Florida Department of
Environmental Protection

Memorandum

To: Howard L. Rhodes

Thru: Clair Fancy
Al Linero *Approved for CHF*

From: Willard Hanks

Date: August 14, 1996

Subject: Reissuance of Operation Permits
TPS Technologies, Inc. *8/19*

Attached for your approval are two permits to operate mobile soil thermal treatment facilities. These permits are being reissued in an updated format because of the adoption of specific regulations for these facilities (Rule 62-296.415, F.A.C.). The permits authorize operation throughout Florida.

I recommend your approval and signature of the reissued permits to operate.

CHF/wh/t

Attachments

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

Notice of Permit

In the matter of an
Application for Permit by:

Mr. David Wall
Environmental Engineer
TPS Technologies, Inc.
1964 South Orange Blossom Trail
Apopka, Florida 32703

DEP File Nos. 7770140-001-AO
7775016-001-AO

Enclosed are Operation Permits, Numbers 7770140-001-AO and 7775016-001-AO, for two mobile soil thermal treatment facilities. These permits authorize operation of these plants in any county in Florida. Both permits are 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, 3900 Commonwealth Boulevard, MS35, 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

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

TPS Technologies, Inc.
Permit Nos. 7775016-001-AO & 7770140-001-AO

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF PERMIT (including the permits to operate) was mailed by certified mail(*) before the close of business on 8-19-96 to the listed person.

Mr. David Wall, TPS Technology, Inc.*

In addition, the undersigned duly designated deputy agency clerk hereby certifies that copies of the NOTICE OF PERMIT (including the permits to operate) were sent by U.S. mail on the same date to the following:

District Air Program Administrators
County Air Program Administrators

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.

Kuri Tober
Clerk

8-19-96
Date

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:
David Wall, Env. Eng.
TPS Technologies
1964 S. Orange Blossom Tr.
Apopka, Fl 32703

4a. Article Number
P 339 251 143

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

7. Date of Delivery
8-21-96

5. Signature (Addressee)

6. Signature (Agent)
[signature]

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

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

Thank you for using Return Receipt Service.

P 339 251 143

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail *(See reverse)*

Sent to David Wall	
Street & Number TPS Tech	
Post Office, State, & ZIP Code Apopka, Fl	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date 7720140-001-AO 7775016-001-AO	8-19-96

PS Form **3800**, April 1995

Operation Permit Renewal Evaluation

TPS Technologies, Inc.
7775016-001-AO & 7770140-001-AO

Operation permit Nos. AO48-197154, AO48-197155, AO48-197156, and AO48-197157 for four mobile soil thermal treatment facilities were issued to TPS Technologies, Inc. on August 7, 1991. These permits expired on July 1, 1996. On May 28, 1996, the permittee requested that permit Nos. AO48-197155, AO48-197156, and AO48-197157 be renewed. On July 9, 1996, the permittee requested that only permit Nos. AO48-197156 (unit No. SRU-200P-105) and AO48-197157 (Unit No. SRU-200P-106) be renewed.

Because of the market situation, these units have not operated for several years. However, the original emission tests on these units showed they were capable of complying with the current air pollution control regulations.

The Department is reissuing the operation permits in an updated format to require compliance with Rule 62-296.415, F.A.C. The permittee noted that the afterburners have the operation range and instrumentation to comply with these regulations. The new operation permit numbers will be 7770140-001-AO and 7770140-002-AO and will expire on July 1, 2001.

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

PERMITTEE:
TPS Technologies Inc.
1964 Orange Blossom Trail
Apopka, Florida 32703

Permit Number: 7770140-001-AO

Expiration Date: July 1, 2001
County: Statewide Operation

Project: Mobile Soil Thermal Treatment Facility SRU-200P-106

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-204 through 62-297, 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 operate a 25 TPH mobile soil thermal treatment facility. The facility consists of a contaminated soil feed and weigh mechanism, a rotary kiln, combustion air blower, baghouse, induced draft fan, fuel systems (No. 2 fuel oil, LPG, and natural gas), an afterburner that operates at a minimum temperature of 1600 °F with a minimum retention time of 0.5 seconds, a 9 feet high stack with 47 inch by 27 inch inside dimensions that extends to 22 feet above ground level that discharges approximately 22,000 acfm of gas, and instruments to continuously measure the temperature and carbon monoxide concentration of the gas leaving the afterburner.

The facility may operate in any county in Florida after submittal of a Notification of Intent to Relocate (DEP Form 62-210.900(3), F.A.C.).

The facility is a synthetic non-Title V source. Volatile organic compound (VOC) emissions, which are considered equivalent to total recoverable petroleum hydrocarbon (TRPH) emissions, are calculated to be less than 50 TPY. Hazardous air pollutant (HAP) emissions are less than the 10/25 tons per year (TPY) limitations that trigger Title V permitting requirements. The rationale that HAP emissions will not trigger the Title V permitting requirements, since VOC emissions are less than 50 TPY, is based on the Department memorandum dated August 3, 1995, from Clair Fancy titled Methods of Determining/Quantifying HAP's. Total HAPs emissions for petroleum contaminated soil will be approximately 11 percent of the VOC emissions or, for this unit, 5.5 TPY.

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

Printed on recycled paper.

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

This permit replaces permit No. AO 48-197157.

Facility ID: 7770140-001-AO
Emission Unit ID: 08

Note: Please reference the Permit No., Facility ID, and Emission Unit ID in all correspondence, test report submittals, applications, etc.

Attachments:

TPS May 28, 1996 letter
DEP June 20, 1996 letter
TPS July 9, 1996 letter

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.

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.

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.

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

PHYSICAL REQUIREMENTS

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

2. The afterburner (thermal oxidizer) for this unit shall be equipped with a stack having a minimum elevation of 22 feet above ground level and be designed for at least 1600 °F operation temperature and 0.5 seconds retention time.

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.). The temperature and CO monitors shall be co-located.

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).

EMISSION LIMITATIONS

6. Total volatile organic compounds (VOC) emissions are limited by the following:

(A) Limited by Total Recoverable Petroleum Hydrocarbons (TRPH) concentration and process rate of the contaminated soil to 12.5 pounds per hour (lbs/hr) daily average.

(B) Limited by TRPH concentration and quantity of contaminated soil processed per year to less than 50 TPY VOC from the afterburner stack.

7. Carbon monoxide (CO) emissions shall not exceed the following (Rule 62-296.415(1)(b), F.A.C.):

(A) 100 parts per million (ppm) by volume, dry basis, from the afterburner stack during all 60 consecutive minute periods of plant operation. The average CO emissions is the arithmetic mean of all CO concentration measurements during any consecutive 60 minutes of plant operation that were recorded by the continuous emission monitor required pursuant to Rule 62-296.415(1)(c), F.A.C.

(B) This concentration is equivalent to a CO emission rate of 2.9 lbs/hr and 11.4 TPY from the afterburner stack.

8. Visible emissions (VE) from the afterburner stack shall not exceed 5 percent opacity (Rule 62-296.415(2), F.A.C.).

9. VE from the diesel power generator shall not exceed 20 percent opacity (Rule 62-296.310(2), F.A.C.).

10. Total particulate matter (PM) emissions from the afterburner stack shall not exceed any of the following:

(A) 0.04 grains per dry standard cubic foot.

(B) 3.0 lbs/hr

(C) 11.7 tons in any 12 consecutive month period.

11. Sulfur dioxide (SO2) emissions are limited by the following (Rule 62-4.050(4)(a)1.c., F.A.C.):

(A) Sulfur content of the fuel shall not exceed 0.5 percent by weight (maximum) and 0.35 percent (annual average).

(B) Calculated sulfur dioxide emissions from the fuel oil are 18.9 lbs/hr.

(C) Estimated sulfur dioxide emissions from the facility resulting from the sulfur in the fuel is 51.6 TPY.

12. The facility shall not cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor (Rule 62-296.320, F.A.C.).

PLANT OPERATION REQUIREMENTS

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

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

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

16. Based on data in the application for the construction permit for this facility, the TRPH contaminates in the soil treated by this facility shall not exceed 25,000 ppm by weight (daily average) without prior approval by the Department.

17. The afterburner shall be operated at or above 1600 °F with a minimum of 0.5 second retention time (Rule 62-296.415, F.A.C.). When soil is being treated, the minimum temperature shall be met or exceeded at all times except for 4 minutes in any 60 minute period, provided that the temperature does not fall 100 °F below the required temperature of 1600 °F. Maintaining these parameters is considered to provide a minimum VOC destruction efficiency of 99 percent.

18. 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.

19. The facility may operate continuously, 24 hours per day, 7 days per week, and 52 weeks per year but not more than 7800 hours in 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).

20. The maximum contaminated soil charging rate to this facility shall not exceed 25 TPH (daily average) and 195,000 tons during any calendar year. Soil entering the kiln cannot be larger than 2 inches in diameter (Rule 62-775, F.A.C.).

21. In order to ensure the downwind concentration of the toxic air pollutants do not pose a health threat to the surrounding area, the ambient air impact as determined by modeling approved by the Department shall not exceed the Department's established Ambient Reference Concentration (ARC) for any pollutant.

For some pollutants expected to be in the soil their maximum concentration shall not exceed the following:

Pollutant	Soil Limit (total ppm)
TRPH	25,000*
Arsenic	10
Barium	4940
Cadmium	37
Chromium	50
Lead	108
Mercury	23
Selenium	389
Silver	353
PCB	less 2**

Higher concentrations of pollutants in the contaminated soil may be treated at reduced rates such that the ARC for any pollutant is not exceeded.

* TRPH (daily average) in the soil shall be measured by EPA Method 9073.
** Mobile units shall not treat soil containing PCB above the quantifiable concentration (Rule 62-296.415(1)(d), F.A.C.).

22. The stack exit airflow shall not be less than 22,000 acfm. There shall be no device which reduces the vertical momentum of the stack gas or reduces the vertical dispersion of the stack gas.

23. Reasonable precautions shall be used to minimize unconfined emissions of particulate matter generated by the operation. Reasonable precautions shall be defined as keeping the work areas wet where the soil is being removed, treated, handled, stored, and disposed of. 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.).

FUEL LIMITATIONS

24. As proposed by the permittee, only new No. 2 fuel oil containing a maximum of 0.5 percent sulfur and 0.35 percent sulfur annual average, natural gas, and propane (LPG) shall be used as fuel for the kiln and afterburner. Only diesel fuel shall be burned in any diesel generator use with this facility. The maximum permitted fuel consumption for the kiln and afterburner is 37 MMBtu/hr, which is approximately 266 gallons per hour (GPH) No. 2 fuel oil, 3700 cubic feet per hour (CFH) of natural gas, or 407 GPH LPG.

RECORDKEEPING REQUIREMENTS

25. To document compliance with Specific Condition No. 24, each new No. 2 fuel oil shipment received from the vendor/supplier shall have

a record showing the quantity of fuel oil received and a laboratory report or certification from the fuel supplier showing the fuel oil's sulfur content in percent by weight. The laboratory results shall have been determined in accordance with the appropriate ASTM test method contained in Rule 623-297.440, F.A.C.

26. To document compliance with the fuel limitations, maximum heat input rates and the sulfur content annual average limitation of Specific Condition No. 24 for No. 2 fuel oil, the permittee shall daily record the following:

A. The daily hours of operation.

B. The type of fuel burned in the facility.

C. The quantity of fuel burned in the facility in units of gallons per day.

D. The average daily quantity of fuel burned in the facility in units of CFH or GPH and MMBtu/hr.

E. The sulfur content of the fuel oil burned in the facility in percent by weight.

F. The updated rolling average sulfur content for the fuel oil used in the kiln and afterburner.

27. Pursuant to Rule 62-296.415, and 62-4.070(3), F.A.C., the permittee shall comply with the following monitoring and associated recording requirements:

(A) The baghouse shall be monitored at least once daily when operating for the pressure drop across the baghouse and the reading recorded/logged daily.

(B) The temperature of the gases in the afterburner and the CO concentration shall be determined by continuous monitors.

28. Pursuant to Rule 62-4.070(3), F.A.C., in order to document compliance with the Specific Condition Nos. 20, 21, and 24, the permittee shall daily maintain the following additional recordkeeping log which may in part comprise DEP Form 62-775.900(2):

(A) Date

(B) Amount of contaminated soil treated in tons per day.

