

DATE IN 5-12-04	SUSPENSE	ENGINEER <i>Stogner</i>	LOGGED 5-13-04	TYPE NSL
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION  
- Engineering Bureau -

PSEM 0413 440619

**ADMINISTRATIVE APPLICATION COVERSHEET**

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

**Application Acronyms:**

[NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]  
[DD-Directional Drilling] [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 - Directional Drilling  
☒ NSL      NSP      DD      ☒ SD

Check One Only for [B] and [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

[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] **INFORMATION / DATA SUBMITTED IS COMPLETE** - Statement of Understanding

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

A. M. Howell	<i>A. M. Howell</i>	Advisor Petro. Engineer	4/12/2004
Print or Type Name	Signature	Title	Date

Permian Business Unit  
North America Upstream  
15 Smith Road  
Midland, Texas 79705  
Tel (432) 687 7516  
MAHO@chevrontexaco.com

May 5, 2004

**ChevronTexaco**

Request For Administrative Approval  
Of Unorthodox Oil Well Location And  
Simultaneous Dedication

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

Dear Mr. Stogner:

ChevronTexaco respectfully requests administrative approval of an unorthodox oil well location for the following well:

**Eunice King # 28**  
1250' FNL & 1340' FEL, NW/4 NE/4 of  
Section 28, T21S, R37E, Unit Letter B  
Lea County, New Mexico

The proposed well will be as an infill producer in the Penrose Skelly; Grayburg Pool, which is an oil pool spaced on 40 acres. This well is a follow-up to recent similar infill drilling by Apache Corporation in the same Pool. ChevronTexaco is a working interest partner in several of their recent infill wells and supports their contention that typical Grayburg wells cannot drain 40 acres. ChevronTexaco's technical analysis of the reservoir revealed similar results to Apache's.

The NW/4 NE/4 of Section 28 will be simultaneously dedicated in the Penrose Skelly; Grayburg Pool to the proposed well and to the Eunice King # 11. Eunice King # 11 is currently P&A'd, but will be re-entered and completed as a Penrose Skelly; Grayburg producer. ChevronTexaco also requests approval of the simultaneous dedication.

This application is based on geological and engineering analysis. That analysis and justification for this request is attached as Exhibit 1, along with other supporting documentation. There are four wells that have produced the Grayburg Formation in the NE/4 of Section 28. The proposed well will be located in the approximate center of those wells. Based on drainage calculations, ChevronTexaco believes that drilling the infill well will recover reserves that would not be recovered by the existing Grayburg wells.

A land plat highlighting the proposed well's location is attached as Exhibit 2. The N/2 of Section 28 is covered by a single fee lease and has **common royalty and working interest**

**RECEIVED**

MAY 12 2004

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

May 5, 2004  
Page 2

**ownership.** For that reason and the proposed location of the infill well, there are no adversely affected interest owners and no one has been notified of this application.

If you have any questions concerning this application or need additional information, please contact me by telephone at (432) 687-7516 or by e-mail at [MAHO@chevrontexaco.com](mailto:MAHO@chevrontexaco.com). Thank you for your consideration of this matter.

Sincerely,

A handwritten signature in black ink that reads "Mike Howell". The signature is written in a cursive, flowing style.

Mike Howell  
Advisor Petroleum Engineer

**Attachments**

cc: NMOCD District 1 – Hobbs, NM  
Mike Howell  
Well File

## **NOTIFICATION LIST**

Application Of Chevron U.S.A. Inc. For Administrative Approval Of An Unorthodox Oil Well Location And Simultaneous Dedication:

**Eunice King # 28**

1250' FNL & 1340' FEL

Section 28, T21S, R37E, Unit Letter B

Lea County, New Mexico

**Offset Operators, Working Interest Owners, N/2 Section 28:**

- |  |                  |
|--|------------------|
| 1. Chevron U.S.A. Inc.<br>15 Smith Road<br>Midland, TX 79705 | Operator/100% WI |
|--|------------------|

## **EXHIBIT 1**

### **ENGINEERING AND GEOLOGICAL JUSTIFICATION**

Application Of Chevron U.S.A. Inc. For Administrative Approval Of An Unorthodox Oil Well Location And Simultaneous Dedication:

#### **Eunice King # 28**

1250' FNL & 1340' FEL

Section 28, T21S, R37E, Unit Letter B

Lea County, New Mexico

#### **PRIMARY OBJECTIVE: GRAYBURG**

#### **SUPPORTING DATA:**

1. Chevron U.S.A. Inc. (Chevron) is the operator of the proposed Eunice King # 28 well (Exhibit 3). The proposed total depth is 4000' in the top of the San Andres formation.
2. The completion will be in the Penrose Skelly; Grayburg Oil Pool and the proposed location encroaches toward the following wells (Exhibit 4).

