



Jeb Bush
Governor

Department of Environmental Protection

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

Colleen M. Castille
Secretary

April 21, 2006

Mr. Gregg M. Worley, Chief
Air Permits Section
U.S. EPA, Region 4
61 Forsyth Street
Atlanta, Georgia 30303-8960

* Application
Scanned on
8/28/07

RE: Seminole Energy, L.L.C.
Osceola Road Waste Management Facility
1170084-005-AC, PSD-FL-376

Dear Mr. Worley:

Enclosed for your review and comment is a PSD application submitted by Seminole Energy, L.L.C., Inc. for a new gas fueled internal combustion engine electricity generation facility at the Osceola Road Waste Management Facility in Seminole County, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/921-9533. If you have any questions, please contact Syed Arif, Review Engineer, at 850/921-9528.

Sincerely,

JFK Jeffrey F. Koerner, P.E., Administrator
North Permitting Section

JFK/pa

Enclosure

cc: S. Arif



Jeb Bush
Governor

Department of Environmental Protection

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

Colleen M. Castille
Secretary

April 21, 2006

Mr. John Bunyak, Chief
Policy, Planning & Permit Review Branch
NPS – Air Quality Division
P. O. Box 25287
Denver, Colorado 80225

RE: Seminole Energy, L.L.C.
Osceola Road Waste Management Facility
1170084-005-AC, PSD-FL-376

Dear Mr. Bunyak:

Enclosed for your review and comment is a PSD application submitted by Seminole Energy, L.L.C., Inc. for a new gas fueled internal combustion engine electricity generation facility at the Osceola Road Waste Management Facility in Seminole County, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/921-9533. If you have any questions, please contact Syed Arif, Review Engineer, at 850/921-9528.

Sincerely,

Jeffrey F. Koerner, P.E., Administrator
North Permitting Section

JFK/pa

Enclosure

cc: S. Arif

"More Protection, Less Process"

Printed on recycled paper.

| | | | |
|--|--|--|--|
|  | | Parcels: 1/1 | |
| FRONT DEP AIR RESOURCE MGMT P. Adams DIRECTOR OFFICE STE 23 111 S MAGNOLIA DR TALLAHASSEE, FL 32301 UNITED STATES Tel: 850-921-9505 To: DEP Central District Mr. Alan Zahm 3319 Maguire Blvd 225 Orlando, FL 32803 UNITED STATES | | ORIGIN: TLH Sender's ref: 37550201000 AT AP255 POSTCODE: 32803 Tel: 407-893-3334 | |
| Description: PSD-FL-376 application Weight: 5 lbs for 1 pcs Date: 2006-04-21 DHL standard terms and conditions apply. | | 24MO Day | |
|  (2L)US32803 | | MCOX 5H FSC | |
|  WAYBILL: 15856027854 (Non-Negotiable) | | | |

▲ PEEL HERE PEEL HERE ▲

Please fold or cut in half
DO NOT PHOTOCOPY


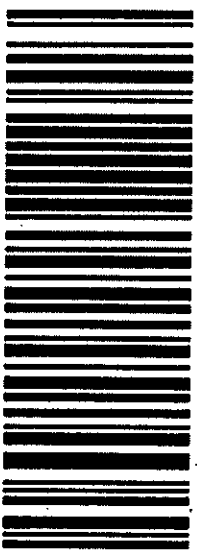

Using a photocopy could delay the delivery of your package and will result in additional shipping charge

| | | |
|--|--|---|
| SENDER'S RECEIPT Waybill #: 15856027854 | | Rate Estimate: 3.06 Protection: Not Required Description: PSD-FL-376 application |
| To (Company): DEP Central District 225 3319 Maguire Blvd. Orlando, FL 32803 UNITED STATES | | Weight (lbs.): 5 Dimensions: 0 x 0 x 0 |
| Attention To: Mr. Alan Zahm Phone#: 407-893-3334 | | Ship Ref: 37550201000 A7 AP255 Service Level: Ground (Est. delivery in 1 business day(s)) |
| Sent By: P. Adams Phone#: 850-921-9505 | | Special Svc: Date Printed: 4/21/2006 Bill Shipment To: Sender Bill To Acct: 778941286 |

DHL Signature (optional) _____ Route _____ Date _____ Time _____

For Tracking, please go to www.dhl-usa.com or call 1-800-225-5345
 Thank you for shipping with DHL



| | | | | |
|--|--|---|--|---------------------|
|  | | GND | | Parcels: 1/1 |
| Front DEP AIR RESOURCE MGMT P. Adams DIRECTOR OFFICE STE 23 111 S MAGNOLIADR TALLAHASSEE, FL 32301 UNITED STATES Tel: 850-921-9505 | | ORIGIN: TLH Sender's ref: 37550201000 A7 AP255 | | 30303 POSTCODE: |
| To: U.S. EPA Region 4 Mr. Gregg M. Worley 61 Forsyth Street Air Permits Section Atlanta, GA 30303 UNITED STATES | | Tel: 404-562-9141 | | Day 24MO |
| Description: PSD-FL-376 application PSD-FL-375 correspondence Weight: 7 lbs for 1 pcs Date: 2006-04-21 DHL standard terms and conditions apply. | | | | |
|  | | HARB 6V ATT | | |
|  | | WAYBILL: 15854781854 (Non-Negotiable) | | |

▲ PEEL HERE PEEL HERE ▲

Please fold or cut in half

DO NOT PHOTOCOPY

Using a photocopy could delay the delivery of your package and will result in additional shipping charge

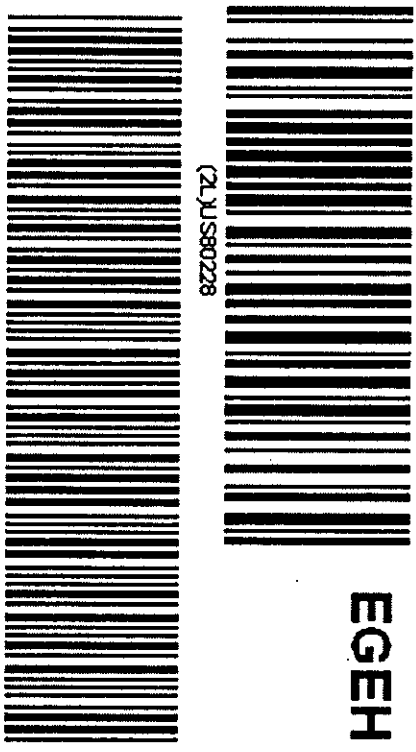
| | | |
|--|--|---|
| SENDER'S RECEIPT Waybill #: 15854781854 | | Rate Estimate: 3.06 Protection: Not Required Description: PSD-FL-376 application PSD-FL-375 correspondence |
| To (Company): U.S. EPA Region 4 Air Permits Section 61 Forsyth Street Atlanta, GA 30303 UNITED STATES | | Weight (lbs.): 7 Dimensions: 0 x 0 x 0 |
| Attention To: Mr. Gregg M. Worley Phone#: 404-562-9141 | | Ship Ref: 37550201000 A7, AP255 Service Level: Ground (Est. delivery in 1 business day(s)) |
| Sent By: P. Adams Phone#: 850-921-9505 | | Special Svc: Date Printed: 4/21/2006 Bill Shipment To: Sender Bill To Acct: 778941286 |

