

THE APPLICATION OF ANADARKO PETROLEUM CORPORATION TO AMEND THE FIELD RULES FOR THE PHANTOM (WOLFCAMP) FIELD, REEVES AND WARD COUNTIES, TEXAS

HEARD BY: Andres J. Trevino, P.E. - Technical Examiner

HEARING DATE: February 24, 2011

APPEARANCES:

Ana Maria Marsland Griffith
David Christian

Eno Peters

Mickey R. Olmstead

REPRESENTING:

Anadarko Petroleum Corporation

Cimarex Energy Company

Jetta Operating Company, Inc.

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

The Phantom (Wolfcamp) Field currently operates under Field Rules that were last amended by Final Order No. 08-0260574, effective April 28, 2009.

1. Designation of the field as the interval from the top and bottom of the Bone Spring as found between approximately 10,446 feet and 10,933 feet as shown on the log of the Bernice Howard Well No. 1;
2. 467'-933' well spacing and a special provision for "take points";
3. 320 acre oil units with optional 40 acre density with a special provision for an additional acreage assignment for horizontal drainholes based on lateral length and a table;
4. Allocation based on 95% acreage and 5% per well with a top allowable of 3.0 BO per oil unit acre.

Anadarko Petroleum Corporation ("Anadarko") requests that Field Rule Nos. 2, 3 and 4 be amended as shown below.

2. 467'-0' well spacing and a special provision for "take points" in a horizontal drainhole well, a special rule providing that the first and last take point on a

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horizontal wells are no closer than 200 feet any property line, lease line, or subdivision line, 50' "box rule", off lease penetration;

3. No change for density, no individual plats required;
4. Allocation based on 95% acreage and 5% per well with a top allowable of 9.0 BO per oil unit acre.

This application was unopposed and the examiner recommends that the Field Rules for the Phantom (Wolfcamp) Field be adopted as proposed by Anadarko.

DISCUSSION OF EVIDENCE

The Phantom (Wolfcamp) Field was discovered in June 1983 at a depth of 11,002 feet. The field produces from the Bone Spring 3rd formation. Field Rules currently provide for 467'-933' well spacing, take point language and 320 acre oil units with optional 40 acre density with additional acreage based on lateral length and a table. There are 58 oil wells completed in the field with 54 of the wells are horizontal wells. Cumulative production from the field through January 2011 is 3.7 MMBO and 5.7 BCFG.

Anadarko is amending the existing field rules in the Phantom (Wolfcamp) Field to adopt additional horizontal rules to allow efficient and orderly development of the Phantom (Wolfcamp) Field with horizontal wells. The proposed horizontal rules are similar to horizontal rules found in other Bone Spring fields in the area. Anadarko requests to adopt 0' between well spacing to be consistent with the spacing rules of other fields undergoing horizontal development. The 0' between well spacing will allow the drilling of horizontal wells in between the existing vertical wells and allow maximum flexibility in placing horizontal wells to maximize hydrocarbon recovery.

Anadarko requests several standard horizontal well provisions commonly adopted when horizontal well development is anticipated. The provisions include off-lease penetration to allow the additional recovery of reserves by allowing the lateral to be horizontal at a legal lease line location. An additional stage frac will be placed on each lateral if off lease penetration is allowed. Anadarko requests a special rule allowing that the first and last take point on a horizontal wells to be as close as 200 feet any property line, lease line, or subdivision line provided that for such wells the perpendicular distance from any take point on such horizontal drainhole between the first take point and the last take point to any point on any property line, lease line, or subdivision line shall be a minimum of 467 feet. This will reduce a "shadow zone" created when the first and last take points on separate wells are 933 feet apart. The reduced shadow zone will be only 400 feet wide allowing the recovery of additional reserves within the 533 foot zone that would otherwise go unrecovered.

Anadarko proposes a 50 foot "box rule" for horizontal drainhole wells that would

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allow drainholes to deviate 50 feet from either side of their permitted track without the necessity of obtaining a Statewide Rule 37 exception.

