



THE WESTERN COMPANY
GAMMATRON
Simultaneous Nuclear Log

FILING NO. 96132

COMPANY J.C. WILLIAMSON
WELL WESTATE FEDERAL # 6
FIELD JUSTIS
COUNTY LEA STATE NEW MEXICO

LOCATION:

BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

EXHIBIT NO. 2

CASE NO. 2737

SEC. 1 TWP. 27 RGE. 7

OTHER SERVICES:

ELEVATIONS

PERMANENT DATUM	G.L.	ELEV.	KB	DF	GL
LOG MEASURED FROM	11	FT. ABOVE PERMANENT DATUM			
DRILLING MEASURED FROM	K.B.				
DATE	9-26-61	9-26-61			
RUN NO.	ONE	ONE			
TYPE LOG	DEPTH CONTROL				
DEPTH—DRILLER	8450	8450			
DEPTH—LOGGER	8461.5	8461.5			
BOTTOM LOGGED INTERVAL	8452.5	8460			
TOP LOGGED INTERVAL	6800	6800			
TYPE FLUID IN HOLE	WATER	WATER			
SALINITY ppm CL					

CORE ANALYSIS

COMPANY Gulf Oil Corporation
FEE Federal-Estill "AD" WELL NO 2
FIELD Undesignated
LOCATION 2400' FNL & 2440' FEL, Sec. 20
T24S, R26E
COUNTY Eddy STATE New Mexico

ELEVATION 3379' G.L.; 3396' D.P.; 3398' K.
DRILLING FLUID Water Base Mud
FORMATION _____
TYPE OF CORE Diamond (2-5/8")
ANALYST JMB, BT SERVICE "C"
LAB NO H-266 DATE 7-25-60

THESE ANALYSES ARE BASED UPON ACCEPTED LABORATORY TECHNIQUES. THE OPINIONS ADVANCED REPRESENT OUR BEST JUDGMENT IN INTERPRETATION OF THE RESULTS BUT NO WARRANTY IS EXPRESSED OR IMPLIED.

G-GAS

F-FRACTURED

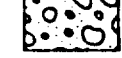
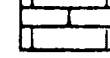
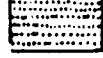
SAND

LIMESTONE

GRANITE WASH

O-OIL

P-PIN POINT POROSITY



T-TRANSITIONAL

V-VUGULAR



W-WATER

S-STYLOLITIC

* Permeability predominantly through fractures.

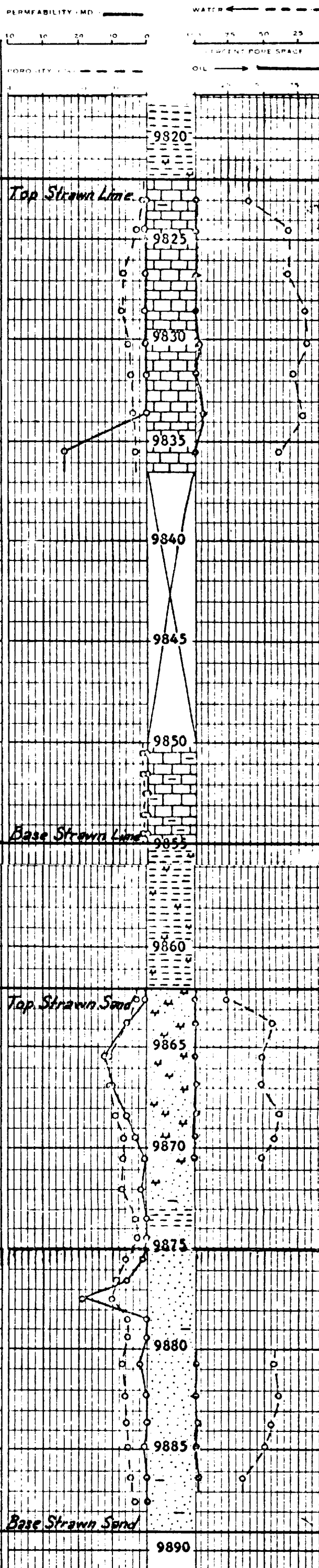
** Samples analyzed after initial report was issued.

TABULAR PRESENTATION

GRAPHICAL PRESENTATION

FULL DIAMETER CORE ANALYSIS

SAMPLE NO	DEPTH OF SAMPLE	POROSITY (%)	PERMEABILITY (millidarcys)		SATURATION DATA (% pore space)		PHORABLE FLUID
			HORIZONTAL OR MAXIMUM	VERTICAL OR MIN TO MAX	OIL	TOTAL WATER	
1	9822.0-24.0	1.1	<0.1	<0.1	Trace	61.1	
2	9824.0-25.7	3.1	0.9*	0.4	Trace	31.4	
3	9825.7-27.5	6.8	0.4	0.3	Trace	32.3	
4	9827.5-29.3	7.1	0.6	0.4	Trace	20.4	
5	9829.3-31.0	5.7	0.2	0.1	4.3	19.2	
6	9831.0-32.7	4.7	0.1	<0.1	Trace	28.8	
7	9832.7-34.5	4.2	0.1	<0.1	6.3	21.9	
8	9834.5-36.5	3.6	24*	<0.1	Trace	38.5	✓
9**	9850.0-51.0	0.9	<0.1	<0.1			
10**	9851.0-52.0	1.0	<0.1	<0.1			
11**	9852.0-53.0	0.6	<0.1	<0.1			
12**	9853.0-54.0	1.2	<0.1	<0.1			
13**	9854.0-55.0	1.1	<0.1	<0.1			
14	9862.0-63.0	2.4	0.4*	<0.1	0.0	76.4	✓
15	9863.0-64.7	5.8	5.9*	3.6	0.0	44.0	✓
16	9864.7-66.2	10.8	12*	3.4	0.0	51.4	✓
17	9866.2-67.7	10.6	10*	2.7	1.6	51.4	✓
18	9867.7-69.0	9.1	5.5	3.5	1.8	37.7	✓
19	9869.0-70.0	6.3	2.9	2.8	Trace	40.6	✓
20	9870.0-71.0	6.4	0.2	<0.1	Trace	51.6	
21	9871.0-73.0	6.9	1.7	1.3			
22	9873.0-74.0	3.3	<0.1	<0.1			
23	9874.0-75.0	2.6	<0.1	<0.1			
24**	9875.0-76.0	6.1	1.6	1.4			✓
25**	9876.0-77.0	9.2	5.9	5.0			✓
26**	9877.0-78.0	10.1	19*	17*			✓
27**	9878.0-79.0	5.8	0.3	0.2			
28**	9879.0-80.0	5.5	0.3	0.1			
29	9880.0-81.6	7.2	2.0	1.6	Trace	43.0	✓
30	9881.6-83.1	6.5	0.2	<0.1	Trace	39.4	
31	9883.1-84.3	6.0	0.1	0.1	2.7	45.0	
32	9884.3-85.6	5.5	0.8	0.1	Trace	50.0	
33	9885.6-87.0	4.7	<0.1	<0.1	3.3	65.5	
34	9887.0-88.0	3.3	<0.1	<0.1			

Case No. 2737 (Continued)Exhibit No. 2

GULF OIL CORP.

