

**THE APPLICATION OF SAMSON LONE STAR, LLC FOR INCREASED NET GAS-OIL RATIO AUTHORITY FOR EACH WELL IN THE HUXLEY (FREDRICKSBURG) FIELD, SHELBY COUNTY, TEXAS**

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**HEARD BY:** Richard D. Atkins, P.E. - Technical Examiner

**DATE OF HEARING:** October 1, 2010

**APPEARANCES:**

**REPRESENTING:**

**APPLICANT:**

James M. Clark

Samson Lone Star, LLC

**EXAMINER'S REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

Samson Lone Star, LLC ("Samson") requests an increased net gas-oil ratio authority with a casinghead gas limit of 2,600 MCFGPD for each well in the Huxley (Fredricksburg) Field, Shelby County, Texas. Samson 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 2,600 MCFGPD for each well in the field and cancellation of all overproduction.

**DISCUSSION OF THE EVIDENCE**

The Huxley (Fredricksburg) Field was discovered in July 1986 at an average depth of 3,200 feet. Wells produced from the field from 1986 through 1989 and there was no additional production until 2003 when horizontal drilling began in the field. The field is classified as associated-100% AOF and there are 19 producing oil wells and 3 producing gas wells carried on the proration schedules.

The field operates under Field Rules that provide for a correlative interval, 330'-660' well spacing, 40 acre units with additional acreage assigned to horizontal wells based on a formula and allocation based on 100% acreage. The top allowable is 84 BOPD with a permitted casinghead gas limit of 168 MCFGPD, or 4.2 MCF per acre. Cumulative production from the field through August 2010 is 633.7 MBO and 10.4 BCFG.

The Fredricksburg formation is a naturally fractured chalky limestone and there is no gas cap/oil rim in the field. The main drive mechanism is a solution gas drive and the

field bottomhole pressure is at or near the bubble point. Horizontal wells typically have initial potentials with gas-oil ratios substantially in excess of the permitted casinghead gas limit of 4.2 MCFG per acre. This results in the assignment of penalized oil allowables to these wells in their initial few months of production. The oil overage is generally made up fairly quickly, but Samson is requesting that the oil allowables not be penalized due to a high gas-oil ratio.

Samson submitted a GOR versus Oil Rate graph on the Grand Poobah Lease, Well No. 1H, that showed that the well was not rate sensitive. The GOR declined from approximately 30,000 standard cubic feet per barrel down to 12,000 standard cubic feet per barrel at oil rates above 150 BOPD. Samson also submitted a GOR versus Gas Rate graph on the Grand Poobah Lease, Well No. 1H, which showed that the GOR remained constant at approximately 20,000 standard cubic feet per barrel at gas rates between 1,500 MCFGPD and 2,600 MCFGPD.

Restricting the oil production based on gas-oil ratio is not necessary to prevent waste or maximize recovery in this type of reservoir. As a result, Samson requests an increased net gas-oil ratio authority with a casinghead gas limit of 2,600 MCFGPD for each well in the Huxley (Fredricksburg) Field. Samson also 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 Huxley (Fredricksburg) Field was discovered in July 1986 at an average depth of 3,200 feet. The top allowable in the field is 84 BOPD for a well on 40 acres. The casinghead gas limit is 168 MCFGPD, or 4.2 MCF per acre.
3. Since 2003, the field has been developed with 22 horizontal wells.
4. New horizontal wells typically have high gas-oil ratios, resulting in penalized oil allowables.
5. The Grand Poobah Lease, Well No. 1H, is not rate sensitive.
  - a. The GOR declined from approximately 30,000 standard cubic feet per barrel down to 12,000 standard cubic feet per barrel at oil rates above 150 BOPD.
  - b. The GOR remained constant at approximately 20,000 standard cubic feet per barrel at gas rates between 1,500 MCFGPD and 2,600 MCFGPD.

6. Restricting oil allowables due to a high gas-oil ratio is not necessary to prevent waste because the reservoir is naturally fractured with no gas cap/oil rim.

**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 net gas-oil ratio authority and canceling the over-production for each well in the Huxley (Fredricksburg) Field 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 approval of the increased net gas-oil ratio authority with a daily gas limit of 2,600 MCFGPD and cancellation of all overproduction for each well in the Huxley (Fredricksburg) Field, as proposed by Samson Lone Star, LLC.

Respectfully submitted,

Richard D. Atkins, P.E.  
Technical Hearings Examiner