Check Sheet 10-03-1995

Company Name: Southwest Soil Remediation
Permit Number: AC 37-276044 / 7770246-001-AC
PSD Number:
Permit Engineer: Hanks

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
- [ ] Unsigned Permit

Correspondence with:

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

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

Final Determination:

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

Post Permit Correspondence:

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

Z 127 633 224

Receipt for Certified Mail

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

UNITED STATES POSTAL SERVICE

Sent to: Trevor Johansen	
Street and No.: SW Soil Remed.	
P.O., State and ZIP Code: Tucson, AZ	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date: AC37-276044 12-19-95	

PS Form **3800**, March 1993

Is your RETURN ADDRESS completed on the reverse side?

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 below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

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:
Trevor Johansen, Pres.
SW Soil Remediation Inc
3951 E. Columbia St.
Tucson, AZ 85714-2155

4a. Article Number: Z 127 633 224

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

7. Date of Delivery: 12-22-95

5. Signature (Addressee)

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

6. Signature (~~Agent~~): S. Lee

PS Form **3811**, December 1991 ☆U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

FINAL DETERMINATION

Southwest Soil Remediation, Inc.
Tucson, Arizona

Mobile 20 TPH Soil Thermal treatment Facility
Statewide Operation

Department Permit No. AC 37-276044

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

December 13, 1995

FINAL DETERMINATION

Southwest Soil Remediation, Inc.
AC 37-276044

The Intent to Issue an air construction permit to Southwest Soil Remediation, Inc. for a mobile 20 TPH soil thermal treatment facility was distributed on October 5, 1995. The Notice of Intent to Issue was published in the Florida Times-Union on November 2, 1995. Copies of the evaluation were available for public inspection at all District and approved county air program offices. Comments on the Department's intent were submitted by the Environmental Action Commission of Manatee County (EACMC) and the applicant.

EACMC requested that the permit include a condition requiring that they be notified prior to this unit operating in Manatee County. The Department revised Specific Condition No. 29 of the draft permit to incorporate the requested requirement.

The applicant requested that the unit be allowed to operate with a shorter stack than proposed by the Department. The Department proposed a 33 feet high stack in the draft permit. The applicant submitted screen model calculations showing that the Ambient Reference Concentrations were unlikely to be exceeded with a 25 feet high stack. The Department has revised the description on the first page of the draft permit and Specific Condition No. 2 to allow the use of a 25 feet high stack.

The applicant requested that they not be required to install the quench duct specified in the draft permit. They noted that the quench duct was part of the acid gas scrubber which is not required for soil thermal treatment facilities in Florida. The Department is in agreement with their position and has removed the requirement for the quench duct from the permit because the emission limits and the Ambient Reference Concentration can be met without it.

The Department has also eliminated the requirement that the applicant notify the Bureau of Air Regulation prior to each scheduled test and relocation of the unit. The applicant must continue to notify the Districts and counties that have environmental programs prior to these actions.

The final action of the Department will be to issue the construction permit as proposed except for the changes discussed above.

Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

State of Florida
Department of Environmental Protection
Notice of Permit

In the matter of an
Application for Permit by:
Mr. Trevor Johansen, President
Southwest Soil Remediation, Inc.
3951 East Columbia Street
Tucson, Arizona 85714-2155

DEP File No. AC 37-276044
Duval County
Mobile Operation

Enclosed is Permit Number AC 37-276044 for the construction of a mobile 20 TPH soil thermal treatment facility. The facility will be initially operated in Duval County. It may operate in other counties in Florida after completion of the public notice requirements for the county and amending the permit for the facility. This permit is issued pursuant to Section 403, Florida Statutes.

Any party to this Order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 14 days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

C. H. Fancy, P.E., Chief
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
904-488-1344

Southwest Soil Remediation, Inc.
Permit No. AC 37-276044

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this **NOTICE OF PERMIT** and all copies were mailed by certified mail before the close of business on 12-19-95 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to §120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Kyri Jobes 12-19-95
Clerk Date

Copies furnished to:

District Air Program Administrators
County Air Program Administrators
Wallace Norman Smith, Astec, Inc.

Department of
Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

PERMITTEE:
Southwest Soil Remediation, Inc.
3951 E. Columbia St.
Tucson, Arizona 85714-2155

Permit Number: AC 37-276044
Expiration Date: Nov. 15, 1996
County: Mobile Operation

Project: Mobile Soil Thermal Treatment Facility

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-212 and 62-4, Florida Administrative Code (F.A.C.). The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

Authorization to construct a Ryan Murphy, Inc. 20 ton per hour (TPH) mobile soil thermal treatment facility/unit (SIC 1629) in Florida. The unit contains a petroleum contaminated soil feed bin, a 7.8 million British thermal unit per hour (MMBtu/hr) 4 feet diameter by 20 feet long rotary drum dryer (kiln), a pulse-jet baghouse with a 4.5 to 1 air to cloth ratio, a catalytic oxidizer, air scrubber, a 4 feet diameter by 25 feet high stack, a Kohler 125 KW diesel generator, and associated equipment. To comply with Florida regulations for soil thermal treatment facilities (Rule 62-296.415, F.A.C.), the unit will be equipped with a 17 MMBtu/hr thermal oxidizer (afterburner) estimated to have a 99.1 percent destruction efficiency. The unit will discharges approximately 20,200 acfm of gases at 1,500 °F to the atmosphere. The kiln and afterburner will use propane (LPG) or natural gas fuels. The diesel engine will use low sulfur diesel fuel (0.05% sulfur max.).

Initial operation is authorized in Duval County only. The facility may be used in any county within the state provided that the public notice requirements have been met in the county and the unit's permit has been amended to authorize operation in that county.

The facility shall be constructed and operated in accordance with the permit applications, plans, documents, amendments, and drawings, except as otherwise noted in the Technical Evaluation and Preliminary Determination, General Conditions, or Specific Conditions.

Attachments:

1. Application received August 16, 1995 (contains confidential information).
2. DEP letter dated August 25, 1995.
3. SW Soil Remediation letter received September 11, 1995.
4. SW Soil Remediation letter dated October 23, 1995.
5. List DEP District and county air programs.

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 acknowledgment 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.

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

GENERAL CONDITIONS:

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 62-4.120 and 62-30.300, 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.

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.

GENERAL CONDITIONS:

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

SPECIFIC CONDITIONS:

CONSTRUCTION REQUIREMENTS

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

2. The afterburner (thermal oxidizer) for this unit shall be equipped with a stack having a minimum elevation of 25 feet above ground level.

3. The stack sampling facilities must comply with Rule 62-297.345, F.A.C.

4. The unit shall be equipped with means to measure the process feed rate of contaminated soil to the kiln, the pressure drop across the baghouse, and continuous monitors with recorders for the hot zone temperature and the carbon monoxide (CO) concentration (Rule 62-296.415(1)(c), F.A.C.).

5. No alterations shall be made to this unit that has the potential to increase air pollutant emissions without the prior written approval from the Department's Bureau of Air Regulation (BAR).

PLANT OPERATION REQUIREMENTS

6. The facility shall only treat petroleum contaminated soil as defined in Rule 62-775, F.A.C. (Rule 62-296.415, F.A.C.).

7. Hazardous waste as defined in 40 CFR 261.3 shall not be processed by this facility (Rule 62-775, F.A.C.).

8. This facility shall not treat soil contaminated with polychlorobiphenyls (PCB) (Rule 62-775, F.A.C.).

9. Based on data in the application, the total petroleum hydrocarbons (TPHC) contaminates in the soil treated by this facility shall not exceed 15,000 mg/Kg (daily avg.) without prior approval by the Department.

10. The afterburner shall be operated at or above 1,500 °F with a minimum of 1 second retention time (Rule 62-296.415, F.A.C.).

SPECIFIC CONDITIONS:

11. The facility may operate 24 hours per day, 7 days per week, but not more than 5,880 hours during any calendar year. It shall not be operated at a site with another soil thermal treatment facility without prior approval from the Department (combined emissions may make a major facility and the impact of the emissions may exceed the Ambient Reference Concentration).

12. The maximum contaminated soil charging rate to this facility shall not exceed 20 TPH. The permittee shall demonstrate compliance with the PM and visible emission standard of this permit within 45 day of initial operation in Florida at a rate of 18 - 20 TPH.

13. Soil entering the kiln cannot be larger than 2 inches in diameter (Rule 62-775, F.A.C.).

14. As proposed by the permittee, only natural gas or propane (LPG) shall be used as fuel for the kiln and afterburner. Only low sulfur diesel fuel shall be burned by the diesel generator. The maximum permitted fuel consumption is 248 therms per hour of natural gas or 271 gallons per hour (GPH) of propane for the kiln and afterburner. The electrical generator is allowed to burn 10 GPH diesel fuel.

15. The system shall be properly operated and maintained (Rule 62-210.300, F.A.C.). No person shall circumvent any pollution control device or allow the emissions of air pollutants without the applicable air pollution control devices operating properly (Rule 62-210.650, F.A.C.). The permittee's operation of the soil thermal treatment facility in Florida is conditioned upon the baghouse and the afterburner of the facility being fully operational, as demonstrated by monitoring instrumentation on the baghouse and afterburner.

16. The unit shall not be operated at a location or in a manner that may create a nuisance.

EMISSION LIMITS

17. Particulate matter emissions from the afterburner stack shall neither exceed 0.04 grains/dscf, 2.1 lbs/hr, and 6.1 TPY (Rule 62-296.415(2)(b), F.A.C.).

18. Visible emissions from the facility stack shall not exceed 5 percent opacity (Rule 62-296.415(2)(a), F.A.C.).

19. The average carbon monoxide emissions shall not exceed 100 parts per million by volume, dry, during any 60 consecutive minute period (Rule 62-296.415(1)(b), F.A.C.).

SPECIFIC CONDITIONS:

20. The operation of this facility shall not result in the emissions of air pollutants which cause or contribute to an objectionable odor pursuant to Rule 62-296.320, F.A.C.

21. Untreated soil removed from the ground shall be stored under waterproof covers to minimize unconfined emissions of petroleum products (Rule 62-296.310, F.A.C.).

22. Reasonable precautions shall be used to minimize unconfined emissions of particulate matter generated by the operation (Rule 62-296.310, F.A.C.). Reasonable precautions shall be defined as keeping the work areas wet where the soil is being removed, treated, handled, stored, and disposed of.

EMISSION TESTING REQUIREMENTS

23. This facility shall be tested (EPA test methods are specified in 40 CFR 60, Appendix A, revised July 1, 1995) for visible emissions during startup at each new site it is operated at and annually for:

(A) Particulate matter (PM) emissions by EPA Methods 1, 2, 3, 4, and 5.

(B) Visible emissions by EPA Method 9.

(C) Carbon monoxide (CO) emissions by averaging each hour of the readings from the CO continuous emission monitor during the PM test period.

(D) Afterburner temperature by averaging each hour of the temperature readings from the continuous temperature monitor during the PM test.

(E) Afterburner residence time using the test data collected by EPA Methods 1 and 2.

(F) Fuel oil sulfur limits based on analysis referenced in 40 CFR 60.17 or other methods after Department approval. A certified analysis by the fuel oil supplier or documentation that road grade diesel fuel is used in the generator will also be acceptable.

(G) Contaminated soil analysis for volatile organic aromatics (VOA), total recoverable petroleum hydrocarbons (TRPH), polynuclear aromatic hydrocarbons (PAH), volatile organic halocarbons (VOH), and metals as required by Rule 17-775.410, F.A.C. of the soil being treated during the particulate matter compliance test.

SPECIFIC CONDITIONS:

Testing of emissions shall be conducted with the source operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then sources may be tested at less than capacity; in this case subsequent source operation is limited to 110 percent of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity in the permit. (Rule 62-297.310, F.A.C.)

24. All compliance tests and test reports shall meet the requirements listed in Rule 62-297, F.A.C.

25. 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 Rule 62-296.415, 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 source and to provide a report on the results of said tests to the Department (Rule 17-297.340(2), F.A.C.).

RECORDKEEPING REQUIREMENTS

26. Temperature of the afterburner and CO concentration shall be recorded continuously during operations. The instruments used to obtain these measurements shall be properly calibrated, maintained, and in operation any time the facility is in service.

27. The permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements, all continuous monitoring system performance evaluations, all continuous monitoring system or monitoring device calibration checks, adjustments and maintenance performed on these systems or devices, all soil analysis required by Rule 62-775, F.A.C., and all other information required by rules and this permit, recorded in a permanent form suitable for inspection. The file shall be retained for at least 3 years following the date of such measurements, maintenance, reports, and records.

28. The permittee shall maintain a daily log that shows the date, location, operation time, pressure drop across the PM control device, processing rate, type and quantity of fuel consumption in the dryer and afterburner, and any operation problems. These records shall be maintained for a minimum of 3 years.

SPECIFIC CONDITIONS:

ADMINISTRATIVE REQUIREMENTS

29. The district and county air program administrators in the counties where the compliance tests will be conducted, shall be notified in writing at least 15 days in advance of any scheduled compliance test to be conducted on this facility (Rule 62-297.340(1)(i), F.A.C.).

30. Compliance test results shall be submitted to the district office and county environmental program (if applicable) that the tests were conducted in within 45 days of the test (Rule 62-297.570(2), F.A.C.).

31. At least 7 days prior to relocating the plant, the permittee shall notify the air program administrator for the Department's district and, if applicable, county air program administrator of the next site where the unit will be operated. The notification shall be on DEP Form 62-210.900(3), F.A.C. The notification shall include the permit number of the facility, a copy of the last stack test results, the date of the proposed move, the new work site for the facility, the amount of contaminated soil at the new site, and the locations and contamination levels of the soils to be treated. Unless notified otherwise by an environmental agency, the unit may be relocated and operated at the new site. The Department will notify the permittee of any new restrictions for the facility that will apply while it is operating at the new site (Rule 62-775.700(1), F.A.C.).

32. The permittee shall submit to the BAR each calendar year, on or before March 1, an Annual Operation Report DEP Form 62-1.202(c) for this facility for the preceding calendar year containing at least the following information pursuant to Subsection 403.061(13), F.S.:

(A) Annual amount of material and/or fuels utilized.

(B) Annual emissions in TPY (note calculation basis).

(C) Annual hours of operation.

(D) Any changes in the information contained in the application.

(E) All compliance tests reports for the preceding year.

(F) Temperature and CO exceedance reports for the year.

SPECIFIC CONDITIONS:

33. An application for an operating permit shall be submitted to the BAR at least 90 days prior to the expiration date of this permit. To apply for an operation permit, the applicant shall submit the appropriate application form, fee, a report on any physical change or major maintenance to the facility, and compliance test reports as required by this permit (Rule 62-4.220, F.A.C.).

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Howard L. Rhodes
Director
Division of Air Resources Management

ENVIRONMENTAL ACTION COMMISSION
MANATEE COUNTY, FLORIDA

September 7, 1995

Mr. Clair Fancy, Chief
Bureau of Air Regulation
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RE: Southwest Soil Remediation, Inc.
File No. AC37-276044

Dear Mr. Fancy:

Manatee County Air Program would like some specific conditions incorporated into this permit and others for portable sources which may operate in Manatee County. At a minimum, advance notification of a proposed place and time of operation in Manatee County, an analysis of the material to be treated or any variables to help us evaluate the site for possible conflicts.

An opportunity to provide guidance in advance will allow us to prevent or abate problems in sensitive areas.

Respectfully submitted,

ENVIRONMENTAL ACTION COMMISSION
OF MANATEE COUNTY, FLORIDA

Linda M. Novak

Linda M. Novak
Air Quality Administrator

GOJ/scs

cc: Karen Collins
Air Quality File

P. O. Box 1000
Bradenton, Florida 34206
(813) 742-5980
Fax # (813) 742-5996

SOUTHWEST SOIL REMEDIATION, INC.

October 23, 1995

Mr. Willard Hanks
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Changes to Draft Permit AC 37-276044

Dear Mr. Willard Hanks:

I would like to thank you for speedy review of our application and issuing draft permit. After reviewing the draft permit, I would like to suggest a couple of changes to the permit.

In the draft permit, it says a quench duct must be utilized with the thermal oxidizer. The quench duct is not an abatement device. It is utilized cool off-gas when the acid scrubber is in operation. Since the acid scrubber is an optional equipment and will not be used on this project, the quench duct should be labeled as an optional equipment as well.

The permit also requires a 33 foot stack when the unit is operating in Florida. I would like to suggest a 25 foot stack instead. At this height, the ambient air concentration of VOC would be 7.06 µg/m3 (24 hr. avg.). Please see attached SCREEN v.1.1. printout.

Please do not hesitate to call me if you have any questions.

Sincerely,

Jae Chang

Jae Chang
Chemical Engineer

Attachments

[illegible]
[illegible]
[illegible]
[illegible]

Offices of the DEPARTMENT OF ENVIRONMENTAL PROTECTION

NORTHEAST DISTRICT
Ernest E. Frye, Director [X201]
7825 Baymeadows Way, Suite 200B
Jacksonville, Florida 32256-7577
904/448-4300 FAX 904/448-4366
SC 880-4300

Air Resources - Chris Kirts 880-4310 [X235]
Waste Management - Mike Fitzsimmons
Water Management - Jeremy Tyler
Water Facilities - Jerry Owen

Northeast District Branch Office
Patricia Reynolds
5700 Southwest 34 Street, Suite 1204
Gainesville, Florida 32608
904/336-2095 FAX 904/377-5671
SC 625-2095

CENTRAL DISTRICT
Vivien Garfein, Director
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767
407/894-7555 FAX 407/897-2966
SC 325-3339 FAX SC 325-2966

Air Resources - Charles Collins FAX 407/897-5963
SC 325-1340 FAX SC 342-5963
Waste Management - William Bostwic
Water Management - George Gionis
Water Facilities -

Central District Satellite Office
Debra Valin
13 East Melbourne Avenue
Melbourne, Florida 32901
407/984-4800 FAX 407/984-4809
SC 350-4800 FAX SC 350-4809

ORTHWEST DISTRICT
ib Cooley, Director
0 Governmental Center
nsacola, Florida 32501-5794
4/444-8300 FAX 904/444-8417
693-8300 FAX SC 693-8417

iministrative/Technical - Richard Fancher
Resources - Ed Middleswart [SC 693-8364]
aste Management - Tom Moody
ater Management - Mark Sowell
ater Facilities -

orthwest District Branch Office
ry Shaffer
55 Jenks Avenue
nama City, Florida 32405
4/872-4375
777-4375

orthwest District Branch Office
rry Neubauer
15 Remington Green Circle
llahassee, Florida 32308
4/488-3704
278-3704

orthwest District Satellite Office
nna Pope
st Office Box 456
pchoppy, Florida 32358
4/697-2040

SOUTHWEST DISTRICT
Dr. Richard D. Garrity, Director [X352]
3804 Coconut Palm Drive
Tampa, Florida 33619-8218
813/744-6100 FAX 813/744-6084
SC 542-6100 FAX SC 542-6084

Air Resources - Bill Thomas [X 116]
Waste Management - Bill Kutash
Water Management - Bob Stetler
Water Facilities - Mike Hickey

Southwest District Satellite Office
Steve Thompson
870 E. Main Center, Suite A
Bartow, Florida 33830
813/534-1448
SC 572-6200

SOUTH DISTRICT
Peter Ware, Director
2295 Victoria Avenue, Suite 364
Fort Myers, Florida 33901
813/332-6975 FAX 813/332-6969
SC 748-6975 FAX SC 542-6969

Administrative/Technical - Ron Blackburn
Air Resources - David Knowles
Waste management - Phil Barbaccia
Water Management - Gordon Romeis
Water Facilities - Abdul Ahmadi

South District Satellite Office
Louis Fendt
7451 Golf Course Boulevard
Punta Gorda, Florida 33982-9359
813/639-4697
SC 721-7636

South District Branch Office
R.J. Hebling
17400 Overseas Highway, Suite 128
Marathon, Florida 33050
305/289-2310
SC 464-2310

SOUTHEAST DISTRICT
Carlos Rivero deAguilar, Director [X 222]
1900 South Congress Avenue, Suite A
West Palm Beach, Florida 33406
407/433-2650 FAX 407/433-2666
SC 232-2650 FAX SC 232-2666

Air Resources - Isidore Goldman [X 129]
Waste Management - Vivek Kamath
Water Management - Marion Hedgepeth
Water Facilities - Don White

Southeast District Branch Office
John Maver
1801 Southeast Hillmoor Drive, Suite C204
Port St. Lucie, Florida 34952
407/878-3890 / 335-4310
SC 221-5053 FAX 407/335-0473

August 23, 1995

APPROVED LOCAL AIR PROGRAMS

Program Directors

. Steve Somerville, Director
oward County Department of Natural
esource Protection
8 Southwest First Avenue
. Lauderdale, Florida 33301
442-1202 305/519-1202
X 305/519-1493

. John W. Renfrow, Director
de County Department of Environmental
esources Management
Southwest Second Avenue, Penthouse 2
ami, Florida 33130
None 305/372-6789
X 305/372-6954

. Daniel Haskell, Director
partment of Regulatory and
nvironmental Services
1 West Church Street, Suite 412
ksonville, Florida 32202-4111
986-3484 904/630-3484
X 904/630-3638

. Roger P. Stewart, Executive Director
lsborough County Environmental
rotection Commission
0 Ninth Avenue
mpa, Florida 33605
543-5960 813/272-5960
X 813/272-5157

. Anna Hacha-Long, Manager
nge County Environmental
rotection Department
2 East Michigan Street
ando, Florida 32806
356-7400 407/836-7400
X 407/836-7499

. Frank J. Gargiulo, Director
ision of Environmental Science
d Engineering
m Beach County Public Health Unit
. Evernia St.
t Office Box 29
st Palm Beach, Florida 33401
273-3070 407/355-3070
X 407/355-2442

Air Section Managers

Ms. Daniela Banu, Director
Air Quality Division
Broward County Department of Natural
Resource Protection
218 Southwest First Avenue
Ft. Lauderdale, Florida 33301
SC 442-1220 305/519-1220
FAX 305/519-1495

Mr. H. Patrick Wong, Chief
Air Section
Dade County Department of
Environmental Resources Management
33 Southwest Second Avenue, Suite 900
Miami, Florida 33130-1540
SC None 305/372-6925
FAX 305/372-6954

Mr. James L. Manning, Acting Chief
Air Quality Division
Regulatory and Environmental
Services Department
421 West Church Street, Suite 412
Jacksonville, Florida 32202-4111
SC 986-3484 904/630-3484
FAX 904/630-3638

Mr. Iwan Choronenko, Director
Air Management Division
Hillsborough County Environmental
Protection Commission
1410 North 21 Street
Tampa, Florida 33605
SC 543-5530 813/272-5530
FAX 813/272-5605

Mr. Dennis Nester, Air Program Supervisor
Orange County Environmental
Protection Department
2002 East Michigan Street
Orlando, Florida 32806
SC 356-7400 407/836-7400
FAX 407/836-7499

Mr. James E. Stormer
Environmental Administrator
Division of Environmental
Science and Engineering
Palm Beach County Public Health Unit
901 Evernia
Post Office Box 29
West Palm Beach, Florida 33401
SC 273-3070 407/355-3070
FAX 407/355-2442

16-November-1995

Mr. Wm Davis, Director
Pinellas County Department of
Environmental Management
600 Cleveland Street, Suite 440
Clearwater, Florida 34616
SC None 813/298-1750
FAX 813/298-1761

Mr. Peter A. Hessling, Administrator
Air Quality Division
Pinellas County Department of
Environmental Management
300 South Garden Street
Clearwater, Florida 34616
SC 570-4422 813/464-4422
FAX 813/464-4420

Mr. Gary S. Comp, Director
Sarasota County Natural Resources
Department
1301 Cattlemen Road, Building A
Sarasota, Florida 34232
SC 522-6113 813/378-6113
FAX 813/378-6067

Mr. J. Kent Kimes, P.E.
Manager, Pollution Control Division
Sarasota County Natural Resources
Department
1301 Cattlemen Road, Building A
Sarasota, Florida 34232
SC 522-6128 941/378-6128
FAX 941/378-6067

Non-Approved Local Programs

Ms. Linda Novak
Air Quality Administrator
Air Quality Division
Manatee County Environmental
Management Department
Post Office Box 1000, 34206-1000
202 Sixth Avenue, East, 34208
Bradenton, Florida
SC 527-5980 941/742-5980
FAX 941/742-5996

Mr. Roy Harwood, Interim Program Director
Air Quality Division
Public Works Department
Natural Resources and Drainage Division
4177 Ben Durrance Rd.
Bartow, Florida 33830
SC 569-3710 941/534-7377
FAX 941/534-7374

Mr. Barry Appleby
Pollution Control Manager
Volusia County Environmental Management
123 West Indiana Avenue
Deland, Florida 32720-4621
SC 377-2734 904/736-5927
FAX 904/822-5727

Florida Department of
Environmental Protection

Memorandum

To: Howard Rhodes

Thru: Clair Fancy
Al Linero

From: Willard Hanks

Date: December 13, 1995

Subject: Approval of a Construction Permit
Southwest Soil Remediation, Inc.

