

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

17-1

February 9, 1967

Shell Oil Company  
P. O. Box 1509  
Midland, Texas 79701

Attention: Mr. J.E.R. Sheeler

Re: Plan of Development  
Henshaw Deep Unit, Eddy  
County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Plan of Development dated December 29, 1966 for the Henshaw Deep Unit, Eddy County, New Mexico, subject to like approval by the United States Geological Survey.

Five approved copies of the plan are being forwarded to the United States Geological Survey, Roswell, New Mexico.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

PLP/JEK/og

cc: Commissioner of Public Lands  
Santa Fe, New Mexico

United States Geological Survey  
Roswell, New Mexico

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# SHELL OIL COMPANY

WESTERN DIVISION  
P. O. BOX 1509  
MIDLAND, TEXAS 79701

December 29, 1966

Subject: Proposed Plan of Development  
Henshaw Deep Unit  
Eddy County, New Mexico

Oil Conservation Commission  
State of New Mexico  
P.O. Box 871  
Santa Fe, New Mexico

Gentlemen:

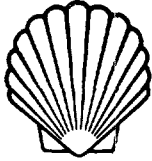
Attached are six copies of a proposed Plan of Development for the Henshaw Deep Unit Eddy County, New Mexico.

If this plan meets with your approval, please forward five ratified copies to the United States Geological Survey in Roswell, New Mexico. By copy of this letter, we are informing the United States Geological Survey of the submission of this Plan of Development.

Yours very truly,

For: J. E. R. Sheeler  
Division Production Manager

Attachments



# SHELL OIL COMPANY

WESTERN DIVISION  
P. O. BOX 1509  
MIDLAND, TEXAS 79701

December 29, 1966

Subject: Plan of Development  
Henshaw Deep Unit (No. 14-08-001-6453)  
Eddy County, New Mexico

Oil and Gas Supervisor  
United States Geological Survey  
P. O. Drawer 1857  
Roswell, New Mexico

Oil Conservation Commission  
State of New Mexico  
P. O. Box 871  
Santa Fe, New Mexico

Gentlemen:

In compliance with Section 10 of the Henshaw Deep Unit Agreement, Shell Oil Company, as Unit Operator, hereby submits for your approval a Plan of Development.

Development of the Lower Wolfcamp Formation is complete. A final contracted participating area to cover lands reasonably proved to be productive of unitized substances in paying quantities was approved effective April 1, 1966. We propose no further development and plan to continue production of hydrocarbons by primary depletion.

Since the unit is fully developed, we request that this Plan of Development remain in effect indefinitely unless conditions warrant change.

Shell Oil Company  
Unit Operator

Approved: \_\_\_\_\_  
Regional Oil and Gas Supervisor  
United States Geological Survey

  
\_\_\_\_\_  
Division Production Manager

Approved:   
\_\_\_\_\_  
New Mexico Oil Conservation Commission

2-9-67



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
WASHINGTON 25, D. C.

1739

66 DEC 12 11 15 AM '66

DEC 8 • 1966

100% Oil Company  
P. O. Box 100  
Midland, Texas 79701

Attention: Mr. J. E. H. Sheeler

**Enclosure:**

Your letter of October 17, accompanied by revised Exhibits A and B, modifies certain lands automatically eliminated pursuant to Section 2(c) of the Henshaw Deep unit agreement, and requests our concurrence.

The Henshaw Deep unit was approved and effective on December 3, 1965, pursuant to the Commissioner of Public Lands of the State of New Mexico's Certificate of Approval of the unit agreement. All lands of State of New Mexico land were eliminated from the unit area effective January 3, 1966.

The initial wellbore participating area was effective December 2, 1965. Section 2(c) of the unit agreement provides that all unleased lands within a participating area within nine years after the first day of the month following the effective date of the first initial participating area are subject to automatic elimination unless at that time diligent drilling operations are being conducted on unleased nonparticipating lands with not more than 90 days elapsing between the completion of one such well and the commencement of the next. On January 2, 1966, well No. 10 in the Henshaw Deep unit was drilled on January 2, 1966, and was completed on January 22, 1966. Accordingly, all unleased lands not in the participating area are automatically eliminated effective as of April 23, 1966, pursuant to Section 2(c) of the unit agreement.

**ILLEGIBLE**

Your letter correctly describes the lands remaining after automatic elimination effective April 23, 1966. You should notify all parties in interest as to the lands eliminated.

Sincerely yours,

*John A. Baker*

Acting Director

cc:

Brewell (2) (w/cy ltr.)  
BIA, Santa Fe (w/cy ltr.)  
BROCC, Santa Fe (ltr. only) ✓

JAB:etherland;ca:11-23-66

Losses affected by automatic elimination:

Entirely Eliminated

Los Cruces 029423(b)  
029431-A  
062463  
063922(a)  
063922(b)  
063923(a)  
063923(b)  
063927  
063933  
063934  
New Mexico 01197  
04421  
07781  
016003  
029056  
034061  
048577

Partially Eliminated

Los Cruces 029434  
063925  
063926(b)  
063932  
064637  
New Mexico 074951

ILLEGIBLE



# SHELL OIL COMPANY

WESTERN DIVISION  
P. O. BOX 1509  
MIDLAND, TEXAS 79701

November 16, 1966

Subject: Henshaw Deep Unit 14-08-001-6453  
Eddy County, New Mexico  
Fifth Revision to Initial  
Participating Area  
Lower Wolfcamp Formation

Regional Oil & Gas Supervisor  
United States Geological Survey  
P.O. Drawer 1857  
Roswell, New Mexico

Oil Conservation Commission  
State of New Mexico  
P.O. Box 2008  
Santa Fe, New Mexico

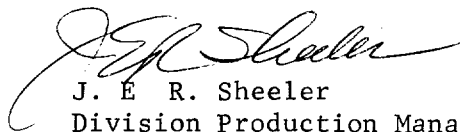
Gentlemen:

It has been called to our attention that Schedule I of the subject application shows a portion of Tract No. 18 to be described erroneously. The 40-acre tract described as SW/4 SE/4 Section 24 should be SW/4 SE/4 Section 23.

Additionally we have learned from USGS that Tract No. 20, which originally had a Government lease designation of NM 016802, has been changed to NM 074951 as a result of segregation of this tract from another portion of the base lease.

We are attaching corrected copies of Schedule I which should replace the sheet contained in the application. By copy of this letter we are transmitting a revised Schedule I to the other joint-interest owners in the Henshaw Deep Unit.

