

CASE 3274: Appli. of CONTINENTAL
to expand its Skaggs Pool Water-
flood Project.

[Faint handwritten notes, possibly bleed-through from the reverse side of the page.]

CASE NO.
3272

Application,
TRANSCRIPTS,
SMALL Exhibits
ETC.

 deanley-meier reporting service, inc.

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I N D E X

WITNESS

PAGE

RONALD McWILLIAMS

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pumping equipment more than formation. We don't anticipate any problems with allowables so we have no reason to cut back on injection rate. We doubt that we will ever reach our maximum allowable.

Q Now, you say you are injecting approximately fifty-five hundred a day now, and you will be needing another forty-five hundred, this would be a total of ten thousand a day, can you produce ten thousand a day over there in case -

A Yes.

Q Under the present allowables?

A Yes.

Q These exhibits don't indicate it, Mr. McWilliams, but this tubing in each of these wells is two inch.

A Yes, it will be two inch tubing.

MR. NUTTER: Are there any other question of Mr. McWilliams? You may be excused. Do you have anything further, Mr. Kellahin? Does anyone have anything they wish to offer in this case?

MR. DURRETT: I would like to indicate for the record, the Commission has received a letter from Standard Oil Company of Texas stating that they support Continental's application in this case.

MR. NUTTER: Thank you, Mr. Durret. Nothing further in Case 3274, we will take the case under advisement and call

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in the application. As I said it doesn't make any difference to me but I thought you might want- -

MR. NUTTER: The application has the 24 down here under twenty, thirty and it should have been 20, 37. We corrected that when we made the advertisement.

MR. IRBY: I have no further questions.

CROSS-EXAMINATION

BY MR. NUTTER:

Q What is the present rate of injection, Mr. McWilliams for the 11 wells that you have on injection at the present time?

A I am not sure of the exact injection rate. I believe it would be probably in the neighborhood of fifty-five hundred barrels of water per day, average.

Q Just about five hundred per day in each well?

A Some of the wells take more more than others, some will take as high as a thousand and some will only take, oh, one hundred fifty to one hundred barrels per day.

Q But this five hundred that you are talking about for these wells, would this be up until the time of fill-up and then another rate would be used or is this the overall rate of injection throughout the line?

A This would probably be the over all injection rate throughout the line. We are controlled by the limitation of our

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MR. NUTTER: Does anyone have any questions of this witness?

CROSS EXAMINATION

BY MR. IRBY:

MR. IRBY: Frank Irby, State Engineer's Office. Mr. McWilliams, on your well 36, what is the top of the cement surrounding the five and a half?

A It is at 125 feet.

Q And does it come up into the ten and three quarters?

A Yes, sir, the exhibit is poorly prepared. It shows the top to be consistent with the depth scale.

Q But the top is actually 125 feet from the land surface?

A Yes, sir. These cement tops were determined by temperature surveys in the well.

Q And the top is actually at 125 feet?

A Yes, sir.

Q I don't know that it makes any difference to me but I notice that in your application you don't include section 24 of 20, 37 which is included in the advertisement, on the fifth line of your application.

MR. KELLAHIN: Eighteen, fourteen is what the application shows.

Q (By Mr. Irby) The advertisement says thirteen, fourteen and twenty-four in 20, 37 which is contrary to what is shown

the five-spot patterns balanced and assure maximum areal sweep. Thirdly, total expansion will shorten flood time by approximately five years. The pay interval is approximately forty feet thick in most areas. A period of eighteen months was required to obtain a response in outside wells in the pilot flood.

Q Now, referring to what has been marked as Exhibits 5A through 5I, would you identify those exhibits, please?

A These are well data, plats of the injection wells showing a log of the well, the casing program and a short history of the well showing remedial work that has been performed, cumulative production from the wells and in general a complete history of each injection well.

Q In each case you do give the casing record, the cementing program, the cumulative production and the remedial work that has been performed on the well, is that correct?

A Yes, sir.

Q Were Exhibit's one through five I prepared by you or under your supervision?

A Yes, sir.

Q At this time I would like to offer in evidence, Exhibit's 1 through 5I.

MR. NUTTER: Continental's Exhibits 1, 2 and 3, 4 and 5A through 5I will be admitted into evidence.

MR. KELLAMIN: That's all I have on direct examination.

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allowable for the Southeast Monument Unit Permian Participating Area?

A There are forty-four proration units within the developed limits of the Skaggs Pool in the Southeast Monument Unit which will have one well each. This would be calculated to be a 1848 BPD maximum allowable.

MR. NUTTER: Is that included in the section that will be drilled?

A Yes, sir.

Q (By Mr. Kellahin) Do you anticipate, on the basis of your experience with the pilot flood that you will achieve maximum production?

A No, we don't.

Q Now, what advantage does a full scale water flood project offer over expansion of Rule 701E?

A Continental feels that the pilot flood has demonstrated that the pay intervals are continuous between wells and no unusual problems will be encountered. The next expansion would call for injection of water in wells offsetting leases outside the Southeast Monument Unit. In order to protect correlative rights a lease line agreement is necessary, the application of which is not compatible with Rule 701E.

Secondly, the expansion of the total lease will enable better control of the water fronts. It will be possible to keep

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described as?

Texaco-Kershaw Number 5, Northeast Quarter Southwest Quarter of Section 13, Township 20 South, Range 37 East, Texaco-Weir Number 2, Southwest Quarter, Northwest Quarter of Section 18, Township 20 South, Range 38 East, Amerada-Turner Number 1, Northeast Quarter Northeast Quarter of Section 19, Township 20 South, Range 38 East, Amerada-Turner Number 2, Northeast Quarter Southwest Quarter of Section 18, Township 20 South, Range 38 East.

The Continental wells to be converted under these agreements are Southeast Monument Unit Permian Numbers 75, 78, and 79. Under this agreement of injection wells along the lease line, each working interest owner and royalty owner will obtain an equitable share of the oil.

Q Now, according to the location plats, there is an open location located in the Southeast Quarter of the Southeast Quarter of Section 13, Township 20 South, Range 37 East. Do you propose to drill a well at this location?

A Yes, sir, we do. This location was originally developed in the Skaggs Pool by the Southeast Monument Unit Permian Number 41 but the hole was lost due to mechanical conditions. A well will be drilled to replace the No. 41 at the time the flood is expanded.

Q Now, under Rule 701E what will be the maximum daily

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the Cass Pool, located 12,000 feet west of the Skaggs Pool will be used. Reda pumps are presently installed in two Cass Pool wells to supply the flood now in operation. The present capacity is 9,000 barrels of water per day. An additional Reda will be installed to supply the 4500 barrels of water per day requirement of the proposed expanded flood.

Q What will you do with the production water?

A Produced water will be re-injected into the formation to supplement water obtained from the Cass Pool.

Q Now, as I understand, this is a salt water well, is that correct?

A That is correct.

Q And you are using a plastic coated tubing in the injection pumps?

A Yes, sir.

Q And will that be through closed systems?

A Yes, it will.

Q What steps will be taken to protect correlative rights across the lease line along the north boundry of the Southeast Monument Unit?

A Lease line agreements are being negotiated with the two offset operators, Amerada Petroleum Corporation and Texaco, Inc. It is proposed that these operators will convert the wells circled in red on Exhibit 3. These wells are

which are presently being injected?

A Yes, sir.

Q What is the anticipated injection rate?

A An injection rate of approximately 4500 barrels of water per day is anticipated. For the nine wells in this expansion, the average daily rate would be 500 barrels per day, per well.

Q Will the injection be under pressure or will the wells take it on vacuum?

A It will be under pressure. Based on the performance of the present flood, injection pressures from a 1000 to 2300 PSI will be required. The higher pressures will be required for the well located along the edge of the pool.

Q For what reason is that?

A Well, the formation is the- - The limits are, approximately, are controlled by a permeability and the porosity pinchout and the wells along the edge have this reduction in permeability and subsequently it's harder to put the desired volume of air into the well.

Q Will this permit you to use the higher pressure and still protect against any damage to the other formation?

A Well, there it will.

Q What is the source of the injection water?

A Produced water from the Pennsylvanian formation of

A Yes, I think it would. With the daily production being only four barrels per well and with two wells, Southeast Monument Unit Permian Numbers 46 and 47, shut-in due to uneconomical production, it is evident that little additional oil will be recovered by primary methods.

Q How do you propose to complete your water injection wells?

(Whereupon, Applicant's Exhibit Nos. 4A through 4I and 5A through 5I marked for identification)

A Exhibits 4A through 4I are schematic drawings showing the existing casing and cementing program in the proposed injection wells and the proposed method of completion. The water will be injected through plastic coated tubing with a packer set a short distance above the casing seat in the open hole completions or above the perforations in the cased holes. Exhibits 5A through 5I is a copy of a Gamma Ray-Neutron log and well data for each injection well. This exhibit shows that the intervals open to water injection are limited to the Grayburg formation and in some cases, a portion of the lower Penrose formation.

Q This is the interval that has been open throughout the producing life of those wells?

A Yes, sir.

Q Is that same interval open in the waterflood projects

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Township 20 South, Range 38 East, SEMU Permian Number 78, Northeast Quarter Southeast Quarter of Section 13, Township 20 South, Range 37 East, SEMU Permian Number 79, Southwest Quarter Northeast Quarter of Section 13, Township 20 South, Range 37 East.

The proposed expansion will complete waterflood development in the Skaggs Pool on Continental's Southeast Monument Unit. The pattern described will result in a continuation of the eighty-acre five-spot pattern started in the pilot area.

Q What is the average daily production in this Skaggs Area, at this time?

A For an expansion area defined as the wells northeast of an imaginary line drawn through Southeast Monument Unit Permian Numbers 37, 29, 33, 31 and 73, the daily average production for May, 1965 was 67 barrels of oil per day, six barrels of water per day and 669 MCF of gas per day. This is an average of 4.46 barrels of oil per day per well. The average GOR is 10,022. The largest producer not directly offset by an injection well, is well Number 35 which produced approximately eight barrels of oil per day during May.

Q Would this indicate that production in this area is at an advanced stage of depletion and stripper type of production?

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oil can be swept from one well to the offsetting well and, 3) no adverse problems which will be detrimental to a waterflood, such as channeling or premature water breakthrough or plugging of injection wells should occur.

Q Now, in what part of the Skaggs Pool do you propose to expand, at this time?

(Whereupon, Applicant's Exhibit No. Three marked for identification.)

A Our Exhibit 3, a location plat of the Skaggs Pool Area, shows the proposed water injection wells. Wells to be converted by Continental are circumscribed by green circles. The proposed water injection wells are:

SEMU Permian Number 35, Southwest Quarter Northeast Quarter of Section 24, Township 20 South, Range 37 East, SEMU Permian Number 36, Northeast Quarter Northeast Quarter of Section 24, Township 20 South, Range 37 East, SEMU Permian Number 44, Southwest Quarter Southwest Quarter of Section 13, Township 20 South, Range 37 East, SEMU Permian Number 45, Southwest Quarter Southeast Quarter of Section 13, Township 20 South, Range 37 East, SEMU Permian Number 46, Northeast Quarter Southeast Quarter of Section 14, Township 20 South, Range 37 East, SEMU Permian Number 75, Southwest Quarter Southeast Quarter of Section 18, Township 20 South, Range 38 East, SEMU Permian Number 76, Southwest Quarter Southwest Quarter of Section 18,

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Two marked for identification)

Q Now, referring to what has been marked as Exhibit Two, would you identify that exhibit and discuss it?

A Exhibit 2 is a performance curve for the Southeast Monument Unit Permian Participating Area. The oil production curve shows a drop in production at the time the six pilot wells were converted to injection due to six fewer producing wells. The normal rate of decline is shown to have been arrested and the lease is presently producing above the extrapolated primary decline. Water production shows a sharp increase during June, 1965, indicating the breakthrough of injection water in the general pilot area.

Q What briefly are the results of this pilot flood?

A The increased rate of oil production shown by Exhibit 2 indicates that the oil which would not be obtained by primary producing methods can be gained by water injection. The lease has produced an estimated 41,600 barrels of waterflood oil as of June 1, 1965. As previously mentioned, the wells which have experienced a response to water injection are shown colored green on Exhibit 1.

The pilot has further shown that, 1) water can be injected in sufficient quantities and under reasonable pressures to stimulate production in offsetting wells, 2) that the productive intervals are continuous across the pool such that

A Exhibit 1 is a location plat of the Skaggs Pool area. The Skaggs Pool Wells are circled on the plat and the water injection wells are indicated by the triangles surrounding the well location. The present water flood project area as defined by Rule 701 of the New Mexico Oil Conservation Commission is outlined in red. The original six pilot water injection wells are colored in blue and the five wells converted to injection for the first expansion are colored red. The producing wells colored green have shown a response to waterflooding.

Q Would you, for the benefit of the Examiner, briefly review the history of the waterflood project?

A Water injection into the producing formation of the Skaggs Pool commenced on March 23, 1961. Initial injection was into the six-injection well pilot shown in Exhibit 1. The two eighty-acre five-spots were obtained by converting six producing wells to injection. The pilot waterflood was authorized by Order No. R-1710 of the Oil Conservation Commission dated June 10, 1960. The pilot was expanded on April 19, 1964 to include the five injection wells designated by the red triangles. The expansion as made under Administrative Order WFX 158 of the New Mexico Oil Conservation Commission.

(Whereupon, Applicant's Exhibit

MR. NUTTER: They are.

Q (By Mr. Kellahin) Are you familiar with the application of Continental Oil Company in Case 3274?

A Yes, sir, I am.

Q Would you state briefly what is proposed in this application?

A This is the application of Continental Oil Company for permission to expand to full scale the waterflood project in the Skaggs Pool located on Continental's Southeast Monument Unit, originally authorized by Order No. R-1701.

Q Now, Continental is apparently asking a departure from the administrative procedures set forth in Rule 701E. Why is this being done?

A This expansion calls for injection wells against the unit boundry. In order to protect correlative rights it will be necessary to negotiate lease line agreements with operators outside the Southeast Monumnet Unit. These agreements are being negotiated with Texaco and Amerada. The conversion to injection of the wells covered by this agreement cannot be accomplished under Rule 701E. This situation and the performance of the pilot project prompted us to request permission to install a full-scale flood.

Q Referring to what had been marked Exhibit 1, would you identify that Exhibit and discuss it?

MR. NUTTER: Case Number 3274.

MR. DURRETT: Application of Continental Oil Company
for a waterflood expansion, Lea County, New Mexico.

MR. KELLAHIN: Jason Kellahin, Kellahin and Fox,
Santa Fe, New Mexico, representing the applicant. We have one
witness I would like to have sworn, please.

(Whereupon, Applicant's Exhibit No.
1-S marked for identification.)

RONALD McWILLIAMS

called as a witness, having been first duly sworn on oath,
was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Will you state your name, please?

A Ronald McWilliams.

Q By whom are you employed and in what position, Mr.
McWilliams?

A I am employed by Continental Oil Company as a
Supervising Engineer in Hobbs, New Mexico.

Q Have you ever testified before the Oil Conservation
Commission and made your qualifications a matter of record?

A I have.

MR. KELLAHIN: Are the witness' qualifications
acceptable?

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

EXAMINER HEARING

IN THE MATTER OF:

Application of Continental Oil Company
for a waterflood expansion, Lea County,
New Mexico.

Case No. 3274

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

SANTA FE, N. M.
PHONE 983-3971

ALBUQUERQUE, N. M.
PHONE 243-6891

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

-2-

Mr. Jason Kellahin

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

ALP/lr

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

Oil Conservation Commission
Hobbs, New Mexico

C
O
P
Y

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

July 15, 1965

C
O
P
Y

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

Dear Sir:

Enclosed herewith is Commission Order No. R-2940, entered in Case No. 3274, approving the expansion of Continental Oil Company's Skaggs Waterflood Project.

Injection is to be through the 20 authorized injection wells, which shall all be equipped with plastic-coated tubing and packers set as near to the casing shoe or the uppermost perforation as is practicable.

As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, and a well has been drilled in Unit F of Section 13, Township 20 South, Range 37 East, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 1806 barrels per day.

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

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CASE No. 3274

Order No. R-2940

DONE at Santa Fe, New Mexico, on the day and year herein-
above designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Jack M. Campbell
JACK M. CAMPBELL, Chairman

Rayton B. Hays
RAYTON B. HAYS, Member

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

est/

-2-

CASE No. 3274
Order No. R-2940

(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, Continental Oil Company, is hereby authorized to expand its Skaggs Pool Waterflood Project in the Skaggs Pool by converting to water injection the following-described nine wells in Lea County, New Mexico:

TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM

SENU Well No. 44 - Unit M - Section 13
SENU Well No. 45 - Unit O - Section 13
SENU Well No. 78 - Unit I - Section 13
SENU Well No. 79 - Unit G - Section 13
SENU Well No. 46 - Unit I - Section 14
SENU Well No. 35 - Unit G - Section 24
SENU Well No. 36 - Unit A - Section 24

TOWNSHIP 20 SOUTH, RANGE 38 EAST, NMPM

SENU Well No. 75 - Unit O - Section 18
SENU Well No. 76 - Unit M - Section 18

(2) That the expanded waterflood project 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 expanded 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.

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. 3274
Order No. R-2940

APPLICATION OF CONTINENTAL OIL COMPANY
FOR A WATERFLOOD EXPANSION, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on July 7, 1965, at Santa Fe, New Mexico, before Examiner Daniel S. Wutter.

NOW, on this 15th day of July, 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, Continental Oil Company, seeks permission to expand its Skaggs Pool Waterflood Project in the Skaggs Pool by converting to water injection nine additional wells located in Sections 13, 14, and 24, Township 20 South, Range 37 East, and Section 18, Township 20 South, Range 38 East, NMPM, Lea 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 expansion of the Skaggs Pool Waterflood Project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

GOVERNOR
EDWIN L. MECHAM
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER



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

P. O. BOX 2088
SANTA FE
87501

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

*Injection is to be through the 20
authorized injection wells, which shall
all be equipped with plastic-coated
tubing and packers set as near to
the casing shoe or the uppermost
perforation as is practicable.*

Gentlemen:

Enclosed herewith is Commission Order No. R-²⁹⁴⁰, entered in Case
No. ³²⁷⁸ approving the expansion of Continental Oil Company's Skiffs
Water Flood Project.

As to allowable, indicate that
~~According to~~ our calculations, 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 100 barrels per day.

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 Frank Gish
CCC Hobbs*

*and a well has been drilled
in Unit P of Section 13, T20S,
R37E,*

CONTINENTAL OIL COMPANY
SEMU Permian No. 79
Schematic Diagram
Proposed Water Injection Well

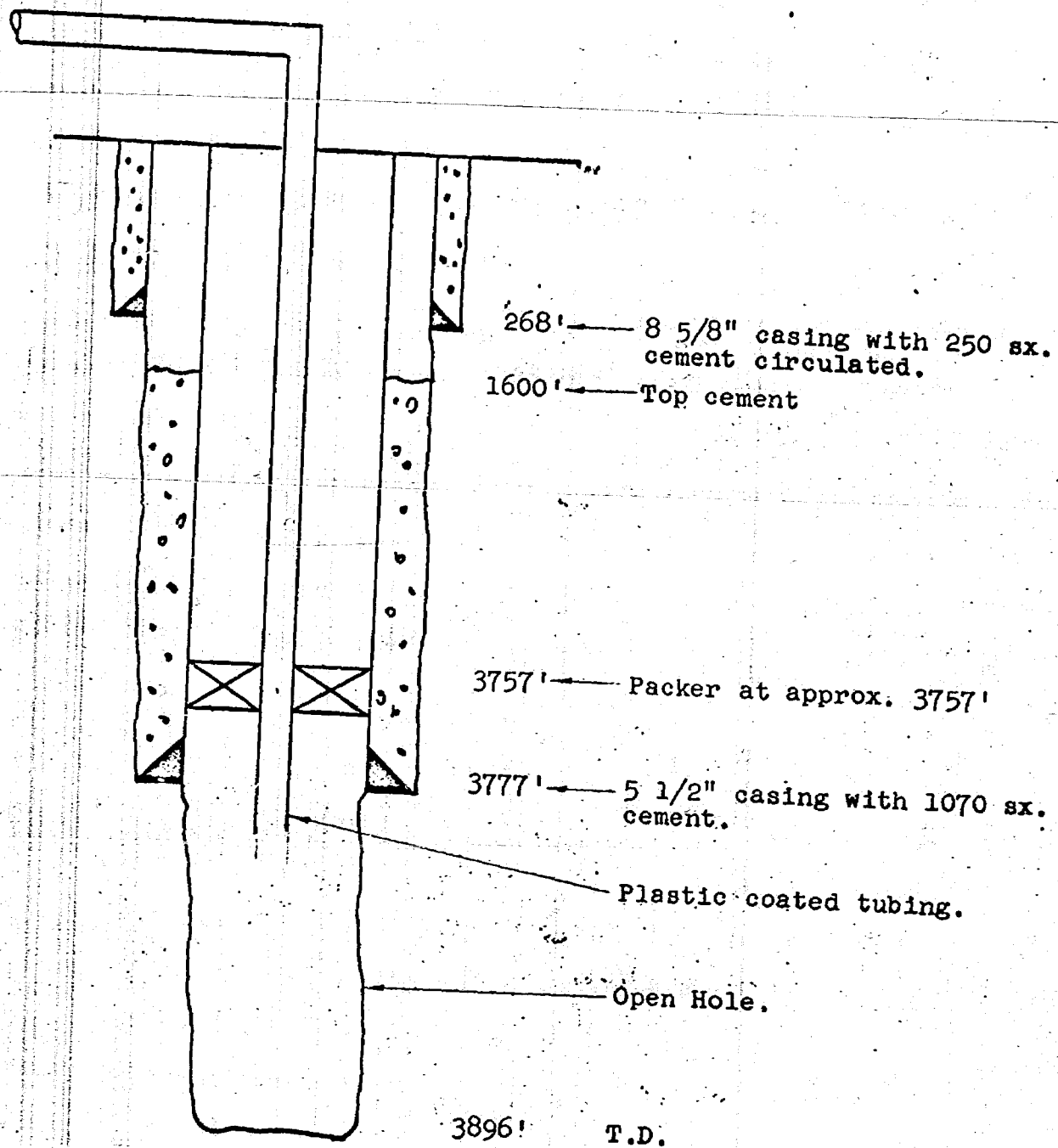


Exhibit No. 4 i

CONTINENTAL OIL COMPANY
SRMU Permian No. 78
Schematic Diagram
Proposed Water Injection Well