Attached for your approval and signature is a construction permit for a 20 TPH mobile soil thermal treatment facility. The applicant is installing an afterburner so that the unit can be operated in Florida. Standard air pollution control equipment for this unit included a catalytic oxidizer and acid gas scrubber. The draft permit said operation of this equipment is not required in Florida.

This existing unit will be moved from Arizona to Florida to operate at the NAS in Jacksonville initially. The permit allows for operation in other parts of the state after completing the public notice requirements and amending the unit's permit.

The applicant submitted comments and modeling results supporting the use of a shorter stack. The applicant also requested that the use of a quench duct, which is part of an optional air pollution control device, not be required. Both of these requests were acceptable to the Bureau. Manatee County also requested that they be notified when the unit operates in that County. This requirement was added to the permit.

I recommend approval of the permit.

CF/wh/h

Attachment

SOUTHWEST SOIL REMEDIATION, INC.

November 10, 1995

Mr. Willard Hanks
Twin Towers' Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Proof of Public Notice for the Draft Permit AC 37-276044

Dear Mr. Hanks:

The public notice, which is required by the draft permit, was published in the November 2 issue of THE FLORIDA TIMES UNION. A notarized proof of the publication is enclosed for your record.

Please do not hesitate to call me if you have any questions.

Sincerely,

Jae Chang
Chemical Engineer

Enclosure

3951 E. COLUMBIA STREET
TUCSON, ARIZONA 85714
PHONE 602-571-7174
FAX 602-571-7730

BEST AVAILABLE COPY

FLORIDA PUBLISHING COMPANY

Publisher

JACKSONVILLE, DUVAL COUNTY, FLORIDA

STATE OF FLORIDA }
COUNTY OF DUVAL }

Before the undersigned authority personally appeared _____

Janice B. Kelly

who on oath says that he i

Legal Advertising Representative

of The Florida Times-Unio

a daily newspaper published at Jacksonville in Duval County, Florida; that th

attached copy of advertisement, being a Legal Notice

in the matter of Notice of Intent to Issue Permit

AC-37-276044

in the _____ Court

was published in THE FLORIDA TIMES-UNION in the issues of

November 2, 1995

Affiant further says that the said The Florida Times-Union is a newspaper published at Jacksonville, said Duval County, Florida, and that the said newspaper has heretofore been continuously published said Duval County, Florida, The Florida Times-Union each day, has been entered as second class matter at the postoffice in Jacksonville, in said Duval County, Florida, for a period of one year next preceeding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in said newspaper.

Sworn to and subscribed before me this 2 day of November A.D. 1995

Vera Jane Likens

Notary Public,
State of Florida at Large.

My Commission Expires

VERA JANE LIKENS
MY COMMISSION # CC 222556 EXPIRES
June 1, 1996
BONDED THRU TROY FAIN INSURANCE, INC.

DA 444

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT
AC 37-276044

The Department of Environmental Protection (Department) gives notice of its intent to issue a construction permit to Southwest Soil Remediation, Inc., 3951 East Columbia Street, Tucson, Arizona 85714-2155, to relocate a 20 ton per hour mobile soil thermal (afterburner) to Florida. Initial operation will be in Duval County. The unit may operate in any county in Florida after completing the public notice requirements for that county. The regulations do not requ[illegible] a Best [illegible] nology (BACT) determination or Lowest Achievable Emission Rate (LAER) determination. The unit has the potential to emit 7.3 tons per year (TPY) particulate matter, 2.7 TPY sulfur dioxide, 29.3 TPY nitrogen oxides, 16.3 TPY volatile organic compounds, and 8.3 TPY carbon monoxide. These emissions will not cause a violation of any ambient air quality standard or Prevention of Significant Deterioration (PSD) increment. 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 (F.S.). 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, F.S.

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

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

The application is available for public inspection during business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at: Department of Environmental Protection, District Offices located at:
160 Governmental Center, Pensacola, FL 32501-5794
8407 Laurel Fair Drive, Tampa, FL 33619
2295 Victoria Avenue, Suite 364, Ft. Myers, FL 33901
7825 Baymeadows Way, Ste. B200, Jacksonville, FL 32256-7577
3319 Maguire Blvd., Ste. 232, Orlando, FL 32803-3767
1900 S. Congress Avenue, Suite A, West Palm Beach, FL 33406

The County Environmental offices located at:
218 S.W. First Ave., Ft. Lauderdale, FL 33301
33 S.W. Second Ave., Ste. 9-223, Miami, FL 33130
421 W. Church St., Ste. 412, Jacksonville, FL 32256-7577
1410 N. 21st St., Tampa, FL 33605
1900 S. Congress Ave., West Palm Beach, FL 33402-0029
315 Court Street, Clearwater, FL 34616

Any person may send written comments on the proposed action to Administrator, New Source Review Section, at the Department of Environmental Protection, Bureau of Air Regualtion, Mail Station 5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. All comments received within 14 days of the publication of this notice will be considered in the Department's final determination.

Is your RETURN ADDRESS completed on the reverse side?

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 below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

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:
Trevor Johansen, Pres.
SW Soil Remediation, Inc
3951 E. Columbia St.
Tucson, AZ 85714-2155

4a. Article Number
Z 127 632 531

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

7. Date of Delivery
10/10/95

5. Signature (Addressee)

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

6. Signature (Agent)
Rebecca Merrill

PS Form 3811, December 1991 ☆U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

10-03-1995

Z 127 632 531

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

UNITED STATES POSTAL SERVICE

~~Sent to~~ Trevor Johansen	
Street and No. SW Soil Rem.	
P.O., State and ZIP Code Tucson, AZ	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date 10-5-95	

AC37-276044
Mobile Operation

PS Form 3800, March 1993

Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

October 3, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Trevor Johansen, President
Southwest Soil Remediation, Inc.
3951 East Columbia Street
Tucson, Arizona 85714-2155

Dear Mr. Johansen:

Enclosed is a copy of the Technical Evaluation and Preliminary Determination and draft permit to construct (relocate to Florida) a mobile soil thermal treatment facility. The facility must be equipped with a thermal oxidizer (afterburner) to operate in Florida.

Submit any written comments you wish to have considered concerning the Department's proposed action to Mr. A. A. Linero, Administrator, New Source Review Section, of the Bureau of Air Regulation. If you have any questions regarding this matter, please call Willard Hanks at (904)488-1344.

Sincerely,

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

CHF/WH/s

Enclosure

cc: District Air Program Administrators
County Air Program Administrators
Wallace Norman Smith, Astec, Inc.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

CERTIFIED MAIL

In the Matter of an
Application for Permit
Amendment by:

DEP File No. AC 37-276044
Mobile Operation

Mr. Trevor Johansen, President
Southwest Soil Remediation, Inc.
3951 East Columbia Street
Tucson, Arizona 85714-2155

_____/

INTENT TO ISSUE

The Department of Environmental Protection (Department) hereby gives notice of its intent to issue a construction permit (copy attached) for the proposed project, as detailed in the file specified above, for the reasons stated in the attached Technical Evaluation and Preliminary Determination and below.

The applicant, Southwest Soil Remediation, Inc., applied on August 16, 1995, for a permit to construct (relocate to Florida) a 20 TPH mobile soil thermal treatment facility. The facility must use a thermal oxidizer when operating in Florida.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-212 and 62-4, Florida Administrative Code (F.A.C.). The project is not exempt from permitting procedures. The Department has determined that a permit amendment is required for the proposed action.

Pursuant to Section 403.815, Florida Statutes and DER Rule 17-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Intent to Issue Permit. The notice shall be published one time only within 30 days in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. Where there is more than one newspaper of general circulation in the county, the newspaper used must be one with significant circulation in the area that may be affected by the permit. If you are uncertain that a newspaper meets these requirements, please contact the department at the address or telephone number listed below. The

applicant shall provide proof of publication to the Department, at [Department address] within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

The Department will issue the permit with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, F.S. 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 their 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, F.S.

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 intent. Persons whose substantial interests will be affected by any

decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this intent 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.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

C. H. Fancy, P.E., Chief
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399
904-488-1344

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this INTENT TO ISSUE and all copies were mailed by certified mail before the close of business on 10/5/95 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to §120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk 10/5/95 Date

Copies furnished to:

cc: District Air Program Administrators
County Air Program Administrators
Wallace Norman Smith, Astec, Inc.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT

AC 37-276044

The Department of Environmental Protection (Department) gives notice of its intent to issue a construction permit to Southwest Soil Remediation, Inc., 3951 East Columbia Street, Tucson, Arizona 85714-2155, to relocate a 20 ton per hour mobile soil thermal treatment facility equipped with a baghouse and thermal oxidizer (afterburner) to Florida. Initial operation will be in Duval County. The unit may operate in any county in Florida after completing the public notice requirements for that county. The regulations do not require a Best Available Control Technology (BACT) determination or Lowest Achievable Emission Rate (LAER) determination. The unit has the potential to emit 7.3 tons per year (TPY) particulate matter, 2.7 TPY sulfur dioxide, 29.3 TPY nitrogen oxides, 16.3 TPY volatile organic compounds, and 8.3 TPY carbon monoxide. These emissions will not cause a violation of any ambient air quality standard or Prevention of Significant Deterioration (PSD) increment. 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 (F.S.). 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 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, F.S.

The Petition shall contain the following information; (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner

contends warrant reversal or modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and, (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

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

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

The Department of Environmental Protection District offices located at:

160 Governmental Center, Pensacola, FL 32501-5794
8407 Laurel Fair Drive, Tampa, FL 33619
2295 Victoria Avenue, Suite 364, Ft. Myers, FL 33901
7825 Baymeadows Way, Ste. B200, Jacksonville, FL 32256-7577
3319 Maguire Blvd., Ste. 232, Orlando, FL 32803-3767
1900 S. Congress Avenue, Suite A, West Palm Beach, FL 33406

The County Environmental offices located at:

218 S.W. First Ave., Ft. Lauderdale, FL 33301
33 S.W. Second Ave., Ste. 9-223, Miami, FL 33130
421 W. Church St., Ste. 412, Jacksonville, FL 32256-7577
1410 N. 21st St., Tampa, FL 33605
1900 S. Congress Ave., West Palm Beach, FL 33402-0029
315 Court Street, Clearwater, FL 34616

decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this intent 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.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

C. H. Fancy, P.E., Chief
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399
904-488-1344

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this INTENT TO ISSUE and all copies were mailed by certified mail before the close of business on 10/5/95 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to §120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk 10/5/95 Date

Copies furnished to:

cc: District Air Program Administrators
County Air Program Administrators
Wallace Norman Smith, Astec, Inc.

Any person may send written comments on the proposed action to Administrator, New Source Review Section, at the Department of Environmental Protection, Bureau of Air Regulation, Mail Station 5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. All comments received within 14 days of the publication of this notice will be considered in the Department's final determination.

TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION

Southwest Soil Remediation, Inc.
Tucson, Arizona

20 TPH Soil Mobile Thermal treatment Facility

Statewide Operation

Department Permit No. AC 37-276044

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

October 3, 1995

I. GENERAL INFORMATION

A. Applicant

Southwest Soil Remediation, Inc.
3951 East Columbia Street
Tucson, Arizona 85714-2155

B. Request

On August 16, 1995, Southwest Soil Remediation, Inc. submitted an application for a permit to construct (relocate an existing unit from out-of-state to Florida) a 20 ton per hour (TPH) mobile soil thermal treatment facility (rotary kiln with emissions controlled by a baghouse and afterburner) to Florida. This equipment is also referred to as a low temperature thermal desorption treatment unit. The application was considered complete on September 11, 1995, when additional information requested by the Department was received.

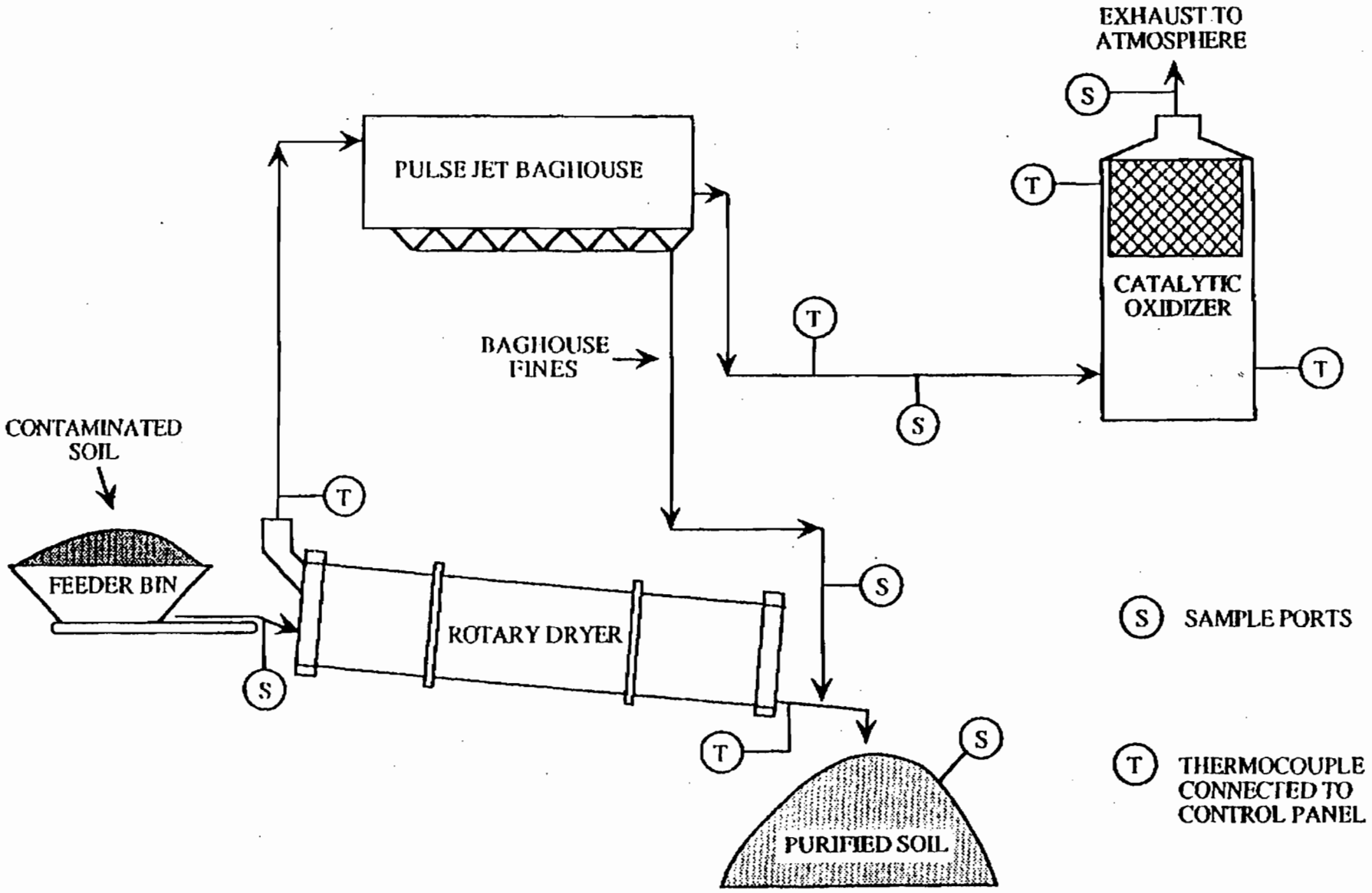
C. Project

The applicant is requesting permission to relocate and operate a Ryan Murphy, Inc. 20 TPH mobile soil thermal treatment facility (SIC 1629) in Florida. The unit contains a petroleum contaminated soil feed bin, a 7.8 million British thermal unit per hour (MMBtu/hr) 4 feet diameter by 20 feet long rotary drum dryer, a pulse-jet baghouse with a 4.5 to 1 air to cloth ratio, a catalytic oxidizer, acid gas scrubber, a 4 feet diameter by 33 feet high stack, a Kohler 125 KW diesel generator, and associated equipment. To comply with Florida regulations for soil thermal treatment facilities (Rule 62-296.415, F.A.C.), the unit will be equipped with a 17 MMBtu/hr thermal oxidizer (afterburner), estimated to have a 99.1 percent destruction efficiency, and a quench duct. The kiln and afterburner will use propane or natural gas fuels. The diesel engine will use low sulfur fuel diesel fuel (0.05% sulfur max.). The catalytic oxidizer does not operate at a high enough temperature to comply with Florida regulations. Also, Florida regulations do not require an acid gas scrubber on a soil thermal treatment facility. Use of these air pollution control devices in Florida is at the option of the applicant.

D. Emissions

The unit is being permitted to treat petroleum contaminated soil as defined in Chapter 62-775, F.A.C., only. The unit will emit particulate matter (PM), volatile organic compounds (VOC), and the products of combustion of the petroleum products, including sulfur dioxide (SO_2), nitrogen oxides (NOx), and carbon monoxide (CO). A 99+ percent efficient pulse jet baghouse will be used to control particulate matter emissions. A baghouse can meet the particulate

4' L.T.T.D. PROCESS FLOW DIAGRAM



SOUTHWEST SOIL REMEDIATION, INC.

matter emissions standard of 0.04 grains per dry standard cubic foot (gr/dscf) for these units in Rule 62-296.415(2), F.A.C. Approximately 20,200 actual cubic feet per minute (acfm) or 3,800 dry standard cubic feet per minute (dscfm) of air flows through the afterburner resulting in an estimated PM emissions of 1.3 lbs/hr. As the unit may operate 5,880 hours per year, the potential PM emissions will be 3.8 TPH. The applicant requested maximum PM emissions from the thermal oxidizer of up to 2.09 lbs/hr and 6.10 TPY.

The VOC is evaporated from the contaminated soil in the kiln and burned in the thermal oxidizer (afterburner) which operates at a minimum temperature of 1,500 °F with a retention time of over 1 second. The applicant estimated the destruction efficiency of the afterburner would be 99.1 percent. The VOC emissions, based on treating soil containing 15,000 mg/kg petroleum, would be 5.4 lbs/hr and 15.9 TPY. Xylene emissions are estimated to be 1 TPY. Other hazardous air pollutant (HAP) emissions are estimated to be less than 1 TPY. Visible emissions from the afterburner cannot exceed 5 percent opacity.

Department regulations (Rule 62-296.415(1)(b), F.A.C.) limit carbon monoxide (CO) emissions to 100 parts per million by volume, dry, (ppmvd), 1-hour average.

The following table gives a summary of the emissions requested by the applicant.

Pollutant		PM	NOx	VOC	CO	SO_2
Thermal Oxidizer	lbs/hr	2.09[a]	5.05	5.4	1.5	0.5
	TPY[c]	6.10	14.9	15.9[b]	4.4	1.5
Diesel Engine	lbs/hr	0.42	5.05	0.13	1.32	0.39
	TPY[c]	1.23	14.8	0.38	3.88	1.15
Total	TPY[c]	7.33	29.7	16.28	8.28	2.65

a-PM emissions based on 0.04 gr/dscf
b-BTEX emissions estimated at 0.21 TPY benzene, 0.86 TPY toluene, 0.18 TPY ethylbenzene, and 1.02 TPY xylene
c-TPY based on 5,880 hrs/yr operation

II. RULE APPLICABILITY

The proposed project, relocating a mobile soil thermal treatment facility to Florida, is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4, 62-210, 62-212, 62-296, and 62-297, Florida Administrative Code (F.A.C.).

The plant may be operated in areas designated attainment for all criteria air pollutants (Rule 62-275.400, F.A.C.), nonattainment for ozone and particulate matter (Rule 62-275.410, F.A.C.), unclassified for PM10 and sulfur dioxide (Rule 62-275.420, F.A.C.), and maintenance for ozone (Rule 62-275.600, F.A.C.).

The plant is a minor source of regulated air pollutants. The plant is not subject to the Reasonably Available Control Technology (RACT) standards because PM emissions are less than 5 lbs/hr and 15 TPY (Rule 62-296.700(2), F.A.C.

The plant is subject to Rule 62-212.300, F.A.C., which pertains to sources not subject to the Prevention of Significant Deterioration (PSD) or nonattainment review. Some of the regulations the plant is subject to are Rule 62-296.415, F.A.C., Soil Thermal Treatment Facilities, Rule 62-296.310(3), F.A.C., Unconfined Emissions, and Rule 62-210.900(3), F.A.C., Notification of Intent to Relocate Requirements.

III. TECHNICAL EVALUATION

The baghouse on the proposed unit is capable of meeting the particulate matter emission standard in the rules.

The thermal oxidizer (afterburner) is capable of meeting the temperature/retention times specified in the regulations. The afterburner will be equipped with a temperature and CO continuous emissions monitor as required by the regulation.

Reasonable precautions are required to control unconfined particulate emissions. This will involve wetting the treated soil prior to discharge from the unit and during transfer and storage of this soil prior to final disposal as needed.

The catalytic oxidizer will not operate at a high enough temperature to comply with the regulations. Its use is at the option of the applicant. The use of the acid gas scrubber on this unit is at the option of the applicant.

IV. Air Quality

The ambient air impact of the VOC emissions (5.4 lbs/hr) would be 10.2 ug/m^3 (24-hr. avg.) with a 16.5 feet high stack and 5.2 ug/m^3 (24-hr. avg.) with a 33 feet high stack. To provide more assurance that an Ambient Reference Concentration is not exceeded, the Department will require the unit to be equipped with a 33 feet high stack. This will provide reasonable assurance that operation of

this unit will not cause a violation of any ambient air quality standard or create an unreasonable health risk to the general public.

V. Conclusion

Based on the information provided by Southwest Soil Remediation, Inc., the Department has reasonable assurance that the proposed operation of the mobile soil thermal treatment facility, 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, or any other technical provision of Chapters 62-212 and 62-4 of the Florida Administrative Code.

agy 1013

Florida Department of
Environmental Protection

Memorandum

To: Clair Fancy

Thru: Al Linero

From: Willard Hanks wmh

Date: October 3, 1995

Subject: Intent to Issue
Southwest Soil Remediation, Inc.

Attach is an Intent to Issue, Public Notice, Technical Evaluation and Preliminary Determination, and draft construction permit for a 20 TPH mobile soil thermal treatment facility. The applicant is installing an afterburner so that the unit can be operated in Florida. Standard air pollution control equipment for this unit includes a catalytic oxidizer and acid gas scrubber. The draft permit says operation of this equipment is at the option of the permittee.

This existing unit will be moved from Arizona to Florida to operate at the NAS in Jacksonville initially. The permit allows for operation in other parts of the state after completing the public notice requirements and amending this permit.

I recommend approval of the proposal.

