

CASE 3550: Application of KENNEDY
OIL CO. for a WATERFLOOD PROJECT,
EDDY COUNTY, NEW MEXICO.

CASE No.
3550

Application,
TRANSCRIPTS,
SMALL Exhibits
ETC.

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

June 6, 1967

C

Mr. A. J. Losee
Losee & Stewart
Attorneys at Law
Post Office Box 239
Artesia, New Mexico

O

Dear Sir:

P

Reference is made to Commission Order No. R-3217, recently entered in Case No. 3550, approving the Kennedy Square Lake Waterflood Project No. 2.

Y

Injection is to be through the three authorized water injection wells, with fresh water only being injected down the long casing string, but only after said casing has been tested and found satisfactory at 3000 psi.

As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, and provided all interests in all leases are the same or have been unitized or otherwise consolidated, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 378 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

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

-2-

Mr. A. J. Loses
Loses & Stewart
Attorneys at Law
Artesia, New Mexico

C both of the aforementioned commission offices by letter of any change in the status of wells in the project area, i.e., when active injection commences, when additional injection or producing wells are drilled, when additional wells are acquired through purchase or unitization, when wells have received a response to water injection, etc.

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

Very truly yours,

P

A. L. PORTER, Jr.
Secretary-Director

Y

ALP/DSH/ir

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

Oil Conservation Commission
Drawer DD
Artesia, New Mexico

U. S. Geological Survey
Carper Building
Artesia, New Mexico

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. 3550
Order No. R-3217

APPLICATION OF KENNEDY OIL COMPANY
FOR A WATERFLOOD PROJECT, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 5, 1967,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 11th day of April, 1967, 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, Kennedy Oil Company, seeks permis-
sion to institute a waterflood project in the Square Lake Pool
by the injection of water into the Grayburg-San Andres formations
through three injection wells in Sections 27 and 28, Township 16
South, Range 31 East, NMPM, Eddy County, New Mexico.

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

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

(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.

-2-

CASE No. 3550

Order No. R-3217

IT IS THEREFORE ORDERED:

(1) That the applicant, Kennedy Oil Company, is hereby authorized to institute a waterflood project in the Square Lake Pool by the injection of water into the Grayburg-San Andres formations through the following-described wells in Township 16 South, Range 31 East, NMPM, Eddy County, New Mexico:

Kennedy Oil Company Federal Well No. 2, located in the SW/4 NE/4 of Section 27

Kennedy Oil Company Federal Well No. 4, located in the NW/4 NW/4 of Section 27

Kennedy Oil Company Federal Well No. 1, located in the SE/4 NE/4 of Section 22

(2) That the subject waterflood project is hereby designated the Kennedy Square Lake Waterflood Project No. 2 and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

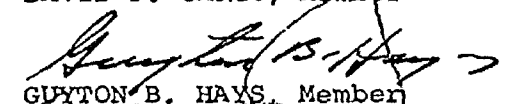
(3) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

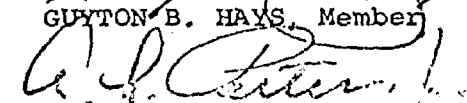
(4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


DAVID F. CARGO, Member


GUYTON B. HAYS, Member


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

S E A L

esr/

State of New Mexico
Oil Conservation Commission



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

Re: Case No. 3550
Order No. R-3217
Applicant:
Kennedy Oil Company

Other

Docket No. 10-67

DOCKET: EXAMINER HEARING- WEDNESDAY- APRIL 5, 1967

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or Elvis A. Utz, Alternate Examiner:

- CASE 3545: Application of John Yuronka and Robert E. Chandler for compulsory pooling, Lea County, New Mexico. Applicants, in the above-styled cause, seek an order force-pooling all mineral interests underlying the S/2 SW/4 and NE/4 SW/4 of Section 7, Township 22 South, Range 38 East, Lea County, New Mexico, from the surface to the base of the Drinkard formation or to 7400 feet, whichever is the lesser, but excluding the Granite Wash; in the alternative applicants seek the force-pooling in the above-described vertical interval underlying the SW/4 SW/4 only of said Section 7.
- CASE 3546: Application of Stoltz & Company for an unorthodox location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the unorthodox location in an undesignated Pennsylvanian gas pool of its Hudson-Federal Well No. 1 at a point 838 feet from the North line and 1650 feet from the West line of Section 4, Township 21 South, Range 29 East, Eddy County, New Mexico.
- CASE 3547: Application of Skelly Oil Company for a waterflood expansion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order amending Order No. R-2900 to expand the waterflood interval authorized by said order to include the entire Grayburg-Jackson producing interval, to permit the conversion to water injection of 18 additional wells in Sections 14, 15, 22, 23, 26, and 27, Township 17 South, Range 31 East, and further to provide for administrative expansion of said project.
- CASE 3548: Application of Sinclair Oil & Gas Company for an unorthodox location, Eddy County, New Mexico. Applicant, in the above-styled-cause, seeks approval of the unorthodox location in an undesignated Pennsylvanian gas pool of its Trigg-Federal Well No. 1 at a point 1980 feet from the North line and 660 feet from the West line of Section 27, Township 18 South, Range 27 East, Eddy County, New Mexico.
- CASE 3549: Application of Tesoro Petroleum Corporation for an unorthodox location, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox location for a well to be drilled 1330 feet from the South line and 2310 feet from the West line of Section 1, Township 17 North, Range 9 West, South Hospah Field, McKinley County, New Mexico.
- CASE 3400 (Reopened)

In the matter of Case No. 3400 being reopened pursuant to the provisions of Order No. R-3064, which order established 160-acre

-2-

Examiner Hearing - April 5, 1967

(Case 3400 continued)

spacing units and a gas-oil ratio of 4000 to 1 for the Big Eddy-Strawn Pool, Eddy 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 or 80-acre spacing units and why the limiting gas-oil ratio should not revert to the Statewide limit of 2000 to one.

CASE 3550: Application of Kennedy Oil Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Grayburg-San Andres formations through three wells located in Sections 27 and 28, Township 16 South, Range 31 East, Square Lake Pool, Eddy County, New Mexico.

A. J. LOSEE
EDWARD B. STEWART

LAW OFFICES
LOSEE AND STEWART
CARPER BUILDING - P. O. DRAWER 239
ARTESIA, NEW MEXICO 88210

21 March 1967

MAIN OFFICE

'67 MAR 26 PM 7 26

AREA CODE 505
746-3508

Case 3550

Mr. A. L. Porter, Jr.
Secretary-Director
New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico

Dear Mr. Porter:

Enclosed herewith you will please find three copies of the Application of Kennedy Oil Company for a waterflood project in the Square Lake Pool, Eddy County, New Mexico, together with one copy of the attached data therein described.

With a carbon copy of this letter we are furnishing Mr. Frank E. Irby, certified mail, return receipt requested, with a copy of the Application and a copy of all of the data therein described.

It is my understanding that this matter has been set for hearing before an Examiner on April 5th.

Very truly yours,


A. J. Losee

Enclosures
AJL:rh

cc: Mr. Frank E. Irby, Chief
Water Rights Division
State Engineer Office
State Capitol
Santa Fe, New Mexico
Certified Mail, Return Receipt
Requested w/ enclosures

Kennedy Oil Company
Box 151
Artesia, New Mexico

RECEIVED
MAR 26 PM 7 26

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION
OF KENNEDY OIL COMPANY FOR A
WATERFLOOD PROJECT, SQUARE LAKE
POOL, EDDY COUNTY, NEW MEXICO

:
:
:
:

No.

3550

APPLICATION

COMES KENNEDY OIL COMPANY, by its attorneys, Losee
and Stewart, and states:

1. That it is the operator of eight producing oil
wells, one abandoned oil well and one nonproducing prora-
tion unit in the Square Lake Pool, Eddy County, New Mexico,
and within the proposed area covered by this Application,
to-wit:

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

Section 22: SW/4 SW/4

Section 27: SW/4 NE/4, S/2 NW/4, NW/4 NW/4

Section 28: NE/4, NE/4 SE/4

containing 400 acres, more or less.

2. There is attached hereto and by reference made
a part hereof, a plat showing the location of the proposed
project area, the wells therein and the location of all
other wells and leases within a radius of two miles from
the proposed project area.

