



Department of Environmental Protection

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BUREAU OF AIR REGULATION

DIVISION OF AIR RESOURCES MANAGEMENT

APPLICATION FOR AIR PERMIT - LONG FORM

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

I. APPLICATION INFORMATION

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

Identification of Facility Addressed in This Application


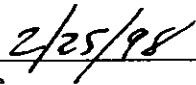
Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility site name, if any; and the facility's physical location. If known, also enter the facility identification number.

1. Facility Owner/Company Name: KleenSoil International, Incorporated	
2. Site Name: Mobile Soil Remediation Unit #1	
3. Facility Identification Number: 7770029 [] Unknown	
4. Facility Location: (Mobile Unit) 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:	2/26/98
2. Permit Number:	7770029-002-AF
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official: Trevor Cook, Vice President
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: KleenSoil International, Incorporated Street Address: 13838 Harlee Road City: Palmetto State: Florida Zip Code: 34221
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: (941) 723-1600 Fax: (941) 772-7743
4. Owner/Authorized Representative or Responsible Official Statement: <i>I, the undersigned, am the owner or authorized representative* of the non-Title V source addressed in this Application for Air Permit or the responsible official, as defined in Rule 62-210.200, F.A.C., of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained 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.</i>  _____ Signature  _____ 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
001	Mobile Thermal Soil Remediation Unit/Controlled by a Baghouse and Afterburner	AF2A
002	Diesel Generator	AF2C

Purpose of Application and Category

Check one (except as otherwise indicated):

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

This Application for Air Permit is submitted to obtain:

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

Current construction permit number: _____

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

Operation permit to be renewed: _____

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

Current construction permit number: _____

Operation permit to be revised: _____

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

Operation permit to be revised/corrected: _____

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

Operation permit to be revised: _____

Reason for revision: _____

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

This Application for Air Permit is submitted to obtain:

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

Current operation/construction permit number(s): AO16-231440

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

Operation permit to be renewed: _____

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

Operation permit to be revised: _____

Reason for revision: _____

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

This Application for Air Permit is submitted to obtain:

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

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

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

Current operation permit number(s): _____

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

Application Processing Fee

Check one:

[] Attached - Amount: \$ _____ [X] Not Applicable.

Construction/Modification Information

1. Description of Proposed Project or Alterations: NA
2. Projected or Actual Date of Commencement of Construction: NA
3. Projected Date of Completion of Construction: NA

Professional Engineer Certification

1. Professional Engineer Name: John B. Koogler, Ph.D., P.E. Registration Number: 12925
2. Professional Engineer Mailing Address: Organization/Firm: Koogler & Associates Street Address: 4014 N.W. 13th Street City: Gainesville State: FL Zip Code: 32609
3. Professional Engineer Telephone Numbers: Telephone: (352) 377-5822 Fax: (352) 377-7158

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

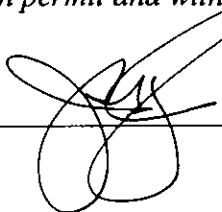
(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions 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 a Title V source air operation permit (check here [] if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [] if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

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

2/23/98

(seal)

* Attach any exception to certification statement.

Application Contact

1. Name and Title of Application Contact: Mark Hagmann-Engineer
2. Application Contact Mailing Address: Organization/Firm: Koogler & Associates Street Address: 4014 N.W. 13th Street City: Gainesville State: Florida Zip Code: 32609
3. Application Contact Telephone Numbers: Telephone: (352) 377-5822 Fax: (352) 377-7158

Application Comment

This application is a request for a FESOP.

KleenSoil International, Inc. requests that the Department establish federally enforceable conditions in the requested FESOP that limit annual throughput of contaminated soil to 214,000 tpy and limit HAP emissions below 10 tpy for any individual HAP and 25 tpy for total HAPs in order to escape Title V applicability.

No fees are associated with this request because the facility is still currently subject to Title V.

The FESOP application was jointly submitted with a Title V application on June 11, 1996. We are requesting the evaluation of the Title V application be delayed in order to allow time to evaluate the FESOP application. As soon as the FESOP is issued, KleenSoil International, Inc. will withdraw the Title V application.

It is our understanding that Title V emissions fees have been paid through 1995 by Anderson Columbia Thermal Systems, Inc.

KleenSoil International, Inc. has paid Title V emissions fees for 1996 & 1997.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Mobile Unit Zone: East (km): North (km):			
2. Facility Latitude/Longitude: Mobile Unit Latitude (DD/MM/SS): Longitude (DD/MM/SS):			
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 49	6. Facility SIC(s): 4953
7. Facility Comment (limit to 500 characters): This mobile unit is permitted to operate in all counties in the state of Florida except for Hernando and Okaloosa Counties where KleenSoil International, Incorporated does not plan on operating the portable soil thermal treatment unit.			

Facility Contact

1. Name and Title of Facility Contact: Trevor Cook, Vice President	
2. Facility Contact Mailing Address: Organization/Firm: KleenSoil International, Incorporated Street Address: 13838 Harlee Road City: Palmetto State: Florida Zip Code: 34221	
3. Facility Contact Telephone Numbers: Telephone: (941) 723-1600 Fax: (941) 772-7743	

Facility Regulatory Classifications

1. Small Business Stationary Source? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown
2. Title V Source? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3. Synthetic Non-Title V Source? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Synthetic Minor Source of Pollutants Other than HAPs? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6. Major Source of Hazardous Air Pollutants (HAPs)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
7. Synthetic Minor Source of HAPs? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8. One or More Emissions Units Subject to NSPS? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
9. One or More Emission Units Subject to NESHAP? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
10. Title V Source by EPA Designation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
11. Facility Regulatory Classifications Comment (limit to 200 characters): This facility will no longer be classified as a Title V source once HAPs are limited below the applicable Title V threshold.

B. FACILITY REGULATIONS

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

RULE APPLICABILITY:

Rule 62-4 , F.A.C.
Rule 62-204, F.A.C.
Rule 62-210, F.A.C.
Rule 62-212, F.A.C.
Rule 62-775, F.A.C.
Rule 62-296, F.A.C.
Rule 62-297, F.A.C.

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

(NA)

C. FACILITY POLLUTANTS

Facility Pollutant Information

1. Pollutant Emitted	2. Pollutant Classification
PM	B
CO	B
SO2	B
VOC	SM
HAPS	SM
H015 (Arsenic)	SM
H017 (Benzene)	SM
H027 (Cadmium)	SM
H046 (Chromium)	SM
H085 (Ethylbenzene)	SM
H104 (Hexane)	SM
H114 (Mercury)	SM
H115 (Methyl Alcohol)	SM
H126 (Methyl t-butyl ether)	SM
H132 (Naphthalene)	SM
PB (Lead)	SM
H162 (Selenium)	SM
H169 (Toluene)	SM
H181 (2,2,4 Trimethylpentane)	SM
H186 (Xylene)	SM

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Detail Information: Pollutant 1 of 1

1. Pollutant Emitted: HAPS		
2. Requested Emissions Cap:	(lb/hour)	< 25 (tons/year)
3. Basis for Emissions Cap Code: ESCTV		
4. Facility Pollutant Comment (limit to 400 characters):		

Facility Pollutant Detail Information: Pollutant _____ of _____

1. Pollutant Emitted:		
2. Requested Emissions Cap:	(lb/hour)	(tons/year)
3. Basis for Emissions Cap Code:		
4. Facility Pollutant Comment (limit to 400 characters):		

E. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements for All Applications

1. Area Map Showing Facility Location: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Facility Plot Plan: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Process Flow Diagram(s): <input checked="" type="checkbox"/> Attached, Document ID: <u>001</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: <input checked="" type="checkbox"/> Attached, Document ID: <u>002</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
5. Fugitive Emissions Identification: <input checked="" type="checkbox"/> Attached, Document ID: <u>002</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
6. Supplemental Information for Construction Permit Application: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Supplemental Requirements for Category I Applications Only

7. List of Proposed Exempt Activities: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. List of Equipment/Activities Regulated under Title VI: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Equipment/Activities On site but Not Required to be Individually Listed <input checked="" type="checkbox"/> Not Applicable
9. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

<p>11. Identification of Additional Applicable Requirements: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable</p>
<p>12. Compliance Assurance Monitoring Plan: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable</p>
<p>13. Risk Management Plan Verification:</p> <p><input type="checkbox"/> Plan Submitted to Implementing Agency - Verification Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Plan to be Submitted to Implementing Agency by Required Date</p> <p><input type="checkbox"/> Not Applicable</p>
<p>14. Compliance Report and Plan: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable</p>
<p>15. Compliance Certification (Hard-copy Required): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable</p>

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[] 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).

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a 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.

**B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)**

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): <p align="center">Mobile Soil Thermal Treatment Unit</p>		
2. Emissions Unit Identification Number: 001 [<input type="checkbox"/>] No Corresponding ID [<input type="checkbox"/>] Unknown		
3. Emissions Unit Status Code: A	4. Acid Rain Unit? [<input type="checkbox"/>] Yes [<input checked="" type="checkbox"/>] No	5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters): <p>Emissions unit consists of a 35 TPH mobile soil thermal treatment unit with air pollution controlled by a baghouse and an afterburner. Major components of the emissions unit are a contaminated soil feed bin, bin to dryer belt conveyor, dryer, baghouse, and an afterburner.</p> <p>HAPs are below Title V threshold based on FDEP MEMO, dated August 3, 1995, from C. H. Fancy (Subject: Methods of Determining/Quantifying HAPs) and Groundwater Monitoring Parameters and Pollution Sources-Third Edition. See Attachment 005.</p>		

Emissions Unit Control Equipment

A.

1. Description (limit to 200 characters): <p>Fabric Filter-High Temperature (T>250F)</p> <p>Baghouse</p>
2. Control Device or Method Code: 016

B.

1. Description (limit to 200 characters):

Direct-Flame Afterburner

2. Control Device or Method Code: **021**

C.

1. Description (limit to 200 characters):

2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date: NA
2. Long-term Reserve Shutdown Date: NA
3. Package Unit: Mobile Thermal Treatment Unit Manufacturer: Industrial Waste, Inc. Model Number: CS6028
4. Generator Nameplate Rating: NA MW
5. Incinerator Information: Dwell Temperature: 1600 °F Dwell Time: 0.5 seconds Incinerator Afterburner Temperature: 1600 °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate: 23mmBtu/hr to kiln / 22 mmBtu/hr to afterburner
2. Maximum Incineration Rate: lb/hr tons/day
3. Maximum Process or Throughput Rate: 35.0 tons per hour contaminated soil 214,000 tons per year contaminated soil
4. Maximum Production Rate: NA
5. Operating Capacity Comment (limit to 200 characters): Procedures in Rule 62-775.410, F.A.C. are followed to determine the amount of soil that is decontaminated. The VOC concentration in the soil is determined by comparing the difference in concentrations of the pretreated soil analyses with the posttreated soil analyses. Please refer to Attachment 007 for additional information.

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year

**D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)**

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

RULE APPLICABILITY:

Rule 62-4 , F.A.C.

Rule 62-204, F.A.C.

Rule 62-210, F.A.C.

Rule 62-212, F.A.C.

Rule 62-775, F.A.C.

Rule 62-296.415, F.A.C.

Rule 62-297, F.A.C.

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: Attachment 001-Afterburner Stack
2. Emission Point Type Code: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): NA
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: NA
5. Discharge Type Code: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W
6. Stack Height: 30 feet
7. Exit Diameter: 3.0 feet
8. Exit Temperature: 1600 °F

9. Actual Volumetric Flow Rate: **59,820 acfm**

10. Percent Water Vapor : **25 %**

11. Maximum Dry Standard Flow Rate: **11,500 dscfm**

12. Nonstack Emission Point Height: **NA** feet

13. Emission Point UTM Coordinates:
 Zone: East (km): North (km):

14. Emission Point Comment (limit to 200 characters):

Flow rate (acfm) is based on the maximum dry standard flow rate recorded during compliance testing. Please refer to Attachment 008 (Particulate Matter Emission Measurements-August 15, 1991)

Flow Rate (acfm) = 11500 dscfm x (1600 + 460)F / (68 + 460)F / (1 - 0.25) = 59,820 acfm

**F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)**

Segment Description and Rate: Segment (1 of 4)

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): Solid Waste Disposal/Industrial/Incineration/Single Chamber (Petroleum Contaminated Soil)	
2. Source Classification Code (SCC): 5-03-001-02	
3. SCC Units: Tons Burned	
4. Maximum Hourly Rate: 35.0 tons burned per hour	5. Maximum Annual Rate: 214,000 tons burned per year
6. Estimated Annual Activity Factor: N/A	
7. Maximum Percent Sulfur: N/A	8. Maximum Percent Ash: N/A
9. Million Btu per SCC Unit: N/A	
10. Segment Comment: Annual throughput is limited to escape Title V applicability by establishing Total HAPs below 25 tpy.	

Segment Description and Rate: (2 of 4)

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): In-Process Fuel: Liquefied Petroleum (Propane)	
2. Source Classification Code (SCC): 3-90-010-89	
3. SCC Units: 1000 Gallons Burned	
4. Maximum Hourly Rate: 0.50 Thousand Gallons Burned	5. Maximum Annual Rate: 4,355.8 Thousand Gallons Burned
6. Estimated Annual Activity Factor: NA	
7. Maximum Percent Sulfur: See Field 10	8. Maximum Percent Ash: NA
9. Million Btu per SCC Unit: 90.5	
10. Segment Comment: The Gas Processors Association (GPA) provides product specifications for liquefied petroleum gases. Propane, as referenced in GPA Standard 2140-92, Figure 2-1, has a sulfur content of 185 ppmw. AP-42 Version 5, Appendix A (A-5) states that the sulfur content in propane is negligible.	