CF/wh/s

Attachment

Department of Environmental Protection

DRAFT

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

PERMITTEE:
Southwest Soil Remediation, Inc.
3951 E. Columbia St.
Tucson, Arizona 85714-2155

Permit Number: AC 37-276044
Expiration Date: Nov. 15, 1996
County: Mobile Operation
Project: Mobile Soil Thermal Treatment Facility

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-212 and 62-4, Florida Administrative Code (F.A.C.). The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

Authorization to construct a Ryan Murphy, Inc. 20 ton per hour (TPH) mobile soil thermal treatment facility or unit (SIC 1629) in Florida. The unit contains a petroleum contaminated soil feed bin, a 7.8 million British thermal unit per hour (MMBtu/hr) 4 feet diameter by 20 feet long rotary drum dryer (kiln), a pulse-jet baghouse with a 4.5 to 1 air to cloth ratio, a catalytic oxidizer, air scrubber, a 4 feet diameter by 33 feet high stack, a Kohler 125 KW diesel generator, and associated equipment. To comply with Florida regulations for soil thermal treatment facilities (Rule 62-296.415, F.A.C.), the unit will be equipped with a 17 MMBtu/hr thermal oxidizer (afterburner), estimated to have a 99.1 percent destruction efficiency, and a quench duct. The unit will discharges approximately 20,200 acfm of gases at 1,500 °F to the atmosphere. The kiln and afterburner will use propane (LPG) or natural gas fuels. The diesel engine will use low sulfur fuel diesel fuel (0.05% sulfur max.). Construction/operation of the catalytic oxidizer and an acid gas scrubber for this unit is at the option of the permittee.

Initial operation is authorized in Duval County only. The facility may be used in any county within the state provided that the public notice requirements have been met in the county and this permit has been amended to authorize operation in that county.

The facility shall be constructed and operated in accordance with the permit applications, plans, documents, amendments and drawings, except as otherwise noted in the Technical Evaluation and Preliminary Determination, General Conditions, or Specific Conditions.

Attachment:

1. Application received August 16, 1995 (contains confidential information).
2. DEP letter dated August 25, 1995.
3. SW Soil Remed. letter received Sept. 11, 1995

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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 acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

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

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed 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.

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GENERAL CONDITIONS:

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law 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.

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.

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GENERAL CONDITIONS:

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

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-30.300, 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.

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.

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GENERAL CONDITIONS:

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

SPECIFIC CONDITIONS:

CONSTRUCTION REQUIREMENTS

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

2. The afterburner (thermal oxidizer) for this unit shall be equipped with a stack having a minimum elevation of 33 feet above ground level.

3. The stack sampling facilities must comply with Rule 62-297.345, F.A.C.

4. The unit shall be equipped with means to measure the process feed rate of contaminated soil to the kiln, the pressure drop across the baghouse, and continuous monitors with recorders for the hot zone temperature and the carbon monoxide (CO) concentration (Rule 62-296.415(1)(c), F.A.C.).

5. No alterations shall be made to this unit that has the potential to increase air pollutant emissions without the prior written approval from the Department's Bureau of Air Regulation (BAR).

PLANT OPERATION REQUIREMENTS

6. The facility shall only treat petroleum contaminated soil as defined in Rule 62-775, F.A.C. (Rule 62-296.415, F.A.C.).

7. Hazardous waste as defined in 40 CFR 261.3 shall not be processed by this facility (Rule 62-775, F.A.C.).

8. This facility shall not treat soil contaminated with polychlorobiphenyls (PCB) (Rule 62-775, F.A.C.).

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SPECIFIC CONDITIONS:

9. Based on data in the application, the total petroleum hydrocarbons (TPHC) contaminants in the soil treated by this facility shall not exceed 15,000 mg/Kg (daily avg.) without prior approval by the Department.

10. The afterburner shall be operated at or above 1,500 °F with a minimum of 1 second retention time (Rule 62-296.415, F.A.C.).

11. The facility may operate 24 hours per day, 7 days per week, but not more than 5,880 hours during any calendar year. It shall not be operated at a site with another soil thermal treatment facility without prior approval from the Department (combined emissions may constitute a major facility and the impact of the emissions may exceed the Ambient Reference Concentration).

12. The maximum contaminated soil charging rate to this facility shall not exceed 20 TPH. The permittee shall demonstrate compliance with the PM and visible emission standard of this permit within 45 day of initial operation in Florida at a rate of 18 - 20 TPH.

13. Soil entering the kiln cannot be larger than 2 inches in diameter (Rule 62-775, F.A.C.).

14. As proposed by the permittee, only natural gas or propane (LPG) shall be used as fuel for the kiln and afterburner. Only low sulfur diesel fuel shall be burned by the diesel generator. The maximum permitted fuel consumption is 248 therms per hour of natural gas or 271 gallons per hour (GPH) of propane for the kiln and afterburner. The electrical generator is allowed to burn 10 GPH diesel fuel.

15. The system shall be properly operated and maintained (Rule 62-210.300, F.A.C.). No person shall circumvent any pollution control device or allow the emissions of air pollutants without the applicable air pollution control device operating properly (Rule 62-210.650, F.A.C.). The permittee's operation of the soil thermal treatment facility in Florida is conditioned upon the baghouse and the afterburner of the facility being fully operational, as demonstrated by monitoring instrumentation on the baghouse and afterburner.

16. The unit shall not be operated at a location or in a manner that may create a nuisance.

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SPECIFIC CONDITIONS:

EMISSION LIMITS

17. Particulate matter emissions from the afterburner stack shall neither exceed 0.04 grains/dscf, 2.1 lbs/hr, and 6.1 TPY (Rule 62-296.415(2)(b), F.A.C.).

18. Visible emissions from the facility stack shall not exceed 5 percent opacity (Rule 62-296.415(2)(a), F.A.C.).

19. Carbon monoxide emissions shall not exceed 100 parts per million by volume, dry, during any 60 consecutive minute period (Rule 62-296.415(1)(b), F.A.C.).

20. The operation of this facility shall not result in the emissions of air pollutants which cause or contribute to an objectionable odor (Rule 62-296.320, F.A.C.).

21. Untreated soil removed from the ground shall be stored under waterproof covers to minimize unconfined emissions of petroleum products (Rule 62-296.310, F.A.C.).

22. Reasonable precautions shall be used to minimize unconfined emissions of particulate matter generated by the operation (Rule 62-296.310, F.A.C.). Reasonable precautions shall be defined as keeping the work areas wet where the soil is being removed, treated, handled, stored, and disposed of.

EMISSION TESTING REQUIREMENTS

23. This facility shall be tested (EPA test methods are specified in 40 CFR 60, Appendix A, revised July 1, 1995) for visible emissions during startup at each new site it is operated at and annually for:

(A) Particulate matter (PM) emissions by EPA Methods 1, 2, 3, 4, and 5.

(B) Visible emissions by EPA Method 9.

(C) Carbon monoxide (CO) emissions by averaging each hour of the readings from the CO continuous emission monitor during the PM test period.

(D) Afterburner temperature by averaging each hour of the temperature readings from the continuous temperature monitor during the PM test.

SPECIFIC CONDITIONS:

(E) Afterburner residence time using the test data collected by EPA Methods 1 and 2.

(F) Fuel oil sulfur limits based on analysis referenced in 40 CFR 60.17 or other methods after Department approval. A certified analysis by the fuel oil supplier or documentation that road grade diesel fuel is used in the generator will also be acceptable.

(G) Contaminated soil analysis for volatile organic aromatics (VOA), total recoverable petroleum hydrocarbons (TRPH), polynuclear aromatic hydrocarbons (PAH), volatile organic halocarbons (VOH), and metals as required by Rule 17-775.410, F.A.C. of the soil being treated during the particulate matter compliance test.

Testing of emissions shall be conducted with the source operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then sources may be tested at less than capacity; in this case subsequent source operation is limited to 110 percent of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity in the permit. (Rule 62-297.310, F.A.C.)

24. All compliance tests and test reports shall meet the requirements listed in Rule 62-297, F.A.C.

25. 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 Rule 62-296.415, 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 source and to provide a report on the results of said tests to the Department (Rule 17-297.340(2), F.A.C.).

RECORD KEEPING REQUIREMENTS

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

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SPECIFIC CONDITIONS:

27. The permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements, all continuous monitoring system performance evaluations, all continuous monitoring system or monitoring device calibration checks, adjustments and maintenance performed on these systems or devices, all soil analysis required by Rule 62-775, F.A.C., and all other information required by rules and this permit, recorded in a permanent form suitable for inspection. The file shall be retained for at least 3 years following the date of such measurements, maintenance, reports, and records.

28. The permittee shall maintain a daily log that shows the date, location, operation time, pressure drop across the PM control device, processing rate, type and quantity of fuel consumption in the dryer and afterburner, and any operation problems. These records shall be maintained for a minimum of 3 years.

ADMINISTRATIVE REQUIREMENTS

29. The Bureau of Air Regulation (BAR) and the District or county that the compliance tests will be conducted in shall be notified in writing at least 15 days in advance of any scheduled compliance test to be conducted on this facility (Rule 62-297.340(1)(i), F.A.C.).

30. Compliance test results shall be submitted to the BAR and the District that the tests were conducted in within 45 days of the test (Rule 62-297.570(2), F.A.C.).

31. At least 7 days prior to relocating the plant, the permittee shall notify the air program administrator for the Department's District and, if applicable, county air program administrator, along with the Department's BAR, the next site in Florida that the unit will be operated at. The notification will be on DEP Form 62-210.900(3), F.A.C. The notification shall include the permit number of the facility, a copy of the last stack test results, the date of the proposed move, the new work site for the facility, the amount of contaminated soil at the new site, and the locations and contamination levels of the soils to be treated. Unless notified otherwise by an environmental agency, the unit may be relocated and operated at the new site. The Department will notify the permittee of any new restrictions for the facility that will apply while it is operating at the new site (Rule 62-775.700(1), F.A.C.).

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SPECIFIC CONDITIONS:

32. The permittee shall submit to the BAR each calendar year, on or before March 1, an Annual Operation Report DEP Form 62-1.202(c) for this facility for the preceding calendar year containing at least the following information pursuant to Subsection 403.061(13), F.S.:

(A) Annual amount of material and/or fuels utilized.

(B) Annual emissions in TPY (note calculation basis).

(C) Annual hours of operation.

(D) Any changes in the information contained in the application.

(E) All compliance tests reports for the preceding year.

(F) Temperature and CO exceedance reports for the year.

33. An application for an operating permit must be submitted to the BAR at least 90 days prior to the expiration date of this permit. To apply for an operation permit, the applicant shall submit the appropriate application form, fee, a report on any physical change or major maintenance to the facility, and compliance test reports as required by this permit (Rule 62-4.220, F.A.C.).

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

_____

Howard L. Rhodes
Director
Division of Air Resources
Management

ENVIRONMENTAL ACTION COMMISSION
MANATEE COUNTY, FLORIDA

September 7, 1995

Mr. Clair Fancy, Chief
Bureau of Air Regulation
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RE: Southwest Soil Remediation, Inc.
File No. AC37-276044

Dear Mr. Fancy:

Manatee County Air Program would like some specific conditions incorporated into this permit and others for portable sources which may operate in Manatee County. At a minimum, advance notification of a proposed place and time of operation in Manatee County, an analysis of the material to be treated or any variables to help us evaluate the site for possible conflicts.

An opportunity to provide guidance in advance will allow us to prevent or abate problems in sensitive areas.

Respectfully submitted,

ENVIRONMENTAL ACTION COMMISSION
OF MANATEE COUNTY, FLORIDA

Linda M. Novak

Linda M. Novak
Air Quality Administrator

GOJ/scs

cc: Karen Collins
Air Quality File

P. O. Box 1000
Bradenton, Florida 34206
(813) 742-5980
Fax # (813) 742-5996

SOUTHWEST SOIL REMEDIATION, INC.

RECEIVED

SEP 11 1995

Bureau of
Air Regulation

Mr. A. A. Linero, P.E.
Administrator
New Source Review Section
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Linero:

RE: Southwest Soil Remediation - File No. AC 37-276044

Southwest Soil Remediation, Inc. (S.S.R.) received a letter requesting additional information dated August 25. S.S.R. is providing the following information and requesting Florida DEP to resume reviewing our application.

1. S.S.R. will only treat petroleum contaminated soil as defined in Chapter 62-775. Other chemicals, which are not allowed in Chapter 62-775, listed on Table 1 and 2 will only be treated when Florida DEP grants their treatment.

2. No, S.S.R. does not plan to alter the catalytic oxidizer to operate above 1500°F. The catalytic oxidizer is not required to achieve 1500°F to convert the contaminants to CO_2 and water, because the noble metal catalysts promotes the conversion from contaminants to CO_2 and water.

   e.g. $CH_4 + 3O_2 \xrightarrow{Pt} CO_2 + 2H_2O$

   This allows the catalyst to operate at lower temperature and still control VOC emissions very efficiently.

3951 E. COLUMBIA STREET
TUCSON, ARIZONA 85714
PHONE 602-571-7174
FAX 602-571-7730

The thermal oxidizer is required to achieve 1500°F, because the heat promotes the conversion from contaminants to CO_2 and water.

e.g. $CH_4 + 3O_2 \xrightarrow{\text{Heat}} CO_2 + 2H_2O$

The 4' plant may utilize either the catalytic oxidizer or thermal oxidizer depending on the concentration level of contaminants.

3. Yes, the unit is capable of meeting a 5 percent opacity visible emissions standard consistently.

4. Yes, the diesel generator is capable of meeting a 20 percent opacity visible emissions standard consistently.

5. S.S.R. is asking for 35 weeks per year to operate in Florida.

6. No, the acid scrubber will not be utilized for remediating petroleum contaminated soil. It will be utilized for remediating chlorinated hydrocarbons contaminated soil, when Florida DEP grants their treatment.

7. Attached to this letter is the non-confidential versions of the additional information requested.

If you have any questions or require more information, please do not hesitate to call me.

Sincerely,

Jae Chang
Chemical Engineer

Attachments

4' L.T.T.D. Soil Remediation Unit

Non-Confidential Information

General Process Equipment Specifications

The 4' L.T.T.D. unit is mainly consisted of a rotary drum dryer, baghouse, catalytic oxidizer, thermal oxidizer, quench duct, and acid scrubber. The acid scrubber is not utilized unless the contaminants will result in HCl emission.

The unit is capable of using either the catalytic oxidizer or thermal oxidizer to control VOC emission. Following is the general specifications on the equipment.

Primary Treatment Unit Specifications

1. Rotary Drum Dryer:	4' diameter by 20' long dryer. The dryer is used to heat contaminated soil up to 500°F to 850°F to volatilze contaminants into the hot air stream which exits the dryer at 300°F to 450°F
2. Pulse-jet Baghouse:	Equipped with 78 six-inch P-84 bags to provide 920 square feet of filter cloth. Air to cloth ratio is less than 4.5 to 1.
3. Catalytic Oxidizer:	Noble metal catalytic oxidizer. Oxidizer is equipped with over temperature controls to take plant off-line if catalyst temperature exceeds 1250°F.

Secondary Treatment Unit Specifications

1. Thermal Oxidizer:	3'8" in diameter by 32' long thermal oxidizer. The oxidizer is sized to provide a 1 second minimum residence time at a gas exhaust temperature between 1300F to 2000F.

2. Quench Duct: 56-3/8" OD by 28'. Designed to reduce the gas temperature from 1800°F to 160°F.

3. Acid Scrubber: 6' diameter packed bed scrubber equipped with tellerete packing for mist eliminator and scrubber sections. 113 cubic feet of packing for HCl adsorption.

Treated Soil Fugitive Dust Control

When treated soil exits the treatment unit, it is already rehydrated in the unit. Treated soil is stockpiled until analyticals verify its treatment. The soil will be sprayed with water to control its fugitive dust control as the soil dries.

Maximum Potential Emissions from the Oxidizers

Maximum Potential Emissions* (Catalytic Oxidizer)

Compounds	lb/hr	TPY
NOx	2.68	7.87
SOx	0.16	0.59
CO	0.67	1.94
VOC's	4.00	11.76
Benzene	0.05	0.15
Toluene	0.22	0.64
Ethylbenzene	0.05	0.14
Xylene	0.26	0.75
Particulate	1.18	3.47

*Assuming 5,880 hours per year (35 weeks).

Maximum Potential Emissions* (Thermal Oxidizer)

Compounds	lb/hr	TPY
NOx	5.05	14.9
SOx	0.5	1.5
CO	1.5	4.4
VOC's	5.4	15.9
Benzene	0.07	0.21

Toluene	0.29	0.86
Ethylbenzene	0.06	0.18
Xylene	0.35	1.02
Particulate	2.09	6.10

*Assuming 5,880 hours per year (35 weeks).

Diesel Engine Emissions*

Utilizing AP-42 table 3.3.1 and equipment emissions specifications sheet, following emissions table was prepared. At maximum capacity, the generator will consume 10 gal/hr to generate 190 hp.

Compounds	lb/hr	TPY
NOx	5.05	16.2
SOx	0.39	1.1
CO	1.32	3.9
VOC's	0.13	0.4
Particulate	0.42	1.2

*Assuming 5,880 hours per year (35 weeks).

Fuel Consumption

	Propane* (gal/hr)	Natural Gas** (Therm/hr)
Rotary Drum Dryer	85	78
Catalytic Oxidizer Preheater	33	30
Thermal Oxidizer Burner	186	170

* assuming 91,600 Btu/gal of propane
** assuming 100,000 Btu/therm of Nat. Gas

Z 392 979 031

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

UNITED STATES POSTAL SERVICE

PS Form **3800**, March 1993

Sent to: Trevor Johansen	
Street and No. SW Soil Remed.	
P.O., State and ZIP Code Tucson, AZ	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Post Mark or Date 8-25-95	
AC 37-276044	

Is your RETURN ADDRESS completed on the reverse side?

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 below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

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:
Trevor Johansen, Pres.
SW Soil Remediation
3951 E. Columbia St.
Tucson, AZ 85714-2155

4a. Article Number
Z 392 979 031

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

7. Date of Delivery
9-1-1995

5. Signature (Addressee)

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

6. Signature (Agent)
Barbara Bolinger

PS Form **3811**, December 1991 ☆U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

August 25, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Trevor Johansen, President
Southwest Soil Remediation, Inc.
3951 East Columbia Street
Tucson, Arizona 85714-2155

Dear Mr. Johansen:

Re: Southwest Soil Remediation - File No. AC 37-276044

The Department has reviewed your application for a permit to construct a mobile soil thermal treatment facility (low temperature thermal desorption unit) in Florida. Additional information is needed to process this application. Please provide comments or the data requested below.

1. The proposed unit may only treat petroleum contaminated soil as defined in Chapter 62-775, Florida Administrative Code (F.A.C.), in Florida -- petroleum fuels, non-hazardous lubrication, hydraulic, and mineral oils. Do you plan to treat soil containing the other chemicals listed in Table 1 and 2 of the application in Florida?

2. The organic vapors from the contaminated soil must be exposed to a minimum temperature of 1500°F (Rule 62-296.415, F.A.C.). The catalytic oxidizer temperature control is designed to shut the plant down at temperatures above 1250°F. Do you plan to alter the catalytic oxidizer so that it can operate above 1500°F?

3. The visible emissions standard for soil thermal treatment facilities in Florida is 5 percent opacity, Rule 62-296.415(2)(a), F.A.C.). In the application, the visible emissions limit requested was less than 20 percent opacity except for 40 percent opacity for 5 minutes in any hour. Can this unit consistently meet a 5 percent opacity visible emissions standard?

4. The general visible emissions standard that would apply to a diesel engine generator in Florida is 20 percent opacity. The visible emissions standard requested in the application for this unit was 20 percent opacity except for 40 percent opacity during 4 minutes in any one hour. Can this diesel engine consistently meet a 20 percent opacity visible emission standard?

5. The application indicates the unit will operate 35 weeks per year and 50 weeks per year in Florida. Which is correct?

6. Will the scrubber be used during the treatment of petroleum contaminated soil?

7. All of the attachments to the application were marked confidential. Some of this data must be available for public review during the processing of the application. The Department does not believe that most of the attachments can be considered confidential.

   Please provide non-confidential versions of the following:

   a. General process equipment specifications (dryer, baghouse, afterburner, continuous monitors for temperature and carbon monoxide).

   b. Description of the fugitive dust control for the treated soil.

   c. Maximum potential emissions in lbs/hr and TPY of air pollutants (PM, PM_{10}, NOx, SO_2, CO, VOC, benzene, and any hazardous air pollutant having a potential emission greater than 1.8 lbs/hr) from the oxidizer.

   d. Process flow diagram of the unit that will be operated in Florida.

   e. Diesel engine size, maximum fuel consumption, and potential emissions in lbs/hr and TPY for PM, NOx, SOx, CO, VOC, and PM.

   f. Maximum fuel consumption of the dryer and thermal oxidizer.

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

Sincerely,

A. A. Linero, P.E.
Administrator
New Source Review Section

AL/wh/t

cc: District Air Program Administrators
County Air Program Administrators
Wallace Norman Smith, Astec, Inc.

SOUTHWEST SOIL REMEDIATION, INC.

August 15, 1995

Mr. Clair Fancy
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Application for Authority to Construct for Southwest Soil Remediation, Inc.'s 4' Low Temperature Thermal Desorption Plant.

Dear Mr. Fancy:

Attached is a completed Application to Construct Air Pollution Sources for a portable 4' low temperature thermal desorption (L.T.T.D.) unit owned and operated by Southwest Soil Remediation, Inc. (S.S.R). This unit is already constructed, permitted and operating in several states. Also included is the $ 1,000.00 application fee.

The 4' L.T.T.D. will be used to remediate contaminated soil at various locations within the state of Florida. As the unit is portable, potential project sites include distribution centers, railroad yards, private business, refineries, retail gas outlets, etc.

S.S.R.'s first soil remediation project in the state of Florida will be the on-site treatment of petroleum contaminated soil at the Naval Air Station, Mayport. At this site, diesel and jet fuel contaminated soil will be treated as part of the Navy Environmental Leadership Program (NELP).

3951 E. COLUMBIA STREET
TUCSON, ARIZONA 85714
PHONE 602-571-7174
FAX 602-571-7730

Attached is the supplemental information for the 4' L.T.T.D., including pollutant emission calculations. S.S.R. proposes to operate 24 hours per day, seven days per week, 35 weeks per year (5,880 hours per year). Note that the current project estimated at 3,000 to 3,500 tons can be completed within 20 to 30 days after initial setup. Initial setup will take 2 to 3 days.

Please do not hesitate to contact me if you have any questions, or require additional information.

Thank you for your time and consideration.

Sincerely,

Jae Chang
Chemical Engineer

Enclosures

SOUTHWEST SOIL REMEDIATION, INC.

5345

Department of Environmental Protection Date 08/15/95 Check No. 5345

Invoice	Inv.Date	Inv.Amt	Disc/Fin	Due	Amt.Paid
Florida	08/15/95	1,000.00		1,000.00	1,000.00
Total		1,000.00		1,000.00	1,000.00

SOUTHWEST SOIL REMEDIATION, INC.
3951 E. COLUMBIA STREET
TUCSON, AZ 85714

NATIONAL BANK OF ARIZONA
TUCSON, AZ 85711-2601

[redacted]

5345

DATE AMOUNT

One Thousand and 00/100

PAY
TO THE
ORDER
OF

08/15/95 $**********1,000.00

Department of Environmental Protection

[redacted]

0811758-89

Department of
Environmental Protection

DIVISION OF AIR RESOURCES MANAGEMENT

APPLICATION FOR AIR PERMIT - LONG FORM

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION

This section of the Application for Air Permit form provides general information on the scope of this application, the purpose for which this application is being submitted, and the nature of any construction or modification activities proposed as a part of this application. This section also includes information on the owner or authorized representative of the facility (or the responsible official in the case of a Title V source) and the necessary statements for the applicant and professional engineer, where required, to sign and date for formal submittal of the Application for Air Permit to the Department. If the application form is submitted to the Department on diskette, this section of the Application for Air Permit must also be submitted in hard-copy.

Identification of Facility Addressed in This Application

Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility name, if any; and a brief reference to the facility's physical location. If known, also enter the ARMS or AIRS facility identification number. This information is intended to give a quick reference, on the first page of the application form, to the facility addressed in this application. Elsewhere in the form, numbered data fields are provided for entry of the facility data in computer-input format.

Southwest Soil Remediation, Inc.

4' Low Temperature Thermal Desorption Unit

Plant is mobile. The first job is in Mayport, Florida, where it will treat approximately 3,000-5,000 tons of soil in 3-5 weeks.

