

ABOVE THIS LINE FOR DIVISION USE ONLY

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



**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.**

Print or Type Name \_\_\_\_\_ Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

*Chevron Texaco*

\_\_\_\_\_  
 e-mail Address

North America Upstream  
Midcontinent Business Unit  
11111 S. Wilcrest, Rm S1052  
Houston, Texas 77099  
Tel (281) 561-3659  
Fax (281) 561-3576  
mrvillalva@chevrontexaco.com

Michael R. Villalva  
Petroleum Engineer

RECEIVED

MAR 07 2005

GIL CONSERVATION  
DIVISION

March 2, 2005

**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 Drive  
Santa Fe, New Mexico 87505

Dear Mr. Stogner:

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

**Mark Owen #9**  
1590' FSL & 1340' FEL, NW/4 SE/4 of  
Section 34, T21S, R37E, Unit Letter J  
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 our recent infill drilling in the same Pool which recently concluded. ChevronTexaco's technical analysis of the reservoir still supports the contention that typical Grayburg wells cannot drain 40 acres.

The NW/4 SE/4 of Section 34 will be simultaneously dedicated in the Penrose Skelly, Grayburg Pool to the proposed well and to the Mark Owen #1. The Mark Owen #1 was drilled in 1939 and is currently producing as a Penrose Skelly, Grayburg producer. ChevronTexaco also requests approval of the simultaneous dedication.

This application is based on geological and engineering analysis. The analysis and justification for this request is attached as Exhibit 1, along with other supporting documentation. There are five wells that have produced the Grayburg formation in the SE/4 of Section 34. 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 existing Grayburg producers.

A land plat highlighting the proposed well's location is attached as Exhibit 2. The SE/4 of Section 34 is covered by a single fee lease and has common royalty and working interest ownerships. 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.

March 2, 2005

Page 2

If you have any questions concerning this application or need additional information, please contact me by phone at (281) 561-3659 or by email at [mrivillalva@chevrontexaco.com](mailto:mrivillalva@chevrontexaco.com). If I am not available, you can also reach George Pritchard by phone at (281) 561-4918 or by email at [GPritchard@chevrontexaco.com](mailto:GPritchard@chevrontexaco.com). Thank you for consideration of this matter.

Sincerely,



Michael R. Villalva  
Petroleum Engineer

Attachments

cc: NMOCD District 1 – Hobbs, NM  
Michael R. Villalva  
George Pritchard  
Well File

## NOTIFICATION LIST

Application of Chevron U.S.A. Inc. for Administrative Approval of an Unorthodox Oil Well Location and Simultaneous Dedication:

**Mark Owen #9**

1590' FSL & 1340' FEL

Section 34, T21S, R37E, Unit Letter J

Lea County, New Mexico

**Offset Operators, Working Interest Owners, SE/4 Section 34:**

1. Chevron U.S.A. Inc. Operator/100% WI  
11111 S. Wilcrest  
Houston, TX 77099

DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
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 1220 South St. Francis Drive, Santa Fe, NM 87505



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 WFX  PMX  SWD  IPI  EOR  PPR
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U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office  
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**Note: Statement must be completed by an individual with managerial and/or supervisory capacity.**

Michael R. Villalva \_\_\_\_\_ *Michael R. Villalva* \_\_\_\_\_ Petroleum Engineer \_\_\_\_\_ *Mar 2, 2005*  
 Print or Type Name Signature Title Date  
 \_\_\_\_\_  
 mrvillalva@chevrontexaco.com  
 e-mail Address

## 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:

**Mark Owen #9**

1590' FSL & 1340' FEL

Section 34, T21S, R37E, Unit Letter J

Lea County, New Mexico

**PRIMARY OBJECTIVE: GRAYBURG**

**SUPPORTING DATA:**

1. Chevron U.S.A. Inc. (Chevron) is the operator of the proposed Mark Owen #9 well (Exhibit 3). The proposed total depth is 4300' 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	Owen #1	34-J	Grayburg	138	425	6	17	Producing
Chevron	Owen #2	34-O	Grayburg	66	24			P&A
Chevron	Owen #3	34-I	Grayburg	3	14			In progress - Grybg plugback
Chevron	Owen #6	34-O	Grayburg	0	0			In progress - Grybg plugback
Chevron	Owen #8	34-P	Grayburg	17	184	46	600	Producing