Federal-Estill "AD" No. 2

Sec. 20 T24S R26E

GULF OIL CORP.

Federal-Estill "AD" No. 1

Sec. 29 T24S R26E

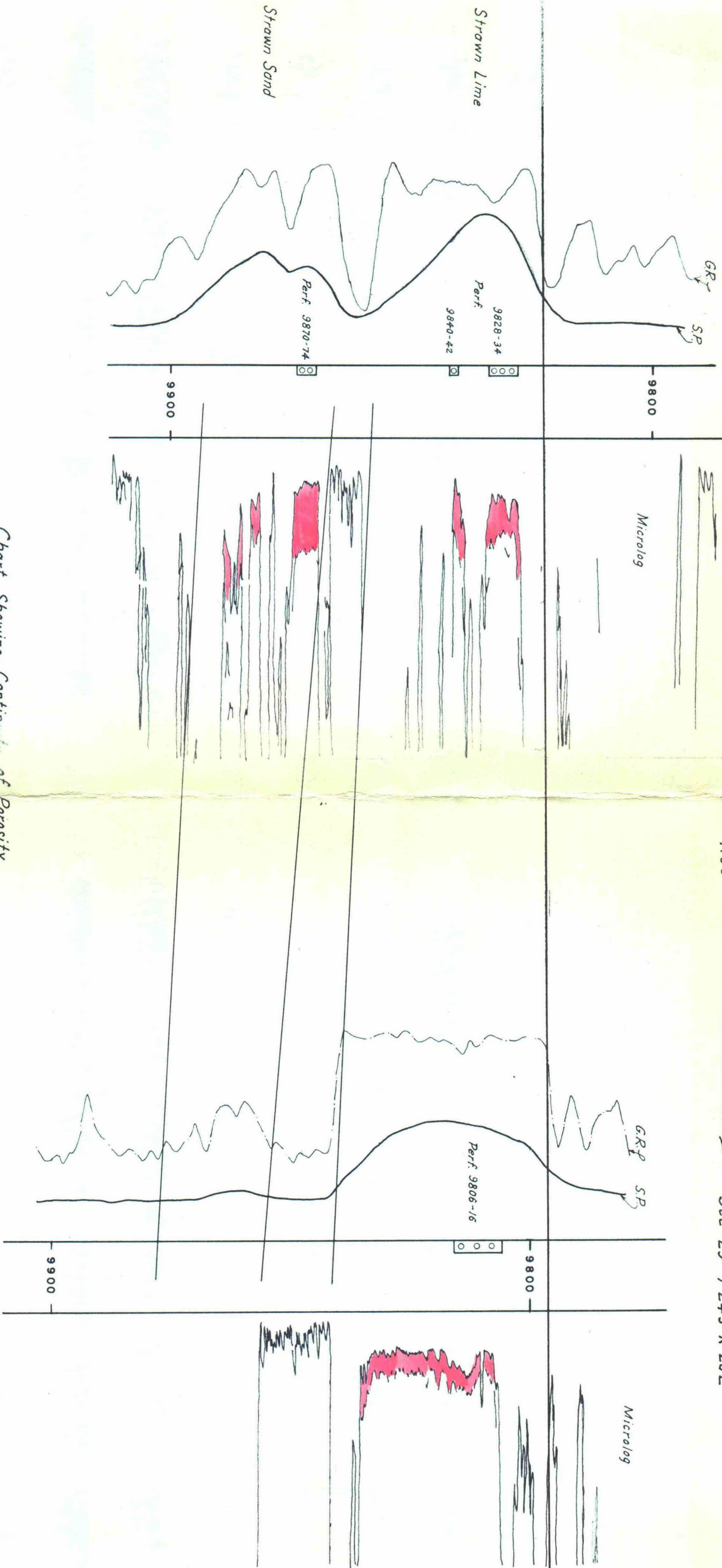


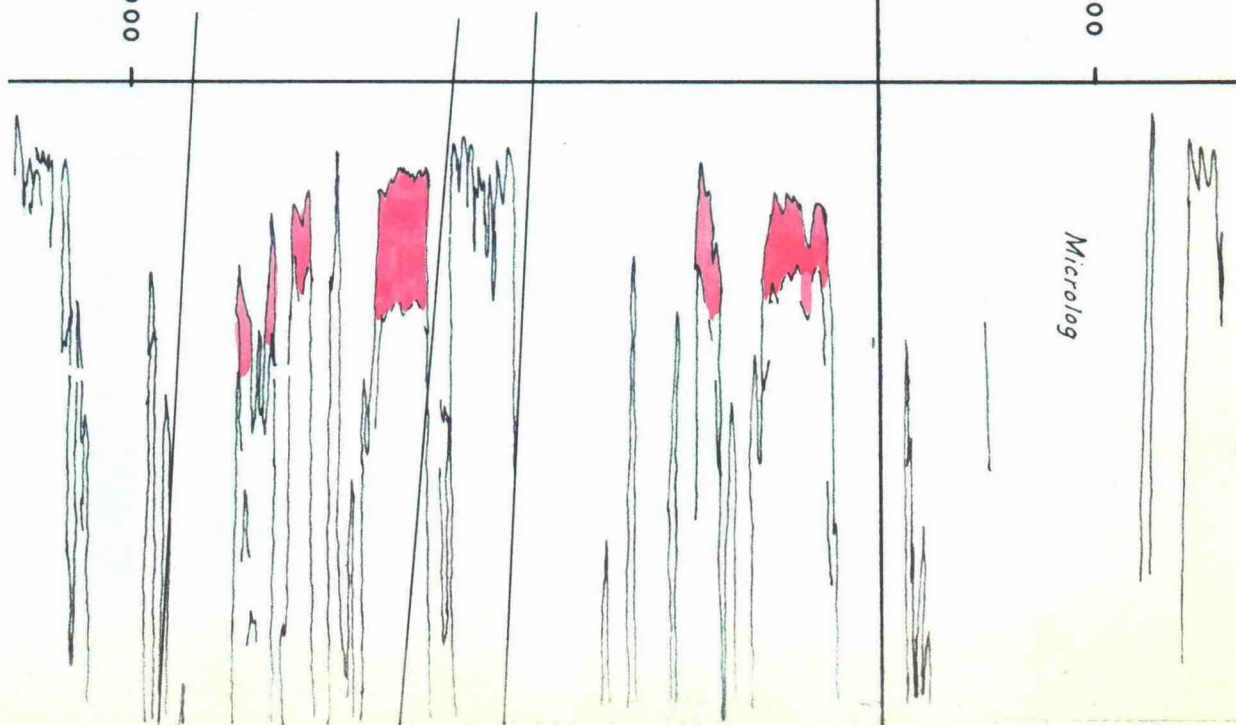
Chart Showing Continuity of Porosity
in the Strawn Lime Pay

