

CASE 4580: Application of GULF FOR
A DUAL COMPLETION, LEA COUNTY,
NEW MEXICO.

4580

Application
Transcripts.

Small Exhibits

ETC.

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO



BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
August 11, 1971

Examiner Hearing

IN THE MATTER OF:

Application of Gulf Oil Corporation
for a dual completion, Lea County,
New Mexico.

Case No. 4580

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

1 MR. NUTTER: Call case 4580.

2 MR. HATCH: Case 4580. Application of Gulf Oil
3 Corporation for a dual completion, Lea County, New Mexico.

4 MR. KASTLER: If the Examiner please, I am Bill
5 Kastler, representing Gulf Oil, and I am from Midland,
6 and our principle witness this morning will be Mr. R. O.
7 Bobo.

8 (Witness sworn)

9 MR. KASTLER: We have previously marked our exhibits,
10 but for the record, they should be stamped, or one copy
11 of each should be stamped.

12 (Whereupon Applicant's Exhibits 1 through 3 were
13 marked for identification.)

14 R. O. BOBO

15 having been duly sworn, testified as follows:

16 DIRECT EXAMINATION

17 BY MR. KASTLER:

18 Q Would you state your name and your position with your
19 employer at this time?

20 A Name is Robert O. Bobo. I am employed by Gulf Oil
21 Corporation as District Production Engineer.

22 Q Have you previously been sworn before the New Mexico
23 Oil Conservation Commission or an Examiner hearing thereof --

24 A No, I have not.

25 Q -- and testified?

1 A No.

2 Q Would you review what colleges you went to and what
3 degrees you attained?

4 A I have a degree in Petroleum Engineering from the
5 University of Houston, 1949.

6 Q And after getting your degree, by whom were you employed,
7 and in what position?

8 A Hired out to Gulf Oil Corporation as an engineer, Petroleum
9 Engineer, and after going through a training program, I
10 was assigned as a field engineer in various fields of
11 along the Gulf Coast in Texas.

12 Then I was transferred over to South Louisiana and spent
13 fifteen years over there in various engineering capacities,
14 from field engineer to area engineer to production
15 superintendent, and then to the district office in
16 New Orleans, and then in July of 1970 I was transferred
17 to Midland as the District Proration Engineer.

18 Q Since being transferred to Midland, have you become
19 familiar with Gulf's property in New Mexico?

20 A To a certain extent, yes.

21 Q And are you familiar with Gulf's application in Case 4580?

22 A Yes, I am.

23 Q Will you please state what Gulf is seeking in this
24 application?

25 A We are seeking approval for a dual completion in a

1 conventional manner for the Harry Leonard in CT --
2 that is C track, the non-continuous track, well number
3 twelve in the Arrowhead Greyburg pool and the Blineberry
4 oil pool, Lea County, New Mexico.

5 Q Will you please identify exhibit number one and state what
6 is shown thereon?

7 A Exhibit number one is the plat showing the Harry Leonard
8 in CT-C lease, outlined in red, and described as the
9 North half of section thirty-six, Township twenty-one
10 South, range thirty-six East.
11 Well number twelve is circled and colored in red and is
12 located in unit A, 660 feet from the North line and
13 410 feet from the East line of section thirty-six.

14 Q Is exhibit number two a log of well number twelve?

15 A Yes, it is. It is a log of the Harry Leonard well
16 number twelve.

17 Q Please refer to that and state what is shown on this
18 exhibit.

19 A Okay. Exhibit number two shows the top and bottom of
20 the Blineberry and the top and bottom of the Arrowhead
21 Greyburg pools and it also reflects the perforations.
22 If you will note, the Blineberry perforations were
23 selectively perforated, extending from the top on 5528
24 down to 5836.
25 After we perforated the well, we did fract treat the zone

1 and tested it prior to perforating the Arrowhead Greyburg
2 formation.

3 Then we perforated the Greyburg perforations from 3674
4 to 4793, and also fract treated those perforations and
5 tested them prior to running producing equipment.

6 Q Will you now please refer to exhibit number three, identify
7 it, and testify what is shown thereon.

8 A Exhibit number three is a schematic diagram of the proposed
9 conventional dual completion.

10 You will note that we have nine and five-eighths inch
11 casing set at 1230 feet.

12 We cemented 500 sacks of cement, and the cement did
13 circulate.

14 We used two centralizers, one at 1140, and one at 1215.
15 We set seven-inch casing on bottom and cemented it with
16 two stages, using the DVT, used 265 sacks of cement, and
17 the temperature survey indicated the top cement at 2410
18 feet.

19 We dressed off our plug at 5970 feet and then made the
20 perforations as I have testified before, in the two
21 intervals.

22 We set a Baker model D production packer at 5448 with
23 the necessary fields to give us a positive seal between
24 the two pools.

25 We then ran the short string of tubing and then cored

1 it in the Baker parallel string and core, and I believe
2 that is all that is shown there.

3 Since we made the schematic drawing, we have run a string
4 of rods in the short string to pump the well.

5 Q Is the proposed method of dual completion of this well
6 a standard method?

7 A Yes. It utilizes the equipment that has been previously
8 been approved for dual wells.

9 Q Do you have any bottom-hole pressure information?

10 A We do not have bottom-hole pressure information from
11 either well in this pool.

12 However, the 1970 annual report of the New Mexico Oil and
13 Gas Engineering Committee shows an average January 1970
14 bottom-hole pressure for the Blineberry Oil Pool of 976.4
15 P.S.I. and a pool datum of a subsea of 2400 feet.

