

BEFORE THE STATE OIL AND GAS BOARD OF MISSISSIPPI

FILED FOR RECORD

RE: PETITION OF DENBURY RESOURCES INC.
TO AMEND THE SPECIAL FIELD RULES FOR
THE QUITMAN FIELD, CLARKE COUNTY,
MISSISSIPPI

JAN 08 2003

STATE OIL AND GAS BOARD
WALTER BOONE, SUPERVISOR

DOCKET NO. 389-2002-18

ORDER NO. 572-2002

ORDER

THIS CAUSE came to be heard on the Petition of Denbury Resources Inc. ("Petitioner") requesting the Board to amend the Special Field Rules for the Quitman Field, Clarke County, 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 December 18, 2002, 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.

The Mississippi State Oil and Gas Board has previously approved the establishment of Special Field Rules for the Quitman Field, Clarke County, Mississippi. Those Special Field Rules established the geographic limits of the Quitman Field and define various oil and gas pools within the Field and prescribe certain spacing requirements applicable to wells

drilled and completed in said pools. Those Special Field Rules have been amended by the Board numerous times through the years. Those Special Field Rules were last amended by the Mississippi State Oil and Gas Board in 1999, (Docket No. 273-99-18, Order No. 438-99).

2.

The purpose of this Petition is to amend the Special Field Rules for the Field to provide uniform allocation of production within the unitized intervals of the Unit for all formations. The Unit is a compulsory unit comprised of an area within the Quitman Field more particularly described in the Unit Agreement and the Unit Operating Agreement for the Unit. The Unit is composed of multiple pools as more particularly set forth in the Special Field Rules attached hereto.

3.

Petitioner is the duly authorized operator of the unit and is authorized to conduct unit operations within the unitized pools. In this connection, the Petitioner is specifically authorized to conduct secondary recovery and/or pressure maintenance operations within the Unit, including water flooding, repressuring, cycling, and combinations thereof.

4.

Secondary recovery and pressure maintenance operations on the Unit commenced on February 20, 1974, and have continued on an interrupted basis since that date. The secondary recovery and pressure maintenance consisted exclusively of the underground injection of saltwater and other produced fluids on the fieldwide unit basis. The Petitioner presently operates an active Class II enhanced oil recovery injection well on the Unit. That Class II enhanced oil recovery injection well is being utilized in connection with the water flooding and pressure maintenance operations. Petitioner is presently injecting saltwater and other produced fluids daily to a unitized interval of the Unit in conjunction with ongoing water flooding operations.

5.

The production of oil and/or other unitized substances from the Unit has declined for

years. All unitized pools, except the Cotton Valley Oil Pools, are allocated on an unit basis, not individual well basis. The Cotton Valley Oil Pools' production is allocated on the basis of individual wells under the Statewide Rules. All unitized pools should be allocated on the basis of the unit, not an individual well.

6.

The Special Field Rules should be amended to authorize the operator of the Unit, to allocate production from all unitized formations on a unit, not individual well basis.

7.

The Board should set a Maximum Efficient Rate ("MER") of 2,500 BOPD for all unitized formations. That is a rate which will not cause waste, nor cause any harm to any of the producing formations.

8.

The amendment to the Special Field Rules for the Quitman Field, Clarke County, Mississippi will promote conservation, will prevent waste, will avoid the drilling of unnecessary wells, and will fully protect the co-equal and correlative rights of all parties in interest. In addition, the adoption of the proposed amendment to the Special Field Rules will facilitate the more efficient and economic operation of the Unit, will extend the economic life of the Fieldwide Unit, and result in the ultimate recovery of oil and/or other hydrocarbon reserves which would not otherwise be recovered.

