

Case No.

1505

Application, Transcript,
Small Exhibits, Etc.



NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

6-1-56

PACKER-SETTING AFFIDAVIT
(Dual Completions)

OCT 11

11

1965

STATE OF Texas)
County of Winkler) ss

M. O. Daugherty, being first duly sworn according to law, upon his oath deposes and says:

That he is of lawful age and has full knowledge of the facts herein below set out.

That he is employed by Gulf Oil Corporation in the capacity of Production Foreman and as such is its authorized agent.

That on September 21, 1965, he personally supervised the setting of a Baker Model "D" in Gulf Oil Corporation's
(Make and Type of Packer) (Operator)

Learcy McBuffington Well No. 9, located in Unit
(lease)
Letter K, Section 13, Township 25S, Range 37E, NMPM,
Lea County, New Mexico.

That said packer was set at a subsurface depth of 6910 feet,
said depth measurement having been furnished by Lane Wells Company.

That the purpose of setting this packer was to effect a seal in the annular space between the two strings of pipe where the packer was set so as to prevent the commingling, within the well-bore, of fluids produced from a stratum below the packer with fluids produced from a stratum above the packer. That this packer was properly set and that it did, when set, effectively and absolutely seal off the annular space between the two strings of pipe where it was set in such manner as that it prevented any movement of fluids across the packer.

Gulf Oil Corporation
(Company)

M. M. Whitaker

(its Agent) W. W. Whitaker

Subscribed and sworn to before me this the 7th day of Oct., AD,
19 65.

G. A. Knowles
Notary Public in and for the County
of Winkler, State of Texas

My Commission Expires June 1, 1967.

OIL CONSERVATION COMMISSION
P. O. BOX 671
SANTA FE, NEW MEXICO

September 29, 1958

C
O
P
Y

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

Dear Mr. Kastler:

We enclose two copies of each of the following Oil
Conservation Commission orders issued September 29, 1958:

Order R-1247 in Case 1505
Order R-1250 in Case 1504
Order R-1253 in Case 1506

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 NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:**

**CASE NO. 1505
Order No. B-1247**

**APPLICATION OF GULF OIL CORPORATION
FOR AN OIL-OIL DUAL COMPLETION IN THE
FUSSELMAN FORMATION ADJACENT TO THE
JUSTIS-FUSSELMAN POOL AND IN AN
UNDESIGNATED MONTOKA 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 September 19, 1958, at Santa Fe, New Mexico, before Daniel S. Hutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

Now, on this 29th day of September, 1958, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Hutter, 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 Learcy McHuffington Well No. 9, located 1880 feet from the South line and 1980 feet from the West line of Section 13, Township 25 South, Range 37 East, NMPN, Lea County, New Mexico.

(3) That the applicant proposes to dually complete the above-described Learcy McHuffington Well No. 9 in such a manner as to permit the production of oil from the Fusselman formation adjacent to the Justis-Fusselman Pool and the production of oil from an undesignated Montoka pool through parallel strings of 2 3/8-inch OD tubing and 2 7/8-inch OD tubing respectively.

-2-

Case No. 1505
Order No. B-1247

(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:

That the applicant, Gulf Oil Corporation, be and the same is hereby authorized to dually complete its Learey McBuffington Well No. 9, located 1650 feet from the South line and 1900 feet from the West line of Section 13, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico, in such a manner as to permit the production of oil from the Fusselman formation adjacent to the Justis-Fusselman Pool and the production of oil from an undesignated Montoya pool through parallel strings of 2 3/8-inch OD tubing and 2 7/8-inch OD tubing respectively.

PROVIDED HOWEVER, That applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A.

PROVIDED FURTHER, That applicant shall take packer-leakage tests upon completion and annually thereafter during the Gas-Oil Ratio Test Period for the Justis-Fusselman Pool.

IT IS FURTHER ORDERED: That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order after proper notice and hearing the Commission may terminate the authority hereby granted and require applicant or its successors and assigns to limit its activities to regular single-well production in the interests of conservation.

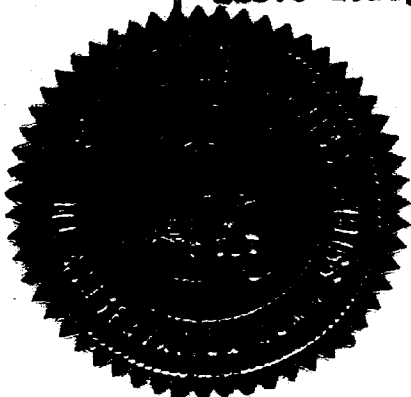
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


EDWIN L. MECHEM, Chairman


MURRAY E. MORGAN, Member


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



OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date September 11, 1958

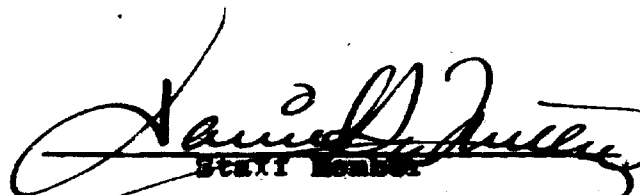
CASE NO. 1505

HEARING DATE 9/10/58 9 a.m. DSN Santa Fe

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

Enter an order authorizing a dual completion of Gulf's Learcy McBuffington Well No. 9, located 1650 feet from the South line and 1980 feet from the West line of Section 13, Township 25 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Fusselman formation adjacent to the Justis-Fusselman Pool and oil from an undesignated Montoya pool through parallel strings of tubing.

Applicant showed that the mechanical installation which he proposes to use will adequately and effectively seal off the separate production strata and that no waste or violation of correlative rights will result from the proposed dual completion.



STAFF MEMBER

DANIEL S. NUTTER

ir/

DOCKET: EXAMINER HEARING SEPTEMBER 10, 1958

Oil Conservation Commission 9 a. m. , Mabry Hall, State Capitol, Santa Fe, New Mexico

The following cases will be heard before Daniel S. Nutter, Examiner:

CASE 1196:

Application of The Ibex Company for permission to expand a pilot water flood project in the Artesia Pool, Eddy County, New Mexico, and for six unorthodox well locations. Applicant, in the above-styled cause, seeks an order permitting the expansion of its Artesia Pilot Water Flood project No. 2, authorized by Order No. R-966 in the Artesia Pool, Eddy County, New Mexico, to include eight additional water injection wells in Sections 21 and 28 of Township 18 South, Range 28 East, Eddy County, New Mexico. Applicant further seeks an order authorizing six unorthodox well locations in said Sections 21 and 28.