16 The well performance from the erratic Greyburg indicates
17 a somewhat lower bottom-hole pressure, in that we are
18 having to pump it initially, and, of course, it is
19 probably 2000 feet shallower than the Blineberry, so it
20 should have a slightly lower pressure.

21 Q Do you have any production tests information?

22 A Production information from this well bore is very limited,
23 as the well was just completed on July 13, 1971 on an 18
24 hour potential test ending at 7 A. M. on July 14.

25 The Blineberry completion flowed 122 barrels of net oil

1 at 114 barrels of analog water to thirty-six fourths
2 with a tubing pressure of 175 pounds.

3 Corrected gravity was 37.1, and we did not take a gas
4 measurement at that time.

5 We swabbed the Arrowhead Greyburg formation several days
6 trying to stimulate flow there, and it would flow
7 intermittantly, and from the swabbing it looks like we
8 should anticipate an allowable there of approximately
9 twenty-five barrels.

10 And we did over the weekend run rods in the hole, and the
11 well is now pumping, so we should have a potential test
12 on it pretty soon.

13 Q How many other completions are there in the Arrowhead
14 Greyburg pool?

15 A In the Arrowhead Greyburg pool, we have seven completions
16 on the Harry Leonard lease. There are other completions
17 on other leases, and the seven wells carry combined and
18 allowable of 139 barrels, so the twenty-five barrels
19 is probably about all we can anticipate from the well.
20 We have no Blineberry production on this lease.

21 Q Do you have drilling and completion cost figures concerning
22 the dual completion as compared to single wells?

23 A The estimated drilling and completion costs of the single
24 zone Arrowhead Greyburg well is approximately \$62,000,
25 for a single Blineberry well, \$100,000 for a total of

1 \$162,000 for two single wells.

2 The estimated cost to drill and complete a dual well is
3 \$120,000, so a savings of approximately \$42,000 can be
4 realized by dualing the well.

5 Q Did you obtain waivers from the offset operators?

6 A Yes, I did, and we actually furnished the originals with
7 our initial applications for multiple completions back
8 on July 9 before we were aware that it would require a
9 hearing.

10 I did bring Xerox copies with me if they are desired.

11 Q But the originals have been supplied?

12 A Yes, they have.

13 Q Do you have anything further to add in this case?

14 A No, sir.

15 Q Is this application in the interest of conservation and
16 prevention of waste?

17 A Yes, it is.

18 Q Were exhibits one, two, and three prepared by you or at
19 your direction and under your supervision?

20 A Yes, they were.

21 MR. KASTLER: This concludes our questions on direct,
22 and I would like to move at this time exhibits 1, 2, and
23 3 be admitted in evidence.

24 MR. NUTTER: Gulf's Exhibits 1 through 3 will be
25 admitted in evidence.

CROSS EXAMINATION

BY MR. NUTTER:

Q Now, Mr. Bobo, you stated that you don't have any bottom-hole pressure information on the Arrowhead Greyburg.

A No, we do not.

Q But the well is incapable of flowing, so you know the pressures --

A Yes.

Q -- is less than flowing pressure, anyway.

A Yes, sir.

Q Now --

A In fact, we anticipate some water production, too.

Q Now, this average pressure for the Blineberry Oil Pool, how far away is the Blineberry Oil Pool? Is this the field well or an extension or what?

A This is a pool well in the pool. Let me see if I brought a copy.

Q It appears there here North of your New Mexico twelve there may be a couple of Blineberry wells.

MR. KASTLER: Hanson bore?

MR NUTTER: Yes.

MR. KASTLER: The Mattern?

Q (Mr. Nutter continuing) Do you know the fluid level in the Arrowhead pool? What I am trying to find out is what the differential pressure is across the packer and whether the

dearnley-meier reporting services, inc.

1 packer is sufficient to withstand that differential
2 pressure between the two zones.

3 A Let's see, I have my drill report. When the Blineberry
4 was actually flowing, we were swabbing the Arrowhead.
5 Unfortunately, it doesn't show how deep they were swabbing,
6 but the Blineberry was flowing with 125 pounds when we
7 were swabbing the Greyburg; because we had -- when we
8 perforated the Blineberry and fract treated, we got a good
9 test on the Blineberry.

10 Then we set a Baker model D packer with a plug in it,
11 perforated the upper zone, fract treated it and swab
12 tested it, so we had great separation at that time and
13 had production information concerning the two zones.

14 Q Well, I imagine that the packer is sufficient to withstand
15 the differential, but for the record, would you determine
16 what the expected bottom-hole pressure is in each of
17 the two zones and let me know by letter --

18 A All right.

19 Q -- whether this differential is too much for a Baker
20 model D packer --

21 A Fine. Will do.

22 Q -- or not.

23 A Now, would you want a bottom-hole pressure on the Blineberry?
24 Now, we have rods in the short string. Would this sound
25 in the fluid level?

