceed 1.246 tons per hour and 10,920 tons per year.

3. Maximum TRS emissions shall not exceed 0.05 lb/ton crude oil produced (0.06 lb/hr, 0.27 TPY).

4. The permittee shall satisfy requirements pursuant to FAC Rule 17-2.600(4)(c)2.b., which requires compliance with FAC Rule 17-2.710 (Continuous Emissions Monitoring) and FAC Rule 17-2.960(1) (Compliance Schedules).

SPECIFIC CONDITIONS:

5. The source is subject to the provisions of FAC Rule 17-2.240, Circumvention.

6. Objectionable odors shall not be allowed off plant property in accordance with FAC Rule 17-2.620(2).

7. In accordance with FAC Rule 17-2.700 Table I, EPA Method 16, or other approved method by the department, shall be used to conduct a compliance test to verify the TRS emissions being discharged from the scrubber system.

8. An annual operating report (AOR) shall be submitted to the FDER's Northeast District office by March 31 of each calendar year accounting for the previous year's operation. The AOR shall contain the annual emissions of TRS and the annual amount of crude oil produced.

9. 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 of the construction permit and submit a new schedule and request for an extension of the construction permit. (FAC Rule 17-4.09)

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 test results and Certificate of Completion, to the Department's Northeast 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. (FAC Rules 17-4.22 and 17-4.23)

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. (FAC Rule 17-4.10)

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-108945
Expiration Date: June 30, 1987

SPECIFIC CONDITIONS:

Issued this_____day of_____, 19__

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION

_____
VICTORIA J. TSCHINKEL, Secretary

____ pages attached.

PM
10-17-86
Palatka, FL

Georgia-Pacific Corporation *Palatka Operations*
Southern Pulp & Paper Division
P.O. Box 919
Palatka, Florida 32078-0919
Telephone (904) 325-2001

October 17, 1986

Mr. Bruce Mitchell
State of Florida
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Mitchell:

As per your request, enclosed is an updated copy of our construction permit application for the Tall Oil Reactor Vent Scrubber.

The TRS emissions calculations in Exhibit III have been corrected in this application. The corrections did not alter the results of our previous conclusion: 99.993% (or 1.4212 lbs. TRS/ton of Tall Oil) of the Tall Oil Plant's TRS emissions emanate solely from the Reactor Vent during acidulation of soap. Total emissions from all the other associated vessels amounts to 0.007% (or 0.0001 lbs. TRS/ton of Tall Oil).

Sincerely,

Bob

W. R. Wilson

mg

enclosure

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION AC 54-108945

NORTHEAST DISTRICT
3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

DER
OCT 20 1986
BAQM

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

CORRECTED EXHIBIT III CALCULATIONS

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Tall Oil Plant [ ] New[1] [X] Existing[1]

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

COMPANY NAME: Georgia-Pacific Corp. COUNTY: Putnam

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) Tall Oil Plant

SOURCE LOCATION: Street Highway 216 City Palatka

UTM: East 434.0 North 3283.4

Latitude 29 ° 41 ' 00 "N Longitude 81 ° 40 ' 45 "W

APPLICANT NAME AND TITLE: Henry Hirschman, General Manager

APPLICANT ADDRESS: P. O. Box 919, Palatka, Florida 32077

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Georgia-Pacific Corp.

I certify that the statements made in this application for a Operating 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: Henry Hirschman

~~Henry Hirschman~~, General Manager
Name and Title (Please Type)

Date: 1/31/86 Telephone No. 904/325-2001

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

Signed _____

Faustino Prado, P.E.

Name (Please type)

PRADO & ASSOCIATES, INC.

Company Name (Please type)

P. O. BOX 17224, TAMPA, FLORIDA 33682

Mailing Address (Please type)

Florida Registration No. 20948 Date: Jan. 29 1986 Telephone No. 813 - 961 810

SECTION II: GENERAL PROJECT INFORMATION

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

The project involves the placement of a scrubber on an existing tal
oil plant vent. The scrubber is designed to reduce emissions from t
plant to the level allowed in the new TRS Rules prior to the compli
date in that Rule.

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

Start of Construction _____ Completion of Construction _____

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

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

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

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

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

1. Is this source in a non-attainment area for a particular pollutant? _____

   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. _____

3. Does the State "Prevention of Significant Deterioriation" (PSD) requirement apply to this source? If yes, see Sections VI and VII. _____

4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? _____

5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? _____

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		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Sulfate Soap	None		2.65 Tons	Exhibit I & II
H_2SO_4	None		48.2 Gallons	Figure I
Caustic	None		48.2 Gallons	
H_2O	None		240 Gallons	

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

1. Total Process Input Rate (lbs/hr): 2.65 tons Soap; 48.2 gal. Acid

2. Product Weight (lbs/hr): 1.25 tons Tall Oil; 25,000 gal. Residue

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

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
TRS	0.011	0.048	NA	NA	19,172	9.59	Ex. III
	Exhibit IV *						

[1]See Section V, Item 2.

* Reactor yield 99.95% of TRS and 100% of this was TRS as shown by G.C. data.

[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)
TRS Scrubber	TRS	99.5 %	NA	Vendor Spec.
				EXHIBIT IV

E. Fuels

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

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

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

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

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

Annual Average _____ Maximum _____

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

No waste generated

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

Stack Height: 83'6" ft. Stack Diameter: 16" ft.

Gas Flow Rate: 4700 ACFM 2500 DSCFM Gas Exit Temperature: 140 °F.

Water Vapor Content: Saturated % Velocity: 56 FPS

SECTION IV: INCINERATOR INFORMATION

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

_____

_____

_____

_____

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

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

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

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

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

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

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

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

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

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

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

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

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

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

[ ] Yes [ ] No

Contaminant	Rate or Concentration

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

[ ] Yes [ ] No

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration

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

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

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height: ft.

b. Diameter: ft.

c. Flow Rate: ACFM

d. Temperature: °F.

e. Velocity: FPS

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

1.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

2.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

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

j. Applicability to manufacturing processes:

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

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, inatall 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

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 procedurea?

[ ] 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.

EXHIBIT III

TRS EMISSIONS

REACTOR:
(ACIDULATION)

A CONTINUOUS BAG SAMPLE OF STACK GAS WAS PULLED DURING THE ENTIRETY OF A TALL OIL "COOK". WET AND DRY BULB STACK TEMPERATURES AND SIX PITOT TRAVERSES WERE TAKEN DURING THIS TIME. THE NATIONAL COUNCIL OF AIR AND STREAM IMPROVEMENT IN GAINESVILLE, FLORIDA, ANALYZED THE BAG SAMPLES ON THEIR GAS CHROMATOGRAPH.

METHOD 16A TRS ANALYSIS
TALL OIL PLANT'S REACTOR VENT DURING ACIDULATION OF SOAP
DATE JANUARY 27, 1986 RUN # 1

INPUT	UNITS	OUTPUT	COMMENTS
150	MIN		COOK DURATION
150	MIN		TEST DURATION
0.242	"H2O		AVG delP
124	oF		Ts DRY BULB
120	oF		Ts WET BULB
88	%		RELATIVE HUMIDITY FROM CHART
3.848	"HG		VAPOR PRESSURE FROM CHART
-0.26	"H2O		STATIC PRESSURE
30.14	"HG		Pbar
1.33	FT		STACK DIAMETER
29			Mw
3108	PPM		TRS CONCENTRATION OF STACK GAS
51.75	TONS		AVERAGE TONS OF TALL OIL PER COOK
	FT^2	1.389290	As
	oR	584	Ts DRY BULB
	oR	580	Ts WET BULB
	"HG	30.12088	Ps
	FPS	28.88185	Vs
	%	0.112421	Bwo
	%	0.887578	1-Bwo
	ACFM	2407.517	ACTUAL STACK GAS FLOW RATE
	DSCFM	1952.294	DRY, STD. STACK GAS FLOW RATE
	#/DSCF	0.080806	GAS DENSITY
	#	23663.60	MASS OF GAS EMITTED DURING TALL OIL COOK
	#	73.54649	MASS EMISSIONS OF TRS
	#	1.421188	ACTUAL EMISSIONS: # OF TRS PER TON OF TALL OIL
0.05	#		ALLOWABLE EMISSIONS: # OF TRS PER TON OF TALL OIL

CALCULATIONS
TALL OIL REACTOR TANK DURING ACIDULATION OF SOAP

As	= (PI)((FT STACK DIAMETER/2)^2)	= FT^2
Tsdry	= oF +460	= oR DRY BULB
Tswet	= oF +460	= oR WET BULB
Ps	= Pbar + STATIC PRESSURE	= "Hg
Vs	= KpCp |(Tsdry)(deTP)/(Ps)(MW)	= FPS
Bwo	= (VAPOR PRESS @ Tsdry)(REL HUMIDITY)/(Ps)	= % H2O
1-Bwo	= 1-(% H2O)	= % DRY GAS
ACFM	= (60 SEC/MIN)(As)(Vs)	= ACFM
DSCFM	= (ACFM)(Tstd/Tsdry)(Ps/Pstd)(1-Bwo)	= DSCFM
RHO GAS	= (29 G/22.4 L)(3.785 L/GAL) (7.48 GALS/SCF)(LB/453.6 G GAS)	= 0.0808 LB/SCF GAS
GAS MASS EMITTED PER COOK	= (SCF/MIN)(MIN/COOK)(0.0808 LB/SCF GAS)	= LBS GAS/COOK
TRS MASS EMITTED PER COOK	= (LBS TRS/MM LBS GAS)(LBS GAS/COOK)	= LBS TRS/COOK
ACTUAL EMISSIONS OF TRS PER TON TALL OIL	= (LBS TRS/COOK)(COOK/TONS TALL OIL)	= LBS TRS AS TRS/TON TALL OIL

REACTOR:
(NEUTRALIZATION)

AFTER DECANTING THE TALL OIL OFF THE COOK, 2000 GALLONS OF 50% CAUSTIC WAS ADDED TO THE REACTOR. AGAIN, A BAG SAMPLE WAS TAKEN DURING THE ENTIRETY OF A TALL OIL RESIDUE NEUTRALIZATION, AND DATA NECESSARY FOR EMISSIONS CALCULATIONS WERE COLLECTED.

METHOD 16A TRS ANALYSIS
TALL OIL PLANT'S REACTOR VENT DURING NEUTRALIZATION OF RESIDUE
DATE JANUARY 27, 1986 RUN 1

INPUT	UNITS	OUTPUT	COMMENTS
20	MIN		NEUTRALIZATION DURATION
20	MIN		TEST DURATION
0.295	"H2O		AVG delP
96	oF		Ts DRY BULB
94	oF		Ts WET BULB
93	%		RELATIVE HUMIDITY FROM CHART
1.712	"HG		VAPOR PRESSURE FROM CHART
-0.25	"H2O		STATIC PRESSURE
30.1	"HG		Pbar
1.33	FT		STACK DIAMETER
29			Mw
1.04	PPM		TRS CONCENTRATION OF STACK GAS
51.75	TONS		AVERAGE TONS OF TALL OIL PER COOK
	FT^2	1.389290	As
	oR	556	Ts DRY BULB
	oR	554	Ts WET BULB
	"HG	30.08161	Ps
	FPS	31.13455	Vs
	%	0.052928	Bwo
	%	0.947071	1-Bwo
	ACFM	2595.296	ACTUAL STACK GAS FLOW RATE
	DSCFM	2355.649	DRY, STD. STACK GAS FLOW RATE
	#/DSCF	0.080806	GAS DENSITY
	#	3807.019	MASS OF GAS EMITTED DURING RESIDUE NEUTRALIZATION
	#	0.003959	MASS EMISSIONS OF TRS
	#	0.0001	ACTUAL EMISSIONS: # OF TRS PER TON OF TALL OIL

CALCULATIONS
TALL OIL REACTOR TANK DURING NEUTRALIZATION OF RESIDUE

As	= (PI)((FT. STACK DIAMETER/2)^2)	= FT^2
Tsdry	= oF + 460	= oR DRY BULB
Tswet	= oF + 460	= oR WET BULB
Ps	= Pbar + STATIC PRESSURE	= "Hg
Vs	= KpCp $\sqrt{(Tsdry)(deTP)/(Ps)(Mw)}$	= FPS
Bwo	= (VAPOR PRESS @ Tsdry)(REL HUMIDITY)/(Ps)	= % H2O
1-Bwo	= 1-(% H2O)	= % DRY GAS
ACFM	= (60 SEC/MIN)(As)(Vs)	= ACFM
DSCFM	= (ACFM)(Tstd/Tsdry)(Ps/Pstd)(1-Bwo)	= DSCFM
RHO GAS	= (29 G/22.4 L)(3.785 L/GAL) (7.48 GALS/SCF)(1 LB/453.6 G GAS)	= 0.0808 LB/SCF GAS
GAS MASS EMITTED PER NEUTRALIZATION	= (SCF/MIN)(MIN/NEUT)(0.0808 LB/SCF GAS)	= LBS GAS/NEUT
TRS MASS EMITTED PER NEUTRALIZATION	= (LBS TRS/MM LBS GAS)(LBS GAS/NEUT)	= LBS TRS/NEUT
ACTUAL EMISSIONS OF TRS PER TON TALL OIL	= (LBS TRS/NEUT)(NEUT/TONS TALL OIL)	= LBS TRS AS TRS/ TON TALL OIL

TALL OIL PLANT TANK EMISSIONS OF TRS
JANUARY 27, 1986

SOAP STORAGE TANKS:

TRS CONCENTRATIONS WERE MEASURED IN THE TANKS' VENTS. THE ONLY WAY TRS GASES CAN BE EMITTED IS BY THE DISPLACEMENT OF SOAP IN THESE TWO TANKS IN SERIES.

TWO TANKS @ 25' DIAMETER	=	3670	GAL/FT EACH
AVERAGE SOAP DENSITY	=	6.0	LB/GAL OF SOAP
AND AVERAGE AMOUNT OF TALL OIL PER COOK	=	51.75	TONS OF T/O PER COOK
AND AVERAGE AMOUNT OF SOAP PER COOK @ 47% CONVERSION AS PER LAB RESULTS	=	110.11	TONS OF SOAP PER COOK
110.11 TONS OF SOAP PER COOK	=	220220	LBS OF SOAP PER COOK
THEREFORE, AVERAGE VOLUME OF SOAP PER COOK	=	36703	GALS OF SOAP PER COOK
AND ONE COOK'S TANK DISPLACEMENT	=	10.00	LINEAR FT TANK DISPLACEMENT
10.00 LINEAR FT TANK DISPLACEMENT	=	4909	CU FT TANK DISPLACEMENT
THEREFORE, ONE TON OF T/O	=	94.86	CU FT TANK DISPLACEMENT
94.86 CU FT TANK DISPLACEMENT	=	87.87	SCF DISPLACEMENT/TON OF TALL OIL
87.87 SCF DISPLACEMENT/TON OF TALL OIL	=	7.10	LBS OF AIR DISPLACEMENT PER TON OF TALL OIL
AND TRS CONCENTRATION	=	1.06	PPM AS TRS BY EPA-RM 16
THEREFORE, MASS EMISSIONS OF TRS	=	0.0000	LBS TRS/TON OF TALL OIL

CALCULATIONS
SOAP STORAGE TANKS

AVG AMT SOAP/COOK @ 47% CONVERSION, AS PER LAB RESULTS

= (TONS T/O /COOK)(TON SOAP/0.47 TON T/O)
(2000 LBS/TON) = LBS SOAP/COOK

ONE COOK'S AVG SOAP VOLUME

= (LBS SOAP/COOK)(GAL SOAP/6.0 LBS) = GALS SOAP/COOK

ONE COOK'S TANK DISPLACEMENT

= (GAL SOAP/COOK)(FT/GALS SOAP) = FT TANK DISPLACEMENT/COOK

ONE COOK'S VOL DISPLACEMENT

= (PI)((FT TANK DIA/2)^2)
(FT TANK DISPLACEMENT/COOK) = FT^3 TANK DISPLACEMENT/COOK

ONE TON'S VOL DISPLACEMENT

= (FT^3/COOK)(COOK/TONS T/O) = FT^3 TANK DISPLACEMENT/TON T/O

ONE TON'S VOL DISPLACEMENT @ STD CONDITIONS

= (FT^3/TON T/O)(460+68 oF)/(460+110 oF)
(29.92 "Hg/29.92 "Hg) = SCF TANK DISPLACEMENT/TON T/O

EQUIVALENT AIR DISPLACEMENT

= (SCF/TON T/O)(29 G/22.4 L)(3.785 L/GAL)
(7.48 GAL/FT^3)(LB AIR/453.6 G) = LBS AIR DISPLACEMENT/TON T/O

ACTUAL EMISSIONS OF TRS PER TON TALL OIL

= (LBS AIR/TON T/O)(LBS TRS/MM LBS AIR) = LBS TRS AS TRS/TON TALL OIL

TALL OIL PLANT TANK EMISSIONS OF TRS
JANUARY 27, 1986

TALL OIL STORAGE TANKS:

TRS CONCENTRATIONS WERE MEASURED IN THE TANKS' VENTS. THE ONLY WAY TRS GASES CAN BE EMITTED IS BY THE DISPLACEMENT OF OIL IN THESE THREE TANKS.

THREE TANKS @ 16' DIAMETER	=	1503 GAL/FT EACH
AVERAGE TALL OIL DENSITY	=	8.2 LB/GAL OF TALL OIL
AND AVERAGE AMOUNT OF TALL OIL PER COOK	=	51.75 TONS OF T/O PER COOK
THEREFORE, AVERAGE VOLUME OF TALL OIL PER COOK	=	12622 GALS OF T/O PER COOK
AND ONE COOK'S TANK DISPLACEMENT	=	8.40 LINEAR FT TANK DISPLACEMENT
8.40 LINEAR FT TANK DISPLACEMENT	=	1688 CU FT TANK DISPLACEMENT
THEREFORE, ONE TON OF TALL OIL	=	32.63 CU FT TANK DISPLACEMENT
32.63 CU FT TANK DISPLACEMENT	=	28.71 SCF DISPLACEMENT/TON OF TALL OIL
28.71 SCF DISPLACEMENT/TON OF TALL OIL	=	2.32 LBS OF AIR DISPLACEMENT PER TON OF TALL OIL
AND TRS CONCENTRATION	=	1.43 PPM AS TRS BY EPA-RM 16
THEREFORE, MASS EMISSIONS OF TRS	=	0.0000 LBS TRS/TON OF TALL OIL

CALCULATIONS
TALL OIL STORAGE TANKS

ONE COOK'S AVG T/O VOLUME = (TONS T/O /COOK)(2000 LBS/TON)
(GAL T/O /8.2 LBS) = GALS T/O /COOK

ONE COOK'S TANK DISPLACEMENT = (GAL T/O/COOK)(FT/GALS T/O) = FT TANK DISPLACEMENT/COOK

ONE COOK'S VOL DISPLACEMENT = (PI)((FT TANK DIA/2)^2)
(FT TANK DISPLACEMENT/COOK) = FT^3 TANK DISPLACEMENT/COOK

ONE TON'S VOL DISPLACEMENT = (FT^3/COOK)(COOK/TONS T/O) = FT^3 TANK DISPLACEMENT/TON T/O

ONE TON'S VOL DISPLACEMENT @ STD CONDITIONS = (FT^3/TON T/O)(460+68 oF)/(460+140 oF)
(29.92 "Hg/29.92 "Hg) = SCF TANK DISPLACEMENT/TON T/O

EQUIVALENT AIR DISPLACEMENT = (SCF/TON T/O)(29 G/22.4 L)(3.785 L/GAL)
(7.48 GAL/FT^3)(LB AIR/453.6 G) = LBS AIR DISPLACEMENT/TON T/O

ACTUAL EMISSIONS OF TRS PER TON TALL OIL = (LBS AIR/TON T/O)(LBS TRS/MM LBS AIR) = LBS TRS AS TRS/TON TALL OIL

TALL OIL PLANT TANK EMISSIONS OF TRS
JANUARY 27, 1986

NEUTRALIZED RESIDUE STORAGE TANK:

TRS CONCENTRATIONS WERE MEASURED IN THE TANK'S VENT. THE ONLY WAY TRS GASES CAN BE EMITTED IS BY THE DISPLACEMENT OF RESIDUE IN THIS TANK.

ONE TANK @ 22' DIAMETER	=	2842	GAL/FT
AVERAGE VOLUME OF RESIDUE	=	500	GAL/TON OF TALL OIL
AND AVERAGE AMOUNT OF TALL OIL PER COOK	=	51.75	TONS OF TALL OIL PER COOK
THEREFORE, AVERAGE VOLUME OF RESIDUE PER COOK	=	25875	GALS OF RESIDUE PER COOK
AND ONE COOK'S TANK DISPLACEMENT	=	9.10	LINEAR FT TANK DISPLACEMENT
9.10 LINEAR FT TANK DISPLACEMENT	=	3459	CU FT TANK DISPLACEMENT
THEREFORE, ONE TON OF T/O	=	66.84	CU FT TANK DISPLACEMENT
66.84 CU FT TANK DISPLACEMENT	=	56.93	SCF DISPLACEMENT/TON OF TALL OIL
56.93 SCF DISPLACEMENT/TON OF TALL OIL	=	4.60	LBS OF AIR DISPLACEMENT PER TON OF T/O
AND TRS CONCENTRATION	=	3.49	PPM AS TRS BY EPA-RM 16
THEREFORE, MASS EMISSIONS OF TRS	=	0.0000	LBS TRS/TON OF TALL OIL

CALCULATIONS
NEUTRALIZED RESIDUE STORAGE TANK

AVG VOL RESIDUE/ COOK = (GAL RESIDUE/TON T/O)(TONS T/O /COOK) = GAL RESIDUE/ COOK

ONE COOK'S TANK DIS- PLACEMENT = (GAL RESIDUE/COOK)(FT/GALS RESIDUE) = FT TANK DISPLACEMENT/ COOK

ONE COOK'S VOL DIS- PLACEMENT = (PI)((FT TANK DIA/2)^2)

(FT TANK DISPLACEMENT/COOK) = FT^3 TANK DISPLACE- MENT/COOK

ONE TON'S VOL DIS- PLACEMENT = (FT^3/COOK)(COOK/TONS T/O) = FT^3 TANK DISPLACEMENT/ TON T/O

ONE TON'S VOL DIS- PLACEMENT @ STD CONDI- TIONS = (FT^3/TON T/O)(460+68 oF)/(460+160 oF)

(29.92 "Hg/29.92 "Hg) = SCF TANK DISPLACEMENT/ TON T/O

EQUIVA- LENT AIR DISPLACE- MENT = (SCF/TON T/O)(29 G/22.4 L)(3.785 L/GAL)

(7.48 GAL/FT^3)(LB AIR/453.6 G) = LBS AIR DISPLACEMENT/ TON T/O

ACTUAL EMISSIONS OF TRS PER TON TALL OIL = (LBS AIR/TON T/O)(LBS TRS/MM LBS AIR) = LBS TRS AS TRS/TON TALL OIL

TOTAL TRS EMISSIONS PER TON OF TALL OIL
JANUARY 27, 1986

SOURCE	LB/TON	%
REACTOR DURING ACIDULATION	1.4212	99.993
REACTOR DURING NEUTRALIZATION	0.0001	0.007
SOAP STORAGE TANKS	0.0000	0.000
TALL OIL STORAGE TANKS	0.0000	0.000
NEUTRALIZED RESIDUE STORAGE TANK	0.0000	0.000
TOTAL	1.4213	100.000

POTENTIAL EMISSIONS WITHOUT A SCRUBBER:

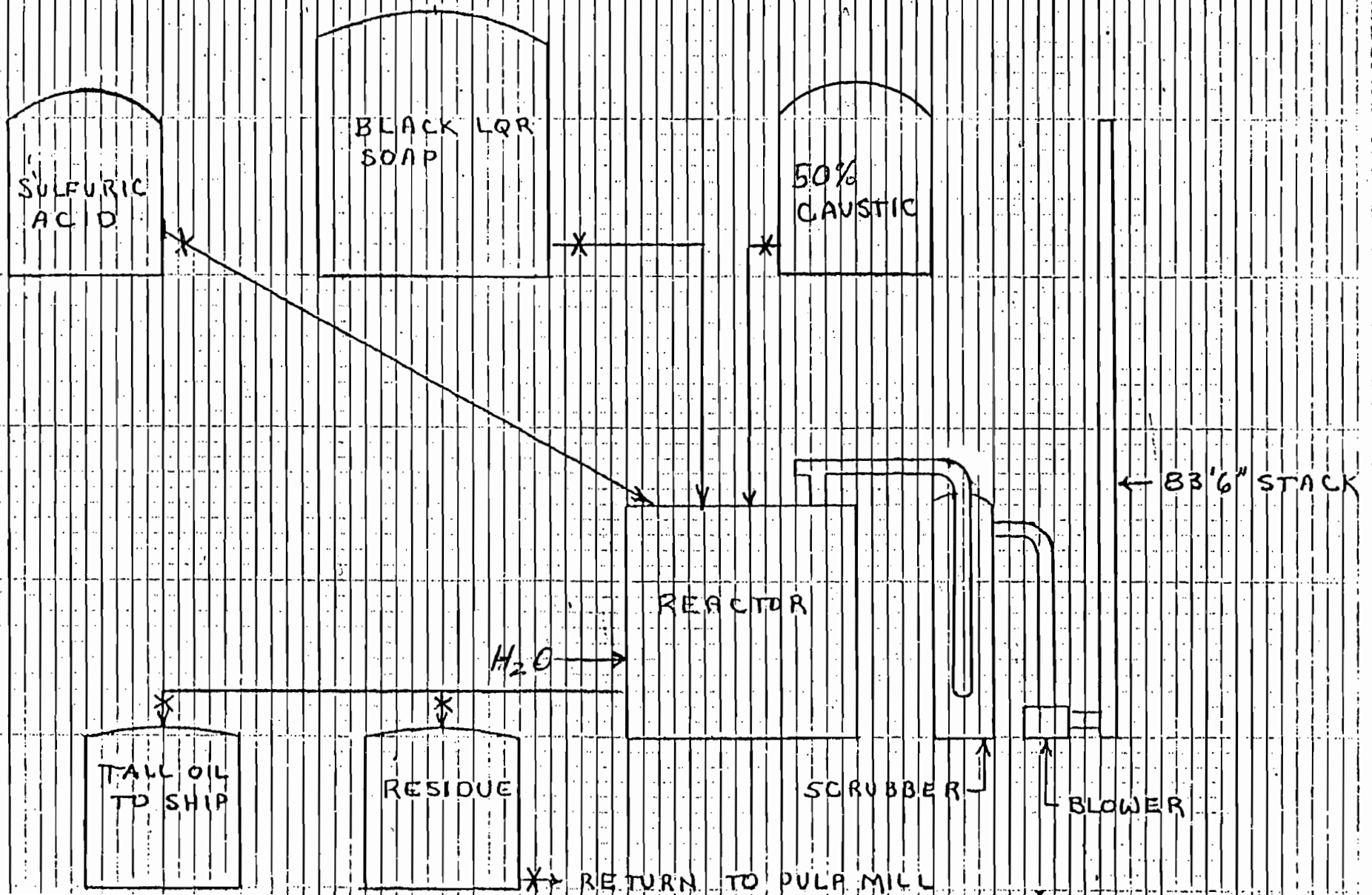
(APPROX 11000 TONS T/O /YEAR)(1.4252 LBS TRS/TON T/O) =

= 15634 LBS TRS/YEAR

= 7.82 TONS TRS/YEAR

FIGURE I

TALL OIL FLOW SHEET



DATE..... FLOW..... SHEET

Exhibit I

Re: Section III A, B, C (Page 4 of 12) of Permit Application.

Section III.

A. Raw Materials and Chemicals Used.

Tall Oil at Palatka is produced by the addition of sulfuric acid to black liquor soap in a reaction vessel. Steam is added to bring the temperature up to approximately 200° F. After decanting the oil, caustic is added to the reactor and the residue is transferred to a tank to be used back in process.

There are no contaminants in the raw materials themselves. TRS emissions result from the reaction between the soap and acid.

B. Since the process is batch, with approximately four (4) to five (5) batches being processed per week, a lbs./hr. utilization rate is not meaningful. Exhibit II is a monthly tall oil report distributed by the mill. From this report, the 12 hour tall oil yield can be calculated as requested by John Brown of FDER in letter dated September 13, 1985. Total batches processed in 1985 WERE 211.

$$\frac{910 \text{ tons TO}}{\text{Month}} \times \frac{12 \text{ mo.}}{\text{Year}} \times \frac{1 \text{ year}}{365 \text{ Days}} \times \frac{1 \text{ day}}{2\text{-}12 \text{ hrs.}} = \frac{14.96 \text{ tons}}{12 \text{ hours}} = \frac{1.246 \text{ tons}}{\text{hour}}$$

At a 47% yield (based on laboratory studies) the soap weight $= \frac{1.246}{.47}$
$= 2.652$ tons/hour

It requires approximately 2,000 gallons 96% sulfuric acid to produce 1 batch (approximately 52 tons) of Tall Oil.

Therefore:

$$211 \times 2000 \times \frac{1}{24} \times \frac{1}{365} = 48.2 \text{ gallons acid/hr.}$$

Also 2000 gallons of 50% NaOH used for neutralization

$$211 \times 2000 \times \frac{1}{24} \times \frac{1}{365} = 48.2 \text{ gallons Caustic/hr.}$$

M. McGinnis
C. Moore
T. Lee
Bob Wilson
L. Yarbrough
H. Hirschman

Palatka Division

Technical Services

Date 1/3/86

EXHIBIT II

TO: W. BAXTER

FROM: R. MALLORY

SUBJECT: MONTHLY BY-PRODUCTS SUMMARY; TALL OIL & TURPENTINE PRODUCTION FOR DECEMBER 1985 and Operating Year.

TALL OIL	1984 Monthly Average	1985 Monthly Average	This Month
PRODUCTION (Tons)	627.3	910.0	543.2
Pounds/Cord Pine Wood (1985 Budget 55.0)	35.9	49.7	32.1
Cords of Pine Wood Consumed in Digesters (Excludes Bark)	34,918	36,595	33,796
Ratio of Pine to Hardwood Cooking	1.80	2.53	2.28
Tons Produced per Day (7 Day Operating Week)	21.9	30.0	19.4
Tons Produced Per Batch	48.6	51.8	38.8
Tons Shipped	624	907 *	635 *
TURPENTINE			
PRODUCTION (Gallons)	33,741	34,577	36,717
Gallons/Cord Pine Wood (1985 Budget 0.95)	0.97	0.95	1.09
Gallons Produced Per Day	1,103	1,140	1,311
Gallons Shipped	33,425	34,508	41,514

* BASED ON INVOICED TALL OIL SHIPMENTS

- R. Mallory
Tech Serv

CALCULATIONS BASED ON H_2S ONLY.

STATE ALLOWS 0.05 lb TRS / TON OF CTO.

PALATKA PRODUCES 55 TON / DAY.

∴ TOTAL TRS ALLOWED: $0.05 \times 55 = 2.75$ lb TRS

MOL. WEIGHT OF H_2S IS 34 S = 32

CONVERT TRS TO H_2S : $2.75 \times \frac{34}{32} = \underline{2.92 \text{ lb.}}$

SO, WE ARE ALLOWED TO EMIT 2.92 lb / day of H_2S.

CONVERT TO PPM:

STACK FLOWRATE: 2500 SCFM.

1 MOLE AT STANDARD COND = 359 ft^3. (32°F).

$\frac{2.92 \text{ lb}}{34 \text{ lb-mol}} = 0.0859$ moles of H_2S per day.

$0.0859 \times 359 = 30.85$ ft^3 of H_2S per day @ 32°F, 1 atm.

STACK FLOWRATE: 2500 SCFM X 120 minutes = 300,000 CF per 2-hour period (duration of acidulation).

∴ $\frac{30.85 \text{ ft}^3 \text{ of } H_2S}{300{,}000 \text{ ft}^3 \text{ of air}} \times 1{,}000{,}000 = \underline{102.8 \text{ ppm}}$

In other words, if reaction takes place in two hours, maximum emission, as H_2S would be 102.8 ppm.

FLP
25 May 85

PRADO & ASSOCIATES
Consulting Engineers

P. O. BOX 17224 TAMPA, FLORIDA 33682, U.S.A. TELEPHONE: (813) 961-8103 TELEX: 52 9396

09JUL85

EXHIBIT IV

Mr. W. R. Wilson
Georgia-Pacific Corporation
P. O. Box 919
Palatka, Florida 32078

Dear Bob:

Per today's telephone conversation, I am enclosing a copy of some of my scrubber calculations.

Please note the following: for calculations purposes, I am assuming that 100% of TRS emissions consist of H2S. While this is not theoretically correct, it is close enough in the absence of stack analysis data. The state DER will allow the daily emission of 2.75 lb as TRS or 2.92 lb as H2S. Assuming a reaction batch time of 2 hours, this converts to 102.8ppm as H2S, or 96.8ppm as TRS. These figures will of course vary if reaction time or stack flowrate change.

As far as scrubber efficiency is concerned based on previous designs, we predict a removal efficiency of over 99.5% for H2S. If you refer to my letter to J. F. Parrish dated 26JUN85, this scrubber, as designed, will guarantee solving the safety problem involved with the acidulation operation. Since we do not know the exact amount of mercaptans emitted at present and knowing that mercaptans are not so easily scrubbed as H2S, we can not guarantee the exact total emissions as TRS. However, based on previous designs we expect total emissions on the order of 20 - 50 ppm well within the Florida DER limits.

We will gladly supply any other technical data you may need for the building permit.

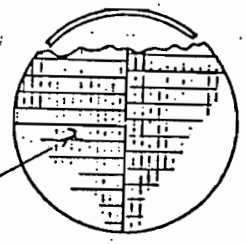
Sincerely

F. L. Prado, P.E.
Forest Products Division

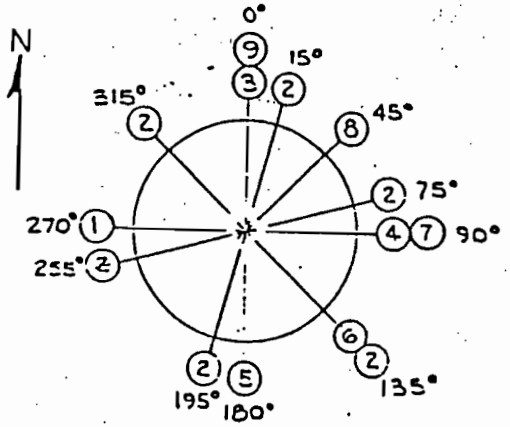
FLP:2016:PBP
cc: S.D. Bristow

Prado & Associates Consulting Engineers Tampa, FL

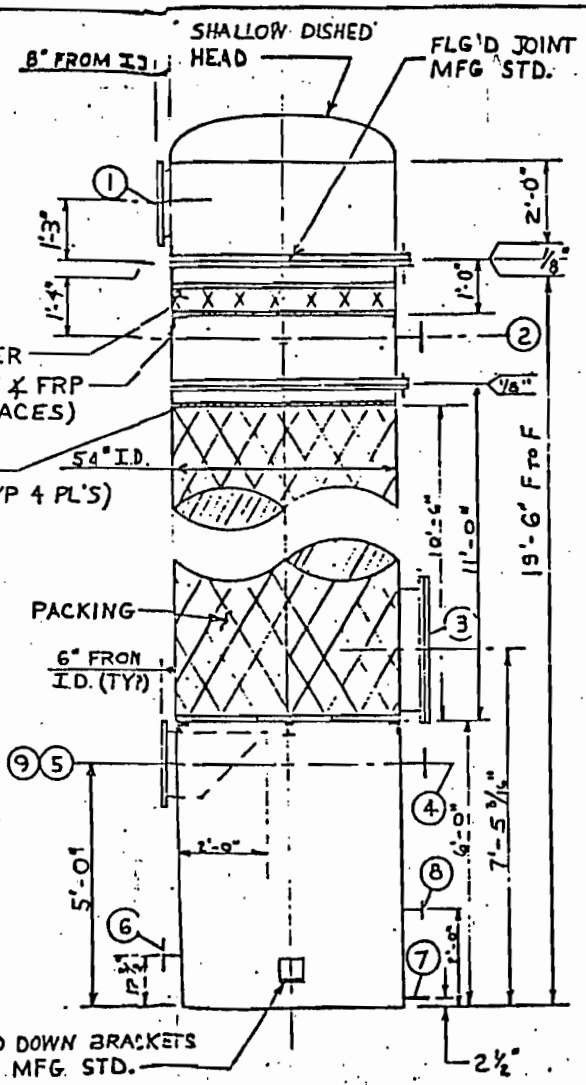
APPROVED FOR CONSTRUCTION
DATE 8 Aug 85



PACKING SUPPORT AND HOLD DOWN GRATING



NOZZLE ORIENTATION



1	VESSEL DIAMETER	4'-5" I.D.
2	VESSEL STRAIGHT SIDE	
3	NOMINAL CAPACITY	
4	PRODUCT	WHITE LIQUOR
5	SP. GR. OF PRODUCT	1.1
6	WORKING PRESSURE	ATMOSPHERIC
7	DESIGN PRESSURE	
8	WORKING TEMP	180° F
9	DESIGN TEMP	180° F
10	WEIGHT EMPTY/FULL	
11	SEISMIC FACTOR	
12	WIND FACTOR	
13	JOINT EFFICIENCY	
14	SHELL MATERIAL	FRP
15	SHELL THICKNESS	PER PS-15-69
16	BOTTOM MATERIAL	" " " "
17	BOTTOM THICKNESS	" " " "
18	HEAD MATERIAL	" " " "
19	HEAD THICKNESS	" " " "
20	CORROSION ALLOWANCE	
21	LINER	
22	CODE	PS-15-69
23	CODE STAMP	
24	STRESS RELIEVE	
25	RADIOGRAPH	
26	INSULATION SUPPORTS	NONE
27	INSULATION	NONE
28	PAINT	N/A
29	ACCESSORIES	
30	PRESSURE TEST	HYDROSTATIC

NOZZLE SCHEDULE

NOZZLE	SIZE	TYPE	RATING	REMARKS
1	16"	FLG'D	150#	OUTLET GAS
2 (Less)	4"	FLG'D	150#	WHITE LIQUOR-IN
3	30"	FLG'D	MFG STD	MANHOLE
4	3"	FLG'D	150#	WHITE LIQUOR-IN
5	16"	FLG'D	150#	INLET GAS
6	4"	FLG'D	150#	WHITE LIQUOR-OUT
7	1½"	PLAIN END	—	DRAIN
8	2"	FLG'D	150#	INSTRUMENT
9	2"	FLG'D	150#	SPARE

REV	DESCRIPTION	APPD	DATE
1	FOR BIDS ONLY	FJP	3 Aug 85
2	FOR CONSTRUCTION	FJP	8 Aug 85

NOTES:
1. SPRAY NOZZLES: BETE FOG FULL CONE 3/4", TF32 FC 316 SS, 7 REQD.
2. PACKING SUPPORT AND HOLD-

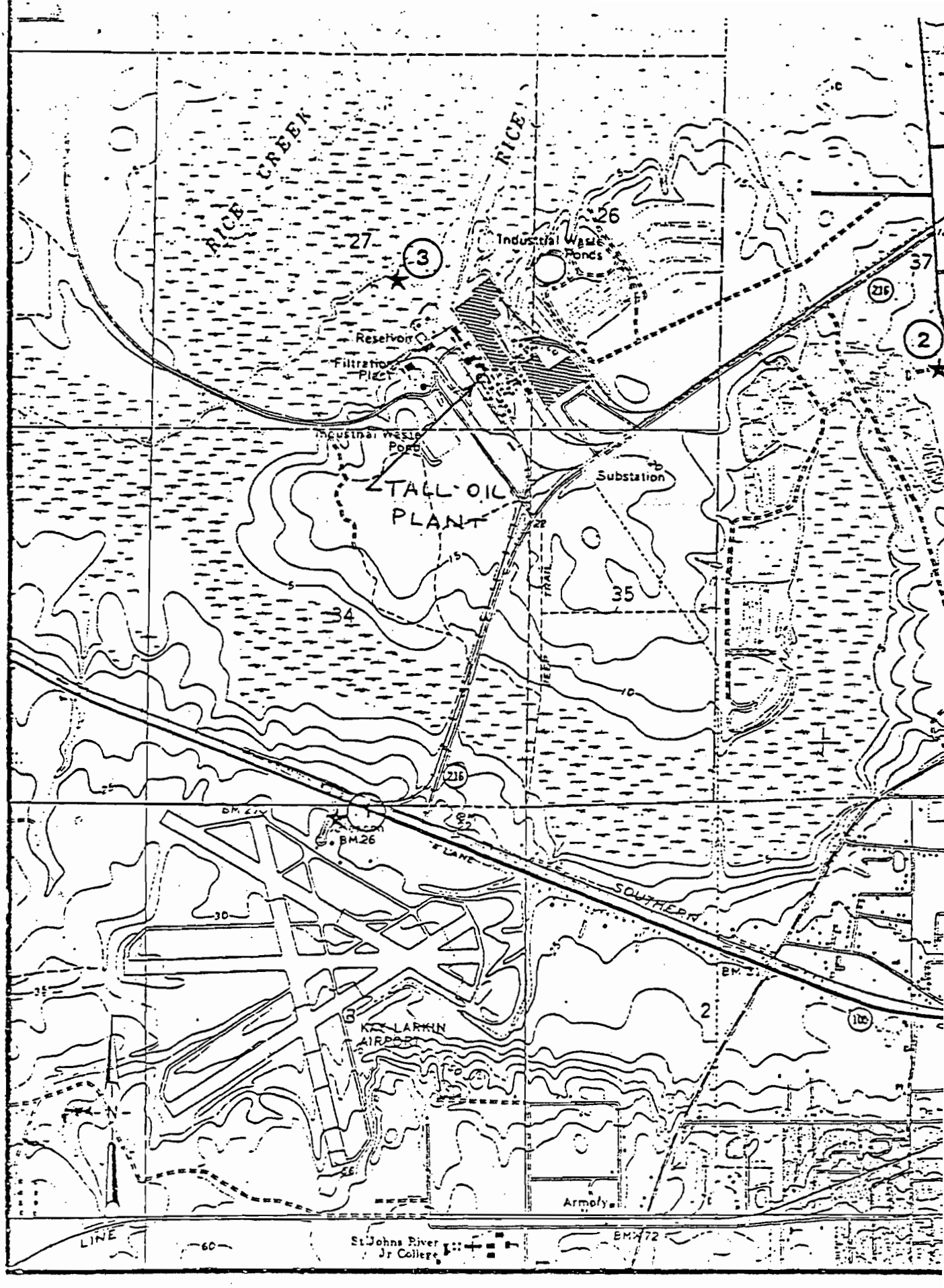
REFERENCE DRAWINGS
D-297-7810-030

AUG. 08 1985

SCALE	⅜"=1'-0"	DATE
DWN. BY	CTD	6-17-85
CHKD		
APPR.	FJPrado	6.25.85

PRADO & ASSOCIATES
CONSULTING ENGINEERS
FLORIDA, U.S.A.

