

DATE IN 1/28/08	SUSPENSE	ENGINEER Brooks	LOGGED IN 1/29/08	TYPE NSL	APP NO PKUR0802932250
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ABOVE THIS LINE FOR DIVISION USE ONLY

**NEW MEXICO OIL CONSERVATION DIVISION**  
 - Engineering Bureau -  
 1220 South St. Francis Drive, Santa Fe, NM 87505



Apache Corp.  
 State 36 #1

**ADMINISTRATIVE APPLICATION CHECKLIST**

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

**Application Acronyms:**

- [NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
- [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
- [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
- [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
- [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
- [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

- [A] Location - Spacing Unit - Simultaneous Dedication  
 NSL  NSP  SD

Check One Only for [B] or [C]

- [B] Commingling - Storage - Measurement  
 DHC  CTB  PLC  PC  OLS  OLM

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery  
 WFX  PMX  SWD  IPI  EOR  PPR

- [D] Other: Specify \_\_\_\_\_

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or Does Not Apply

- [A]  Working, Royalty or Overriding Royalty Interest Owners
- [B]  Offset Operators, Leaseholders or Surface Owner
- [C]  Application is One Which Requires Published Legal Notice
- [D]  Notification and/or Concurrent Approval by BLM or SLO  
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E]  For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F]  Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

James Bruce  
 P.O. Box 1056  
 Santa Fe, New Mexico 87504

*James Bruce*  
 \_\_\_\_\_  
 Signature

Attorney for Applicant  
 Title Date

jamesbruc@aol.com  
 \_\_\_\_\_  
 e-mail Address

RECEIVED  
 2008 JAN 28 PM 2 17

**JAMES BRUCE**  
ATTORNEY AT LAW

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[jamesbruc@aol.com](mailto:jamesbruc@aol.com)

January 28, 2008

Hand Delivered

Mark E. Fesmire, P.E.  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

Dear Mr. Fesmire:

Pursuant to Division Rule 104.F(2), Apache Corporation applies for administrative approval of an unorthodox oil well location for the following well:

<u>Well Name:</u>	State 36 Well No. 1
<u>Well Location:</u>	640 feet FSL & 1460 feet FWL
<u>Well Unit:</u>	SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 36, Township 22 South, Range 37 East, N.M.P.M., Lea County, New Mexico

The well's primary target of the well is the Fusselman (Silurian) formation. This is a wildcat Fusselman test, so well spacing is 40 acres, with wells to be no closer than 330 feet to a quarter-quarter section line.

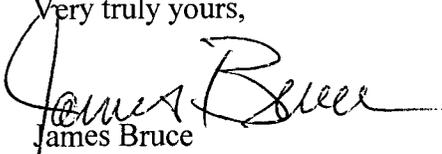
Applicant also requests unorthodox location approval in the Blinebry, Tubb, and Drinkard formations (Blinebry Oil and Gas Pool, Tubb Oil and Gas Pool, and Drinkard Pool, respectively). These are secondary targets. Each zone is anticipated to be an oil well, so again spacing is 40 acres, with wells to be no closer than 330 feet to a quarter-quarter section line.

The application is based on geological and engineering reasons. A complete discussion, with a Form C-102 and geological exhibits, is attached as Exhibit A. The well's location will ensure the best chance for a commercial Fusselman test.

Exhibit B is a summary of State Lease B-1040-11, which covers, among other lands, the S $\frac{1}{2}$ SW $\frac{1}{4}$  of Section 36. Because ownership is common in the well unit and the affected offset acreage, there is no need to notify any royalty interest owner. Apache Corporation is the sole working interest owner of the lease. However, Apache has entered into an Area of Mutual Interest Agreement covering this acreage with Plains Exploration & Production Company. As a courtesy, Apache has notified Plains of this application. Exhibit C.

Please call me if you need any further information on this matter.

Very truly yours,



James Bruce

Attorney for Apache Corporation

Application of Apache Corporation for administrative approval of an unorthodox well location:

40 Acres - 640' FSL & 1460' FWL  
 Section 36, Township 22 South, Range 37 East, NMPM  
 Lea County, New Mexico

PRIMARY OBJECTIVE: Fusselman (Silurian)  
 SECONDARY OBJECTIVES: Blinebry, Tubb, and Drinkard

In support:

1. Apache Corporation (Apache) is the operator of the proposed **State 36 #1** well (**Exhibit 1**).
2. The proposed unorthodox location encroaches toward no wells which are, or ever have been, productive from the Fusselman (Silurian) reservoir. In fact, there are only two wells which have ever produced in the contiguous 40 A drilling and spacing units. For reference, production from all wells in Section 36 is displayed on **Exhibit 2** and detailed production from the two offsetting wells is described in the table below.