CASE 1498:

Application of El Paso Natural Gas Company for permission to conduct maximum pressure build-up tests and for the non-cancellation and/or transfer of allowables for test wells. Applicant, in the above-styled cause, seeks an order authorizing it to conduct maximum pressure build-up tests on seventeen gas wells in the Aztec-Pictured Cliffs, Ballard-Pictured Cliffs, Fulcher Kutz-Pictured Cliffs, South Blanco-Pictured Cliffs, and Blanco Mesaverde Gas Pools in San Juan and Rio Arriba Counties, New Mexico. Applicant further requests the non-cancellation of allowable accruing to test wells during the test period and for authority to transfer said allowables to other wells on the same basic lease, and for such other relief as is necessary to properly conduct said tests.

CASE 1499:

Application of Sinclair Oil and Gas Company for a non-standard gas proration unit. Applicant, in the above-styled cause, seeks an order authorizing a 240-acre non-standard gas proration unit in the Tubb Gas Pool consisting of the SW/4 and the S/2 SE/4 of Section 26, Township 21 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to applicant's J. R. Cone "A" Well No. 1, located 660 feet from the South and West lines of said Section 26.

CASE 1500:

Application of Sinclair Oil and Gas Company for a non-standard gas proration unit. Applicant, in the above-styled cause, seeks an order authorizing a 200-acre non-standard gas proration unit in the Blinebry Gas Pool consisting of the SW/4 and the SW/4 SE/4 of Section 26, Township 21 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the applicant's J. R. Cone "A" Well No. 2, located 1980 feet from the South line and 660 feet from the West line of said Section 26.

CASE 1501:

Application of Continental Oil Company for a dual completion and for permission to commingle the liquids produced from two separate pools. Applicant, in the above-styled cause, seeks an order authorizing a gas-gas dual completion for its Britt B-15 Well No. 9, located 1960 feet from the South and East lines of Section 15, Township 20 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of gas from an undesignated Tubb Gas pool and the production of gas from an undesignated Blinebry gas pool. Applicant further seeks permission to commingle the liquids produced from said well from the two above-named pools.

CASE 1502:

Application of The Pure Oil Company for an order authorizing a salt water disposal well. Applicant, in the above-styled cause, seeks an order authorizing the disposal of salt water through its State Lea "E" No. 1 Well, located 1980 feet from the North and East lines of Section 21, Township 16 South, Range 34 East, Lea County, New Mexico. Said well is a producing oil well in the Kemnitz-Cisco Pool and the applicant proposes to inject salt water through the annulus between the 8 5/8" and 5 1/2" casing. The proposed injection zone is from 4,527 feet to 9,450 feet.

CASE 1503:

Application of The Pure Oil Company for permission to commingle the production from two separate oil pools. Applicant, in the above-styled cause, seeks an order authorizing the commingling of oil produced from the Kemnitz-Cisco Pool and the Kemnitz-Wolfcamp Pool on its State-Lea "E" Lease located in Section 21, Township 16 South, Range 34 East, Lea County, New Mexico. The applicant proposes to separately meter the production from each pool prior to commingling.

CASE 1504:

Application of Gulf Oil Corporation for a dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Learcy McBuffington Well No. 8, located 330 feet from the South line and 1980 feet from the West line of Section 13, Township 25 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Fusselman formation adjacent to the Justis-Fusselman Pool and oil from an undesignated Montoya pool through parallel strings of tubing.

CASE 1505:

Application of Gulf Oil Corporation for a dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Learcy McBuffington Well No. 9, located 1650 feet from the South line and 1980 feet from the West line of Section 13, Township 25 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Fusselman formation adjacent to the Justis-Fusselman Pool and oil from an undesignated Montoya pool through parallel strings of tubing.

CASE 1506:

Application of Gulf Oil Corporation for the creation of two non-standard gas proration units in the Tubb Gas Pool and two non-standard gas proration units in the Blinebry Gas Pool. Applicant, in the above-styled cause, seeks an order authorizing the creation of a 160-acre non-standard gas proration unit in both the Blinebry Gas Pool and in the Tubb Gas Pool, each to comprise the NE/4 SW/4, and W/2 SE/4 of Section 28 and the NW/4 NE/4 of Section 33, and to be dedicated to applicant's J. N. Carson "A" Well No. 4, located 554 feet from the South line and 2086 feet from the East line of said Section 28 and J. N. Carson "A" Well No. 6, located 2086 feet from the South and East lines of said Section 28 respectively. Applicant further seeks an order authorizing the creation of a 120-acre non-standard gas proration unit in both the Blinebry Gas Pool and in the Tubb Gas Pool, each to comprise the E/2 SE/4 of Section 28 and the NE/4 NE/4 of Section 33, and to be dedicated to applicant's J. N. Carson "C" Well No. 6, located 330 feet from the South line and 965 feet from the East line of said Section 28 and J. N. Carson "C" Well No. 3, located 640 feet from the South line and 660 feet from the East line of said Section 28 respectively, all of the above being in Township 21 South, Range 37 East, Lea County, New Mexico.

CASE 1507:

Application of Lea County Drip Company, Inc., for authority to construct and operate two waste oil treating plants. Applicant, in the above-styled cause, seeks an order authorizing it to construct and operate two treating plants in Lea County, New Mexico, to treat waste oil and tank bottoms collected from leases in Lea, Eddy, Chaves and Roosevelt Counties, New Mexico, said plants to be located at the following points:

- (1) Adjacent to the Shell Pipeline Company's Pipeline approximately three miles South of Hobbs, New Mexico.
- (2) Adjacent to the Shell Pipeline Company's Eunice Station approximately five miles West of Eunice, New Mexico.

