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*   KEY ISSUES: CONFISCATION                               *
*                   Window tract, swept oil                 *
*                   Protection well                         *
*                                                           *
*   FINAL ORDER: RULE 37 EXCEPTION DENIED                *
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RULE 37 CASE NO. 0200667

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**APPLICATION OF GEORGE R. BROWN PARTNERSHIP FOR AN EXCEPTION TO
STATEWIDE RULE 37 TO DRILL ITS WELL NO. 1204 SA, GARZA SAN ANDRES
DEEP WATERFLOOD UNIT, GARZA (SAN ANDRES, DEEP) AND GARZA
(GLORIETA, SO. DEEP) FIELDS, GARZA COUNTY, TEXAS**

APPEARANCES:

REPRESENTING:

APPLICANT

Lloyd A. Muennink (Attorney)
Robert Burnham

George R. Brown Partnership
"

PROTESTANT

David Gross (Attorney)
Dale E. Miller

WHD, Inc.
"

PROCEDURAL HISTORY

Application Filed:	December 11, 1992
Notice of Hearing:	February 27, 1993
Hearing Held:	March 9, 1993
PFD Circulated:	November 19, 1993
Heard by:	David Clarkson, Hearings Examiner Charles Dickson, P.E. Director of Technical Hearings

STATEMENT OF THE CASE

The George R. Brown Partnership ("Applicant") has applied for a permit to drill its Well No. 1204 SA/GL in the Garza San Andres Deep Unit and the Garza Glorieta South Deep Unit to be completed in the Garza (San Andres, Deep) and in the Garza (Glorieta, So. Deep) Fields in Garza County. Field rules for these fields require a minimum lease line distance of 467 feet and a minimum between well distance of 1200 feet. The applied-for location is 650 feet from the

north line and 100 feet from the east line. The east line is the western lease line of a non-participating window tract in the Garza San Andres Deep Unit. Protestant, WHD, Inc., is the operator of the non-participating window tract. The applicant and the protestant are the only two operators in the field. The applicant contends that the exception is necessary to prevent confiscation. The surface boundaries of both units lie almost entirely within the city limits of Post, Texas. This tends to skew the injection pattern within the units because of homes and roads. This is the second hearing requesting a well at the applied for location. Applicant is alleging changed conditions since the previous hearing.

DISCUSSION OF THE EVIDENCE

Reservoir Parameters

Applicant presented expert testimony from a petroleum engineer which is summarized as follows. The Garza San Andres Deep Unit ("GSADU") is a 922 acre secondary recovery unit approved by the Commission on November 25, 1991. The Garza Glorieta South Deep Unit ("GGSDU") is an 847 acre secondary recovery unit which was approved by the Commission on the same date.

The GSADU produces from the San Andres formation at approximately 3200 feet below surface. The San Andres has an average thickness of 400 feet and with an average net pay in the unit of 75 feet ranging up to 200 feet in the thickest portions.

The GGSDU produces from the Glorieta at approximately 3625 feet below surface. The average thickness of the Glorieta is 150 feet with an average net effective thickness of 45 feet.

Injection began on both units in May 1992. There are presently 8 active GSADU injectors and 9 active GGSDU injectors. All but one of the injection wells in the two units are dually completed in the San Andres and Glorieta.

Window Unit

The applied-for location is 100 feet west of WHD, Inc.'s Merrell-Storie Unit ("window unit"). The 1202 SA/GL injection well is approximately 820 feet west of the WHD window unit. Applicant contends that the applied-for location is needed to stop unit oil from being pushed off of the Applicant's GSADU and GGSDU from the west onto W.H.D.'s window unit.

Applicant's Well No. 303 SA/GL was drilled as a Rule 37 exception location and offsets the window unit 180 feet to the north. The 303 has been drilled since the last hearing for this location. The 1101 SA/GL is a dually completed producer located approximately 220 feet to the east of the window unit. Applicant testified that both these wells were drilled as Rule 37 exception locations. Applicant stated that both wells would be converted to injectors some time

in the future but did not estimate when. W.H.D. noted that these wells are currently producers and capable of producing oil from the window unit through direct drainage or in the capture of oil as it is swept off of the window unit.