Segment Description and Rate: (3 of 4)

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): In-Process Fuel: Distillate Oil (# 2 Diesel)	
2. Source Classification Code (SCC): 3-90-005-89	
3. SCC Units: 1000 Gallons Burned	
4. Maximum Hourly Rate: 0.32 Thousand Gallons Burned	5. Maximum Annual Rate: 2,815.7 Thousand Gallons Burned
6. Estimated Annual Activity Factor: NA	
7. Maximum Percent Sulfur: ***See Attachment 003***	8. Maximum Percent Ash: NA
9. Million Btu per SCC Unit: 140.0	
10. Segment Comment:	

Segment Description and Rate: (4 of 4)

<p>1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode):</p> <p>In-Process Fuel: Natural Gas</p>	
<p>2. Source Classification Code (SCC): 3-90-006-89</p>	
<p>3. SCC Units: 1 Million Cubic Feet Burned</p>	
<p>4. Maximum Hourly Rate: 0.045 Million Cubic Feet Burned</p>	<p>5. Maximum Annual Rate: 394.2 Million Cubic Feet Burned</p>
<p>6. Estimated Annual Activity Factor: NA</p>	
<p>7. Maximum Percent Sulfur: See Field 10</p>	<p>8. Maximum Percent Ash: NA</p>
<p>9. Million Btu per SCC Unit: 1000</p>	
<p>10. Segment Comment:</p> <p>The Gas Processors Association (GPA) provides product specifications for natural gas. Natural gas, as referenced in GPA Standard 2140-92, Figure 2-1, has a sulfur content of 85 ppmw.</p> <p>AP-42 Version 5, Appendix A (A-5) states that the sulfur content in natural gas is negligible.</p>	

**G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	016	NA	EL
PM10	016	NA	NS
CO	NA	NA	EL
SO2	NA	NA	EL
VOC	021	NA	EL
HAPS	021	NA	EL
H015 (Arsenic)	016	NA	EL
H017 (Benzene)	021	NA	EL
H027 (Cadmium)	016	NA	EL
H046 (Chromium)	016	NA	EL
H085 (Ethylbenzene)	021	NA	EL
H104 (Hexane)	021	NA	EL
H114 (Mercury)	NA	NA	EL
H115 (Methyl Alcohol)	021	NA	EL
H126 (Methyl t-butyl ether)	021	NA	EL
H132 (Naphthalene)	021	NA	EL
PB (Lead)	016	NA	EL
H162 (Selenium)	016	NA	EL
H169 (Toluene)	021	NA	EL
H181 (2,2,4 Trimethylpentane)	021	NA	EL
H186 (Xylene)	021	NA	EL

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: 1 of 21

1. Pollutant Emitted: PM		
2. Total Percent Efficiency of Control: 99 %		
3. Potential Emissions:	3.94 lb/hour	17.3 tons/year
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: 0.04 grains/dscf Reference: Rule 62-296.415(3), F.A.C.		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Hourly: 11,500 dscfm x 0.04 gr/dscf x 11b/7,000 grains x 60 min/hr = 3.94 lbs/hr Annual: 3.94 lbs/hr x 8760 hrs/yr x ton/2000 lbs = 17.3 tons/yr		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): PM is assumed to be all PM10.		

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: Rule		
2. Future Effective Date of Allowable Emissions: NA		
3. Requested Allowable Emissions and Units: 0.04 grains/dscf		
4. Equivalent Allowable Emissions:	3.94 lb/hour	17.3 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 5		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Rule Basis: 62-296.415(3), F.A.C.		

B. (NA)

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

Pollutant Detail Information: 2 of 21

1. Pollutant Emitted: PM10		
2. Total Percent Efficiency of Control: 99 %		
3. Potential Emissions:	3.94 lb/hour	17.3 tons/year
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: 0.04 grains/dscf Reference: Rule 62-296.415(3), F.A.C.		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): <p>Hourly: 11,500 dscfm x 0.04 gdscf x 1lb/7,000 grains x 60 min/hr = 3.94 lbs/hr Annual: 3.94 lbs/hr x 8760 hrs/yr x ton/2000 lbs = 17.3 tons/yr</p>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): <p>PM is assumed to be all PM10.</p>		

Allowable Emissions (Pollutant identified on front of page)

A. (NA)

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B. (NA)

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

Emissions Unit Information Section 1 of 2

Pollutant Detail Information: 3 of 21

1. Pollutant Emitted: CO		
2. Total Percent Efficiency of Control: NA		%
3. Potential Emissions:	5.02 lb/hour	22.0 tons/year
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: 100 ppmvd Reference: Rule 62-296.415(1)(b)		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): <p>Hourly: 100 ppmvd x 11500 dscfm x 60 min/hr x 1 lbmole/385 ft³ x 28 lb/lbmole=5.02 lbs/hr Annual: 5.02 lbs/hr x 8760 hrs/2000 lbs = 22.0 tons/yr</p>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: Rule		
2. Future Effective Date of Allowable Emissions: NA		
3. Requested Allowable Emissions and Units: 100 ppmvd		
4. Equivalent Allowable Emissions:	5.02 lb/hour	22.0 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 10		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Rule Basis: 62-296.415(1)(b)		

B. (NA)

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

Pollutant Detail Information: 4 of 21

1. Pollutant Emitted: VOC		
2. Total Percent Efficiency of Control: 99 %		
3. Potential Emissions:	14.00 lb/hour	42.8 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: 1,400 lbs/hr VOC in Soil and 5.8 lb VOC/mmcfb Natural Gas Reference: AC16-187650A S.C. #4 and AP-42 Version 5 Table 1.4-3		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): (Afterburner destruction efficiency of 99% min.) From soil (AC16-187650A S.C. #4): Hourly: 1,400 lb/hr VOC in Soil x (1-.99) = 14.0 lbs/hr Annual: 1,400 lb/hr VOC in Soil / 35 tons soil/hr x 214,000 tons soil/year x (1-.99) / 2,000 lb/ton = 42.8 tons/yr From natural gas usage in drum/afterburner (AP-42, Version 5 Table 1.4-3): Hourly: 0.045 mmcf burned/hr x 5.8 lb VOC/mmcfb burned x (1-.99) = 0.003 lbs/hr Annual: 0.003 lbs/hr x 8,760 hrs/yr / 2,000 lb/ton = 0.01 tons/yr		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Pollutant is synthetically limited based on limiting the annual throughput rate of contaminated soil.		

Emissions Unit Information Section 1 of 2

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: Other
2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA
4. Equivalent Allowable Emissions: 14.00 lb/hour 42.8 tons/year
5. Method of Compliance (limit to 60 characters): Soil analysis per Rule 62-775, F.A.C.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): AC16-187650A S.C. #4

B. (NA)

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hr tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

Emissions Unit Information Section 1 of 2

Pollutant Detail Information: 5 of 21

1. Pollutant Emitted: SO2		
2. Total Percent Efficiency of Control:	NA	%
3. Potential Emissions:	13.87 lb/hour	60.7 tons/year
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: (0.003 x 2) lb/SO₂/lb fuel Reference: Stoichiometry		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Hourly: 0.32 TGB #2 Diesel/hr x 7.2 lb/gal x (0.003 x 2) lb/SO ₂ lb fuel = 13.87 lbs/hr Annual: 13.87 lbs/hr x 8760 hrs/yr x ton/2000 lbs = 60.7 tons/yr		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		

Emissions Unit Information Section 1 of 2

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: Other
2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: 0.3% by wt. avg. sulfur in fuel
4. Equivalent Allowable Emissions: 13.87 lb/hour 60.7 tons/year
5. Method of Compliance (limit to 60 characters): Certified Fuel Analysis
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): AC16-187650A S.C. #10

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hr tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

Pollutant Detail Information: 6 of 21

1. Pollutant Emitted: HAPS		
2. Total Percent Efficiency of Control: 99 %		
3. Potential Emissions:	8.14 lb/hour	24.9 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: Refer to Attachment 005 Reference: Refer to Attachment 005		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Refer to Attachment 005		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Pollutant is synthetically limited based on limiting the annual throughput rate of contaminated soil.		

Emissions Unit Information Section 1 of 2

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: ESCTV
2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA
4. Equivalent Allowable Emissions: NA lb/hour < 25 tons/year
5. Method of Compliance (limit to 60 characters): Soil analysis per Rule 62-775, F.A.C.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hr tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

Pollutant Detail Information: 7 of 21

1. Pollutant Emitted: H015 (Arsenic)		
2. Total Percent Efficiency of Control: 99 %		
3. Potential Emissions:	0.01 lb/hour	0.02 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: Refer to Attachment 005 Reference: Refer to Attachment 005		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Refer to Attachment 005		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Pollutant is synthetically limited based on limiting the annual throughput rate of contaminated soil.		

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: ESCTV		
2. Future Effective Date of Allowable Emissions: NA		
3. Requested Allowable Emissions and Units: NA		
4. Equivalent Allowable Emissions:	NA lb/hour	< 10 tons/year
5. Method of Compliance (limit to 60 characters): Soil analysis per Rule 62-775, F.A.C.		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

Emissions Unit Information Section 1 of 2

Pollutant Detail Information: 8 of 21

1. Pollutant Emitted: H017 (Benzene)		
2. Total Percent Efficiency of Control: 99 %		
3. Potential Emissions:	0.70 lb/hour	2.1 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: Refer to Attachment 005 Reference: Refer to Attachment 005		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Refer to Attachment 005		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Pollutant is synthetically limited based on limiting the annual throughput rate of contaminated soil.		

Emissions Unit Information Section 1 of 2

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: ESCTV
2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA
4. Equivalent Allowable Emissions: NA lb/hour < 10 tons/year
5. Method of Compliance (limit to 60 characters): Soil analysis per Rule 62-775, F.A.C.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hr tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

Pollutant Detail Information: 9 of 21

1. Pollutant Emitted: H027 (Cadmium)		
2. Total Percent Efficiency of Control: 99 %		
3. Potential Emissions:	0.03 lb/hour	0.08 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: Refer to Attachment 005 Reference: Refer to Attachment 005		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Refer to Attachment 005		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Pollutant is synthetically limited based on limiting the annual throughput rate of contaminated soil.		

Emissions Unit Information Section 1 of 2

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: ESCTV
2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA
4. Equivalent Allowable Emissions: NA lb/hour < 10 tons/year
5. Method of Compliance (limit to 60 characters): Soil analysis per Rule 62-775, F.A.C.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hr tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

Pollutant Detail Information: 10 of 21

1. Pollutant Emitted: H046 (Chromium)		
2. Total Percent Efficiency of Control: 99 %		
3. Potential Emissions:	0.04 lb/hour	0.11 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: Refer to Attachment 005 Reference: Refer to Attachment 005		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Refer to Attachment 005		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Pollutant is synthetically limited based on limiting the annual throughput rate of contaminated soil.		

Emissions Unit Information Section 1 of 2

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: ESCTV
2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA
4. Equivalent Allowable Emissions: NA lb/hour < 10 tons/year
5. Method of Compliance (limit to 60 characters): Soil analysis per Rule 62-775, F.A.C.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hr tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

Emissions Unit Information Section 1 of 2

Pollutant Detail Information: 11 of 21

1. Pollutant Emitted: H085 (Ethylbenzene)		
2. Total Percent Efficiency of Control: 99 %		
3. Potential Emissions:	0.70 lb/hour	2.1 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: Refer to Attachment 005 Reference: Refer to Attachment 005		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Refer to Attachment 005		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Pollutant is synthetically limited based on limiting the annual throughput rate of contaminated soil.		

Emissions Unit Information Section 1 of 2

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: ESCTV
2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA
4. Equivalent Allowable Emissions: NA lb/hour < 10 tons/year
5. Method of Compliance (limit to 60 characters): Soil analysis per Rule 62-775, F.A.C.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hr tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

Emissions Unit Information Section 1 of 2

Pollutant Detail Information: 12 of 21

1. Pollutant Emitted: H104 (Hexane)		
2. Total Percent Efficiency of Control: 99 %		
3. Potential Emissions:	0.62 lb/hour	1.9 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: Refer to Attachment 005 Reference: Refer to Attachment 005		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Refer to Attachment 005		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Pollutant is synthetically limited based on limiting the annual throughput rate of contaminated soil.		

Emissions Unit Information Section 1 of 2

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: ESCTV
2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA
4. Equivalent Allowable Emissions: NA lb/hour < 10 tons/year
5. Method of Compliance (limit to 60 characters): Soil analysis per Rule 62-775, F.A.C.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hr tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

Pollutant Detail Information: 13 of 21

1. Pollutant Emitted: H114 (Mercury)		
2. Total Percent Efficiency of Control: %		
3. Potential Emissions:	1.61 lb/hour	4.9 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: Refer to Attachment 005 Reference: Refer to Attachment 005		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Refer to Attachment 005		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Pollutant is synthetically limited based on limiting the annual throughput rate of contaminated soil.		

