
THE APPLICATION OF ANADARKO PETROLEUM CORPORATION TO CONSOLIDATE THE REAGAN RANCH (BOSSIER SAND) FIELD INTO THE BALD PRAIRIE (CV CONSOLIDATED) FIELD, ROBERTSON, LEON AND LIMESTONE COUNTIES, TEXAS

Heard by: Margaret Allen, Technical Hearings Examiner

Procedural history

Application received: August 12, 2002

Hearing held: September 13, 2002

Appearances

Ana Maria Marsland-Giffith	Representing
C.M. Stephens, Jr.	Anadarko Petroleum Corporation
Kirk Chatawanich	

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Anadarko Petroleum Corp. is seeking to have the Reagan Ranch (Bossier Sand) Field consolidated into the Bald Prairie (CV Consolidated) Field. Anadarko is not requesting any change to the field rules of the Bald Prairie (CV Consolidated) Field. The examiner recommends approval of the application.

DISCUSSION OF THE EVIDENCE

The Bald Prairie (CV Consolidated) Field was formed by the consolidation of seven Cotton Valley and Bossier Sand fields. Field rules were adopted February 22, 2001, under Oil & Gas Docket No. 05-0227155, and are summarized as follows:

1. Designated interval between 10,264 feet and 13,142 feet as shown on the log of the Wessely Energy Corp. J.H. Mitchell Lease Well No. 2;
2. Well spacing of 467-1200 feet;
3. 640 acre gas proration units with 40-acre optional units; and
4. allocation based 95% on deliverability and 5% per well.

There are over 100 wells in the Bald Prairie (CV Consolidated) Field, though Anadarko operates only one of them.

The Reagan Ranch (Bossier Sand) Field was designated October 21, 1998, under Oil & Gas

Docket No. 05-022021. The designated interval in this field extends from 13,660' to 13,850' in the Broughton Operating Corporation Cecil Reagan Well No. 1, and the allocation formula is based 95% on deliverability and 5% per well. Anadarko operates 25 of the 30 wells in the field, which is on statewide spacing and density.

Anadarko believes the overlying Cotton Valley sandstones can be developed at the same time in the same wells as the sandstones in the Bossier Formation. Cotton Valley sandstones and Bossier sandstones are similar and developing them at the same time will lower their economic limit. Anadarko has found several sandstones within the Cotton Valley section of its Bossier wells, that it believes can be produced along with the Bossier sandstones. The average Bossier well has 40' to 50' of pay and Anadarko expects that the Cotton Valley will have an additional 40' to 50' of pay in its wells.

The Cotton Valley/Bossier sequence is a thick series of sandstones and shales. There are several regional correlation markers within the sequence, but the individual sandstones do not correlate easily from well to well. The basal rocks in the series were deposited in the distal area of a prograding deltaic sequence. Later, deltas built out in an erratic, sawtooth pattern over the distal shales. The shallowest sandstones were deposited in a mostly fluvial environment.

The Reagan Ranch (Bossier Sand) Field has cumulative production of 9.5 BCF, and the Bald Prairie (CV Consolidated) Field's cumulative production is 115.5 BCF. The initial potential of a Bossier well is as much as 4.4 MMCF per day but production declines rapidly. The initial potential of a Cotton Valley well is 1 MMCF/D. The minimum producing rate to maintain critical velocity is 300 MCF/D and producing both series together will lower the economic limit per completion.

The average ultimate recovery that Anadarko expects from a Bossier only well is 1.6 BCF over 15 years. If the well is recompleted to the Cotton Valley when it reaches a rate of 150 MCF/D, the total production is expected to be 2.3 BCF. However, Bossier completions usually experience loading after five years and the well may have to be recompleted to the Cotton Valley before the Bossier is completely depleted. Anadarko calculated that downhole commingling the Cotton Valley and Bossier from the beginning will increase the average recovery to 3 BCF per well.

Anadarko made studies of scaling that might result from commingling the water from the various fields to be consolidated. These studies show that water and hydrocarbon liquids produced from the Cotton Valley sandstones and Bossier sandstones are compatible.

These fields have grown together, and the designated interval of the Reagan Ranch (Bossier Sand) Field is already within the interval of the Bald Prairie (CV Consolidated) Field. Anadarko is proposing no changes to the existing rules for the Bald Prairie (CV Consolidated) Field. At present, the allocation formulas are suspended for both fields in the proposed consolidation and Anadarko requests that the one for the Bald Prairie (CV Consolidated) Field remain suspended.

FINDINGS OF FACT

1. Notice of this hearing was given to all operators of wells in the fields to be consolidated on August 21, 2002.
2. The Bald Prairie (CV Consolidated) Field and Reagan Ranch (Bossier Sand) Field can be produced economically, and without causing waste, if consolidated into a single field.

3. The Bald Prairie (CV Consolidated) Field was formed by the consolidation of seven Cotton Valley and Bossier Sand fields, under Oil & Gas Docket No. 05-0227155, effective February 22, 2001.
4. Field rules for the Bald Prairie (CV Consolidated) Field provide for 467-1200' well spacing and 640-acre density with 40-acre optional units.
5. The Reagan Ranch (Bossier Sand) Field is under Statewide Rules for spacing and density.
6. The two subject fields have grown together, and Anadarko has recently identified Cotton Valley pay in its Bossier wells.
7. Cumulative production of the Reagan Ranch (Bossier Sand) Field is 9.5 BCF and there are thirty wells in this field.
8. The Bald Prairie (CV Consolidated) Field has about 100 wells and its cumulative production is 115.5 BCF.
9. The current designated interval of the Bald Prairie (CV Consolidated) Field, between 10,264 feet and 13,142 feet as shown on the log of the Wessely Energy Corp. J.H. Mitchell Lease Well No. 2 includes all of the Cotton Valley sandstones and the Bossier sandstones.
10. The producing interval in the Reagan Ranch (Bossier Sand) Field is between 13,660' and 13,850' in the Broughton Operating Corporation Cecil Reagan Well No. 1, and is within the designated interval of the Bald Prairie (CV Consolidated) Field.
11. Allocation in the Bald Prairie (CV Consolidated) Field is based 95% on deliverability and 5% per well which satisfy statutory requirements.
12. None of the wells in the two fields proposed for consolidation are now prorated and the allocation formula in the Bald Prairie (CV Consolidated) Field should remain suspended.
13. Studies of possible scaling due to downhole commingling of production from the Cotton Valley and Bossier sandstones indicate that fluids from these two intervals can be combined safely.
14. The average production from a downhole commingled well is expected to be 3 BCF while the most optimistic estimate for a well completed sequentially is 2.3 BCF.

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 Bald Prairie (CV Consolidated) Field and Reagan Ranch (Bossier Sand) Field 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 Reagan Ranch (Bossier Sand) Field be consolidated into the Bald Prairie (CV Consolidated) Field. The field rules for the Bald Prairie (CV Consolidated) Field should remain unchanged and the allocation formula remain suspended.

Respectfully submitted,

Margaret Allen
Technical Hearings Examiner

Date of Commission Action: October 22, 2002