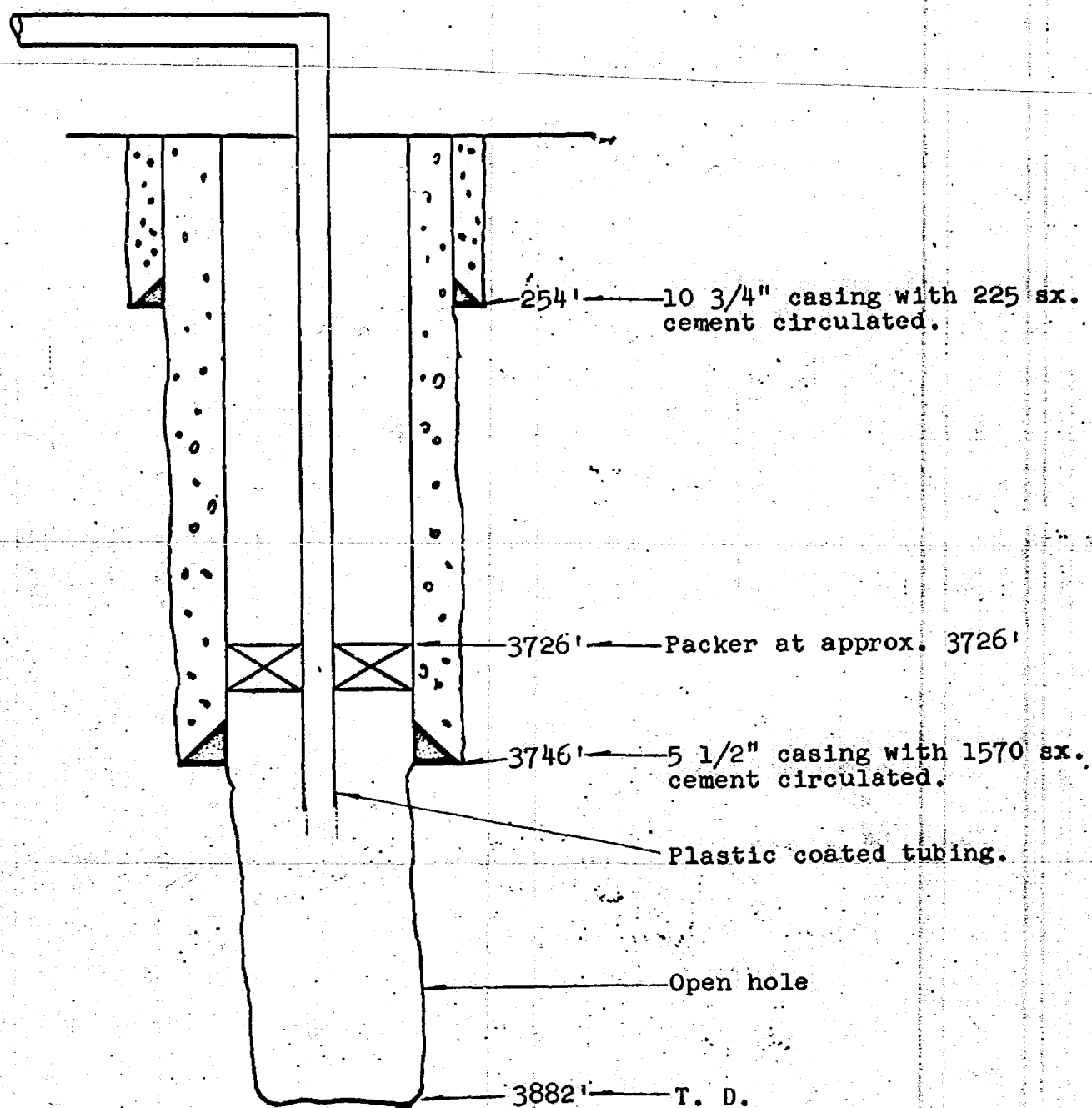


Exhibit No. 46

CONTINENTAL OIL COMPANY
SEMU Permian No. 76
Schematic Diagram
Proposed Water Injection Well

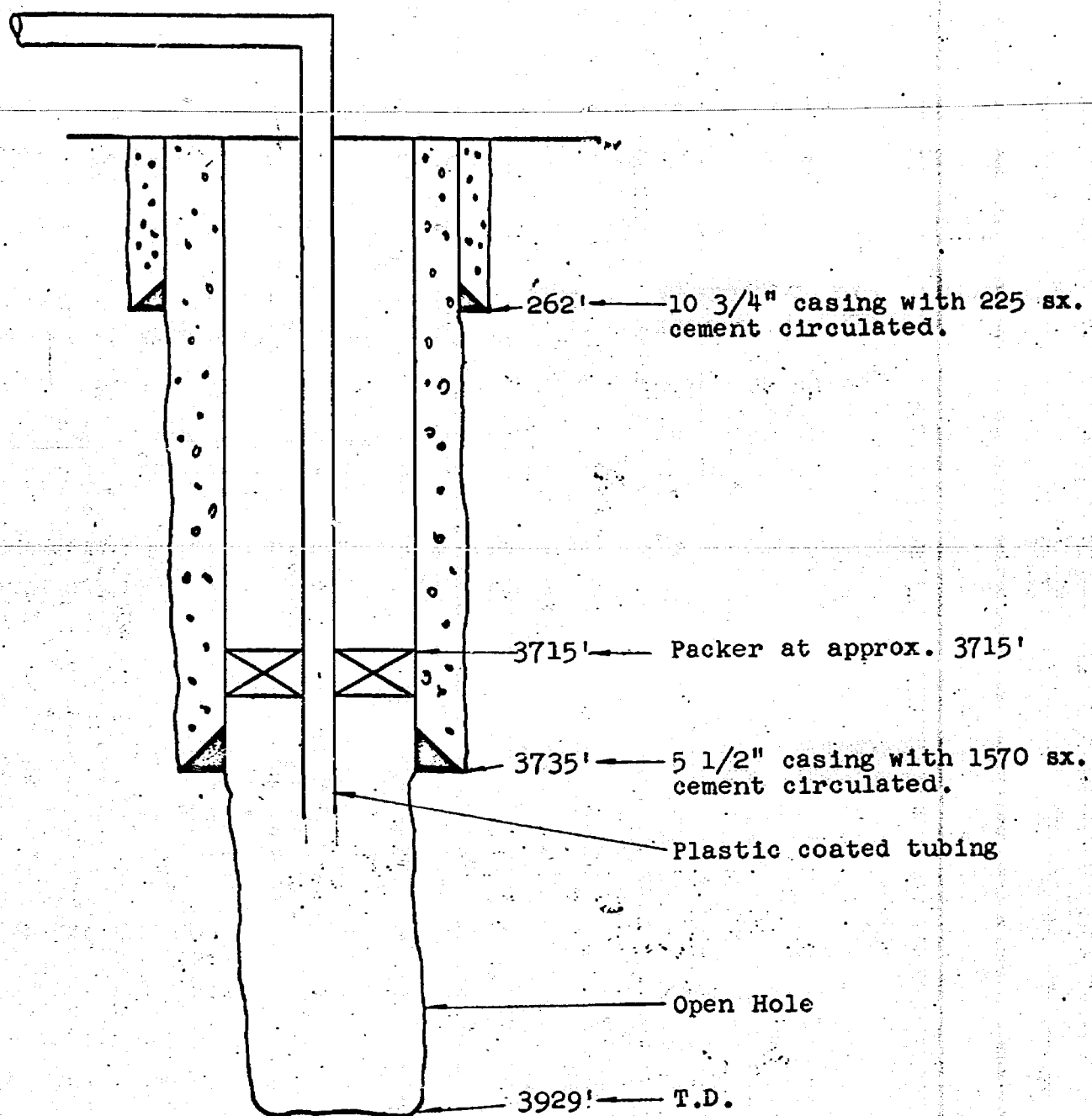


Exhibit No. 49

CONTINENTAL OIL COMPANY
 SEMU Permian No. 75
 Schematic Diagram
 Proposed Water Injection Well

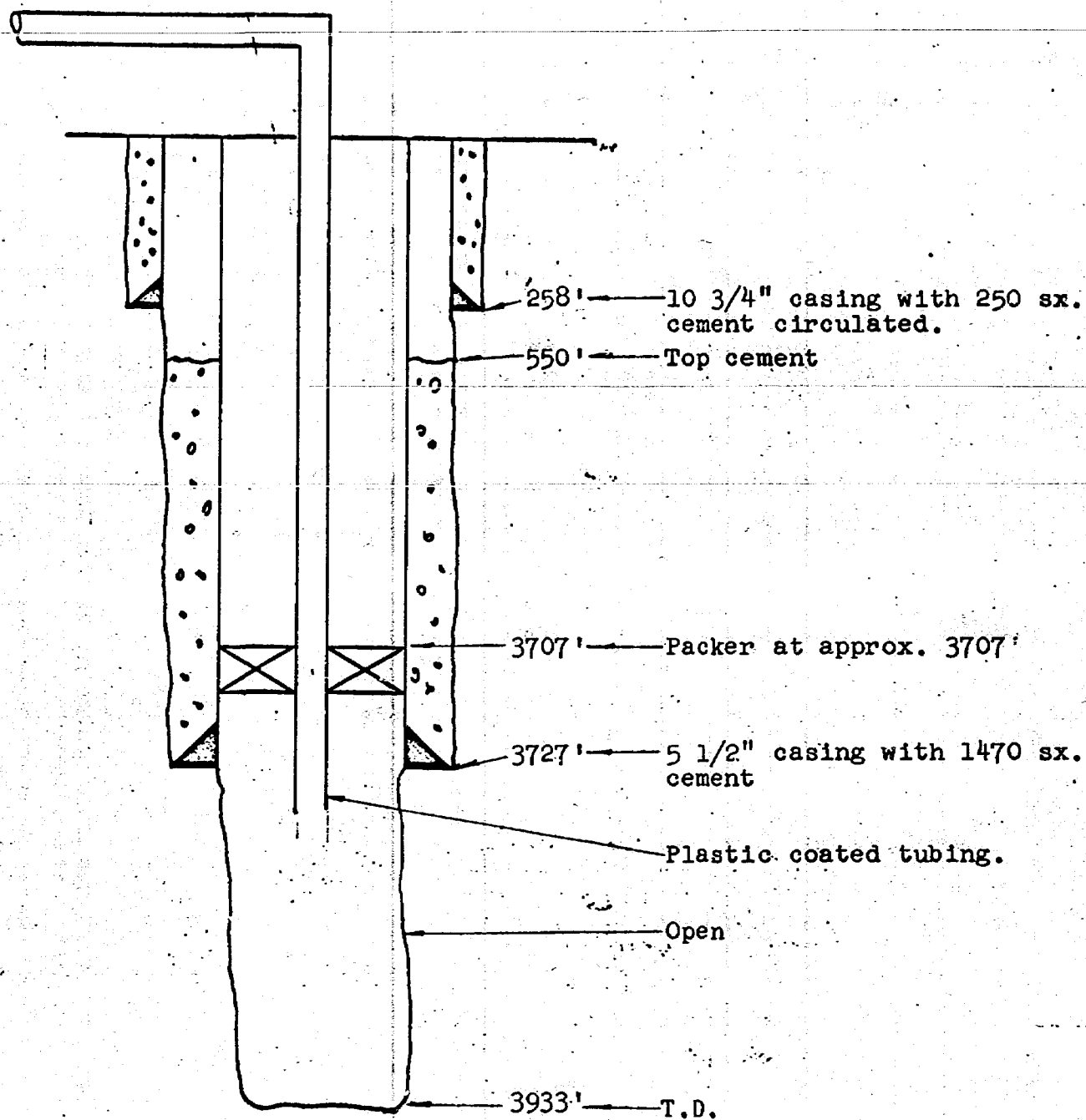


Exhibit No. 4 f

CONTINENTAL OIL COMPANY
 SEMU Permian No. 46
 Schematic Diagram
 Proposed Water Injection Well

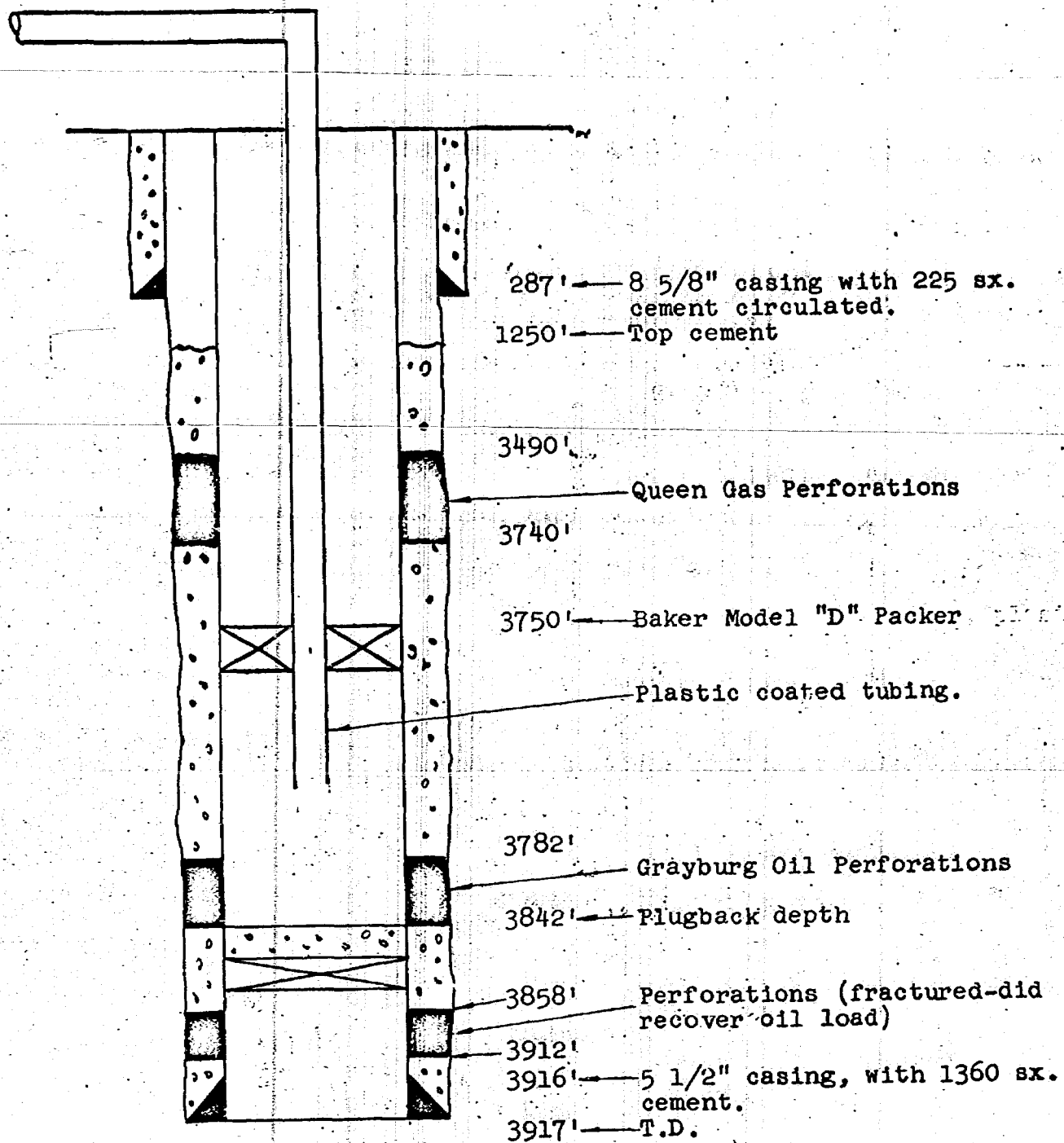


Exhibit No. 4e

CONTINENTAL OIL COMPANY
 SEMU Permian No. 45
 Schematic Diagram
 Proposed Water Injection Well

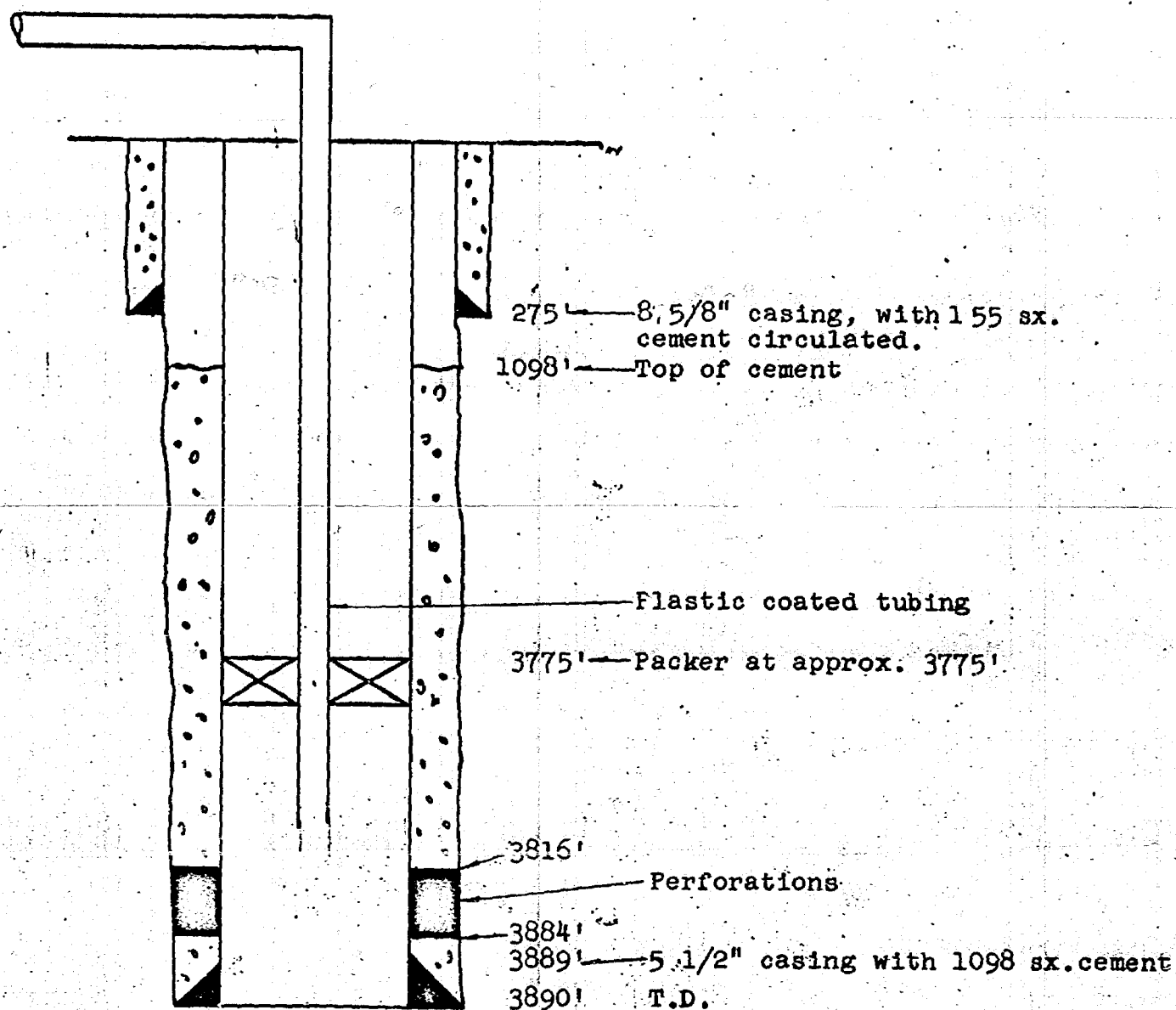


Exhibit No. 4d

CONTINENTAL OIL COMPANY
SEMU Permian No. 44
Schematic Diagram
Proposed Water Injection Well

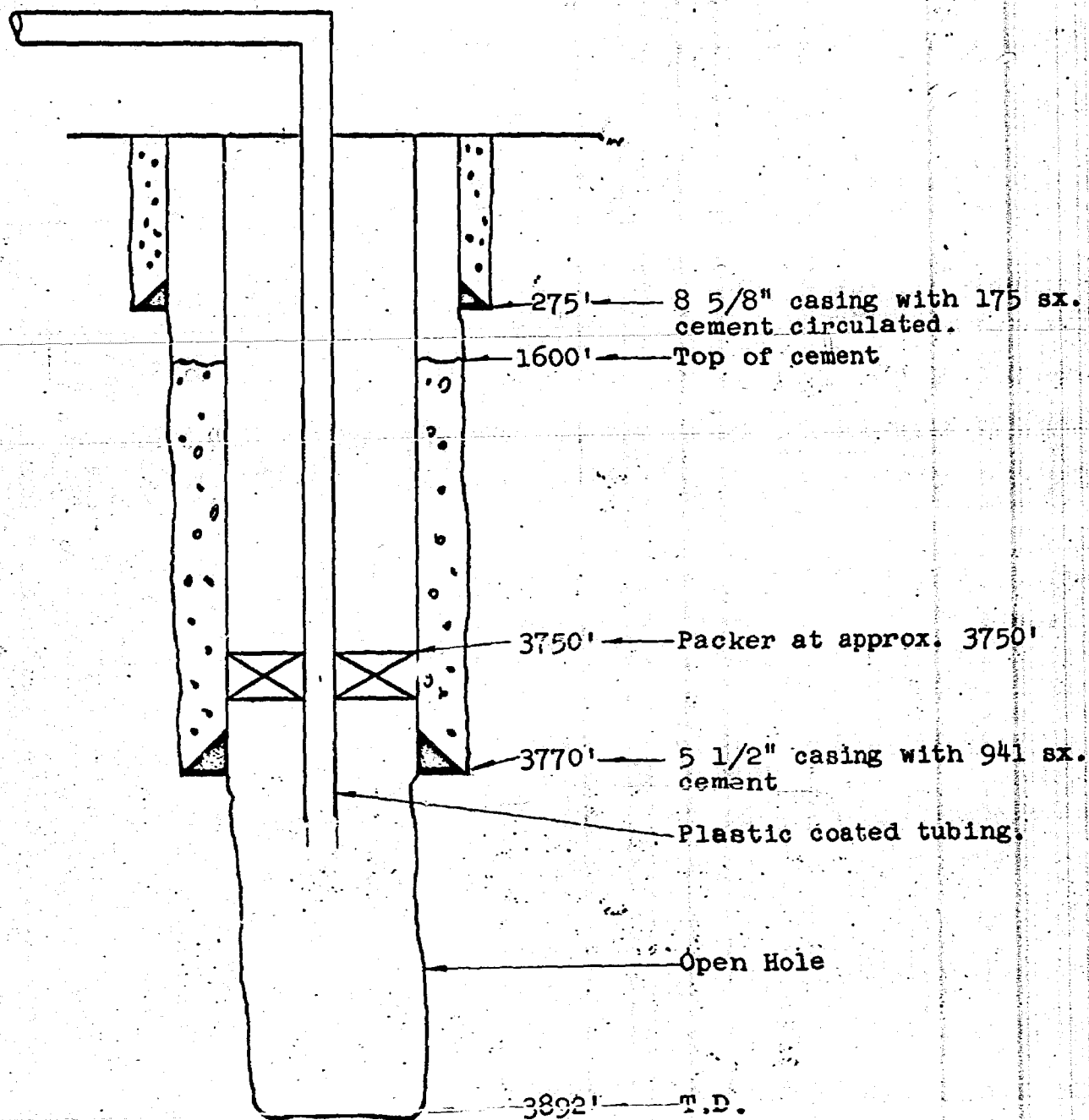


Exhibit No. 44C

CONTINENTAL OIL COMPANY
SEMU Permian No. 36
Schematic Diagram
Proposed Water Injection Well

