

DATE IN <b>4/26/00</b>	SUSPENSE <b>5/17/00</b>	ENGINEER <b>MS</b>	LOGGED BY <b>KV</b>	TYPE <b>NSL</b>
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ABOVE THIS LINE FOR DIVISION USE ONLY

## NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

### 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

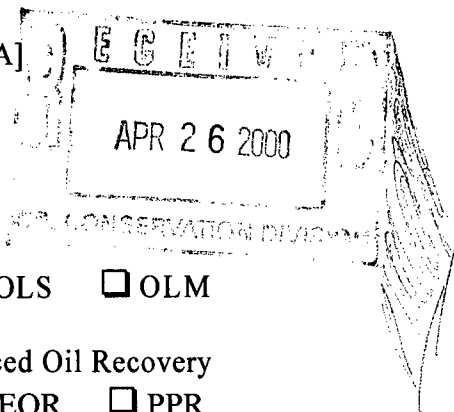
Check One Only for [B] and [C]

[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.

Kay Maddox  
 Print or Type Name

Signature

Regulatory Agent  
 Title

4/24/00  
 Date



**Mid-Continent Region**  
Exploration/Production

**Conoco Inc.**  
10 Desta Drive, Suite 100W  
Midland, TX 79705-4500  
(915) 686-5400

April 24, 2000

Mr. Michael Stogner  
New Mexico Oil Conservation Division  
2040 Pacheco  
Santa Fe, NM 87504

RE: Application For Unorthodox Location  
North Hardy Strawn Pool (96893)

**State "KL" 36 #29 New Drill**  
Section 31, T-20-S, R-38-E, C  
2310' FWL & 330' FNL  
API # 30-025-34999  
Lea County, New Mexico

Dear Mr. Stogner,

Conoco, Inc respectfully requests your approval of this administrative application for a non-standard location order for the above listed well.

The North Hardy Strawn pool rules state that a standard location is 660' from the outer boundary of the 160 acre proration unit. The State "KL" 36 #29 is 330' FNL & 2310' FWL. The well is staked at an unorthodox location. Please reference attached C-102 plat.

The Strawn play in this area is based on a 3-D seismic interpretation that has meticulously defined the thickest porosity zones. As evidenced by drilling and completing the Hardy State 36 #26, #27, #21, #1, SEMU # 134 and the unsuccessful Strawn completion of the # 135 it is evident that proximity to thick porosity zones is imperative to the location of new drilling prospects. Based on log correlations, stratigraphy is also a major component of porosity development. The stratigraphy coordinated with the structural trend defines a very small area in which to locate the well. Conoco, Inc feels that the placement of the above listed unorthodox well will not compromise the validity of the scientific data that resulted in the proposal to drill the well. Scientific data i.e. seismic line and structural map encompassing this area was submitted to the New Mexico Oil Conservation, May 1999 during the hearing to establish the North Hardy Strawn pool. The data submitted substantiates Conoco's belief that a standard location for this well would result in an unsuccessful Strawn well completion. Conoco, Inc believes that the proposed unorthodox location is strategically staked where the good porosity development of the Strawn reservoir lies on trend with structure.

State 36 "KL" #29 Exhibit 2

This location was chosen as a western extension of the productive zone within the Strawn in the Hardy 36 State #26 well. The seismic line (Exhibit 2) is located in a north south orientation through the proposed location. This seismic line shows the Strawn to Devonian section as the interval between the yellow and purple picks. This location was chosen to be as structurally high as possible. As illustrated by the blue line on the seismic line, if the location was moved south 330' to be standard for the North Hardy - Strawn pool, the well would be drilled considerably off the structural crest. The Strawn section thins both north and south of the proposed location. This

location was also chosen to encounter a thick section of Strawn. Based on other productive wells in the Strawn, the discontinuous nature of the seismic peak (blue) within the Strawn section at about 1050 milliseconds (indicated by the black arrows) is the area where porosity is developed. In summary this location was chosen to be: 1) high on structure, 2) encounter a thick section of Strawn and 3) encounter the Strawn where it appears discontinuous.

#### **Additional Geologic Data Requested:**

The Strawn reservoir in the Hardy area is a complex reservoir. Several techniques are used to locate wells and these indicators do not always coincide. Structural position, thickness of reservoir, seismic character and subareal exposure all appear to be important in the development of reservoir rocks within the Strawn. The geologic and geophysical model is being refined as wells are drilled and new data collected. Four maps are enclosed which demonstrate Conoco's current understanding of the Strawn.

#### **Exhibit 3 – Strawn Depth Map**

This map was generated by using the 3D seismic and the available well control is used to constrain the depth conversion. The white dots are the existing Strawn penetrations. The larger pink dots are the proposed Strawn locations. This map is contoured at a 50 foot contour interval.

