**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: July 16, 2012

RE: Richard Gumz Farms, LLC / 149-31947-00059

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

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Mr. Daniel Gumz
Richard Gumz Farms, LLC
8905 S. Gumz Road,
North Judson, IN 46366

July 16, 2012

Re: Exempt Construction and Operation Status,
E149-31947-00059

Dear Mr. Gumz:

The application from Richard Gumz Farms, LLC, received on May 29, 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 mint oil extraction facility located at 8905 S. Gumz Road, North Judson, IN 46366 is classified as exempt from air pollution permit requirements:

(a) One (1) mint oil extraction operation, utilizing no pollution control equipment, and consisting of, but not limited to, the following:

(1) One (1) natural gas-fired boiler, identified as B-01, manufactured in 1968, with a maximum heat input capacity of 13.388 million British thermal units per hour (MMBtu/hr), and exhausting through a stack;

(2) One (1) natural gas-fired boiler, identified as B-02, manufactured in 1971, with a maximum heat input capacity of 10.042 million British thermal units per hour (MMBtu/hr), and exhausting through a stack.

The following conditions shall be applicable:

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

(A) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(B) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

2. 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.

Pursuant to 326 IAC 6-4-6 (Exceptions), the following conditions will be considered as exceptions to this rule (326 IAC 6-4) and therefore not in violation:

(1) Release of steam not in combination with any other gaseous or particulate pollutants unless the condensation from said steam creates a nuisance or hazard in the surrounding community.

(2) Fugitive dust from publicly maintained unpaved thoroughfares where no nuisance or health hazard is created by its usage or where it is demonstrated to the commissioner that no means are available to finance the necessary road improvements immediately. A reasonable long-range schedule for necessary road improvements must be submitted to support the commissioner's granting such an exception.

(3) Fugitive dust from construction or demolition where every reasonable precaution has been taken in minimizing fugitive dust emissions.

(4) Fugitive dust generated from agricultural operations providing every reasonable precaution is taken to minimize emissions and providing operations are terminated if a severe health hazard is generated because of prevailing meteorological conditions.

3. 326 IAC 6-2 (Particulate Limitations for Sources of Indirect Heating)

(a) Pursuant to 326 IAC 6-2-3(d), the particulate emissions from boiler B-01 shall not exceed 0.8 pounds per MMBtu heat input.

(b) Pursuant to 326 IAC 6-2-3(d), the particulate emissions from boiler B-02 shall not exceed 0.8 pounds per MMBtu heat input.

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

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 Charles Sullivan, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, at 317-232-8422 or at 1-800-451-6027 (ext 2-8422).

Sincerely,

Nathan C. Bell, Section Chief
Permits Branch
Office of Air Quality

NCB/cs

Attachments: Technical Support Document, Appendix A (calculations)

cc: File - Starke County
Starke 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 an Exemption

### Source Description and Location

| | |
|---|---|
| **Source Name:** | **Richard Gumz Farms, LLC** |
| **Source Location:** | **8905 S. Gumz Road, North Judson, IN 46366** |
| **County:** | **Starke** |
| **SIC Code:** | **0139 (Field Crops, Except Cash Grains, NEC)** |
| **Exemption No.:** | **E149-31947-00059** |
| **Permit Reviewer:** | **Charles Sullivan** |

On May 29, 2012, the Office of Air Quality (OAQ) received an application from Richard Gumz Farms, LLC related to the continued operation of a stationary mint oil extraction facility.

### Existing Approvals

There have been no previous approvals issued to this source.

### County Attainment Status

The source is located in Starke County.

| Pollutant | Designations |
|---|---|
| $SO_2$ | Better than national standards. |
| CO | Unclassifiable or attainment effective November 15, 1990. |
| $O_3$ | Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard.[1] |
| $PM_{10}$ | Unclassifiable effective November 15, 1990. |
| $NO_2$ | Cannot be classified or better than national standards. |
| Pb | Not designated. |

[1]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 PM2.5.

(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. Starke 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) $PM_{2.5}$
Starke County has been classified as attainment for $PM_{2.5}$. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for $PM_{2.5}$ 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 $PM_{2.5}$ significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct $PM_{2.5}$ and $SO_2$ emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Source section.

