Check Sheet

Company Name: INTERNATIONAL PETROLEUM SPECIALTIES, INC
Permit Number: AC 16-182508
PSD Number:
Permit Engineer:

Application:

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

Cross References:

- [ ]
- [ ]
- [ ]

Intent:

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

Correspondence with:

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

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

Final Determination:

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

PERMIT WAS DENIED

Post Permit Correspondence:

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

P 617 884 137

Certified Mail Receipt
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to: Kurt F. Hollfelder	
Street & No.: Int'l Petrol. Spec.	
P.O., State & ZIP Code: Jax, Fl	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	$
Postmark or Date: 1-15-92 AE 16-182508	

PS Form **3800**, June 1990

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece next to the article number.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Kurt F. Hollfelder, Sec.-Treas.
Int'l Petroleum Spec. Inc.
1859 E. Adam St.
Jacksonville, Fl 32202

4a. Article Number: P 617 884 137

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery: 1-17-92

5. Signature (Addressee)

6. Signature (Agent): Vicki Carden

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

PS Form **3811**, October 1990 ☆U.S. GPO: 1990—273-861 **DOMESTIC RETURN RECEIPT**

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Application for Permit by:

DER File No. AC 16-182508

Mr. Kurt F. Hollfelder, Secretary-Treasurer
International Petroleum Specialties, Inc.
1859 East Adam Street
Jacksonville, Florida 32202

NOTICE OF PERMIT DENIAL

The applicant, International Petroleum Specialties, Inc., 1859 East Adam Street, Jacksonville, Florida 32202, applied on June 19, 1990, to the Department of Environmental Regulation for a permit to construct (modify) a mobile soil remediation unit for operation throughout Florida.

The Department has permitting jurisdiction under Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that air construction permits are required for the proposed work.

The Department hereby denies the permit for the following reason:

1. Failure to publish the "Intent to Issue" and submit proof of the publication to the Department.

Without a satisfactory response, the Department does not have reasonable assurance that the proposed project will comply with F.A.C. Chapter 17-2.

A person whose substantial interests are affected by the Department's permit denial 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 notice. 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 application(s) have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this notice in the Office 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.

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

Any party to this Notice of Permit Denial has the right to seek judicial review 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 with

the appropriate District Court of Appeal. Notice of Appeal must be filed within 30 days from the date the Notice of Permit Denial is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Carol M. Browner

Carol M. Browner, Secretary

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk herby certifies that this Notice of Permit Denial and all copies were mailed before the close of business on 1-15-92 to the listed persons.

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

Kari Dober 1-15-92

Clerk Date

Copies furnished to:
Douglas Carvel, P.E.

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: Carol M. Browner

FROM: Steve Smallwood

DATE: January 10, 1992

SUBJ: Denial of a Permit to Construct
International Petroleum Specialties, Inc.

Attached for your approval and signature is an order that will deny a permit to construct a mobile soil remediation unit to operate throughout Florida. The Bureau of Air Regulation is recommending the permit be denied because the applicant did not submit proof of publication of the Intent to Issue the permit.

SS/WH/plm

Attachment: Order
DER October 14, 1991, letter

P 617 884 173

Certified Mail Receipt

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to Kurt J. Hollfelder	
Street & No. Int'l Petrol. Spec., Inc	
P.O., State & ZIP Code Jax, Fl	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	$
Postmark or Date 10-14-91 AC 16-182508	

PS Form **3800**, June 1990

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece next to the article number.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Mr. Kurt J. Hollfelder
International Petroleum Specialities, Inc.
1059 E. Adams St.
Jacksonville, Fl 32202

4a. Article Number P 617 884 173

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery 10-15-91

5. Signature (Addressee)

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

6. Signature (Agent)
W. Usery

PS Form **3811**, October 1990 ☆U.S. GPO: 1990—273-861 **DOMESTIC RETURN RECEIPT**

Florida Department of Environmental Regulation

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

Lawton Chiles, Governor

Carol M. Browner, Secretary

October 14, 1991

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Kurt F. Hollfelder, Secretary-Treasurer
International Petroleum Specialties, Inc.
1859 East Adam Street
Jacksonville, Florida 32202

Dear Mr. Hollfelder:

Re: File No. AC 16-182508

On January 14, 1991, the Bureau of Air Regulation distributed the Technical Evaluation and Preliminary Determination and draft construction permits for the statewide operation of your soil remediation units.

As stated in the "Intent to Issue", the applicant is required to publish the "Notice of Intent" within 30 days of receipt of the "Intent to Issue." As of this date, the Bureau has not received certified proof that the "Notice of Intent" has been published in any newspaper.

Please let us know if you plan to pursue obtaining statewide permits for these soil remediation units. If you do not respond to this letter within 30 days of receipt, the Bureau will assume you have changed your plans to obtain statewide permits and will recommend denial of your request for the permits.

If you have any questions on this matter, please write to me or call Willard Hanks, review engineer, at (904) 488-1344.

Sincerely,

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

CHF/WH/plm

P 407 852 922

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NDT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Kurt Hollfelder	
Street and No. Internat'l Petroleum	
P.O., State and ZIP Code 1859 E. Adam St Jax, Fl	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date 1-14-91 AC16-182508	

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

● **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. Kurt F. Hollfelder
Internat'l Petroleum Corp
1859 E Adam St.
Jacksonville, FL 32202

4. Article Number P 407 852 922

Type of Service:
- ☐ Registered
- ☐ Insured
- ☒ Certified
- ☐ COD
- ☐ Express Mail
- ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X

6. Signature — Agent
X 1-15-91

7. Date of Delivery 1-15-91

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

PS Form 3811, Apr. 1989 ★U.S.G.P.O. 1989-238-815 DOMESTIC RETURN RECEIPT

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

January 11, 1991

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Kurt F. Hollfelder, Secretary-Treasurer
International Petroleum Specialties, Inc.
1859 East Adam Street
Jacksonville, Florida 32202

Dear Mr. Hollfelder:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permit to construct an 87.5 TPH mobile soil remediation unit.

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

Sincerely,

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

CHF/WH/plm

Attachments

c: Don Ehlenbeck, BWC
District Air Program Administrators
County Air Program Administrators
Douglas Carvel, P.E.

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Application for Permits by:

International Petroleum Specialties, Inc.
1859 East Adam Street
Jacksonville, Florida 32202

DER File No. AC 16-182508

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its intent to issue an air construction 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, International Petroleum Specialties, Inc., applied on April 30, 1990, to the Department of Environmental Regulation for a permit to construct an 87.5 TPH mobile soil remediation unit for operation throughout Florida.

The Department has permitting jurisdiction under Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that air construction permits are 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 Permits. 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 permits.

The Department will issue the permits 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 applications 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:

c: Don Ehlenbeck, BWC
District Air Program Administrators
County Air Program Administrators
Douglas Carvel, 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 1-14-91.

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.

Kim Doker
Clerk

1-14-91
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 (AC 16-182508) to International Petroleum Specialties, Inc., 1859 East Adam Street, Jacksonville, Florida 32202, to construct an 87.5 TPH mobile soil remediation unit which will control air pollutant emissions with a baghouse and afterburner. The unit may operate in any county that this notice is published in. Best Available Control Technology (BACT) and Lowest Achievable Emission Rate (LAER) determinations were not required. The unit may emit 7.6 lbs/hr (33.2 TPY) particulate matter, 18.9 lbs/hr (82.7 TPY) sulfur dioxide, 21.0 lbs/hr (91.7 TPY) volatile organic compounds, 11.9 lbs/hr (51.9 TPY) nitrogen oxides, and 3.0 lbs/hr (13.1 TPY) carbon monoxide. These emissions will not cause a violation of any ambient air quality standard or Prevention of Significant Deterioration (PSD) increment or create a health hazard. 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 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 applications 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 applications are available for public inspection during business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the Department of Environmental Regulation offices located at:

2600 Blair Stone Road, Tallahassee, Florida 32399-2400
160 Governmental Center, Pensacola, Florida 32501-5794
4520 Oak Fair Boulevard, Tampa, Florida 33610-7347
2269 Bay Street, Ft. Myers, Florida 33901-2896
7825 Baymeadows Way, Suite B200, Jacksonville, FL 32256-7577
1900 S. Congress Avenue, Suite A, West Palm Beach, FL 33406

and County environmental offices located at:

621 South Andrews Avenue, Ft. Lauderdale, Florida 33310
801 S.W. 3rd Avenue, 2nd Floor, Miami, Florida 33130
421 West Church Street, Suite 412, Jacksonville, FL 32202
1410 North 21st Street, Tampa, Florida 33605
901 E. Evernia Street, West Palm Beach, Florida 33402
315 Court Street, Clearwater, Florida 34616
1301 Cattleman Road, Sarasota, Florida 33582-9631
2002 E. Michigan Avenue, Orlando, Florida 32806

Any person may send written comments on the proposed action to Mr. Barry Andrews 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

International Petroleum Specialties, Inc.
Jacksonville, Duval County, Florida

87.5 TPH Mobile Soil Remediation Unit
Statewide Operation

File No.	Unit
AC 16-182508	SRU-2001H

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

January 11, 1991

I. General Information

A. Applicant

International Petroleum Specialties, Inc.
1859 East Adams Street
Jacksonville, Florida 32202

B. Request

On April 30, 1990, International Petroleum Specialties, Inc. submitted an incomplete application for a permit to construct an 87.5 TPH mobile soil remediation unit (rotary kiln with a baghouse and afterburner) which would be operated throughout the state. The application was considered complete on November 7, 1990, when the Department received the revised emissions calculations for the proposed unit.

