

DATE IN 2-6-04	SUSPENSE 2/26/04	ENGINEER MES	LOGGED IN ms	TYPE NSL	APP NO. 405660359
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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



State C Tr. 12 #18
 E-16-215-37E

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

Print or Type Name

Signature

Attorney for Applicant

Title

Date

jamesbruc@aol.com
 e-mail Address

RECEIVED
 FEB 6 2004
 Oil Conservation Division
 1220 S. St. Francis Drive
 Santa Fe, NM 87505

JAMES BRUCE
ATTORNEY AT LAW

POST OFFICE BOX 1056
SANTA FE, NEW MEXICO 87504

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

(505) 982-2043 (PHONE)
(505) 660-6612 (CELL)
(505) 982-2151 (FAX)

jamesbruc@aol.com

RECEIVED
FEB 6 2004

Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

Re: -

*All these Apache unatthosox locations
are similar and close to each other.*

Jim

JAMES BRUCE
ATTORNEY AT LAW

POST OFFICE BOX 1056
SANTA FE, NEW MEXICO 87504

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

(505) 982-2043 (PHONE)
(505) 660-6612 (CELL)
(505) 982-2151 (FAX)

jamesbruc@aol.com

February 6, 2005

Hand Delivered

Michael E. Stogner
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Dear Mr. Stogner:

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:</u>	State C Tract 12 Well No. 18
<u>Location:</u>	2590 feet FNL & 1270 feet FWL
<u>Well Unit:</u>	SW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 16, Township 21 South, Range 37 East, N.M.P.M., Lea County, New Mexico

The well will be drilled to test the Grayburg formation (Penrose Skelly (Grayburg) Pool), which is an oil pool spaced on 40 acres. (Under Commission Order R-98-B, there is no limiting gas:oil ratio in the pool.)

The SW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 16 will be **simultaneously dedicated** to the proposed well and to the existing State C Tract 12 Well Nos. 3, 11, and 12, and applicant requests approval of the simultaneous dedication.

The application is based on geologic and engineering reasons. A complete discussion, with appropriate exhibits, is attached as Exhibit A. The proposed well will be located in the approximate center of six Grayburg wells. Based on drainage calculations and the low permeability of the reservoir, applicant believes that drilling the infill well will recover reserves which will not be recovered by the existing Grayburg wells.

Attached as Exhibit B is a land plat, highlighting the proposed well's location. The operating rights owners in the lease on which

the well is located, and in the offsetting lease, are as follows:

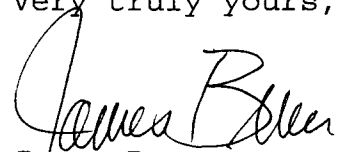
State Lease B-85-16 (N $\frac{1}{2}$ SW $\frac{1}{4}$ §16)
Apache Corporation

State Lease B-1557-1 (NW $\frac{1}{4}$ §16)
Apache Corporation

To allocate well costs and production equitably between the two leases, the operating rights owner and the Commissioner of Public Lands have approved a communitization agreement covering the S $\frac{1}{2}$ NW $\frac{1}{4}$ and N $\frac{1}{2}$ SW $\frac{1}{4}$ of Section 16. See Exhibit C. Production and costs are being allocated to the two leases based on hydrocarbon pore volume and an estimated 10 acre drainage area for the proposed well. This is done for purposes of allocation of production, and is not meant to change the 40 acre proration unit dedicated to the well. As a result, notice of this application need not be given to any offset.

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 – 2590' FNL & 1270' FWL
Section 16, Township 21 South, Range 37 East, NMPM
Lea County, New Mexico

PRIMARY OBJECTIVE: GRAYBURG

In support:

1. Apache Corporation (Apache) is the operator of the proposed **State C Tract 12 #18** well (**Exhibit 1**). The proposed total depth is 4125' in the San Andres formation.
2. The location is in the Penrose Skelly; Grayburg Oil Pool and encroaches toward the following wells (**Exhibit 2**).