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: ESCTV		
2. Future Effective Date of Allowable Emissions: NA		
3. Requested Allowable Emissions and Units: Max. Total Conc. 23 mg/kg		
4. Equivalent Allowable Emissions:	1.61 lb/hour	4.9 tons/year
5. Method of Compliance (limit to 60 characters): Soil analysis per Rule 62-775, F.A.C.		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Maximum TCLP from soil analysis = 0.2 mg/l with a total concentration of 23 mg/kg.		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

Pollutant Detail Information: 14 of 21

1. Pollutant Emitted: H115 (Methyl Alcohol)		
2. Total Percent Efficiency of Control: 99 %		
3. Potential Emissions:	0.03 lb/hour	0.1 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: Refer to Attachment 005 Reference: Refer to Attachment 005		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Refer to Attachment 005		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Pollutant is synthetically limited based on limiting the annual throughput rate of contaminated soil.		

Emissions Unit Information Section 1 of 2

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: ESCTV
2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA
4. Equivalent Allowable Emissions: NA lb/hour < 10 tons/year
5. Method of Compliance (limit to 60 characters): Soil analysis per Rule 62-775, F.A.C.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hr tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

Pollutant Detail Information: 15 of 21

1. Pollutant Emitted: H126 (Methyl t-butyl ether)		
2. Total Percent Efficiency of Control: 99 %		
3. Potential Emissions:	0.168 lb/hour	5.1 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: Refer to Attachment 005 Reference: Refer to Attachment 005		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Refer to Attachment 005		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Pollutant is synthetically limited based on limiting the annual throughput rate of contaminated soil.		

Emissions Unit Information Section 1 of 2

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: ESCTV
2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA
4. Equivalent Allowable Emissions: NA lb/hour < 10 tons/year
5. Method of Compliance (limit to 60 characters): Soil analysis per Rule 62-775, F.A.C.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hr tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

Pollutant Detail Information: 16 of 21

1. Pollutant Emitted: H32 (Naphthalene)		
2. Total Percent Efficiency of Control: 99 %		
3. Potential Emissions:	0.07 lb/hour	0.2 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: Refer to Attachment 005 Reference: Refer to Attachment 005		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Refer to Attachment 005		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Pollutant is synthetically limited based on limiting the annual throughput rate of contaminated soil.		

Emissions Unit Information Section 1 of 2

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: ESCTV		
2. Future Effective Date of Allowable Emissions: NA		
3. Requested Allowable Emissions and Units: NA		
4. Equivalent Allowable Emissions:	NA lb/hour	< 10 tons/year
5. Method of Compliance (limit to 60 characters): Soil analysis per Rule 62-775, F.A.C.		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

Emissions Unit Information Section 1 of 2

Pollutant Detail Information: 17 of 21

1. Pollutant Emitted: PB (Lead)		
2. Total Percent Efficiency of Control: 99 %		
3. Potential Emissions:	0.08 lb/hour	0.2 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: Refer to Attachment 005 Reference: Refer to Attachment 005		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Refer to Attachment 005		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Pollutant is synthetically limited based on limiting the annual throughput rate of contaminated soil.		

Emissions Unit Information Section 1 of 2

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: ESCTV		
2. Future Effective Date of Allowable Emissions: NA		
3. Requested Allowable Emissions and Units: NA		
4. Equivalent Allowable Emissions:	NA lb/hour	< 10 tons/year
5. Method of Compliance (limit to 60 characters): Soil analysis per Rule 62-775, F.A.C.		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

Pollutant Detail Information: 18 of 21

1. Pollutant Emitted: H162 (Selenium)		
2. Total Percent Efficiency of Control: 99 %		
3. Potential Emissions:	0.27 lb/hour	0.8 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: Refer to Attachment 005 Reference: Refer to Attachment 005		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Refer to Attachment 005		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Pollutant is synthetically limited based on limiting the annual throughput rate of contaminated soil.		

Emissions Unit Information Section 1 of 2

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: ESCTV
2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA
4. Equivalent Allowable Emissions: NA lb/hour < 10 tons/year
5. Method of Compliance (limit to 60 characters): Soil analysis per Rule 62-775, F.A.C.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hr tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

Pollutant Detail Information: 19 of 21

1. Pollutant Emitted: H169 (Toluene)		
2. Total Percent Efficiency of Control: 99 %		
3. Potential Emissions:	0.98 lb/hour	3.0 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: Refer to Attachment 005 Reference: Refer to Attachment 005		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Refer to Attachment 005		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Pollutant is synthetically limited based on limiting the annual throughput rate of contaminated soil.		

Emissions Unit Information Section 1 of 2

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: ESCTV
2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA
4. Equivalent Allowable Emissions: NA lb/hour < 10 tons/year
5. Method of Compliance (limit to 60 characters): Soil analysis per Rule 62-775, F.A.C.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hr tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

Emissions Unit Information Section 1 of 2

Pollutant Detail Information: 20 of 21

1. Pollutant Emitted: H181 (2,2,4 Trimethylpentane)		
2. Total Percent Efficiency of Control: 99 %		
3. Potential Emissions:	0.36 lb/hour	1.1 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: Refer to Attachment 005 Reference: Refer to Attachment 005		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Refer to Attachment 005		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Pollutant is synthetically limited based on limiting the annual throughput rate of contaminated soil.		

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: ESCTV		
2. Future Effective Date of Allowable Emissions: NA		
3. Requested Allowable Emissions and Units: NA		
4. Equivalent Allowable Emissions:	NA lb/hour	< 10 tons/year
5. Method of Compliance (limit to 60 characters): Soil analysis per Rule 62-775, F.A.C.		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

Emissions Unit Information Section 1 of 2

Pollutant Detail Information: 21 of 21

1. Pollutant Emitted: H186 (Xylene)		
2. Total Percent Efficiency of Control: 99 %		
3. Potential Emissions:	0.98 lb/hour	3.0 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: Refer to Attachment 005 Reference: Refer to Attachment 005		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Refer to Attachment 005		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Pollutant is synthetically limited based on limiting the annual throughput rate of contaminated soil.		

Emissions Unit Information Section 1 of 2

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: ESCTV		
2. Future Effective Date of Allowable Emissions: NA		
3. Requested Allowable Emissions and Units: NA		
4. Equivalent Allowable Emissions:	NA lb/hour	< 10 tons/year
5. Method of Compliance (limit to 60 characters): Soil analysis per Rule 62-775, F.A.C.		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)**

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE5	
2. Basis for Allowable Opacity:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity:	Normal Conditions: 5 % Exceptional Conditions: 5 % Maximum Period of Excess Opacity Allowed: 0 min/hour
4. Method of Compliance:	EPA Method 9
5. Visible Emissions Comment (limit to 200 characters): Basis: 62-296.415(2) This opacity limitation applies to the final exhaust stack	

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	
2. Basis for Allowable Opacity:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity:	Normal Conditions: _____ % Exceptional Conditions: _____ % Maximum Period of Excess Opacity Allowed: _____ min/hour
4. Method of Compliance:	
5. Visible Emissions Comment (limit to 200 characters):	

**J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)**

Continuous Monitoring System: Continuous Monitor 1 of 1

1. Parameter Code: EM	2. Pollutant(s): CO
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information: Manufacturer: Thermal Environmental Instruments Model Number: 48 (Thermo Electron) Serial Number:	
5. Installation Date: January 1996	
6. Performance Specification Test Date: NA	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT
TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)**

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

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

- The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

Emissions Unit Information Section 1 of 2

2. Increment Consuming for Nitrogen Dioxide?

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

-] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
-] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
-] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
-] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
-] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
SO2	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
NO2	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4. Baseline Emissions:			
PM		0 lb/hour	0 tons/year
SO2		0 lb/hour	0 tons/year
NO2			0 tons/year
5. PSD Comment (limit to 200 characters):			

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)**

Supplemental Requirements for All Applications

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: <u>001</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification <input checked="" type="checkbox"/> Attached, Document ID: <u>003</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input checked="" type="checkbox"/> Attached, Document ID: <u>004</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested
5. Compliance Test Report <input checked="" type="checkbox"/> Not Attached, Document ID: <u>Will submit at a later date.</u> <input type="checkbox"/> Previously submitted, Date: _____ <input type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. Supplemental Information for Construction Permit Application <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements <input checked="" type="checkbox"/> Attached, Document ID: <u>005-HAP Emissions Determination</u> <input type="checkbox"/> Not Applicable
13. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Acid Rain Application (Hard-copy Required) <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? 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 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.

**B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)**

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): <p style="text-align: center;">Diesel Generator</p>		
2. Emissions Unit Identification Number: [] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code: A	4. Acid Rain Unit? [] Yes [X] No	5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters):		

Emissions Unit Control Equipment

A.

1. Description (limit to 200 characters): NA
2. Control Device or Method Code: NA

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)**

Emissions Unit Details

1. Initial Startup Date: NA
2. Long-term Reserve Shutdown Date: NA
3. Package Unit: Diesel Generator Manufacturer: Cummins Model Number: NT 855-65
4. Generator Nameplate Rating: 0.3 MW
5. Incinerator Information: NA Dwell Temperature: °F Dwell Time: seconds Incinerator Afterburner Temperature: °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate: 1.86 mmBtu/hr
2. Maximum Incineration Rate: NA lb/hr tons/day
3. Maximum Process or Throughput Rate: NA
4. Maximum Production Rate: NA
5. Operating Capacity Comment (limit to 200 characters):

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule:		
24 hours/day	7 days/week	
52 weeks/year	8,760 hours/year	

**D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)**

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

RULE APPLICABILITY:

Rule 62-4 , F.A.C.
Rule 62-204, F.A.C.
Rule 62-210, F.A.C.
Rule 62-212, F.A.C.
Rule 62-296, F.A.C.
Rule 62-297, F.A.C.

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

(NA)

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: Attachment 001-Generator Stack
2. Emission Point Type Code: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): NA
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: NA
5. Discharge Type Code: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> V <input checked="" type="checkbox"/> W
6. Stack Height: NA feet
7. Exit Diameter: NA feet
8. Exit Temperature: Approximately 300 °F

9. Actual Volumetric Flow Rate: NA acfm
10. Percent Water Vapor : NA %
11. Maximum Dry Standard Flow Rate: NA dscfm
12. Nonstack Emission Point Height: Approximately 15 feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):
14. Emission Point Comment (limit to 200 characters): Emission point is exhaust from diesel generator, vertical pipe with a weather cap.

**F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)**

Segment Description and Rate: Segment (1 of 1)

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): Internal Combustion Engines/Industrial/Distillate Oil (Diesel)/Reciprocating	
2. Source Classification Code (SCC): 2-02-001-02	
3. SCC Units: 1000 Gallons Burned	
4. Maximum Hourly Rate: 0.013 Thousand Gallons Burned	5. Maximum Annual Rate: 116.4 Thousand Gallons Burned
6. Estimated Annual Activity Factor: NA	
7. Maximum Percent Sulfur: ***See Attachment 003***	8. Maximum Percent Ash: NA
9. Million Btu per SCC Unit: 140.0	
10. Segment Comment:	

**G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	NA	NA	NS
PM10	NA	NA	NS
CO	NA	NA	NS
NOX	NA	NA	NS
VOC	NA	NA	NS
SO2	NA	NA	NS

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Pollutant Detail Information: 1 of 6

1. Pollutant Emitted: PM		
2. Total Percent Efficiency of Control: NA		%
3. Potential Emissions:	0.58 lb/hour	2.5 tons/year
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: 0.31 lb PM/mmBtu Reference: AP-42, Fifth Edition, Table 3.3-2, Uncontrolled Diesel Industrial Engines		
7. Emissions Method Code: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Hourly: 1.86 mmBtu/hr from diesel fuel x 0.31 lb-PM/mmBtu = 0.58 lbs/hr Annual: 0.58 lbs PM/hr x 8760 hrs/2000 lbs = 2.53 tons/year		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): PM is assumed to be all PM10. The purpose of providing information on this page is to supply DEP with requested information. This pollutant is not emissions limited for this emissions unit.		

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: NA
2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA
4. Equivalent Allowable Emissions: NA lb/hour tons/year
5. Method of Compliance (limit to 60 characters): NA
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):
There are no applicable emission standards for the generator.

B. (NA)

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hr tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

Pollutant Detail Information: 2 of 6

1. Pollutant Emitted: PM10		
2. Total Percent Efficiency of Control: NA		%
3. Potential Emissions:	0.58 lb/hour	2.5 tons/year
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: 0.31 lb PM/mmBtu Reference: AP-42, Fifth Edition, Table 3.3-2, Uncontrolled Diesel Industrial Engines		
7. Emissions Method Code: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Hourly: 1.86 mmBtu/hr from diesel fuel x 0.31 lb-PM/mmBtu = 0.58 lbs/hr Annual: 0.58 lbs PM/hr x 8760 hrs/2000 lbs = 2.53 tons/year		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): PM is assumed to be all PM10. The purpose of providing information on this page is to supply DEP with requested information. This pollutant is not emissions limited for this emissions unit.		

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: NA
2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA
4. Equivalent Allowable Emissions: NA lb/hour tons/year
5. Method of Compliance (limit to 60 characters): NA
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): There are no applicable emission standards for the generator.

