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**THE APPLICATION OF OCCIDENTAL PERMIAN LTD. FOR TEMPORARY FIELD RULES AND MER ALLOWABLE IN THE ANTON-IRISH (WOLFCAMP) FIELD, HALE COUNTY, TEXAS**

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

**Procedural history**

Application received: July 5, 2001

Hearing held: August 2, 2001

**Appearances**

	Representing
Tim George	Occidental Permian Ltd.
Rick Foppiano	
Michael B. Smith	
Phil Patman	Devon Energy Production Co.

**EXAMINER'S REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

Occidental Permian is seeking the following temporary field rules:

1. Designated interval from 6574 feet (measured depth) to -3327 feet (subsea) as shown on the log of the Occidental Permian Snead Lease Well No. 1;
2. 467-933 feet well spacing;
3. 80 acre proration units with 40-acre tolerance for the last well on a lease, and
4. allocation based on acreage.

Occidental originally requested 660-1320' well spacing. Devon Energy already has permits for wells less than 660 feet from lease lines and asked that well spacing of 467-933' be adopted. Occidental agreed to this requested change.

**DISCUSSION OF THE EVIDENCE**

The Anton-Irish (Wolfcamp) Field was discovered in May of 2001, with the completion of the Occidental Permian Snead Well No. 1. This well was completed from 6615 to 6656 feet, open hole, with an initial potential was 219 BOPD and 10 MCF/D, with no water. The flowing tubing pressure was 235 psi and initial bottomhole pressure was estimated at 2566 psi. The well is capable of producing over 1000 BOPD, though it is now producing 400 BOPD, with a flowing tubing pressure over 200 psi.

Occidental already has four new drilling permits for this field and Devon has two. Occidental found Devon's requested spacing of 467-933 feet reasonable because of the numerous surface obstructions. The Anton-Irish (Wolfcamp) Field is located underneath the Anton-Irish (Clear Fork) Field which is undergoing tertiary recovery. The extensive surface infrastructure of that tertiary CO<sub>2</sub> flood limits the surface locations available for wells in the Anton-Irish (Wolfcamp) Field.

The productive interval in the Snead No. 1 extends from the top of the Wolfcamp at 6574 feet (measured depth) to the total depth of the discovery well at 3327 feet below sea level (KB elevation was 3433 feet). Based on log data, the porosity is 8.5%, net pay is 20 feet and water saturation is 43%. The reservoir is dolomite and located on an anticline. The pressure draw down during production is only 15 psi, and the applicant believes there is a strong water drive. Assuming 45% recovery, volumetric calculations indicate that there are 257,000 barrels of recoverable oil underneath 80 acres.

Occidental believes that the reservoir produces from secondary porosity due to fractures and vugs. For this reason, the volumetric calculations may be inaccurate. The analogous Roaring Springs (Permo-Penn) Field wells produced an average of 421,000 barrels of oil on 80 acre density. Infill drilling in that field on 40 acres resulted in little incremental oil, indicating that wells were draining about 80 acres. The Anton-Irish (Wolfcamp) reservoir is deeper and thinner than the Roaring Springs (Permo-Penn) Field. Based on the ratio of the different thicknesses, wells in the Anton-Irish (Wolfcamp) Field may be able to produce as much as 347,000 BO.

The discovery well can produce 400 BOPD without causing waste. The reservoir bubble point is between 220 and 400 psi. This, along with the pressure low draw down, prevents gas in the reservoir from coming out of solution. The well is producing only 6 to 8 MCF/D and the lack of water production shows no evidence of water coning. Allocation based on acreage will protect correlative rights.

### **FINDINGS OF FACT**

1. Notice of this hearing was given to all operators in the field and to all operators and unleased mineral interest owners of tracts offsetting the discovery tract on June 30, 2001.
2. The discovery well, the Occidental Permian Snead Well No. 1, was completed open hole from 6615 to 6656 feet (true vertical depth) on May 28, 2001.
3. The initial potential of this well was 219 BOPD and 10 MCF/D, with no water, at a bottomhole pressure of 2566 psi.
4. Temporary rules specifying 80 acre units with 40 acre tolerance for the last well on a lease are appropriate for a period of 18 months.
  - a. Volumetric calculations indicate 257,000 barrels of recoverable oil underneath 80 acres.
  - b. Analogous wells in the nearby Roaring Springs (Permo-Penn) Field have produced an average of 421,000 barrels of oil while draining about 80 acres.
  - c. Based on the ratio of pay thickness between the Anton-Irish (Wolfcamp) and Roaring

Springs (Permo-Penn) Field, wells in the subject field could produce as much as 347,000 BO.

- d. The discovery well is capable of production 1000 BOPD though it is now producing only 400 BOPD
5. Well spacing of 467-933 feet will facilitate locating wells between the surface equipment and flow lines present for the CO<sub>2</sub> flood of the Anton-Irish (Clear Fork) Field.
6. The productive Wolfcamp section in this reservoir extends from 6574 feet (measured depth) to the total depth of the discovery well at 3327 feet below sea level.
7. Allocation based on acreage will protect correlative rights.
8. An MER of 400 BOPD will not cause waste.
  - a. The discovery well flows 400 BOPD with only 15 psi of draw down in flowing tubing pressure.
  - b. The bubble point pressure is low, 220 to 400 psi, and the well produces no significant amounts of gas.
  - c. The reservoir probably has a water drive though the discovery well is still producing water free.

#### **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.
4. The proposed MER of 400 BOPD will not cause waste and will protect correlative rights.

#### **EXAMINER'S RECOMMENDATION**

Based on the above findings and conclusions, the examiner recommends that the temporary field rules for the Anton-Irish (Wolfcamp) Field, as set out in the attached order, be approved and reviewed in 18 months. An MER of 400 barrels of oil per day should be adopted and all overproduction for the field canceled.

Respectfully submitted,

Margaret Allen  
Technical Hearings Examiner

Date of Commission Action: September 6, 2001