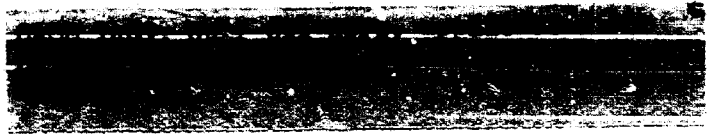


Case No.

1409

Application, Transcript,
Small Exhibits, Etc.



OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

April 28, 1958

C
O
P
Y

Mr. William Kastler
Gulf Oil Corporation
P.O. Box 669
Roswell, New Mexico

Dear Mr. Kastler:

We enclose two copies of Orders R-1161, R-1164 and R-1166 issued April 22, 1958, by the Oil Conservation Commission in Cases 1411, 1409 and 1410, respectively, which were heard on April 9th at Santa Fe before an examiner.

Very truly yours,

A. L. Porter, Jr.
Secretary - Director

bp
Encls.

**BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO**

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

**CASE NO. 1400
Order No. B-1164**

**APPLICATION OF GULF OIL CORPORATION
FOR AN OIL-OIL DUAL COMPLETION IN AN
UNDESIGNATED WOLF CAMP POOL AND IN THE
ANDERSON RANCH-DEVONIAN POOL IN LEA
COUNTY, NEW MEXICO.**

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on April 9, 1958, at Santa Fe, New Mexico, before Elvis A. Utx, Examiner duly appointed by the New Mexico Oil Conservation Commission, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 12th day of April, 1958, the Commission, a quorum being present, having considered the application, the evidence adduced and the recommendations of the Examiner, Elvis A. Utx, 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, Gulf Oil Corporation, is the owner and operator of the Lea State "CL" Well No. 1, located 2851 feet from the North line and 1650 feet from the East line of Section 2, Township 16 South, Range 32 East, NMPM, Lea County, New Mexico.
- (3) That the applicant proposes to dually complete the said Lea State "CL" Well No. 1 in such a manner as to permit the production of oil from an undesignated Wolfcamp pool and to permit the production of oil from the Anderson Ranch-Devonian Pool through parallel strings of 2 3/8-inch OD EUE tubing.
- (4) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.
- (5) That approval of the subject application will not cause waste nor impair correlative rights.
- (6) That the subject application should be approved.

IT IS THEREFORE ORDERED:

(1) That the applicant, Gulf Oil Corporation, be and the same is hereby authorized to dually complete its Lea State "CL" Well No. 1, located 2651 feet from the North line and 1850 feet from the East line of Section 2, Township 16 South, Range 32 East, NEPM, Lea County, New Mexico, in such a manner as to permit the production of oil from an undesignated Wolfcamp pool and to permit the production of oil from the Anderson Ranch-Devonian Pool through parallel strings of 2 3/8-inch OD EUE tubing.

PROVIDED HOWEVER, That subject well shall be completed and thereafter produced in such a manner that there will be no commingling within the well-bore, either within or outside the casing, of gas, oil and gas, or oil produced from either or both of the separate strata,

PROVIDED HOWEVER, That prior to the actual dual completion the operator shall make pressure tests of the casing to prove that no casing leaks exist. In the event a casing leak is apparent the operator shall take appropriate steps to adequately repair the leak. The results of these tests shall be reported to the Commission on Form C-103.

PROVIDED FURTHER, That upon the actual dual completion of such subject well applicant shall submit to the appropriate District Office of the Commission copies of Oil Conservation Commission Form C-103, Form C-104, Form C-110, and Form C-123, outlining the information required on those forms by existing Rules and Regulations, and two copies of the electric log of the well.

PROVIDED FURTHER, That said subject well for dual completion and production shall be equipped in such a way that reservoir pressures may be determined separately for each of the two specified strata, and further, be equipped with all necessary connections required to permit recording meters to be installed and used at any time as may be required by the Commission or its representatives, in order that natural gas, oil, or oil and gas from each separate stratum may be accurately measured and the gas-oil or gas-liquid ratio thereof determined, and

PROVIDED FURTHER, That the operator shall make any and all tests, including segregation and packer-leakage tests upon completion and annually thereafter during the Gas-Oil Ratio Test Period for the Anderson Ranch-Devonian Oil Pool, commencing in the year 1959, and whenever the packer is disturbed, but not excluding any other tests and/or determinations as deemed necessary by the Commission; the original and all subsequent tests shall be witnessed by representatives of offset operators if any there be at their election, and the results of each test, properly attested to by the applicant herein and all witnesses, shall be filed with the Commission within fifteen (15) days after the completion of such tests, and further, that applicant shall file with the Commission in duplicate a packer-setting affidavit, which affidavit shall be due within fifteen (15) days of the dual completion or whenever the packer is disturbed, and

REPORTING REQUIREMENTS. That upon the actual dual completion of each subject well, Applicant shall submit to the Commission a diagrammatic sketch of the mechanical installation which was actually used to complete and produce the seal between the strata, and a general report of production, gas-oil ratio or gas-liquid ratio, and reservoir pressure measurements for each producing zone or stratum immediately following completion.

That jurisdiction of this court in
the case of the application for a license to
hunt and trap in the State of California
is not a matter of course, but a matter of
discretion, and the court is not bound to
grant a license to hunt and trap in the
State of California, but it is bound to
grant a license to hunt and trap in the
State of California, if the applicant is
qualified to do so, and if the license
is in the interests of the State and
the people thereof.

