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**OIL AND GAS DOCKET NO. 09-0255026**

**APPLICATION OF RANGE PRODUCTION CO. FOR EXCEPTION TO RULE 86 (D)(4) FOR ITS CARTER-ALCON UNIT WELL NO. 2H, NEWARK, EAST (BARNETT SHALE) FIELD, TARRANT COUNTY, TEXAS**

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**OIL AND GAS DOCKET NO. 09-0255027**

**APPLICATION OF RANGE PRODUCTION CO. FOR EXCEPTION TO RULE 86 (D)(4) FOR ITS CARTER-ALCON UNIT WELL NO. 1H, NEWARK, EAST (BARNETT SHALE) FIELD, TARRANT COUNTY, TEXAS**

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**OIL AND GAS DOCKET NO. 09-0255028**

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**OIL AND GAS DOCKET NO. 09-0255029**

**APPLICATION OF RANGE PRODUCTION CO. FOR EXCEPTION TO RULE 86 (D)(4) FOR ITS GREEN BAY UNIT WELL NO. 1H, NEWARK, EAST (BARNETT SHALE) FIELD, TARRANT COUNTY, TEXAS**

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**OIL AND GAS DOCKET NO. 09-0255030**

**APPLICATION OF RANGE PRODUCTION CO. FOR EXCEPTION TO RULE 86 (D)(4) FOR ITS GREEN BAY UNIT WELL NO. 2H, NEWARK, EAST (BARNETT SHALE) FIELD, TARRANT COUNTY, TEXAS**

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**OIL AND GAS DOCKET NO. 09-0255031**

**APPLICATION OF RANGE PRODUCTION CO. FOR EXCEPTION TO RULE 86 (D)(4) FOR ITS ALBERTSONS UNIT WELL NO. 2H, NEWARK, EAST (BARNETT SHALE) FIELD, TARRANT COUNTY, TEXAS**

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**OIL AND GAS DOCKET NO. 09-0255032**

**APPLICATION OF RANGE PRODUCTION CO. FOR EXCEPTION TO RULE 86 (D)(4) FOR ITS ALBERTSONS UNIT WELL NO. 5H, NEWARK, EAST (BARNETT SHALE) FIELD, TARRANT COUNTY, TEXAS**

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**HEARD BY:** Andres Trevino, Technical Examiner  
James M. Doherty, Hearings Examiner

**HEARING DATE:** April 1, 2008

**APPEARANCES:**

Sandra Bolz Buch  
Mary Curliss Patton

**REPRESENTING:**

Range Production Co.

**EXAMINER'S REPORT AND PROPOSAL FOR DECISION**

**STATEMENT OF THE CASE**

Range Production Co. requests an exception to Rule 86(d)(4) for the following wells completed in the Newark, East (Barnett Shale) Field:

Carter-Alcon Unit Well No. 1H;  
Carter-Alcon Unit Well No. 2H;  
Carter-Alcon Unit Well No. 3H;  
Green Bay Unit Well No. 1H;  
Green Bay Unit Well No. 2H;  
Albertsons Unit Well No. 2H; and  
Albertsons Unit Well No. 5H.

These seven wells will be referred to jointly in this Examiners' Report as "the Wells." Exceptions are necessary because the penetration point for each well, as defined by Rule 86, is not on the pooled unit for the well. Range further requests that all accrued overproduction for each of the wells be canceled.

These applications were unopposed and the examiners recommend approval of the requested exceptions to Statewide Rule 86.



**DISCUSSION OF THE EVIDENCE**

Pertinent definitions in Statewide Rule 86 are as follows:

86(a)(2) **Horizontal Drainhole:** that portion of the wellbore drilled in the correlative interval, between the penetration point and the terminus.

86(a)(3) **Horizontal Drainhole Displacement:** the calculated horizontal displacement of the horizontal drainhole from the penetration point to the terminus.

86(a)(5) **Penetration Point:** the point where the drainhole penetrates the top of the correlative interval.

86(a)(6) **Terminus:** the farthest point required to be surveyed along the horizontal drainhole from the penetration point and within the correlative interval.

Additionally, Statewide Rule 86(d)(4) requires that all points on a horizontal drainhole be within the proration and drilling unit.

In Oil and Gas Docket No. 09-0242843, the following rule was adopted for the Newark, East (Barnett Shale) Field:

Provided, however, that for purposes of the lease line spacing requirement for horizontal wells, the following shall apply:

1. Where the horizontal portion of the well is cased and cemented back above the top of the Barnett Shale formation, the distance to any property line, lease line or subdivision line will be calculated based on the distance to the nearest perforation in the well, and not based on the penetration point or terminus;
2. Where an external casing packer is placed in the well and cement is pumped above the external casing packer to a depth above the top of the Barnett Shale formation, the distance to any property line, lease line or subdivision line will be calculated based on the top of the external casing packer or the closest open hole section in the Barnett Shale.