C. Project

The applicant is requesting permission to construct an 87.5 TPH mobile soil remediation unit (SIC 1629) for operation throughout the state. The unit contains a portable belt feed-in system with hopper, a rotary kiln (10 feet diameter by 40 feet long) with a 76 MMBtu/hr burner, a screw auger with a water spray system, four high efficiency cyclone separators, an afterburner (10.5 feet diameter by 60 feet long) with a 60 MMBtu/hr burner, a cooling/spray tower, a baghouse, a rectangular shaped stack (4.1 feet x 2.5 feet) that is 20 feet high, propane and No. 2 oil fuel systems, and associated equipment. The unit is to be used to decontaminate soils containing virgin petroleum products (fuels and lubricants) and "on-spec" used oil (motor oils).

D. Emissions

The unit will emit particulate matter (PM), including lead compounds, volatile organic compounds (VOC), and the products of combustion (SO_2, NO_x, and CO).

A 99.9% efficient baghouse will be used to control PM emissions. The baghouse will meet the particulate matter emissions standard of 0.08 grain/dscf corrected to 50% excess air (F.A.C. Rule 17-2.600(1)(c)1.) that the Department will impose on this unit. Approximately 29,520 dscfm flow through the baghouse and afterburner resulting in an estimated PM emission of up to 7.6 lbs/hr. As the unit will be allowed to operate continuously, the maximum PM emissions will be 33.2 TPY.

The VOC evaporates from the contaminated soil in the kiln and passes through the cyclone to the afterburner. The applicant estimates that up to 2100 lbs/hr of VOC will enter the afterburner and, after 99% destruction, 21 lbs/hr of VOC will be

discharged to the atmosphere. Based on 8,736 hrs/yr operation, this is equivalent to 91.7 TPY VOC emissions. After leaving the afterburner, the gases pass through a cooling tower and baghouse before being discharged to the atmosphere.

Low sulfur (0.35%) No. 2 oil and propane are the proposed fuels for this unit. The maximum heat input to the rotary kiln/afterburner system is 136.5 MMBtu/hr (996.4 GPH No. 2 oil or 1581.4 GPH propane). Maximum emissions from this fuel and the hydrocarbons destroyed in the afterburner are estimated to be 18.9 lbs/hr (82.7 TPY) SO_2, 11.9 lbs/hr (51.9 TPY) NO_x, and 3.0 lbs/hr (13.1 TPY) CO.

Reasonable precautions will be required to control the unconfined emissions from the decontaminated soil. This will involve wetting the dried material, covering storage piles, and hauling of the material in covered trucks.

At the low emission rates proposed, there should be no visible emissions from this source.

II. Rule Applicability

The proposed project, construction and operation of an 87.5 TPH portable rotary kiln/afterburner system, is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2, Florida Administrative Code.

The source may be operated in areas designated nonattainment for particulate matter, ozone, and sulfur dioxide (F.A.C. Rule 17-2.410), unclassifiable for particulate matter and sulfur dioxide (F.A.C. Rule 17-2.430), attainment for all criteria pollutants (F.A.C. Rule 17-2.420), and maintenance for ozone (F.A.C. Rule 17-2.460).

The unit is a minor source (F.A.C Rule 17-2.100) because emissions of any single pollutant are less than 100 TPY. The proposed source is not subject to the preconstruction review requirements of F.A.C. Rule 17-2.500(5) and F.A.C. Rule 17-2.510(4) because permit restrictions will prohibit the unit from emitting 100 TPY of any pollutant. Should the unit violate this restriction, it could become retroactively subject to other regulations.

The source is subject to F.A.C. Rule 17-2.520, which pertains to sources not subject to PSD or nonattainment review. The units are classified as incinerators. Allowable particulate matter emissions are limited to 0.08 grains/dscf corrected to 50% excess air (F.A.C. Rule 17-2.600(1)(c)1.). Chapter 17-2, F.A.C., does not have an applicable RACT standard for particulate matter, sulfur dioxide or volatile organic compounds (VOC) that would apply to this source. Organic (VOC) emissions will be regulated under F.A.C. Rule 17-2.620, General Pollutant Emission Limiting Standards, which restricts emissions to control by systems deemed

necessary by the Department. The Department deems 95% destruction of the VOC air pollutants is a minimum standard for this unit. The discharge of pollutants shall not cause an objectionable odor or an exceedance of an acceptable ambient air concentration (AAC) or risk for toxic pollutants.

Prior to issuance of the proposed construction permit, the applicant must provide the Department's Bureau of Air Regulation with a list of all counties that the soil remediation unit will be operated in and certified proof of publication of the Notice of Intent from a newspaper of general circulation in each county on the list (F.A.C. Rule 17-2.220).

III. Technical Evaluation

This unit is restricted to processing soils contaminated with only virgin petroleum products (fuels and lubricants) and "on-spec" used oils (motor oils) unless prior approval is obtained to treat other material. They cannot be authorized to treat hazardous material as defined in 40 CFR 261.3 (revised as of July 1, 1988) nor materials that are corrosive, reactive, EP toxic or ignitable.

Chapter 17-775, F.A.C., Soil Thermal Treatment Facilities, regulates some aspects pertaining to the operation of this source. Some of these requirements are incorporated in the air permits. They include soil sampling specifications and pretreatment soil analysis. Also, requirements that the soil be stored on an impermeable surface or liner (to prevent contamination of other soils or water) and covered with a secured plastic cover until treatment (to minimize fugitive emissions) is included in the proposed permit.

Up to 87.5 TPH contaminated soil must be reduced to clumps that are a maximum of 2 inches in diameter prior to being fed into the kiln. The soil is heated in the kiln to evaporate the petroleum products. These vapors flow through a cyclone system, which removes some of the particulate matter, into the proposed 99% (minimum) destruction efficiency afterburner to burn the petroleum vapors and then through a spray/cooling tower and baghouse to cool and remove the remaining particulate matter from the flue gases. The afterburner has a design temperature of 2000°F and a residence time of 2 seconds. Higher temperatures and/or residence time may be needed to achieve this destruction efficiency. The minimum allowable afterburner temperature will be based on the compliance test results and included in any permit to operate issued for these sources.

At an allowable particulate matter standard of 0.08 gr/dscf corrected to 50% excess air (EA) and a flow of 29,520 dscfm @ 50% EA, the unit would emit 20 lbs/hr. The proposed permits will limit particulate matter emissions to 7.6 lbs/hr as shown in the application.

With 87.5 TPH of soil containing 1.2% hydrocarbons being processed, the VOC emissions from the 99% efficient afterburner are estimated to be 21 lbs/hr. At 95% destruction efficiency (BAR policy) the unit would be a major source of VOC.

The guidance used by the Department to determine acceptable ambient concentrations (AAC) of hazardous pollutants is based on the following formula:

$$\text{acceptable ambient concentration (AAC)} = \frac{40}{\text{(hrs per week operation)}} \times \frac{1 \times (\text{OEL})}{\text{Safety factor}}$$

The safety factors are 100 for category A substances and 50 for category B substances.

OEL - Occupational Exposure Level such as the TWA-TLV published by the ACGIH, OSHA, and NIOSH published standards for toxic materials.

TWA-TLV values are published by the American Conference of Governmental Industrial Hygienists (ACGIH). The values for the pollutants expected to be encountered in the proposed operation are as follows:

Pollutant	OEL mg/m^3	AAC (24 hr/day operation) mg/m^3
Benzene	3	0.0071
Toluene	375	1.786
Ethyl Benzene	435	1.036
Xylene	435	1.036

Calculations, using the EPA approved Screen - 1.1 Model (updated PTPLU6 Model) and the stack parameters listed in the applications, show that an emission rate of 1 gram/sec will have maximum ambient air impacts of 7×10^{-3} mg/m^3 (8 hr. avg.).

If the stack parameters change from 20 feet stack height, 3.6 feet equivalent stack diameter, 144 feet/second stack gas velocity, and 350°F stack gas temperature, the impact of the emission will change. The model would need to be rerun with the correct parameters and the following calculations repeated.

The maximum emissions that can occur without exceeding the AAC can be determined by the following relationship:

AAC = Impact of Unit x Emissions.

With this relationship and data, the Department can estimate the maximum emissions of a pollutant from the proposed units that can occur without exceeding the AAC. Also, by knowing the process weight for the unit (87.5 TPH), assuming all VOC in

the contaminated soil is evaporated in the kiln, and that 99% of this VOC is destroyed by the system, the maximum content of the pollutants in the soil that can exist without the potential to exceed the AAC can be determined. The Department has made these calculations for benzene. The results are summarized in the following table:

Pollutant	Maximum Emissions grams/second	lbs/hr	Maximum Soil Concentration PPM
Benzene	1.0	7.9	4,531

Using a similar procedure, it can be shown that the maximum VOC content of the untreated soil cannot exceed 12,000 PPM when the emissions are 21 lbs/hr VOC.

The Department has chosen to regulate benzene and total VOC only for soils contaminated with virgin petroleum products and "on-spec" used oil. For soil contaminated with other petroleum product components and derivatives, the applicant will be required to submit calculations showing the AAC or other concentrations required to protect public health and safety will not be exceeded before the soil can be treated in this unit.