IT IS, THEREFORE, ORDERED AND ADJUDGED by the State Oil and Gas Board of Mississippi that the Special Field Rules for the Quitman Field are hereby amended as follows:

SPECIAL FIELD RULES FOR THE QUITMAN FIELD

CLARKE COUNTY, MISSISSIPPI

A. The Quitman Field as used herein is that area consisting of Section 2, the South half (S $\frac{1}{2}$) of Section 3, the South half (S $\frac{1}{2}$) of Section 4 and Sections 9, 10 and 11, Township 2 North, Range 16 East, Clarke County, Mississippi, including all productive extensions thereof underlain by the hereinafter defined pools:

B. 1. The 7,400 Foot Mooringsport Oil Pool shall be construed to mean those strata of the Mooringsport Formation underlying Quitman Field productive of oil between the Schlumberger Dual Induction Laterlog depths of 7,382 feet to 7,595 feet in The Brandon Company Unit 10-3 Well located 330 feet South of the North line and 560 feet East of the West line of the NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 10, Township 2 North, Range 16 East, Clarke County, Mississippi, or strata correlative with this interval in other wells in the field less and except that certain zone productive of oil in the interval between 7600 feet to 7630 feet in the Denbury Management, Inc. - Toney 3-5 No. 1 Well located 330 feet from the South line and 330 feet from the West line of the SW $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 3, Township 2 North, Range 16 East, Clarke County, Mississippi or any strata correlative with this interval.

2. The 7,600 Foot Rodessa Oil Pool shall be construed to mean those strata of the Rodessa Formation underlying Quitman Field productive of oil between the Schlumberger Dual Induction Laterlog depths of 7,595 feet to 8,331 feet in The Brandon Company Unit 10-3 Well located 330 feet South of the North line and 560 feet East of the West line of the NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 10, Township 2 North, Range 16 East, Clarke County, Mississippi, or strata correlative with this interval in other wells in the field.

3. The Hosston Oil Pool shall be construed to mean those strata of the Hosston Formation underlying Quitman Field productive of oil between the Schlumberger Dual Induction Laterlog depths of 8,331 feet to 9,335 feet in The Brandon Company Unit 10-3 Well located 330 feet South of the North line and 560 feet East of the West line of the NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 10, Township 2 North, Range 16 East, Clarke County, Mississippi, or strata correlative with this interval in other wells in the field.

4. The 9,350 Foot Cotton Valley Oil Pool shall be construed to mean those strata of the Cotton Valley Formation underlying Quitman Field productive of oil

between the Schlumberger Dual Induction Laterlog depths of 9,335 feet to 9,584 feet in The Brandon Company Unit 10-3 Well located 330 feet South of the North line and 560 feet East of the West line of the NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 10, Township 2 North, Range 16 East, Clarke County, Mississippi, or strata correlative with this interval in other wells in the field.

5. The 9,700 Foot Cotton Valley Oil Pool shall be construed to mean those strata of the Cotton Valley Formation underlying Quitman Field productive of oil between the Schlumberger Dual Induction Laterlog depths of 9,584 feet to 10,168 feet in The Brandon Company Unit 10-3 Well located 330 feet South of the North line and 560 feet East of the West line of the NE $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 10, Township 2 North, Range 16 East, Clarke County, Mississippi, or strata correlative with this interval in other wells in the field.

6. The 10,150 Foot Cotton Valley Oil Pool shall be construed to mean those strata of the Cotton Valley Formation underlying Quitman Field productive of oil between the Schlumberger Dual Induction Laterlog depths of 10,168 feet to 10,452 feet in The Brandon Company Unit 10-3 Well located 330 feet South of the North line and 560 feet East of the West line of the NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 10, Township 2 North, Range 16 East, Clarke County, Mississippi, or strata correlative with this interval in other wells in the field.

7. The 10,500 Foot Cotton Valley Oil Pool shall be construed to mean those strata of the Cotton Valley Formation underlying Quitman Field productive of oil between the Schlumberger Dual Induction Laterlog depths of 10,452 feet to 10,938 feet in The Brandon Company Unit 10-3 Well located 330 feet South of the North line and 560 feet East of the West line of the NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 10, Township 2 North, Range 16 East, Clarke County, Mississippi, or strata correlative with this interval in other wells in the field.

8. The 11,000 Foot Cotton Valley Oil Pool shall be construed to mean

those strata of the Cotton Valley Formation underlying Quitman Field productive of oil between the Schlumberger Dual Induction Laterlog depths of 10,938 feet and 11,083 feet in The Brandon Company Unit 10-3 Well located 330 feet South of the North line and 560 feet East of the West line of the NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 10, Township 2 North, Range 16 East, Clarke County, Mississippi, or strata correlative with this interval in other wells in the field.