3. The eight producing wells within the proposed
project area have reached an advanced or "stripper" state
of depletion and the Applicant proposes to inject water
into the producing, or once producing, Grayburg and San

Andres formations of the hereinafter described wells, in sufficient quantities and under sufficient pressure to stimulate the production of oil from the wells in the project area; said injection wells being described as follows:

Kennedy-Federal Well No. 1 located in the SE/4 NE/4 of Section 28;

Federal Well No. 4 located in the NW/4 NW/4 of Section 27;

Federal Well No. 2 located in the SW/4 NE/4 of Section 27.

4. There is attached hereto and by reference made a part hereof a copy of the producing portions of the logs of the Kennedy-Federal Well No. 1 and Federal Wells Nos. 2 and 4.

5. There is attached hereto and by reference made a part hereof a diagrammatic sketch of each of the proposed injection wells, including all casing strings, diameters and setting depths, quantities used and tops of cement and perforated and open-hole intervals. The Applicant proposes to pressure test the casing in all three of these wells to a minimum of 3,000 psi before commencing injection. In the event of casing failure or leak the casing will be repaired to enable it to withstand 3,000 psi or injection will be through tubing and packer.

6. The Applicant has contracted for the purchase of water from Yucca Water Company.

7. Applicant proposes to inject water into the injection wells at an initial pressure of between 500 and 2350 psi and at a rate of approximately 100 barrels per day.

8. Applicant proposes to conduct this waterflood

project in accordance with the allowable provisions of Rule No. 701 of the Oil Conservation Commission of New Mexico.

9. The approval of this waterflood project will be in the interest of conservation and will protect correlative rights.

WHEREFORE, Applicant prays the orders of the Commission, as follows:

1. That this matter be set for hearing before an examiner duly appointed by the Commission and that due notice be given thereof as required by law.

2. That after hearing, an order be entered authorizing Applicant to institute the aforesaid waterflood project by the injection of water into the Grayburg and San Andres formations through the three injection wells hereinabove described.

3. And for such other relief as may be just in the premises.

KENNEDY OIL COMPANY

By


A. J. Losee

Losee and Stewart
Attorneys for Applicant
P. O. Drawer 239
Artesia, New Mexico



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

March 27, 1967

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

67 MAR 28 PM 1 20

Case 2550

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

Dear Mr. Porter:

Reference is made to the application of Kennedy Oil Company which seeks authority for a waterflood project in the Square Lake Pool and which proposes to convert 3 wells to water injection service. The 3 wells involved are:

Kennedy-Federal No. 1 located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Sec. 28;

Federal No. 4 located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ of Sec. 27;

Federal No. 2 located in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Sec. 27;

All of which are in Township 16 South, Range 31 East.

From the information given, it appears that if the casing withstands a pressure test of 300 psi in excess of the maximum injection pressure and no corrosive fluids are injected down the casing, no contamination would result.

FEI/ma
cc-Kennedy Oil Co.
F. H. Hennighausen

Yours truly,

S. E. Reynolds
State Engineer

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

Docket No. 10-67

DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 5, 1967

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or Elvis A. Utz, Alternate Examiner:

*James E. Calkins
John J. Chandler*
*Jack E. Freels
Ron Freels
Jerry Moritz*
CASE 3545: Application of John Yuronka and Robert E. Chandler for compulsory pooling, Lea County, New Mexico. Applicants, in the above-styled cause, seek an order force-pooling all mineral interests underlying the S/2 SW/4 and NE/4 SW/4 of Section 7, Township 22 South, Range 38 East, Lea County, New Mexico, from the surface to the base of the Drinkard formation or to 7400 feet, whichever is the lesser, but excluding the Granite Wash; in the alternative applicants seek the force-pooling in the above-described vertical interval underlying the SW/4 SW/4 only of said Section 7.

*Jason R.
J. Yuronka*
CASE 3546: Application of Stoltz & Company for an unorthodox location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the unorthodox location in an undesignated Pennsylvanian gas pool of its Hudson-Federal Well No. 1 at a point 838 feet from the North line and 1650 feet from the West line of Section 4, Township 21 South, Range 29 East, Eddy County, New Mexico.

*Ronald J. Gaylor
J. J. Cox
Larkins Hall*
Paul Engle
CASE 3547: Application of Skelly Oil Company for a waterflood expansion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order amending Order No. R-2900 to expand the waterflood interval authorized by said order to include the entire Grayburg-Jackson producing interval, to permit the conversion to water injection of 18 additional wells in Sections 14, 15, 22, 23, 26, and 27, Township 17 South, Range 31 East, and further to provide for administrative expansion of said project.

*Emmer Koch
R. M. Anderson*
CASE 3548: Application of Sinclair Oil & Gas Company for an unorthodox location, Eddy County, New Mexico. Applicant, in the above-styled-cause, seeks approval of the unorthodox location in an undesignated Pennsylvanian gas pool of its Trigg-Federal Well No. 1 at a point 1980 feet from the North line and 660 feet from the West line of Section 27, Township 18 South, Range 27 East, Eddy County, New Mexico.

1.
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CASE 3400 (Reopened)

*Gregg Hall
Vally Hall
Tom Hall
Joe Perry
Houderman*
In the matter of Case No. 3400 being reopened pursuant to the provisions of Order No. R-3064, which order established 160-acre

-2-

Examiner Hearing - April 5, 1967

(Case 3400 continued)

spacing units and a gas-oil ratio of 4000 to 1 for the Big Eddy-Strawn Pool, Eddy 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 or 80-acre spacing units and why the limiting gas-oil ratio should not revert to the Statewide limit of 2000 to one.

Very Love
Bob Kennedy
CASE 3550: Application of Kennedy Oil Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Grayburg-San Andres formations through three wells located in Sections 27 and 28, Township 16 South, Range 31 East, Square Lake Pool, Eddy County, New Mexico.

KENNEDY OIL COMPANY
ACCUMULATIVE OIL PRODUCTION
PAINTROCK FLOOD EXTENSION
EDDY COUNTY, NEW MEXICO

Proration Unit	Accumulative to 1-1-66	1966 Production	Accumulative to 1-1-67
<u>Sec. 28, T-16S, R-31E</u>			
SW/4 NE/4 Sheldon #4	13,193	2,838	16,031
NE/4 SE/4 Sheldon #5	-0-	-0-	-0-
SE/4 NE/4 Kennedy #1	3,852	614	4,466
NE/4 NE/4 Kennedy #4	18,988	696	19,684
<u>Sec. 27, T-16S, R-31E</u>			
SW/4 NW/4 Federal #1	18,540	980	19,520
SW/4 NE/4 Federal #2	13,625	458	14,083
NW/4 NW/4 Federal #4	6,183	641	6,824
SE/4 NW/4 Trust #1	37,123	3,746	40,869
<u>Sec. 22, T-16S, R-31E</u>			
SW/4 SW/4 Federal #3	13,555	458	14,013

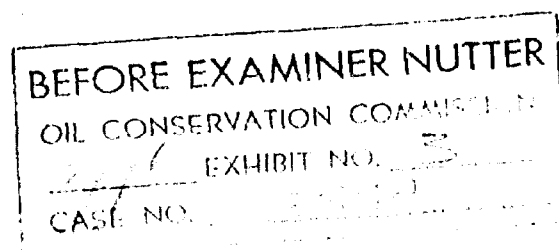
BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Appl EXHIBIT NO. 2
CASE NO. 3550

