



Mitchell E. Daniels, Jr.  
Governor

Thomas W. Easterly  
Commissioner

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TO: Interested Parties / Applicant

DATE: August 23, 2007  
RE: Country Oasis / 003-25054-00354

FROM: Nisha Sizemore  
Chief, Permits Branch  
Office of Air Quality

### Notice of Decision – Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures  
FNPER-AM.dot 03/23/06



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We make Indiana a cleaner, healthier place to live.*

Mitchell E. Daniels, Jr.  
Governor

Thomas W. Easterly  
Commissioner

100 North Senate Avenue  
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August 23, 2007

Mr. Merl Wortman  
Country Oasis  
16817 East US 24  
Woodburn, IN 46797

Dear Mr. Wortman:

Re: Exempt Construction and Operation Status,  
003-25054-00354

The application for Country Oasis, received on July 25, 2007, has been reviewed. Based on the data provided and the provisions in 326 IAC 2-1.1-3, it has been determined that the following, to be located at 16817 East US 24, Woodburn, Indiana 46797 is classified as exempt from air pollution permit requirements:

One (1) Multi Phase Extraction (MPE) system (soil vapor extraction and groundwater pump-and-treat), approved for construction in 2007, with a groundwater pump-and-treat flow rate of 5 gallons per minute (gpm), and a combined exhaust air flow rate of 300 actual cubic feet per minute (acfm).

The following conditions shall be applicable:

- (1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:
  - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (2) Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

This exemption is the first air approval issued to this source.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

If you have any questions on this matter, please contact Swarna Prabha, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, at 317-234-5376 or at 1-800-451-6027 (ext 45376).

Sincerely,

Original signed by

Nisha Sizemore, Chief  
Permits Branch  
Office of Air Quality

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cc: File - Allen County  
Allen County Health Department  
Air Compliance – Patrick Burton  
Compliance Data Section  
Permit Administration & Development Section  
Billing, Licensing and Training Section –Dan Stamatkin

# Indiana Department of Environmental Management Office of Air Quality

## Technical Support Document (TSD) for an Exemption

### Source Background and Description

**Source Name:** Country Oasis  
**Source Location:** 16817 US 24 East, Woodburn, Indiana 46797  
**County:** Allen County  
**SIC Code:** 4959 (Environmental remediation services)  
**Exemption No.:** 003-25054-00354  
**Permit Reviewer:** Swarna Prabha

The Office of Air Quality (OAQ) has reviewed an application from Country Oasis relating to the construction and operation of a stationary Multi Phase Extraction system for remediation of soil and groundwater contaminated with gasoline and diesel.

### New Emission Units and Pollution Control Equipment

One (1) Multiple Phase Extraction (MPE) system (soil vapor extraction and groundwater pump-and-treat), approved for construction in 2007, with a groundwater pump-and-treat flow rate of 5 gallons per minute (gpm), and a combined exhaust air flow rate of 300 actual cubic feet per minute (acfm).

### Enforcement Issue

There are no enforcement actions pending.

### Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

A complete application for the purposes of this review was received July 25, 2007.

Unless otherwise stated, information used in this review was derived from the application and additional information provided by the applicant.

### Emission Calculations

See Appendix A of this TSD for detailed emissions calculations (Appendix A, pages 1 through 2).

#### **Multiple Phase Extraction System:**

The Multiple Phase Extraction (MPE) system includes soil vapor extraction (SVE) and groundwater pump-and-treat (air-stripper). SVE removes residual liquid phase and vapor phase volatile organic compounds (VOCs) from the semi-saturated subsurface (i.e., vadose zone) by applying a vacuum to a sealed well screened the zone of interest, inducing volatilization and subsurface air flow. Groundwater pump-and-treat (air-stripper) involves the extraction of groundwater contaminated with dissolved and non-aqueous phase VOCs from pumping wells and the subsequent ex-situ treatment through an aerated tank or column, which allows VOCs in the contaminated water to diffuse from the liquid phase to the gaseous phase.

For the Potential to Emit (PTE) calculation of this TSD, it will be assumed that the VOCs removed

from the subsurface and groundwater will then be exhausted to the atmosphere with no pollution controls.

Based on the information provided by the source, soil and groundwater are contaminated with unleaded gasoline and diesel constituents.

