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

October 9, 1968

EXAMINER HEARING

- -

IN THE MATTER OF:

Application of General American Oil Company of Texas for a waterflood project, Eddy County, New Mexico.

Case 3878

- -

BEFORE: Elvis Utz, Examiner

TRANSCRIPT OF HEARING

(Whereupon, Applicant's Exhibits A through D were marked for identification.)

MR. UTZ: Case 3878.

MR. HATCH: Case 3878, application of General American Oil Company of Texas for a waterflood project, Eddy County, New Mexico.

MR. RUSSELL: I'm John F. Russell appearing on behalf of the applicant. I have one witness, Mr. Crow.

(Witness sworn)

MR. UTZ: Are there other appearances in this case? You may proceed.

ROY CROW,

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

DIRECT EXAMINATION

BY MR. RUSSELL:

Q Will you please state your name, address, name of your employer and the capacity in which you are employed?

A My name is Roy Crow from Artesia, New Mexico. I'm employed by General American Oil Company of Texas in the capacity of a District Engineer.

Q And are you familiar with the application of General American Oil Company in this case presently being heard?

A I am.

Q What do you seek by this application?

A Well, we seek approval for a waterflood project in Eddy County to recover additional reserves which would otherwise be lost.

Q From what formation?

A From the Premier Sand.

Q Now, I'll refer you to what has been marked as Applicant's Exhibit A and ask you to explain what that reflects.

A Exhibit A is a plat which indicates previously approved Premier Sand waterfloods outlined in red and a previously approved Penrose Sand flood which is outlined in blue and also shows all other producing wells and their formation within a radius of two miles of this proposed project.

Q Now, your proposed area is outlined in yellow, is it not?

A This is correct.

Q And the one, say, surrounding it, outlined in red, which is Tenneco, now, that was approved in Case Number 3813 before the Commission, was it not?

A This is correct.

Q And at that time, it was mentioned that they were working with lease-line agreement with General American, is that correct?

A That is correct.

Q But your injection wells were not approved, proposed injection wells were not approved in the order?

A They were not.

Q Will you show the location of your injection wells and do you have the footage locations on there?

A The two proposed injection wells, or one is located in the southwest quarter of Section 8, 16, 30; the other being located in the southwest quarter of the northeast quarter of Section 17, and I can give these footages.

The one in Section 8 is designated Sivley #2, 660 from the south line and 660 from the west line, Section 8, 16 South, 30 East.

The other in Section 17 is designated Sivley #7 and is located 1650 from the north line and 2310 from the east line of Section 17, 16 South, 30 East.

Q Now, referring you to what has been marked as Exhibit B which consists of two parts, will you explain what that exhibit is.

A Exhibit B is just a portion of the gamma ray neutrons on the two proposed injection wells which shows the base of the

seven-inch casing and the seven-inch casing collars and the amount of open-hole exposed below the casing into which the injection will be placed.

Q That first part of your Exhibit B is your Federal Sivley #2, and the second part if your Sivley #7, is that correct?

A This is correct.

MR. UTZ: What, now?

MR. RUSSELL: The first part of Exhibit B.

MR. UTZ: All right. That's the log?

MR. RUSSELL: Right.

A That's the log.

Q (By Mr. Russell) Now, I refer you to what has been marked as Applicant's Exhibit C which also consists of two parts and ask you to explain that exhibit.

A Exhibit C is a two-part, each, a diagrammatic sketch of the two proposed injection wells showing that surface casing in Sivley #2 was set ten and three-quarter inches, thirty-two-pound casing at a depth of 522 feet and cemented with fifty sacks of cement. Production string of seven inches, twenty-four and twenty-eight-pound casing, was set at 2734, cemented with 100 sacks and calculated cement top of 1879 feet based on a temperature survey fill-up calculation on the offsetting producing well; also indicates that an open-hole

from 2734 to 2753, the identified pay zone, Premier Sand, from 2738 to 2750, showing also that injection will be down plastic-lined tubing set with a packer at approximately 2684 with injection below a packer into the open hole.

Q Now, the second portion of Exhibit C reflects the same information as the first portion, only it pertains to your Sivley #7 well, is that correct?

A That is correct. One thing I might add is that both strings of casing were new at the time these wells were completed, number 2 being completed on December the 2nd, 1956, number 7 being completed on February the 20th, 1958.

Q Now, I'll refer you to what has been marked as Applicant's Exhibit D and ask you to explain that.

A Exhibit D is just a summation of the pertinent well data on the two injection wells showing the completion data, total depth, the surface casing as indicated on the schematic diagram, the production casing, the producing zone and also a record of the initial sand fracked treatment on each of the two wells.

Q Now, what is the fluid to be injected here?

A The fluid to be injected, at the outset of the flood, would be fresh water obtained from Double Eagle Corporation. At which time the producing wells begin to make water, it will be a mixture of produced Premier Sand water

and fresh water which we are commingling in other Premier floods in the area without particular problem.

Q And what quantities and pressure do you anticipate this injection program to be?

A Proposed to inject at the rate of 300 barrels per day per well with a maximum pressure of approximately 1800 pounds.

Q Now, what was your primary recovery in this water-flood area?

A To July the 1st of '68, we had recovered 184,824 barrels from the four producing wells.

Q And what do you anticipate you will be able to recover under your secondary program?

A Secondary recovery reserves are set at 135,613 barrels.

Q Now, in your opinion, will the granting of this application protect correlative rights and prevent waste by premature abandonment of wells?

A Yes.

Q What is the average production of the well per day in the area?