Applicant estimated that the amount of oil which would be swept from the unit onto the window unit by injection into the 1202 is 349 MBO of recoverable secondary reserves. This figure was arrived at by calculating an average barrels per acre-foot for the swept area. The average primary recovery for the unit is 105 barrels per acre-foot (bbl/ac-ft). The average recovery in the window unit is 255 bbl/ac-ft. The average recovery for the swept area was the average of these two areas or 180 bbl/ac-ft. The area swept was assumed to be 11 acres. This area was arrived at by drawing a line from the 1202 injection well to the 303 SA/GL production well to the north and from the 1202 to the 1301 SA producer to the south. This formed an 11 acre triangle which Applicant showed as the area which would be swept onto the window unit. During cross-examination, W.H.D. showed that the recovery for the swept area could be closer to 105 bbl/ac-ft, the average recovery for the unit. This is contrasted with the 180 bbl/ac-ft estimated by Applicant. Thus the volume which would be swept from the 11 acres of the Applicant's acreage to the window unit would be closer to 209 MBO. This is compared with the Applicant's estimate of 349 MBO as noted earlier.

Applicant testified that a well drilled at a regular location would leave 143 MBO to be swept onto the window tract if that well did not water out immediately. Applicant stated it would not drill a well at a regular location for two reasons. The first is that a regular location 467 feet west of the window unit would lie in an area of comparable net pay thickness as the recently drilled 303 SA/GL. The 303 encountered 185 feet of net pay in the San Andres and approximately 42 feet of pay in the Glorieta. The 303 was completed with an initial potential of 35 BOPD and 270 BWPD combined from the two zones. Applicant stated that this would not be a commercial well but gave no estimate of the ultimate recovery for the well. W.H.D. showed that net pay is not the most accurate indicator of a wells productivity. W.H.D. presented evidence of production from wells with less net pay which come on at higher rates. The 1010 SA/GL, a well recently drilled in the northeast corner of the unit, only has 75 feet of net pay in the San Andres began producing at an initial potential of 56 BOPD. Thus, W.H.D. is of the opinion that net pay is not a clear indicator of the productivity of a well.

The second reason Applicant gave for not drilling a well at a regular location is its proximity to the 1202 SA/GL injection well. The 1202 SA/GL injection well would be 300 feet from a regular location. Applicant felt that a production well drilled this close to an injector would water out immediately. The 1203 SA, a well located 100 feet south of the 1202 SA/GL, responded to injection within 30 days after injection began. Applicant stated that because of the heterogeneity of the reservoir that no estimate could be made of when the water bank will reach the proposed location or the window unit.

Production curves for the window-unit wells were placed into evidence. Applicant stated that the decline in production on the window-unit has been arrested due to injection in Applicant's units. Protestant countered by showing several periods of increases and decreases in production on the window unit before injection began. Protestant also showed several wells within the unit which increased production before injection began. Applicant stated that he could find no scientific or engineering reason for the higher productivity on the window tract.

EXAMINERS' ANALYSIS AND RECOMMENDATION

For an exception to Rule 37 based on confiscation, Applicant must show that, absent the exception, it will be deprived of a fair chance to recover its tract's oil. If a regular location is available, applicant must show that the regular location well or other existing wells will not afford him a fair opportunity to recover the tract's reserves, and that the applied-for location will. The applicant has not met this burden and the examiners recommend denial of the application.

Applicant did not meet its burden of proof in showing a lack of opportunity to recover its fair share of hydrocarbons from the tract. Applicant testified that if a well is drilled at a regular location, the volume of oil swept off of the Brown units will 143 MBO versus 349 MBO with no well. The difference in these two figures presumably is the volume of oil which would be recovered by a well at a regular location although Applicant further testified that a well at a regular location would recover much less because it would water out immediately. Protestant believes the recovery factor for this part of the field is much lower. Thus the amount which would potentially be swept off of the unit would be closer to 209 MBO. Applicant did not quantify the amount of oil which would be recovered from the Rule 37 exception location.