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	8-16-95
2. Permit Number:	AC 37-276044/ 7770246-001-AC
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official:

   Trevor Johansen, President

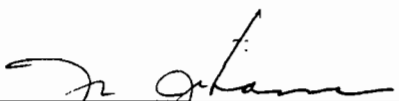
2. Owner/Authorized Representative or Responsible Official Mailing Address:

   Organization/Firm: Southwest Soil Remediation, Inc.
   Street Address: 3951 East Columbia Street
   City: Tucson, State: Arizona Zip Code: 85714-2155

3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
   Telephone: (520) 571-7174 Fax: (520) 571-7730

4. Owner/Authorized Representative or Responsible Official Statement:

   I, the undersigned, am the owner or authorized representative of the facility (non-Title V source) addressed in this Application for Air Permit or the responsible official, as defined in Chapter 62-213, F.A.C., of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. Further, I agree to operate and maintain the air pollutant emissions units and air pollution control equipment described in this application so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. If the purpose of this application is to obtain an air operation permit or operation permit revision for one or more emissions units which have undergone construction or modification, I certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.*



Signature Trevor Johansen, President Date 7/10/95

* Attach letter of authorization if not currently on file.

Scope of Application

This Application for Air Permit addresses the following emissions unit(s) at the facility (or Title V source). An Emissions Unit Information Section (a Section III of the form) must be included for each emissions unit listed.

Emissions Unit ID	Description of Emissions Unit
1	4' Low Temperature Thermal Desorption (L.T.T.D.)
	primary treatment unit
2	4' Low Temperature Thermal Desorption (L.T.T.D.)
	Secondary Treatment Unit
3	Diesel Generator

Purpose of Application and Category

Check one (except as otherwise indicated):

Category I: All Air Operation Permit Applications Subject to Processing Under Chapter 62-213, F.A.C.

This Application for Air Permit is submitted to obtain:

[ ] Initial air operation permit under Chapter 62-213, F.A.C., for an existing facility which is classified as a Title V source.

[ ] Initial air operation permit under Chapter 62-213, F.A.C., for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: _____

[ ] Air operation permit renewal under Chapter 62-213, F.A.C., for a Title V source.

Operation permit to be renewed: _____

[ ] Air operation permit revision for a Title V source to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: _____

Operation permit to be revised: _____

[ ] Air operation permit revision or administrative correction for a Title V source to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. Also check Category III.

Operation permit to be revised/corrected: _____

[ ] Air operation permit revision for a Title V source for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit to be revised: _____

Reason for revision: _____

_____

Category II: All Air Operation Permit Applications Subject to Processing Under Rule 62-210.300(2)(b), F.A.C.

This Application for Air Permit is submitted to obtain:

[ ] Initial air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s):

_____

[ ] Renewal air operation permit under Rule 62-210.300(2)(b), F.A.C., for a synthetic non-Title V source.

Operation permit to be renewed: _____

[ ] Air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g., to address one or more newly constructed or modified emissions units.

Operation permit to be revised: _____

Reason for revision: _____

_____

Category III: All Air Construction Permit Applications for All Facilities and Emissions Units

This Application for Air Permit is submitted to obtain:

[X] Air construction permit to construct or modify one or more emissions units within a facility (including any facility classified as a Title V source).

Current operation permit number(s), if any: _____

[ ] Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

Current operation permit number(s): _____

[ ] Air construction permit for one or more existing, but unpermitted, emissions units.

Application Processing Fee

Check one:

[x] Attached - Amount: $ 1,000.00 [ ] Not Applicable.

Construction/Modification Information

1. Description of Proposed Project or Alterations:

On-site remediation of petroleum contaminated soil utilizuing a 4' Low Temperature Thermal Desorber (L.T.T.D.). The L.T.T.D. consists of a primary treatment unit (P.T.U.) and Secondary Treatment Unit (S.T.U.). A feedbin, rotary drum dryer, pulse-jet baghouse, and catalytic oxidizer makes up the P.T.U.

The thermal oxidizer mounted on the S.T.U. will be used for VOC emission control for the Mayport project in place of the catalytic oxidizer unless the contamination level is low (see attached).

2. Projected or Actual Date of Commencement of Construction (DD-MON-YYYY):

Unit is already built and operating in several states. First project in Florida is estimated at early September.

3. Projected Date of Completion of Construction (DD-MON-YYYY):

N/A

Professional Engineer Certification

1. Professional Engineer Name: WALLACE NORMAN SMITH
   Registration Number: 21842
2. Professional Engineer Mailing Address:

   Organization/Firm: ASTEC INC
   Street Address: 4101 JEROME AVE
   City: CHATTANOOGA State: TN Zip Code: 37407
3. Professional Engineer Telephone Numbers:
   Telephone: (615) 867-4210 Fax: (615) 867-4127
4. Professional Engineer Statement:

   I, the undersigned, hereby certify, except as particularly noted herein, that:*

   (1) To the best of my knowledge, there is reasonable assurance (a) that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; or (b) for any application for a Title V source air operation permit, that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application;

   (2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application; and

   (3) For any application for an air construction permit for one or more proposed new or modified emissions units, the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

   Wallace Norman Smith — Signature
   8-14-95 — Date

   (seal)

* Attach any exception to certification statement.

Application Contact

1. Name and Title of Application Contact:

   Jae Chang, Chemical Engineer

2. Application Contact Mailing Address:

   Organization/Firm: Southwest Soil Remediation, Inc.
   Street Address: 3951 East Columbia Street
   City: Tucson, State: Arizona Zip Code: 85714-2155

3. Application Contact Telephone Numbers:
   Telephone: (520) 571-7174 Fax: (520) 571-7730

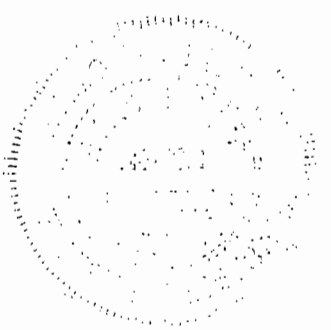
Application Comment

Please expedite the review process because the Mayport Naval Base project is proposed to start very soon.

The contaminated soil is non-hazardous. The L.T.T.D. emission controls baghouse, thermal oxidizer/catalytic oxidizer will minimize particulate and VOC emissions.

Treated soil is non-hazardous.

4' L.T.T.D. is a portable source.



List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

N/A

B. FACILITY REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of federal, state, and local regulations applicable to the facility as a whole. (Regulations applicable to individual emissions units within the facility are addressed in Subsection III-B of the form.)

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

62-4 - General Permits

62-296.415 - Air Regulations

Minor facility is: not subject to PSD
NSPS not applicable

Facility Regulatory Classifications

1. Small Business Stationary Source?	[ ] Yes [ ] No [X] Unknown
2. Title V Source?	[ ] Yes [X] No
3. Synthetic Non-Title V Source?	[ ] Yes [X] No
4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?	[ ] Yes [X] No
5. Synthetic Minor Source of Pollutants Other than HAPs?	[ ] Yes [X] No
6. Major Source of Hazardous Air Pollutants (HAPs)?	[ ] Yes [X] No [ ] Possible
7. Synthetic Minor Source of HAPs?	[ ] Yes [X] No
8. One or More Emissions Units Subject to NSPS?	[ ] Yes [X] No
9. One or More Emission Units Subject to NESHAP?	[ ] Yes [X] No
10. Title V Source by EPA Designation?	[ ] Yes [X] No
11. Facility Regulatory Classifications Comment: Southwest Soil Remediation, Inc. is a small business, operating portable L.T.T.D. systems.	

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Name, Location, and Type

1. Facility Owner or Operator: Trevor Johansen			
2. Facility Name: 4' L.T.T.D. Unit			
3. Facility Identification Number: [X] Unknown			
4. Facility Location Information: Mayport Naval Air Station Facility Street Address: City: Mayport County: Duvall Zip Code: 32228			
5. Facility UTM Coordinates: Zone: Mobile East (km): North (km):			
6. Facility Latitude/Longitude: Latitude (DD/MM/SS): Longitude (DD/MM/SS):			
7. Governmental Facility Code: Ø	8. Facility Status Code: A - outside of Florida	9. Relocatable Facility? [X] Yes [ ] No	10. Facility Major Group SIC Code: 99
11. Facility Comment: Portable 4' Low Temperature Thermal Desorber used for on-site treatment of petroleum contaminated soil.			

Facility Contact

1. Name and Title of Facility Contact: Trevor Johansen, President
2. Facility Contact Mailing Address: Organization/Firm: Southwest Soil Remediation, Inc. Street Address: 3951 East Columbia Street City: Tucson, State: Arizona Zip Code: 85714-2155
3. Facility Contact Telephone Numbers: Telephone: (520) 571-7474 Fax: (520) 571-7730

C. FACILITY POLLUTANT INFORMATION

This subsection of the Application for Air Permit form allows for the reporting of potential and estimated emissions of selected pollutants on a facility-wide basis. It must be completed for each pollutant for which the applicant proposes to establish a facility-wide emissions cap and for each pollutant for which emissions are not reported at the emissions-unit level.

Facility Pollutant Information: Pollutant 1 of 6

1. Pollutant Emitted: Total VOC's		
2. Estimated Emissions: 16		(tons/year)
3. Requested Emissions Cap:	(lb/hour)	(tons/year)
4. Basis for Emissions Cap Code:		
5. Facility Pollutant Comment: VOC emission is based on treating gasoline contaminated soil (15,000 mg/kg TPH) at 20 tons per hour for 5,880 hours per year. DRE is estimated at 99%.		

Facility Pollutant Information: Pollutant 2 of 6

1. Pollutant Emitted: NOX		
2. Estimated Emissions: 15		(tons/year)
3. Requested Emissions Cap:	(lb/hour)	(tons/year)
4. Basis for Emissions Cap Code:		
5. Facility Pollutant Comment:		

Facility Pollutant Information: Pollutant 3 of 6

1. Pollutant Emitted: SO2		
2. Estimated Emissions: 1.5		(tons/year)
3. Requested Emissions Cap:	(lb/hour)	(tons/year)
4. Basis for Emissions Cap Code:		
5. Facility Pollutant Comment: Will utilize low sulfur diesel fuel in diesel genset.		

Facility Pollutant Information: Pollutant 4 of 6

1. Pollutant Emitted: PM		
2. Estimated Emissions: 7		(tons/year)
3. Requested Emissions Cap:	(lb/hour)	(tons/year)
4. Basis for Emissions Cap Code:		
5. Facility Pollutant Comment: Particulate emissions are controlled by pulse-jet baghouse to less than 0.04 gr/DSCF.		

Facility Pollutant Information: Pollutant 5 of 6

1. Pollutant Emitted: CO		
2. Estimated Emissions: 5		(tons/year)
3. Requested Emissions Cap:	(lb/hour)	(tons/year)
4. Basis for Emissions Cap Code:		
5. Facility Pollutant Comment:		

Facility Pollutant Information: Pollutant 6 of 6

1. Pollutant Emitted: H 186		
2. Estimated Emissions: 1		(tons/year)
3. Requested Emissions Cap:	(lb/hour)	(tons/year)
4. Basis for Emissions Cap Code:		
5. Facility Pollutant Comment: Other BTEX constituents and HAP emissions are all less than the estimated emissions for Xylene.		

D. FACILITY SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the facility as a whole. (Supplemental information related to individual emissions units within the facility is provided in Subsection III-I of the form.) Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Area Map Showing Facility Location:
   [X] Attached, Document ID: Fig. 1 [ ] Not Applicable [ ] Waiver Requested

2. Facility Plot Plan:
   [X] Attached, Document ID: Fig. 2 [ ] Not Applicable [ ] Waiver Requested

3. Process Flow Diagram(s):
   [X] Attached, Document ID: Fig. 3 & 4 [ ] Not Applicable [ ] Waiver Requested

4. Precautions to Prevent Emissions of Unconfined Particulate Matter:
   [X] Attached, Document ID: Sec. 3 [ ] Not Applicable [ ] Waiver Requested

5. Fugitive Emissions Identification:
   [X] Attached, Document ID: Sec. 3 [ ] Not Applicable [ ] Waiver Requested

6. Supplemental Information for Construction Permit Application:
   [X] Attached, Document ID: * [ ] Not Applicable
   *Supplemental information packet.

Additional Supplemental Requirements for Category I Applications Only

N/A

7. List of Insignificant Activities:
   [ ] Attached, Document ID: _____ [ ] Not Applicable

8. List of Equipment/Activities Regulated under Title VI:

   [ ] Attached, Document ID: _____

   [ ] Equipment/Activities Onsite but Not Required to be Individually Listed

   [ ] Not Applicable

N/A

9. Alternative Methods of Operation: [ ] Attached, Document ID:_____ [ ] Not Applicable
10. Alternative Modes of Operation (Emissions Trading): [ ] Attached, Document ID:_____ [ ] Not Applicable
11. Enhanced Monitoring Plan: [ ] Attached, Document ID:_____ [ ] Not Applicable
12. Risk Management Plan Verification: [ ] Plan Submitted to Implementing Agency - Verification Attached, Document ID:_____ [ ] Plan to be Submitted to Implementing Agency by Required Date [ ] Not Applicable
13. Compliance Report and Plan [ ] Attached, Document ID:_____ [ ] Not Applicable
14. Compliance Statement (Hard-copy Required) [ ] Attached, Document ID:_____ [ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

Check one:

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

Emissions Unit Information Section 1 **of** 2

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section:

4' Low Temperature Thermal Treatment Unit (L.T.T.D.)
Portable source, rotary dryer, baghouse, catalytic oxidizer and thermal oxidizer.

2. ARMS Identification Number: [ ] No Corresponding ID [X] Unknown

3. Emissions Unit Status Code: A	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: 99

6. Initial Startup Date (DD-MON-YYYY):
Unit constructed and operates in other states.

7. Long-term Reserve Shutdown Date (DD-MON-YYYY):
N/A

8. Package Unit: P.T.U. - Ryan Murphy, Inc.
Manufacturer: S.T.U. - Astec Industries, Inc. Model Number: P.T.U.-GEM 1000 S.T.U.-532

9. Generator Nameplate Rating: N/A MW

10. Incinerator Information:

Dwell Temperature:		°F
Dwell Time:	N/A	seconds
Incinerator Afterburner Temperature :		°F

11. Emissions Unit Comment:
Mobile source is operating in other parts of the U.S.

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section:

   125 KW Diesel Genset

2. ARMS Identification Number: [ ] No Corresponding ID [X] Unknown

3. Emissions Unit Status Code: A	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: 99

6. Initial Startup Date (DD-MON-YYYY):
   Unit constructed and operates in other states.

7. Long-term Reserve Shutdown Date (DD-MON-YYYY):
   N/A

8. Package Unit:
   Manufacturer: Kohler   Model Number: 125R05

9. Generator Nameplate Rating: ~~XMWX~~
   125 KW

10. Incinerator Information:
    Dwell Temperature: °F
    Dwell Time: N/A seconds
    Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

    Genset is operating in other parts of the U.S. Emissions are reduced by use of low sulfur diesel fuel.

Emissions Unit Control Equipment

A.

1. Description: Good combustion practices (tune engine).
2. Control Device or Method Code:

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		mmBtu/hr
2. Maximum Incineration Rate:	lb/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment:		

Unit has a max HP rating of 190 HP. Typically operates at 130 HP.

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule:

24 hours/day	7 days/week
50 weeks/year	5,880 hours/year

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Generator is being permitted as part of 4' L.T.T.D. facility. Applicable rule 62-4.

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram:
   Stack No. 1 - 4' L.T.T.D. Stack

2. Emission Point Type Code:
   [X] 1 [ ] 2 [ ] 3 [ ] 4

3. Descriptions of Emissions Points Comprising this Emissions Unit:
   N/A

4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:
   N/A

5. Discharge Type Code:
   [ ] D [ ] F [ ] H [ ] P
   [ ] R [X] V [ ] W

6. Stack Height: 16.5 feet

7. Exit Diameter: 4 feet

8. Exit Temperature: More than 1,500 °F

9. Actual Volumetric Flow Rate: 20,200 acfm

10. Percent Water Vapor : 30-40	%
11. Maximum Dry Standard Flow Rate: 3,800	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates: Portable Source Zone: East (km): North (km):	
14. Emission Point Comment: S.T.U. stack can be equipped with up to two 4' extension segments, if necessary.	

Emissions Unit Control Equipment

A.

1. Description:

Pulse-jet baghouse:
78 6' 1/4", bags providing 900 ft.^{2} of surface area. Air-to-cloth ratio less than 4.5:1.

2. Control Device or Method Code:

016

B.

1. Description:

Thermal Oxidizer - sized to provide one second residence time @ up to 1,800°F. It will operate unit at minimum gas exhaust temperatures of 1,500°F to ensure at least 99.1% VOC DRE.

2. Control Device or Method Code:

021

C.

1. Description:

Nobel Metal Catalyst to provide up to 99% VOC DRE @ maximum hydrocarbon loading (95% minimum DRE).

2. Control Device or Method Code:

019

Emissions Unit Information Section 1 **of** 2

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate: 17	mmBtu/hr
2. Maximum Incineration Rate: N/A lb/hr	tons/day
3. Maximum Process or Throughput Rate: 20 Tons per Hour	
4. Maximum Production Rate: 20 Tons per hour - soil	
5. Operating Capacity Comment: When configured with the thermal oxidizer, the plant can treat soil up to 20 TPH. Typical throughputs range from 10 to 14 TPH.	

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule:	
24 hours/day	7 days/week
50 weeks/year	5,880 hours/year

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Mobile source - minor

Applicable rules: 62-4

62-296.415

Emissions Unit Information Section _____ of _____

N/A

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

Emissions Unit Information Section 2 of 2

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section:

125 KW Diesel Genset

2. ARMS Identification Number: [ ] No Corresponding ID [X] Unknown

3. Emissions Unit Status Code: A	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: 99

6. Initial Startup Date (DD-MON-YYYY):
Unit constructed and operates in other states.

7. Long-term Reserve Shutdown Date (DD-MON-YYYY):
N/A

8. Package Unit:
Manufacturer: Kohler Model Number: 125R05

9. Generator Nameplate Rating: ~~MW~~ 125 KW

10. Incinerator Information:

Dwell Temperature:		°F
Dwell Time:	N/A	seconds
Incinerator Afterburner Temperature :		°F

11. Emissions Unit Comment:

Genset is operating in other parts of the U.S. Emissions are reduced by use of low sulfur diesel fuel.

Emissions Unit Information Section 2 **of** 2

Emissions Unit Control Equipment

A.

1. Description:
Good combustion practices (tune engine).
2. Control Device or Method Code:

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

Emissions Unit Information Section 2 **of** 2

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		mmBtu/hr
2. Maximum Incineration Rate:	lb/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment: Unit has a max HP rating of 190 HP. Typically operates at 130 HP.		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule:	
24 hours/day	7 days/week
50 weeks/year	5,880 hours/year

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Generator is being permitted as part of 4' L.T.T.D. facility. Applicable rule 62-4.

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: Stack No. 1 - 4' L.T.T.D. Stack
2. Emission Point Type Code: [X] 1 [ ] 2 [ ] 3 [ ] 4
3. Descriptions of Emissions Points Comprising this Emissions Unit: N/A
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: N/A
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [X] V [ ] W
6. Stack Height: 16.5 feet
7. Exit Diameter: 4 feet
8. Exit Temperature: More than 1,500 °F
9. Actual Volumetric Flow Rate: 20,200 acfm

10. Percent Water Vapor : 30-40	%
11. Maximum Dry Standard Flow Rate: 3,800	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates: Portable Source Zone: East (km): North (km):	
14. Emission Point Comment: S.T.U. stack can be equipped with up to two 4' extension segments, if necessary.	

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram:
   Stack No. 2 - GENSET Stack

2. Emission Point Type Code:
   [X] 1 [ ] 2 [ ] 3 [ ] 4

3. Descriptions of Emissions Points Comprising this Emissions Unit:
   N/A

4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:
   N/A

5. Discharge Type Code:
   [ ] D [ ] F [ ] H [ ] P
   [ ] R [ ] V [X] W

6. Stack Height: 10 feet

7. Exit Diameter: 4" ~~feet~~

8. Exit Temperature: 925 °F

9. Actual Volumetric Flow Rate: 1,120 acfm

10. Percent Water Vapor : N/A	%
11. Maximum Dry Standard Flow Rate: N/A	dscfm
12. Nonstack Emission Point Height: N/A	feet
13. Emission Point UTM Coordinates: Portable Source Zone: East (km): North (km):	
14. Emission Point Comment:	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): Soil processing in 4' L.T.T.D.	
2. Source Classification Code (SCC):	
3. SCC Units: Tons	
4. Maximum Hourly Rate: 20	5. Maximum Annual Rate: 168,000
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment: Contaminated soil is fed into L.T.T.D. plant and treated soil is produced.	

Emissions Unit Information Section 1 **of** 2

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): Rotary drum dryer and catalytic oxidizer or thermal oxidizer (propane/ natural gas fuel supply).
2. Source Classification Code (SCC):
3. SCC Units: Gallons/Therms
4. Maximum Hourly Rate: 190 Gallons/270 Therms 5. Maximum Annual Rate: 1.6×10^6 Gallons/2.3×10^6 Therms
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: Trace 8. Maximum Percent Ash: Trace
9. Million Btu per SCC Unit: 91,600 BTU/Gallons, 100,000 BTU/Gallons
10. Segment Comment: The majority of the projects will utilize LPG. Fuel is used in both the rotary drum dryer and the thermal oxidizer or catalytic oxidizer.

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): Diesel fuel for GENSET	
2. Source Classification Code (SCC):	
3. SCC Units: Gallons	
4. Maximum Hourly Rate: 10	5. Maximum Annual Rate: 84,000
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: Less than 0.5	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment: Diesel generator will utilize low sulfur fuel. Average consumption is approximately 5 gallons per hour.	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 **of** 4

1. Pollutant Emitted: NOX
2. Total Percent Efficiency of Control: Ø %
3. Primary Control Device Code:
4. Secondary Control Device Code:
5. Potential Emissions: lb/hour 5.1 tons/year 15
6. Synthetically Limited? [ ] Yes [X] No
7. Range of Estimated Fugitive/Other Emissions: N/A [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year
8. Emission Factor: Reference: Vendor data calculations
9. Emissions Method Code: [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5
10. Calculation of Emissions: See attached calculations. Emissions rate: at 5.05 lb/hr. provided by system vendor.
11. Pollutant Potential/Estimated Emissions Comment: As mentioned in 10, rate provided by vendor. Stack test (4/19/94) results indicated an emission rate of 2.3 lb/hr.

Emissions Unit Information Section 1 **of** 2

Allowable Emissions (Pollutant identified on front of page)

N/A

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 2 **of** 4

1. Pollutant Emitted:	VOC
2. Total Percent Efficiency of Control:	99 % Max.
3. Primary Control Device Code:	019 (Catalytic Oxidizer)
4. Secondary Control Device Code:	
5. Potential Emissions:	lb/hour 1.4 tons/year 4.2
6. Synthetically Limited?	[ ] Yes [x] No
7. Range of Estimated Fugitive/Other Emissions:	[ ] 1 [ ] 2 [ ] 3 N/A _____ to _____ tons/year
8. Emission Factor: Reference:	Section No. 9510
9. Emissions Method Code:	[ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5
10. Calculation of Emissions:	Emissions based on tons/hour x 2,000 lb/ton x $\frac{mg/kg}{1,EE6}$ x (1 - DRE) @ TPH level of 5,000 mg/kg, throughput at 16 TPH and DRE of 99.1%, emissions are 1.4 lb/hour.
11. Pollutant Potential/Estimated Emissions Comment:	See attached calculations sheets.

Allowable Emissions (Pollutant identified on front of page)

N/A

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 3 **of** 4

1. Pollutant Emitted:
   VOC's
2. Total Percent Efficiency of Control: 99.1 %
   Min.
3. Primary Control Device Code:
   021 (Thermal Oxidizer)
4. Secondary Control Device Code:
5. Potential Emissions: lb/hour 5.4 tons/year 16
6. Synthetically Limited?
   [ ] Yes [X] No
7. Range of Estimated Fugitive/Other Emissions:
   [ ] 1 [ ] 2 [ ] 3 N/A _____ to _____ tons/year
8. Emission Factor:
   Reference: See Nos. 9 and 10
9. Emissions Method Code:
   [ ] 1 [X] 2 [ ] 3 [ ] 4 [ ] 5
10. Calculation of Emissions:

    Emissions based on $\frac{\text{tons}}{\text{hour}} \times \frac{2{,}000 \text{ lb.}}{\text{ton}} \times \frac{\text{mg/kg}}{1EE6} \times (1 - \text{DRE})$ @ TPH level of 15,000 mg/kg, throughput at 20 TPH and DRE of 99.1%, emissions are 5.4 lb/hour.

