

ABOVE THIS LINE FOR DIVISION USE ONLY

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



Chevron USA INC.  
Harry Leonard J#5  
5769

**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.

\_\_\_\_\_  
Sarah Rittenhouse  
Print or Type Name

Signature

\_\_\_\_\_  
Project Manager / Geologist  
Title

\_\_\_\_\_  
11/6/2007  
Date

\_\_\_\_\_  
Sarah.Rittenhouse@chevron.com  
e-mail Address



Sarah C. Rittenhouse  
Project Manager / Geologist

North America Upstream  
Midcontinent Business Unit  
11111 S. Wilcrest, Rm S1037  
Houston, Texas 77099  
Tel (281) 561-3773  
Fax (281) 561-3576  
sarah.rittenhouse@chevron.com

October 30, 2007

Request for Administrative Approval of  
Unorthodox Oil Well Location

Mr. Mark E. Fesmire  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

Dear Mr. Fesmire:

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

**Harry Leonard J #5**  
1200' FNL & 990' FEL, NE/4 NE/4 of  
Section 24, T21S, R36E, Unit Letter A  
Lea County, New Mexico

The proposed well will be an infill producer in the Penrose Skelly, Grayburg Pool [Pool Code 50350], which is an oil pool spaced on 40 acres. This well is a continuation of our 5 year infill drilling in the same Pool. Chevron's technical analysis of the reservoir still supports the contention that typical Grayburg wells cannot drain 40 acres.

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 is one well that has produced the Grayburg formation in the NE/4 of Section 24. The proposed well will be located in the approximate center point of the existing wells. Based on drainage calculations, Chevron 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 N/2 of Section 24 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.

RECEIVED  
2007 DEC 3 PM 1 29

October 30, 2007  
Page 2

If you have any questions concerning this application or need additional information, please contact me by phone at (281) 561-3773 or by email at [sarah.rittenhouse@chevron.com](mailto:sarah.rittenhouse@chevron.com). If I am not available, you can also reach Meilin Du by phone at (281) 561-3564 or by email at [meilin.du@chevron.com](mailto:meilin.du@chevron.com). Thank you for consideration of this matter.

Sincerely,



Sarah C. Rittenhouse  
Project Manager / Geologist

Attachments

cc: NMOCD District 1 – Hobbs, NM  
Michael Gelbs  
Sarah Rittenhouse  
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:

**Harry Leonard J #5**

1200' FNL & 990' FEL, NE/4 NE/4 of  
Section 24, T21S, R36E, Unit Letter A  
Lea County, New Mexico

**Offset Operators, Working Interest Owners, NE/4, NE/4 Section 24:**

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:

**Harry Leonard J #5**

1200' FNL & 990' FEL, NE/4 NE/4 of  
Section 24, T21S, R36E, Unit Letter A  
Lea County, New Mexico

**PRIMARY OBJECTIVE: GRAYBURG**

**SUPPORTING DATA:**

1. Chevron U.S.A. Inc. (Chevron) is the operator of the proposed Harry Leonard J #5 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	API #	Lease Name	Well #	Location	Formation	Cum Prod		Current Prod		Status
						BO	MCF	BOPD	MCFPD	
Whiting	30025202710001	GULF MATTERN A	1	24I 21S 36E	GRAYBURG	89791	1105321	2	18	Oil
Chevron	30025200880000	EUNICE COM	2	19 21S 37E	GRAYBURG	31246	653158	1	29	Oil
Chevron	30025047700001	H T MATTERN NCT A	3	24P 21S 36E	GRAYBURG	12702	949009	0	0	InactiveOil
Chevron	30025047690000	H T MATTERN NCT A	2	24J 21S 36E	GRAYBURG	74769	166794	0	0	InactiveOil
Chevron	30025047680000	HARRY LEONARD NCT J	1	24G 21S 36E	GRAYBURG	2793	0	0	0	InactiveOil

3. The proposed Harry Leonard J #5 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<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.

