

Check Sheet

Company Name: Thermotank Terminals  
Permit Number: AC 29-1164542  
PSD Number: \_\_\_\_\_  
Permit Engineer: \_\_\_\_\_

**Application:**

- |  |                          |
|--|--------------------------|
| <input checked="" type="checkbox"/> Initial Application    | Cross References:        |
| <input checked="" type="checkbox"/> Incompleteness Letters | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> Responses              | <input type="checkbox"/> |
| <input type="checkbox"/> Waiver of Department Action       | <input type="checkbox"/> |
| <input type="checkbox"/> Department Response               |                          |
| <input type="checkbox"/> Other                             |                          |

**Intent:**

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

**Final**

**Determination:**

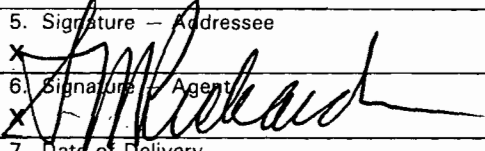
- Final Determination
- Signed Permit
- BACT or LAER Determination
- Other

**Post Permit Correspondence:**

- Extensions/Amendments/Modifications
- Other

**SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 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 additional service(s) requested.

1.  Show to whom delivered, date, and addressee's address. (Extra charge)      2.  Restricted Delivery (Extra charge)

3. Article Addressed to: Mr. Stephen M. Richards President ThermoTank Terminals, Inc. P.O. Box 5046 Tampa, FL 33675	4. Article Number P 256 396 152
Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
Always obtain signature of addressee or agent and <u>DATE DELIVERED</u> .	
5. Signature - Addressee <input checked="" type="checkbox"/> 	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent <input checked="" type="checkbox"/>	
7. Date of Delivery 7-27-90	

PS Form 3811, Apr. 1989

\*U.S.G.P.O. 1989-238-815

DOMESTIC RETURN RECEIPT

P 256 396 152

**RECEIPT FOR CERTIFIED MAIL**

NO INSURANCE COVERAGE PROVIDED  
 NOT FOR INTERNATIONAL MAIL

(See Reverse)

\*U.S.G.P.O. 1989-234-555

PS Form 3800, June 1985

Sent to Mr. Stephen M. Richards	
President	
Street and No. ThermoTank Terminals, Inc.	
P.O. Box 5046	
Tampa, FL 33675	
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: 7/24/90 AC 29-164542	



# Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

## STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION NOTICE OF PERMIT

Stephen M. Richards, President  
ThermoTank Terminals, Inc.  
P. O. Box 5046  
Tampa, Florida 33675

July 24, 1990

Enclosed is construction permit No. AC 29-164542 for ThermoTank Terminals, Inc. to construct a molten sulfur storage and handling facility located at the Pennzoil Terminal in Tampa, Hillsborough 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

*Barry D. Adams*  
\_\_\_\_\_  
fr C. H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

Copy furnished to:

- B. Thomas, SW District
- I. Choronenko, HCEPC
- T. Brumagin, P.E.

Ready File } 7/24/90  
Mirza Baij }

Final Determination

ThermoTank Terminals, Inc.  
Pennzoil Terminal  
Tampa, Hillsborough County  
Florida

Molten Sulfur Storage and Handling System  
Permit Number: AC 29-164542

Florida Department of Environmental Regulation  
Division of Air Resources Management  
Bureau of Air Regulation

July 15, 1990

## Final Determination

The Technical Evaluation and Preliminary Determination for the permit to construct molten sulfur storage and handling facility at the Pennzoil Terminal (an existing facility) in Tampa, Hillsborough County, Florida was distributed on February 16, 1990. The Notice of Intent to Issue was published in the Tampa Tribune on June 28, 1990. Copies of the evaluation were available for public inspection at the Department's offices in Tampa and Tallahassee.

No comments were submitted on the Department's Intent to Issue the permit. The final action of the Department will be to issue construction permit No. AC 29-164542 as proposed in the Technical Evaluation and Preliminary Determination.



# Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

PERMITTEE:  
ThermoTank Terminals, Inc.  
Pennzoil Terminal  
Post Office Box 5046  
Tampa, FL 33675

Permit Number: AC 29-164542  
Expiration Date: Jan. 1, 1991  
County: Hillsborough  
Latitude/Longitude: 27°54'10"N  
82°24'38"W  
Project: Pennzoil Terminal  
Molten Sulfur Storage  
and Handling System

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

For the permitting of the Pennzoil molten sulfur storage and handling terminal consisting of a ship unloading system; a truck loadout system; six 15,500 long ton (LT) molten sulfur storage tanks; and the associated transfer pumps and piping. The Pennzoil facility is located in Tampa, Hillsborough County, Florida.

The UTM coordinates of this facility are Zone 17, 361.2 km East and 3086.9 km North.

The source shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. ThermoTank Terminals' application received May 5, 1989.
2. DER's letter dated May 31, 1989.
3. TTT's response received December 27, 1989.
4. DER's Preliminary Determination dated February 9, 1990.

PERMITTEE:  
ThermoTank Terminals, Inc.

Permit Number: AC 29-164542  
Expiration Date: Jan. 1, 1991

**GENERAL CONDITIONS:**

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

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

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

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

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

PERMITTEE:  
ThermoTank Terminals, Inc.

Permit Number: AC 29-164542  
Expiration Date: Jan. 1, 1991

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 non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

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



PERMITTEE:  
ThermoTank Terminals, Inc.

Permit Number: AC 29-164542  
Expiration Date: Jan. 1, 1991

**GENERAL CONDITIONS:**

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

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.
- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.

PERMITTEE:  
ThermoTank Terminals, Inc.

Permit Number: AC 29-164542  
Expiration Date: Jan. 1, 1991

**GENERAL CONDITIONS:**

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.

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

**SPECIFIC CONDITIONS:**

1. ThermoTank Terminals, Inc.'s Pennzoil molten sulfur storage and handling terminal shall be allowed to operate continuously (i.e. 8760 hours/year).
2. The maximum molten sulfur throughput rate shall neither exceed 24,000 long tons per day (LTPD), nor 1,600,000 long tons per year (LTPY).
3. Visible emissions (VE) shall not exceed 10% opacity from any source in the molten sulfur system, except during periods of ship unloading when the VE shall not exceed 15% opacity.
4. The permittee shall employ procedures to minimize emissions, from the molten sulfur system pursuant to the applicable requirements of F.A.C. Rule 17-2.600(11)(a) [Molten Sulfur Storage and Handling Facilities]. The permittee shall also comply with other applicable provisions of F.A.C. Chapters 17-2 and 17-4.
5. No objectionable odors shall be allowed, in accordance with F.A.C. Rule 17-2.620(2) [Objectionable Odor Prohibited].

PERMITTEE:  
ThermoTank Terminals, Inc.

Permit Number: AC 29-164542  
Expiration Date: Jan. 1, 1991

SPECIFIC CONDITIONS:

6. Initial compliance tests shall be conducted in accordance with the July 1, 1988, version of 40 CFR 60 Appendix A, using EPA Method 9, for visible emissions. The tests shall be conducted while the tanks and trucks are being filled. VE tests shall be required again at the time of renewing the operation permits.

7. Any change in the method of operation, equipment or operating hours shall be submitted to the Hillsborough County Environmental Protection Commission (HCEPC) office for approval.

8. For emission inventory and PSD purposes, the estimated maximum emissions from the sources in the molten sulfur storage and handling system are:

Source		Expected Emissions			
		PM/PM <sub>10</sub>	SO <sub>2</sub>	TRS/H <sub>2</sub> S	VOC
Tanks	lb/hr	0.18	0.02	0.28	0.20
(1-6 each)	TPY	0.4	0.1	0.4	0.3
Truck Load	lb/hr	0.08	0.02	0.61	0.18
Station	TPY	0.4	0.1	2.7	0.8

The ship's emissions during ship unloading are expected to be temporary and negligible.

9. A minimum of 15 days prior written notification of the compliance tests shall be given to the HCEPC office. The compliance test results shall be submitted to the HCEPC office within 45 days of test completion.

10. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation (BAR) prior to 60 days before the expiration of the permit (F.A.C. 17-4.090).

PERMITTEE:  
ThermoTank Terminals, Inc.

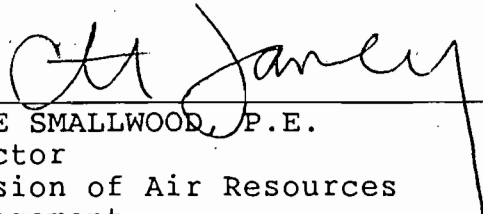
Permit Number: AC 29-164542  
Expiration Date: Jan. 1, 1991

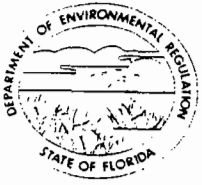
SPECIFIC CONDITIONS:

11. An application for an operation permit must be submitted to the HCEPC office at least 90 days prior to the expiration date of this construction permit or within 45 days after completion of compliance testing, whichever occurs first. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. 17-4.220).

Issued this 20 day  
of July, 1990

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

*for*  
  
STEVE SMALLWOOD, P.E.  
Director  
Division of Air Resources  
Management



State of Florida  
DEPARTMENT OF ENVIRONMENTAL REGULATION

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

# Interoffice Memorandum

TO: Steve Smallwood  
FROM: Clair Fancy *Steve out 7/20*  
DATE: July 16, 1990 *I signed*  
SUBJ: Approval of Construction Permit AC 29-164542  
ThermoTank Terminals, Inc. - Pennzoil Terminal

Attached for your approval and signature is a construction permit prepared by the Bureau of Air Regulation for the above mentioned facility to construct a molten sulfur storage/handling system at their Pennzoil Terminal in Tampa, Hillsborough County, Florida.

Day 90, after which this permit will be issued by default, is August 6, 1990.

I recommend your approval and signature.

CF/MB/plm

Attachment



# Interoffice Memorandum

For routing to other than the addressee

_____	_____
_____	_____
_____	_____
_____	_____

To: Air Quality  
From: David M. Beebe, Assistant Chief *DMB*  
Bureau of Finance and Accounting  
Date: July 25, 1989  
Subject: Refund of Fees

Your application for refund for Thermo Tank Terminals Inc.  
File# AC 09-1645429, is complete.  
State of Florida Warrant 4 00090 56, dated 07-11-89 and  
in the amount of \$ 550.00, was mailed 07-13-89

DMB/lis

Refund processed on Agency Voucher C 01504  
Fiscal Year 89-90

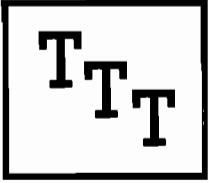
19

*On PATS 8-22-89*

*Ronald Kessel*

*(813) 581-7019*

*Thermal Tank Terminals  
AC 29-164542*



ThermoTank Terminals, Inc.

June 28, 1990

RECEIVED  
JUN 29 1990  
DER-BAQM

VIA FEDERAL EXPRESS

Florida Department of Environmental Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Attention: Mr. C. H. Fancy, P.E.  
Chief, Bureau of Air Regulation

Re: Hillsborough County - A. P.  
ThermoTank Terminals, Inc.  
Sulfur Storage & Handling System  
AC 29-164542

Gentlemen:

In accord with your letter of June 18, 1990, which was received on June 22, 1990, we attach hereto affidavit from The Tampa Tribune evincing publication on June 28, 1990 of the legal notice required for the above referenced air permit.

We apologize for the delay and appreciate your indulgence in the matter.

Yours very truly,

THERMOTANK TERMINALS, INC.

Stephen M. Richards  
President

Attachment

SMR/jf

cc: M. Baig, SW Dist,  
B. Thomas, EPCAC  
J. Campbell,

Mirza, 6/29  
Off P/N 13 July  
Day 90 = 21 Aug  
Pattis

**FEDERAL EXPRESS**

USE THIS AIRBILL FOR DOMESTIC SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.  
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO.  
QUESTIONS? CALL 800-238-5355 TOLL FREE.