1 Q A calculated bottom-hole pressure in the Arrowhead
2 Greyburg would be sufficient.
3 A Fine. Yes.
4 Q And also, I would need the gravity for the two zones.
5 You mentioned the thirty-seven point one for the
6 Blinberry. Do you have a gravity for the Monument or
7 for the Greyburg?
8 A No, we do not. Not at this time.
9 Q Would you furnish that in your letter also?
10 A Yes.
11 Q And I would also like to have a G. O. R. for each of the
12 two zones if that is possible.
13 A All right.
14 Q Now, is this completion such as to render artificial lift
15 of either zone if possible, if necessary?
16 A Yes, sir. We have a pump C nipple in both string, and in
17 fact, we have run the rods in both strings and the long
18 string is set for -- up for short piping.
19 MR. NUTTER: Are there any further questions of Mr.
20 Bobo? He may be excused.
21 (Witness excused)
22 MR. NUTTER: Do you have anything further, Mr.
23 Kastler?
24 MR. KASTLER: Nothing further, thank you.
25 MR. NUTTER: Does anyone have anything they wish to

dearnley-meier reporting service

1 offer in Case 4580? Will take the case under
2 advisement. We will withhold an order until we receive
3 this information.

4 THE WITNESS: Fine. All right, sir.
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

1	<u>I N D E X</u>		
2	<u>WITNESS</u>		<u>PAGE</u>
3	Robert O. Bobo		2
4	Direct Examination by Mr. Kastler		2
5	Cross Examination by Mr. Nutter		9
6			
7	<u>EXHIBITS</u>	<u>MARKED</u>	<u>OFFERED AND</u>
8			<u>ADMITTED</u>
9	Applicant's 1 through 3	2	8
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			

1 STATE OF NEW MEXICO)
2 COUNTY OF BERNALILLO)

3 I, LINDA MALONE, Court Reporter, do hereby certify that
4 the foregoing and attached Transcript of Hearing before the
5 New Mexico Oil Conservation Commission was reported by me; and
6 that the same is a true and correct record of the said
7 proceedings, to the best of my knowledge, skill and ability.

8
9
10 Linda Malone
11 Court Reporter
12
13
14
15
16
17
18
19
20
21

22 I do hereby certify that the foregoing is
23 a complete record of the proceedings in
24 the Examiner hearing of Case No. 1580,
25 heard by me on 8/11, 1971.

[Signature], Examiner
New Mexico Oil Conservation Commission



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

August 19, 1971

GOVERNOR
BRUCE KING
CHAIRMAN

**LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER**

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

Mr. Bill Kastler
Gulf Oil Corporation
Post Office Drawer 1150
Midland, Texas 79701

Re: Case No. 4580
Order No. R-4182
Applicant:

Gulf Oil Corporation

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. Porter, Jr.

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC _____ x
Artesia OCC _____
Aztec OCC _____

Other _____



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

August 19, 1971

GOVERNOR
BRUCE KING
CHAIRMAN

**LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER**

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

Mr. Bill Kastler
Gulf Oil Corporation
Post Office Drawer 1150
Midland, Texas 79701

Re: Case No. 4580
Order No. R-4182
Applicant:

Gulf Oil Corporation

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. Porter, Jr.

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC **x**

Artesia OCC

Aztec OCC

Other

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. 4580
Order No. R-4182

APPLICATION OF GULF OIL
CORPORATION FOR A DUAL
COMPLETION, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on August 11, 1971, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 19th day of August, 1971, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, 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, seeks authority to complete its Harry Leonard (NCT-C) Well No. 12, located in Unit A of Section 36, Township 21 South, Range 36 East, NMPM, Lea County, New Mexico, as a dual completion (conventional) to produce oil from the Arrowhead-Grayburg and Blinbry Oil Pools through parallel strings of 2 3/8-inch tubing.
- (3) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.
- (4) That approval of the subject application will prevent waste and protect correlative rights.

-2-

CASE NO. 4580
Order No. R-4182

IT IS THEREFORE ORDERED:

(1) That the applicant, Gulf Oil Corporation, is hereby authorized to complete its Harry Leonard (NCT-C) Well No. 12, located in Unit A of Section 36, Township 21 South, Range 36 East, NMPM, Lea County, New Mexico, as a dual completion (conventional) to produce oil from the Arrowhead-Grayburg and Blinebry Oil Pools through parallel strings of 2 3/8-inch tubing.

PROVIDED HOWEVER, that the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order;

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

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



Bruce King
BRUCE KING, Chairman

Alex J. Armijo
ALEX J. ARMIJO, Member

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

S E A L

dr/

Gulf Oil Company - U.S.

EXPLORATION AND PRODUCTION DEPARTMENT
MIDLAND DISTRICT

W. B. Hopkins
DISTRICT MANAGER
J. A. Hord
DISTRICT EXPLORATION
MANAGER
J. L. Pike
DISTRICT PRODUCTION
MANAGER
H. E. Braunig, Jr.
DISTRICT PRODUCTION
MANAGER
M. B. Moseley
DISTRICT SERVICES MANAGER

August 13, 1971

RECEIVED
AUG 16 1971
OIL CONSERVATION COMM

P. O. Drawer 1150
Midland, Texas 79701

Oil Conservation Commission
State of New Mexico
Post Office Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. D. S. Nutter

Re: Case 4580 - Application of Gulf Oil
Corporation for a Dual Completion,
Lea County, New Mexico

Dear Mr. Nutter:

At the Examiner Hearing of August 11, 1971, you requested additional supporting information for Case 4580, the proposed dual completion of Gulf's Harry Leonard (NCT-C) Well No. 12.

