

ATLANTIC RICHFIELD COMPANY  
**MAX FRIESS MA WELL NO. 1**  
 660' FNL & 1980' FEL Sec.30, T-17-S, R-31-E  
 EDDY COUNTY, NEW MEXICO  
 INJECTION WELL DIAGRAM

8-5/8" OD casing set @ 524' with 50 sx. cement. Cmt. top @ 271' (calculated).

7" OD casing set @ 1852' with 100 sx. cement. Cmt. top @ 630' (calculated).

5" OD casing set @ 2830' with 100 sx. cement. Cmt. top @ 1980' from temperature survey.

3 1/2" OD FJ Casing to be set from 2630' to 3260' and be cemented with enough cement to circulate to top of liner.

2-3/8" OD tubing

BEFORE EXAMINER UTZ	
OIL CONSERVATION COMMISSION	
EXHIBIT NO.	4
CASE NO.	4705
Submitted by	A.R
Hearing Date	5/5/72

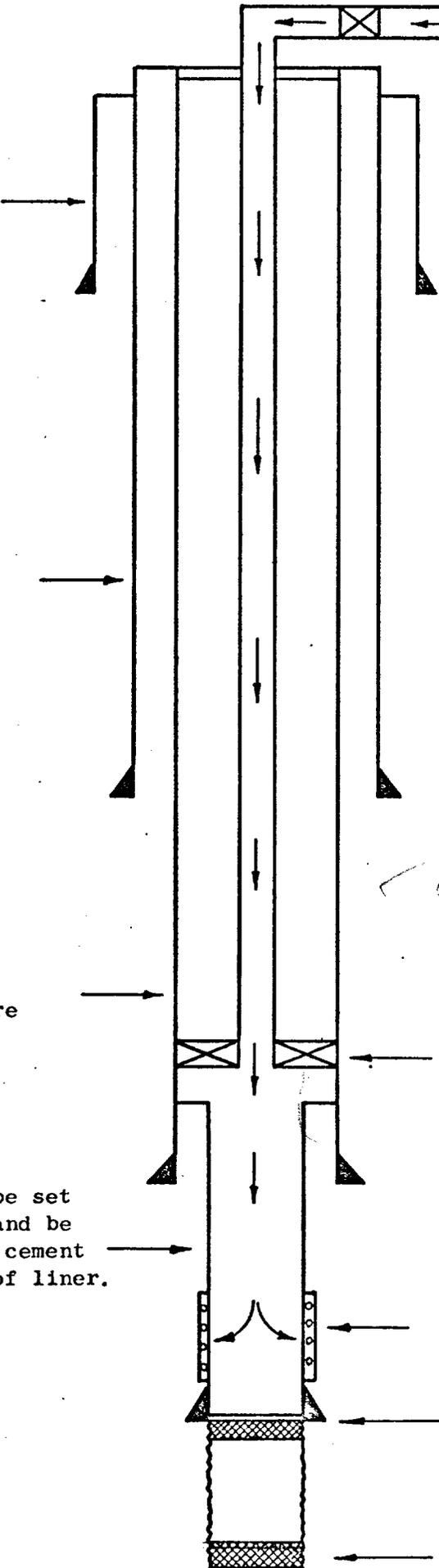
Tension-type packer @ 2600' (proposed).

Proposed Grayburg (Premier) perforations 3100'-3240'

Proposed PBDT - 3260'

Proposed TD - 3400'