KENNEDY OIL COMPANY
PAINTROCK FLOOD EXTENSION
EDDY COUNTY, NEW MEXICO

SECTIONS 22, 27 & 28 T-16S, R-31E

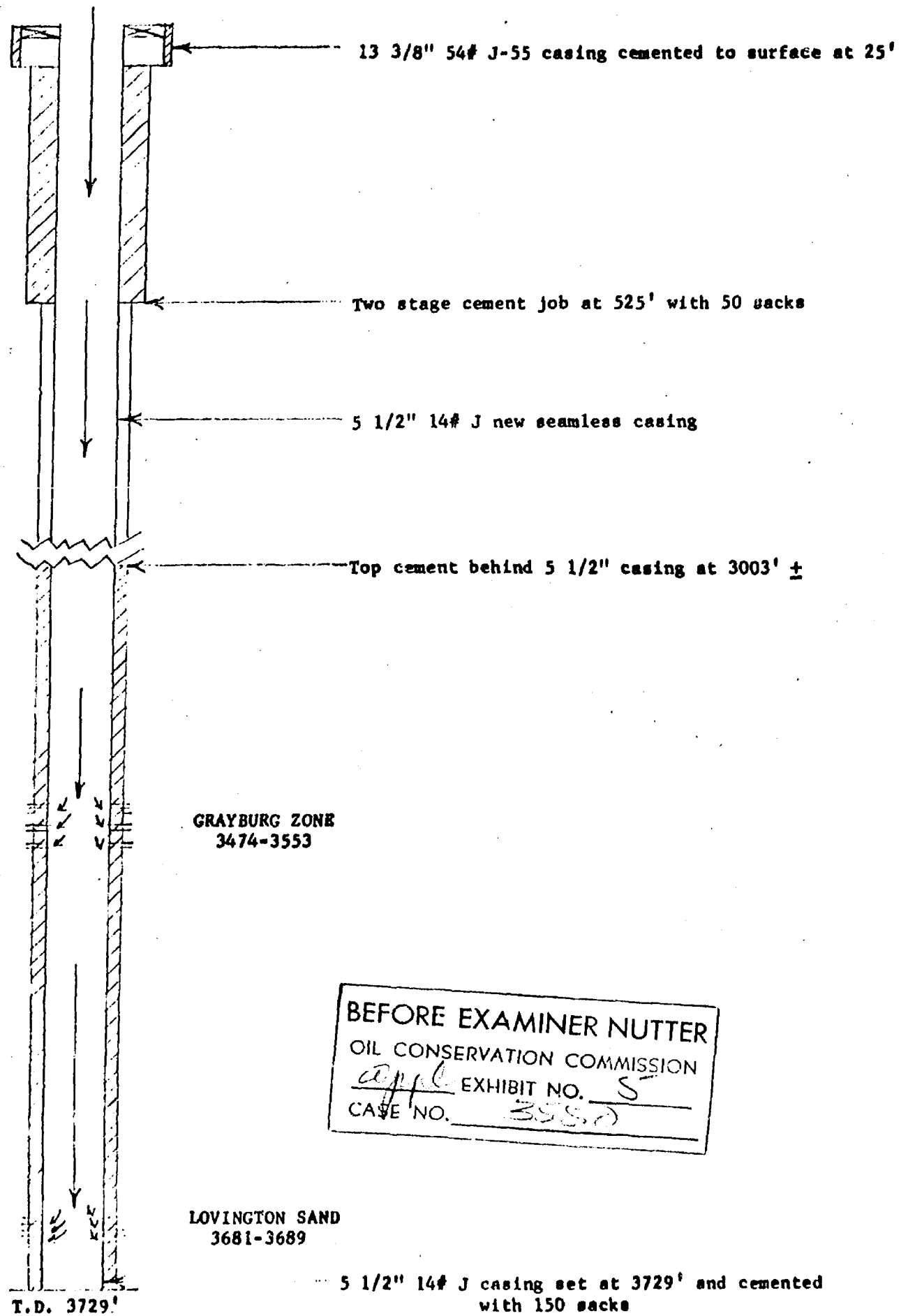
LEASE & WELL NO.	COMPLETION DATE	ELEVATION	T. D.	SIZES	CASING DEPTH	CEMENT	PERFORATIONS
Sheldon #4	5-18-61	4028	3726	8 5/8	736	250	3460-3468
				5 1/2	3726	200	3500-3510 3664-3688
Sheldon #5	Current Reentry	4043	3710	8 5/8 *5 1/2	735 3708	250 150	To be selected
Kennedy Fed. #1	4-29-63	4034	3729	13 3/8	25	22	3474-3478
				5 1/2	3729	200	3536-3538 3545-3547 3551-3553 3681-3689
Kennedy Fed. #4	8-3-60	4050	3746	8 5/8	367	210	3548-3552
				5 1/2	3746	150	3556-3558 3561-3565 3686-3700
Federal #1	4-28-60	4052	3745	9 5/8	363	160	3543-3547
				5 1/2	3745	150	3580-3584 3588-3591 3594-3598 3714-3722
Federal #2	9-10-60	4090	3862	8 5/8	366	150	3550-3557
				5 1/2	3860	150	3641-3644 3654-3660 3682-3692 3803-3815
Federal #3	9-10-60	4062	3788	8 5/8	224	125	3610-3614
				5 1/2	3785	150	3618-3630 3733-3742
Federal #4	2-9-62	4069	3760	8 5/8	423	150	3575-3579
				5 1/2	3760	200	3595-3599 3603-3613 3733-3741
Trust #1	12-20-61	4070	3768	8 5/8	396	150	3579-3583
				5 1/2	3768	200	3592-3596 3614-3616 3622-3624 3626-3630 3733-3755

*Scheduled Program



SCHEMATIC DRAWING OF PROPOSED INJECTION WELL

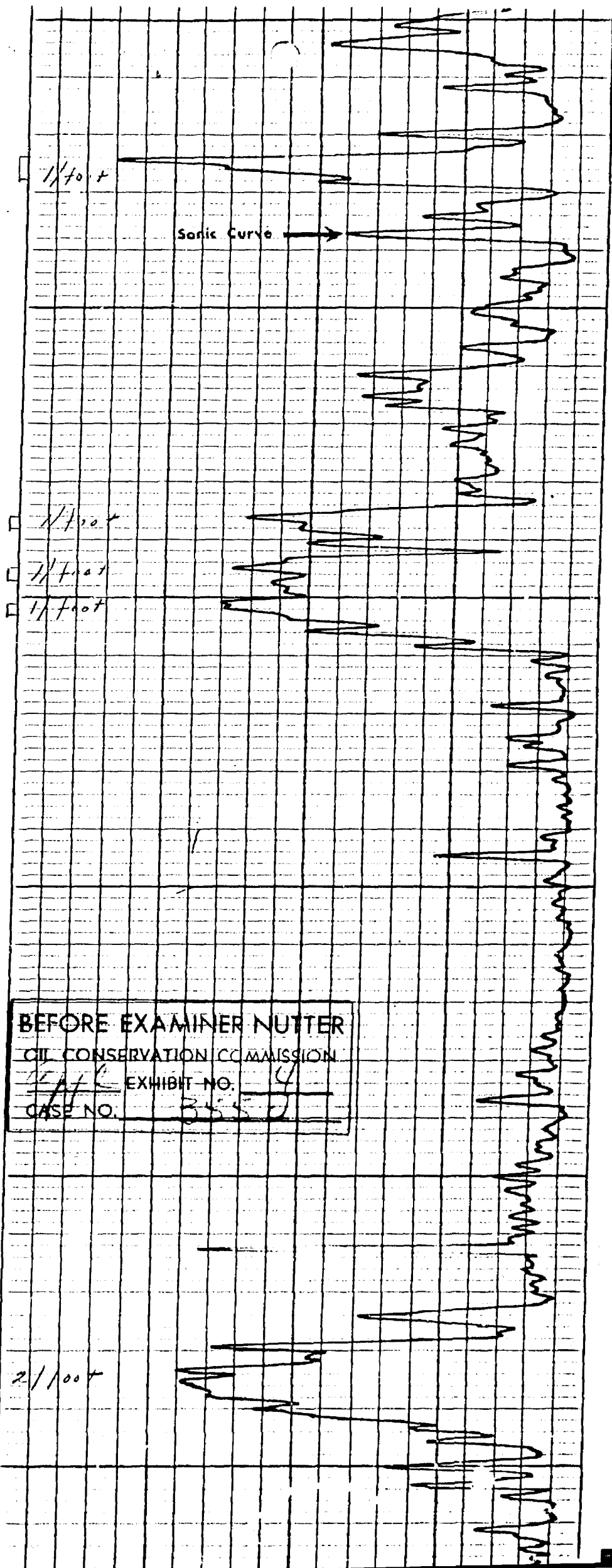
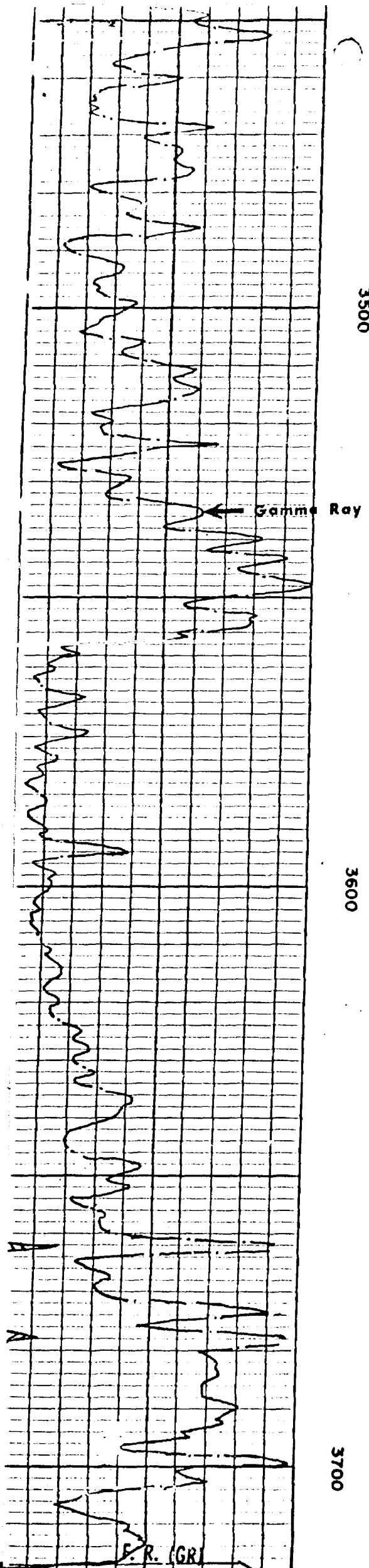
KENNEDY OIL COMPANY - KENNEDY #ED. #1
SE/4 NE/4 SECTION 28, T-16S, R-31E
EDDY COUNTY, NEW MEXICO
SQUARE LAKE POOL

