

BEFORE THE STATE OIL AND GAS BOARD OF MISSISSIPPI

RE: PETITION OF DENBURY ONSHORE, LLC TO  
AMEND THE SPECIAL FIELD RULES FOR THE  
OLIVE FIELD, AMITE AND PIKE COUNTIES,  
MISSISSIPPI

FILED FOR RECORD

JUN 15 2005

STATE OIL AND GAS BOARD  
WALTER BOONE, SUPERVISOR

DOCKET NO. 101-2005-533

ORDER NO. 177-2005

ORDER

THIS CAUSE came to be heard on the Petition of Denbury Onshore, LLC ("Petitioner") requesting the Board to amend the Special Field Rules for the Olive Field in Amite and Pike Counties, Mississippi; and

WHEREAS, the Board finds that due, proper, and legal notice of the meeting of the Board for the purpose of considering and taking action with respect to such matter was given in the manner required by the rules and regulations of the Board; that due, legal, and sufficient proofs of publication and service are on file with the Board; and that the Board has full jurisdiction of the subject matter to hear and determine same; and

WHEREAS, pursuant to said Notice, a public hearing was held by said Board in the Hearing Room, Suite E, 500 Greymont Avenue, Jackson, Mississippi, commencing on May, 18, 2005, at 9:30 o'clock a.m. at which hearing all persons present who desired to be heard on said matter were heard and all testimony and the evidence were duly considered by those present at said meeting; and

WHEREAS, the Board has fully considered said matter and the evidence and recommendations made in said hearing and finds as follows:

1.

Petitioner is the current operator of the Field. Special Field Rules for the Field were last adopted or amended for this Field in Docket No. 65-95-533, Order No. 91-95.

2.

The Field contains one unitized pool. Petitioner installed a CO<sub>2</sub> tertiary oil recovery

program in the Field which is operated in conjunction with a similar program in the McComb and Smithdale Fields. The tertiary oil recovery program will require that the crude oil be commingled from the various unitized fields because of the common facilities necessary to inject CO<sub>2</sub> into the ground and separate the crude oil, CO<sub>2</sub>, water, and natural gas produced from each field. Finally, Petitioner will use a central tank battery from which all oil sales from all fields will be made.

3.

Petitioner seeks authority to commingle production from all wells at one facility and prorate the production to each well, field, and unit based on individual well tests which will be performed not less than once per month.

4.

The amendment to the Special Field Rules will promote conservation, protect the co-equal and correlative rights of all owners in interest, avoid the drilling of unnecessary wells and permit oil and gas to be produced which would not otherwise be recoverable.

**IT IS, THEREFORE, ORDERED AND ADJUDGED** by the State Oil and Gas Board of Mississippi that the Special Field Rules for the Olive Field in Amite and Pike Counties, Mississippi are hereby amended as follows:

**SPECIAL FIELD RULES  
FOR OLIVE FIELD  
AMITE AND PIKE COUNTIES, MISSISSIPPI**

**FIELD LIMITS:**

**Amite County, Mississippi  
Township 4 North - Range 6 East**

Section 13: E $\frac{1}{2}$  of E $\frac{1}{2}$

**Pike County, Mississippi  
Township 4 North - Range 7 East**

Section 7: S $\frac{1}{2}$  of SW $\frac{1}{4}$

Section 18: W $\frac{1}{2}$  of NE $\frac{1}{4}$ ; SE $\frac{1}{4}$  of NE $\frac{1}{4}$ ; NW $\frac{1}{4}$ ; S $\frac{1}{2}$

Section 19: N $\frac{1}{2}$ ; N $\frac{1}{2}$  of SE $\frac{1}{4}$ ; SW $\frac{1}{4}$  of SE $\frac{1}{4}$ ; N $\frac{1}{2}$  of SW $\frac{1}{4}$ ; SE $\frac{1}{4}$  of  
SW $\frac{1}{4}$

including all productive extensions thereof underlain by the (Lower) Tuscaloosa Oil Pool.

1. The (Lower) Tuscaloosa Oil Pool, as used herein, shall be construed to mean those strata of the Tuscaloosa formation productive of hydrocarbons from the depth of 10,886 feet to 11,000 feet in the Shell Oil Co. Hutto, et al Unit No. 1, located 990 feet from the north line and 2,340 feet from the west line of Section 18, Township-4-North, Range-7-East, Pike County, Mississippi, and including those productive strata which can be correlated therewith.