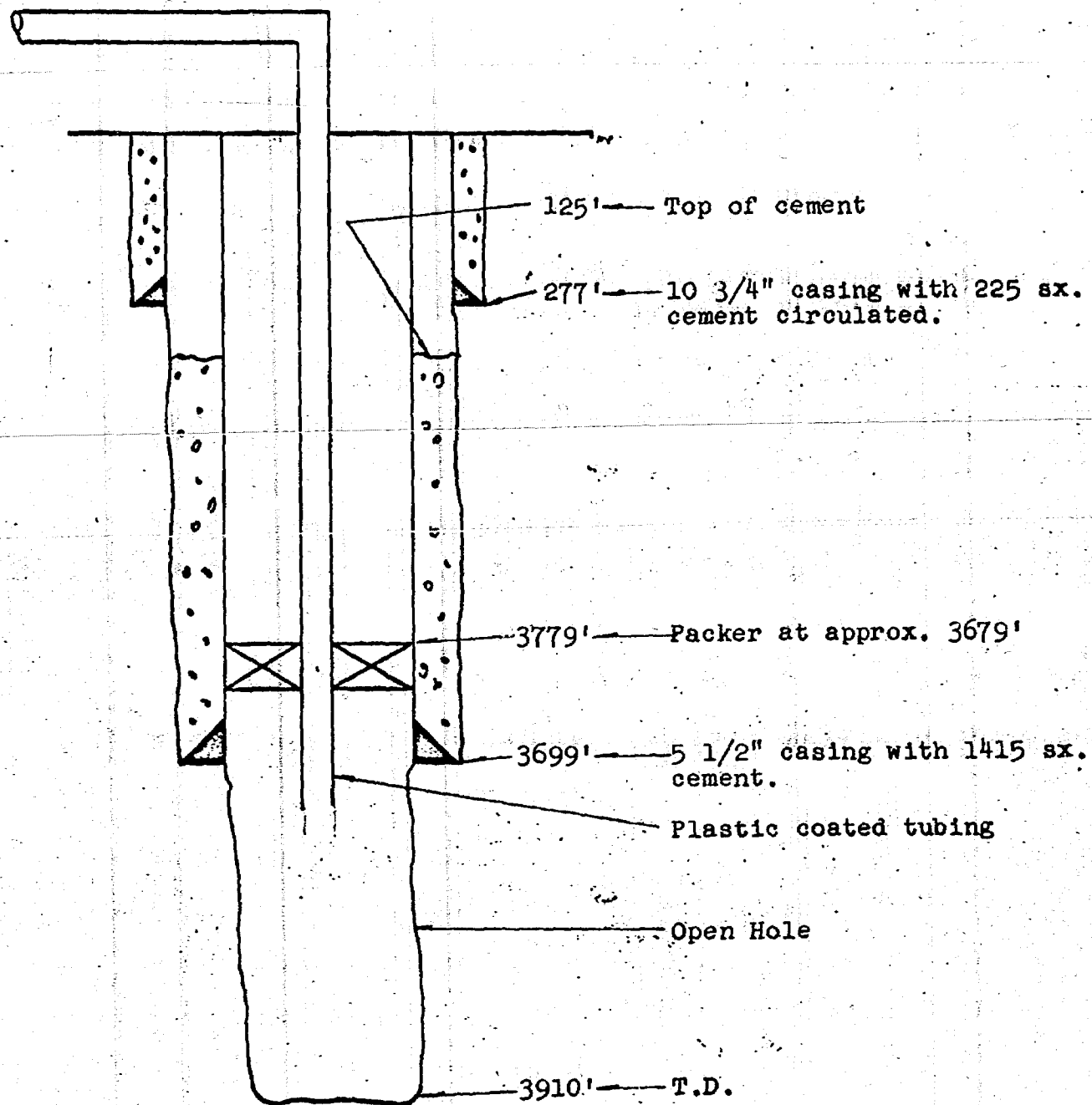


Exhibit No. 46

CONTINENTAL OIL COMPANY
SEMU Permian No. 35
Schematic Diagram
Proposed Water Injection Well

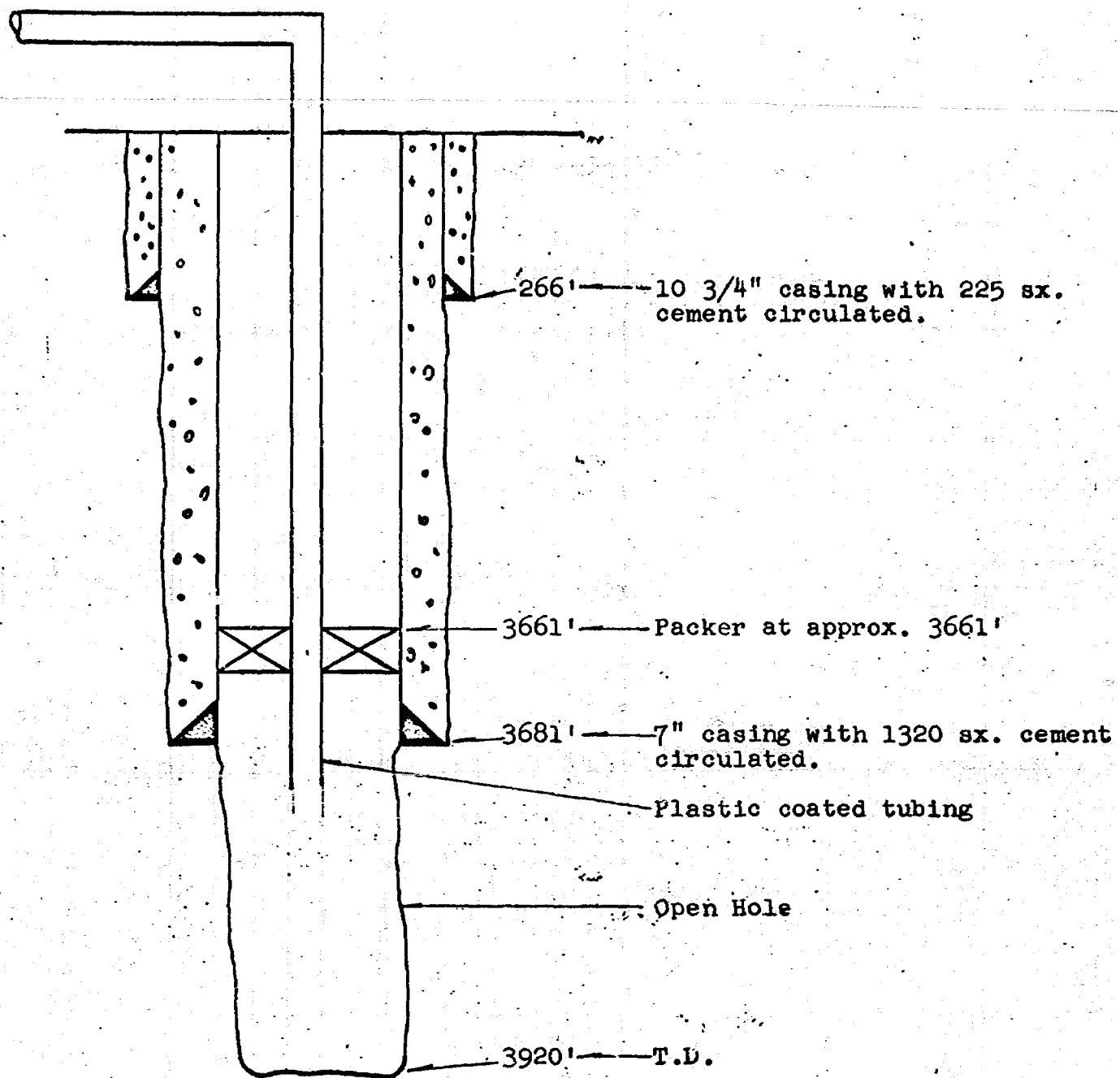


Exhibit No. 4 a

WELL DATA PLAT

WELL NAME & LOCATION

SEMU Permian No. 79
1980' FNL & 1980' FEL
Sec. 13-20-37

TD - 3896 ELEV. 3564' DF

<u>IP DATE 12-1-52</u>		<u>LATEST TEST</u>	
Oil	117	Date	8-11-64
Water	0	Oil	2
Gas GOR	1700	Water	0
CHK.	32/64"	Gas GOR	65,700
TP	35#	Allowable	5
CP	500#		

CASING RECORD

Size/Depth/No. Sx./C'mt. Top
8 5/8"/268'/ 250/ Circulated
5 1/2"/3777'/1070/1600'

CUMULATIVE PRODUCTION 9-1-64
54,880

COMPLETION INTERVAL

3777' - 3896' open hole

INITIAL TREATMENT

none

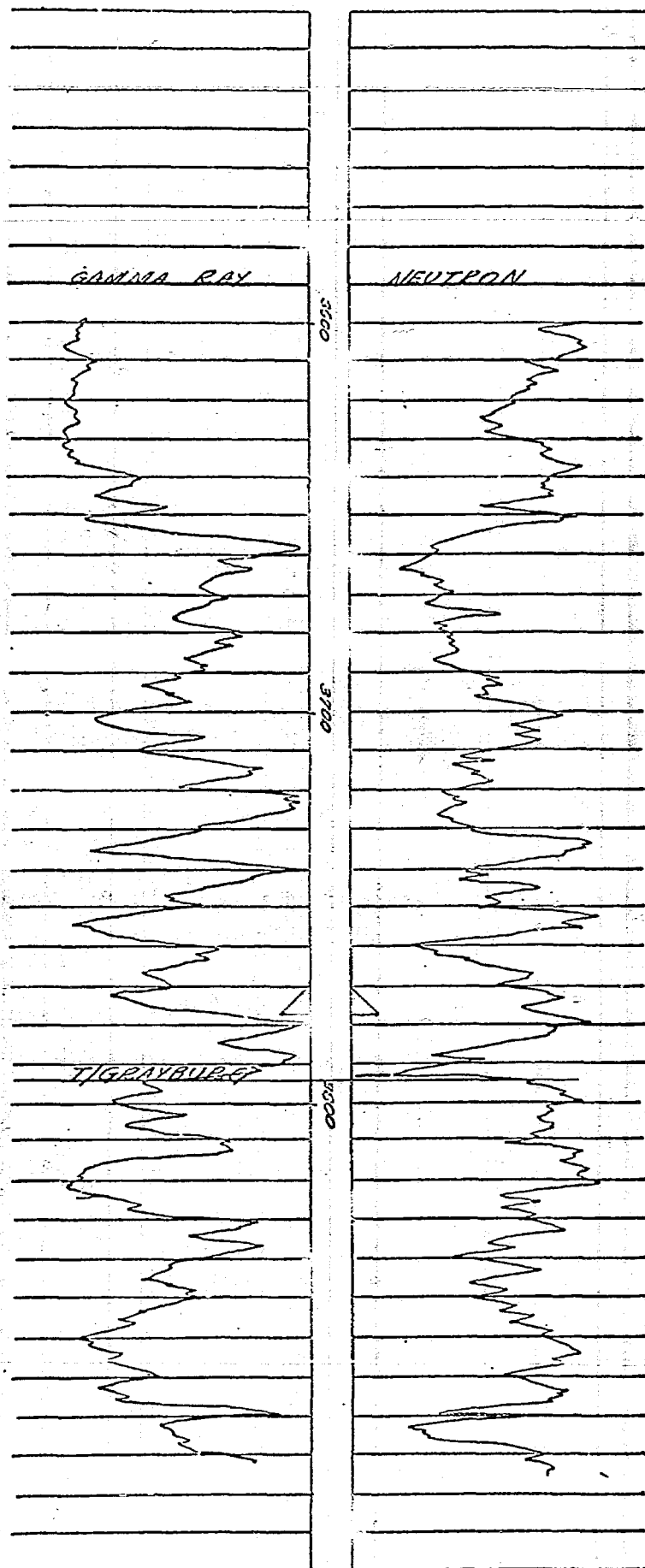
PAST REMEDIAL WORK

On 9-29-54, treated open hole with
6000 gallon sand frac.

Before: P 20 BOPD, no water.

After: F 187 BOPD, no water, GOR 1112
on 20/64" choke.

Exhibit No. 52



WELL DATA PLAT

WELL NAME & LOCATION

SEMU Permian No. 78
1980' FSL & 660' FEL
Sec. 13-20-37

TD - 3882'

ELEV. 3557' DF

IP DATE 4-15-52

LATEST TEST

Oil 109

Date 8-15-64

Water 0

Oil 8

Gas GOR 990

Water 0

CHK. 14/64"

Gas GOR 10,825

TP 575#

Allowable 8

CP 1000#

CASING RECORD

	Size/Depth/No.	Sx./C'mt. Top
10	3/4"/ 254'/ 225/	Circulated
5	1/2"/ 3746'/ 1570/	Circulated

CUMULATIVE PRODUCTION

9-1-64

75,812

COMPLETION INTERVAL

3746' - 3882' open hole

INITIAL TREATMENT

Shot 3780' to 3882' with 230 qts. nitro glycerine.

PAST REMEDIAL WORK

On 8-28-56, treated open hole with 500 gallons acid and 10,000-gallon sand frac.

Before: P 14 BOPD, no water, GOR 2186.

After: F 109 BOPD, no water, GOR 1284 on 10/64" choke.

Exhibit No. 5/1

WELL DATA PLAT

WELL NAME & LOCATION

SEMU Permian No. 76

660' FSL & 660' FWL

Sec. 18-20-38

TD - 3929'

ELEV. 3545' DF

IP DATE 12-20-51

LATEST TEST

Oil 440

Date 8-6-64

Water 0

Oil 5

Gas GOR 1048

Water 0

CHK. 48/64"

Gas GOR 15,040

TP 150#

Allowable 1

CP 400#

CASING RECORD

Size/Depth/No. Sx./C'mt. Top

10 3/4"/262'/225/Circulated

5 1/2"/3735'/1570/Circulated

CUMULATIVE PRODUCTION 9-1-64

93,023

COMPLETION INTERVAL

3735'-3929' open hole

INITIAL TREATMENT

Shot 3780' to 3900' with 300 qts
nitro glycerine.

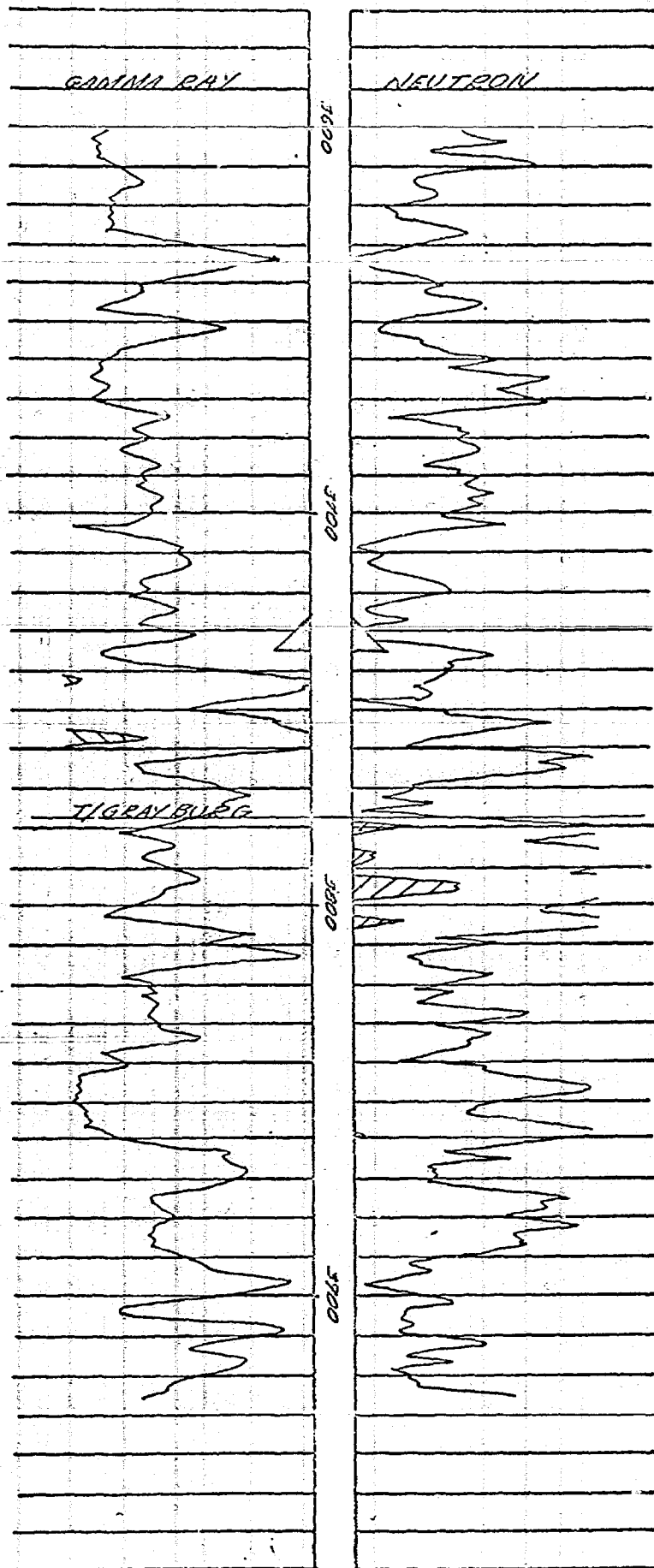
PAST REMEDIAL WORK

On 6-1-57, treated open hole with
500 gallons acid and 10,000 gallons
sandfrac.

Before: F 26 BOPD, no water, GOR
2031 on 40/64" choke.

After: F 50 BOPD, no water, GOR
6080 on 24/64" choke.

Exhibit No. 59



WELL DATA PLAT

WELL NAME & LOCATION

SEMU Permian No. 75
660' FSL & 1980' FEL
Sec. 18-20-38
TD - 3933' ELEV. 3559' DF

IP DATE 12-12-51. LATEST TEST

Oil	158	Date	8-5-64
Water	0	Oil	4
Gas GOR	772	Water	1
CHK.	20/64"	Gas GOR	3200
TP	180#	Allowable	3
CP	640#		

CASING RECORD

Size/Depth/No.	Sx./C'mt.	Top
10 3/4/ 258'/ 250		/Circulated
5 1/2/3727'/1470/		550'

CUMULATIVE PRODUCTION 9-1-64

107,743
COMPLETION INTERVAL

3727'-3933' open hole

INITIAL TREATMENT

Shot 3812' to 3927' with 280 qts.
nitroglycerin.

PAST REMEDIAL WORK

None

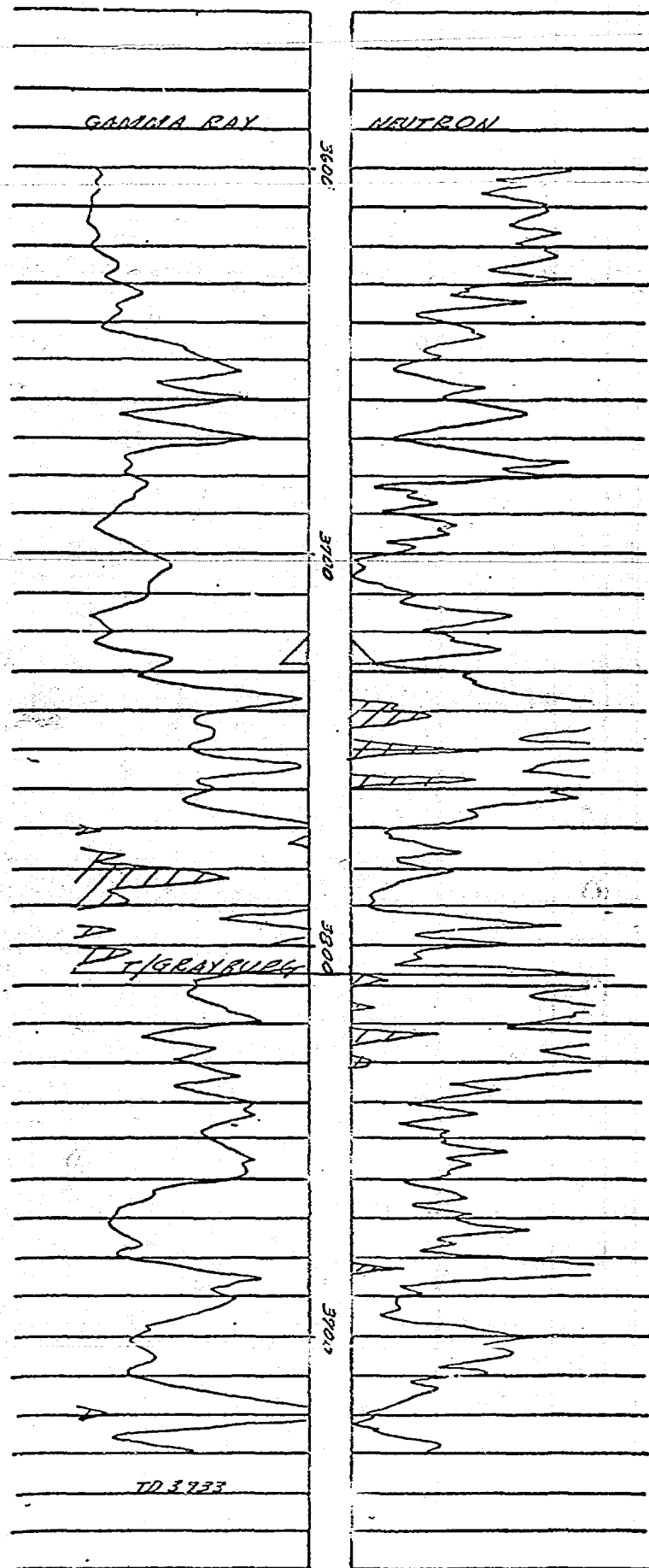
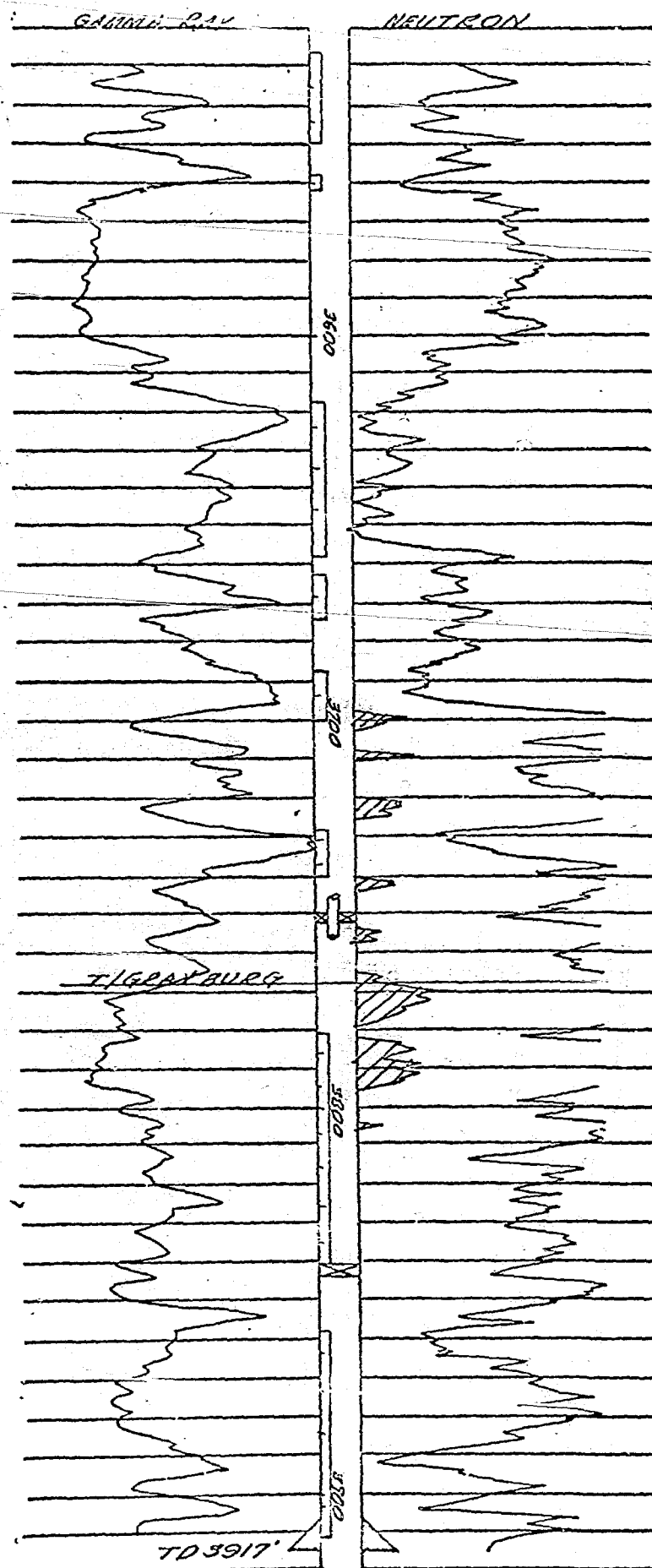


Exhibit No. 5f



WELL DATA PLAT

WELL NAME & LOCATION

SEMU Permian No. 46
1980' FSL & 660' FEL
Sec. 14-20-37

TD - 3917' BP 3842' ELEV. 3555' DF

IP DATE 5-14-54

LATEST TEST

Oil 82 Date oil zone
Water 0 Oil Shut in
Gas GOR 137 Water
CHK. 32/64" Gas
TP 30# Allowable
CP 200#

CASING RECORD

Size/Depth/No. Sx./C'mt. Top

8 5/8" / 287' / 225/ Circulated
5 1/2" / 3916' / 1360/ 1250'

CUMULATIVE PRODUCTION 9-1-64

11,733

COMPLETION INTERVAL

3782' - 3842' perfs.

