August 20, 2007

Rule 37 Case No. 0249258

APPLICATION OF WAGNER OIL COMPANY TO CONSIDER AN EXCEPTION TO STATEWIDE RULE 37 FOR THE RASMUSSEN LEASE, WELL NO. 2, BRUCE ROY (YEGUA) AND WILDCAT FIELDS, WHARTON COUNTY, TEXAS.

APPEARANCES:

FOR APPLICANT:	**APPLICANT:**
Mickey Olmstead, Attorney	Wagner Oil Company
Mark Belcher	"
David Sadler	"
Brian Murphy	"
FOR PROTESTANT:	**PROTESTANT**:
Ana Maria Marsland, Attorney	Patterson Petroleum
OBSERVER:	**REPRESENTING:**
Steve Fekete	Self

PROPOSAL FOR DECISION

PROCEDURAL HISTORY

APPLICATION FILED:	October 6, 2006
NOTICE OF HEARING:	December 13, 2006
HEARD BY:	Marshall Enquist - Hearings Examiner Thomas Richter - Technical Examiner
HEARING DATE :	March 6, 2007
TRANSCRIPT RECEIVED:	March 16, 2007
PFD CIRCULATION DATE:	August 20, 2007

STATEMENT OF THE CASE

Wagner Oil and Gas Company ("Wagner" or "Applicant"), seeks an exception to Statewide Rule 37 to directionally drill its proposed Well No. 2, Rasmussen Lease, in the Bruce Roy (Yegua) Field and Wildcat Field, Wharton 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. The proposed bottomhole location of the subject well is 220 feet west of, and irregular to, the

common leaseline with Patterson Petroleum ("Patterson") and is 504 feet north of, and regular to, the leaseline with Kebo Oil & Gas Co., Inc. ("Kebo"). Wagner operates one other well on this 352 acre lease, the Wagner Rasmussen Well No. 1, completed in the Lower Cook Mountain Sand member of the Bruce Roy (Yegua) Field.

The application is protested by Patterson, the offset operator east of the proposed exception location. Patterson argues that the exception location requested should not be approved because Wagner has failed to meet its burden of proof and can recover its fair share of the minerals in the target reservoir from a regular location.

SUMMARY OF WAGNER'S POSITION AND EVIDENCE

The Bruce Roy (Yegua) Field consists of a number of stacked sands, including the target sand in this application, the Lower Cook Mountain. The target is defined by seismic data and is a lenticular Yegua deposit in a discontinuous, deltaic fluvial system (see attached Exhibit 1). In general, the available seismic data shows that drilling targets are found locally as limited, isolated features. The target, as shown on Wagner's seismic interpretation, straddles two lease lines dividing three operators: Wagner to the west, Patterson to the east and Kebo to the south. The spatial relationships between the operators and the applied-for location are more clearly seen on the plat accompanying the application (see attached Exhibit 2). Wagner notes that the Cook Mountain is further divided into an Upper and a Lower member, as seen on the log of the Patterson Hill No. 1 to the east. However, only the Lower Cook Mountain is seen in the Wagner Rasmussen No. 1, located to the north of the applied-for location.

Wagner believes that the limited size of the target feature, 33 acres, combined with the fact that it is a channel sand that straddles two leaselines, creates an unusual reservoir condition. Due to the limited extent of this feature, a well at a regular location cannot be drilled by any of the operators of the three contiguous leases. Wagner's calculations show that the target feature traps a significant amount of gas, therefore the grant of the exception location is necessary to prevent waste.

The Wagner seismic interpretation shows a "bright spot" straddling leaselines. The blue color is the highest amplitude, with the green being a slightly lesser amplitude. Wagner asserts that because the target feature is a channel sand, it is essential to drill within the high amplitude, or "blue" portion of the feature. This should be nearest the center of the channel, which should be the cleanest portion of the sand. The surrounding green colored part of the deposit is very likely composed of mixed deposits at the edge of the channel, so-called "ratty" sands, with a greater shale content and correspondingly lower permeability and porosity. This is corroborated by the logs of the two wells nearest the proposed location; the Wagner Rasmussen No. 1 and the Patterson Hill No. 1.