Present TD - 3439' Exhibit No. 4

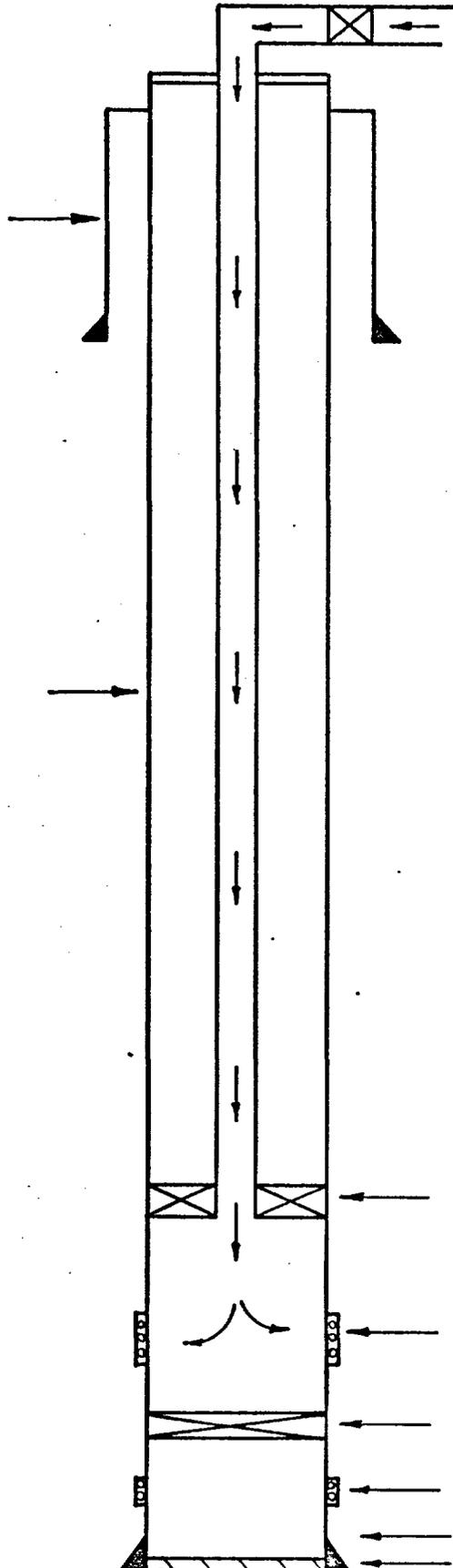


ATLANTIC RICHFIELD COMPANY  
 MAX FRIESS MA WELL NO. 4  
 660' FEL & 1980' FNL Sec. 30, T-17-S, R-31-E  
 EDDY COUNTY, NEW MEXICO  
 INJECTION WELL DIAGRAM

2-3/8" OD tubing

10-3/4" OD casing set  
 @ 614' with 100 sx.  
 cement. Cmt. top @  
 271' (calculated).

7" OD casing set @  
 3396' with 100 sx.  
 cement. Cmt. top @  
 2210' from temperature  
 survey.



Tension-type packer @  
 3100' (proposed).

Grayburg (Premier) perforations  
 3220' - 3240'

