

CASE 1943: Application of GULF OIL  
for a dual of Apache-Fed. Well No. 8  
and exception to tubing requirements.

Case No.

1943

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Application, Transcript,  
Small Exhibits, Etc.

DRAFT  
OEP:esr  
April 29

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. 1943

Order No. R-1660

5/2  
29/4  
5-13-60  
APPLICATION OF GULF OIL CORPORATION  
FOR A GAS-GAS DUAL COMPLETION IN THE  
OTERO-GALLUP OIL POOL AND THE DAKOTA  
PRODUCING INTERVAL, RIO ARriba COUNTY,  
NEW MEXICO, AND FOR CERTAIN EXCEPTIONS  
TO RULE 107 OF THE COMMISSION RULES AND  
REGULATIONS.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on  
April 27, 1960, at Santa Fe, New Mexico, before Elvis A. Utz  
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 May day of April, 1960, the Commission,  
a quorum being present, having considered the application, the  
evidence adduced, and the recommendations of the Examiner, Elvis A.  
Utz, 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 sub-  
ject matter thereof.

(2) That the applicant, Gulf Oil Corporation, is the owner and operator of the Apache-Federal Well No. 8, located in Unit D, Section 8, Township 24 North, Range 5 West, <sup>NMPM,</sup> Rio Arriba County, New Mexico.

(3) That the applicant proposes to dually complete the said Apache-Federal Well No. 8 in such a manner as to permit the production of gas from the Otero-Gallup Oil Pool and the production of gas from the Dakota Producing Interval through the casing-tubing annulus and the tubing respectively.

(4) That inasmuch as the applicant proposes to produce the Gallup gas through the casing-tubing annulus, an exception to Rule 107 (d) (2) of the Commission Rules and Regulations is requested.

(5) That the evidence presented indicates that at the present <sup>time</sup> the Gallup gas can be efficiently produced through the casing-tubing annulus since the well is not producing liquids.

(6) That should the Gallup formation begin, at any time, to make appreciable amounts of liquids the operator ~~should~~ be required to install tubing to produce the Gallup gas.

(7) That due to junk in the hole the operator found it necessary to set the tubing to the Dakota Producing Interval considerably more than 250 feet above the top of the pay-zone, and thus an exception to Rule 107 (d) (2) of the Commission Rules and Regulations is requested.

(8) That the dual completion of the said Apache-Federal Well No. 8 in the manner proposed by the applicant should be permitted.

IT IS THEREFORE ORDERED:

That the applicant be and the same is hereby authorized to <sup>complete</sup> dually its Apache-Federal Well No. 8, located in Unit D, Section 8, Township 24 North, Range 5 West, <sup>NMPM,</sup> Rio Arriba County, New Mexico, in such a manner as to permit the production of gas from the Otero-Gallup Oil Pool and the production of gas from the Dakota

-3-

CASE No. 1943

Order No. R-\_\_\_\_\_

Producing Interval through the casing-tubing annulus and the tubing respectively, *said tubing being set at a point higher than the 250-foot requirement of Rule 107(d)(2).*

PROVIDED HOWEVER, That should the said Apache-Federal Well No. 8, ~~at any time~~ <sup>at any time,</sup> begin to make appreciable amounts of liquids, the operator shall install tubing to produce the Gallup gas.

PROVIDED FURTHER, That the applicant shall complete, operate, and produce the said Apache-Federal Well No. 8 in accordance with the provisions of Section V, Rule 112-A.

PROVIDED FURTHER, That the applicant shall take packer-leakage tests upon completion and annually thereafter during the Annual Deliverability Test Period for the Dakota Producing Interval.

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 ~~the~~ failure of the applicant to comply with any requirement of this order, the Commission may terminate the authority hereby granted and require the applicant or its successors and assigns to limit its activities to regular single-zone production in the interest of conservation.

DONE at Santa Fe, New Mexico -----

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

*Case 1942*

*Case File*

April 1, 1960

Continental Oil Company  
Legal Department  
1755 Glenara Place  
Denver 2, Colorado

Attention: Mr. W. M. Griffith

Gentlemen:

Your application for approval of dual completion of your Jicarilla Well No. 28-1, dated March 29, 1960, has been received, and has been tentatively scheduled for hearing before an Examiner of the Commission on April 27, 1960.

A copy of the docket will be forwarded to you as soon as the matter is advertised.

Very truly yours,

DANIEL S. MUTTER  
Chief Engineer

DAM/pj

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

*Case 1943*

March 28, 1960

C  
O  
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Y

Gulf Oil Corporation  
P. O. Box 3313  
Durango, Colorado

Attention: Mr. T. A. Trax

Gentlemen:

Your application for Dual Completion of your Apache-Federal Well No. 8 in the Otero-Gallup Oil Pool and Undesignated Dakota Pool is returned as it is not possible to process application as filed. Under Rule 506 of the Rules and Regulations of the New Mexico Oil Conservation Commission a well in an oil pool cannot be classified as a gas well. Also, please note Rule 112-A, Paragraph II (b) 3 pertaining to manner in which such an Oil over Gas Dual Completion can be produced.

To avoid any further delay in obtaining authorization for dual completion of above-mentioned well, it is suggested application be re-submitted designating the Gallup Zone of completion as an oil well.

Very truly yours,

J. E. KAPTEINA  
Engineer

*Double checked  
to Mr. Trax  
4-18-60  
JH*

JEK/og  
Encls.

cc: Oil Conservation Commission - Aztec

# Memo

From  
Dan Nutter  
Chief Engineer

Notify T. A. Tray

Gulf Oil Corp.

Box 1346

Salt Lake City 10

that hearing will  
be necessary (April 27)



NEW MEXICO OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO

*Post*  
1943 7-3-58

APPLICATION FOR DUAL COMPLETION

Field Name <b>Otero-Gallup-Undesignated Dakota</b>		County <b>Rio Arriba</b>	Date <b>March 23, 1960</b>
Operator <b>Gulf Oil Corporation</b>		Lease <b>Apache-Federal</b>	Well No. <b>8</b>
Location of Well <b>D</b>	Unit <b>8</b>	Township <b>24N</b>	Range <b>5W</b>

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual completion of a well in these same pools or in the same zones within one mile of the subject well? YES ☒ NO ☐
2. If answer is yes, identify one such instance: Order No. **R-1461**; Operator, Lease, and Well No.:

<b>Skelly Oil Co.</b>		<b>Jicarilla "B" No. 2</b>	
3. The following facts are submitted:		Upper Zone	Lower Zone
a. Name of reservoir		<b>Gallup</b>	<b>Dakota</b>
b. Top and Bottom of Pay Section (Perforations)		<b>5676-5744</b>	<b>6783-6856</b>
c. Type of production (Oil or Gas)		<b>Oil</b>	<b>Gas</b>
d. Method of Production (Flowing or Artificial Lift)		<b>Flow</b>	<b>Flow</b>

4. The following are attached. (Please mark YES or NO)

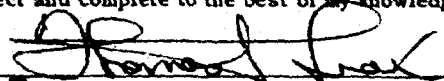
- ☒ a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
- ☒ b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- ☐ c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.\*
- ☐ d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

<b>Skelly Oil Co.</b>	<b>Box 426, Farmington, New Mexico</b>
<b>R &amp; G Drilling Co.</b>	<b>Box 1848, Farmington, New Mexico</b>
<b>Continental Oil Co.</b>	<b>Box 1121, Durango, Colorado</b>
<b>El Paso Natural Gas Co.</b>	<b>Box 997, Farmington, New Mexico</b>
<b>Amerasia Petroleum Corp.</b>	<b>Box 1469, Durango, Colorado</b>
<b>E. B. Germany &amp; Sons</b>	<b>Box 12266, Dallas, Texas</b>
<b>American Petroleum Co. of Texas</b>	<b>Box 2139, Dallas, Texas</b>

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES ☒ NO ☐ . If answer is yes, give date of such notification **March 23, 1960**

CERTIFICATE: I, the undersigned, state that I am the **Area Production Manager** of the **Gulf Oil Corporation** (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

