

CASE 3222: Application of GULF for
the dual completion of its HARRY
LEONARD (NCT-C) WELL NO. 11.

CASE NO.
3222

Application,
TRANSCRIPTS,
SMALL Exhibits
ETC.

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

P. O. BOX 2088
SANTA FE

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

March 30, 1965

Mr. Bill Kastler
Gulf Oil Corporation
Post Office Box 1938
Roswell, New Mexico

Re: Case No. 3222
Order No. R-2888
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

ir/

Carbon 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. 3222
Order No. R-2888

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 March 24, 1965, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 30th day of March, 1965, 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. 11, located in Unit K of Section 36, Township 21 South, Range 36 East, NMPM, Lea County, New Mexico, as a dual completion (conventional) to produce oil from an undesignated Blinebry pool and from the Arrowhead-Drinkard Pool through parallel strings of 2 3/8-inch tubing, with separation of zones by a packer set at approximately 6465 feet.

(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. 3222
Order No. R-2888

IT IS THEREFORE ORDERED:

(1) That the applicant, Gulf Oil Corporation, is hereby authorized to complete its Harry Leonard (NCT-C) Well No. 11, located in Unit K of Section 36, Township 21 South, Range 36 East, NMPM, Lea County, New Mexico, as a dual completion (conventional) to produce oil from an undesignated Blinebry pool and from the Arrowhead-Drinkard Pool through parallel strings of 2 3/8-inch tubing, with separation of zones by a packer set at approximately 6465 feet;

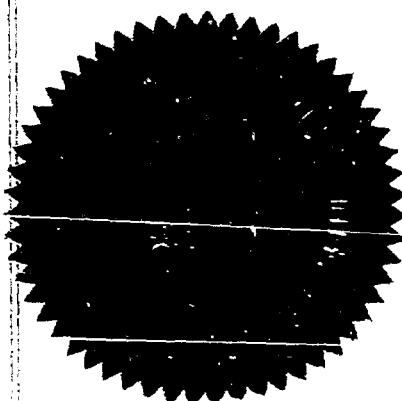
PROVIDED HOWEVER, that the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order;

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 Arrowhead-Drinkard 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



Jack M. Campbell

JACK M. CAMPBELL, Chairman

Guyton B. Hays

GUYTON B. HAYS, Member

A. L. Porter, Jr.

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

esr/

DOCKET: EXAMINER HEARING - WEDNESDAY - MARCH 24, 1965

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

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

- CASE 3219: (Continued from March 10, 1965 Examiner Hearing)
Application of Humble Oil & Refining Company for a waterflood expansion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its State "N" Lease waterflood project by the conversion to water injection of 13 additional wells located in Sections 19, 20, 29, 30 and 31, Township 22 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.
- CASE 3221: Application of Shoreline Exploration Company for an unorthodox location and special cementing and casing program, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill and complete its Snyder #2 at an unorthodox location 1090 feet from the South line and 2310 feet from the East line of Section 16, Township 20 South, Range 33 East, Lea County, New Mexico. Casing, cementing and plug and abandon procedure would conform to statewide rules and regulations, and would be in exception to the casing and cementing rules prescribed for the oil and potash area by Order No. R-111-A.
- CASE 3222: Application of Gulf Oil Corporation for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its Harry Leonard (NCT-C) Well No. 11 located in Unit K of Section 36, Township 21 South, Range 36 East, Lea County, New Mexico, to produce oil from an undesignated Blinbry Pool and from the Arrowhead Drinkard Pool through parallel strings of tubing.
- CASE 3223: Application of Tenneco Oil Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Wolfcamp formation through the open-hole interval from 10,537 feet to 10,970 feet in its Kemnitz Wolfcamp Unit Well No. 6 located in Unit I of Section 30, Township 16 South, Range 34 East, Lea County, New Mexico.
- CASE 3224: Application of Sinclair Oil & Gas Company for a non-standard proration unit and an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 320-acre non-standard gas proration unit comprising the S/2 of Section 1, Township 24 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, to be dedicated to its Curry WN Well No. 1 at an unorthodox location 660 feet from the South and East lines of said Section 1.