DHL Signature (optional) _____ Route _____ Date _____ Time _____
 For Tracking, please go to www.dhl-usa.com or call 1-800-225-5345
 Thank you for shipping with DHL

[Create new shipment](#)
[View pending shipments](#)
[Print waybill](#)



| | | | |
|--|--|--|------------------------|
| DHL | | NAS | Parcels: 1/1 |
| Front DEP AIR RESOURCE MGMT P. Adams DIRECTOR OFFICE STE 23 111 S MAGNOLIADR TALLAHASSEE, FL 32301 UNITED STATES Tel:850-921-9505 | | ORIGIN: TLH Sender's ref 37550201000 A7 AP255 | |
| To: National Park Service Mr. John Bunyak 12795 W. Alameda Parkway Air Division Lakewood, CO 80228 UNITED STATES | | POSTCODE: 80228 | |
| Description: PSD-FL-376 application PSD-FL-375 correspondence Weight: 7 lbs for 1 pcs Date: 2006-04-21 DHL standard terms and conditions apply. | | Tel: 303-966-2818 | |



WAYBILL: 15854943355

(Non-Negotiable)

EGEH 9E

▲ PEEL HERE PEEL HERE ▲

Please fold or cut in half
DO NOT PHOTOCOPY

Using a photocopy could delay the delivery of your package and will result in additional shipping charge

| | | | |
|-------------------------|--------------------------|-------------------|---|
| SENDER'S RECEIPT | | Rate Estimate: | 17.32 |
| Waybill #: | 15854943355 | Protection: | Not Required |
| To (Company): | National Park Service | Description: | PSD-FL-376 application |
| | Air Division | | PSD-FL-375 correspondence |
| | 12795 W. Alameda Parkway | Weight (lbs.): | 7 |
| | Lakewood, CO 80228 | Dimensions: | 0 x 0 x 0 |
| | UNITED STATES | Ship Ref: | 37550201000 A7 AP255 |
| Attention To: | Mr. John Bunyak | Service Level: | Next Day 3:00 (Next business day by 3 PM) |
| Phone#: | 303-966-2818 | Special Svc: | |
| Sent By: | P. Adams | Date Printed: | 4/21/2006 |
| Phone#: | 850-921-9505 | Bill Shipment To: | Sender |
| | | Bill To Acct: | 778941286 |

DHL Signature (optional) _____ Route _____ Date _____ Time _____

For Tracking, please go to www.dhl-usa.com or call 1-800-225-5345
Thank you for shipping with DHL



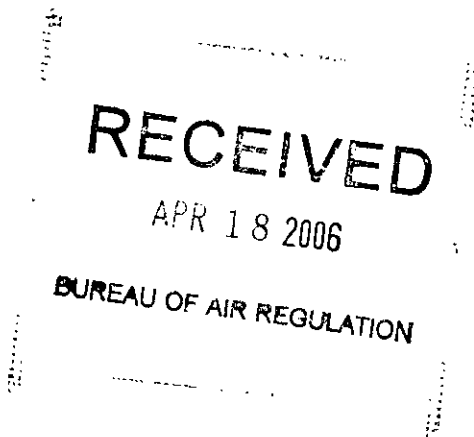
Derenzo and Associates, Inc.

Environmental Consultants

April 17, 2006

Mr. Jeff Koerner
Bureau of Air Regulation
Division of Air Resource Management
Department of Environmental Protection
STATE OF FLORIDA
2600 Blair Stone Road, MS 5505
Tallahassee, FL 32399-2400

Subject: Seminole Energy, L.L.C.
PSD Air Construction Permit Application



Dear Mr. Koerner:

Derenzo and Associates, Inc. (Derenzo and Associates), on behalf of Seminole Energy, L.L.C, is submitting to the Florida Department of Environmental Protection, Division of Air Resource Management four copies of an Air Construction Permit application for a new landfill gas (LFG) fueled internal combustion (IC) engine electricity generation facility at the Osceola Road Waste Management Facility in Seminole County Florida.

A check payable to the Florida Department of Environmental Protection for \$7,500 is attached to page 3 of Appendix A of the enclosed document labeled Master Copy to cover the Air Construction Permit application review services for a facility that is subject to Prevention of Significant Deterioration rules.

Appendix A of the enclosed documents provides a completed Department of Environmental Protection Division of Air Resources Management Application for Air Permit - Long Form for the proposed LFG-fueled IC engine electricity generation facility.

Attached is a copy of an April 10, 2006 document (without the complete document attachments) that was submitted to Mr. Arif of the FDEP-DARM, who has been assigned the review of a PSD Air Construction Permit application for an identical landfill gas to electricity generation facility (Trail Ridge Energy in Duval County), by Derenzo and Associates, Inc. This document addresses issues on the proposed project that were raised by Mr. Arif, which may be beneficial in the review of the Seminole Energy, L.L.C. permit application materials.

Sincerely,

DERENZO AND ASSOCIATES, INC.

David R. Derenzo
Services Director

enclosures

c: Bill Owen, Seminole Energy, w/enclosures
Scott, Salisbury, Seminole Energy, w/enclosures

Derenzo and Associates, Inc.

Environmental Consultants

April 10, 2006

Mr. Syed Arif, P.E.
Bureau of Air Regulation
Division of Air Resource Management
Department of Environmental Protection
STATE OF FLORIDA
2600 Blair Stone Road, MS 5505
Tallahassee, FL 32399-2400

Subject: Trail Ridge Energy, L.L.C.
DEP File No. 0310358-004-AC (PSD-FL-374)
Response to March 15, 2006 request for information

Dear Mr. Arif:

Derenzo and Associates, Inc. (Derenzo and Associates), on behalf of Trail Ridge Energy, L.L.C., is submitting to the Florida Department of Environmental Protection, Division of Air Resource Management (FDEP-DARM) information that was requested by the regulatory agency on March 15, 2006.

