



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**GARY E. JOHNSON**  
Governor  
**Jennifer A. Salisbury**  
Cabinet Secretary

September 26, 2001

**Lori Wrotenbery**  
Director  
Oil Conservation Division

**Occidental Permian Limited Partnership**  
**c/o W. Thomas Kellahin**  
**P. O. Box 2265**  
**Santa Fe, New Mexico 87504-2265**

**Telefax No. (505) 982-2047**

**Administrative Order NSL-4646(BHL)**

Dear Mr. Kellahin:

Reference is made to the following: (i) your application submitted to the New Mexico Oil Conservation Division ("Division") on August 20, 2001 (*applicant reference No. pKRV0-123347033*) filed on behalf of the operator Occidental Permian Limited Partnership ("OXY"); (ii) the Division's initial response by letter dated August 22, 2001 from Mr. Michael E. Stogner, Engineer/Hearing Officer in Santa Fe requesting proof of notice pursuant to Division Rule 1207.A (2); (iii) your telefaxed response with the necessary attachments of August 29, 2001; and (iv) the records of the Division in Santa Fe, including the file on Division Orders No. R-4924, R-4934, as amended, R-6198, as amended, and R-6199, as amended: all concerning OXY's request to directionally drill the following two described wells to unorthodox subsurface oil well locations along the "lease-line" that separates OXY's North Hobbs Grayburg-San Andres Unit and South Hobbs Grayburg-San Andres Unit Pressure Maintenance Projects within the Hobbs-Grayburg San Andres Pool (31920) in Township 18 South, Range 38 East, NMPM, Lea County, New Mexico:

Well Name and Number	API Number	Footage Location [Surface Location _____ (Proposed Targeted Bottomhole Location)]	Unit	Section	Dedicated 40- Acre Tract
<i>South Hobbs (GSA) Unit Well No. 244</i>	<i>N/A</i>	<i>2246' FNL &amp; 597' FWL _____ (2006' FNL &amp; 67' FWL)</i>	<i>E — E</i>	<i>34 — 34</i>	<i>SW/4 NW/4</i>
<i>North Hobbs G/SA Unit Well No. 843</i>	<i>N/A</i>	<i>1933' FSL &amp; 294' FEL _____ (1409' FSL &amp; 740' FEL)</i>	<i>I — I</i>	<i>33 — 33</i>	<i>NE/4 SE/4</i>

## The Division Director Finds That:

- (1) OXY is the operator of the North Hobbs Grayburg-San Andres Unit Pressure Maintenance Project, established by Division Order No. R-6199, as amended. This secondary recovery project and corresponding North Hobbs Grayburg-San Andres Unit Area (see Division

Order No. R-6198, as amended) comprise the following described 10,649.53 acres, more or less, in Lea County, New Mexico:

TOWNSHIP 18 SOUTH, RANGE 27 EAST, NMPM

Section 13: W/2 and SE/4  
Section 14: All  
Sections 23 through 25: All  
Section 26: N/2 NE/4 and SE/4 NE/4  
Section 36: E/2 and E/2 NW/4

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM

Section 17: S/2 NW/4 and SW/4  
Section 18: NE/4 and S/2  
Sections 19 and 20: All  
Section 21: SW/4, NW/4 SE/4, and S/2 SE/4  
Sections 27 through 32: All  
Section 33: N/2, SW/4, N/2 SE/4, and SW/4 SE/4  
Section 34: E/2 and E/2 NW/4;

- (2) OXY is also the operator of the South Hobbs Grayburg-San Andres Unit Pressure Maintenance Project, established by Division Order No. R-4934, as amended. This enhanced recovery project and corresponding South Hobbs Grayburg-San Andres Unit Area currently comprises the following described 4913.74 acres, more or less, in Lea County, New Mexico:

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM

Section 33: SE/4 SE/4  
Section 34: W/2 NW/4 and SW/4

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM

Sections 3 through 5: All  
Section 6: E/2 NE/4, N/2 NW/4, and N/2 SE/4  
Section 8: N/2 NW/4, NE/4, and N/2 SE/4  
Section 9: N/2, N/2 SW/4, and SE/4  
Section 10: All  
Section 11: SW/4 SW/4  
Section 14: W/2 NW/4  
Section 15: All  
Section 16: NE/4 NE/4;

- (3) Currently, the Hobbs Grayburg-San Andres Pool is subject to the statewide rules and regulations for oil wells, as promulgated by Division Rules 104.B (1) and 104.F (1), revised by Division Order No. R-11231, issued by the New Mexico Oil Conservation Commission in Case No. 12119 on August 12, 1999, which provides for 40-acre oil spacing and proration units and requires that wells be located no closer than the required minimum distance to the

outer boundary of the lease or unitized area (pressure maintenance/waterflood project area), in this case 330 feet, nor closer than 10 feet to any quarter-quarter section line or subdivision inner boundary;

- (4) Both secondary recovery projects contain special provisions, which were approved prior to the adoption of the above-described statewide rule, that: (i) reflect the "10" foot provision; and (ii) affords an administrative approval process for wells at unorthodox oil well locations along this common "lease-line", provided however a signed agreement by "both operators" is attached, or the affected operator waives objection in writing [These special provisions were promulgated at a time when both projects were operated different operators (Amoco Production Company and Shall Oil Company)];
- (5) Pursuant to Division Rule 1207.A (2) (a) 3, revised by Division Order No. R-11205, issued by the New Mexico Oil Conservation Commission in Case No. 12177 on June 17, 1999, OXY, as operator of both projects, provided notice to all working interest owners in both projects;
- (6) Further, the subject application has been duly filed under the provisions of Division Rules 104.F and 111.C (2), and the applicable provisions contained in the special operating provisions for both projects;
- (7) The two proposed wells will serve to benefit both pressure maintenance projects by allowing for the completion of an efficient and effective production/injection pattern within this portion of the pool along this common boundary line; and
- (8) Approval of this application is in the best interest of conservation, will serve to prevent waste, protects correlative rights, exhibits sound engineering practices, and should allow for the recovery of additional reserves that might not otherwise be produced.

**It Is Therefore Ordered That:**

(1) By the authority granted me under the provisions of Division Rule 104.F (2), Occidental Permian Limited Partnership ("OXY"), as operator of both the North Hobbs Grayburg-San Andres Unit and South Hobbs Grayburg-San Andres Unit Pressure Maintenance Projects within the Hobbs-Grayburg San Andres Pool (31920) in Lea County, New Mexico, is hereby authorized to directionally drill the following two described wells to unorthodox subsurface oil well locations along the "lease-line" that separates both projects in Township 18 South, Range 38 East, NMPM:

Well Name and Number	API Number	Footage Location [Surface Location _____ (Proposed Targeted Bottomhole Location)]	Unit	Section	Dedicated 40- Acre Tract
<i>South Hobbs (GSA) Unit Well No. 244</i>	<i>N/A</i>	<i>2246' FNL &amp; 597' FWL</i> _____	<i>E</i>	<i>34</i>	<i>SW/4 NW/4</i>
		<i>(2006' FNL &amp; 67' FWL)</i>	<i>E</i>	<i>34</i>	
<i>North Hobbs G/SA Unit Well No. 843</i>	<i>N/A</i>	<i>1933' FSL &amp; 294' FEL</i> _____	<i>I</i>	<i>33</i>	<i>NE/4 SE/4</i>
		<i>(1409' FSL &amp; 740' FEL)</i>	<i>I</i>	<i>33</i>	

(2) These two wells shall be governed by all applicable provisions of Division Rules 702 through 706, Rule 111, and the rules and procedures governing both secondary recovery projects.

(3) Jurisdiction of this matter shall be further retained for the entry of any such subsequent orders, as the Division may deem necessary.

Sincerely,



Lori Wrotenbery  
Director

LW/MES/kv

cc: New Mexico Oil Conservation Division - Hobbs  
New Mexico State Land Office - Santa Fe

DATE 8/20/01	ENGINEER MS	LOGGED IN W	TYPE NSL	APP NO. 123347033
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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.

Richard E. Foppiano  
Print or Type Name

Richard E. Foppiano  
Signature

Sr. Advisor - Reg Affairs  
Title

8/15/01  
Date

Rick\_Foppiano@oxy.com  
e-mail Address

01 AUG 20 PM 4:10

RECEIVED



**Occidental Permian Ltd.**

**Occidental Permian Ltd.**

580 Westlake Park Blvd.  
P.O. Box 4294, Houston, TX 77210-4294  
Phone 281-552-1000 Fax 281-552-1200

August 15, 2001

New Mexico Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

Attention: Mr. Michael E. Stogner

Re: *Application of Occidental Permian Limited Partnership for Unorthodox Well Location*  
*North Hobbs G/SA Unit, Well #843*  
*Surface Location: 1933 FSL & 294 FEL of 33-T18S-R38E*  
*Bottomhole Location: 1409 FSL & 740 FEL of 33-T18S-R38E*  
*South Hobbs (GSA) Unit, Well # 244*  
*Surface Location: 2246 FNL & 597 FWL of 34-T18S-R38E*  
*Bottomhole Location: 2006 FNL & 67 FWL of 34-T18S-R38E*  
*Hobbs: Grayburg - San Andres Pool*  
*Lea County, New Mexico*

Dear Mr. Stogner:

Occidental Permian Limited Partnership ("OPLP") respectfully requests administrative approval under to drill and produce the referenced wells at unorthodox oil well locations. Rule 7 of the special pool rules for the North Hobbs Grayburg – San Andres Unit (Order No. R-6199) and the South Hobbs Grayburg – San Andres Unit (Order No. R-4934) require wells to be located no closer than 330 feet to the outer boundary of the unit area unless an exception is granted by the NMOCD. OPLP operates both of these units which are currently under waterflood (see exhibit 1). These two wells have been located to recover reserves that will be bypassed by current recovery operations. They have been located to balance equities between the two units so that the owners of each unit will benefit equally.

A full-field simulation model developed from detailed reservoir characterization studies has enabled us to determine residual oil saturation at various times in the life of the field. Using a residual oil saturation at the end of waterflooding equal to 35%, we can determine areas of the reservoir that contain oil which will be left behind at the end of waterflooding. Exhibit 4 is a saturation map in the area near these two wells and reveals significant additional oil that could be produced by adding these new producers to the current injection pattern. The two proposed locations were selected based on geology and these simulation results, which indicate similar production rates and recoveries. We estimate approximately 150,000 barrels of oil could be recovered from each of these locations, which would not be recovered by existing operations.

Along with the technical exhibits please find enclosed Form C-102 for each well, a completed Administrative Application Checklist and a copy of the signed lease-line agreement for these two wells that is required by the special pool rules. Since OPLP operates the offsetting South Hobbs Unit, a waiver executed by OPLP is attached.

If I can provide any additional information to aid in processing this request, please call me at (281) 552-1303. Thank you for consideration of our application.

August 15, 2001  
Page 2

Sincerely,

A handwritten signature in black ink, reading "Richard E. Foppiano". The signature is fluid and cursive, with the first name "Richard" being the most prominent.

Richard E. Foppiano  
Senior Advisor – Regulatory Affairs

Attachments

CC: NMOCD – Hobbs Office

# Hobbs Field

## Unorthodox Locations

### NHU 33-843 and SHU 244

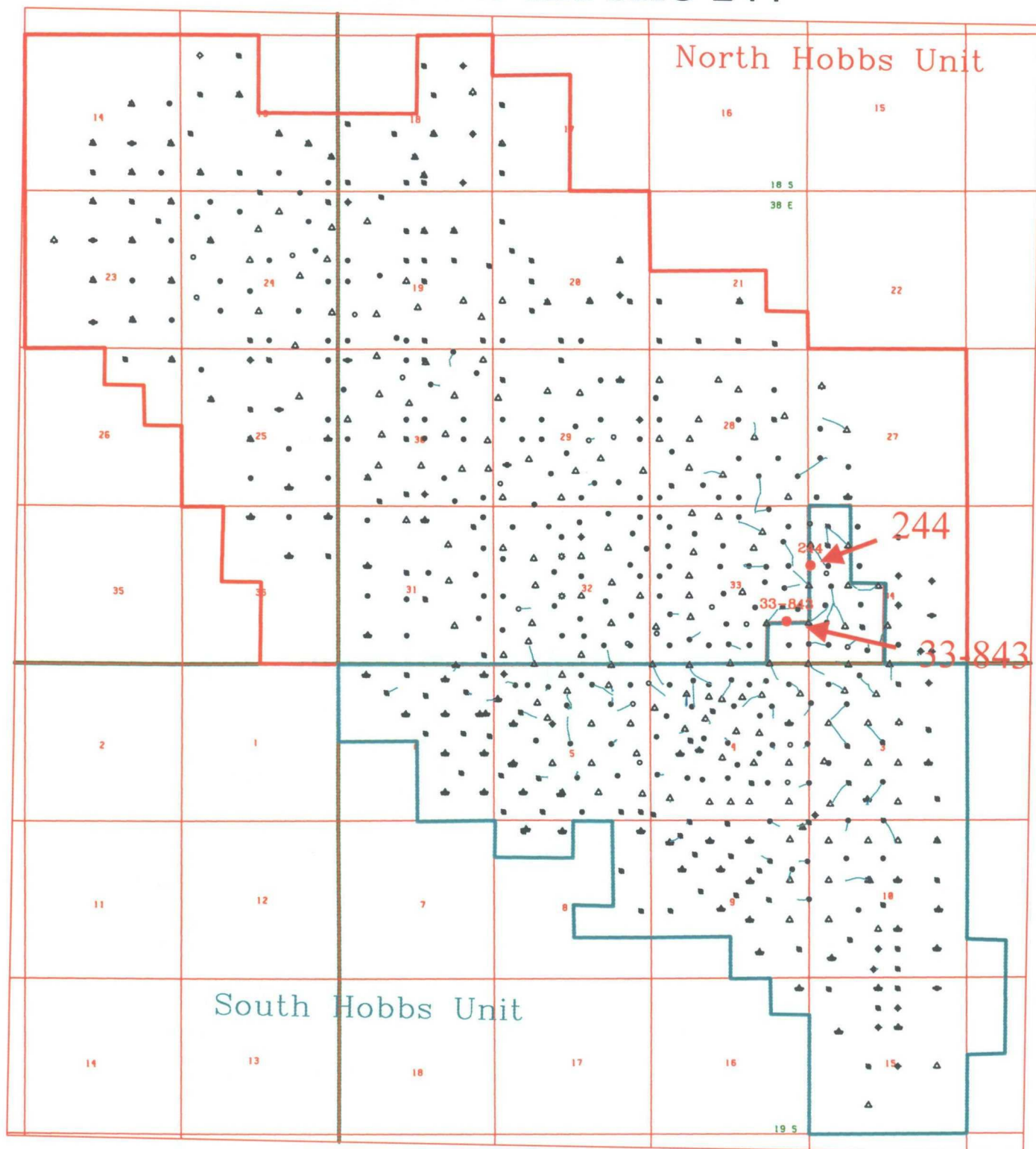


Exhibit 1

**KELLAHIN AND KELLAHIN**

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

TELEPHONE (505) 982-4285  
TELEFAX (505) 982-2047

W. THOMAS KELLAHIN\*

\*NEW MEXICO BOARD OF LEGAL SPECIALIZATION  
RECOGNIZED SPECIALIST IN THE AREA OF  
NATURAL RESOURCES-OIL AND GAS LAW

JASON KELLAHIN (RETIRED 1991)

August 20, 2001

**HAND DELIVERED**

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

RE: Administrative Application of Occidental Permian Limited Partnership  
for approval of unorthodox subsurface locations for two wells:  
North Hobbs G/SA Unit Well No. 843  
South Hobbs (GSA) Unit Well No. 244  
Hobbs Grayburg-San Andres Pool  
Lea County, New Mexico

Dear Mr. Stogner:

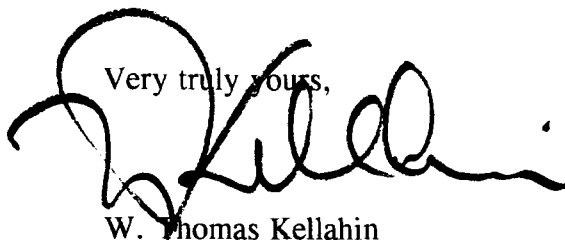
On behalf of Occidental Permian Limited Partnership ("OPLP"), please find enclosed their referenced administrative application.

Rule 7 of the Special Rules for the South Hobbs Grayburg-San Andres Pool (R-4934) and Rule 7 of the Special Rules for the South Hobbs Grayburg-San Andres Pool (R-6199) are identical and establish notice rules for obtaining an unorthodox well location which are different from the Division's Rule 104.

Rule 7 for both pools provides that if the well is to be closer than 330 feet to the outer boundary of the unit, then the Division Director shall have authority to grant an exception without hearing provided there is a lease line injection agreement with the affected operator and a copy of the agreement accompanies the application.

Pursuant to these special rules, OPLP has attached a copy of the lease line agreement. In addition, it has also signed and enclosed a waiver as the affected offset operator in each case. Please call me if you have any questions or need further information.

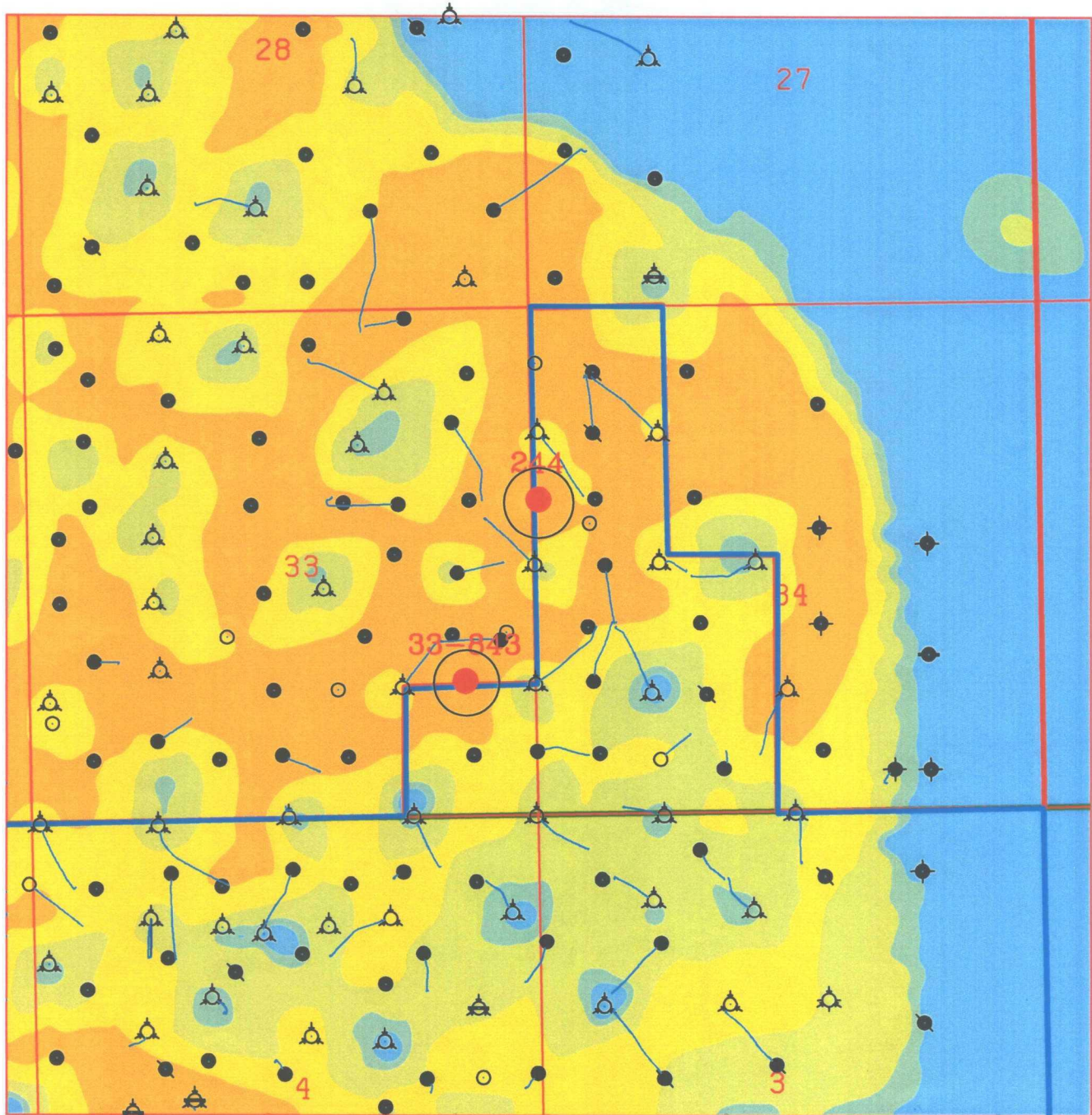
Very truly yours,



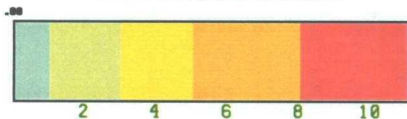
W. Thomas Kellahin

fx: Occidental Permian Limited Partnership  
Attn: Richard E. Foppiano

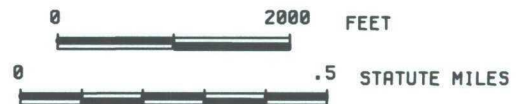
Hobbs Field  
San Andres Zone 2  
Moveable Oil After Development  
Time 2030



