
* KEY ISSUES: _____ *
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* PFD RECOMMENDED DENIAL OF R37 EXCEPTION *
* FINAL ORDER: DOCKET DISMISSED W/O PREJ. *

RULE 37 CASE NO. 0207492

**APPLICATION OF KEVIN O. BUTLER & ASSOCIATES, INC. FOR A RULE 37
EXCEPTION TO DRILL ITS SNOWWHITE LEASE, WELL NO. 1, HAPPY (SPRABERRY
LIME) FIELD, GARZA COUNTY, TEXAS**

APPEARANCES:

FOR APPLICANT:

Ana Maria Marsland, attorney
Kevin O. Butler
Thomas Ray Smith

APPLICANT:

Kevin O. Butler & Associates, Inc.

FOR PROTESTANT:

Doug Dashiell
R. Gregg Bonogurio

PROTESTANT:

Torch Operating Company

PROCEDURAL HISTORY

DATE APPLICATION FILED:

December 28, 1994

DATE OF HEARING:

March 17, 1995

HEARD BY:

Barbara Epstein, Hearings Examiner
Thomas Richter, P. E., Technical Examiner

DATE CIRCULATED:

May 19, 1995

STATUS:

Protested

STATEMENT OF THE CASE

Kevin O. Butler & Associates, Inc. ("Butler") has applied for an exception to Statewide Rule 37 for its 160 acre Snowwhite Lease, Well No. 1, Happy (Spraberry Lime) Field, Garza County, Texas. The proposed well would be located 467' from the west lease and survey line and 200' from

the south lease and survey line. Field rules require 467' from lease line spacing and 933' between well spacing. The application is protested by Torch Operating Company ("Torch").

DISCUSSION OF THE EVIDENCE

APPLICANT'S EVIDENCE

The Happy (Spraberry Lime) Field is produced primarily from a Torch-operated unit (unitized 01/13/92, Order No. 8A-97,187) to the southwest of the proposed well and directly offsets the Butler tract. None of the mineral owners of the Butler tract are sharing in the Torch production. Butler is seeking this exception because a combination of topographical problems and the limits of the reservoir make it impossible for the applicant to drill a well at a regular location. In fact, the most reasonable location is probably closer to Torch's lease line than the proposed 200 feet.

The nearest producing well to the proposed location is the Torch Unit Lott Well No. 2-19, located 1,282 feet to the southwest. The Lott 2-19 well is very prolific, having shown a production potential of 758 barrels a day (cumulative production 549,406 BO). Butler believes that this well will drain all the productive acreage on the 160 acre Butler lease. Because of the topography, Butler cannot drill at a regular location near the southern corner of the section unless it places a surface location on a 50-foot bluff on the edge of a mesa. While other possible surface locations were discussed with Torch, Butler believes that no regular locations would allow it to encounter the hydrocarbon bearing pay in this application.

Butler's geological interpretation of the reservoir is that it is the result of a debris-flow process, with a northeast-southwest strike which indicates a relatively abrupt northern boundary. (see Butler Exhibit No. 4 attached) Well log data from wells drilled and completed in the subject field indicate pay variations ranging from 4 feet to 103 feet in thickness. The pay thickness can vary substantially over relatively short (less than 500') horizontal distances along this northern production-limiting border.

The Spraberry Lime is a limestone formation. The Butler cross-section of wells across this northern boundary confirms the abruptness of the termination of the limestone formation as it approaches the northern limit. The importance of this northern formation limit is that this formation boundary extends into Section 7 where the proposed Rule 37 exception application is sought. The Rule 37 location is necessary since a regular location would be within the limestone formation limit but outside the hydrocarbon bearing productive limit of the reservoir. It is Butler's opinion that in order for the Spraberry Lime formation to be productive, the porosity must be 16% or greater. Out of the 160 acre Butler tract in Section 7, only 9.65 surface acres (46.8 acre-feet) are deemed productive. Butler estimated that there are approximately 56,000 barrels of recoverable oil under its tract.

Originally, Butler contoured maps illustrating the gross sand thickness of this area in

December, 1994. The maps were changed on March 6, 1995, in preparation for this hearing which moved the northern boundary southward. The earlier maps were for investor purposes and showed the rock unit and not the hydrocarbon filled pore volume. Because Torch has drilled several more wells since unitization, Butler believes that the shape of the field has changed, although it has maintained a northeast-southwest orientation. Using a reservoir volume of 10-12 million barrels of oil (based on Torch's 1992 unitization hearing), and the well data obtained from Torch's drilling of wells since the unitization hearing, the interpretation of the shape of the Spraberry Lime reservoir must be altered to continue to accommodate this volume. The well control dictates the reservoir must be extended to the northeast into Section 7 which is the Butler Snowwhite tract.

On cross-examination by Torch, Butler's witness conceded that it had changed its interpretation of the northern boundary of the reservoir extending into Butler's lease in Section 7, thereby completely eliminating the possibility of a regular location. (The net porosity isopach map Butler made in 1994 showed 60 feet of net pay at a 467 feet location but the map prepared for the present hearing showed 0 net pay at the same location.) Under questioning by Torch, Butler's witness conceded that the change in mapping was based on an analysis of information it had when the 1994 maps were prepared and was not based on any new data. (Tr. p. 48)

Torch also questioned Butler about the number of acres having net hydrocarbon pore volume on the Butler lease; Butler testified that the total acreage was 9.65 out of 296 acres within the productive limits of the reservoir. To accommodate the data Butler obtained from wells drilled since Torch's 1992 hearing, Butler squeezed its interpretation of Torch's map in a northeast-southwest direction to accommodate the volume in the reservoir. And although Butler has not conducted a drainage study, it believes that there is potential drainage of Butler's entire tract from the Torch unit. Butler then acknowledged that although its proposed well would be located 200 feet from the Torch unit lease line, the nearest well to its lease on the Torch unit is 750 feet off the lease line. Butler's witness also testified that there is no current drainage occurring from the Torch unit. (Tr. p. 79)

PROTESTANT'S EVIDENCE

Torch testified that since the unitization hearing in December, 1991, it had drilled two producing and six injection wells. With new data derived from the drilling of the new wells and production history, Torch has increased its material balance calculation from 10,724,783 stock tank barrels of oil in 1991 to 15-18,000,000 barrels. These material balance calculations are made annually based on production and pressure data. Clearly, a larger pore volume would be needed to contain this large increase in oil-in-place.