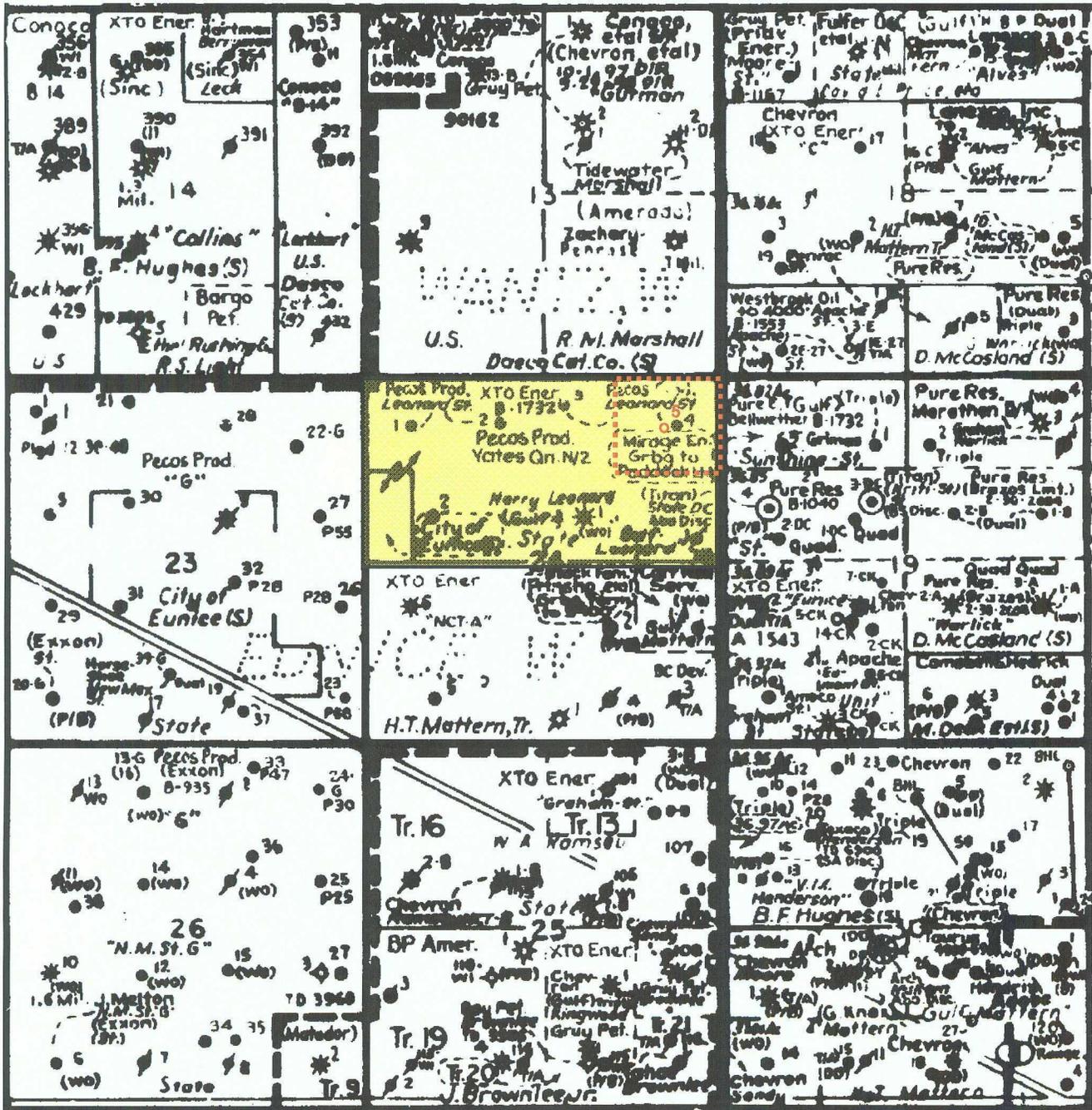
Operator	API #	Lease Name	Well #	Location	Formation	Drainage Acres	EUR	
							BO	MCF
Whiting	30025202710001	GULF MATTERN A	1	24I 21S 36E	GRAYBURG	11	91662	1122118
Chevron	30025200880000	EUNICE COM	2	19 21S 37E	GRAYBURG	4	33293	743566
Chevron	30025047700001	H T MATTERN NCT A	3	24P 21S 36E	GRAYBURG	2	12702	949009
Chevron	30025047690000	H T MATTERN NCT A	2	24J 21S 36E	GRAYBURG	9	74769	166794
Chevron	30025047680000	HARRY LEONARD NCT J	1	24G 21S 36E	GRAYBURG	0	2793	0
						5.2		

As seen above, the average drainage area of the offsetting locations is only 5.2 acres, and additional reserves can be recovered by drilling the proposed infill well at an approximate equidistant location from the existing offsetting producers. Reserves for the proposed location were calculated using the HCPV map, a 5 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 J 5	24-A	10.2	6	47	201

4. The NE/4 of the NE/4 of Section 24 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. Approval of this application will allow for the recovery of oil and gas reserves which would not otherwise be recovered.

