



RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 7C-0297279

THE APPLICATION OF APACHE CORPORATION FOR A NEW FIELD DESIGNATION FOR THE PROPOSED SQUARE TOP (BARN-WOOD) FIELD, AND TO ADOPT TEMPORARY FIELD RULES FOR THE SQUARE TOP (BARN-WOOD) FIELD, UPTON COUNTY, TEXAS

HEARD BY: Richard Eyster, P.G. – Technical Examiner
Marshall Enquist – Administrative Law Judge

HEARING DATE: August 11, 2015

CONFERENCE DATE: March 29, 2016

APPEARANCES:

Thomas H. Richter, P.E.
Alex Gibson

REPRESENTING:

Apache Corporation

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Apache Corporation (Apache) is requesting a new Field Designation for the Proposed Square Top (Barn-Wood) Field and to adopt temporary field rules for the Square Top (Barn-Wood) Field. At the hearing Apache stated that they would like to change the proposed new field name from the Square Top Mtn (Barn-Wood) Field to the Square Top (Barn-Wood) Field, removing the word Mountain. Apache also stated that they were withdrawing their request for Stacked Lateral language (Proposed Rule 6) to be included in the proposed temporary field rules.

Apache proposes the following rules for the field:

1. Designation of the field as the entire combined correlative interval from 8,576 feet to 9,103 feet as shown on the log of the Apache Corp., ZPZ Fee Lease, Well No. 501M (API No. 42-461-39797), Section 6, Block 1, MK&TE RR Co./C.W. Oldham Survey, A-857), Upton County, Texas, shall be designated

as a single reservoir for proration purposes and be designated as the Square Top (Barn-Wood) Field. This interval is intended to include all reservoirs between the top of the Barnett Shale and the base of the Woodford Shale Formations.

2. 330'-0' well spacing, 100' dual lease line spacing, take points, no perf zones, 50 foot box rule, and off lease penetration;
3. 80-acre oil units with no maximum diagonal, no individual proration plats;
4. Allocation based on 75% acreage and 25% potential;
5. A permitted gas-oil ratio of 4,000 CFG per barrel of oil
6. Exceptions to Statewide Rule No. 10.

This application was unopposed and the Examiners recommend adoption of the temporary field rules proposed by the Apache Corporation, subject to review in 18 months.

DISCUSSION OF EVIDENCE

Apache requests that the field be designated as the correlative interval from 8,576 ft to 9,103 ft as shown on the log of Apache Corporation's ZPZ Fee Lease, Well No. 501M. This interval includes all reservoirs between the top of the Barnett Shale and the base of the Woodford Shale Formations. The gross thickness is more than 500 ft with the net pay interval is 330 ft thick with a calculated permeability of 6.5%.

Apache requests adoption of 330' lease line spacing, 0' between-well spacing and dual lease line spacing to be consistent with the spacing rules of other fields being developed with horizontal wells. Apache is requesting a spacing rule requiring a minimum of 100 feet to the lease line from the first and last take points of a horizontal drainhole, with 330 feet from lease lines on all points on the drainhole perpendicular to the lease line. The 100-foot lease line spacing for the first and last take points allows maximum recovery from the reservoir by maximizing reservoir contact.

Apache requests several other standard provisions that are commonly adopted when horizontal well development is anticipated. The provisions include take point language to allow flexible drilling of the laterals and off-lease penetration to allow the additional recovery of reserves by allowing the lateral to be horizontal at a legal lease line location. Off-lease penetration will allow increased hydrocarbon recovery as the lateral will make greater contact with the formation as the well is turned from vertical to lateral adjacent to the lease. Off-lease penetration will allow the first take point to be closer to the lease line. For a well drilled off-lease, an additional 767 ft of reservoir contact will be made. With the extra 767 ft of lateral, the well will recover an estimated additional 28,000 BO that would otherwise go unrecovered.

Amending the rule as proposed will allow stacked lateral drainholes to be simultaneously drilled from multiple surface locations. The stacked lateral rules also require that each point of a stacked lateral horizontal drainhole be no more than 300 ft in a horizontal direction from any point along any other horizontal drainhole of the same stacked lateral well. Other horizontally developed fields that have thick intervals adopt stacked lateral rules.

Apache proposes a 50-foot "box rule" for horizontal drainhole wells that would allow drainholes to deviate 50 ft from either side of their permitted track without the necessity of obtaining a Statewide Rule 37 exception. Apache also requests that the allocation formula for the field be based on 75% acreage and 25% potential;

FINDINGS OF FACT

1. Notice of this hearing was given to all parties entitled to notice at least ten days prior to the date of hearing.
2. The entire combined correlative interval from 8,576 feet to 9,103 feet as shown on the log of the Apache Corp., ZPZ Fee Lease, Well No. 501M (API No. 42-461-39797), Section 6, Block 1, MK&TE RR Co./C.W. Oldham Survey, A-857), Upton County, Texas, shall be designated as a single reservoir for proration purposes and be designated as the Square Top (Barn-Wood) Field. This interval is intended to include all reservoirs between the top of the Barnett Shale and the base of the Woodford Shale Formations.
3. Field rules that provide for 330-foot lease line spacing, zero between-well spacing for all wells in the field, take point language, off-lease penetration, and a "box rule" for horizontal wells will provide consistency with other fields undergoing horizontal drilling.
4. Elimination of all between well spacing requirements is appropriate for the field.
5. A 100-foot spacing provision between the first and last take points of a horizontal lateral and the nearest lease line is an appropriate measure to prevent the waste of hydrocarbons in the field.
6. Allowing off-lease penetration will allow an additional reservoir contact on each lateral causing the recovery of additional reserves that would otherwise be left in the ground.
7. Adoption of 80-acre density for oil wells in the field is appropriate.
7. The proposed 50-foot "box rule" is necessary to allow operators reasonable

7. The proposed 50-foot "box rule" is necessary to allow operators reasonable minor deviations from the wellbore track that has been permitted.
8. Allocation based on 75% acreage and 25% potential is a reasonable formula which will protect correlative rights of mineral owners in the field.
9. Elimination of the requirement to file proration unit plats can ease the administrative burden on operators when drilling new horizontal wells in older vertical fields.

CONCLUSIONS OF LAW

1. Resolution of the subject application is a matter committed to the jurisdiction of the Railroad Commission of Texas. Tex. Nat. Res. Code § 81.051
2. All notice requirements have been satisfied. 16 Tex. Admin. Code § 1.45
3. All notice requirements have been satisfied. 16 Tex. Admin. Code § 1.45
4. The proposed field rules will prevent waste and promote the orderly development of the Square Top (Barn-Wood) Field.

EXAMINERS' RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiners recommend that the Commission adopt the field rules proposed by Apache Corporation for the Square Top (Barn-Wood) Field on a temporary basis, subject to review in 18 months.

Respectfully submitted,



Richard Eyster, P.G.
Technical Examiner



Marshall Enquist
Administrative Law Judge