Range was granted a regular drilling permit for the Carter-Alcon Unit Wells Nos. 1H, 2H and 3H and was granted Rule 37 permits for the Green Bay Unit Wells Nos. 1H and 2H and the Albertsons Unit Wells Nos. 2H and 5H with a surface location off lease. The locations for the penetration point and terminus on Form W-1 were actually the proposed uppermost and lowermost perforations in the well. Because the Form W-1 requests distances to penetration point and terminus and the Newark East (Barnett Shale) Field rules provide that the distance to lease line will be calculated based on distance to the nearest perforation where the horizontal portion of the well is cased and cemented back above the top of the Barnett Shale formation, Range understood this to be the appropriate information to be provided on the Form W-1.<sup>1</sup> The actual penetration point as defined by Rule 86 was outside the pooled unit for each well.

The as-drilled plat filed with the completion papers for each well indicated the penetration point for the well was off-lease on the same tract as the surface location. However, both the uppermost and lowermost perforations in each well are at legally permitted locations. Completion papers for the Wells are not being processed and allowables have not been assigned because the penetration points were off-lease, and in violation of Rule 86 because a portion of the horizontal drainhole, as defined by Rule 86, would not be on the well's pooled unit. As a result, Range requested hearings for exceptions to Rule 86(d)(4).

Each of the Wells is cased and cemented, with top of cement behind the casing above the top of the Barnett Shale formation. The penetration point, as defined by Rule 86, is off the subject lease.

By allowing the penetration point to be off lease, in the case of these wells additional Barnett Shale reserves can be produced from a legal section of drainhole ranging from 444' to 1,252' in length. This additional lateral length is needed to reach the target from an off-site surface location and make a portion of the "turn" of the wellbore from the top of the Barnett Shale until the drainhole is horizontal. Operators typically do not elect to perforate in the Barnett Shale until the well is horizontal. This additional lateral length equates to the between 339 and 1,191 MMCF of gas per well which would not be recovered if the penetration point were required to be on-lease.

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<sup>1</sup> When filling out Form W-1, some operators have recited uppermost and lowermost perforations of a wellbore in the section of the Form which requests penetration point and terminus. E-mail communications between Commission staff and another operator verify this practice as acceptable. Apparently, numerous drilling permits in this field have been approved with off-lease penetration points. A hearing is pending to consider amendments to the field rules for the Newark, East (Barnett Shale) Field to clarify discrepancies between Rule 86 and the existing field rules for the field.

Range requests that the requested exceptions be granted to allow the wells to produce. The perforations are legally permitted distances to lease lines pursuant to the special field rules for the Newark, East (Barnett Shale) Field or pursuant to Statewide Rule 37. Range requests that the horizontal drainhole displacement for the subject well be determined based on the distance between the perforations and not on the distance from penetration point to terminus. Under Rule 86 Range would be able to assign additional acreage to the well for proration purposes.

Range is the lessee of a surface lease for the surface owner of the tract on which the surface locations for the Albertsons 2H and 5H wells and Carter-Alcon 1H, 2H and 3H are located. Range has a Damage Release from the owner of the tract on which the surface location for the Green Bay 1H and 2H Wells are located. For all the Wells Range is also the lessee of the oil and gas leases covering the mineral interest in the tract on which the surface location is located. Range is the lessee of oil and gas leases covering all mineral interests in the tracts from the well's penetration point off-lease to the terminus for the Wells. Accordingly, it does not appear that Range is attempting to circumvent Commission rules regarding spacing and assignment of acreage in the requested exception.

#### **FINDINGS OF FACT**

1. Notice of this hearing was given to all persons entitled to notice at least ten (10) days prior to the hearing.
2. Statewide Rule 86(d)(4) requires that all points on a horizontal drainhole be within the proration and drilling unit for a well.
3. Field rules for the Newark, East (Barnett Shale) Field provide that, for purposes of the lease line spacing requirement for horizontal wells which are cased and cemented back above the top of the Barnett Shale formation, the distance to any property line, lease line or subdivision line will be calculated based on the distance to the nearest perforation in the well, and not based on the penetration point or terminus.
4. Range was granted a regular drilling permit for the Carter-Alcon Unit Well No. 2H on April 16, 2007, with a surface location off-lease.
  - a. The locations for the penetration point and terminus indicated on the Form W-1 were actually the proposed uppermost and lowermost perforations in the well.
  - b. The actual penetration point of the well, as defined by Rule 86, is outside the Carter-Alcon Unit.