A The current production is approximately one barrel of oil per day and one well makes a slight trace of water.

Q Were Exhibits A, B, C and D prepared by you or under

your direction or supervision?

A They were.

MR. RUSSELL: I move the introduction of Exhibits A, B, C and D. Exhibit B and C each being in two parts.

MR. UTZ: Without objection, Exhibits A, B, C and D will be entered into the record of this case.

(Whereupon, Applicant's Exhibits A through D were entered into the record)

MR. RUSSELL: Do you have anything further you want to add, Mr. Crow, that we haven't brought out?

THE WITNESS: The only thing that I would add is Tenneco's unit was approved and it was mentioned in their testimony that a cooperative line agreement was in the process of being ratified, and I have a copy which has been sent to Tenneco which actually they have not approved yet, but I have no reason to doubt it will not be approved in the near future for the cooperation along the line of these two floods.

MR. RUSSELL: Which is along the lines mentioned in their case?

THE WITNESS: Which would be the same as mentioned in their case.

MR. RUSSELL: I have no further questions of this witness.

CROSS EXAMINATION

BY MR. UTZ:

Q Would you state how you intend to handle the annulus below the packer?

A Well, it's been our procedure in the past where injecting below a packer tube, to fill the annulus with inhibited fluid.

Q You will leave them open or use a pressure gauge?

A We usually leave them open.

Q Have you ever detected any packer leakage or tubing perforations using this method?

A Yes, we've had two that I know of, of the several floods that we had where we've actually had to -- in one place, the packer just came unseated in the immediate surface to the -- well, it came to the surface and was remedied; and another place where the packer actually failed and was replaced.

Q So this is a pretty accurate method?

A It seems to be more accurate than with a gauge. The pumpers sometimes fail to read the gauges.

Q Sometimes they even fail to see the gauges. This Premier zone is in the Grayburg, is it not?

A Yes, sir, it's a lower Grayburg, Mesa-Grayburg.

MR. UTZ: Are there any questions of the witness? He may be excused. Any statements in this case? The case

will be taken under advisement. We'll adjourn the hearing until 1:30.

I N D E X

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, CHARLOTTE MACIAS, the court reporter in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Charlotte Macias
Court Reporter

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3875, heard by me on 10-9, 1968.

Thomas L. Hall, Examiner
New Mexico Oil Conservation Commission

LAW OFFICES OF
JOHN F. RUSSELL
412 HINKLE BUILDING
P. O. DRAWER 640
ROSWELL, NEW MEXICO 88201

TELEPHONE 622-4641
AREA CODE 505

September 17, 1968

Case 3878

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

Re: General American Oil Company of Texas

Dear Mr. Porter:

I transmit herewith an Application of General American Oil Company of Texas, in triplicate, covering a water-flood project.

It will be appreciated if this case could be placed on the docket for your regular examiner's hearing on October 9th.

