# OFFICE OF GENERAL COUNSEL

#### OIL AND GAS DOCKET NO. 04-0257314

THE APPLICATION OF EDGE PETROLEUM OPERATING CO., INC. TO AMEND THE FIELD RULES FOR THE FLORES, W. (VKSBRG., GEOPRESSURE) FIELD, STARR AND HIDALGO COUNTIES, TEXAS

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

Hearing Date: June 27, 2008

Appearances: Representing:

Mickey Olmstead Anna Irion Valen Ott Li Fan Stephen Skinner Kennon Doyal Eric Kirkland Edge Petroleum Operating Co., Inc.

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

#### STATEMENT OF THE CASE

Field rules for the Flores, W. (Vksbrg., Geopressure) Field were last amended by Order No. 04-0213782, effective October 28, 1996. The rules in effect for the field are summarized as follows:

- 1. Designation of the field as the correlative interval from 6,880 feet to 11,280 feet as shown on the log of the Bloomberg No. 1;
- 2. 467'-1,200' well spacing;

- 3. 40 acre standard drilling units;
- 4. Allocation based on 95% per well and 5% deliverability.

Edge Petroleum Operating Co., Inc. requests that the rules be amended as follows:

- 1. Designation of the field as the correlative interval from 7,500 feet to 12,500 feet as shown on the log of the Bloomberg No. 10;
- 2. 330'-660' well spacing;
- 3. 40 acre gas units, 10% tolerance with a maximum diagonal of 2,100 feet; optional 20 acre units with a maximum diagonal of 1,500 feet;
- 4. Allocation based on 95% per well and 5% deliverability (No Change).

Edge Petroleum requests certain Edge Petroleum operated wells listed in Appendix A, be transferred to the Flores, W. (Vksbrg., Geopressure) Field. Edge Petroleum also requests that the allocation formula for the field remain suspended.

This application was unprotested and the examiner recommends that the field rules for the Flores, W. (Vksbrg., Geopressure) Field be amended as requested.

## **DISCUSSION OF EVIDENCE**

The Flores, W. (Vksbrg., Geopressure) Field was formed in 1996 with the consolidation of the fourteen Flores and Bloomberg fields as a non-associated gas field. A total of 34 wells have been completed in the field. Edge Petroleum currently operates 28 of the wells and there are an additional 3 operators in the field. The allocation formula has been suspended since 1997.

The Flores, W. (Vksbrg., Geopressure) Field is designated as a tight sand composed of seven major Vicksburg sand bodies. Within each major sand body there are numerous lenticular and discontinuous sand stringers that may not correlate from well to well. The Vicksburg Sands are also highly faulted and geopressured in this area. Production rate-transient analysis and modeling indicates the wells are ultra tight and have not encountered field boundaries. Virgin pressures have been encountered on recently drilled wells within 800 feet of an existing well that has produced over ten years. Edge Petroleum believes that the addition of a 20 acre optional density is necessary to maximize recovery from the field.

Edge Petroleum presented drainage calculations for four wells completed in four different sands (T, O, S and U-Sand) 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 10.0 acres and 20.6 acres. The EUR for

the four wells ranged from 1.4 BCF to 3.2 BCF.

The designated interval for this field will not be changed other than the fact a different well operated by Edge Petroleum will be used to designate the interval. The interval contains the same sands as before. The interval from 7,500 feet to 12,500 feet as shown on the log of the Bloomberg No. 10 should be designated as the Flores, W. (Vksbrg., Geopressure) Field. This interval includes the entire Vicksburg formation starting L-Sand at the top to the base of the W-Sand. This interval is composed of multiple lenticular accumulations of hydrocarbons. A two factor allocation formula is therefore appropriate for the field. Edge Petroleum requests that allocation formula remain based on 95% per well and 5% deliverability and that the allocation formula remain suspended as there remains a 100% demand for all gas produced from the field.

Edge Petroleum requests that the spacing rule be amended to provide for a minimum of 330 feet from lease lines and 660 feet between wells. The requested well spacing is standard well spacing for 20 acre optional units. This spacing will allow flexibility in re-completing wells and infill drilling.

Edge Petroleum requests that 36 wells operated by Edge be transferred into the Flores, W. (Vksbrg., Geopressure) Field. The wells are currently completed in the Flores (Vicksburg, Lower) and the Samano (Fifth Massive) Fields. The three fields have "grown together" and overlap each other. All wells proposed to be transferred into the Flores, W. (Vksbrg., Geopressure) Field are completed within the designated interval of the field.

#### 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 Flores, W. (Vksbrg., Geopressure) Field was formed in 1996 with the consolidation of the fourteen Flores and Bloomberg fields as a non-associated gas field.
- 3. Rules governing the field provide for 467'-1,200' well spacing, 40 acre density and 95% per well and 5% deliverability allocation.
- 4. There are 34 gas wells completed in the field.
- 5. The Flores, W. (Vksbrg., Geopressure) Field is designated as a tight sand. the Vicksburg Sands are composed of seven major correlatable sand bodies with minor sand stringers that don't correlate from well to well. The Vicksburg Sands are also highly faulted and geopressured in this area.
- 6. Wells in the field have drainage areas which vary significantly with each

different sand. Development with optional 20 acre density is necessary to maximize recovery from the field.

- a. The Bloomberg No. 17, (T-Sand completion) has a calculated drainage area of 10.0 acres based on 1,962 MMCF ultimate recovery.
- b. The Bloomberg No. 12, (O-Sand completion) has a calculated drainage area of 18.5 acres based on 2,449 MMCF ultimate recovery.
- c. The Bloomberg No. 20, (S-Sand completion) has a calculated drainage area of 18.8 acres based on 1,412 MMCF ultimate recovery.
- d. The Bloomberg No. 5, (U-Sand completion) has a calculated drainage area of 20.6 acres based on 3,243 MMCF ultimate recovery.
- 7. The correlative interval from 7,500 feet to 12,500 feet as shown on the log of the Bloomberg No. 10 includes the seven major Vicksburg sands.
- 8. Spacing a minimum of 330 feet from lease lines and 660 feet between wells is standard spacing for 20 acre optional units and will allow the recovery of additional reserves through flexible well spacing and infill drilling.
- 9. The Flores, W. (Vksbrg., Geopressure) Field is composed of multiple sands with lenticular accumulations of hydrocarbons. A two factor allocation formula is therefore appropriate for the field. Edge Petroleum requests that allocation based on 95% per well and 5% deliverability remain unchanged and that the allocation formula remain suspended.
- 10. The 36 wells proposed to be transferred into the Flores, W. (Vksbrg., Geopressure) Field are currently completed in the Flores (Vicksburg, Lower) and the Samano (Fifth Massive) Fields. The fields have "grown together" and overlap each other. All wells proposed to be transferred are completed within the designated interval of the Flores, W. (Vksbrg., Geopressure) Field.

## 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 Flores, W. (Vksbrg., Geopressure) 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 Flores, W. (Vksbrg., Geopressure) Field be amended and the wells listed in Appendix A be transferred into the field as requested by Edge Petroleum Operating Co., Inc.

Respectfully submitted,

Andres J. Trevino, P.E. Technical Examiner

# Attachment "A"