Yours very truly,

  
J. E. R. Sheeler  
Division Production Manager

Attachments

HENSHAW DEEP UNIT  
FIFTH ADJUSTMENT TO INITIAL PARTICIPATING AREA  
OWNERSHIP AND PERCENTAGE OF PARTICIPATION OF LEASES

SCHEDULE I

<u>Working Interest Owners</u>	<u>Lease Serial Number</u>	<u>Tract Number</u>	<u>Description All in T-16-S, R-30-E</u>	<u>Participating Acreage</u>	<u>Percent Participation</u>
Shell Oil Company	LC 029424	3	Section 23: SW/4, S/2 NW/4 Section 24: NW/4, S/2 SW/4	480.00	42.8571
Shell Oil Company	LC 063925	11	Section 24: N/2 SW/4	80.00	7.1429
Shell Oil Company	LC 063928-b	14	Section 13: SE/4 SW/4	40.00	3.5714
Shell Oil Company	LC 063932	15	Section 13: SW/4 SE/4	40.00	3.5714
Texaco, Inc.	LC 064637	18	Section 23: E/2 NE/4, N/2 SE/4, SE/4 SE/4 Section 24: SW/4 NE/4	240.00	21.4286
Texaco, Inc.	LC 064637-a	18	Section 23: SW/4 SE/4	40.00	3.5714
Texaco, Inc.	NM 074951	20	Section 24: S/2 SE/4 Section 25: NW/4 NW/4	120.00	10.7143
Humble Oil & Refg. Co.	LC 029137	23	Section 24: N/2 SE/4	80.00 1120.00	7.1429 100.0000

Summary Schedule I

Total Federal Lands	<u>Acres</u>	<u>Percent</u>
Total State Lands	1120.00	100.00
Total Fee or Other Lands	-	-
Sub Total	<u>1120.00</u>	<u>100.00</u>
Uncommitted Acreage	-	-
Total Productive Acreage	1120.00	100.00

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

1731

October 31, 1966

Shell Oil Company  
P. O. Box 1509  
Midland, Texas 79704

Attention: Mr. J. E. R. Sheeler

Re: Unit Contraction  
Henshaw Deep Unit,  
Eddy County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission concurs with the determination of surviving Unit Area as defined by the Fifth Revision to the Initial Participating Area effective April 1, 1966, for the Henshaw Deep Unit, Eddy County, New Mexico, subject to like approval by the United States Geological Survey.

Five approved copies of the request for concurrence dated October 19, 1966, are being forwarded to the United States Geological Survey, Roswell, New Mexico.

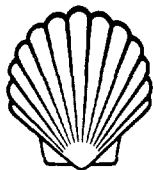
Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/JEK/og

cc: United States Geological Survey - Roswell





# SHELL OIL COMPANY

WESTERN DIVISION  
P. O. BOX 1509  
MIDLAND, TEXAS 79704

October 19, 1966

Subject: Henshaw Deep Unit 14-08-001-6453  
Eddy County, New Mexico  
Unit Contraction

Director  
United States Geological Survey  
Department of the Interior  
Washington 25, D.C.

Oil Conservation Commission  
State of New Mexico  
P.O. Box 2088  
Santa Fe, New Mexico

Through: Regional Oil and Gas Supervisor  
United States Geological Survey  
P.O. Drawer 1857  
Roswell, New Mexico

Gentlemen:

In compliance with Section 2(e) of the Henshaw Deep Unit Agreement, Shell Oil Company, as Unit Operator, hereby requests concurrence of the United States Geological Survey and the New Mexico Oil Conservation Commission with a determination of the contracted Henshaw Deep Unit, which eliminates from the Unit all lands not entitled to participation effective April 23, 1966. On January 1, 1966, the Unit was extended beyond the initial five-year term following the effective date of the Initial Participating Area by drilling operations on Henshaw Deep Unit No. 15, located on lands not then entitled to participation. Henshaw Deep Unit No. 15 was completed on January 22, 1966, thus extending the term of the Unit through April 22, 1966.

An earlier communication submitted on April 21, 1965, proposing Unit contraction is now deemed to be invalid since the participating area has since been revised and does not conform to the boundaries set forth in this proposal. It is the intention of the Operator that the surviving Unit Area shall correspond to the area defined by the Fifth Revision to the Initial Participating Area, effective April 1, 1966, as approved by the Acting Director on September 9, 1966, and by the New Mexico Oil Conservation Commission on September 20, 1966.

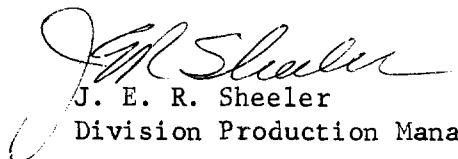
The surviving Participating Area is described as follows:

SE/4 SW/4, SW/4 SE/4 Section 13, S/2 NW/4, E/2 NE/4, S/2  
Section 23; W/2, SW/4 NE/4, SE/4 Section 24; NW/4 NW/4  
Section 25, all in T-16-S, R-30-E, NMPM, totaling 1120 acres.

For your information the following exhibits are attached.

1. Exhibit A - Plat showing lease ownership, original Unit boundaries and contracted Unit Area.
2. Exhibit B - A schedule of tracts showing lease ownership and percentage of participation of leases in the contracted Unit.
3. Exhibit C - A schedule of tracts to be eliminated showing lease ownership, descriptions and other pertinent data.

Yours very truly,

  
J. E. R. Sheeler  
Division Production Manager

Attachments:

Approved: \_\_\_\_\_ Date: \_\_\_\_\_  
Director, United States Geological Survey


Approved:  Date: 10-31-66  
New Mexico Oil Conservation Commission



EXHIBIT B  
CONTRACTED UNIT AREA  
OWNERSHIP AND PERCENTAGE OF PARTICIPATION OF LEASES

PARTICIPATING LEASES

<u>Working Interest Owner</u>	<u>Lease Serial Number</u>	<u>Tract Number</u>	<u>Description All in T-16-S, R-30-E</u>	<u>Participating Acreage</u>	<u>Percent Participation</u>
Shell Oil Company	LC 029424	3	Section 23: SW/4, S/2 NW/4 Section 24: NW/4, S/2 SW/4	480.00	42.8571
Shell Oil Company	LC 063925	11	Section 24: N/2 SW/4	80.00	7.1429
Shell Oil Company	LC 063932	15	Section 13: SW/4 SE/4	40.00	3.5714
Texaco, Inc.	LC 064637	18	Section 23: E/2 NE/4, N/2 SE/4, SE/4 SE/4 Section 24: SW/4 NE/4	240.00	21.4286
Texaco, Inc.	LC 064637-A	18	Section 24: SW/4 SE/4	40.00	3.5714
Texaco, Inc.	NM 016802	20	Section 24: S/2 SE/4 Section 25: NW/4 NW/4	120.00	10.7143
Humble Oil & Refg. Co.	NM 029137	23	Section 24: N/2 SE/4	<u>80.00</u> 1120.00	<u>7.1429</u> 100.0000

Summary Participation

Total Federal Lands	<u>Acres</u>	<u>Percent</u>
Total State Lands	1120.00	100.00
Total Fee or Other Lands	-	-
Sub Total	<u>1120.00</u>	<u>100.00</u>
Uncommitted Acreage	<u>-</u>	<u>-</u>

EXHIBIT C  
HENSHAW DEEP UNIT  
SCHEDULE OF LANDS TO BE ELIMINATED FROM UNIT AREA

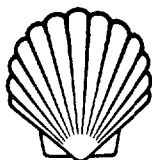
<u>Working Interest Owner</u>	<u>Lease Serial No.</u>	<u>Tract Number</u>	<u>Description</u>	<u>Gross Acres</u>
Texaco, Inc.	NM-034601	1	T-16-S; R-30-E Section 11: SE/14	160.00
Shell Oil Company	LC-029423-B	2	T-16-S; R-30-E Section 12: SE/4 Section 13: NE/4 Section 14: W/2	640.00
Shell Oil Company	LC-029424	3	T-16-S; R-30-E Section 23: N/2 NW/4	80.00
Texaco, Inc.	LC-029424	4	T-16-S; R-30-E Section 25: SE/4	160.00
Shell Oil Company	LC-029431	5	T-16-S, R-31-E Section 18: Lots 3&4, E/2 SW/4 Section 19: Lots 1&2, E/2 NW/4	280.62
Mobil Oil Company *	LC-062483	6	T-16-S; R-31-E Section 7: Lots 3&4, NE/4 SW/4	99.84
Shell Oil Company	LC-063922-A	7	T-16-S; R-30-E Section 11: E/2 SW/4	80.00
Shell Oil Company	LC-063922-B	8	T-16-S; R-30-E Section 12: S/2 SW/4 Section 14: N/2 SE/4	160.00
Shell Oil Company	LC-063923-A	9	T-16-S; R-30-E Section 11: W/2 SW/4	80.00