August 25, 1958
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PETROLEUM AND ITS PRODUCTS

MAIN OFFICE CCC

GULF OIL CORPORATION

1958 AUG 18 P.M. 1:13
P.O. DRAWER 1290 FORT WORTH 1, TEXAS

E. HOSFORD
DIVISION PRODUCTION COORDINATOR

August 18, 1958

FORT WORTH
PRODUCTION DIVISION

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

Re: Application for Approval to Complete Gulf's Learcy
McBuffington Well No. 9 as an Oil-Oil Dual, Justis-
Fusselman and Justis-Montoya Pools, Section 13, T-25-S,
R-37-E, Lea County, New Mexico

Gentlemen:

Gulf Oil Corporation respectfully submits application for permis-
sion to oil-oil dually complete subject well utilizing two strings of tubing,
and requests that the Commission set this matter for Examiner Hearing at an
early date. A hearing is being requested for this oil-oil dual completion
as the two zones involved have not previously been approved by the Commis-
sion.

The following facts are offered in support of this application:

- (1) Gulf Oil Corporation is the owner and operator of all producing rights below 3800 feet in the Learcy McBuffington Lease, which consists of the S/2 of Section 13, T-25-S, R-37-E, Lea County, New Mexico. Subject well is located 1980 feet from the west line and 1650 feet from the south line of said Section 13.
- (2) The 13-3/8" casing in Gulf's Learcy McBuffington Well No. 9 was set at 419 feet and the cement circulated. The 9-5/8" casing was set at 3449 feet and cement circulated with 1828 sacks. The 7" casing was set and cemented with 735 sacks at a total depth of 7100 feet. The plugged back depth is 7073 feet. Applicant proposes to selectively perforate the 7" casing opposite the Montoya formation from 6940 to 7052 feet. The Fusselman zone will be perforated in an approximate interval from 6752 to 6890 feet.
- (3) If approved, the subject well will be dually completed through the use of parallel strings of

*Docket Mailed
8-25-58
B.P.*

Case 1505

*Set for
Hearing
Sept 10*

August 18, 1958

tubing as shown in the diagrammatic sketch attached hereto. The two producing intervals will be separated by means of a Baker Production Packer set at approximately 6915 feet, which is capable of withstanding any differential in pressures expected to be encountered between the two producing formations.

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. Hasford
Division Production Coordinator

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

Anderson-Prichard Oil Corporation
P. O. Box 196
Midland, Texas

Atlantic Refining Company
P. O. Box 871
Midland, Texas

W. K. Byrom
1000 Dal Paso
Hobbs, New Mexico

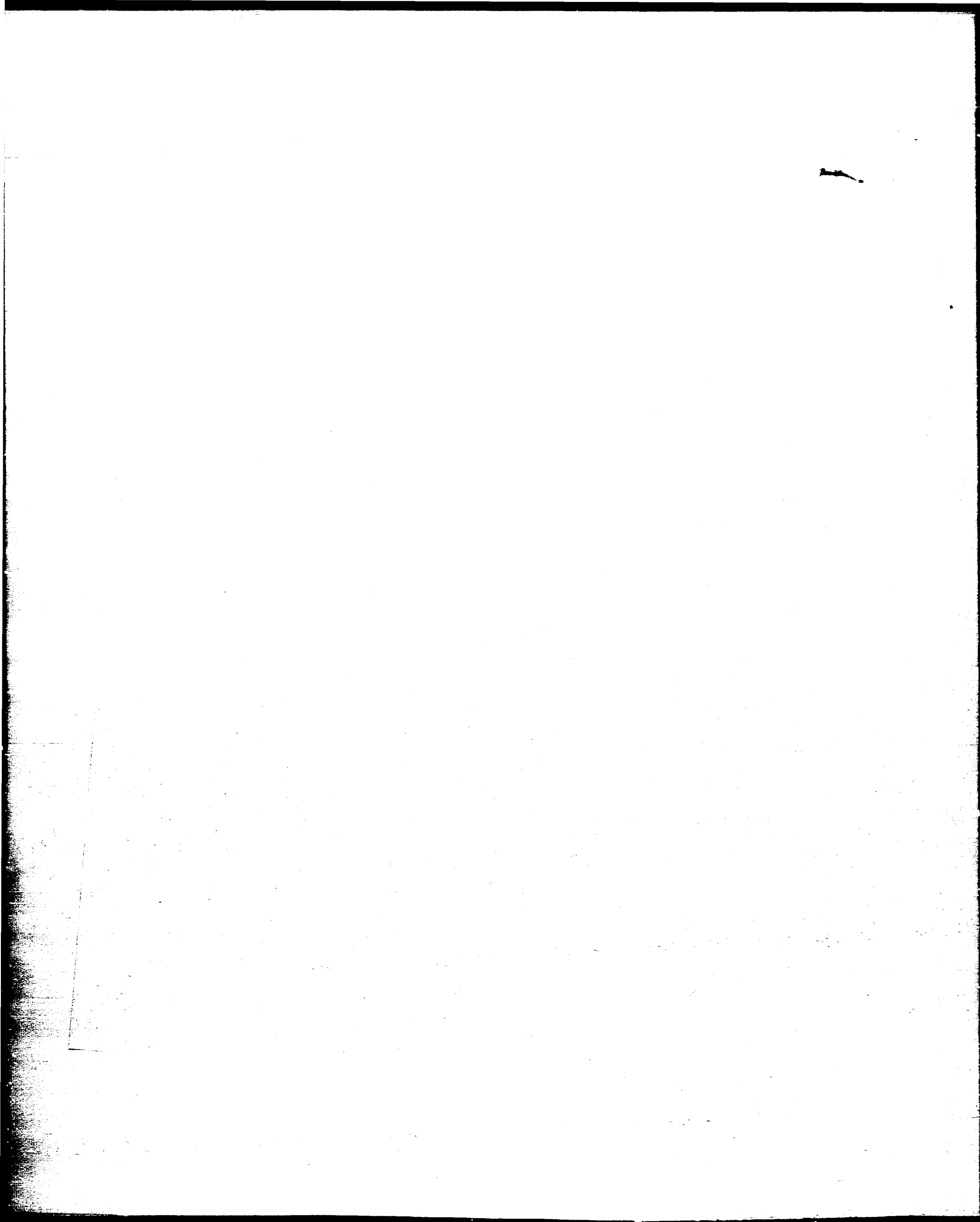
R. Olsen Oil Company
Drawer 2
Jal, New Mexico

The Texas Company
P. O. Box 1270
Midland, Texas

Tidewater Oil Company
Att'n: Mr. J. B. Holloway
P. O. Box 1404
Houston, Texas

Western Natural Gas Company
Midland Tower Building
Midland, Texas

Western Petroleum Company
291 Sutter Street
San Francisco, California



Long tbg string (Montoya)
is 2-7/8" OD 6.50# Type
"CS" Hydril to pkr, then
2-3/8" OD EUE below pkr.