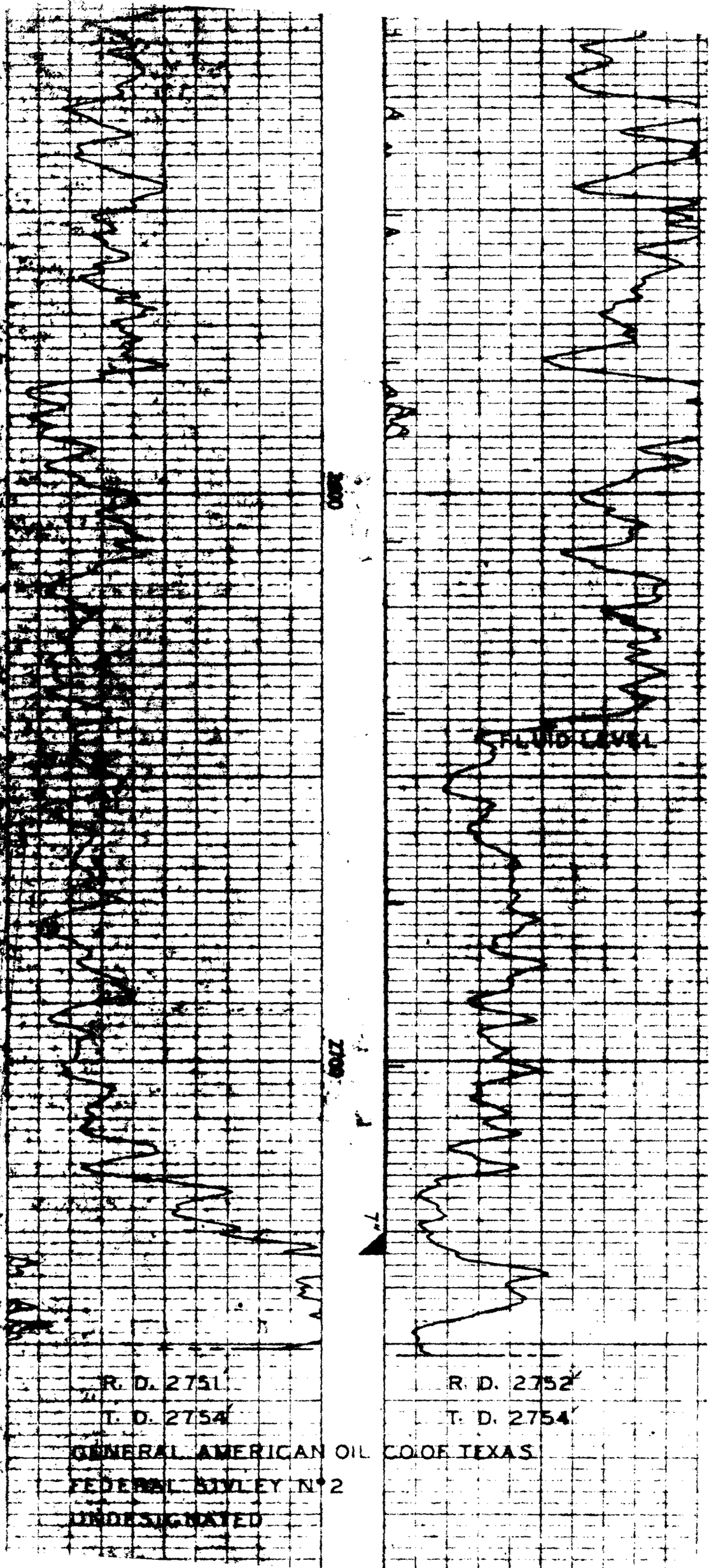
Very truly yours,

John F. Russell

John F. Russell

JFR:d
Enclosures

DOCKET MAILED
Date 9-26-68



R. D. 2751'
T. D. 2754'

R. D. 2752'
T. D. 2754'

GENERAL AMERICAN OIL CO OF TEXAS
FEDERAL SIVLEY N°2
UNDESIGNATED

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
APPN EXHIBIT NO. 3
CASE NO. 3828

Exhibit "B"

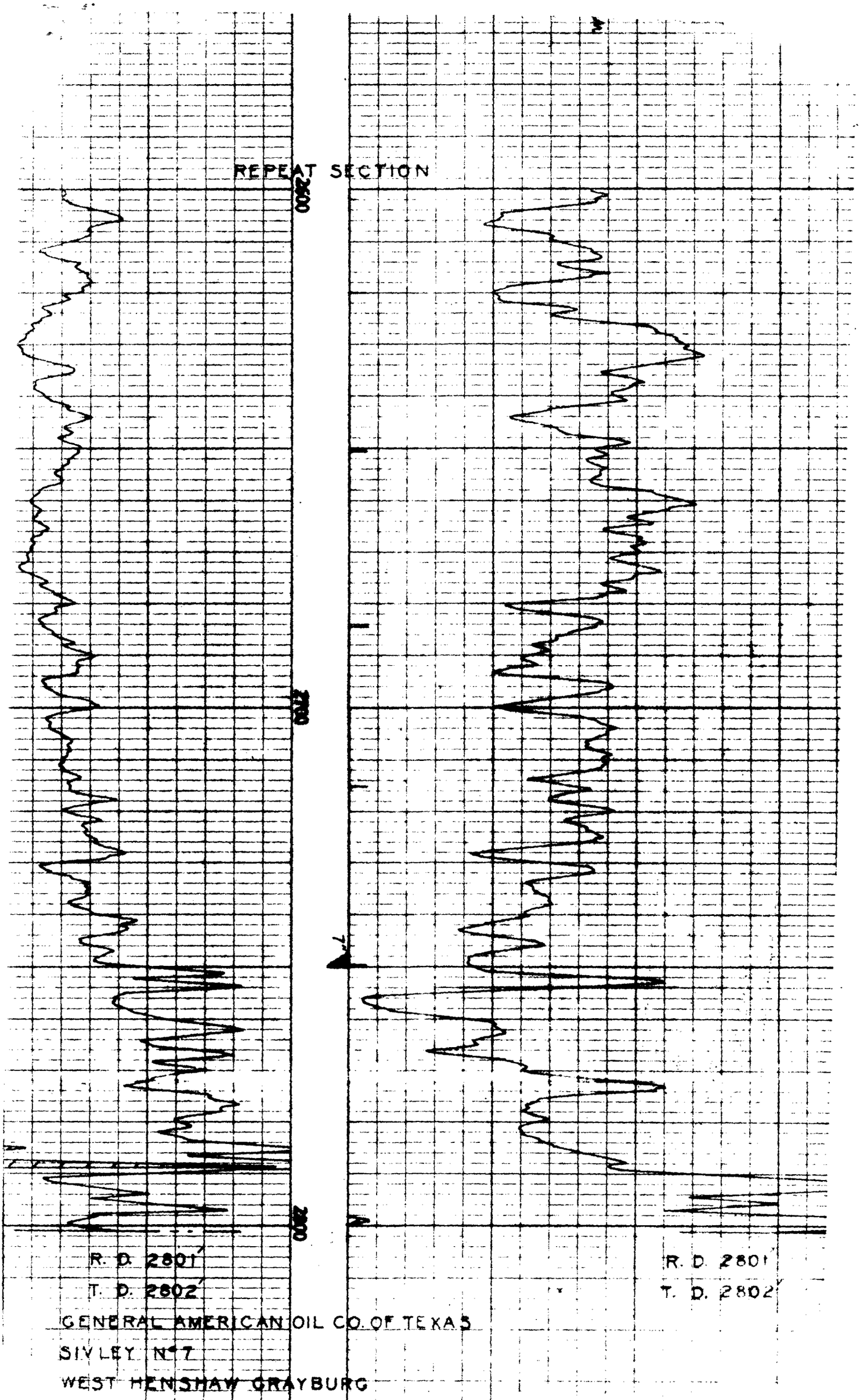
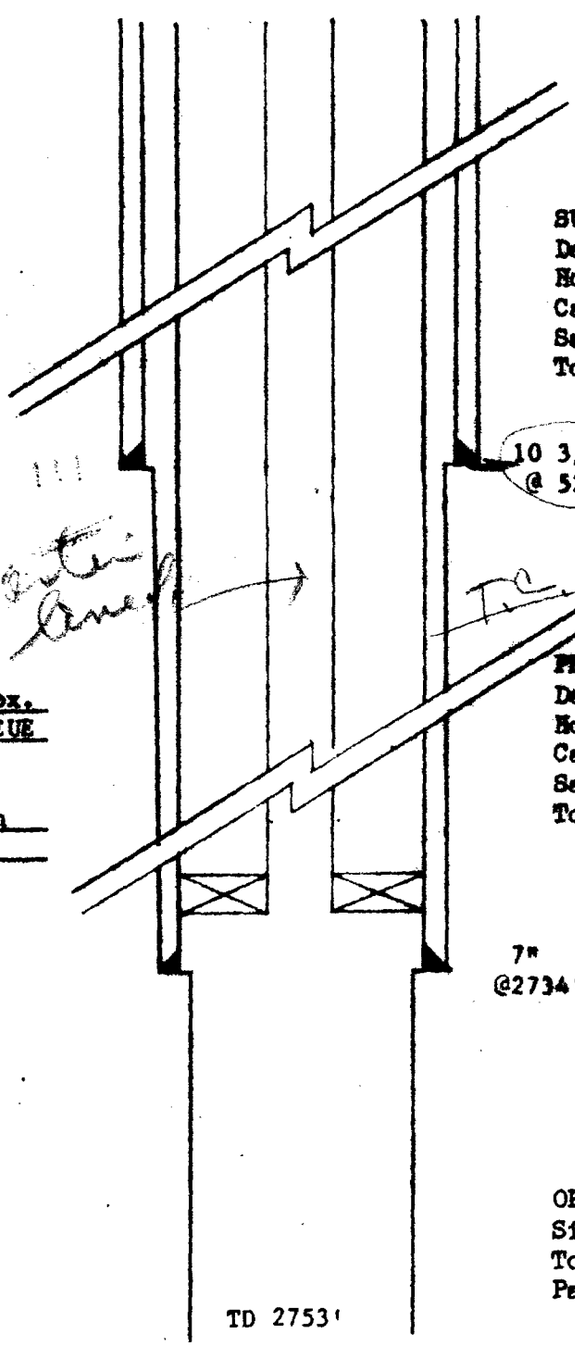