Gulf Oil Corporation

ROSWELL PRODUCTION DISTRICT

W. B. Hopkins
DISTRICT MANAGER
M. I. Taylor
DISTRICT PRODUCTION
MANAGER
F. O. Mortlock
DISTRICT EXPLORATION
MANAGER
H. A. Rankin
DISTRICT SERVICES MANAGER

March 1, 1965

P. O. Drawer 1938
Roswell, New Mexico 88201

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

Re: Application of Gulf Oil Corporation
For Approval of a Dual Completion for
the Harry Leonard (NCT-C) Well No. 11,
2200' FSL and 2200' FWL Section 36,
Township 21 South, Range 36 East,
Arrowhead Drinkard and Undesignated
Blinsbry Oil Pools, Lea County,
New Mexico

Gentlemen:

Enclosed herewith in triplicate is completed Form C-107, Application
for Multiple Completion, with attachments, concerning the subject dual
completion.

It is requested that this matter be set for examiner hearing at
an early date.

Respectfully submitted,

GULF OIL CORPORATION



M. I. Taylor

Attachments
JHH:sz

cc. New Mexico Oil Conservation Commission
Post Office Box 1980
Hobbs, New Mexico 88240
All Offset Operators



DOCKET MAILED

Date 3-9-65

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

Form C-107
5-1-61

Operator GULF OIL CORPORATION		County LEA	Date MARCH 1, 1965
Address POST OFFICE BOX 1938 ROSWELL, NEW MEXICO 88201		Lease HARRY LEONARD (NCT-C)	Well No. 11
Location of Well K	Section 36	Township 21 South	Range 36 East

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 NO
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	UNDESIGNATED BLINEBRY		ARROWHEAD DRINKARD
b. Top and Bottom of Pay Section (Perforations)	5800 - 5925		6550 - 6620
c. Type of production (Oil or Gas)	Oil		Oil
d. Method of Production (Flowing or Artificial Lift)	Flow		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 type="checkbox"/> | <input checked="" 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.

JACK MARKHAM, Great Plains Life Building, Lubbock, Texas 79402
HUMBLE OIL & REFINING COMPANY, Post Office Box 1650, Hobbs, New Mexico 88240
CITIES SERVICE PETROLEUM COMPANY, Post Office Box 97, Hobbs, New Mexico 88240
SINCLAIR OIL & GAS CORPORATION, Post Office Box 1920, Hobbs, New Mexico 88240
PENROSE PRODUCTION COMPANY, 1813 Fair Building, Fort Worth, Texas 76102
MARATHON OIL COMPANY, Post Office Box 2107, Hobbs, New Mexico 88240
J. H. MOORE, 916 East Green Acres Drive, Hobbs, New Mexico 88240
EL PASO NATURAL GAS COMPANY, Post Office Box 1492, El Paso, Texas 79999

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 March 1, 1965.

CERTIFICATE: I, the undersigned, state that I am the District 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.

GULF OIL CORPORATION

By: M. I. Taylor
M. I. Taylor, Signature Dist. Production Mgr.