**AIRBILL**  
PACKAGE  
TRACKING NUMBER

5652464370

5652464370

**RECIPIENT'S COPY**

From (Your Name) Please Print <b>Stephen M. Richards</b>		Your Phone Number (Very Important) <b>(813) 248-2072</b>	To (Recipient's Name) Please Print <b>Mr. C. H. Fancy</b>	Recipient's Phone Number (Very Important)
Company <b>ERMOTANK INC</b>		Department/Floor No.	Company <b>Florida Department of Environmental Regulation</b>	
Street Address <b>388 FENDOLA POINT RD</b>		Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.) <b>Twin Towers Office Building</b>		
City <b>AMPA</b>	State <b>FL</b>	ZIP Required <b>33619</b>	City <b>Tallahassee,</b>	State <b>Florida</b>
YOUR INTERNAL BILLING REFERENCE INFORMATION (First 24 characters will appear on invoice.)			IF HOLD FOR PICK-UP, Print FEDEX Address Here	
PAYMENT: 1 <input checked="" type="checkbox"/> Bill Sender 2 <input type="checkbox"/> Bill Recipient's FedEx Acct. No. 3 <input type="checkbox"/> Bill 3rd Party FedEx Acct. No. 4 <input type="checkbox"/> Bill Credit Card			Street Address	
5 <input type="checkbox"/> Cash			City State ZIP Required	

SERVICES (Check only one box)		DELIVERY AND SPECIAL HANDLING	PACKAGES	WEIGHT in Pounds Only	YOUR DECLARED VALUE	OVER SIZE	Emp. No.	Date	Federal Express Use Base Charges
11 <input type="checkbox"/> YOUR PACKAGING	S1: <input type="checkbox"/>	1 <input type="checkbox"/> HOLD FOR PICK-UP (Fill in Box #)							Declared Value Charge
16 <input checked="" type="checkbox"/> FEDEX LETTER	S6: <input type="checkbox"/> FEDEX LETTER*	2 <input checked="" type="checkbox"/> DELIVER WEEKDAY							Other 1
12 <input type="checkbox"/> FEDEX PAK	S2: <input type="checkbox"/> FEDEX PAK*	3 DELIVER SATURDAY (Extra charge)							Other 2
13 <input type="checkbox"/> FEDEX BOX	S3: <input type="checkbox"/> FEDEX BOX	4 <input type="checkbox"/> DANGEROUS GOODS (Extra charge) (CSS not available for Dangerous Goods Shipments)	Total	Total	Total				Total Charges
14 <input type="checkbox"/> FEDEX TUBE	S4: <input type="checkbox"/> FEDEX TUBE	5 <input type="checkbox"/> CONSTANT SURVEILLANCE SVC. (CSS) (Extra charge) (Release Signature Not Applicable)							REVISION DATE 10/89 PART #119501 FXEM 10/89 FORMAT #014
Economy Service (formerly Standard Air) (Delivery by second business day)	70 <input type="checkbox"/> HEAVYWEIGHT**	6 <input checked="" type="checkbox"/> DRY ICE (Lbs)							• 1989 F.E.C. PRINTED IN U.S.A.
30 <input type="checkbox"/> ECONOMY SERVICE	80 <input type="checkbox"/> DEFERRED HEAVYWEIGHT**	7 <input type="checkbox"/> OTHER SPECIAL SERVICE							
† Delivery commitment may be later in some areas. †	** Declared Value Limit \$100. ** Call for delivery schedule.	8 <input type="checkbox"/>							
		9 <input type="checkbox"/> SATURDAY PICK-UP (Extra charge)							
		10 <input type="checkbox"/>							
		11 <input type="checkbox"/>							
		12 <input type="checkbox"/> HOLIDAY DELIVERY († extra charge)							

RECEIVED

JUN 29 1990

DER BAW

10/15/90



THE TAMPA TRIBUNE

Published Daily
Tampa, Hillsborough County, Florida

State of Florida
County of Hillsborough } ss.

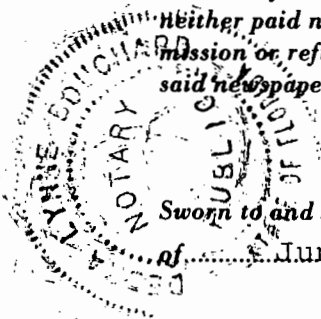
Before the undersigned authority personally appeared
Kermit J. Kauffman, who on oath says that he is Controller of The Tampa
Tribune, a daily newspaper published at Tampa in Hillsborough County, Flori-
da; that the attached copy of advertisement being a

LEGAL NOTICE

in the matter of .....THERMOTANK TERMINALS, INC.....&.....
PENNZOIL

was published in said newspaper in the issues of .....
June 28, 1990

Affiant further says that the said The Tampa Tribune is a newspaper published at
Tampa, in said Hillsborough County, Florida, and that the said newspaper has here-
tofore been continuously published in said Hillsborough County, Florida, each day
and has been entered as second class mail matter at the post office in Tampa, in said
Hillsborough County, Florida, for a period of one year next preceding the first pub-
lication of the attached copy of advertisement; and affiant further says that he has
neither paid nor promised any person, firm, or corporation any discount, rebate, com-
mission or refund for the purpose of securing this advertisement for publication in the
said newspaper.



Sworn to and subscribed before me, this 28.....day
of June.....A.D. 19 90

(SEAL)

Handwritten signatures of Kermit J. Kauffman and Notary Public, State of Florida.

Notary Public, State of Florida
My Commission Expires Jan. 6, 1993
Bonded Thru Troy Fain - Insurance Inc.

State of Florida
Department of
Environmental Regulation
Notice of Intent to Issue
The Department of Environ-
mental Regulation hereby
gives notice of its intent to
issue a permit to ThermoTank
Terminals, Inc., P. O. Box 5046,
Tampa, FL 33675, for the exist-
ing molten sulfur storage and
handling system located at the
Pennzoil facility in Tampa,
Hillsborough County, Florida.
A determination of the Best
Available Control Technology
(BACT) was not required. The
Department is issuing this
Intent to Issue for the reasons
stated in the Technical Evalua-
tion and Preliminary Determi-
nation. A person whose sub-
stantial interests are affected
by the Department's proposed
permitting decision may
petition for an administrative
proceeding (hearing) in accor-
dance with Section 120.57,
Florida Statutes. The petition
must contain the information
set forth below and must be
filed (received) in the Office of
General Counsel of the Depart-
ment at 2600 Blair Stone Road,
Tallahassee, Florida 32399-
2400, within fourteen (14) days
of publication of this notice.
Petitioner shall mail a copy of
the petition to the applicant at
the address indicated above
at the time filing. Failure to
file a petition within this time
period shall constitute a waver
of any right such person
may have to request an ad-
ministrative determination
(hearing) under Section 120.57,
Florida Statutes.
The petition shall contain
the following information:
(a) The name, address, and
telephone number of each
petitioner, the applicant's
name and address, the Depart-
ment Permit File Number and
the county in which the pro-
ject is proposed; (b) A state-
ment of how and when each
petitioner received notice of
the Department's action or
proposed action;
(c) A statement of how each
petitioner's substantial
interests are affected by the
Department's action or pro-
posed action;
(d) A statement of the mate-
rial facts disputed by
Petitioner, if any;
(e) A statement of facts
which petitioner contends
warrant reversal or modifica-
tion of the Department's ac-
tion or proposed action;
(f) A statement of which
rules or statutes petitioner
contends require reversal or
modification of the Depart-
ment's action or proposed ac-
tion; and

(g) A statement of the relief
sought by petitioner, stating
precisely the action petitioner
wants the Department to take
with respect to the Depart-
ment's action or proposed ac-
tion.
If a petition is filed, the ad-
ministrative hearing process
is designed to formulate agen-
cy action. Accordingly, the
Department's final action may
be different from the position
taken by it in this Notice. Per-
sons whose substantial
interests will be affected by
any decision of the Depart-
ment with regard to the appli-
cation have the right to
petition to become a party to
the proceeding. The petition
must conform to the require-
ments specified above and be
filed (received) within 14 days
of publication of this notice in
the Office of General Counsel
at the above address of the
Department. Failure to
petition within the allowed
time frame constitutes a waver
of any right such person
has to request a hearing
under Section 120.57, F.S. and
to participate as a party to
this proceeding. Any
subsequent intervention will
only be at the approval of the
presiding officer upon motion
filed pursuant to Rule 28-5.207,
F.A.C.
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:
Department of
Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida
32399-2400
Dept. of Environmental
Regulation
Southwest District Office
4520 Oak Fair Boulevard
Tampa, Florida 33610-7347
Hillsborough County
Environmental Protection
Commission
1410 North 21st Street
Tampa, Florida 33605
Any person may send writ-
ten comments on the pro-
posed action to Mr. Bill Thom-
as at the Department's Tal-
lahassee address. All comments
mailed within 14 days of the
publication of this notice will
be considered in the Depart-
ment's final determination.
3378 6/28/90

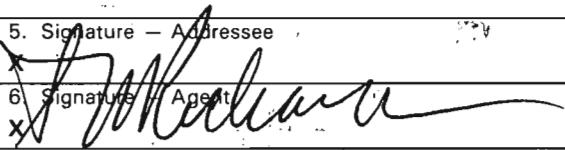
P 256 396 125  
**RECEIPT FOR CERTIFIED MAIL**  
 NO INSURANCE COVERAGE PROVIDED  
 NOT FOR INTERNATIONAL MAIL  
 (See Reverse)

\* U.S.G.P.O. 1989-234-555  
 PS Form 3800, June 1985

Sent to <b>Mr. Stephen M. Richards,</b>	
Street and No. <b>ThermoTank Term.</b>	
P. O. Box <b>5046</b>	
P.O. State and ZIP Code <b>Tampa, FL 33675</b>	
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: <b>6-19-90</b> Permit: <b>AC 29-164542</b>	

**SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 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 boxes for additional service(s) requested.

1.  Show to whom delivered, date, and addressee's address.    2.  Restricted Delivery (Extra charge)

3. Article Addressed to: <b>Mr. Stephen M. Richards, President          ThermoTank Terminals, Inc.          P. O. Box 5046          Tampa, Florida 33675</b>	4. Article Number <b>P 256 396 125</b> Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
Always obtain signature of addressee or agent and <u>DATE DELIVERED</u> .	
5. Signature - Addressee 	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent <input checked="" type="checkbox"/>	
7. Date of Delivery <b>6-22-90</b>	



# Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

June 18, 1990

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Stephen M. Richards, President  
ThermoTank Terminals, Inc.  
P. O. Box 5046  
Tampa, Florida 33675

Re: Hillsborough County - A.P.  
ThermoTank Terminals, Inc.  
Sulfur Storage & Handling System  
AC 29-164542

Dear Mr. Richards:

On February 16, 1990, the Bureau of Air Regulation mailed to you a draft construction permit along with a "Technical Evaluation and Preliminary Determination" and a "Notice of Intent to Issue."

You were required to publish this notice in the legal ad section of the local newspaper within 30 days and submit the proof of publication to the Department within seven (7) days of publication. To this date we have not received the proof of publication.

Accordingly, please submit the proof of publication within seven (7) days of receipt of this letter or the Department will recommend denial of your request for the permit.

Your cooperation in this matter will be appreciated.

Sincerely,

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

CHF/MB/plm

c: B Thomas, S.W. District  
I. Choronenko, HCEPC  
T. Brumagin, P.E.