B. (NA)

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hr tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

Pollutant Detail Information: 3 of 6

1. Pollutant Emitted: CO		
2. Total Percent Efficiency of Control:	NA	%
3. Potential Emissions:	1.77 lb/hour	7.7 tons/year
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: 0.95 lb CO/mmBtu Reference: AP-42, Fifth Edition, Table 3.3-2, Uncontrolled Diesel Industrial Engines		
7. Emissions Method Code: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Hourly: 1.86 mmBtu/hr from diesel fuel x 0.95 lb CO/mmBtu = 1.77 lbs/hr Annual: 1.77 lbs CO/hr x 8760 hrs/2000 lbs = 7.7 tons/yr		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): The purpose of providing information on this page is to supply DEP with requested information. This pollutant is not emissions limited for this emissions unit.		

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: NA
2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA
4. Equivalent Allowable Emissions: NA lb/hour tons/year
5. Method of Compliance (limit to 60 characters): NA
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): There are no applicable emission standards for the generator.

B. (NA)

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hr tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

Pollutant Detail Information: 4 of 6

1. Pollutant Emitted: NOX		
2. Total Percent Efficiency of Control: NA		%
3. Potential Emissions:	8.21 lb/hour	35.9 tons/year
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: 4.41 lb NOX/mmBtu Reference: AP-42, Fifth Edition, Table 3.3-2, Uncontrolled Diesel Industrial Engines		
7. Emissions Method Code: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Hourly: 1.86 mmBtu/hr from diesel fuel x 4.41 lb NOX/mmBtu = 8.21 lbs/hr Annual: 4.41 lbs NOX/hr x 8760 hrs/2000 lbs = 35.9 tons/yr		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): The purpose of providing information on this page is to supply DEP with requested information. This pollutant is not emissions limited for this emissions unit.		

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: NA
2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA
4. Equivalent Allowable Emissions: NA lb/hour tons/year
5. Method of Compliance (limit to 60 characters): NA
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): There are no applicable emission standards for the generator.

B. (NA)

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hr tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

Pollutant Detail Information: 5 of 6

1. Pollutant Emitted: VOC		
2. Total Percent Efficiency of Control: NA %		
3. Potential Emissions:	0.65 lb/hour	2.9 tons/year
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: 0.35 lb VOC/mmBtu Reference: AP-42, Fifth Edition, Table 3.3-2, Uncontrolled Diesel Industrial Engines		
7. Emissions Method Code: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Hourly: 1.86 mmBtu/hr from diesel fuel x 0.35 lb VOC/mmBtu = 0.65 lbs/hr Annual: 0.65 lbs VOC/hr x 8760 hrs/2000 lbs = 2.85 tons/yr		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): The purpose of providing information on this page is to supply DEP with requested information. This pollutant is not emissions limited for this emissions unit.		

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: NA
2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA
4. Equivalent Allowable Emissions: NA lb/hour tons/year
5. Method of Compliance (limit to 60 characters): NA
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): There are no applicable emission standards for the generator.

B. (NA)

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hr tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

Pollutant Detail Information: 6 of 6

1. Pollutant Emitted: SO2		
2. Total Percent Efficiency of Control:	NA	%
3. Potential Emissions:	0.54 lb/hour	2.4 tons/year
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: NA <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year		
6. Emission Factor: 0.29 lb SO2/mmBtu Reference: AP-42, Fifth Edition, Table 3.3-2, Uncontrolled Diesel Industrial Engines		
7. Emissions Method Code: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Hourly: 1.86 mmBtu/hr from diesel fuel x 0.29 lb SO2/mmBtu = 0.54 lbs/hr Annual: 0.54 lbs SO2/hr x 8760 hrs/2000 lbs = 2.36 tons/yr		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): The purpose of providing information on this page is to supply DEP with requested information. This pollutant is not emissions limited for this emissions unit.		

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: NA
2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA
4. Equivalent Allowable Emissions: NA lb/hour tons/year
5. Method of Compliance (limit to 60 characters): NA
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): There are no applicable emission standards for the generator.

B. (NA)

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hr tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitation: Visible Emissions Limitation ____ of ____

1. Visible Emissions Subtype: NA
2. Basis for Allowable Opacity: NA <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: NA Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4. Method of Compliance: NA
5. Visible Emissions Comment (limit to 200 characters): NA

Visible Emissions Limitation: Visible Emissions Limitation ____ of ____

1. Visible Emissions Subtype:
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4. Method of Compliance:
5. Visible Emissions Comment (limit to 200 characters):

**J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)**

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code: NA	2. Pollutant(s): NA
3. CMS Requirement: NA	[] Rule [] Other
4. Monitor Information: NA Manufacturer: Model Number: Serial Number:	
5. Installation Date: NA	
6. Performance Specification Test Date: NA	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[] Rule [] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT
TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)**

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

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

-] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
-] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.
-] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
-] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
-] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

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

-] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
-] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
-] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
-] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
-] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
SO2	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
NO2	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4. Baseline Emissions:			
PM		0 lb/hour	0 tons/year
SO2		0 lb/hour	0 tons/year
NO2			0 tons/year
5. PSD Comment (limit to 200 characters):			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: <u>001</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification <input checked="" type="checkbox"/> Attached, Document ID: <u>003</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input checked="" type="checkbox"/> Attached, Document ID: <u>004</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested
5. Compliance Test Report <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously submitted, Date: _____ <input checked="" type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. Supplemental Information for Construction Permit Application <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Supplemental Requirements for Category I Applications Only

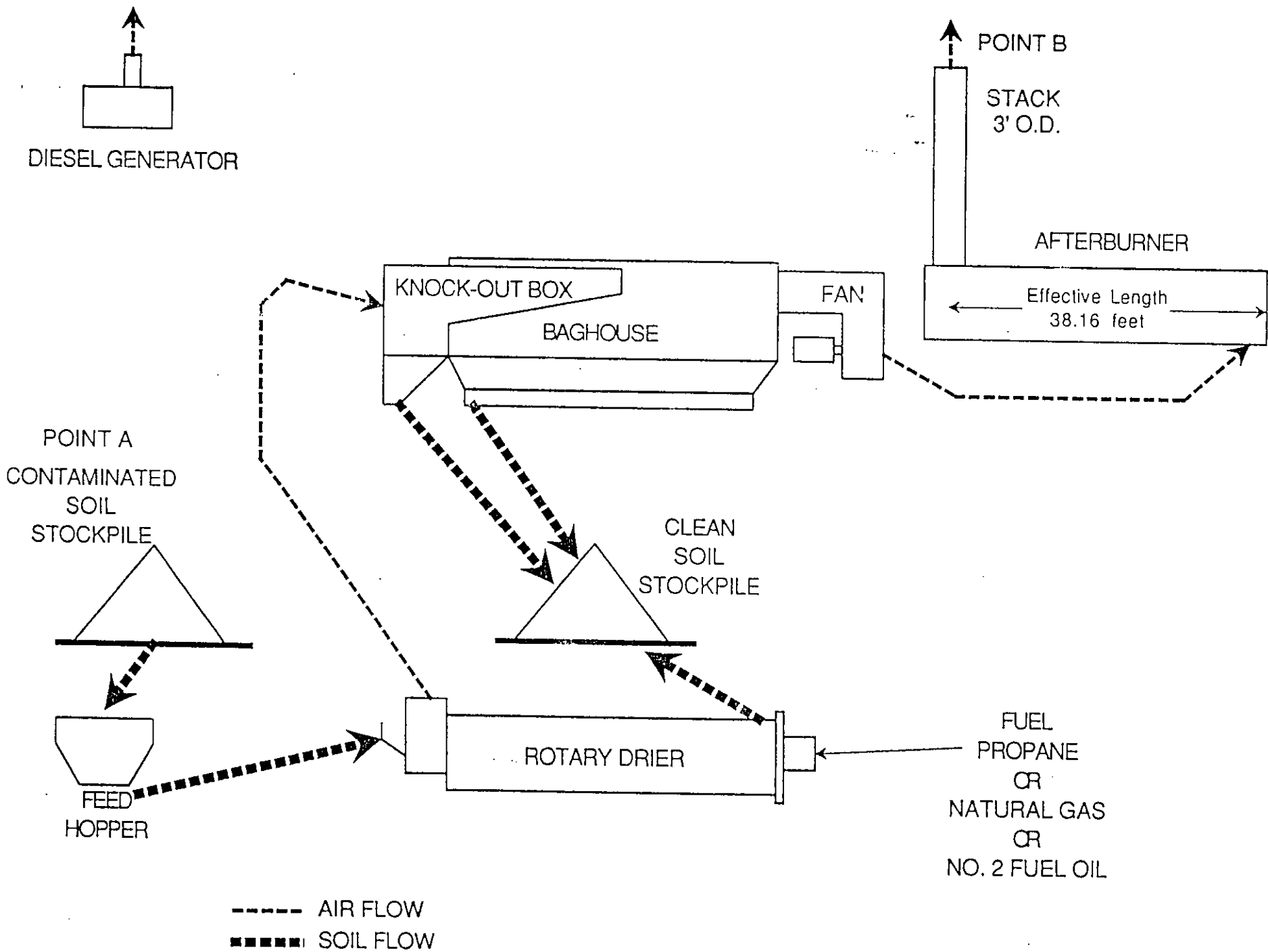
10. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Acid Rain Application (Hard-copy Required) <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

ATTACHMENT LIST

- Attachment 001: Process Flow Diagram**
- Attachment 002: Facility Supplemental Information**
- Attachment 003: Fuel Specifications**
- Attachment 004: Detailed Description of Control Equipment**
- Attachment 005: HAP Emissions Determination**
- Attachment 006: Estimated Pollutant Emissions and Referenced Emission Factors**
- Attachment 007: Soil Decontamination Procedure**
- Attachment 008: Particulate Matter Emissions Measurements dated August 15, 1991**

Attachment 001

Process Flow Diagram



Attachment 002

Facility Supplemental Information

Attachment 002
SECTION II: FACILITY INFORMATION
PART D: FACILITY SUPPLEMENTAL INFORMATION

QUESTION 4: Precautions to Prevent Emissions of Unconfined Particulate Matter

The handling of the processed soil and vehicle traffic will likely be the most significant sources of unconfined particulate matter emissions.

- The control of unconfined particulate matter emissions from processed soil will be controlled by water spray as necessary.
- The control of emissions resulting from vehicle movement will be controlled, as necessary, by the application of a chemical dust suppressant or water.

QUESTION 5: FUGITIVE EMISSIONS IDENTIFICATION

The generation of fugitive particulate matter emissions during the handling of contaminated soil is expected to be minimal; primarily because of the inherent moisture content of this material. If fugitive emissions do become a problem during the handling of contaminated soil (during the receiving, storage, or transfer to the processing plant), these emissions will be controlled by water sprays.

Attachment 003

Fuel Specifications

Attachment 003

Fuel Specifications

KleenSoil International, Incorporated requests permission to use virgin No. 2 fuel oil, natural gas or propane for the kiln and afterburner and No. 2 fuel oil for the generator.

The fuels will be fired singularly to the kiln and afterburner. It is possible that one fuel might be fired to the kiln while a different type of fuel is fired to the afterburner. It is not proposed, however, that a mixture of two or more fuels will be fired co-currently to either the kiln or the afterburner. If the blending and co-firing of fuels does appear feasible in the future, an amendment to the permit will be requested.

During a 30-day rolling average the sulfur content will not exceed 0.3 percent. The maximum sulfur content requested is 0.75 percent.

To provide the Department with assurance that the sulfur content of the virgin No. 2 fuel oil will neither exceed 0.75% maximum nor 0.3% on a 30-day average, KleenSoil International, Incorporated will require oil suppliers to provide certification of the sulfur content of each shipment of fuel and the quantity of fuel contained in each shipment, KleenSoil International, Incorporated can maintain a running average of the sulfur content of the fuels used during each month, KleenSoil International, Incorporated can assure itself and the Department that the 30-day average sulfur content of the fuel will not exceed 0.3%. The records of fuel deliveries and the running 30-day average fuel sulfur levels will be maintained and available for the Department's review, as required by applicable state regulations.

The record keeping will include records of individual shipments of fuel and cumulative quantities of fuel received during each calendar year and records of the monthly average sulfur contents of the virgin No. 2 diesel fuel. Additionally, KleenSoil International, Incorporated will maintain records of fuel use during each day of plant operation and of the number of hours that the plant operates each day. These records will include the amount and type of fuel consumed.

FUEL SPECIFICATIONS

	Natural Gas	No. 2 Fuel Oil	Propane
Percent Sulfur	Nil	0.30	Nil
Percent Ash	Nil	Nil	Nil
Percent Nitrogen	Nil	Nil	Nil
Density (lb/gal)	1 lb/23.8 ft ³	7.21	4.24 @ 60 F
Heat Capacity (BTU/gal)	1,000 SCF	140,000	90,500
Other Contaminants	None	None	None

TYPICAL PARAMETERS OF VARIOUS FUELS*

Type Of Fuel	Heating Value		Sulfur % (by weight)	Ash % (by weight)
	kcal	Btu		
Solid Fuels				
Bituminous Coal	7,200/kg	13,000/lb	0.6-5.4	4-20
Anthracite Coal	6,810/kg	12,300/lb	0.5-1.0	7.0-16.0
Lignite (@ 35% moisture)	3,990/kg	7,200/lb	0.7	6.2
Wood (@ 40% moisture)	2,880/kg	5,200/lb	N	1-3
Bagasse (@ 50% moisture)	2,220/kg	4,000/lb	N	1-2
Bark (@ 50% moisture)	2,492/kg	4,500/lb	N	1-3 ^b
Coke, Byproduct	7,380/kg	13,300/lb	0.5-1.0	0.5-5.0
Liquid Fuels				
Residual Oil	9.98 x 10 ⁶ /m ³	150,000/gal	0.5-4.0	0.05-0.1
* Distillate Oil	9.30 x 10 ⁶ /m ³	140,000/gal	0.2-1.0	N
Diesel	9.12 x 10 ⁶ /m ³	137,000/gal	0.4	N
Gasoline	8.62 x 10 ⁶ /m ³	130,000/gal	0.03-0.04	N
Kerosene	8.32 x 10 ⁶ /m ³	135,000/gal	0.02-0.05	N
Liquid Petroleum Gas	6.25 x 10 ⁶ /m ³	94,000/gal	N	N
Gaseous Fuels				
Natural Gas	9,341/m ³	1,050/SCF	N	N
Coke Oven Gas	5,249/m ³	590/SCF	0.5-2.0	N
Blast Furnace Gas	890/m ³	100/SCF	N	N

* N = negligible.

