

**KELLAHIN & KELLAHIN**  
**Attorney at Law**

**W. Thomas Kellahin**  
New Mexico Board of Legal  
Specialization Recognized Specialist  
in the area of Natural resources-  
oil and gas law

P.O. Box 2265  
Santa Fe, New Mexico 87504  
117 North Guadalupe  
Santa Fe, New Mexico 87501

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Facsimile 505-982-2047  
tkellahin@aol.com

January 2, 2003

**HAND DELIVERED**

Mr. Michael E. Stogner  
Oil Conservation Division  
1220 South Saint Francis Drive  
Santa Fe, New Mexico 87501

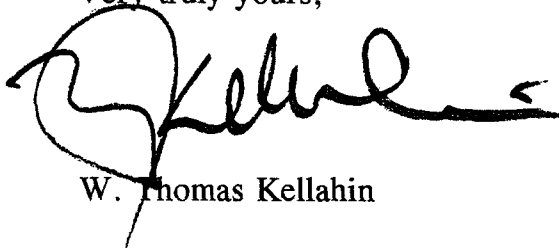
09 JAN -2 PM 2:39  
OIL CONSERVATION DIV

**RE: Lockhart A-17 Well No. 7**  
**2630 feet FSL & 990 feet FEL**  
**Unit I, NE/4SE/4 Section 17, T21S, R37E**  
Administrative Application of  
Apache Corporation for approval  
of an unorthodox oil well location,  
Penrose Skelly Grayburg Pool,  
Lea County, New Mexico

Dear Mr. Stogner:

Please find enclosed our administrative application for approval of  
an unorthodox oil well location for Apache Corporation's Lockhart A-17  
Well No. 6.

Very truly yours,



W. Thomas Kellahin

fx: Apache Corporation  
Attn: Mario Moreno

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

**IN THE MATTER OF THE ADMINISTRATIVE  
APPLICATION OF APACHE CORPORATION  
FOR APPROVAL OF AN UNORTHODOX OIL WELL  
LOCATION, LEA COUNTY, NEW MEXICO**

**ADMINISTRATIVE APPLICATION**

Comes now Apache Corporation, by and through its attorneys, Kellahin and Kellahin, and in accordance with Division General Rule 104.F, applies to the New Mexico Oil Conservation Division for administrative approval of an unorthodox oil well location for its Lockhart A-17 Well No. 7 ("Well No. 7") to be drilled and completed for production from the Grayburg formation at an unorthodox well location 26300 feet FSL and 990 feet FEL of Section 17, T21S, R37E, Eddy County, New Mexico, and simultaneously dedicated with the Lockhart A-17 Well No. 2 to a standard 40-acre proration and spacing unit consisting of the Unit I of this section for production from the Penrose Skelly Grayburg Pool, and in support states:

(1) Apache Corporation ("Apache") is the current operator for the NE/4SE/4 (Unit I) of Section 17, T21S, R37E that includes the Lockhart A-17 Well No. 2 See Exhibit 1 (Form C-102).

(2) Section 17 is within the current boundary of the Penrose Skelly Grayburg Pool which is subject to Division Rule 104.

(3) Apache's proposed location encroaches towards the SE/4NE/4 which contains Apache operated Lockhart A-17 Well No. 3 which currently productives 1 barrels of oil per day from the Grayburg. See Exhibit 2 (location plat) and Exhibit 3 (production map)

**Administrative Application of  
Apache Corporation  
Page 2**

(4) This proposed unorthodox well location is based upon a combination of geologic and drainage reasons:

(a) Grayburg Production:

All 4 Grayburg Wells produced from the Upper Grayburg.

★ The proposed unorthodox well location is approximately equidistant between the older producers which should minimize depletion risk in the Upper Grayburg. (See Exhibit 3-A)

✱ Petroleum engineering calculations demonstrate the potential to recovery approximately 70,000 barrels of additional oil that will not be recovery from the existing wells. (See Exhibit 3-B)

(c) Grayburg Formation:

The Grayburg is separated into the Upper and Lower Grayburg (See Exhibit 4)

(b) Upper Grayburg Geology:

✱ Based upon thickness, the proposed unorthodox well location represented the best remaining location among the 4 existing wells. (See Exhibit 5).

The risk of depletion in the Upper Grayburg is less in the NE/4SE/4 spacing unit due to greater production from roughly equal net pay in the offsetting wells. (See Exhibit-A and 5).

(e) Lower Grayburg Geology:

Apache's activity in offsetting section has demonstrate that commercial reserves are also present in the Lower Grayburg. Sufficient Lower Grayburg porosity can be encountered in the NE/4SE/4 of Section 17 to support drilling a well at the proposed unorthodox location which cannot be obtained at any standard location in the spacing unit. (See Exhibit 6).

NOTICE

(5) Notice has been send to the adjoining interest owners towards whom the location encroaches. (See Exhibits 7)

CORRELATIVE RIGHTS

(6) The working interest owners in the NE/4SE/4 and the SE/NE/4 of Section 17 are the same: Apache and Chevron/Texaco.