Case No. 2737 (Continued)

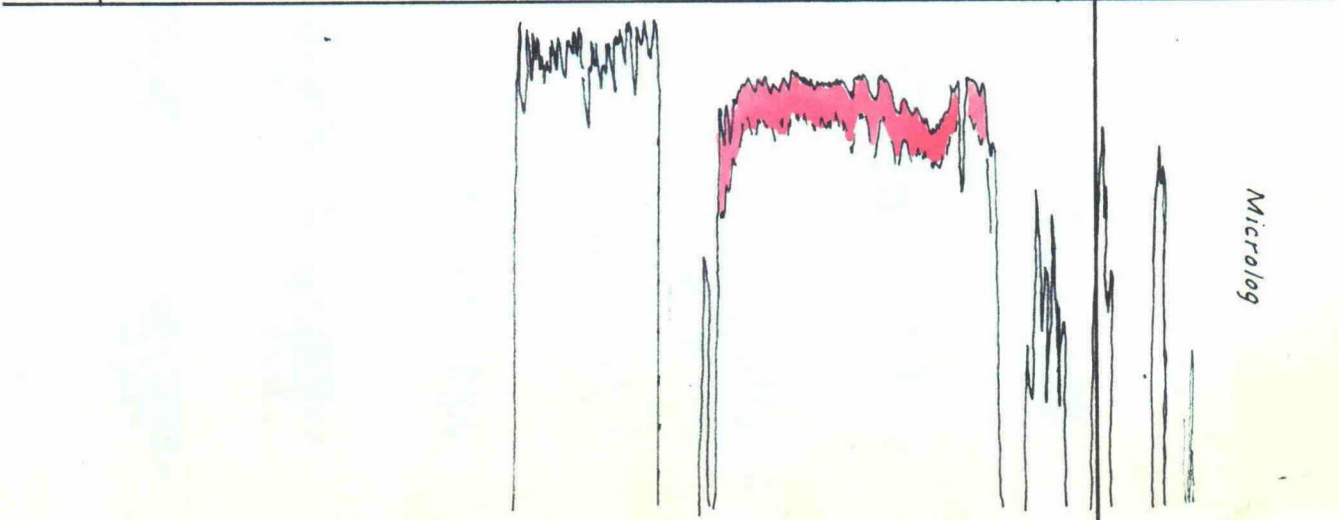
Exhibit No. 3

Federal-Estill "AD" No. 2

Sec. 20 T24S R26E



GULF OIL CORP.
Federal-Estill "AD" No. 1
Sec 29 T 24S R 26E



Case No. 2737 (Continued)
Exhibit No. 3

Exhibit No. 3

GULF OIL CORP.

Federal-Estill "AD" No. 2

Sec. 20 T24S R26E

GULF OIL CORP.

Federal-Estill "AD" No. 1

Sec. 29 T24S R26E

4100'