^b Ash content may be considerably higher when sand, dirt, etc., are present.

THERMAL EQUIVALENTS FOR VARIOUS FUELS

Type Of Fuel	kcal	Btu (gross)
Solid fuels		
Bituminous coal	(5.8 to 7.8) x 10 ⁶ /Mg	(21.0 to 28.0) x 10 ⁶ /ton
Anthracite coal	7.03 x 10 ⁶ /Mg	25.3 x 10 ⁶ /ton
Lignite	4.45 x 10 ⁶ /Mg	16.0 x 10 ⁶ /ton
Wood	1.47 x 10 ⁶ /m ³	21.0 x 10 ⁶ /cord
Liquid fuels		
Residual fuel oil	10 x 10 ³ /liter	6.3 x 10 ⁶ /bbl
Distillate fuel oil	9.35 x 10 ³ /liter	5.9 x 10 ⁶ /bbl
Gaseous fuels		
* Natural gas	9,350/m ³	1,050/ft ³
Liquefied petroleum gas		
Butane	6,480/liter	97,400/gal
* Propane	6,030/liter	90,500/gal

WEIGHTS OF SELECTED SUBSTANCES

Type Of Substance	g/liter	lb/gal
Asphalt	1030	8.57
Butane, liquid at 60°F	579	4.84
Crude oil	850	7.08
Distillate oil	845	7.05
Gasoline	739	6.17
Propane, liquid at 60°F	507	4.24
Residual oil	944	7.88
Water	1000	8.4

DENSITIES OF SELECTED SUBSTANCES

Substance	Density	
Fuels		
Crude Oil	874 kg/m ³	7.3 lb/gal
Residual Oil	944 kg/m ³	7.88 lb/gal
* Distillate Oil	845 kg/m ³	7.05 lb/gal
Gasoline	739 kg/m ³	6.17 lb/gal
* Natural Gas	673 kg/m ³	1 lb/23.8 ft ³
Butane	579 kg/m ³	4.84 lb/gal (liquid)
* Propane	507 kg/m ³	4.24 lb/gal (liquid)
Wood (Air dried)		
Elm	561 kg/m ³	35 lb/ft ³
Fir, Douglas	513 kg/m ³	32 lb/ft ³
Fir, Balsam	400 kg/m ³	25 lb/ft ³
Hemlock	465 kg/m ³	29 lb/ft ³
Hickory	769 kg/m ³	48 lb/ft ³
Maple, Sugar	689 kg/m ³	43 lb/ft ³
Maple, White	529 kg/m ³	33 lb/ft ³
Oak, Red	673 kg/m ³	42 lb/ft ³
Oak, White	769 kg/m ³	48 lb/ft ³
Pine, Southern	641 kg/m ³	40 lb/ft ³
Agricultural Products		
Corn	25.4 kg/bu	56 lb/bu
Milo	25.4 kg/bu	56 lb/bu
Oats	14.5 kg/bu	32 lb/bu
Barley	21.8 kg/bu	48 lb/bu
Wheat	27.2 kg/bu	60 lb/bu
Cotton	226 kg/bale	500 lb/bale
Mineral Products		
Brick	2.95 kg/brick	6.5 lb/brick
Cement	170 kg/bbl	375 lb/bbl
Cement	1483 kg/m ³	2500 lb/yd ³

TYPICAL FUEL SPECIFICATIONS

*

Grade	No. 1 Fuel Oil	No. 2 Fuel Oil	No. 4 Fuel Oil	No. 5 Fuel Oil	No. 6 Fuel Oil
Type	Distillate (Kerosene)	Distillate	Very Light Residual	Light Residual	Residual
Color	Light	Amber	Black	Black	Black
API gravity, 60 F	40	32	21	17	13
Specific gravity, 60/60 F	0.8251	0.8654	0.9279	0.9529	0.9861
Weight per U.S. gallon, 60 F	6.870	7.206	7.727	7.935	8.212
Viscos., Centistokes, 100 F	1.6	2.68	15.0	50.0	360.0
Viscos., Saybolt Univ., 100 F	31	35	77	232	—
Viscos., Saybolt Furol, 122 F	—	—	—	—	170
Cloud point, F	Below zero	Below zero	10	30	65
Temp. for pumping, F	Atmospheric	Atmospheric	15 min.	35 min.	100
Temp. for atomizing, F	Atmospheric	Atmospheric	25 min.	130	200
Carbon residue, per cent	Trace	Trace	2.5	5.0	12.0
Sulfur, per cent	0.1	0.4-0.7	0.4-1.5	2.0 max.	2.8 max.
Oxygen and nitrogen, per cent	0.2	0.2	0.48	0.70	0.92
Hydrogen, per cent	13.2	12.7	11.9	11.7	10.5
Carbon, per cent	86.5	86.4	86.10	85.55	85.70
Sediment and water, per cent	Trace	Trace	0.5 max.	1.0 max.	2.0 max.
Ash, per cent	Trace	Trace	0.02	0.05	0.08
Heat per gallon	137,000	141,000	146,000	148,000	150,000

* Technical information from Humble Oil & Refining Company.

Attachment 004

Detailed Description of Control Equipment

Attachment 004

Detailed Description of Control Equipment

Baghouse:

Max No. Bags: 420 Nomex Bags; 8" diameter and 10' long
Media Area: 8939 sq. ft.
Total Filter CFM: 59,820 acfm
Air to Cloth Ratio: 6.7 to 1
Control Efficiency: 98.4%

Afterburner:

Control Efficiency: 99%
Dwell Temperature: 1600 °F
Dwell Time: 0.5 seconds
Incinerator Afterburner Temperature : 1600 °F
Stack Ht: 30.0 ft
Stack Diameter: 3.0 ft²

Attachment 005

HAP Emissions Determination

Attachment 005
HAP Emissions Determination

Emissions of HAPs associated with treating soil contaminated with gasoline & diesel fuel:

HAPs	VHAP Wt %	Reference	(lb/hr)	(tpy)
Benzene (H017)	5.0	GMP	0.70	2.1
Ethylbenzene (H085)	5.0	GMP	0.70	2.1
Hexane (H104)	4.4	DEP-MEMO	0.62	1.9
Methyl alcohol (H115)	0.2	GMP	0.03	0.1
Methyl t-butyl ether (H126)	12.0	GMP	1.68	5.1
Napthalene (H132)	0.5	GMP	0.07	0.2
Toluene (H169)	7.0	GMP	0.98	3.0
2,2,4 Trimethylpentane (H181)	2.6	DEP-MEMO	0.36	1.1
Xylene (H186)	7.0	GMP	0.98	3.0

Note 1: The VHAP weight % is the greatest amount expected from unleaded gasoline, premium gasoline, & diesel.

Note 2: GMP: Groundwater Monitoring Parameters & Pollution Sources-Third Edition

Note 3: DEP-MEM (FDEP MEMO-Methods of Determining/Quantifying HAPs)

Note 4: The hourly emission rate is based on processing 1400 lbs/hr of VOC from the Soil with an afterburner efficiency of 99%.

Note 5: The annual emission rate is based on 8,760 hrs of operation and an annual throughput of 214,000 tpy.

Emissions of RCRA HAP Metals Associated with Processing Soil:

Metals	Conc. (ppm)	Reference	(lb/hr)	(tpy)
(Volatile)				
Mercury (H114)	23	Rule 62-775.400	1.610	4.92
(Semi-Volatile)				
Cadmium (H027)	37	Rule 62-775.400	0.026	0.08
Lead (PB)	108	Rule 62-775.400	0.076	0.23
Selenium (H162)	389	Rule 62-775.400	0.272	0.83
(Refractory)				
Arsenic (H015)	10	Rule 62-775.400	0.007	0.02
Chromium (H046)	50	Rule 62-775.400	0.035	0.11

Note 1: Barium & silver are RCRA metals, but are not included in the list of 189 HAPs.

Note 2: The metal concentration is based on the maximum allowable concentration from Rule 62-775.400, F.A.C. (Table 1).

Note 3: The hourly emission rate is based on processing 35 tons of soil per hour.

Note 4: As a conservative approach, metals that are volatile are not expected to be collected in the baghouse.

Note 5: Metals that are semi-volatile and refractory are expected to be collected in the baghouse with an efficiency of 99%.

Note 6: The annual emission rate is based on 8,760 hrs of operation and an annual throughput of 214,000 tpy.

GROUNDWATER MONITORING PARAMETERS

AND

POLLUTION SOURCES

THIRD EDITION, MAY 1989

GEOFFREY B. WATTS

FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

BUREAU OF WASTE CLEANUP

Table 7.3.1

Unleaded Gasoline Composition (Volume%)

<u>Regular Unleaded</u>		<u>Premium Unleaded</u>	
<u>normal/iso hydrocarbons (58%)</u>		<u>normal/iso hydrocarbons (54%)</u>	
78-78-4 isopentane	(9-11%)	isopentane	(9-11%)
106-97-8 n-butane	(4-5%)	n-butane	(4-5%)
109-66-0 n-pentane	(2.6-2.7%)	n-pentane	(2.6-2.7%)
75-28-5 isobutane	(0.7-1%)	isobutane	(0.7-1%)
74-98-6 propane	(0.07-0.08%)	propane	(0.07-0.08%)
107-83-5 2-methylpentane	—	2-methylpentane	—
100-54-3 hexane (C ₆ H ₁₄)	—	hexane	—
methylhexanes	—	methylhexanes	—
heptane	—	heptane	—
methylheptanes	—	methylheptanes	—
methyloctanes	—	methyloctanes	—
decane	—	decane	—
undecane	—	undecane	—
<u>Aromatic Hydrocarbons (32%)</u>		<u>Aromatic Hydrocarbons (36%)</u>	
1330-20-7 xylenes (C ₈ H ₁₀)	(6-7%)	xylenes	(6-7%)
108-58-3 toluene (C ₇ H ₈)	(6-7%)	toluene	(6-7%)
100-41-4 ethylbenzene (C ₈ H ₁₀)	(5%)	ethylbenzene	(5%)
71-43-2 benzene (C ₆ H ₆)	(2-5%)	benzene	(2-5%)
108-67-8 1,3,5-trimethylbenzene	(1.3%)	1,3,5-trimethylbenzene	(1.3%)
108-67-8 1,2,3-trimethylbenzene	(0.73%)	1,2,3-trimethylbenzene	(0.73%)
103-65-1 n-propylbenzene	(0.6%)	n-propylbenzene	(0.6%)
91-20-3 naphthalene (C ₁₀ H ₈)	(0.2-0.5%)	naphthalene	(0.2-0.5%)
104-51-8 n-butylbenzene	(0.08%)	n-butylbenzene	(0.08%)
40-12-0 OR 91-57-6 methylnaphthalenes	—	methylnaphthalenes	—
benzo(b)fluoranthene	(3.9 mg/l)	benzo(b)fluoranthene	(3.9 mg/l)
206-44-0 fluoranthene	(1.84 mg/l)	fluoranthene	(1.84 mg/l)
120-12-7 anthracene	(1.84 mg/l)	anthracene	(1.84 mg/l)
120-12-7 anthracene	(1.55 mg/l)	anthracene	(1.55 mg/l)
50-37-8 benzo(e)pyrene	(0.3 mg)	benzo(e)pyrene	(0.3 mg)
<u>Olefins (5%)</u>		<u>Olefins (5%)</u>	
563-45-1 3-methyl 1-butene	(0.06-0.08%)	3-methyl 1-butene	(0.06-0.08%)
2-butene	(0.16-0.17%)	2-butene	(0.16-0.17%)
<u>Cyclic Hydrocarbons (5%)</u>		<u>Cyclic Hydrocarbons (5%)</u>	
cyclopentane	—	cyclopentane	—
cyclohexane	—	cyclohexane	—
46-37-7 methylcyclopentane	—	methylcyclopentane	—
methylcyclohexane	—	methylcyclohexane	—
<u>Additives</u>		<u>Additives</u>	
64-17-5 ethyl alcohol	(up to 5%)	ethyl alcohol	(up to 5%)
(octane booster)		(octane booster)	
1634-04-4 methyl t-butyl ether (C ₆ H ₁₄)	(up to 12%)	methyl t-butyl ether	(up to 12%)
(octane booster)		(octane booster)	
67-56-1 methyl alcohol (C ₂ H ₆ O)	(0.2%)	methyl alcohol	(0.2%)
(fuel line anti-icer)		(fuel line anti-icer)	
78-30-8 tricresyl phosphate	(up to 0.2 mg/l)	tricresyl phosphate	(up to 0.2 mg/l)
(combustion chamber deposit modifier)		(combustion chamber deposit modifier)	
128-37-0 2,6 di-t-butyl-4-methylphenol	—	2,6 di-t-butyl-4-methylphenol	—
(anti-oxidant)		(anti-oxidant)	