C. I. B. P. @ 3300' (proposed)

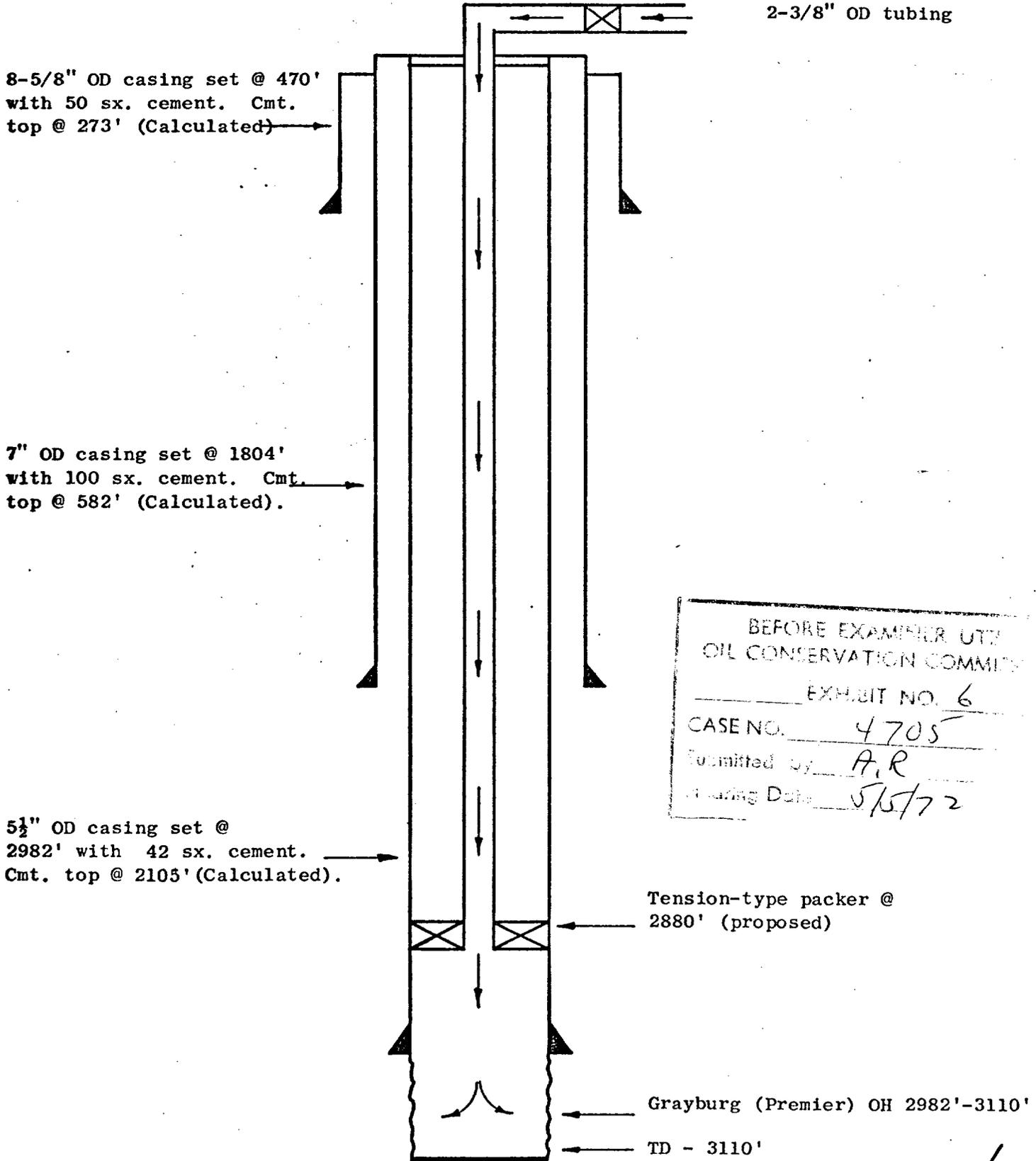
San Andres perforations  
 3358' - 3368'

PBTD - 3379'

TD - 3397'