(c) Other Criteria Pollutants
Starke County has been classified as attainment or unclassifiable in Indiana for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

## Fugitive Emissions

The fugitive emissions of criteria pollutants, hazardous air pollutants, and greenhouse gases are counted toward the determination of 326 IAC 2-1.1-3 (Exemptions) applicability.

## Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) has reviewed an application, submitted by Richard Gumz Farms, LLC on May 29, 2012, relating to the continued operation of a stationary mint oil extraction facility.

The source consists of the following existing emission units:

(a) One (1) mint oil extraction operation, utilizing no pollution control equipment, and consisting of, but not limited to, the following:

(1) One (1) natural gas-fired boiler, identified as B-01, manufactured in 1968, with a maximum heat input capacity of 13.388 million British thermal units per hour (MMBtu/hr), and exhausting through a stack;

(2) One (1) natural gas-fired boiler, identified as B-02, manufactured in 1971, with a maximum heat input capacity of 10.042 million British thermal units per hour (MMBtu/hr), and exhausting through a stack.

## Enforcement Issues

There are no pending enforcement actions related to this source.

## Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

To determine the potential to emit air pollution from a mint oil production facility that processes mint from one or more mint farms, IDEM OAQ used a calculation methodology similar to that developed for grain elevators contained in an EPA Memorandum (dated 11/4/1995) entitled "Calculating Potential to Emit (PTE) and Other Guidance for Grain Handling Facilities". This memorandum is currently available on the internet at the following EPA website: http://www.epa.gov/ttn/oarpg/t5/memoranda/grainfnl.pdf

As explained in the above EPA memorandum, the grain elevator methodology takes the highest amount of grain received at an individual grain elevator during the previous five (5) years and multiplies times a scaling factor of 1.2 to determine the potential grain throughput of a grain elevator. The scaling factor allows for a twenty percent increase in grain throughput over time, ensuring that the calculations are conservative.

Based on actual production data from various mint oil production facilities in Indiana, IDEM OAQ has determined that a scaling factor of 1.2 may not be adequate to determine the potential to emit air pollution for each mint oil production facility. Therefore, to ensure that the calculations for a given mint oil production facility are conservative, IDEM OAQ calculated the maximum scaling factor by which the facility could increase production that would keep the potential to emit air pollution below the exemption level thresholds.

## Permit Level Determination – Exemption

The following table reflects the unlimited potential to emit (PTE) of the source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

| Process/ Emission Unit | Potential To Emit of the Source (tons/year)*** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | PM | PM10* | PM2.5 | $SO_2$ | NOx | VOC | CO | GHGs as $CO_2e$** | Total HAPs | Worst Single HAP |
| Mint Oil Extraction | | | | | | | | | | |
| Natural Gas Combustion | 0.05 | 0.22 | 0.22 | 0.02 | 2.85 | 0.16 | 2.39 | 3,436 | 0.05 | 0.05 Hexane |
| Mint Oil Extraction Process Emissions | - | - | - | - | - | 9.83 | - | - | - | - |
| **Total PTE of Source** | **0.05** | **0.22** | **0.22** | **0.02** | **2.85** | **9.99** | **2.39** | **3,436** | **0.05** | **0.05 Hexane** |
| 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 $CO_2e$ 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.

*** Potential To Emit of the Source (tons/yr) has been determined based on the maximum amount of mint oil produced (lbs/yr) and maximum amount of natural gas combusted during the previous five (5) years, multiplied times a scaling factor. For the purpose of this Exemption review, IDEM OAQ calculated a scaling factor of 43.54 by which the facility could increase production without the potential to emit air pollution exceeding the Exemption level thresholds.

(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 $CO_2$ equivalent emissions ($CO_2e$) 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) The requirements of the New Source Performance Standard for Fossil-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971, 40 CFR 60, Subpart D (326 IAC 12), are not included in the permit since this source does not operate a fossil-fuel-fired steam generating unit of more 250 million British thermal units per hour (MMBtu/hr) or a fossil-fuel and wood-residue-fired steam generating unit capable of firing fossil fuel at a heat input rate of more than 250 MMBtu/hr.

