

**OIL AND GAS DOCKET NO. 03-0232355**

---

**THE APPLICATION OF BRIGHAM OIL & GAS LP FOR MER AND INCREASED GAS-OIL RATIO AUTHORITY FOR ITS BURKHART LEASE, WELL NO. 1R, PROVIDENCE (FRIO) FIELD, MATAGORDA COUNTY, TEXAS**

---

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

**Procedural history**

Application received: August 30, 2002  
Hearing held: November 7, 2002

**Appearances**

Dick Schmidt  
George C. Neale

Representing  
Brigham Oil & Gas LP

**EXAMINER'S REPORT AND PROPOSAL FOR DECISION**

**STATEMENT OF THE CASE**

Brigham Oil & Gas ("Brigham") wants to produce its Burkhart Lease Well No. 1R, in the Providence (Frio) Field, Matagorda County, Texas, under increased gas-oil ratio authority at a daily rate of 1650 BO and 10 MMCF. Brigham also requests that the overproduction for this well be canceled. The examiner recommends approval of the application.

**DISCUSSION OF THE EVIDENCE**

The Providence (Frio) Field was discovered in January, 2002, with the completion of Brigham's Staubach Lease Well No. 1. The discovery well's current potential is 955 BOPD at a gas/oil ratio of 2151 cubic feet per barrel. Field rules adopting 160-acre density and an MER allowable of 1100 BOPD were approved April 9, 2002, under Docket No. 03-0230631. The field produces from an upthrown fault block on the northwest side of a down-to-the-coast fault.

Brigham completed its Burkhart Lease Well No. 1R on July 20, 2002. The initial potential of this well was 1413 BOPD with 8117 MCF and 8 BWPD. Cumulative production is 146,670 BO and 887 MMCF of gas. The well began accumulating gas overage immediately and the gas overproduction is about 607 MMCF. Oil overage began accruing in August and is now about 38,000 barrels.

The Burkhart No. 1R was step-rate tested between September 25 and October 27, 2002. The results of this test show the well can produce efficiently at higher gas and oil rates, and are reported below.

Choke size (inches)	Average daily oil rate (barrels)	Water cut (%)	Average daily gas rate (MCF)	Flowing tubing pressure (psi)	Gas/oil ratio (cubic feet per barrel)
31/64th	1618	1%	9951	2511	6150
24/64th	1402	1%	8444	3309	6023
23/64th	1440	1%	8645	3408	6005
19.5/64th	1111	1%	6226	3693	5904
9.5/64th	424	1%	5438	4216	12,825

When the choke size was reduced, the oil and water production dropped while the gas/oil ratio did not decrease significantly. Only on the smallest choke size did the gas rate approach the maximum allowable rate of 2200 MCF/D and the gas/oil ratio was much less efficient on this choke size.

#### **FINDINGS OF FACT**

1. Notice of this hearing was issued to Brigham Oil & Gas LP (“Brigham”) the only operator of record in the Providence (Frio) Field on October 4, 2002.
2. The Providence (Frio) Field was discovered in January, 2002, with the completion of Brigham’s Staubach Well No. 1.
3. Brigham completed the second well in the Providence (Frio) Field, the Burkhardt Lease Well No. 1R, on July 20, 2002.
4. The initial potential of this well was 1413 BOPD, with 8117 MCF and 8 BWPD, and its cumulative production after four months is 146,670 BO and 887 MMCF of gas.
5. Field rules specify 160-acre proration units with an MER allowable of 1100 BOPD and daily gas limit of 2200 MCF.
6. The subject well was step-rate tested between September 25 and October 27, 2002, and the results show that it produces efficiently at higher oil and gas rates.
  - a. On the largest choke size of 31/64th inches, the average daily production was 1618 BO and 9950 MCF/D, for a gas/oil ratio of 6150 cubic feet per barrel.
  - b. The gas/oil ratio did not decrease significantly as the choke size was reduced from 31/64th to 19.5/64th inches.
  - c. Only on the smallest choke size did the gas rate approach the maximum allowable rate of 2200 MCF/D and here the gas/oil ratio increased significantly.

7. Cancellation of this well's overproduction will not harm the correlative rights as Brigham is the only operator in the 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. Allowing the Brigham Oil & Gas Burkhart Lease Well No. 1R to produce at a maximum daily oil rate of 1650 barrels and gas rate of 10 MMCF will not cause waste and will promote conservation.

**EXAMINER'S RECOMMENDATION**

Based on the above findings and conclusions, the examiner recommends that Brigham Oil & Gas's request to produce its Burkhart Lease Well No. 1R in the Provedence (Frio) Field at a maximum daily oil rate of 1650 barrels and gas rate of 10 MMCF be granted.

Respectfully submitted,

Margaret Allen  
Technical Hearings Examiner

Date of Commission Action: December 3, 2002