



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*  
Governor

*Thomas W. Easterly*  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204  
(317) 232-8603  
Toll Free (800) 451-6027  
[www.idem.IN.gov](http://www.idem.IN.gov)

TO: Interested Parties / Applicant

DATE: December 5, 2012

RE: Boezeman Marathon Service Station / 111-32434-00024

FROM: Matthew Stuckey, Branch Chief  
Permits Branch  
Office of Air Quality

## Notice of Decision: Approval - Effective Immediately

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 IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require 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, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of 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.dot12/03/07



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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December 5, 2012

Daniel Boezeman  
Boezeman Marathon Service Station  
4541 East State Road 10  
DeMotte, Indiana 46310

Re: Exempt Construction and Operation Status,  
111-32434-00024

Dear Daniel Boezeman:

The application from Boezeman Marathon Service Station, received on October 19, 2012, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following stationary Soil Vapor Extraction and Air Sparging System on the site of an existing gasoline service station and convenience store located at 4541 East State Road 10, DeMotte, Indiana, is classified as exempt from air pollution permit requirements:

- (a) One (1) Soil Vapor and Air Sparging System, identified as SVE-1, approved in 2012 for construction, with a maximum capacity of 0.20 tons per year of VOCs and 0.134 tons per year of HAPs, using no add-on controls, and exhausting through stack SVE-1;
- (b) Fugitive emissions from paved roads and parking lots with public access.

The following conditions shall be applicable:

1. Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-1 (Opacity Limitations), except as provided in 326 IAC 5-1-2 (Applicability) and 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%) 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 of fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

2. Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line of 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 (Fugitive Dust Emissions).

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

A copy of the Exemption is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: [www.idem.in.gov](http://www.idem.in.gov)

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 Jack Harmon, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, at 317-233-4228 or at 1-800-451-6027 (ext 34228).

Sincerely,



Chrystal Wagner, Section Chief  
Permits Branch  
Office of Air Quality

CW/jh

cc: File - Newton County  
Newton County Health Department  
Compliance and Enforcement Branch  
Billing, Licensing and Training Section

**Indiana Department of Environmental Management  
Office of Air Quality**

Technical Support Document (TSD) for Exemption

<b>Source Description and Location</b>
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<b>Source Name:</b>	<b>Boezeman Marathon Service Station</b>
<b>Source Location:</b>	<b>4541 East State Road 10, DeMotte, Indiana 46310</b>
<b>County:</b>	<b>Newton</b>
<b>SIC Code:</b>	<b>5541 (Gasoline Retail Service Stations)</b>
<b>Exemption No.:</b>	<b>111-32434-00024</b>
<b>Permit Reviewer:</b>	<b>Jack Harmon</b>

On October 19, 2012, the Office of Air Quality (OAQ) received an application from Boezeman Marathon Service Station related to the construction and operation of a new Soil Vapor Extraction and Air Sparging System on the site of an existing gasoline service station and convenience store.

<b>Existing Approvals</b>
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There have been no previous approvals issued to this source.

<b>County Attainment Status</b>
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The source is located in Newton County.

Pollutant	Designation
SO <sub>2</sub>	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O <sub>3</sub>	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard. <sup>1</sup>
PM <sub>10</sub>	Unclassifiable effective November 15, 1990.
NO <sub>2</sub>	Cannot be classified or better than national standards.
Pb	Not designated.

<sup>1</sup>Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.

Unclassifiable or attainment effective April 5, 2005, for PM<sub>2.5</sub>.

- (a) **Ozone Standards**  
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 ozone. Newton County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
  
- (b) **PM<sub>2.5</sub>**  
Newton County has been classified as attainment for PM<sub>2.5</sub>. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM<sub>2.5</sub> emissions. These rules became effective on July 15, 2008. On May 4, 2011, the air pollution control board issued an emergency rule establishing the direct PM<sub>2.5</sub> significant level at ten (10) tons per year. This rule became effective June 28, 2011. Therefore, direct PM<sub>2.5</sub> and SO<sub>2</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.



Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)									
	PM	PM10*	PM2.5	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	GHGs as CO <sub>2</sub> e**	Total HAPs	Worst Single HAP
<b>Total PTE of Entire Source</b>	<b>1.70</b>	<b>0.42</b>	<b>0.42</b>	<b>0.00</b>	<b>0.00</b>	<b>0.39</b>	<b>0.00</b>	<b>0.00</b>	<b>0.268</b>	<b>0.096 (Toluene)</b>
Exemptions Levels**	5	5	5	10	10	10	25	100,000	25	10
Registration Levels**	25	25	25	25	25	25	100	100,000	25	10
*Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". **The 100,000 CO <sub>2</sub> e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD. *** Emissions for this two-year process were conservatively calculated as if it were all completed in a one-year period.										

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) of all regulated criteria pollutants are less than the levels listed in 326 IAC 2-1.1-3(e)(1). Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3 (Exemptions).
- (b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.
- (c) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) greenhouse gases (GHGs) is less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO<sub>2</sub> equivalent emissions (CO<sub>2</sub>e) per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

**Federal Rule Applicability Determination**

New Source Performance Standards (NSPS)

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Equipment Leaks, 40 CFR 63, Subpart H (326 IAC 20), are not included in the permit, because this subpart is for leaks from pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, instrumentation systems, and control devices or closed vent systems. The soil vapor extraction and air sparging system at this facility involves removing pollutants from impacted soil by drawing air through pores through a natural process and involves no lines, valves, connectors, or closed vent systems as regulated in this subpart. Therefore, the requirements of 40 CFR 63, Subpart H do not apply.
- (c) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Site Remediation, 40 CFR 63, Subpart GGGGGG (326 IAC 20), are not included in the permit, since site remediation conducted at a gasoline service station to clean up materials from an underground leaking storage tank is exempt from the requirements of this subpart. Therefore, 40 CFR 63, Subpart GGGGGG does not apply.

- (d) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

Compliance Assurance Monitoring (CAM)

- (e) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

<b>State Rule Applicability Determination</b>
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- (a) 326 IAC 2-1.1-3 (Exemptions)  
Exemption applicability is discussed under the Permit Level Determination – Exemption section above.
- (b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))  
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. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.
- (c) 326 IAC 2-6 (Emission Reporting)  
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (d) 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:
- (1) 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.
  - (2) 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.
- (e) 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.
- (f) 326 IAC 6-5 (Fugitive Particulate Matter Emissions Limitations)  
This source is not subject to the requirements of 326 IAC 6-5 because the source does not have the potential to emit particulate matter fugitive emissions greater than twenty-five (25) tons per year. Therefore, 326 IAC 6-5 does not apply.
- (g) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)  
Each of the emission units at this source is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each emission unit is less than twenty-five (25) tons per year.

- (h) 326 IAC 12 (New Source Performance Standards)  
See Federal Rule Applicability Section of this TSD.
- (i) 326 IAC 20 (Hazardous Air Pollutants)  
See Federal Rule Applicability Section of this TSD.

### Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on October 19, 2012.

The construction and operation of this source shall be subject to the conditions of the attached proposed Exemption No. 111-32434-00024. The staff recommends to the Commissioner that this Exemption be approved.

### IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Jack Harmon at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-4228 or toll free at 1-800-451-6027 extension 3-4228.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: [www.in.gov/idem](http://www.in.gov/idem)

**Appendix A: Emissions Calculations  
Emission Summary**

**Company Name: Boezeman Marathon Service Station**  
**Source Address: 4541 East State Road 10, DeMotte, Indiana 46310**  
**Exemption No.: 111-32434-00024**  
**Reviewer: Jack Harmon**

Process Description	Unlimited Potential to Emit (PTE) (tons/year)									
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO <sub>2</sub> e	Total HAPs	Worst Single HAP
Soil Vapor Extraction System/SVE-1	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.268	0.096 (toluene)
Paved Roads (fugitive)	1.70	0.42	0.42	0.00	0.00	0.00	0.00	0.00	0.000	0.000 (---)
<b>Total PTE</b>	<b>1.70</b>	<b>0.42</b>	<b>0.42</b>	<b>0.00</b>	<b>0.00</b>	<b>0.39</b>	<b>0.00</b>	<b>0.00</b>	<b>0.268</b>	<b>0.096 (toluene)</b>

Note: All calculations and data submitted by source, and reviewed by IDEM, OAQ in conjunction of processing this permit.

