

**THE APPLICATION OF HUNT PETROLEUM CORPORATION TO ESTABLISH AN MER AND INCREASED NET GAS/OIL RATIO AUTHORITY FOR THE BP AMERICA PRODUCTION LEASE, WELL NO. 2, ARRIOLA (YEGUA) FIELD, HARDIN COUNTY, TEXAS**

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

**Procedural history**

Application received: October 30, 2003

Hearing held: January 7, 2004

**Appearances**

George C. Neale  
Mark Swisher

Representing:  
Hunt Petroleum Corporation

**EXAMINERS' REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

Hunt Petroleum Corporation ("Hunt") wants to produce its BP America Production Lease Well No. 2, Arriola (Yegua) Field, Hardin County, Texas, at daily rates of 220 BO and 880 MCF.

**DISCUSSION OF THE EVIDENCE**

The BP America Production Lease Well No. 2 is the second oil well completed in the Arriola (Yegua) Field during 1993. The field was discovered in 1953 at 9011', but was inactive before Hunt drilled the BP America Production Lease Well No. 1. Well No. 1 was completed slightly before Well No. 2 was completed on the same lease, but No. 1 has not yet been connected to a pipeline. Well No. 1 is slightly lower in elevation than Well No. 2, and Well No. 1 appears to have somewhat poorer quality sand. The initial potential of Well No. 1 is 125 BOPD, at a gas/oil ratio of 936 cubic feet per barrel.

The BP America Production No. 2 is perforated from 7460' to 7469' in a sandstone within the Yegua Formation, known as the EY-1. The initial potential was 384 BOPD and 1151 MCF/D, with no water. The top allowable for wells at this depth is 137 BOPD and 274 MCF/D. The oil allowable of the BP America Production No. 2 is penalized to 91 BOPD, due to due to high gas/oil ratio.

Hunt's evidence included a step-rate test conducted on its BP America Production No. 2 between December 3 and 27, 2003. The results are shown below:

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<b>Choke size (inches)</b>	<b>Average oil rate (barrels per day)</b>	<b>Average gas rate (MCF per day)</b>	<b>Gas/oil ratio (cubic feet per barrel)</b>	<b>Average flowing tubing pressure (psi)</b>
8/64	217	856	3952	3312
6.5/64	136	540	4237	3290
5/64	62	251	4114	3257
7/64	155	624	4041	3163

This test shows that the BP America Production No. 2 produces as efficiently at higher rates as at the allowable rate. Hunt believes the well could probably produce even more but it began producing water on the largest choke size during the test. Hunt had originally requested rates of 300 BOPD and 1000 MCF/D, but has decided to limit its request to 220 BOPD and 880 MCF/D to prevent any further increase in water production.

Both wells on the field's proration schedule are operated by Hunt and are on the same lease. Well No. 2 is the only producing well in the field now and cancellation of overproduction will not harm correlative rights.

**FINDINGS OF FACT**

1. Notice of this hearing was issued to Hunt Petroleum Corporation, the only operator of record in the Arriola (Yegua) Field, on December 1, 2003.
2. The Hunt Petroleum Corporation BP America Production No. 2 is the only well now producing in the Arriola (Yegua) Field, although the applicant expects to bring another well onto production soon.
3. The BP America Production No. 2 was perforated from 7460' to 7469' in October, 2003, and tested at an initial rate of 384 BOPD and 1151 MCF/D, without water.
5. The top daily allowable for wells at this depth is 137 BO and 274 MCF.
6. The subject well was step-rate tested between December 3 and 27, 2003, and the results show that it produces as efficiently at daily rates up to 220 BO and 880 MCF of gas as it does at the allowable rates.
  - a. On the smallest choke size of 5/64th inches, the average daily production was 62 BO and 251 MCF/D, for a gas/oil ratio of 4114 cubic feet per barrel.
  - b. On a choke size of 6.5/64th inches, the average daily production was 136 BO and 540 MCF/D, for a gas/oil ratio of 4237 cubic feet per barrel.

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- c. On a choke size of 7/64th inches, the average daily production was 155 BO and 624 MCF/D, for a gas/oil ratio of 4041 cubic feet per barrel.
  - d. On the largest choke size of 8/64th inches, the average daily production was 217 BO and 856 MCF/D, for a gas/oil ratio of 3952 cubic feet per barrel.
  - e. Still larger choke sizes are expected to cause an unacceptable increase in water production.
7. Cancellation of this well's overproduction will not harm the correlative rights as the subject well is the only active well in the field.

**CONCLUSIONS OF LAW**

- 1. Proper notice was given to all necessary parties as required by applicable statutory and regulatory provisions.
- 2. All things have been done or occurred to give the Railroad Commission jurisdiction to resolve this matter.
- 3. Approval of increased oil and gas allowable for the Hunt Petroleum Corporation BP America Production Lease Well No. 2, in the Arriola (Yegua) Field will prevent waste, protect correlative rights and promote conservation.
- 4. Cancellation of the overproduction of the Hunt Petroleum Corporation BP America Production Lease Well No. 2, in the Arriola (Yegua) Field, will not harm correlative rights.

**EXAMINER'S RECOMMENDATION**

Based on the above findings and conclusions, the examiner recommends approval of the request of Hunt Petroleum Corporation to produce its BP America Production Lease Well No. 2, in the Arriola (Yegua) Field, at daily rates up to 220 barrels of oil and 880 MCF of gas.

Respectfully submitted,

Margaret Allen  
Technical Hearings Examiner