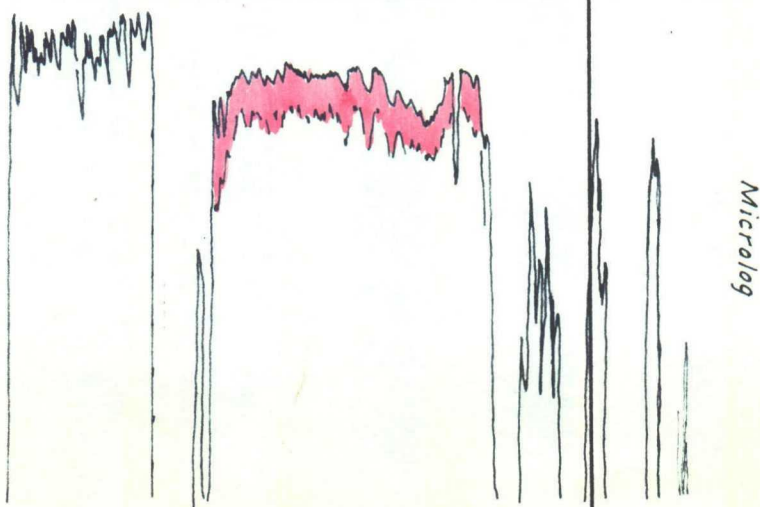
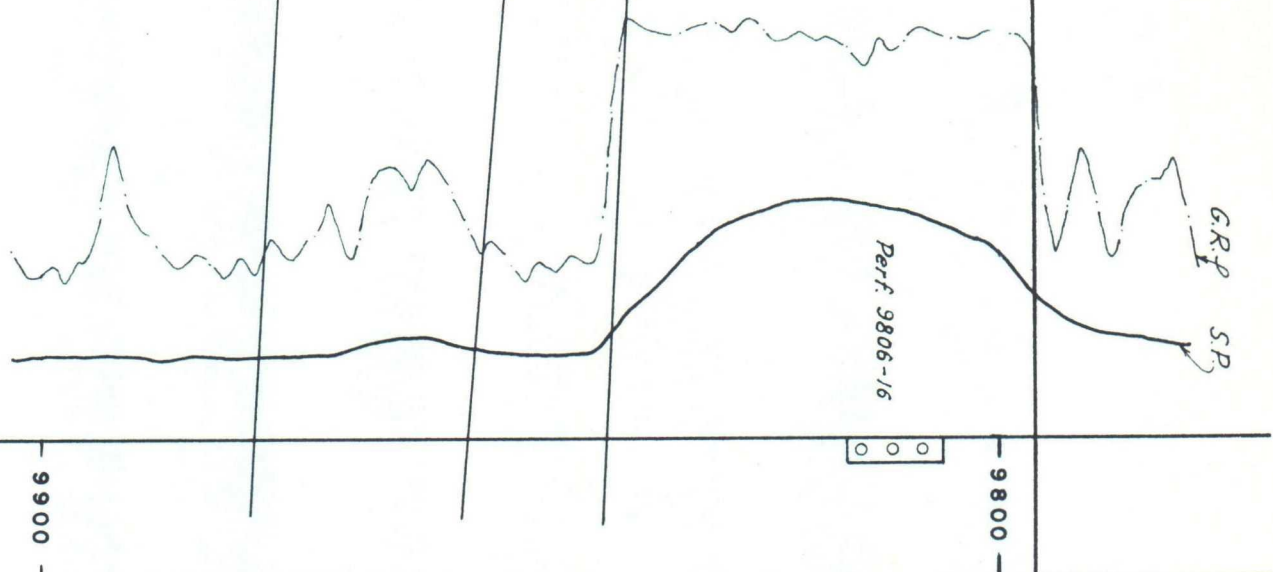
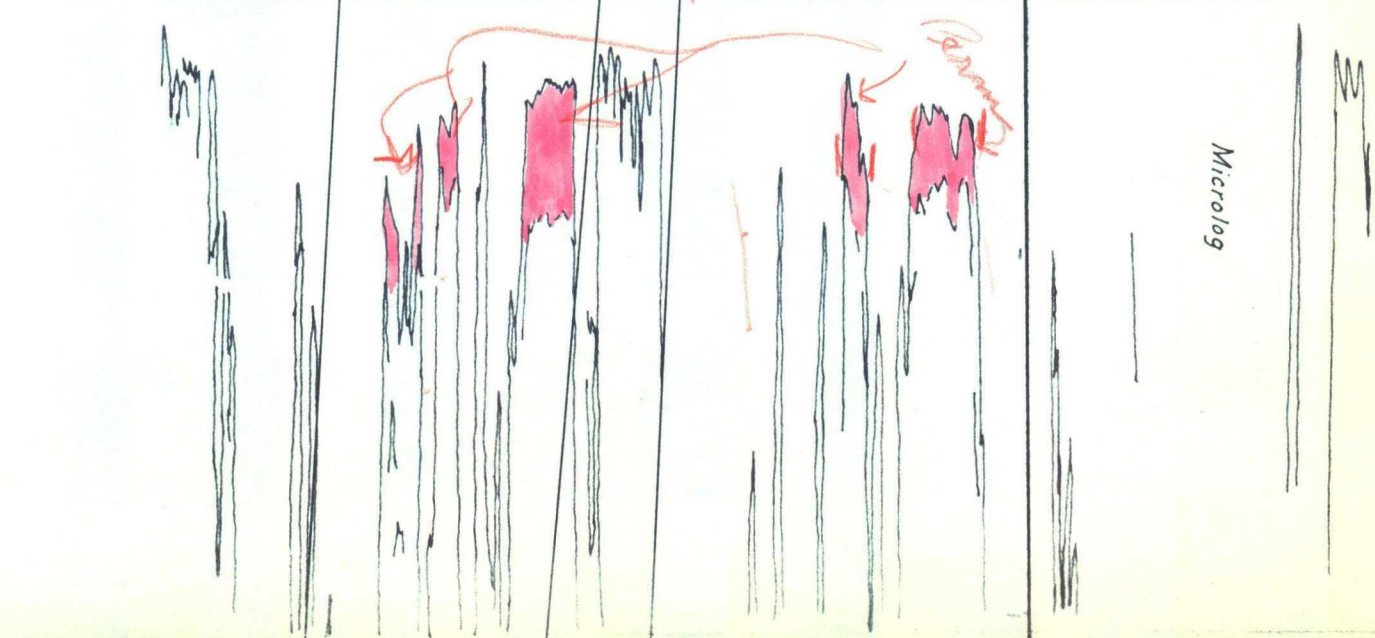
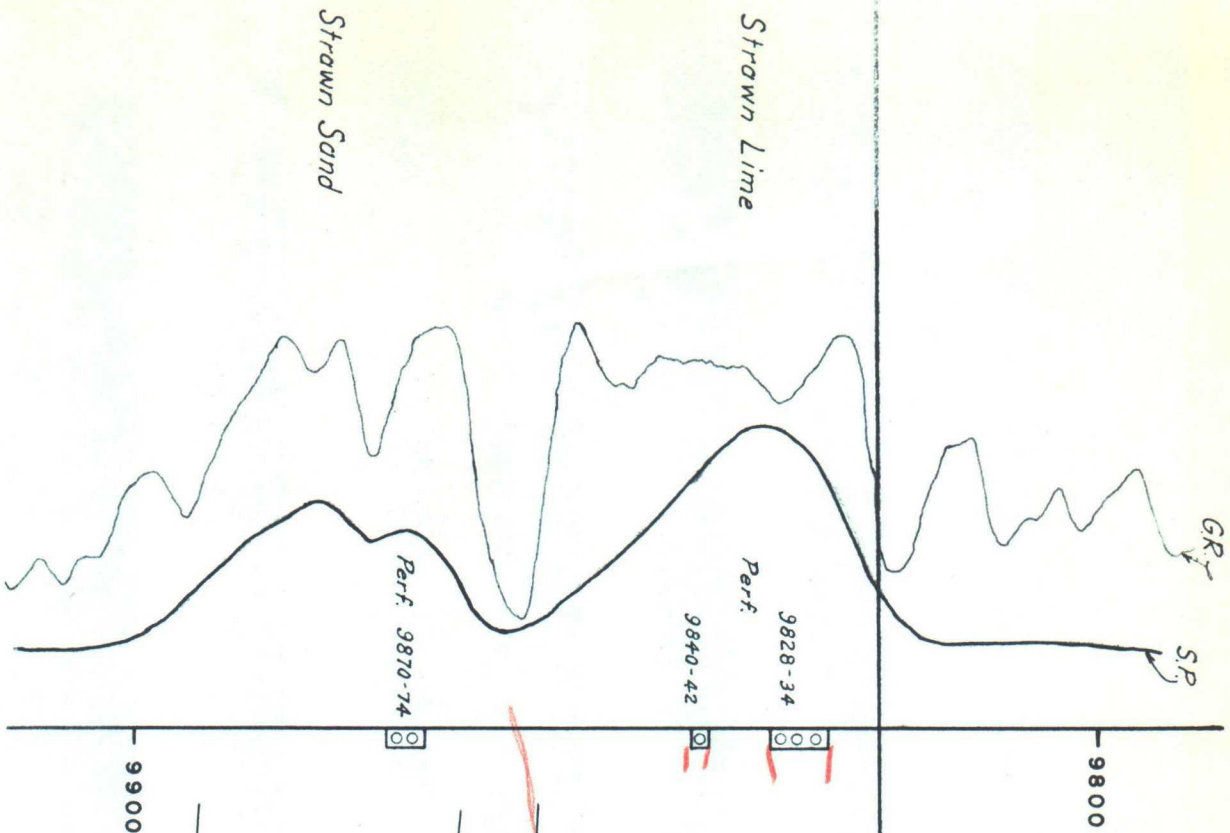


