Thomas M. McDermott, Jr.
Mayor

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
CITY OF HAMMOND
RONALD L. NOVAK
Director

January 2, 2007

Mr. James Thompson
Thompson Environmental, Inc.
316 West Indiana Avenue
Chesterton, Indiana 46304

Re: Exempt Construction and Operation Status,
089-23710-00518

Dear Mr. Thompson:

The application from Thompson Environmental, Inc. (Witham's Sav-a-Stop), received on September 29, 2006, 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 soil and groundwater remediation operation located at 7452, Indianapolis Boulevard, Hammond Indiana 46324, is classified as exempt from air pollution permit requirements:

One (1) extraction system to extract vapor petroleum hydrocarbons from the soil. This system has a maximum air flow of 250 cubic feet per minute (acfm), and consists of the following:

(a) One (1) Blower for extracting air from the soil via seven (7) wells and injecting air into the saturated soil via eight (8) wells, to be constructed in 2006, with a combined maximum capacity of 250 acfm.

(b) One catalytic oxidizer using platinum as the catalyst. This unit has a natural gas burner with a maximum capacity of one (1) MMBtu/hr heat input. The oxidizer has a control efficiency of 99% for VOC emissions.

The following condition 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 twenty percent (20%) 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 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) and the Hammond Department of Environmental Management (HDEM) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

5925 Calumet Avenue
Hammond, IN 46320
219. 853.6306
fax: 219 853 6343

Sincerely,

Ronald Novak
Director
Hammond Department of Environmental Management

ENCLOSURE

cc: Mindy Hahn – IDEM, OAQ, Permits Administrator
David Hughes – Horizon Environmental Services

Indiana Department of Environmental Management
Office of Air Quality
And
Hammond Department of Environmental Management
Air Pollution Control Division

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	Thompson Environmental Inc. (Witham's Sav-a-Stop)
Source Location:	7452 Indianapolis Boulevard, Hammond, Indiana 46324
County:	Lake
SIC Code:	4959
Operation Permit No.:	089-23710-00518
Permit Reviewer:	KM

The Hammond Department of Environmental Management (HDEM) has reviewed an application from Thompson Environmental, Inc. (Witham's Sav-A-Stop) relating to the construction and operation of a vapor extraction system with a catalytic oxidizer used for a soil and groundwater remediation operation.

New Emission Units and Pollution Control Equipment

The source consists of the following new emission units and pollution control devices:

One (1) extraction system to extract vapor petroleum hydrocarbons from the soil. This system has a maximum air flow of 250 cubic feet per minute (acfm), and consists of the following:

(a) One (1) Blower for extracting air from the soil via seven (7) wells and injecting air into the saturated soil via eight (8) wells, to be constructed in 2006, with a combined maximum capacity of 250 acfm.

(b) One catalytic oxidizer using platinum as the catalyst. This unit has a natural gas burner with a maximum capacity of one (1) MMBtu/hr heat input. The oxidizer has a control efficiency of 99% for VOC emissions.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted emission units operating at this source during this review process.

Existing Approvals

This is the first approval to be issued to this source.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (^{o}F)
S1	oxidizer	15	1.5	250	900 - 1200

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 September 29, 2006.

Emission Calculations

See Appendix A of this document for detailed emission calculations (page 1 of 1).

Potential to Emit of the Source Before Controls

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/yr)
PM	0.008
PM10	0.032
PM2.5	0.032
SO_2	0.003
VOC	0.090
CO	0.351
NO_x	0.417

HAPs	Potential to Emit (tons/yr)
Benzene	1.90E-6
Ethylbenzene	1.87E-7
Toluene	7.11E-7
Xylene	4.72E-6
MTBE	4.30E-8
Total	7.56E-6

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM, PM10, SO_2, NOx, VOC and CO 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. An exemption will be issued.

(b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) 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. An exemption will be issued.

County Attainment Status

The source is located in Lake County.

Pollutant	Status
PM10	Attainment
PM 2.5	Nonattainment
SO_2	Attainment
NO_2	Attainment
8-hour Ozone	Moderate Nonattainment
CO	Attainment
Lead	Attainment

(a) U.S.EPA in Federal Register Notice 70 FR 943 dated January 5, 2005 has designated Lake County as nonattainment for PM2.5. On March 7, 2005 the Indiana Attorney General's Office on behalf of IDEM filed a law suit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of non-attainment areas without sufficient data. However, in order to ensure that sources are not potentially liable for violation of the Clean Air Act, the OAQ is following the U.S. EPA's guidance to regulate PM10 emissions as surrogate for PM2.5 emissions pursuant to the requirements of Emission Offset, 326 IAC 2-3.

(b) 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 8-hour ozone standard. Lake County has been designated as 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.

(c) Lake County has been classified as attainment or unclassifiable in Indiana for PM10, NO_2, SO_2, CO, and lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(d) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 redesignating Delaware, Greene, Jackson Vanderburgh, Vigo and Warrick Counties to attainment for the eight-hour ozone standard, redesignating Lake County to attainment for the sulfur dioxide standard, and revoking the one-hour standard in Indiana.

Source Status

New Source PSD 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	0.008
PM-10	0.032
SO_2	0.003
VOC	0.0009
CO	0.351
NO_x	0.417
Single HAP	4.72 E-8
Combination HAPs	7.56 E-8

(a) This new source is not a major stationary source under Prevention of Significant Deterioration (PSD) 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 because no nonattainment regulated pollutant is emitted at a rate of 100 tons per year or more.

