



RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 8A-0296051

THE APPLICATION OF WALSH PETROLEUM, INC. TO AMEND FIELD RULES FOR THE BRAHANEY FIELD, YOAKUM COUNTY, TEXAS

HEARD BY: Richard Eyster, P.G. - Technical Examiner
Terry Johnson - Legal Examiner

HEARING DATE: April 29, 2015

CONFERENCE DATE: July 14, 2015

APPEARANCES:

REPRESENTING:

APPLICANT:

Nguyen B. Ngoc
Barry Hagermann

Walsh Petroleum, Inc.

EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Walsh Petroleum Inc. ("Walsh") seeks to amend field rules for the Brahaney Field ("the Field"), which is currently governed by special rules. The current field rules for the Brahaney Field include the following:

1. 660' /1320' Lease line/between well spacing
2. 40 acre Units with 20 Tolerance Acres
3. 2,100' Maximum Diagonal Length

Walsh seeks to adopt following changes:

1. The correlative interval from 5,170 feet to 5,565 feet, as shown on the log of the Arco Oil & Gas Company Read # 1 Log, Yoakum County, Texas, shall designate the Field;
2. Spacing: 330' from lease lines and 0' between wells;

- a.) For Horizontal wells: No horizontal drainhole shall be drilled such that the first and last take points are nearer than 200' to any lease line or subdivision line. For each horizontal drainhole well, the distance perpendicular to such horizontal drainhole from any take point on any lease line or subdivision line shall be a minimum of 330'. As-Drilled plats shall be filed on all horizontal wells;
3. 40 Acre Proration Units and 10 Acre Optional Proration Units. For the purpose of assigning additional acreage to horizontal well pursuant to SWR 86, the distance from the first take point to the last take point in the horizontal drainhole shall be used in such determination. Horizontal wells may be assigned additional acreage pursuant to SWR 86. No Proration Unit Plats or Form P-15 shall be required.
 4. Non-Perforation Zones (NPZs): An applicant may use one or more NPZ's on a drilling permit. The NPZ must be noted in the remarks section of the W-1. An As-Drilled plat must be submitted showing the take points and NPZ's.
 5. Box Rule: Two sides of the rectangle are parallel to the permitted drainhole and 47 feet on either side of the drainhole;
 - a.) The other two side of the rectangle are perpendicular to the sides described in 2 (a), with one of those sides passing through the first take point and the other side passing through the last take point.
 6. Off -Lease Point of Penetration (POP): For any well permitted in this field, the penetration point need not be located on the same lease, pooled unit or unitized tract on which the well is permitted and may be located on an Offsite Tract. When the penetration point is located on such Offsite Tract, the applicant for such a drilling permit must give 21 days notice by certified mail, return receipt requested to the mineral owners of the Offsite Tract.
 7. Stacked Lateral: Each point of a Stacked Lateral Well's horizontal drainhole shall be no more than 300 feet in a horizontal direction from any point along any other horizontal drainhole of that same Stacked Lateral Well. This distance is measured perpendicular to the orientation of the horizontal drainhole:
 - a) There shall be no maximum or minimum distance limitations between horizontal drainholes of a Stacked Lateral Well in a vertical direction.
 - b) A stacked lateral well, including all surface locations and horizontal drainholes comprising such Stacked lateral Well, shall be considered as a single well for density and allowable purposes.

This application was unopposed and the Examiners recommend that the field rules for the Brahaney Field be amended as requested.

DISCUSSION OF THE EVIDENCE

The Brahaney field was discovered on June 25, 1945 with production from the San Andres formation at depths from 5,100 to 5,500 feet. In 1966, Arco Oil & Gas initiated a water flood on the West Brahaney Unit, which is currently operated by Walsh Petroleum. Following up in 1968, Amerada Hess started a water flood on the Plains Unit, and Getty Oil on the Brahaney Unit, both are currently operated by Apache Corp. Walsh's proposed field rules are intended to exploit the remaining recoverable reserves with horizontal drilling. The Brahaney field is located north and west of Plains, Texas covering an area of over 30 sections.

The San Andres is a thick formation composed of mudstones and packstones that have been dolomitized at different degrees. The reservoir is stratigraphically compartmentalized by lenticular deposits and contains discontinuous porosity and pay intervals that vary from well to well. The correlative interval is 395 feet thick from 5,170 to 5,565 feet based on the Arco Oil & Gas's Read #1 well. There have been numerous studies of the San Andres formation, with all in favor of infill drilling to improve the ultimate recovery. According to Mr. Ngoc, Occidental's Denver Unit, located 12 miles south of the Brahaney field, has been under infill drilling to an average well density of 17.7 acres per well. With the waterflood and the infill drilling, the Denver Unit was estimated to recover 47.3% of the original oil in place.