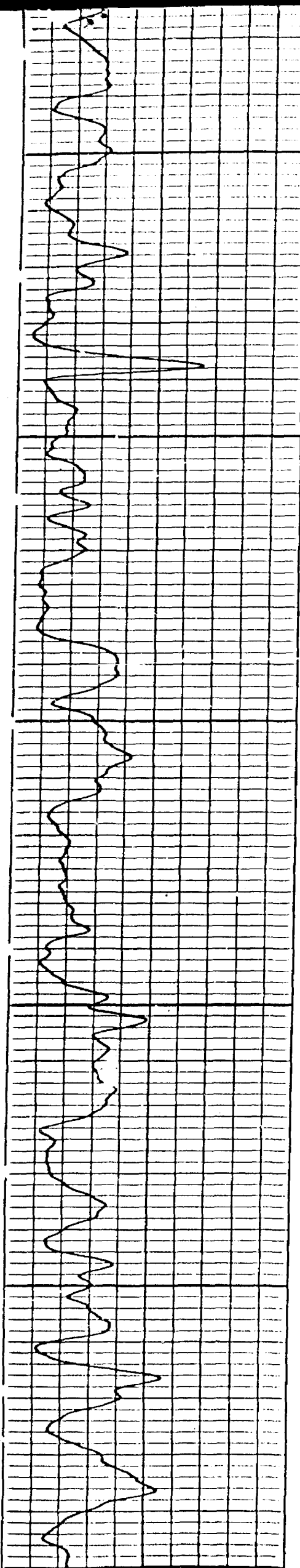


BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
appl EXHIBIT NO. 5
CASE NO. 3580

SCHLUMBERGER**SONIC LOG**SCHLUMBERGER WELL SURVEYING CORPORATION
HOUSTON, TEXAS

COUNTY FIELD or LOCATION WELL COMPANY	SQUARE LAKE KENNEDY FEDERAL #1 KENNEDY OIL COMPANY	COMPANY	KENNEDY OIL		Other Surveys FDL
		COMPANY			
		WELL	KENNEDY FEDERAL #1		Location of Well 1980' FNL 660' FEL
		FIELD	SQUARE LAKE		
		LOCATION	SEC 28-16S-31E		
		COUNTY	EDDY		Elevation: K.B.:
		STATE	NEW MEXICO		D.F.:
					or G.L.: NA
Log Depths Measured From KB 8 Ft. above GL					
RUN No.	ONE				
Date	4-20-63				
First Reading	3722				
Last Reading	3700				
Feet Measured	422				
Csg. Schlum.	--				
Csg. Driller	--				
Depth Reached	3727				
Bottom Driller	3726				
Mud Nat.	STARCH-GEL				
Dens.	Visc.	--	35		
Mud Resist.		.046	@ 80 °F	@ °F	@ °F
" Res. BHT		--	@ 96 °F	@ °F	@ °F
" pH		--	@ °F	@ °F	@ °F
" Wtr. Loss		--	CC 30 min	CC 30 min	CC 30 min
" Rmf		--	@ °F	@ °F	@ °F
Bit Size	7-7/8"				
Spacing:	--				
T3 R1 3 R2	3400	To	3723	To	To
T3 R1 1 R2	3300	To	3722	To	To
Opr. Rig Time	1-HOUR				
Truck No.	2524-ARTESIA				
Recorded By	MILLER				
Witness	KENNEDY				