IV. Air Quality Analysis

By restricting the benzene and VOC content of the soil, the Department has reasonable assurance that the operation of the portable rotary kiln/afterburner system will not create a health hazard or cause/contribute to an ambient air quality violation.

V. Conclusion

Based on the information provided by International Petroleum Specialties, Inc, the Department has reasonable assurance that the proposed construction/operation of the 87.5 TPH portable rotary kiln/afterburner system, 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.

BARRY D. ANDREWS CERTIFICATE NO. 35024 STATE OF FLORIDA REGISTERED ENGINEER

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:
International Petroleum
Specialties, Inc.
1859 East Adams Street
Jacksonville, FL 32202

Permit Number: AC 16-182508
Expiration Date: December 31, 1991
County: Mobile Operation*
Project: 87.5 TPH Mobile Soil Remediation Unit SRU-2001H

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:

Authorization to construct an 87.5 TPH mobile soil remediation unit. The unit consists of a portable belt feed-in system with hopper, a rotary kiln (10 feet diameter by 40 feet long) with a 76 MMBtu/hr burner, a screw auger with a water spray system, four high efficiency cyclone separators, an afterburner (10.5 feet diameter by 60 feet long) with a 60 MMBtu/hr burner, a cooling/spray tower, a baghouse, propane and No. 2 oil fuel systems, and associated equipment. The unit is equipped with a stack (4.1 feet by 2.5 feet and 20 feet high) that discharges approximately 86,425 acfm at 350°F to the atmosphere.

*The unit may be used throughout the State (all counties) after receiving Department authorization to operate at a new location.

The unit 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. Application received April 30, 1990.
2. DER letter dated June 26, 1990.
3. Revised emission calculations received November 7, 1990.

PERMITTEE:
International Petroleum Specialties, Inc.

Permit Number: AC 16-182508
Expiration Date: December 31, 1991

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

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

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in 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, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

GENERAL CONDITIONS:

6. The permittee shall 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 and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

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

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

c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

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

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

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

b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

GENERAL CONDITIONS:

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

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

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

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

GENERAL CONDITIONS:

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

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates 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 corrected promptly.

SPECIFIC CONDITIONS:

Construction Requirements

1. The construction of this facility shall reasonably conform to the plans and schedule submitted in the application.

2. The stack sampling facilities must comply with F.A.C. Rule 17-2.700(4).

3. The afterburner shall be capable of operating above 2000°F with a 2 second retention time and have a minimum VOC destruction efficiency of 99%.

PERMITTEE:
International Petroleum
Specialties, Inc.

Permit Number: AC 16-182508
Expiration Date: December 31, 1991

SPECIFIC CONDITIONS:

Emission Restrictions

4. Particulate matter emissions from this unit shall neither exceed 0.08 grains/dscf corrected to 50% excess air nor 7.6 lbs/hr. Visible emissions from any part of the unit shall not exceed 5% opacity.

5. Benzene emissions shall not exceed 7.9 lbs/hr. Total VOC emissions shall not exceed 21 lbs/hr. Compliance shall be determined from soil analysis, production rate, and the system destruction efficiency.

6. The operation of this unit shall not result in the emissions of air pollutants which cause or contribute to an objectionable odor pursuant to F.A.C. Rule 17-2.600(c)2.

Operation Requirements

7. The unit shall be properly operated and maintained (F.A.C. Rule 17-2.210(2)). No person shall circumvent any pollution control device or allow the emissions of air pollutants without the applicable air pollution control device operating properly (F.A.C. Rule 17-2.240).

8. Reasonable precautions shall be used to minimize unconfined emissions of particulate matter generated by this operation. This includes keeping the work areas wet where the soil is being removed and treated.

9. The unit shall not be operated at a location or in a manner that may create a nuisance or at a site that has a similar unit in operation.

10. Untreated soil removed from the ground shall be stored under waterproof covers and on an impermeable surface.

11. This unit may operate continuously, 24 hrs/day, 7 days/wk, and 52 wks/yr.

12. Maximum soil charging rate to the unit shall not exceed 87.5 TPH. The soil entering the kiln cannot be larger than 2 inches in diameter. The permittee shall have means to determine the feed or production rate on site.

SPECIFIC CONDITIONS:

13. Only propane or No. 2 fuel oil containing a maximum of 0.35% sulfur shall be used as fuel for this unit. Maximum permitted fuel consumption is 136.5 MMBtu/hr (996.4 GPH No. 2 fuel oil or 1581.4 GPH propane).

14. Only soils contaminated with petroleum products (fuels and lubricants) shall be treated in this unit unless otherwise approved by the Bureau of Air Regulation (BAR).

Hazardous waste as defined in 40 CFR 261.3 shall not be processed by this unit.

Metals in the untreated soil shall not exceed the following:

	Maximum Concentration	
Metals	TCLP(mg/L)	Total(mg/Kg)
Arsenic	5.0	55
Barium	100.0	2750
Cadmium	1.0	55
Chromium	5.0	275
Lead	5.0	77
Mercury	0.2	17
Selenium	1.0	165
Silver	5.0	165

Total Volatile Organic Aromatics (VOA) constituent in the soil shall not exceed the concentrations that have the potential to exceed the acceptable ambient air concentration or the VOC emission limit for this unit (see Specific Conditions Nos. 5, 17, and 27).

To show compliance with this condition, the permittee shall analyze composite samples of the contaminated soil (see Specific Condition No. 16) by the EPA SW 846 Methods, Test Method for Evaluating Solid Waste Physical/Chemical, for VOA (EPA Method 5030/8020), TRPH (EPA draft Method 9073), and Metals (EPA Method 1311, 3050, 6010, 7040, 7041, 7060, 7061, 7080, 7130, 7131, 7190, 7191, 7420, 7421, 7471, and 7760).

15. The permittee may request, in writing, permission to treat "off-spec" material. The request shall include the history of the site to be treated, an analysis of the contaminants suspected to be in the soil, an estimate of the emissions from the unit while processing the soil, and calculations showing that the ambient air

SPECIFIC CONDITIONS:

impact from the unit will not exceed the acceptable ambient air concentration for any toxic pollutant. The Department will approve or deny each request in writing on a case-by-case basis.

16. Sampling and analysis of the contaminated soil at each site, based on the procedures prescribed in SW-846, shall be conducted prior to remediation. Minimum number of composite samples for analysis at each site prior to remediation shall be as follows:

Soil Quantity ($yards^3$)	No. of Composite Samples
Less than 100	1
100 to 500	3
500 to 1000	5
Each additional 250 yds	1 additional sample

17. Unless the Department has determined other concentrations are required to protect public health and safety, predicted ambient air impact of any toxic pollutant, as determined by the PTPLU 6 model or other DARM approved models, shall not exceed the concentration calculated by the following formula:

$$AAC = \frac{40}{X} \cdot \frac{1}{\text{safety factor}} \cdot (OEL)$$

where,

AAC = acceptable ambient concentration

Safety Factor = 100 for category A substances and 50 for category B substances

X = 40 or the hours/week of actual operation, whichever is larger

OEL - Occupational exposure level such as TWA-TLV published by the ACGIH, OSHA, and NIOSH published standards for toxic materials.

TWA-TLV is the threshold limit value (8 hrs/day, 40 hrs/wk) maximum exposure concentration considered safe for workers by the ACGIH.
Data in the application shows that, for continuous operation, an emission of 1 gram/sec will have a maximum ambient impact of 7×10^{-3} mg/m^3 (8 hr. avg). If the

SPECIFIC CONDITIONS:

stack parameters are different than the values listed in the application, the permittee must determine and use the actual impact factor calculated by the EPA approved Screen 1.1 Model.

$$\text{Maximum Allowable Emissions (g/sec)} = \frac{\text{AAC} \quad \text{mg/m}^3}{7 \times 10^{-3}}$$

18. Pressure drop across the baghouse and temperature of the afterburner shall be recorded continuously during operations. The instruments used to obtain these measurements shall be properly calibrated, maintained, and in operation any time the unit is in service.

Compliance Requirements

19. This unit shall be tested at the maximum process weight rate at which the permittee intends to operate. All compliance tests shall meet the requirements listed in F.A.C. Rule 17-2.700. The unit shall not operate above the maximum permitted rate of 25 TPH.

20. When the Department, after investigation, has good reason (such as complaints, increased visible emissions, or questionable maintenance of control equipment) to believe that any applicable emission standard contained in Chapter 17-2, F.A.C., or in this permit is being violated, it may require the owner or operator of the unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the unit and to provide a report on the results of said tests to the Department.

21. The exhaust stack for this unit shall be tested concurrently for particulate matter and visible emissions by EPA Methods 5 and 9 pursuant to 40 CFR 60, Appendix A, revised as of July 1, 1988, within 5 days after placing the unit in commercial operation under this permit and annually thereafter. Operation at each subsequent site requires an EPA Method 9 test to be performed within 3 days of placing the unit in service.

22. The unit destruction efficiency, benzene, and VOC emissions shall be established by a material balance using a Method 18, or 25 test (40 CFR 60, Appendix A, revised as of July 1, 1988) and soil analysis before and after treatment or other methods as approved by the Department.

PERMITTEE:
International Petroleum Specialties, Inc.

Permit Number: AC 16-182508
Expiration Date: December 31, 1991

SPECIFIC CONDITIONS:

Administrative Requirements

23. The permittee shall furnish the available information listed in Specific Condition No. 24 prior to operating the portable rotary kiln/afterburner system at its initial site. This permit requires compliance with any applicable local (county) regulations.