**Potential To Emit**

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit (PTE) is defined as, “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	Negligible
PM-10	Negligible
SO <sub>2</sub>	Negligible
VOC	8.20
CO	Negligible
NO <sub>x</sub>	Negligible

HAPs	Potential To Emit (tons/year)
Benzene	0.085
Toluene	0.098
Ethylbenzene	0.084
Xylenes	0.098
Naphthalene	0.168
Trimethylebenzene	0.006
Methyl-tert-butyl ether	0.006
<b>TOTAL</b>	<b>0.545</b>

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of regulated criteria pollutants are less than the levels listed in 326 IAC 2-1.1-3(d)(1). Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3.

**County Attainment Status**

The source is located in Allen County.

Pollutant	Status
PM-10	Unclassifiable/Attainment
SO <sub>2</sub>	Unclassifiable/Attainment
NO <sub>2</sub>	Unclassifiable/Attainment
8-hour Ozone	Basic Nonattainment
CO	Unclassifiable/Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to the ozone standard. Allen County has been designated as basic nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (b) Allen County has been classified as attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions. See the State Rule Applicability – Entire Source section.
- (c) Allen County has been classified as attainment or unclassifiable for all the other regulated criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (d) Fugitive Emissions  
 Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 or 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.
- (e) On October 25, 2007, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.

**Source Status**

New Source Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	Negligible
PM-10	Negligible
SO <sub>2</sub>	Negligible
VOC	8.20
CO	Negligible
NO <sub>x</sub>	Negligible
Single HAP	0.168
Combination HAPs	0.545

- (a) This new source is not a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.
- (b) This new source is not a major stationary source, under Emission Offset (326 IAC 2-3) because no regulated nonattainment pollutant is emitted at a rate of 100 tons per year or more. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

## Part 70 Permit Determination

### 326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the PTE of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

## Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the exemption for this source.
- (b) The requirements of 40 CFR 63, Subpart GGGGG, (63.7880 through 63.7957), National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Site Remediation are not included for this stationary soil and/or groundwater remediation system, because the remediation is conducted at a gasoline service station in order to clean up remediation material from a leaking underground storage tank (40 CFR 63.7881(b)(4)).
- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in the exemption for this source.

## State Rule Applicability - Entire Source

### 326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This source was constructed after the applicability date of August 7, 1977, and it is not in one of the 28 listed source categories defined in 326 IAC 2-2-1(gg)(1) and the uncontrolled potential to emit of all attainment regulated pollutants is less than 250 tons per year. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

### 326 IAC 2-3 (Emission Offset)

This source is located in Allen County, which is designated as a nonattainment area for the 8-hour ozone standard. The potential to emit of VOC and NOx of this source is less than 100 tons per year. Therefore, the requirements of 326 IAC 2-3 (Emission Offset) are not applicable.

### 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The requirements of 326 IAC 2-4.1 are not applicable to this source, since the potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year.

### 326 IAC 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting), because it is located in Allen County, it is not required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, and it does not emit lead into the ambient air at levels equal to or greater than five (5) tons per year.

### 326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity

monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions Limitations)

Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

**State Rule Applicability - Individual Facilities**

326 IAC 8-1-6 (VOC rules: General Reduction Requirements for New Facilities)

The requirements of 326 IAC 8-1-6 are not applicable, since the MPE system does not have the potential to emit greater than twenty-five (25) tons of VOCs per year.

**Conclusion**

The construction and operation of this Multi Phase Extraction (MPE) system shall be subject to the conditions of the attached proposed Exemption No. 003-25054-00354

**Appendix A: Emissions Calculations  
Multiple Phase Extraction System**

**Company Name: Country Oasis  
Address : 16817 East US 24, Woodburn, Indiana 46797  
Exemption No.: 003-25054-00354  
Reviewer: S. Prabha**

**Weight Of Pollutants To Be Remediated By MPE System (lbs)**

Free Product	Dissolved Phase ( Below Water Table)			
	Diesel	Diesel	Gasoline	
Plume Area (ft <sup>2</sup> )	6400	Plume Area (ft <sup>2</sup> )	43500	37500
Thickness of Plume (ft)	0.25	Thickness of Soil (ft)	5	5
Porosity	0.3	Porosity	0.3	0.3
Volume of Diesel (ft <sup>3</sup> )	480	Volume of water contaminated (ft <sup>3</sup> )	65250	56250
Volume Of Diesel (gal)	3657.6	Volume of water contaminated (gal)	497205	428625
density Of Diesel (lbs/gal)	6.8	Concentration (µg/L of water)	51800	19089
Weight Of Diesel (lbs)	24871.68	Weight Of Contamination (lbs)	0.215	0.068

