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**THE APPLICATION OF ETOCO INCORPORATED FOR INCREASED NET GAS OIL RATIO AUTHORITY FOR ITS STATE OF TEXAS SHALLOW UNIT LEASE, WELL NO. 1R, SRALLA ROAD (JACKSON, W.) FIELD, HARRIS COUNTY, TEXAS**

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

**Procedural history**

Application received: April 30, 2001

Hearing held: June 1, 2001

**Appearances**

	Representing
James Bostic	Etoco, Incorporated
Terry Payne	
John Soule	Columbus Energy Corp.

**EXAMINER'S REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

Etoco, Incorporated, is requesting that its State of Texas Shallow Unit Lease Well No. 1R in the Sralla Road (Jackson, W.) Field, be allowed to produce under increased net gas/oil ratio authority, with a daily gas limit of 1400 MCF. Etoco also requests that the field be balanced on the day of the final order. At the same hearing, Columbus Energy requested that its Jones Unit Well No. 1 in the same field be given the same daily gas limit. Etoco is the only other operator in the field and it waived notice of Columbus' application.

**DISCUSSION OF THE EVIDENCE**

In October of 2000, Columbus Energy sought increased net gas/oil ratio authority for its Jones Unit Lease Well No. 1, in the Sralla Road (Jackson, W.) Field. The application was protested by Etoco Inc., who wanted to postpone the hearing until it completed its State of Texas Shallow Unit Well No. 1R. Etoco agreed not to protest Columbus' application at that time as long as the Jones Unit No. 1 did not get a daily gas limit above 1175 MCF. On November 9, 2000, the Jones Unit No. 1 received a daily gas limit of 1175 MCF, under Docket No. 03-0226202.

Etoco has now drilled and tested its State of Texas Shallow Unit Well No. 1R and is requesting a daily gas limit of 1400 MCF. Columbus is requesting that the daily gas limit for the Jones Unit No. 1 be increased to 1400 MCF at the same time. The evidence previously presented

by Columbus, in Oil & Gas Docket No. 03-0226202, was incorporated into this hearing to justify Columbus' request.

The Sralla Road (Jackson, W.) Field was discovered in 1995, and has nine gas wells and six oil wells. The field was developed from northeast to southwest along a fault. The oil allowable is 402 BOPD with a daily gas limit of 804 MCF, while the 49(b) allowable for the gas wells is 1401 MCF per day.

Until Etoco's Well No. 1R was completed in February of 2001, Columbus' Jones Unit No. 1 was the most southwesterly well in the field. These two wells are apparently fault-separated from the other field wells. Etoco's Bishop Unit Well No. 1 is a gas well between the subject wells and the other wells in the Sralla Road (Jackson, W.) Field. In 1999, the Bishop No. 1 encountered virgin pressure and was granted a new field discovery as the Sralla Road (Jackson, SW) Field.

In June of 1998, the Jones Unit No. 1 oil well was placed in the Sralla Road (Jackson, W.) Field, though it's virgin pressure of 6077 psi entitled it to a new field discovery. When Etoco's Well No. 1R was completed in April of 2001 it encountered a bottom-hole pressure of 4878 psi, presumably depleted by production from the Jones Unit No. 1.

The Etoco Well No. 1R is perforated 52 feet lower than the Jones Unit (between 8498 and 8506 feet true vertical depth). Both wells produce oil structurally higher than either the gas wells in the Sralla Road (Jackson, W.) Field or Etoco's Bishop No. 1 gas well in the (Jackson, SW) Field. There are six feet of net pay in the Jones Unit No. 1 and eight feet in Etoco's Well No. 1R; typical sand thicknesses for wells in the Sralla Road (Jackson, W.) Field.

The initial potential of the Jones Unit No. 1 was 249 BOPD, with a gas oil ratio of 911 cubic feet per barrel. The gas/oil ratio in the Jones Unit No. 1 has increased gradually to over 13,000, as the reservoir pressure has depleted from 6100 to 5000 psi. The Jones Unit No. 1 has produced 109,000 BO and 512 MMCF.