- c. Commission staff had previously accepted Form W-1 applications for wells in this field with the well's perforations indicated as penetration point and terminus.
  - d. The uppermost and lowermost perforations in the well are at legal distances at least 330 feet from any lease line.
5. The Carter-Alcon Unit Well No. 2H is drilled to a total depth of 12,264 feet (MD) and is cased and cemented, with top of cement behind the casing at 5,730 feet (MD). The penetration point of the Barnett Shale is 7,372 feet (MD). The perforations are from 8,002 feet to 9,965 feet (MD).
6. Allowing the penetration point for the Carter-Alcon Unit Well No. 2H to be off lease will result in the recovery of approximately 306 MMCF of gas which would otherwise not be recovered.
7. The horizontal drainhole displacement for the Carter-Alcon Unit Well No. 2H shall be the distance between the perforations, which is 4,196 feet.
8. Range is the lessee of a surface lease from the surface owner of the tract on which the surface location of the Carter-Alcon Unit Well No. 2H is located. Range is also the lessee of the oil and gas leases covering all mineral interest in the tract on which the surface location, penetration point and terminus of the Carter-Alcon Unit No. 2H are located. Range is the lessee of oil and gas leases covering all mineral interests in the tracts within 330 feet of the Carter-Alcon Unit No. 2H from its penetration point off-lease to its terminus.
9. Range was granted a regular drilling permit for the Carter-Alcon Unit Well No. 1H on April 12, 2007, with a surface location off-lease.
  - a. The locations for the penetration point and terminus indicated on the Form W-1 were actually the proposed uppermost and lowermost perforations in the well.
  - b. The actual penetration point of the well, as defined by Rule 86, is outside the Carter-Alcon Unit.
  - c. Commission staff had previously accepted Form W-1 applications for wells in this field with the well's perforations indicated as penetration point and terminus.

- d. The uppermost and lowermost perforations in the well are at legal distances at least 330 feet from any lease line.
10. Completion papers for the Carter-Alcon Unit Well No. 1H have not been processed and an allowable has not been assigned because the penetration point was off-lease, and in violation of Rule 86 because a portion of the horizontal drainhole, as defined by Rule 86, would not be on the well's pooled unit.
11. The Carter-Alcon Unit Well No. 1H is drilled to a total depth of 12,755 feet (MD) and is cased and cemented, with top of cement behind the casing at 5,213 feet (MD). The penetration point of the Barnett Shale is 7,672 feet (MD). The perforations are from 8,497 feet to 10,460 feet (MD).
12. Allowing the penetration point for the Carter-Alcon Unit Well No. 1H to be off lease will result in the recovery of approximately 513 MMCF of gas which would otherwise not be recovered.
13. The horizontal drainhole displacement for the Carter-Alcon Unit Well No. 1H shall be the distance between the perforations, which is 4,160 feet.
14. Range is the lessee of a surface lease for the surface owner of the tract on which the surface location of the Carter-Alcon Unit Well No. 1H is located. Range is also the lessee of the oil and gas leases covering all mineral interest in the tract on which the surface location, penetration point and terminus of the Carter-Alcon Unit No. 1H are located. Range is the lessee of oil and gas leases covering all mineral interests in the tracts within 330 feet of the Carter-Alcon Unit No. 1H from its penetration point off-lease to its terminus.
15. Range was granted a regular drilling permit for the Carter-Alcon Unit Well No. 3H on April 16, 2007, with a surface location off-lease.
  - a. The locations for the penetration point and terminus indicated on the Form W-1 were actually the proposed uppermost and lowermost perforations in the well.
  - b. The actual penetration point of the well, as defined by Rule 86, is outside the Carter-Alcon Unit.
  - c. Commission staff had previously accepted Form W-1 applications for wells in this field with the well's perforations indicated as penetration point and terminus.