13-3/8" OD csg @ 419'
Cemented w/450 sacks
Cement Circulated.

9-5/8" OD csg @ 3,449'
Cemented w/1,828 sacks
in two stages.
Cement Circulated

Proposed Fusselman
Perforations

Short tbg string (Fusselman)
is 2-3/8" OD EUE 4.70#
w/N-80 Cplgs machined to
2.910" OD and having equiv.
strength of J-55 cplg.

Proposed
Montoya
Perforations

(6752'
(6890'

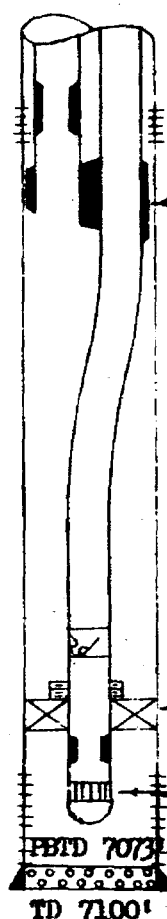
Baker Parallel tbg anchor
@ approximately 6,890'

Baker Model "D" Packer
@ approximately 6,915'

(6940'
(7052'

GOT CV (Open) Approx. 7,000'
2-3/8" OD tbg @ Approx. 7,050'

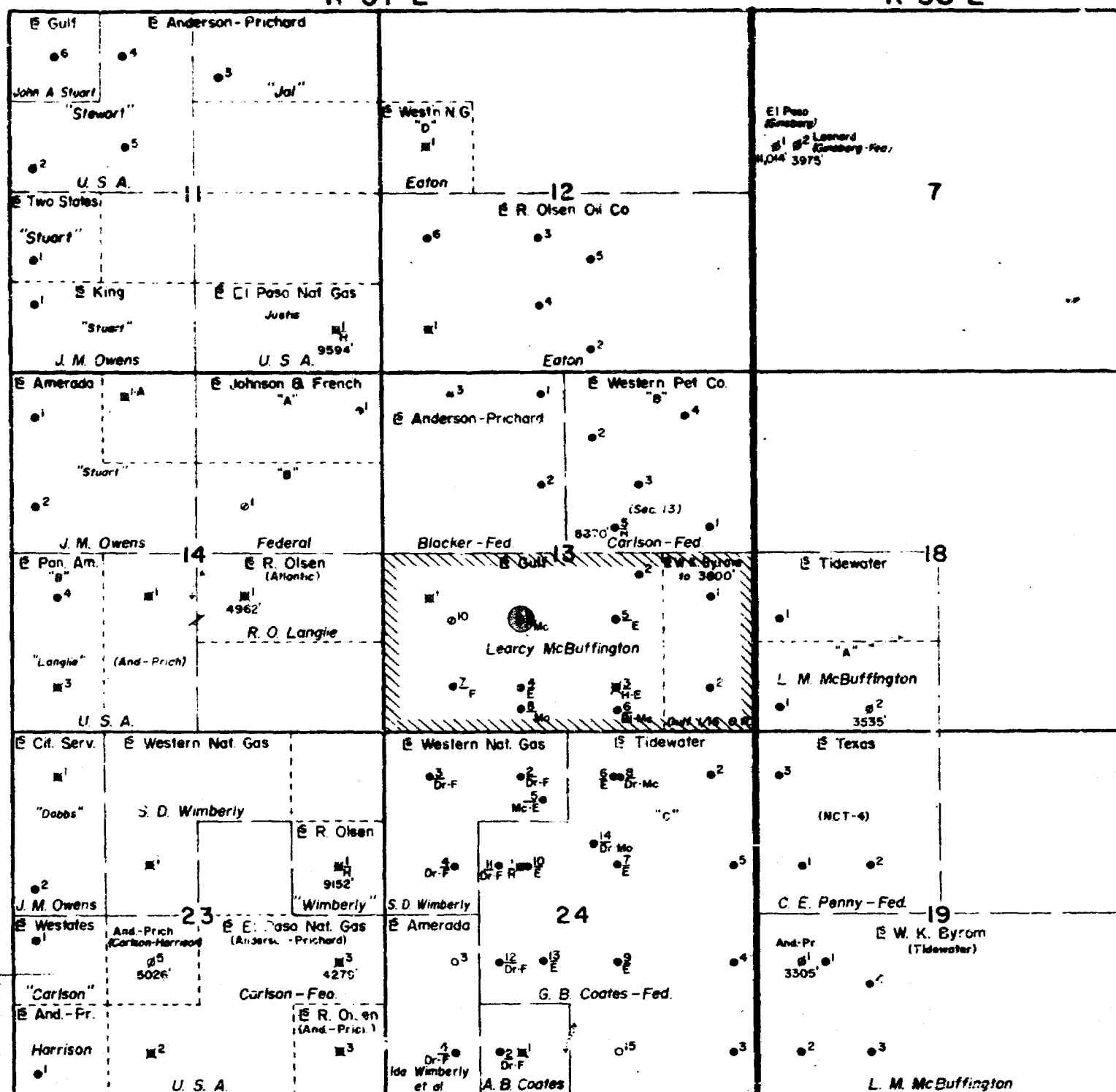
7" OD csg @ 7,100'
Cemented w/735 sacks
Cement top @ 2,620'



NOTE:
DRAWING NOT TO SCALE

PROPOSED MECHANICAL INSTALLATION
OIL-OIL DUAL COMPLETION
Learcy McBuffington No. 9
Justis-Montoya & Fusselman Pools
Lea County, New Mexico
GULF OIL CORPORATION - FT. WORTH PROD. DIV.

R-38-E



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S

LEARCY McBUFFINGTON

LEA COUNTY, NEW MEXICO

- LEGEND -

BEFORE EXAMINER NUTTER

CIL CONSERVATION COMMISSION

EXHIBIT NO.