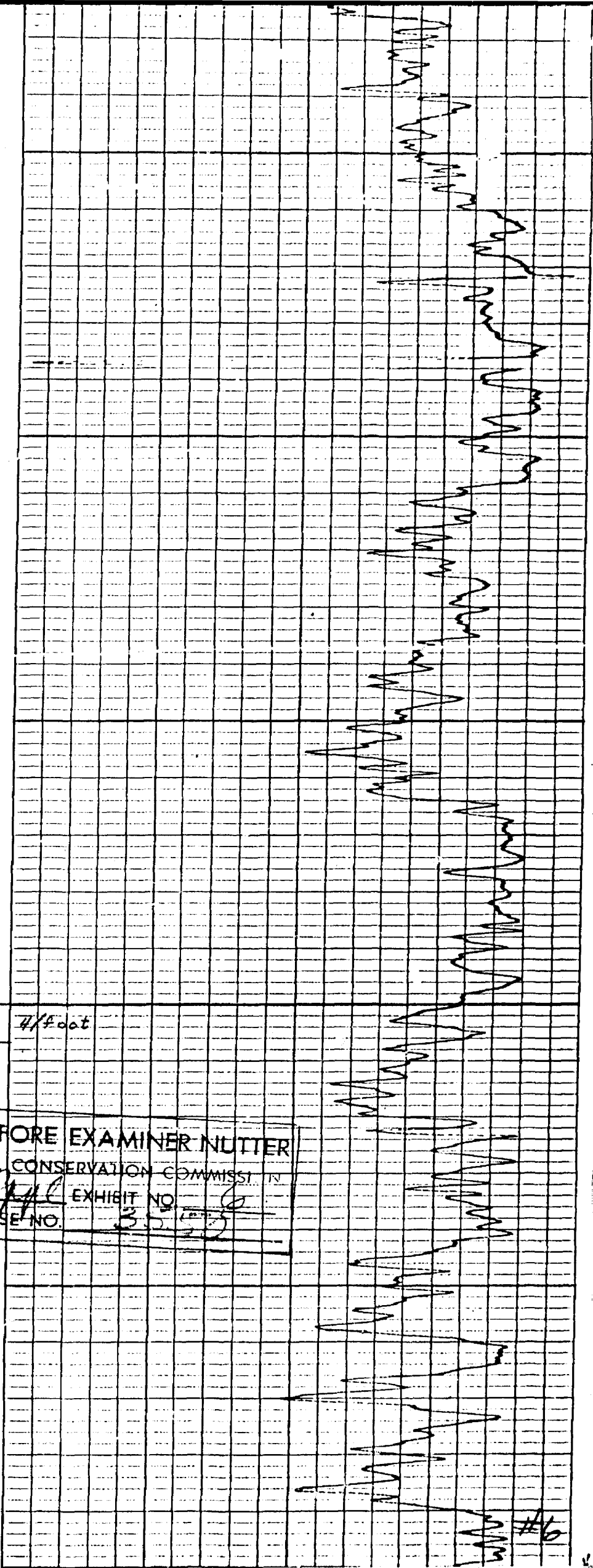


3400

3500

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 10
CASE NO. 2553

4/foot



#6

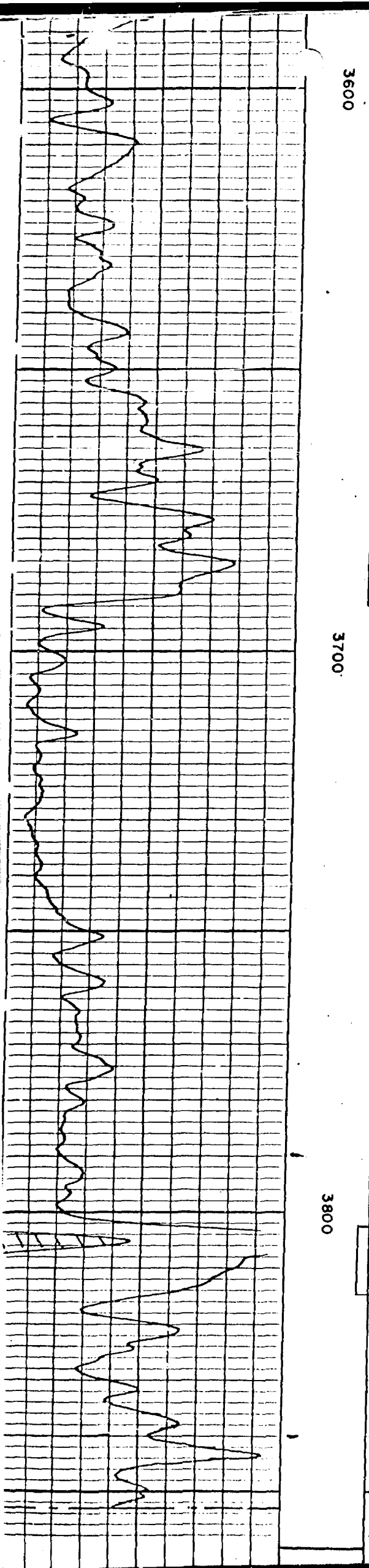
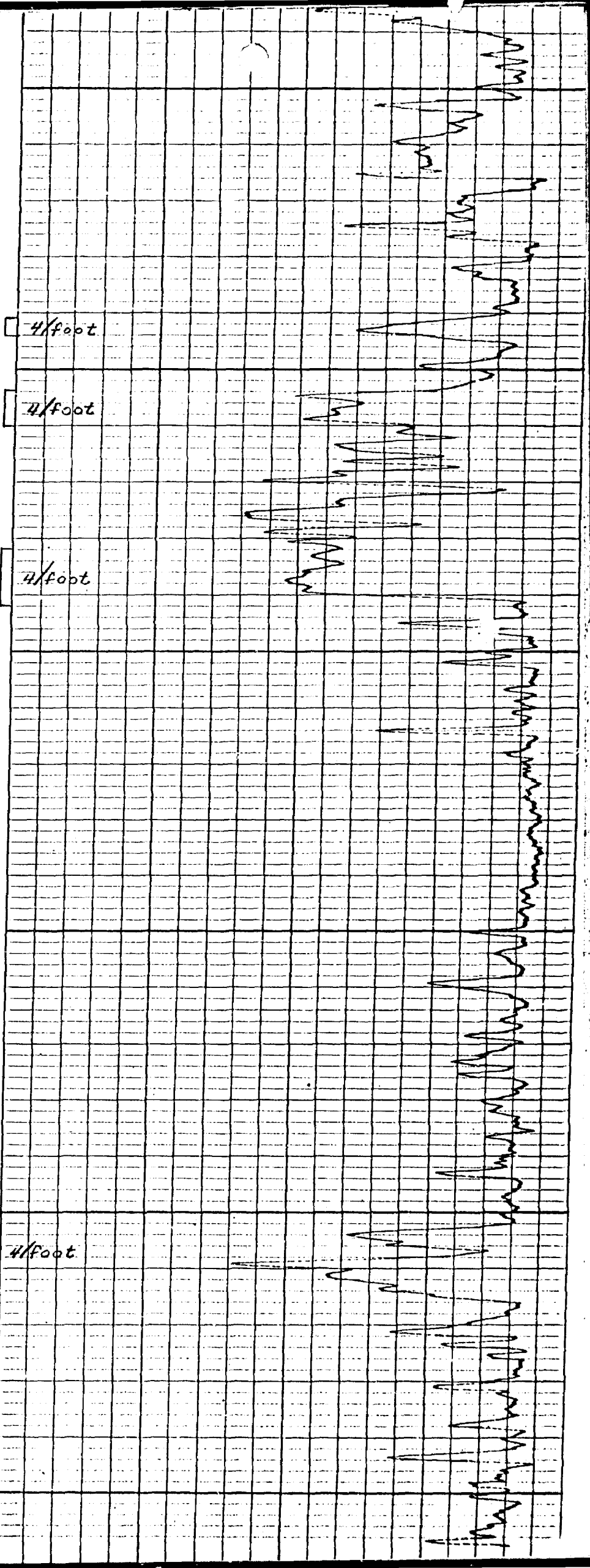


Sonic Log

COUNTY <u>EDDY</u> FIELD or LOCATION <u>SQUARE LAKE POOL</u> WELL <u>FEDERAL #2</u> COMPANY <u>B T A OIL PRODUCERS</u>	COMPANY <u>B T A OIL PRODUCERS</u>	Other Surveys <u>LL, MLL</u>
	WELL <u>FEDERAL #2</u>	Location of Well <u>1980' FN & EL</u>
	FIELD <u>SQUARE LAKE POOL</u>	LOG FILE COPY
	LOCATION <u>SEC. 27-16S-31E</u>	
	COUNTY <u>EDDY</u>	Elevation: K.B.: _____ D.F.: _____ or G.L.: _____
	STATE <u>NEW MEXICO</u>	

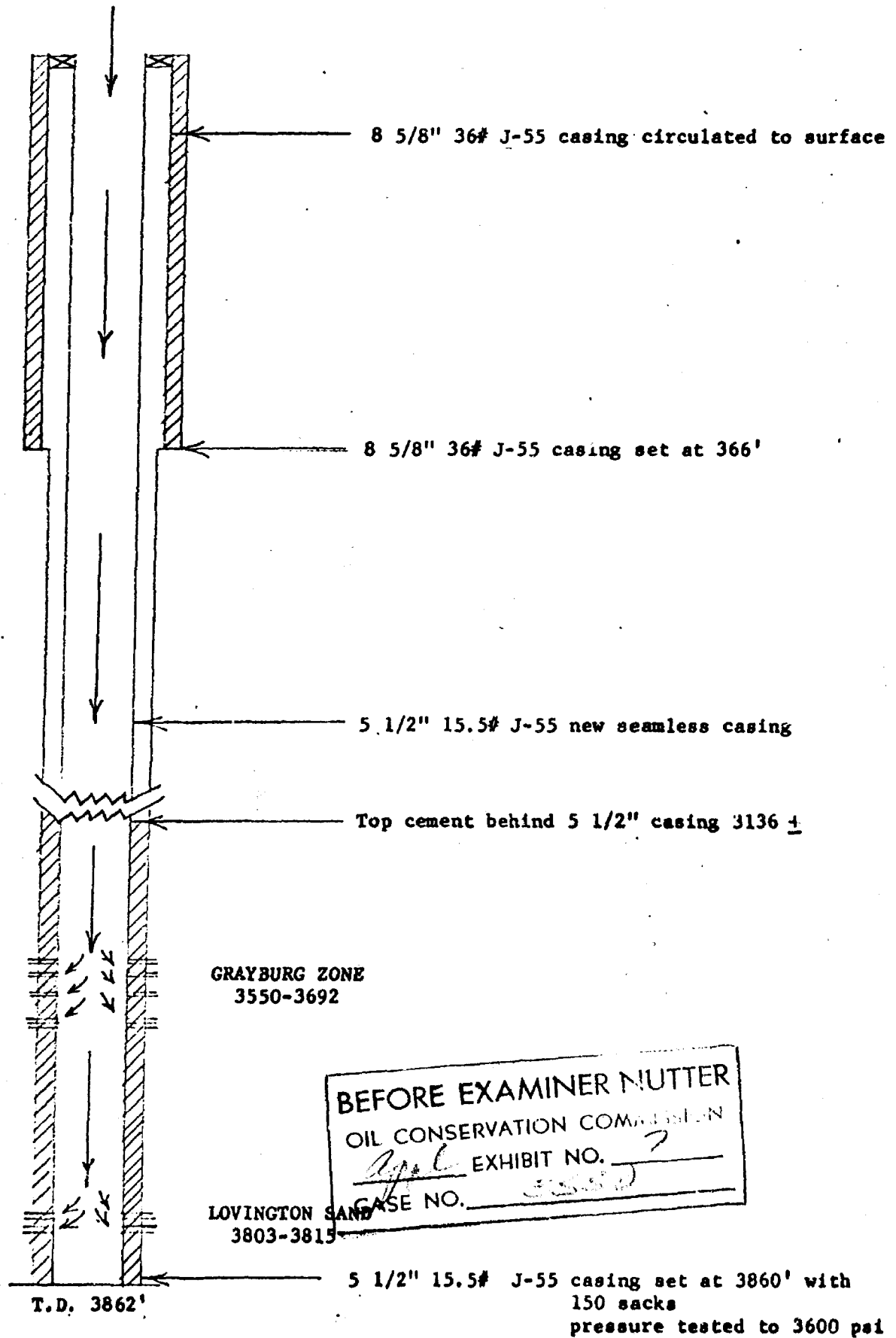
Log Depths Measured From K.B. 10.4 Ft. above GROUND LEVEL