P 938 762 834

**RECEIPT FOR CERTIFIED MAIL**

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

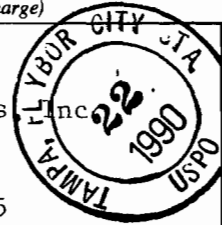
Sept to Mr. S. M. Richards, ThermoTank Terminals	
Street and No. P.O. Box 5046	
P.O., State and ZIP Code Tampa, FL 33675	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date Mailed: 2-10-90 Permit: AC 29-164542	

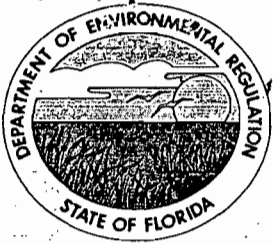
PS Form 3800, June 1985

**SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 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 additional service(s) requested.

1.  Show to whom delivered, date, and addressee's address. (Extra charge)      2.  Restricted Delivery (Extra charge)

3. Article Addressed to: Mr. S. M. Richards ThermoTank Terminals, Inc. Pennzoil Terminal P. O. Box 5046 Tampa, Florida 33675	4. Article Number P 938 762 834
Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
Always obtain signature of addressee or agent and <b>DATE DELIVERED.</b>	
5. Signature / Address X <i>S. M. Richards</i>	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature / Agent X <i>S. M. Richards</i>	
7. Date of Delivery	





# Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

February 16, 1990

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. S. M. Richards  
ThermoTank Terminals, Inc.- Pennzoil Terminal  
Post Office Box 5046  
Tampa, Florida 33675

Dear Mr. Richards:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permit for ThermoTank Terminals, Inc.'s molten sulfur storage and handling system at the Pennzoil facility in Tampa, Hillsborough County, Florida.

Please submit any written comments you wish to have considered concerning the Department's proposed action to Mr. Bill Thomas of the Bureau of Air Regulation.

Sincerely,

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

CHF/pr

Attachments

cc: B. Thomas, SW District  
I. Choronenko, HCEPC  
T. Brumagin, P.E.

BEFORE THE STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of  
Application for Permit by:

ThermoTank Terminals, Inc.  
Pennzoil Terminal  
Post Office Box 5046  
Tampa, Florida 33675

DER File No. AC 29-164542

---

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, ThermoTank Terminals, Inc., applied on May 5, 1989, to the Department of Environmental Regulation for a construction permit for the existing molten sulfur storage and handling system located at the Pennzoil facility in Tampa, Hillsborough 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 is required for the proposed work.

Pursuant to Section 403.815, F.S. and DER Rule 17-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Intent to Issue Permit. The notice shall be published one time only within 30 days, in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. The applicant shall provide proof of publication to the Department, at the address specified within seven days of publication. 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 a 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. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information;

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

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

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

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

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

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

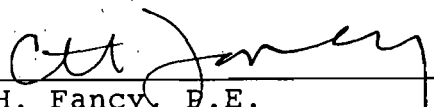
(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the applicant have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office in General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such

person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Executed in Tallahassee, Florida

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

  
\_\_\_\_\_  
C. H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

Copies furnished to:

B. Thomas SW District  
I. Choronenko, HCEPC  
T. Brumagin, P.E.



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 2-16-90.

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.

Kym W. Cohen  
Clerk

2-16-90  
Date

State of Florida  
Department of Environmental Regulation  
Notice of Intent to Issue

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to ThermoTank Terminals, Inc., P. O. Box 5046, Tampa, FL 33675, for the existing molten sulfur storage and handling system located at the Pennzoil facility in Tampa, Hillsborough County, Florida. A determination of the Best Available Control Technology (BACT) was not required. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

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

The Petition shall contain the following information;

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the

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

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:

Department of Environmental Regulation  
Bureau of Air Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Dept. of Environmental Regulation  
Southwest District Office  
4520 Oak Fair Boulevard  
Tampa, Florida 33610-7347

Hillsborough County Environmental Protection Commission  
1410 North 21st Street  
Tampa, Florida 33605

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.

Technical Evaluation  
and  
Preliminary Determination

ThermoTank Terminals, Inc.  
Pennzoil Terminal  
Tampa, Hillsborough County  
Florida

Molten Sulfur Storage and Handling System

Permit Number: AC 29-164542

Florida Department of Environmental Regulation  
Division of Air Resources Management  
Bureau of Air Regulation

February 9, 1990

## I. Application

### A. Applicant

ThermoTank Terminals, Inc.- Pennzoil Terminal  
Post Office Box 5046  
Tampa, Florida 33675

### B. Project and Location

The applicant, ThermoTank Terminals, Inc. (TTT), proposes to permit the existing molten sulfur storage and handling system at the Pennzoil molten sulfur terminal in Tampa, Hillsborough County, Florida.

The UTM coordinates of this facility are Zone 17, 361.2 km East and 3086.9 km North.

### C. Facility Category

The Pennzoil facility is minor in accordance with Rule 17-2.100 of the Florida Administrative Code (F.A.C.). The molten sulfur storage and handling system consists of several existing minor sources within the facility.

The Standard Industrial Classification (SIC) Code is Industry No. 5169, Wholesale Trade of Chemicals and Allied Products.

The NEDs Source Classification Code (SCC) is 3-01-070-02, Storage and Transfer, Industrial Inorganic Chemicals Production.

TTT applied for a construction permit on May 5, 1989, and the application was deemed complete on December 27, 1989.

## II. Project Description

The Pennzoil molten sulfur storage and handling terminal consists of a ship unloading system; a truck loadout system; six 15,500 long ton (LT) molten sulfur storage tanks; and the associated transfer pumps and piping. The Pennzoil terminal distributes the molten sulfur, using trucks, to various consumers.

The molten sulfur is delivered to the facility by ships with a capacity of about 24,000 LT. The molten sulfur is pumped from the ship to the six molten sulfur storage tanks. All the molten sulfur in the ship does not necessarily get unloaded at the Pennzoil terminal since several terminals do share the shipload on occasion. The sulfur is supplied from the storage tanks to the truck loading station where 21 LT capacity trucks are loaded. The storage tanks are steam heated to keep the sulfur molten. The maximum sulfur handling rate is about 25,000 LT per day (ship unloading periods), 1,600,000 LT per year (LTPY).

Each of the six 15,500 LT sulfur storage tanks is 130 ft in diameter and 24 ft in height. Each tank has one 12" center vent. There are rim vents sealed by flapper valves which would function only during rare periods of pressure buildup. The rim vents are not expected to emit any emissions under normal operation.

The expected emissions from the molten sulfur system include emissions of particulate matter (PM), particulates less than 10 microns in size (PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), hydrogen sulfide (H<sub>2</sub>S), reduced sulfur compounds (TRS), and volatile organic compounds (VOCs).

### III. Rule Applicability

The existing Pennzoil facility is minor in accordance with F.A.C. Rule 17-2.100. The molten sulfur storage and handling system will emit particulate matter and will be permitted in accordance with F.A.C. Rules 17-2 and 17-4; and, Chapter 403 of the Florida Statutes.

The facility is located in Hillsborough County, an area designated as nonattainment for ozone and particulate matter; unclassifiable for sulfur dioxide; and attainment for the other criteria pollutants; in accordance with F.A.C. Rules 17-2.410, 17-2.430, and 17-2.420, respectively.

The project is not subject to the new source review requirements of F.A.C. Rule 17-2.500(5), Prevention of Significant Deterioration-Preconstruction Review Requirements, or F.A.C. Rule 17-2.510(4), nonattainment area review, because it is minor.

The project is subject to F.A.C. Rule 17-2.520, Sources Not Subject to PSD or Nonattainment Requirements.

The project is subject to F.A.C. Rule 17-2.600(11), Specific Emission Limiting and Performance Standards for Sulfur Storage and Handling Facilities, which lists specific operational emission reduction procedures that are to be followed. Visible emissions (VE) will be limited to 10% opacity, except during periods of ship unloading when VE shall not exceed 15% opacity. The sources are not subject to a weight emission limiting standard, in accordance with F.A.C. Rule 17-2.600(11)(e), since the sulfur particulate emissions from each individual source are less than 1 ton per year.

The project is subject to F.A.C. Rule 17-2.620, General Pollutant Emission Limiting Standards, which prohibits objectionable odors.

The project is subject to compliance testing and reporting requirements in accordance with F.A.C. Rule 17-2.700. Compliance testing for the sources shall be conducted using EPA Method 9 for visible emissions in accordance with F.A.C. Rule 17-2.700(6)(b)9. VE tests will be required to be conducted for every emission point in the sulfur system (every vent) for the initial compliance demonstration. Several emission points may be done simultaneously if possible within the requirements of EPA Method 9. The Department will require a retest at the time of operation permit renewals.

#### IV. Source Impact Analysis

##### A. Emission Limitations

The maximum emissions from the molten sulfur system are estimated to be as follows, based on test results:

Source		Expected Emissions			
		PM/PM <sub>10</sub>	SO <sub>2</sub>	TRS/H <sub>2</sub> S	VOC
Tanks	lb/hr	0.18	0.02	0.28	0.20
(1-6 each)	TPY	0.4	0.1	0.4	0.3
Truck Load	lb/hr	0.08	0.02	0.61	0.18
Station	TPY	0.4	0.1	2.7	0.8

The ship's emissions during ship unloading are expected to be temporary and negligible.

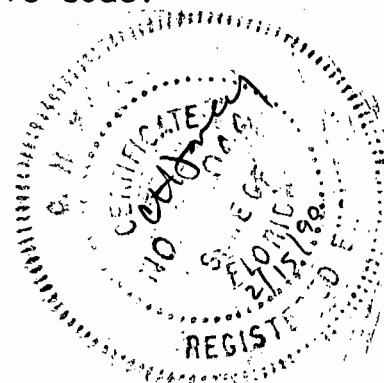
Visible emissions (VE) will be limited to 10% opacity, except during periods of ship unloading when VE shall not exceed 15% opacity.

##### B. Air Quality Impacts

The technical evaluation of this project determined that ambient air monitoring or modeling would not be required to provide reasonable assurance that Florida's air quality standards would not be violated.

#### V. Conclusion

Based on the information provided by ThermoTank Terminals, Inc., the Department has reasonable assurance that the existing Pennzoil molten sulfur storage and handling terminal, as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other technical provision of Chapter 17-2 of the Florida Administrative Code.





# Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

## PERMITTEE:

ThermoTank Terminals, Inc.  
Pennzoil Terminal  
Post Office Box 5046  
Tampa, FL 33675

Permit Number: AC 29-164542  
Expiration Date: Jan. 1, 1991  
County: Hillsborough  
Latitude/Longitude: 27°54'10"N  
82°24'38"W

Project: Pennzoil Terminal  
Molten Sulfur Storage  
and Handling System

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

For the permitting of the Pennzoil molten sulfur storage and handling terminal consisting of a ship unloading system; a truck loadout system; six 15,500 long ton (LT) molten sulfur storage tanks; and the associated transfer pumps and piping. The Pennzoil facility is located in Tampa, Hillsborough County, Florida.

The UTM coordinates of this facility are Zone 17, 361.2 km East and 3086.9 km North.

The source shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. ThermoTank Terminals' application received May 5, 1989.
2. DER's letter dated May 31, 1989.
3. TTT's response received December 27, 1989.
4. DER's Preliminary Determination dated February 9, 1990.



PERMITTEE:  
ThermoTank Terminals, Inc.

Permit Number: AC 29-164542  
Expiration Date: Jan. 1, 1991

**GENERAL CONDITIONS:**

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

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

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

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

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

PERMITTEE:  
ThermoTank Terminals, Inc.

Permit Number: AC 29-164542  
Expiration Date: Jan. 1, 1991

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 non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

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

PERMITTEE:  
ThermoTank Terminals, Inc.

Permit Number: AC 29-164542  
Expiration Date: Jan. 1, 1991

**GENERAL CONDITIONS:**

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

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.
- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.

