

**BEFORE THE STATE OIL AND GAS BOARD OF MISSISSIPPI**

**FILED FOR RECORD**

**Re: Petition of Denbury Onshore, LLC Requesting  
Amendment of the Special Field Rules of King Bee  
Field, Perry County, Mississippi**

**JAN - 6 2009**

**STATE OIL AND GAS BOARD  
LISA IVSHIN, SUPERVISOR**

**Docket No. 546-2008-793**

**Order No. 836-2008**

**ORDER**

This day this cause came on to be heard on the Petition of Denbury Onshore, LLC requesting the State Oil and Gas Board of Mississippi to enter an order amending the Special Field Rules of King Bee Field so as to authorize the commingling of production into common surface facilities and allocating commingled production based upon monthly well tests, to define the Lower Selma Chalk Oil Pool as a separate and distinct oil pool, and to update the Special Field Rules and granting related relief. This Board, having considered the Petition and the evidence submitted in support thereof, and being fully advised in the premises, is of the opinion and finds that the relief requested by Denbury Onshore, LLC should be and the same is hereby granted. This Board further finds and determines as follows, to-wit:

1.

Due, proper and legal notice of the meeting of this Board for the purpose of considering and hearing the Petition filed herein has been given in the manner and time provided by law and the rules and regulations of this Board. Due, legal and sufficient proofs of publication of such notice and proof of notice by personal service are on file with this Board. Denbury Onshore, LLC has made a reasonably diligent effort to give the personal notice required by the rules and regulations of this Board. This Board has full jurisdiction of the parties and the subject matter hereof.

2.

A public hearing was held by this Board in Suite E, 500 Greymont Avenue, Jackson, Mississippi, commencing on December 17, 2008, at 10:00 o'clock a.m., at which time and place all persons who desired to be heard on said matter were heard and all testimony and the evidence were duly considered by this Board. Denbury Onshore, LLC was represented at the hearing by its attorney, James M. Nix. No other parties made an appearance at the hearing of this matter.

3.

Denbury Onshore, LLC is a Delaware limited liability company, whose principal place of business is 5100 Tennyson Parkway, Suite 1200, Plano, Texas 75024. Denbury Onshore, LLC is duly authorized and qualified to do business in the State of Mississippi. Denbury Onshore, LLC is the operator of all wells drilled and completed in King Bee Field in Perry County, Mississippi.

4.

This Board has adopted Special Field Rules for King Bee Field. These Special Field Rules were last amended by Order No. 219-2004, entered in Docket No. 154-2004-793.

5.

King Bee Field lies within the DeSoto National Forest and within a restricted military area of Camp Shelby where surface drilling and production operations are limited and controlled by the Mississippi National Guard and the United States Forest Service. As a consequence, the wells within King Bee Field have been directionally drilled from common surface sites. The amount of land at each of the common surface sites available for equipment is limited.

6.

The oil produced in King Bee Field is low gravity, high viscosity heavy crude oil requiring the use of jet hydro pumps in connection with the production of said oil. In order to minimize the use of the surface and eliminate the extra expense of maintaining separate heaters, treaters, storage tanks and/or other fired vessels for each of the wells, it is necessary that the Special Field Rules of King Bee Field should be amended so as to allow the commingling of the production of two or more wells in King Bee Field in common heaters, treaters, storage tanks and/or other fired vessels without the use of metering devices as an exception to Statewide Rule 21 for the purpose of treating, storing and marketing said production.

7.

Denbury Onshore, LLC plans to gauge the production of each well in separate test facilities for a period of time not less than 24 hours at least once a month. The test facilities will be constructed and operated in such a fashion that each of the wells may be tested individually under usual operating conditions without the necessity of shutting in any other well during the test. It is believed that such monthly tests are more accurate than the metering of production of individual wells in King Bee Field.

8.

The monthly production tests should be used to allocate the commingled production between wells. The reworking of, shutting in of or lack of production from any well during the month will be taken into account in connection with the allocation of production between the wells. Such an allocation is fair and reasonable and will protect the interests of all owners of production from the wells.

9.