9. The 11,150 Foot Cotton Valley Oil Pool shall be construed to mean those strata of the Cotton Valley Formation underlying Quitman Field productive of oil between the Schlumberger Dual Induction Laterlog depths of 11,083 feet to 11,225 feet in The Brandon Company Unit 10-3 Well located 330 feet South of the North line and 560 feet East of the West line of the NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 10, Township 2 North, Range 16 East, Clarke County, Mississippi, or strata correlative with this interval in other wells in the field.

10. The 11,175 Foot Cotton Valley Oil Pool shall be construed to mean those strata of the Cotton Valley Formation underlying Quitman Field productive of oil between the Schlumberger Dual Induction Laterlog depths of 11,225 feet to 11,408 feet in The Brandon Company Unit 10-3 Well located 330 feet South of the North line and 560 feet East of the West Line of the NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 10, Township 2 North, Range 16 East, Clarke County, Mississippi, or strata correlative with this interval in other wells in the field.

11. The Smackover Oil Pool shall be construed to mean those strata of the Smackover Formation underlying Quitman Field productive of oil between the Schlumberger Dual Induction Laterlog depths of 11,408 feet to 11,962 feet in The Brandon Company Unit 10-3 Well located 330 feet South of the North line and 560 feet East of the West line of the NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 10, Township 2 North, Range 16 East, Clarke County, Mississippi, or strata correlative with this interval in other wells in the field.

12. The area defined as lying within the Quitman Field consists of regular governmental sections of 640 acres each. With respect to the above defined oil pools, the Quitman Field Unit has been created by voluntary agreement of more than a majority of all of the royalty owners and a majority of all of the operating owners, with respect to which it is proper and necessary for the promotion of conservation to consider and treat the Unit Area in said pools as a single drilling and producing unit as to all tracts therein contained, subject only to such limitations as may be required in order to protect the co-equal and correlative rights of all those owners in those tracts who have not by voluntary consent joined in the Quitman Unit. As to said pools, the rules hereinafter provided applicable thereto will enable said pools to be efficiently drilled and the recoverable oil and gas therein contained to be recovered with full protection of the co-equal and correlative rights of all parties and without avoidable waste.

RULE 1: SPACING OF OIL WELLS

A. 1. A fieldwide drilling unit ("Quitman Fieldwide Unit") is hereby established for each and all oil wells drilled and completed as consisting of the Unit Area affected by the Unit Agreement, Quitman Field, Clarke County, Mississippi, underlain by the 7,400 Foot Mooringsport Oil Pool, the 7,600 Foot Rodessa Oil Pool, the Hosston Oil Pool, the 9,350 Foot Cotton Valley Oil Pool, the 9,700 Foot Cotton Valley Oil Pool, the 10,150 Foot Cotton Valley Oil Pool, the 10,500 Foot Cotton Valley Oil Pool, the 11,000 Foot Cotton Valley Oil Pool, the 11,150 Foot Cotton Valley Oil Pools, the 11,175 Foot Cotton Valley Oil Pool, and the Smackover Oil Pool and shall not include all or any portion of any individual drilling unit as defined in subsection (B) hereof.

2. Each oil drilling unit heretofore established or that may be hereafter established under the provisions of statewide rules and with respect to which any ownership of an operating or royalty interest has not been made subject to the Unit

Agreement creating the Quitman Unit shall maintain its status as a drilling unit.

B. When used in these rules, the term "individual drilling unit" shall mean a developed drilling unit now existing in the Quitman Field or hereinafter created in accordance with statewide rules wherein the ownership of any operating or royalty interest has not been made subject to the Unit Agreement creating Quitman Unit.

C. The location of wells upon any individual drilling unit shall be covered by applicable statewide rules promulgated by this Board. The location of wells upon the fieldwide unit shall be governed by standards of geology and petroleum engineering designed to promote the greatest ultimate recovery of the hydrocarbons contained in said pools. However, no well in said pools may be drilled nearer than three hundred thirty (330) feet from any boundary of the fieldwide unit except upon permit issued by the Board after notice and hearing.