MRB/ACRE



1:24000



DISTRICT I  
P.O. Box 1980, Hobbs, NM 88241-1980

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102  
Revised February 10, 1994  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88211-0719

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

DISTRICT IV  
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 31920	Pool Name HOBBS:GRAYBURG - SAN ANDRES
Property Code 19520	Property Name NORTH HOBBS G/SA UNIT	Well Number 843
OGRID No. 157984	Operator Name OCCIDENTAL PERMIAN LTD.	Elevation 3627

Surface Location

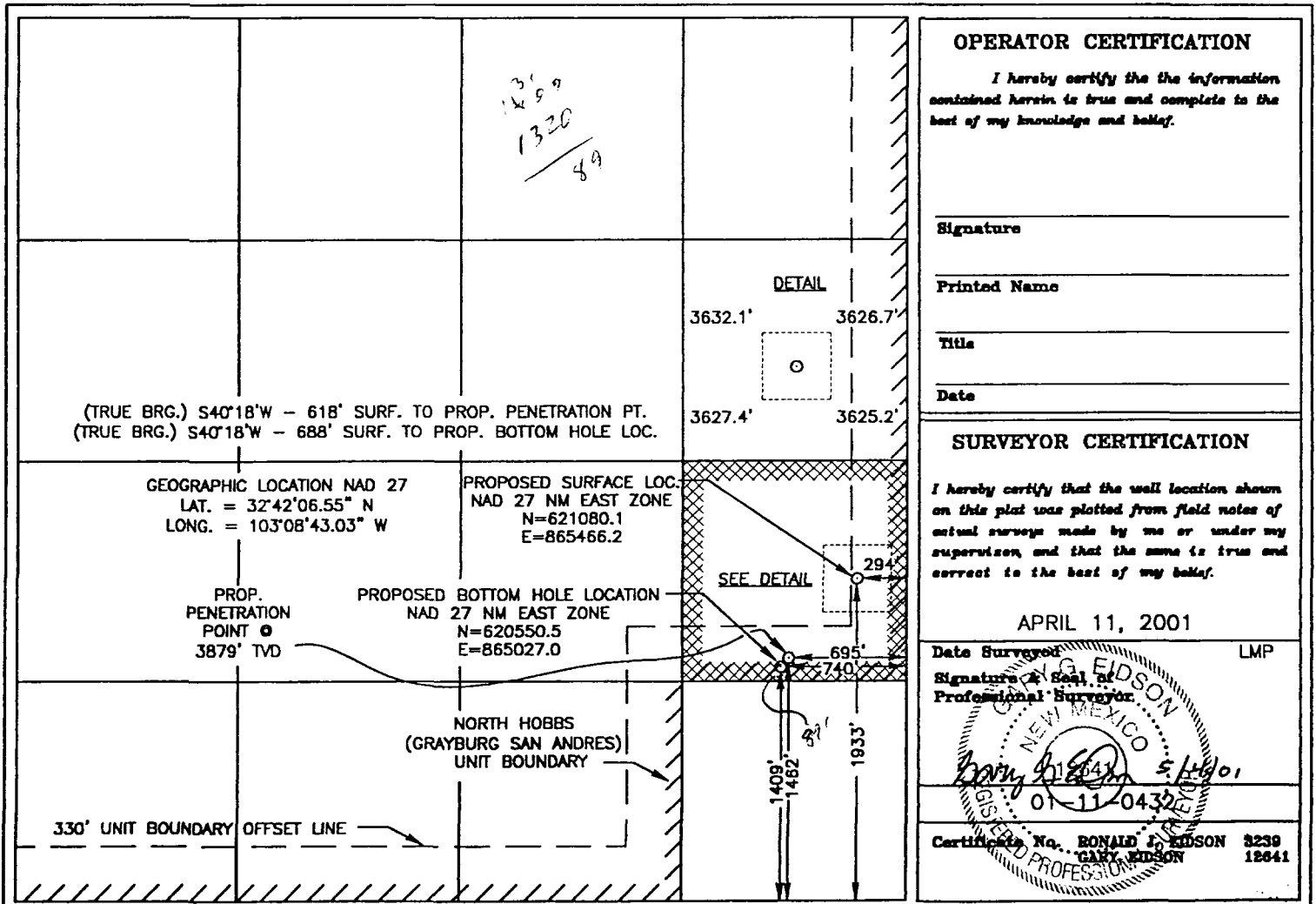
UL or lot No. 1	Section 33	Township 18 S	Range 38 E	Lot Idn	Feet from the 1933	North/South line SOUTH	Feet from the 294	East/West line EAST	County LEA
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Bottom Hole Location If Different From Surface

UL or lot No. 1	Section 33	Township 18 S	Range 38 E	Lot Idn	Feet from the 1409	North/South line SOUTH	Feet from the 740	East/West line EAST	County LEA
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Dedicated Acres 40	Joint or Infill	Consolidation Code	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



DISTRICT I  
P.O. Box 1990, Hobbs, NM 88241-1990

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised February 10, 1984  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

DISTRICT II  
P.O. Drawer 80, Artesia, NM 88211-0719

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

DISTRICT IV  
P.O. Box 2068, Santa Fe, N.M. 87504-2068

OIL CONSERVATION DIVISION

P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
	31920	HOBBS:GRAYBURG - SAN ANDRES
Property Code	Property Name	Well Number
19520	SOUTH HOBBS (GSA) UNIT	244
OGRID No.	Operator Name	Elevation
157984	OCCIDENTAL PERMIAN LTD.	3635

Surface Location

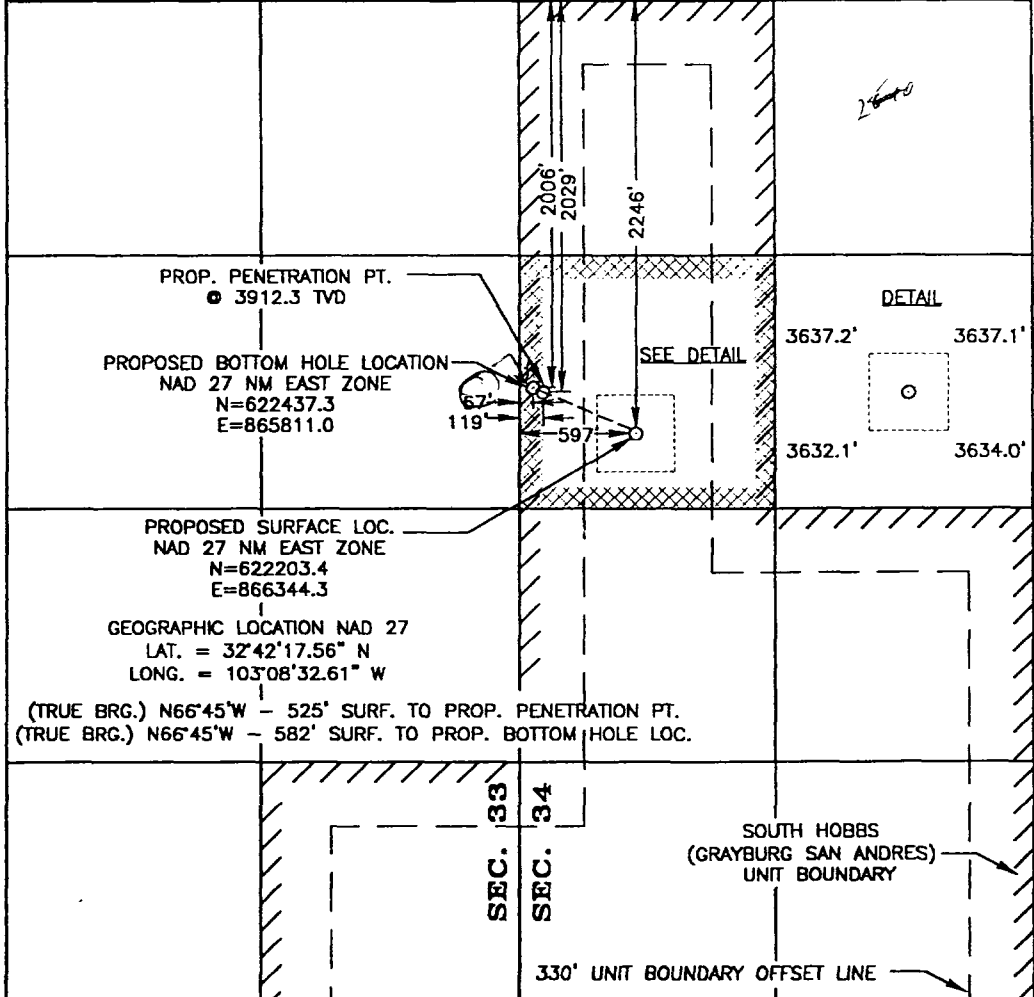
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	34	18 S	38 E		2246	NORTH	597	WEST	LEA

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
E	34	18 S	38 E		2006	NORTH	67	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
40			

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>PROP. PENETRATION PT. ● 3912.3 TVD</p> <p>PROPOSED BOTTOM HOLE LOCATION NAD 27 NM EAST ZONE N=622437.3 E=865811.0</p> <p>PROPOSED SURFACE LOC. NAD 27 NM EAST ZONE N=622203.4 E=866344.3</p> <p>GEOGRAPHIC LOCATION NAD 27 LAT. = 32°42'17.56" N LONG. = 103°08'32.61" W</p> <p>(TRUE BRG.) N66°45'W - 525' SURF. TO PROP. PENETRATION PT. (TRUE BRG.) N66°45'W - 582' SURF. TO PROP. BOTTOM HOLE LOC.</p> <p>SEC. 33 SEC. 34</p> <p>SOUTH HOBBS (GRAYBURG SAN ANDRES) UNIT BOUNDARY</p> <p>330' UNIT BOUNDARY OFFSET LINE</p>	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p>Signature _____</p> <p>Printed Name _____</p> <p>Title _____</p> <p>Date _____</p> <p><b>SURVEYOR CERTIFICATION</b></p> <p>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.</p> <p>APRIL 11, 2001</p> <p>Date Surveyed _____ LMP</p> <p>Signature &amp; Seal of Professional Surveyor _____</p> <p>Certified by _____</p>
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**LEASE LINE WELL AGREEMENT  
NORTH HOBBS UNIT AND SOUTH HOBBS UNIT**

This Agreement is entered into by Occidental Permian Limited Partnership, as Operator of the North Hobbs (Grayburg-San Andres) Unit, and on behalf of the unit working interest owners therein and in that capacity being referred to in this Agreement as "OXY-NHU", and Occidental Permian Limited Partnership, as Operator of the South Hobbs (Grayburg-San Andres) Unit, and on behalf of the unit working interest owners therein and in that capacity being referred to in this Agreement as "OXY-SHU."

**RECITALS:**

1. OXY-NHU is the Unit Operator of the North Hobbs (Grayburg-San Andres) Unit, ("NHU") in the Hobbs Field, under the terms of that certain Unit Agreement and Unit Operating Agreement, both dated July 1, 1978, recorded in Volume 385, page 818 Miscellaneous Records of Lea County, New Mexico.
2. OXY-SHU is the Unit Operator of the South Hobbs (Grayburg-San Andres) Unit, ("SHU"), in the Hobbs Field, under the terms of that certain Unit Agreement and Unit Operating Agreement for the SHU, both dated May 1, 1974, recorded in Volume 322, page 366 of the Miscellaneous Records of Lea County, New Mexico.
3. The owners of the NHU and the owners of the SHU have reached an agreement to provide for the drilling of infill wells located on or near the common boundary of the NHU and the SHU in order to enhance the recovery of hydrocarbons from both the NHU and the SHU, for the production of Unitized Substances from the Unitized Intervals (as those terms are defined in the Unit Agreements described in Recitals 1 and 2).

NOW, THEREFORE, for a sufficient consideration received, it is agreed as follows:

**ARTICLE I**

**INFILL WELLS**

1.1 OXY-NHU and OXY-SHU each agree to drill, equip, maintain and operate the following infill producing wells along the common boundaries of the NHU and the SHU, at the approximate locations described below.

**NHU INFILL WELLS TO BE DRILLED**

<u><b>WELL NO.</b></u>	<u><b>SECTION</b></u>	<u><b>APPROXIMATE LOCATION</b></u>
NHU 33-843	SEC. 33T18S-R38E	294' FEL & 1933' FSL

### **SHU INFILL WELLS TO BE DRILLED**

<b><u>WELL NO.</u></b>	<b><u>SECTION</u></b>	<b><u>APPROXIMATE LOCATION</u></b>
SHU 244	SEC. 34T18S-R38E	597' FWL & 2246' FNL

1.2 OXY-NHU and OXY-SHU recognize that in order to be able to drill the above-listed infill wells at the proposed locations as described in Article 1.1 and to operate such wells for the production of Unitized Substances from the TARGET INTERVAL, each of OXY-NHU and OXY-SHU will be required to obtain exceptions to the spacing regulations. Consequently, to the extent permitted by law, each of OXY-NHU and OXY-SHU agree to execute any waivers and all other instruments or documents necessary or convenient for any party hereto to obtain an exception to location for wells proposed in accordance with this Agreement.

1.3 It is understood and agreed between the parties hereto that any decision by either party acting in its capacity as a Unit Operator whether or not to drill any well is solely within the discretion of the party who operates the Unit upon which a well is or is to be located. Upon completion of any well drilled pursuant to the terms of this Agreement, each party will provide to the other party, log data and details of the completion interval in each well drilled, and, if conducted, all information and survey data resulting from a directional survey. If any workover or subsequent operations, as defined in the Unit Agreement or Unit Operating Agreement are conducted upon the wells drilled pursuant to this Agreement, reasonable details of those operations will be provided by each party to the other party.

1.4 The infill wells listed above shall be drilled, equipped, maintained and operated pursuant to the terms of the respective Unit and Operating Agreements, whichever is applicable. Operations for the drilling, and other operations on wells identified in this Agreement, shall be performed at the sole risk, liability and expense of the owners of the NHU or SHU respectively, and neither the NHU nor the SHU Owners shall have any rights or interests in the other's well, equipment or facilities connected to those wells, or the production from or allocated to those wells.

1.5 It is recognized by the parties that the incremental recovery of hydrocarbons as a result of the operations contemplated by this Agreement may not justify the drilling of a replacement well if either party is unable to complete any of the wells described in Article 1.1, or to obtain governmental authorization to drill those wells. If a party is unable to economically complete any of the wells described in Article 1.1 or to obtain governmental authorization to drill a well, that party shall within thirty days notify the other party of the inability to complete, or of the refusal of any governmental agency to issue a permit to drill such well, and may (but shall be under no obligation to) propose

either: a) to substitute an existing well, b) to drill a replacement well, or c) to advise the other party that it will not substitute an existing well or drill a replacement well. If the notifying party has elected to drill a replacement well at a location within 300 feet of the well to be replaced, it shall, within 180 days after giving the above-described notice, begin operations for the drilling of the replacement well and no approval of the other parties hereto to the location for such substitute well shall be required. If the notifying party has chosen to propose a substitute well at a location which is more than 300 feet from the well to be replaced, the remaining party hereto shall have 30 days after receipt of notice from the notifying party within which to accept or reject the proposed substitute well location. If the notifying party proposes a substitute well at a location that is acceptable to the other party, it shall begin drilling operations for the well within 180 days after receiving the remaining party's written approval. If the remaining party hereto rejects the proposed substitute well location and/or the notifying party does not propose to drill a replacement well, or does not timely begin operations for the drilling of a replacement well as required under the terms of this Article 1.5. the remaining party shall have the option to cease operating or to refrain without any approval from the notifying party being necessary.

## **ARTICLE II**

### **OPERATION**

Except as otherwise provided in Article 1.5 herein, production from each well shall commence as soon as reasonably practicable after the Effective Date of this Agreement. Each month, upon request, each party shall provide each other with a statement showing the average daily oil and water production from the wells drilled under the terms of this Agreement, for the previous month.

## **ARTICLE III**

### **INTERESTS AND OBLIGATIONS OF PARTIES**

3.1 Nothing in this Agreement shall be deemed to be an assignment or a cross-assignment of interests of any party to this Agreement to the other. This Agreement is entered into for the sole purpose of providing for the drilling and operation of producing wells on the common boundaries of the NHU and the SHU in order to enhance the recovery of hydrocarbons from both units so that the owners of interests in production under the units may benefit by an increase in the ultimate recovery of hydrocarbons.

3.2 This Agreement shall not serve to create any fiduciary duty between the parties, and the obligations and liabilities of the parties shall be several, and not joint or collective. It is not the intention of such parties to create, nor shall this Agreement be

construed to create, a mining or other partnership or association, or to render the parties liable as partners.

## **ARTICLE IV**

### **FORCE MAJEURE**

If either party is rendered unable, in whole or in part, by an event of force majeure to carry out its obligations under this agreement, that party shall give to the other party prompt notice of the force majeure event with reasonably full particulars concerning it. Thereupon, the obligations of the party giving notice, so far as they are affected by the force majeure event, shall be suspended during, but no longer than the continuation of the force majeure event. The affected party shall use all reasonable diligence to remedy the force majeure situation as quickly as practicable.

The requirement that any force majeure event shall be remedied with all reasonable dispatch shall not require the settlement of strikes, lockouts, or other labor difficulty by the affected party, contrary to its wishes; all such difficulties shall be handled entirely within the discretion of the affected party.

The term "force majeure" shall mean an act of God, strike, lockout or other industrial disturbance, act of the public enemy, war, blockade, public riot, lightning, fire, storm, flood, explosion, governmental action, governmental delay, restraint or inaction, unavailability of equipment, failure of water supply, and any other cause, whether of the kind specifically enumerated above or otherwise, which is not reasonably within the control of the party claiming suspension.

## **ARTICLE V**

### **NOTICES**

Notice may be provided as follows: by facsimile machine, effective the day transmitted; by U.S. Mail, effective the day postmarked; or by private mail services, effective the day delivered. Notice, to be deemed effective, shall go to the following parties at the following addresses:

OCCIDENTAL LIMITED PARTNERSHIP as operator of the  
North Hobbs Unit and on behalf of  
the Working Interest Owners therein  
ATTN: Eden Settegast  
P. O. Box 4294  
Houston, TX 77210-4294  
Telefax: (281) 552-1283

OCCIDENTAL LIMITED PARTNERSHIP as operator of the  
South Hobbs Unit and on behalf of  
the Working Interest Owners therein  
ATTN: Eden Settegast  
P. O. Box 4294  
Houston, TX 77210-4294  
Telefax: (281) 552-1283

Each party shall have the right to change its address at any time, and from time to time, by giving written notice to the other party.

## **ARTICLE VI**

### **EFFECTIVE DATE AND TERM OF AGREEMENT**

This Agreement shall become effective on the EFFECTIVE DATE and shall remain in effect for so long thereafter as enhanced oil recovery operations are conducted on both the NHU and the SHU unless earlier terminated.

This Agreement may be terminated (i) at any time by mutual agreement of the parties, or (ii) by either party after the expiration of one year from the EFFECTIVE DATE, provided that no termination shall be effective until 30 days after written notice of termination has been received by the non-terminating party.

## **ARTICLE VII**

### **GOVERNING LAWS AND DISPUTES**

This agreement shall be governed by and construed under the laws of the State of New Mexico, excluding any choice of law rules that would refer the interpretation of this agreement to the laws of another jurisdiction.

## **ARTICLE VIII**

### **LIABILITIES AND INDEMNITIES**

Each party agrees to indemnify, defend, protect and hold the other party harmless from and against any claims, demands, losses or liabilities threatened against or suffered by the indemnifying party, including attorneys' fees, court costs and other litigation expenses (collectively, the indemnifying party's "liabilities") which are asserted by or paid or awarded to the royalty owners, working interest owners and other owners of interests in production from the lands and leases upon which the indemnifying party's wells are located, and that arise or are in any way related to operations conducted pursuant to the provisions of this Agreement, except to the extent such liabilities are attributable to the gross negligence or willful misconduct of the other party. "Party," as used in this article, includes the parent, partners, affiliates and subsidiaries of a signatory to this Agreement, and the respective officers, directors, employees, contractors and subcontractors of any of the foregoing. Each party further releases the other party from any liabilities for damage to the releasing party's interest in the lands or leases described herein which may arise from the operations contemplated by this Agreement, provided such operations are conducted in accordance with the standards of a prudent operator, and only to the extent that such damage is not the result of the gross negligence or willful misconduct of a party.

## **ARTICLE X MISCELLANEOUS**

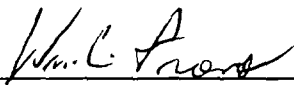
11.1 This Agreement shall extend to, be binding upon, and inure to the benefit of the parties and their respective successors and assigns.