Table 7.3.2

Leaded Gasoline and Aviation Fuel Composition (Volume%)

<u>Leaded Gasoline</u>		<u>Aviation (Jet A) Fuel</u>	
<u>normal/iso hydrocarbons (59%)</u>		<u>normal/iso hydrocarbons (59%)</u>	
isopentane	(9-11%)	undecane	(36%)
n-butane	(4-5%)	decane	(16.5%)
n-pentane	(2.6-2.7%)	3-methyloctane	(2.5%)
isobutane	(0.1%)	dodecane	(0.7%)
propane	(0.07-0.08%)	tridecane	(0.5%)
2-methylpentane	—	2,6,10-trimethyldodecane	(0.45%)
n-hexane	—	2-methylbutane	(0.2%)
methylhexanes	—	2-methylnonane	(0.2%)
heptane	—	2-methylbutane	(0.26%)
methylheptanes	—	3-methyldecane	(0.14%)
decane	—	4-methylnonane	(0.22%)
undecane	—		
<u>Aromatic Hydrocarbons (26%)</u>		<u>Aromatic Hydrocarbons (35%)</u>	
x-ylenes	(6-7%)	1,2,4,5-tetramethylbenzene	(9%)
toluene	(6-7%)	1,2,3-trimethylbenzene	(6.6%)
ethylbenzene	(5%)	1,2-dimethyl-3-propylbenzene	(5.4%)
benzene	(2-5%)	propylbenzene	(3-5%)
1,3,5-trimethylbenzene	(1.3%)	1-methyl-4-propylbenzene	(3.3%)
1,2,3-trimethylbenzene	(0.73%)	butylbenzene	(2%)
naphthalene	(0.08%)	2-methylnaphthalene	—
n-butyl benzene	(0.2-0.5%)	methylindane	(0.3%)
methylnaphthalenes	—	naphthalene	(0.14%)
benzo(b)fluoranthene	(3.9 mg/l)	2-methylnaphthalene	(0.34%)
fluoranthene	(1.84 mg/l)	1,2-diethylbenzene	(0.24%)
anthracene	(1.55 mg/l)	1,4-dimethyl-2-ethylbenzene	(0.2%)
benzo(e)pyrene	(0.3 mg/l)	1,3-dimethylnaphthalene	(0.15%)
		x-ylenes	(.07%)
		ethylbenzene	(0.02%)
		benzene	(0.02%)
		toluene	trace
<u>Olefins (10%)</u>		<u>Olefins (0%)</u>	
2-butene	(0.16-0.17%)		
3-methyl 1-butene	(0.06-0.08%)		
<u>Cyclic Hydrocarbons (5%)</u>		<u>Cyclic Hydrocarbons (0.93%)</u>	
cyclopentane	—	cyclopentane	(0.59%)
cyclohexane	—	tetramethylcyclopentane	(0.01%)
methylcyclopentane	—	propylcyclohexane	(0.07%)
methylcyclohexane	—	ethylcyclohexane	(0.04%)
		1,1,3-trimethylcyclohexane	(0.03%)
<u>Additives</u>		<u>Additives</u>	
tetraethyl lead	(600 mg/l)	dibromoethane (EDB)	(0.05%)
tetramethyl lead	(5 mg/l)	tetroethyl lead	(600 mg/l)
dichloroethane	(210 mg/l)		
dibromoethane (EDB)	(190 mg/l)		
2,6-di-t-butyl-4-methylphenol	—		
(anti-oxidant)			

Table 7.3.3

Diesel Fuel Composition (Volume %)Diesel Fuel #2normal/iso hydrocarbons (75%)

predominantly
C₁₀ to C₁₆

Aromatic Hydrocarbons (15%)

85-61-8 phenanthrene	(0.26-0.3%)
- naphthelene	(0.14-0.11%)
fluorene	(0.07-0.1%)
anthracepe	(0.013-0.02%)
1,2,3,4-tetrahydroquinoline	--
2,6-dimethylquinoline	--
1-methylnaphthalene	--
2,3,6-trimethylnaphthalene	--
2,3,5-trimethylnaphthalene	--
1,3,5-trimethylbenzene	trace
n-propylbenzene	trace
ethylbenzene	trace
xylenes	trace
toluene	trace
benzene	trace

Additives

N,N-disalicylidene diamine (metal deactivator)	--
alkyl nitrate (cetane improver)	(0.2%)
2,6-di-t-butyl-4-methylphenol (anti-oxidant)	--

the specific conditions in Rule 62-775.700 and 62-775.710, F.A.C., shall apply.

(7) All soil thermal treatment facilities operating under a general permit shall maintain accurate records of operations. Operating report logs shall be maintained on a normal work day basis on Forms 62-775.900(2) and (3), F.A.C., and shall be maintained for a period of three years at the facility for a stationary facility, or, at an approved location for mobile facility. The Department shall have complete access to all records, field and laboratory chain-of-custody records, quality control records, raw data records, calibration records, and laboratory analyses.

(8) When treating petroleum contaminated soil, soil thermal treatment facilities shall have a minimum soil retention time and a minimum operating soil temperature which provides treatment to comply with the criteria in Rule 62-775.400, F.A.C.

(9) Soil must be screened, or otherwise processed in order to prevent particles greater than two inch mesh (diameter) from entering the thermal treatment unit. Soil thermal treatment facilities are allowed to treat debris, other than soil, such as concrete, rocks, and wood.

(10) All sampling and analysis shall be conducted pursuant to Rule 62-160.300(7), F.A.C. Soil sampling procedures shall be in accordance with the Quality Assurance Standard Operating Procedures Manual for Soil Thermal Treatment Facilities. Analysis of soil samples shall be conducted by a laboratory with an approved Quality Assurance plan under Chapter 62-160, F.A.C.

62-775.400 Criteria for Clean Soil.

Treated soil must comply with the following cleanup levels to be classified as clean soil. Mixing of treated soils to achieve these standards is prohibited.

(1) Total Volatile Organic Aromatics shall not exceed 100 ug/kg (100 ppb) using the analysis identified in Rule 62-775.410(1)(a), F.A.C.,

(2) Total Recoverable Petroleum Hydrocarbons (TRPH) shall:

(a) not exceed 10 mg/kg (10 ppm) using the analysis identified in Rule 62-775.401(1)(b), F.A.C., or

(b) not exceed 50 mg/kg (50 ppm) using the analysis identified in Rule 62-775.410(1)(b), F.A.C., provided the total of the Polynuclear Aromatic Hydrocarbons (PAH) does not exceed 1 mg/kg (1 ppm) using the analysis identified in Rule 62-775.410(1)(c), F.A.C., and the total of the Volatile Organic Halocarbons (VOH) does not exceed 50 ug/kg (50 ppb) using the analysis identified in Rule 62-775.410(1)(d), F.A.C.,

(3) Metals shall not exceed the following concentrations in Table 1 using the analyses identified in Rule 62-775.410(1)(e), F.A.C. The appropriate preparation methods identified in Rule 62-775.410(2), F.A.C., shall be used prior to metal analysis.

(a) Total Volatile Organic Aromatics (VOA)

(b) Total Recoverable Petroleum Hydrocarbons

- (c) Polynuclear Aromatic Hydrocarbons (PAH)
- (d) Volatile Organic Halocarbons (VOH)
- (e) Total Organic Halides
- (f) Metals

Arsenic
 Barium
 Cadmium
 Chromium
 Lead
 Mercury
 Selenium
 Silver

TABLE I

Metals	Maximum Concentration	
	TCLP* (1) (mg/l)	Total (mg/kg)
Arsenic	5.0	10
Barium	100.0	4940
Cadmium	1.0	37
Chromium	5.0	50
Lead	5.0	108
Mercury	0.2	23
Selenium	1.0	389
Silver	5.0	353

* TCLP = Toxicity Characteristic Leaching Procedure

(4) Under no circumstances may soils which exhibit the characteristic of toxicity for metals (EPA HW No. D004-D011) as established in 40 CFR 261.24 be blended. However, blending of soils prior to treatment to achieve the total metals criteria in Rule 62-775.400(3), F.A.C., is allowed if the pre-blended soil does not exhibit the characteristic of toxicity for those metals.

Attachment 006

Estimated Pollutant Emissions and Referenced Emission Factors

Attachment 006
 Mobile Soil Thermal Treatment Unit
 Estimated Pollutant Emissions and Referenced Emission Factors

Pollutant	Emission Factor (Units)	Emissions (lb/hr)	Basis	Emissions (tons/yr)			
DRUM/AFTERBURNER:							
(No. 2 fuel oil)							
Pollutant	(lb/1000gal)						
VOC	0.252	0.001	AP-42; Table 1.3-4	0.00			
NOX	20.0	6.43	AP-42; Table 1.3-2	28.15			
Pollutant	(% Sulfur)						
SO2	0.0030	13.87	Stoichiometry	60.74			
(Propane)							
Pollutant	(lb/1000gal)						
VOC	0.500	0.002	AP-42; Table 1.5-2 afterburner efficiency of 99%	0.01			
NOX	19.0	9.44	AP-42; Table 1.5-2	41.36			
SO2	0.0001	0.00	AP-42; Table 1.5-2	0.00			
(Natural Gas)							
Pollutant	(lb/mmcf)						
VOC	5.800	0.003	AP-42; Table 1.4-3	0.01			
NOX	140.0	6.30	AP-42; Table 1.4-2	27.59			
SO2	0.6000	0.03	AP-42; Table 1.4-2	0.12			
(All Fuels)							
Pollutant	(grains/dscf)						
PM	0.04	3.94	0.04 gr/ 11500 dscf	17.27			
PM10	0.04	3.94		17.27			
Pollutant	(ppmvd CO/ft ³)						
CO	100.00	5.02	62-296.415(1)(b)	21.98			
GENERATOR: (No. 2 fuel oil)							
Pollutant	(lb/mmBtu)	(lb/hr)					
PM	0.31	0.5766	AP-42; Table 3.3-2	2.53			
PM10	0.31	0.5766	AP-42; Table 3.3-2	2.53			
NOX	4.41	8.2026	AP-42; Table 3.3-2	35.93			
CO	0.95	1.767	AP-42; Table 3.3-2	7.74			
SO2	0.29	0.5394	AP-42; Table 3.3-2	2.36			
VOC	0.35	0.651	AP-42; Table 3.3-2	2.85			
SOIL:							
Pollutant	(1400 lbs/hr VOC in Soil)	(lb/hr)					
VOC	1400.00	14.00	afterburner efficiency of 99%	42.80			
DATA:							
Drum/Afterburner:	45	mmBtu/hr	Generator =	1.86	mmBtu/hr	16293.60	mmBtu/yr
#2 Fuel Oil	321.00	gal/hr	gal =	13.2	gal/hr		
	2815714	gal/yr	ann_gal =	115632.0	gal/yr		
Propane	497	gal/hr					
	4355801	gal/yr					
Natural Gas	0.05	mmbtu/hr					
	394.20	mmbtu/yr					
soil =	35.00	tph					

Table 1.3-2 (English Units). CRITERIA POLLUTANT EMISSION FACTORS FOR UNCONTROLLED FUEL OIL COMBUSTION

Firing Configuration (SCC) ^a	SO ₂ ^b		SO ₃ ^c		NO _x ^d		CO ^{e,f}		Filterable PM ^g	
	lb/10 ³ gal	EMISSION FACTOR RATING	lb/10 ³ gal	EMISSION FACTOR RATING	lb/10 ³ gal	EMISSION FACTOR RATING	lb/10 ³ gal	EMISSION FACTOR RATING	lb/10 ³ gal	EMISSION FACTOR RATING
Utility boilers										
No. 6 oil fired, normal firing (1-01-004-01)	157S	A	5.7S	C	67	A	5	A	— ^h	A
No. 6 oil fired, tangential firing (1-01-004-04)	157S	A	5.7S	C	42	A	5	A	— ^h	A
No. 5 oil fired, normal firing (1-01-004-05)	157S	A	5.7S	C	67	A	5	A	— ^h	B
No. 5 oil fired, tangential firing (1-01-004-06)	157S	A	5.7S	C	42	A	5	A	— ^h	B
No. 4 oil fired, normal firing (1-01-005-04)	150S	A	5.7S	C	67	A	5	A	— ^h	B
No. 4 oil fired, tangential firing (1-01-005-05)	150S	A	5.7S	C	42	A	5	A	— ^h	B
Industrial boilers										
No. 6 oil fired (1-02-004-01/02/03)	157S	A	2S	A	55	A	5	A	— ^h	A
No. 5 oil fired (1-02-004-04)	157S	A	2S	A	55	A	5	A	— ^h	B
Distillate oil fired (1-02-005-01/02/03)	142S	A	2S	A	20	A	5	A	— ^h	A
No. 4 oil fired (1-02-005-04)	150S	A	2S	A	20	A	5	A	— ^h	B
Commercial/institutional/residential combustors										
No. 6 oil fired (1-03-004-01/02/03)	157S	A	2S	A	55	A	5	A	— ^h	A
No. 5 oil fired (1-03-004-04)	157S	A	2S	A	55	A	5	A	— ^h	B
Distillate oil fired (1-03-005-01/02/03)	142S	A	2S	A	20	A	5	A	— ^h	A
No. 4 oil fired (1-03-005-04)	150S	A	2S	A	20	A	5	A	— ^h	B
Residential furnace (No SCC)	142S	A	2S	A	18	A	5	A	3	A