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

**STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION**

52 vol

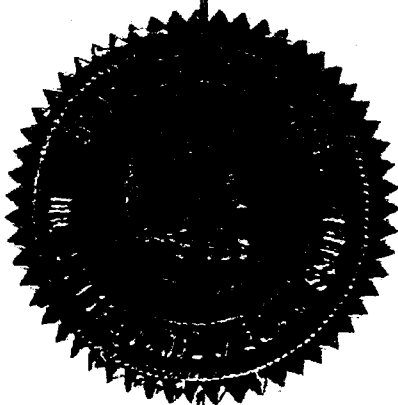
EDWIN L. MCGHEE, Chairman

Всего

MURRAY E. MORGAN, Member

By Peter, P

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



ir/



PETROLEUM AND ITS PRODUCTS

GULF OIL CORPORATION

P. O. DRAWER 1290 · FORT WORTH 1, TEXAS

E. HOSFORD
DIVISION PRODUCTION COORDINATOR

FORT WORTH
PRODUCTION DIVISION

March 12, 1958

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

Re: Application for Permit to Oil-Oil Dually Complete Gulf's
Lea State "CL" (NCT-A) Well No. 1, Anderson Ranch (Devon-
ian) and (Wolfcamp) Pools, Section 2, T-16-S, R-32-E,
Lea County, New Mexico

Gentlemen:

adj to

Gulf Oil Corporation respectfully requests a hearing to consider our application for permission to dually complete Lea State "CL" (NCT-A) Well No. 1 in such a manner that the Devonian and Wolfcamp Reservoirs may be produced through parallel strings of tubing and in support thereof states the following:

- (1) Gulf Oil Corporation is the owner and operator of the Lea State "CL" (NCT-A) 80-acre lease which consists of Lots 7 and 8 of Section 2, T-16-S, R-32-E, Lea County, New Mexico, as shown on the attached plat. Subject well is located 2651 feet from the north line and 1650 feet from the east line of said Section 2.
- (2) This well has 13-3/8" casing set at 618 feet around which the cement was circulated. The 9-5/8" casing is set at 4199 feet and cement circulated with 2550 sacks. Well was drilled to a total depth of 13,395 feet with 7" casing set and cemented at 13,368 feet with 1210 sacks. Lea State "CL" (NCT-A) Well No. 1 was potentialed in the Devonian zone on January 18, 1957, and on potential test flowed 357 barrels of 52.2 API gravity oil and no water in 24 hours through a 45/64" choke from open hole interval 13,368 to 13,395 feet. On 3-hour drill stem test from the interval 9708-9833 feet in the Wolfcamp, this well flowed 96 barrels of oil. Fifteen (15) minute bottom hole pressure was 3545 pounds.
- (3) Applicant proposes to perforate the 7" casing opposite the Wolfcamp Formation in an interval from 9698-9775, 9798-9808 and 9828-9842 feet and dually com-

March 12, 1958

plete through the use of parallel strings of tubing in the manner set out in the diagrammatic sketch attached hereto. The two producing intervals will be separated by means of a Baker Production Packer capable of withstanding any differential in pressures expected to be encountered between the two producing formations. If approved, applicant plans to run 2-3/8" O.D. KHE tubing from each producing zone.

The manner and method of the proposed dual completion is mechanically feasible and practical and the granting of this application is in the interest of conservation and the protection of correlative rights. Applicant will comply with all rules and regulations of the New Mexico Oil Conservation Commission to maintain separation of production from the two pays.

By copy of this letter of application, all offset operators are notified of the proposed dual completion.

Respectfully submitted,

GULF OIL CORPORATION

By E. H. Hosford
Division Production Coordinator

cc: Oil Conservation Commission
P. O. Box 2045
Hobbs, New Mexico

Magnolia Petroleum Company
P. O. Box 727
Kermit, Texas

Sunray Mid-Continent Oil Company
Wilco Building
Midland, Texas

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 9-11-58

CASE NO. 1409

HEARING DATE 7-8-58

My recommendations for an order in the above numbered case(s) are as follows:

1. Approve for twin string oil-oil lease with usual order.
2. Wolfcamp completion is Underdrilled.
3. Deronan is in Anderson Ranch-Deronian pool.

E. H. Holt
Examiner

Staff Member

DOCKET: EXAMINER HEARING APRIL 9, 1958

OIL CONSERVATION COMMISSION 9 a.m., MABRY HALL, STATE CAPITOL, SANTA FE, NM

The following cases will be heard before Elvis A. Utz, Examiner:

- - -

- CASE 1356: Application of Cities Service Oil Company for an order amending Order No. R-1128. Applicant, in the above-styled cause, seeks an order amending Order No. R-1128 to authorize the transfer of allowable from water injection wells to other wells on the same basic lease, to establish a lease allowable for the applicant's Government "B" Lease, and to authorize administrative approval for additions to, or deletions from the pilot area and/or injection wells.
- CASE 1404: Application of Continental Oil Company for permission to produce more than eight oil wells into a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing the production of a maximum of eleven oil wells in the Jalmat Gas Pool into a common tank battery. Said wells are located on the applicant's Eaves A-19 lease comprising the S/2, S/2 NW/4, and NW/4 NW/4 of Section 19, Township 26 South, Range 37 East, Lea County, New Mexico.
- CASE 1405: Application of Continental Oil Company for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its A. M. Lockhart B-14 "A" No. 1-D Well, located 1980 feet from the North line and 660 feet from the East line of Section 14, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to produce oil from the Terry Blinebry Oil Pool and oil from the Drinkard Oil Pool through parallel strings of tubing.
- CASE 1406: Application of Continental Oil Company for a non-standard gas proration unit. Applicant, in the above-styled cause, seeks an order establishing a 200-acre non-standard gas proration unit in the Eumont Gas Pool consisting of the S/2 S/2 and the NW/4 SW/4 of Section 13, Township 20 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the applicant's SEMU Permian Well No. 41 located 660 feet from the South and East lines of said Section 13.
- CASE 1407: Application of Delhi-Taylor Oil Corporation for a non-standard gas proration unit. Applicant, in the above-styled cause, seeks an order establishing a 169.42-acre non-standard gas proration unit in the Aztec-Pictured Cliffs Gas Pool consisting of the SW/4 and S/2 NW/4 of Section 31, Township 29 North, Range 8 West, San Juan County, New Mexico, said unit to be dedicated to the applicant's Prichard Well No. 4-C, located 1450 feet from the South line and 790 feet from the West line of said Section 31.

