September 30, 1999

**OIL AND GAS DOCKET NO. 03-0222382**

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**APPLICATION OF LGDC CORPORATION TO CONSIDER AN INCREASED NET GAS-OIL RATIO AUTHORITY FOR THE INEEDA (HACKBERRY) FIELD, JEFFERSON COUNTY, TEXAS**

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**HEARD BY:** Thomas H. Richter, P.E.

**DATE OF HEARING:** September 29, 1999

| **APPEARANCES:** | **REPRESENTING:** |
|---|---|
| Dale Miller | LGDC Corporation |
| Bill Rosson | |

**PROTESTANTS:** None

## EXAMINER'S REPORT AND RECOMMENDATION

## STATEMENT OF THE CASE

This is the unprotested application of LGDC Corporation ("LGDC") for a fieldwide net gas-oil ratio (GOR) which results in a casinghead gas limit of 3,000 MCF of gas per day per well for wells completed in the Ineeda (Hackberry)Field. LGDC also requests that all casinghead gas overproduction be canceled. The examiner recommends approval.

## DISCUSSION OF THE EVIDENCE

The Ineeda (Hackberry) Field was discovered in March 12, 1999 by completion of the LGDC Corporation, J.T. Clubb Well No. 1 through perforations from 8,404' to 8,414' subsurface depth. The top allowable for a well in the field is 340 BOPD and a casinghead gas limit of 680 MCF per day. LGDC is the only operator in the field with the subject well and the Pansy Wingate etal Well No. 1 completed July 9, 1999 through perforations from 8,409' to 8,414'.

The J.T. Clubb Well No. 1 potentialed at 371 BOPD, 1084 MCFD, no water, flowing tubing pressure of 2600 psi and an initial GOR of 2921:1. Cumulative production through July 1999 is 17,958 BO and 203,514 MCF of gas.

The Pansy Wingate Well No. 1 potentialed at 241 BOPD, 1538 MCFD, no water, flowing tubing pressure of 2700 psi and an initial GOR of 6382:1. Cumulative production through July 1999

is 2,606 BO and 20,395 MCF of gas.

Electric logs of the two wells show distinct gas-oil and oil-water contacts. The oil column is relatively thin compared to the underlying water aquifer and the rather thick gas gap section. Both wells are completed to optimize oil production. The Clubb Well No. 1 is perforated 23' above the oil-water contact and 9' below the gas-oil contact. The Wingate Well No. 1 is perforated 12' above the oil-water contact and 15' below the gas-oil contact. LGDC believes this to be a relatively small reservoir with a strong water drive. As the oil leg is depleted, the wells will continue to increase the gas-oil ratio to the point the wells will have to be re-classified as gas wells. LGDC may drill one more well.

The J.T. Clubb Well No. 1 was tested over a 30 day period with the following results:

| CHOKE (64ths) | OIL (BOPD) | GAS (MCFD) | GOR | WATER CUT % | WTR (BWPD) |
|---|---|---|---|---|---|
| 5.25 | 33 | 676 | 21690 | 62.45 | 54 |
| 8.50 | 79 | 1252 | 16063 | 58.28 | 110 |
| 10.5 | 120 | 1790 | 15248 | 54.76 | 148 |
| 12.5 | 143 | 2431 | 17108 | 54.61 | 180 |

The test data indicates the gas-oil ratio is not particularly rate sensitive though it is a little lower at the higher production rates. The percent water cut is rate sensitive and is lesser at the higher production rate in the range of 2,400 MCF of gas per day.

The Pansy Wingate Well No. 1 was tested over a 30 day period with the following results:

| CHOKE (64ths) | OIL (BOPD) | GAS (MCFD) | GOR | WATER CUT % | WTR (BWPD) |
|---|---|---|---|---|---|
| 16 | 250 | 3992 | 16032 | 2.90 | 7 |
| 14 | 195 | 2920 | 14973 | 3.41 | 7 |
| 11.5 | 133 | 1812 | 13983 | 3.10 | 5 |
| 9 | 47 | 647 | 14094 | 4.40 | 3 |

This test data shows that the lowest water cut occurs at the highest production rate. The gas-oil ratio is not rate sensitive. A fieldwide casinghead gas limit of 3,000 MCF of gas per day per well is reasonable and will not cause the waste of reservoir energy.

