

THE APPLICATION OF FOUR C OIL & GAS CORP. TO AMEND FIELD RULES FOR THE FOUR C (SAN ANDRES) FIELD, PECOS COUNTY, TEXAS

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

Hearing Date: July 18, 2012

Appearances:

Dale E. Miller

Representing:

Four C Oil & Gas Corporation

EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

This is the unopposed application of Four C Oil & Gas Corporation to amend the field rules first adopted in Special Order No. 8-65,425, issued effective November 10, 1975, and last amended, for the Four C (San Andres) Field that currently provide for the following:

1. 467'-1,200' well spacing;
2. 40 acre oil units, 10 acre tolerance, optional 20 acre units;
3. Allocation based on 100% acreage;
4. Surface casing depth 600 feet.

Four C Oil & Gas Corporation requests that field rules be amended as follows:

1. The entire correlative interval from 2,270 feet to 2,330 feet as shown on the log of the Four C Oil & Gas Corp., San Andres Unit, Well No. 21;
2. 330'-0' well spacing;
3. 40 acre oil units with optional 10 acre units, no maximum diagonal, no individual proration plats;
4. Allocation based on 95% per well, 5% acreage.

This application was unopposed and the examiners recommend that the field rules for the Four C (San Andres) Field be amended as requested.

DISCUSSION OF EVIDENCE

The Four C (San Andres) Field was discovered in 1975 at a depth of approximately 2,302 feet. Cumulative production from the field is approximately 1,601,601 BO and 172.8 MMCF of gas. As of May 2012, there are 18 producing wells, 13 injection wells in the field which in total produce about 110 BOPD.

Four C Oil & Gas is redeveloping the field by drilling additional infill wells between existing wells to expand a limited waterflood that was first initiated in 1994. Four C Oil & Gas believes current wells drilled with current density rules are not adequately draining existing reserves. The Four C (San Andres) Field produces from the San Andres formation, identified as the entire correlative interval between 2,270 feet to 2,330 feet as shown on the log of the Four C Oil & Gas Corp., San Andres Unit, Well No. 21. The San Andres is a carbonate which has a porosity of 20.1%.

Drainage area calculations performed for oil wells demonstrate the need for smaller units. Using reservoir parameters of 20.1% porosity, water saturation of 34.5%, a net pay thickness of 30 feet and recovery factor of 29.1%, drainage area calculations were performed for oil wells. The amount of recoverable oil in place under a 40 acre unit is 280,836 STB. The amount of recoverable oil in place under a 10 acre unit is 70,209 STB. Drainage calculations performed show oil wells will drain between 1 acre and 42 acres with 58% of the wells draining 10 acres or less justifying the optional 10 acre density.

Four C Oil & Gas requests 330'-0' well spacing for the Four C (San Andres) Field so that it can place new wells in optimum locations between numerous existing wells to establish a more efficient injection pattern without the need for Rule 37 exceptions. Four C Oil & Gas request allocation formula be amended to 95% per well, 5% acreage to retain the majority of the oil allowable on wells drilled on 10 acre units.

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. Field rules for the Four C (San Andres) Field provide for 467'-1,220' well spacing, 40/20 acre optional units and allocation based on 100% acreage.
3. The Four C (San Andres) Field was discovered in 1975 and cumulative production from the field is approximately 1,601,601 BO and 172.8 MMCF of gas. A limited waterflood was initiated in 1994.

4. Current production from the 18 active oil wells, 13 injection wells is about 110 BOPD.
5. The Four C (San Andres) Field produces from the San Andres carbonate, that has 20.1% porosity.
6. The Four C (San Andres) Field should be designated as the entire correlative interval between 2,270 feet to 2,330 feet as shown on the log of the Four C Oil & Gas Corp., San Andres Unit, Well No. 21.
7. Wells in the field have drainage areas which vary significantly. Development with 40 acre density with optional 10 acre units is necessary to maximize recovery from the field.
 - a. Using reservoir parameters of 20.1% porosity, water saturation of 34.5%, a net pay thickness of 30 feet and recovery factors of 29.1% for oil wells, drainage area calculations were performed for oil wells.
 - b. Drainage calculations performed show oil wells will drain between 1 acre and 42 acres.
 - c. 58% of the wells show to be draining 10 acres or less.
8. The proposed 330'-0' well spacing will accommodate development on optional 10 acre units and placing new wells between numerous existing wells to establish a more efficient injection pattern.
9. Four C Oil & Gas requests that the allocation formula be amended to 95% per well, 5% acreage to retain the majority of the oil allowable on wells drilled on 10 acre units, preventing waste.

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 Four C (San Andres) Field is necessary to prevent waste and protect correlative rights.

RECOMMENDATION

Based on the above findings and conclusions of law, the examiners recommend that field rules for the Four C (San Andres) Field be amended to provide for a designated interval, 330'-0' well spacing and 40 acre units with optional 10 acre density.

Respectfully submitted,

Andres J. Trevino, P.E.
Technical Examiner

Marshall Enquist
Legal Examiner