Attachment A provides for reference the March 15, FDEP-DARM communication.

Item 1 – Comparative Emissions Study

No comparative emissions study for products of combustion has been done between flare emissions and emissions from internal combustion engines.

Item 2 – Appendix H-1, Table 3

Attachment B provides corrected:

1. Appendix H-1, Table 3 data (based on LFG methane concentration of 45%, carbon dioxide concentration of 40%, nitrogen concentration of 10%, oxygen concentration of 5%, as presented in Table 1 of the main application document).
2. Landfill gas molecular weight information.
3. Page 41 of the main permit application document (the Trail Ridge Landfill LFG sulfur content is expected to be 0.018%).

Item 3 – Appendix H-2, Table 5

Attachment C provides corrected Appendix H-2, Table H-5, H-6 and H-7 footnote data. The sample calculation used an incorrect TCE ppmv concentration of 0.1 ppmv instead of the 0.48 ppmv value presented in the table. The calculations presented in the previously submitted documents are correct and not influenced by the correction.

Item 4 – Trail Ridge Landfill Stationary Source

Derenzo and Associates contacted Mr. Jeff Koerner prior to the submittal of the Trail Ridge Energy Air Construction Permit application to discuss the project and Title Operating Permit requirements. Mr. Koerner recommended that the Air Construction permit for the project be secured and subsequent permit application documents be submitted to the FDEP-DARM to incorporate the new air pollutant emission facility applicable requirements into the Title V Operating Permit that was issued the stationary source (Trail Ridge Landfill).

Derenzo and Associates informed Mr. Koerner that based on the independent operating nature of the users of gas generated by landfills (i.e, the gas rights are typically held by a third party; the LFG electricity generation facility purchases gas from the gas rights holder, leases land from the landfill and has no involvement with the landfill operations; and the landfill has no involvement in the power generation operations), states such as Michigan and Illinois have issued Title V Operating Permits that have two or more sections with separate associated responsible officials and regulatory contacts. These operating permits are issued as separate documents (to each facility at the stationary source with appropriate applicable requirements) that are connected to the same stationary source by an identification number (Illinois) or one document (Michigan) with two (or more) sections (one for each facility at the stationary source).

Mr. Koerner appeared to understand the potential complexities of the compliance issues that are associated with incorporating the applicable requirements of the LFG gas user (electricity generation facility) and landfill owner/operator into a single combined Title V Operating Permit and informed Derenzo and Associates that the FDEP-DARM would try to accommodate a request for a sectionalized (or partitioned) operating permit.

Attachment D provides the Title V Operating Permit (State of Michigan Renewable Operating Permit) that has been issued Sumpter Energy Associates at the Pine Tree Landfill (SEA – PTA). Sumpter Energy Associates is a sister company of Trail Ridge Energy. This operating permit has two sections, one has the applicable requirements of the landfill owner/operator and the other has the applicable requirements of the LFG user (electricity generation facility).

Trail Ridge Energy will provide the FDEP-DARM with a letter from the Trail Ridge Landfill that indicates the construction and operation of the proposed electricity at the landfill stationary source is acceptable to the owner/operator.

Item 5 – HCl Emission Compliance

Trail Ridge Energy will demonstrate compliance with a 10 ton per year hydrogen chloride (HCl) facility emission limit through the collection and analysis of samples of the landfill gas (LFG) used to fuel the IC engines. The HCl emission factor developed from the LFG analyzes (pounds of HCl per million cubic feet LFG fuel combustion) times the annual totalized measurement of treated gas (fuel) flow to the facility (million cubic feet of gas) will result in the actual amount of HCl emitted by the six IC engine operations

Attachment E provides a proposal that presents services to measure the chlorinated content of the SEA – PTA LFG fuel for use in the development of an IC engine fuel combustion HCl emission factor.

There is no need to limit engine-generator operating hours in order to demonstrate compliance with a 10 TpY HCl facility limit. The main function of the facility is to produce as much electricity as possible for sale to the local utility. Any restriction on the number of hours that the engine-generators are allowed to operate annually has an adverse effect on the project economics and operating revenues.

Item 6 - IC Engine PM-10 Emissions

Trail Ridge Energy has submitted permit application data to the FDEP-DARM for its proposed electricity generation facility that indicate and justify that BACT for PM-10 emitted from the LFG fueled engines (CAT 3520C) is 0.24 g/bhp-hr. This value is supported by data on IC LFG fueled engines that is presented in the USEPA RBL Clearinghouse for LFG fueled IC engines. Permits issued LFG fueled IC engines have limited their PM-10 emissions to rates that range from 0.04 to 0.34 g/bhp-hr.

The information previously submitted to the FDEP-DARM states that:

Operational experience obtained by Caterpillar, Inc. and users of its LFG fueled IC engines indicates that PM-10 emissions for LFG fueled IC engines are dependent on engine operating hours. While PM-10 emissions from the operation of new LFG fueled IC engines have been initially tested to be very low (i.e., <0.06 g/bhp-hr) subsequent measurements on the same equipment that are representative of increased engine operating hours indicate the presence of higher emission levels. The increased PM-10 emissions (from new engine operating conditions) has been attributed to particulate contributions from crankcase lubrication oil aerosols, which is the result of normal wear on piston rings and seals (i.e., not additional particulate contributions from the source of the LFG fuel).

Trail Ridge Energy representatives recorded in 2001 and a portion of 2002 the average daily crankcase oil consumption for CAT 3616 gas IC engines operated on LFG.

Attachment F provides the specified CAT 3616 gas IC engine oil use records.

Particulate (PM-10) emission tests that were performed on these engines indicate that the results of the initial compliance tests (that reflect new engine operations) varied from results of subsequent compliance tests (over a three year period) by a maximum value of approximate 300 % (300% increase).

The results of the same tests indicate that the highest PM-10 emission measurement exceeds the permitted limit (over a three year period) by a maximum factor of approximately 3.

The PM-10 emission limit for the specified engines was set at a value <0.1 g/bhp-hr that was obtained from the results of tests performed on new identical engines operated at another landfill. Caterpillar does not provide particulate emission guarantees for the CAT 3616 gas IC engine, which is also the case for the CAT 3520C gas IC engine. Therefore, in the absence of operational and emission compliance experience with this equipment (which was newly introduced to the LFG energy development market in the mid 1990s like the CAT 3520C engine was in 2005 with ordering allowed in early 2005 for delivery in late 2005) as presented in the preceding text, the identical equipment test results (which served as the basis for the permitted limit) were believed to be representative of particulate emissions that would occur over all engine operating conditions (which proved not to be the case for the reasons specified).