**Appendix A: Emissions Calculations  
Soil Vapor Extraction System/SVE-1**

**Company Name:** Boezeman Marathon Service Station  
**Source Address:** 4541 East State Road 10, DeMotte, Indiana 46310  
**Exemption No.:** 111-32434-00024  
**Reviewer:** Jack Harmon

**Contaminant Mass Calculations**

**1) Dissolved Phase Contaminant Mass**

Dissolved Phase Gasoline				Dissolved Phase Diesel and/or Kerosene			
Constants				Constants			
Volume Conversion	7.48	gal per ft <sup>3</sup>		Volume Conversion	7.48	gallons per ft <sup>3</sup>	
Water Density	8.35	lbs per gal		Water Density	8.35	lbs per gal	
Input				Input			
Influence Area	Thickness	Soil Porosity	Contamination Concentration	Influence Area	Thickness	Soil Porosity	Contamination Concentration
(ft <sup>2</sup> )	(ft)		(ppb)	(ft <sup>2</sup> )	(ft)		(ppb)
13,219	6	0.30	24,927	13,219	6	0.30	24,927
	TPV:	79,314	ft <sup>3</sup>		TPV:	0	ft <sup>3</sup>
	IGWV:	23,794	ft <sup>3</sup>		IGWV:	0	ft <sup>3</sup>
	IGWV:	177,981	gal		IGWV:	0	gal
	IGWM:	1,486,138	lbs		IGWM:	0	lbs
	<b>DPHM-G:</b>	<b>37</b>	<b>lbs</b>		<b>DPHM-D:</b>	<b>0</b>	<b>lbs</b>

Note: All calculations and data submitted by source, and reviewed in conjunction of processing this permit.

**Assumptions:**

- The influence area value is based on the remediation system vacuum radius of influence of 25 feet at each extraction well as determined during pilot testing activities and depicted in Figure 1.
- Thickness of groundwater contamination is estimated conservatively at six (6) feet based on the fact that petroleum hydrocarbons have a specific gravity of less than one (1) and will therefore tend to float on the groundwater surface instead of distributing evenly within the water column.
- A typical soil porosity of 30% (0.30) is utilized.
- The contaminant concentration is the worst case of the historical maximum BTEX or MTBE concentration (Table 2) as measured in the five (5) monitoring wells (MW-4, OB-7i, OB-8s, OB-9s, and OB-10s) located within remediation system vacuum radius of influence illustrated on Figure 1.

**Calculation Explanation:**

- TPV (Total Plume Volume) (ft<sup>3</sup>)= Plume Area (ft<sup>2</sup>) \* Thickness (ft)
- IGWV (Impacted Groundwater Volume) (ft<sup>3</sup>)= TPV (ft<sup>3</sup>) \* Soil Porosity
- IGWV (gallons) = IGWV (ft<sup>3</sup>) \* 7.48 (gal/ft<sup>3</sup>)
- IGWM (Impacted Groundwater Mass) (lbs) = IGWV (gal) \* Water Density (lbs/gal)
- DPHM-G/D (Dissolved Phase Hydrocarbon Mass for Gasoline/Diesel) (lbs) = (Contaminant Concentrations (ppb) / 10<sup>6</sup>) \* IGWM (lbs)

**Appendix A: Emissions Calculations  
Remediation System AS/SVE-1**

**Company Name:** Boezeman Marathon Service Station  
**Source Address:** 4541 East State Road 10, DeMotte, Indiana 46310  
**Exemption No.:** 111-32434-00024  
**Reviewer:** Jack Harmon

