

OIL AND GAS DOCKET NO. 7B-0271581

THE APPLICATION OF KORNYE-TILLMAN COMPANY TO CONSIDER INCREASED NET GAS-OIL RATIO DETERMINATION FOR THE BRAND JONES LEASE, WELL NO. 2, FIVE HAWKS (GRAY) FIELD, COLEMAN COUNTY, TEXAS

HEARD BY: Brian K. Fancher - Technical Examiner

DATE OF HEARING: September 23, 2011

APPEARANCES:

APPLICANT:

Dale Miller

REPRESENTING:

Kornye-Tillman Company

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Kornye-Tillman Company ("Kornye") requests authority to produce its Brand Jones Lease, Well No. 2, under increased net gas-oil ratio authority with a casinghead gas limit of 175 MCFGPD. Kornye also requests that all overproduction for the well be canceled.

This application was unopposed and the examiner recommends approval of the increased net gas-oil ratio authority with a casinghead gas limit of 175 MCFGPD and cancellation of the well overproduction.

DISCUSSION OF EVIDENCE

The Five Hawks (Gray) Field was discovered in May 1984 at a depth of approximately 3,600 feet. The subject field operates under McCulloch County Regular Field Rules that provide for 330'-933' well spacing and 20 acre oil units for oil and gas wells. The field has one producing oil well and no gas wells carried on the September 2011 proration schedules. The top allowable is 44 BOPD with an allowable gas-oil ratio of 2,000 cubic feet per barrel and a daily gas limit of 88 MCFGPD.

The Brand Jones Lease, Well No. 2, was completed in the subject field in December 2010 with perforations from 3,506 feet to 3,516 feet. On March 31, 2011, an initial well test indicated Well No. 2 produced flowing at a rate of 5 BOPD, 198 MCFGPD and 0 BOPD. The initial GOR was 39,600 cubic feet per barrel.

Currently, the top allowable in the field is forty-four (44) BOPD and eighty-eight (88) MCFGPD. The applicant indicated if Well No. 2 is required to be shut-in due to production allowable constraints, the well will load and potentially damage the producing reservoir. In an effort to prevent the shut-in each month of Well No. 2, the applicant is requesting the casing-head limitation be increased from 88 MCFGPD to 175 MCFGPD. The applicant opined that increasing the top gas allowable to the amount requested will provide for optimal production of hydrocarbons from the reservoir. Kornye testified Well No. 2 is currently flowing on 48/64" choke, producing within the field's current gas allowable; however, Kornye indicated it foresees Well No. 2 utilizing artificial lift in the near future due to the substantial decline in tubing pressure in the past few months. Further, the representative for Kornye opined when the well is shut-in, in order to be placed on pump, the well will load-up and an increase in hydrostatic head will be asserted against the producing formation. This will ultimately increase the amount of gas the well will produce once they hydrostatic head is lifted and the amount of load is decreased.

In order to determine rate sensitivity, Kornye recorded production rates for the Brand Jones Lease, Well No. 2, from April to August of 2011. The results of the testing are summarized as follows:

<u>Choke Size (in)</u>	<u>Oil Rate (bopd)</u>	<u>Gas Rate (mcfpd)</u>	<u>Water Rate (bwpd)</u>	<u>FTP (psi)</u>	<u>GOR cuft/bbl)</u>
8/64	1	163	0	768	159,000
10/64	8	162	0	280	19,343
16/64	6	145	0	300	23,090
28/64	7	97	0	263	13,971
48/64	10.5	90	0	80	8,603

The above referenced rates indicate the subject well is somewhat rate sensitive; however, based upon the different choke sizes, along with the associated data, the GORs appear to decrease as the well produces at a larger choke size. This indicates the well produces more efficiently the less the well is constrained against 100% flow. The information collected from producing the well at different rates also suggests by placing the well on pump, the subject well will further supplement production when compared to flowing the well. This is due to wellbore production by means of pumping essentially produces a wellbore at 100% flow. Kornye indicated it is the only operator in the field and the subject well is the only producing well within the subject field. In order to maximize production and prevent waste, Kornye requests an increased net gas-oil ratio authority with a casinghead gas limit of 175 MCFGPD be approved. This will allow for the depletion of the reservoir without reservoir damage, prevent oil from being left behind in the formation if the gas production is curtailed, and increase the ultimate recovery from the well.

As of August, 2011, the well is overproduced by 453 BO and 6,897 MCFG. Korny requests that the overage for the well be cancelled.

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 Five Hawks (Gray) Field was discovered in May 1984 at a depth of approximately 3,600 feet.
 - a. The field has one producing well carried on the proration schedules.
 - b. The field operates under McCulloch County Regular Field Rules that provide for 330'-933' well spacing and 20 acre oil units for oil and gas wells.
 - c. The top allowable is 44 BOPD with an allowable gas-oil ratio of 2,000 cubic feet per barrel and a daily gas limit of 88 MCFGPD.
3. The Brand Jones Lease, Well No. 2, was completed in the subject field in December 2010 with perforations from 3,506 feet to 3,516 feet. On March 31, 2011, an initial well test indicated Well No. 2 produced flowing at a rate of 5 BOPD, 198 MCFGPD and 0 BWPD. The initial GOR was 39,600 cubic feet per barrel.
4. As the choke size is increased the GOR decreases.
 - a. On an 8/64 inch choke, Well No. 2 produced flowing at a rate of 1 BOPD, 163 MCFGPD and 0 BWPD. The GOR was 159,000 cubic feet per barrel.
 - b. On a 48/64 inch choke, Well No. 2 produced flowing at a rate of 10 BOPD, 90 MCFGPD and 0 BWPD. The GOR was 8,603 cubic feet per barrel.
 - c. Well No. 2 produces more efficiently when less choke constraint is implemented.
5. Producing the well at rates of up to 175 MCFGPD will not cause waste.
6. As of August, 2011, the well is overproduced 453 BO and 6,897 MCFG.

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 the increased net gas-oil ratio authority with a casinghead gas limit of 175 MCFGPD for the Brand Jones Lease, Well No. 2, in the Five Hawks (Gray) Field and cancellation of the well's 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 the Brand Jones Lease, Well No. 2, in the Five Hawks (Gray) Field be authorized to produce under net gas-oil ratio authority with a casinghead gas limit of 175 MCFGPD and that all accumulated overproduction for the well be canceled.

Respectfully submitted,

Brian K. Fancher
Technical Examiner