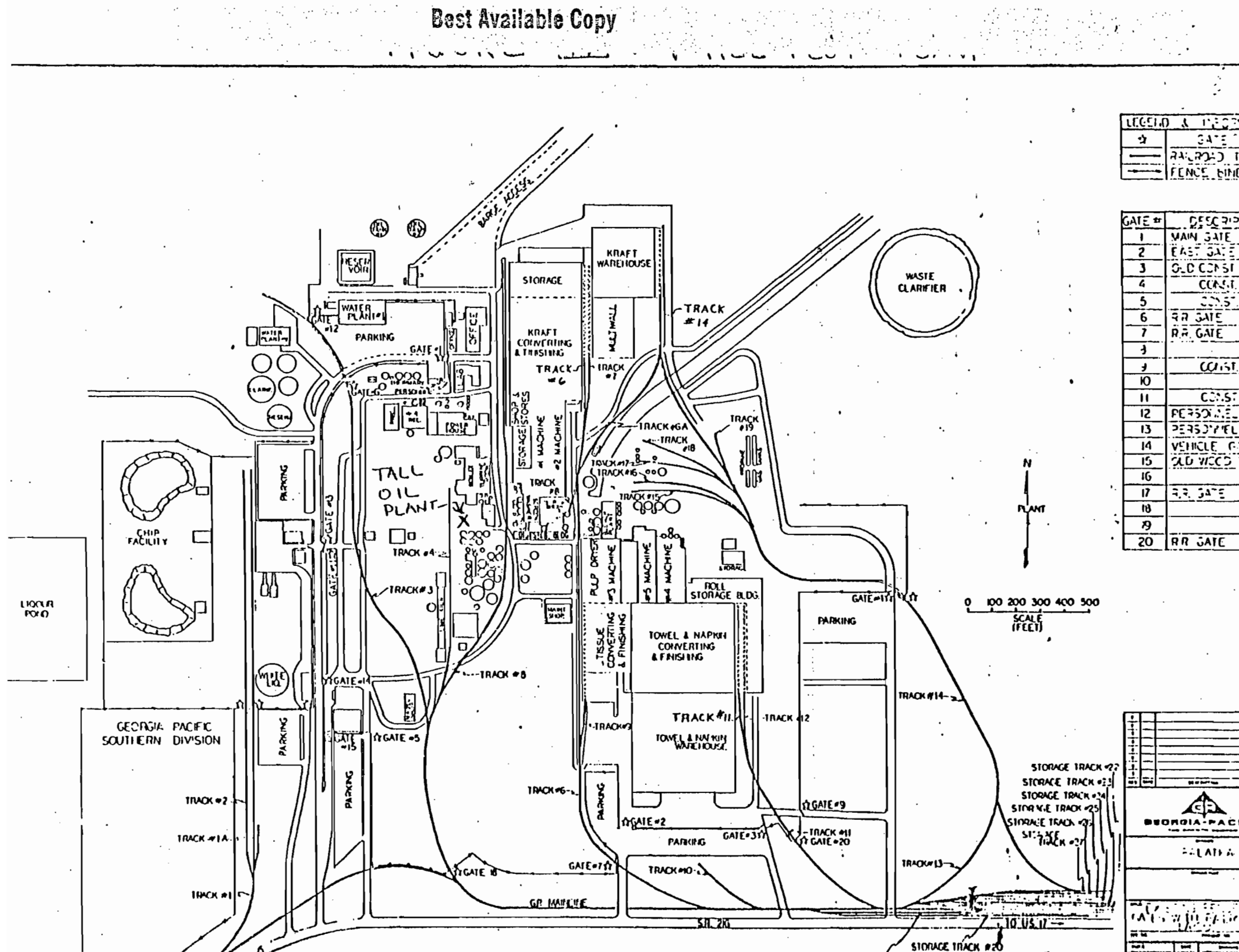
GEORGIA-PACIFIC / PALATKA
TALL OIL SCRUBBER



SCALE

1 kilometer

Figure 3 PLOT PLAN OF PLANT LO



Appendix A

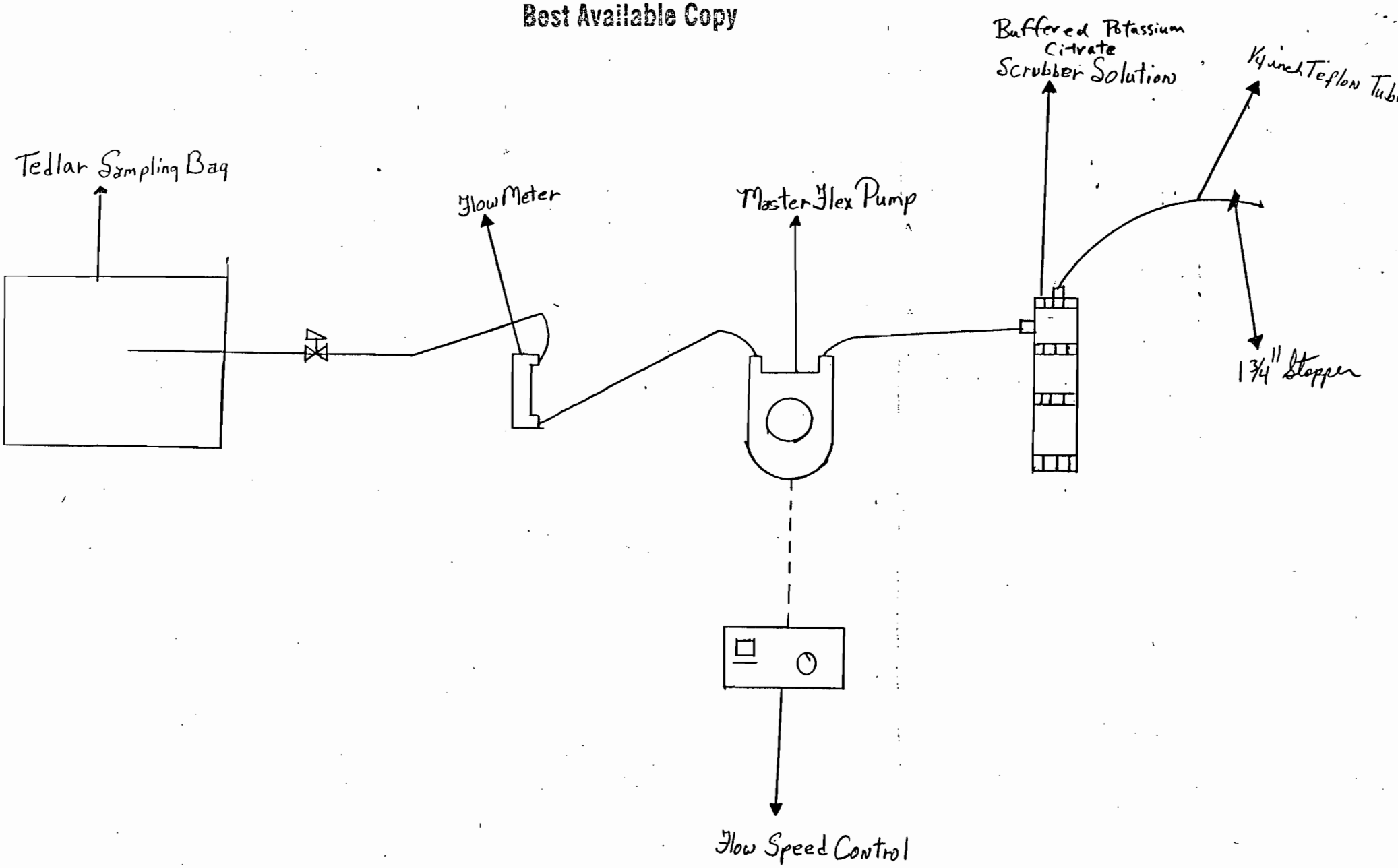
Tall Oil Plant Measurement of TRS

In sampling the Tall Oil Plant TRS emissions, samples of gas were collected from the Reactor (during both cooking and neutralization), Soap, Residue, and Finishing Tanks. The sampling system, as diagrammed on page 2 of this appendix, was taken up on top of each tank. First a leak check of the sampling system was performed by plugging the tip of the sampling line and running the pump until the flow dropped to 0 ccm. Then the sampling line was inserted in the tank vent as shown on pages 3 and 4. After purging the system for several minutes, a previously leak checked Tedlar gas bag was connected to the sampling system. The flow was set at a constant sampling rate during the complete cooking and neutralization process on the Reactor Tank, and for as long as necessary to fill the gas bag on the Soap, Residue, and Finishing Tanks. Finally a post-test leak check was made on each source, indicating that the samples were viable.

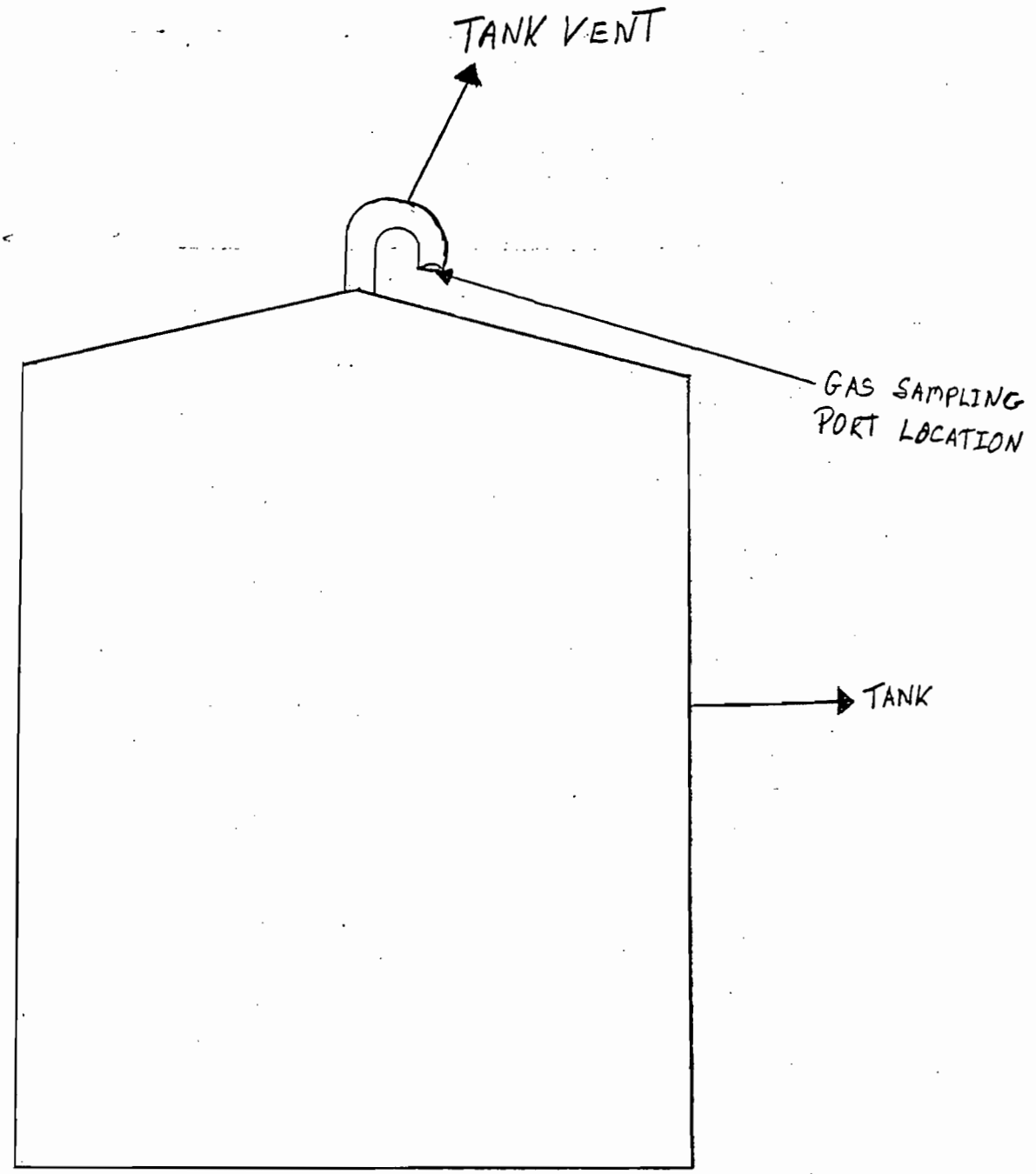
During cooking and neutralization in the Reactor, velocity measurements were made simultaneously with the gas sampling procedure. A total of twenty traverse points were selected according to stack measurements, as indicated on page 5, and EPA-RM 1. Page 6 shows the equipment used for velocity measurement.

Filled approximately 3/4 full (~70,000 cc), the Tedlar bags were shielded from light inside dark plastic bags to prevent sample degradation. These bags were then transported as quickly as possible to NCASI in Gainesville, Florida for analysis on a gas chromatograph. A pre-test three point calibration was performed on the G.C.. At least three injections were made from each sample. A post-test calibration drift check indicated that the data collected was usable. Calibration and test results are on pages 7 through 35.

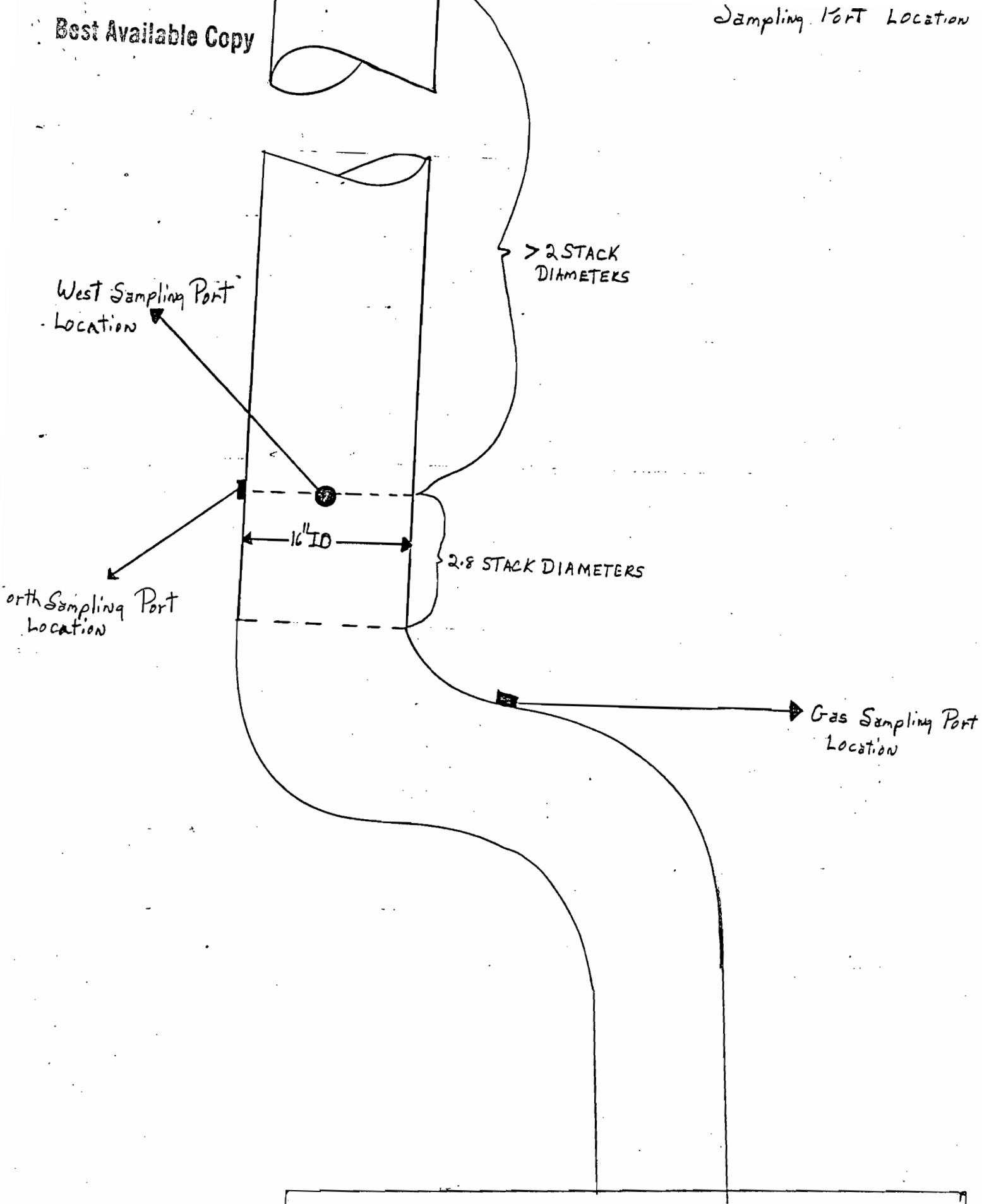
SAMPLING SYSTEM FOR TRS GASES



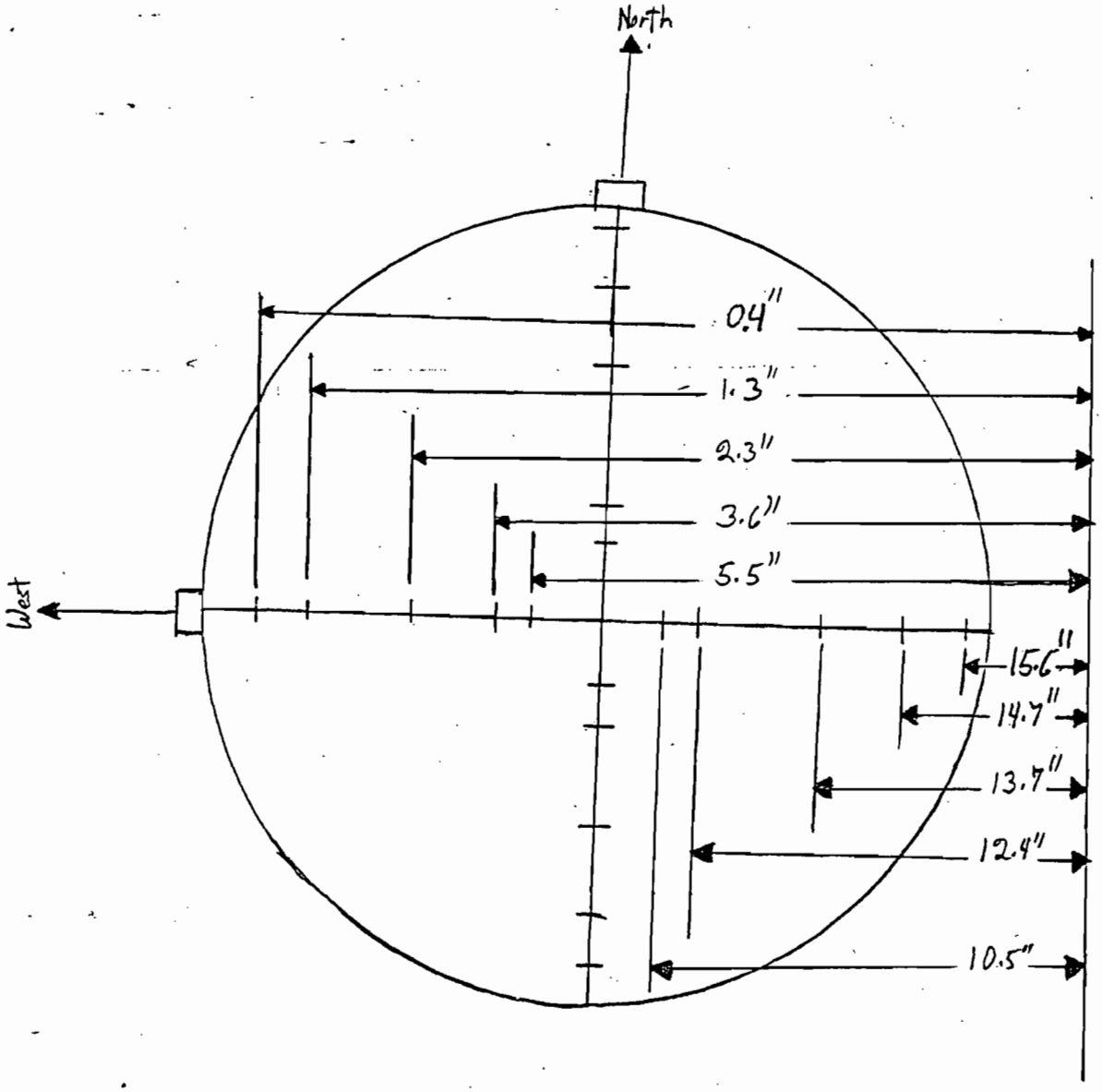
Soap, Residue and Finishing Tanks



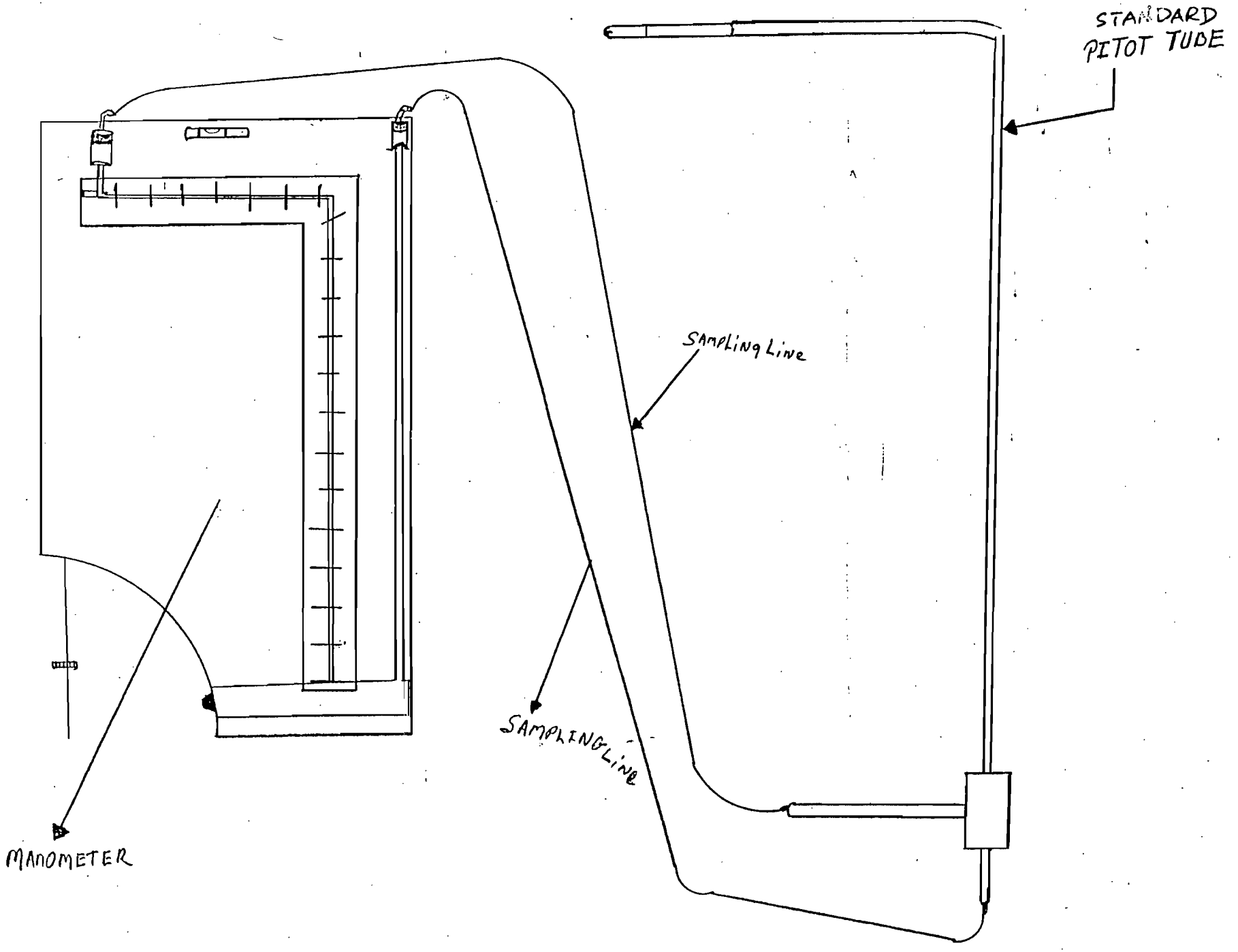
Sampling Port Location



TALL OIL REACTOR TANK VELOCITY SAMPLING POINT POSITIONS



VELOCITY SAMPLING SYSTEM



60/18.57 × 10 = 256/280 = 0.89 / 60/23.17 × 100 = 256/504 = 0.49 / 65/7.65 × 10 = 157/1085 = 0.?

DAILY GAS CHROMATOGRAPH CALIBRATION DATA

Date 1/27/86 Time AM Analyst [illegible]

H_2S Conc. 25.50 (Flow 1 time 158)

I 10.6171, S 8-2.1207, r 0.9999

	22.69 ppm Rec.	Int.	12.50 ppm Rec.	Int.	6.12 ppm Rec.	Int.
GC Response	144827		161724		52180	
	122617		155394		52222	
	128576		158421		50595	
Avg.	132006		159848		52354	

SO_2 Conc. 10.51 (3.62)

I 9 = 0.6211, S 10 = -2.1655, r = 0.9999

	9.35 ppm Rec.	Int.	5.15 ppm Rec.	Int.	2.54 ppm Rec.	Int.
GC Response	55905		20578		7553	
	55152		21776		7642	
	54993		22497		7942	
Avg.	55350		22561		7712	

MeSH Conc. 8.61 (5.76) C

11 0.6613, 12 -2.0477, r 0.9999

	7.66 ppm Rec.	Int.	4.22 ppm Rec.	Int.	2.08 ppm Rec.	Int.
GC Response	26364		10422		3746	
	27654		10821		3709	
	26381		10636		3687	
Avg.	26841		10626		3724	

DMS Conc. 4.64 (4.20) D

13 0.7145, 14 -2.0550, r 0.9993

	4.13 ppm Rec.	Int.	2.22 ppm Rec.	Int.	1.12 ppm Rec.	Int.
GC Response	5139		2542		582	
	5232		2497		823	
	5477		2509		875	
Avg.	5284		2516		860	

DMDS Conc. 4.31 (5.77) E

15 0.7003, 16 -2.7501, r 0.9979

	3.84 ppm Rec.	Int.	2.11 ppm Rec.	Int.	1.04 ppm Rec.	Int.
GC Response	13476		5244		1919	
	12122		5160		1910	
	11463		5150		1906	
Avg.	12352		5194		1912	

COS 4.01 (2.43) B

9 0.7298, 10 -2.5418, r 0.9999

	3.57	1.96	0.97
	16817	7571	3052
	17903	7572	2961
	17621	7549	2762
	17447	7571	2925

$\frac{6C}{29.72} \times 10 = \frac{20.15}{\quad} = 0.00485$

$\frac{6C}{7.25} \times 50 = 41384 + 20.15$

GC DATA

Reactor During Leak

DATE 1/28/86

Time	H_2S Response	H_2S Conc., ppm	MeSH Response	MeSH Conc., ppm	DMS Response	DMS Conc., ppm	DMDS Response	DMDS Conc., ppm	To
	2 49186	15.02							
	21490 11	14.84							
	227716	15.38							
	220580	15.08 ÷ 0.00485							
									3102

-26-

GC DATA

Reactor Neutralization

DATE 11/8/96

Time	H_2S Response	H_2S Conc., ppm	MeSH Response	MeSH Conc., ppm	DMS Response	DMS Conc., ppm	DMDS Response	DMDS Conc., ppm	Tot
	1022	0.55	BDL	trace	BDL	trace	239	0.49	
	1018	0.54	↓	↓	↓	↓	244	0.49	↓
	1008	0.54					259	0.51	
	1016	0.54					247	0.50	1.0

GP Paloma

GC DATA

Finishing Tank

DATE 1/24/96

Time	H_2S Response	H_2S Conc., ppm	MeSH Response	MeSH Conc., ppm	~~DMD~~ COS Response	~~DMD~~ COS Conc., ppm	DMDS Response	DMDS Conc., ppm	Tot
11:30	618	0.40	8260	1.00	551	0.29			
↓	566	0.38	8138	1.04	539	0.28			
↓	636	0.41	8172	1.03	508	0.27			
12:15	607	0.40	8190	1.03	533	0.27			1.4
						not ins			

G.P. Pulpka

GC DATA

Residue tank

DATE 1/26/16

Time	H_2S Response	H_2S Conc., ppm	MeSH Response	MeSH Conc., ppm	DMS Response	DMS Conc., ppm	DMDS Response	DMDS Conc., ppm	Tot
12:54	4178	1.30	BDL		2265	2.20	trace		
	4216	1.31	BDL		2246	2.19	trace		
	4134	1.29	BDL		2256	2.19	trace		
13:42	4176	1.30	BDL		2256	2.19	trace		3.4

G-P. Palatka

GC DATA

Soap Tank

DATE 1/28/16

	H_2S		MeSH		DMS		DMDS		Tot…
Time	Response	Conc., ppm	Response	Conc., ppm	Response	Conc., ppm	Response	Conc., ppm	
10:45	BDL	N/A	133	0.23	262	0.47	169	0.38	
	BDL	N/A	141	0.24	252	0.46	166	0.38	
	BDL	N/A	128	0.22	230	0.43	167	0.38	
11:20	No Response		134	0.23	248	0.45	167	0.38	1.0

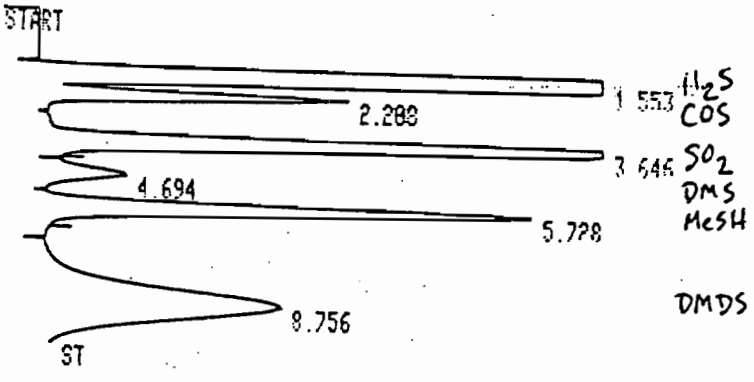
Best Available Copy

```
RUN PRMTRS
ZERO    =  0
ATT 2^  =  2
CHT SP  =  0.4
PK WD   =  0.64
THRSH   =  0
AR REJ  =  0

RPRT OPTNS
  2. RF UNC PKS=      0.0000E+00
  3. MUL FACTOR=      1.0000E+00
  4. PK HEIGHT MODE     YES
  5. EXTEND RT          YES
  6. RPRT UNC PKS        NO

TIME TBL
 -10.25 STOP

CALIB TBL
EMPTY
```

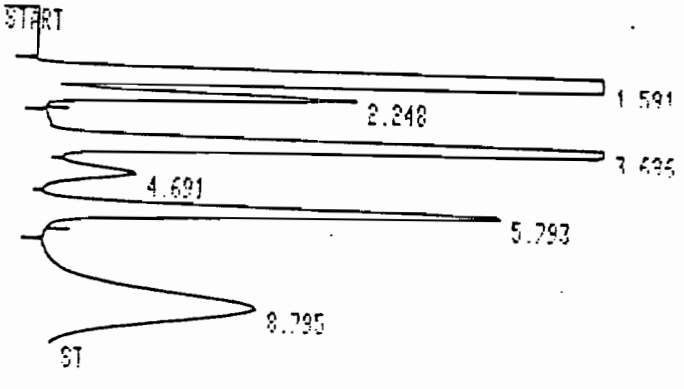


RUN # 1 JAN/28/86 08:01:46

HEIGHT%

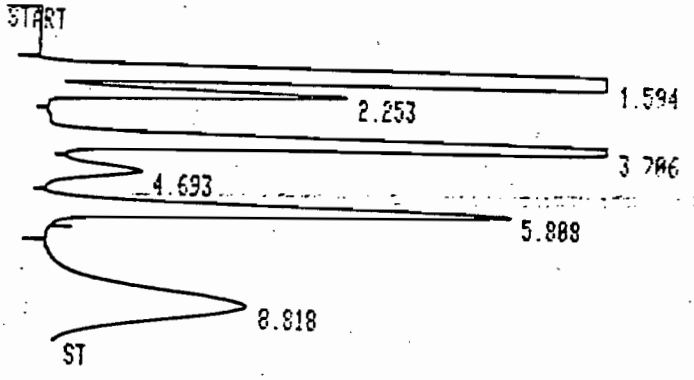
RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.553	444827	D PV	0.255	79.035
2.288	16817	D VP	0.294	2.988
3.646	55985	D PB	0.385	9.933
4.694	4139	D BP	0.399	0.735
5.728	27658	D PB	0.356	4.914
8.756	13476	I BH	1.162	2.394

TOTAL HGHT= 562820
MUL FACTOR= 1.0000E+00



HEIGHT% RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.591	422687	D PV	0.255	78 342
2.248	17903	D VB	0.281	3 319
3.696	55152	D BV	0.313	10 224
4.691	5237	D VP	0.457	0 971
5.793	26364	D PB	0.359	4 887
8.795	12178	I PH	1.167	2 258

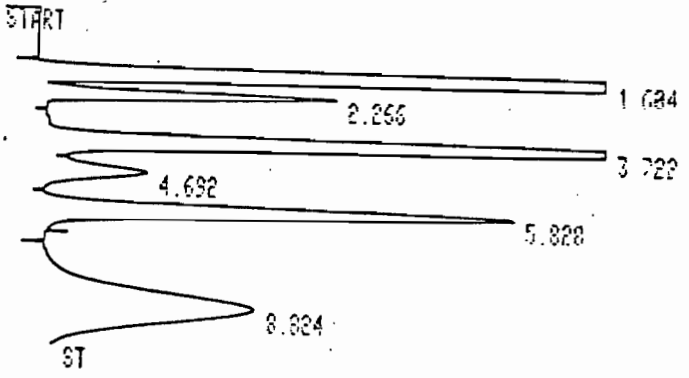
TOTAL HGHT= 539440
MUL FACTOR= 1.0000E+00



RUN # 3 JAN/28/86 08:27:45

HEIGHT% RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.594	408578	D PV	0.254	77 986
2.253	17621	D VV	0.289	3 368
3.706	54993	D VV	0.320	10 496
4.693	5477	D VP	0.466	1 044
5.808	26381	D PB	0.359	5 036
8.818	11403	I PH	1.168	2 174

TOTAL HGHT= 524450
MUL FACTOR= 1.0000E+00

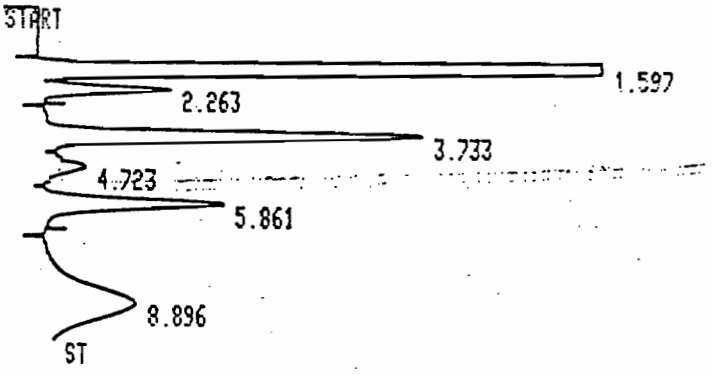


RUN # 4 JAN/28/86 08:34:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.604	129308	D PV	0.257	52 194
2.266	16849	D VV	0.283	6 801
3.722	56804	D VV	0.319	22 929
4.692	5968	D VP	0.470	2 409
5.828	26904	D PB	0.361	10 860
8.824	11911	I PH	1.167	4 808

TOTAL HGHT= 247740
MUL FACTOR= 1.0000E+00

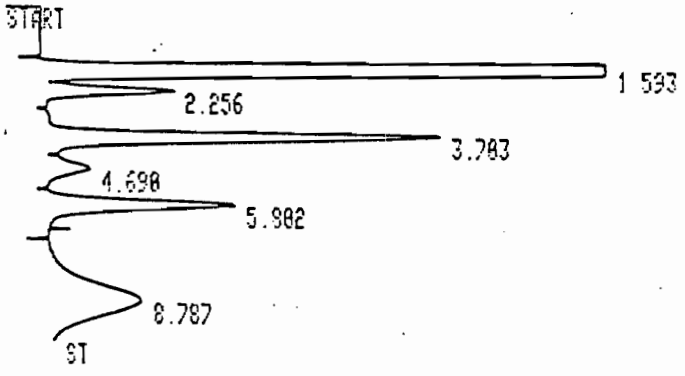


RUN # 5 JAN/28/86 08:45:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.597	150428	D PV	0.257	76 134
2.263	7388	D VB	0.287	3 739
3.733	21818	D BV	0.327	11 042
4.723	2392	D VP	0.487	1 211
5.861	10422	D PB	0.376	5 275
8.896	5134	I PH	1.240	2 598

TOTAL HGHT= 197580
MUL FACTOR= 1.0000E+00

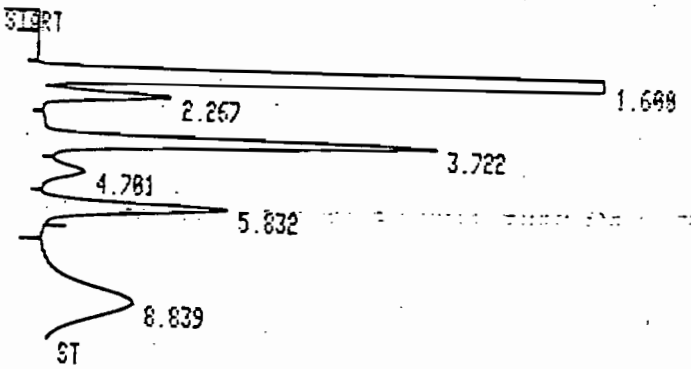


RUN # 6 JAN/28/86 08:56:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.593	161724	D PY	0.256	76.752
2.256	7571	D VV	0.384	3.593
3.703	22808	D VV	0.334	10.824
4.690	2542	D VV	0.580	1.206
5.802	10821	D VB	0.375	5.136
8.787	5244	I BH	1.214	2.489

TOTAL HGHT= 210710
MUL FACTOR= 1.0000E+00

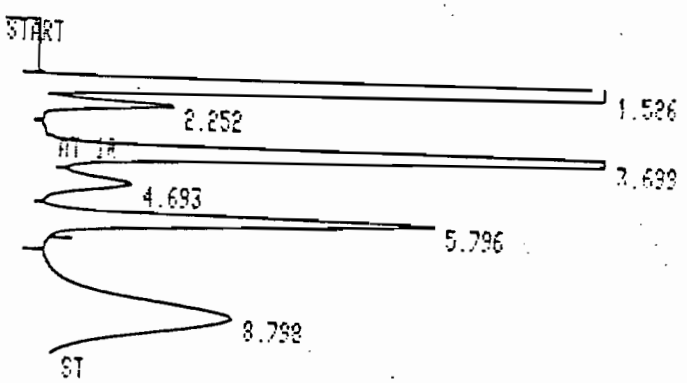


RUN # 7 JAN/28/86 09:07:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.600	159398	D PY	0.254	76.722
2.267	7572	D VV	0.383	3.645
3.722	22497	D VV	0.333	10.828
4.701	2497	D VP	0.494	1.202
5.832	10636	D PB	0.378	5.119
8.839	5160	I BH	1.220	2.484

TOTAL HGHT= 207760
MUL FACTOR= 1.0000E+00



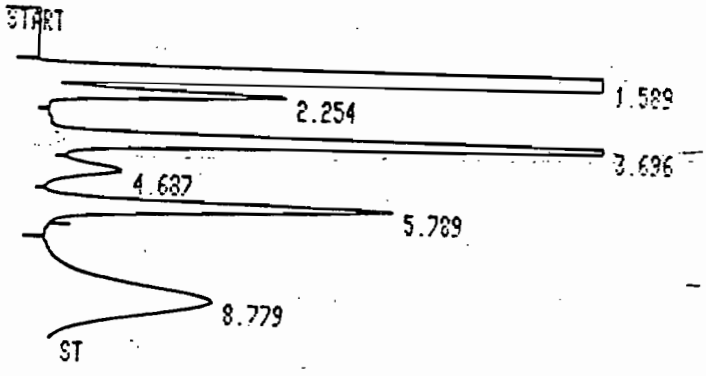
RUN # 8 JAN/28/86 09:10:45

RUN # 8 JAN/28/86 09:18:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.586	169429	D BV	0.254	77 266
2.252	7599	D VV	0.382	3 465
3.699	23376	D VV	0.331	10.660
4.693	2509	D VP	0.486	1 144
5.796	11047	D PB	0.368	5 038
8.798	5320	I PH	1.286	2 426

TOTAL HGHT= 219280
MUL FACTOR= 1.0000E+00

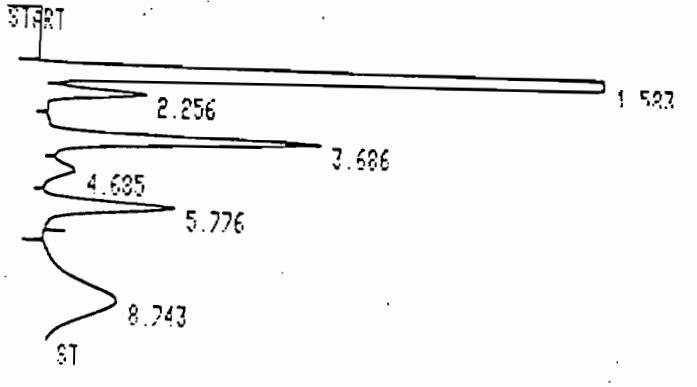


RUN # 9 JAN/28/86 09:29:45

HEIGHT%

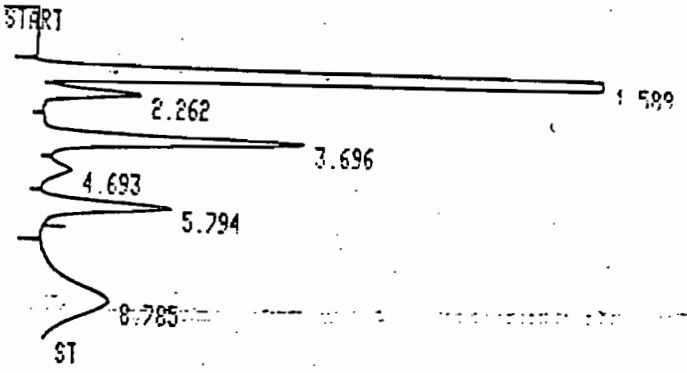
RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.589	151421	D PV	0.256	77 103
2.254	6999	D VV	0.385	3 564
3.696	21001	D VV	0.332	10 694
4.687	2273	D VV	0.489	1.157
5.789	9897	D VB	0.368	5 040
8.779	4796	I BH	1 212	2 442

TOTAL HGHT= 196390
MUL FACTOR= 1.0000E+00



2.256	3852	D VV	0.326	4.356
3.686	7942	D VV	0.361	11.336
4.685	975	D VV	0.538	1.392
5.776	3790	D VB	0.398	5.410
8.743	2119	I BH	1.301	3.025

TOTAL HGHT= 70058
MUL FACTOR= 1.0000E+00

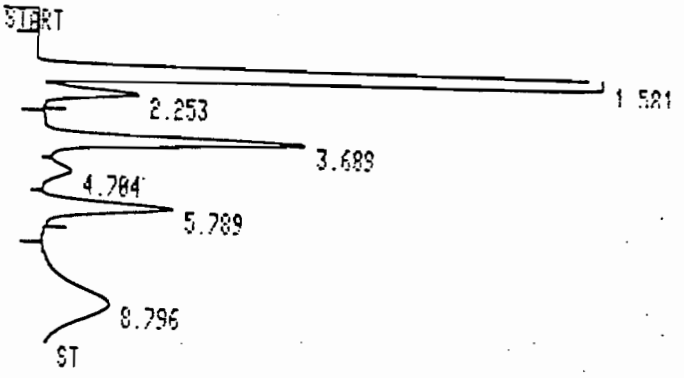


RUN # 11 JAN/28/86 09:51:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.589	51595	D PV	0.257	75.131
2.262	2961	D VV	0.321	4.312
3.696	7642	D VV	0.353	11.128
4.693	882	D VV	0.517	1.284
5.794	3687	D VB	0.383	5.369
8.785	1906	I PH	1.277	2.776

TOTAL HGHT= 68673
MUL FACTOR= 1.0000E+00



RUN # 12 JAN/28/86 10:02:45

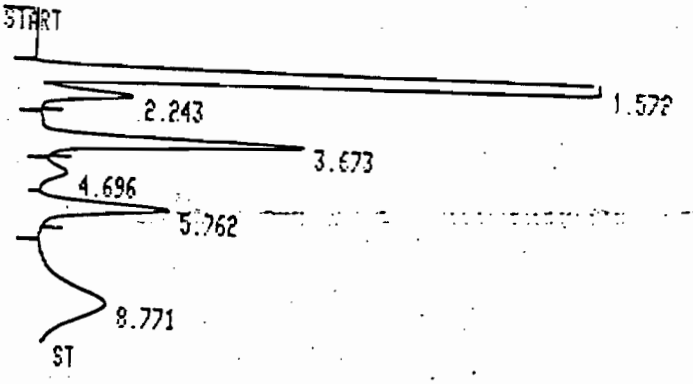
HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.581	52287	D PV	0.255	75.739

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.581	52287	D PY	0.255	75.738
2.253	2762	D YB	0.308	4.000
3.689	7553	D BY	0.337	10.939
4.704	823	D YP	0.581	1.192
5.789	3709	D PB	0.382	5.372
8.796	1910	I PH	1.274	2.766