<u>Working Interest</u> <u>Owner</u>	<u>Lease</u> <u>Serial No.</u>	<u>Tract</u> <u>Number</u>	<u>Description</u>	<u>Gross</u> <u>Acres</u>
Shell Oil Company	LC-063923-B	10	T-16-S; R-30-E Section 12: N/2 SW/4 Section 13: N/2 NW/4 Section 14: S/2 SE/4	240.00
Texaco, Inc.	LC-063925	12	T-16-S, R-30-E Section 25: SW/4	160.00
Western Oil Fields *	LC-063927	13	T-16-S; R-31-E Section 19: Lot 4, SE/4 SW/4	70.42
Shell Oil Company	LC-063928-B	14	T-16-S; R-30-E Section 13: N/2 SW/4, SW/4 SW/4 Section 14: NE/4	280.00
Shell Oil Company	LC-063932	15	T-16-S; R-30-E Section 13: N/2 SE/4, SE/4 SE/4	120.00
Shell Oil Company	LC-063993	16	T-16-S; R-30-E Section 25: S/2 NW/4	80.00
Tenneco & Continental	LC-063934	17	T-16-S; R-30-E Section 13: S/2 NW/4	80.00
Texaco, Inc.	LC-064637	18	T-16-S; R-30-E Section 23: W/2 NE/4 Section 24: NW/4 NE/4	120.00
Pan American Pet. Corp.	NM-01197	19	T-16-S; R-31-E Section 18: E/2 NW/4	80.00
Texaco, Inc.	NM-016802	20	T-16-S; R-30-E Section 25: NE/4 NW/4	40.00
Cities Service	NM-016803	21	T-16-S; R-31-E Section 19: Lot 3, NE/4 SW/4	70.33
J. I. O'Neill	NM-029056	22	T-16-S; R-31-E Section 18: Lot 1	30.07

<u>Working Interest</u> <u>Owner</u>	<u>Lease</u> <u>Serial No.</u>	<u>Tract</u> <u>Number</u>	<u>Description</u>	<u>Gross</u> <u>Acres</u>
Mobil Oil Company *	NM-04421	24	T-16-S; R-31-E Section 18: Lot 2	30.08
Shell Oil Company	NM-048577	25	T-16-S; R-30-E Section 24: E/2 NE/4	80.00
Texaco, Inc.	NM-07781	26	T-16-S; R-30-E Section 25: NE/4 T-16-S; R-31-E Section 30: Lots 1,2,3,4, E/2 W/2	442.48
			Total Federal Acres Eliminated From Unit	3663.84
Humble O&R Company **	E-8633		T-16-S; R-31-E Section 7: SE/4 SW/4	40.00
			Total State Acres Eliminated From Unit	40.00
			Total Acreage Eliminated From Unit	3703.84

\* Uncommitted Lease

\*\* Eliminated From Unit January 5, 1965



# SHELL OIL COMPANY

WESTERN DIVISION  
P. O. BOX 1509  
MIDLAND, TEXAS 79704

October 19, 1966

Subject: Henshaw Deep Unit 14-08-001-6453  
Eddy County, New Mexico  
Unit Contraction

Director  
United States Geological Survey  
Department of the Interior  
Washington 25, D.C.

Oil Conservation Commission 55 OCT 21 1966  
State of New Mexico  
P.O. Box 2088  
Santa Fe, New Mexico

Through: Regional Oil and Gas Supervisor  
United States Geological Survey  
P.O. Drawer 1857  
Roswell, New Mexico

Gentlemen:

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The surviving Participating Area is described as follows:

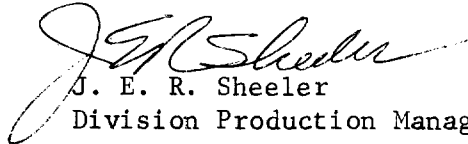
SE/4 SW/4, SW/4 SE/4 Section 13, S/2 NW/4, E/2 NE/4, S/2  
Section 23; W/2, SW/4 NE/4, SE/4 Section 24; NW/4 NW/4  
Section 25, all in T-16-S, R-30-E, NMPM, totaling 1120 acres.

For your information the following exhibits are attached.




1. Exhibit A - Plat showing lease ownership, original Unit boundaries and contracted Unit Area.
2. Exhibit B - A schedule of tracts showing lease ownership and percentage of participation of leases in the contracted Unit.
3. Exhibit C - A schedule of tracts to be eliminated showing lease ownership, descriptions and other pertinent data.

