

THE APPLICATION OF BLACKBRUSH O & G, INC. FOR INCREASED NET GAS-OIL RATIO AUTHORITY FOR EACH WELL IN THE PEARSALL (BUDA LIME) FIELD, FRIO, DIMMIT, LA SALLE AND ZAVALA COUNTIES, TEXAS

Heard by: Richard D. Atkins, P.E. - Technical Examiner

Date of Hearing: October 23, 2008

Appearances:

Representing:

George C. Neale
Ed Mainka
Chad Burkhardt
Ryan Williamson

Blackbrush O & G, Inc.

Damien Larson

CML Exploration, LLC

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Blackbrush O & G, Inc. requests an increased net gas-oil ratio authority with a casinghead gas limit of 800 MCFGPD for each well in the Pearsall (Buda Lime) Field, Frio, Dimmit, La Salle and Zavala Counties, Texas. Blackbrush also requests that all overproduction in the field be canceled.

This application was unopposed and the examiner recommends approval of the increased net gas-oil ratio authority with a daily gas limit of 800 MCFGPD for each well in the field and cancellation of all overproduction.

DISCUSSION OF EVIDENCE

The Pearsall (Buda Lime) Field was discovered in 1961 at a depth of approximately

5,950 feet. There are currently seven producing oil wells and three gas wells in the field and Blackbrush recently drilled three new wells that are not on the proration schedule. The top allowable in the field is 102 BOPD with an allowable gas-oil ratio of 2,000 cubic feet per barrel.

The Pedro Morales Lease, Well No. 4 was completed in October 2007 with perforations in the Buda Lime from 7,689 to 7,697 feet. These perforations are near the bottom of the Buda Lime and the well could not be recompleted any deeper to lower the GOR. On initial test, the well produced at a rate of 23 BOPD, 678 MCFD and 0 BWPD. The initial GOR was 29,000 cubic feet per barrel. In May 2008, the well was granted permission to produce under increased net gas-oil ratio with a casinghead gas limit of 800 MCFGPD.

The gross pay section in the Pearsall (Buda Lime) Field is approximately 130 feet thick. The primary drive mechanism for the reservoir is a solution gas drive, which results in decreasing oil production, increasing gas production and higher well GORs. There is no gas cap in the field, as the three gas wells are producing down dip from the oil production.

New wells usually potential flowing and soon load up with fluid and are placed on rod pump. Currently, all but one well is on rod pump and a variable rate test was not performed on the pumping wells. The wells average about 38 BOPD and 250 MCFD, with a gas-oil ratio of about 6,600 cubic feet per barrel. Restricting the gas production from the pumping wells is not necessary to prevent waste.

In order to determine rate sensitivity, Blackbrush also tested the only flowing well, the Morales Lease, Well No. 5, during August through October 2008. The results of the testing are summarized as follows:

<u>Choke</u>	<u>Oil Rate</u>	<u>Gas Rate</u>	<u>FTP</u>	<u>GOR</u>
40/64	101 BOPD	545 MCFD	104 psi	5,396 cuft/bbl
32/64	90 BOPD	636 MCFD	106 psi	7,066 cuft/bbl
21/64	74 BOPD	584 MCFD	54 psi	7,892 cuft/bbl
18/64	68 BOPD	840 MCFD	40 psi	12,353 cuft/bbl

The test shows that when the choke size was reduced from 40/64ths of an inch down to 18/64ths of an inch, the well's GOR would increase and the flowing tubing pressure would decrease, indicating that the well was loading up with fluid. The lowest GOR was obtained on a choke size of 40/64ths of an inch.

The step rate test clearly demonstrates that the most efficient rate to produce wells in this reservoir is at higher gas rates, which results in the lowest gas-oil ratio. In order to maximize production and prevent waste, Blackbrush requests an increased net gas-oil ratio authority with a casinghead gas limit of 800 MCFGPD be approved for the entire field. The requested rate is slightly higher than the optimum test rate, but it will give flexibility in

producing rates to keep the wells unloaded. This will also allow for the depletion of the reservoir without any reservoir damage and will increase the ultimate recovery from the field.

Blackbrush requests that all overproduction in the field be canceled.

FINDINGS OF FACT

1. Notice of this hearing was given to all parties entitled to notice at least ten days prior to the date of hearing.
2. The Pearsall (Buda Lime) Field was discovered in 1961. The top allowable in the field is 102 BOPD with an allowable gas-oil ratio of 2,000 cubic feet per barrel.
3. The primary drive mechanism for the reservoir is a solution gas drive, which results in decreasing oil production, increasing gas production and higher well GORs.
4. New wells usually potential flowing and soon load up with fluid and are placed on rod pump. Restricting the gas production from the pumping wells is not necessary to prevent waste.
5. In May 2008, the Pedro Morales Lease, Well No. 4 was granted permission to produce under increased net gas-oil ratio with a casinghead gas limit of 800 MCFGPD.
6. A step-rate test on the Pedro Morales Lease, Well No. 5 shows that when the choke size was reduced from 40/64ths of an inch down to 18/64ths of an inch, the well's GOR would increase and the flowing tubing pressure would decrease, indicating that the well was loading up with fluid.
7. The lowest GOR on Well No. 5 was obtained on a choke size of 40/64ths of an inch and production from the well is stable at an average rate of 101 BOPD and 545 MCFGPD.
8. The step rate test clearly demonstrates that the most efficient rate to produce wells in this reservoir is at higher gas rates, which results in the lowest gas-oil ratio.
9. Producing the each well in the field at rates of up to 800 MCFD will not cause waste and will allow for the depletion of the reservoir without any reservoir damage and will increase the ultimate recovery from the field.

CONCLUSIONS OF LAW

1. Notice of this hearing was given as specified in the provisions of all regulatory

codes.

2. All things have occurred or been accomplished to give the Commission jurisdiction in this matter.
3. Approval of increased net gas-oil ratio authority with a casinghead gas limit of 800 MCFD for each well in the Pearsall (Buda Lime) Field and cancellation of overproduction will not cause waste and will not harm correlative rights.

RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiner recommends that each well in the Pearsall (Buda Lime) Field be authorized to produce under net gas-oil ratio authority with a daily gas limit of 800 MCFGPD and that all accumulated overproduction for the field be canceled.

Respectfully submitted,

Richard D. Atkins, P.E.
Technical Examiner