TOTAL HGHT= 69044
MUL FACTOR= 1.0000E+00

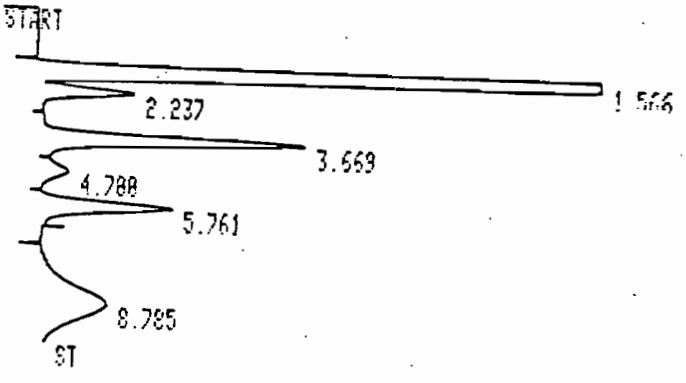


RUN # 13 JAN/28/86 10:17:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.572	53329	D PY	0.255	76.382
2.243	2723	D YB	0.308	3.900
3.673	7465	D PB	0.318	10.692
4.696	659	D BP	0.420	0.944
5.762	3729	D PB	0.381	5.341
8.771	1914	I PH	1.269	2.741

TOTAL HGHT= 69819
MUL FACTOR= 1.0000E+00



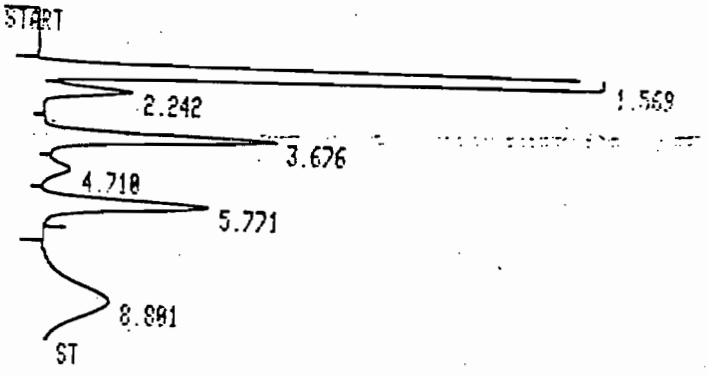
RUN # 14 JAN/28/86 10:24:45

RUN # 14 JAN/28/86 10:24:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.566	53985	D PV	0.256	76 187
2.237	2798	D VV	0.333	3 945
3.669	7668	D VV	0.350	10 810
4.700	826	D VP	0.508	1 165
5.761	3753	D PB	0.379	5 291
8.785	1903	I BH	1.270	2 683

TOTAL HGHT= 70933
MUL FACTOR= 1.0000E+00

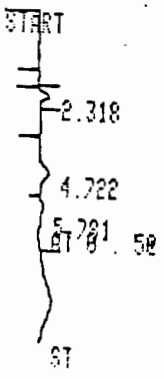


RUN # 15 JAN/28/86 10:35:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.569	52063	D PV	0.259	75 498
2.242	2666	D VV	0.332	3 866
3.676	6697	D VV	0.351	9 710
4.710	842	D VV	0.589	1 221
5.771	4790	D VB	0.379	6 945
8.801	1909	I BH	1.271	2 768

TOTAL HGHT= 68967
MUL FACTOR= 1.0000E+00



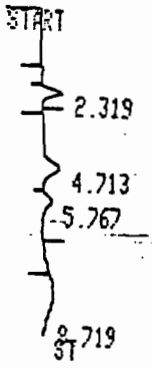
SOAP
ATAK

RUN # 16 JAN/28/86 10:46:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.318	310	D PB	0.267	43.972
4.722	262	BP	0.512	37.163
5.781	133	D PB	0.352	18.865

TOTAL HGHT= 705
MUL FACTOR= 1.0000E+00

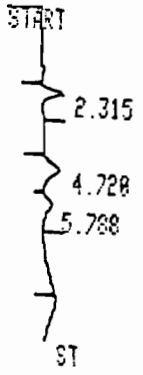


RUN # 17 JAN/28/86 10:57:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.319	294	D PB	0.274	34.346
4.713	252	PV	0.600	29.439
5.767	141	D VB	0.389	16.472
8.719	169	I BH	1.321	19.743

TOTAL HGHT= 856
MUL FACTOR= 1.0000E+00



RUN # 18 JAN/28/86 11:08:45

HEIGHT%

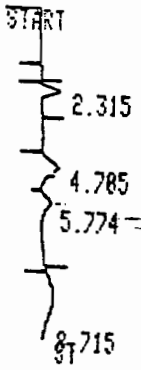
RT	HEIGHT	TYPE	AR/HT	HEIGHT%

RUN # 18 JAN/28/86 11:08:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.315	292	D PB	0.249	44.923
4.720	230	PP	0.478	35.385
5.788	128	D PB	0.425	19.692

TOTAL HGHT= 650
MUL FACTOR= 1.0000E+00

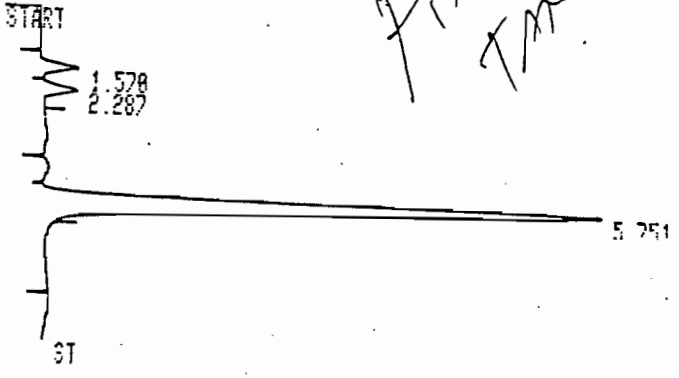


RUN # 19 JAN/28/86 11:19:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.315	290	D PB	0.246	35.891
4.705	226	PP	0.474	27.970
5.774	126	D PB	0.278	15.594
8.715	166	I BH	1.398	20.545

TOTAL HGHT= 808
MUL FACTOR= 1.0000E+00



RUN # 20 JAN/28/86 11:30:45

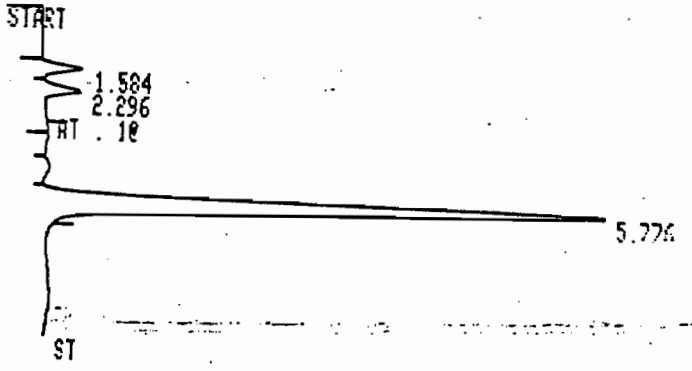
HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.570	518	D PY	0.265	5.788
2.287	486	D VB	0.295	5.431
5.751	7945	D PB	0.366	88.781

TOTAL HGHT= 8949
MUL FACTOR= 1.0000E+00

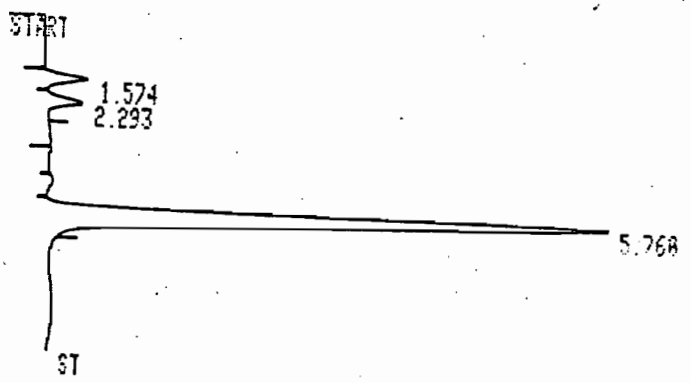


RUN # 21 JAN/28/86 11:41:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.584	566	D PY	0.264	6.172
2.296	524	D VB	0.269	5.714
5.776	8081	D PB	0.368	88.115

TOTAL HGHT= 9171
MUL FACTOR= 1.0000E+00



RUN # 22 JAN/28/86 11:52:45

HEIGHT%

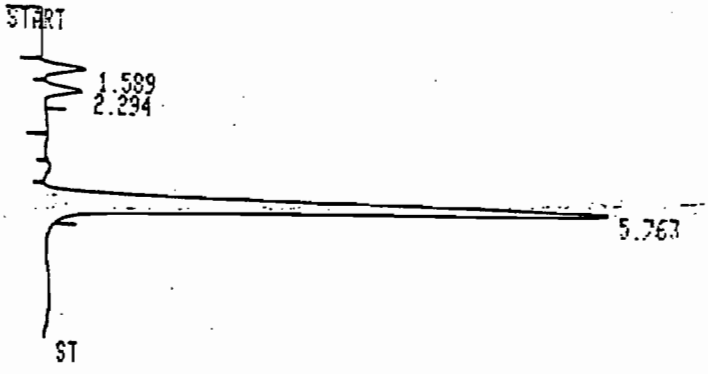
RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.574	600	D PY	0.268	6.489
2.293	508	D VB	0.287	5.494
5.760	8138	D PB	0.368	88.016

RUN # 22 JAN/28/86 11:52:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.574	600	D PV	0.268	6.489
2.293	508	D VB	0.287	5.494
5.760	8138	D PB	0.368	88.016

TOTAL HGHT= 9246
MUL FACTOR= 1.0000E+00

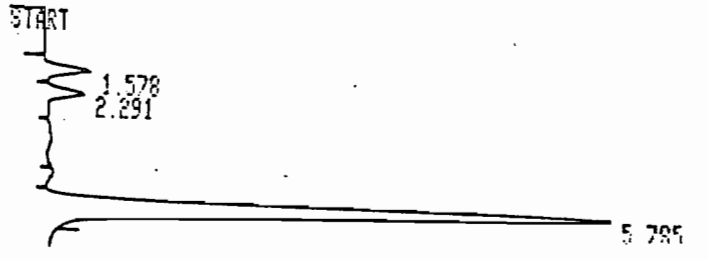


RUN # 23 JAN/28/86 12:03:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.589	617	D PV	0.275	6.553
2.294	539	D VB	0.286	5.724
5.763	8260	D PB	0.365	87.723

TOTAL HGHT= 9416
MUL FACTOR= 1.0000E+00



STOP

RUN # 24 JAN/28/86 12:14:45

HEIGHT%

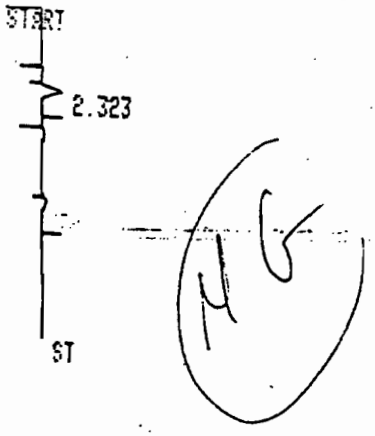
RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.578	636	D PV	0.283	6.796
2.291	551	D VV	0.318	5.887
5.785	8172	D PB	0.370	87.317

RUN # 24 JAN/28/86 12:14:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.578	636	D PY	0.283	6.796
2.291	551	D VV	0.318	5.887
5.785	8172	D PB	0.370	87.317

TOTAL HGHT= 9359
MUL FACTOR= 1.0000E+00

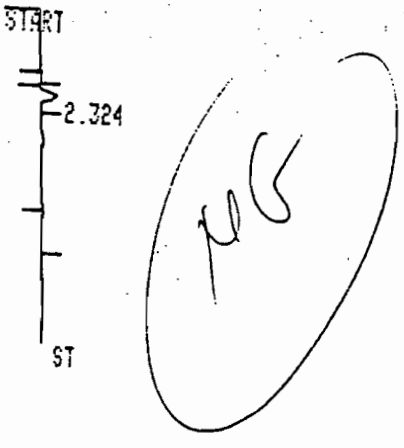


RUN # 25 JAN/28/86 12:25:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.323	282	D PB	0.263	100.000

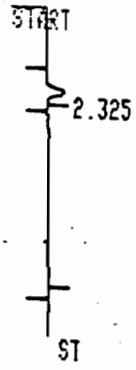
TOTAL HGHT= 282
MUL FACTOR= 1.0000E+00



RUN # 26 JAN/28/86 12:36:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.324	253	D PB	0.270	100.000

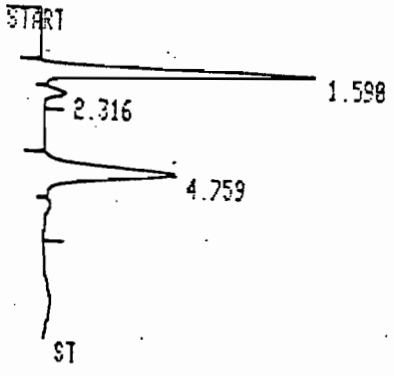


RUN # 27 JAN/28/86 12:47:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.325	264	D PB	0.256	100.000

TOTAL HGHT= 264
MUL FACTOR= 1.0000E+00

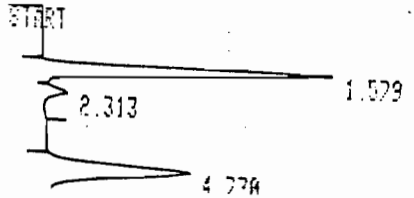


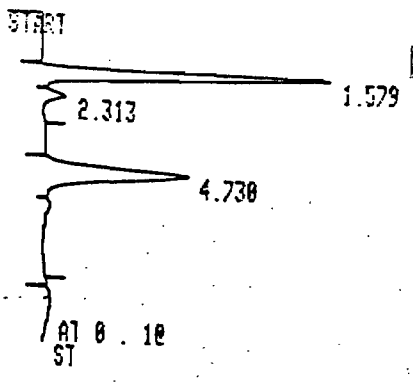
RUN # 28 JAN/28/86 12:58:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.598	3904	D PY	0.267	63.583
2.316	351	D YB	0.286	5.717
4.759	1885	BV	0.456	30.700

TOTAL HGHT= 6140
MUL FACTOR= 1.0000E+00



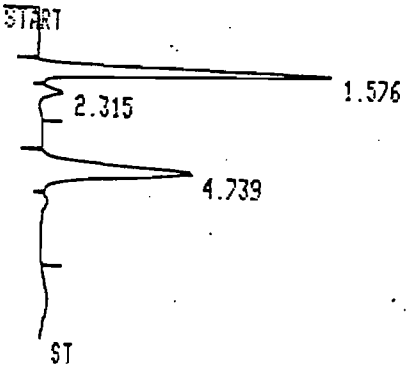


RUN # 29 JAN/28/86 13:09:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.579	4134	D PV	0.266	63.551
2.313	317	D VB	0.278	4.873
4.730	2054	BV	0.453	31.576

TOTAL HGHT= 6505
MUL FACTOR= 1.0000E+00

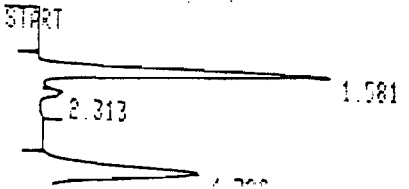


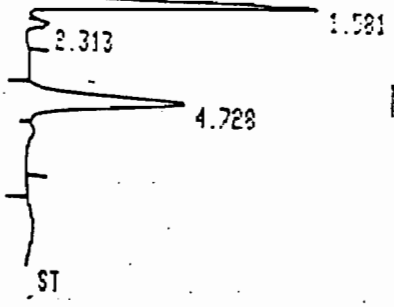
RUN # 30 JAN/28/86 13:20:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.576	4216	D PV	0.268	63.095
2.315	320	D VB	0.284	4.789
4.739	2146	BV	0.451	32.116

TOTAL HGHT= 6682
MUL FACTOR= 1.0000E+00



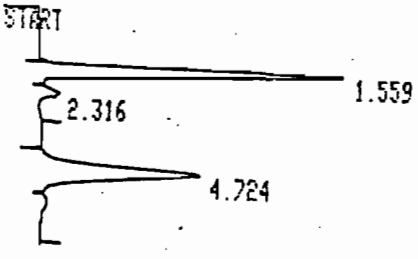


RUN # 31 JAN/28/86 13:31:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.581	4178	D PY	0.268	61.951
2.313	301	D YB	0.287	4.463
4.728	2265	BY	0.460	33.585

TOTAL HGHT= 6744
MUL FACTOR= 1.0000E+00



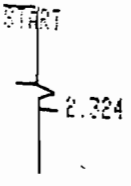
STOP

RUN # 32 JAN/28/86 13:42:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.559	4434	D BY	0.266	63.406
2.316	303	D YB	0.266	4.333
4.724	2256	BY	0.453	32.261

TOTAL HGHT= 6993
MUL FACTOR= 1.0000E+00



STOP

RUN # 33 JAN/28/86 13:53:45

HEIGHT% RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.324	241	D BB	0.273	100.000

TOTAL HGHT= 241.
MUL FACTOR= 1.0000E+00

START
2.228
STOP

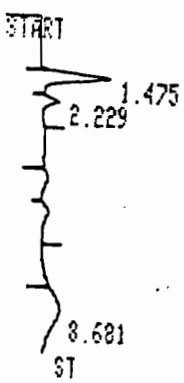
ESCAPE

START
2.230
STOP

ESCAPE

START
2.228
STOP

ESCAPE

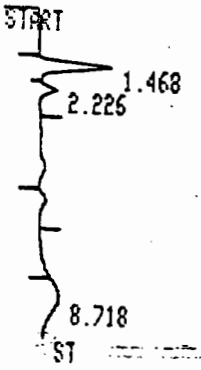


RUN # 37 JAN/28/86 14:11:46

HEIGHT% RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.475	324	D BV	0.282	67.289
2.229	219	D VB	0.240	16.867
8.681	220	I BH	1.176	16.141

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.475	924	D BV	0.282	67.792
2.229	219	D VB	0.248	16.067
8.681	220	I BH	1.176	16.141

TOTAL HGHT= 1363
MUL FACTOR= 1.0000E+00

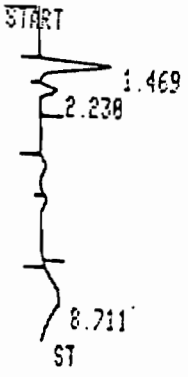


RUN # 38 JAN/28/86 14:22:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.468	1022	D PV	0.276	68.316
2.226	230	D VB	0.247	15.374
8.718	244	I BH	1.182	16.310

TOTAL HGHT= 1496
MUL FACTOR= 1.0000E+00



RUN # 39 JAN/28/86 14:33:46

HEIGHT%

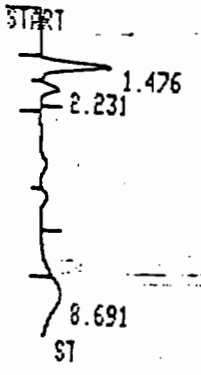
RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.469	1018	D BV	0.272	67.417
2.230	233	D VB	0.245	15.430
8.711	259	I BH	1.316	17.152

RUN # 39 JAN/28/86 14:33:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.469	1018	D BY	0.272	67.417
2.230	233	D YB	0.245	15.430
8.711	259	I BH	1.316	17.152

TOTAL HGHT= 1510
MUL FACTOR= 1.0000E+00



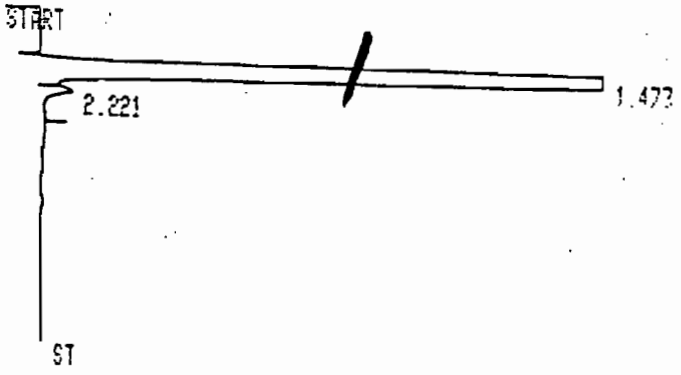
RUN # 40 JAN/28/86 14:44:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.476	1008	D PY	0.277	67.696
2.231	244	D YB	0.286	16.365
8.691	239	I BH	1.138	16.079

TOTAL HGHT= 1491
MUL FACTOR= 1.0000E+00

Penetr
Cook



RUN # 41 JAN/28/86 14:55:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.473	76542	D PB	0.254	99.685
2.221	242	D BB	0.039	0.315

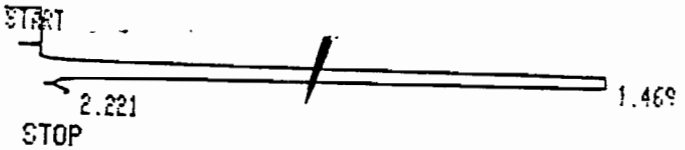
RUN # 41 JAN/28/86 14:55:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.473	76542	D PB	0.254	99.685
2.221	242	D BB	0.839	0.315

TOTAL HGHT= 76784
MUL FACTOR= 1.0000E+00

0.0025



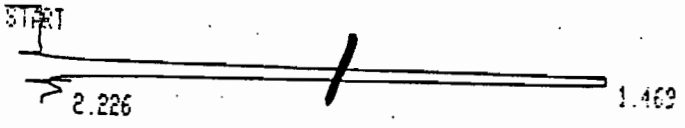
STOP

RUN # 42 JAN/28/86 15:06:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.469	36125	D PV	0.258	98.881
2.221	409	I VH	0.274	1.120

TOTAL HGHT= 36534
MUL FACTOR= 1.0000E+00



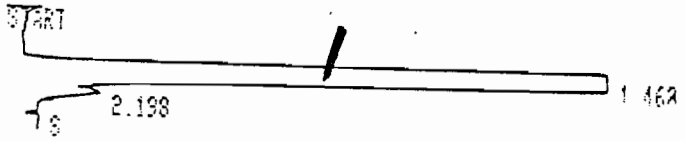
STOP

RUN # 43 JAN/28/86 15:09:52

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.469	17462	D PB	0.260	98.633
2.226	242	I BP	0.229	1.367

TOTAL HGHT= 17704
MUL FACTOR= 1.0000E+00



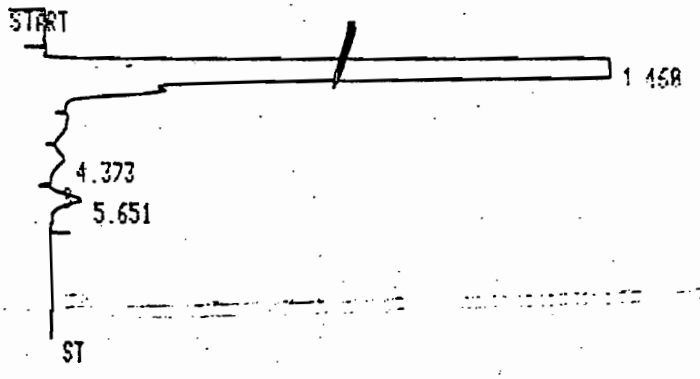
STOP

RUN # 44 JAN/28/86 15:21:04

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.460	580761	DSBB	0.254	99 930
2.198	404	DTBB	0.221	0 070

TOTAL HGHT= 581170
MUL FACTOR= 1.0000E+00

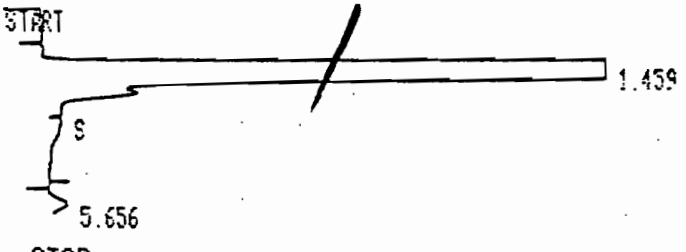


RUN # 45 JAN/28/86 15:25:24

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.460	1609450	DSBB	0.256	99 961
4.373	163	TPB	0.582	0 010
5.651	459	D BB	0.421	0 029

TOTAL HGHT= 1610100
MUL FACTOR= 1.0000E+00

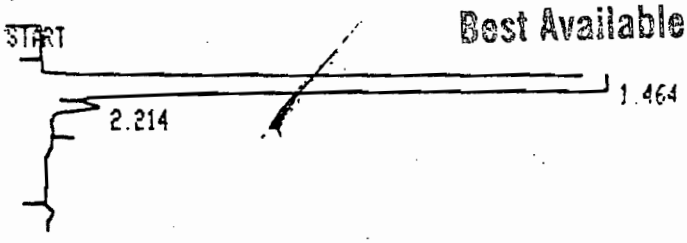


RUN # 46 JAN/28/86 15:36:24

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.459	1139295	DSPB	0.256	99 976
5.656	274	I PH	0.400	0 024

TOTAL HGHT= 1139600
MUL FACTOR= 1.0000E+00



STOP

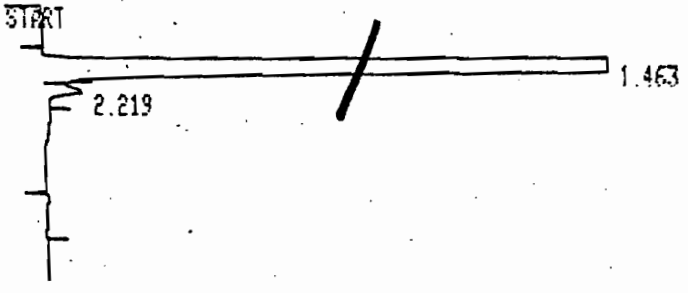
RUN # 47 JAN/28/86 15:43:01

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.464	227716	D PB	0.255	99.862
2.214	315	D BB	0.000	0.138

0.0078

TOTAL HGHT= 228030
MUL FACTOR= 1.0000E+00



STOP

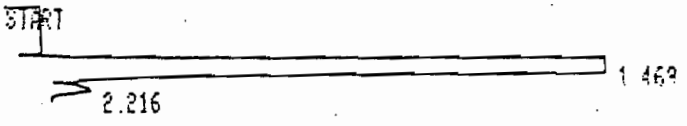
RUN # 48 JAN/28/86 15:50:06

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.463	82570	D PB	0.256	99.634
2.219	303	D BB	0.152	0.366

Δ Displacement

TOTAL HGHT= 82873
MUL FACTOR= 1.0000E+00



STOP

RUN # 49 JAN/28/86 15:

TO: Clair

FROM: Bruce

DATE: September 23, 1986

SUBJ: Status of Georgia-Pacific Corps Tall Oil Plant
Construction Permit No. AC 54-104945

- Incompleteness letter sent 2/25/86 ∆
- Reminder letter sent 8/13/86 ∆
- Response received by NE District + BAQM 9/22/86 -
  "completeness review period" status at the moment -
  spoke w F. Cole on the receipt + review process ∆
- TE + PD has been partially written and will be continued ∆

9-22-86
@ Bill
@ Bruce (my copy)

Georgia-Pacific Corporation *Palatka Operations*
Southern Pulp & Paper Division
P.O. Box 919
Palatka, Florida 32078-0919
Telephone (904) 325-2001

September 19, 1986

Mr. W. P. Stewart
Supervisor, Air Section
State of Florida
Department of Environmental Regulation
3426 Bills Road
Jacksonville, Florida 32207

Re: Tall Oil Plant Permit Application

Dear Mr. Stewart:

This is in response to your letter dated February 25, 1986 (attached) concerning additional data necessary for the construction permit application for the Tall Oil Plant scrubber. The reason for the delay in answering your letter is that after considering the circumstances we decided that the construction permit was unnecessary. This decision was based on the fact that FDER, Tallahassee, informed us that permits were not needed to install precipitators on the No. 5 Power Boiler and the No. 4 Combination Boiler. We view the installation of a scrubber on the Tall Oil Plant as an identical situation.

As a result of this decision we continued with the installation and the scrubber was started up in June 1986. This was three years prior to the date required by Florida's TRS rule. Recent tests on the unit confirm what we predicted in the original application: emissions well below those required by TRS rules.

Our next step was going to be the submittal of an application for an operating permit. However, conversations with Bruce Mitchell in Tallahassee indicate that we must continue on to completeness with the original permit application. Once we have this we are prepared to submit the application for the operating permit.

With this as background information for you, I will again attempt to answer the questions in your February letter. Hopefully, this submittal will meet your approval and we can continue on with the operating permit procedure.

Question 1

Is the 1985 crude tall oil (CTO) production rate in Exhibit II of the AOP dated January 31, 1986 the maximum monthly average? It results in 14.96 tons per 12 hours (see Exhibit I) while Exhibit IV shows the CTO production rate as 55 TPD, or 27.5 tons per 12 hrs. Please explain.

Also state the basis for the 55 TPD and 2500 SCFM used by your engineer.

Answer

To understand the discrepancies it is necessary to consider that our Tall Oil Plant utilizes a batch process and as such does not fit into the standard mold of a 24 hour per day operation. The production rate of 55 tons per day is the correct rate assuming one batch per day which is what we normally produced as long as we have soap available. Please note that the actual cooking and settling process only takes about 12 hour so if you want a maximum 12 hour limit the rate should be 55 tons per 12 hours. The numbers referring to hourly rates and 12 hour averages are based on 24 hour days as requested by the Department. The rate provided in Exhibit I of our application was based on a yearly average. Soap was not available every day of that year and only 211 batches were processed. The 55 tons per day used by our consultant was a design cook being processed at the rate of one cook per day. The 2500 SCFM was based on empirical testing of the reactor.

Qustion 2

Send a complete test report for each of the tests for which a summary is in Exhibit III.

Answer

Attached. Raw data from Scrubber (now in service) using Method 16A train indicate that the velocity and temperature profiles are much more uniform than the data taken on stack before scrubber installation.

Question 3

How will the TRS emissions be monitored continuously? Provide data that shows that the monitoring method chosen will comply

with Florida Administrative Code (FAC) Rule 17-2.710(3).

Answer

TRS monitoring of the Tall Oil Plant will be accomplished through the utilization of Method 16A to show compliance initially, followed by the use of surrogate parameters, i.e. scrubber flow, to show continual compliance. This was completed in August 1986.

Question 4

Send the hours of TRS emissions for each point.

Answer

The only significant TRS emission point is the reactor stack which should be permitted for 24 hours/day, 7 days/week, and 52 weeks/year.

This was addressed in Exhibit III, #6, (attached) > 99.5% of emissions are from reactor during cooking cycle.

Question 5

Send the TRS emissions rate calculations that must be met to comply with FAC Rule 17-2.600(4)(c).

Answer

The procedure to determine will be as follows:

1. Use of Method 16A train to determine all stack parameters and TRS concentrations during cooking of tall oil and residue neutralization.

2. Volume displacement in oil storage tank to determine quantity of tall oil produced.

3. Use of bag samples (analyzed immediately) for TRS concentrations and displacement to determine quantity of TRS per ton in residue, soap storage, and oil storage tanks.

4. $\text{TRS/Ton} = \frac{\text{Total Quantity TRS}}{\text{Oil Produced}}$

   This number must be less than 0.05# TRS/Ton Tall Oil.

Question 6

Send the scrubber efficiency calculations.

Answer

$$\text{Scrubber efficiency} = \frac{\text{Original TRS Conc - Final TRS Conc}}{\text{Original TRS Conc}}$$

Following are actual data:

$$\text{Eff.} = \frac{3107 - 18}{3107} \times 100 = 99.4\%$$

Question 7

Send a schedule for achieving final compliance.

Answer

Scrubber went in service June 1986. Compliance demonstrated August 1986. These results will be supplied with operating permit application.

Question 8

Send a pre-compliance monitoring plan to comply with FAC Rule 17-2.971(3)(b).

Answer

Pre-compliance monitoring of a source not yet regulated is not required. However, the scrubber is now in service and emissions are well below the TRS standard that goes into effect in May 1989.

Question 9

All applicable data required by the January 14, 1986 letter and attachment must be sent.

Answer

This data not required for this source.

If further information is needed, please contact me at 904/329-0050.

Sincerely,
GEORGIA-PACIFIC CORPORATION

Bob Wilson

W. R. Wilson

mg

cc Mr. Bruce Mitchell, FDER, Tallahassee

TALL OIL TEST DATA

(For Question 2)

Best Available Copy

PARTICULATE FIELD DATA

VERY IMPORTANT - FILL IN ALL BLANKS

T/O Reactor Neutralization

Wet Bulb 34.5°C

Plant		Test Start Time:		Ambient Temp. °F	
Run No.		Stop Time:		Bar. Press. in.Hg.	30.10
Location		Filter No.		Assumed Moisture %	
Date	1/27/86	Filter Tare Weight		Heater Box Setting, °F	
Operator		Orsat No.		Probe Tip Dia., In.	
Sample Box No.		Date Rebuilt		Probe Length	
Meter Box No.		Fyrite No.		Probe Heater Setting	
Meter $\Delta H_@$		Date Rebuilt		Avg. ΔP / Avg. ΔH	
C Factor		Nomograph ID. No.		Leak Rate @ 15" Hg / Post-Test	

	Point	21:20 ΔP Clock Time (0) + (min)	2140 ΔP Dry Gas Meter CF	Pitot in H_2O ΔP	Orifice ΔH in H_2O Desired	Orifice ΔH in H_2O Actual	Dry Gas Temp. °F Inlet	Dry Gas Temp. °F Outlet	Pump Vacuum In. Hg. Gauge	Box Temp. °F	Impinger Temp. °F	Stack Press. in.Hg.	Stack Temp. °F	Fyrite % O_2
Pt 1	1	.14	.65											
	2	.13	.31											
	3	.03	.37											
	4	.02	.18											
	5	.02	.03											
	6	.01	.00											
	7	.10	.02											
	8	.15	.35											
	9	.49	.21											
	10	.44	.46											
Pt 2	1	2.10	1.30											
	2	.75	1.15											
	3	.42	.80											
	4	.16	.10											
	5	.12	.02											
	6	.02	.01											
	7	-.03	.04											
	8	-.10	.07											
	9	-.12	.00											
	10	-.12	-.03											

Stack Temp 27°C | 31°C
~~24°C~~ ~~82~~ | 32°C

Comments: 22°C | 28°C

Test Observers:

PARTICULATE FIELD DATA

During Cook

VERY IMPORTANT - FILL IN ALL BLANKS

Wet Bulb Temp. 49°C

Plant _____ Test Start Time: _____ Ambient Temp. °F _____

Run No. _____ Stop Time: _____ Bar. Press. in.Hg. _____

Location T/O Reactor Tank Vent Filter No. _____ Assumed Moisture % _____

Date 27 January '86 Filter Tare Weight _____ Heater Box Setting, °F _____

Operator _____ Orsat No. _____ Probe Tip Dia., In. _____

Sample Box No. _____ Date Rebuilt _____ Probe Length _____

Meter Box No. _____ Fyrite No. _____ Probe Heater Setting _____

Meter $\Delta H_@$ _____ Date Rebuilt _____ Avg. ΔP _____ Avg. ΔH _____

C Factor _____ Nomograph ID. No. _____ Leak Rate @ 15" Hg _____ Post-Test ___

Point	10:30 ΔP Clock Time (Off) (min)	Dry Gas Meter CF	1100 Pitot in H_2O ΔP	1200 Orifice in H_2O ΔP Desired	1230 ΔH ΔP Actual	Dry Temp. °F ΔP Inlet	Outlet	Pump Vacuum In. Hg. Gauge	Box Temp. °F	Impinger Temp. °F	Stack Press. in.Hg.	Stack Temp. °F	Fyrite % O_2
0:30 1	18	.27	.30	.48	.15	.07							
2	14	.23	.25	.70	.15	-.02							
3	13	.08	.20	.50	0	-.05							
4	11	.02	.18	.34	-.10	-.07							
5	05	.03	.04	.07	-.10	-.10							
6	02	.01	.01	.00	-.10	-.10							
7	04	.05	.18	.18	-.1	-.02							
8	01	.01	.45	.43	.24	.19							
9	88 .25	.19	.56	.49	.45	.38							
10	88 .25	.90	.60	.52	.30	.48							
1	30	.75	1.30	.42	1.20	2.20							
2	20	.86	.80	.42	1.04	1.60							
3	22	.40	.53	.22	.83	.62							
Post 2 4	18	.35	.05	.13 .03	.20	-.02							
5	12	.25	.09	-.05	-.05	-.10							
6	08	.08	.07	-.05	-.06	-.10							
7	06	.05	.06	-.05	-.10	-.11							
8	04	.07	.08	-.05	-.06	-.10							
9	01	.0	.10	-.02	-.10	-.10							
10	01	-.05	.0	-.05	-.10	-.10							
		60° 81 C3	82°C	41°C	38°C	32°C							
	59°C		74°C	43°C	38°C	32°C							

Test Observers:

$\frac{\cdot}{39.73} \times 10 = \frac{\cdots}{\quad} = 0.00485$

$\frac{\cdot}{.15} \times 50 \quad 0.0413 \; 3.84 \quad 20.18$

Best Available Copy

GC DATA

Reactor During Cook

DATE 1/28/86

Time	H_2S Response	H_2S Conc., ppm	MeSH Response	MeSH Conc., ppm	DMS Response	DMS Conc., ppm	DMDS Response	DMDS Conc., ppm	T
	219186	15.02							
	214961	14.84							
	227716	15.38							
	220580	15.08	÷ 0.00485						
									310

GC DATA

Reactor Neutralization

DATE 11/26/96

Time	H_2S Response	H_2S Conc., ppm	MeSH Response	MeSH Conc., ppm	DMS Response	DMS Conc., ppm	DMDS Response	DMDS Conc., ppm	To
	1022	0.55	BDL	trace	BDL	trace	239	0.49	
	1018	0.54	↓	↓	↓	↓	244	0.49	
	1008	0.54	↓	↓	↓	↓	259	0.51	
	1016	0.54	↓	↓	↓	↓	247	0.50	

GP Palatka

GC DATA

Finishing Tank (OIC STG)

DATE 1/24/96

Time	H_2S Response	H_2S Conc., ppm	MeSH Response	MeSH Conc., ppm	COS ~~DMDS~~ Response	COS ~~DMDS~~ Conc., ppm	DMDS Response	DMDS Conc., ppm	To
11:30	818	0.40	8260	1.00	551	0.29			
"	566	0.38	8138	1.04	539	0.28			
"	636	0.41	8172	1.03	508	0.27			
X 12:15	607	0.40	8190	1.03	533	0.27			1.
						NOT THIS			

G.P. Alaska

GC DATA

Residue tank

DATE 1/26/16

	H_2S		MeSH		DMS		DMDS		
Time	Response	Conc., ppm	Response	Conc., ppm	Response	Conc., ppm	Response	Conc., ppm	To
12:54	4178	1.30	BDL		2265	2.20	trace		
	4216	1.31	BDL		2246	2.19	trace		
	4134	1.29	BDL		2256	2.19	trace		
13:42	4176	1.30	BDL		2256	2.19	trace		3.

C-P Paints

GC DATA

Soap Tank

DATE 1/24/16 #7

Time	H_2S Response	H_2S Conc., ppm	MeSH Response	MeSH Conc., ppm	DMS Response	DMS Conc., ppm	DMDS Response	DMDS Conc., ppm	To
10:45	BDL	N/A	133	0.23	262	0.47	169	0.34	
↓	BDL	N/A	141	0.24	252	0.46	166	0.34	
↓	BDL	N/A	125	0.22	230	0.43	167	0.34	
x 11:20	NO Response		134	0.23	248	0.45	167	0.34	1.

Exhibit III

TRS Emissions

1. Reactor: (Acidulation) A continuous bag sample of stack gas was pulled during the entirely of a tall oil "cook". Wet and dry bulb temperatures taken, average stack temperature recorded, and six pitot traverses taken during this time. National Council of Air and Stream Improvement in Gainesville analyzed the bag samples on a gas chromatograph.
(16A TRAIN USED AFTER INSTALLATION OF SCRUBBER)

Calculations & Data

Duration of Cook	=	150 min.
Avg. ΔP	=	0.242"
Stack Temp.	=	124" F.
Wet Bulb	=	120" F.
Relative Humid.	=	88% (from chart)
Static Pres.	=	-0.26"
Calc. % Moist.	=	11.24%

$$\text{Velocity} = Kp\ Cp \sqrt{\frac{TS \times \Delta P}{PS \times Mw}}$$

$$\%\ \text{Moisture} = \frac{(\text{Vapor Pres})(\text{Rel. Humid.})}{\text{Stack Pres.}}$$

$$\text{Velocity} = (85,48)\ (1) \sqrt{\frac{(584)(.242)}{(30.12)(30.)}} = 33.80 \text{ ft./sec.}$$

Stack Dia. = 16" = 1.40 sq. ft.

ACFM = 33.80 x 60 x 1.40 = 2839

$$\text{SCFM} = 2839 \times \frac{532}{584} \times \frac{30.12}{29.92} \times 0.8876 = 2310$$

Gas Density = (0.00279)(Mw) = (0.00279)(30) = 0. 0837

Mass of Gas Emitted During Tall Oil Cook = (2310)(150)(0.0837) = 29,002 #

TRS Concentration = 3108 ppm

Mass Emissions, TRS = 90.24 #

Average Tons Tall Oil/Cook = 51.75

TRS/Ton Tall Oil = 1.742 #

(AFTER SCRUBBER INSTALLATION: ~ 0.02 #/TON)

2. Reactor: (Neutralization) After decanting the oil off the cook, 2000 gallons of 50% Caustic is added to the reactor. Again, bag samples and other data necessary for emissions calculations collected .

Calculations and Data

Duration of Caustic Addition	= 20 min.
Avg. ΔP	= 0.2950
Stack Temperature	= 96° F.
Wet Bulb	= 94° F.
Relative Humidity	= 93%
Static Pres	= -.25"
Calc. % Mois.	= 5.29

$$\text{Velocity} = (85.48)(1)\sqrt{\frac{(554)(.295)}{(30.08)(30)}} = 36.38 \text{ ft./sec.}$$

$$\text{ACFM} = 36.38 \times 60 \times 1.40 = 3056$$

$$\text{SCFM} = 3056 \times \frac{532}{554} \times \frac{30.10}{29.92} \times .9471 = 2796$$

Mass of Gas Emitted During Neutralization = (2796)(20)(.08377) = 4681 #

TRS Concentration = 1.04 ppm

Mass Emissions, TRS = 0.0048 #

TRS/Ton Tall Oil = 0.000094 #

3. Soap Storage Tanks: TRS concentrations were measured in the vent of these tanks. The only way TRS gases can be emitted is by the displacement of soap in these two tanks in series.

2 Tanks @ 25' diameter = 3670 gal/ft. each

Average Soap Density = 6.0#/gal.

Therefore Stg. Tanks = 22020#/ft. = 11.01 T.

Pounds Tall Oil/Pound Soap = 0.47 (lab results)

$$\frac{.47 \text{ ton Tall Oil}}{1 \text{ ton Soap}} \times \frac{11.01 \text{ Tons Soap}}{\text{ft.}} = 5.2 \text{ ft. displacement} = 2551 \text{ cu ft displace.}$$

2551 cu ft = 2492 SCF = 199.4#

TRS Conc. = 1.06#

$$\text{Mass Emissions TRS} = \frac{(199.4)(1)(1.06)}{106} = .00021\# \text{ TRS/Ton TO}$$

Exhibit III - cont'd.

4. Oil Storage Tanks: TRS concentrations were measured in the vent of these tanks also. The only way TRS gases can escape is by displacement of oil in these three tanks.

Tank = 16' dia. = 1503 gal./ft.

Average Oil Density = 8.2#/gal.

Therefore stg. tanks = 12326#/ft. = 6.16 T/ft.

and 1 ton Tall Oil = 0.162 ft. displacement = 201 cu ft

201 cu. ft = 160 SCF = 12.83#

TRS conc. = 1.43 ppm

Mass Emissions TRS = $\frac{(12.83)(1.43)}{10^6}$ = 0.0#/ton oil

5. Neutralized Residue Tank: TRS concentration again measured in vent of tank. Displacement only way gases emitted.

Tank = 22' dia. = 2842 gal./ft.

Average Volume Residue = 500 gal/ton Oil = 0.176'displacement =66.9 cu ft

66.9 cu ft = 42.3 SCF =3.38#/ton oil

TRS conc. = 3.49 ppm

Mass Emissions, TRS = $\frac{(3.38)(3.49)}{10^6}$ = 0.0#/ton oil

6. Total TRS Emissions/Ton Tall Oil

	Source	#/Ton	%
1.	Reactor	1.7420	99.983
2.	Reactor	.0001	.006
3.	Soap Stg.	.0002	.011
4.	Oil Stg.	.0000	.000
5.	Residue	.0000	.000
		1.7423	100.000

Potential Emissions (No Scrubber)

Appx. $\frac{11{,}000 \text{ tons Tall Oil}}{\text{Year}}$ x $\frac{1.7423\#}{\text{Ton}}$ = 19165# TRS = 9.59 T

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

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

February 25, 1986

Mr. W. R. Wilson
Georgia-Pacific Corporation
Post Office Box 919
Palatka, Florida 32077

Dear Mr. Wilson:

Putnam County - AP
Georgia-Pacific Corporation
Paper Mill
Tall Oil Plant

This is a request for the following additional information for the referenced source which is required to complete the application for an operation permit (AOP):

1. Is the 1985 crude tall oil (CTO) production rate in Exhibit II of the AOP dated January 31, 1986 the maximum monthly average? It results in 14.96 tons per 12 hrs. (see Exhibit I) while Exhibit IV shows the CTO production rate as 55 TPD, or 27.5 tons per 12 hrs. Please explain.