(C) To document compliance with the TRPH input concentration, samples of the contaminated soil from the kiln feed shall be

collected, combined, and the composite sample will be analyzed using EPA Method 9073. The TRPH results of the analysis of those representative soil samples, along with the recorded tons of soil treated per day, will be used to calculate the average TRPH concentration of the contaminated soil.

(D) If the permittee receives soils that exceed the values shown for metals in Specific Condition No. 21, those soils shall not be treated in the kiln until being blended with other soils of the same type containing lower metal concentrations to comply with the appropriate metal limitation. Adequate documentation shall be maintained to show that the blending described above has been performed and the resulting blend of soils complies with Specific Condition No. 21.

(E) The pre-acceptance analysis from DEP Form 62-775.900(2) shall be used to document compliance with the TRPH, PCB, and metal limitations of Specific Condition No. 21. See Specific Condition No. 29(D), regarding soils that are blended to meet the metal limitations.

(F) Monthly calculate and record for the calendar year the quantity of soil treated in tons per year.

(H) 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 and documentation that diesel fuel is used in the generator will also be acceptable.

(I) Contaminated soil analysis for volatile organic aromatics (VOA), TRPH, volatile organic halogens (VOH), polynuclear aromatic hydrocarbons (PAH), and metals as required by Rule 62-775.410, F.A.C. of the soil being treated.

29. All records required by Specific Condition Nos. 25, 26, 27, and 28 shall be recorded in a permanent form suitable for inspection, retained for at least 3 years at the facility, and available to the Department upon request. (Rule 62-4.070(3), F.A.C.).

30. 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; and all other information required by rule or 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 and made available to the Department upon request. (Rule 62-4.070(3), F.A.C.).

COMPLIANCE TESTING REQUIREMENTS

31. The temperature monitor shall be certified by the manufacturer to be accurate to within 1 percent of the temperature being measured. The temperature monitoring system shall be calibrated at least annually by the procedure recommended by the manufacturer. The calibration shall be at a minimum of 3 temperatures and over a range from 10 percent below to 10 percent above the designed flue gas hot zone temperature. Calibration records shall be kept for a minimum of 3 years. The CO monitor shall be certified by the manufacturer to be accurate to within 10 percent of the CO concentration, by volume, mean value, or 5 percent of the applicable standard of 100 ppm, whichever is greater, as determined by an EPA Test Method 10. The CO continuous emission monitoring device shall be certified, calibrated, and operated according to Performance Specification 4 of 40 CFR 60, Appendix B (July 1, 1994) excluding Section 5.2, Calibration Drift Test Period, of Performance Specification 2.

32. Conduct a VE test at each new operation site. Test this source annually for the following pollutants and performance parameters. Test reports shall be submitted to the District and county, if applicable, that the test is conducted in within 45 days of testing. (Rule 62-297.340(1)(d) and 62-297.540(2), F.A.C.).

(A) CO (average CO monitor readings during the particulate matter test).

(B) Visible emissions.

(C) Particulate Matter (PM).

(D) Temperature in the afterburner (average temperature monitor readings during the PM test).

(E) Residence time of the afterburner.

(F) Stack gas airflow rate.

(G) For each day the required tests were conducted, a copy of the records required by Specific Condition No. 26 to document the fuel oil used during the tests was in compliance with the sulfur content limit.

(H) For each day the required tests were conducted, a copy of the records required by Specific Conditions Nos. 25, 26, and 29.

(I) For each month in which the stack emission tests were conducted, a copy of the records required by Specific Conditions No. 26.

(J) A copy of the certification and calibration of the CO and temperature monitors required by Specific Condition No. 28.

(K) A copy of the calculations showing the residence time in the afterburner based upon actual measured operating parameters.

(33) Compliance with the limitations of Specific Conditions Nos. 7, 8, 9, and 10 shall be determined by the following test methods contained in 40 CFR 60, Appendix A, (July 1, 1994) and adopted by reference in Rule 62-297.401, F.A.C.

(A) Average CO monitor readings during the PM test.

(B) EPA Method 9 for visible emissions.

(C) EPA Method 5 for particulate matter.

(D) EPA Method 2 for residence time in the afterburner and stack gas airflow rate. The Method 2 test shall be conducted at a point which is downstream of the afterburner. The test report shall include the calculations showing the residence time in the afterburner. The calculations shall be based upon actual measured operating parameters.

The minimum requirements for stationary point source emissions test procedures and reporting shall be in accordance with Rules 62-297.401 and 62-297.570(b), F.A.C., and 40 CFR 60, Appendix A (July 1, 1994).

34. Compliance tests shall be conducted as following:

(A) When the kiln and afterburner are fired with fuel oil.

(B) 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.)

EXCESS EMISSION REQUIREMENTS

35. Excess emissions resulting from startup, shutdown, or malfunction shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration

of excess emission shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the District or county, if applicable, that the unit is operating in.

36. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited. (Rule 62-210.700, F.A.C.).

37. In case of excess emissions resulting from malfunctions, the permittee shall notify the District and county, if applicable, that the unit is operating in in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. (Rule 62-210.700, F.A.C.).

38. The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of this facility which results in excess emissions; and any periods during which a continuous monitoring system or monitoring device is inoperative (Rules 62-4.070(3) and 62-210.700, F.A.C.).

NOTIFICATION REQUIREMENTS

39. The permittee shall notify the District and county, if applicable, having jurisdiction over the site of the test at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted (Rule 62-297.340(1)(i), F.A.C.).

40. Regarding the CO monitor, the permittee shall notify the District and county, if applicable, having jurisdiction over the site of the test as required by Performance Specification 4 of 40 CFR 60, Appendix B, (July 1, 1994).

41. 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.).

42. The permittee shall submit to the Bureau of Air Regulation (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.

43. 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

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

PERMITTEE:
TPS Technologies Inc.
1964 Orange Blossom Trail
Apopka, Florida 32703

Permit Number: 7775016-001-AO

Expiration Date: July 1, 2001
County: Statewide Operation

Project: Mobile Soil Thermal Treatment Facility
SRU-200P-105

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-204 through 62-297, 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 operate a 25 TPH mobile soil thermal treatment facility. The facility consists of a contaminated soil feed and weigh mechanism, a rotary kiln, combustion air blower, baghouse, induced draft fan, fuel systems (No. 2 fuel oil, LPG, and natural gas), an afterburner that operates at a minimum temperature of 1600 °F with a minimum retention time of 0.5 seconds, a 9 feet high stack with 47 inch by 27 inch inside dimensions that extends to 22 feet above ground level that discharges approximately 22,000 acfm of gas, and instruments to continuously measure the temperature and carbon monoxide concentration of the gas leaving the afterburner.

The facility may operate in any county in Florida after submittal of a Notification of Intent to Relocate (DEP Form 62-210.900(3), F.A.C).

The facility is a synthetic non-Title V source. Volatile organic compound (VOC) emissions, which are considered equivalent to total recoverable petroleum hydrocarbon (TRPH) emissions, are calculated to be less than 50 TPY. Hazardous air pollutant (HAP) emissions are less than the 10/25 tons per year (TPY) limitations that trigger Title V permitting requirements. The rationale that HAP emissions will not trigger the Title V permitting requirements, since VOC emissions are less than 50 TPY, is based on the Department memorandum dated August 3, 1995, from Clair Fancy titled Methods of Determining/Quantifying HAP's. Total HAPs emissions for petroleum contaminated soil will be approximately 11 percent of the VOC emissions or, for this unit, 5.5 TPY.

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

Printed on recycled paper.

PERMITTEE:
TPS Technologies Inc.

Permit Number: 7775016-001-AO

Expiration Date: July 1, 2001

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

This permit replaces permit No. AO 48-197156.

Facility ID: 7775016-001-AO
Emission Unit ID: 07

Note: Please reference the Permit No., Facility ID, and Emission Unit ID in all correspondence, test report submittals, applications, etc.

Attachments:

TPS May 28, 1996 letter
DEP June 20, 1996 letter
TPS July 9, 1996 letter

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.

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.

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.

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

PHYSICAL REQUIREMENTS

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

2. The afterburner (thermal oxidizer) for this unit shall be equipped with a stack having a minimum elevation of 22 feet above ground level and be designed for at least 1600 °F operation temperature and 0.5 seconds retention time.

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.). The temperature and CO monitors shall be co-located.

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).

EMISSION LIMITATIONS

6. Total volatile organic compounds (VOC) emissions are limited by the following:

(A) Limited by Total Recoverable Petroleum Hydrocarbons (TRPH) concentration and process rate of the contaminated soil to 12.5 pounds per hour (lbs/hr) daily average.

(B) Limited by TRPH concentration and quantity of contaminated soil processed per year to less than 50 TPY VOC from the afterburner stack.

7. Carbon monoxide (CO) emissions shall not exceed the following (Rule 62-296.415(1)(b), F.A.C.):

(A) 100 parts per million (ppm) by volume, dry basis, from the afterburner stack during all 60 consecutive minute periods of plant operation. The average CO emissions is the arithmetic mean of all CO concentration measurements during any consecutive 60 minutes of plant operation that were recorded by the continuous emission monitor required pursuant to Rule 62-296.415(1)(c), F.A.C.

(B) This concentration is equivalent to a CO emission rate of 2.9 lbs/hr and 11.4 TPY from the afterburner stack.

8. Visible emissions (VE) from the afterburner stack shall not exceed 5 percent opacity (Rule 62-296.415(2), F.A.C.).

9. VE from the diesel power generator shall not exceed 20 percent opacity (Rule 62-296.310(2), F.A.C.).

10. Total particulate matter (PM) emissions from the afterburner stack shall not exceed any of the following:

(A) 0.04 grains per dry standard cubic foot.

(B) 3.0 lbs/hr

(C) 11.7 tons in any 12 consecutive month period.

11. Sulfur dioxide (SO2) emissions are limited by the following (Rule 62-4.050(4)(a)1.c., F.A.C.):

(A) Sulfur content of the fuel shall not exceed 0.5 percent by weight (maximum) and 0.35 percent (annual average).

(B) Calculated sulfur dioxide emissions from the fuel oil are 18.9 lbs/hr.

(C) Estimated sulfur dioxide emissions from the facility resulting from the sulfur in the fuel is 51.6 TPY.

12. The facility shall not cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor (Rule 62-296.320, F.A.C.).

PLANT OPERATION REQUIREMENTS

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

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

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

16. Based on data in the application for the construction permit for this facility, the TRPH contaminates in the soil treated by this facility shall not exceed 25,000 ppm by weight (daily average) without prior approval by the Department.

17. The afterburner shall be operated at or above 1600 °F with a minimum of 0.5 second retention time (Rule 62-296.415, F.A.C.). When soil is being treated, the minimum temperature shall be met or exceeded at all times except for 4 minutes in any 60 minute period, provided that the temperature does not fall 100 °F below the required temperature of 1600 °F. Maintaining these parameters is considered to provide a minimum VOC destruction efficiency of 99 percent.

18. 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.

19. The facility may operate continuously, 24 hours per day, 7 days per week, and 52 weeks per year but not more than 7800 hours in 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).

20. The maximum contaminated soil charging rate to this facility shall not exceed 25 TPH (daily average) and 195,000 tons during any calendar year. Soil entering the kiln cannot be larger than 2 inches in diameter (Rule 62-775, F.A.C.).

21. In order to ensure the downwind concentration of the toxic air pollutants do not pose a health threat to the surrounding area, the ambient air impact as determined by modeling approved by the Department shall not exceed the Department's established Ambient Reference Concentration (ARC) for any pollutant.

For some pollutants expected to be in the soil their maximum concentration shall not exceed the following:

Pollutant	Soil Limit (total ppm)
TRPH	25,000*
Arsenic	10
Barium	4940
Cadmium	37
Chromium	50
Lead	108
Mercury	23
Selenium	389
Silver	353
PCB	less 2**

Higher concentrations of pollutants in the contaminated soil may be treated at reduced rates such that the ARC for any pollutant is not exceeded.

* TRPH (daily average) in the soil shall be measured by EPA Method 9073.
** Mobile units shall not treat soil containing PCB above the quantifiable concentration (Rule 62-296.415(1)(d), F.A.C.).

22. The stack exit airflow shall not be less than 22,000 acfm. There shall be no device which reduces the vertical momentum of the stack gas or reduces the vertical dispersion of the stack gas.