It is further requested that all casinghead gas produced in excess of the penalized allowable be canceled. LGDC received a letter from its casinghead gas purchaser stating it had capacity to receive the additional gas without curtailment to its system.

## FINDINGS OF FACT

1. Notice of this application was given to all person entitled to notice at least ten (10) days prior to the hearing.

2. There was no protest of the application.

3. The Ineeda (Hackberry) Field was discovered in March 12, 1999 by completion of the LGDC Corporation, J.T. Clubb Well No. 1 through perforations from 8,404' to 8,414' subsurface depth. The top allowable for a well in the field is 340 BOPD and a casinghead gas limit of 680 MCF per day.

4. The J.T. Clubb Well No. 1 potentialed at 371 BOPD, 1084 MCFD, no water, flowing tubing pressure of 2600 psi and an initial GOR of 2921:1. Cumulative production through July 1999 is 17,958 BO and 203,514 MCF of gas.

5. The Pansy Wingate Well No. 1 potentialed at 241 BOPD, 1538 MCFD, no water, flowing tubing pressure of 2700 psi and an initial GOR of 6382:1. Cumulative production through July 1999 is 2,606 BO and 20,395 MCF of gas.

6. Both wells are completed to optimize oil production.

   a. The Clubb Well No. 1 is perforated 23' above the oil-water contact and 9' below the gas-oil contact.

   b. The Wingate Well No. 1 is perforated 12' above the oil-water contact and 15' below the gas-oil contact.

7. The J.T. Clubb Well No. 1 was tested over a 30 day period with the following results:

| CHOKE (64ths) | OIL (BOPD) | GAS (MCFD) | GOR | WATER CUT % | WTR (BWPD) |
|---|---|---|---|---|---|
| 5.25 | 33 | 676 | 21690 | 62.45 | 54 |
| 8.50 | 79 | 1252 | 16063 | 58.28 | 110 |
| 10.5 | 120 | 1790 | 15248 | 54.76 | 148 |
| 12.5 | 143 | 2431 | 17108 | 54.61 | 180 |

8. The Pansy Wingate Well No. 1 was tested over a 30 day period with the following results:

| CHOKE (64ths) | OIL (BOPD) | GAS (MCFD) | GOR | WATER CUT % | WTR (BWPD) |
|---|---|---|---|---|---|
| 16 | 250 | 3992 | 16032 | 2.90 | 7 |
| 14 | 195 | 2920 | 14973 | 3.41 | 7 |
| 11.5 | 133 | 1812 | 13983 | 3.10 | 5 |
| 9 | 47 | 647 | 14094 | 4.40 | 3 |

9. This test data shows that the lowest water cuts occur at the highest production rate. The gas-oil ratio is not rate sensitive. A fieldwide casinghead gas limit of 3,000 MCF of gas per day per well is reasonable and will not cause the waste of reservoir energy.

10. All casinghead gas produced in excess of the penalized allowable should be canceled.

## CONCLUSIONS OF LAW

1. Notice of this hearing was provided in accordance with all applicable regulatory statutes and rules.

2. All things have occurred or been accomplished to afford the Commission the jurisdiction to consider and decide this matter.

3. Consideration and approval of this application for a net gas-oil ratio is a matter properly within the jurisdiction of the Commission to foster conservation and prevent waste.

4. Approval of the proposed application of LGDC Corporation for Commission consideration for fieldwide net gas-oil ratio resulting in a casinghead gas limit of 3,000 MCFD per well foster conservation and prevent waste.

5. Cancellation of the casinghead gas in excess of the penalized allowable will not harm correlative rights.

## EXAMINER'S RECOMMENDATION

It is recommended that the application of LGDC Corporation for Commission consideration for a field wide gas-oil ratio resulting in a casinghead gas limit of 3,000 MCFD per well in the Ineeda (Hackberry) Field be approved. It is further recommended that the casinghead gas produced in excess of the penalized allowable be canceled.

Respectfully submitted,

Thomas H. Richter, P.E.
Technical Examiner
Office of General Counsel