REPEAT SECTION
2700
2800
2900
R. D. 2801'
T. D. 2802'
R. D. 2801'
T. D. 2802'
GENERAL AMERICAN OIL CO. OF TEXAS
SIVLEY N°7
WEST HENSHAW GRAYBURG

Exhibit "C"

GENERAL AMERICAN OIL COMPANY OF TEXAS
SCHEMATIC DIAGRAM OF
PROPOSED INJECTION WELL

12-2-54

Lease and Well No.: Sivley #2
Location: 660' feet from South line and
660' feet from West line of
Section 8 TWP 16-S RGE 30-E
N.M.P.M. Eddy County, New Mexico



SURFACE CASING
Depth Set: 522'
Hole Size: 12"
Casing Size & Wt.: 10 3/4" 32.75
Sacks Cement: 50
Top of Cement:

TUBING
Depth Set: 2684' Approx.
Size, Wt. & Type: 2" 4.7# EUE

PACKER
Make & Type: Totem Tension
Depth Set: 2684'

PRODUCTION CASING
Depth Set: 2734'
Hole Size: 8"
Casing Size & Wt.: 7" 24# & 28#
Sacks Cement: 100
Top of Cement: 1879'*

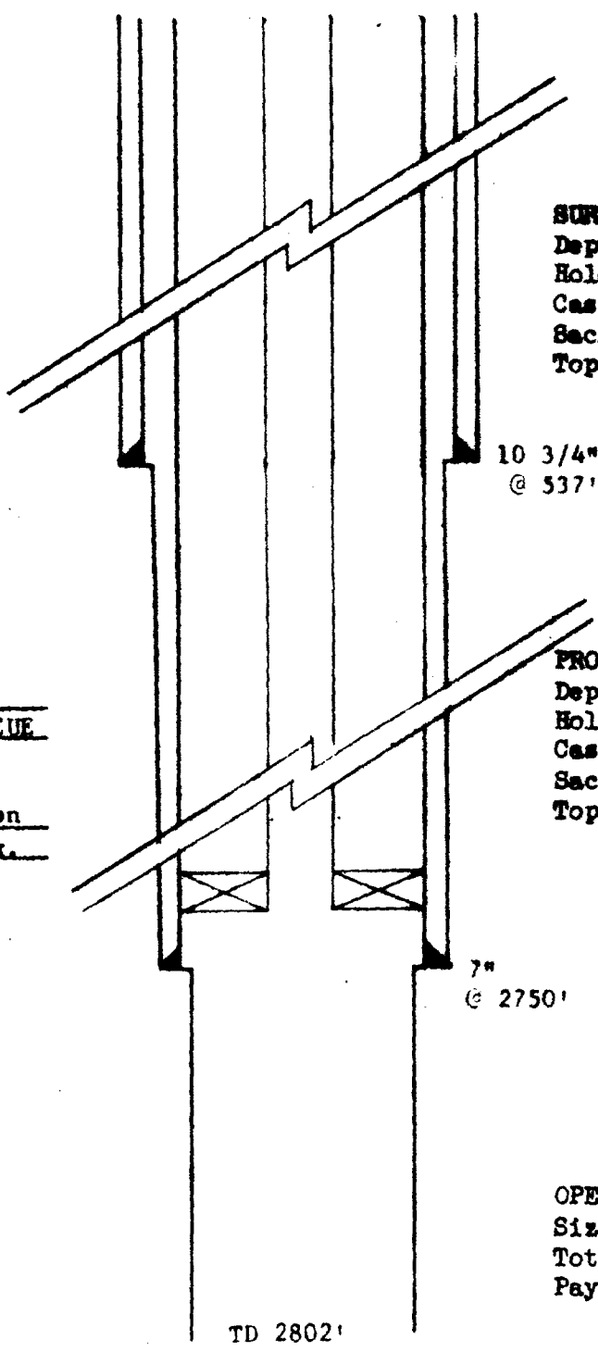
OPEN HOLE
Size: 6 1/4"
Total Depth: 2753'
Pay Zone: 2738-50'

*Cement Top Calculated @ 70% Fillup.

