

Key Issues:

R37 Granted/Denied

RULE 37 CASE NO. 0221407

**APPLICATION OF TEX-LEE OPERATING CO. FOR AN EXCEPTION TO
STATEWIDE RULE 37 TO DRILL WELL NO. 1RE, MIKESKA LEASE, GIDDINGS
(AUSTIN CHALK, GAS) AND GIDDINGS (AUSTIN CHALK-3) FIELDS, FAYETTE
COUNTY, TEXAS.**

APPEARANCES:

FOR APPLICANT:

Dick Marshall (Attorney)
Kerry Pollard (Consultant)

APPLICANT:

Tex-Lee Operating Co.
“

FOR PROTESTANTS:

William Osborn (Attorney)
Dale C. Weimer (Landman)
Frank Davis
Billy Don Davis

PROTESTANTS:

UPRC
“
“
“

Jerry Russell (Consultant)

Anchor Operating Co. and Stable
Energy

James H. Edsel (President)

Orbis Energy, L.L.C.

PROPOSAL FOR DECISION

PROCEDURAL HISTORY

APPLICATION FILED:

March 16, 1999

NOTICE OF HEARING:

May 26, 1999

DATE CASE HEARD:

June 16, 1999

HEARD BY:

Marshall Enquist, Hearings Examiner
Margaret Allen, Technical Examiner

TRANSCRIPT RECEIVED DATE:

July 19, 1999

PFD CIRCULATION DATE:

November 5, 1999

STATEMENT OF THE CASE

Tex-Lee Operating Co. (“Tex-Lee” or “applicant”) seeks an exception to Statewide Rule 37 to drill its proposed horizontal Well No. 1RE on the 112.574 acre Mikeska Lease in the Giddings (Austin Chalk, Gas) and Giddings (Austin Chalk-3) Fields in Fayette County. The application is protested by Union Pacific Resources Company (“UPRC”), Anchor Operating and Stable Energy (“Anchor/Stable”) and Orbis Energy, LLC (“Orbis”), which are offsets to the proposed location. Both the Giddings (Austin Chalk, Gas) and Giddings (Austin Chalk-3) Fields require spacing of 467 feet from leaselines and 1200 feet between wells on 160 acre units, with an 80 acre option.

The applied-for well is a re-entry of an existing well and will have two laterals. One lateral extends due north and the other extends to the southeast. Each has a terminus 100 feet from a leaseline.

DISCUSSION OF THE EVIDENCE**APPLICANT'S EVIDENCE AND ARGUMENT**

Tex-Lee presented one witness and thirteen exhibits. Tex-Lee believes it is entitled to the requested leaseline spacing exceptions based on both prevention of waste and protection of correlative rights/prevention of confiscation and argues as follows.

In the subject Austin Chalk fields, applicant argues that economically viable recovery of hydrocarbons is dependent upon the operator’s ability to intersect the maximum number of fracture zones. This is accomplished by drilling horizontal wellbores perpendicular to the NE/SW trending fractures.

Tex-Lee asserts that drilling the proposed well is necessary to prevent waste. The drilling and completion of the horizontal UPRC Schultz Unit Well No. 1 (with a surface location about 2,000 feet WNW of the Mikeska Lease) did not affect the production of the vertical UPRC ELO Well No. 2 only 2500 feet away. Tex-Lee argues that this indicates fracture communication is poor in this area even at a distance of just over 2000 feet. As a result of poor fracture communication, existing offset wells will not be able to drain the hydrocarbons under the Mikeska Lease, making the proposed well necessary to recover the existing reserves, thereby preventing waste.

The lateral extending to the north (see Attachment I) will be drilled in that direction because a NW trending lateral, which would be perpendicular to strike, would not have room to turn out and then make any appreciable extension. The lateral to the SE is perpendicular to strike and, by extending to within 100 feet the leaseline, will afford the best opportunity to intersect the greatest number of fracture zones.

