

May 27, 2005

Rule 37 Case No. 0241523

APPLICATION OF NOBLE ENERGY, INC. FOR AN EXCEPTION TO STATEWIDE RULE 37 TO DRILL ITS WELL NO. 1, CATHY HUNTER GAS UNIT, 176.33 ACRES, STATE OF TEXAS SURVEY, POTTHAST (MIDDLE TEX MISS) AND WILDCAT FIELDS, MATAGORDA COUNTY, TEXAS.

APPEARANCES:

FOR APPLICANT:

James N. Bostic
Theodore U. Romig, Geologist
Duane Gonzalez, Engineer
William David Davas, Asset Manager
Judy Throneberry, Regulatory Supervisor

APPLICANT:

Noble Energy, Inc.
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FOR PROTESTANT:

Henry P. Massey

PROTESTANT:

Henry P. Massey

PROPOSAL FOR DECISION

PROCEDURAL HISTORY

APPLICATION FILED:

January 18, 2005

NOTICE OF HEARING:

January 28, 2005

HEARD BY:

Marshall Enquist - Hearings Examiner
Thomas Richter - Technical Examiner

HEARING DATE :

February 11, 2005

TRANSCRIPT RECEIVED:

March 23, 2005

PFD CIRCULATION DATE:

May 27, 2005

STATEMENT OF THE CASE

Noble Energy, Inc (“Noble” or “Applicant”), seeks an exception to Statewide Rule 37 to drill its proposed Well No. 1, Cathy Hunter Gas Unit, Potthast (Middle Tex Miss) Field and Wildcat Field, Matagorda County, Texas. The subject fields have minimum lease line spacing requirements of 467 feet to the nearest lease line and 1200 feet minimum spacing between wells on 40 acres. At the hearing, Noble stated that it had withdrawn its request for the exception in the Wildcat Field and would not present a case regarding that field. Noble operates six wells to the north of the proposed well, within the Potthast (Middle Tex Miss) Field.

The application is protested by Henry P. Massey (“Massey”), an unleased mineral interest owner within the boundaries of the Cathy Hunter Gas Unit. According to Mr. Massey, he holds an unleased mineral interest in 130 acres within the proposed Cathy Hunter Unit. Noble’s proposed location is 100 feet from the tract in which Massey has his unleased interest, thus creating the need for an exception to the requirements of Rule 37. (See Attachment I, the plat of the Cathy Hunter Gas Unit)

SUMMARY OF NOBLE’S POSITION AND EVIDENCE

The Potthast (Middle Tex Miss) Field is a consolidated field consisting of roughly 1,000 feet of stacked sands. At this time, a total of six wells have been drilled in this field, all by Noble Energy, and all on the Trull Lease, which lies northeast of and adjacent to the proposed Cathy Hunter Unit. There are several named zones within the consolidated field: the Tex Miss 3 through Tex Miss 9. The overall field is controlled by several sealing “compensator” faults trending northeast and southwest. Structure maps show that the pay sands within the Potthast (Middle Tex Miss) Field closely parallel the faults, resulting in a series of narrow pay sands with gas contact lines often as close as 500 feet to the fault but extending along the fault for as much as one and a half miles. Under the Cathy Hunter Unit, the faults are in somewhat close proximity, varying from 600 feet to 2,000 feet apart. In these circumstances, a shift of a few hundred feet can easily result in a well missing a fault or a gas contact line. The different named zones vary in aerial extent, thickness, porosity and/or permeability throughout the field. The sands thicken towards the faults and thin away from the faults with a facies change to shale. The trapped hydrocarbons are found on the upthrown side of the faults.

The Cathy Hunter Unit lies at what is currently believed to be the southwest margin of the Potthast (Middle Tex Miss) Field. The known faults and pay sands that give rise to the subject field apparently extend into the Cathy Hunter Unit several hundred feet on its northeastern side.

Based on both well control and seismic data, Noble presented a structure map for each of the named sands. Noble contrasted regular locations on either side of the internal lease line with the proposed location. The regular location on the 130 acre tract that protestant Massey has an unleased interest in was labeled “Location A”. The regular location on the 46.33 acre tract that protestant Massey does not have an interest in was labeled “Location B”. The applied-for Rule 37 exception location, 114 feet east of the internal lease line, will be called the “Proposed Location”. The Proposed Location lies in the 46.73 acre tract that Massey does not have an interest in (for visual reference, see

Attachment I, a portion of the structure map of the top of the Tex Miss 4 sand). Other regular locations are available on the Cathy Hunter Unit, but these were not considered because the faults and pay sands do not extend to those locations, precluding hydrocarbon recovery.