11.2 This Agreement embodies the entire agreement between the parties relating to the subject matter hereof and shall supersede all other agreements, assurances, conditions, covenants or terms relating hereto, whether written or verbal or antecedent or contemporaneous with the execution hereof. This Agreement may be modified or amended only by an instrument in writing signed by both parties.


11.3 Captions have been inserted for reference purposes only and shall not define or limit the terms of this Agreement.

11.4 This Agreement is entered into to be effective as of July 18, 2001 ("EFFECTIVE DATE").

**OCCIDENTAL PERMIAN LIMITED PARTNERSHIP, Operator of the North Hobbs Unit, on behalf of the Working Interest Owners of the North Hobbs Unit, acting through Occidental Permian Manager LLC, General Partner**

  
\_\_\_\_\_  
Wm. C. Irons, Attorney-In-Fact *eci*

**OCCIDENTAL PERMIAN LIMITED PARTNERSHIP, Operator of the South Hobbs Unit, on behalf of the Working Interest Owners of the South Hobbs Unit, acting through Occidental Permian Manager LLC, General Partner**

  
\_\_\_\_\_  
J. C. Elliott, Attorney-In-Fact *eci*

STATE OF TEXAS       §  
                                  §  
COUNTY OF HARRIS   §

This instrument was acknowledged before me on July 19 2001 by Wm. C. Irons, Attorney-in-Fact for Occidental Permian Manager LLC, a Delaware limited liability company, as General Partner of Occidental Permian Limited Partnership, a Texas limited partnership, on behalf of Occidental Permian Limited Partnership in its capacity as Operator and Working Interest Owner of the Unit.

---

Notary Public in and for the State of Texas

STATE OF TEXAS       §  
                                  §  
COUNTY OF HARRIS   §

This instrument was acknowledged before me on July 19, 2001 by J. C. Elliott, Attorney-in-Fact for Occidental Permian Manager LLC, a Delaware limited liability company, as General Partner of Occidental Permian Limited Partnership, a Texas limited partnership, on behalf of Occidental Permian Limited Partnership in its capacity as Operator and Working Interest Owner of the Unit.

---

Notary Public in and for the State of Texas



**Occidental Permian Ltd.**

580 WestLake Park Blvd.  
Houston, TX 77079  
PO Box 4294  
Houston, TX 77210-4294  
281-552-1000

August 15, 2001

New Mexico Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

Attention: Mr. Michael E. Stogner

Re: *Application of Occidental Permian Limited Partnership for Unorthodox Well Location*  
*North Hobbs G/SA Unit, Well #843*  
*Surface Location: 1933 FSL & 294 FEL of 33-T18S-R38E*  
*Bottomhole Location: 1409 FSL & 740 FEL of 33-T18S-R38E*  
*South Hobbs (GSA) Unit, Well # 244*  
*Surface Location: 2246 FNL & 597 FWL of 34-T18S-R38E*  
*Bottomhole Location: 2006 FNL & 67 FWL of 34-T18S-R38E*  
*Hobbs: Grayburg - San Andres Pool*  
*Lea County, New Mexico*

Dear Mr. Stogner:

Occidental Permian Limited Partnership ("OPLP"), as operator of each offsetting Unit referenced above, hereby waives any objection to the proposed unorthodox location.

Sincerely,

Richard E. Foppiano  
Senior Advisor – Regulatory Affairs

REF:ref

(e) At the request of any interested person or upon the Division's own initiative, any pooling application submitted shall be set for full hearing with oral testimony by the applicant. [Rn, 19 NMAC 15.N.1207.A.(4), 7-15-99; A, 7-15-99]

(2) **Unorthodox Well Locations:** [1-1-87...2-1-96; Rn, 19 NMAC 15.N.1207.A.(5), 7-15-99; A, 7-15-99]

(a) Definition: "Affected persons" are the following persons owning interests in the adjoining spacing units:

1. the Division-designated operator;
2. in the absence of an operator, any lessee whose interest is evidenced by a written document of conveyance either of record or known to the applicant as of the date the application is filed; and
3. in the absence of an operator or lessee, any mineral interest owner whose interest is evidenced by a written document of conveyance either of record or known to the applicant as of the date the application was filed.

In the event the operator of the proposed unorthodox well is also the operator of an existing adjoining spacing unit and ownership is not common between the adjoining spacing unit and the spacing unit containing the proposed unorthodox well, then "affected persons" include all working interest owners in that spacing unit. [1-1-87...2-1-96; N, 7-15-99]

(b) If the proposed location is unorthodox by being located closer to the outer boundary of the spacing unit than permitted by rule, notice shall be given to the affected persons in the adjoining spacing units towards which the unorthodox location encroaches. [Rn, 19 NMAC 15.N.1207.A.(5).(a), 7-15-99, A, 7-15-99]

(c) If the proposed location is unorthodox by being located in a different quarter-quarter section or quarter section than provided in special pool orders, notice shall be given to all affected persons. [Rn, 19 NMAC 15.N.1207.A.(5).(a), A, 7-15-99]



BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE NO. 5371  
Order No. R-4924

APPLICATION OF AMOCO PRODUCTION COMPANY  
FOR APPROVAL OF THE SOUTH HOBBS UNIT  
AGREEMENT, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:00 a.m. on November 26, 1974, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 3rd day of December, 1974, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Amoco Production Company, seeks approval of the South Hobbs Unit Agreement covering 5073.74 acres, more or less, of State and Fee lands described as follows:

LEA COUNTY, NEW MEXICO  
TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM  
Section 33: SE/4 SE/4  
Section 34: W/2

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM  
Sections 3, 4, and 5: All  
Section 6: N/2 and SE/4  
Section 8: N/2 NW/4, NE/4, and N/2 SE/4  
Section 9: N/2, N/2 SW/4, and SE/4  
Section 10: All  
Section 11: SW/4 SW/4  
Section 14: W/2 NW/4  
Section 15: All  
Section 16: NE/4 NE/4

(3) That approval of the proposed unit agreement should promote the prevention of waste and the protection of correlative rights within the unit area.

IT IS THEREFORE ORDERED:


- (1) That the South Hobbs Unit Agreement is hereby approved.
- (2) That the plan contained in said unit agreement for the development and operation of the unit area is hereby approved in principle as a proper conservation measure; provided, however, that notwithstanding any of the provisions contained in said unit agreement, this approval shall not be considered as waiving or relinquishing, in any manner, any right, duty, or obligation which is now, or may hereafter be, vested in the Commission to supervise and control operations for the exploration and development of any lands committed to the unit and production of oil or gas therefrom.
- (3) That the unit operator shall file with the Commission an executed original or executed counterpart of the unit agreement within 30 days after the effective date thereof; that in the event of subsequent joinder by any party or expansion or contraction of the unit area, the unit operator shall file with the Commission within 30 days thereafter counterparts of the unit agreement reflecting the subscription of those interests having joined or ratified.
- (4) That this order shall become effective upon the approval of said unit agreement by the Commissioner of Public Lands for the State of New Mexico; that this order shall terminate ipso facto upon the termination of said unit agreement; and that the last unit operator shall notify the Commission immediately in writing of such termination.
- (5) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
I. R. TRUJILLO, Chairman

ALEX J. ARMIJO, Member

  
A. L. PORTER, Jr., Member & Secretary

S E A L

jr/



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON

Governor

Jennifer A. Salisbury

Cabinet Secretary

Lori Wrotenbery

Director

Oil Conservation Division

August 22, 2001

**Occidental Permian Limited Partnership**

c/o **W. Thomas Kellahin**

**P. O. Box 2265**

**Santa Fe, New Mexico 87504-2265**

**Re: *Administrative application of Occidental Permian Limited Partnership for two non-standard subsurface oil well locations for it's proposed North Hobbs G/SA Unit Well No. 843 and South Hobbs (GSA) Unit Well No. 244 in Sections 33 and 34, respectively, Township 18 South, Range 38 East, NMPM, Hobbs Grayburg-San Andres Pool, Lea County, New Mexico.***

Dear Mr. Kellahin:

This letter acknowledges the receipt of your administrative application dated August 20, 2001 of two unorthodox subsurface Grayburg/San Andres oil well locations for Occidental Permian Limited Partnership's ("Occidental") proposed North Hobbs G/SA Unit Well No. 843 and South Hobbs (GSA) Unit Well No. 244 in Sections 33 and 34, respectively, Township 18 South, Range 38 East, NMPM, Hobbs Grayburg-San Andres Pool, Lea County, New Mexico. The Division received your application on August 20, 2001, and assigned it NMOCD application reference No. *pKRV0-123347033*. Please refer to this number in future correspondence with the Division.

Our preliminary review indicates that the information provided in the application is not sufficient to process an administrative order. The following information is necessary:

Proper notification to all "affected persons" pursuant to Division Rule 1207.A (2).

Discussion: In this case the operator of each proposed unorthodox subsurface location is also the operator of the adjoining property where ownership is not common between the two [see Division Rule 1207.A (2) (a)]. I recognize that your application followed the provisions of the special rules and regulations for both the "South Hobbs Grayburg-San Andres Pressure Maintenance Project" (see Rule 7) and "North Hobbs Grayburg-San Andres Pressure Maintenance Project" (see Rule 7) by providing a "lease line agreement" whereby Occidental as the affected operator waives Occidental's unorthodox locations and does not provide for the sharing of production between the projects or cost sharing. The only equity contained in this agreement comes if both well's drilling costs are the same and both wells produce at the same rate over the same lifetime. I also question this "agreement". The operator and only the operator is agreeing with themselves over an operation that affects two different and distinct sets of mineral interest owners. I'm not an attorney, but I am very suspicious about accepting and recognizing this attachment as an "agreement."

***Occidental Permian Limited Partnership***

***August 22, 2001***

**Page 2**

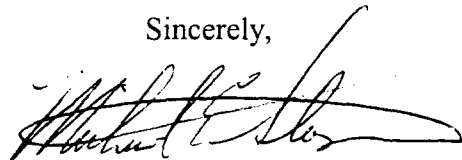
Please note that at the time these special operating procedures were instituted within both projects (1979/1984): (i) the current notification procedures were not in effect and those that were were found to be ambiguous or problematic [see Finding Paragraph No. (3) on page 1 of Division Order No. R-11205, issued in Case No. 12177 on June 17, 1999]; (ii) each project had different operators, Amoco and Shell; (iii) there was no "Uhden Decision". The protection of correlative rights for all mineral interest owners in both projects have not been adequately addressed, approval at this time is unwarranted.

Since the submitted information is insufficient to review, the application was ruled as incomplete on August 22, 2001. Please submit the above stated information by Wednesday, August 29, 2001.

The Division cannot proceed with your application until the required information is submitted. Upon receipt, the Division will continue to process your application. The additional information can be faxed to (505) 476-3471, or mailed to the Division in Santa Fe. If the necessary information is not submitted, your application will be returned to you.

Should you have any questions concerning this matter, please contact me in Santa Fe at (505) 476-3465. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael E. Stogner", with a long, sweeping horizontal stroke extending to the right.

Michael E. Stogner  
Chief Hearing Officer/Engineer

cc: New Mexico Oil Conservation Division – Hobbs

**KELLAHIN AND KELLAHIN**

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2266

SANTA FE, NEW MEXICO 87504-2266

August 29, 2001

TELEPHONE (505) 982-4285  
TELEFAX (505) 982-2047

W. THOMAS KELLAHIN\*

\*NEW MEXICO BOARD OF LEGAL SPECIALIZATION  
RECOGNIZED SPECIALIST IN THE AREA OF  
NATURAL RESOURCES-OIL AND GAS LAW

JASON KELLAHIN (RETIRED 1991)

**Via Facsimile**

505-476-3471

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

**Re: NMOCD REFERENCE NUMBER: pKRVO-123347033**  
***Administrative Application of Occidental Permian***  
***Limited Partnership for approval of unorthodox***  
***subsurface location for two wells:***

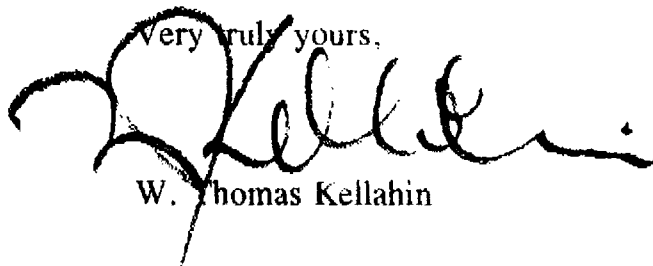
*North Hobbs G/SA Unit Well No. 843*  
*South Hobbs (GSA) Unit Well No. 244*  
*Lea County New Mexico*

Dear Mr. Stogner:

In accordance with your letter dated August 22, 2001, Occidental Permian Limited Partnership ("OPLP") on August 28, 2001, by certified mail-return receipt, it sent a copy of its application and a notice letter (copy enclosed) to all of the working interest owners in both the North Hobbs Unit and the South Hobbs Unit as shown on the enclosed lists.

Please call me if I can be of assistance in this matter.

Very truly yours,



W. Thomas Kellahin

fx: Occidental Permian Limited Partnership  
Attn: Richard E. Foppiano

**KELLAHIN AND KELLAHIN**

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

TELEPHONE (505) 982-4285  
TELEFAX (505) 982-2047

W. THOMAS KELLAHIN\*

\*NEW MEXICO BOARD OF LEGAL SPECIALIZATION  
RECOGNIZED SPECIALIST IN THE AREA OF  
NATURAL RESOURCES-OIL AND GAS LAW

JASON KELLAHIN (RETIRED 1991)

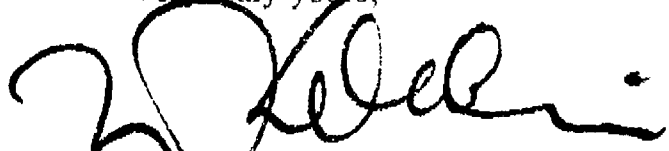
August 27, 2001

**CERTIFIED MAIL-RETURN RECEIPT REQUESTED****NOTICE OF THE FOLLOWING NEW MEXICO OIL CONSERVATION  
DIVISION ADMINISTRATIVE CASE:**

**Re:    *Administrative Application of Occidental Permian  
Limited Partnership for approval of unorthodox  
subsurface locations for two wells:  
North Hobbs G/SA Unit Well No. 843  
South Hobbs (GSA) Unit Well No. 244  
Lea County, New Mexico.***

On behalf of Occidental Permian Limited Partnership ("OPLP"), please find enclosed a copy of its referenced administrative application. If you have no objection, then there is nothing for you to do. However, should you have any objection to the Division approving this application, then it will be necessary for you to file a written objection with the New Mexico Oil Conservation Division, 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505 within twenty (20) days of the date of this letter. Failure to file a timely objection will preclude you from objecting at a later date.

Very truly yours,



W. Thomas Kellahin

**SOUTH HOBBS**

TCO  
FTN LARRY SNEAD  
162 E 61<sup>ST</sup> ST  
JLSA OK 74136

CHARLES B READ  
P O BOX 1518  
ROSWELL NM 88202-1518

BUTTRAM ENERGIES INC  
2601 N W EXPRESSWAY  
501 OIL CENTER WEST  
OKLAHOMA CITY OK 73112-7269

AVIN R GARRETT  
EAM BANK NA AGENT TST ACCT 4780  
O BOX 89084  
ORT WORTH TX 76199-0084

LAWSON PETROLEUM COMPANY  
2100 PHILTOWER BLDG  
427 SOUTH BOSTON  
TULSA OK 74103-4103

LOMA INC  
5830 S INDIANAPOLIS  
TULSA OK 74135-7801

ACK M MYERS  
0638 SANDPIPER LN  
ALLAS TX 75230-4221

MCPETERS FAMILY REVOCABLE TRUST  
502 W GOLD  
HOBBS NM 88240-1805

SEA PROPERTIES LTD  
P O BOX 1486  
ARDMORE OK 73402-1486

OGANNE GRIEB  
O BOX 516  
BUENA VISTA CO 81211-0516

SANDRA SNOWDEN TRUMP  
668 BETHLEHEM PIKE  
FLOURTOWN PA 19031-1301

FIRST ROSWELL COMPANY  
P O BOX 1797  
ROSWELL NM 88202-1797

UGH CORRIGAN III  
O BOX 50460  
MIDLAND TX 79710-0460

LANDRETH COMPANY STOCKHOLDERS  
306 W 7<sup>TH</sup> #504  
FORT WORTH TX 76102-4905

MOORE TRUST  
J H MOORE BJ MOORE & M H MOORE  
TRUSTEES R L MOORE ATTY-IN-FACT  
P O BOX 1733  
MIDLAND TX 79702

BILLIE S DEVOSS  
15311 E LA SALOS DR  
WHITTIER CA 90603-2243

BARBARA J DEVOSS JUNKER  
P O BOX 53546  
LUBBOCK TX 79453-3546

JOAN CLAY  
26242 VIA MISTRAL  
SAN JUAN CAPISTRANO CA 92675-4452

JENNIFER ANN CLAY CATHER  
1541 BORDEAUX  
DALLAS TX 75205

JOHN W CLAY III  
4795 OAKGROVE RENDON ROAD  
BURLESON TX 76028

SUSAN MARIE MAIER  
2565 SHIRLEY AVE  
FORT WORTH TX 76109

EDYTHE OWEN PRIKRYL  
5403 CERAN DR  
ARLINGTON TX 76016-2822

GOODRICH TRUST NUMBER ONE  
U/W DAVID E GOODRICH  
BK ONE TX TRSTEE/ACCT 5555  
P O BOX 99084  
FORT WORTH TX 76199-0084

GOODRICH TRUST NUMBER TWO  
U/W DAVID E GOODRICH  
BK ONE TX TRSTEE/ACCT 5556  
P O BOX 99084  
FORT WORTH TX 76199-0084

CLIFF T MILFORD  
12019 BROWNING LN  
DALLAS TX 75230-2851

LOUIS H KUNTZ  
2418 HILLTOP CT  
FULLERTON CA 92831-1311

EXCO RESOURCES INC  
1775 SHERMAN ST STE 2650  
DENVER CO 80203-4313

NARUNA COMPANY  
P O BOX 630  
FORT WORTH TX 76101-0630

HARVEY L JOHNSON  
134 HIGH COTTON PKWY  
MERKEL TX 79535-3094

MALLOY OIL & GAS PROP LLP  
301 NW 63<sup>RD</sup> # 510  
OKLAHOMA CITY OK 73116-7921

SOUTH HOBBS

B O INC  
P O BOX 2577  
IALEAH FL 33012-0577

C M E OIL & GAS COMPANY  
P O BOX 10621  
MIDLAND TX 79702-7621

MISSION RESOURCES  
ATTN ARSHAD KHAN  
1331 LAMAR #1455  
HOUSTON TX 77010-3039

NN CLAY BROWN  
541 PRINCETON DR  
ORSICANA TX 76110-1523

CHARLES H BROWN JR  
1541 PRINCETON DR  
ORSICANA TX 76110-1523

CHRISTEN SCHUTTE SANDERS  
1924 MEMPHIS DR  
BEDFORD TX 76022-8802

IARY ELLEN BROWN GILBERT  
808 ODELL CT N  
GRAPEVINE TX 76051-5636

ELIZABETH ANN BROWN  
446 ACEQUIA MADRE ST  
SANTA FE NM 87601-2802

NANCY LEE BROWN HARRISON  
3001 MAPLE AVE  
WACO TX 76707-1234

STUART S UMPLEBY TRUST  
AMERICA BANK  
RUST REAL ESTATE 3228  
P O BOX 75000  
DETROIT MI 48276-0001

JOANNA U THOMAS  
2306 STUTZ PL  
MIDLAND TX 79705-4930

CONNIE HINMAN  
1833 DEVONDALE CIR  
CHARLESTON WV 25314-2205

IRGINIA HINMAN  
1334 CHRISWOOD  
TOLEDO OH 43617-1258

STUART A UMPLEBY  
4007 49<sup>TH</sup> ST NW  
WASHINGTON DC 20016-2339

HUGH CORRIGAN IV TRUST  
UW/O C E CORRIGAN  
HUGH CORRIGAN III TRUSTEE  
3809 SHENANDOAH ST  
DALLAS TX 75208-1701

PATRICK EDWARD CORRIGAN TRUST  
UW/O C E CORRIGAN  
HUGH CORRIGAN III TRUSTEE  
P O BOX 50280  
MIDLAND TX 79710-0280

ELEANOR CHRISTIE CORRIGAN TRUST  
UW/O C E CORRIGAN  
J PAT CORRIGAN TRUSTEE  
P O BOX 56393  
JACKSONVILLE FL 32241-6393

JAMES PATRICK CORRIGAN JR TRUST  
UW/O C E CORRIGAN  
J PAT CORRIGAN TRUSTEE  
P O BOX 69068  
VERO BEACH FL 32969-0068

HUGH DANIEL S CORRIGAN TRUST  
UW/O C E CORRIGAN  
J PAT CORRIGAN TRUSTEE  
P O BOX 69068  
VERO BEACH FL 32969-0068

PAULINE DUNBAR EREKSON  
P O BOX 213  
ROCKSPRINGS TX 78880-0213

EDWARD ALLAN DUNBAR  
P O BOX 885  
ROCKSPRINGS TX 78880-0885

MARY ALICE LAFLIN MEHAFFEY  
3138 S IOLA WAY  
ENGLEWOOD CO 80111-5706

ROBERT F LONG TESTAMENTARY TRUST  
FBO ROBERT HARRIS LONG #1143957000  
BANK ONE TRUST CO NA TRUSTEE  
P O BOX 25848  
OKLAHOMA CITY OK 73125-0848