# Exhibit 2



Chevron USA Inc. 

Harry Leonard J #5 (proposed)  
 1200 FNL & 990 FEL  
 Section 24, T21S-R36E  
 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 and Natural Resources Department

Form C-102

DISTRICT II  
1301 W. GRAND AVENUE, ARTESIA, NM 88210

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

Revised October 12, 2005  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

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

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>HARRY LEONARD J</b>	Well Number 5
OGRID No.	Operator Name <b>CHEVRON USA INC.</b>	Elevation 3528'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	24	21-S	36-E		1200	NORTH	990	EAST	LEA

Bottom Hole Location If Different From Surface

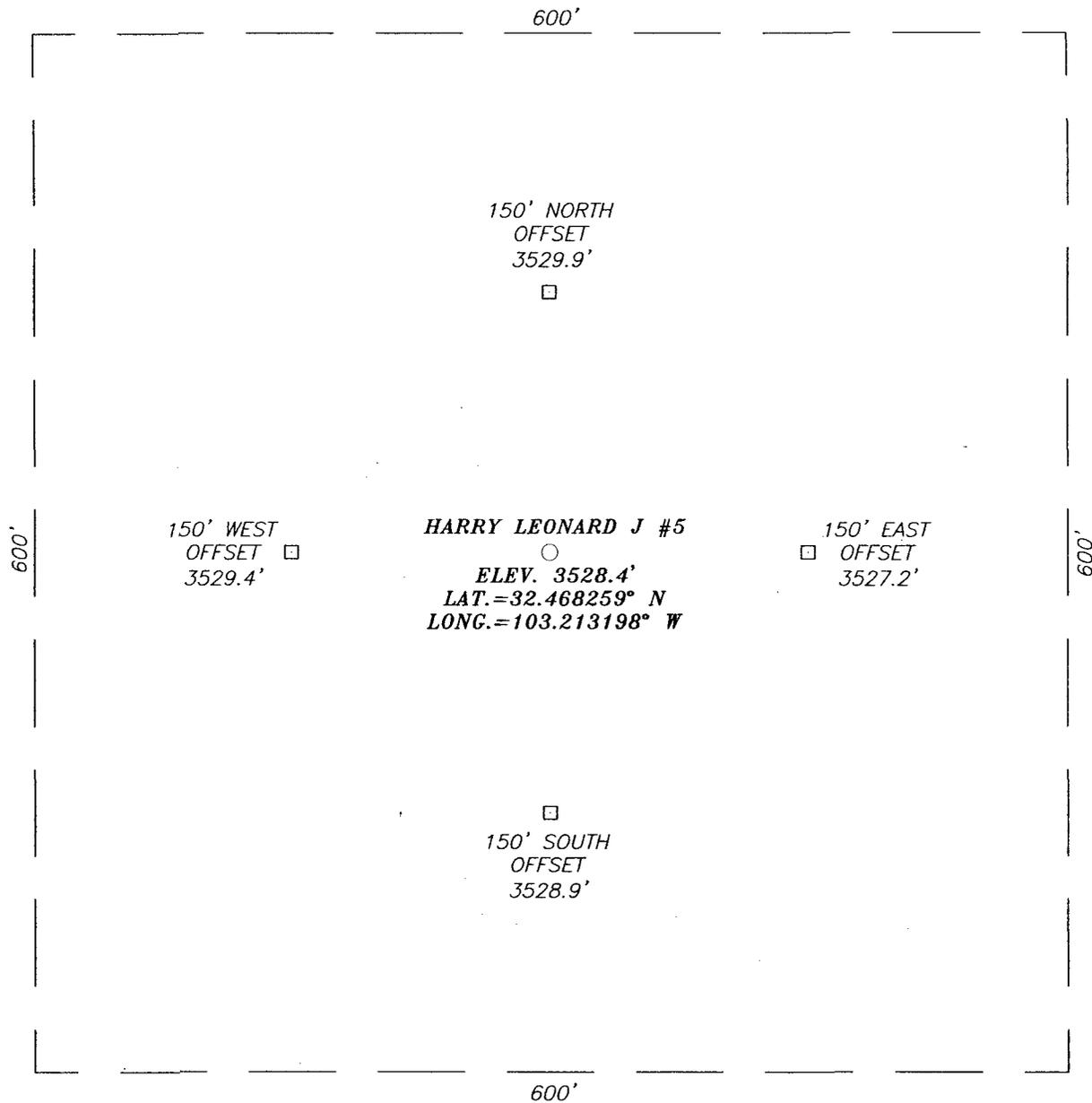
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