Anadarko is experimenting to maximize fracture efficiency by drilling up to five horizontal wells on a 640 acre unit then fracture stimulating each one before any individual well is produced. Anadarko believes that this technique will prevent excess fractures from propagating into a depleted zone created by a producing well. Anadarko submitted a table showing several horizontal wells that had initial potential tests up to 1,100 BOPD. Producing the five wells simultaneously at high initial rates will cause temporary overproduction. To account for the high initial production rates during the initial phase of production and eliminate future cancellation of overproduction hearings, Anadarko requests the Top Allowable of 3.0 BO per oil unit acre be increased to 9.0 BO per oil unit acre be approved for the Phantom (Wolfcamp) Field. It has been established no damage will occur producing this unconventional reservoir at these high rates as fluid flow occurs from the fracture face contact.

FINDINGS OF FACT

1. Notice of this hearing was given to all persons entitled to notice and no protests were received.
2. The Phantom (Wolfcamp) Field was discovered in 1983 at a depth of 11,002 feet. The field produces from the Bone Spring 3rd formation. Field Rules currently provide for 467'-933' well spacing, take point language, 320 acre oil units with optional 40 acre density and a top allowable of 3.0 BO per oil unit acre.
3. There are 58 oil wells completed in the field with 54 of the wells are horizontal wells. Cumulative production from the field through January 2011 is 3.7 MMBO and 5.7 BCFG.
4. Anadarko and other operators are actively developing the Phantom (Wolfcamp) Field by drilling additional horizontal wells.
5. The horizontal rules field rules proposed by Anadarko will allow efficient and orderly development of the Phantom (Wolfcamp) Field with horizontal wells.
6. Adoption of 0' between well spacing is consistent with the spacing rules of other Bone Spring fields undergoing horizontal development. The 0' between well spacing will allow the drilling of horizontal wells in between the existing vertical wells and allow maximum flexibility in placing horizontal wells to maximize hydrocarbon recovery.
7. Adoption of a special rule allowing that the first and last take point on a

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horizontal wells to be as near as 200 feet from any property line, lease line, or subdivision line provided that for such wells the perpendicular distance from any take point on such horizontal drainhole between the first take point and the last take point to any point on any property line, lease line, or subdivision line shall be a minimum of 467 feet will allow the recovery of reserves that would otherwise go unrecovered.

8. Allowing off-lease penetration will allow an additional stage frac to be placed on each lateral causing the recovery of additional reserves that would otherwise be left in the ground.
9. The proposed 50 foot "box rule" is necessary to allow operators reasonable minor deviations from the wellbore track that has been permitted.
10. Anadarko is experimenting to maximize fracture efficiency by drilling up to five horizontal wells on a 640 acre unit then fracture stimulating each one before any individual well is produced.
11. The new technique has allowed recently completed wells to produce over 1,100 BOPD on initial tests.
12. To account for the high initial production rates during the initial phase of production and eliminate future cancellation of overproduction hearings, an increased top allowable of 9.0 BO per oil unit acre will be necessary for the Phantom (Wolfcamp) Field.
13. Producing wells in the Phantom (Wolfcamp) Field at rates up to 9.0 BO per oil unit acre will not cause waste.

CONCLUSIONS OF LAW

1. Proper notice of this hearing was issued.
2. All things have been accomplished or have occurred to give the Commission jurisdiction in this matter.
3. Amending the Field Rules for the Phantom (Wolfcamp) Field is necessary to prevent waste, protect correlative rights and promote development of the field.
4. Approval of a Top Allowable of 9.0 BO per oil unit acre in the Phantom (Wolfcamp) Field will not cause waste and will not harm correlative rights.

RECOMMENDATION

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Based on the above findings of fact and conclusions of law, the examiner recommends that the Commission amend the Field Rules for the Phantom (Wolfcamp) Field, approve a Top Allowable of 9.0 BO per oil unit acre.

Respectfully submitted,

Andres J. Trevino, P.E.
Technical Examiner