Table 1.3-4 (English Units). EMISSION FACTORS FOR TOTAL ORGANIC COMPOUNDS (TOC), METHANE, AND NONMETHANE TOC (NMTOC) FROM UNCONTROLLED FUEL OIL COMBUSTION

Firing Configuration (SCC) ^a	TOC ^b		Methane ^b		NMTOC ^b	
	lb/10 ³ gal	EMISSION FACTOR RATING	lb/10 ³ gal	EMISSION FACTOR RATING	lb/10 ³ gal	EMISSION FACTOR RATING
Utility boilers						
No. 6 oil fired, normal firing (1-01-004-01)	1.04	A	0.28	A	0.76	A
No. 6 oil fired, tangential firing (1-01-004-04)	1.04	A	0.28	A	0.76	A
No. 5 oil fired, normal firing (1-01-004-05)	1.04	A	0.28	A	0.76	A
No. 5 oil fired, tangential firing (1-01-004-06)	1.04	A	0.28	A	0.76	A
No. 4 oil fired, normal firing (1-01-005-04)	1.04	A	0.28	A	0.76	A
No. 4 oil fired, tangential firing (1-01-005-05)	1.04	A	0.28	A	0.76	A
Industrial boilers						
No. 6 oil fired (1-02-004-01/02/03)	1.28	A	1	A	0.28	A
No. 5 oil fired (1-02-004-04)	1.28	A	1	A	0.28	A
Distillate oil fired (1-02-005-01/02/03)	0.252	A	0.052	A	0.2	A
No. 4 oil fired (1-02-005-04)	0.252	A	0.052	A	0.2	A
Commercial/institutional/residential combustors						
No. 6 oil fired (1-03-004-01/02/03)	1.605	A	0.475	A	1.13	A
No. 5 oil fired (1-03-004-04)	1.605	A	0.475	A	1.13	A
Distillate oil fired (1-03-005-01/02/03)	0.556	A	0.216	A	0.34	A
No. 4 oil fired (1-03-005-04)	0.556	A	0.216	A	0.34	A
Residential furnace (No SCC)	2.493	A	1.78	A	0.713	A

^a SCC = Source Classification Code.

^b References 16-19. Volatile organic compound emissions can increase by several orders of magnitude if the boiler is improperly operated or is not well maintained.

Table 1.5-2 (English Units). EMISSION FACTORS FOR LPG COMBUSTION^a

EMISSION FACTOR RATING: E

Pollutant	Butane Emission Factor (lb/1000 gal)		Propane Emission Factor (lb/1000 gal)	
	Industrial Boilers ^b (1-02-010-01)	Commercial Boilers ^c (1-03-010-01)	Industrial Boilers ^b (1-02-010-02)	Commercial Boilers ^c (1-03-010-02)
Filterable particulate matter ^d	0.6	0.5	0.6	0.4
Sulfur oxides ^e	0.09S	0.09S	0.10S	0.10S
Nitrogen oxides ^f	21	15	19	14
Carbon dioxide	14,700	14,700	12,500	12,500
Carbon monoxide	3.6	2.1	3.2	1.9
Total organic compounds	0.6	0.6	0.5	0.5

^a Assumes emissions (except SO_x and NO_x) are the same, on a heat input basis, as for natural gas combustion. The NO_x emission factors have been multiplied by a correction factor of 1.5, which is the approximate ratio of propane/butane NO_x emissions to natural gas NO_x emissions. Source Classification Codes in parentheses.

^b Heat input capacities generally between 10 and 100 million Btu/hour.

^c Heat input capacities generally between 0.3 and 10 million Btu/hour.

^d Filterable particulate matter (PM) is that PM collected on or prior to the filter of an EPA Method 5 (or equivalent) sampling train.

^e Expressed as SO₂. S equals the sulfur content expressed in gr/100 ft³ gas vapor. For example, if the butane sulfur content is 0.18 gr/100 ft³, the emission factor would be (0.09 x 0.18) = 0.016 lb of SO₂/1000 gal butane burned.

^f Expressed as NO₂.

References For Section 1.5

1. Letter dated August 19, 1992. From W. Butterbaugh of the National Propane Gas Association, Lisle, Illinois, to J. McSorley of the U. S. Environmental Protection Agency, Research Triangle Park, NC.
2. *Air Pollutant Emission Factors*, Final Report, Contract No. CPA-22-69-119, Resources Research, Inc., Reston, VA, Durham, NC, April 1970.
3. *Nitrous Oxide Reduction With The Weishaupt Flue Gas Recirculation System*, Weishaupt Research and Development Institute, January 1987.
4. Phone communication memorandum dated May 14, 1992. Conversation between B. Lusher of Acurex Environmental and D. Childress of Suburban/Petrolane, Durham, NC.

Table 1.4-2 (Metric And English Units). EMISSION FACTORS FOR SULFUR DIOXIDE (SO₂), NITROGEN OXIDES (NO_x), AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION^a

Combustor Type (Size, 10 ⁶ Btu/hr Heat Input) (SCC) ^b	SO ₂ ^c			NO _x ^d			CO ^e		
	kg/10 ⁶ m ³	lb/10 ⁶ ft ³	RATING	kg/10 ⁶ m ³	lb/10 ⁶ ft ³	RATING	kg/10 ⁶ m ³	lb/10 ⁶ ft ³	RATING
Utility/large Industrial Boilers (>100) (1-01-006-01, 1-01-006-04)									
Uncontrolled	9.6	0.6	A	8800	550 ^f	A	640	40	A
Controlled - Low NO _x burners	9.6	0.6	A	1300	81 ^f	D	ND	ND	NA
Controlled - Flue gas recirculation	9.6	0.6	A	850	53 ^f	D	ND	ND	NA
Small Industrial Boilers (10 - 100) (1-02-006-02)									
Uncontrolled	9.6	0.6	A	2240	140	A	560	35	A
Controlled - Low NO _x burners	9.6	0.6	A	1300	81 ^f	D	980	61	D
Controlled - Flue gas recirculation	9.6	0.6	A	480	30	C	590	37	C
Commercial Boilers (0.3 - <10) (1-03-006-03)									
Uncontrolled	9.6	0.6	A	1600	100	B	330	21	C
Controlled - Low NO _x burners	9.6	0.6	A	270	17	C	425	27	C
Controlled - Flue gas recirculation	9.6	0.6	A	580	36	D	ND	ND	NA
Residential Furnaces (<0.3) (No SCC)									
Uncontrolled	9.6	0.6	A	1500	94	B	640	40	B

^a Units are kg of pollutant/10⁶ cubic meters natural gas fired and lb of pollutant/10⁶ cubic feet natural gas fired. Based on an average natural gas fired higher heating value of 8270 kcal/m³ (1000 Btu/scf). The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. ND = no data. NA = not applicable.

^b SCC = Source Classification Code.

^c Reference 7. Based on average sulfur content of natural gas, 4600 g/10⁶ Nm³ (2000 gr/10⁶ scf).

Table 1.4-3 (Metric And English Units). EMISSION FACTORS FOR CARBON DIOXIDE (CO₂) AND TOTAL ORGANIC COMPOUNDS (TOC) FROM NATURAL GAS COMBUSTION^a

Combustor Type (Size, 10 ⁶ Btu/hr Heat Input) (SCC) ^b	CO ₂ ^c			TOC ^d		
	kg/10 ⁶ m ³	lb/10 ⁶ ft ³	RATING	kg/10 ⁶ m ³	lb/10 ⁶ ft ³	RATING
Utility/large industrial boilers (>100) (1-01-006-01, 1-01-006-04)	ND ^e	ND	NA	28 ^f	1.7 ^f	C
Small industrial boilers (10 - 100) (1-02-006-02)	1.9 E+06	1.2 E+05	D	92 ^g	5.8 ^g	C
Commercial boilers (0.3 - <10) (1-03-006-03)	1.9 E+06	1.2 E+05	C	128 ^h	8.0 ^h	C
Residential furnaces (No SCC)	2.0 E+06	1.3 E+05	D	180 ^h	11 ^h	D

^a All factors represent uncontrolled emissions. Units are kg of pollutant/10⁶ cubic meters and lb of pollutant/10⁶ cubic feet. Based on an average natural gas higher heating value of 8270 kcal/m³ (1000 Btu/scf). The emission factors in this table may be converted to other natural gas heating values by multiplying the given factor by the ratio of the specified heating value to this average heating value. NA = not applicable.

^b SCC = Source Classification Code.

^c References 10,22-23.

^d References 9-10,18.

^e ND = no data.

^f Reference 8: methane comprises 17% of organic compounds.

^g Reference 8: methane comprises 52% of organic compounds.

^h Reference 8: methane comprises 34% of organic compounds.

Table 3.3-2 (English Units). EMISSION FACTORS FOR UNCONTROLLED GASOLINE AND DIESEL INDUSTRIAL ENGINES*

Pollutant	Gasoline Fuel (SCC 2-02-003-01, 2-03-003-01)		Diesel Fuel (SCC 2-02-001-02, 2-03-001-01)		EMISSION FACTOR RATING
	lb/hp-hr (power output)	lb/MMBtu (fuel input)	lb/hp-hr (power output)	lb/MMBtu (fuel input)	
NO _x	0.011	1.63	0.031	4.41	D
CO	0.439	62.7	6.68 E-03	0.95	D
SO _x	5.91 E-04	0.084	2.05 E-03	0.29	D
PM-10 ^b	7.21 E-04	0.10	2.20 E-03	0.31	D
CO ₂ ^c	1.09	155	1.16	165	B
Aldehydes	4.85 E-04	0.07	4.63 E-04	0.07	D
TOC					
Exhaust	0.015	2.10	2.47 E-03	0.35	D
Evaporative	6.61 E-04	0.09	0.00	0.00	E
Crankcase	4.85 E-03	0.69	4.41 E-05	0.01	E
Refueling	1.08 E-03	0.15	0.00	0.00	E

* References 1,3,6. When necessary, the average brake-specific fuel consumption (BSFC) value used to convert from lb/MMBtu to lb/hp-hr was 7,000 Btu/hp-hr. SCC = Source Classification Code.

^b PM-10 = particulate matter less than or equal to 10 μm aerodynamic diameter. All particulate is assumed to be ≤ 1 μm in size.

^c Assumes 100% conversion of carbon in fuel to CO₂ with 87 weight % carbon in diesel, 86 weight % carbon in gasoline, average BSFC of 7,000 Btu/hp-hr, diesel heating value of 19,300 Btu/lb, and gasoline heating value of 20,300 Btu/lb.

Attachment 007

Soil Decontamination Procedure

ATTACHMENT #007
Soil Decontamination Procedure

KleenSoil International, Inc. mobile thermal treatment unit treats soils to the extent necessary to meet the criteria for clean soil established by Rule 62-775.400, FAC. All soil sampling and analysis is conducted in accordance with Rule 62-775.400, FAC.

KleenSoil maintains accurate records of operations on a workday basis; recording all information that is required by Form 62-775.900(2) and (3), FAC. Also, KleenSoil maintains all records required by AO16-231440. The records are maintained for a period of three years at KleenSoil's Palmetto, Florida location. FDEP has complete access to all records.

Prior to thermally processing soil, KleenSoil screens all soil and other debris to assure that all materials entering the thermal treatment unit consist of particles no more than 2-inches in diameter.

All sampling and analysis required of KleenSoil is conducted pursuant to Rule 62-775.300(10), FAC. Soil sampling will be conducted by KleenSoil personnel using procedures that are in accordance with the *Quality Assurance Standard Operating Procedures Manual for Soil thermal Treatment Facilities*, 1991. Analysis of soil samples are conducted by a qualified laboratory that has an approved Quality Assurance Plan under 62-160, FAC.

CRITERIA FOR CLEAN SOIL (62-775.400, FAC)

Soil that has been processed by KleenSoil meets the following criteria:

1. Total volatile organic aromatics $\leq 100 \mu\text{g}/\text{kg}$.
2. Total recoverable petroleum hydrocarbons $\leq 10 \text{ mg}/\text{kg}$
or
 $\leq 50 \text{ mg}/\text{kg}$ if polynuclear aromatic hydrocarbons $\leq 1 \text{ mg}/\text{kg}$
and volatile organic halocarbons $\leq 50 \mu\text{g}/\text{kg}$.
3. Metals

Metal	Maximum Concentration TCLP (mg/l)	Maximum Concentration Total (mg/kg)
Arsenic	5.0	10
Barium	100.0	4940
Cadmium	1.0	37
Chromium	5.0	50
Lead	5.0	108
Mercury	0.2	23
Selenium	1.0	389
Silver	5.0	353

Both the temperature and the residence time of the soil in the kiln are varied to assure that organic contaminants are reduced to a level at or below those defined above. Under no circumstances does KleenSoil blend hazardous materials with any soils being processed.

KleenSoil may blend nonhazardous soils prior to treatment to achieve the total metals criteria of this rule provided the pre-blended soils do not exhibit the characteristics of toxicity for those metals. Uncontaminated soils are not used for blending purposes.

KleenSoil maintains records of the blending procedures, reporting blending ratios and concentrations of metals in the blending soils to estimate total metals concentrations in the blended soil.