#### **Exhibit 4 – Strawn Residual Map**

This map is generated from the 3D data. The Top Strawn depth map was regridded using a 4000 foot grid cell size. This regional trend grid was subtracted from the Top Strawn depth map (160 foot grid cell size) and the resulting 'residual' indicates where the Strawn may have been exposed to erosion and therefore more porosity generated. The red contour (zero value) is where the two grids intersect. The yellow and light green colors (negative values) are where the Strawn would have been high and exposed to erosion. The positive values (green to blue colors) would have been low during a period of erosion and therefore little or no porosity would have been developed.

#### **Exhibit 5 – Strawn to Devonian Isopach Map**

This map was generated from the 3D seismic. It is the difference between the Devonian and Strawn depth maps. The thins are the red to yellow colors and the greens and blues are the thicker section of Strawn.

#### **Exhibit 6 – Time Slice of Coherency Data**

This map is generated from the 3D seismic data. The coherency process compares each adjacent seismic trace for similarity. Similar traces are plotted in black and traces which are not similar are in shades of gray. Any white traces indicate very little similarity between the traces. The discontinuous nature of the Strawn may be an indication of algal mounds. The Strawn reservoir appears to be limited by the black event to the south of the map and it becomes less distinct to the east. The red line indicates the current interpretation of the limit of the reservoir.

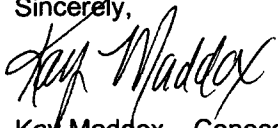
#### **State "KL" 36 #29**

This well location was chosen to be close to the isolated structural crest, residual thin and Strawn thick to the west of the Hardy 36 #26 well.

Conoco owns 100% of the 160 acre proration unit in Section 36, T-20-S, R-37-E. The well will be an unorthodox location encroaching on the NMFU acreage to the North (Section 25, T-20-S, R-37-E) in which Chevron and Atlantic Richfield each have a 25% interest. An agreement was signed between Chevron, Atlantic Richfield and Conoco. The agreement is that Conoco has agreed to drill a twin well on the encroached 160 acre proration unit (State 25-A #3) before drilling the State "KL" 36 #29. Based on this agreement Chevron and Atlantic Richfield have both signed waivers to objections to the proposed unorthodox location to be drilled on Conoco's 100% acreage. (See attached).

Conoco, Inc. respectfully requests that a non-standard location order be granted for the State "KL" 36 #29. If any additional information is required please call me at (915) 686-5798.

Sincerely,

A handwritten signature in cursive script that reads "Kay Maddox". The signature is written in black ink and is positioned above the printed name and title.

Kay Maddox – Conoco, Inc.  
Regulatory Agent



Mid-Continent Region  
Exploration/Production

Conoco Inc.  
10 Desta Drive, Suite 100W  
Midland, TX 79705-4500  
(915) 686-5400

April 13, 2000

Atlantic Richfield Company  
Mr. Lee Scarborough  
P.O. Box 1610  
Midland, TX 79702

Chevron U.S.A. Production Company  
Mr. James Baca  
P.O. Box 36366  
Houston, TX 77236

RE: Letter Agreement/Waiver  
State "KL" 36 #29  
State 25-A #3  
Lea County, NM

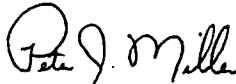
Gentlemen:

Atlantic Richfield Company ("ARCO") and Chevron U.S.A. Production Company ("Chevron"), as offset lease owners, hereby agree to waive any objections they may have to Conoco Inc. ("Conoco") drilling its 100% owned State "KL" 36 #29 well to the Strawn formation at an unorthodox location 330' FNL and 2310' FWL of Section 36, T20S-R37E, Lea County, New Mexico, pursuant to the following terms and conditions.

In return for such a waiver, Conoco, (i) as a co-venturer with ARCO and Chevron, agrees to drill, and test as necessary, the State 25-A #3 well to the Strawn formation at a similarly unorthodox location 330' FSL and 2310' FWL of Section 25, T20S-R37E, Lea County, New Mexico. Said well will be drilled prior to Conoco drilling its State "KL" 36 #29 well. Conoco agrees to drill, operate and produce the State 25-A #3 well as a prudent operator so as to, as nearly as possible, protect all parties from material drainage due to the unorthodox location of its State "KL" 36 #29 well; and (ii) as the offset Section 36 lease owner to said Section 25 well, agrees to waive any objections to the drilling and location of said well in Section 25 by Conoco, Chevron and ARCO as provided herein.

If this document meets with your understanding of our agreement, please so indicate by signing in the appropriate space below and returning one copy of this letter to the undersigned at the letterhead address. If you have any questions, please contact Mr. Charles Rule at 915-686-6512.

Very truly yours,  
CONOCO INC.

