

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

1721

May 2, 1963

Shell Oil Company
P. O. Box 1858
Roswell, New Mexico

Attention: Mr. R. L. Rankin

**Re: 1963 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 1963 Plan of Development for the Henshaw Deep Unit, Eddy County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands of the State of New Mexico.

Four approved copies of the plan are returned herewith.

Very truly yours,

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

ALP/JEK/ig

**cc: Commissioner of Public Lands
Santa Fe, New Mexico**

**United States Geological Survey
Roswell, New Mexico**

April 4, 1963

Shell Oil Company
P. O. Box 1838
Roswell, New Mexico

Re: 1963 Plan of Development
Henshaw Deep Unit, Eddy
County, New Mexico

Attention: R. L. Rankin

Gentlemen:

The Commissioner of Public Lands has approved, as of April 4, 1963, your 1963 Plan of Development for the Henshaw Deep Unit Area, Eddy County, New Mexico.

This Plan covers the Henshaw Deep Unit Well No. 6, which was completed January 16, 1963 and proposes to drill one additional Lower Wolfcamp Well.

We are returning three approved copies.

Very truly yours,

E. S. Johnny Walker
COMMISSIONER OF PUBLIC LANDS

BY:
(Mrs.) Marian M. Rhea
Supervisor, Unit Division

ESW/mmr/e
encl:
cc:

United States Geological Survey
Roswell, New Mexico

Oil Conservation Commission
Santa Fe, New Mexico

445771 0 7M 3 19

March 29, 1963

Shell Oil Company
P. O. Box 1858
Roswell, New Mexico

Re: Plan of Development, 1962
Henshaw Deep Unit
Eddy County, New Mexico

Attention: Mr. R. L. Rankin

Gentlemen:

Your Plan of Development for the Henshaw Deep Unit, which was submitted to this office under your letter dated December 19, 1962, provides for the drilling of the Henshaw Deep Unit, Well No. 6, in the NE/4 SE/4 of Section 23, Township 16 South, Range 30 East.

This Well No. 6 was spudded November 25, 1962 and completed January 16, 1963. Therefore, we feel you should amend your 1962 Drilling Program to cover this well and submit another Drilling Program for the calendar year 1963.

We wish to call to your attention, our Certificate of Approval of the Henshaw Deep Unit Agreement, in which we limit our approval to five years after the effective date of the unit unless the acreage is participating, or there is drilling thereon.

Shell Oil Company
March 29, 1963
- Page 2 -

Very truly yours,

E. S. Johnny Walker
COMMISSIONER OF PUBLIC LANDS

BY:
(Mrs.) Marian M. Rhea
Supervisor, Unit Division

ESW/mwr/e
cc:

United States Geological Survey
Roswell, New Mexico

Oil Conservation Commission
Santa Fe, New Mexico

MAIN OFFICE OCC

1963 JAN 30 PM 1:30 Drawer 1857
Roswell, New Mexico

January 29, 1963

Shell Oil Company
P. O. Box 1858
Roswell, New Mexico

Attention: Mr. R. L. Rankin

Gentlemen:

Your 1963 plan of development for the Henshaw Deep unit, Eddy County, New Mexico, proposing to continue drilling operations on unit well No. 6 in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 16 S., R. 30 E., N.M.P.M., and to drill one additional Lower Wolfcamp well, has been approved on this date subject to like approval by the appropriate State officials.

Two approved copies of the plan are enclosed.

Very truly yours,

(Orig. Snd.) CARL C. TRAYWICK

CARL C. TRAYWICK
Acting Oil and Gas Supervisor

Copy to: Washington (w/cy of plan)
Artesia (w/cy of plan)
NMOCC - Santa Fe (ltr. only)
Comm. of Pub. Lands - Santa Fe (ltr. only)



SHELL OIL COMPANY

P. O. Box 1858
Roswell, New Mexico

December 19, 1962

Subject: Proposed Plan of Development, 1963
Henshaw Deep Unit
Eddy County, New Mexico

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

Commissioner of Public Lands
State of New Mexico
State Land Building
Santa Fe, New Mexico

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

Gentlemen:

Attached are copies of a proposed Plan of Development on the Henshaw Deep Unit, Eddy County, New Mexico, for the calendar year 1963.