Operator	Well	Location	Formation	Cum Prod		Current Prod		Status
				MBO	MMCF	BOPD	MCFPD	
Chevron	Eunice King # 7	28-G	Grayburg	38	257			P&A
Chevron	Eunice King # 11	28-B	Grayburg	60	441			P&A - will reenter
Chevron	Eunice King # 16	28-A	Grayburg	190	94			Recompleted to Drinkard
Chevron	Eunice King # 26	28-H	Grayburg	12	72			Recompleted to Drinkard

3. The proposed Eunice King # 28 unorthodox Grayburg location is based primarily 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 depositional environments varied rapidly so that many porous and tight intervals are not continuous from well-to-well on 40-acre spacing. Tight dolomite and/or anhydrite intervals within the Grayburg create vertical and horizontal flow barriers between different zones of porosity. Additionally, average porosity of the Grayburg is less than 10%, and average permeability is less than 1 millidarcy. For all of these reasons, Grayburg wells are not usually capable of draining a 40-acre proration unit.

The reservoir was analyzed by mapping Hydrocarbon Pore Volume (HCPV) (Exhibit 5). HCPV is the product of feet of net pay (h) times average porosity (phi) 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 from either modern neutron-density logs or estimated from a map developed from gross pay times net-to-gross ratio (Exhibit 4).
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 representative water cut values.

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

Operator	Well	Location	Formation	Drainage Acres	EUR	
					MBO	MMCF
Chevron	Eunice King # 7	28-G	Grayburg	8	38	257
Chevron	Eunice King # 11	28-B	Grayburg	11	60	441
Chevron	Eunice King # 16	28-A	Grayburg	33	190	94
Chevron	Eunice King # 26	28-H	Grayburg	2	12	72

As can be seen above, the average drainage area of the offsetting wells is only 14 acres, and additional reserves can be recovered by drilling the proposed well, Eunice King # 28, at an infill location approximately equidistant from the offsetting Grayburg producers. Reserves for the proposed location were calculated using the HCPV map, a 14 acre drainage area, and a 15% recovery factor. The results are as follows:

