
* KEY ISSUES: Confiscation *
* reasonable location *
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* *
* FINAL ORDER: GRANT/DENY *

RULE 37 DOCKET NO. 0208651

**APPLICATION OF ENRON OIL AND GAS COMPANY FOR AN EXCEPTION TO
STATEWIDE RULE 37 TO DRILL ITS WELL NO. 3 ON THE KATHRYN 112 LEASE, IN
THE MORGAN (MORROW, LOWER), MORGAN (MORROW, BASAL), MAMMOTH
CREEK, NORTH (CLEVELAND), MORGAN (COTTAGE GROVE), MORGAN
(CHESTER), MAMMOTH CREEK (TONKAWA), MAGOUN, S. (MORROW, LOWER)
AND WILDCAT (ABOVE 9850) FIELDS, LIPSCOMB COUNTY, TEXAS**

APPEARANCES:

REPRESENTING:

FOR APPLICANT:

Andy Taylor
Arthur Paquett
Roger Macarevich
Greg Cloud

Enron Oil and Gas Company

FOR PROTESTANT:

Philip Patman
Scott Mueller
Stephen Slawson

Slawson Exploration

PROCEDURAL HISTORY

DATE APPLICATION FILED:	April 24, 1995
NOTICE OF HEARING:	April 28, 1995
HEARING DATE:	June 21, 1995
TRANSCRIPT RECEIVED:	June 27, 1995
PFD CIRCULATION DATE:	September 27, 1995
HEARD BY:	Jeffrey T. Pender, Hearings Examiner Doug Johnson, Technical Examiner

STATEMENT OF THE CASE

Enron Oil and Gas Company ("Enron") is seeking an exception to Statewide Rule 37 to drill 467' from the lease line, its Well No. 3 on the 196.2 acre Kathryn 112 Lease (see attached plat) in the Morgan (Morrow, Lower), Morgan (Morrow, Basal), Mammoth Creek, North (Cleveland), Morgan (Cottage Grove), Morgan (Chester), Mammoth Creek (Tonkawa), Magoun, S. (Morrow, Lower) and Wildcat (above 9850) Fields, Lipscomb County, Texas ("subject lease and well"). The Morgan (Morrow, Lower) is the main target for this well. The subject lease took its present size and shape on February, 5, 1942.

Only three of the targeted field completions will require Rule 37 exceptions. The Morgan (Morrow, Lower) ("Lower Morrow") requires 1,250' lease-line and 2500' between-well spacing on 640/320 acres. The Mammoth Creek, North (Cleveland) and Mammoth Creek (Tonkawa) Fields require 660' lease-line and 1,320' between-well spacing on 640/160 acres.

Slawson Exploration Company ("Slawson") is protesting Enron's application. Slawson does not dispute that Enron is entitled to a well, only the reasonableness of the proposed location.

Enron did not put on any evidence concerning its fair share of production in the Mammoth Creek, North (Cleveland) or Mammoth Creek (Tonkawa) Fields. There is currently no well on the subject lease completed in the Lower Morrow.

APPLICANT'S EVIDENCE AND POSITION

It is uncontested that there is approximately 1.4 BCF of gas recoverable from the Lower Morrow east of the fault identified in the Kathryn 112 No. 1 and that Enron is entitled to a well to recover those hydrocarbons. Only the reasonableness of the location of the well is contested. Enron believes that its proposed location is reasonable based on the following:

1. It will give Enron a mirror offset to Slawson's 1-113 PSL well to the north which is currently draining the subject lease.
2. Sand quality diminishes and water saturation increases to the south of the Slawson 1-113 PSL well.
3. There is a 100' fault which cuts out the main pays in Lower Morrow near the center of the tract. The presence of the fault near the center of the tract makes a location there, unreasonable.

MIRROR OFFSET ARGUMENT

The Slawson 1-113 PSL well, which is completed in the Lower Morrow, is located 467' north

of the northern-most north line of the subject lease. Enron's proposed location is 467' south of the northern-most north line and would create a no-flow boundary at the lease line under ideal conditions.

