July 13, 2000

OIL AND GAS DOCKET NO. 02-0225139

THE APPLICATION OF COASTAL OIL & GAS CORPORATION TO CONSOLIDATE THE HOPE (WILCOX 9950) AND HOPE (WILCOX 10300) FIELDS INTO THE HOPE (WILCOX MASSIVE) FIELD AND TO AMEND OPERATING RULES AND REGULATIONS FOR THE HOPE (WILCOX MASSIVE) FIELD, LAVACA COUNTY, TEXAS

Heard by: Margaret Allen, Technical Hearings Examiner

Procedural history

Application received: June 12, 2000
Hearing held: July 13, 2000

Appearances

	Representing
Jim Cowden	Coastal Oil & Gas
Terry Payne	

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Coastal Oil & Gas Corporation is seeking to have the Hope (Wilcox 9950) and (Wilcox 10300) Fields consolidated into the Hope (Massive) Field, and to adopt the following amended operating rule for the Hope (Wilcox Massive) Field:

1. Designated interval between 9942 feet and 14,000 feet as shown on the log of the Coastal Oil & Gas Corporation Esther Jacobs Lease, Well No. 1.

The allocation formula for the Hope (Wilcox Massive) Field is based 95% on deliverability and 5% per well, and Coastal is not seeking to change this rule. Coastal is proposing that the existing rules for the Hope (Wilcox 9950) and Hope (Wilcox 10300) Fields be rescinded.

DISCUSSION OF THE EVIDENCE

Coastal operates the only well in the Hope (Wilcox Massive) Field, the Esther Jacobs No. 1. Currently, there are no wells in the Hope (Wilcox 9950) Field, which has a discovery date of August 31, 1978, nor in the Hope (Wilcox 10300) Field, which has a discovery date of August 6, 1975. Coastal believes that the 9950 and 10300 sands are productive behind pipe in the Jacobs No.

1 and has already received an exception to Statewide Rule 10 to commingle all three of the subject fields in its Jacobs No. 1. Because Coastal intends to drill more wells in the Hope area and believes that the three fields can be economically completed separately, it is requesting that these fields be consolidated.

The discovery well for the Wilcox 9950 Field was the Cico Oil & Gas C.Y. Jacobs No. 1 and there has been one other well completed in this field. The discovery well for the Wilcox 10300 Field was the Cico Oil & Gas Cecil Williams No. 1 and there have been two other wells completed in this field. Field rules for both the Wilcox 9950 and Wilcox 19300 fields, specifying 80 acre density and 933-1867' well spacing, were adopted August 20, 1979.

Production from the only substantial well ever completed in the Wilcox 9950 field occurred between 1978 and 1984, and totaled 363 MMCF. The other well in the Wilcox 9950 field was classified as an oil well and produced only 425 barrels of oil and 16 MMCF of gas in 1995 and 1996. Cumulative production from the three wells ever completed in the Wilcox 10300 field was 1.7 BCF. The last well in this field was plugged in 1981.

The Esther Jacobs No. 1 is the discovery well for the Hope (Wilcox Massive) Field, which was approved May 2, 2000, in Final Order No. 02-0224476. The Esther Jacobs No. 1 currently has five sets of perforations, occurring between 12,222 feet TVD (True Vertical Depth) and 13,842 feet TVD. Final Order No. 02-0224476 also adopted a two factor allocation formula (95% deliverability and 5% per well) and a designated interval between 11,665 and 14,000 feet TVD in the Esther Jacobs No. 1. If this application is approved, the top of the designated interval will be at 9942 feet TVD in the Jacobs No. 1. The top of the Wilcox 10300' sandstone in the Jacobs No. 1 is at 10,289 feet TVD.

The initial daily deliverability rate from the Esther Jacobs No. 1 was almost 10 MMCF. The well has produced 360 MMCF of gas during its first three months on production, and appears to be a better well than those in the other two fields. The pressure gradient in this well increases relatively quickly, from 0.465 psi per foot at 9,900 feet to 0.8 psi per foot at 13,000 feet due to geopressure. However, cross flow should be minimal during production, and these sands deplete rapidly at first due to very low permeability. Any gas entering a lower-pressured sand when a well was shut-in should return to the wellbore when production resumes.

All sands contain gas of comparable composition with similar condensate yields. The reservoirs have gas depletion drives and there will be no damage caused by commingling production from these reservoirs. Surface and downhole commingling of fluids from similar Wilcox completions in the area has caused no problems.

