



**MidContinent SBU**  
 Chevron North America Exploration  
 and Production Company  
 P. O. Box 36366  
 Houston, TX 77236

May 31, 2006

Request for Administrative Approval of  
 Unorthodox Oil Well Location and  
 Simultaneous Dedication [Via mail & email]  
**Re-application due to location change**  
**Administrative Order NSL-5366 (SD)**

2006 JUN 1 PM 1 41

Mr. Mark E. Fesmire  
 c/o Mr. Michael Stogner  
 New Mexico Oil Conservation Division  
 1220 South St. Francis Drive  
 Santa Fe, New Mexico 87505

Dear Mr. Fesmire:

Chevron respectfully requests an administrative approval revision of an unorthodox oil well location for the following well that has been moved 400' east into Lot H:

**Harry Leonard #8**  
 2310' FNL & 1030' FEL, S/2 NE/4 of  
 Section 16, T21S, R37E, Unit Letter H  
 Lea County, New Mexico

The New Mexico Oil Conservation Division approved the previous location of the Harry Leonard #8 (30-025-37834) by Administrative Order NSL-5366 (SD) dated April 19, 2006. Due to subsurface pipeline issues, the location has been moved to Lot H and would now be simultaneously dedicated to the Harry Leonard #7 (30-025-36741) and the Harry Leonard # 5H (30-025-066240100).

The proposed well will be an infill producer in the Penrose Skelly, Grayburg Pool, which is an oil pool spaced on 40 acres. This well is a continuation to our previous two year's infill drilling in the same Pool [Pool Code 50350]. Chevron's technical analysis of the reservoir still supports the contention that typical Grayburg wells cannot drain 40 acres.

The SE/4 NE/4 of Section 16 will be simultaneously dedicated in the Penrose Skelly, Grayburg Pool to the proposed well and to the Harry Leonard #7 and Harry Leonard #5H. The Harry Leonard #8 will be completed as a Penrose Skelly, Grayburg producer. Chevron also requests approval for 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 NE/4 of Section 16. The proposed well will be located in a 20 acre location among the current producers and located 330' off the lease line. Based on drainage calculations, Chevron believes that drilling this infill well will recover reserves that would not be recovered by existing Grayburg producers and will protect our leasee from any possible drainage due to Apache's south offset, the State DA #10 (30-025-36786) well.

A land plat highlighting the proposed well's location is attached as Exhibit 2. The NE/4 of Section 16 is covered by a single fee lease which has common royalty and 100% Chevron working interest 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 phone at (281) 561-4918 or by email at [gpritchard@chevron.com](mailto:gpritchard@chevron.com). If I am not available, you can also reach Mike Gelbs by phone at (281) 561-7939 or by email at [mike.gelbs@chevron.com](mailto:mike.gelbs@chevron.com). Thank you for consideration of this matter.

Sincerely,



George F. Pritchard  
Project Manager / Geologist

Attachments

cc: NMOCD District 1 – Hobbs, NM  
George F. Pritchard  
Mike Gelbs  
Well File

6-12-2006  
2:45  
Talked w/ Mr. Pritchard  
281-561-4918  
- #5 is a horizontal Grayburg  
well drilled in Oct. 2005  
- is the only horizontal well  
in the NE-E lease  
- pipeline issue wasn't discussed  
until dirt work was  
actually commenced

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.**

<u>George F. Pritchard</u> Print or Type Name	 Signature	<u>Project Manager / Geologist</u> Title	<u>5/31/2006</u> Date
		<u>gpritchard@chevron.com</u> e-mail Address	

## **NOTIFICATION LIST**

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

**Harry Leonard NCT-E #8**

2310' FNL & 1030' FEL

Section 16, T21S, R37E, Unit Letter H

Lea County, New Mexico

**Offset Operators, Working Interest Owners, NE/4 Section 16:**

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

**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:

**Harry Leonard NCT-E #8**  
2310' FNL & 1030' FEL  
Section 16, T21S, R37E, Unit Letter H  
Lea County, New Mexico

**PRIMARY OBJECTIVE: GRAYBURG**

**SUPPORTING DATA:**

1. Chevron U.S.A. Inc. (Chevron) is the operator of the proposed Harry Leonard NCT-E #8 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	API #	Location	Formation	Cum Prod		Current Prod		Status
					MBO	MMCF	BOPD	MCFPD	
Chevron	Harry Leonard #1	3002506620	16-G	Grayburg	27	122	20	180	active 7/2002
Chevron	Harry Leonard #3	3002506622	16-B	Grayburg	41	207	25	205	active 7/2002
Chevron	Harry Leonard #5H	3002506624	16-H	Grayburg	32	166	65	183	active 12/2001, hzntl 2005
Chevron	Harry Leonard #6	3002525198	15-A	Grayburg	46	231	23	170	active 5/2002
Chevron	Harry Leonard #7	3002536741	15-H	Grayburg	21	84	34	188	active 9/2004

