## STATE OF NEW MEXICO DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES OIL CONSERVATION DIVISION

APPLICATION OF YATES PETROLEUM CORPORATION FOR APPROVAL OF A UNIT AGREEMENT, EDDY COUNTY, NEW MEXICO.

CASE NO. 13922

## AFFIDAVIT OF JOHN HUMPHREY

STATE OF NEW MEXICO	)	
	)	ss.
COUNTY OF EDDY	)	

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I John Humphrey being first duly sworn on oath, states as follows:

1. My name is John Humphrey. I reside in Artesia, New Mexico. I am the petroleum geologist employed by Yates Petroleum Corporation ("Yates") who is responsible for the formation of the proposed Recif Unit ("the Unit") comprised of 5,207.37 acres, more or less, of Federal, State of New Mexico, and Fee land situated in Eddy County, New Mexico. The horizontal limits of said Unit Area are described as follows:

## Township 22 South, Range 23 East, N.M.P.M.

Sections 30 and 31: All

## Township 23 South, Range 23 East, N.M.P.M.

Sections 5 through 8: All Sections 18 and 19: All

- 2. Yates Petroleum Corporation, designated Unit Operator in the Recif Unit Agreement, proposes the formation of the Unit to test all formations from the surface to the base of the Canyon (Upper Pennsylvanian) formation.
- 3. The initial unit well will be drilled at a standard well location 660 feet from the North line and 1980 feet from the West line of Section 7, Township 23 South, Range 23 East, NMPM, Eddy County, New Mexico to an approximate depth of 8,000 feet to test all formations from the surface to the base of the Canyon (Upper Pennsylvanian) formation. The estimated costs for this well are \$2,500,850 million. (The AFE is attached as Exhibit 2).

- 4. Attachment A to the Affidavit is a copy of the Unit Agreement for the proposed Recif Unit. This agreement is on the New Mexico State Land Office Federal/State/Fee Unit Agreement form.
- 5. Attachment B to the Affidavit is the plat to the Unit Agreement that shows the boundaries of the Recif Unit and the location of the initial unit test well.
- 6. Attachment C to this Affidavit is a copy of Schedule B to the Unit Agreement for the Recif Unit that identifies the working interest ownership in the unit area. Approximately 100% percent of the working interest in the Unit Area is committed to the Unit. Exhibit 3 are copies of the notice letters that were sent to all other working interest owners in the proposed unit area. The letters included an AFE, operating agreement and unit agreement.
- 7. The schedule under Attachment C to the Affidavit also identifies the royalty interest in the Unit Area. 100% percent of the royalty interest is owned by the Federal government, State of New Mexico and fee owners. Attachment D to this Affidavit is a letter from the Bureau of Land Management designating the proposed unit as a "logical unit area" and Attachment E is a letter from the New Mexico Commissioner of Public Lands giving preliminary approval of the State Land Office to the proposed Recif Unit. There are no overriding royalty interests in the Unit Area.
  - 8. All of Yates' interest in the Unit Area has been committed to the Unit.
- 9. Attachment F to this affidavit is a Magnetic survey showing the structural positive extending from the Southern end of Indian Basin Pool over the Proposed Unit area. Regional magnetic surveys acquired by Yates over this area indicate a large basement structure extending southwest from the Indian Basin Gas Pool over the proposed unit. The Indian Basin Upper Penn Pool is one of the most prolific gas fields in the state with a cumulative production in excess of 2.3 tcf to date. It is believed that the underlying structure positive at the time of carbonate deposition during the Pennsylvanian led to thick accumulation of carbonates over this area (aggredational carbonate buildups/ bioherms). Good porosity development is generally seen in carbonates in this area, especially if the section is dolomitized.
- 10. Attachment G to this affidavit is a structure map on the Top of the Upper Pennsylvanian carbonate; structure over the Proposed Unit is inferred from the magnetic feature. A red line on the structure map shows the lowest subsea position where gas production was established in the Indian Basin Pool to the North (-3300); the unit only includes acreage where proration units are above this "contact". However, gas to surface was seen on a Drill Stem Test in a well in Section 30 (T23S R23E) south of the Proposed Unit at a approximate subsea of -3700 (105 mcfpd; pressure still building through test).

- 11. Attachment H to this affidavit is Cross Section A-A' that includes wells east, south and west of the Proposed Unit that shows a thickening (in excess of 200 ft) over the Magnetic positive in the carbonate section of the Upper Pennsylvanian.
- 12. The unit covers an area that can be reasonably developed under a unit plan.
- 13. The primary target is the Canyon (Upper Pennsylvanian) formation. Yates is proposing to drill a <u>wildcat</u> well to develop Canyon (Upper Pennsylvanian) production on acreage where there has been no Canyon (Upper Pennsylvanian) production.
- 14. If the initial unit well is successful, additional wells will be drilled in the Unit Area. Accordingly, approval of the unit agreement will result in the efficient recovery of hydrocarbons.
- 15. Approval of the Recif Unit and the development of the Unit Area pursuant to a unit plan is in the best interest of conservation, the prevention of waste and the protection of correlative rights.

FURTHER AFFIANT SAYETH NOT.

John Humphrey

SUBSCRIBED AND SWORN before me on this 21 57 day of May, 2007.

Paula J. Baker Notary Public

My Commission Expires:



