



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

TO: Interested Parties / Applicant

DATE: Oct. 13, 2009

RE: Raben Tire Company, Inc. / 051-28145-00047

FROM: Matthew Stuckey, Branch 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, Suite N 501E, 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.dot12/3/07



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Mr. Michael Phelps
Raben Tire Company, Inc.
12580 South Northgate Drive
Haubstadt, Indiana 47639

Oct. 13, 2009

Re: 051-28145-00047
First Registration Notice-Only Change to
R051-21538-00047

Dear Mr. Phelps:

Raben Tire Company, Inc. was issued a Registration No. R051-21538-00047 on September 16, 2005 for a stationary truck tire retreading operation located at 12580 South Northgate Drive, Haubstadt, Indiana 47639. On June 25, 2009, the Office of Air Quality (OAQ) received an application from the source relating to the removal of the cyclone collector and addition of a tire grinding dust collection system associated with the existing filtered trailer system used for collecting rubber dust from the tire grinding stations. The uncontrolled/unlimited potential to emit of the entire source will continue to be within the threshold levels specified in 326 IAC 2-5.5-1(b)(1). No new state rules are applicable to this source. There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) or National Emission standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 20 and 40 CFR Part 61, 63) included in this notice-only change.

Since the integral cyclone will be removed, Raben Tire Co. submitted the following justification for considering the tire grinding dust collection system as an integral part of the tire grinding operation:

- (a) The tire grinding dust collection system should be considered an integral part of the tire grinding operation, since there is significant economic benefit gained by collecting the tire grinding dust for resale. The cost of installing and operating the tire grinding dust collection system and benefit from resale of the collected tire grinding dust are as follows:
- (1) assuming a life span of 10 years, the annualized initial capital costs (equipment and installation) of the tire grinding dust collection system is
 $\$23.50/10 \text{ years} = \$2,350.00 \text{ per year.}$
 - (2) tire grinding dust collection system has an annual operating cost of \$2,014.60 per year, consisting only of the electrical cost to operate the collection system blower.
 - (3) the collected tire grinding dust is sold for reuse, generating approximately \$40,383.60 per year (\$3,365.30 per month) in revenue.

Based on the costs and benefits above, the overall net annualized cost benefit of the tire grinding dust collection system is \$14,869.00 per year ($\$40,383.60 - \$2,350.00 - \$2,014.60$).

- (b) The high speed shearing action of the tire grinder creates high temperatures and sparks. The simultaneous presence of tire grinding dust and ignition sources may result in fires at the grinding unit. In order to prevent fires, the tire grinding dust will be removed from the grinding unit by the tire grinding dust collection system. The tire grinding dust collection

system is integral to the process, because it serves a primary purpose other than pollution control.

The constant operation of the tire grinding dust collection system while the grinding unit is in operation would also have an overall positive net economic effect since it prevents fires that would result in damage to the grinding unit and unplanned shutdowns of the process. Damage to the machinery would result in repair and replacement costs. Process shutdowns would result in loss of revenue. Either of these results would have negative financial impacts on the company.

IDEM, OAQ has evaluated the justification and agreed that the tire grinding dust collection system will be considered as an integral part of the tire grinding operation, since the tire grinding dust collection system has an overwhelming positive net economic effect and is necessary to prevent fires at the grinding unit. Therefore, the permitting level will be determined using the potential to emit after the tire grinding dust collection system. Particulate from the tire grinding operation shall be controlled by the tire grinding dust collection system at all times the tire grinding operation is in operation, and the Permittee shall operate the tire grinding dust collection system in accordance with manufacturer's specifications.

Pursuant to 326 IAC 2-5.5-6, the registration is hereby revised as follows, with deleted language as ~~strikeouts~~ and new language **bolded**:

1. The facility description for the two (2) tire grinding and repair stations has been revised as follows:
 - (a) Two (2) tire grinding and repair stations, identified as BUF, **constructed in 2005**, with a maximum capacity of 25 tires per hour, controlled by ~~a cyclone~~ **a tire grinding dust collection system** and exhausting to ~~stack C~~ **the outdoors**. ~~This unit will be constructed in 2005.~~...
2. Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the tire grinding line shall ~~to~~ **not** exceed 1.15 pounds per hour when operating at a process weight rate of 0.15 tons per hour.

The pound per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

The ~~eyelone~~ **tire grinding dust collection system** shall be in operation at all times the tire grinding process is in operation, in order to comply with this limit.