3. The proposed Harry Leonard NCT-E #8 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) time oil saturation (S<sub>o</sub>). 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	API #	Location	Formation	Drainage Acres	EUR	
						MBO	MMCF
Chevron	Harry Leonard #1	3002506620	16-G	Grayburg	18	59	266
Chevron	Harry Leonard #3	3002506622	16-B	Grayburg	23	80	574
Chevron	Harry Leonard #5H	3002506624	16-H	Grayburg	20	60	355
Chevron	Harry Leonard #6	3002525198	16-A	Grayburg	49	151	789
Chevron	Harry Leonard #7	3002536741	16-H	Grayburg	46	144	960

As seen above, the average location drainage area of the offsetting wells is approximately 31 acres, and additional reserves can be recovered by drilling the proposed infill well at an approximate equidistant location from the existing offsetting producers and remaining 330' off the lease line. Due to the 330' offset from the lease line, reserves for the proposed location were calculated using the HCPV map, a 15 acre drainage area, and a 15% recovery factor. The results are as follows:

Operator	Well	Location	HCPV	Drainage Acres	EUR	
					MBO	MMCF
Chevron	Harry Leonard #8	16-G	3.8	15	46	409

4. The NE/4 of Section 16 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 Harry Leonard NCT-E #8 will share a 40-acre proration unit and will be simultaneously dedicated with the Harry Leonard NCT-E #7 and the Harry Leonard NCT-E #5H as a Penrose Skelly, Grayburg producer in Section 16, Unit Letter H.
6. Approval of this application will allow for the recovery of oil and gas reserves which would not otherwise be recovered.

State of New Mexico

Energy, Minerals and Natural Resources Department

DISTRICT I

1625 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

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

Form C-102  
Revised October 12, 2005  
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 <b>HARRY LEONARD NCT E</b>		Well Number 8
OGRID No.	Operator Name <b>CHEVRON U.S.A. INC.</b>		Elevation 3484'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	16	21-S	37-E		2310	NORTH	1030	EAST	LEA

Bottom Hole Location If Different From Surface

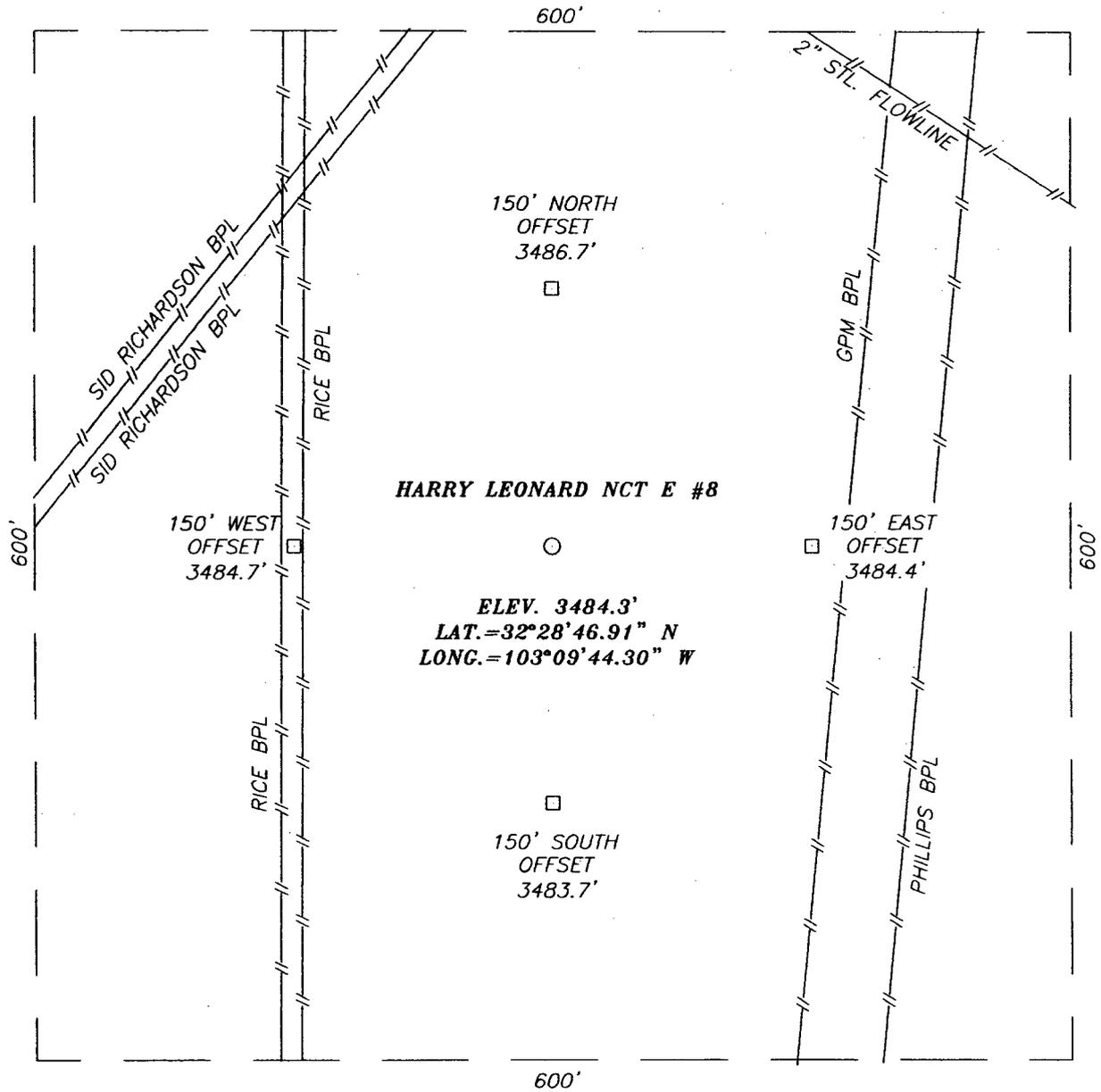
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