1505

Gulf Oil

Resigned Golf Lease 100 8901

	Pertinent	Guif	Well
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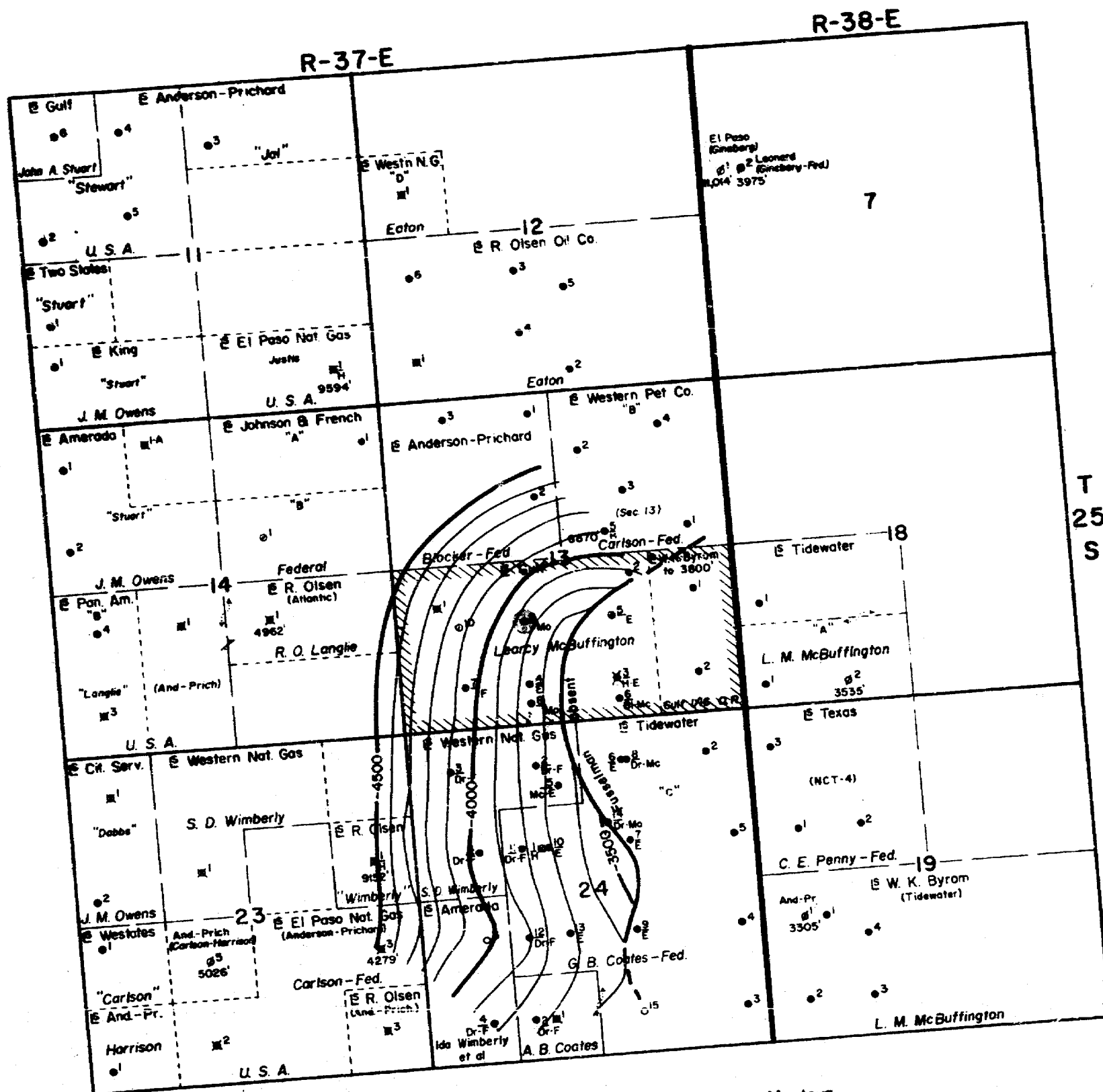
Corporation

MAIN OFFICE CCC

Case No. 1505

Exhibit No. 1

MAIN OFFICE CCC



Contour Map on Base of Fusselman/Top of Montoya
 Case No. 1505 Exhibit No. 3
 Sept. 10, 1958

Gulf Oil Corporation

BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

[Signature] EXHIBIT NO. 3
 CASE NO. 1505

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASES NOS. 1504 AND 1505

TRANSCRIPT OF HEARING

SEPTEMBER 10, 1958

DEARNLEY - MEIER & ASSOCIATES
GENERAL LAW REPORTERS
ALBUQUERQUE NEW MEXICO
Phone CHapel 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
SEPTEMBER 10, 1958

IN THE MATTER OF:

CASE 1504 Application of Gulf Oil Corporation for a dual:
completion. Applicant, in the above-styled :
cause, seeks an order authorizing the dual :
completion of its Learoy McBuffington Well No.:
8, located 330 feet from the South line and :
1980 feet from the West line of Section 13, :
Township 25 South, Range 37 East, Lea County, :
New Mexico, in such a manner as to permit the :
production of oil from the Fusselman formation:
adjacent to the Justis-Fusselman Pool and oil :
from an undesignated Montoya pool through par-:
allel strings of tubing. :

CASE 1505 Application of Gulf Oil Corporation for a dual:
completion. Applicant, in the above-styled :
cause, seeks an order authorizing the dual :
completion of its Learoy McBuffington Well No.:
9, located 1650 feet from the South line and :
1980 feet from the West line of Section 13, :
Township 25 South, Range 37 East, Lea County, :
New Mexico, in such a manner as to permit the :
production of oil from the Fusselman formation:
adjacent to the Justis-Fusselman Pool and oil :
from an undesignated Montoya pool through par-:
allel strings of tubing. :

BEFORE:

Mr. Daniel S. Nutter, Examiner.

TRANSCRIPT OF PROCEEDINGS

MR. NUTTER: The hearing will come to order, please.

First case now will be Case No. 1504.

MR. PAYNE: Application of Gulf Oil Corporation for a
dual completion.

MR. KASTLER: My name is Bill Kastler. I am representing Gulf Oil Corporation, and if the Hearing Officer please, I would like to request that Cases No. 1504 and 1505, which is also an application of Gulf Oil Corporation for a dual completion, be consolidated for the purpose of hearing, inasmuch as they both involve dual completions of oil wells completed in the Fusselman and Montoya pay zones.