(7) The royalty and overriding royalty owners are the same.

(8) The Operator is the same.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'W. Thomas Kellahin', is written over the typed name and address.

W. Thomas Kellahin  
Kellahin and Kellahin  
P.O. Box 2265  
Santa Fe, New Mexico 87504-2265  
(505) 982-4285  
Attorneys for Applicant

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

State of New Mexico  
Energy, Minerals and Natural Resources Department

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

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

## OIL CONSERVATION DIVISION

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

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

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

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
Property Code	Property Name LOCKHART A-17	Well Number 7
OGRID No.	Operator Name APACHE CORPORATION	Elevation 3469'

## Surface Location

UL or lot No. 1	Section 17	Township 21-S	Range 37-E	Lot Idn	Feet from the 2630	North/South line SOUTH	Feet from the 990	East/West line EAST	County LEA
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## 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

GEOGRAPHIC COORDINATES  
SPC NME  
NAD 1927  
Y = 539815.9  
X = 855872.7  
LAT. - 32°28'43.58"N  
LONG. - 103°10'45.60"W

3470.8' 3469.1'  
3462.7' 3464.6'  
990'  
2630'

## OPERATOR CERTIFICATION

I hereby certify the the information  
contained herein is true and complete to the  
best of my knowledge and belief.

Signature

Printed Name

Title

Date

## SURVEYOR CERTIFICATION

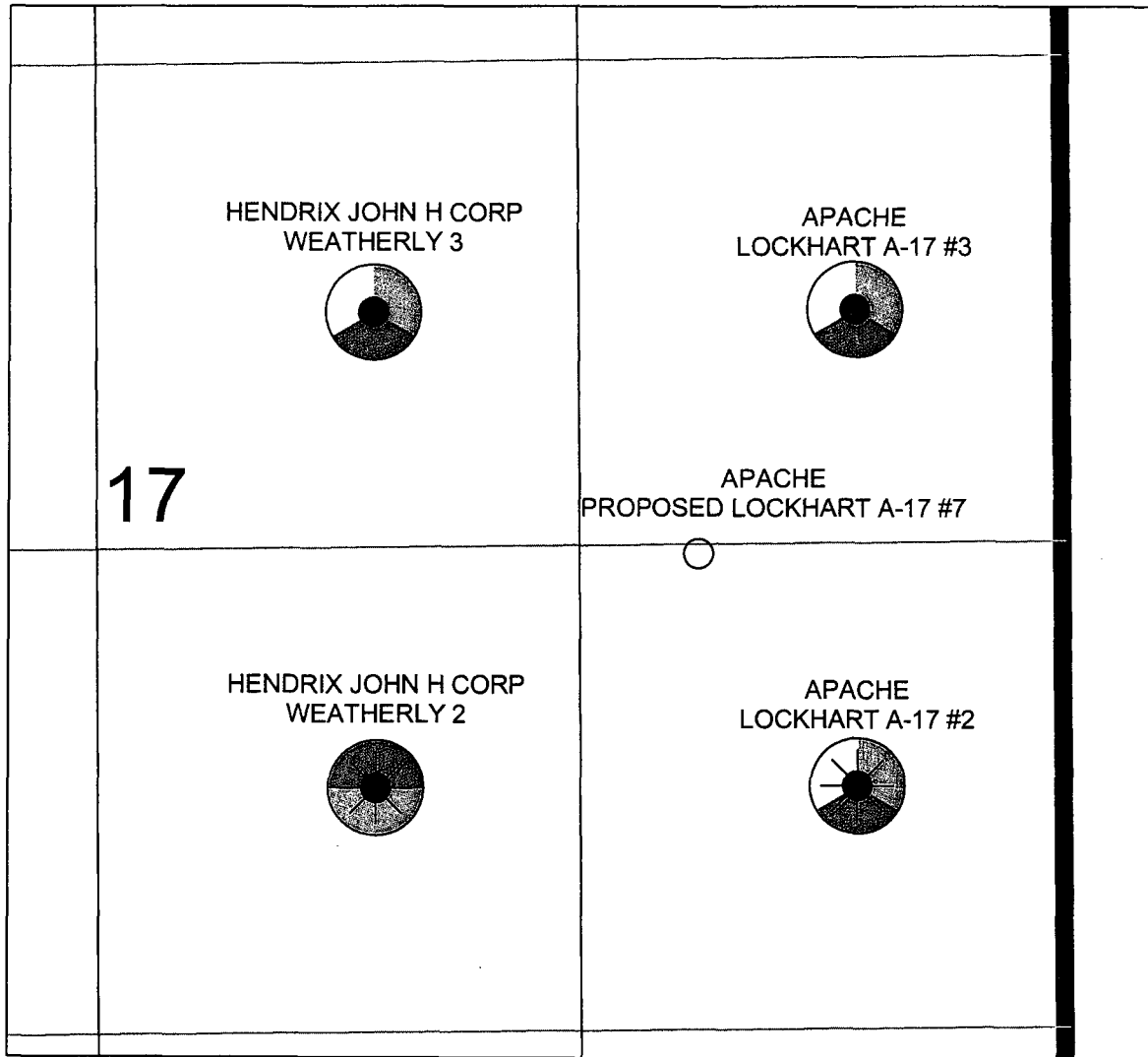
I hereby certify that the well location shown  
on this plat was plotted from field notes of  
actual surveys made by me or under my  
supervision and that the same is true and  
correct to the best of my belief.