The following information is respectfully submitted:

Arrowhead-Grayburg Pool (Upper Completion)

- (1) Oil Gravity: 34.2° API @ 60°F. Crude from the Arrowhead-Grayburg Pool underlying the Harry Leonard (NCT-C) Lease is sour. It will be purchased by Shell Pipeline.
- (2) Calculated Bottom Hole Pressure: 505 psia (Mid-perforation datum).
- (3) Well Test Information from test ending 7 a.m., 8-13-71:

Gas Volume:	34 MCF/day
Oil Volume:	38 Bbls/day
Water Volume:	93 Bbls/day
Gas-Oil Ratio:	895/1
Tubing Pressure:	Pumping

Blaine Oil Pool (Lower Completion)

- (1) Oil Gravity: 37.4° API @ 60°F. Crude from the Blaine Oil Pool is classified as Intermediate Sweet. It will be purchased by Admiral Crude.
- (2) Calculated Bottom Hole Pressure: 1504 psia (Mid-perforation datum).



A DIVISION OF GULF OIL CORPORATION

Oil Conservation Commission

-2-

August 13, 1971

(3) Well Test Information from test ending 7 a.m.,
8-5-71:

Gas Volume:	479 MCF/day
Oil Volume:	118 Bbls/day
Water Volume:	12 Bbls/day
Gas-Oil Ratio:	4059/1
Tubing Pressure:	260 psig

Please advise should you require additional information.

Yours very truly,

H. E. Braunig, Jr. *H. E. Braunig, Jr.*
H. E. BRAUNIG, JR.

ROB:mn

Docket No. 17-71

DOCKET: EXAMINER HEARING - WEDNESDAY - AUGUST 11, 1971

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or
Elvis A. Utz, Alternate Examiner:

CASE 4563: (Continued from the July 28, 1971, Examiner Hearing)

Application of Corinne Grace for special gas-oil ratio limitation and pressure maintenance project, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to produce her State Well No. 1 located in Unit A of Section 1, Township 15 South, Range 29 East, Double L-Queen Pool, Chaves County, New Mexico, with no gas-oil ratio limitation, strip the liquids, and institute a pressure maintenance project by the injection of all said gas back into the producing formation through her State Well No. 2 located in Unit B of said Section 1. Applicant further seeks to transfer an oil allowable from said Well No. 2 to said Well No. 1.

CASE 4575: Application of Anadarko Production Company for the creation of a new gas pool, or, in the alternative, the amendment of the special pool rules for an existing pool and pool commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new San Andres gas pool for its Lou Wortham Well No. 6 located in Unit E of Section 11, Township 22 South, Range 37 East, or, in the alternative, the amendment of the special rules and regulations governing the South Eunice-San Andres Pool to provide for the classification of oil and gas wells, spacing and well location requirements, and an allocation formula for withdrawals by oil and gas wells. In the event the Commission creates the above-requested gas pool, applicant further seeks authority to commingle on the surface the liquid hydrocarbons from the above-described Well No. 6 and its Wortham Well No. 5, a South Eunice-San Andres Pool well, located in Unit C of said Section 11.

CASE 4576: Application of Continental Oil Company for unorthodox oil well locations, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill two oil wells as infill wells in its Eumont Hardy Unit Area, Eumont Pool, Lea County, New Mexico, at unorthodox locations as follows:

Examiner Hearing - Wednesday
August 11, 1971
-2-

Docket No. 17-71

(Case 4576 continued)

TOWNSHIP 21 SOUTH, RANGE 37 EAST
Eumont Hardy Unit Well No. 48 to
be located 1492 feet from the
North line and 560 feet from the
East line of Section 6;

Eumont Hardy Unit Well No. 49 to
be located 3660 feet from the South
line and 1980 feet from the West
line of Section 6.

CASE 4577: Application of Petroleum Corporation for the creation of a new pool, special rules therefor, and discovery allowable, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Wolfcamp oil pool for its Petco State Well No. 2 located in Unit N of Section 26, Township 19 South, Range 29 East, Eddy County, New Mexico, and the promulgation of special rules therefor, including a provision for 160-acre spacing and proration units. Applicant further seeks the assignment of an oil discovery allowable in the amount of approximately 48,110 barrels to said well.

CASE 4578: Application of Harvey E. Yates Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Empire South Deep Unit Area comprising 4968 acres, more or less, of Federal, State and Fee lands in Townships 17 and 18 South, Ranges 28 and 29 East, Eddy County, New Mexico.

CASE 4579: Application of Stephen C. Helbing for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Juniper Canyon Unit Area comprising 6,880 acres, more or less, of Federal, State and Fee lands in Township 24 South, Range 25 East, Eddy County, New Mexico.

CASE 4580: Application of Gulf Oil Corporation for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Harry Leonard (NCT-C) Well No. 12 located in Unit A of Section 36, Township 21 South, Range 36 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Arrowhead-Grayburg and Blinbry Pools through parallel strings of tubing.