- d. The uppermost and lowermost perforations in the well are at legal distances at least 330 feet from any lease line.
16. Completion papers for the Carter-Alcon Unit Well No. 3H have not been processed and an allowable has not been assigned because the penetration point was off-lease, and in violation of Rule 86 because a portion of the horizontal drainhole, as defined by Rule 86, would not be on the well's pooled unit.
  17. The Carter-Alcon Unit Well No. 3H is drilled to a total depth of 12,424 feet (MD) and is cased and cemented, with top of cement behind the casing at 5,978 feet (MD). The penetration point of the Barnett Shale is 7,134 feet (MD). The perforations are from 8,122 feet to 10,085 feet (MD).
  18. Allowing the penetration point for the Carter-Alcon Unit Well No. 3H to be off lease will result in the recovery of approximately 325 MMCF of gas which would otherwise not be recovered.
  19. The horizontal drainhole displacement for the Carter-Alcon Unit Well No. 3H shall be the distance between the perforations, which is 4,201 feet.
  20. Range is the lessee of a surface lease for the surface owner of the tract on which the surface location of the Carter-Alcon Unit Well No. 3H is located. Range is also the lessee of the oil and gas leases covering all mineral interest in the tract on which the surface location, penetration point and terminus of the Carter-Alcon Unit No. 3H are located. Range is the lessee of oil and gas leases covering all mineral interests in the tracts within 330 feet of the Carter-Alcon Unit No. 3H from its penetration point off-lease to its terminus.
  21. Range was granted a Rule 37 drilling permit for the Green Bay Unit Well No. 2H on January 18, 2007, with a surface location off-lease.
    - a. The locations for the penetration point and terminus indicated on the Form W-1 were actually the proposed uppermost and lowermost perforations in the well.
    - b. The actual penetration point of the well, as defined by Rule 86, is outside the Green Bay Unit.
    - c. Commission staff had previously accepted Form W-1 applications for wells in this field with the well's perforations indicated as penetration point and terminus.
    - d. The uppermost and lowermost perforations in the well are

properly permitted.

22. Completion papers for the Green Bay Unit Well No. 2H have not been processed and an allowable has not been assigned because the penetration point was off-lease, and in violation of Rule 86 because a portion of the horizontal drainhole, as defined by Rule 86, would not be on the well's pooled unit.
23. The Green Bay Unit Well No. 2H is drilled to a total depth of 11,000 feet (MD) and is cased and cemented, with top of cement behind the casing at 5,210 feet (MD). The penetration point of the Barnett Shale is 7,268 feet (MD). The perforations are from 9,208 feet to 10,903 feet (MD).
24. Allowing the penetration point for the Green Bay Unit Well No. 2H to be off lease will prevent physical and economic waste and protect Range's correlative rights because it would not be feasible to drill two replacement wells on the Green Bay Unit.
25. The horizontal drainhole displacement for the Green Bay Unit Well No. 2H shall be the distance between the perforations, which is 2,182 feet.
26. Range is the lessee of a surface lease for the surface owner of the tract on which the surface location of the Green Bay Unit Well No. 2H is located. Range is also the lessee of the oil and gas leases covering all mineral interest in the tract on which the surface location, penetration point and terminus of the Green Bay Unit Well No. 2H are located. Range is the lessee of oil and gas leases covering all mineral interests in the tracts within 330 feet of the Green Bay Unit Well No. 2H from its penetration point off-lease to its terminus.
27. Range was granted a Rule 37 drilling permit for the Green Bay Unit Well No. 1H on January 11, 2007, with a surface location off-lease.
  - a. The locations for the penetration point and terminus indicated on the Form W-1 were actually the proposed uppermost and lowermost perforations in the well.
  - b. The actual penetration point of the well, as defined by Rule 86, is outside the Green Bay Unit.
  - c. Commission staff had previously accepted Form W-1 applications for wells in this field with the well's perforations indicated as penetration point and terminus.
  - d. The uppermost and lowermost perforations in the well are properly permitted.

28. Completion papers for the Green Bay Unit Well No. 1H have not been processed and an allowable has not been assigned because the penetration point was off-lease, and in violation of Rule 86 because a portion of the horizontal drainhole, as defined by Rule 86, would not be on the well's pooled unit.
29. The Green Bay Unit Well No. 1H is drilled to a total depth of 10,788 feet (MD) and is cased and cemented, with top of cement behind the casing at 4,730 feet (MD). The penetration point of the Barnett Shale is 7,080 feet (MD). The perforations are from 8,964 feet to 10,607 feet (MD).
30. Allowing the penetration point for the Green Bay Unit Well No. 1H to be off lease will prevent physical and economic waste and protect Range's correlative rights because it would not be feasible to drill two replacement wells on the Green Bay Unit.
31. The horizontal drainhole displacement for the Green Bay Unit Well No. 1H shall be the distance between the perforations, which is 3,070 feet.
32. Range is the lessee of a surface lease for the surface owner of the tract on which the surface location of the Green Bay Unit Well No. 1H is located. Range is also the lessee of the oil and gas leases covering all mineral interest in the tract on which the surface location, penetration point and terminus of the Green Bay Unit Well No. 1H are located. Range is the lessee of oil and gas leases covering all mineral interests in the tracts within 330 feet of the Green Bay Unit Well No. 1H from its penetration point off-lease to its terminus.
33. Completion papers for the Albertsons Unit Well No. 2H have not been processed and an allowable has not been assigned because the penetration point was off-lease, and in violation of Rule 86 because a portion of the horizontal drainhole, as defined by Rule 86, would not be on the well's pooled unit.
34. The Albertsons Unit Well No. 2H is drilled to a total depth of 11,135 feet (MD) and is cased and cemented, with top of cement behind the casing at 5,880 feet (MD). The penetration point of the Barnett Shale is 7,072 feet (MD). The perforations are from 7,657 feet to 9,480 feet (MD).
35. Allowing the penetration point for the Albertsons Unit Well No. 2H to be off lease will result in the recovery of approximately 384 MMCF of gas which would otherwise not be recovered.