   Also state the basis for the 55 TPD and 2500 SCFM used by your engineer.

2. Send a complete test report for each of the tests for which a summary is in Exhibit III.

3. How will the TRS emissions be monitored continuously? Provide data that shows that the monitoring method chosen will comply with Florida Administrative Code (FAC) Rule 17-2.710(3).

4. Send the hours of TRS emissions for each point.

5. Send the TRS emissions rate calculations that must be met to comply with FAC Rule 17-2.600(4)(c).

6. Send the scrubber efficiency calculations.

7. Send a schedule for achieving final compliance.

8. Send a pre-compliance monitoring plan to comply with FAC Rule 17-2.971(3)(b)

9. All applicable data required by the January 14, 1986 letter and attachment must be sent.

If there are any questions please contact us.

Sincerely,

W. P. Stewart, P.E.
Supervisor Air Section

WPS:jck

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE

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

NORTHEAST DISTRICT - JACKSONVILLE

TO: John Brown

THROUGH: Jimmie Baker MJ

FROM: Michael A. Reutter

DATE: August 26, 1986

SUBJECT: Air Pollution Enforcement

DER
AUG 28 1986
BAQM

I received your referral of the case titled Georgia-Pacific Pulp-Tall Oil Plant Scrubber for formal enforcement action. The referral was dated August 1, 1986.

☐ The case information is complete. Any further communication with the facility should be coordinated through the Enforcement Section.

☒ The case information is incomplete. Before Enforcement can accept the referral the following information is necessary:

EM:cw

1. The district enforcement section has a policy that it will not proceed with enforcement action until a permit is either issued or denied.
2. A referral coordinated through CAPS is neccessary.
3. Any correspondence or other documentation regarding the source in violation.

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

9/9

Bruce please write note re status so I can send back to Pennington

1. TO: (NAME, OFFICE, LOCATION)

~~John Brown - OAQ~~

2. CLAIR FANCY

3.

4.

Initial / Date / Initial / Date

REMARKS:

WHAT IS THE PERMIT STATUS OF THIS?

Incomplete —

Discussed @ 9/18 enf. mtg

INFORMATION

- Review & Return
- Review & File
- Initial & Forward

DISPOSITION

- Review & Respond
- Prepare Response
- For My Signature
- For Your Signature
- Let's Discuss
- Set Up Meeting
- Investigate & Report
- Initial & Forward
- Distribute
- Concurrence
- For Processing
- Initial & Return

FROM: Jim P. 9/4/86
Michael Routhier

DATE 8-27-86

PHONE 620-5295

P 408 532 037

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. Henry Hirschman	
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 8/13/86	

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. Henry Hirschman
Georgia-Pacific Corp.
P. O. Box 919
Palatka, FL 32077

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

Article Number
P 408 532 037

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X Georgia Pacific

6. Signature – Agent
X D. Brown

7. Date of Delivery
8/14/86

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

DOMESTIC RETURN RECEIPT

Main File

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

August 13, 1986

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Henry Hirschman
General Manager
Georgia-Pacific Corporation
P. O. Box 919
Palatka, Florida 32077

Dear Mr. Hirschman:

Re: Construction Permit No. AC 54-108945, Tall Oil Plant

On February 25, 1986, an incompleteness letter was sent to your mill requesting additional information. The department has not yet received a response. A copy of the letter has been enclosed for your information. If there have been any changes from what was submitted in the application package, please acknowledge and amend the application package. Once the bureau has received a response from you, processing of the above referenced application package will resume.

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

Sincerely,

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

CHF/BM/s

enclosure

cc: Bill Stewart ✓
Gary Early ✓
Reading File ✓

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE
To: Bruce Mitchell Locin:
To: Locin:
To: Locin:
From: Date:

To: Bill Stewart

Thru: Ernie Frey

Thru: Bill Buzick

Thru: John Brown

From: Jim Pennington

Date: August 1, 1986

Subj: Georgia Pacific Tall Oil Plant Plant Scrubber; Installation Without a Permit

It has come to my attention that Georgia Pacific (Palatka) Pulp and Paper Mill has installed a scrubber on the tall oil plant prior to final approval of the construction permit.

This appears to be a violation of 17-2.210(1) Florida Administrative Code.

The probability of these actions resulting in any environmental damage is remote, however, the Permitting Division has a policy of imposing penalties for construction without a permit. (see the Steve Fox memo of 1983).

It is proposed that you initiate enforcement action in an effort to emphasize the need for a permit before construction. Typically, only a few hundred dollars settlement fees have been imposed for these minor infractions. The taking of appropriate action is important for consistency and deterrence of other violations that may, indeed, result in serious environmental damage.

JB:ht

cc: Bruce Mitchell/w/o attachment
Mary Smallwood (w/attachment
Gary Early

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE

To: Clair Loctn: _____

To: _____ Loctn: _____

To: _____ Loctn: _____

From: _____ Date: _____

TO: John Brown

THRU: Bill Thomas

FROM: Bruce Mitchell

DATE: July 18, 1986

SUBJ: Installation of a Tall Oil Plant Scrubber at Georgia-Pacific Corporation Without a Construction Permit

An application to install/construct a scrubber system to service the tall oil plant was received February 17, 1986. An incompleteness letter for additional information and clarity was sent February 25, 1986, and an incompleteness response has not yet been received. Johnny Cole called me today to confirm that the scrubber has already been installed (via phone conversation between J. Cole and Bob Wilson with G. P.). If enforcement is appropriate, please advise.

BM/ks

cc: Steve Smallwood
Clair Fancy

8/12

Bruce –

Please write them a letter reminding them that a response is required

Chris

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ERNEST E. FREY
DISTRICT MANAGER

February 25, 1986

Mr. W. R. Wilson
Georgia-Pacific Corporation
Post Office Box 919
Palatka, Florida 32077

DER

MAR 19 1986

BAQM

Dear Mr. Wilson:

Putnam County - AP
Georgia-Pacific Corporation
Paper Mill
Tall Oil Plant

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3. How will the TRS emissions be monitored continuously? Provide data that shows that the monitoring method chosen will comply with Florida Administrative Code (FAC) Rule 17-2.710(3).

4. Send the hours of TRS emissions for each point.

5. Send the TRS emissions rate calculations that must be met to comply with FAC Rule 17-2.600(4)(c).

6. Send the scrubber efficiency calculations.

7. Send a schedule for achieving final compliance.

8. Send a pre-compliance monitoring plan to comply with FAC Rule 17-2.971(3)(b)

9. All applicable data required by the January 14, 1986 letter and attachment must be sent.

If there are any questions please contact us.

Sincerely,

W. P. Stewart, P.E.
Supervisor Air Section

WPS:jck

APPLICATION TRACKING SYSTEM 05/01/86

APPL NO:108945
APPL RECVD:08/29/85 TYPE CODE:AO SUBCODE:09 LAST UPDATE:03/17/86
DER OFFICE RECVD:TLH DER OFFICE TRANSFER TO:___ APPLICATION COMPLETE:__/__/__
DER PROCESSOR:TALLAHASSEE
APPL STATUS:AC DATE:08/29/85 (ACTIVE/DENIED/WITHDRAWN/EXEMPT/ISSUED/GENERAL)
RELIEF:__ (SSAC/EXEMPTIONS/VARIANCE)
(Y/N) N MANUAL TRACKING DISTRICT:31 COUNTY:54
(Y/N) N DNR REVIEW REQD? LAT/LONG:29.41.00/81.40.45
(Y/N) N PUBLIC NOTICE REQD? BASIN-SEGMENT:__.___
(Y/N) N GOV BODY LOCAL APPROVAL REQD? COE #:_____
(Y/N) N LETTER OF INTENT REQD? _ (I/ISSUE D/DENY) ALT#:___-_____

PROJECT SOURCE NAME:GEORGIA PACIFIC TALL OIL
STREET:HWY 216 CITY:PALATKA
STATE:FL ZIP:32077 PHONE:904-325-2001
APPLICATION NAME:GEORGIA PACIFIC TALL OIL
STREET:HWY 216 CITY:PALATKA
STATE:FL ZIP:32077 PHONE:904-325-2001
AGENT NAME:RICHARDSON, WILLIAM CARL, P.E.
STREET:P.O. BOX 919 CITY:PALATKA
STATE:FL ZIP:32077 PHONE:904-325-2001
FEE #1 DATE PAID:08/29/85 AMOUNT PAID:00100 RECEIPT NUMBER:00094901

B DATE APPLICANT INFORMED OF NEED FOR PUBLIC NOTICE - - - __/__/__
C DATE DER SENT DNR APPLICATION/SENT DNR INTENT - - - - - __/__/__--__/__/__
D DATE DER REQ. COMMENTS FROM GOV. BODY FOR LOCAL APP. - - __/__/__
E DATE #1 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - - 09/13/85--01/31/86
E DATE #2 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - - 02/25/86--__/__/__
E DATE #3 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - - __/__/__--__/__/__
E DATE #4 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - - __/__/__--__/__/__
E DATE #5 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - - __/__/__--__/__/__
E DATE #6 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - - __/__/__--__/__/__
F DATE GOVERNING BODY REQUESTED SURVEY RESULTS/REPORTS - - __/__/__
G DATE FIELD REPORT WAS REQ--REC - - - - - - - - - - - - __/__/__--__/__/__
H DATE DNR REVIEW WAS COMPLETED - - - - - - - - - - - - - __/__/__

I DATE APPLICATION WAS COMPLETE - - - - - - - - - - - - - __/__/__
J DATE GOVERNING BODY PROVIDED COMMENTS OR OBJECTIONS - - __/__/__
K DATE NOTICE OF INTENT WAS SENT--REC TO APPLICANT - - - - __/__/__--__/__/__
L DATE PUBLIC NOTICE WAS SENT TO APPLICANT - - - - - - - __/__/__
M DATE PROOF OF PUBLICATION OF PUBLIC NOTICE RECEIVED - - __/__/__
N WAIVER DATE BEGIN--END (DAY 90) - - - - - - - - - - - - __/__/__--__/__/__

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

AC 54-108945

NORTHEAST DISTRICT
3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

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

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Tall Oil Plant [ ] New[1] [X] Existing[1]

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

COMPANY NAME: Georgia-Pacific Corp. COUNTY: Putnam

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) Tall Oil Plant

SOURCE LOCATION: Street Highway 216 City Palatka

UTM: East 434.0 North 3283.4

Latitude 29 ° 41 ' 00 "N Longitude 81 ° 40 ' 45 "W

APPLICANT NAME AND TITLE: Henry Hirschman, General Manager

APPLICANT ADDRESS: P. O. Box 919, Palatka, Florida 32077

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Georgia-Pacific Corp.

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

*Attach letter of authorization

Signed: Henry Hirschman

~~Henry Hirschman~~, General Manager
Name and Title (Please Type)

Date: 1/31/86 Telephone No. 904/325-2001

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 ha been designed/examined by me and found to be in conformity with modern engineeri principles applicable to the treatment and disposal of pollutants characterized in t permit application. There is reasonable assurance, in my professional judgment, th

[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 _____

Faustino Prado, P.E.

Name (Please Type)

PRADO & ASSOCIATES, INC.

Company Name (Please Type)

P. O. BOX 17224, TAMPA, FLORIDA 33682

Mailing Address (Please Type)

Florida Registration No. 20948 Date: Jan. 29 1986 Telephone No. 813 - 961 8103

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.

The project involves the placement of a scrubber on an existing tall oil plant vent. The scrubber is designed to reduce emissions from this plant to the level allowed in the new TRS Rules prior to the compliance date in that Rule.

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

Start of Construction _____ Completion of Construction _____

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.)

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

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

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

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

1. Is this source in a non-attainment area for a particular pollutant? _____

   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. _____

3. Does the State "Prevention of Significant Deterioriation" (PSD) requirement apply to this source? If yes, see Sections VI and VII. _____

4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? _____

5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? _____

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 juatification 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		
Sulfate Soap	None		2.65 Tons	Exhibit I & II
H_2SO_4	None		48.2 Gallons	Figure I
Caustic	None		48.2 Gallons	
H_2O	None		240 Gallons	

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

1. Total Process Input Rate (lbs/hr): 2.65 tons Soap; 48.2 gal. Acid

2. Product Weight (lbs/hr): 1.25 tons Tall Oil; 25,000 gal. Residue

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

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
TRS	0.011	0.048	NA	NA	19,172	9.59	Ex. III
	Exhibit IV *						

[1]See Section V, Item 2.

* Reactor yield 99.95% of TRS and 100% of this was TRS as shown by G.C. data.

[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)
TRS Scrubber	TRS	99.5 %	NA	Vendor Spec.
				EXHIBIT IV

E. Fuels

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

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

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

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

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

Annual Average _____ Maximum _____

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

No waste generated

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

Stack Height: 83'6" ft. Stack Diameter: 16" ft.

Gas Flow Rate: 4700 ACFM 2500 DSCFM Gas Exit Temperature: 140 °F.

Water Vapor Content: Saturated % Velocity: 56 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq.& Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
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 spplication, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.

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

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

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

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

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

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

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

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

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

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

[ ] Yes [ ] No

Contaminant	Rate or Concentration

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

[ ] Yes [ ] No

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration

D. Describe the existing control and trestment technology (if sny).

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

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.

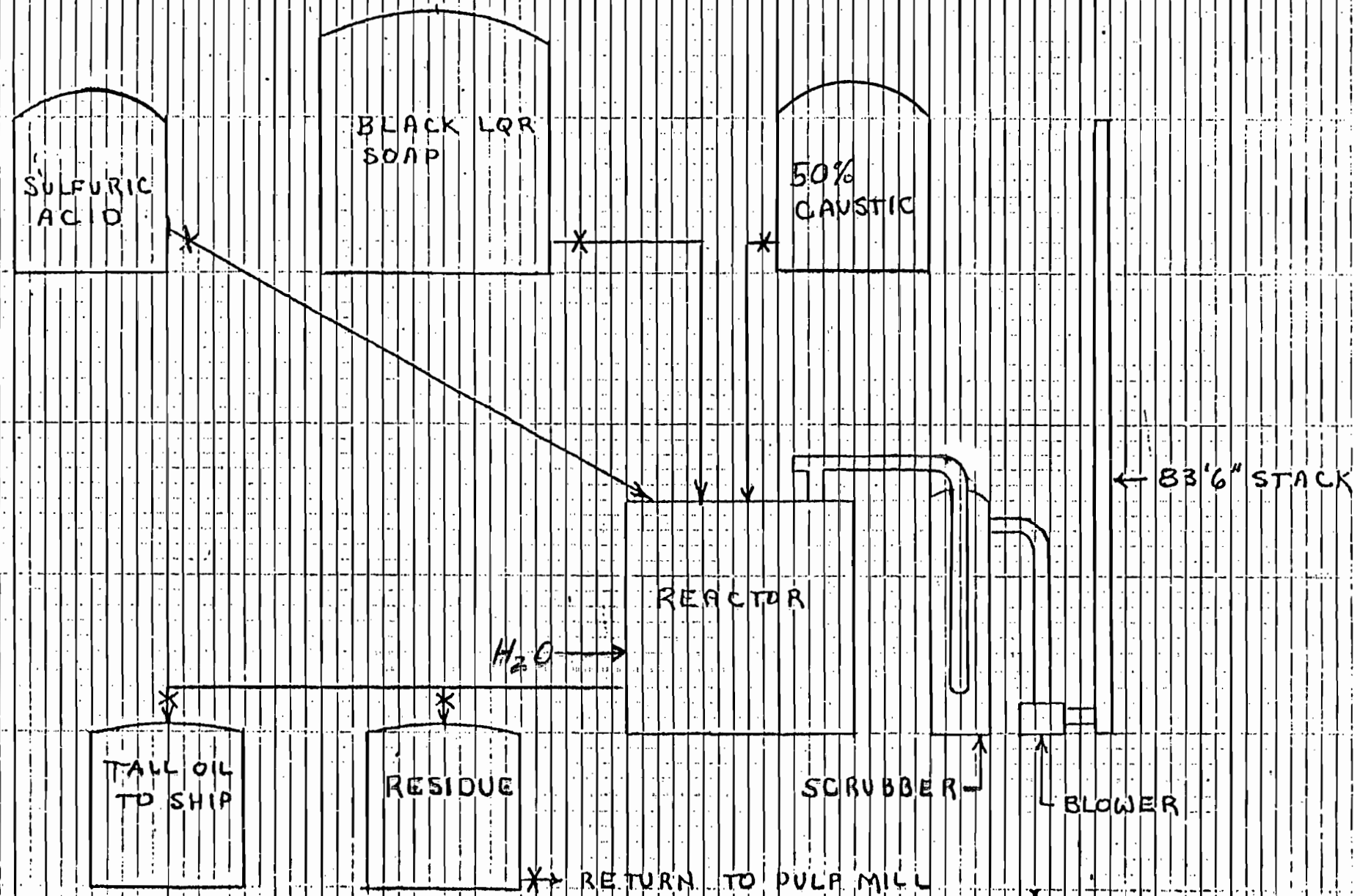
F. Attach all other information supportive to the PSD review.

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.

FIGURE 1

TALL OIL FLOW SHEET



CKD. BY..... DATE.....

FLOW SHEET..... JOB NO.....

Exhibit I

Re: Section III A, B, C (Page 4 of 12) of Permit Application.

Section III.

A. Raw Materials and Chemicals Used.

Tall Oil at Palatka is produced by the addition of sulfuric acid to black liquor soap in a reaction vessel. Steam is added to bring the temperature up to approximately 200° F. After decanting the oil, caustic is added to the reactor and the residue is transferred to a tank to be used back in process.

There are no contaminants in the raw materials themselves. TRS emissions result from the reaction between the soap and acid.

B. Since the process is batch, with approximately four (4) to five (5) batches being processed per week, a lbs./hr. utilization rate is not meaningful. Exhibit II is a monthly tall oil report distributed by the mill. From this report, the 12 hour tall oil yield can be calculated as requested by John Brown of FDER in letter dated September 13, 1985. Total batches processed in 1985 were 211.

$$\frac{910 \text{ tons TO}}{\text{Month}} \times \frac{12 \text{ mo.}}{\text{Year}} \times \frac{1 \text{ year}}{365 \text{ Days}} \times \frac{1 \text{ day}}{2\text{-}12 \text{ hrs.}} = \frac{14.96 \text{ tons}}{12 \text{ hours}} = \frac{1.246 \text{ tons}}{\text{hour}}$$

At a 47% yield (based on laboratory studies) the soap weight = $\frac{1.246}{.47}$ = 2.652 tons/hour

It requires approximately 2,000 gallons 96% sulfuric acid to produce 1 batch (approximately 52 tons) of Tall Oil.

Therefore:

$$211 \times 2000 \times \frac{1}{24} \times \frac{1}{365} = 48.2 \text{ gallons acid/hr.}$$

Also 2000 gallons of 50% NaOH used for neutralization

$$211 \times 2000 \times \frac{1}{24} \times \frac{1}{365} = 48.2 \text{ gallons Caustic/hr.}$$

M. McGinnis
C. Moore
T. Lee
Bob Wilson
L. Yarbrough
H. Hirschman

Palatka Division

Technical Services

Date 1/3/86

EXHIBIT II

TO: W. BAXTER

FROM: R. MALLORY

SUBJECT: MONTHLY BY-PRODUCTS SUMMARY; TALL OIL & TURPENTINE PRODUCTION FOR DECEMBER 1985 and Operating Year.

TALL OIL	1984 Monthly Average	1985 Monthly Average	This Month
PRODUCTION (Tons)	627.3	910.0	543.2
Pounds/Cord Pine Wood (1985 Budget 55.0)	35.9	49.7	32.1
Cords of Pine Wood Consumed in Digesters (Excludes Bark)	34,918	36,595	33,796
Ratio of Pine to Hardwood Cooking	1.80	2.53	2.28
Tons Produced per Day (7 Day Operating Week)	21.9	30.0	19.4
Tons Produced Per Batch	48.6	51.8	38.8
Tons Shipped	624	907 *	635 *
TURPENTINE			
PRODUCTION (Gallons)	33,741	34,577	36,717
Gallons/Cord Pine Wood (1985 Budget 0.95)	0.97	0.95	1.09
Gallons Produced Per Day	1,103	1,140	1,311
Gallons Shipped	33,425	34,508	41,514

* BASED ON INVOICED TALL OIL SHIPMENTS

- R. Mallory
Tech Serv

Exhibit III

TRS Emissions

1. Reactor: (Acidulation) A continuous bag sample of stack gas was pulled during the entirely of a tall oil "cook". Wet and dry bulb temperatures taken, average stack temperature recorded, and six pitot traverses taken during this time. National Council of Air and Stream Improvement in Gainesville analyzed the bag samples on a gas chromatograph.

Calculations & Data

Duration of Cook	=	150 min.
Avg. ΔP	=	0.242"
Stack Temp.	=	124" F.
Wet Bulb	=	120" F.
Relative Humid.	=	88% (from chart)
Static Pres.	=	-0.26"
Calc. % Moist.	=	11.24%

$$\text{Velocity} = Kp\ Cp \sqrt{\frac{TS \times \Delta P}{PS \times Mw}}$$

$$\%\ \text{Moisture} = \frac{(\text{Vapor Pres})(\text{Rel. Humid.})}{\text{Stack Pres.}}$$

$$\text{Velocity} = (85,48)\ (1) \sqrt{\frac{(584)(.242)}{(30.12)(30.)}} = 33.80 \text{ ft./sec.}$$

Stack Dia. = 16" = 1.40 sq. ft.

ACFM = 33.80 x 60 x 1.40 = 2839

$$\text{SCFM} = 2839 \times \frac{532}{584} \times \frac{30.12}{29.92} \times 0.8876 = 2310$$

Gas Density = (0.00279)(Mw) = (0.00279)(30) = 0. 0837

Mass of Gas Emitted During Tall Oil Cook = (2310)(150)(0.0837) = 29,002 #

TRS Concentration = 3108 ppm

Mass Emissions, TRS = 90.24 #

Average Tons Tall Oil/Cook = 51.75

TRS/Ton Tall Oil = 1.742 #

Exhibit III - cont'd.

2. Reactor: (Neutralization) After decanting the oil off the cook, 2000 gallons of 50% Caustic is added to the reactor. Again, bag samples and other data necessary for emissions calculations collected .

Calculations and Data

Duration of Caustic Addition	= 20 min.
Avg. ΔP	= 0.2950
Stack Temperature	= 96° F.
Wet Bulb	= 94° F.
Relative Humidity	= 93%
Static Pres	= -.25"
Calc. % Mois.	= 5.29

$$\text{Velocity} = (85.48)(1)\sqrt{\frac{(554)(.295)}{(30.08)(30)}} = 36.38 \text{ ft./sec.}$$

$$\text{ACFM} = 36.38 \times 60 \times 1.40 = 3056$$

$$\text{SCFM} = 3056 \times \frac{532}{554} \times \frac{30.10}{29.92} \times .9471 = 2796$$

Mass of Gas Emitted During Neutralization = (2796)(20)(.08377) = 4681 #

TRS Concentration = 1.04 ppm

Mass Emissions, TRS = 0.0048 #

TRS/Ton Tall Oil = 0.000094 #

3. Soap Storage Tanks: TRS concentrations were measured in the vent of these tanks. The only way TRS gases can be emitted is by the displacement of soap in these two tanks in series.

2 Tanks @ 25' diameter = 3670 gal/ft. each

Average Soap Density = 6.0#/gal.

Therefore Stg. Tanks = 22020#/ft. = 11.01 T.

Pounds Tall Oil/Pound Soap = 0.47 (lab results)

$$\frac{.47 \text{ ton Tall Oil}}{1 \text{ ton Soap}} \times \frac{11.01 \text{ Tons Soap}}{\text{ft.}} = 5.2 \text{ ft. displacement} = 2551 \text{ cu ft displace.}$$

2551 cu ft = 2492 SCF = 199.4#

TRS Conc. = 1.06#

$$\text{Mass Emissions TRS} = \frac{(199.4)(1)(1.06)}{10^6} = .00021\# \text{ TRS/Ton TO}$$

Exhibit III - cont'd.

4. Oil Storage Tanks: TRS concentrations were measured in the vent of these tanks also. The only way TRS gases can escape is by displacement of oil in these three tanks.

Tank = 16' dia. = 1503 gal./ft.

Average Oil Density = 8.2#/gal.

Therefore stg. tanks = 12326#/ft. = 6.16 T/ft.

and 1 ton Tall Oil = 0.162 ft. displacement = 201 cu ft

201 cu. ft = 160 SCF = 12.83#

TRS conc. = 1.43 ppm

Mass Emissions TRS = $\frac{(12.83)(1.43)}{10^6}$ = 0.0#/ton oil

5. Neutralized Residue Tank: TRS concentration again measured in vent of tank. Displacement only way gases emitted.

Tank = 22' dia. = 2842 gal./ft.

Average Volume Residue = 500 gal/ton Oil = 0.176' displacement =66.9 cu ft

66.9 cu ft = 42.3 SCF =3.38#/ton oil

TRS conc. = 3.49 ppm

Mass Emissions, TRS = $\frac{(3.38)(3.49)}{10^6}$ = 0.0#/ton oil

6. Total TRS Emissions/Ton Tall Oil

	Source	#/Ton	%
1.	Reactor	1.7420	99.983
2.	Reactor	.0001	.006
3.	Soap Stg.	.0002	.011
4.	Oil Stg.	.0000	.000
5.	Residue	.0000	.000
		1.7423	100.000

Potential Emissions (No Scrubber)

Appx. $\frac{11{,}000 \text{ tons Tall Oil}}{\text{Year}}$ x $\frac{1.7423\#}{\text{Ton}}$ = 19165# TRS = 9.59 T

× 0.005 ≈ 95.83 lbs/yr potential emissions

PRADO & ASSOCIATES
Consulting Engineers

P. O. BOX 17224 TAMPA, FLORIDA 33682, U.S.A. TELEPHONE: (813) 961-8103 TELEX: 52 9396

09JUL85

EXHIBIT IV

Mr. W. R. Wilson
Georgia-Pacific Corporation
P. O. Box 919
Palatka, Florida 32078

Dear Bob:

Per today's telephone conversation, I am enclosing a copy of some of my scrubber calculations.

Please note the following: for calculations purposes, I am assuming that 100% of TRS emissions consist of H2S. While this is not theoretically correct, it is close enough in the absence of stack analysis data. The state DER will allow the daily emission of 2.75 lb as TRS or 2.92 lb as H2S. Assuming a reaction batch time of 2 hours, this converts to 102.8ppm as H2S, or 96.8ppm as TRS. These figures will of course vary if reaction time or stack flowrate change.

As far as scrubber efficiency is concerned based on previous designs, we predict a removal efficiency of over 99.5% for H2S. If you refer to my letter to J. F. Parrish dated 26JUN85, this scrubber, as designed, will guarantee solving the safety problem involved with the acidulation operation. Since we do not know the exact amount of mercaptans emitted at present and knowing that mercaptans are not so easily scrubbed as H2S, we can not guarantee the exact total emissions as TRS. However, based on previous designs we expect total emissions on the order of 20 - 50 ppm well within the Florida DER limits.

We will gladly supply any other technical data you may need for the building permit.

Sincerely

F. L. Prado, P.E.
Forest Products Division

FLP:2016:PBP
cc: S.D. Bristow

CALCULATIONS BASED ON H_2S ONLY.

STATE ALLOWS 0.05 lb TRS / TON OF CTO.

PALATKA PRODUCES 55 TON / DAY.

∴ TOTAL TRS ALLOWED: $0.05 \times 55 = 2.75$ lb TRS

MOL. WEIGHT OF H_2S IS 34 S = 32

CONVERT TRS TO H_2S : $2.75 \times \frac{34}{32} = \underline{2.92 \text{ lb.}}$

SO, WE ARE ALLOWED TO EMIT 2.92 lb / day of H_2S.

CONVERT TO PPM :

STACK FLOWRATE: 2500 SCFM.

1 MOLE AT STANDARD COND = 359 ft^3. (32°F).

$\frac{2.92 \text{ lb}}{34 \text{ lb-mol}} = 0.0859$ moles of H_2S per day.

$0.0859 \times 359 = 30.85$ ft^3 of H_2S per day @ 32°F, 1 atm.

STACK FLOWRATE : 2500 SCFM X 120 minutes = 300,000 CF per 2 hour period (duration of acidulation).

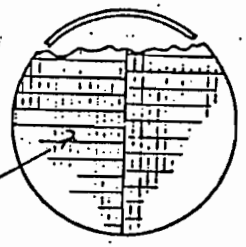
∴ $\frac{30.85 \text{ ft}^3 \text{ of } H_2S}{300{,}000 \text{ ft}^3 \text{ of air}} \times 1{,}000{,}000 = \underline{102.8 \text{ ppm}}$

In other words, if reaction takes place in two hours, maximum emission, as H_2S would be 102.8 ppm.

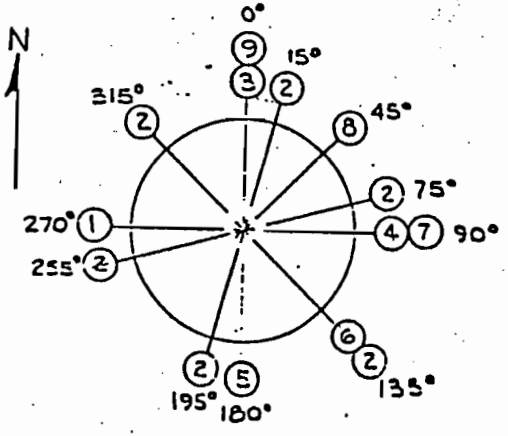
FLP
25 May 85

Prado & Associates Consulting Engineers Tampa, FL

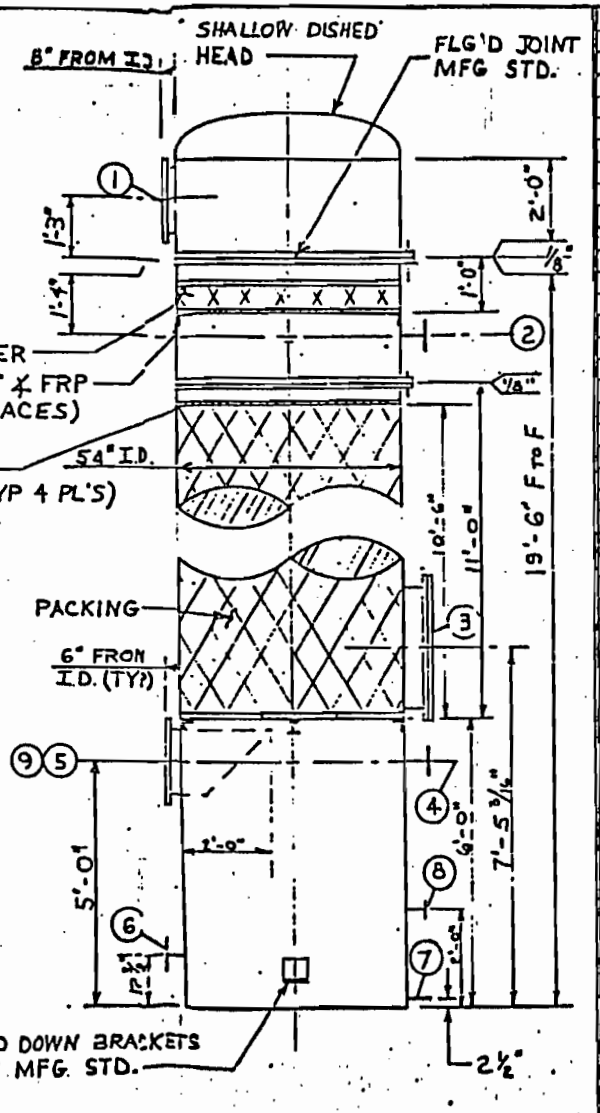
APPROVED FOR CONSTRUCTION
DATE 8 Aug 85



PACKING SUPPORT AND HOLD DOWN GRATING



NOZZLE ORIENTATION



1	VESSEL DIAMETER	4'-6" I.D.
2	VESSEL STRAIGHT SIDE	
3	NOMINAL CAPACITY	
4	PRODUCT	WHITE LIQUOR
5	SP. GR. OF PRODUCT	1.1
6	WORKING PRESSURE	ATMOSPHERIC
7	DESIGN PRESSURE	
8	WORKING TEMP	180° F
9	DESIGN TEMP	180° F
10	WEIGHT EMPTY/FULL	
11	SEISMIC FACTOR	
12	WIND FACTOR	
13	JOINT EFFICIENCY	
14	SHELL MATERIAL	FRP
15	SHELL THICKNESS	PER PS-15-69
16	BOTTOM MATERIAL	" " " "
17	BOTTOM THICKNESS	" " " "
18	HEAD MATERIAL	" " " "
19	HEAD THICKNESS	" " " "
20	CORROSION ALLOWANCE	
21	LINER	
22	CODE	PS-15-69
23	CODE STAMP	
24	STRESS RELIEVE	
25	RADIOGRAPH	
26	INSULATION SUPPORTS	NONE
27	INSULATION	NONE
28	PAINT	N/A
29	ACCESSORIES	
30	PRESSURE TEST	HYDROSTATIC

NOZZLE SCHEDULE

NOZZLE	SIZE	TYPE	RATING	REMARKS
1	16"	FLG'D	150#	OUTLET GAS
2 (GEN)	4"	FLG'D	150#	WHITE LIQUOR-IN
3	30"	FLG'D	MFG STD	MANHOLE
4	3"	FLG'D	150#	WHITE LIQUOR-IN
5	16"	FLG'D	150#	INLET GAS
6	4"	FLG'D	150#	WHITE LIQUOR-OUT
7	1½"	PLAIN END	—	DRAIN
8	2"	FLG'D	150#	INSTRUMENT
9	2"	FLG'D	150#	SPARE

REV	DESCRIPTION	APPD	DATE
2	FOR CONSTRUCTION	FLP	3/14/85
1	FOR BIDS ONLY	FLP	2/5/85

NOTES:
1. SPRAY NOZZLES: BETE FOG FULL CONE 3/4", TF32 FC 31655, 7 REQD.
2. PACKING SUPPORT AND HOLD-DOWN GRATING TO BE 1" FRP FLOOR GRATING SUITABLY SUPPO[illegible]

REFERENCE DRAWINGS
D-297-7810-030

AUG. 08 1985

SCALE	3/8"=1'-0"	DATE
DWN. BY	CTD	6-17-85
CHKD		
APPR.	FLPRADO	6.25.85
PROJ. NO.	2016	

PRADO & ASSOCIATES
CONSULTING ENGINEERS
FLORIDA, U.S.A.

GEORGIA-PACIFIC / PALATKA
TALL OIL SCRUBBER

297/7810 | N-1 | 2

SHEET 2 OF 2

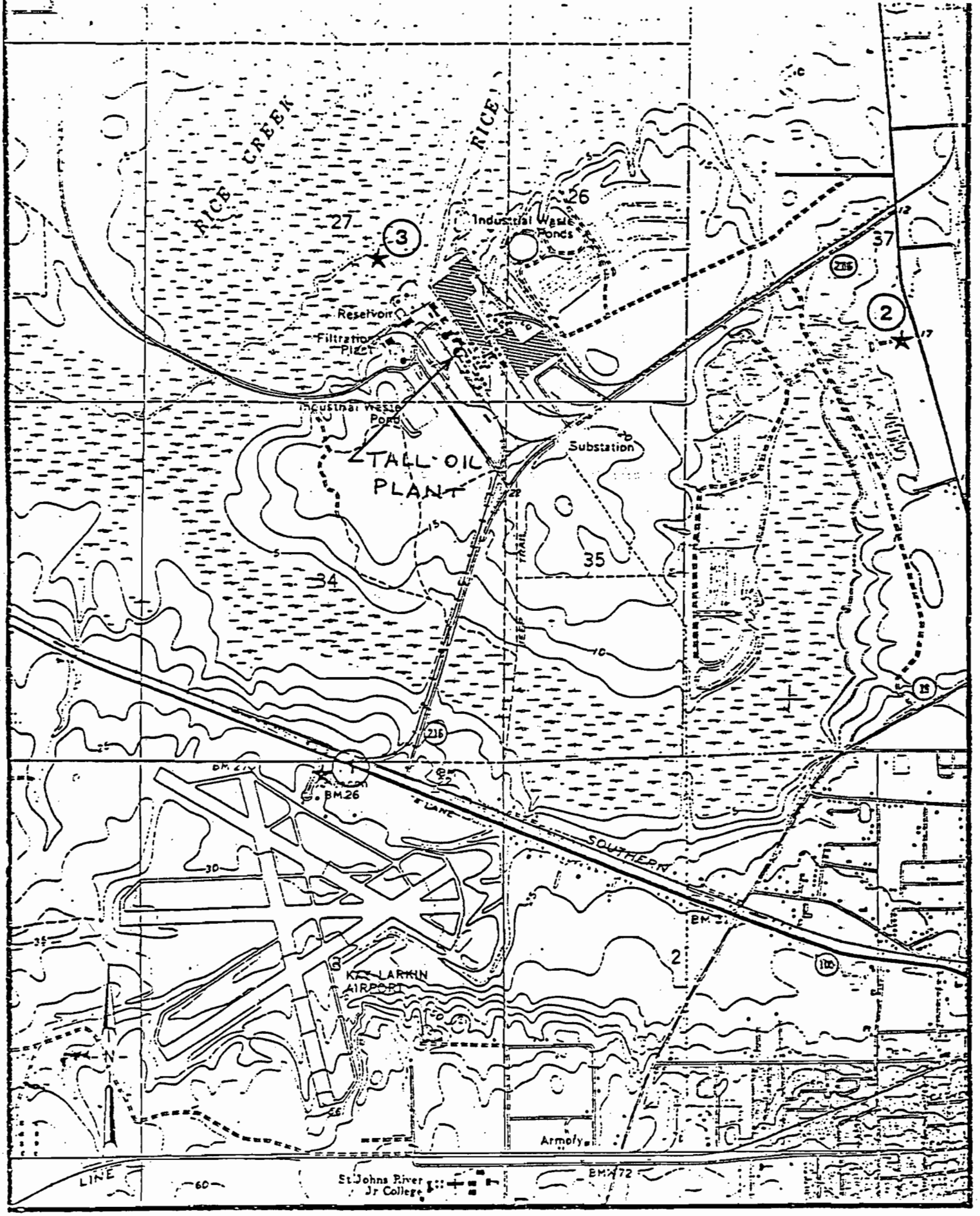


Figure 3 PLOT PLAN OF PLANT LOCATION

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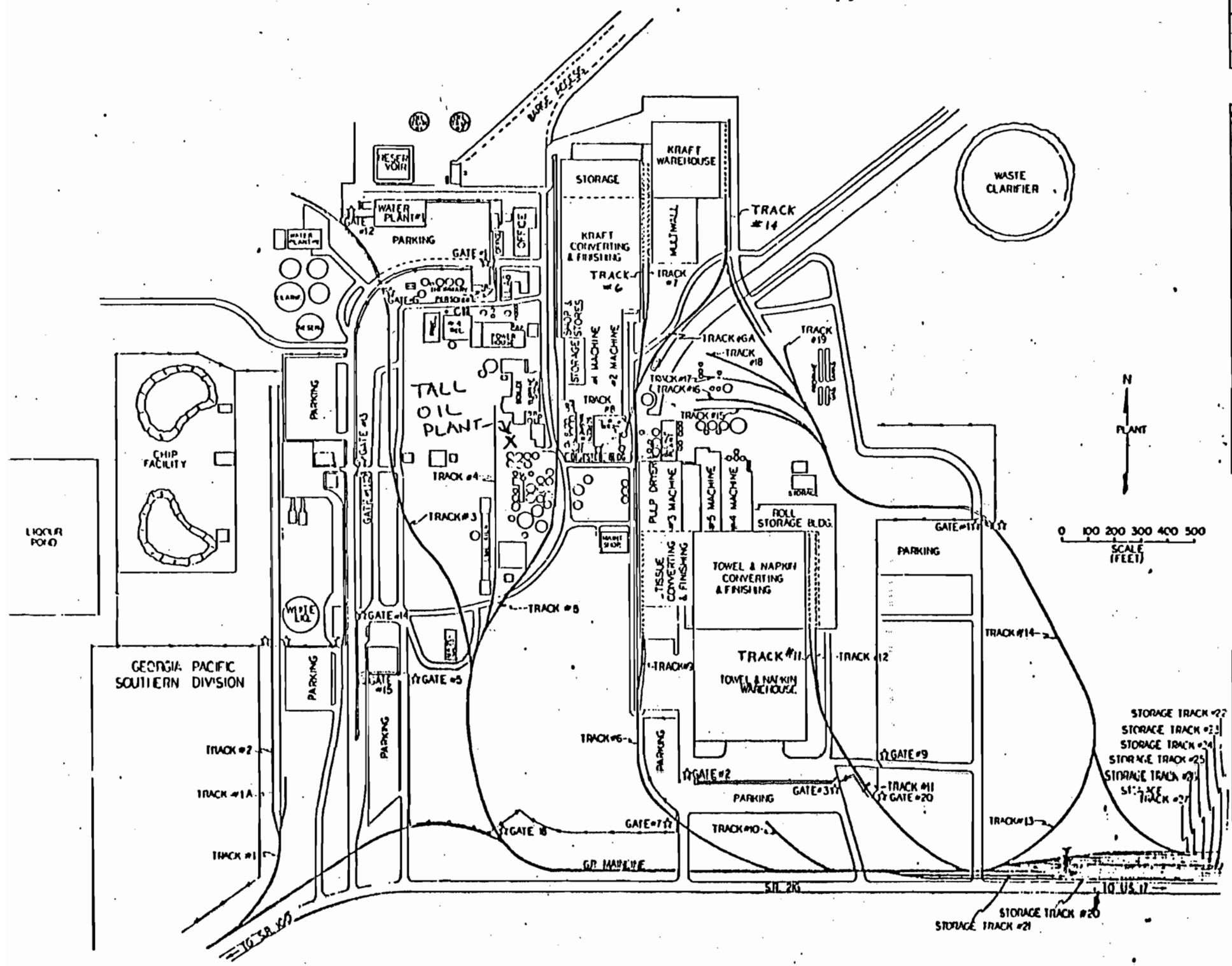


LEGEND & DESC
☆	GATE
———	RAILROAD T
——→	FENCE, BIN

GATE #	DESCRIP
1	MAIN GATE
2	EAST GATE
3	OLD CONST
4	CONST.
5	CONST.
6	RR GATE
7	RR GATE
8	
9	CONST.
10	
11	CONST.
12	PERSONNEL
13	PERSONNEL
14	VEHICLE G
15	OLD WOOD
16	
17	RR GATE
18	
19	
20	RR GATE

GEORGIA-PAC

Appendix A

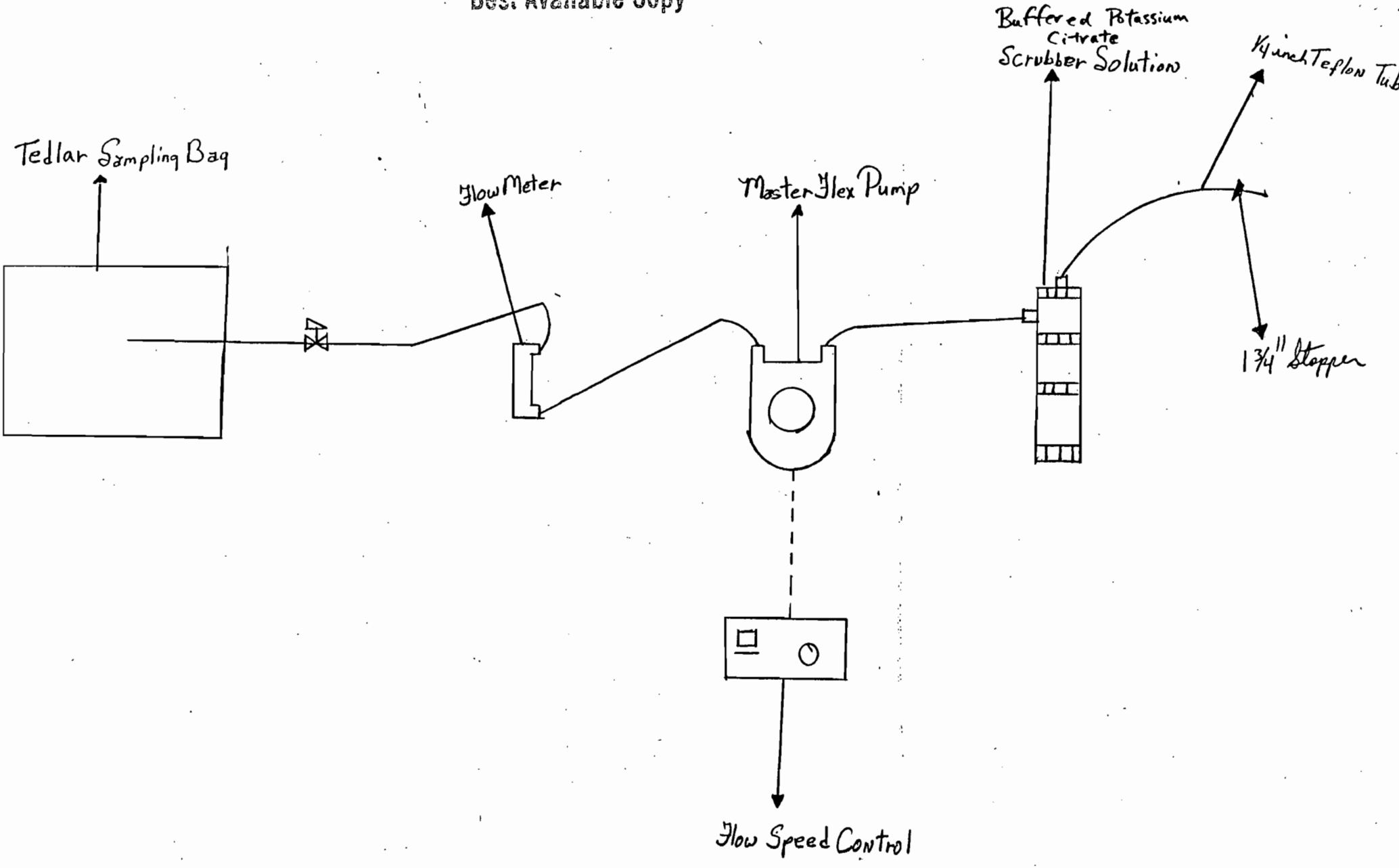
Tall Oil Plant Measurement of TRS

In sampling the Tall Oil Plant TRS emissions, samples of gas were collected from the Reactor (during both cooking and neutralization), Soap, Residue, and Finishing Tanks. The sampling system, as diagrammed on page 2 of this appendix, was taken up on top of each tank. First a leak check of the sampling system was performed by plugging the tip of the sampling line and running the pump until the flow dropped to 0 ccm. Then the sampling line was inserted in the tank vent as shown on pages 3 and 4. After purging the system for several minutes, a previously leak checked Tedlar gas bag was connected to the sampling system. The flow was set at a constant sampling rate during the complete cooking and neutralization process on the Reactor Tank, and for as long as necessary to fill the gas bag on the Soap, Residue, and Finishing Tanks. Finally a post-test leak check was made on each source, indicating that the samples were viable.