RULE 2: ALLOCATION OF PRODUCTION

A. All Unitized Oil Pools:

1. The maximum efficient daily rate of production for the Quitman Field Unit is hereby set at 2,500 barrels of oil per day for all pools.

2. The daily allowable of each of said pools shall be allocated as follows: To each individual drilling unit, there shall be allocated that proportionate part of each of said pool's daily allowable that the surface acreage content of such individual drilling unit bears to the total surface acreage contained within all individual drilling units plus the total surface acreage contained within the fieldwide unit. The remainder of the daily allowable shall be allocated to the Quitman Field Unit.

3. Any unit which is not capable of producing without committing waste, the allowable assigned to it under Rule 2 B shall be considered as a deficient unit. The difference between the allowable assigned to a deficient unit and that which it is capable of producing without waste shall be distributed by the Board to the non-deficient units on the surface-acreage basis of apportionment prescribed in said Rule

2 A 2.

4. The production allowables 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.

B. As to Vertical Cotton Valley Oil Pools:

1. Production from Cotton Valley Oil Pools produced hereunder shall be reported as production from the "Commingled Cotton Valley Oil Pools".

RULE 3: HORIZONTALLY AND DIRECTIONALLY DRILLED WELLS AND DIRECTIONAL SURVEY

A. Operator is authorized to conduct horizontal and/or directional drilling and completion or recompletion of wells within the unitized zones of the Quitman Field Unit on administrative permit without notice and public hearing. Such horizontally and/or directionally drilled and completed or recompleted wells shall be confined to the geographic limits of the Quitman Fieldwide Unit and the unitized zones thereof as those terms are defined in said unitization agreement.

B. For the purpose of these Special Field Rules, a horizontal well is defined as a high angle directional well which results in a wellbore with 100 to 3,000 feet of lateral penetration. Directional wells are wells which are deviated from the vertical but which do not otherwise satisfy the conditions of a horizontal well.

C. Operator shall file a Form 3 of record of all deviation tests taken.

D. Spacing for horizontally and/or directionally drilled and completed or recompleted wells within the unitized zones may be administratively permitted without notice and hearing provided, however, no portion of the horizontal drainhole located within the unitized intervals or horizon of any such well so drilled shall be nearer than 100 feet from any exterior boundary of the Quitman Fieldwide Unit except upon permit issued by the Mississippi State Oil and Gas Board, after notice and hearing and the operator shall file a directional survey and other information required by rule or written policy of the Mississippi State Oil and Gas Board after completion.

E. The Fieldwide Operator may drill either injection or producing wells on the Quitman Fieldwide Unit utilizing directional or horizontal drilling techniques as hereinabove described regardless of whether the surface location of such wells is within or outside the unit boundaries of the Fieldwide Unit.

F. Horizontal wells are herein given allowables based upon their maximum efficient rate determined after drilling each such well with an initial test rate of 1,500 barrels per day per well for test period of one year from the date of filing a Form 3 Completion Report in order to establish a maximum efficient rate.

RULE 4: PRESSURE MAINTENANCE AUTHORIZED

A. The Operator of the Quitman Field Unit, is hereby authorized to conduct pressure maintenance operations in the several pools as defined by these Special Field Rules.

B. The Operator is authorized to commence pressure maintenance operations at such time, in its judgment, conservation of oil and gas from the Quitman Field would be enhanced thereby. Said Operator is authorized to use for injection purposes either converted producing wells and/or wells drilled for such use, provided, however, that prior to use of such wells for injection purposes, Operator must file with the State Oil and Gas Board a plat showing the location of such injection wells and the applicable information required by Statewide Rule 45. No well on a quarter-quarter section directly offsetting an individual drilling unit may be used for injection purposes until approved by the Board after notice and hearing.

C. The conversion of producing wells to injection wells will not affect the fieldwide unit allowable as determined by Rule 2.

RULE 5: MEASUREMENT OF PRODUCTION

The operator of each producing lease shall maintain proper separators and stock tanks or metering devices and such connections thereto as are necessary to continuously measure the total production from such leases. Where metering devices are used, as herein provided,

the production may be commingled in a common storage system. And if, upon a sale therefrom, a variance exists between the measurement from the common storage system and the total measurement of the production of all the leases commingled in such common storage system, then such variance shall be allocated back to each of the leases producing into common storage system proportionately to the production measured from each lease.