The accuracy of the seismic path is within one "bin" of information, or 110 feet, making it risky to move the well to a location other than that applied for. According to the seismic data, the optimum location for the well is actually closer to the leaseline than the applied-for location, but Wagner has moved the location as far back from the leaseline as it believes is prudent, given the limitations of seismic accuracy. Assuming the Wagner seismic interpretation to be completely accurate, movement of the well to a regular location farther to the west would place the well at the boundary of the

green/brown amplitude, which would correlate to the poor permeability and porosity found in the Patterson Hill No. 1 in the Lower Cook Mountain. Factoring in the 1 bin or 110 foot margin of error inherent in the seismic data, a move to a regular location to the west could result in a dry hole.

When drilled in 1989, the Rasmussen No. 1 had a bottomhole pressure of 5300 pounds. In 1994, it had a bottomhole pressure of 855 pounds. The well currently produces 200 mcf/day. Its EUR is 2.98 BCF. Due to the similarity of the features and their proximity, Wagner believes that the reservoir conditions of the applied-for Rasmussen No. 2 location are similar to those encountered by the Rasmussen No. 1. The seismic indicates the target anomaly is 33 acres in aerial extent, and if it is similar to the anomaly penetrated by the Rasmussen No. 1, probably has an average thickness of 17 feet, average porosity of 25%, bottomhole pressure of 5300 pounds, similar reservoir temperature and similar gas analysis. Using these parameters, Wagner calculates an in-place volume of 1.1 BCF for the entire 33 acre target feature and, assuming a recovery factor of 75%, a total of 821 MMCF of recoverable reserves in the overall feature. This gas would be wasted if this anomaly is not drilled.

Wagner's fair share of the total amount of recoverable gas can be figured as a percentage of the aerial extent of the feature under the Wagner Lease. Roughly 53% of the 33 acres is on the Wagner Lease, so Wagner's fair share of recoverable reserves is 432 MMCF. Wagner believes its proposed location 220 feet from the leaseline is reasonable and is the best compromise between the most desirable location and a location that still retains a reasonable potential for productive thickness, permeability and deliverability.

The Patterson Hill No. 1 and the Wagner Rasmussen No. 1 both produce similar quantities of gas, which could be taken as evidence that both are completed in areas of similar porosity and permeability in the Lower Cook Mountain. Wagner believes the Patterson Hill No. 1, to the east of the applied-for location, has penetrated a point bar or isolated bar. Although Patterson's seismic interpretation shows it hitting the center of this target, Wagner has reworked the seismic and its interpretation shows that the Patterson Hill No. 1 has just caught the edge of the feature, a view supported by the log of that well. Wagner notes that the Patterson Hill No. 1 is also completed in the Upper Cook Mountain, which shows much better permeability and porosity than the Lower Cook Mountain on the electric log. In addition, the Patterson Hill No. 1 is also completed in the Upper Tail Feathers Sand, a higher Yegua sand, and all fields in the well are commingled. In Wagner's view, the Patterson Hill No. 1 completion at the less productive edge of the Lower Cook Mountain bar is compensated for by the Upper Cook Mountain and Upper Tail Feathers production.

Wagner requests that it be granted an exception location in the Wildcat Field, and states that it would not drill the applied-for well only as a wildcat.

PATTERSON'S POSITION AND EVIDENCE

Patterson did not present a direct case, but instead limited itself to cross-examining the Wagner witnesses. Patterson argues that Wagner did not meet its burden of proof in showing that drilling at a regular location will not allow it to recover its fair share of hydrocarbons in the Bruce Roy (Yegua) Field because Wagner did not present any evidence of its fair share of recoverable hydrocarbons in

place beneath the entire Rasmussen Lease.