IDEM, OAQ has decided to make additional revisions to the registration as described below. The registration has been revised as follows with deleted language as ~~strikeouts~~ and new language **bolded**:

3. Several of IDEM's branches and sections have been renamed. Therefore, IDEM has updated the addresses listed in the registration. References to "Compliance Data Section" have been changed to "Compliance and Enforcement Branch". The registration has been revised as follows:

Indiana Department of Environmental Management
~~Compliance Data Section~~ **Compliance and Enforcement Branch**, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, IN 46204-~~2251~~

4. In addition, IDEM has begun implementing a new procedure and will no longer list the name or title of the Authorized Individual (AI) in registrations.

The source shall continue to operate according to 326 IAC 2-5.5. Please find enclosed the revised registration.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Gary Freeman, at (800) 451-6027, press 0 and ask for Gary Freeman or extension 3-5334 or dial (317) 233-5334.

Sincerely,



Alfred C. Dumaul, Ph. D., Section Chief
Permits Branch
Office of Air Quality

ACD/gkf

Attachment: Revised Registration

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



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REGISTRATION OFFICE OF AIR QUALITY

Raben Tire Company, Inc.
12580 South Northgate Drive
Haubstadt, Indiana 47639

Pursuant to 326 IAC 2-5.1 (Construction of New Sources: Registrations) and 326 IAC 2-5.5 (Registrations), (herein known as the Registrant) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this registration.

Registration No. R051-21538-00047	
Original signed by: Nysa L. James, Section Chief Permits Branch Office of Air Quality	Issuance Date: September 16, 2005

First Registration Notice-Only Change No. 051-28145-00047	
Issued by:  Alfred C. Dumaul, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: Oct. 13, 2009

SECTION A

SOURCE SUMMARY

This registration is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Registrant should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Registrant to obtain additional permits pursuant to 326 IAC 2.

A.1 General Information

The Registrant owns and operates a stationary truck tire retreading operation.

Source Address:	12580 South Northgate Drive, Haubstadt, Indiana 47639
Mailing Address:	12580 South Northgate Drive, Haubstadt, Indiana 47639
General Source Phone Number:	(812) 306-7431
SIC Code:	7534
County Location:	Gibson County
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Registration

A.2 Emission Units and Pollution Control Equipment Summary

This stationary source consists of the following emission units and pollution control devices:

- (a) Two (2) tire grinding and repair stations, identified as BUF, constructed in 2005, with a maximum capacity of 25 tires per hour, controlled by an integral tire grinding dust collection system and exhausting to the outdoors.
- (b) One (1) tire dissolution application and repair operation, identified as REP, with a maximum capacity of 25 tires per hour, with emissions exhausting to stacks B and D. This unit will be constructed in 2005.
- (c) Two (2) tire extruding/building machines, identified as TB, with a maximum capacity of 25 tires per hour, with emissions exhausting to stacks B and D. This unit will be constructed in 2005.
- (d) Two (2) tire curing chambers, identified as CUR, with a maximum capacity of 25 tires per hour, uncontrolled and exhausting to stacks B and D. This unit will be constructed in 2005.
- (e) One (1) natural-gas fired water heater, identified as HEAT, with a rated capacity of 0.97 MMBtu/hr, with emissions exhausting to stack A. This unit will be constructed in 2005.

SECTION B

GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

Terms in this registration shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

B.2 Effective Date of Registration [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this registration 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.

B.3 Registration Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation), this registration to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this registration.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this registration shall not require revocation of this registration.
- (d) For any cause which establishes in the judgment of the fact that continuance of this registration is not consistent with purposes of this article.

B.4 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to Registration No. 051-21538-00047 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this registration.

B.5 Annual Notification [326 IAC 2-5.1-2(f)(3)] [326 IAC 2-5.5-4(a)(3)]

Pursuant to 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3):

- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this registration.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, IN 46204-2251

- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

B.6 Source Modification Requirement [326 IAC 2-5.5-6(a)]

Pursuant to 326 IAC 2-5.5-6(a), 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.

B.7 Registrations [326 IAC 2-5.1-2(i)]

Pursuant to 326 IAC 2-5.1-2(i), this registration does not limit the source's potential to emit.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

C.1 Opacity [326 IAC 5-1]

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, unless otherwise stated in this registration:

- (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.

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

The Registrant 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 (Fugitive Dust Emissions).