PERMITTEE:  
ThermoTank Terminals, Inc.

Permit Number: AC 29-164542  
Expiration Date: Jan. 1, 1991

**GENERAL CONDITIONS:**

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.

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

**SPECIFIC CONDITIONS:**

1. ThermoTank Terminals, Inc.'s Pennzoil molten sulfur storage and handling terminal shall be allowed to operate continuously (i.e. 8760 hours/year).

2. The maximum molten sulfur throughput rate shall neither exceed 24,000 long tons per day (LTPD), nor 1,600,000 long tons per year (LTPY).

3. Visible emissions (VE) shall not exceed 10% opacity from any source in the molten sulfur system, except during periods of ship unloading when the VE shall not exceed 15% opacity.

4. The permittee shall employ procedures to minimize emissions, from the molten sulfur system pursuant to the applicable requirements of F.A.C. Rule 17-2.600(11)(a) [Molten Sulfur Storage and Handling Facilities]. The permittee shall also comply with other applicable provisions of F.A.C. Chapters 17-2 and 17-4.

5. No objectionable odors shall be allowed, in accordance with F.A.C. Rule 17-2.620(2) [Objectionable Odor Prohibited].

PERMITTEE:  
ThermoTank Terminals, Inc.

Permit Number: AC 29-164542  
Expiration Date: Jan. 1, 1991

SPECIFIC CONDITIONS:

6. Initial compliance tests shall be conducted in accordance with the July 1, 1988, version of 40 CFR 60 Appendix A, using EPA Method 9, for visible emissions. The tests shall be conducted while the tanks and trucks are being filled. VE tests shall be required again at the time of renewing the operation permits.

7. Any change in the method of operation, equipment or operating hours shall be submitted to the Hillsborough County Environmental Protection Commission (HCEPC) office for approval.

8. For emission inventory and PSD purposes, the estimated maximum emissions from the sources in the molten sulfur storage and handling system are:

Source		Expected Emissions			
		PM/PM <sub>10</sub>	SO <sub>2</sub>	TRS/H <sub>2</sub> S	VOC
Tanks	lb/hr	0.18	0.02	0.28	0.20
(1-6 each)	TPY	0.4	0.1	0.4	0.3
Truck Load	lb/hr	0.08	0.02	0.61	0.18
Station	TPY	0.4	0.1	2.7	0.8

The ship's emissions during ship unloading are expected to be temporary and negligible.

9. A minimum of 15 days prior written notification of the compliance tests shall be given to the HCEPC office. The compliance test results shall be submitted to the HCEPC office within 45 days of test completion.

10. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation (BAR) prior to 60 days before the expiration of the permit (F.A.C. 17-4.090).

PERMITTEE:  
ThermoTank Terminals, Inc.

Permit Number: AC 29-164542  
Expiration Date: Jan. 1, 1991

**SPECIFIC CONDITIONS:**

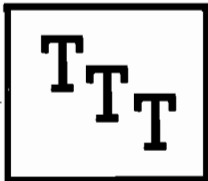
11. An application for an operation permit must be submitted to the HCEPC office at least 90 days prior to the expiration date of this construction permit or within 45 days after completion of compliance testing, whichever occurs first. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. 17-4.220).

Issued this \_\_\_\_\_ day  
of \_\_\_\_\_, 1990

**STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION**

---

STEVE SMALLWOOD, P.E.  
Director  
Division of Air Resources  
Management



ThermoTank Terminals, Inc.

*Recd 12/27/89  
C. J. May*

December 20, 1989

Florida Department of Environmental Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

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

Re: Pennzoil Sulphur Facility Permitting, AC29-164542

Gentlemen:

In response to your letter of May 31, 1989 we submit the following for the Pennzoil Sulphur Terminal:

1. a. Although the capacity of the sulphur delivery vehicles will vary with the configuration of the trailer, the typical capacity is about 47000 pounds (21 long tons).  
b. The typical delivery frequency is 200 trucks per day.  
c. The estimate of expected emissions from the sulphur delivery vehicles are shown on Exhibit A.
2. The sources of air emissions in the terminal are (a) six (6) sulphur storage tanks, (b) sulphur loading station, and (c) boilers. The sulphur loading station is addressed in Exhibit "A" attached and the storage tanks in Exhibit "B". The boilers are permitted under FDER Permit Number A029-150918.
3. There are no other sources of air emissions.

Yours very truly,

THERMOTANK TERMINALS, INC.

Stephen M. Richards  
President

Attachments

SMR/jf

*cc: B. Thomas, SW Dist.  
C. Sull, EPCME*

THERMOTANK TERMINALS, INC.

PENNZOIL TERMINAL

SUMMARY OF EMISSIONS

<u>Source</u>	<u>Contaminant</u>	<u>Maximum Emission lb/hr</u>	<u>Annual Emission tons/yr</u>
Tank Truck Loading Rack LS-1	SO <sub>2</sub>	0.017	0.084
	TSP	0.079	0.346
	total VOC	0.183	0.801
	H <sub>2</sub> S	0.608	2.66
Storage Tank VT-1	SO <sub>2</sub>	0.020	0.031
	total VOC	0.194	0.308
	H <sub>2</sub> S	0.276	0.325
Storage Tank VT-2	Same as Storage Tank VT-1		
Storage Tank VT-3	Same as Storage Tank VT-1		
Storage Tank VT-4	Same as Storage Tank VT-1		
Storage Tank VT-5	Same as Storage Tank VT-1		
Storage Tank VT-6	Same as Storage Tank VT-1		



EXHIBIT "A" Sheet 1

TANK TRUCK LOADING - ESTIMATED EMISSIONS

H<sub>2</sub>S

Tests confirm maximum concentrations of 2700 ppm H<sub>2</sub>S in gases exiting tank trucks.

Assuming 21 L.T. per truck

$$\frac{21 \text{ L.T. S}}{\text{truck}} \times \frac{2240 \text{ lbs}}{\text{L.T. S}} \times \frac{\text{ft}^3}{112 \text{ lbs}} = 420 \text{ ft}^3 \text{ air displaced/truck}$$

$$\frac{420 \text{ acf air}}{\text{truck}} \cdot \frac{2700 \text{ acf H}_2\text{S}}{10^6 \text{ acf air}} \cdot \frac{492 \text{ scf H}_2\text{S}}{725 \text{ acf H}_2\text{S}} \cdot \frac{\text{mole H}_2\text{S}}{359 \text{ scf H}_2\text{S}} =$$

$$\frac{34 \text{ lb H}_2\text{S}}{\text{mole H}_2\text{S}} = \frac{0.073 \text{ lb H}_2\text{S}}{\text{truck}}$$

$$\frac{200 \text{ trucks}}{24 \text{ hr}} = \frac{8.33 \text{ trucks}}{\text{hr}}$$

$$\frac{8.33 \text{ trucks}}{\text{hr}} \cdot \frac{0.073 \text{ lb H}_2\text{S}}{\text{truck}} = \frac{0.608 \text{ lb H}_2\text{S}}{\text{hr}}$$

$$\frac{0.073 \text{ lb H}_2\text{S}}{\text{truck}} \cdot \frac{\text{ton}}{2000 \text{ lb.}} \cdot \frac{200 \text{ trucks}}{\text{day}} \cdot \frac{365 \text{ Days}}{\text{yr}} =$$

2.66 tons H<sub>2</sub>S from truck loading.  
 yr

The following data was obtained from Freeport Sulphur Co. from tests on sulphur with a carbon content of 0.25% ±. The carbon content of Pennzoil sulphur will average 0.04% ±. The emissions calculated herein below for SO<sub>2</sub>, VOC, & TSP should be higher than actual.

EXHIBIT "A" Sheet 2

$$\text{SO}_2 - 5.472 \times 10^{-6} \text{ lb / ft}^3$$

$$\text{VOC} - 5.224 \times 10^{-5} \text{ lb / ft}^3$$

TSP - 0.0151 g/dscf from Enviroplan data

SO<sub>2</sub>

$$\frac{420 \text{ acf air}}{\text{truck}} \cdot \frac{5.472 \times 10^{-6} \text{ lb SO}_2}{\text{acf air}} = \frac{0.002 \text{ lb SO}_2}{\text{truck}}$$

$$\frac{0.002 \text{ lb SO}_2}{\text{truck}} \cdot \frac{8.33 \text{ trucks}}{\text{hr}} = \frac{0.017 \text{ lb SO}_2}{\text{hr}}$$

$$\frac{0.002 \text{ lb SO}_2}{\text{truck}} \cdot \frac{200 \text{ trucks}}{\text{day}} \cdot \frac{365 \text{ days}}{\text{yr}} \cdot \frac{\text{tons}}{2000 \text{ lb}} =$$

$$= \frac{0.084 \text{ tons SO}_2}{\text{yr}}$$

VOC

$$\frac{420 \text{ acf air}}{\text{truck}} \cdot \frac{5.224 \times 10^{-5} \text{ lb VOC}}{\text{acf air}} = \frac{0.022 \text{ lb VOC}}{\text{truck}}$$

$$\frac{0.022 \text{ lb VOC}}{\text{truck}} \cdot \frac{8.33 \text{ trucks}}{\text{hr}} = \frac{0.183 \text{ lb VOC}}{\text{hr}}$$

$$\frac{0.022 \text{ lb VOC}}{\text{truck}} \cdot \frac{200 \text{ trucks}}{\text{day}} \cdot \frac{365 \text{ days}}{\text{yr}} \cdot \frac{\text{tons}}{2000 \text{ lb}} =$$

$$0.801 \frac{\text{tons VOC}}{\text{yr}}$$

TSP

$$\frac{420 \text{ acf air}}{\text{truck}} \cdot \frac{0.0151 \text{ g TSP}}{\text{dscf}} \cdot \frac{492 \text{ dscf air}}{725 \text{ acf air}} \cdot \frac{\text{lb TSP}}{454 \text{ g}} =$$

$$\frac{0.0095 \text{ lb TSP}}{\text{truck}}$$

EXHIBIT "A" sheet 3

TSP (cont.)

$$\frac{0.0095 \text{ lb TSP}}{\text{truck}} \cdot \frac{8.33 \text{ truck}}{\text{hr}} = \frac{0.079 \text{ lb TSP}}{\text{hr}}$$

$$\frac{0.0095 \text{ lb TSP}}{\text{truck}} \cdot \frac{200 \text{ trucks}}{\text{day}} \cdot \frac{365 \text{ days}}{\text{yr}} \cdot \frac{\text{tons}}{2000 \text{ lb}} =$$

$$\frac{0.346 \text{ tons TSP}}{\text{yr.}}$$

EXHIBIT "B" sheet 1

SULPHUR TANKS - ESTIMATED EMISSIONS

Data from Enviroplan Report:

Discharge from tank - static - 28.2 dscfm  
- filling - 61.3 dscfm

Sulphur Throughput -  $1.533 \times 10^6$  LT/YR  
-  $2.555 \times 10^5$  LT/TANK

Static - 7632 hrs/yr; Filling - 1128 hrs/yr.

H<sub>2</sub>S

Tests with the tank in a static state have indicated H<sub>2</sub>S concentrations of from 117 ppm to 453 ppm. For these calculations, a maximum concentration of 500 ppm H<sub>2</sub>S has been assumed.

Tests with the tank in a filling state have indicated H<sub>2</sub>S concentrations of from 342 ppm to 767 ppm. For these calculations, a maximum concentration of 1000 ppm H<sub>2</sub>S has been assumed.

