
* KEY ISSUES: Confiscation *
* Replacement well in water- *
* drive field *
* Reasonable location *
* *
* FINAL ORDER: PART DENIED/PART APPROVED *

RULE 37 CASE NO. 108,047

DATE: MARCH 15, 1991

APPLICATION OF LUNDBERG OPERATING CORPORATION FOR AN EXCEPTION TO STATEWIDE RULE 37 TO DRILL WELL NO. 3 FOR THE CLARA DRISCOLL, SOUTH (5040), CLARA DRISCOLL, SOUTH (5065), AND WILDCAT FIELDS, ON THE FLINN LEASE, NUECES COUNTY, TEXAS

APPEARANCES:

FOR APPLICANT:

Lloyd Muennink
C.A. Lundberg
Julie S. Moore
Roy Pollack

APPLICANTS:

Lundberg Operating Co.
Corporation

FOR PROTESTANT:

Michael McElroy
Kemp D. Solcher
Michael E. Hanegan

PROTESTANTS:

B.D. Production Co.

PROPOSAL FOR DECISION

PROCEDURAL HISTORY

DATE OF NOTICE OF HEARING:	January 3, 1991
DATE CASE HEARD:	February 13, 1991
HEARD BY:	Don Walker, Legal Examiner Margaret Allen, Technical Examiner
TRANSCRIPT DATE:	February 25, 1991
PFD CIRCULATION DATE:	March 28, 1991
CURRENT STATUS:	Protested

STATEMENT OF THE CASE

Lundberg Operating Corporation has applied for a spacing exception permit to drill its Flinn Well No. 3 for completion in the Clara Driscoll, S. (5040) and (5065) Fields and the Wildcat Field in Nueces County, Texas. The proposed location is 100 feet from the nearest lease line, while applicable rules require a minimum of 467' from the nearest lease line.

The application is protested by B.D. Production Co. The protestant operates wells in the subject fields on a tract offsetting the proposed location.

The examiners will recommend that the application be approved.

**DISCUSSION OF THE EVIDENCE
AND ISSUES**

The applicant takes the position that the proposed well is needed to prevent confiscation. Consequently, the initial issue is whether a well at an exception location is necessary to give the owners a reasonable opportunity to recover their fair share of oil and gas in the subject fields underlying their tract, or the equivalent in kind.

The applicant's lease tract contains 271.95 acres having a size and shape that will support a regular location in the applied-for fields. The owners of mineral interests in the tract do not share in production from the subject fields from another tract. There has already been a well, the Flinn #7, drilled at a regular location on the tract.

The Flinn #7 was drilled by Texaco in 1984, and perforated in the 5065' sand. The initial potential was 13 BOPD and 36 BWPD and the well produced 6963 BO before this sand watered out. Texaco then plugged the #7 back to the 5040' sand. This completion had an initial potential of 22 BOPD and 75 BWPD and produced 10,091 BO before the sand watered out. Lundberg took over operations in 1990.

Both fields have strong water drives and Lundberg wants to drill a replacement well for the #7 structurally updip from the watered-out location. Both fields are located on a long, narrow structural ridge, which terminates against a northwest-southeast trending fault.

The 5040' sand has only one other well in it on this structure, the B.D. Production Martin #3, which is structurally updip to any location on the Flinn lease. The Martin #3 has

produced over 34,000 barrels of oil from the 5040' sand.

Lundberg has divided the 5065' sand into two members, though they are recognized as one field by the Commission. The Flinn #7 was the only well ever completed in the upper 5065' sand and the proposed location is updip according to Lundberg's structure map.

The only well on this structure in the lower 5065' sand is the B.D. Production Martin #2. The Martin #2 is 15' higher than the Flinn #7 at the top of the lower 5065' sand. The proposed location is between the Flinn #7 and the Martin #2 and Lundberg has mapped it as structurally intermediate. Lundberg also submitted a net sand isopach of this sand, which shows the proposed location is expected to encounter 7' of sand, intermediate between the 3' present in the Flinn #7 and the 15' in the Martin #2. The Martin #2 has produced about 110,000 barrels of oil from the lower 5065' sand.

Lundberg planimetered its structure maps to determine the number of acre-feet productive in each reservoir. Its calculations indicate 23.5 acre feet on the Flinn lease in the lower 5065' sand and 187.08 acre feet on the Martin lease. Using an average of 30% porosity, water saturation of 35%, and a recovery factor of 50%, Lundberg calculated that there are 34,800 barrels of recoverable oil remaining in the reservoir. Lundberg has 11.16% of the acre feet in the reservoir and thus would have 3884 of those barrels underlying the subject tract.

Using similar analysis, Lundberg calculated that the amount of remaining reserves underlying its tract in the upper 5065' sand is 10,061 barrels and in the 5040' sand is 23,567 barrels. The total recoverable oil from the proposed well is 37,512 barrels and both fields must be completed to make a commercial well.

The protestant, B.D. Production, does not argue that these fields have water drives or that structure is very important in locating wells. B.D. submitted structural maps contoured on top of the 5065' sand and 5100' sand, which show the same general structure of the fields. B.D. proposes an alternate location 400' north of its lease line and about 150' west of the proposed well.

