

February 2, 2001

OIL AND GAS DOCKET NO. 05-0227155

THE APPLICATION OF CROSS TIMBERS OPERATING COMPANY TO CONSOLIDATE THE BALD PRAIRIE, N.E. (BOSSIER SAND); BALD PRAIRIE (CV-BOSSIER); BALD PRAIRIE (CV-LIME); BALD PRAIRIE (COTTON VALLEY); BALD PRAIRIE (COT.VLY.LM.,UPPER); AND BALD PRAIRIE, NORTH (CV) FIELDS INTO A NEW FIELD AND TO ADOPT FIELD RULES FOR THE (PROPOSED) BALD PRAIRIE (CV CONSOLIDATED) FIELD, ROBERTSON COUNTY, TEXAS

Heard by: Margaret Allen, Technical Hearings Examiner

Procedural history

Application received: January 10, 2001

Hearing held: February 2, 2001

Appearances

Richard Johnston	Representing Cross Timbers Operating Company
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EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Cross Timbers Operating Company is seeking standing and if standing is granted, to have the following fields consolidated into a new field that it requested be known as the Bald Prairie (Consolidated Cotton Valley) Field:

Bald Prairie (Bossier Sand)	05189 300
Bald Prairie (CV-Bossier)	05189 500
Bald Prairie (CV-Lime)	05189 600
Bald Prairie (CottonValley)	05189 650
Bald Prairie (Cot.Vly.Lm.,Upper)	05190 625
Bald Prairie, North (CV)	05192 500
Bald Prairie, N.E. (CV)	05193 250

Cross Timbers is proposing the following rules for the resultant field:

1. Designated interval from 10,264 to 13,142 feet as shown on the log of the Wesseley Energy J.H. Mitchell I, Well No. 2;

2. 467-1200' well spacing;
3. 640 acre proration units with 40 acre optional units; maximum diagonal to be determined by multiplying the square root of the acreage by 518.3 feet; and
4. allocation based 5% per well and 95% on deliverability.

The examiner proposes that the new field name be Bald Prairie (CV Consolidated). The examiner also recommends that proration unit diagonals be assigned as usual, with the maximum diagonal for wells on 640 acres the same as the largest diagonal for such wells under any of the existing fields' rules. The applicant had no objection to either of the examiner's proposals.

DISCUSSION OF THE EVIDENCE

Historic data about the various fields to be consolidated is in the following table:

Field	Discovery date	Depth (feet)	Total wells	Active wells	Cumulative production (MMCF)
Bald Prairie (Bossier Sand)	4/25/1983	12,581	1	0	104
Bald Prairie (CV-Bossier)	12/9/1976	11,610	16	16	10,625
Bald Prairie (CV-Lime)	5/4/1977	12,882	37	36	67,690
Bald Prairie (Cotton Valley)	12/10/1982	10,560	18	14	6,495
Bald Prairie (Cot.Val.Lm.,Upper)	4/18/1985	12,177	5	4	5,579
Bald Prairie, North (CV)	6/15/1977	12,577	3	1	826
Bald Prairie, N.E. (CV)	11/19/1983	11,110	2	1	3,944

All of the wells completed in the various fields are along a relatively narrow trend extending from southwest to northeast. Twenty-four Rule 10 exceptions have already been granted, all involving the Bald Prairie (CV-Bossier), (CV-Lime) and/or (Cotton Valley) Fields. Marathon Oil operates the only well in the Bald Prairie, N.E. (CV) Field. Mitchell operates all four wells in the Bald Prairie (Cot.Vly.Lm.,Upper) Field, one well in each of the Bald Prairie (CV-Lime) and (Cotton Valley) Fields, and nine wells in the Bald Prairie (CV-Bossier) Field. Cross Timbers operates all of the other active wells and has standing to bring this application. The most prolific of these fields, the Bald Prairie (CV-Lime), (CV-Bossier), and (Cotton Valley) already produce together in many wells and consolidation of the fields will facilitate the addition of previously marginal zones.