2. The area defined as lying within the Olive Field consists of regular governmental sections of approximately 640 acres each. With respect to the (Lower) Tuscaloosa Oil Pool, the Olive Field Unit has been created by the voluntary agreement of over 85 percent of the operating owners and over 85 percent of the royalty owners with respect to which it is proper and necessary for the promotion of conservation to consider and treat the unit area in said pool as a single drilling and producing unit as to all tracts therein contained. As to said pool, the rules hereinafter provided applicable to it will enable said pool to be efficiently drilled and the recoverable oil and gas therein contained to be recovered with full protection of the coequal and correlative rights of all parties and without avoidable waste.

**RULE 1 - SPACING OF OIL WELLS:**

A. A fieldwide drilling unit is hereby established for each and all oil wells drilled and completed in the (Lower) Tuscaloosa Oil Pool as consisting of that unit area affected by the Unit Agreement, Olive Field Unit, Amite and Pike Counties, Mississippi, underlain by the (Lower) Tuscaloosa Oil Pool.

B. The location of wells upon the fieldwide unit shall be governed by the standards of geology and petroleum engineering designed to promote the greatest ultimate recovery of hydrocarbons contained in the pool. However, no future well may be drilled or produced from said pool nearer than 330 feet from any boundary of the fieldwide unit except

upon permit issued by the Board after notice and hearing.

C. Furthermore, the operator of the Olive Field Unit may drill either injection or producing wells utilizing directional or horizontal techniques, without notice and hearing, upon the approval of the Supervisor of the State Oil & Gas Board and the submission of a Form 2 and the proper permitting fee and any other documentation which the Supervisor may reasonably require. In so doing, the operator may re-enter or sidetrack old or existing well bores, also without the necessity of notice and hearing as herein provided. All of the above being designed to increase the ultimate recovery of hydrocarbons contained in the pool. Provided, however, that (1) no portion of the well bore located within the unitized interval or horizon on any such well so drilled shall be nearer than 330 feet from any exterior boundary of the Olive Field Unit, except upon permit issued by the Mississippi State Oil & Gas Board, after notice and hearing, and (2) the operator shall file a directional survey or other information required by rule or written policy of the board after completion.

**RULE 2 - ALLOCATION OF PRODUCTION:**

A. The allowable of said pool shall be the sum of the number of wells in the unit, excluding salt water disposal and waste water disposal wells, times the then effective allowable based on depth.

B. The allowable production of the fieldwide unit may be produced by any well or wells on said unit provided, however, that no well shall be operated in such manner as to cause waste as defined by the Laws of Mississippi.

**RULE 3 - PRESSURE MAINTENANCE AND ENHANCED RECOVERY  
PROGRAM AUTHORIZED:**

A. Denbury Onshore, LLC, as Operator of the Olive Field Unit, is hereby authorized to conduct pressure maintenance operations in the Lower Tuscaloosa Oil Pool of the Olive Field by the injection of gas, carbon dioxide, water or other substances. Operator may use for injection purposes existing wells located in said Fieldwide unit which may be

converted to injection wells or wells may be drilled on said fieldwide unit for such purpose, provided, however, that before any additional well or wells may be used for injection purposes, said operator must obtain administrative approval of the State Oil & Gas Board Supervisor, provided the Petitioner, with respect to each such well, submits all data and information required by Statewide Rule 63 and any other rule, regulation or requirement, which may then be applicable, and such other data and information as the Supervisor may reasonably require.

B. The conversion of production wells to injection wells will not affect the unit allowable as determined by Rule 2.

C. The operator of the Olive Field Unit is hereby authorized to convert injection wells into production wells upon the approval of the Supervisor of the State Oil & Gas Board and the submission of a Form 2 and the proper permitting fee and any other documentation which the Supervisor may reasonably require.

D. Production wells in Olive Field Unit which are subjected to the injection of corrosion inhibitors shall be tested at least once every ten years to insure the mechanical integrity of the production casing. The Operator will set a goal to test a minimum of ten percent (10%) of all inhibited production wells every year. Such testing shall demonstrate the production casing's ability to sustain a minimum pressure of 500 psi for thirty minutes with no more than a ten percent (10%) loss in pressure.