11. Pollutant Potential/Estimated Emissions Comment:

    See attached calculation sheets.

Allowable Emissions (Pollutant identified on front of page)

N/A

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 4 **of** 4

1. Pollutant Emitted: Particulate as PM 10			
2. Total Percent Efficiency of Control: More than 99			%
3. Primary Control Device Code: Pulsejet baghouse with 900 square feet of bags.			
4. Secondary Control Device Code:			
5. Potential Emissions:	lb/hour 2	tons/year 6	
6. Synthetically Limited? [ ] Yes [X] No			
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3	N/A	_____ to _____ tons/year	
8. Emission Factor: Reference: See below			
9. Emissions Method Code: [ ] 1 [X] 2 [ ] 3 [ ] 4 [ ] 5			
10. Calculation of Emissions: Emissions based on 0.04 gr/DSCF.			
11. Pollutant Potential/Estimated Emissions Comment: Dust emissions from loading/discharging will be controlled by water spray.			

Allowable Emissions (Pollutant identified on front of page)

A. N/A

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 **of** 1

1. Pollutant Emitted: NO_x
2. Total Percent Efficiency of Control: %
3. Primary Control Device Code:
4. Secondary Control Device Code:
5. Potential Emissions: lb/hour 3.5 tons/year 10.2
6. Synthetically Limited?
   [ ] Yes [X] No
7. Range of Estimated Fugitive/Other Emissions:
   [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year
8. Emission Factor: 12.06 g/hpL
   Reference: Ap - 42, Table 3.31 (10/86)
9. Emissions Method Code:
   [ ] 1 [ ] 2 [X] 3 [ ] 4 [ ] 5
10. Calculation of Emissions:

$$130 \text{ hp} \times 12.06 \text{ g/hpL} \times \frac{1 \text{ lb.}}{453.592 \text{g}} = 3.5 \text{ lb/hour}$$

11. Pollutant Potential/Estimated Emissions Comment:

Emissions minimized by properly maintaining generator.

Allowable Emissions (Pollutant identified on front of page)

N/A

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype:
   VE

2. Basis for Allowable Opacity: [X] Rule [ ] Other

3. Requested Allowable Opacity:
   Normal Conditions: <20 % Exceptional Conditions: 40 %
   Maximum Period of Excess Opacity Allowed: 5 min/hour

4. Method of Compliance:
   Pulse-jet baghouse

5. Visible Emissions Comment:
   This emission limit is for VE emissions from the STU stack.

Emissions Unit Information Section 2 **of** 2

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype:	VE
2. Basis for Allowable Opacity:	[X] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: 20 % Exceptional Conditions: 40 % Maximum Period of Excess Opacity Allowed: 4 min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	Diesel generator's visible emissions only occur on startup and when engine is cold.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	
2. Basis for Allowable Opacity:	[ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype:
   VEF

2. Basis for Allowable Opacity: [X] Rule [ ] Other

3. Requested Allowable Opacity:
   Normal Conditions: 20 % Exceptional Conditions: 40 %
   Maximum Period of Excess Opacity Allowed: 5 min/hour

4. Method of Compliance:
   Water spray.

5. Visible Emissions Comment:
   Fugitive dust emissions will be controlled by water spray and hydrating treated soil.

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor 1 of 2

1. Parameter Code:	Temp
2. CMS Requirement:	[X] Rule [ ] Other
3. Monitor Information:	
Manufacturer:	Astec
Model Number:	Type K thermocouple wire or equivalent Serial Number:
4. Installation Date (DD-MON-YYYY):	Already installed.
5. Performance Specification Test Date (DD-MON-YYYY):	Test during stack test.
6. Continuous Monitor Comment:	Thermocouples monitor inlet/exhaust gas temperature of thermal oxidizer.

Emissions Unit Information Section 1 **of** 2

Continuous Monitoring System: Continuous Monitor 2 of 2

1. Parameter Code: CO
2. CMS Requirement: [X] Rule [ ] Other
3. Monitor Information: Manufacturer: Therm Electron Model Number: The 48 or equivalent Serial Number:
4. Installation Date (DD-MON-YYYY): When unit mobilizes to project site in Florida.
5. Performance Specification Test Date (DD-MON-YYYY): Following installation/startup, or during stack test.
6. Continuous Monitor Comment: CO monitor will be installed for project in Florida and maintained in accordance with manufacturer's recommendations.

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [X] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[X] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:

PM	[X] C	[ ] E	[ ] Unknown
SO2	[X] C	[ ] E	[ ] Unknown
NO2	[x] C	[ ] E	[ ] Unknown

4. Baseline Emissions: ø

PM	lb/hour	tons/year
SO2	lb/hour	tons/year
NO2		tons/year

5. PSD Comment:

Minor source - Portable Unit

Not subject to PED.

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [X] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[X] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:

PM	[X] C	[ ] E	[ ] Unknown
SO2	[X] C	[ ] E	[ ] Unknown
NO2	[X] C	[ ] E	[ ] Unknown

4. Baseline Emissions: Ø

PM	lb/hour	tons/year
SO2	lb/hour	tons/year
NO2		tons/year

5. PSD Comment:

Minor Source - portable unit

Not subject to PSD.

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

N/A

1. Process Flow Diagram [ ] Attached, Document ID:_____ [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [ ] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [ ] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [ ] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [ ] Not Applicable
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [ ] Not Applicable
8. Supplemental Information for Construction Permit Application [ ] Attached, Document ID:_____ [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

N/A

10. Alternative Methods of Operation
[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan
[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

L.T.T.D. AIR PERMIT APPLICATION

CONFIDENTIAL

Because S.S.R. is applying for a portable source permit, the following equipment specifications and process information is applicable to remediating petroleum contaminated soil and for treating other types of hydrocarbon contamination.

Data pertaining to the current project located at NS Mayport is presented in **SECTIONS 1 and 9.**

Section 1: Equipment Location

A site vicinity map is presented in Figure 1. The proposed thermal treatment plant location is shown in Figure 2. Due to the size of the naval facility, only buildings located within 150 feet of the treatment plant are identified. As noted in figure 1, the remediation site is in the northeastern portion of the Naval Station, Mayport, just south of the St. Johns River. The proposed thermal treatment area is south of SWMU 7.

There are no buildings within 150 feet of the proposed treatment area. The nearest off-base receptor is approximately 1100 feet east of the project site.

During the project, S.S.R. will mobilize its 4' L.T.T.D. equipped with the catalytic oxidizer or thermal oxidizer (described below) to treat 3,000 to 3,500 tons of petroleum contaminated soil (pcs), primarily diesel and jet fuel.

Section 2: Process Technology Description

Description of Unit

The 4' plant is a transportable, trailer-mounted, thermal processing unit designed to remove a variety of contaminants from soil including petroleum, chlorinated and non-chlorinated hydrocarbons at a throughput capacity of up to 20 tons per hour. The unit is designed to ensure that the processed soil and air emissions are below applicable regulatory requirements. Variable operating parameters provide the flexibility to ensure that the remediated soil meets state and local standards.

The unit is completely self-contained, therefore only minimal set-up is required at each site. The unit operates semiautomatically once warm-up procedures are completed and operating variables are set. Complete safety controls and automatic monitors make the operation of the machine relatively uncomplicated. Automatic safety controls and temperature gauges are designed to only allow the unit to operate within strict parameter ranges.

The typical project site can be remediated by a work crew of two or three operators. The crew is responsible for operating the treatment unit which includes feeding contaminated soil into the L.T.T.D. and stockpiling treated soil with earth moving equipment.

The physical dimensions of the primary treatment unit (PTU) are 46 ft. long, 12 ft. high, and 8 ft. 6 inches wide. No special permits are required to transport the machine. The primary components of the treatment unit include the feed bin, rotary dryer, high-temperature baghouse, and catalytic oxidizer. The baghouse and catalytic oxidizer control particulate and organic compound emissions, respectively. A process flow diagram of the PTU is presented in Figure 3.

S.S.R. can also operate the PTU in series with the secondary treatment unit (STU) that includes a thermal oxidizer for VOC control, quench duct and acid gas scrubber. The acid gas scrubber is used to control HCl emissions when remediating chlorinated hydrocarbons. The STU trailer is approximately 74' long by 12' wide. A process flow diagram of the 4' L.T.T.D. configured with the thermal oxidizer is presented in Figure 4.

A photograph of the 4' plant is presented in Figure 5 and a 3-D layout of the 4' L.T.T.D. plant configured with the thermal oxidizer is presented in Figure 6.

4' L.T.T.D. SPECIFICATIONS

PTU - EQUIPMENT

1.	Cold Feed Bin:	3 Cubic Yard Capacity. Accepts contaminated soil from front-end loader.
2.	Weigh Feeder:	Flexway, Technoway. Mass flow controller measures soil flow to rotary dryer.
3.	Feed Conveyor Belt:	Ryan Murphy, 6 to 20 tph capacity. Transports soil from feed bin to dryer.
4.	Rotary Dryer:	4' Diameter by 20' long dryer. The dryer is used to heat contaminated soils up to 500°F to 900°F to volatilize contaminants into hot air stream which exits the dryer at 300°F to 450°F.
5.	Discharge Auger:	Thomas Conveyor, Model 12HS12. Auger transfers treated soil from dryer to discharge pile. Water is injected into auger to hydrate the

		soil and for dust control.
6.	Rotary Dryer Burner:	Maxon Model 470M 7.8MM BTU/Hr burner designed to fire propane or natural gas.
7.	Combustion Air Blower:	Dayton, Model 7C328
8.	Pulse-jet Baghouse:	Ryan Murphy. Equipped with 78 six-inch diameter P-84 bags to provide 900 square feet of filter cloth. Air to cloth ratio is less than 4.5. to 1.
	Cleaning Frequency:	Continuous self cleaning
9.	Process Air Blower:	New York Model R-1. Sized to provide a maximum air flow of 3,000 SCFM. Typical Process flow rate is 2,500 SCFM.
10.	Exhaust Gas Preheater:	Maxon Model EB-3 3MM BTU/Hr burner. Sized to heat baghouse discharge gases to 550° to 700°F. Fires propane or natural gas.
	Preheater Fan:	Rated at 500 SCFM.
11.	Catalytic Oxidizer:	Platinum metal catalytic oxidizer. Oxidizer is equipped with over temperature controls to take plant off-line if catalyst temperature exceeds 1250°F.

STU - EQUIPMENT

1.	Thermal Oxidizer:	Astec Model STU-532. 3'8" in diameter by 32' long thermal oxidizer.
	Burner:	Eclipse Model 10V staged combustion burner. 17MM Btu/Hr capacity parallel flow, natural gas or propane fired.
	Burner Blower:	Northern Blower Model 16-50. 7.5 horsepower fan.

2.	Quench Duct:	Astec Model RK-1180. 56-3/8" OD by 28'. Equipped with 2 fresh water spray nozzles and 5 recycle spray nozzles. The quench is designed to reduce the gas temperature from 1800°F to 160°F.
	Fresh Water Pump:	Astec Model AP-2542. 3600 RPM. 7.5 HP motor.
	Recycle Water Pump:	Astec Model 215T. 1800 RPM. 10 HP motor.
3.	Acid Scrubber:	Ceilcote Model SPT-72-72. 6' diameter packed bed scrubber equipped with tellerete packing for mist eliminator and scrubber sections. 113 cubic feet of packing for HCl adsorption.
	Scrubber Feed Pump:	Fybroc, Series 1500. 3500 RPM. 170 gpm capacity. 7.5 HP motor.
	Scrubber Discharge Pump:	Fybroc Series 1500. 3500 RPM. 170 gpm capacity. 7.5 HP.

Section 3: Operation

Contaminated soil is placed into the 3 cubic yard cold feed bin via a front-end loader. Soil is transported by a conveyor into the rotary dryer, where the temperature of the soil is raised to between 500°F to 900°F within approximately six to ten minutes. As the soil is heated in the dryer, the moisture and volatile organic compounds change from the liquid to gaseous phase. The heated exhaust gases from the dryer chamber are forced through a high temperature baghouse where soil fines and dust particles are removed.

Dust collected from the baghouse is mixed with the rotary drum soil discharge via a screw auger. As the soil is being discharged it is hydrated to minimize dust and prepare the soil for use as backfill. The particle free exhaust gases are then forced through the catalytic or thermal oxidizer where contaminants are converted to their combustion products of CO_2 and water vapor. The treated air is then emitted to the atmosphere.

Environmental Controls

The L.T.T.D. is designed such that the processed soil and air emissions meet applicable regulatory requirements. Automatic controls and operational procedures have been developed to minimize environmental impacts.

Most of the automatic controls on the unit are thermocouples which monitor the operating temperature in the various components of the unit. Thermocouples are mounted on the media outlets to the rotary dryer and the catalytic and thermal oxidizers, and will automatically shut off the machine if temperatures vary above or below the optimal range of operation. Two dual connection control panels also have manual switches to turn off the unit.

The 4' L.T.T.D. is equipped with a pulse-jet baghouse and catalytic oxidizer on the PTU to control particulate and VOC emissions, respectively. An alternate thermal oxidizer can be used for specific projects in place of the catalytic oxidizer. Particulate, carbon monoxide, nitrogen oxides, sulfur dioxide, and volatile organic compound emissions have been measured previously during regulatory compliance testing. The test reports are available for review.

VOC emissions are routinely measured with a photo-ionization detector (PID). A state-approved CO monitor will be installed when operating in Florida.

Maintenance

The process equipment is visually inspected daily and thoroughly inspected prior to the startup of each project. Maintenance of the catalytic and thermal oxidizers include inspection of the gas pre-heater and thermocouples to ensure proper operation and periodic washing of the catalyst to remove contaminant buildup (such as lead and particulate matter).

Health and Safety

Operation of the L.T.T.D. will be performed within strict health and safety procedures. Only trained operators and personnel familiar with tank and hazardous waste remediation will operate the L.T.T.D. All operators of the L.T.T.D. will conform to applicable federal, state, and local health and safety codes that apply to hazardous/non-hazardous soil remediation sites.

Contaminants

The L.T.T.D. can treat a wide range of halogenated and non-halogenated organic compounds. A typical listing of non-halogenated and halogenated compounds is presented in Tables 1 and 2, respectively. Note that these tables do not represent the complete list of compounds that can be treated.

Section 4: Emissions

The emissions from the 4' L.T.T.D. when configured with the catalytic oxidizer are presented in Table 3. Emissions from the plant when utilizing the thermal oxidizer are presented in Table 4. Emissions from the diesel generator are presented in Table 5. These emissions were calculated from stack test results and vendor supplied data.

The results of a recent emission stack test are presented in Appendix A. Both controlled and uncontrolled emission rates are included. Note that these emission rates are based on soil throughput of approximately 20 tons per hour.

Section 5: Schedule

S.S.R. proposes to operate the 4' L.T.T.D. 24 hours per day, seven days per week, 35 weeks per year. Typical project durations are from 3 to 5 weeks. The current project at NS Mayport is estimated to take 20 to 30 days after initial setup.

Section 6: Process Weight

As detailed in Section 2, the 4' L.T.T.D. is designed to treat up to 20 tons of contaminated soil per hour. The plant is equipped with a belt scale and continuous recorder.

Section 7: Fuels and Burners

The 4' L.T.T.D. is equipped with two propane or natural gas fired burners. The first, rated at 7.8MM BTU/Hr is located in the rotary dryer. The second is located in the oxidizer. The catalytic oxidizer is equipped with a 3MM BTU/Hr gas preheater, and the thermal oxidizer is equipped with a 17MM BTU/Hr burner. Note that the plant will be configured to treat the gas stream exiting the baghouse in either the catalytic or thermal oxidizer. The oxidizer burners are staged combustion burners as the combustion air for the burner is introduced separately from the rotary drum off-gas stream. Both oxidizers are not operated simultaneously.

The burner make and models are listed in Section 2. The rotary dryer burner has maximum and minimum heat inputs of 7.8MM BTU/Hr and 150,000 BTU/Hr respectively. The Catalytic oxidizer preheater burner maximum and minimum firing rates are 3MM and 150,000 BTU/Hr. The Thermal oxidizer, rated at 17MM BTU/Hr has a 20:1 turndown ratio depending on gas pressure. The burners are typically fired with 25% excess air. Commercial grade propane or natural gas will be obtained from local suppliers on a site specific basis.

When using the catalytic oxidizer the combined heat input rating of the rotary dryer and gas preheater is 11MM BTU/Hr. At this maximum, heat input the plant will burn approximately 120 gph of propane, assuming an average heat content of 91,600 BTU/gal. Typical consumption rates are from 95 to 115 gallons per hour. When firing natural gas, the unit will consume a maximum of 100 therms/hour, assuming an average heat content of 100,000 BTU/therm.

When using the thermal oxidizer the combined heat input rating of the rotary dryer and gas preheater is 25MM BTU/Hr. At this maximum, heat input the plant will burn approximately 273 gph of propane, assuming an average heat content of 91,600 BTU/gal. Typical consumption rates are from 120 to 190 gallons per hour. When firing natural gas, the unit will consume a maximum of 270 therms/hour, assuming an average heat content of 100,000 BTU/therm.

The wheeled loader consumes approximately 5 gal/hour diesel. The generator consumes approximately 5 to 8 gal/hour of diesel. S.S.R. will use low sulfur diesel (<0.05%) in the loader and the Kohler Genset.

Section 8: Equipment Drawings

A photograph of the L.T.T.D. configured with the catalytic oxidizer is presented in Figure 5. Figure 6 depicts the unit configured with the thermal oxidizer. Vendor data for the baghouse is presented in Appendix B.

Section 9: Naval Air Station, Mayport Project

S.S.R. intends to mobilize the PTU and STU to the site. VOC emissions from the thermal treatment plant will be controlled by the thermal oxidizer. The thermal oxidizer will be operated at a minimum gas exhaust temperature of 1500°F and approximately 1 second residence time to maximize contaminant destruction.

Soil analytical data is present in Appendix C. As seen in Appendix C, the range of pcs concentration level is 2 to 22,300 ppm.

At an oxidizer exhaust temperature of 1500°F, VOC destruction efficiencies are estimated at 99.99% or greater. Plant emissions for this project are estimated below:

Plant Footprint:	2,450 square feet, not including the stockpiling areas for untreated and treated soil. Nearest property boundary is approximately 1,100 feet from the thermal treatment plant.
Estimated Throughput:	10-12 tons per hour
Estimated Project Duration:	20-30 days
Average Blended Concentration:	2,300 ppm_w.
Emission Point Source:	Oxidizer Stack
Height:	16.5 feet above grade
Diameter:	4 feet
Outlet Temperature:	1500°F
Design Gas Flow Rate:	20,200 ACFM
Exit Velocity:	27 fps
Oxidizer DRE:	99.99%

Controlled Emissions:

Compound	lb/hr	Total Lbs*	
NO_x	2.88	2,074	(at 0.12 lb/MM BTU)
SO_x	0.5	360	
CO	1.5	1,080	
Particulates	1.2	864	
	0.04 gr/dscf		
VOC	0.006	4	

* Based on operating 24 hours per day for 30 days.

ATTACHMENTS

FIGURES

1. Site Map
2. Plant Layout of 4' L.T.T.D. with STU
3. Process Flow Diagram 4' L.T.T.D. (Catalytic Oxidizer)
4. Process Flow Diagram 4' L.T.T.D. (Thermal Oxidizer)
5. L.T.T.D. Photograph (Catalytic Oxidizer)
6. L.T.T.D. Equipment Layout

TABLES

1. Typical List of Treatable Non-Halogenated Compounds
2. Typical List of Treatable Chlorinated Compounds
3. Site Conditions/Emissions Estimates-Catalytic Oxidizer
4. Site Conditions/Emissions Estimates-Thermal Oxidizer
5. Generator Estimated Emissions