23. Reasonable precautions shall be used to minimize unconfined emissions of particulate matter generated by the operation. Reasonable precautions shall be defined as keeping the work areas wet where the soil is being removed, treated, handled, stored, and disposed of. 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.).

FUEL LIMITATIONS

24. As proposed by the permittee, only new No. 2 fuel oil containing a maximum of 0.5 percent sulfur and 0.35 percent sulfur annual average, natural gas, and propane (LPG) shall be used as fuel for the kiln and afterburner. Only diesel fuel shall be burned in any diesel generator use with this facility. The maximum permitted fuel consumption for the kiln and afterburner is 37 MMBtu/hr, which is approximately 266 gallons per hour (GPH) No. 2 fuel oil, 3700 cubic feet per hour (CFH) of natural gas, or 407 GPH LPG.

RECORDKEEPING REQUIREMENTS

25. To document compliance with Specific Condition No. 24, each new No. 2 fuel oil shipment received from the vendor/supplier shall have

a record showing the quantity of fuel oil received and a laboratory report or certification from the fuel supplier showing the fuel oil's sulfur content in percent by weight. The laboratory results shall have been determined in accordance with the appropriate ASTM test method contained in Rule 623-297.440, F.A.C.

26. To document compliance with the fuel limitations, maximum heat input rates and the sulfur content annual average limitation of Specific Condition No. 24 for No. 2 fuel oil, the permittee shall daily record the following:

A. The daily hours of operation.

B. The type of fuel burned in the facility.

C. The quantity of fuel burned in the facility in units of gallons per day.

D. The average daily quantity of fuel burned in the facility in units of CFH or GPH and MMBtu/hr.

E. The sulfur content of the fuel oil burned in the facility in percent by weight.

F. The updated rolling average sulfur content for the fuel oil used in the kiln and afterburner.

27. Pursuant to Rule 62-296.415, and 62-4.070(3), F.A.C., the permittee shall comply with the following monitoring and associated recording requirements:

(A) The baghouse shall be monitored at least once daily when operating for the pressure drop across the baghouse and the reading recorded/logged daily.

(B) The temperature of the gases in the afterburner and the CO concentration shall be determined by continuous monitors.

28. Pursuant to Rule 62-4.070(3), F.A.C., in order to document compliance with the Specific Condition Nos. 20, 21, and 24, the permittee shall daily maintain the following additional recordkeeping log which may in part comprise DEP Form 62-775.900(2):

(A) Date

(B) Amount of contaminated soil treated in tons per day.

(C) To document compliance with the TRPH input concentration, samples of the contaminated soil from the kiln feed shall be

collected, combined, and the composite sample will be analyzed using EPA Method 9073. The TRPH results of the analysis of those representative soil samples, along with the recorded tons of soil treated per day, will be used to calculate the average TRPH concentration of the contaminated soil.

(D) If the permittee receives soils that exceed the values shown for metals in Specific Condition No. 21, those soils shall not be treated in the kiln until being blended with other soils of the same type containing lower metal concentrations to comply with the appropriate metal limitation. Adequate documentation shall be maintained to show that the blending described above has been performed and the resulting blend of soils complies with Specific Condition No. 21.

(E) The pre-acceptance analysis from DEP Form 62-775.900(2) shall be used to document compliance with the TRPH, PCB, and metal limitations of Specific Condition No. 21. See Specific Condition No. 29(D), regarding soils that are blended to meet the metal limitations.

(F) Monthly calculate and record for the calendar year the quantity of soil treated in tons per year.

(H) 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 and documentation that diesel fuel is used in the generator will also be acceptable.

(I) Contaminated soil analysis for volatile organic aromatics (VOA), TRPH, volatile organic halogens (VOH), polynuclear aromatic hydrocarbons (PAH), and metals as required by Rule 62-775.410, F.A.C. of the soil being treated.

29. All records required by Specific Condition Nos. 25, 26, 27, and 28 shall be recorded in a permanent form suitable for inspection, retained for at least 3 years at the facility, and available to the Department upon request. (Rule 62-4.070(3), F.A.C.).

30. 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; and all other information required by rule or 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 and made available to the Department upon request. (Rule 62-4.070(3), F.A.C.).

COMPLIANCE TESTING REQUIREMENTS

31. The temperature monitor shall be certified by the manufacturer to be accurate to within 1 percent of the temperature being measured. The temperature monitoring system shall be calibrated at least annually by the procedure recommended by the manufacturer. The calibration shall be at a minimum of 3 temperatures and over a range from 10 percent below to 10 percent above the designed flue gas hot zone temperature. Calibration records shall be kept for a minimum of 3 years. The CO monitor shall be certified by the manufacturer to be accurate to within 10 percent of the CO concentration, by volume, mean value, or 5 percent of the applicable standard of 100 ppm, whichever is greater, as determined by an EPA Test Method 10. The CO continuous emission monitoring device shall be certified, calibrated, and operated according to Performance Specification 4 of 40 CFR 60, Appendix B (July 1, 1994) excluding Section 5.2, Calibration Drift Test Period, of Performance Specification 2.

32. Conduct a VE test at each new operation site. Test this source annually for the following pollutants and performance parameters. Test reports shall be submitted to the District and county, if applicable, that the test is conducted in within 45 days of testing. (Rule 62-297.340(1)(d) and 62-297.540(2), F.A.C.).

(A) CO (average CO monitor readings during the particulate matter test).

(B) Visible emissions.

(C) Particulate Matter (PM).

(D) Temperature in the afterburner (average temperature monitor readings during the PM test).

(E) Residence time of the afterburner.

(F) Stack gas airflow rate.

(G) For each day the required tests were conducted, a copy of the records required by Specific Condition No. 26 to document the fuel oil used during the tests was in compliance with the sulfur content limit.

(H) For each day the required tests were conducted, a copy of the records required by Specific Conditions Nos. 25, 26, and 29.

(I) For each month in which the stack emission tests were conducted, a copy of the records required by Specific Conditions No. 26.

(J) A copy of the certification and calibration of the CO and temperature monitors required by Specific Condition No. 28.

(K) A copy of the calculations showing the residence time in the afterburner based upon actual measured operating parameters.

(33) Compliance with the limitations of Specific Conditions Nos. 7, 8, 9, and 10 shall be determined by the following test methods contained in 40 CFR 60, Appendix A, (July 1, 1994) and adopted by reference in Rule 62-297.401, F.A.C.

(A) Average CO monitor readings during the PM test.

(B) EPA Method 9 for visible emissions.

(C) EPA Method 5 for particulate matter.

(D) EPA Method 2 for residence time in the afterburner and stack gas airflow rate. The Method 2 test shall be conducted at a point which is downstream of the afterburner. The test report shall include the calculations showing the residence time in the afterburner. The calculations shall be based upon actual measured operating parameters.

The minimum requirements for stationary point source emissions test procedures and reporting shall be in accordance with Rules 62-297.401 and 62-297.570(b), F.A.C., and 40 CFR 60, Appendix A (July 1, 1994).

34. Compliance tests shall be conducted as following:

(A) When the kiln and afterburner are fired with fuel oil.

(B) 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.)

EXCESS EMISSION REQUIREMENTS

35. Excess emissions resulting from startup, shutdown, or malfunction shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration

of excess emission shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the District or county, if applicable, that the unit is operating in.

36. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited. (Rule 62-210.700, F.A.C.).

37. In case of excess emissions resulting from malfunctions, the permittee shall notify the District and county, if applicable, that the unit is operating in in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. (Rule 62-210.700, F.A.C.).

38. The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of this facility which results in excess emissions; and any periods during which a continuous monitoring system or monitoring device is inoperative (Rules 62-4.070(3) and 62-210.700, F.A.C.).

NOTIFICATION REQUIREMENTS

39. The permittee shall notify the District and county, if applicable, having jurisdiction over the site of the test at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted (Rule 62-297.340(1)(i), F.A.C.).

40. Regarding the CO monitor, the permittee shall notify the District and county, if applicable, having jurisdiction over the site of the test as required by Performance Specification 4 of 40 CFR 60, Appendix B, (July 1, 1994).

41. 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.).

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42. The permittee shall submit to the Bureau of Air Regulation (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.

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(C) Annual hours of operation.

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STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Howard L. Rhodes
Director
Division of Air Resources Management

TPS
TECHNOLOGIES INC.

1964 South Orange Blossom Trail ☐ Apopka, Florida 32703 USA
Telephone: (407) 886-2000 ☐ Fax: (407) 886-8300

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AIR REGULATION

July 9, 1996

RECEIVED
July 12, 1996
BUREAU OF
AIR REGULATION

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

Dear Mr. Linero:

This is in response to your letter dated June 20, 1996, requesting additional information for the renewal of permit numbers AO48-197156 and AO48-197157 for TPS Technologies Inc. (TPST) mobile soil remediation units. 7770140-001-AO 7770140-002-AO

The units that will operate under these permits are designed to and are capable of maintaining one of the combination of minimum temperatures and minimum retention times specified in Chapter 62-296.415 F.A.C. In addition, when the units are operated, they will be equipped with instruments to continuously monitor and record the temperature and the carbon monoxide concentrations of the flue gases leaving the high temperature zone.

Once again, Mr. Willard Hanks of your staff has been most helpful in providing information to meet the application requirements. I trust this response will fulfill the requirements for the issuance of these permits. If you have any additional questions, do not hesitate to contact me at our office in Apopka, Florida at (407) 886-2000.

Sincerely,

David Wall

David Wall
Environmental Engineer

cc: G. Catalano
B. Hinton
B. Dominiak
B. Barnard
J. Anderson

cc: W. Hanks

Department of
Environmental Protection

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

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

June 20, 1996

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. David Wall
Environmental Engineer
TPS Technologies, Inc.
1964 South Orange Blossom Trail
Apopka, Florida 32703

Dear Mr. Wall:

Re: Renewal of Operation Permits
AO48-197156 and AO48-197157

The Department has reviewed your applications to renew the referenced permits to operate two mobile soil thermal treatment facilities. Since these permits were originally issued in August, 1991, the Department adopted Rule 62-296.415, F.A.C., which requires the fumes from your kiln to be exposed to a minimum temperature of 1500°F for 1 second or 1600°F for 0.5 seconds. The rule also requires soil thermal treatment facilities to continuously monitor the carbon monoxide (CO) emissions from the unit. Your units must comply with this regulation.

According to your application, and the original permits to operate, these units operated at a minimum temperature of 1400°F with a 0.5 second retention time. An identical unit of yours operating in Palm Beach County has an afterburner temperature of 1600°F and a retention time of 0.5 seconds. Are these units capable of operating with an afterburner temperature of 1600°F and a 0.5 seconds retention time?

Your applications did not discuss CO emission monitoring from the units. How will CO emissions be continuously monitored during the operation of these units?

The Department will resume processing your applications after receipt of the information requested above. 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

AAL/wh/t

Fold at line over top of envelope to the return address

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:
David Wall, Env. Eng.
TPS Tech., INC
1964 S. Orange Blossom Tr.
Apopka, Fl 32703

4a. Article Number
P 339 251 112

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

7. Date of Delivery

5. Signature (Addressee)

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

6. Signature (Agent)
L Komporowski

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

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

P 339 251 112

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail *(See reverse)*

Sent to David Wall	
Street & Number TPS Tech	
Post Office, State, & ZIP Code Apopka, Fl	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date Renewal	

A048-197156 6-20-96
" " 157

PS Form **3800**, April 1995

Department of
Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

June 5, 1996

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. David Wall, Environmental Engineer
TPS Technologies Inc.
1964 S. Orange Blossom Trail
Apopka, Florida 32703

Dear Mr. Wall:

Re: Renewal of Permits to Operate
Permit Nos. AO 48-197155 through 197157

The Department recently notified TPS Technologies that the referenced permits to operate their mobile soil thermal treatment facilities would expire on July 1, 1996. Your May 28, 1996 letter requesting these permits be renewed, included a check of $150.00 for the processing fee.

To renew a permit to operate a non-Title V source, you must submit an Application for Air Permit - Short Form (Form No. 62-210.900(2)), processing fee ($1,000.00 per permit, Rule 62-4.050(4)(a)3.b., F.A.C.), and an emissions test report if the units operated under the previous permits to operate.

If you wish to proceed with the renewal of the permits to operate these three units, please submit the needed material. Your check for $150.00 is being returned with this letter.