API	Op.	Well	Loc	Pool	Cum O/G/W	Daily O/G/W
10590	Jack Huff	Upson State 36 #1	36-K	Blinebry Oil (06660)	80/761/0	0/0/0
10589	Xeric Op LLC	State BD 36 #1	36-J	Blinebry Oil (06660)	29/342/8	0/1.7/0
10589	Xeric Op LLC	State BD 36 #1	36-J	Tubb Oil (60240)	0.3/5/1	0/0.5/0
10589	Xeric Op LLC	State BD 36 #1	36-J	Drinkard (19190)	3/14/1	0/0/0

MBO  
 MMCFG  
 MBW  
 BOPD  
 MCFGPD  
 BWPD

3. The proposed **State 36 #1** location of 640' from south line and 1460' from west line is based upon geological considerations. Due to the nature of the trap, precise location of the well is critical to reducing risk. Speculative 3-D seismic was used to identify the drillsite. The contractual agreement required to purchase that seismic precludes Apache from entering the data into the public record or otherwise disseminating the data.

a. **Fusselman**

This trapping mechanism for this prospect is caused by erosional truncation of a zone of porosity located about 45' below the top of the normal Fusselman section and 155' above the base (top of Montoya).

The Lower Paleozoic on the Central Basin Platform sits at an angular unconformity beneath Abo age rocks. **Exhibit 3** is a structure map on the top of the Simpson with the subcropping formation noted in color. As

evidenced by the Simpson, the Lower Paleozoic dips about 1000'/mile to the south-southwest, the Abo Unconformity dips at a gentler rate, so progressively older formations are truncated to the northeast. McCulloch Monument Draw 6 #1 (Section 6, Unit M) encountered 6' of Woodford at the Abo Unconformity, whereas less than 1 mile north, Arch HV Pike #3 (Section 6, Unit D) encountered Montoya at the unconformity. The Simpson is used for the structural horizon because the Silurian, Fusselman, and Montoya are all carbonate rocks and appear almost identical on wireline logs. Without penetration of the Simpson, correlation of the subcropping formation is problematic. Also, because those formations are truncated on the map area, a structure map using any one of them would either have few data points (using an untruncated top) or display the structure of the unconformity instead of formation structure.

Presence of the down-to-the-west fault in SW/4, Section 36 is obvious using subsurface control. Seismic confirms its location and trend.

Position of the total truncation of the Fusselman porosity was established with seismic. Using the interval between the base of the porosity and the top of the Montoya from McCulloch Monument Draw 6 #1 and Cone C&E Federal #1, an isopach of the interval (**Exhibit 4**) can be constructed. The regional thickness of the porosity is about 60' and it will thin rapidly near the truncation edge.

A drill stem test of the Fusselman in McCulloch Monument Draw 6 #1 recovered salt water, placing the oil-water contact above -4592'. Resistivity of the Fusselman porosity in Campbell & Hedrick Laura May #1 is low enough to suggest it is close to the oil-water contact at -4288', ignoring any effects of the fault. Apache expects to encounter the Fusselman porosity at -3885' in the **State 36 #1** which is above highest known water, but precise depth of the oil-water contact is not known.

For **State 36 #1** to be successful, Apache must encounter the Fusselman low enough to have the sufficient porosity preserved to contain a commercial amount of hydrocarbons and high enough to have a commercial oil column. A standard location in Unit N is closer to the truncation and increases the risk of encountering porosity. A standard location in Unit M is closer to the fault which could have a negative effect on porosity and permeability or the well could even cross to the down-thrown side and be below the oil-water contact. That location is low to the requested NSL and thus decreases the potential oil column.

**b. Blinebry, Tubb, and Drinkard**

The Blinebry, Tubb, and Drinkard Formations are secondary objectives in **State 36 #1** that produce in other wells in Section 36. All three formations are members of the Yeso Group, Permian Leonardian in age and are shallow marine carbonates, consisting primarily of dolomite. The Tubb has appreciable clastic content and the Drinkard can become limey toward its base. Anhydrite can occur throughout the interval. Porosity and permeability are low. The gross pay interval is over 1000' thick,

individual pay zones are thin, erratically distributed, and separated by thick impermeable intervals. Apache's calculations indicate drainage area is often less than 20 Acres, so they are not generally capable of draining a full 40 Acre spacing unit. As a matter of prudence, Apache would like to be able to produce those formations in **State 36 #1** if the Fusselman proves nonproductive, or after depletion of the reservoir.

