

CASE 3444: Application of MOBIL
OIL CORP. for a waterflood project,
Eddy County, New Mexico.

Case Number

3444

Application
Transcripts.

Small Exhibits

ETC.

Mobil Oil Corporation

P.O. BOX 633
MIDLAND, TEXAS 79701

October 24, 1966

10/27/66

1966 OCT 27 AM 10 14

Mr. A. L. Porter, Jr.
Secretary-Director
New Mexico Oil Conservation Commission
State Land Office Building
Santa Fe, New Mexico

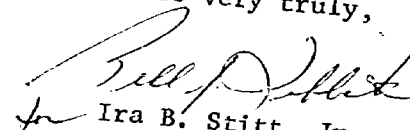
NORTHEAST SQUARE LAKE
WATERFLOOD PROJECT
EDDY COUNTY, NEW MEXICO

Dear Sir:

This is in response to your October 18, 1966 letter directed to Mr. James Sperling concerning Order No. R-3108 recently entered by the Commission approving Mobil's Northeast Square Lake Waterflood Project.

We are in agreement that the maximum allowable for the project will be 1,134 barrels per day under Rule 701-E-3 when the Southeast New Mexico Waterflood allowable factor is 42, and when all of the authorized input wells have been converted to injection. We will make appropriate reports to you and the District offices when injection is commenced and when there is a change in the status of the Unit or the wells.

Yours very truly,


Ira B. Stitt, Jr.
Division Operations Engineer

FWK/nab

cc: Hobbs District Office - I
Artesia District Office - II
Mr. James Sperling

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

October 18, 1966

Mr. James E. Sperling
Modrall, Seymour, Sperling, Roehl & Harris
Attorneys at Law
Simms Building
Post Office Box 466
Albuquerque, New Mexico

Dear Sir:

Reference is made to Commission Order No. R-3108, recently entered in Case No. 3446, approving the Mobil NE Square Lake Waterflood Project.

Injection shall be through the 16 authorized water injection wells, each of which shall be equipped with tubing and a packer, said packers being set as near to the uppermost perforation, or in case of open hole completions, as near to the casing shoe as is practicable. The casing-tubing annulus shall be loaded with inhibited water.

As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project with the existing wells will be eligible to receive under the provisions of Rule 701-E-3 is 1134 barrels per day when the Southeast New Mexico waterflood allowable factor is 42.

Please report any error in this calculated maximum allowable immediately, both to the Santa Fe office of the commission and the appropriate district proration office.

OIL CONSERVATION COMMISSION

P. O. BOX 2033

SANTA FE, NEW MEXICO

-2-

Mr. James E. Sperling
Albuquerque, New Mexico

C
In order that the allowable assigned to the project may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned commission offices by letter of any change in the status of wells in the project area, i.e., when active injection commences, when additional injection or producing wells are drilled, when additional wells are acquired through purchase or unitization, when wells have received a response to water injection, etc.

O
Your cooperation in keeping the commission so informed as to the status of the project and the wells therein will be appreciated.

Very truly yours,

P
A. L. PORTER, Jr.
Secretary-Director

ALP/DSH/lr

Y
cc: Mr. Frank Irby
State Engineer Office
Santa Fe, New Mexico

Oil Conservation Commission Offices in Hobbs and Artesia

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

August 30, 1966

Mr. James E. Sperling
Modrall, Seymour, Sperling, Roehl &
Harris
Attorneys at Law
Simms Building
Santa Fe, New Mexico

Re: Case No. 3444
Order No. R-3108
Applicant: Mobil Oil Corporation

Dear Sir:

Enclosed herewith is a copy of the above-referenced Commission order recently entered in the subject case. Letter pertaining to conditions of approval and maximum allowable to follow.

Very truly yours,

A. L. Porter, Jr.
A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC

Other Mr. Frank Irby

Case B444

Heard 8-24-66

Rec. 8-25-66

1. Grant Mobil Permission to Waterflood
Their Northeast Square Lake (Premier)
unit;
2. ~~approve~~ The 14 injection wells as
listed on Exhibits 4 thru 17, location
is also on these exhibits.
3. Injection shall be thru tubing and
under packers. The Annulus shall be
filled with inert fluid.

Thos. H. V. J.

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. 3444
Order No. R-3108

APPLICATION OF MOBIL OIL CORPORATION
FOR A WATERFLOOD PROJECT, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 24, 1966,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 30th day of August, 1966, 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, Mobil Oil Corporation, seeks permis-
sion to institute a waterflood project in the Northeast Square
Lake (Premier) Unit Area, North Square Lake-Grayburg-San Andres
Pool, by the injection of water into the Premier Sand of the
Grayburg formation through 14 injection wells in Sections 2, 3,
9, 10, and 11, Township 16 South, Range 31 East, NMPM, Eddy
County, New Mexico.

(3) That the wells in the project area are in an advanced
state of depletion and should properly be classified as "stripper"
wells.

(4) That the proposed waterflood project should result in
the recovery of otherwise unrecoverable oil, thereby preventing
waste.

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CASE No. 3444

Order No. R-3108

(5) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Mobil Oil Corporation, is hereby authorized to institute a waterflood project in the Northeast Square Lake (Premier) Unit Area, North Square Lake-Grayburg-San Andres Pool, by the injection of water into the Premier Sand of the Grayburg formation through the following-described wells in Township 16 South, Range 31 East, NMFM, Eddy County, New Mexico:

Well	Number	Location
Mobil-Federal C	5	Unit I of Section 10
Mobil-Federal C	6	Unit G of Section 9
Mobil-Federal C	10	Unit S of Section 3
Mobil-Mobil State	2	Unit E of Section 11
Standard of Texas-Federal 14	1	Unit A of Section 9
Standard of Texas-Federal 14	4	Unit G of Section 10
Standard of Texas-Federal 15	3	Unit E of Section 10
Standard of Texas-Federal 15	4	Unit C of Section 10
Standard of Texas-Federal 15	6	Unit K of Section 10
Standard of Texas-Federal 16	1	Unit U of Section 3
Jake Lawless, Inc.-Gulf-Federal	2	Unit C of Section 9
Jake Lawless, Inc.-Gulf-Federal	5	Unit E of Section 9
Gurg Drilling Co.-State	1	Unit U of Section 2
Continental-State Y-3	2	Unit Q of Section 3

(2) That the subject waterflood project is hereby designated the Mobil NE Square Lake Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(3) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

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

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CASE No. 3444

Order No. R-3108

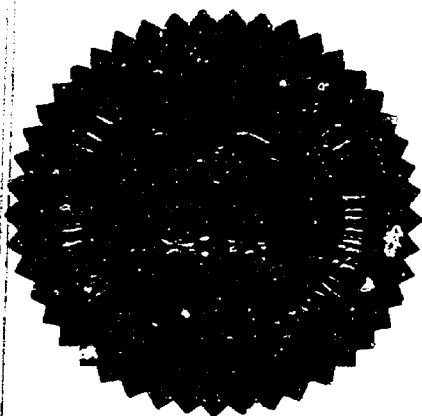
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

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/



STANDARD OIL COMPANY OF TEXAS

A DIVISION OF CHEVRON OIL COMPANY
P. O. BOX 1249 HOUSTON TEXAS 77001

August 8, 1966

66 AUG 11 AM 10 13

Call 3444

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. A. L. Porter, Jr.
Secretary-Director

Gentlemen:

The application of Mobil Oil Corporation for authority to waterflood the Northeast Square Lake (Premier) Unit, Eddy County, New Mexico, is to be heard August 24, 1966. Chevron Oil Company, an owner of interest within the unit, urges Commission approval of Mobil's application.

Yours very truly,

C. N. Segnar
C. N. Segnar
Chief Engineer

JTC:ja

cc: Mobil Oil Corporation
P. O. Box 633
Midland, Texas 79701
Attention: Mr. Don B. Couper



STATE OF NEW MEXICO
STATE ENGINEER OFFICE
SANTA FE

S. E. REYNOLDS
STATE ENGINEER

July 27, 1966

ADDRESS CORRESPONDENCE TO:
STATE CAPITOL
SANTA FE, NEW MEXICO 87501

Mr. A. L. Porter, Jr.
Secretary-Director
Oil Conservation Commission
Santa Fe, New Mexico

Dear Mr. Porter:

Reference is made to the application of Mobil Oil Corporation which seeks authority to institute a waterflood project within the Northeast Square Lake Premier Unit Area in Eddy County.

I have examined the application and exhibits submitted therewith and it appears that no threat of contamination to the fresh waters which may exist in the area will occur, provided the packers are properly set at the proper depth. Therefore, this office offers no objection to the granting of Mobil's application, provided the tension packers on the ends of the tubing are properly set well below the top of the cement surrounding the casing, which has previously been used as the production string.

FEI/ma
cc-James E. Sperling
F. H. Hennighausen

Very truly yours,

S. E. Reynolds
State Engineer

By: *Frank E. Irby*
Frank E. Irby
Chief
Water Rights Div.

J. R. MODKALL
JAMES E. SPERLING
JOSEPH E. ROEHL
GEORGE T. HARRIS, JR.
DANIEL A. SISK
LELAND S. SEOBERRY, JR.
ALLEN C. DEWEY, JR.
FRANK H. ALLEN, JR.
JAMES P. SAUNDERS, JR.

JAMES A. PARKER
HENRY G. COORS
JOHN R. COONEY
KENNETH L. HARRIGAN

LAW OFFICES OF
MODKALL, SEYMOUR, SPERLING, ROEHL & HARRIS

SIMMS BUILDING
P. O. BOX 466
ALBUQUERQUE, NEW MEXICO 87103

JOHN F. SIMMS (1885-1954)
AUGUSTUS T. SEYMOUR
(1907-1965)

TELEPHONE 243-4511
AREA CODE 505

July 20, 1966

Case 3444

22 000
JUL 26 AM 7

Secretary-Director,
Oil Conservation Commission
State Land Office Building
Santa Fe, New Mexico

Dear Sir:

We submit herewith Application of Mobil Oil Corporation for authority to institute a waterflood project within the Northeast Square Lake Premier Unit Area, containing 2,200 acres, more or less, in Eddy County, New Mexico, said waterflood project to be operated in accordance with Rule 701 of the Commission; a copy of this Application has been forwarded to the Office of the State Engineer.

We also submit herewith Application of Mobil Oil Corporation for approval of Unit Agreement for the Northeast Square Lake Premier Unit, Eddy County, New Mexico, with copy of Unit Agreement attached thereto.

Very truly yours,

James E. Sperling
James E. Sperling

JES:fm
Enclosures
cc: Office of State Engineer
Attention: Mr. Frank Irby

DOCKET MAILED

Date 8-11-66
W

BEFORE THE OIL CONSERVATION COMMISSION OF
NEW MEXICO

IN THE MATTER OF THE APPLICATION OF
MOBIL OIL CORPORATION FOR AUTHORITY
TO INSTITUTE A WATERFLOOD PROJECT
WITHIN THE NORTHEAST SQUARE LAKE
PREMIER UNIT AREA, CONTAINING 2,200
ACRES, MORE OR LESS, IN EDDY COUNTY,
NEW MEXICO, SAID PROJECT TO BE
OPERATED IN ACCORDANCE WITH RULE
701 OF THE COMMISSION.

Case No. 3444

APPLICATION

1. Mobil Oil Corporation hereby makes application for authority to inject water into the Premier (Basal Grayburg) formation underlying the Northeast Square Lake Premier Unit Area in Eddy County, New Mexico. Attached to this Application as Exhibit "1" is a plat showing the location of the Unit Area and all wells within a radius of two (2) miles of the proposed injection wells, which are also shown on Exhibit "1". The Exhibit shows leasehold ownership within the radius of two (2) miles.

2. Attached as Exhibit "2" is a plat showing the proposed injection pattern within the Unit Area.

3. It is proposed that the interval to be affected by the proposed water injection is the continuous stratigraphic section from 3,926 feet to 3,976 feet subsurface, within the Premier Sand (Basal Grayburg) formation. Attached as Exhibit "3" is a sonic log of the Oscar Bourg Drilling Company No. 1 State located 660 feet FSL and 660 feet FWL, Section 2, Township 16 South, Range 31 East. This log depicts typical Premier Sand development in the Unit Area. The top of the Premier Sand is shown at 3,926 feet below derrick floor datum.

4. Injection will be through corrosion protected tubing below tension packers. The annular space between the tubing and casing will be filled with corrosion inhibited water. Attached as

Exhibits "4" through "17" are diagrammatic sketches of proposed injection wells showing casing and production strings and other pertinent completion data.

5. It is proposed to initiate injection at a rate of 3,500 barrels of water per day into 14 injection wells for an average of 250 barrels per well, per day. Water will be purchased from the Double Eagle Corporation and produced water will be injected as soon as it becomes available.

6. A copy of this Application, complete with Exhibits, has been sent to the Office of the State Engineer, Santa Fe, New Mexico.

7. It is requested that authority be granted to initiate and operate this Project under the provisions of Commission Rule No. 701 relating to waterflood projects and the establishment of allowables in accordance therewith.

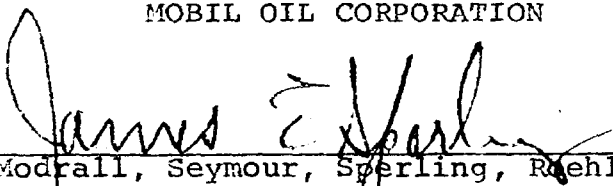
8. The reservoir to be injected has reached an advanced stage of depletion, and the initiation of this Project will prevent waste and protect correlative rights.

Applicant respectfully requests that the Commission set this matter for hearing and thereafter issue its Order granting approval for the initiation of the Project as requested and proposed herein.

Respectfully submitted,

MOBIL OIL CORPORATION

By


Modrall, Seymour, Sperling, Riehl & Harris
Its Attorneys
1200 Simms Building, Post Office Box 466
Albuquerque, New Mexico

APPLICATION
NORTHEAST SQUARE LAKE PREMIER UNIT WATERFLOOD

Mobil Oil Corporation hereby makes application for authority to institute a waterflood project by injecting water into the Premier (Basal Grayburg) formation within an area to be designated as the Northeast Square Lake Premier Unit.

1. The following described land is designated and recognized as constituting the Unit Area:

Township 16 South, Range 31 East, N.M.P.M.

Sec. 2: SW/4

Sec. 3: Lots 14 & 15 and the S/2

Sec. 4: E/2 of the SE/4; SW/4 of the SE/4 and SE/4
of the SW/4

Sec. 9: All

Sec. 10: All

Sec. 11: NW/4 and NW/4 of the SW/4

Containing 2200 acres, more or less, in Eddy County.

Exhibit 1 is a lease map showing all wells and leases within a two mile radius of the Unit Area.

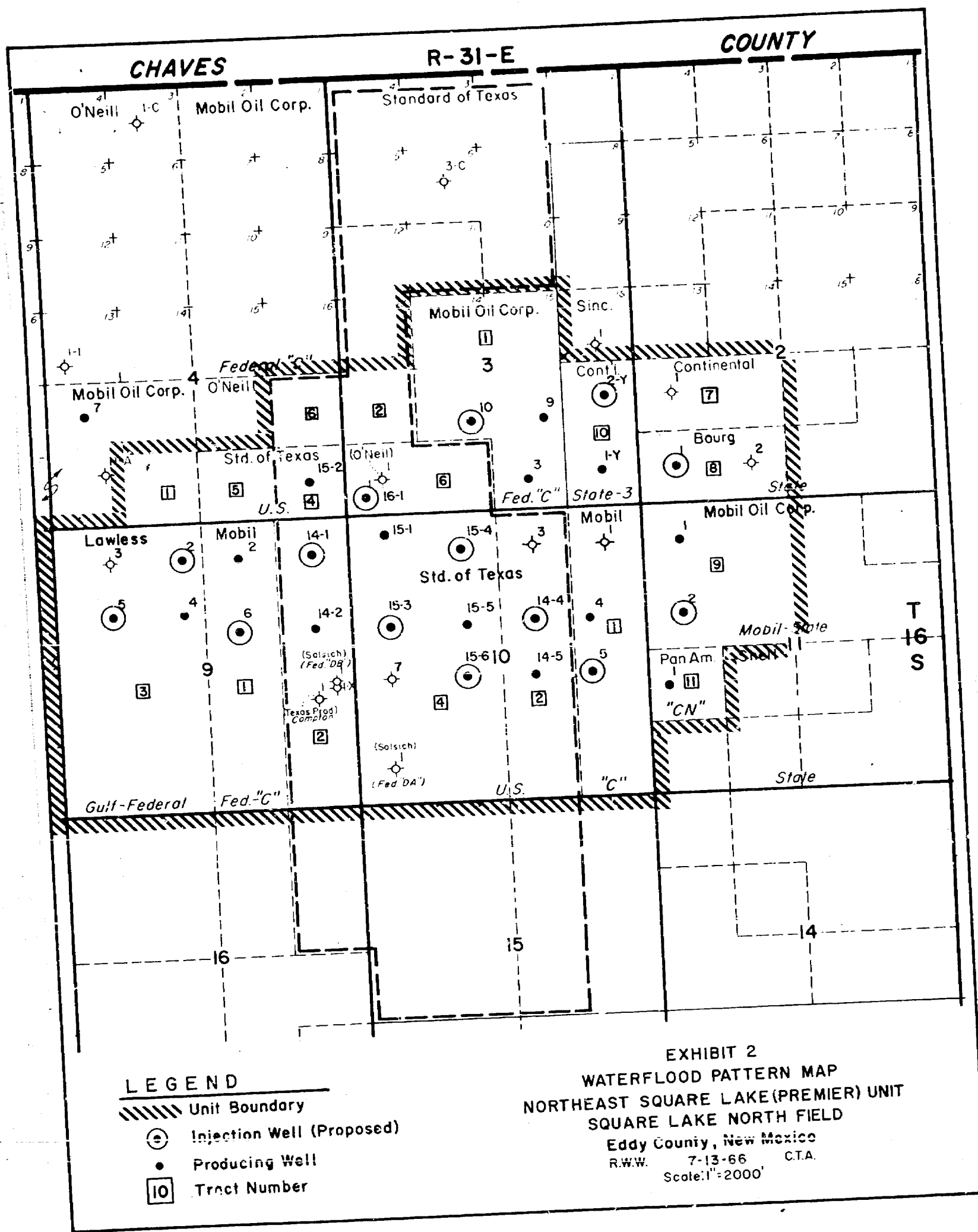
2. It is proposed to initiate injection at a total rate of 3,500 barrels of water per day into 14 injection wells, which is 250 barrels per day per well. The injection pattern, which has the symmetry of a five spot, is shown on Exhibit 2. The well head pressure after about 50% fill up is anticipated to be approximately 2000 psig. Injection equipment will be designed for a working pressure of 2200 psig. All water injection facilities

will be internally coated.