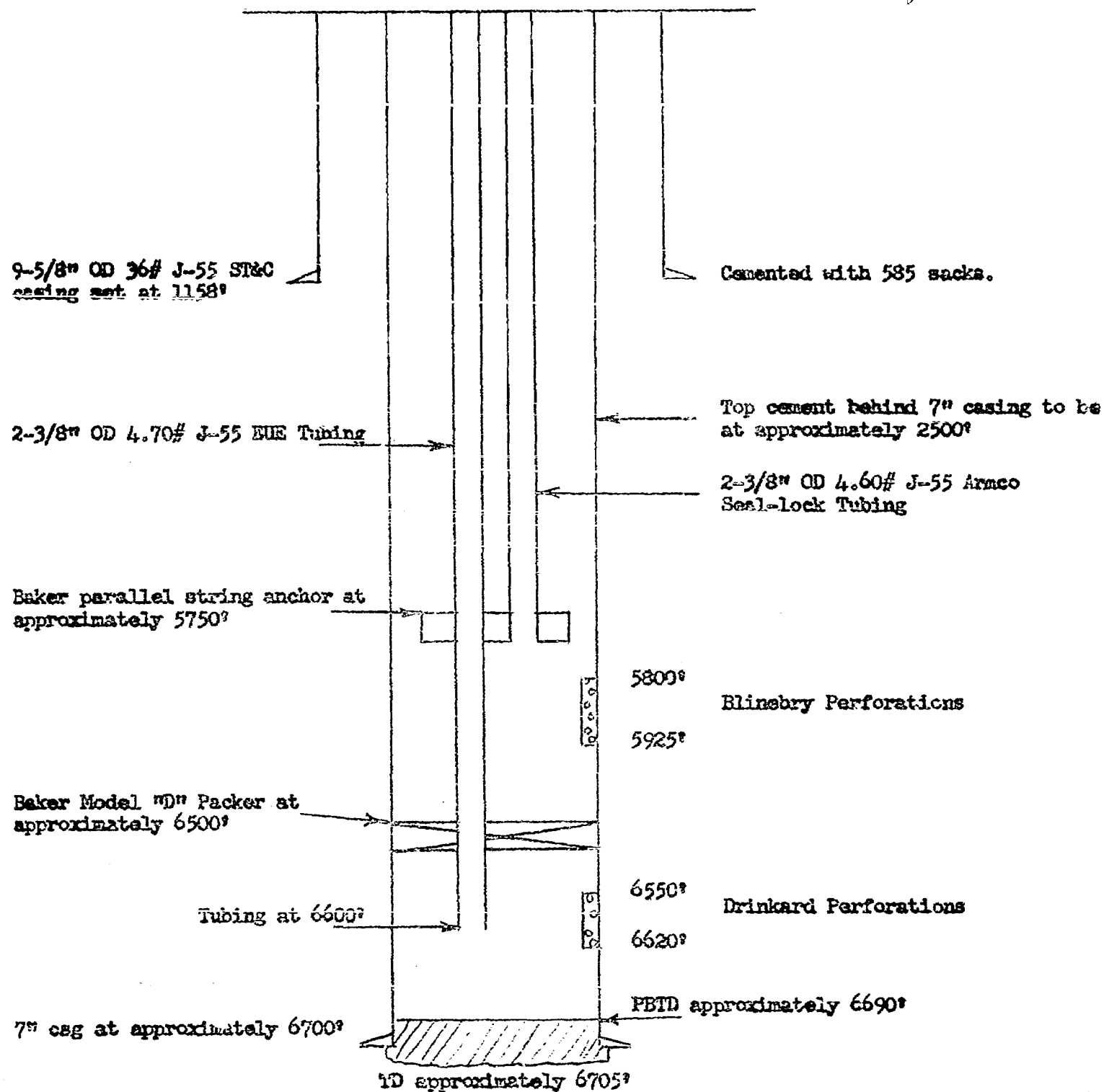
*Should waivers from all offset operators not accompany application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest 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 perforation unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

