

**THE APPLICATION OF EXTEX OPERATING COMPANY TO AMEND FIELD RULES  
FOR THE CASH (STRAWN 3820) FIELD, WICHITA COUNTY, TEXAS**

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

**Hearing Date:** July 30, 2008

**Appearances:**

Roland Baker  
Wallis Marsh  
Edward M. Moran  
Robert M. Eckols

**Representing:**

Extex Operating Company

**EXAMINER'S REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

This is the unopposed application of Extex Operating Company to amend the field rules as adopted in Oil and Gas Docket No. 9-57,066, issued effective January 12, 1967, for the Cash (Strawn 3820) Field that currently provide for the following:

1. 330'-933' well spacing;
2. 40 acre oil units with 20 acre tolerance;
3. Allocation based on 100% per acreage.
4. Surface casing set in accordance with TWDB letters on each well.

Extex Operating Company requests that field rules be amended as follows :

1. Designation of the field as the correlative interval from 3,824 feet to 3,900 feet as shown on the log of the Brogden No. 1;
2. 330'-933' well spacing;
3. 20 acre units with 10 acre tolerance;
4. Allocation based on 100% acreage.

During the hearing, Extex's representative agreed to designate an interval for the field. This application was unopposed and the examiner recommends that the field rules for the Cash (Strawn 3820) Field be amended as requested.

### **DISCUSSION OF EVIDENCE**

The Cash (Strawn 3820) Field was discovered in 1966 at a depth of approximately 3,840 feet. Cumulative production from the field is approximately 4,321,056 BO. Currently there are 57 oil wells and 8 water injectors in the field which in total produce about 185 BOPD. Extex Operating operates 2,799 acres of the 3,039 productive acres in the field.

The field rules for the Cash (Strawn 3820) Field were first established in 1967. At the time, it was believed the wells would drain 40 acres based on 12% porosity and a permeability of 135 md. Current logs and core data collected indicates the reservoir has a porosity of less than 8% and a permeability of less than 10 md. Extex Operating believes the reservoir is highly heterogeneous from well to well and phi-h can vary as much as 50% from lease to lease. Extex Operating believes an estimated 1,200,000 BO could be recovered if they optimize their waterflood by drilling 15 to 30 producers and injection wells.

Extex Operating requests a 20 acre density for the Cash (Strawn 3820) Field so that it can place wells in optimum locations within the heterogeneous reservoir to efficiently sweep and produce the remaining hydrocarbons. Standard statewide field rules adopted in 1988 for District 9 allow 330'-933' well spacing and 20 acre density for reservoirs located 3,001 feet to 5,000 feet deep. The K-M-A Field also produces from the same Strawn formation and is located three miles southeast of the Cash (Strawn 3820) Field. The K-M-A Field has 330'-660' well spacing and 20 acre density.

### **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. Special field rules for the Cash (Strawn 3820) Field were adopted in Oil and Gas Docket No. 9-57,066, issued effective January 12, 1967, provide for 330'-933' well spacing, 40 acre oil units and allocation based on 100% acreage.
3. The Cash (Strawn 3820) Field was discovered in 1966 and cumulative production from the field is approximately 4,321,056 BO as of June 30, 2008.
4. Current production from the 57 oil wells in the field is approximately 185 BOPD.

5. Waterflooding began in the field in 1977.
6. The Cash (Strawn 3820) Field produces from the Strawn limestone, an oolitic near shore carbonate deposit.
7. Extex Operating believes an estimated 1,200,000 BO remain in place in the field that could be recovered if Extex drills additional producers and injection wells.
8. Log data and core analysis indicates the reservoir is heterogenous, with permeabilities less than 10 md.
9. Development of the field on 20 acre density will allow the flexible placement of well locations within the heterogeneous limestone reservoir to enhance water flood sweep efficiency and to maximize recovery from the field.
10. Statewide rules adopted in 1988 for District 9 allow for 330'-933' well spacing and 20 acre density for reservoirs located 3,001 feet to 5,000 feet deep. Other fields in the area that produce from the Strawn have 20 acre unit densities.

**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 field rules for the Cash (Strawn 3820) Field is necessary to prevent waste and protect correlative rights.

**RECOMMENDATION**

Based on the above findings and conclusions of law, the examiner recommends that field rules for the Cash (Strawn 3820) Field be amended to provide for a correlative interval and 20 acre density.

Respectfully submitted,

Andres J. Trevino, P.E.  
Technical Examiner