Trail Ridge Energy representatives, which have over 15 years experience with permitting and operating LFG fueled IC engine operations and have a relationship with Caterpillar of a similar duration, are not aware of any new data that supports a claim that the CAT 3520C gas IC engine can achieve a PM-10 emission limit of 0.148 g/bhp-hr (or less) over the operating life of the equipment (under all LFG applications, site specific fuel quality variation and engine operating conditions).

The fact that Bio Energy Texas facility has been permitted with PM-10 emissions of 0.148 g/bhp-hr is not a basis for a determination that the value is BACT.

The federal 40 CFR Part 52.21(b) Definitions (12) Best available control technology specifies that Best available control technology means an emission limitation based on the maximum degree of reduction ...on a base-by-case basis, taking into account energy, environmental and economic factors and other costs, determines is achievable ...

BACT is not a value or control specified:

1. By unsupported and potentially erroneous information that is used to establish permit limits.
2. By results of a limited set of compliance demonstration data that do not provide a basis that the limit can be continuously achieved over the operating conditions of the equipment.

3. In the absence of a detailed review of technical data on the equipment and an understanding of operating variables that properly address its potential emissions (as has been provided by Trail Ridge Energy).

Therefore, based on the preceding information and the previous permit application data submitted to the FDEP-DARM, PM-10 BACT for the CAT 3520C gas IC engine is 0.24 g/bhp-hr.

Item 7 - IC Engine Operations

The CAT® G3520C gas IC engines will operate under base load conditions (100% design capacity). There will be no periods of primary electrical generation when the engines are operated at partial loads. The main function of the facility is to produce as much electricity as possible for sale to the local utility. Engine down time and partial load electricity generation conditions have adverse effects on operating revenues. Engine startup and shutdown occurrences will be relatively infrequent.

Trail Ridge Energy expects to maintain a combined engine base load utilization factor of approximately 95% (i.e., on an annual basis, the combined facility engines will be operated at base load 95% of the time). Engine operations will be periodically stopped as necessary to perform equipment maintenance activities (i.e., on an annual basis, the combined facility engines will be stopped for maintenance approximately 5 % of the time).

The amount of time that is required to commence engine operations and ramp up power to base load conditions is less than 10 minutes. The amount of time that is required stop engine operations and ramp down power is less than 10 minutes. These infrequent periods of engine start up and shutdown will not have an impact on the potential hourly and annual air pollutant emission rates that are presented in the permit application documents.

Trail Ridge Energy , L.L.C.. appreciates the consideration of the FDEP-DARM of the information that is presented in this document.

Please contact us if you have questions or require additional information.

Sincerely,

DERENZO AND ASSOCIATES, INC.

David R. Derenzo
Services Director

c: Bill Owen, Landfill Energy Systems

Derenzo and Associates, Inc.

ATTACHMENT A

March 15, 2006 FDEP-DARM Communication



Jeb Bush
Governor

Department of Environmental Protection

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

Colleen M. Castille
Secretary

March 15, 2006

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Scott Salisbury
Trail Ridge Energy, L.L.C.
29261 Wall Street
Wixom, Michigan 48393

Re: DEP File No. 0310358-004-AC (PSD-FL-374)

Trail Ridge Energy – Installation of six (6) reciprocating internal combustion engines

Dear Mr. Salisbury:

The Department has received the application on February 24, 2006, to allow Trail Ridge Energy to construct and operate an electric generation facility at the Trail Ridge Landfill Facility in Duval County. Based on our initial review of the proposed project, we have determined that additional information is needed in order to continue processing this application package. Please submit the information requested below to the Department's Bureau of Air Regulation:

1. Please indicate if a comparative emissions study for products of combustion has been done between flare emissions and emissions from internal combustion engines. If such a study was done, please provide the results to the Department.
2. Appendix H-1, Table H-3 of the application calculates fuel weight percent sulfur content. The CO₂ concentration is indicated as 52 percent by volume, whereas Table 1 of the main application shows expected CO₂ gas composition to be less than 40 percent by volume. Additionally, the LFG molecular weight does not match up between the calculated value (30.9 g/mol) and the one used in determining the LFG sulfur content (28 g/mol). Please explain the discrepancy.
3. Appendix H-2, Table H-5 of the application shows a sample calculation for 1,1,1 trichloroethane (TCE) emissions in footnote A. Please explain the reasons for using 0.1 ft³ TCE/MMcf LFG in the calculations. The same factor was used in Tables H-6 and H-7.
4. The application in Section 5.2 states that the Trail Ridge Energy is part of the Trail Ridge Landfill Stationary Source and its approved Air Construction Permit is to be incorporated into the landfill Title V Operating Permit. By doing so, Trail Ridge Landfill will be responsible for the compliance of all the permit conditions in the Air Construction Permit. Please provide a letter signed from the Responsible Official of the Trail Ridge Landfill facility agreeing to comply with all the requirements and being responsible for any violations of the Air Construction Permit.
5. Please explain how the facility will show compliance if the HCl emissions from the proposed engine operations are restricted to less than 10 TPY. Is the facility in agreement to limit the hours of operation of the engines to comply with the 10 TPY restrictions?

"More Protection, Less Process"

Printed on recycled paper.

Mr. Scott Salisbury
Page 2 of 2
March 15, 2006

6. The application indicates that CAT G3520C gas IC engines have been installed and are operating at Bio Energy Texas. The maximum allowable PM₁₀ emissions that is permitted for this facility is 0.148 g/bhp-hr. Please explain the reasons for requesting 0.24 g/bhp-hr for this project when the same IC engines will be utilized at Trail Ridge Energy.
7. Please indicate if the IC engines will operate continuously or whether the engines will frequently start and stop. When the engines do operate, will it be operating at base load or at less than base load? What affect will operating at less than base load have on emissions?

Modeling information under Appendix I of the application has not been submitted. The Department will have additional 30 days after receiving the modeling information to send any further comments based on the modeling review. Any additional comments from EPA and the U.S. Fish and Wildlife Service will be forwarded to you after we receive them.

The Department will resume processing this application after receipt of the requested information. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. A new certification statement by the authorized representative or responsible official must accompany any material changes to the application. Rule 62-4.055(1), F.A.C. now requires applicants to respond to requests for information within 90 days.

We will be happy to meet and discuss the details with you and your staff. If you have any questions, I can be contacted at 850/921-9528. You may discuss the modeling requirements with Mr. Cleve Holladay at 850/921-8689.

