

M.James Thompson  
Thompson Environmental Inc.  
316 West Indiana Ave.  
Chesterton, Indiana 46304

**Re: Registered Construction and Operation Status,  
089-12328-00456**

Dear M.James Thompson:

The application from Thompson Environmental Inc./Lloyd's Mobil Gas Station, received on May 3, 2000, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.1, it has been determined that the following System, installed at Lloyd's Mobil Gas Station site for soil remediation, to be located at 702 E. Joliet Street, Crown Point, Indiana 46307 is classified as registered:

One(1) Soil Vapor Extractor System, with six 2-inch wells, connected to 40 HP vacuum blower, exhausting to catalytic oxidizer with temperature between 550 – 1100°F.

The following conditions shall be applicable:

1. Pursuant to 326 IAC 2-6 (Emission Reporting), the source has the potential to emit more than ten (10) tons per year of VOC. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).
2. Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), 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 15 minutes (60 readings) in a 6-hour period 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.

This registration is the first air approval issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Management that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.1-2(f)(3). The annual notice shall be submitted to:

Compliance Data Section  
Office of Air Management

100 North Senate Avenue  
P.O. Box 6015  
Indianapolis, IN 46206-6015

no later than March 1 of each year, with the annual notice being submitted in the format attached.

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

Sincerely,

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Management

GS

cc: File – Lake County  
Lake County Health Department  
Air Compliance – Ramesh Tejuja  
Northwest Regional Office  
Permit Tracking - Janet Mobley  
Technical Support and Modeling - Michele Boner  
Compliance Data Section - Karen Nowak  
Office of Enforcement

<b>Registration Annual Notification</b>
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**This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3)**

<b>Company Name:</b>	Thompson Environmental Inc./Lloyd's Mobil Gas Station
<b>Address:</b>	702 E. Joliet Street
<b>City:</b>	Crown Point, Indiana 46307
<b>Authorized individual:</b>	M.James Thompson
<b>Phone #:</b>	(219) 921-4311
<b>Registration #:</b>	089-12328-00456

I hereby certify that Soil Vapor Extractor at Thompson Environmental Inc./Lloyd's Mobil Gas Station is still in operation and is in compliance with the requirements of Registration 089-12328-00456.

<b>Name (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

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

**Technical Support Document (TSD) for a Registration**

**Source Background and Description**

**Source Name:** Thompson Environmental Inc./Lloyds Mobil Gasoline Station  
**Source Location:** 702 E.Jolient Street, Crown Point, Indiana 46307  
**County:** Lake  
**SIC Code:** 2899  
**Operation Permit No.:** 089-12328-00456  
**Permit Reviewer:** Gurinder Saini

The Office of Air Management (OAM) has reviewed an application from Thompson Environmental Inc. relating to the construction and operation of Soil Vapor Extraction System for Lloyds Mobil Gasoline Station for carrying out soil remediation.

**Unpermitted Emission Units and Pollution Control Equipment**

The source consists of the following unpermitted facilities/units:

One(1) Soil Vapor Extractor System, with six 2-inch wells, connected to 40 HP vacuum blower, exhausting to catalytic oxidizer with temperature between 550 – 1100°F.

**Existing Approvals**

This is the first Air Permit being issued to this source.

**Enforcement Issue**

- (a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled Unpermitted Emission Units and Pollution Control Equipment.
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

**Recommendation**

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

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

A complete application for the purposes of this review was received on May 30, 2000.

**Emission Calculations**

Applicant has submitted actual emissions data from the source. A copy of this data is attached at the end of this document.

**Potential To Emit**

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit 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	-
PM-10	-
SO <sub>2</sub>	-
VOC	12.7
CO	-
NO <sub>x</sub>	-

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of VOC is less than 25 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.5 and a Registration will be issued to this source.
- (b) Fugitive Emissions  
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 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.

**Actual Emissions**

The following table shows the actual emissions from the source. The table reflects the worst case scenario from the testing carried out at the site from December 1999 to May 2000.

Pollutant	Actual Emissions (tons/year)
PM	-
PM-10	-
SO <sub>2</sub>	-
VOC	12.7
CO	-
NO <sub>x</sub>	-
HAP (specify)	-

Test results are attached as Appendix A.

### County Attainment Status

The source is located in Lake County.