Like most Wilcox reservoirs in the Hope and Brushy Creek areas, the Wilcox 10300 and Massive reservoirs have low permeability and will require massive hydraulic fracture treatments in order to produce. Due to the reservoir thickness, these treatments must be pumped at high rates and pressures. This can contribute to casing failure and thus treating all the sandstones at the same time is preferable to treating them sequentially.

Wells in this area of geopressure can cost over $4,000,000 and the quality and thickness of

the various pay sands is unpredictable. Production casing is generally too small for multiple completions and would increase the completion costs significantly. Knowledge that an operator will be able to produce the various sandstones together will reduce the economic insecurity of drilling new wells.

In order to demonstrate the benefits if this application is approved, the applicant assumed an exponential decline rate for all these Wilcox reservoirs of 7% and an economic limit of 3 MMCF per month per completion. Producing all three intervals together reduces the economic limit of each interval by one third and allows each field to produce an additional 343 MMCF of gas. The applicant estimates that granting this application will therefor result in the production of an incremental 1,029 MMCF of gas per well.

FINDINGS OF FACT

1. Notice of this hearing was given to all operators of wells in the fields to be consolidated on June 19, 2000.

2. The discovery well for the Hope (Wilcox Massive) Field, the Coastal Oil & Gas Esther Jacobs No. 1, was completed in February, 2000, with an initial producing rate of almost 10 MMCF per day.

3. The only significant well to produce from the currently inactive Hope (Wilcox 9950) Field produced 363 MMCF between 1978 and 1984.

4. All production from the three wells ever completed in the currently inactive Wilcox 10300 field occurred between 1975 and 1981, and totaled 1.7 BCF.

5. The Jacobs No. 1 has produced 360 MMCF of gas during its first three months on production, and appears much better than the wells were in the other two fields.

6. Current perforations in the Jacobs No. 1 comprise five separate sets between 12,222 feet TVD and 13,842 feet TVD, and the current designated interval for the Hope (Wilcox Massive) Field extends from 11,665 feet TVD to 14,000 feet TVD in that well.

7. The top of the Wilcox 9950' equivalent interval occurs at 9942 feet TVD in the Jacobs No. 1, while the top of the Wilcox 10300' equivalent is at 10,289 feet TVD.

8. A Rule 10 exception has already been approved for the Jacobs No. 1 to allow downhole commingling in all three subject fields.

9. The proposed designated interval between 9942 and 14,000 feet TVD includes multiple, stratigraphic reservoirs and a two factor allocation is required for statutory reasons.

10. Allocation based 5% per well and 95% on deliverability will protect correlative rights and satisfy statutory requirements.

11. The applicant plans additional drilling to the Wilcox sandstones between 9900 and 14,000 feet in the Hope area.

12. The economic limit per completion is estimated at 3000 MCF per month and producing gas from all three fields in the same completion will reduce the economic limit per completion by two thirds.

13. The incremental recovery from this application is estimated at 1,029 MMCF per well.

14. Downhole commingling production from the Wilcox 9950, Wilcox 10300 and Wilcox Massive intervals will not cause waste as rock and fluid properties are similar in all three sandstone intervals.

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 Consolidation of the requested fields will prevent waste and protect correlative rights, while encouraging conservation.

EXAMINER'S RECOMMENDATION

Based on the above findings and conclusions, the examiner recommends that the Hope (Wilcox 9950) and Hope (Wilcox 10300) Fields be consolidated into the Hope (Wilcox Massive) Field and that the designated interval be amended to reflect the expanded section.

Respectfully submitted,

Margaret Allen
Technical Hearings Examiner

Date of Commission Action: July 25, 2000

Exhibits

1. Map
2. Rule 10 exception
3. Gas proration schedules
4. Oil Proration schedule for Wilcox 9950 field
5. New field approval for Wilcox 10300 field
6. New field approval for Wilcox 9950 field
7. Field rule order for Wilcox Massive field
8. Field rule order for Wilcox 9950 field
9. Field rule order for Wilcox 10300 field
10. Type log
11. Well completion data sheet
12. Rate vs time graphs for all wells
13. Completion forms
14. Pressure gradients
15. Gas analyses
16. Water analyses
17. Recent large consolidated Wilcox intervals in the area
18. Incremental reserves
19. Justifications