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

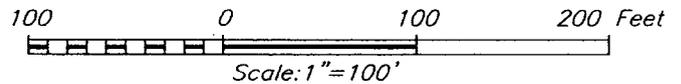
	<p><b>OPERATOR CERTIFICATION</b></p> <p><i>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such 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>MAY 8, 2006</p> <p>Date Surveyed _____ LA</p> <p>Signature &amp; Seal of Professional Surveyor _____</p> <p><i>Ronald J. Edson 5/10/06</i></p> <p>76.11.0801</p>
	<p>Certificate No. <b>RONALD EDSON</b> 3239 <b>GARY EDSON</b> 12641</p>

**SECTION 16, TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M.,**  
 LEA COUNTY, NEW MEXICO



**DIRECTIONS TO LOCATION**

FROM THE INTERSECTION OF ST. HWY #207 AND CO. RD. E-34 (HILL RD), GO WEST ON CO. RD. E-34 APPROX. 0.1 MILES. TURN LEFT AND GO SOUTH APPROX. 0.1 MILES BY THE CHEVRON HARRY LEONARD NCT E #2. THIS LOCATION IS APPROX. 300 FEET SOUTHWEST.



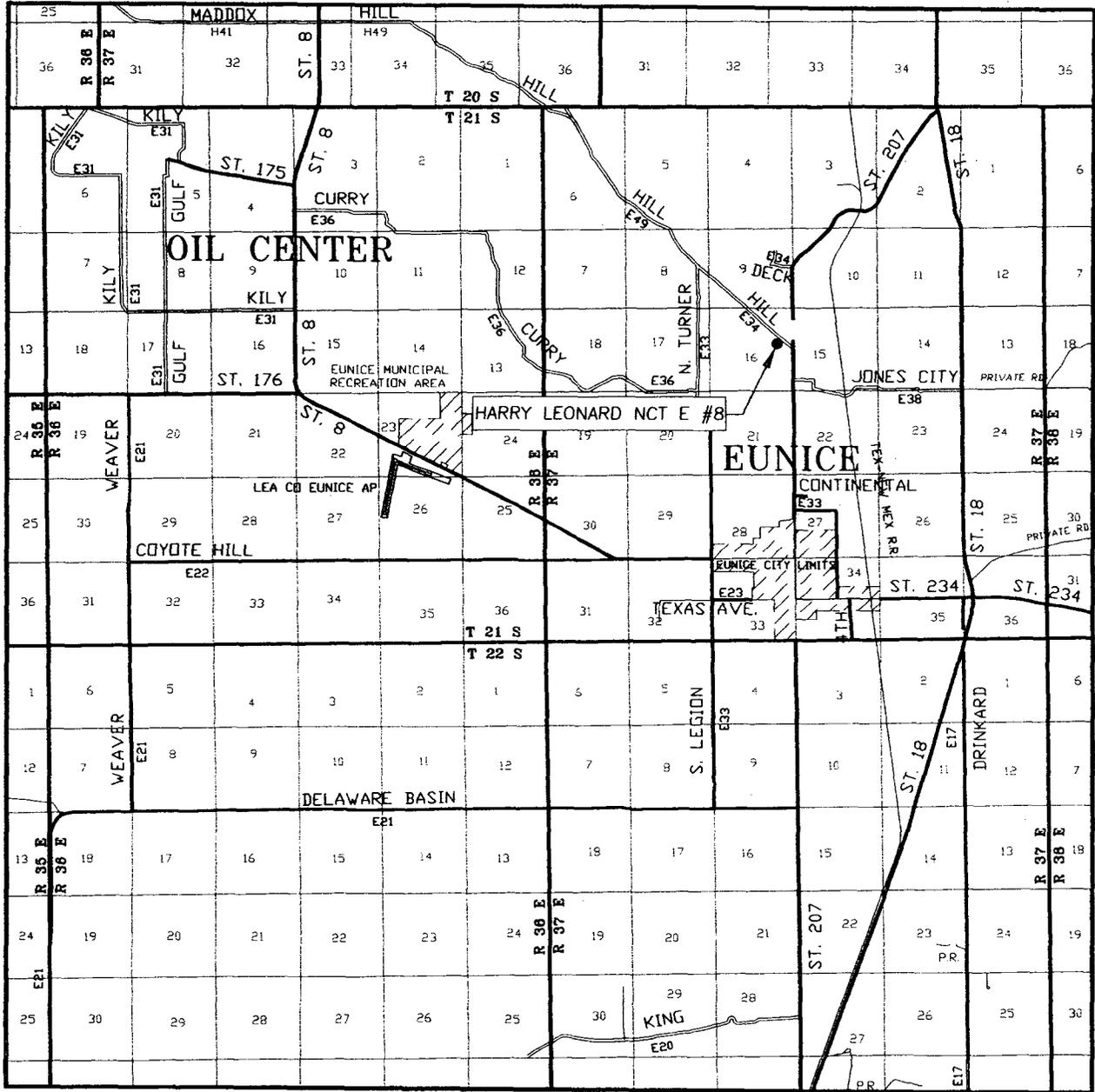

**PROVIDING SURVEYING SERVICES SINCE 1946**  
**JOHN WEST SURVEYING COMPANY**  
 412 N. DAL PASO  
 HOBBS, N.M. 88240  
 (505) 393-3117

**CHEVRON U.S.A. INC.**

HARRY LEONARD NCT E #8 WELL  
 LOCATED 2310 FEET FROM THE NORTH LINE  
 AND 1030 FEET FROM THE EAST LINE OF SECTION 16,  
 TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M.,  
 LEA COUNTY, NEW MEXICO.

Survey Date: 5/8/06	Sheet 1 of 1 Sheets	
W.O. Number: 06.11.0801	Dr By: LA	Rev 1:N/A
Date: 5/9/06	Disk: CD#5	06110801 Scale: 1"=100'

# VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 16 TWP. 21-S RGE. 37-E

SURVEY N.M.P.M.

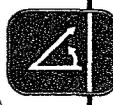
COUNTY LEA STATE NEW MEXICO

DESCRIPTION 2310' FNL & 1030' FEL

ELEVATION 3484'

