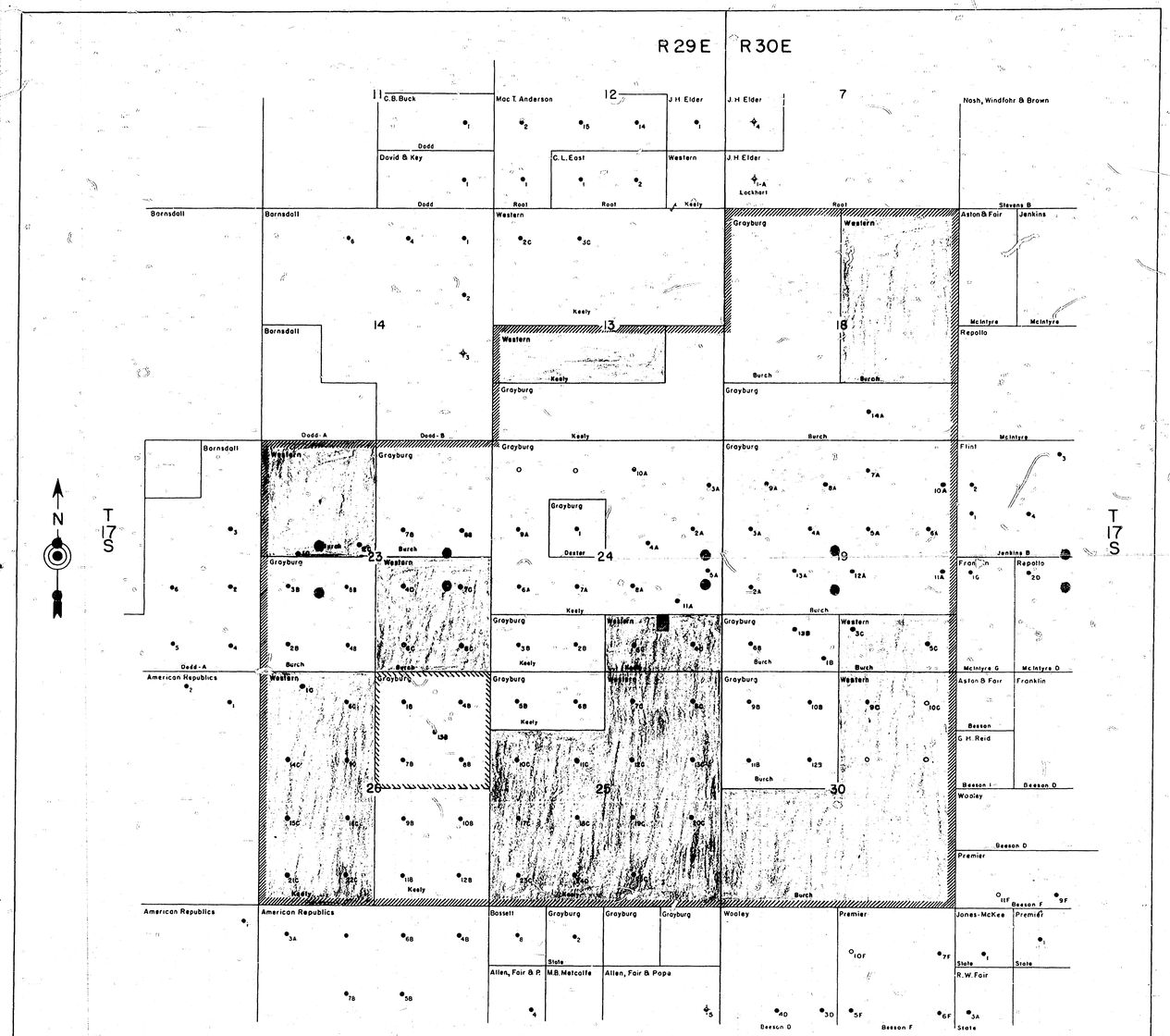


GRAYBURG COOPERATIVE AND UNIT AREA

12-20-43 m.
3-7-46

1

Reproduced By
West Texas Electrical Log Service
Odessa, Texas

REFERENCE NM W 5105 -B
J. G. WILLIAMSON

SCHLUMBERGER WELL SURVEYING CORPORATION

Reproduced By
West Texas Electrical Log Service
Odessa, Texas

REFERENCE NM W 6606 -A
J. G. WILLIAMSON

SCHLUMBERGER WELL SURVEYING CORPORATION

Reproduced By
West Texas Electrical Log Service
Odessa, Texas

REFERENCE NM W 5651 -E
J. G. WILLIAMSON

SCHLUMBERGER WELL SURVEYING CORPORATION

Mississippi Formation

Woodford Formation

Devonian Formation

WATER LEVEL

NE - SW CROSS SECTION OF SOUTH KNOWLES VICINITY

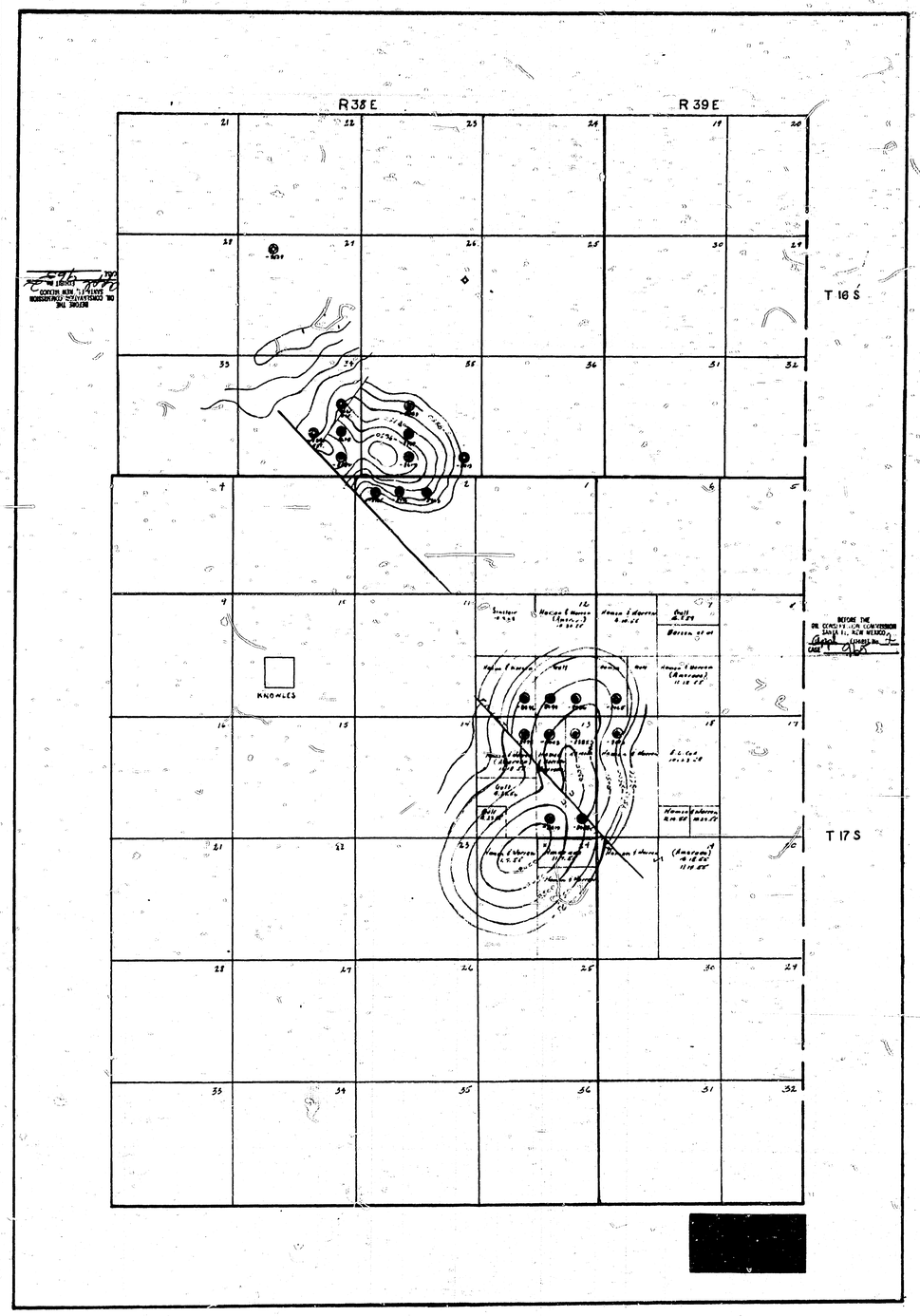
HORIZONTAL SCALE 1" = 500'

VERTICAL SCALE 1" = 100'

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT NO. 2
CASE 646

2

3



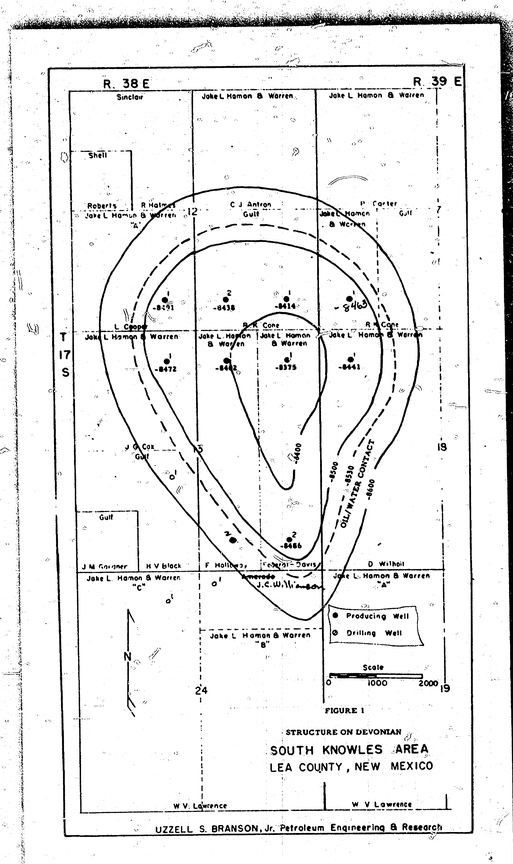
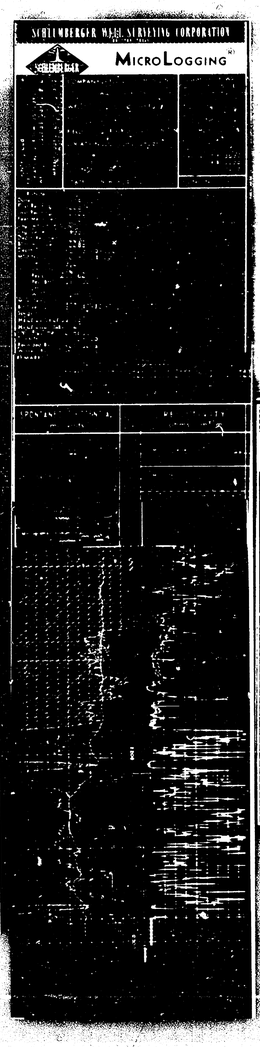


FIGURE 1

STRUCTURE ON DEVONIAN
SOUTH KNOWLES AREA
LEA COUNTY, NEW MEXICO

UZZELL S. BRANSON, Jr. Petroleum Engineering & Research



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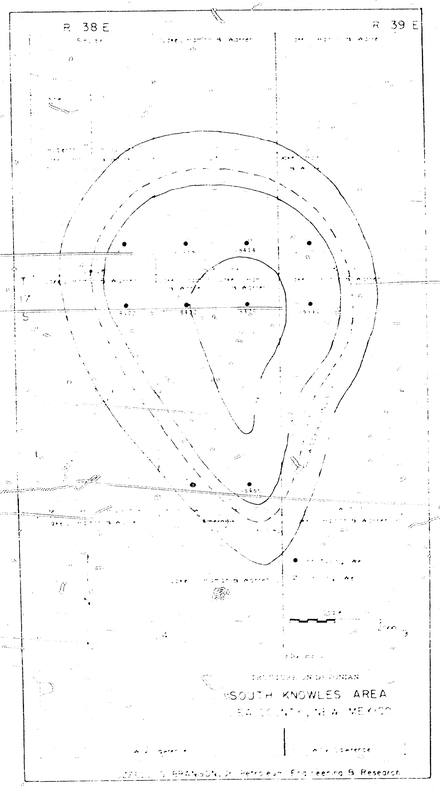
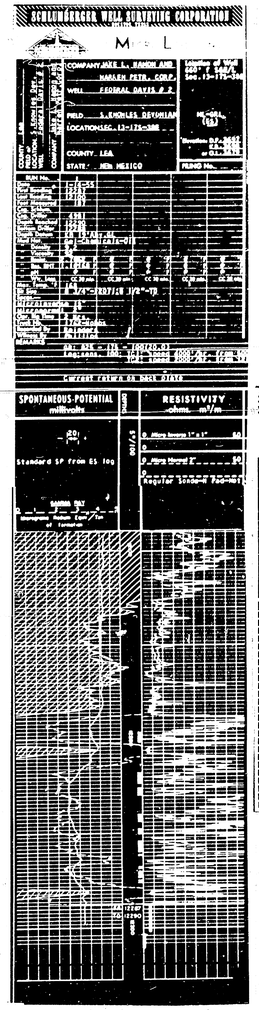
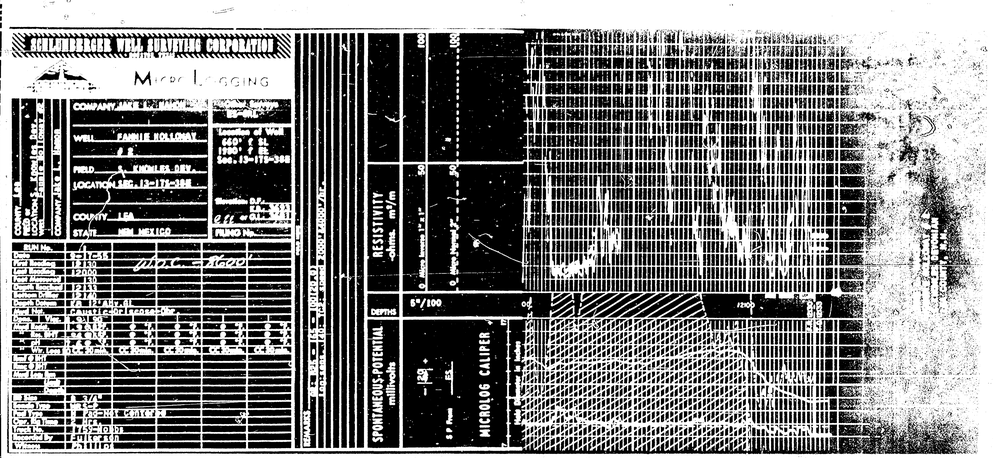
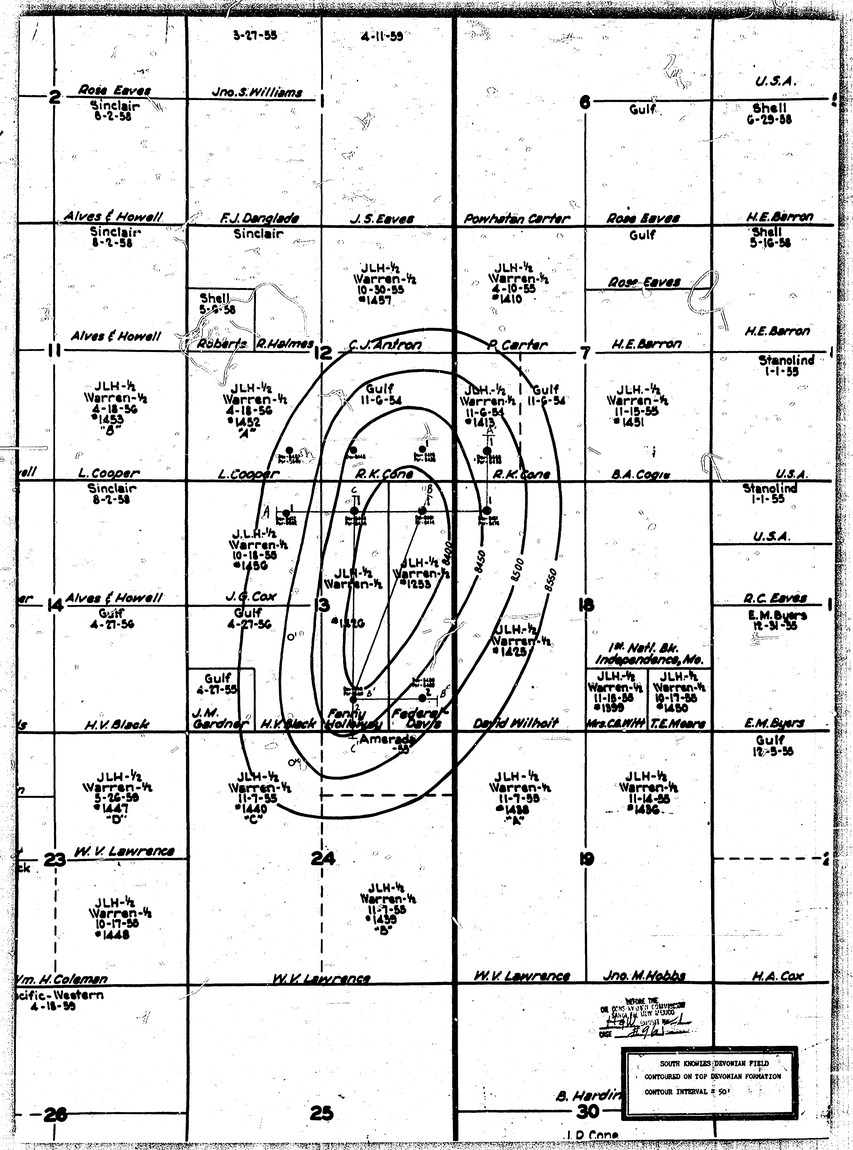