- CASE 1408: Application of Delhi-Taylor Oil Corporation for a non-standard gas proration unit. Applicant, in the above-styled cause, seeks an order establishing a 170.58-acre non-standard gas proration unit in the Aztec-Pictured Cliffs Gas Pool consisting of the SW/4 of Section 30 and the N/2 NW/4 of Section 31, all in Township 29 North, Range 8 West, San Juan County, New Mexico, said unit to be dedicated to the applicant's Jones Well No. 3, located 1750 feet from the South line and 1090 feet from the West line of said Section 30.
- CASE 1409: Application of Gulf Oil Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Lea State "CL" Well No. 1, located 2651 feet from the North line and 1650 feet from the East line of Section 2, Township 16 South, Range 32 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Wolfcamp formation adjacent to the Anderson Ranch-Wolfcamp Pool and oil from the Anderson Ranch-Devonian Pool through parallel strings of tubing.
- CASE 1410: Application of Gulf Oil Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Lea State "R" Well No. 1, located 990 feet from the North line and 660 feet from the East line of Section 2, Township 16 South, Range 32 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Wolfcamp formation adjacent to the Anderson Ranch-Wolfcamp Pool and oil from the Anderson Ranch-Devonian Pool through parallel strings of tubing.
- CASE 1411: Application of Gulf Oil Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its J. F. Janda "F" Well No. 3, located 1980 feet from the North and West lines of Section 4, Township 22 South, Range 36 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Jalmat Gas Pool and oil from the South Eunice (Oil) Pool through parallel strings of tubing.
- CASE 1412: Application of John M. Kelly for a non-standard gas proration unit. Applicant, in the above-styled cause, seeks an order establishing a 240-acre non-standard gas proration unit in the Eumont Gas Pool consisting of the E/2 SW/4, W/2 SE/4, and W/2 NE/4 of Section 16, Township 19 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the applicant's Humble State No. 1 Well located 1980 feet from the South and West lines of said Section 16.
- CASE 1413: Application of Austral Oil Exploration Company for an exception to Rule 309 of the Commission Rules and Regulations. Applicant, in the above-styled cause, seeks an order authorizing it to commingle the production from all wells completed in the Townsend-Wolfcamp Pool, Lea County, New Mexico, on the following described leases:

CASE 1413

Continued: W. M. Snyder "B" Lease - Township 16 South, Range 36 East
Section 6: Lots 9, 10, 15, & 16
and SE/4

W. M. Snyder "C" Lease - Township 16 South, Range 36 East
Section 5: Lot 5
Section 6: Lots 1, 7, & 8

CASE 1414: Application of The Texas Company for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its C. H. Weir "B" Well No. 1, located in the SE/4 NE/4 of Section 11, Township 20 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Skaggs-Drinkard Pool and oil from an undesignated Glorieta oil pool through parallel strings of tubing.

CASE 1415: Application of Phillips Petroleum Company for authority to effect an oil-oil dual completion and to commingle the production from two separate pools. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Santa Fe Well No. 18, located in the NW/4 NE/4 of Section 34, Township 17 South, Range 35 East, Lea County, New Mexico, in such a manner as to produce oil from the Yates formation adjacent to the Vacuum-Yates Pool and from the Vacuum (San Andres) Pool through parallel strings of tubing. Applicant further seeks authority to commingle the oil produced from the separate reservoirs in common storage after measuring the Yates oil through dump-type meters.

CASE 1416: Application of Aztec Oil and Gas Company for a non-standard location. Applicant, in the above-styled cause, seeks an order authorizing a non-standard gas well location for its Culpepper-Martin Well No. 9, to be located 1850 feet from the North line and 1950 feet from the West line of Section 30, Township 32 North, Range 12 West, Blanco Mesaverde Pool, San Juan County, New Mexico.

CASE 1417: Application of Sinclair Oil and Gas Company for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its A. M. York "B" Well No. 2, located in the NE/4 NE/4 Section 20, Township 21 South, Range 37 East, Lea County, New Mexico, to produce oil from the Tubb Gas Pool and from the Drinkard Oil Pool through parallel strings of tubing.