NATURAL AMERICAN OIL COMPANY OF TEXAS
SCHEMATIC DIAGRAM OF
PROPOSED INJECTION WELL

2-20-58 Compl.

Lease and Well No.: Sivley #7
Location: 1650 feet from North line and
2310 feet from East line of
Section 17 TWP 16-S RGE 30-E
N.M.P.M. Eddy County, New Mexico



SURFACE CASING
Depth Set: 537'
Hole Size: 12"
Casing Size & Wt.: 10 3/4" 32.75#
Sacks Cement: 50
Top of Cement:

PRODUCTION CASING
Depth Set: 2750'
Hole Size: 8"
Casing Size & Wt.: 7" 24# & 28#
Sacks Cement: 100
Top of Cement: 1895' *

TUBING
Depth Set: 2750' Approx.
Size, Wt. & Type: 2" 4.7# EUE

PACKER
Make & Type: Totem Tension
Depth Set: 2750' Approx.

OPEN HOLE
Size: 6 1/4"
Total Depth: 2802'
Pay Zone: 2754-90'

*Cement Top Calculated @ 70% Fillup.

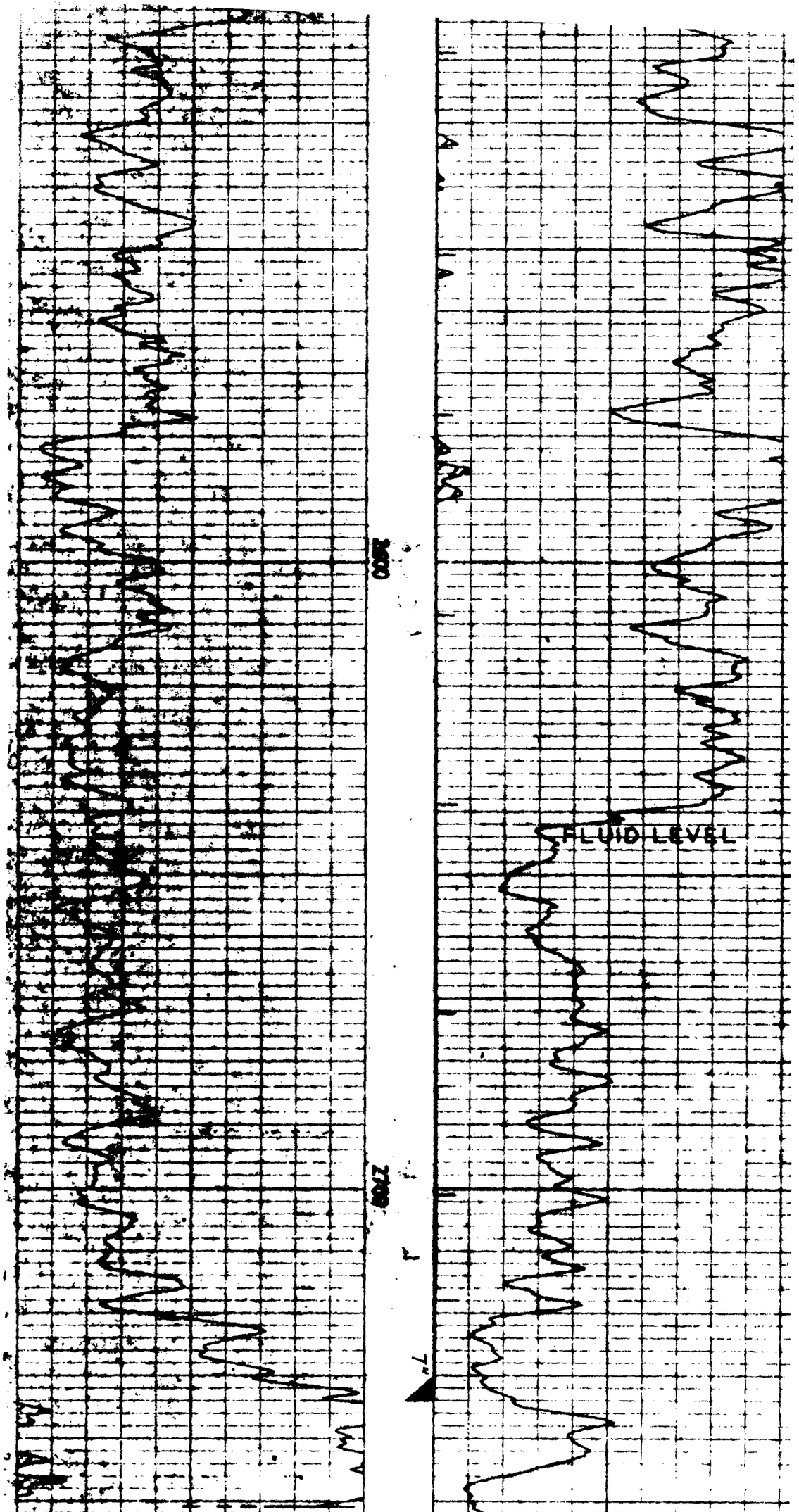
... data on wells to be converted to injection.