Static

$$\frac{28.2 \text{ dscf}}{\text{min}} \cdot \frac{500 \text{ acf H}_2\text{S}}{10^6 \text{ acf air}} \cdot \frac{492 \text{ acf air}}{710 \text{ dscf air}} \cdot \frac{\text{mol H}_2\text{S}}{387 \text{ acf H}_2\text{S}}$$

$$\frac{34 \text{ lb H}_2\text{S}}{\text{mol H}_2\text{S}} \cdot \frac{60 \text{ min}}{\text{hr}} = 0.052 \frac{\text{lb H}_2\text{S}}{\text{hr tank}}$$

Filling

$$\frac{61.3 \text{ dscf}}{\text{min}} \cdot \frac{1000 \text{ acf H}_2\text{S}}{10^6 \text{ acf air}} \cdot \frac{492 \text{ acf air}}{710 \text{ dscf air}} \cdot \frac{\text{mol H}_2\text{S}}{387 \text{ acf H}_2\text{S}}$$

$$\frac{34 \text{ lb H}_2\text{S}}{\text{mol H}_2\text{S}} \cdot \frac{60 \text{ min}}{\text{hr}} = 0.224 \frac{\text{lb H}_2\text{S}}{\text{hr tank}}$$

EXHIBIT "B" sheet 2

H<sub>2</sub>S (cont)

Total

$$\left[ \left( \frac{0.052 \text{ lb H}_2\text{S}}{\text{hr}} \cdot \frac{7632 \text{ hr}}{\text{yr}} \right) + \left( \frac{0.224 \text{ lb H}_2\text{S}}{\text{hr}} \cdot \frac{1128 \text{ hrs}}{\text{yr}} \right) \right]$$

$$\left[ \frac{1 \text{ ton}}{2000 \text{ lb}} \right] = 0.325 \frac{\text{tons H}_2\text{S}}{\text{yr} \cdot \text{tank}}$$

$$6 \text{ tanks} \cdot 0.325 \frac{\text{tons H}_2\text{S}}{\text{yr} \cdot \text{tank}} = 1.95 \frac{\text{tons H}_2\text{S}}{\text{yr}}$$

SO<sub>2</sub>

Assume (per EXHIBIT "A")  $\frac{5.472 \times 10^{-6} \text{ lb SO}_2}{\text{act air}}$

Static

$$\frac{5.472 \times 10^{-6} \text{ lb SO}_2}{\text{act air}} \cdot \frac{492 \text{ act air}}{710 \text{ dsct air}} \cdot \frac{28.2 \text{ dsct air}}{\text{min}}$$

$$\frac{60 \text{ min}}{\text{hr}} = 0.006 \frac{\text{lb SO}_2}{\text{hr} \cdot \text{tank}}$$

Filling

$$\frac{5.472 \times 10^{-6} \text{ lb SO}_2}{\text{act air}} \cdot \frac{492 \text{ act air}}{710 \text{ dsct air}} \cdot \frac{61.3 \text{ dsct air}}{\text{min}}$$

$$\frac{60 \text{ min}}{\text{hr}} = 0.014 \frac{\text{lb SO}_2}{\text{hr} \cdot \text{tank}}$$

Total

$$\left[ \left( \frac{0.006 \text{ lb SO}_2}{\text{hr}} \cdot \frac{7632 \text{ hr}}{\text{yr}} \right) + \left( \frac{0.014 \text{ lb SO}_2}{\text{hr}} \cdot \frac{1128 \text{ hrs}}{\text{yr}} \right) \right]$$

EXHIBIT "B" Sheet 3

SO<sub>2</sub> (cont.)

$$\left[ \frac{\text{ton}}{2000 \text{ lb}} \right] = 0.031 \frac{\text{tons SO}_2}{\text{yr} \cdot \text{tank}}$$

$$6 \text{ tanks} \cdot 0.031 \frac{\text{tons SO}_2}{\text{yr} \cdot \text{tank}} = 0.185 \frac{\text{tons SO}_2}{\text{yr}}$$

VOC

Assume (per EXHIBIT "A") -  $5.224 \times 10^{-5} \text{ lb / ft}^3$

Static

$$\frac{5.224 \times 10^{-5} \text{ lb VOC}}{\text{cft air}} \cdot \frac{492 \text{ cft air}}{710 \text{ dscft air}} \cdot \frac{28.2 \text{ dscft air}}{\text{min}}$$

$$\frac{60 \text{ min}}{\text{hr}} = 0.061 \frac{\text{lb VOC}}{\text{hr} \cdot \text{tank}}$$

Filling

$$\frac{5.224 \times 10^{-5} \text{ lb VOC}}{\text{cft air}} \cdot \frac{492 \text{ cft air}}{710 \text{ dscft air}} \cdot \frac{61.3 \text{ dscft air}}{\text{min}}$$

$$\frac{60 \text{ min}}{\text{hr}} = 0.133 \frac{\text{lb VOC}}{\text{hr} \cdot \text{tank}}$$

Total

$$\left[ \left( \frac{0.061 \text{ lb VOC}}{\text{hr}} \cdot \frac{7632 \text{ hr}}{\text{yr}} \right) + \left( \frac{0.133 \text{ lb VOC}}{\text{hr}} \cdot \frac{1128 \text{ hr}}{\text{yr}} \right) \right]$$

$$\left[ \frac{\text{ton}}{2000 \text{ lb}} \right] = 0.308 \frac{\text{ton VOC}}{\text{yr} \cdot \text{tank}}$$

$$6 \text{ tanks} \cdot 0.308 \frac{\text{ton VOC}}{\text{yr} \cdot \text{tank}} = 1.85 \frac{\text{tons VOC}}{\text{yr}}$$

EXHIBIT "B" Sheet 4

TSP

Addressed in Enviroplan Report  
submitted with application.

**PHASSEE**

**SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 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 additional service(s) requested.

1.  Show to whom delivered, date, and addressee's address. (Extra charge)      2.  Restricted Delivery (Extra charge)

<b>3. Article Addressed to:</b> Mr. S. M. Richards ThermoTank Terminals, Inc. P. O. Box 5046 Tampa, FL 33675-5046	<b>4. Article Number</b> P 938 762 578  <b>Type of Service:</b> <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
Always obtain signature of addressee or agent and <b>DATE DELIVERED</b> .	
<b>5. Signature - Addressee</b> <i>S. M. Richards</i>	<b>8. Addressee's Address (ONLY if requested and fee paid)</b>
<b>6. Signature - Agent</b> X	
<b>7. Date of Delivery</b> 6-2-89	

PS Form 3811, Mar. 1988      \* U.S.G.P.O. 1988-212-865      DOMESTIC RETURN RECEIPT

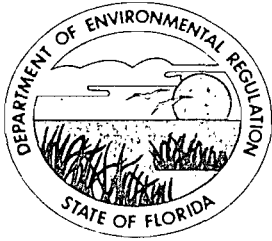
P 938 762 578

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

Sent to	
Mr. S. M. Richards, ThermoTank Terminals	
Street and No. P.O. Box 5046	
P.O., State and ZIP Code Tampa, FL 33675-5046	
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: 5-31-89 Permit: AC 29-164542	

PS Form 3800, June 1985





# Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachmann, Secretary

John Shearer, Assistant Secretary

May 31, 1989

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. S. M. Richards  
ThermoTank Terminals, Inc.  
P. O. Box 5046  
Tampa, Florida 33675-5046

Dear Mr. Richards:

Re: Pennzoil Sulfur Facility Permitting, AC 29-164542

The Department has received your application package dated May 2, 1989, and deemed it incomplete. Please submit the following information including all assumptions, calculations and reference material:

1. What is the typical capacity of the sulfur delivery vehicle(s)? What is the typical delivery frequency? Please estimate the expected emissions from the sulfur delivery vehicle(s) while it is at the Pennzoil facility.
2. Please submit air emission estimates for any other source/equipment/process within (or associated with) the sulfur facility which has not yet been permitted by DER.
3. Submit air emission estimates for all the air pollutants emitted by the sources in the sulfur facility.

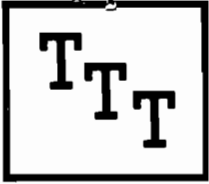
If you have any questions please call Pradeep Raval at (904) 488-1344 or write to me at the above address.

Sincerely,

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

CHF/PR

cc: I. Choronenko, HCEPC  
B. Thomas, SW District  
R. Schwenke, Esquire



ThermoTank Terminals, Inc.

RECEIVED  
DER - MAIL ROOM

May 2, 1989 1989 MAY -5 PM 3:36

State of Florida  
Department of Environmental Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Attention: Central Air Permitting Section

Gentlemen:

RECEIVED

MAY 8 1989

DER-BAQM

We attach hereto three (3) copies of the Application to Operate/Construct Air Pollution Sources for the molten sulphur terminal which we operate for Pennzoil Sulphur Company at Port Sutton, Tampa, Florida.

We also attach our check for Seven Hundred Fifty Dollars (\$750.00) to cover the process application fee.

We further attach copy of the report "Sulfur Particulate Emission Measurement Project at the Pennzoil Sulphur Company in Tampa, Florida" by Enviroplan, Inc. in October 1986.

Simultaneously, we are sending two (2) copies of the above application to the Hillsborough County Environmental Commission along with a check for the appropriate process fee of Three Hundred Fifty-five Dollars (\$355.00).

If you need additional information, please contact me at the address and/or telephone number below.

Yours very truly,

THERMOTANK TERMINALS, INC.

Stephen M. Richards  
President

Attachments

Copies to:

Hillsborough County Environmental Protection Commission  
Roger Schwenke, Esquire  
Michael S. Ishimoto  
J. Howard Thompson  
Richard E. Gray

SMR/jf

THERMOTANK TERMINALS, INC.

P. O. BOX 5046

TAMPA, FLORIDA 33675-5046



Florida National Bank

Corporate Banking  
100 S. Ashley Drive  
Tampa, FL 33602

841

No

6161

63-507  
631

May 2, 1989

PAY

THE SUM 750 DOLS 00 CTS

\$ 750.00

TO THE  
ORDER OF

State of Florida  
Department of Environmental Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

THIS CHECK IS IN FULL PAYMENT OF ALL ITEMS LISTED BELOW. PLEASE DETACH BEFORE DEPOSITING.

DATE	INVOICE NUMBER	AMOUNT	DISCOUNT	G/L ACCT. NO.	AMOUNT
May 2, 1989					
	For Application to Operate/Construct Air Pollution Sources for ThermoTank Terminals - Pennzoil			604	750.00

THERMOTANK TERMINALS, INC.

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

# 750 pd-  
5-5-89  
Receipt  
117614

AC 29 164542

SOUTHWEST DISTRICT  
4520 OAK FAIR BLVD.  
TAMPA, FLORIDA 33610-7347  
813-623-5561  
Suncom-552-7612



BOB MARTINEZ  
GOVERNOR  
DALE TWACHTMANN  
SECRETARY  
DR. RICHARD D. GARRITY  
DISTRICT MANAGER

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Molten Sulfur Terminal [ ] New<sup>1</sup> [X] Existing<sup>1</sup>  
APPLICATION TYPE: [X] Construction [X] Operation [ ] Modification  
COMPANY NAME: ThermoTank Terminals, Inc. - Pennzoil Terminal COUNTY: Hillsborough

Identify the specific emission point source(s) addressed in this application (i.e. Lime  
6 - Molten sulfur storage tanks (15,500 tons each tank)

SOURCE LOCATION: Street 4388 Pendola Point Road City Tampa, Fl 33619  
UTM: East 17-361.2 North 3086.9  
Latitude 27° 54' 10"N Longitude 82° 24' 38"W

APPLICANT NAME AND TITLE: Mr. Stephen M. Richards, President  
APPLICANT ADDRESS: P.O. Box 5046, Tampa, FL 33675

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative\* of ThermoTank Terminals, Inc.

I certify that the statements made in this application for a construction/operation 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: Stephen M Richards  
Mr. Stephen M. Richards, President  
Name and Title (Please Type)

Date: 2 May 1989 Telephone No. (813) 248-2074

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

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 Thomas E. Brumagin

Mr. Thomas E. Brumagin, P.E.