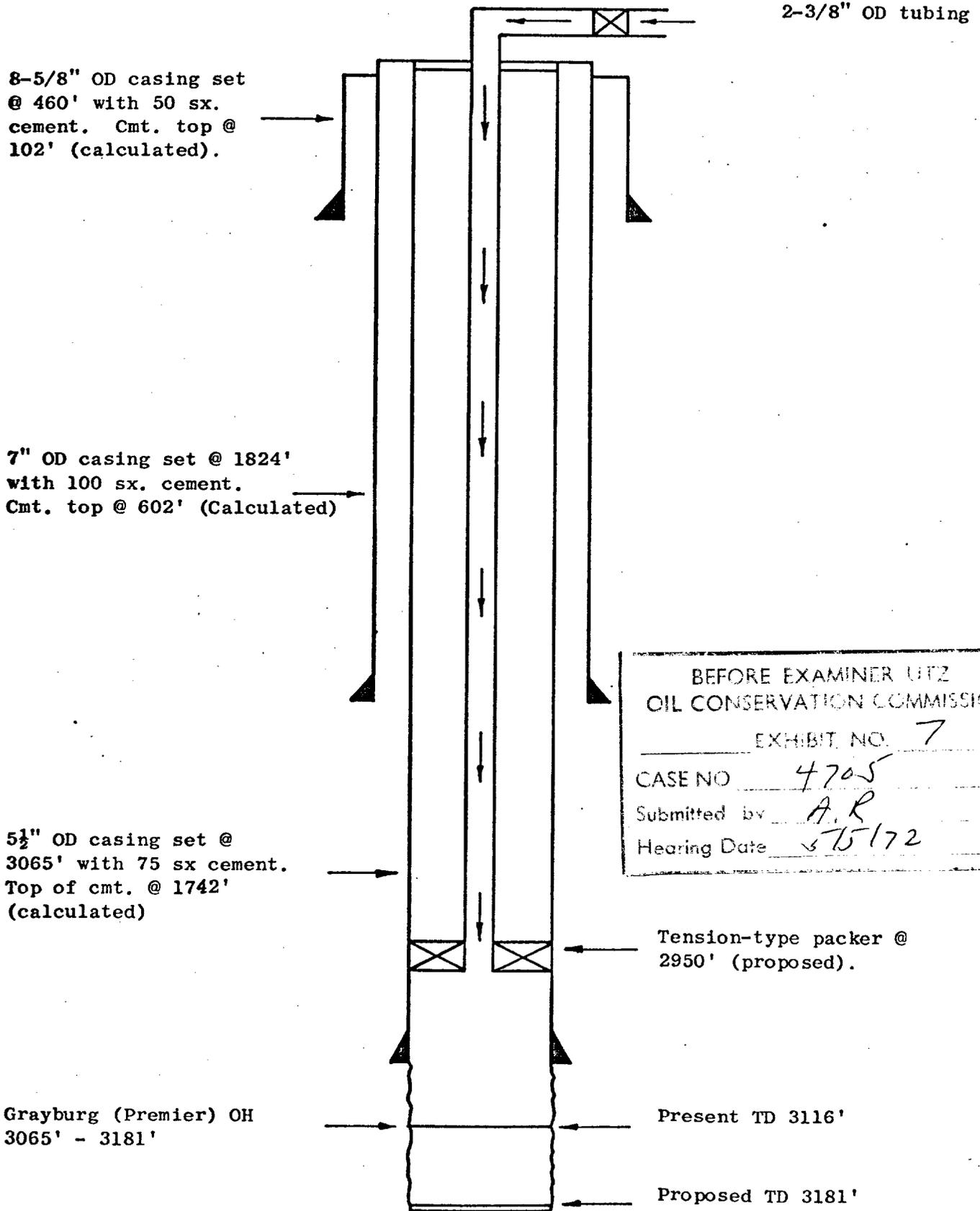
BEFORE EXAMINER USE  
 OIL CONSERVATION COMMISSION  
 EXHIBIT NO. 5  
 CASE NO. 4705  
 APPLICANT A.R.  
 ADDRESS S.K.S.

**ATLANTIC RICHFIELD COMPANY**  
**FRIESS FEDERAL WELL NO. 2**  
 1980' FSL & 1980' FEL Sec. 19, T-17-S, R-31-E  
 EDDY COUNTY, NEW MEXICO  
**INJECTION WELL DIAGRAM**