SECTION D.1

OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (a) Two (2) tire grinding and repair stations, identified as BUF, constructed in 2005, with a maximum capacity of 25 tires per hour, controlled by an integral tire grinding dust collection system and exhausting to the outdoors.
- (b) One (1) tire dissolution application and repair operation, identified as REP, with a maximum capacity of 25 tires per hour, with emissions exhausting to stacks B and D. This unit will be constructed in 2005.
- (c) Two (2) tire extruding/building machines, identified as TB, with a maximum capacity of 25 tires per hour, with emissions exhausting to stacks B and D. This unit will be constructed in 2005.
- (d) Two (2) tire curing chambers, identified as CUR, with a maximum capacity of 25 tires per hour, uncontrolled and exhausting to stacks B and D. This unit will be constructed in 2005.
- (e) One (1) natural-gas fired water heater, identified as HEAT, with a rated capacity of 0.97 MMBtu/hr, with emissions exhausting to stack A. This unit will be constructed in 2005.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.1.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the tire grinding line shall not exceed 1.15 pounds per hour when operating at a process weight rate of 0.15 tons per hour.

The pound per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

The integral tire grinding dust collector system shall be in operation at all times the tire grinding process is in operation, in order to comply with this limit.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

**REGISTRATION
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3).

Company Name:	Raben Tire Company, Inc.
Address:	12580 South Northgate Drive
City:	Haubstadt, Indiana 47639
Phone Number:	(812) 306-7431
Registration No.:	051-21538-00047

I hereby certify that Raben Tire Company, Inc.is :

still in operation.

I hereby certify that Raben Tire Company, Inc.is :

no longer in operation.

in compliance with the requirements of Registration No. R051-21538-00047.

not in compliance with the requirements of Registration No. R051-21538-00047.

Authorized Individual (typed):
Title:
Signature:
Phone Number:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

**Appendix A: Emission Calculations
VOC, PM, and HAP Emissions
From the Grinding Operations of Tire Carcasses**

Company Name: Raben Tire Company, Inc.
Address: 12580 South Northgate Dr.
Haubstadt, IN. 47639
Permit #: 051-21538-00047
Reviewer: Gary Freeman
Date: August 26, 2005

Truck Tires Ground for Retreading (tires/yr): 219,000
Amount of rubber ground off per tire (lbs/tire ground): 12
Maximum Rate of Rubber Ground Off (lbs/hr): 300

Pollutants	*Emission Factor (lb/lb rubber ground off)	Potential to Emit (lb/hr)	Potential to Emit (tons/yr)
Total VOC	5.21E-04	1.56E-01	0.68
Total PM/PM10	5.45E-01	1.64E+02	1.58E+01
Total HAPs	1.27E-04	3.80E-02	1.66E-01
HAPs			
1,1,1-Trichloroethane (Methyl Chloroform)	3.58E-07	1.07E-04	4.70E-04
1,3-Butadiene	2.65E-05	7.95E-03	3.48E-02
2-Butanone	5.15E-07	1.55E-04	6.77E-04
4-Methyl-2-pentanone	1.92E-05	5.76E-03	2.52E-02
Acetophenone	7.13E-07	2.14E-04	9.37E-04
Acrolein	1.68E-06	5.04E-04	2.21E-03
Aniline	1.97E-05	5.91E-03	2.59E-02
Benzene	4.13E-06	1.24E-03	0.005
bis(2-Ethylhexyl)Phthalate	7.94E-06	2.38E-03	0.010
Cadmium (Cd) Compounds	8.58E-07	2.57E-04	1.13E-03
Carbon Disulfide	2.58E-06	7.74E-04	3.39E-03
Carbonyl Sulfide	8.70E-06	2.61E-03	1.14E-02
Chromium (Cr) Compounds	1.44E-06	4.32E-04	1.89E-03
Di-n-butylphthalate	2.24E-06	6.72E-04	2.94E-03
Dibenzofuran	1.59E-07	4.77E-05	2.09E-04
Hexane	1.60E-05	4.80E-03	2.10E-02
Isooctane	1.09E-05	3.27E-03	1.43E-02
Lead (Pb) Compounds	2.02E-06	6.06E-04	2.65E-03
m-Xylene + p-Xylene	2.23E-06	6.69E-04	2.93E-03
Methylene Chloride ¹	2.46E-07	7.38E-05	3.23E-04
Naphthalene	5.81E-07	1.74E-04	7.63E-04
Nickel (Ni) Compounds	2.03E-06	6.09E-04	2.67E-03
o-Toluidine	2.55E-06	7.65E-04	3.35E-03
Phenol	1.66E-06	4.98E-04	2.18E-03
Toluene ¹	6.27E-06	1.88E-03	8.24E-03
Trichloroethylene	1.95E-06	5.85E-04	2.56E-03