CASE 1418: Application of Shell Oil Company for an exception to Rule 309 of the Commission Rules and Regulations. Applicant, in the above-styled cause, seeks an order authorizing the transportation, prior to measurement, of oil produced on its E. W. Mudge No. 4 Lease, comprising All of Sections 21, 28, 33, and 34, to its L. M. Phillips No. 2 Lease, comprising the S/2, NE/4, and Lots 1 and 2 of Section 4, N/2 Section 9, SW/4 and E/2 Section 10, All Section 15, N/2 and SE/4 Section 22, and W/2 Section 27,

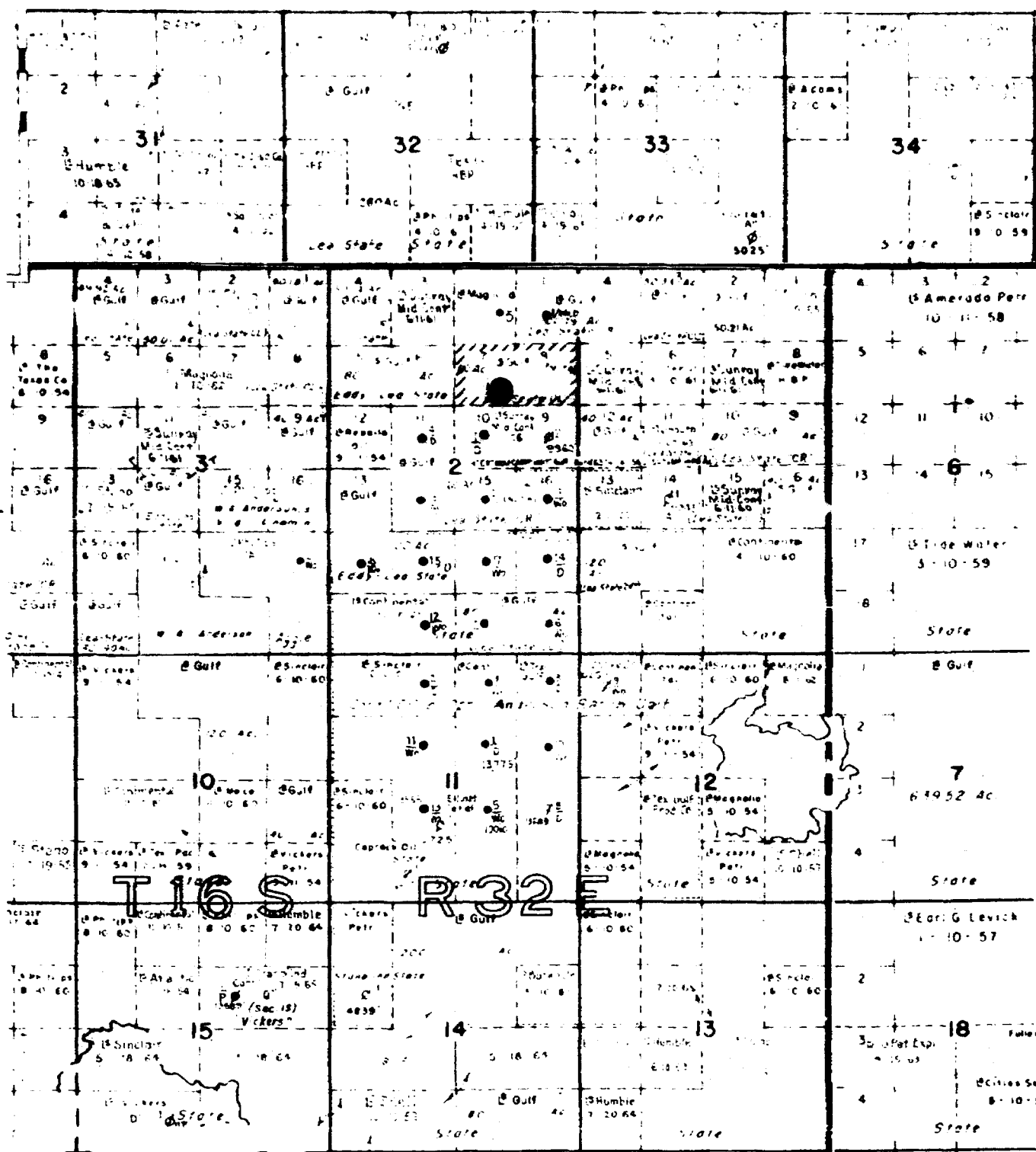
-4-
Docket No. 10-58

Examiner Hearing April 9, 1958

CASE 1418
Continued:

all in Township 25 North, Range 12 West, San Juan County,
New Mexico. Applicant further seeks authority to commingle
the production from each of said leases after separately
measuring said production by means of positive displacement
meters.