24. This unit shall not be operated at any new site until the permittee has requested authorization to operate for that site. Whenever the permittee decides it is feasible, the request shall be at least 15 days prior to operation at the new site. The permittee shall notify the BAR, local government (city and/or county), and Department District office by registered mail at least 3 days prior to moving to the new site. The notification shall provide the permit number of the unit, a copy of the last stack test results, the date of the proposed move, the new site for the unit, and the locations and contamination levels of the soils to be treated. The Department shall notify the permittee of any new air pollutant emission conditions the unit must meet within 3 days of the receipt of the relocation notice. This may include requirements for county operation permits and additional restrictions on the operation of this unit.

25. The permittee shall maintain a log that shows the unit's operation time during the preceeding 12 months. All required records shall be available for inspection at the job site for the unit within 3 working days of a request by the Department.

26. The BAR shall be notified in writing at least 15 days in advance of any annual compliance test to be conducted on this source.

27. Any analysis required by Specific Condition No. 16 which indicates a violation of any condition in this permit shall be reported as soon as feasible to BAR. An average concentration of benzene above 4,531 ppm in the soil or total hydrocarbons above 12,000 ppm indicate a violation of this permit. The soil may be decontaminated by operating at less than the 87.5 TPH production rate, or other means with prior approval of the Department. The permittee shall propose the method of compliance with this permit.

28. Records shall be kept on the location, date, time, and number of samples taken for each composite sample. Soil analysis results shall be available for Department inspection during the clean up of the site and for 3 years thereafter. All soil samples taken at the remediation site and from the soil exiting the dryer shall be stored in a sealed clean glass container immediately upon sampling.

PERMITTEE:
International Petroleum
Specialties, Inc.

Permit Number: AC 16-182508
Expiration Date: December 31, 1991

SPECIFIC CONDITIONS:

29. Stack test results from PM and VOC shall be submitted to the Department within 45 days of the test.

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

31. An application for an operation permit must be submitted to the BAR 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. Rule 17-4.220).

Issued this _____ day
of _____, 1991

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

_____

P 256 395 053

RECEIPT FOR CERTIFIED MAIL

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

Sent to: Mr. Kurt F. Hollfelder, Int.	
Street and No.: Petroleum Specialti 1859 East Adam St.	
P.O., State and ZIP Code: Jacksonville, FL 32202	
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: 12-19-90 Permit: AC 16-182508	

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

● **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. [illegible] F. Hollfelder
[illegible]al Petroleum Specialties
[illegible]ast Adam Street
Jacksonville, FL 32202

4. Article Number
P 256 395 053

Type of Service:
- ☐ Registered
- ☐ Insured
- ☒ Certified
- ☐ COD
- ☐ Express Mail
- ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X

6. Signature – Agent
X

7. Date of Delivery
12-26-90

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

PS Form 3811, Apr 1989 ★U.S.G.P.O. 1989-238-815 DOMESTIC RETURN RECEIPT

UNITED STATES POSTAL SERVICE

OFFICIAL BUSINESS

SENDER INSTRUCTIONS

Print your name, address and ZIP Code in the space below.

- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

U.S.MAIL

PENALTY FOR PRIVATE USE, $300

DER - BAQM

DEC 31 1990

RETURN TO

Print Sender's name, address, and ZIP Code in the space below.

RECEIVED

Dept. of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400
Attn: Patty Adams

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

December 19, 1990

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Kurt F. Hollfelder, Secretary-Treasurer
International Petroleum Specialties, Inc.
1859 East Adam Street
Jacksonville, Florida 32202

Dear Mr. Hollfelder:

Re: File No. AC 16-182508, SRU-2001H

On November 7, 1990, the Department received an unsigned reply to our June 26, 1990, letter requesting additional information on your proposed soil remediation unit. Department policy requires your answer be signed and sealed by a professional engineer. Please have your engineer sign/seal the response and return it to this office.

Sincerely,

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

CHF/WH/plm

Attachment: DER Memo dated August 14, 1990
Unsigned reply dated November 7, 1990

c: Douglas Carvel, P.E.

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee
To: Steve Smallwood Location: DARM
To: C2Air-Fyi Location:
To: Location:
From: Date:

Interoffice Memorandum

TO: Deputy Assistant Secretaries
Division Directors

FROM: John Shearer, P.E.
Assistant Secretary

RECEIVED
AUG 16 1990
DER-BAQM

DATE: August 14, 1990

SUBJECT: Professional Engineering Certification of Items of Incompleteness Regarding a Permit Application

RULE 17-4.050, F.A.C. - PROCEDURES TO OBTAIN PERMITS; APPLICATION, states that all applications for a Department permit shall be certified by a professional engineer registered in the State of Florida...

In instances where the permit application is deemed incomplete, and the Department requests additional information that is of an engineering nature, the response to these items of incompleteness also needs to be certified by a professional engineer registered in the State of Florida. Many times the missing information is what is really needed to give reasonable assurances that the source will comply with the Department's rules and regulations. The professional engineer's seal is heavily relied on for providing reasonable assurance that the state air and water quality standards are being met.

JS/pl

RECEIVED

NOV 7 1990

DER BAQM

Question 1

Due to a computing error on our parts we gave you an incorrect response. We have recalculated and found the particulate matter emissions to be 33.2 TPY. We apologize for the error, and regret any inconvenience. The formula is as follows.

$$\frac{29520\ ft^3}{min} \cdot \frac{0.03\ gr}{dscf} \cdot \frac{1.429 \times 10\text{-}4\ lb}{gr} \cdot \frac{60\ min}{Hr} = \frac{7.59\ lb}{Hr}$$

(Intentionally set high)

$$\frac{7.59\ lb}{Hr} \cdot \frac{8736\ Hr}{yr} \cdot \frac{Ton}{2000 lb} = \frac{33.2\ Ton}{yr}$$

In reply to question two, the following formula applies to the PM emissions at 50 % EA

29520 DSCFM is at 50% EA.
29520 DSCFM x 0.08 gr/DSCF x 60 min/hr = 20.24 lb/hr
20.24 lb/hr x 8736 hr/yr x ton/2000 lb = 73.67 Ton/yr

Question 3

The maximum is 0.35% Sulfur. All new calculations will be based on this value.

Question 4

New calculations with a TPH content of 3000ppm average of the soil calculations are as follows;

SOx Emissions
#2 Oil
(177.5 + 130.3) gal/hr x .0035 lb S/lb Oil x 64 lb SO2/lb mole SO2 x 1/32lb /lb mole SO2 x 7.08 lb/gal = 15.26 lb/hr

15.26 lb/hr x 8736 hr/yr x Ton/2000lb = 66.63 T/yr

87.5 Ton/hr x 3000lb #2 oil/1 x 106 lb soil x .0035 lb S/ lb oil x 2000lb/ton x 64lb SO2/lb mole SO2 x 1/32lb/lb mole = 3.68 lb/hr

15.26 + 3.68 = 18.94 lb/hr

18.94 lb/hr x 8736 hr/yr x T/2000lb = 82.73 T/yr

Question 1

Due to a computing error on our parts we gave you an incorrect response. We have recalculated and found the particulate matter emissions to be 33.2 TPY. We apologize for the error, and regret any inconvenience. The formula is as follows.

$$\frac{29520\ ft^3}{min} \cdot \frac{0.03\ gr}{dscf} \cdot \frac{1.429 \times 10\text{-}4\ lb}{gr} \cdot \frac{60\ min}{Hr} = \frac{7.59\ lb}{Hr}$$

(Intentionally set high)

$$\frac{7.59\ lb}{Hr} \cdot \frac{8736\ Hr}{yr} \cdot \frac{Ton}{2000 lb} = \frac{33.2\ Ton}{yr}$$

In reply to question two, the following formula applies to the PM emissions at 50 % EA

29520 DSCFM is at 50% EA.
29520 DSCFM x 0.08 gr/DSCF x 60 min/hr = 20.24 lb/hr
20.24 lb/hr x 8736 hr/yr x ton/2000 lb = 73.67 Ton/yr

Question 3

The maximum is 0.35% Sulfur. All new calculations will be based on this value.

Question 4

New calculations with a TPH content of 3000ppm average of the soil calculations are as follows;

SOx Emissions
#2 Oil
(177.5 + 130.3) gal/hr x .0035 lb S/lb Oil x 64 lb SO2/lb mole SO2 x 1/32lb /lb mole SO2 x 7.08 lb/gal = 15.26 lb/hr

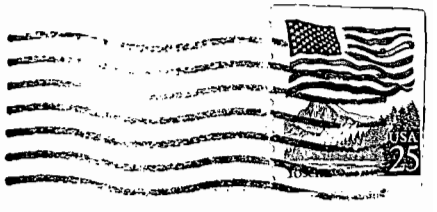
15.26 lb/hr x 8736 hr/yr x Ton/2000lb = 66.63 T/yr

87.5 Ton/hr x 3000lb #2 oil/1 x 106 lb soil x .0035 lb S/ lb oil x 2000lb/ton x 64lb SO2/lb mole SO2 x 1/32lb/lb mole = 3.68 lb/hr

15.26 + 3.68 = 18.94 lb/hr

18.94 lb/hr x 8736 hr/yr x T/2000lb = 82.73 T/yr

INTERNATIONAL PETROLEUM SPECIALTIES, INC.
1859 E. Adams Street
Jacksonville, FL 32202



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

STATE OF FLORIDA
DEPARTMENT OF HEALTH AND REHABILITATIVE SERVICES

July 11, 1990

RECEIVED
JUL 13 1990
DER BAQM

Mr. C. H. Fancy, P.E.
Chief, Bureau of Air Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32397 - 2400

Dear Mr. Fancy:

After reviewing the application to operate/construct an air pollution source for a soil remediation unit operated by International Petroleum Specialties, Inc. of Jacksonville, FL, under the construction permit No. AC-16-182508, I concur.

