



# Florida Department of Environmental Protection

Southwest District Office  
13051 North Telecom Parkway  
Temple Terrace, Florida 33637-0926

Rick Scott  
Governor

Jennifer Carroll  
Lt. Governor

Herschel T. Vinyard Jr.  
Secretary

## FINAL PERMITS

### PERMITTEE

Clark Environmental, Inc.  
755 Prairie Industrial Parkway  
Mulberry, FL 33860

Authorized Representative:  
Ms. Elizabeth Clark, President

Air Permit Nos. 1050319-012-AC  
1050319-013-AO  
Permits Expire: 11/20/2012 (AC)  
04/11/2016 (AO)  
Site Name: Mulberry Facility  
Minor Air Construction and Operation  
Permits  
Project Name: Add Soil/Materials  
Contaminated with Liquid Biofuels

These are the final air construction and operation permits, in one document. Construction Permit No. 1050319-012-AC is to allow the existing soil thermal treatment facility to also process soil/materials contaminated with liquid biofuels. Operation Permit No. 1050319-013-AO is to incorporate the terms and conditions of Construction Permit No. 1050319-012-AC into the existing air operation permit. The proposed work will be conducted at the Mulberry Facility (Standard Industrial Classification No. 4953). The facility is located in Polk County at 755 Prairie Industrial Parkway in Mulberry, Florida. The UTM coordinates are Zone 17, 402.2 km East, and 3086.8 km North. As noted in the Final Determination provided with these final permits, no changes or only minor changes and clarifications were made to the draft permits.

This final document is organized by the following sections:

Section 1. General Information

Section 2. Administrative Requirements and Facility-wide Specific Conditions

Section 3. Emissions Unit Specific Conditions

Section 4. Appendices

Due to the technical nature of the project, this document contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this document.

These air pollution permits are issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of these permits. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of these final permits, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with



## SECTION 1. GENERAL INFORMATION (FINAL)

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### FACILITY AND PROJECT DESCRIPTION

#### Existing Facility

This facility thermally treats contaminated soils using a rotary kiln. The kiln operates at a maximum soil feed rate (including a stabilization agent, if applicable) of 75 tons/hr. and has a maximum heat input rate of 50 MMBTU/hr. The kiln is fired with natural gas, liquefied petroleum gas (LPG), new No. 2 distillate fuel oil, or on-specification used fuel oil. Processed soil exiting the kiln is sprayed with water then stockpiled by a loader. The existing facility consists of the following emissions unit.

ID No.	Emission Unit Description
001	Soil Thermal Treatment Facility

#### Project Description and Affected Emissions Unit

These permits modify the following emissions unit by allowing the emissions unit to process the following four (4) additional types of contaminated soil/materials:

- Liquid biofuel contaminated soil;
- Liquid biofuel tank bottom sludge from liquid biofuel storage tanks systems;
- Liquid biofuel contaminated sediments, sludge, and liquids which originate from oil/ water separators at residential car washes, rollover car washes, and tunnel car washes; and
- Liquid biofuel contaminated sediments, sludge, and liquids which originate from oil/ water separators/sumps, other than car washes.

Note, minor administrative changes are also addressed in these permits.

ID No.	Emission Unit Description
001	Soil Thermal Treatment Facility

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

#### Exempt Emission Units/Activities

- As of the effective date of these permits, no exempt activities have been identified.

### FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is not a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.
- This facility is a synthetic non-Title V source for the pollutants Volatile Organic Compounds (VOC), Individual Hazardous Air Pollutants (HAPs), Total HAPs, Nitrogen Oxides (NO<sub>x</sub>), Sulfur Dioxide (SO<sub>2</sub>) and Particulate Matter (PM<sub>10</sub>). The emission limitations, restriction on the hours of operation, the use of emission control equipment, and the restrictions on the type and amount of

## SECTION 1. GENERAL INFORMATION (FINAL)

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soil/materials processed and fuels burned will ensure that the facility's emissions will be below the threshold for a Title V source.

### PERMIT HISTORY/AFFECTED PERMITS

- Construction Permit No. 1050319-012-AC modifies and replaces Construction Permit No. 1050319-009-AC.

*Note: The only changes made to Construction Permit No. 1050319-009-AC are the types of contaminated soil/materials listed in Specific Condition No. A.2.a., the table for HAP emissions calculation in Specific Condition No. A.22.b.(5), and minor administrative changes.*

- Operation Permit No. 1050319-013-AO amends and replaces Operation Permit No. 1050319-011-AO by incorporating the terms and conditions of Construction Permit No. 1050319-012-AC.