NOVEMBER 27, 2002

Date Surveyed  
Signature & Seal  
Professional Surveyor  
NEW MEXICO  
RONALD J. EIDSON  
02/11/09  
Certificate No. RONALD J. EIDSON 3239  
GARY EIDSON 12641

EXHIBIT

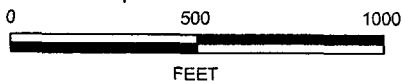
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BLINEBRY PRODUCER  
TUBB PRODUCER  
DRINKARD PRODUCER  
GRAYBURG PRODUCER

**WELL SYMBOLS**

- Location Only
- Oil Well
- ⊛ Oil & Gas Well



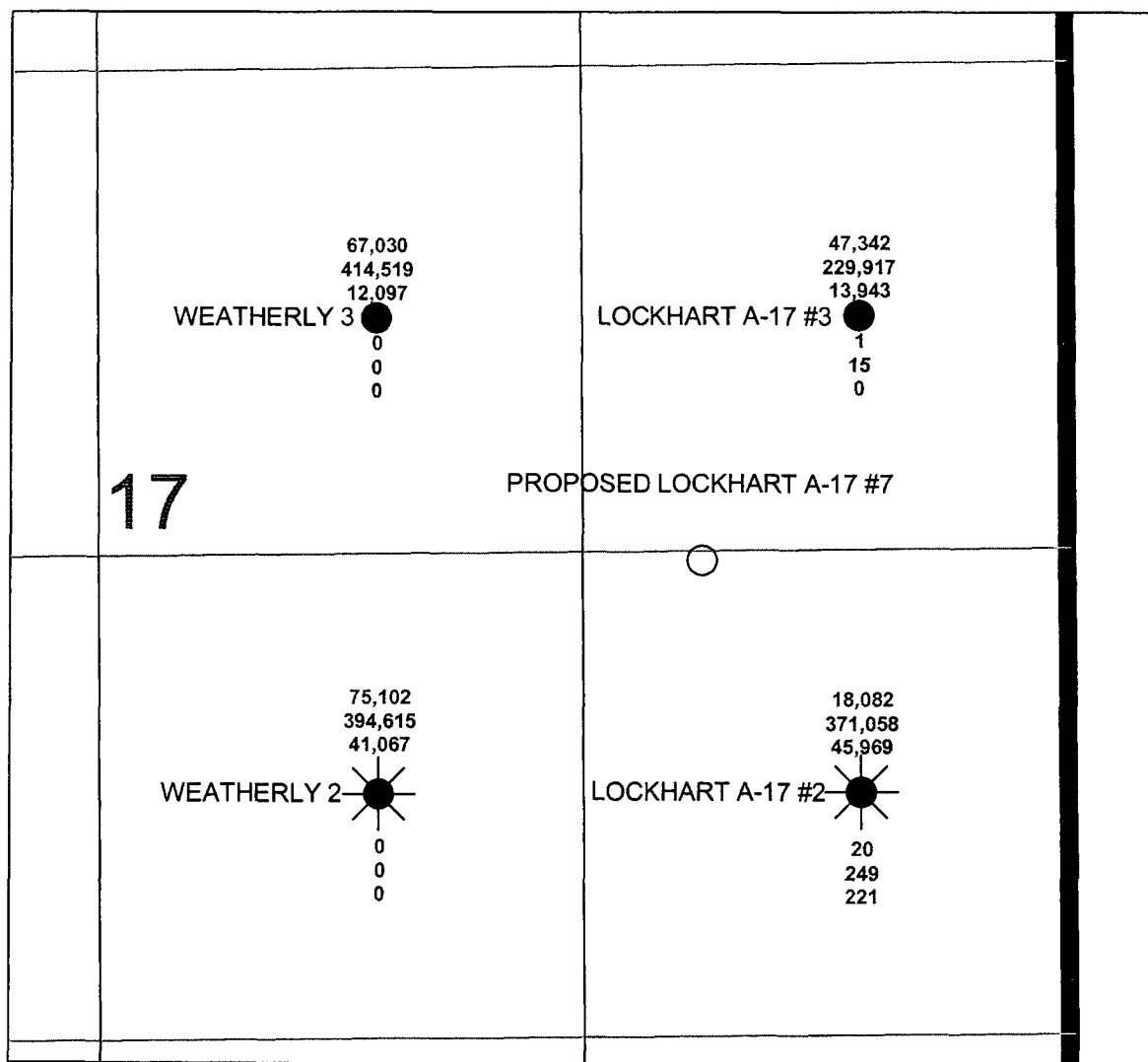
TWO WARREN PLACE, SUITE 1500  
6120 SOUTH YALE  
TULSA, OKLAHOMA 74138-4224

**LOCKHART A-17 #7**

SEC. 17-T21S-R37E  
LEA COUNTY, NEW MEXICO

**EXHIBIT 2**  
**WELL INFORMATION**

DATE: 12-16-02 DWG: LOCKHART A-17 7 (CURTISIOCD-NM)