Central Florida Testing Laboratories, Inc.

1400 Starkey Road, Largo, FL 34641

Mailing Address (Please Type)

Florida Registration No. 31063 Date: 4/26/89 Telephone No. (813) 581-7019

SECTION II: GENERAL PROJECT INFORMATION

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

See attachment - Project Description

B. Schedule of project covered in this application (Construction Permit Application Only)  
Start of Construction N/A Already built Completion of Construction N/A

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.)  
Uncontrolled

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.  
Boilers are permitted under FDER permit No. A029-150918 issued 09-02-88 Expires 08-30-93

# ThermoTank Terminals, Inc.

## Pennzoil Terminal

### Project Description

This facility consists of a molten sulfur storage and handling facility at 4388 Pendola Point Road at Port Sutton in Hillsborough County, Florida. At the Pennzoil Terminal, molten sulfur is received by ship and pumped directly into six (6) 15,500 long ton heated storage tanks through a closed pipe system. In the storage tanks, the sulfur is maintained in a molten form at a temperature of 265°F to 270°F by a non-contact steam heating system. The boilers at this facility for the steam heating system are permitted separately under FDER permit No. A029-150918.

The sulfur particulate is emitted through the center roof vent of each tank. Each tank is also equipped with side vents that are kept closed by a counter-weighted damper valve, and only open to relieve an excessive pressure in the tank.

Sulfur is loaded out into trucks on the three (3) separate scales through a closed pipe system. The truck driver pulls onto one of the scales, hooks the truck to a ground wire then climbs on top of the truck to place the discharge pipe into the loading opening in the top of the tank. Once the pipe is placed into the opening in the tanker, it is secured by a safety chain to insure that it will not detach during loading. When the predetermined amount is loaded into the tanker, the pump shuts off automatically and the pipe is removed from the tank. A bucket is placed on the end of the pipe while it is still over the opening in the tanker to catch any drippings that may occur and loading pipe is secured to the discharge station of the terminal.

In the event that a spill occurs, most of the material is captured on the scale or in the scale pit where it is then cleaned up immediately. If some of the sulfur does spill onto the asphalt surface, it solidifies rapidly as it disperses due to the high surface area to volume ratio. This sulfur is also cleaned up promptly. The solidified sulfur cleaned up from spills is stored in a diked concrete spill material storage area and eventually sold as solid sulfur.

This facility will comply with FDER rules and regulations.

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ;  
 , hrs/yr 8760; if seasonal, describe: \_\_\_\_\_

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

1. Is this source in a non-attainment area for a particular pollutant? Yes  
a. If yes, has "offset" been applied? No  
b. If yes, has "Lowest Achievable Emission Rate" been applied? No  
c. If yes, list non-attainment pollutants. Ozone, Particulate
2. Does best available control technology (BACT) apply to this source?  
If yes, see Section VI. No
3. Does the State "Prevention of Significant Deterioration" (PSD)  
requirement apply to this source? If yes, see Sections VI and VII. No
4. Do "Standards of Performance for New Stationary Sources" (NSPS)  
apply to this source? No
5. Do "National Emission Standards for Hazardous Air Pollutants"  
(NESHAP) apply to this source? No
- H. Do "Reasonably Available Control Technology" (RACT) requirements apply  
to this source? No  
Exempt from RACT under FAC 17-2.650(2)(b)1. Limited by emission standards under Section  
a. If yes, for what pollutants? 17-2.600(11)(a) for Molten Sulfur Storage & Handling  
Facilities  
b. If yes, in addition to the information required in this form,  
any information requested in Rule 17-2.650 must be submitted.

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

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

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

Description	Contaminants		Average Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Molten Sulfur Truck Loading	Particulate	9.18 x 10 <sup>-5</sup>	392,000 *	C
Molten Sulfur Ship Unloading	Particulate	2.39 x 10 <sup>-5</sup>	4.54 x 10 <sup>6</sup>	A

\* Based on average daily rate of 4200 tons/day for truck load out

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

1. Total Process Input Rate (lbs/hr): 2000 long tons/hr ( during ship unloading )

2. Product Weight (lbs/hr): 175 long tons/hr ( truck loadout )

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

Total Emissions for six (6) - 17,360 ton (15,500 lb/tons) tanks [Designated as VT-1 to VT-6]

Name of Contaminant	Emission <sup>1</sup>		Allowed Emission Rate per Rule 17-2 *	Allowable Emission * (lbs/hr) opacity	Potential <sup>4</sup> Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate							
Normal Operation	0.36	1.37	Visible Emissions	10%	0.36	1.37	E
			0.03 lbs/hr per 10 <sup>3</sup> tons storage capacity	(3.12)			
Ship Unloading	1.09	0.61	Visible Emissions	15%	1.09	0.61	E
Facility Maximum	1.09	1.98		3.12	1.09	1.98	

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

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

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

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

\* Weight emission limiting standard is given for reference only. Each source at this facility is exempt from weight emission standards pursuant to FAC Section 17-2.600(11)(e)2.



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)
None				

E. Fuels - None (See Boiler Permit No. A029-150918)

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

\*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.

In general, there is no liquid wastes generated in this process. In the event that a spill occurs, most of the material is captured on the scale or in the scale pit where it is cleaned up immediately. If some of the sulfur does spill onto the asphalt surface, it solidifies rapidly as it disperses due to the high surface area to volume ratio. This sulfur is also cleaned up promptly. The solidified sulfur cleaned up from spills is stored in a diked concrete spill material storage area and eventually sold as solid sulfur.

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

Stack Height: 26 ft. Stack Diameter: 0.5 ft.  
 Normal Operation Gas Flow Rate: 37.9 ACFM 30.4 DSCFM Gas Exit Temperature: 190 °F.  
 Ship Unloading 113.4 ACFM 91.0 DSCFM Normal Operation Velocity: 3.2 FPS  
 Water Vapor Content: 1.2 % Ship Unloading: 9.6 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) <sup>3</sup>	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: \_\_\_\_\_ ft. Stack Diameter: \_\_\_\_\_ Stack Temp. \_\_\_\_\_

Gas Flow Rate: \_\_\_\_\_ ACFM \_\_\_\_\_ DSCFM\* Velocity: \_\_\_\_\_ FPS

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

Type of pollution control device:  Cyclone  Wet Scrubber  Afterburner  
 Other (specify) \_\_\_\_\_

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

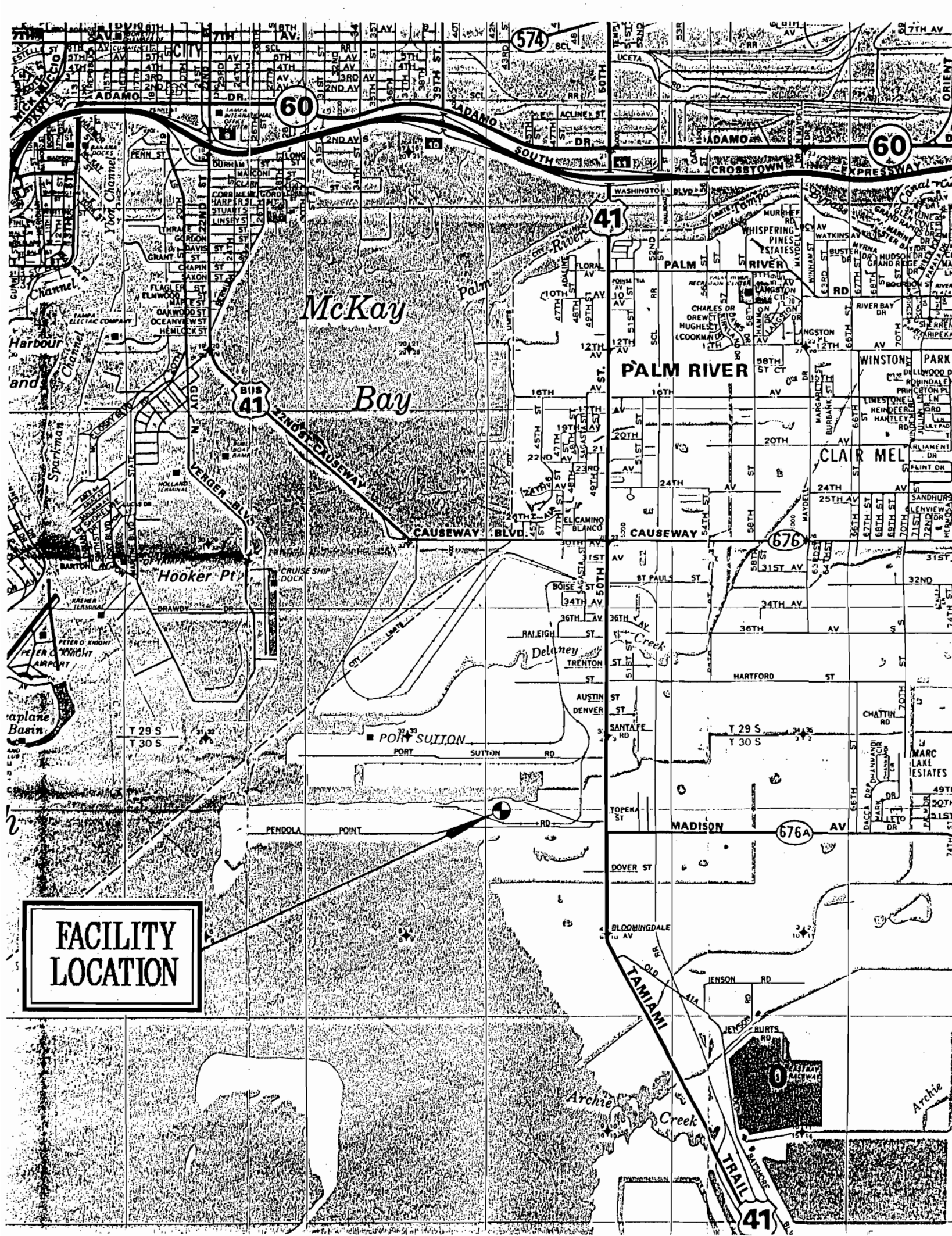
C. What emission levels do you propose as best available control technology?