3. The zone to be flooded is the Premier Sand (Basal Grayburg) formation. Exhibit 3 is a sonic log of the Oscar Bourg Drilling Company No. 1 State located 660 feet FSL and 660 feet FWL, Sec. 2, T-16-S, R-31-E. This log depicts typical Premier Sand development in the Unit Area. In this well the top of the Premier is about 3926 feet below derrick floor datum. The unitized interval is the continuous stratigraphic section from 3926 feet to 3976 feet.
4. Injection will be through corrosion protected tubing below tension packers. The annular space between the tubing and casing will be filled with corrosion inhibited water. A diagrammatic sketch showing pertinent completion data for each injection well is presented in Exhibits 4 thru 17.
5. Make-up water will be purchased from the Double Eagle Corporation. Produced water will be injected into the waterflood pattern as soon as it becomes available.
6. The Unit Area production for April 1966 was 2,202 barrels of oil from 23 producing wells, which is an average daily production of 4 barrels per well per day. There are 3 shut in wells and 3 temporarily abandoned wells in addition to the producers within the unit boundary. The Unit Area has reached the advanced stage of depletion. It is requested that the project be operated under the provisions of Commission Rule No. 701-E relating to waterflood projects and the establishment of allowables in accordance therewith.

Mobil Oil Corporation respectfully requests the Commission issue its order granting approval to the institution of the Northeast Square Lake Premier Unit Waterflood as proposed.

RWhite/jc
7/14/66



SCHLIMBERGER WELL SURVEYING CORPORATION
 BUILT BY WELL

COMPANY OSCAR BOURG
 DRILLING COMPANY

WELL STATE - I

FIELD WILDCAT

LOCATION SEC. 2-16S-31E

COUNTY EDDY

STATE NEW MEXICO

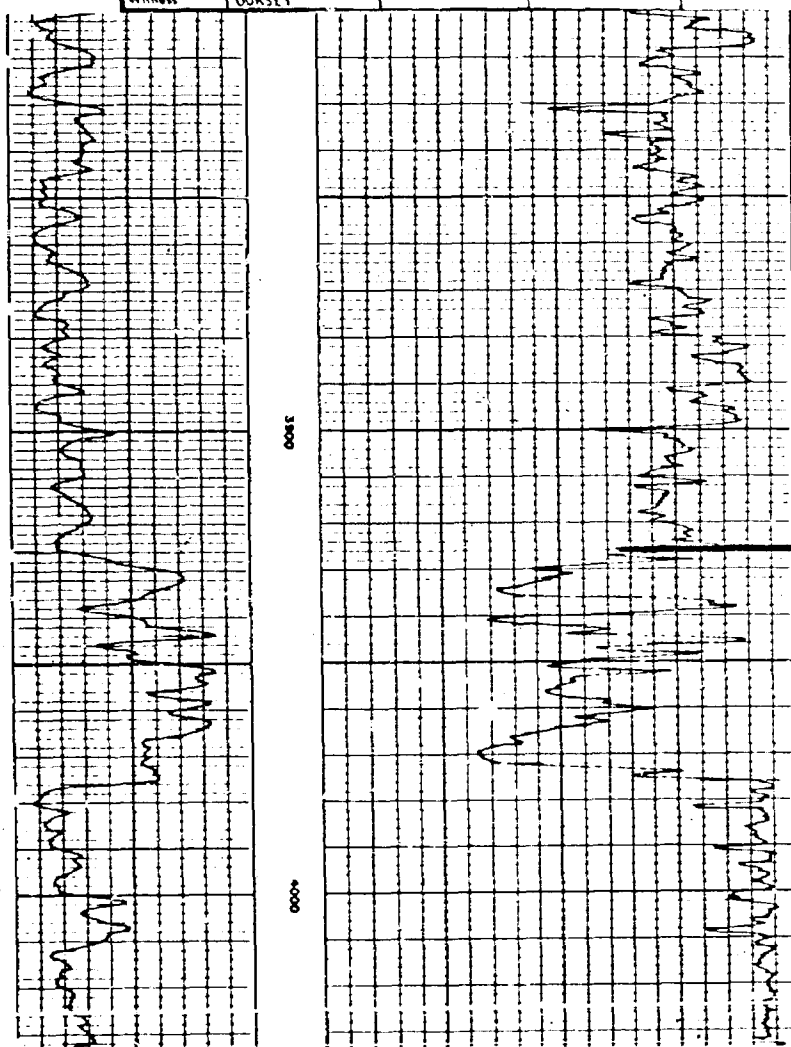
Other Surveys
 11 - GR MLI

Location of Well
 660' FROM S&W/L

EST.
 Elevation: K.B., 4417
 D.F., 44047
 or G.L., 44047

Log Depth measured from RB 12.25 ft. above GL

RUN No.	ONE
Date	1-24-60
First Reading	4097
Last Reading	0
Feet Measured	4097
Csg. Schum.	
Csg. Driller	376
Depth Reached	4101
Bottom Driller	4100
Mud Mat.	SALT
Dens. Visc.	10.8 33
Mud Resist.	0.5 73 1F
psi. DHT	1024 20 1F
psi	0 1F
Wtr. Loss	25 CC 30 min
Emul	0.4 73 1F
Bit Size	7 7/8" TO 3215, 7 13/16" TO 3981, 72 TO 10
Span:	1" 420 To 4097 To To To
Oper. Log Time	21 HOURS
Truck No.	2527-HOBBS
Recorded By	ROUSH
Witness	OSARSKY



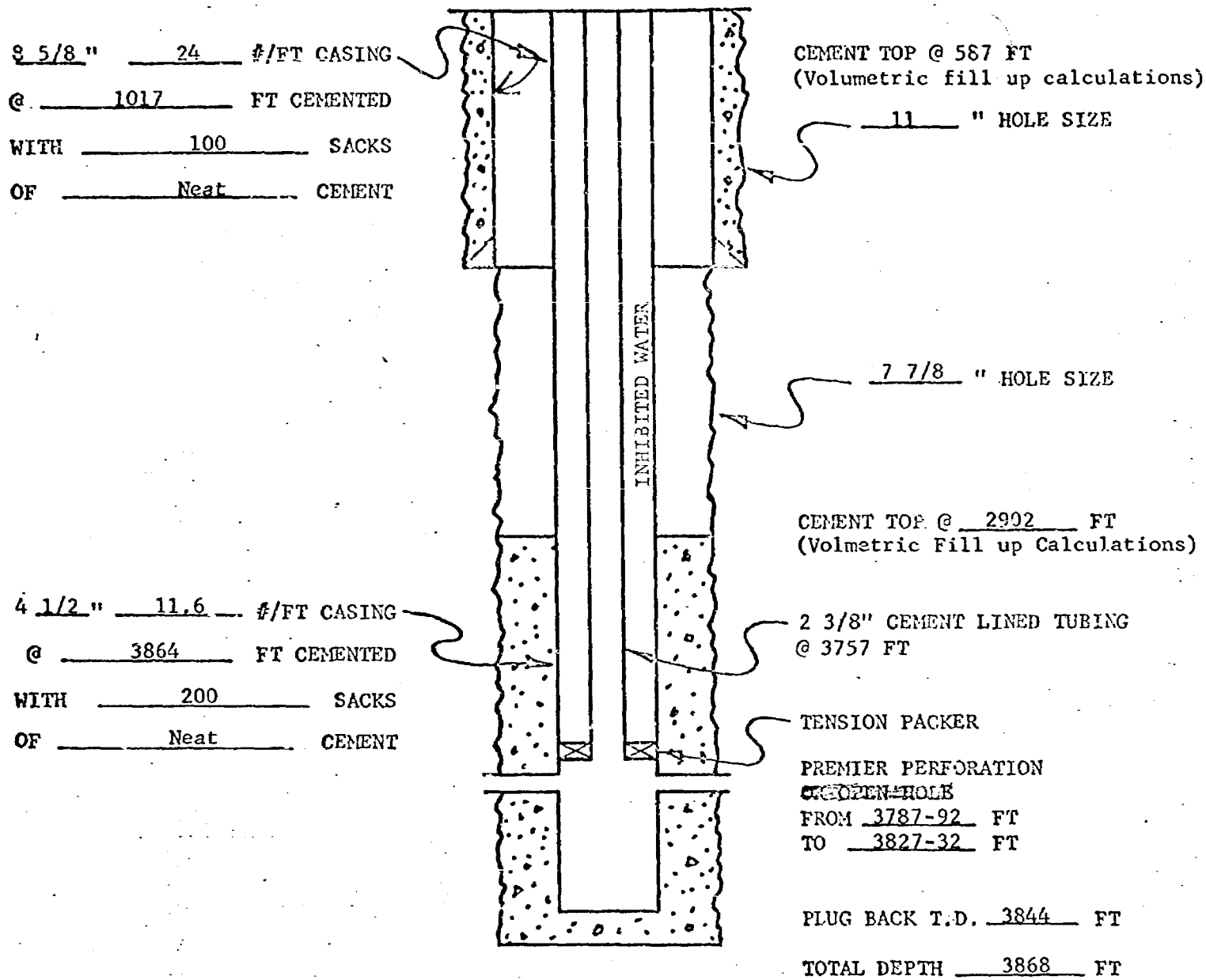
TOP PREMIER

UNITIZED INTERVAL

EXHIBIT 3
UNITIZED FORMATION
NORTHEAST SQUARE LAKE
PREMIER UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO
R.W.W. 7-13-66

EXHIBIT 4
INJECTION WELL COMPLETION DATA

<u>MOBIL</u>	<u>FEDERAL C</u>	<u>5</u>
OPERATOR	LEASE	WELL NO.
LOCATION: I - SEC. 10, T-16-S, R-31-E		
NORTHEAST SQUARE LAKE UNIT		
SQUARE LAKE NORTH FIELD		
EDDY COUNTY, NEW MEXICO		

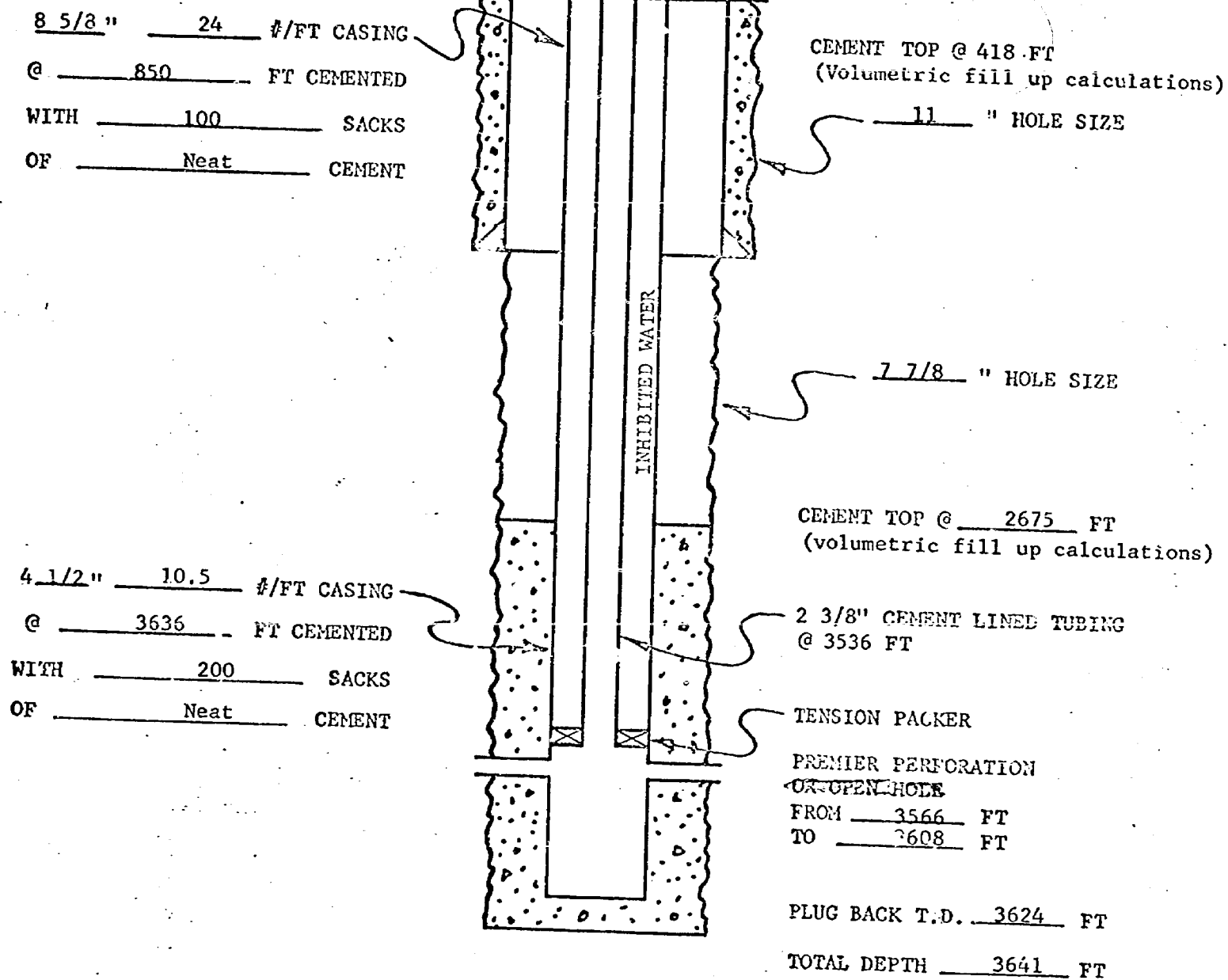


(NEW WELL NAME WILL BE TRACT 1 WELL 5)

EXHIBIT 5
INJECTION WELL COMPLETION DATA

MOBIL OPERATOR FEDERAL C LEASE 6 WELL NO:

LOCATION: G - SEC. 9, T-16-S, R-31-E
NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO

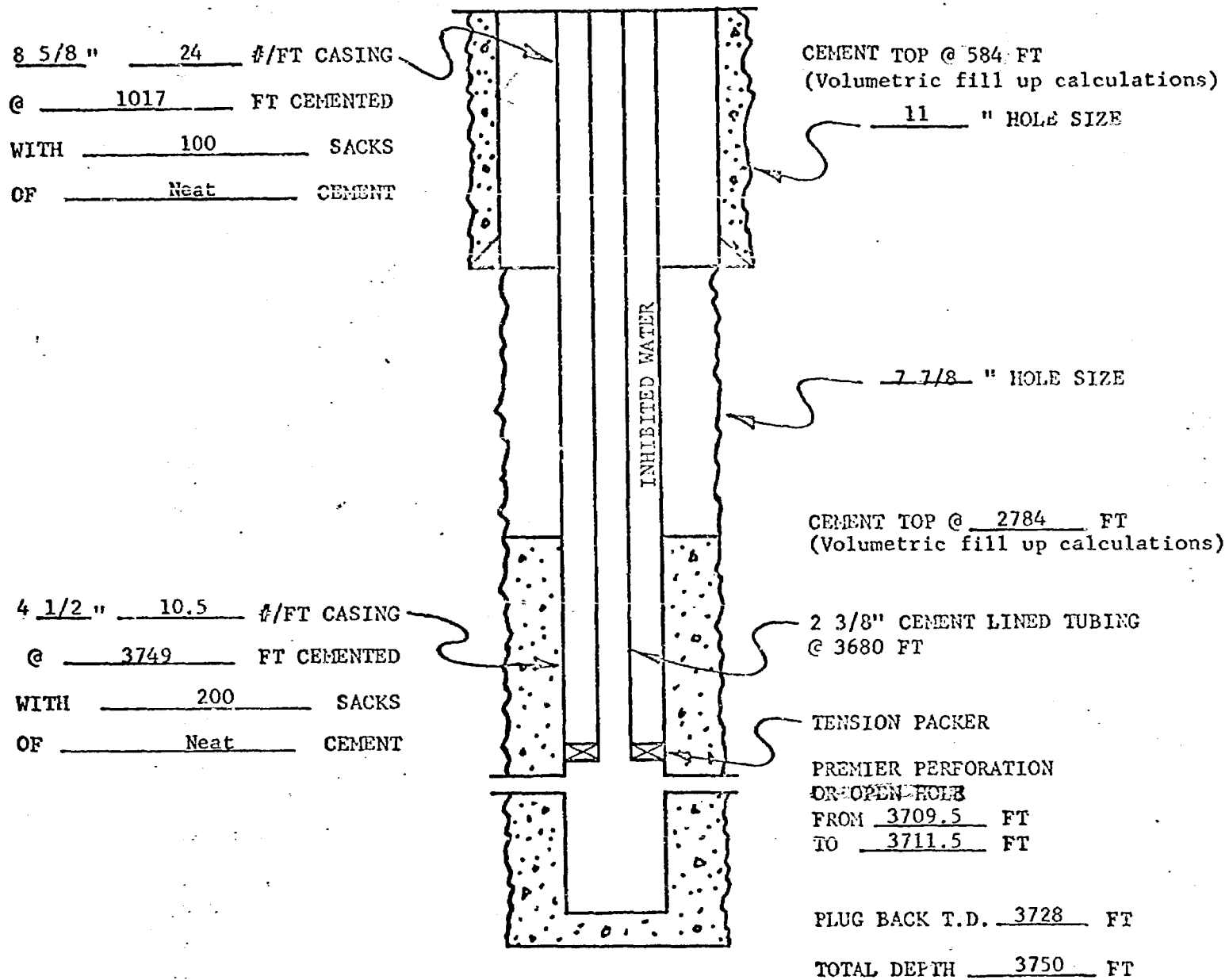


(NEW WELL NAME WILL BE TRACT 1 WELL 6)

EXHIBIT 6
INJECTION WELL COMPLETION DATA

MOBIL FEDERAL C 10
OPERATOR LEASE WELL NO.

LOCATION: S - SEC. 3, T-16-S, R-31-E
NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO



(NEW WELL NAME WILL BE TRACT 1 WELL 10)

EXHIBIT 7
INJECTION WELL COMPLETION DATA

STANDARD OF TEXAS

FEDERAL 14

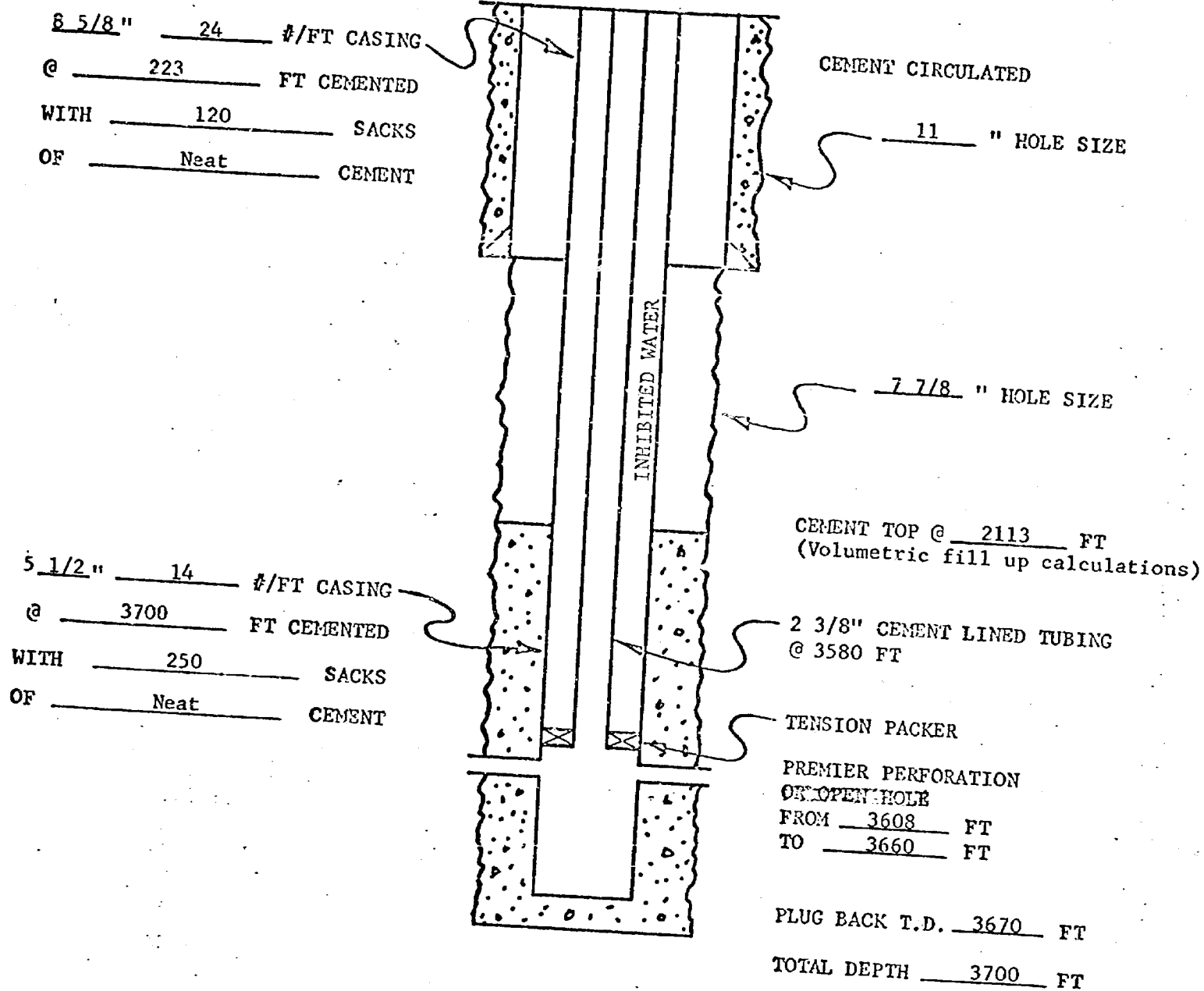
OPERATOR

LEASE

1
WELL NO.

LOCATION: A - SEC. 9, T-16-S, R-31-E

NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO



(NEW WELL NAME WILL BE TRACT 2 WELL 1)

EXHIBIT 8
INJECTION WELL COMPLETION DATA

STANDARD OF TEXAS

FEDERAL 14

4

OPERATOR

LEASE

WELL NO.

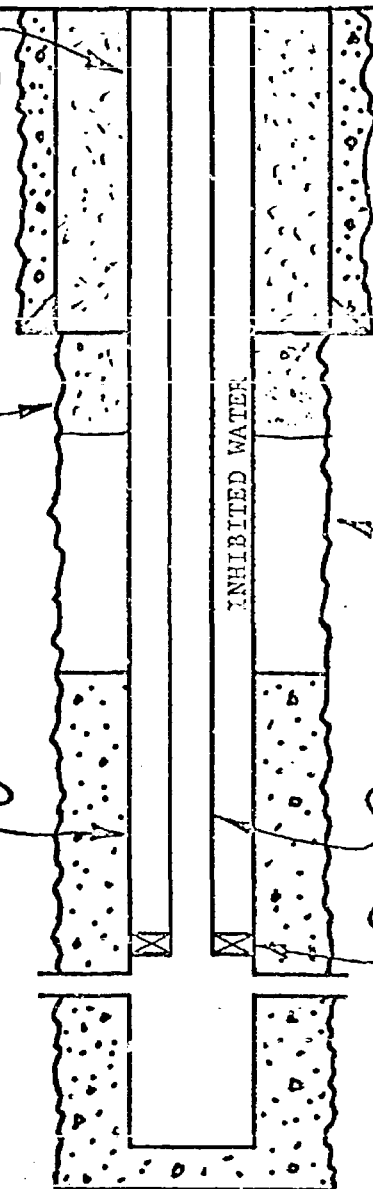
LOCATION: G - SEC. 10, T-16-S, R-31-E

NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO

8 5/8" 36 #/FT CASING
@ 212 FT CEMENTED
WITH 135 SACKS
OF Neat CEMENT

225 sxs Neat cement thru
staging collar @ 1015'
Cement Circulated

4 1/2" 11.6 #/FT CASING
@ 3815 FT CEMENTED
WITH 200 SACKS
OF Neat CEMENT



CEMENT CIRCULATED

11 " HOLE SIZE

6 3/4 " HOLE SIZE

CEMENT TOP @ 2212 FT
(Volumetric fill up calculations)

2 3/8" CEMENT LINED TUBING
@ 3690 feet

TENSION PACKER

PREMIER PERFORATION
OR OPEN HOLE
FROM 3720 FT
TO 3778 FT

PLUG BACK T.D. 3781 FT

TOTAL DEPTH 3820 FT

(NEW WELL NAME WILL BE TRACT 2 WELL 4)

EXHIBIT 9
INJECTION WELL COMPLETION DATA

JAKE LAWLESS INC. OPERATOR
GULF-FEDERAL LEASE

2
WELL NO.

LOCATION: C - SEC. 9, T-16-S, R-31-E
NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO

7 5/8" 20 #/FT CASING
@ 177 FT CEMENTED
WITH 100 SACKS
OF Neat CEMENT

100 ex set with tubing
outside casing @ 760'
Est. Top @ 100'

CEMENT CIRCULATED
10" HOLE SIZE

6 3/4" HOLE SIZE

CEMENT TOP @ 2924 FT
(VOLUMETRIC FILL UP CALCULATION)

2 1/16" CEMENT LINED TUBING
@ 3530 FT

TENSION PACKER

PREMIER PERFORATION
OR OPEN HOLE
FROM 3560 FT
TO 3565 FT

PLUG BACK T.D. 3597 FT

TOTAL DEPTH 3606 FT

(NEW WELL NAME WILL BE TRACT 3 WELL 2)

EXHIBIT 10
INJECTION WELL COMPLETION DATA

JAKE LAWLESS INC+

GULF-FEDERAL

5

OPERATOR

LEASE

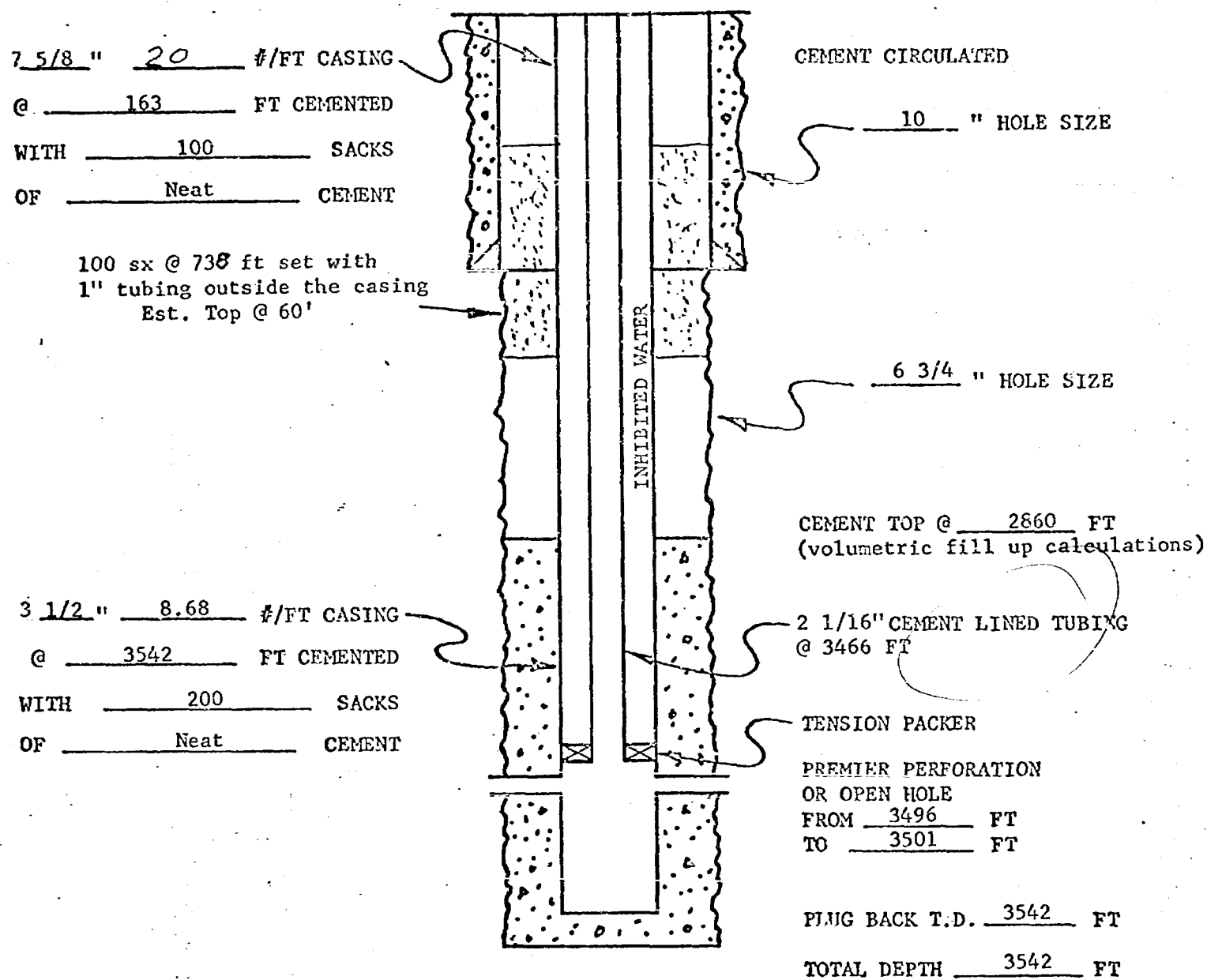
WELL NO.

LOCATION: E - SEC. 9, T-16-S, R-31-E

NORTHEAST SQUARE LAKE UNIT

SQUARE LAKE NORTH FIELD

EDDY COUNTY, NEW MEXICO

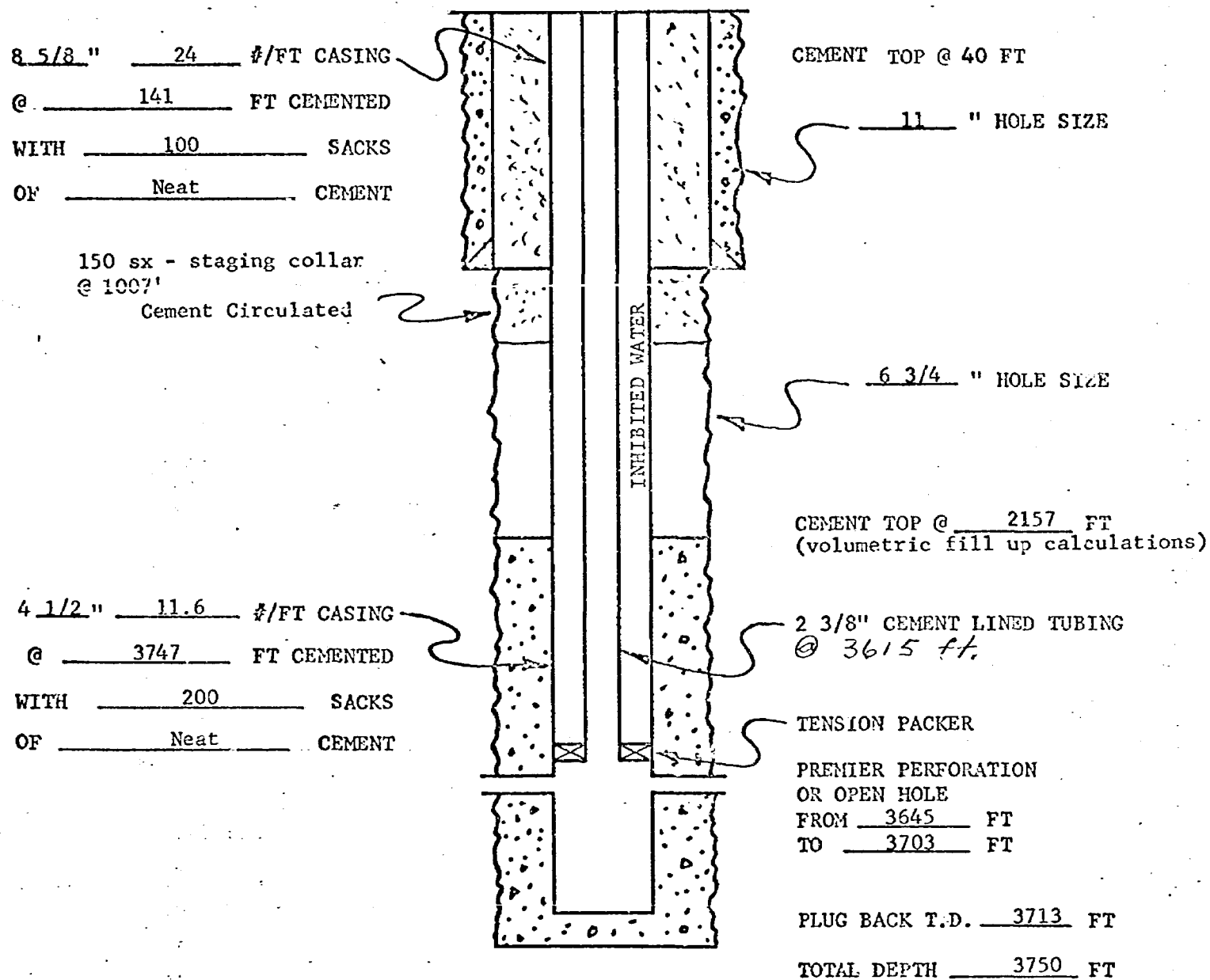


(NEW WELL NAME WILL BE TRACT 3 WELL 5)

EXHIBIT 11
INJECTION WELL COMPLETION DATA

STANDARD OF TEXAS FEDERAL 15 3
OPERATOR LEASE WELL NO.