Exhibit "D"

General American Oil Company of Texas
Southwest Henshaw Waterflood Project
Eddy County, New Mexico

Operator:	General American Oil Company of Texas	General American Oil Company of Texas
Well No.:	Sivley #2	Sivley #7
Location:	660' FSL & FWL Sec. 8-16S-30E	1650' FNL & 2310' FEL Sec. 17-16S-30E
Elevation:	3774' GL	3770' GL
Completion Data:		
Total Depth:	2753'	2802'
PB Total Depth:		
Surface Casing:		
Depth Set:	522'	537'
Size & Wt.:	10 3/4" 32.75#	10.3/4" 32.75#
No. Sacks:	50	50
Production Casing:		
Depth Set:	2734'	2750'
Size & Wt.:	7" 24# & 28#	7" 24# & 28#
No. Sacks:	100	100
Producing Zone:		
Formation:	Premier Sand	Premier Sand
Interval:	2738-50'	2754-90'
Treatment Record:		
Type:	Sand Frac	Sand Frac
Interval:	2734-53'	2750-2802'
Volume:	60,000# 20/40 sand, 4,000# 40/60 sand carried in 35,500 gals of oil. Max. press. 2600#, Min. press. 2300#.	30,000# 40/60 sand, 25,000# 20/40 sand carried in 33,054 gals of oil. Max. press. 2700#, Min. press. 2200#.

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. D
CASE NO. 3878



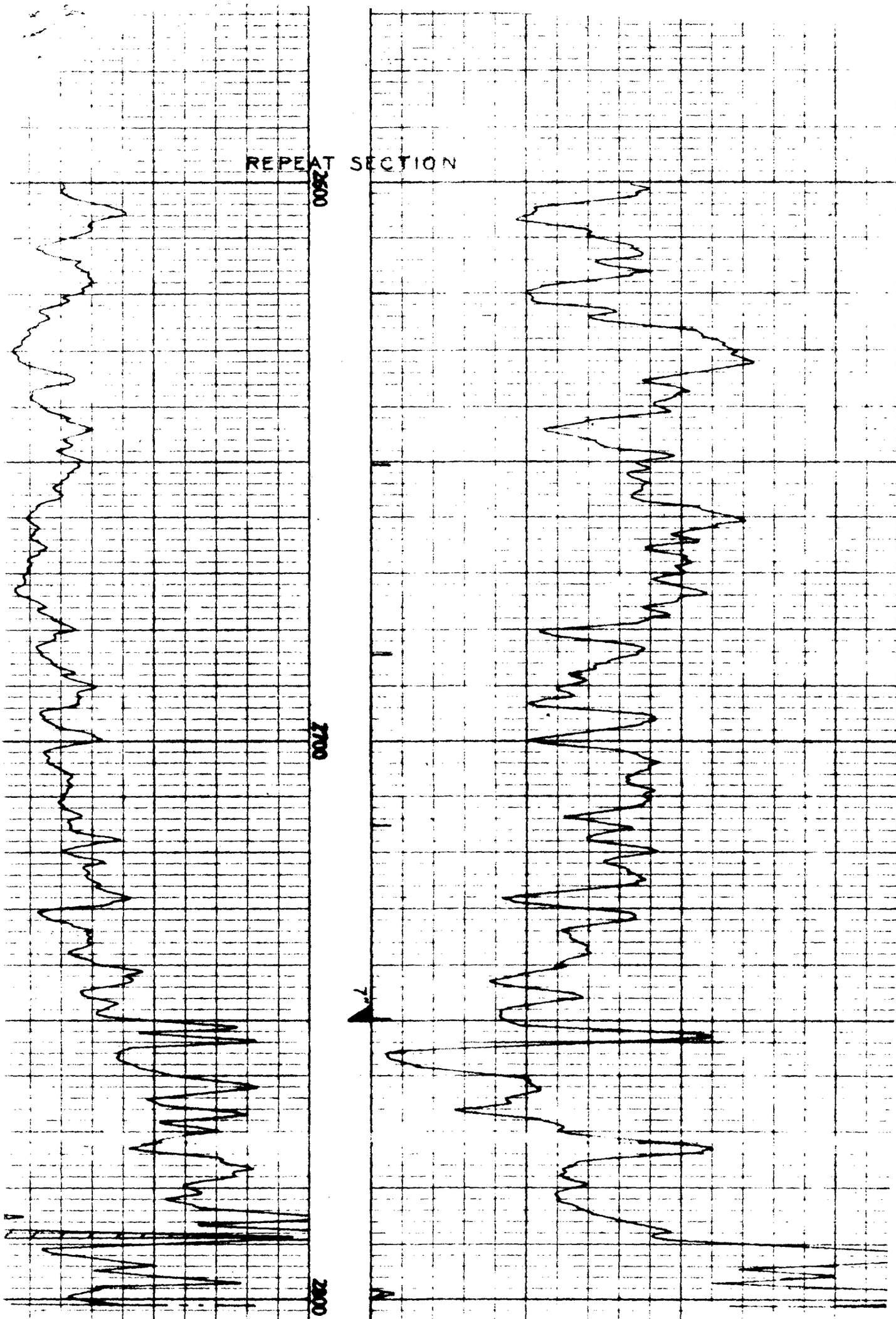
R. D. 2751'
T. D. 2754'