The differences in geologic mapping between the two interpretations are not large but are significant. B.D.'s map of the 5040 sand (which it calls the 5100' sand) indicates a small closure against the fault, which is present only on the Flinn lease. B.D. argues that if Lundberg drills at its proposed location, there will be oil left unrecovered in this small high. The B.D. map of the 5065' sand shows no separate closure on the Flinn lease but does indicate that B.D.'s suggested alternate location would be as high structurally as the Lundberg proposed location. In both fields, B.D. has indicated that some of the oil

which Lundberg would produce at its proposed location would come from the Martin lease.

There is also some small difference in the parties' depiction of the fault trace across the Flinn lease. Lundberg based its placement of the fault on a fault trace map. B.D.'s location of the fault trace is more interpretive, yet B.D. is much more confident in locating its alternate location much closer to the fault than Lundberg is willing to drill.

EXAMINERS' OPINION

The evidence shows there are recoverable reserves in the subject fields underlying applicant's tract and that the regular location well on the tract did not recover the fair share. A spacing exception location is necessary to produce those reserves, because the regular locations do not provide the structure that is needed to produce above the water.

The examiners also conclude that the proposed location is reasonable. The issue centers on the parties' geologic interpretations.

The fields have a water drive and the offset Martin #2 and #3 are updip from the proposed location even on B.D.'s maps. If a Rule 37 location is not drilled, the remaining reserves on the Flinn lease will be recovered by the Martin wells.

B.D.'s alternate location is unreasonably close to the fault and its interpretation of the additional closure on the Flinn lease is unsupported. Lundberg's structural contours, at least in relation to the expected structure at its proposed location, is the most parsimonious interpretation and therefore the most reasonable.

The applicant did not submit evidence relative to a proposed Wildcat completion. Therefore, the record does not support granting a spacing exception permit for the Wildcat field.

Based on the record as a whole, the examiners make the following findings of fact and conclusions of law.

FINDINGS OF FACT

1. Notice of hearing was given on January 3, 1991, to the record operators, lessees of tracts that have no designated operator, and the owners of record of unleased mineral interests, for each adjacent tract and tract nearer than 467' to the proposed well.

2. Lundberg Operating Corporation has applied on Commission Form W-1 for a permit to drill Well No. 3 for completion in the Clara Driscoll, S. (5040), the Clara Driscoll, S. (5065) and the Wildcat Fields, on the Flinn Lease in Nueces County, Texas.
3. Applicable rules for the subject fields prescribe minimum spacing of 467 feet to the nearest lease line and 1,200 feet to the nearest well on the lease, and density of 40 acres.
4. The Flinn Lease (subject tract) contains 271.95 acres in a shape that will support regular locations.
5. The owners of mineral interests in the subject tract do not own an interest in production from the applied-for fields from offset tracts.
6. A well at a regular location on the subject tract, the Texaco, Flinn #7, has produced 6,963 barrels of oil from the Clara Driscoll, S. (5065) Field and 10,091 barrels of oil from the Clara Driscoll, S. (5040) Field, before watering out.
7. Remaining recoverable reserves attributable to the subject tract are 13,945 barrels of oil in the Clara Driscoll, S. (5065) Field and 10,061 barrels of oil in the Clara Driscoll, S. (5065) Field.
8. The subject fields produce with a strong water drive mechanism.
9. In a water drive field, oil and gas move upstructure during production and the wells eventually water out.
10. A well at the proposed location is reasonable and necessary to give the owners of the subject tract an opportunity to produce the reserves in the subject fields underlying the tract, or the equivalent in kind.
 - a. The proposed location is updip on the structures of the fields;
 - b. The proposed location is a reasonable distance from the fault; and
 - c. The proposed location is a reasonable distance from the lease line.

- d. A well at a regular location cannot give a reasonable chance to recover the reserves underlying the tract, or the equivalent in kind.

CONCLUSIONS OF LAW

1. Proper notice of hearing was timely given to all persons entitled to notice.
2. The application on Form W-1 was properly filed.
3. All things have occurred and been done to give the Commission jurisdiction to decide this matter.
4. A spacing exception is necessary to give the owners a reasonable opportunity to recover their fair share of reserves underlying the subject tract in the Clara Driscoll, S. (5040) and the Clara Driscoll, S. (5065) Fields, or the equivalent in kind, thereby preventing confiscation.
5. The proposed location is reasonable and necessary to give the owners a reasonable opportunity to recover their fair share of reserves in the Clara Driscoll, S. (5040') and the Clara Driscoll, S. (5065') Fields underlying the subject tract, or the equivalent in kind, thereby preventing confiscation.
6. The evidence does not support approval of the application for the Wildcat Field.

RECOMMENDATION

The examiners recommend that the subject application be granted for the Clara Driscoll, S. (5040) Field and the Clara Driscoll, S. (5065) Field, and that the application be denied for the Wildcat Field.

Respectfully submitted,

Don Walker
Legal Examiner

Margaret Allen
Technical Examiner