LOCATION: E - SEC. 10, T-16-S, R-31-E
NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO



(NEW WELL NAME WILL BE TRACT 4 WELL 3)

EXHIBIT 12
INJECTION WELL COMPLETION DATA

STANDARD OF TEXAS

FEDERAL 15

4

OPERATOR

LEASE

WELL NO.

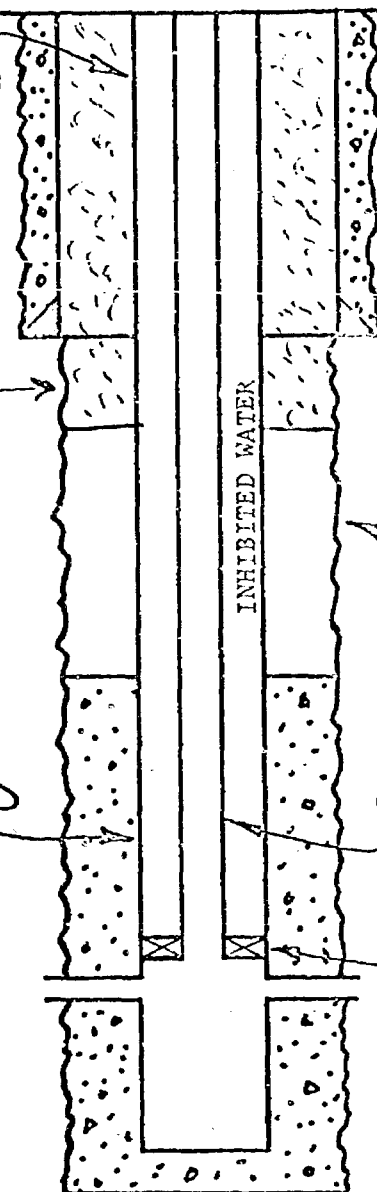
LOCATION: C - SEC. 10, T-16-S, R-31-E

NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO

8 5/8" 24 #/FT CASING
@ 200 FT CEMENTED
WITH 125 SACKS
OF Neat CEMENT

200 sx Neat @ 996'
circulated to surface
by staging collar

4 1/2" 9.5 #/FT CASING
@ 3770 FT CEMENTED
WITH 200 SACKS
OF Neat CEMENT



CEMENT CIRCULATED

11" HOLE SIZE

6 3/4" HOLE SIZE

CEMENT TOP @ 2177 FT
(volumetric fill up calculation)

2 3/8" CEMENT LINED TUBING
@ 3642 FT

TENSION PACKER

PREMIER PERFORATION
OR OPEN HOLE
FROM 3672 FT
TO 3718 FT

PLUG BACK T.D. 3741 FT

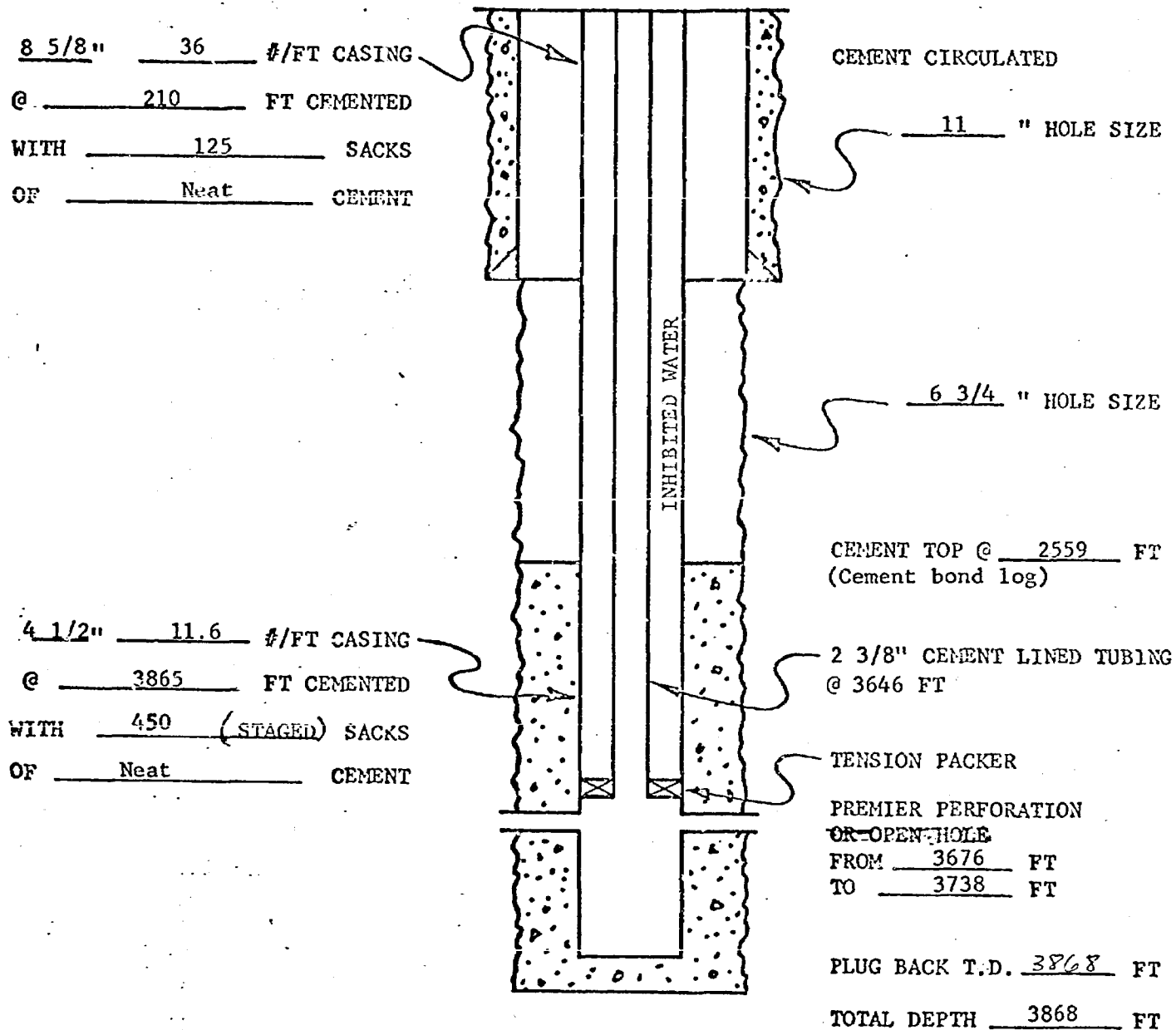
TOTAL DEPTH 3770 FT

(NEW WELL NAME WILL BE TRACT 4 WELL 4)

EXHIBIT 13
INJECTION WELL COMPLETION DATA

<u>STANDARD OF TEXAS</u>	<u>FEDERAL 15</u>	<u>6</u>
OPERATOR	LEASE	WELL NO.

LOCATION: K - SEC. 10, T-16-S, R-31-E
NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO



(NEW WELL NAME WILL BE TRACT 4 WELL 6)

EXHIBIT 14
INJECTION WELL COMPLETION DATA

STANDARD OF TEXAS

FEDERAL 16

1

OPERATOR

LEASE

WELL NO.

LOCATION: U - SEC. 3, T-16-S, R-31-E
NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO

8 5/8 " 24 #/FT CASING
@ 212 FT CEMENTED
WITH 125 SACKS
OF Neat CEMENT

CEMENT CIRCULATED

11 " HOLE SIZE

6 3/4 " HOLE SIZE

CEMENT CIRCULATED

4 1/2 " 11.6 #/FT CASING
@ 3726 FT CEMENTED
WITH 440 SACKS
OF 40% DIACEL D CEMENT
+ 150 SX NEAT - CIRC. 5 SX

2 3/8" CEMENT LINED TUBING
@ 3615 FT

TENSION PACKER

PREMIER PERFORATION
OR OPEN HOLE
FROM 3645 FT
TO 3686 FT

PLUG BACK T.D. 3695 FT

TOTAL DEPTH 3728 FT

(NEW WELL NAME WILL BE TRACT 6 WELL 1)

EXHIBIT 15
INJECTION WELL COMPLETION DATA

BOURG DRILLING CO.

STATE

1

OPERATOR

LEASE

WELL NO:

LOCATION: U - SEC. 2, T-16-S, R-31-E

**NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO**

8 5/8 " 32 #/FT CASING
@ 376 FT CEMENTED
WITH 175 SACKS
OF Neat CEMENT

CEMENT CIRCULATED

11 " HOLE SIZE

7 7/8 " HOLE SIZE

CEMENT TOP @ 2831 FT
(calculated by volumetric fill up)

5 1/2 " 14 #/FT CASING
@ 4100 FT CEMENTED
WITH 200 SACKS
OF Neat CEMENT

2 3/8" CEMENT LINED TUBING
@ 3934 FT

TENSION PACKER

PREMIER PERFORATION
OR OPEN HOLE
FROM 3964 FT
TO 3972 FT

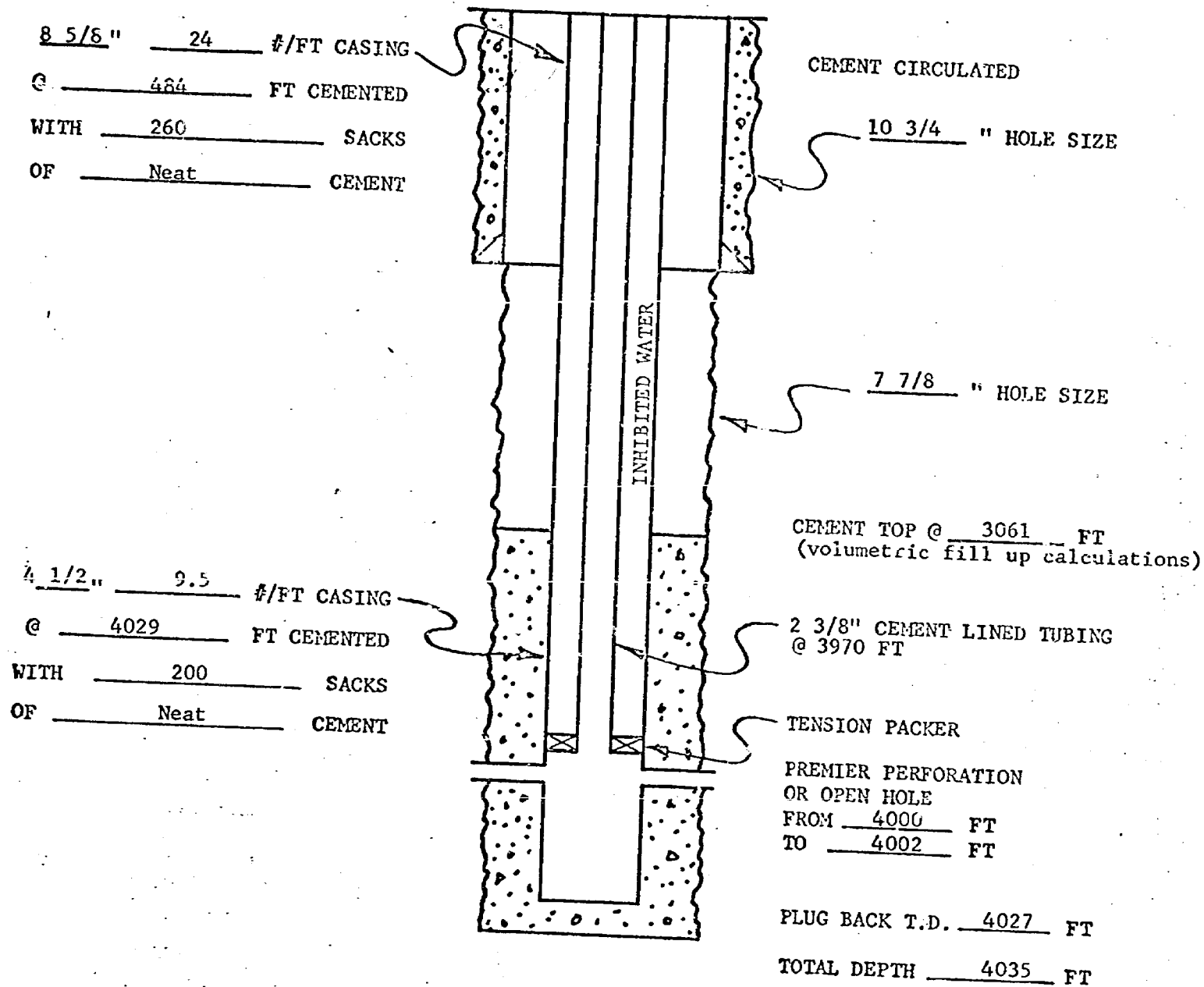
PLUG BACK T.D. 4075 FT

TOTAL DEPTH 4100 FT

(NEW WELL NAME WILL BE TRACT 8 WELL 1)

EXHIBIT 16
INJECTION WELL COMPLETION DATA

MOBIL OPERATOR MOBIL STATE LEASE 2 WELL NO.
LOCATION: E - SEC. 11, T-16-S, R-31-E
NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO

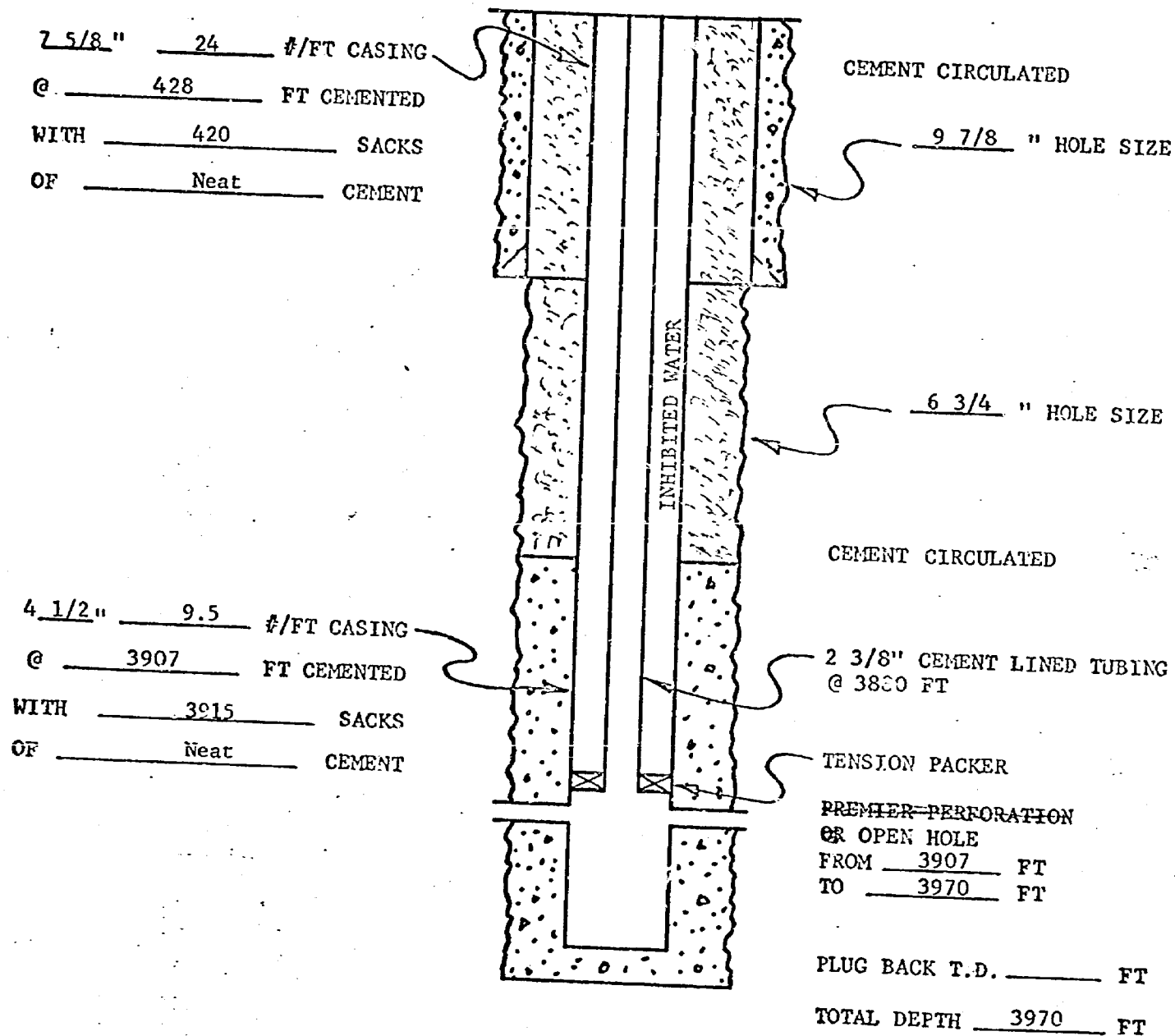


(NEW WELL NAME WILL BE TRACT 9 WELL 2)

EXHIBIT 17
INJECTION WELL COMPLETION DATA

CONTINENTAL OIL CO. STATE Y-3 2
OPERATOR LEASE WELL NO.

