THE APPLICATION OF LAREDO PETROLEUM, INC. TO AMEND TEMPORARY FIELD RULES AND MAKE SAID FIELD RULES PERMANENT FOR THE BEGERT (10,200) FIELD, HEMPHILL COUNTY, TEXAS

**Heard by:** Andres J. Trevino, P.E. Technical Examiner

**Hearing Date:** January 5, 2009

Appearances: Representing:

Mickey R. Olmstead
Thomas H. (Buddy) Richter, P.E.
John E. Minton
William Legler
Sue Dipley

Laredo Petroleum, Inc.

Laredo Petroleum, Inc.

#### **EXAMINER'S REPORT AND RECOMMENDATION**

## STATEMENT OF THE CASE

Temporary field rules for the Begert (10,200) Field were adopted by Order No. 10-0255776, effective April 8, 2008. The rules in effect for the field are summarized as follows:

- 1. Designation of the field as the correlative interval from 10,200' to 13,490' as shown on the log of the Laredo Petroleum, Begert Trust 3 Well No. 1.
- 2. 467'-1,200' well spacing;
- 3. 640 acre gas units with 10% tolerance and maximum diagonal of 8,500 feet;
- 4. Allocation based on 95% deliverability and 5% acreage.

Laredo Petroleum, Inc. requests that the rules be amended as follows:

- Designation of the field as the correlative interval from 10,200' to 13,490' as shown on the log of the Laredo Petroleum, Begert Trust 3 Well No. 1 (No Change);
- 2. 330'-660' well spacing;
- 3. 160 acre gas units with 10% tolerance and maximum diagonal of 4,500 feet;

4. Allocation based on 95% deliverability and 5% acreage (No Change).

Laredo Petroleum also requests that the allocation formula for the field remain suspended and any over production be cancelled.

This application was unprotested and the examiner recommends that the field rules for the Begert (10,200) Field be amended as requested.

## **DISCUSSION OF EVIDENCE**

The Begert (10,200) Field was discovered in January 2008 at a depth of 10,200 feet. The field is a non-associated gas field with 42 completed gas wells. This newly discovered field is undergoing rapid development. Current deliverabilities average 1,696 MCFD per well. Cumulative production from the field is 2.8 BCF of gas. The allocation formula has been suspended since April 2008.

Temporary field rules adopted by Order No. 10-0255776, effective April 8, 2008 provided for 640 acre density and 467'/1,200' well spacing. Laredo now believes that 160 acre density is necessary to maximize recovery from the field.

Laredo presented drainage calculations for twenty two wells in the field to substantiate the requested rules. Using decline curve analysis and information taken from available well logs, drainage area calculations showed the wells drained between 24 acres and 346 acres. Of the 22 wells in which drainage calculations were performed, only 3 wells drained more than 160 acres. The average well had a calculated drainage area of 106.5 acres based on 1,178.9 MMCF ultimate recovery. The EUR for the twenty two wells ranged from 300 MMCF to 2.3 BCF.

Laredo requests that the spacing rule be amended to provide for a minimum of 330 feet from lease lines and 660 feet between wells. The Granite Wash/Atoka reservoirs are thin, highly laminated sand/shale sequences. Porosities range from 3% to 12% with permeability in the .0001 md range. The majority of the sand reservoirs are of small areal extent. Although major sand packages are correlated from well to well, individual sands may not correlate from well to well. Additionally, topographic features such as the Washita River and tributaries to the river limit suitable spots for locating a drill site. Surface owner lease restrictions limit the distance a well can be placed from the river. The distance varies between 1,320 feet to 660 feet from the river. The 330'/660' well spacing will allow flexibility in locating wells around surface restrictions and to locate wells to recover additional reserves that would otherwise remain unrecovered.

The designated interval for this field will not be changed and remains from 10,200' to 13,490' as shown on the log of the Laredo Petroleum, Begert Trust 3 Well No. 1. This interval includes the Granite Wash/Atoka formations and is composed of multiple lenticular accumulations of hydrocarbons. A two factor allocation formula is therefore appropriate for the field. Laredo requests that allocation formula remain based on 95% deliverability and

5% acreage and that the allocation formula remain suspended as there remains a 100% demand for all gas produced from the field. Laredo further requests the existing and amended rules be permanent and any overproduction be cancelled.

# **FINDINGS OF FACT**

- 1. Notice of this hearing was given to all persons entitled to notice at least ten days prior to the date of hearing.
- 2. The Begert (10,200) Field was discovered in January 2008.
- 3. The field is a non-associated gas field. Temporary field rules governing the field were adopted by Order No. 10-0255776, effective April 8, 2008. The temporary rules provide for 467'-1,200' well spacing, 640 acre density and 95% acreage and 5% deliverability allocation.
- 4. The field is undergoing rapid development. There are currently 42 gas wells completed in the field.
- 5. Wells in the field have drainage areas which are generally less than 160 acres. Development with 160 acre density is necessary to maximize recovery from the field.
  - a. The Elm Creek Ranch 46 No. 2 has a calculated drainage area of 147 acres based on 1,854 MMCF ultimate recovery.
  - b. Of the 22 wells in which drainage calculations were performed, only 3 wells drained more than 160 acres.
  - c. Of the 22 wells in which drainage calculations were performed the average well had a calculated drainage area of 106.5 acres based on 1,178.9 MMCF ultimate recovery.
- 6. The correlative interval from 10,200' to 13,490' as shown on the log of the Laredo Petroleum, Begert Trust 3 Well No. 1 which includes the Granite Wash and Atoka sands remains unchanged.
- 7. The Washita River runs through the field which presents restrictions on well locations. Surface owner leases and other topographic features further restrict well locations.
- 8. Spacing a minimum of 330 feet from lease lines and 660 feet between wells will allow flexible well spacing between topographic features and lease restrictions as the field is further developed.

9. The Begert (10,200) Field is composed of multiple lenticular accumulations of hydrocarbons. A two factor allocation formula is therefore appropriate for the field. Laredo requests that allocation based on 95% deliverability and 5% acreage remain unchanged and that the allocation formula remain suspended.

## **CONCLUSIONS OF LAW**

- 1. Proper notice of this hearing was issued.
- 2. All things have been accomplished or have occurred to give the Commission jurisdiction in this matter.
- 3. Amending the field rules for the Begert (10,200) Field is necessary to prevent waste and protect correlative rights.

### RECOMMENDATION

Based on the above findings and conclusions of law, the examiner recommends that the field rules for the Begert (10,200) Field be amended as requested by Laredo Petroleum Inc.

Respectfully submitted,

Andres J. Trevino, P.E. Technical Examiner