ROBERT F LONG TESTAMENTARY TRUST  
FBO AMANDA SUSAN BARKER #1143958009  
BANK ONE TRUST CO NA TRUSTEE  
P O BOX 25848  
OKLAHOMA CITY OK 73125-0848

ROBERT F LONG TESTAMENTARY TRUST  
FBO TERRENCE R BARKER #1143959008  
BANK ONE TRUST CO NA TRUSTEE  
P O BOX 25848  
OKLAHOMA CITY OK 73125-0848

GEORGE G SNOWDEN III TRUST  
ANN H SNOWDEN TRUSTEE  
4 OCEAN VIEW HWY  
WATCH HILL RI 02891-5232

JOSEPH S OR ALICE L MCGANNON  
JOINT TENANTS W/R/O/S  
1717 MONTS LARGO NE  
ALBUQUERQUE NM 87112-4833

KERR MCGEE OIL & GAS ONSHORE  
ATTN SHARON MATTHEWS  
P O BOX 809004  
DALLAS TX 75380

HARISCO INC  
P O BOX 1663  
ENID OK 73702-1663

PRODUCERS AND REFINERS CORP  
P O BOX 1765  
ENID OK 73702

**SOUTH HOBBS**

WHITE STAR ENERGY INC  
P O BOX 51108  
MIDLAND TX 79710

SILVERADO OIL & GAS CORP  
P O BOX 51338  
MIDLAND TX 79710

ADELAIDE F COHU TRUST  
ADELAIDE COHU & JOHN E OBRIEN TRST  
C/O JACKSON AND NASH  
330 MADISON AVE 18<sup>TH</sup> FL  
NEW YORK NY 10017-5001

ATRICIA P SCHIEFFER TEST TRUST  
ATRICIA P SCHIEFFER SUCCESSR TRSTE  
BANK OF AMERICA NA  
P O BOX 2546  
FORT WORTH TX 76113-2546

LINDA THOMPSON GORDON  
325 NORTH ST PAUL STE 4300  
DALLAS TX 75201

JEAN CHRISTINE THOMPSON TRUST 2  
JAMES CLEO THOMPSON JR TRUSTEE  
325 NORTH ST PAUL STE 4300  
DALLAS TX 75201

J S THOMPSON JR  
3019 MCKINNEY STE 100  
DALLAS TX 75205-3428

ANN H TAYLOR  
P O BOX 3487  
MIDLAND TX 79702-3487

JAMES M SNOWDEN TRUST  
JAMES M SNOWDEN AND MARIE KIELY  
SNOWDEN TRUSTEES  
12 FORDYCE LN  
SAINT LOUIS MO 63124-1354

WEJA INC  
P O BOX 18442  
OKLAHOMA CITY OK 73154-0442

MARY F CUSACK  
C/O JOHN P CUSACK ATTY-IN-FACT  
C/O F C NEWBURN  
2808 WOODWIND DR  
ARLINGTON TX 76013-3132

CATHARINE CUSACK TRUST  
JOHN P CUSACK TRUSTEE  
C/O F C NEWBURN  
2808 WOODWIND DR  
ARLINGTON TX 76013-3132

PAT CORRIGAN TRUST  
PAT CORRIGAN TRUSTEE  
P O BOX 690068  
VERO BEACH FL 32969-0068

MARGARET COUCH TRUST  
JAMES C BROWN & WILLIAM C COUCH  
CO-TRUSTEES  
P O BOX 10621  
MIDLAND TX 79702-7621

EVELYN CLAY OHARA TRUST  
PHILIP TINSLEY SUCC COTRUSTEE  
3774 W 6<sup>TH</sup> ST  
FORT WORTH TX 76107-2061

RUFUS GORDON PETE CLAY TRUST  
RUFUS P CLAY & JAMES C BROWN  
CO TRUSTEES  
P O BOX 10621  
MIDLAND TX 79702-7621

CYNTHIA SLAUGHTER TRUST NO 3541  
CARMEN RIOS SUCC TRUSTEE  
307 W 7 ST NO 1212  
FORT WORTH TX 76102-5110

ROBERT H SLAUGHTER TRUST NO 3839  
CARMEN RIOS SUCC TRUSTEE  
307 W 7 ST NO 1910  
FORT WORTH TX 76102-5118

J MACK SLAUGHTER TRUST NO 3840  
CARMEN RIOS SUCC TRUSTEE  
307 W 7 ST NO 1910  
FORT WORTH TX 76102-5118

GEORGE M SLAUGHTER TRUST NO 3841  
CARMEN RIOS SUCC TRUSTEE  
307 W 7 ST NO 1212  
FORT WORTH TX 76102-5110

GEORGE K AVARA  
8648 LAGENTE  
EL PASO TX 79907-2508

JAMES C BROWN  
P O BOX 10621  
MIDLAND TX 79702-7621

DINAH GEMELLE  
P O BOX 486  
VAUGHN WA 98394-0486

GEORGE H ETZ SR TRUST  
GEORGE ETZ JR TRUSTEE  
1105 XANTHISMA  
MCALLEN TX 78604-3519

JOHN PATRICK CUSACK JR  
C/O F C NEWBURN CPA  
2808 WOODWIND DR  
ARLINGTON TX 76013-3132

MICHAEL F CUSACK  
C/O JOHN P CUSACK ATTY-IN-FACT  
C/O F C NEWBURN  
2808 WOODWIND DR  
ARLINGTON TX 76013-3132

LEA INVESTORS INC  
P O BOX 2447  
SANTA FE NM 87604-2447

COLLEEN M WALLACE  
2 VIOLET CT  
NORTH LITTLE ROCK AR 72116-5141

LOYD WHITLEY  
P O Box 168  
MIDLAND TX 79702

J H MORRIS AGENT  
P O BOX 1588  
TULSA OK 74101-1588

08/29/2001 11:18 5059822047  
Aug-24-2001 03:06pm From-OXY PERMIAN

W THOMAS KELLAHIN  
281-552-1993

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**SOUTH HOBBS**

GER DALE JOHNSON  
O BOX 281  
ARMINGTON NM 87499-0281

GOODRICH MALLOY MINERAL TRUST  
TEAM BANK NA TRUSTEE  
TRUST NO 6202  
P O BOX 99084  
FORT WORTH TX 76199-0084

CYNTHIA S GREGG  
P O BOX 724  
SUNDOWN TX 79372-0724

EPHANIE DOSHER  
19 NE AVE D  
MINOLE TX 79360

LAVON JOHNSON  
1104 TRENTON LN  
EULESS TX 76040

SCOTT JOHNSON  
1104 TRENTON LN  
EULESS TX 76040

JOHNSON  
339 NW AVE C  
MINOLE TX 79360

L SUMMERS OIL COMPANY  
P O BOX 278  
HOBBS NM 88241-0278

JACK PEARCE  
P O BOX 780008  
WICHITA KS 67278-0005

J WIXSON CO  
O BOX 780153  
WICHITA KS 67278-0153

REEF EXPLORATION INC  
1901 NORTH CENTRAL EXPRESSWAY  
RICHARDSON TX 75080-3609

Aug-24-2001 03:06pm From-OXY PERMIAN

281-552-1393

T-007 P.007/007 F-013

STATES OIL COMPANY  
TE 718 ENERGY SQUARE  
15 GREENVILLE AVENUE  
LLAS TX 75206

SARA WARD SIMS SUCCESSOR  
TRUSTEE OF THE J S WARD &  
MARGARET WARD TRUST OF 1985  
101 S FOURTH ST  
ARTESIA NM 88210-2177

LOYD WHITLEY  
P O BOX 168  
MIDLAND TX 79702

TATE OF HATTIE C WILLIAMS  
J AMERICAN STATE BANK  
TN: JOHN COMMACKK  
BBOCK TX 79408

MARJORIE DANIEL WINN  
920 DANIELDALE ROAD  
DE SOTO TX 75115

YATES PETROLEUM CORPORATION  
P O BOX 1395  
ARTESIA NM 88211

P YATES  
5 SOUTH 4TH STREET  
ARTESIA NM 88210

YEAGER PROPERTIES INC  
PETROLEUM BLDG STE 200  
214 WEST TEXAS AVENUE  
MIDLAND TX 79701

DR. HENRY YEAGER JR  
5624 KNOLLWOOD  
BETHESDA MD 20816

IO PETROLEUM CORPORATION  
5 S 4TH STREET  
ARTESIA NM 88210

JO ANN ANGER  
1631 EAST HATCHER ROAD  
PHOENIX AZ 85020

BARRY ANTWEIL  
6830 N ELRIDGE PKWY #409  
HOUSTON TX 77041-2639

ARK ANTWEIL  
O Box 365  
ARCHMONT NY 10538

ANNE C BAILEY  
610 SOUTH STAUNTON DRIVE  
TUCSON AZ 85710

DAN C BERRY III  
P O Box 160  
EUNICE NM 88231

ILIP BERRY  
O BOX 1551  
OVINGTON NM 88260

CHEMILY MANAGEMENT COMPANY  
P O BOX 4346 DEPT 630  
HOUSTON TX 77210-4346

CHEVRON USA  
ATTN NOJV MANAGER  
P O Box 36366  
HOUSTON TX 77236

RUCE L CRILE  
15 WINTERGREEN CIRCLE  
LA CA 94558

O B O INC  
ATTN LOWELL DUNN II  
8083 NORTH WEST 103<sup>RD</sup> ST  
HIALEAH GARDENS FL 33016

JOHN P CUSACK JR TR UNDER  
JOHN P CUSACK TESTAMENTARY TR  
2808 WOOD WIND DR  
ARLINGTON TX 76013

JOHN P CUSACK JR  
308 WOOD WIND DR  
ARLINGTON TX 76013

MARY FRANCIS CUSACK  
2808 WOOD WIND DRIVE  
ARLINGTON TX 76013

MICHAEL F CUSACK  
2808 WOOD WIND DRIVE  
ARLINGTON TX 76013

EVON ENERGY CORP (NEVADA)  
1 NORTH BROADWAY STE 1500  
KLAHOMA CITY OK 73102

EXXON CO USA  
ATTN JI OPERATIONS  
P O Box 4707  
HOUSTON TX 77210-4707

TEXAS COMMERCE BANK-MIDLAND NA  
TRUSTEE ACCT NO 99-1496-00  
P O Box 10966  
MIDLAND TX 79702

FIRST ROSWELL COMPANY  
O BOX 1797  
OSWELL NM 88202

F & M BANK & TRUST CO TRUSTEE  
FOR THE CHARLES NOBLE FORBES  
FAMILY TRUST  
P O Box 3688  
TULSA OK 74101

ILAMAE FORBES  
P O Box 843  
TULSA OK 74101

**NORTH HOBBS UNIT**

**RUTH ANNE YEAGER HANSEN**  
4642 LORRAINE  
DALLAS TX 75209

**KENNETH NOEL HEADLEY**  
P O BOX 1359  
TIERRAS NM 87059

**MRS FRANCES I CONRAD HOY**  
P O BOX 540234  
DALLAS TX 75220

**A GAYLE HUGGINS**  
P O BOX 1195  
MANCHACA TX 78652

**PETER HURD**  
SENTINEL RANCH  
SAN PATRICIO NM 88348

**MARY ALICE LAFLIN**  
5138 S IOLA WAY  
ENGLEWOOD CO 80111

**RORCO LLC**  
CAROLYN K LISLE MANAGING MEMBER  
2540 WARWICK DRIVE  
OKLAHOMA CITY OK 73116

**MARATHON OIL CO**  
P O BOX 552  
MIDLAND TX 79702

**MARSHALL & WINSTON INC**  
P O BOX 50880  
MIDLAND TX 79710

**KATHRYN LOUISE CONRAD MCCARTHY**  
4435 SAN GABRIEL  
DALLAS TX 75229

**K D MCPETERS**  
502 W GOLD  
HOBBS NM 88240

**WANDA T MILLIGAN**  
151 MATTHEWS ROAD  
OAKDALE NY 11769

**NATHLYN IONE CONRAD MURDOCH**  
4 CAMP BRANCH ESTATES  
LEESBURG TX 75451

**NOBLE ISSUE TRUST**  
C/O EXCHANGE NAT'L BANK AND TRUST  
TRUSTEE  
P O BOX 789  
ARDMORE OK 73402

**RICHARD L NOBLE**  
P O BOX 67605  
LOS ANGELES CA 90067

**KERR MCGEE OIL & GAS ONSHORE**  
ATTN SHARON MATTHEWS  
P O BOX 809004  
DALLAS TX 75380

**PITCO**  
ATTN LARRY SNEAD  
2162 E 61<sup>ST</sup> ST  
TULSA OK 74136

**SEA PROPERTIES LTD**  
P O BOX 1486  
ARDMORE OK 73402

**JULIE ANTWEIL SILVERMAN**  
4408 CANYON COURT NE  
ALBUQUERQUE NM 87111

**HOWELL SPEAR**  
P O BOX 30169  
PENSACOLA FL 32503

**WILLIAM S SPRADLING**  
P O BOX 5  
FORT WORTH TX 76101

**E C SULLIVAN**  
P O BOX 93854  
LUBBOCK TX 79493

**BILL SWEET TRUST**  
ATTN ELIZABETH B LAUER  
C/O WELLS FARGO BANK NA AGENT  
P O BOX 5825  
DENVER CO 80217

**CECIL H & IMO E SWEET TRUST**  
ATTN ELIZABETH B LAUER  
C/O WELLS FARGO BANK NA AGENT  
P O BOX 5825  
DENVER CO 80217

**ANN H TAYLOR**  
P O BOX 3487  
MIDLAND TX 79702

**TEXACO EXPLOR & PROD INC**  
ATTN: ELAINE COWLEY  
P O BOX 3900  
MIDLAND TX 79702

**MARY ANN CURTIS LLC**  
JOYCE E SILVERNAIL SUC TTEE  
P O BOX 780164  
OKLAHOMA CITY OK 73178

**BETTYE CONRAD TREADAWAY**  
9507 GODSTONE LANE  
SPRING TX 77379

**TRIESCO INC**  
P O BOX 10632  
MIDLAND TX 79702

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION COMMISSION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 6652  
Order No. R-6198

APPLICATION OF SHELL OIL  
COMPANY FOR STATUTORY  
UNITIZATION, LEA COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This case and cause of action came on for hearing at 9:00 a.m. on October 3, 1979, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 30th day of November, 1979, the Commission, a quorum having been present, having considered the testimony and the record and being otherwise fully advised in the premises,

FINDS:

(1) That due public notice has been given as required by law, the Commission has jurisdiction of this case and cause of action and the subject matter hereof.

(2) That the applicant, Shell Oil Company, seeks the statutory unitization, pursuant to the "Statutory Unitization Act," Sections 70-7-1 through 70-7-21, NMSA 1978, of 10,649.53 acres, more or less, being a portion of the Hobbs Grayburg-San Andres Pool, Lea County, New Mexico, said portion to be known as the North Hobbs Grayburg-San Andres Unit Area; that applicant further seeks approval of the Unit Agreement and the Unit Operating Agreement which were submitted in evidence as applicant's Exhibits Nos. 3 and 4 in this case.

(3) That the proposed unit area should be designated the North Hobbs Grayburg-San Andres Unit Area, and the

horizontal limits of said unit area should be comprised of the following described lands:

TOWNSHIP 18 SOUTH, RANGE 37 EAST, NMPM

Section 13: SE/4 and W/2

Section 14: All

Sections 23 through 25: All

Section 26: E/2 NE/4 and NW/4 NE/4

Section 36: E/2 NW/4 and E/2

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM

Section 17: S/2 NW/4 and SW/4

Section 18: NE/4 and S/2

Sections 19 and 20: All

Section 21: SW/4, S/2 SE/4 and NW/4 SE/4

Sections 27 through 32: All

Section 33: W/2, NE/4, W/2 SE/4 and NE/4 SE/4

Section 34: E/2 NW/4 and E/2

(4) That the vertical limits of said North Hobbs Grayburg-San Andres Unit Area should comprise the Grayburg-San Andres formation of Permian age as found from a depth of 3,698 feet (51 feet sub-sea) to a depth of 4,500 feet (853 feet sub-sea) on the Borehole Compensated Sonic-Gamma Ray Log run July 9, 1969, in the Shell Oil Company State A Well No. 1 located 1930 feet from the North line and 660 feet from the East line of Section 32, Township 18 South, Range 38 East, NMPM, Lea County, New Mexico.

*#7 micro profile of well R-6198-6 1-30-80*

(5) That the portion of the Hobbs Grayburg-San Andres Pool proposed to be included in the aforesaid North Hobbs Grayburg-San Andres Unit Area has been reasonably defined by development.

(6) That the applicant proposes to institute a pressure maintenance project for the secondary recovery of oil, gas, gaseous substances, sulfur contained in gas, condensate, distillate and all associated and constituent liquid or liquifiable hydrocarbons within and to be produced from the proposed unit area.

(7) That the proposed supplemental recovery operations should result in the additional recovery of approximately 55 million barrels of oil.

(8) That the unitized management, operation and further development of the North Hobbs Grayburg-San Andres Unit Area, as proposed, is reasonably necessary to effectively

carry on pressure maintenance and secondary recovery operations and will substantially increase the ultimate recovery of oil and gas from the unitized portion of the pool.

(9) That the proposed unitized method of operation as applied to the North Hobbs Grayburg-San Andres Unit Area is feasible and will result with reasonable probability in the increased recovery of substantially more oil and gas from the unitized portion of the pool than would otherwise be recovered without unitization.

(10) That the estimated additional investment costs of the proposed supplemental recovery operations are \$33 million which include an estimated initial capital investment of \$27 million forecast to be spent in 1980 and 1981 and an additional \$6 million forecast to be spent during the eight years subsequent to 1981 for construction of facilities necessary to handle the anticipated increasing volumes of oil and water.

(11) That the additional recovery to be derived from the proposed supplemental recovery operations will have a resultant net profitability over the aforesaid additional costs, on a present value basis with a ten percent discount and before federal income tax of \$124 million or 42% profit.

(12) That the estimated additional costs of the proposed operations (as described in Finding No. (10) above) will not exceed the estimated value of the additional oil and gas (as described in Finding No. (11) above) plus a reasonable profit.

(13) That the applicant, the designated Unit Operator pursuant to the Unit Agreement and the Unit Operating Agreement, has made a good faith effort to secure voluntary unitization within the North Hobbs Grayburg-San Andres Unit Area.

(14) That Exxon Company, U.S.A. has declined to voluntarily join the unit and has opposed the application of Shell Oil Company in this case on the basis that the participation formula contained in the Unit Agreement fails to allocate the produced and saved unitized hydrocarbons to the separately owned tracts within the unit area on a fair, reasonable and equitable basis.

(15) That the Technical Report introduced as applicant's Exhibit No. 16 was prepared by a Technical Committee comprised of engineering representatives of all working interest owners involved in the proposed unit.

(16) That said Technical Committee met over a three and a half year period from September, 1973, to March, 1977.

(17) That Exxon Company, U.S.A. was represented at each of said meetings and its representative accepted the values assigned the unitization parameters contained in the Technical Report as well as the use of the cutoff date of January 1, 1975 for well logging data and well test information and the remaining primary oil reserve estimates as of January 1, 1977.

(18) That the values assigned the parameters appear to be based on sound engineering principles and data. Further, that there appears to exist a sound and rational basis for the adoption of the adopted cutoff dates so that a foundation could be laid for the fair allocation of remaining primary and secondary reserves to each of the tracts within the proposed unit area.

(19) That the objection of Exxon Company, U.S.A. to the application appears in large part to be based on Exxon's contention that the production performance of its Tract No. 47 since January 1, 1977, is not in conformity with the projections made by the computer simulator model used in the Technical Report.

(20) That the evidence which was presented, using the oil cutoff reserve relationship with the simulator output for Tract 47, showed that the May 1979 reserves as estimated by the simulation and the May 1979 oil cut for Tract 47 are in agreement, thus indicating that the simulation predictions are valid, and that the oil reserve estimates for Tract 47 are reasonable and fair, and are in order.

(21) That the evidence of Exxon Company, U.S.A. fails to refute the contention of the applicant that the allocations of the produced and saved hydrocarbons as set forth in the Technical Report and Unit Agreement to the separately owned tracts within the unit area are based on fair, reasonable and equitable considerations and calculations.

(22) That the participation formula contained in the unitization agreement allocates the produced and saved unitized substances to the separately owned tracts in the unit area on a fair, reasonable and equitable basis.

(23) That unitization and the adoption of the proposed unitized method of operation will benefit the working interest owners and royalty owners of the oil and gas rights within the North Hobbs Grayburg-San Andres Unit Area.