R. D. 2752'
T. D. 2754'

GENERAL AMERICAN OIL CO. OF TEXAS
FEDERAL SIVLEY N° 2
UNDESIGNATED

Exhibit "B"

Case 3878



R. D. 2801'
T. D. 2802'

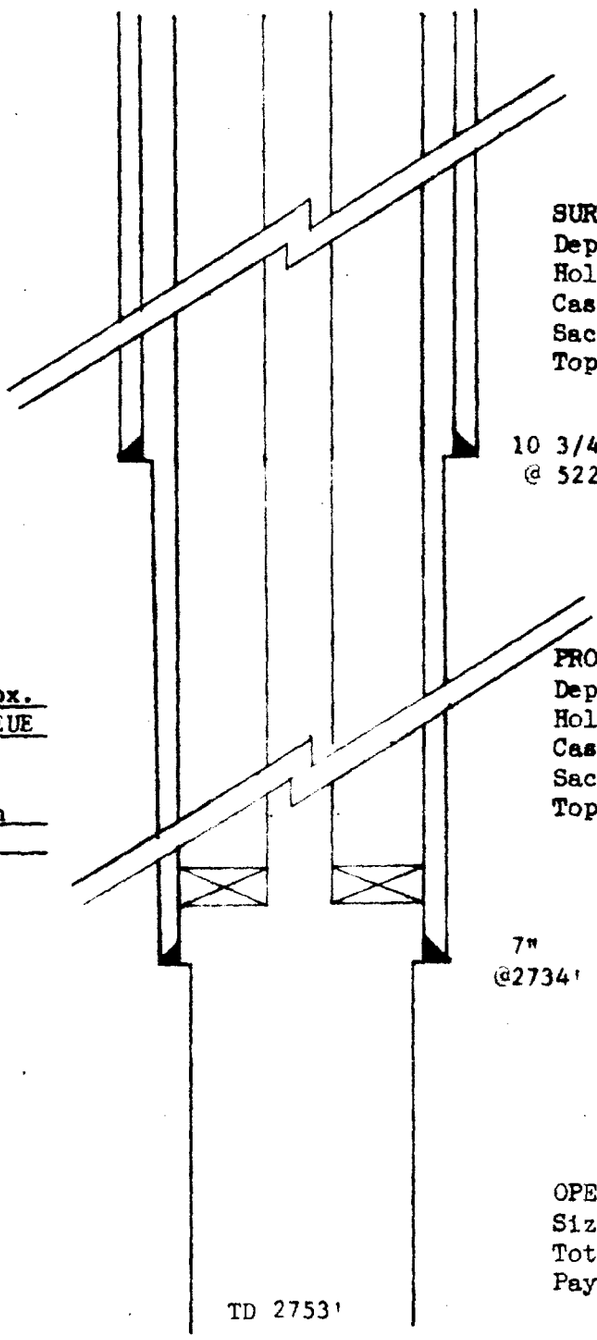
R. D 2801'
T. D. 2802'

GENERAL AMERICAN OIL CO. OF TEXAS
SIVLEY No. 7
WEST HENSHAW GRAYBURG

Exhibit "C"

GENERAL AMERICAN OIL COMPANY OF TEXAS
SCHEMATIC DIAGRAM OF
PROPOSED [illegible] WELL

Lease and Well No.: Sivley #2
Location: 660' feet from South line and
660' feet from West line of
Section 8 TWP 16-S RGE 30-E
N.M.P.M. Eddy County, New Mexico



SURFACE CASING
Depth Set: 522'
Hole Size: 12"
Casing Size & Wt.: 10 3/4" 32.75
Sacks Cement: 50
Top of Cement:

PRODUCTION CASING
Depth Set: 2734'
Hole Size: 8"
Casing Size & Wt.: 7" 24# & 28#
Sacks Cement: 100
Top of Cement: 1879' *

TUBING
Depth Set: 2684' Approx.
Size, Wt. & Type: 2" 4.7# EUE

PACKER
Make & Type: Totem Tension
Depth Set: 2684'

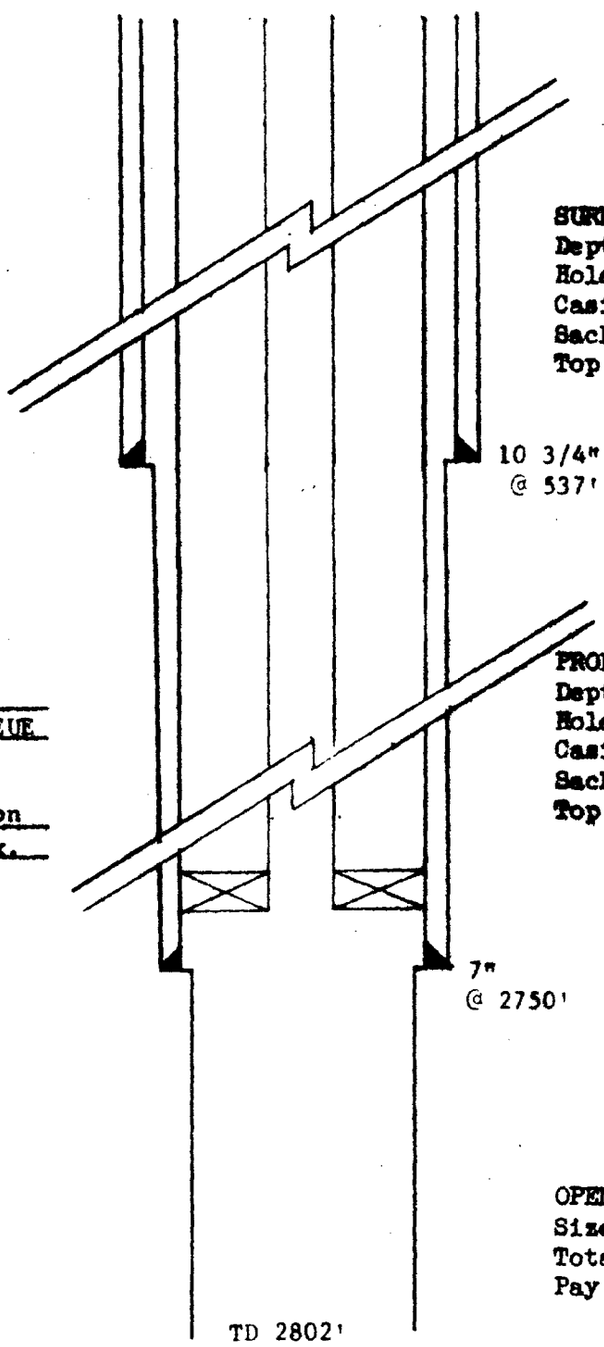
OPEN HOLE
Size: 6 1/4"
Total Depth: 2753'
Pay Zone: 2738-50'