LOCATION: Q - SEC. 3, T-16-S, R-31-E
NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO



(NEW WELL NAME WILL BE TRACT 10 WELL 2)

DOCKET: EXAMINER HEARING - WEDNESDAY - AUGUST 24, 1966

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. Nutter, Alternate Examiner:

CASE 3437: (Continued and readvertised from the August 3, 1966 Examiner Hearing)

Application of Anadarko Production Company for a waterflood expansion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its Pearsall Queen Sand Unit waterflood project by the injection of water into the Queen formation through one well to be drilled at an unorthodox location 25 feet North of the South line and 25 feet West of the East line of the SE/4 NW/4 of Section 4, Township 18 South, Range 32 East, Lea County, New Mexico.

CASE 3443: Application of Mobil Oil Corporation for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the approval of its Northeast Square Lake (Premier) Unit Area comprising 2,200 acres, more or less, of Federal and State lands in Township 16 South, Range 31 East, Eddy County, New Mexico.

CASE 3444: Application of Mobil Oil Corporation for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Northeast Square Lake (Premier) Unit by the injection of water into the Premier Sand of the Grayburg formation through 14 wells located in Sections 2, 3, 9, 10, and 11, Township 16 South, Range 31 East, North Square Lake Pool, Eddy County, New Mexico.

CASE 3445: Application of Kersey & Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Grayburg-San Andres formation through two wells located in Section 32, Township 17 South, Range 32 East, Maljamar Pool, Lea County, New Mexico.

CASE 3446: Application of Kersey & Company for an amendment to Order No. R-2908, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-2908 which authorized a waterflood project in the Old Loco Unit, Loco Hills Pool, Eddy County, New Mexico. Applicant seeks authority to substitute 8 wells in Section 32, Township 17 South, Range 29 East, for the 6 wells previously authorized for injection so that the injection pattern will conform to that of a nearby project currently in operation.

CASE 3447: Application of Texas Pacific Oil Company for down-hole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the North Bagley Middle-Pennsylvanian and North Bagley Upper-Pennsylvanian Pools in the wellbore of its J. P. Collier Well No. 1 located in Unit F of Section 10, Township 11 South, Range 33 East, North Bagley Field, Lea County, New Mexico.

-2-

Docket No. 21-66

CASE 3448: Application of Pan. American Petroleum Corporation for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to complete its South Mattix Unit Well No. 21 at an unorthodox location 1873 feet from the South line and 2087 feet from the West line of Section 15, Township 24 South, Range 37 East, Fowler Ellenburger Pool, Lea County, New Mexico.

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

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BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
August 24, 1966

Application of Mobil Oil Corporation for
a unit agreement, Eddy County, New
Mexico

and

Application of Mobil Oil Corporation for
a waterflood project, Eddy County, New Mexico.

CASE NUMBER
3443

CASE NUMBER
3444

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
August 24, 1966

Application of Mobil Oil Corporation for
a unit agreement, Eddy County, New
Mexico

CASE NUMBER
3443

and

Application of Mobil Oil Corporation for
a waterflood project, Eddy County, New
Mexico.

CASE NUMBER
3444

BEFORE:

ELVIS A. UTZ, Examiner.

TRANSCRIPT OF HEARING

MR. ELVIS A. UTZ: The next case is 3443.

MR. HATCH: Case 3443. Application of Mobil Oil
Corporation for a unit agreement, Eddy County, New Mexico.

MR. SPERLING: Jim Sperling appearing for the Applicant,
Mobil Oil Corporation, and we have one witness, Mr. Robert White.

MR. UTZ: Will you swear the witness?

(Whereupon, the witness was sworn.)

MR. SPERLING: Would you mark these exhibits?

If the Examiner please, we would like to request that
Case 3443 and Case 3444 be consolidated for testimony purposes.

MR. UTZ: In the absence of any objections, these

cases will be consolidated for the purpose of the hearing.
Separate orders will be written on the cases.

Are there any other appearances in this case?

There are none. You may proceed.

ROBERT WHITE

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

DIRECT EXAMINATION

BY MR. JIM SPERLING:

Q State your name, please, sir, your residence, your
occupation, by whom you are employed.

A My name is Robert W. White. I live in Midland, Texas.
I am a Senior Production Engineer for Mobil Oil Corporation.

Q Have you testified before the Commission on previous
occasions in those capacities?

A Yes, I have.

Q Your qualifications are then a matter of record before
the Commission?

A Yes, that's true.

Q Mr. White, you are familiar with the application filed
by Mobil Oil Corporation in Case Number 3443 which requests
approval of unit agreement for the Northeast Square Lake Premier
Unit, Eddy County, New Mexico, is that correct?

A Yes, sir, I am.

Q Would you briefly describe the unit agreement, its provisions, the ownership, percentage of sign up by the interest owners and whether or not the unit agreement has been submitted to and received approval by or tentative approval by the regulatory agencies, who have jurisdiction over these lands and leases.

A The unit agreement is the usual form comprising Federal and State lands. As of this date, we have seventy-three point six percent of the working interest owners signed. The agreements have been submitted to the State Land Office and the U.S.G.S. and we have received their preliminary approval on the agreement.

Q Would you tell us in general what the unit agreement provides with reference to operation and with reference to participation by tracts in production in phase one and phase two as described in the unit agreement?

A The participation under the unit will be divided into two phases. Phase one will be based ninety percent on a tract's current production fraction plus ten percent on the tract's remaining primary fraction. Phase one will remain in effect from the effective date of the unit until oil production from the unit area after November 1, 1965 equals 57,300 barrels.

Phase two participation is based sixty percent on the tract's ultimate primary recovery fraction plus forty

percent of the tract's acre feet fraction.

Q You stated, I believe, that the actual execution of the agreement has been accomplished by seventy-three percent plus of the interest owners?

A Yes, that is the **working** interest owners in phase two.

Q Do you anticipate one hundred percent execution of the agreement?

A Yes. We anticipate one hundred percent commitment of the tracts shown in the unit area.

Q You have received no objection from any parties owning interest within the unit area?

A That's true.

MR. SPERLING: Does the Examiner have any questions with reference to the unit agreement portion of the hearing?

MR. UTZ: I have none. Are there questions?

Proceed.

Q (By Mr. Sperling) Now, I will refer you, Mr. White, to what has been marked as Exhibit Number One, Case Number 3444, and ask you to describe what it portrays.

A Exhibit One is the lease map of the area which shows the unit boundary and all wells and leases within a two-mile radius of the proposed waterflood. The unit area will consist of 2200 acres more or less in Sections two, three, four, nine, ten, and eleven, of Township 16 South, Range 31 East, Eddy

County, New Mexico.

Q This is the same unit area as described and shown in exhibit form in the unit agreement concerning which you have already testified?

A Yes, it is.

Q Now, the application which has been filed in 3444 requests the authority of the Commission to institute a waterflood project by injecting water into the Premier Basal Grayburg formation within the area which you have just described. Would you tell the Examiner what your plans are now with reference to the injection rates, and so forth?

A Yes. Exhibit Two is a waterflood pattern map which shows the proposed development. It is proposed to initially inject at a total rate of 3,500 barrels of water per day into fourteen injection wells which have the symmetry of a five spot pattern. The well head pressure after about fifty percent fill up is anticipated to be approximately 2,000 pounds. Injection equipment is designed for working pressures of approximately 2,200 pounds. All injection facilities will be internally coated.

Q Now the Exhibit Two to which you have referred shows the location of the proposed injection as well as producing wells?

A Yes, it does.

dearney-meier reporting

dearney-meier

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Q And also indicates the unit area which, I believe, you have already described?

A Yes, it does.

Q Now would you please refer to Exhibit Three?

A Exhibit Three is a sonic log of the Oscar Bar E Drilling Company, State Number One. On this log we have shown the unitized formation which is the premier sand. On this log the top of the premier is found at 3,926 feet below the derrick floor and the base is 3,976 feet. This log depicts typical premier sand development within the unit boundary.

Q Now you described the log as typical of the sand development within the unit area as shown by logs on other wells?

A Yes, sir.

Q Would you refer to Exhibit Four through Seventeen now which are diagrammatic sketches of the proposed completions.

A Exhibits Four through Seventeen shows the injection well completion data. On these exhibits, the surface casing, oil string, tubing, and cement tops are shown on each proposed injection well. The injection will be through corrosion protected tubing below tension packers. In each case the packer will be set right above the top premier formation. On all diagrams there is a minimum of 600 feet of the calculated cement top above the proposed packer seats.

MR. UTZ: May I interrupt and ask a question here?

I think this is a drafting error. On all of these your eight and five-eighths has an arrow pointing to the smaller casing. That is an error, isn't it?

A Yes, that is a drafting error.

MR. UTZ: All right, proceed.

Q (By Mr. Sperling) What is your proposed water source for injection?

A Water will be purchased from the Double Eagle Corporation.

Q And what disposition will be made of produced water?

A As soon as produced water becomes available, it will be injected into the waterflood pattern.

Q Would you describe what the unit area's current production is, where wells are on producing status or what their status may be?

A Unit area production for April, 1966, was 2,202 barrels of oil from twenty-three producing wells, which is an average daily production of four barrels per well per day. There are three shut in wells and three temporarily abandoned wells in addition to the producers within the unit boundary. The unit area has reached the advanced stage of depletion and it is requested that the project be operated under the provisions of the Commission Rule Number 701E related to waterflood projects in the establishment of allowable in accordance therewith.

Q Mr. White, is it anticipated that the unit area will be expanded?

A No, it is not anticipated that the unit area will be expanded. There are some undrilled locations within the unit boundary which will likely be drilled at a later date.

Q What disposition do you propose to make of the three shut in wells and the three temporarily abandoned wells?

A The three shut in wells will be utilized in the pattern, either as injectors or producers as previously shown.

Q Has a copy of this application with the pertinent exhibits been submitted to the Office of the State Engineer of New Mexico.

A Yes, it has.

Q Have you seen a copy of a letter dated July 27th, 1966, addressed to the Secretary-Director of the Oil Conservation Commission in Santa Fe and signed on behalf of S. E. Reynolds, the State Engineer, by Frank Irby, the Chief, Water Rights Division?

A Yes, sir, I have.

Q In that letter, he requests that the Commission be assured that the tension packers which are shown on Exhibits Four through Seventeen are properly set well below the top of the cement surrounding the casing, which has previously been used as production string. Can you give the Commission that assurance?

A Yes, that will be done.

MR. SPERLING: If the Examiner please, I assume that the original of this letter is in the file and we would ask that it be made a part of the record in view of Mr. White's last statement.

MR. UTZ: It is in the file and will be made a part of the record in this case.

Q (By Mr. Sperling) Mr. White, do you have any data indicating reservoir characteristics and other pertinent information that should be made a part of the record in this case with reference to this unit area?

A Yes. The accumulative oil production from the unit area was 606,000 barrels as of May 1st, 1966. The remaining primary oil is estimated to be approximately 40,000 barrels as of May 1st, 1966, which means that approximately ninety-four percent of recoverable oil by primary drive has been produced. The increased recovery from the proposed waterflood is estimated to be approximately 1,000,000 barrels of oil.

The basic reservoir data may be summarized as follows:
Developed area 1,080 acres. Average pay thickness, seven feet. Average porosity, sixteen percent. Connate water saturation, thirty-two percent. Average air permeability, nineteen millidarcies. Original solution gas oil ratio, 295 standard cubic feet per barrel. Original bottom hole pressure 1,200 P.S.I. Current bottom hole pressure is estimated at approximately

100 P.S.I.

Q When do you propose to initiate injection, assuming the approval of the application?

A The material and equipment will be ordered as soon as approval is received and we anticipate to have water started in the ground within about six months.

Q Is there anything else that you would like to add to your testimony, Mr. White?

A No, sir, there isn't.

MR. SPERLING: At this time I would like to offer Exhibit Number One in Case 3443 and Exhibits One through Seventeen in Case Number 3444.

MR. UTZ: The Exhibits mentioned will be entered into the record of these cases without any objection.

MR. SPERLING: That's all I have at this time.

MR. UTZ: Did you state what the highest production was on the wells in this unit?

A The highest?

MR. UTZ: Yes, sir. You say a four barrel average.

A It ranges from ten to fifteen barrels per well for the top producer.

MR. UTZ: I noted on your diagram here of your injection well that the top of the cement is down in the neighborhood of 300 to 400 feet on a number of wells. Do you know

anything about the fresh water situation in that area?

A No, sir, I am not familiar with the fresh water basin as it is. Part of these wells are on the Caprock and part of them are off the Caprock so they are both within and without of the basin.

MR. UTZ: I believe we only have three wells in that category and that would be number five, six and ten. Are those wells in the basin or not?

A No, sir. They are not. They are on the western edge of the unit and we feel that the other things that we have done adequately protects the fresh water formations and will confine the injected water to the desired interval.

MR. UTZ: And all of your injection equipment will be lined?

A Yes.

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

MR. SPERLING: In connection with the Examiner's question concerning the fresh water and his last question relating to protective measures taken, I also understand that you intend to use corrosion inhibited water in the casing tubing annulus.

A Yes, sir, that is correct. These will be filled -- the annulus will be filled with inhibited water when the wells are completed.

MR. UTZ: What is your water source? Did you state that?

A Yes. It will be purchased from the Double Eagle Corporation of New Mexico.

MR. UTZ: Are there other questions?

(No response.)

The witness may be excused.

(Witness excused.)

Are there other statements in this case or these cases?

MR. HATCH: The letter from Standard Oil Company of Texas dated August 8th, 1966, addressed to the New Mexico Oil Conservation Commission. "Gentlemen: The application of Mobil Oil Corporation for authority to waterflood the Northeast of Square Lake Premier Unit, Eddy County, New Mexico, is to be heard August 24, 1966. Chevron Oil Company, an owner of interest within the unit, urges Commission approval of Mobil's application." Signed, "C. N. Setnar, Chief Engineer."

MR. UTZ: The cases will be taken under advisement.



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PAGE 14

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

I, W. DON McINTYRE, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this 24th Day of August, 1966.