OPER	WELL	LOC	RESERVOIR	CUM O/G/W	DAILY O/G/W
Apache	St C Tr 12 #12	16-E	Grayburg	8/58/36	21/310/168
Apache	St C Tr 12 #11	16-E	Grayburg	23/205/38	36/294/38
Amoco	St C Tr 12 #3	16-E	Grayburg	22/181/9	0/0/0
Apache	St C Tr 12 #10	16-F	Grayburg	16/74/52	22/133/65
Apache	State DA #7	16-K	Grayburg	8/179/89	7/249/67
Apache	State DA #6	16-L	Grayburg	11/247/134	4/79/79

Oil in MBO	BOPD
Gas in MMCFG	MCFGPD
Water in MBW	BWPD

3. The proposed unorthodox **State C Tract 12 #18** Grayburg location of 2590' from north line and 1270' from west line is based on drainage considerations:

a) **Grayburg Reservoir**

The Grayburg is a series of alternating subtidal and supratidal dolomites, with the subtidal rock having porosity and hydrocarbons and the supratidal rock being tight. The Grayburg environments varied rapidly so that porous and tight intervals do not necessarily correlate well-to-well. Tight dolomite and/or anhydrite intervals within the Grayburg create vertical hydraulic barriers between different zones of porosity. Average porosity of the Grayburg is less than 10%, and average permeability is less than 1 millidarcy. Grayburg wells are thus not usually capable of draining the 40 Acre spacing unit.



The reservoir was analyzed by mapping Hydrocarbon Pore Volume (HCPV) (**Exhibit 3**). HCPV is the product of feet of pay (h) times average porosity (PhiA) times oil saturation (So). The map is the arithmetic product of grids interpreted from those values. The values were obtained as follows:

1. Net Pay was read either from modern neutron-density logs or estimated from a map developed from gross pay (clean dolomite) times net to gross ratio.
2. Average Porosity was calculated from modern well logs using a minimum of 6% crossplot porosity and a maximum of 20%.
3. Oil Saturation was calculated from a fractional flow curve using recent water cut values.

The following table provides drainage areas calculated from the HCPV map and reserves of the offsetting wells.

OPER	WELL	LOC	AREA A	EUR MBO	EUR MMCFG
Apache	St C Tr 12 #12	16-E	4	24	360
Apache	St C Tr 12 #11	16-E	19	23	345
Amoco	St C Tr 12 #3	16-E	6	22	181
Apache	St C Tr 12 #10	16-F	15	39	310
Apache	State DA #7	16-K	6	15	320
Apache	State DA #6	16-L	5	19	225

Reserves for the proposed location were calculated by planimetering the undrained area of the HCPV isopach which lies under a drainage circle (the size of which is the average of the direct offset drainage areas) centered on the proposed location. Any competitive drainage is shared between the proposed well and the existing offset wells. The results are as follows:

WELL	LOC	HCPV	AREA A	EUR MBO	EUR MMCFG
State C Tract 12 #18	16-E	3.08	10	32	384

4. Notice

a. Apache is the operator of the Grayburg wells toward which the proposed well will encroach and is also the only working interest owner.

5. Approval of this application will afford the interest owners in this spacing unit an opportunity to recover oil and gas which would not otherwise be recovered. Correlative rights of the offsetting units will be protected by a sharing agreement set forth in a letter agreement.

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

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

DISTRICT IV
P.O. Box 2086, Santa Fe, N.M. 87504-2086

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
Property Code	Property Name STATE C TRACT 12	Well Number 18
GRID No.	Operator Name APACHE CORPORATION	Elevation 3464'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	16	21-S	37-E		2590	NORTH	1270	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

	OPERATOR CERTIFICATION I hereby certify the information contained herein is true and complete to the best of my knowledge and belief. Signature _____ Printed Name _____ Title _____ Date _____
	SURVEYOR CERTIFICATION 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. AUGUST 6, 2003 Date Surveyed _____ LA Signature & Seal of Professional Surveyor Certificate No. RONALD J. EDISON 3239 GARY EDISON 12641