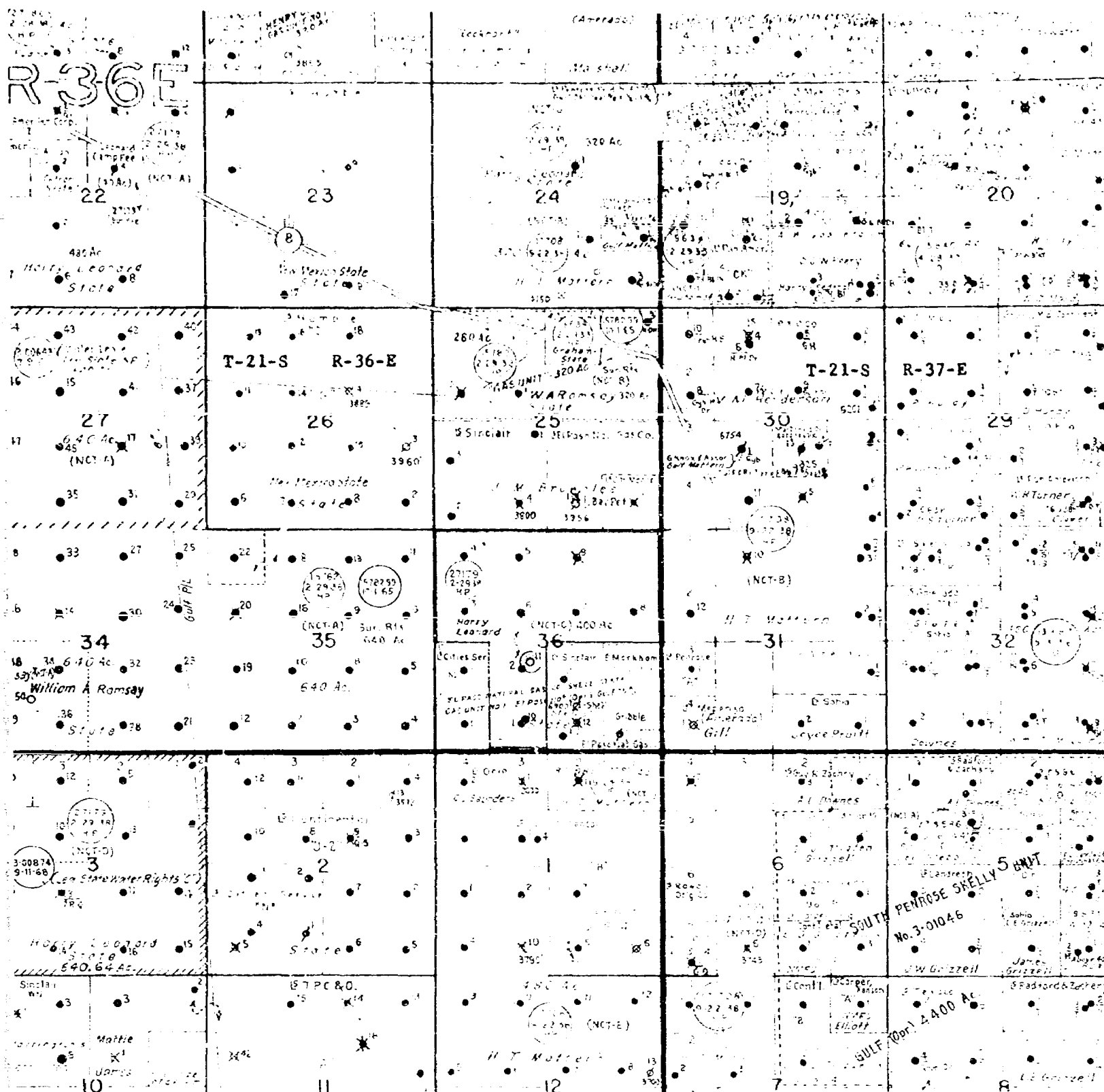
GULF OIL CORPORATION
 Harry Leonard (NCT-G) No. 11
 2200' FSL and 2200' FWL of Section 36-21S-36E, Lea County, New Mexico
 Undesignated Blinbry - Arrowhead Drinkard Oil Zones

Ground Level = 3520'
 TKB = 15'

2200'



EKW:ptg, 2-25-65



Handwritten: 3770

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

SANTA FE, N. M.
PHONE 983-3871

ALBUQUERQUE, N. M.
PHONE 243-6691

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

EXAMINER HEARING

IN THE MATTER OF: Application of Gulf Oil
Corporation for a dual completion, Lea
County, New Mexico.

Case No. 3222

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 24, 1965

EXAMINER HEARING

-----)
IN THE MATTER OF: Application of Gulf)
Oil Corporation for a dual completion,)
Lea County, New Mexico. Applicant, in)
the above-styled cause, seeks approval)
of the dual completion (conventional))
of its Harry Leonard (NCT-C) Well No.)
11 located in Unit K of Section 36,)
Township 21 South, Range 36 East, Lea)
County, New Mexico, to produce oil)
oil from an undesignated Blinbry Pool)
and from the Arrowhead Drinkard Pool)
through parallel strings of tubing.)
-----)

Case No. 3222

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

MR. NUTTER: We will now call Case 3222.

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

MR. KASTLER: If the Examiner please, I am Bill Kastler,
with Gulf Oil Corporation, from Roswell, and our witness this
morning is Mr. John H. Hoover.

(Witness sworn.)

JOHN H. HOOVER, called as a witness, having been first duly
sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KASTLER:

Q Will you please state your name, the name of your employer, and what position you hold?

A John Hoover, Gulf Oil Corporation, District Production Engineer, Roswell, New Mexico.

Q Have you previously qualified as an expert witness as a production engineer before the Oil Conservation Commission of New Mexico?

A Yes, sir.