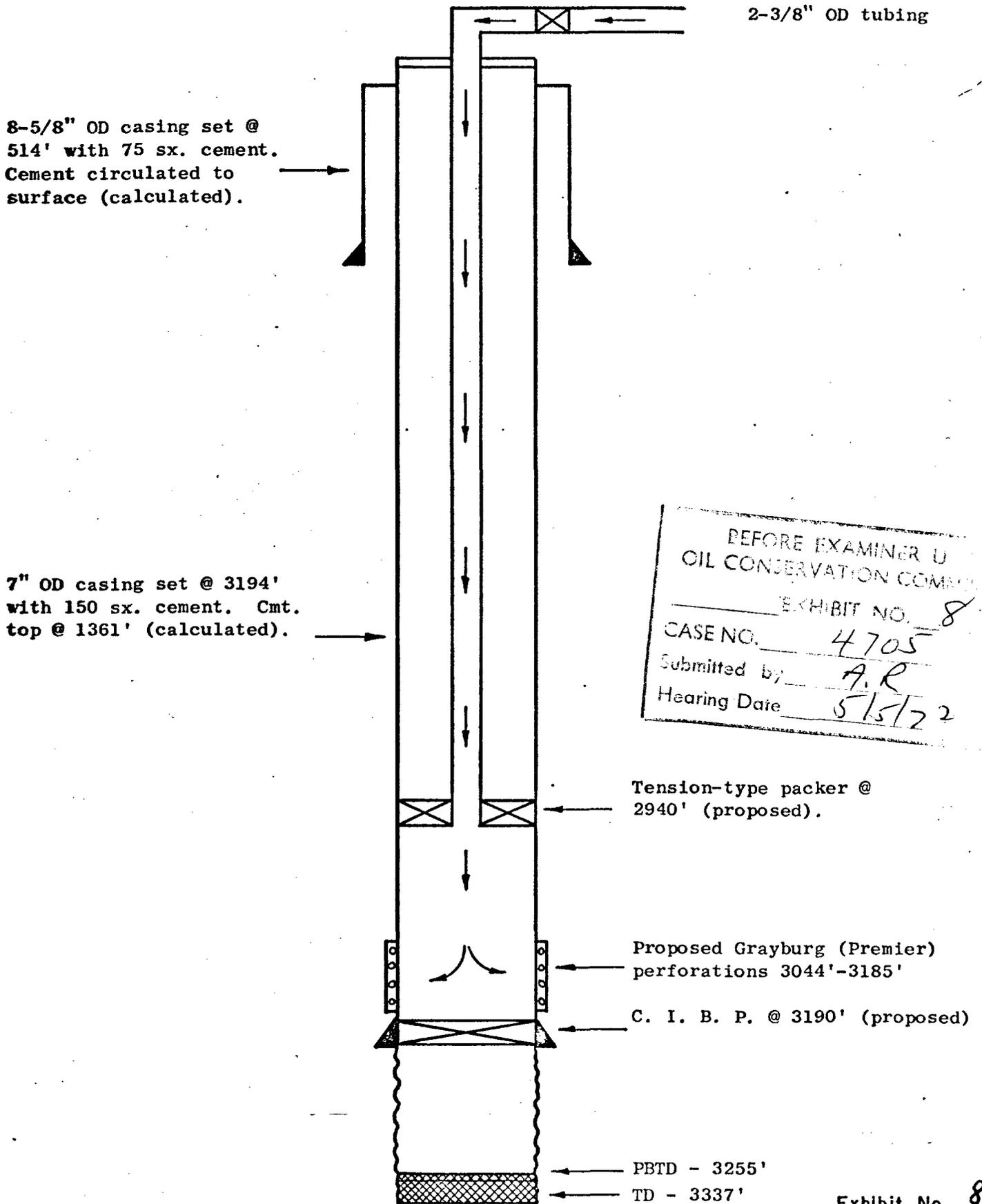
BEFORE EXAMINER UTS  
 OIL CONSERVATION COMMISSION  
 EXHIBIT NO. 6  
 CASE NO. 4705  
 Submitted by A.R.  
 Filing Date 5/5/72

**ATLANTIC RICHFIELD COMPANY**  
**FREN OIL COMPANY WELL NO. 2**  
 660' FSL & 1980' FWL Sec. 19, T-17-S, R-31-E  
 EDDY COUNTY, NEW MEXICO  
**INJECTION WELL DIAGRAM**



