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Rule 37 Case No. 0203727

APPLICATION OF SONAT EXPLORATION COMPANY FOR EXCEPTIONS TO STATEWIDE RULES 37 AND 38 TO DRILL ITS WELL NO. 3-5, LEE LEASE, ALLISON PARKS (U. MORROW) FIELD, HEMPHILL COUNTY, TEXAS

## APPEARANCES:

## REPRESENTING:

### APPLICANT

Mr. George Neale (Attorney)  
Mr. Bobby Gibson  
Mr. Bruce Heath  
Mr. W.N. McKinney, Jr.

Sonat Exploration Company

### PROTESTANTS

Mr. Tim George (Attorney)  
Mr. Robert G. Kemp  
Mr. Stuart E. McFarland  
Mr. Darrell Finneman

Amoco Production Company

Mr. David Nelson (Attorney)  
Mr. Robert D. McKenna  
Mr. Paul Clark

Samson Resources

## PROCEDURAL HISTORY

Application Filed:  
Notice of Hearing:  
Hearing Held:  
PFD Circulated  
Heard by:

November 1, 1993  
November 30, 1993  
December 15, 1993  
June 20, 1994  
Jeffrey T. Pender, Hearings Examiner  
Thomas H. Richter, P.E., Technical Examiner

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STATEMENT OF THE CASE

A joint hearing was held to consider the Rule 37 and 38 exception applications of Amoco Production Company ("Amoco") for its Glisan Lease 2-12 and Sonat Exploration Company ("Sonat") for its Lee Lease 3-5 well ("subject well"), both in the Allison Parks (U. Morrow) Field, Hemphill County, Texas. This Proposal For Decision addresses Sonat's application.

Field rules require 467 feet lease line spacing, 3,735 feet between-well spacing and 640 acre proration units. There are no regular locations available on the Lee Lease. The subject well is only 3,382 feet from the Lee 2-5 causing the need for a Rule 37 exception. A Rule 38 exception is needed because the subject well is the third well on the 640 acre Lee lease. Sonat's application is based on confiscation and does not allege waste. Amoco's proposed location offsets the northwest corner of Sonat's Lee lease where Sonat is proposing its Lee 3-5 to prevent drainage.

Samson Resources appeared as an interested party in the Amoco application and a protestant in the Sonat application.

DISCUSSION

The Sonat Lee Lease is a regular tract with two wells in the applied-for field. In order to get an exception for a third well on the tract, Sonat must demonstrate that:

1. Absent the proposed well, it will not have a reasonable opportunity to recover its share of hydrocarbons, or the equivalent in kind, from under the lease.
2. If alleged, that no regular location will allow it to recover its share of hydrocarbons under the lease.
3. The proposed location is reasonable.

Sonat calculates the recoverable reserves under the Lee Lease to be 18.32 BCF of which 7.5 BCF will be recovered by the existing wells (Lee 1-5, 2-5). That leaves an estimated 10.82 BCF to be recovered by the proposed well. Amoco predicts that the Lee lease will yield only 7.4 BCF of which all will be recovered by the two existing wells.

In arriving at these figures both parties used similar reservoir parameters except for the estimate of the volume of pore space charged with hydrocarbons. Sonat estimates 1272 acre-feet and Amoco, 564 acre-feet. A determination of which estimate is more accurate is critical in determining whether Sonat needs the proposed well in order to receive its share

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of hydrocarbons under the lease. The differences in their estimates can be attributed to differences in the types and quantity of geologic information used to constrain the contours of their net sand maps. Amoco conducted sedimentologic studies in order to provide logical constraints on the configuration of their net sand contours. Sonat conducted and presented no such work and did not refute the major conclusions of Amoco's work.

Based on core and sediment provenance studies presented at the hearing by Amoco, the Upper Morrow in Hemphill County appears to have been derived from a cherty source to the west-southwest and deposited in prograding distributary/fan delta systems also oriented west-southwest (depositional strike). This greatly increases the likelihood that the depositional lobes comprising the fan deltas will be oriented in a west-southwest direction. Accordingly, the probability of finding sand bodies oriented perpendicular to depositional strike is greatly reduced. Sonat's net sand contours for the Lee Lease are oriented perpendicular to depositional strike.

EXAMINERS' RECOMMENDATION

The examiners believe that Amoco's estimate of the recoverable reserves is more accurate. Accordingly, the examiners believe that there are no remaining reserves under the Lee Lease that will not be recovered by the existing wells. Sonat has not proven a need for the exception location based on confiscation or waste. Sonat's application should be denied.

FINDINGS OF FACT

1. Notice of hearing was given by first class mail at least 10 days before 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 within 467 feet of the proposed location.
2. Sonat has applied on Form W-1 for a permit to drill Well No. 3-5 on the Lee Lease.
3. Field rules for the Allison Parks (U. Morrow) Field require 467 feet lease line spacing, 3,735 feet between-well spacing and 640 acre proration units.
4. Exceptions to Statewide Rules 37 and 38 are necessary because the proposed well would be only 3382 feet from the Lee No. 2 which is completed in and producing from the subject field and the applied-for well would be the third well on the lease in the subject field.

- 5. With the existing wells Sonat will recover its share of the hydrocarbons under the Lee Lease.
  - a. There is 7 BCF remaining reserves under the Lee Lease, all of which will be recovered by the two existing wells on the lease in the field.

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. Sonat is not entitled to an exception based on confiscation to Statewide Rules 37 and 38 for its Lee 3-5 well on the Lee Lease.

Respectfully submitted,  
*Jeffrey T. Pender*

Jeffrey T. Pender  
Hearings Examiner

*Thomas H. Richter*

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Technical Examiner

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