R 38 E
R 39 E
SOUTH KNOWLES AREA


SCHLUMBERGER WELL SURVEYING CORPORATION
SPONTANEOUS POTENTIAL
millivolts
RESISTIVITY
ohms m²/m


Micro Logging
RESISTIVITY
ohms m²/m
SPONTANEOUS-POTENTIAL
millivolts
MICROLOG CALIPER
DEPTHS

4


3-27-55
4-11-59
U.S.A.
Rose Eaves
Sinclair
8-2-58
Jno. S. Williams
Gulf
Shell
6-29-58
Alves & Howell
F.J. Danglade
J.S. Eaves
Powhatan Carter
Rose Eaves
H.E. Barron
Sinclair
Gulf
Shell
5-16-58
JLH-½
Warren-½
10-30-55
#1457
JLH-½
Warren-½
4-10-55
#1410
Shell
5-6-58
Alves & Howell
Roberts
R. Holmes
C.J. Antron
P. Carter
H.E. Barron
H.E. Barron
Stanolind
1-1-55
JLH-½
Warren-½
4-18-56
#1453
"B"
JLH-½
Warren-½
4-18-56
#1452
"A"
Gulf
11-6-54
JLH-½
Warren-½
11-6-54
#1413
Gulf
11-6-54
JLH-½
Warren-½
11-15-55
#1451
L. Cooper
L. Cooper
R.K. Cone
R.K. Cone
B.A. Cogle
U.S.A.
Sinclair
8-2-58
Stanolind
1-1-55
U.S.A.
JLH-½
Warren-½
10-18-55
#1450
Alves & Howell
J.G. Cox
JLH-½
Warren-½
JLH-½
Warren-½
#1255
R.C. Eaves
Gulf
4-27-56
Gulf
4-27-56
#1320
E.M. Byers
12-31-55
JLH-½
#1425
1st Natl. Bk.
Independence, Mo.
Gulf
4-27-55
JLH-½
Warren-½
11-18-55
#1399
JLH-½
Warren-½
12-17-55
#1450
H.V. Block
J.M. Gardner
H.V. Block
Fenley Hall Bundy
Federal Land
Amerada
David Wilhoit
Mrs. CA. Hill
T.E. Meare
E.M. Byers
Gulf
12-5-55
JLH-½
Warren-½
5-25-56
#1447
"D"
JLH-½
Warren-½
11-1-55
#1440
"C"
JLH-½
Warren-½
11-7-55
#1498
"A"
JLH-½
Warren-½
11-14-55
#1496
W.V. Lawrence
JLH-½
Warren-½
10-17-56
#1448
JLH-½
Warren-½
11-1-55
#1439
"B"
Wm. H. Coleman
W.V. Lawrence
W.V. Lawrence
Jno. M. Hobbs
H.A. Cox
cific-Western
4-18-55
8400
8450
8500
8550
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
CASE
EXHIBIT
SOUTH KNOWLES DEVONIAN FIELD
CONTOURED ON TOP DEVONIAN FORMATION
CONTOUR INTERVAL = 50'
B. Hardin
J.D. Cone

5

6

SCHLUMBERGER WELL SURVEYING CORPORATION

Electrical Log

COUNTY Lea
FIELD W/ Knowles Devonian
LOCATION 660' FSL & 660' FWL Sec. 7
WELL R.K. Cone #1
COMPANY Jake L. Hamon and Warren Petr. Corp.

COMPANY JAKE L. HAMON AND WARREN PETR. CORP.
WELL R.K. CONE # 1
FIELD W. KNOWLES DEVONIAN
LOCATION Sec. 7-17S-39E
COUNTY LEA
STATE NEW MEXICO

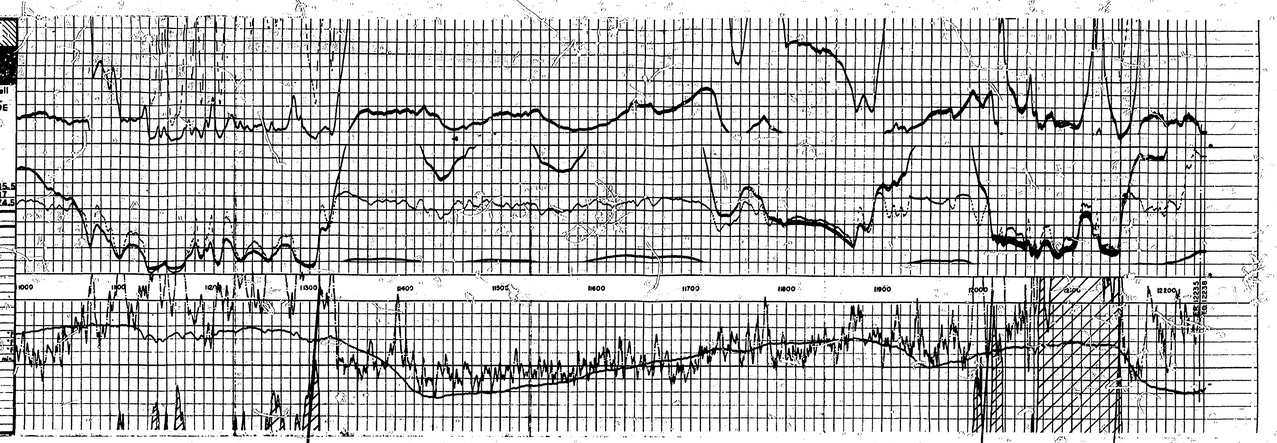
Location of Well
660' F. S&W/L
Sec. 7-17S-39E

ES-GRL (ML)

Elevation: D.F. 3685.5
K.B. 3687
or G.L. 3674.5

FILING No.

RUN No.	1					
Date	12-8-54					
First Reading	12235					
Last Reading	7000					
Feet Measured	7210					
Csg. Schlum.	5005					
Csg. Driller	5000					
Depth Reached	12238					
Bottom Driller	12239					
Depth Datum	KB 12.5'Abv.GL					
Mud Mat.	Caustic-Chem.					
" Density	9.6					
" Viscosity	160					
" Resist.	.18@64°F	@ °F	@ °F	@ °F	@ °F	@ °F
" Res. BHT	.68@150°	@ °F	@ °F	@ °F	@ °F	@ °F
" pH	@ °F	@ °F	@ °F	@ °F	@ °F	@ °F
" Wtr. Loss	6 cc 30 min.	CC 30 min.		CC 30 min.		CC 30 min.
Max. Temp. °F	150					
Bit Size	8 3/4"					
Spcgs.—AM	10'					
A	35' LS					
AO	191'					
Opr. Rig Time	2 Hrs.					
Truck No.	1758-Hobbs					
Recorded By	Haswell					
Witness By	Phillips					



SCHLUMBERGER WELL SURVEYING CORPORATION

Electrical Log

COUNTY Lea
FIELD Wildcat
LOCATION Sec. 18-17S-39E
WELL Wilhoit #1
COMPANY Jake L. Hamon and Warren Petr. Corp.

COMPANY JAKE L. HAMON AND WARREN PETR. CORP.
WELL WILHOIT # 1
FIELD WILDCAT
LOCATION SEC. 18-17S-39E
COUNTY LEA
STATE NEW MEXICO

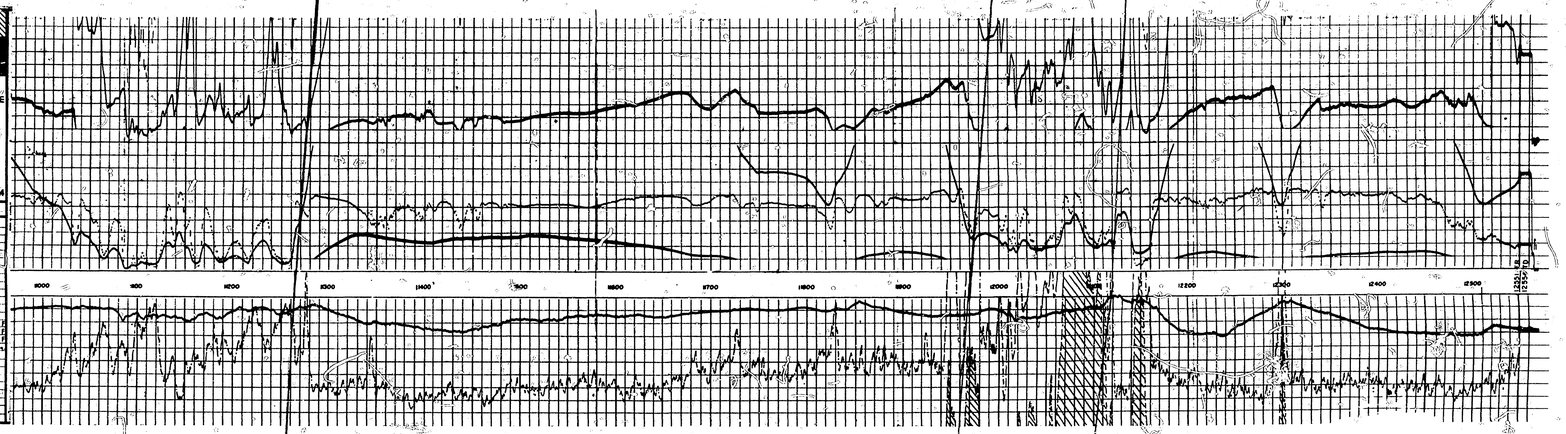
Location of Well
660' F NW/L
Sec. 18-17S-39E

BS-GRL (ML)

Elevation: D.F.
K.B. 3681
or G.L. 3665.4

FILING No.

RUN No.	1	2				
Date	6-18-54	7-1-54				
First Reading	4998	12551				
Last Reading	294	5007				
Feet Measured	4704	7546				
Csg. Schlum.	294	5007				
Csg. Driller	295	5000				
Depth Reached	5001	12554				
Bottom Driller	5000	12551				
Depth Datum	12'Abv.RT					
Mud Mat.	Salt Gel	Mangobar				
" Density	10.9	8.9				
" Viscosity	61	59				
" Resist.	.054@86 °F	.11@82 °F	@ °F	@ °F	@ °F	@ °F
" Res. BHT	.054@100 °F	.5 @ 168	@ °F	@ °F	@ °F	@ °F
" pH	8 @	°F 10.5@	°F	@ °F	@ °F	@ °F
" Wtr. Loss	24 CC 30 min.	6 CC 30 min.		CC 30 min.		CC 30 min.
Max. Temp. °F	100	168				
Bit Size	12¼"	8 3/4"—12257-63'—TD				
Spcgs.—AM	10'	10'				
A	10' LS	10' LS				
AO	10'	10'				
Opr. Rig Time	4 Hrs.	3 Hrs.				
Truck No.	1758-Hobbs-1750					
Recorded By	Barrett	Scott				
Witness By		Phillips				



SCHLUMBERGER WELL SURVEYING CORPORATION

Electrical Log

COUNTY Lea
FIELD Wildcat
LOCATION Sec. 13-17S-38E
WELL Federal Davis #1
COMPANY Jake L. Hamon

COMPANY JAKE L. HAMON
WELL FEDERAL DAVIS # 1
FIELD WILDCAT
LOCATION SEC. 13-17S-38E
COUNTY LEA
STATE NEW MEXICO

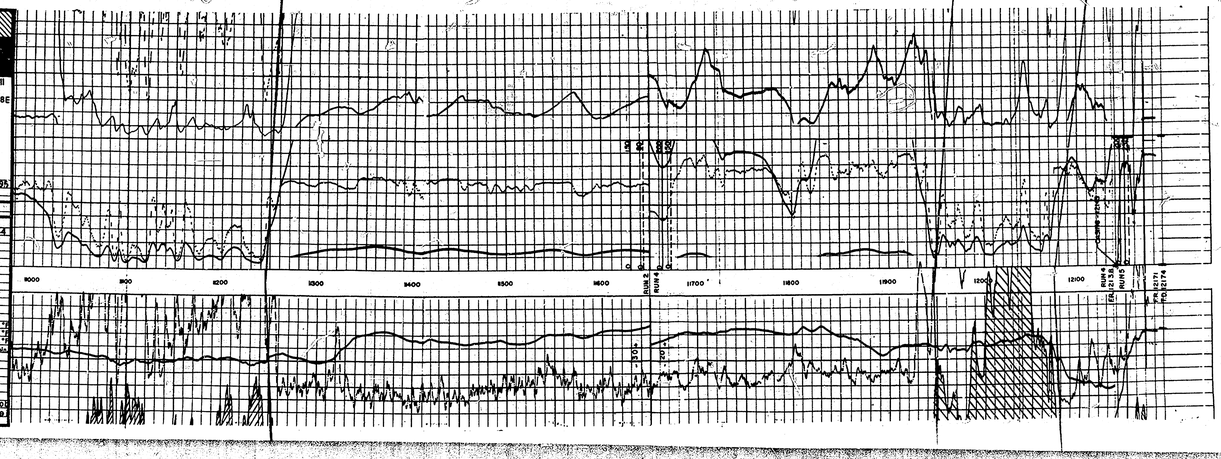
Location of Well
660' F N&E/L
Sec. 13-17S-38E

ES-GRL (ML)

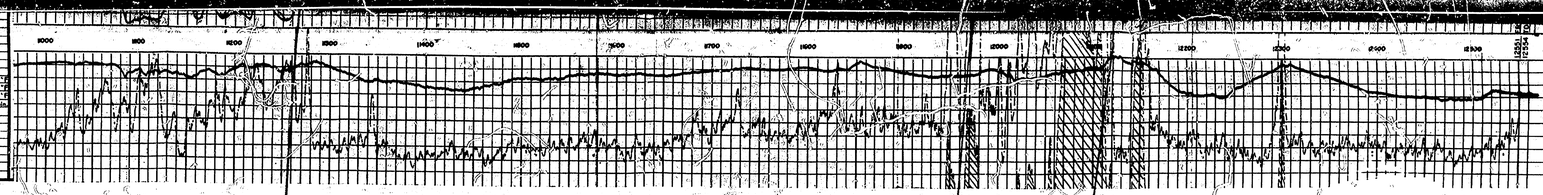
Elevation: D.F.
K.B. 3694
or G.L.

FILING No.