**SECTION 2. ADMINISTRATIVE REQUIREMENTS AND FACILITY-WIDE SPECIFIC  
CONDITIONS (FINAL)**

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1. Permitting Authority: The permitting authority for this project is the Florida Department of Environmental Protection (Department), Southwest District's Air Resource Management Section. The Southwest District's mailing address and phone number is:

Florida Department of Environmental Protection  
Southwest District Office  
Air Resource Management Section  
13051 North Telecom Parkway  
Temple Terrace, Florida 33637-0926  
Telephone: 813-632-7600

All documents related to applications for permits shall be submitted to the above address.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Southwest District Office's Air Resource Management Section (see above mailing address and phone number).
3. Appendices: The following Appendices are attached as part of this document:
- a. Appendix A. Citation Formats and Glossary of Common Terms;
  - b. Appendix B. General Conditions;
  - c. Appendix C. Common Conditions; and
  - d. Appendix D. Common Testing Requirements.
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this document, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of these permits does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.  
[Rule 62-4.080, F.A.C.]
6. Modifications: Unless otherwise exempt by rule, the permittee shall not initiate any construction, reconstruction, or modification at the facility and shall not install/modify any pollution control device at the facility without obtaining prior authorization from the Department. Modification is defined as: Any physical change or changes in the method of operations or addition to a facility that would result in an increase in the actual emissions of any air pollutant subject to air regulations, including any not previously emitted, from any emission unit or facility.  
[Rules 62-210.200 - Definition of "Modification" and 62-210.300(1)(a), F.A.C.]

**SECTION 2. ADMINISTRATIVE REQUIREMENTS AND FACILITY-WIDE SPECIFIC  
CONDITIONS (FINAL)**

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7. Annual Operating Report: On or before **April 1** of each year, the permittee shall submit a completed DEP Form 62-210.900(5), "Annual Operating Report for Air Pollutant Emitting Facility" (AOR) for the preceding calendar year. The report may be submitted electronically in accordance with the instructions received with the AOR package sent by the Department, or a hardcopy may be sent to the Compliance Authority.  
[Rule 62-210.370(3), F.A.C.]
8. Unconfined Emissions of Particulate Matter: All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provisions in Rule 62-296.320(4)(c), F.A.C. (See Appendix C, Condition No. 9). These provisions are applicable to any source, including but not limited to, industrial related activities such as loading, unloading, storing and handling of materials. These provisions shall include that the facility grounds, such as traffic area, shall be watered as necessary.  
[Rule 62-296.320(4)(c), F.A.C.]
9. Operation Permit Renewal Application: A completed application for renewal of the operation permit shall be submitted to the Permitting Authority no later than 60 days prior to the expiration date of the operation permit. To properly apply for an operation permit, the applicant shall submit the following:
- a. the appropriate permit application form (*see current version of Rule 62-210.900, F.A.C. (Forms and Instructions)*), and/or FDEP Division of Air Resource Management website at: <http://www.dep.state.fl.us/air/>;
  - b. the appropriate operation permit application fee from Rule 62-4.050(4)(a), F.A.C.;
  - c. copies of the most recent compliance test reports required by Specific Condition No. A.20., if not previously submitted; and
  - d. copies of the most recent month of records/logs specified in Specific Condition Nos. A.21.b. and A.22.b.

[Rules 62-4.030, 62-4.050, 62-4.070(3), 62-4.090, 62-210.300(2), and 62-210.900, F.A.C.]

**SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (FINAL)**

**A. EU No. 001 – Soil Thermal Treatment Facility**

This section of the document addresses the following emissions unit.

ID No.	Emission Unit Description
001	<p>This emissions unit thermally treats contaminated soils using a rotary kiln. Contaminated soils/materials or a blend of contaminated soils/material with or without a stabilization agent (soil) is transferred from a designated batch of soil in a covered storage area by a loader to a loading hopper which transfers the soil to a screener. Soil from the screener is conveyed by a variable speed conveyor belt equipped with an automatic belt scale to a TARMAC, Inc. soil remediation system. The soil remediation system includes a rotary kiln which operates at a maximum soil feed rate (including a stabilization agent, if applicable) of 75 tons/hr. The rotary kiln has a maximum heat input rate of 50 MMBTU/hr. and is fired with natural gas, LPG, new No. 2 distillate fuel oil, or on-specification used fuel oil. The processed soil exiting the rotary kiln drying zone (which is 10'6" ft. in diameter and 11'6" long) is sprayed with water and then stockpiled by a loader. Water vapor generated in the drying zone is ducted through the roof to the atmosphere.</p> <p>Emissions from the rotary kiln first pass through a cyclone, then through an afterburner, and finally through a baghouse before being exhausted to the atmosphere. The afterburner is designed to expose organic vapors to a minimum temperature of 1,500 degrees F. for a minimum residence time of 1.0 seconds. Natural gas, LPG, new No. 2 distillate fuel oil, or on-specification used fuel oil is used to fire the afterburner at a maximum heat input rate of 50 MMBTU/hr.</p> <p>This emissions unit is a source of volatile organic compounds (VOCs), hazardous air pollutants (HAPs), carbon monoxide (CO), nitrogen oxides (NOx), sulfur dioxide (SO2) and particulate matter (PM) pollutants.</p>