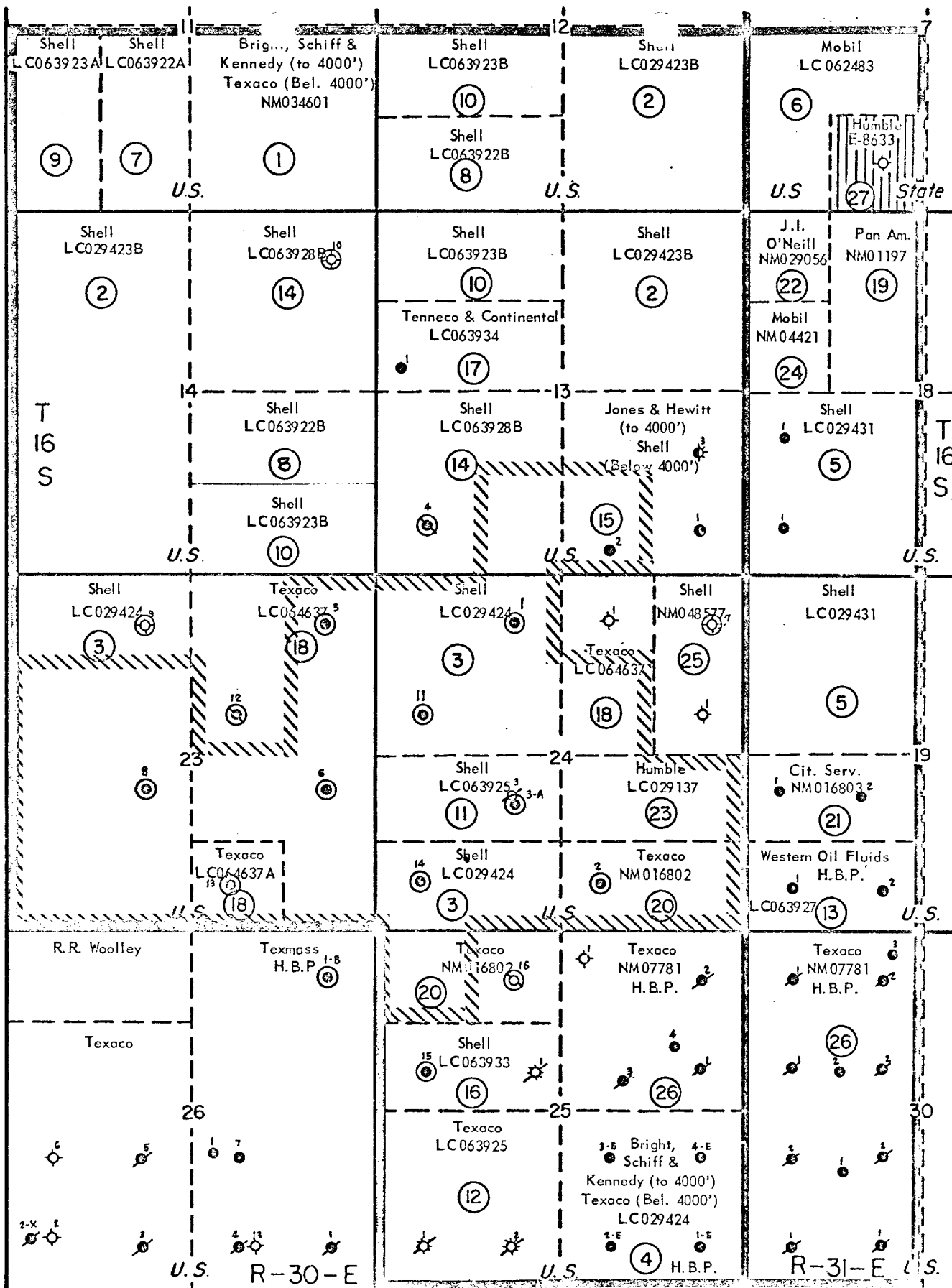
Yours very truly,

  
J. E. R. Sheeler  
Division Production Manager





Attachments:

Approved: \_\_\_\_\_ Date: \_\_\_\_\_  
Director, United States Geological Survey

Approved:  \_\_\_\_\_ Date: Oct 31, 1966  
New Mexico Oil Conservation Commission



# LEGEND

-  State of New Mexico Land
-  Federal Land
-  Original Unit Outline
-  Surviving Participating Area

## EXHIBIT A

HENSHAW DEEP UNIT

LAND PLAT

EXHIBIT B  
CONTRACTED UNIT AREA  
OWNERSHIP AND PERCENTAGE OF PARTICIPATION OF LEASES

PARTICIPATING LEASES

<u>Working Interest Owner</u>	<u>Lease Serial Number</u>	<u>Tract Number</u>	<u>Description All in T-16-S, R-30-E</u>	<u>Participating Acreage</u>	<u>Percent Participation</u>
Shell Oil Company	LC 029424	3	Section 23: SW/4, S/2 NW/4 Section 24: NW/4, S/2 SW/4	480.00	42.8571
Shell Oil Company	LC 063925	11	Section 24: N/2 SW/4	80.00	7.1429
Shell Oil Company	LC 063932	15	Section 13: SW/4 SE/4	40.00	3.5714
Texaco, Inc.	LC 064637	18	Section 23: E/2 NE/4, N/2 SE/4, SE/4 SE/4 Section 24: SW/4 NE/4	240.00	21.4286
Texaco, Inc.	LC 064637-A	18	Section 24: SW/4 SE/4	40.00	3.5714
Texaco, Inc.	NM 016802	20	Section 24: S/2 SE/4 Section 25: NW/4 NW/4	120.00	10.7143
Humble Oil & Refg. Co.	NM 029137	23	Section 24: N/2 SE/4	<u>80.00</u> 1120.00	<u>7.1429</u> 100.0000

Summary Participation

	<u>Acres</u>	<u>Percent</u>
Total Federal Lands	1120.00	100.00
Total State Lands	-	-
Total Fee or Other Lands	-	-
Sub Total	<u>1120.00</u>	<u>100.00</u>
Uncommitted Acreage	-	-

EXHIBIT C  
HENSHAW DEEP UNIT  
SCHEDULE OF LANDS TO BE ELIMINATED FROM UNIT AREA

<u>Working Interest Owner</u>	<u>Lease Serial No.</u>	<u>Tract Number</u>	<u>Description</u>	<u>Gross Acres</u>
Texaco, Inc.	NM-034601	1	T-16-S; R-30-E Section 11: SE/14	160.00
Shell Oil Company	LC-029423-B	2	T-16-S; R-30-E Section 12: SE/4 Section 13: NE/4 Section 14: W/2	640.00
Shell Oil Company	LC-029424	3	T-16-S; R-30-E Section 23: N/2 NW/4	80.00
Texaco, Inc.	LC-029424	4	T-16-S; R-30-E Section 25: SE/4	160.00
Shell Oil Company	LC-029431	5	T-16-S, R-31-E Section 18: Lots 3&4, E/2 SW/4 Section 19: Lots 1&2, E/2 NW/4	280.62
Mobil Oil Company *	LC-062483	6	T-16-S; R-31-E Section 7: Lots 3&4, NE/4 SW/4	99.84
Shell Oil Company	LC-063922-A	7	T-16-S; R-30-E Section 11: E/2 SW/4	80.00
Shell Oil Company	LC-063922-B	8	T-16-S; R-30-E Section 12: S/2 SW/4 Section 14: N/2 SE/4	160.00
Shell Oil Company	LC-063923-A	9	T-16-S; R-30-E Section 11: W/2 SW/4	80.00

<u>Working Interest</u> <u>Owner</u>	<u>Lease</u> <u>Serial No.</u>	<u>Tract</u> <u>Number</u>	<u>Description</u>	<u>Gross</u> <u>Acres</u>
Shell Oil Company	LC-063923-B	10	T-16-S; R-30-E Section 12: N/2 SW/4 Section 13: N/2 NW/4 Section 14: S/2 SE/4	240.00
Texaco, Inc.	LC-063925	12	T-16-S; R-30-E Section 25: SW/4	160.00
Western Oil Fields *	LC-063927	13	T-16-S; R-31-E Section 19: Lot 4, SE/4 SW/4	70.42
Shell Oil Company	LC-063928-B	14	T-16-S; R-30-E Section 13: N/2 SW/4, SW/4 SW/4 Section 14: NE/4	280.00
Shell Oil Company	LC-063932	15	T-16-S; R-30-E Section 13: N/2 SE/4, SE/4 SE/4	120.00
Shell Oil Company	LC-063993	16	T-16-S; R-30-E Section 25: S/2 NW/4	80.00
Tenneco & Continental	LC-063934	17	T-16-S; R-30-E Section 13: S/2 NW/4	80.00
Texaco, Inc.	LC-064637	18	T-16-S; R-30-E Section 23: W/2 NE/4 Section 24: NW/4 NE/4	120.00
Pan American Pet. Corp.	NM-01197	19	T-16-S; R-31-E Section 18: E/2 NW/4	80.00
Texaco, Inc.	NM-016802	20	T-16-S; R-30-E Section 25: NE/4 NW/4	40.00
Cities Service	NM-016803	21	T-16-S; R-31-E Section 19: Lot 3, NE/4 SW/4	70.33
J. I. O'Neill	NM-029056	22	T-16-S; R-31-E Section 18: Lot 1	30.07