36. The horizontal drainhole displacement for the Albertsons Unit Well No. 2H shall be the distance between the perforations, which is 3,472 feet.
37. Range is the lessee of a surface lease for the surface owner of the tract on which the surface location of the Albertsons Unit Well No. 2H is located. Range is also the lessee of the oil and gas leases covering all mineral interest in the tract on which the surface location, penetration point and terminus of the Albertsons Unit Well No. 2H are located. Range is the lessee of oil and gas leases covering all mineral interests in the tracts within 330 feet of the Albertsons Unit Well No. 2H from its penetration point off-lease to its terminus.
38. Range was granted a regular drilling permit for the Albertsons Unit Well No. 5H on September 11, 2007, with a surface location off-lease.
  - a. The locations for the penetration point and terminus indicated on the Form W-1 were actually the proposed uppermost and lowermost perforations in the well.
  - b. The actual penetration point of the well, as defined by Rule 86, is outside the Albertsons Unit.
  - c. Commission staff had previously accepted Form W-1 applications for wells in this field with the well's perforations indicated as penetration point and terminus.
  - d. The uppermost and lowermost perforations in the well are properly permitted.
39. Completion papers for the Albertsons Unit Well No. 5H have not been processed and an allowable has not been assigned because the penetration point was off-lease, and in violation of Rule 86 because a portion of the horizontal drainhole, as defined by Rule 86, would not be on the well's pooled unit.
40. The Albertsons Unit Well No. 5H is drilled to a total depth of 9,914 feet (MD) and is cased and cemented, with top of cement behind the casing at 5,975 feet (MD). The penetration point of the Barnett Shale is 7,066 feet (MD). The perforations are from 8,317 feet to 9,510 feet (MD).
41. Allowing the penetration point for the Albertsons Unit Well No. 5H to be off lease will result in the recovery of approximately 1,500 MMCF of gas which would otherwise not be recovered.
42. The horizontal drainhole displacement for the Albertsons Unit Well No.

5H shall be the distance between the perforations, which is 1,528 feet.

43. Range is the lessee of a surface lease from the surface owner of the tract on which the surface location of the Albertsons Unit Well No. 5H is located. Range is also the lessee of the oil and gas leases covering all mineral interest in the tract on which the surface location, penetration point and terminus of the Albertsons Unit Well No. 5H are located. Range is the lessee of oil and gas leases covering all mineral interests in the tracts within 330 feet of the Albertsons Unit Well No. 5H from its penetration point off-lease to its terminus.

#### **CONCLUSIONS OF LAW**

1. Proper notice was timely given to all parties entitled to notice pursuant to applicable statutes and rules.
2. All things have occurred and have been accomplished to give the Commission jurisdiction in this case.
3. The requested exceptions are not intended to circumvent Commission rules regarding spacing and assignment of acreage.
4. Approval of the requested exceptions to Rule 86(d)(4) will prevent waste and will not harm correlative rights.

**EXAMINERS' RECOMMENDATION**

The examiners recommend that the requested exceptions to Rule 86(d)(4) be approved for the following wells to allow the penetration point, as defined by Rule 86, to be off-lease:

Carter-Alcon Unit Well No. 1H;  
Carter-Alcon Unit Well No. 2H;  
Carter-Alcon Unit Well No. 3H;  
Green Bay Unit Well No. 1H;  
Green Bay Unit Well No. 2H;  
Albertsons Unit Well No. 2H; and  
Albertsons Unit Well No. 5H.

Respectfully submitted:

Andres J. Trevino  
Technical Examiner

James M. Doherty  
Hearings Examiner