(c) This new source is not a major source of HAPs as defined in 40 CFR 63.41, because HAPs emissions are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

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 per 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 this exemption for this source.

(b) The source is not subject to the requirements of 40 CFR 63, Subpart GGGGG – National Emission Standards for Hazardous Air Pollutants (HAPs): Site Remediation because this source is not a major source of HAPs.

(c) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in this exemption for this source.

State Rule Applicability – Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Lake County and is not required to operate under the provisions of 326 IAC 2-7, Part 70 Permit Program. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

The source is located in Lake County in the area described in 326 IAC 5-1-1(c)(4). 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 the permit:

(a) Opacity shall not exceed an average of twenty percent (20%) 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.

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

The operation of the vacuum extraction system, with catalytic oxidizer, to extract vapors of petroleum hydrocarbons from the soil will emit less than 10 tons per year of a single HAP and less than 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

State Rule Applicability – Low Vacuum Extraction System

326 IAC 8-1-6 (BACT)

The potential to emit of VOC from the low vacuum extraction system is less than twenty-five (25) tons per year. Therefore, the provisions of 326 IAC 8-1-6 are not applicable.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) and 326 IAC 6-8-1 (Particulate Matter Limitations for Lake County)

The provisions of 326 IAC 6-3-2 and 326 IAC 6-8-1 are not applicable because there are no particulate emissions generated by the low vacuum extraction system.

326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark and Floyd Counties)

This source is located in Lake County, but the potential to emit of VOC of this source is less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 8-7 do not apply.

326 IAC 6.8-10 (Lake County: Fugitive Particulate Matter)

This source is located in Lake County. The potential to emit fugitive particulate matter of the source is less than five (5) tons per year. Therefore, the requirements of 326 IAC 6.8-10 do not apply.

Conclusion

The construction and operation of this low vacuum extraction system used for soil and groundwater remediation shall be subject to the attached Exemption No. 089-23710-00518.

Witham's Sav-a-Stop
7452 Indianapolis Boulevard
Hammond, Indiana 46320

PERMIT NO: 089-23710-00518
INSP DATE:
CALC DATE: 11/16/06

CALCULATIONS BY: Kristina Massey

YEAR OF DATA: REVIEW

NO. OF POINTS: _____

NOTES
EF: EMISSION FACTOR
CE: CONTROL EFFICIENCY
MDR: MAXIMUM DESIGN RATE
MDC: MAXIMUM DESIGN CAPACITY
Ts: STACK DISCHARGE TEMPERATURE
UNITS FOR EMISSIONS ARE IN (TPY) EXCEPT WHERE GIVEN

****

In-Process Fuel Combustion

MDC (mmBtu/hr): 1
MDR (mmcft/hr): 0.0010
HEAT CONTENT (Btu/cft): 1050
QTY BURNED (mmcft/yr): 0.00
STACK ID (DIAM:HEIGHT): 1.5:15
FLOWRATE (ACFM): 250
Ts(°F):

CNTRL DEV: NONE

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 4-02-010-01			POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0018	0.0434	**0.0079**	0.0018	0.0079	#VALUE!
PM10	7.6	0	0.0072	0.1737	**0.0317**	0.0072	0.0317	#VALUE!
SO2	0.6	0	0.0006	0.0137	**0.0025**	0.0006	0.0025	N/A
NOx	100	0	0.0952	2.2857	**0.4171**	0.0952	0.4171	N/A
VOC	5.5	0	0.0052	0.1257	**0.0229**	0.0052	0.0229	N/A
CO	84	0	0.0800	1.9200	**0.3504**	0.0800	0.3504	N/A
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A

Appendix A: Emission Calculations
VOC and HAP Emissions
Gasoline Service Station Soil and Groundwater Remediation

Company Name: Thompson Environmental, Inc (representing Witham's Sav-A-Stop)
Address: 7452 Indianapolis Boulevard, Hammond, Indiana 46324
Exemption: 089-23710-00518
Reviewer: KM/HDEM
Date: 10/3/06

	Max. Conc. in water ppb	Vapor Pressure mmHg	Partial pressure mm Hg (conc x vp)	mole fraction (mf) (pp/total press)	ppm (mf x 1,000,000)	lbmoles/hr (mf x molar flow) (see note 1)	Molecular weight	lb/hr (mw x lbmoles/hr)
Benzene	**18000**	**50**	**0.0009**	**1.18421E-06**	**1.184**	**4.94799E-05**	**78.11**	**0.00386**
Ethyl Benzene	**13000**	**5**	**0.000065**	**8.55263E-08**	**0.086**	**3.57355E-06**	**106.16**	**0.00038**
Toluene	**19000**	**15**	**0.000285**	**3.75000E-07**	**0.375**	**1.56686E-05**	**92.13**	**0.00144**
Xylene	**410000**	**4**	**0.00164**	**2.15789E-06**	**2.158**	**9.01633E-05**	**106.16**	**0.00957**
MTBE	**1200**	**15**	**0.000018**	**2.36842E-08**	**0.024**	**9.89597E-07**	**88.15**	**0.00009**
			0					
Water	**99538800**	**11**	**1.0949268**				**TOTAL**	**0.01535**
Air			**760**					

Note 1 - total molar flow is 250 acfm. 250 acfm/359 acf/lbmole = 0.6964 lbmole/min = 41.783 lbmole/hr

TOTAL VOC FROM REMEDIATION **0.067 TPY**

VOC GAS USAGE + REMEDIATION **0.0899 TPY**