Q And are you familiar with the application of Gulf Oil Corporation in this Case 3222?

A Yes, I am.

(Whereupon, Applicant's Exhibits 1, 2 and 3 marked for identification.)

Q Will you please state what Gulf is seeking through this application?

A We are asking for approval of a conventional dual completion for Harry Leonard "C" Well Number 11, to produce oil from an undesignated Blinebry Pool and the Arrowhead Drinkard Pool through parallel strings of 2 3/8 inch tubing.

Q Will you please explain what is shown on your Exhibit Number 1?

A Exhibit 1 is a plat showing our Harry Leonard NCT Lease

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outlined in red, and it is described as the north half and the east half-southwest quarter of Section 36, Township 21 South, Range 36 East, Lea County, New Mexico.

Well Number 11 is circled and colored in red and it is located 2200 feet from the south and west lines of this Section 36. Well Number 10, shown in the southeast quarter-southwest quarter, is completed in the Arrowhead Drinkard Oil Pool, and at this time is the only well in the pool.

Q Then Well Number 11 has not yet been completed, is that correct?

A No, it has not. The drilling has been completed, but -- and the Drinkard has been perforated, but the Blinebry has not been perforated as yet.

Q How does Gulf propose to complete its Well Number 11 as a dual?

A Exhibit Number 2 is a schematic diagram of our proposed dual completion. The well was drilled to the total depth of 6700 feet, and plugged back to 6661 feet. We have 9 5/8-inch O. D. casing set at 1158 feet, cemented with 580 sacks of cement, the cement to the surface. 7-inch O. D. casing was set at 6698 feet, cemented with 830 sacks, and temperature survey indicated the top of the cement at 2455 feet.

We will have a Baker Model D Packer set at approximately 6465 feet, Baker parallel string anchor at approximately 5750

feet; we will have two strings of 2 3/8-inch O. D. tubing.

The long string, or the Arrowhead Brinkard string will be set at approximately 6570 feet, and the short string producing the Blinebry oil will be latched into the Baker parallel string anchor. The Drinkard perforations are shown at 6514 feet, 6559 feet and 6590. The proposed Blinebry perforations are shown at 5784 feet, 5828 feet, 5853 feet and 5890 feet.

Q Is the equipment used in this dual of the same type as that used in other dual completed wells which Gulf has previously presented and had approved by the Commission?

A Yes, it is. The Baker Model D packer with Baker parallel string anchor and 2 3/8-inch O. D. tubing has been used many times by Gulf.

Q There's nothing unusual about this dual?

A No, there is not. The only reason for the hearing is that it's the first one in the pools.

Q What is shown on your Exhibit Number 3?

A Exhibit Number 3 is a log of the Harry Leonard "C" Number 11, and on this log the top of the Blinebry is marked at 5693 feet. We have shown the proposed Blinebry perforations, and they're marked by an arrow at 5784 feet, 5828 feet, 5853 feet and 5890 feet. The base of the Blinebry is shown at 6167 feet. The top of the Drinkard is shown at 6495 feet; there again we have arrows marking the Drinkard perforations, and they are at 6514

feet, 6553 feet and 6590 feet.

Q These perforation depths in each zone seem to correlate with those shown on Exhibit 2, is that correct?

A Yes, sir.

Q What savings can be realized by this dual completion, as compared with the cost of drilling two single zone wells?

A The estimated cost of this dual is \$120,000.00. We estimate that two single zone wells would cost \$140,000.00; or a saving of approximately \$20,000.00.

Q Do you anticipate any corrosion problems in this well?

A No, sir, we do not. As previously mentioned, the Harry Leonard "C" Number 10 is completed in the Arrowhead Drinkard Pool, and this well has been producing since early in 1957. We have experienced no corrosion. In fact, the Arrowhead Drinkard oil is sweet crude, and Blinebry wells in the vicinity we have experienced no corrosion, and the Blinebry oil is also sweet crude.

Q How do you expect these two zones to produce, initially?

A Initially the Arrowhead Drinkard will be completed as a pumping well, and we anticipate that the Blinebry oil will flow, but either one, or both zones can be pumped if necessary.

Q There are usually a number of tests required in making a dual completion, and if this application were to be granted, would Gulf comply fully with the orders of the Conservation

dearnley-meier

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Commission?

