

THE APPLICATION OF VENTEX OPERATING CORP. TO CONSIDER UNITIZATION AND SECONDARY RECOVERY AUTHORITY FOR THE CASADY (STRAWN) UNIT, CASADY (STRAWN) FIELD, TAYLOR COUNTY, TEXAS

HEARD BY: Brian K. Fancher- Technical Examiner
Michael Crnich - Legal Examiner

DATE OF HEARING: March 28, 2012

APPEARANCES:

REPRESENTING:

APPLICANT:

Flip Whitworth
Olga Kobzar
David Skidmore
Paul Helm

Ventex Operating Corp.

EXAMINERS' REPORT AND RECOMMENDATION
STATEMENT OF THE CASE

Ventex Operating Corp. ("Ventex") requests Commission authority for unitization of the Casady (Strawn) Unit and approval of secondary recovery operations on the proposed Unit. Prior to the hearing, two hearing notices were returned to the Commission due to failed delivery. Consequentially, Ventex published notice of the subject application in the *The Merkel Mail*, a newspaper of general circulation in Taylor County, for four consecutive weeks beginning on February 22, 2012 and ending on March 14, 2012.

The application was unprotested and the examiners recommend approval of unitization authority and secondary recovery operations, as proposed by Ventex.

DISCUSSION OF THE EVIDENCE

The Casady (Strawn) Field is designated as an oil field and was discovered in June 1953 at an average depth of 4,650 feet. Currently, Ventex is the only operator in the field with three wells listed on the oil proration schedule. The field is currently governed by Commission Statewide Rules. The top allowable is the 20-acre yardstick rule, as described in Statewide Rule 45(b), under the 1947 Allowable Yardstick of 73 BOPD with an allowable gas-oil ratio of 2,000 cubic feet per barrel.

At the hearing, Ventex submitted a reservoir data sheet for the Casady (Strawn) Field. The applicant opined the reservoir comprising the subject field has an average porosity of 14%, average

water saturation of 31%, and an average net pay of 10.6 feet. Further, Ventex describes the reservoir as having a connate water salinity of 70,000 ppm, solution gas to oil ratio (GOR) of 486 standard cubic feet per barrel, original reservoir pressure of 1,710 psi, and a bubble point pressure of 2,060 psi.

The proposed Casady (Strawn) Unit consists of three tracts which contain a total of 220 acres. Tract No. 1, the Reynolds lease, originally contained a total of 160 acres. Currently, it contains 140 acres with one well located on the tract that is in production. At the hearing, Ventex testified the Reynolds lease, Well No. 1 (API No. 42-441-33731) is currently completed in the Lana (Canyon 4140) Field. Ventex further testified the Lana (Canyon 4140) Field is stratigraphically situated in the Canyon formation above the Casady (Strawn) Field; however, it intends to recomplete the Reynolds lease, Well No. 1 from the Lana (Canyon 4140) Field into the subject field contingent upon the approval of its subject application.

Tract No. 2 of the proposed Unit, the Young lease, originally included 60 acres. Currently, the Young lease comprises 40 acres and contains one shut-in well. Ventex testified the Young lease, Well No. 1 (API No. 42-441-33797) ceased production and became uneconomic from the Casady (Strawn) Field in 2008. Representatives on behalf of Ventex further testified that because the well is shut-in and has not economically produced hydrocarbons for a number of years, it intends to permit and convert the Young lease, Well No. 1 into an injection well for utilization of its proposed waterflood.

Tract No. 3 of the proposed Unit, the Reynolds unit, is a 40 acre pooled unit that includes 20 acres from the Young lease and 20 acres from the Reynolds lease. Currently, there is one well producing within the tract, the Reynolds Unit, Well No. 2 (API No. 42-441-33783). This well is the only wellbore producing from the Casady (Strawn) Field.