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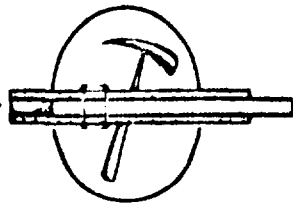
Exhibit No. 3

RILEY G.

Maxwell

COMPANY

ABILENE • WICHITA FALLS • HOBBS • PAMPA



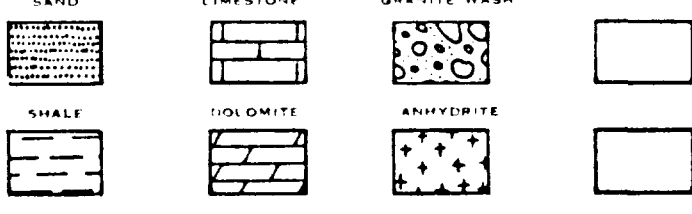
CORE ANALYSIS

COMPANY Gulf Oil Corporation
FEE Federal-Estill "AD" WELL NO. 2
FIELD Undesignated
LOCATION 2400' FNL & 2440' FEL, Sec. 20
T24S, R26E
COUNTY Eddy STATE New Mexico

ELEVATION 3379' G.L.; 3396' D.P.; 3398' K.B.
DRILLING FLUID Water Base Mud
FORMATION _____
TYPE OF CORE Diamond (2-5/8")
ANALYST JMB, BT SERVICE "C"
LAB NO H-266 DATE 7-25-60

THESE ANALYSES ARE BASED UPON ACCEPTED LABORATORY TECHNIQUES. THE OPINIONS ADVANCED REPRESENT OUR BEST JUDGMENT IN INTERPRETATION OF THE RESULTS BUT NO WARRANTY IS EXPRESSED OR IMPLIED.

G—GAS
O—OIL
T—TRANSITIONAL
W—WATER
F—FRACTURED
P—PIN POINT POROSITY
V—VUGULAR
S—STYLOLITIC



* Permeability predominantly through fractures.
** Samples analyzed after initial report was issued.