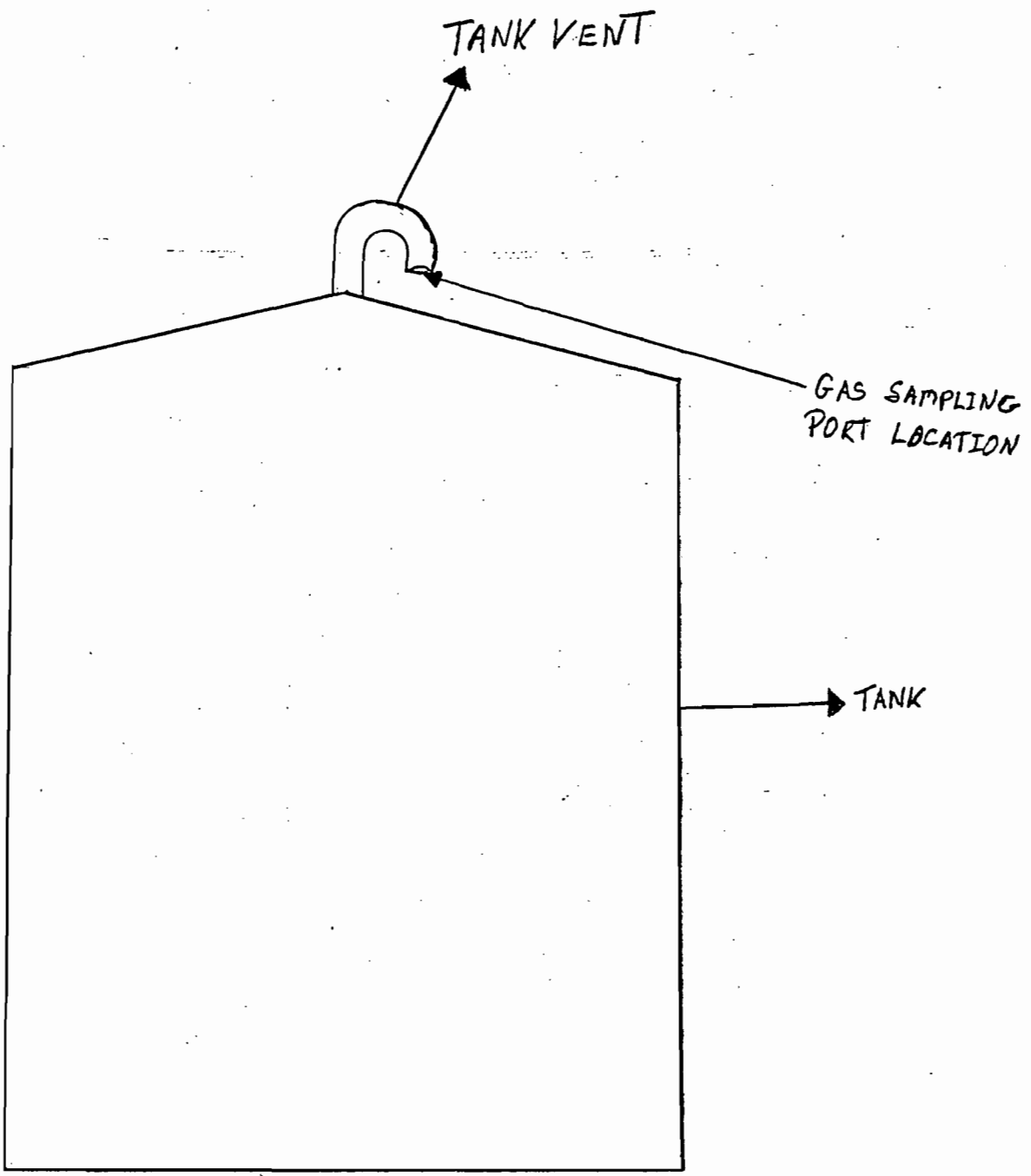
During cooking and neutralization in the Reactor, velocity measurements were made simultaneously with the gas sampling procedure. A total of twenty traverse points were selected according to stack measurements, as indicated on page 5, and EPA-RM 1. Page 6 shows the equipment used for velocity measurement.

Filled approximately 3/4 full (~70,000 cc), the Tedlar bags were shielded from light inside dark plastic bags to prevent sample degradation. These bags were then transported as quickly as possible to NCASI in Gainesville, Florida for analysis on a gas chromatograph. A pre-test three point calibration was performed on the G.C.. At least three injections were made from each sample. A post-test calibration drift check indicated that the data collected was usable. Calibration and test results are on pages 7 through 35.

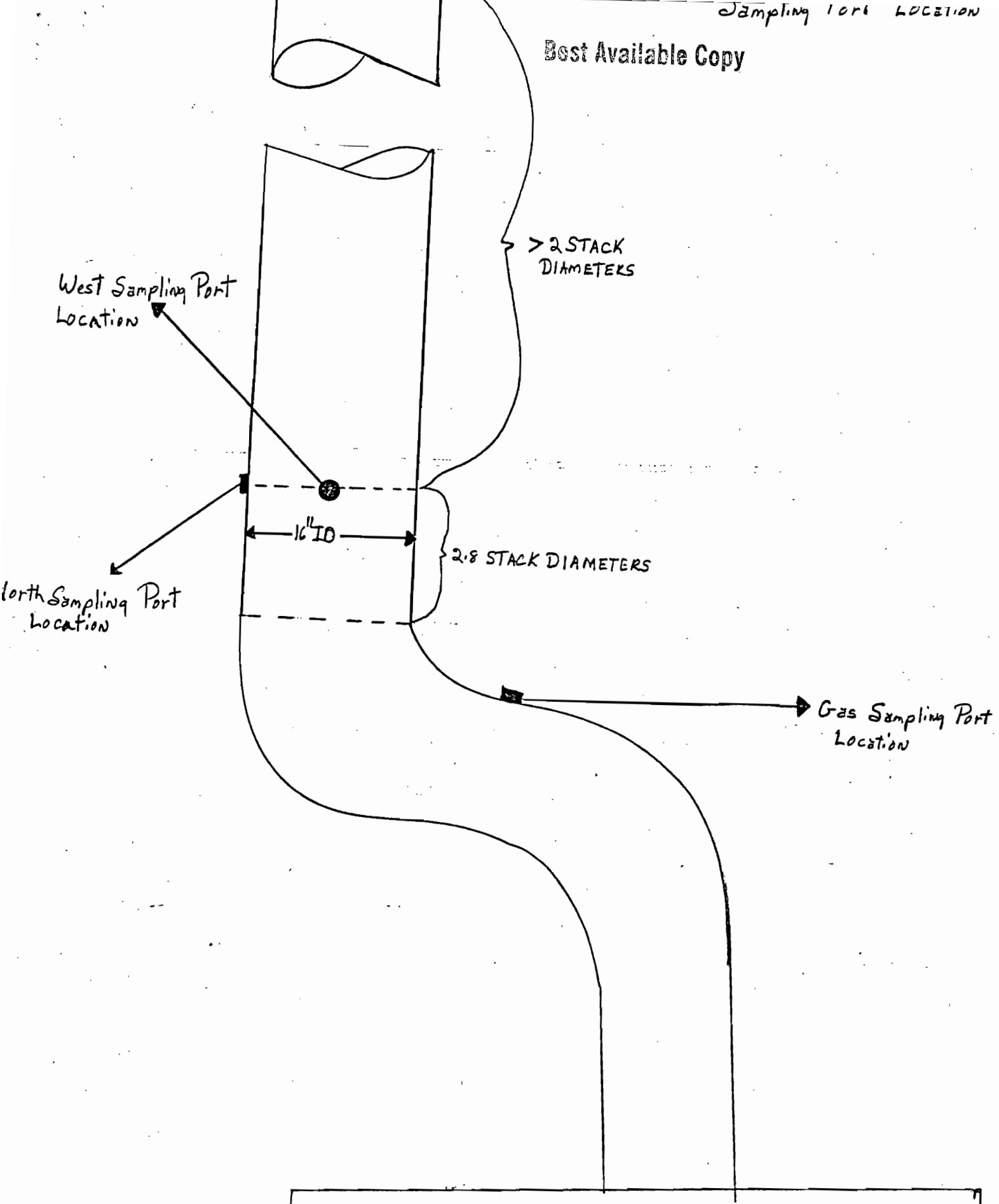
...SAMPLING SYSTEM FOR TRS GASES



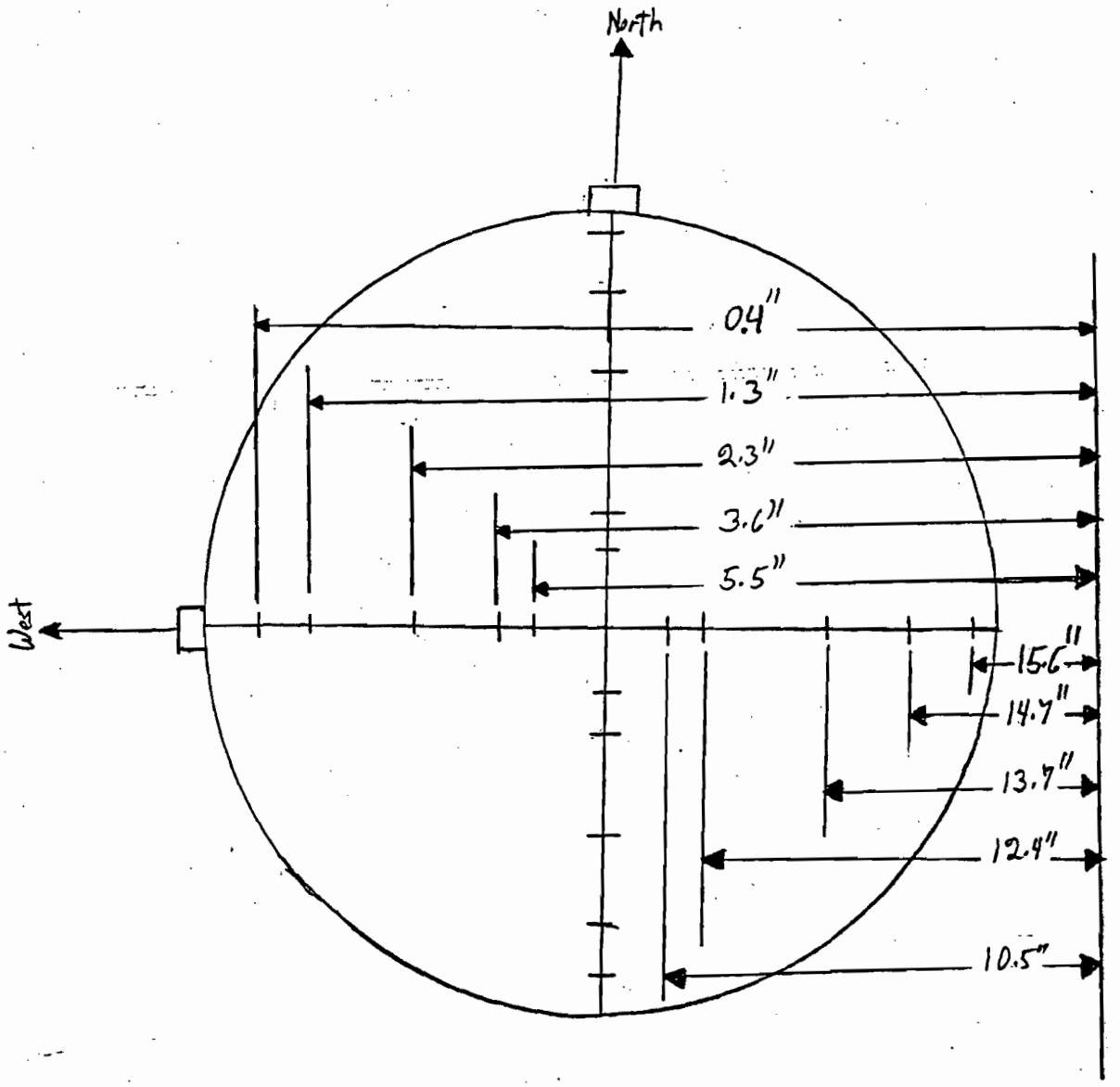
Soap, Residue and Finishing Tanks



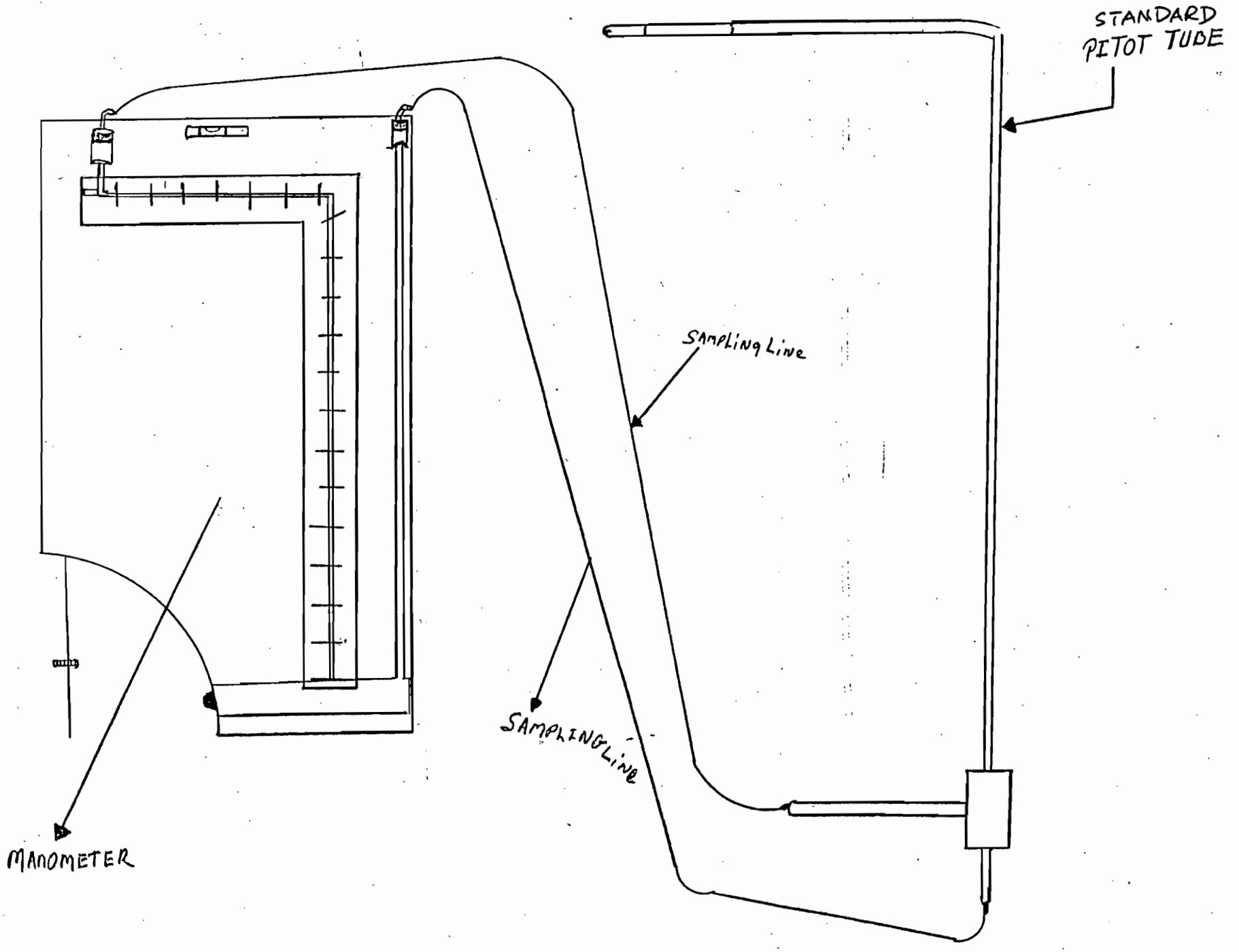
Sampling Port Location



TALL OIL REACTOR TANK
VELOCITY SAMPLING POINT
POSITIONS



VELOCITY SAMPLING SYSTEM



60/19.57 × 10 = 256/840 = 0.19 / 60/23.17 × 100 = 256/564 = 0.47 / 60/2.66 × 100 = 257/1035 = 0.2

DAILY GAS CHROMATOGRAPH CALIBRATION DATA

Date 1/28/86 Time AM Analyst [illegible]

H_2S Conc. 25.56	22.69 ppm	12.56 ppm	6.17 ppm
	Rec. Int.	Rec. Int.	Rec. Int.
GC Response	444807	161728	52180
	422607	155394	52282
	428574	158401	50595
Avg.	432004	159848	52354

Margin notes: Flow 1 41 ml 158; I 7 0.6174; S 8 -2.1707; → 0.9999

SO_2 Conc. 10.51	9.35 ppm	5.15 ppm	2.54 ppm
	Rec. Int.	Rec. Int.	Rec. Int.
GC Response	55905	20818	7553
	55152	21776	7642
	54993	22497	7842
Avg.	55350	22561	7712

Margin notes: (54 / 3.67); I 9 = 0.6211; S 10 = -2.1655; n = 0.9999

MeSH Conc. 8.61	7.66 ppm	4.22 ppm	2.08 ppm
	Rec. Int.	Rec. Int.	Rec. Int.
GC Response	26364	10422	3746
	27658	10821	3709
	26381	10636	3687
Avg.	26841	10626	3724

Margin notes: (58 / 5.76) C; 11 0.6613; 12 -2.0417; n 0.9999

DMS Conc. 4.64	4.13 ppm	2.27 ppm	1.12 ppm
	Rec. Int.	Rec. Int.	Rec. Int.
GC Response	5139	2542	582
	5237	2497	823
	5477	2509	875
Avg.	5284	2516	860

Margin notes: (58 / 4.20) D; 13 0.7145; 14 -2.0550; n 0.9993

DMDS Conc. 4.31	3.84 ppm	2.11 ppm	1.04 ppm
	Rec. Int.	Rec. Int.	Rec. Int.
GC Response	13476	5244	1919
	12124	5160	1910
	11463	5190	1906
Avg.	12352	5194	1912

Margin notes: E (54 / 5.77); 15 0.7003; 16 -2.2801; n 0.9999

COS 4.01	3.57	1.96	0.97
	16817	7571	3052
	17903	7522	2961
	17621	7549	2762
	17447	7511	2925

Margin notes: (84 / 2.43) B; 9 0.7298; 10 -2.5418; n 0.9999

$\frac{}{29.72} \times 10$ = 0.00485

$\frac{60}{7.25} \times 500 = 4138420.18$

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GC DATA

Reactor During Cook

DATE 1/28/86

	H2S		MeSH		DMS		DMDS		To[tal]
Time	Response	Conc., ppm	Response	Conc., ppm	Response	Conc., ppm	Response	Conc., ppm	
	219186	15.02							
	214964	14.84							
	227716	15.38							
	220580	15.08 ÷ 0.00485							
									3107

GC DATA

Reactor Neutralization

DATE 11/26/96

Time	H_2S Response	H_2S Conc., ppm	MeSH Response	MeSH Conc., ppm	DMS Response	DMS Conc., ppm	DMDS Response	DMDS Conc., ppm	Tot
	1022	0.55	BDL	trace	BDL	trace	239	0.49	
	1018	0.54	↓	↓	↓	↓	244	0.49	↓
	1008	0.54					259	0.51	
	1016	0.54					247	0.50	1.0

GC Palatka

GC DATA

Finishing tank

DATE 1/24/96 JMM

Time	H_2S Response	H_2S Conc., ppm	MeSH Response	MeSH Conc., ppm	~~DMS~~ COS Response	~~DMS~~ COS Conc., ppm	DMDS Response	DMDS Conc., ppm	Tot
11:30	518	0.40	8260	1.00	551	0.29			
	566	0.38	8138	1.04	539	0.28			
	636	0.41	8172	1.03	508	0.27			
12:15	607	0.40	8190	1.03	533	0.28			1.4
						not ins			

G.P. Plants

GC DATA

Residue tank

DATE 1/26/16

Time	H_2S Response	H_2S Conc., ppm	MeSH Response	MeSH Conc., ppm	DMS Response	DMS Conc., ppm	DMDS Response	DMDS Conc., ppm	Tot
12:58	4178	1.30	BDL		2265	2.20	trace		
	4216	1.31	BDL		2246	2.19	trace		
	4134	1.29	BDL		2256	2.19	trace		
13:42	4176	1.30	BDL		2256	2.19	trace		3.4

G.P. Palatka

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GC DATA

Soap tank

DATE 1/28/86

	H2S		MeSH		DMS		DMDS		Tota
Time	Response	Conc., ppm	Response	Conc., ppm	Response	Conc., ppm	Response	Conc., ppm	Tota
10:45	BDL	N/A	133	0.23	262	0.47	169	0.38	↓
↓	BDL	N/A	141	0.24	252	0.46	166	0.38	
↓	BDL	N/A	128	0.22	230	0.43	167	0.38	↓
11:20	NO Response		134	0.23	248	0.45	167	0.38	1.0

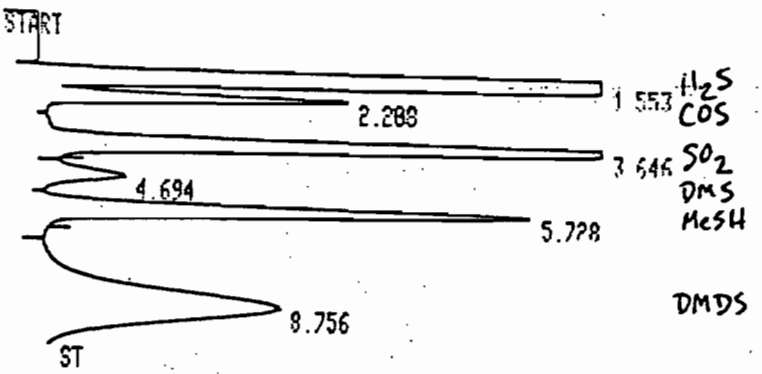
-12-

```
RUN PRMTRS
ZERO   =  0
ATT 2↑ =  2
CHT SP =  0.4
PK WD  =  0.64
THRSH  =  0
AR REJ =  0

RPRT OPTNS
  2. RF UNC PKS=      0.0000E+00
  3. MUL FACTOR=      1.0000E+00
  4. PK HEIGHT MODE     YES
  5. EXTEND RT          YES
  6. RPRT UNC PKS        NO

TIME TBL
  10.25 STOP

CALIB TBL
EMPTY
```

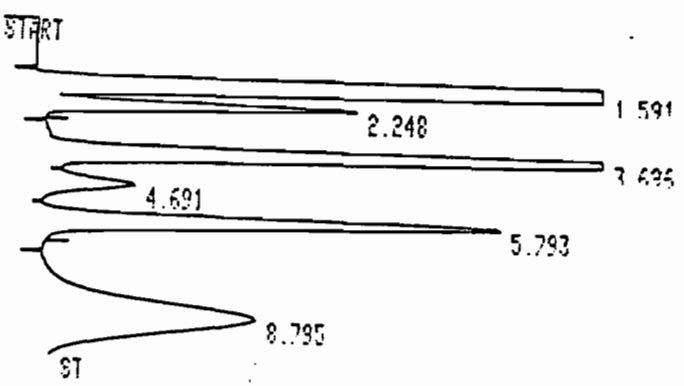


RUN # 1 JAN/28/86 08:01:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.553	444827	D PV	0.255	79.035
2.288	16817	D VP	0.294	2.988
3.646	55985	D PB	0.305	9.933
4.694	4139	D BP	0.399	0.735
5.728	27658	D PB	0.356	4.914
8.756	13476	I BH	1.162	2.394

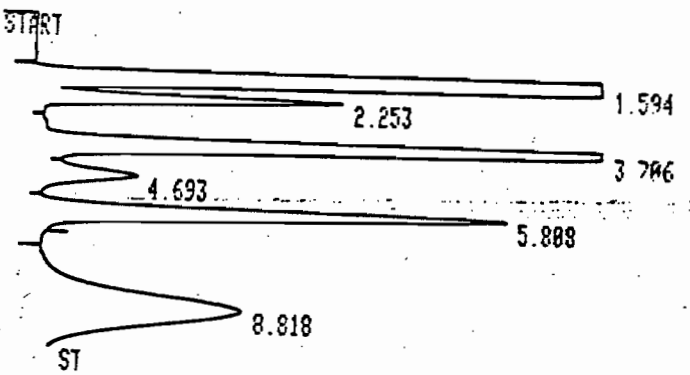
TOTAL HGHT= 562820
MUL FACTOR= 1.0000E+00



HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.591	422687	D PV	0.255	78 340
2.248	17903	D VB	0.281	3 319
3.696	55152	D BV	0.313	10 224
4.691	5237	D VP	0.457	0 971
5.793	26364	D PB	0.359	4 887
8.795	12178	I PH	1.167	2 258

TOTAL HGHT= 539440
MUL FACTOR= 1.0000E+00

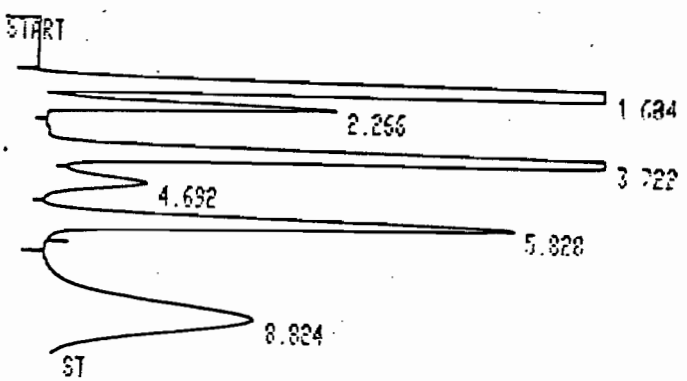


RUN # 3 JAN/28/86 08:27:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.594	408578	D PV	0.254	77 906
2.253	17621	D VV	0.289	3 360
3.706	54993	D VV	0.320	10 486
4.693	5477	D VP	0.466	1 044
5.808	26381	D PB	0.359	5 030
8.818	11403	I PH	1.160	2 174

TOTAL HGHT= 524450
MUL FACTOR= 1.0000E+00

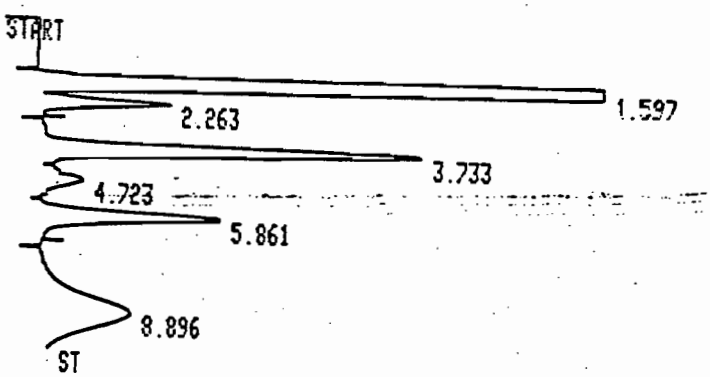


RUN # 4 JAN/28/86 08:34:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.604	129308	D PV	0.257	52.194
2.266	16849	D VV	0.283	6.801
3.722	56804	D VV	0.319	22.929
4.692	5968	D VP	0.478	2.409
5.828	26904	D PB	0.361	10.860
8.824	11911	I PH	1.167	4.808

TOTAL HGHT= 247740
MUL FACTOR= 1.0000E+00

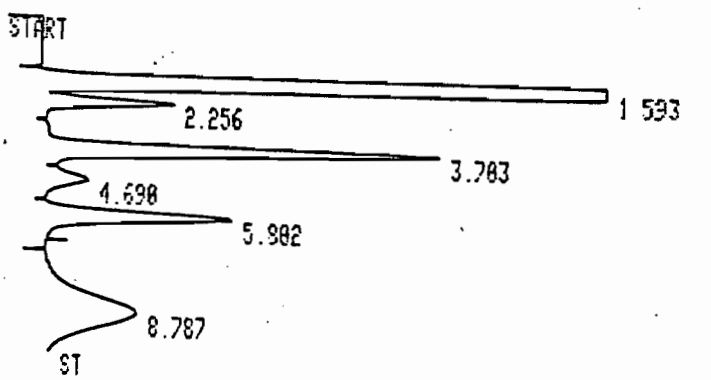


RUN # 5 JAN/28/86 08:45:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.597	150428	D PV	0.257	76.134
2.263	7388	D VB	0.287	3.739
3.733	21818	D BV	0.327	11.042
4.723	2392	D VP	0.487	1.211
5.861	10422	D PB	0.376	5.275
8.896	5134	I PH	1.248	2.598

TOTAL HGHT= 197580
MUL FACTOR= 1.0000E+00

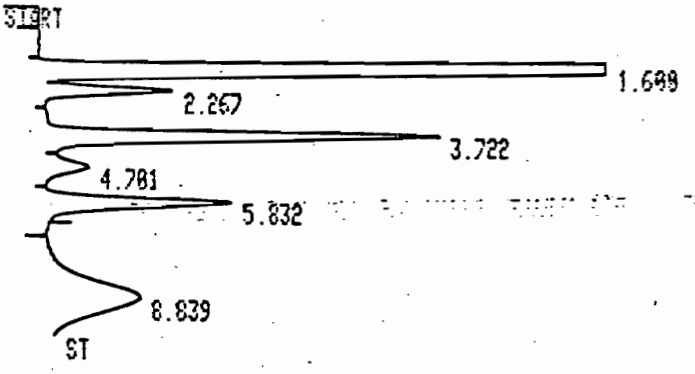


RUN # 6 JAN/28/86 08:56:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.593	161724	D PV	0.256	76 752
2.256	7571	D VV	0.384	3 593
3.703	22888	D VV	0.334	10 824
4.690	2542	D VV	0.500	1 206
5.802	10821	D VB	0.375	5 136
8.787	5244	I BH	1.214	2 489

TOTAL HGHT= 210710
MUL FACTOR= 1.0000E+00

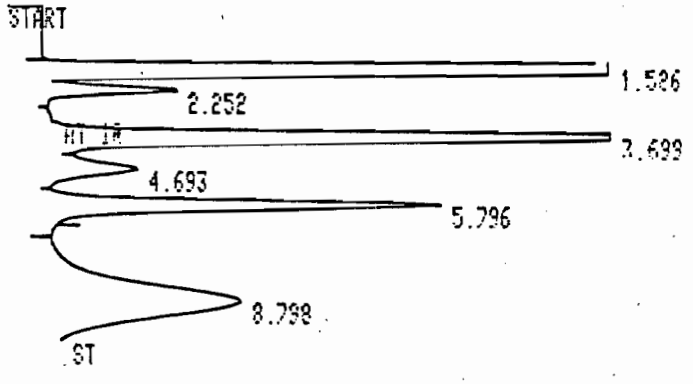


RUN # 7 JAN/28/86 09:07:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.600	159398	D PV	0.254	76 722
2.267	7572	D VV	0.383	3 645
3.722	22497	D VV	0.333	10 828
4.701	2497	D VP	0.494	1 202
5.832	10636	D PB	0.370	5 119
8.839	5160	I BH	1.220	2 484

TOTAL HGHT= 207760
MUL FACTOR= 1.0000E+00



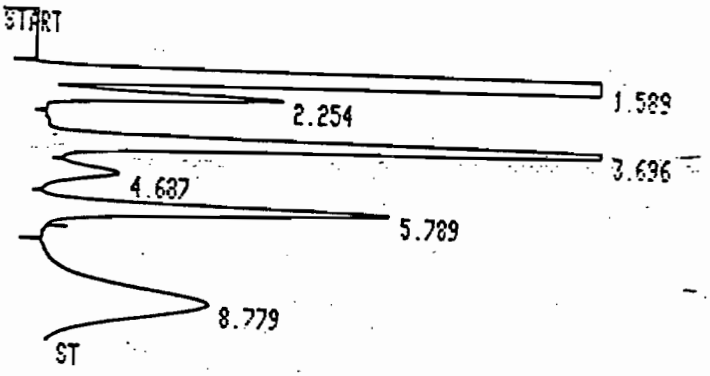
RUN # 8 JAN/28/86 09:18:45

RUN # 8 JAN/28/86 09:18:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.586	169429	D BV	0.254	77 266
2.252	7599	D VV	0.382	3 465
3.699	23376	D VV	0.331	10.660
4.693	2509	D VP	0.486	1 144
5.796	11047	D PB	0.368	5 038
8.798	5320	I PH	1.286	2 426

TOTAL HGHT= 219280
MUL FACTOR= 1.0000E+00

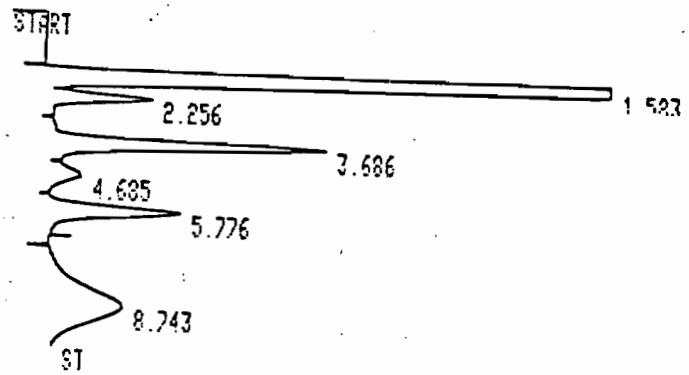


RUN # 9 JAN/28/86 09:29:45

HEIGHT%

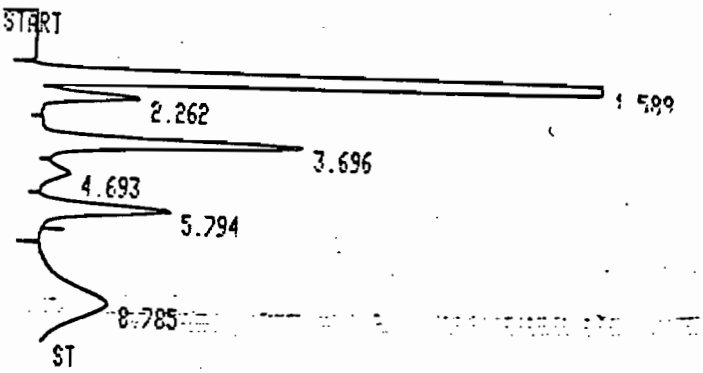
RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.589	151421	D PV	0.256	77 103
2.254	6999	D VV	0.385	3 564
3.696	21001	D VV	0.332	10 694
4.687	2273	D VV	0.489	1.157
5.789	9897	D VB	0.368	5 040
8.779	4796	I BH	1 212	2 442

TOTAL HGHT= 196390
MUL FACTOR= 1.0000E+00



2.256	3852	D	VV	0.326	4.356
3.686	7942	D	VV	0.361	11.336
4.685	975	D	VV	0.530	1.392
5.776	3790	D	VB	0.398	5.410
8.743	2119	I	BH	1.301	3.025

TOTAL HGHT= 70058
MUL FACTOR= 1.0000E+00

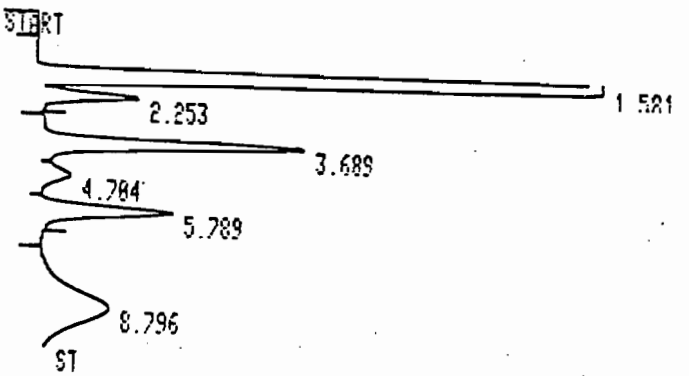


RUN # 11 JAN/28/86 09:51:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.589	51595	D PV	0.257	75.131
2.262	2961	D VV	0.321	4.312
3.696	7642	D VV	0.353	11.128
4.693	882	D VV	0.517	1.284
5.794	3687	D VB	0.383	5.369
8.785	1906	I PH	1.277	2.776

TOTAL HGHT= 68673
MUL FACTOR= 1.0000E+00



RUN # 12 JAN/28/86 10:02:45

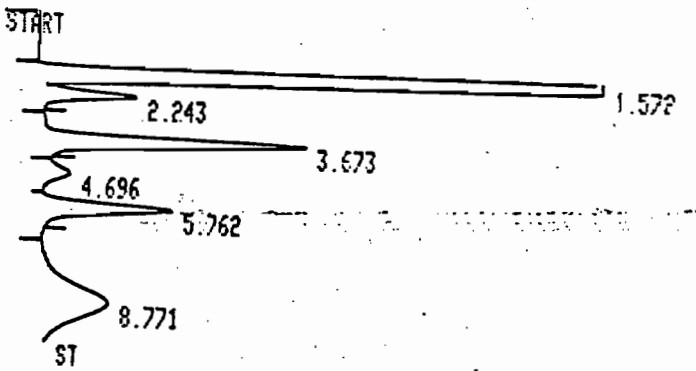
HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.581	52287	D PV	0.255	75.730

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.581	52287	D PV	0.255	75.238
2.253	2762	D VB	0.388	4.008
3.689	7553	D BV	0.337	10.939
4.704	823	D VP	0.581	1.192
5.789	3709	D PB	0.382	5.372
8.796	1910	I PH	1.274	2.766

TOTAL HGHT= 69844
MUL FACTOR= 1.0000E+00

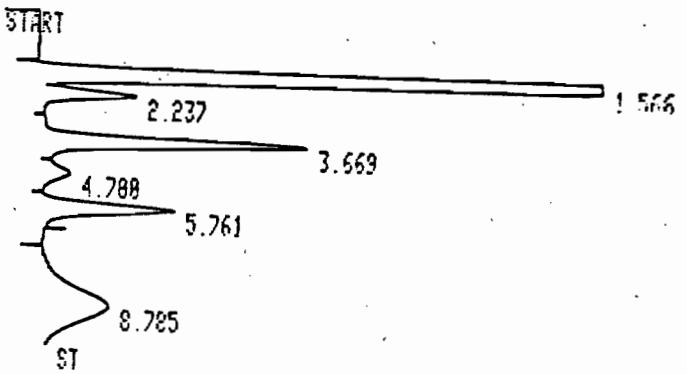


RUN # 13 JAN/28/86 10:13:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.572	53329	D PV	0.255	76.382
2.243	2723	D VB	0.388	3.900
3.673	7465	D PB	0.318	10.692
4.696	659	D BP	0.420	0.944
5.762	3729	D PB	0.381	5.341
8.771	1914	I PH	1.269	2.741

TOTAL HGHT= 69819
MUL FACTOR= 1.0000E+00



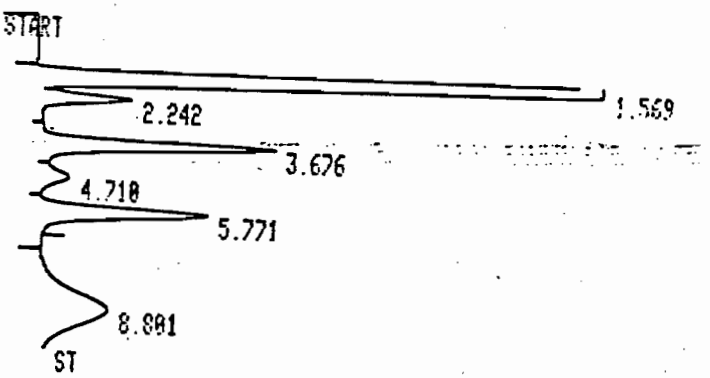
RUN # 14 JAN/28/86 10:24:45

RUN # 14 JAN/28/86 10:24:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.566	53985	D PV	0.256	76.107
2.237	2798	D VV	0.333	3.945
3.669	7668	D VV	0.350	10.810
4.700	826	D VP	0.508	1.165
5.761	3753	D PB	0.379	5.291
8.785	1903	I BH	1.270	2.683

TOTAL HGHT= 70933
MUL FACTOR= 1.0000E+00

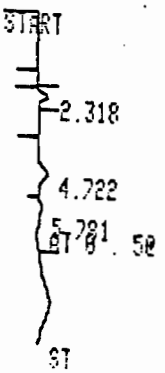


RUN # 15 JAN/28/86 10:35:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.569	52063	D PV	0.259	75.490
2.242	2666	D VV	0.332	3.866
3.676	6697	D VV	0.351	9.710
4.710	842	D VV	0.509	1.221
5.771	4790	D VB	0.379	6.945
8.801	1909	I BH	1.271	2.768

TOTAL HGHT= 68967
MUL FACTOR= 1.0000E+00



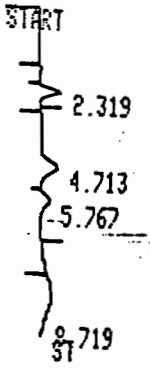
SOAP
SPIKE

RUN # 16 JAN/28/86 10:46:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.318	310	D PB	0.267	43.972
4.722	262	BP	0.512	37.163
5.781	133	D PB	0.352	18.865

TOTAL HGHT= 705
MUL FACTOR= 1.0000E+00

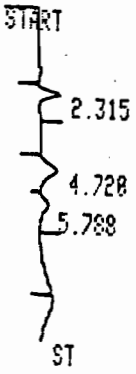


RUN # 17 JAN/28/86 10:57:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.319	294	D PB	0.274	34.346
4.713	252	PV	0.688	29.439
5.767	141	D VB	0.389	16.472
8.719	169	I BH	1.321	19.743