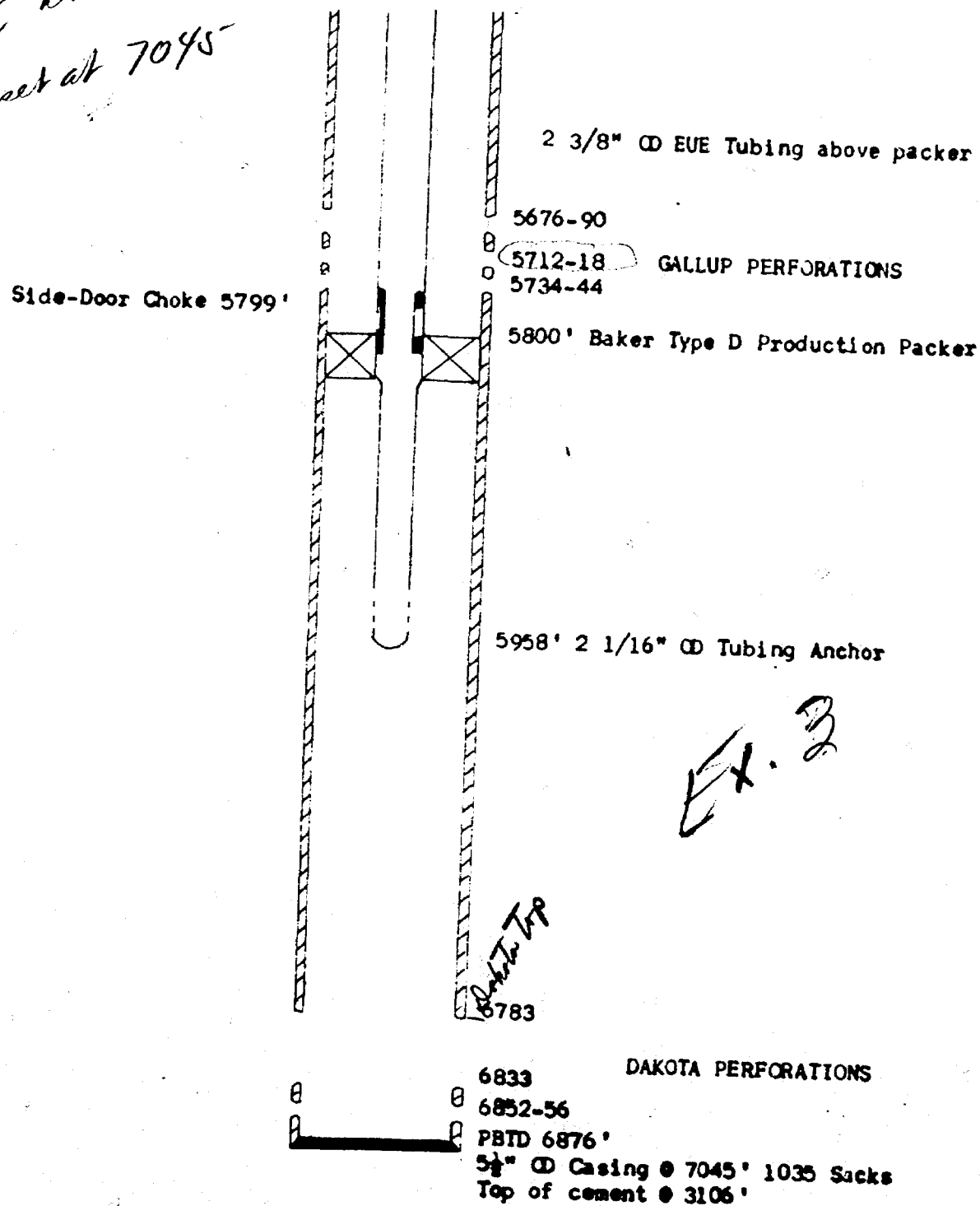
**T. A. Trax**   
Signature

\* Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

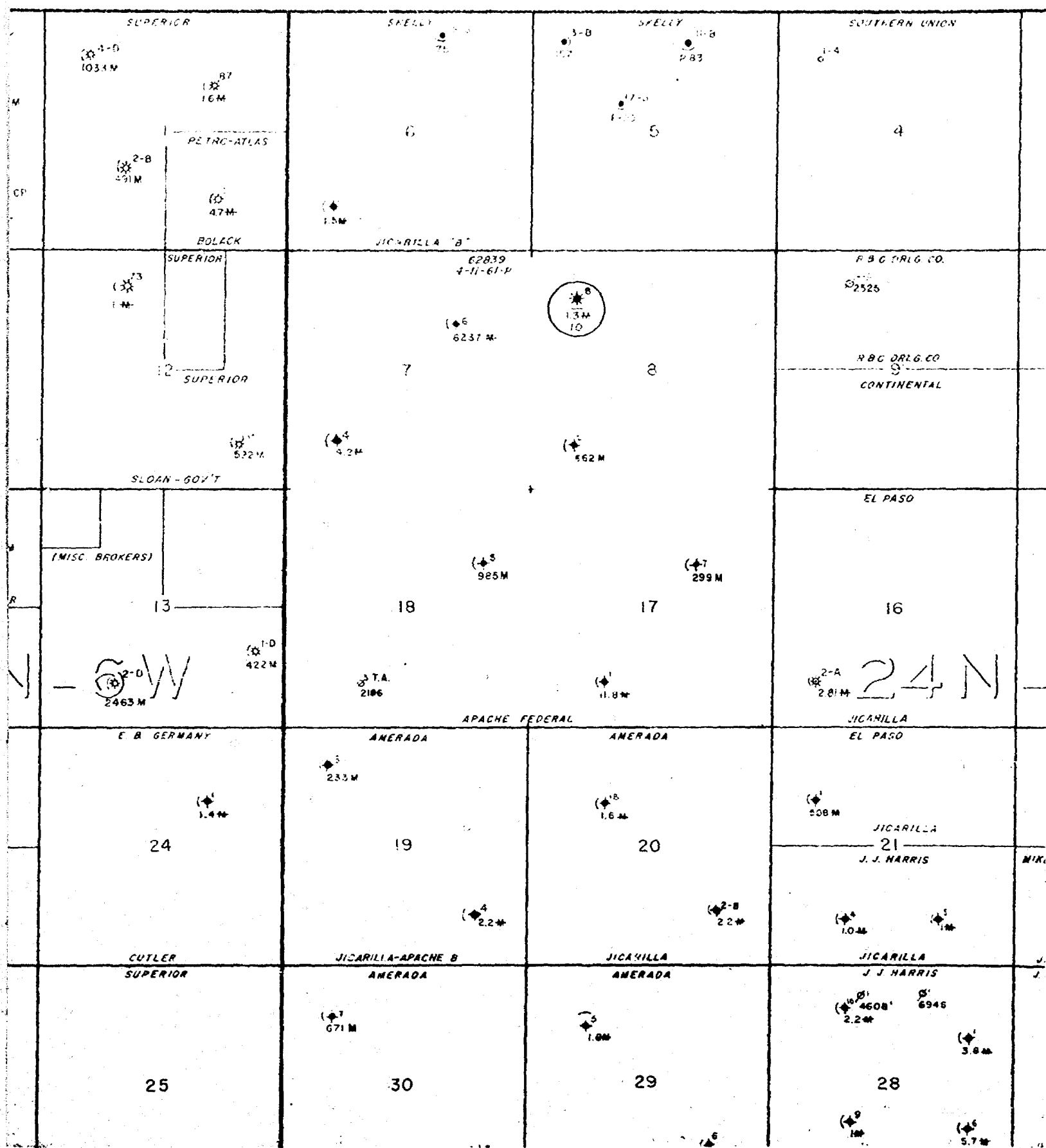
NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

GULF OIL CORPORATION  
 Apache-Federal Lease Well Number 8  
 Unit D Sec 8-24N-5W Rio Arriba County, N. M.

*8 5/8 at 300 cemented with  
 250 cement circulated  
 5 1/2 set at 7045'*



SCALE: 2 INCHES = 1 MILE



No. 12-60

DOCKET: EXAMINER HEARING APRIL 27, 1960

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

The following cases will be heard before Elvis A. Utz, Examiner, or Oliver E. Payne, Attorney, as alternate examiner:

- CASE 1942: 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 the Jicarilla Well No. 28-1, located in the NW/4 SE/4 of Section 28, Township 25 North, Range 4 West, Rio Arriba County, New Mexico, in such a manner as to permit the production of oil from the Gallup formation and the production of oil from the Dakota formation through parallel strings of tubing.
- CASE 1927: (Continued)  
Application of J. W. Brown for the establishment of special rules and regulations governing the Brown Pool in Chaves County, New Mexico, to provide for 2½-acre spacing in said pool.
- CASE 1943: Application of Gulf Oil Corporation for a dual completion and for an exception to the tubing requirements of Rule 107. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Apache-Federal Well No. 8, located in Unit D, Section 8, Township 24 North, Range 5 West, Rio Arriba County, New Mexico, in such a manner as to permit the production of gas from the Otero-Gallup Oil Pool and the production of gas from the Dakota Producing Interval through the casing-tubing annulus and the tubing respectively. Applicant further seeks an exception to certain tubing requirements set forth in Rule 107 of the Commission's Rules and Regulations.
- CASE 1944: Application of Great Western Drilling Company for establishment of a 200-acre non-standard gas proration unit in the Eumont Gas Pool. 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 E/2 NE/4 of Section 32 and the E/2 NW/4 and NW/4 NW/4 of Section 33, all in Township 19 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to its Bordages Well No. 1 located 330 feet from the North line and 270 feet from the West line of said Section 33.

CASE 1945: Application of Permian Oil Company for an order force-pooling the interests in a 320-acre unit in the Dakota formation. Applicant, in the above-styled cause, seeks an order force-pooling all Dakota formation mineral interests in the 320 acres comprising the E/2 of Section 5, Township 30 North, Range 13 West, San Juan County, New Mexico, the non-consenting mineral interest owners being Raymond H. Walker and Edith Walker, 1250 South Figueroa Street, Los Angeles, California, and Norman Roybark and Rose Ella Roybark, address unknown.

CASE 1946: Application of J. R. Cone for an exception to the over-production shut-in provisions of Order R-520, as amended by Order R-967, for two wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing the following-described wells in the Jalmat Gas Pool to compensate for their overproduced status without being completely shut-in in order to prevent possible waste:

Mobil-Myers Well No. 4, Unit I, Section 22

Pan American-Myers Well No. 1, Unit H, Section 22

both in Township 24 South, Range 36 East, Lea County, New Mexico.

CASE 1947: Application of Phillips Petroleum Company for the establishment of two 80-acre non-standard oil proration units and one unorthodox oil well location. Applicant, in the above-styled cause, seeks an order establishing two 80-acre non-standard oil proration units in the Kemnitz-Wolfcamp Pool, Lea County, New Mexico, each consisting of a portion of the S/2 of Section 25, Township 16 South, Range 33 East. Applicant further seeks approval of an unorthodox oil well location in said Kemnitz-Wolfcamp Pool, the location to be in the center of the NW/4 SE/4 of said Section 25.