Patterson points out that Wagner's engineering witness testified that he had not even considered the percentage of production from the Rasmussen No. 1 in his calculations. Having failed to do so, Wagner's calculations of their fair share of the recoverable reserves from the Rasmussen Lease are insufficient. Wagner has not done the calculations to demonstrate that it is not going to get its fair share with the Rasmussen No. 1 and a second well at a regular location, because it did not even consider the Rasmussen No. 1 in its calculations.

Patterson argues that although Wagner would like to have a well on the blue "bright spot" as shown on their seismic interpretation, Wagner did not offer sufficient evidence to prove that the location is critical. There is no empirical data showing that a well at a regular location will prevent Wagner from recovering its fair share of recoverable reserves.

Wagner believes there is no correlative interval connecting the Rasmussen No. 1 and the Patterson Hill No. 1. However, the Patterson Hill No. 1 is a good producer and Wagner has failed to show that the production from the Hill No. 1 is not from the Wagner target zone. In fact, according to Wagner's own seismic interpretation, the Hill No. 1 is producing from an area of seismic amplitude in the greens and browns, contradicting their own assertion that their well must be in the blue spot in order to be in the best quality rock.

EXAMINERS' OPINION

To establish entitlement to an exception to Statewide Rule 37 to prevent waste, an applicant must demonstrate that: (1) unusual conditions, different from conditions in adjacent parts of the field, exist on the tract for which the exception is sought; and (2) as a result of these conditions, a substantial volume of hydrocarbons will be recovered by the well for which a permit is sought that would not be recovered by any existing well or by additional wells drilled at regular locations.

Both the Wagner Rasmussen No. 1 and the Patterson Hill No. 1 penetrate the Lower Cook Mountain. Both are good wells. However, the Rasmussen No. 1 is completed only in the Lower Cook Mountain, within an area of higher seismic amplitude graphically represented as an area shading from blue into purple (see attached Exhibit 1). The Hill No. 1 is completed in the Lower Cook Mountain within an area of lower seismic amplitude, graphically represented as an area of light green shading into brown. The electric logs are in agreement with Wagner's seismic interpretation and show that the Lower Cook Mountain in the Hill No. 1 is of poorer quality than the same interval in the Rasmussen No. 1. The same logs show that the Hill No. 1 benefits from an additional completion in the Upper Cook Mountain which has much better permeability than the sand in the Lower Cook Mountain. In addition, the Hill No. 1 is completed uphole in the Upper Tail Feathers Sand. All the fields encountered by the Hill No. 1 are commingled. Due to commingling, it is not possible to apportion the production in the Hill No. 1 to the various fields it is completed in, but the logs lend credence to Wagner's assertion that its seismic interpretation is the most reliable and that the Hill No. 1 is completed in a less permeable, less porous, "ratty" zone in the Lower Cook Mountain.

The seismic evidence shows that these Cook Mountain sand bodies are lenticular and discontinuous. Wagner has shown a correlation between the seismic amplitude of a location and permeability confirmed by the electric logs, indicating that a well drilled to the target anomaly on the Rasmussen lease at a regular location would most likely penetrate an area of low permeability and shaley sands.

The limited area covered by this sand body and the fact that it straddles three leases creates an unusual condition different from conditions in adjacent parts of the field. The unusual condition is that no regular location exists on any of the three leases from which the hydrocarbons in this sand can be recovered.

Wagner has estimated the total area of the seismic anomaly it plans to drill is approximately 33 acres. This feature, assuming it is similar to the anomaly penetrated by the Rasmussen No. 1, contains an in-place volume of 1.1 BCF, of which 821 MMCF is recoverable assuming a recovery factor of 75%. This amount of gas is not recoverable from a regular location on any of the three leases this feature straddles and is the amount that would be wasted if the proposed irregular location is not granted. Because 53% of the feature is under the Rasmussen Lease, Wagner believes that it is entitled to produce the 432 MMCF of recoverable gas currently in place under its lease, which is a substantial amount of gas.