CALCULATIONS

1. 4' L.T.T.D. Emission Rate Calculations
2. Gasoline MSDS Sheet

APPENDIX

A. Emissions Stack Test, Tucson, Arizona
B. Baghouse and CO_2 Detector Data
C. Soil Analytical Data

Best Available Copy

FIGURE 1

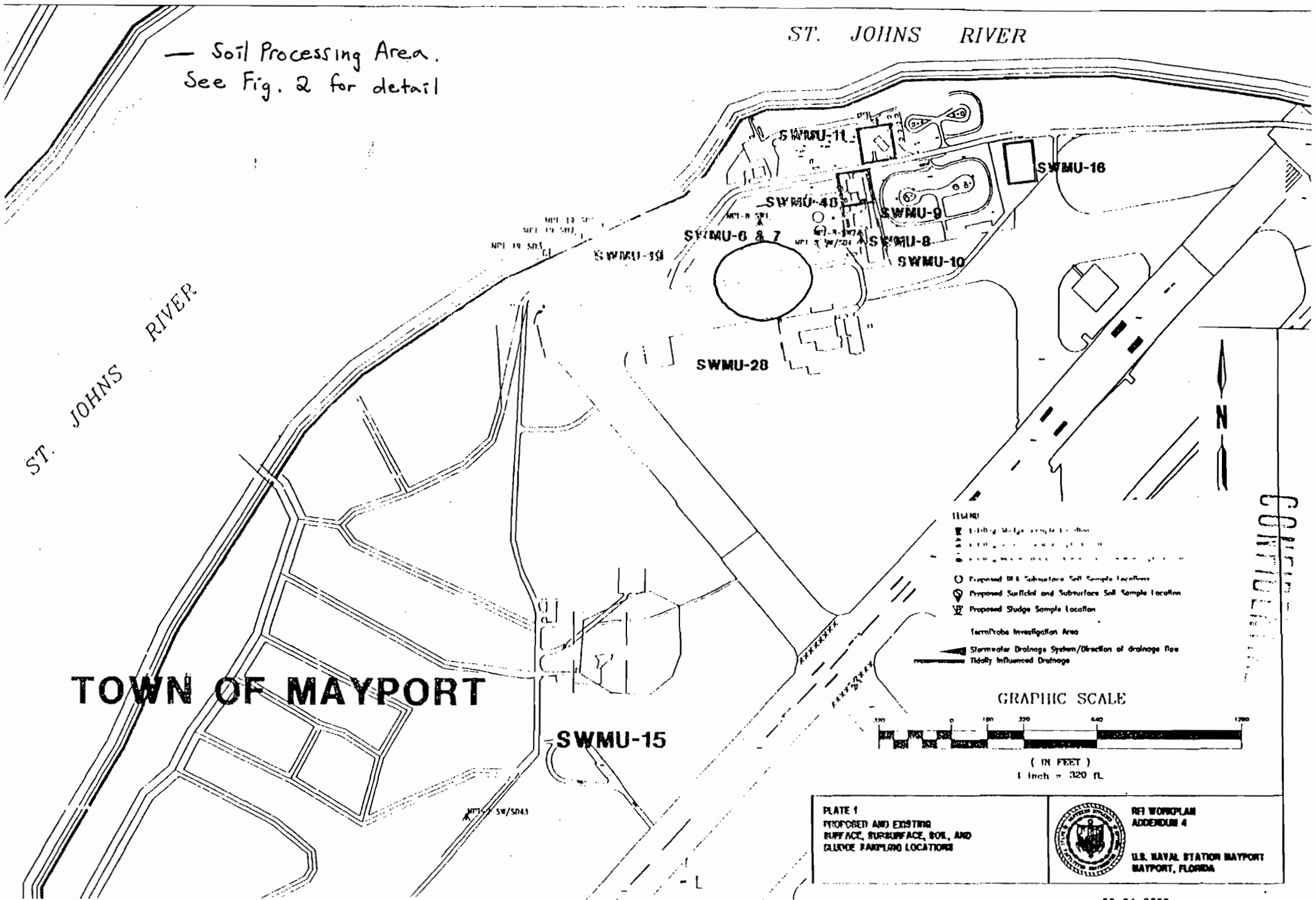
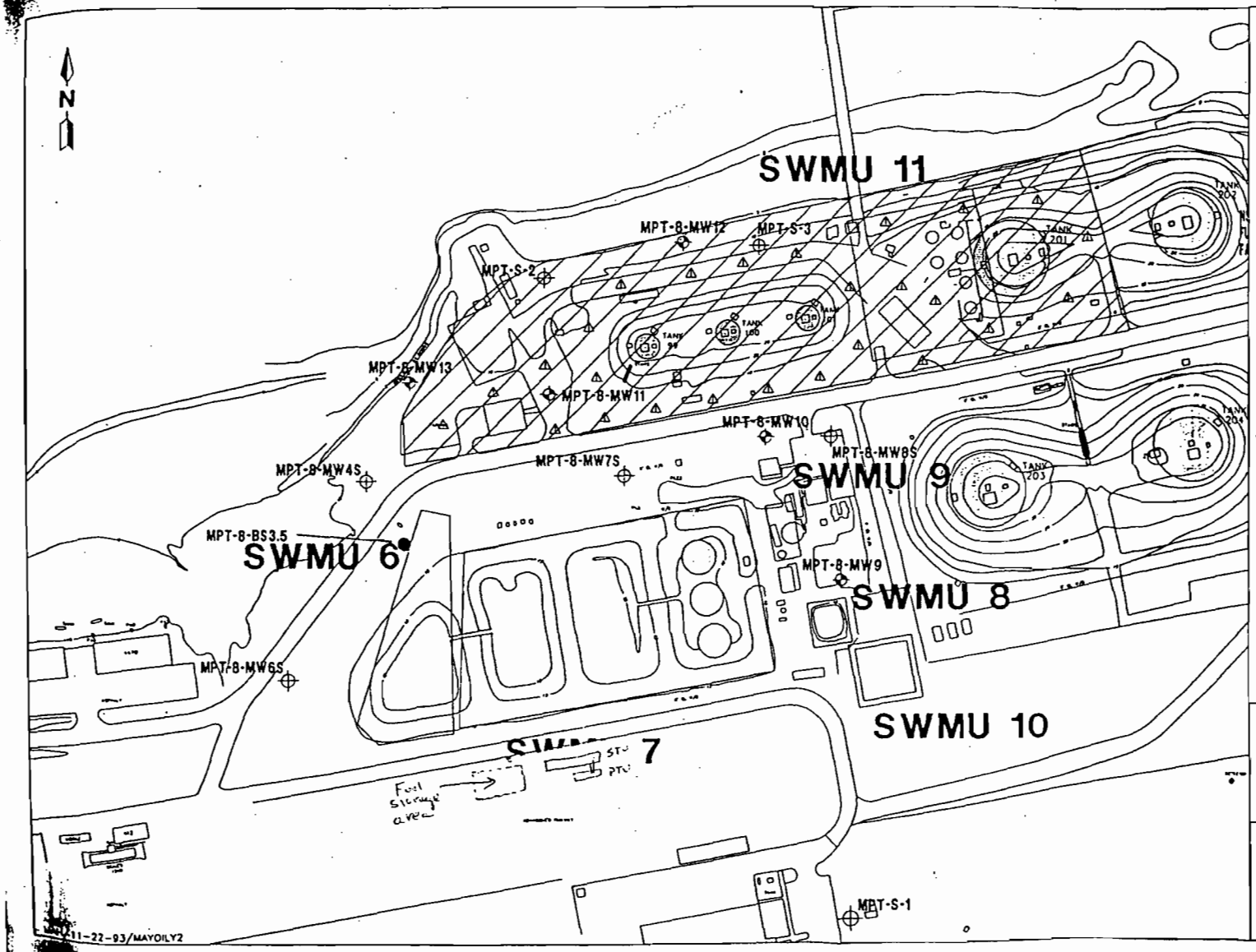


FIGURE 2



PROPOSED L.T.T.D.

SITE PLAN

LEGEND

- EXISTING MONITORING WELL LOCATION
- EXISTING SOIL BORING LOCATION
- APPROXIMATE SWMU LOCATION
- PROPOSED AREA OF FIELD SCREENING ACTIVITIES
- PROPOSED MONITORING WELL LOCATION
- APPROXIMATE LOCATION OF PROPOSED FIELD SCREENING SAMPLES

0 70 140

SCALE: 1" = 140'

FIGURE 4-18

SOIL & GROUNDWATER SAMPLING LOCATIONS AT THE OILY WASTE TREATMENT PLANT AREA (SWMUs 6 through 11)

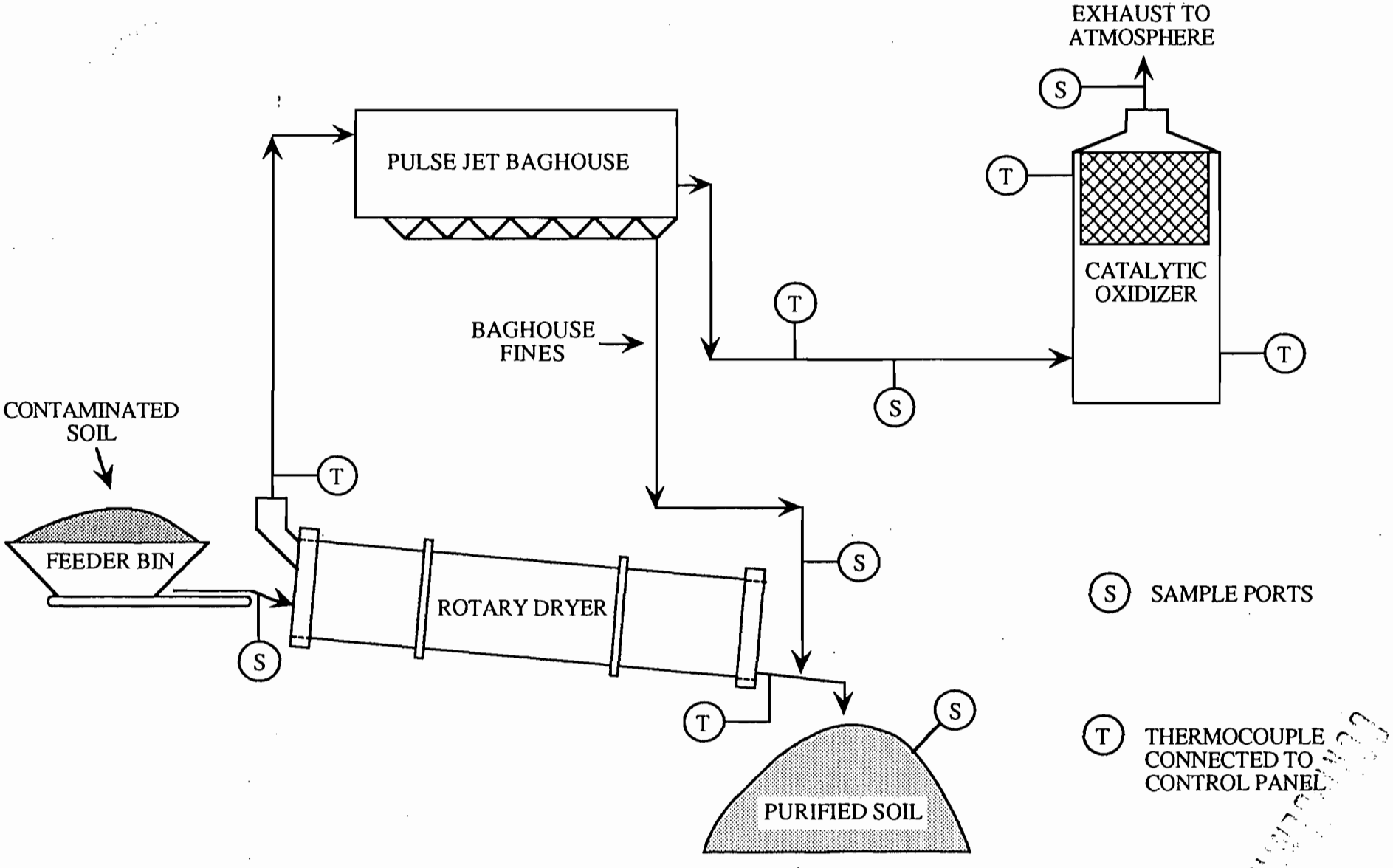
RCRA FACILITY INVESTIGATION WORKPLAN, ADDENDUM 4

U.S. NAVAL STATION MAYPORT, FLORIDA

06-94-0869

FIGURE 3

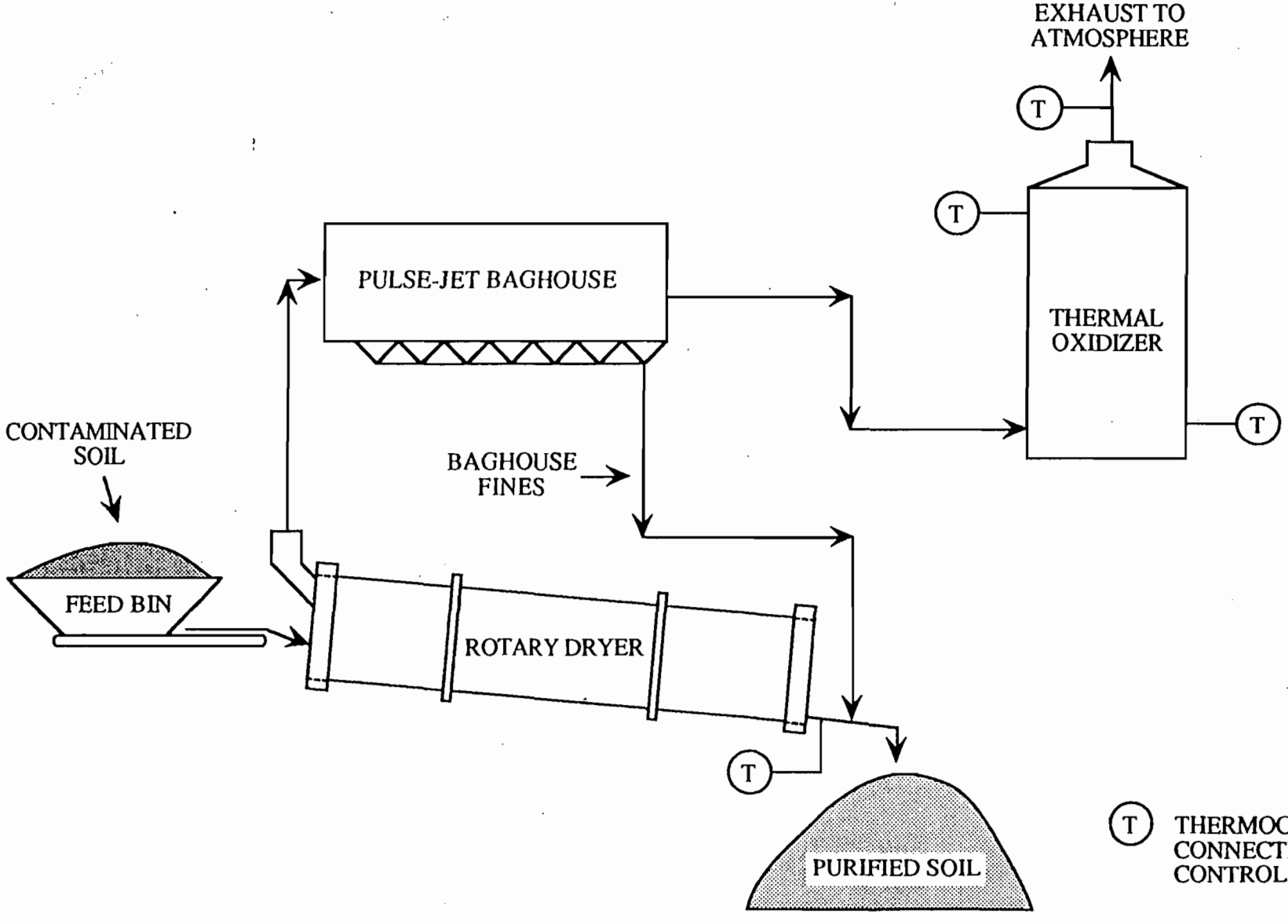
4' L.T.T.D. PROCESS FLOW DIAGRAM



SOUTHWEST SOIL REMEDIATION, INC.

FIGURE 4

L.T.T.D. PROCESS FLOW DIAGRAM



SOUTHWEST SOIL REMEDIATION, INC.

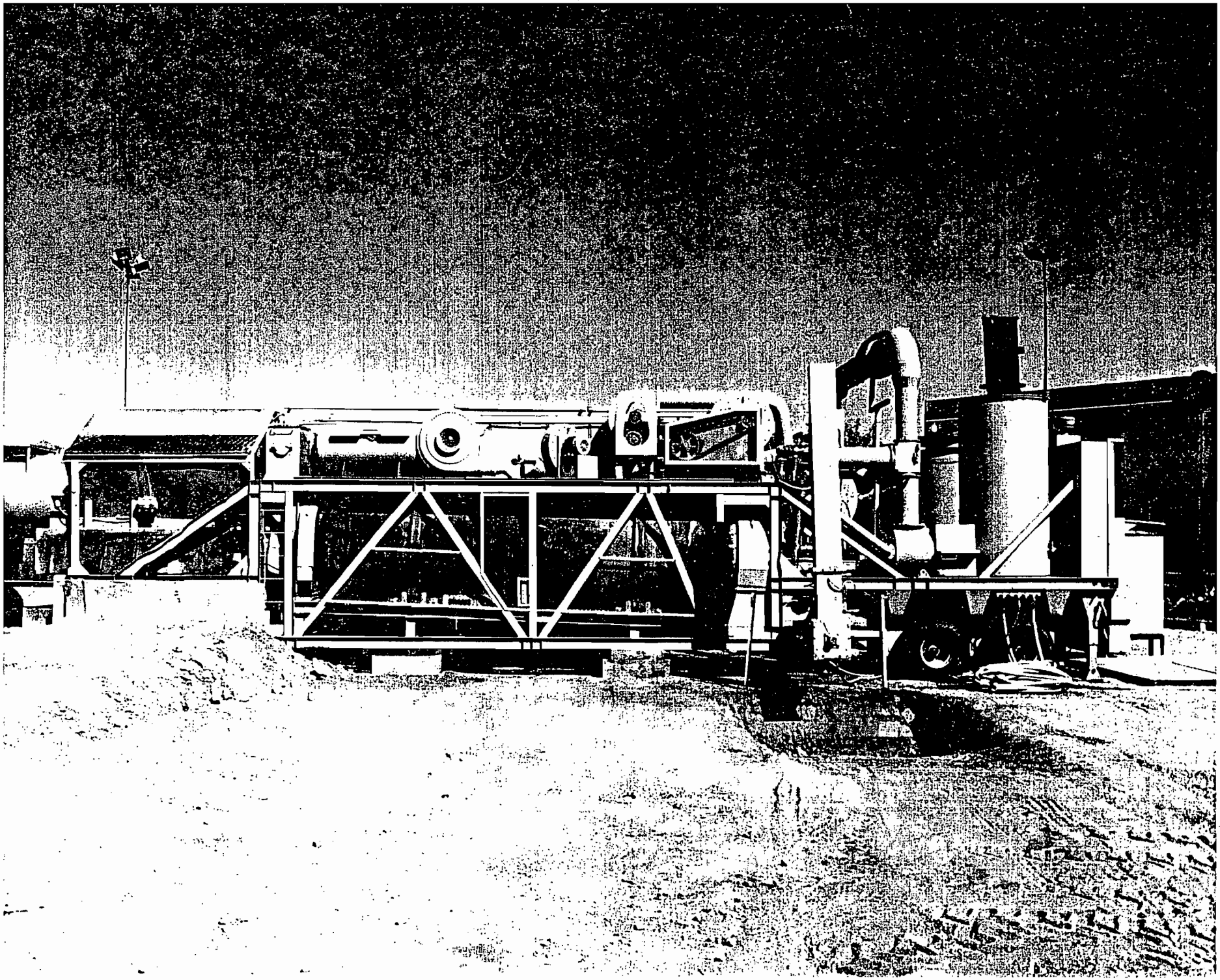


FIGURE 6

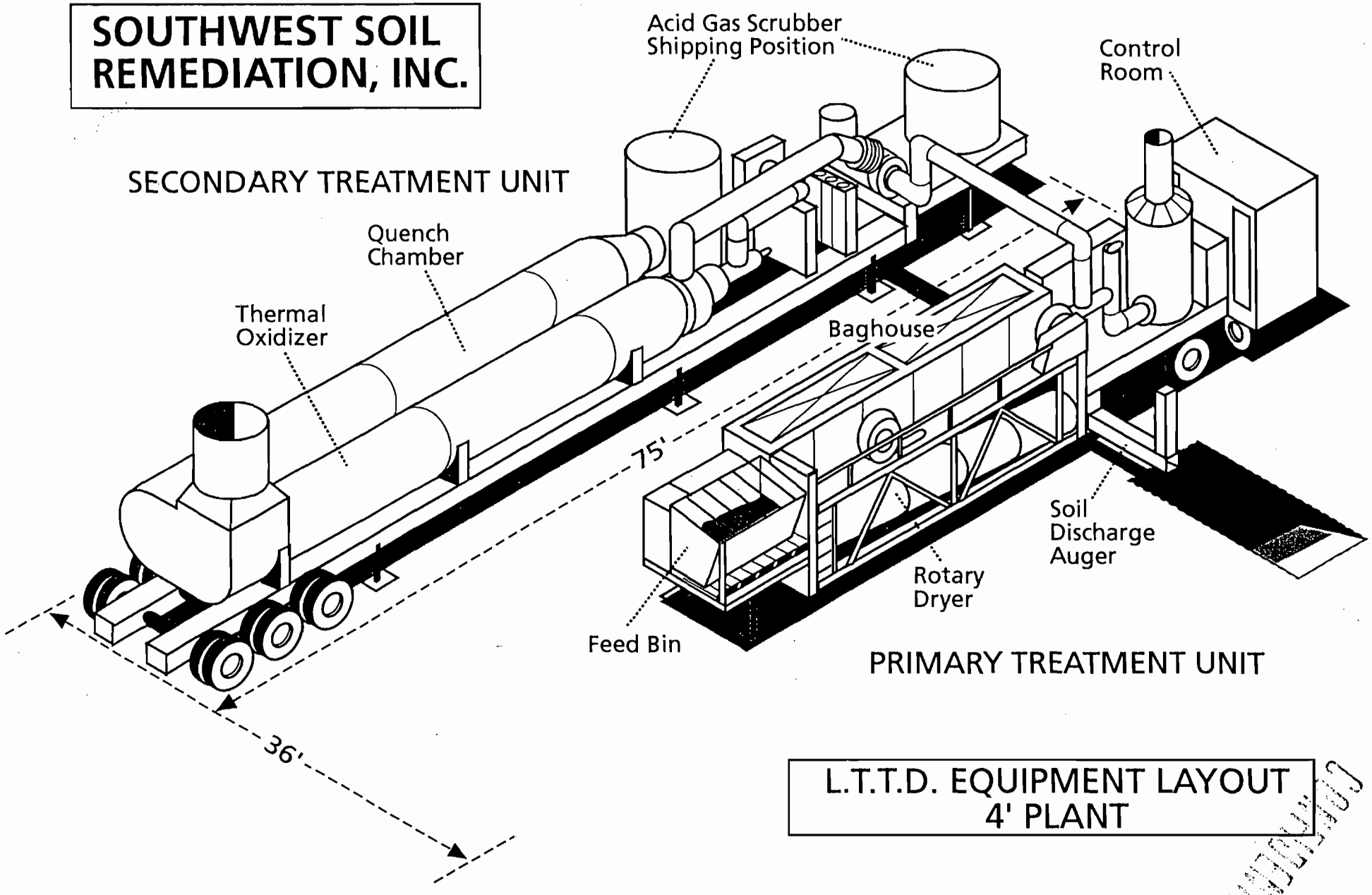

SOUTHWEST SOIL REMEDIATION, INC.
Acid Gas Scrubber Shipping Position
Control Room
SECONDARY TREATMENT UNIT
Quench Chamber
Thermal Oxidizer
Baghouse
75'
Soil Discharge Auger
Rotary Dryer
Feed Bin
PRIMARY TREATMENT UNIT
36'
L.T.T.D. EQUIPMENT LAYOUT
4' PLANT

TABLE 1

Typical List of Non-Halogenated Organic Compounds that can be Treated by the 4' L.T.T.D

Acetone

Benzene

Butanol

Dinoseb

Ethanol

Ethyl Benzene

Glycol Ethers (low molecular weights)

Methanol

Methyl Ethyl Ketone

Methyl Isobutyl Ketone

Petroleum Hydrocarbons (i.e. products, distillates)

Propanol

Styrene

Toluene

Xylenes

NOTE: The above list is not complete, but is a typical list.

TABLE 2

Typical List of Chlorinated Organic Compounds that can be Treated by the 4' L.T.T.D.

Chlorobenzene

Chloroform

DDT

1,2-Dichloroethane

Dichloromethane (methylene chloride)

Tetrachloroethylene

Toxaphene

1,1,1-Trichloroethane

Trichloroethylene

NOTE: The total chloride concentrations should not exceed 6 mg/kg in soil when using the catalytic oxidizer. The above list is not complete, but is a typical list.

TABLE 3
SITE CONDITIONS/EMISSION ESTIMATES
CATALYTIC OXIDIZER

Site plot plan:	The unit requires an open area of approximately 1,500 square feet, not including the stockpiling areas for untreated and treated soil.
Maximum Throughput:	16 tons per hour
Maximum Blended Concentration:	5,000 ppm_w. (To prevent catalyst overheating.)
Emission Point Source:	Oxidizer Stack
Height:	16 feet above grade
Diameter:	1.5 feet
Outlet Temperature:	550° to 1250°F
Design Gas Flow Rate:	3,000 SCFM
Exit Velocity:	90 fps at 1000°F

Controlled Emissions:

Compound	lb/hr	tpy*	
NO_x	3.31	7.9	(0.12 lb/MM BTU)
SO_x	0.2	1.7	
CO	0.85	5.9	
VOC's	1.44	4.20	
Benzene	0.02	0.06	
Toluene	0.08	0.23	
Ethyl benzene	0.02	0.05	
Xylenes	0.09	0.27	
Particulates	1.2	3.50	
	0.04 gr/dscf		

* Based on operating 5,880 hours per year.

TABLE 4
SITE CONDITIONS/EMISSION ESTIMATES
THERMAL OXIDIZER

Site plot plan:	The unit requires an open area of approximately 4,000 square feet, not including the stockpiling areas for untreated and treated soil.
Maximum Throughput:	20 tons per hour
Maximum Blended Concentration:	15,000 ppm_w.
Emission Point Source:	Oxidizer Stack
Height:	16.5 feet above grade
Diameter:	4 feet
Outlet Temperature:	1300° TO 1800°
Design Gas Flow Rate:	20,200 ACFM
Exit Velocity:	27 fps

Controlled Emissions:

Compound	lb/hr	tpy*	
NO_x	5.05	14.9	(0.12 lb/MM BTU)
SO_x	0.5	1.5	
CO	1.5	4.4	
VOC's	5.4	15.9	
Benzene	0.07	0.21	
Toluene	0.29	0.86	
Ethyl benzene	0.06	0.18	
Xylenes	0.35	1.02	
Particulates	2.09	6.10	
	0.04 gr/dscf		

* Based on operating 5,880 hours per year.

TABLE 5

EMISSIONS FOR DIESEL GENERATOR

Utilizing AP-42 table 3.3.1 (Table dated October, 1986) for SO_x, and particulates, and John Deere's equipment emissions specifications sheet (attached) for NO_x, CO and hydrocarbons, the following emissions table was prepared. The maximum prime power load for the 4' L.T.T.D. genset is 190 Hp. Normal operating horsepower is 130 Hp.