This SRU-2001H meets all requirements of Manatee County Article I.

We are requesting a special condition in the permit stating to notify Manatee County Pollution Control Division, Air Section, prior to operating within Manatee County.

Please accept this letter as our approval to operate in Manatee County with the above provision.

Thank you,

John A. Bruens

John A. Bruens
Engineer II

JAB:vf

c: W. Harlo
B. Burbans

DISTRICT SIX
MANATEE COUNTY PUBLIC HEALTH UNIT
410 SIXTH AVENUE EAST, BRADENTON, FLORIDA 34208-1986
(813) 748-0666

STATE OF FLORIDA
DEPARTMENT OF HEALTH AND REHABILITATIVE SERVICES

RECEIVED
JUL 12 1990
DER - BAQM

July 5, 1990

Mr. C.H. Fancy, P.E.
Chief Bureau of Air Regulation
Twin Towers Office Bldg.
2600 Blair Stone Road
Tallahassee, FL 34299-2400

RE: International Petroleum Specialisties, Inc.

Dear Mr. Fancy:

In reviewing the application to construct an Air Pollution Source for a soil remediation unit operated by International Petroleum Specialities, Inc., Permit File # AC16-182508, we concur.

This unit meets all requirements of Manatee County Article I, therefore, please regard this letter as our acceptance for above mention facility to operate in Manatee County.

Sincerely,

John A. Bruens

John Bruens
Engineer II

JB/rg

xc: Charles H. Wolford
Rob Baum

DISTRICT SIX
MANATEE COUNTY PUBLIC HEALTH UNIT
410 SIXTH AVENUE EAST, BRADENTON, FLORIDA 34208-1986
(813) 748-0666

P 256 396 131

RECEIPT FOR CERTIFIED MAIL

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

☆U.S.G.P.O. 1989-234-555

Sent to Kurt F Hallfelder	
Street and No. Int'l Pet. Spec.	
P.O., State and ZIP Code 859 E Adams St Jax, Fl	
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 6-29-90 AC 16-182588	

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:
Kurt F. Hallfelder
Int'l Petroleum Spec. Inc.
[redacted] 1859 E. Adams St.
Jacksonville, Fl 32202

4. Article Number P 256 396 131

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X

6. Signature — Agent
X

7. Date of Delivery
7-2-90

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

PS Form **3811**, Apr. 1989 ★U.S.G.P.O. 1989-238-815 **DOMESTIC RETURN RECEIPT**

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 26, 1990

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Kurt F. Hollfelder, Secretary-Treasurer
International Petroleum Specialties, Inc.
1859 East Adams Street
Jacksonville, Florida 32202

Dear Mr. Hollfelder:

Re: File No. AC 16-182508, SRU-2001H

The Department has made a preliminary review of your application for permit to construct a soil remediation unit for operation throughout Florida. Before this application can be processed, we need the following information:

1. What will be the annual particulate matter (PM) emissions? The application lists 22.0 and 11.2 TPY. We calculate the annual emission as 33.2 TPY.

2. The Department has been imposing a PM emission standard of 0.08 grains/DSCF corrected to 50% excess air on soil remediation units. What is the maximum gas flow rate from this unit in DSCF corrected to 50% EA? What would be the allowable PM emission at a standard of 0.08 gr/DSCF corrected 50% EA?

3. In Section III E of the application, you list the maximum sulfur content of the No. 2 oil as 0.35%. The calculations for the SO_2 emissions from this unit assumed the oil contained 0.5% sulfur. What is the maximum percent sulfur in the No. 2 oil that will be burned?

4. Your calculations assume all of the SO_2 emissions are from the fuel. We believe there will be sulfur in the petroleum product that contaminates the soil and, perhaps, in the soil itself. Please address the increased SO_2 emissions from the unit due to this sulfur and propose a strategy to keep the SO_2 emissions from this unit to less than 100 TPY.

We will resume processing the application after receipt of the requested information. If you have any questions on this matter, please write to me or call Willard Hanks at (904)488-1344.

Sincerely,

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

CHF/plm

c: Don Ehlenbech, BWC
District Air Program Administrators
County Air Program Administrators
Douglas Carvel, P.E.

06-17-90
10:03:24

*** SCREEN-1.1 MODEL RUN ***
*** DRAFT VERSION XXXXX ***

international petroleum spec inc

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	1.000
STACK HEIGHT (M)	=	6.10
STK INSIDE DIAM (M)	=	1.10
STK EXIT VELOCITY (M/S)	=	43.90
STK GAS EXIT TEMP (K)	=	450.00
AMBIENT AIR TEMP (K)	=	293.00
RECEPTOR HEIGHT (M)	=	.00
IOPT (1=URB,2=RUR)	=	2
BUILDING HEIGHT (M)	=	.00
MIN HORIZ BLDG DIM (M)	=	.00
MAX HORIZ BLDG DIM (M)	=	.00

BUOY. FLUX = 45.43 M**4/S**3; MOM. FLUX = 379.59 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	.2512E-08	6	1.0	1.0	5000.0	94.1	12.7	12.7	NO
100.	.4772	6	1.0	1.0	5000.0	94.1	25.5	25.3	NO
200.	2.377	4	20.0	20.0	5000.0	24.8	15.8	8.9	NO
300.	7.951	4	20.0	20.0	5000.0	24.8	22.9	12.6	NO
400.	9.910	4	20.0	20.0	5000.0	24.8	29.8	15.9	NO
500.	9.759	4	20.0	20.0	5000.0	24.8	36.5	19.0	NO
600.	8.866	4	20.0	20.0	5000.0	24.8	43.1	21.9	NO
700.	7.892	4	15.0	15.0	4800.0	31.1	49.7	25.1	NO
800.	7.283	4	15.0	15.0	4800.0	31.1	56.0	27.7	NO
900.	6.640	4	15.0	15.0	4800.0	31.1	62.3	30.3	NO
1000.	6.025	4	15.0	15.0	4800.0	31.1	68.5	32.9	NO
MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:									
434.	10.01	4	20.0	20.0	5000.0	24.8	32.2	17.0	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	10.01	434.	0.

Max 1 hr impact of 1 g/s = 10 ug/m³ ~

" 8 " = 7 ug/m³ ~ 7x10⁻³ mg/m³

" 24 " = 4 ug/m³ ~ 4x10⁻³ mg/m³

24 hr std

BZ - 0.0071 mg/m³

Toluene 1.786

Ethyl Benzene + Xylene = 1.036

AFTERBURNER
99% EFFIC

$E_{(MAX)} = AAC / I$

$E_{BZ} = 0.0071 \frac{mg}{m^3} \Big| \frac{}{7\times10^{-3}\ mg} = 1.01\ g/s \quad \frac{3600}{454} = 7.93 \frac{lbs}{hr}$

MAX BZ SOIL $= 7.93 \frac{lbs}{hr} \frac{1}{(1-.99)} = 793$ lbs VOC IN 175,000 $\frac{*}{hr}$ SOIL

PPM_{BZ}^{MAX} SOIL $= \frac{793\times10^6}{175,000} = 4531$ PPM

$E_{TOLUENE} = \frac{1.786}{7\times10^{-3}} = 255 \frac{g}{s} = 2023$ lbs/hr

MAX Toluene SOIL = 2023/.01 = 202,316 lbs/hr

MAX PPM SOIL 202,316x10⁶/175,000 = 1,156,091 (100% TOLUENE!)

$E_{EB+X} = 1.036/7\times10^{-3} = 148$ lbs/hr

MAX EB+X in soil = 148/.01 = 14800 lbs/hr

MAX PPM SOIL = 14800x10⁶/175,000 = 84,571 PPM

MAX VOC IN SOIL @ E = 21 lbs/hr.

VOC IN SOIL = 21/.01 = 2100 lbs/hr

PPM_{SOIL} = 2100x10⁶/175,000 = 12,000 PPM ✓

NTERNATIONAL PETROLEUM SPECIALTIES, INC.