DISTRICT I
P.O. Box 1880, Hobbs, NM 88241-1880

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

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

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-102
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WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
Property Code	Property Name STATE C TRACT 12	Well Number 18
OGRID No.	Operator Name APACHE CORPORATION	Elevation 3464'

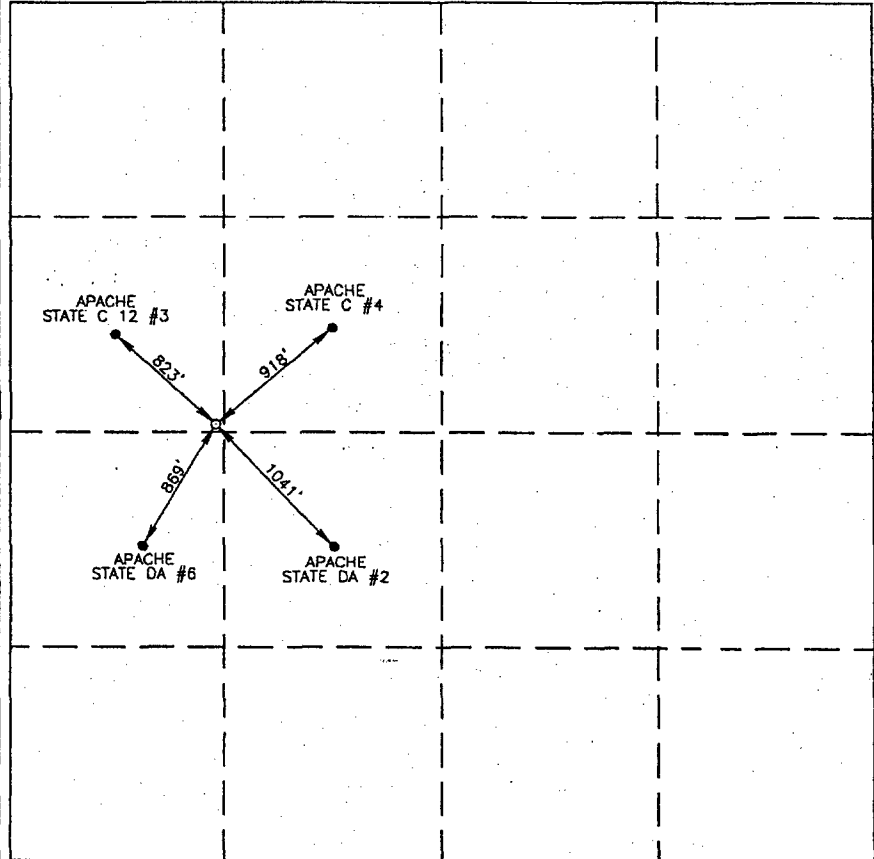
Surface Location

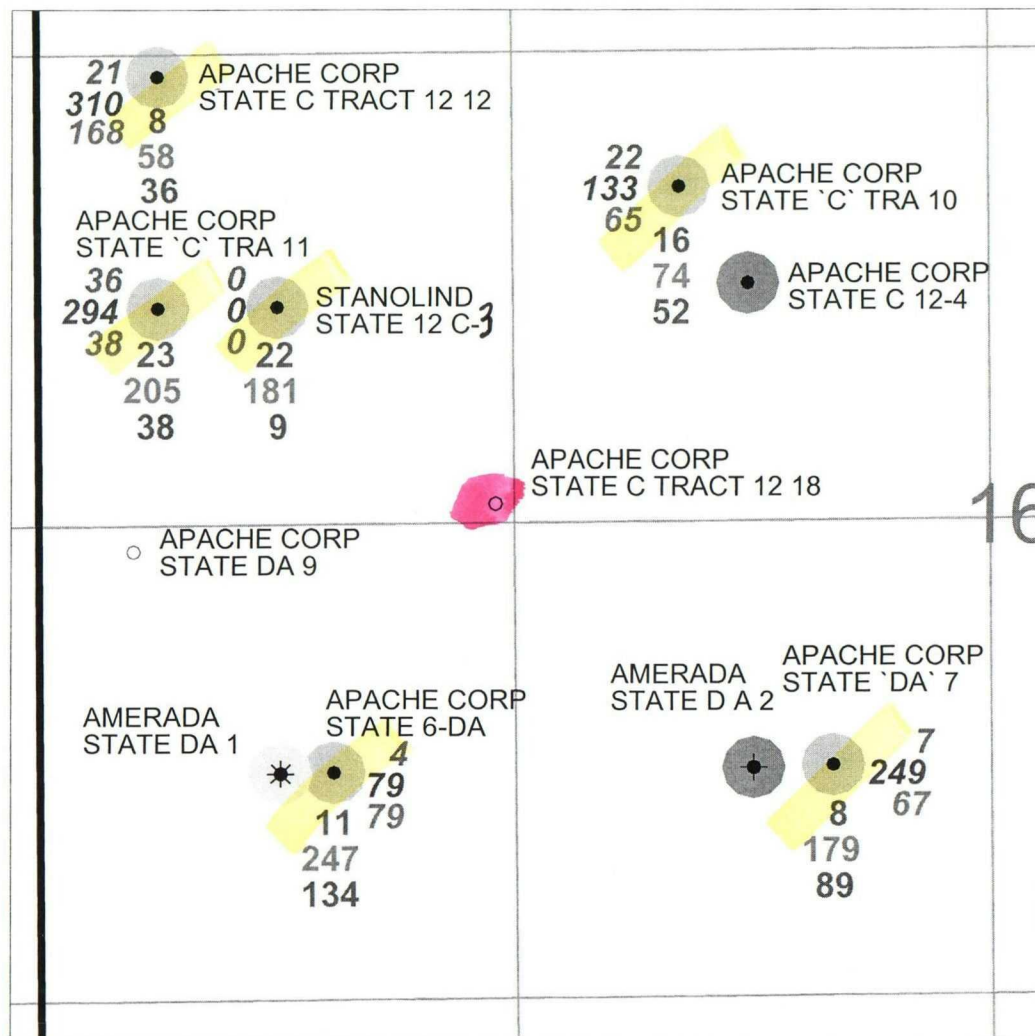
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	16	21-S	37-E		2590	NORTH	1270	WEST	LEA

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

	OPERATOR CERTIFICATION <i>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</i> _____ Signature _____ Printed Name _____ Title _____ Date
	SURVEYOR CERTIFICATION <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> AUGUST 6, 2003 _____ Date Surveyed LA _____ Signature & Seal of Professional Surveyor
	03.11.0855
	Certificate No. RONALD J. EIDSON 3239 GARY EIDSON 12641



