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* KEY ISSUES: CONFISCATION *
*           Proof of recoverable reserves *
*           Refutation of regular location *
*           Commercial well *
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* FINAL ORDER: DENIED *
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OIL & GAS DIVISION

District 10
Rule 37 Case No. 0208836

**APPLICATION OF MIDGARD ENERGY COMPANY FOR AN EXCEPTION TO
STATEWIDE RULE 37 TO DRILL ITS NO. 3 WELL, ROGERS LEASE, MORGAN
(MORROW, LOWER), MORGAN (MORROW, BASAL), MORGAN (COTTAGE GROVE),
MORGAN (CHESTER), MAMMOTH CREEK (TONKAWA), MAGOUN, S. (MORROW,
LOWER) AND WILDCAT FIELDS, LIPSCOMB COUNTY, TEXAS**

APPEARANCES:

REPRESENTING:

APPLICANT -

Philip Patman, Attorney	Midgard Energy Company
Allen Donaldson, Expl. Dev. Advisor	"
Marty R. Smithey, Staff Geologist	"
W. Todd Lovett, Sen. Staff Res. Engr.	"
Jeff Ronk, Reservoir Eng. Mgr.	"
Russell J. Atkins, Engineer	"
David Bocanegra, Geophysical Advisor	"

PROTESTANT -

Andy Taylor, Attorney	Enron Oil & Gas Company
Greg Cloud, Consulting Pet. Engineer	"
Arthur Paquett, Div. Geo. Specialist	"
Roger Macarevich, Sr. Geophysicist	"

PROCEDURAL HISTORY

Application Filed:	May 11, 1995
Notice of Hearing:	May 12, 1995
Hearing Held:	July 14 & 31, 1995

**PFD Circulated
Heard by:**

February 22, 1996
Colin K. Lineberry,
Hearings Examiner
Doug Johnson,
Technical Examiner

STATEMENT OF THE CASE

Midgard Energy Company ("Midgard" or "applicant") seeks an exception to Statewide Rule 37 to drill its proposed Well No. 3 on the Rogers Lease in Lipscomb County for the Morgan (Morrow, Lower), Morgan (Morrow, Basal), Morgan (Cottage Grove), Morgan (Chester), Mammoth Creek (Tonkawa), Magoun, S. (Morrow, Lower) and Wildcat Fields.¹ Enron Oil & Gas Company ("Enron" or "protestant") protests the application. The proposed well location complies with the statewide spacing and density rules applicable to the Morgan (Morrow, Basal), Morgan (Cottage Grove), Morgan (Chester), Magoun, S. (Morrow, Lower) and Wildcat Fields. An exception is necessary, however, to the field rules for the Morgan (Morrow, Lower) and the Mammoth Creek (Tonkawa) Fields. The field rules for the Morgan (Morrow, Lower) mandate spacing of 1250 feet from lease lines and 2500 feet between wells, with 640 acre standard units and optional 320 acre units. The field rules for the Mammoth Creek (Tonkawa) require spacing of 660 feet from lease lines and 1320 feet between wells, 640 acre standard units and 160 acre optional units.

For both the Morgan (Morrow, Lower) and the Mammoth Creek (Tonkawa), the applied-for location is regular as to between well spacing but only 467' from both the north and the east lease line - closer than the minimum prescribed by the field rules. Accordingly, an exception to Statewide Rule 37 is necessary. The rectangular Rogers Lease contains 646.5 contiguous acres and, because of the optional unit sizes, a density exception pursuant to statewide Rule 38 is not necessary.

APPLICANT'S EVIDENCE AND POSITION

Morgan (Morrow, Lower) Field

The Morgan (Morrow, Lower) Field ("Lower Morrow") is located along the eastern edge of the Texas panhandle. The Lower Morrow in this area was deposited as a large submarine delta. The pay quality rock was laid down as near-shore bars with the major axis oriented in a northwest-southeast direction.

¹ Applicant originally also sought authority to drill for the Mammoth Creek, N. (Cleveland) Field. Applicant withdrew its request for authority to drill for the Mammoth Creek, N. (Cleveland) Field at the time this case was heard.

Midgard calculated the original recoverable gas in place within the area that it believes encompasses the entire productive area of the Lower Morrow as 35.4 BCF of gas. However, Midgard's extrapolation of the field-wide production decline curve for the existing wells in the field suggests that ultimate recovery will actually be substantially less than the original recoverable gas in place. Midgard estimated the ultimate recovery ("EUR") from all existing wells as 15-30 BCF. Midgard used the same parameters and method to calculate recoverable Lower Morrow reserves under its Rogers Lease as .569 BCF of gas.