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



**FACILITY  
LOCATION**

McKay  
Bay

PALM RIVER

CLAIR MEL

PORT SUTTON

MADISON

TAMIAMI

Archie  
Creek

41

60

57A

60

41

BUS 41

676

676A

T 29 S  
T 30 S

T 29 S  
T 30 S

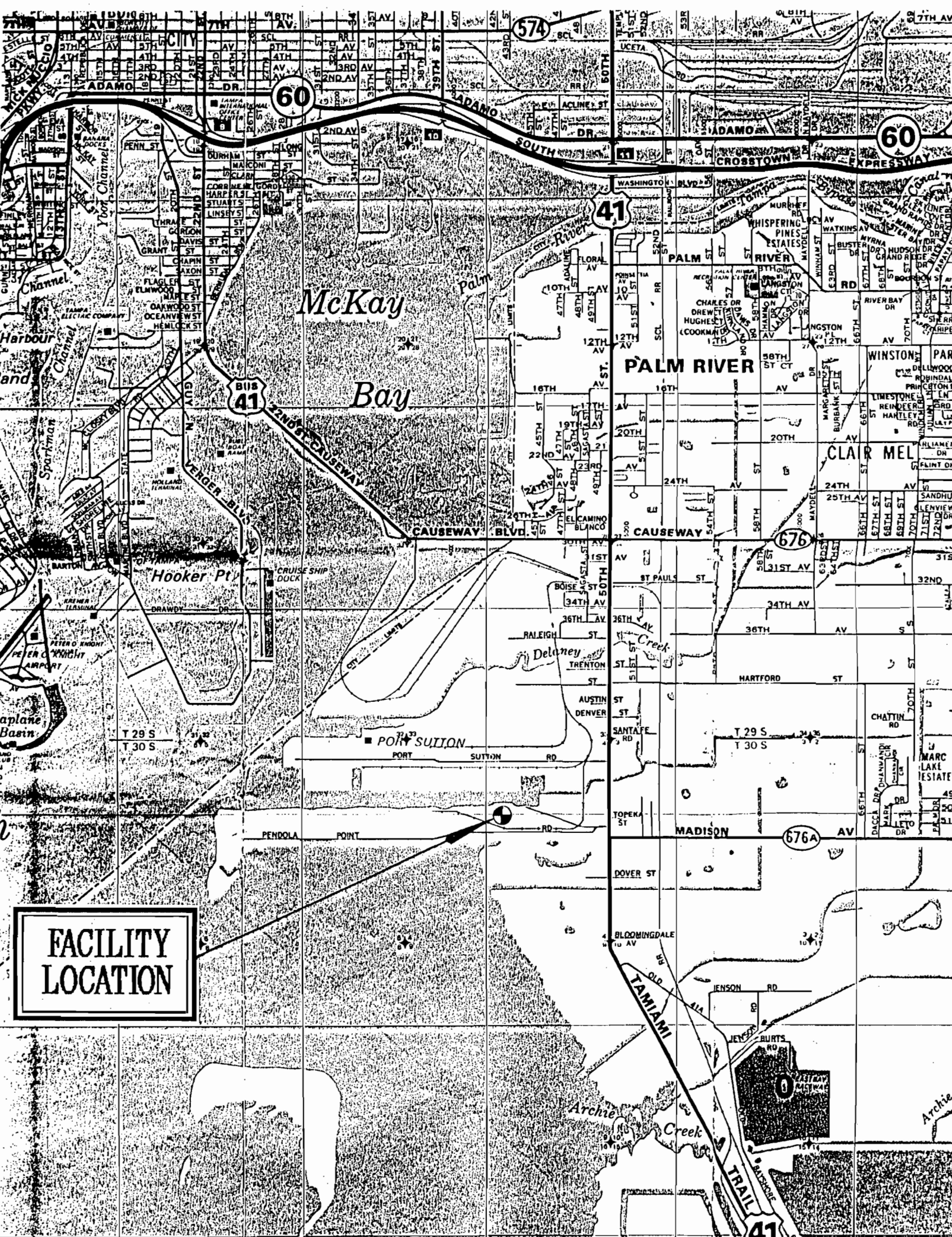
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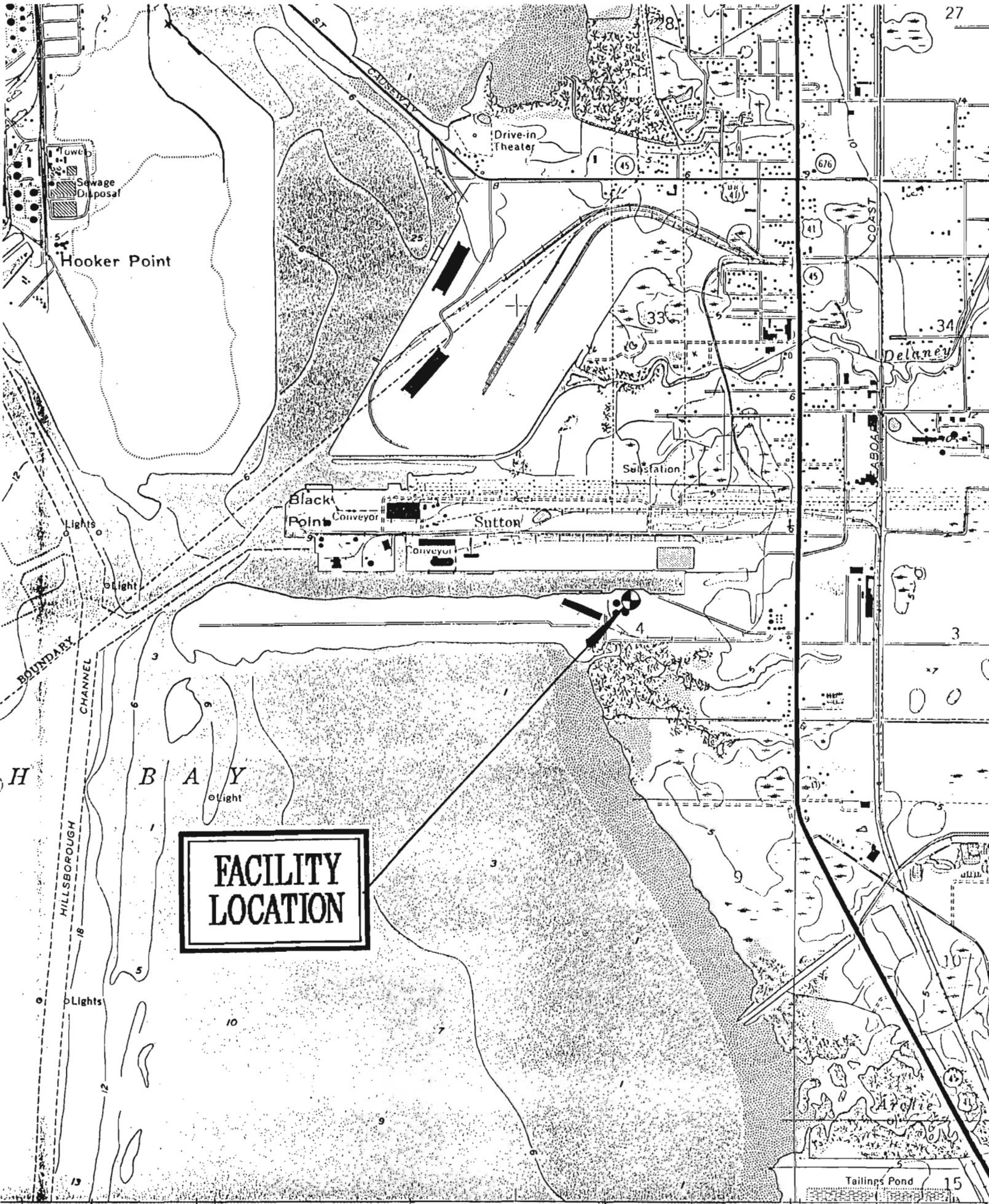
32

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32





**FACILITY  
LOCATION**

358 (GIBSONTON) 4539 IV SW 359 360 25' 361 362 363

SCALE 1:24 000

1 MILE

0 2000 3000 4000 5000 6000 7000 FEET

Best Available Copy

THERMOTANK TERMINALS, INC.

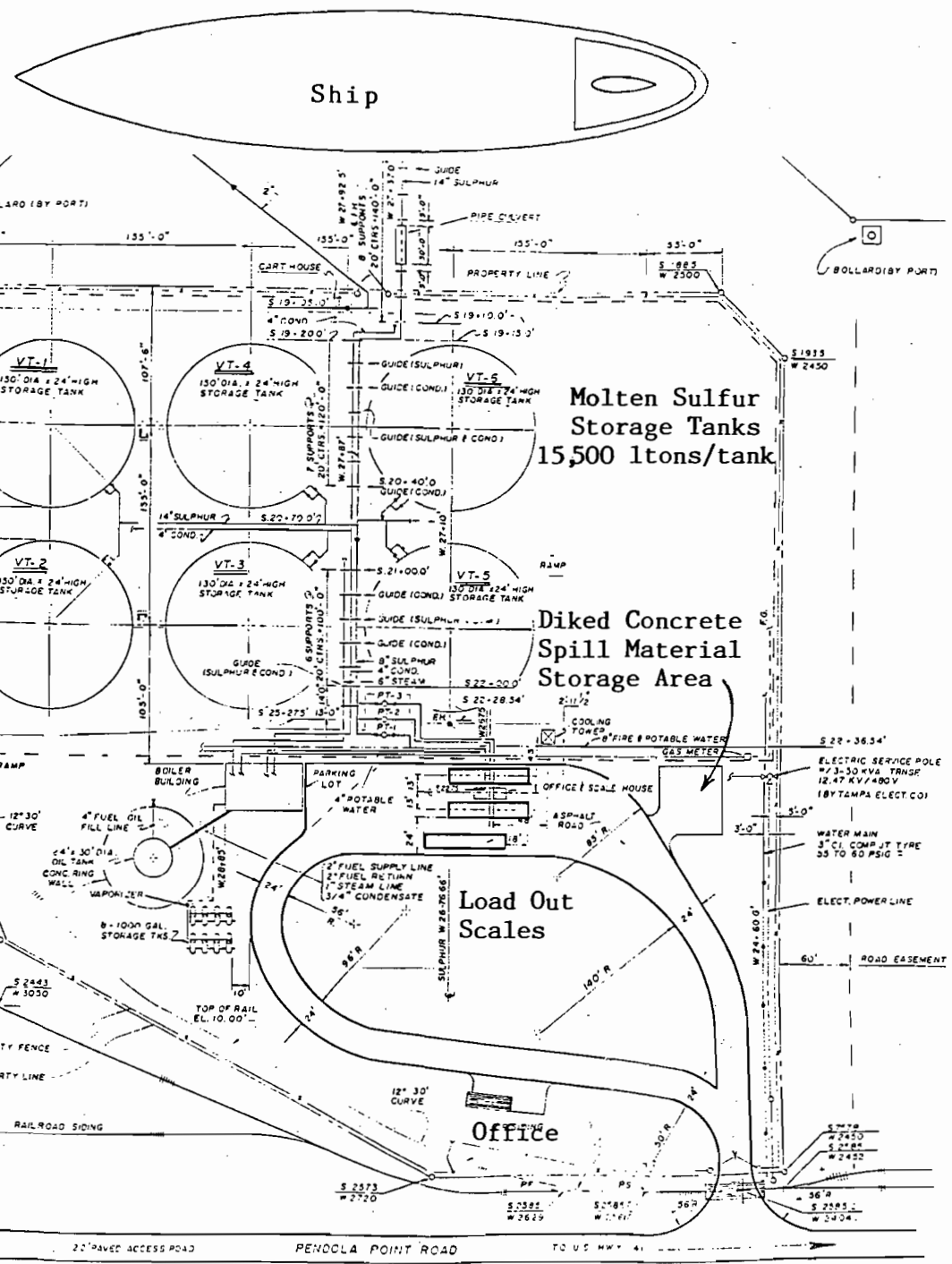
Pennzoil Terminal  
Site Plan



DESCRIPTION OF AN AREA LEASED TO DUVAL CORPORATION  
BY PORT SUTTON, INC.

beginning at the NE corner of Section 4, Township 30 South, Range 19 East, Hillsborough County, Florida, run South 1165 feet parallel to the East boundary of said Section 4; Thence run West 2,500 feet parallel to the North boundary of said Section 4 to the Point of beginning of the tract hereinbelow described; Thence continue West parallel to the North boundary of said Section 4, a distance of 670 feet; Thence run South parallel to the East boundary of said Section 4 a distance of 234 feet; Thence run South Southeastery a distance of 204.4 feet more or less to a point 2390 feet South and 3,055 feet West of the NE corner of said Section 4; Thence run East Southeastery a distance of 381.2 feet more or less to a point 2,573 feet South and 2,720 feet West of the NE corner of said Section 4; Thence run East parallel to the North boundary of said Section 4 a distance of 270 feet; Thence run North parallel to the East boundary of said Section 4 a distance of 625 feet; Thence run Northwestery a distance of 70.7 feet, more or less, to the Point of Beginning.

An area containing 9.8 ± acres.