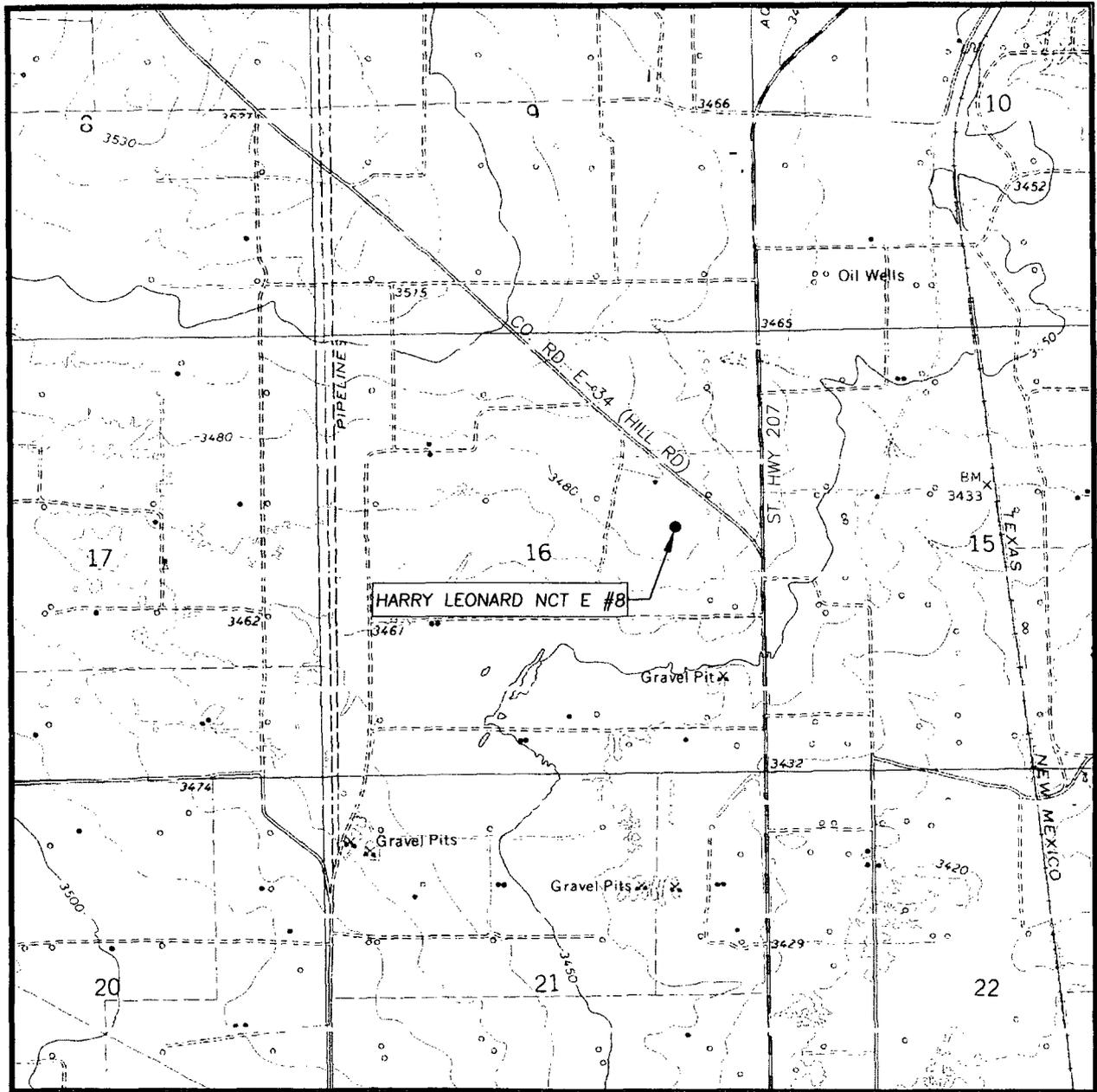
OPERATOR CHEVRON U.S.A., INC.

LEASE HARRY LEONARD



**PROVIDING SURVEYING SERVICES**  
 SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
 412 N. DAL PASO  
 HOBBS, N.M. 88240  
 (505) 393-3117

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:  
EUNICE, N.M. - 10'