3. The proposed Mark Owen #9 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 while the supratidal rock is 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 the 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 also analyzed by mapping the Hydrocarbon Pore Volume (HCPV) (Exhibit 5). HCPV is the product of feet of net pay (h) times average porosity ( $\phi$ ) times oil saturation ( $S_o$ ). The attached 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	Owen #1	34-J	Grayburg	42	201	582
Chevron	Owen #2	34-O	Grayburg	16	66	24
Chevron	Owen #3	34-I	Grayburg	1	3	14
Chevron	Owen #6	34-O	Grayburg	14	60	304
Chevron	Owen #8	34-P	Grayburg	15	81	930

Even though the Mark Owen #1 shows drainage above 20 acres (mostly Upper Grayburg production), the average drainage area of the offsetting locations is 22 acres, and additional reserves can be recovered by drilling the proposed infill well throughout the entire Grayburg interval. The new location was moved from the approximate center location of the existing offsetting producers due to surface issues. Reserves for the proposed location were calculated using the HCPV map, a 22 acre drainage area, and a 15% recovery factor. The results are as follows:

Operator	Well	Location	HCPV	Drainage Acres	EUR	
					MBO	MMCF
Chevron	Owen #9	34-J	6.3	22	117	380

4. The SE/4 of Section 34 is covered by a single fee lease which has common royalty and working interest ownerships. 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 Mark Owen #9 will share a 40-acre proration unit and will be simultaneously dedicated with the Mark Owen #1 (recent Lower Grayburg deepening) as a Penrose Skelly, Grayburg producer in Section 34, Unit Letter J.
6. Approval of this application will allow for the recovery of oil and gas reserves which would not otherwise be recovered.



# Exhibit 3

## State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102

Revised JUNE 10, 2003

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

**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

### OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.  
Santa Fe, New Mexico 87505

**DISTRICT IV**

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

### WELL LOCATION AND ACREAGE DEDICATION PLAT

AMENDED REPORT

API Number	Pool Code	Pool Name
Property Code	Property Name <b>MARK OWEN</b>	
OGRID No.	Operator Name <b>CHEVRON U.S.A., INC.</b>	
		Well Number <b>9</b>
		Elevation <b>3402'</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
J	34	21-S	37-E		1590	SOUTH	1340	EAST	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 style="text-align: center;"><i>GEODETIC COORDINATES</i> NAD 27 NME</p> <p style="text-align: center;">Y=523041.4 N X=866283.2 E</p> <p style="text-align: center;">LAT.=32°25'56.49" N LONG.=103°08'46.27" W</p> <div style="text-align: center; margin-top: 20px;"> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p style="text-align: center;"><b>OPERATOR CERTIFICATION</b></p> <p style="font-size: small; text-align: center;"><i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</i></p> <p>Signature _____</p> <p>Printed Name _____</p> <p>Title _____</p> <p>Date _____</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>SURVEYOR CERTIFICATION</b></p> <p style="font-size: small; text-align: center;"><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 style="text-align: center;">JANUARY 12, 2005</p> <p>Date Surveyed _____ JR</p> <p>Signature &amp; Seal of Professional Surveyor</p> <div style="text-align: center;"> </div> <p>Certificate No. GARY EIDSON 12841</p> </div>
--	---

District I  
1625 N. French Dr., Hobbs, NM 88240

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised June 10, 2003

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

**OIL CONSERVATION DIVISION** Submit to  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

**Exhibit 3.1**  
 AMENDED REPORT

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

District IV  
1220 South St. Francis Dr., Santa Fe, NM 87505

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

<sup>1</sup> API Number 30-025-07001	<sup>2</sup> Pool Code 50350	<sup>3</sup> Pool Name Penrose Skelly; Grayburg
<sup>4</sup> Property Code 2701	<sup>5</sup> Property Name Mark Owen	<sup>6</sup> Well Number 1
<sup>7</sup> OGRID No. 4323	<sup>8</sup> Operator Name Chevron U.S.A., Inc.	<sup>9</sup> Elevation 3428' DF

<sup>10</sup> Surface Location

UL or Lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	34	21S	37E		1980	South	1980	East	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	County