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

AAL/wh/t

Enclosure: Application Form
Check No. 801067

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:
David Wall, Env. Eng.
TPS Technologies
19645 Orange Blossom Tr.
Apopka, Fl 32703

4a. Article Number
P 339 251 057

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

7. Date of Delivery
6-7-96

5. Signature (Addressee)
H M Cleaver

6. Signature (Agent)

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

Thank you for using Return Receipt Service.

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

P 339 251 057

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail *(See reverse)*

Sent to David Wall	
Street & Number TPS Tech	
Post Office, State, & ZIP Code Apopka, Fl	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date Renewal	6-5-96

PS Form **3800**, April 1995

TPS
TECHNOLOGIES INC.

1964 South Orange Blossom Trail ☐ Apopka, Florida 32703 USA
Telephone: (407) 886-2000 ☐ Fax: (407) 886-8300

7770140

RECEIVED
JUN 3 1996
BUREAU OF
AIR REGULATION

May 28, 1996

Mr. C.H. Fancy, P.E.
Chief, Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, FL 32301

Dear Mr. Fancy:

Please accept this letter as our request for renewal of Air Discharge Permit Numbers AO 48-197155, AO 48-197156 and AO 48-197157. The permits are for 25 tons per hour portable contaminated soil remediation units that are authorized to operate statewide. A check for the required fees is also enclosed.

The following information is provided to update the records associated with these permits:

Permittee:	TPS Technologies Inc. 1964 S. Orange Blossom Trail Apopka, FL 32703 Phone (407) 886-2000
Regulatory Contact:	David Wall Environmental Engineer

If you have any questions or need additional information, do not hesitate to contact me at our Apopka, Florida office.

Sincerely,

David Wall

David Wall
Environmental Engineer

cc: G. Catalano
G. Chapas

A048-197157

Department of Environmental Protection

DIVISION OF AIR RESOURCES MANAGEMENT

APPLICATION FOR AIR PERMIT - SHORT FORM

See Instructions for Form No. 62-210.900(2)

I. APPLICATION INFORMATION

This section of the Application for Air Permit form identifies the facility and provides general information on the scope of this application and the purpose for which this application is being submitted. This section also includes information on the owner or authorized representative of the facility 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 using ELSA, 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 site name, if any; and the facility's physical location. If known, also enter the facility identification number.

1. Facility Owner/Company Name: TPS Technologies Inc.	
2. Site Name: TPS Technologies Inc.	
3. Facility Identification Number: 300RG48014008	[ ] Unknown
4. Facility Location: Statewide Street Address or Other Locator: City: County:	Zip Code:
5. Relocatable Facility? [x] Yes [ ] No	6. Existing Permitted Facility? [x] Yes [ ] No

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	June 14, 1996
2. Permit Number:	7770140-002-AO

Owner/Authorized Representative

1. Name and Title of Owner/Authorized Representative:

   David Wall, Environmental Engineer

2. Owner/Authorized Representative Mailing Address:

   Organization/Firm: TPS Technologies Inc.
   Street Address: 1964 S. Orange Blossom Trail
   City: Apopka State: FL Zip Code: 32703

3. Owner/Authorized Representative Telephone Numbers:
   Telephone: (407) 886-2000 Fax: (407) 886-8300

4. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the facility addressed in this Application for Air Permit. 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. 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.*

David Wall
Signature

June 12, 1996
Date

* 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. 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	Permit Type
S-1	Emission Unit S-1 is the Stack for the entire process.	AO2A

Purpose of Application

This Application for Air Permit is submitted to obtain (check one):

[ ] Initial air operation permit for one or more existing, but previously unpermitted, emissions units.

[ ] Initial air operation permit for one or more newly constructed or modified emissions units.

Current construction permit number: _____

[ ] Air operation permit revision to address one or more newly constructed or modified emissions units.

Current construction permit number: _____

Operation permit to be revised: _____

[X] Air operation permit renewal.

Operation permit to be renewed: AO48-197157

Application Processing Fee

Check one:

[x] Attached - Amount: $ 1,500.00 [ ] Not Applicable.

Construction/Modification Information

1. Description of Alterations:
2. Date of Commencement of Construction:

Professional Engineer Certification

1. Professional Engineer Name:

   Registration Number:

2. Professional Engineer Mailing Address:

   Organization/Firm:
   Street Address:
   City: State: Zip Code:

3. Professional Engineer Telephone Numbers:
   Telephone: ( ) - Fax: ( ) -

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 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; and

   (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.

   If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ] if so), I further 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.

   Signature Date

   (seal)

* Attach any exception to certification statement.

Application Contact

1. Name and Title of Application Contact:

   David Wall, Environmental Engineer

2. Application Contact Mailing Address:

   Organization/Firm: TPS Technologies Inc.
   Street Address: 1964 S. Orange Blossom Trail
   City: Apopka State: FL Zip Code: 32703

3. Application Contact Telephone Numbers:
   Telephone: (407) 886-2000 Fax: (407) 886-8300

Application Comment

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: Statewide Permit East (km): North (km):			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): Longitude (DD/MM/SS):			
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 17 or 49	6. Facility SIC(s): 1799 4953
7. Facility Comment (limit to 500 characters):			

Facility Contact

1. Name and Title of Facility Contact: David Wall, Environmental Engineer
2. Facility Contact Mailing Address: Organization/Firm: TPS Technologies Inc. Street Address: 1964 S. Orange Blossom Trail City: Apopka State: FL Zip Code: 32703
3. Facility Contact Telephone Numbers: Telephone: (407) 886-2000 Fax: (407) 886-8300

Facility Regulatory Classifications

1. Small Business Stationary Source? [ ] Yes [X] No [ ] Unknown
2. Title V Source? [X] No
3. Synthetic Non-Title V Source by Virtue of Previous Air Construction Permit? [X] Yes [ ] No Construction Permit Number/Issue Date: AC48-166607
4. One or More Emission Units Subject to NSPS? [ ] Yes [X] No
5. Facility Regulatory Classifications Comment (limit to 200 characters)

B. 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-B 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: [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
2. Facility Plot Plan: [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
3. Process Flow Diagram(s): [X] Attached, Document ID: 1 [ ] Not Applicable [ ] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A and B) 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

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, 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 Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Remediation of non-hazardous contaminated soil through a thermal desorption process.	
2. Emissions Unit Identification Number: 008	[ ] No Corresponding ID [ ] Unknown
3. Emissions Unit Status Code: A	4. Emissions Unit Major Group SIC Code: 17 & 49
5. Emissions Unit Comment (limit to 500 characters):	

Emissions Unit Control Equipment

A.

1. Description (limit to 200 characters):

   Fabric Filter Baghouse

2. Control Device or Method Code:
   016

B.

1. Description (limit to 200 characters):

   Thermal Oxidizer (Afterburner)

2. Control Device or Method Code:
   021

C.

1. Description (limit to 200 characters):

2. Control Device or Method Code:

Emissions Unit Details

1. Initial Startup Date: 1992		
2. Long-term Reserve Shutdown Date: 1993		
3. Package Unit: Manufacturer: Various	Model Number: SRU	
4. Generator Nameplate Rating:	MW	
5. Incinerator Information:		
Dwell Temperature:		°F
Dwell Time:		seconds
Incinerator Afterburner Temperature:		°F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate: 33		mmBtu/hr
2. Maximum Incineration Rate:	lb/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate: 25 tons/hr		
5. Operating Capacity Comment (limit to 200 characters):		

Item 1. The unit operates at a maximum of 15 MM BTU/hr for the primary burner, and 18 MM BTU/hr for the Afterburner.

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule:			
24	hours/day	7	days/week
52	weeks/year	7,800	hours/year

B. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

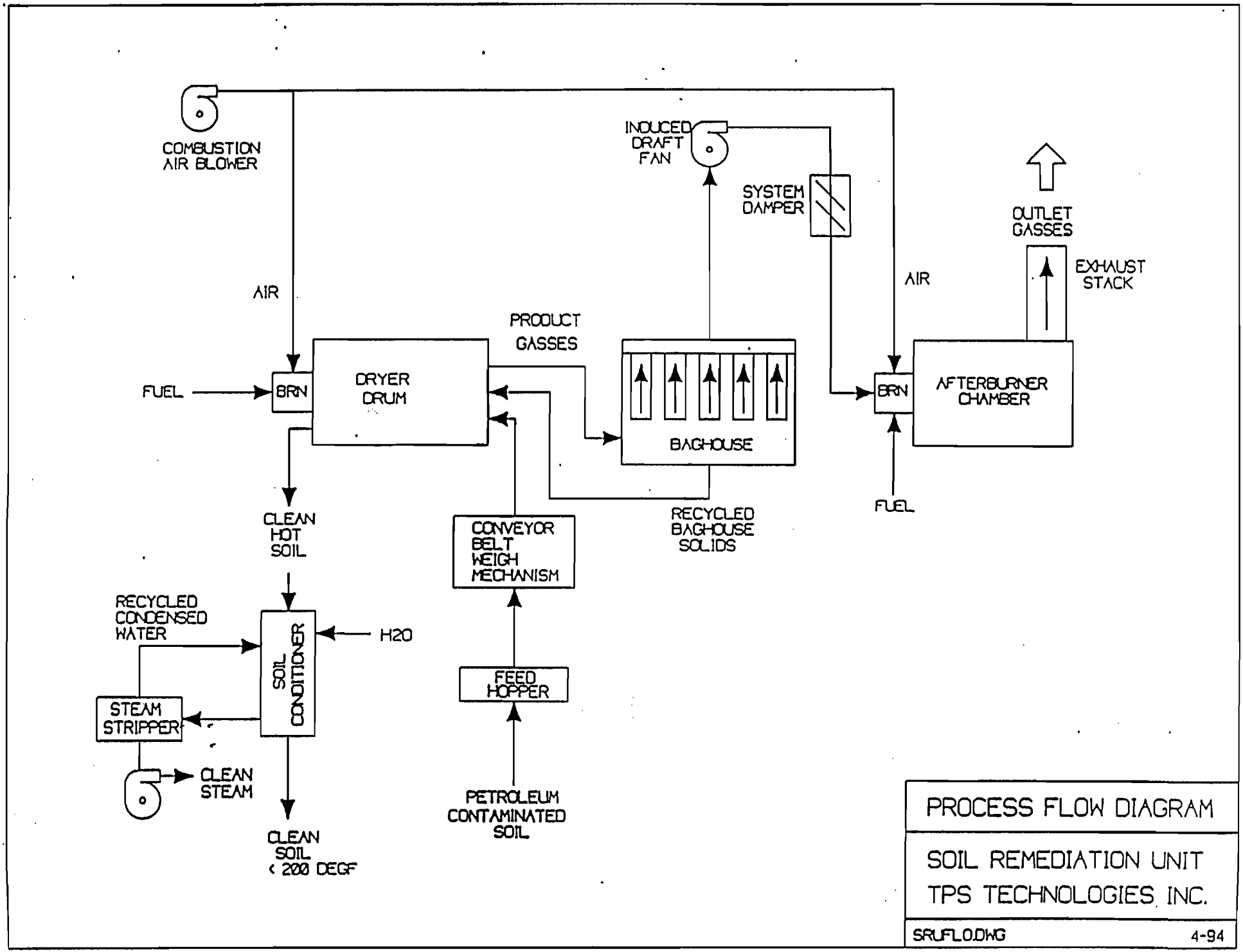
This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

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

DOCUMENT ID 1

PROCESS FLOW DIAGRAM


COMBUSTION AIR BLOWER
INDUCED DRAFT FAN
SYSTEM DAMPER
OUTLET GASSES
EXHAUST STACK
AIR
AIR
PRODUCT GASSES
FUEL
BRN
DRYER DRUM
BAGHOUSE
BRN
AFTERBURNER CHAMBER
FUEL
CLEAN HOT SOIL
CONVEYOR BELT WEIGH MECHANISM
RECYCLED BAGHOUSE SOLIDS
RECYCLED CONDENSED WATER
H2O
SOIL CONDITIONER
STEAM STRIPPER
FEED HOPPER
CLEAN STEAM
PETROLEUM CONTAMINATED SOIL
CLEAN SOIL < 200 DEGF
PROCESS FLOW DIAGRAM
SOIL REMEDIATION UNIT
TPS TECHNOLOGIES, INC.
SRUFLO.DWG
4-94

DOCUMENT ID 2

FUEL SPECIFICATION

FUEL SPECIFICATION

TPS Technologies Inc. (TPST) currently operates a fixed site soil remediation facility in West Palm Beach, Florida. The West Palm Beach soil remediation unit is similar to the unit being proposed for this permit, and similar stack emissions could be expected. TPST proposes permit language similar to the West Palm Beach facility for fuel specification:

> Only LPG, natural gas (NG) or No. 2 fuel oil containing a maximum of 0.5% sulfur (0.35% annual average) shall be used as fuel for the kiln and afterburner. The maximum permitted fuel consumption, equivalent to 37 MMBtu/hr heat input, is 407 GPH LPG, 3,700 CFH NG, or 266 GPH No. 2 fuel oil.

