

FOREST POOL INJECTION WELL DATA

EXHIBIT NO. 2

Company, Lease and Well No. <u>CONTINENTAL OIL COMPANY</u>	Total Depth and/or PBD	SURFACE CASING			PRODUCTION CASING			PRODUCING INTERVAL Perforations/Oh
		Size	Depth	Cement	Size	Depth	Cement	
E. C. Donohue No. 3 1650' FSL & FWL Sec. 34-16-29	2633'	8 5/8"	355'	Mudded In	7"	2450'	100	OH 2450'-2633'
Levers B No. 1 1980' FNL & 660' FWL Sec. 34-16-29	3028'/2675'	8 1/4"	402'	50	5 1/2"	2650'	75	Perf. 2360-63' & OH 2650'-2673'
Levers B No. 3 660' FNL & 1980' FWL Sec. 34-16-29	3040'	8 5/8"	388'	50	5 1/2"	2360'	50	OH 2360'-3040'
Levers B No. 4 660' FNL & FWL Sec. 35-16-29	3200'/3090'	8 5/8"	418'	50	5 1/2"	2520'	100	OH 2520'-3090'
Levers B No. 8 660' FSL & FWL Sec. 34-16-29	2651'	8 1/4"	389'	50	7"	2477'	100	Perf. 5 1/2" liner 2505-30' & OH 2530'-2561'
Levers No. 10 330' FSL & 2310' FWL Sec. 34-16-29	2610'	8"	380'	Mudded In	7"	2382'	100	OH 2382'-2610'
Levers No. 14 2310' FNL & FWL Sec. 34-16-29	2646'	8 5/8"	380'	50	5 1/2"	2415'	100	OH 2415'-2646'
Heard No. 1 2120' FSL & 520' FWL Sec. 35-16-29	2683'	8 1/2"	395'	50	7"	2498'	125	OH 2498'-2683'
Heard No. 4 990' FSL & 1651' FWL Sec. 35-16-29	2663'	10 3/4"	409'	Casing Pulled	7"	2493'	620	OH 2493'-2663'
Donohue No. 4 (To be drilled) 1650' FWL & 1980' FNL Sec. 35-16-29	2700'	7 5/8"	400'	185	3 1/2"	2700'	400	To be perforated from 108

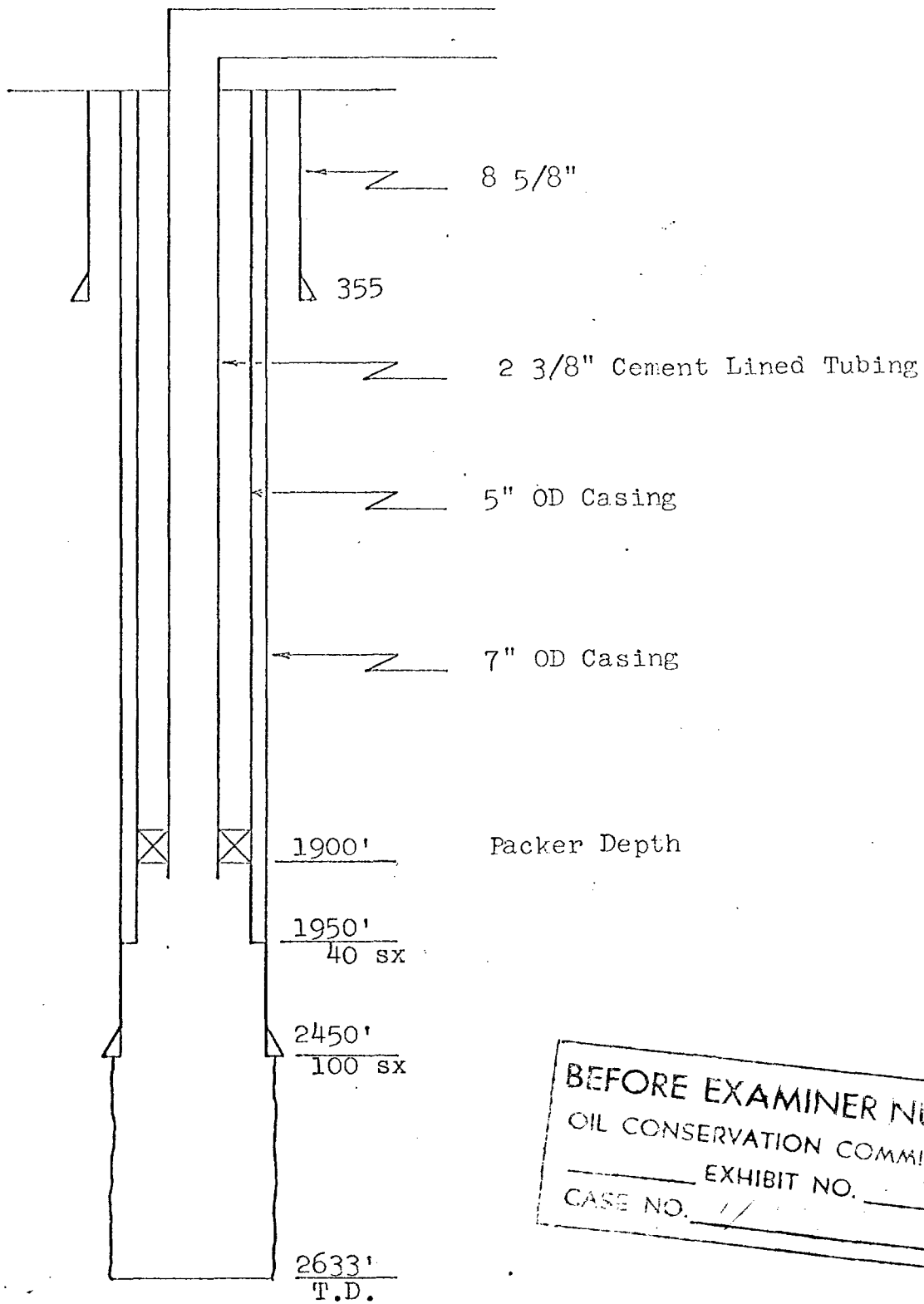
BEFORE EXAMINER NOTAR

OIL CONSERVATION COMMISSION

EXHIBIT NO. _____

CASE NO. _____

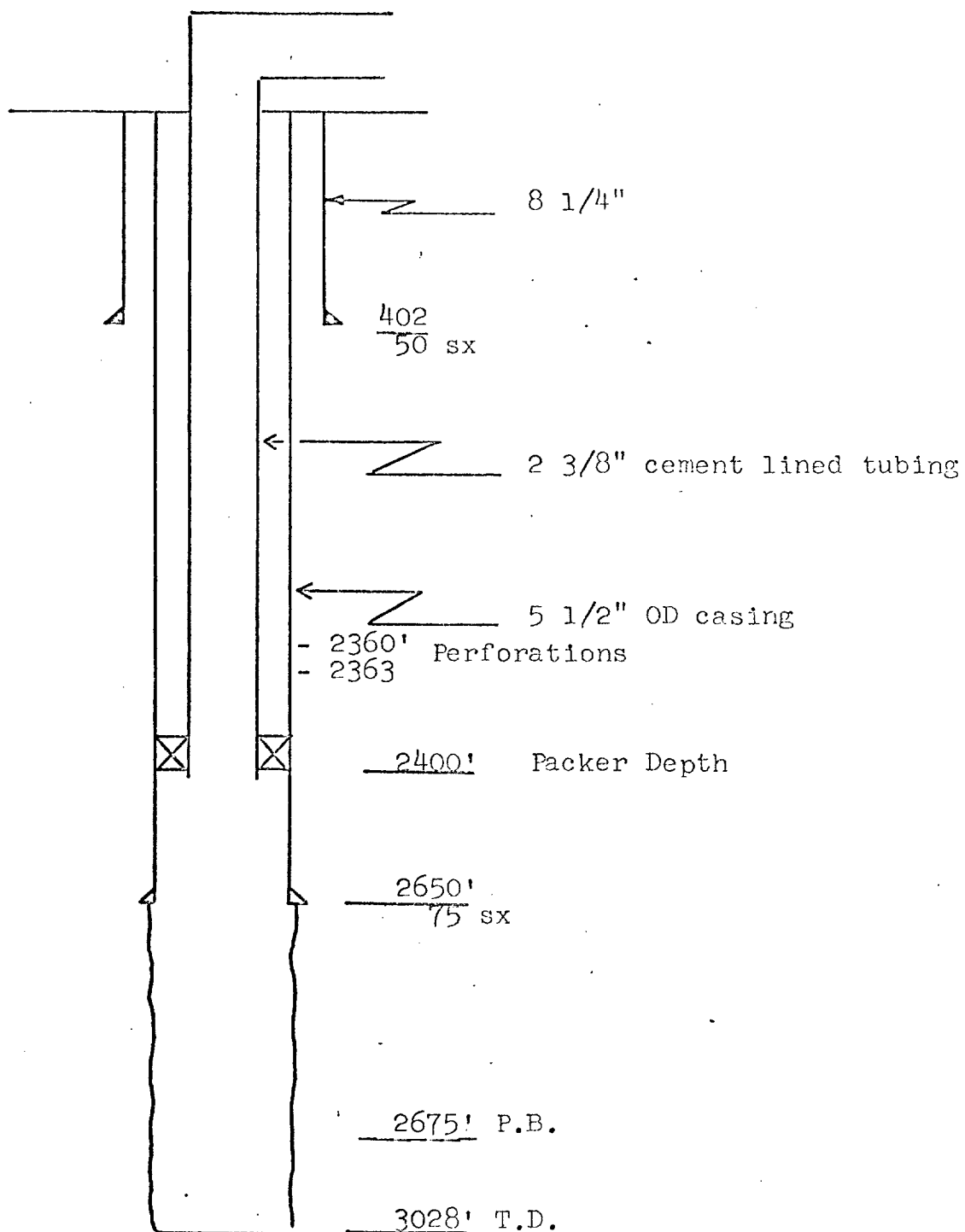
Continental Oil Company
Donohue No. 3
1650' FEL & SL Sec. 34-16-29



PROPOSED PROCEDURE

1. Tag bottom and tally out.
2. Cleanout to 2633' if necessary.
3. Run cement lined tubing w/retrievable packer set at 1900'.
4. Commence injection.

Continental Oil Company
Levers B No. 1
1980' FNL & 660' FE1 Sec. 34-16-29
Elevation 3661'



PROPOSED PROCEDURE

1. Tag bottom and tally tubing out.
2. Run GR/N log and perforate Premier and Lovington from log depths.
3. Run RBP and packer and break down perforations w/mud acid.
4. Cleanout to 2675' if fill is present.
5. Run C.L. tubing w/retrievable to be set at 2400'.
6. Commence injection.