ir/



LEASE PLAT
LEA-STATE "CL"
ANDERSON RANCH-WOLFCAMP & DEVONIAN POOLS
LEA COUNTY, NEW MEXICO

-LEGEND-

- Pertinent Gulf Lease
- Pertinent Gulf Well

Gulf Oil Corporation

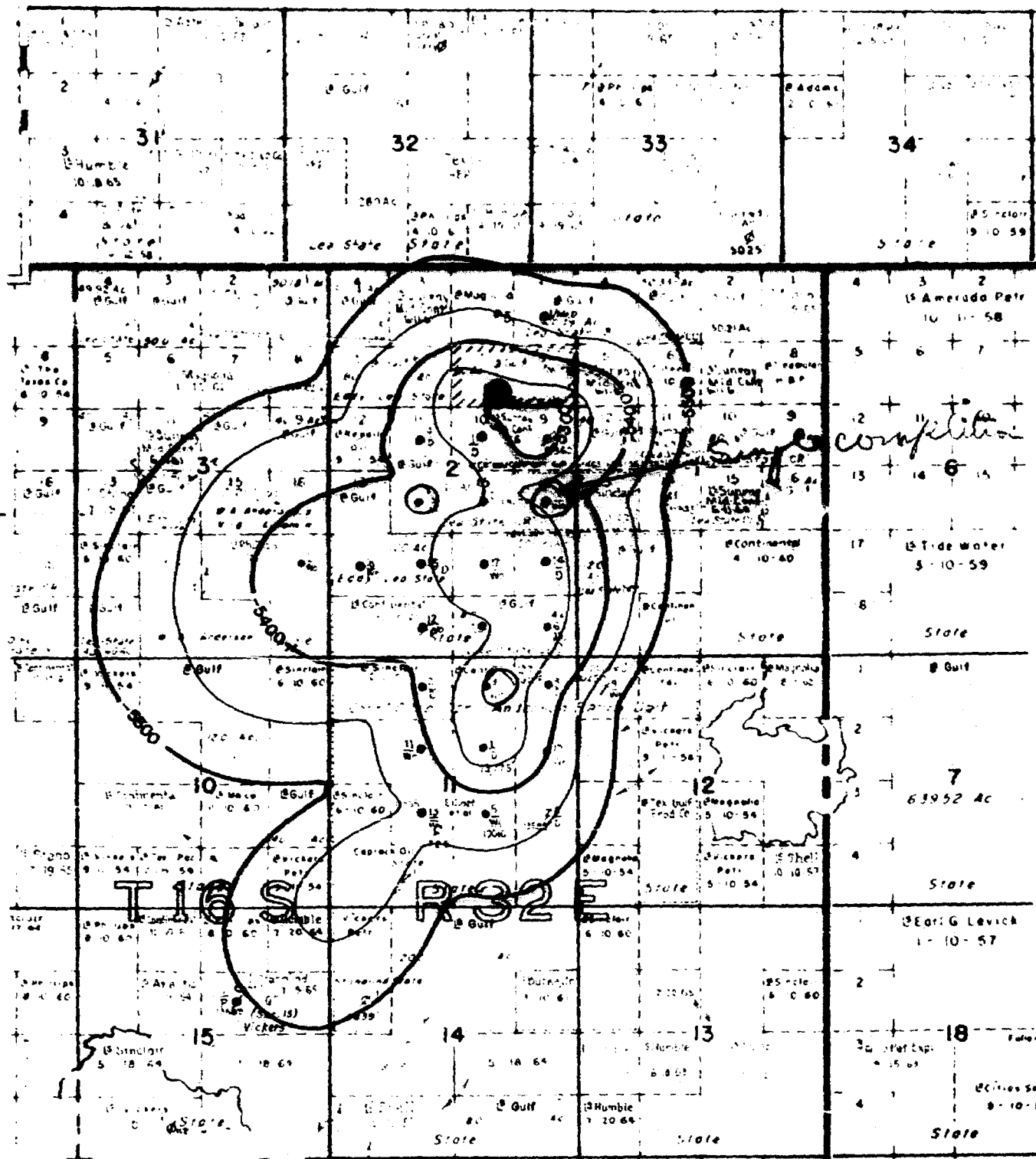
April 9, 1958

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Gulf
EXHIBIT No. 1
CASE 1409

Case No. 1409

Exhibit No. 1

ILLEGIBLE



Contour Map on top of Wolfcamp Main Pay

Case No. 1409 Exhibit No. 2

Gulf Oil Corporation April 9, 1958

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Gulf
EXHIBIT No. 2
CASE 1409

ILLEGIBLE

Anderson Pump

13.36' Grd. Elev.

R-110
13-3/8" OD 12# S-40-E csg set @ 618'.
Cemented w/700 sz. Cnt circulator.

Case 1409
9-5/8" OD 36# J-55 & S-80 csg set at
4199'. Cntd w/2550 sz cnt. Circ.

2-3/8" OD 4.70# Hydril "CS" P-105 tbg
latched into parallel string anchor @
9357'. SN @ 9325'. Tbg set w/6000# tension

3/4" x 1.20# EU 10 RT N-80 Kobe tbg w/
2" x 1-3/16" x 1-3/16" Kobe pump asy
set in SN @ 9325'.

Wolfeamp perfs, 4, 1/2" JHPF, @
9328-9334', 9390-9774',
9793-9803', 9328-9342'

7" OD 23# N-80 & S-95, 26# N-80 & S-95
csg set at 13,368'. DV tool @ 11,353'.
Cmtd 1st stage w/460 sz, 2nd stage w/925
sz. TB end top @ 7535'.

TD @ 13,395'

10-25-65 3 37 PM '65
#1-63 2-165-32
NOTE: 7" csg detail from bottom up:
1102' of 26# S-95
3235' of 23# S-95
1416' of 23# N-80 LTRC
539' of 23# N-80 Hydril X-line
3946' of 23# N-80 Buttress thd
10' of 26# N-80 Buttress thd
(cut joint)

2-7/8" OD 6.50# N-80 Hydril "CS" tbg
to 10,005' & 2-3/8" OD 4.70# DUE 8 RT
N-80 tbg from 10,005' to bottom of
tail pipe @ 13,360'. 2-3/8" tbg guide
at 13,216'. Tail pipe is bull plugged
on bottom. Tbg set w/13,000# tension

1" 1.60# EU 10 RT N-80 Kobe tbg w/2 1/2"
x 1-7/16" x 1-7/16" Kobe pump asy
set in SN @ 7903'.

2 1/2" Otis Wire line retrievable SN
set @ 7903'.

Baker parallel string anchor @ 9357'.

Baker Model "D" p/cr @ 13,219' w/anchor
seal asy thru p/cr & Baker Model C-1
tbg seal receptacle @ 13,217'

2" Garrett Type "B" CV @ 13,276'
(open - jar up to close).

