

**OIL AND GAS DOCKET NO. 08-0225304**

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**THE APPLICATION OF SEABOARD OIL COMPANY FOR TEMPORARY FIELD RULES  
IN THE DOUBLE E (BELL CANYON) FIELD, WARD COUNTY , TEXAS**

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

**Procedural history**

Application received: June 28, 2000

Hearing held: August 3, 2000

**Appearances**

William Black

Ted Fowler

Ed Runyon

Representing

Seaboard Oil Company

**EXAMINER'S REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

Seaboard Oil Company is seeking the following temporary field rules:

1. Designated interval from 4956 to 5120 feet as shown on the log of the Seaboard Oil Company Johnson Lease Well No. 1;
2. 330-660 feet well spacing;
3. 40 acre proration units with 20-acre optional units, and
4. allocation based on acreage.

**DISCUSSION OF THE EVIDENCE**

The Double E (Bell Canyon) Field was discovered in June of 1999, with the completion of the Seaboard Oil Company Johnson Well No. 1. The well was perforated from 4982 to 5020 feet and its initial potential was 21 BOPD and 165 BWPD. The bottomhole pressure was estimated at 1305 psi. Cumulative production from the discovery well has been 3103 barrels of oil and 6566 MCF of gas.

The second well in the field, the Altah Mae No. 1, was completed in December of 1999, with an initial potential of 18 BOPD and 174 BWPD. Its cumulative production is 1855 barrels of oil and

1854 MCF. A third well, the Johnson No. 2 is now awaiting completion.

The productive Bell Canyon interval extends from 4956 to 5120 feet as shown on the log of the Johnson No. 1. A cross section of the three field wells shows the sands correlate easily from well to well but that porosity pinchouts are common. A sandstone that is productive in one well may be present but tight in the next well. The applicant believes that the Bell Canyon sands in this field are turbidites deposited within a submarine channel that was only about 1200 feet wide. One half mile downdip, the Quito, West (Delaware) Field produces from the distributory fan turbidites that were funneled onto the ocean floor through this submarine channel. The Double E (Bell Canyon) Field was discovered by Seaboard on a structural nose that extends northeast of the Quito, West field. Seaboard believes that the channel became a structural high long after deposition of this sandstone, due to differential compaction between the channel sands and the surrounding fine-grained deposits.

Seaboard determined the sand properties in each of five sandstones within the designated interval. Their porosity ranges from 20 to 24% and the permeabilities are between 5 and 10 md. The pay thicknesses in the various sandstones range from 10 to 35 feet. Not every sand is productive in each well. The Altah Mae well encountered less than 20 feet of net pay while the Johnson wells each have at least 90 feet of pay. Seaboard believes that the Altah Mae well encountered only the edge of the channel and will be a poorer well than the other two.

To estimate drainage area, the applicant assumed 54 feet of net pay and that the recovery factor would be only 10% recovery due to low bottom-hole pressure. Volumetric calculations indicate 86,000 barrels of recoverable oil underneath 20 acres and 171,000 underneath 40 acres. Because of the short production history in the subject field, Seaboard used analogous wells in the Quito, West (Delaware) Field to justify its requested field rules.

These other Bell Canyon wells have produced enough oil to drain 40 acres by producing steadily for many years. For example, Seaboard's P.C. Hill Lease Well No. A-1 has produced 185,000 barrels since 1966 and is still producing 17 BOPD. The P.C. Hill No. D-1 has produced 202,000 barrels since 1966 and is still producing 45 BOPD. A third P.C. Hill well, No. D-2, was completed in 1969, has cumulative production of 173 barrels, and is now producing 23 BOPD.

The applicant believes that the better wells in the subject field will be able to drain 40 acres though it may take a long time. A well encountering only the edge of a channel will probably drain fewer acres and therefore the applicant is requesting 20-acre optional units. The standard spacing rule for 20 acre units is 330 feet from lease lines and 660 feet between wells. 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, 2000.
2. Notice of this hearing was published on July 6, 13, 20 and 27, 2000, in the Monahans News,

a newspaper of general circulation in Ward County.

3. The discovery well, the Johnson Well No. 1, was perforated from 4982 to 5020 feet in the Bell Canyon Member of the Delaware Formation in June, 1999, and was tested at a rate of 21 BOPD.
4. The initial potential of the second well, the Altah Mae No. 1, was 18 BOPD but this well has fewer feet of pay than the discovery well and is expected to be a poorer well.
5. The third well now being completed in this field, the Johnson No. 2, encountered the same main channel as the discovery well.
6. Temporary rules specifying 40 acre units with optional 20 acre units are appropriate for a period of 18 months.
  - a. Volumetric calculations indicate that 171,000 barrels of oil are recoverable from underneath 40 acres.
  - b. Analogous wells in the nearby Quito, West (Delaware) Field have produced steadily for 35 years and each recovered 170,000 to 200,000 barrels of oil.
  - c. At least one well encountered only the edge of the channel in the Double E (Bell Canyon) Field and this well is expected to drain less than 40 acres.
7. Well spacing of 330-660 feet is standard for 20-acre optional units.
8. The productive Bell Canyon section in this reservoir extends from 4956 to 5120 feet as shown on the log of the Johnson 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 Double E (Bell Canyon) Field be approved and reviewed in 18 months.

Respectfully submitted,

Margaret Allen  
Technical Hearings Examiner

Date of Commission Action: August 22, 2000

Exhibits

1. Publication notice
2. Map
3. History
4. Reservoir characterization
5. Cross section
6. Type log
7. Proration schedule
8. Well table
9. Reservoir parameters
10. Reserve estimates