PRETREATMENT ANALYSIS

No contaminated soils are processed prior to receipt of analyses and laboratory certifications, and on-site screening by KleenSoil personnel. This ensures compliance with all applicable permitting criteria. All soils received for thermal treatment are precertified by an outside laboratory which test to ensure that they are non-hazardous under 40 CFR 261 and that they do not exceed state mandated limits.

KleenSoil requires that all contaminated soils presented for thermal treatment be analyzed in accordance with Rule 62-775, FAC, by a laboratory with an approved Comprehensive Quality Assurance Plan.

Before soils are accepted for thermal treatment, each sample is usually analyzed by the generator for the following parameters:

- Total Volatile Organic Aromatics
- Total Recoverable Petroleum Hydrocarbons
- Volatile Organic Hydrocarbons
- Total Metals: (arsenic, barium, cadmium, chromium, lead, mercury, selenium, & silver)

KleenSoil provides all potential customers with a copy of a *Contaminated Soil Pre-Burn Requirements Form* which identifies the pretreatment tests required before receipt of soil. A *Contaminated Soil Generator Certification Form* must be provided to KleenSoil by all generators certifying the type of contaminant in the soil, certifying that the soil is not hazardous and certifying that the required pre-treatment analyses have been conducted.

KleenSoil will not thermally process any soil that is classified as a hazardous waste. If the soil is suspected of containing a hazardous waste (as indicated by pre-treatment metals analysis, visual screening upon receipt and/or information provided by the generator), additional screening analyses, including but not limited to the following, may be conducted:

- Volatile organic halogens
- Corrosivity
- Reactivity
- TCLP for metals, pesticides and other organics (EPA Method 8010)
- PCB

If the contaminated soil is not suspected of containing hazardous waste but is known to contain used oil, KleenSoil will require tests for total organic halides and PCBs in addition to the pre-treatment analyses specifically required by Rule 62-775.410, FAC. Changes in analytical requirements that result from amendments to Chapter 62-775 will be incorporated by reference into this protocol.

If the results of any analyses indicated a soil does not meet the requirements of KleenSoil and Rules of Chapter 62-775, FAC, KleenSoil will not approve the soil for thermal treatment.

Receiving, Handling, and Stockpiling (62-775.620, FAC)

Each batch of contaminated soil offered to KleenSoil is pretested in accordance to Rule 62-775.410, FAC. If the contaminated soil is determined to be hazardous or does not otherwise comply with requirements of this rule, the soil is not approved for thermal treatment by KleenSoil.

Once the results of the pretreatment analyses have been reviewed and the contaminated soil has been determined to be acceptable for treatment, the unprocessed contaminated soil is stored under waterproof covers to minimize unconfined emissions of petroleum products.

The contaminated soil to be processed is dumped by loader over a scalping grid onto an inclined conveyor and then screened at the top of the conveyor. The screened soil is removed from the pile at the bottom of the conveyor and thermally processed in the rotary kiln. The exhaust gases of the kiln pass through a baghouse and then into an afterburner where hydrocarbons are oxidized. Samples are taken and analyzed from the processed soil to ascertain that the processed soil meets FDEP criteria for clean soil as defined in Rule 62-775, FAC. After passing the required tests, the processed soil is returned back into the excavation site or sold as "clean fill" on the open market. In the event that the processed soil does not meet the clean soil requirements, it is reprocessed.

CONTAMINATED SOIL PRE-BURN REQUIREMENTS

1. Required Tests and Maximum Limits:

<u>Parameter/Property</u>	<u>Maximum Limit/Conditions</u>
TOTAL Arsenic (As)	10 ppm
TOTAL Barium (Ba)	4940 ppm
TOTAL Cadmium (Cd)	37 ppm
TOTAL Chromium (Cr)	50 ppm
TOTAL Lead (Pb)	108 ppm
TOTAL Mercury (Hg)	23 ppm
TOTAL Selenium (Se)	389 ppm
TOTAL Silver (Ag)	353 ppm
TRPH (Method 9073)	No Limit
VOA (Method 8020)	No Limit

2. Number of Samples for Above Tests:

< 140 Tons	1
140 to 699 Tons	3
700 to 1399 Tons	5
Each Additional 700 Tons	3

3. Other General Requirements (2)

- a. Letter from Generator or Generator's Authorized Representative:
 - i. Soil is NOT a Hazardous Waste or mixed with Hazardous Waste
 - ii. Type of Contamination (gas, diesel, etc.)
 - iii. Source of Contamination (UST, spill, etc.)
- b. Copy of all pre-burn analyses.

4. Notes:

- (1) Higher metal levels may be acceptable, subject to results of TCLP analysis.
- (2) Total organic halides and PCB analyses required for all use oils.

Contaminated Soil Generator Certification

Generator's Name: _____

Site Name: _____

Site Address: _____

City, State, Zip: _____

We hereby certify and attest that, to the best of our knowledge, the petroleum contaminated soil from the above-referenced site:

1. Was contaminated by: _____ (gas/ diesel, etc.)
2. Was contaminated from an above ground spill or leak. Yes ___ No ___
3. Is petroleum contaminated media subject to RCRA UST clean-up regulations under Title 40 CFR, part 280. Yes _____ No _____
4. Is NOT a Hazardous Waste as defined by State or Federal Regulations including, but not limited to Chapter 40 CFR, part 261.
5. Does NOT contain Pesticides, Herbicides or PCB's at a level over State or Federal regulatory limits, which would cause the soil to be considered hazardous.
6. Was sampled for pre-burn analysis using the sampling and composting procedures defined in Ch. 62-775.300(10) and 62-775.410, FAC.

_____, 199____
Generator/Agent and Title (print or type) Date

Signature

Attachment 008

Particulate Matter Emissions Measurements dated August 15, 1991

PARTICULATE MATTER
EMISSION MEASUREMENTS

MOBILE SOIL REMEDIATION UNIT

D.R.E. ENVIRONMENTAL, INC.
MT. VERNON, ALABAMA

August 15, 1991

KOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 N.W. 13TH STREET
GAINESVILLE, FLORIDA 32609
(904) 377-5822



1.0 INTRODUCTION

On August 15, 1991, Koogler & Associates Environmental Services of Gainesville, Florida conducted particulate matter emission measurements on a mobile soil remediation unit for D.R.E. Environmental, Inc., while it was processing contaminated soil at a location in Mt. Vernon, Alabama.

Particulate matter emission measurements and visible emissions observations were made in accordance with EPA Methods 5 and 9, respectively, as described in 40CFR60, Appendix A. Particulate matter emission measurements ranged from 4.46 to 4.85 pounds per hour and averaged 4.61 pounds per hour. A summary of the particulate matter emissions, gas flow and stack parameters is presented in Table 1. During a 30-minute observation period, no visible emissions were noted.

During the test period on August 15, 1991, the input rate to the dryer averaged 15.4 tons per hour. The allowable particulate matter concentration in the stack gas is 0.08 grains per dry standard cubic foot, corrected to 50 percent excess air, or about 7.1 pounds per hour. Therefore, based on the above data, it can be concluded that the mobile soil remediation unit meets the particulate matter emission limits established by permit conditions.

2.0 PROCESS DESCRIPTION

D.R.E. Environmental, Inc. owns and operates a 35 TPH portable rotary kiln/afterburner system to decontaminate soil. The unit consists of a soil feed hopper, a 25 MMBTU/hr rotary kiln, a baghouse, a 22 MMBTU/hr afterburner, a propane/natural gas fuel system, a diesel electric generator, and associated equipment.

Contaminated soils pass through a kiln where the VOCs are evaporated. The gas stream leaving the kiln passes through a baghouse and an afterburner for control of particulate matter and VOC emissions.

Propane gas is the primary fuel and natural gas is the alternate fuel for both the kiln and afterburner. The maximum heat input to the rotary kiln/afterburner system is 45 MMBTU/hr (500 gallons of propane per hour).

Contaminated soils are reduced to lumps that are a maximum of two inches in diameter prior to being fed to the kiln. The soil is heated to about 700°F in the kiln to evaporate the petroleum products. The gas stream then passes through a baghouse which removes particulate matter, and into an afterburner to control the petroleum vapors. The afterburner operates at a minimum temperature of 1600°F and a minimum residence time of one second.

The stack from the afterburner is three feet in diameter and approximately 30 feet high. Two sampling ports are located at 90 degrees to one another, as shown in Figure 1.

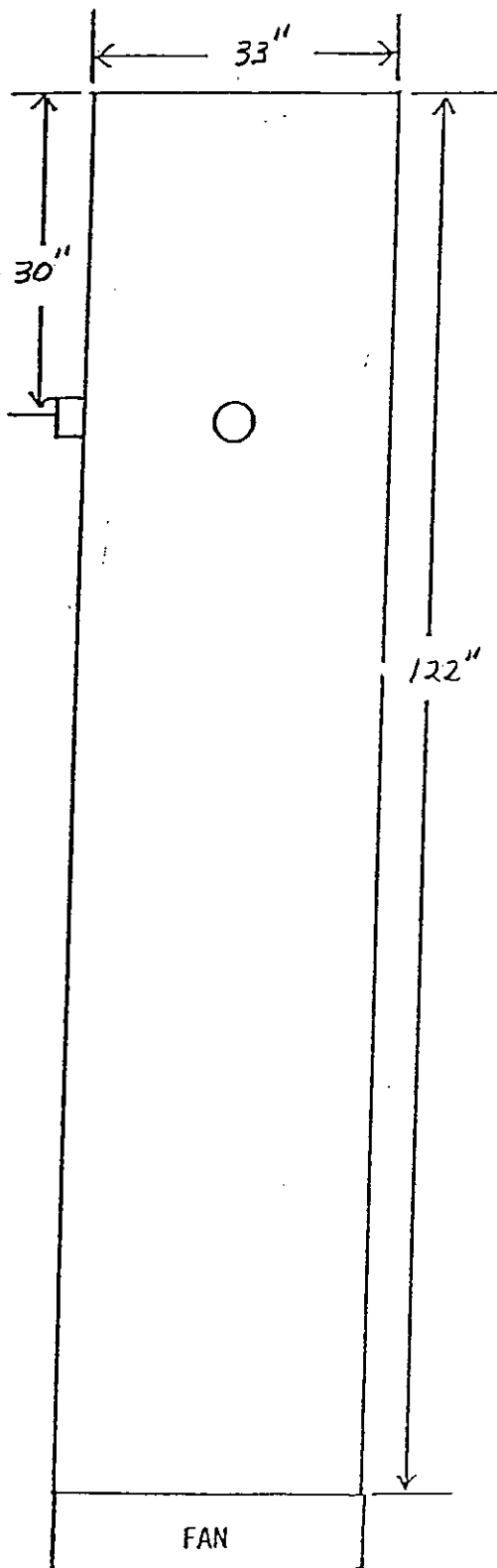


FIGURE 1
 SAMPLING POINT LOCATIONS
 TRANSPORTABLE INCINERATOR SYSTEM
 D.R.E. ENVIRONMENTAL, INC.

<u>Traverse Point No.</u>	<u>Inches Inside Stack Wall</u>
1	1.00
2	2.21
3	3.93
4	5.84
5	8.25
6	11.76
7	21.12
8	24.75
9	27.06
10	29.04
11	30.69
12	32.00



3.0 FIELD AND ANALYTICAL PROCEDURES

Particulate matter emission measurements were made using EPA Method 5, as described in 40CFR60, Appendix A. The sampling point locations for the EPA Method 5 test were established in accordance with EPA Method 1.

Stack gas velocity measurements and stack gas moisture measurements were made in conjunction with the EPA Method 5 tests in accordance with EPA Methods 2 and 4, both as described in 40CFR60, Appendix A.

4.0 SUMMARY OF RESULTS

Results of the particulate matter emission measurements conducted on the mobile soil remediation unit on August 15, 1991 are summarized in Table 1. The particulate matter concentration in the stack gas during the three tests averaged 0.0525 grains per dry standard cubic foot, corrected to seven percent oxygen, and the mass emission rate averaged 4.61 pounds per hour. The stack gas flow rate averaged 11092 SCFMD, the stack gas temperature averaged 1412^oF and the stack gas moisture averaged 28.1 percent. During the test period, the input rate to the dryer averaged 15.4 tons per hour. The permit for the soil remediation unit limits the particulate matter concentration in the stack gas to 0.08 grains per dry standard cubic foot, corrected to 50 percent excess air; equivalent to a mass emission rate of about 7.1 pounds per hour.

Therefore, based on the above data, it can be concluded that the mobile soil remediation meets the permitted particulate matter emission limits.

All calculations, field and analytical data sheets, plant operating data, equipment calibrations and a list of project participants are included in the Appendix of this report.

TABLE 1

SUMMARY OF SOURCE EMISSION TEST DATA

D.R.E. ENVIROMENTAL INC.
 BAGHOUSE/AFTERBURNER
 AUGUST 15, 1991

Run No.	Process Weight Rate (Tons/Hr)	Stack Gas Flow Rate (SCFMD)	Stack Gas Temperature (Deg F)	Stack Gas Moisture (%)	Particulate Matter	
					Conc. (gr/dscf@ 50% excess air)	Emission Rate (Lbs/Hr)
1	15.0	11129	1388.0	29.1	0.0474	4.46
2	14.7	10649	1448.0	30.4	0.0476	4.52
3	16.6	11497	1401.0	24.9	0.0570	4.85
Average	15.4	11092	1412.3	28.1	0.0507	4.61

Allowable Particulate Matter Emission Rate = 0.08 gr/dscf @ 50% excess air