Cross Timbers proposes using the Wessely Energy (now Cross Timbers) Mitchell I, Well No.

2, to show the correlative interval for the consolidated field. In the log of this well, the top of the Cotton Valley Sand is at 10,264 feet. The base of the Cotton Valley Sand/top of the Bossier Shale is at 11,125 feet and the base of the Bossier Shale/top of the Bossier Sand is at 11,450 feet. The base of the Bossier Sand/top of the Cotton Valley Lime is at 12,614 feet, and the base of the Cotton Valley Lime (13,142 feet) is the base of the proposed designated interval.

Cross Timbers calculated the drainage areas of wells that it had sufficient data on, and the results are shown in the following table:

Field	Wells with data	Recoverable gas (range in MMCF)	Ultimate drainage area (range in acres)
Bald Prairie (CV-Lime)	7	977 to 4369	30 to 396
Bald Prairie (Ctn.Vly.Lm.,Upper)	1	1861	77
Bald Prairie (CV-Bossier)	3	1865 to 4769	30 to 235
Bald Prairie (Cotton Valley)	2	1025 to 4579	14 to 173
Bald Prairie, N.E. (CV)	1	896	33

The Bald Prairie (CV-Bossier) and (Ctn.Vly,Lm.,Upper) Fields have field rules specifying 640 acre units with 320 acre optional units. The Bald Prairie (CV-Lime) Field has field rules with 160 acre proration units with 80-acre optional units. The other fields are on 40 acre density. The maximum diagonal allowed for wells on 640 acres in the Bald Prairie (CV-Bossier) and (Ctn.Vly,Lm.,Upper) Fields is 13,500 feet. Cross Timbers calculated that a rectangle with a diagonal of 13,500 feet and an area of 640 acres would be more than six times as long as it is wide. The applicant requested that proration unit diagonals be assigned in a manner similar to those for horizontal wells, and thus the diagonal for a rectangle with an area of 40 acres would also be based on a rectangle six times as long as it is wide. The maximum diagonal would be calculated by:

$$518.3 \sqrt{\text{Acres in proration unit}}$$

Because of the multiple reservoirs in the consolidated field, a two-factor allocation formula is necessary. The applicant requested a formula based 5% per well and 95% on deliverability for the new field. All of the existing fields are one-well fields or have allowables based on AOF, and the applicant requested that the new field also have an allowable based on AOF.

EXAMINER'S OPINION

The maximum diagonal for 640 acre wells in the Bald Prairie (CV-Bossier) and (Ctn.Vly,Lm.,Upper) Fields is 13,500 feet and there is no reason to require their units to be

reconfigured when they are transferred to the consolidated field. However, if the maximum diagonal for wells on 40 acres were calculated by the formula proposed by the applicant, a rectangular unit with this diagonal would be 539 feet wide and 3233 feet long. No regular well could be located 467 feet from the lease lines of a unit with this shape. A 40-acre rectangle with a side of 933 feet would allow a regular well to be located 467 feet from the nearest lease lines but the maximum diagonal for such a unit would be less than 2100 feet, the common maximum diagonal for 40 acre units. The Commission already has a procedure to interpolate the maximum diagonal for units between the standard field rule unit size and the optional unit size. The examiner sees no need to adopt a maximum diagonal rule similar to those of horizontal field rules.