**Contaminant Mass Calculations Continued**

**2) Adsorbed Hydrocarbon Mass (Hydrocarbons adsorbed to soil above and below water table)**

Soil Adsorbed Gasoline				Soil Adsorbed Diesel and/or Kerosene			
<i>Constants</i>				<i>Constants</i>			
Solid Mineral Density (Quartz)		165.4	lbs/ft <sup>3</sup>	Solid Mineral Density (Quartz)		165.4	lbs/ft <sup>3</sup>
<i>Input</i>				<i>Input</i>			
Influence Area	Thickness	Soil Porosity	Contamination Concentration	Influence Area	Thickness	Soil Porosity	Contamination Concentration
(ft <sup>2</sup> )	(ft)		(ppm)	(ft <sup>2</sup> )	(ft)		(ppm)
13,219	4.2	0.30	113.4	13,219	4.2	0.30	1.8
TISV:		55,520	ft <sup>3</sup>	TISV:		55,520	ft <sup>3</sup>
SMV:		38,864	ft <sup>3</sup>	SMV:		38,864	ft <sup>3</sup>
SMM:		6,428,106	lbs	SMM:		6,428,106	lbs
<b>AHM-G:</b>		<b>729</b>	<b>lbs</b>	<b>AHM-D:</b>		<b>12</b>	<b>lbs</b>

Note: All calculations and data submitted by source, and reviewed in conjunction of processing this permit.

**Assumptions:**

- The influence area is based to the total vacuum radius of influence of the high vacuum remediation system as depicted in Figure 2.
- The contaminated thickness was estimated by summing the total thickness of all soil sample intervals exhibiting soil vapor concentrations greater than 100 parts per million (ppm) as measured by a MiniRae 2000 photoionization detector (PID) (Table 1). For calculations, the impacted soil thickness value used is the average contaminated thickness observed in borings within the influence area of the remediation system.
- A typical soil porosity of 30% (0.30) is utilized.
- The contaminant concentration is the worst case of the maximum GRO or DRO concentration (Table 3) measured in each boring located within the remediation system radius of influence depicted on Figures 3.

**Calculation Explanation:**

TISV (Total Impacted Soil Volume) (ft<sup>3</sup>) = Plume Area (ft<sup>2</sup>) \* Thickness (ft)

SMV (Soil Mineral Volume) (ft<sup>3</sup>) = TISV (ft<sup>3</sup>) \* (1 - Soil Porosity)

SMM (Soil Mineral Mass) (lbs) = SMV (ft<sup>3</sup>) \* Solid Mineral Density (lbs/ft<sup>3</sup>)

AHM-G/D (Adsorbed Hydrocarbon Mass for Gasoline/Diesel) (lbs) = (Contaminant Concentration (ppm) / 10<sup>6</sup>) \* SMM (lbs)

**Appendix A: Emissions Calculations  
Remediation System AS/SVE-1**

**Company Name:** Boezeman Marathon Service Station  
**Source Address:** 4541 East State Road 10, DeMotte, Indiana 46310  
**Exemption No.:** 111-32434-00024  
**Reviewer:** Jack Harmon

**Contaminant Mass Calculations Continued**

**3) Total Volatile Organic Compounds (VOCs) Potential to Emit**

Potential Gasoline Range Mass (lbs):	766	(Sum of DPHM-G and AHM-G)
Potential Diesel Range Mass (lbs):	12	(Sum of DPHM-D and AHM-D)
<b>Total Hydrocarbon Mass (lbs):</b>	<b>778</b>	(Sum of Dissolved Phase and Adsorbed Hydrocarbons)

System Operational Period :	1.0	years
<b>VOC PTE:</b>	<b>0.39</b>	<b>tons/year</b>

Note: All calculations and data submitted by source, and reviewed in conjunction of processing this permit.

**Assumptions:**

- System Operational Period is the estimated time that will be required to reduce petroleum impacts at this site to below IDEM closure levels.
- It is assumed that all potential hydrocarbons that can be captured and emitted by the remediation system are composed of 100% VOCs.

**Calculation Explanation:**

VOC PTE (Total VOCs Potential to Emit) (tons/year) = Total Hydrocarbon Mass (lbs) / 2000 (lbs/ton) / System Operational Period (years)

To be conservative, the System Operational Period is 1.0; meaning that the project, and, therefore, all potential emissions will be experienced in one year.