(b) The requirements of the New Source Performance Standard for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978, 40 CFR 60, Subpart Da (326 IAC 12), are not included in the permit, because Boilers B-01 and B-02 each have a heat input rate less than 250 million Btu per hour (MMBtu/hr) and this source does not produce steam for the purpose of generating and supplying electrical power to any utility power distribution system for sale.

(c) The requirements of the New Source Performance Standard for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Db (326 IAC 12), are not included in the permit, because Boilers B-01 and B-02 each have a heat input rate less than 100 million Btu per hour (MMBtu/hr).

(d) The requirements of the New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc (326 IAC 12), are not included in the permit for this source because Boiler B-01 and B-02, which has a maximum design heat input capacity between ten (10) million British thermal units per hour (MMBtu/hr) and one hundred (100) MMBtu/hr, was not constructed, modified, or reconstructed after June 9, 1989. Boiler B-01 and B-02 was manufactured in 1968 and 1971, respectively.

(e) The requirements of the New Source Performance Standard for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006, 40 CFR 60, Subpart VV (326 IAC 12), are not included in the permit for this source since the source does not produce as intermediates or final products one or more of the chemicals listed in 40 CFR 60.481.

(f) The requirements of the New Source Performance Standard for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes, 40 CFR 60, Subpart III (326 IAC 12), are not included in the permit since the source does not produce any of the chemicals listed in 40 CFR 60.617 as a product, co-product, by-product, or intermediate.

(g) The requirements of the New Source Performance Standard for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations, 40 CFR 60, Subpart NNN (326 IAC 12), are not included in the permit since the source does not produce any of the chemicals listed in 40 CFR 60.667 as a product, co-product, by-product, or intermediate.

(h) The requirements of the New Source Performance Standard for Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes, 40 CFR 60, Subpart RRR (326 IAC 12), are not included in the permit since the source does not produce any of the chemicals listed in §60.707 as a product, co-product, by-product, or intermediate.

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

<u>National Emission Standards for Hazardous Air Pollutants (NESHAP)</u>

(j) The requirements of the National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry, 40 CFR 63, Subpart F (326 IAC 20-11), are not included in the permit since this source:

1) Does not manufacture as a primary product one or more of the chemicals listed in Table 1 to Subpart F of Part 63, Tetrahydorbenzaldehyde, or Crotonaldehyde;

2) Does not use as a reactant or manufacture as a product, or co-product, one or more of the

organic hazardous air pollutants listed in Table 2 to Subpart F of Part 63; and

3) Is not a major source as defined in Section 112(a) of the Clean Air Act (CAA).

(k) The requirements of the National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry Process Vents, Storage Vessels, Transfer Operations, and Wastewater, 40 CFR 63, Subpart G (326 IAC 20-11), are not included in this permit since the source is not subject to 40 CFR 63, Subpart F.

(l) The requirements of the National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks, 40 CFR 63, Subpart H (326 IAC 20-11), are not included in this permit since the source is not subject to the provisions of a specific subpart in 40 CFR 63 that references Subpart H.

(m) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Oil-Water Separators and Organic-Water Separators, 40 CFR 63, Subpart VV (326 IAC 20-42), are not included in the permit since the source is not subject to the requirements of any other subpart of 40 CFR parts 60, 61, or 63 that references the use of 40 CFR 63, Subpart VV for air emission control of oil-water separators and organic-water separators.

(n) The requirements of the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Organic Liquids Distribution (Non-Gasoline), 40 CFR 63, Subpart EEEE (63.2330 through 63.2406) (326 IAC 20-83) are not included in the permit, because this source does not store or transfer "organic liquids" as defined by 40 CFR 63.2406 and this source is not a major source of HAPs.

(o) The requirements of the National Emission Standard for Hazardous Air Pollutants for Miscellaneous Organic Chemical Manufacturing, 40 CFR 63, Subpart FFFF (326 IAC 20-84), are not included in this permit since the source is not located at, or part of, a major source of hazardous air pollutants (HAP) emissions as defined in Section 112(a) of the Clean Air Act (CAA) and does not operate a miscellaneous organic chemical manufacturing process unit (MCPU), as defined in 40 CFR 63.2550, that produces:

1) An organic chemical(s) classified using the 1987 version of SIC code 282, 283, 284, 285, 286, 287, 289, or 386, except for production activities described using the 1997 version of NAICS codes 325131, 325181, 325188, 325314, 325991, and 325992.