**PERFORMANCE RESTRICTIONS**

- A.1. Hours of Operation: The soil thermal treatment facility is allowed to operate a total maximum of 5,800 hours for any 12 consecutive month period.  
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]
  
- A.2. Soil Input Rates to Rotary Kiln: For each batch of soil/material to be processed, the total soil/material input rate, which includes the stabilization agent when utilized, into the rotary kiln shall not exceed 75 tons/hr. Note, the batch of soils/materials to be treated may consist of and shall comply with the following:
  - a. Any combination of only the following 10 types of contaminated soils/materials may be processed:
    - (1) Petroleum contaminated soil
    - (2) Petroleum tank bottom sludge from petroleum storage tank systems
    - (3) Petroleum contaminated sediments, sludge, and liquids which originate from oil/water separators at residential car washes, rollover car washes, and tunnel car washes.

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (FINAL)

#### A. EU No. 001 – Soil Thermal Treatment Facility

- (4) Petroleum contaminated sediments, sludge, and liquids which originate from oil/water separators/sumps, other than car washes.
- (5) Soils contaminated with non-hazardous coal tar pitch residuals.
- (6) Soils contaminated with non-hazardous creosote.
- (7) Liquid biofuel\* contaminated soil.
- (8) Liquid biofuel\* tank bottom sludge from liquid biofuel storage tanks systems.
- (9) Liquid biofuel\* contaminated sediments, sludge, and liquids which originate from oil/water separators at residential car washes, rollover car washes, and tunnel car washes.
- (10) Liquid biofuel\* contaminated sediments, sludge, and liquids which originate from oil/water separators/sumps, other than car washes.

\* Biofuels are a type of fuel whose energy is derived from biological carbon fixation, which include fuels derived from biomass conversion as well as solid biomass, liquid fuels, and various biogases. Liquid biofuels may include biogasoline and biodiesel.

- b. Except for soils contaminated with non-hazardous coal tar pitch and non-hazardous creosote, the other 8 types of soils/materials to be processed may be mixed (blended) with only Cement, Cement Kiln Dust, and/or Fly Ash, which act as stabilization agent(s). The Cement, Cement Kiln Dust, and/or Fly Ash, shall not exceed 33.3% and 8.3 tons/hr. of the total weight of the soil to be processed.
- c. Each batch of soils/materials that is feed to the rotary kiln may be a blend of other known or unknown batches of soils/materials. See Specific Condition No. A.22.a. for recordkeeping requirements.

[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

A.3. Contaminant Input Limits to Rotary Kiln: The permittee shall comply with the following contamination input limits:

- a. The input rate to the rotary kiln of total petroleum contaminant (VOC) in the soils/materials shall not exceed 2,340 lbs./hr.

*{Permitting Note: At a maximum allowable soils/materials input rate of 75 tons/hr., this value is equivalent to a Total Recoverable Petroleum Hydrocarbon (TRPH) concentration measurement of 15,600 ppm, as determined in accordance with Chapter 62-713, F.A.C. or other Department approved method. Higher concentrations of TRPH in the contaminated soils/materials may be treated at reduced material input rates provided total petroleum contaminant (VOC) in the soils/materials does not exceed the permitted limit of 2,340 lbs./hr.}*

- b. Soil contaminated with polychlorinated biphenyls (PCBs) shall be less than 2 ppm (PCBs < 2 ppm). Compliance with Rule 62-713.510(7), F.A.C. will demonstrate compliance with this requirement.

[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

**SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (FINAL)**

**A. EU No. 001 – Soil Thermal Treatment Facility**

A.4. Operational Restrictions: The permittee shall comply with the following operational restrictions:

- a. The afterburner shall operate at all times during the treatment of soil and shall maintain a minimum temperature of 1500 °F (hot zone temperature) and a minimum flue gas residence time of 1.0 second. When soil is being treated, the minimum temperature shall be met or exceeded at all times except for 4 minutes in any 60 minute period, provided that the temperature does not fall 100 °F below the required minimum temperature of 1500 °F for the required residence time. Maintaining these parameters is considered to provide a minimum VOC destruction efficiency of 99%.
- b. There shall be no device which reduces the vertical momentum of the stack gas or reduces the vertical dispersion of the stack gas.

[Rules 62-4.070(3) and 62-296.415, F.A.C.]