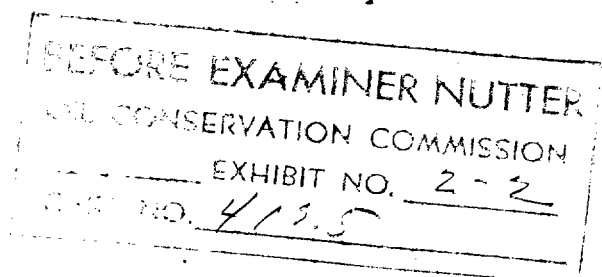
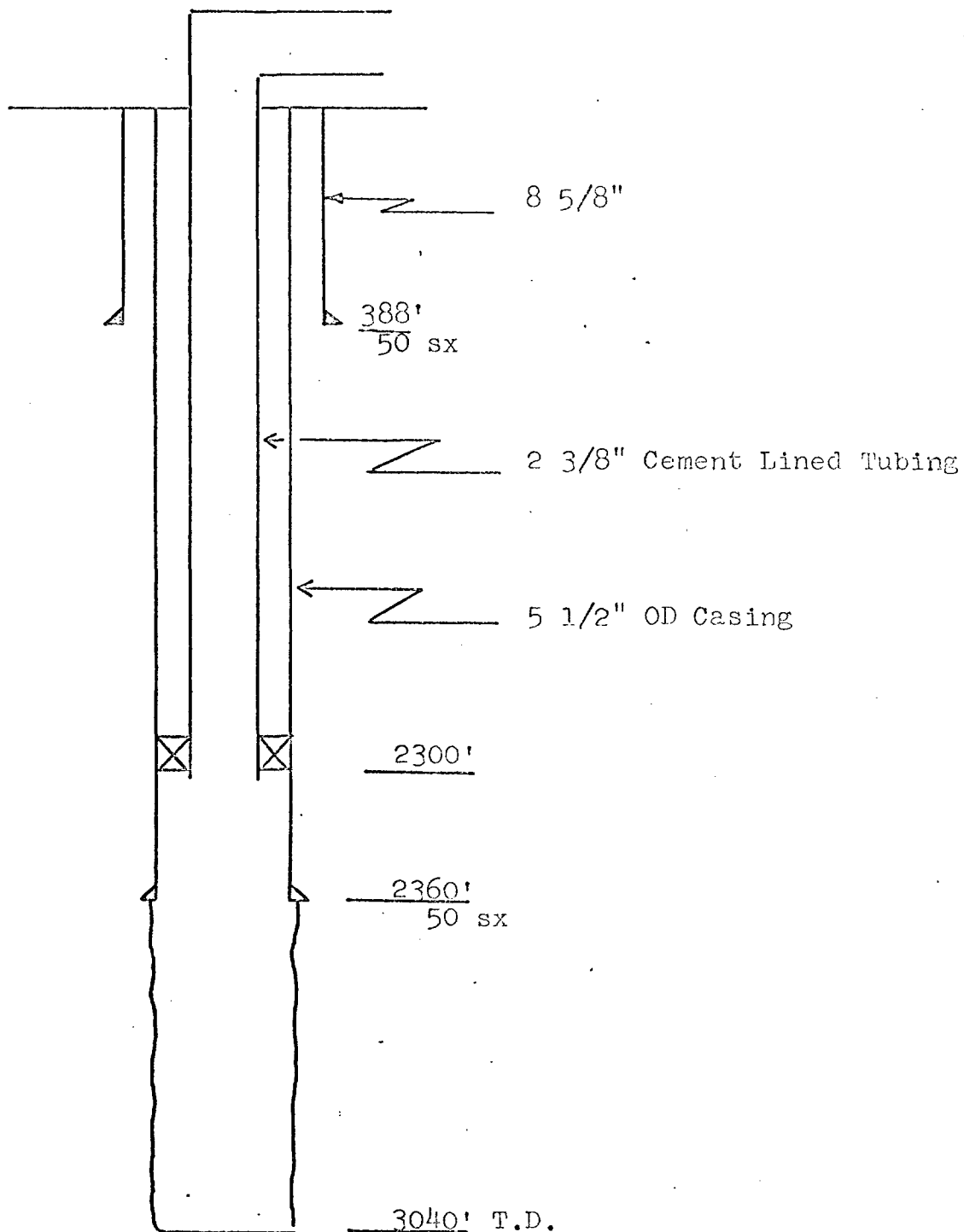


EXHIBIT 2-2

Continental Oil Company
 Levers B No. 3
 660' FNL & 1980' FEL Sec. 34-16-29
 Elevation 3663'

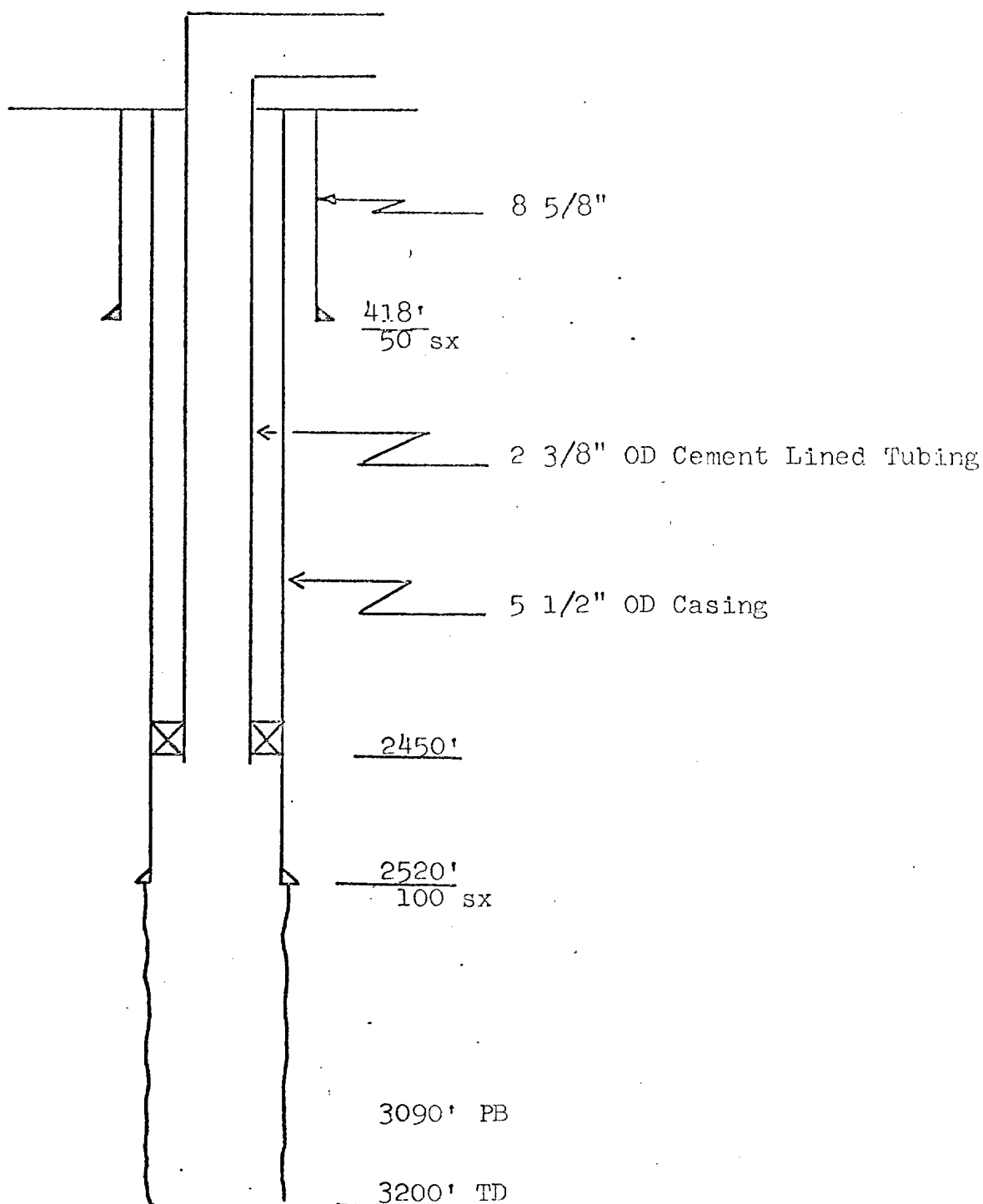


PROPOSED PROCEDURE

1. Run GR/N log w/caliper.
2. Plugback to 2675 ± depending on log.
3. Run cement lined tubing w/retrievable packer to be set at 2300'.
4. Commence injection.

BEFORE EXAMINER NUTTER	
OIL CONSERVATION COMMISSION	
EXHIBIT NO.	2-3
CASE NO.	4/25

Continental Oil Company
Levers B No. 4
660' FN & W LINES Sec. 35-16-29
Elevation 3666'



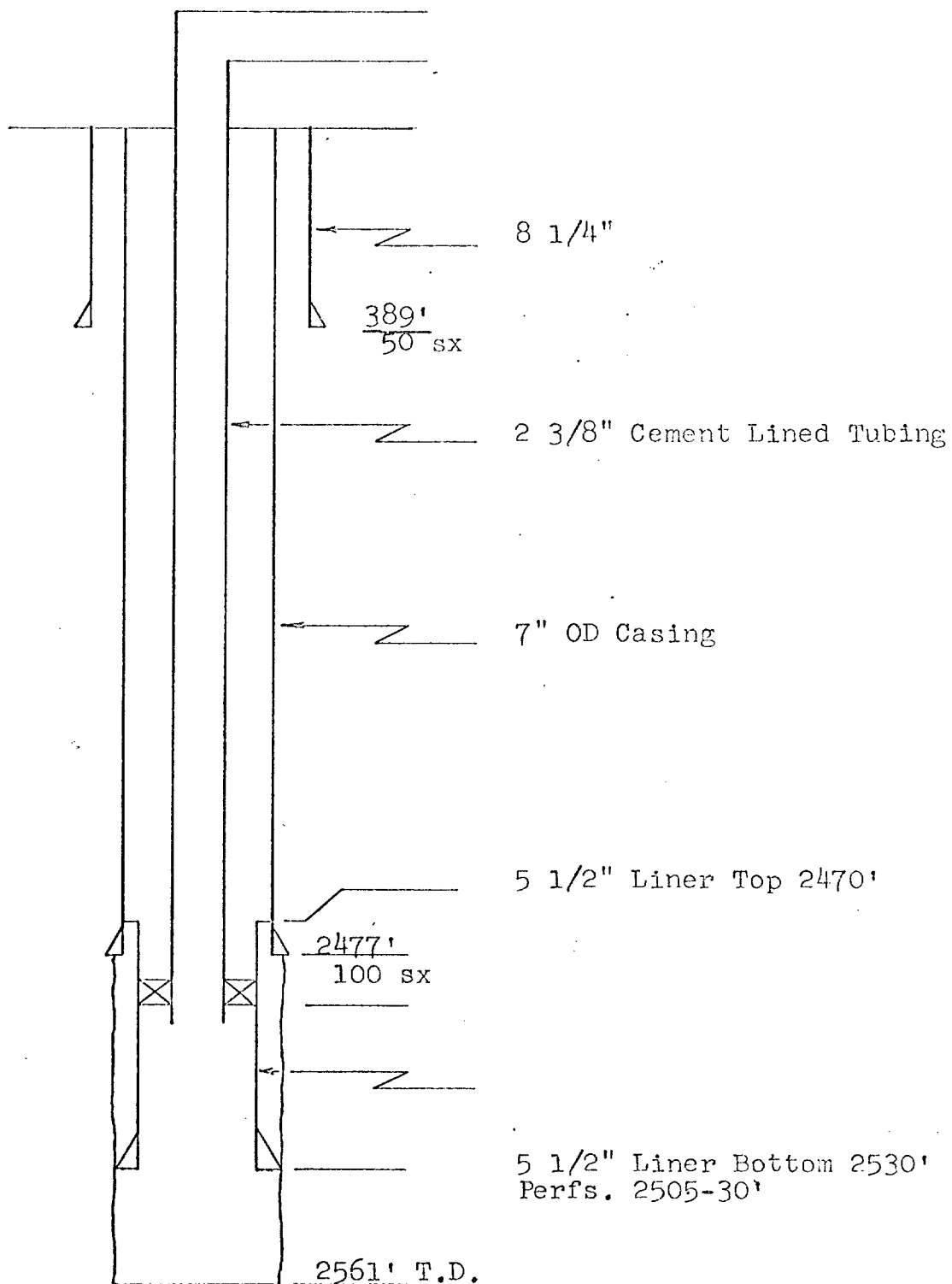
PROPOSED PROCEDURE

1. Run GR/N logs & caliper survey.
2. Perforate casing opposite Premier from log depths.
3. Plugback to approximately 2660' w/dump bailer.
4. Break down new perforations with mud acid.
5. Run cement lined tubing w/retrievable packer to be set at approximately 2450'.
6. Commence injection.

