

**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 NO. 15412
ORDER NO. R-14188
NOMENCLATURE**

**APPLICATION OF DEVON ENERGY PRODUCTION COMPANY, L.P. FOR
POOL CONTRACTION, POOL CREATION, AND SPECIAL POOL RULES,
EDDY COUNTY, NEW MEXICO**

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on December 3, 2015 and again on January 7, 2016, at Santa Fe, New Mexico before Examiner William V. Jones.

NOW, on this 11th day of July, 2016, the Division Director, having considered the testimony, the record and the recommendations of the Examiner,

FINDS THAT:

(1) Due public notice has been given, and the Division has jurisdiction of this case and its subject matter.

(2) Devon Energy Production Company, L.P. ("Devon" or "Applicant"), seeks to create a new oil pool for production from the Bone Spring formation and establish Special Pool Rules for this new pool.

(3) The proposed Parkway; Bone Spring, West Pool (Pool Code 98199) would initially comprise the following described acreage in Eddy County, New Mexico:

Township 19 South, Range 29 East, NMPM

Sections 20-22: All
Sections 27-29: All

(4) The Parkway; Bone Spring Pool (Pool Code 49622), which has been approved by the Division in nomenclature hearings to comprise the E/2 of Section 28, would require contraction from the new Parkway; Bone Spring, West Pool. No other Bone Spring oil pool has yet been extended after examiner hearing into the acreage of the proposed Parkway; Bone Spring, West Pool.

(5) The Rattlesnake Well; Bone Spring Gas Pool (Pool Code 97279) comprises only the SW/4 of Section 21, which is dedicated to the Parkway Well No. 19 (API No. 30-015-32663) located in Unit K. This well should retain its dedicated acreage. Because this acreage has been drilled for oil by horizontal Bone Spring wells operated by Applicant, and the pools are overlapping, the Rattlesnake Well; Bone Spring Gas Pool should be abolished, and the acreage dedicated thereto should be approved as a non-standard spacing unit in the new oil pool.

(6) Division records indicate that there are Bone Spring oil wells which have been either completed or permitted for completion on acreage located within the proposed Parkway; Bone Spring, West Pool. After entry of this Order No. R-14188, those well completions should all be moved to the new Parkway; Bone Spring, West Pool by submission of the applicant to the Artesia district office of the Division of new forms for completion and acreage dedication. The acreage dedication for these existing well completions should remain in size and configuration as they were previously.

(7) Applicant proposed the following Special Rules for the Parkway; Bone Spring, West Pool:

- (a) A standard oil spacing unit for horizontal wells shall comprise 320 acres, more or less, consisting of a standard governmental half section (or equivalent).
- (b) A standard oil spacing and proration unit for vertical wells shall comprise 40 acres, more or less, consisting of a standard governmental quarter-quarter section (or equivalent).
- (c) Completed intervals of horizontal wells and surface locations of vertical wells are to be located no closer than 330 feet from the exterior boundary of a standard well unit, with surface locations of horizontal wells to be located no closer than 10 feet from any interior quarter-quarter section line.
- (d) A special depth bracket allowable of 4500 barrels of oil per day for a standard horizontal 320-acre well unit and 230 barrels of oil per day for a standard vertical 40-acre well unit.
- (e) A Limiting Gas Oil Ratio ("GOR") of 10,000 cubic feet of gas per barrel of oil; and

(f) All other rules to be in conformance with statewide rules.

(8) Devon appeared at the hearing through counsel and presented exhibits and testimony showing the following.