TOTAL HGHT= 856
MUL FACTOR= 1.0000E+00



RUN # 18 JAN/28/86 11:08:45

HEIGHT%

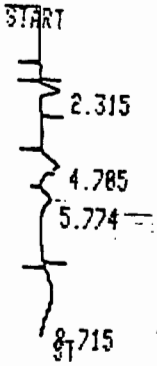
RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.315	292	D PB	0.349	44.867

RUN # 18 JAN/28/86 11:08:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.315	292	D PB	0.249	44 923
4.720	230	PP	0.478	35 385
5.788	128	D PB	0.425	19 692

TOTAL HGHT= 650
MUL FACTOR= 1.0000E+00

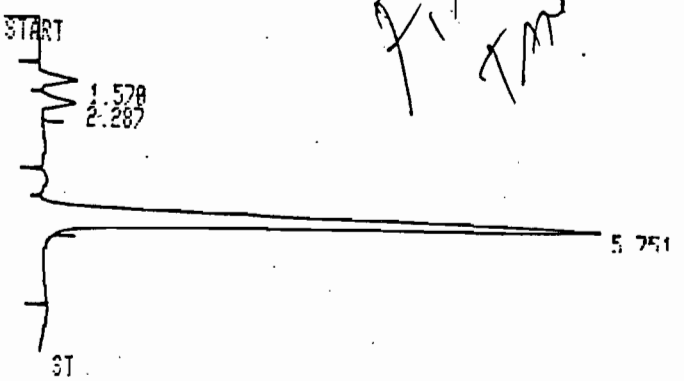


RUN # 19 JAN/28/86 11:19:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.315	290	D PB	0.246	35 891
4.705	226	PP	0.474	27 970
5.774	126	D PB	0.278	15 594
8.715	166	I BH	1.398	20 545

TOTAL HGHT= 808
MUL FACTOR= 1.0000E+00



RUN # 20 JAN/28/86 11:38:45

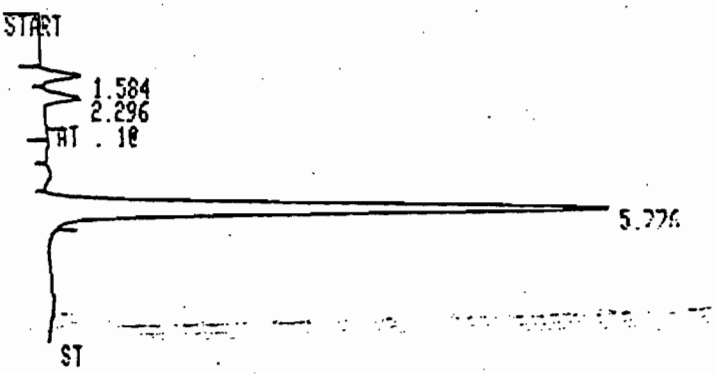
HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.578	518	D PY	0.265	5.788
2.287	486	D VB	0.295	5.431
5.751	7945	D PB	0.366	88.781

TOTAL HGHT= 8949
MUL FACTOR= 1.0000E+00

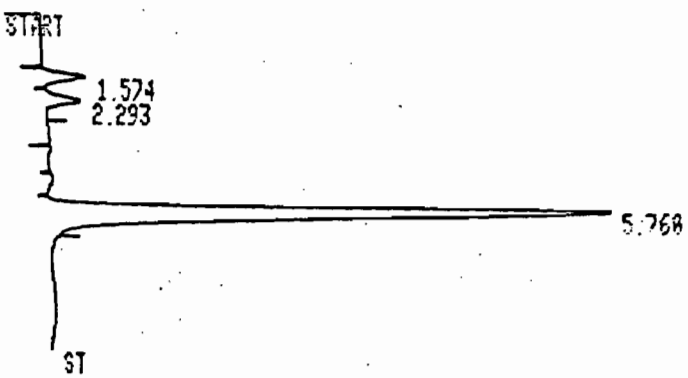


RUN # 21 JAN/28/86 11:41:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.584	566	D PY	0.264	6.172
2.296	524	D VB	0.269	5.714
5.776	8081	D PB	0.368	88.115

TOTAL HGHT= 9171
MUL FACTOR= 1.0000E+00



RUN # 22 JAN/28/86 11:52:45

HEIGHT%

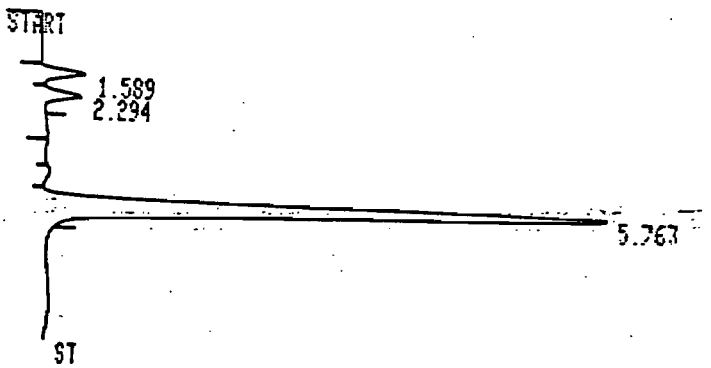
RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.574	600	D PY	0.268	6.489
2.293	508	D VB	0.287	5.494
5.768	8138	D PB	0.368	88.016

RUN # 22 JAN/28/86 11:52:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.574	680	D PY	0.268	6.429
2.293	508	D VB	0.287	5.494
5.760	8138	D PB	0.368	88.016

TOTAL HGHT= 9246
MUL FACTOR= 1.0000E+00

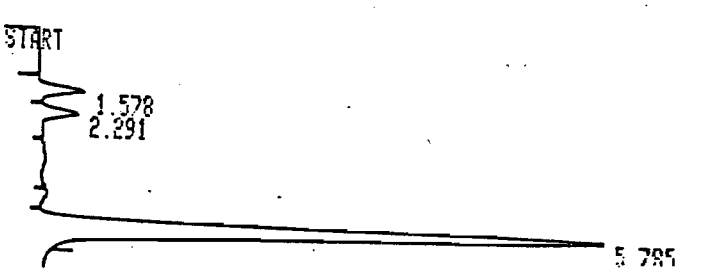


RUN # 23 JAN/28/86 12:03:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.589	617	D PY	0.275	6.553
2.294	539	D VB	0.286	5.724
5.763	8260	D PB	0.365	87.723

TOTAL HGHT= 9416
MUL FACTOR= 1.0000E+00



STOP

RUN # 24 JAN/28/86 12:14:45

HEIGHT%

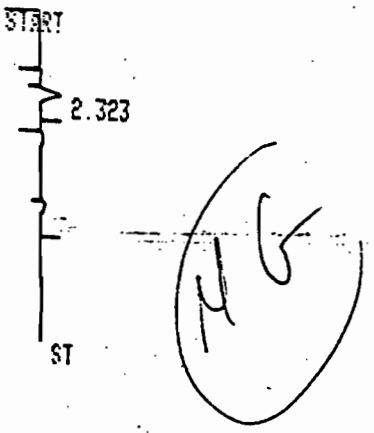
RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.578	636	D PY	0.283	6.796
2.291	551	D VV	0.318	5.887
5.785	8172	D PB	0.370	87.317

RUN # 24 JAN/28/86 12:14:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.578	636	D PY	0.283	6.796
2.291	551	D YY	0.318	5.887
5.785	8172	D PB	0.370	87.317

TOTAL HGHT= 9359
MUL FACTOR= 1.0000E+00

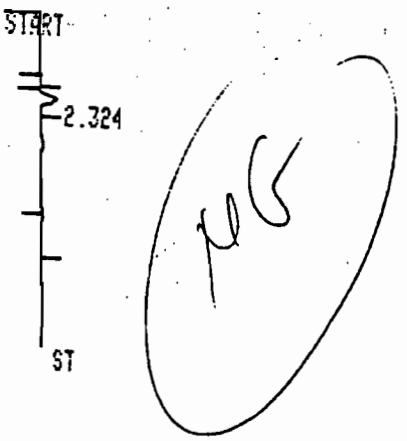


RUN # 25 JAN/28/86 12:25:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.323	282	D PB	0.263	100.000

TOTAL HGHT= 282
MUL FACTOR= 1.0000E+00

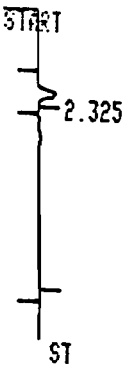


RUN # 26 JAN/28/86 12:36:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.324	253	D PB	0.270	100.000

TOTAL HGHT= 253

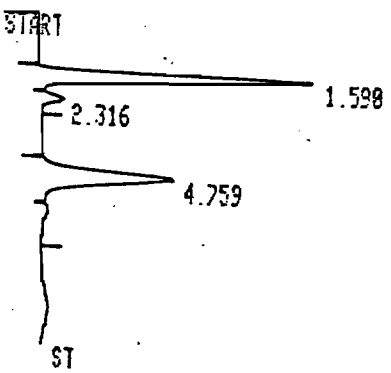


RUN # 27 JAN/28/86 12:47:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.325	264	D PB	0.256	100 000

TOTAL HGHT= 264
MUL FACTOR= 1.0000E+00

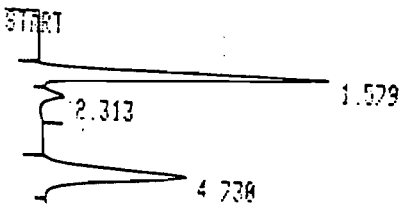


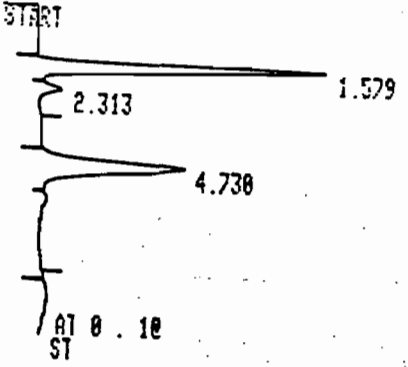
RUN # 28 JAN/28/86 12:58:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.598	3904	D PY	0.267	63 583
2.316	351	D YB	0.286	5 717
4.759	1885	BY	0.456	30 700

TOTAL HGHT= 6140
MUL FACTOR= 1.0000E+00



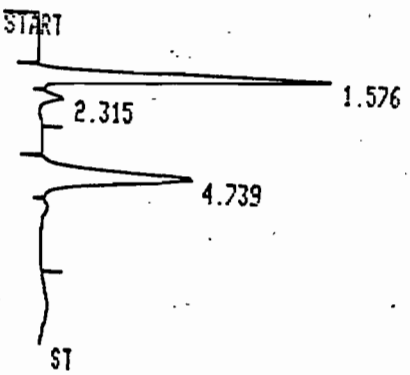


RUN # 29 JAN/28/86 13:09:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.579	4134	D PV	0.266	63.551
2.313	317	D VB	0.278	4.873
4.730	2054	BV	0.453	31.576

TOTAL HGHT= 6505
MUL FACTOR= 1.0000E+00

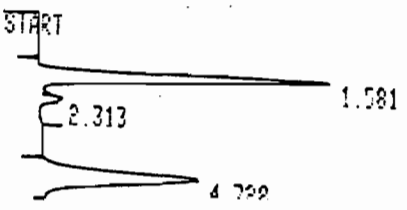


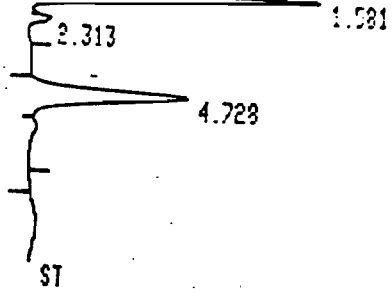
RUN # 30 JAN/28/86 13:29:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.576	4216	D PV	0.268	63.095
2.315	320	D VB	0.284	4.789
4.739	2146	BV	0.451	32.116

TOTAL HGHT= 6682
MUL FACTOR= 1.0000E+00



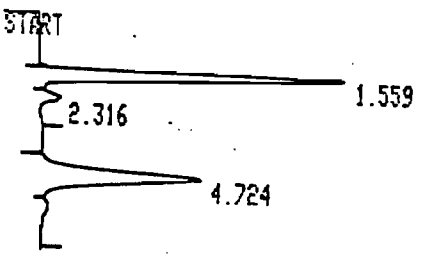


RUN # 31 JAN/28/86 13:31:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.581	4178	D PY	0.268	61.951
2.313	301	D YB	0.287	4.463
4.728	2265	BY	0.460	33.585

TOTAL HGHT= 6744
MUL FACTOR= 1.0000E+00



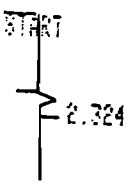
STOP

RUN # 32 JAN/28/86 13:42:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.559	4434	D BY	0.266	63.406
2.316	303	D YB	0.266	4.333
4.724	2256	BY	0.453	32.261

TOTAL HGHT= 6993
MUL FACTOR= 1.0000E+00

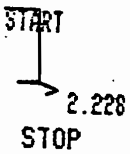


STOP

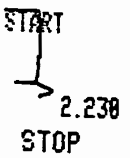
RUN # 33 JAN/28/86 13:53:45

HEIGHT% RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.324	241	D BB	0.273	100.000

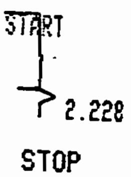
TOTAL HGHT= 241
MUL FACTOR= 1.0000E+00



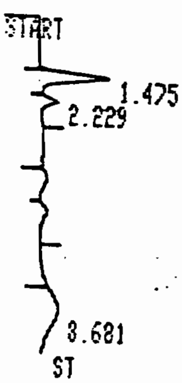
ESCAPE



ESCAPE



ESCAPE

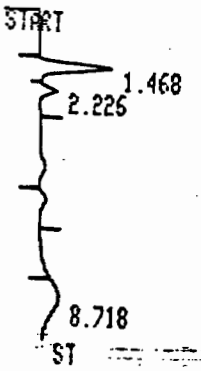


RUN # 37 JAN/28/86 14:11:46

HEIGHT% RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.475	924	D BV	0.282	67.792
2.229	219	D VB	0.240	16.067
3.681	220	I BH	1.176	16.141

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.475	924	D BY	0.282	67.799
2.229	219	D YB	0.248	16.067
8.681	220	I BH	1.176	16.141

TOTAL HGHT= 1363
MUL FACTOR= 1.0000E+00

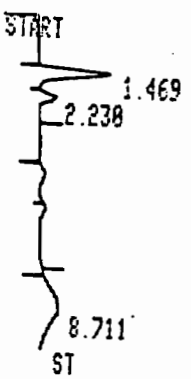


RUN # 38 JAN/28/86 14:22:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.468	1022	D PY	0.276	68.316
2.226	230	D YB	0.247	15.374
8.718	244	I BH	1.182	16.310

TOTAL HGHT= 1496
MUL FACTOR= 1.0000E+00



RUN # 39 JAN/28/86 14:33:46

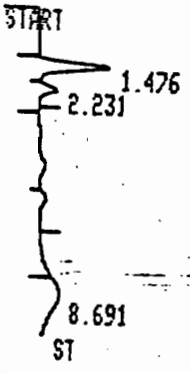
HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.469	1018	D BY	0.272	67.417
2.230	233	D YB	0.245	15.438
8.711	259	I BH	1.316	17.152

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.469	1018	D BV	0.272	67.417
2.230	233	D VB	0.245	15.438
8.711	259	I BH	1.316	17.152

TOTAL HGHT= 1510
MUL FACTOR= 1.0000E+00



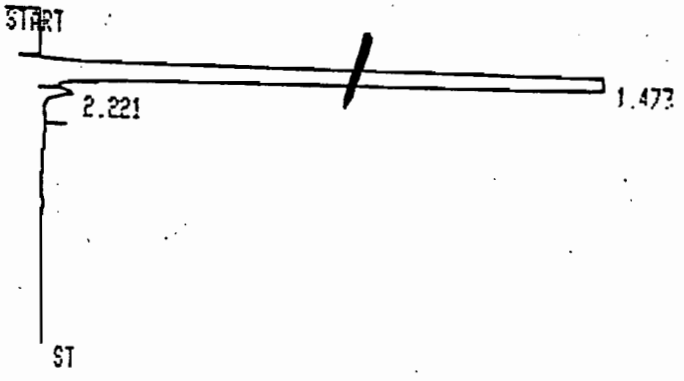
RUN # 40 JAN/28/86 14:44:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.476	1008	D PV	0.277	67.606
2.231	244	D VB	0.286	16.365
8.691	239	I BH	1.138	16.029

TOTAL HGHT= 1491
MUL FACTOR= 1.0000E+00

Penetr
Cook



RUN # 41 JAN/28/86 14:55:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.473	76542	D PB	0.254	99.685
2.221	242	D BB	0.079	0.315

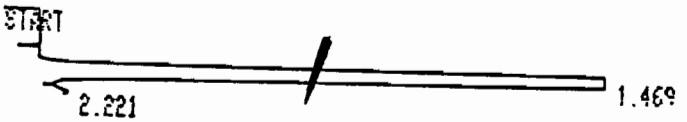
RUN # 41 JAN/28/86 14:55:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.473	76542	D PB	0.254	99.685
2.221	242	D BB	0.039	0.315

TOTAL HGHT= 76784
MUL FACTOR= 1.0000E+00

0.0025



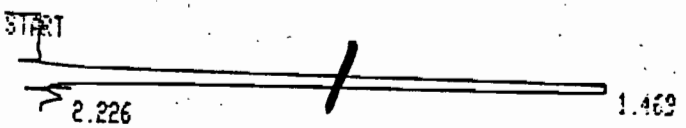
STOP

RUN # 42 JAN/28/86 15:06:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.469	36125	D PY	0.258	98.881
2.221	409	I VH	0.274	1.120

TOTAL HGHT= 36534
MUL FACTOR= 1.0000E+00



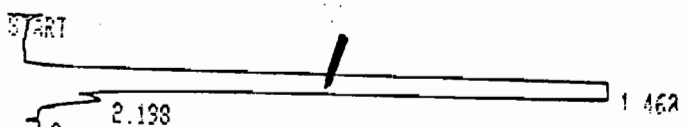
STOP

RUN # 43 JAN/28/86 15:09:57

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.469	17462	D PB	0.260	98.633
2.226	242	I BP	0.229	1.367

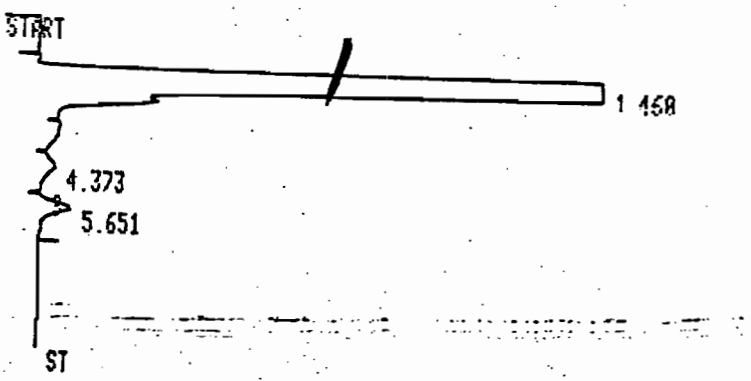
TOTAL HGHT= 17704
MUL FACTOR= 1.0000E+00



STOP

HEIGHT% RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.460	580761	DSBB	0.254	99.938
2.198	404	DTBB	0.221	0.070

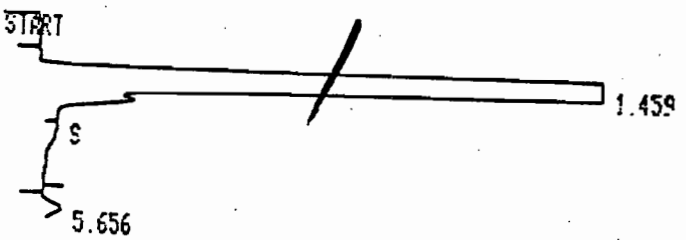
TOTAL HGHT= 581170
MUL FACTOR= 1.0000E+00



RUN # 45 JAN/28/86 15:25:24

HEIGHT% RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.460	1609450	DSBB	0.256	99.961
4.373	163	TPB	0.582	0.010
5.651	459	D BB	0.421	0.029

TOTAL HGHT= 1610100
MUL FACTOR= 1.0000E+00

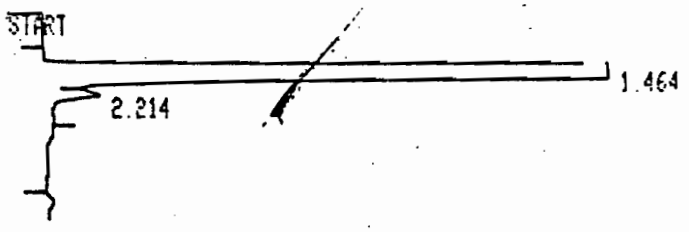


STOP

RUN # 46 JAN/28/86 15:36:24

HEIGHT% RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.459	1139295	DSPB	0.256	99.976
5.656	274	I PH	0.400	0.024

TOTAL HGHT= 1139600
MUL FACTOR= 1.0000E+00



STOP

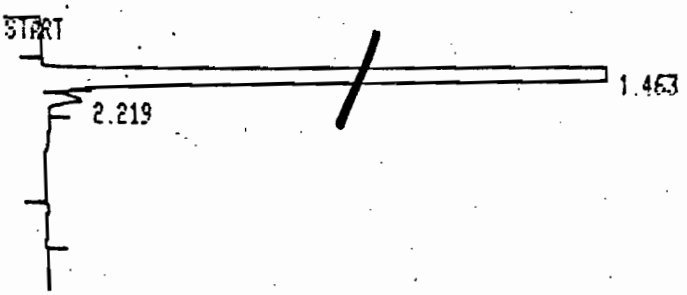
RUN # 47 JAN/28/86 15:43:01

HEIGHT%

RT	HEIGHT TYPE	AR/HT	HEIGHT%
1.464	227716 D PB	0.255	99.862
2.214	315 D BB	0.080	0.138

0.004"

TOTAL HGHT= 228030
MUL FACTOR= 1.0000E+00



STOP

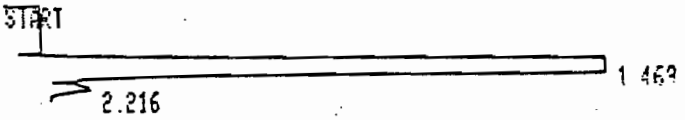
RUN # 48 JAN/28/86 15:50:06

HEIGHT%

RT	HEIGHT TYPE	AR/HT	HEIGHT%
1.463	82570 D PB	0.256	99.634
2.219	303 D BB	0.152	0.366

Δ Displacement

TOTAL HGHT= 82873
MUL FACTOR= 1.0000E+00



STOP

RUN # 49 JAN/28/86 15:[illegible]

RUN # 49 JAN/28/86 15:58:[illegible]

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.469	214984	D PB	0.254	99.844
2.216	336	I BP	0.178	0.156

0.004f

TOTAL HGHT= 215240
MUL FACTOR= 1.0000E+00

START

1.465

2.221

STOP

RUN # 50 JAN/28/86 16:02:17

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.465	21960	D BV	0.263	98.237
2.221	394	I VH	0.326	1.763

TOTAL HGHT= 22354
MUL FACTOR= 1.0000E+00

START

1.465

2.289

STOP

0.004f

RUN # 51 JAN/28/86 16:06:30

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.465	289120	D PB	0.253	99.909
2.289	262	I BP	0.179	0.091

TOTAL HGHT= 289380
MUL FACTOR= 1.0000E+00

START

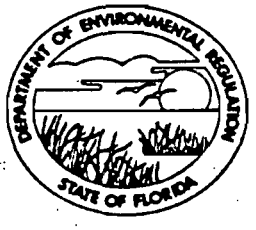
1.475

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT
3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

DER
FEB 11 1986
BAQM



NORTHEAST DISTRICT
RECEIVED
JAN 31 1986
DER-JACKSONVILLE

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

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Tall Oil Plant [ ] New[1] [X] Existing[1]

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

COMPANY NAME: Georgia-Pacific Corp. COUNTY: Putnam

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) Tall Oil Plant

SOURCE LOCATION: Street Highway 216 City Palatka

UTM: East 434.0 North 3283.4

Latitude 29 ° 41 ' 00 "N Longitude 81 ° 40 ' 45 "W

APPLICANT NAME AND TITLE: Henry Hirschman, General Manager

APPLICANT ADDRESS: P. O. Box 919, Palatka, Florida 32077

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Georgia-Pacific Corp.

I certify that the statements made in this application for a Operating 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: Henry Hirschman

~~Henry Hirschman~~, General Manager
Name and Title (Please Type)

Date: 1/31/86 Telephone No. 904/325-2001

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: Faustino Prado

Faustino Prado, P.E.
Name (Please Type)

PRADO & ASSOCIATES, INC.
Company Name (Please Type)

P. O. BOX 17224, TAMPA, FLORIDA 33682
Mailing Address (Please Type)

Florida Registration No. 20948 Date: Jan. 29 1986 Telephone No. 813 - 961 8103

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.

The project involves the placement of a scrubber on an existing tall oil plant vent. The scrubber is designed to reduce emissions from this plant to the level allowed in the new TRS Rules prior to the compliance date in that Rule.

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

Start of Construction _____ Completion of Construction _____

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.)

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

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

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

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

1. Is this source in a non-attainment area for a particular pollutant? _____

   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. _____

3. Does the State "Prevention of Significant Deterioriation" (PSD) requirement apply to this source? If yes, see Sections VI and VII. _____

4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? _____

5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? _____

H. Do "Reasonably Available Control Technology" (RACT) requirements apply to this aource? 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		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Sulfate Soap	None		2.65 Tons	Exhibit I & II
H_2SO_4	None		48.2 Gallons	Figure I
Caustic	None		48.2 Gallons	
H_2O	None		240 Gallons	

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

1. Total Process Input Rate (lbs/hr): 2.65 tons Soap; 48.2 gal. Acid

2. Product Weight (lbs/hr): 1.25 tons Tall Oil; 25,000 gal. Residue

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

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
TRS	0.011	0.048	NA	NA	19,172	9.59	Ex. III
	Exhibit IV *						

[1]See Section V, Item 2.

* Reactor yield 99.95% of TRS and 100% of this was TRS as shown by G.C. data.

[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)
TRS Scrubber	TRS	99.5 %	NA	Vendor Spec.
				EXHIBIT IV

E. Fuels

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

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

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

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

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

Annual Average _____ Maximum _____

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

No waste generated

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

Stack Height: 83'6" ft. Stack Diameter: 16" ft.

Gas Flow Rate: 4700 ACFM 2500 DSCFM Gas Exit Temperature: 140 °F.

Water Vapor Content: Saturated % Velocity: 56 FPS

SECTION IV: INCINERATOR INFORMATION

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

Description of Waste _____

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

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

Manufacturer _____

Date Constructed _____ Model No. _____

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

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

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

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

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

[ ] Other (specify) _____

Brief description of operating characteristics of control devices: _____

_____

_____

_____

_____

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

_____

_____

_____

_____

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

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

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

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

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

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

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

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

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

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

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

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

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

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

[ ] Yes [ ] No

Contaminant	Rate or Concentration

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

[ ] Yes [ ] No

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration

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

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

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height: ft.

b. Diameter: ft.

c. Flow Rate: ACFM

d. Temperature: °F.

e. Velocity: FPS

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

1.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

2.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

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

j. Applicability to manufacturing processes:

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

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

F. Describe the control technology selected:

1. Control Device:

2. Efficiency:[1]

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:[2]

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

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

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

b. (1) Company:

(2) Mailing Address:

(3) City: (4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

10. Reason for selection and description of systems:

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

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data

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? [ ] Yea [ ] No

b. Was inatrumentation calibrated in accordance with Department procedures?

[ ] Yea [ ] No [ ] Unknown

B. Meteorological Data Uaed 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 Uaed

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 ahowing 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.

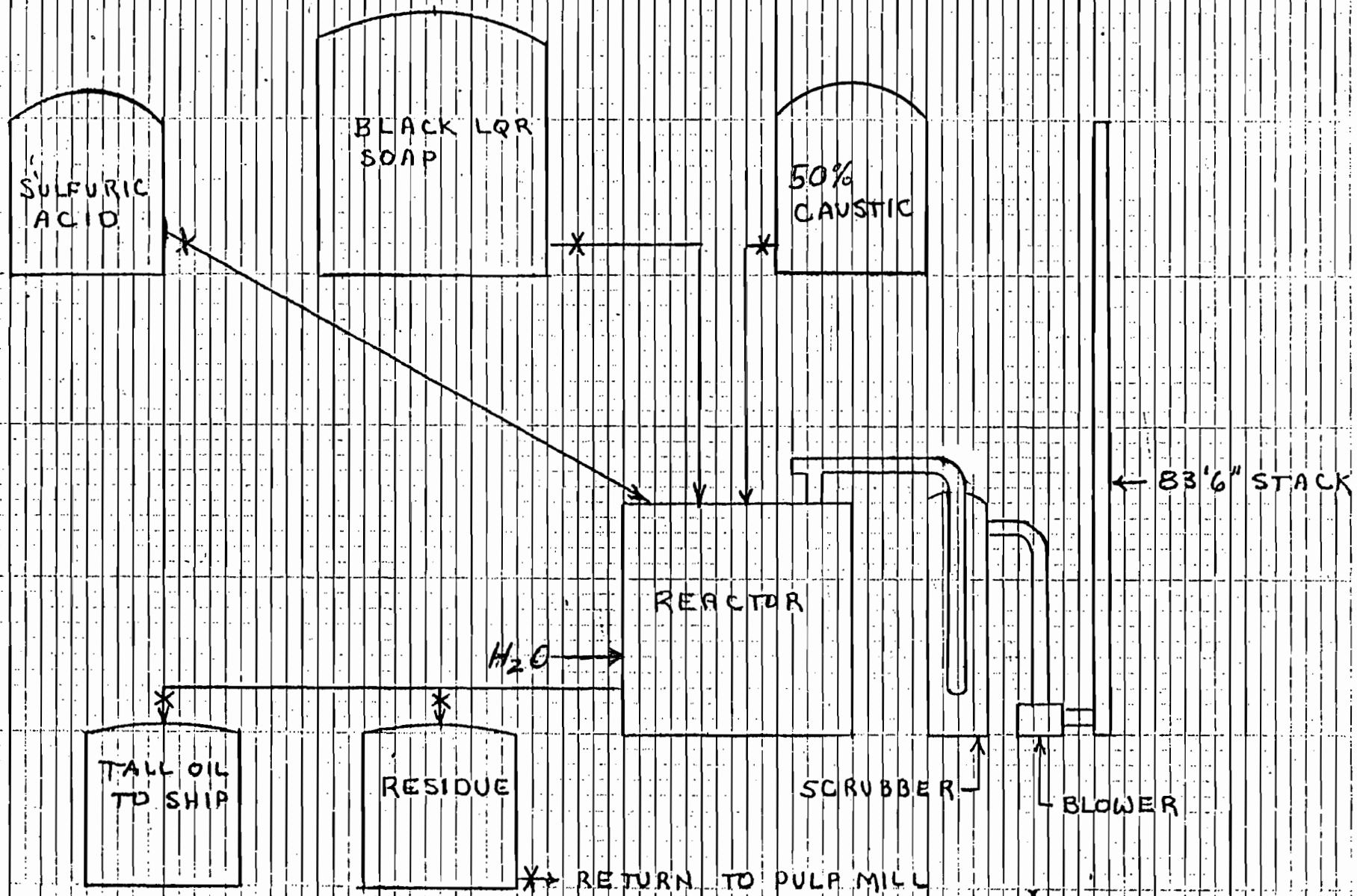
F. Attach all other information supportive to the PSD review.

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.

FIGURE I

TALL OIL FLOW SHEET



JOB NO. .....

FLOW SHEET .....

DATE .....

CHKD. BY .....

Exhibit I

Re: Section III A, B, C (Page 4 of 12) of Permit Application.

Section III.

A. Raw Materials and Chemicals Used.

Tall Oil at Palatka is produced by the addition of sulfuric acid to black liquor soap in a reaction vessel. Steam is added to bring the temperature up to approximately 200° F. After decanting the oil, caustic is added to the reactor and the residue is transferred to a tank to be used back in process.

There are no contaminants in the raw materials themselves. TRS emissions result from the reaction between the soap and acid.

B. Since the process is batch, with approximately four (4) to five (5) batches being processed per week, a lbs./hr. utilization rate is not meaningful. Exhibit II is a monthly tall oil report distributed by the mill. From this report, the 12 hour tall oil yield can be calculated as requested by John Brown of FDER in letter dated September 13, 1985. Total batches processed in 1985 WERE 211.

$$\frac{910 \text{ tons TO}}{\text{Month}} \times \frac{12 \text{ mo.}}{\text{Year}} \times \frac{1 \text{ year}}{365 \text{ Days}} \times \frac{1 \text{ day}}{2\text{-}12 \text{ hrs.}} = \frac{14.96 \text{ tons}}{12 \text{ hours}} = \frac{1.246 \text{ tons}}{\text{hour}}$$

At a 47% yield (based on laboratory studies) the soap weight $= \frac{1.246}{.47}$
$= 2.652$ tons/hour

It requires approximately 2,000 gallons 96% sulfuric acid to produce 1 batch (approximately 52 tons) of Tall Oil.

Therefore:

$$211 \times 2000 \times \frac{1}{24} \times \frac{1}{365} = 48.2 \text{ gallons acid/hr.}$$

Also 2000 gallons of 50% NaOH used for neutralization

$$211 \times 2000 \times \frac{1}{24} \times \frac{1}{365} = 48.2 \text{ gallons Caustic/hr.}$$

J. McInnis
M. McGinnis
C. Moore
T. Lee
Bob Wilson
L. Yarbrough
H. Hirschman

GEORGIA PACIFIC CORP.
Palatka Division

Technical Services

Date 1/3/86

EXHIBIT II

TO: W. BAXTER

FROM: R. MALLORY

SUBJECT: MONTHLY BY-PRODUCTS SUMMARY;
TALL OIL & TURPENTINE PRODUCTION FOR DECEMBER 1985 and Operating Year.

TALL OIL	1984 Monthly Average	1985 Monthly Average	This Month
PRODUCTION (Tons)	627.3	910.0	543.2
Pounds/Cord Pine Wood (1985 Budget 55.0)	35.9	49.7	32.1
Cords of Pine Wood Consumed in Digesters (Excludes Bark)	34,918	36,595	33,796
Ratio of Pine to Hardwood Cooking	1.80	2.53	2.28
Tons Produced per Day (7 Day Operating Week)	21.9	30.0	19.4
Tons Produced Per Batch	48.6	51.8	38.8
Tons Shipped	624	907 *	635 *
TURPENTINE			
PRODUCTION (Gallons)	33,741	34,577	36,717
Gallons/Cord Pine Wood (1985 Budget 0.95)	0.97	0.95	1.09
Gallons Produced Per Day	1,103	1,140	1,311
Gallons Shipped	33,425	34,508	41,514

* BASED ON INVOICED TALL OIL SHIPMENTS

- R. Mallory
Tech Serv

Exhibit III

TRS Emissions

1. Reactor: (Acidulation) A continuous bag sample of stack gas was pulled during the entirely of a tall oil "cook". Wet and dry bulb temperatures taken, average stack temperature recorded, and six pitot traverses taken during this time. National Council of Air and Stream Improvement in Gainesville analyzed the bag samples on a gas chromatograph.

Calculations & Data

Duration of Cook	=	150 min.
Avg. ΔP	=	0.242"
Stack Temp.	=	124" F.
Wet Bulb	=	120" F.
Relative Humid.	=	88% (from chart)
Static Pres.	=	-0.26"
Calc. % Moist.	=	11.24%

$$\text{Velocity} = Kp\ Cp \sqrt{\frac{TS \times \Delta P}{PS \times Mw}}$$

$$\%\ \text{Moisture} = \frac{(\text{Vapor Pres})(\text{Rel. Humid.})}{\text{Stack Pres.}}$$

$$\text{Velocity} = (85{,}48)\ (1) \sqrt{\frac{(584)(.242)}{(30.12)(30.)}} = 33.80 \text{ ft./sec.}$$

Stack Dia. = 16" = 1.40 sq. ft.

ACFM = 33.80 x 60 x 1.40 = 2839

$$\text{SCFM} = 2839 \times \frac{532}{584} \times \frac{30.12}{29.92} \times 0.8876 = 2310$$

Gas Density = (0.00279)(Mw) = (0.00279)(30) = 0. 0837

Mass of Gas Emitted During Tall Oil Cook = (2310)(150)(0.0837) = 29,002 #

TRS Concentration = 3108 ppm

Mass Emissions, TRS = 90.24 #

Average Tons Tall Oil/Cook = 51.75

TRS/Ton Tall Oil = 1.742 #

Exhibit III - cont'd.

2. Reactor: (Neutralization) After decanting the oil off the cook, 2000 gallons of 50% Caustic is added to the reactor. Again, bag samples and other data necessary for emissions calculations collected .

Calculations and Data

Duration of Caustic Addition	= 20 min.
Avg. ΔP	= 0.2950
Stack Temperature	= 96° F.
Wet Bulb	= 94° F.
Relative Humidity	= 93%
Static Pres	= -.25"
Calc. % Mois.	= 5.29

$$\text{Velocity} = (85.48)(1)\sqrt{\frac{(554)(.295)}{(30.08)(30)}} = 36.38 \text{ ft./sec.}$$

$$\text{ACFM} = 36.38 \times 60 \times 1.40 = 3056$$

$$\text{SCFM} = 3056 \times \frac{532}{554} \times \frac{30.10}{29.92} \times .9471 = 2796$$

Mass of Gas Emitted During Neutralization = (2796)(20)(.08377) = 4681 #

TRS Concentration = 1.04 ppm

Mass Emissions, TRS = 0.0048 #

TRS/Ton Tall Oil = 0.000094#

3. Soap Storage Tanks: TRS concentrations were measured in the vent of these tanks. The only way TRS gases can be emitted is by the displacement of soap in these two tanks in series.

2 Tanks @ 25' diameter = 3670 gal/ft. each

Average Soap Density = 6.0#/gal.

Therefore Stg. Tanks = 22020#/ft. = 11.01 T.

Pounds Tall Oil/Pound Soap = 0.47 (lab results)

$$\frac{.47 \text{ ton Tall Oil}}{1 \text{ ton Soap}} \times \frac{11.01 \text{ Tons Soap}}{\text{ft.}} = 5.2 \text{ ft. displacement} = 2551 \text{ cu ft displace.}$$

2551 cu ft = 2492 SCF = 199.4#

TRS Conc. = 1.06#

$$\text{Mass Emissions TRS} = \frac{(199.4)(1)(1.06)}{10^6} = .00021\# \text{ TRS/Ton TO}$$

Exhibit III - cont'd.

4. Oil Storage Tanks: TRS concentrations were measured in the vent of these tanks also. The only way TRS gases can escape is by displacement of oil in these three tanks.

Tank = 16' dia. = 1503 gal./ft.

Average Oil Density = 8.2#/gal.

Therefore stg. tanks = 12326#/ft. = 6.16 T/ft.

and 1 ton Tall Oil = 0.162 ft. displacement = 201 cu ft

201 cu. ft = 160 SCF = 12.83#

TRS conc. = 1.43 ppm

Mass Emissions TRS = $\frac{(12.83)(1.43)}{10^6}$ = 0.0#/ton oil

5. Neutralized Residue Tank: TRS concentration again measured in vent of tank. Displacement only way gases emitted.

Tank = 22' dia. = 2842 gal./ft.

Average Volume Residue = 500 gal/ton Oil = 0.176'displacement =66.9 cu ft

66.9 cu ft = 42.3 SCF =3.38#/ton oil

TRS conc. = 3.49 ppm

Mass Emissions, TRS = $\frac{(3.38)(3.49)}{10^6}$ = 0.0#/ton oil

6. Total TRS Emissions/Ton Tall Oil

	Source	#/Ton	%
1.	Reactor	1.7420	99.983
2.	Reactor	.0001	.006
3.	Soap Stg.	.0002	.011
4.	Oil Stg.	.0000	.000
5.	Residue	.0000	.000
		1.7423	100.000

Potential Emissions (No Scrubber)

Appx. $\frac{11{,}000 \text{ tons Tall Oil}}{\text{Year}}$ x $\frac{1.7423\#}{\text{Ton}}$ = 19165# TRS = 9.59 T

PRADO & ASSOCIATES
Consulting Engineers

P. O. BOX 17224 TAMPA. FLORIDA 33682. U.S.A. TELEPHONE: (813) 961-8103 TELEX: 52 9396

09JUL85

EXHIBIT IV

Mr. W. R. Wilson
Georgia-Pacific Corporation
P. O. Box 919
Palatka, Florida 32078

Dear Bob:

Per today's telephone conversation, I am enclosing a copy of some of my scrubber calculations.

Please note the following: for calculations purposes, I am assuming that 100% of TRS emissions consist of H2S. While this is not theoretically correct, it is close enough in the absence of stack analysis data. The state DER will allow the daily emission of 2.75 lb as TRS or 2.92 lb as H2S. Assuming a reaction batch time of 2 hours, this converts to 102.8ppm as H2S, or 96.8ppm as TRS. These figures will of course vary if reaction time or stack flowrate change.

As far as scrubber efficiency is concerned based on previous designs, we predict a removal efficiency of over 99.5% for H2S. If you refer to my letter to J. F. Parrish dated 26JUN85, this scrubber, as designed, will guarantee solving the safety problem involved with the acidulation operation. Since we do not know the exact amount of mercaptans emitted at present and knowing that mercaptans are not so easily scrubbed as H2S, we can not guarantee the exact total emissions as TRS. However, based on previous designs we expect total emissions on the order of 20 - 50 ppm well within the Florida DER limits.

We will gladly supply any other technical data you may need for the building permit.

Sincerely

F. L. Prado, P.E.
Forest Products Division

FLP:2016:PBP
cc: S.D. Bristow

CALCULATIONS BASED ON H_2S ONLY.

STATE ALLOWS 0.05 lb TRS / TON OF CTO.

PALATKA PRODUCES 55 TON / DAY.

∴ TOTAL TRS ALLOWED: $0.05 \times 55 = 2.75$ lb TRS

MOL. WEIGHT OF H_2S IS 34 S = 32

CONVERT TRS TO H_2S : $2.75 \times \frac{34}{32} = \underline{2.92 \text{ lb}}$

SO, WE ARE ALLOWED TO EMIT 2.92 lb / day of H_2S.

CONVERT TO ppm:

STACK FLOWRATE: 2500 SCFM.

1 MOLE AT STANDARD COND = 359 ft^3. (32°F).

$\frac{2.92 \text{ lb}}{34 \text{ lb-mol}} = 0.0859$ moles of H_2S per day.

$0.0859 \times 359 = 30.85$ ft^3 of H_2S per day @ 32°F, 1 atm.

STACK FLOWRATE : 2500 SCFM X 120 minutes = 300,000 CF per 2-hour period (duration of acidulation).

∴ $\frac{30.85 \text{ ft}^3 \text{ of } H_2S}{300{,}000 \text{ ft}^3 \text{ of air}} \times 1{,}000{,}000 = \underline{102.8 \text{ ppm}}$

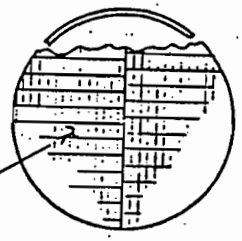
In other words, if reaction takes place in two hours, maximum emission, as H_2S would be 102.8 ppm.