BEFORE EXAMINER NUTTER	
OIL CONSERVATION COMMISSION	
EXHIBIT NO.	2-4
CASE NO.	411-5

EXHIBIT 2-4

Continental Oil Company
Levers B No. 8
660' FS & E lines Sec. 34-16-29
Elevation 3645'

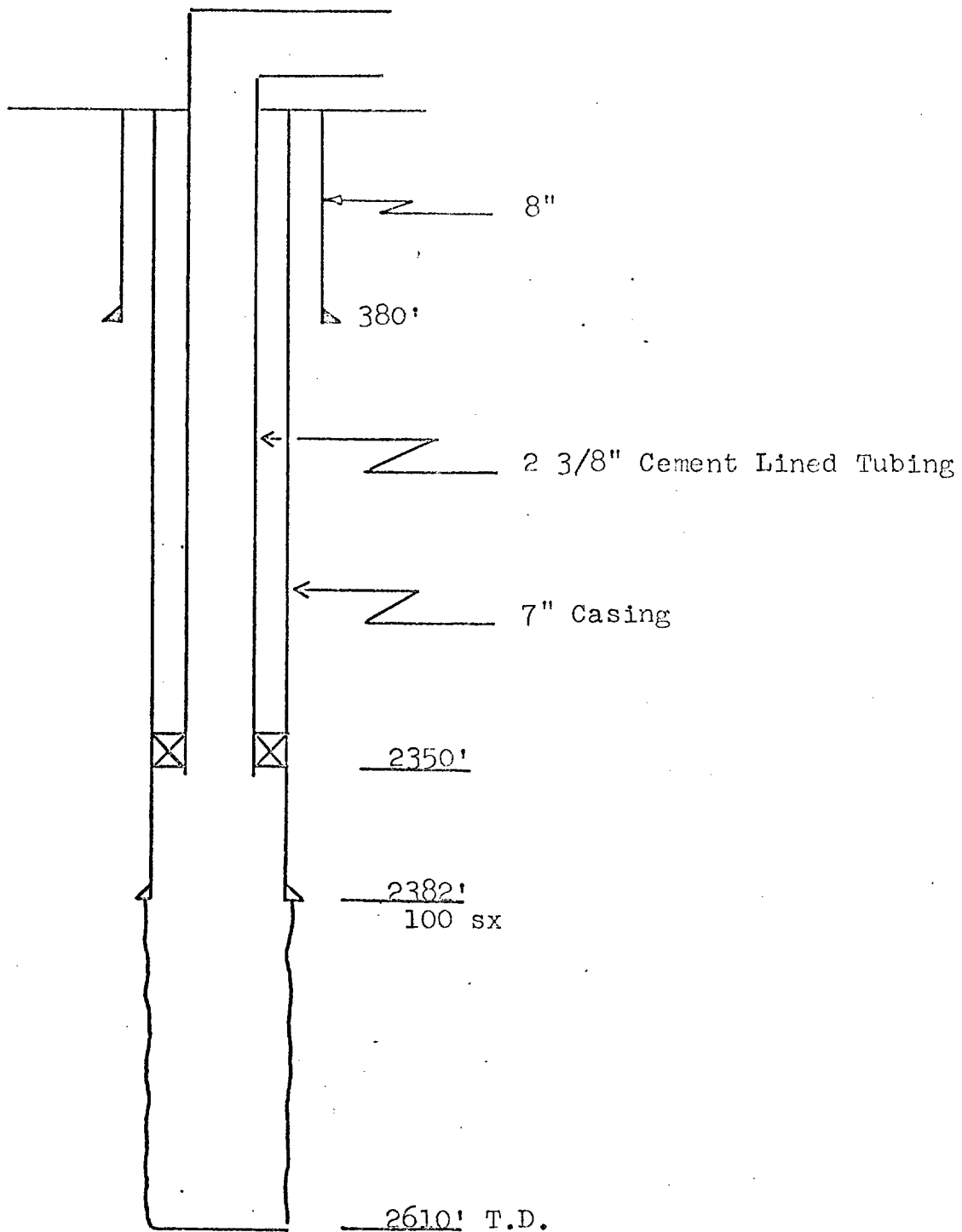


PROPOSED PROCEDURE

1. Tag bottom and tally tubing out.
2. Deepen approximately 75' (depending on offset logs).
3. Run GR/N log.
4. Run cement lined tubing w/retrievable packer to be set at 2490'.
5. Commence injection.

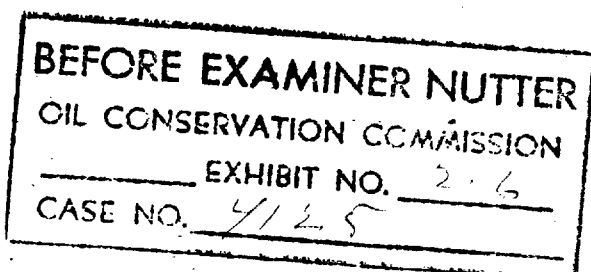
BEFORE EXAMINER NUTTER	
OIL CONSERVATION COMMISSION	
EXHIBIT NO.	2-5
CASE NO.	4/2.5

Continental Oil Company
Levers B No. 10
330' FSL and 2310' FWL Sec. 34-16-29
Elevation 3621'

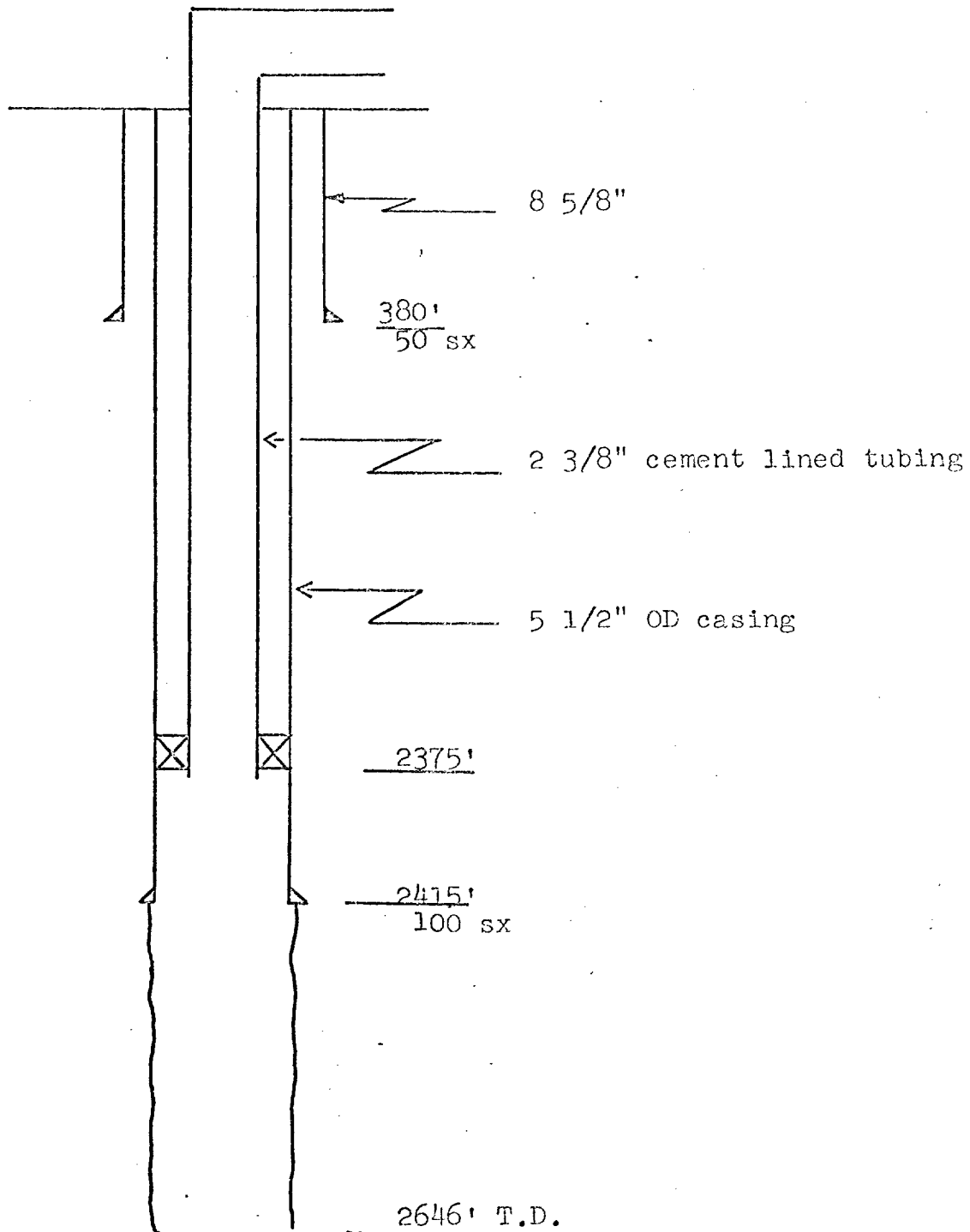


PROPOSED PROCEDURE

1. Run SLM
2. Cleanout to 2610' if necessary.
3. Run cement lined tubing w/retrievable packer to be set at 2350'.
4. Commence injection.



Continental Oil Company
Levers B No. 14
2310' FN & WL Sec. 34-16-29
Elevation 3651'