15196

Department of Environmental Regulation June 15, 1990 ***$1000.00***

1031

15196

INTERNATIONAL PETROLEUM
SPECIALTIES, INC.
PHONE 904-356-6819
1859 E. ADAMS STREET
JACKSONVILLE, FLORIDA 32202

FLORIDA NATIONAL BANK
MAIN OFFICE
225 WATER STREET
JACKSONVILLE, FL 32201

63-5/630

		DATE	AMOUNT
PAY TO THE ORDER OF:	Department of Environmental Regulation	June 15, 1990	***$1000.00***

Vicki S. Carden

[redacted]

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

$1,000 pd. 6-19-90 Rec'pt #151138

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

AC16-182508

RECEIVED
APR 30 1990
DER-BAQM

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

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Soil Remediation Unit [X] New[1] [ ] Existing[1]

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

COMPANY NAME: International Petroleum Specialties, Inc. COUNTY: State-wide operation

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) SRU - 2001H

SOURCE LOCATION: Street 1859 East Adams Street City Jacksonville, Florida

UTM: East N-A North N-A

Latitude N-A ° ' "N Longitude N-A° ' "W

APPLICANT NAME AND TITLE: Mr. Kurt Hollfelder, Secretary - Treasurer

APPLICANT ADDRESS: 1859 East Adams Street, Jacksonville, FL 32202

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of International Petroleum Specialties

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

*Attach letter of authorization

Signed: Kurt F. Hollfelder

Kurt F. Hollfelder, Secretary - Treasurer
Name and Title (Please Type)

Date: 2-26-90 Telephone No. (904) 356-6819

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

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

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

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

Signed Douglas D. Carvel

Douglas D. Carvel
Name (Please Type)

Environmental Science & Engineering, Inc.
Company Name (Please Type)

8553-5 Argyle Business Loop, Jacksonville, FL 32244
Mailing Address (Please Type)

Florida Registration No. 40485 Date: 04/11/90 Telephone No. (904) 772-7680

SECTION II: GENERAL PROJECT INFORMATION

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

A state-wide permit is required for the construction/operation of a mobile soil remediation (SRU) for the processing of contaminated soils. This SRU consists of a high temperature capable rotary dryer for volatilizing contaminants in the soils, four primery cyclones with a high efficiency baghouse for controlling particulate emissions. Particulate and volatile organic compound (VOC) emissions will be limited to 22.0 TPY and 91.73 TPY, respectively.

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

Start of Construction March 15, 1990 Completion of Construction June 1, 1990

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.)

Four Primary Cyclones - approximately $175,000.00

Baghouse with Controls - approximately $175,000.00

Afterburner with Controls - approximately $350,000.00

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

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

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

8736 Annual Operating Hours.

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[1]

   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. Particulates, Ozone

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

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

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

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

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

   a. If yes, for what pollutants? Volatile Organic Compounds[4], Particulate Matter

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

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

(1) Portable unit will be used at various contamination sites (attainment as well as non-attainment areas.)

(2) Exempted by 17-2.500 (2) (d) 2.a

(3) Baghouse and cyclones have been designed to meet criteria for RACT standards, 0.03 grains per dry standard cubic foot (gr/dscf).

(4) No applicable RACT standard for this operation

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

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

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Contaminated Soils	Particulate	8.0 Fines	175,000	Attachment A
	VOC	1.2% Typical		

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

1. Total Process Input Rate (lbs/hr): 175,000

2. Product Weight (lbs/hr): 155,400 (10% moisture and 1.2% VOC in the Feed)

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

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
Particulate	8.0	11.2	0.03 gr/dscf	7.59	122.3×10^6	61,152	
VOC	21.0	91.73	N-A	-	18.4×10^6	9,176.9	
CO	3.00	13.10	N-A	-	3.00	13.10	
NO_x	11.89	51.87	N-A	-	11.89	51.87	
SO_2	21.80	95.22	N-A	-	21.80	95.22	

[1] See Section V, Item 2. VOC, CO, NO_x and SO_2 values are the maximums possible regardless of the fuel (#2 oil or propane).

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

[3] Calculated from operating rate and applicable standard.

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

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Baghouse	Particulates	99.9%	0.3	Astech Design Guarantee
Afterburner	VOC's - Organics	99.0%	N/A	" "

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Primary Kiln - No. 2 Oil	177.5 gal.	556.8 gal.	76.5
Afterburner - No. 2 Oil	130.3 gal.	439.6 gal.	60.0
OR Primary Kiln - Propane	281.8 gal.	883.7 gal.	76.0
Afterburner - Propane	206.9 gal.	697.7 gal.	60.0

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

Fuel Analysis: P-Propane No 2-Diesel Fuel Unit will operate on either fuel.

Percent Sulfur: P-0; No 2 - 0.35 max Percent Ash: P-0; No 2 - less than 0.05

Density: P - 4.24; No 2 - 18940 lbs/gal Typical Percent Nitrogen: P-0; No 2 - less than 0.1

Heat Capacity: P - 20270; No 2 - 18940 BTU/lb P - 86000; No 2 - 136500 BTU/gal

Other Fuel Contaminants (which may cause air pollution): None

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

Annual Average N/A Maximum

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

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

Stack Height: 20 ft. Stack Diameter: 4' 7/8" X 2' 6 7/8" ft.

Gas Flow Rate: 86425 ACFM 29520 DSCFM Gas Exit Temperature: 350° °F.

Water Vapor Content: 37.0% by w % Velocity: 144 FPS

SECTION IV: INCINERATOR INFORMATION

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

Description of Waste _____

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

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

Manufacturer _____

Date Constructed _____ Model No. _____

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

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

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

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

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

[ ] Other (specify) _____

Brief description of operating characteristics of control devices: _____

_____

_____

_____

_____

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

_____

_____

_____

_____

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

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

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

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

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

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

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

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

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

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

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

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

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

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

[ ] Yes [ ] No

Contaminant	Rate or Concentration

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

[ ] Yes [ ] No

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration

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

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

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height: ft.

b. Diameter: ft.

c. Flow Rate: ACFM

d. Temperature: °F.

e. Velocity: FPS

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

1.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

2.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

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

j. Applicability to manufacturing processes:

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

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

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

F. Describe the control technology selected:

1. Control Device:

2. Efficiency:[1]

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:[2]

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

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

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

b. (1) Company:

(2) Mailing Address:

(3) City: (4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

10. Reason for selection and description of systems:

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

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data

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

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

Other data recorded _____

Attach all data or statistical summaries to this application.

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

2. Instrumentation, Field and Laboratory

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

b. Was instrumentation calibrated in accordance with Department procedures?

[ ] Yes [ ] No [ ] Unknown

B. Meteorological Data Used for Air Quality Modeling

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

2. Surface data obtained from (location)_____

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

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

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

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

D. Applicants Maximum Allowable Emission Data

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

E. Emission Data Used in Modeling

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

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

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

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

Section III C - Potential Emissions (Particulates)

Under particulates there are two sources. One is from the fuel (Number 2 fuel oil) used to fire the dryer. The other are the fines from processing the soils. These fines vary from site to site. An estimate of 8 percent (wt) of the process mass would be fines which would be fugitive if the Air Quality Control equipment was <u>not</u> used. Therefore potential emissions are:

$$\frac{87.5 \text{ Ton Soil}}{\text{Hr}} \left| \frac{8 \text{ lb Fines}}{100 \text{ lb Soil}} \right| \frac{2000 \text{ lb}}{\text{Ton}} \left| \frac{8736 \text{ Hr}}{\text{yr}} \right. = 122.3 \times 10^6 \frac{\text{lb}}{\text{yr}}$$

$$\frac{122.3 \times 10^6}{\text{Hr}} \left| \frac{8736 \text{ Hr}}{\text{yr}} \right| \frac{\text{Ton}}{2000 \text{ lb}} = 61152 \frac{\text{T}}{\text{yr}}$$

The particulates from the fuel source are several orders of magnitude smaller than the above and are neglected.

Section III C - VOC Emissions

Assuming that the afterburner is 99% efficient then the VOC emissions would be:

$$\frac{(2100 + 0.078)\ \text{lb \#2 VOC's} \qquad 0.99}{\text{Hr}} = \frac{21.0\ \text{lb}}{\text{Hr}}$$

See previous page for calculations

OR

2100 #2 VOC + 0.82 lb Propane VOC x (1-0.99) = 21.00 lb/Hr

$$21.00\ \text{lb/Hr}\ 8736\ \text{Hr/yr} \times \frac{\text{T}}{2000\ \text{lb}} = 91.73\ \text{T/yr}$$

CO Emissions
#2 Oil
(177.5 + 130.3)gal/Hr x 5lb/1000 gal = 1.54 lb/Hr = 1.54 lb/Hr

$$87.5\ \text{T/Hr} \times \frac{12000\ \text{lb}}{1000000} \times 5\ \text{lb/1000 gal} \times \frac{2000\ \text{lb}}{\text{T}} \times \frac{1\ \text{gal}}{7.21\ \text{lb}} = \frac{1.46\ \text{lb/Hr}}{3.00\ \text{lb/Hr}}$$

$$3.00\ \text{lb/Hr} \times 8736\ \text{Hr/yr} \times \frac{\text{T}}{2000\ \text{lb}} = 13.10\ \text{T/yr}$$

Propane

$$(281.8 + 206.9) \times \frac{3\ \text{lb max.}}{1000\ \text{gal}} = 1.47\ \text{lb/Hr}$$

$$87.5\ \text{T/Hr} \times \frac{12000\ \text{lb}}{1\text{x}10^6\ \text{lb}} \times \frac{5\ \text{lb}}{1000\ \text{gal}} \times \frac{2000\ \text{lb}}{\text{T}} \times \frac{1\ \text{gal}}{7.21\ \text{lb}} = 1.46\ \text{lb/Hr}$$

$$2.93\ \text{lb/Hr} \times 8736\ \text{Hr/yr} \times \frac{\text{t}}{2000} = 12.80\ \text{T/yr}$$

SO_x Emissions
#2 Oil
(177.5 + 130.3) gal/Hr x 0.005 lb S/lb Oil x 64 lb SO_2/lb mole SO_2 x $\frac{1}{32\ \text{lb}}$ /lb mole SO_2 x 7.08 lb/gal = 21.8 lb/Hr

$$21.8\ \text{lb/Hr} \times 8736\ \text{Hr/yr} \times \frac{\text{T}}{2000\ \text{lb}} = 95.22\ \text{T/yr}$$