RESERVOIR QUALITY TRENDS

Mr. Paquett, a geologist for Enron, testified that the Lower Morrow is comprised of offshore bar sands in the Morgan Field area. The bars trend north-west to south-east in a direction parallel with the Lower Morrowan coastline. Based on his analysis of logs in the area, Mr. Paquett believes that "net" pay requires in excess of 10% porosity. Enron Exhibits 4 and 5 are isopachs of the net sand in two zones of the Lower Morrow; the "A" zone and the Akers Sandstone.

Mr. Greg Cloud, a consulting engineer, testified that the Slawson 1-113 currently produces 1,500 MCFD; the Enron Akers 33-1, about 1 mile to the south-east of the 1-113 well produces about 700 MCFD and the Herber No. 1, about a mile directly south from the 1-113 well, produces nothing from 21 net feet of Lower Morrow. Based on these observations Mr. Cloud concludes that there is an overall decrease in reservoir quality from north to south in this portion of the reservoir.

On cross examination, however, Mr. Paquett admitted that the Herber No. 1 is an old well (1980's) and may actually produce economic quantities of gas. He also admitted that Mr. Cloud's Exhibit 8 (Log Analysis Summary) does not indicate any significant north-south trends in porosity or water saturation.

Mr. Paquett also acknowledges that there is no discernable relationship between net pay and productivity. On cross-examination he agreed that the Mewbourne Oil Brandenburg No. 2 has produced over 1 BCF from 3' of Lower Morrow while the Presidio Born No. 2, with 31 net feet of pay has achieved no production.

FAULT IN THE LOWER MORROW

Mr. Paquett also produced a cross-section correlation suggesting that the target portion of the Lower Morrow has been cut out by faulting as seen in the Kathryn 112 No. 1, located near the center of the subject lease. The correlation appears to be geologically sound. Mr. Macarevich, Enron's geophysicist, produced a seismic line that runs east-west about 1,100' south of the Kathryn 112-1. The seismic reliably demonstrates the existence of a fault that cuts the top of the Lower Morrow and the top of the Chester. Enron did not determine whether the fault was a sealing fault with respect to the Lower Morrow nor did Enron define the north-south extent of the fault.

PROTESTANT'S EVIDENCE AND POSITION

Slawson suggests that Enron's proposed mirror location is unreasonable and that Enron should drill its proposed well 1,250' south of the northern-most north line ("1,250' location"). Slawson believes that Enron will still be able to recover its fair share at the 1,250 location while also minimizing drainage from off-lease and minimizing the wasteful effects of inter-well competition for reserves. Slawson also believes that because there is no fault cutting out the main pay at the center of the lease, a location closer to the center of the lease would be more reasonable.

FAULT IN THE LOWER MORROW

Scott Mueller, a geologist for Slawson, presented testimony and cross-sections suggesting that there is a fault near the center of the subject lease as Enron contends but that the fault does not cut out the Lower Morrow in the Kathryn 112 No. 1. Mueller's correlations are not as clear and convincing as those made by Paquett for Enron. Moreover, Macarevich's seismic showing a fault cutting the entire Lower Morrow is also quite compelling.

FAIR SHARE RECOVERY AT THE 1,250' LOCATION

Stephan Slawson, operations manager for Slawson, testified that wells in the Lower Morrow will drain the optional unit size of 320 acres. This was not refuted. He constructed drainage maps for Enron's proposed location and Slawson's proposed 1,250' location by modifying 320 acre circles for the effects of nearby producing wells. A well drilled at Enron's proposed location would drain 200 acres of the target reservoir according to Slawson's calculations. Considering that the subject lease is 196 acres, Enron would certainly be draining its fair share of the reservoirs' reserves at its proposed location. However, less than 60% of the well's recovery at the Enron location would be from under the subject tract. A well at the 1,250' location suggested by Slawson would drain 210 acres with as much as 67% of the production coming from under the subject lease.

THE PROBLEM OF INTER-WELL INTERFERENCE

It is not disputed that the Slawson 1-113 PSL Well is draining gas from under the subject tract. However, Slawson contends that if Enron is permitted to drill only 933 feet from the Slawson 1-113 PSL well, any hydraulic fracturing that Enron might conduct would have a high probability of damaging downhole equipment in the Slawson well. Moreover, permitting wells capable of producing 1,500 MCFD to compete for reserves in such close proximity is poor reservoir management practice.

