

**OIL AND GAS DOCKET NO. 8A-0227868**

---

**THE APPLICATION OF BURNETT OIL COMPANY, INC. FOR FIELD RULES,  
RHOMBOCHASM (BEND CONGLOMERATE) FIELD, COTTLE COUNTY, TEXAS**

---

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

**Procedural history**

Application received: March 21, 2001

Hearing held: April 23, 2001

**Appearances**

Susan Zachos	Representing
Sterling Randolph	Burnett Oil Company, Inc.

Mark Stephenson	Mitchell Energy Company-LP
-----------------	----------------------------

**EXAMINER'S REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

Burnett is seeking the following permanent field rules for the Rhombochasm (Bend Conglomerate) Field:

1. 467-1200' well spacing for wells on 40 acres and 467-660' well spacing for wells on 20 acres;
2. 40 acre gas proration units with 10% tolerance and a maximum diagonal of 2100 feet; optional units of 20 acres; and
3. allocation based 10% on acreage and 90% on deliverability.

The examiner suggested well spacing be consistent with 20-acre option units (330-660'), and also requested the applicant designate a field interval.

**DISCUSSION OF THE EVIDENCE**

The Rhombochasm (Bend Conglomerate) Field was discovered September 9, 1994, with the completion of the Burnett's A.B. Windfohr "10" Lease Well No. 1. The field was designated as producing from a tight gas formation in 1997, and Burnett asked that the same correlative interval

be used as a field rule. This interval is found between 7921 and 8046 feet in Burnett's A.B. Windfohr "10" Lease Well No. 6. There are 23 wells in the field, twenty operated by Burnett and three operated by Gunn Oil Company. Two wells are now being completed and one more being drilled.

The Rhombochasm (Bend Conglomerate) reservoir is located on a doubly-plunging east-west trending anticline. The field is a flower structure horst block, upthrown between two east-west trending faults. There are multiple producing sandstones that were deposited in an alluvial fan delta, sourced from the north. Diagenesis has reduced the permeability to about 0.02 md. The number of stacked sands increases westward but permeability also decreases in that direction.

Cumulative field production is 17 BCF and 158,000 BC. Average porosity is 12.6%, water saturation is 22% and the net pay averages 75 feet. The initial bottom-hole pressure was 3202 psi. The first three wells drilled found 5, 9 and 8 separate sandstones in the Bend/Atoka formation. Burnett began taking RFT pressure measurements in each sandstone of subsequent wells. In most of the subsequent wells, none of the sandstones showed any pressure depletion. In Well No. 21, drilled in December of 2000, only four of the seven sandstones tested while drilling showed any pressure depletion.

A cross section shows the difficulty in correlating the sandstones between wells on the basis of log characteristics. The pressure data shows that most of the sandstones are not in communication anyway. The field is almost fully developed on 40-acre density. Burnett believes that infill wells on 20-acre density will be able to encounter sandstones that cannot be drained by the existing wells.

There is no purpose in making the 20-acre optional units temporary since any infill wells could not be undrilled when the rules were reviewed in 18 months. Well spacing of 330-660' is standard for 20-acre optional units. A two-factor allocation formula, such as the one proposed, is necessary for fields with multiple lenticular reservoirs.

### **FINDINGS OF FACT**

1. Notice of this hearing was given to all operators in the field and to all operators completing wells in the field, on April 12, 2001.
2. The field was discovered in 1994, and now has 23 wells, 20 of them operated by the applicant.
3. Cumulative production is 17 BCF and 158,000 BC, and the field is almost fully drilled on 40-acre density.
4. The field produces from multiple, low-permeability sandstones that are difficult to correlate and generally not in pressure communication from well to well.
5. The initial reservoir pressure was 3202 psi, and there has not been much pressure depletion in most of the stacked sandstones since the field was discovered.

6. Infill wells drilled on 20-acre density will be able to produce sandstones between the existing wells that cannot be drained under the current statewide density rule.
7. Well spacing of 330-66 feet is standard for 20-acre optional units.
8. The pay interval that was designated as a tight gas sand extends from 7921 feet to 8046 feet, as shown on the log of Burnett's A.B. Windfohr Lease Well No. 6.
9. A two-factor allocation formula is required by statute as there are multiple, lenticular reservoirs in the Rhombochasm (Bend Conglomerate) Field.

**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 field rules will prevent waste, protect correlative rights within the field, and promote orderly development of the reservoirs.

**EXAMINER'S RECOMMENDATION**

Based on the above findings and conclusions, the examiner recommends that the requested field rules for the Rhombochasm (Bend Conglomerate) Field be approved as permanent rules.

Respectfully submitted,

Margaret Allen  
Technical Hearings Examiner

Date of Commission Action: May 8, 2001.