Examiner Hearing - Wednesday
August 11, 1971

-3-

Docket No. 17-71

(Continued from the July 28, 1971, Examiner Hearing)
CASE 4570: Application of Shenandoah Oil Corporation for salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the interval from 1760 feet to 1840 feet by injection down the annulus of its Read & Stevens "M" Federal Well No. 1 located in Unit K of Section 28, Township 6 South, Range 27 East, Haystack-Cisco Gas Pool, Chaves County, New Mexico.

El Paso Natural Gas Company

El Paso, Texas 79999

July 16, 1971

71 JUL 20 PM 1 05

Case 45-80

New Mexico Oil Conservation Commission
Oil and Gas Division
Post Office Box 871
Santa Fe, New Mexico 87501

Attention: Mr. A. L. Porter, Jr.

Gentlemen:

El Paso Natural Gas Company is in receipt of Gulf Oil Corporation's application for approval of a dual completion for their Harry Leonard (NCT-C) #12 Well, Section 36, T-21-S, R-36-E, Lea County, New Mexico, in the Arrowhead and Blinbry oil pools.

This is to advise you that El Paso has no objection to the granting of such application.

Very truly yours,



D. H. RAINEY
Assistant Manager
Gas Proration Department

DHR:ps
cc: Gulf Oil Corporation
P. O. Box 670
Hobbs, New Mexico 88240
Attention: Mr. C. D. Borland

OIL CONSERVATION COMMISSION
DISTRICT

71 JUL 19 AM 8 54

Case 4580

OIL CONSERVATION COMMISSION
BOX 871
SANTA FE, NEW MEXICO

DATE July 13, 1971

Re: Proposed NSP
Proposed Triple
Proposed NSL
Proposed NFO
Proposed DC X

Gentlemen:

i have examined the application dated 7/9/71

for the Gulf Oil Corp. Harry Leonard (NCT-C) #12-A 36-21-36
Operator Lease and Well No. S-T-R

and my recommendations are as follows:

O.K.---J.D.R.

O.K.---J.W.R.

Yours very truly,

Attn: Jim Kapteina
The applications for S-T office
are being held up for waivers.
They jumped the gun a little
when they sent one to us. You should
have yours in a few days.
Melba

OIL CONSERVATION COMMISSION
DISTRICT

71 JUN 16 AM 6 13

Case 4580

OIL CONSERVATION COMMISSION
BOX 871
SANTA FE, NEW MEXICO

DATE July 13, 1971

Re: Proposed NSP
Proposed Triple
Proposed NSL
Proposed NFO
Proposed DC X

Gentlemen:

I have examined the application dated 7/9/71

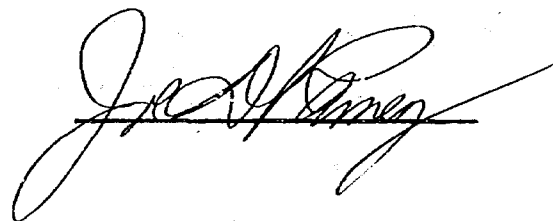
for the Gulf Oil Corp. Harry Leonard (NCT-C) #12-A 36-21-36
Operator Lease and Well No. S-T-R

and my recommendations are as follows:

O.K.---J.D.R.

O.K.---J.W.R.

Yours very truly,



PROPOSED DUAL COMPLETION - HARRY LEONARD (NCT-C) NO. 12

Blinebry Oil with Arrowhead-Grayburg Oil
660' FNL & 410' FEL Section 36, T-21-S, R-36-E
LEA COUNTY, NEW MEXICO

7" Csg. "H" = 11.5' Gr. Elev. = 3504'

9-5/8" OD 36# K-55 Csg. set at 1230'
Cmtd. w/500 sacks. Circ.
Cemt. at 1215' & 1140'

2-3/8" OD EUE J-55 4.70# 8 RT Tbg.
with cplgs. beveled both ends

SN approx. 3644'

Baker Parallel String Anchor
approx. 3650'

Baker receptacle seal assembly & anchor
seal assembly approx. 5447'
Baker Model D Packer 5448'

SN approx. 5700'

PC approx. 5730'

7" OD 20# & 23# K-55 Csg. set at 5999'.
Cmtd. 2 stages w/665 sacks. DV tool at 3917'.
TS cmt. at 2410'.

9 cent. from 5910-5280' &
6 cent. from 3885-3525'

2-3/8" OD EUE J-55 4.70# 8 RT Tbg.
(Tail Pipe - Same)

Arrowhead-Grayburg Perfs.
Four 1/2" JHPF

Blinebry Perfs.
Four 1/2" JHPF

7-14 BL 120 net
114 load
30/64
469 rev 175
37.1 gpm

Case No. 4580
Exhibit No. 3
August 11, 1971

arrowhead size
62,000
Blinebry size
180,000
dual 120,000
save 42,000

BHP 1470 hpt JMOGEE
BL 976.4 rev per
area.
will perform
on Arrowhead
indicates low
area

artificial
lift

Arrowhead 6000'
swab 80 form and large
blow intermittent
expect about 25 bbls
draw

no gas
mean,

Gulf Oil Company U.S.