INITIAL TREATMENT

10,500 gallon sand frac

PAST REMEDIAL WORK

Prior to initial completion tested 3858'-3912' after 4000-gallon sand frac. Failed to recover load and plugged back to 3842' with bridge plug and cement cap.

On 10-17-56, perforated Queen selectively 3490'-3740' and treated with 2000 gallons acid and 16,000 gallon sandfrac in two stages. Completed as gas-oil dual. Gas zone potentialized on COFP - 2550 MCFPD with 997 shut in pressure.

Exhibit No. 5 e

WELL DATA PLAT

WELL NAME & LOCATION

SEMU Permian No. 45
660' FSL & 1980' FEL
Sec. 13 - 20 - 37

TD - 3890' ELEV. 3556' DF

IP DATE 4-14-54	LATEST TEST
Oil 548	Date 8-10-64
Water 0	Oil 5
Gas GOR 728	Water 0
CHK. 32/64"	GasCOR 10,240
TP 200#	Allowable 4
CP pkr.	

CASING RECORD

Size/Depth/No. Sx./C'mt. Top
8 5/8"/ 275'/ 155/ Circulated
5 1/2"/ 3889'/1098/ 1,375'

CUMULATIVE PRODUCTION 9-1-64

52,238
COMPLETION INTERVAL

3816' - 3884 perf.

INITIAL TREATMENT

6000-gallon sand frac

PAST REMEDIAL WORK

none

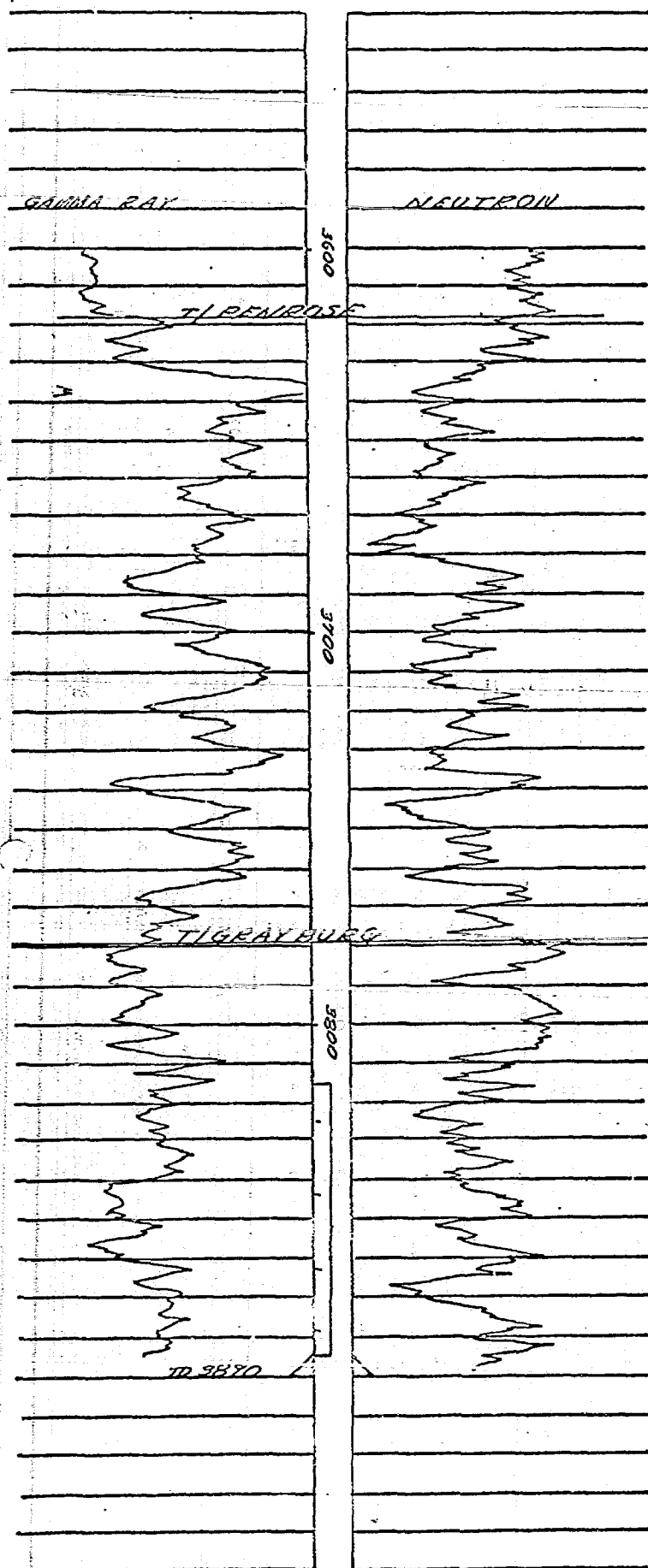


Exhibit No.) 5 d

WELL DATA PLAT

WELL NAME & LOCATION

SEMU Permian No. 44
660' FSL & 660' FWL
Sec. 13-20-37

TD - 3892' ELEV. 3552' DE

IP DATE 3-23-54

LATEST TEST

Oil 234

Date 8-1-64

Water 0

Oil 4

Gas GOR 378

Water 0

CHK. 36/64"

Gas GOR 6050

TP 220#

Allowable 5

CP pk.

CASING RECORD

Size/Depth/No. Sx./C'mt. Top

8 5/8" 275' 175 Circulated

5 1/2" 3770' 941 1600'

CUMULATIVE PRODUCTION 9/1/64

46,754
COMPLETION INTERVAL

3770' - 3892' open hole

INITIAL TREATMENT

Fraced open hole with 6500 gallon
oil and 2300# sand.

PAST REMEDIAL WORK

On 5-22-55, treated open hole with
6000 gallon sandfrac.

Before: F 16 BOPD, no water, GOR 483

After: F 55 BOPD, no water, GOR
657 on 14/64" choke.

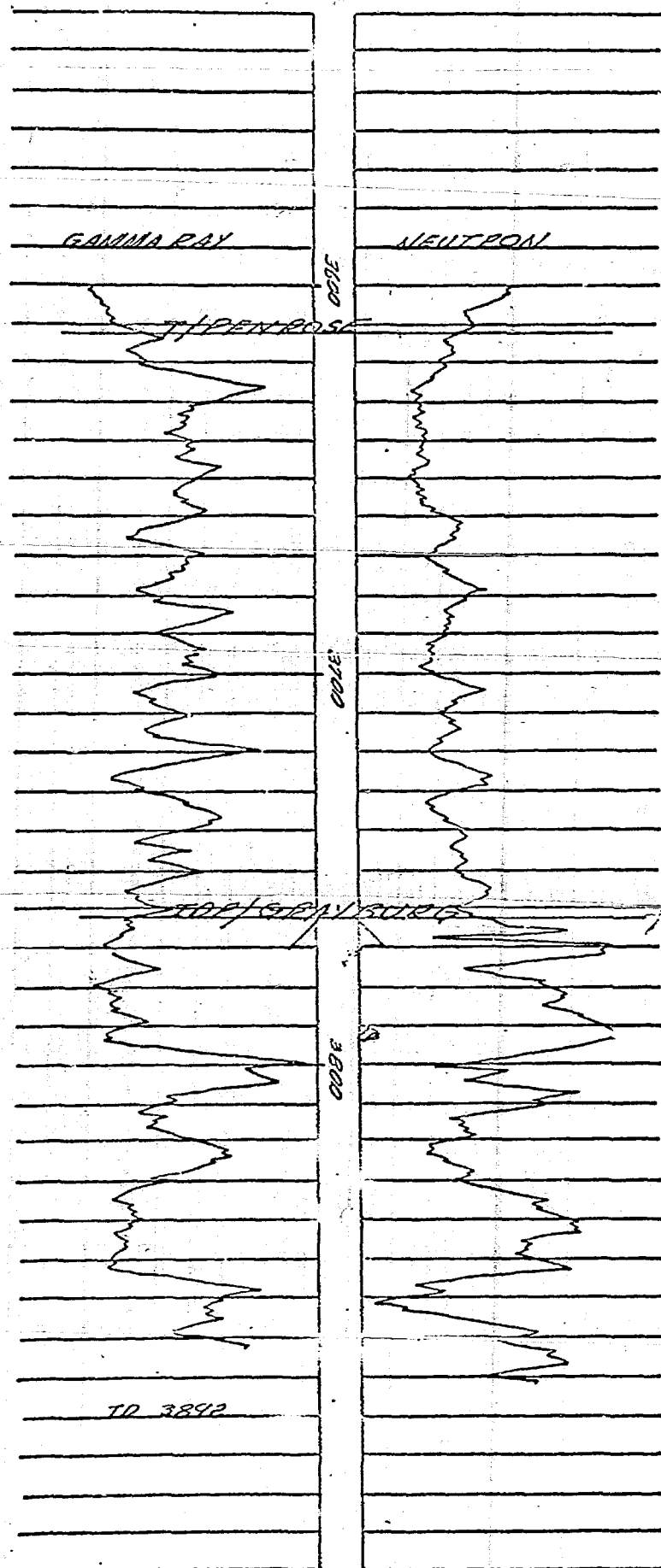


Exhibit No. 5C

WELL DATA PLAT

WELL NAME & LOCATION

SEMU Permian No. 36
660' FNL & 660' FEL, Sec. 24-20-37

TD - 3910

ELEV. 3552' DF

IP DATE 11-6-51

LATEST TEST

Oil 156

Date 7-22-64

Water 0

Oil 5

Gas 532

Water 0

CHK. 48/64"

Gas GOR - 57,800

TP 100#

Allowable 3

CP 600#

CASING RECORD

Size/Depth/No. Sx./C'mt. Top
10 3/4"/277'/225/Circulated
5 1/2"/3699/1415/ 125'

CUMULATIVE PRODUCTION 9-1-64

29,460

COMPLETION INTERVAL

3699' - 3910' open hole

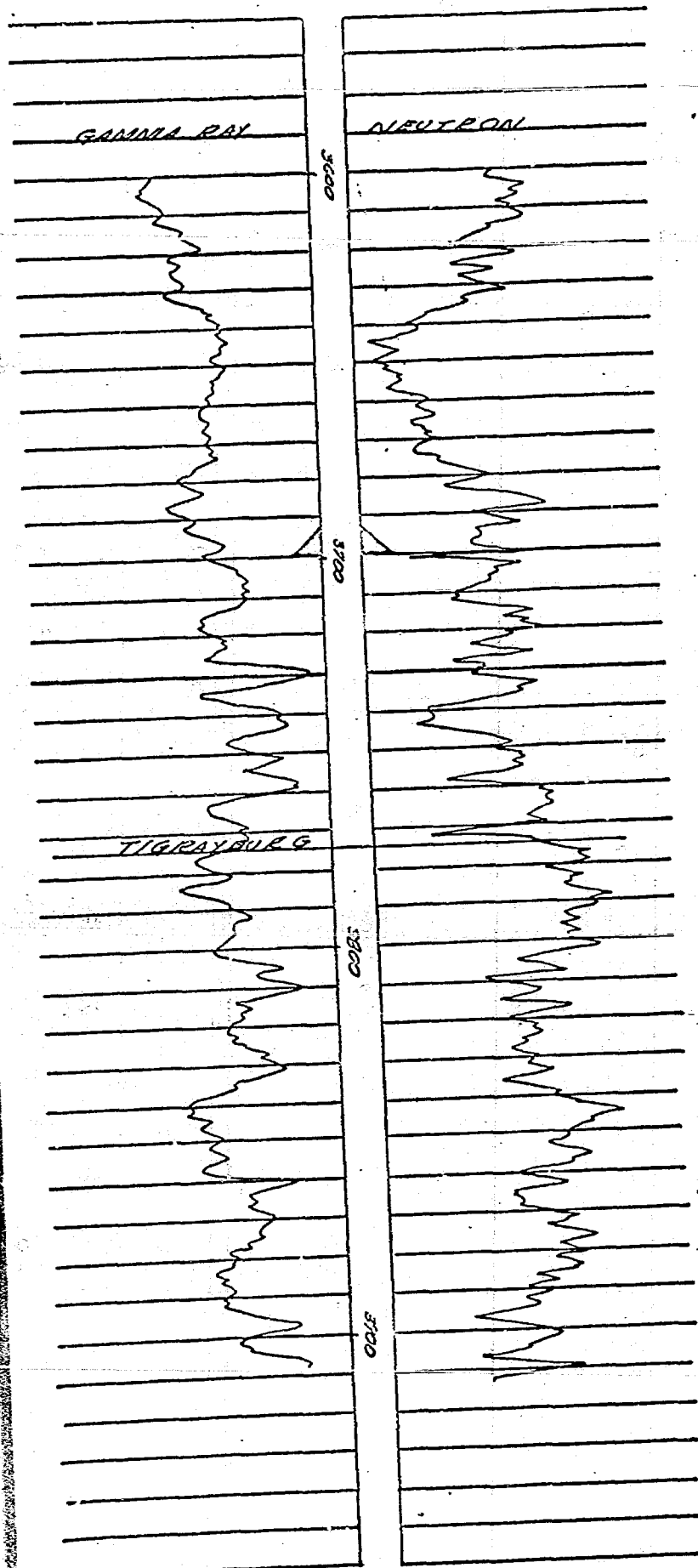
INITIAL TREATMENT

Shot 3744' to 3900' with 317 qts.
nitro glycerine.

PAST REMEDIAL WORK

none

Exhibit No. 56



WELL DATA PLAT

WELL NAME & LOCATION

SEMU Permian No. 35
1980' FNL & 1980' FEL
Sec. 24-20-37
TD - 3920' ELEV. 3547' DF

IP DATE 10-26-51

LATEST TEST

Oil 138

Date 8-14-64

Water 0

Oil 11

Gas GOR 428

Water 0

CHK. 16/64"

Gas GOR 6909

TP TP 300 #

Allowable 12

CP 1000#

CASING RECORD

Size/Depth/No. Sx./C'mt. Top

10 3/4"/266'/225/Circulated

7" /3681/ 1320/Circulated

CUMULATIVE PRODUCTION 9-1-64

52.181

COMPLETION INTERVAL

3681'-3920' open hole, formation
packer set 3753' & side door choke
w/4/64" orifice at 3743'.

INITIAL TREATMENT

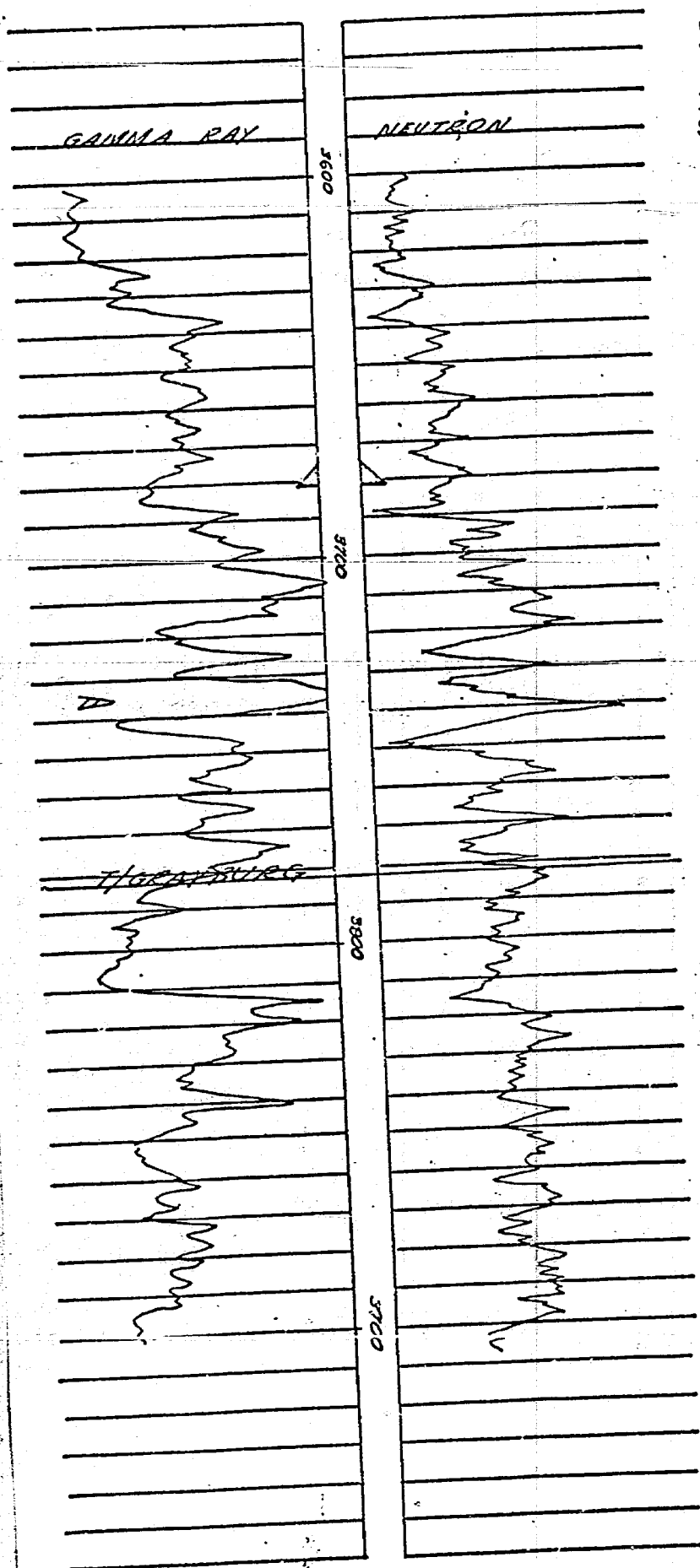
No treatment

PAST REMEDIAL WORK

8-13-57: Pulled packer, cleaned
out to TD and open hole interval was
treated with 1000 gallon sand frac.

Before: Shut in - mechanical condition
After: 138 BOPD, no water, 9.23
MCFGPD on 24/64" choke.

Exhibit No. 5a



6 SEMU No. 35 - Unit G - Sec. 24, T-20S, R-37E
7 SEMU No. 35 - Unit A - Sec. 24, T-20S, R-37E
1 SEMU No. 44 - Unit M - Sec. 13, T-20S, R-37E
2 SEMU No. 45 - Unit O - Sec. 13, T-20S, R-37E
5 SEMU No. 46 - Unit I - Sec. 14, T-20S, R-37E
SEMU No. 75 - Unit O - Sec. 18, T-20S, R-38E
SEMU No. 76 - Unit M - Sec. 18, T-20S, R-38E
3 SEMU No. 78 - Unit I - Sec. 13, T-20S, R-37E
4 SEMU No. 79 - Unit G - Sec. 13, T-20S, R-37E

6. That the granting of this application is in the interest of preventing waste and protecting correlative rights.

WHEREFORE, applicant respectfully prays that this application be set for hearing before the Commission's duly appointed examiner and that upon hearing an order be entered authorizing applicant to expand its Skaggs Waterflood Project as described above.

Respectfully Submitted,

CONTINENTAL OIL COMPANY



G. C. JAMIESON
Assistant District Manager
of Production
Hobbs District

GCJ-NKL

BEFORE THE OIL CONSERVATION COMMISSION
OF THE
STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION
OF CONTINENTAL OIL COMPANY FOR
PERMISSION TO EXPAND ITS SKAGGS
WATERFLOOD PROJECT IN EXCEPTION
TO RULE 701-E BY THE CONVERSION
OF NINE ADDITIONAL WATER INJECTION
WELLS IN THE SKAGGS POOL, LEA
COUNTY, NEW MEXICO

Cont
3274

A P P L I C A T I O N

Comes now applicant, Continental Oil Company, and respectfully requests exception to Statewide Rule No. 701-E for permission to expand its Skaggs Pool Waterflood project by converting nine additional wells to water injection status in the Skaggs Grayburg Pool located in Sections 13 and 14, T-20S, R-37E, and Sections 18 and 24, T-20S, R-38E, Lea County, New Mexico, and in support thereof would show:

1. That applicant is the co-owner and operator of the Southeast Monument Unit within the boundaries of which are located 43 wells which produce or have produced from the Skaggs Grayburg Pool.
2. That Order No. R-1710, dated June 10, 1960, authorized the conversion of six producing wells to injection status for the purpose of installing a pilot waterflood in the Skaggs Pool.
3. That Administrative Order WFX-158 authorized the conversion of five additional wells to injection status under the provisions of Statewide Rule No. 701-E.
4. That applicant has entered into lease line agreements with offset operators for the purpose of conducting waterflooding operations across common lease boundaries and that such expansion must take place simultaneously in order to protect correlative rights.
5. That applicant proposes to convert for water injection purposes the wells described below:

BEFORE THE OIL CONSERVATION COMMISSION
OF THE
STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION
OF CONTINENTAL OIL COMPANY FOR
PERMISSION TO EXPAND ITS SKAGGS
WATERFLOOD PROJECT IN EXCEPTION
TO RULE 701-E BY THE CONVERSION
OF NINE ADDITIONAL WATER INJECTION
WELLS IN THE SKAGGS POOL, LEA
COUNTY, NEW MEXICO

Copy 74

A P P L I C A T I O N

Comes now applicant, Continental Oil Company, and respectfully requests exception to Statewide Rule No. 701-E for permission to expand its Skaggs Pool Waterflood project by converting nine additional wells to water injection status in the Skaggs Grayburg Pool located in Sections 13 and 14, T-20S, R-37E, and Sections 18 and 24, T-20S, R-38E, Lea County, New Mexico, and in support thereof would show:

1. That applicant is the co-owner and operator of the Southeast Monument Unit within the boundaries of which are located 43 wells which produce or have produced from the Skaggs Grayburg Pool.
2. That Order No. R-1710, dated June 10, 1960, authorized the conversion of six producing wells to injection status for the purpose of installing a pilot waterflood in the Skaggs Pool.
3. That Administrative Order WFX-158 authorized the conversion of five additional wells to injection status under the provisions of Statewide Rule No. 701-E.
4. That applicant has entered into lease line agreements with offset operators for the purpose of conducting waterflooding operations across common lease boundaries and that such expansion must take place simultaneously in order to protect correlative rights.
5. That applicant proposes to convert for water injection purposes the wells described below:

PAN AMERICAN PETROLEUM CORPORATION

P. O. Box 268
Lubbock, Texas 79401
June 28, 1965

File: JET-5436-986.510.1

Subject: Continental's Application for
Expansion, Skaggs Pool Waterflood
Lea County, New Mexico

65 JUN 29 PM

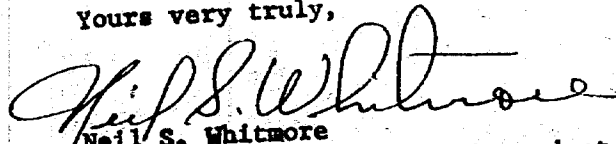
New Mexico Oil and Gas Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico

Gentlemen:

Reference is to the Examiner Hearing scheduled July 7, 1965 to consider Case 8274, Continental Oil Company's application to expand its Skaggs Pool Waterflood Project. The expansion of this project includes nine additional wells to be placed on water injection.

Pan American Petroleum Corporation, as a working interest owner in the subject waterflood project, supports Continental's application in that waste can be prevented and correlative rights protected by this expansion.

Yours very truly,


Neil S. Whitmore
District Production Superintendent

RCS:rl:jb

ATLANTIC

THE ATLANTIC REFINING COMPANY
INCORPORATED - 1870
PETROLEUM PRODUCTS

June 28, 1965

NORTH AMERICAN PRODUCING DEPARTMENT
NEW MEXICO - ARIZONA DISTRICT

S. L. SMITH, DISTRICT MANAGER
JACK BIARD, DISTRICT LANDMAN
E. R. DOUGLAS, DISTRICT GEOLOGIST
A. D. KLOKIN, DISTRICT DRUG. & PROD. SUP'T.
M. D. ROBERTS, DISTRICT GEOPHYSICIST
W. P. TOMLINSON, DISTRICT ENGINEER
B. R. WARE, DISTRICT ADMINISTRATIVE SUP'V.