  
Peter J. Miller  
Asset Manager *cr*

April 13, 2000

ARCO Permian  
Mr. Lee Scarborough  
P.O. Box 1610  
Midland, TX 79702

Chevron U.S.A. Production Company  
Mr. James Baca  
P.O. Box 36366  
Houston, TX 77236

RE: Letter Agreement/Waiver  
State "KL" 36 #29  
State 25-A #3  
Lea County, NM

Gentlemen:

ARCO Permian ("ARCO") and Chevron U.S.A. Production Company ("Chevron"), as offset lease owners, hereby agree to waive any objections they may have to Conoco Inc. ("Conoco") drilling its 100% owned State "KL" 36 #29 well to the Strawn formation at an unorthodox location 330' FNL and 2310' FWL of Section 36, T20S-R37E, Lea County, New Mexico, pursuant to the following terms and conditions.

In return for such a waiver, Conoco(i) as a co-venturer with ARCO and Chevron, agrees to drill, and test as necessary, the State 25-A #3 well to the Strawn formation at a similarly unorthodox location 330' FSL and 2310' FWL of Section 25, T20S-R37E, Lea County, New Mexico. Said well will be drilled prior to Conoco drilling its State "KL" 36 #29 well. Conoco agrees to drill, operate and produce the State 25-A #3 well as a prudent operator so as to, as nearly as possible, protect all parties from material drainage due to the unorthodox location of its State "KL" 36 #29 well; and (ii) as the offset Section 36 lease owner to said Section 25 well agrees to waive any objections to the drilling and location of said well in Section 25 by Conoco, Chevron and Arco as provided herein.

If this document meets with your understanding of our agreement, please so indicate by signing in the appropriate space below and returning one copy of this letter to the undersigned at the letterhead address. If you have any questions, please contact Mr. Charles Rule at 915-686-6512.

Very truly yours,  
CONOCO INC.

Peter J. Miller  
Asset Manager

ACCEPTED and AGREED to this \_\_\_\_\_ day of \_\_\_\_\_, 2000.

ARCO PERMIAN

By: \_\_\_\_\_  
Title: \_\_\_\_\_

ACCEPTED and AGREED to this \_\_\_\_\_ day of \_\_\_\_\_, 2000.

CHEVRON U.S.A. PRODUCTION COMPANY, A  
DIVISION OF CHEVRON U. S. A. INC.

By: Margaret  
Title: Asset Manager - Don. Operated Joint Ventures

ACCEPTED and AGREED to this 20<sup>th</sup> day of April, 2000.

April 13, 2000  
Letter Agreement  
Page 2

ACCEPTED and AGREED to this 27<sup>th</sup> day of APRIL, 2000.

ATLANTIC RICHFIELD COMPANY

By: [Signature]

Title: LAND MAN

ACCEPTED and AGREED to this \_\_\_\_\_ day of \_\_\_\_\_, 2000.

CHEVRON U.S.A. PRODUCTION COMPANY

By: \_\_\_\_\_

Title: \_\_\_\_\_

**District I**  
PO Box 1980, Hobbs. NM 88241-1980

**District II**  
PO Drawer DD, Artesia, NM 88211-0719

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

District IV  
PO Box 2088, Santa Fe. NM 87504-2088

**State of New Mexico**  
**Energy, Minerals & Natural Resources Department**

## OIL CONSERVATION DIVISION

PO Box 2088  
Santa Fe, NM 87504-2088

Revised February 21, 1994  
instructions on back  
o Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

# WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-34999		2 Pool Code 96893	3 Pool Name North Hardy Strawn	
4 Property Code	5 Property Name State "KL" 36			6 Well Number #29
7 OGRID No. 005073	8 Operator Name Conoco Inc., 10 Desta Drive, Ste. 100W, Midland, TX 79705-4500			9 Elevation 3504'

## 10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	36	20S	37E		330'	North	2310'	West	Lea

## 11 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
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12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
160			

**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**

## 17 OPERATOR CERTIFICATION

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

  
Signature Kay Maddox

Printed Name **Regulatory Agent**

Title	April 25, 2000
-------	----------------

Date \_\_\_\_\_

## 18 SURVEYOR CERTIFICATION

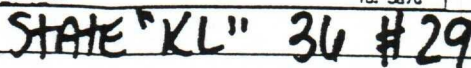
*I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.*

Date of Survey \_\_\_\_\_  
Signature and Seal of Professional Surveyor: \_\_\_\_\_