In 2004, Denbury Onshore, LLC successfully recompleted the USA 15-3 No. 1 Well (formerly known as the USA 15-4 No. 1 Well) in the Selma Chalk and established oil production from said zone.

10.

The productive pool in the Selma Chalk as encountered in the wellbore of the USA 15-3 No. 1 Well is completely separate and distinct from all other pools currently defined by the Special Field Rules of King Bee Field. In order to fully develop the Selma Chalk in King Bee Field, the Special Field Rules for King Bee Field should be amended to define said pool as a separate and distinct reservoir and to establish spacing rules for said pool.

11.

The Lower Selma Chalk Oil Pool should be defined in the Special Field Rules for King Bee Field as follows:

**The Lower Selma Chalk Oil Pool**, as used herein, shall be construed to mean those strata of the Cretaceous Age Formations productive of oil which can be correlated with the strata indicated on the Baker Atlas log of the High Definition Induction Log Dual Laterolog Digital Acoustilog Gamma Ray Log TTRN Sub of the USA 15-4 No. 1 Well [renamed as the USA 15-3 No. 1 Well] (surface location being located 483 feet from the South line and 2,077 feet from the East line of Section 10 of Township 2 North, Range 10 West, Perry County, Mississippi) between the depths of 9,280 feet and 9,306 feet (measured depths) [true vertical subsea depths of -8,703 feet to -8,723 feet], and all sands correlative to and in communication with said strata.

In view of the nature of the crude oil produced from this formation, the spacing rules for the newly discovered Lower Selma Chalk Oil Pool should be the same as the current spacing rules for wells completed in the Eutaw Oil Pool -- Fault Block M, Eutaw Oil Pool -- Fault Block P, the Lower Tuscaloosa Massive Oil Pool, the Lower Tuscaloosa Pilot Oil Pool and the Lower Cretaceous Oil Pool in King Bee Field.

12.

It is necessary that the existing Special Field Rules for King Bee Field be amended as proposed by Denbury Onshore, LLC in order to facilitate the more efficient and economical operation of King Bee Field, minimize the use of surface and prevent waste.

Furthermore, the proposed amendment of the Special Field Rules for King Bee Field will foster, encourage and promote the full development of the field.

IT IS THEREFORE ORDERED AND ADJUDGED by the State Oil and Gas Board of Mississippi that the relief requested by Denbury Onshore, LLC in this docket should be, and the same is hereby, granted and it is ordered that the Special Field Rules of King Bee Field be, and the same hereby are, amended to read as follows, to-wit:

**SPECIAL FIELD RULES**  
**KING BEE FIELD**  
**PERRY COUNTY, MISSISSIPPI**

A. FIELD AREA:

King Bee Field, as used herein, is defined as that area consisting of all that portion of Sections 9, 10, 15, 16, 20, 21 and 22 of Township 2 North, Range 10 West, Perry County, Mississippi, productive of oil and/or gas and all productive extensions to such area.

B. POOL DEFINITIONS:

(1) The **Eutaw Oil Pool -- Fault Block M**, as used herein, shall be construed to mean those strata of the Cretaceous Age Formations productive of oil which can be correlated with the strata indicated on the dual induction log of the USA 10-13 No. 1 Well (surface location being located 1,262 feet from the North line and 2,270 feet from the East line of Section 10 of Township 2 North, Range 10 West, Perry County, Mississippi) between the depths of 10,150 feet and 10,550 feet (measured depths) [true vertical subsea depths of -9,074 feet and -9,417 feet] and all sands correlative to and in communication with said strata.

(2) The **Eutaw Oil Pool -- Fault Block P**, as used herein, shall be construed to mean those strata of the Cretaceous Age Formations productive of oil which can be correlated with the strata indicated on the dual induction log of the USA 21-1 No. 1 Well (surface location being located 2,000 feet from the East line and 700 feet from the South line of Section 21 of Township 2 North, Range 10 West, Perry County, Mississippi) between the depths of 11,020 feet and 11,780 feet (measured depths) [true vertical subsea depths of -9,664 feet to -10,384 feet], and all sands correlative to and in communication with said strata.