*Cement Top Calculated @ 70% Fillup.

Case 3478

[illegible] AMERICAN OIL COMPANY OF TEXAS
SCHEMATIC DIAGRAM OF
PROPOSED INJECTION WELL

Lease and Well No.: Sivley #7
Location: 1650 feet from North line and
2310 feet from East line of
Section 17 TWP 16-S RGE 30-E
N.M.P.M. Eddy County, New Mexico



SURFACE CASING
Depth Set: 537'
Hole Size: 12"
Casing Size & Wt.: 10 3/4" 32.7
Sacks Cement: 50
Top of Cement:

TUBING
Depth Set: 2750' Approx.
Size, Wt. & Type: 2" 4.7# EUE

PACKER
Make & Type: Totem Tension
Depth Set: 2750' Approx.

PRODUCTION CASING
Depth Set: 2750'
Hole Size: 8"
Casing Size & Wt.: 7" 24# & 28#
Sacks Cement: 100
Top of Cement: 1895' *

OPEN HOLE
Size: 6 1/4"
Total Depth: 2802'
Pay Zone: 2754-90'

*Cement Top Calculated @ 70% Fillup.

Well data on wells to be converted to injection.

Exhibit D

General American Oil Company of Texas
Southwest Henshaw Waterflood Project
Eddy County, New Mexico

Operator:	General American Oil Company of Texas	General American Oil Company of Texas
Well No.:	Sivley #2	Sivley #7
Location:	660' FSL & FWL Sec. 8-16S-30E	1650' FNL & 2310' FEL Sec. 17-16S-30E
Elevation:	3774' GL	3770' GL
Completion Data:		
Total Depth:	2753'	2802'
PB Total Depth:		
Surface Casing:		
Depth Set:	522'	537'
Size & Wt.:	10 3/4" 32.75#	10.3/4" 32.75#
No. Sacks:	50	50
Production Casing:		
Depth Set:	2734'	2750'
Size & Wt.:	7" 24# & 28#	7" 24# & 28#
No. Sacks:	100	100
Producing Zone:		
Formation:	Premier Sand	Premier Sand
Interval:	2738-50'	2754-90'
Treatment Record:		
Type:	Sand Frac	Sand Frac
Interval:	2734-53'	2750-2802'
Volume:	60,000# 20/40 sand, 4,000# 40/60 sand carried in 35,500 gals of oil. Max. press. 2600#, Min. press. 2300#.	30,000# 40/60 sand, 25,000# 20/40 sand carried in 33,054 gals of oil. Max. press. 2700#, Min. press. 2200#.

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
APPN EXHIBIT NO. A
CASE NO. 3878 : 6

(MOBIL OIL CORP.)
WEST HENSHAW PREMIER SAND UNIT

W. HENSHAW

(GENERAL AMERICAN)
E. HIGH LONESOME PENROSE SAND UNIT

S.W. HENSHAW PREMIER SAND UNIT
(TENNECO OIL COMPANY)

T. 16 S. - R. 30 E.

HOLLIS
HIA CAHOON TEX
SHELL
TAYLOR-FED
TRIGG
FEATHERSTONE
WESTERN VENTURES
PAN AMERICAN
GENERAL AMERICAN & MALCO
FEATHERSTONE-CROSBY
SPENCER-FED
BOSWORTH
BOOKER
HAGERTY-FEDERAL
LEONARD
GENERAL AMERICAN
FED-SIVLEY
FEDERAL
DARCY
SUNRAY
KELLY
MCCLELLAN
SHELL
SMITH
HUMBLE
DONNELLY
HEARD
MAG
NEARBURG
FEDERAL-BOGLE
CONTINENTAL

LEGEND

- S.W. Henshaw Premier Sand Co Op. Flood
- Premier Sand Wells
- Penrose Sand Wells
- San Andres Wells
- Loco Hills Wells
- Approved Injection Wells
- Proposed Injection Wells

2 inj 40's
2 prod 40's
40's
4
4
168

GENERAL AMERICAN
OIL COMPANY OF TEXAS

S.W. HENSHAW CO OP WATER FLOOD
EDDY COUNTY, NEW MEXICO

PRODUCING ZONE MAP

0 3000 6000 9000
SCALE - FEET

Drawn by: GPG (9-6-68)

Exhibit "A"