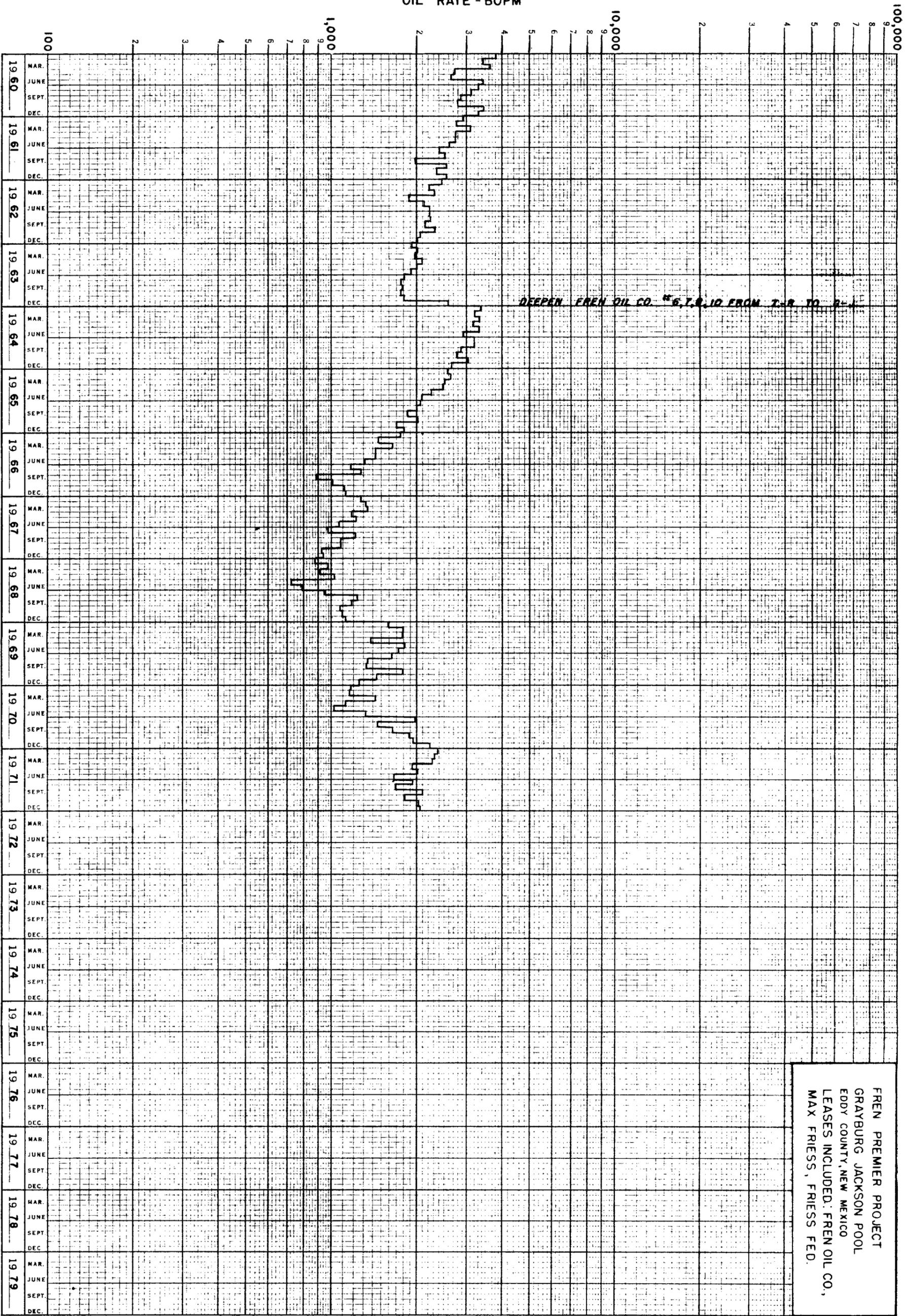
BEFORE EXAMINER UTZ OIL CONSERVATION COMMISSION	
EXHIBIT NO. <u>7</u>	
CASE NO	<u>4705</u>
Submitted by	<u>A.R.</u>
Hearing Date	<u>5/5/72</u>

ATLANTIC RICHFIELD COMPANY  
 FREN OIL COMPANY WELL NO. 13  
 660' FSL & 710' FEL Sec. 19, T-17-S, R-31-E,  
 EDDY COUNTY, NEW MEXICO  
 INJECTION WELL DIAGRAM



BEFORE EXAMINER U  
 OIL CONSERVATION COMMISSION  
 EXHIBIT NO. 8  
 CASE NO. 4705  
 Submitted by A.R.  
 Hearing Date 5/5/72

OIL RATE - BOPM



FREN PREMIER PROJECT  
 GRAYBURG JACKSON POOL  
 EDDY COUNTY, NEW MEXICO  
 LEASES INCLUDED: FREN OIL CO.,  
 MAX FRIESS, FRIESS FED.