RUN No.	1	2	3	4	5
Date	11-23-53	4-6-54	5-5-54	5-15-54	5-16-54
First Reading	4746	11674	12121	12198	12191
Last Reading	276	4750	11673	12121	12143
Feet Measured	4470	6924	448	77	48
Csg. Schlum.	276	4750			12163
Csg. Driller	280	4750	8000	8000	12141
Depth Reached	4749	11676	12124	12141	12174
Bottom Driller	4750	11673	12120	12140	12171
Depth Datum	KDB 12.5'Abv.GL				
Mud Mat.	Natural-Chemicals-Gel				
" Density	10.8	8.9	9.6	9.4	9.2
" Viscosity	31	51	52	50	56
" Resist.	.92@74 °F	.12@75 °F	.08@64 °F	.09@70 °F	.08@84 °F
" Res. BHT	.07@98 °F	.46@165 °F	.10@163 °F	.10@169 °F	.13@157 °F
" pH	8 @	°F @	°F 10.3@	°F 10@	°F 11@ °F
" Wtr. Loss	25 CC 30 min.	CC 30 min.	10 CC 30 min.	7 CC 30 min.	5 CC 30 min.
Max. Temp. °F	98	165	169	169	169
Bit Size	12¼"	8 3/4"	6 5/8"	6 5/8"	6 3/4"
Spcgs.—AM	10'	10'	10'	10'	10'
A	10' LS	10' LS	10' LS	10' LS	10' LS
AO	19'	19'	19'	19'	19'
Opr. Rig Time	3 Hrs.	6 Hrs.	2 Hrs.	4 Hrs.	3 Hrs.
Truck No.	1758-Hobbs-1762		1760-Hobbs-1762		1760-Hobbs
Recorded By	Taft	Winkler	Kellenberger	Reinders	Reinders
Witness By		Elliott	Shaw	Shaw	Shaw



Run No.	One						
Date	5-14-54						
Csg. Driller	295	5000					
Depth Reached	5001	12554					
Bottom Driller	5000	12551					
Depth Datum	1' Abv. GL						
Mud Nat.	Salt Gel-Mangcobar						
" Density	10.9	8.9					
" Viscosity	51	58					
" Resist.	.054@85 °F	.038@82 °F	@ °F	@ °F	@ °F	@ °F	
" Res. Bht	.056@100°F	6.9@168F	@ °F	@ °F	@ °F	@ °F	
" pH	8 @	7@8.5@ °F	@ °F	@ °F	@ °F	@ °F	
" Wtr. Loss	24CC 30 min.	6 CC 30 min.	CC 30 min.		CC 30 min.		CC 30 min.
Max. Temp. °F	100	168					
Bit Size	12¼"	8 3/4"=12257:84"=70					
Spcs.—AM	10"	10"					
A	32" LS	32" LS					
AO	19"	19"					
Opr. Rig Time	4 Hrs.	2 Hrs.					
Truck No.	1783-Hobbs-1760						
Recorded By	Barlow	Scott					
Witness By		Phillips					



SCHLUMBERGER WELL SURVEYING CORPORATION

Electrical Log

COMPANY JAKE L. HAMON

WELL FEDERAL DAVIS # 1

FIELD WILDCAT

LOCATION SEC. 13-17S-38E

COUNTY LEA

STATE NEW MEXICO

Location of Well
660' f N&E/L
Sec. 13-17S-38E

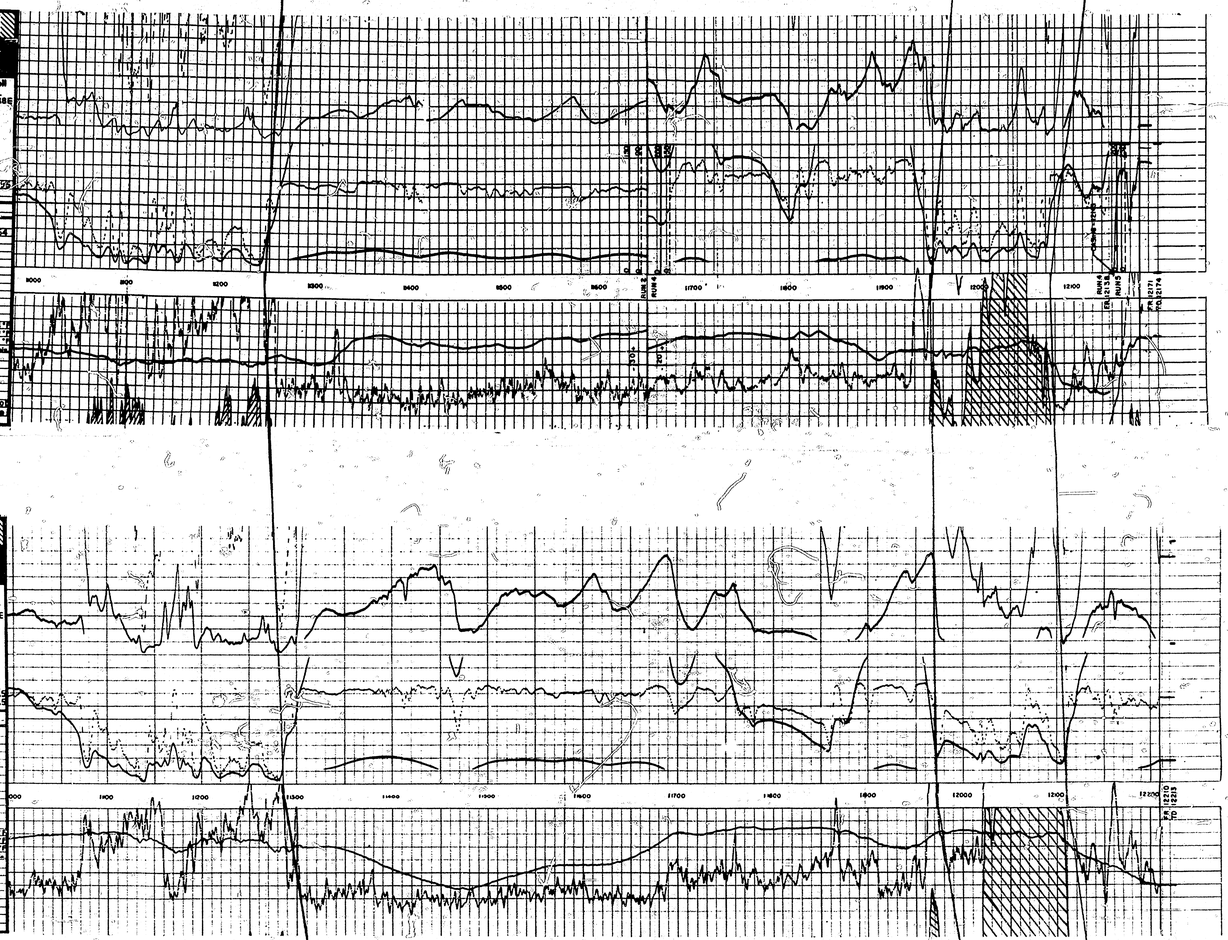
ES-GRL (ML)

Elevation: D.F. K.B. 3675 or G.L.

FILING No.

COMPANY JAKE L. HAMON — WELL FEDERAL DAVIS # 1 — FIELD WILDCAT — COUNTY LEA — STATE NEW MEXICO

RUN No.	1	2	3	4	5
Date	11-23-53	4-23-54	5-5-54	5-15-54	5-16-54
First Reading	326	10216	11618	12138	12141
Last Reading	276	4750	11671	12181	12171
Feet Measured	4410	5923	44R	17	28
Csg. Schlum.	276	4750			12143
Csg. Driller	280	4750	8000	8000	12147
Depth Reached	4760	11676	12124	12140	12174
Bottom Driller	4750	11673	12120	12140	12171
Depth Datum	KDB 12.5A' Abv. GL				
Mud Nat.	Natural-Chemical-Gel				
" Density	10.4	9.3	9.4		9.2
" Viscosity	39	42	44		46
" Resist.	.07@ 76 °F	.05@68 °F	.04@70 °F	@ °F	@ °F
" Res. Bht	.07@98 °F	.04@165 °F	.04@169 °F	@ °F	@ °F
" pH	8 @ °F	8@10 °F	10@ °F	@ °F	@ °F
" Wtr. Loss	26CC 30 min.	CC 30 min.	10CC 30 min.	CC 30 min.	CC 30 min.
Max. Temp. °F	98	166	169	169	169
Bit Size	12¼"	8 3/4"	8 3/4"	8 3/4"	8 3/4"
Spcs.—AM	10"	10"	10"	10"	10"
A	32" LS	32" LS	32" LS	32" LS	32" LS
AO	19'	19'	19'	19'	19'
Opr. Rig Time	2 Hrs.	6 Hrs.	2 Hrs.	4 Hrs.	4 Hrs.
Truck No.	1783-Hobbs-1760		1783-Hobbs-1760		1760-Hobbs
Recorded By	Tefft	Winfield Kellenberger		Kellenberger	Reinders-Ra
Witness By		Elliott Shaw	Shaw	Shaw	


10000
11000
11200
11300
11400
11500
11600
11700
11800
11900
12000
12100
12200
12300
12400
12500
12550
12554
RUN #1
RUN #2
RUN #3
RUN #4
RUN #5
FEET
FEET
FEET

SCHLUMBERGER WELL SURVEYING CORPORATION

Electrical Log

COMPANY JOHN L. HARRON
WELL FEDERAL DAVIS # 1
FIELD WILDCAT
COUNTY LEA
STATE NEW MEXICO

Location of Well: 660' F SEL & 1980' F EL Sec. 13-17S-38E

Permanent Datum: G.L. 3633 ft. above O.L. 3681

Log Measured from: K.B. 12 ft. above Perm. Datum

Drilling Measured from: K.B.

Run No. 1 | 2 | 3
Date 5-7-55
Depth-Driller 12133
Depth-Logger 12133
Bottom Logged Interval 12133
Top Logged Interval 11700
Type Fluid in Hole CHEMICAL GEL
Salinity, p.p.m. Cl 1000
Density 9.1
Viscosity 90
Fluid Loss 9.6 cc
Resistivity 1.48 @ 84°F
Resistivity 1.10 @ 84°F
Resistivity .74 @ 84°F
Source of Sample CIRC. PIT
Rm @ Meas. Temp. .65 @ 84°F
Rmf @ Meas. Temp. .52 @ 84°F
Rmc @ Meas. Temp. 1.0 @ 84°F
Source of Rmf & Rmc CALC. CALC.
Rm @ BHT .36 @ 180°F
Time Since Circ. 12 HRS.
Max. Rec. Temp. Deg. F 180
Equipment No. & Location 1255 HOBBS
Recorded By C. TAYLOR
Witnessed By PHILLIPS

RUN NO. 1 | 2 | 3
Bit Size 7 7/8"
Type Fluid in Hole CHEMICAL GEL
Dens. 9.1
Visc. 90
pH 10.5
Fluid Loss 9.6 cc
Source of Sample CIRC. PIT
Rm @ Meas. Temp. .65 @ 84°F
Rmf @ Meas. Temp. .52 @ 84°F
Rmc @ Meas. Temp. 1.0 @ 84°F
Source of Rmf & Rmc CALC. CALC.
Rm @ BHT .36 @ 180°F
Time Since Circ. 12 HRS.
Max. Rec. Temp. Deg. F 165
Equipment No. & Location 1255 HOBBS
Recorded By C. TAYLOR
Witnessed By PHILLIPS

SPONTANEOUS-POTENTIAL millivolts | DEPTHS | RESISTIVITY ohms. m²/m | RESISTIVITY ohms. m²/m

GAMMA RAY SCALE
Microgram Radium Equiv. per Ton of Formation

DEVONIAN

WOODFORD

MISSISSIPPIAN

SOUTH BOWERS (DEVONIAN) FIELD
LOCATION PLAT
SECTION 13, T. 17 S., R. 38 E.
LEA COUNTY, NEW MEXICO

Quesada BB

SCHLUMBERGER WELL SURVEYING CORPORATION

Electrical Log

COMPANY JOHN L. HARRON
WELL FEDERAL DAVIS # 1
FIELD WILDCAT
COUNTY LEA
STATE NEW MEXICO

Location of Well: 660' F SEL & 1980' F EL Sec. 13-17S-38E

Permanent Datum: D.F. 3633 ft. above O.L.

Log Measured from: K.B. 12 ft. above Perm. Datum

Drilling Measured from: K.B.

Run No. 1 | 2 | 3
Date 5-7-55
Depth-Driller 12133
Depth-Logger 12133
Bottom Logged Interval 12133
Top Logged Interval 11700
Type Fluid in Hole CHEMICAL GEL
Salinity, p.p.m. Cl 1000
Density 9.1
Viscosity 90
Fluid Loss 9.6 cc
Resistivity 1.48 @ 84°F
Resistivity 1.10 @ 84°F
Resistivity .74 @ 84°F
Source of Sample CIRC. PIT
Rm @ Meas. Temp. .65 @ 84°F
Rmf @ Meas. Temp. .52 @ 84°F
Rmc @ Meas. Temp. 1.0 @ 84°F
Source of Rmf & Rmc CALC. CALC.
Rm @ BHT .36 @ 180°F
Time Since Circ. 12 HRS.
Max. Rec. Temp. Deg. F 165
Equipment No. & Location 1255 HOBBS
Recorded By C. TAYLOR
Witnessed By PHILLIPS

RUN NO. 1 | 2 | 3
Bit Size 7 7/8"
Type Fluid in Hole CHEMICAL GEL
Dens. 9.1
Visc. 90
pH 10.5
Fluid Loss 9.6 cc
Source of Sample CIRC. PIT
Rm @ Meas. Temp. .65 @ 84°F
Rmf @ Meas. Temp. .52 @ 84°F
Rmc @ Meas. Temp. 1.0 @ 84°F
Source of Rmf & Rmc CALC. CALC.
Rm @ BHT .36 @ 180°F
Time Since Circ. 12 HRS.
Max. Rec. Temp. Deg. F 165
Equipment No. & Location 1255 HOBBS
Recorded By C. TAYLOR
Witnessed By PHILLIPS

SPONTANEOUS-POTENTIAL millivolts | DEPTHS | RESISTIVITY ohms. m²/m | RESISTIVITY ohms. m²/m

GAMMA RAY SCALE
Microgram Radium Equiv. per Ton of Formation


SCHLUMBERGER WELL SURVEYING CORPORATION
COMPANY JAKE L. HAMON
WELL FANNIE HOLLOWAY
FIELD L. KNOWLES DEV.
LOCATION SEC. 13-17S-38E
COUNTY LEA
STATE NEW MEXICO
Location of Well
660' f SL
1980' f EL
Sec. 13-17S-38E
ES-GRL
(ML)
Elevation: D.F.
K.B.: 3693
G.L.: 3681
FILING No.
RUN No. 1
Date 9-17-55
First Reading 12130
Last Reading 5006
Feet Measured 7124
Csg. Schlum. 5006
Csg. Driller 5005
Depth Reached 12133
Bottom Driller 12140
Depth Datum KB 12' Abv. GL
Mud Nat. Caustic-Griscose-Gr.
Density 8.9
Viscosity 90
Resist. 1.9@ 82 F
Res. BHT 1.94@165 F
pH 7.4@ F
Wtr. Loss 10 CC 30 min.
Max. Temp. °F 165
Bit Size 8 3/4"
Spcgs.—AM 10"
AO 32" LS
AO 19"
Opr. Rig Time 3 Hrs.
Truck No. 1759-Hobbs
Recorded By Fulkerson
Witness By Phillips
RESISTIVITY -ohms. m²/m
10" NORMAL
32" LIMESTONE
19' LATERAL
DEPTHS 5"/100'
SPONTANEOUS POTENTIAL millivolts
GAMMA RAY SCALE
Micrograms Radium Equiv. per Ton of Formation
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
FR 12130
TD 12133

SCHLUMBERGER WELL SURVEYING CORPORATION
COMPANY JAKE L. HAMON AND WARREN PETR. CORP.
WELL FEDERAL DAVIS #2
FIELD S. KNOWLES DEVONIAN
LOCATION SEC. 13-17S-38E
COUNTY
STATE NEW MEXICO
Location of Well
660' f S&E/L
Sec. 13-17S-38E
ES-GRL
(ML)
Elevation: D.F.: 3697
K.B.: 3698
G.L.: 3679
FILING No.
RUN No. 1
Date 9-14-55
First Reading 12287
Last Reading 5007
Feet Measured 7280
Csg. Schlum. 5007
Csg. Driller 4931
Depth Reached 12290
Bottom Driller 12288
Depth Datum KB 19' Abv. GL
Mud Nat. Gel-Chemicals-Oil
Density 9.2
Viscosity 92
Resist. 2.7@ 62 F
Res. BHT 1.1@158 F
pH
Wtr. Loss CC 30 min.
Max. Temp. °F 168
Bit Size 8 3/4"-12071; 8 1/2"-10
Spcgs.—AM 10"
A 32"
AO 19"
Opr. Rig Time
Truck No.
Recorded By
Witness By Phillips
RESISTIVITY -ohms. m²/m
10" NORMAL
19' LATERAL
DEPTHS
SPONTANEOUS POTENTIAL millivolts
22
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
FR 12287
TD 12290

9

SCHLUMBERGER WELL SURVEYING CORPORATION

Electrical Log

COUNTY	Lea
FIELD or LOCATION	S. Knowles Dev.
WELL	Fannie Holloway
COMPANY	Jake L. Hamon

COMPANY JAKE L. HAMON

WELL FANNIE HOLLOWAY #2

FIELD S. KNOWLES DEV.