As proposed, Ventex seeks to unitize the Casady (Strawn) Field under its proposed Unit between the subsurface depths of 4,650 feet and 4,800 feet, as shown on the log of the Ventex Operating Corporation Reynolds Lease, Well No. 2 (API No. 42-441-33783), Section 25, Block 18, T-5-N, T&P RR Co. Survey, A-367, Taylor County, Texas.

As presented at the hearing, the proposed unitized interval comprises Casady (Strawn) sand members stratigraphically situated below the base of the Strawn lime member collectively constituting the Strawn formation. Ventex submitted a structural cross-section traversing from west to east that includes well control located outside and inside its proposed Unit boundary. In collaboration, Ventex submitted evidence that depicts the isopac thickness of the Casady (Strawn) sand members along with the elevation top of the sand structure throughout its proposed Unit. The isopac thickness of the sands range from approximately thirty feet to zero feet, and the structure defining the subject field trends from west to east-northeast across the proposed Unit.

Based upon the subsurface mapping of the Casady (Strawn) sands, representatives on behalf of Ventex testified that the sand members are continuous across its proposed Unit. Further, Ventex

testified the portion of the subject field within the proposed Unit boundaries is truncated at the west and east boundaries of the proposed Unit, due to a low permeability barrier. Moreover, Ventex testified the north and south margins of the sandbar structure are restricted within the confinements of the proposed Unit boundaries by stratigraphic pinch-out.

Through petrophysical analyses, Ventex opined that the thickest portion of the bar structure comprising the subject field is located in Tract No. 2, the Young lease, and the western portion of Tract No. 3, the Reynolds unit. Furthermore, the top of the bar structure decreases in elevation from east to west across the proposed Unit boundaries. Ventex opined the structural elevation differences indicate the Young lease, Well No. 1 is the nearest wellbore to the lowest elevation point of the top of the bar structure than the remaining wells within the proposed Unit boundaries.

Ventex testified that the unitization agreement, as proposed in its application, is necessary to accomplish the purposes of establishing a unit to effect secondary recovery operations for water injection. At the hearing, the applicant testified that in an effort to implement its proposed waterflood for the proposed Unit, Ventex intends to re-work each of the three wells so that injection operations for the proposed waterflood will depend solely on the Young lease, Well No. 1. The Reynolds lease, Well No. 1 and the Reynolds unit, Well No. 2 will be recompleted so that they may produce from the subject field.

At the time of the hearing, the applicant submitted evidence that indicated an estimated ultimate recovery of 210 MBO from the subject field through primary production. Beyond that, Ventex estimated that secondary recovery for the proposed Unit will be equal to approximately 138 MBO. The total cost to implement the secondary recovery project is expected to be \$1,098,500. Based upon an average value of \$90 per barrel of oil, the projected net value of the additional production is \$8.15 million, resulting in a undiscounted return on investment of 6.42 to 1.

The participation formula for each tract is based on 30% cumulative Strawn production to date + 30% original oil in place + 30% original floodable oil in place + 10% surface acreage. At the time of the hearing, Tract No. 1 includes 89.53% of the working interest and 68.50% of the royalty interest sign-up, Tract No. 2 includes 89.53% of the working interest and 100% of the royalty interest sign-up, and Tract No. 3 includes 89.53% of the working interest and 83.32% of the royalty interest sign-up. Collectively, 89.53% of the working interest owners and 87.91% of the mineral interest owners have signed the proposed unit agreement. There are no state owned lands in the proposed unit.