CASE 1948: Application of Humble Oil & Refining Company for authority to commingle the production from several separate leases and for approval of an automatic custody transfer system to handle said commingled production. Applicant, in the above-styled cause, seeks permission to commingle the Empire-Abo Pool production from certain leases in Sections 4, 8, 9, 16 and 17, Township 18 South, Range 27 East, Eddy County, New Mexico, all of such leases being in the Chalk Bluff Draw Unit. Applicant also seeks approval of an automatic custody transfer system to handle said Empire-Abo Pool production from all wells presently completed or hereafter drilled on said leases.

- CASE 1949: Application of Trice Production Company for approval of a "slim-hole" completion. Applicant, in the above-styled cause, seeks an order authorizing the "slim-hole" completion of its Four Lakes State Well No. 1, located in the NE/4 NW/4 of Section 11, Township 12 South, Range 34 East, Lea County, New Mexico, to be completed in either the Pennsylvanian or Wolfcamp formation at a minimum total depth of 10,000 feet.
- CASE 1950: Application of Sinclair Oil & Gas Company for permission to commingle the production from two separate leases. Applicant, in the above-styled cause, seeks permission to commingle the West Teas Pool production from its State Lea 886 lease consisting of the S/2 NW/4 and N/2 NE/4 of Section 16 with the West Teas Pool production from that portion of its State Lea 6019 lease consisting of the NW/4 NW/4 and SE/4 of said Section 16, all in Township 20 South, Range 33 East, Lea County, New Mexico.
- CASE 1951: Application of Texaco Inc. for a gas-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of the State "CH" Well No. 1, located in Unit H, Section 36, Township 20 South, Range 32 East, Lea County, New Mexico, in such a manner as to permit the production of gas from an undesignated Atoka gas pool and the production of gas from the South Salt Lake-Pennsylvanian Gas Pool through parallel strings of tubing.
- CASE 1952: Application of Texaco Inc. for establishment of a 476-acre non-standard gas proration unit in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks the establishment of a 476-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the N/2 of Section 4 and the NE/4 of Section 5, Township 24 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the E. D. Fanning Well No. 6, to be located 660 feet from the North and West lines of said Section 4.
- CASE 1953: Application of Keohane, Saunders, Welch and Iverson for an unorthodox oil well location. Applicant, in the above-styled cause, seeks approval of an unorthodox oil well location for its Hinkle-Federal Well No. 7-B in the Shugart Pool at a point 330 feet from the South line and 2329 feet from the East line of Section 35, Township 18 South, Range 31 East, Eddy County, New Mexico.

- CASE 1954: Application of Shell Oil Company for approval of an automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing the installation of an automatic custody transfer system to handle the production from the Saunders (Permo-Pennsylvanian) Pool from all wells presently completed or hereafter drilled on the State A lease comprising the E/2 of Section 34, Township 14 South, Range 33 East, Lea County, New Mexico.
- CASE 1955: Application of Shell Oil Company for approval of an automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing the installation of an automatic custody transfer system to handle the production from the Monument Pool from all wells presently completed or hereafter drilled on the State B lease comprising the NW/4 of Section 36, Township 19 South, Range 36 East, Lea County, New Mexico.
- CASE 1956: Application of Shell Oil Company for approval of an automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing the installation of an automatic custody transfer system to handle the production from the Townsend-Wolfcamp Pool from all wells presently completed or hereafter drilled on the State ETA lease comprising all of Section 8, Township 16 South, Range 35 East, Lea County, New Mexico.
- CASE 1957: Application of Shell Oil Company for approval of an automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing the installation of an automatic custody transfer system to handle the production from the Denton (Devonian) Pool from all wells presently completed or hereafter drilled on the Priest lease comprising the N/2 of Section 1, Township 15 South, Range 37 East, Lea County, New Mexico.

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

April 7, 1960

Gulf Oil Corporation  
Box 1346  
Salt Lake City 10, Utah

Attention: Mr. T. A. Trax

Gentlemen:

This is to advise that we have received your application for approval of dual completion of Gulf's Apache Federal Well 3, located in the NW/4 NW/4 of Section 8, Township 24 North, Range 5 West, Rio Arriba County, New Mexico.

Inasmuch as the proposed dual is not within the limits of two defined pools nor within one mile thereof which have previously been approved for dual completion, it will be necessary to set the application for hearing.

We suggest that your witness at the hearing be prepared to testify as to pressures of both zones, gas liquid ratios, gravities of the liquids etc. He should also be prepared to show that the Gallup gas can be efficiently produced through the casing-tubing annulus. Further, since you propose to bottom your Dakota tubing string some 825 feet above the top of the pay rather than the 250 maximum permitted by the rules, the witness should be prepared to show that the Dakota can be efficiently produced this distance through the casing.

Gulf's Roswell attorney, Mr. Bill Kastler, was in our

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OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

Gulf Oil Corporation

April 7, 1960

-2-

office yesterday and was apprised of all of these circumstances.  
We advised Mr. Kastler that the case would be docketed for hearing  
on April 27, 1960.

Very truly yours,

DANIEL S. NUTTER  
Chief Engineer

DSN:og

cc: Oil Conservation Commission  
1000 Rio Brazos Road  
Aztec, New Mexico

Mr. Bill Kastler  
Gulf Oil Corporation  
Roswell, New Mexico

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OIL CONSERVATION COMMISSION  
1000 Rio Brazos Rd.  
Aztec, New Mexico

OIL CONSERVATION COMMISSION  
BOX 871  
SANTA FE, NEW MEXICO

DATE 3-29-60

RE: Proposed NSP \_\_\_\_\_

Proposed NSL \_\_\_\_\_

Proposed NFO \_\_\_\_\_

Proposed DC ✓

Gentlemen:

I have examined the application dated 3-23-60  
for the GULF APACHE - FEN 8 D-8-24N-5W  
Operator Lease and Well No. S-T-R

and my recommendations are as follows:

approve subject to approval  
of tubing in violation of Rule  
107 (d)(2) (3)

Yours very truly,

OIL CONSERVATION COMMISSION

*Arthur Kendrick*

## NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

7-3-5:

## APPLICATION FOR DUAL COMPLETION

Field Name <u>Otero-Gallup-Undesignated Dakota</u>		County <u>Rio Arriba</u>	Date <u>March 23, 1960</u>
Operator <u>Gulf Oil Corporation</u>		Lease <u>Apache-Federal</u>	Well No. <u>8</u>
Location Unit <u>D</u>	Section <u>8</u>	Township <u>24N</u>	Range <u>5W</u>

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual completion of a well in these same pools or in the same zones within one mile of the subject well? YES ☒ NO ☐
2. If answer is yes, identify one such instance: Order No. R-1461; Operator, Lease, and Well No.:

Skelly Oil Co.Jicarilla "B" No. 2

3. The following facts are submitted:	Upper Zone	Lower Zone
a. Name of reservoir	<u>Gallup</u>	<u>Dakota</u>
b. Top and Bottom of Pay Section (Perforations)	<u>5676-5744</u>	<u>6783-6856</u>
c. Type of production (Oil or Gas)	<u>Gas</u>	<u>Gas</u>
d. Method of Production (Flowing or Artificial Lift)	<u>Flow</u>	<u>Flow</u>

4. The following are attached. (Please mark YES or NO)

- \_\_\_\_\_ a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
- \_\_\_\_\_ b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- \_\_\_\_\_ c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application. \*
- \_\_\_\_\_ d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

<u>Skelly Oil Co.</u>	<u>Box 426,</u>	<u>Farmington, New Mexico</u>
<u>R &amp; G Drilling Co.</u>	<u>Box 1848,</u>	<u>Farmington, New Mexico</u>
<u>Continental Oil Co.</u>	<u>Box 1121,</u>	<u>Durango, Colorado</u>
<u>El Paso Natural Gas Co.</u>	<u>Box 997,</u>	<u>Farmington, New Mexico</u>
<u>Amerada Petroleum Corp.</u>	<u>Box 1469,</u>	<u>Durango, Colorado</u>
<u>E. B. Germany &amp; Sons</u>	<u>Box 12266,</u>	<u>Dallas, Texas</u>
<u>American Petrofina Co. of Tex.</u>	<u>Box 2159,</u>	<u>Dallas, Texas</u>

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES ☒ NO ☐ . If answer is yes, give date of such notification March 23, 1960

CERTIFICATE: I, the undersigned, state that I am the Area Production Manager of the Gulf Oil Corporation (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

T. A. Trax

Signature

- \* Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.
- NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

NEW MEXICO OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO

Case 1443

7-3-58

APPLICATION FOR DUAL COMPLETION

Field Name <b>Otero-Gallup-Undesignated Dakota</b>		County <b>Rio Arriba</b>	Date <b>March 23, 1960</b>
Operator <b>Gulf Oil Corporation</b>		Lease <b>Apache-Federal</b>	Well No. <b>8</b>
Location of Well <b>D</b>	Unit <b>8</b>	Section <b>24N</b>	Range <b>5W</b>

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual completion of a well in these same pools or in the same zones within one mile of the subject well? YES ☒ NO ☐
2. If answer is yes, identify one such instance: Order No. **R-1461**; Operator, Lease, and Well No.:

**Skelly Oil Co.**

**Jicarilla "B" No. 2**

**NW NW 31-25-5**

3. The following facts are submitted:	Upper Zone	Lower Zone
a. Name of reservoir	<b>Gallup</b>	<b>Dakota</b>
b. Top and Bottom of Pay Section (Perforations)	<b>5676-5744</b>	<b>6783-6856</b>
c. Type of production (Oil or Gas)	<b>Oil</b>	<b>Gas</b>
d. Method of Production (Flowing or Artificial Lift)	<b>Flow</b>	<b>Flow</b>

4. The following are attached. (Please mark YES or NO)

- ☒ a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
- ☒ b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- ☐ c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.\*
- ☐ d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

**Skelly Oil Co. Box 426, Farmington, New Mexico**

**R & G Drilling Co. Box 1848, Farmington, New Mexico**

**Continental Oil Co. Box 1121, Durango, Colorado**

**El Paso Natural Gas Co. Box 997, Farmington, New Mexico**

**Amerada Petroleum Corp. Box 1469, Durango, Colorado**

**E. B. Germany & Sons Box 12266, Dallas, Texas**

**American Petrofina Co. of Texas Box 2159, Dallas, Texas**

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES ☒ NO ☐ . If answer is yes, give date of such notification **March 23, 1960**

CERTIFICATE: I, the undersigned, state that I am the **Area Production Manager** of the **Gulf Oil Corporation** (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

**T. A. Trax**

Signature

- \* Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.
- NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

No. 12-60

DOCKET: EXAMINER HEARING APRIL 27, 1960

Oil Conservation Commission - 9 a.m., Mabry Hall, State Capitol, Santa Fe  
The following cases will be heard before Elvis A. Utz, Examiner, or Oliver E. Payne, Attorney, as alternate examiner:

CASE 1942: 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 the Jicarilla Well No. 28-1, located in the NW/4 SE/4 of Section 28, Township 23 North, Range 4 West, Rio Arriba County, New Mexico, in such a manner as to permit the production of oil from the Gallup formation and the production of oil from the Dakota formation through parallel strings of tubing.