A.5. Authorized Fuel: The permittee shall comply with the following limitations:

- a. The rotary kiln shall be only fired with natural gas, LPG, new No. 2 distillate fuel oil, or on-specification used fuel oil at a maximum heat input rate of 50 MMBTU/hr. (daily average).
- b. The afterburner shall be only fired with natural gas, LPG, new No. 2 distillate fuel oil, or on-specification used fuel oil at a maximum heat input rate of 50 MMBTU/hr. (daily average).
- c. The new No. 2 distillate fuel oil shall have a maximum sulfur content of 0.5% by weight.
- d. The on-specification used fuel oil shall have a maximum sulfur content of 0.75% by weight.
- e. The constituents of the on-specification used fuel oil used to fire the rotary kiln and afterburner shall not exceed the following associated allowable level as stipulated in 40 CFR 279.11 and adopted by reference in Rule 62-710.210, F.A.C.:

Constituent	Allowable Level (max. ppm)
Arsenic	5
Cadmium	2
Chromium	10
Lead	100
Total Halogens	1000*/4000
PCBs	None(<50 ppm)**

\* Levels over 1000 ppm require additional testing (ref. 40 CFR 279.11).

\*\* Fuel oil with >2 ppm shall not be used during startup or shutdown.

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (FINAL)

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#### A. EU No. 001 – Soil Thermal Treatment Facility

- f. The new No. 2 distillate fuel oil and the on-specification used fuel oil shall be received and stored in separate storage tanks. Each storage tank shall be clearly marked as to the type of fuel oil stored. If a single storage tank is used to store both types of fuel oil, all the fuel oil shall then be considered as on-specification used fuel oil.

[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

- A.6. Unconfined Particulate Matter: All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter. This condition applies to any source, including but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling. Reasonable precautions shall include, but are not limited to the following:

- a. Before and after thermal soil/material treatment is accomplished, unconfined emissions of particulate matter from the soil/material shall be controlled by the application of water or containment.
- b. The treated soil/material exiting the rotary kiln shall be sprayed with water. Note, in order to reduce visible emissions the Department may require the emissions from the soil exiting the kiln be captured and vented to the cyclone and/or baghouse.
- c. The contaminated untreated soil/material shall be stored inside the soil storage building(s).

[Rules 62-4.070(3), 62-296.320(4)(c) and 62-296.415(4), F.A.C.]

#### EMISSIONS STANDARDS

- A.7. Volatile Organic Compound (VOC) Emissions Standard: Total volatile organic compound (VOC) emissions from the afterburner's stack shall not exceed the following limits:

- a. 23.4 lbs./hr. based on the manufacturer's design of the afterburner.
- b. 67.9 tons in any consecutive 12-month period.

[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

- A.8. Carbon Monoxide (CO) Emissions Standard: Carbon monoxide (CO) emissions from the afterburner's stack shall not exceed the following limits:

- a. 13.1 lbs./hr. (The averaging time for this condition is based on the specific averaging time of the applicable test method.)
- b. 100 ppm by volume, dry basis, during all 60 consecutive minute periods of plant operation. The average CO emissions is the arithmetic mean of all CO concentration

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (FINAL)

#### A. EU No. 001 – Soil Thermal Treatment Facility

measurements during any consecutive 60 minutes of plant operation that were recorded by the continuous emission monitor required pursuant to Rule 62-296.415(6), F.A.C.

- c. 38 tons in any consecutive 12-month period.

[Rules 62-210.200(PTE) and 62-296.415(1)(b), F.A.C.]

A.9. Sulfur Dioxide (SO<sub>2</sub>) Emissions Standard: Sulfur dioxide emissions shall not exceed any of the following limits:

- a. 84.1 lbs./hr., based on a monthly average

{From AP-42: Residual Fuel Oil (on-specification used fuel oil) → 157(0.75) lbs./1000 gals. x 714 gals./hr. = 84.1 lbs./hr.; New No. 2 Distillate Fuel Oil → 142(0.5) lbs./1000 x 714 gals./hr. = 50.7 lbs./hr.}

- b. 99.0 tons in any consecutive 12-month period.

[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

A.10. Nitrogen Oxides (expressed as NO<sub>2</sub>) Emissions Standard: Nitrogen dioxide emissions shall not exceed any of the following limits:

- a. 39.3 lbs./hr., based on a monthly average

{From AP-42: Residual Fuel Oil (On-specification Used Fuel Oil) → 55 lbs./1000 gals. x 714 gals./hr. = 39.3 lbs./hr.; New No. 2 Distillate Fuel Oil → 20 lbs./1000 gals. x 714 gals./hr. = 14.3 lbs./hr.}

- b. 99.0 tons in any consecutive 12-month period.