DOCUMENT ID 3

DESCRIPTION OF CONTROL EQUIPMENT
STACK SAMPLING FACILITIES
PROCEDURES FOR STARTUP AND SHUTDOWN
OPERATIONS AND MAINTENANCE PLAN

GENERAL PROCESS OVERVIEW

Soil to be processed is brought to the unit and dumped into the SRU Feeder System. The SRU Feeder hopper is shaped such that the dirt falls along the walls of the hopper drum to a live bottom belt conveyor. Once on the belt conveyor, it is conveyed and dropped onto the weigh belt conveyor. The weigh belt weighs the soil and through its instrumentation calculates and totals the amount of soil processed through the unit in tons per hour. After being weighed, it travels into the feed end of the dryer drum. As the drum rotates, the soil is forced to move forward by the angle of the drum with reference to level. The specially designed internal surface of the dryer drum helps move the soil along as it falls through the drum. Hot gases generated by the primary combustion burner travel in the opposite direction of the soil and transfer the heat to the soil. The final discharge temperature of the soil is a function of the retention time in the dryer drum and the effective heat transfer from the primary combustion burner. As the soil comes to the end of the dryer drum, it is pushed into a catch chute leading to a discharge system. The discharge system was designed to accomplish two things; first, to move the cleaned soil out and away from the discharge auger into clean piles, and secondly, to cool the soil to a manageable temperature using water. Soil samples are collected from the clean piles, labeled by date and time, and sent to a State Certified lab for analysis.

The gases generated by the primary combustion burner, including the water vapor, and the petroleum contaminants driven off from the soil, are channeled to the baghouse by a plenum at the feed end of the dryer drum.

An induced draft fan at the clean side of the baghouse provides the negative draft pressure needed to channel the gases and particulate matter up the plenum and into the baghouse. Once in the baghouse, the dust collects on the bags and the hot "cleaned" gases pass through and on to the afterburner chamber. As the dust accumulates on the bags, it is occasionally shaken free with air pulses. The dust falls to the bottom of the baghouse where it is conveyed with augers to the discharge end of the dryer drum and combined with the exiting hot soil. Consequently, there are no byproducts.

The gases, now free of particulate, pass into the afterburner for final combustion. The gas stream is neutralized at a minimum of 1400°F and exit the unit through the exhaust stack.

SRU COMPONENT DESCRIPTION

Baghouse:

The SRU has two (2) flowpaths through the baghouse, one on each side of the dryer drum. They each act as filters for the particulate and dust being entrained in the vapor generated from the hot, contaminated soil. Each baghouse has dimensions of 24 feet long, 9 feet high and 3 feet wide.

When the contaminated soil is heated in the dryer drum, petroleum in the soil is vaporized and mixed with the primary burner's products of combustion. Dust particles become mixed with the gases as the soil is agitated and moisture is driven off. The mixture of dust and vapor is pulled or vacuumed into the baghouse by the negative pressure created from the induced draft fan. Inside the baghouse, the direction of gas flow is such that dust collects on the outside of bags while the vapor passes through the bags and proceeds to the afterburner.

Dust that collects on the bags is shaken off automatically with timed jet pulses of air supplied from an on-board pneumatic system. The system is automatically controlled by two separate electronic circuits (one for each "side" of the baghouse). The dust falls to the bottom of the baghouse where it is collected and moved forward via conveyors to the discharge auger.

Dryer Drum:

The rotary drum, also referred to as the "dryer" is the main component of the SRU because it is the component that processes the contaminated soil.

The drum is approximately 22 feet long with a 5 foot diameter. It is centrally located on the trailer and is supported in four places by rollers, which are hydraulically driven and, in turn, rotate the drum.

The primary combustion burner has direct control of the gas temperature in the drum. Soil temperature is varied with drum tilt, drum rotation and burner output. Soil temperature usually ranges from 600°F to 800°F.

Retention time of soil in the drum can range from 5 - 10 minutes.

Afterburner:

The afterburner and its secondary combustion burner serve as a highly efficient pollution control device. The chamber is cradled between the two baghouses and above the dryer drum. The chamber dimensions are 27 feet long, 4 feet tall and 6 feet wide. The interior is covered with square replaceable ceramic insulation modules. The secondary burner fires into the entrance of the afterburner chamber.

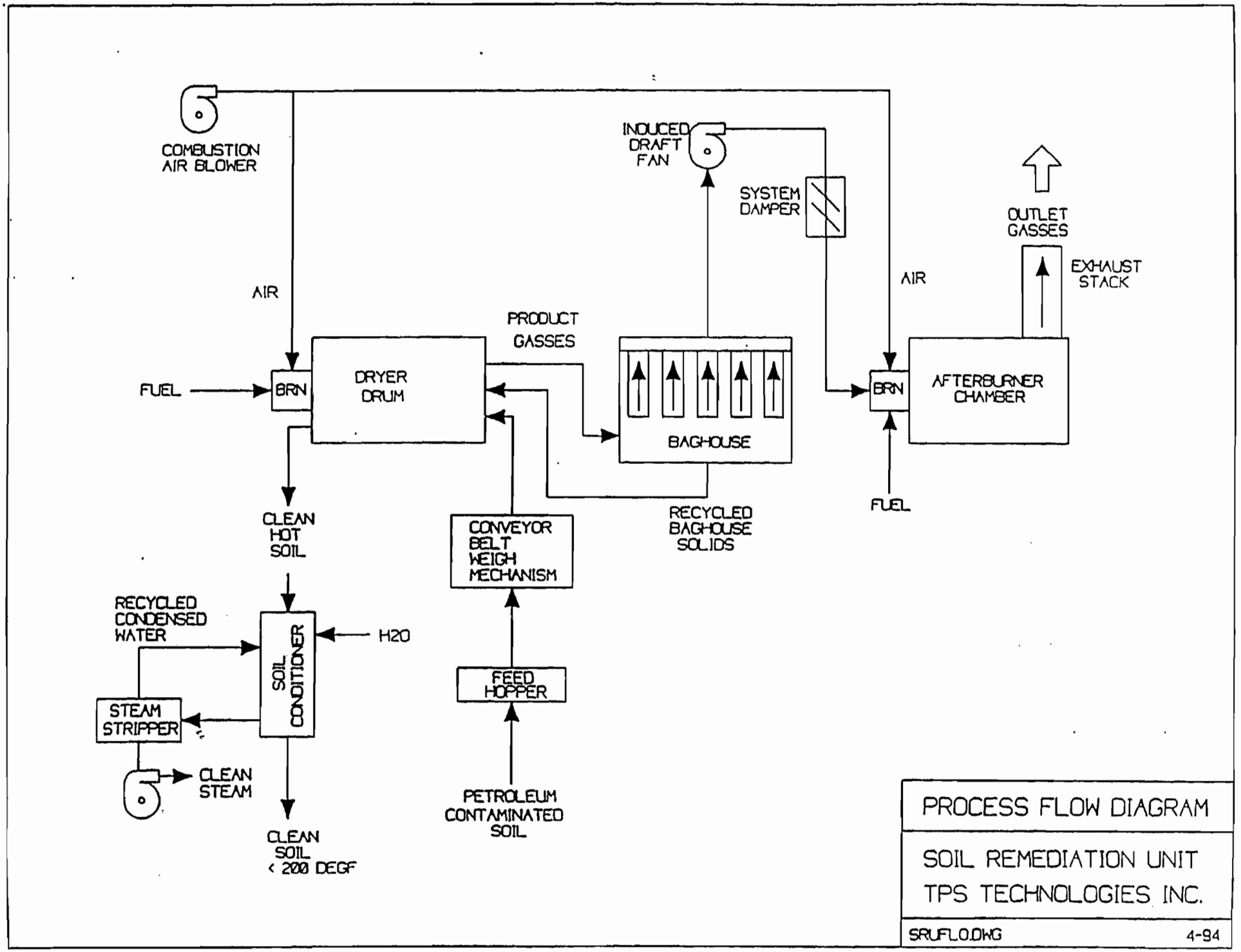
The secondary burner supplies the heat and excess air for the combustion of volatized petroleum contaminants in the afterburner chamber.

The temperature of the incoming gases from the clean side of the baghouse have little affect on the internal temperature of the afterburner, the primary and direct control of Afterburner temperature is accomplished by varying the input of the fuel and combustion air to the secondary burner.

Inside the afterburner, the petroleum vapors are converted to carbon dioxide and water vapor by maintaining a minimum temperature of 1400°F and a minimum retention time of 0.5 seconds.

Soil Handling

TPS Technologies does not involve itself in the excavation of soil from the ground. We only remediate soil using our thermal process. All excavation and soil preparation is performed by the client or his subcontractor.


COMBUSTION AIR BLOWER
INDUCED DRAFT FAN
SYSTEM DAMPER
OUTLET GASSES
EXHAUST STACK
AIR
AIR
PRODUCT GASSES
FUEL
BRN
DRYER DRUM
BAGHOUSE
BRN
AFTERBURNER CHAMBER
FUEL
CLEAN HOT SOIL
CONVEYOR BELT WEIGH MECHANISM
RECYCLED BAGHOUSE SOLIDS
RECYCLED CONDENSED WATER
H2O
SOIL CONDITIONER
FEED HOPPER
STEAM STRIPPER
CLEAN STEAM
PETROLEUM CONTAMINATED SOIL
CLEAN SOIL < 200 DEGF
PROCESS FLOW DIAGRAM
SOIL REMEDIATION UNIT
TPS TECHNOLOGIES INC.
SRUFLO.DWG
4-94

CONTROLS AND MEASUREMENT DEVICES

Afterburner (AB) and Dryer Drum (DD) Flame:

The dryer drum burner has two ultraviolet flame detectors. The afterburner incorporates one ultraviolet flame detector. These detectors provide a means of monitoring the primary and secondary burner and can detect abnormal operation of the main and pilot burners.

Afterburner (AB) and Dryer Drum (DD) Overtemperature Instrument:

The thermocouple for the AB overtemp instrument is located in the exhaust stack at the end of the AB chamber. The thermocouple for the dryer overtemp is located in the duct leading from the drum to the baghouse. If either of the instruments detect an excessive temperature condition, the "burner interlock" relay will trip off, thereby shutting off the main fuel valves to the respective burner which extinguishes the burner's flame.

Afterburner Temperature Control

This instrument regulates the amount of combustion air supplied to the secondary combustion burner. When an increase in temperature is required, the instrument signals the combustion air control valve to open. A "ratio" regulator provides the correct ratio of fuel-to-air mixture for proper combustion.

The temperature control thermocouple is located in the exhaust stack at the end of the AB chamber.

Flame detection of the afterburner's flame is required. If there is a failure with the ultraviolet detector, the gas supply will automatically shut off.

Drum Temperature Controller:

This instrument regulates the amount of air and fuel to the dryer drum by electrically positioning a control motor which opens and closes both the combustion air and fuel control valves.

The temperature control thermocouple is located in the duct area directly upstream of the baghouse.

Flame detection of the dryer drum flame is required just as in the afterburner above.

Pressure Controller (I.D. Fan)

This instrument controls the amount of desired draft on the dryer drum. Downstream of the I.D. fan and upstream of the AB primary inlet, a damper is modulated to control the amount of gas flow through the drum and baghouse and forced into the afterburner. By controlling this flow, the pressure inside the drum is kept slightly negative. The pressure transducer is located on the breach wall at the discharge end of the dryer drum.

Baghouse Pressure Drop too High:

An indicator will light and an alarm horn will sound if the pressure drop across the baghouse is too high.