CASE 1927: (Continued)  
Application of J. W. Brown for the establishment of special rules and regulations governing the Brown Pool in Chaves County, New Mexico, to provide for 2½-acre spacing in said pool.

CASE 1943: Application of Gulf Oil Corporation for a dual completion and for an exception to the tubing requirements of Rule 107. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Apache-Federal Well No. 8, located in Unit D, Section 8, Township 24 North, Range 5 West, Rio Arriba County, New Mexico, in such a manner as to permit the production of gas from the Otero-Gallup Oil Pool and the production of gas from the Dakota Producing Interval through the casing-tubing annulus and the tubing respectively. Applicant further seeks an exception to certain tubing requirements set forth in Rule 107 of the Commission's Rules and Regulations.

CASE 1944: Application of Great Western Drilling Company for establishment of a 200-acre non-standard gas proration unit in the Eumont Gas Pool. 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 E/2 NE/4 of Section 32 and the E/2 NW/4 and NW/4 NW/4 of Section 33, all in Township 19 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to its Bordages Well No. 1 located 330 feet from the North line and 270 feet from the West line of said Section 33.

CASE 1945: Application of Permian Oil Company for an order force-pooling the interests in a 320-acre unit in the Dakota formation. Applicant, in the above-styled cause, seeks an order force-pooling all Dakota formation mineral interests in the 320 acres comprising the E/2 of Section 5, Township 30 North, Range 13 West, San Juan County, New Mexico, the non-consenting mineral interest owners being Raymond H. Walker and Edith Walker, 1250 South Figueroa Street, Los Angeles, California, and Norman Roybark and Rose Ella Roybark, address unknown.

CASE 1946: Application of J. R. Cone for an exception to the over-production shut-in provisions of Order R-520, as amended by Order R-967, for two wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing the following-described wells in the Jalmat Gas Pool to compensate for their overproduced status without being completely shut-in in order to prevent possible waste:

Mobil-Myers Well No. 4, Unit I, Section 22

Pan American-Myers Well No. 1, Unit H, Section 22

both in Township 24 South, Range 36 East, Lea County, New Mexico.

CASE 1947: Application of Phillips Petroleum Company for the establishment of two 80-acre non-standard oil proration units and one unorthodox oil well location. Applicant, in the above-styled cause, seeks an order establishing two 80-acre non-standard oil proration units in the Kemnitz-Wolfcamp Pool, Lea County, New Mexico, each consisting of a portion of the S/2 of Section 25, Township 16 South, Range 33 East. Applicant further seeks approval of an unorthodox oil well location in said Kemnitz-Wolfcamp Pool, the location to be in the center of the NW/4 SE/4 of said Section 25.

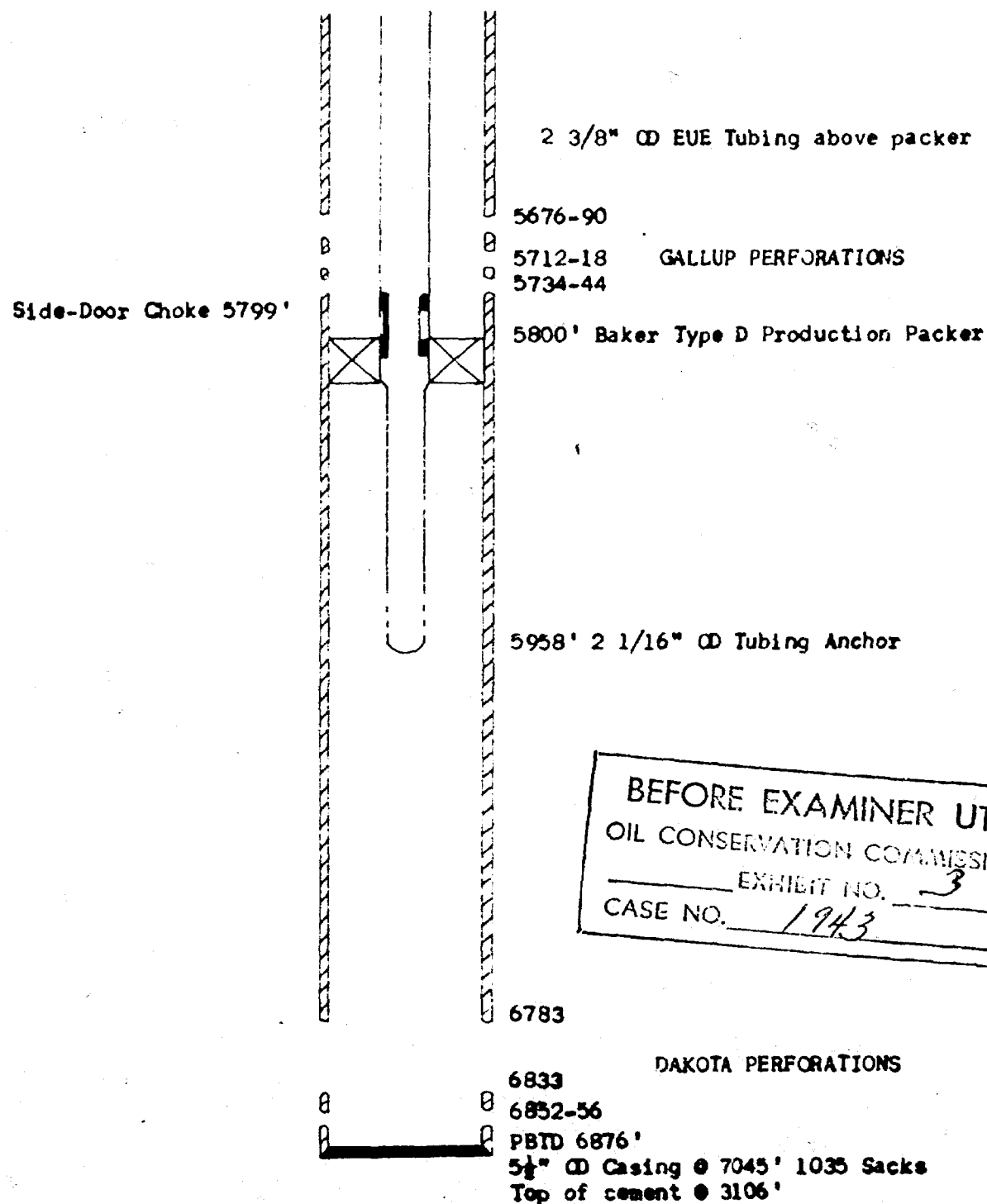
CASE 1948: Application of Humble Oil & Refining Company for authority to commingle the production from several separate leases and for approval of an automatic custody transfer system to handle said commingled production. Applicant, in the above-styled cause, seeks permission to commingle the Empire-Abo Pool production from certain leases in Sections 4, 8, 9, 16 and 17, Township 18 South, Range 27 East, Eddy County, New Mexico, all of such leases being in the Chalk Bluff Draw Unit. Applicant also seeks approval of an automatic custody transfer system to handle said Empire-Abo Pool production from all wells presently completed or hereafter drilled on said leases.

- CASE 1949: Application of Trice Production Company for approval of a "slim-hole" completion. Applicant, in the above-styled cause, seeks an order authorizing the "slim-hole" completion of its Four Lakes State Well No. 1, located in the NE/4 NW/4 of Section 11, Township 12 South, Range 34 East, Lea County, New Mexico, to be completed in either the Pennsylvanian or Wolfcamp formation at a minimum total depth of 10,000 feet.
- CASE 1950: Application of Sinclair Oil & Gas Company for permission to commingle the production from two separate leases. Applicant, in the above-styled cause, seeks permission to commingle the West Teas Pool production from its State Lea 886 lease consisting of the S/2 NW/4 and N/2 NE/4 of Section 16 with the West Teas Pool production from that portion of its State Lea 6019 lease consisting of the NW/4 NW/4 and SE/4 of said Section 16, all in Township 20 South, Range 33 East, Lea County, New Mexico.
- CASE 1951: Application of Texaco Inc. for a gas-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of the State "CH" Well No. 1, located in Unit H, Section 36, Township 20 South, Range 32 East, Lea County, New Mexico, in such a manner as to permit the production of gas from an undesignated Atoka gas pool and the production of gas from the South Salt Lake-Pennsylvanian Gas Pool through parallel strings of tubing.
- CASE 1952: Application of Texaco Inc. for establishment of a 476-acre non-standard gas proration unit in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks the establishment of a 476-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the N/2 of Section 4 and the NE/4 of Section 5, Township 24 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the E. D. Fanning Well No. 6, to be located 660 feet from the North and West lines of said Section 4.
- CASE 1953: Application of Keohane, Saunders, Welch and Iverson for an unorthodox oil well location. Applicant, in the above-styled cause, seeks approval of an unorthodox oil well location for its Hinkle-Federal Well No. 7-B in the Shugart Pool at a point 330 feet from the South line and 2329 feet from the East line of Section 35, Township 18 South, Range 31 East, Eddy County, New Mexico.