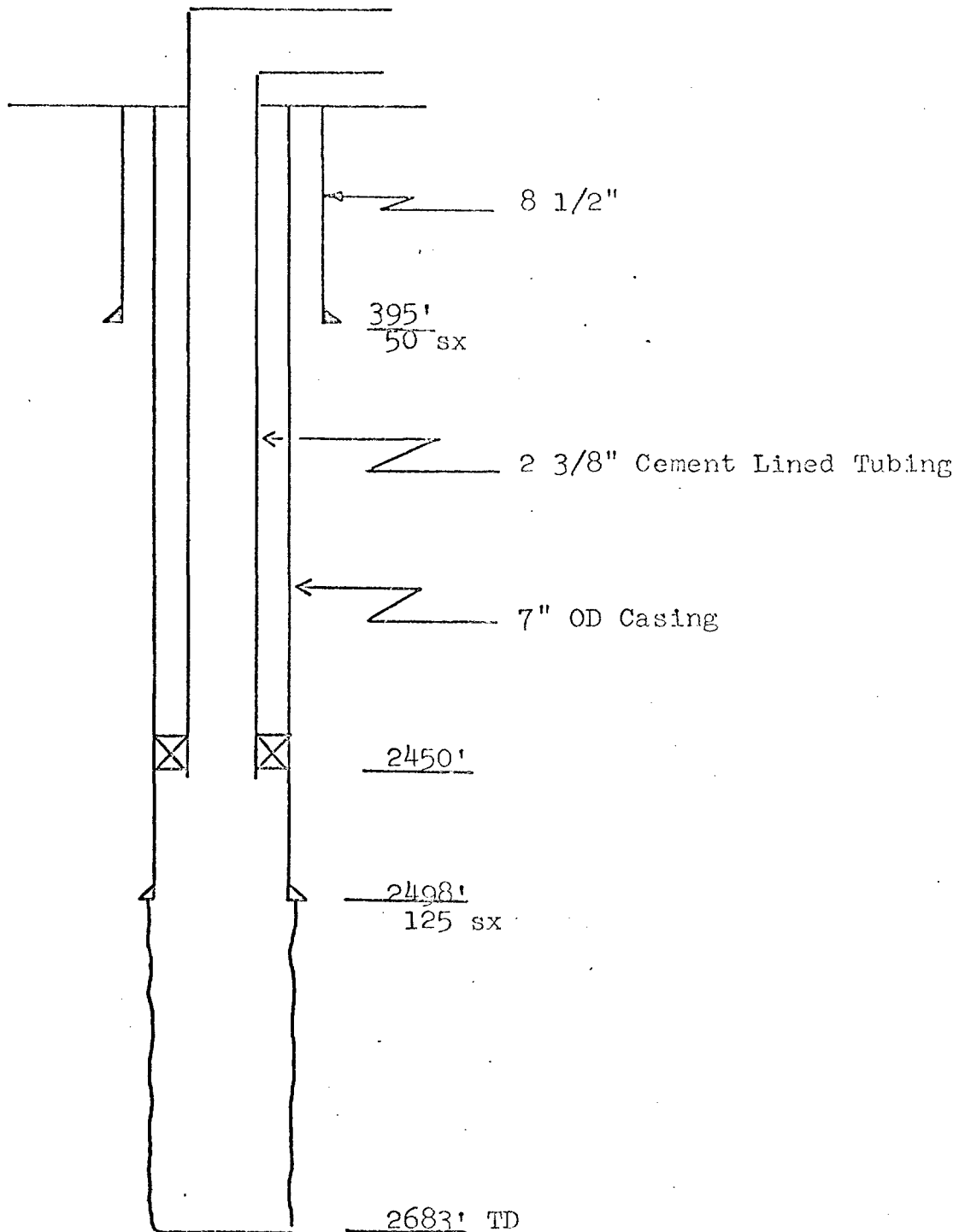
PROPOSED PROCEDURE

1. Drill out cement 1294' to TD.
2. Acidize open hole w/1000 gals. LTNE.
3. Run cement lined tubing w/retrievable packer set at 2375'.
4. Commence injection.

BEFORE EXAMINER NUTTER	
OIL CONSERVATION COMMISSION	
CASE NO.	EXHIBIT NO. 2-7
4/1.5	

EXHIBIT 2-7

Continental Oil Company
 Heard No. 1
 2120' FSL & 520' FWL Sec. 35-16-29
 Elevation 3655'

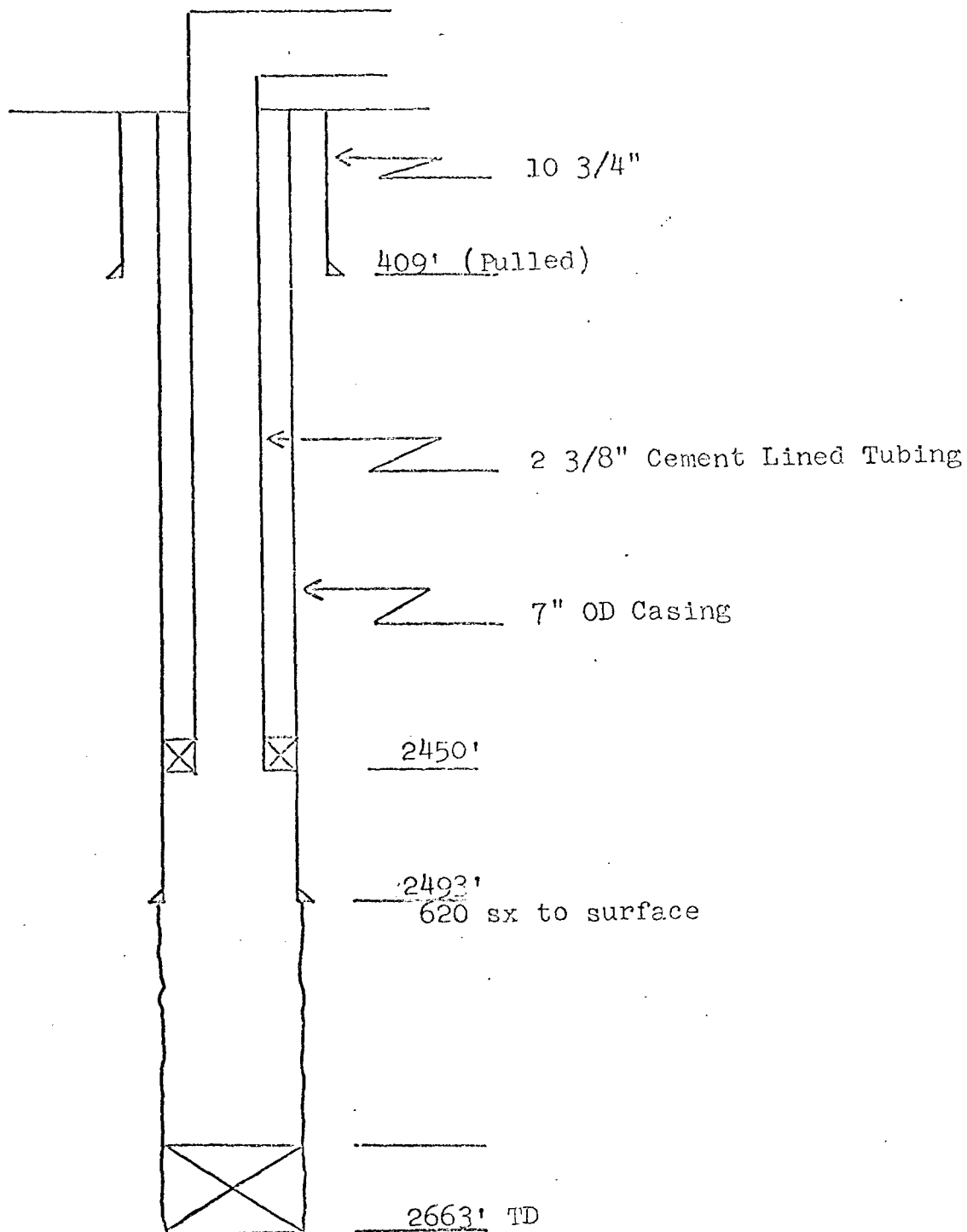


PROPOSED PROCEDURE

1. Tag bottom and tally out.
2. Run cement lined tubing w/retrievable packer set at 2450'.
3. Commence injection.

BEFORE EXAMINER NUTTER	
OIL CONSERVATION COMMISSION	
CASE NO.	EXHIBIT NO. 2-8
4/1/55	

Continental Oil Company
Heard No. 4
990' FSL & 1651' FWL Sec. 35-16-29
Elevation 3655'

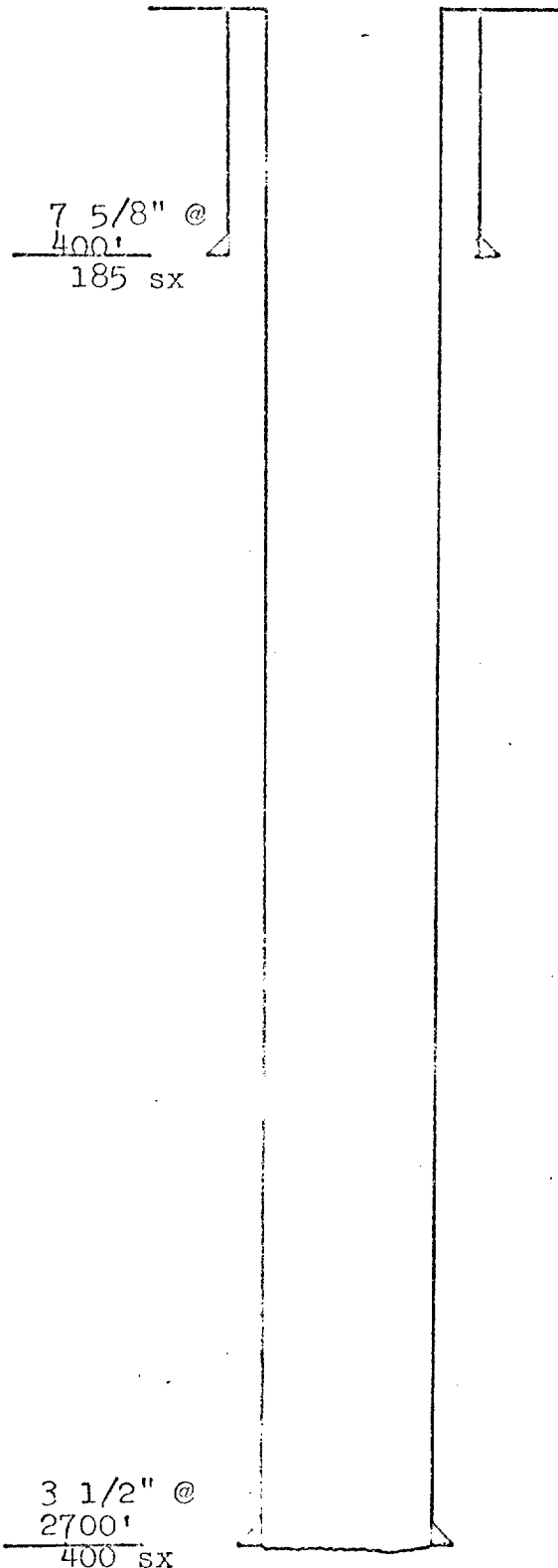


PROPOSED PROCEDURE

1. Tag bottom and tally out.
2. Cleanout to 2663' if necessary.
3. Run cement lined tubing w/retrievable packer set at 2450'.

BEFORE EXAMINER NUTTER	
OIL CONSERVATION COMMISSION	
EXHIBIT NO.	2-9
CASE NO.	11/25

Continental Oil Company
Donohue No. 4
(To be drilled)
1650' FWL & 1980' FNL Sec. 35-16-29



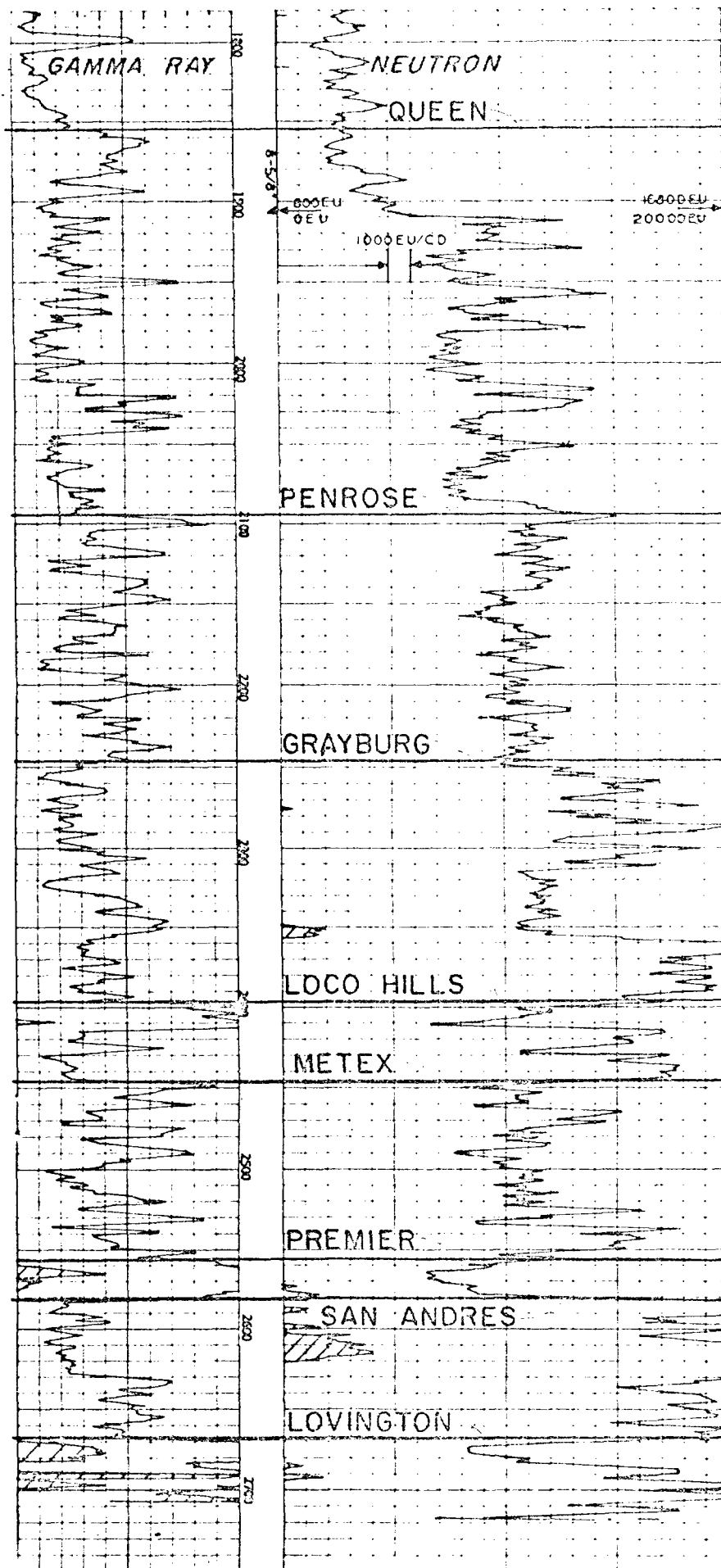
BEFORE EXAMINER NUTTER	
OIL CONSERVATION COMMISSION	
EXHIBIT NO.	
CASE NO.	