Pollutant	Emission Factor (g/hphr)	Normal Emissions (pounds/hr)	Maximum Emissions (pounds/hr)
NO_x	12.06	3.46	5.05
SO_x	0.931	0.27	0.39
CO	3.15	0.90	1.32
Hydrocarbons	0.31	0.09	0.13
Particulate	1.00	0.29	0.42

CATALYTIC OXIDIZER EMISSIONS

Gas Velocity	
Stack Diameter, ft	1.5
Gas Temp, °F	1000
ACFM	4,841
Velocity, fps	46 based on PV = NRT

TOXIC EMISSIONS

INPUTS

Hours of Operation – per Project	5,880
Air Flow, SCFM	3,000
At 70°F, 14.696 psia	
Soil Throughput, tph	16
Contamination, ppm	5,000
Contaminants	Gasoline
Moisture, vol%	38%

BTEX Constituents	MSDS %	mol wt.
Benzene	1.30%	78.11
Toluene	5.40%	92.13
Ethylbenzene	1.15%	106.16
Xylenes	6.40%	106.16
VOC Control Efffiency, %	99.10%	

CALCULATIONS

Uncontrolled VOC emissions:

$$\frac{\text{Tph} * 2000\text{lb} * \text{PPMw}}{\text{ton} \quad 1\text{E}6} = \text{Uncontrolled VOC} = 160 \text{ lb/hr}$$

Controlled Emissions:

Uncontrolled * (1 – DRE) = 1.4 lb/hr

	lb/Hr	ppmv	% by wt	tpy	TPY w/ Genset
Total VOC *	1.44	193	0.0125%	4.23	4.6158
Benzene	0.01872	0.52	0.0002%	0.06	0.055036
Toluene	0.07776	1.81	0.0007%	0.23	0.228614
Ethylbenzene	0.01656	0.34	0.0001%	0.05	0.048686
Xylenes	0.09216	1.87	0.0008%	0.27	0.270950
NOx as NO	2.7	193.42	0.0235%	7.94	22.785
SOx	0.2	6.71	0.0017%	0.59	1.7346
CO	0.7	53.73	0.0061%	2.06	5.9388
Particulates	1.20	---	0.0104%	3.53	4.7628

* as methane

L.T.T.D. EMISSION RATE CALCULATIONS

10-Jul-95

CONFIDENTIAL

Annual Operation: 5,880 hrs

From Vendor Data Sheet – For Catalytic Oxidizer

	Original ppmv	lb/hr	tpy	mol/hr	Total Moles	New ppmv
SO2	9.1	0.16	0.47	0.0025	274	9.2
NOx as NO	327.9	2.68	7.88	0.0893	272	328
CO	87.8	0.67	1.97	0.0239	272	87.8
VOC *	36.6	0.16		0.0100	272	
* @ 99.9% DRE						
New VOC, based on Calculations Below	99.10% DRE	1.4	4.23	0.0897		329
				16.05 MOl Wt VOC		
				30.01 MOl Wt NO		
Original Moles/Hr		272.39 based on NOx and CO				
New Total Moles/Hr		272.47				

BTEX Constituents	MSDS %	Lb/Hr	TPY	Mol/Hr	ppmv
Benzene	1.30%	0.0187	0.06	0.0002	0.88
Toluene	5.40%	0.0777	0.23	0.0008	3.10
Ethylbenzene	1.15%	0.0165	0.05	0.0002	0.57
XYlenes	6.40%	0.0921	0.27	0.0009	3.19

Mol Wts	lb/lbmole
Benzene	78.11
Toluene	92.13
Ethylbenzene	106.16
XYlenes	106.16

PPPMv calculations are based on the following:

$$\frac{\text{VOLa (moles)}}{\text{Total Vol (moles)}} = \text{PPMv of a}$$

Step 1, calculate total moles based on ppm and component flow rates
Step 2, adjust total flow for higher VOC flow

VOC emission (Lb/Hr) = PPM in Soil x TPH * 2000 lb/ton * (1–DRE)

Step 3, recalculate ppmv's given new total molar flow rate.

MSDS Data for BETX constituents is from MSDS # 372, 10/03/88

L.T.T.D. EMISSION RATE CALCULATIONS

10-Jul-95

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THERMAL OXIDIZER EMISSIONS

INPUTS	5880 hrs/year	
Air Flow, SCFM	4,775	@ 1500°F Exhaust Temperature
At 70°F, 14.696 psia		
Soil Throughput, tph	20	
Contamination, ppm	15,000	
Contaminatns	Gasoline	
Moisture, vol%	38%	

BTEX Constituents	MSDS %	mol wt.
Benzene	1.30%	78.11
Toluene	5.40%	92.13
Ethylbenzene	1.15%	106.16
Xylenes	6.40%	106.16
VOC Control Efffiency, %	99.10%	

CALCULATIONS

Uncontrolled VOC emissions:

$$\frac{\text{Tph} * 2000\text{lb} * \text{PPMw}}{\text{ton} \quad 1\text{E}6} = \text{Uncontrolled VOC}$$

= 600 lb/Hr 50,524 ppmv

Controlled Emissions:

Uncontrolled * (1 – DRE) = 5.4 lb/hr

	lb/Hr	lb/Day	ppmv	% by wt
Total VOC *	5.4	129.6	455	0.0295%
Benzene	0.0702	1.7	1.21	0.0004%
Toluene	0.2916	7.0	4.28	0.0016%
Ethylbenzene	0.0621	1.5	0.79	0.0003%
Xylenes	0.3456	8.3	4.40	0.0019%
NOx as NO	5.05	121.2	227.28	0.0276%
SOx	0.5	12.0	10.54	0.0027%
CO	1.5	36.0	72.33	0.0082%
Particulates	2.09	50.2	---	0.0114%
Gr/DSCF	0.04			

* as methane

Air FLow, mol/min from PV=NRT	12.34
Dry Air, mol/min	7.65
Air Flow, DSCFM	2,961
Dry Air, lb/hr	13,243
Water, lb/hr	5,068

EQUIPPED WITH THERMAL OXIDIZER

Site – Tons/Year	LTTD	Genset	Total
Total VOC *	15.88	0.26	16.14
Benzene	0.21	0.00	0.21
Toluene	0.86	0.00	0.86
Ethylbenzene	0.18	0.00	0.18
Xylenes	1.02	0.00	1.02
NOx as NO	14.85	10.17	25.02
SOx	1.47	0.79	2.26
CO	4.41	2.65	7.06
Particulates	6.14	0.85	7.00

PTU only (Catalytic Oxidizer

*****PROCESS/OPERATION *****

.W MATERIAL:	PETROLEUM CONTAMINATED SOILS
:PE PRODUCT:	RECLAIMED SOILS
'NUAL OPERATION:	2000 HOURS/YEAR
ROCESSING RATE:	16.0 TONS/HOUR
)ISTURE REMOVAL:	15.0 %
)NTAMINATION LEVEL:	0.5 % BY WEIGHT
)NTAMINATION TYPE:	GASOLINE, KEROSENE, JET FUEL (S CONTENT= .05 %)
ED SIZE:	80% > 200 MICRONS
	100% < 2 INCHES

I. ***** FUEL BURNING DATA *****

	PRIMARY TREATMENT (ROTARY DRUM)	SECONDARY TREATMENT (AFTERBURNER)
UEL TYPE:	LPG	LPG
UEL UNIT:	GALLON	GALLON
URNER FIRING RATES:	12.0 MM BTU/HR	3.0 MM BTU/HR
UEL HEAT VALUE (LHV):	84250 BTU/UNIT	84250 BTU/UNIT
VAILABLE HEAT:	73761 BTU/UNIT	56372 BTU/UNIT
UEL CONSUMPTION:	162.7 UNIT/HR	53.2 UNIT/HR

III. ***** AIR POLLUTION CONTROL EQUIPMENT *****

	BAGHOUSE	AFTERBURNER
POLLUTANT TYPE:	PARTICULATES	VOLATILE ORGANICS
INLET GAS FLOW:	3433 DCFM	6600 ACFM
INLET LOADING:	4800 LB/HR	160 LB/HR
EXIT LOADING:	1.18 LB/HR	0.16 LB/HR
CONTROL EFFICIENCY:	99.98 %	99.90 %

IV. ***** STACK EMISSIONS *****

	LB/HR	LB/MILLION BTU	TONS/YR	PPM
PARTICULATE:	1.18	7.85E-02	1.18	(0.04 GR/DSCF)
SULFUR DIOXIDE:	0.16	1.09E-02	0.16	9.1
NITROGEN OXIDES:	2.68	1.78E-01	2.68	327.9
CARBON MONOXIDE:	0.67	4.46E-02	0.67	87.8
VOLATILE ORGANICS:	0.16	1.07E-02	0.16	36.6
HYDROGEN CHLORIDE:	0.00	0.00E+00	0.00	0.0

V. ***** POLLUTANT EMISSIONS *****

	CFS	CMS
SULFUR DIOXIDE:	2.61E-04	7.40E-06
NITROGEN OXIDES:	6.35E-03	1.80E-04
CARBON MONOXIDE:	2.51E-03	7.11E-05
VOLATILE ORGANICS:	1.05E-03	2.97E-05
HYDROGEN CHLORIDE:	0.00E+00	0.00E+00

NOTE: EMISSIONS BASED ON REFERENCE TEMPERATURE OF 60F OR 16C

SOUTHWEST SOIL REMEDIATION (GASOLINE 1500 F)
02-25-1993
22:44:11

CONFIDENTIAL
For STQ

I. *****PROCESS/OPERATION *****

RAW MATERIAL:	PETROLEUM CONTAMINATED SOILS
TYPE PRODUCT:	RECLAIMED SOILS
ANNUAL OPERATION:	2,000 HOURS/YEAR
PROCESSING RATE:	20.0 TONS/HOUR
MOISTURE REMOVAL:	15.0 %
CONTAMINATION LEVEL:	1.0 % BY WEIGHT
CONTAMINATION TYPE:	GASOLINE, KEROSENE, JET FUEL (S CONTENT= .05 %)
FEED SIZE:	80% > 200 MICRONS 100% < 2 INCHES

II. ***** FUEL BURNING DATA *****

	PRIMARY TREATMENT (ROTARY DRUM)	SECONDARY TREATMENT (AFTERBURNER)
FUEL TYPE:	NATURAL GAS	NATURAL GAS
FUEL UNIT:	100 CU. FT.	100 CU. FT.
BURNER FIRING RATES:	15.0 MM BTU/HR	11.2 MM BTU/HR
FUEL HEAT VALUE (LHV):	93,954 BTU/UNIT	93,954 BTU/UNIT
AVAILABLE HEAT:	82,257 BTU/UNIT	62,865 BTU/UNIT
FUEL CONSUMPTION:	182.4 UNIT/HR	178.4 UNIT/HR

III. ***** AIR POLLUTION CONTROL EQUIPMENT *****

	BAGHOUSE (BH)	AFTERBURNER (STU)
POLLUTANT TYPE:	PARTICULATES	VOLATILE ORGANICS
INLET GAS FLOW: (TOTAL BH-STU)	6,095 DSCF	10,693 ACFM
INLET LOADING:	6,000 LB/HR	400 LB/HR
EXIT LOADING:	2.09 LB/HR	0.40 LB/HR
CONTROL EFFICIENCY:	99.97 %	99.90 %

IV. ***** STACK EMISSIONS *****

	LB/HR	LB/MILLION BTU	TONS/YR	PPM
PARTICULATE:	2.09	7.97E-02	2.09	(0.04 GR/DS
SULFUR DIOXIDE:	0.42	1.61E-02	0.42	6.2
NITROGEN OXIDES:	5.05	1.93E-01	5.05	162.9
CARBON MONOXIDE:	1.26	4.82E-02	1.26	43.6
VOLATILE ORGANICS:	0.40	1.53E-02	0.40	24.1
HYDROGEN CHLORIDE:	0.00	0.00E+00	0.00	0.0

V. ***** POLLUTANT EMISSIONS *****

	CFS	CMS
SULFUR DIOXIDE:	6.76E-04	1.91E-05
NITROGEN OXIDES:	1.20E-02	3.39E-04
CARBON MONOXIDE:	4.74E-03	1.34E-04
VOLATILE ORGANICS:	2.62E-03	7.41E-05
HYDROGEN CHLORIDE:	0.00E+00	0.00E+00

NOTE: EMISSIONS BASED ON REFERENCE TEMPERATURE OF 70F OR 21C

APPENDIX A

TABLE FROM GASOLINE MSDS

Chemical	Cas #	% Composition	Average %
Benzene	71-43-2	1.2-1.4	1.3
Methylbenzene (Toluene)	108-88-3	4.3-6.5	5.4
Ethylbenzene	100-41-4	0.9-1.4	1.15
o-Dimethyl benzene (Xylene)	95-47-6	1.4-2.2	
p-Dimethyl benzene (Xylene)	106-42-3	0.7-0.9	6.4
m-Dimethyl benzene (Xylene)	108-38-3	3.0-4.6	
Cyclohexane (Hexahydrobenzene)*	110-82-7	0.5-2.4	
Methyl tert-butyl ether*	1634-04-4	10.0 Max.	

* Not included as a separate compound, but in total organic compound emissions.

ENERGY AND ENVIRONMENTAL
MEASUREMENT
CORPORATION

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SOUTHWEST SOIL REMEDIATION
TUCSON, ARIZONA

EMISSION TEST REPORT

4/19-20/94

REPORT BY:

RAFAEL GUILLEN
RHONDA WADINGTON

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RELEASED ONLY BY
AUTHORIZED COMPANY PERSONNEL

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SUMMARY OF SOUTHWEST SOIL REMEDIATION
INLET GAS FLOW/MOISTURE DATA

TIME	RUN #	AWCFM	SDCFH x10[4]	Ts(F)	%H2O v/v	%CO2/O2 v/v
CAT						
1200-1250	1-GF/H2O	3,213	7.507	374	34.8	12.8/2.4
1405-1450	2-GF/H2O	3,695	6.855	369	48.6	13.0/2.5
1555-1640	3-GF/H2O	4,533	8.506	370	47.9	12.8/2.3
Mean 1-3		3,814	7,623	371	43.8	12.9/2.4
STU						
1130-1215	4-GF/H2O	3,889	9.075	317	37.0	10.1/3.2
1335-1420	5-GF/H2O	3,918	8.617	316	40.7	10.1/3.4
1520-1605	6-GF/H2O	4,165	9.262	338	38.3	10.1/4.8
Mean 4-6		3,991	8.985	324	38.7	10.1/3.8

SUMMARY OF SOUTHWEST SOIL REMEDIATION
PARTICULATE/SO2 EMISSION DATA

CAT OUTLET - 4/19/94

TIME	RUN #	AWCFM	SDCFH x10[5]	Ts(F)	%H2O v/v	%CO2/O2 v/v
1200-1305	1-PT/SO2	9,649	1.436	928	29.1	13.4/3.0

PARTICULATES		SULFUR DIOXIDE	
GR/DSCF	PPH	PPM (A)	PPH
0.0385	0.8	0.9	0.03

TIME	RUN #	AWCFM	SDCFH x10[5]	Ts(F)	%H2O v/v	%CO2/O2 v/v
1405-1510	2-PT/SO2	9,695	1.257	986	35.7	13.3/4.4

PARTICULATES		SULFUR DIOXIDE	
GR/DSCF	PPH	PPM (A)	PPH
0.0311	0.6	2.8	0.09

TIME	RUN #	AWCFM	SDCFH x10[5]	Ts(F)	%H2O v/v	%CO2/O2 v/v
1553-1659	3-PT/SO2	9,631	1.181	998	38.6	13.1/2.8

PARTICULATES		SULFUR DIOXIDE	
GR/DSCF	PPH	PPM (A)	PPH
0.0370	0.6	1.8	0.06

	AWCFM	SDCFH x10[5]	Ts(F)	%H2O v/v	%CO2/O2 v/v
Mean 1-3	9658	1.291	971	34.5	13.3/3.4

PARTICULATES		SULFUR DIOXIDE	
GR/DSCF	PPH	PPM (A)	PPH
0.0355	0.7	1.8	0.06

SUMMARY OF SOUTHWEST SOIL REMEDIATION
PARTICULATE/SO2 EMISSION DATA

STU OUTLET - 4/20/94

TIME	RUN #	AWCFM	SDCFH x10[5]	Ts(F)	%H2O v/v	%CO2/O2 v/v
1107-1230	4-PT/SO2	19,361	2.240	1425	24.9	6.4/5.8

PARTICULATES		SULFUR DIOXIDE	
GR/DSCF	PPH	PPM (A)	PPH
0.0326	1.0	0.47	.02

TIME	RUN #	AWCFM	SDCFH x10[5]	Ts(F)	%H2O v/v	%CO2/O2 v/v
1320-1430	5-PT/SO2	18,319	2.066	1423	26.9	6.5/6.0

PARTICULATES		SULFUR DIOXIDE	
GR/DSCF	PPH	PPM (A)	PPH
0.0325	1.0	0.72	0.04

TIME	RUN #	AWCFM	SDCFH x10[5]	Ts(F)	%H2O v/v	%CO2/O2 v/v
1515-1620	6-PT/SO2	18,369	2.043	1426	27.8	6.4/6.5

PARTICULATES		SULFUR DIOXIDE	
GR/DSCF	PPH	PPM (A)	PPH
0.0261	0.8	1.62	0.08

	AWCFM	SDCFH x10[5]	Ts(F)	%H2O v/v	%CO2/O2 v/v
Mean 4-6	18,683	2.116	1425	26.5	6.4/6.1

PARTICULATES		SULFUR DIOXIDE	
GR/DSCF	PPH	PPM (A)	PPH
0.0304	0.93	0.94	0.05

SUMMARY OF SOUTHWEST SOIL REMEDIATION
NOx EMISSION DATA

CONFIDENTIAL

TIME	RUN #	ADCFM	NOX-PPM v/v Dry	NOx-PPH	Ts(F)	%O2 v/v
4/19/94	CAT OUTLET					
1152-1304	1-NOx	6,841	144.1	2.53	896	3.0
1405-1505	2-NOx	6,236	136.6	2.05	984	4.4
1555-1655	3-NOx	5,910	142.0	2.00	1002	2.8
Mean 1-3		6,329	140.9	2.19	967	3.4
4/20/94	STU OUTLET					
1107-1218	4-NOx	14,535	69.7	1.86	1433	6.4
1330-1430	5-NOx	13,393	102.1	2.51	1433	5.0
1511-1611	6-NOx	13,262	105.1	2.54	1442	6.4
Mean 4-6		13,370	139.3	2.30	1436	5.9

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SUMMARY OF SOUTHWEST SOIL REMEDIATION
VOC EMISSION DATA

TIME RUN #	AWCFM	PPH	Ts(F)	%O2 v/v	VOC REDUCTION EFF% (PPH)
4/19/94					
1216-1304 1-VOC					
CAT INLET	3,213	20.56	362	2.4	
CAT OUTLET	9,649	2.68	914	3.0	86.96
1405-1505 2-VOC					
CAT INLET	3,695	23.08	370	2.5	
CAT OUTLET	9,695	1.56	984	4.4	93.24
1555-1655 3-VOC					
CAT INLET	4,533	29.83	374	2.3	
CAT OUTLET	9,631	1.55	1002	2.8	94.80
Inlet Mean 1-3	3,814	24.49	369	2.4	
Outlet Mean 1-3	9,658	1.93	967	3.4	92.12
4/20/94					
1107-1218 4-VOC					
STU INLET	3,889	19.32	322	3.2	
STU OUTLET	19,361	0.21	1433	6.4	98.91
1320-1430 5-VOC					
STU INLET	3,918	53.74	319	3.4	
STU OUTLET	18,319	0.06	1433	6.5	99.89
1515-1611 6-VOC					
STU INLET	4,165	45.22	322	4.8	
STU OUTLET	18,369	0.003	1442	6.4	99.99
Inlet Mean 4-6	3,991	39.43	321	3.8	
Outlet Mean 4-6	18,683	0.091	1436	6.4	99.60

SUMMARY OF SOUTHWEST SOIL REMEDIATION
OPACITY - VISUAL EMISSIONS DATA

4/19/94 CAT OUTLET

1200-1700 OPACITY READINGS AVERAGE = 0.7%

4/20/94 STU OUTLET
0955-1616 OPACITY READINGS AVERAGE = 0%

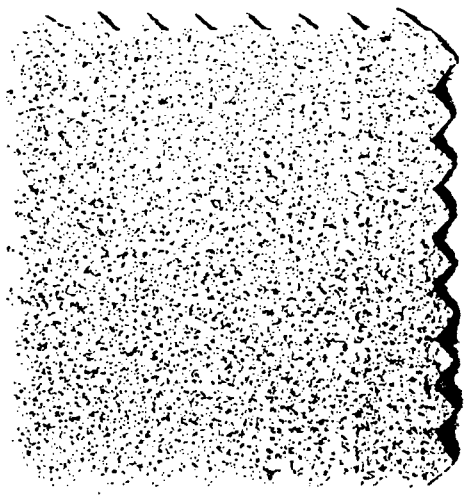
APPENDIX B

CONFIDENTIAL

Filtration Fabric

Specification Sheet

Style:	PT01
Fiber:	P84 - 100%
Weight:	14 oz. psy
Construction:	P84 Scrim Supported Needle Felt
Count:	N/A
Air Permeability:	25-45 CFM
Mullen Burst Strength:	350 psi
Tensile Strength: (2" strip)	
Warp Direction:	N/A
Fill Direction:	N/A
Thermal Stability:	2% Max Shrinkage @ 475°F for 1 hour
Maximum Operating Temperature:	500°F
Finish:	Heat Set, Singed



(The above data is nominal and provided for information only. This data is not to be construed as manufacturing specifications and is subject to change.)

8800 East 63rd Street • Kansas City, MO 64133 • (816) 356-8400 • FAX (816) 353-1873 **Sales 1-800-821-2222**

BHA

Performance Data

Filter Media Efficiencies for Hot Gas Pulse-Jet Baghouses

Selecting a filter media for boiler and incinerator baghouse applications can be a difficult decision. Through years of experience, BHA has found that the selection for these applications is based on three main criteria: temperature, gas stream chemistry and filtration properties.

Within these particular areas, careful consideration must be given to the fabric's durability for fluctuations in operating time, temperature swings and variables in the gas stream. Durability of the filter media must also include "fabric integrity"— the ability to withstand the mechanical wear generated by filtration velocities and the energy of the cleaning cycle activity.

The final determining factor in selecting a filter media is the filtration efficiency. This is the capacity to yield maximum particulate collection with minimal leakage at the lowest airflow resistance.

Particulate Efficiency Studies (0.5 microns)

Style	Operating Efficiency	Percent Leakage	Operating Pressure Average Resistance to Flow
Nomex Felt 14 oz.	98.997%	1.003%	4.6"w.c.
P-84 Felt 14 oz.	99.953%	.047%	3.1"w.c.
Ryton Felt 16 oz.	99.028%	.972%	4.2"w.c.
Teflon Felt 23 oz.	99.016%	.984%	4.8"w.c.

Note: All data taken from simultaneous 14 hour tests.
Dust loading at 10 grains/ACF with 6:1 air-to-cloth ratio.
Pulse cleaning performed at same frequency and duration for each fabric.