According to the Railroad Commission's Field Proration Schedule for April 2015, there are 610 wells listed on the Brahaney field. Walsh Petroleum operates 251 wells and Apache Corp. operates 298 wells. The remaining 61 wells are operated by twelve other operators. Cumulative oil production reported on the Proration Schedule was 69.7 million barrels of oil as of April 2015.

Walsh's consulting engineer Nguyen Ngoc testified the correlative interval is from 5,170 feet to 5,565 feet, (395') as shown on the log of the Arco Oil & Gas Company Read # 1 Log, Yoakum County, Texas. Walsh's proposed correlative interval includes the entire San Andres formation. Mr. Ngoc stated Walsh Petroleum had drilled a number of infill vertical wells and also completed seven lateral holes on their leases. These laterals are approximately one mile in length. Some of these laterals were drilled between the vertical wells and some were on the west side of the field. Walsh applied the use of the high -viscosity Hybrid as the carrying fluid in their frac jobs as compared to the X-Link used earlier in the field. By applying a lower pump rate, Walsh believes that they can open more fractures but with shorter frac lengths.

The production volume from the horizontal wells using Hybrid frac fluid resulted in an 8-fold increase over the vertical wells using Hybrid frac fluid and 20-fold over the vertical wells using X-Link frac fluid. Furthermore, Walsh experienced higher oil cuts in the horizontal wells. These were believed to result from drilling and fracturing into the area of undrained oil, compartmentalized oil, and unswept oil but not into the flooded areas.

Mr. Ngoc testified that due to the thickness of the interval (395'), and the shorter frac lengths, stacked lateral holes would be necessary to drain different vertical portion of the interval.

In April 2000, Walsh was approved for "Entity for Density" ruling from the Railroad Commission covering the West Brahaney Unit. Walsh has shown that with 60 new infill wells in that Unit, the recoverable reserves would be 28.6%, a gain of 6.4% of the Original oil in place, or roughly 25% more than they expected from the 40-acre spacing.

FINDINGS OF FACT

1. Walsh, LLC ("Walsh") seeks to adopt special field rules for the Brahaney Field ("the Field").
2. Existing wells in the Field are governed by minimum well spacing provisions of 660' from the lease, property, or subdivision line ("lease line"), and 1,320' between wells.
3. Walsh requests the following amended field rules be adopted for the Field:
 - a. The correlative interval from 5,170 feet to 5,565 feet, as shown on the log of the Arco Oil & Gas Company Read # 1 Log, Yoakum County, Texas, shall designate the Field;
 - b. Walsh requests a lease line spacing of 330' minimum well spacing of 0' with special horizontal well provisions, including dual lease line spacing measured by take-points. Walsh's proposed dual lease line spacing provision measures 200' first and last take-points, and 330' take points from the nearest lease line;
 - c. Remove the existing maximum diagonal limitation;
 - d. Stacked laterals provisions;
4. The Field was discovered on June 25, 1945, and is governed by Special Rules.
5. Walsh Petroleum operates 184 wells and Apache Corp. operates 281 wells.
6. Walsh and Apache own 465 wells which is 76% of the wells in the field.
7. Walsh has waivers from 8 additional operators in the field for an additional 583 wells.
8. Walsh, Apache and the 8 additional operators have control of 96% of all the wells in the field.
9. As of April 2015 the Field's cumulative production was 69.7 million barrels of oil.
10. These laterals are usually of average nearly one mile in length.

11. Walsh Petroleum has drilled a number of infill vertical wells and also completed seven lateral holes on their leases.
12. By reducing the proration acreage, Walsh Petroleum can infill drilling with vertical wells and horizontal wells together with Stacked Lateral wells. The result will be an increase in the ultimate recovery from the San Andres reservoir and prevent the waste of energy.
13. Adoption of Walsh's proposed amended field rules is appropriate for further development of the Field.

CONCLUSIONS OF LAW

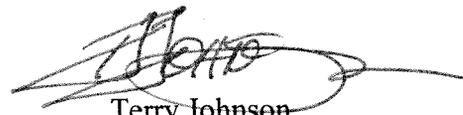
1. Proper notice of this hearing was given to all persons legally entitled to notice.
2. All things have occurred or been accomplished to give the Railroad Commission jurisdiction in this matter.
3. Adopting field rules as proposed by Walsh Petroleum, Inc. is necessary to prevent waste and protect correlative rights.

EXAMINERS' RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiners recommend that proposed field rules be adopted for the Brahaney Field, as proposed by Walsh, LLC.

Respectfully submitted,


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Technical Examiner


Terry Johnson
Legal Examiner