Injection to be through perforations

PROPOSED PROCEDURE

1. Set 7 5/8" surface casing at 400' w/185 sx.
2. Set 3 1/2" injection string at 2700' w/400 sx.
3. Run GR/N log and perforate pay intervals.
4. Treat perforations w/500 gals. acid.
5. Commence injection.

TYPICAL LOG SECTION FOREST POOL AREA



DEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

EXHIBIT NO. 4

SUMMARY DATA SHEET

General

1. Area, Acres 800
2. Number of Producing Oil Wells 14
3. Number of Plugged or Shut-in Wells 5
4. Cumulative Oil Production at 3-1-69 505,533
5. Average Daily Oil Production per Producing Well,
February, 1969 .46
6. Average Daily Water Production per Producing Well,
February, 1969 .28
7. Average Gas-Oil Ratio, March 1967 Not reported

Geological Data

1. Producing Formation Grayburg-San Andres
2. Average Depth, Feet 2,600
3. Type Structure Stratigraphic trap

Reservoir Properties

1. Estimated original reservoir pressure, est., psi 1,125
2. Estimated Reservoir Pressure at Waterflood, psi 125

Reserve Estimates

1. Estimated Waterflood Recovery 630,800
Barrels ST Oil

Performance Forecast

	Rules of Thumb	Actual Performance Cave Pool Unit Waterflood	Performance Forecast Forest Pool Waterflood
Fill-up (times primary)	2.00	1.832	2.00
Percent fill-up at First Response	60-80%	80%	70%
Percent Fill-up at Peak Rate	100%	112%	100%
Ratio of Water Injection Rate to Peak Oil Rate	2 to 12 4 to 6 Good 2 to 4 Exceptional	2.7	3.5
Time at Peak Rate	4 to 10 months	7 months	8 months
Secondary to Primary Ratio	.75 to 1.25	1.50	1.25

ORE EXAMINER NUTTER
CONSERVATION COMMISSION
EXHIBIT NO. 5
CASE NO. 4145

ROUGH DRAFT FOR WATERFLOOD LETTERS

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico
Dear Sir:

Heard Forest, and
Donahue Forest

Enclosed herewith is Commission Order No. R-3756, entered in Case No. 4125, approving the Continental River Forest, ~~Donahue Forest~~, Waterflood Projects.

Injection is to be through the ten authorized water injection wells which shall be equipped with cement-lined tubing set in a packer located within 100 feet of the casing shoe except the Donahue No 3ⁱⁿ which the packer shall be set at 1900 feet and the Levers B No. 1 in which the packer shall be set at 2400 feet. Donahue No 4 which is to be drilled 1980 ~~feet~~ and feet FNL and 1650 feet FWL of 35-16-29 shall be equipped with 8-inch casing set at approximately 400 feet, cement circulated to

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 will be eligible to receive under the provisions of Rule 701-E-3 is 518 barrels per day when the Southeast New Mexico normal unit allowable is 42 barrels per day or less, while the maximum for the Heard project is 210 barrels and the maximum for the Levers. 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.

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.

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,

A. L. PORTER, Jr.
Secretary-Director

cc: OCO: Hobbs x
Artesia x
Aztec

USGS Artesia

Mr. Frank Irby, State Engineer Office, Santa Fe, New Mexico
Mr. D. E. Gray

the surface, and 3½-inch casing set at approximately 2700 feet, cement circulated at least back into the surface pipe. Injection in this one well in the project may be down the casing,

Donahue project is 142. Upon unitization the unit will be eligible for additional project well be eligible to receive an allowance of 854 barrels per day.

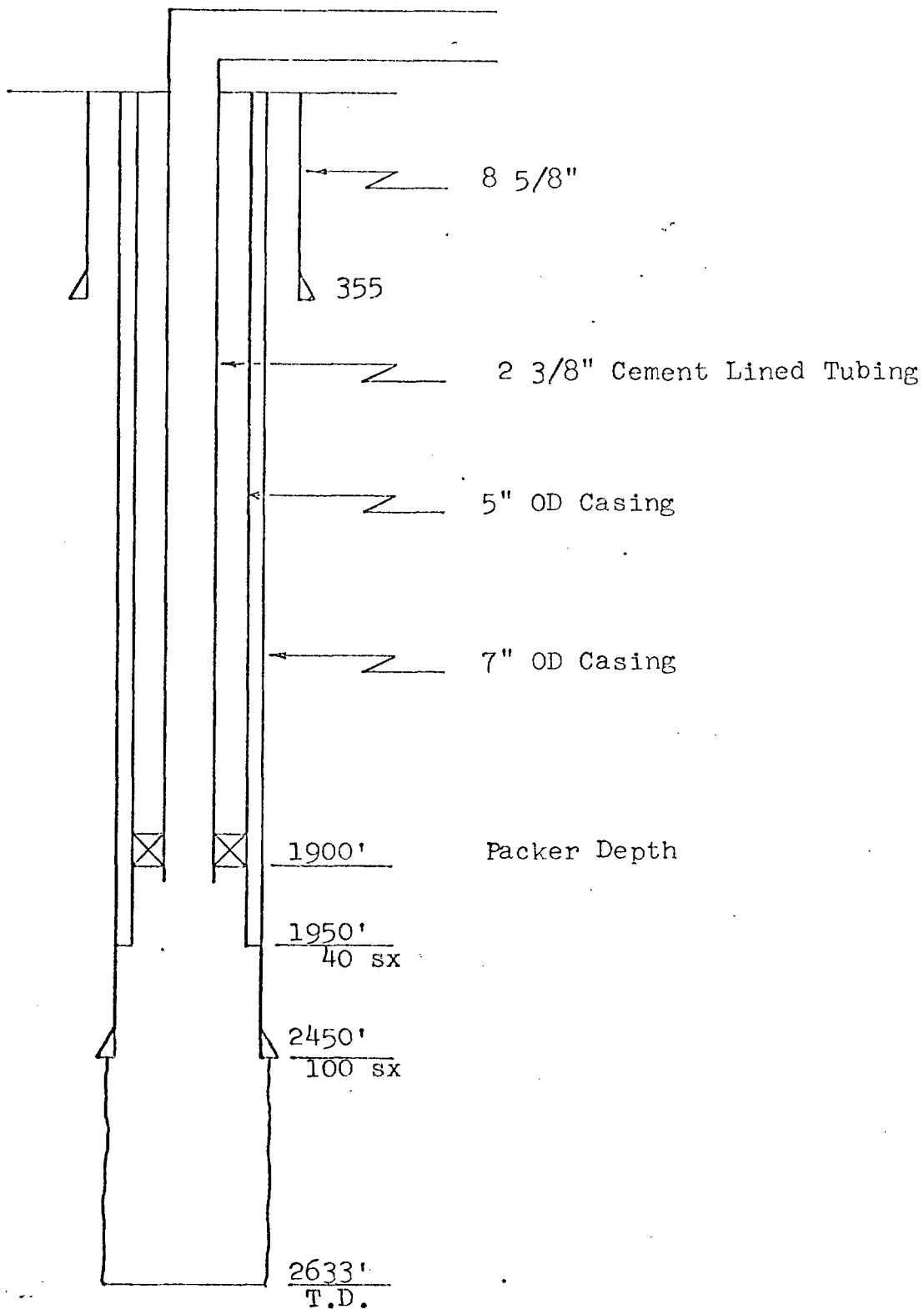
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FOREST POOL INJECTION WELL DATA

EXHIBIT NO. 2

Company, Lease and Well No. <u>CONTINENTAL OIL COMPANY</u>	Total Depth and/or PBD	SURFACE CASING			PRODUCTION CASING			PRODUCING INTERVAL Perforations/OH
		Size	Depth	Cement	Size	Depth	Cement	
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Heard No. 4 990' FSL & 1651' FWL Sec. 35-16-29	2663'	10 3/4"	409'	Casing Pulled	7"	2493'	620	OH 2493'-2663'
Donohue No. 4 (To be drilled) 1650' FWL & 1980' FNL Sec. 35-16-29	2700'	7 5/8"	400'	185	3 1/2"	2700'	400	To be perforated from logs