- (a) The vertical limits of the Parkway; Bone Spring, West Pool will comprise the entire Bone Spring formation.
- (b) The Bone Spring formation in this area contains multiple pay zones, identified by the Applicant as the First (1st), Second (2nd), and Third (3rd) Bone Spring Sands. Devon has drilled numerous First Bone Spring Sand and Second Bone Spring Sand wells and intends to drill multiple Third Bone Spring Sand wells.
- (c) Within the six governmental sections of the proposed new pool, the orientation for horizontal Bone Spring oil wells has been primarily east to west or west to east. Four wells have been drilled south to north in Section 28.
- (d) The sands within the Bone Spring formation are continuous and more or less uniform in thickness across the proposed new pool. The bubble point pressure is approximately 2600 psi and abandonment pressure is assumed to be 250 psi.
- (e) Devon does not propose to change the spacing or dedicated acreage of existing Bone Spring wells within the acreage of the proposed new pool.
- (f) The proposed new pool would correspond with the boundaries of the West Parkway Unit, which is a voluntary unit, the vertical limits of which comprise all depths and is operated by applicant under a joint operating agreement.
- (g) Devon has determined by numerical simulation that six horizontal wells per section (three per half section) may be optimum in any of the vertical target zones. The accuracy of the simulation has been improved through history-matching.
- (h) The simulation indicates that four horizontal wells per section will eventually show interference but four wells is not sufficient to effectively contact and recover potential reserves. More than six wells per section would result in excessive costs, too much well interference, and little additional recovered reserves.
- (i) The horizontal wells will be drilled one mile in length, will have rectangular drainage, and will be most logically and optimally

configured as 320-acre (half-section) horizontal oil spacing units each of which would be developed by drilling a maximum of three wells into any individual sand of the Bone Spring formation. The center well would be drilled approximately along the center line of the half section.

- (j) The simulation predicts that oil production would not need to be curtailed if the allowable were increased to 4500 barrels of oil per day per 320-acre standard spacing unit and also if the Limiting Gas Oil Ratio ("GOR") were increased to 10,000 standard cubic feet of gas per barrel of oil. The higher Limiting GOR is needed in this gassy oil reservoir as shown by previous production, and a higher allowed gas production will not cause waste of oil or gas.

The Division concludes that:

(9) All operators of Bone Spring wells within the proposed pool or within one mile of the boundaries of the proposed pool were notified of this application and of the hearing. No objections were received, and no other party entered an appearance in this case.

(10) Devon's proposal of 320-acre oil spacing units dedicated to horizontal Bone Spring wells is reasonable and will prevent waste and protect correlative rights. The evidence supports the need for 320-acre rectangular horizontal oil spacing units.

(11) Division records indicate there are numerous active and permitted Bone Spring horizontal wells within the proposed Pool. These wells should have the option of retaining the dedicated acreage on which they were proposed and/or drilled. Therefore, overlapping spacing units within this pool will be necessary and should be allowed. Each of the various sized oil spacing units should consist of multiple proration units, each sized at 40 acres or one quarter-quarter section, or equivalent.

(12) Devon showed in evidence in this case that this oil reservoir has always been relatively gassy with GOR's ranging up to 10,000 to 1. In Case No. 9870, the Division considered an application to increase the Limiting GOR in the Parkway; Bone Spring Pool from the statewide default of 2,000 to 1 up to 10,000 to 1. The Division found that granting the application would protect correlative rights and denying the application would cause waste within this reservoir. The Division granted the request to increase the Limiting GOR in Order No. R-9160 issued on April 24, 1990.

(13) Devon has shown with its history-matched simulation that the Bone Spring oil reservoir is producing under a solution gas drive mechanism and is not rate sensitive. The proposed increase in oil allowable per 320 acres to 4500 barrels per day and increase in the limiting GOR to 10,000 to 1 are both necessary in order to allow oil and gas production without curtailment. The Devon reservoir model indicates that the proposed

increase in oil and gas allowable within the 320-acre horizontal oil spacing units in the proposed pool will not result in decreased ultimate recovery or in harm to the reservoir.

(14) Due to overlapping spacing units in this pool, the allowable per spacing unit should be a multiple of the allowable per 40-acre quarter-quarter section. Therefore, the new pool should have an assigned oil allowable of $(4500 / 8)$ or 562.5 barrels per day per 40-acre, quarter-quarter section, in contrast to Applicant's request for a 230 barrel per day allowable per 40-acre spacing unit.

(15) Any 40-acre, quarter-quarter section, proration unit within this pool should be limited to a maximum of an average monthly calendar production of 562.5 barrels of oil per day. The operator should be allowed to produce its allowable in any proportion from multiple wells completed in any 40-acre proration unit. Spacing units in this pool should consist of one or more proration units with total production from the spacing unit allocated to each of the proration units as per its acreage contribution.

