

THE APPLICATION OF STROUD PETROLEUM, INC., FOR NEW FIELD DESIGNATION FOR THE (PROPOSED) STAMPS (COTTON VALLEY) FIELD; FIELD RULES FOR THE STAMPS (TRAVIS PEAK) AND (COTTON VALLEY) FIELDS; AND RULE 10 EXCEPTION TO DOWNHOLE COMMINGLE THE STAMPS (COTTON VALLEY) AND (TRAVIS PEAK) FIELDS IN THE THORNE NO. 1, UPSHUR COUNTY, TEXAS

Heard by: Margaret Allen, Technical Hearings Examiner

Procedural history

Application received: October 15, 2003

Hearing held: November 6, 2003

Appearances

Philip Whitworth
Scott D. Stroud

Representing
Stroud Petroleum, Inc.

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Stroud Petroleum, Inc., ("Stroud") is seeking a new field designation for the (proposed) Stamps (Cotton Valley) Field and to adopt the following field rules for the Stamps (Travis Peak) and (Cotton Valley) Fields:

1. Designated interval between 9765' and 11,020' for the Stamps (Cotton Valley) Field, and between 7990' and 9765' for the Stamps (Travis Peak) Field, as shown on the log of the Thorne Lease Well No. 1; and
2. Allocation formula based 95% on deliverability and 5% per well.

DISCUSSION OF THE EVIDENCE

Stroud drilled its Thorne Lease Well No. 1 in April of 2003. The well was perforated from 10,362' to 10,371' and from 10,424' to 10,428' in two sandstones of the Cotton Valley Formation. The AOF on the initial test was 505 MCF/D, at a gas/oil ratio of 35,583 cubic feet per barrel. Perforations have been added from 9952' to 10,161'; from 10,290' to 10,428'; and from 10,929' to 11,002'. Cumulative production between May and October, 2003, is 20,911 MCF and 553 BC. The perforated sandstone has about 93 feet of gross pay, with 7% porosity and 40% water saturation. The reservoir pressure is 4500 psi at 10,017', and the recoverable reserves are about 1132 MMCF, assuming a 70% recovery factor.

There are no other wells producing from the Cotton Valley Formation within 2-1/2 miles. The log of the Thorne No. 1 shows the Cotton Valley Formation extends from 9765' to 11,020' and has other potentially productive sandstones. One such unperforated sandstone has 40' of gross pay, with 7% porosity and 50% water saturation. The recoverable reserves are 278 MMCF, assuming 50% recovery, which is not enough to justify a separate completion.

The Stamps (Travis Peak) Field was discovered in 1976. Temporary field rules specifying 320-acre proration units were adopted October 18, 1976, under Docket No. 6-66,441. The Paragon Resources, Inc., J. Duffey Lease Well No. 1, 1700' west of the Thorne No. 1, produced 39,139 MCF from this field. The only well was plugged November 19, 1979, and the field rules were rescinded October 15, 1979, under Docket No. 6-73,365.

Stroud tested the Travis Peak from 9588' to 9690' in its Thorne No. 1 on November 5, 2003. There are no producing Travis Peak wells within 2-1/2 miles. The interval initially perforated has 91' of gross pay at 7% porosity and 40% water saturation. The bottomhole pressures measured on drill-stem tests between 9152' and 9550' ranged from 4053 psi to 4196 psi. The recoverable gas-in-place is 1006 MMCF, assuming 70% recovery.

The Travis Peak extends from 7990' to 9765' on the log of the Thorne No. 1 and has other potentially productive sandstones within the Travis Peak. One unperforated sandstone has 43' of gross pay at 7% porosity and 40% water saturation. The calculated recoverable reserves for this sandstone are 213 MMCF, assuming 50% recovery, which is not enough to support a separate completion. Allowing multiple sandstones to be downhole commingled will result in the recovery of reserves that would not otherwise be recovered.

Because the proposed designated intervals in both the Stamps (Cotton Valley) and (Travis Peak) Fields include multiple reservoirs that are not in natural communication, two-factor allocation formulae are required by statute. Formulae based 5% per well and 95% on deliverability will satisfy statutory requirements.

Stroud believes that the only way wells in the Cotton Valley and Travis Peak Formations can be successful in Usher County is by downhole commingling the marginal sandstones. Both formations produce water and none of the individual sandstones is capable of strong gas production. Dual completions would have problems with loading. Water analyses show that waters from both the Cotton Valley and Travis Peak formations are compatible. Cross flow should not occur between the Cotton Valley and Travis Peak due to low permeability and similar reservoir pressure.