A Yes, they would.

Q Do you have anything further to add?

A No, sir.

Q Were Exhibits 1, 2 and 3 prepared by you, or at your direction and under your supervision?

A Yes, sir, they were.

MR. KASTLER: This concludes the questions on direct testimony that I have of Mr. Hoover. I would like at this time to move that Exhibits 1, 2 and 3 be admitted into evidence.

MR. NUTTER: Gulf's Exhibits 1 through 3 will be admitted into evidence.

(Whereupon, Applicant's Exhibits 1, 2 and 3 were admitted into evidence.)

MR. NUTTER: Does anyone have any questions of Mr. Hoover?

CROSS EXAMINATION

BY MR. NUTTER:

Q Can you give us the bottom hole pressure, gravity and GOR for the two zones, please?

A I cannot on this well.

Q Well, the offsetting wells will be fine.

A Of course, the Number 10 Well was completed initially as a pumper, and it's been pumping ever since but a bottom hole

pressure was taken in 1957. That is some time ago, but on a pumping well, well, there's no reason to take them any sooner.

The bottom hole pressure in March of 1957, at a datum of 3060 feet, was 2,002 pounds. The gravity, a recent gravity on the Arrowhead Drinkard oil run from that lease in February of '65, indicated a corrected gravity of 38.7 degrees. A recent gas-oil ratio test on the Number 10 Well was taken in October of 1964, and indicated a test of 18 barrels of oil, four barrels of water, 50 MCF of gas, for a GOR of 2,778.

The Blinebry, of course, has not been perforated in this well, but from the Blinebry oil in the Blinebry Oil Pool to the east, the gravity will run in the neighborhood of 42 to 44 degrees. The bottom hole pressure -- In referring to Exhibit 1, Mr. Examiner, the C. L. Hardy Well Number 4, located in the southwest of the southwest of 20, which is about the nearest well, the bottom hole pressure was run on that well in November of '64, and it showed 1600 pounds at a minus 2400 feet. That's to the northeast.

Q There's no Blinebry production in this immediate area then?

A No, sir, the nearest Blinebry well is to the northeast in Section 30, which is in the northeast quarter of the southeast quarter of 30. It's our Number 8. It shows an A. T. Actually it's a dual. It's in the Blinebry. To the east in

Section 32, in the northwest quarter, northeast quarter, our Number 12 is a Blinebry; and to the best of my knowledge, those are the nearest Blinebry wells, and those are in the Blinebry Pool as now designated. But this well is more than a mile from the existing Blinebry Pool and Drinkard Pool.

Q So any data on any Blinebry wells in the area is pretty far away?

A Yes, it is.

MR. NUTTER: Are there further questions of Mr. Hoover?

MR. DURRETT: I have one.

MR. NUTTER: Mr. Durrett.

BY MR. DURRETT:

Q As a matter of interest only, which acreage or what acreage do you intend to dedicate to this well for each zone?

A Forty acres.

Q That is the 40 on which the well is located?

A Yes, it would be the northeast-southwest quarter.

MR. NUTTER: If no further questions of the witness he may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr. Kastler?

MR. KASTLER: Nothing further.

MR. NUTTER: Does anyone have anything they wish to offer in Case 3222? We will take the case under advisement.

dearnley-meier reporting service, inc.

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STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss.

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

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 31st day of March, 1965.

Ada Deanrley
Notary Public - Court Reporter

My Commission Expires:
June 19, 1967

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3222 heard by me on Mar 24, 1965.

[Signature] Examiner
New Mexico Oil Conservation Commission

OIL CONSERVATION COMMISSION
____ 1 ____ DISTRICT

OIL CONSERVATION COMMISSION
BOX 871
SANTA FE, NEW MEXICO

DATE March 5, 1965

Re: Proposed NSP _____

Proposed NWU _____

Proposed NSL _____

Proposed NFO _____

Proposed DC X

Gentlemen:

I have examined the application dated 3/2/65
for the Gulf Oil Corp. Harry Leonard NCT-C #11-K 36-21-36
Operator Lease and Well No. S-T-R