Devonien producing from 6 1/2" open
hole interval 13,268-13,395'

CRK:ptg, 10-25-65

EXAMINER HEARING
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
April 9, 1958

IN THE MATTER OF: Case No. 1409

TRANSCRIPT OF PROCEEDINGS

DEARNLEY - MEIER & ASSOCIATES
INCORPORATED
GENERAL LAW REPORTERS
ALBUQUERQUE, NEW MEXICO
3-6691 5-9546

EXAMINER HEARING
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
April 9, 1958

IN THE MATTER OF:

Application of Gulf Oil Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Lea State "CL" Well No. 1, located 2651 feet from the North line and 1650 feet from the East line of Section 2, Township 16 South, Range 32 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Wolfcamp formation adjacent to the Anderson Ranch-Wolfcamp Pool and oil from the Anderson Ranch-Devonian Pool through parallel strings of tubing. Case 1409

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF PROCEEDINGS

MR. UTZ: The hearing will come to order. The next case on the docket will be Case 1409.

MR. PAYNE: Case 1409: Application of Gulf Oil Corporation for an oil-oil dual completion.

MR. KASTLER: My name is Bill Kastler, representing Gulf Oil Corporation. If the Examiner please, I would like to suggest that our two witnesses, Mr. Gerald Savage and Mr. John Hoover, be sworn one time, in the interest of conserving time, for this case and Case 1410 and Case 1411; and that the record will so show at the outset of Case 1409, 1410, and 1411, that the witnesses have been sworn.

MR. UTZ: We will swear the witnesses for Cases 1409, 1410, and 1411.

(Witnesses sworn.)

MR. UTZ: Are there any other appearances in this Case 1409? If not, you may proceed.

GERALD J. SAVAGE

called as a witness, having been first duly sworn on oath, testified as follows:

DIRECT EXAMINATION

By MR. KASTLER:

Q Will you please state your name and position?

A Gerald J. Savage, production geologist with the Gulf Oil Corporation at Roswell, New Mexico.

Q Have you previously testified as a qualified expert witness before this Commission?

A Yes, sir, I have.

Q Are you familiar with the geology of the area surrounding Gulf's well known as Lea State "CL" A No. 1?

A Yes, sir, I believe I am.

Q Have you prepared or caused to be prepared location plat showing this general area, the surrounding operators, and the wells completed in respective pay zones pertinent to this case?

A Yes, sir, and I have labeled this Exhibit No. 1.

Q Will you please describe what is shown on Exhibit No. 1, giving the lease location and so forth?

A On Exhibit No. 1 I have shown by means of a dashed line Gulf Lea State "CL" Tract A lease, consisting of Lots 7 and 8 of Section 2, Township 16 South, Range 32 East. This tract is approximately 80 acres. Also shown is the No. 1 Lea State "CL" Tract A Well, encircled and shown in red.

Q Have all offset operators been notified of this application by copy of the letter and location plat?

A Yes, sir, they have.

Q Will you now please give the history of the well which Gulf proposes to dually complete?

A The Lea State "CL" A Well No. 1 was drilled to a depth of 13,368 feet where 7-inch casing was set. The well was then taken to a depth of 13,395 feet in the Devonian formation, where commercial production was established. During the drilling of that well, the Wolfcamp formation was drill stem tested and commercial production was found. It is proposed to perforate the Wolfcamp zone in four short intervals between the depths of 9,638 feet, to 9,842 feet. It is the purpose of this case to request the dual completion of the Wolfcamp and the Devonian zones.

Q Was the oil potentialized or was the well potentialized in the Devonian zone as well?

A Yes, sir, the Devonian zone is producing at this time.

Q Do you know the date of completion or testing in the Devonian zone?

A I believe the date of the completion in the Devonian zone

was on January 18, 1957.

Q On page 1 at item or paragraph 2 of the Application of Gulf Oil Corporation, it is shown that this well was potentialed in the Devonian zone on January 18, 1958. Is that in error, was the date January 18, 1957?

A I believe the January, 1957, date is the correct one.

MR. KASTLER: If the Examiner please, we would like to request that our application be so amended to conform to the facts.

MR. UTZ: Where was that on your application?

MR. KASTLER: It's at paragraph number 2, about half-way down on the left margin.

MR. UTZ: Change that to '57?

MR. KASTLER: Yes, sir.

MR. UTZ: If there is no objection, the application will be so amended.

Q Have you prepared or caused to be prepared a contour map showing the location of the subject well on the Wolfcamp?

A Yes, sir, I have a contour map on top of the Wolfcamp main pay, which I have labeled Exhibit No. 2.

Q Would you explain No. 2 at this time?

A Exhibit No. 2 is a contour map on top of the Wolfcamp main pay, with a contour interval of fifty feet; also shown is the pertinent Gulf lease and the No. 1 Lea State "CL" Tract A, encircled and shown in red. This map shows that the No. 1 Lea State "CL" is located on the north flank of the Anderson Ranch field structure.

Q Have you prepared or caused to be prepared a contour map showing the location of the subject well on the Devonian?

A Yes, sir, I have, contour map on top of the Devonian formation, which shows essentially the same information as the information on the contour map on the top of the Devonian.

Q The Devonian?

A I believe I said that it shows the same information as shown by the contour map on top of the Devonian formation. It shows the pertinent Gulf lease and the pertinent Gulf well, and shows the well to be on the north flank of the Anderson Ranch structure, on top of the Devonian.

Q Are the other wells in the surrounding tracts shown in the plat here completed in either the Wolfcamp or the Devonian?

A Yes, sir, they are.

Q Have you prepared or caused to be prepared a log showing the intervals perforated in this well?

A I have copies of the electro-log on the subject well, which I have labeled Exhibit No. 4.

Q Will you please explain what is shown on this log which is pertinent to Case No. 1409?