HOBBS PRODUCTION AREA

C. D. Borland
AREA PRODUCTION MANAGER

July 9, 1971

P. O. Box 670
Hobbs, New Mexico 88240

71 JUL 21 AM 8 14

Case 4580

Oil Conservation Commission
State of New Mexico
P. O. Box 871
Santa Fe, N.M. 87501

Re: Application of Gulf Oil Corporation for Approval of Multiple Completion in Arrowhead and Blinebry Oil Pools, Lea Co., N.M.

Gentlemen:

Gulf Oil Corporation herewith submits application for approval of a multiple completion for the Harry Leonard (NCT-C) Well No. 12, located 660 feet from the north line and 410 feet from the east line of Section 36, Township 21 South, Range 36 East, Lea County, New Mexico. It is proposed to complete this well in the Arrowhead Oil and Blinebry Oil Pools and to produce each zone through parallel strings of 2-3/8 inch tubing installed in 7 inch casing.

Attached is completed form Application for Multiple Completion, lease plat, diagrammatic sketch and log.

Respectfully submitted,

C. D. Borland
C. D. BORLAND
Area Production Manager

GS:ec
Attachments *

cc: New Mexico Oil Conservation Commission
P. O. Box 2045
Hobbs, N.M. 88240

Offset Operators
(Listed on Application for Multiple Completion)

*Waivers from offset operators are attached.



A DIVISION OF GULF OIL CORPORATION

DOCKET MAILED

Date *7-30-71*

NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
APPLICATION FOR MULTIPLE COMPLETION

Form C-107
5-1-61

Case 4580

Operator Gulf Oil Corporation		County Lea	Date July 9, 1971
Address Box 670, Hobbs, N.M.		Lease H. Leonard (NCT-C)	Well No. 12
Location of Well	Unit A	Section 36	Township 21S
			Range 36E

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

3. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	Arrowhead - <i>Grayburg</i>	-	Blinbry
b. Top and Bottom of Pay Section (Perforations)	3674-3793'	-	5528-5836'
c. Type of production (Oil or Gas)	Oil	-	Oil
d. Method of Production (Flowing or Artificial Lift)	Artificial Lift	-	Flow

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

- | | | |
|-------------------------------------|--------------------------|---|
| Yes | No | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | a. Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and 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. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 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. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | c. Waivers consenting to such multiple completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.* |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 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.

El Paso Natural Gas Co., 600 Bldg. of Southwest, Midland, Texas 79701

Hanson Oil Corp., Box 1515, Roswell, N.M. 88201

J. Hiram Moore, Gulf Bldg., Midland, Texas 79701

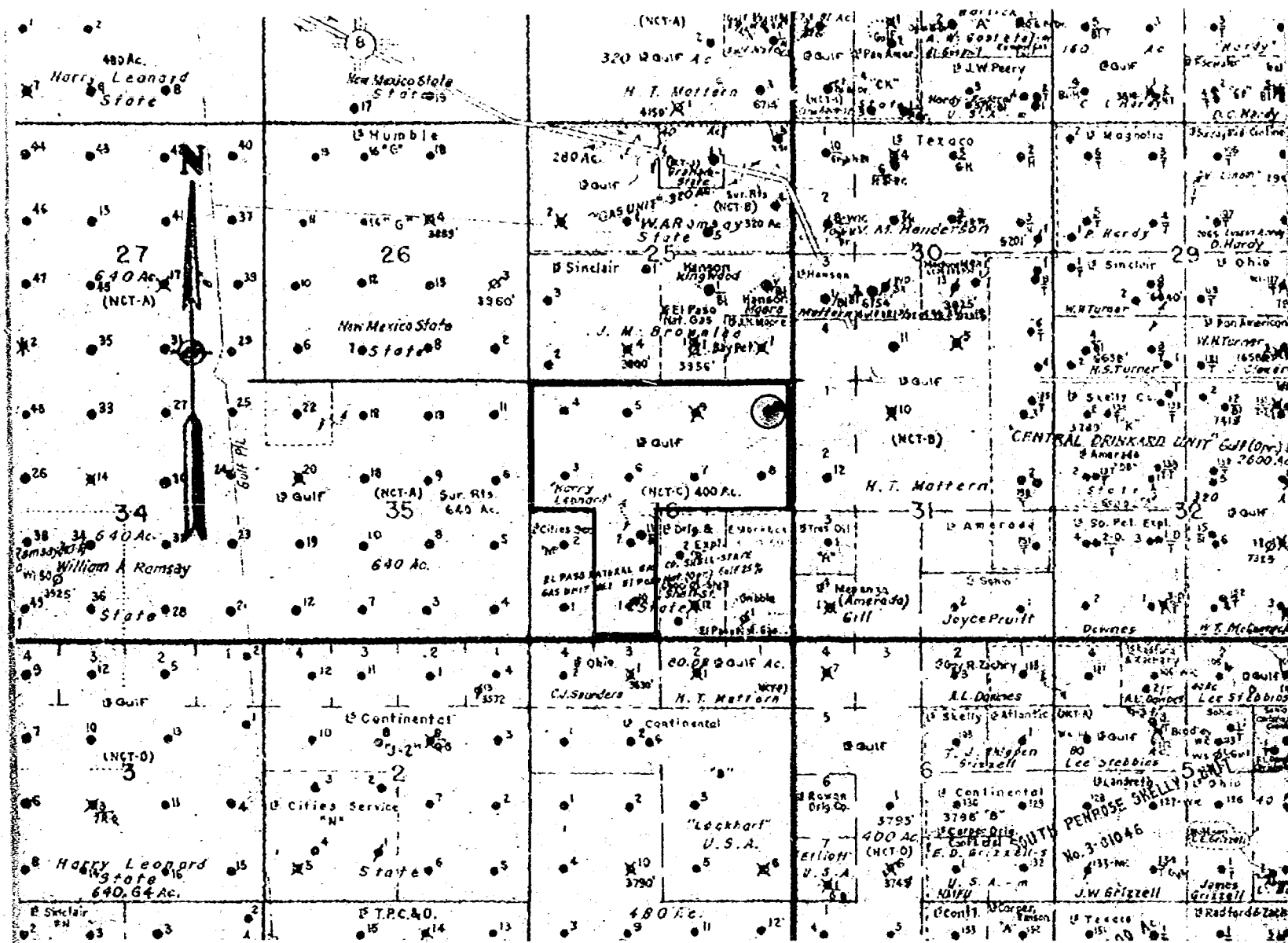
6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO _____. If answer is yes, give date of such notification _____.