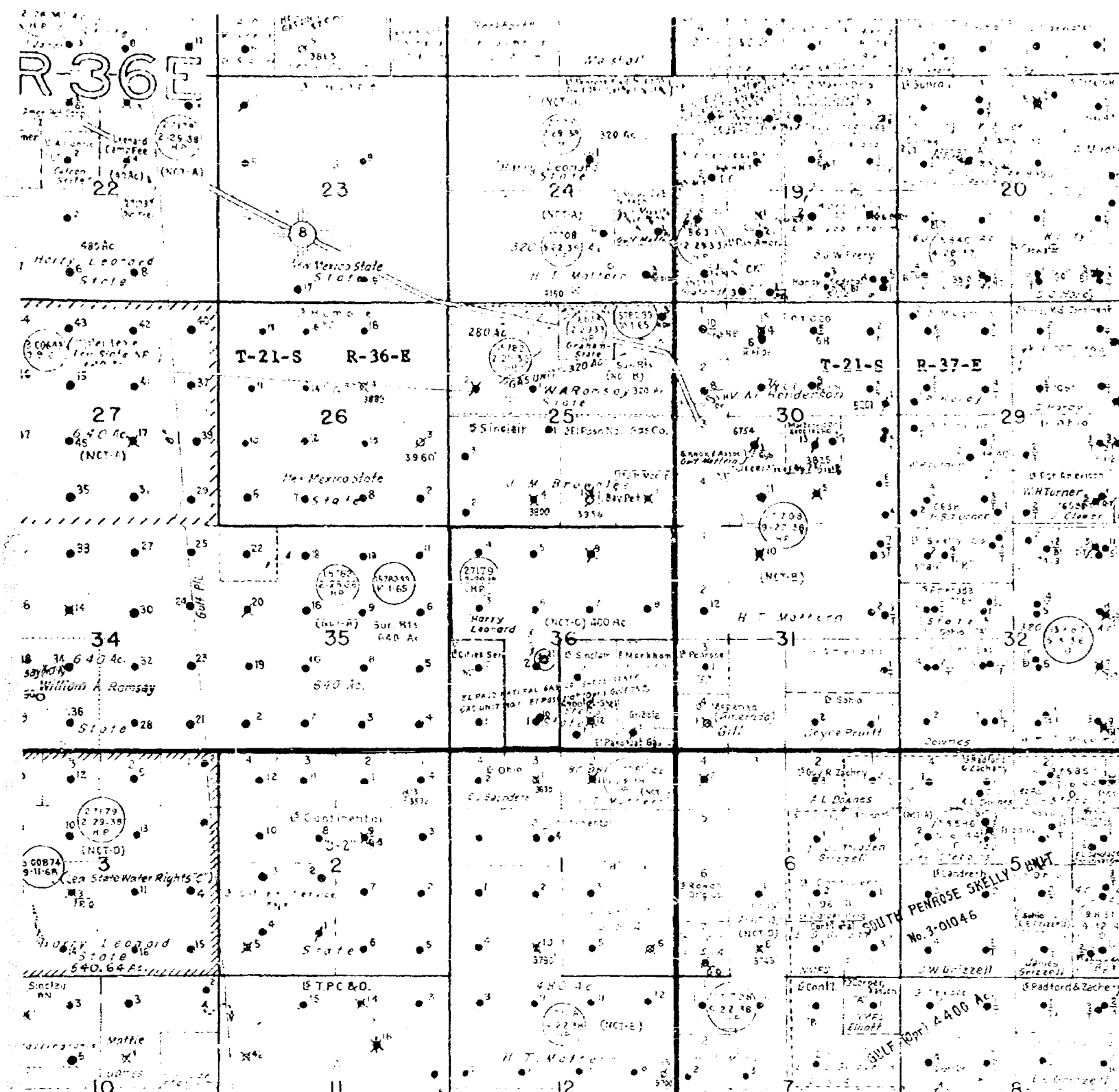
and my recommendations are as follows:

Answer to No. 1 question is negative--recommend a hearing---E.F.E.