LOCATION SEC. 13-17S-38E

COUNTY LEA

STATE NEW MEXICO

Location of Well: 660' F SL, 1980' F EL, Sec. 13-17S-38E

ES-GRL (ML)

Elevation: D.F. K.B. 3693 or G.L. 3681

FILING No.

RUN No.								
Date	9-17-55							
First Reading	12130							
Last Reading	5006							
Feet Measured	7124							
Cog. Schlum.	5006							
Cog. Driller	5005							
Depth Reached	12133							
Bottom Driller	12140							
Depth Datum	KB 12' Abv. GL							
Mud Mat.	CAUSTIC-DISCOSE-CBT							
Density	8.9							
Viscosity	90							
Resist.	1.36@82	°	F	°	F	°	F	
Res. Mat.	.946@65	°	F	°	F	°	F	
pH	7.66	°	F	°	F	°	F	
Wtr. Loss	10 CC 30 min.	CC 30 min.		CC 30 min.		CC 30 min.		
Max. Temp. °F	165							
Bit Size	8 3/4"							
Spcg.—Ans	10'							
A/2	18' LS							
AO	19'							
Opr. Rig Time	7 Hrs.							
Truck No.	1759-Robbs							
Recorded By	Fullerton							
Witness By	Phillips							

RESISTIVITY -ohms. m²/m — 19" LATERAL — 5K — 25Ω

RESISTIVITY -ohms. m²/m — 10" NORMAL — 2000 — 2000

DEPTHS 5"/100'

SPONTANEOUS POTENTIAL millivolts — 120 — 0 — +

MISSISSIPPIAN

WOODFORD

DEVONIAN

SCHLUMBERGER WELL SURVEYING CORPORATION

Electrical Log

COMPANY JAKE L. HAMON

WELL FANNIE HOLLOWAY #2

FIELD S. KNOWLES DEV.

LOCATION SEC. 13-17S-38E

COUNTY LEA

STATE NEW MEXICO

Location of Well: 660' F SL, 1980' F EL, Sec. 13-17S-38E

ES-GRL (ML)

Elevation: D.F. K.B. 3693 or G.L. 3681

FILING No.

RUN No.								
Date	9-17-55							
First Reading	12130							
Last Reading	5006							
Feet Measured	7124							
Cog. Schlum.	5006							
Cog. Driller	5005							
Depth Reached	12133							
Bottom Driller	12140							
Depth Datum	KB 12' Abv. GL							
Mud Mat.	CAUSTIC-DISCOSE-CBT							
Density	8.9							
Viscosity	90							
Resist.	1.36@82	°	F	°	F	°	F	
Res. Mat.	.946@65	°	F	°	F	°	F	
pH	7.66	°	F	°	F	°	F	
Wtr. Loss	10 CC 30 min.	CC 30 min.		CC 30 min.		CC 30 min.		
Max. Temp. °F	165							
Bit Size	8 3/4"							
Spcg.—Ans	10'							
A/2	18' LS							
AO	19'							
Opr. Rig Time	7 Hrs.							
Truck No.	1759-Robbs							
Recorded By	Fullerton							
Witness By	Phillips							

RESISTIVITY -ohms. m²/m — 19" LATERAL — 5K — 25Ω

RESISTIVITY -ohms. m²/m — 10" NORMAL — 2000 — 2000

DEPTHS 5"/100'

SPONTANEOUS POTENTIAL millivolts — 120 — 0 — +

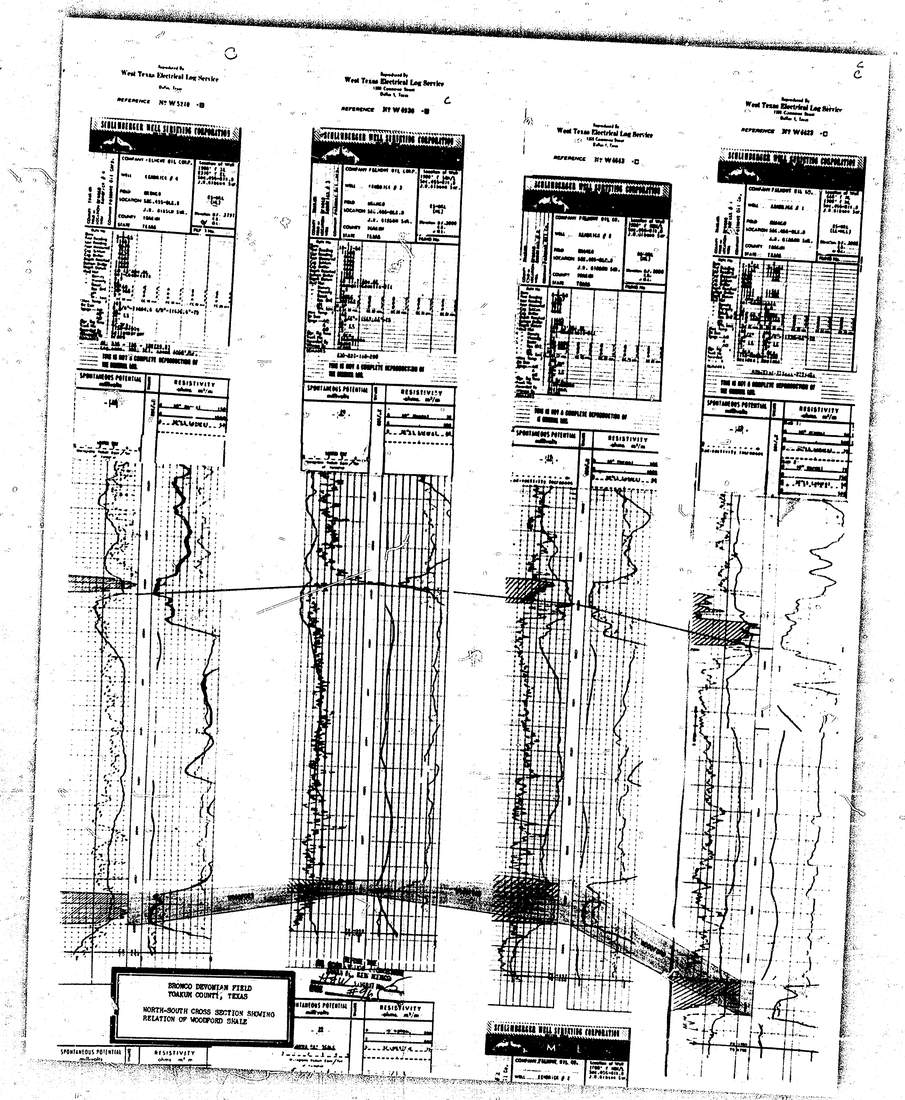
MISSISSIPPIAN

WOODFORD

DEVONIAN

10

11



Reproduced By
West Texas Electrical Log Service
SCHLUMBERGER WELL SURVEYING CORPORATION
SPONTANEOUS POTENTIAL
RESISTIVITY
BRONCO DEVONIAN FIELD
YOAKUM COUNTY, TEXAS
NORTH-SOUTH CROSS SECTION SHOWING
RELATION OF WOODFORD SHALE

NEW MEXICO
OIL CONSERVATION COMMISSION

Gas Well Plat

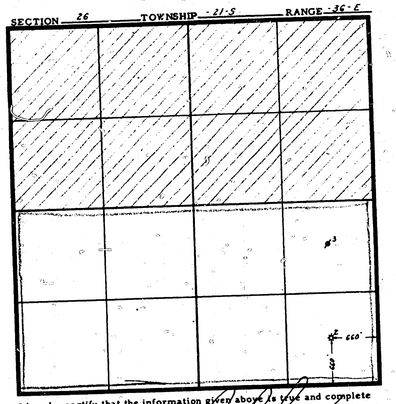
Date Sept. 16 1955

HUMBLE OIL & REFINING CO. (Operator) | New Mexico State "G" (Lease) | 2 (Well No.)

Name of Producing Formation Queen | Pool: Arrow Gas

No. Acres Dedicated to the Well 320

SECTION 26 TOWNSHIP - 21-S RANGE - 36-E



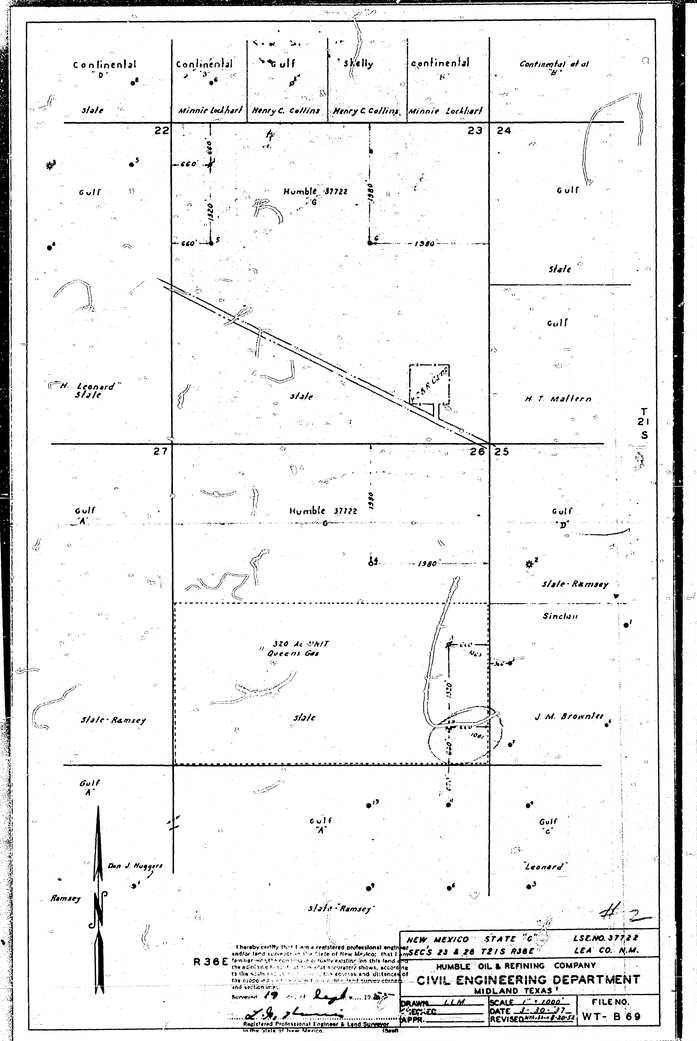
I hereby certify that the information given above is true and complete to the best of my knowledge.

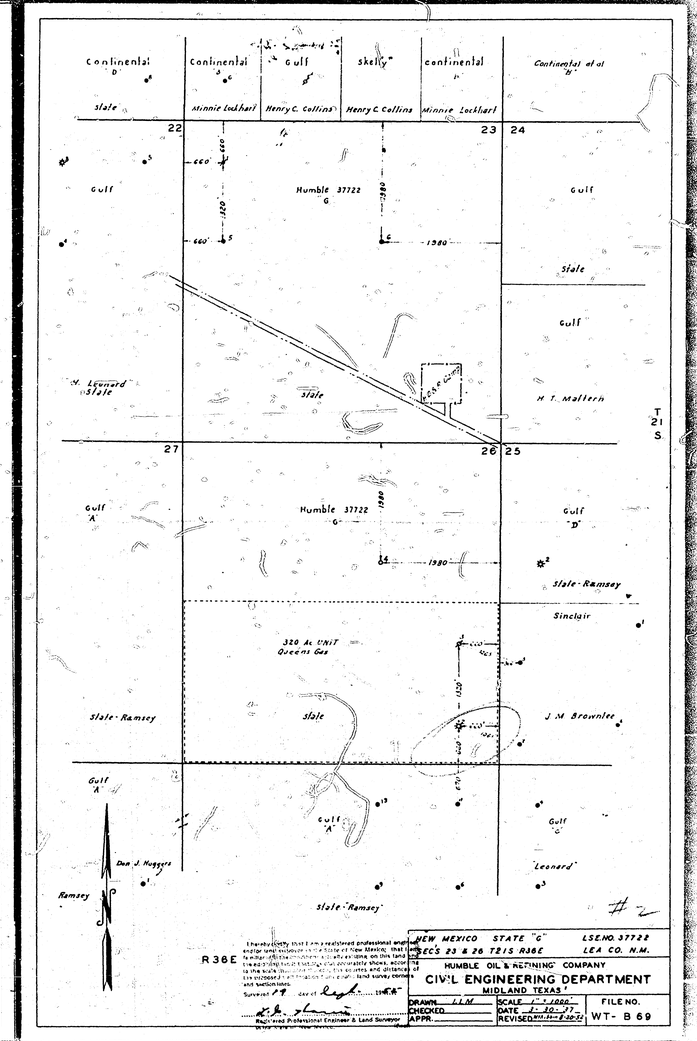
1. Is this gas well a dual completion ? Yes No
2. Are there any other dually completed wells within the dedicated acreage ? Yes No

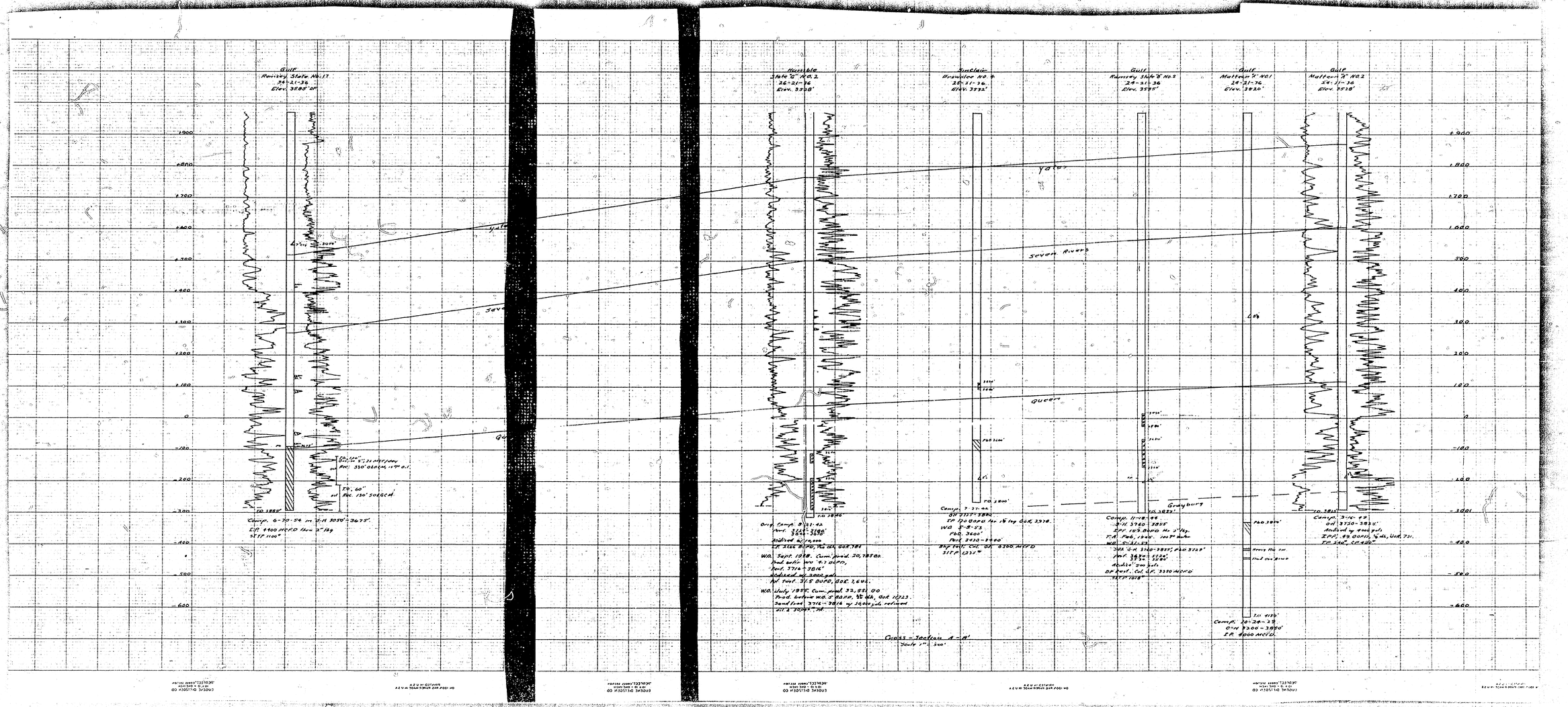
Name
Position Asst Division Superintendent
Representing Humble Oil & Refining Co.
Address Midland, Texas