Sincerely,



Syed Arif, P.E.
Bureau of Air Regulation

/sa

cc: Chris Kirts, DEP-NED
Richard Robinson, ERM/AQB
Jeff Pope, P.E., Clayton Group Services, Inc.
Gregg Worley, EPA Region 4
John Bunyak, NPS

ATTACHMENT B

**Corrected Appendix H-1, Table H-3 Data
Main permit application document page 41**

Fuel Sulfur Content Calculation (% Weight)

Expected fixed gas concentrations^A:

| | |
|------------------------|------------|
| CH ₄ | 45.0% vol. |
| CO ₂ | 40.0% vol. |
| O ₂ | 5.0% vol. |
| Balance N ₂ | 10.0% vol. |

Calculated LFG molecular weight:

$$(16) (\%CH_4) + (44) (\% CO_2) + (32) (\%O_2) + (28) (\%N_2) = 29.2 \text{ g/mol}$$

LFG sulfur content:

164.2 ppm H₂S

LFG sulfur content

$$(164.2 \text{ mol H}_2\text{S}) / (10^6 \text{ mol LFG}) (32 \text{ g S/mol H}_2\text{S}) / (29.2 \text{ g LFG/mol}) = 0.018\% \text{ wt.}$$

- A. Expected at LHV of 450 Btu/scf based on Landfill Energy Systems analyses
(see Table 1 of main document)

Appendix O provides a draft SSM plan for the LFG treatment equipment and processes.

7.3 Federal Acid Rain Program

The federal Acid Rain Program (40 CFR Part 72) has been promulgated pursuant to requirements of Title IV of the 1990 Clean Air Act Amendments. New unit exemption provisions of §72.7 specify that utility units:

1. Having a total nameplate capacity of 25 MW or less;
2. Not burning coal or coal-derived fuel; and
3. Burning gaseous fuel with an annual average sulfur content of 0.05% by weight or less,

are exempt from the Acid Rain Program, except for its notification and recordkeeping requirements (§§72.2 through 72.7 and §§72.10 through 72.13).

Utility unit is defined for the purposes of Part 72 as *any person that sells electricity*. Therefore, the proposed electricity generation facility:

1. Is an utility that has a total nameplate capacity of 9.6 MW,
2. Does not burn coal or any coal-derived fuel, and
3. Only burns gaseous fuel (LFG) with an annual average sulfur content of less than 0.05% by weight (Appendix H, Table H-3 data indicate that the Trail Ridge Landfill LFG sulfur content is expected to be 0.018% by weight).

Based on the preceding information, the proposed LFG fueled IC engine electricity generation facility is only subject to the notification and recordkeeping requirements of the federal Acid Rain Program.

8.0 ADDITIONAL AIR IMPACT ANALYSES

Federal and State of Florida PSD regulations require (in addition to appropriate air pollutant emission BACT and air quality impact demonstrations) that new major sources address air quality issues that pertain to visibility degradation, and vegetation, soil and growth impacts.

Derenzo and Associates, Inc.

Table 1. Measured and expected gas composition and fuel properties for LFG recovered from the Trail Ridge Landfill

| Component | Sample Date ¹ January 28, 2003 | Expected ² For IC Engine Fuel |
|-------------------------|--|---|
| Methane (% vol.) | 48.7 | >45 |
| Carbon Dioxide (% vol.) | 38.3 | <40 |
| Nitrogen (% vol.) | 11.9 | <10 |
| Oxygen (% vol.) | 2.3 | <5 |
| Fuel LHV (Btu/scf) | 443.5 ^A | >420 |

Notes

1. See Appendix E (Waste Energy Technology, LLC report dated February 2003)
2. Based on engine operator analysis.

ATTACHMENT C

Corrected Appendix H-2, Table H-5, H-6, H-7 Data

LFG Constituent Combustion Potential Air Contaminant Emissions
Internal Combustion Engine

| LFG Constituent | Landfill Gas | | Molecular Weight (g/mol) | Destruction Efficiency ² (%) | Emission (lb./hr) | Emission (TpY) |
|--|-------------------------------------|----------------------|-----------------------------|--|----------------------|----------------------|
| | Concentration ¹ (ppm) | (mg/m ³) | | | | |
| 1,1,1-trichloroethane* | 0.480 | 2.66 | 133.42 | 93.0% | 0.000404 | 0.00177 ^A |
| 1,1,2,2-tetrachloroethane* | 1.110 | 7.75 | 167.85 | 93.0% | 0.001175 | 0.00515 |
| 1,1-dichloroethane* | 2.350 | 9.67 | 98.97 | 93.0% | 0.001466 | 0.00642 |
| 1,1-dichloroethene* | 0.200 | 0.81 | 96.94 | 93.0% | 0.000122 | 0.00054 |
| 1,2-dichloroethane* | 0.410 | 1.69 | 98.96 | 93.0% | 0.000256 | 0.00112 |
| 1,2-dichloropropane* | 0.180 | 0.85 | 112.98 | 93.0% | 0.000128 | 0.00056 |
| 2-propanol (isopropyl alcohol) | 50.100 | 125.22 | 60.11 | 86.1% | 0.037703 | 0.16514 |
| Acetone | 7.010 | 16.93 | 58.09 | 86.1% | 0.005098 | 0.02233 |
| Acrylonitrile* | 6.330 | 13.97 | 53.06 | 86.1% | 0.004205 | 0.01842 |
| Bromodichloromethane | 3.130 | 21.32 | 163.83 | 93.0% | 0.003233 | 0.01416 |
| Butane | 5.030 | 12.16 | 58.14 | 86.1% | 0.003661 | 0.01604 |
| Carbon disulfide* | 0.580 | 1.84 | 76.13 | 86.1% | 0.000553 | 0.00242 |
| Carbon monoxide | 141.000 | 164.22 | 28.01 | 86.1% | 0.049446 | 0.21657 |
| Carbon tetrachloride* | 0.004 | 0.03 | 153.84 | 93.0% | 0.000004 | 0.00002 |
| Carbonyl sulfide* | 0.490 | 1.22 | 60.07 | 86.1% | 0.000369 | 0.00161 |
| Chlorobenzene* | 0.250 | 1.17 | 112.56 | 93.0% | 0.000177 | 0.00078 |
| Chlorodifluoromethane (Freon 22) | 1.300 | 4.67 | 86.47 | 93.0% | 0.000709 | 0.00310 |
| Chloroethane* | 1.250 | 3.35 | 64.52 | 93.0% | 0.000508 | 0.00223 |
| Chloroform* | 0.030 | 0.15 | 119.39 | 93.0% | 0.000023 | 0.00010 |
| Chloromethane (methyl chloride)* | 1.210 | 2.54 | 50.49 | 93.0% | 0.000385 | 0.00169 |
| Dichlorobenzene | 0.210 | 1.28 | 147.00 | 93.0% | 0.000195 | 0.00085 |
| Dichlorodifluoromethane | 15.700 | 78.93 | 120.91 | 93.0% | 0.011969 | 0.05242 |
| Dichlorofluoromethane | 2.620 | 11.21 | 102.92 | 93.0% | 0.001700 | 0.00745 |
| Dichloromethane (methylene chloride)* | 14.300 | 50.50 | 84.94 | 93.0% | 0.007658 | 0.03354 |
| Dimethyl sulfide (methyl sulfide) | 7.820 | 20.20 | 62.13 | 93.0% | 0.003063 | 0.01342 |
| Ethane | 889.000 | 1,111.90 | 30.08 | 86.1% | 0.334792 | 1.46639 |
| Ethanol | 27.200 | 52.12 | 46.08 | 86.1% | 0.015692 | 0.06873 |
| Ethyl mercaptan (ethanethiol) ^B | 2.280 | 5.89 | 62.13 | 99.0% | 0.000128 | 0.00056 |
| Ethylbenzene* | 4.610 | 20.35 | 106.16 | 99.0% | 0.000441 | 0.00193 |
| Ethylene dibromide* | 0.001 | 0.01 | 187.88 | 86.1% | 0.000002 | 0.00001 |
| Fluorotrichloromethane (Freon 11) | 0.760 | 4.34 | 137.36 | 93.0% | 0.000658 | 0.00288 |
| Hexane* | 6.570 | 23.54 | 86.17 | 86.1% | 0.007088 | 0.03104 |
| Hydrogen chloride* ^C | NA | NA | 36.46 | 0.0% | 0.416655 | 1.82495 |
| Hydrogen sulfide* ^D | 124.000 | 175.71 | 34.08 | 99.0% | 0.003806 | 0.01667 |
| Mercury (total)* | 0.0003 | 0.00 | 200.61 | 0.0% | 0.000005 | 0.00002 |