Tex-Lee believes use of the existing wellbore gives it a better opportunity to recover its fair share of reserves at a cost that is not prohibitive. Tex-Lee also claims that, due to the impermeability

of the Austin Chalk, terminus points within 100 feet of leaselines will not drain across those leaselines. Tex-Lee contends it is necessary that the laterals terminate within 100 feet of leaselines to give it an opportunity to recover the gas beneath the Mikeska Lease. It is Tex-Lee's position that laterals with terminus points at regular locations would not provide a reasonable opportunity to recover the existing reserves because such laterals would not be able to drain any hydrocarbons that may exist between the lateral terminus points and the leaselines 467 feet away. Tex-Lee argues that such reserves cannot be drained by existing wells, thus waste would result. Tex-Lee cites Rule 37 Case No. 0200641 as an example of a case in which an exception was granted involving laterals terminating within 110 feet and 200 feet of leaselines.

Alternatively, Tex-Lee argues that it cannot recover its fair share of the recoverable reserves beneath the Mikeska Lease without the proposed well. By examining reservoir characteristics of nine other wells in the Austin Chalk Formation, Tex-Lee arrived at an average porosity in the formation of 6.26% and an average water saturation of 53.67%. Using these parameters and assuming a homogenous reservoir, Tex-Lee calculates that the original gas in place under the Mikeska tract amounted to 16,391,882 MCF (16.4 BCF).

Tex-Lee's existing Mikeska Well No. 1, which is nearing the end of its productive life, has a cumulative production of approximately 385 MMCF equivalent. After subtracting the production to date of the existing vertical Mikeska No. 1, the remaining gas in place is approximately 16 BCF, assuming no drainage by offsets. Due to the variability of the fracture systems within the Austin Chalk, Tex-Lee provided four different estimates of recovery. In the best case, with extensive well-connected fracture systems, the recovery factor could be as high as 90%, resulting in a recovery of 14.4 BCF of gas. Assuming less favorable conditions and recovery factors of 50% and 25%, Tex-Lee would recover 8.2 BCF and 4 BCF of reserves, respectively. In the worst case, in which the fracture systems are poorly developed and the recovery factor only 10%, Tex-Lee would recover 1.6 BCF of gas. Tex-Lee argues that the 100 foot leaseline spacing for the terminus points is reasonable due to the nature of the Austin Chalk. Tex-Lee is requesting what will be effectively a 2,000 foot horizontal wellbore, measured perpendicular to fracture zones, which is short for this area. Most other wells have laterals 3,000 to 4,000 feet long.

Upon being asked by the Hearing Examiner if Tex-Lee had any estimate of the difference in recovery between a regular location and the requested location, Tex-Lee replied that a regular location would have a lesser recovery. When asked if the difference in recovery would be proportional to the reduction in length of the laterals, Tex-Lee's expert witness reluctantly stated that it could be. The expert witness's study of other wellbores in the area indicated that the recovery per foot of lateral averaged 579 MCF. Thus, the applied-for location, with about 2200 feet of lateral, might recover 1.27 BCF. If the lateral length were reduced to 1500 feet, the recovery would drop to 0.868 BCF.

The SE lateral of the proposed well extends into the SE corner (which came to be known during the hearing as the 'pooch') of the Mikeska Lease. The protestants fear this terminus will drain across leaselines. Tex-Lee answers by noting that the plugged Williford No. 1, just SW of the terminus, indicates that there is little if any extensive fracture development near the 'pooch' so

drainage is unlikely to occur, but if drainage does occur, first, it will be legal under the Rule of Capture and, second, it will compensate for the loss of hydrocarbons at the SW end of the Mikeska Lease which are likely to be recovered by UPRC's Rio Bravo Unit #1.

PROTESTANTS' EVIDENCE**A. Union Pacific Resources Co.'s Evidence**

UPRC did not present a direct case, but did cross-examine the Tex-Lee witness and offered six cross-examination exhibits. UPRC argued that Tex-Lee failed to prove a confiscation case because it failed to disqualify a regular location for the well. In addition, UPRC argues that the configuration of the Mikeska Lease and the proposed laterals will allow Tex-Lee to drain off-lease reserves.

B. Anchor Operating Co.'s and Stable Energy's Evidence

Stable/Anchor did not present a case or participate in cross-examination, but did make a statement at the end of the hearing. If the exception is granted, Stable/Anchor will be damaged by drainage across leaselines both as working interest owners with UPRC and as the offset operator of an adjoining lease. They also note that Tex-lee could drill a regular location.