Methodology

PTE (lb/hr) = Rate of Rubber Ground Off (lb/hr) x Emission Factor (lb/lb)

PTE (tons/yr) = PTE (lb/hr) x 8760 (hr/yr) x (1 ton/2000 lb)

PM/PM10 PTE (tons/yr) = PTE (lb/hr) x 8760 (hr/yr) x (1 ton/2000 lb) x (1-control efficiency)

Notes

* Emission Factors are adapted from AP-42, Chapter 4.12, Table 4.12-12: Grinding Operations (draft-Dec. 1997)

* The PM/PM10 PTE is calculated after controls because the tire grinding dust collection system is considered integral to the process.

* Chromium value represents total chromium. Grindings were analyzed for the presence of hexavalent chromium.

* The facility will grind used tires, known as carcasses. Thus, the carcass emission factor was used.

Carcass emissions are reported in pounds emitted per pound of rubber removed or ground-off.

**Appendix A: Emission Calculations
VOC and HAP Emissions
From the Curing Operations in the Tire Building Process**

**Company Name: Raben Tire Company, Inc.
Address: 12580 South Northgate Dr.
Haubstadt, IN. 47639
Permit #: 051-21538-00047
Reviewer: ERG/HJ
Date: August 26, 2005**

Tires Cured:	25	tires/hr
Total Tires Cured:	219,000	tires/yr
Rubber Weight:	125.0	lbs/tire
Rubber Content:	80%	rubber content
Percentage Non Pre-Cured Rubber:	40%	non pre-cured rubber
Total:	8,760,000	lbs rubber/yr

Pollutant	CAS #	Tire A lb/lb rubber	Tire B lb/lb rubber	Tire C lb/lb rubber	Tire D lb/lb rubber	Tire E lb/lb rubber	Tire F lb/lb rubber	Tire G lb/lb rubber	Tire H lb/lb rubber	Tire I lb/lb rubber	Max Emission Factor lb/lb rubber	Curing Calculated Emissions ton/yr
Total VOC		3.37E-04	2.50E-04	1.46E-04	2.83E-04	1.65E-04	1.80E-04	2.07E-04	2.59E-04	1.86E-04	3.37E-04	1.48E+00
Total HAPs		7.95E-05	6.12E-05	2.76E-05	9.10E-05	9.53E-05	8.59E-05	7.42E-05	1.49E-04	6.00E-05	1.49E-04	6.53E-01
HAPs												
Acetophenone	98-86-2	7.50E-08	1.50E-07	8.96E-08	1.32E-07	7.05E-08	1.08E-07	1.21E-07	1.31E-07	1.22E-07	1.50E-07	6.55E-04
Acrolein	107-02-8	<	<	3.85E-07	<	<	<	<	<	<	3.85E-07	1.68E-03
Aniline	62-53-3	1.76E-06	2.56E-06	5.74E-07	5.70E-06	7.40E-07	4.36E-06	6.99E-07	3.36E-07	7.57E-06	7.57E-06	3.31E-02
Benzene	71-43-2	1.98E-07	<	2.32E-07	2.03E-07	4.26E-07	3.51E-07	5.38E-07	4.70E-07	4.91E-07	5.38E-07	2.36E-03
Benzyl Chloride	100-44-7	<	<	<	<	<	4.42E-08	<	<	<	4.42E-08	1.94E-04
Biphenyl	92-52-4	9.53E-08	6.98E-08	4.93E-08	4.03E-08	4.43E-08	<	6.97E-08	4.81E-08	<	9.53E-08	4.18E-04
bis(2-Ethylhexyl)phthalate	117-81-7	1.14E-07	1.60E-06	1.36E-07	2.39E-08	<	<	<	2.10E-08	3.98E-08	1.60E-06	7.01E-03
Carbon Disulfide	75-15-0	2.56E-05	8.98E-06	2.75E-06	7.19E-07	7.71E-06	4.92E-07	6.05E-06	6.81E-06	2.06E-06	2.56E-05	1.12E-01
Carbonyl Sulfide	463-58-1	1.09E-06	<	<	<	<	<	<	<	<	1.09E-06	4.77E-03
2-Chloroacetophenone	532-27-4	<	<	<	<	3.83E-09	<	<	<	<	3.83E-09	1.68E-05
Chloroform	67-66-3	<	<	<	<	<	<	6.50E-08	<	<	6.50E-08	2.85E-04
2-Methylphenol (o-cresol)	95-48-7	1.08E-08	1.39E-08	5.98E-09	<	<	<	7.52E-09	1.95E-08	<	1.95E-08	8.53E-05
Chloromethane (methyl chloride)	74-87-3	9.77E-08	<	7.48E-08	8.73E-08	<	4.92E-08	1.03E-07	9.16E-08	6.63E-08	1.03E-07	4.52E-04
Cumene	98-82-8	1.21E-07	2.02E-07	<	3.34E-07	4.52E-07	<	2.92E-07	6.81E-07	2.06E-07	6.81E-07	2.98E-03
Dibenzofuran	132-64-9	1.16E-08	1.26E-08	9.54E-09	6.60E-09	3.94E-09	<	6.32E-09	7.25E-09	7.31E-09	1.26E-08	5.52E-05
1,2-Dibromo-3-Chloropropane	96-12-8	<	<	<	4.11E-07	<	<	<	<	<	4.11E-07	1.80E-03
Di-n-butylphthalate	84-74-2	2.07E-07	6.42E-07	6.26E-07	1.86E-07	3.14E-07	9.49E-07	1.74E-07	3.76E-07	8.72E-08	9.49E-07	4.15E-03
1,4-Dichlorobenzene	106-46-7	4.98E-09	6.15E-09	5.63E-09	<	<	6.79E-07	5.61E-08	6.49E-10	8.61E-09	6.79E-07	2.97E-03
Ethylbenzene	100-41-4	5.28E-06	3.07E-06	9.24E-07	1.18E-05	1.28E-05	1.03E-05	6.73E-06	2.11E-05	7.12E-06	2.11E-05	9.26E-02