**Certificate Number**



T20S R37E

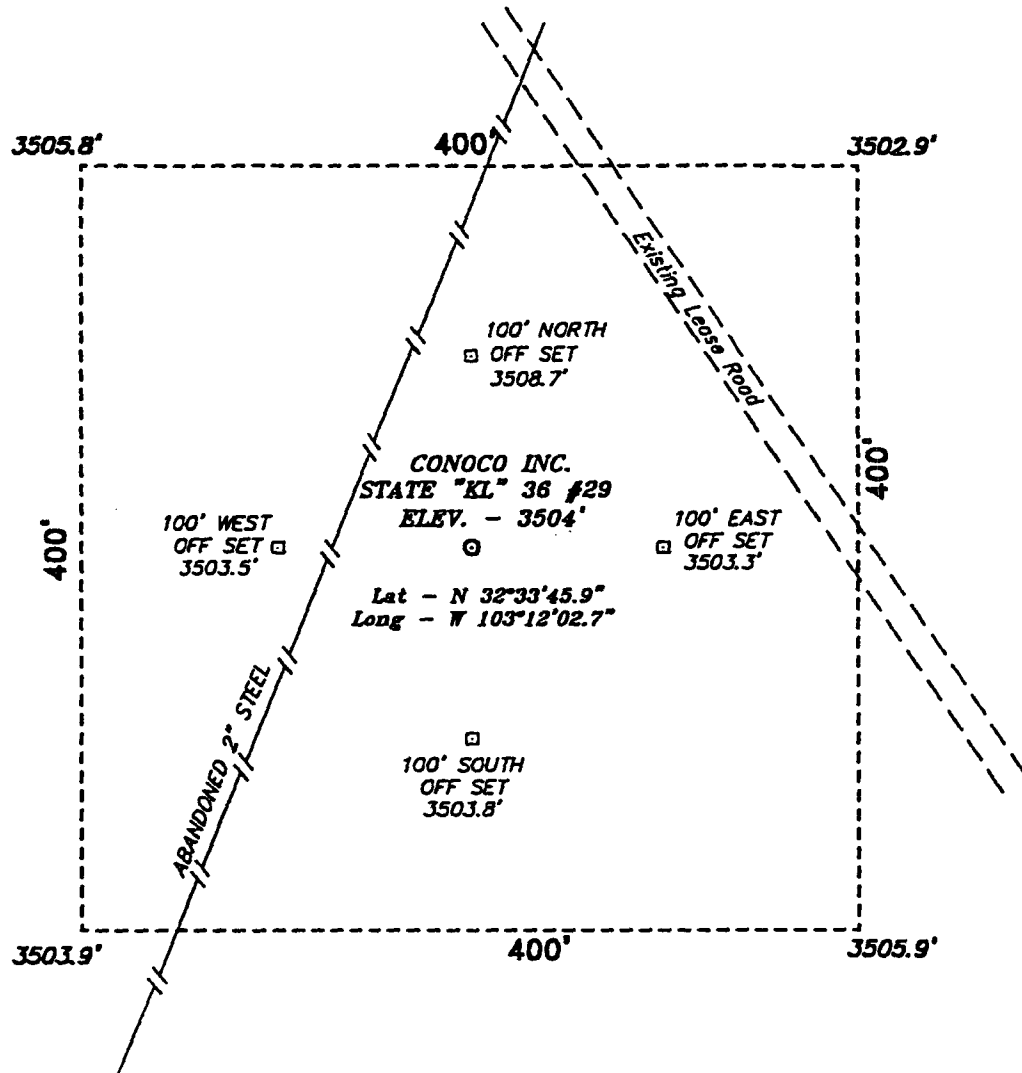


EUMONT HARDY UNIT  
PERMIAN RESOURCES - OPERATOR  
Shallow Rights Only To Penrose Grayburg

- STATE PLANE COORDINATES REFERENCE  
NAD27 - 3001  
STATE PLANE COORDINATES



SECTION 36, TOWNSHIP 20 SOUTH, RANGE 37 EAST, N.M.P.M.,  
LEA COUNTY, NEW MEXICO.



**DIRECTIONS TO WELL LOCATION:**

FROM JUNCTION NORTH LOOP 18 AND STATE HWY. 18,  
GO GO SOUTHWEST ON LOOP 18 APPROX. 3.5 MILES TO  
COUNTY ROAD C-34; THENCE NORTHWEST ON C-34  
APPROX. 4 MILES TO A POINT WHICH LIES APPROX. 1  
MILE SOUTH OF THE PROPOSED WELL LOCATION.

**BASIN SURVEYS** P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 0198

Drawn By: K. GOAD

Date: 04-03-2000

Disk: KJG #122 - 0198A.DWG

**Conoco Inc.**

REF: STATE "KL" 36 No. 29 / Well Pad Topo

THE STATE "KL" 36 No. 29 LOCATED 330' FROM THE  
NORTH LINE AND 2310' FROM THE WEST LINE OF  
SECTION 36, TOWNSHIP 20 SOUTH, RANGE 37 EAST,  
N.M.P.M., LEA COUNTY, NEW MEXICO.

Survey Date: 03-30-2000

Sheet 1 of 1 Sheets