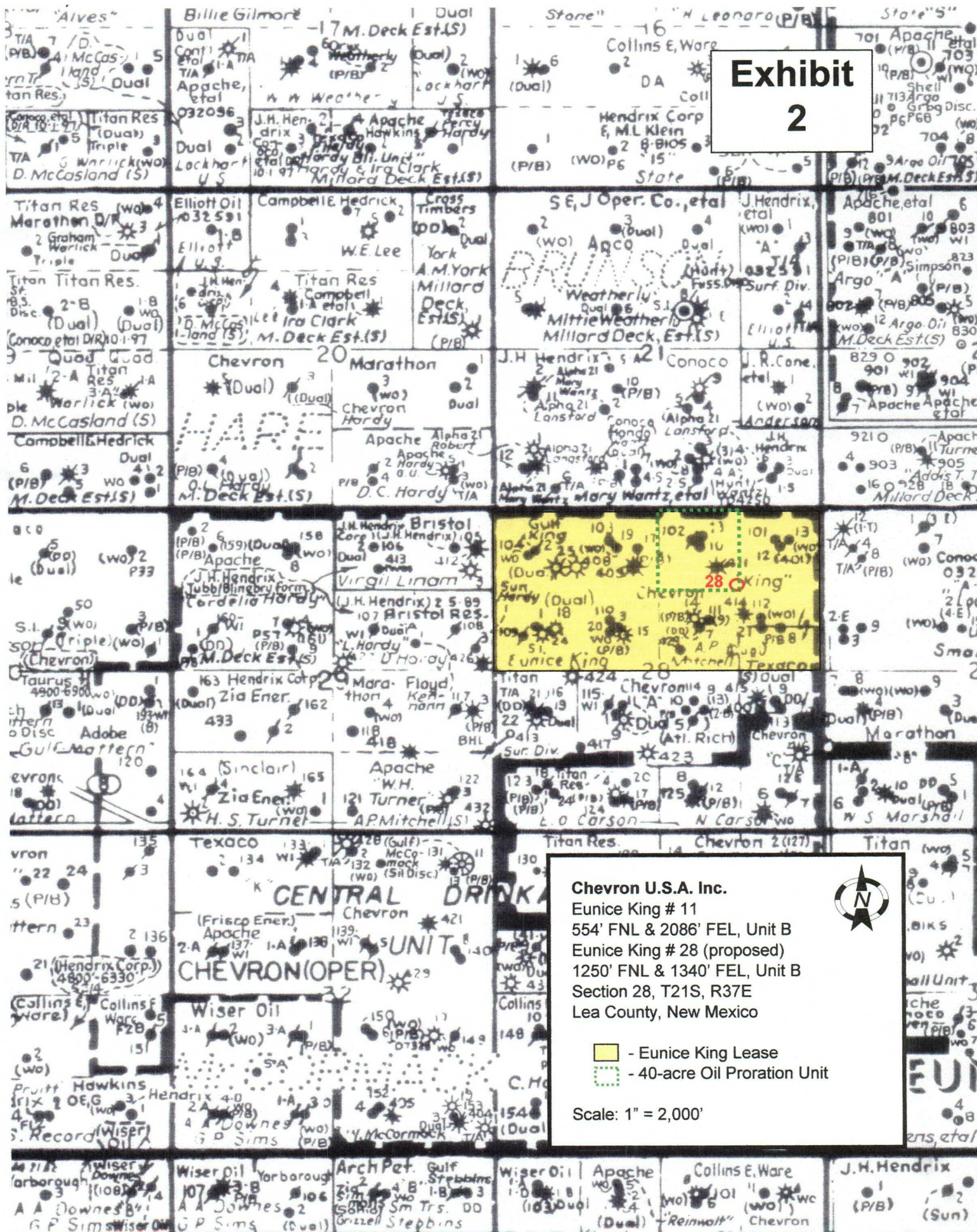
Operator	Well	Location	HCPV	Drainage Acres	EUR	
					MBO	MMCF
Chevron	Eunice King # 28	28-B	6.21	14	75	258

4. The N/2 of Section 28 is covered by a single fee lease which has common royalty and working interest ownership. Chevron is the operator and 100% working interest owner of the Grayburg wells toward which the proposed well will encroach. Therefore, there are no offset interest owners or adversely affected parties to notify of this application.
5. The proposed Eunice King # 28 will share a 40-acre proration unit and be simultaneously dedicated with the Eunice King # 11, currently P&A'd, which will be re-entered and completed as a Penrose Skelly; Grayburg producer in Section 28, Unit Letter B.
6. Approval of this application will allow for the recovery of oil and gas reserves which would not otherwise be recovered.



# Exhibit

## 2





DISTRICT I  
P. O. Box 1980, Hobbs, NM 88240

DISTRICT II  
P. O. Drawer DD, Artesia, NM 88210

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

DISTRICT IV  
P. O. Box 2088, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

