

**OIL AND GAS DOCKET NO. 08-0224880**

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**THE APPLICATION OF HAMMAN OIL & REFINING COMPANY FOR INCREASED NET GAS OIL RATIO AUTHORITY FOR THE CALDWELL -26- LEASE WELL NOS. 3 AND 4, CREDO, E. (CISCO, UP.) FIELD, STERLING COUNTY, TEXAS**

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

**Procedural history**

Application received: May 8, 2000

Hearing held: September 1, 2000

**Appearances**

Kerry Pollard

Representing

Hamman Oil & Refining Company

**EXAMINER'S REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

Hamman is requesting increased net gas/oil ratio authority with an unrestricted daily gas limit for its Caldwell -26- Lease, Well Nos. 3 and 4, in the Credo, E. (Cisco, Up.) Field, Sterling County.

**DISCUSSION OF THE EVIDENCE**

The Credo, E. (Cisco, Up.) Field is a large field discovered in 1974, and it has already produced 31 BCF and 200,000 barrels of oil. Sixty-two of the 68 wells are gas wells which produce under 100% AOF. Many of the wells are first classified as oil because they produce liquid with API gravities of less than 40 degrees, but the gas/oil ratio gradually increases until the wells become statutory gas wells. The pay section is 200 to 300 feet thick but the net pay is less than 100 feet.

The current daily gas limit for the six oil wells is 198 BO and 396 MCF if the well is assigned 80 acres. Atropos Production Corporation operates four of the oil wells, three of which have gas/oil ratios already over 30,000 cubic feet per barrel. One of these wells was granted an increased net gas/oil ratio with an unrestricted gas limit on December 19, 1997, under Docket No. 08-0217594.

Hamman's Caldwell -26- Well No. 3 was completed in November of 1999, with an initial daily potential of 84 barrels of oil and 550 MCF with 20 barrels of water. The Caldwell -26- Well No. 4 was completed in December of 1999, with an initial daily potential of 75 barrels of oil, 450 MCF and 2 barrels of water. Both wells had initial gas/oil ratios of 6000 cubic feet per barrel and these ratios have already increased to about 30,000.

Well Nos. 3 and 4 produce into a common tank battery and were tested together between July 1 and July 31, 2000. When the wells were produced near the current allowable, the combined daily oil production was about 11 barrels and the average gas/oil ratio was 81,000 cubic feet per barrel. The lowest gas/oil ratio of about 34,000, occurred when the daily oil production averaged 5 barrels per well and the daily gas production averaged 704 MCF for Well No. 3 and 533 MCF for Well No. 4. At an interim daily gas rate of 617 for Well No. 3 and 418 MCF for Well No. 4, the stabilized gas/oil ratio was about 36,500 cubic feet per barrel. At other rates, the daily gas rate was more stable than the daily oil rate, causing the gas/oil ratio to fluctuate.

If the gas wells in the subject field can produce unlimited amounts of gas due to the suspension of the allocation formula, the applicant believes that the oil wells in the same reservoir should also be allowed to. The gas/oil ratio tends to increase over time, and the newer Caldwell -26- wells can be expected to eventually be reclassified as gas wells. The precedent has already been set, in Docket No. 08-0217594, for an oil well to be able to produce unlimited amounts of gas. The applicant is also requesting that all overproduction for the Caldwell -26- wells be canceled.

#### **FINDINGS OF FACT**

1. Notice of this hearing was given to all operators in the Credo, E. (Cisco, Up.) Field on July 24, 2000.
2. The Credo, E. (Cisco, Up.) Field has produced 31 BCF and 200,000 BO since 1974.
3. The Credo, E. (Cisco, Up.) Field has 62 gas wells and 6 oil wells, one of which was granted increased gas/oil ratio authority with an unrestricted daily gas limit, under Docket No. 08-0217594, effective December 19, 1997.
4. All of the gas wells currently active in this field can produce at their maximum capability because the allocation formula has been suspended.
5. The initial daily test rate of the Caldwell -26- No. 3, in November of 1999, was 84 BOPD and 550 MCF; and the daily test rate of Well No. 4, taken in December of 1999, was 75 barrels of oil and 450 MCF.
6. The gas/oil ratio of most wells in the subject field that are initially classified as oil gradually increases until the wells become statutory gas wells; and the gas/oil ratio of the Caldwell -26- wells has already increased to about 30,000 cubic feet per barrel.
7. A step rate test on the Caldwell -26- Well Nos. 3 and 4 was conducted from July 1 to 31, 2000, and indicated that higher gas rates generally correlated with lower gas/oil ratios.
  - a. When the wells were produced near the current allowable, the combined daily oil production was about 11 barrels and the average gas/oil ratio was 81,000 cubic feet per barrel.

- b. The lowest gas/oil ratio of about 34,000, occurred when the daily oil production averaged 5 barrels per well and the daily gas production averaged 704 MCF for Well No. 3 and 533 MCF for Well No. 4.
  - c. At an interim daily gas rate of 617 for Well No. 3 and 418 MCF for Well No. 4, the stabilized gas/oil ratio was about 36,500 cubic feet per barrel.
  - d. When the wells were produced at other stabilized gas rates, the liquid production was variable, resulting in erratic gas/oil ratios.
8. These wells produces efficiently at gas rates over the current allowables of 396 MCF and there is no reason to require the wells to make up overproduction by producing at less efficient rates.

**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. Granting increased gas oil ratio authority with an unrestricted daily gas limit for Well Nos. 3 and 4 will prevent waste and protect correlative rights.

**EXAMINER'S RECOMMENDATION**

Based on the above findings and conclusions, the examiner recommends that increased net gas/oil ratio authority be approved for the Hamman Oil & Refining Company Caldwell -26- Lease Well Nos. 3 and 4 in the Credo, E. (Cisco, Up.) Field. The recommended daily gas limit is the open flow amount that the wells are capable of as long as the wells do not exceed the daily oil limit of 196 barrels. Any gas overproduction for these wells should also be canceled.

Respectfully submitted,

Margaret Allen  
Technical Hearings Examiner

Date of Commission Action: September 25, 2000

Exhibits

1. Map
2. Oil proration schedule
3. Gas proration schedule
4. Graph of monthly field gas production data
5. Graph of monthly field oil production
6. Form W-2 for Well No. 3
7. Form W-2 for Well No. 4
8. Graph of step-rate test
9. Tabulation of step-rate test
10. Order granting unlimited gas rate to prior field well
11. Requested gas rate