Notes

* 1990 CAA Amendments HAPs

1. Default concentration for LFG constituents from USEPA Compilation of Air Pollutant Emission Factors, Fifth Edition, Volume I: Stationary Point and Area Sources (AP-42), Table 2.4-1, which is provided at the end of this Appendix

2. AP-42 default control efficiency values for IC engines, Table 2.4-3, which are provided at the end of this Appendix.

A. Sample calculation, 1,1,1 trichloroethane (TCE) emissions

$$(0.48 \text{ ft}^3 \text{ TCE/MMcf LFG}) (133.42 \text{ lb. TCE/mol}) (1-0.93) / (387 \text{ ft}^3 \text{ TCE/mol}) (0.034857 \text{ MMscf/hr}) = 0.000404 \text{ lb./hr. TCE}$$

$$(0.000404 \text{ lb./hr. TCE}) (8,760 \text{ hr./yr.}) (1.0 \text{ ton}/2,000 \text{ lb}) = 0.00177 \text{ TpY}$$

B. Ethyl mercaptan has an autoignition temperature of 570 F, therefore a 99% DE was used.

C. Based on the Hydrogen chloride emission factor presented in Table F-7.

D. Hydrogen sulfide has an autoignition temperature of 500 F, therefore a 99% DE was used.

LFG Combustion Hydrogen Chloride Emission Factor

| Influent Chlorine Compounds | Landfill Gas Concentration ¹ (ppm) | Molecular Formula | No. Chlorine Atoms | HCl Emission Factor (lb./MMcf) |
|---|--|---|--------------------|-----------------------------------|
| 1,1,1-trichloroethane | 0.48 | C ₂ H ₃ Cl ₃ | 3 | 0.14 ^{u,v} |
| 1,1,2,2-tetra chloroethane | 1.11 | C ₂ H ₂ Cl ₄ | 4 | 0.42 ^v |
| 1,1-dichloroethane | 2.35 | C ₂ H ₄ Cl ₂ | 2 | 0.44 ^v |
| 1,1-dichloroethene | 0.2 | C ₂ H ₂ Cl ₂ | 2 | 0.04 ^v |
| 1,2-dichloroethane | 0.41 | C ₂ H ₄ Cl ₂ | 2 | 0.08 ^v |
| 1,2-dichloropropane | 0.18 | C ₃ H ₆ Cl ₂ | 2 | 0.03 ^v |
| Bromodichloromethane | 3.13 | CBrCl ₂ | 2 | 0.59 ^v |
| Carbon tetrachloride | 0.004 | CCl ₄ | 4 | 0.00 ^v |
| Chlorobenzene | 0.25 | C ₆ H ₅ Cl | 1 | 0.02 ^v |
| Chlorodifluoromethane | 1.3 | CHFCl | 1 | 0.12 ^b |
| Chloroethane | 1.25 | C ₂ H ₅ Cl | 1 | 0.12 ^v |
| Chloroform | 0.03 | CHCl ₃ | 3 | 0.01 ^v |
| Chloromethane | 1.21 | CH ₃ Cl | 1 | 0.11 ^v |
| Dichlorobenzene | 0.21 | C ₆ H ₄ Cl ₂ | 2 | 0.04 ^v |
| Dichlorodifluoromethane | 15.7 | CF ₂ Cl ₂ | 2 | 2.96 ^v |
| Dichlorofluoromethane | 2.62 | CHFCl ₂ | 2 | 0.49 ^v |
| Dichloromethane | 14.3 | CH ₂ Cl ₂ | 2 | 2.69 ^v |
| Fluorotrichloromethane | 0.76 | CFCl ₃ | 3 | 0.21 ^v |
| Perchloroethylene | 3.73 | C ₂ Cl ₄ | 4 | 1.41 ^v |
| Trichloroethylene | 2.82 | C ₂ HCl ₃ | 3 | 0.80 ^v |
| t-1,2-dichloroethane | 2.84 | C ₂ H ₂ Cl ₂ | 2 | 0.54 ^v |
| Vinyl chloride | 7.34 | C ₂ HCl | 1 | 0.69 ^v |
| Total hydrogen chloride emission factor (lb./MMcf) | | | | 11.95 |

Notes

1. From AP-42 default concentrations as presented in Table H-5.

a. Assumes complete conversion of chloride to HCl, calculation for 1,1,1-trichloroethane (TCE):

$$(0.48 \text{ ft}^3 \text{ TCE/MMcf LFG}) (3 \text{ mol HCl/mol TCE}) (36.46 \text{ lb. HCl/mol}) / (387 \text{ ft}^3/\text{mol}) \\ = 0.14 \text{ lb. HCl/MMcf LFG}$$

b. Based on AP-42 default concentrations, which are provided at the end of this Appendix.