C. Orbis Energy's Evidence

Orbis Energy, LLC, did not present a case or participate in the cross-examination, but did make a statement at the end of the hearing. Orbis appeared as a working interest owner in the ELO #2, which is NW of the applied-for well, and also as the offset operator of acreage to the NE. Orbis previously tried to acquire the Mikeska Lease and well to include in the unit for the ELO #2, but was unsuccessful. As originally applied-for, the Elo #2 was to have a lateral running SE to a point within 100 feet of the Mikeska Lease. Tex-lee protested a terminus point so close to its leaseline and the SE lateral was dropped. Now Tex-Lee is proposing a terminus point within 100 feet of a leaseline and Orbis and UPRC are protesting. As for drilling the laterals into a point of land, if no fractures exist, there is no need to drill the 'pooch', and if they do exist, they very likely extend across leaselines and there will be drainage across leaselines.

EXAMINERS' OPINION

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

An applicant seeking an exception based on waste must establish three elements: 1.) unusual conditions, different from conditions in adjacent parts of the field, exist under the tract for which the exception is sought; 2.) as a result of the unusual conditions, hydrocarbons will be recovered by the well for which the permit is sought that would not have been recovered by any existing well or by additional wells drilled at regular locations; and 3.) that the volume of otherwise unrecoverable

reserves is substantial.

Hydrocarbons may be recovered by the proposed well which could not be recovered by any existing well, but applicant failed to show that these hydrocarbons could not be recovered by additional wells drilled at regular locations. Tex-Lee also failed to demonstrate any unusual conditions beneath the Mikeska Lease that would justify granting an exception based on waste. Rule 37 Case No. 0200641, cited by Tex-Lee, finds that fracture orientation and lease geometry may constitute an unusual condition. In that case, the proposed drain hole encroached upon leaselines that happened to be parallel to the local fracture trend so it was unlikely that the permitted terminus points would drain across leaselines. The leaselines perpendicular to the run of the laterals were beyond the leaseline spacing distance and thus the wellbore was regular in that regard. In the present case, the applicant seeks to run its lateral drainhole to a point only 100 feet from leaselines that are not parallel to the local fracture trend, thus the Rule 37 case cited by Tex-Lee is not on point. It is highly likely that terminus points 100 feet from the Mikeska leaselines will drain offsetting leases. The lateral trending north will likely drain across the leaseline to the NE and the lateral trending to the SE will likely drain across leaselines to the NE and SW. Others conditions referred to by Tex-Lee, such as the relative impermeability of unfractured Chalk and the placement of fracture sets, do not relate specifically to the subject tract but are field-wide.

To obtain an exception to Statewide Rule 37 to protect correlative rights, the applicant must show: 1.) that it is not possible for the applicant to recover its fair share by placing the well at any regular location; and 2.) that the proposed irregular location is reasonable.

Tex-Lee did not provide any evidence of the currently recoverable hydrocarbons under the Mikeska Lease. Instead, it presented an estimate of hydrocarbons currently in place followed by four recovery scenarios ranging from a low of 10% through a high of 90%. Essentially, Tex-Lee is admitting that it does not know what its fair share is, and cannot estimate current recoverable reserves, but is arguing that its fair share is whatever it can recover, regardless of whether the gas comes from under its lease or is drained from adjacent tracts. Tex-Lee seeks to maximize recovery, and drainage of offsets, by drilling a horizontal wellbore which approaches opposite leaselines within 100 feet.

Inherent in Tex-Lee's line of reasoning is the inference that the gas in place is evenly distributed throughout the reservoir overlain by the Mikeska Lease. In fact, as Tex-Lee's own evidence indicates, the bulk of the recoverable gas in place beneath the lease is isolated in discrete fracture zones. There is no evidence that these fracture zones are distributed evenly. If one or more fracture zones are found near the middle of the lease, and not near the leaselines, a regular location could recover Tex-Lee's fair share. Tex-Lee did not offer any seismic evidence that would show the location or extent of fracture zones under its lease.