MR. NUTTER: Is there objection to the consolidation of Cases 1504 and 1505 for purposes of taking the testimony only? If not, they will be so consolidated.

MR. KASTLER: These cases come on before the Hearing Officer for the reason that they involve the first dual completion of the particular two pays, the Fusselman and Montoya, into the same well bore. We've consolidated, or asked that both cases be heard and approval be given in order to save all the time possible, and get into production at an early time. Our two witnesses are Gerald Savage and John Hoover. Mr. Savage is the geologist, and Mr. Hoover is the engineer.

(Witnesses sworn)

GERALD J. SAVAGE,
called as a witness, having been first duly sworn on oath, testified as follows:

DIRECT EXAMINATION

BY MR. KASTLER:

Q Mr. Savage, please take the stand. Will you please state

your name and your position with Gulf Oil Corporation?

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

Q Have you previously testified before the Oil Conservation Commission of New Mexico as an expert witness?

A Yes, sir, I have.

Q Are you familiar with cases 1504 and 1505?

A Yes, sir.

Q Have you prepared location plats for both cases for introduction as Exhibits at this hearing?

A Yes, sir, I have.

Q Are these labeled "Lease plat Learcy McBuffington Gulf Oil Corporation, Case 1504, Exhibit No. 1, and the same for Case 1505 on Exhibit No. 1?"

A Yes, sir.

Q Referring to Exhibit No. 1, Case 1504, will you please state what is shown on that plat?

A Specifically is shown Gulf's Learcy McBuffington Lease consisting of the S/2 of Section 13, Township 25 South, Range 37 East. Also is shown outlined in red Gulf's No. 8 Learcy McBuffington Well, which is located 330 feet from the South line and 1980 feet from the West line of that Section 13.

Q Referring now to Case 1505, Exhibit No. 1, will you state the similarity and what is shown in that Exhibit?

A Exhibit No. 1 in Case 1505 shows the same information with

the exception that Gulf's No. 9 Learey McBuffington is outlined in red. All other data is the same, with the exception of the labeling of the Exhibit.

Q Mr. Savage, are other facts shown on the location plats such as, for example, any previous completion or dual completion in the Fusselman or Montoya pay zones?

A Yes, sir, there are other dual completions shown to the south of Gulf's Learey McBuffington Lease, specifically Western Natural Gas No. 2, Wimberly, which is a south offset to Gulf's No. 8 Learey McBuffington, this well is a Drinkard Fusselman dual; and also Western Natural Gas Company's No. 3 and No. 4 Wimberlys, which are also Drinkard Fusselman duals. On the Tidewater Coats Lease in Section 24 of Township 25 South, Range 31 East, is Tidewater's No. 14 Coats Federal located in the SW/4 of the NE/4 of Section 24, which is indicated as a Drinkard Montoya dual.

Q Mr. Savage, have you prepared contour plats on top of the Fusselman that may be introduced here, and are so marked for introduction as Exhibits No. 2 in Cases 1504 and 1505?

A Yes, sir, I have.

Q Referring to Exhibits No. 2 in both cases, would you state what is shown on both of these Exhibits?

A Shown on the Exhibits enumerated are: the structure as reflected by the top of the eroded Fusselman with a contour interval of 100 feet; the structure shows the Gulf's No. 8 Learey McBuffington to be high on that structure, and shows Gulf's No. 9

Learcy McBuffington, to be on the flank of that structure.

Q These two Exhibits, then, show these are comparably on structure, these two wells in the Fusselman zone, is that correct?

A No, sir. Gulf's No. 9 Learcy McBuffington is not comparable. The No. 9 is a little lower than the No. 8.

Q I meant comparing them with other wells, authorized dual completed wells in the Fusselman.

A I understand what you mean. Gulf's No. 8 occupies a comparable position on structure with other Fusselman and Montoya wells, and Gulf's No. 9 occupies a favorable position on structure with other Fusselman wells, and we have shown, by means of a production test, that the Montoya is productive in Gulf's No. 9 Learcy McBuffington.

Q Now, have you prepared for introduction here as Exhibit No. 3 in each case, contour plats showing the base of the Fusselman and the top of the Montoya?

A Yes, sir. I have copies of a structure map on top of the Montoya which is also the base of the Fusselman, and this I have caused to be labeled Exhibit No. 3 in Cases 1504 and 1505. These structure plats are contoured with a contour interval of 100 feet, and they show the structural position of Gulf's No. 8 Learcy McBuffington and No. 9 Learcy McBuffington in relation to other producers in the Montoya and Fusselman formations.

Q Have you prepared for introduction here Exhibits No. 4 in Cases 1504 and 1505, which consist of electric logs in each of the

two wells?

A Yes, sir. I have copies of the electric logs on Gulf's No. 8 Learcy McBuffington and No. 9 Learcy McBuffington, which have been labeled Exhibits No. 4 in Cases 1504 and 1505.

Q Referring to the two Exhibits No. 4, will you please explain what is shown as to the structure there?

A I have cause to be shown on these exhibits the top of the eroded Silurian formation, and on the No. 8 Learcy McBuffington. That horizon is at a depth of 6,656 feet, and the base of the Silurian, which is also the top of the Montoya in the No. 8 Learcy McBuffington, at a depth of 6,830 feet. The casing has been perforated at four intervals, between the depth of 6,886 feet and 7,032 feet. On the log of the No. 9 Learcy McBuffington, I have caused to be shown the top of the eroded Silurian at a depth of 6,750 feet, and the base of the Silurian at the top of the Montoya at a depth of 6,930 feet. The casing has been perforated in the Silurian zone, which is the Fusselman formation at four intervals, between the depth of 6,752 feet and 6,890 feet, and the casing has been perforated opposite the Montoya formation at two intervals, between the depth of 6,940 feet and 7,052 feet.

Q Mr. Savage, to conclude your testimony, is it your opinion that Wells No. 8 and 9 involved in these two cases are each capable of production from the Fusselman and the Montoya pay zones?

A Yes, it is, by reason of their structural position. In relation to other wells producing from those formations, it can be

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reasonably assumed that Gulf's No. 8 and No. 9 Learcy McBuffington would both be productive from the Fusselman and Montoya formations.