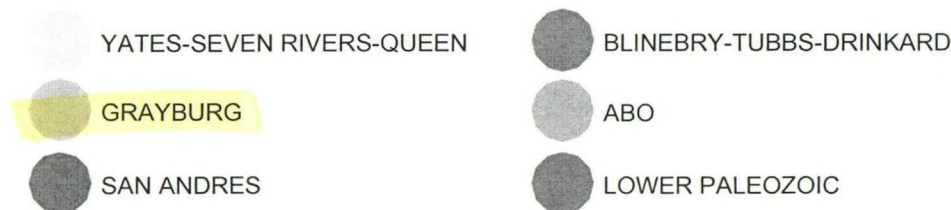
WELL SYMBOLS

- Location Only
- Oil Well
- ☀ Gas Well
- Dry

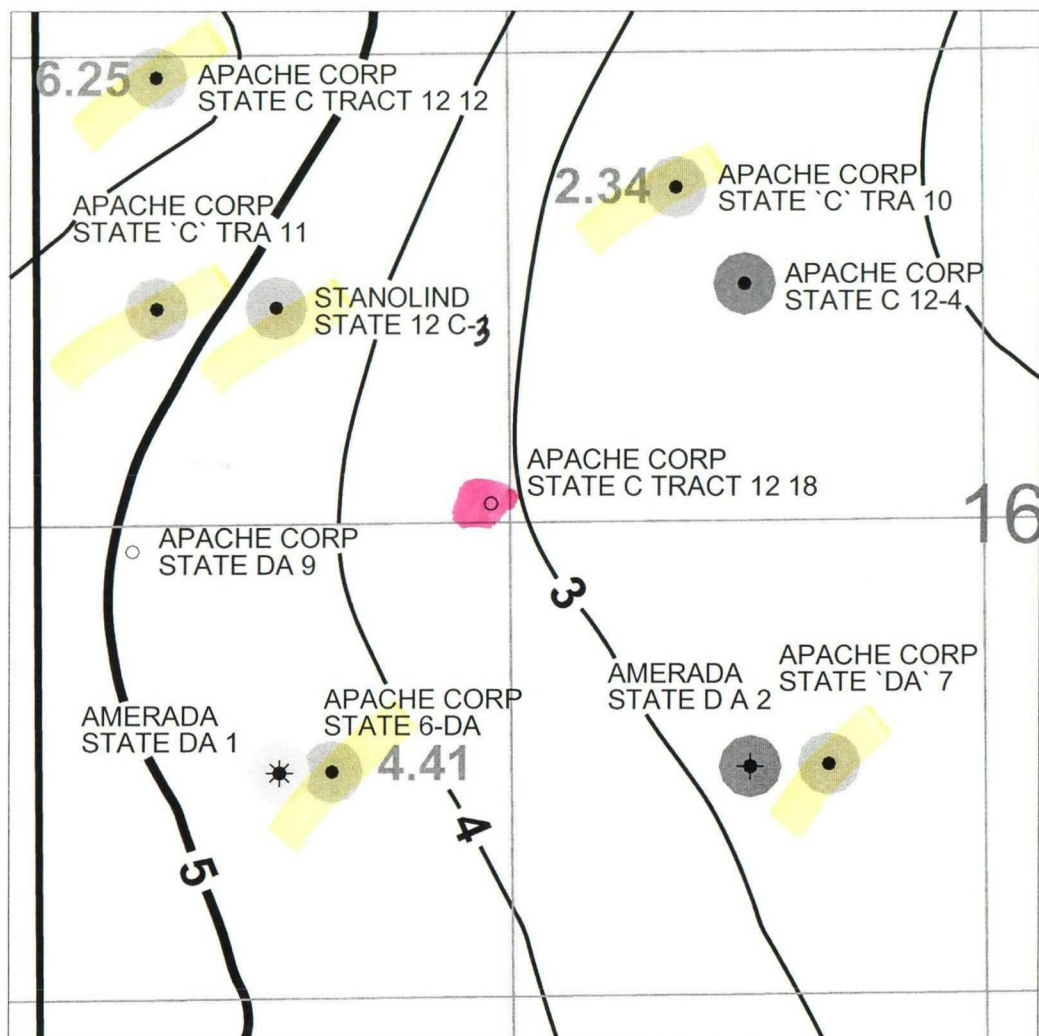
POSTED WELL DATA

CURRENT BOPD
CURRENT MCFD
CURRENT BWPD

● OPERATOR WELL LABEL
MBO
MMCFG
MBW



	TWO WARREN PLACE, SUITE 1500 6120 SOUTH YALE TULSA, OKLAHOMA 74136-4224
	STATE C TR 12 # 18 SEC 16-T21S-R37E LEA COUNTY, NEW MEXICO
EXHIBIT 2 WELL INFORMATION	
DATE: 10-8-03 DWG: PROD (CURTIS/OCD-NM/2004 GRYBRG)	



- | | |
|--------------------------|-------------------------|
| YATES-SEVEN RIVERS-QUEEN | BLINEBRY-TUBBS-DRINKARD |
| GRAYBURG | ABO |
| SAN ANDRES | LOWER PALEOZOIC |