Section III C - Contaminant (VOC) Potential Emissions

There are two sources of fuel that could create VOC's. For these calculations it will be assumed that all the Number 2 fuel oil in the soil is volatilized and not burned (worst case) in the dryer. For the Number 2 fuel oil AP42 Table 1.3-1 lists the VOC emission as 0.2 lb per 1000 gallon (non-methane) and 0.052 lb/1000 gallon (methane). Therefore:

$$\frac{(0.2 + 0.052)\ \text{lb VOC}}{1000\ \text{gal \#2}} \left| \frac{177.5 + 130.3\ \text{gal \#2}}{\text{Hr}} \right. = 0.078\ \frac{\text{lb}}{\text{Hr}}$$

$$\frac{0.078\ \text{lb}}{\text{Hr}} \left| \frac{8736\ \text{Hr}}{\text{yr}} \right| \frac{\text{T}}{2000\ \text{lb}} = 0.34\ \frac{\text{T}}{\text{yr}}$$

Uncombusted #2 fuel oil from dryer & afterburner

From AP42 Table 1.5-1 the VOC emission rates are 0.25 lb/1000 gal of propane (non-methane) and 0.27 lb/1000 gal of propane (methane).

$$\frac{(0.25 + 0.27)\ \text{lb VOC}}{1000\ \text{gal Propane}} \left| \frac{883.7 + 697.7}{\text{Hr}} \right. = 0.82\ \frac{\text{lb VOC}}{\text{Hr}}$$

$$\frac{0.82\ \text{lb VOC}}{\text{Hr}} \left| \frac{8736\ \text{Hr}}{\text{yr}} \right| \frac{\text{Ton}}{2000\ \text{lb}} = 3.59\ \frac{\text{T}}{\text{yr}}$$

Uncombusted Organics from after-burner

The VOC potential for 12000 ppm of Number 2 fuel oil is:

$$\frac{87.5\ \text{T}}{\text{Hr}} \left| \frac{2000\ \text{lb}}{\text{T}} \right| \frac{12000\ \text{lb \#2}}{10^6\ \text{lb Soil}} = \frac{2100\ \text{lb}}{\text{Hr}}$$

$$\frac{2100\ \text{lb}}{\text{Hr}} \left| \frac{8736\ \text{hr}}{\text{yr}} \right| \frac{\text{T}}{2000\ \text{lb}} = 9173\ \frac{\text{T}}{\text{yr}}$$

VOC's from soil

So total potential VOC's are:

$$\begin{array}{r} 0.34 \\ 3.59 \\ 9173 \\ \hline 9176.9\ \text{T/yr} \end{array}$$

$$\frac{87.5\ T}{Hr} \left| \frac{12000\ lb\ \#2}{10^6\ lb\ Soil} \right| \frac{2000\ lb}{T} \left| \frac{gal}{7.21\ lb} \right. = 291.26\ \frac{gal}{Hr}$$

This number is added to the combustion fuel for computation:

$$\frac{291.26\ gal}{Hr} \left| \frac{20\ lb\ NO}{1000\ gal\ \#2} \right. = 5.83\ \frac{lb\ NO}{Hr}$$

$$\frac{4.6\ lb}{Hr} \left| \frac{8736\ Hr}{yr} \right| \frac{T}{2000\ lb} = 25.44\ T/yr$$

The third source is the NO_x for propane, as per AP42 Table 1.5-1, using Industrial Propane, is 12.4 lb NO_x from this source is:

$$\frac{(206.85 + 281.75)}{Hr} \left| \frac{12.4\ lb\ NO_x}{1000\ gal} \right. = 6.06\ \frac{lb}{Hr}\ NO_x$$

$$\frac{6.06\ lb}{Hr} \left| \frac{8736\ Hr}{yr} \right| \frac{T}{2000\ lb} = 26.43\ \frac{T}{yr}\ NO_x$$

So totals are $(5.83 + 6.06)\ \frac{lb}{Hr} = 11.87\ lb/Hr$

$$11.87\ lb/Hr \times 8736\ Hr/yr \times \frac{Ton}{2000\ lb} = 51.87$$

130.32 gal + 177.51 gal/Hr X 201b NO/1000 gal #2 = 6.16 lb NO/Hr

$$6.16\ lb\ NO/Hr \times 8736\ Hr/yr \times \frac{T}{2000\ lb} = 26.91\ Ton\ NO/yr$$

GENERAL DESCRIPTION OF EQUIPMENT

The International Petroleum Specialties, Inc. thermal desorption plant is a high temperature unit designed for the decontamination of contaminated materials. The unit can be fired by either propane or #2 diesel and operates at a maximum of 136 million BTU/hour. The equipment associated with this unit consists of a portable belt feed-in system with hopper, a high-temperature feed-out screw auger, and a variety of pollution control devices for air quality.

The primary treatment unit consists of a rotating, high-temperature drum that is ten feet in diameter and forty feet long. It is constructed of carbon steel and can be refractory-lined for temperatures to 1200°F. The burner on the unit is 76 million BTU/hour.

The bulk of the processed material exits the primary treatment unit via a screw auger located at the bottom of the unit. The auger is positioned at a fifteen degree incline for proper piling of the decontaminated material. The unit also contains water spray nozzles for cooling and dust control of the processed material.

The effluent gases from the primary treatment unit is vented into four high efficiency cyclone separators. The cyclones will drop the majority of the larger particles out of the exhaust gas stream to help prevent slagging and minimize material buildup in the secondary treatment unit.

Gas effluent from the cyclones is vented into a vertical secondary combustion chamber where the gases are heated to approximately 2000°F for two seconds. The burner unit is sixty million BTU/hour. The combustion chamber is ten and a half feet diamter with an overall length of sixty feet. Exhaust gases leaving the secondary treatment unit are vented into a vertical gas cooling chamber. The gases are cooled from 2000°F to 350°F by the injection of a finely dispersed water and air spray which becomes completely vaporized.

The gases from the cooling/spray tower will enter a highly portable baghouse that contains 1358 bags for a 5-1/2:1 air-to-cloth ratio at 85,442 acfm. The filter bags are Nomex with the dimensions of 4-5/8" diameter and 8' long. The exhaust stack has a minimum of two sampling ports that are easily accessible for testing(F.A.C. Rule 17-2.700(4)).

The unconfined emissions of the untreated soil will be minimized by placing plastic linings under any material stock-piled. The stock-piled material will also be covered with plastic linings to minimize evaporation of volatiles and the spreading of particulates. All contaminated soils will be stock-piled a minimum amount of time before processing. This wil also help to limit any unconfined emissions. All treated material will be sprayed with water mist to reduce particulates from the feed-out screw auger.

TABLE 1.5-1. EMISSION FACTORS FOR LPG COMBUSTION[a]
EMISSION FACTOR RATING: C

Furnace Type and fuel	Particulates		Sulfur Oxides[b]		Nitrogen Oxides[c]		Carbon Monoxide		Volatile Organics			
									Nonmethane		Methane	
	kg/10^3l	lb/10^3gal	kg/10^3l	lb/10^3gal	kg/10^3l	lb/10^3gal	kg/10^3l	lb/10^3gal	kg/10^3l	lb/10^3gal	kg/10^3l	lb/10^3gal
Industrial												
Butane	0.01-0.06	0.10-0.47	0.01S	0.09S	1.58	13.2	0.4	3.3	0.03	0.26	0.03	0.28
Propane	0.01-0.05	0.09-0.44	0.01S	0.09S	1.49	12.4	0.37	3.1	0.03	0.25	0.03	0.27
Domestic/ commercial												
Butane	0.01-0.06	0.10-0.47	0.01S	0.09S	1.13	9.4	0.23	1.9	0.06	0.5	0.03	0.25
Propane	0.01-0.05	0.09-0.44	0.01S	0.09S	1.05	8.8	0.22	1.8	0.06	0.47	0.03	0.24

[a] Assumes emissions (except sulfur oxides) are the same, on a heat input basis, as for natural gas combustion.

[b] Expressed as SO_2. S equals the sulfur content expressed in g/100 m^3 gas vapor. For example, if sulfur content is 0.366 g/100m^3 (0.16 gr/100ft^3) vapor, the SO_2 emission factor would be 0.01 x 0.366 or 0.0037 kg SO_2/10^3 liters (0.09 x 0.16 or 0.014 lb of SO_2/1000 gal) butane burned.

[c] Expressed as NO_2.