A I have specifically shown the top of the Wolfcamp limestone at a depth of 8,900 feet, and the proposed Wolfcamp formation -- I beg your pardon, the proposed Wolfcamp perforations, four short intervals between the depths of 9,638 and 9,842 feet. Also shown is the top of the Devonian formation at a depth of 13,354 feet,

the producing open hole interval from 13,368 feet to 13,395 feet. This Devonian formation, on a 24-hour test on 1/18/57, I wish to insert here that this exhibit is in error inasmuch as it notes the date was 1/20/57; the January 18th date is the correct one. On this date, through 2-3/8 inch tubing and 45/64 inch choke it flowed 373 barrels of oil with a GOR of 338 cubic feet per barrel, a gravity of 52.2.

Q I understand this well is open hole producing in the Devonian and the perforations in the Wolfcamp are merely proposed at this time, is that correct?

A That is correct.

MR. KASTLER: If the Examiner please, I would like at this time to move that Exhibit Nos. 1, 2, 3, and 4 be admitted into evidence in this case.

MR. UTZ: In the absence of objections, they will be so admitted.

MR. KASTLER: That's all the questions I have of this witness. I might add that I have the second witness, Mr. Hoover, who will present a schematic diagram and the engineering phases. Mr. Savage has presented the geological.

MR. UTZ: Are there questions of the witness?

CROSS EXAMINATION

By MR. UTZ:

Q Which of these two zones, in your opinion, has the better reserves, the Devonian or the Wolfcamp?

A I haven't done any work on that specific detail, but I would estimate that the reserves in the Devonian are greater.

Q Will both of these zones have top allowable wells?

A Yes, sir, they will. It is assumed they will be, inasmuch as we haven't potentialized the Wolfcamp zone.

Q What would you -- or would you have an estimate as to the pay-out time for a Wolfcamp completion?

A I do not have any specific information on the pay-out time for a Wolfcamp well.

Q You made no studies in regard to twinning these two zones?

A I specifically have made no studies as to the economics of the twinning. I believe Mr. Hoover is prepared to give that information.

MR. UTZ: Are there any other questions? Mr. Nutter.

By MR. NUTTER:

Q Have you testified to the GOR, the gravities, and the bottom-hole pressures in these two zones, or will another witness testify to that?

A I do not have any information on the bottom-hole pressures. I have the GOR for the Devonian formation, but no tests have been made other than drill stem tests in the Wolfcamp zone. Perhaps Mr. Hoover will have available the bottom-hole pressures for the Wolfcamp zone from the drill stem tests.

Q There are other wells in the Wolfcamp zone in this area, are there not?

A Yes.

Q The GOR's and gravities would be available?

A They would be available.

MR. UTZ: Any further questions? Mr. Stamets.

By MR. STAMETS:

Q Do you know the drive mechanism of the two reservoirs?

A I believe they are both a water drive.

MR. STAMETS: That's all.

By MR. UTZ:

Q What was the discovery well for the Devonian Pool here?

A I believe the discovery well for both the Devonian and the Wolfcamp Pools is the Continental Oil Company No. 1, an Anderson Ranch unit, although that well is completed as a Devonian producer only. That well is located 1980 feet from the north and east lines of Section 11, Township 16 South, Range 32 East.

Q Are there any other Wolfcamp completions in this area?

A Yes, sir, there are.

Q Would you state those, please?

A The nearest Wolfcamp completion to Gulf's No. 1 Lea State "CL" is Gulf's No. 1 Lea State "CR", which is located in the center of Lot 16, Section 2, Township 16 South, Range 32 East. Also located nearly the same distance away is Gulf's No. 3 Lea State "CR", located in Lot 14 of that same Section 2.

There are a number of other Wolfcamp wells located farther south, and I can delineate them if you so desire.

A Yes.

Q The GOR's and gravities would be available?

A They would be available.

MR. UTZ: Any further questions? Mr. Stamets.

By MR. STAMETS:

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A I believe they are both a water drive.

MR. STAMETS: That's all.

By MR. UTZ:

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There are a number of other Wolfcamp wells located farther south, and I can delineate them if you so desire.

Q I think that will be satisfactory. Are the other two Gulf wells dual completions?

A No, they are not.

Q They are just single Wolfcamp wells?

A Single Wolfcamp completions.

Q The Wolfcamp Pool is not a designated pool at this time, is that correct?

A To my knowledge there is designated an Anderson Ranch-Wolfcamp Pool.

MR. UTZ: Are there any other questions of the witness? If not, the witness will be excused.

(Witness excused.)

JOHN HOOVER

called as a witness, having been first duly sworn on oath, testified as follows:

DIRECT EXAMINATION

By MR. KASTLER:

Q Would you please state your name and your position?

A My name is John Hoover, petroleum engineer with Gulf Oil Corporation in Roswell, New Mexico.

Q As a Gulf engineer, have you previously testified and qualified as an expert witness before this Commission?

A Yes, I have.

Q Are you familiar with Gulf's application to dually complete its Lea State "CL" Well No. 1?

A Yes.

Q Have you prepared or caused to be prepared a schematic diagram explaining the features of this proposed dual completion?

A Yes, we have labeled it Exhibit No. 5.

Q You may now refer to Exhibit No. 5 and please state what is shown there.

A This is a schematic drawing of the proposed mechanical installation by which we wish to make an oil-oil dual completion in the Wolfcamp and Devonian Pools. This diagram shows that we have 13-3/8 inch casing set at 1603 feet and the cement was circulated to the surface. We have 9-5/8 set at 4,199 feet, and the cement was circulated to the surface. We have 7-inch casing set at 13,368 feet and by temperature survey the top of the cement was at 7,535 feet. This drawing shows in pink the Devonian flow, in green the Wolfcamp flow. We propose to install two strings of 2-3/8 inch tubing. The Devonian string, which will be the long string, will be set through a Baker Model "D" Retainer Production Packer, which is set at 13,219 feet. We will have a Baker parallel string anchor run in this tubing string at a depth of approximately 9,860 feet. The Wolfcamp string of 2-3/8 inch OD will be set into this Baker parallel string anchor.