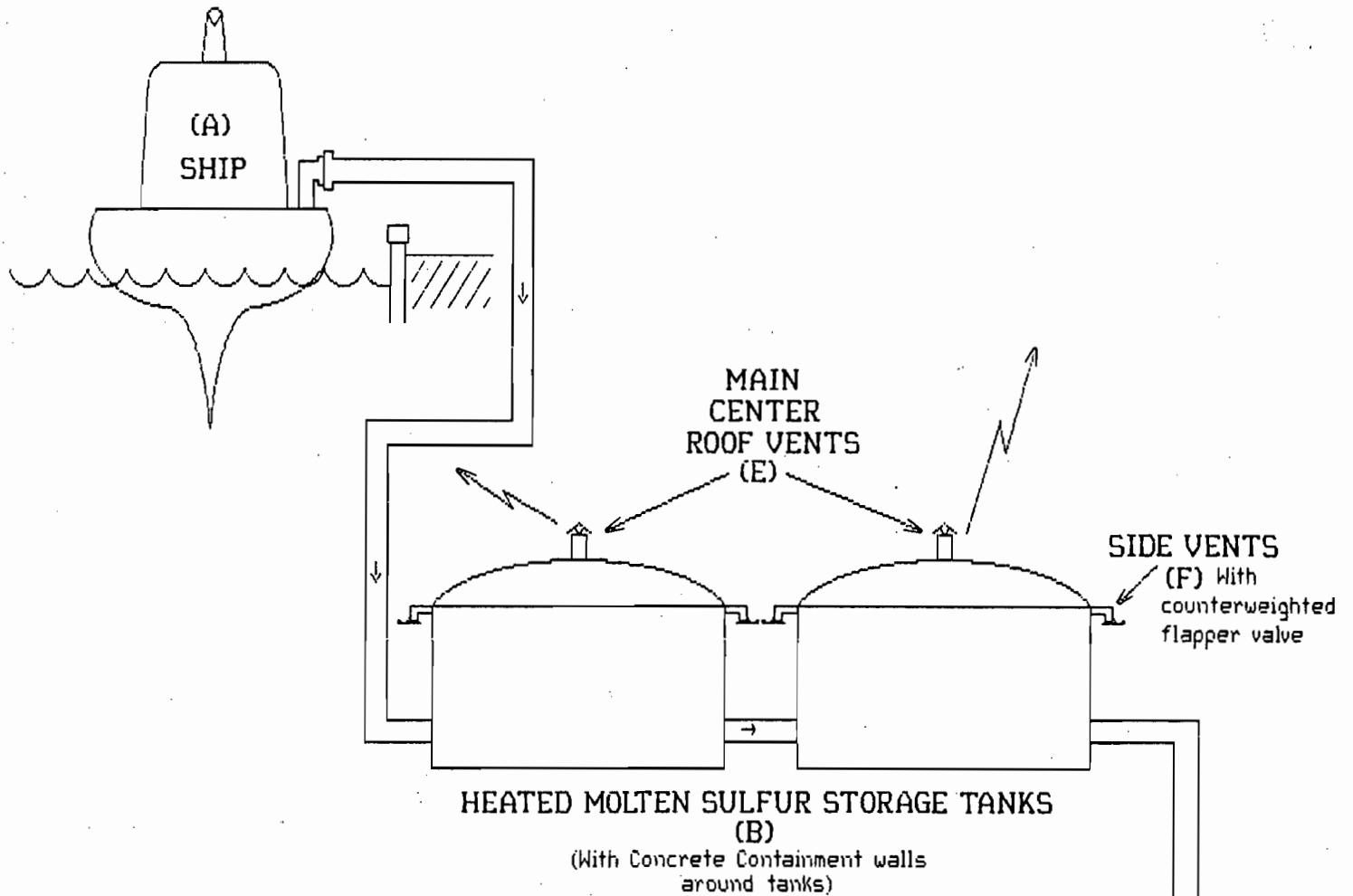
To US Hwy 41 →



THERMOTANK TERMINALS, INC.

Pennzoil Terminal

Flow Diagram



Note: Side vents are normally closed unless excessive pressure builds up in tank, then they will open automatically to relieve the excess pressure.



Sulfur Particulate Emission  
Measurement Project at the  
Pennzoil Terminals in Tampa,  
Florida

Prepared for:  
Pennzoil Sulphur Company

October 1986  
Ref. Nos. 4025-617  
4025-620



**ENVIROPLAN**

## 5. SUMMARY OF SAMPLING RESULTS

### 5.1 TEST RESULTS

The data collected during the five particulate measurement tests conducted at the Pennzoil storage tank are summarized in Table 1. This table gives the average wind speed, ambient temperature, total stack volume flow rate, stack outflow rate, stack temperature, total particulate sample, and particulate concentration for each test.

The total stack volume flow rates shown in Table 1 include both inflow and outflow, since the anemometer used to measure stack velocity does not indicate flow direction. For a single-vent storage tank to be in equilibrium, the dry standard cubic feet per minute (dscfm) of ambient air entering the vent must equal the dscfm of heated air containing sulfur particulate matter exiting the vent. This mass balance constraint requires that the tank outflow, or ventilation, rate be computed from the total measured flow rate according to the following formula:

$$F_{\text{out}} = F_{\text{total}} (1 + T_a/T_t)^{-1}$$

where

$F_{\text{out}}$  = tank outflow rate (dscfm)  
 $F_{\text{total}}$  = total measured tank flow rate (dscfm)  
 $T_a$  = ambient temperature ( $^{\circ}\text{R}$ )  
 $T_t$  = typical temperature inside the tank,  $700^{\circ}\text{R}$

For an ambient temperature of  $90^{\circ}\text{F}$ , or  $550^{\circ}\text{R}$ , the above expression predicts tank outflow rate to be 56% of the total absolute measured flow rate.

The data indicate that there is no direct relationship between the tank outflow rate and wind speed over a range of 7-15 mph, contrary to what has been observed for storage tanks having multiple peripheral vents. Estimated tank outflow rates range from 28.2 dscfm at 7 mph wind speed to 33.9 dscfm also at 7 mph. In addition, there is no apparent relationship between particulate concentration and wind speed, suggesting that there is no dilution effect for this tank. Particulate concentrations range from 0.0114-0.0169 g/dscf (i.e.,  $2.51 \times 10^{-5}$  -  $3.73 \times 10^{-5}$  lb/dscf).

Table 2 presents the estimated hourly and annual sulfur particulate emission rates for these tests.

Hourly emission rates for normal tank operation (i.e., when the tank is not being filled) were computed as the measured particulate concentration times the estimated tank outflow rate. Annual emission rates for normal tank operation were computed as the product of the hourly emission rate and the number of hours in a year when the tank was not being filled (see below).

During storage tank filling from the ship, there are additional particulate emissions due to the rapid displacement of vapor within the tanks. Hourly emission rates due to tank filling were estimated as the product of the particulate concentration times a typical volumetric rate of liquid sulfur discharge from the ship into the tank. This volumetric discharge rate was computed as the annual facility-wide sulfur throughput divided by the density of liquid sulfur (i.e., 112 lb/ft<sup>3</sup>) and the number of hours during the year the tank was being filled. Data from 1980, a year of high sulfur throughput for the Pennzoil facility, was used. During 1980 the annual facility-wide sulfur throughput was  $1.533 \times 10^6$  LT (i.e.,  $2.555 \times 10^5$  LT per tank) and the number of hours of tank filling was approximately 1128 (based on 94 ship

deliveries and 12 hours per delivery), resulting in an estimated volumetric discharge rate of 75.5 acfm per tank. Annual emissions during tank filling were computed as the hourly emission rate times the number of hours of tank filling during the year, 1128.

The hourly particulate emission rates under normal tank operation ranged from 0.051-0.072 lb/hr, as indicated in Table 2. Estimated emission rates during tank filling range from 0.143-0.209 lb/hr. Total annual particulate emission rates range from 0.276-0.393 tons per year. These results show that the Pennzoil liquid sulfur storage tanks clearly comply with the hourly particulate emission standard (i.e., 0.03 lbs/hr per thousand long tons of storage capacity, or 0.45 lb/hr for a 15,000 LT tank) and the 1.0 ton per year exemption limit as specified in the Florida Sulfur Storage and Handling Rule. These tanks, therefore, would not be subject to any emission limitations under this rule.

TABLE 1: SUMMARY OF DATA COLLECTED DURING THE PARTICULATE EMISSIONS TESTS AT THE PENNZOIL STORAGE TANK

<u>Test</u>	<u>Avg. Wind Speed (mph)</u>	<u>Ambient Temperature (°F)</u>	<u>Stack Volume Flow Rate (dscfm)</u>	<u>Stack Outflow Rate (dscfm)</u>	<u>Stack Temperature (°F)</u>	<u>Total Particulate Sample (mg)</u>	<u>Particulate Concentration (g/dscf)</u>
1(a)	7	90	50.4	28.2	189.9	203.3	0.0151
2(a)	7	76	59.8	33.9	186.5	192.7	0.0114
3(a)	5	88	52.2	29.3	185.4	200.0	0.0160
4(b)	8	89	50.6	28.4	190.4	-	-
5(c)	15	84	57.3	32.2	195.7	228.8	0.0169

Note to Table 1:

- (a) In tests 1-3, Florida DER Method 5 was used, as described in Subsection 4.2.
- (b) The test 4 sample was collected using Florida DER Method 5 and chemically analyzed as described in Subsection 4.4. Analysis results were inconclusive.
- (c) U.S. EPA Method 5 was used in test 5.

**TABLE 2: HOURLY AND ANNUAL PARTICULATE EMISSION RATES FOR THE PENNZOIL STORAGE TANK**

<u>Test</u>	<u>Hourly Emission Rates (lb/hr)</u>		<u>Annual Emission Rate (tons/yr)</u>		
	<u>Normal Operation</u>	<u>Tank Filling</u>	<u>Normal Operation</u>	<u>Tank Filling</u>	<u>Total</u>
1	0.056	0.178	0.214	0.100	0.314
2	0.051	0.143	0.195	0.081	0.276
3	0.062	0.192	0.237	0.108	0.345
4 (a)	-	-	-	-	-
5	0.072	0.209	0.275	0.118	0.393
Average	0.060	0.181	0.230	0.102	0.332

Note to Table 2:

(a) No estimates of emission rate for test 4 can be made.



ThermoTank Terminals, Inc.

Pennzoil Terminal

Calculation of Particulate Emissions

The following particulate emission calculations are based on the particulate emissions sampling test that was conducted at this facility on June 17 & 18, 1986 by Enviroplan, Inc. of West Orange, New Jersey.

**During Normal Operation: (Truck Loadout)**

$$(0.060 \text{ lb/hr/tank}) (6 \text{ tanks}) = 0.36 \text{ lb/hr}$$

$$\frac{(0.36 \text{ lb/hr})(8760 \text{ hours}-1128 \text{ ship unloading hours})}{(2000 \text{ lb/ton})} = 1.37 \text{ tons/year}$$

**During Ship Unloading:**

$$(0.181 \text{ lb/hour/tank}) (6 \text{ tanks}) = 1.09 \text{ lb/hour}$$

$$\frac{(1.09 \text{ lb/hr}) (94 \text{ ships}) (12 \text{ hr/ship})}{(2000 \text{ lb/ton})} = 0.61 \text{ tons/year}$$

**Total Particulate Emissions:**

$$(1.37 \text{ tons/year}) + (0.61 \text{ tons/year}) = 1.98 \text{ tons/year}$$

FFF

**BEST AVAILABLE COPY**

**ThermoTank Terminals, Inc.**  
**P. O. Box 5046**  
**Tampa, Florida 33675-5046**



State of Florida  
Department of Environmental Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Attention Central Air Permitting Section

**CERTIFIED**

P 028 683 894

**MAIL**

RETURN RECEIPT REQUESTED