(3) The **Lower Tuscaloosa Massive Oil Pool**, as used herein, shall be construed to mean those strata of the Cretaceous Age Formations productive of oil which can be correlated with the strata indicated on the dual induction log of the USA 21-6 No. 1 Well (surface location being located 2,038 feet from the East line and 690 feet from the South line of Section 21 of Township 2 North, Range 10 West, Perry County, Mississippi) between the depths of 11,895 feet and 12,032 feet (measured depths) [true vertical subsea depths of -10,585 feet to -10,683 feet], and all sands correlative to and in communication with said strata, less and except that portion thereof lying within the Unit Area of the Lower Cretaceous Unit - South and defined as a part of the Lower Cretaceous Unitized Formation below.

(4) The **Lower Tuscaloosa Pilot Oil Pool**, as used herein, shall be construed to mean those strata of the Cretaceous Age Formations productive of oil which can be correlated with the strata indicated on the dual induction log of the USA 20-9 No. 1 Well [renamed as the USA 21-5 No. 1 Well] (surface location being located 2,118 feet from the

East line and 690 feet from the South line of Section 21 of Township 2 North, Range 10 West, Perry County, Mississippi) between the depths of 12,380 feet and 12,430 feet (measured depths) [true vertical subsea depths of -10,774 feet to -10,800 feet], and all sands correlative to and in communication with said strata, less and except that portion thereof lying within the Unit Area of the Lower Cretaceous Unit - South and defined as a part of the Lower Cretaceous Unitized Formation below.

(5) The **Lower Cretaceous Oil Pool**, as used herein, shall be construed to mean those strata of the Cretaceous Age Formations productive of oil which can be correlated with the strata indicated on the dual induction log of the USA 21-6 No. 1 Well (surface location being located 2,038 feet from the East line and 690 feet from the South line of Section 21 of Township 2 North, Range 10 West, Perry County, Mississippi) between the depths of 12,032 feet and 12,090 feet (measured depths) [true vertical subsea depths of -10,945 feet to -10,986 feet], and all sands correlative to and in communication with said strata, less and except that portion thereof lying within the Unit Area of the Lower Cretaceous Unit - South and defined as a part of the Lower Cretaceous Unitized Formation below.

(6) The **Lower Cretaceous Unitized Formation**, as used herein, shall be construed to mean those Cretaceous Age Formations as identified by the Dual Burst Thermal Decay log run in the USA 21-5 No. 1 Well lying within the Unit Area, with the top of the Lower Cretaceous Unitized Formation being found at a measured depth of 12,380 feet and a vertical depth of 11,035 feet below the surface (-10,774 feet subsea) and the base of the Lower Cretaceous Unitized Formation being found at a measured depth of 13,168 feet and a vertical depth of 11,465 feet below the surface (-11,204 feet subsea) or to the stratigraphic equivalent thereof and all sands correlative to and in communication with said strata, insofar as said Cretaceous Age Formations are located within the Unit Area. The surface location of the USA 21-5 No. 1 Well is located 2,118 feet from the East line and 690 feet from the South line of Section 21 of Township 2 North, Range 10 West, Perry County, Mississippi, and the bottomhole of said well is located in the Southwest Quarter of the Northwest Quarter (SW $\frac{1}{4}$  of NW $\frac{1}{4}$ ) of said Section 21.

(7) The **Lower Selma Chalk Oil Pool**, as used herein, shall be construed to mean those strata of the Cretaceous Age Formations productive of oil which can be correlated with the strata indicated on the Baker Atlas log of the High Definition Induction Log Dual Laterolog Digital Acoustilog Gamma Ray Log TTRN Sub of the USA 15-4 No. 1 Well [renamed as the USA 15-3 No. 1 Well] (surface location being located 483 feet from the South line and 2,077 feet from the East line of Section 10 of Township 2 North, Range 10 West, Perry County, Mississippi) between the depths of 9,280 feet and 9,306 feet (measured depths) [true vertical subsea depths of -8,703 feet to -8,723 feet], and all sands correlative to and in communication with said strata.