<u>Working Interest</u> <u>Owner</u>	<u>Lease</u> <u>Serial No.</u>	<u>Tract</u> <u>Number</u>	<u>Description</u>	<u>Gross</u> <u>Acres</u>
Mobil Oil Company *	NM-04421	24	T-16-S; R-31-E Section 18: Lot 2	30.08
Shell Oil Company	NM-048577	25	T-16-S; R-30-E Section 24: E/2 NE/4	80.00
Texaco, Inc.	NM-07781	26	T-16-S; R-30-E Section 25: NE/4 T-16-S; R-31-E Section 30: Lots 1,2,3,4, E/2 W/2	442.48
			Total Federal Acres Eliminated From Unit	3663.84
Humble O&R Company **	E-8633		T-16-S; R-31-E Section 7: SE/4 SW/4	40.00
			Total State Acres Eliminated From Unit	40.00
			Total Acreage Eliminated From Unit	3703.84

\* Uncommitted Lease

\*\* Eliminated From Unit January 5, 1965



# SHELL OIL COMPANY

WESTERN DIVISION  
P. O. BOX 1509  
MIDLAND, TEXAS 79701

September 26, 1966


Subject: Henshaw Deep Unit 14-08-001-6453  
Eddy County, New Mexico  
Fifth Revision to  
Initial Participating Area  
Lower Wolfcamp Formation

Oil Conservation Commission  
State of New Mexico  
State Land Building  
Santa Fe, New Mexico

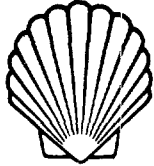
Gentlemen:

Attached for your information is one copy of the subject application which has been approved by the Acting Director, United States Geological Survey.

Yours very truly,

  
J. E. R. Sheeler  
Division Production Manager

Attachment



# SHELL OIL COMPANY

WESTERN DIVISION  
P. O. BOX 1509  
MIDLAND, TEXAS 79701

July 20, 1966

RECEIVED

AUG 4 1966

U. S. GEOLOGICAL SURVEY  
WASHINGTON, D. C. 20540

Subject: Henshaw Deep Unit 14-08-001-6453  
Eddy County, New Mexico  
Fifth Revision to  
Initial Participating Area  
Lower Wolfcamp Formation

Director,  
United States Geological Survey  
Department of the Interior  
Washington 25, D.C.

Oil Conservation Commission  
State of New Mexico  
State Land Building  
Santa Fe, New Mexico

Through:

Regional Oil & Gas Supervisor  
United States Geological Survey  
P. O. Drawer 1857  
Roswell, New Mexico

Gentlemen:

According to Section 2 (e) of the Henshaw Deep Unit, all lands not entitled to participation were to have been eliminated from the Henshaw Deep Unit on April 22, 1966. An application for the Fifth Enlargement to the Initial Participating Area submitted prior to the elimination date has been disapproved. Now, therefore, Shell Oil Company, as Unit Operator, hereby makes application for a final contracted participating area to cover lands reasonably proved to be productive of unitized substances in paying quantities, deleting certain tracts which have been deemed not entitled to participate by virtue of geological control obtained in the course of drilling subsequent to the Fourth Enlargement to the Initial Participating Area. It is proposed that the effective date of revision be designated April 1, 1966, which is the first of the month in which it was established from geological control that further development for unitized substances was not feasible.

The acreage dedicated to the Participating Area under terms of the Fourth Enlargement are as follow:

S/2 SW/4, SW/4 SE/4 Section 13; S/2 SE/4 Section 14, All  
Section 23; W/2, W/2 NE/4, SE/4 Section 24; N/2 N/2  
Section 25; All in T-16-S, R-30-E, NMPM, Totaling 1560  
acres.



On the basis of geological control, certain lands within the area covered by the Fourth Enlargement are now considered not to be entitled to participation and are to be eliminated as follows:

SW/4 SW/4 Section 13; S/2 SE/4 Section 14; N/2 NW/4, W/2 NE/4 Section 23; NW/4 NE/4 Section 24; N/2 NE/4, NE/4 NW/4 Section 25; All in T-16-S, R-30-E, NMPM, Totaling 440 acres.

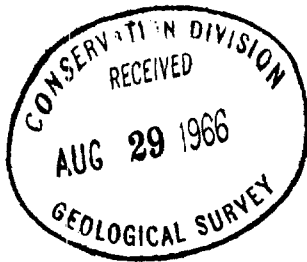
The contracted participating area according to this application for the Fifth Revision to the Initial Participating Area is to be as follows:

SE/4 SW/4, SW/4 SE/4 Section 13; S/2 NW/4, E/2 NE/4, S/2 Section 23; W/2, SW/4 NE/4, SE/4 Section 24; NW/4 NW/4 Section 25, All in T-16-S, R-30-E, NMPM, Totaling 1120 acres.

The major portion of the acreage to be deleted is located in the northern sector of the field in the vicinity of Unit Wells No. 4, No. 9, and No. 12. These wells were completed during February, 1962, November, 1963, and April, 1965, respectively. All of the wells were drilled at high structural positions on the prospect and two of the wells (No. 4 and No. 12) produced oil at satisfactory rates on initial completion. Although these producers experienced rapid declines, it was felt at the time that the northern sector of the field was not without promise. These two wells were temporarily abandoned pending further studies looking toward further development, repressuring or additional remedial work in the wells. The results of the studies, which have been supplemented by additional control to the south, show that further attempts to develop in a northward direction or to reenter existing wells present a prohibitively high risk, and the joint operators have elected to terminate the development program.

Geological control shows that porosity development occurs stratigraphically higher in the section in a southward direction with a regressive sequence of six vertically separated zones. Although correlation has always posed a difficult problem, the gross pattern of zonation shows a general deterioration of porosity to the north in each of the zones and a tendency toward improvement to the south. It is, therefore, concluded that further efforts to extend development to the north are unwarranted. Accordingly, it is in order to delete certain tracts in the vicinity of Unit Wells No. 4, No. 9 and No. 12 from the Participating Area. Isopachs showing distribution of porosity in the six zones are shown in Exhibits 5 through 10.

The southern limits of production are defined by edge water, estimated to occur at approximately 5000 feet subsea. Because of the vagaries in zonation, it has not been possible to define a reliable horizontal water table, but there has been no sustained production below the 5000-foot subsea level. Unit Well No. 15 was completed water free during January, 1966, flowing 190 barrels of oil per day through a 12/64-inch choke in the interval 4959 to 4984 feet. A rapid influx of water was noted first during the month of April. Total production by month-end was 1500 barrels of oil and 3780 barrels of water. By mid-June the well had deteriorated to a pumping capacity of 9 BOPD plus 143 BWPD. Henshaw Deep Unit No. 16, which was spudded prior to the evidence of water influx, was abandoned after completion efforts resulted in water production from



R. C. E. V. L.

SEP 19 1966

U. S. GEOLOGICAL SURVEY  
ROSOWELL, NEW MEXICO

3

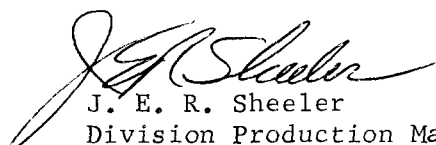
the interval 4936 to 4942 feet subsea. In contrast, Unit Well No. 14 is now producing at top allowable rates with a water-cut of 8 1/2 percent from as low as 4978 feet subsea. This experience has suggested that the reservoir is subjected to some degree of edge water encroachment from the south. Accordingly, it is concluded that Wells No. 15 and 16 should be designated as not capable of producing unitized substances in paying quantities and that the 40-acre tracts on which they are located as well as all down-dip tracts are beyond the area entitled to participation.