FLP
25 May 85

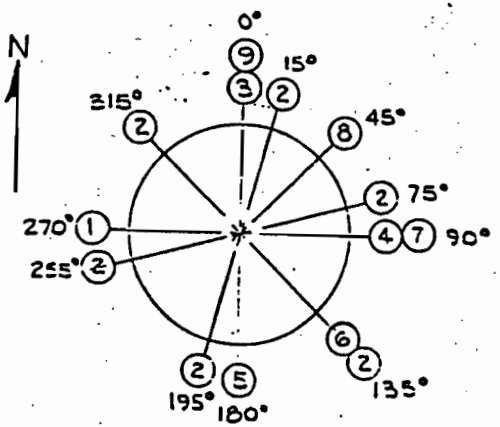
Prado & Associates Consulting Engineers Tampa, FL

APPROVED FOR CONSTRUCTION
DATE 8 Aug 85

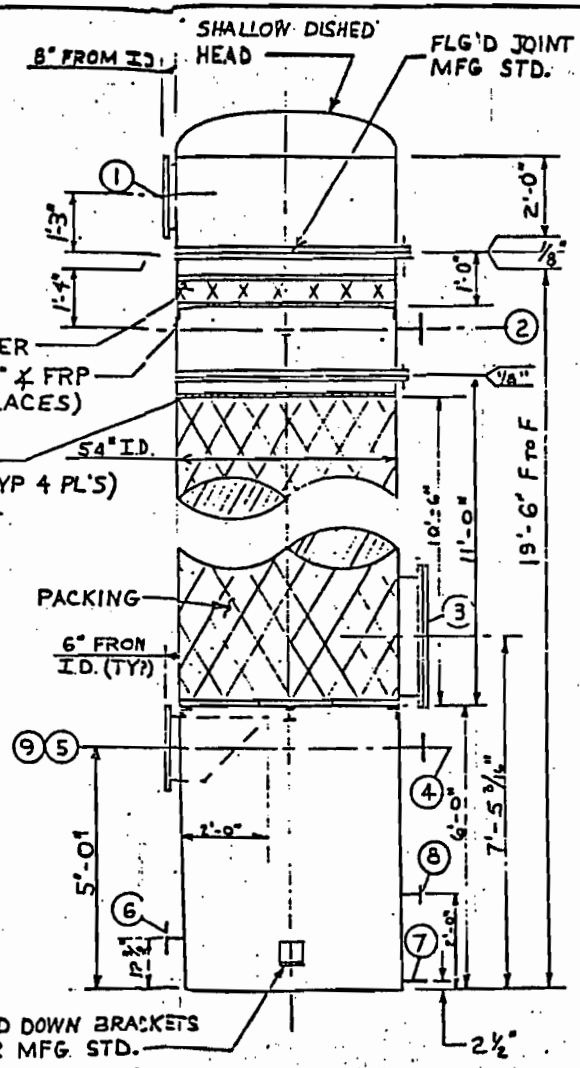
REV.	DESCRIPTION	APPD.	DATE
2	FOR CONSTRUCTION	FLP	8 Aug 85
1	FOR BIDS ONLY	FLP	7-11-85



PACKING SUPPORT AND HOLD DOWN GRATING



NOZZLE ORIENTATION



1	VESSEL DIAMETER	4'-6" I.D.
2	VESSEL STRAIGHT SIDE	
3	NOMINAL CAPACITY	
4	PRODUCT	WHITE LIQUOR
5	SP. GR. OF PRODUCT	1.1
6	WORKING PRESSURE	ATMOSPHERIC
7	DESIGN PRESSURE	
8	WORKING TEMP	180° F
9	DESIGN TEMP	180° F
10	WEIGHT EMPTY/FULL	
11	SEISMIC FACTOR	
12	WIND FACTOR	
13	JOINT EFFICIENCY	
14	SHELL MATERIAL	FRP
15	SHELL THICKNESS	PER PS-15-69
16	BOTTOM MATERIAL	" " " "
17	BOTTOM THICKNESS	" " " "
18	HEAD MATERIAL	" " " "
19	HEAD THICKNESS	" " " "
20	CORROSION ALLOWANCE	
21	LINER	
22	CODE	PS-15-69
23	CODE STAMP	
24	STRESS RELIEVE	
25	RADIOGRAPH	
26	INSULATION SUPPORTS	NONE
27	INSULATION	NONE
28	PAINT	N/A
29	ACCESSORIES	
30	PRESSURE TEST	HYDROSTATIC

NOZZLE SCHEDULE

NOZZLE	SIZE	TYPE	RATING	REMARKS
1	16"	FLG'D	150#	OUTLET GAS
2 (qty 2)	4"	FLG'D	150#	WHITE LIQUOR-IN
3	30"	FLG'D	MFG STD	MANHOLE
4	3"	FLG'D	150#	WHITE LIQUOR-IN
5	16"	FLG'D	150#	INLET GAS
6	4"	FLG'D	150#	WHITE LIQUOR-OUT
7	1½"	PLAIN END	—	DRAIN
8	2"	FLG'D	150#	INSTRUMENT
9	2"	FLG'D	150#	SPARE

NOTES:
1. SPRAY NOZZLES: BETE FOG FULL CONE 3/4", TF32 FC 316 SS, 7 REQD.
2. PACKING SUPPORT AND HOLD-DOWN GRATING TO BE 1" FRP [illegible] GRATING SUITABLY SUPPORTED

REFERENCE DRAWINGS
D-297-7810-030

AUG. 08 1985

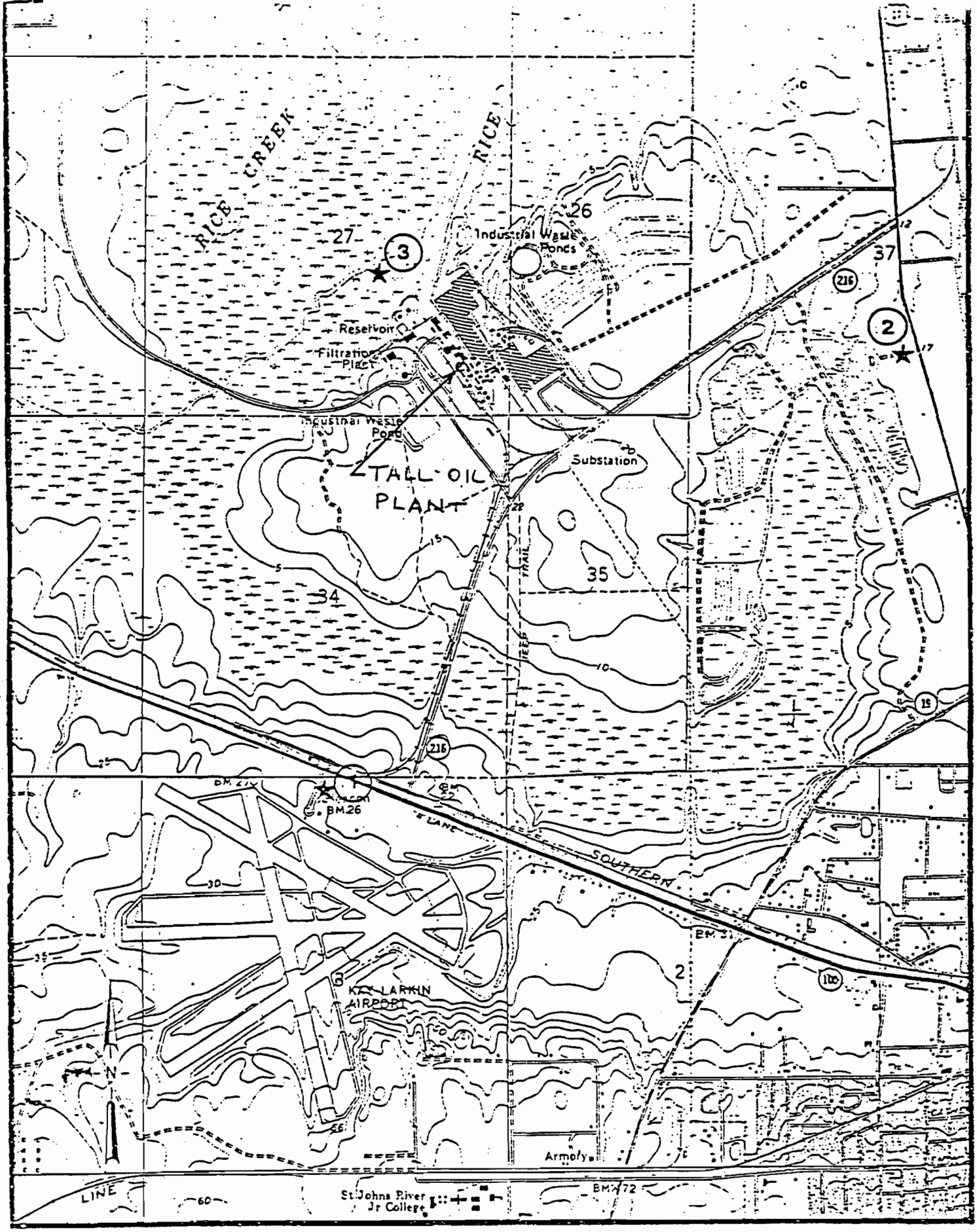
SCALE 3/8"=1'-0"	DATE	
DWN. BY CTD	6-17-85	
CHKD		
APPR. FLP	6.25.85	
PROJ. NO. 2016		

PRADO & ASSOCIATES
CONSULTING ENGINEERS
FLORIDA, U.S.A.

GEORGIA-PACIFIC / PALATKA
TALL OIL SCRUBBER

297/7810 | N-1 | 2

SHEET 2 OF 2

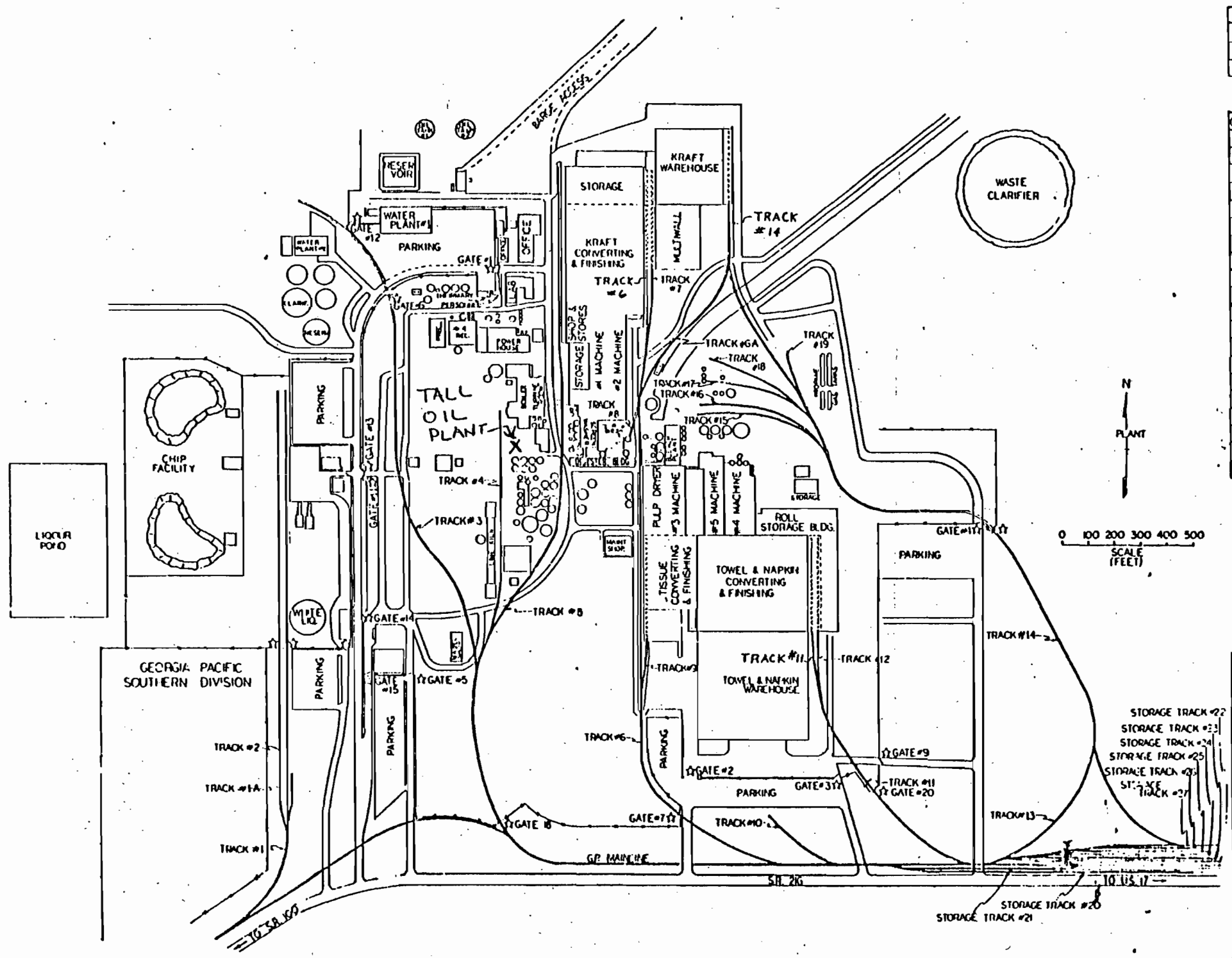


SCALE

1 kilometer

Figure 3 PLOT PLAN OF PLANT LOCATION

BEST AVAILABLE COPY



LEGEND & [illegible]	
☆	GATE
———	RAILROAD TR
—→—	FENCE LINE

GATE #	DESCRIPTI
1	MAIN GATE
2	EAST GATE
3	OLD CONST. G
4	CONST. G
5	CONST. G
6	RR GATE
7	RR GATE
8	
9	CONST. G
10	
11	CONST. G
12	PERSONNEL
13	PERSONNEL
14	VEHICLE GATE
15	OLD WOOD G
16	
17	RR GATE
18	
19	
20	RR GATE

GEORGIA-PACIF

PALATKA

Appendix A

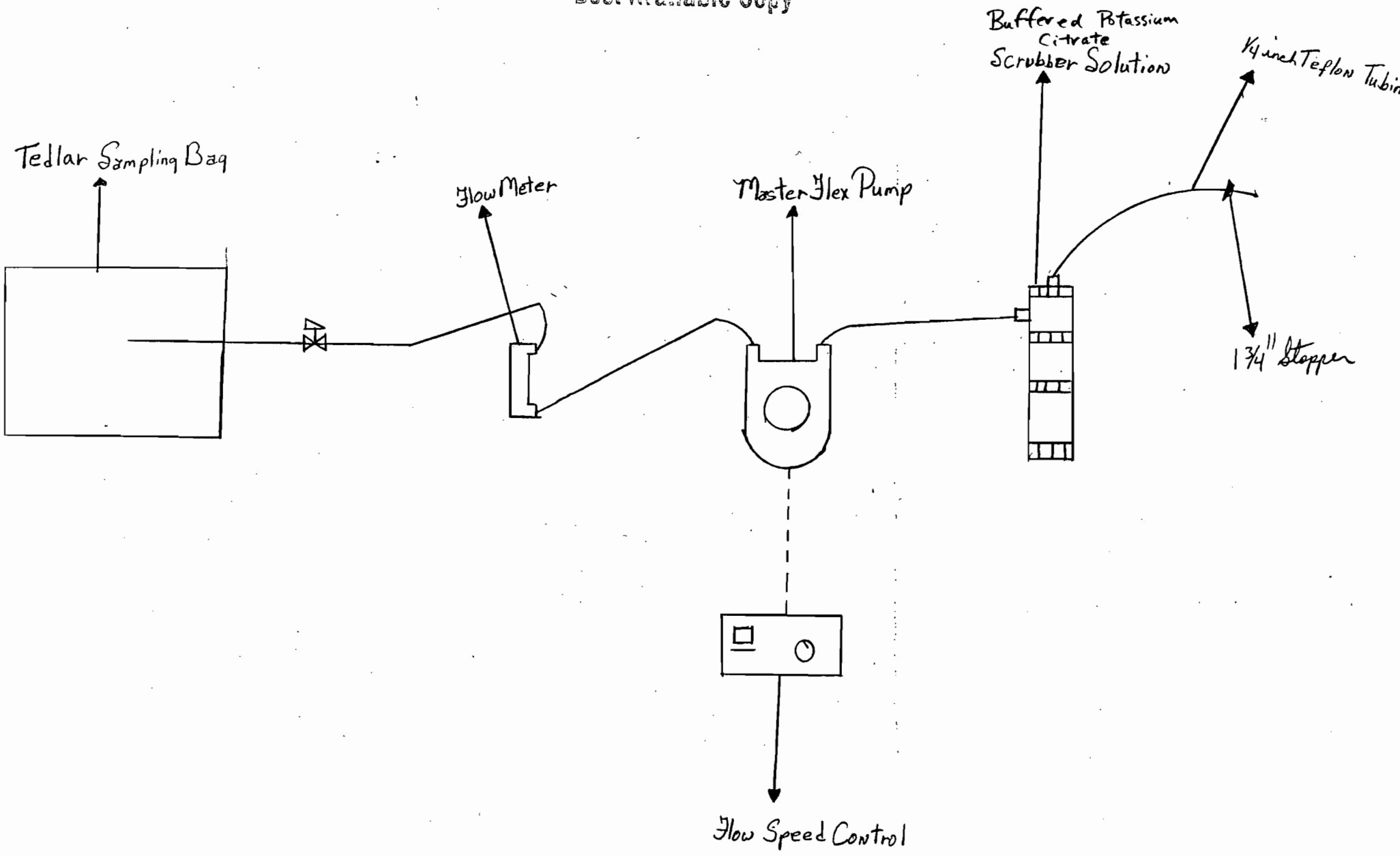
Tall Oil Plant Measurement of TRS

In sampling the Tall Oil Plant TRS emissions, samples of gas were collected from the Reactor (during both cooking and neutralization), Soap, Residue, and Finishing Tanks. The sampling system, as diagrammed on page 2 of this appendix, was taken up on top of each tank. First a leak check of the sampling system was performed by plugging the tip of the sampling line and running the pump until the flow dropped to 0 ccm. Then the sampling line was inserted in the tank vent as shown on pages 3 and 4. After purging the system for several minutes, a previously leak checked Tedlar gas bag was connected to the sampling system. The flow was set at a constant sampling rate during the complete cooking and neutralization process on the Reactor Tank, and for as long as necessary to fill the gas bag on the Soap, Residue, and Finishing Tanks. Finally a post-test leak check was made on each source, indicating that the samples were viable.

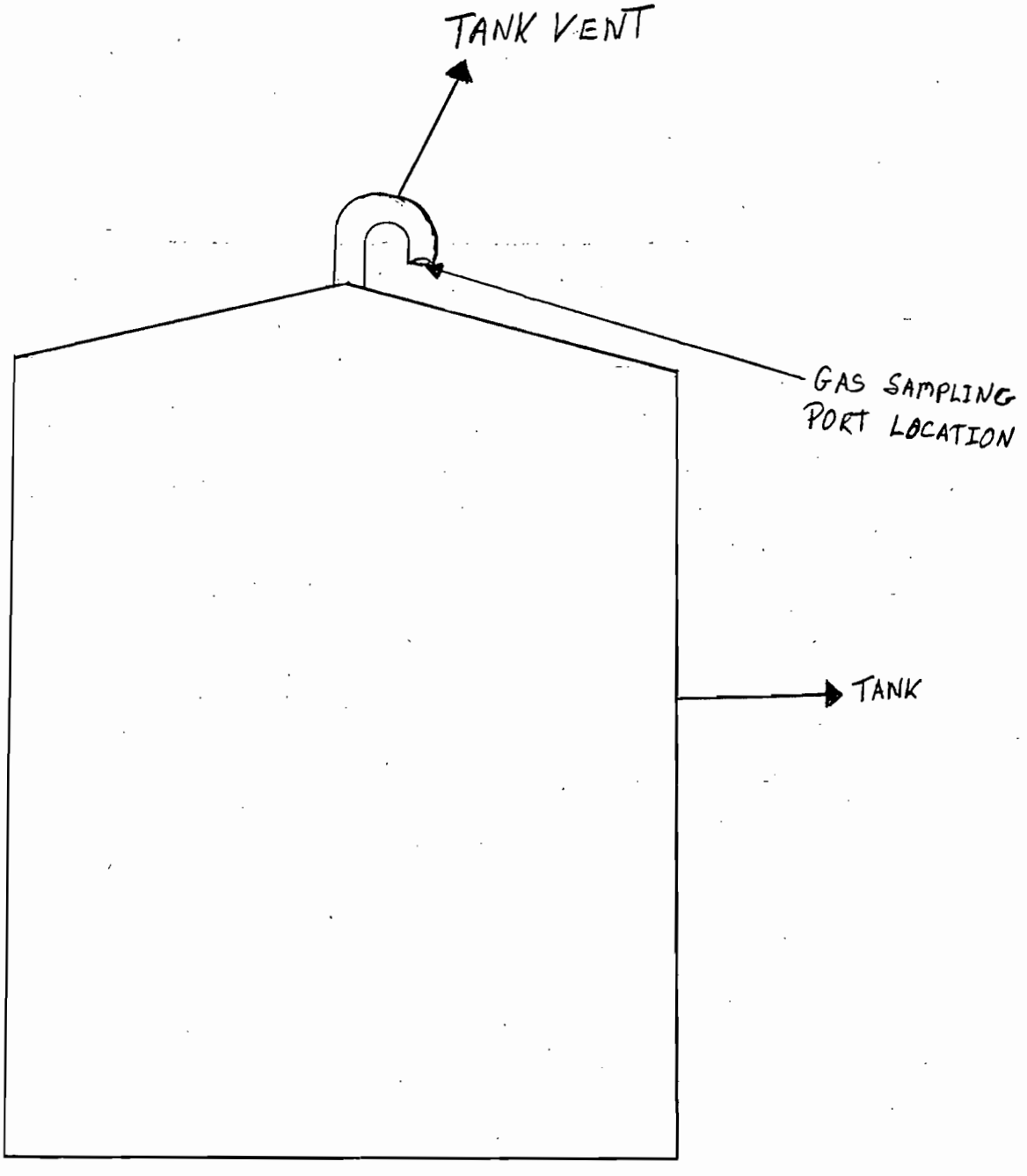
During cooking and neutralization in the Reactor, velocity measurements were made simultaneously with the gas sampling procedure. A total of twenty traverse points were selected according to stack measurements, as indicated on page 5, and EPA-RM 1. Page 6 shows the equipment used for velocity measurement.

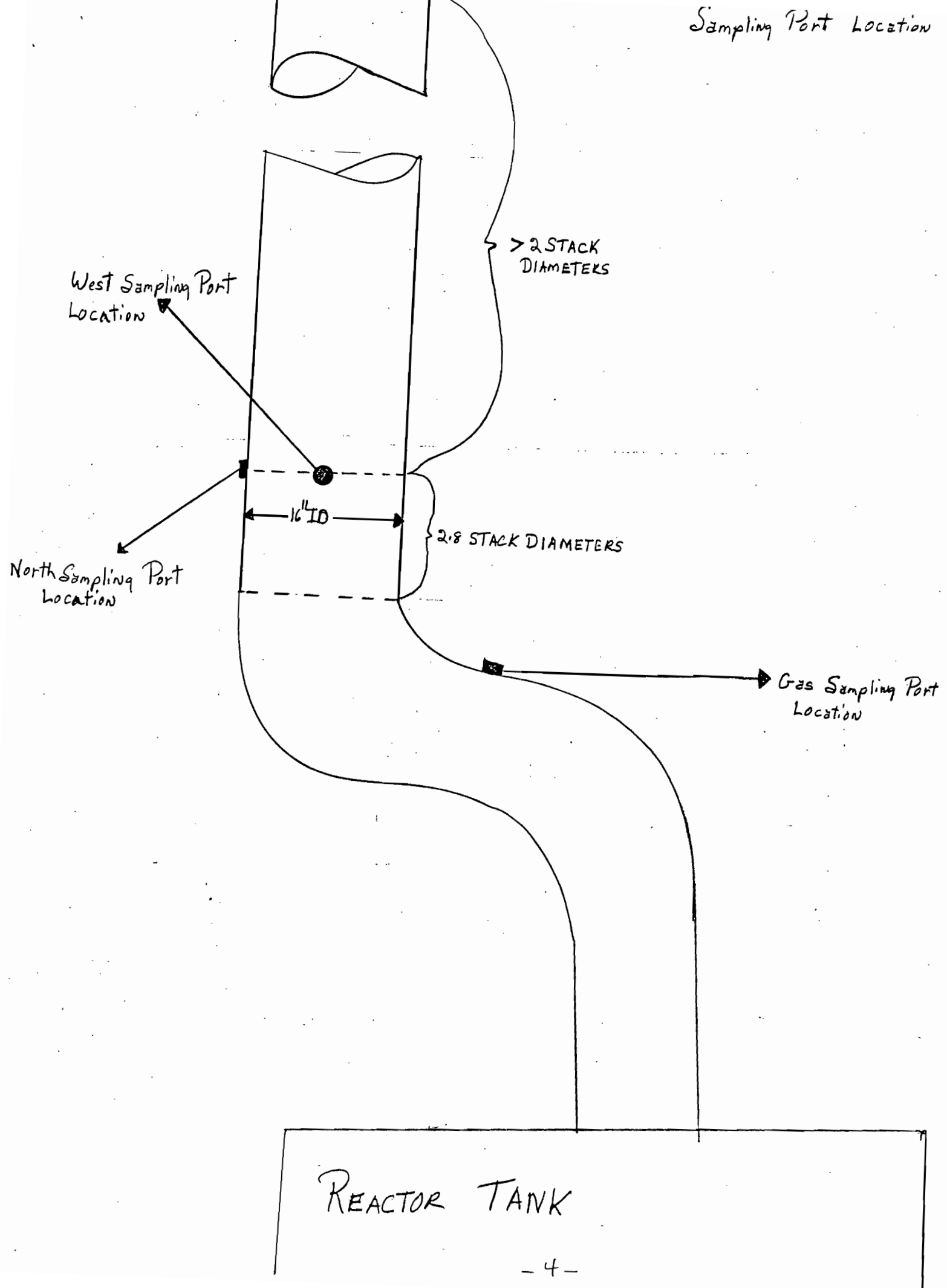
Filled approximately 3/4 full (~70,000 cc), the Tedlar bags were shielded from light inside dark plastic bags to prevent sample degradation. These bags were then transported as quickly as possible to NCASI in Gainesville, Florida for analysis on a gas chromatograph. A pre-test three point calibration was performed on the G.C.. At least three injections were made from each sample. A post-test calibration drift check indicated that the data collected was usable. Calibration and test results are on pages 7 through 35.

TALL OIL: SAMPLING SYSTEM FOR TRS GASES

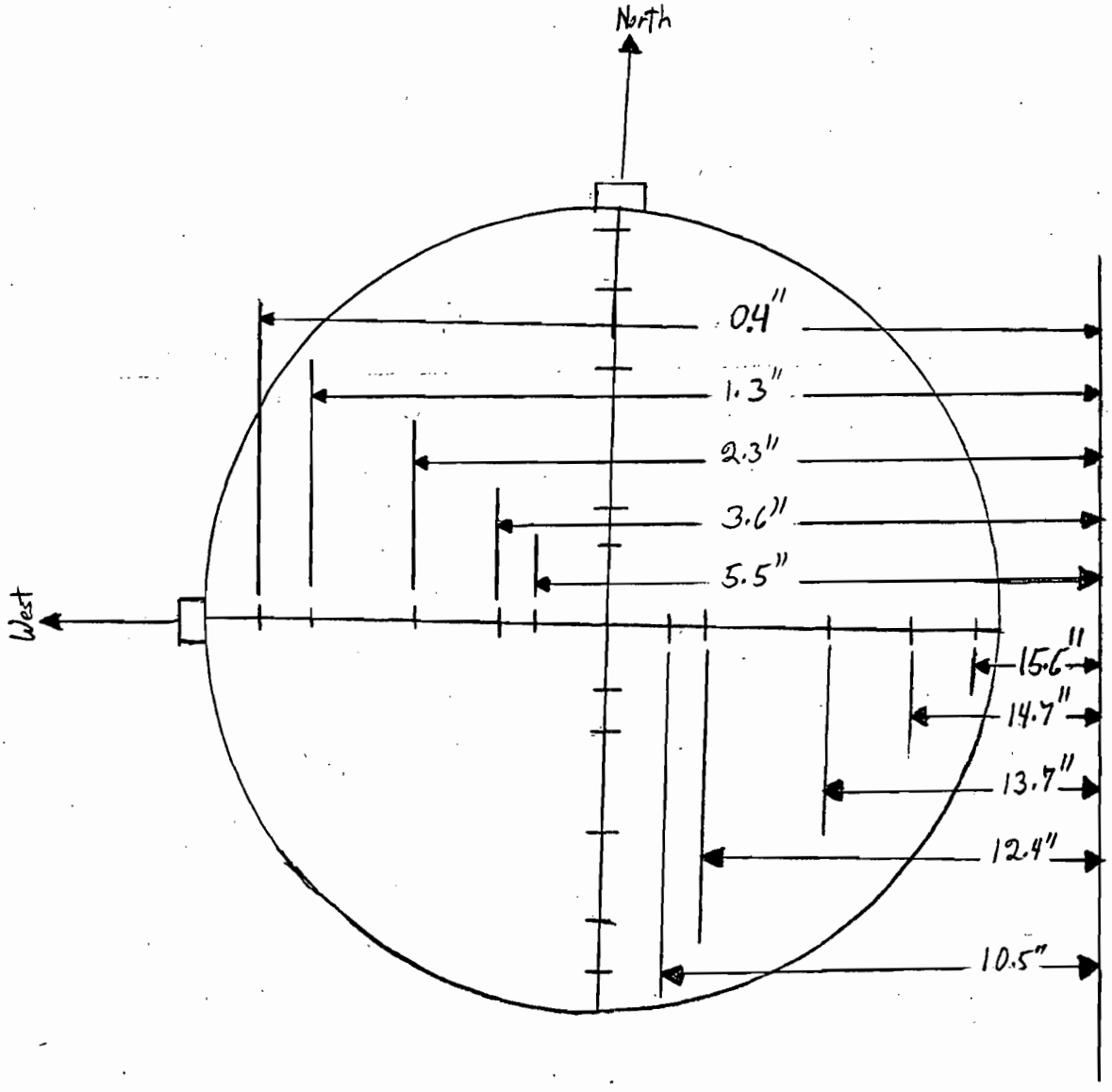


Soap, Residue and Finishing Tanks

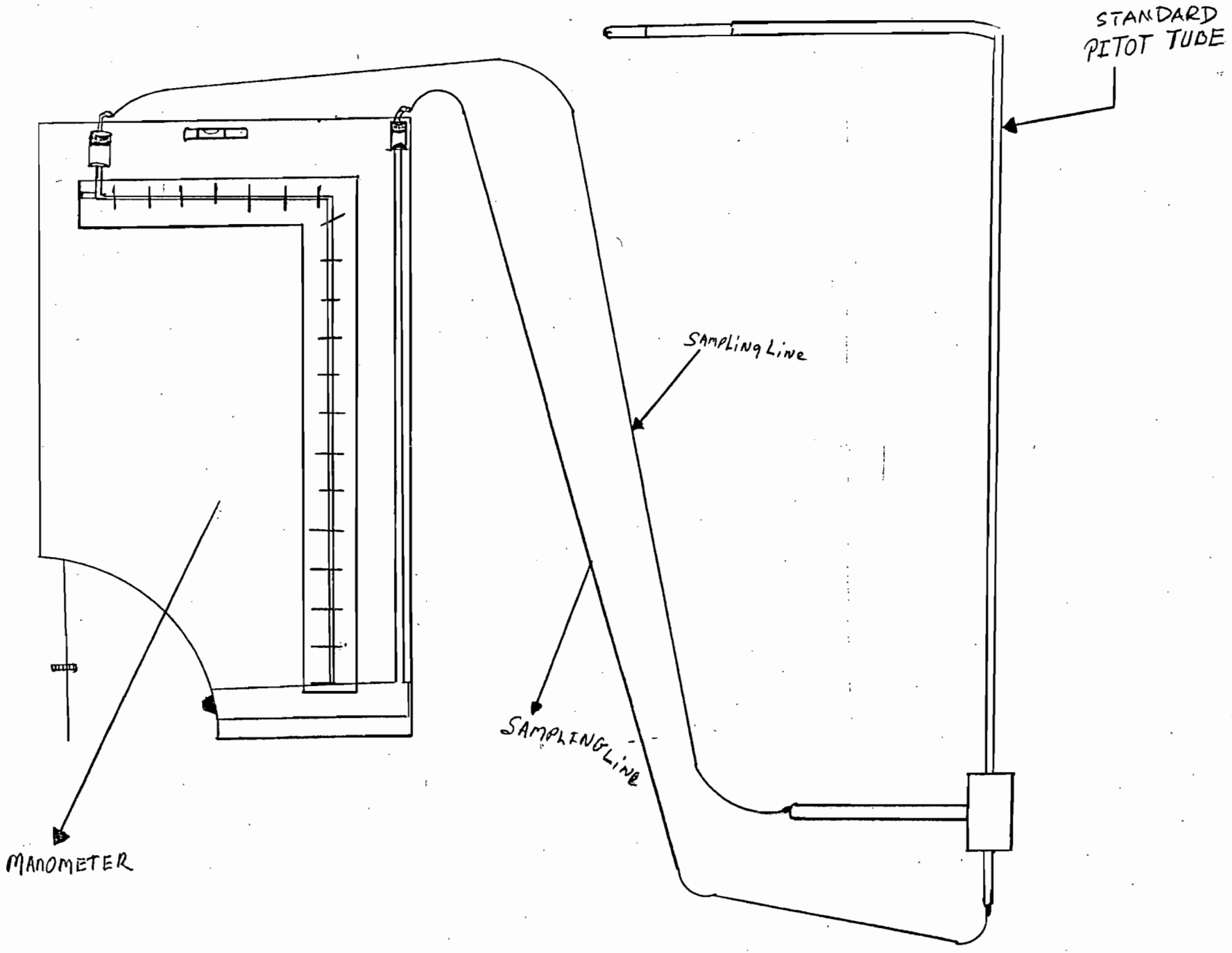



Sampling Port Location
> 2 STACK DIAMETERS
West Sampling Port Location
16" ID
2.8 STACK DIAMETERS
North Sampling Port Location
Gas Sampling Port Location
REACTOR TANK

TALL OIL REACTOR TANK
VELOCITY SAMPLING POINT
POSITIONS



VELOCITY SAMPLING SYSTEM



60/19.57 x 10 = 250/280 = 0.89 / 60/23.17 x 100 = 252/504 = 0.49 / 60/7.66 x 100 = 257/1035 = 0.2

DAILY GAS CHROMATOGRAPH CALIBRATION DATA

Date 1/28/86 Time Am Analyst [illegible]

H_2S Conc.	22.69 ppm		12.56 ppm		6.17 ppm	
25.56	Rec.	Int.	Rec.	Int.	Rec.	Int.
	144827		161728		52180	
GC Response	132607		159398		52282	
	128578		158401		50595	
Avg.	132004		159548		50354	

Ethyl 1 41 min 158; I 7 0.6174; 5 8 -2.1207; → 0.9999

SO_2 Conc.	9.35 ppm		5.15 ppm		2.54 ppm	
10.51	Rec.	Int.	Rec.	Int.	Rec.	Int.
	55905		20878		7553	
GC Response	55152		21776		7642	
	54993		22497		7942	
Avg.	55350		20561		7712	

(3.67); A; I 9 = 0.6211; 5 10 = -2.1655; n = 0.9999

MeSH Conc.	7.66 ppm		4.22 ppm		2.08 ppm	
8.61	Rec.	Int.	Rec.	Int.	Rec.	Int.
	26364		10422		3746	
GC Response	27652		10871		3769	
	26381		10636		3687	
Avg.	26811		10686		3734	

(5.76); C; 11 0.6613; 12 -2.0417; n 0.9999

DMS Conc.	4.13 ppm		2.27 ppm		1.12 ppm	
4.64	Rec.	Int.	Rec.	Int.	Rec.	Int.
	5139		2542		582	
GC Response	5232		2497		823	
	5477		2509		875	
Avg.	5284		2516		860	

(4.10); D; 13 0.7145; 14 -2.0550; n 0.9993

DMDS Conc.	3.84 ppm		2.11 ppm		1.04 ppm	
4.31	Rec.	Int.	Rec.	Int.	Rec.	Int.
	13476		5244		1919	
GC Response	12172		5160		1910	
	11463		5190		1906	
Avg.	12352		5198		1912	

(5.77); E; 15 0.7003; 16 -2.2801; n 0.9999

COS	3.57	1.96	0.97
4.01	16817	7571	3052
	17903	7522	2961
	17601	7549	2762
	17447	7571	2925

(2.43); B; 9 0.7298; 10 -2.5418; n 0.9999

$\frac{6C}{29.72} \times 10 = \frac{20.14}{\quad} = 0.00485$

$\frac{6C}{7.25} \times 50 = 41384 + 20.14$

GC DATA

Reactor During Cook

DATE 1/28/86

Time	H_2S Response	H_2S Conc., ppm	MeSH Response	MeSH Conc., ppm	DMS Response	DMS Conc., ppm	DMDS Response	DMDS Conc., ppm	Tot
	219186	15.02							
	214961	14.84							
	227716	15.34							
	220580	15.08 ÷ 0.00485							
								3107	

GC DATA

Reactor Neutralization

DATE 11/21/96

Time	H_2S Response	H_2S Conc., ppm	MeSH Response	MeSH Conc., ppm	DMS Response	DMS Conc., ppm	DMDS Response	DMDS Conc., ppm	Tota
	1022	0.55	BDL	trace	BDL	trace	239	0.49	
	1018	0.54	↓	↓	↓	↓	244	0.49	↓
	1008	0.54					259	0.51	
	1016	0.54					247	0.50	1.04

GP Palatka

GC DATA

Finishing Tank

DATE 1/2/96 JMA

Time	H_2S Response	H_2S Conc., ppm	MeSH Response	MeSH Conc., ppm	COS Response	COS Conc., ppm	DMDS Response	DMDS Conc., ppm	Tota
11:36	618	0.40	8260	1.00	551	0.29			
↓	566	0.38	8138	1.04	539	0.28			
↓	636	0.41	8172	1.03	508	0.27			
X 12:15	607	0.40	8190	1.03	533	0.28			1.43
						not ins			

G.P. Alaska

GC DATA

Residue Tank

DATE 1/26/16

Time	H_2S Response	H_2S Conc., ppm	MeSH Response	MeSH Conc., ppm	DMS Response	DMS Conc., ppm	DMDS Response	DMDS Conc., ppm	Total
12:58	4178	1.30	BDL		2265	2.20	trace		
↓	4216	1.31	BDL		2246	2.19	trace		↓
↓	4134	1.29	BDL		2256	2.19	trace		
13:42	4176	1.30	BDL		2256	2.19	trace		3.49

G-P. Palatka

GC DATA

Soap tank

DATE 1/28/86

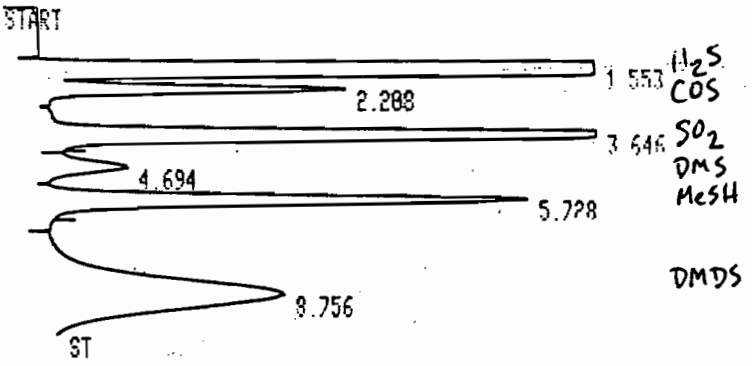
	H2S		MeSH		DMS		DMDS		
Time	Response	Conc., ppm	Response	Conc., ppm	Response	Conc., ppm	Response	Conc., ppm	Total
10:45	BDL	N/A	133	0.23	262	0.47	169	0.38	↓
↓	BDL	N/A	141	0.24	252	0.46	166	0.38	↓
↓	BDL	N/A	128	0.22	230	0.43	167	0.38	↓
11:20	No Response		134	0.23	248	0.45	167	0.38	1.06

```
RUN PRMTRS
ZERO   =  0
ATT 2↑ =  2
CHT SP =  0.1
PK WD  =  0.64
THRSH  =  0
AR REJ =  0

RPRT OPTNS
  2. RF UNC PKS=      0.0000E+00
  3. MUL FACTOR=      1.0000E+00
  4. PK HEIGHT MODE      YES
  5. EXTEND RT           YES
  6. RPRT UNC PKS         NO

TIME TBL
  10.25 STOP

CALIB TBL
EMPTY
```

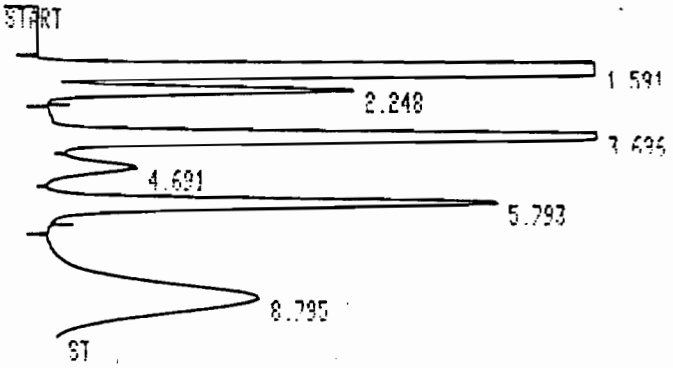


RUN # 1 JAN/28/86 08:01:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.553	444827	D PV	0.255	79.035
2.288	16817	D VP	0.294	2.988
3.646	55905	D PB	0.305	9.933
4.694	4139	D BP	0.399	0.735
5.728	27658	D PB	0.356	4.914
8.756	13476	I BH	1.162	2.394

TOTAL HGHT= 562820
MUL FACTOR= 1.0000E+00

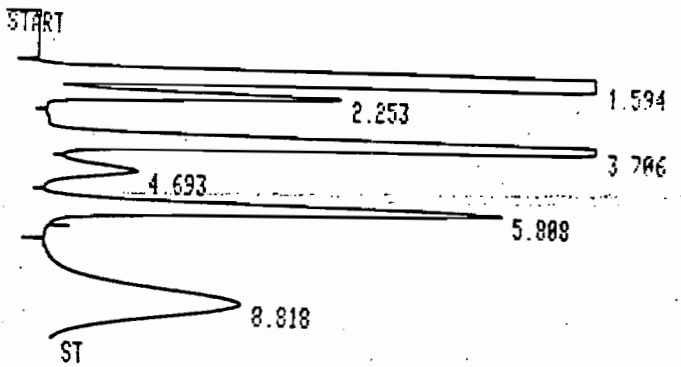


RUN # 2 JAN/28/86 08:12:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.591	422607	D PY	0.255	78.349
2.248	17903	D YB	0.281	3.319
3.696	55152	D BY	0.313	10.224
4.691	5237	D YP	0.457	0.971
5.793	26364	D PB	0.359	4.887
8.795	12178	I PH	1.167	2.258

TOTAL HGHT= 539440
MUL FACTOR= 1.0000E+00

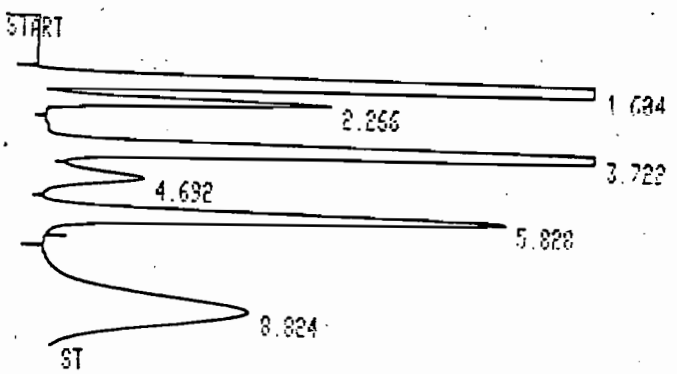


RUN # 3 JAN/28/86 08:27:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.594	408578	D PY	0.254	77.986
2.253	17621	D YY	0.289	3.368
3.706	54993	D YY	0.320	10.496
4.693	5477	D YP	0.466	1.044
5.808	26381	D PB	0.359	5.038
8.818	11403	I PH	1.168	2.174

TOTAL HGHT= 524450
MUL FACTOR= 1.0000E+00



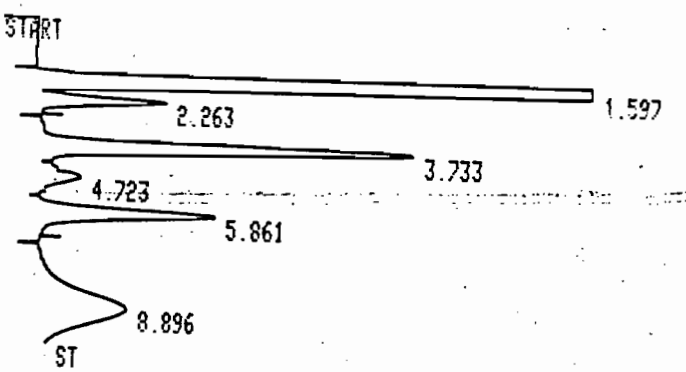
RUN # 4 JAN/28/86 08:34:46

RUN # 4 JAN/28/86 08:34:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.604	129308	D PV	0.257	52.194
2.266	16849	D VV	0.283	6.801
3.722	56804	D VV	0.319	22.929
4.692	5968	D VP	0.470	2.409
5.828	26904	D PB	0.361	10.860
8.824	11911	I PH	1.167	4.808