Dirt Temperature Alarm Device:

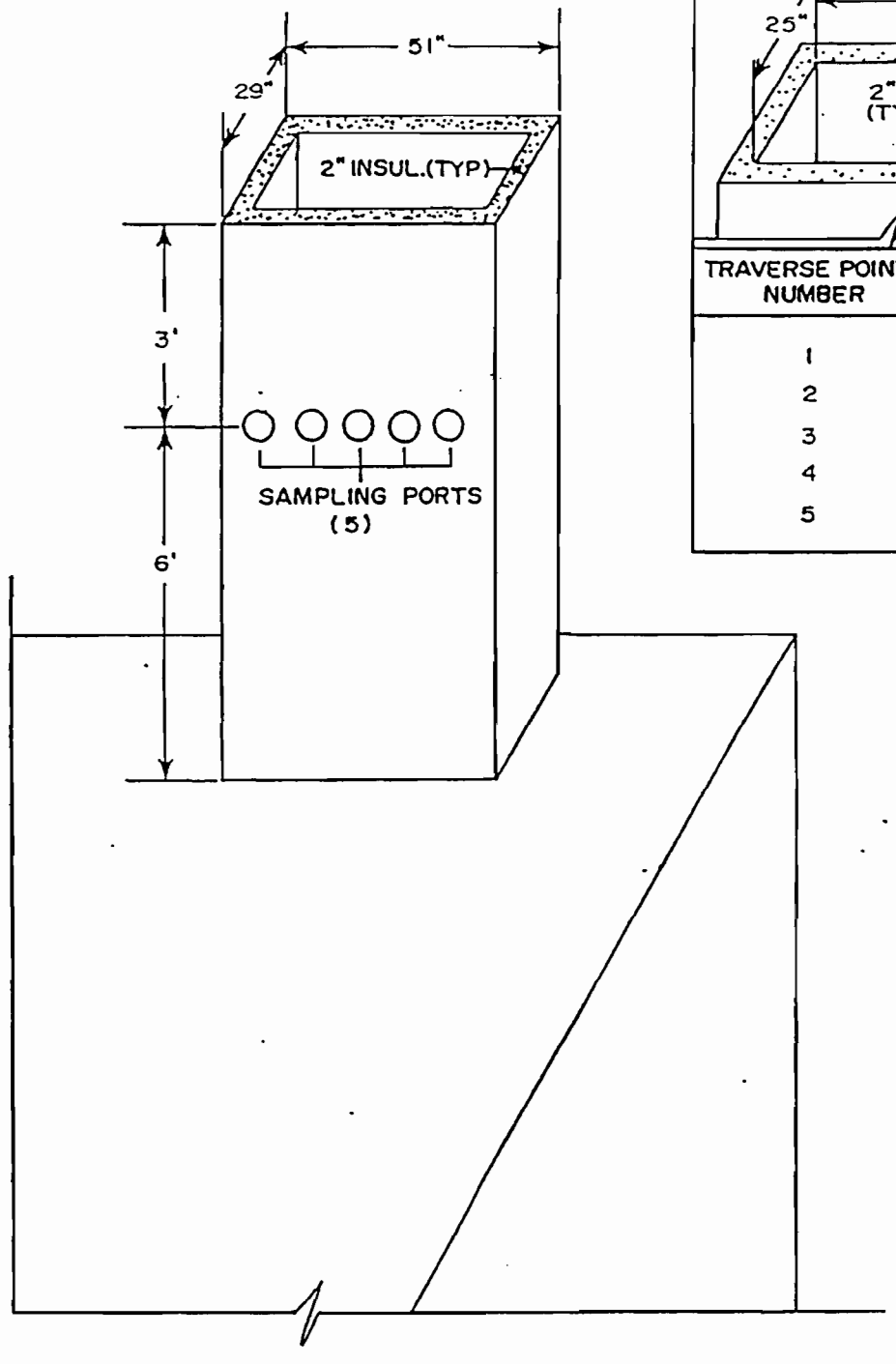
This instrument monitors the temperature of hot, cleaned dirt as it exits the drum. It is located in the collecting chute at the feed end of the discharge auger. The thermocouple sends the temperature to the Honeywell instrument. The instrument is programmed with an acceptable temperature range and will signal an alarm when the dirt temperature is either too high or too low.

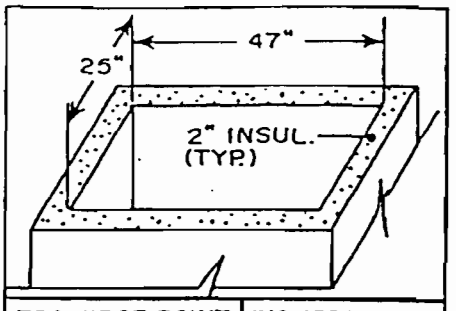
Burner System Safety Feature

For safety considerations, the SRU burner systems have been designed to go through a pre-ignition ventilation purge sequence before proceeding to light either the afterburner or the dryer drum burner. In order to start the purge, the following conditions must be met:

- Exhaust Fan and Combustion Blower are on
- Hydraulic Pump is Running
- Exhaust Air Flow is Not Low
- Combustion Air Pressure is Not Low
- Fuel Pressure Not Low or Not High
- Afterburner and Dryer Drum Chambers are Not Over Temperature
- Baghouse Pressure Differential is Normal

Once these parameters are satisfied, the purging of air throughout the entire system begins. This usually takes around three (3) minutes. At the end of the system purge, a light will illuminate stating "purge complete". The afterburner may now be lit and temperature stabilized followed by the dryer drum burner lighting.





TRAVERSE POINT NUMBER	INCHES INSIDE STACK WALL
1	2.5
2	7.5
3	12.5
4	17.5
5	22.5

SAMPLING POINT LOCATION
SOIL REMEDIATION UNIT-SRU
TPS TECHNOLOGIES

TPS
TECHNOLOGIES INC.

1964 South Orange Blossom Trail ☐ Apopka, Florida 32703 USA
Telephone: (407) 886-2000 ☐ Fax: (407) 886-8300

June 12, 1996

RECEIVED
JUN 14 1996
BUREAU OF
AIR REGULATION

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

Dear Mr. Fancy:

In accordance with instructions provided by Mr. A.A. Linero in his letter dated June 5, 1996, please find attached Application for Air Permit-Short Form, for TPS Technologies Inc. (TPST) permit numbers AO48-197156 and AO48-197157. Also enclosed is the supporting information with each permit application, and a check for the required fees.

TPST has decided not to renew permit AO48-197155, and request that this permit be closed.

I appreciated the guidance provided by Mr. Willard Hanks in preparing these permit applications. If you have any questions or need additional information, do not hesitate to contact me at our Apopka, Florida office at (407)886-2000.

Sincerely,

David Wall

David Wall
Environmental Engineer

cc: G. Catalano
B. Hinton
B. Dominiak

TPS
TECHNOLOGIES INC.

1964 South Orange Blossom Trail ☐ Apopka, Florida 32703 USA
Telephone: (407) 886-2000 ☐ Fax: (407) 886-8300

June 10, 1996

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

Dear Ladies and Gentlemen:

This letter authorizes David Wall to act on behalf of TPS Technologies Inc. in all matters associated with environmental permits involving your agency.

Please contact me our Apopka, Florida office at (407) 886-2000 if you have any questions.

Sincerely,

George A. Catalano
Vice President

REFERENCE NUMBER	YOUR INVOICE NUMBER	INVOICE DATE	INVOICE AMOUNT	AMOUNT PAID	DISCOUNT	NET AMOUNT
5528	060696	06/06/96	3,000.00	3,000.00	0.00	3,000.00

Vendor #:
0010595

801074

$3,000.00

THE FACE OF THIS DOCUMENT HAS A COLORED BACKGROUND - NOT A WHITE BACKGROUND

TPS TECHNOLOGIES INC.
TPS - WEST PALM BEACH
1964 S. ORANGE BLOSSOM TRAIL
APOPKA, FL 32703
(407) 886 - 2000

BANK OF BOSTON CONNECTICUT
WATERBURY CENTRAL OFFICE
WATERBURY, CT 06702
51-80-111

801074

PAY

DATE	CONTROL NO.	AMOUNT
06/10/96	801074	$******3,000.00

********3,000 DOLLARS AND 00 CENTS

TO THE ORDER OF
FL. Dept. Of Env. Protection
Twin Towers Office Bldg
2600 Blair Stone Rd
Tallahassee FL 32399-2400

VOID AFTER 3 MONTHS
2 SIGNATURES REQUIRED ON AMOUNTS OF $5,000.00 OR MORE

Leon B. Yager

Department of Environmental Protection

A048-197156

DIVISION OF AIR RESOURCES MANAGEMENT

APPLICATION FOR AIR PERMIT - SHORT FORM

See Instructions for Form No. 62-210.900(2)

I. APPLICATION INFORMATION

This section of the Application for Air Permit form identifies the facility and provides general information on the scope of this application and the purpose for which this application is being submitted. This section also includes information on the owner or authorized representative of the facility 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 using ELSA, 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 site name, if any; and the facility's physical location. If known, also enter the facility identification number.

1. Facility Owner/Company Name: TPS Technologies Inc.	
2. Site Name: TPS Technologies Inc.	
3. Facility Identification Number: 300RG48014007	[ ] Unknown
4. Facility Location: Statewide Street Address or Other Locator: City: County:	Zip Code:
5. Relocatable Facility? [x] Yes [ ] No	6. Existing Permitted Facility? [x] Yes [ ] No

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	June 14, 1996
2. Permit Number:	7770140-001-AO

Owner/Authorized Representative

1. Name and Title of Owner/Authorized Representative:

   David Wall, Environmental Engineer

2. Owner/Authorized Representative Mailing Address:

   Organization/Firm: TPS Technologies Inc.
   Street Address: 1964 S. Orange Blossom Trail
   City: Apopka State: FL Zip Code: 32703

3. Owner/Authorized Representative Telephone Numbers:
   Telephone: (407) 886-2000 Fax: (407) 886-8300

4. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the facility addressed in this Application for Air Permit. 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. 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.*

David Wall — Signature

June 12, 1996 — Date

* 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. 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	Permit Type
S-1	Emission Unit S-1 is the Stack for the entire process.	AO2A

Purpose of Application

This Application for Air Permit is submitted to obtain (check one):

[ ] Initial air operation permit for one or more existing, but previously unpermitted, emissions units.

[ ] Initial air operation permit for one or more newly constructed or modified emissions units.

Current construction permit number: _____

[ ] Air operation permit revision to address one or more newly constructed or modified emissions units.

Current construction permit number: _____

Operation permit to be revised: _____

[X] Air operation permit renewal.

Operation permit to be renewed: AO48-197156

Application Processing Fee

Check one:

[x] Attached - Amount: $ 1,500.00 [ ] Not Applicable.

Construction/Modification Information

1. Description of Alterations:
2. Date of Commencement of Construction:

Professional Engineer Certification

1. Professional Engineer Name:

   Registration Number:

2. Professional Engineer Mailing Address:

   Organization/Firm:
   Street Address:
   City: State: Zip Code:

3. Professional Engineer Telephone Numbers:
   Telephone: ( ) - Fax: ( ) -

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 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; and

   (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.

   If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ] if so), I further 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.

   Signature Date

   (seal)

* Attach any exception to certification statement.

Application Contact

1. Name and Title of Application Contact:

   David Wall, Environmental Engineer

2. Application Contact Mailing Address:

   Organization/Firm: TPS Technologies Inc.
   Street Address: 1964 S. Orange Blossom Trail
   City: Apopka State: FL Zip Code: 32703

3. Application Contact Telephone Numbers:
   Telephone: (407) 886-2000 Fax: (407) 886-8300

Application Comment

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: Statewide Permit East (km): North (km):			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): Longitude (DD/MM/SS):			
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 17 or 49	6. Facility SIC(s): 1799 4953
7. Facility Comment (limit to 500 characters):			

Facility Contact

1. Name and Title of Facility Contact: David Wall, Environmental Engineer
2. Facility Contact Mailing Address: Organization/Firm: TPS Technologies Inc. Street Address: 1964 S. Orange Blossom Trail City: Apopka State: FL Zip Code: 32703
3. Facility Contact Telephone Numbers: Telephone: (407) 886-2000 Fax: (407) 886-8300

Facility Regulatory Classifications

1. Small Business Stationary Source? [ ] Yes [x] No [ ] Unknown
2. Title V Source? [x] No
3. Synthetic Non-Title V Source by Virtue of Previous Air Construction Permit? [x] Yes [ ] No Construction Permit Number/Issue Date: AC48-166606
4. One or More Emission Units Subject to NSPS? [ ] Yes [x] No
5. Facility Regulatory Classifications Comment (limit to 200 characters)

B. 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-B 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: [ ] Attached, Document ID:_____ [x.] Not Applicable [ ] Waiver Requested
2. Facility Plot Plan: [ ] Attached, Document ID:_____ [x.] Not Applicable [ ] Waiver Requested
3. Process Flow Diagram(s): [x] Attached, Document ID: 1 [ ] Not Applicable [ ] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [ ] Attached, Document ID:_____ [x] Not Applicable [ ] Waiver Requested

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A and B) 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

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, 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 Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Remediation of non-hazardous contaminated soil through a thermal desorption process.	
2. Emissions Unit Identification Number: 007	[ ] No Corresponding ID [ ] Unknown
3. Emissions Unit Status Code: A	4. Emissions Unit Major Group SIC Code: 17 & 49
5. Emissions Unit Comment (limit to 500 characters):	

Emissions Unit Control Equipment

A.

