

THE APPLICATION OF CABOT OIL & GAS CORPORATION TO ADOPT PERMANENT FIELD RULES FOR THE ANGIE, (PETTET) FIELD, SAN AUGUSTINE AND SHELBY COUNTIES, TEXAS

Heard by: Andres J. Trevino, P.E. on July 10, 2009

Appearances:

Dale E. Miller

Representing:

Cabot Oil & Gas Corporation

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Cabot Oil & Gas Corporation requests that field rules for the Angie, (Pettet) Field be adopted. The field is currently governed by Statewide Rules that provide for a 467'-1,200' well spacing. Cabot requests that the following Field Rules for the field be adopted:

1. The entire correlative interval from 7,310 feet to 8,086 feet as shown on the Welex Induction log of the Gibson Drilling Co., Holt Lease Well No. 1, (API No. 42-419-30310), J. C. Smith Survey, A-696, Shelby County, Texas, shall be designated as the Angie, (Pettet) Field;
2. 330'-660' well spacing, no minimum well spacing between horizontal and vertical wells, take point provisions, off lease penetration provisions and 40 acre drilling units;
3. Allocation based on 100% acreage for oil wells, 1965 yardstick allowable, 100% deliverability for gas wells and suspend the allocation formula.

This application was unopposed and the examiner recommends that the field rules for the Angie, (Pettet) Field be amended as proposed by Cabot Oil & Gas Corporation.

DISCUSSION OF EVIDENCE

The Angie, (Pettet) Field was discovered in 1982 as an associated oil field. There are a total of four wells, three oil wells and one inactive gas well, completed in the field. Cabot Oil & Gas Corporation currently operates two of the wells and there is one additional operator in the field.

The Angie, (Pettet) Field is undergoing recent horizontal development with infill drilling and has produced over 53,692 BO and 1.2 BCF of gas. The discovery well, the W. N. Holt No. 1, was drilled as a vertical well in 1982. The second well (vertical well) in the field, the Sustainable Forrest No. 1T was drilled in 2006 by Cabot. In October 2007, Cabot drilled and completed its first horizontal well in the field, the Timberstar No. 1.

The reservoir in the Angie, (Pettet) Field is tight and is composed of lenticular porosity developments. Horizontal drilling recovers additional reserves that would otherwise go unrecovered. The W. N. Holt No. 1, a vertical well, has produced 29,683 BO and 1 BCF of gas in 27 years. The Sustainable Forrest No. 1T, a vertical well, has produced 2,232 BO and 35.8 MMCF of gas in 2.5 years. The Timberstar No. 1, a horizontal well, has produced 16,659 BO and 87.5 MMCF of gas in 2.5 years. The horizontally drilled Timberstar No. 1 has produced eight times more oil and two and a half times more gas than the vertically drilled Sustainable Forrest No. 1T over the same productive time period.

Cabot requests that a field rule be adopted which includes language relevant to measurement of distances to lease lines for horizontal drainhole wells. Cabot's proposed rule specifies that "take point" in a horizontal well be used. This take-point could be a perforation, if a horizontal well is cased and cemented, an external casing packer in a cased well, or any open-hole section in an uncased well. Similar rules have been adopted in numerous other tight reservoirs, including the Angie (James Lime) Field.

The proposed rule would allow operators to drill horizontal wells with penetration points, as defined by Rule 86, at distances closer than 330 feet to a lease line, as long as no take-point is closer than 330 feet to any lease line. Horizontal drainhole length on a lease is then maximized, resulting in additional recovery of oil and gas.

Cabot is also requesting that the field rules be amended to provide for offsite penetration points. In this field, it generally requires about 818 feet of horizontal displacement to make the 90 degree turn from the penetration point until the well is horizontal. If the penetration point is required to be 330 feet from lease lines, then the first point of production is 982 feet from the lease line. The proposed rules will allow a larger length of producing drainhole, resulting in the recovery of additional reserves estimated to be over 16,000 BO and 91 MMCF per well. The proposed field rules would allow offsite penetration points, after notice to the mineral owners of the offsite tract on which the penetration point is located and if no protest is received.

For purposes of assignment of additional acreage pursuant to Rule 86, it is proposed that the distance between the first and last take-point in a horizontal well be used.

Reducing the between well spacing from 1,200 feet to 660 feet and retaining the 40 acre drilling units will allow operators in the field to place wells at additional locations to recover additional reserves that would otherwise go unrecovered and allow to commingle with other Angie Fields that have similar well spacing.

FINDINGS OF FACT

1. Notice of this hearing was given to all persons entitled to notice and no protests were received.
2. The Angie, (Pettet) Field is governed by Statewide Rules that provide 467'-1,200' well spacing, 40 acre gas units.
3. There are currently 3 wells producing from the field. A total of 53,692 BO and 1.2 BCF of gas has been produced from the field.
4. The Angie, (Pettet) Field is recently undergoing horizontal development with infill drilling.
5. The W. N. Holt No. 1, a vertical well, has produced 29,683 BO and 1 BCF of gas in 27 years. The Sustainable Forrest No. 1T, a vertical well, has produced 2,232 BO and 35.8 MMCF of gas in 2.5 years. The Timberstar No. 1, a horizontal well, has produced 16,659 BO and 87.5 MMCF of gas in 2.5 years.
6. The reservoir in the Angie, (Pettet) Field is tight and is composed of lenticular porosity developments
7. A spacing rule which utilizes "take-points" in a horizontal well for determination of distances to lease lines will prevent waste and will not harm correlative rights.
 - a. The Pettet is classified as a tight formation and is not commercially productive unless fracture-stimulated or horizontally drilled.
 - b. A take-point in a horizontal well in this field may be a perforation, if a horizontal well is cased and cemented, an external casing packer in a cased well, or any open-hole section in an uncased portion of the wellbore.
 - c. Adoption of the proposed rule would allow operators to drill horizontal wells with penetration points, as defined by Rule 86, at distances closer than 330 feet to a lease line, as long as no take-point is closer than 330 feet to any lease line.

- d. Adoption of the proposed rule will allow the horizontal drainhole length on a lease to be maximized.
8. Reducing the between well spacing from 1,200 feet to 660 feet will allow operators in the field to recover additional reserves that would otherwise go unrecovered.
9. Retaining the 40 acre units will allow infill drilling to recover additional reserves that would otherwise go unrecovered.
10. Allowing offsite penetration points, after notice to mineral owners of the offsite tract, will result in maximum producing drainhole length, thereby increasing ultimate recovery from horizontal drainhole wells.

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. Adopting field rules for the Angie, (Pettet) Field is necessary to prevent waste, protect correlative rights and promote development of the field.

RECOMMENDATION

Based on the above findings and conclusions of law, the examiner recommends that the Commission adopt the field rules for the Angie, (Pettet) Field as proposed by Cabot Oil & Gas Corporation.

Respectfully submitted,

Andres J. Trevino, P.E.
Technical Examiner