Midgard's geologist prepared a net porosity isopach using available logs to contour net feet of Lower Morrow sand with porosity equal to or greater than 10% (based on a limestone matrix). Midgard's geologist testified that, in the absence of logs, feet of perforations in the Lower Morrow was a reasonable approximation of net porosity. Accordingly, wells for which he did not have logs available were contoured based on the number of gross feet of perforations in the Lower Morrow.

The Midgard geologist interpreted the log for the Enron Kathryn No. 1 as showing 15 feet of net porosity in the Lower Morrow. He used that value as one of the primary control points for the region surrounding the applied-for well location on his net porosity isopach for the Lower Morrow. Midgard acknowledges a fault cut in the Enron Kathryn No. 1 but believes it occurs above the Lower Morrow.

Midgard's only evidence regarding estimated ultimate recovery for a well at the proposed location was based on analogy to the Slawson 1-113 well, a Lower Morrow producer located approximately 3000 feet northeast of the proposed location in an area of the reservoir with 20 feet of net pay. The Slawson No. 1-113 began producing approximately 7 months prior to the hearing and Midgard's expert acknowledged that the paucity of data made extrapolation of ultimate recovery difficult. Nonetheless, applicant's expert estimated that the Slawson 1-113 well will ultimately recover between 0.8 and 1.0 BCF of gas from the Lower Morrow.

Based on Midgard's net porosity isopach map, which shows the Slawson 1-113 to have 20 feet of net porosity in the Lower Morrow and the applied-for location as having 15 feet of net porosity, Midgard's witness estimated that a well at the applied-for location would recover approximately .57 BCF of gas. He stated, without explanation, that "we would expect to need 15 feet or greater to get the .57 BCF that we find recoverable under our acreage." No specific estimate of the ultimate recovery of a regularly-located well was given. The only evidence offered by applicant as part of its direct case regarding Lower Morrow recovery for a well in a regular location was the vague statement that if the proposed well was moved to the southwest (i.e. toward a regular location), and net porosity feet decreased in accordance with Midgard's net porosity isopach map, "we would not expect to recover all the gas under our tract ..."

Mammoth Creek (Tonkawa) Field

Midgard presented relatively little evidence concerning the Mammoth Creek (Tonkawa)

("Tonkawa"), which it characterized as a "back-up zone." Midgard's geologist testified that Midgard would get about the same net porosity thickness at a regular location as at the applied-for location. Midgard's geologist also testified that "we feel like we can get [more structural increase]" by drilling at the applied-for location. Midgard did not, however, present a structure map or any other documentary evidence regarding the structure of the Tonkawa.

Midgard did not present any evidence quantifying how much additional gas, if any, would be recovered from the Tonkawa by the applied-for location as opposed to a regular location. Midgard did not present any calculations of the volume of recoverable hydrocarbons in the Tonkawa under the Rogers Lease. Similarly, Midgard did not present any evidence regarding the volume of hydrocarbons from the Tonkawa that would be recovered by a well in the applied-for location or by a well in a regular location. Applicant appeared to primarily base its claim to an exception for the Tonkawa on the assertion that it needed a dual completion in the Lower Morrow, its primary target reservoir, to make the proposed well profitable or "commercial."

PROTESTANT ENRON'S EVIDENCE AND POSITION

Protestant Enron's principal disagreement with the geological presentation of Midgard concerned the interpretation of the log for Enron's Kathryn No. 1 Well which is located immediately to the southeast of Midgard's applied-for location. Enron asserted that Midgard incorrectly located the fault cut in the Kathryn No. 1 and that Enron's log correlations clearly show that the Lower Morrow is faulted out of the Kathryn No. 1. Enron further asserted that Midgard's erroneous interpretation of 15 feet on Lower Morrow net porosity in the Kathryn No. 1 (rather than the 0 interpreted by Enron due to the fault) skewed Midgard's net porosity isopach map resulting in an interpretation of less pay at regular locations than is actually in place. Enron presented a net sandstone isopach map which it contended more accurately reflected the Lower Morrow net pay under the applied-for location and the potential regular locations on Midgard's tract.