FINDINGS OF FACT

1. Notice of this hearing was given to all operators in the Bald Prairie (Bossier Sand); Bald Prairie (CV-Bossier); Bald Prairie (CV-Lime); Bald Prairie (CottonValley); Bald Prairie (Cot.Vly.Lm.,Upper); Bald Prairie, North (CV); and Bald Prairie, N.E.(CV) Fields on January 19, 2001.
2. The subject fields were discovered between 1976 and 1985, and there have been 79 completions in the various fields.
3. Cumulative production from these fields has varied from 104 MMCF to 69.7 BCF, but more than 70% of the production has come from the Bald Prairie (CV-Lime) Field.
4. The subject fields all occur between the top of the Cotton Valley Sand, shown at 10,264 feet in the type log, and the base of the Cotton Valley Lime at 13,142 feet.
5. The proposed type log for the consolidated field is from the Wesseley Energy Mitchell Lease Well No. 2, which is now operated by the applicant.
6. The subject fields have a variety of spacing and density rules
 - a. The field rules for the Bald Prairie (CV-Bossier) and (Ctn.Vly,Lm.,Upper) Fields specify 640 acre units with a maximum diagonal of 13,500 feet and include optional 320 acre units.
 - b. The field rules for the Bald Prairie (CV-Lime) Field specify 160 acre proration units with 80-acre optional units.
 - c. The other fields are on Statewide Rules and have 40 acre density.
7. The ultimate recoveries of a number of wells were calculated and they ranged from just under 1 BCF to 4.8 BCF.

8. Proration units of 640 acres with 40 acre optional units are appropriate for the consolidated field.
 - a. At least one well now in the Bald Prairie (CV-Lime) Field has an estimated ultimate drainage area of about 400 acres.
 - b. Some of the wells now in the Bald Prairie (CV-Bossier) and (Cotton Valley) Fields have estimated ultimate drainage areas over 160 acres.
 - c. Several wells in various fields to be consolidated have estimated ultimate drainage areas less than 40 acres.
9. The maximum diagonal for 640 acre proration units in the Bald Prairie (CV-Lime) and (CV-) Fields is 13,500 feet and there is no reason not to allow wells in the consolidated field to maintain the same sized and shaped units.
10. The standard maximum diagonal for wells on 40 acre optional units is 2100 feet and the Commission has a procedure to permit proportional diagonals for wells on units between 640 and 40 acres.
11. Well spacing of 467-1200 feet is common for wells on 40 acre optional density.
12. An allocation formula based 95% on deliverability and 5% per well will satisfy the statutory requirement for a two-factor formula in multiple-reservoir fields.
13. None of the wells in the fields to be consolidated have been prorated; notice that the proration formula for the consolidated field would be suspended was given to all operators and no one indicated a market of less than 100%.

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 (Bossier Sand); Bald Prairie (CV-Bossier); Bald Prairie (CV-Lime); Bald Prairie (Cotton Valley); Bald Prairie (Cot. Vly. Lm., Upper); Bald Prairie, North (CV); and Bald Prairie, N.E. (CV) Fields into a new field to be known as the Bald Prairie (CV Consolidated) Field will promote conservation.
4. The requested rules for the consolidated field will prevent waste, protect correlative rights within the field, promote conservation and satisfy statutory requirements.

EXAMINER'S RECOMMENDATION

Based on the above findings and conclusions, the examiner recommends consolidation of the Bald Prairie (Bossier Sand); Bald Prairie (CV-Bossier); Bald Prairie (CV-Lime); Bald Prairie (CottonValley); Bald Prairie (Cot.Vly.Lm.,Upper); Bald Prairie, North (CV); and Bald Prairie, N.E.(CV) Fields into a new field to be known as the Bald Prairie (CV Consolidated) Field. The Wesseley Energy Mitchell I, Well No. 2, between 10,264 and 10,470 feet, should be considered the discovery well for this newly-designated consolidated field and the requested rules should be approved. The allocation formula should also be suspended for the Bald Prairie (CV Consolidated) Field.

Respectfully submitted,

Margaret Allen
Technical Hearings Examiner

Date of Commission Action: February 22, 2001

EXHIBITS

1. Proration schedules
2. Map
3. Cross section
4. New field approval letters
5. Production summary
6. Volumetric Calculations
7. Drainage areas
8. Rule 10 exceptions
9. Diagonal limits