EXHIBIT  
3

Submit to Appropriate District Office

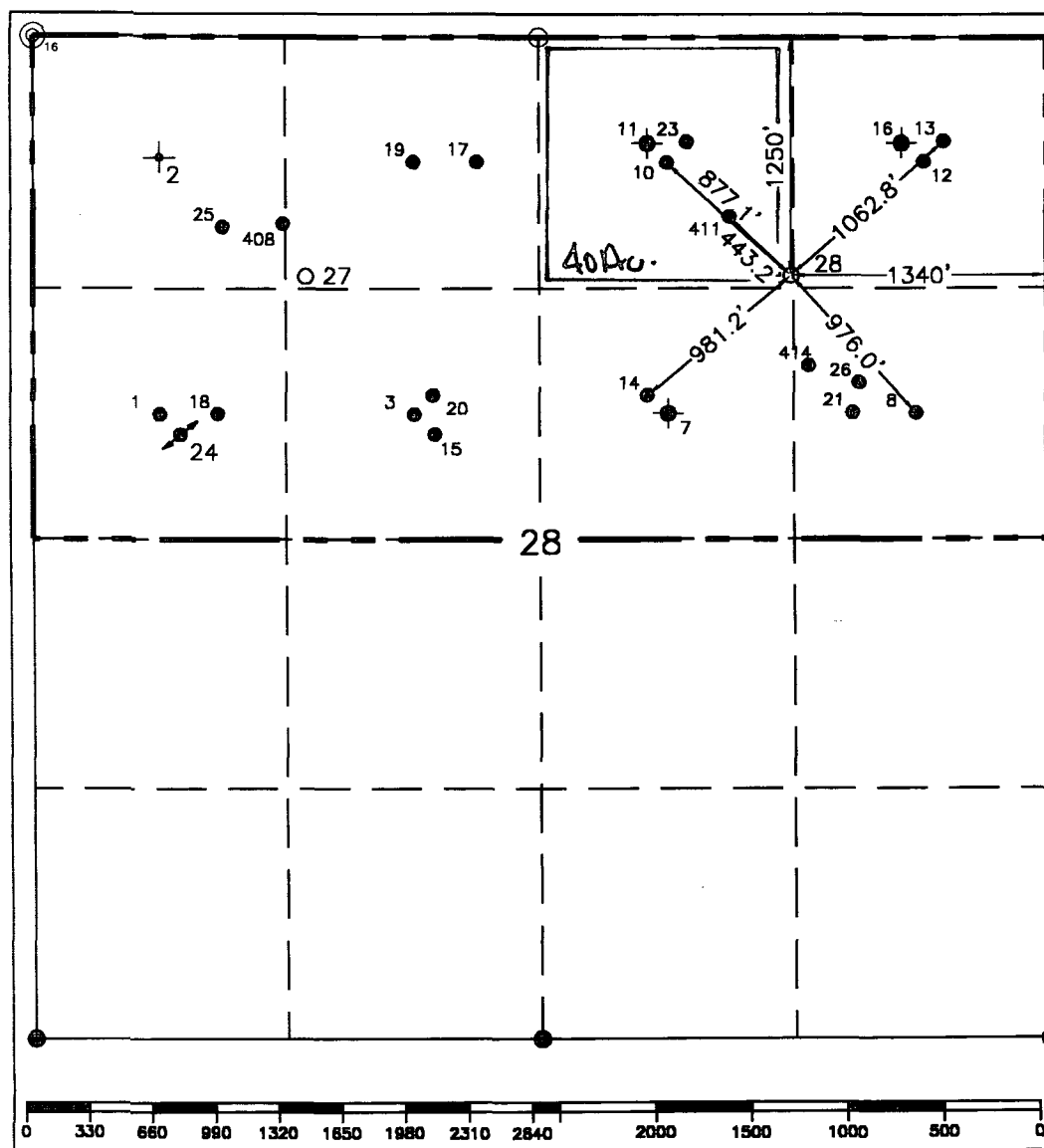
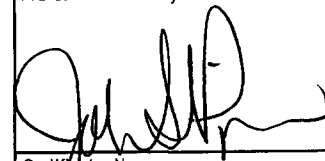
State Lease-4 copies  
Fee Lease-3 copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number		<sup>2</sup> Pool Code		<sup>3</sup> Pool Name Penrose Skelly (Grayburg)					
<sup>4</sup> Property Code		<sup>5</sup> Property Name Eunice King						<sup>6</sup> Well Number 28	
<sup>7</sup> OGRID No. 22351		<sup>8</sup> Operator Name CHEVRON USA, Inc.						<sup>9</sup> Elevation 3436'	
<sup>10</sup> Surface Location									
UL or lot no. B	Section 28	Township 21-S	Range 37-E	Lot Idn	Feet from the 1250'	North/South line North	Feet from the 1340'	East/West line East	<sup>7</sup> County Lea
<sup>11</sup> 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	<sup>7</sup> County
<sup>12</sup> Dedicated Acres 40		<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code		<sup>15</sup> 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.