Wagner has also shown that the proposed location, at 220 feet from the leaseline, is not within the area of highest seismic amplitude, which is even closer to the leaseline than 220 feet. However, the proposed location is reasonable in that it is as far removed from the leaseline as is practical while still remaining within the "blue" area of greatest permeability and porosity. Since the accuracy of the seismic is limited to 110 feet, the proposed location is a reasonable compromise between the most desirable location and the practical limits of good quality reservoir rock. Wagner has demonstrated that the location of the target anomaly directly beneath two leaselines creates an unusual condition preventing the recovery of a substantial quantity of hydrocarbons that cannot be recovered by any existing well or any well drilled at a regular location.

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.

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.*

Wagner has not presented a calculation of the total recoverable gas in place beneath its lease in the subject field, and thus cannot show that it will be denied an opportunity to recover its fair share if

the exception location is not granted. However, since the examiners believe Wagner has proved its case based on prevention of waste, it is not necessary to consider the confiscation argument further.

The examiners believe Wagner has proved its case based on prevention of waste as to its application to drill the Lower Cook Mountain and recommend that its application be approved.

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. Wagner Oil Company ("Wagner" or "Applicant"), seeks an exception to Statewide Rule 37 to drill its Rasmussen Lease, Well No. 2, in the Bruce Roy (Yegua) and Wildcat Fields, in Wharton County.

3. The proposed well is to be directionally drilled to a proposed bottomhole location irregular (220') to the east lease line and regular (504') to the south lease line.

4. The Bruce Roy (Yegua) Field consists of stacked, lenticular, isolated sands deposited in a deltaic fluvial environment. These are channel sands with higher levels of porosity and permeability at the center of the channels, grading into shaley sands with lower levels of porosity and permeability at the edges of the channels.

5. The target sand in this application, the Lower Cook Mountain, consists of an isolated sand body of approximately 33 acres aerial extent, situated beneath two leaselines dividing three leases, each with a different operator. The northwestern-most lease is the Rasmussen Lease.

6. There is no regular location available on any of the three leases over the target sand from which any of the three operators can recover the reserves in this feature.

7. The limited size of the target anomaly, and the fact that it underlies two leaselines such that no operator can access the anomaly from a regular location creates an unusual condition on the tract for which the exception is sought.

8. A well drilled at a regular leaseline location on the Wagner Rasmussen Lease would be in an area of seismic amplitude that indicates poor quality reservoir rock, resulting in a well that would be a low producer or possibly a dry hole.
9. The 33 acre target sand body contains approximately 1.1 BCF of gas. Assuming a recovery factor of 75%, there is a total of 821 MMCF of recoverable reserves in place in the target sand body that cannot be recovered by a well drilled at a regular location on any of the overlying

three leases.

10. Approximately 53% of the target sand body underlies the Wagner Rasmussen Lease, so Wagner estimates there is approximately 432 MMCF of recoverable gas beneath its lease in the target sand, a substantial quantity of gas.

11. According to Wagner's seismic interpretation, the optimum location for its well is even closer to the leaseline than 220 feet. However, Wagner requests the 220 foot location as a reasonable compromise between the best possible location and location that still retains a reasonable potential for productive thickness, permeability and deliverability.

12. Wagner did not present an estimate of its fair share of the recoverable reserves in place under the entirety of the Rasmussen lease.

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. An exception to Statewide Rule 37 at the applied-for location is necessary to prevent waste in the Bruce Roy (Yegua) Field.

RECOMMENDATION

Wagner Oil Company established that it is entitled to a Rule 37 exception in order to prevent waste. The examiners therefore recommend that the subject application be approved in accordance with the attached final order.

Respectfully submitted,

Marshall Enquist	Thomas H. Richter
Hearings Examiner	Technical Examiner