POSTED WELL DATA

CUM OIL  
CUM GAS  
CUM WATER



DAILY OIL  
DAILY GAS  
DAILY WATER

WELL SYMBOLS

○ Location Only

● Oil Well

✱ Oil & Gas Well



	TWO WARREN PLACE, SUITE 1500 6120 SOUTH YALE TULSA, OKLAHOMA 74138-4224
	<b>LOCKHART A-17 #7</b> SEC. 17-T21S-R37E LEA COUNTY, NEW MEXICO
<b>EXHIBIT 3-A</b> <b>GRAYBURG PRODUCTION</b>	
DATE: 12-16-02    DWG: LOCKHART A-17 7 PROD (CURTIS/OCD-NM)	



***TULSA EXPLORATION DEPARTMENT***  
***INTER-OFFICE MEMO***

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**DATE:** January 2, 2003  
**TO:** Tom Kellahin  
**FROM:** Bob Curtis  
**SUBJECT:** Reserve Calculations for NSLs

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**Estimated Ultimate Recoveries:**

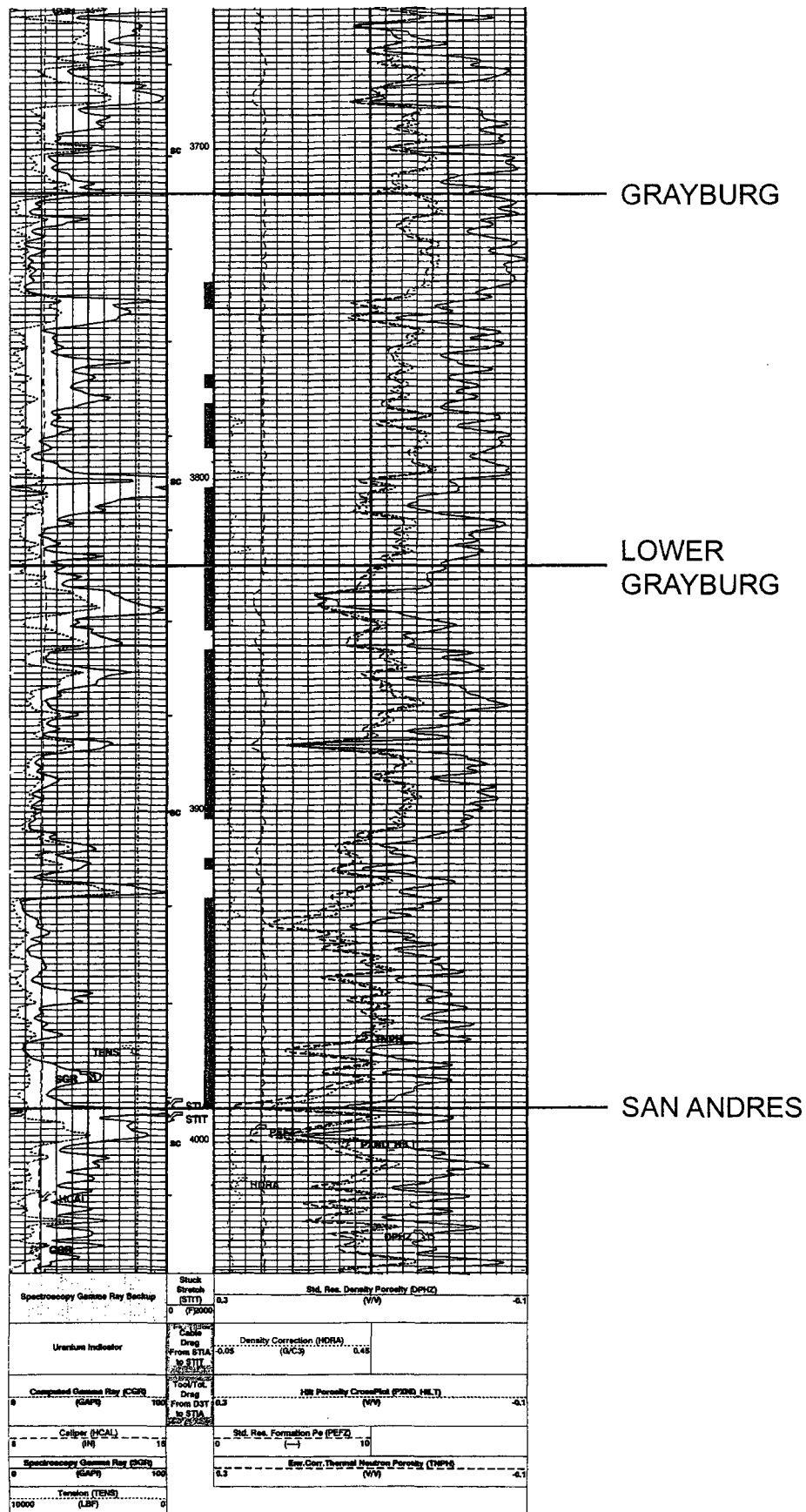
<b>Lockhart A-17 #7:</b>	<b>70 MBO and 280 MMCFG</b>
<b>Lockhart A-17 #8:</b>	<b>91 MBO and 280 MMCFG</b>
<b>State C Tract 12 #13:</b>	<b>81 MBO and 320 MMCFG</b>
<b>DC Hardy #6:</b>	<b>61 MBO and 330 MMCFG</b>