0 500 1,000 1,500
FEET

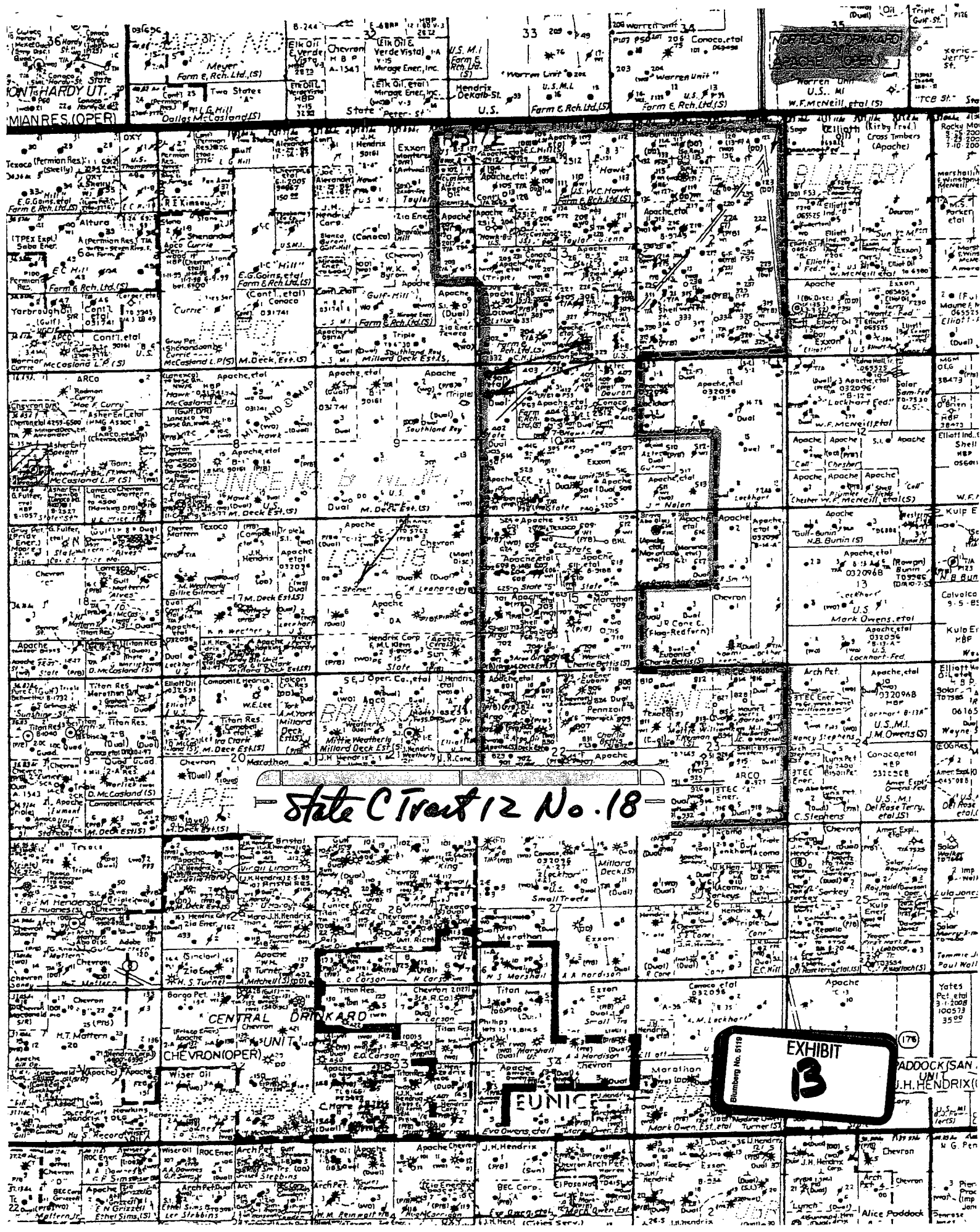
WELL SYMBOLS

- Location Only
- Oil Well
- ☼ Gas Well
- ⊙ Dry

POSTED WELL DATA

GRAYBURG HCPV ● OPERATOR WELL LABEL

	TWO WARREN PLACE, SUITE 1500 6120 SOUTH YALE TULSA, OKLAHOMA 74136-4224
	STATE C TR 12 #18
SEC 16-T21S-R37E LEA COUNTY, NEW MEXICO	
EXHIBIT 3 GRAYBURG HCPV	
DATE: 10-8-03	DWG. PROD (CURTIS/OCD-NM/2004 GRYBRG)





