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* KEY ISSUES: WASTE/CONFISCATION *
* Validity of scientific conclusions *
Isolated lenses *
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* *
* FINAL ORDER: R37 EXCEPTION DENIED *
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**Rule 37 Case No. 0206813**

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**APPLICATION OF BRG PETROLEUM, INC., FOR AN EXCEPTION TO STATEWIDE RULE 37 TO DRILL ITS WELL NO. 1, WATSON TRUST GAS UNIT, MARSTERS, N.E. FIELD, FREESTONE COUNTY, TEXAS**

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| **APPEARANCES:** | **REPRESENTING:** |
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| **APPLICANT** | |
| Lloyd Muennink (Attorney) | BRG Petroleum, Inc. |
| B. J. Reid | |
| **PROTESTANT** | |
| James Bostic (Attorney) | Yuma Petroleum |
| Kerry Pollard | |

## PROCEDURAL HISTORY

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| **Application Filed:** | October 3, 1994 |
| **Notice of Hearing:** | November 8, 1994 |
| **Hearing Held:** | December 15, 1994 |
| **PFD Circulated:** | February 24, 1995 |
| **Heard by:** | Jeffrey T. Pender, Hearings Examiner |
| | Margaret Allen, Technical Examiner |

## STATEMENT OF THE CASE

BRG Petroleum, Inc., ("BRG") has applied for an exception to Rule 37 for its first well on the 197.963 acre Watson Trust Gas Unit in the Marsters, N. E. Field in Freestone County, Texas ("subject tract and well"). Special field rules require 660' lease line and 1320' between-well spacing on 160 acres. The proposed well is 468' from the west line of the lease (see

attached plat). BRG claims that requiring it to drill this well at a regular location would not afford it a fair opportunity to recover its share of hydrocarbons under the tract. It further claims that the location is necessary to recover reserves in isolated sands that can not be recovered from a well at a regular location. Yuma Petroleum Company ("Yuma") protests the application.

## DISCUSSION

BRG estimates that there is 1.9 BCFG in-place in the Cotton Valley reservoir under the tract with 1.3 BCFG recoverable. Yuma believes these calculations are too high but presented none of its own. There are regular locations available on the Watson Trust Gas Unit. Therefore, BRG must show that it can not recover its share of hydrocarbons from a regular location if it is to be entitled to an exception based on confiscation.

THE CONFISCATION ARGUMENT

BRG claims that a well at a regular location would be too close to the southeast edge of the reservoir and would likely encounter sands with insufficient porosity to make a commercial well. B.J. Reid, an expert in petroleum engineering for BRG, explained his theory on the best way to develop the Marsters, N.E. Field. He believes that the thicker sands (greater than 70 feet) are poor producers because they tend to be siltier and therefore less porous and permeable. For example, the C. A. Epps Well found 71' of sand but is barely commercial at 200 MCFD. The thinner sands (less than 27 feet) should also be poor producers because of reduced porosity. Mr. Reid did testify that the thinner sands, though less porous, would be cleaner and probably more permeable. The sands with the optimum net pay, porosity and permeability are the sands in the 40 to 50 foot range.

Mr. Reid's theory is not reliable. On cross examination, Mr. Reid admitted that he has done no quantitative analysis to confirm his theories. His conclusion that a well drilled close to the southeast edge of the field would not be commercial, contradicts his other testimony that the thinner sands expected in the southeast portion of the field are likely to have better permeability. Mr. Reid also testified that in four of the five non-commercial wells, for which there is thickness information, the thicknesses are at least twice that expected at the proposed location. On cross examination, Mr. Reid admitted that there is not a good correlation between thickness and commerciality.

Even if Mr. Reid's theory is true; that the sands with the optimum net pay, porosity and permeability are the sands in the 40 to 50 foot range, there is no reliable method of predicting thickness in the Marsters, N.E. Field. When the Marsters No. 3 was drilled in early 1994, it was surrounded with Cotton Valley penetrations. It would appear that predicting the Cotton Valley thickness in the Marsters No. 3 would be a fairly safe exercise. The Marsters No. 3 was predicted to penetrate 50' of sand. Instead, it penetrated 99', almost twice the original predicted amount.

Mr. Reid testified that the seventeen wells in the field were all drilled on forty acre drilling units under Statewide Rules. The close spacing afforded by the Statewide Density Rule gave

operators considerable freedom to place wells where ever their best geologic information and theories dictated, unhindered by the recently adopted 660'/1320' spacing rule. Seven of those seventeen wells (40% of the wells) are non-commercial according to Mr. Reid. It appears that a useful theory to predict reservoir conditions in the Marsters, N.E. Field has not yet evolved.

BRG can not reliably predict that a well at its proposed location is any more likely to afford it an opportunity to recover its share of hydrocarbons than a well at a regular location. Thus, BRG has not refuted the regular locations available.

THE WASTE ARGUMENT

BRG also claims that the well location is necessary to prevent waste because the proposed well will encounter sand that cannot be penetrated and drained from any regularly located well, on or off tract. There is insufficient evidence to support this assertion. Both parties agree that such isolated lenses do exist in the field. However, BRG presented no evidence of any particular sand or sands under the proposed location whose extent did not reach to a regular location, nor did it present any study showing a statistical likelihood that isolated lenses do exist under the proposed location. Further, BRG presented no evidence as to the quantity of hydrocarbons that would be wasted.

## EXAMINERS' RECOMMENDATION

BRG has failed to show that a well at a regular location would not afford it a fair opportunity to recover its share of hydrocarbons under the lease. It further failed to prove that a well at the proposed location is necessary to prevent waste. BRG's application should be denied.

## FINDINGS OF FACT

1. Notice of hearing was given on November 8, 1994, to all designated operators, lessees of record for tracts that have no designated operator, and owners of record of unleased mineral interests for each adjacent tract and each tract nearer than 660 feet to the proposed well.

2. BRG Petroleum, Inc., ("BRG") has applied on Form W-1 for a permit to drill its Well No. 1, 468 feet from the west line on the Watson Trust Gas Unit in the Marsters, N.E. Field, Freestone County, Texas ("subject tract and well"). The subject tract is a regular tract containing 197.963 acres.

3. The Marsters, N.E. Field has spacing rules of 660' lease line, 1320' between-well and 160-acre density.

4. There are 1.9 BCFG in-place and 1.3 BCFG recoverable under the subject tract.

5. BRG failed to show that without the applied-for location, it would not be afforded an opportunity to recover its share of hydrocarbons under the tract.

    a. It is not possible to reliably predict the spatial distribution of the porosity, permeability or the thickness of the reservoir underlying the subject tract.

6. There is no unusual condition that requires the drilling of a well at the proposed location in order to prevent the waste of a substantial amount of hydrocarbons.

## CONCLUSIONS OF LAW

1. Proper notice of hearing was timely given to all persons legally entitled to notice.

2. All things have occurred and have been done to give the Commission jurisdiction to decide this matter.

3. An exception to Statewide Rule 37 for the subject well is not necessary to prevent confiscation.

4. An exception to Statewide Rule 37 for the subject well is not necessary to prevent waste.

Respectfully submitted,

Jeffrey T. Pender
Hearings Examiner

Margaret Allen,
Technical Examiner

JTP/kam