C. RULES:

RULE 1 -- Spacing of Oil Wells

(1) With respect to the Lower Selma Chalk Oil Pool, the Eutaw Oil Pool -- Fault Block M, Eutaw Oil Pool -- Fault Block P, the Lower Tuscaloosa Massive Oil Pool, the Lower Tuscaloosa Pilot Oil Pool and the Lower Cretaceous Oil Pool, every oil well:

- (a) Shall be located on a unit consisting of forty (40) contiguous surface acres, or a governmental quarter-quarter section containing not less than thirty-six (36) acres nor more than forty-four (44) acres. The word "contiguous", as used herein, shall mean bordering each other at more than one point.
- (b) Any unit not a governmental quarter-quarter section must be completely encompassed by the perimeter of a rectangle 1,810 feet by 1,445 feet; provided, however, no unit shall be permitted which will create island acreage.
- (c) The location of the portion of the wellbore lying in said pool shall be at least 660 feet from the location of that portion of the wellbore in the same pool of every other well completed in or producing from said pool located in conformity with this rule.

- (d) The location of the portion of the wellbore lying in said pool shall be at least 330 feet from every exterior boundary of the unit.
- (e) No portion of the unit upon which the well is located shall be attributed, in whole or in part, to the production unit for any other producible well in the same pool.
- (f) With respect to directionally drilled wells, temporary 160 acre drilling units may be approved by the Supervisor of the Board in accordance with Rule 2 below.

**RULE 2 -- Directional Drilling of Wells**

Most of King Bee Field lies within a restricted military area of Camp Shelby, where surface drilling and production operations are prohibited by the Mississippi National Guard. In order to fully develop King Bee Field, it is necessary that most wells be directionally drilled. The Supervisor of the Board is authorized to issue administrative drilling permits in accordance with the following rules:

(1) The Supervisor of the State Oil and Gas Board is authorized to issue permits approving the directional drilling of wells from surface sites approved by the Mississippi National Guard and the United States Forest Service to bottomhole locations in King Bee Field on temporary 160 acre drilling units if the application for permit to drill meets the following conditions, to-wit:

- (a) The temporary 160 acre drilling unit consists of (i) a governmental quarter section containing not less than one hundred forty-four (144) acres nor more than one hundred seventy-six (176) acres, or (ii) four (4) contiguous governmental quarter-quarter sections containing not less than one hundred forty-four (144) acres nor more than one hundred seventy-six (176) acres, or (iii) one hundred sixty (160) contiguous surface acres which are completely encompassed by the perimeter of a rectangle 2,640 feet by 3,500 feet. The word "contiguous", as used herein, shall mean bordering each other at more than one point.
- (b) The anticipated location of the portion of the wellbore lying within the objective formation is at least 660 feet from the location of that same formation in the wellbore of every other drilling or producible well in the field.
- (c) The anticipated location of the portion of the wellbore lying within the objective formations is not less than 330 feet from every exterior boundary of the temporary 160 acre drilling unit.
- (d) The application for permit to drill is accompanied by a survey plat showing the surface location, the anticipated bottomhole location, the anticipated location of the tops and bottoms of all objective formations and the boundaries of the temporary 160 acre drilling unit.

(2) The surface facilities of wells drilled under this rule may be located outside of the temporary 160 acre drilling unit and the operator is authorized to cross drilling unit lines in connection with the drilling of directional wells as authorized herein.

(3) Upon completion of a well drilled under this rule on a temporary 160 acre drilling unit as a well capable of producing hydrocarbons in commercial quantities, the operator thereof shall promptly petition this Board to reform the temporary 160 acre drilling unit to a permanent production unit in compliance with the appropriate spacing rules established by this Board. The reformation of the temporary 160 acre drilling unit to a permanent production unit shall be made effective as of the date of first production from the well.

(4) A complete angular deviation and directional survey of the finished hole of any well directionally drilled under this rule shall be made at the expense of the operator and a certified copy of such survey shall be filed with the Board within thirty (30) days of the completion thereof.

(5) This rule shall not apply to the directional drilling of wells to the Lower Cretaceous Unitized Formation. Rules governing the directional drilling of wells to the Lower Cretaceous Unitized Formation appear below in these Special Field Rules.

