

**STATE OF INDIANA  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL AND GAS**

**FINAL DETERMINATION OF ACCEPTANCE**

Petition of Riverside Petroleum Indiana LLC, for ) Cause No.: DOG-8-2014  
modification to a spacing and unit exception that was  
previously approved for exception to general unit size and  
well spacing requirements for horizontal New Albany Shale  
wells in portions of Daviess and Knox counties.

As provided in 312 IAC 16-5-2, an informal hearing was conducted under 312 16-2-3 and held in this matter commencing at 11:00 A.M. (Eastern) on December 2, 2014, before the Indiana Department of Natural Resources (IDNR), Division of Oil and Gas (Division), at Holiday Inn Express located at 1808 East National Highway, Washington, IN 47501. The purpose of the informal hearing was to consider the Petition to modify the existing approved exception to the well spacing and drilling unit requirements filed by Riverside Petroleum Indiana LLC (Petitioner) for the following areas (Petition Area) in Daviess and Knox Counties, Indiana:

<b>Township-Range</b>	<b>Sections and Locations</b>
3N-5W	4 through 9, 11, 14 through 23, 27, 28
4N-5W	4 through 9, 14 through 34
3N-6W	1 through 7, 9 through 15, 24
4N-6W	1 through 36
5N-6W	19 through 36 (Only Section 19 is in Knox County)
3N-7W	1 through 11, North half of 12, Fractional NW/4 and SW/4 of 15, 16 through 21, 29, 30, Location 185, 189, 191, 241, 243, 258, 269, 271, 272, 274, 275 through 279, 292, 293 (Only Section 30 is in Knox County)
4N-7W	1 through 36 (Only Sections 4 through 7, 18, 19, 30 and 31 are in Knox County)
5N-7W	25, 26, 34 through 36 (Only Sections 25, 26, and 34 are in Knox County)

Having reviewed the entire record in this matter, and being duly advised, the Director of the Division of Oil and Gas (Director) makes the following Findings of Fact, Conclusions of Law and Final Determination of Acceptance:

**FINDINGS OF FACT**

1. Petitioner Riverside Petroleum Indiana LLC is a Limited Liability Company whose principal place of business is 2700 Technology Forest Blvd., Suite 230, The Woodlands, Texas 77381.

Riverside is authorized to transact business in the State of Indiana.

2. Indiana Code 14-37-3-3 requires the IDNR to regulate the spacing of wells for oil and gas purposes through the establishment of rules providing minimum distances between wells and adjacent properties, and minimum acreage requirements for each well taking into consideration of regional and geological characteristics and factors conducive to the most efficient and economical recovery of oil and gas.
3. 312 IAC 16-5-1 through 312 IAC 16-5-3 contain the rules adopted by IDNR for regulation of well spacing and drilling unit size.
4. 312 IAC 16-5-2 allows the Division Director to grant an exception to the spacing or drilling unit requirements of 312 IAC 16-5-1 and 312 IAC 16-5-2 where the request is supported by unusual regional or geological characteristics and the exception is conducive to the most efficient and economical recovery of oil and gas.
5. Petitioner asserts that it is the holder of legal title to and is the duly authorized representative of various owners of contractual or other beneficial interests in certain oil and gas leaseholds covering a majority of the acreage within the Petition Area.
6. Petitioner asserts that the existing exception to the spacing and drilling unit requirements that was approved as Cause # DOG-11-2008 on August 22, 2008 and which required horizontal wells completed in the New Albany Shale to have either 320 acre or 640 acre drilling units that aligned with section boundaries is no longer useful and now impedes the most efficient development of natural gas production within the affected area.
7. Petitioner proposes to establish any future horizontal well drilling units for the New Albany Shale formation within the petition area from the date of approval of this petition as follows:
  - a. To eliminate standard spacing restrictions between single horizontal drainholes drilled in separate drilling units and between legs of multilateral horizontal drainholes drilled in a single drilling unit, except that no portion of any drainhole shall be located within three hundred thirty (330) feet of any unleased property boundary.
  - b. To establish drilling units in the future which will be comprised of any contiguous quarter-quarter sections (approximately 40 acres, more or less) of land through which the drainhole traverses such that the proposed wellbore is at all points no less than three hundred thirty (330) feet from any unleased property boundary..
  - c. In establishing future drilling units, care will be taken that the design of production units will not create irregular units that would result in acreage being unexploitable or stranded purely by reason of being surrounded by production units that do not leave sufficient area to locate a new well. Should that occur, the otherwise stranded tracts will be incorporated into one of the surrounding units.
  - d. In those portions of the Petition Area that contain divisions of land identified as Locations, which have not been surveyed as part of the rectangular surveying system, all of the land located therein is described in the Petition by its north and south running range lines and its east and west running township lines. The exterior boundary of the resulting sections of land shall be further defined by following said range and township lines to the intersection of these lines. Said sections can be further subdivided into quarter section drilling unit building