If this Plan of Development meets with your approval, please sign and return two copies for our file.

Yours very truly,

A handwritten signature in dark ink, appearing to read 'R. L. Rankin'. The signature is fluid and cursive, with a prominent 'R' and a trailing flourish.

R. L. Rankin
Division Production Manager

Attachments

PLAN OF DEVELOPMENT
FOR THE CALENDAR YEAR 1963
HENSHAW DEEP UNIT (NO. 14-08-001-6453)
EDDY COUNTY, NEW MEXICO

OIL AND GAS SUPERVISOR (6)
UNITED STATES GEOLOGICAL SURVEY
P. O. DRAWER 1857
ROSWELL, NEW MEXICO

COMMISSIONER OF PUBLIC LANDS (5)
STATE OF NEW MEXICO
STATE LAND BUILDING
SANTA FE, NEW MEXICO

OIL CONSERVATION COMMISSION (5)
STATE OF NEW MEXICO
STATE LAND BUILDING
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 for the year 1963.

The plan of development for 1962 reviews the completions of Henshaw Deep Unit Wells 1, 2, and 3A. Henshaw Deep Unit 4, a 9600-foot test located in the SW/4 SW/4 of Section 13-16S-30E, was spudded on December 16, 1961 and completed temporarily abandoned on June 7, 1962 after production tests indicated that the lower Wolfcamp perforated intervals 8953 to 8966 feet and 8743 to 8792 feet were oil bearing but limited reservoirs. Production tests also indicated that the upper Wolfcamp intervals 8413 to 8419 feet and 7830 to 7875 feet were water bearing.

Henshaw Deep Unit 5, the second Devonian test on the unit, was drilled to a total depth of 12,100 feet. This well, located in the NE/4 NE/4 of Section 23-16S-30E, was dry in the Devonian but was completed on August 26, 1962, flowing 305 barrels of oil per day from lower Wolfcamp perforations 8785 to 8801 feet. A third enlargement of the initial participating area for the lower Wolfcamp, which includes Henshaw Deep Unit 5, has been applied for.

The Unit Operator proposes to continue exploitation of the lower Wolfcamp pay on 160-acre density until reservoir conditions indicate closer spacing is advisable. It is planned to initiate drilling operations on Henshaw Deep Unit 6 in the NE/4 SE/4 of Section 23-16S-30E by December 31, 1962.

During the year 1963, the Unit Operator proposes to drill one additional lower Wolfcamp test which will be the seventh well on the Henshaw Deep Unit.

This plan of development shall constitute the drilling obligations of the Unit Operator under the terms of the Henshaw Deep Unit for the period ending December 31, 1963. Before this plan expires, another plan for further development of the Unit Area will be submitted.

It is understood that portions of the Plan of Development herein outlined are dependent upon certain information to be gained prior and subsequent to drilling and, therefore, this plan of development may be modified from time to time, with like approval, to meet changing conditions.

SHELL OIL COMPANY
Unit Operator

By R. L. Rankin
R. L. Rankin

Approved _____ DATE _____
Supervisor, United States Geological Survey

Approved _____ DATE _____
Commissioner of Public Lands

Approved R. L. Foster DATE 5-2-63
Oil Conservation Commission

174
Drawer 1857
Roswell, New Mexico

December 12, 1962

Shell Oil Company
P. O. Box 1858
Roswell, New Mexico

Attention: Mr. R. L. Rankin

Gentlemen:

Your application of September 21 for the third revision of the Lower Wolfcamp participating area, Henshaw Deep unit agreement, Eddy County, New Mexico, was approved December 5, 1962, by the Acting Director, U. S. Geological Survey. It is assumed that you will furnish any interested parties with appropriate evidence of this approval.

The application has not been approved by the appropriate officials of the State of New Mexico. Such approval must be obtained before the revision is effective, pursuant to sec. 11 of the Henshaw Deep unit agreement. Enclosed are six copies of the approved application. Please furnish this office two copies of the application approved by the Commissioner of Public Lands and the New Mexico Oil Conservation Commission in order that our records may indicate that complete approval was obtained.