Exhibit # 9

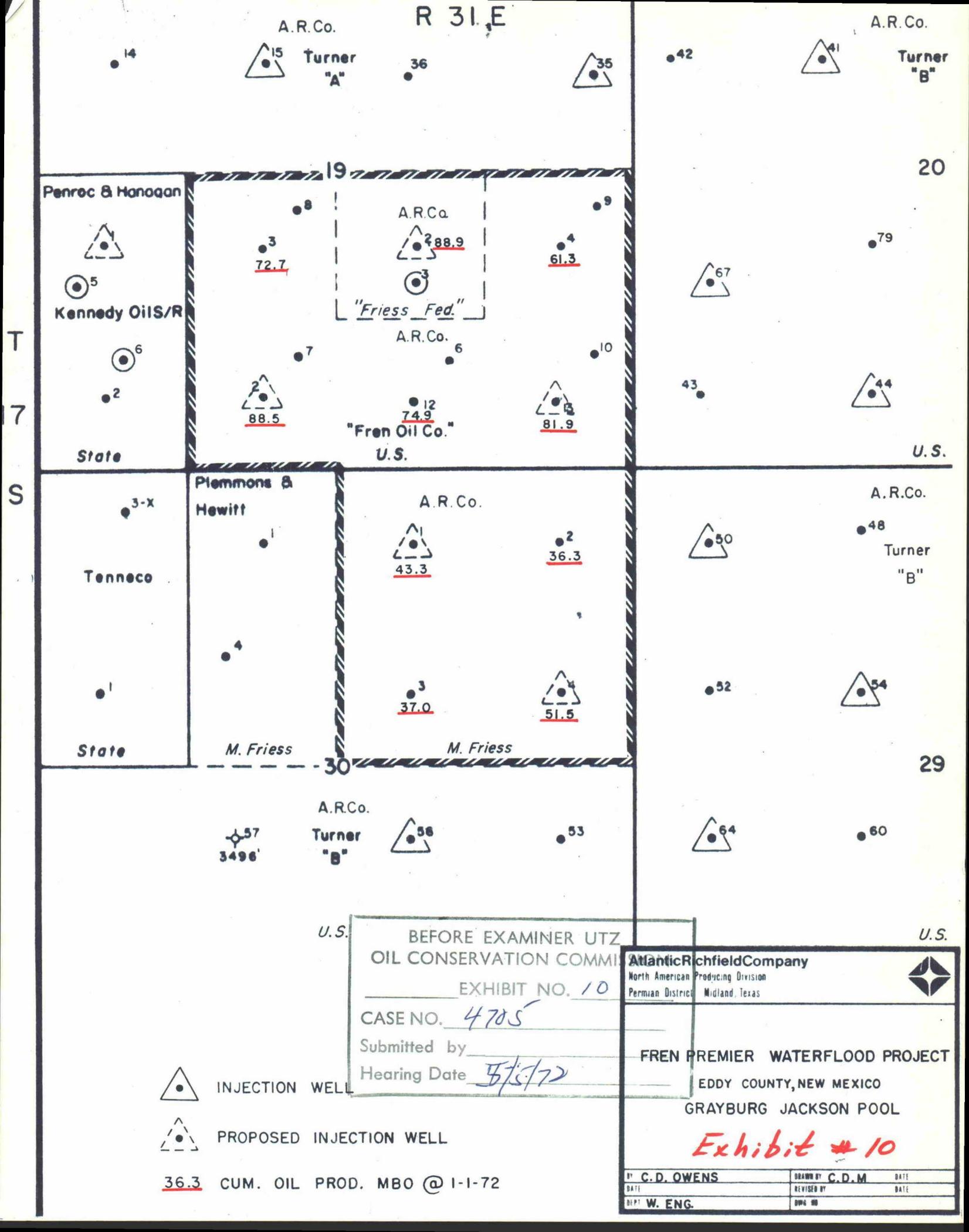
BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION

EXHIBIT NO. 9

Q11100 4705

Produced by A.R.