W. Don McIntyre
W. DON McINTYRE

My Commission Expires:

July 14, 1970

I do hereby certify that the foregoing is a complete record of the proceedings in the Ziañero hearing of Case No. 3-430374 heard by me on Aug 24, 1966.
Shirley R. ... Examiner
New Mexico Oil Conservation Commission

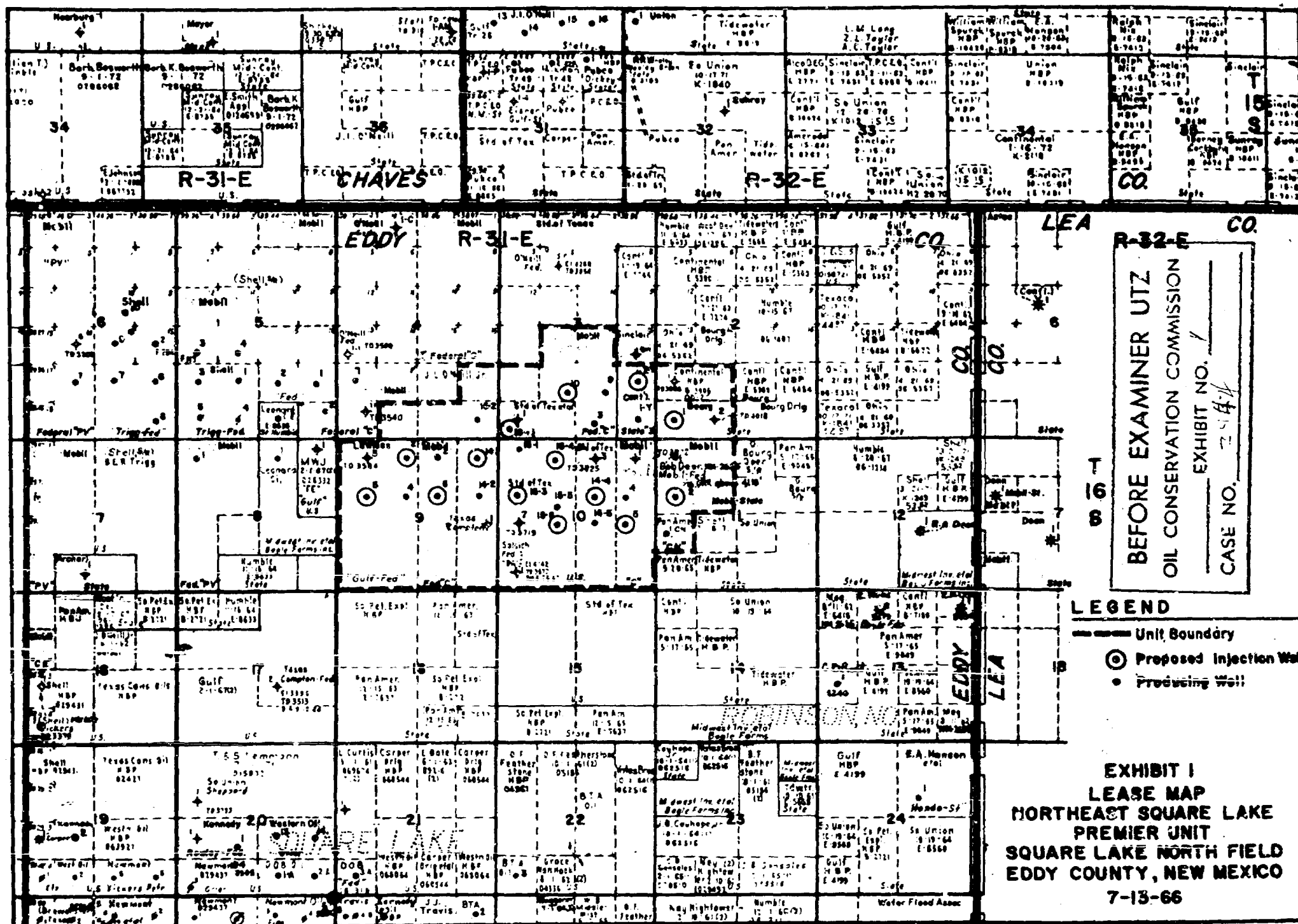
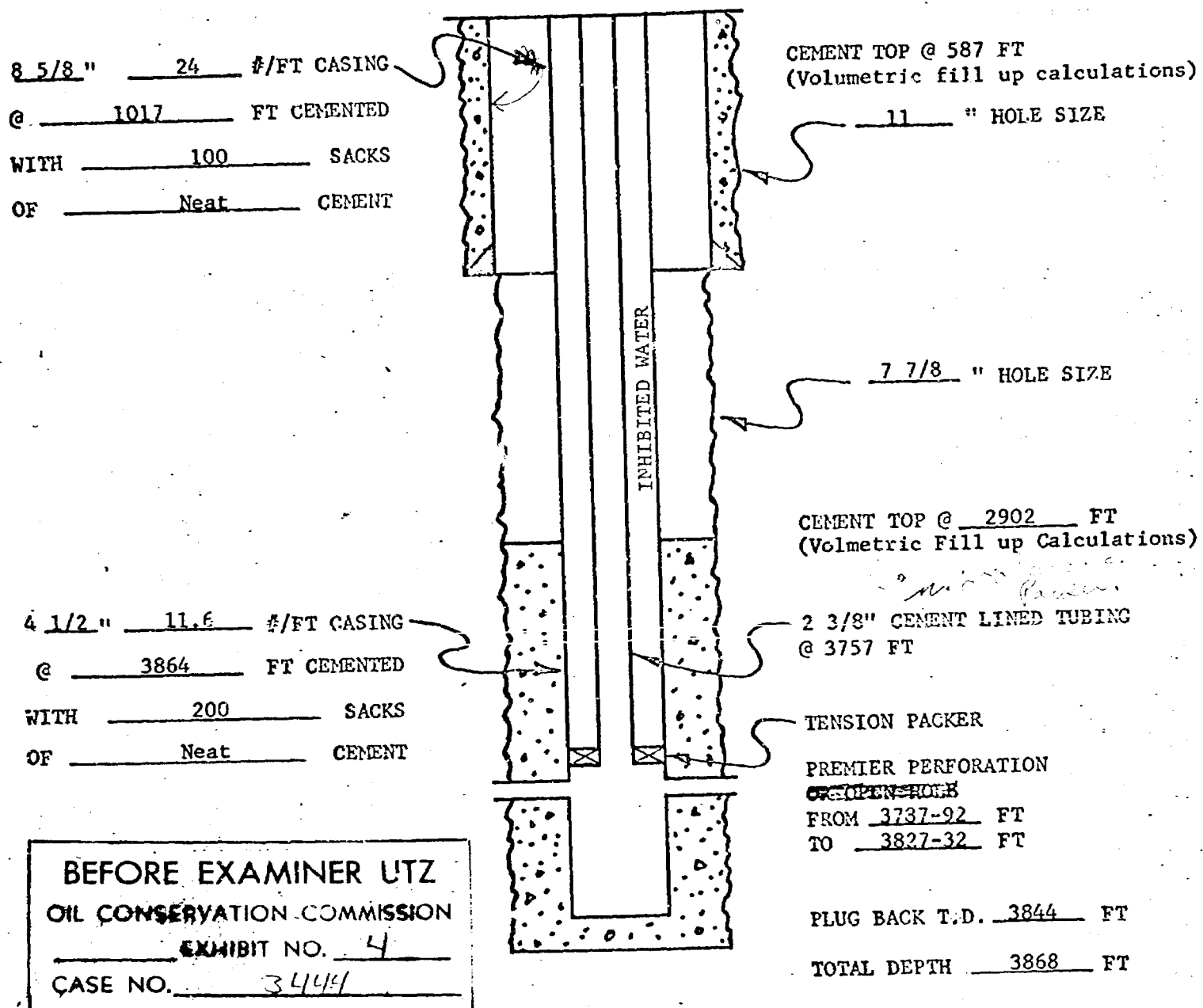


EXHIBIT 4
INJECTION WELL COMPLETION DATA

<u>MOBIL</u>	<u>FEDERAL C</u>	<u>5</u>
OPERATOR	LEASE	WELL NO.
LOCATION: I - SEC. 10, T-16-S, R-31-E		
NORTHEAST SQUARE LAKE UNIT		
SQUARE LAKE NORTH FIELD		
EDDY COUNTY, NEW MEXICO		

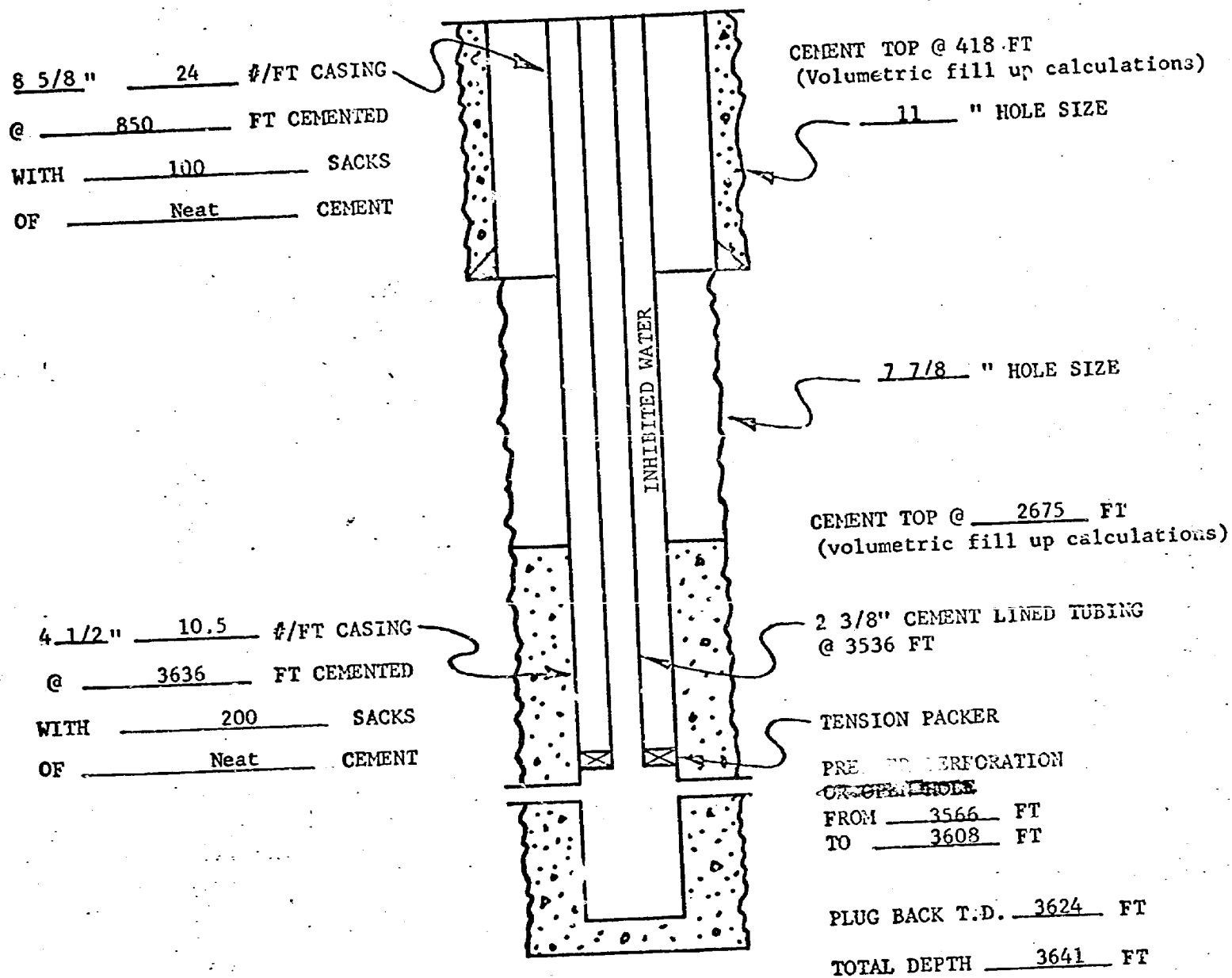


(NEW WELL NAME WILL BE TRACT 1 WELL 5)

EXHIBIT 5
INJECTION WELL COMPLETION DATA

MOBIL FEDERAL C
OPERATOR LEASE
WELL NO: 6

LOCATION: G - SEC. 9, T-16-S, R-31-E
NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO



(NEW WELL NAME WILL BE TRACT 1 WELL 6)

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5
CASE NO. 3441

EXHIBIT 6
INJECTION WELL COMPLETION DATA

MOBIL FEDERAL C 10
OPERATOR LEASE WELL NO.

LOCATION: S - SEC. 3, T-16-S, R-31-E

NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO

8 5/8 " 24 #/FT CASING
@ 1017 FT CEMENTED
WITH 100 SACKS
OF Neat CEMENT

CEMENT TOP @ 584 FT
(Volumetric fill up calculations)

11 " HOLE SIZE

INHIBITED WATER

7 7/8 " HOLE SIZE

CEMENT TOP @ 2784 FT
(Volumetric fill up calculations)

4 1/2 " 10.5 #/FT CASING
@ 3749 FT CEMENTED
WITH 200 SACKS
OF Neat CEMENT

2 3/8" CEMENT LINED TUBING
@ 3680 FT

TENSION PACKER

PREMIER PERFORATION
~~OR OPEN HOLE~~
FROM 3709.5 FT
TO 3711.5 FT

PLUG BACK T.D. 3728 FT

TOTAL DEPTH 3750 FT

(NEW WELL NAME WILL BE TRACT

WELL NO. 10
BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 6
CASE NO. 3444

EXHIBIT 7
INJECTION WELL COMPLETION DATA

STANDARD OF TEXAS

FEDERAL 14

1

OPERATOR

LEASE

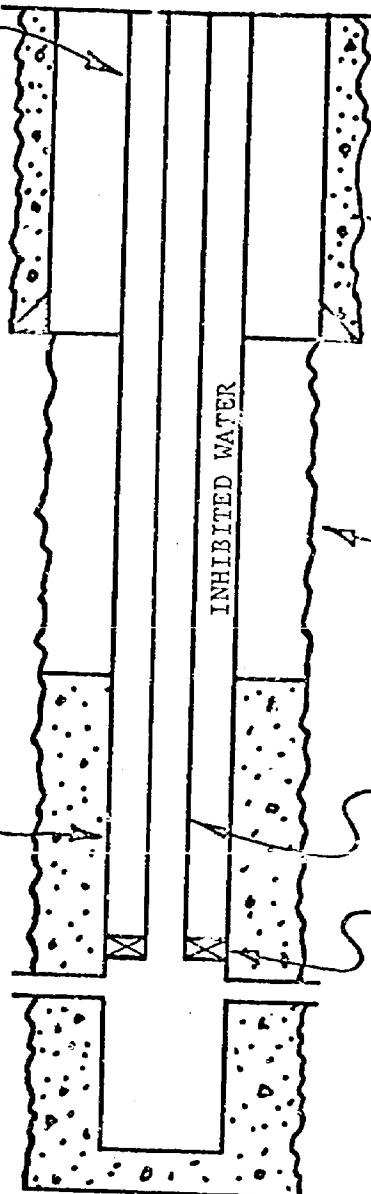
WELL NO.

LOCATION: A - SEC. 9, T-16-S, R-31-E

NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO

8 5/8" 24 #/FT CASING
@ 223 FT CEMENTED
WITH 120 SACKS
OF Neat CEMENT

5 1/2" 14 #/FT CASING
@ 3700 FT CEMENTED
WITH 250 SACKS
OF Neat CEMENT



CEMENT CIRCULATED

11" HOLE SIZE

7 7/8" HOLE SIZE

CEMENT TOP @ 2113 FT
(Volumetric fill up calculations)

2 3/8" CEMENT LINED TUBING
@ 3580 Ft

TENSION PACKER

PREMIER PERFORATION
~~OK OPEN HOLE~~
FROM 3608 FT
TO 3660 FT

PLUG BACK T.D. 3670 FT

TOTAL DEPTH 3700 FT

(NEW WELL NAME WILL BE TRACT 2 WELL 1)

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 7
CASE NO. 32141

EXHIBIT 8
INJECTION WELL COMPLETION DATA

STANDARD OF TEXAS

FEDERAL 14

4

OPERATOR

LEASE

WELL NO.:

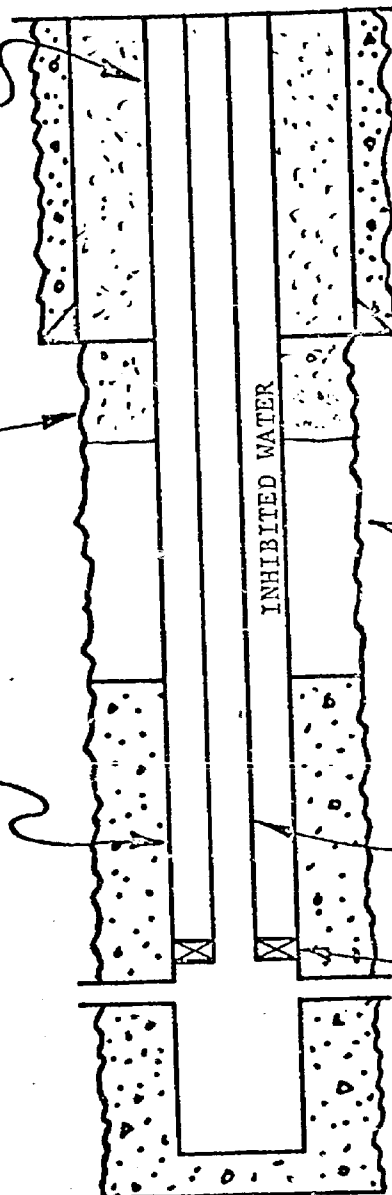
LOCATION: G - SEC. 10, T-16-S, R-31-E

NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO

8 5/8" 36 #/FT CASING
@ 212 FT CEMENTED
WITH 135 SACKS
OF Neat CEMENT

225 sxs Neat cement thru
staging collar @ 1015'
Cement Circulated

4 1/2" 11.6 #/FT CASING
@ 3815 FT CEMENTED
WITH 200 SACKS
OF Neat CEMENT



CEMENT CIRCULATED

11 " HOLE SIZE

6 3/4 " HOLE SIZE

CEMENT TOP @ 2212 FT
(Volumetric fill up calculations)

2 3/8" CEMENT LINED TUBING
@ 3690 feet

TENSION PACKER

PREMIER PERFORATION
OR OPEN HOLE
FROM 3720 FT
TO 3778 FT

PLUG BACK T.D. 3781 FT

TOTAL DEPTH 3820 FT

(NEW WELL NAME WILL

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. <u>8</u>
CASE NO. <u>29411</u>

EXHIBIT 9
INJECTION WELL COMPLETION DATA

JAKE LAWLESS INC.