Producing wells No. 303 SA/GL and No. 1101 SA/GL offset the window unit by 180 feet to the north and 220 feet to the east. Applicant testified in the earlier April 1992 hearing that oil would be swept off of the window tract onto the unit. Applicant failed to prove that the four completions (one in the San Andres and one in the Glorieta in each well) in the two wells No. 303 and 1101 did not give Applicant an opportunity to recover its fair share of the oil under its tract either from drainage directly from the window unit or in the recovery of oil after it is swept from the window unit.

FINDINGS OF FACT

1. Notice of hearing was given on December 23, 1992 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 to the well than the prescribed minimum lease-line spacing distance.

2. George R. Brown Partnership has applied on Form W-1 for a permit to drill Well No. 1204 in the Garza San Andres Deep Unit and the Garza Glorieta South Deep Unit. Applicant proposes to drill its well at a location 650 feet from the north line of the Unit and 100 feet from the east line of the unit. Applicant has applied for completion of its proposed well in the Garza (San Andres, Deep) and the Garza (Glorieta, So. Deep) Fields, having spacing rules of 467'/1200'.
3. An exception to Statewide Rule 37 is necessary for the Garza San Andres Deep Unit Lease Well No. 1204 SA because the proposed location is 100 feet from the east lease line.
4. The same proposed location was the subject of Rule 37 Case Number 109,489 heard April 30, 1992 and denied by Commission Final Order entered August 3, 1992.
 - a. Conversion of nine wells to water injection wells was cited as the changed conditions which allow the Commission to reconsider this application.
5. The proposed location is 100 feet from the 20 acre Merrell-Storie Unit which is a unit surrounded on 4 sides by the Garza San Andres Deep Waterflood Unit.
 - a. The Merrell-Storie Unit is operated by WHD, Inc.
6. The Merrell-Storie Unit is offset 180 feet to the north by Well No. 303 and to the east 180 feet by Well No. 1101 which are both dually completed producers in the Garza San Andres Deep Unit and the Garza Glorieta South Deep Unit.
 - a. No estimate of the ultimate production from Wells No. 303 SA/GL and 1101 SA/GL was made.
 - b. Injection permits have been issued for the conversion of Wells No. 303 and 1101.
7. The 1202 SA/GL injection well will sweep oil from the western edge of the of the Garza San Andres Deep Unit and the Garza Glorieta South Deep Unit to the Merrell-Storie Unit.
 - a. Wells No. 303 SA/GL and 1101 SA/GL will recover reserves from the Merrell-Storie Unit if maintained as producing wells.
 - b. Reserves will be swept off of the W.H.D.'s Merrell-Storie Unit by injection into Well No. 1202 SA/GL.

- c. No estimate of the net volume of reserves which will be swept onto W.H.D.'s Merrell-Storie Unit and off of the Merrell-Storie Unit onto Applicant's units was made.
8. Undrilled regular locations are available on the western edge of the Garza San Andres Deep Unit and the Garza Glorieta South Deep Unit.
 9. Applicant did not quantify the volume of oil which would be recovered at the Rule 37 exception location.
 10. Applicant did not quantify the volume of oil which would be recovered by existing wells on its unit.
 11. Applicant did not quantify what its fair share volume of oil is on its tract.

CONCLUSIONS OF LAW

1. Proper notice of hearing was timely given to all persons legally entitled to notice.
2. The application on Form W-1 was properly filed.
3. All things have occurred and have been done to give the Commission jurisdiction to decide this matter.
4. The proposed location is not reasonable because applicant failed to meet its burden of proof by showing that a regular location or the existing producing wells would not provide the mineral interest owners a reasonable opportunity to recover their tract's fair share of hydrocarbons.

Respectfully submitted,

David Clarkson
Hearings Examiner

Charles Dickson
Technical Examiner