**LFG Combustion Hazardous Air Pollutant Emission Factor
Internal Combustion Engine**

| HAPs ¹ | Landfill Gas Concentration ² | | Molecular Weight (g/mol) | Destruction Efficiency ³ (%) | HAP Emission Factor (lb./MMcf) |
|---|--|----------------------|--------------------------------|---|--------------------------------------|
| | (ppm) | (mg/m ³) | | | |
| 1,1,1-trichloroethane | 0.48 | 2.66 | 133.42 | 93.0% | 0.012 ^A |
| 1,1,2,2-tetrachloroethane | 1.11 | 7.75 | 167.85 | 93.0% | 0.034 |
| 1,1-dichloroethane | 2.35 | 9.67 | 98.95 | 93.0% | 0.042 |
| 1,1-dichloroethene | 0.2 | 0.81 | 96.94 | 93.0% | 0.004 |
| 1,2-dichloroethane | 0.41 | 1.69 | 98.96 | 93.0% | 0.007 |
| 1,2-dichloropropane | 0.18 | 0.85 | 112.98 | 93.0% | 0.004 |
| Acrylonitrile | 6.33 | 13.97 | 53.06 | 86.1% | 0.121 |
| Carbon disulfide | 0.58 | 1.84 | 76.13 | 86.1% | 0.016 |
| Carbon tetrachloride | 0.004 | 0.03 | 153.84 | 93.0% | 0.000 |
| Carbonyl sulfide | 0.49 | 1.22 | 60.07 | 86.1% | 0.011 |
| Chlorobenzene | 0.25 | 1.17 | 112.56 | 93.0% | 0.005 |
| Chloroethane | 1.25 | 3.35 | 64.52 | 93.0% | 0.015 |
| Chloroform | 0.03 | 0.15 | 119.39 | 93.0% | 0.001 |
| Chloromethane | 1.21 | 2.54 | 50.49 | 93.0% | 0.011 |
| Dichloromethane | 14.3 | 50.50 | 84.94 | 93.0% | 0.220 |
| Ethyl Benzene | 4.61 | 20.35 | 106.16 | 86.1% | 0.176 |
| Ethylene dibromide | 0.001 | 0.01 | 187.88 | 86.1% | 0.000 |
| Hexane | 6.57 | 23.54 | 86.17 | 86.1% | 0.203 |
| Hydrogen chloride | NA | NA | 36.46 | 0.0% | 11.953 ^B |
| Mercury (total) | 2.92E-04 | 0.00 | 200.61 | 0.0% | 0.000 |
| Methyl ethyl ketone | 7.09 | 21.26 | 72.10 | 86.1% | 0.184 |
| Methyl isobutyl ketone | 1.87 | 7.79 | 100.16 | 86.1% | 0.067 |
| Perchloroethylene | 3.73 | 25.72 | 165.83 | 93.0% | 0.112 |
| Trichloroethylene | 2.82 | 15.41 | 131.40 | 93.0% | 0.067 |
| Vinyl chloride | 7.34 | 19.07 | 62.50 | 93.0% | 0.083 |
| Xylene | 12.1 | 53.41 | 106.16 | 86.1% | 0.461 |
| Total HAP emission factor (lb./MMcf) | | | | | 13.81 |

Notes

- 1990 CAA Amendments Section 112(b) HAP
 - From AP-42 default concentrations as presented in Table H-5.
 - AP-42 default control efficiency values for IC engines, Table 2.4-3, which are provided at the end of this
- A. Sample calculation, 1,1,1 trichloroethane (TCE) emissions
 $(0.48 \text{ ft}^3 \text{ TCE/MMcf LFG}) (133.42 \text{ lb. TCE/mol}) (1-0.93) / (387 \text{ ft}^3 \text{ TCE/mol})$
 $= 0.012 \text{ lb. TCE/MMcf LFG}$
- B. Hydrogen chloride emission factor from Table H-6.

Derenzo and Associates, Inc.

ATTACHMENT D

**Sumpter Energy Associates - Pine Tree Landfill
State of Michigan Renewable Operating Permit**



Michigan Department Of Environmental Quality
Air Quality Division

State Registration Number
N5984

RO Permit Number
199600384

RENEWABLE OPERATING PERMIT

IS HEREBY ISSUED TO

PINE TREE ACRES INC. (LANDFILL)
AND
SUMPTER ENERGY ASSOCIATES (LANDFILL GAS CONTROL)

SRN: N5984

LOCATED AT

36600 29 MILE ROAD
LENOX TOWNSHIP, MI 48062

Permit Number: 199600384

Effective Date: December 12, 2002

Revision Date: March 2, 2006

Expiration Date: December 12, 2007

This permit is issued in accordance with and subject to Part 5506(3) of Article II, Chapter 1, Part 55 (Air Pollution Control) of P.A. 451 of 1994. Pursuant to Air Pollution Control Rule 336.1210(1), this permit constitutes the permittee's authority to operate the major stationary source identified above in accordance with the general conditions, special conditions and attachments contained herein. Operation of the major stationary source and all emission unit/process groups listed in the permit are subject to all applicable future or amended rules and regulations pursuant to P.A. 451 and the Clean Air Act.

This permit does not relieve the permittee from the responsibility to obtain the necessary permits to install pursuant to Air Pollution Control Rule 336.1201 for new or modified process or process equipment. In addition, issuance of this Renewable Operating Permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

Michigan Department of Environmental Quality

Teresa Seidel
Southeast Michigan District Supervisor
Air Quality Division

Derenzo and Associates, Inc.

ATTACHMENT E

**Sumpter Energy Associates - Pine Tree Landfill
LFG Chlorinated Compound Measurements
and
Fuel Combustion HCl Emission Factor Development**

Derenzo and Associates, Inc.