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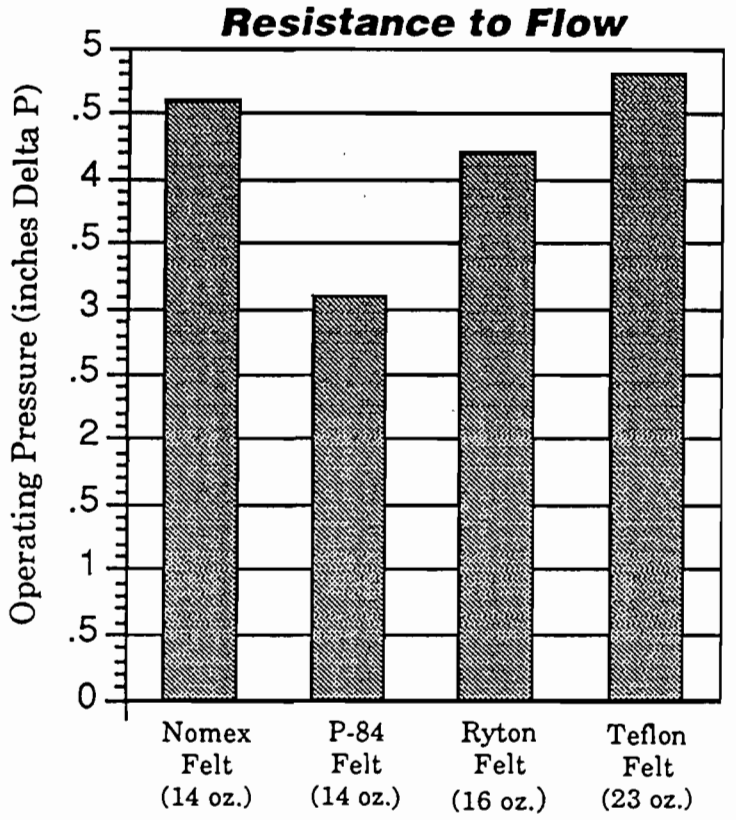
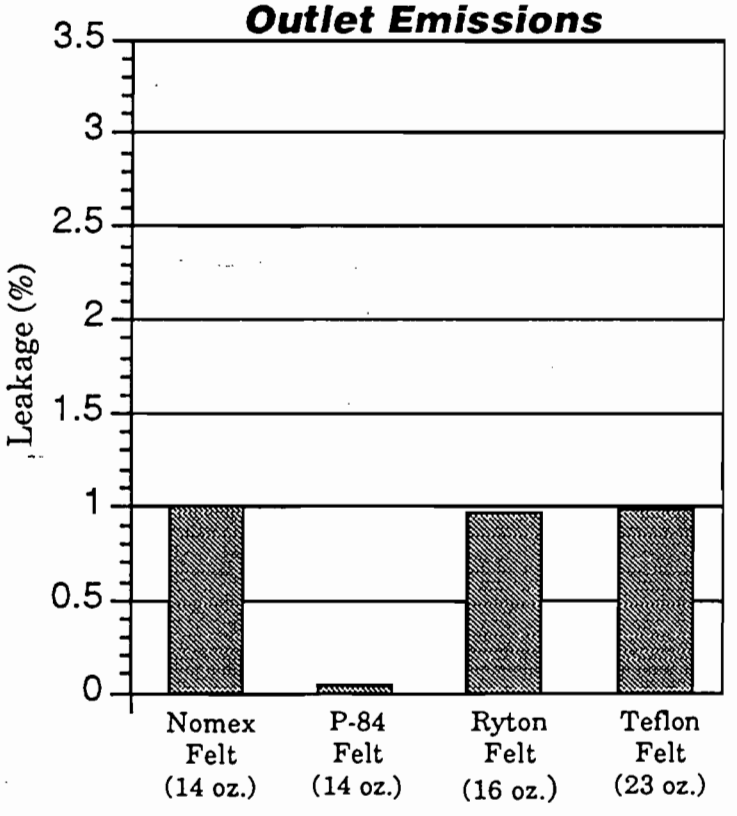
BHA Group

Performance Data Comparison Chart
Filter Media Efficiencies for Hot Gas Pulse-Jet Baghouses





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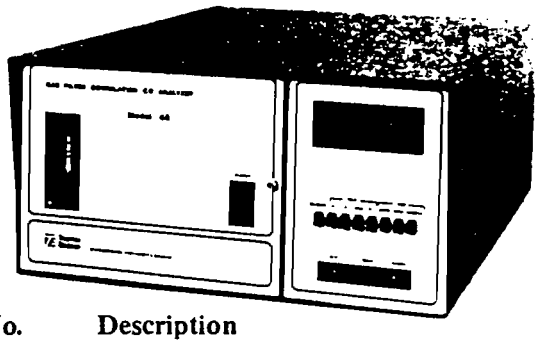
Ambient CO Analyzer

- EPA Approved
- Gas Filter Correlation Method
- ±0.1 ppm Accuracy



Applications

Model 48 CO analyzer meets the standards of EPA reference method RFCA-0981-054, range 0 to 50 ppm, time constant 30 seconds. It is used widely by environmental consultants, state agencies engaged in EPA compliance monitoring, and in engineering studies for CO modeling.

Features

This microprocessor-based instrument has a wide dynamic range of 0 to 1000 ppm in 10 ranges, suitable for both ambient and source measurements. Its gas filter correlation system provides unequaled specificity to CO and high sensitivity.

Easy to operate, the model 48 features front-panel pushbutton controls, self-aligning sensor optics, digital display, and automatic temperature/pressure compensation. Zero drift over 24 hours is a low ±0.2 ppm and span drift is ±1% full scale.

Specifications

Ranges:	0 to 1, 2, 5, 10, 20, 50, 100, 200, 500, 1000 ppm
Accuracy:	±0.1 ppm
Detectable Limit:	0.10 ppm
Flow Rate:	1 LPM standard
Operating Temperature:	15 to 35 °C to maintain performance specs
Power:	105-125 or 220-240 VAC, 50/60 Hz; 100W
Size/Weight:	8.75" x 17" x 23" HWD/45 lb.

Model No.	Description
THE48	CO Analyzer

This monitor or Equivalent

300 SERIES

Gas Filter Correlation CO Analyzer TECHNICAL SPECIFICATIONS

RFCA 1093-093

The Model 300 is a microprocessor controlled gas filter correlation infrared analyzer. The Beer-Lambert law is used to calculate CO concentration from the amount of infrared energy absorbed. A correlation wheel is used to achieve low LDL and stability. The infrared beam, generated by a special high energy long life source, is alternately passed through a cell filled with CO and another with no CO. The measuring cell is a white cell with 32 passes for an equivalent length of 16 meters. The two signals pass through an interference filter to a solid state, cooled detector and are then compared by the software. This cancels out interfering gases, provides excellent zero and span stability, and high signal to noise ratio.

The powerful API software package coupled with an 8088 microprocessor and proven hardware make the Model 300 the most advanced instrument of its kind. Adaptive data filtering gives rapid response during dynamic conditions and smooth stable data during periods of small changes. An internal data buffer collects and stores the last 100 averages at intervals of 1 to 60 minutes, allowing stand alone data collection and logging. Remote control and programming capability permits long distance operation by modem to the analyzer via the RS232 port. All functions addressable from the front panel including diagnostics, tests, and set-ups, are accessible using a remote computer or terminal.

Test functions, the most advanced diagnostics package in the industry, and constant self-checking allow any problems in the M300 to be quickly diagnosed and repaired. A check function continually reviews the analyzer status. Any parameters out of specification are reported to the front panel display and RS232 output. A test function displays sample pressure, sample flow, detector readings and other conditions. Unique and powerful diagnostics allow any test parameter to be output to a strip chart. The multi-tasking software continues to collect sample information during test functions.

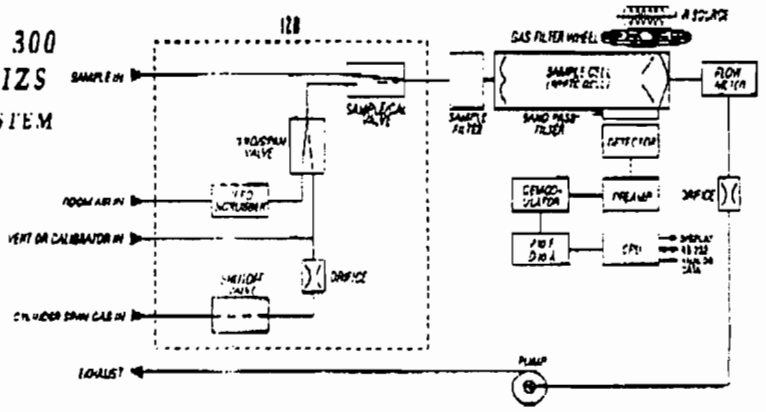
The optional zero/span valve assembly includes a cylinder flow control orifice to limit cylinder gas flow to the desired level. Span gas can also be provided from a calibrator. The optional internal zero system (IZS) uses a heated long-life catalyst to provide zero air. Span and Zero checks can be performed manually, through the internal software timer, remote contact closures or RS232 commands. The time and frequency of the zero-span period is adjustable from the front panel for auto-cal or by the remote control function.

Because it combines proven gas filter correlation absorption with API field-proven microprocessor-based technology, the Model 300 is a technology leader for measuring ambient carbon monoxide. Field proven subassemblies common to other API analyzers ensure high reliability not typically found in new instrumentation.

SPECIFICATIONS

Ranges	User selectable 1 ppm to 1000 ppm
Measurement Units	ppb, ppm, µg/m³, mg/m³, selectable
Zero Noise*	.025 ppm (rms)
Span Noise*	.5% of reading (rms) (above 5 ppm)
LDL*	.05 ppm
Zero Drift**	<.1 ppm/24 hrs. <.2 ppm/7 days
Span Drift**	<1%/7 days
Lag Time	<10 secs.
Rise Time (95%)	<60secs.
Fall Time (95%)	<60 secs.
Linearity	1% full scale
Precision	0.5% Reading*
Sample Flow Rate	800 cc/min ±10%
Temp. Range	5-40°C***

MODEL 300 WITH IZS SUBSYSTEM



Height	7" (178 mm)
Width	17" (432 mm)
Depth	25" (660 mm)
Weight	50 lbs. (22.7 kg)
Power	115V/60Hz, 220V/50Hz, 240V/50Hz

OUTPUT

Analog (Bi-Polar)	10V, 5V, 1V, 100mV
Recorder Offset	±10%
RS232 (I/O)	Optional
Status (Digital)	Optional
4-20mA, isolated	Optional

*As defined by the US EPA **At constant condition ***15-35°C for US EPA monitoring

Specifications exceed US EPA and TUV requirements.

API ADVANCED POLLUTION INSTRUMENTATION, INC.
8815 Production Avenue
San Diego, CA 92121-2219
Tel. 619-578-2154 *Fax 619-578-1833*

Appendix C

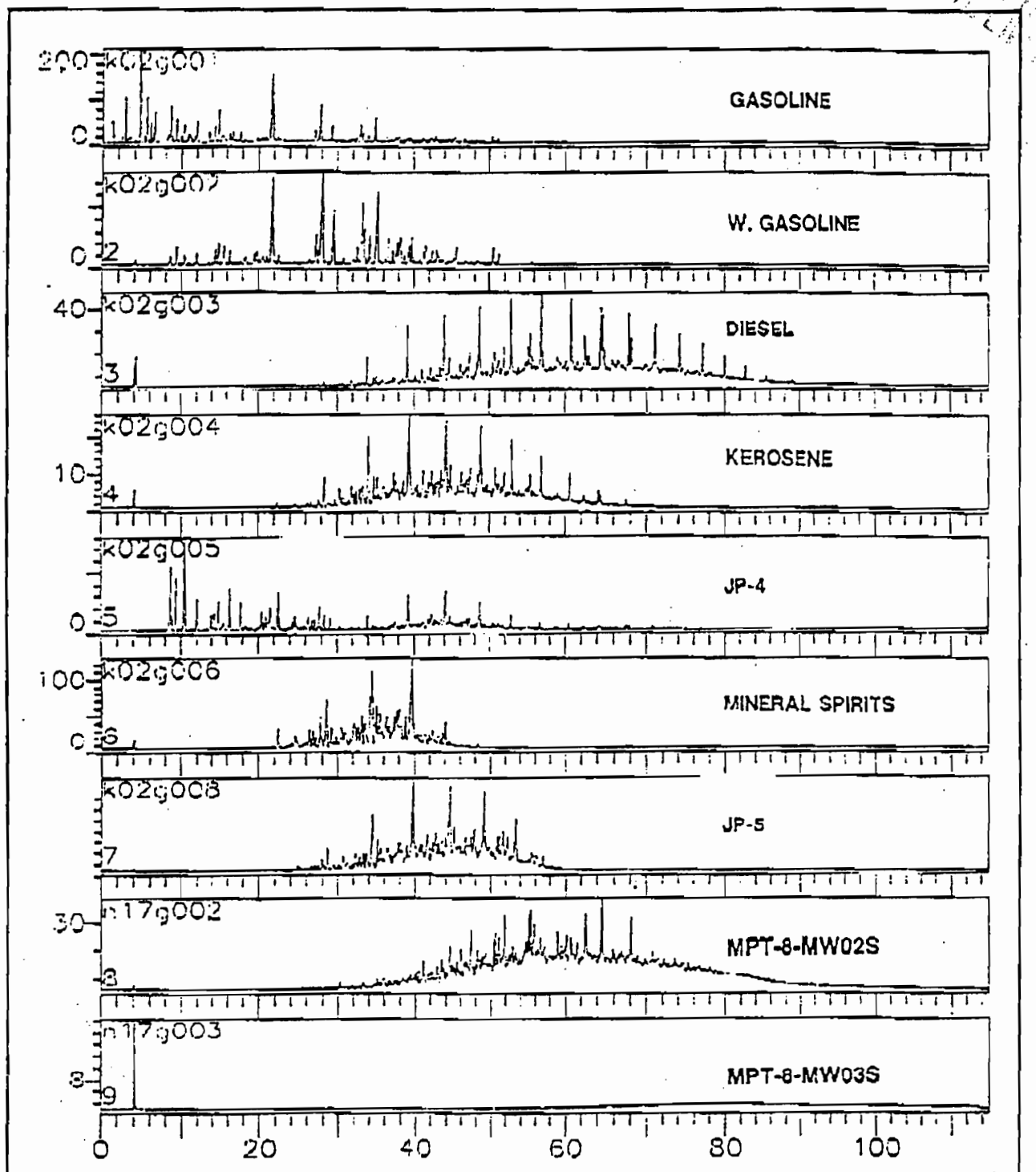


FIGURE 4-7

EXAMPLE GAS CHROMATOGRAM COMPARING SAMPLES TO STANDARD PETROLEUM PRODUCTS

RCRA FACILITY INVESTIGATION REPORT, GROUP II SWMUs

U.S. NAVAL STATION MAYPORT, FLORIDA

8533-08 950524WEM

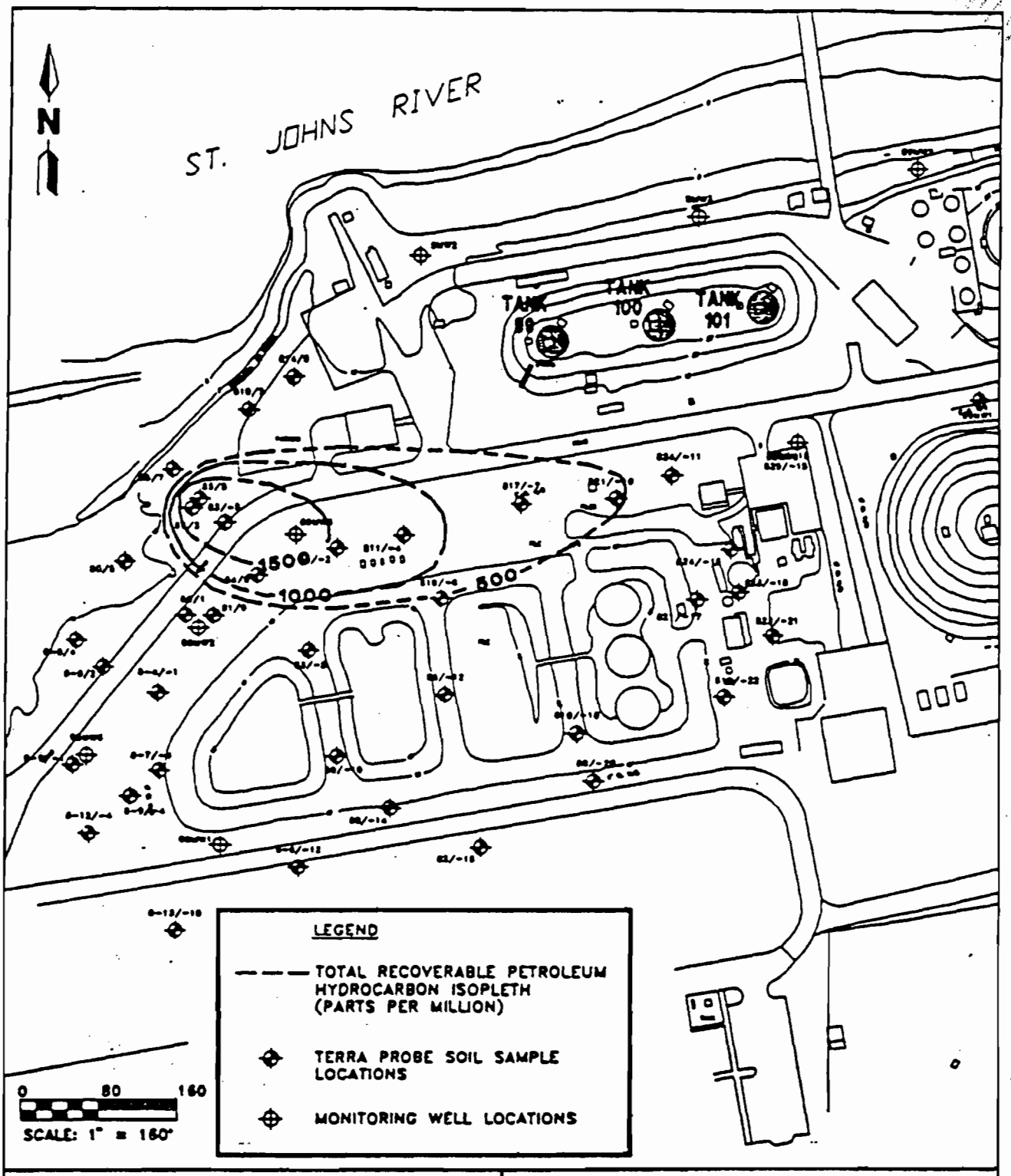


FIGURE 4-4
FIELD SCREENING AND LABORATORY ANALYTICAL RESULTS FOR TRPH
2.5 TO 4.5 FEET MSL
DECEMBER 1992

RCRA FACILITY INVESTIGATION
WORKPLAN, ADDENDUM 4

U.S. NAVAL STATION
MAYPORT, FLORIDA

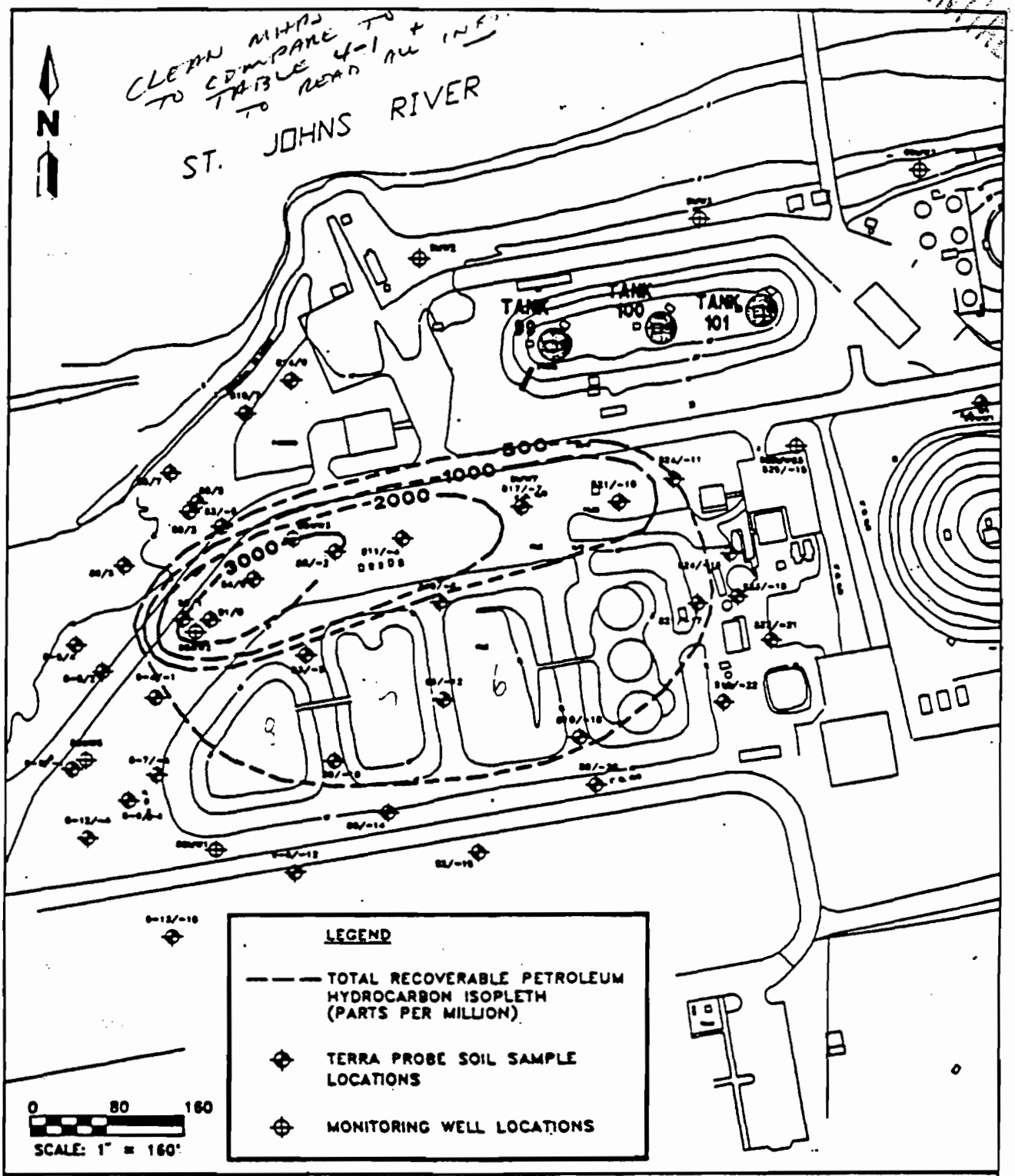


FIGURE 4-5
FIELD SCREENING AND LABORATORY ANALYTICAL RESULTS FOR TRPH 4.5 TO 6.5 FEET MSL

RCRA FACILITY INVESTIGATION WORKPLAN, ADDENDUM 4

U.S. NAVAL STATION
MAYPORT, FLORIDA

DRAFT

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Table 4-9
Total Recoverable Petroleum Hydrocarbon Analysis of Soil Samples, Oily Waste Treatment Plant Area, 1993

RCRA Facility Investigation, Group II SWMUs
U.S. Naval Station
Mayport, Florida

Soil Sample Location[1]	Laboratory ID[2]	Sample Depth (feet)	Sample Elevation (ft msl)	NDIR[3]	Laboratory Results[4]
MPT8(17,-7)	MPT8BS4	6	5.0	--	14,200
MPT8(11,-4)	MPT8BS3	7	4.1	--	15,100
MPT8(6,-12)	MPT8BS12	8	4.9	--	22,300
MPT8(17,-7)	MPT8BS5	9	2.0	--	170
MPT8(19,-22)	MPT8BS9	9	3.7	ND	<2.0
MPT8(29,-15)	MPT8BS10	9	4.9	ND	<2.0
MPT8(2,-19)	MPT8BS14	9	3.9	--	<2.1
MPT8(2,-19)D	MPT8BS14D	9	3.9	--	2.75
MPT8(4,0)	MPT8BS1	9	1.7	600	22,000
MPT8(-5,2)	MPT8BS13	9	2.1	ND	<2.0
MPT8(-6,-12)	MPT8BS8	9	3.9	ND	<2.0
MPT8(8,-21)	MPT8BS7	9	4.0	ND	3.6
MPT8(8,-2)	MPT8BS2	9	2.1	--	21,100
MPT8(-12,-4)	MPT8BS6	10	2.7	ND	3.3
MPT8(6,-12)	MPT8BS11	11	5.2	--	12,200

[1] Sample locations are presented on Figure 4-2.
[2] Sample identification as submitted for laboratory analysis.
[3] Results of onsite non-dispersive infrared (NDIR) analysis in parts per million (ppm).
[4] Total recoverable petroleum hydrocarbon (TRPH) results of laboratory analysis by U.S. Environmental Protection Agency (USEPA) Method 418.1 in ppm.

Notes: ft msl = feet mean sea level (National Geodetic Vertical Datum [NGVD] of 1929).
NDIR = non-dispersive infrared.
-- = onsite non-dispersive infrared analysis not conducted.
ND = not detected.