RUN No.	1		
Date	7-6-60		
First Reading	3860		
Last Reading	50		
Feet Measured	3810		
Csg. Schlum.	-		
Csg. Driller	376		
Depth Reached	3863		
Bottom Driller	3861		
Mud Nat.	SALT, GEL, STARCH		
Dens. Visc.	9.8 41		
Mud Resist.	.05 @ 72 °F	@ °F	@ °F
" Res. BHT	.04 @ 90 °F	@ °F	@ °F
" pH	9.0 @ °F	@ °F	@ °F
" Wtr. Loss	10 CC 30 min	CC 30 min	CC 30 min
" Rmf	.03 @ 75 °F	@ °F	@ °F
Bit Size	7 7/8		
Span:			
1'	2860 To 3860	To	To
	CSG To 2860	To	To
Opr. Rig Time	3 HOURS		
Truck No.	1555-ARTESIA		
Recorded By	WHITE		
Witness	WARD		



SCHEMATIC DRAWING OF PROPOSED INJECTION WELL

KENNEDY OIL COMPANY - FEDERAL #
SW/4 NE/4 SECTION 27, T-16S, R-31E
EDDY COUNTY, NEW MEXICO
SQUARE LAKE POOL





GAMMATRON

Simultaneous Gamma Ray & Neutron Log

FILING NO. 126142

COMPANY ~~BTA OIL PRODUCERS~~ KENNEDY OIL CO.WELL ~~TRIST #2~~ FEDERAL # 4

FIELD SQUARE LAKE

COUNTY EDDY STATE NEW MEXICO

LOCATION:

990' FN & W LINES

OTHER SERVICES

SEC. 27 TWP. 16S RGE. 31E

ELEVATIONS:

PERMANENT DATUM GROUND LEVEL ELEV. 4047

KB. 4057

LOG MEASURED FROM 10.0 FT. ABOVE PERMANENT DATUM

DF.

DRILLING MEASURED FROM KELLY BUSHING

GL. 4047

DATE	12-26-61	12-26-61
RUN NO.	ONE	ONE
TYPE LOG	GAMMA RAY	NEUTRON
DEPTH—DRILLER	3758	3758
DEPTH—LOGGER	3750.5	3750.5
BOTTOM LOGGED INTERVAL	3741.5	3749
TOP LOGGED INTERVAL	SURF	SURF
TY. FLUID IN HOLE	OIL	OIL
SALINITY PPM CL		
DENSITY		
LEVEL	FULL	FULL
MAX. REC. TEMP. DEG. F		
OPR. RIG TIME		
RECORDED BY	CLABORN	
WITNESSED BY	MR. NORRIS	

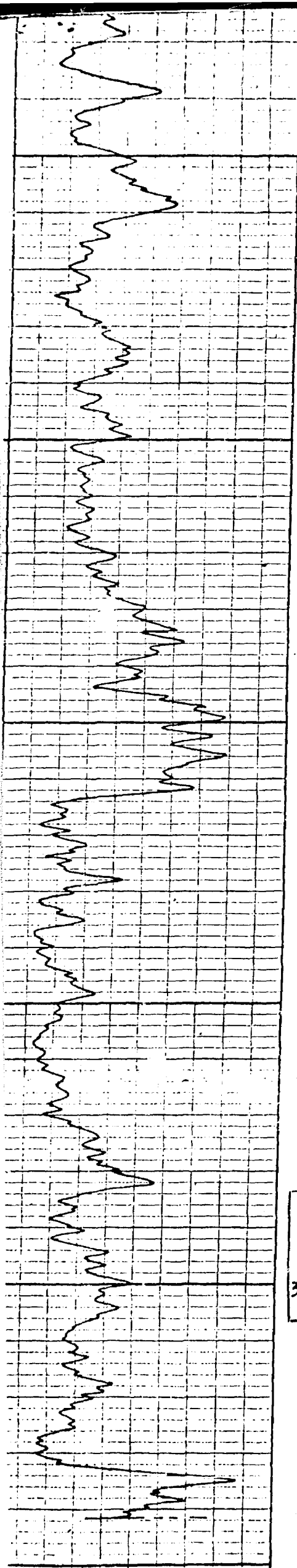
RUN NO.	BORE HOLE RECORD			CASING RECORD			
	BIT	FROM	TO	SIZE	WGT.	FROM	TO
	11	SURF	400	8 5/8		SURF	800
	7 7/8	400	TD	5 1/2	20	SURF	TD