	<sup>16</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.
	Signature
	Printed Name Ted Tipton
	Position Manager of Drilling Department
	Company Chevron USA, Inc.
Date May 1, 2004	
<sup>18</sup> 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 knowledge and belief.	
Date Surveyed April 22, 24, 26, & 27, 2004	
Signature & Seal of Professional Surveyor 	
Certificate No. 7254 John S. Piper	
Sheet 1 of 1	

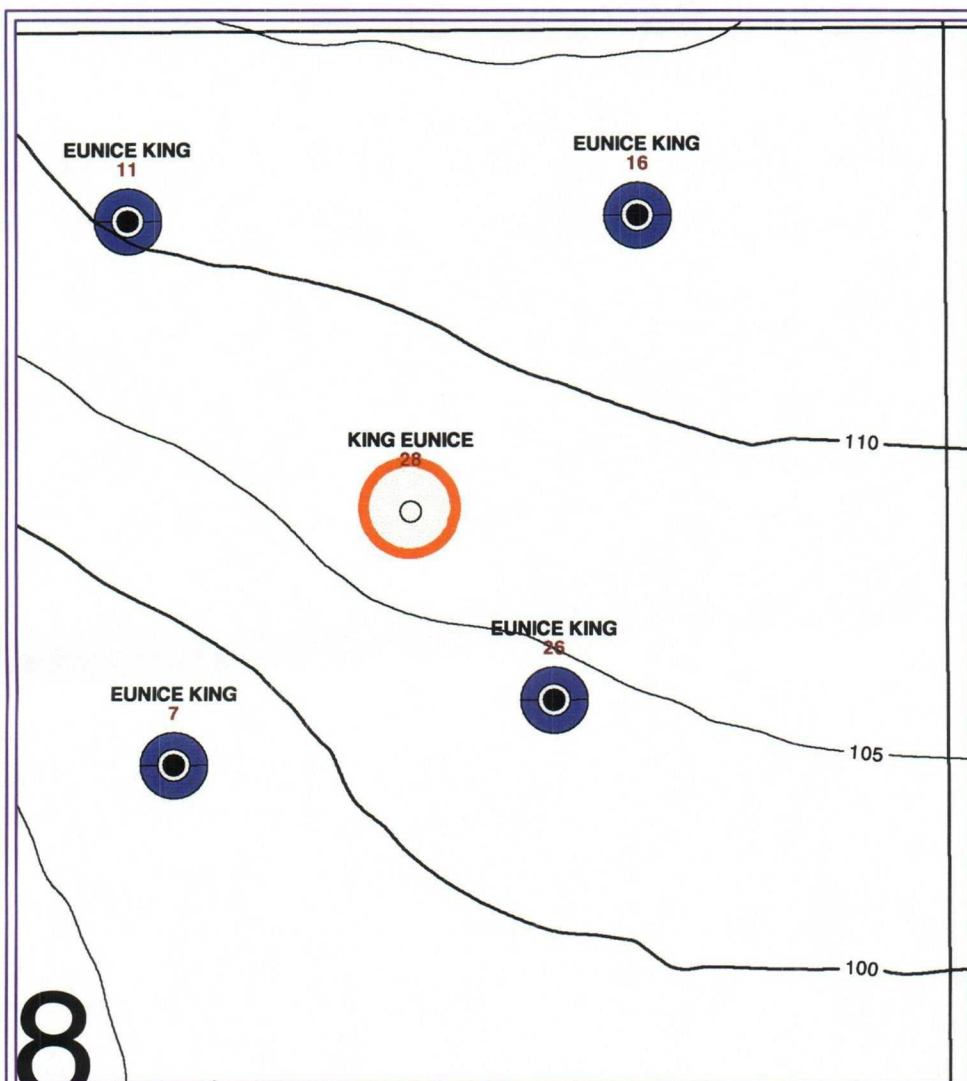
○ = Staked Location • = Producing Well = Injection Well ◇ = Water Supply Well ◆ = Plugged & Abandon Well  
⊙ = Found Section Corner, 2 or 3" Iron Pipe & GLO B.C. ○ = Found 1/4 Section Corner, 1" Iron Pipe & GLO B.C.

ADDITIONAL INFORMATION ON THE LOCATION

State Plane Coordinates		Northing 530761.12 (1927= 530701.92)		Easting 902104.56 (1927= 860920.22)	
Latitude 32°27'13.300" (1927= 32°27'12.870")		Longitude 103°09'49.545" (1927= 103°09'47.854")			
Zone	North American Datum	Combined Grid Factor		Coordinate File	
East	1983	0.9998911		Weathrly.cr5	
Drawing File Chevron-Eunice.Dwg		Field Book Lea #23, Pg.42			







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ChevronTexaco

## EXHIBIT 4

21S-37E-28 NE/4 Lea County, New Mexico

Grayburg Net Pay CI=5'