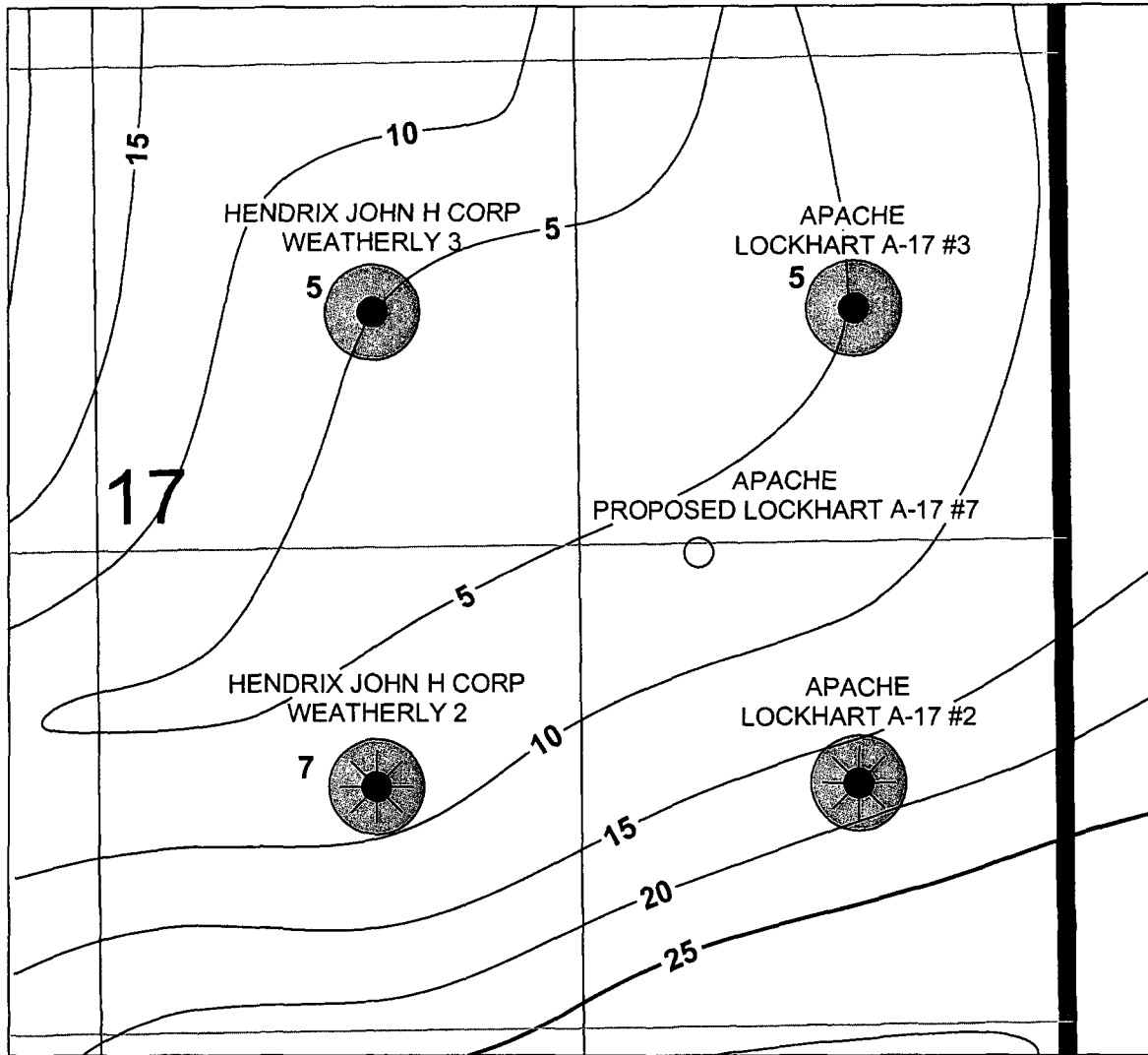
Reserves were determined volumetrically. Apache calculated the average porosity throughout the 'field', individually in both the Upper and Lower Grayburg, and then mapped it. Apache also estimated the current oil saturation throughout the 'field', individually in both the Upper and Lower Grayburg using a transform of the current water cut, and then mapped it. Feet of porosity (h) from the net pay maps, average porosity ( $\Phi_A$ ), and oil saturation ( $S_o$ ) grids were then multiplied in the computer to arrive at a hydrocarbon pore volume (HCPV) isopach map across the 'field'. HCPV for each reservoir at each location were estimated from the mathematically derived maps. Drainage area was assumed to be 29 acres, formation volume factor was assumed to be 1.38, and recovery factor was assumed to be 15% for each reservoir at each location. Estimated reserves in each reservoir were then reduced based upon distance to and estimated reserves, by reservoir, of productive offsets. Reserves predicted in each well are the sum of the Upper and Lower Grayburg estimates.