Environmental Consultants

January 20, 2005

Mr. Michael Laframboise
Manager of Operations
LANDFILL ENERGY SYSTEMS
29261 Wall Street
Wixom, MI 48393

Subject: Sumpter Energy Associates at Pine Tree Acres
Proposal to perform 2005 HCl LFG Tests
DAI Proposal No. P-05027

Dear Mr. Laframboise:

Derenzo and Associates, Inc. (Derenzo and Associates) is pleased to provide Sumpter Energy Associates with this proposal to perform sampling and analyses to measure the total chlorinated compound content of the gas use to fuel reciprocating internal combustion (IC) engine operations at the Pine Tree Acres landfill. The contents of this proposal are based on:

1. The experience of Derenzo and Associates with previous landfill gas (LFG) sampling and analyses provided Sumpter Energy Associates;
2. Results of hydrogen chloride (HCl) testing that was performed on the exhaust of IC engine nos. 6 and 7 in May 2004 and indicate the HCl emission rate of the engines is greater than 75% of the permitted emission limit; and
3. LFG testing requirements presented in Renewable Operating Permit No. 199600384 that was issued Sumpter Energy Associates that specifies:

Permittee shall sample the LFG prior to the ICEs and analyze the sample for chlorine compounds concurrent with the initial HCl performance stack test required under Condition III.B.7-9. This data will be used to verify the HCl emission limit as determined during most recent stack test or by alternate method approved by the District Supervisor, Air Quality Division. If the measured HCl emission rate is less than 75% of the applicable limit, no additional sampling is required for the term of the RO permit. If the measured HCl emission rate is at or greater than 75% of the emission limit, the Permittee shall calculate a HCl emission factor based on the concentration of chlorinated compounds in the LFG and the measured HCl emission rate and demonstrate compliance with the HCl emission limit on an annual basis by sampling and analysis of LFG.

SCOPE OF SERVICES

Derenzo and Associates will perform the following activities to complete the annual LFG total chlorinated compound and HCl sampling/measurement-testing project:

- Travel to Lenox Township, Michigan to obtain LFG samples using approved U.S. Environmental Protection Agency (USEPA) and Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) procedures.
- Collect LFG samples from the appropriate LFG fuel supply line of the Sumpter Energy Associates electricity generation facility. Stainless steel canisters will be used to collect duplicate LFG samples.
- Analyze the collected samples to determine concentrations of the LFG components listed in the attached document. The canister samples will be analyzed for volatile organics (EPA Method TO-15A).
- Present all LFG component concentrations and HCl emission factor calculations in a summary report. Field data sheet recordings, sampling and analytical procedures, certified laboratory results and quality assurance data will be provided in the report.

MATERIAL TO BE PROVIDED BY SUMPTER ENERGY ASSOCIATES

Derenzo and Associates requires that Sumpter Energy Associates provide:

- Appropriate operating conditions to obtain representative samples of the LFG fuel.
- Safe access to the LFG sampling site.

SCHEDULE

Derenzo and Associates will perform the LFG sampling portion of the project at a mutually acceptable time. A Sumpter Energy Associates representative will be contacted to schedule and confirm specific LFG sampling dates.

FEES

The estimated cost of the LFG total chlorinated compound sampling, analyses and HCl emission factor reporting project including travel, materials, and out-of-pocket expenses is \$xxx.

Derenzo and Associates, Inc.

Mr. Michael Laframboise
Sumpter Energy Associates

Page 3
January 20, 2005

Derenzo and Associates, Inc. looks forward to being of continued service to Sumpter Energy Associates.

Please contact me if you have any questions.

Sincerely,

DERENZO AND ASSOCIATES, INC.

David R. Derenzo
Services Director

Disk 4SEA PTA May 2005 LFG HCl tests

AIR TOXICS LTD.

Method : Modified TO-15

| Compound | Rpt. Limit (ppbv) |
|----------------------------------|-------------------|
| Freon 12 | 0.50 |
| Freon 114 | 0.50 |
| Chloromethane | 2.0 |
| Vinyl Chloride | 0.50 |
| 1,3-Butadiene | 0.50 |
| Bromomethane | 0.50 |
| Chloroethane | 0.50 |
| Freon 11 | 0.50 |
| Ethanol | 2.0 |
| Freon 113 | 0.50 |
| 1,1-Dichloroethene | 0.50 |
| Acetone | 2.0 |
| 2-Propanol | 2.0 |
| Carbon Disulfide | 0.50 |
| 3-Chloropropene | 2.0 |
| Methylene Chloride | 0.50 |
| Methyl tert-butyl ether | 0.50 |
| trans-1,2-Dichloroethene | 0.50 |
| Hexane | 0.50 |
| 1,1-Dichloroethane | 0.50 |
| 2-Butanone (Methyl Ethyl Ketone) | 0.50 |
| cis-1,2-Dichloroethene | 0.50 |
| Tetrahydrofuran | 0.50 |
| Chloroform | 0.50 |
| 1,1,1-Trichloroethane | 0.50 |
| Cyclohexane | 0.50 |
| Carbon Tetrachloride | 0.50 |
| 2,2,4-Trimethylpentane | 0.50 |
| Benzene | 0.50 |
| 1,2-Dichloroethane | 0.50 |
| Heptane | 0.50 |
| Trichloroethene | 0.50 |
| 1,2-Dichloropropane | 0.50 |
| 1,4-Dioxane | 2.0 |
| Bromodichloromethane | 0.50 |
| cis-1,3-Dichloropropene | 0.50 |
| 4-Methyl-2-pentanone | 0.50 |
| Toluene | 0.50 |
| trans-1,3-Dichloropropene | 0.50 |
| 1,1,2-Trichloroethane | 0.50 |
| Tetrachloroethene | 0.50 |
| 2-Hexanone | 2.0 |
| Dibromochloromethane | 0.50 |

Reporting Limits cited do not take into account sample dilution due to canister pressurization.

Average Daily Oil Usage for 2001

The following is the average amount of oil consumed per day for each month beginning January 2001 based on the recorded monthly consumption

Kiefer Landfill internal combustion engines

| | UNIT 1 | UNIT 2 | UNIT 3 |
|-----------|--------|--------|--------|
| JAN - 01 | 4.4 | 3.8 | 4 |
| FEB - 01 | 3.8 | 3.9 | 5.1 |
| MAR - 01 | 5.3 | 3.8 | 5.2 |
| APR - 01 | 4.1 | 3.5 | 4.7 |
| MAY - 01 | 5 | 1.2 | 5.8 |
| JUN - 01 | 1.2 | 2.1 | 3.2 |
| JUL - 01 | 5.4 | 5.7 | 4.8 |
| AUG - 01 | 5.7 | 4.4 | 6.1 |
| SEPT - 01 | 8.9 | 9.3 | 9.7 |
| OCT - 01 | 10.3 | 10.4 | 13.1 |
| NOV - 01 | 8.6 | 11 | 13.8 |
| DEC - 01 | 12.6 | 11.1 | 12.1 |
| JAN - 02 | 11.9 | 12.2 | 14.5 |
| FEB - 02 | 18.6 | 17.4 | 16.3 |
| MAR - 02 | 16 | 18.6 | 16.3 |
| APR - 02 | 16.2 | 19.8 | 16.4 |