blocks using this same method. A portion of one or more Location, or all of a Location, may be located within the boundaries of a particular section of land.

- e. All drilling units or production units previously established under the exceptions approved as Cause #DOG-11-2008 will not be affected by the changes to the exceptions requested in this petition.
8. Petitioner asserts that establishing the proposed horizontal well drilling units is supported by regional and geological characteristics and would allow the most efficient and economic recovery of natural gas as follows:
- a. Drilling into the New Albany Shale formation in and near the Petition Area has produced and continues to produce commercial quantities of natural gas.
  - b. The unique characteristics of the New Albany Shale formation and its low permeability requires the use of horizontal drainholes to allow the Petitioner to more efficiently and economically develop this unconventional shale gas resource at the Petition Area.
  - c. Recent advances in the understanding of the NAS, particularly its structure, have indicated that greater flexibility in the establishment of production units that do not strictly adhere to section boundaries would allow many NAS wells to improve the maximum effectiveness in draining natural gas resources.
  - d. The current understanding of the structure of the NAS results from extensive seismic and other studies which has shown that it is of vital importance for the drainhole to be angled above the horizontal from the curve to the end of the drainhole to allow the effective drainage of water that removes pressure from the formation and materially improves gas production. This is in contradiction of previous beliefs that structure was not the key factor in the productivity of the NAS.
  - e. New understanding of productivity of the NAS indicates that a single lateral drainhole can effectively drain more than 320 acres if the structure permits a long enough lateral to be drilled whereas restricting the production unit to the boundaries of a section will sometimes not allow a long enough lateral to be drilled to fully develop and exploit NAS gas production.
  - f. The proposed exceptions to the General Oil and Gas Well Spacing Rules and General Oil and Gas Well Drilling Unit Size Rules will not result in a loss of resources within the New Albany Shale formation of the Petition Area. The variances will enhance recovery of the natural gas from the low permeability of the New Albany Shale formation.
9. Petitioner attached the following documents to its Petition:
- a. Exhibit "A" – Description and Map of Petition Area
  - b. Exhibit "B" – Copy of Decision with Respect to DOG-11-2008 (the Existing Exception)
  - c. Exhibit "C" – Illustrations Supporting the Petition
  - d. Exhibit "D" – Copy of El Paso Petition, ref. DOG-11-2008

10. As required by 312 IAC 16-2-3 (c), notice of the date, time, and place of the informal hearing held at the Holiday Inn Express in Washington, Indiana on December 2, 2014, was published in the Washington Times-Herald newspaper on November 19, 2014, and in the Vincennes Sun-Commercial newspaper on November 20, 2014.

11. The following persons were present at the informal hearing held on December 2, 2014:

<u>Person</u>	<u>Representing</u>
Mona Nemecek	DNR, Div. Oil and Gas
Brandon Chasteen	Riverside
Jeremy Chasteen	Riverside
Ben Curell	Riverside
Bob Van Hoy	Riverside

12. No objections to the Petition were submitted by any persons present at the informal hearing.

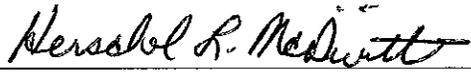
13. No objections to the Petition were submitted by any other parties, at any time on or before the date of this Final Determination of Acceptance.