(over)

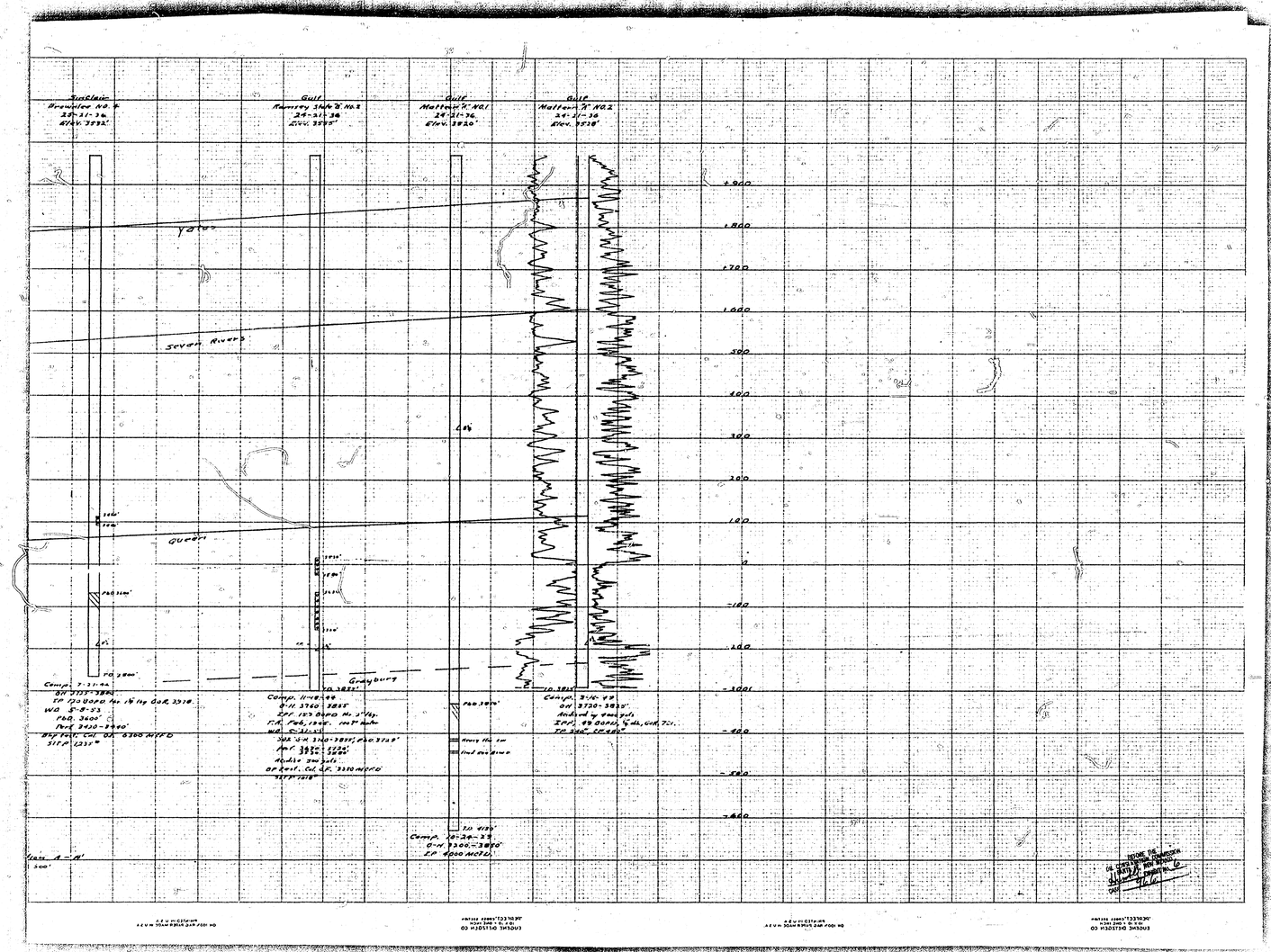
12



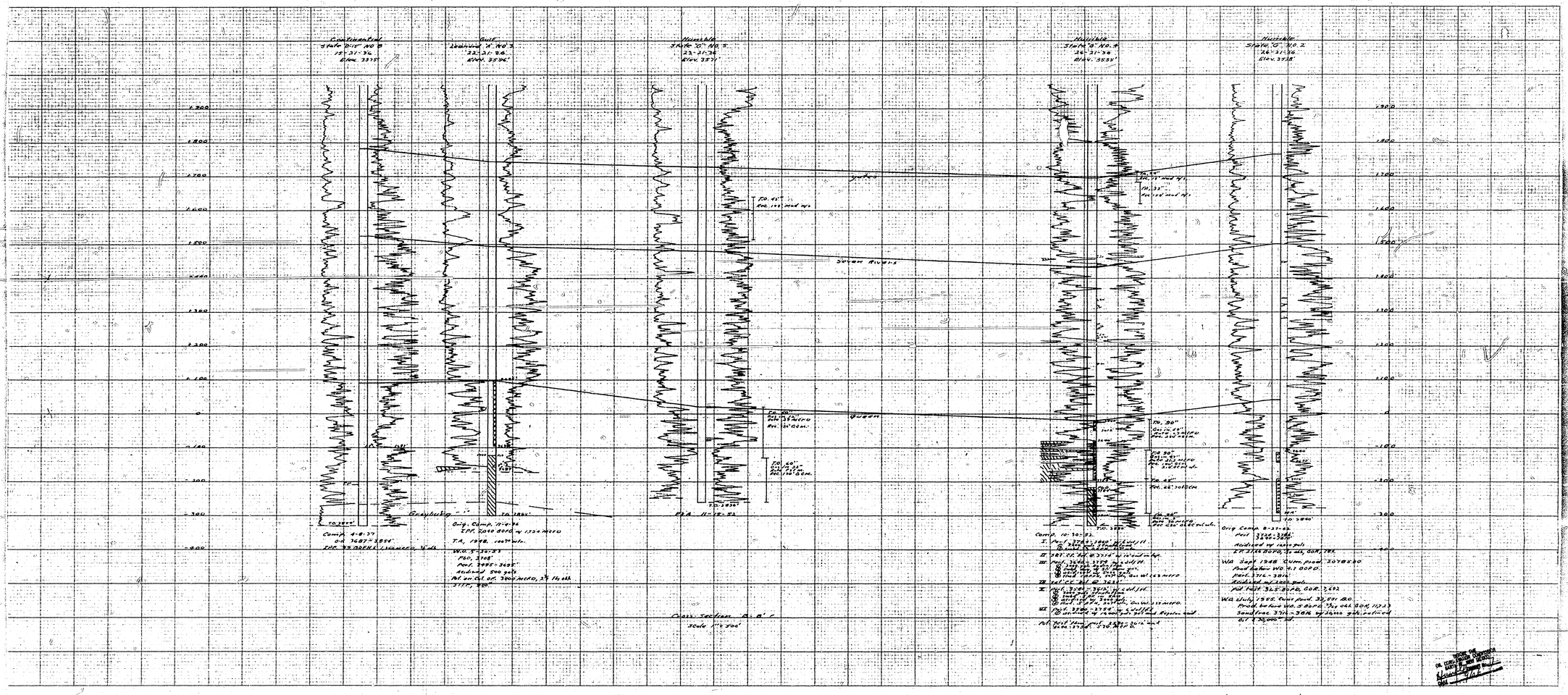



Gulf
Ramsey State No. 17
34-21-36
Elev. 3585' DF
Humble
State "G" No. 2
26-21-36
Elev. 3528'
Sinclair
Brownlee No. 4
25-21-36
Elev. 3532'
Gulf
Ramsey State "G" No. 2
24-21-36
Elev. 3585'
Gulf
Mattern "A" No. 1
24-21-36
Elev. 3820'
Gulf
Mattern "A" No. 2
24-21-36
Elev. 3528'
Yates
Seven Rivers
Queen
Grayburg
+900
+800
+700
+600
+500
+400
+300
+200
+100
0
-100
-200
-300
-400
-500
-600
Cross-Section A-A'
Scale 1" = 500'

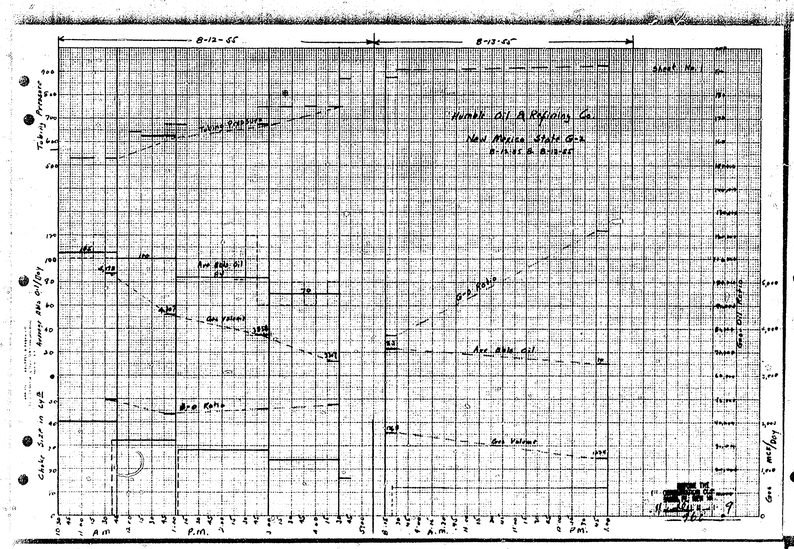
13

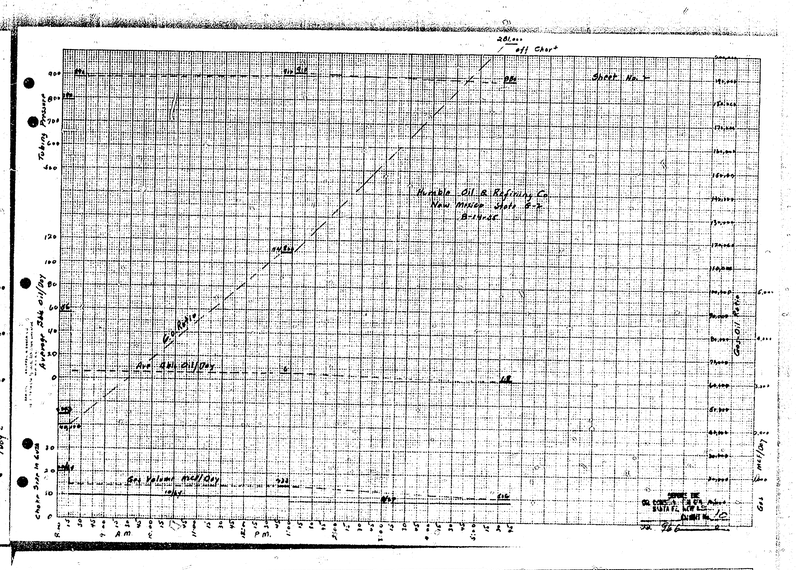

Sinclair
Brownlee No. 4
25-21-36
Elev. 3532'
Gulf
Ramsey State "B" No. 2
24-21-36
Elev. 3555'
Gulf
Mattson "A" No. 1
24-21-36
Elev. 3520'
Gulf
Mattson "A" No. 2
24-21-36
Elev. 3538'
Yates
Seven Rivers
Queen
Grayburg
+900
+800
+700
+600
500
400
300
200
100
0
-100
-200
-300
-400
-500
-600
Comp. 7-21-44
OH 3705-3880
IP 120 BOPD 40° API, 3378
WD 5-8-53
PBD 3600'
Perf 3420-3440
Bdy Fault, Cal. OF 6300 MCFPD
SITP 1235#
Comp. 11-18-44
OH 3760-3835
IPF 153 BOPD No. 2" lig.
T.A. Feb, 1945. 100% water
WD 5-31-51
Perf 3670-3720', PBD 3729'
Perf 3825-3835'
Acidize 500 gals
BP Fault, Cal. G.F. 3350 MCFPD
SITP 1018#
Comp. 3-16-49
OH 3720-3835'
Acidized w/ 4000 gals
IPF 49 BOPD, 1/2" lig., GOR 721
TP 240#, CP 480#
Comp. 10-24-38
O-H 3300-3850'
I.P. 4000 MCFD.
Item A-A'
300'

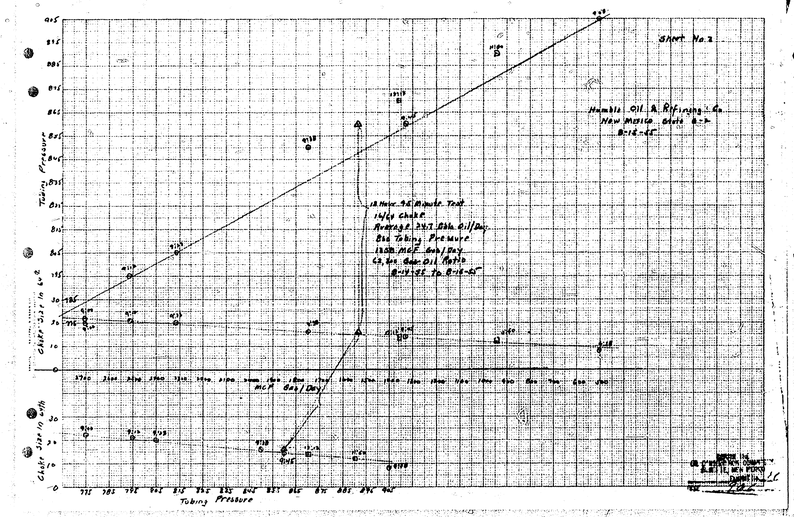
14

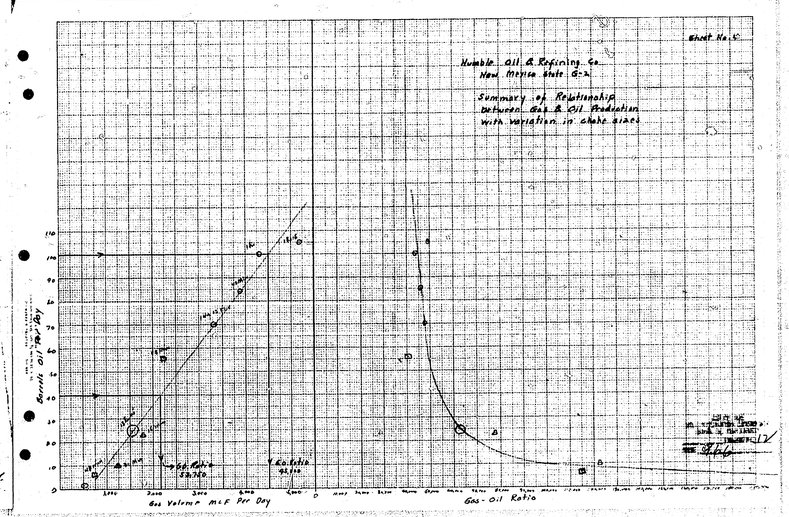

Continental
State "B-15" No. 8
15-21-36
Elev. 3575'
Gulf
Leonard "A" No. 3
22-21-36
Elev. 3596'
Humble
State "G" No. 5
23-21-36
Elev. 3571'
Humble
State "G" No. 4
26-21-36
Elev. 3555'
Humble
State "G" No. 2
26-21-36
Elev. 3578'
Seven Rivers
Queen
Greyburg
Cross Section B-B'
Scale 1" = 500'

15


Sheet No. 1
Humble Oil & Refining Co.
New Mexico State G-2
Tubing Pressure
Ave. Bbls. Oil
Gas Volume
Gas-Oil Ratio
Bro Ratio
Ave. Bbls. Oil
Gas Volume
Chake Size in 64ft
Gas mcf/Day
Ave. Bbls. Oil/Day
Gas Volume mcf/Day
A.M.
P.M.