Enron's experts testified that a well located at a regular location on the Midgard tract would encounter 9 to 10 feet of net pay in the Lower Morrow. Enron's consulting petroleum engineer opined that a typical Lower Morrow well with 9 to 10 feet of net pay would recover 1 to 1.5 BCF of gas. Enron's division geological specialist testified that, in his opinion, a regularly located well on the Midgard tract would recover .6 BCF of gas.

EXAMINERS' OPINION

1. Legal Standard

Exceptions to Statewide Rule 37 may be granted to prevent waste or to protect correlative rights/prevent confiscation. To obtain an exception to Statewide Rule 37 to protect correlative

rights, the applicant must show: 1) It is not possible for the applicant to recover his fair share by placing the well at any regular location; and, 2) that the proposed irregular location is reasonable. An applicant seeking an exception to rule 37 based on waste must establish three elements: 1) that unusual conditions, different from conditions in adjacent parts of the field, exist under the tract for which the exception is sought; 2) that, as a result of these conditions, hydrocarbons will be recovered by the well for which a permit is sought that would not be recovered by any existing well or by additional wells drilled at regular locations; and, 3) that the volume of otherwise unrecoverable hydrocarbons is substantial.

2. Morgan (Morrow, Lower) Field

Applicant Midgard failed to establish its entitlement to an exception to Rule 37 based on either waste or confiscation. As to confiscation, Midgard did not prove that it could not recover its fair share of hydrocarbons from a regular location. Midgard presented evidence that there are currently .569 BCF of Lower Morrow reserves under its tract. Midgard did not, however, present credible evidence that those reserves could not be recovered by a well at a regular location. Midgard did not present any evidence regarding the potential recovery of a regularly-located well, other than the vague assertion that a well with less than 15 feet of net pay would not be expected to recover all of the gas under its tract.

Midgard's bare assertion that it would expect to need 15 feet or more of producing sand to recover .57 BCF is insufficient proof and is, in any event, refuted by other evidence in the record. The Gossett No. 2 well, which has 7 feet of perforated interval in the Lower Morrow, and according to the experts for applicant and protestant would therefore be presumed to have encountered approximately 7 feet of net porosity, is producing 2 MMCF per day and produced 66.4 MMCF in its first two months of production.

Midgard did not present a recovery analysis for any specific location on its tract - it only analyzed the Slawson 1-113, located on a nearby tract, and compared the applied-for location to that well by analogy. Midgard estimated, without substantiating calculations or other analysis, that, based on its predicted EUR of .8 to 1.0 BCF for the Slawson No. 1-113 with 20 feet of net porosity, the 15 feet of net porosity at the applied-for location would be expected to yield .57 BCF. Midgard then took its analogy a step farther and opined that it would not expect to recover all the gas under its tract if held to a regular location. Even if the projected EUR is taken as true, this is simply not sufficient to refute a regular location.

Further, the examiners believe Midgard's analysis and estimated EUR for the Slawson No. 1-113 to be unreliable, given the short production history of the well. The Slawson No. 1-113 only began producing approximately 7 months prior to the hearing and Midgard's expert acknowledged that the paucity of data made extrapolation of ultimate recovery difficult. With respect to a different well in the field (the Gossett No. 2), completed a month earlier than the Slawson 1-113, Midgard's reservoir engineer testified that it was "way too early to tell what the estimated ultimate recovery

would be." The examiners believe it is also too early to reliably predict the recovery for the Slawson No. 1-113 and that Midgard's estimated EUR for that well of .8 to 1.0 BCF lacks credibility for that reason. As a result, Midgard's estimated EUR of .6 BCF for the applied-for location, derived purely by analogy to the Slawson 1-113, is similarly unreliable and lacking in credibility.

The examiners find Enron's geological interpretation of net pay to be more persuasive and agree that Midgard would likely encounter 9 to 10 feet of Lower Morrow net pay at a regular location. Given Enron's estimates that a well encountering 9 to 10 feet of net pay in the Lower Morrow will produce .6 BCF or more of gas, the preponderance of credible evidence indicates that a regular location will allow Midgard to recover its fair share of hydrocarbons from the Lower Morrow. The examiners find that Midgard failed to refute a regular location for its well and, accordingly, did not prove its entitlement to a Rule 37 exception based on confiscation.