**Contaminant Mass Calculations Continued**

**4) Individual Hazardous Air Pollutants (HAPs) Potential to Emit**

HAP	Gasoline		Diesel		Total Hydrocarbon Mass	
	Concentration	Total Mass PTE (lbs)	Concentration	Total Mass PTE (lbs)	Totals lbs	tons/year (1 Year)
Benzene	4.9%	37.53	1.0%	0.12	37.65	0.019
<b>Toluene</b>	25.0%	191.50	1.0%	0.12	191.61	<b>0.096</b>
Ethylbenzene	3.0%	22.98	1.0%	0.12	23.10	0.012
Xylenes	15.0%	114.90	1.0%	0.12	115.01	0.058
MTBE	15.0%	114.90	0.0%	0.00	114.90	0.057
Naphthalene	5.0%	38.30	0.01%	0.00	38.30	0.019
Isopropyl- benzene	2.0%	15.32	0.0%	0.00	15.32	0.008
					<b>Sum:</b>	<b>0.268</b>

**Assumptions:**

-Maximum HAPs percentages in gasoline based on attached MSDS (benzene 4.9%, toluene 25%, ethylbenzene 3.0%, xylene 15%, MTBE 5%)  
 ASSUMED maximum concentrations in gasoline of other HAPs constituents detected at the site: naphthalene 5%, isopropylbenzene 2%

-Maximum HAPs percentages in diesel based on attached MSDS (naphthalene 0.01%). ASSUMED maximum concentrations in diesel of other HAPs constituents detected at the site: benzene 1.0%, toluene 1.0%, ethylbenzene 1.0%, xylenes 1.0%

**Calculation Explanation:**

-The individual HAP PTE is estimated by multiplying the total Potential Gasoline Range Mass or Potential Diesel Range mass by the corresponding percentage composition in gasoline or diesel fuels.

To be conservative, the System Operational Period is 1.0; meaning that the project, and, therefore, all potential emissions will be experienced in one year.

**Appendix A: Emission Calculations  
Fugitive Dust Emissions - Paved Roads**

**Company Name: Boezeman Marathon Service Station  
Source Address: 4541 East State Road 10, DeMotte, Indiana 46311  
Exemption No.: 111-32434-00024  
Reviewer: Jack Harmon**

**Paved Roads at Industrial Site**

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by source)

Type	Maximum number of vehicles per day	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Vehicle (entering plant) (one-way trip)	1200.0	1.0	1200.0	5.0	6000.0	280	0.053	63.6	23227.3
Vehicle (leaving plant) (one-way trip)	1200.0	1.0	1200.0	5.0	6000.0	280	0.053	63.6	23227.3
<b>Total</b>			<b>2400.0</b>		<b>12000.0</b>			<b>127.3</b>	<b>46454.5</b>

Average Vehicle Weight Per Trip =  $\frac{5.0}{0.05}$  tons/trip  
Average Miles Per Trip =  $\frac{0.05}{0.05}$  miles/trip

Unmitigated Emission Factor,  $E_f = [k * (sL)^{0.91} * (W)^{1.02}]$  (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.082	0.016	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	5.0	5.0	5.0	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m <sup>2</sup> = silt loading value for paved roads at iron and steel production facilities - Table 13.2.1-3)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor,  $E_{ext} = E * [1 - (p/4N)]$  (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor,  $E_{ext} = E_f * [1 - (p/4N)]$   
where p =  $\frac{125}{365}$  days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)  
N =  $\frac{365}{365}$  days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, $E_f$ =	0.080	0.020	0.0200	lb/mile
Mitigated Emission Factor, $E_{ext}$ =	0.073	0.018	0.0183	lb/mile

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)
Vehicle (entering plant) (one-way trip)	0.93	0.23	0.23	0.85	0.21	0.21
Vehicle (leaving plant) (one-way trip)	0.93	0.23	0.23	0.85	0.21	0.21
	<b>1.86</b>	<b>0.46</b>	<b>0.46</b>	<b>1.70</b>	<b>0.42</b>	<b>0.42</b>

Note: All calculations and data submitted by source, and reviewed in conjunction of processing this permit.