Prior to stimulation, the initial potential of the new well, Etoco's No. 1R, was 76 BOPD and 525 MCF per day, for a gas/oil ratio of 6899 cubic feet per barrel. This well was fracture-treated on April 22, and step-rate tested until May 31, 2001. When produced on a 7/64th inch choke, Well No. 1R averaged 48 BOPD with a gas/oil ratio of 16,700 cubic feet per barrel. On an 10/64th inch choke, it averaged 67 BOPD with a gas/oil ratio of 17,910. On an 11/64th inch choke, the well produced an average of 106 BOPD and 1477 MCF per day. The average gas/oil ratio on this choke was 13,933 cubic feet per barrel, showing that higher producing rates result in lower gas/oil ratios.

The Jones Unit No. 1 was tested back in October and November of 2000, and these tests showed this well also had a better gas/oil ratio at higher producing rates. Its current daily gas limit of 1175 MCF was based on the average rates of 141 BOPD and 1188 MCF per day, obtained on a 9/64th inch choke. The average gas/oil ratio on this choke size was 8481 cubic feet per barrel. During the 2000 test, an even better rate was obtained on a choke size of 9.5/64th inches. Here the average daily rates were 153 barrels of oil and 1317 MCF of gas, for a nearly unchanged gas/oil ratio

of 8610. Columbus believes that this test is sufficient to show that the Jones Unit No. 1 can produce efficiently at the daily gas limit requested by Etoco in this hearing. The requested daily gas limits for these two wells are the same as the daily gas allowable for gas wells in the field.

Etoco's well accumulated a small amount of overproduction while it was being tested, and Etoco has requested that this be canceled. The Jones Unit No. 1 may have also accumulated a small amount of overproduction and the overage for both wells should be canceled at the same time. These are the only two wells in this particular reservoir compartment, and correlative rights would not be harmed by the simultaneous cancellation of this overproduction.

### FINDINGS OF FACT

1. Notice of this hearing was issued to operators of record in the Sralla Road (Jackson, W.) Field on May 9, 2001.
2. The Sralla Road (Jackson, W.) Field has nine gas and six oil wells, all operated by either Columbus Energy or Etoco, Incorporated.
3. The daily allowable for oil wells in the field is 402 barrels of oil and 804 MCF, while the 49(b) allowable for the gas wells is 1401 MCF per day.
4. Columbus' Jones Unit Well No. 1, the first well in this particular reservoir compartment, was granted a daily gas limit of 1175 on November 9, 2000.
5. The Jones well's cumulative production is 109,000 BO and 512 MMCF of gas.
6. The Etoco State of Texas Shallow Unit Well No. 1R was completed in the same reservoir compartment as the Jones Unit No. 1 during April of 2001.
7. A step-rate test conducted after the fracture stimulation of Eotoc's well showed that it can produce with a higher gas limit and not waste reservoir energy.
  - a. When produced on a 7/64th inch choke, Well No. 1R averaged 48 BOPD with a gas/oil ratio of 16,700 cubic feet per barrel.
  - b. On an 10/64th inch choke, it averaged 67 BOPD with a gas/oil ratio of 17,910.
  - c. On an 11/64th inch choke, the well produced an average of 106 BOPD and 1477 MCF per day, for a gas/oil ratio of 13,933 cubic feet per barrel.
8. The 2000 step-rate test on the Jones Unit No. 1 showed that it could also produce efficiently at a gas limit of 1400 MCF.
9. The initial bottom-hole pressure of the Jones Unit No. 1, measured in 1998, was virgin pressure at 6077 psi, when the bottom-hole pressure in the other field wells had been depleted to about 4000 psi.

10. The initial reservoir pressure of the State of Texas Shallow Unit No. 1 was 4878 psi.
9. The State of Texas Shallow Unit No. 1 accumulated overproduction while it was being tested and making this up would mean producing the well at a less efficient rate.
10. The Jones Unit No. 1 is the only other well in this reservoir compartment and canceling any overproduction for this well at the same time 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. Granting increased gas oil ratio authority will prevent waste and protect correlative rights.

#### EXAMINER'S RECOMMENDATION

Based on the above findings and conclusions, the examiner recommends that increased net gas/oil ratio authority, with a daily gas limit of 1400 MCF, be approved for Etoco, Incorporated's State of Texas Shallow Unit Lease Well No. 1R and for Columbus Energy Corporation's Jones Unit Well No. 1, both in the Sralla Road (Jackson, W.) Field. All overproduction for these wells should also be canceled.

Respectfully submitted,

Margaret Allen  
Technical Hearings Examiner

Date of Commission Action: June 21, 2001