Midgard similarly failed to prove its right to an exception to Rule 37 based on waste. Midgard did not prove that the Lower Morrow reserves on its tract could not be recovered by a regularly located well on its tract or an adjoining tract. In addition, Midgard did not present a structure map or any other evidence of unusual conditions under its tract, different from adjacent tracts in the Lower Morrow Field. Accordingly, Midgard failed to establish two of the three elements required for an exception to Rule 37 based on waste.

3. Mammoth Creek (Tonkawa) Field

Applicant Midgard also failed to prove its entitlement to an exception to the provisions of Rule 37 for the Tonkawa. Midgard did not present any evidence of the current recoverable Tonkawa reserves underlying its tract and did not present any evidence of the amount of such reserves that would be recovered by a well at a regular location. As a result, Midgard did not prove its right to an exception to Rule 37 based on confiscation.

Midgard similarly failed to prove its right to an exception for the Tonkawa Field based on waste. Midgard did not prove that the Tonkawa reserves on its tract could not be recovered by a regularly located well on its tract or an adjoining tract. In addition, Midgard did not present a structure map or any other evidence of unusual conditions under its tract, different from adjacent tracts in the Tonkawa Field that would justify an exception based on waste. Midgard did present a net porosity isopach showing that the Tonkawa is deposited in distinct north-west trending sand bodies. However, the sand body crossing Midgard's tract continues on adjacent tracts to the north and south and is not unique to the Midgard tract. Accordingly, Midgard failed to establish at least two of the three elements required for an exception to Rule 37 based on waste for the Tonkawa.

4. Right to a "Commercial Well"

Midgard's witnesses indicated that they believed that they needed the applied-for irregular location to allow them to have a commercial well and counsel for Midgard stated in his closing

argument that the ability to make a commercial well was the proper test in ruling on the requested Rule 37 exception. The examiners disagree. Neither Midgard nor any other operator is **guaranteed** a well that meets its self-imposed criteria for economic viability - each mineral interest owner is entitled to a fair and equal **opportunity** to recover its fair share of the hydrocarbons under its tract. Rule 37 is equally applicable to all operators. While the non-discriminatory application of Commission spacing rules may result in some economic loss by Midgard, this loss does not amount to legal confiscation. **See** *Railroad Commission v. Manziel*, 361 S.W.2d 560, 565 (Tex. 1962); *Railroad Commission v. Fain*, 161 S.W.2d 498, 500 (Tex. Civ. App. -- Austin 1942, writ dismissed w.o.m.). The determination of what is a fair opportunity must be based on the relationship between potential drill site locations and the currently recoverable reserves under a tract, not on economic viability guidelines that each operator selects for itself.

As to both the Lower Morrow and the Tonkawa, Midgard has failed to carry its burden of proof for an exception to Rule 37 based either on waste or confiscation and its application should be denied.

FINDINGS OF FACT

1. Notice of the hearing was given at least 10 days prior to the hearing 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. Midgard Energy Company ("applicant") has applied on Form W-1 for a permit to drill Well No. 3 on the Rogers Lease. Applicant proposes to drill its well at a location 467 feet from the north line and 467 feet from the east line of the unit, and 467 feet from the north line and 467 feet from the east line of the H&TC RR Survey. Applicant has applied for completion of its proposed well in the Morgan (Morrow, Lower), Morgan (Morrow, Basal), Morgan (Cottage Grove), Morgan (Chester), Mammoth Creek (Tonkawa), Magoun, S. (Morrow, Lower) and Wildcat Fields.
3. The proposed location is regular in the Morgan (Morrow, Basal), Morgan (Cottage Grove), Morgan (Chester), Magoun, S. (Morrow, Lower) and Wildcat Fields.
4. The Morgan (Morrow, Lower) Field has field rules requiring spacing of 1250 feet from lease lines and 2500 feet between wells. The field rules further specify a density pattern of 640 acres per well with optional 320 acre spacing.
5. The Mammoth Creek (Tonkawa) Field has field rules requiring spacing of 660 feet from lease lines and 1320 feet between wells. The field rules further specify a density pattern of 640 acres per well with optional 160 acre spacing.

6. Applicant's Rogers Lease is a rectangular 646.5 acre tract containing potential regular well locations.
7. A well at a regular location on the Rogers Lease would recover substantially all of the hydrocarbons currently in place under the lease in the Morgan (Morrow, Lower) Field or their equivalent in kind.
8. No unusual condition exists under the Rogers Lease that affects the Morgan (Morrow, Lower) Field or the Mammoth Creek (Tonkawa) Field.
9. Substantially all of the hydrocarbons under the Rogers Lease in the Morgan (Morrow, Lower) Field and the Mammoth Creek (Tonkawa) Field can be recovered by regularly-located wells on the Rogers Lease or on another tract.
10. The applied-for irregular location is not reasonable.