THIS HEADING AND LOG CONFORMS TO API RECOMMENDED STANDARD PRACTICE RP-28

EQUIPMENT DATA

NEUTRON

GAMMA RAY



3500

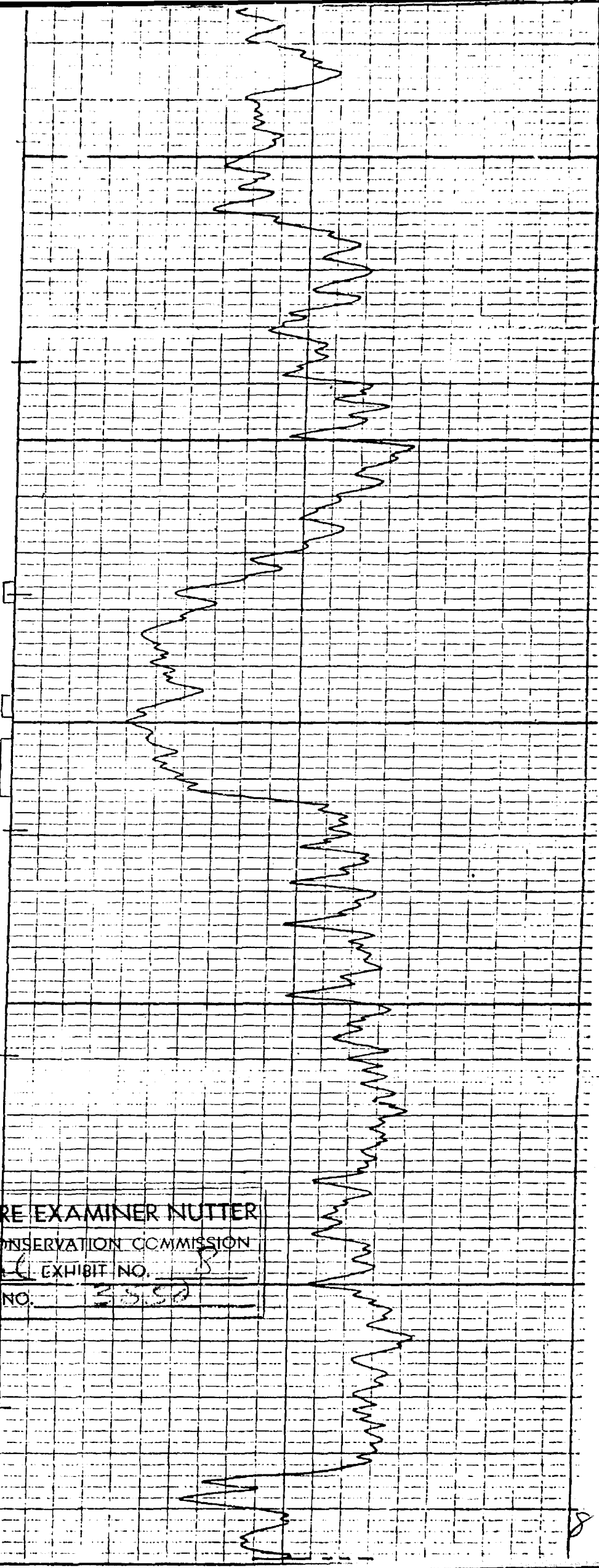
50

3600

50

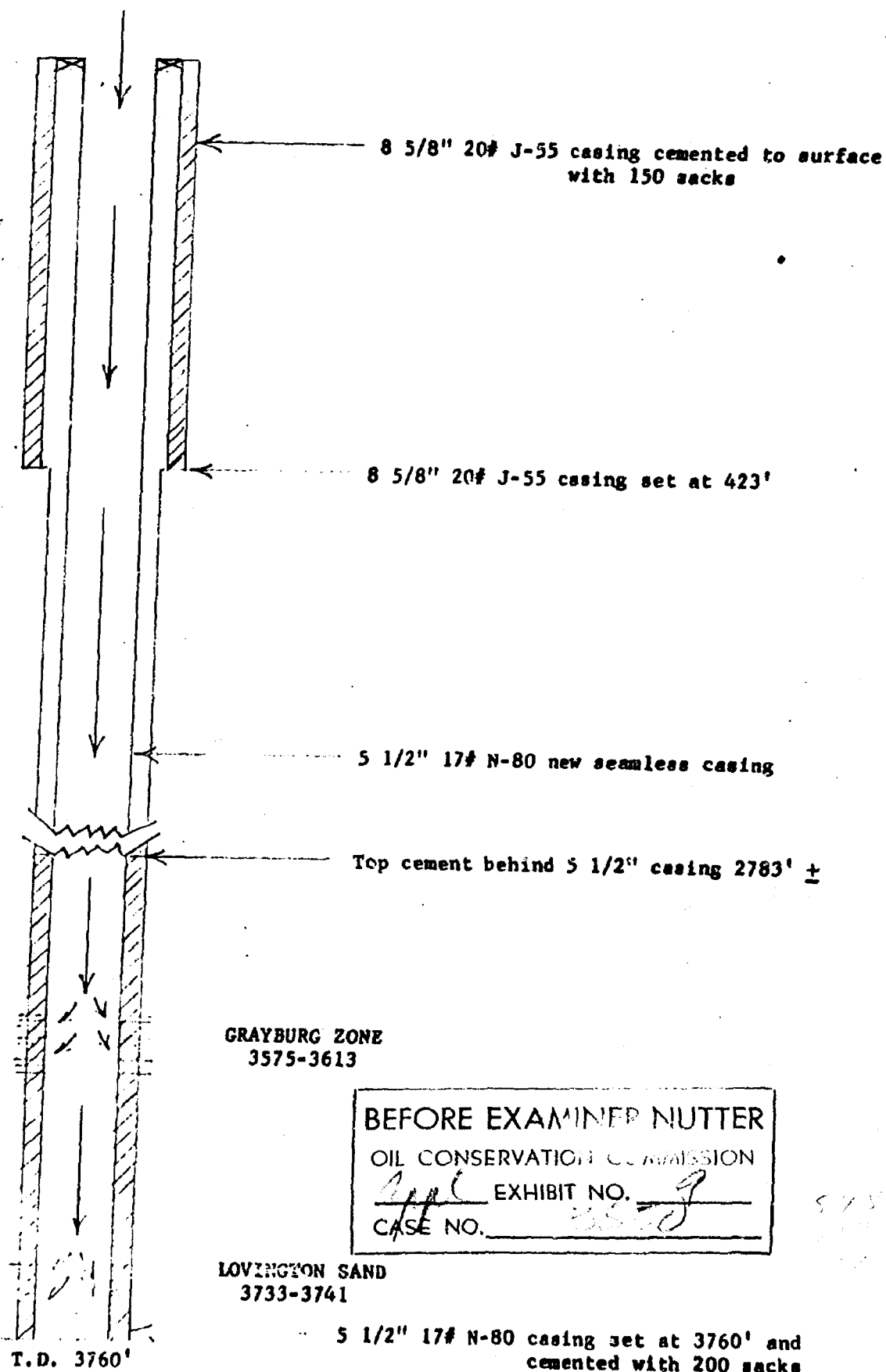
BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3550
CASE NO. 3700

5 1/2"



SCHEMATIC DRAWING OF PROPOSED INJECTION WELL

KENNEDY OIL COMPANY - FEDERAL #4
NW/4 NW/4 SECTION 27, T-16S, R-31E
EDDY COUNTY, NEW MEXICO
SQUARE LAKE POOL



BEFORE EXAMINED NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3
CASE NO. 3575-3613

dearnley-meier reporting service, inc.

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
April 5, 1967

EXAMINER HEARING

IN THE MATTER OF:

Application of Kennedy Oil
Company for a waterflood
project, Eddy County, New
Mexico.

Case No. 3550

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: We will call Case 3550.

MR. HATCH: Case 3550, Application of Kennedy Oil Company for a Waterflood Project, Eddy County, New Mexico.

(Witness sworn.)

ROBERT B. KENNEDY, called as a witness on behalf of the applicant first having been duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. LOSEE:

Q State your name, residence and occupation?

A Robert B. Kennedy, Artesia, New Mexico, Vice President of Kennedy Oil Company.

Q You have previously testified before the Oil Commission?

A Yes, I have.

MR. LOSEE: Are Mr. Kennedy's qualifications acceptable?

MR. NUTTER: They are.

(Whereupon, applicant's Exhibits 1 through 9 were marked for identification)

Q (By Mr. Losee) Mr. Kennedy, please refer to what has been marked Exhibit 1, which is a map of the area of this proposed waterflood project and explain what is shown by the Exhibit?

A On this Exhibit we have our existing waterflood project which is colored and bordered by the green marking.

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The red marking is the extended area of the project that we are now before the Commission on seeking to extend our water flood project. The wells shown are existing producing wells, the circle wells, will be injection wells, if the project is approved. The area covered includes the northeast quarter of Section 28, the northeast of the southeast of Section 28, the southwest, southwest of Section 22, the northwest, northwest of Section 27, the south half of the northwest of Section 27 and the southwest of the northeast quarter of Section 27.

Q Now, this is in the Square Lake Field in Eddy County. From what formations is oil being produced in this field?

A The Grayburg and San Andres.

Q Now, the green area which is the existing waterflood operation of Kennedy Oil Company, has been authorized by two prior orders of the Commission, Order No. R-2358 and R-2920, is that correct?

A That is correct.

Q Now, those floods are operating under capacity allowable by reason of buffer zone treatment, is that correct?

A Until such time as we convert one injection well, which will be our Number 3, Kennedy Federal.

Q But, those orders do authorize that kind of allowable

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production?

A That's right.

Q Now, in this proposed extension, are you asking the Commission for any buffer zone treatment ordinarily to produce under the allowable provisions of 701?

A Produce under the allowable provisions of 701

Q Now, there are seven presently producing wells shown in this area of expansion, is that correct?

A There are eight.

Q There are eight?

MR. NUTTER: Counting the three proposed injection wells, right.

THE WITNESS: Right.

MR. LOSEE: There is one dry hole?

A And that dry hole we are reentering at the present time and we are at a depth of 3470 on it, at the present time.

Q Now, the Square Lake Field is now substantially all under waterflood, is it not?

A The vast majority of it is, of the better production that has been in the Square Lake Pool.

Q Please refer to what has been marked as Exhibit 2, and explain what is shown by this Exhibit?

A Exhibit 2 shows the cumulative production to 1-1, '66 of the wells previously stated and the 1966 production from

each well, and the total cumulative to 1-1, 1967.

Q Now, that covers all of the wells located within this proposed project?

A That is right.

Q Would you go through each well and give the approximate present average daily production?

A The Sheldon No. 4, the average daily production -- do you just want the well number?

Q Yes.

A Sheldon No. 4, the average daily well production, at this moment, is around eleven barrels per day. The Sheldon No. 5 is our current reentry. The Kennedy No. 1 is approximately one barrel per day. The Kennedy No. 4 is shut in at the moment, but its production was three barrels per day from the last test. The Federal No. 1 is producing approximately three barrels per day. Federal No. 2, two barrels per day, the Federal No. 4, two barrels per day, the Trust No. 1, fifteen barrels per day; the Federal No. 3, two barrels per day.

Q In your opinion, have all of the wells in this proposed project area reached an advanced or stripper stage of depletion?

A Yes, they have.