Noble's first series of exhibits demonstrated the ability of a well drilled at each of the three potential locations to penetrate the successive stacked sands.

ZONE NAME	LOCATION A	LOCATION B	PROPOSED LOCATION
Tex Miss 3	No	No	Yes
Tex Miss 4	No	No	Yes
Tex Miss 5	Yes	No	Yes
Tex Miss 6	No	Yes	Yes
Tex Miss 7	No	Yes	Yes
Tex Miss 8	No	No	No
Tex Miss 9	No	No	No

The Proposed Location optimizes the number of zones that could be penetrated, as well as the net feet of pay. Noble's fair share of the hydrocarbons under the Cathy Hunter Gas Unit cannot be produced from any regular location, because the majority of the zones at those locations would either be too far downdip, faulted out, or simply nonexistent. A regular location will not optimize the greatest number of zones which could be penetrated.

Noble's engineering witness noted that the Potthast (Middle Tex Miss) Field was designated in 2000, and that Noble currently operates all 6 wells in the field, on the Trull Lease. In an effort to quantify the likely production from each zone within the Potthast (Middle Tex Miss) Field, Noble presented decline curves from the Trull wells, along with their cumulative production and estimated ultimate recoveries. Estimated ultimate gas recovery from the Trull wells ranges from 0.75 BCF to 2.3 BCF, with an average production of 1.26 BCF. Estimated ultimate oil production from the Trull wells ranges from 39,000 BO to 100,000 BO.

By comparing the drainage areas of the Trull wells, their porosities and bottomhole pressures, Noble arrived at an average EUR for the wells of 657 mcf per acre/foot in the Tex Miss zones. Applying this to the zones present beneath the Cathy Hunter Gas Unit, Noble estimates 560 mmcf of recoverable gas in place beneath the unit, and asserts that this is the fair share that it is entitled to.

Applying the average acre-foot recovery factor to Location A, and even allowing for Location A draining acreage off-unit, a well at Location A will only recover 375 mmcf. Applied to Location B, and allowing for drainage from off-unit, a well at Location B would only recover 342 mmcf. In either

case, Noble would not recover its fair share of the hydrocarbons beneath the Cathy Hunter Gas Unit. In contrast, a well at the Proposed Location would recover 1,212 mmcf, assuming no offset wells are drilled, providing the Cathy Hunter Gas Unit with its fair share, plus a good deal more. This recovery would be due to the linear nature of the pay sands encountered and the fact that they extend from the Cathy Hunter Unit well into the Trull Lease. However, Noble operates all the current wells in the Potthast (Middle Tex Miss) Field, and all those wells are on the Trull Lease. As lessee, Noble has an implied duty to protect the Trull Lease from drainage and has stated that it plans to drill additional wells in the subject field. This implied covenant has long been recognized in Texas case law (see *Texas Pacific Coal & Oil Co. v. Barker*, 6 S.W.2d 1031 (Tex. 1928)). Although Noble did not specifically state the location of future wells, it is in Noble's self interest that one of the future wells be placed on the Trull Lease as an offset to the Cathy Hunter Well No. 1.

Noble could recover its fair share by drilling two wells (the locations A and B), but the expense of the wells would exceed the value of the hydrocarbons recovered, precluding this option.

MASSEY'S POSITION AND EVIDENCE

By appearing in protest, Massey placed the burden on Noble to prove its case. Massey did not present a direct case, but did participate by asking clarifying questions and engaging in limited cross-examination. For example, Massey challenged Noble's claim that it would lose \$809,000 if it drilled both Locations A and B, pointing out that the values it placed on the prices of oil and gas were outdated by recent rapid increases. Noble countered with an exhibit using more recent prices and showed that it would still lose money, even at the increased prices

EXAMINERS' OPINION

To establish entitlement to an exception to Rule 37 to prevent confiscation, an applicant must show that, absent the applied-for well, it will be denied a reasonable opportunity to recover its fair share of hydrocarbons currently in place under the lease, or its equivalent in kind. The applicant must satisfy a two pronged test: 1) the applicant must show that it will not be afforded a reasonable opportunity to recover its fair share of hydrocarbons currently in place by drilling a well at a regular location; and 2) the applicant must show that the proposed irregular location is reasonable. Applicant does not claim that it is entitled to an exception based on waste.

It is the basic right of every landowner or lessee to a fair and reasonable chance to recover the oil and gas under their property as recognized by the Texas Supreme Court in *Gulf Land Co. v. Atlantic Refining Co.*, 131 S.W.2d 73, 80 (Tex. 1939). Denial of that fair chance is confiscation within the meaning of Rule 37. *Id.*

In the present case, the applicant has regular locations available on either side of the internal lease line that causes the Rule 37 problem. Noble was able to show that drilling either regular location would result in a recovery of hydrocarbons substantially less than the amount currently in place beneath the unit. Drilling regular locations farther to the southwest would result in an even smaller recovery of hydrocarbons.