The locations requested are those with the greatest estimated ultimate recoveries. Moving away from the proposed location of any well will result in lower predicted reserves.

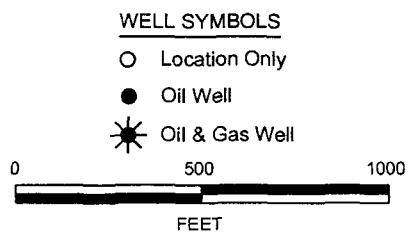






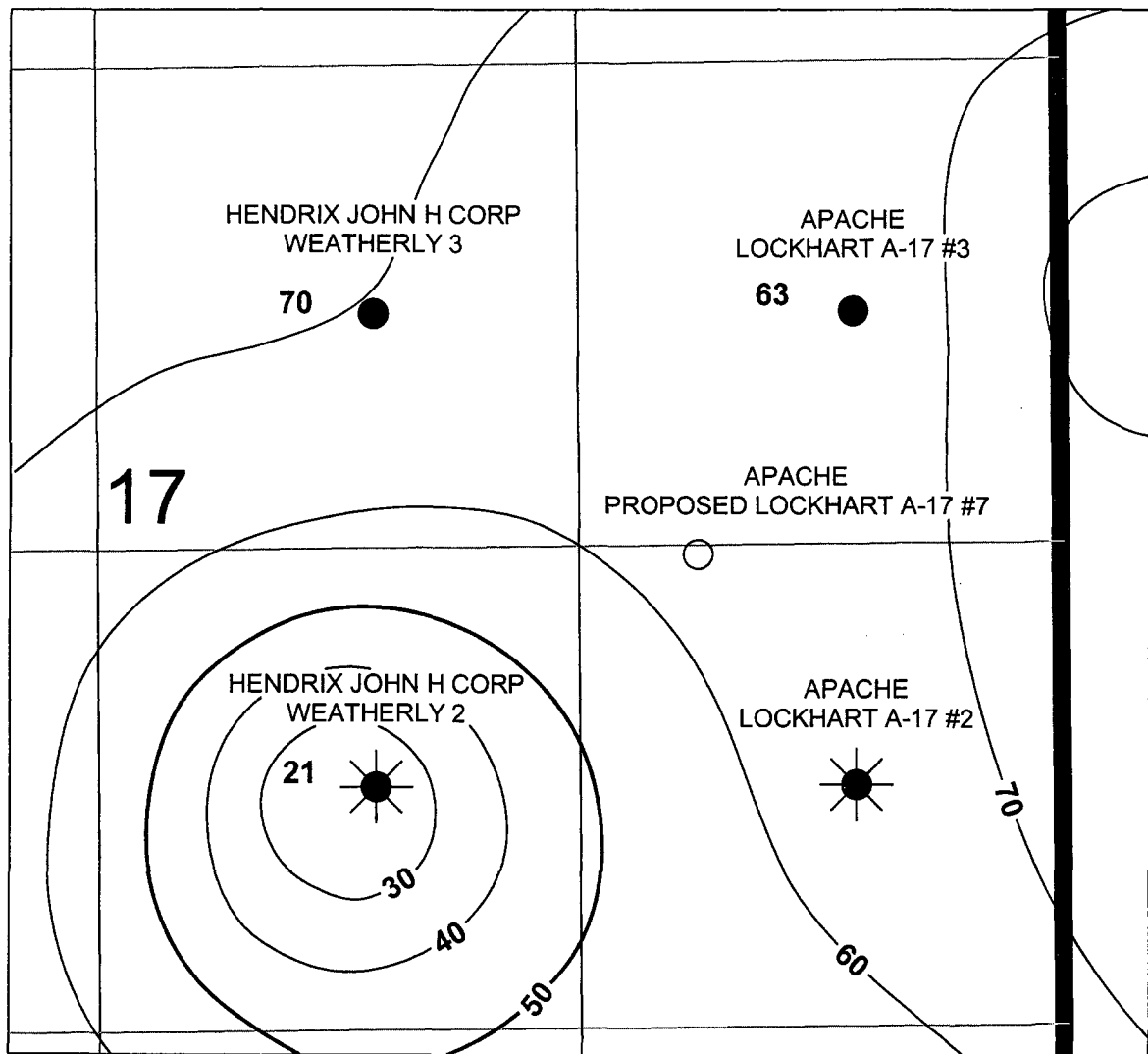


POSTED WELL DATA  
**UPPER GRAYBURG PAY**



U. GRAYBURG PRODUCER

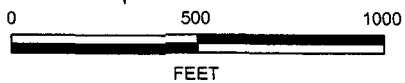
	TWO WARREN PLACE, SUITE 1500 6120 SOUTH YALE TULSA, OKLAHOMA 74138-4224
	<b>LOCKHART A-17 #7</b> SEC. 17-T218-R37E LEA COUNTY, NEW MEXICO
<b>EXHIBIT 5</b> UPPER GRAYBURG PAY CUTOFF: 6% DOLOMITE	
DATE: 12-16-02 DWG: LOCKHART A-17 7 U GBRG (CURTIS\OCD-NM)	



POSTED WELL DATA  
**LOWER GRAYBURG PAY ●**

WELL SYMBOLS

- Location Only
- Oil Well
- ☼ Oil & Gas Well



 CORPORATION CENTRAL REGION	TWO WARREN PLACE, SUITE 1500 8120 SOUTH YALE TULSA, OKLAHOMA 74136-4224
<b>LOCKHART A-17 #7</b>	
<b>SEC 17-T21S-R37E</b> <b>LEA COUNTY, NEW MEXICO</b>	
<b>EXHIBIT 6</b> <b>LOWER GRAYBURG PAY</b> <b>CUTOFF: 6% DOLOMITE</b>	
DATE: 12-16-02 DWG: LOCKHART A-17 7 L GBRG (CURTIS/OC-D-NM)	

**NOTIFICATION LIST**

Application of Apache Corporation for Administrative  