Our records show the SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 16 S., R. 30 E., N.M.P.M., a portion of tract No. 18, to be covered by lease LC 064637-A instead of LC 064637. The schedule should be corrected and four copies filed with this office.

Very truly yours,

2012 (54) JOHN A. ANDERSON

JOHN A. ANDERSON
Regional Oil and Gas Supervisor

Copy to: Washington (ltr. only)
Artesia (w/cy appd. appln.)
BLM-Santa Fe (w/cy appd. appln.)
Comm. Pub. Lands (ltr. only)
N.M.O.C.C. (ltr. only) ✓

1/27

October 10, 1962

Shell Oil Company
P. O. Box 1858
Roswell, New Mexico

Re: Third Enlargement to
Initial Participating
Area Lower Wolfcamp,
Henshaw Deep Unit,
Eddy County, New Mexico

Attention: Mr. R. L. Rankin

Gentlemen:

We are returning herewith six unapproved copies of the Third Enlargement of the Initial Participating Area for the Lower Wolf Camp, Henshaw Deep Unit, Eddy County, New Mexico.

We concur with the Oil Conservation Commission's decision inasmuch as the Participating Area is comprised entirely of Federal land that the United States Geological Survey first approve this application.

Very truly yours,

E. S. JOHNNY WALKER
COMMISSIONER OF PUBLIC LANDS

BY:
(Mrs.) Marian M. Rhea, Supervisor
Unit Division

ESW/mmr/v
cc: Oil Conservation Commission
Santa Fe, New Mexico

United States Geological Survey
Roswell, New Mexico

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

1731

December 28, 1962

Shell Oil Company
P. O. Box 1858
Roswell, New Mexico

Attention: Mr. R. L. Rankin

Re: Third Enlargement to
Initial 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 Third Enlargement to the Initial Participating Area for the Henshaw Deep Unit, Eddy County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands of the State of New Mexico.

Three approved copies of the application are returned herewith.

Very truly yours,

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

ALP/JEK/ig

cc: Commissioner of Public Lands
Santa Fe, New Mexico

United States Geological Survey
Roswell, New Mexico

C
O
P
Y

December 27, 1962

Shell Oil Company
P. O. Box 1858
Roswell, New Mexico

Re: Henshaw Deep Unit,
Eddy County, New Mexico,
Third Enlargement
Initial Participating Area

Attention: Mr. R. L. Rankin

Gentlemen:

The Commissioner of Public Lands has approved as of this date the Third Enlargement to the Initial Participating Area, Henshaw Deep Unit, Eddy County, New Mexico.

We are handing four copies of this Participating Area to the Oil Conservation Commission for their consideration and requesting they return to you two fully approved copies.

Very truly yours,

E. S. JOHNNY WALKER
COMMISSIONER OF PUBLIC LANDS

BY:

(Mrs.) Marian M. Rhea, Supervisor
Unit Division

ESW/mar/v

cc: U. S. Geological Survey
Roswell, New Mexico

Oil Conservation Commission
Santa Fe, New Mexico



SHELL OIL COMPANY

P. O. Box 1858
Roswell, New Mexico

September 21, 1962

Re: Henshaw Deep Unit No. 14-08-001-6453
Eddy County, New Mexico
Third Enlargement to Initial
Participating Area

Director
United States Geological Survey
Department of the Interior
Washington 25, D. C.
Through:
Regional Director
United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico

RECEIVED

SEP 1962

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

Gentlemen:

In compliance with the requirements of Section 11 of the Henshaw Deep Unit Agreement, No. 14-08-001-6453, approved December 3, 1959, Shell Oil Company, as Unit Operator, submits Schedule I, attached hereto, and requests that the land described therein be approved as the acreage which will participate in production from the Henshaw Deep Unit effective August 1, 1962, the first day of the month in which Unit Well No. 5 was completed in the Wolfcamp formation.