Hydrocarbons Absorbed to soil above and Below Water Table		
	Gasoline	Diesel
Volume of the Soil Contaminated (ft <sup>3</sup> )	17340	46080
Concentration (lb/MMlbs of soil)	300	1800
Soil density (lbs/ft <sup>3</sup> )	90	90
Weight Of Contamination (lbs)	468.18	7464.96

<b>Total Gasoline from MPE system (lbs)</b>	468.25
<b>Total Diesel form MPE System (lbs)</b>	32336.85

**Methodology:**

**Weight of Pollutant - Free Product (lbs) =**

$$[\text{Plume Area (ft}^2\text{)} * \text{Thickness of Plume (ft)}] * [(\text{Porosity})] * [(7.68\text{gal/ft}^3 * \text{Density of Diesel (lbs/gal)})]$$

**Weight of Dissolved Phase - Below Water Table (lbs) =**

$$[(\text{Maximum Concentration of Pollutant (µg/L of water)}) * [(g/1,000,000 µg)] * (3.785\text{L/gal}) * (\text{Volume of Water Contaminated (gal)}) * (\text{lb}/453.6\text{g})]$$

$$\text{Volume of Water Contaminated} = \text{Plume Area (ft}^2\text{)} * \text{Thickness of Soil (ft)} * (\text{Porosity})$$

**Weight of Hydrocarbons Adsorbed to Soil Above and Below Water Table (lbs) =**

$$[\text{Maximum concentration of Pollutant ( lb/million lbs of soil)}] * [\text{Volume of the soil contaminated (ft}^3\text{)}] * [\text{Soil Density lbs /ft}^3\text{}]$$

**Appendix A: Emissions Calculations  
Multiple Phase Extraction System**

**Company Name: Country Oasis**  
**Address : 16817 East US 24, Woodburn, Indiana 46797**  
**Exemption No. 003-25054-00354**  
**Reviewer: S. Prabha**

Petroleum Product	PTE of VOC (tons/yr)
Gasoline	0.12
Diesel	8.08

**Potential To Emit (PTE) VOC**

	Gasoline	Diesel
<b>Total Weight of Contamination in Ground Water (lbs)</b>	0.068	0.215
<b>Total Weight of Contamination in Soil (lbs)</b>	468.18	7464.96
<b>Total Weight of Contamination in Free Product (lbs)</b>		24871.00
<b>Total VOC (lbs)</b>	468.25	32336.17
<b>Total VOC (tons)</b>	0.23	16.17
<b>Remediation Time In Years</b>	2	2
<b>PTE Of VOC (tons/yr)</b>	0.12	8.08
<b>PTE Of VOC (lb/hr)</b>	0.027	1.85
<b>Combined PTE Of VOC tons/yr ( Gasoline &amp; Diesel)</b>	<b>8.20</b>	

**Potential To Emit (PTE) HAPs**

HAPs	Percent By Weight	Percent By Weight	PTE Of HAPs	PTE Of HAPs	Total PTE of HAPs
	gasoline	Diesel	Gasoline	Diesel	Gasoline & Diesel
<b>Benzene</b>	3.5%	1%	0.0041	0.081	0.085
<b>Toluene</b>	15%	1%	0.0176	0.081	0.098
<b>Ethylbenzene</b>	3%	1%	0.0035	0.081	0.084
<b>Xylenes</b>	15%	1%	0.0176	0.081	0.098
<b>Trimethylebenzene</b>	5%		0.0059		0.006
<b>MTBE</b>	5%		0.0059		0.006
<b>Napthalene</b>	5%	2%	0.0059	0.162	0.168
<b>Total HAPs</b>					0.545
<b>Worst Case HAP</b>					0.168

**Methodology:**

The potential emissions rate for VOCs emitted from the MPE system was assumed to be constant during the remediation time period. Based on information provided by the source, the remediation time will be 2 years based on an air flow rate of 300 acfm. Each of the petroleum hydrocarbon components is considered a VOC. Soil is assumed to have bulk density of 90lb/ft<sup>3</sup>

Total of VOCs (lbs) =[Total Weight of Contamination (lbs) ( Gasoline+Diesel, including Groundwater, Soil, and Free Product)]  
PTE of VOCs (tons/yr) = [Total VOCs [(lbs/2000)/2years]]

HAPS emission rate (tons/yr) = [PTE of VOC (tons/yr)] \* [Weight % HAP]