Dating Date 5/5/72



A.R.Co.

R 31 E

A.R.Co.

14



Turner "A"

36



42



Turner "B"

20

19

Penrec & Manogan



A.R.Co.



61.3

Kennedy Oils/R

"Friess Fed."

A.R.Co.



10

6

2



72.7

"Fren Oil Co."

A.R.Co.



12

U.S.

81.9

43



79



U.S.

State

Plemmons & Hewitt

A.R.Co.



36.3

A.R.Co.

48

Tenneco

Turner "B"

3-X

1



4

52



29

State

M. Friess

M. Friess



37.0



51.5

A.R.Co.

Turner "B"



53



60

57  
3496'

U.S.

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION

Atlantic Richfield Company  
North American Producing Division  
Permian District Midland, Texas

U.S.

EXHIBIT NO. 10

CASE NO. 4705

Submitted by

Hearing Date 5/5/72

FREN PREMIER WATERFLOOD PROJECT

EDDY COUNTY, NEW MEXICO

GRAYBURG JACKSON POOL

Exhibit # 10



INJECTION WELL



PROPOSED INJECTION WELL

36.3 CUM. OIL PROD. MBO @ 1-1-72

BY C. D. OWENS

DRAWN BY C. D. M

DATE

DATE

REVISED BY

DATE

DIST. W. ENG.

DWG. NO.



# United States Department of the Interior

## GEOLOGICAL SURVEY

P. O. Drawer U  
Artesia, New Mexico 88210

March 28, 1972

Atlantic Richfield Company  
Post Office Box 1610  
Midland, Texas 79701

Gentlemen:

Your letter of March 7, 1972 requests approval to operate a waterflood of the Premier zone of the Grayburg formation in T. 17 S., R. 31 E., N.M.P.M., Eddy County, New Mexico on that portion of oil and gas leases described as follows:

Las Cruces 031844

sec. 19: E $\frac{1}{2}$ SE $\frac{1}{4}$ , SW $\frac{1}{4}$ SE $\frac{1}{4}$ , E $\frac{1}{2}$ SW $\frac{1}{4}$

Las Cruces 060409

sec. 19: NW $\frac{1}{4}$ SE $\frac{1}{4}$

Las Cruces 065014

sec. 30: NE $\frac{1}{4}$

The flood pattern would be 80-acre 5-spot, which would be a continuation of the pattern of the waterfloods to the north, east, and south, and in lease line agreement with one operator on the west. You propose to convert to water injection the following wells:

<u>Well Number and Lease</u>	<u>Location</u>
1 Max Friess	NW-NE sec. 30
4 Max Friess	SE-NE sec. 30
2 Fren Oil Co.	SE-SW sec. 19
13 Fren Oil Co.	SE-SE sec. 19
2 Friess Fed.	NW-SE sec. 19

The plan for operating the above described waterflood project as proposed in the application is satisfactory to this office and hereby approved subject to approval by the New Mexico Oil Conservation Commission and the following:

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. 11  
CASE NO. 4705  
Submitted by A.R.  
Hearing Date 5/15/72

*Exhibit # 11*

1. This project will be operated in compliance with the New Mexico Oil Conservation Commission regulations governing waterflood operations.
2. Duplicate copies of a monthly progress report (N.M.O.C.C. form C-120 acceptable) are to be submitted to this office showing the volume of water injected and average pressure for the injection wells and production for the producing wells in the project area.
3. This approval does not preclude the necessity for further approval when the project is expanded to include other wells and leases or the necessity to submit the usual notices and reports on wells involved.

Sincerely yours,



James A. Knauf  
District Engineer

cc:  
N.M.O.C.C., Santa Fe  
Roswell  
File  
Accounts