### RULE 3 -- Lower Cretaceous Unit - South

The Lower Cretaceous Unit - South has been established and approved by the Mississippi State Oil and Gas Board with respect to the Lower Cretaceous Unitized Formation pursuant to Sections 53-3-101 through 53-3-119 of the 1972 Code of Mississippi (as amended) by Order No. 529-2001, and the Unit Area of the Lower Cretaceous Unit - South shall be considered and treated as a single drilling and producing unit as to all tracts therein contained insofar as the Lower Cretaceous Unitized Formation is concerned. The following additional rules shall apply with respect to the Lower Cretaceous Unit - South:

(1) Unit Area of Lower Cretaceous Unit - South. The Unit Area of the Lower Cretaceous Unit - South consists of the following-described lands situated in Sections 20 and 21 of Township 2 North, Range 10 West, Perry County, Mississippi, to-wit:

Section 20: The South Half of the North Half of the Northeast Quarter of the Northeast Quarter, the South Half of the Northeast Quarter of the Northeast Quarter, the Southeast Quarter of the Northwest Quarter of the Northeast Quarter, the South Half of the Southwest Quarter of the Northwest Quarter of the Northeast Quarter, the South Half of the Northeast Quarter, the Northeast Quarter of the Northeast Quarter of the Southeast Quarter and the North Half of the Northwest Quarter of the Northeast Quarter of the Southeast Quarter.

Section 21: The South Half of the Northwest Quarter of the Northeast Quarter, the South Half of the North Half of the Northwest Quarter, the Southwest Quarter of the Northeast Quarter, the South Half of the Northwest Quarter, the Northwest Quarter of the Northwest Quarter of the Southeast Quarter, the Northeast Quarter of the Southwest Quarter, the North Half of the Northwest Quarter of the Southwest Quarter, the Southeast Quarter of the Northwest Quarter of the Southwest Quarter and the North Half of the Southwest Quarter of the Northwest Quarter of the Southwest Quarter.

(2) Lower Cretaceous Unitized Substances. The Lower Cretaceous Unitized Substances are all oil, gas, gaseous substances, sulphur contained in gas, condensate, distillate, and all associated and constituent liquid or liquefiable hydrocarbons within or produced from the Lower Cretaceous Unitized Formation.

(3) Spacing of Wells in Lower Cretaceous Unit - South. Notwithstanding any other provisions contained in these Special Field Rules, the location of injection and production wells in the Lower Cretaceous Unit - South shall be selected by the operator of said Unit and shall be governed by the standards of geology and petroleum engineering designed to promote the greatest ultimate recovery of Lower Cretaceous Unitized Substances from the said Unit. However, no well may be drilled, injected into or produced from the Lower Cretaceous Unitized Formation nearer than 100 feet from any exterior boundary of the Unit Area, except upon permit issued by the Mississippi State Oil and Gas Board, after notice and hearing. When a well is drilled at any location less than 330 feet from any exterior boundary of the Unit Area, a directional survey shall be run and submitted to the Board within thirty (30) days of the completion date of the well in accordance with Rule 14 of the Statewide Rules and Regulations.

(4) Directional Drilling of Wells for the Lower Cretaceous Unit - South. The Supervisor of the State Oil and Gas Board is authorized to issue administrative permits approving the directional drilling of Unit Wells for the Lower Cretaceous Unit - South from surface sites approved by the Mississippi National Guard and the United States Forest Service to bottomhole locations in the Unit Area if the application for permit to drill meets the following conditions, to-wit:

(a) The anticipated location of the portion of the wellbore lying within the Lower Cretaceous Unitized Formation is not less than 100 feet

from every exterior boundary of Unit Area of the Lower Cretaceous Unit - South; and

- (b) The application for permit to drill is accompanied by a survey plat showing the surface location, the anticipated bottomhole location, the anticipated location of the top and bottom of the Lower Cretaceous Formation and the boundaries of the Unit Area of the Lower Cretaceous Unit - South.

