May 9, 2000

OIL AND GAS DOCKET NO. 04-0224572

THE APPLICATION OF COASTAL OIL & GAS CORPORATION TO AMEND FIELD RULES IN THE JEFFRESS (VICKSBURG T) FIELD, HIDALGO COUNTY, TEXAS

Heard by: Margaret Allen, Technical Hearings Examiner

Procedural history

Application received: April 10, 2000
Hearing held: May 9, 2000

Appearances

	Representing
Jim Cowden	Coastal Oil & Gas Corporation
Terry Payne	

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

The existing rules for the Jeffress (Vicksburg T) Field were adopted November 7, 1977, under Docket No. 4-68,084, as amended, and are summarized as follows:

1. Well spacing of 467-1200 feet;

2. 160 acre gas proration units, with 80-acre optional units; and

3. Allocation based on acreage.

Coastal seeks to amend the between-well spacing to 933 and to adopt 40-acre optional gas units. The examiner requested that a designated interval rule be added and Coastal proposed the following Rule 1:

1. Designated interval between 9990 feet and 10,930 feet as shown on the log of the Coastal Oil & Gas (originally Greenbrier Operating Company) Regina Brann Lease Well No. 3.

DISCUSSION OF THE EVIDENCE

The Jeffress area has numerous productive Vicksburg sandstones and the various productive strata have been broken into different reservoirs by faulting. Coastal has been an operator in the area for some time and has recently acquired the interests of Greenbrier Operating Company. Coastal is now actively developing the area with recompletions and new wells and has been concerned by the lack of uniformity among the field rules adopted for the various reservoirs. Because of the possibility of recompleting wells to this field from other Vicksburg fields, the operator is seeking the same spacing and density rules for the Jeffress (Vicksburg T) Field as apply in most of the other fields. Of the fifteen other area fields, all but two permit development on 40 acre units and nine of them have between-well spacing of 933 feet.

The Jeffress (Vicksburg T) Field was discovered in 1969, and field rules for this and some of the other Jeffress area fields were adopted November 7, 1977. These rules provided for 160 acre density with spacing of 467-1200 feet. The Jeffress (Vicksburg T) rules were amended in 1999 to allow 80-acre optional units. The field has seven active wells, four shut-in wells and five wells that have been plugged and abandoned. There is only one well, the Bexco Operating Inc. Coates Energy Trust GU 1 Well No. 1, that is not operated by the applicant. The interval extending from 9990 to 10,930 feet, as shown on the log of the Coastal Oil & Gas Regina Brann Lease Well No. 3, encompasses the productive Vicksburg T interval in the subject field.

The five abandoned wells all ceased production by 1984, and the cumulative production from those five wells varied from 32 MMCF to 1.4 BCF. The field was reactivated when the Coastal J.D. Jeffress Well No. 1 was completed in 1995. This well has produced 4.4 BCF and is expected to eventually recover a total of 5.4 BCF. Nine more wells have been drilled since late 1998, and some of these wells have already produced almost 2 BCF. Current producing rates are between 8 MMCF and 22 MCF per day. There is little productive history from the newest wells but their estimated ultimate recoveries are in the range to 3 to 6 BCF.

The Vicksburg T interval extends from 9990 to 10,930 feet as shown on the log of the Coastal Regina Brann Lease Well No. 3. The net pay within this correlative interval in the various field wells ranges from 33 to 330 feet with an average of 176 feet. The porosity averages 17% and water saturation is between 45 and 53%. All of the Vicksburg sandstones have very low permeability and measured permeabilities from 16 nearby Tight Gas Sand applications are all less than 0.1 md.

Based on volumetric calculations, the estimated drainage areas from the successful new Vicksburg T completions range from 20 to 57 acres. The drainage area for the Coastal J.D. Jeffress Well No. 1, the only producing well with several years of production history, is 178 acres. Wells from other Jeffress Vicksburg fields have already indicated that even excellent wells can have small drainage areas. In the nearby Jeffress, S.E. (Vicksburg T) Field, a new well was drilled only 1000 feet away from a well that had an initial bottom-hole pressure of 10,000 psi but had already produced 8 BCF. RFT pressures from various sandstones within the Vicksburg T interval of the new well ranged from 4700 to 9000 psi, and this well is capable of producing 1600 MCF per day.

Although at least one well will drain approximately 160 acres, most wells will drain only about

40 acres or less. Amending the between-well spacing to 933 feet will greatly facilitate infill drilling between the existing wells that were drilled on 80-acre units. In order to drill wells on 40 acre proration units where wells must be at least 1200 feet apart, each well has to be located within a 1.3 acre square in the middle of its 40-acre proration unit. If wells can be as close of 933 feet to each other, the square in the center of each 40-acre unit for a regular well location, increases to 13.7 acres.

FINDINGS OF FACT

1. Notice of this hearing was given to all operators in the Jeffress (Vicksburg T) Field on April 18, 2000.

2. The Jeffress area has several Vicksburg sandstone intervals that are productive in different fault blocks, and the area is now being actively developed.

3. Field rules for the Jeffress (Vicksburg T) Field provide for 160 acre density with 80-acre optional units and 467-1200 foot well spacing.

4. The Jeffress (Vicksburg T) Field was discovered in 1969, and five wells produced from the field until the field became inactive in 1984.

5. The field was reactivated in 1995, with the completion of the J.D. Jeffress No. 1, which has already produced 4.4 BCF and is projected to drain 178 acres.

6. Adding optional units of 40 acres to the current density rule is appropriate.

    a. Several new wells have been drilled in the last two years and the successful ones have deliverabilities from 8 to 22 MMCF per day.

    b. The calculated drainage areas of these successful new wells range between 20 and 55 acres.

    c. Redevelopment and recompletion of the various Vicksburg reservoirs will be facilitated by having similar rules in the Jeffress Vicksburg fields.

    d. All but two of the nearby Vicksburg fields permit wells on 40 acre density.

7. The designated interval proposed for the consolidated Jeffress (Vicksburg T) Field extends from 9990 feet to 10,930 feet as shown on the log of the Coastal Oil & Gas (originally Greenbrier Operating Company) Regina Brann Lease Well No. 3.

8. Most of the nearby Vicksburg field rules permit wells to be drilled as close as 933 feet to each other and 933 foot between-well spacing will make it easier to drill infill wells on 40 acre density.

CONCLUSIONS OF LAW

1. Proper notice was given as required by statute.

2. All things have been done or occurred to give the Railroad Commission jurisdiction to resolve this matter.

3 The requested amended field rules for the Jeffress (Vicksburg T) Field will prevent waste, protect correlative rights within the field, and satisfy statutory requirements.

EXAMINER'S RECOMMENDATION

Based on the above findings and conclusions, the examiner recommends that the existing rules for the Jeffress (Vicksburg T) Field be amended to include the proposed designated interval, 40-acre optional units and 933-foot between-well spacing.

Respectfully submitted,

Margaret Allen
Technical Hearings Examiner

Date of Commission action: May 23, 2000.

Exhibits

1. Map
2. Proration schedule
3. New field discovery approval
4. Field rules order
5. Order amending field rules in 1999
6. Log
7. Map of fields in the area
8. Field rules comparison
9. Well completion data
10. Cumulative production data
11. Estimated drainage areas
12. Permeability
13. Cross section from nearby field
14. Example of increased flexibility in amended rules