One difference between Butler's and Torch's calculations of the net hydrocarbon pore volume is that Torch excluded the Patterson Lott Trust No. 1 (southwest Section 19), because the well was exhibiting virgin pressure, unlike all the other wells. Had the well been part of the reservoir, it should have produced virtually no water and shown some impact from other wells in the reservoir. Thus, the reservoir does not extend this far to the southwest. The north and south boundaries are well defined by well data. To accommodate the reservoir volume, the reservoir limits can only be

extended across Butler's 160 acre tract in Section 7 to the northeast, providing Butler with a productive regular location. (Even without this change in mapping, Butler's map came within fifty feet of showing a productive regular location.)

The formation is there. The porosity is there. The question is whether or not there is oil contained in the pores. Net hydrocarbon pore volume is porosity times net pay times oil saturation. Butler believes the net hydrocarbon pore volume encompasses only 9.65 acres onto its tract based on a total reservoir volume of 10.8 million barrels of oil. However, Torch's material balance analysis indicates a greater reservoir volume than 10.8 million barrels of oil, and Butler has not performed a reservoir engineering study of this reservoir. As previously stated, the reservoir can only be extended across Butler's tract which indicates there has to be an extension of the net hydrocarbon pore volume across this area.

Torch submits that if Butler uses its net porosity of greater than 16% map that was made in December 1994 (Torch Cross Examination Exhibit No. 3) a well on the Butler-Snowwhite tract at a regular location 467' FSL and 800' FWL will encounter 80 feet of net porosity formation as compared to the proposed Rule 37 location of 60 feet based on its present net porosity pay interpretation. (Butler Exhibit No. 5)

Torch estimated that it would cost \$379,300.00 to drill a well at Butler's proposed location, and \$433,300.00 if Butler directionally drilled the well to a regular bottomhole location. Torch estimates that Butler could recover the same amount of hydrocarbons from a directionally drilled regular location than it could from its proposed Rule 37 exception location.

Torch introduced a cumulative production chart of wells in the field from which it contended that given just 12 feet of net pay (the thinnest net pay of any well in the field), a well could ultimately recover almost 300,000 barrels of oil. (The two best wells in the field are estimated to ultimately recover a million barrels each.) Torch went on to argue that it would take only 50,000 barrels of oil to break even with its proposed alternative bottom hole location. These calculations were based on a production rate of 50 barrels of primary production per day, which would be a minimum amount for the wells shown on Torch's exhibits.

EXAMINERS' OPINION

It is the examiners' opinion that this exception to Statewide Rule 37 should be denied because the applicant failed to meet its burden of proof that the proposed location is necessary to afford it an opportunity to recover its share of hydrocarbons underlying its tract. The examiners found the protestant's evidence persuasive and conclude that there are regular locations available to Butler which will recover its share of hydrocarbons underlying its tract.

Butler's restrictive interpretation of the limits of the reservoir, the basic premise of its case, is false. The examiners believe that the reservoir interpretation by Torch is more credible than

Butler's. Butler's interpretation cannot be supported by the numbers estimating the oil in place in the field; the reservoir has to be expanded into the Butler tract, which enhances the prospects for regular locations. Butler's use of unitization maps and data from the 1991 unitization hearing are not as credible as the numbers Torch ran using current data (completion of later wells, production and pressures). Butler's approach seems determined only to support drilling as close to the lease line as possible.

Based on the evidence of record and the testimony presented at the hearing, the examiners make the following findings of fact and conclusions of law.

FINDINGS OF FACT

1. At least ten days notice was given to the designated operator, all lessees of record for tracts with no designated operator, and all owners of record of unleased mineral interests, for each adjacent tract and each tract nearer than 467 feet to the well.
2. An exception to Statewide Rule 37 is required because the proposed well will be located 467' from the west lease and survey line and 200' from the south lease and survey line. Field rules require 467' from lease line spacing and 933' between well spacing.
3. Field rules for the Happy (Spraberry Lime) Field are:

467' to lease line spacing /933' between well spacing /40 acre density
4. A well can be drilled at a regular location on the Butler lease that will give the applicant a reasonable opportunity to recover the hydrocarbons underlie its tract.
5. The proposed location is not reasonable and necessary to afford the applicant an opportunity to recover its share of hydrocarbons underlying its tract.

CONCLUSIONS OF LAW

1. Proper notice was given to all persons legally entitled to notice of this hearing.
2. All things have been done or have occurred to give the Railroad Commission jurisdiction to decide this matter.
3. The applicant failed to meet its burden of proof to show that the proposed well is reasonable and necessary to afford it an opportunity to recover its share of hydrocarbons underlying its tract, thereby preventing confiscation.

RECOMMENDATION

The examiners recommend that the above findings and conclusions be adopted and this exception to Statewide Rule 37 be **denied**.

Respectfully submitted,

Barbara Epstein
Hearings Examiner

Thomas Richter, P. E.
Technical Examiner

BAE/ds