2) An organic chemical(s) classified using the 1997 version of NAICS code 325, except for production activities described using the 1997 version of NAICS codes 325131, 325181, 325188, 325314, 325991, and 325992.

3) Quaternary ammonium compounds and ammonium sulfate produced with caprolactam.

4) Hydrazine; or

5) Organic solvents classified in any of the SIC or NAICS codes listed in (1) or (2) above, that are recovered using nondedicated solvent recovery operations.

(p) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63.7480, Subpart DDDDD (326 IAC 20-95), are not included in the permit, since this source is not located at, or part of, a major source of HAP as defined in 40 CFR 63.2 or 40 CFR 63.761.

(q) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63.11193, Subpart JJJJJJ, are not included in the permit, since the boilers are gas-fired boiler, as defined in 40 CFR 63.11237, and as such, are specifically listed as not being subject to Subpart JJJJJJ under 40 CFR 63.11195(e).

(r) The requirements of the National Emission Standard for Hazardous Air Pollutants for Chemical Manufacturing Area Sources, 40 CFR 63, Subpart VVVVVV, are not included in this permit since the source does not operate a chemical manufacturing process unit (CMPU) that uses as feedstocks, generates as byproducts, or produces as products any of the hazardous air pollutants (HAP) listed in Table 1 to Subpart VVVVVV of Part 63 in concentrations greater than 0.1 percent for the listed carcinogens or greater than 1.0 percent for the listed noncarcinogens.

(s) The requirements of the National Emission Standard for Hazardous Air Pollutants for Area Sources: Chemical Preparations Industry, 40 CFR 63, Subpart BBBBBBB, are not included in this permit since the source does not own or operate a "chemical preparations facility" or a "chemical preparations operation in target HAP service" as defined in 40 CFR 63.11588

(t) There are no 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)

(u) 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.

## State Rule Applicability Determination

The following state rules are applicable to the source:

(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.

Pursuant to 326 IAC 6-4-6 (Exceptions), the following conditions will be considered as exceptions to this rule (326 IAC 6-4) and therefore not in violation:

(1) Release of steam not in combination with any other gaseous or particulate pollutants unless the condensation from said steam creates a nuisance or hazard in the surrounding community.

(2) Fugitive dust from publicly maintained unpaved thoroughfares where no nuisance or health hazard is created by its usage or where it is demonstrated to the commissioner that no means are available to finance the necessary road improvements immediately. A reasonable long-range schedule for necessary road improvements must be submitted to support the commissioner's granting such an exception.

(3) Fugitive dust from construction or demolition where every reasonable precaution has been taken in minimizing fugitive dust emissions.

(4) Fugitive dust generated from agricultural operations providing every reasonable precaution is taken to minimize emissions and providing operations are terminated if a severe health hazard is generated because of prevailing meteorological conditions.

(f) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source is not subject to the requirements of 326 IAC 6-5, because the source does not have potential fugitive particulate emissions greater than 25 tons per year. Therefore, 326 IAC 6-5 does not apply.

<u>Mint Oil Extraction</u>

(g) 326 IAC 8-1-6 (New Facilities; General Reduction Requirements)
The mint oil extraction operation is not subject to the requirements of 326 IAC 8-1-6, since the potential uncontrolled VOC emissions are less than twenty-five (25) tons per year.

<u>Natural Gas-fired Boiler (B-01)</u>

(h) 326 IAC 6-2 (Particulate Emissions Limitations for Sources of Indirect Heating)
The natural gas-fired Boiler B-01 (manufactured in 1968, with a maximum heat input capacity of 13.388 MMBtu/hr) is subject to the requirements of 326 IAC 6-2-3, since it is a source of indirect heating that was constructed before September 21, 1983. Pursuant to 326 IAC 6-2-3(d) (Particulate Emission Limitations for Sources of Indirect Heating: emission limitations for facilities specified in 326 IAC 6-2-1(c)), particulate emissions from Boiler B-01, shall not exceed 0.8 pounds per heat input.