Pollutant	CAS #	Tire A lb/lb rubber	Tire B lb/lb rubber	Tire C lb/lb rubber	Tire D lb/lb rubber	Tire E lb/lb rubber	Tire F lb/lb rubber	Tire G lb/lb rubber	Tire H lb/lb rubber	Tire I lb/lb rubber	Max Emission Factor lb/lb rubber	Curing Calculated Emissions ton/yr
1,1-Dichloroethane (ethylidene chloride)	75-34-3	<	<	<	<	<	7.96E-08	<	<	<	7.96E-08	3.49E-04
Hexachlorobutadiene	87-68-3	<	<	<	4.11E-07	<	<	<	<	<	4.11E-07	1.80E-03
Hexane	110-54-3	4.75E-07	1.07E-06	2.46E-07	8.48E-07	3.19E-06	3.04E-06	6.73E-06	7.98E-06	3.44E-06	7.98E-06	3.50E-02
Isophorone	78-59-1	<	<	2.29E-08	9.08E-09	6.18E-08	4.37E-09	<	<	<	6.18E-08	2.71E-04
Bromomethane (methyl bromide)	74-83-9	1.14E-07	<	<	6.94E-08	<	<	<	<	<	1.14E-07	4.97E-04
1,1,1-Trichloroethane (methyl chloroform)	71-55-6	7.92E-08	<	1.48E-07	<	4.26E-07	1.19E-07	1.32E-07	1.64E-07	1.30E-07	4.26E-07	1.86E-03
2-Butanone (methyl ethyl ketone)	78-93-3	3.96E-07	4.41E-07	4.08E-07	8.73E-07	1.04E-06	1.55E-06	6.05E-07	1.64E-06	7.61E-07	1.64E-06	7.20E-03
4-Methyl-2-Pentanone (methyl isobutyl ketone)	108-10-1	1.40E-05	1.95E-05	9.51E-06	1.23E-05	9.84E-06	9.60E-06	1.28E-05	1.62E-05	8.84E-06	1.95E-05	8.56E-02
t-Butyl Methyl Ether (methyl tert butyl ether)	1634-04-4	<	<	<	<	<	3.04E-07	<	<	<	3.04E-07	1.33E-03
Methylene Chloride	75-09-2	9.77E-07	9.30E-07	1.94E-06	7.45E-06	4.79E-06	5.62E-06	1.01E-06	2.82E-06	3.68E-06	7.45E-06	3.26E-02
Naphthalene	91-20-3	6.93E-08	7.82E-08	1.50E-07	2.83E-07	2.31E-07	<	1.26E-07	2.47E-07	1.44E-07	2.83E-07	1.24E-03
Phenol	108-95-2	7.79E-08	5.07E-07	2.21E-07	<	2.16E-07	1.30E-07	5.88E-07	5.86E-07	4.32E-07	5.88E-07	2.58E-03
Styrene	100-42-5	3.96E-07	3.09E-07	2.95E-07	2.83E-07	9.57E-07	3.98E-06	7.85E-07	3.05E-07	8.10E-07	3.98E-06	1.74E-02
1,1,2,2-Tetrachloroethane	79-34-5	<	<	<	2.06E-07	<	<	<	<	<	2.06E-07	9.00E-04
Tetrachloroethene (perchloroethylene)	127-18-4	7.66E-08	<	<	<	7.98E-08	2.13E-07	8.97E-08	1.17E-07	<	2.13E-07	9.33E-04
Toluene	108-88-3	6.60E-06	7.41E-06	2.69E-06	1.23E-05	1.30E-05	1.22E-05	1.08E-05	2.58E-05	1.06E-05	2.58E-05	1.13E-01
o-Toluidine	95-53-4	1.82E-07	2.88E-07	1.55E-08	<	1.09E-08	7.21E-09	1.30E-07	2.28E-08	<	2.88E-07	1.26E-03
1,2,4-Trichlorobenzene	120-82-1	<	7.76E-09	<	<	<	<	<	<	<	7.76E-09	3.40E-05
Trichloroethylene	79-01-6	<	<	<	<	<	<	<	<	1.10E-07	1.10E-07	4.84E-04
1,1-Dichloroethene (1,1-dichloroethylene) (vinylidene dichloride)	75-35-4	<	<	<	<	<	5.85E-07	<	<	<	5.85E-07	2.56E-03
o-Xylene	95-47-6	4.23E-06	2.24E-06	1.05E-06	7.96E-06	9.57E-06	7.73E-06	5.38E-06	1.13E-05	5.89E-06	1.13E-05	4.94E-02
m-Xylene + p-Xylene		1.72E-05	1.10E-05	5.03E-06	2.83E-05	2.93E-05	2.34E-05	2.00E-05	5.17E-05	2.16E-05	5.17E-05	2.26E-01
3/4-Methylphenol (m-cresol/p-cresol)		<	3.93E-08	<	<	<	<	3.20E-09	1.50E-08	<	3.93E-08	1.72E-04