The surface facilities of wells drilled under this rule may be located outside of the Unit Area of the Lower Cretaceous Unit - South and the operator is authorized to cross boundaries of said Unit Area in connection with the drilling of directional wells as authorized herein. A complete angular deviation and directional survey of the finished hole of any well directionally drilled under this rule shall be made at the expense of the operator and a certified copy of such survey shall be filed with the Board within thirty (30) days of the completion thereof.

(5) Pressure Maintenance and Enhanced Recovery Program for Lower Cretaceous Unit - South. The operator of the Lower Cretaceous Unit - South is authorized to conduct and carry out enhanced recovery operations, pressure maintenance or any other method generally recognized and approved by the industry designed to increase the ultimate recovery of oil and/or gas, including, but not limited to the injection of gas, carbon dioxide, water and other extraneous substances, and any combination thereof, or any other form of joint effort calculated to substantially increase the ultimate recovery of Lower Cretaceous Unitized Substances from the Lower Cretaceous Unit - South. The operator may use for injection purposes existing wells located in the Lower Cretaceous Unit - South which may be converted to injection wells or wells may be drilled on said unit for such purposes. Any such wells drilled as injection wells or converted to injection wells by the operator on the unit as a part of pressure maintenance and/or enhanced recovery operations may be approved by the Mississippi State Oil and Gas Board by administrative permit, without hearing, upon the operator filing with the Board a duly executed Form 2, well location plat, the required permit fee for each such well, and all evidence and information required under Statewide Rule 63 and upon publication of public notice of the same not less than twenty (20) days prior to the issuance of the administrative permit. In addition, unit injection wells may be converted to unit producing wells and unit producing wells may be converted to unit injection wells by administrative permit, without hearing, upon the operator filing with the Board a duly executed Form 2, the required permit fee for each such well, and all other evidence and information the Board may require, and upon publication of public notice of the same not less than twenty (20) days prior to the issuance of the administrative permit.

(6) Allowable for Lower Cretaceous Unit - South. The allowable for the Lower Cretaceous Unit - South shall be established by the Mississippi State Oil and Gas Board. The allowable production of the said unit may be produced from any well or wells on said unit provided, however, that no well shall be operated in such a manner as to cause waste as defined by the laws of the State of Mississippi.

#### RULE 4 -- Surface Treating and Storage Facilities

(1) Production of crude oil from two or more wells in King Bee Field may be commingled in common heaters, treaters, storage tanks and/or other fired vessels without the use of individual metering devices as an exception to Statewide Rule 21 for the purpose of treating, storing and marketing said production. In the event of such commingling, the operator of said wells shall gauge or measure the production of each well in separate test facilities for a period of time not less than 24 hours at least once a month. The test facilities shall be constructed and operated in such a fashion that each of the wells may be tested individually under usual operating conditions without the necessity of shutting in any other well during the test period. The monthly production tests shall be used to allocate the commingled production for that month between said wells, subject to such adjustment as may be required to account for the reworking of, shutting-in of or lack of production from any such well during that month.

(2) All heaters, treaters, storage tanks, and other fired vessels which are installed or replaced and necessary to maintain the temperature of the crude oil produced from the field sufficiently above pour point for production into and sales from



storage facilities or tanks shall be located and operated without distance restrictions between vessels and storage tanks.

RULE 5 -- Amendment of Special Field Rules

The Board expressly reserves the right, after notice and hearing, to alter, amend or repeal any and all of the above rules and regulations, or to grant exceptions to all or any part thereof.

RULE 6 -- Applicability of Statewide Rules

All rules and regulations contained in Statewide Order No. 201-51, and all amendments thereto, are hereby adopted and shall apply to King Bee Field to the extent not inconsistent with the above rules.

- End of Special Field Rules -

IT IS FURTHER ORDERED that this Order shall be effective from and after December 17, 2008.

SO ORDERED AND ADJUDGED on this the 6th day of January, <sup>2009</sup>2008.

STATE OIL AND GAS BOARD OF MISSISSIPPI

By:

  
David A. Scott, Chairman

Prepared and submitted by:  
James M. Nix  
JONES AND NIX, PLLC  
Post Office Box 55601  
Jackson, Mississippi 39296-5601  
Phone (601) 948-6800