The following test procedures are approved for production wells with continuous inhibition:

(a) Casing Test During Well Workovers

During well workovers in which the production tubing is pulled, the production tubing can be tested by running a retrievable test packer on a workstring into the wellbore as close as possible to the proposed depth of the production packer.

(b) Casing Test Other Than During Workovers

(1) Open-annulus wells with ported flow coupling above packer

This type well can be tested by any conventional method such as (but not limited to) wireline-set tubing plug or inflatable packer run with coiled tubing unit.

(2) Open-annulus wells without packers

All wells of this type are to be monitored continuously by CAO (computer assisted operations) equipment to detect abnormal pressure behavior. Casing pressure test should be conducted whenever production tubing is pulled for workover operations.

(3) Wells completed with chemical injection mandrels and valves

Wells of this type can be tested by replacing injection valve with dummy valve prior to pressure testing. Should the Operator wish to employ other testing procedures in the future, Operator shall first seek administrative approval from the Supervisor of the State Oil & Gas Board.

**RULE 4 - AUTOMATIC CUSTODY TRANSFER SYSTEMS AUTHORIZED:**

(a) Automatic custody transfer systems which automatically test, sample, measure and transfer the production from the operator to the purchaser are hereby authorized for the Olive Field.

(b) The Operator of the Field shall be permitted to commingle production at the surface from the Smithdale, McComb, and Olive Fields for collection and sale at a central tank battery as part of its secondary and tertiary oil recovery projects. This includes a central tank battery and a central facility for oil, water, and CO<sub>2</sub> production, cycling and injection operations. The oil and gas production from the Fields may be commingled in a common storage system. The Operator shall install a flowline, header and measurement system that allows each well in each of the three Fields to be separately and individually tested on a periodic basis, not less than once each month. If, upon a sale therefrom, a variance exists between the measurement from the common storage system and the measurement from the

production of all the wells commingled in such common storage system, then such variance shall be allocated back to each of the wells producing into the common storage system proportionately to the production measured from each of the wells on the basis of the periodic tests.

(c) Each producing well shall be so equipped that gas/oil ratio and bottomhole or other pressure test may be made.

(d) Each producing well shall be connected to a metering system as will permit the adequate testing of each individual well under usual operating conditions without the necessity of closing in any other well. Each well shall be tested not less than once per month for allocation of fieldwide production and between individual units.

**RULE 5 - APPLICABILITY OF STATEWIDE RULES:**

(a) All rules and regulations contained in Statewide Order No. 201-51, and any amendments thereto, not specifically covered in the foregoing special field rules are hereby adopted and shall apply to said field.

(b) These amended rules and regulations to become effective as of the date of the Board's order adopting and establishing same.

(c) The Board expressly reserves the right after notice and hearing to alter, amend or repeal any and all of the foregoing rules and regulations.

(d) The conversion of producing wells to injection wells will not affect the unit allowable as determined by Rule 2.

(e) The operator of the Olive Field Unit is hereby authorized to convert injection wells into production wells upon the approval of the Supervisor of the State Oil & Gas Board and the submission of a Form 2 and the proper permitting fee and any other documentation which the Supervisor may reasonably require.

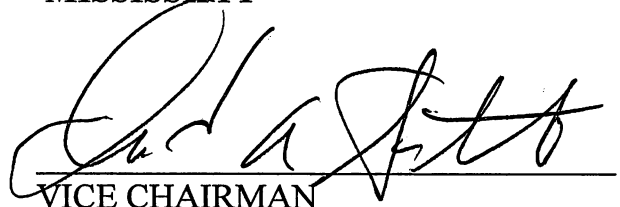
**IT IS FURTHER ORDERED AND ADJUDGED** that this Order shall be in force and effect from and after May 18, 2005.

**IT IS FURTHER ORDERED AND ADJUDGED** that Petitioner shall acquire any

other permits, if any, required by any other permitting authority.

ORDERED AND ADJUDGED this 15<sup>th</sup> day of June, 2005.

STATE OIL AND GAS BOARD OF  
MISSISSIPPI



VICE CHAIRMAN  
(Acting Chairman)

**Prepared By:**

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