Methodology

Rubber Curing Rate (lbs/yr) = rate of tire curing (tires/hr) x 8760 (hrs/yr) x weight of rubber per tire (lbs/tire) x rubber content of tire (%) x content of non pre-cured rubber (%)
PTE (tons/yr) = Rate of rubber curing (lb/yr) x Emission Factor (lb/lb) x (1 ton/2000 lb)

Notes

- *Emission Factors are adapted from AP-42, Chapter 4.12, Tables 4.12-10: Tire Cure Emission Factor. (draft - Dec, 1997)
- * Tire A, D and F are original equipment, tires E, G and H are high performance, and tires B, C and I are replacement tires.
- * The factor of 40% non pre-cured rubber is used because only the new tire treads are being cured for the first time.

**Appendix A: Emission Calculations
Natural Gas Combustion
(MMBtu/hr < 100)
From the Hot Water Heater (0.97 MMBtu/hr)**

**Company Name: Raben Tire Company, Inc.
Address: 12580 South Northgate Dr.
Haubstadt, IN. 47639
Permit #: 051-21538-00047
Reviewer: ERG/HJ
Date: August 26, 2005**

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

0.97

8.5

	Pollutant					
Emission Factor in lb/MMCF	PM*	PM10*	SO2	**NO _x	VOC	CO
	7.6	7.6	0.6	100	5.5	84.0
PTE in tons/yr	0.03	0.03	2.5E-03	0.42	0.02	0.36

*PM and PM10 emission factors are condensable and filterable PM10 combined.