- CASE 1954: Application of Shell Oil Company for approval of an automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing the installation of an automatic custody transfer system to handle the production from the Saunders (Permo-Pennsylvanian) Pool from all wells presently completed or hereafter drilled on the State A lease comprising the E/2 of Section 34, Township 14 South, Range 33 East, Lea County, New Mexico.
- CASE 1955: Application of Shell Oil Company for approval of an automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing the installation of an automatic custody transfer system to handle the production from the Monument Pool from all wells presently completed or hereafter drilled on the State B lease comprising the NW/4 of Section 36, Township 19 South, Range 36 East, Lea County, New Mexico.
- CASE 1956: Application of Shell Oil Company for approval of an automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing the installation of an automatic custody transfer system to handle the production from the Townsend-Wolfcamp Pool from all wells presently completed or hereafter drilled on the State ETA lease comprising all of Section 8, Township 16 South, Range 35 East, Lea County, New Mexico.
- CASE 1957: Application of Shell Oil Company for approval of an automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing the installation of an automatic custody transfer system to handle the production from the Denton (Devonian) Pool from all wells presently completed or hereafter drilled on the Priest lease comprising the N/2 of Section 1, Township 15 South, Range 37 East, Lea County, New Mexico.



GULF OIL CORPORATION  
 Apache-Federal Lease Well Number 8  
 Unit D Sec 8-24N-5W Rio Arriba County, N. M.



BEFORE EXAMINER UTZ  
 OIL CONSERVATION COMMISSION  
 EXHIBIT NO. 3  
 CASE NO. 1943

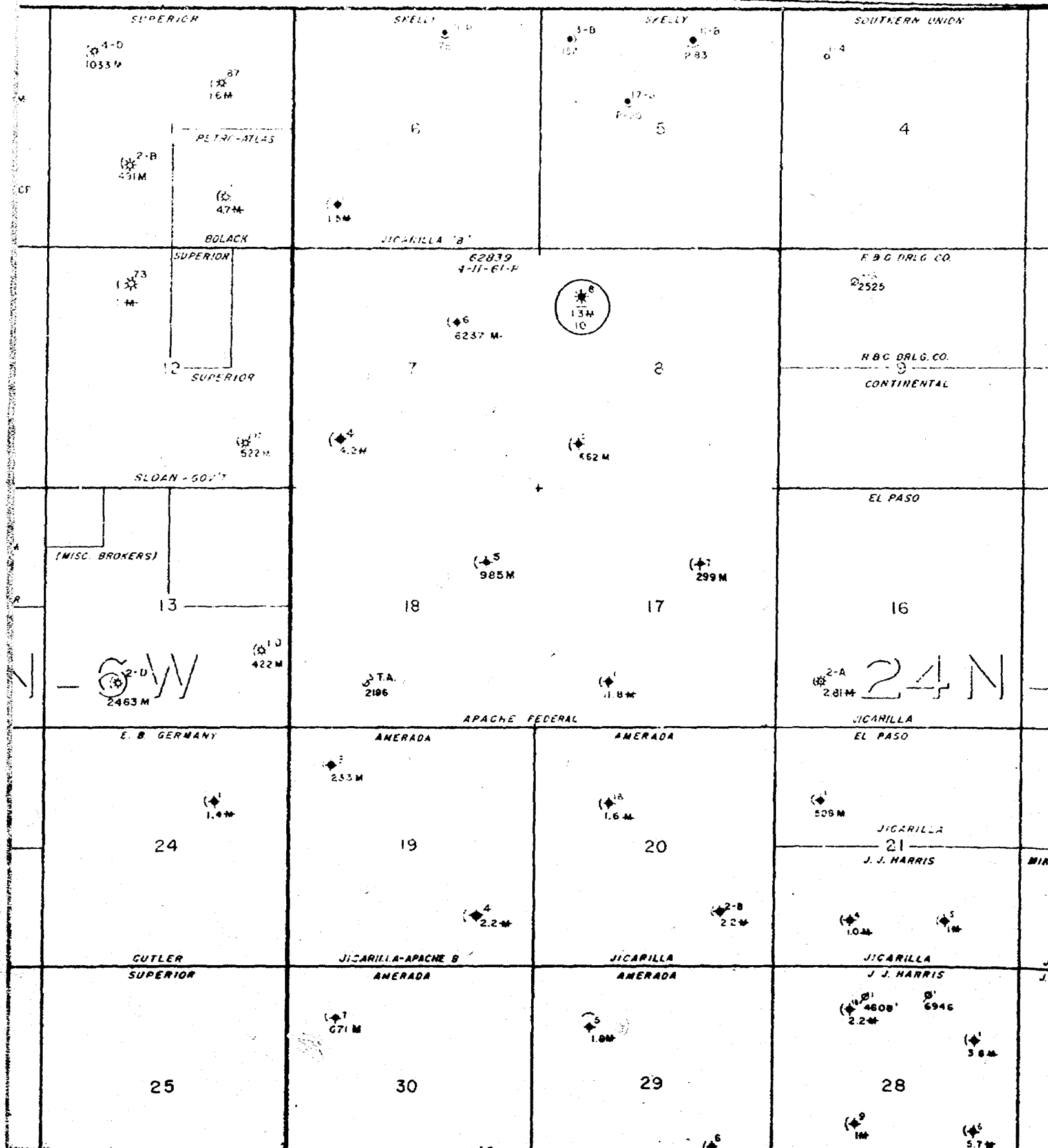
BALLARD PICTURED CLIFF BEFORE EXAMINER UTZ  
 RIO ARriba COUNTY, NEW MEXICO

CIL CONSERVATION COMMISSION

EXHIBIT NO. 1

SCALE: 2 INCHES = 1 MILE

CASE NO. 1943



GULF OIL CORPORATION  
 Apache-Federal Lease Well Number 8  
 Unit D Sec 8-24N-5W Rio Arriba County, N. M.

T.P.C. 2380  
 B.P.C. 3210

898300" 250 cm.

T. Cement. 3106' Cal. T.  
 C.H. 3912 Cement. 2504.90 ft  
 T. 2100.

Side-Door Choke 5799'

S.I. 500 @ 30M  
 study to.  
 116 @ .99 km

2 3/8" OD EUE Tubing above packer  
 56877. 8L.  
 5676-90 3 in. 7235 HCF  
 5712-18 GALLUP PERFORATIONS  
 5734-44 5565 26.  
 5800' Baker Type D Production Packer

4:30 - 900 HCF  
 1- 725T-859T. 62, HCF.  
 960. 965T.  
 2- 710-698T 133 HCF  
 850-975C.  
 3- 700-696T 251 HCF  
 925-900C

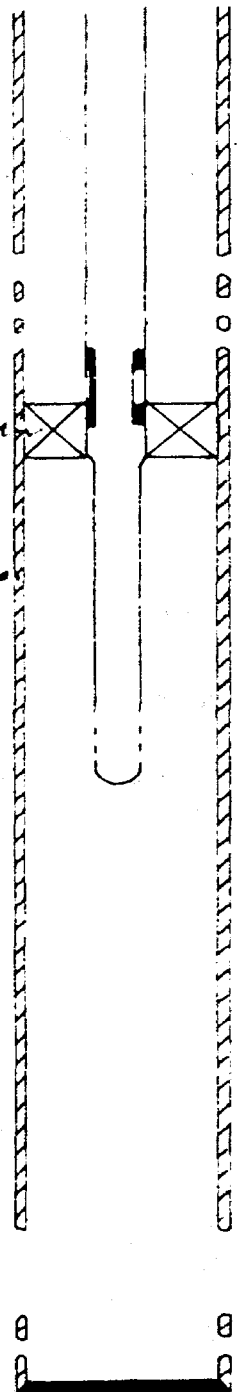
5958' 2 1/16" OD Tubing Anchor  
 4 710-640T 529 HCF  
 900-780C

107(3/)