[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

A.11. Particulate Matter (PM) Emissions Standard: Particulate matter (PM) emissions from the afterburner's stack shall not exceed the following:

- a. 0.04 gr/dscf\*

- b. 10.3 lbs./hr.\*

- c. 30 tons in any consecutive 12-month period.

{\*Permitting Note: The averaging time for these conditions is based on the specific averaging time of the applicable test method.}

[Rules 62-210.200(PTE) and 62-296.415(3), F.A.C.]

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (FINAL)

#### A. EU No. 001 – Soil Thermal Treatment Facility

- A.12. Organic HAP and Non-Organic HAP Emissions Standard: The permittee shall comply with the following standards:
- Organic HAP emissions from all soils treated/processed shall not exceed 6.6 tons of any individual organic HAP and 16.5 tons of total organic HAPs, per any consecutive 12-month period, respectively.
  - Emissions from treating/processing soil and the usage of on-specification used fuel oil shall not exceed a total of 8.0 tons for any individual non-organic HAP and a total of 23.0 tons for all non-organic HAPs, per any consecutive 12-month period.

*Note: Polychlorinated biphenyls (PCBs) and other various chemicals in the soil and used oil may cause emissions of hydrochloric acid (HCl, which is a HAP). These chemicals are measured as part of the Total Halogen/Volatile Organic Halocarbon (VOH) tests.*

- The sum of the "total organic HAPs emissions" and "total non-organic HAPs emissions" from the on-specification used fuel oil and all soils treated/processed combined shall not exceed 23.0 tons per any consecutive 12 month period.

*{Permitting Note: The Department considers the maximum uncontrolled individual organic hazardous air pollutant (HAP) emissions and total organic HAPs from soils contaminated with virgin or used petroleum products to be 4.4% and 11% of the total recoverable petroleum hydrocarbons (TRPH) measured in the soil. Based on the maximum allowable TRPH level of 15,600 ppm, when processing 75 tons/hr. of contaminated soil and an afterburner destruction efficiency of 99%, equates to a maximum allowable VOC emission rate of 67.9 tons/yr. Thus, the maximum individual organic HAP emission rate and maximum total organic HAPs emission rate are considered to be 2.99 tons and 7.46 tons per any consecutive 12-month period, respectively.}*

[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

- A.13. Visible Emissions (VE) Standard: Visible emissions (VE) from the afterburner's stack shall not exceed 5% opacity when thermally treating soil.  
[Rule 62-296.415(2), F.A.C.]

#### TESTING REQUIREMENTS

- A.14. Compliance Tests: During each federal fiscal year (October 1<sup>st</sup> to September 30<sup>th</sup>), the emissions unit shall be tested to demonstrate compliance with the emissions standards for pollutants:
- carbon monoxide (CO),
  - particulate matter (PM), and
  - visible emissions (VE).

**SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (FINAL)**

**A. EU No. 001 – Soil Thermal Treatment Facility**

- d. Additionally, the emissions unit shall be tested to show compliance with the minimum 1.0 second residence time requirement in the afterburner during each federal fiscal year.

The permittee may request the Department require a longer test frequency for the pollutants carbon monoxide and particulate matter, after at least 3 continuous years of satisfactory test results conducted at 90-100% of the permitted capacity soil input rate of 75 tons/hr. and when on-specification used fuel oil with a sulfur content of no less than 0.675% by weight is fired in both the rotary kiln and afterburner.

[Rules 62-4.070(3) and 62-297.310, F.A.C.]

A.15. Test Requirements: Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit. Additionally, the test shall be conducted in accordance with the following requirements:

- a. The rotary kiln and afterburner shall be fired with fuel oil. If natural gas or LPG is used to fire either the kiln or afterburner during the most recent compliance test(s), then within 30 days of firing that kiln and/or afterburner with fuel oil, a new test(s) shall be conducted.
- b. The rotary kiln shall be operated (while treating contaminated soil/material) between 90-100% of the total maximum input rate of 75 tons/hr.
- c. The rotary kiln shall be operated while the stabilization agent(s) (Cement/Cement Kiln Dust/Fly Ash) combined input rate is between 90-100% of the maximum stabilization input rate of 8.3 tons/hr.

[Rules 62-4.070(3) and 62-297.310, F.A.C.]

A.16. Test Method(s): Required tests shall be performed in accordance with the following reference method(s).

Method(s)	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content. Method 2 shall be used for the residence time* in the afterburner, stack gas airflow rate, and stack gas exit velocity.  <i>* The Method 2 test shall be conducted at a point, which is downstream of the afterburner. The test report shall include the calculations showing the residence time in the afterburner. The calculations shall be based upon actual measured operating parameters.</i>
5	Determination of Particulate Matter Emissions from Stationary Sources (minimum sample volume shall be 30 dscf)
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources (The method shall be based on a continuous sampling train.)