In support of this application we are submitting the following data:

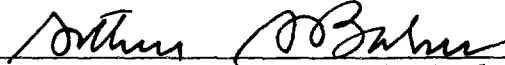
1. A structural map (Exhibit 1) showing the boundaries of the Henshaw Deep Unit, the area covered by the Fourth Enlargement to the Participating Area and the proposed contracted Participating Area.
2. Three cross sections (Exhibits 2 through 4) showing zonation as established in several directions through the field.
3. Six isopachs (Exhibits 5 through 10) showing distribution of porosity and estimated water level intercepts in the porous intervals. The hashed areas indicate lands which are not in prorated drilling units but which are considered entitled to participation on the basis of geological control.
4. A composite map (Exhibit 11) showing the prorated area plus all nonprorated tracts entitled to participation on the basis of geological control.
5. A summary of production statistics on Unit wells completed to date.
6. Schedule I showing the participating percentage of each lease included or partially included in the adjusted Participating Area.

It is the operator's opinion that the lands covered by this application constitute the total area which can be regarded as reasonably proved to be productive of unitized substances in paying quantities and is to be designated the Participating Area for the contracted Unit.

Yours very truly,

  
J. E. R. Sheeler  
Division Production Manager

Attachments:

Approved:   
**ACTING** Director, United States Geological Survey

Date: SEP 9 1966

Approved: \_\_\_\_\_  
New Mexico Oil Conservation Commission

Date: \_\_\_\_\_

HENSHAW DEEP UNIT  
REVIEW OF WELLS COMPLETED TO 4-1-66

Unit Well No.	Location	Initial Completion		Current Prod. Data			Cumulative Production to 4-1-66		
		Date	Potential	Oil - B/Mo	Wtr. B/Mo	GOR	Oil M-bbl	Gas MMCF	Wtr. M-bbl
1	NE/4 NW/4 Sec 24	12-60	171 B/D	2914	23	2420	248	367	-
2	SW/4 SE/4 Sec 24	6-61	122 B/D	1736	118	6253	193	402	13
3-A	NE/4 SW/4 Sec 24	2-62	109 B/D	341	-	11,207	47	166	2
4	SW/4 SW/4 Sec 13	2-62	179 B/D	TA	-	-	1	2	-
5	NE/4 NE/4 Sec 23	8-62	305 B/D	4774	-	2010	183	353	-
6	NE/4 SW/4 Sec 23	2-63	261 B/D	5114	-	2134	165	355	-
7	NE/4 NE/4 Sec 24	6-63	D&A	-	-	-	-	-	-
8	NE/4 SW/4 Sec 23	8-63	380 B/D	5176	-	2109	143	325	1
9	NE/4 NW/4 Sec 23	11-63	D&A	-	-	-	-	-	-
10	NW/4 NW/4 Sec 14	8-64	D&A	-	-	-	-	-	-
11	SW/4 NW/4 Sec 24	5-65	400 B/D	4784	-	2279	44	97	-
12	SW/4 NW/4 Sec 23	4-65	374 B/D	TA	-	-	6	11	2
13	SW/4 SE/4 Sec 23	10-65	184 B/D	5363	-	2723	29	75	3
14	SW/4 SW/4 Sec 24	11-65	197 B/D	5459	-	1810	23	43	6
15	SW/4 NW/4 Sec 25	1-66	190 B/D	5459	-	1468	12	15	-
Totals:				41,120	-	-	1,094	2,211	27

HENSHAW DEEP UNIT  
FIFTH ADJUSTMENT TO INITIAL PARTICIPATING AREA  
OWNERSHIP AND PERCENTAGE OF PARTICIPATION OF LEASES

SCHEDULE I

<u>Working Interest Owner</u>	<u>Lease Serial Number</u>	<u>Tract Number</u>	<u>Description All in T-16-S, R-30-E</u>	<u>Participating Acreage</u>	<u>Percent Participation</u>
Shell Oil Company	LC 029424	3	Section 23: SW/4, S/2 NW/4 Section 24: NW/4, S/2 SW/4	480.00	42.8571
Shell Oil Company	LC 063925	11	Section 24: N/2 SW/4	80.00	7.1429
Shell Oil Company	LC 063928-B	14	Section 13: SE/4 SW/4	40.00	3.5714
Shell Oil Company	LC 063932	15	Section 13: SW/4 SE/4	40.00	3.5714
Texaco, Inc.	LC 064637	18	Section 23: E/2 NE/4, N/2 SE/4, SE/4 SE/4 Section 24: SW/4 NE/4	240.00	21.4286
Texaco, Inc.	LC 064637-A	18	Section 24: SW/4 SE/4	40.00	3.5714
Texaco, Inc.	NM 016802	20	Section 24: S/2 SE/4 Section 25: NW/4 NW/4	120.00	10.7143
Humble Oil & Refg. Co.	NM 029137	23	Section 24: N/2 SE/4	<u>80.00</u> 1120.00	<u>7.1429</u> 100.0000

Summary Schedule I

Total Federal Lands	<u>Acres</u>	<u>Percent</u>
Total State Lands	1120.00	100.00
Total Fee or Other Lands	-	-
Sub Total	<u>1120.00</u>	<u>100.00</u>
Uncommitted Acreage	<u>-</u>	<u>-</u>
Total Productive Acreage	1120.00	100.00

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

117-27

September 20, 1966

C  
O  
P  
Y  
Shell Oil Company  
P. O. Box 1509  
Midland, Texas 79701

Attention: Mr. J.E.R. Sheeler

Re: Fifth Revision to Lower  
Wolfcamp Participating Area,  
Henshaw Deep Unit, Eddy  
County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Fifth Revision to the Initial Participating Area, Lower Wolfcamp Formation for the Henshaw Deep Unit, Eddy County, New Mexico, subject to like approval by the United States Geological Survey.

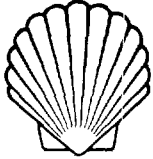
Three approved copies of the application (without attachments) are returned herewith.

Very truly yours,

A. L. PORTER, Jr.,  
Secretary-Director

ALP/JEK/og

cc: United States Geological Survey  
Drawer 1857  
Roswell, New Mexico 88201



# SHELL OIL COMPANY

WESTERN DIVISION  
P. O. BOX 1509  
MIDLAND, TEXAS 79701

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OFFICE C  
AUG 3 1966

July 26, 1966

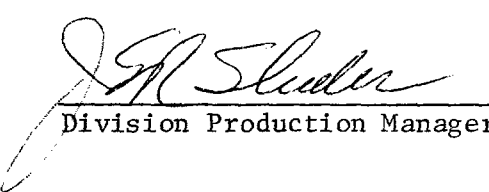
Subject: Henshaw Deep Unit No. 14-08-001-6453  
Eddy County, New Mexico  
Fifth Revision to Initial  
Participating Area  
Lower Wolfcamp Formation

Oil Conservation Commission  
State of New Mexico  
P. O. Box 871  
Santa Fe, New Mexico

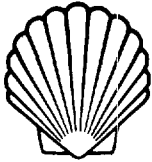
Gentlemen:

Attached for your consideration are five copies of our Application for the Fifth Revision to the Initial Participating Area for the Lower Wolfcamp Formation in the Henshaw Deep Unit. If you concur, will you please return three executed copies (without attachments) to us for further distribution.