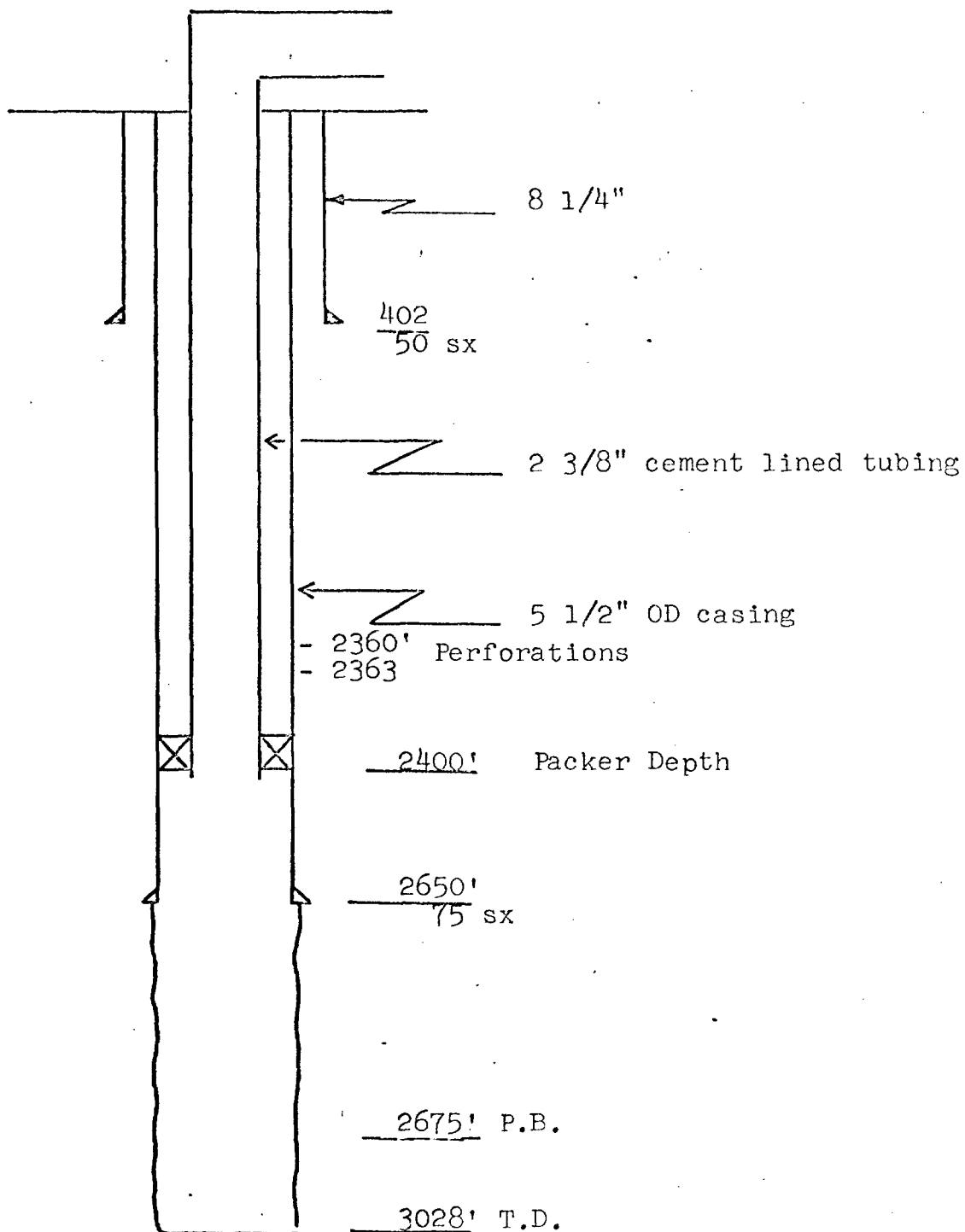
Continental Oil Company
 Donohue No. 3
 1650' FEL & SL Sec. 34-16-29



PROPOSED PROCEDURE

1. Tag bottom and tally out.
2. Cleanout to 2633' if necessary.
3. Run cement lined tubing w/retrievable packer set at 1900'.
4. Commence injection.

Continental Oil Company
 Levers B No. 1
 1980' FNL & 660' FE1 Sec. 34-16-29
 Elevation 3661'



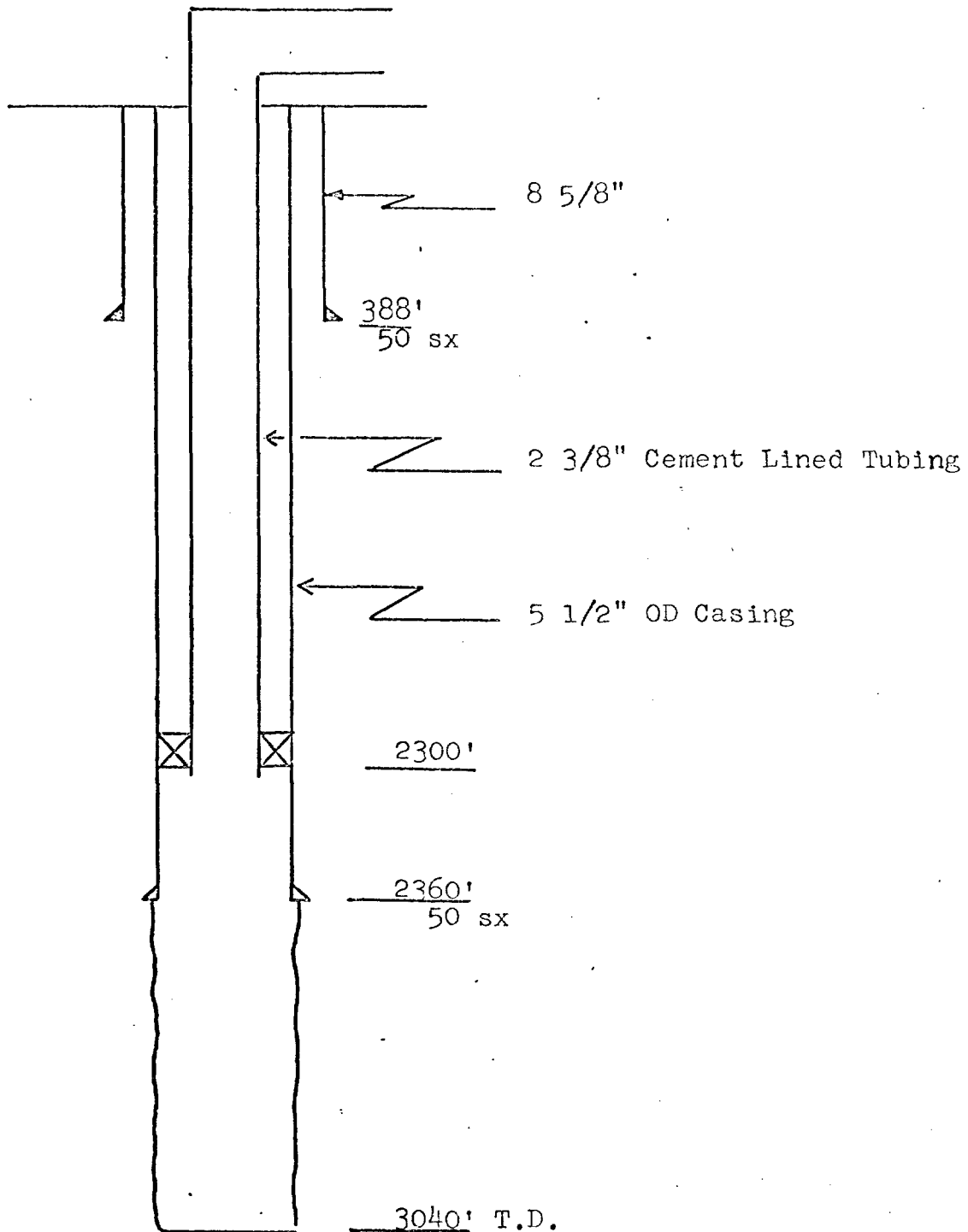
PROPOSED PROCEDURE

1. Tag bottom and tally tubing out.
2. Run GR/N log and perforate Premier and Lovington from log depths.
3. Run RBP and packer and break down perforations w/mud acid.
4. Cleanout to 2675' if fill is present.
5. Run C.L. tubing w/retrievable to be set at 2400'.
6. Commence injection.

EXHIBIT 2-2

Case 4125

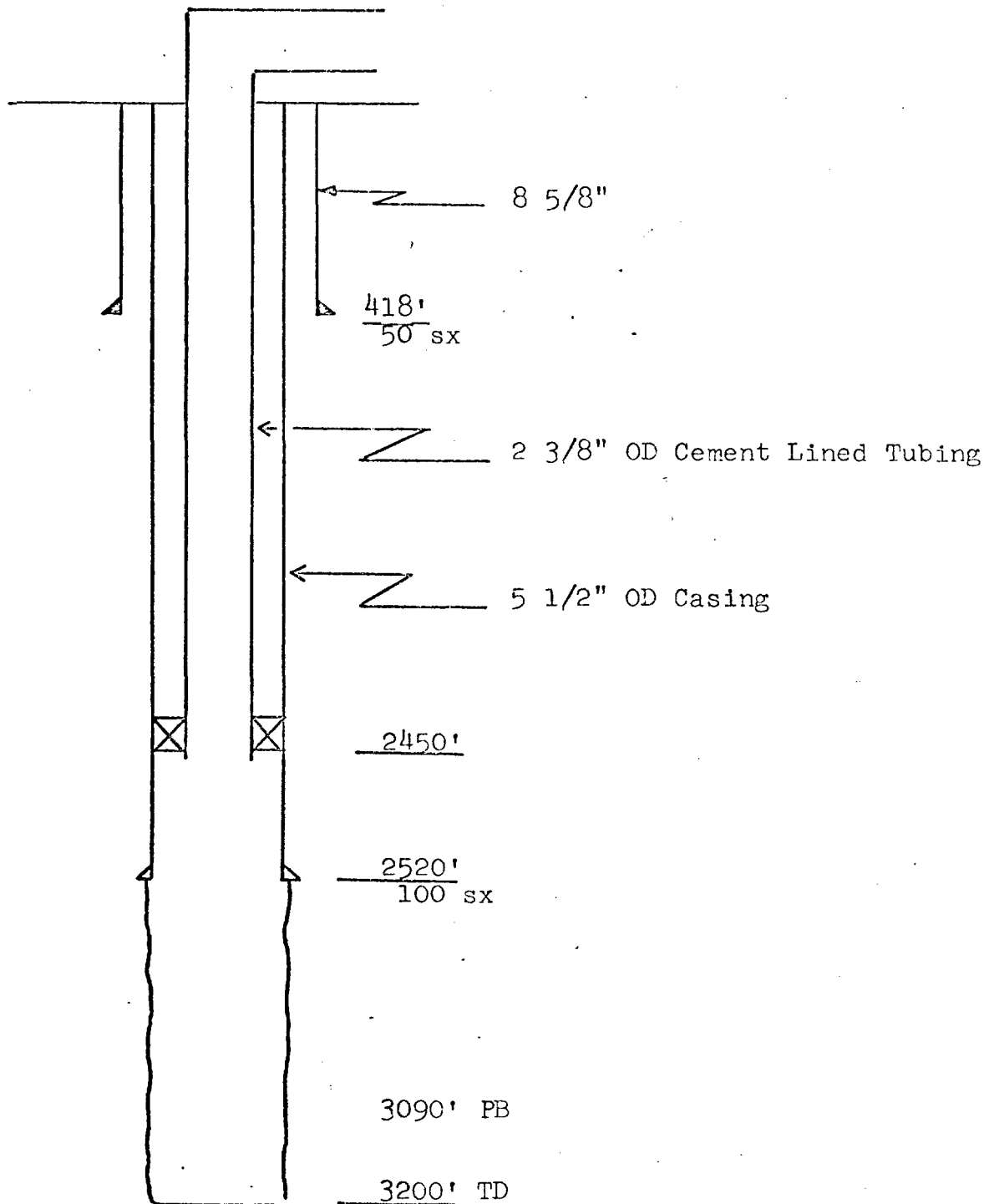
Continental Oil Company
Levers B No. 3
660' FNL & 1980' FEL Sec. 34-16-29
Elevation 3663'



PROPOSED PROCEDURE

1. Run GR/N log w/caliper.
2. Plugback to 2675 ± depending on log.
3. Run cement lined tubing w/retrievable packer to be set at 2300'.
4. Commence injection.

