

December 28, 2000

OIL AND GAS DOCKET NO. 08-0226740

**THE APPLICATION OF OSBORN HEIRS COMPANY TO AMEND FIELD RULES FOR
THE TUNIS CREEK (DEVONIAN) FIELD, PECOS COUNTY, TEXAS**

Heard by: Margaret Allen, Technical Hearings Examiner

Procedural history

Application received: November 16, 2000

Hearing held: December 21, 2000

Appearances

Glenn Johnson
Don Wadsworth
Nancy FitzSimon

Representing
Osborn Heirs

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Current field rules for the Tunis Creek (Devonian) Field were adopted under Docket No. 8-80,301, effective July 18, 1983, and are summarized as follows:

1. Well spacing of 467-1200';
2. 80 acre oil proration units with 40 acre optional units; and
3. allocation based on acreage.

In 1985, field rules were amended to provide for a capacity allowable after injection began. Injection is ongoing and the only lease in the field, the Osborn Heirs Tunis Creek University Lands Unit, has a capacity allowable. Osborn Heirs is seeking the following amended rules:

1. Designated interval from 6574 to 6813 feet as shown on the log of the Osborn Heirs Company University Lands Tunis Creek Unit Lease Well No. 308;
2. 330-660' well spacing;
3. 20-acre proration units; and

4. allocation based on acreage.

DISCUSSION OF THE EVIDENCE

The Tunis Creek (Devonian) Field was discovered in 1982, and unitized in 1986 for pressure maintenance. This Devonian field is one of the southernmost to produce from the distal facies of the Thirtyone Formation chert. The field produces from a downthrown fault block where the Thirtyone Formation is preserved. The reservoir rock is eroded from the upthrown side of the fault block on the east side of the field.

Cumulative production through September, 2000, is 3,572,000 BO and 3.8 BCF, and 12,000,000 barrels of water have been injected. Currently monthly production is 10,000 barrels of oil and about 60,000 barrels of water are injected every month.

Seismic and detailed log correlations show that there is much more lateral heterogeneity within the Thirtyone Formation than was previously thought. There are significant thickness variations across the field and detailed mapping shows the porosity units are discontinuous, particularly at the top and base of the section. Production information also indicates faulting has compartmentalized the reservoir more than the previous operator realized. Osborn drilled its University Lands Unit Well No. 308 in March of 2000, as a Rule 37/38-exception infill well, between Well Nos. 303 and 304. It is farther from the fault and structurally lower than Well No. 304, yet it encountered significantly more pay, particularly at the top of the section. The gross interval of Devonian Thirtyone Formation in Well No. 308 extends from 6574 to 6813 feet, which is 28 feet thicker than in Well No. 304 and 39 feet thicker than in Well No. 303.

Well No. 308 tested at a rate of 130 BOPD with an 18% water cut and its production has increased to 160 BOPD and 30 BWPD. Well No. 304 produces 50 BOPD with a higher water cut of 60% even though it is updip, and Well No. 303 produces 15 BOPD at 89% water cut. At the previous hearings in the 1980's, the operator thought primary and secondary recovery from this solution gas reservoir would be 22 to 25% of the original oil-in-place. Osborn Heirs now believes that without infill drilling, only about 18% of this oil can be recovered under the current injection program.

The average reservoir porosity is 24.5%, the water saturation equals 32% and the average permeability is 5 md. Osborn Heirs estimates that an additional 3.81%, or 800,000 BO, can be recovered by drilling four additional producing wells and one additional injection well on the southeast side of the field. Standard spacing for wells on 20-acre density is 330-660 feet. The allocation formula is based on acreage but the entire field is unitized and the unit receives a capacity allowable due to water injection.

FINDINGS OF FACT

1. Notice of this hearing was given to all operators in the Tunis Creek (Devonian) Field and to all offset interest owners on November 21, 2000.
2. Notice of this hearing was published November 20 and 27, and December 4 and 11, 2000, in the Pecos Enterprise, a newspaper of general circulation in Pecos County.
3. The Tunis Creek (Devonian) Field was discovered in 1982 and unitized in 1986 for pressure maintenance.
4. All of the wells in the field are on the University Lands Tunis Creek Unit, operated by Osborn Heirs.
5. Current rules provide for 40 acre density and a capacity allowable.
6. Seismic, detailed log correlations and production information all indicate the field has much greater heterogeneity than originally thought.
7. Drilling infill wells on 20 acre density could result in increasing the amount of secondary recovery by 800,000 barrels of oil.
8. Infill drilling has found areas of the field with substantially thicker pay sections than expected and with bypassed oil.
9. The most recent well, the Osborn Heirs University Lands Tunis Creek Unit Well No. 308, encountered a thick section of the Thirtyone Formation chert between 6574 and 6813 feet.
10. Well spacing of 330-660 feet is standard for 20 acre density.

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 amendments to the field rules will prevent waste, protect correlative rights, and promote conservation.

EXAMINER'S RECOMMENDATION

Based on the above findings and conclusions, the examiner recommends that the requested rule amendments be adopted for the Tunis Creek (Devonian) Field.

Respectfully submitted,

Margaret Allen
Technical Hearings Examiner

Date of Commission Action: January 9, 2001