SECURITY NATIONAL BANK BLDG.

MAILING ADDRESS
P. O. BOX 1978
ROSWELL, NEW MEXICO

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

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

Gentlemen:

74
5 Case No. 3274 is docketed for the Examiner Hearing on Wednesday, July 5, 1965 and is Continental's application for extension of the Skaggs Waterflood. They seek authority to convert 9 additional wells to water injection wells.

Atlantic is an interest owner in the Skaggs Waterflood and we are in support of Continental's application.

Yours very truly,

Van R. Cammack
Van. R. Cammack

VRG:feb

cc: Mr. N. S. Whitmore
Pan American Petroleum Corp.
P. O. Box 268
Lubbock, Texas

Mr. J. R. Graham
Standard Oil Company of Texas
P. O. Box 1660
Midland, Texas

Mr. G. C. Jamieson
Continental Oil Company
P. O. Box 460
Hobbs, New Mexico



STANDARD OIL COMPANY OF TEXAS

P. O. BOX 1249 • HOUSTON TEXAS 77001

June 29, 1965

100-3274

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

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

Gentlemen:

Continental Oil Company has requested permission to expand its Skaggs Pool Waterflood Project by converting nine additional wells to water injection status in the Skaggs (Grayburg) Pool located in Sections 13 and 14, Township 20 South, Range 37 East, and Sections 18 and 24, Township 20 South, Range 38 East, Lea County, New Mexico. This application has been set for Examiner hearing on July 7, 1965, Case 3274.

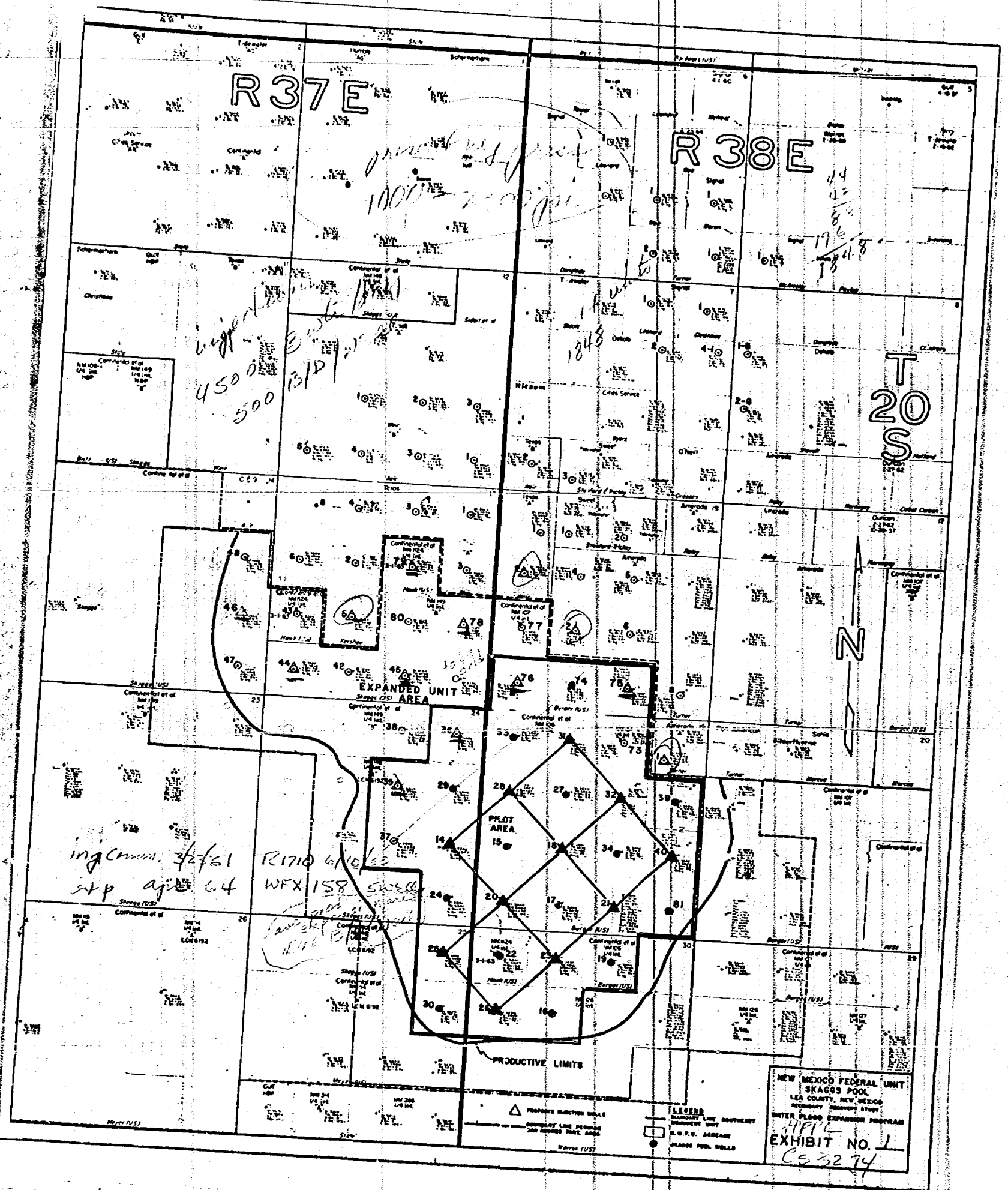
Standard Oil Company of Texas, a Division of California Oil Company, as a working interest owner in the Skaggs Pool Waterflood Project, supports Continental's application and respectfully urges that the requested permission to expand the project be granted.

Yours very truly,

for Paul Kull
C. N. Segnar
Chief Engineer

PH:ja

cc: Continental Oil Company
P. O. Box 460
Hobbs, New Mexico
Attention: Mr. G. C. Jamieson



WELL DATA PLAT

WELL NAME & LOCATION

SEMU Permian No. 79
1980' FNL & 1980' FEL
Sec. 13-20-37

TD - 3896

ELEV. 3564' DF

IP DATE 12-1-52

LATEST TEST

Oil 117

Date 8-11-64

Water 0

Oil 2

Gas GOR 1700

Water 0

CHK. 32/64"

Gas GOR 65,700

TP 35#

Allowable 5

CP 500#

CASING RECORD

Size/Depth/No. Sx./C'mt. Top

8 5/8"/268' / 250/ Circulated

5 1/2"/377' / 1070/1600'

CUMULATIVE PRODUCTION

9-1-64

54,880

COMPLETION INTERVAL

3777' - 3896' open hole

INITIAL TREATMENT

none

PAST REMEDIAL WORK

On 9-29-54, treated open hole with 6000 gallon sand frac.

Before: P 20 BOPD, no water.

After: F 187 BOPD, no water, GOR 1112 on 20/64" choke.

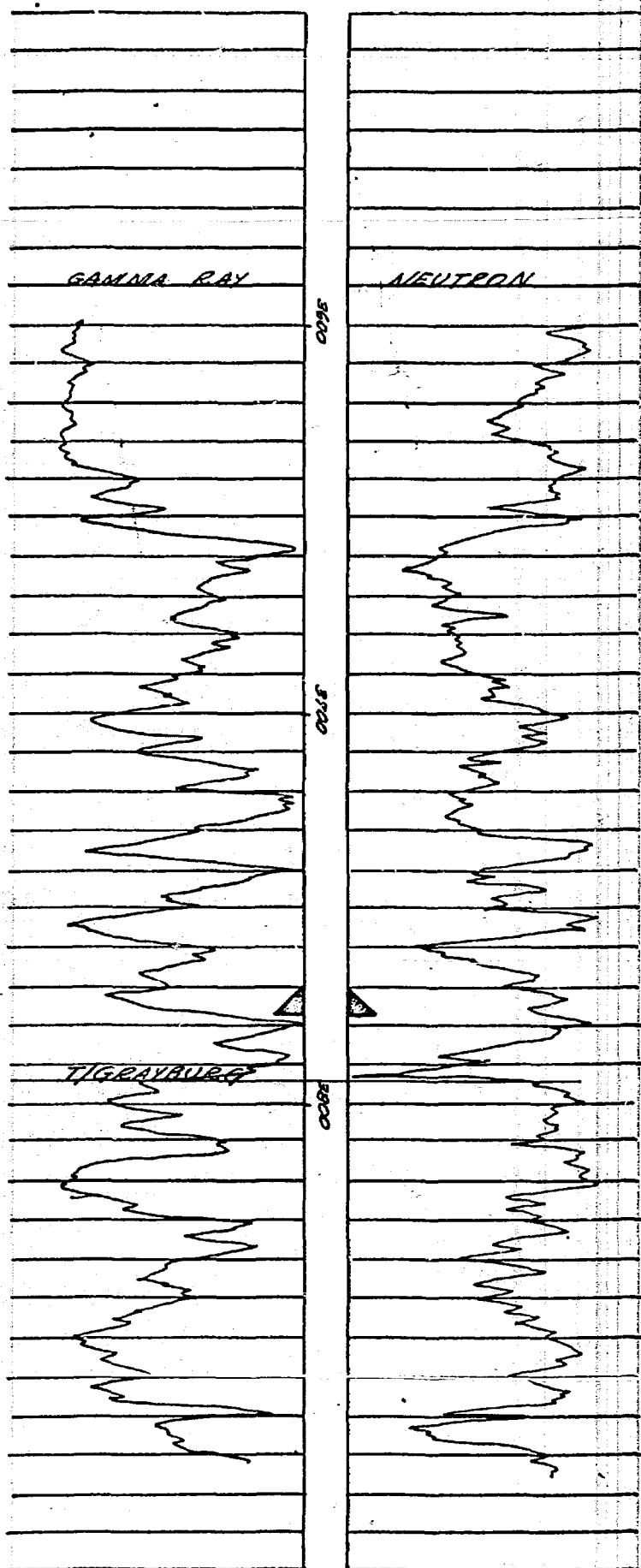
BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

Apts EXHIBIT NO. 5-I

CASE NO. 3274

Exhibit No. 5-i



WELL DATA PLAT

WELL NAME & LOCATION
SENU Permian No. 78
1980' FSL & 660' FEL
Sec. 13-20-37

TD - 3882'

ELEV. 3557' DF

IP DATE 4-15-52

Oil 109

Water 0

Gas GOR 990

CHK. 14/64"

TP 575#

CP 1000#

LATEST TEST

Date 8-15-64

Oil 8

Water 0

Gas GOR 10,825

Allowable 8

CASING RECORD

Size/Depth/No. Sx./C'mt. Top
10 3/4"/ 254'/ 225/ Circulated
5 1/2"/ 3746'/ 1570/ Circulated

CUMULATIVE PRODUCTION 9-1-64

75,812

COMPLETION INTERVAL

3746' - 3882' open hole

INITIAL TREATMENT

Shot 3780' to 3882' with 230 qts.
nitro glycerine.

PAST REMEDIAL WORK

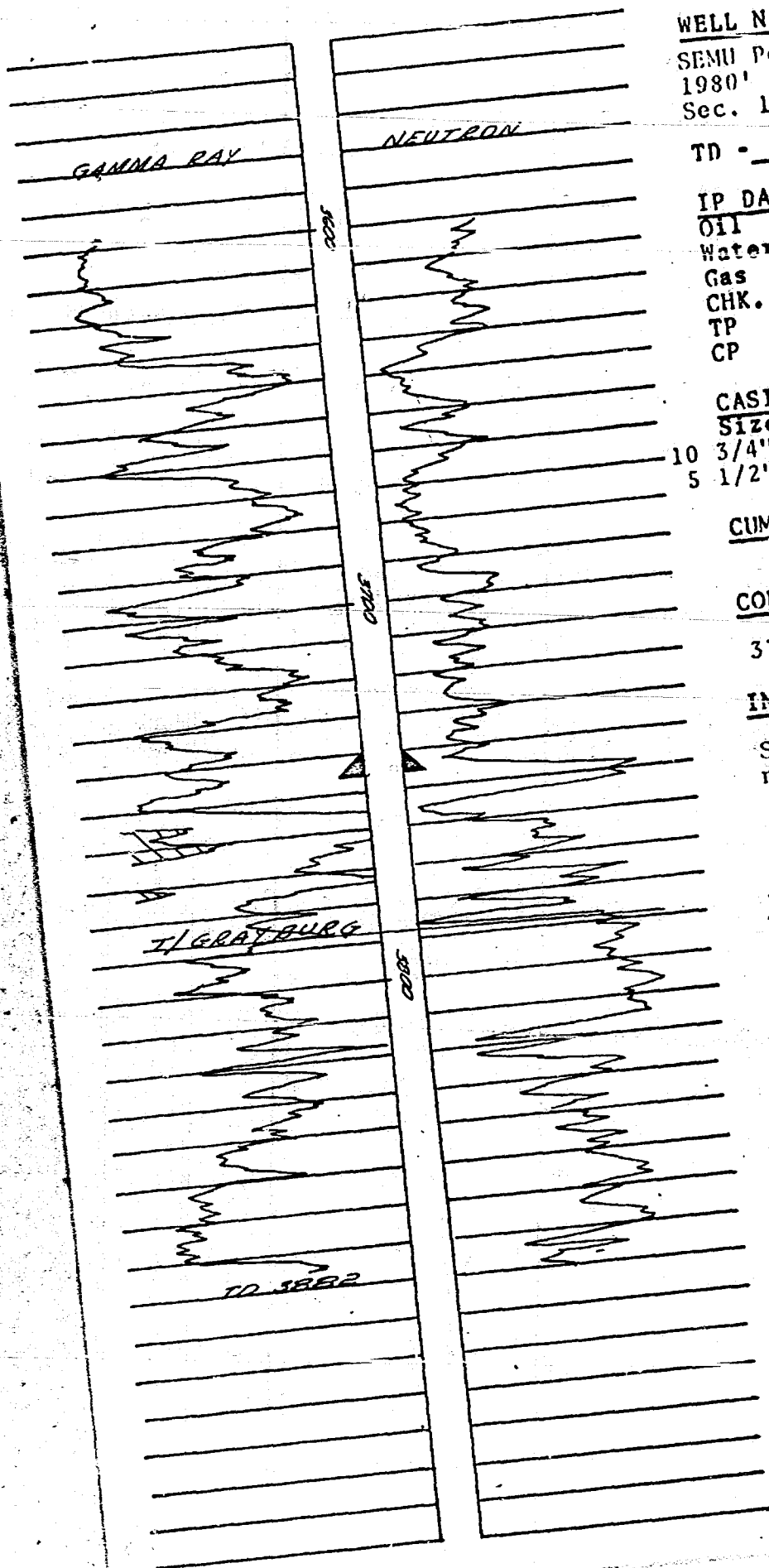
On 8-28-56, treated open hole with
500 gallons acid and 10,000-gallon
sand frac.

Before: P 14 BOPD, no water, GOR
2186.

After: F 109 BOPD, no water, GOR
1284 on 10/64" choke.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5H
CASE NO. 3274

Exhibit No. 5H



WELL DATA PLAT

WELL NAME & LOCATION

SEMU Permian No. 76
660' FSL & 660' FWL
Sec. 18-20-38
TD - 3929'

ELEV. 3545' DF

IP DATE 12-20-51

Oil 440

Water 0

Gas GOR 1048

CHK. 48/64"

TP 150#

CP 400#

LATEST TEST

Date 8-6-64

Oil 5

Water 0

Gas GOR 15,040

Allowable 1

CASING RECORD

Size/Depth/No. Sx./C'mt. Top
10 3/4"/262'/225/Circulated
5 1/2"/3735'/1570/Circulated

CUMULATIVE PRODUCTION

93,023

9-1-64

COMPLETION INTERVAL

3735'-3929' open hole

INITIAL TREATMENT

Shot 3780' to 3900' with 300 qts
nitro glycerine.

PAST REMEDIAL WORK

On 6-1-57, treated open hole with
500 gallons acid and 10,000 gallons
sandfrac.

Before: F 26 BOPD, no water, GOR
2031 on 40/64" choke.

After: F 50 BOPD, no water, GOR
6080 on 24/64" choke.

BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

EXHIBIT NO. 529

CASE NO. 3274

Exhibit No. 59

WELL DATA PLAT

WELL NAME & LOCATION

SEMU Permian No. 75
660' FSL & 1980' FEL
Sec. 18-20-38

TD - 3933' ELEV. 3559' DF

IP DATE 12-12-51. LATEST TEST

Oil 158 Date 8-5-64

Water 0 Oil 4

Gas GOR 772 Water 1

CHK. 20/64" Gas GOR 3200

TP 180# Allowable 3

CP 640#

CASING RECORD

Size/Depth/No. Sx./C'mt. Top

10 3/4/ 258'/ 250 /Circulated

5 1/2/3727'/1470/ 550'

CUMULATIVE PRODUCTION 9-1-64

107.743

COMPLETION INTERVAL

3727'-3933' open hole

INITIAL TREATMENT

Shot 3812' to 3927' with 280 qts.
nitroglycering.

PAST REMEDIAL WORK

None

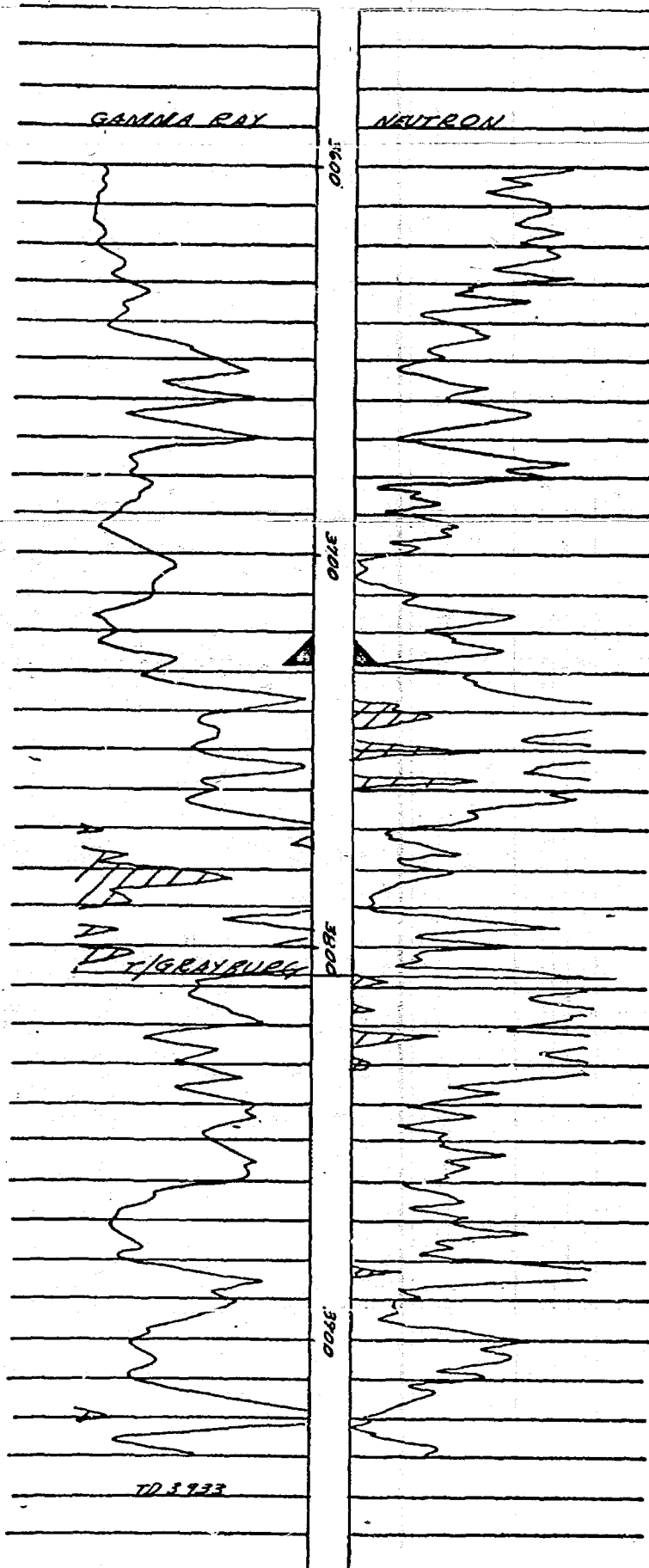
BEFORE EXAMINER NUTTER

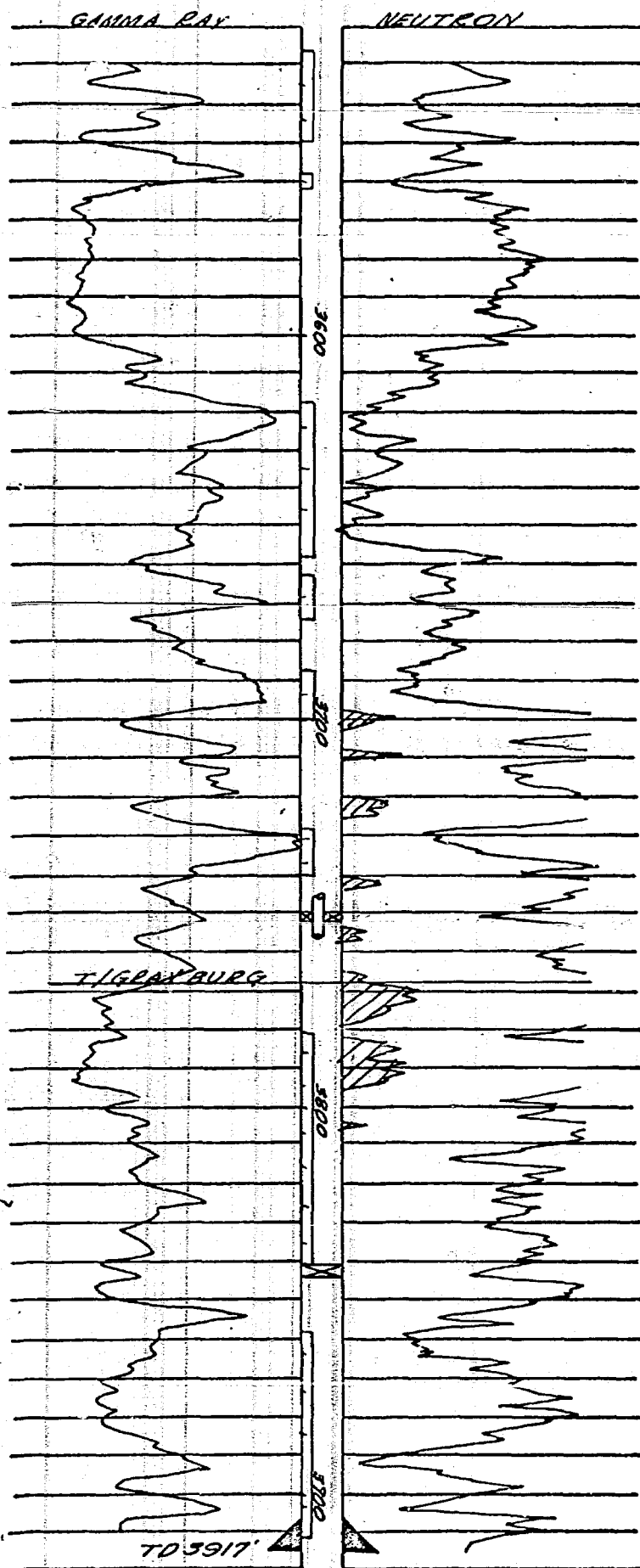
OIL CONSERVATION COMMISSION

ap's EXHIBIT NO. 5F

CASE NO. 32761

Exhibit No. 5f





WELL DATA PLAT

WELL NAME & LOCATION

SENU Permian No. 46
1980' FSL & 660' FEL

Sec. 14-20-37

TD - 3917' BP 3842'

ELEV. 3555' DP

IP DATE 5-14-54

LATEST TEST

Oil 82

Date oil zone

Water 0

Oil Shut in

Gas GOR 137

Water

CHK. 32/64"

Gas

TP 30#

Allowable

CP 200#

CASING RECORD

Size/Depth/No. Sx./C'mt. Top

8 5/8" / 287' / 225 / Circulated

5 1/2" / 3916 / 1360 / 1250'

CUMULATIVE PRODUCTION

9-1-64

11,783

COMPLETION INTERVAL

3782' - 3842' perfs.

