

September 15, 1999

OIL AND GAS DOCKET NO. 04-0222253

**THE APPLICATION OF SMITH PRODUCTION INC. FOR NET GAS/OIL RATIO
AUTHORITY FOR ITS J.F. WELDER HEIRS LEASE WELL NOS. F-1 AND S-1 IN THE
ANGELITA NEW (FRIO) FIELD, SAN PATRICIO COUNTY, TEXAS**

Heard by: Margaret Allen, Technical Hearings Examiner

Procedural history

Application received: July 26, 1999

Hearing held: September 9, 1999

Appearances

Pat Rygg
Charles B. Bucek

Representing
Smith Production Inc.

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Smith Production came to the hearing asking for net gas/oil ratio authority to produce its J.F. Welder Heirs Lease Well Nos. F-1 and S-1 at ratios up to 60,000 cubic feet per barrel. Because there are only two wells in the field, the examiner suggested that any net ratio authority be applied to the field as a whole. The examiner also suggested that the subject field be considered as a salvage field and granted unlimited net ratio authority. Smith Production agreed to both suggestions.

DISCUSSION OF THE EVIDENCE

The Angelita New (Frio) Field was discovered in 1947, with the completion of the Continental Oil Co. (now Smith Production) J.F. Welder No. S-1. The field has produced approximately 152,000 BO and 1.9 BCF of gas from at lease seven stacked Frio sandstones. The remaining wells, all operated by Smith, comprise two oil wells and a gas well in between, producing from the same Frio section and at the same depth as the oil wells. The sands are highly laminated and laterally discontinuous. Although the entire section correlates regionally, individual sands cannot be mapped.

The wells in this field had been abandoned as uneconomic by the previous operator who left them unplugged. Smith Production took a new lease from the mineral interest owners and re-entered the wells. The March, 1998, Form W-2 for Well No. S-1 shows a maximum potential of 20 BOPD, 300 MCF/D and 200 BWPD. The February, 1999, Form W-2 for Well No. F-1 indicates a maximum potential for this well of 124 BOPD, 438 MCF/D and 40 BWPD.

The field is near depletion and many of the producing sands have increasing gas/oil ratios.

Because the sands are lenticular it is not possible to determine which sands would be classified as gas-bearing and which are oil-bearing. Attempts by Smith Production to complete sands individually have generated flow rates less than 50 MCF/D. Smith Production recently fracture-stimulated these Frio sands, placing them in communication behind pipe regardless of the perforations.

The allowable for oil wells in the Angelita New (Frio) Field is 111 BOPD and 222 MCF/D. Well Nos. F-1 and S-1 were tested between August 1 and August 23, 1999, on varying choke sizes. The producing rates of both wells showed that larger choke sizes prevent waste as the flowing tubing pressure and the gas/oil ratio are lower. On a 6/64th inch choke, Well No. F-1 produced 16 barrels and 144 MCF daily, for a gas/oil ratio of 9146 cubic feet per barrel. When the choke was eventually enlarged to 9/64th inches, the daily producing rates increased to 45 barrels and 268 MCF, with a corresponding reduction in the gas/oil ratio to 5984.

On a 9/64th inch choke, Well No. S-1 produced 6 BOPD and 150 MCF/D, for a gas/oil ratio of 100,233 cubic feet per barrel. On a 12/64th inch choke, the daily producing rates increased to 6 barrels and 222 MCF/D, for a gas/oil ratio of 38,900 cubic feet. The applicant believes that this well eventually be reclassified as a gas well but it does not now meet the criteria for gas wells.

Restricting production to less than 2000 cubic feet per barrel will cause waste and would limit the oil wells to a total of 456 barrels and 4500 MCF per month. The economic limit would be reached sooner, leaving otherwise recoverable reserves in the ground. Any remaining reserves in this field can be considered as salvage.

FINDINGS OF FACT

1. Notice of this hearing was issued on August 20, 1999, to Smith Production, the only operator in the Angelita New (Frio) gas and oil fields.
2. There are two oil wells and one gas well in the subject field, which was discovered in 1947 and has produced 152,000 barrels of oil and 1.9 BCF of gas.
3. Remaining production from the two oil wells can be considered salvage since the previous operator abandoned the wells as uneconomic without bothering to plug them.
4. The productive Frio section includes several sandstones that have varying producing rates and unpredictable gas/oil ratios, though the gas/oil ratio is generally increasing as more of the sands become depleted.
5. The various Frio sandstones are in communication behind pipe due to fracture stimulations and cannot be produced separately.
6. The current allowable is 111 BOPD and 222 MCF/D per well.
7. Both oil wells were tested August 1 and August 23, 1999, on varying choke sizes, and the flowing tubing pressures and gas/oil ratios declined as choke size was increased.

- a. The most efficient rate of production for Well No. F-1 was on a 9/64th inch choke, where the gas rate averaged 268 MCF/D and the oil rate averaged 45 BOPD, for a gas/oil ratio of 5984 cubic feet per barrel.
 - b. The most efficient rate of production for Well No. S-1 was on a 12/64th inch choke, where the average gas rate was 222 MCF/D and the average oil rate was 6 BOPD, for an average gas/oil ratio of 38,930 cubic feet per barrel.
8. The two oil wells cannot yet qualify as gas wells and have become 40,000 MCF overproduced.
 9. There is no regulatory purpose served in requiring the wells to make up overproduction and shutting the wells in may cause waste.

CONCLUSIONS OF LAW

1. Proper notice was issued as required by all applicable codes and regulatory statutes.
2. All things have occurred and been accomplished to give the Commission jurisdiction in this matter.
3. Granting Smith Production, Inc. the authority to produce wells in the Angelita New (Frio) Field at unlimited gas/oil ratios will prevent waste and protect correlative rights.
4. Cancellation of overproduction will prevent waste and will not harm correlative rights.

EXAMINER'S RECOMMENDATION

Based on the above findings and conclusions, the examiner recommends that unlimited net gas/oil ratio authority be granted for the Angelita New (Frio) Field, as per the attached order.

Respectfully submitted,

Margaret Allen
Technical Hearings Examiner

Date of Commission Action: October 5, 1999

Exhibits

1. Justification
2. Plat
3. Field geology
4. Well logs
5. Net GOR test data
6. Gas purchaser letter
7. Cumulative production data
8. Forms W-2
9. Reservoir data sheet
10. Production history