(16) All vertical and horizontal oil wells, as defined by the Division, drilled for production from the Bone Spring formation within the boundaries of this new pool should be assigned to this Pool beginning the first day of the month after which this order is entered. The Special Rules should be made permanent.

(17) Devon's proposal should be granted in order to prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The application of Devon Energy Production Company, L.P. ("Devon") to create a new pool for oil production from the Bone Spring formation and establish Special Pool Rules for this new pool is hereby approved.

(2) The Parkway; Bone Spring, West Pool (Pool Code 98199) is hereby created to extend vertically throughout the Bone Spring formation and initially include the following described acreage in Eddy County, New Mexico:

Township 19 South, Range 29 East, NMPM

Sections 20-22: All
Sections 27-29: All

(3) The Parkway; Bone Spring Pool (Pool Code 49622) which has been approved by the Division in nomenclature hearings to comprise, in part, the E/2 of Section 28 is hereby contracted to exclude therefrom the area in the Parkway; Bone Spring, West Pool.

(4) The Rattlesnake Well; Bone Spring Gas Pool (Pool Code 97279) is hereby abolished.

(5) All Bone Spring wells dedicated to lands within this pool shall have those lands re-assigned no later than the first of August, 2016, to the new pool without any requirement to change the specific acreage dedicated thereto. Any resulting non-standard spacing unit within the new pool is hereby approved. Production from such wells for the month of August, 2016, and thereafter, shall be reported to the new pool.

(6) The Special Rules for this pool shall be as follows:

**SPECIAL RULES FOR THE
PARKWAY; BONE SPRING, WEST POOL**

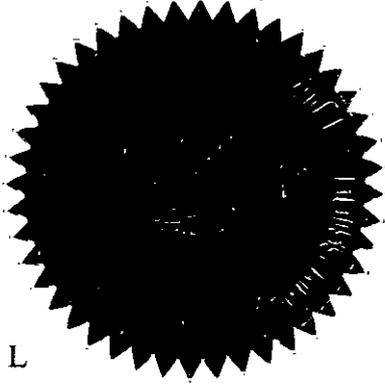
- Rule 1: Each well completed or recompleted in the Parkway; Bone Spring, West Pool or within one mile thereof and not nearer to or within the limits of another Bone Spring oil pool, shall be produced in accordance with the Special Rules hereinafter set forth.
- Rule 2: The standard oil spacing unit for horizontal wells shall consist of 320 acres, more or less, comprising a governmental half section or the equivalent.
- Rule 3: The standard oil spacing unit for vertical wells shall consist of 40 acres, more or less, comprising a governmental quarter-quarter section or the equivalent.
- Rule 4: Horizontal wells shall be completed no closer than 330 feet from the exterior boundary of a standard horizontal well unit, with the surface location no closer than 10 feet from any quarter-quarter section line.
- Rule 5: Vertical wells shall be located on the surface no closer than 330 feet from the exterior boundary of a standard vertical well unit, unless an exception is granted pursuant to statewide rules.
- Rule 6: The standard oil proration unit size shall be 40 acres, more or less, comprising one governmental quarter-quarter section or lot. Spacing units in this pool shall consist of one or more proration units with total production from the spacing unit allocated to each of the proration units as per its acreage contribution. Production from a horizontal well completed in more than one spacing unit shall be allocated between the subject spacing units on an acreage basis.
- Rule 7: The top allowable for any standard 40-acre proration unit shall be 562.5 barrels of oil per day per calendar month. The allowable may be produced in any proportion from any of the wells that contribute to the production attributed to such 40-acre proration unit pursuant to Rule 6.
- Rule 8: The limiting gas to oil ratio (GOR) shall be 10,000 standard cubic feet of gas to each barrel of oil.

Rule 9: Exceptions to these Special Rules shall be granted only as provided under Division rules.

Rule 10: All other provisions not specifically addressed herein shall conform to Division Rules.

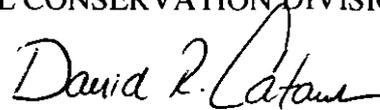
(7) Jurisdiction of this case is retained for the entry of such further orders as the Division may deem necessary.

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



SEAL

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



DAVID R. CATANACH
Director