RULE 6: EQUIPMENT FOR TESTS

A. Each producing well shall be so equipped that gas/oil ratio tests and bottomhole or other pressure tests may be made.

B. The operator of each producing lease on which there are two or more producing wells shall maintain proper separators and stock tanks or metering devices and such connections thereto as will permit the adequate testing of each individual well under usual operating conditions without the necessity of closing in any other well.

RULE 7: USE OF METERS

A. The use of meters for testing and for measurement of lease production shall be subject to and in accordance with the following provisions:

1. Only a volume displacement type metering device or vessel which registers the volume of oil passed through it in barrels or multiples thereof may be used.
2. All meters shall be downstream of the necessary separating or treating vessels. All meters shall be designed and installed in conformance with recognized metering practices and shall be subject to the approval of the Supervisor of the Oil and Gas Board.
3. No meter used for oil production measurement shall be directly or indirectly by-passed in such manner as to permit oil to pass into common storage without first being measured.
4. All meters and equipment affecting meter accuracy shall be kept in good

working order. Each meter shall be calibrated at least once a month by means of a calibrated tank, a calibrated meter prover or a master meter. When a meter is found to deviate in its recording by more than two percent (2%), it must be adjusted to conform to the said tolerance limitation of two percent or the meter calibration factor corrected.

5. The corrected meter reading at 7:00 a.m. on the first day of each month for each meter shall be reported on the bottom of the form used in reporting the monthly production from the wells being measured by such meter.

RULE 8: VERTICAL COMPLETIONS IN THE COTTON VALLEY FORMATION

A. Operator is authorized to simultaneously produce oil and/or gas from one or more separate zones in the Cotton Valley Formation through a single string of tubing by commingling production downhole.

B. Any change of production zones or rework of any well in the Cotton Valley Formation shall be permitted administratively upon filing of a satisfactory Form 2 indicating the zone being abandoned or reworked, the new zone or zones to be tested and the proposed completion procedure. Production from commingled zones in the Cotton Valley shall be authorized and permitted upon receipt by the Board of a completion report for each new or reworked zone.

RULE 9: TERTIARY ENHANCED OIL RECOVERY METHODS.

A. The Operator of the Quitman Field Unit is further authorized to implement tertiary enhanced oil recovery methods and/or pressure maintenance operations within the unitized intervals of the unit, including Microbial Enhanced Oil Recovery Methods and such other tertiary oil enhanced oil recovery methods as may be approved and permitted by the Mississippi State Oil and Gas Board. In conjunction with such tertiary enhanced oil recovery operations, the operator may use for injection purposes existing wells located on the unit

which may be converted to injection wells or wells may be drilled on said fieldwide unit for such purposes. Any such wells drilled as injection wells or converted to injection wells by the Operator on the Fieldwide unit as a part of tertiary enhanced oil recovery operations may be approved by the Mississippi State Oil and Gas Board upon administrative permits, without hearing, upon the Operator filing with the Board a duly executed Form 2, the required permit for each such well, and all evidence and information required by Statewide Rule 63 and upon not less than 20 days publication notice. In addition, existing fieldwide unit injection wells may be converted to Fieldwide unit producing wells on administrative permit, without notice and 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.

RULE 10: 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. The Board expressly reserves the right, after notice and hearing, to alter, amend or repeal any and all of the foregoing rules and regulations.

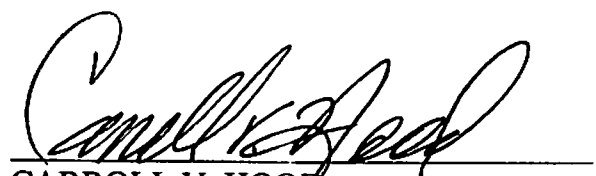
***** END OF SPECIAL FIELD RULES*****

IT IS FURTHER ORDERED AND ADJUDGED that this Order shall be in force and effect from and after December 18, 2002.

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 8th day of January, ~~2002~~ ²⁰⁰³.

**STATE OIL AND GAS BOARD OF
MISSISSIPPI**



CARROLL V. HOOD
CHAIRMAN

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