INITIAL TREATMENT

10,500 gallon sand frac

PAST REMEDIAL WORK

Prior to initial completion tested 3858'-3912' after 4000-gallon sand frac. Failed to recover load and plugged back to 3842' with bridge plug and cement cap.

On 10-17-56, perforated Queen selectively 3490'-3740' and treated with 2000 gallons acid and 16,000 gallon sandfrac in two stages. Completed as gas-oil dual. Gas zone potentialized on COFP - 2550 MCFPD with 997 shut in pressure.

BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

EXHIBIT NO. 5 E

CASE NO. 3274

Exhibit No. 5 E

WELL DATA PLAT

WELL NAME & LOCATION

SEMU Permian No. 45
660' FSL & 1980' FEL
Sec. 13 - 20 - 37

TD - 3890' ELEV. 3556' DF

IP DATE 4-14-54	LATEST TEST
Oil 548	Date 8-10-64
Water 0	Oil 5
Gas GOR 728	Water 0
CHK. 32/64"	Gas GOR 10,240
TP 200#	Allowable 4
CP pkr.	

CASING RECORD

Size/Depth/No. Sx./C'mt. Top
8 5/8"/ 275'/ 155/ Circulated
5 1/2"/ 3889'/1098/ 1,375'

CUMULATIVE PRODUCTION 9-1-64

52,238
COMPLETION INTERVAL

3816' - 3884 perf.

INITIAL TREATMENT

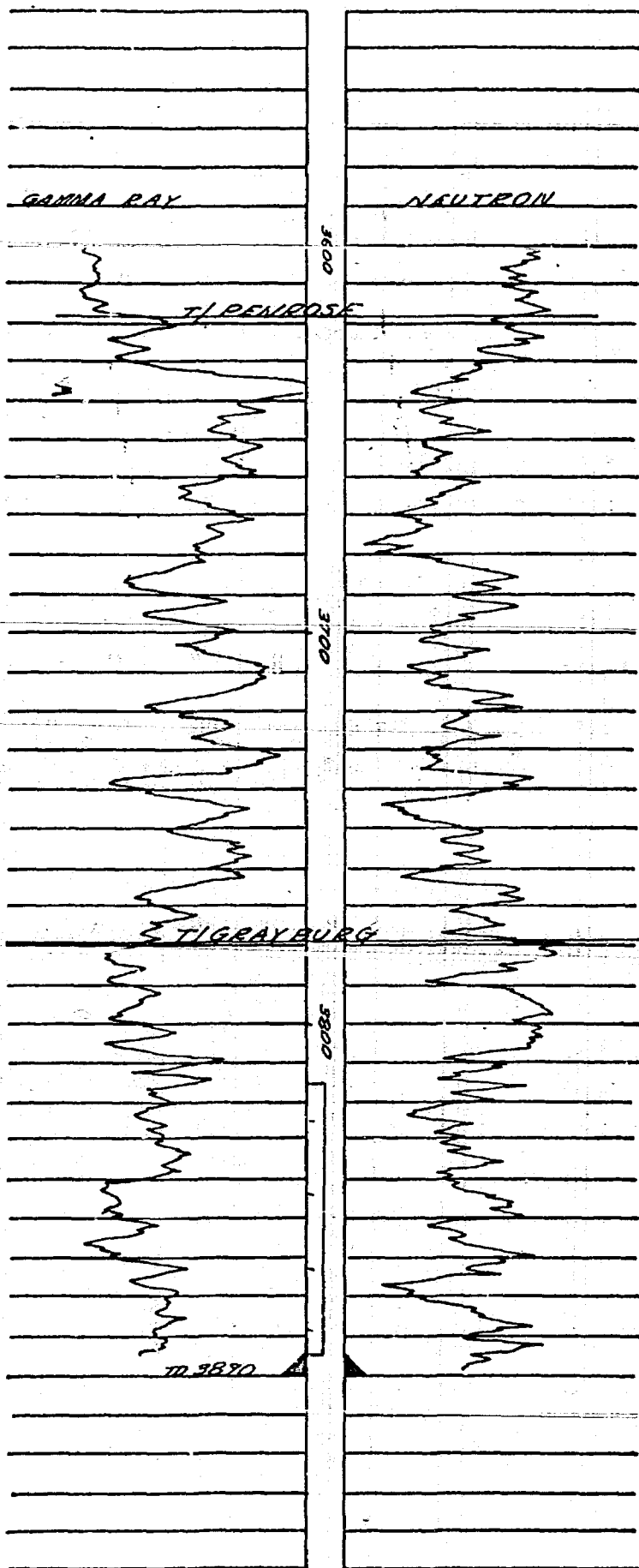
6000-gallon sand frac

PAST REMEDIAL WORK

none

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
apts EXHIBIT NO. 5 D
CASE NO. 3274

Exhibit No. 5 d



WELL DATA PLAT

WELL NAME & LOCATION

SEMI Permian No. 44
660' FSL & 660' FWL
Sec. 13-20-37

TD - 3892'

ELEV. 3552' DF

IP DATE 3-23-54

LATEST TEST

Oil 234

Date 8-1-64

Water 0

Oil 4

Gas GOR 378

Water 0

CHK. 36/64"

Gas GOR 6050

TP 220#

Allowable 5

CP pkr.

CASING RECORD

Size/Depth/No. Sx./C'mt. Top
8 5/8" 275' 175 Circulated
5 1/2" 3770' 941 1600'

CUMULATIVE PRODUCTION 9/1/64

COMPLETION INTERVAL

3770' - 3892' open hole

INITIAL TREATMENT

Fraced open hole with 6500 gallon
oil and 2300# sand.

PAST REMEDIAL WORK

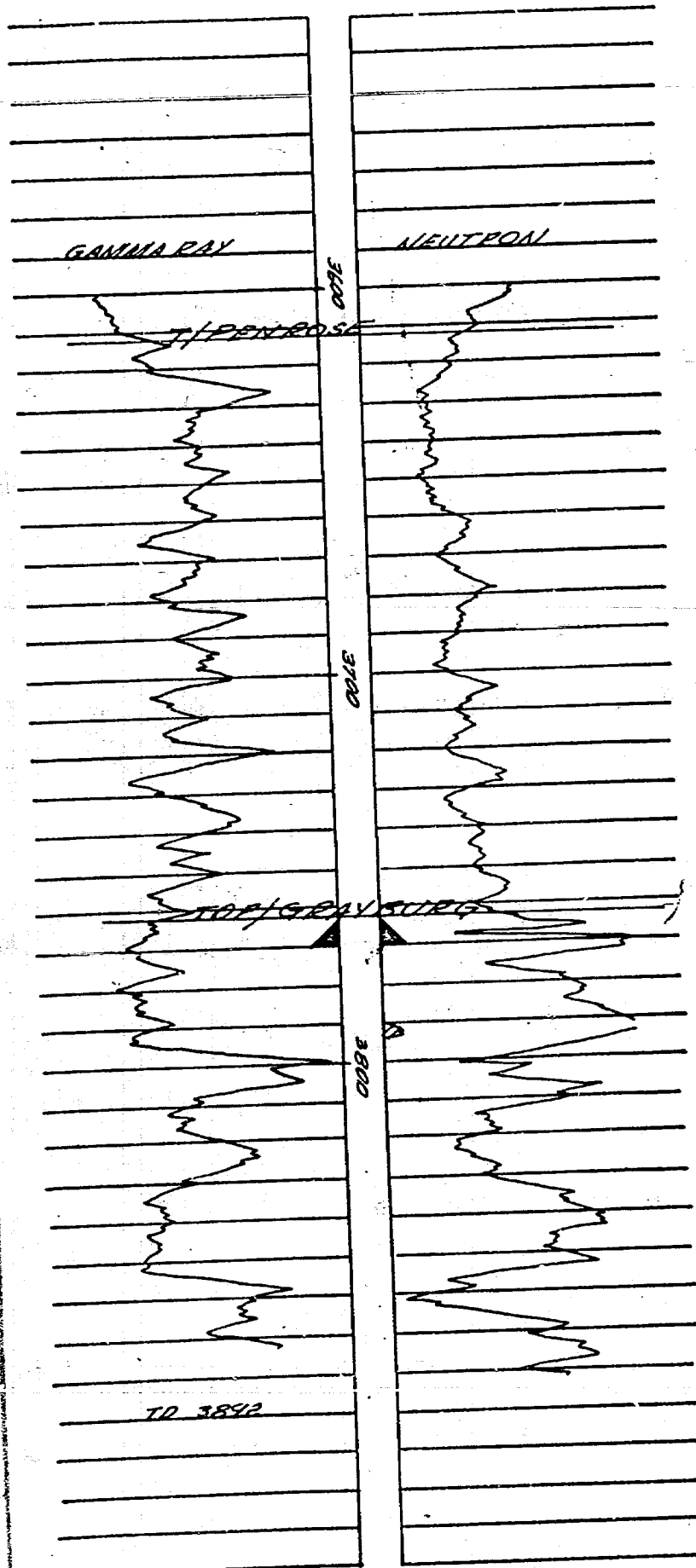
On 5-22-55, treated open hole with
6000 gallon sandfrac.

Before: F 16 BOPD, no water, GOR 483

After: F 55 BOPD, no water, GOR
657 on 14/64" choke.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
apt's EXHIBIT NO. 5C
CASE NO. 3274

Exhibit No. 5C



WELL DATA PLAT

WELL NAME & LOCATION

SEMU Permian No. 36
.660' FNL & 660' FEL, Sec. 24-20-37

TD - 3910

ELEV. 3552' DF

IP DATE 11-6-51

LATEST TEST

Oil 156

Date 7-22-64

Water 0

Oil 5

Gas 532

Water 0

CHK. 48/64"

Gas GOR - 57,800

TP 100#

Allowable 3

CP 600#

CASING RECORD

Size/Depth/No. Sx./C'mt. Top

10 3/4"/277'/225/Circulated

5 1/2"/3699/1415/ 125'

CUMULATIVE PRODUCTION 9-1-64

29,460

COMPLETION INTERVAL

3699' - 3910' open hole

INITIAL TREATMENT

Shot 3744' to 3900' with 317 qts.
nitro glycerine.

PAST REMEDIAL WORK

none

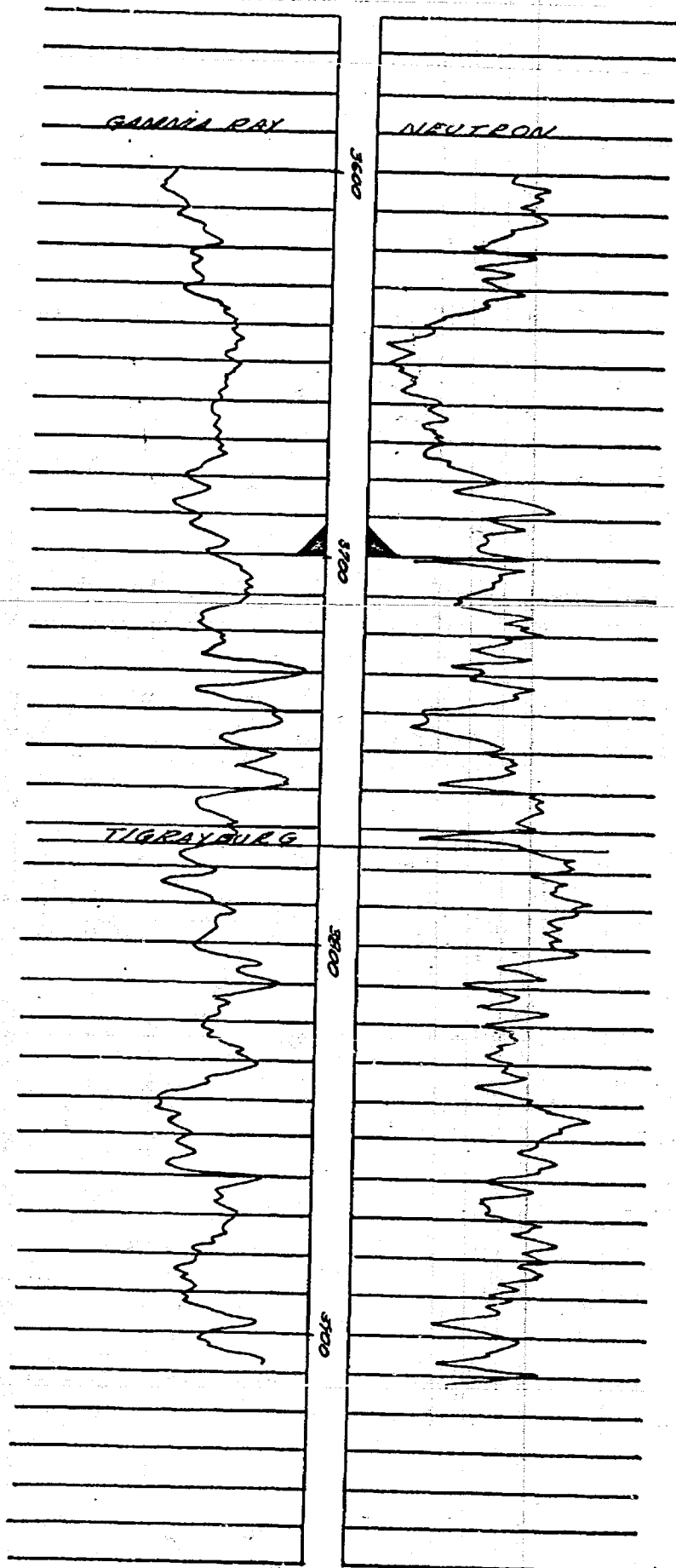
BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

aptb EXHIBIT NO. 5B

CASE NO. 3274

Exhibit No. 56



WELL DATA PLAT

WELL NAME & LOCATION

SENU Permian No. 35
1980' FNL & 1980' FEL
Sec. 24-20-37

TD - 3920'

ELEV. 3547' DF

IP DATE 10-26-51

LATEST TEST

Oil 138

Date 8-14-64

Water 0

Oil 11

Gas GOR 428

Water 0

CHK. 16/64"

Gas GOR 6909

TP 300 #

Allowable 12

CP 1000 #

CASING RECORD

Size/Depth/No. Sx./C'mt. Top

10 3/4"/266'/225/Circulated

7" /3681/ 1320/Circulated

CUMULATIVE PRODUCTION 9-1-64

52-181

COMPLETION INTERVAL

3681'-3920' open hole, formation
packer set 3753' & side door choke
w/4/64" orifice at 3743'.

INITIAL TREATMENT

No treatment

PAST REMEDIAL WORK

8-13-57: Pulled packer, cleaned
out to TD and open hole interval was
treated with 1000 gallon sand frac.

Before: Shut in - mechanical condition
After: 138 BOPD, no water, 9.23
MCFGPD on 24/64" choke.

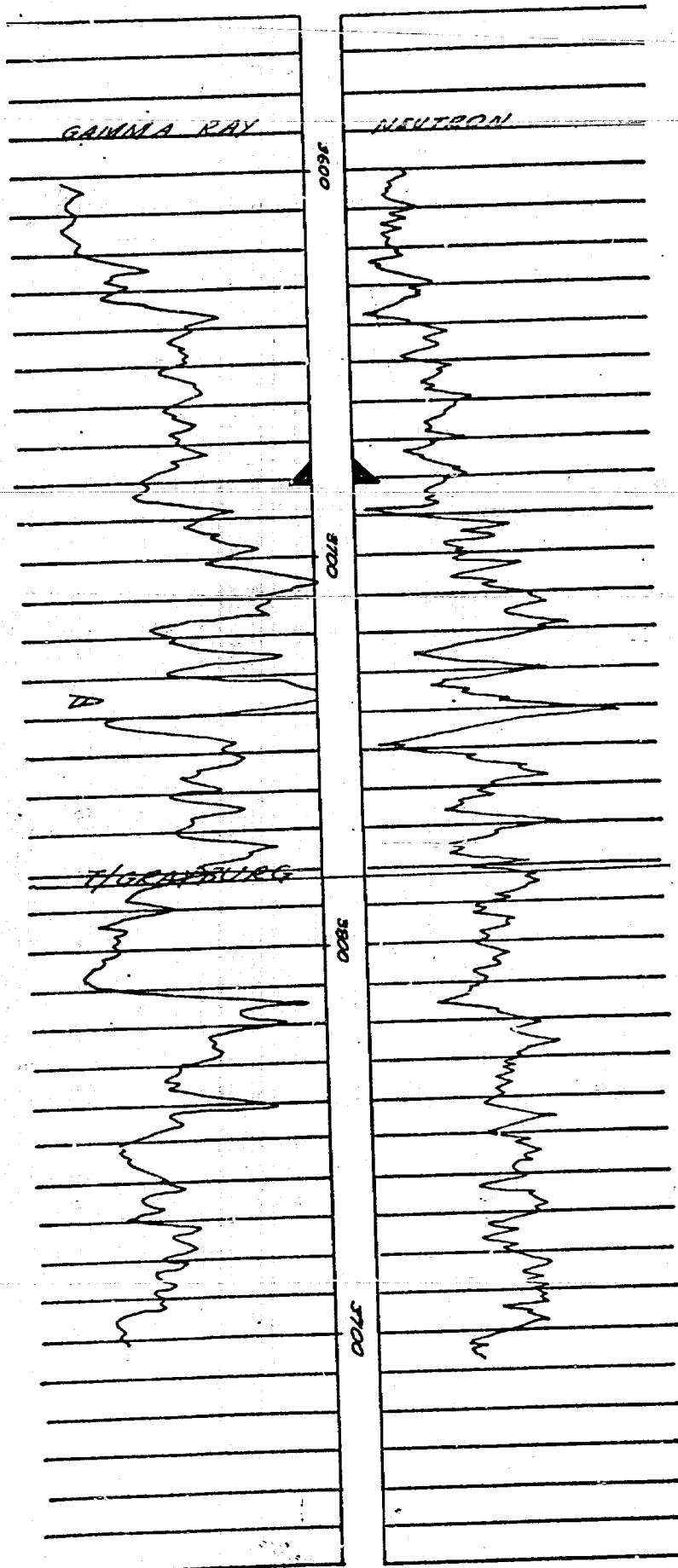
BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

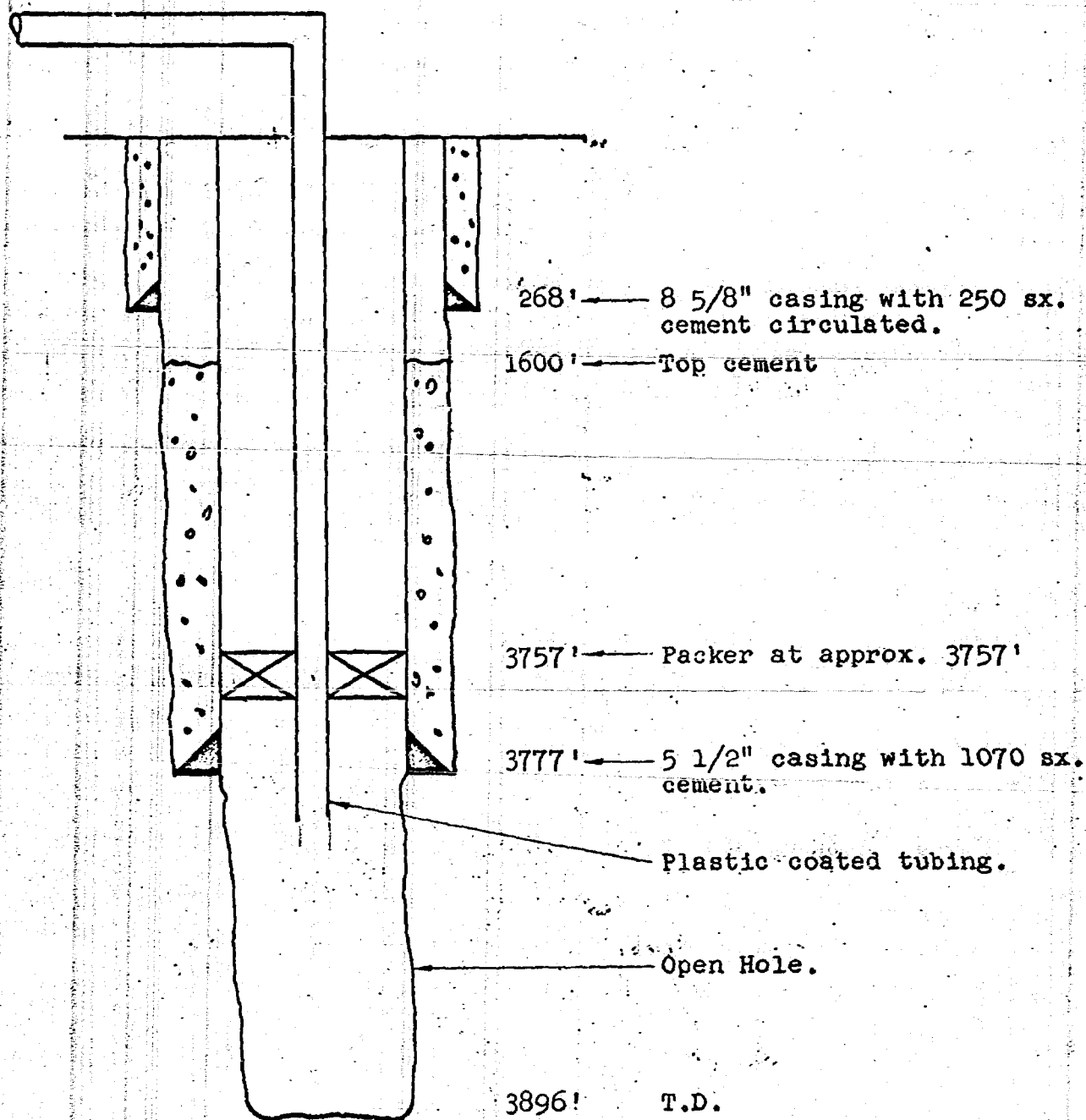
apls EXHIBIT NO. 5A

CASE NO. 3274

Exhibit No. 5a



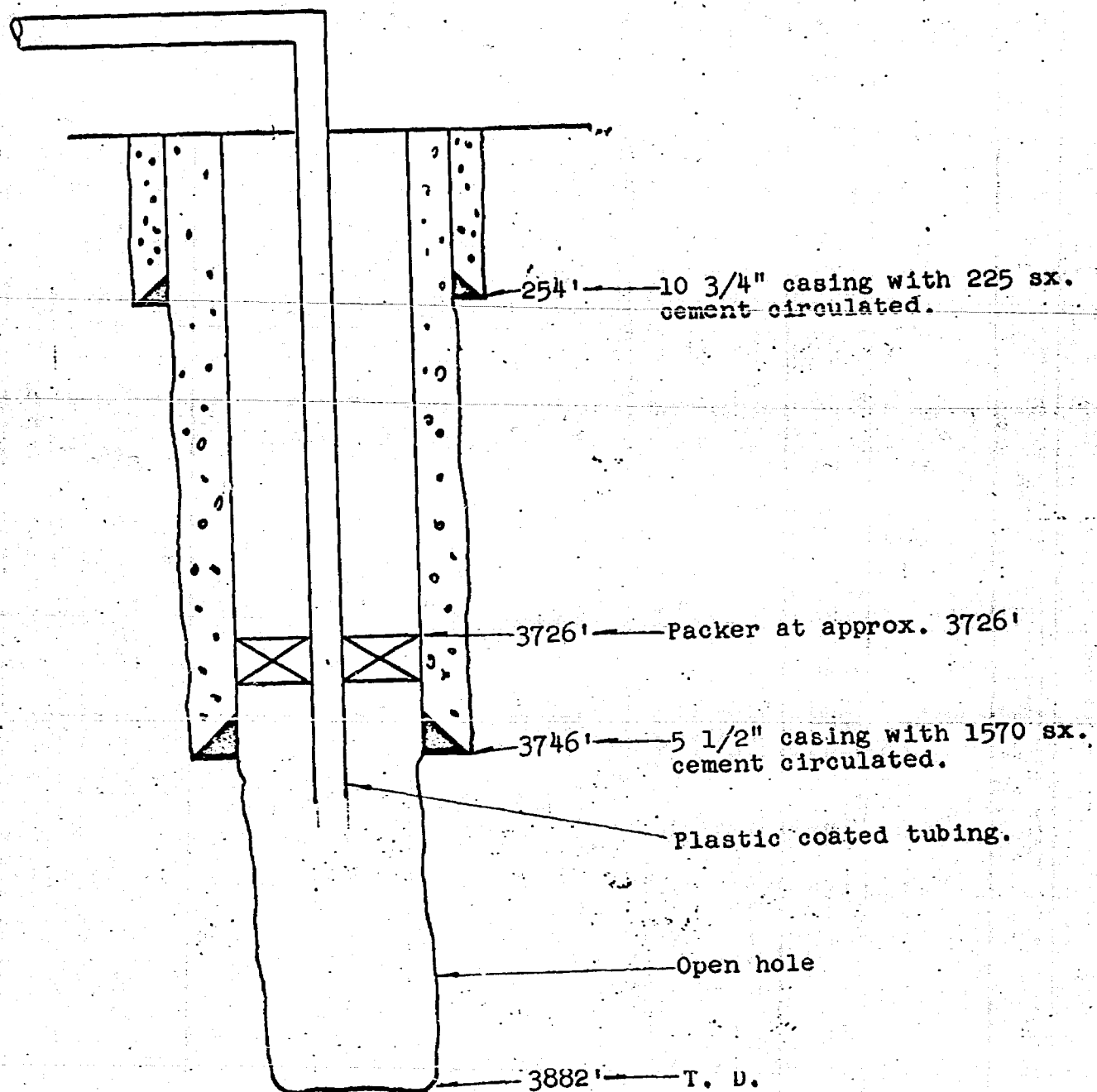
CONTINENTAL OIL COMPANY
 SEMU Permian No. 79
 Schematic Diagram
 Proposed Water Injection Well