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

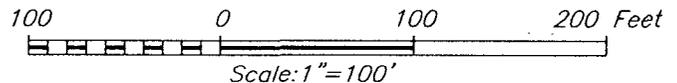
	<p><b>OPERATOR CERTIFICATION</b></p> <p><i>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a 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>GEODETIC COORDINATES NAD 27 NME</p> <p>Y=535879.1 N X=845469.1 E</p> <p>LAT.=32.468259° N LONG.=103.213198° W</p>
	<p>Date Surveyed _____</p> <p>Signature &amp; Seal of Professional Surveyor _____</p> <p><i>Ronald J. Eidson</i></p> <p>Certificate No. GARY G. EIDSON 12641 RONALD J. EIDSON 3239</p>

SECTION 24, TOWNSHIP 21 SOUTH, RANGE 36 EAST, N.M.P.M.,  
LEA COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF STATE HWY. #8 AND S. LEGION RD. (CO. RD. #E-33) GO WEST ON STATE HWY. #8 APPROX. 2.4 MILES. TURN RIGHT AND GO NORTH APPROX. 1.15 MILES. THIS LOCATION IS NORTHEAST APPROX. 400 FEET.



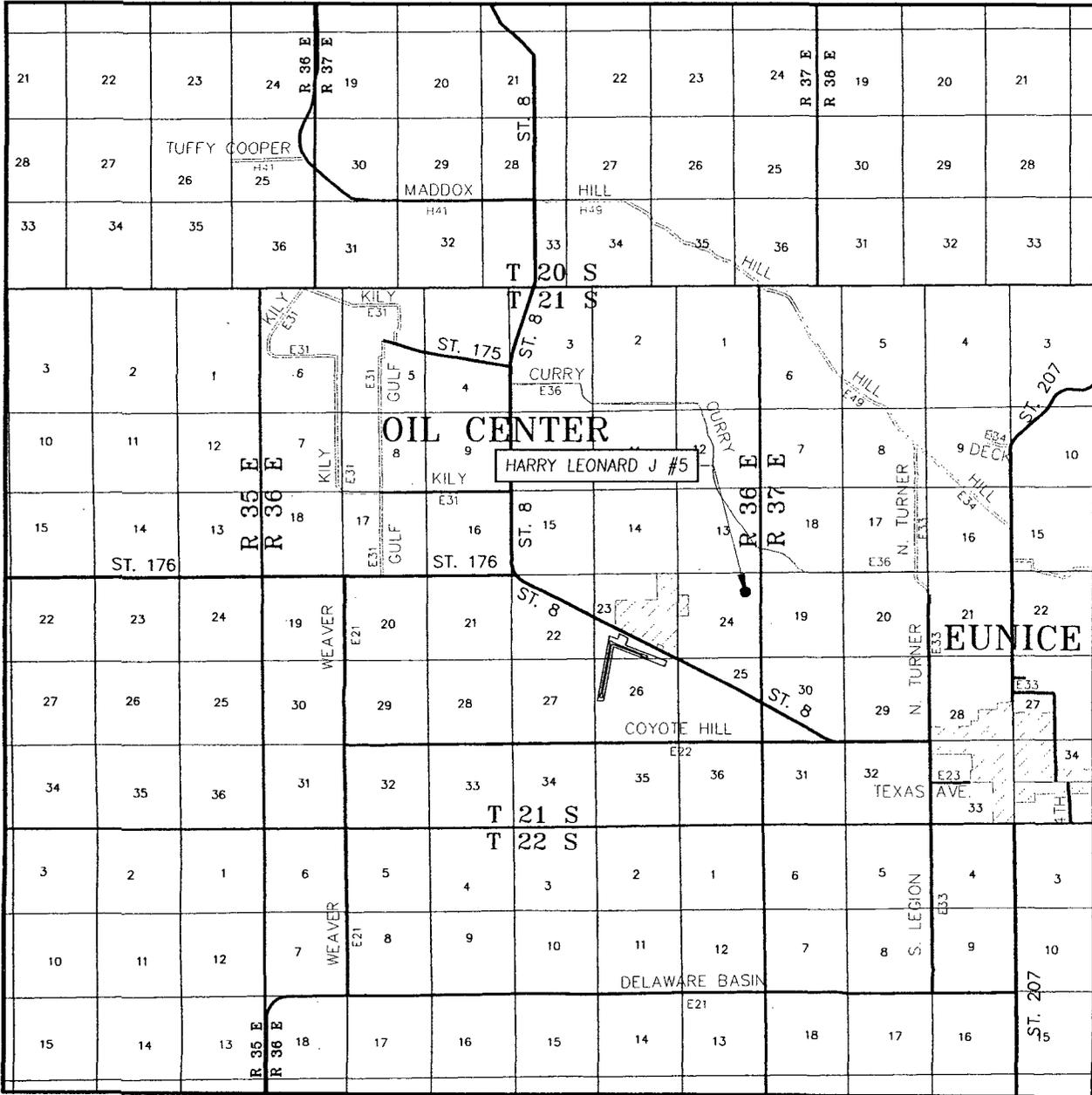
**CHEVRON USA INC.**

HARRY LEONARD J #5 WELL  
LOCATED 1200 FEET FROM THE NORTH LINE  
AND 990 FEET FROM THE EAST LINE OF SECTION 24,  
TOWNSHIP 21 SOUTH, RANGE 36 EAST, N.M.P.M.,  
LEA COUNTY, NEW MEXICO.

Survey Date: 10/10/07		Sheet 1 of 1 Sheets	
W.O. Number: 07.11.1319		Dr By: DSS	Rev 1:N/A
Date: 10/16/07	Disk: .	07111319	Scale: 1"=100'

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

# VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 24 TWP. 21-S RGE. 36-E

SURVEY \_\_\_\_\_ N.M.P.M.

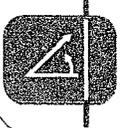
COUNTY LEA STATE NEW MEXICO

DESCRIPTION 1200' FNL & 990' FEL

ELEVATION 3528'

