

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

**IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:**

CASE NOS. 14738 AND 14739

**APPLICATION OF EOG RESOURCES, INC. FOR SIMULTANEOUS
DEDICATION AND AN EXCEPTION TO THE SPECIAL RULES AND
REGULATIONS FOR THE RED HILLS-BONE SPRING POOL, LEA COUNTY,
NEW MEXICO**

CASE NO. 14760

**APPLICATION OF EOG RESOURCES, INC. TO EXCLUDE THE LEONARD
SHALE INTERVAL FROM THE SPECIAL RULES AND REGULATIONS FOR
THE RED HILLS-BONE SPRING POOL, LEA COUNTY, NEW MEXICO**

ORDER NO. R-10109-B

ORDER OF THE DIVISION

BY THE DIVISION:

Case Nos. 14738 and 14739 came on for hearing at 8:15 a.m. on September 29, 2011, at Santa Fe, New Mexico before Examiner William V. Jones. Case No. 14760 came on for hearing at 9:30 a.m. on November 10, 2011, at Santa Fe, New Mexico before Examiner David Brooks.

NOW, on this 7th day of December, 2011, the Division Director, having considered the testimony, the record and the recommendations of the Examiners,

FINDS THAT:

- (1) Due public notice has been given, and the Division has jurisdiction of these cases and subject matter.
- (2) In Case Nos. 14738 and 14739, EOG Resources, Inc. ("EOG") seeks approval for simultaneous dedication and for an exception to the provisions of the Special Rules for the Red Hills-Bone Spring Pool.
- (3) The Special Rules for the Red Hills-Bone Spring Pool were proposed in Case No. 10943 and promulgated on April 26, 1994 by Order No. R-10109 and then

amended October 31, 1995 by Order No. R-10109-A. These Pool rules require 80-acre oil spacing and proration units and allow up to two Bone Spring producing oil wells, each of which must be located in a separate quarter-quarter section. In addition, each well must be located no closer than 330 feet from its quarter-quarter section boundary.

(4) The Red Hills-Bone Spring Pool vertically includes the Bone Spring formation which extends from approximately 9250 to 12,500 feet in depth. Currently the following lands, all within Lea County, New Mexico are included in this pool:

Township 25 South, Range 33 East, NMPM

Section 1: All
Section 12: All
Section 13: N/2
Section 24: NE/4

Township 25 South, Range 34 East, NMPM

Section 6: NW/4 and S/2
Section 7: All
Section 8: SW/4
Section 17: N/2
Section 18: All
Section 19: NW/4

(5) Within this pool, the oil pay target has been the "3rd Bone Spring Sand" located at approximately 12,250 feet. EOG now intends to target a shale oil pay target within this Bone Spring formation located at approximately 9300 feet called the Leonard Shale or, by some geologists, the Avalon Shale.

(6) In Case No. 14760, EOG seeks to exclude the Leonard Shale member of the Bone Spring formation from the Special Rules for the Red Hills-Bone Spring Pool. The proposed interval for exclusion is that equivalent interval shown as extending from 9250 to 9548 feet on the open-hole logs for the Lomas Rojas 26 State Com Well No. 6, API No. 30-025-39705, (as shown in EOG's Exhibit No. 7).

(7) In Case No. 14738, EOG seeks well density and internal well location exceptions to the Special Rules governing the Red Hills-Bone Spring Pool in order to drill three standup, horizontal oil wells (shown below) within the Leonard Shale from north to south within a voluntary oil project area consisting of the W/2 of Section 31, Township 24 South, Range 34 East, and the NW/4 of Section 6, Township 25 South, Range 34 East, NMPM, Lea County, New Mexico.

Diamond 31 Fed Com Well No. 2H
SHL: Unit letter D, Sec 31, T24S, R34E
BHL: Unit letter E, Sec 6, T25S, R34E

Diamond 31 Fed Com Well No. 3H

SHL: Unit letter D, Sec 31, T24S, R34E
BHL: Unit letter E, Sec 6, T25S, R34E

Diamond 31 Fed Com Well No. 4H

SHL: Unit letter C, Sec 31, T24S, R34E
BHL: Unit letter F, Sec 6, T25S, R34E

(8) In Case No. 14739, EOG seeks well density and internal well location exceptions to the Special Rules governing the Red Hills-Bone Spring Pool in order to drill three standup, horizontal oil wells (shown below) within the Leonard Shale from north to south within a voluntary oil project area consisting of the E/2 of Section 31, Township 24 South, Range 34 East, and the NE/4 of Section 6, Township 25 South, Range 34 East, NMPM, Lea County, New Mexico.

Dillon 31 Fed Com Well No. 2H

SHL: Unit letter B, Sec 31, T24S, R34E
BHL: Unit letter G, Sec 6, T25S, R34E

Dillon 31 Fed Com Well No. 3H

SHL: Unit letter A, Sec 31, T24S, R34E
BHL: Unit letter H, Sec 6, T25S, R34E

Dillon 31 Fed Com Well No. 4H

SHL: Unit letter A, Sec 31, T24S, R34E
BHL: Unit letter H, Sec 6, T25S, R34E

(9) According to testimony by EOG, each of the three wells in each of these project areas is projected at standard Pool penetration point and terminus locations, but would cross internal boundaries. Each of the wells would be spaced at roughly 880 feet apart and 440 feet from the east and west project area boundaries.

(10) Within those lands Division records indicate no other wells produce within the Bone Spring formation – with the exception of one horizontal well completed in the 3rd Bone Spring Sand. The Diamond 6 Federal Well No. 2 (API No. 30-025-36628) was drilled laterally within Section 6 through Unit letters E, F, and G.