Q Do you have anything to add at this time?

A No, sir.

MR. KASTLER: Mr. Examiner, this concludes my direct testimony, or the direct testimony of this first witness. We intend to put Mr. Hoover on the stand following him, and he will testify as to the proposed installation -- the casing installations.

MR. MUTTER: Are there any questions of the witness?

CROSS EXAMINATION

BY MR. FISCHER:

Q Is the Fusselman formation part of the Silurian?

A The Fusselman, as I understand it, is the lowermost limestone of the Silurian period, age, or something like that.

Q You didn't show the mechanics, but that will be done by the next witness?

A Yes, Mr. Fischer, that will be taken care of by Mr. Hoover.

Q Shown on this log is the top of the eroded Silurian to the base of the Silurian. In this case, is that all the Fusselman, or is there any -- there wouldn't be any Fusselman above, would there?

A No, sir. I might point out that the Permian formation is deposited on top of the eroded Silurian and that unless we encounter a faulted situation, we would not find any Silurian below the top of the Montoya.

MR. FISCHER: Thank you.

QUESTIONS BY MR. UTZ:

Q Would there be any Silurian below the top of it?

A It would be permeable on top of the eroded Silurian just above a possible detrital zone. The Devonian is absent when you have eroded Silurian.

MR. FISCHER: Just to clarify my thinking, Mr. Savage, what is the next formation on top of the eroded Silurian, what formation do you hit coming up the hole?

A It is the Tubb formation.

MR. FISCHER: That's all I have. Thank you.

QUESTIONS BY MR. NUTTER:

Q Mr. Savage, is there any indication to date that the Fusselman is productive in your McBuffington 8 Well? You have not perforated that well, as yet, have you, in the Fusselman?

A We have not perforated that zone, but we feel reasonably sure that the Fusselman would be productive in the No. 8 inasmuch as it is present and there are Fusselman wells producing down dip from the No. 8.

Q Was there any drill stem test taken in the Fusselman as you drilled through it?

A No, there was not.

Q Is the well presently completed in the Montoya and producing?

A To my knowledge, it is not producing.

Q Have these perforations been made to date?

A These perforations as shown on Exhibits No. 4 in Case 1504 and 1505 have been made. It is proposed to perforate the Fusselman formation in the No. 8 Learcy McBuffington between the depths of 6,730 feet and 6,830 feet.

Q Give those depths again, please.

A 6,730 to 6,830.

Q What will be the distance, then, from the lowermost perforations in the Fusselman to the uppermost perforation in the Montoya?

A The distance between the lowermost perforation in the Fusselman and the uppermost perforation in the Montoya in the No. 8 Learcy McBuffington will be 56 feet.

Q And what type of a rock is that that interval of 56 feet covers?

A It is partially the basal part of the Fusselman which is the Silurian, a grey green shale which is the impermeable layer between the Silurian and Montoya formation. That is about ten feet thick, and I believe we could point it out on the No. 8 Learcy McBuffington to be from a depth of 6,830 feet to 6,840 feet. The rest of the interval between those sets of perforations would be Montoya limestone.

Q Now, how about the other well, the No. 9 Well, what is the depth of the lowermost perforations in the Fusselman?

A The depth of the lowermost perforations in the Fusselman is 6,890 feet and the top of the uppermost perforation in the Mon-

toya is 6,940 feet, which is a separation of 50 feet.

Q What type of rock is present there in that 50-foot separation?

A In that 50-foot separation we find Fusselman limestone about 30 feet, that grey green shale, which is about 10 feet, between the depths of 6,920 to 6,930. The last ten feet would consist of Montoya limestone.

Q Do you know the top of the cement of the pipe that is in the hole, or will the other witness testify as to that?

A Mr. Hoover will testify as to that information.

Q Mr. Hoover will also testify as to bottom hole pressures, etc?

A Yes, sir. I believe he is prepared to do so.

MR. NUTTER: Does anyone have any questions of Mr. Savage? If not, he may be excused.

(Witness excused)

MR. KASTLER: We would like to admit Exhibits 1, 2, 3, 4 in Cases 1504 and 1505 at this time.

MR. NUTTER: Without objection, Gulf Oil Corporations' Exhibits 1 through 5 in Case 1504 and 1 through 5 in Case 1505 will be admitted.

JOHN H. HOOVER,
called as a witness, having been first duly sworn on oath, testified as follows:

DIRECT EXAMINATION

BY MR. KASTLER:

Q Will you state your name and position with Gulf Oil Corporation?

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

Q Have you previously qualified as an expert witness and testified before the New Mexico Oil Conservation Commission?

A Yes, I have.

Q Are you familiar with Gulf's application for dual completions in these two cases?

A Yes, sir.

Q Do you have for introduction as Exhibits No. 5 in both Cases 1504 and 1505 a schematic diagram showing the proposed mechanical installation in each of those wells?

A Yes.

Q Was this prepared by you or at your direction or under your supervision?

A Yes, it was.

Q Will you please explain your Exhibit No. 5 in Case 1504, and after that, Exhibit No. 5 in Case 1505 as briefly as possible?

A Yes. This Exhibit 5 in 1504 is a proposed mechanical installation for this proposed dual completion. It shows that we have 13 3/8 inch casing set at 418 feet; cement circulated; 9 and 5/8 inch casing set at 3,450 feet; cement circulated to the surface. We have 7 inch casing set at 7,052 feet, and by temperature survey

indicated the top of the cement at 1,310 feet. The total depth of this well is 7,052 feet, and was plugged back to 7,047 feet. This drawing shows by color the Fusselman production, it being in green, and the Montoya production being in pink. We will have two strings of tubing. The long string will be 2 7/8 inch OD Hydril to the packer and 2 3/8 inch tubing below the packer. The short string is 2 3/8 inch tubing. We will have a Baker parallel string and anchor at approximately 6,800 feet, and the Baker Model "D" packer at approximately 6,850 feet. The Fusselman perforations, 6,730 feet to 6,830 feet. The Montoya perforations 6,886 feet to 7,032 feet.

Q I notice you have proposed Fusselman perforations at 6,730 feet to 6,830 feet, and do you have any further information than Mr. Savage had in his testimony as to whether this is a productive zone in the Fusselman?