6782 T.D.H.  
 6783 2,775 MCF IP.  
 2344 - 43 km.

6833 DAKOTA PERFORATIONS  
 6852-56  
 PBTD 6876'  
 5 1/2" OD Casing @ 7045' 1035 Sacks  
 Top of cement @ 3106'

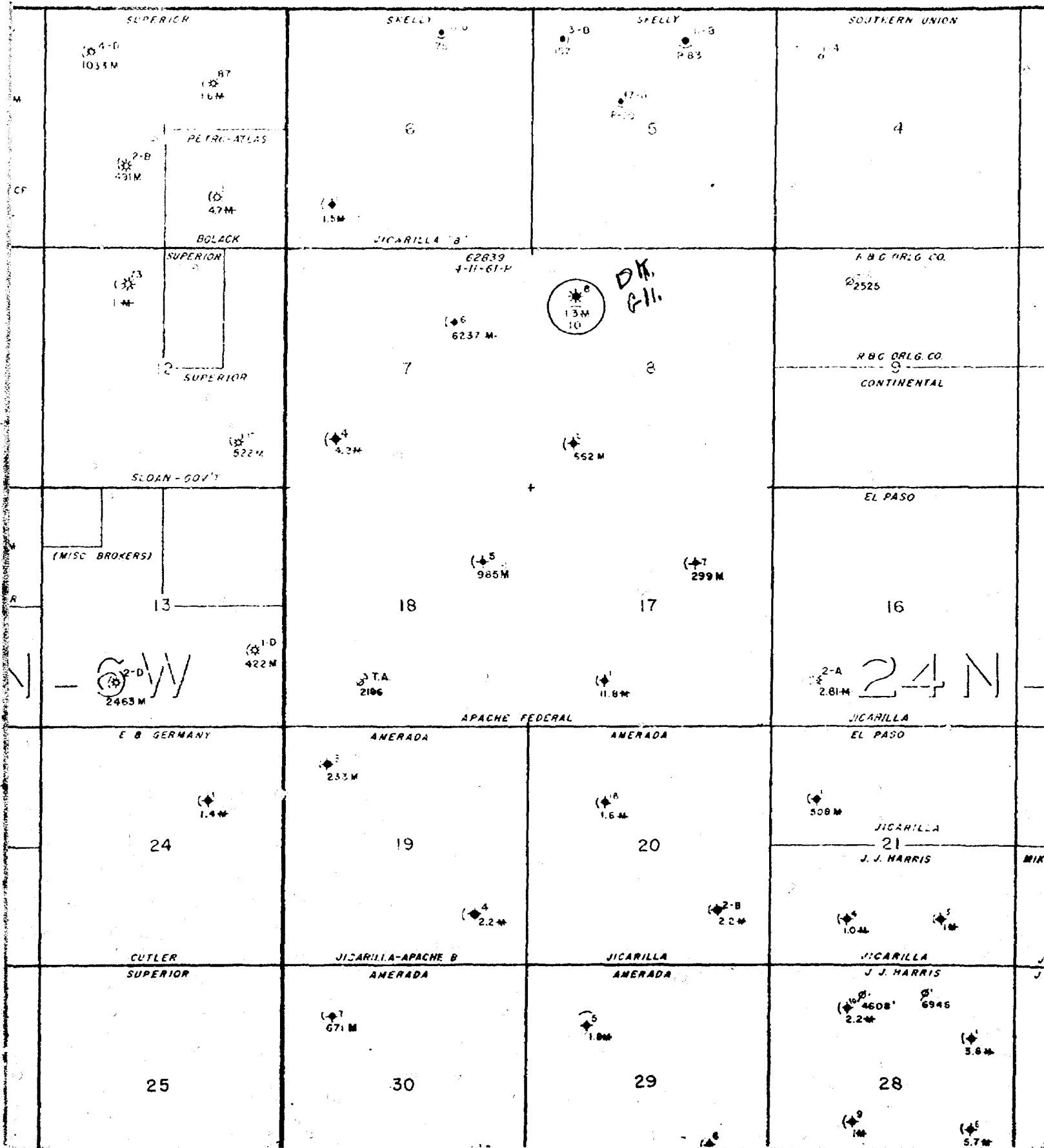
6950 B.P.H.  
 66,721 H.O.R.  
 15 B.M.  
 53.4°  
 40 ft.



# BALLARD PICTURED CLIFFS

## RIO ARriba COUNTY, NEW MEXICO

SCALE: 2 INCHES = 1 MILE



OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO

Date 9-28-60

CASE 1943

Hearing Date 9-27-60

My recommendations for an order in the above numbered cases are as follows:

Grant Gulf's request as follows:

1. Oil - Oil Deal for Otero - Gallup and.

Undesignated Dakota Pools.

Gulf - Apache Federal # 8,

D - 8 - 24 N - 5 W, R.A. County.

2. Shall install tubing to Gallup in the event Gallup begins producing Oil or liquids.

3. Exemption to General Rule 107(d)(2) & (3)

4. 107(d)(2) is being allowed only because junk in the hole prevents operator from lowering tubing for Dakota production.

5. Usual dual order otherwise.

Ed. J. [Signature]

Staff Member

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

May 9, 1960

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

Dear Mr. Kastler:

We enclose two copies of Order No. R-1660 in  
Case 1943 issued by the Oil Conservation Com-  
mission this date.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

lr/

Enclosures: (2)

C  
O  
P  
Y

BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
April 27, 1960

EXAMINER HEARING

IN THE MATTER OF:

Application of Gulf Oil Corporation for a  
dual completion and for an exception to the  
tubing requirements of Rule 107. Applicant,  
in the above-styled cause, seeks an order  
authorizing the dual completion of its Federal-  
Apache Well No. 8, located in Unit D, Section 8,  
Township 24 North, Range 5 West, Rio Arriba  
County, New Mexico, in such a manner as to per-  
mit the production of gas from the Otero-Gallup  
Oil Pool and the production of gas from the  
Dakota Producing Interval through the casing-  
tubing annulus and the tubing respectively..  
Applicant further seeks an exception to certain  
tubing requirements set forth in Rule 107 of  
the Commission's Rules and Regulations.

Case 1943

BEFORE:

Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. PAYNE: Application of Gulf Oil Corporation for a  
dual completion and for an exception to the tubing requirements of  
Rule 107.

MR. KASTLER: My name is Bill Kastler. I am the district  
attorney, district lawyer for Roswell's Gulf Production District,  
and associated with me in this case is Mr. Roger Allen from the  
Law Department of Gulf's Denver Production District. Mr. Allen is  
a member of the Oklahoma and Colorado Bars.



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

MR. KASTLER: Mr. Examiner, our witness is John D. Mackay.

(Witness sworn.)

JOHN D. MACKAY

called as a witness, having been previously duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. KASTLER:

Q Will you please state your name, and give the proper spelling of your name?

A John D. Mackay, M-a-c-k-a-y, one word.

Q Are you employed by Gulf Oil Corporation, Mr. Mackay?

A I am.

Q Where are you employed, and what is your position?

A Petroleum Engineer in the Denver Production Office.

Q As such you are familiar with Gulf's application in Case 1943?

A I am.

Q Have you previously appeared before the New Mexico Oil Conservation Commission?

A No.

Q Have you been qualified as an expert witness?

A No, I have not.





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Q Would you please briefly state your educational background, where you attended school, and what degrees you were awarded?

A I graduated from Oklahoma A & M in 1951 with B.S. degrees in Mechanical Engineering and Petroleum Engineering.

Q Will you briefly outline your professional experience as a petroleum engineer since graduation?

A Went to work for Gulf in December, '52 and have since been employed by them as a production engineer and completion engineer.

Q In what areas of the United States were you so employed?

A Rocky Mountain area.

Q Were you employed at Farmington, New Mexico, for some time?

A Yes, I spent three years at Farmington; San Juan Basin.

Q And you are familiar with Gulf's leases and with their application in this case, what it is that Gulf is seeking?

A Yes, sir.

MR. KASTLER: Mr. Examiner, are the witnesses qualifications acceptable?

MR. UTZ: Yes, they are.

Q Mr. Mackay, will you please describe Gulf's lease involved in application to Case 1943?

A The whole lease is Section 8, 17 and 18, 24 North, 5



West, Rio Arriba County.

Q Have you prepared a plat for introduction in this case as Exhibit No. 1?

A Yes.

(Marked Gulf's Exhibit No. 1, for identification.)

Q Mr. Mackay, calling your attention to Exhibit No. 1, is Gulf's lease involved here a Federal lease?

A Yes, sir.

Q And what is the location of the well which is the subject of this application?

A 990 feet east of the West Line, Section 8, 24 North, 5 West, Rio Arriba.

Q There are other wells shown on Gulf's lease in this plat. Are those other wells, any of them, completed in either the Dakota or the Gallup formations?

A No, they are not.

Q Does this plat also show the names of all offset operators?

A Yes.

Q Have all offset operators been given a copy of this application and so informed of its pendency?

A Yes, they have.

Q At what time was this application mailed?

A March 23.

Q Have you heard any objections from any of those?

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A No, we have not.

Q Would you please testify as to the history of Gulf's Federal-Apache Well No. 8?

A The well was spudded on March 31, 1959, and completed July 15, 1959.

Q At what depth or development was this well completed?

A Drilled to 7,045 and at this depth 5 1/2 casing was run and cemented.

Q What zone or zones have been found to be productive in this well?

A Gallup and Dakota.

Q And have you taken initial flow tests and pressures that you may testify to here?

A Yes, we took Bureau of Mines back-pressure tests on both zones. Do you want the results?

Q Yes.

A The open flow potential of the Gallup was 1,275,000 cubic feet per day, and the indicated open flow potential on the Dakota was 2,775,000.

Q And have you taken pressures?

A Oh, pardon me. Bottomhole pressure, 72 1/2 hour build-up, Gallup, 1138, and the build-up, 144 1/2 hour Dakota, 2344.

Q Have you prepared, or caused to be prepared an electric log for introduction here as Exhibit No. 2?

A Yes.

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(Marked Gulf's Exhibit No. 2 for identification).

Q Referring now to Exhibit No. 2, will you identify the top and bottom of the Gallup formation?

A The Gallup top is 5,656 and the bottom of the base of the Gallup was at 5,905.

Q Now, while you are on this, will you please state where the well is perforated in the Gallup?

A Four shots per foot from 5,675 to 5,690; from 5,712 to 5,718; and from 5,734 to 5,744.

Q Now, will you proceed to identify the top and bottom of the Dakota formation?

A The top of the Dakota was at 6,782 and the base of the Dakota was at 6,980.

Q And what perforations have you made in the well in the casing?

A It was perforated, four shots per foot, 6,783 to 6,833; and 6,852 to 6,856.

MR. UTZ: In your opinion are each of these zones a separate common source of supply?

A Yes.

MR. UTZ: And that is amply illustrated on the electrical log?

A That they are separate sources of supply? Yes, sir.

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(By Mr. Kastler) Is the Gallup zone primarily an oil or gas zone?

A In our tests it made gas and no liquids in this particular well.

MR. UTZ: How long was this test?