CERTIFICATE: I, the undersigned, state that I am the Area Prod. Mgr. 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.

C. B. Borland
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 multiple completion will result in an unorthodox well location and/or a non-standard proration unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.



WELL NO. 12

HARRY LEONARD (NCT-C) LEASE

660 FNL & 410 FEL SEC. 36, T-21-S, R-36-E

LEA COUNTY, NEW MEXICO

DUAL COMP. IN BLINEBRY OIL & ARROWHEAD OIL POOLS

LEGEND



PERTINENT LEASE



PERTINENT WELL

Case 4580

PROPOSED DUAL COMPLETION - HARRY LEONARD (NCT-C) NO. 12
 Blinebry Oil with Arrowhead Oil
 660' FNL & 410' FEL Section 36-T21S-R36E

7" csg. "H" = 11.5' Gr. Elev. = 3504'

9-5/8" OD 36# K-55 Csg. set @ 1230'
 Cmtd. with 500 sacks. Circ.

2-3/8" OD EUE J-55 4.70# 8 RT Tbg.
 with cplgs. beveled both ends

SN approx. 3644'

Baker parallel string anchor
 approx. 3650'

2-3/8" OD EUE J-55 4.70# 8 RT Tbg.
 (tail pipe - same)

3674-76'
 3726-28'
 3768-70'
 3791-93'

Proposed Arrowhead perms.
 Four 1/2" JHPF

Baker receptacle seal assembly & anchor
 seal assembly approx. 5447'
 Baker Model D Packer approx. 5450'

SN approx. 5700'

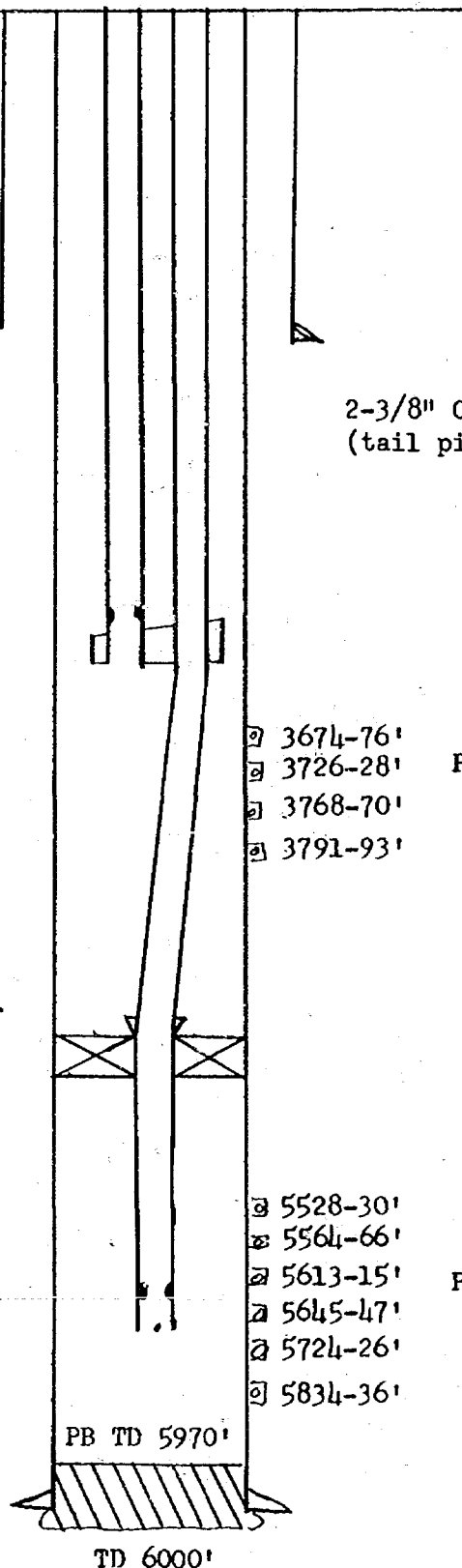
PC approx. 5730'

5528-30'
 5564-66'
 5613-15'
 5645-47'
 5724-26'
 5834-36'

Proposed Blinebry perms.
 Four 1/2" JHPF

7" OD 20# & 23# K-55 Csg. set @ 5999'.
 Cmtd. 2 stages w/665 sacks. DV tool @
 3917'. TS cmt. @ 2410'.