14. Based upon a review of all relevant information, the Petition should be accepted in order to allow the Petitioner to proceed with the efficient and economical development of the proposed drilling units in accordance with the Final Determination of Acceptance.

#### **CONCLUSIONS OF LAW AND FINAL DETERMINATION OF ACCEPTANCE**

1. IC 14-37-3-3 and any rules promulgated thereunder apply and are pertinent to the subject matter of the Petition filed herein.
2. There has been full compliance with all notice requirements provided by law, and all interested parties have been afforded an opportunity to be heard.
3. The IDNR and the Division have jurisdiction to hear this matter and authority, as delegated by the Natural Resources Commission, to approve this Petition.
4. The Petition, herein referenced, contains the elements required by law.
5. The well spacing criteria and drilling unit acreage requested by Petitioner are hereby approved within the designated areas in Daviess and Knox Counties in Indiana for purposes of drilling horizontal wells for the production of natural gas from the New Albany Shale formation only.
6. This determination is a final administrative action of the IDNR and, as such, is subject to administrative review under IC 4-21.5-3-7.

December 16, 2014  
Dated

  
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Herschel L. McDivitt, Director  
Division of Oil and Gas

**DIVISION OF OIL AND GAS  
DEPARTMENT OF NATURAL RESOURCES**

**NOTICE OF FINAL DETERMINATION OF ACCEPTANCE**

**NOTICE OF RIGHT TO APPEAL**

**CERTIFICATE OF NOTIFICATION TO AFFECTED PARTIES**

Notification is herein provided that on the date indicated below, the Indiana Department of Natural Resources, through the Director of the Division of Oil and Gas, has approved and issued a Final Determination of Acceptance under Administrative Cause No. DOG-8-2014 with respect to a Petition for an exception to the well spacing and drilling unit requirements found in 312 IAC 16-5-1 through 312 IAC 16-5-3 filed by Riverside Petroleum Indiana, LLC (Petitioner). The approval authorizes the Petitioner to establish drilling units of the following sizes for horizontal wells producing natural gas from the New Albany Shale formation within the Petition Area:

- Any grouping of quarter-quarter section (approximately 40 acres, more or less) units such that the proposed wellbore is no less than three hundred thirty (330) feet from unleased property when drilling a lateral drainhole; and
- No properties will be excluded or stranded by reason of being surrounded by production units, and
- This modification will not apply to existing production or drilling units established prior to 2014.

The Petition Area (approximately 178 sq. mi.) is comprised of the following areas in Daviess and Knox Counties in Indiana:

<b>Township-Range</b>	<b>Sections and Locations</b>
3N-5W	4 through 9, 11, 14 through 23, 27, 28
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The terms of the Final Determination of Acceptance are subject to appeal and review

under IC 4-21.5-3-7 in a hearing before an Administrative Law Judge. In order to qualify for administrative review, a person must petition for review in writing stating facts that demonstrate the petitioner is:

- (A) a person to whom the order is specifically directed;
- (B) aggrieved or adversely affected by the order; or
- (C) entitled to review under any law.

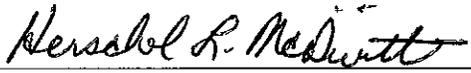
In order to be timely, a petition for administrative review must be filed with the Division of Hearings, Natural Resources Commission, Indiana Government Center South, 402 W. Washington St., Rm. W272, Indianapolis, IN 46204 within eighteen (18) days after the mailing date of this notice. If no petition for administrative review is filed within the stated time limit, all terms and conditions contained in the enclosed Final Determination of Acceptance will become final and binding.

I certify that a copy of the referenced Final Determination of Acceptance was sent by First Class Mail on the date indicated below to the following:

Riverside Petroleum Indiana, LLC, 2700 Technology Forest Blvd., Suite 230, The Woodlands, TX 77381

I further certify that a copy of the Final Determination of Acceptance will be published on the division's website within three (3) days of the date indicated below.

December 16, 2014  
Date

  
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Herschel L. McDivitt, Director  
Division of Oil and Gas  
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