* Emission factor for NO_x: Uncontrolled = 100 (lb/MMCF)

* Emission Factors from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03

Methodology

All Emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF - 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

(AP-42 Supplement D 3/98)

PTE (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emission Calculations
VOC Emissions
From the Rubber Solution Application Process**

**Company Name: Raben Tire Company, Inc.
Address: 12580 South Northgate Dr.
Haubstadt, IN. 47639
Permit #: 051-21538-00047
Reviewer: ERG/HJ
Date: August 26, 2005**

Tires Cured:

25

 tires/hr
Total Tires Cured:

219,000

 tires/yr

Pollutant	Maximum Usage Rate (grams/tire)	Weight % VOC	Weight % Heptane	PTE (tons/yr)
Total VOC	75	88.5	88.5	16.0

Notes
* There are no HAPs emitted from this process.

Methodology
Potential VOC emission rate (tons/yr) = maximum process rate (tires/yr) x maximum solution usage rate (grams/tire) x (1lb/454 grams) x weight % VOC x (1 ton/2000 lb)

**Appendix A: Emission Calculations
VOC, PM, and HAP Emissions
From the Extruding Operations in the Tire Building Process**

**Company Name: Raben Tire Company, Inc.
Address: 12580 South Northgate Dr.
Haubstadt, IN. 47639
Permit #: 051-21538-00047
Reviewer: ERG/HJ
Date: August 26, 2005**

Retread Tires: 25 tires/hr
Green Rubber Weight: 3.3 lbs/tire
Total Rubber Extruded: 724,343 lbs/yr

Analyte Name	CAS #	Cmpd #4 lb/lb rubber	Cmpd #6 lb/lb rubber	Max Emission Factor lb/lb rubber	PTE tons/yr
Total VOC		5.67E-06	1.23E-05	1.23E-05	4.45E-03
Total Particulate Matter		3.11E-08	7.77E-09	3.11E-08	1.13E-05
Total HAPs		1.03E-05	3.52E-05	3.52E-05	1.28E-02
HAPs					
1,1,1-Trichloroethane (methyl chloroform)	71-55-6	8.47E-08	9.37E-08	9.37E-08	3.39E-05
1,3-Butadiene	106-99-0	8.92E-08	5.06E-07	5.06E-07	1.83E-04
1,4-Dichlorobenzene	106-46-7	8.36E-09	<	8.36E-09	3.03E-06
2-Butanone	78-93-3	1.34E-07	1.17E-07	1.34E-07	4.86E-05
2-Chloroacetophenone	532-27-4	6.48E-09	1.68E-09	6.48E-09	2.35E-06
4-Methyl-2-Pentanone	108-10-1	5.54E-06	2.66E-06	5.54E-06	2.01E-03
Acetonitrile	75-05-8	1.09E-07	2.19E-07	2.19E-07	7.94E-05
Acetophenone	98-86-2	3.65E-08	3.32E-06	3.32E-06	1.20E-03
Acrolein	107-02-8	2.03E-07	3.10E-07	3.10E-07	1.12E-04
Aniline	62-53-3	5.08E-07	2.19E-07	5.08E-07	1.84E-04
Benzene	71-43-2	4.46E-08	2.69E-07	2.69E-07	9.74E-05
Biphenyl	92-52-4	4.65E-09	1.68E-08	1.68E-08	6.09E-06
bis(2-Ethylhexyl)phthalate	117-81-7	1.94E-07	1.13E-07	1.94E-07	7.04E-05
Carbon Disulfide	75-15-0	1.09E-07	2.66E-07	2.66E-07	9.62E-05
Chloromethane	74-87-3	7.06E-08	6.64E-08	7.06E-08	2.56E-05
Chromium (Cr) Compounds ¹		2.45E-07	2.25E-08	2.45E-07	8.87E-05
Cobalt (Co) Compounds		1.90E-08	9.92E-09	1.90E-08	6.88E-06
Cumene	98-82-8	3.66E-08	1.36E-07	1.36E-07	4.92E-05
Di-n-butylphthalate	84-74-2	1.87E-07	1.98E-07	1.98E-07	7.17E-05
Dibenzofuran	132-64-9	3.52E-09	3.24E-09	3.52E-09	1.28E-06
Dimethylphthalate	131-11-3	<	4.27E-09	4.27E-09	1.55E-06
Ethylbenzene	100-41-4	3.30E-08	8.10E-08	8.10E-08	2.93E-05
Hexane	110-54-3	1.02E-07	3.94E-07	3.94E-07	1.43E-04
Isooctane	540-84-1	3.81E-08	4.51E-08	4.51E-08	1.64E-05
Isophorone	78-59-1	3.50E-08	0.00E+00	3.50E-08	1.27E-05
m-Xylene + p-Xylene		7.01E-08	3.32E-07	3.32E-07	1.20E-04
Methylene Chloride	75-09-2	1.60E-06	1.32E-05	1.32E-05	4.77E-03
N,N-Diethylaniline	121-69-7	5.45E-09	<	5.45E-09	1.97E-06
Naphthalene	91-20-3	1.08E-07	1.98E-07	1.98E-07	7.17E-05
Nickel (Ni) Compounds		1.99E-07	7.24E-08	1.99E-07	7.20E-05
o-Toluidine	95-53-4	<	1.50E-07	1.50E-07	5.42E-05
o-Xylene	95-47-6	3.49E-08	2.58E-07	2.58E-07	9.34E-05
Phenol	108-95-2	3.11E-07	1.84E-07	3.11E-07	1.13E-04
Propylene Oxide	75-56-9	0.00E+00	1.75E-06	1.75E-06	6.35E-04
Styrene	100-42-5	9.61E-09	7.25E-07	7.25E-07	2.62E-04
Tetrachloroethene (Perchloroethylene)	127-18-4	5.32E-08	4.44E-08	5.32E-08	1.93E-05
Toluene	108-88-3	1.07E-07	9.26E-06	9.26E-06	3.35E-03