1. Description (limit to 200 characters):

Fabric Filter Baghouse

2. Control Device or Method Code:

016

B.

1. Description (limit to 200 characters):

Thermal Oxidizer (Afterburner)

2. Control Device or Method Code:

021

C.

1. Description (limit to 200 characters):

2. Control Device or Method Code:

Emissions Unit Information Section 1 of 1

Emissions Unit Details

1. Initial Startup Date: 1992		
2. Long-term Reserve Shutdown Date: 1993		
3. Package Unit: Manufacturer: Various	Model Number: SRU	
4. Generator Nameplate Rating:	MW	
5. Incinerator Information:		
Dwell Temperature:		°F
Dwell Time:		seconds
Incinerator Afterburner Temperature:		°F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate: 33		mmBtu/hr
2. Maximum Incineration Rate:	lb/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate: 25 tons/hr		
5. Operating Capacity Comment (limit to 200 characters):		

Item 1. The unit operates at a maximum of 15 MM BTU/hr for the primary burner, and 18 MM BTU/hr for the Afterburner.

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule:			
	24 hours/day	7	days/week
	52 weeks/year	7,800	hours/year

B. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

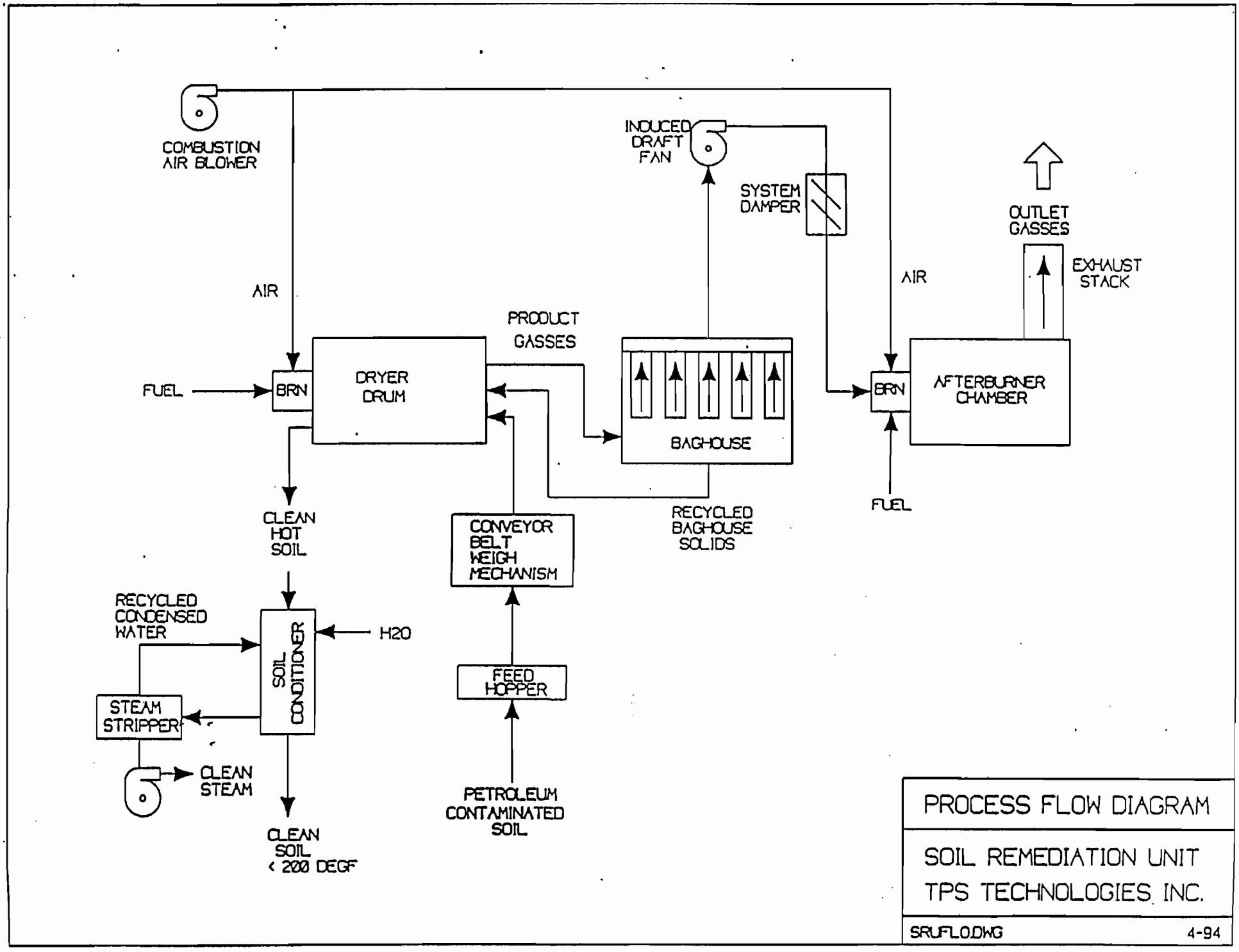
This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

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

DOCUMENT ID 1

PROCESS FLOW DIAGRAM


COMBUSTION AIR BLOWER
INDUCED DRAFT FAN
SYSTEM DAMPER
OUTLET GASSES
EXHAUST STACK
AIR
AIR
PRODUCT GASSES
FUEL
BRN
DRYER DRUM
BAGHOUSE
BRN
AFTERBURNER CHAMBER
FUEL
CLEAN HOT SOIL
CONVEYOR BELT WEIGH MECHANISM
RECYCLED BAGHOUSE SOLIDS
RECYCLED CONDENSED WATER
H2O
SOIL CONDITIONER
STEAM STRIPPER
FEED HOPPER
CLEAN STEAM
PETROLEUM CONTAMINATED SOIL
CLEAN SOIL < 200 DEGF
PROCESS FLOW DIAGRAM
SOIL REMEDIATION UNIT
TPS TECHNOLOGIES INC.
SRUFLO.DWG
4-94

DOCUMENT ID 2

FUEL SPECIFICATION

FUEL SPECIFICATION

TPS Technologies Inc. (TPST) currently operates a fixed site soil remediation facility in West Palm Beach, Florida. The West Palm Beach soil remediation unit is similar to the unit being proposed for this permit, and similar stack emissions could be expected. TPST proposes permit language similar to the West Palm Beach facility for fuel specification:

> Only LPG, natural gas (NG) or No. 2 fuel oil containing a maximum of 0.5% sulfur (0.35% annual average) shall be used as fuel for the kiln and afterburner. The maximum permitted fuel consumption, equivalent to 37 MMBtu/hr heat input, is 407 GPH LPG, 3,700 CFH NG, or 266 GPH No. 2 fuel oil.

DOCUMENT ID 3

DESCRIPTION OF CONTROL EQUIPMENT
STACK SAMPLING FACILITIES
PROCEDURES FOR STARTUP AND SHUTDOWN
OPERATIONS AND MAINTENANCE PLAN

GENERAL PROCESS OVERVIEW

Soil to be processed is brought to the unit and dumped into the SRU Feeder System. The SRU Feeder hopper is shaped such that the dirt falls along the walls of the hopper drum to a live bottom belt conveyor. Once on the belt conveyor, it is conveyed and dropped onto the weigh belt conveyor. The weigh belt weighs the soil and through its instrumentation calculates and totals the amount of soil processed through the unit in tons per hour. After being weighed, it travels into the feed end of the dryer drum. As the drum rotates, the soil is forced to move forward by the angle of the drum with reference to level. The specially designed internal surface of the dryer drum helps move the soil along as it falls through the drum. Hot gases generated by the primary combustion burner travel in the opposite direction of the soil and transfer the heat to the soil. The final discharge temperature of the soil is a function of the retention time in the dryer drum and the effective heat transfer from the primary combustion burner. As the soil comes to the end of the dryer drum, it is pushed into a catch chute leading to a discharge system. The discharge system was designed to accomplish two things; first, to move the cleaned soil out and away from the discharge auger into clean piles, and secondly, to cool the soil to a manageable temperature using water. Soil samples are collected from the clean piles, labeled by date and time, and sent to a State Certified lab for analysis.

The gases generated by the primary combustion burner, including the water vapor, and the petroleum contaminants driven off from the soil, are channeled to the baghouse by a plenum at the feed end of the dryer drum.

An induced draft fan at the clean side of the baghouse provides the negative draft pressure needed to channel the gases and particulate matter up the plenum and into the baghouse. Once in the baghouse, the dust collects on the bags and the hot "cleaned" gases pass through and on to the afterburner chamber. As the dust accumulates on the bags, it is occasionally shaken free with air pulses. The dust falls to the bottom of the baghouse where it is conveyed with augers to the discharge end of the dryer drum and combined with the exiting hot soil. Consequently, there are no byproducts.

The gases, now free of particulate, pass into the afterburner for final combustion. The gas stream is neutralized at a minimum of 1400°F and exit the unit through the exhaust stack.

SRU COMPONENT DESCRIPTION

Baghouse:

The SRU has two (2) flowpaths through the baghouse, one on each side of the dryer drum. They each act as filters for the particulate and dust being entrained in the vapor generated from the hot, contaminated soil. Each baghouse has dimensions of 24 feet long, 9 feet high and 3 feet wide.

When the contaminated soil is heated in the dryer drum, petroleum in the soil is vaporized and mixed with the primary burner's products of combustion. Dust particles become mixed with the gases as the soil is agitated and moisture is driven off. The mixture of dust and vapor is pulled or vacuumed into the baghouse by the negative pressure created from the induced draft fan. Inside the baghouse, the direction of gas flow is such that dust collects on the outside of bags while the vapor passes through the bags and proceeds to the afterburner.

Dust that collects on the bags is shaken off automatically with timed jet pulses of air supplied from an on-board pneumatic system. The system is automatically controlled by two separate electronic circuits (one for each "side" of the baghouse). The dust falls to the bottom of the baghouse where it is collected and moved forward via conveyors to the discharge auger.

Dryer Drum:

The rotary drum, also referred to as the "dryer" is the main component of the SRU because it is the component that processes the contaminated soil.

The drum is approximately 22 feet long with a 5 foot diameter. It is centrally located on the trailer and is supported in four places by rollers, which are hydraulically driven and, in turn, rotate the drum.

The primary combustion burner has direct control of the gas temperature in the drum. Soil temperature is varied with drum tilt, drum rotation and burner output. Soil temperature usually ranges from 600°F to 800°F.

Retention time of soil in the drum can range from 5 - 10 minutes.

Afterburner:

The afterburner and its secondary combustion burner serve as a highly efficient pollution control device. The chamber is cradled between the two baghouses and above the dryer drum. The chamber dimensions are 27 feet long, 4 feet tall and 6 feet wide. The interior is covered with square replaceable ceramic insulation modules. The secondary burner fires into the entrance of the afterburner chamber.