**Methodology**

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] \* [Maximum trips per day (trip/day)]  
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]  
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] \* [Maximum one-way distance (mi/trip)]  
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]  
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]  
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] \* [Unmitigated Emission Factor (lb/mile)] \* (ton/2000 lbs)  
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] \* [Mitigated Emission Factor (lb/mile)] \* (ton/2000 lbs)

**Abbreviations**

PM = Particulate Matter  
PM10 = Particulate Matter (<10 um)  
PM2.5 = Particulate Matter (<2.5 um)  
PTE = Potential to Emit



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*  
**Governor**

*Thomas W. Easterly*  
**Commissioner**

100 North Senate Avenue  
Indianapolis, Indiana 46204  
(317) 232-8603  
Toll Free (800) 451-6027  
[www.idem.IN.gov](http://www.idem.IN.gov)

## **SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED**

**TO:** Daniel Boezeman  
Boezeman Marathon Service Station  
4541 E SR 10  
DeMotte, IN 46310

**DATE:** December 5, 2012

**FROM:** Matt Stuckey, Branch Chief  
Permits Branch  
Office of Air Quality

**SUBJECT:** Final Decision  
Exemption  
111-32434-00024

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:  
Sean Coats (Creek Run, LLC)  
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at [jbrush@idem.IN.gov](mailto:jbrush@idem.IN.gov).

Final Applicant Cover letter.dot 11/30/07

# Mail Code 61-53

IDEM Staff	MIDENNEY 12/5/2012 Boezeman Marathon Service Station 111-32434-00024 (final)		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING	
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail:  <b>CERTIFICATE OF MAILING ONLY</b>	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Daniel Boezeman Boezeman Marathon Service Station 4541 E SR 10 DeMotte IN 46310 (Source CAATS) via confirm delivery										
2		Newton County Commissioners 201 N. 3rd Street, Courthouse Square Kentland IN 47951 (Local Official)										
3		Newton County Health Department 4117 S. 240 W. Suite 500 Morocco IN 47963 (Health Department)										
4		Mr. Chris Hernandez Pipefitters Association, Local Union 597 8762 Louisiana St., Suite G Merrillville IN 46410 (Affected Party)										
5		Mr. Kenny Haun P.O. Box 280 Rensselaer IN 47978 (Affected Party)										
6		Sean Coats Creek Run LLC Environmental Engineering PO Box 114 Montpelier IN 47359 (Consultant)										
7		David & Thelma Smith 4569 East State Road 10 DeMotte IN 46310 (Affected Party)										
8		Dolores Baswell 4675 East State Road 10 DeMotte IN 46310 (Affected Party)										
9		Donald & Emma Lou Boezeman 4677 East State Road 10 DeMotte IN 46310 (Affected Party)										
10		Maria E Garcia 4469 East State Road 10 DeMotte IN 46310 (Affected Party)										
11		Joseph Morrison 4429 East State Road 10 DeMotte IN 46310 (Affected Party)										
12		Gary & Lynn Florence 4371 East State Road 10 DeMotte IN 46310 (Affected Party)										
13		John & Arlene Pfau 4478 East 1001 North DeMotte IN 46310 (Affected Party)										
14		David & Patricia Chafin 4456 East 1001 North DeMotte IN 46310 (Affected Party)										
15		Michael Janis 4432 East 1001 North DeMotte IN 46310 (Affected Party)										

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See <b>Domestic Mail Manual R900, S913, and S921</b> for limitations of coverage on inured and COD mail. See <b>International Mail Manual</b> for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
<b>14</b>			

# Mail Code 61-53

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Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		David & Carolyn Zimmerman 4410 East 1001 North DeMotte IN 46310 (Affected Party)										
2												
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15												

Total number of pieces Listed by Sender <b>1</b>	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See <b>Domestic Mail Manual R900, S913, and S921</b> for limitations of coverage on inured and COD mail. See <b>International Mail Manual</b> for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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