**4. Notice**

**State 36 #1** only encroaches toward Unit M which is also a 100% Apache lease. Apache has entered into an Area of Mutual Agreement with Plains Exploration and Production Company which includes other leases to exploit this prospect. Plains will be noticed at:

Plains Exploration and Production Company  
1021 Main Street  
Suite 2100  
Houston, Texas 77002  
Attn: Mr. Jim Rumsey, V.P. Land

5. Approval of this application will afford the interest owners in these spacing units an opportunity to recover oil and gas which would not otherwise be recovered and to do so without violating correlative rights.

DISTRICT I  
1825 N. French Dr., Hobbs, NM 88240

DISTRICT II  
1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department

Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

**OIL CONSERVATION DIVISION**  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number		Pool Code	Pool Name
Property Code	Property Name <b>STATE 36</b>		Well Number <b>1</b>
OGRID No.	Operator Name <b>APACHE CORPORATION</b>		Elevation <b>3306'</b>

Surface Location

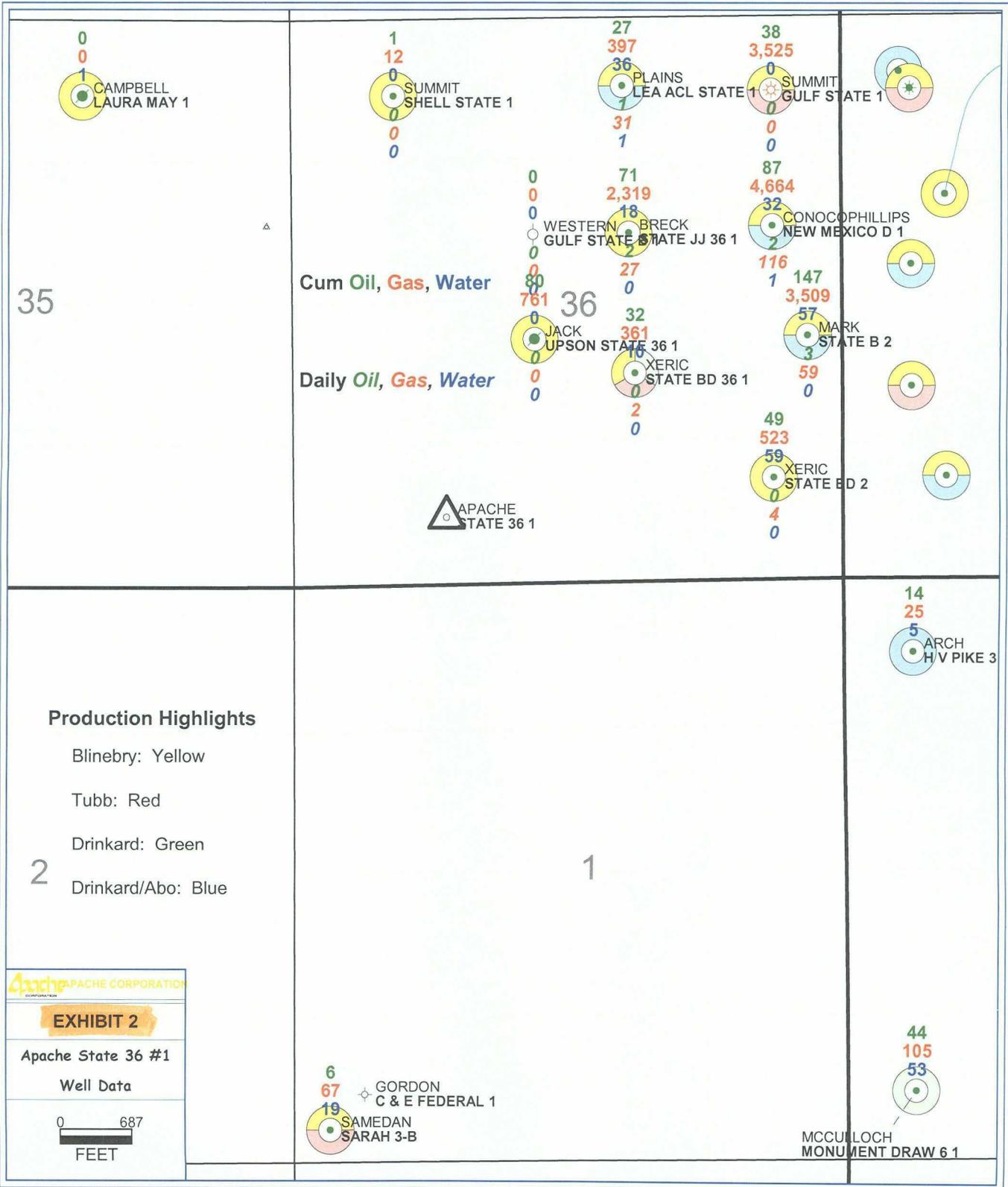
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	36	22 S	37 E		640	SOUTH	1460	WEST	LEA