<sup>12</sup> Dedicated Acres  
40

<sup>13</sup> Joint or Infill

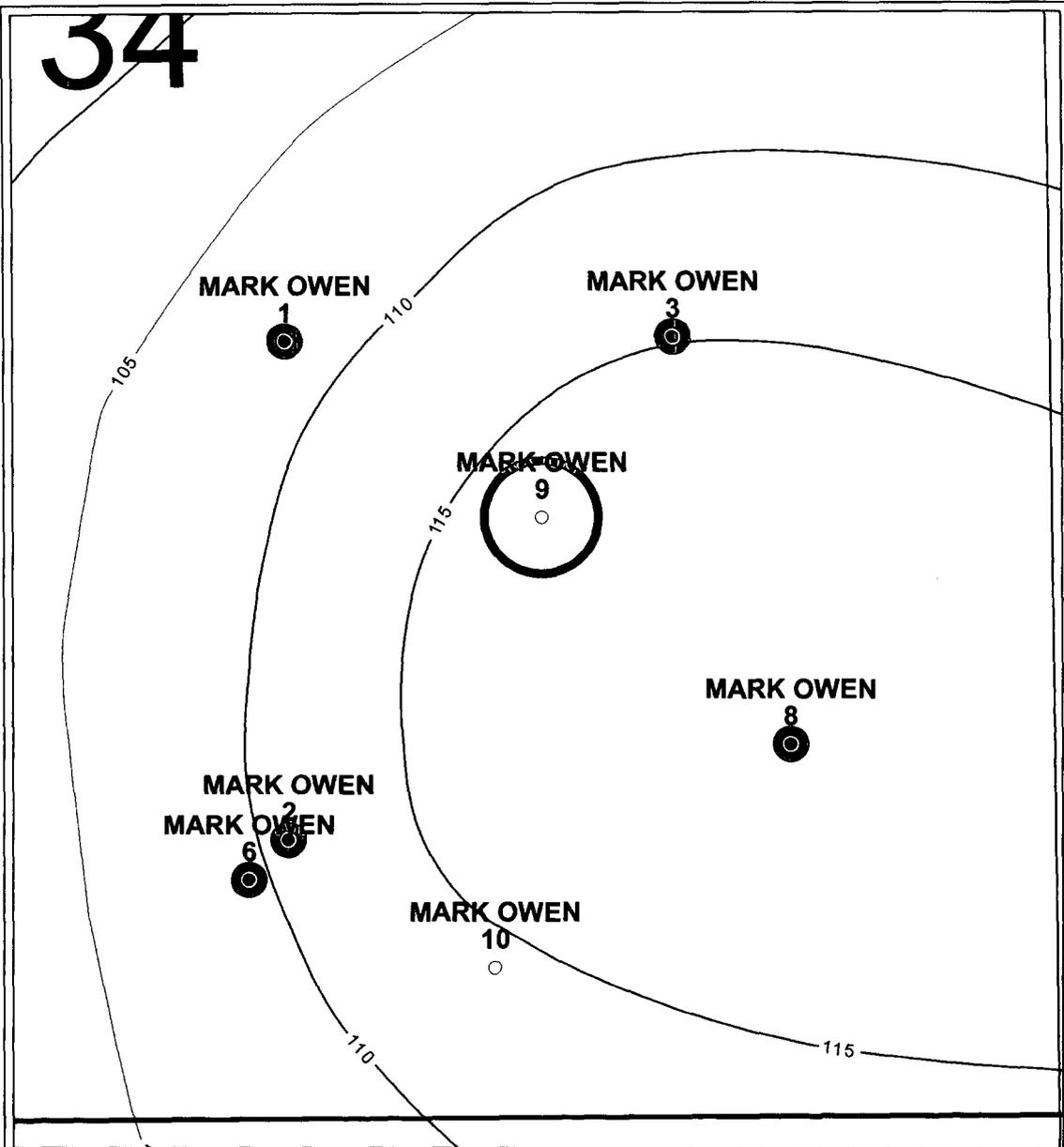
<sup>14</sup> Consolidation Code

<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**

<p>16</p>	<p><b>1 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.</i></p> <p style="text-align: center;"><i>Michael R. Villalva</i></p> <p>Signature <b>Michael R. Villalva</b></p> <p>Printed Name <b>Petroleum Engineer</b></p> <p>Title <b>February 21, 2005</b></p>
	<p><b>1 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>Signature and Seal of Professional Surveyor:</p> <p style="text-align: right;">Certificate Number</p>

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PETRA 3/2/2005 8:15:37 AM

# ChevronTexaco

## EXHIBIT 4

### PENROSE-SKELLY FIELD MARK OWEN #9

Sec. 34, T21S-R37E, Lea Co, New Mexico

Grayburg Net Pay CI=5.0' [Gr<40, Por>6%]

#### POSTED WELL DATA

Well Name  
Well Number



March 2, 2005