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (FINAL)

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#### A. EU No. 001 – Soil Thermal Treatment Facility

The above method(s) are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other method(s) may be used unless prior written approval is received from the Department.

[Rules 62-204.800 and 62-296.415(5), F.A.C.; and Appendix A of 40 CFR 60]

#### MONITORING REQUIREMENTS

- A.17. The permittee shall comply with the following monitoring and associated recording requirements:
- a. The baghouse when operating shall be monitored at least daily for the pressure drop across the baghouse and recorded/logged daily.
  - b. The minimum temperature of the afterburner and the CO emissions shall be determined by continuous monitors. Therefore, the facility shall be equipped with instruments to continuously monitor and record the temperature and the carbon monoxide concentration of the flue gases leaving the high temperature zone, but before any dilution air is mixed with the flue gases. The temperature monitor shall be certified by the manufacturer to be accurate to within 1% of the temperature being measured. The temperature monitoring system shall be calibrated at least annually (during the annual compliance emission tests) by the procedure recommended by the manufacturer. The calibration shall be at a minimum of 3 temperatures and over a range from 10% below to 10% above the designed flue gas hot zone temperature. Calibration records shall be kept for a minimum of 3 years. The carbon monoxide monitor shall be certified by the manufacturer to be accurate to within 10% of the carbon monoxide concentration by volume, mean value, or 5% of the applicable standard of 100 ppm, whichever is greater, as determined by an EPA Test Method 10. The carbon monoxide continuous emission monitoring device shall be certified, calibrated, and operated according to Performance Specification 4 of 40 CFR 60, Appendix B, excluding Section 5.2, Calibration Drift Test Period, of Performance Specification 2. The carbon monoxide monitor and temperature monitor shall be co-located.
  - c. The soil/material input rate (tons/hr.) shall be continuously measured by an automatic belt scale on the conveyor belt leading into the rotary kiln and recorded at least hourly.
  - d. For operational precautionary measures, the carbon monoxide monitor shall shutdown the rotary kiln feed belt if the 60-minute rolling average of carbon monoxide exceeds 100 ppm as limited by Rule 62-296.415(1)(b), F.A.C. The temperature monitor will also be set to shutdown the feed belt if the minimum temperatures are not maintained in accordance with Rule 62-296.415(1)(a), F.A.C. as required in Specific Condition No. A.4.a.

[Rules 62-296.415 and 62-4.070(3), F.A.C.]

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (FINAL)

### A. EU No. 001 – Soil Thermal Treatment Facility

#### NOTIFICATION REQUIREMENTS

A.18. Test Notification: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. The notification must include the following information: the date, time, and location of each test; the name and telephone number of the facility's contact person who will be responsible for coordinating the test; and the name, company, and the telephone number of the person conducting the test.

*{Permitting Note: The notification should also include the relevant emission unit ID No(s), test method(s) to be used, and pollutants to be tested.}*

[Rules 62-4.070(3) and 62-297.310(7)(a)9., F.A.C.]

A.19. Carbon Monoxide Monitor Notification: The permittee shall provide the Compliance Authority at least 30 days prior notice of any performance test that is associated with certification of the CO continuous monitor (e.g., due to modification or replacement of monitor).

[40 CFR 60.8]

#### RECORDS AND REPORTS

A.20. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. Additionally, the following information shall be included:

- a. For each day the required tests were conducted, a copy of the records required by Specific Condition Nos. A.17.a., A.17.c., A.21.a. and A.22.a.
- b. For each month in which the stack emissions tests were conducted, a copy of the records required by Specific Condition Nos. A.21.b.(2) and A.22.b.(5).
- c. A copy of the most recent certification and calibration of the carbon monoxide and temperature monitors required by Specific Condition No. A.17.b.
- d. A copy of the calculations showing the residence time in the afterburner based upon actual measured operating parameters.

[Rules 62-297.310(7) and 62-297.310(8) F.A.C.]