A It was a 4-point test; I couldn't testify as to the exact time.

MR. UTZ: Do you have a copy of that test with you?

A I do have a well copy, our file copy. I can have one made for you. I think one may have been sent.

(Handing document to Mr. Utz)

MR. UTZ: Possibly you are more familiar with this than I am. Can you tell me how long those points are so we can determine about how long the well flowed? It seems the first point was an hour and three quarters; I couldn't find anything else.

A It was four hours and thirty minutes. I believe that would be the total time, four hours and thirty minutes. It was flowed previous to clean up, previous to the test.

MR. UTZ: What was your rate of flows?

A I am sorry, I don't know. I would say approximately 800,000.

MR. UTZ: Does this test show the flowing well head pressures during the process of each point? That is the bottomhole pressure, I believe.



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A Yes, it does.

MR. UTZ: What was the range of pressures from the beginning of the test until the end of the test?

A On the 1/16th orifice the tubing pressures stabilized at 725 and the casing at 960.

MR. UTZ: What did it start at?

A 859 on the tubing and 965 on the casing.

MR. UTZ: The rate on that was approximately?

A 62,000 cubic feet per day.

MR. UTZ: Your next point?

A The next point, it ranged from 710 and stabilized at 698 on the tubing; casing from 950, stabilized at 925. Rate was 133,000. Next point, tubing from 700 to 696; casing, 925 to 900. Flow rate, 251,000. Fourth point, tubing 710 to 640; casing 900 to 780 and the rate, 529,000.

MR. UTZ: All right, sir; you may proceed.

Q (By Mr. Kastler) Has there been prepared for introduction as Exhibit 3 in this case a schematic diagram, or a diagram which shows the proposed or the installed proposed approved installation of the dual completion?

A Yes, there has.

Q May this be labelled Exhibit No. 3 in case 1943?

(Marked Gulf's Exhibit No. 3, for identification).

Q Mr. Mackay, will you testify as to the size of casing set



in this well at all depths, whether or not shown in Exhibit 3?

A There is a string of 8 5/8, 24 pound surface casing set at 300 feet and cemented to the surface, and a string of 5 1/2 set at 7045 and cemented with 1,035 sacks of cement.

MR. UTZ: Let me get that cement as you go. I was fooling with these figures and I missed your first statement. Where is your surface casing?

A 8 5/8 set at 300 feet, cemented with 250 sacks of cement, and the cement circulated. The long string is 5 1/2, set at 7,045 feet and cemented with 1,035 sacks of cement plus 90 sacks through a stage collar at 2,504.

Q (By Mr. Kastler) Calling your attention to the completion in the Gallup formation. You previously testified as to where the well is perforated and the amount of production and pressures taken on tests. What was the gas-liquid ratio on that completion in the Gallup?

A There was no liquid on our Gallup completion. Do you want the Dakota?

Q Well, the Dakota, what was the gas-liquid ratio?

A Made 15 barrels, GOR 66,750 to 1, and the gravity of that liquid, 53.4.

Q What type of packer have you installed?

A Packer Model D, permanent type.

Q Will this packer insure complete separation of the two

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zones?

A We feel that it will; yes.

Q If this application should be granted, would Gulf perform the necessary tests, file necessary information and conform with all rules and regulations of the Oil Conservation Commission of New Mexico?

A Yes.

Q Will the Gallup producing formation be produced through the tubing casing annulus?

A That is correct.

Q However, it was tested through the tubing; is that correct?

A That's right, in the tubing immediately above the packer there is a type of time clock, and the Gallup zone was cleaned up and tested through the tubing.

Q Where is your tubing located in relation to the production from the Dakota formation?

A The bottom of our tubing and core is 5,958, and our uppermost perforation is in the Dakota 6,783 so it is set 825 feet above our perforation.

Q Why is the tubing so located?

A During the completion of the well there was 914 feet of 2 1/16 anchor dropped through the packer. In order to be fished out again it would be necessary to drill out the Model D packer.

Q The well was originally drilled and completed so far as

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a dual producing, or dually completed, well; is that correct?

A That's right.

Q And the location of the tubing in relation to the Dakota perforation makes it necessary for an exception to Rule 107?

A That's correct.

Q In your opinion will the Dakota be sufficiently produced with tubing so located without damage to the formation?

A Yes.

Q And what do you base that opinion on?

A Well, it is primarily a gas producing zone and the amount of fluid that does occur is most probably in a gaseous state.

MR. UTZ: You mean by that it is gas in the reservoir and there is a retrograde that goes to liquid on the way up, so the pressure decreases?

A That is correct.

Q (By Mr. Kastler) How could migration be detected?

A The pressure differential in the two sands would indicate at the surface.

Q And that pressure differential again is what?

A 1138 bottomhole on the Gallup versus 2344 bottomhole pressure on the Dakota.

Q Are there other dual completions in this general area?

A To my knowledge the closest is Skelly's Jicarilla, you have that application, Jicarilla B-20, which is located in Section



21, 25 North, 5 West.

Q In your opinion, will the completion in this manner as proposed prevent waste and protect correlative rights?

A Yes, it would.

Q Were Exhibits 1 and 2 prepared by you, or at your direction or under your supervision?

A Yes.

Q What is the manner of measurement of production from each zone?

A They will be separate. We plan to install separate metering.

Q And after separately being metered, the gas will then be sent to the same pipeline to the same purchaser; is that correct?

A I believe so, yes.

Q Was Exhibit No. 3 prepared by you?

A Yes.

Q Will the completion in this manner prevent waste and protect correlative rights?

A It will.

MR. KASTLER: Mr. Utz, that completes the questions I have on direct. At this time I would like to move for the introduction of Exhibits 1, 2 and 3.

MR. UTZ: Without objection Exhibits 1, 2 and 3 will be entered in the records of this case.

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PHONE CH 3-6691

CROSS-EXAMINATION

BY MR. UTZ:

Q Mr. Mackay, how much pressure drop do you think there will be between the 2,344 bottomhole pressure and the point at which the gas enters the tubing at 5,958 when the well is producing?

A Depending on the rate; it should be negligible at 800-foot intervals.

Q Have you read any bottomhole samples on the Dakota?

A No, sir; there have been no bottomhole samples run yet.

Q You don't actually know if there is gas in the reservoir or not? You are just assuming?

A Yes.

Q Neither do you know, if there is gas in the reservoir, at what pressure the liquids actually drop out?

A That is correct.

Q If this well doesn't flow, under the circumstances you think it will flow, you will have some liquid problems, won't you, since it produces 15 barrels per million?

A That gas-oil ratio should preclude that, but it is possible.

Q You think you can produce this at high enough rate to lift the liquids through a 5 1/2 inch casing?

A The Dakota will be flowing through the tubing. You mean at the interval?

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Q 825 foot interval.

A With 66,750 to 1 gas-oil ratio, I believe that it will.

Q If you do have liquid problems what are you going to be able to do about them?

A If we have liquid problems we will have to -- that wouldn't be my decision to make, but we would probably drill out the packer, which would necessitate killing the well.

Q If you do have liquid problems you are not going to be able to produce much gas out of the well, are you?

A No, sir, but we don't anticipate liquid problems.

Q Well, we have determined, apparently, that on a four hour, thirty minute test on 4-point that you do not produce any liquids out of the annulus of the Gallup?

A We were flowing the Gallup tests through the tubing. The side-door choke, you are probably familiar with it, and we ran a mandril blocking off the lower zone, and producing the Gallup through the tubing.

Q Did you run this gas through a separator?

A Yes, it was separated.

Q There wasn't any liquids?

A No, sir.

Q Is this a little unusual for the Gallup in this area?

A I couldn't say for sure, but Gallup is primarily -- well, I just couldn't say for sure.

Q Do you know of any Gallup oil wells in this area?



A Skelly's, the one I referred to.

Mr. Payne: That is within the horizontal limits of the Otero-Gallup pool?

A It was concluded.

Q (By Mr. Utz) This is, you contend, that it is a Gallup-bearing gas well. Do you think it is a possibility that it is a gas crop from the Gallup-Otero?

A I don't know. I haven't made a reservoir study.

Q It is that structure, isn't it?

A I believe it is.

Q Do you have the shut-in point when the well was shut-in? First, let me ask you: Was the well shut in before your 4-point test or after?

A Shut in before for pressure build-up.

Q Did you take various points during your 72 hour shut-in pressure or just beginning and end?

A It was constantly recorded.

Q Do you have that information?

A On the Gallup?

Q Yes.

A I believe the pressure build-up was included in this well test. Yes, here is the Gallup build-up.

Q It would appear that permeability is not red hot on this well.

A No, sir.

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Q Would you say that the build-up curve there indicated liquids in the well?

A No, I would not.

Q Referring to your cement program, I believe you circulated -- not circulated, but you ran cement from your 5 1/2 shoe at 7,045 to the top of 3,106?

A That is correct.

Q Is that a calculated top?

A Yes, it is.

Q Do you know what the Pictured Cliff interval is in this area?

A I can find it for you. The top of Pictured Cliff was at 2,380 and assume the next (this is the geologists' summary report) the La Ventana is the next top he has at 3,210.

Q Is that immediately below the Pictured Cliff?

A I didn't prepare this. He doesn't give the base of the Pictured Cliff. I don't believe that the top of the La Ventana would be the base because that was the purpose of our stage collar which was run at 2,504.

Q 2,504? Then you did run a stage collar?

A Yes; 90 sacks cement. Top of that cement, by temperature survey was 2,100 feet.

Q I think I would agree with you that the interval of the Pictured Cliff is properly protected. Did you have any Mesaverde



section in this well?

A I am sure they did, but I don't know exactly. The Mesaverde, is that referred to by any other formation name?

Q The three sections are Cliff House, Menefee and Point Lookout.