Shell Oil Company  
Unit Operator

  
Division Production Manager

Attachments



# SHELL OIL COMPANY

WESTERN DIVISION  
P. O. BOX 1509  
MIDLAND, TEXAS 79701

July 20, 1966

Subject: Henshaw Deep Unit 14-08-001-6453  
Eddy County, New Mexico  
Fifth Revision to  
Initial Participating Area  
Lower Wolfcamp Formation

Director,  
United States Geological Survey  
Department of the Interior  
Washington 25, D.C.

Oil Conservation Commission  
State of New Mexico  
State Land Building  
Santa Fe, New Mexico

Through:

Regional Oil & Gas Supervisor  
United States Geological Survey  
P. O. Drawer 1857  
Roswell, New Mexico

Gentlemen:

According to Section 2 (e) of the Henshaw Deep Unit, all lands not entitled to participation were to have been eliminated from the Henshaw Deep Unit on April 22, 1966. An application for the Fifth Enlargement to the Initial Participating Area submitted prior to the elimination date has been disapproved. Now, therefore, Shell Oil Company, as Unit Operator, hereby makes application for a final contracted participating area to cover lands reasonably proved to be productive of unitized substances in paying quantities, deleting certain tracts which have been deemed not entitled to participate by virtue of geological control obtained in the course of drilling subsequent to the Fourth Enlargement to the Initial Participating Area. It is proposed that the effective date of revision be designated April 1, 1966, which is the first of the month in which it was established from geological control that further development for unitized substances was not feasible.

The acreage dedicated to the Participating Area under terms of the Fourth Enlargement are as follow:

S/2 SW/4, SW/4 SE/4 Section 13; S/2 SE/4 Section 14, All  
Section 23; W/2, W/2 NE/4, SE/4 Section 24; N/2 N/2  
Section 25; All in T-16-S, R-30-E, NMPM, Totaling 1560  
acres.

On the basis of geological control, certain lands within the area covered by the Fourth Enlargement are now considered not to be entitled to participation and are to be eliminated as follows:

SW/4 SW/4 Section 13; S/2 SE/4 Section 14; N/2 NW/4, W/2 NE/4 Section 23; NW/4 NE/4 Section 24; N/2 NE/4, NE/4 NW/4 Section 25; All in T-16-S, R-30-E, NMPM, Totaling 440 acres.

The contracted participating area according to this application for the Fifth Revision to the Initial Participating Area is to be as follows:

SE/4 SW/4, SW/4 SE/4 Section 13; S/2 NW/4, E/2 NE/4, S/2 Section 23; W/2, SW/4 NE/4, SE/4 Section 24; NW/4 NW/4 Section 25, All in T-16-S, R-30-E, NMPM, Totaling 1120 acres.

The major portion of the acreage to be deleted is located in the northern sector of the field in the vicinity of Unit Wells No. 4, No. 9, and No. 12. These wells were completed during February, 1962, November, 1963, and April, 1965, respectively. All of the wells were drilled at high structural positions on the prospect and two of the wells (No. 4 and No. 12) produced oil at satisfactory rates on initial completion. Although these producers experienced rapid declines, it was felt at the time that the northern sector of the field was not without promise. These two wells were temporarily abandoned pending further studies looking toward further development, repressuring or additional remedial work in the wells. The results of the studies, which have been supplemented by additional control to the south, show that further attempts to develop in a northward direction or to reenter existing wells present a prohibitively high risk, and the joint operators have elected to terminate the development program.

Geological control shows that porosity development occurs stratigraphically higher in the section in a southward direction with a regressive sequence of six vertically separated zones. Although correlation has always posed a difficult problem, the gross pattern of zonation shows a general deterioration of porosity to the north in each of the zones and a tendency toward improvement to the south. It is, therefore, concluded that further efforts to extend development to the north are unwarranted. Accordingly, it is in order to delete certain tracts in the vicinity of Unit Wells No. 4, No. 9 and No. 12 from the Participating Area. Isopachs showing distribution of porosity in the six zones are shown in Exhibits 5 through 10.

The southern limits of production are defined by edge water, estimated to occur at approximately 5000 feet subsea. Because of the vagaries in zonation, it has not been possible to define a reliable horizontal water table, but there has been no sustained production below the 5000-foot subsea level. Unit Well No. 15 was completed water free during January, 1966, flowing 190 barrels of oil per day through a 12/64-inch choke in the interval 4959 to 4984 feet. A rapid influx of water was noted first during the month of April. Total production by month-end was 1500 barrels of oil and 3780 barrels of water. By mid-June the well had deteriorated to a pumping capacity of 9 BOPD plus 143 BWPD. Henshaw Deep Unit No. 16, which was spudded prior to the evidence of water influx, was abandoned after completion efforts resulted in water production from



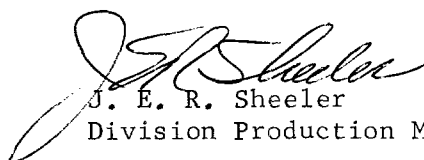
the interval 4936 to 4942 feet subsea. In contrast, Unit Well No. 14 is now producing at top allowable rates with a water cut of 8 1/2 percent from as low as 4978 feet subsea. This experience has suggested that the reservoir is subjected to some degree of edge water encroachment from the south. Accordingly, it is concluded that Wells No. 15 and 16 should be designated as not capable of producing unitized substances in paying quantities and that the 40-acre tracts on which they are located as well as all down-dip tracts are beyond the area entitled to participation.

In support of this application we are submitting the following data:

1. A structural map (Exhibit 1) showing the boundaries of the Henshaw Deep Unit, the area covered by the Fourth Enlargement to the Participating Area and the proposed contracted Participating Area.
2. Three cross sections (Exhibits 2 through 4) showing zonation as established in several directions through the field.
3. Six isopachs (Exhibits 5 through 10) showing distribution of porosity and estimated water level intercepts in the porous intervals. The hashed areas indicate lands which are not in prorated drilling units but which are considered entitled to participation on the basis of geological control.
4. A composite map (Exhibit 11) showing the prorated area plus all nonprorated tracts entitled to participation on the basis of geological control.
5. A summary of production statistics on Unit wells completed to date.
6. Schedule I showing the participating percentage of each lease included or partially included in the adjusted Participating Area.

It is the operator's opinion that the lands covered by this application constitute the total area which can be regarded as reasonably proved to be productive of unitized substances in paying quantities and is to be designated the Participating Area for the contracted Unit.