TABULAR PRESENTATION

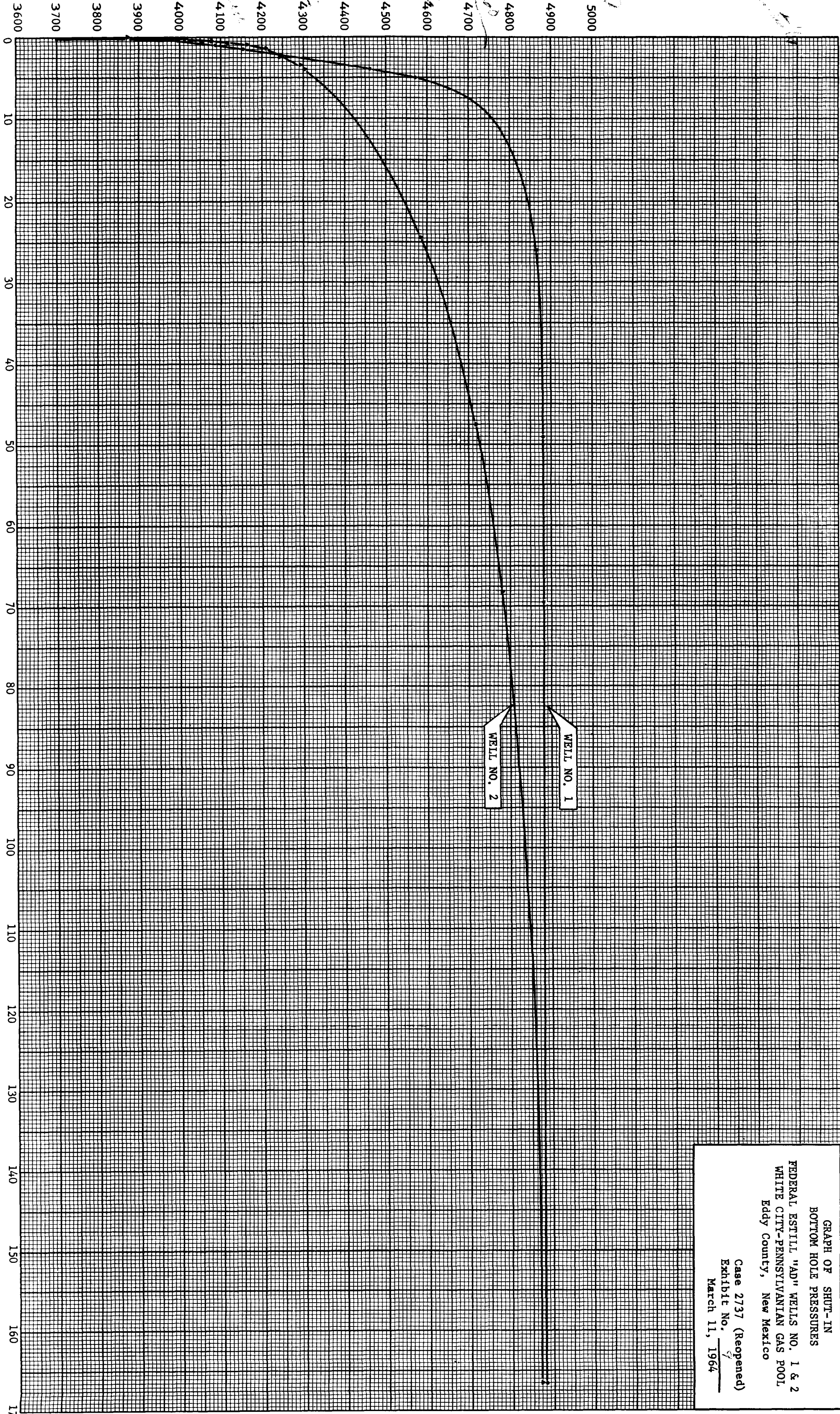
GRAPHICAL PRESENTATION

FULL DIAMETER CORE ANALYSIS

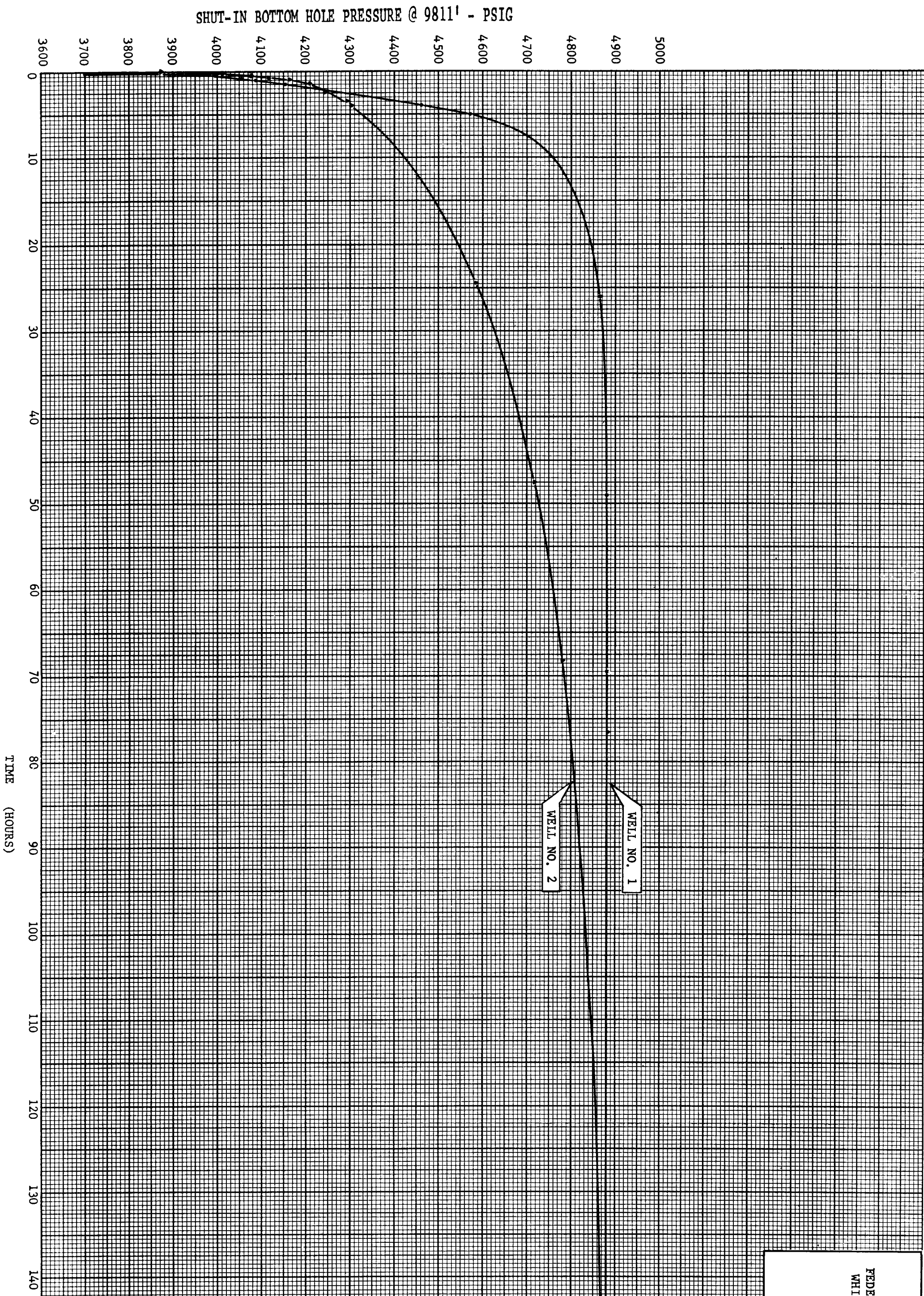
SAMPLE NO	DEPTH OF SAMPLE	POROSITY (%)	PERMEABILITY (millidarcys)		SATURATION DATA (% pore space)		PROBABLE FLUID	
			HORIZONTAL OR MAXIMUM	VERTICAL OR TO MAX	OIL	TOTAL WATER		
1	9822.0-24.0	1.1	<0.1	<0.1	Trace	61.1		
2	9824.0-25.7	3.1	0.9*	0.4	Trace	31.4		
3	9825.7-27.5	6.8	0.4	0.3	Trace	32.3		
4	9827.5-29.3	7.1	0.6	0.4	Trace	20.4		
5	9829.3-31.0	5.7	0.2	0.1	4.3	19.2		
6	9831.0-32.7	4.7	0.1	<0.1	Trace	28.8		
7	9832.7-34.5	4.2	0.1	<0.1	6.3	21.9		
8	9834.5-36.5	3.6	24*	<0.1	Trace	38.5	✓	
9**	9850.0-51.0	0.9	<0.1	<0.1				
10**	9851.0-52.0	1.0	<0.1	<0.1				
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14	9862.0-63.0	2.4	0.4*	<0.1	0.0	76.4	✓	
15	9863.0-64.7	5.8	5.9*	3.6	0.0	44.0	✓	
16	9864.7-66.2	10.8	12*	3.4	0.0	51.4	✓	
17	9866.2-67.7	10.6	10*	2.7	1.6	51.4	✓	
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Case No. 2737 (continued)Exhibit No. 4