The AP-42 natural gas combustion emission factor for particulate matter (PM) is 0.00186 lb/MMBtu (1.9 lb/MMCF / 1020 MMBtu/MMCF), which is less than the 326 IAC 6-2-3 PM emission limit of 0.8 lb/MMBtu for Boiler B-01 when burning natural gas. Therefore, the Boiler B-01 is able to comply with the applicable 326 IAC 6-2-3 PM emission limit without the use of a control device when burning natural gas.

<u>Natural Gas-fired Boiler (B-02)</u>

(i) 326 IAC 6-2 (Particulate Emissions Limitations for Sources of Indirect Heating)
The natural gas-fired Boiler B-02 (manufactured in 1971, with a maximum heat input capacity of 10.042 MMBtu/hr) is subject to the requirements of 326 IAC 6-2-3, since it is a source of indirect

heating that was constructed before September 21, 1983. Pursuant to 326 IAC 6-2-3(d) (Particulate Emission Limitations for Sources of Indirect Heating: emission limitations for facilities specified in 326 IAC 6-2-1(c)), particulate emissions from Boiler B-02, shall not exceed 0.8 pounds per heat input.

The AP-42 natural gas combustion emission factor for particulate matter (PM) is 0.00186 lb/MMBtu (1.9 lb/MMCF / 1020 MMBtu/MMCF), which is less than the 326 IAC 6-2-3 PM emission limit of 0.8 lb/MMBtu for Boiler B-02 when burning natural gas. Therefore, the Boiler B-02 is able to comply with the applicable 326 IAC 6-2-3 PM emission limit without the use of a control device when burning natural gas.

(j) 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
Pursuant to 326 IAC 7-1.1-1, the natural gas-fired boilers (B-01 and B-02) are each not subject to the requirements of 326 IAC 7-1.1, since each have unlimited sulfur dioxide ($SO_2$) emissions less than twenty-five (25) tons per year and ten (10) pounds per hour, respectively.

(k) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
The natural gas-fired boilers (B-01 and B-02) are each not subject to the requirements of 326 IAC 8-1-6, since the potential uncontrolled VOC emissions from boilers (B-01 and B-02) are each less than twenty-five (25) tons per year.

## 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 May 29, 2012.

The operation of this source shall be subject to the conditions of the attached proposed Exemption No. E149-31947-00059. The staff recommends to the Commissioner that this Exemption be approved.

## IDEM Contact

(a) Questions regarding this proposed permit can be directed to Charles Sullivan 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) 232-8422 or toll free at 1-800-451-6027 extension 2-8422.

(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

# Appendix A: Emissions Calculations
## Emission Summary

**Company Name:** Richard Gumz Farm, LLC
**Source Address:** 8905 S Gumz Rd., North Judson, IN 46366
**Permit Number:** E149-31947-00059
**Reviewer:** C. Sullivan
**Date:** June 15, 2012

| Uncontrolled Potential to Emit (tons/year) | | | |
|---|---|---|---|
| Pollutant | Natural Gas Combustion | Mint Oil Extraction Process Emissions | Total |
| PM | 0.05 | - | 0.05 |
| PM10 | 0.22 | - | 0.22 |
| PM2.5 | 0.22 | - | 0.22 |
| SO2 | 0.02 | - | 0.02 |
| NOx | 2.85 | - | 2.85 |
| VOC | 0.16 | 9.83 | 9.99 |
| CO | 2.39 | - | 2.39 |
| GHG as CO2e | 3,436 | - | 3,436 |
| Single HAP (Hexane) | 0.05 | - | 0.05 |
| Combined HAPs | 0.05 | - | 0.05 |

**Note:**

The uncontrolled potential to emit has been determined based on the maximum amount of mint oil produced and maximum amount of natural gas combusted during the previous five (5) years, multiplied by the Scaling Factor as determined on Page 2 of 4 of TSD App A.