Section III C - Emissions (Particulates)

As per the manufacturers attached statement.

$$\frac{29520 \text{ ft}^3}{\text{min}} \left| \frac{0.03 \text{ gr}}{\text{dscf}} \right| \frac{1.429 \times 10^{-4} \text{ lb}}{\text{gr}} \left| \frac{60 \text{ min}}{\text{Hr}} \right. = \frac{7.59 \text{ lb}}{\text{Hr}}$$

(Intentionally
set high)

$$\frac{7.59 \text{ lb}}{\text{Hr}} \left| \frac{8736 \text{ Hr}}{\text{yr}} \right| \frac{\text{Ton}}{2000 \text{ lb}} = 11.2 \frac{\text{Ton}}{\text{yr}}$$

TABLE 1.3-1. UNCONTROLLED EMISSION FACTORS FOR FUEL OIL COMBUSTION

EMISSION FACTOR RATING: A

Boiler Type[a]	Particulate[b] Matter		Sulfur Dioxide[c]		Sulfur Trioxide		Carbon Monoxide[d]		Nitrogen Oxide[e]		Volatile Organics[f] Nonmethane			Methane
	kg/10^3 l	lb/10^3 gal	kg/10^3 l	lb/10^3 gal	kg/10^3 l	lb/10^3 gal	kg/10^3 l	lb/10^3 gal	kg/10^3 l	lb/10^3 gal	kg/10^3 l	lb/10^3 gal	kg/10^3 l	lb/10^3 gal
Utility Boilers														
Residual Oil	S	S	19S	157S	0.34S[h]	2.9S[h]	0.6	5	8.0 (12.6)(5)[i]	67 (105)(42)[i]	0.09	0.76	0.03	0.28
Industrial Boilers														
Residual Oil	S	S	19S	157S	0.24S	2S	0.6	5	6.6[j]	55[j]	0.034	0.28	0.12	1.0
Distillate Oil	0.24	2	17S	142S	0.24S	2S	0.6	5	2.4	20	0.024	0.2	0.006	0.052
Commercial Boilers														
Residual Oil	S	S	19S	157S	0.24S	2S	0.6	5	6.6	55	0.14	1.13	0.057	0.475
Distillate Oil	0.24	2	17S	142S	0.24S	2S	0.6	5	2.4	20	0.04	0.34	0.026	0.216
Residential Furnaces														
Distillate Oil	0.3	2.5	17S	142S	0.24S	2S	0.6	5	2.2	18	0.085	0.713	0.214	1.78

[a] Boilers can be approximately classified according to their gross (higher) heat rate as shown below:
Utility (power plant) boilers: >106 x 10^9 J/hr (>100 x 10^6 Btu/hr)
Industrial boilers: 10.6 x 10^9 to 106 x 10^9 J/hr (10 x 10^6 to 100 x 10^6 Btu/hr)
Commercial boilers: 0.5 x 10^9 to 10.6 x 10^9 J/hr (0.5 x 10^6 to 10 x 10^6 Btu/hr)
Residential furnaces: <0.5 x 10^9 J/hr (<0.5 x 10^6 Btu/hr)

[b] References 3-7 and 24-25. Particulate matter is defined in this section as that material collected by EPA Method 5 (front half catch).

[c] References 1-5. S indicates that the weight % of sulfur in the oil should be multiplied by the value given.

[d] References 3-5 and 8-10. Carbon monoxide emissions may increase by factors of 10 to 100 if the unit is improperly operated or not well maintained.

[e] Expressed as NO_2. References 1-5, 8-11, 17 and 26. Test results indicate that at least 95% by weight of NO_x is NO for all boiler types except residential furnaces, where about 75% is NO.

[f] References 18-21. Volatile organic compound emissions are generally negligible unless boiler is improperly operated or not well maintained, in which case emissions may increase by several orders of magnitude.

[h] Particulate emission factors for residual oil combustion are, on average, a function of fuel oil grade and sulfur content:
Grade 6 oil: 1.25(S) + 0.38 kg/10^3 liter [10(S) + 3 lb/10^3 gal] where S is the weight % of sulfur in the oil. This relationship is based on 81 individual tests and has a correlation coefficient of 0.65.
Grade 5 oil: 1.25 kg/10^3 liter (10 lb/10^3 gal)
Grade 4 oil: 0.88 kg/10^3 liter (7 lb/10^3 gal)

[i] Reference 25.

[j] Use 5 kg/10^3 liters (42 lb/10^3 gal) for tangentially fired boilers, 12.6 kg/10^3 liters (105 lb/10^3gal) for vertical fired boilers, and 8.0 kg/10^3 liters (67 lb/10^3 gal) for all others, at full load and normal (>15%) excess air. Several combustion modifications can be employed for NO_x reduction: (1) limited excess air can reduce NO_x emissions 5-20%, (2) staged combustion 20-40%, (3) using low NO_x burners 20-50%, and (4) ammonia injection can reduce NO_x emissions 40-70% but may increase emissions of ammonia. Combinations of these modifications have been employed for further reductions in certain boilers. See Reference 23 for a discussion of these and other NO_x reducing techniques and their operational and environmental impacts.

[l] Nitrogen oxides emissions from residual oil combustion in industrial and commercial boilers are strongly related to fuel nitrogen content, estimated more accurately by the empirical relationship:
kg $NO_2/10^3$ liters = 2.75 + 50$(N)^2$ [lb $NO_2/10^3$gal = 22 + 400$(N)^2$] where N is the weight % of nitrogen in the oil. For residual oils having high (>0.5 weight %) nitrogen content, use 15 kg $NO_2/10^3$ liter (120 lb $NO_2/10^3$gal) as an emission factor.

Proposed testing and analytical methods to be used are given below along with methods for potential testing:

Particulates-40CFR60, Appendix A, Method 5D, p. 611-615. A water cooled probe would be necessary.

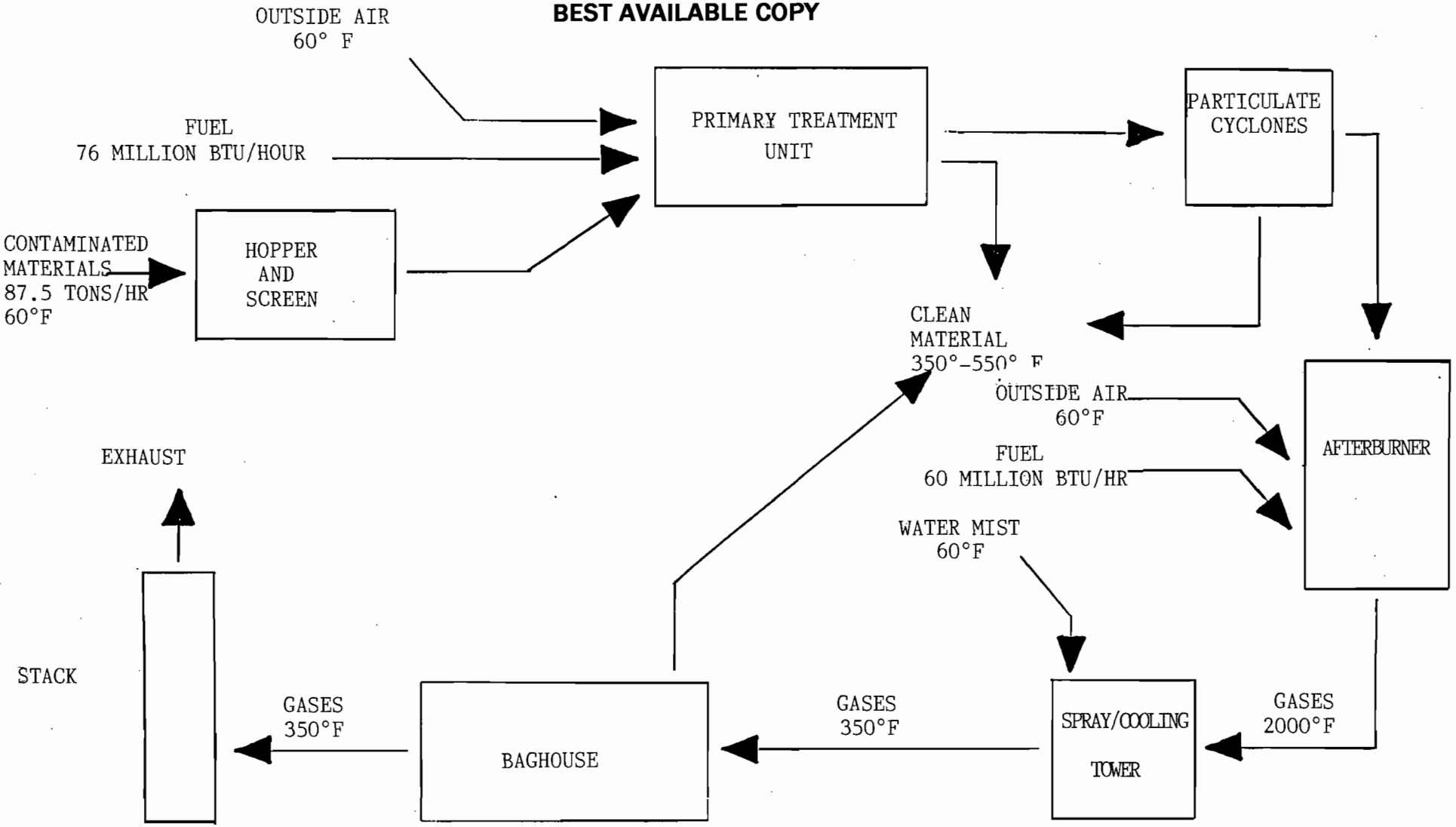
NO_x-40CFR60, Appendix A, Method 7, p. 667-673 (stationary source). Should the DER deem this method inappropriate Method 7E (Instrumental Analyzer Procedure) could be substituted.

VOC-40CFR60, Appendix A, Method 18, p. 823-852. (Measurement by GC)

Stack Gas Velocity-40CFR60, Appendix A, Method 2, p. 544-561 (pitot tube)

If needed:

CO_2, O_2, XS Air, Dry Mole. Wt. Analysis-Method 3
Stack Gas Moisture-Method 4
SO_2 Emissions-Method 6
Capacity-Method 9; Alternative Method 17
CO-Method 10
Inorganic Lead-Method 12



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FLOW DIAGRAM
THERMAL DESORPTION