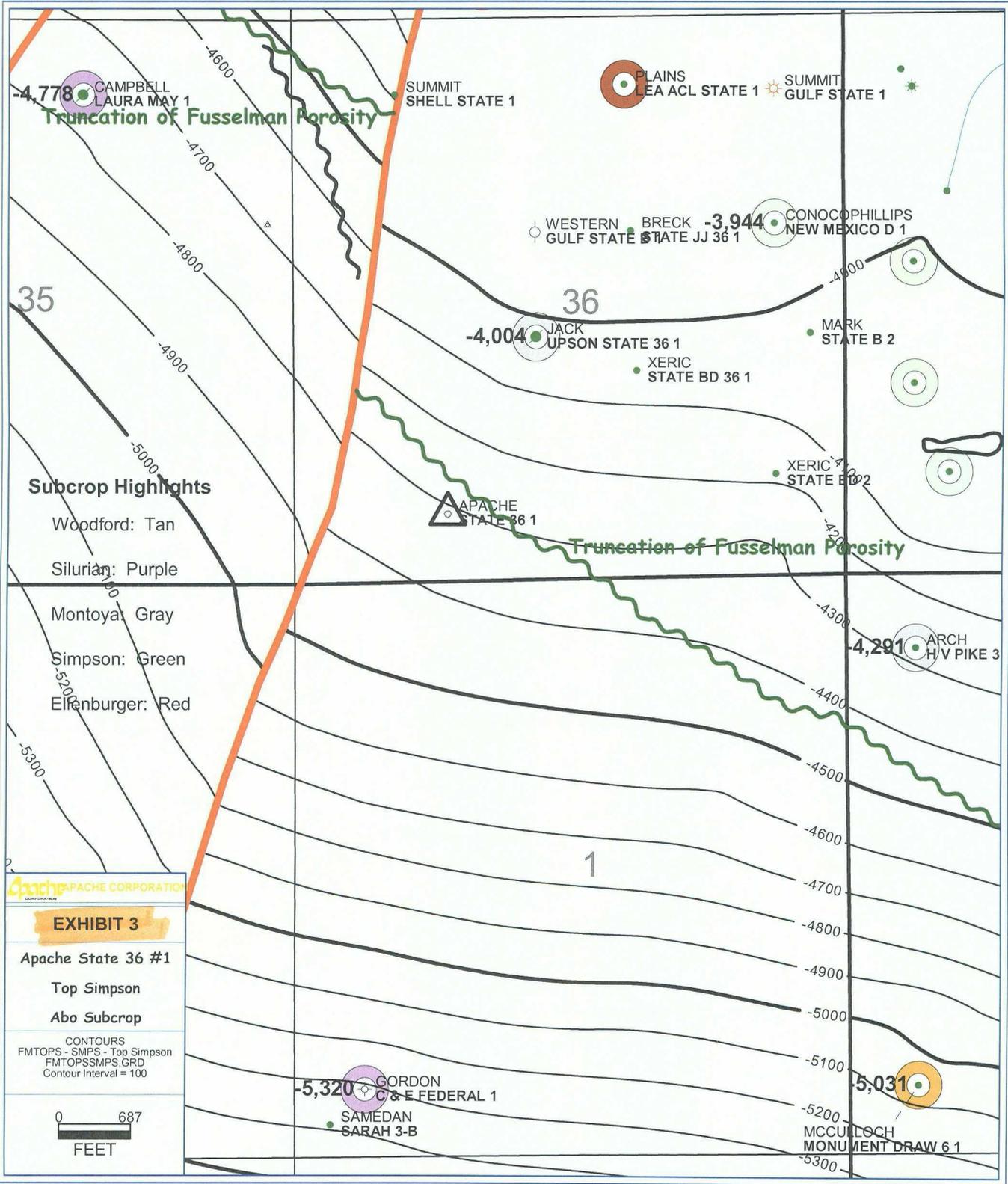
Bottom Hole Location If Different From Surface