Sheet No. 2
Humble Oil & Refining Co.
New Mexico State G-2
Tubing Pressure
Ave. Bbls. Oil/Day
Gas Volume mcf/Day
Gas-Oil Ratio
Ave. Bbls. Oil/Day
Gas Volume mcf/Day
Chake Size in 64ft
Gas mcf/Day
A.M.
P.M.


Sheet No. 2
Humble Oil & Refining Co.
New Mexico State G-2
Tubing Pressure
Chake Size in 64ft
Chake Size in 64ft
Tubing Pressure
MCF Gas/Day


Sheet No. 5
Humble Oil & Refining Co.
New Mexico State G-2
Summary of Relationship
between Gas & Oil Production
with variation in chake sizes
Barrels Oil Per Day
Gas Volume mcf Per Day
Gas-Oil Ratio

16

LANE RADIOACTIVITY LOG WELLS
COMPANY

FILE NO.

Location of Well	CASE #969
	EXHIBIT #3
COMPANY:	CONTINENTAL OIL COMPANY
WELL:	JACK A-21 No. 1
FIELD:	JALMAT
COUNTY:	LEA STATE: N. MEX.
LOCATION:	660' FROM S&W LINE OF SEC. 21 T24 R37E

COMPANY: CONTINENTAL OIL COMPANY
WELL: JACK A-21 No. 1
FIELD: JALMAT
COUNTY: LEA STATE: N. MEX.
LOCATION: 660' FROM S&W LINE OF Sec. 21 T24 R37E

LOG MEAS. FROM	10' ABOVE GROUND FLOOR	ELEV. 3247
DRLG. MEAS. FROM	10' ABOVE GROUND FLOOR	ELEV. 3247
PERM. DATUM	10' ABOVE GROUND FLOOR	ELEV. 3247

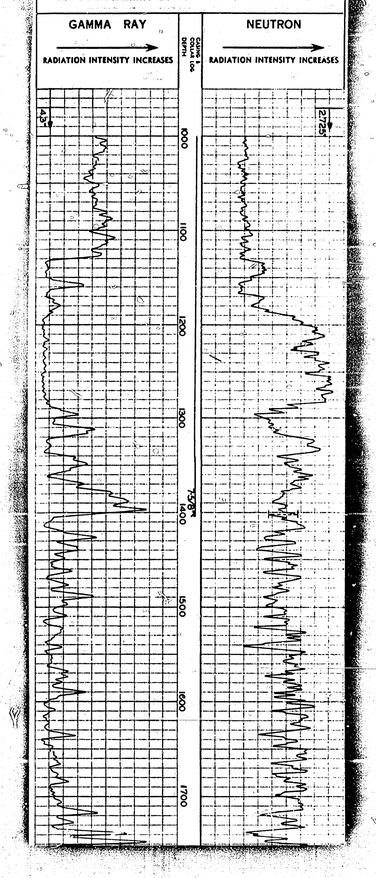
TYPE OF LOG	GAMMA-RAY	NEUTRON
RUN NO.	ONE - SW	ONE - NW
DATE	6-26-46	6-26-46
TOTAL DEPTH (DRILLER) DEPTH. LINE	3660	3660
EFFECTIVE DEPTH (DRILLER)	3302	3302
TOP OF LOGGED INTERVAL	1000	1000
BOTTOM OF LOGGED INTERVAL	3300	3300
TYPE OF FLUID IN HOLE	DRY	DRY
FLUID LEVEL		
MAXIMUM RECORDED TEMP.		
NEUTRON SOURCE STRENGTH & TYPE		600M
SOURCE SPACING — IN.		8.25
LENGTH OF MEASURING DEVICE — IN.	36	36
O.D. OF INSTRUMENT — IN.	3-5/8"	3-5/8"
TIME CONSTANT — SECONDS		
LOGGING SPEED FT./MIN.	20	20
STATISTICAL VARIATION — IN.		
SENSITIVITY REFERENCE	27%	27%
RECORDED BY	BRIGGS & HAMM	
WITNESSED BY	FORKNER	FORKNER

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Cas. 969 EXHIBIT No. 3
CASE 969

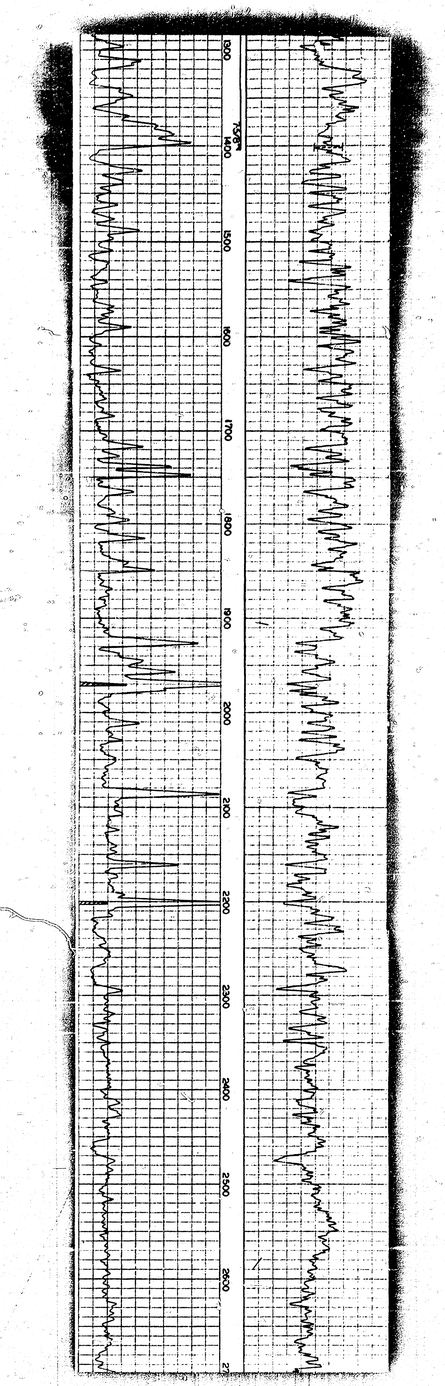
CASING RECORD

RUN NO.	BIT SIZE	CASING	WT.—LB.	FROM WELL RECORD		FROM R/A LOG
1		10-3/4		SURF.	TO 250	TO
1		7-5/8		SURF.	TO 1405	TO
1		5-1/2		SURF.	TO 3264	TO
					TO	TO
					TO	TO

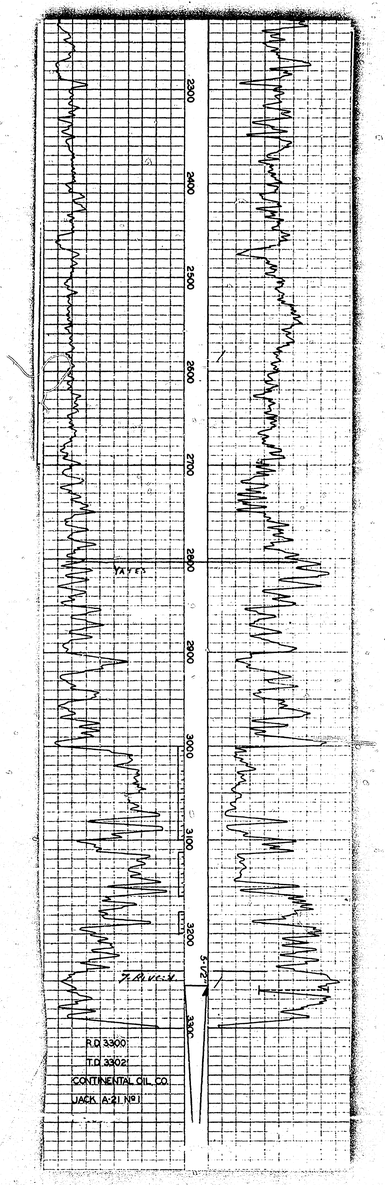
REMARKS OR OTHER DATA



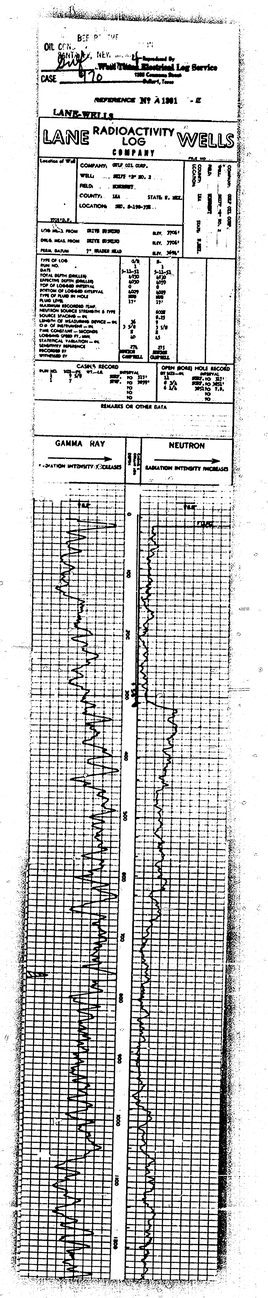
17


1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600

18

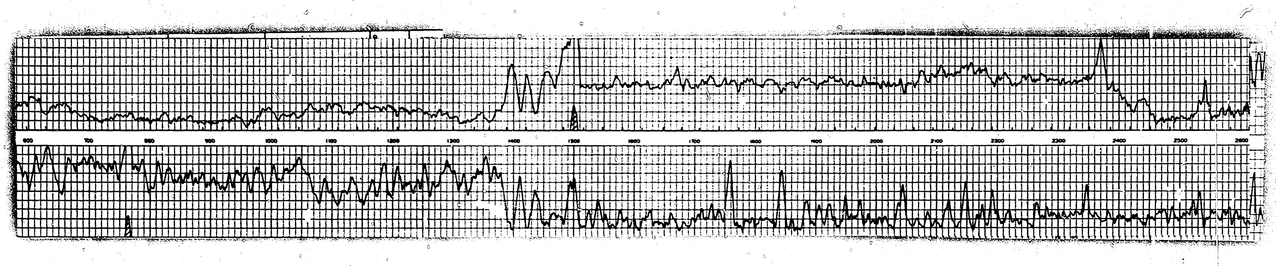

2300
2400
2500
2600
2700
2800
2900
3000
3100
3200
3300
R.D 3300
T.D 3302'
CONTINENTAL OIL CO.
JACK A-21 No1

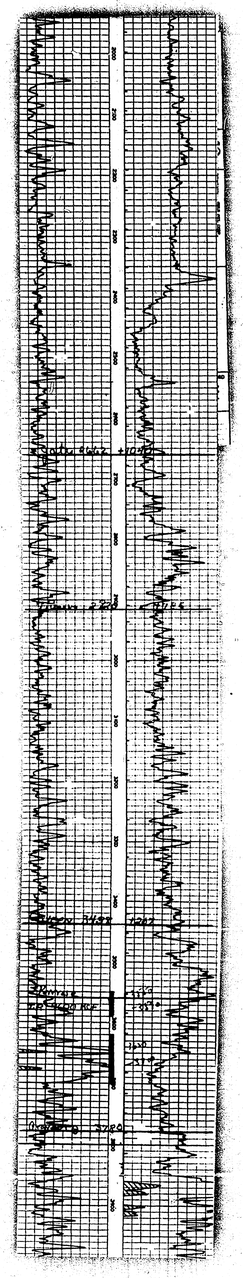
19



OIL CON.
CASE 970
Reproduced by
Wall Tilton Electrical Log Service
REFERENCE Nº A 1301 - E
LANE-WELLS
LANE RADIOACTIVITY LOG WELLS
COMPANY
COMPANY: GULF OIL CORP.
WELL: SKIPP "B" NO. 2
FIELD: SCHOBERT
COUNTY: LEA STATE: N. MEX.
LOCATION: SEC. 8-19S-35E
LOG MEAS. FROM: SKIPP SCHOBERT
DRILL MEAS. FROM: SKIPP SCHOBERT
FINAL DATUM: 7" BRAKER HEAD
TYPE OF LOG
RUN NO.
DATE
TOTAL DEPTH (DRILLER)
TOTAL DEPTH (WELLS)
TOP OF LOGGED INTERVAL
BOTTOM OF LOGGED INTERVAL
TYPE OF FLUID IN HOLE
FLUID LEVEL
MAXIMUM RECORDED TEMP.
NEUTRON SOURCE STRENGTH & TYPE
SOURCE SPACING — IN.
LENGTH OF MEASURING SPACE — IN.
DIA. OF NEUTRONS — IN.
TIME CONSTANT — SECONDS
LOGGING SPEED FT./MIN.
SCALE OF TRANSMISSION — IN.
SENSITIVITY REFERENCE
RECORDED BY
WITNESSED BY
CASING RECORD
OPEN BORE HOLE RECORD
REMARKS OR OTHER DATA
GAMMA RAY
NEUTRON
RADIATION INTENSITY INCREASES