PATRICK H. LYONS
COMMISSIONER

State of New Mexico
Commissioner of Public Lands

310 OLD SANTA FE TRAIL
P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

COMMISSIONER'S OFFICE

Phone (505) 827-5760

Fax (505) 827-5766

www.nmstatelands.org

January 23, 2004

Apache Corporation
Two Warren Place, Suite 1500
6120 South Yale
Tulsa, Oklahoma 74136-4224

RECEIVED

JAN 30 2004

**TULSA
LAND DEPT.**

Attn: Cindy McGee

Re: Communitization Agreement Approval (Grayburg)
State C Tract 12 Well No. 18
S2NW4, and N2SW4, Section 16, Township 21 South, Range 37 East
Lea County, New Mexico

Dear Ms. McGee:

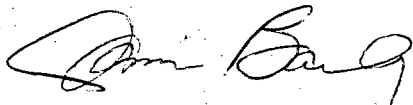
The Commissioner of Public Lands has this date approved the State C Tract 12 Well No. 18 Communitization Agreement for the Grayburg formation for the S2NW4, and N2SW4, of Section 16, Township 21 South, Range 37 East, Lea County, New Mexico.

The effective date of this approval is December 5, 2003 and the term of the agreement is for one year, and so long thereafter as communitized substances are produced from the communitized area in paying quantities. Enclosed are five Certificates of Approval.

If we may be of further service, please contact Jeff Albers at (505) 827-5759.

Sincerely,

PATRICK H. LYONS
COMMISSIONER OF PUBLIC LANDS

BY: 

JAMI BAILEY, Director
Oil, Gas & Minerals Division
(505) 827-5744
PHL/JB/ja



NEW MEXICO STATE LAND OFFICE

CERTIFICATE OF APPROVAL

COMMISSIONER OF PUBLIC LANDS, STATE OF NEW MEXICO

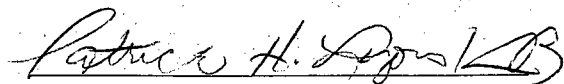
Apache Corporation
State C Tract 12 Well No. 18
Lea County, New Mexico
S2NW4, and N2SW4, Section 16, Township 21 South, Range 37 East
Grayburg

There having been presented to the undersigned Commissioner of Public Lands of the State of New Mexico for examination, a Communitization Agreement for the development and operation of acreage which is described within the referenced agreement, dated **December 5, 2003** which has been executed, or is to be executed by parties owning and holding oil and gas leases and royalty interests in and under the property described, and upon examination of said agreement, the Commissioner finds:

- (a) That such agreement will tend to promote the conservation of oil and gas and the better utilization of reservoir energy in said area.
- (b) That under the proposed agreement, the State of New Mexico will receive its fair share of the recoverable oil or gas in place under its lands in the area.
- (c) That each beneficiary institution of the State of New Mexico will receive its fair and equitable share of the recoverable oil and gas under its lands within the area.
- (d) That such agreement is in other respects for the best interests of the State, with respect to state lands.

NOW, THEREFORE, by virtue of the authority conferred upon me under Sections 19-10-45, 19-10-46, 19-10-47, New Mexico Statutes Annotated, 1978 Compilation, I, the undersigned Commissioner of Public Lands of the State of New Mexico, for the purpose of more properly conserving the oil and gas resources of the State, do hereby consent to and approve the said agreement, and any leases embracing lands of the State of New Mexico within the area shall be and the same are hereby amended to conform with the terms thereof, and shall remain in full force and effect according to the terms and conditions of said agreement. This approval is subject to all of the provisions of the aforesaid statutes.

IN WITNESS WHEREOF, this Certificate of Approval is executed, with seal affixed, this **23rd day of January, 2004**.



COMMISSIONER OF PUBLIC LANDS
of the State of New Mexico