Case No. 6652  
Order No. R-6198

(24) That the granting of the application in this case will have no adverse effect upon other portions of the Hobbs Grayburg-San Andres Pool.

(25) That applicant's Exhibits Nos. 3 and 4 in this case, being the Unit Agreement and the Unit Operating Agreement, respectively, should be incorporated by reference into this order.

(26) That the North Hobbs Grayburg-San Andres Unit Agreement and the North Hobbs Grayburg-San Andres Unit Operating Agreement provide for unitization and unit operation of the North Hobbs Grayburg-San Andres Unit Area upon terms and conditions that are fair, reasonable and equitable and which include:

(a) an allocation to the separately owned tracts in the unit area of all oil and gas that is produced from the unit area and which is saved, being the production that is not used in the conduct of unit operations or not unavoidably lost;

(b) a provision for the credits and charges to be made in the adjustment among the owners in the unit area for their respective investments in wells, tanks, pumps, machinery, materials and equipment contributed to the unit operations;

(c) a provision governing how the costs of unit operations including capital investments shall be determined and charged to the separately owned tracts and how said costs shall be paid including a provision providing when, how, and by whom the unit production allocated to an owner who does not pay his share of the costs of unit operations shall be charged to such owner, or the interest of such owner, and how his interest may be sold and the proceeds applied to the payment of his costs;

(d) a provision for carrying any working interest owner on a limited, carried or net-profits basis, payable out of production, upon such terms and conditions which are just and reasonable, and which allow an appropriate charge for interest for such service payable out of production, upon such terms and conditions determined by the Commission to be just and reasonable, and allowing an appropriate charge for interest for such service payable out of such owner's share of production, providing that any nonconsenting working interest owner being so carried shall be deemed to have

relinquished to the Unit Operator all of his operating rights and working interests in and to the unit until his share of the costs, service charge and interest are repaid to the Unit Operator;

(e) a provision designating the Unit Operator and providing for the supervision and conduct of the unit operations, including the selection, removal or substitution of an operator from among the working interest owners to conduct the unit operations;

(f) a provision for a voting procedure for the decision of matters to be decided by the working interest owners in respect to which each working interest owner shall have a voting interest equal to his unit participation; and

(g) the time when the unit operation shall commence and the manner in which, and the circumstances under which, the operations shall terminate and for the settlement of accounts upon such termination;

(27) That the statutory unitization of the North Hobbs Grayburg-San Andres Unit Area is in conformity with the above findings, and will prevent waste and protect the correlative rights of all owners of interest within the proposed unit area, and should be approved.

IT IS THEREFORE ORDERED:

(1) That the North Hobbs Grayburg-San Andres Unit Area, comprising 10,649.53 acres, more or less, in the Hobbs Grayburg-San Andres Pool, Lea County, New Mexico, is hereby approved for statutory unitization pursuant to the Statutory Unitization Act, Sections 70-7-1 through 70-7-21 NMSA 1978.

(2) That the lands included within the North Hobbs Grayburg-San Andres Unit Area shall be comprised of:

TOWNSHIP 18 SOUTH, RANGE 37 EAST, NMPM  
Section 13: SE/4 and W/2  
Section 14: All  
Sections 23 through 25: All  
Section 26: E/2 NE/4 and NW/4 NE/4  
Section 36: E/2 NW/4 and E/2

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM

Section 17: S/2 NW/4 and SW/4

Section 18: NE/4 and S/2

Sections 19 and 20: All

Section 21: SW/4, S/2 SE/4 and NW/4 SE/4

Sections 27 through 32: All

Section 33: W/2, NE/4, W/2 SE/4 and NE/4 SE/4

Section 34: E/2 NW/4 and E/2

and that the above described lands shall be designated as the North Hobbs Grayburg-San Andres Unit Area.

(3) That the vertical limits of said North Hobbs Grayburg-San Andres Unit Area shall comprise the Grayburg-San Andres formation of Permian age as found from a depth of 3,698 feet (51 feet sub-sea) to a depth of 4,500 feet (853 feet sub-sea) on the Borehole Compensated Sonic-Gamma Ray Log run July 9, 1969, in the Shell Oil Company State A Well No. 1, located 1930 feet from the North line and 660 feet from the East line of Section 32, Township 18 South, Range 38 East, NMPM, Lea County, New Mexico. 7

(4) That the applicant shall institute a pressure maintenance project for the secondary recovery of oil, gas, gaseous substances, sulfur contained in gas, condensate, distillate and all associated and constituent liquid or liquified hydrocarbons within and produced from the unit area, and said pressure maintenance project is the subject of Case No. 6653. *new info found R-61184 1/2/80*

(5) That the North Hobbs Grayburg-San Andres Unit Agreement and the North Hobbs Grayburg-San Andres Unit Operating Agreement are approved and adopted and incorporated by reference into this Order subject to compliance with the appropriate ratification provisions of Section 70-7-8, NMSA 1978.

(6) That when the persons owning the required percentage of interest in the unit area have approved or ratified the Unit Agreement and the Unit Operating Agreement, the interests of all persons within the unit area are unitized whether or not such persons have approved the Unit Agreement or the Unit Operating Agreement in writing.

(7) That the applicant as Unit Operator shall notify in writing the Division Director of any removal or substitution of said Unit Operator by any other working interest owner within the unit area.

-8-

Case No. 6652

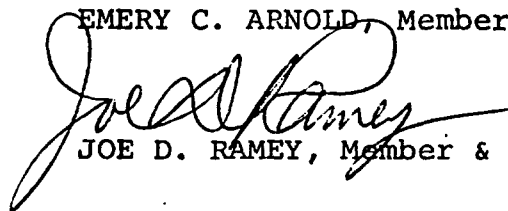
Order No. R-6198

(8) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
ALEX J. ARMIJO, Member

EMERY C. ARNOLD, Member  
  
JOE D. RAMEY, Member & Secretary

S E A L

dr/

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

CASE NO. 6652  
Order No. R-6198-A

APPLICATION OF SHELL OIL COMPANY  
FOR STATUTORY UNITIZATION, LEA  
COUNTY, NEW MEXICO.

NUNC PRO TUNC ORDER

BY THE COMMISSION:

It appearing to the Commission that Order No. R-6198 dated November 30, 1979, does not correctly state the intended order of the Commission,

IT IS THEREFORE ORDERED:

(1) That Finding No. (4) on Page 2 of Order No. R-6198 be and the same is hereby corrected to read in its entirety as follows:

"(4) That the vertical limits of said North Hobbs Grayburg-San Andres Unit Area should comprise the Grayburg-San Andres formation of Permian age as found from a depth of 3,698 feet (51 feet sub-sea) to a depth of 4,500 feet (853 feet sub-sea) on the Borehole Compensated Sonic-Gamma Ray Log run July 9, 1969, in the Shell Oil Company State A Well No. 7, located 1930 feet from the North line and 660 feet from the East line of Section 32, Township 18 South, Range 38 East, NMPM, Lea County, New Mexico."

(2) That Order No. (3) on Page 7 be and the same is hereby corrected to read in its entirety as follows:

"(3) That the vertical limits of said North Hobbs Grayburg-San Andres Unit Area shall comprise the Grayburg-San Andres formation of Permian age as found from a depth of 3,698 feet (51 feet sub-sea) to a depth of 4,500 feet (853 feet sub-sea) on the Borehole Compensated Sonic-Gamma Ray Log run July 9, 1969, in the Shell Oil Company State A Well No. 7, located 1930 feet from the North line and 660 feet from the East line of Section 32, Township 18 South, Range 38 East, NMPM, Lea County, New Mexico."

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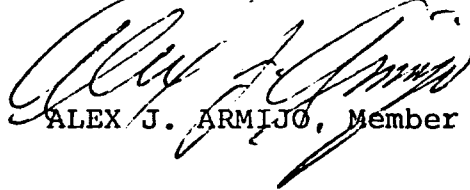
Case No. 6652

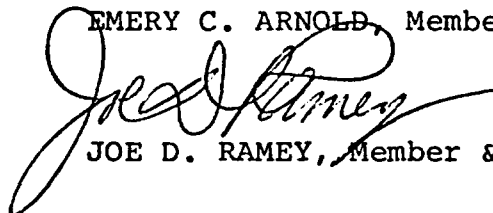
Order No. R-6198-A

(3) That the corrections set forth in this order be entered nunc pro tunc as of November 30, 1979.

DONE at Santa Fe, New Mexico, on this 30th day of January, 1980.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
ALEX J. ARMIJO, Member

EMERY C. ARNOLD, Member  
  
JOE D. RAMEY, Member & Secretary

S E A L

fd/

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION COMMISSION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 6653  
Order No. R-6199

APPLICATION OF SHELL OIL COMPANY  
FOR A PRESSURE MAINTENANCE PROJECT,  
LEA COUNTY, NEW MEXICO.

*See also  
Order No. R-6199-A*

ORDER OF THE COMMISSION

BY THE COMMISSION:

This case and cause of action came on for hearing at 9 a.m. on October 3, 1979, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 30th day of November, 1979, the Commission, a quorum having been present, having considered the testimony and the record, and being otherwise fully advised in the premises,

FINDS:

(1) That due public notice has been given as required by law and the Commission has jurisdiction of this case and cause of action and the subject matter hereof.

(2) That by Commission Order No. R-6198 dated November 1979, statutory unitization was approved for the North Hobbs Grayburg-San Andres Unit Area, Lea County, New Mexico.

(3) That the applicant herein, Shell Oil Company, seeks authority to institute a pressure maintenance project for the aforesaid North Hobbs Grayburg-San Andres Unit Area within the Hobbs Grayburg-San Andres Pool, Lea County, New Mexico, by the injection of water into the Grayburg-San Andres formation through 70 wells at orthodox and unorthodox locations, 52 of which are producing wells which will be converted to injection wells in 1980.

(4) That during 1980 for the pressure maintenance project, applicant proposes to drill five producing wells and 18 injection wells at orthodox and unorthodox locations as specified below:

Township 18 South, Range 37 East, NMPM

<u>Sec.</u>	<u>Unit Well No.</u>	<u>Unit Letter</u>	<u>Well Location</u>
24	242	N	1220' FSL & 2540' FWL
25	412	A	1220' FNL & 1220' FEL

Township 18 South, Range 38 East, NMPM

<u>Sec.</u>	<u>Unit Well No.</u>	<u>Unit Letter</u>	<u>Well Location</u>
18	242	N	1220' FSL & 2540' FWL
19	142	M	1220' FSL & 100' FWL
19	242	N	1220' FSL & 2540' FWL
28	242	N	990' FSL & 1330' FWL
29	112	D	330' FNL & 1000' FWL
29	142	M	1220' FSL & 100' FWL
29	242	N	1220' FSL & 1650' FWL
30	222	F	2540' FNL & 1420' FWL
31	432	I	2540' FSL & 1220' FEL
31	442	P	100' FSL & 1220' FEL
32	122	E	2310' FNL & 1220' FWL
32	242	N	100' FSL & 1420' FWL
32	412	A	1220' FNL & 1220' FEL
32	432	I	2310' FSL & 1310' FEL
32	442	P	100' FSL & 1220' FEL
33	112	D	1220' FNL & 100' FWL
33	212	C	1220' FNL & 1440' FWL
33	232	K	1420' FSL & 1420' FWL
33	242	N	100' FSL & 1420' FWL
33	332	J	2540' FSL & 2540' FEL
33	342	O	100' FSL & 1420' FEL

(5) That all of the wells referred to in Findings Nos. (3) and (4) above, being the 70 injection wells and the five producing wells, together with wells currently completed in the Grayburg-San Andres formation, will provide a thorough and efficient sweep of hydrocarbons throughout the unit area, and will result in the recovery of otherwise unrecoverable oil and gas, thereby preventing waste.

(6) That the above-described injection and producing wells, some of which will be at unorthodox locations along the unit boundary in accordance with lease-line agreements with operators of offsetting lands, will not impair but will protect correlative rights.

(7) That the applicant further seeks the designation of a project area for said pressure maintenance project for the North Hobbs Grayburg-San Andres Unit, and for the promulgation of special rules and regulations governing said project, including special allowable provisions, which is in the interest of conservation and should be approved, subject to certain provisions set forth herein.

(8) That the project area should consist of all those proration units within the boundary of the North Hobbs Grayburg-San Andres Unit Area as described in Order R-6198 upon which are located wells completed in the Hobbs Grayburg-San Andres Pool.

(9) That the project area allowable should be equal to the sum of the basic project area allowable plus the water injection credit allowable as hereinafter defined.

(10) That the basic project area allowable should be equal to 80 barrels of oil per day times the number of 40-acre proration units in the North Hobbs Grayburg-San Andres Unit Area upon which are located wells completed in the Hobbs Grayburg-San Andres Pool.

(11) That the water injection credit allowable should be based upon the following formula:

$$\text{Water Injection Credit Allowable} = \left[ \frac{\text{Net Water Injected}}{\text{Basic Project Area Allowable Reservoir Voidage}} - 1 \right] \times \text{Basic Project Area Allowable}$$

and should be calculated in accordance with this formula using the formula and data set forth on Exhibits "A" and "B" attached hereto.

(12) That a weighted average project area reservoir pressure should be determined prior to commencement of injection of water into the reservoir and at least annually thereafter.

(13) That the project area allowable should be permitted to be produced from the wells within the project area in any proportion.

(14) That the Director of the Oil Conservation Division should have authority to approve, without notice and hearing, the drilling of wells at unorthodox locations anywhere within the boundary of the North Hobbs Grayburg-San Andres Unit Area, provided however, no unorthodox location shall be closer than

ten feet to any quarter-quarter section line, and provided further, that no such unorthodox location shall be closer than 330 feet to the boundary of the unit area, unless such well is covered by a lease-line agreement with the operator of the lands offsetting such well, and a copy of the lease-line agreement accompanies the application for such unorthodox location, or unless such offset operator has waived objection to the proposed unorthodox location in writing, and his waiver accompanies the application.

(15) Application for approval of additional wells to be used for injection should be filed in accordance with Rule 701 of the Division Rules and Regulations and provision should be made whereby the same could be approved administratively by the Division Director without notice and hearing.

(16) That each newly drilled injection or producing well should be equipped as follows:

a. Minimum of 350 feet of surface casing and production casing run to total depth (approximately 4500 feet), or

b. Surface casing cemented below the "red beds" (approximately 1600 feet) and production casing run to total depth (approximately 4500 feet).

c. The Division Director should have authority to approve exceptions to the aforesaid casing programs for good cause shown.

All casing strings should be cemented to the surface except that in any well in which an intermediate casing string has been run and cemented to the surface, the production string may be cemented back into the base of the intermediate casing.

(17) That injection should be accomplished through tubing installed in a packer set within 100 feet of the uppermost perforation, or in the case of an open hole completion, 100 feet above the casing shoe. The injection tubing should be corrosion protected by a non-reactive internal lining or coating. The casing-tubing annulus in each injection well should be filled with an inert fluid and a surface pressure gauge or approved leak detection device should be attached to the annulus.

(18) That the injection wells or system should be equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 0.2 psi per foot of depth to the injection zone. The Division Director should have authority to administratively authorize a pressure

limitation in excess of the above upon a showing by the Unit Operator that such higher pressure will not result in fracturing of the confining strata.

(19) That all wells within the unit area should be equipped with risers or in some other acceptable manner so as to facilitate the periodic testing of the bradenhead for pressure or fluid production.

(20) That there are a number of wells within the North Hobbs Grayburg-San Andres Unit Area and on lands offsetting the unit area which have previously been plugged and abandoned in a manner which may permit waters injected into the Grayburg-San Andres formation to escape into other formations, including the Salado formation and threaten the shallow fresh water-bearing formations unless remedial action is taken on said wells prior to injection in their near vicinity.

(21) That there are a number of wells within the North Hobbs Grayburg-San Andres Unit Area and on lands offsetting the unit area which penetrate the Hobbs Grayburg-San Andres Pool and are completed in deeper pay zones, but which are cased and cemented in such a manner as may permit the escape of waters injected into the Grayburg-San Andres formation into other formations as described in the preceding paragraph.

(22) That those wells referred to in Findings Nos. (20) and (21) above which are inadequately plugged and abandoned or are inadequately cased and cemented, or are suspected of being so, include, but are not necessarily limited to, the wells listed in Exhibit "C" attached hereto.

(23) That no injection at greater than hydrostatic pressure should be made into the Grayburg-San Andres formation in any well in the North Hobbs Grayburg-San Andres Unit Area within one-half mile of any well listed on Exhibit "C" until remedial action has been taken on such well to ensure that it will not serve as an avenue of escape for injected waters, or until tests have been conducted on such well or until other evidence concerning such well has been presented establishing to the satisfaction of the Supervisor of the Hobbs District Office of the Division that remedial work on such well is unnecessary.

IT IS THEREFORE ORDERED:

(1) That the applicant, Shell Oil Company, is hereby authorized to institute and operate a pressure maintenance project in the North Hobbs Grayburg-San Andres Unit Area within

the Hobbs Grayburg-San Andres Pool, Lea County, New Mexico, by the injection of water into the Grayburg-San Andres formation through certain wells which will be administratively approved for water injection by the Division Director.

(2) That said project shall be designated the North Hobbs Grayburg-San Andres Unit Pressure Maintenance Project.

(3) That the following orthodox and unorthodox locations are hereby approved for the drilling of new injection and producing wells:

Township 18 South, Range 37 East, NMPM

<u>Sec.</u>	<u>Unit Well No.</u>	<u>Unit Letter</u>	<u>Well Location</u>
24	242	N	1220' FSL & 2540' FWL
25	412	A	1220' FNL & 1220' FEL

Township 18 South, Range 38 East, NMPM

<u>Sec.</u>	<u>Unit Well No.</u>	<u>Unit Letter</u>	<u>Well Location</u>
18	242	N	1220' FSL & 2540' FWL
19	142	M	1220' FSL & 100' FWL
19	242	N	1220' FSL & 2540' FWL
28	242	N	990' FSL & 1330' FWL
29	112	D	330' FNL & 1000' FWL
29	142	M	1220' FSL & 100' FWL
29	242	N	1220' FSL & 1650' FWL
30	222	F	2540' FNL & 1420' FWL
31	432	I	2540' FSL & 1220' FEL
31	442	P	100' FSL & 1220' FEL
32	122	E	2310' FNL & 1220' FWL
32	242	N	100' FSL & 1420' FWL
32	412	A	1220' FNL & 1220' FEL
32	432	I	2310' FSL & 1310' FEL
32	442	P	100' FSL & 1220' FEL
33	112	D	1220' FNL & 100' FWL
33	212	C	1220' FNL & 1440' FWL
33	232	K	1420' FSL & 1420' FWL
33	242	N	100' FSL & 1420' FWL
33	332	J	2540' FSL & 2540' FEL
33	342	O	100' FSL & 1420' FEL

(4) That Special Rules and Regulations governing the North Hobbs Grayburg-San Andres Unit Pressure Maintenance Project are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS  
FOR THE  
NORTH HOBBS GRAYBURG-SAN ANDRES UNIT  
PRESSURE MAINTENANCE PROJECT

RULE 1. That the project area shall consist of all those proration units within the boundary of the North Hobbs Grayburg-San Andres Unit Area upon which is completed a well in the Hobbs Grayburg-San Andres Pool.

RULE 2. The project area shall receive a project area allowable, and said project area allowable shall be the sum of the basic project area allowable plus the water injection credit allowable.

RULE 3. The basic project area allowable shall be equal to 80 barrels of oil per day times the number of developed 40-acre proration units in the project area.

RULE 4. The water injection credit allowable shall be based upon the following formula:

$$\text{Water Injection Credit Allowable} = \left[ \frac{\text{Net Water Injected}}{\text{Basic Project Area Allowable Reservoir Voidage}} - 1 \right] \times \text{Basic Project Area Allowable}$$

The water injection credit allowable shall be calculated in accordance with this formula using the formula and data set forth on Exhibits "A" and "B" attached hereto and incorporated herein by reference. In no event shall the water injection credit allowable be less than zero. Therefore, negative numbers derived from the application of the above formula shall be ignored.

RULE 5. A weighted average project area reservoir pressure shall be determined prior to commencement of injection of water into the reservoir and at least annually thereafter.

RULE 6. The project area allowable may be produced from the wells within the project area in any proportion.

RULE 7. The Director of the Oil Conservation Division shall have authority to approve, without notice and hearing, the drilling of wells at unorthodox locations anywhere within

the boundary of the North Hobbs Grayburg-San Andres Unit Area, provided however, no unorthodox location shall be closer than ten feet to any quarter-quarter section line, and provided further, that no such unorthodox location shall be closer than 330 feet to the boundary of the unit area, unless such well is covered by a lease-line agreement with the operator of the lands offsetting such well, and a copy of the lease-line agreement accompanies the application for such unorthodox location, or unless such offset operator has waived objection to the proposed unorthodox location in writing, and his waiver accompanies the application.

RULE 8. Application for approval of additional wells to be used for injection shall be filed in accordance with Rule 701 of the Division Rules and Regulations and may be approved administratively by the Division Director without notice and hearing.