Cutoffs: Gr  $\leq$  40 API, Porosity  $\geq$  6%

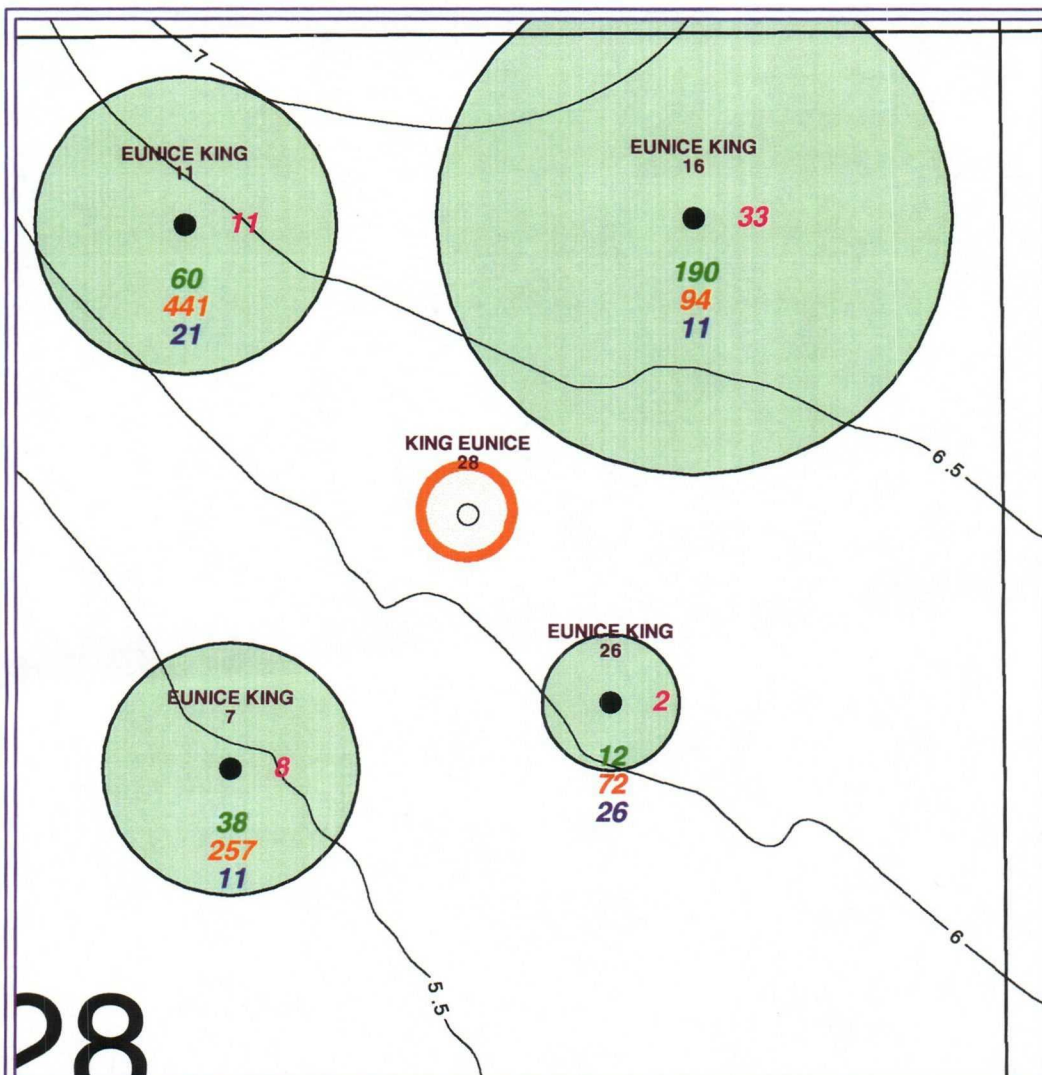
### ATTRIBUTE MAP



Zone: PRODUCTION - O\_453GRBG IS PRESENT  
 Zone: PRODUCTION - G\_453GRBG IS PRESENT



May 6, 2004



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ChevronTexaco

## EXHIBIT 5

21S-37E-28 NE/4 Lea County, New Mexico

Grayburg HCPV CI=.5 & EUR-Drainage

### POSTED WELL DATA

Well Name  
Well Number

● EUR-GRAYBURG-ACRES

Grayburg Cum Oil (MBO)  
Grayburg Cum Gas (MMCF)  
Grayburg Cum Water (MBW)

0 500 1,000 1,500

FEET

May 6, 2004