Approval of an unorthodox well location:

**Lockhart A-17 # 7 Well**  
2630' FSL & 990' FEL  
Section 17, Township 21 South, Range 37 East, NMPM  
Lea County, New Mexico

**OFFSET OPERATORS, WORKING INTEREST OWNERS**  
**AND/OR, ROYALTY OWNERS**

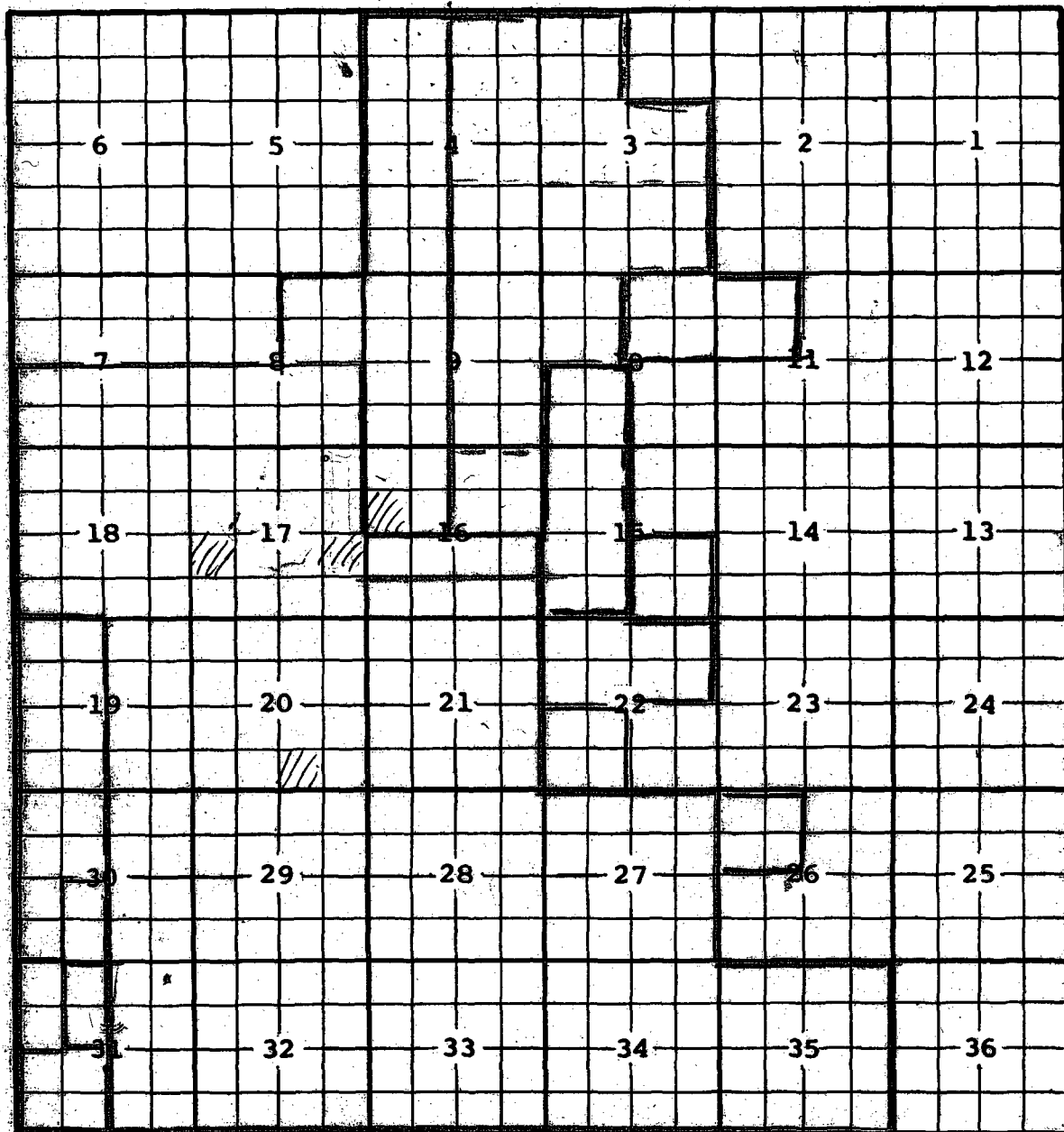
- |  |    |   |
|--|----|---|
| 1. Apache Corporation<br>Two Warren Place, Suite 1500<br>6120 South Yale Avenue<br>Tulsa, Oklahoma 74136 | WI | 7. Melinda A. Elliott OR<br>2523 Washington Way<br>Alameda, CA 94501-5326 |
| 2. Chevron/Texaco<br>15 Smith Road<br>Midland, Texas<br>Attn: Ms Denise Beckham                          | WI |   |
| 3. Minerals Management Service<br>P O Box 5810 TA<br>Denver, CO 80217-5810                               | RI |   |
| 4. Jefferey Mills Elliott<br>3407 Smoketree Commons Dr<br>Pleasanton, CA 94566-7963                      | OR |   |
| 5. Arthur M. Lockhart Family Trust<br>6231 E. 6 <sup>th</sup> Street<br>Long Beach, CA 90803-2117        | OR |   |
| 6. Peter Elliott & Janet Elliott<br>250 Colgate Ave<br>Kensington, CA 94708-1122                         | OR |   |