TOTAL HGHT= 247740
MUL FACTOR= 1.0000E+00

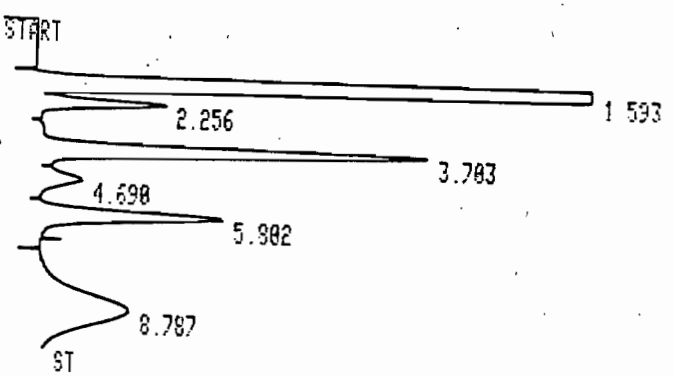


RUN # 5 JAN/28/86 08:45:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.597	150428	D PV	0.257	76.134
2.263	7388	D VB	0.287	3.739
3.733	21818	D BV	0.327	11.042
4.723	2392	D VP	0.487	1.211
5.861	10422	D PB	0.376	5.275
8.896	5134	I PH	1.240	2.598

TOTAL HGHT= 197589
MUL FACTOR= 1.0000E+00

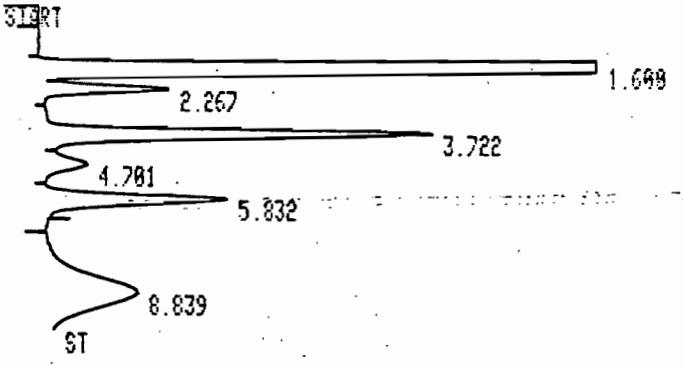


RUN # 6 JAN/28/86 08:56:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.593	161724	D PV	0.256	76 752
2.256	7571	D VV	0.304	3 593
3.703	22808	D VV	0.334	10 824
4.690	2542	D VV	0.500	1 206
5.802	10821	D VB	0.375	5 136
8.787	5244	I BH	1.214	2 489

TOTAL HGHT= 210710
MUL FACTOR= 1.0000E+00

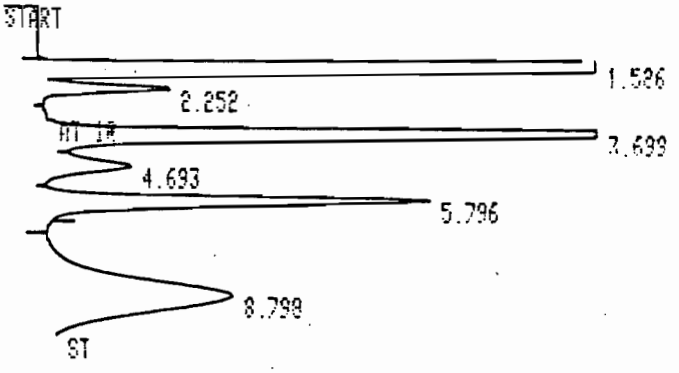


RUN # 7 JAN/28/86 09:07:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.600	159398	D PV	0.254	76 722
2.267	7572	D VV	0.303	3 645
3.722	22497	D VV	0.333	10 828
4.701	2497	D VP	0.494	1 202
5.832	10636	D PB	0.370	5 119
8.839	5160	I BH	1.220	2 484

TOTAL HGHT= 207760
MUL FACTOR= 1.0000E+00



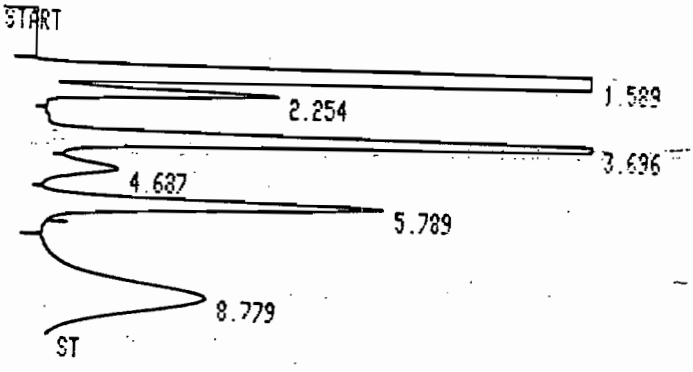
RUN # 8 JAN/28/86 09:10:45

RUN # 8 JAN/28/86 09:18:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.586	169429	D BV	0.254	77.266
2.252	7599	D VV	0.302	3.465
3.699	23376	D VV	0.331	10.660
4.693	2509	D VP	0.486	1.144
5.796	11047	D PB	0.368	5.038
8.798	5320	I PH	1.286	2.426

TOTAL HGHT= 219280
MUL FACTOR= 1.0000E+00

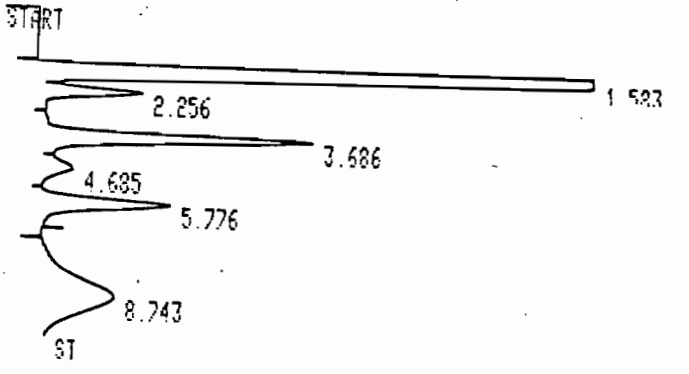


RUN # 9 JAN/28/86 09:29:45

HEIGHT%

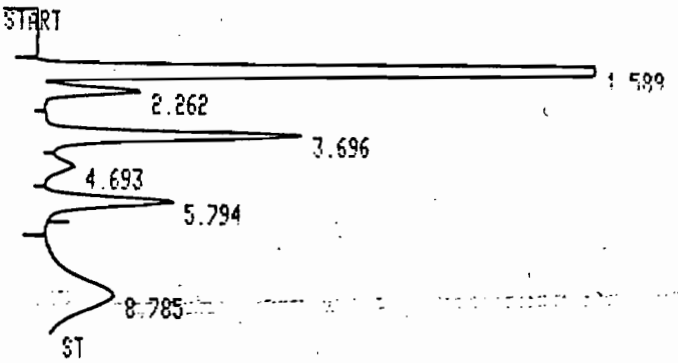
RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.589	151421	D PV	0.256	77.103
2.254	6999	D VV	0.305	3.564
3.696	21001	D VV	0.332	10.694
4.687	2273	D VV	0.489	1.157
5.789	9897	D VB	0.368	5.040
8.779	4796	I BH	1.212	2.442

TOTAL HGHT= 196390
MUL FACTOR= 1.0000E+00



1.583	52180	D PV	0.259	74 481
2.256	3052	D VV	0.326	4.356
3.686	7942	D VV	0.361	11 336
4.685	975	D VV	0.530	1 392
5.776	3790	D VB	0.390	5 410
8.743	2119	I BH	1.301	3 025

TOTAL HGHT= 70058
MUL FACTOR= 1.0000E+00

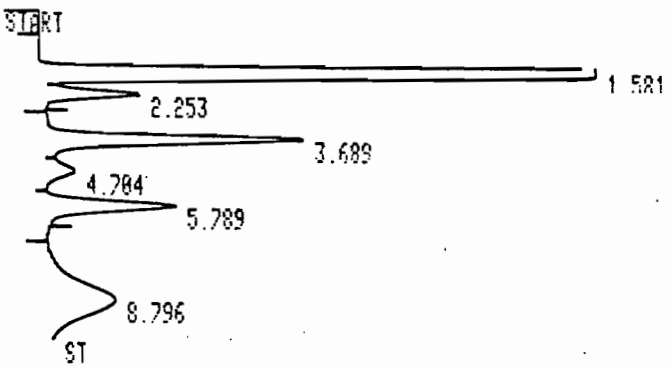


RUN # 11 JAN/28/86 09:51:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.589	51595	D PV	0.257	75 131
2.262	2961	D VV	0.321	4.312
3.696	7642	D VV	0.353	11 128
4.693	882	D VV	0.517	1 284
5.794	3687	D VB	0.383	5 369
8.785	1906	I PH	1.277	2 776

TOTAL HGHT= 68673
MUL FACTOR= 1.0000E+00



RUN # 12 JAN/28/86 10:02:45

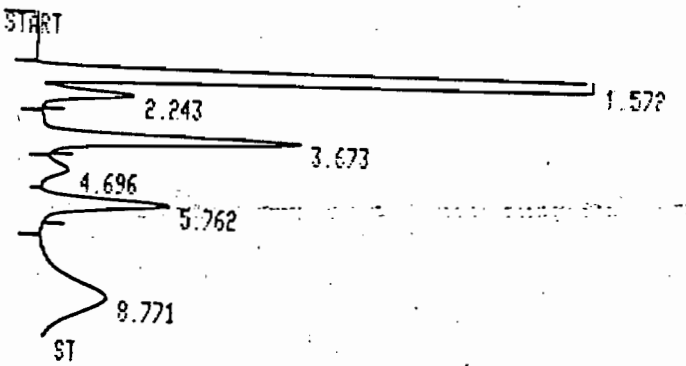
HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.581	52287	D PV	0.255	75 730

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.581	52287	D PV	0.255	75.739
2.253	2762	D VB	0.300	4.000
3.689	7553	D BV	0.337	10.939
4.704	823	D VP	0.501	1.192
5.789	3709	D PB	0.382	5.372
8.796	1910	I PH	1.274	2.766

TOTAL HGHT= 69044
MUL FACTOR= 1.0000E+00

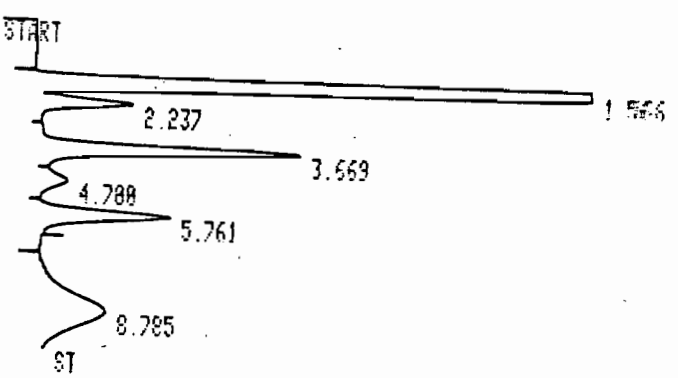


RUN # 13 JAN/28/86 10:17:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.572	53329	D PV	0.255	76.332
2.243	2723	D VB	0.308	3.900
3.673	7465	D PB	0.318	10.692
4.696	659	D BP	0.420	0.944
5.762	3729	D PB	0.381	5.341
8.771	1914	I PH	1.269	2.741

TOTAL HGHT= 69819
MUL FACTOR= 1.0000E+00



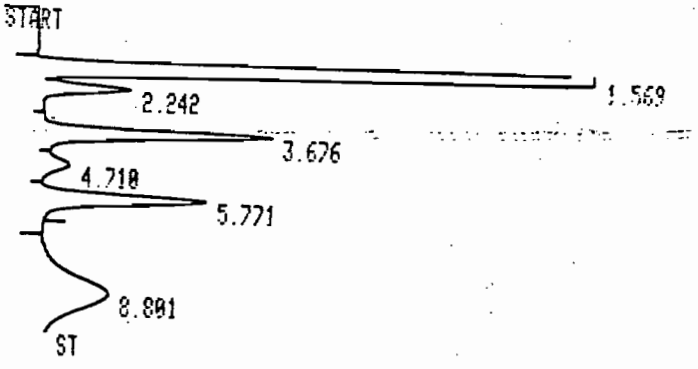
RUN # 14 JAN/28/86 10:24:45

RUN # 14 JAN/28/86 10:24:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.566	53985	D PY	0.256	76 107
2.237	2798	D VV	0.333	3 945
3.669	7668	D VV	0.350	10 810
4.700	826	D VP	0.508	1 165
5.761	3753	D PB	0.379	5 291
8.785	1903	I BH	1.270	2 683

TOTAL HGHT= 70933
MUL FACTOR= 1.0000E+00

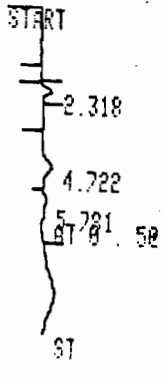


RUN # 15 JAN/28/86 10:35:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.569	52063	D PY	0.259	75 498
2.242	2666	D VV	0.332	3 866
3.676	6697	D VV	0.351	9 710
4.710	842	D VV	0.509	1 221
5.771	4790	D YB	0.379	6 945
8.801	1909	I BH	1.271	2 768

TOTAL HGHT= 68967
MUL FACTOR= 1.0000E+00



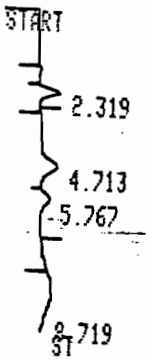
SOAP
ATAK

RUN # 16 JAN/28/86 10:46:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.318	310	D PB	0.267	43.929
4.722	262	BP	0.512	37.163
5.781	133	D PB	0.352	18.865

TOTAL HGHT= 705
MUL FACTOR= 1.0000E+00

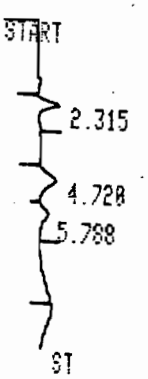


RUN # 17 JAN/28/86 10:57:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.319	294	D PB	0.274	34.746
4.713	252	PV	0.600	29.439
5.767	141	D VB	0.389	16.472
8.719	169	I BH	1.321	19.743

TOTAL HGHT= 856
MUL FACTOR= 1.0000E+00



RUN # 18 JAN/28/86 11:08:45

HEIGHT%

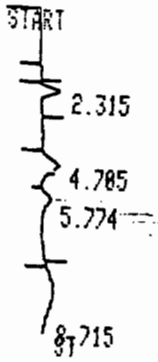
RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.315	292	D PB	0.249	44.927

RUN # 18 JAN/28/86 11:08:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.315	292	D PB	0.249	44.923
4.720	230	PP	0.478	35.385
5.788	128	D PB	0.425	19.692

TOTAL HGHT= 650
MUL FACTOR= 1.0000E+00



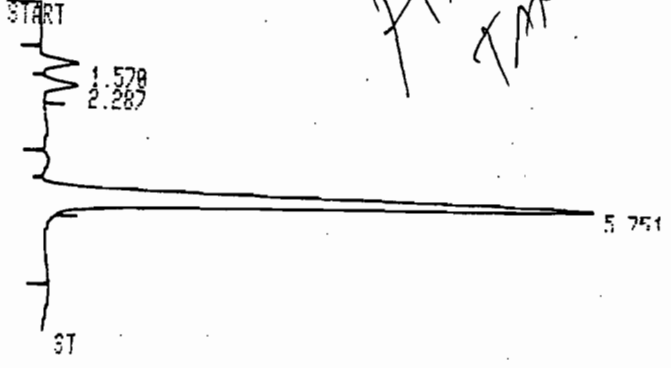
RUN # 19 JAN/28/86 11:19:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.315	290	D PB	0.246	35.891
4.705	226	PP	0.474	27.970
5.774	126	D PB	0.278	15.594
8.715	166	I BH	1.398	20.545

TOTAL HGHT= 808
MUL FACTOR= 1.0000E+00

Finish Tank



RUN # 20 JAN/28/86 11:30:45

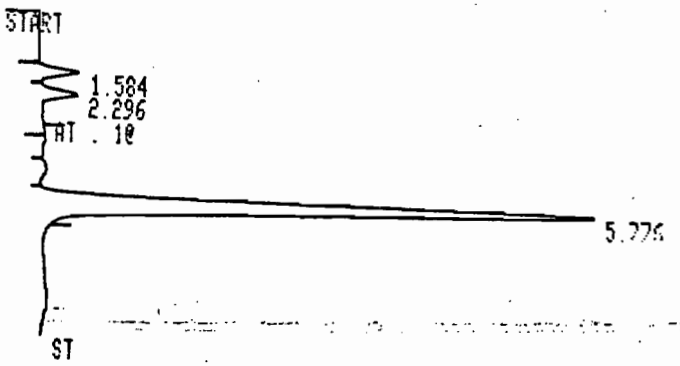
HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.570	518	D PV	0.265	5.728
2.287	486	D VB	0.295	5.431
5.751	7945	D PB	0.366	88.781

TOTAL HGHT= 8949
MUL FACTOR= 1.0000E+00

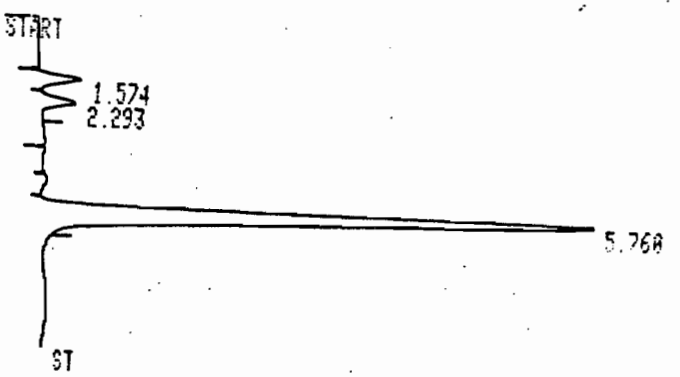


RUN # 21 JAN/28/86 11:41:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.584	566	D PV	0.264	6.179
2.296	524	D VB	0.269	5.714
5.776	8081	D PB	0.368	88.115

TOTAL HGHT= 9171
MUL FACTOR= 1.0000E+00



RUN # 22 JAN/28/86 11:52:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.574	600	D PV	0.268	6.489
2.293	508	D VB	0.287	5.494
5.760	8138	D PB	0.368	88.016

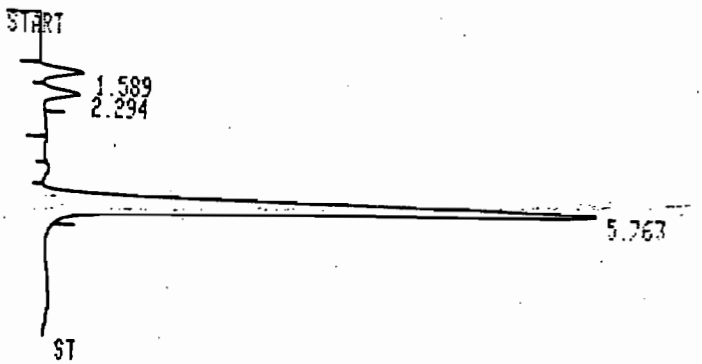
BEST AVAILABLE COPY

RUN # 22 JAN/28/86 11:52:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.574	600	D PV	0.268	6.489
2.293	508	D VB	0.287	5.494
5.760	8138	D PB	0.368	88.016

TOTAL HGHT= 9246
MUL FACTOR= 1.0000E+00

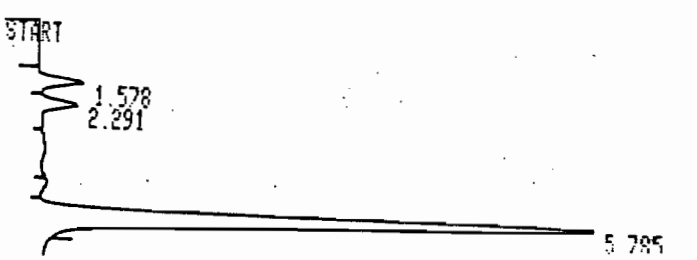


RUN # 23 JAN/28/86 12:03:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.589	617	D PV	0.275	6.553
2.294	539	D VB	0.286	5.724
5.763	8260	D PB	0.365	87.723

TOTAL HGHT= 9416
MUL FACTOR= 1.0000E+00



RUN # 24 JAN/28/86 12:14:45

HEIGHT%

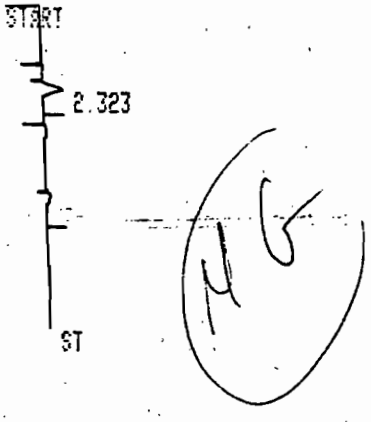
RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.578	636	D PV	0.283	6.796
2.291	551	D VV	0.318	5.887
5.785	8172	D PB	0.370	87.317

RUN # 24 JAN/28/86 12:14:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.578	636	D PV	0.283	6.796
2.291	551	D VV	0.318	5.887
5.785	8172	D PB	0.370	87.317

TOTAL HGHT= 9359
MUL FACTOR= 1.0000E+00

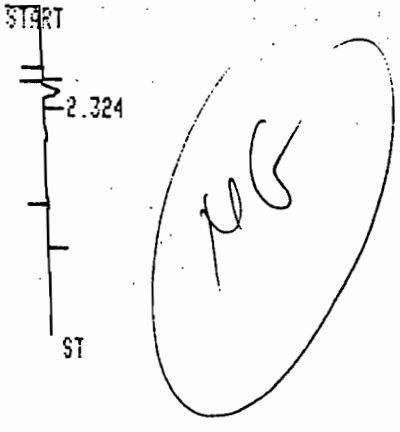


RUN # 25 JAN/28/86 12:25:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.323	282	D PB	0.263	100.000

TOTAL HGHT= 282
MUL FACTOR= 1.0000E+00



RUN # 26 JAN/28/86 12:36:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.324	253	D PB	0.270	100.000

TOTAL HGHT= 253

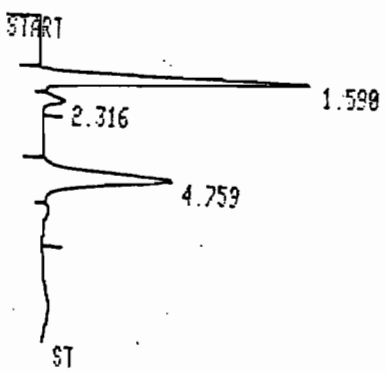
NG

RUN # 27 JAN/28/86 12:47:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.325	264	D PB	0.256	100.000

TOTAL HGHT= 264
MUL FACTOR= 1.0000E+00

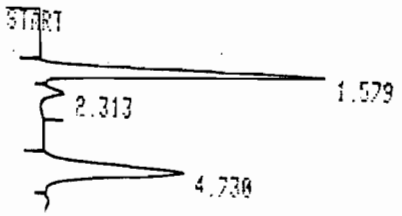


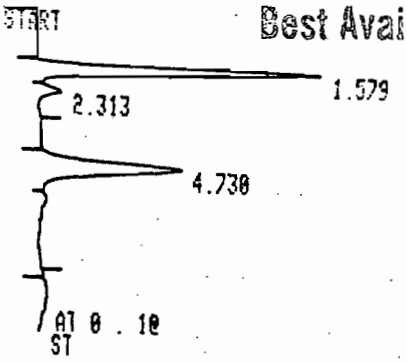
RUN # 28 JAN/28/86 12:58:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.590	3904	D PV	0.267	63.583
2.316	351	D VB	0.286	5.717
4.759	1885	BV	0.456	30.700

TOTAL HGHT= 6140
MUL FACTOR= 1.0000E+00



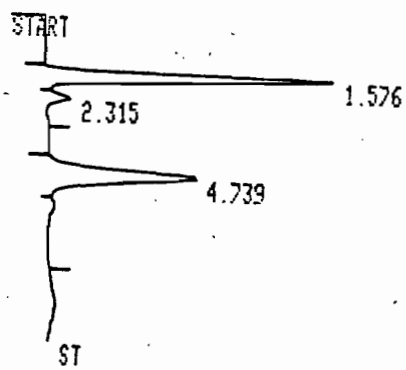


RUN # 29 JAN/28/86 13:09:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.579	4134	D PV	0.266	63.551
2.313	317	D VB	0.278	4.873
4.730	2054	BV	0.453	31.576

TOTAL HGHT= 6505
MUL FACTOR= 1.0000E+00

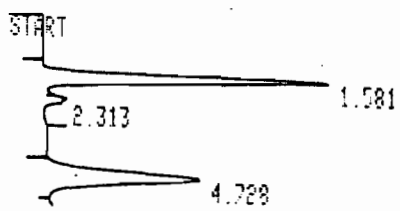


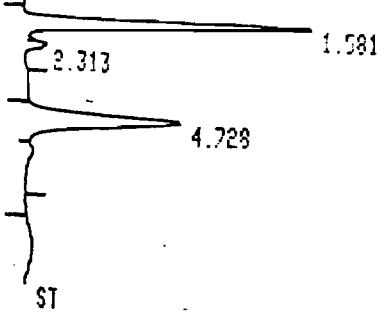
RUN # 30 JAN/28/86 13:20:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.576	4216	D PV	0.268	63.095
2.315	320	D VB	0.284	4.789
4.739	2146	BV	0.451	32.116

TOTAL HGHT= 6682
MUL FACTOR= 1.0000E+00



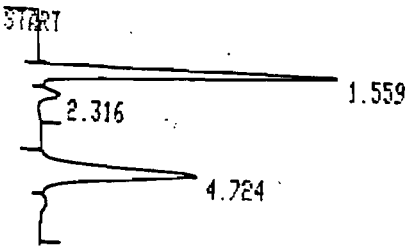


RUN # 31 JAN/28/86 13:31:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.581	4178	D PV	0.268	61.951
2.313	301	D VB	0.287	4.463
4.728	2265	BV	0.460	33.585

TOTAL HGHT= 6744
MUL FACTOR= 1.0000E+00

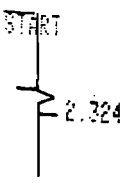


RUN # 32 JAN/28/86 13:42:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.559	4434	D BV	0.266	63.406
2.316	303	D VB	0.266	4.333
4.724	2256	BV	0.453	32.261

TOTAL HGHT= 6993
MUL FACTOR= 1.0000E+00

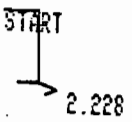


RUN # 33 JAN/28/86 13:53:45

HEIGHT%

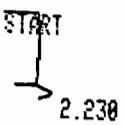
RT	HEIGHT TYPE	AR/HT	HEIGHT%
2.324	241 D BB	0.273	100.000

TOTAL HGHT= 241
MUL FACTOR= 1.0000E+00



STOP

ESCAPE

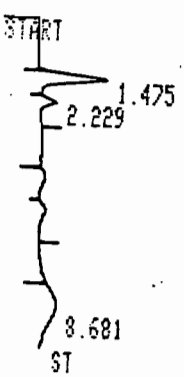


STOP

ESCAPE

STOP

ESCAPE



RUN # 37 JAN/28/86 14:11:46

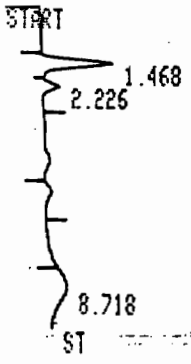
HEIGHT%

RT	HEIGHT TYPE	AR/HT	HEIGHT%
1.475	324 D BV	0.282	67.799
2.229	219 D VB	0.240	16.867
8.681	220 I BH	1.176	16.141

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.475	924	D BV	0.282	67.792
2.229	219	D VB	0.240	16.067
8.681	220	I BH	1.176	16.141

TOTAL HGHT= 1363
MUL FACTOR= 1.0000E+00

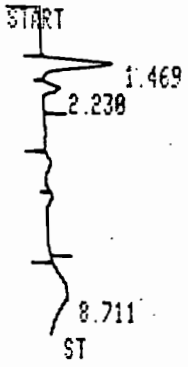


RUN # 38 JAN/28/86 14:22:45

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.468	1022	D PV	0.276	68.316
2.226	230	D VB	0.247	15.374
8.718	244	I BH	1.182	16.310

TOTAL HGHT= 1496
MUL FACTOR= 1.0000E+00



RUN # 39 JAN/28/86 14:33:46

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.469	1018	D BV	0.272	67.417
2.230	233	D VB	0.245	15.430
8.711	259	I BH	1.316	17.152

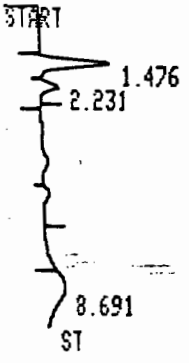
TOTAL HGHT= 1510

RUN # 39 JAN/28/86 14:33:46

BEST AVAILABLE COPY

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.469	1018	D BY	0.272	67.417
2.230	233	D YB	0.245	15.430
8.711	259	I BH	1.316	17.152

TOTAL HGHT= 1510
MUL FACTOR= 1.0000E+00

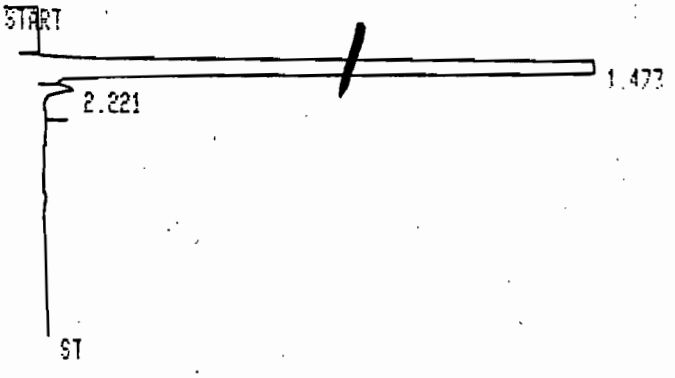


RUN # 40 JAN/28/86 14:44:46

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.476	1008	D PY	0.277	67.606
2.231	244	D YB	0.286	16.365
8.691	239	I BH	1.130	16.029

TOTAL HGHT= 1491
MUL FACTOR= 1.0000E+00

Penetrometer Cook



RUN # 41 JAN/28/86 14:55:46

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.473	76542	D PB	0.254	99.685
2.221	242	D BB	0.039	0.315

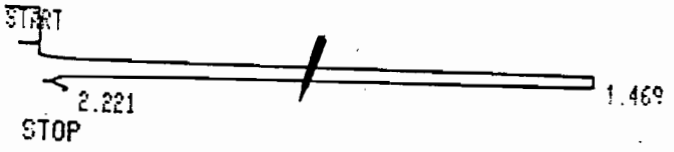
RUN # 41 JAN/28/86 14:55:46

HEIGHT%

RT	HEIGHT TYPE	AR/HT	HEIGHT%
1.473	76542 D PB	0.254	99.685
2.221	242 D BB	0.039	0.315

TOTAL HGHT= 76784
MUL FACTOR= 1.0000E+00

0.0025



RUN # 42 JAN/28/86 15:06:46

HEIGHT%

RT	HEIGHT TYPE	AR/HT	HEIGHT%
1.469	36125 D PY	0.258	98.881
2.221	409 I VH	0.274	1.120

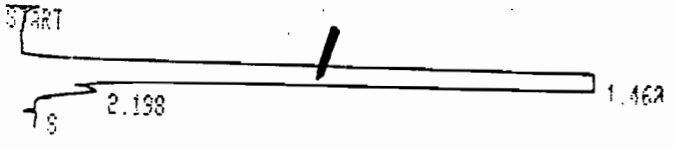
TOTAL HGHT= 36534
MUL FACTOR= 1.0000E+00

RUN # 43 JAN/28/86 15:09:57

HEIGHT%

RT	HEIGHT TYPE	AR/HT	HEIGHT%
1.469	17462 D PB	0.260	98.633
2.226	242 I BP	0.229	1.367

TOTAL HGHT= 17704
MUL FACTOR= 1.0000E+00

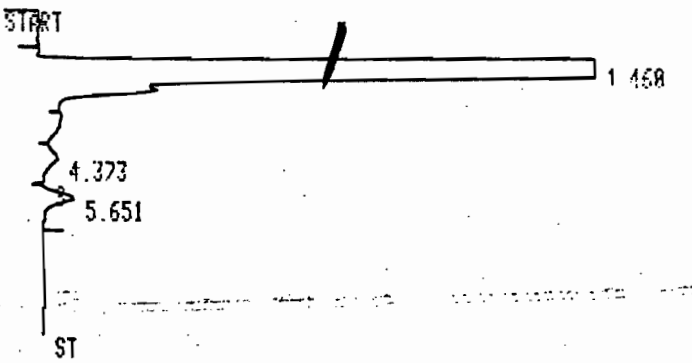


RUN # 44 JAN/28/86 15:21:01

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.460	580761	DSBB	0.254	99 930
2.198	404	DTBB	0.221	0 070

TOTAL HGHT= 581170
MUL FACTOR= 1.0000E+00

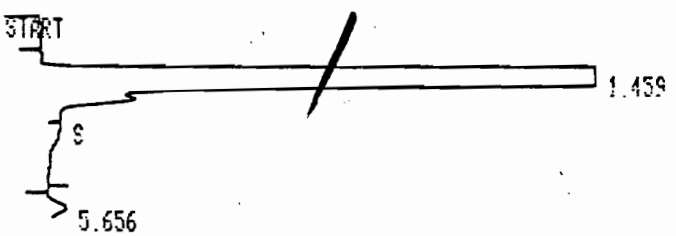


RUN # 45 JAN/28/86 15:25:24

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.460	1609450	DSBB	0.256	99 961
4.373	163	TPB	0.502	0 010
5.651	459	D BB	0.421	0 029

TOTAL HGHT= 1610100
MUL FACTOR= 1.0000E+00



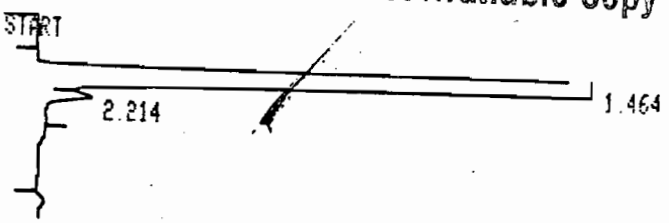
STOP

RUN # 46 JAN/28/86 15:36:24

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.459	1139295	DSPB	0.256	99 976
5.656	274	I PH	0.400	0 024

TOTAL HGHT= 1139600
MUL FACTOR= 1.0000E+00



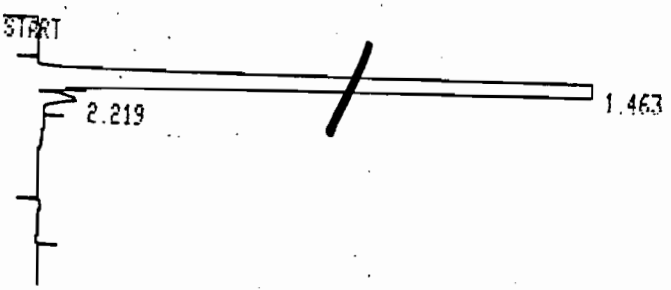
RUN # 47 JAN/28/86 15:47:01

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.464	227716	D PB	0.255	99.862
2.214	315	D BB	0.000	0.138

0.004"

TOTAL HGHT= 228030
MUL FACTOR= 1.0000E+00



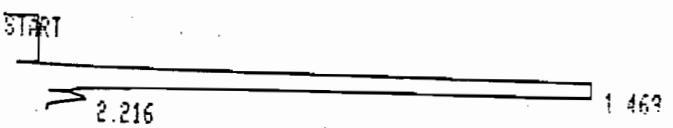
RUN # 48 JAN/28/86 15:58:06

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.463	82570	D PB	0.256	99.634
2.219	303	D BB	0.152	0.366

Δ Dressmaker

TOTAL HGHT= 82873
MUL FACTOR= 1.0000E+00



RUN # 49 JAN/28/86 15:

RUN # 49 JAN/28/86 15:52:[illegible]

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.469	214984	D PB	0.254	99 844
2.216	336	I BP	0.178	0.156

0.004F

TOTAL HGHT= 215240
MUL FACTOR= 1.0000E+00

START

1.465

2.221

STOP

RUN # 50 JAN/28/86 16:02:17

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.465	21960	D BV	0.263	98 237
2.221	394	I VH	0.326	1 763

TOTAL HGHT= 22354
MUL FACTOR= 1.0000E+00

START

1.465

2.209

STOP

0.004F

RUN # 51 JAN/28/86 16:06:30

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.465	289120	D PB	0.253	99 909
2.209	262	I BP	0.179	0.091

TOTAL HGHT= 289380
MUL FACTOR= 1.0000E+00

START

1.475

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

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

September 13, 1985

Mr. Henry Hirschman
General Manager
Georgia-Pacific Corporation
Post Office Box 919
Palatka, Florida 32077

Dear Mr. Hirschman:

Putnam County - AP
Georgia-Pacific Corporation
Paper Mill - Tall Oil Plant

This is a request for the following additional information which is required prior to the completion of processing the tall oil plant operation permit application:

1. Resubmit page 1 with the company name as Georgia-Pacific Corporation, or submit an application for transfer of permit for each currently permitted source.

2. Resubmit page 1 with the applicant's signature and date signed.

3. Resubmit page 2 with the professional engineer's signature and date signed.

4. Send all data (production logs, conversion factors, etc.) necessary to determine the 12-hr. average production rate of crude tall oil. Also, send the calculations.

5. Correct page 3, Section E., to show the time that TRS will be emitted and that control devices will be operated for all time periods (per day, week, year).

6. In Exhibit I (Section III.C.) the uncontrolled emissions conversion factor used is in lbs. TRS per ton of pulp produced while the rule limit is in terms of lbs. TRS per ton of crude tall oil produced. Therefore, resubmit the emissions calculations using a documented conversion factor with the proper units and based on the proper time interval (see No. 5 above).

7. Send the data supporting the "predicted scrubber efficiency."

8. Submit a plan and schedule for achieving final compliance.

9. Send revised tall oil plant flowsheet showing the tall oil storage tanks' TRS emissions control technique or data acceptable to the department to justify exclusion, per the discussion at the August 29, 1985 workshop.

10. Send a plan and schedule for determining/demonstrating surrogate parameters that will verify compliance. The schedule must allow enough time to approve the surrogate CMS and to install and certify a CMS for TRS emissions should the surrogate CMS be unacceptable.

11. Submit a pre-compliance monitoring plan that states procedures to insure this plant will be operated and maintained in such a manner as to minimize the TRS emissions.

12. Send the original and two copies of all of the above.

If there are any questions please contact us.

Sincerely,

John C Brown

John Brown, P.E.
Supervisor Air Section

JB:jck

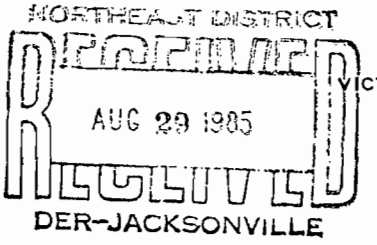
STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

DER
FEB 11 1986
BAQM



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

G. DOUG DUTTON
DISTRICT MANAGER

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Tall Oil Plant [ ] New[1] [X] Existing[1]

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

COMPANY NAME: Hudson Pulp & Paper Corp. COUNTY: Putnam

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) Tall Oil Plant

SOURCE LOCATION: Street Highway 216 City Palatka

UTM: East 434.0 North 3283.4

Latitude 29 ° 41 ' 00 "N Longitude 81 ° 40 ' 45 "W

APPLICANT NAME AND TITLE: Henry Hirschman, General Manager

APPLICANT ADDRESS: P. O.Box 919, Palatka, Florida 32077

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Hudson Pulp & Paper Corp

I certify that the statements made in this application for a Operating 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: _____

Henry Hirschman, General Manager
Name and Title (Please Type)

Date: _____ Telephone No. 904/325-2001

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)

Memo
02-07-86
To: Bill Thomas, BAQM, CAPS
From: Johnny Cole

Subj: Putnam Co. - AP
La-Pacific
P&P mill
Tall Oil Plant
TRS application

DER
FEB 11 1986
BAQM

Per J. Brown on 02-07-86, BAQM has decided that a CP will be issued for this source.
It had not been sent to CAPS because last year a CP was not issued for the ESPs being installed on #4 Comb Blr & #5 Power Blr. Also, an application was rec'd 08-29-85 and a more info letter was sent 09-13-85.
For these reasons, this application was considered as a response to the 09-13-85 letter.

2-25-86 Inc. Letter was sent by Johnny Cole.

APPLICATION TRACKING SYSTEM 08/29/85

APPL NO:108945
APPL RECVD:08/29/85 TYPE CODE:AO SUBCODE:~~99~~ 09 ✓ LAST UPDATE:08/29/85
DER OFFICE RECVD:JAX DER OFFICE TRANSFER TO:___ APPLICATION COMPLETE:__/__/__
DER PROCESSOR:NED JAX
APPL STATUS:AC DATE:08/29/85 (ACTIVE/DENIED/WITHDRAWN/EXEMPT/ISSUED/GENERAL)
RELIEF:__ (SSAC/EXEMPTIONS/VARIANCE)
(Y/N) N MANUAL TRACKING DISTRICT:31 COUNTY:54
(Y/N) N DNR REVIEW REQD? LAT/LONG:29.41.00/81.40.45
(Y/N) N PUBLIC NOTICE REQD? BASIN-SEGMENT:__.___
(Y/N) N GOV BODY LOCAL APPROVAL REQD? COE #:_____
(Y/N) N LETTER OF INTENT REQD? _ (I/ISSUE D/DENY) ALT#:___-_____

Georgia-Pacific Tall Oil ✓
PROJECT SOURCE NAME:~~HUDSON PULP & PAPER CORP~~
STREET:HWY 216 CITY:PALATKA
STATE:FL ZIP:32077 PHONE:904-325-2001
APPLICATION NAME:~~HUDSON PULP & PAPER CORP~~
STREET:HWY 216 CITY:PALATKA
STATE:FL ZIP:32077 PHONE:904-325-2001
AGENT NAME:RICHARDSON, WILLIAM CARL, P.E.
STREET:P.O. BOX 919 CITY:PALATKA
STATE:FL ZIP:32077 PHONE:904-325-2001
FEE #1 DATE PAID:08/29/85 AMOUNT PAID:0100 RECEIPT NUMBER:00094901

B DATE APPLICANT INFORMED OF NEED FOR PUBLIC NOTICE - - - __/__/__
C DATE DER SENT DNR APPLICATION/SENT DNR INTENT - - - - - - __/__/__--__/__/__
D DATE DER REQ. COMMENTS FROM GOV. BODY FOR LOCAL APP. -. __/__/__
E DATE #1 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - - 02/13/85--02/13/86 ✓
E DATE #2 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - - __/__/__--__/__/__
E DATE #3 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - - __/__/__--__/__/__
E DATE #4 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - - __/__/__--__/__/__
E DATE #5 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - - __/__/__--__/__/__
E DATE #6 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - - __/__/__--__/__/__
F DATE GOVERNING BODY REQUESTED SURVEY RESULTS/REPORTS - - __/__/__
G DATE FIELD REPORT WAS REQ--REC - - - - - - - - - - - - - - __/__/__--__/__/__
H DATE DNR REVIEW WAS COMPLETED - - - - - - - - - - - - - - __/__/__

I DATE APPLICATION WAS COMPLETE - - - - - - - - - - - - - - __/__/__
J DATE GOVERNING BODY PROVIDED COMMENTS OR OBJECTIONS - - __/__/__
K DATE NOTICE OF INTENT WAS SENT--REC TO APPLICANT - - - - __/__/__--__/__/__
L DATE PUBLIC NOTICE WAS SENT TO APPLICANT - - - - - - - - __/__/__
M DATE PROOF OF PUBLICATION OF PUBLIC NOTICE RECEIVED - - __/__/__
N WAIVER DATE BEGIN--END (DAY 90) - - - - - - - - - - - - - - __/__/__--__/__/__

COMMENTS:

DER
FEB 11 1986
BAQM