GULF-FEDERAL

2

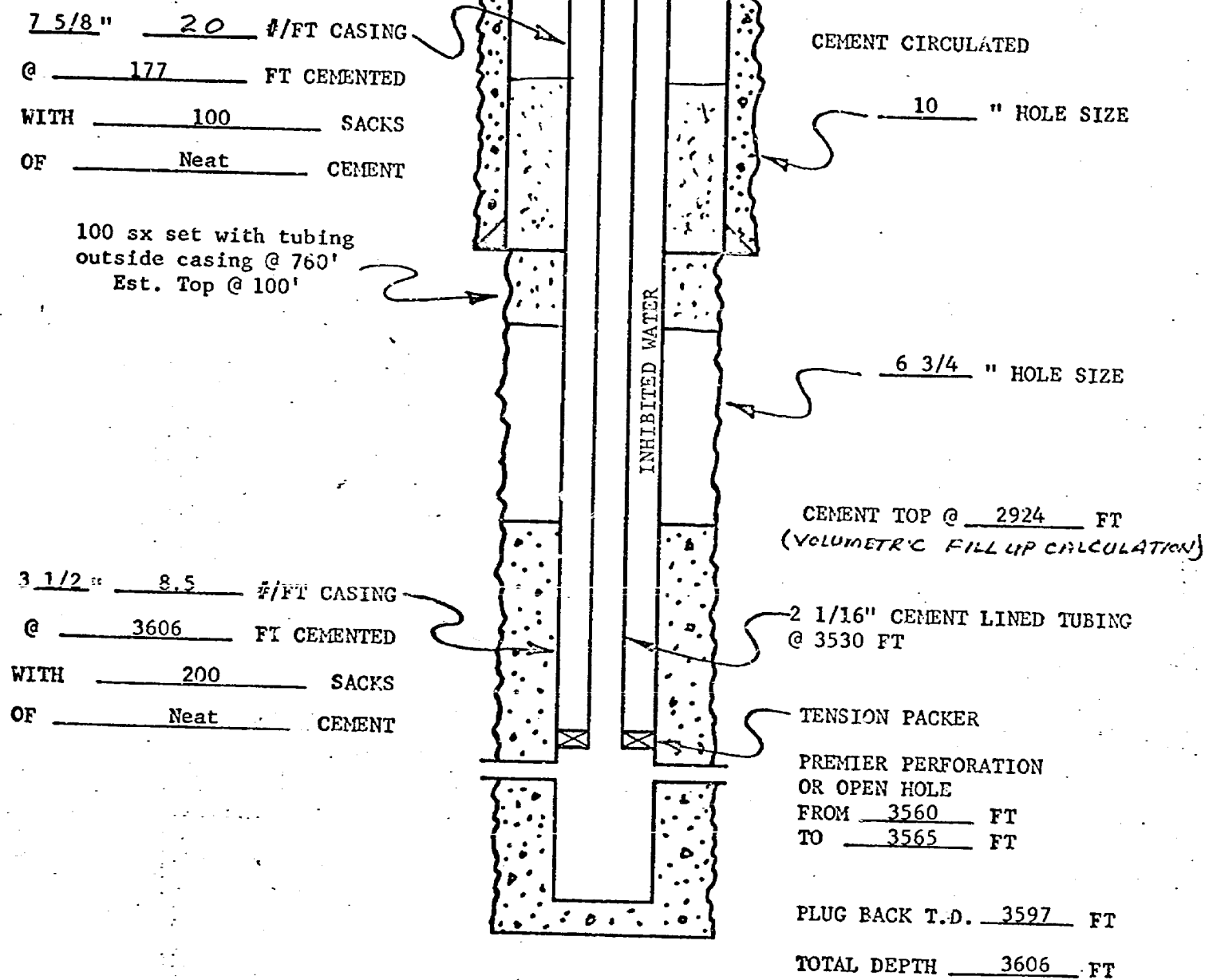
OPERATOR

LEASE

WELL NO.

LOCATION: C - SEC. 9, T-16-S, R-31-E

NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO



(NEW WELL NAME WILL BE TRACT 3 WELL 2)

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 7
CASE NO. 102774

EXHIBIT 10
INJECTION WELL COMPLETION DATA

JAKE LAWLESS INC+

GULF-FEDERAL

5

OPERATOR

LEASE

WELL NO.

LOCATION: E - SEC. 9, T-16-S, R-31-E

NORTHEAST SQUARE LAKE UNIT

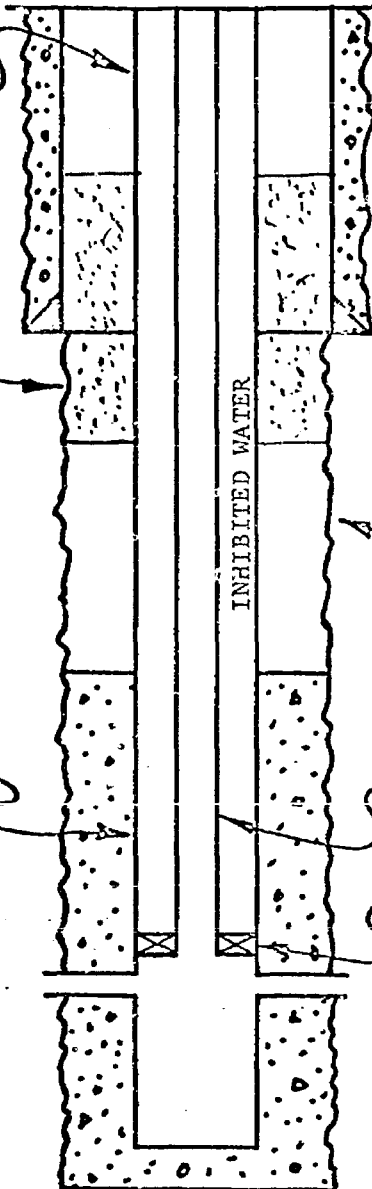
SQUARE LAKE NORTH FIELD

EDDY COUNTY, NEW MEXICO

7 5/8 " 20 #/FT CASING
@ 163 FT CEMENTED
WITH 100 SACKS
OF Neat CEMENT

100 sx @ 738 ft set with
1" tubing outside the casing
Est. Top @ 60'

3 1/2 " 8.68 #/FT CASING
@ 3542 FT CEMENTED
WITH 200 SACKS
OF Neat CEMENT



CEMENT CIRCULATED

10 " HOLE SIZE

6 3/4 " HOLE SIZE

CEMENT TOP @ 2860 FT
(volumetric fill up calculations)

2 1/16" CEMENT LINED TUBING
@ 3466 FT

TENSION PACKER

PREMIER PERFORATION
OR OPEN HOLE
FROM 3496 FT
TO 3501 FT

PLUG BACK T.D. 3542 FT

TOTAL DEPTH 3542 FT

(NEW WELL NAME WILL BE TACT 3 WELL)

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 10
CASE NO. 04461

EXHIBIT 11
INJECTION WELL COMPLETION DATA

STANDARD OF TEXAS

FEDERAL 15

3

OPERATOR

LEASE

WELL NO.

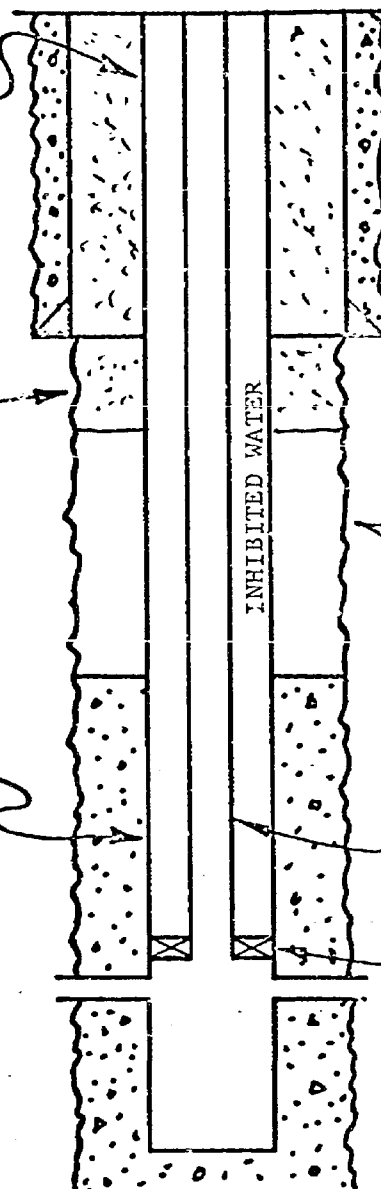
LOCATION: E - SEC. 10, T-16-S, R-31-E

NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO

8 5/8" 26 #/FT CASING
@ 141 FT CEMENTED
WITH 100 SACKS
OF Neat CEMENT

150 sx - staging collar
@ 1007'
Cement Circulated

4 1/2" 11.6 #/FT CASING
@ 3747 FT CEMENTED
WITH 200 SACKS
OF Neat CEMENT



CEMENT TOP @ 40 FT

11" HOLE SIZE

6 3/4" HOLE SIZE

CEMENT TOP @ 2157 FT
(volumetric fill up calculations)

2 3/8" CEMENT LINED TUBING
@ 3615 ft.

TENSION PACKER

PREMIER PERFORATION
OR OPEN HOLE
FROM 3645 FT
TO 3703 FT

PLUG BACK T.D. 3713 FT

TOTAL DEPTH 3750 FT

(NEW WELL NAME WILL BE)

BEFORE EXAMINER UTZ
TRACT 4 WELL 3)
OIL CONSERVATION COMMISSION
EXHIBIT NO. 11
CASE NO. 3444

EXHIBIT 12
INJECTION WELL COMPLETION DATA

STANDARD OF TEXAS

FEDERAL 15

4

OPERATOR

LEASE

WELL NO.:

LOCATION: C - SEC. 10, T-16-S, R-31-E

NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO

8 5/8" 24 #/FT CASING

@ 200 FT CEMENTED

WITH 125 SACKS

OF Neat CEMENT

200 sx Neat @ 996'
circulated to surface
by staging collar

CEMENT CIRCULATED

11 " HOLE SIZE

6 3/4 " HOLE SIZE

CEMENT TOP @ 2177 FT
(volumetric fill up calculation)

4 1/2" 9.5 #/FT CASING

@ 3770 FT CEMENTED

WITH 200 SACKS

OF Neat CEMENT

2 3/8" CEMENT LINED TUBING
@ 3642 FT

TENSION PACKER

PREMIER PERFORATION
~~OR OPEN HOLE~~

FROM 3672 FT
TO 3718 FT

PLUG PACK T.D. 3741 FT

TOTAL DEPTH 3770 FT

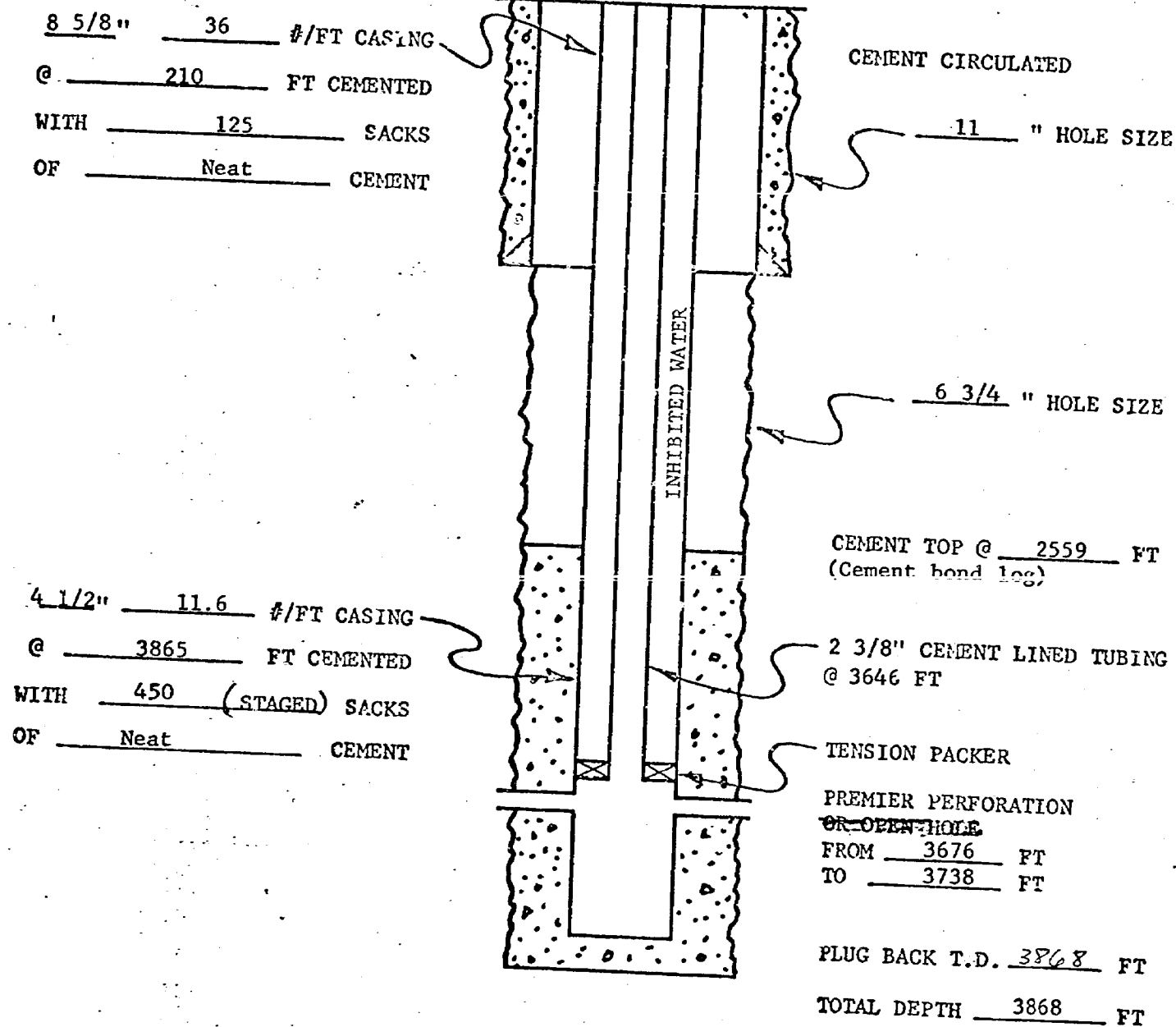
(NEW WELL NAME WILL BE

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 12
CASE NO. 3444

EXHIBIT 13
INJECTION WELL COMPLETION DATA

STANDARD OF TEXAS FEDERAL 15 6
OPERATOR LEASE WELL NO.

LOCATION: K - SEC. 10, T-16-S, R-31-E
NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO



(NEW WELL NAME WILL BE TRACT 4 WELL 6)

13
244/1

EXHIBIT 14
INJECTION WELL COMPLETION DATA

STANDARD OF TEXAS

FEDERAL 16

1

OPERATOR

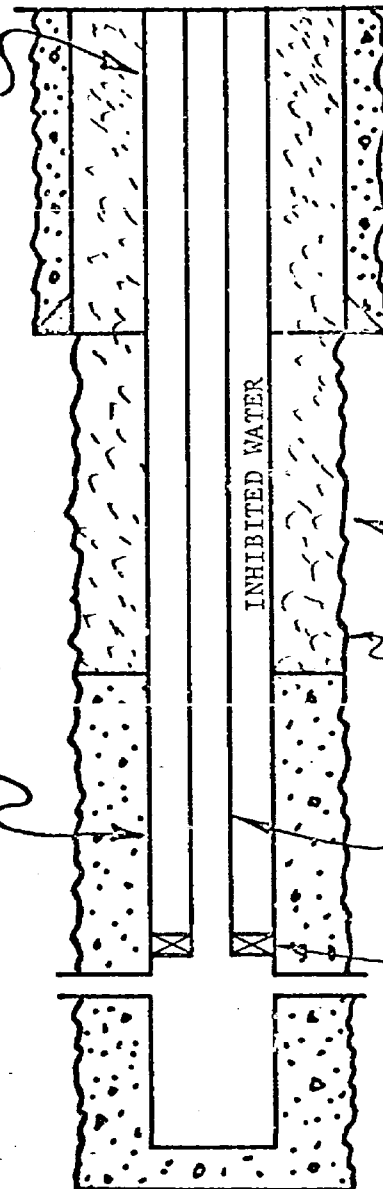
LEASE

WELL NO.