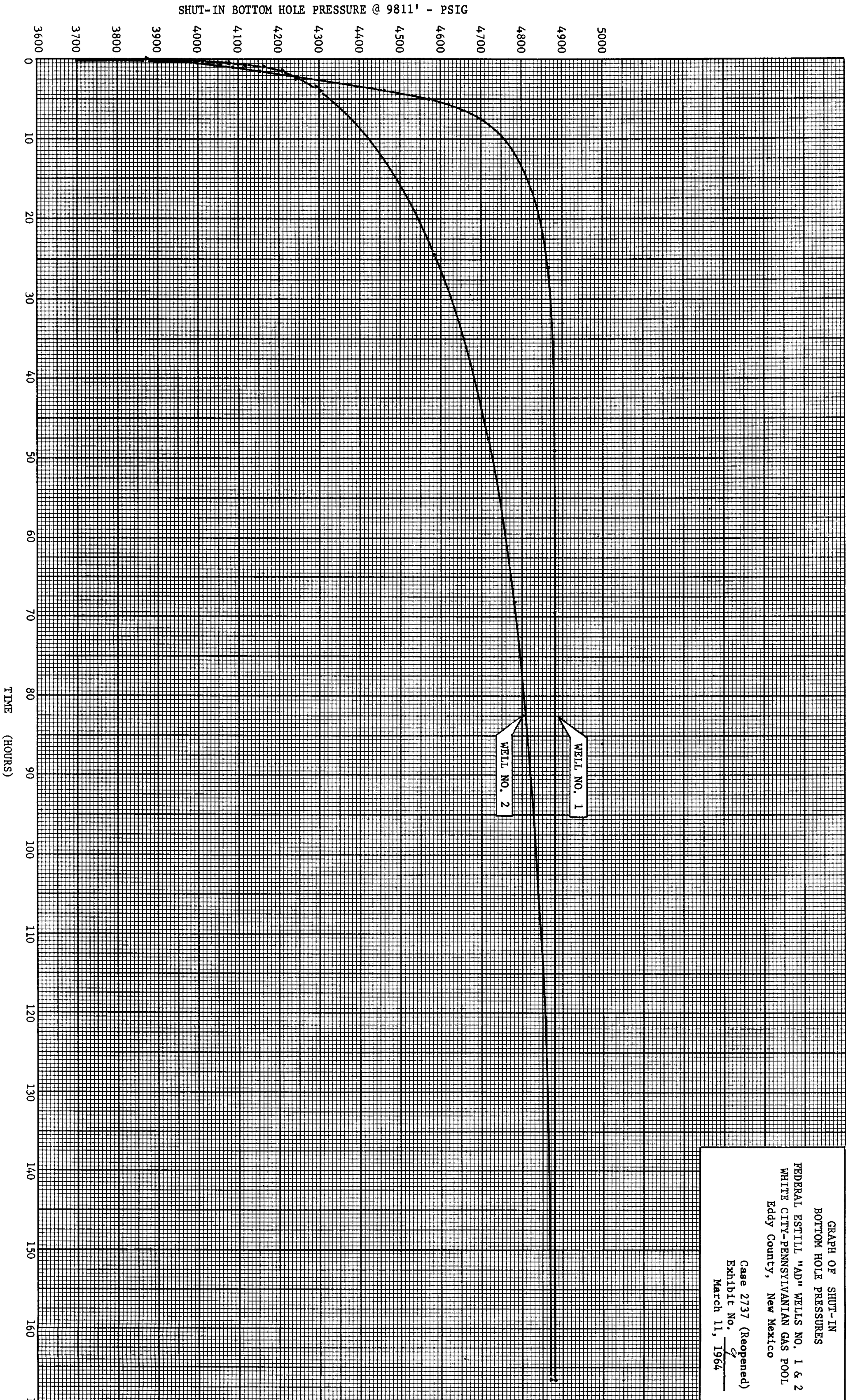
TIME (HOURS)



GRAPH OF SHUT-IN
BOTTOM HOLE PRESSURES
FEDERAL ESTILL "AD" WELLS NO. 1 & 2
WHITE CITY-PENNSYLVANIAN GAS POOL
Eddy County, New Mexico
Case 2737 (Reopened)
Exhibit No. 4
March 11, 1964



GRAY
BOTTOM
FEDERAL ESTII
WHITE CITY-F
Eddy Co



GRAPH OF SHUT-IN
BOTTOM HOLE PRESSURES

FEDERAL ESTILL "AD" WELLS NO. 1 & 2
WHITE CITY-PENNSYLVANIAN GAS POOL
Eddy County, New Mexico

Case 2737 (Reopened)
Exhibit No. 9
March 11, 1964

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. 2737
Order No. R-2429

APPLICATION OF GULF OIL CORPORATION
FOR SPECIAL POOL RULES, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on January 23, 1963, at Santa Fe, New Mexico, before Elvis A. Utz, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 21st day of February, 1963, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz, 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, Gulf Oil Corporation, seeks the establishment of special pool rules including provisions for 640-acre spacing for the White City-Pennsylvanian Gas Pool, Eddy County, New Mexico.
- (3) That 640-acre well spacing is a considerable deviation from the statewide rules and regulations and should not be approved without substantial evidence that such deviation is justified.
- (4) That the applicant has not presented sufficient evidence concerning the reservoir characteristics of the White City-Pennsylvanian Gas Pool to enable the Commission to determine whether 640-acre well spacing is justifiable in said pool.
- (5) That this case should be continued to enable the applicant to present additional evidence concerning the reservoir characteristics of the White City-Pennsylvanian Gas Pool.

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CASE No. 2737

Order No. R-2429

IT IS THEREFORE ORDERED:

(1) That this case is hereby continued to the last examiner hearing in March, 1963.

(2) That the subject application shall be denied if the applicant does not appear at the last examiner hearing in March, 1963, and present additional evidence concerning the reservoir characteristics of the White City-Pennsylvanian Gas Pool.

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

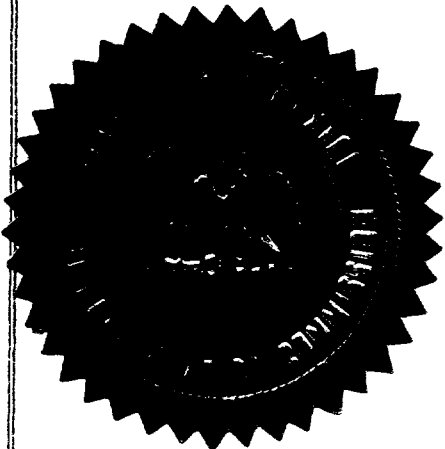
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Jack M. Campbell
JACK M. CAMPBELL, Chairman

E. S. Walker
E. S. WALKER, Member

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



esr/

**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. 2737
Order No. R-2429-A**

**APPLICATION OF GULF OIL CORPORATION
FOR SPECIAL POOL RULES FOR THE WHITE
CITY-PENNSYLVANIAN GAS POOL, EDDY
COUNTY, NEW MEXICO.**

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on March 20, 1963, at Santa Fe, New Mexico, before Elvis A. Utz, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 27th day of March, 1963, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz, 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, Gulf Oil Corporation, seeks the promulgation of temporary special rules and regulations for the White City-Pennsylvanian Gas Pool in Eddy County, New Mexico, including a provision for 640-acre spacing units.