20





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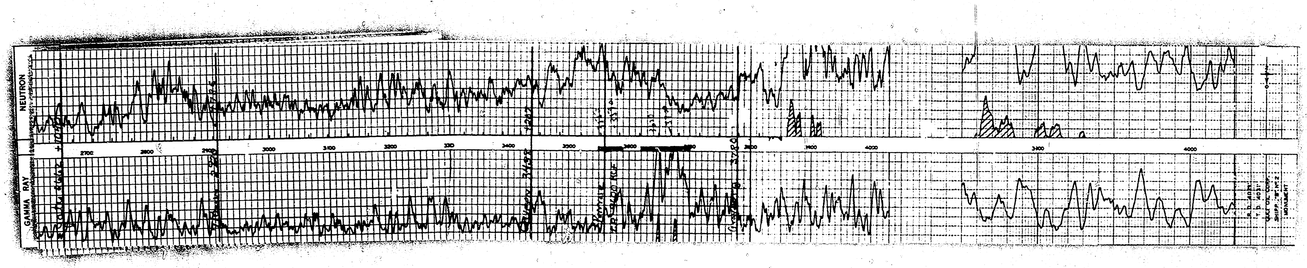
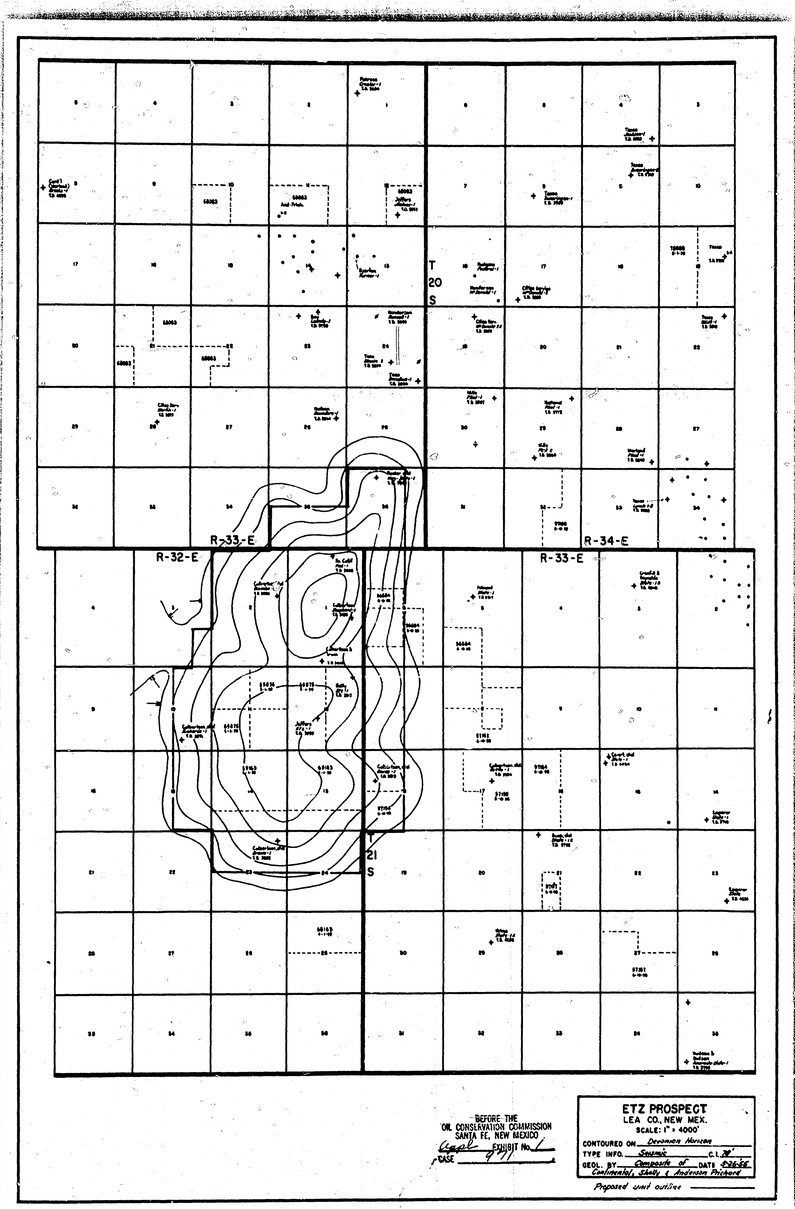
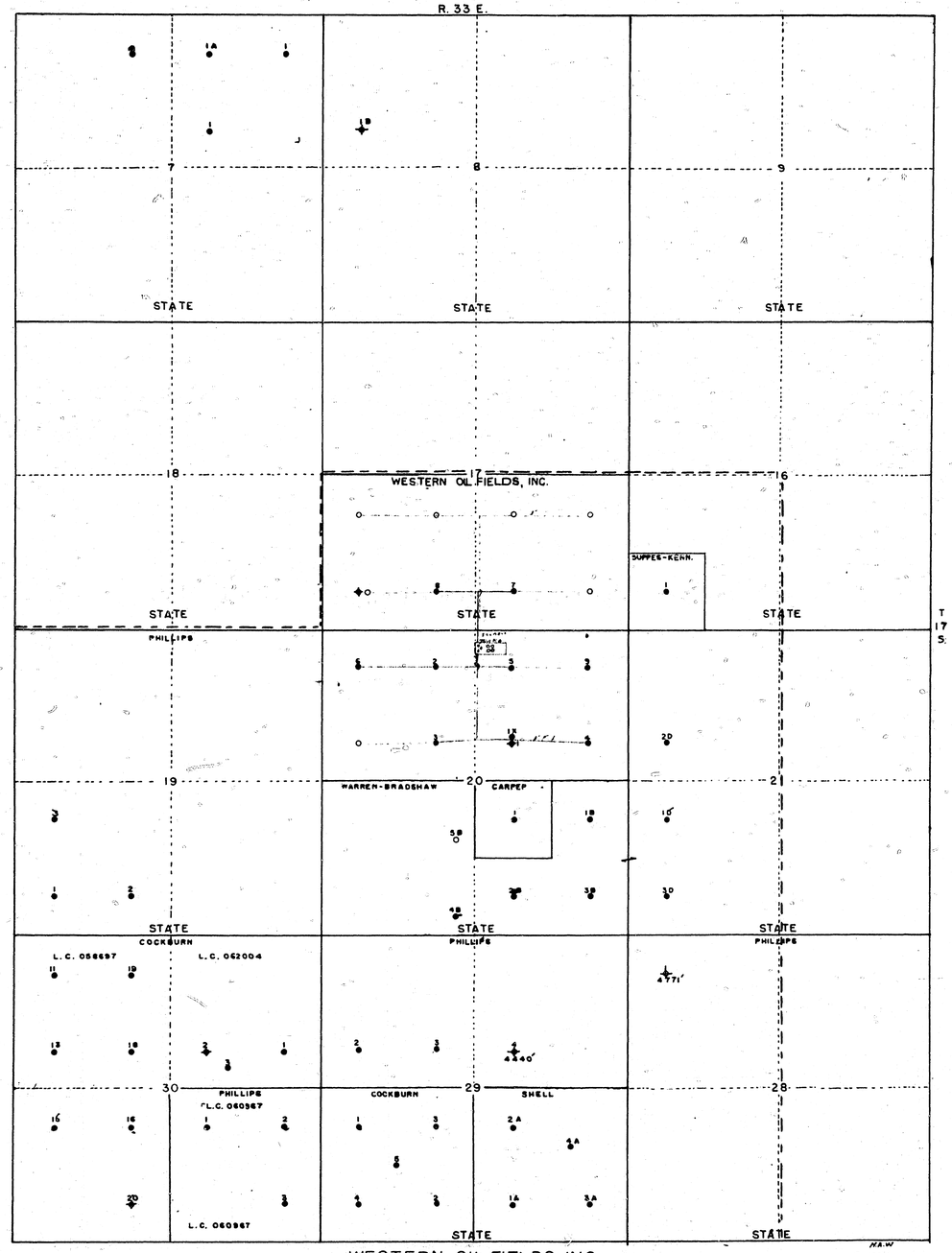

NEUTRON
GAMMA RAY
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000
4100
3400
4000

24



T
20
S
R-32-E
R-33-E
R-33-E
R-34-E
21
S
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 1
CASE 4911
ETZ PROSPECT
LEA CO., NEW MEX.
SCALE: 1" = 4000'
CONTOURED ON Devonian Horizon
TYPE INFO. Seismic C.I. 78'
GEOL. BY Composite of DATE 8-26-55
Continental, Shelly & Anderson Prichard
Proposed unit outline

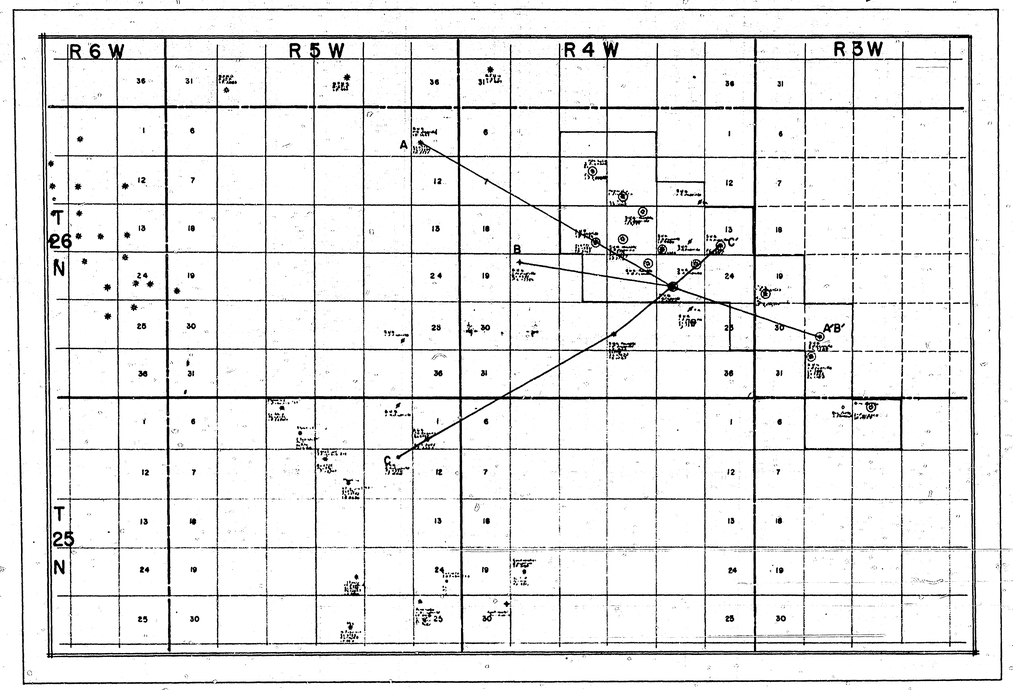
25

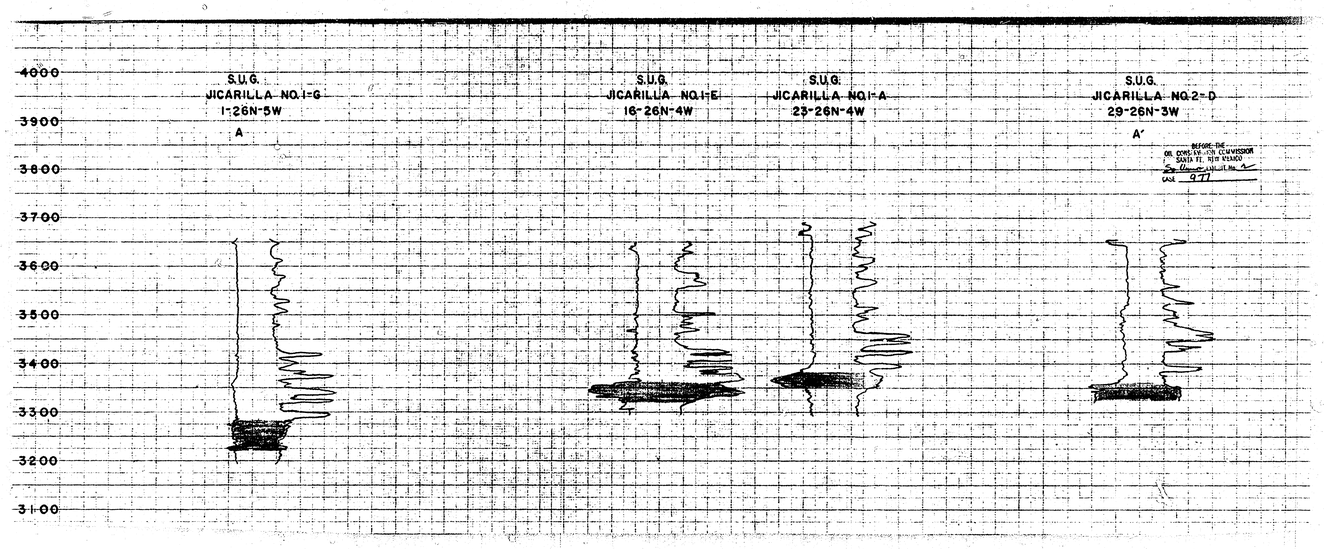


WESTERN OIL FIELDS INC.
MALJAMAR FIELD
LEA COUNTY, N.M.

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
EXHIBIT No. 99
CASE 6716

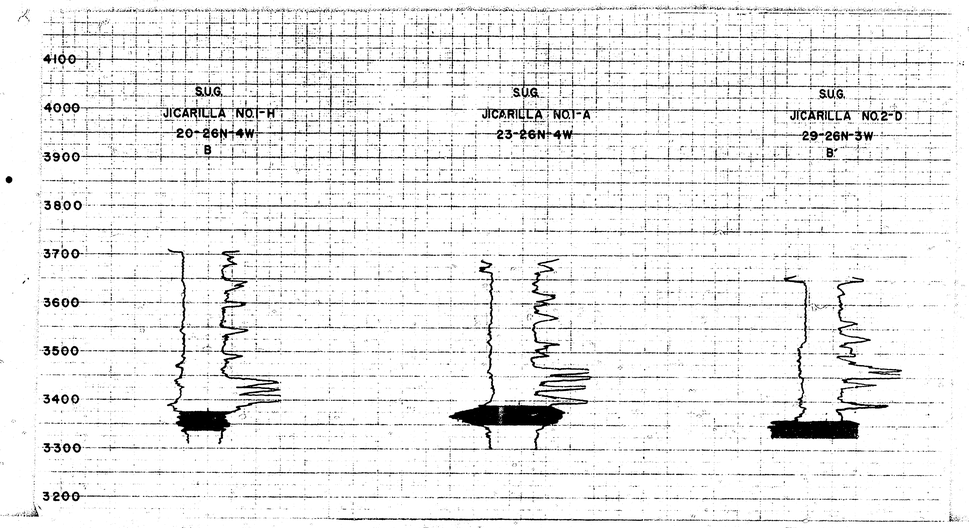
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 1
CASE 977 (Reopened)





BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 2
CASE 977

26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B
S.U.G.
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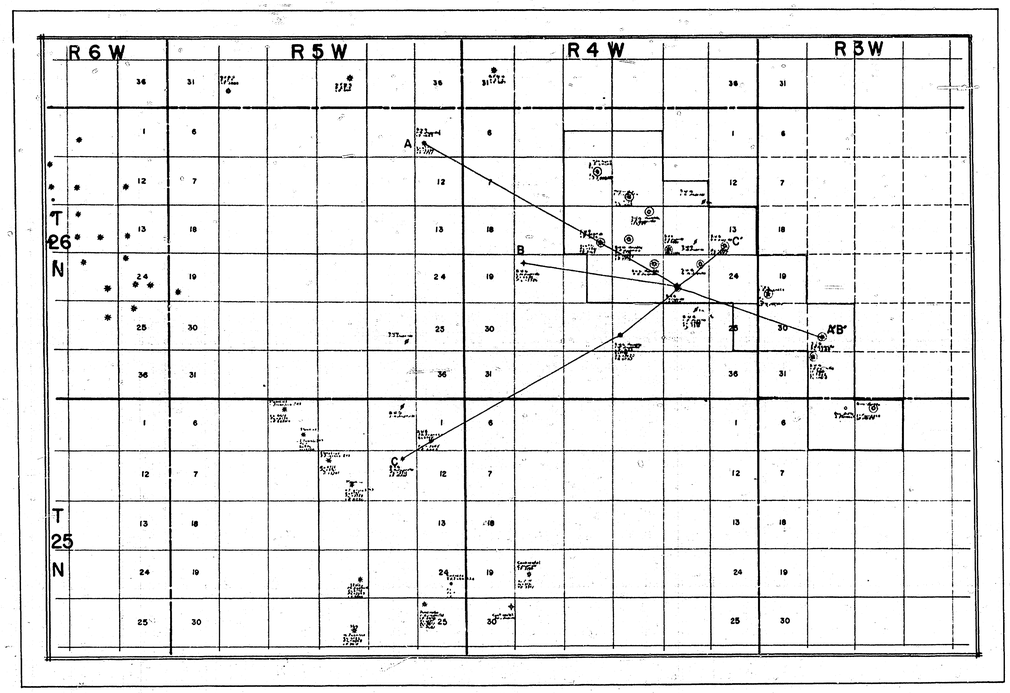
23-26N-4W
S.U.G.
JICARILLA NO.2-D
29-26N-3W
B'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R 4 W
R 3 W
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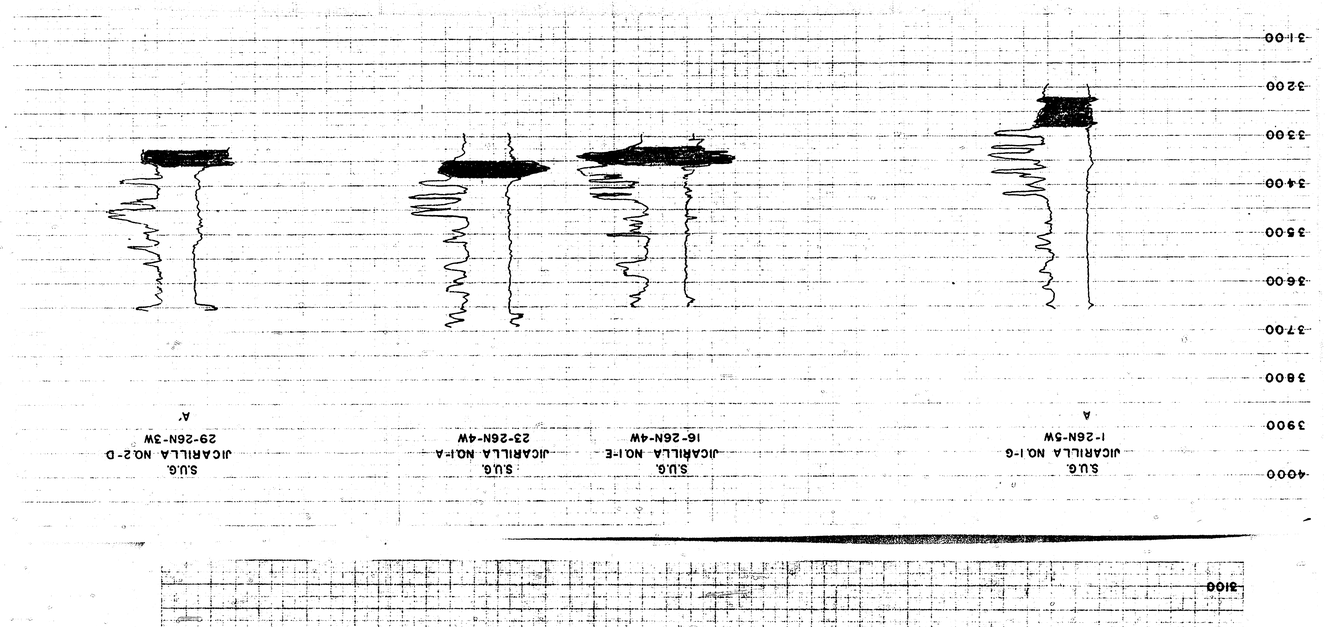
T 25 N
A
B
C
C'
B'