A.21. Authorized Fuels and Emissions Records: To document compliance with the authorized fuels requirements and associated emissions limits contained in Specific Condition Nos. A.5., A.9., and A.10., the permittee shall maintain the following records:

a. Daily Records:

- (1) the date,

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- (2) for each type of fuel burned in the rotary kiln, record the following:
  - (a) type of fuel burned (i.e., Natural Gas, LPG, New No. 2 distillate fuel oil, or on-specification used fuel oil),
  - (b) the quantity of fuel burned along with its associated daily average heat input rate in MMBTU/hour,
  - (c) If fuel oil is burned, then record the sulfur content in percent by weight.\*
- (3) for each type of fuel burned in the afterburner, record the following:
  - (a) type of fuel burned (i.e., Natural Gas, LPG, New No. 2 distillate fuel oil, or on-specification used fuel oil),
  - (b) the quantity of fuel burned along with its associated daily average heat input rate in MMBTU/hour,
  - (c) If fuel oil is burned, then record the sulfur content in percent by weight.\*

b. Monthly Records:

- (1) the month and year,
- (2) the total combined monthly average lbs./hr. sulfur dioxide emissions from all types of fuel used in the rotary kiln and afterburner.\*
- (3) the total combined monthly average lbs./hr. nitrogen dioxide emissions from all types of fuel used in the rotary kiln and afterburner.\*
- (4) the total combined sulfur dioxide emissions in tons from all types of fuel used in the rotary kiln and afterburner for the most recent consecutive 12-month period . If this value (tons of sulfur dioxide emissions) exceeds 80 tons, then the monthly records shall be performed daily. The daily records may switch back to monthly records if 2 consecutive calendar months of records each show the most recent consecutive 12-month period total combined sulfur dioxide emissions are less than 80 tons.\*
- (5) the total combined nitrogen dioxide emissions in tons from all types of fuel used in the rotary kiln and afterburner for the most recent cumulative consecutive 12-month period . If this value (tons of nitrogen dioxide emissions) exceeds 80 tons, then the monthly records shall be performed daily. The daily records may switch back to monthly records if 2 consecutive calendar months of records each show the most recent consecutive 12-month period total combined nitrogen dioxide emissions are less than 80 tons.\*

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\* *The Department recognizes that this value is derived from the fuel oil contained in a storage tank. Therefore, if multiple shipments of fuel oil and/or a blend of fuel oils are contained in the storage tank, the permittee shall:*

- 1) *Record the highest sulfur content of all the types and blends of fuel oils; and*
- 2) *Record the highest nitrogen dioxide emission factor as stated in Specific Condition No. A.10. for all types and blends of fuel oils.*

*The Department recognizes that this value will over estimate sulfur dioxide and nitrogen dioxide emissions on a short-term basis, but may be adjusted lower when completing the most recent cumulative consecutive 12 month period emission information, based on monthly purchase records minus the batch(s) of fuel oil(s) in the storage tank(s).*

c. Fuel Oil Supply Records:

To document compliance with the sulfur limitations for fuel oils contained in Specific Condition Nos. A.5.c. and A.5.d., and the on-specification limitations for used distillate fuel oil contained in Specific Condition No. A.5.e., the permittee shall maintain the following records for each batch/shipment of new No. 2 fuel oil and on-specification used distillate fuel oil received from the vendor/supplier:

- (1) the date of each batch/shipment of fuel oil was received,
- (2) the quantity of fuel oil received,
- (3) a representative test report showing the fuel oil's sulfur content in % by weight, and
- (4) the test results documenting the used fuel oil complies with the on-specification limitations.

The test results shall have been determined in accordance with the appropriate ASTM test method and the test method(s) required to document compliance with 40 CFR 279.11.

[Rule 62-4.070(3), F.A.C.]

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A.22. Rotary Kiln Operations Records: To document compliance with the rotary kiln's operational and emissions limits contained in Specific Condition Nos. A.1., A.2., A.3., A.7., A.8. and A.11., the permittee shall maintain the following records:

a. Daily Records:

- (1) For each batch of soil/material to be fed to the rotary kiln, which includes the stabilization agents if utilized, the following information shall be recorded:
  - (a) Date and Identification number or name.
  - (b) The type(s) and weight of the contaminated soils/materials, in tons.
  - (c) The name (i.e., Cement Kiln Dust) and weight of the stabilization agent utilized used, in tons.
  - (d) The total weight, in tons.
  - (e) The weight percent of the stabilization agent as compared to the total weight of the batch.
  - (f) Analysis\* results documenting the VOC content (TRPH).
  - (g) Analysis\* results documenting the PCB concentration.

\* *The pretreatment analysis in accordance with Chapter 62-713, F.A.C. for a batch may be used. When a batch that is to be fed to the rotary kiln is a blend of other batches, the pretreatment analysis from those batches comprising the "blended batch" may be used to derive the new results for that "blended batch", by a weighted averaging method. If the pretreatment analysis documentation is not used for a batch, which may be a combination of other batches, new testing and analysis in accordance Chapter 62-713, F.A.C., shall be conducted on the batch/final batch that is to be feed to the rotary kiln. Note, testing and analysis of any batch shall be determined with the stabilization agent, if utilized.*