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

Yours very truly,






PLAT

HARRY LEONARD (NCT-C) LEASE
LEA COUNTY, NEW MEXICO

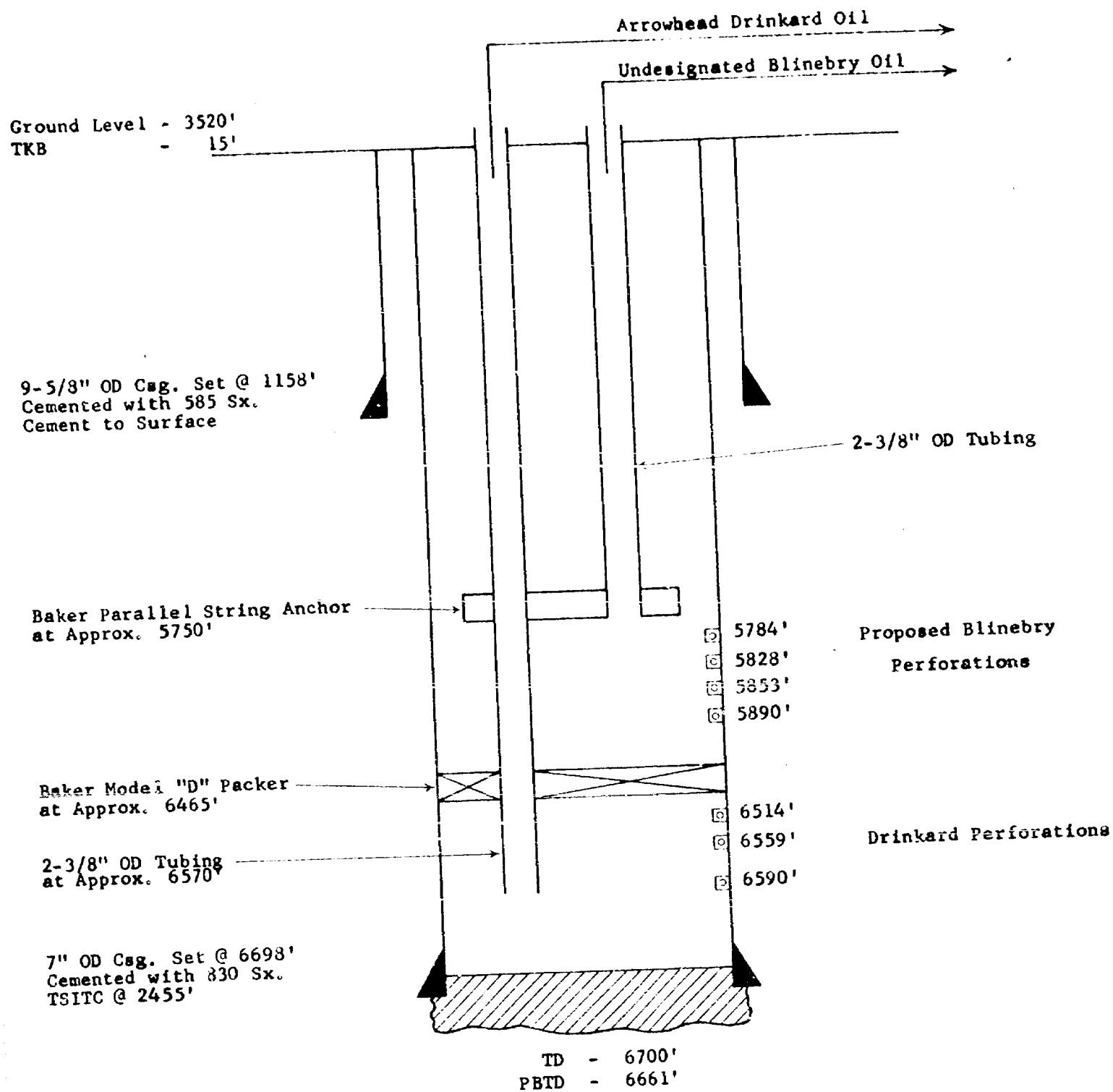
- LEGEND -

 Pertinent Lease

 Pertinent Well

GULF OIL CORPORATION

CASE NO. '3222
EXHIBIT NO. 1
March 24, 1965



DUAL COMPLETION SCHEMATIC DIAGRAM /
 HARRY LEONARD (NCT-C) WELL NO. 11
 UNDESIGNATED BLINEBRY - ARROWHEAD DRINKARD OIL POOLS
 LEA COUNTY, NEW MEXICO
 GULF OIL CORPORATION

CASE NO. 3222
 EXHIBIT NO. 2
 MARCH 24, 1965