**Appendix A: Emissions Calculations**
**Mint Oil Extraction Process Actual and Potential Produtio**

**Company Name:** Richard Gumz Farm, LLC
**Source Address:** 8905 S Gumz Rd., North Judson, IN 46366
**Permit Number:** E149-31947-00059
**Reviewer:** C. Sullivan
**Date:** ###########

**Actual Mint Oil Production and Boiler Natural Gas Combustion Data**

| Year | 2011 | 2010 | 2009 | 2008 | 2007 | **Maximum** |
|---|---|---|---|---|---|---|
| Actual Natural Gas Combusted in Boiler (MMBtu/year | 1,333 | 1,194 | 427 | 458 | 696 | **1,333** |
| Actual Mint Oil Produced (lbs/year) | 22,140 | 15,390 | 6,384 | 3,848 | 11,400 | **22,140** |

**Potential Mint Oil Production and Boiler Natural Gas Combustion**

To ensure that the calculations for a given mint oil production facility are conservative, IDEM OAQ calculated the maximum scaling factor by which the facility could increase production that would keep the potential to emit air pollution below the exemption level thresholds.

| | |
|---|---|
| Exemption VOC Threshold Level (tons/year) | 9.99 |
| Natural Gas Combustion Emission Factor (lb/MMCF)* | 5.50 |
| Natural Gas Heat Content (MMBtu/MMCF) | 1020 |
| Mint VOC Emission Factor (lb VOC/lb oil)** | 0.0204 |
| Scaling Factor | 43.54 |
| | |
| Potential Natural Gas Combusted in Boiler (MMBtu/year)*** | 58,062 |
| Potential Mint Oil Produced (lbs/year)*** | 964,065 |

**Methodology**

*Natural Gas Combustion Emission Factor is from AP 42, Chapter 1.4, Table 1.4-2
**Mint VOC emission factor based on July 27, 2011 testing at Lawrence Farms
***Potential natural gas combusted and mint oil produced is based on the maximum amount of natural gas combusted and mint oil produced during the previous five (5) years, multiplied by the Scaling Fact

$$\text{Scaling Facotor} = \frac{[\text{Exemption VOC Threshold Level (tons/year)}] * [2000 \text{ lbs/ton}}{[\text{Maximum Actual NG Combusted (MMBtu/year)} * \text{NG Combustion EF (lb/MMCF)} / \text{NG Heat Content (MMBtu/MMCF)}] + [\text{Maximum Actual Mint Oil Produced (lbs/year)} * \text{Mint VOC EF (lb VOC/lb o}}$$

Potential Natural Gas Combusted in Boiler (MMBtu/year) = [Maximum Actual Natural Gas Combusted in Boiler (MMBtu/year)] * [Scaling Facto
Potential Mint Oil Produced (lbs/year) = [Maximum Actual Mint Oil Produced (lbs/year)] * [Scaling Factor

**Appendix A: Emissions Calculations**
**Natural Gas Fired Boilers**

**Company Name:** Richard Gumz Farm, LLC
**Source Address:** 8905 S Gumz Rd., North Judson, IN 46366
**Permit Number:** E149-31947-00059
**Reviewer:** C. Sullivan
**Date:** June 15, 2012

**Potential to Emit from Natural Gas Combustion**

| Potential Natural Gas Combustion Rate (MMBtu/yr)* | Natural Gas Heat Content (MMBtu/MMCF) | Potential Natural Gas Combustion Rate (MMCF/yr) |
|---|---|---|
| 58,062 | 1020 | 56.92 |

| | Pollutant | | | | | | |
|---|---|---|---|---|---|---|---|
| | PM** | PM10** | direct PM2.5** | SO2 | NOx | VOC | CO |
| Emission Factor in lb/MMCF | 1.9 | 7.6 | 7.6 | 0.6 | 100 ***see below | 5.5 | 84 |
| Potential Emission in tons/yr | 0.05 | 0.22 | 0.22 | 0.02 | 2.85 | 0.16 | 2.39 |

**Notes:**
*Potential natural gas combustion rate is based on the maximum actual natural gas combusted in the boiler, as observed over the previous five (5) year period, multiplied by the Scaling Factor as determined on Page 2 of 4 of TSD App A.
**PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
***Emission Factors for NOx: Uncontrolled = 100