[illegible]

COUNTY LeaPOOL Penrose-SkellyTOWNSHIP 21 SouthRANGE 37 East

NMPM



Description:  $\frac{S}{2}$  Sec. 7;  $\frac{S}{2}$  Sec. 8;  $\frac{S}{2}$  Sec. 16; All Sec. 17 & 18;  $\frac{E}{2}$  Sec. 19;

All Sec. 20, 21, 27, 28 & 29;  $\frac{E}{2}$  Sec. 30;  $\frac{E}{2}$  Sec. 31; All Sec. 32 thru 35; Vertical limits contracted to Grayburg formation only (R-767-A-4-1-56)

Ext:  $\frac{NW}{4}$  Sec. 4;  $\frac{NE}{4}$  Sec. 8;  $\frac{W}{2}$  Sec. 9;  $\frac{NW}{4}$  Sec. 16 (R-947, 1-30-57) -  $\frac{E}{2}$   $\frac{NW}{4}$  Sec. 31 (R-1017, 6-28-57)  
 -  $\frac{E}{2}$   $\frac{SW}{4}$  Sec. 30 (R-1105, 12-30-57) -  $\frac{W}{2}$  Sec. 19;  $\frac{NW}{4}$  &  $\frac{W}{2}$   $\frac{SW}{4}$  Sec. 30 (R-1129, 2-20-58)  
 $\frac{SW}{4}$  Sec. 31 (R-1143, 3-25-58) -  $\frac{N}{2}$   $\frac{NW}{4}$  Sec. 31 (R-1312, 1-1-59)

Ext:  $\frac{SW}{4}$  Sec. 22 (R-7396, 12-8-83) Ext:  $\frac{SW}{4}$  Sec. 10,  $\frac{W}{2}$  Sec. 15,  $\frac{NW}{4}$  Sec. 26 (R-10091, 3-28-94) Ext:  $\frac{N}{2}$  Sec. 22 (R-10776, 2-28-97)

Ext: Lots 3, 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16 and  $\frac{S}{2}$  Sec. 3, Lots 1, 2, 7, 8, 9, 10, 13, 16 and  $\frac{SE}{4}$  Sec. 4,  $\frac{E}{4}$  Sec. 9,  $\frac{NW}{4}$  Sec. 10,  $\frac{SE}{4}$  Sec. 15,  $\frac{NE}{4}$  Sec. 16 (R-11633, 8-10-01) Ext:  $\frac{NE}{4}$  Sec. 10,  $\frac{NW}{4}$  Sec. 11 (R-11728, 2-20-02)