

August 5, 1999

OIL AND GAS DOCKET NO. 08-0222155

THE APPLICATION OF AMTEX ENERGY INC. FOR TEMPORARY FIELD RULES IN THE MARSTON RANCH (DEVONIAN) FIELD, WARD COUNTY, TEXAS

Heard by: ~~Margaret Allen, Technical Hearings Examiner~~

Procedural history

Application received: July 12, 1999

Hearing held: August 5, 1999

Appearances

William Savage	Representing Amtex Energy
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EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Amtex Energy, Inc., is seeking the following temporary field rules:

1. Designated interval from 6570 to 6690 feet as shown on the log of the Rangeland Petroleum (now Amtex Energy) Texaco "15" Well No. 1;
2. 467-1200 feet well spacing;
3. 160 acre proration units with 80-acre tolerance for the last well on a lease, with a maximum diagonal of 4500 feet; and
4. Allocation based on acreage.

DISCUSSION OF THE EVIDENCE

The Marston Ranch (Devonian) reservoir was first encountered by the Rangeland (now Amtex) Texaco "15" Well No. 1. This well penetrated the top of the Devonian reservoir at about 6560 feet, but excess water from a lower section was channeled into the well and Well No. 1 could not be completed. The substitute well, No. 1S, penetrated only the very top of the Devonian and was completed open hole from 6601 to 6611 feet. The applicant proposed that the designated interval be based on the log from Well No. 1, even though this well could not be completed. The correlative interval in Well No. 1, between 6570 and 6690 feet, covers all of the productive Devonian sequence in this reservoir.

A drill stem test found that the initial reservoir pressure was 3300 psi, which is virgin pressure. On the initial potential test, Well No. 1S flowed 82 BOPD and 112 BWPD with a gas/oil

ratio of 400 cubic feet per barrel. Amtex believes that some of the water tested was channeled into the reservoir through Well No. 1. Amtex is completing its third polymer squeeze on Well No. 1 to prevent the influx of water into Well No. 1S. Until the water influx can be stopped, production from Well No. 1S is being curtailed to 30 to 40 BOPD.

Production is from a tripolitic chert at the top of the Devonian that has been eroded away on the eastern edge of the field. The Devonian formation dips rapidly to the west where this porous interval becomes water-bearing. A large gas field to the east of the subject field produces from a structurally higher, but stratigraphically lower, Devonian interval. The subject reservoir is narrow east to west, and is more extensive to the north and south. The applicant intends to drill a second well by the end of 1999.

Permeability is expected to be excellent because of the extensive fracturing in this steeply dipping formation. Assuming 24% porosity and 28 feet of pay, there are 1,726,000 barrels of oil present under 160 acres in this reservoir. Assuming a recovery factor of 15%, the discovery well will have to produce 259,000 barrels to drain 160 acres. Because of the high porosity and permeability, the applicant expects that one well will be able to drain a large area. The applicant also believes that it can increase the oil production rate from Well No. 1S, once the water is shut-off.

The applicant has leased a large amount of acreage around Well No. 1S, and smaller than standard well spacing will not violate correlative rights. The requested spacing of 467-1200 feet will allow wells to be optimally located to encounter this ribbon-shaped reservoir. Allocation based on acreage will protect correlative rights.

FINDINGS OF FACT

1. Notice of this hearing was given to all operators in the Marston Ranch (Devonian) Field and to all offset operators to the discovery tract on July 16, 1999.
2. The only producing well in the field, the Marston Ranch Well No. 1S, was completed in April of 1999, and the applicant intends to drill more wells before the end of 1999.
3. The first well, the Marston Ranch Well No. 1, experienced completion problems and the operator was unable to shut off water flowing upward from deeper sections.
4. The substitute well, the Marston Ranch No. 1S, is located 300 feet from Well No. 1, and only the top few feet of the uppermost Devonian were penetrated.
5. The reservoir is narrow, east to west, and limited by a water leg downdip and an erosional pinchout updip.
6. Temporary rules of 160-acres are appropriate for a period of 18 months.
 - a. The initial potential of the discovery well was 82 BOPD and 122 BWPD, with a gas/oil ratio of 400 cubic feet per barrel.

- b. Volumetric calculations indicate that 259,000 barrels of oil are recoverable from underneath 160 acres.
 - c. The well is capable producing more than the current 30 to 40 BOPD, but its production is being restricted until the excess water can be stopped.
 - d. Wells are expected to drain large areas because the reservoir has good porosity and excellent permeability, due to extensive fracturing.
- 7. Well spacing of 467-1200 feet is somewhat less than standard, but will allow additional wells at optimal locations to encounter this long narrow reservoir.
 - 8. The productive Devonian section in this reservoir extends from 6570 to 6690 feet as shown on the log of Well No. 1.
 - 9. Allocation based on acreage will protect correlative rights.

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 temporary field rules will prevent waste, protect correlative rights within the field, and promote orderly development of the reservoir.

EXAMINER'S RECOMMENDATION

Based on the above findings and conclusions, the examiner recommends that the requested temporary field rules for the Marston Ranch (Devonian) Field be approved and reviewed in 18 months.

Respectfully submitted,

Margaret Allen
Technical Hearings Examiner

Date of Commission Action: October 5, 1999

Exhibits

1. Log of the producing well
2. Type log of first well
3. Dip cross section
4. Strike cross section
6. Form W-2
7. Drainage calculations