**Methodology:**
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Emission (tons/yr) = [Potential Natural Gas Combustion Rate (MMCF/yr)] * [Emission Factor (lb/MMCF)] / [2,000 lb/ton]

**Hazardous Air Pollutant Emissions**

| | HAPs - Organics | | | | |
|---|---|---|---|---|---|
| | Benzene | Dichlorobenzene | Formaldehyde | Hexane | Toluene |
| Emission Factor in lb/MMCF | 2.1E-03 | 1.2E-03 | 7.5E-02 | 1.8E+00 | 3.4E-03 |
| Potential Emission in tons/yr | 6.0E-05 | 3.4E-05 | 2.1E-03 | 0.05 | 9.7E-05 |

| | HAPs - Metals | | | | |
|---|---|---|---|---|---|
| | Lead | Cadmium | Chromium | Manganese | Nickel |
| Emission Factor in lb/MMCF | 5.0E-04 | 1.1E-03 | 1.4E-03 | 3.8E-04 | 2.1E-03 |
| Potential Emission in tons/yr | 1.4E-05 | 3.1E-05 | 4.0E-05 | 1.1E-05 | 6.0E-05 |

**Combined HAPs: 0.05**

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Greenhouse Gas Emissions**

| | Greenhouse Gas | | |
|---|---|---|---|
| | CO2 | CH4 | N2O |
| Emission Factor in lb/MMCF | 120,000 | 2.3 | 2.2 |
| Potential Emission in tons/yr | 3,415 | 0.07 | 0.06 |
| Summed Potential Emissions in tons/yr | 3,416 | | |
| CO2e Total in tons/yr | 3,436 | | |

**Methodology:**
The N2O Emission Factor for uncontrolled is 2.2.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Potential Emission (tons/yr) = [Potential Natural Gas Combustion Rate (MMCF/yr)] * [Emission Factor (lb/MMCF)] / [2,000 lb/ton]
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

**Appendix A: Emissions Calculations**
**Mint Oil Extraction Process VOC Emissions**

**Company Name:** **Richard Gumz Farm, LLC**
**Source Address:** **8905 S Gumz Rd., North Judson, IN 46366**
**Permit Number:** **E149-31947-00059**
**Reviewer:** **C. Sullivan**
**Date:** **June 15, 2012**

**Uncontrolled Potential to Emit VOC from Mint Oil Extraction Process**

The calculations below determine the uncontrolled potential to emit from the mint oil extraction process, based on the potential amount of mint oil produced as determined on Page 2 of 4 of TSD App A.

| Potential Mint Oil Produced (lbs oil/year)* | Mint VOC Emission Factor (lb VOC/lb oil)** | Potential to Emit VOC (tons/yr) |
|---|---|---|
| 964,065 | 0.0204 | 9.83 |

**Methodology:**

*Potential mint oil produced is based on the maximum actual mint oil produced, as observed over the previous five (5) year period, multiplied by the Scaling Factor as determined on Page 2 of 4 of TSD App A.

**Mint VOC emission factor based on July 27, 2011 testing at Lawrence Farms.

Potential to Emit VOC (tons/yr) = [Potential Mint Oil Produced (lbs oil/year)] * [Mint VOC Emission Factor (lb VOC/lb oil)] / [2000 lbs/ton]

# 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: Daniel Gumz
*Richard Gumz Farms LLC*
8905 S Gumz Rd
North Judson, IN 46366

DATE: July 16, 2012

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

SUBJECT: Final Decision
Exemption
149-31947-00059

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 | DPABST 7/16/2012<br>Richard Gumz Farms LLC 149-31947-00059 (final) | | | AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING |
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| 2 | | Starke County Health Department Courthouse, 1st Floor, Main St Knox IN 46534-1148 *(Health Department)* | | | | | | | | | |
| 3 | | Starke County Board of Commissioners 53 E. Mound Knox IN 46534 *(Local Official)* | | | | | | | | | |
| 4 | | North Judson Town Council 204 Keller Ave. North Judson IN 46366 *(Local Official)* | | | | | | | | | |
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