EXAMINER'S OPINION

The examiners believe that Enron's proposed location is not reasonable because the evidence shows that a well at Slawson's proposed 1,250' location will cause less drainage of surrounding property, will create less inter-well interference and provide the applicant with a reasonable opportunity to recover its fair share of hydrocarbons.

Enron will suffer no increased risk of missing section or boundary effects due to the fault found in the Kathryn 112-1 because Slawson's 1,250' location is still over 2,300' from the Kathryn 112-1.

FINDINGS OF FACT

1. Notice of hearing was given on April 28, 1995, to all designated operators, lessees of record of 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. Enron Oil and Gas Company ("Enron") has applied on Form W-1 for a permit to drill 467 feet from the lease line, its Well No. 3 on the 196.2 acre Kathryn 112 Lease in the Morgan (Morrow, Lower), Morgan (Morrow, Basal), Mammoth Creek, North (Cleveland), Morgan (Cottage Grove), Morgan (Chester), Mammoth Creek (Tonkawa), Magoun, S. (Morrow, Lower) and Wildcat (above 9850) Fields, Lipscomb County, Texas ("subject lease and well").
3. Field rules for the Mammoth Creek, North (Cleveland) and the Mammoth Creek (Tonkawa) require 660' lease-line and 1,320' between-well spacing on 640/160 acres. Field rules for the Morgan (Morrow, Lower) require 1,250' lease-line and 2,500' between-well spacing on 640/320 acres. Field rules for the Morgan (Morrow, Basal), Morgan (Cottage Grove), Morgan (Chester), Magoun, S. (Morrow, Lower) and the Wildcat (above 9,850) require 467' lease line spacing. There are no regular locations on the subject lease for the Morgan (Morrow, Lower).
4. The subject lease took its present size and shape on February, 5, 1942.
5. There is 1.4 BCF remaining recoverable reserves in the Morgan (Morrow, Lower) under the subject lease.
6. The remaining recoverable reserves in the Mammoth Creek, North (Cleveland) and the Mammoth Creek (Tonkawa) Fields are unknown.

7. Slawson Exploration Company ("Slawson") proposes that Enron's well be drilled 1,250' south of the north line of the subject lease and 467' east of the west line ("1,250' location").
8. The location proposed by Enron is not reasonable and Slawson's 1,250' location is reasonable because:
 - a. Slawson's proposed 1,250' location will cause less drainage of surrounding property than Enron's proposed location.
 - b. A well at Slawson's 1,250' location will cause less inter-well interference with the Slawson 1-113 PSL well to the north.
 - c. Enron will be afforded a reasonable opportunity to recover its fair share of hydrocarbons under the subject lease from a well drilled at Slawson's proposed 1,250' location.

CONCLUSIONS OF LAW

1. Proper notice of hearing was timely issued by the Railroad Commission to appropriate persons legally entitled to notice.
2. All things necessary to the Commission attaining jurisdiction over the subject matter and the parties in this hearing have been performed
3. Enron is entitled to drill a well on the subject lease to prevent confiscation.
4. The applied-for location is not reasonable because there are less irregular locations at which Enron may receive its share of hydrocarbons from the Morgan (Morrow, Lower).
5. Slawson's 1,250' location is reasonable because it will afford Enron a reasonable opportunity to recover its share of hydrocarbons from under the subject lease.
6. Enron is not required by law to obtain exceptions to Statewide Rule 37 to drill at its proposed location or at Slawson's proposed 1,250' location for the Morgan (Morrow, Basal), Morgan (Cottage Grove), Morgan (Chester), Magoun, S. (Morrow, Lower) and the Wildcat (above 9,850).
7. Enron failed to meet its burden to prove that an exception is necessary for completions in the Mammoth Creek, North (Cleveland) and Mammoth Creek (Tonkawa) Fields.

RECOMMENDATION

The examiner's recommend that the above findings and conclusions be adopted and that the applicant, Enron Oil and Gas Company, be permitted to drill the proposed well at Slawson's 1,250' location to all applied-for fields except the Mammoth Creek, North (Cleveland) and the Mammoth Creek (Tonkawa) Fields.

Respectfully submitted,

Jeffrey T. Pender
Hearings Examiner

Doug Johnson
Technical Examiner

JTP/bjw