The Thorne No. 1 is at a regular location with respect to both fields to be downhole commingled. Royalty and working interest ownership is identical in all intervals to be combined. Stroud requested that the commingled production of about 1 MMCF per day be assigned to the deeper Stamps (Cotton Valley) Field.

This area has been known to have marginal gas reserves in the Cotton Valley and Travis Peak formations. Stroud believes that technological changes in fracture stimulation and regulatory changes allowing large commingled intervals can make these reserves economic. If daily production of about 1 MMCF can be established from this well, as many as 10 new wells may be drilled in this area within

the next few years.

Stroud also requests that the allocation formula be suspended. Stroud has paid to lay the gas line to this well and believes there is a market for all the gas that wells in these fields can produce.

FINDINGS OF FACT

1. Notice of this hearing was given to all operators offsetting the discovery tract of the Stamps (Cotton Valley) Field and to all operators in the Stamps (Cotton Valley) and (Travis Peak) Fields on October 21, 2003.
2. In April, 2003, Stroud Petroleum's Thorne Lease Well No. 1 was perforated from 10,362' to 10,371' and from 10,424' to 10,428' in two sandstones of the Cotton Valley Formation.
3. Perforations have since been added from 9952' to 10,161'; from 10,290' to 10,428'; and from 10,929' to 11,002' in the discovery well.
4. Cumulative production between May and October, 2003, is 20,911 MCF and 553 BCF from the Cotton Valley Formation in the Thorne No. 1.
5. The recoverable reserves from 40 acres in the current Cotton Valley completion are estimated to be 1132 MMCF, but at least one unperforated Cotton Valley sandstone with 278 MMCF of recoverable reserves is behind pipe.
6. The Thorne No. 1 discovered a new field as there are no other wells producing from the Cotton Valley Formation within 2-1/2 miles.
7. The log of the Thorne No. 1 shows the Cotton Valley Formation extending from 9765' to 11,020'.
8. The Stamps (Travis Peak) Field was discovered in 1976, but only one well produced from it briefly before being plugged.
9. The Travis Peak formation is shown between 7990' and 9765' in the log of the Stroud Petroleum Thorne Lease Well No. 1.
10. Stroud tested the Travis Peak from 9588' to 9690' in its Thorne No. 1 on November 5, 2003.
11. The estimated recovery of the perforated Travis Peak sandstone in the Thorne No. 1 is 1006 MMCF, but at least one additional Travis Peak sandstone with an estimated 213 MMCF of reserves remains behind pipe.
12. Downhole commingling reserves from the small sandstones in the Cotton Valley and Travis Peak formations will encourage their development and lower the economic limit of each sandstone.

13. The proposed designated intervals of the Stamps (Travis Peak) and (Cotton Valley) Fields contain multiple gas reservoirs not in communication and state statutes require a two-factor allocation formula for such fields.
14. Allocation based 5% per well and 95% on deliverability is close to the statewide allocation formula and will satisfy statutory requirements.
15. There is a market for 100% of the gas produced by the applicant, the only operator in the Stamps (Cotton Valley) Field.
16. Both fields produce water and would experience loading problems if a dual completion were attempted.
17. The Thorne No. 1 is at a regular location in both fields and interest ownership is identical with respect to both fields.
18. The water produced from both fields is compatible and cross-flow will not be a problem even if there should be a limited amount when the well is shut-in.
19. The commingled production of about 1 MMCF of gas per day should be assigned to the Stamps (Cotton Valley) Field.

CONCLUSIONS OF LAW

1. Proper notice was given as required by statute.
2. All things have been done or occurred to give the Railroad Commission jurisdiction to resolve this matter.
3. The requested new field designation for the Stamps (Cotton Valley) Field and proposed field rules for the Stamps (Cotton Valley) and (Travis Peak) Fields will prevent waste, protect correlative rights and promote orderly development of the fields.
4. Granting the requested Rule 10 exception in the Stamps (Cotton Valley) and (Travis Peak) Fields will prevent waste and protect correlative rights.
5. The Stamps (Cotton Valley) Field meets all the criteria established for suspension of the allocation formula under Statewide Rule 31(j).

EXAMINER'S RECOMMENDATION

Based on the above findings and conclusions, the examiner recommends that the Stamps (Cotton Valley) Field be approved as a new field and that the requested field rules be adopted for the

Stamps (Cotton Valley) and (Travis Peak) Fields. Downhole commingling authority should be granted for the Stroud Petroleum Thorne Lease Well No. 1 in both fields. The allocation formula should also be suspended for the Stamps (Cotton Valley) Field, as per the attached order.

Respectfully submitted,

Margaret Allen
Technical Hearings Examiner

Date of Commission Action: November 25, 2003