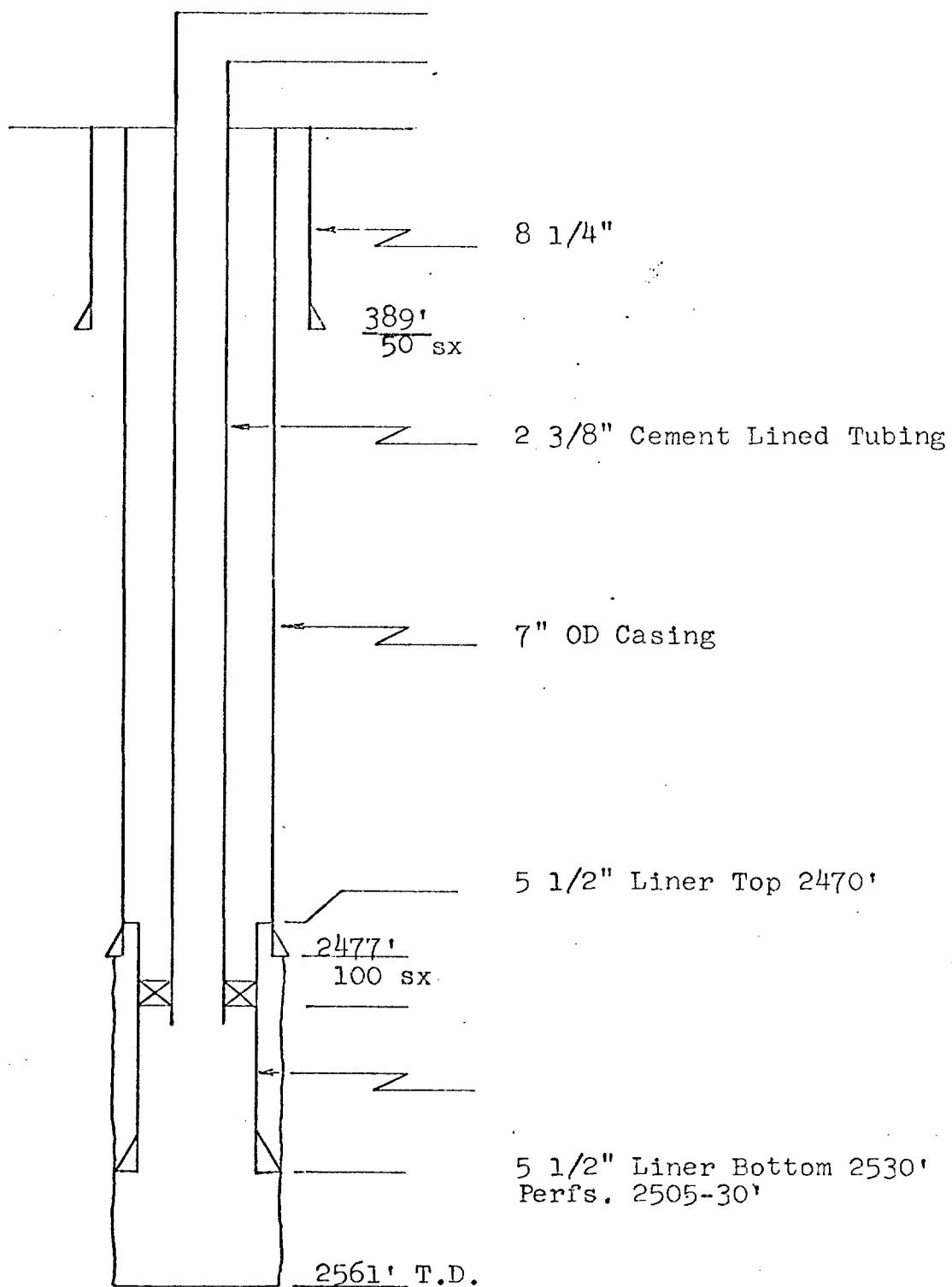
Continental Oil Company
Levers B No. 4
660' FN & W LINES Sec. 35-16-29
Elevation 3666'



PROPOSED PROCEDURE

1. Run GR/N logs & caliper survey.
2. Perforate casing opposite Premier from log depths.
3. Plugback to approximately 2660' w/dump bailer.
4. Break down new perforations with mud acid.
5. Run cement lined tubing w/retrievable packer to be set at approximately 2450'.
6. Commence injection.

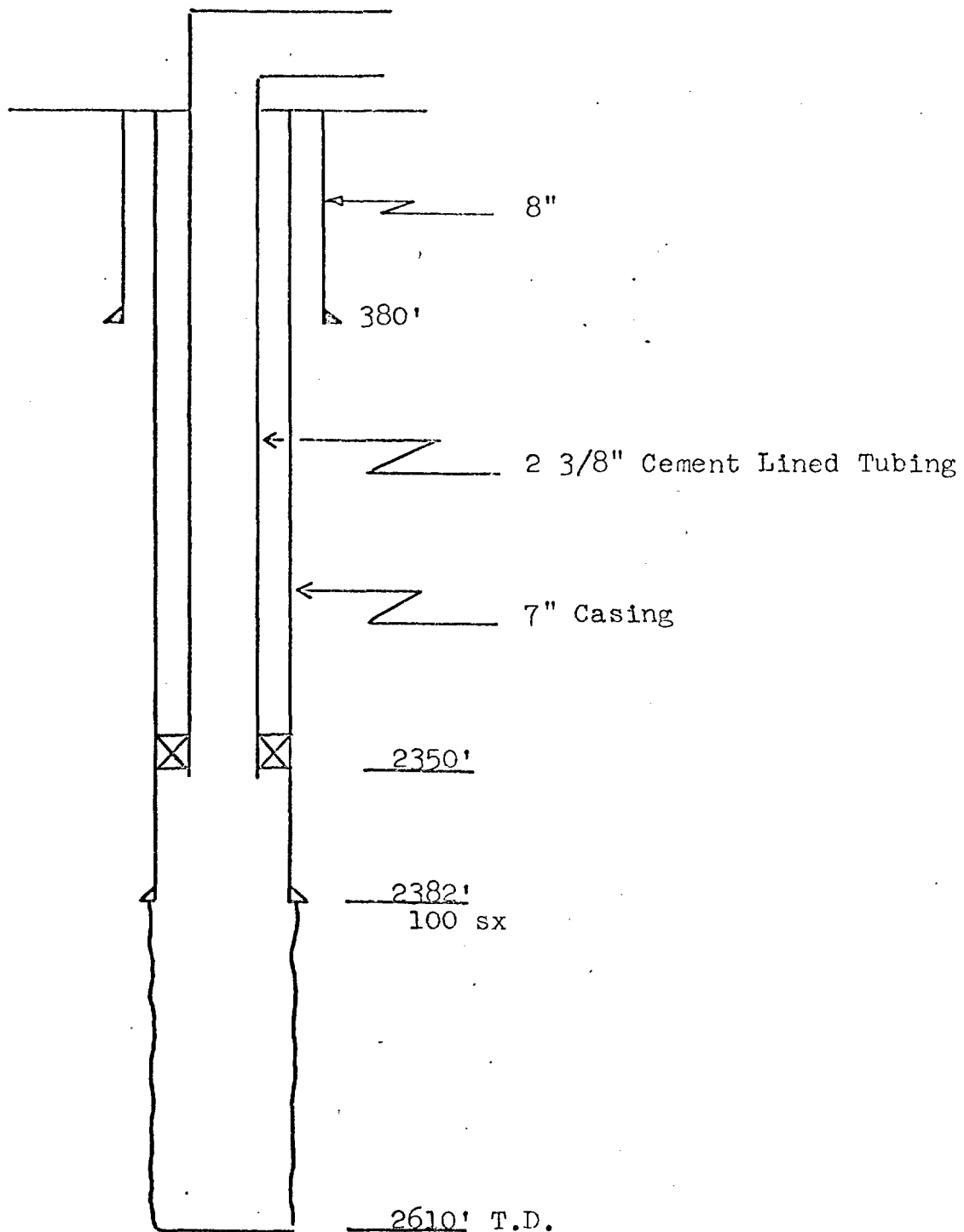
Continental Oil Company
 Levers B No. 8
 660' FS & E lines Sec. 34-16-29
 Elevation 3645'



PROPOSED PROCEDURE

1. Tag bottom and tally tubing out.
2. Deepen approximately 75' (depending on offset logs).
3. Run GR/N log.
4. Run cement lined tubing w/retrievable packer to be set at 2490'.
5. Commence injection.

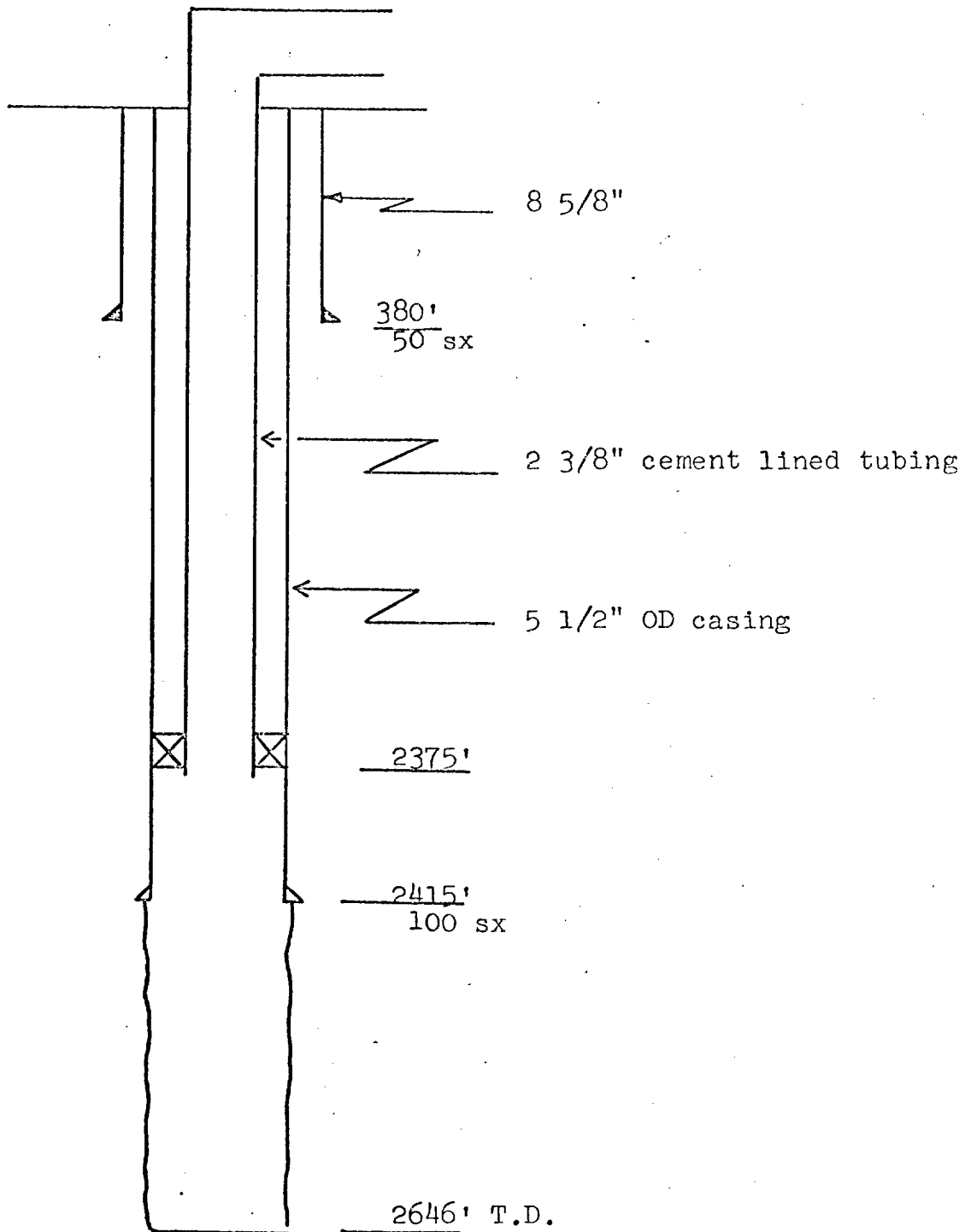
Continental Oil Company
Levers B No. 10
330' FSL and 2310' FWL Sec. 34-16-29
Elevation 3621'



PROPOSED PROCEDURE

1. Run SLM
2. Cleanout to 2610' if necessary.
3. Run cement lined tubing w/retrievable packer to be set at 2350'.
4. Commence injection.