RULE 9. Each newly drilled injection or producing well shall be equipped as follows:

a. Minimum of 350 feet of surface casing and production casing run to total depth (approximately 4500 feet), or

b. Surface casing cemented below the "red beds" (approximately 1600 feet) and production casing run to total depth (approximately 4500 feet).

c. Exceptions to the aforesaid casing programs may be granted by administrative approval of the Division Director upon good cause shown.

All casing strings shall be cemented to the surface except that in any well in which an intermediate casing string has been run and cemented to the surface, the production string may be cemented back into the base of the intermediate casing.

RULE 10. Injection shall be accomplished through tubing installed in a packer set within 100 feet of the uppermost perforation, or in case of an open hole completion, 100 feet above the casing shoe. The injection tubing shall be corrosion protected by a non-reactive internal lining or coating. The casing-tubing annulus in each injection well shall be filled with an inert fluid and a surface gauge or approved leak detection device shall be attached to the annulus.

RULE 11. The injection wells or system shall be equipped with a pressure control device or acceptable substitute which

will limit the surface injection pressure to no more than 0.2 psi per foot of depth to the injection zone. The Division Director may administratively authorize a pressure limitation in excess of the above upon a showing by the Unit Operator that such higher pressure will not result in fracturing of the confining strata.

RULE 12. All wells within the unit area shall be equipped with risers or in some other acceptable manner so as to facilitate the periodic testing of the bradenhead for pressure or fluid production.

RULE 13. The Unit Operator shall immediately notify the Supervisor of the Hobbs District Office of the Division of the failure of the tubing or packer in any of the injection wells, the leakage of water or oil from or around any producing well, the leakage of water or oil from or around any plugged and abandoned well within the unit area, or any other evidence of fluid migration from the injection zone, and shall take such timely steps as may be necessary or required to correct such failure or leakage.

RULE 14. Prior to placing any well on injection, a cement bond log shall be run on said well; also at any time the tubing is pulled from any producing well in the unit area, a cement bond log shall be run on said well. Copies of all cement bond logs shall be sent to the Hobbs District Office of the Division. If any well is found to have an inadequate casing-cement bond, such measures as may be necessary to prevent leakage or migration of fluids within the wellbore shall be taken before placing the well on injection or restoring it to production.

Where multiple casing strings prevent technical interpretation of bonding, the cement bond shall be deemed adequate when the log shows acoustic coupling with the formation. In addition, radioactive tracer surveys, or any other acceptable survey presently available or developed in the future, that show no fluid migration out of the Grayburg-San Andres formation shall be acceptable evidence of bonding.

RULE 15. Each month the Unit Operator shall submit to the Division a Pressure Maintenance Project Operator's Report, on a form prescribed by the Division, outlining thereon the data required and requesting a project area allowable.

RULE 16. The Division shall, upon review of the report and after any adjustments deemed necessary, calculate the allowable for the project area for the next succeeding month in accordance

with these rules. The allowable so calculated shall be assigned to the unit area and may be produced from the wells in the project area in any proportion.

IT IS FURTHER ORDERED:

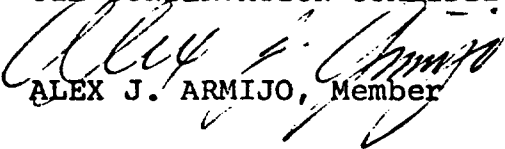
(1) That no injection at greater than hydrostatic pressure shall be made into the Grayburg-San Andres formation in any well in the North Hobbs Grayburg-San Andres Unit Area within one-half mile of any well listed on Exhibit "C" attached hereto and by reference herein incorporated, until remedial action has been taken on such well to ensure that it will not serve as an avenue of escape for injected waters, or until tests have been conducted on such well, or until other evidence concerning such well has been presented establishing to the satisfaction of the Supervisor of the Hobbs District Office of the Division that remedial work on such well is unnecessary.

(2) That the rules in this order concerning project allowables and the transfer thereof shall not be applicable until actual water injection begins in the North Hobbs Grayburg-San Andres Unit Area, provided however, that pending commencement of water injection activities, those wells in said unit area which directly or diagonally offset injection wells in any other water injection project in the Hobbs Pool or which directly or diagonally offset producing wells in any other water injection project in the Hobbs Pool, which producing wells are receiving transferred allowable and are producing at a rate in excess of top unit allowable for the pool, shall be eligible to receive and produce transferred allowable.

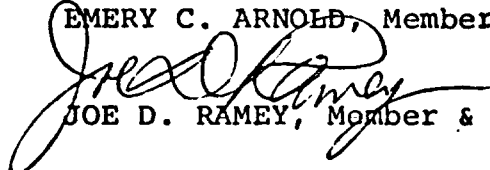
(3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
ALEX J. ARMIJO, Member

EMERY C. ARNOLD, Member

  
JOE D. RAMEY, Member & Secretary

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NORTH HOBBS GRAYBURG-SAN ANDRES UNIT AREA  
PRESSURE MAINTENANCE PROJECT

HOBBS GRAYBURG-SAN ANDRES POOL

LEA COUNTY, NEW MEXICO

Water Injection Credit Allowable Calculation Data

$$\text{Water Injection Credit Allowable} = \left[ \frac{W_i - W_p}{\text{BPAA} \left( B_o + \frac{R_p - R_s}{1,000 B_g} \right)} \right] - 1 \times \text{BPAA}$$

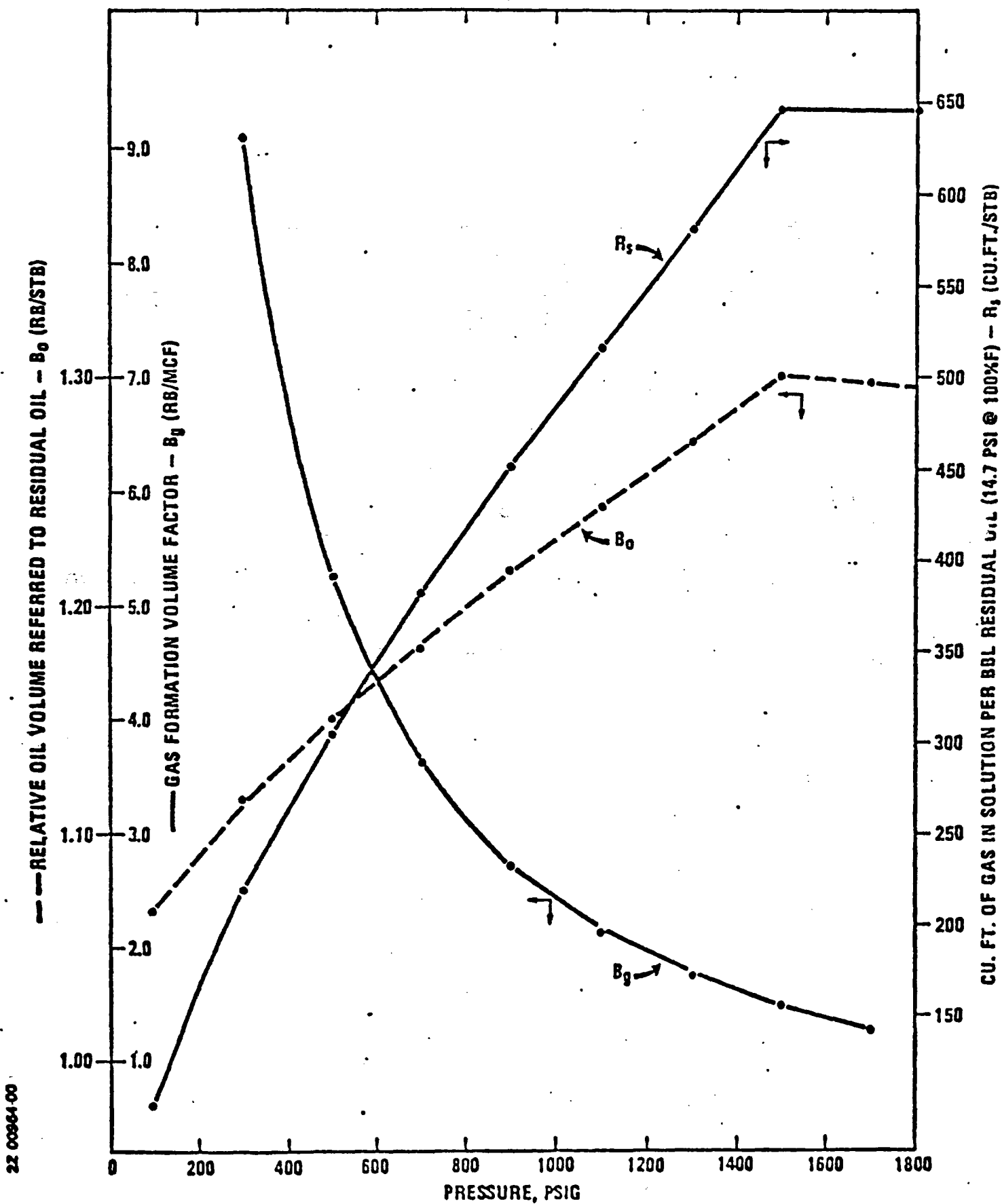
- $W_i$  = Average daily water injection during previous month, barrels per day unit area
- $W_p$  = Average daily water produced during previous month, barrels per day unit area
- BPAA = Basic project area allowable, 80 bopd x \_\_\_\_\_ (number of developed 40-acre proration units in unit area)
- P = Weighted average unit area reservoir pressure, psig, from \_\_\_\_\_, 19\_\_\_\_, survey data
- $B_o$  = Oil formation volume factor, reservoir barrels per stock tank barrel (Exhibit B)
- $R_p$  = Producing gas-oil ratio, cubic feet per barrel for previous month
- $R_s$  = Solution gas-oil ratio, cubic feet per barrel (Exhibit B)
- $B_g$  = Gas formation volume factor, reservoir barrels per Mcf (Exhibit B)

Water injection credit allowable for \_\_\_\_\_, 19\_\_\_\_, = \_\_\_\_\_ barrels of oil per day

EXHIBIT "A"

OIL ( $B_o$ ) AND GAS ( $B_g$ ) FORMATION VOLUME FACTORS  
AND GAS SOLUBILITY VS RESERVOIR PRESSURE

GRAYBURG-SAN ANDRES RESERVOIR  
HOBBS FIELD  
LEA COUNTY, NEW MEXICO



WELLS SUSPECTED OF BEING INADEQUATELY  
PLUGGED AND ABANDONED OR INADEQUATELY  
CASED AND CEMENTED

<u>Operator</u>	<u>Lease</u>	<u>Well No.</u>	<u>Unit</u>	<u>Sec-Twp-Rge</u>
Amoco	"G" State	6	F	33-18S-38E
Chevron	"A" State	5	O	29-18S-38E
Continental	"A-29" State	7	N	29-18S-38E
Continental	"A-29" State	8	K	29-18S-38E
Continental	"A-33" State	12	L	33-18S-38E
Exxon	USA Bowers	28	M	29-18S-38E
Exxon	Boon Hardin	1	E	18-18S-38E
Getty	Grimes	2	H	29-18S-38E
Getty	Grimes	5	H	29-18S-38E
Gulf	Morris	1	B	21-18S-38E
Gulf	North Grimes	4	K	21-18S-38E
Hobbs-High Inc.	Tatums	1	M	35-18S-38E
Landreth Production	State	1A	O	7-18S-38E
Pontotoc	"B" Hobbs State	1	F	29-18S-38E
Pontotoc	"B" Hobbs State	2	G	29-18S-38E
C. H. Sweet	Grimes	1	I	20-18S-38E

EXHIBIT "C"

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 7908  
Order No. R-6199-A

APPLICATION OF SHELL OIL COMPANY  
FOR UNORTHODOX LOCATIONS, DIRECTIONAL  
DRILLING, AND PRESSURE MAINTENANCE  
EXPANSION, LEA COUNTY, NEW MEXICO.

*See also  
Order No. R-6199*

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on July 20, 1983, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 4th day of August, 1983, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Shell Oil Company, seeks authority to directionally drill five North Hobbs Unit wells at various surface and bottomhole locations on the common boundary of the South Hobbs Unit and the North Hobbs Unit, all as listed below, Lea County, New Mexico:

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM

<u>Well No.</u>	<u>Section No.</u>	<u>Surface Location</u>	<u>Bottom Hole Location</u>
142	32	610' FSL & 1210' FWL	25' FSL & 1320' FWL
342	32	475' FSL & 1437' FEL	25' FSL & 1320' FEL
342	33	125' FSL & 2730' FWL	25' FSL & 2640' FWL
422	33	2181' FNL & 498' FEL	2640' FNL & 25' FEL
432	33	1842' FSL & 1029' FEL	1345' FSL & 1320' FEL

(3) That a 75-foot radius tolerance should be provided for each bottom hole location.

(4) That the quarter-quarter section wherein any one of said wells is ultimately bottomed should be dedicated to such well.

(5) That the unorthodox surface locations and the unorthodox bottom hole locations are necessitated by topography and a lease line agreement, respectively.

(6) That the applicant should be required to determine the subsurface location of the bottom of each of said holes by means of a continuous multi-shot directional survey conducted subsequent to said directional drilling.

(7) That the applicant also seeks expansion of the North Hobbs Grayburg-San Andres Pressure Maintenance Project to permit injection into said wells.

(8) That said wells should be authorized for injection subject to all provisions of Order No. R-6199, which authorized said project.

(9) That approval of the subject application will afford the applicant the opportunity to produce its just and equitable share of the oil in the Hobbs Pool and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Shell Oil Company, is hereby authorized to directionally drill each of the following described five wells in its North Hobbs Unit from the surface location to a point within 75 feet of the bottom hole location, all as shown and approved as follows:

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM

<u>Well No.</u>	<u>Section No.</u>	<u>Surface Location</u>	<u>Bottom Hole Location</u>
142	32	610' FSL & 1210' FWL	25' FSL & 1320' FWL
342	32	475' FSL & 1437' FEL	25' FSL & 1320' FEL
342	33	125' FSL & 2730' FWL	25' FSL & 2640' FWL
422	33	2181' FNL & 498' FEL	2640' FNL & 25' FEL
432	33	1842' FSL & 1029' FEL	1345' FSL & 1320' FEL

PROVIDED HOWEVER, that prior to the above-described directional drilling, the applicant shall establish the

-3-

Case No. 7908

Order No. R-6199-A

location of the kick-off point by conducting a continuous multi-shot directional survey of the well.

PROVIDED FURTHER, that subsequent to the above-described directional drilling, a continuous multi-shot directional survey shall be made of the wellbore from total depth to the kick-off point with shot points not more than 100 feet apart; that the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe office of the Division, P. O. Box 2088, Santa Fe, New Mexico 87501, and that the operator shall notify the Division's Hobbs District Office of the date and time said survey is to be commenced.

(2) That Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depth in addition to measured depths.

(3) That the quarter-quarter section wherein any one of said wells is ultimately bottomed shall be dedicated to such well.

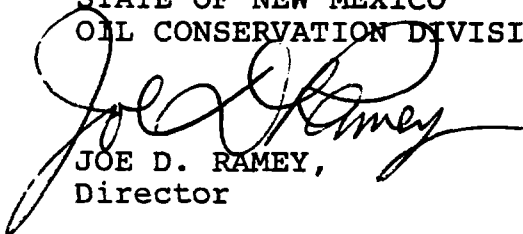
(4) That approval is also given for the expansion of the North Hobbs Grayburg-San Andres Pressure Maintenance Project to permit injection into each of the wells directionally drilled under terms of this order.

(5) That injection into and operation of said wells shall be in compliance with the provisions of Division Order No. R-6199 and Division Rules 702 through 708.

(7) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
JOE D. RAMEY,  
Director

S E A L

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE NO. 5372  
Order No. R-4934

APPLICATION OF AMOCO PRODUCTION  
COMPANY FOR A PRESSURE MAINTENANCE  
PROJECT, LEA COUNTY, NEW MEXICO.

*See also  
Order No  
R-4934-A  
R-4934-B  
R-4934-C  
R-4934-D  
R-4934-E*

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 26, 1974, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 3rd day of December, 1974, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Amoco Production Company, is the operator of the South Hobbs (Grayburg-San Andres) Unit Area, Hobbs Grayburg-San Andres Pool, Lea County, New Mexico, comprised as follows:

LEA COUNTY, NEW MEXICO  
TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM  
Section 33: SE/4 SE/4  
Section 34: W/2

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM  
Sections 3, 4, and 5: All  
Section 6: N/2 and SE/4  
Section 8: N/2 NW/4, NE/4, and N/2 SE/4  
Section 9: N/2, N/2 SW/4, and SE/4  
Section 10: All  
Section 11: SW/4 SW/4  
Section 14: W/2 NW/4  
Section 15: All  
Section 16: NE/4 NE/4

(3) That the applicant seeks authority to institute a pressure maintenance project in said unit area by the injection of water into the Grayburg and San Andres formations through 45 wells in the unit area.

(4) That the applicant further seeks the promulgation of special rules for said project, including the establishment of a project area and provision for the expansion of the project area, the placing of additional wells on water injection, and the transfer of allowables within the project area.

(5) That initially the project area should comprise only the following described lands in Township 19 South, Range 38 East, NMPM:

Sections 3 and 4: All  
Section 5: N/2, SW/4, and E/2 SE/4  
Section 6: NW/4, N/2 NE/4, and SE/4 NE/4  
Section 8: E/2 NE/4 and N/2 SE/4  
Section 9: N/2, N/2 SW/4, and SE/4  
Section 10: All  
Section 11: SW/4 SW/4  
Section 14: W/2 NW/4  
Section 15: All  
Section 16: NE/4 NE/4

(6) That of the 45 wells requested by applicant as water injection wells, the following five are located on lands not qualified for participation in the unit at the time of hearing this case, and should not be authorized for water injection at this time:

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM

<u>Operator</u> <u>Name</u>	<u>Lease</u> <u>Name</u>	<u>Well</u> <u>No.</u>	<u>Unit</u>	<u>Section</u>
Continental	State A	2	O	5
W. K. Byrom	Atlantic Bradley	5	G	6
W. K. Byrom	O. O. Bradley	1	I	6
W. K. Byrom	H. J. Orcutt	1	C	8
Skelly	Mexico U	2	G	8

(7) That the proposed pressure maintenance project and special rules therefor are in the interest of conservation, will result in the recovery of otherwise unrecoverable oil thus preventing waste, will not violate correlative rights, and should be approved, provided special precautions are taken to ensure the integrity of fresh water supplies in the area.

(8) That reasonable special precautions to ensure the integrity of fresh water supplies in the area include the running of cement bond logs on wells, conducting monthly casing leak surveys, and keeping injection pressures in the reservoir at or below 200 percent of the original reservoir pressure of 1525 psig.

CASE NO. 5372  
Order No. R-4934

IT IS THEREFORE ORDERED:

(1) That the applicant, Amoco Production Company, is hereby authorized to institute a pressure maintenance project in its South Hobbs (Grayburg-San Andres) Unit Area, Hobbs Grayburg-San Andres Pool, Lea County, New Mexico, said project to comprise:

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM

Section 33: SE/4 SE/4

Section 34: W/2

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM

Sections 3, 4, and 5: All

Section 6: N/2 and SE/4

Section 8: N/2 NW/4, NE/4, and N/2 SE/4

Section 9: N/2, N/2 SW/4, and SE/4

Section 10: All

Section 11: SW/4 SW/4

Section 14: W/2 NW/4

Section 15: All

Section 16: NE/4 NE/4

(2) That the applicant is hereby authorized to inject water into the Grayburg and San Andres formations through the following 40 wells in Township 19 South, Range 38 East, NMPM:

<u>Lease Name</u>	<u>Well No.</u>	<u>Unit</u>	<u>Section</u>
Byers A	29	E	3
Byers	2	G	3
Capps	10	I	3
Capps	11	K	3
South Hobbs Unit	(to be drilled)	M	3
Capps	30	O	3
State A	33	E	4
Byers B	33	G	4
State A	10	I	4
State A	9	K	4
H. D. McKinley	3	M	4
State A	18	O	4
McKinley	29	E	5
H. D. McKinley	4	G	5
H. D. McKinley	5	I	5
State A	23	K	5
State A	21	M	5
O. B. Terry	1	A	8
State WHC	1	I	8
State A	5	A	9
State A	15	C	9
Terry TR 3	21	E	9
State A	20	G	9

CASE NO. 5372  
Order No. R-4934

Terry TR1 RA A	11	I	9
Terry A	2	K	9
Terry TR 1 RA B	28	O	9
Thorp RA B	10	A	10
Thorp RA A	11	C	10
State A 1	30	E	10
Thorp RA C	30	G	10
Thorp	2	I	10
Terry TR 2	13	K	10
State A 1	29	M	10
Terry	3	P	10
State A 1	1	C	15
State A 1	3	E	15
Frank Selman	1	G	15
Frank Selman	2	I	15
Nordon Corp. Limited	1	N	15
State M 16	1	A	16

(3) That authority to inject water into the following described wells is hereby denied:

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM

<u>Operator</u> <u>Name</u>	<u>Lease</u> <u>Name</u>	<u>Well</u> <u>No.</u>	<u>Unit</u>	<u>Section</u>
Continental	State A	2	O	5
W. K. Byrom	Atlantic Bradley	5	G	6
W. K. Byrom	O. O. Bradley	1	I	6
W. K. Byrom	H. J. Orcutt	1	C	8
Skelly	Mexico U	2	G	8

(4) That Special Rules and Regulations governing the operation of the Amoco South Hobbs Grayburg-San Andres Pressure Maintenance Project, Hobbs Grayburg-San Andres Pool, Lea County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS  
FOR THE  
AMOCO SOUTH HOBBS GRAYBURG-SAN ANDRES  
PRESSURE MAINTENANCE PROJECT

RULE 1. For the Amoco South Hobbs Grayburg-San Andres Pressure Maintenance Project, hereinafter referred to as the Project, the project area shall comprise the lands in Lea County, New Mexico, described as follows:

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM

Sections 3 and 4: All  
Section 5: N/2, SW/4, and E/2 SE/4  
Section 6: NW/4, N/2 NE/4, and SE/4 NE/4  
Section 8: E/2 NE/4 and N/2 SE/4  
Section 9: N/2, N/2 SW/4, and SE/4  
Section 10: All  
Section 11: SW/4 SW/4  
Section 14: W/2 NW/4  
Section 15: All  
Section 16: NE/4 NE/4

RULE 2. The allowable for wells in the Project shall be determined as follows:

The allowable for wells in the Project, but not within the project area, shall be determined in accordance with the State-wide Rules and Regulations. The allowable for the project area shall be the sum of the allowables of the several wells within the project area, including those wells which are shut-in, curtailed, or used as injection wells. Allowables for all wells shall be determined in a manner hereinafter prescribed.