BEFORE EXAMINER NUTTER
 OIL CONSERVATION COMMISSION
apv EXHIBIT NO. 42
 CASE NO. 3374

Exhibit No. 42

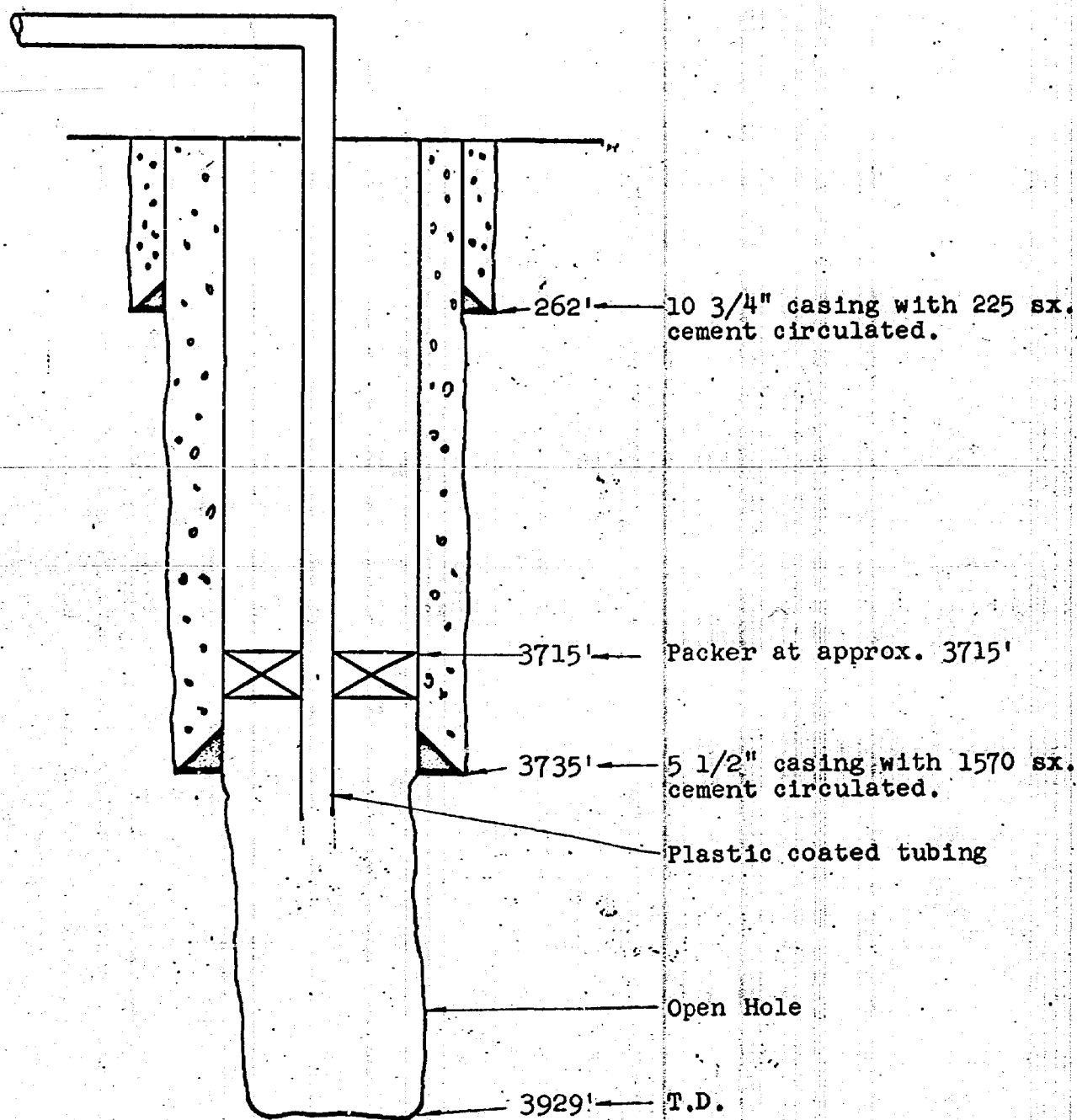
CONTINENTAL OIL COMPANY
SEMU Permian No. 78
Schematic Diagram
Proposed Water Injection Well



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
apls EXHIBIT NO. 4H
CASE NO. 3274

Exhibit No. 4h

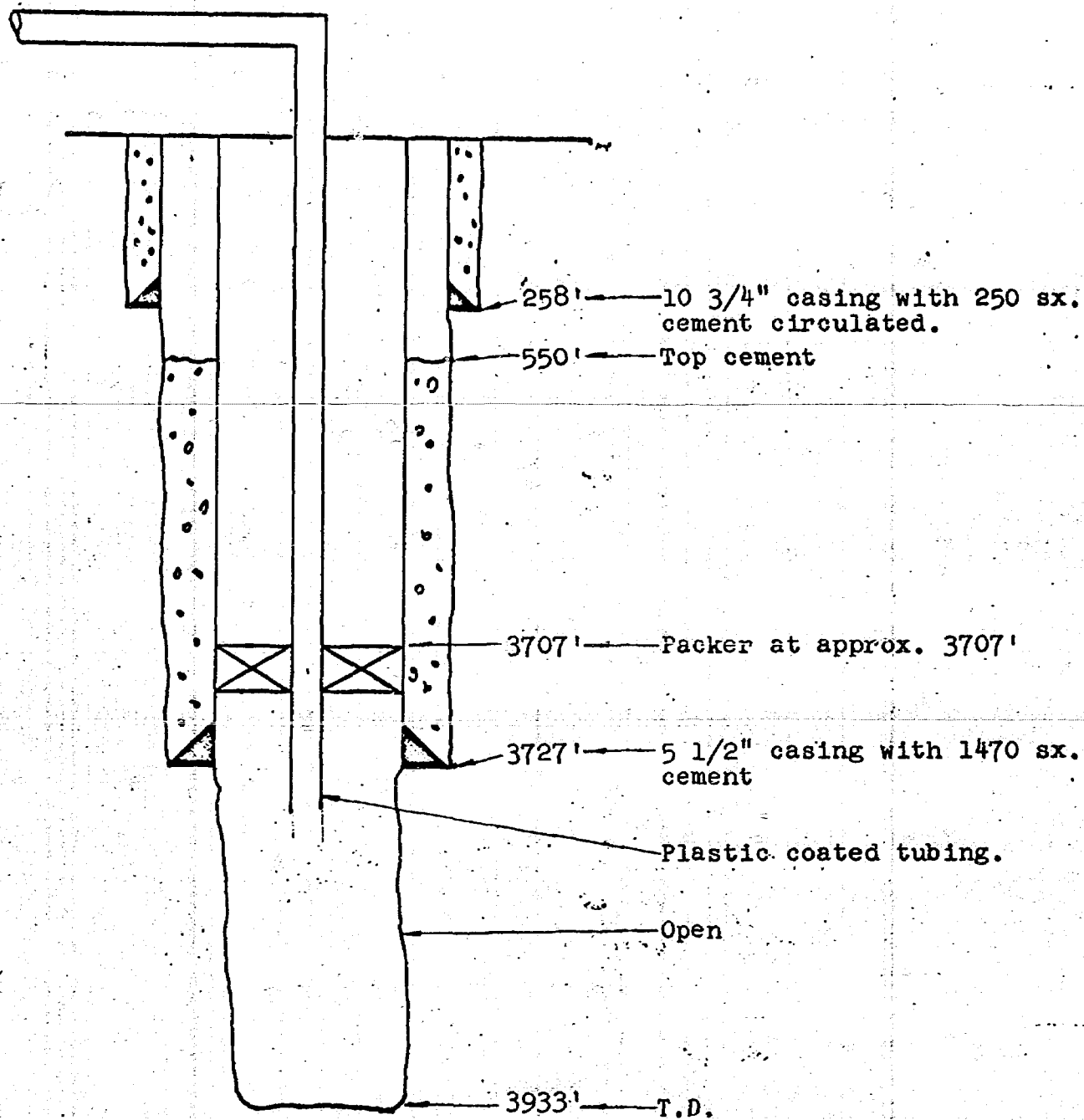
CONTINENTAL OIL COMPANY
 SEMU Permian No. 76
 Schematic Diagram
 Proposed Water Injection Well



BEFORE EXAMINER NUTTER
 OIL CONSERVATION COMMISSION
apt's EXHIBIT NO. 421
 CASE NO. 3274

Exhibit No. 49

CONTINENTAL OIL COMPANY
 SEMU Permian No. 75
 Schematic Diagram
 Proposed Water Injection Well



BEFORE EXAMINER NUTTER

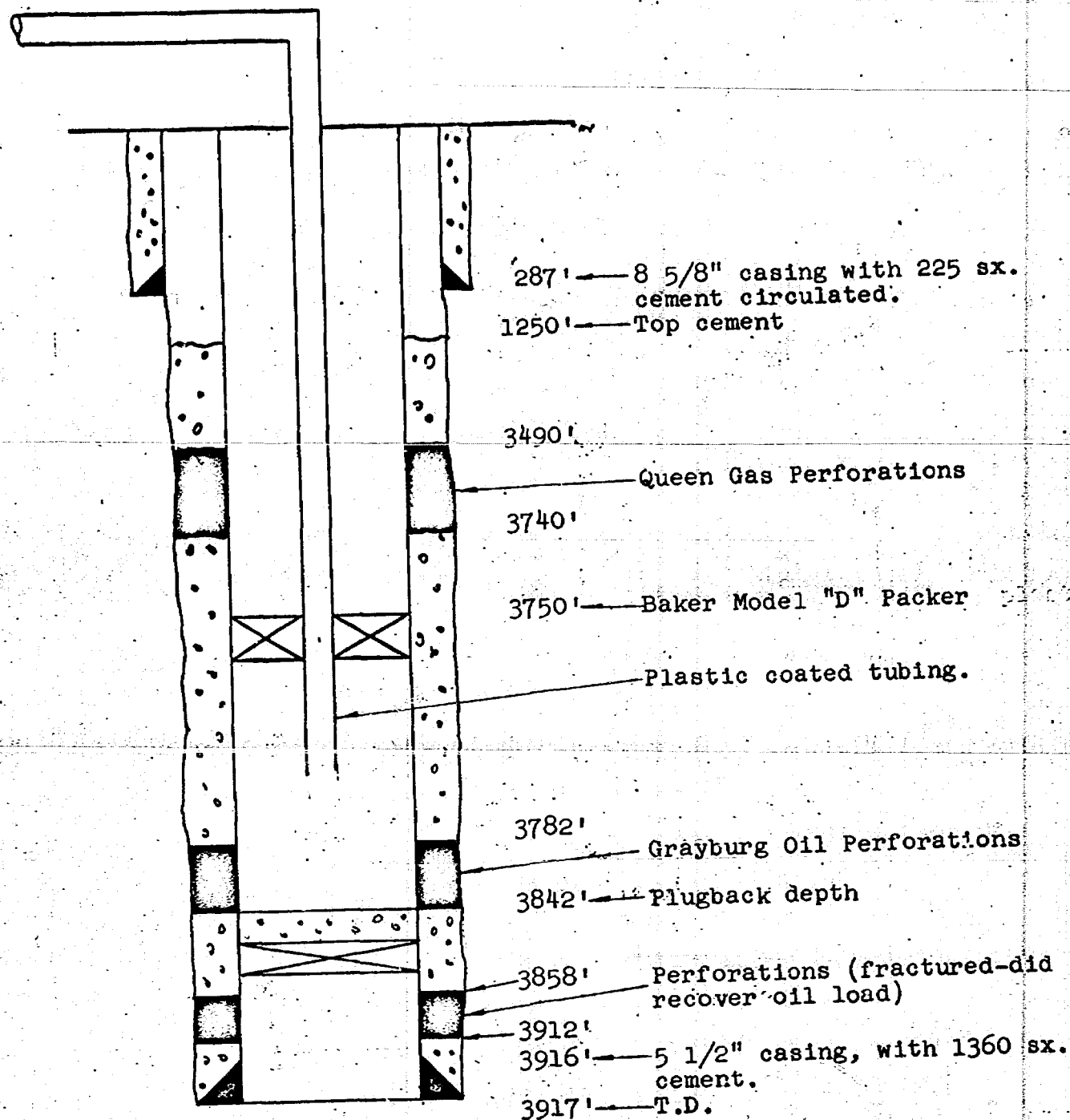
OIL CONSERVATION COMMISSION

ARTs EXHIBIT NO. *4 F*

CASE NO. *3276*

Exhibit No. *4 f*

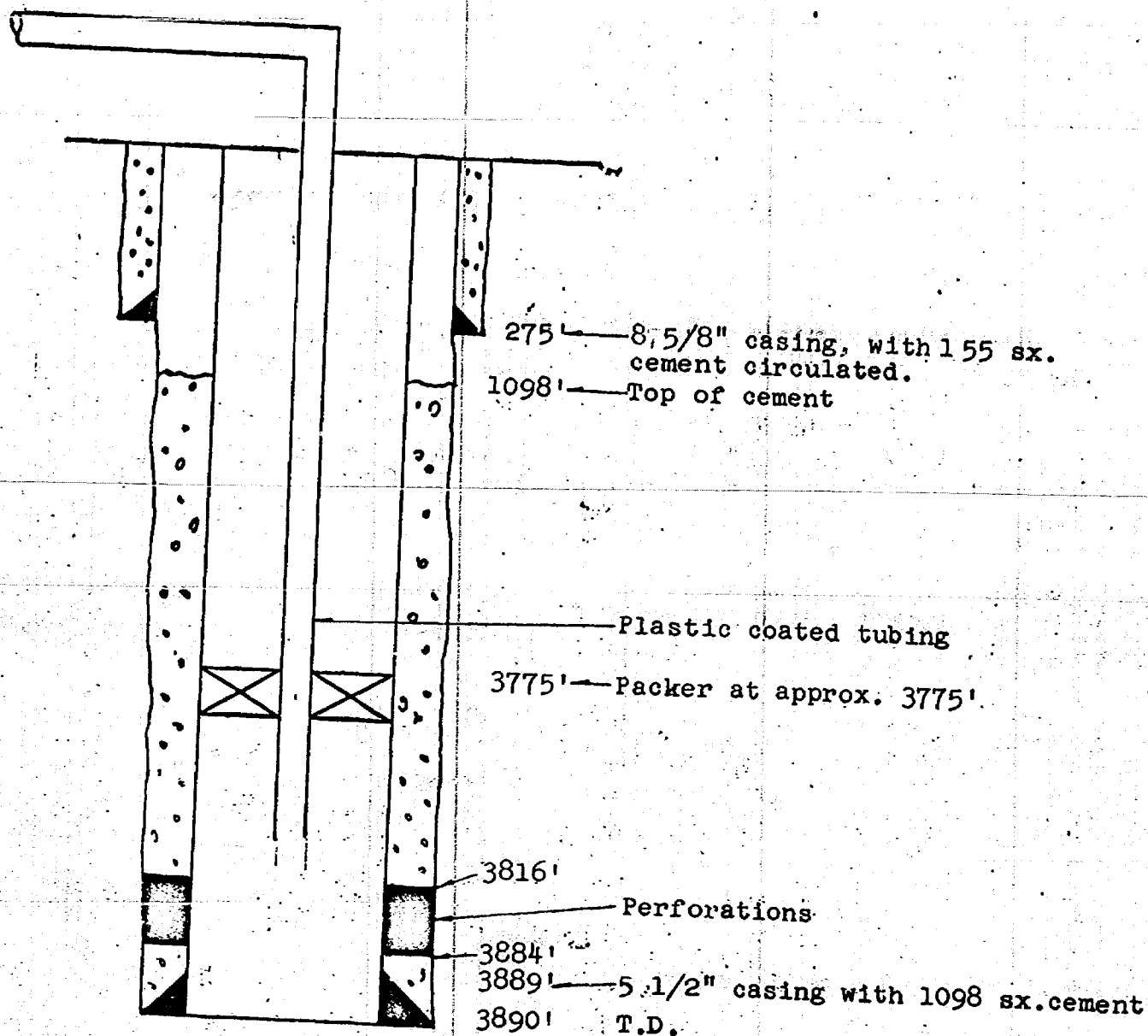
CONTINENTAL OIL COMPANY
 SEMU Permian No. 46
 Schematic Diagram
 Proposed Water Injection Well



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
aprb EXHIBIT NO. 4 E
 CASE NO. 3274

Exhibit No. 4e

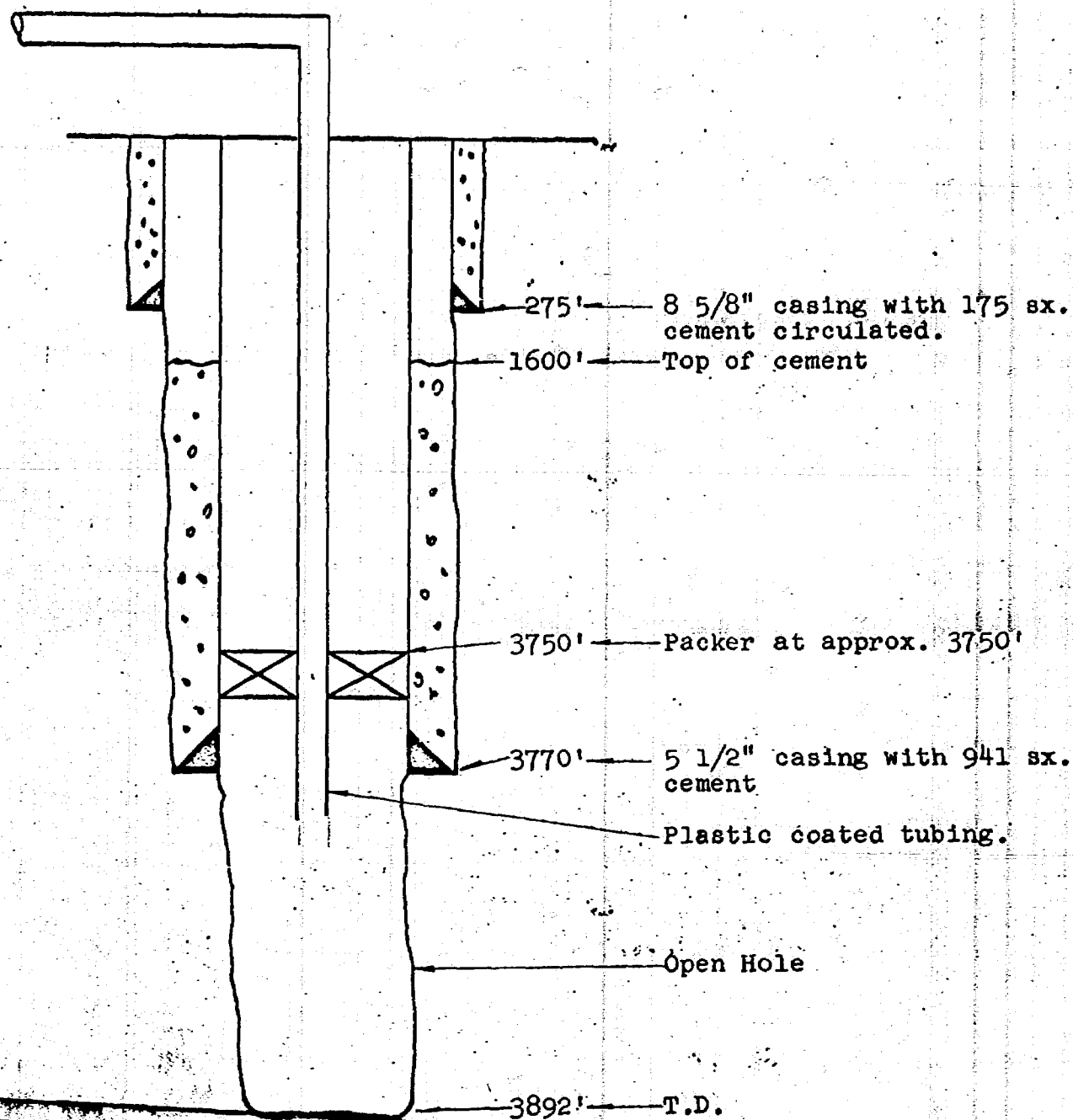
CONTINENTAL OIL COMPANY
 SEMU Permian No. 45
 Schematic Diagram
 Proposed Water Injection Well