(3) That temporary special rules and regulations establishing 640-acre spacing units should be promulgated for the subject pool in order to prevent the possibility of economic loss resulting from the drilling of unnecessary wells and in order to allow the operators in the subject pool to gather information concerning the reservoir characteristics of the pool.

(4) That the temporary special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

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CASE No. 2737

Order No. R-2429-A

(5) That the temporary special rules and regulations should be established for a one-year period and that during this one-year period all operators in the subject pool should gather all available information relative to drainage and recoverable reserves.

(6) That this case should be reopened at an examiner hearing in March, 1964, at which time the operators in the subject pool should appear and show cause why the White City-Pennsylvanian Gas Pool should not be developed on 160-acre spacing units.

IT IS THEREFORE ORDERED:

That Special Rules and Regulations for the White City-Pennsylvanian Gas Pool in Eddy County, New Mexico, are hereby promulgated as follows, effective April 1, 1963.

SPECIAL RULES AND REGULATIONS
FOR THE
WHITE CITY-PENNSYLVANIAN GAS POOL

RULE 1. Each well completed or recompleted in the White City-Pennsylvanian Gas Pool or in the Pennsylvanian formation within one mile of the White City-Pennsylvanian Gas Pool, and not nearer to or within the limits of another designated Pennsylvanian pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well completed or recompleted in the White City-Pennsylvanian Gas Pool shall be located on a standard unit containing 640 acres, more or less, consisting of a single governmental section.

RULE 3. The Secretary-Director may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit and the unorthodox size or shape of the unit is necessitated by a variation in the legal subdivision of the United States Public Lands Survey, or the following facts exist and the following provisions are complied with:

- (a) The non-standard unit consists of quarter-quarter sections or lots that are contiguous by a common bordering side.
- (b) The non-standard unit lies wholly within a single governmental section and contains less acreage than a standard unit.

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CASE No. 2737

Order No. R-2429-A

- (c) The applicant presents written consent in the form of waivers from all offset operators and from all operators owning interests in the section in which the non-standard unit is situated and which acreage is not included in said non-standard unit.
- (d) In lieu of Paragraph (c) of this rule, the applicant may furnish proof of the fact that all of the aforesaid operators were notified by registered or certified mail of his intent to form such non-standard unit. The Secretary-Director may approve the application if no such operator has entered an objection to the formation of such non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. Each well completed or recompleted in the White City-Pennsylvanian Gas Pool shall be located no nearer than 1650 feet to the boundary of the spacing unit and no nearer than 330 feet to any governmental quarter-quarter section line.

RULE 5. The Secretary-Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed unorthodox location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the unorthodox location within 20 days after the Secretary-Director has received the application.

IT IS FURTHER ORDERED:

(1) That any well presently drilling to or completed in the Pennsylvanian formation within the White City-Pennsylvanian Gas Pool or within one mile of the White City-Pennsylvanian Gas Pool that will not comply with the well location requirements of Rule 4 is hereby granted an exception to the requirements of Rule 4. The operator of any such well shall notify the Artesia District Office in writing of the name and location of the well on or before April 1, 1963.

(2) That any operator desiring to dedicate 640 acres to a well presently drilling to or completed in the White City-Pennsylvanian Gas Pool shall file a new Form C-128 with the Commission on or before April 1, 1963.

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CASE No. 2737

Order No. R-2429-A

(3) That this case shall be reopened at an examiner hearing in March, 1964, at which time the operators in the subject pool may appear and show cause why the White City-Pennsylvanian Gas Pool should not be developed on 160-acre spacing units.

(4) That Order No. R-2429 entered by the Commission on February 21, 1963, is hereby superseded.

(5) 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

Jack M. Campbell

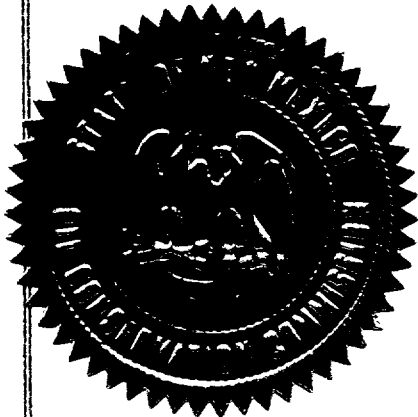
JACK M. CAMPBELL, Chairman

E. S. Walker

E. S. WALKER, Member

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esr/

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. 2737
Order No. R-2429-B

APPLICATION OF GULF OIL CORPORATION
FOR SPECIAL POOL RULES FOR THE WHITE
CITY-PENNSYLVANIAN GAS POOL, EDDY
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on March 11, 1964, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 13th day of April, 1964, 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 by Order No. R-2429-A, dated March 27, 1963, temporary special rules and regulations were promulgated for the White City-Pennsylvanian Gas Pool, Eddy County, New Mexico.

(3) That pursuant to the provisions of Order No. R-2429-A, this case was reopened to allow the operators in the subject pool to appear and show cause why the White City-Pennsylvanian Gas Pool should not be developed on 160-acre spacing units.

(4) That the evidence establishes that one well in the White City-Pennsylvanian Gas Pool can efficiently and economically drain and develop 640 acres.

(5) That to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, the Special Rules and Regulations promulgated by

-2-

CASE No. 2737

Order No. R-2429-B

Order No. R-2429-A should be continued in full force and effect until further order of the Commission.

(6) That the Special Rules and Regulations promulgated by Order No. R-2429-A have afforded and will afford to the owner of each property in the pool the opportunity to produce his just and equitable share of the gas in the pool.

IT IS THEREFORE ORDERED:

(1) That the Special Rules and Regulations governing the White City-Pennsylvanian Gas Pool promulgated by Order No. R-2429-A are hereby continued in full force and effect until further order of the Commission.

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

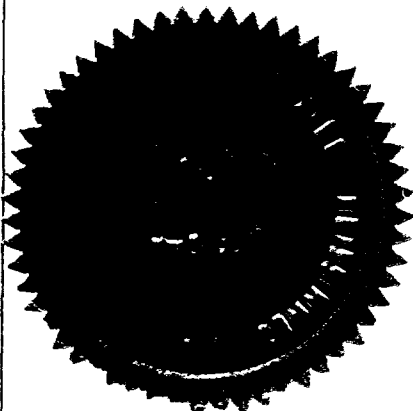
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Jack M Campbell
JACK M. CAMPBELL, Chairman

E. S. Walker
E. S. WALKER, Member

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



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AND IS LOCATED
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