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, CHAVES COUNTY, NEW MEXICO.

CASE NO. 13550

AFFIDAVIT OF H. TIM MILLER

	BEFORE THE OIL CONSERVATION DIVISION
	Santa Fe, New Mexico
STATE OF NEW MEXICO)	Case No. <u>13550</u> Exhibit No. 1
) ss.	Submitted by:
	Yates Petroleum Corporation
COUNTY OF EDDY)	Hearing Date: <u>September 8, 2005</u>

I, H. Tim Miller, being first duly sworn on oath, states as follows:

1. My name is Tim Miller. I reside in Carlsbad, New Mexico. I am the petroleum geologist employed by Yates Petroleum Corporation ("Yates") who is responsible for the formation of the proposed Lacrosse State Exploratory Unit ("the Unit") comprised of 3840 acres, more or less, of State and Fee lands situated in Chaves County, New Mexico. The horizontal limits of said Unit Area are described as follows:

Township 11 South, Range 27 East, N.M.P.M.

Section 22:	All
Section 27:	A11
Section 28:	A11
Section 32:	A 11
Section 33:	A 11
Section 34:	All

2. Yates, the designated Unit Operator in the Lacrosse State Exploratory Unit Agreement, proposes the formation of the Unit to test all formations from the surface to the top of the Pre-Cambrian formation.

3. The initial unit well will be drilled at a standard well location 660 feet from the North line and 660 feet from the West line of Section 32, Township 11 South, Range 27 East, NMPM, Chaves County, New Mexico with a proposed total depth of 6,700 feet.

4. <u>Attachment A</u> to this Affidavit is a copy of the Unit Agreement for the proposed Lacrosse State Exploratory Unit. This agreement is on the New Mexico State Land Office State/Fee Unit Agreement form.

5. <u>Attachment B</u> is the plat to the Unit Agreement that shows the boundaries of the Lacrosse State Exploratory Unit.

6. <u>Attachment C</u> to this Affidavit is a copy of Schedule B to the Unit Agreement for the Lacrosse State Exploratory Unit that identifies the working interest ownership in the Unit Area. 90% of the working interest in the Unit Area is owned by Yates and its affiliated companies and 100% is committed to the Unit.

7. The schedule under <u>Attachment C</u> also identifies the royalty interest in the Unit Area. 3800 acres is owned by the State of New Mexico and under <u>Attachment D</u> to this Affidavit is a letter from the New Mexico Commissioner of Public Lands giving preliminary approval of the State Land Office to the proposed Lacrosse State Exploratory Unit. 40 acres of the proposed Unit is Fee land and is also committed to the Unit.

8. All of Yates' interest in the Unit Area has been committed to the Unit.

9. Attachment \underline{E} is a Siluro-Devonian Time Map which is a seismic structure map on top of the Siluro-Devonian. Each seismic contour interval on the map represents 5 milliseconds which is equal to about 50 feet. The map shows the proposed well location (Lacrosse State Unit #1) is structurally higher than the other six deep tests in the area. Elk Oil Company's Cobra Federal #2 (in Section 19) is the only well in the area to be producing from the Siluro-Devonian dolomite. The initial potential flow was 100 barrels of oil and 50 barrels of water per day. Since it first went on production in April 2005, it has produced 1,500 barrels of oil and 150 barrels of water. Yates' proposed location is structurally up dip (about 90 feet higher) on the southeastern flank of a northeastern plunging nose from the Cobra Federal #2. The fault that is shown on the map which trends from the southwest to the northeast almost on the crest of the northeast plunging nose might serve as an up dip seal for the entrapment of hydrocarbons which could enhance the proposed well location's chances for production in the Siluro-Devonian. Marathon's North Park Federal #1 (in Section 20) is located very near the fault, but Marathon did not attempt a completion in the Siluro-Devonian. A drill stem test was run in the upper 54 feet of the dolomite and the recovery was 180 feet of slightly oil and gas cut mud and 1,070 feet of gas in the drill pipe. The sample chamber had 1200 cc's of oil and gas cut mud and .88 cubic feet of gas.

10. <u>Attachment F and G</u> are structural cross-sections A-A' and B-B' and show the proposed well location to be up dip from the surrounding deep tests in the area. Both cross-sections have possible Siluro-Devonian dolomite productive intervals highlighted in light blue. If the Siluro-Devonian has hydrocarbon production, it is usually in the top 120 feet of the formation. The A-A' cross-section is from west to east starting structurally up dip from the three old wells to the east. The Humble Oil State Y-1 and the Union Oil Dekalb #1 both ran drill stem tests in the upper portion of the dolomite and recovered mud or slightly gas cut mud. Both wells ran deeper drill stem tests in the productive interval and both wells recovered water, which further

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My Commission Expires: Oct 17,0005

Nancy Elrod NOTARY PUBLIC-STATE OF NEW MEXICO My commission expires: 10-17-05

Elrod Notary Public

substantiates that productive hydrocarbons likely occur in the upper portion of the light blue area on the map. The B-B' cross-section is from west to east and then to the south. The Cobra Federal #2 is producing from the Siluro-Devonian in the 120 foot light blue interval. Both Marathon's North Park Federal #1 and Park Federal #1 are down dip from the Cobra Federal #2 well. Drill stem tests for both wells recovered either hydrocarbons or mud but no water. Both wells ran second drill stem tests deeper into the dolomite and recovered water which means the lower 30-40 feet of the light blue zone is wet. As shown on the B-B' cross-section, Yates' proposed well location is up dip from Marathon's wells and approximately 90 feet higher than Elk Oil's well.

11. The unit covers an area that can be reasonably developed under a unit plan.

12. Yates is attempting to develop the Siluro-Devonian Dolomite as the main objective.

13. 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.

14. Approval of the Lacrosse State Exploratory 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.

NOTARY PUBLIC-STATE OF NEW MEXICO

My commission expires: 10-17-05

H. Tim Miller_____

SUBSCRIBED AND SWORN before me on this $\frac{6^{4h}}{6^{4h}}$ day of September, 2005.

1 Ancy Elrod Notary Public (

My Commission Expires: Oct 17,2005