LOCATION: U - SEC. 3, T-16-S, R-31-E
NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO

8 5/8 " 24 #/FT CASING
@ 212 FT CEMENTED
WITH 125 SACKS
OF Neat CEMENT

4 1/2 " 11.6 #/FT CASING
@ 3726 FT CEMENTED
WITH 440 SACKS
OF 40% DIACEL D CEMENT
+ 150 SX NEAT - CIRC. 5 SX



CEMENT CIRCULATED

11 " HOLE SIZE

6 3/4 " HOLE SIZE

CEMENT CIRCULATED

2 3/8" CEMENT LINED TUBING
@ 3615 FT

TENSION PACKER

PREMIER PERFORATION
OR OPEN HOLE
FROM 3645 FT
TO 3686 FT

PLUG BACK T.D. 3695 FT

TOTAL DEPTH 3728 FT

(NEW WELL NAME WILL BE TRACT 6 WELL 1)

BEFORE EXAMINER UTZ	
OIL CONSERVATION COMMISSION	
EXHIBIT NO.	14
CASE NO.	34441

EXHIBIT 15
INJECTION WELL COMPLETION DATA

BOURG DRILLING CO.

STATE

1

OPERATOR

LEASE

WELL NO.

LOCATION: U - SEC. 2, T-16-S, R-31-E
NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO

8 5/8 " 32 #/FT CASING
@ 376 FT CEMENTED
WITH 175 SACKS
OF Neat CEMENT

CEMENT CIRCULATED

11 " HOLE SIZE

7 7/8 " HOLE SIZE

CEMENT TOP @ 2831 FT
(calculated by volumetric fill up)

5 1/2 " 14 #/FT CASING
@ 4100 FT CEMENTED
WITH 200 SACKS
OF Neat CEMENT

2 3/8" CEMENT LINED TUBING
@ 3934 FT

TENSION PACKER

PREMIER PERFORATION
OR OPEN HOLE
FROM 3964 FT
TO 3972 FT

PLUG BACK T.D. 4075 FT

TOTAL DEPTH 4100 FT

(NEW WELL NAME WILL BE

TRACT 8 WELL 1)

BEFORE EXAMINER UTZ

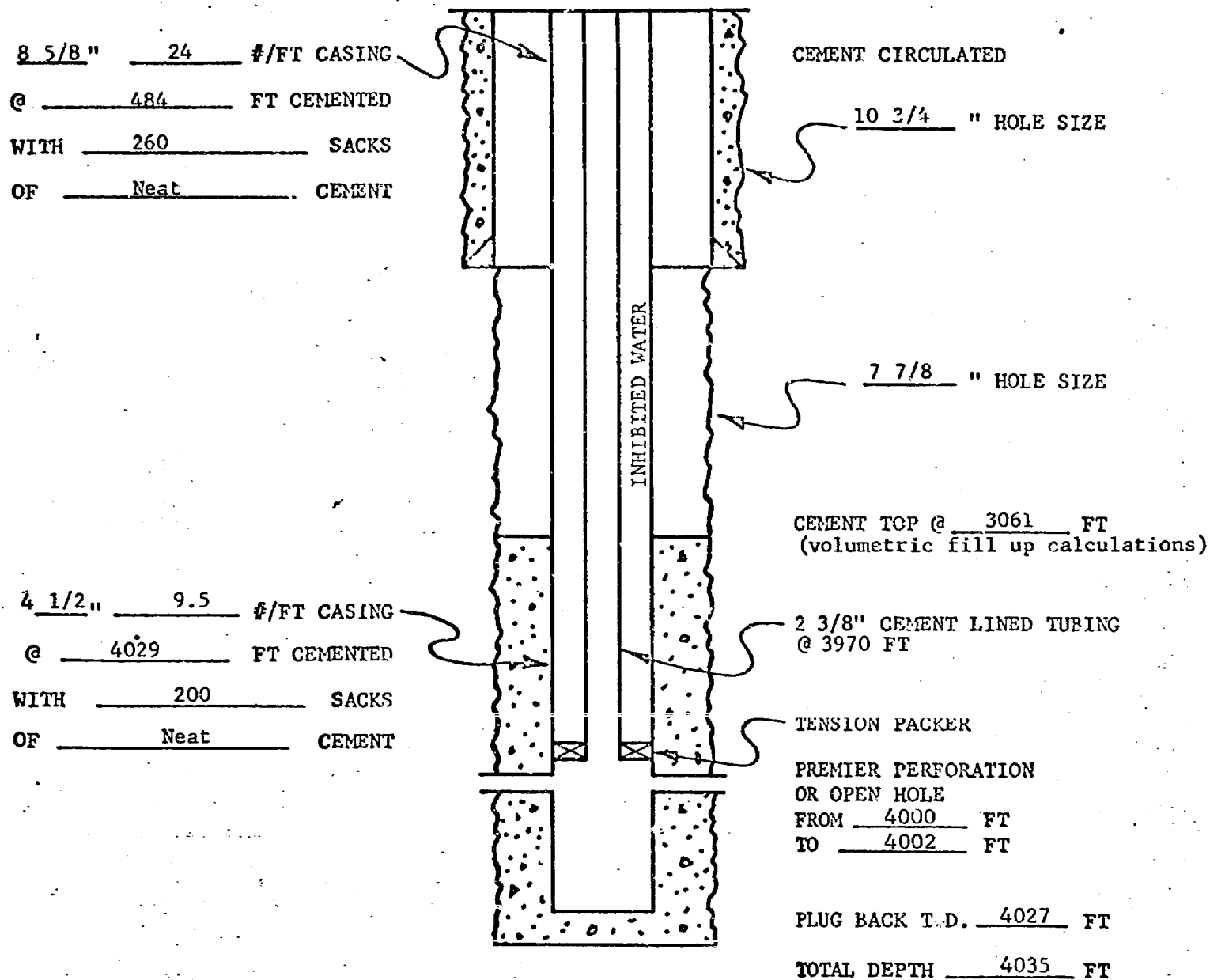
OIL CONSERVATION COMMISSION

EXHIBIT NO. 15

CASE NO. 3444

EXHIBIT 16
INJECTION WELL COMPLETION DATA

MOBIL OPERATOR MOBIL STATE LEASE WELL NO. 2
LOCATION: E - SEC. 11, T-16-S, R-31-E
NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
EDDY COUNTY, NEW MEXICO



(NEW WELL NAME WILL BE

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 16
CASE NO. 3444

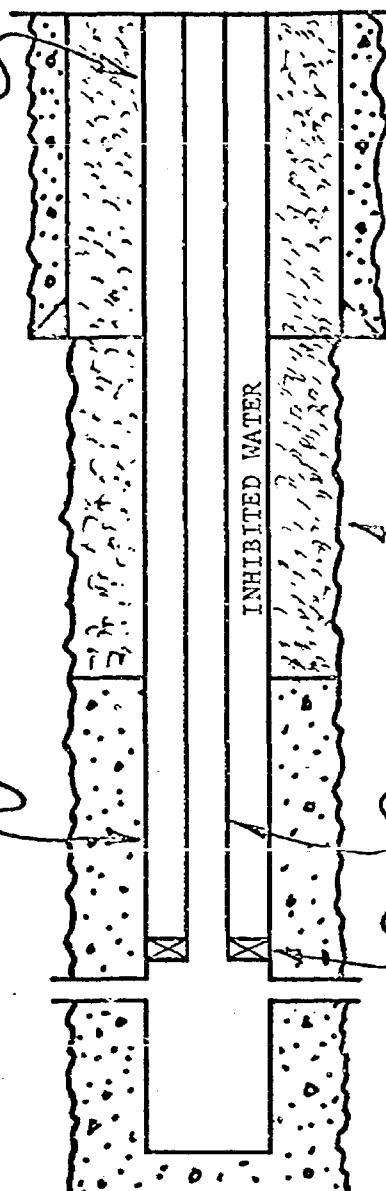
EXHIBIT 17
INJECTION WELL COMPLETION DATA

CONTINENTAL OIL CO. STATE Y-3 2
OPERATOR LEASE WELL NO.

LOCATION: Q - SEC. 3, T-16-S, R-31-E
NORTHEAST SQUARE LAKE UNIT
SQUARE LAKE NORTH FIELD
FDDY COUNTY, NEW MEXICO

7 5/8" 24 #/FT CASING
@ 428 FT CEMENTED
WITH 420 SACKS
OF Neat CEMENT

4 1/2" 9.5 #/FT CASING
@ 3907 FT CEMENTED
WITH 3915 SACKS
OF Neat CEMENT



CEMENT CIRCULATED

9 7/8" HOLE SIZE

6 3/4" HOLE SIZE

CEMENT CIRCULATED

2 3/8" CEMENT LINED TUBING
@ 3880 FT

TENSION PACKER

~~PREMIER PERFORATION~~
OR OPEN HOLE
FROM 3907 FT
TO 3970 FT

PLUG BACK T.D. _____ FT

TOTAL DEPTH 3970 FT

(NEW WELL NAME WILL BE TRACT 10 WELL 2)

EXAMINED BY
CONTINENTAL OIL CO. APPROVED
DATE 1.17
CASH NO. 3444

... of ARKLEY &
... Flood Project.



3445

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42

Barbed Wire

1907-1908

1. The first part of the report is a description of the case. This includes the patient's name, age, sex, and occupation. It also includes a brief history of the patient's illness, including the date of onset, the duration of the illness, and the symptoms experienced. The second part of the report is a description of the physical examination. This includes a description of the patient's general appearance, a description of the patient's vital signs, and a description of the patient's physical examination findings. The third part of the report is a description of the laboratory tests. This includes a description of the patient's blood test results, a description of the patient's urine test results, and a description of the patient's X-ray results. The fourth part of the report is a description of the patient's treatment. This includes a description of the patient's medications, a description of the patient's diet, and a description of the patient's physical therapy. The fifth part of the report is a description of the patient's prognosis. This includes a description of the patient's expected outcome, a description of the patient's potential complications, and a description of the patient's potential long-term effects.

2. The second part of the report is a description of the physical examination. This includes a description of the patient's general appearance, a description of the patient's vital signs, and a description of the patient's physical examination findings. The third part of the report is a description of the laboratory tests. This includes a description of the patient's blood test results, a description of the patient's urine test results, and a description of the patient's X-ray results. The fourth part of the report is a description of the patient's treatment. This includes a description of the patient's medications, a description of the patient's diet, and a description of the patient's physical therapy. The fifth part of the report is a description of the patient's prognosis. This includes a description of the patient's expected outcome, a description of the patient's potential complications, and a description of the patient's potential long-term effects.

3. The third part of the report is a description of the laboratory tests. This includes a description of the patient's blood test results, a description of the patient's urine test results, and a description of the patient's X-ray results. The fourth part of the report is a description of the patient's treatment. This includes a description of the patient's medications, a description of the patient's diet, and a description of the patient's physical therapy. The fifth part of the report is a description of the patient's prognosis. This includes a description of the patient's expected outcome, a description of the patient's potential complications, and a description of the patient's potential long-term effects.

REPORT EXAMINER U12
OF CONSERVATION OF MEDICAL
ELABORATED
CASE

New History 011. History and Geography
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History of the United States, 1945-1961

History of the United States, 1961-1981

History of the United States, 1981-1991

History of the United States, 1991-2001

History of the United States, 2001-2011

History of the United States, 2011-2021

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History of the United States, 2231-2241

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History of the United States, 2261-2271

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20. 2001. 12. 10. 10.

MR. KENNEDY: We would have to have another hearing.

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PAGE

Q. Now, you say that the casing is approximately twenty-five years old and I think you will run the tension packer down into the bottom of the casing and pressure test it to the contemplated injection pressure on top of the packer and then I will move the packer up the hole, possibly a hundred feet.

A. That's right, that's what I intend to do. I will run the packer down into the bottom of the casing and pressure test it to the contemplated injection pressure on top of the packer and then I will move the packer up the hole, possibly a hundred feet.

Q. Now, you say that the casing is approximately twenty-five years old and I think you will run the tension packer down into the bottom of the casing and pressure test it to the contemplated injection pressure on top of the packer and then I will move the packer up the hole, possibly a hundred feet.

A. That's right, that's what I intend to do. I will run the packer down into the bottom of the casing and pressure test it to the contemplated injection pressure on top of the packer and then I will move the packer up the hole, possibly a hundred feet.

Q. Now, you say that the casing is approximately twenty-five years old and I think you will run the tension packer down into the bottom of the casing and pressure test it to the contemplated injection pressure on top of the packer and then I will move the packer up the hole, possibly a hundred feet.

A. That's right, that's what I intend to do. I will run the packer down into the bottom of the casing and pressure test it to the contemplated injection pressure on top of the packer and then I will move the packer up the hole, possibly a hundred feet.

Q. Now, you say that the casing is approximately twenty-five years old and I think you will run the tension packer down into the bottom of the casing and pressure test it to the contemplated injection pressure on top of the packer and then I will move the packer up the hole, possibly a hundred feet.

A. That's right, that's what I intend to do. I will run the packer down into the bottom of the casing and pressure test it to the contemplated injection pressure on top of the packer and then I will move the packer up the hole, possibly a hundred feet.

Q. Now, you say that the casing is approximately twenty-five years old and I think you will run the tension packer down into the bottom of the casing and pressure test it to the contemplated injection pressure on top of the packer and then I will move the packer up the hole, possibly a hundred feet.

A. That's right, that's what I intend to do. I will run the packer down into the bottom of the casing and pressure test it to the contemplated injection pressure on top of the packer and then I will move the packer up the hole, possibly a hundred feet.

Q. Now, you say that the casing is approximately twenty-five years old and I think you will run the tension packer down into the bottom of the casing and pressure test it to the contemplated injection pressure on top of the packer and then I will move the packer up the hole, possibly a hundred feet.

A. That's right, that's what I intend to do. I will run the packer down into the bottom of the casing and pressure test it to the contemplated injection pressure on top of the packer and then I will move the packer up the hole, possibly a hundred feet.

MR. UTZ: You will test to 2,000 pounds then?

MR. KERNBY: Two thousand pounds.

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

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MR. KERSHAW: It is the Premier and Metax, That is what I would call those zones. Lower Grayburg.

MR. UTZ: Do you know whether those zones are productive in the Anadarko lease just south of you?

MR. KERSNEY: No, they're not. They are not productive at all. There has been a well or two drilled down but no

...the
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MR. IRBY: of the witness?

MR. KERSEY: State Engineer's
Office.

MR. KERSEY: In your Exhibit Four, the Hoover
Number Four, what formation is that surface casing set in at the
985?

MR. KERSEY: It is set in the top of the salt, is
really what you call it.

MR. IRBY: And the other one?

MR. KERSEY: It is set in the Grayburg.

MR. IRBY: The surface casing?

MR. KERSEY: Oh, I mean both of them are set in the
top of the salt.

MR. IRBY: The top of the salt. Thank you. That's
all I have.

MR. UTZ: Any other questions?

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1203 FIRST NATIONAL BANK EAST • PHONE 255-1264 • ALBUQUERQUE, NEW MEXICO

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Q. Now, did you see any exhibits?

A. No, I didn't see any.

Q. Now, did you see any exhibits when you were in the courtroom?

A. No, I didn't see any.

Q. Now, did you see any exhibits when you were in the courtroom?

A. No, I didn't see any.

(Witness looks down.)

Q. Now, did you see any exhibits when you were in the courtroom?

A. No, I didn't see any.

Q. Now, did you see any exhibits when you were in the courtroom?

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PAGE 11

STATE OF NEW MEXICO
COUNTY OF SANTIAGO

I, W. DON MC INTYRE, an adult male, for the
County of Santiago, New Mexico, do hereby certify the
following is a true and correct copy of the proceedings before
the Honorable Judge of the County of Santiago, New Mexico, as reported by
the Honorable Judge of the County of Santiago, New Mexico, and as recorded to the
Honorable Judge of the County of Santiago, New Mexico.

Witness my hand and seal this 14th day of August,
1966.

W. Don McIntyre
W. DON MC INTYRE

My Commission Expires:

July 14, 1970

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner's hearing of Case No. 3445,
heard by me on August 7th, 1966.

W. Don McIntyre, Examiner
New Mexico Oil Conservation Commission