RULE 3. Allowables for injection wells may be transferred to producing wells within the project area, as may the allowables for producing wells which, in the interest of more efficient operation of the Project, are shut-in or curtailed because of high gas-oil ratio or are shut-in for any of the following reasons: pressure regulation, control of pattern or sweep efficiencies, or to observe changes in pressures or changes in characteristics of reservoir liquids or progress of sweep.

RULE 4. The allowable assigned to any well which is shut-in or which is curtailed in accordance with the provisions of Rule 3 which allowable is to be transferred to any well or wells in the project area for production, shall in no event be greater than its ability to produce during the test prescribed by Rule 6, below, or greater than the current top unit allowable for the pool during the month of transfer, whichever is less.

RULE 5. The allowable assigned to any injection well on a 40-acre proration unit shall be top unit allowable for the Hobbs Grayburg-San Andres Pool.

RULE 6. The allowable assigned to any well which is shut-in or curtailed in accordance with Rule 3, shall be determined by a 24-hour test at a stabilized rate of production, which shall be the final 24-hour period of a 72-hour test throughout which the well shall be produced in the same manner and at a constant rate. The daily tolerance limitation set forth in Commission Rule 502 I (a) and the limiting gas-oil ratio (2,000 to 1) for the pool shall be waived during such tests. The project operator shall notify all operators offsetting the well, as well as the Commission, of the exact time such tests are to be conducted. Tests may be witnessed by representatives of the offsetting operators and the Commission, if they so desire.

RULE 7. The basic allowable assigned to each producing well in the project area shall be equal to the well's ability to produce or to top unit allowable for the pool, whichever is less, provided however, wells in the project area capable of producing more than top unit allowable may also receive transfer allowable. Each producing well shall be subject to the limiting gas-oil ratio (3,500 to 1) for the pool.

RULE 8. Each month the project operator shall submit to the Commission a Pressure Maintenance Project Operator's Report, on a form prescribed by the Commission, outlining thereon the data required, and requesting allowables for each of the several wells operated by him in the Project as well as the total Project allowable based upon the pool's depth bracket allowable and the market demand percentage in effect. The aforesaid Pressure Maintenance Project Operator's Report shall be filed in lieu of Form C-120 for the Project.

RULE 9. The Commission shall, upon review of the report and after any adjustments deemed necessary, calculate the allowable for each of the project operator's wells in the Project for the next succeeding month in accordance with these rules. The sum of the allowables so calculated shall be assigned to the Project and may be produced from the wells in the Project in accordance with these rules.

RULE 10. The project area may be expanded by the Secretary-Director of the Commission upon a showing to him that lands within the Project but not now within the project area have been committed to the South Hobbs (Grayburg-San Andres) Unit Area by ratification of the unit agreement or otherwise admitted.

RULE 11. The conversion of producing wells to injection and the drilling of additional wells for injection shall be accomplished only after approval of the same by the Secretary-Director of the Commission. To obtain such approval, the project operator shall file proper application with the Commission, which application shall include the following:

(1) A plat showing the location of proposed injection wells, all wells within the project area, and offset operators, locating wells which offset the project area.

(2) A schematic drawing of the proposed injection wells which fully describes the casing, tubing, perforated interval, and depth showing that the injection of water will be confined to the Grayburg and San Andres formations.

(3) A letter stating that all offset operators to the proposed injection wells have been furnished a complete copy of the application and the date of notification.

The Secretary-Director may approve the proposed injection wells if, within 20 days after receiving the application, no objection to the proposal is received. The Secretary-Director may grant immediate approval, provided waivers of objection are received from all offset operators.

RULE 12. Water injection into each injection well in the Project shall be through internally coated tubing set in a packer located as near as is practicable to the uppermost perforation or, in the case of an open hole completion, to the

casing shoe; the casing-tubing annulus of each of said wells shall be loaded with an inert fluid and equipped with a pressure gauge at the surface, to facilitate detection of leakage in the casing, tubing, or packer.

RULE 13. Prior to placing any well on injection, a cement bond log shall be run on said well; also at any time the rods and/or tubing are pulled from any producing well in the Project, a cement bond log shall be run on said well. Copies of all cement bond logs shall be sent to the Hobbs district office of the Commission. If any well is found to have an inadequate casing-cement bond, such measures as may be necessary to prevent leakage or migration of fluids within the wellbore shall be taken before placing the well on injection or restoring it to production.

RULE 14. A casing leak survey in a manner approved by the Commission, shall be conducted on all wells in the Project once each calendar month. This survey shall be taken in accordance with a schedule agreed upon by the operators and the Hobbs district office of the Commission. A Commission representative shall witness the casing leak survey at least every other calendar month. Results of all casing leak surveys shall be filed with the Hobbs and Santa Fe offices of the Commission.

RULE 15. Surface injection pressures at the well head of all injection wells in the Project shall be kept low enough so that the surface injection pressure plus the hydrostatic head of the fluid currently being injected does not exceed 200 percent of the original bottomhole pressure of the Hobbs Grayburg-San Andres Pool, 1525 psig.

(5) That the subject secondary recovery project is hereby approved and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

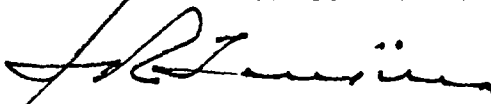
(6) That monthly progress reports of the project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(7) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.


-8-  
CASE NO. 5372  
Order No. R-4934

DONE at Santa Fe, New Mexico, on the day and year herein-  
above designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
I. R. TRUJILLO, Chairman

ALEX J. ARMIJO, Member

  
A. L. PORTER, Jr., Member & Secretary

S E A L

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 7907  
Order No. R-4934-A

APPLICATION OF AMOCO PRODUCTION COMPANY  
FOR UNORTHODOX LOCATIONS, DIRECTIONAL  
DRILLING, AND PRESSURE MAINTENANCE  
EXPANSION, LEA COUNTY, NEW MEXICO.

*See also  
Order No. R-4934  
R-4934-B  
R-4934-C  
R-4934-D  
R-4934-E*

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on July 20, 1983,  
at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 4th day of August, 1983, the Division  
Director, having considered the testimony, the record, and the  
recommendations of the Examiner, and being fully advised in the  
premises,

FINDS:

(1) That due public notice having been given as required  
by law, the Division has jurisdiction of this cause and the  
subject matter thereof.

(2) That the applicant, Amoco Production Company, seeks  
authority to directionally drill its South Hobbs Unit Coop Well  
Nos. 1 through 6 at various surface and bottomhole locations on  
the common boundary of the South Hobbs Unit and the North Hobbs  
Unit, all as listed below, Lea County, New Mexico:

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM

<u>Well No.</u>	<u>Section No.</u>	<u>Surface Location</u>	<u>Bottom Hole Location</u>
1	6	200' FNL x 1380' FEL	25' FNL x 1330' FEL
2	4	645' FNL x 453' FWL	25' FNL x 10' FWL
3	4	645' FNL x 2045' FWL	25' FNL x 1330' FWL
4	4	494' FNL x 1025' FEL	25' FNL x 1310' FEL

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM

<u>Well No.</u>	<u>Section No.</u>	<u>Surface Location</u>	<u>Bottom Hole Location</u>
5	34	1980' FSL x 646' FWL	1330' FSL x 25' FWL
6	34	1950' FNL x 535' FWL	1330' FNL x 25' FWL

(3) That a 75-foot radius tolerance should be provided for each bottom hole location.

(4) That the quarter-quarter section wherein any one of said wells is ultimately bottomed should be dedicated to such well.

(5) That the unorthodox surface locations and the unorthodox bottom hole locations are necessitated by topography and a lease line agreement, respectively.

(6) That the applicant should be required to determine the subsurface location of the bottom of each of said holes by means of a continuous multi-shot directional survey conducted subsequent to said directional drilling.

(7) That the applicant also seeks expansion of the South Hobbs Grayburg-San Andres Pressure Maintenance Project to permit injection into said wells.

(8) That said wells should be authorized for injection subject to the provisions of Order No. R-4934 which authorized said project.

(9) That, in addition, said wells or the injection system should be equipped so as to limit injection pressure at the wellhead to no more than 0.2 pounds per foot of depth to the topmost perforation in any such well but the Director should have authority to increase said pressure limitation should circumstances warrant.

(10) That approval of the subject application will afford the applicant the opportunity to produce its just and equitable share of the oil in the Hobbs Pool and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Amoco Production Company, is hereby authorized to directionally drill each of the following described six wells in its South Hobbs Unit from the surface

location to a point within 75 feet of the bottom hole location, all as shown and approved as follows:

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM

<u>Well No.</u>	<u>Section No.</u>	<u>Surface Location</u>	<u>Bottom Hole Location</u>
1	6	200' FNL x 1380' FEL	25' FNL x 1330' FEL
2	4	645' FNL x 453' FWL	25' FNL x 10' FWL
3	4	645' FNL x 2045' FWL	25' FNL x 1330' FWL
4	4	494' FNL x 1025' FEL	25' FNL x 1310' FEL

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM

<u>Well No.</u>	<u>Section No.</u>	<u>Surface Location</u>	<u>Bottom Hole Location</u>
5	34	1980' FSL x 646' FWL	1330' FSL x 25' FWL
6	34	1950' FNL x 535' FWL	1330' FNL x 25' FWL

PROVIDED HOWEVER, that prior to the above-described directional drilling, the applicant shall establish the location of the kick-off point by conducting a continuous multi-shot directional survey of the well.

PROVIDED FURTHER, that subsequent to the above-described directional drilling, a continuous multi-shot directional survey shall be made of the wellbore from total depth to the kick-off point with shot points not more than 100 feet apart; that the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe office of the Division, P. O. Box 2088, Santa Fe, New Mexico 87501, and that the operator shall notify the Division's Hobbs District Office of the date and time said survey is to be commenced.

(2) That Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depth in addition to measured depths.

(3) That the quarter-quarter section wherein any one of said wells is ultimately bottomed shall be dedicated to such well.

(4) That approval is also given for the expansion of the South Hobbs Grayburg-San Andres Pressure Maintenance Project to permit injection into each of the wells directionally drilled under terms of this order.

Case No. 7907  
Order No. R-4934-A

(5) That injection into and operation of said wells shall be in compliance with the provisions of Division Order No. R-4934 and Division Rules 702 through 708.

(6) That the injection wells herein authorized and/or the injection pressurization systems shall be equipped as to limit injection pressure at the wellhead to no more than 0.2 pounds per foot of depth to the topmost perforation in any such well.

(7) That the Director of the Division may administratively authorize a higher injection pressure upon a proper showing that such pressure will not result in fracturing of the confining zone.

(8) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



JOE D. RAMEY,  
Director

S E A L

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 7939  
Order No. R-4934-B

APPLICATION OF AMOCO PRODUCTION  
COMPANY FOR UNORTHODOX LOCATIONS,  
DIRECTIONAL DRILLING, AND PRESSURE  
MAINTENANCE EXPANSION, LEA COUNTY,  
NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on August 17, 1983, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 23rd day of August, 1983, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Amoco Production Company, seeks authority to drill 36 South Hobbs Unit wells at unorthodox oil well locations and to directionally drill 21 of said wells to various bottomhole locations all as shown on Exhibit "A" attached to this order.

(3) That the unorthodox surface locations and the unorthodox bottomhole locations are necessitated by topography and to permit efficient recovery from the South Hobbs Pressure Maintenance Project.

(4) That the quarter-quarter section wherein any of said wells is drilled or, in the case of directionally drilled wells, the quarter-quarter section wherein any one of said

*See Also*  
*Orders*  
*R-4934-A*  
*R-4934*  
*R-4934-C*  
*R-4934-D*  
*R-4934-E*

wells is ultimately bottomed should be dedicated to such well.

(5) That a 75-foot radius tolerance should be provided for the bottomhole location for any directionally drilled well authorized by this order.

(6) That the applicant should be required to determine the subsurface location of the bottom of directionally drilled holes by means of a continuous multi-shot directional survey conducted subsequent to said directional drilling.

(7) That the applicant also seeks expansion of the South Hobbs Grayburg-San Andres Pressure Maintenance Project to permit injection into Unit Well No. 152 authorized herein.

(8) That said well should be authorized for injection subject to the provisions of Order No. R-4934 which authorized said project.

(9) That, in addition, said well or the injection system should be equipped so as to limit injection pressure at the wellhead to no more than 0.2 pounds per foot of depth to the topmost perforation in any such well but the Director should have authority to increase said pressure limitation should circumstances warrant.

(10) That approval of the subject application will afford the applicant the opportunity to produce its just and equitable share of the oil in the Hobbs Pool and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Amoco Production Company, is hereby authorized 36 unorthodox oil well locations in its South Hobbs Unit, Hobbs Pool, Lea County, New Mexico, all as shown on Exhibit "A" attached to this order.

(2) That the applicant is further authorized to directionally drill 21 of said wells to bottomhole locations also as shown on said Exhibit "A" with a 75 foot radius tolerance target being provided for each such well.

PROVIDED HOWEVER, that prior to the above-described directional drilling, the applicant shall establish the location of the kick-off point by conducting a continuous multi-shot directional survey of the well.

PROVIDED FURTHER, that subsequent to the above-described directional drilling, a continuous multi-shot directional survey shall be made of the wellbore from total depth to the kick-off point with shot points not more than 100 feet apart; that the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe office of the Division, P. O. Box 2088, Santa Fe, New Mexico 87501, and that the operator shall notify the Division's Hobbs District Office of the date and time said survey is to be commenced.

(3) That Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depth in addition to measured depths.

(4) That the quarter-quarter section wherein any one of said wells is drilled or, in the case of directionally drilled wells, the quarter-quarter section wherein any such well is ultimately bottomed shall be dedicated to the well.

(5) That approval is also given for the expansion of the South Hobbs Grayburg-San Andres Pressure Maintenance Project to permit injection into Unit Well No. 152 being authorized herein.

(6) That injection into and operation of said well shall be in compliance with the provisions of Division Order No. R-4934 and Division Rules 702 through 708.

(7) That the injection well herein authorized and/or the injection pressurization system shall be equipped as to limit injection pressure at the wellhead to no more than 0.2 pounds per foot of depth to the topmost perforation in such well.

(8) That the Director of the Division may administratively authorize a higher injection pressure upon a proper showing that such pressure will not result in fracturing of the confining zone.

(9) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
JOE D. RAMEY  
Director

S E A L  
fd/

UNIT  
WELL  
NO.

SURFACE LOCATION  
ALL WELLS

BOTTOMHOLE LOCATION  
DIRECTIONALLY DRILLED  
WELLS

TOWNSHIP 18 SOUTH, RANGE 38 EAST

127	1980' FSL x 860' FWL, Sec. 34	1330' FSL x 1230' FWL, Sec. 34
129	100' FSL x 900' FWL, Sec. 34	10' FSL x 1310' FWL, Sec. 34

TOWNSHIP 19 SOUTH, RANGE 38 EAST

128	335' FNL x 520' FWL, Sec. 3	10' FNL x 10' FWL, Sec. 3
130	1403' FNL x 1403' FWL, Sec. 4	
131	1383' FNL x 2498' FEL, Sec. 4	
132	1790' FNL x 1185' FEL, Sec. 4	1403' FNL x 1238' FEL, Sec. 4
133	1840' FNL x 748' FWL, Sec. 3	1330' FNL x 1310' FWL, Sec. 3
135	2558' FNL x 1353' FWL, Sec. 4	
136	2490' FNL x 2504' FWL, Sec. 4	2630' FNL x 2630' FWL, Sec. 4
137	2458' FSL x 1180' FEL, Sec. 4	2630' FSL x 1200' FEL, Sec. 4
138	2490' FSL x 173' FEL, Sec. 4	2630' FSL x 10' FEL, Sec. 4
139	2052' FNL x 1941' FWL, Sec. 3	2630' FNL x 2475' FWL, Sec. 3
140	1485' FSL x 1245' FWL, Sec. 4	
141	1478' FSL x 2595' FWL, Sec. 4	
142	1310' FSL x 1370' FEL, Sec. 4	
143	1160' FSL x 330' FEL, Sec. 4	1310' FSL x 10' FEL, Sec. 4
144	580' FSL x 755' FWL, Sec. 3	1310' FSL x 1310' FWL, Sec. 3
145	577' FSL x 1984' FWL, Sec. 3	1310' FSL x 2475' FWL, Sec. 3
146	75' FNL x 1205' FWL, Sec. 9	10' FNL x 1310' FWL, Sec. 9
147	70' FNL x 2570' FWL, Sec. 9	
148	192' FNL x 990' FEL, Sec. 9	10' FNL x 1310' FEL, Sec. 9
149	150' FNL x 380' FEL, Sec. 9	10' FNL x 10' FEL, Sec. 9
150	330' FNL x 1220' FWL, Sec. 10	10' FNL x 1310' FWL, Sec. 10
151	710' FNL x 2410' FEL, Sec. 10	10' FNL x 2475' FWL, Sec. 10
152	623' FNL x 632' FEL, Sec. 9	
153	1105' FNL x 1485' FWL, Sec. 9	
154	1163' FNL x 2600' FEL, Sec. 9	
155	1158' FNL x 1568' FEL, Sec. 9	1310' FNL x 1330' FEL, Sec. 9
156	1370' FNL x 330' FEL, Sec. 9	1330' FNL x 10' FEL, Sec. 9
157	1245' FNL x 1245' FWL, Sec. 10	1310' FNL x 1310' FWL, Sec. 10
158	1245' FNL x 2475' FWL, Sec. 10	
159	2335' FNL x 1675' FWL, Sec. 9	
160	2475' FNL x 2425' FEL, Sec. 9	
161	2630' FNL x 1331' FEL, Sec. 9	
162	2630' FNL x 395' FEL, Sec. 9	2630' FNL x 10' FEL, Sec. 9
163	2475' FSL x 2475' FWL, Sec. 10	

CASE NO. 7939  
ORDER NO. R-4934-B

EXHIBIT "A"

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 7939  
Order No. R-4934-C

APPLICATION OF AMOCO PRODUCTION  
COMPANY FOR UNORTHODOX LOCATIONS,  
DIRECTIONAL DRILLING, AND PRESSURE  
MAINTENANCE EXPANSION, LEA COUNTY,  
NEW MEXICO.

*See Also*  
*Order No. R-4934*  
*R-4934-A*  
*R-4934-B*  
*R-4934-D*  
*R-4934-E*

NUNC PRO TUNC ORDER

BY THE DIVISION:

It appearing to the Division that Order No. R-4934-B dated August 23, 1983, does not correctly state the intended order of the Division,

IT IS THEREFORE ORDERED:

(1) That Paragraphs (7), (8) and (9) on Page 2 of Order No. R-4934-B in Case No. 7939 are hereby amended to read in their entirety as follows:

"(7) That the applicant also seeks expansion of the South Hobbs Grayburg-San Andres Pressure Maintenance Project to permit injection into Unit Well No. 152, authorized herein, and into 19 other unit wells as shown on Exhibit "B", attached to this order, said wells to be converted from producing wells to injection wells.

(8) That said wells should be authorized for injection subject to the provisions of Order No. R-4934 which authorized said project.

(9) That, in addition, said wells or the injection system should be equipped so as to limit injection pressure at the wellhead to no more than 0.2 pounds per foot of depth to the topmost perforation in any such well but the Director should have authority to increase said pressure limitation should circumstances warrant."