Q Please refer to what has been marked as Exhibit 3 and

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explain what is portrayed, or shown by this Exhibit?

A Exhibit 3 shows the wells again in question giving completion dates, elevation, total depths, casing sizes, depth settings, the amount of cement and the perforations of each individual well.

Q Now, most of these wells were, or all of them, as a matter of fact, were completed between 1960 and 1963?

A That is correct.

Q Are all of these wells producing from both the Grayburg and San Andres?

A They are all open to the Grayburg and San Andres.

Q What zones in the Grayburg are they producing from?

A The Me-tex and Premier?

Q And the San Andres?

A The Lovington-Sand.

Q The Lovington-Sand. Is that true throughout the project?

A That is typical Square Lake Area.

Q Please refer to what has been marked Exhibit 4 and explain what is shown by that Exhibit?

A Exhibit 4 is a sonic log on our Kennedy Federal No. 1 which is a proposed injection well, showing the Grayburg and San Andres and the perforation thereupon.

Q It shows, in effect, the producing intervals --

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A Producing zones, yes.

Q -- in that No. 1 Well?

A Yes.

Q Refer to Exhibit 5.

A Exhibit 5 is the schematic drawing of the proposed Kennedy Federal No. 1, injection well, showing casing where set, the amount of cement, top of cement in the Grayburg and Lovington Sand Zones.

Q How did you determine the cement top?

A Calculated it.

Q How far is it calculated that the cement is above the uppermost perforation?

A 400 feet, or more.

Q Now, this schematic indicates that you propose to inject water down the casing?

A That is correct.

Q And is that true of all of the wells, the three injection wells.

A That is correct.

Q Please refer to what has been marked as Exhibit 6 and explain what is shown?

A Again, Exhibit 6 is the sonic log of our Federal No. 2 Well, which is a proposed injection well, again showing the Grayburg and San Andres formations and the perforations. There

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are two sheets to that.

Q What footage depths are producing, what intervals are producing?

A The interval again is the Grayburg and San Andres, the Me-Tex, Premier and the Lovington Sand Zone.

Q Okay, refer to Exhibit 7 and explain what is shown by this Exhibit?

A Exhibit 7 is a schematic drawing of the Federal No. 2 proposed injection well, again showing the casing sizes, weights and setting depth, calculated top of cement in the Grayburg and Lovington Sand Zones.

Q Again, how far above the uppermost perforations have you calculated the cement?

A In excess of 400 feet.

Q Refer to what has been marked as Exhibit 8 and explain what is shown by this Exhibit.

A Exhibit 8 is a gamma ray, neutron log of our Federal No. 4, which is another proposed injection well, showing the producing intervals and perforations of the Grayburg and San Andres zones.

Q Are those outlined on this log?

A Yes, sir, they are.

Q Refer to what has been marked as Exhibit 9?

A Exhibit 9, again, is a schematic drawing of the

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proposed injection well, Kennedy Federal No. 4 showing casing sizes, weights, depth set, calculated top of cement in the Grayburg and Lovington Sand Zone intervals.

Q Again, how far above the uppermost perforation have you calculated the cement?

A In excess of 400 feet.

Q Mr. Kennedy, in these three proposed injection wells, was the casing new or used when run?

A To the best of my knowledge, it was all new. These were, two of these wells were purchase wells. To the best of my knowledge they were new. It wasn't all the way.

Q At what rate do you propose to inject water into these wells into the formations?

A Approximately 100 barrels of water per day.

Q At what pressures?

A Again, that will depend upon the well and type of zone, anywhere from 500 to 2350 pounds per square inch.

Q Before you commence injection in these wells, will you conduct any tests to determine the pressure at which the casing will stand?

A We will run a packer on tubing and test the casing at two or three thousand pounds.

Q If a leak occurs, in the casing, what procedure would you follow?

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A We will automatically set a packer and inject through tubing.

Q Would you repair the leak, if you could find it?

A If feasible.

Q From what source do you propose to obtain water?

A The Yucca Water Company.

Q Do you know where their wells are located that will furnish this project?

A They are on top of the Caprock in Lea County.

Q Will this water be treated?

A It is partially treated.

Q Actually, Newmont is treating it?

A Newmont, it is going through Newmont's system.

Q What do you estimate the life of this secondary recovery project in this expanded area to be?

A Roughly, it depends on economics, but we would say seven to eight years.

Q Do you have an opinion as to the volume of oil that would be recovered by this waterflood operation in this area?

A In excess of 100,000 barrels on this extension.

Q Now, is this 100,000 barrels of oil that could not be recovered by primary methods?

A That's right. We are approaching the stripper stage of production.

Q In your opinion, will this proposed expansion of the waterflood project prevent waste and protect correlative rights?

A Yes, it will.

Q Were these Exhibits 1 through 9 prepared by you or under your direction?

A Yes, they were.

MR. LOSEE: The applicant offers Exhibits 1 through 9.

MR. NUTTER: Applicants' Exhibits 1 through 9 will be admitted in evidence.

(Whereupon Applicant's Exhibits
1 through 9 were admitted in
evidence.)

MR. LOSEE: That is our direct testimony, Mr.
Examiner.

MR. NUTTER: Are there any questions of Mr. Kennedy?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Kennedy, what did you say your injection pressure will range from?

A From 500 to 2350.

Q Are these typical pressures of other wells that are on injection in that area?

A That's right. In other words, I mean initially they're going to start short and it will go on up to 2350.

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Q Is the 2350 the maximum that has been encountered in any of the wells in the area?

A That is the top pressure that is available off of the system we are drawing from.

Q I see and your injection rate will be approximately 100 barrels per day, per well?

A 100 barrels, yes, sir.

Q Now, when you calculated these cement tops, you have the size of your pipe here. I don't see the size of the hole. What size hole was drilled?

A Seven and seven-eighths.

Q Is this assuming a 100% fillup?

A 90%.

Q 90%, What about produced water, Mr. Kennedy, what do you do with that?

A At the present time, our produced water on a prior project is put into a surface pit.

Q Is it your intent to re-cycle any of this produced water?

A We have an agreement with Newmont Oil Company, if lines are laid to re-cycle; we can tie into their system.

Q If they lay lines?

A Right.

Q Are they re-cycling any of their reproduced water

at this time?

A I'm not fully aware of whether they are or not, not to my knowledge.

Q Now, taking one of these typical logs here, we will say Exhibit No. 6, it has got three sets of perforations, are the perforations there at 3500 -- have you got your Exhibit 6?

A Yes, I do.

Q The perforations there at 3500, is that the Me-Tex?

A Yes, that is the Me-Tex.

Q And then on the next page, I presume these perforations between 36 and 3700 would be the Premier?

A That would be the Premier, yes.

Q And then, this is the --

A Lovington.

Q --Lovington; down at 3800?

A Yes, sir.

MR. NUTTER: Are there any other questions of Mr. Kennedy? He may be excused.

(Witness excused)

MR. NUTTER: Do you have anything further, Mr. Losee?

MR. LOSEE: No, sir.

MR. NUTTER: Does anyone have anything they wish to

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offer in Case 3550?

MR. HATCH: I have a letter from the State Engineer's office, dated March 27th, 1967. I will just read the last paragraph. "From the information given, it appears that if the casing withstands a pressure test of 300 pounds per square inch, in excess of the maximum injection pressure and no corrosive fluids are injected down the casing, no contamination would result. Signed by Frank E. Irby for the State Engineer's Office."

RECROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Kennedy, in the event that you do start re-cycling water with that produced water, that would be water that could be classified as corrosive, would it not? The produced water would be salt water, wouldn't it?

A There would be salt water mixed with it.

Q In the event that re-cycling does occur, there may have to be some other means taken than of injecting into the wells?

A To comply with Mr. Irby's request?

Q Yes, sir.

A We would have to toe the line, wouldn't we?

Q You might have to have some tubing?

A Right.

(Whereupon the hearing was concluded)

I, JERRY POTTS, Notary Public 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.

James P. Rath
Notary Public

July 10, 1970

I hereby certify that the foregoing is
a true and correct copy of the proceedings in
the above hearing of Case No. **3550**
heard by me on **4/5**, 19**67**.

[Signature] Examiner
New Mexico Oil Conservation Commission

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n Jerry Rosee

Case 3550

Kennedy Oil Co

Wt Fld Proj Eddy

in Sq Lake

inj into AB & S.A. zone

R-2920

3 wells 27 & 28, 16 S 31 E