*If soils/materials are treated at a reduced rate, in accordance with Specific Condition No. A.3.a., because the concentration of TRPH (VOC) exceeds the listed maximum allowable level (15,600 ppm) based on the input rate of 75 tons/hr., a record of how the new reduced input rate was derived shall be recorded prior to processing the soil/material. The new reduced maximum allowable input rate (tons/hr) for the batch of soil/material shall be recorded with the Identification No. or name of the batch.*

- (2) The Identification No. or name of the batch processed shall be recorded with the soil/material input rates (tons/hr.) that are recorded at least hourly in accordance with Specific Condition No. A.17.c. Along with recording the hourly batch input rate, the stabilization agent(s) (Cement, Cement Kiln Dust, and/or Fly Ash)

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combined total input rate associated with the batch shall also be recorded, if the most recent compliance tests were conducted at a stabilization input rate of less than 7.5 tons/hr. 7.5 tons/hr. is 90% of the maximum allowable rate of 8.3 tons/hr.

- (3) The pretreatment analysis as required by Chapter 62-713, F.A.C. shall be used to document compliance with the PCB limitation of Specific Condition No. A.3.b.
- (4) Daily record the hours of operation as determined from the hours that soil/material was actually fed.
- (5) Daily record the VOC emissions, in lbs./day.
- (6) Daily record the lbs./hr. daily average VOC emission rate.

**b. Monthly Records:**

- (1) The month and year.
- (2) The total hours of operation for the most recent consecutive 12 month period.
- (3) The total quantity of VOC emissions (in tons) for the month and for the most recent consecutive 12 month period.
- (4) Calculate the total quantity of particulate matter (PM) emissions (in tons) for the month and for the most recent consecutive 12 month period based on the last compliance tests for each type of contaminated soil processed.
- (5) Calculate and record the information and emissions described in the table titled "HAP Emissions Calculation" shown below, as necessary, to document compliance with the HAP emissions limits contained in Specific Condition No. A.12. If appropriate, any Material Safety Data Sheet(s) shall contain the associated CAS number(s) to identify HAPs.

<b>HAP Emissions Calculations</b>		
<b><u>Media</u></b>	<b><u>Pollutant</u></b>	<b><u>Emissions</u></b>
Liquid Biofuel Contaminated Soil	Organic HAPs	Negligible
	HCl	Negligible
Used Fuel Oil	Organic HAPs	Negligible
	HCl	Oil burned x density x total halogen *** concentration (ppm) x 10 <sup>-6</sup> x 0.8 (Cl factor) x 1/2000 x 1.03 (HCl/Cl)

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<b>HAP Emissions Calculations</b>		
<b>Media</b>	<b>Pollutant</b>	<b>Emissions</b>
Virgin Fuel Oil	HAPs	Negligible
	HCl	Negligible
Petroleum Contaminated Soil with Virgin Petroleum Product	Organic HAPs	TRPH x Soil treated x 0.11 (total HAP factor) x 10 <sup>-6</sup> x (1-0.99) DRE**
	HCl	Negligible
Petroleum Contaminated Soil with Used Oil and/or PCB's	Organic HAPs	Same as soil with virgin petroleum product
	HCl	Total halocarbons x soil treated x 10 <sup>-6</sup> x 0.7 (Cl factor) x 1.03 (HCl/Cl)
Coal Tar/Creosote Contaminated Soil	Organic HAPs	Total* and individual* HAPs from pre-burn analyticals x soil treated x 10 <sup>-6</sup> x (1-0.99) DRE**
	HCl	Total halocarbons x soil treated x 10 <sup>-6</sup> x 0.6 (Cl factor) x 1.03 (HCl/Cl)

\* Total and Individual calculations are performed separately

\*\* Destruction Efficiency of afterburner

\*\*\* If the total halogens of the on-specification used fuel oil exceeds 640 ppm, then weekly recordkeeping shall be required to ensure total HCl emissions do not exceed 8.0 tons per any consecutive 12 month period.

[Rule 62-4.070(3), F.A.C.]

A.23. Continuous Monitoring Records: The permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by rule or this permit; recorded in a permanent form suitable for inspection.

[Rule 62-4.070(3), F.A.C.]

A.24. Excess Emissions Records: The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of this facility which results in excess emissions; any malfunction of the air pollution control equipment; and any periods during which a continuous monitoring system or monitoring device is inoperative. *{Permitting Note: See Appendix C (Common Conditions) of this permit for additional Excess Emissions Requirements.}*

[Rules 62-4.070(3) and 62-210.700, F.A.C.]

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A.25. Recordkeeping Requirements: All records shall be recorded in a permanent form suitable for inspection, retained for at least 3 years at the facility, and available to the Department upon request. Daily records shall be completed by the end of the next business day, weekly records shall be completed by the end of the next week, and monthly records shall be completed by the end of the next month.

[Rule 62-4.070(3), F.A.C.]