Methodology

Rubber Extrusion Rate (lbs/yr) = rate of tire retreading (tires/hr) x 8760 (hrs/yr) x weight of green rubber per tire (lbs/tire)

PTE (tons/yr) = Rubber extrusion Rate (lb/yr) x emission factor (lb/lb rubber) x (1 ton/2000 lb)

Notes

* Emission factors are adapted from AP-42, Chapter 4.12, Table 4.12-6: Extruder Operations (draft-Dec. 1997)

* Emission factors for all compounds 4 and 6 were used because these are the rubber compounds the source will use in the extruding process.

* Results are for total chromium. Actual tread was tested for hexavalent chromium. It was not detected.

**Appendix A: Summary of Emission Calculations
VOC, PM, and HAP Emissions**

**Company Name: Raben Tire Company, Inc.
Address: 12580 South Northgate Dr.
Haubstadt, IN. 47639
Permit #: 051-21538-00047
Reviewer: Gary Freeman
Date: August 26, 2005**

Pollutant	Grinding (tpy)	Rubber Solution Application (tpy)	Extruding (tpy)	Curing (tpy)	30Hp Water Heaters (tpy)	Total (tpy)
CO	0.00	0.00	0.00	0.00	0.36	0.36
NO _x	0.00	0.00	0.00	0.00	0.42	0.42
PM/PM ₁₀ *	16	0.00	1.13E-05	0.00	0.03	16
SO ₂	0.00	0.00	0.00	0.00	2.549E-03	2.55E-03
VOC	0.68	16.0	4.45E-03	1.48	0.02	18.2
Pb	2.7E-03	0.00	0.00	0.00	0.00	2.7E-03
Total HAP	0.17	0.00	0.01	0.65	0.00	0.832

* The PM/PM10 PTE is calculated after controls because the tire grinding dust collection system is considered integral to the process.



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

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

TO: Michael Phelps
Plant Mgr.
Raben Tire Company, Inc.
12580 S. Northgate Dr.
Haubstadt IN 47639

DATE: Oct. 13, 2009

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

SUBJECT: Final Decision
Registration Notice Only
051-28145-00047

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:
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.

Final Applicant Cover letter.dot 11/30/07

Mail Code 61-53

IDEM Staff	BMILLER 10/13/2009 Raben Tire Company, Inc. 051-28145-00047 (final)		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
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2		Mr. Randy Brown Plumbers & Steam Fitters Union, Local 136 2300 St. Joe Industrial Park Dr Evansville IN 47720 (Affected Party)									
3		Gibson County Health Department 800 S. Prince St., Courthouse Annex Princeton IN 47670-2664 (Health Department)									
4		Eric Anderson 25 Atlantic Avenue Erlanger KY 41018 (Affected Party)									
5		Gibson County Commissioners 101 N. Main Street Princeton IN 47670 (Local Official)									
6		Haubstadt Town Council P.o. Box 365, 101 South Main Street Haubstadt IN 47639 (Local Official)									
7		Mr. Bil Musgrove PO Box 520 Chandler IN 47610 (Affected Party)									
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