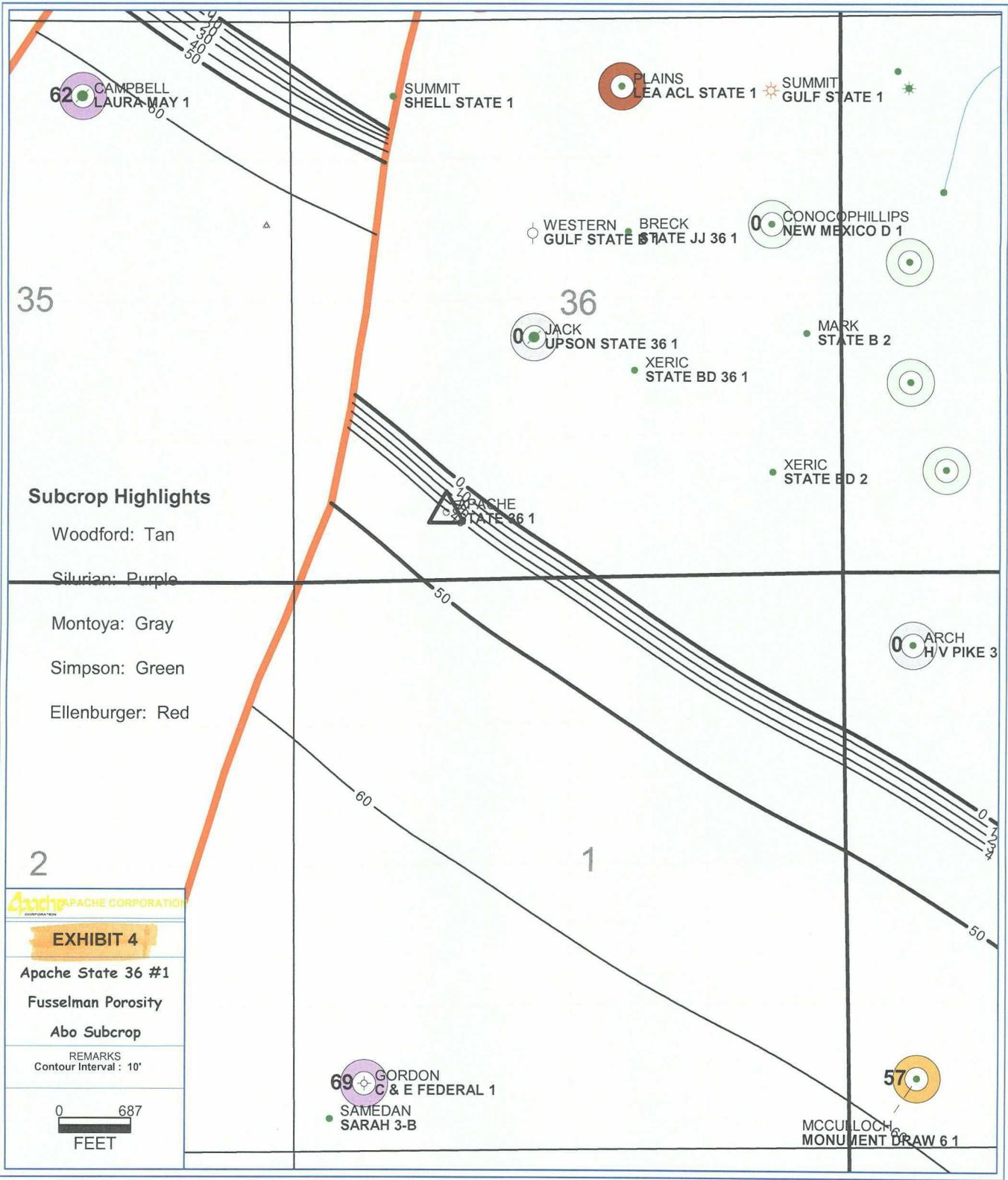
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres		Joint or Infill	Consolidation Code		Order No.				