As UPRC pointed out, Tex-Lee failed to show that a well at a regular location could not recover Tex-Lee's fair share of hydrocarbons. Using the projected 10% recovery factor, Tex-Lee estimates its fair share would be 1.6 BCF of gas. Tex-Lee did not show that a well drilled at a regular location could not recover 1.6 BCF. Tex-Lee argued that the difference in recovery between

a regular location and the applied-for location might be proportional to the reduction in length of the lateral. However, Tex-Lee's own expert witness indicated the unreliability of this approach

I hesitate to use this because I don't think it is a very good tool, but I did study the horizontal wells around this. I looked at the horizontal recovery as far as MCF and looked at the overall length of the lateral to try to determine if there was a correlation between length of lateral and reserves. **This is very dangerous in the Chalk because it is not homogenous, and it really depends on how extensive the unique fracture systems are.....I really hate using that correlation because I don't really think it is a valid correlation, but that is the way the numbers work out if you do it.** (Emphasis added.)(Transcript, Vol. 1, pp. 91-92).

Based on the record in this docket, the examiners recommend adoption of the following Findings of Fact and Conclusions of Law.

FINDINGS OF FACT

1. Notice of hearing was given on May 26, 1999, to all designated operators, lessees of record for tracts that have no designated operator, and owners of record of unleased mineral interests for tracts closer to the well than the greater of one-half of the prescribed minimum between-well spacing distance or the minimum lease-line spacing distance.
2. All things necessary to the Commission attaining jurisdiction over the subject matter and the parties in this hearing have been performed or have occurred.
3. The applicant, Tex-Lee Operating Company, seeks an exception to Statewide Rule 37 to drill Well No. 1RE on the Mikeska Lease, Fayette County, Texas. Applicant proposes to drill two laterals, with terminus points 100 feet FNWL and 100 feet FNEL of the unit, and 14900 feet FSWL and 1388 feet FSEL of the survey for the north lateral, and 100 feet FSL and 100 feet FEL of the unit and 662 feet FNWL and 14870 feet FSWL of the survey for the southeast lateral. Applicant has applied for completion of its proposed well in the Giddings (Austin Chalk, Gas) and Giddings (Austin Chalk-3) Fields, both having spacing rules requiring 467 feet from leaselines and 1200 feet between wells on 160 acre units, with an 80 acre option.
4. Applicant's Mikeska Lease is a tract of regular size, containing 112.574 acres.
5. Applicant's primary objectives are the Giddings (Austin Chalk, Gas) and Giddings (Austin Chalk-3) Fields.
6. The original gas in place under the Mikeska Tract was 16.4 BCF.
7. The existing well on the subject lease in the subject field has recovered 386 MMCF equivalent.

8. There is no evidence concerning the amount of drainage, if any, of the subject lease by adjoining leases.
9. The applied-for location is not reasonable. The proposed location of the terminus points within 100 feet of leaselines would likely result in substantial drainage of adjoining tracts.
10. Tex-Lee failed to show the quantity of recoverable hydrocarbons that cannot be recovered by regularly located wells, on or off the lease.
11. There are no unusual conditions specific to the subject lease.
12. Tex-Lee failed to show that it could not recover its fair share of recoverable reserves from a regular location.
 - a. Tex-Lee failed to show the amount of the remaining recoverable reserves under the Mikeska Lease in the Giddings (Austin Chalk, Gas) and Giddings (Austin Chalk-3) Fields.
 - b. There is a regular location available on the subject lease.
 - c. Tex-Lee failed to show the amount of reserves recoverable from regular locations on the subject lease.

CONCLUSIONS OF LAW

1. Proper notice was timely given to all parties legally entitled to notice.
2. All things have occurred and have been done to give the Commission jurisdiction to decide this matter.
3. Tex-Lee is not entitled to an exception to Rule 37 at the applied-for location to prevent waste.
4. Tex-Lee is not entitled to an exception to Rule 37 at the applied-for location to prevent confiscation.

RECOMMENDATION

The examiners recommend that Applicant's request for an exception to Statewide Rule 37 for its Mikeska Lease, Well No. 1RE, as to the Giddings (Austin Chalk, Gas) and Giddings (Austin Chalk - 3) Fields, Fayette County, Texas be denied.

Respectfully submitted,

Marshall F. Enquist
Hearings Examiner

Margaret Allen
Technical Examiner

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