(11) EOG presented testimony and exhibits supporting its applications in Case Nos. 14738 and 14739 on September 29, 2011 and presented similar evidence supporting its application in Case No. 14760 on November 10, 2011. EOG's testimony and Division records indicate the following:

- a. North to south, horizontal oil wells drilled by EOG within this Leonard Shale in Section 26 of Township 25 South, Range 33 East, have been studied for viable recovery at differing distances between wells. Based on currently available information, the Leonard Shale appears to be optimally developed

by horizontal wells spaced at 880 feet from each other. Further study could indicate additional wells or closer spacing may be optimal.

- b. The Leonard Shale is separated almost 3000 feet vertically above the previously targeted sand within the Bone Spring and should not have the same restrictions on well density or locations.
- c. The existing Special Rules for the Red Hills-Bone Spring Pool were based on characteristics of the deeper oil sand reservoir and should not be applied to this shallower shale oil reservoir.
- d. The Red Hills Unit, operated by EOG, covers similar but not identical lands as the Red Hills-Bone Spring Pool. Within this Unit, EOG operates many horizontal Bone Spring wells drilled to the 3rd Bone Spring Sand.
- e. The lands which are the subject of Case Nos. 14738 and 14739 are located generally north of the Red Hills-Bone Spring Pool – but within a mile of the Pool boundaries and therefore must follow the rules for that pool. The NW/4 of Section 6, which is part of Case No. 14738, is actually within the defined Pool.
- f. The North Red Hills-Bone Spring Pool is another nearby Bone Spring oil pool that has no special rules and is therefore based on statewide rules for oil wells. That pool is located within one mile northwest of the westernmost EOG voluntary project area.
- g. The Special Rules of the Red Hills-Bone Spring Pool extend to within one mile of the pool boundaries and if these rules are changed, it will affect lands located within the Pool and within one mile of the Pool boundaries.
- h. The Leonard shale interval within the Bone Spring formation, if excluded from the Special Rules, could be developed on statewide rules for oil wells.
- i. The Special Rules for the Red Hills-Bone Spring Pool also allow an increase in the oil allowable over the standard depth bracket allowable. EOG did not mention this at the hearings or indicate any interest in retaining this allowable for oil wells producing from the Leonard shale interval.
- j. EOG has provided notice of these three applications in accordance with Division rules.
- k. There were no other appearances in Case Nos. 14738 and 14739.
- l. COG Operating LLC appeared in Case No. 14760, but did not oppose the application.

(12) EOG's application in Case No. 14760 to exclude the Leonard Shale from the rules governing the Red Hills-Bone Spring Pool, and to develop the Leonard Shale on statewide rules for oil wells, should be approved in order to prevent waste and protect correlative rights.

(13) Since Special Rules would no longer be involved, EOG's applications in Cases 14738 and 14739 asking for simultaneous dedication and exception to those Special Rules will no longer be needed and therefore should be dismissed.

(14) The Red Hills-Bone Spring Pool should be renamed to the Red Hills-Lower Bone Spring Pool, should no longer include this Leonard Shale (upper Bone Spring) interval, and should be contracted to extend vertically from the base of the Bone Spring Leonard Shale down to the base of the Bone Spring formation.

(15) With the vertical contraction of the existing Bone Spring oil pool, the Leonard Shale oil development within Sections 31 and 6 would not be governed by Special Pool Rules. EOG is free to drill and complete its proposed Leonard Shale oil wells on statewide rules for oil wells. Up to four wells may be drilled within any standard 40-acre oil spacing and proration unit and wells may be located no closer than 330 feet from the boundary of each unit or project area.

(16) The EOG proposed Leonard Shale oil wells to be spud at a surface location within Section 31, if completed, would be placed into a new or existing oil pool by the Division. EOG should submit the appropriate forms C-102 to the Hobbs district office for these wells with the proposed target pool listed as Wildcat-Bone Spring Upper Shale Oil Pool - or as directed by the Hobbs district geologist.

IT IS THEREFORE ORDERED THAT:

(1) In approval of the application of EOG Resources, Inc. ("EOG") in Case No. 14760, the Red Hills-Bone Spring Pool is hereby renamed as the Red Hills-Lower Bone Spring Pool and is contracted vertically to extend from the base of the upper Bone Spring "Leonard Shale" [defined below] down to the base of the Bone Spring formation. Oil wells completed in the upper Bone Spring Leonard Shale shall not be governed by Special Rules existing for the Red Hills-Lower Bone Spring Pool.

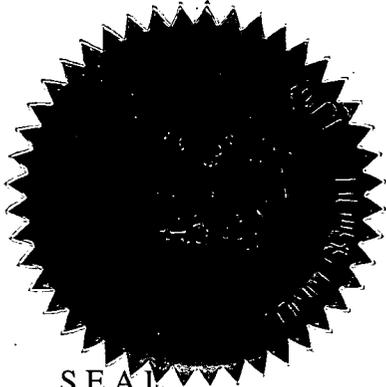
(2) The applications of EOG in Division Case Nos. 14738 and 14739 asking for simultaneous dedication and exception to the Special Rules for the Red Hills-Bone Spring Pool are hereby dismissed as moot.

(3) The Leonard Shale for these purposes is hereby defined as that equivalent portion of the upper Bone Spring formation as shown from depths extending from 9250 to 9548 feet on the open-hole logs for the Lomas Rojas 26 State Com Well No. 6 (API No. 30-025-39705) - as shown in EOG's Exhibit No. 7 in Division Case No. 14760.

(4) Operators proposing to drill oil wells targeting the Leonard Shale shall submit the appropriate forms C-102 to the Hobbs district office for these wells with the proposed target pool listed as Wildcat-Bone Spring Upper Shale Oil Pool – or as directed by the Hobbs district geologist.

(5) Jurisdiction of these cases is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JAMI BAILEY
Director