FINDINGS OF FACT

1. Notice of this hearing was sent to all operators and unleased mineral interest owners within and adjacent to the proposed unit. The subject application was published in the *The Merkel Mail*, a newspaper of general circulation in Taylor County, once a week for four consecutive weeks beginning on February 22, 2012 and ending on March 14, 2012.
2. The proposed Casady (Strawn) Unit consists of three tracts which contain 220 acres.
3. Tract No. 1 of the proposed Unit, the Reynolds lease, originally contained a total of 160 acres. Currently, Tract No. 1 includes 140 acres with one well (API No. 42-441-33731) located on the tract that is in production.
4. The Reynolds lease, Well No. 1 (API No. 42-441-33731) is currently completed in the Lana (Canyon 4140) Field.
5. The Lana (Canyon 4140) Field is stratigraphically situated in the Canyon formation, above the Casady (Strawn) Field.
6. Tract No. 2 of the proposed Unit, the Young lease, originally included a total of 60 acres. Currently, the Young lease is made of 40 acres and has one well located within its confinements.
7. The Young lease, Well No. 1 (API No. 42-441-33797) is a shut-in well.
8. Tract No. 3 of the proposed Unit, the Reynolds unit, is a 40 acre pooled unit containing 20 acres from the Young lease and 20 acres from the Reynolds lease. Currently, there is one well producing within the tract, the Reynolds Unit, Well No. 2 (API No. 42-441-33783).
9. The Reynolds Unit, Well No. 2 (API No. 42-441-33783) is the only wellbore producing from the Casady (Strawn) Field.
10. The unitized formation is the subsurface portion of the Unit Area commonly known as the Casady (Strawn) sands between the subsurface depths of 4,650 feet and 4,800 feet, as shown on the log of the Ventex Operating Corporation Reynolds Lease, Well No. 2 (API No. 42-441-33783), Section 25, Block 18, T-5-N, T&P RR Co. Survey, A-367, Taylor County, Texas.
11. The Casady (Strawn) Unit comprises the Casady (Strawn) sand members, stratigraphically situated below the base of the Strawn lime member of the Strawn formation.
12. Secondary recovery operations are expected to result in the recovery of an estimated 138 MBO which would otherwise go unrecovered.

13. The total cost to implement the secondary recovery project is expected to be \$1,098,500. Based upon an average value of \$90 per barrel of oil, the net value of the production recovered through secondary recovery is \$8.15 million.
14. The Casady (Strawn) Unit will result in an undiscounted return on investment of 6.42 to 1. The cost does not exceed the value of additional reserves to be recovered.
15. The participation formula for each tract is based on 30% cumulative Strawn production to date + 30% original oil in place + 30% original floodable oil in place + 10% surface acreage.
16. Tract No. 1 includes 89.53% of the working interest and 68.50% of the royalty interest that are participating in the Casady (Strawn) Unit Agreement.
17. Tract No. 2 includes 89.53% of the working interest and 100% of the royalty interest that are participating in the Casady (Strawn) Unit Agreement.
18. Tract No. 3 includes 89.53% of the working interest and 83.32% of the royalty interest that are participating in the Casady (Strawn) Unit Agreement.
19. Collectively, 89.53% of the working interest owners and 87.91% of the mineral interest owners are participating in the Casady (Strawn) Unit.
20. The unitization agreement is necessary to accomplish the purposes of establishing a unit to effect secondary recovery operations for water injection.
21. There are no state owned lands in the proposed unit.
22. The reservoir described in the unit agreement is identified as a single reservoir for Commission purposes and is a suitable reservoir for a water injection secondary recovery operation.

CONCLUSIONS OF LAW

1. Proper notice was given to all persons legally entitled to notice.

2. All things have occurred or have been accomplished that are necessary to give the Commission jurisdiction in this matter.
3. Applicant's proposed secondary recovery project satisfies all of the requirements set out in TEX. NAT. RES. CODE ANN. §§101.001 *et seq.*
4. Approval of the proposed unit agreement for secondary recovery operations is in the public interest and is necessary to prevent waste and to promote the conservation of oil or gas or both.

EXAMINERS' RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiners recommend approval of the proposed Casady (Strawn) Unit and secondary recovery operations, as proposed by Ventex.

Respectfully submitted,

Michael Crnich
Legal Examiner

Brian K. Fancher
Technical Examiner