SEC. 16 TWP. 21-S RGE. 37-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

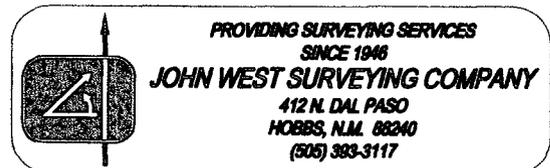
DESCRIPTION 2310' FNL & 1030' FEL

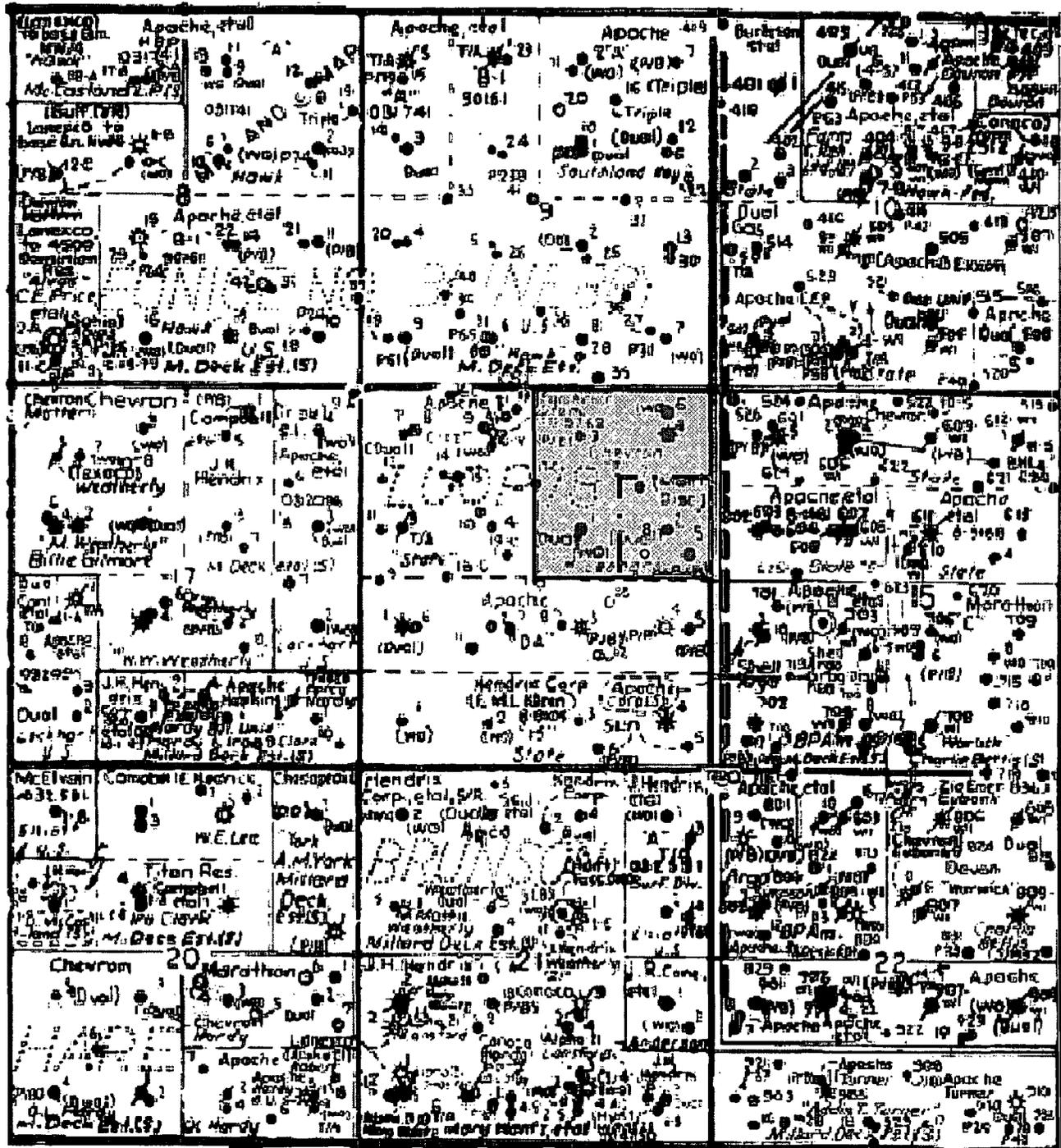
ELEVATION 3484'

OPERATOR CHEVRON U.S.A., INC.

LEASE HARRY LEONARD NCT E

U.S.G.S. TOPOGRAPHIC MAP  
EUNICE, N.M.





May 18, 2006



**Chevron USA Inc.**

Harry Leonard #7  
 1330 FNL & 1070 FEL, Unit H  
 Harry Leonard #5H  
 2310 FNL & 330 FEL, Unit H  
 Harry Leonard #8 (revised)  
 2310 FNL & 1030 FEL, Unit H  
 Section 16, T21S-R37E  
 Lea County, New Mexico

 Harry Leonard Lease  
 40 Acre Proration Unit  
 Scale: 1"=2000' Approx.

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 Appropriate District Office

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

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

Exhibit 3.1A

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-025-36741	<sup>2</sup> Pool Code 50350	<sup>3</sup> Pool Name Penrose Skelly; Grayburg
<sup>4</sup> Property Code	<sup>5</sup> Property Name Harry Leonard NCT-E	
<sup>7</sup> OGRID No. 4323	<sup>8</sup> Operator Name Chevron U.S.A., Inc.	<sup>6</sup> Well Number 7
<sup>9</sup> Elevation 3488' KB		

<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
H	16	21S	37E		1330	North	1070	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

16	<p>Harry Leonard NCT-E Lease</p> <p>1330'</p> <p>1070'</p> <p>7</p> <p>40-acre proration unit</p> <p>8</p> <p>5H</p>	17	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>George F. Pritchard</i></p> <p>Signature _____</p> <p>Printed Name <b>George F. Pritchard</b></p> <p>Title <b>Geologist</b></p> <p><b>May 17, 2006</b></p>
			18

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 Appropriate District Office

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

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

Exhibit 3.1B

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-025-36741	<sup>2</sup> Pool Code 50350	<sup>3</sup> Pool Name Penrose Skelly; Grayburg
<sup>4</sup> Property Code	<sup>5</sup> Property Name Harry Leonard NCT-E	
<sup>7</sup> OGRID No. 4323	<sup>8</sup> Operator Name Chevron U.S.A., Inc.	<sup>6</sup> Well Number 5H
<sup>9</sup> Elevation 3493' KB		

<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
H	16	21S	37E		2310	North	330	East	Lea