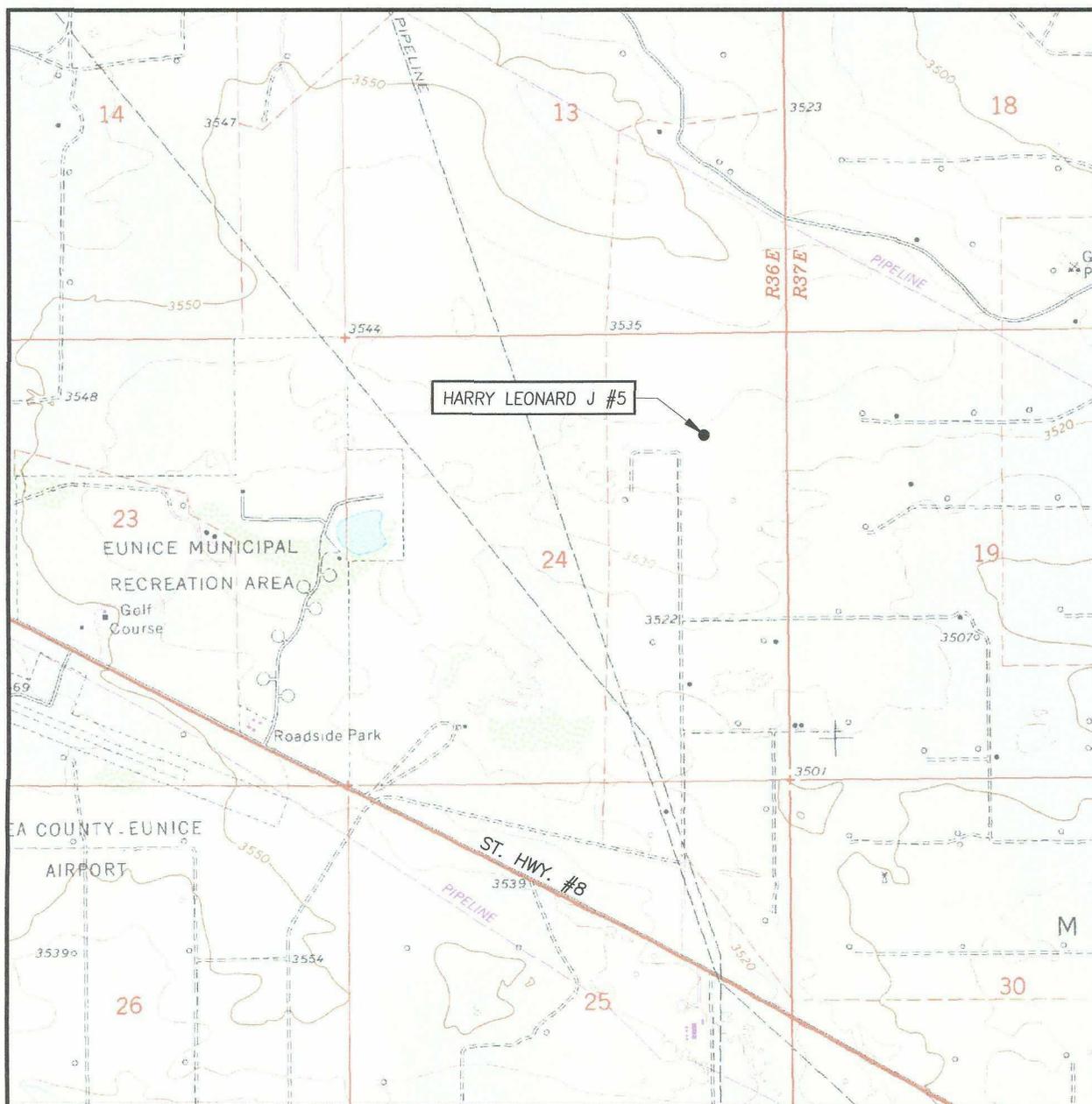
OPERATOR CHEVRON USA INC.

LEASE HARRY LEONARD J



**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. 24 TWP. 21-S RGE. 36-E

SURVEY \_\_\_\_\_ N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 1200' FNL & 990' FEL

ELEVATION 3528'

OPERATOR CHEVRON USA INC.

LEASE HARRY LEONARD J

U.S.G.S. TOPOGRAPHIC MAP

EUNICE, N.M.



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

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 3.1

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number		<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 J			<sup>6</sup> Well Number 5
<sup>7</sup> OGRID No.		<sup>8</sup> Operator Name Chevron U.S.A., Inc.			<sup>9</sup> Elevation 3528

<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
A	24	21S	36E		1200	North	990	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>40-acre proration unit</p> <p>1200'</p> <p>990'</p> <p>4</p> <p>5</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><i>Sarah C. Rittenhouse</i></p> <p>Signature _____</p> <p>Printed Name <b>Sarah C. Rittenhouse</b></p> <p>Title <b>Geologist</b></p> <p><b>November 1, 2007</b></p>

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 3.1

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number		<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 J				<sup>6</sup> Well Number 5	
<sup>7</sup> OGRID No.		<sup>8</sup> Operator Name Chevron U.S.A., Inc.				<sup>9</sup> Elevation 3528	

<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
A	24	21S	36E		1200	North	990	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	Harry Leonard J Lease	24		17
				<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><i>Sarah C. Rittenhouse</i> Signature Sarah C. Rittenhouse Printed Name <b>Geologist</b> Title <b>November 1, 2007</b> Date</p>
18				<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>
				Certificate Number