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 the well spacing rules is not necessary to give the mineral interest owners of the Rogers Lease a reasonable opportunity to recover their fair share of hydrocarbons from either the Morgan (Morrow, Lower) Field or the Mammoth Creek (Tonkawa) Field.
4. An exception to the well spacing rules is not necessary to prevent the loss of a substantial volume of hydrocarbons underlying the Rogers Lease from either the Morgan (Morrow, Lower) Field or the Mammoth Creek (Tonkawa) Field.
5. An exception to Statewide Rule 37 for a well at the applied-for location is not necessary to prevent confiscation or to prevent waste.

RECOMMENDATION

The examiners recommend that the subject application be denied as to both the Tonkawa and Lower Morrow Fields in accordance with the attached final order.

Respectfully submitted,

Colin K. Lineberry
Hearings Examiner

Douglas O. Johnson, P.E.
Technical Examiner

LEGAL BACKGROUND

Exceptions to Statewide Rule 37 may be granted to prevent waste or to protect correlative rights/prevent confiscation. There is no allegation that an exception is necessary in this case to prevent waste. To obtain an exception to Statewide Rule 37 to protect correlative rights, the applicant must show: 1) It is not feasible for the applicant to recover his fair share by placing the well at any regular location.; and, 2) that the proposed irregular location is reasonable and is necessary due to surface or subsurface conditions.

The doctrine under which issues previously determined between parties are held conclusively established in a subsequent proceeding is collateral estoppel. The doctrine of collateral estoppel applies to prior adjudication of issues by administrative agencies, such as the Railroad Commission, that act in a judicial or quasi-judicial capacity. *Muckelroy v. Richardson I.S.D.*, 884 S.W.2d 825, 830 (Tex. App. -- Dallas 1994, writ denied); *Magnolia Petroleum Co. v. Railroad Commission*, 96 S.W.2d 273, 275 (Tex. 1936). The Texas Supreme Court has "expressed a strong preference that '[c]ontinued litigation of issues or piecemeal litigation should be discouraged' in state regulatory agencies." *Coalition of Cities v. Public Utilities Commission*, 798 S.W.2d 560, 563 (Tex. 1990), cert. denied, 499 U.S. 983 (1991) quoting, *Westheimer I.S.D. v. Brockett*, 567 S.W.2d 780, 787 (Tex. 1978). The Railroad Commission does, however, have authority to re-adjudicate a matter when there has been a material change in conditions. *Sexton v. Mount Olivet Cemetery Association*, 720 S.W.2d 129, 139 (Tex. App. -- Austin 1986, writ ref'd n.r.e.).

Collateral estoppel precludes only the re-litigation of specific issues of fact or law that were actually litigated in an earlier proceeding. *Van Dyke v. Boswell, O'Toole, Davis & Pickering*, 697 S.W.2d 381, 384 (Tex. 1985). Collateral estoppel only applies to conclusively establish an issue when:

1. The issue sought to be litigated in the second action was fully and fairly litigated in the prior action;
2. The issue was essential to the judgment in the first action; and,
3. The parties were cast as adversaries in the first action.

El Paso Natural Gas Co. v. Berryman, 858 S.W.2d 362, 364 (Tex. 1993); *Mower v. Boyer*, 811 S.W.2d 560, 563 (Tex. 1991); *Eagle Properties, Ltd. v. Scharbauer*, 807 S.W.2d 714, 721 (Tex. 1990).

Finally, the rule regarding interpretation of previous orders of the Commission is straight forward. As with court judgments, if an agency order is unambiguous, its effect is declared, " ... in light of the literal meaning of the language employed. *P.U.C. v. Coalition of Cities for Affordable Utility Rates*, 776 S.W.2d 224, 227 (Tex. App. -- Austin 1989, mand. overr.).

While the non-discriminatory application of Commission spacing rules may result in economic loss to specific operators, this loss does not amount to legal confiscation. See *Railroad Commission v. Manziel*, 361 S.W.2d 560, 565 (Tex. 1962); *Railroad Commission v. Fain*, 161 S.W.2d 498, 500 (Tex. Civ. App. -- Austin 1942, writ dism'd w.o.m.).