A Yes, we had that.

Q Do you have the tops of that?

A Cliff House, 3,912; top of Point Lookout, 4,557.

Q I think that is enough. Your cement is at 3,106, so it is covered. Were there any producing formations or shows above your cement at 2,100?

A No.

Q Any fresh waters in this area?

A Not to my knowledge, sir.

Q Do you know where the fresh waters were; where the potable waters were, above 250 feet?

A That area is all in the Largo Wash, and you have surface waters there at the wash.

MR. UTZ: Mr. Kastler, I don't know for sure if you actually asked for an exception to 107-2 which is an exception to not putting tubing in and flowing the Gallup up through tubing. You mentioned 107-3, which is setting it too high.

MR. KASTLER: I intended to ask for all necessary exceptions to Rule 107.

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MR. UTZ: Do you want to amend your application to ask for an exception to 107-3?

MR. KASTLER: Yes, if the Commission so please, I would like the application to be considered amended in that respect.

MR. UTZ: Are there any other questions of the witness?

MR. PAYNE: When you said that you didn't have any liquid in the Gallup, does that include water?

A That's correct; that includes water.

MR. PAYNE: So you have no liquids at all?

A That's correct.

REDIRECT EXAMINATION

BY MR. KASTLER:

A Mr. Mackay, during the drilling of this well or at any other time were any efforts made to complete in the Gallup formation or to develop the Gallup formation as an oil-producing zone?

A Yes, that was our primary purpose.

Q Would you describe the nature of your attempts to complete that as an oil-producing zone? Were there drill stamp tests taken?

A Yes.

Q Going through the Gallup?

A Yes.

Q Do you have the results of those tests?

A Here it is. Tested interval, 5,674 to 5,774, and we

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got gas at the surface in fifty minutes. The maximum reading at the end of a three hour test was 7,238 cubic feet per day, and we recovered 660 feet of heavily gas-cut drilling mud, no oil.

MR. KASTNER: That is all.

RECROSS-EXAMINATION

BY MR. UTZ:

Q Did you run any other DST's lower in the section?

A From 6,862 to 5,979; tube open two hours, and it was a weak flow, no gas to the surface; recovered 105 feet of slightly gas-cut mud.

Q You didn't run any DST's from the interval of 5,734 to 5,744?

A No; that was drill stem tests No. 3 and 4 that I quoted.

MR. UTZ: Any other questions of the witness?

MR. PAYNE: Did you fracture either one of these two zones, or both?

A They are both fractured.

MR. PAYNE: Did you use oil to fracture with?

A That is correct.

MR. PAYNE: Did you recover it?

A I believe there is still a small amount that is not; there is some of it not completely recovered.

MR. PAYNE: In the event that the Gallup eventually proves to be liquid productive, would you be willing to install



tubing?

A Yes, we certainly would.

MR. UTZ: Other questions? If not, the witness may be excused. Are there any statements in this case? If there are none, the case will be taken under advisement.

STATE OF NEW MEXICO )  
COUNTY OF BERNALILLO ) ss

I, the Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

*Jane Paige*  
Court Reporter

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1943, heard by me on April 27, 1960.  
*Shirley W.*, Examiner  
New Mexico Oil Conservation Commission

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ALBUQUERQUE, NEW MEXICO

PHONE CH 3-6691



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. 1943  
Order No. R-1660

APPLICATION OF GULF OIL CORPORATION  
FOR A GAS-GAS DUAL COMPLETION IN THE  
OTERO-GALLUP OIL POOL AND THE DAKOTA  
PRODUCING INTERVAL, RIO ARRIBA COUNTY,  
NEW MEXICO, AND FOR CERTAIN EXCEPTIONS  
TO RULE 107 OF THE COMMISSION RULES AND  
REGULATIONS.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on April 27, 1960, at Santa Fe, New Mexico, before Elvis A. Utz, 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 9th day of May, 1960, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz, 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 Apache-Federal Well No. 8, located in Unit D, Section 8, Township 24 North, Range 5 West, BHPM, Rio Arriba County, New Mexico.
- (3) That the applicant proposes to dually complete the said Apache-Federal Well No. 8 in such a manner as to permit the production of gas from the Otero-Gallup Oil Pool and the production of gas from the Dakota Producing Interval through the casing-tubing annulus and the tubing respectively.
- (4) That inasmuch as the applicant proposes to produce the Gallup gas through the casing-tubing annulus, an exception to Rule 107 (d) (2) of the Commission Rules and Regulations is requested.
- (5) That the evidence presented indicates that at the

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CASE No. 1943  
Order No. R-1660

present time the Gallup gas can be efficiently produced through the casing-tubing annulus since the well is not producing liquids.

(6) That should the Gallup formation begin, at any time, to make appreciable amounts of liquids the operator should be required to install tubing to produce the Gallup gas.

(7) That due to junk in the hole the operator found it necessary to set the tubing to the Dakota Producing Interval considerably more than 250 feet above the top of the pay-zone, and thus an exception to Rule 107 (d) (2) of the Commission Rules and Regulations is requested.

(8) That the dual completion of the said Apache-Federal Well No. 8 in the manner proposed by the applicant should be permitted.

IT IS THEREFORE ORDERED:

That the applicant be and the same is hereby authorized to dually complete its Apache-Federal Well No. 8, located in Unit D, Section 8, Township 24 North, Range 5 West, NMPM, Rio Arriba County, New Mexico, in such a manner as to permit the production of gas from the Otero-Gallup Oil Pool and the production of gas from the Dakota Producing Interval through the casing-tubing annulus and the tubing respectively, said tubing being set at a point higher than the 250-foot requirement of Rule 107 (d) (2).

PROVIDED HOWEVER, That should the said Apache-Federal Well No. 8 begin, at any time, to make appreciable amounts of liquids, the operator shall install tubing to produce the Gallup gas.

PROVIDED FURTHER, That the applicant shall complete, operate, and produce the said Apache-Federal Well No. 8 in accordance with the provisions of Section V, Rule 112-A.

PROVIDED FURTHER, That the applicant shall take packer-leakage tests upon completion and annually thereafter during the Annual Deliverability Test Period for the Dakota Producing Interval.

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 the applicant to comply with any requirement of this order, the Commission may terminate the

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CASE No. 1943  
Order No. R-1660

authority hereby granted and require the applicant or its successors and assigns to limit its activities to regular single-zone production in the interest of conservation.

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

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
*John Burroughs*  
JOHN BURROUGHS, Chairman

*Murray E. Morgan*  
MURRAY E. MORGAN, Member

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

esx/

OIL CONSERVATION COMMISSION  
1000 Rio Brazos Rd.  
Aztec, New Mexico

OIL CONSERVATION COMMISSION  
BOX 871  
SANTA FE, NEW MEXICO

DATE 4-5-60

RE: Proposed NSP \_\_\_\_\_

Proposed NSL \_\_\_\_\_

Proposed NFO \_\_\_\_\_

Proposed DC ✓

Gentlemen:

I have examined the application dated March 23, 1960  
for the GULF APACHE-150 # 9 D-8-24N-5W  
Operator Lease and Well No. S-T-R

and my recommendations are as follows:

Approve - subject to approval of  
application for exception to  
Rule 107 (4) (3)  
Operator advises application will be  
submitted shortly

Yours very truly,

OIL CONSERVATION COMMISSION

*A. R. Kendrick*

*Conceded as requested by  
your Santa Fe Office*

## NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

7-3-58

## APPLICATION FOR DUAL COMPLETION

Field Name <b>Otero-Gallup-Undesignated Dakota</b>		County <b>Rio Arriba</b>	Date <b>March 23, 1960</b>
Operator <b>Gulf Oil Corporation</b>		Lease <b>Apache-Federal</b>	Well No. <b>8</b>
Location of Well <b>D</b>	Section <b>8</b>	Township <b>24N</b>	Range <b>8W</b>

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual completion of a well in these same pools or in the same zones within one mile of the subject well? YES ☒ NO ☐

2. If answer is yes, identify one such instance: Order No. **R-1461**; Operator, Lease, and Well No.:

3. The following facts are submitted:		<b>Skelly Oil Co.</b>		<b>Jicarilla "B" No. 2</b>	
		Upper Zone		Lower Zone	
a. Name of reservoir		<b>Gallup</b>		<b>Dakota</b>	
b. Top and Bottom of Pay Section (Perforations)		<b>5676-5744</b>		<b>6782-6856</b>	
c. Type of production (Oil or Gas)		<b>Oil</b>		<b>Gas</b>	
d. Method of Production (Flowing or Artificial Lift)		<b>Flow</b>		<b>Flow</b>	

4. The following are attached. (Please mark YES or NO)

- ☒ a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
- ☒ b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- ☐ c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.\*
- ☐ d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

<b>Skelly Oil Co.</b>	<b>Box 426, Farmington, New Mexico</b>
<b>R &amp; G Drilling Co.</b>	<b>Box 1948, Farmington, New Mexico</b>
<b>Continental Oil Co.</b>	<b>Box 1121, Durango, Colorado</b>
<b>El Paso Natural Gas Co.</b>	<b>Box 907, Farmington, New Mexico</b>
<b>Amerada Petroleum Corp.</b>	<b>Box 1469, Durango, Colorado</b>
<b>E. B. Gossamy &amp; Sons</b>	<b>Box 12266, Dallas, Texas</b>
<b>American Petroleum Co. of Texas</b>	<b>Box 2159, Dallas, Texas</b>

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES ☒ NO ☐ If answer is yes, give date of such notification **March 23, 1960**

CERTIFICATE: I, the undersigned, state that I am the **Area Production Manager** of the **Gulf Oil Corporation** (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

**T. A. Trux**

Signature

- \* Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.
- NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard perforation unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.