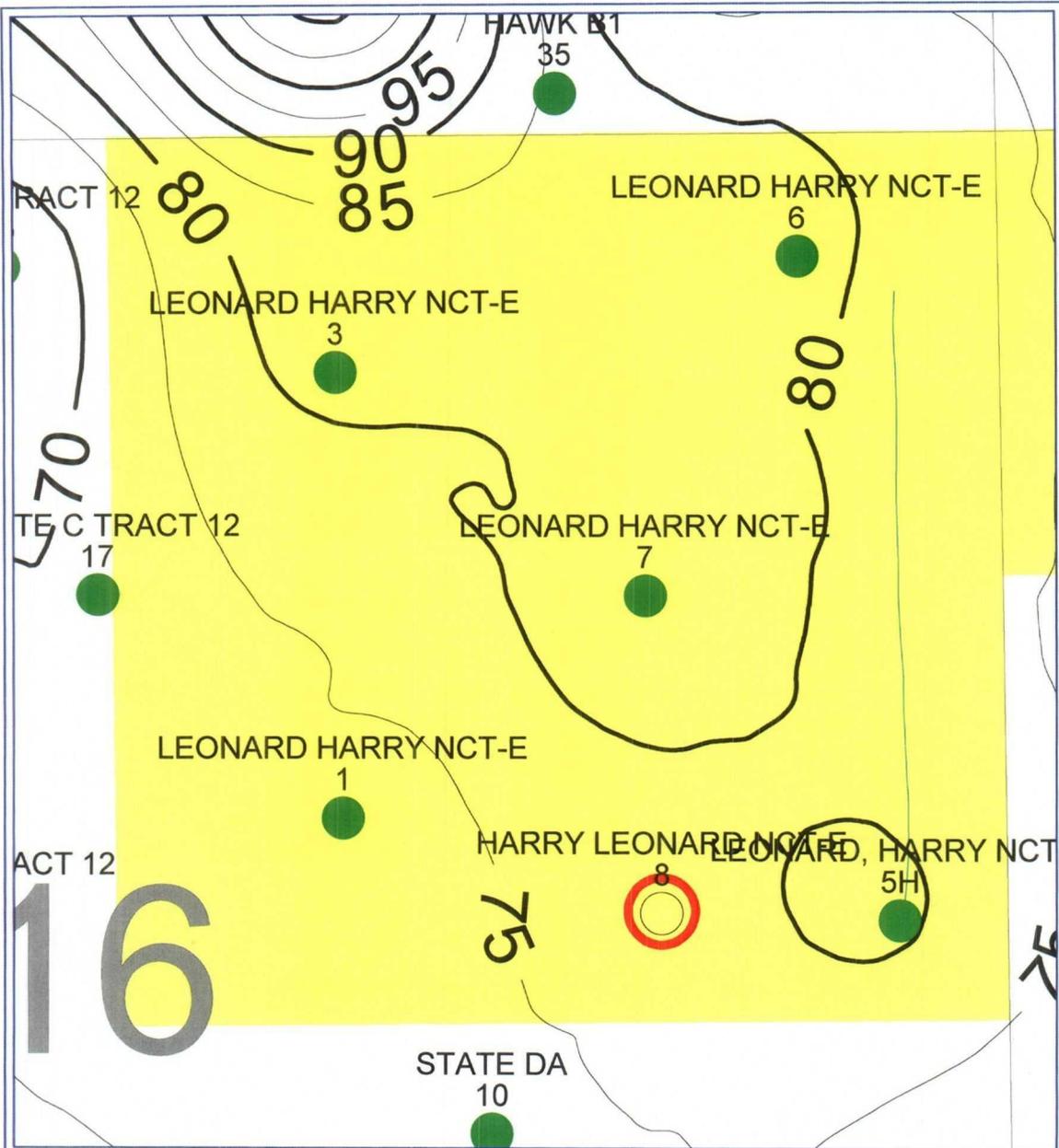
<sup>11</sup> Bottom Hole Location If Different From Surface

UL or Lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	16	21S	37E		330	North	330	East	Lea

<sup>12</sup> Dedicated Acres 40	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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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>17</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.</i></p> <p>Signature _____ George F. Pritchard</p> <p>Printed Name _____ Geologist</p> <p>Title _____ May 17, 2006</p>
	<p>18</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>Signature and Seal of Professional Surveyor: _____</p> <p>Certificate Number _____</p>