Noble showed that its Proposed Location was essentially dictated by the locations of the faults and Tex Miss zones under the Cathy Hunter Gas Unit. The examiners note that the Proposed Location is regular to the Unit Boundary. The examiners believe Noble has shown the location is reasonable. The examiners recommend that Noble be granted a Statewide Rule 37 exception in the Potthast (Middle Tex Miss) Field to prevent confiscation

Based on the record in these dockets, the examiners recommend adoption of the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

1. At least 10 days notice of this hearing was given to the designated operator, all offset operators, all lessees of record for tracts that have no designated operator, and all owners of record of unleased mineral interests for each affected adjacent tract.
2. Noble Energy, Inc. ("Noble" or "Applicant"), seeks an exception to Statewide Rule 37 to drill its 176.33 acre Cathy Hunter Gas Unit, Well No. 1, in the Potthast (Middle Tex Miss) Field, in Matagorda County.
3. Noble originally also applied for an exception to Statewide Rule 37 to drill its Cathy Hunter Gas Unit, Well No. 1 in the Wildcat Field, but withdrew that request at the hearing and did not present a case regarding that field.
4. The Potthast (Middle Tex Miss) Field has minimum lease line spacing requirements of 467 to the nearest lease line and 1200 feet minimum spacing between wells. The subject pooled unit is an irregularly shaped 176.33 acre tract which has locations regular to lease-lines and unit boundaries.
5. The well is to be vertically drilled to a proposed bottomhole location regular (492') to the northern unit line. The proposed well is located 100 feet from an internal lease line and an unsigned mineral interest owned by protestant Henry P. Massey.
6. The Potthast (Middle Tex Miss) Field was discovered March 2, 2000, with the completion of the Samedan, Trull No. 1.
7. The Potthast (Middle Tex Miss) Field consists of over 1,000 feet of stacked sands, with internal zones known as the Tex Miss 3 through 9. The field is controlled by several "compensator" faults trending in a southwest to northeast direction. The faults are sealing faults and the hydrocarbon traps are on the upthrown side of the faults. Tex Miss zones 3 through 9 are of variable extent throughout the field and also vary in porosity and permeability. Generally, the sands thicken towards the faults and thin out, undergoing a facies change to shale, away from the faults.
8. Regular locations exist east and west of the internal lease line, requiring an exception to

Statewide Rule 37.

9. A well drilled at a location regular to the internal lease line on the Cathy Hunter Gas Unit will not provide Noble Energy, Inc. with a reasonable opportunity to recover the reserves currently underlying the Cathy Hunter Gas Unit in the Potthast (Middle Tex Miss) Field.
 - A. The current recoverable reserves in the Potthast (Middle Tex Miss) Field on the Cathy Hunter #1 Unit total 560,398 mcf.
 - B. A well drilled at a regular location east of the internal lease line (Location B) will only recover 342,510 mcf.
 - C. A well drilled at a regular location west of the internal lease line (Location A) will only recover 375,804 mcf.
10. A well drilled at a location regular to the north unit boundary and 114 feet east of the internal lease line on the Cathy Hunter Gas Unit will recover 1,212,126 mcf, giving Noble Energy, Inc. a reasonable opportunity to recover its fair share of the recoverable reserves under the unit.
11. A well drilled at a location regular to the north unit boundary and 100 feet east of the internal lease line on the Cathy Hunter #1 Unit will penetrate the maximum number of Tex Miss zones within the Potthast (Middle Tex Miss) Field and is a reasonable location.

CONCLUSIONS OF LAW

1. Proper notice of hearing was timely given to all persons legally entitled to notice.
2. All things have occurred to give the Commission jurisdiction to decide this matter.
3. A well at locations regular to lease lines would not provide Noble with a reasonable opportunity to recover the reserves currently in place under the Cathy Hunter #1 Unit in the Potthast (Middle Tex Miss) Field.
4. An exception to Statewide Rule 37 at the applied-for location is necessary to prevent confiscation in the Potthast (Middle Tex Miss) Field.

RECOMMENDATION

Noble Energy, Inc. established that it is entitled to a Rule 37 exception in order to prevent confiscation. The examiners therefore recommend that the subject application be approved in accordance with the attached final order.

Respectfully submitted,

Marshall Enquist
Hearings Examiner

Thomas H. Richter
Technical Examiner