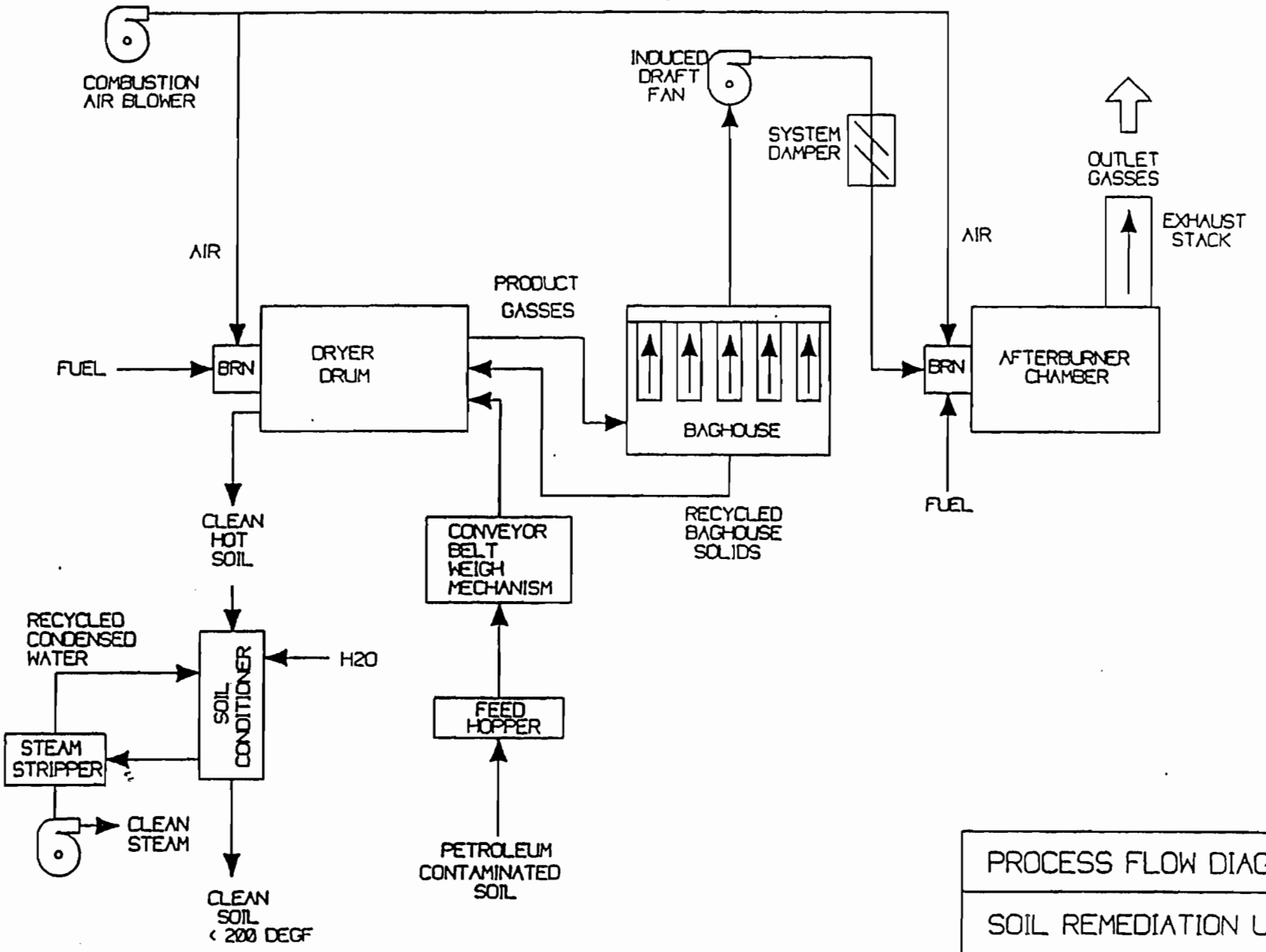
The secondary burner supplies the heat and excess air for the combustion of volatized petroleum contaminants in the afterburner chamber.

The temperature of the incoming gases from the clean side of the baghouse have little affect on the internal temperature of the afterburner, the primary and direct control of Afterburner temperature is accomplished by varying the input of the fuel and combustion air to the secondary burner.

Inside the afterburner, the petroleum vapors are converted to carbon dioxide and water vapor by maintaining a minimum temperature of 1400°F and a minimum retention time of 0.5 seconds.

Soil Handling

TPS Technologies does not involve itself in the excavation of soil from the ground. We only remediate soil using our thermal process. All excavation and soil preparation is performed by the client or his subcontractor.



PROCESS FLOW DIAGRAM

SOIL REMEDIATION UNIT
TPS TECHNOLOGIES INC.

SRUFLO.DWG 4-94

CONTROLS AND MEASUREMENT DEVICES

Afterburner (AB) and Dryer Drum (DD) Flame:

The dryer drum burner has two ultraviolet flame detectors. The afterburner incorporates one ultraviolet flame detector. These detectors provide a means of monitoring the primary and secondary burner and can detect abnormal operation of the main and pilot burners.

Afterburner (AB) and Dryer Drum (DD) Overtemperature Instrument:

The thermocouple for the AB overtemp instrument is located in the exhaust stack at the end of the AB chamber. The thermocouple for the dryer overtemp is located in the duct leading from the drum to the baghouse. If either of the instruments detect an excessive temperature condition, the "burner interlock" relay will trip off, thereby shutting off the main fuel valves to the respective burner which extinguishes the burner's flame.

Afterburner Temperature Control

This instrument regulates the amount of combustion air supplied to the secondary combustion burner. When an increase in temperature is required, the instrument signals the combustion air control valve to open. A "ratio" regulator provides the correct ratio of fuel-to-air mixture for proper combustion.

The temperature control thermocouple is located in the exhaust stack at the end of the AB chamber.

Flame detection of the afterburner's flame is required. If there is a failure with the ultraviolet detector, the gas supply will automatically shut off.

Drum Temperature Controller:

This instrument regulates the amount of air and fuel to the dryer drum by electrically positioning a control motor which opens and closes both the combustion air and fuel control valves.

The temperature control thermocouple is located in the duct area directly upstream of the baghouse.

Flame detection of the dryer drum flame is required just as in the afterburner above.

Pressure Controller (I.D. Fan)

This instrument controls the amount of desired draft on the dryer drum. Downstream of the I.D. fan and upstream of the AB primary inlet, a damper is modulated to control the amount of gas flow through the drum and baghouse and forced into the afterburner. By controlling this flow, the pressure inside the drum is kept slightly negative. The pressure transducer is located on the breach wall at the discharge end of the dryer drum.

Baghouse Pressure Drop too High:

An indicator will light and an alarm horn will sound if the pressure drop across the baghouse is too high.

Dirt Temperature Alarm Device:

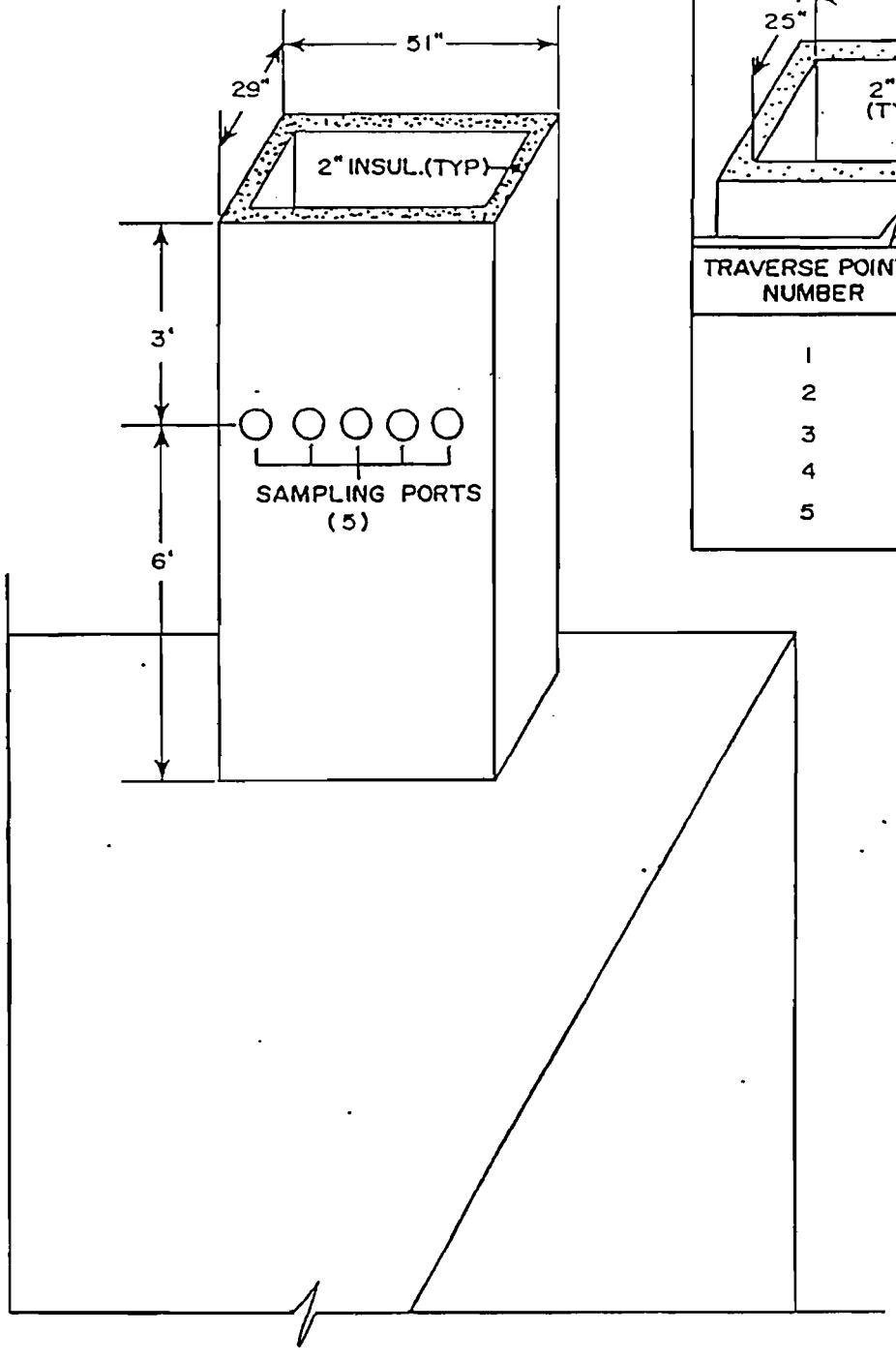
This instrument monitors the temperature of hot, cleaned dirt as it exits the drum. It is located in the collecting chute at the feed end of the discharge auger. The thermocouple sends the temperature to the Honeywell instrument. The instrument is programmed with an acceptable temperature range and will signal an alarm when the dirt temperature is either too high or too low.

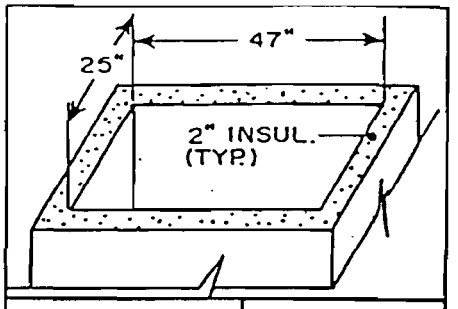
Burner System Safety Feature

For safety considerations, the SRU burner systems have been designed to go through a pre-ignition ventilation purge sequence before proceeding to light either the afterburner or the dryer drum burner. In order to start the purge, the following conditions must be met:

- Exhaust Fan and Combustion Blower are on
- Hydraulic Pump is Running
- Exhaust Air Flow is Not Low
- Combustion Air Pressure is Not Low
- Fuel Pressure Not Low or Not High
- Afterburner and Dryer Drum Chambers are Not Over Temperature
- Baghouse Pressure Differential is Normal

Once these parameters are satisfied, the purging of air throughout the entire system begins. This usually takes around three (3) minutes. At the end of the system purge, a light will illuminate stating "purge complete". The afterburner may now be lit and temperature stabilized followed by the dryer drum burner lighting.





TRAVERSE POINT NUMBER	INCHES INSIDE STACK WALL
1	2.5
2	7.5
3	12.5
4	17.5
5	22.5

SAMPLING POINT LOCATION
SOIL REMEDIATION UNIT-SRU
TPS TECHNOLOGIES

Check Sheet

Company Name: TPS Technologies - 2 pmts ✓
Permit Number: AO 48-197156/7770140-001-AO ✓
~~PSD Number:~~ AO 48-197157/7770140-002-AO
Permit Engineer: WILLARD HANKS

197156 197157

Application:

✓ [✓] Initial Application

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

Cross References:

- [ ]
- [ ]
- [ ]

Intent:

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

Correspondence with:

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

- [ ] Proof of Publication

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

Final Determination:

- [ ] Final Determination

✓ [✓] Signed Permit

- [ ] BACT Determination
- [ ] Other

Post Permit Correspondence:

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