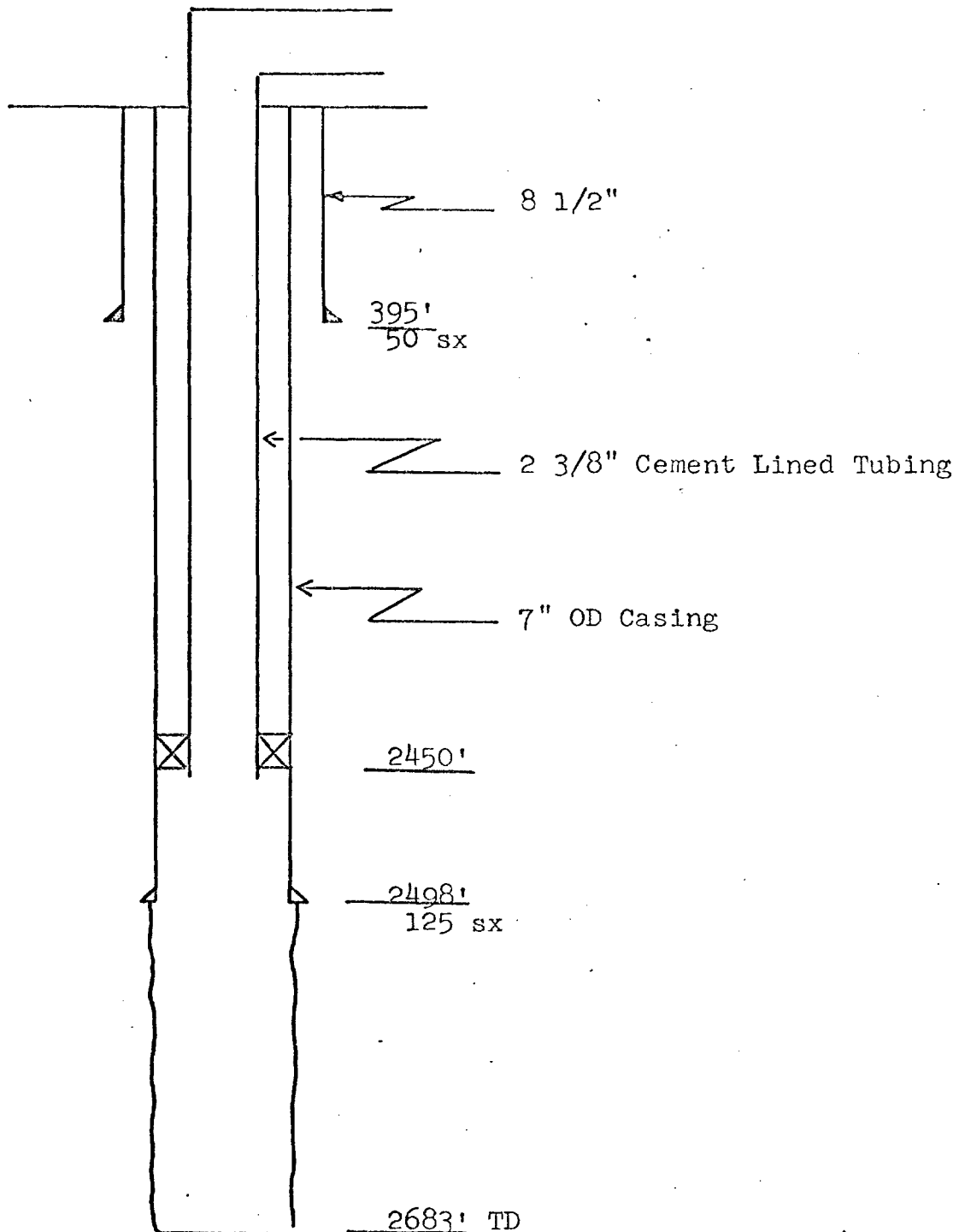
Continental Oil Company
Levers B No. 14
2310' FN & WL Sec. 34-16-29
Elevation 3651'



PROPOSED PROCEDURE

1. Drill out cement 1294' to TD.
2. Acidize open hole w/1000 gals. LTNE.
3. Run cement lined tubing w/retrievable packer set at 2375'.
4. Commence injection.

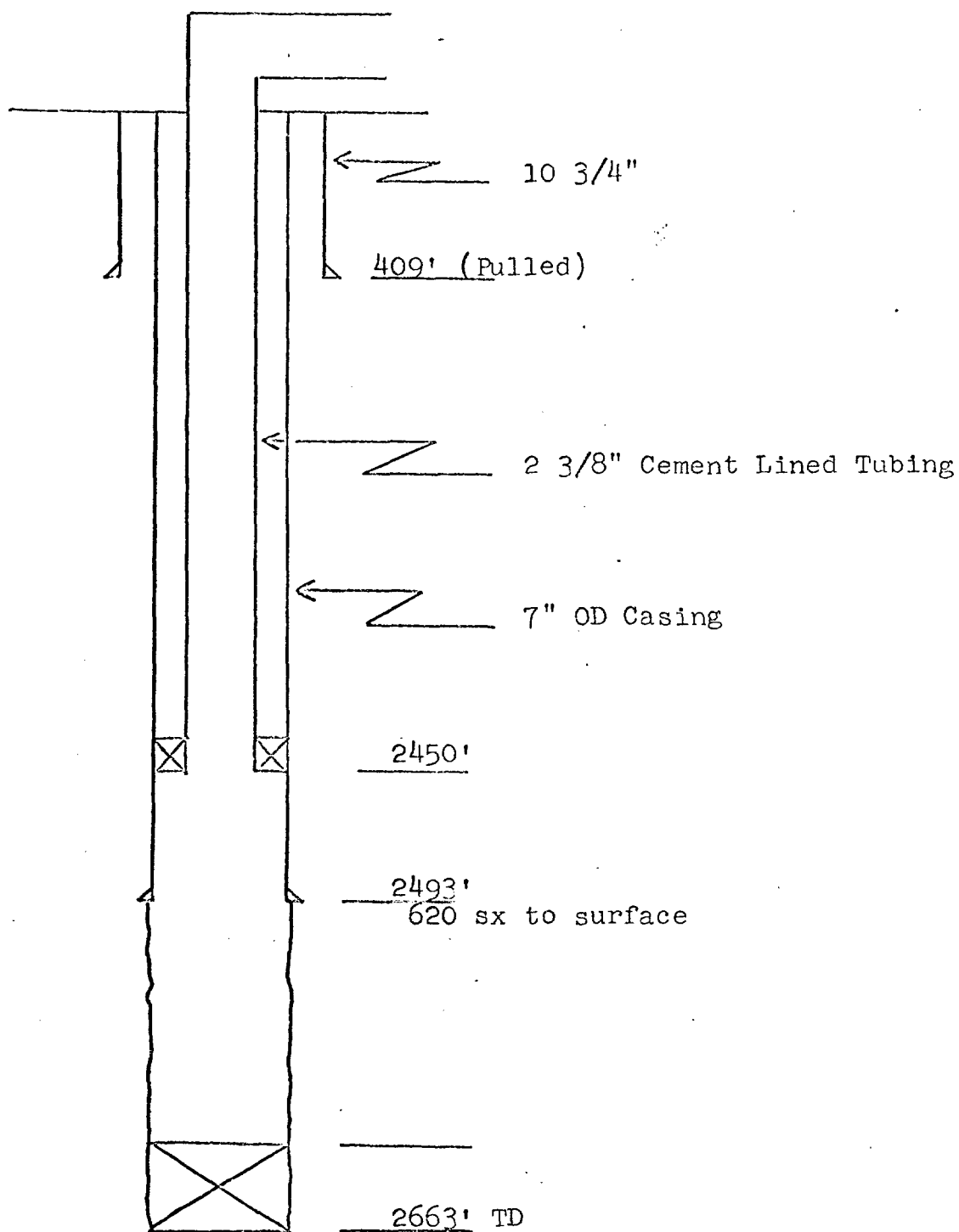
Continental Oil Company
Heard No. 1
2120' FSL & 520' FWL Sec. 35-16-29
Elevation 3655'



PROPOSED PROCEDURE

1. Tag bottom and tally out.
2. Run cement lined tubing w/retrievable packer set at 2450'.
3. Commence injection.

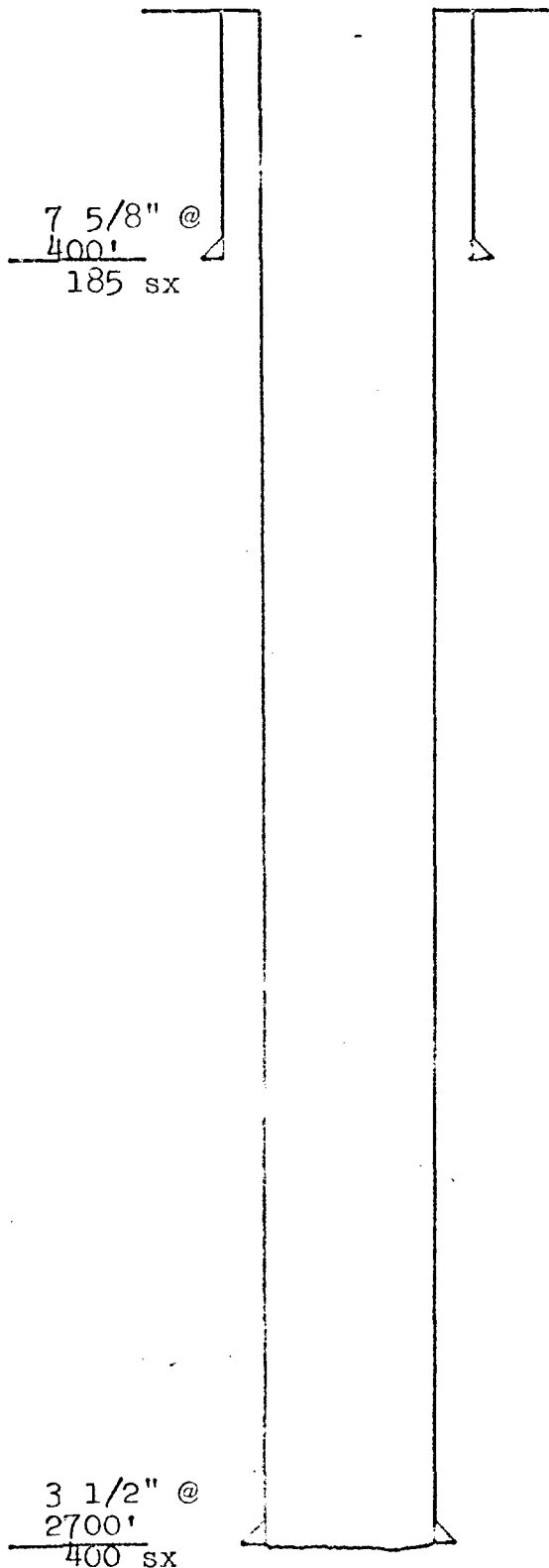
Continental Oil Company
Heard No. 4
990' FSL & 1651' FWL Sec. 35-16-29
Elevation 3655'



PROPOSED PROCEDURE

1. Tag bottom and tally out.
2. Cleanout to 2663' if necessary.
3. Run cement lined tubing w/retrievable packer set at 2450'.

Continental Oil Company
Donohue No. 4
(To be drilled)
1650' FWL & 1980' FNL Sec. 35-16-29



PROPOSED PROCEDURE

1. Set 7 5/8" surface casing at 400' w/185 sx.
2. Set 3 1/2" injection string at 2700' w/400 sx.
3. Run GR/N log and perforate pay intervals.
4. Treat perforations w/500 gals. acid.
5. Commence injection.