This equipment that we are using in the well is standard equipment and has been proved by other field installations. The equipment will prevent the commingling of oil within the well bore. We have 2-3/8 inch tubing which will permit the wells to be

pumped, if and when necessary. We can make adequate tests to determine if communication should exist, in that we have two different gravities of oil. The Wolfcamp oil is 42 gravity, the Devonian oil is 52 gravity. We also have a difference in the composition of the crude, in that the Wolfcamp oil is sour, running about one percent hydrogen sulphide; and the Devonian crude is sweet. We also have a differential pressure on our tubings, in that the closed in tubing pressure on the Devonian is approximately 13 -- or on the Wolfcamp is approximately 1300 pounds, on the Devonian approximately 300 pounds, closed. The pressure test would indicate if we had leakage in that we would get an equalization of pressure.

We have also investigated the differential pressure which we would have across the Baker packer and our calculations indicate that we will have less than 200 pounds differential pressure in both static and flowing conditions, the maximum would be 200 pounds, it would be less than 200 pounds.

Q That is at the packer?

A Yes, at the packer.

Q Is the capacity for each of the strings of tubing adequate to permit production from each zone independent of the other?

A Yes, it is.

Q Is it possible to tell if there is any commingling of pays or if the pays -- or if there should be any leakage, would that show up?

A Yes, very definitely.

Q In what way would it show up?

A As previously mentioned, we have the different gravities of crudes, the sour crude in the Wolfcamp and the sweet crude in the Devonian. If there was commingling, we would have a difference in composition, and by this crude, the gravity of it being run each time that the tank is put on the pipe line, we would have an almost constant indication of any change in gravity.

Q If this application is granted, will Gulf comply with the operating tests, reports and procedures required by the Commission?

A Yes, they would.

Q Is this application in the interest of prevention of economic waste?

A Yes, it is.

Q In what way?

A The cost of these wells is very high. To drill a Devonian well runs approximately \$314,000.00. A Wolfcamp well will run approximately \$190,000.00; or if we had to drill a Devonian well and a Wolfcamp well, it would require an expenditure of \$500,000.00, approximately. We can dual, make a Wolfcamp-Devonian dual, for approximately 350 to \$360,000.00. This will permit the economical production of oil, which otherwise might not be economical to produce, to develop.

Q Would Gulf be inclined to drill a separate well to the Wolfcamp in this instance if this application were not granted, or would Gulf be more inclined to defer producing from the Wolfcamp

until it went into more marginal wells?

A In all probability, not having examined the economics too close, we would probably defer it or look at it very closely.

Q In your opinion, will any correlative rights be adversely affected?

A No, sir, they will not.

MR. KASTLER: At this time I would like to move to admit Exhibit No. 5 in Case 1409.

MR. UTZ: Is there objection to the entrance of Exhibit 5? It is so entered.

MR. KASTLER: I have no further questions.

CROSS EXAMINATION

By MR. UTZ:

Q I believe I missed the bottom-hole pressure in the Devonian in this well. Did you state that?

A No, I gave what the differential pressure from our calculations would be, across the packer.

Q That was less than 200 pounds?

A Yes, less than 200 pounds. We don't have a bottom-hole pressure, but I used the bottom-hole pressures in Lea State "CR" 1 and 2, which are approximately half a mile south, and the bottom-hole pressures in those wells compare very close to the bottom-hole pressure that we tested in this well when it was drill stem tested. The bottom-hole pressure in the Devonian is approximately 4,858 pounds. The bottom-hole pressure in the Wolfcamp is 3,592 pounds.

I would like to mention in that respect that you will note that we will have a static column of oil from the Baker parallel string anchor down to the top of the packer, and the static column will exert a pressure there of approximately 1235 pounds, so we would have the Wolfcamp pressure plus the 1235.

Q There would be a difference in pressure, including the static column, of about 262 pounds -- no --

A No, sir.

Q It would be 1266?

A Those pressures that I gave you are on the Lea State "CR" No. 1 and 2. Those pressures were taken at a depth, and then we corrected the depth for the conditions that would be in this well. In other words, we had a static pressure of 4858 at 13,335 feet, and our packer in this well will be set at 13,318 feet, and correcting it to the same depth; then we come out with a pressure on the bottom of that packer of 4,426 pounds, this is shut-in; on top of the packer, 4,448 pounds, or differential of only 22 pounds under shut-in conditions. Under flowing conditions we would have a pressure on top of that packer of 4,637 pounds, on the bottom, 4,520 pounds, or a differential of 117. I think we can safely say that we will be below a differential of 200 pounds under flowing and shut-in conditions. The maximum pressure will be on top of the packer.

MR. UTZ: Any other questions of the witness? If no further questions, the witness may be excused.

(Witness excused.)

MR. UTZ: Do you have anything further?

MR. KASTLER: Nothing further.

MR. UTZ: Any other statements in this case? If not, the case will be taken under advisement.

* * * * *

C E R T I F I C A T E

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in stenotype and reduced to typewritten transcript under my personal supervision, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this 25th day of April, 1958, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Ada Dearnley
NOTARY PUBLIC

My commission expires:

June 19, 1959.

I do hereby certify that the foregoing is a correct and true transcript of the proceedings in the hearing of Case No. 1407, heard by me on April 9, 1958.

Amos D. Duff, Examiner
New Mexico Oil Conservation Commission