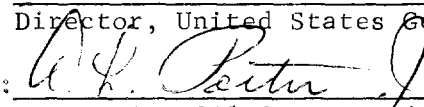
Yours very truly,

  
J. E. R. Sheeler  
Division Production Manager

Attachments:

Approved: \_\_\_\_\_  
Director, United States Geological Survey

Date: \_\_\_\_\_

Approved:   
New Mexico Oil Conservation Commission

Date: 9-20-66

HENSHAW DEEP UNIT  
REVIEW OF WELLS COMPLETED TO 4-1-66

Unit Well No.	Location	Initial Completion		Current Prod. Data			Cumulative Production to 4-1-66		
		Date	Potential	Oil - B/Mo	Wtr. B/Mo	GOR	Oil M-bbl	Gas MCF	Wtr. M-bbl
1	NE/4 NW/4 Sec 24	12-60	171 B/D	2914	23	2420	248	367	-
2	SW/4 SE/4 Sec 24	6-61	122 B/D	1736	118	6253	193	402	13
3-A	NE/4 SW/4 Sec 24	2-62	109 B/D	341	-	11,207	47	166	2
4	SW/4 SW/4 Sec 13	2-62	179 B/D	TA	-	-	1	2	-
5	NE/4 NE/4 Sec 23	8-62	305 B/D	4774	-	2010	183	353	-
6	NE/4 SW/4 Sec 23	2-63	261 B/D	5114	-	2134	165	355	-
7	NE/4 NE/4 Sec 24	6-63	D&A	-	-	-	-	-	-
8	NE/4 SW/4 Sec 23	8-63	380 B/D	5176	-	2109	143	325	1
9	NE/4 NW/4 Sec 23	11-63	D&A	-	-	-	-	-	-
10	NW/4 NW/4 Sec 14	8-64	D&A	-	-	-	-	-	-
11	SW/4 NW/4 Sec 24	5-65	400 B/D	4784	-	2279	44	97	-
12	SW/4 NW/4 Sec 23	4-65	374 B/D	TA	-	-	6	11	2
13	SW/4 SE/4 Sec 23	10-65	184 B/D	5363	-	2723	29	75	3
14	SW/4 SW/4 Sec 24	11-65	197 B/D	5459	-	1810	23	43	6
15	SW/4 NW/4 Sec 25	1-66	190 B/D	5459	-	1468	12	15	-
Totals:				41,120			1,094	2,211	27

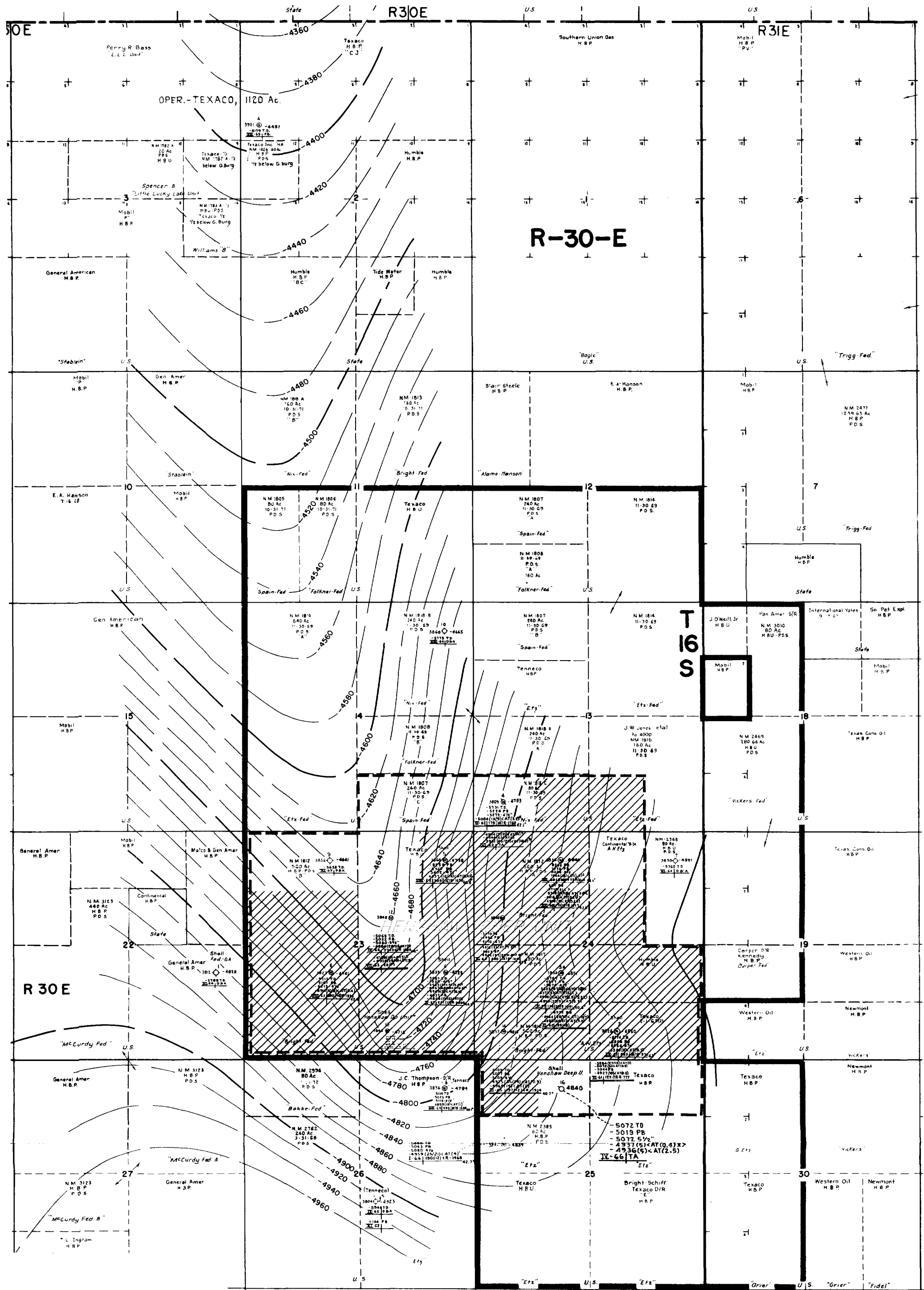


EXHIBIT NO. 1  
 STRUCTURE MAP  
 HENSHAW WOLFCAMP FIELD  
 CONTOURS ON THIRD SISTER WOLFCAMP MARKER  
 CONTOUR INTERVAL - 20 FEET

——— ORIGINAL UNIT BOUNDARY  
 - - - - - INITIAL PARTICIPATING AREA PLUS FIRST THROUGH FOURTH ENLARGEMENTS  
 // FIFTH REVISION TO INITIAL PARTICIPATING AREA



**IN REPLY REFER TO:**

1739

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Drawer 1857  
Roswell, New Mexico 88201

March 30, 1967

Shell Oil Company  
P. O. Box 1500  
Midland, Texas 79701

**Cent Learn:**

Your plan of development dated December 20, 1966 for the Henshaw Deep unit area, Eddy County, New Mexico, proposes no further drilling operations since the unit area is fully developed as to the Wolfcamp formation. All lands not within the Wolfcamp participating area were eliminated from the unit area effective April 23, 1966. Such plan of development will remain in effect until such time as changes necessitate approval of a revised plan.

The plan of development has been approved on this date and two approved copies are attached.

Sincerely yours,

(Jls.Sgd) 067-0-771984

**CARL C. TRAYWICK**  
Acting Oil and Gas Supervisor

cc:  
Washington (w/cy of plan)  
Artesia (w/cy of plan)  
NMOCC, Santa Fe (ltr. only)

**ILLEGIBLE**