The Initial Participating Area, effective December 2, 1960, was approved March 31, 1961, and encompassed the following acreage:

NW/4 and W/2 NE/4 Section 24; SW/4 SE/4 and
S/2 SW/4 Section 13; all in T-16-S, R-30-E,
N.M.P.M.

The First Enlargement, effective June 1, 1961, was approved February 28, 1962, and increased the Initial Participating Area to 720 acres by the addition of the following acreage to that described above:

SE/4 and E/2 SW/4 Section 24; N/2 NE/4 and
NE/4 NW/4 Section 25; all in T-16-S, R-30-E,
N.M.P.M.

The Second Enlargement, effective November 1, 1961, was approved February 28, 1962, and increased the Initial Participating area to 800 acres by the addition of the following acreage to that dedicated to the enlarged Initial Participating Area:

NW/4 SW/4 and SW/4 SW/4 Section 24, T-16-S,
R-30-E, N.M.P.M.

A Third Enlargement is requested as a result of the successful completion on August 25, 1962, of Henshaw Deep Unit No. 5 in the Lower Wolfcamp reservoir (interval 8785-92 and 8795-8801 feet). Well No. 5 was tested on August 27, 1962, at a daily flowing rate of 305 barrels of oil with a 0.2 per cent BS&W cut through a 16/64-inch choke with a flowing tubing pressure of 800 p.s.i. and a gas-oil ratio of 1650 cubic feet per barrel after a treatment of 450 gallons of acid.

The oil pay zones in all of the wells completed in the Henshaw Deep Unit thus far continue to be relatively thin; however the performance of the wells, with the exception of Henshaw Deep Unit No. 4, indicates excellent lateral communication and only nominal reservoir draw down over sustained producing periods. We are of the opinion that the typical well will drain a large reservoir area (considerably in excess of 160 acres). For example, Henshaw Deep Unit 1 had accumulated 65,423 barrels of oil through July 17, 1962, without a discernible reservoir pressure drop. This indicates a reserve much greater than can be accounted for by volumetric computations using the pay zones apparent in existing wells. We have concluded, therefore, that the acreage contributing to production from this well is several sections in areal extent.

The attached plat reflects the most recent structural interpretation based on seismos and subsurface data from existing wells. You will note that the control afforded by Henshaw Deep Unit 5, NE/4 NE/4 Section 23, and Tenneco U.S.A. Etz No. 1, NW/4 SE/4 Section 26, both in T-16-S, R-30-E, has resulted in a shift of the estimated structural crest approximately one half of a mile to the west of that shown on our original interpretation. On the basis of the improved structural control we believe that the acreage described as S/2 SE/4 Section 14, E/2 Section 23 and NW/4 NW/4 Section 25, T-16-S, R-30-E, can reasonably be assumed to be contributing to production in the Henshaw Deep Unit. This will create an enlarged participating area of 1240 acres described as follows:

S/2 SW/4, SW/4 SE/4 Section 13; S/2 SE/4 Section 14; E/2 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, N.M.P.M.

The land described above is unitized and constitutes all the land which can be regarded as being reasonably proved or indicated to be productive of unitized substances in paying quantities.


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

1. A structural map showing the Henshaw Deep Unit, the present enlarged Initial Participating Area and the proposed Third Enlargement of the Initial Participating Area.
2. A cross section showing structural and stratigraphic relationships between Henshaw Deep Unit No. 1 and Henshaw Deep Unit No. 5.

3. Schedule I, showing the participating percentage of each lease included or partially included in the enlarged participating area.

The Unit Operator respectfully requests your approval of this application for the Third Enlargement of the Initial Participating Area of the Henshaw Deep Unit to be effective August 1, 1962.

Yours very truly,


for R. L. Rankin
Division Production Manager

Director United States Geological Survey

4

HENSHAW DEEP UNIT (No. 14-08-001-6453)
Third Enlargement of Lower Wolfcamp Participating Area

Approved: *William A. Baker* DEC - 5 1962
Acting Director, United States Geological Survey
Subject to like approval by the appropriate
officials of the State of New Mexico

Approved: *James H. ...* December 27, 1962
State Commissioner of Public Lands

Approved: *A. H. ...* December 28, 1962
New Mexico Oil Conservation Commission