Pollutant	Status (attainment, maintenance attainment, or unclassifiable; severe, moderate, or marginal nonattainment)
PM-10	Attainment
SO <sub>2</sub>	Primary
NO <sub>2</sub>	Attainment
Ozone	Severe
CO	Maintenance
Lead	Attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen are precursors for the formation of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Lake County has been designated as nonattainment for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (b) Lake County has been classified as nonattainment for PM-10, SO<sub>2</sub>, Ozone and CO. Therefore, these emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (c) Fugitive Emissions  
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR 52.21, or 326 IAC 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.

### 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 potential to emit (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) applicable to this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to this source.

### State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year of VOC. Pursuant to this rule, the owner/operator of the source

must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

**326 IAC 5-1 (Visible Emissions Limitations)**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), 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.

**State Rule Applicability – Soil Vapor Extraction System**

There are no rules applicable to this facility.

**Conclusion**

The construction and operation of this Soil Vapor Extraction System shall be subject to the conditions of the attached proposed Registration 089-12328-00456.

**Appendix A**  
**Emission Test Data**

Thompson Environmental  
 Project Name: Loyds Mobile  
 Location: Crown Point, Indiana 46307

Date (2000)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
12/28	12/29	12/30	1/3	1/13	1/16	1/25	1/27	1/29	1/31	2/2	2/5	2/8	2/10	2/12	2/19	2/22

45	45	45	45	45	45	45	55	55	55	55	55	55	55	55	55	55
0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0
164.2	164.2	164.2	164.2	164.2	164.2	164.2	161.0	161.0	161.0	161.0	161.0	161.0	161.0	161.0	161.0	161.0

1300	1300	960	878	1605	1648	1719	1248	1248	1271	1184	1080	1104	1176	1176	1322	1322
2.23E-04	2.23E-04	1.64E-04	1.50E-04	2.75E-04	2.83E-04	2.94E-04	2.14E-04	2.14E-04	2.18E-04	2.02E-04	1.85E-04	1.89E-04	2.01E-04	2.01E-04	2.26E-04	2.26E-04
2.19	2.19	1.62	1.48	2.71	2.78	2.90	2.07	2.07	2.10	1.96	1.79	1.83	1.95	1.95	2.19	2.19
9.61	9.61	7.10	6.49	11.9	12.2	12.7	9.05	9.05	9.22	8.58	7.83	8.00	8.53	8.53	9.59	9.59

**Gas Conditions**  
 T<sub>a</sub> Temperature (°F)  
 R<sub>h</sub> Moisture (volume %)  
 O<sub>2</sub> Oxygen (dry volume %)  
 CO<sub>2</sub> Carbon dioxide (dry volume %)

**Volume Flow Rates**  
 Q<sub>a</sub> Actual conditions (acfm)  
 Q<sub>s</sub> Standard conditions (scfm)

**Total Hydrocarbons**  
 C Concentration (ppm as isobutylene)  
 E Emission rate (lb/dscf as isobutylene)  
 E Emission rate (lb/hr as isobutylene)  
 E Emission rate (tons/yr as isobutylene)

	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
2/23	2/25	2/29	3/7	3/11	3/14	3/16	3/18	3/21	3/23	3/25	3/28	4/1	4/7	4/15	4/18	4/29	5/2	5/6	5/9
55	55	55	65	65	65	65	65	65	65	65	65	80	80	80	80	80	80	80	80
0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0	185.0
161.0	161.0	161.0	158.0	158.0	158.0	158.0	158.0	158.0	158.0	158.0	158.0	158.0	153.6	153.6	153.6	153.6	153.6	153.6	153.6
1246	1311	1706	1706	1706	1327	1327	1327	1327	1327	1760	1760	1204	1003	485	570	870	870	870	870
2/13E-04	3/02E-04	3/02E-04	3/02E-04	1/23E-04	8/31E-05	9/71E-05	1/49E-04	1/49E-04	1/49E-04	1/49E-04									
2.06	2.06	2.17	2.77	2.77	2.15	2.15	2.15	2.15	2.15	2.86	2.86	1.90	1.58	0.77	0.90	1.37	1.37	1.37	1.37
9.03	9.03	9.51	12.1	12.1	9.44	9.44	9.44	9.44	9.44	12.5	12.5	8.33	6.94	3.35	3.94	6.02	6.02	6.02	6.02