9 cent. from 5910-5280' &
 6 cent. from 3885-3525'



Case 4580

El Paso Natural Gas Company

El Paso, Texas 79999

July 16, 1971

New Mexico Oil Conservation Commission
Oil and Gas Division
Post Office Box 871
Santa Fe, New Mexico 87501

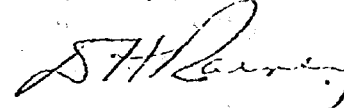
Attention: Mr. A. L. Porter, Jr.

Gentlemen:

El Paso Natural Gas Company is in receipt of Gulf Oil Corporation's application for approval of a dual completion for their Harry Leonard (NCT-C) #12 Well, Section 36, T-21-S, R-36-E, Lea County, New Mexico, in the Arrowhead and Blinbry oil pools.

This is to advise you that El Paso has no objection to the granting of such application.

Very truly yours,



D. H. RAINEY
Assistant Manager
Gas Proration Department

DHR:ps

cc: Gulf Oil Corporation
P. O. Box 670
Hobbs, New Mexico 88240
Attention: Mr. C. D. Borland

bec: Mr. R. F. Lemon
Mr. T. W. Bittick
Mr. E. J. Coel

Clare 45-80

Gulf Oil Company - U.S.

HOBBS PRODUCTION AREA

July 7, 1971

C. D. Borland
AREA PRODUCTION MANAGER

P. O. Box 670
Hobbs, New Mexico 88240

J. Hiram Moore
Gulf Building
Midland, Texas 79701

Blinebry
These lease rights were
farmed out to Hanson Oil
Co. Roswell.

Gentlemen:

You might please contact them.

Gulf Oil Corporation requests your approval of a multiple completion of the Arrowhead and Blinebry oil pools in our Harry Leonard (NCT-C) Well No. 12 located in Unit A, Section 36, T-21S, R-36E, Lea County, New Mexico.

Your expeditious handling of this waiver will be greatly appreciated.

Yours very truly

C. D. Borland
C. D. BORLAND
Area Production Manager

GS:ec
Attachments

We as offset operator waive any objection to Gulf Oil Corporation's multiple completion of the above-described well.

J. Hiram Moore

By: _____

Date: 7-12-71



A DIVISION OF GULF OIL CORPORATION

Car 4580

Gulf Oil Company - U.S.

HOBBS PRODUCTION AREA

July 7, 1971

C. D. Borland
AREA PRODUCTION MANAGER

P. O. Box 670
Hobbs, New Mexico 88240

Hanson Oil Corporation
Box 1515
Roswell, N.M. 88201

Gentlemen:

Gulf Oil Corporation requests your approval of a multiple completion of the Arrowhead and Blinebry oil pools in our Harry Leonard (NCT-C) Well No. 12 located in Unit A, Section 36, T-21S, R-36E, Lea County, New Mexico.

Your expeditious handling of this waiver will be greatly appreciated.

Yours very truly

C. D. Borland
C. D. BORLAND
Area Production Manager

GS:ec
Attachments

We as offset operator waive any objection to Gulf Oil Corporation's multiple completion of the above-described well.

Hanson Oil Corporation
By: *Ernest W. Hanson*

Date: July 10, 1971



A DIVISION OF GULF OIL CORPORATION

Case #580

DRAFT
GMH/dr

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. 4580

Order No. R-4182

APPLICATION OF GULF OIL CORPORATION
FOR A DUAL COMPLETION, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on
August 11, 1961, at Santa Fe, New Mexico, before Examiner
Daniel S. Nutter.

NOW, on this day of August, 1961, the Commission,
a quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, 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,
seeks authority to complete its Harry Leonard (NCT-C)
Well No. 12, located in Unit A of Section 36, Township
21 South, Range 36 East, NMPM, Lea County, New
Mexico, as a dual completion (conventional) oil
--(combination)-- to produce gas--
(tubingless)
Blinebry oil
from the Arrowhead-Grayburg and / Pook through parallel
2 3/8 inch strings of tubing.

(3) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.

(4) That approval of the subject application will prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Gulf Oil Corporation, is hereby authorized to complete its Harry Leonard (NCT-C) Well No. 12, located in Unit A of Section 36, Township 21 ^{South} ~~North~~, Range 36 ^{East} ~~West~~, NMPM, Lea County, New Mexico, as a dual completion (conventional) oil (combination)- to produce gas- (tubingless) from the Arrowhead-Grayburg and Blinebry oil Pool through parallel ^{2 3/8 inch} strings of tubing.

PROVIDED HOWEVER, that the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order;

PROVIDED FURTHER, that the applicant shall take packer-leakage tests upon completion and annually thereafter during the Annual ~~zone-segregation~~ Arrowhead-Grayburg and Blinebry oil Pool Gas-Oil Ratio Test Period for the Deliverability

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

CASE 4581:

SOUTHEASTERN NEW MEXICO
NOMENCLATURE