PETRA 5/31/2006 10:52:32 AM

# CHEVRON U.S.A.

## EXHIBIT 4

### PENROSE-SKELLY FIELD HARRY LEONARD #8

SEC 16, T21S-R37E, LEA CO. NEW MEXICO

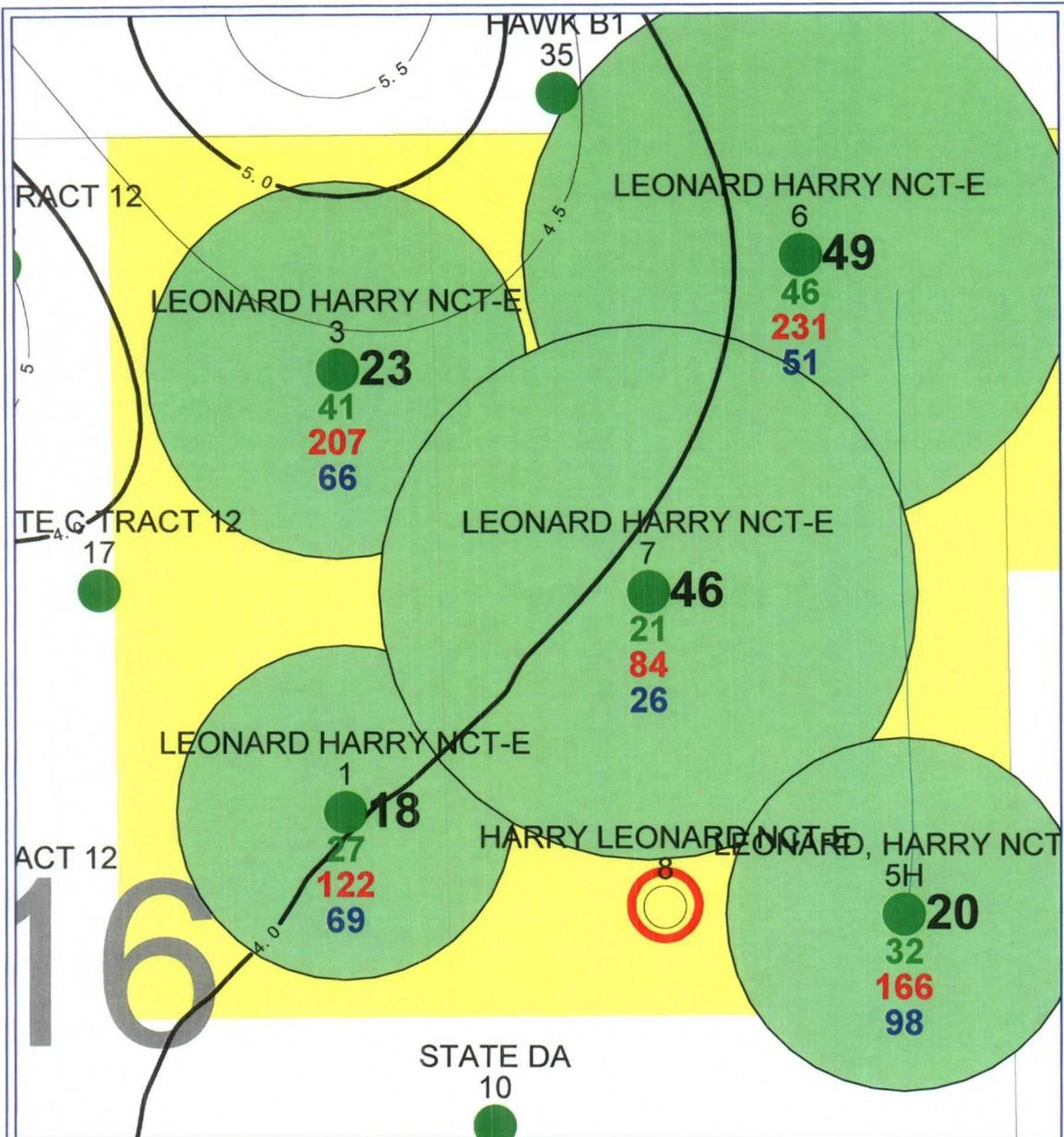
Grayburg Net Pay CI=5. [Gr<40, Por>6%]

#### POSTED WELL DATA

Well Name  
Well Number



May 31, 2006



PETRA 5/31/2006 10:57:57 AM

## CHEVRON U.S.A.

### EXHIBIT 5

#### PENROSE-SKELLY FIELD HARRY LEONARD #8

SEC 16, T21S-R37E, LEA CO. NEW MEXICO

Grayburg HCPV CI=0.5 & EUR - Drainage

#### POSTED WELL DATA

Well Name  
Well Number

● GFP\_GRAYBURG - EUR-GRAYBURG-ACRES[GFP]

GFP\_GRAYBURG - GRAYBURG-CUM\_OIL\_MBO[PI]  
GFP\_GRAYBURG - GRAYBURG-CUM\_GAS\_MMCF[PI]  
GFP\_GRAYBURG - GRAYBURG-CUM\_WATER\_MBO[PI]



May 31, 2006