A Our No. 7, which is the west offset, was productive in the Fusselman. On test, June the 10th, 1958, it flowed 254 barrels of oil and no water, and 84 MCF of gas, with a GOR of 331.

Q Thank you. Mr. Hoover, will you now refer to Exhibits No. 5 in Case 1504 and 1505 and state the specifications of that well as proposed to dually completion?

A The equipment in the No. 9 which is shown on Exhibit 5 in Case 1505 is identical to the No. 8; the only difference is in the setting. We have 1 3/8 inch casing set at 419 feet, and cement was circulated to the surface; 9 5/8 inch casing set at 3,449 feet, cement was circulated; 7 inch casing set 7,100 feet and by

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temperature survey, the top of the cement was indicated at 2,620 feet. The total depth of this well, 7,100 feet, plugged back total depth 7,093 feet. The long string of tubing will be 2 7/8 inch Hydril to the Packer, and 2 3/8 inch below the packer. The short string will be 2 3/8 inch OD. We have a Baker parallel string anchor at 6,870 feet and Baker Model "D" production packer at 6,915 feet. The Fusselman perforations are from 6,752 feet to 6,890 feet. Montoya perforations, 6,940 feet to 7,052 feet.

Q Mr. Hoover, is the equipment which Gulf proposes to use in this dual completion in both of these cases equipment of a type which has previously been approved by this Commission?

A Yes, it is.

Q And has it been approved in connection with Gulf Oil Corporation's wells?

A It has.

Q Has Gulf's experience with such equipment been entirely satisfactory?

A Yes, it has.

Q What methods are there for determining whether the two pay zones in each well are separated and remain separate and will not commingle?

A We have run some bottom hole pressures on our No. 9 which has been perforated in the Fusselman and Montoya.

Q What is the pressure differential you have encountered there?

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A The bottom hole pressure in the Fusselman at a datum of -3,810 was 2,841 pounds, and in the Montoya at 3,880 was 2,819 pounds. In our No. 8, the packer is set at a -3,771 and correcting the bottom hole pressure to our packer setting, we would have 2,829 pounds above the packer approximately, and 2,772 approximately below the packer, giving us 57 pounds differential. We have a tubing pressure recorded on the Montoya of 380 pounds, on the Fusselman 500 pounds. That gives us a 120-pound differential for packer leakage test.

Q Have you made any analysis of the respective fluids as to gravity in the Fusselman and Montoya oil?

A We are using the fluid analysis from the south offset wells. In the absence of core analysis, we use the Western Natural Wimberley No. 2 in the Fusselman and the Wimberley No. 5 in the Montoya. The Fusselman gravity is 33.6. The Montoya gravity is 36.6. The sulphur contents of Fusselman is .41 percent, of the Montoya .46 percent. The total chloride in the Fusselman is 615 pounds per thousand barrels, whereas in the Montoya the total chlorides only 4 pounds per thousand barrels.

Q If any leakage were to occur, then, in either of these wells between the two pays, you would have a means of determining that fact by noting a pressure differential, by noting the difference in the gravity of the two fluids, the gravity of the recovered fluid and also in the sulphur content, is that correct?

A Yes, we would have the first indication that there was

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communication by the pressure equalization and then it could be also determined by testing the oil. The flow lines will be run separately from these two zones to the battery.

Q Is this proposed equipment designed so as to allow pumping, if necessary?

A Yes, it is.

Q Is it expected that pumping will be necessary in either or both of these pays?

A Not at the present time, but in the future if it is necessary it can be.

Q Are these applications made in the interest of preventing economic waste?

A Yes, they are. It is estimated that to drill a Fusselman well, it would cost \$130,000, to drill a Montoya well would be \$140,000, or two single zone wells in the Fusselman and Montoya, \$270,000. The estimated cost of dual in the Fusselman and Montoya is \$175,000, so it is a net saving of \$95,000.

Q If these applications were granted, would correlative rights be protected?

A Yes, they would.

Q These are all the questions I have of this witness.

CROSS EXAMINATION

QUESTIONS BY MR. KUTTER:

Q Mr. Hoover, do you anticipate there will be any paraffin problem in any of these two wells?

A At the present time, none indicated.

Q Is the equipment such so that you could cope with the paraffin problem?

A Yes, sir.

Q Do you think the Baker packer is adequate to stand the pressure differential of 57 pounds?

A Yes, sir, more so.

MR. NUTTER: Any further questions of Mr. Hoover?

QUESTIONS BY MR. FISCHER:

Q Mr. Hoover, I didn't get the amount of savings there.

A \$95,000. The Fusselman zone \$170,000, Montoya well \$110,000, making a total of \$270,000. The dual was \$175,000.

MR. FISCHER: That is all.

MR. KASTLER: I move to admit Exhibit No. 5 in 1505 and Exhibit No. 5, 1504.

MR. NUTTER: Is there objection to the introduction of Exhibit No. 5 in Case 1504 and No. 5 in 1505? If not, this Exhibit will be admitted in evidence.

Do you have any further questions, Mr. Fischer?

MR. FISCHER: What is the weight of that 7 inch casing? I mean the thickest weight?

A I don't have the weights, I could get that.

Q That's all right.

MR. NUTTER: Any further questions of the witness? If not, he may be excused.

(Witness excused)

MR. BUTLER: Does anyone have anything further they wish to offer in Case 1504 or Case 1505? We will take these cases under advisement and take next Case 1506.

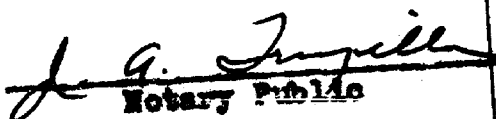
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C E R T I F I C A T E

STATE OF NEW MEXICO)
 : ss
COUNTY OF BERNALILLO)

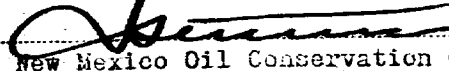
I, J. A. TRUJILLO, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in stenotype and reduced to typewritten transcript by me and/or under 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, the 3rd day of October, 1958, in the City of Albuquerque, County of Bernalillo, State of New Mexico.


Notary Public

My Commission Expires:
October 5, 1960.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1504-1505 heard by me on 9-10, 1958

, Examiner
New Mexico Oil Conservation Commission