(2) That Paragraphs (5), (6) and (7) on Page 3 of Order No. R-4934-B are hereby amended to read in their entirety as follows:

Case No. 7939  
Order No. R-4934-C

(5) That approval is also given for the expansion of the South Hobbs Grayburg-San Andres Pressure Maintenance Project to permit injection into Unit Well No. 152, being authorized herein, and into 19 other unit wells as shown on Exhibit "B" attached to this order, such wells to be converted from production to injection.

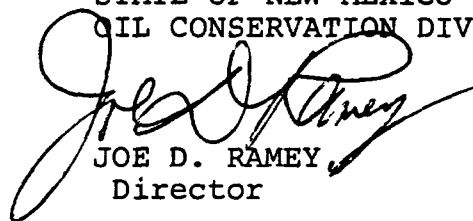
(6) That injection into and operation of said wells shall be in compliance with the provisions of Division Order No. R-4934 and Division Rules 702 through 708.

(7) That the injection wells herein authorized and/or the injection pressurization system shall be equipped as to limit injection pressure at the wellhead to no more than 0.2 pounds per foot of depth to the topmost perforation in such wells.

(3) That this order shall be effective nunc pro tunc as of August 23, 1983.

DONE at Santa Fe, New Mexico, this 30th day of September, 1983.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



JOE D. RAMEY  
Director

S E A L

SOUTH HOBBS UNIT PRODUCING WELLS  
TO BE CONVERTED TO INJECTION

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM

<u>UNIT WELL</u> <u>No.</u>	<u>UNIT</u> <u>LETTER</u>	<u>SECTION</u> <u>No.</u>
11	A	6
13	C	5
32	F	4
34	H	4
36	F	3
42	L	4
46	L	3
54	N	4
56	P	4
58	N	3
62	D	9
64	B	9
66	D	10
72	F	9
75	H	9
77	F	10
83	J	9
85	L	19
88	J	19

CASE NO. 7939  
Order No. R-4934-C

EXHIBIT "B"

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 8081  
Order No. R-4934-D

APPLICATION OF AMOCO PRODUCTION  
COMPANY FOR AN UNORTHODOX INJECTION  
WELL LOCATION AND DIRECTIONAL  
DRILLING, LEA COUNTY, NEW MEXICO.

*See Also Order No.*

*R-4934  
R-4934-A  
R-4934-B  
R-4934-C  
R-4934-E*

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8 a.m. on February 29, 1984, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 20th day of April, 1984, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Amoco Production Company, is the operator of the South Hobbs Grayburg-San Andres Unit Pressure Maintenance Project, which was approved by Division Order No. R-4934, dated December 3, 1974, located in the Hobbs Grayburg-San Andres Pool, Lea County, New Mexico.

(3) That the applicant seeks authority to directionally drill its South Hobbs Grayburg-San Andres Unit Well No. 173, the unorthodox surface location being 1978 feet from the North line and 1223 feet from the West line of Section 10, Township 19 South, Range 38 East, NMPM, South Hobbs Grayburg-San Andres Unit Pressure Maintenance Project, Hobbs Grayburg-San Andres Pool, Lea County, New Mexico, in such a manner as to bottom said well within 75 feet of a point 1980 feet from the North and West lines of said Section 10.

(4) That the applicant further seeks to utilize said well as a replacement injection well to their South Hobbs Grayburg-San Andres Unit Well No. 77, the surface location being 1980 feet from the North and West lines of said Section 10, which was authorized, in part, by Division Order Nos. R-4934-B and R-4934-C, said South Hobbs Grayburg-San Andres Unit Well No. 77 to be converted from a producing well to an injection well.

(5) That said South Hobbs Grayburg-San Andres Unit Well No. 77 is unsuitable for conversion to an injection well on account of its undesirable subsurface location being approximately 575 feet to the northeast of its surface location, which would result in a less efficient asymmetrical 5-spot injection pattern in the immediate area of concern and because of unretrievable "junk" in its wellbore.

(6) That the aforesaid South Hobbs Grayburg-San Andres Unit Well No. 173 should be approved as a water injection well and should be subject to the provisions of Division Order No. R-4934, as amended, which authorized said pressure maintenance project and to those pertaining to the authorization of the aforesaid South Hobbs Grayburg-San Andres Unit Well No. 77 to inject into the Hobbs Grayburg-San Andres Pool.

(7) That the applicant should be required to determine the subsurface location of the kick-off point prior to directional drilling, and to determine the subsurface location of the bottom of the hole by means of a continuous multi-shot directional survey conducted subsequent to said directional drilling.

(8) That approval of the subject application will better enable the applicant to complete a more efficient water injection pattern in its South Hobbs Grayburg-San Andres Unit Pressure Maintenance Project, will afford the applicant the opportunity to produce its just and equitable share of the oil in the Hobbs Grayburg-San Andres Pool, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Amoco Production Company, is hereby authorized to directionally drill its South Hobbs Grayburg-San Andres Unit Well No. 173, the unorthodox surface location being 1978 feet from the North line and 1223 feet from the West line of Section 10, Township 19 South, Range 38 East, NMPM, South Hobbs Grayburg-San Andres Unit Pressure

Maintenance Project, Hobbs Grayburg-San Andres Pool, Lea County, New Mexico, in such a manner as to bottom said well within 75 feet of a point 1980 feet from the North and West lines of said Section 10.

PROVIDED HOWEVER, that prior to directional drilling, the operator shall determine the subsurface location of the kick-off point; and

PROVIDED FURTHER, that subsequent to the above-described directional drilling, a continuous multi-shot directional survey shall be made of the wellbore from total depth to the kick-off point with shot points not more than 100 feet apart; that the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe office of the Division, P. O. Box 2088, Santa Fe, New Mexico, and that the operator shall notify the Division's Hobbs District Office of the date and time said survey is to be commenced.

(2) That Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depths in addition to measured depths.

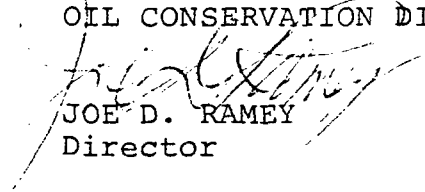
(3) That said South Hobbs Grayburg-San Andres Unit Well No. 173, as described above, is to be a replacement injection well to applicant's South Hobbs Grayburg-San Andres Unit Well No. 77, surface location being 1980 feet from the North and West lines of said Section 10.

(4) That the operation of and injection into the subject South Hobbs Grayburg-San Andres Unit Well No. 173 shall be subject to the provisions of Division Order No. R-4934, as amended, which authorized the South Hobbs Grayburg-San Andres Unit Pressure Maintenance Project and to those provisions of said Division Order No. R-4934, as amended, pertaining to the injection authorization of said South Hobbs Grayburg-San Andres Unit Well No. 77.

(5) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
JOE D. RAMEY  
Director

S E A L  
fd/

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 8082  
Order No. R-4934-E

*See Also Order No.*

APPLICATION OF AMOCO PRODUCTION  
COMPANY FOR AMENDMENT TO ORDER  
NO. R-4934, LEA COUNTY, NEW MEXICO.

*R-4934*

*R-4934-A*

*R-4934-B*

ORDER OF THE DIVISION

BY THE DIVISION:

*R-4934-C*

*R-4934-D*

This cause came on for hearing at 8 a.m. on February 29, 1984, at Santa Fe, New Mexico, before Examiner Michael E. Stogner and on May 9, 1984, before Examiner Richard L. Stamets.

NOW, on this 21st day of May, 1984, the Division Director, having considered the testimony, the record, and the recommendations of the Examiners, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Amoco Production Company, is the operator of the South Hobbs (Grayburg-San Andres) Unit Area, Hobbs Grayburg-San Andres Pool, Lea County, New Mexico, comprised as follows:

LEA COUNTY, NEW MEXICO  
TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM  
Section 33: SE/4 SE/4  
Section 34: W/2

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM  
Sections 3 through 5: All  
Section 6: N/2 and SE/4  
Section 8: N/2 NW/4, NE/4, and  
N/2 SE/4  
Section 9: N/2, N/2 SW/4, and SE/4  
Section 10: All  
Section 11: SW/4 SW/4  
Section 14: W/2 NW/4  
Section 15: All  
Section 16: NE/4 NE/4

(3) That the applicant was granted authority to institute a pressure maintenance project in said unit area by the injection of water into the Grayburg-San Andres formation by Order No. R-4934, dated December 3, 1974.

(4) That applicant seeks to amend the Special Rules and Regulations portion of said Order.

(5) That said unit area shares a common source of supply, the Hobbs Grayburg-San Andres Pool, with the North Hobbs Grayburg-San Andres Unit, operated by Shell Oil Company.

(6) That Shell was granted authority to institute a pressure maintenance project in the North Hobbs Grayburg-San Andres Unit by injection of water into the Grayburg-San Andres formation by Order No. R-6199, dated November 30, 1979.

(7) That the project area should consist of all those proration units within the boundary of the South Hobbs Grayburg-San Andres Unit as hereinabove described in Finding No. (2).

(8) That the project area allowable should be equal to the sum of the basic project area allowable plus the water injection credit allowable as hereinafter defined.

(9) That the basic project area allowable should be equal to 80 barrels of oil per day times the number of 40-acre proration units in the South Hobbs Grayburg-San Andres Unit area upon which are located wells completed in the Hobbs Grayburg-San Andres Pool.

(10) That the water injection credit allowable should be based on the following formula:

$$\text{Water Injection Credit Allowable} = \frac{\text{Net Water}}{\text{Basic Project Area Reservoir Voidage}} - 1 \times [\text{basic project area allowable}]$$

and should be calculated in accordance with the formula and parameters set forth in Exhibits "A" and "B" attached hereto.

(11) That a weighted average project area reservoir pressure should be determined at least annually.

(12) That the project area allowable should be permitted to be produced from the wells within the project area in any proportion.

(13) That the Director of the Oil Conservation Division should have authority to approve, without notice and hearing, the drilling of wells at unorthodox locations anywhere within the boundary of the South Hobbs Grayburg-San Andres Unit area, provided however, no unorthodox location shall be closer than ten feet to any quarter-quarter section line, and provided further, that no such unorthodox location shall be closer than 330 feet to the boundary of the unit area, unless such well is covered by a lease-line agreement with the operator of the lands offsetting such well, and a copy of the lease-line agreement accompanies the application for such unorthodox location, or unless such offset operator has waived objection to the proposed unorthodox location in writing, and his waiver accompanies the application.

(14) That the injection wells or system should be equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 0.2 psi per foot of depth to the injection zone. The Division Director should have authority to administratively authorize a pressure limitation in excess of the above upon a showing by the Unit Operator that such higher pressure will not result in fracturing of the confining strata.

(15) That all wells within the unit area should be equipped with risers or in some other acceptable manner so as to facilitate the periodic testing of the bradenhead for pressure or fluid production.

(16) That amendments of various statewide rules and promulgation of the Special Rules and Regulations contained in Order No. R-6199 subsequent to the effective date of Order No. R-4934 render the Special Rules and Regulations promulgated by that Order antiquated.

(17) That the Special Rules and Regulations of Order No. R-4934 should be amended to promulgate the hereinabove cited findings, and that an order embodying said findings is in the interest of conservation, will prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the Special Rules and Regulations for the South Hobbs Grayburg-San Andres Unit Pressure Maintenance Project, Lea County, New Mexico, as promulgated by Division Order No. R-4934, are hereby amended, in the entirety, to read as

follows:

"SPECIAL RULES AND REGULATIONS  
FOR THE  
AMOCO SOUTH HOBBS GRAYBURG-SAN ANDRES  
PRESSURE MAINTENANCE PROJECT

RULE 1. That the project area shall consist of all those proration units within the boundary of the South Hobbs Grayburg-San Andres Unit Area upon which is completed a well in the Hobbs Grayburg-San Andres Pool.

RULE 2. The project area shall receive a project area allowable and said project area allowable shall be the sum of the basic project area allowable plus the water injection credit allowable.

RULE 3. The basic project area allowable shall be equal to 80 barrels of oil per day times the number of developed 40-acre proration units in the project area.

RULE 4. The water injection credit allowable shall be contingent on full reservoir voidage replacement of all produced fluids and shall be based upon the following formula:

$$\text{Water Injection Credit Allowable} = \frac{\text{Net Water Injected}}{\text{Basic Project Area Reservoir Voidage}} - 1 \times [\text{basic project area allowable}]$$

The water injection credit allowable shall be calculated in accordance with the procedures and parameters depicted on Exhibits "A" and "B" attached hereto. In no event shall the water injection credit allowable be less than zero. Therefore, negative numbers derived from the application of the above formula shall be ignored.

RULE 5. A weighted average project area reservoir pressure shall be determined at least annually.

RULE 6. The project area allowable may be produced from the wells within the project area in any proportion.

RULE 7. The Director of the Oil Conservation Division shall have authority to approve, without notice and hearing, the drilling of wells at unorthodox locations anywhere within the boundary of the South Hobbs Grayburg-San Andres Unit area, provided however, no unorthodox location shall be closer than ten feet to any quarter-quarter section line, and provided

further, that no such unorthodox location shall be closer than 330 feet to the boundary of the unit area, unless such well is covered by a lease-line agreement with the operator of the lands offsetting such well, and a copy of the lease-line agreement accompanies the application for such unorthodox location, or unless such offset operator has waived objection to the proposed unorthodox location in writing, and his waiver accompanies the application.

RULE 8. Application for approval of additional wells to be used for injection shall be filed in accordance with Rule 701 of the Division Rules and Regulations and may be approved administratively by the Division Director without notice and hearing.

RULE 9. Each newly drilled injection or producing well shall be equipped as follows:

a. Minimum of 350 feet of surface casing and production casing run to total depth (approximately 4300 feet), or

b. Surface casing cemented below the "red beds" (approximately 1600 feet) and production casing run to total depth (approximately 4300 feet).

c. Exceptions to the aforesaid casing programs may be granted by administrative approval of the supervisor of the Hobbs District Office of the Division upon good cause shown.

All casing strings shall be cemented to the surface except that in any well in which an intermediate casing string has been run and cemented to the surface, the production string may be cemented back into the base of the intermediate casing.

RULE 10. Water injection shall be accomplished through tubing installed in a packer set as near as is practicable to the uppermost perforation or, in the case of an open hole completion, to the casing shoe. The injection tubing shall be corrosion protected by a non-reactive internal lining or coating. The casing-tubing annulus in each injection well shall be filled with an inert fluid and a surface gauge or approved leak detection device shall be attached to the annulus.

RULE 11. The injection wells or system shall be equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 0.2 psi per foot of depth to the injection zone. The Division

Director may administratively authorize a pressure limitation in excess of the above upon a showing by the Unit Operator that such higher pressure will not result in fracturing of the confining strata.

RULE 12. All wells within the unit area shall be equipped with risers or in some other acceptable manner so as to facilitate the periodic testing of the bradenhead for pressure or fluid production.

RULE 13. The Unit Operator shall immediately notify the supervisor of the Hobbs District Office of the Division of the failure of the tubing or packer in any of the injection wells, the leakage of water or oil from or around any producing well, the leakage of water or oil from or around any plugged and abandoned well within the unit area, or any other evidence of fluid migration from the injection zone, and shall take such timely steps as may be necessary or required to correct such failure or leakage.

RULE 14. A casing leak survey in a manner approved by the Division shall be conducted on all wells in the project once each quarter. This survey shall be taken in accordance with a schedule agreed upon by the operator and the Division Hobbs District Office. A Division representative shall witness the casing leak survey at least annually. Results of all casing leak surveys shall be filed with the Hobbs and Santa Fe offices of the Division.

RULE 15. Prior to placing any well on injection, a cement bond log shall be run on said well; also at any time the rods and/or tubing are pulled from any producing well in the project, a cement bond log shall be run on said well. Copies of all cement bond logs shall be sent to the Hobbs District Office of the Division. If any well is found to have an inadequate casing-cement bond, such measures as may be necessary to prevent leakage or migration of fluids within the wellbore shall be taken before placing the well on injection or restoring it to production.

RULE 16. Each month the Unit Operator shall submit to the Division a Pressure Maintenance Project Operator's Report, on a form prescribed by the Division, outlining thereon the data required and requesting a project area allowable.

RULE 17. The Division shall, upon review of the report and after adjustments deemed necessary, calculate the allowable for the project area for the next succeeding month in accordance

-7-

Case No. 8082

Order No. R-4934-E

with these rules. The allowable so calculated shall be assigned to the unit area and may be produced from the wells in the project area in any proportion."

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



JOE D. RAMEY  
Director

S E A L

fd/

# SOUTH HOBBS (GSA)

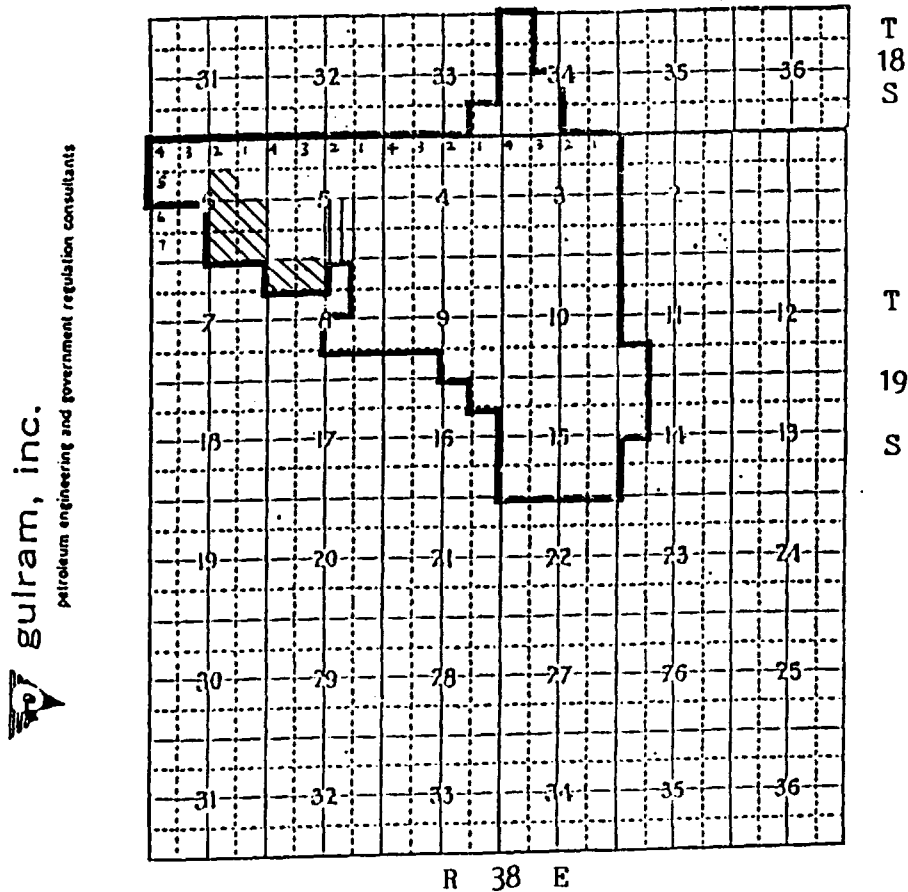
APPROVED: December 11, 1974

EFFECTIVE: January 1, 1975

## WATERFLOOD

Grayburg and San Andres

Amoco Production Company, Operator



### Original Unit Land

State	1,514.48 acres
Fee	<u>3,039.26</u> acres
Total	4,553.74 acres

/// Lands Committed, 280.00 acres, July 1, 1977

||| Lands Committed, 80.00 acres, December 1, 1984

### Unit Land

State	1,714.48 acres
Fee	<u>3,199.26</u> acres
Total	4,913.74 acres

123347033

***New Mexico Oil Conservation Division---Enginnering Bureau***  
**Administrative Application Process Documentation**

Date Application Received: 8-20-01  
~~8-20-01~~

Date of Preliminary Review: 8-22-01  
(Note: Must be within 10-days of received date)

Results: \_\_\_\_\_ Application Complete ☒ Application Incomplete

Date Incomplete Letter Sent: 8-22-01

Deadline to Submit Requested Information: 8-29-01

Phone Call Date: 8-29-01  
(Note: Only applies if requested data is not submitted within the 7-day deadline)

Phone Log Completed? ☒ Yes ☐ No

Date Application Processed: 9-26-01

Date Application Returned: NA  
(Note: Only as a last resort & only after repeated attempts by the Division to obtain the necessary information to process the application)

*Additional data submitted on 8-29-01*

OIL CONSERVATION DIVISION

TELEPHONE LOG

COMPANY NAME: Occidental Permian limited Partnership

PROPERTY NAME: North Hobbs G/S A Un. #843-South Hobbs (GSD) Un. #244

RESPONSIBLE OFFICIAL: W. Thomas Kilglin

APPLICATION NUMBER: 123347033

NAME OF ENGINEER: Stogner

DATE CALLED: 8-29-01 TIME CALLED: 9:05 AM

NOTES:

left voice mail message for Tom  
reminding him of my 8-22-01 letter  
and that this matter would be  
denied as incomplete on 9-20-01  
is Occidental has not responded  
satisfactorily by then.