PETRA 11/27/2007 8:43:31 AM



**Chevron U.S.A. Inc.**

**EXHIBIT 4**

Penrose-Skelly Field Harry Leonard J 5

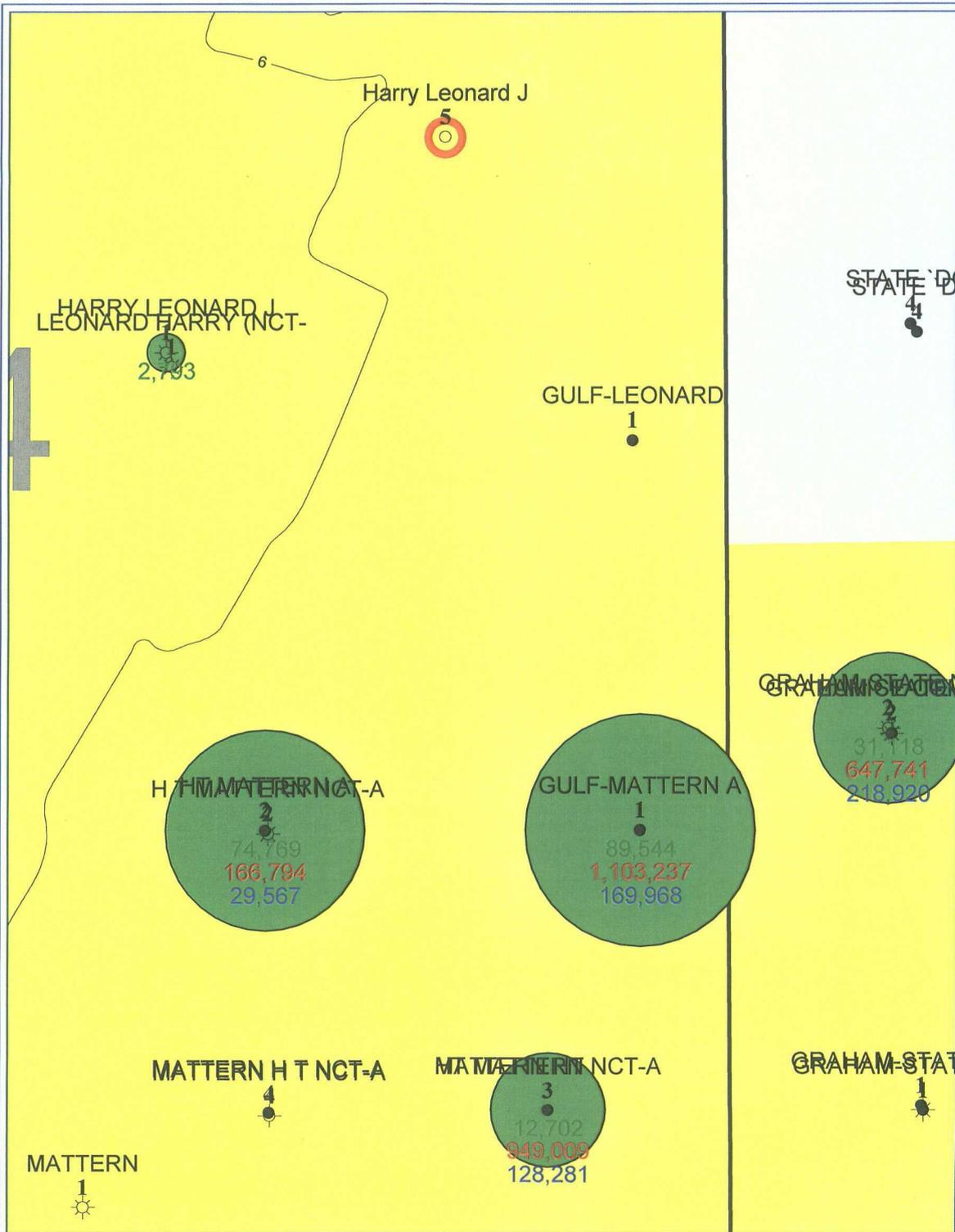
Sec 24, T21S-36E, Lea CO. New Mexico

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

POSTED WELL DATA

Well Name  
Well Number





PETRA 11/28/2007 8:32:30 AM



**Chevron U.S.A. Inc.**

**EXHIBIT 5**

Penrose Skelly Field Harry Leonard J 5

Sec 24, T21S-36E, Lea CO, New Mexico

Grayburg HCPV CI=0.5 & EUR - Drainage

POSTED WELL DATA

Well Name  
Well Number

PRODUCTION - O\_GRAYBURG  
PRODUCTION - G\_GRAYBURG  
PRODUCTION - W\_GRAYBURG

0 558