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p>Lat - N32°20'34.46" Long - W103°07'13.70" SPC- N.: 490602.209 E.: 915916.047 (NAD-83)</p>		<p><b>OPERATOR CERTIFICATION</b></p> <p><i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i></p> <p>Signature _____ Date _____</p> <p>Printed Name _____</p>
	<p><b>SURVEYOR CERTIFICATION</b></p> <p><i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my belief.</i></p>		<p><b>JANUARY 15 2008</b></p> <p>Date Surveyed _____</p> <p>Signature &amp; Professional Surveyor _____</p>
	<p>Certificate No. Gary L. Jones 7977</p>		
	<p>BASIN SURVEYS</p>		







**Subcrop Highlights**

- Woodford: Tan
- Silurian: Purple
- Montoya: Gray
- Simpson: Green
- Ellenburger: Red

Apache APACHE CORPORATION

**EXHIBIT 4**

Apache State 36 #1

Fusselman Porosity

Abo Subcrop

REMARKS  
Contour Interval : 10'

0 687  
FEET

# STATE LAND OFFICE DATA ACCESS

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Select a different page.....

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NM State Land and Office

## list lease info

\*Lease Prefix:  \*Number:  \*Assignment:

Example:      A0                      1234                      0000

15 Records found.

Lease Number:

### B0-1040-0011

Company name: [APACHE CORPORATION](#)  
 Company ID: 42632  
 Assigned from: [B0-1040-0009](#)  
 Total acres: 600.00  
 Prod stat: N/A

**Lease term:**

Lease term: 10 year lease terms 1/8th roy  
 Issue date: 7/11/1932  
 Termination date: Active  
 Termination reason: N/A  
 Current term: Extended Primary Term

**Billing information:**

Bill to: [APACHE CORPORATION](#)  
 Rent per acre: 1.00  
 Billing frequency: Annual  
 Minimum annual rent: 600.00  
 Last bill date: 6/14/2007  
 Next bill date: 7/11/2008  
 Escalation: 0

**Land information:**

Section	Township	Range	Unit Letter	Lot	Tract	Acreage	Link
5	21S	35E	10	10		40.00	<a href="#">[Land Details]</a>
			15	15		40.00	<a href="#">[Land Details]</a>
28	21S	35E	A			40.00	<a href="#">[Land Details]</a>
			B			40.00	<a href="#">[Land Details]</a>
			G			40.00	<a href="#">[Land Details]</a>
			H			40.00	<a href="#">[Land Details]</a>
16	22S	34E	D			40.00	<a href="#">[Land Details]</a>
			E			40.00	<a href="#">[Land Details]</a>

EXHIBIT

36	22S	37E	M		40.00	[Land Details]
			N		40.00	[Land Details]
			O		40.00	[Land Details]
2	23S	34E	I		40.00	[Land Details]
			J		40.00	[Land Details]
			O		40.00	[Land Details]
			P		40.00	[Land Details]

If you have any questions about the data or this site please contact Joe Mráz ([jmráz@slo.state.nm.us](mailto:jmráz@slo.state.nm.us)) of the State Land Office.  
Site maintained by the PRRC. [webmaster.gotech\\_prcc@yahoo.com](mailto:webmaster.gotech_prcc@yahoo.com)

**JAMES BRUCE**  
ATTORNEY AT LAW

POST OFFICE BOX 1056  
SANTA FE, NEW MEXICO 87504

369 MONTEZUMA, NO. 213  
SANTA FE, NEW MEXICO 87501

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(505) 660-6612 (Cell)  
(505) 982-2151 (Fax)

[jamesbruc@aol.com](mailto:jamesbruc@aol.com)

January 28, 2008

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Plains Exploration & Production Company  
Suite 2100  
1021 Main Street  
Houston, Texas 77002

Attention: Jim Rumsey  
Vice President-Land

Ladies and gentlemen:

Apache Corporation has filed an application with the New Mexico Oil Conservation Division seeking an unorthodox oil well location in the Grayburg formation in the SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> of Section 36, Township 22 South, Range 37 East, NMPM, Lea County, New Mexico. A copy of the application is enclosed. If you object to the application, you must notify the Division in writing no later than Monday, February 18, 2008 (the Division's address is 1220 South St. Francis Drive, Santa Fe, New Mexico 87505). Failure to object will preclude you from contesting this matter at a latter date.

Very truly yours,

  
James Bruce

Attorney for Apache Corporation

EXHIBIT

C