BEFORE EXAMINER NUTTER
 OIL CONSERVATION COMMISSION
API's EXHIBIT NO. 4D
 CASE NO. 3274

Exhibit No. 4d

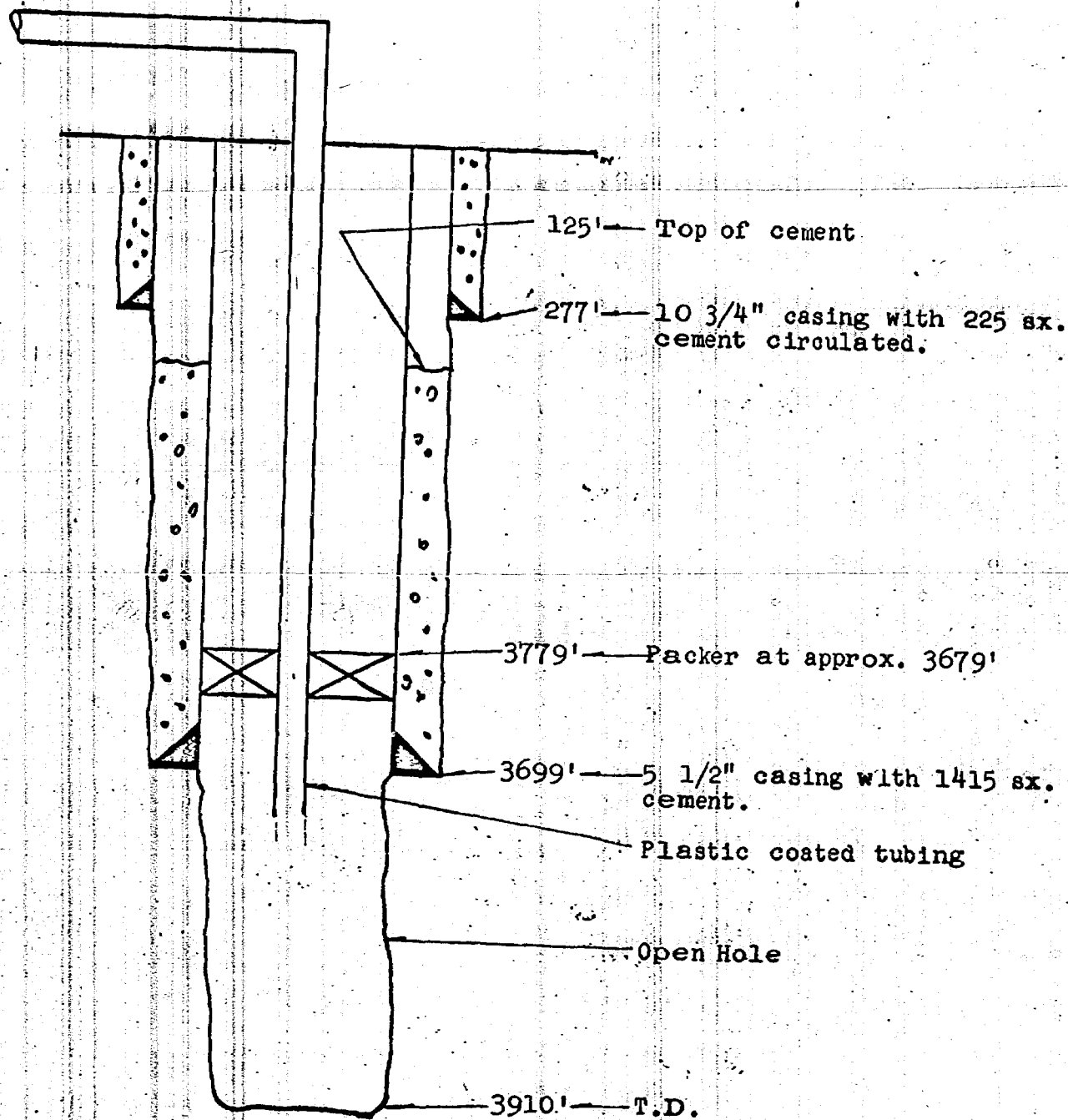
CONTINENTAL OIL COMPANY
 SEMU Permian No. 44
 Schematic Diagram
 Proposed Water Injection Well



BEFORE EXAMINER NUTTER
 OIL CONSERVATION COMMISSION
apts EXHIBIT NO. *4C*
 CASE NO. *3274*

Exhibit No. *4C*

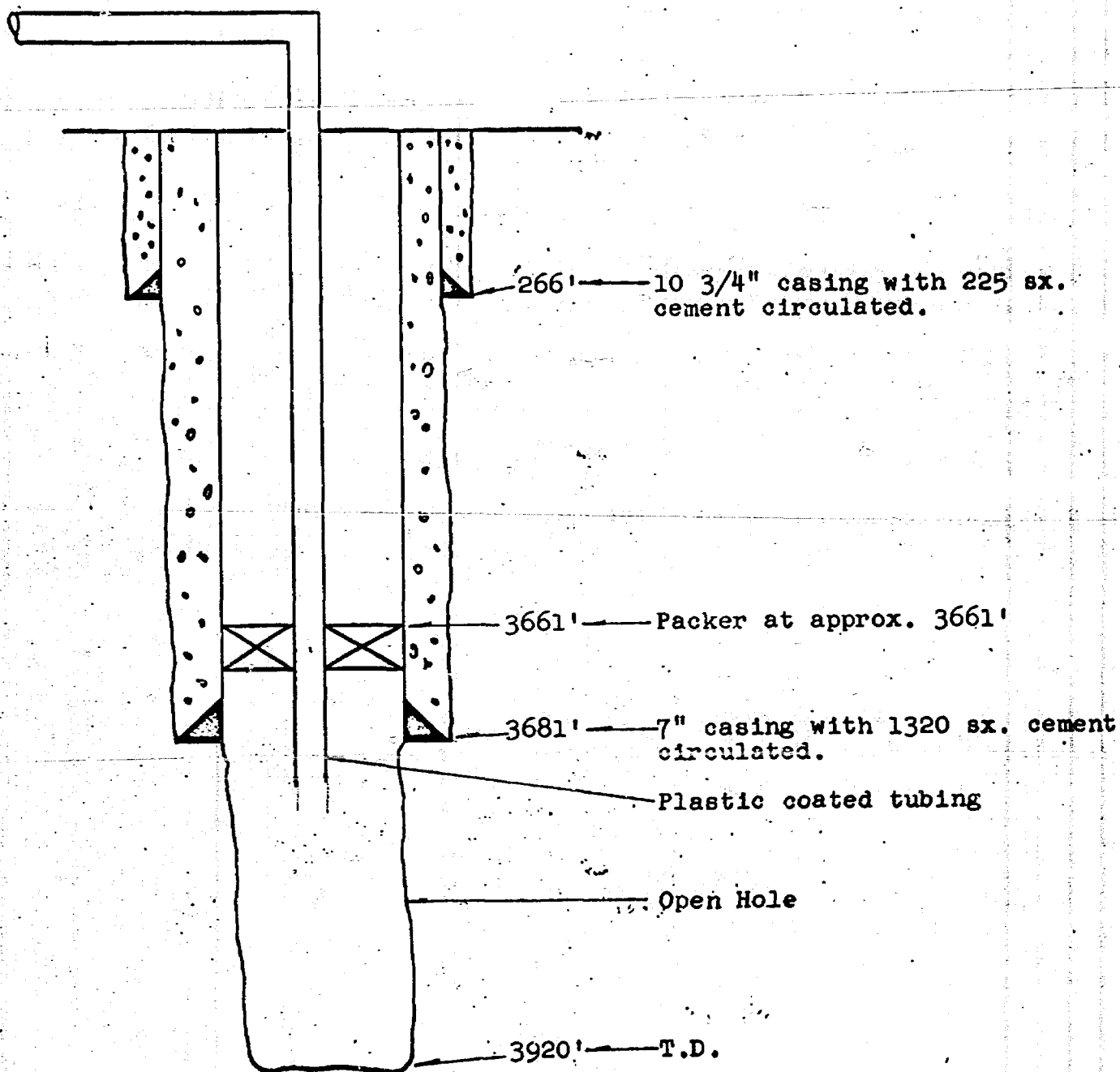
CONTINENTAL OIL COMPANY
 SEMU Permian No. 36
 Schematic Diagram
 Proposed Water Injection Well



BEFORE EXAMINER NUTTER
 OIL CONSERVATION COMMISSION
apls EXHIBIT NO. 46
 CASE NO. 3274

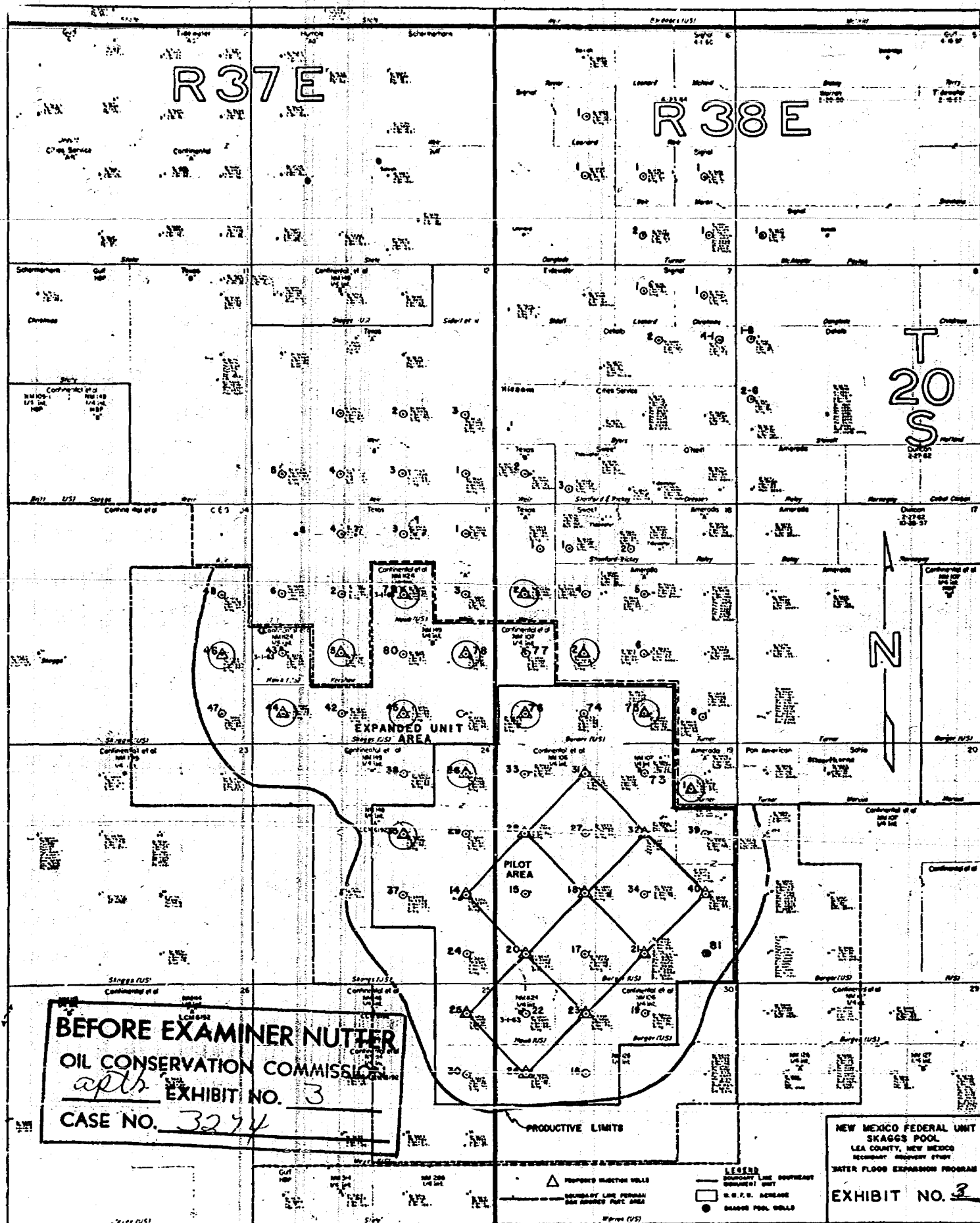
Exhibit No. 46

CONTINENTAL OIL COMPANY
SEMU Permian No. 35
Schematic Diagram
Proposed Water Injection Well

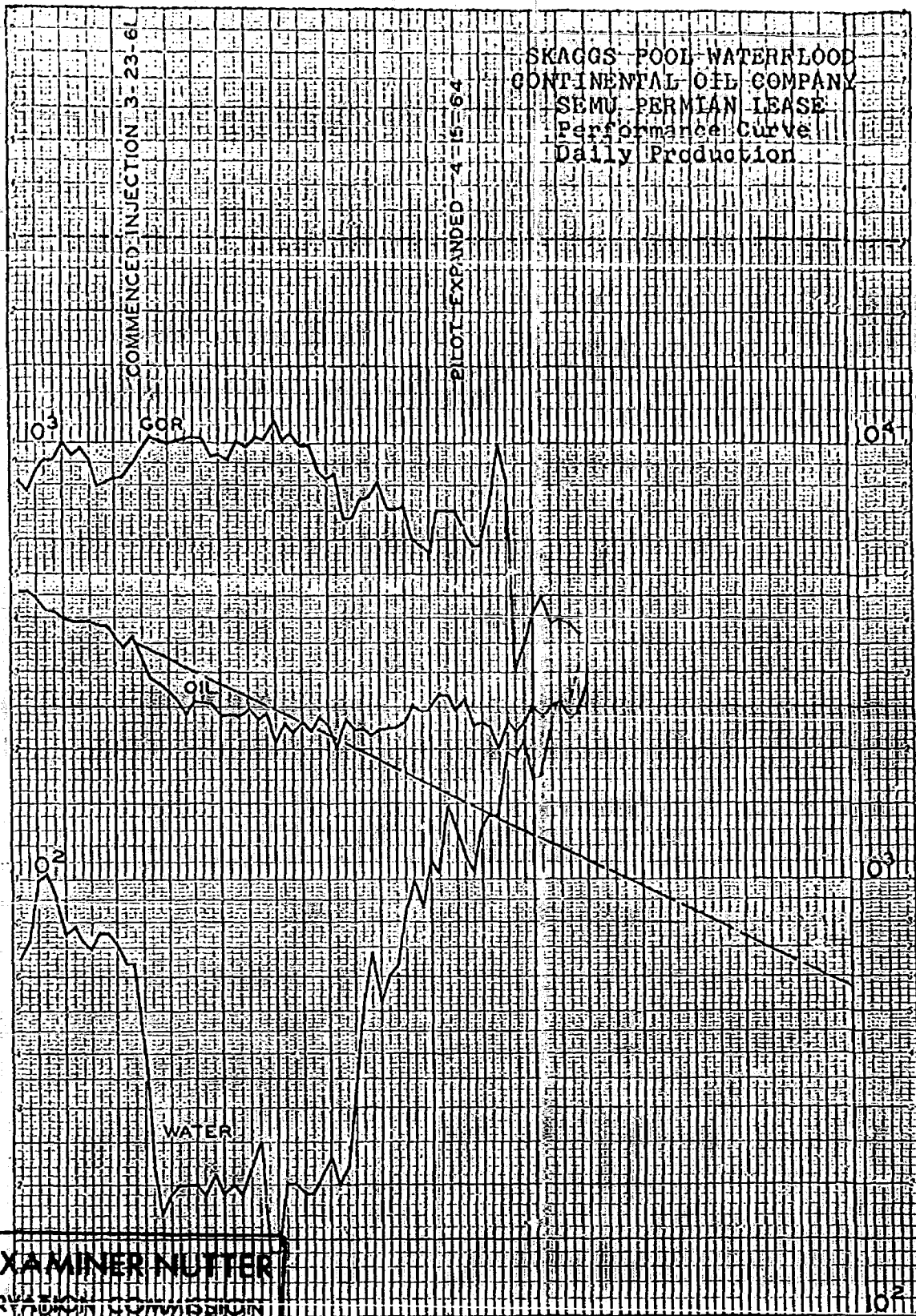


BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
apls EXHIBIT NO. 4A
CASE NO. 3274

Exhibit No. 4a



OIL & WATER PRODUCTION BBLs/D.



BEFORE EXAMINER NUTTER

OIL CONSERVATION DIVISION

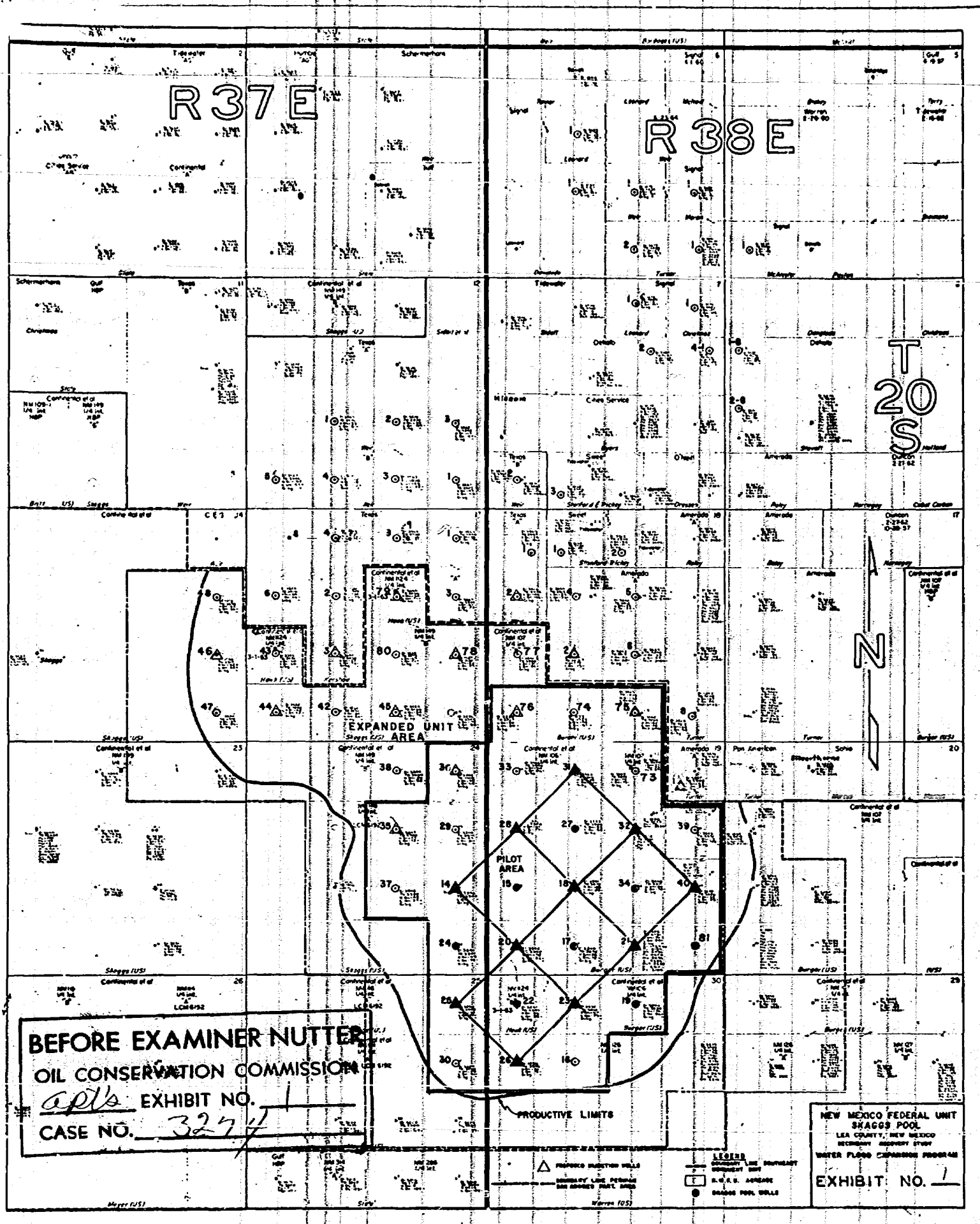
apls

EXHIBIT NO.

CASE NO.

1960 1961 1962 1963 1964 1965 1966 1967

Exhibit No. 2



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
apls EXHIBIT NO. 1
CASE NO. 3274

NEW MEXICO FEDERAL UNIT
SKAGGS POOL
LEA COUNTY, NEW MEXICO
RECOVERY STUDY
WATER FLOOD CAMPBELL PROGRAM
EXHIBIT NO. 1



CONTINENTAL OIL COMPANY

P. O. BOX 460
HOBBS, NEW MEXICO

PRODUCTION DEPARTMENT
HOBBS DISTRICT
JACK MARSHALL
DISTRICT MANAGER
G. C. JAMIESON
ASSISTANT DISTRICT MANAGER

June 4, 1965

1001 NORTH TURNER
TELEPHONE: EX 3-4141

Case 3274

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

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

Gentlemen:

Re: Application to Expand Skaggs
Waterflood, Skaggs Pool, Lea
County, New Mexico

We forward herewith application, in triplicate, for permission to expand to full scale the Skaggs Waterflood project currently in progress within the boundaries of the Southeast Monument Unit, Lea County, New Mexico.

Attached to the application are the following: (1) a plat showing the location of the waterflood area and surrounding leases, the location of wells and ownership thereof; (2) logs of the proposed injection wells, and (3) a diagramatic sketch of each proposed injection well.

We are furnishing by certified mail a copy of this application to the State Engineer's office, P. O. Box 1079, Santa Fe, New Mexico.

We should appreciate your setting this matter for hearing at the next Examiner Hearing.

Yours very truly,

GCJ-DFW
Enc.

Copies to: RGP GW JWK USGS
(By Certified Mail): State Engineer's Office
P. O. Box 1079
Santa Fe, New Mexico

DOCKET MAILED

Date 6-23-65

PIONEERING IN PETROLEUM PROGRESS SINCE 1875

DOCKET - EXAMINER HEARING - WEDNESDAY - JULY 7, 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. Nutter, Alternate Examiner:

CASE 3273: Application of Caulkins Oil Company for a dual completion and an unorthodox well location, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its Breech "A" Well No. 229 to produce gas from the Dakota and Mesaverde formations through parallel strings of 1-1/4 inch tubing. Said well is located at an unorthodox location for the Blanco Mesaverde Pool 1170 feet from the North line and 970 feet from the West line of Section 17, Township 26 North, Range 6 West, Rio Arriba County, New Mexico.

CASE 3274: Application of Continental Oil Company for a waterflood expansion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its Skaggs Pool Waterflood Project by the conversion to water injection of 9 additional wells located in Sections 13, 14, and 24, Township 20 South, Range 37 East, and Section 18, Township 20 South, Range 38 East, Skaggs Pool, Lea County, New Mexico.

CASE 3275: Application of Odessa Natural Gasoline Company for a non-standard gas proration unit and an unorthodox location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 360-acre non-standard gas proration unit comprising the E/2 SE/4 of Section 23, SW/4 of Section 24, N/2 NW/4 of Section 25, and NE/4 NE/4 of Section 26, Township 20 South, Range 29 East, Getty Morrow Gas Pool, Eddy County, New Mexico, said unit to be dedicated to its Federal Dooley Well No. 1 located at an unorthodox location 560 feet from the South and West lines of said Section 24.

CASE 3072 (Reopened):

In the matter of Case No. 3072 being reopened pursuant to the provisions of Order No. R-2746, which order established 80-acre spacing for the Flying "M" San Andres Pool, Lea County, New Mexico, for a period of one year. All interested parties may appear and show cause why said pool should not be developed on 40-acre spacing units.

DRAFT
JMD/esr

②

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. 3274

Order No. R-2940

APPLICATION OF CONTINENTAL OIL COMPANY
FOR A WATERFLOOD ~~PROJECT~~ LEA COUNTY,
NEW MEXICO. (EXPANSION,

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on
July 7, 1965, at Santa Fe, New Mexico, before Examiner
Daniel S. Nutter.

NOW, on this day of July, 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, Continental Oil Company,

seeks permission to expand its Skaggs Pool Waterflood Project
in the Skaggs Pool by converting to water injection nine addi-
tional wells located in Sections 13, 14, and 24, Township 20
South, Range 37 East, and Section 18, Township 20 South, Range
38 East, NMPM, Lea 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.

expansion of the Skaggs Pool
(4) That the proposed/Waterflood Project should result in the
recovery of otherwise unrecoverable oil, thereby preventing waste.

(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, Continental Oil Company,

is hereby authorized to expand its Skaggs Pool Waterflood Project in the Skaggs Pool by converting to water injection the following-described nine wells in Lea County, New Mexico:

✓
TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM
SEMU Well No. 44 - Unit M - Section 13
SEMU Well No. 45 - Unit O - Section 13
SEMU Well No. 78 - Unit I - Section 13
SEMU Well No. 79 - Unit G - Section 13
SEMU Well No. 46 - Unit I - Section 14
SEMU Well No. 35 - Unit G - Section 24
SEMU Well No. 36 - Unit A - Section 24

TOWNSHIP 20 SOUTH, RANGE 38 EAST, NMPM
SEMU Well No. 75 - Unit O - Section 18
SEMU Well No. 76 - Unit M - Section 18

(2) That the ^{expanded} ~~subject~~ waterflood project 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 ^{expanded} ~~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.

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