27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A
S.U.G.
JICARILLA NO.1-E
16-26N-4W
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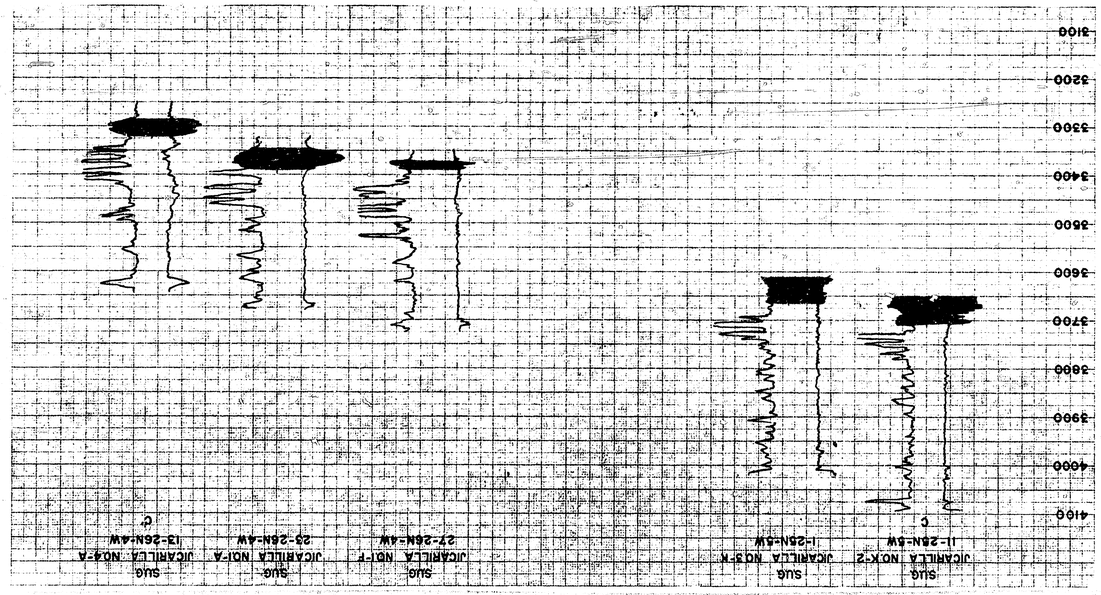
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C
S.U.G.
JICARILLA NO.3-M
1-25N-5W
S.U.G.
JICARILLA NO.1-F
27-25N-4W
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S.U.G.
JICARILLA NO.4-A
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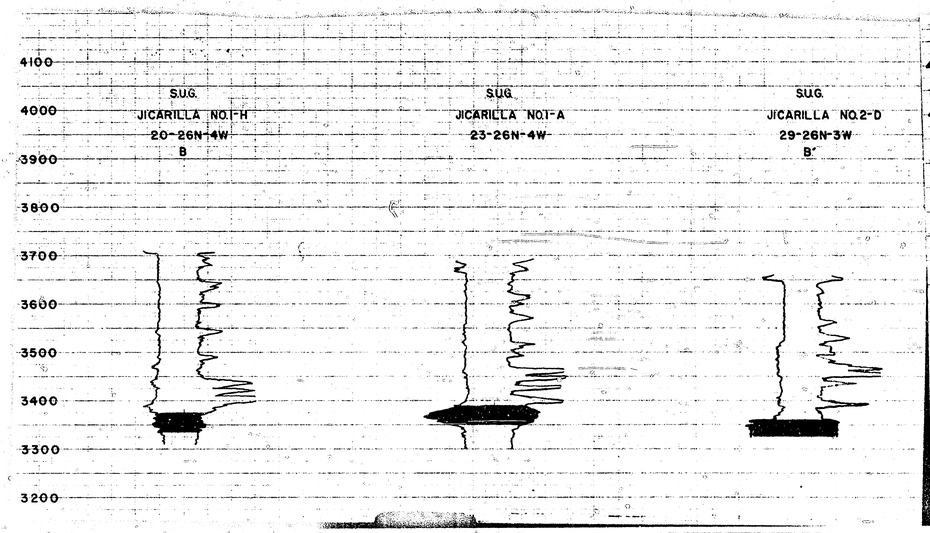
C'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B
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S.U.G.
JICARILLA NO.2-D
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B'
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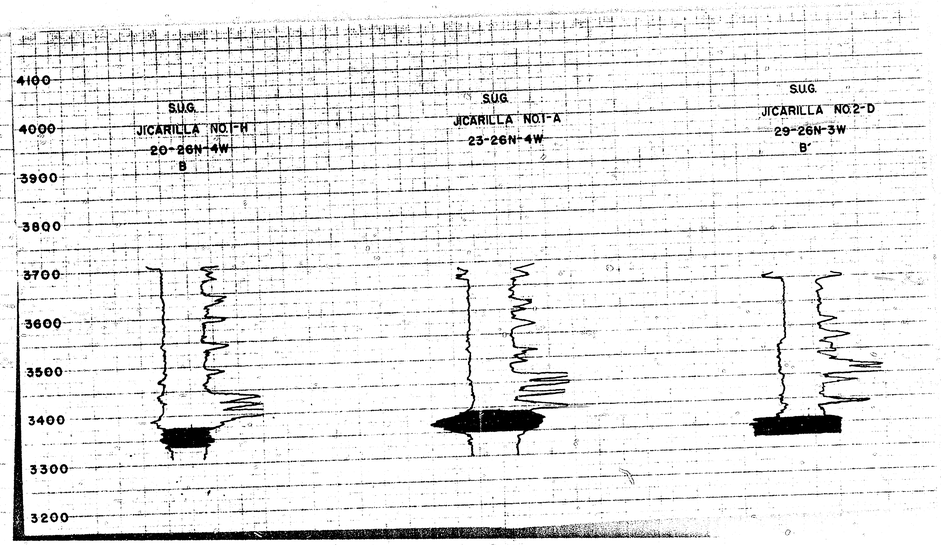
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JICARILLA NO.2-D
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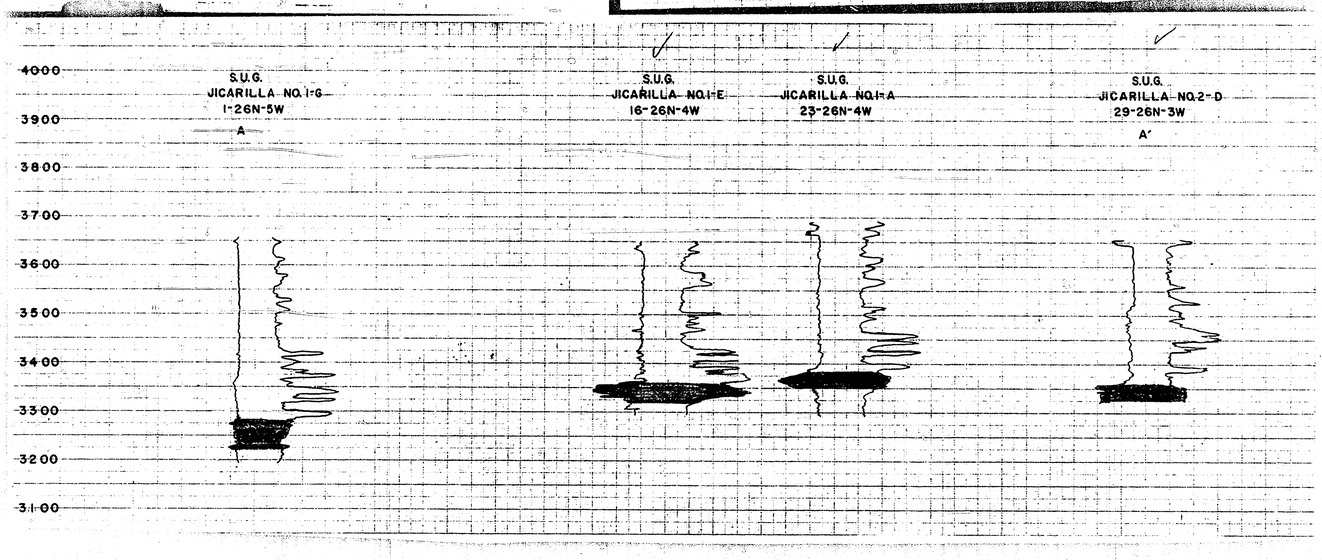
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A
S.U.G.
JICARILLA NO.1-E
16-26N-4W
S.U.G.
JICARILLA NO.1-A
23-26N-4W
S.U.G.
JICARILLA NO.2-D
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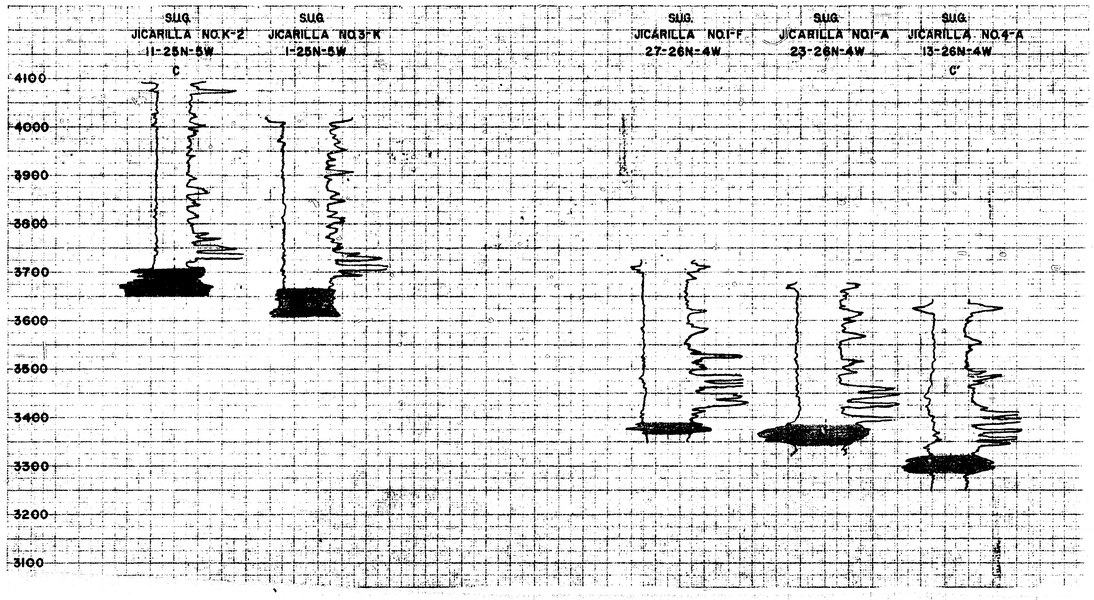
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11-25N-5W
C
SUG.
JICARILLA NO.3-K
1-25N-5W
SUG.
JICARILLA NO.1-F
27-26N-4W
SUG.
JICARILLA NO.1-A
23-26N-4W
SUG.
JICARILLA NO.4-A
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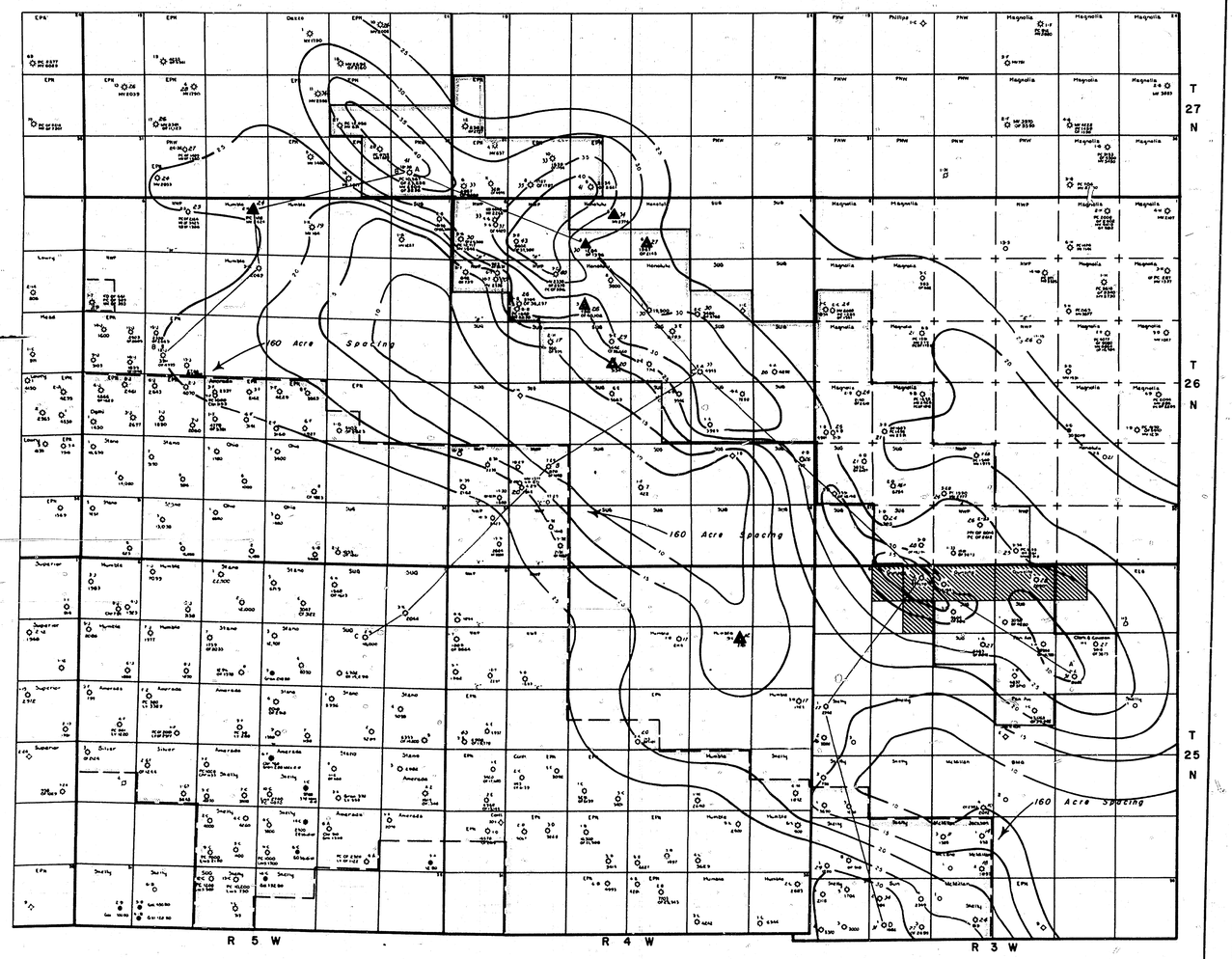

Isopachous Map of Net Pay Sand

TAPACITO PICTURED CLIFFS FIELD

Rio Arriba County, New Mexico

MAP I

February 1958

Val R. Reese and Associates, Inc.

Contour interval 5 feet

33 Feet of net pay sand from core analysis and electrical log

Cored well

Gunsite Butte Uranium Acreage

Limits of Tapacito Pictured Cliffs Field

Limits of S.Blanco Pictured Cliffs Field

A——A' Line of cross section (See cross sections AA', BB', CC', DD')

Pictured Cliffs
Lewis
Chacra
La Ventana
Mesaverde
Gallup
Graneros
Dakota

Gunsite Butte Exhibit No. 1
Docket No. 977

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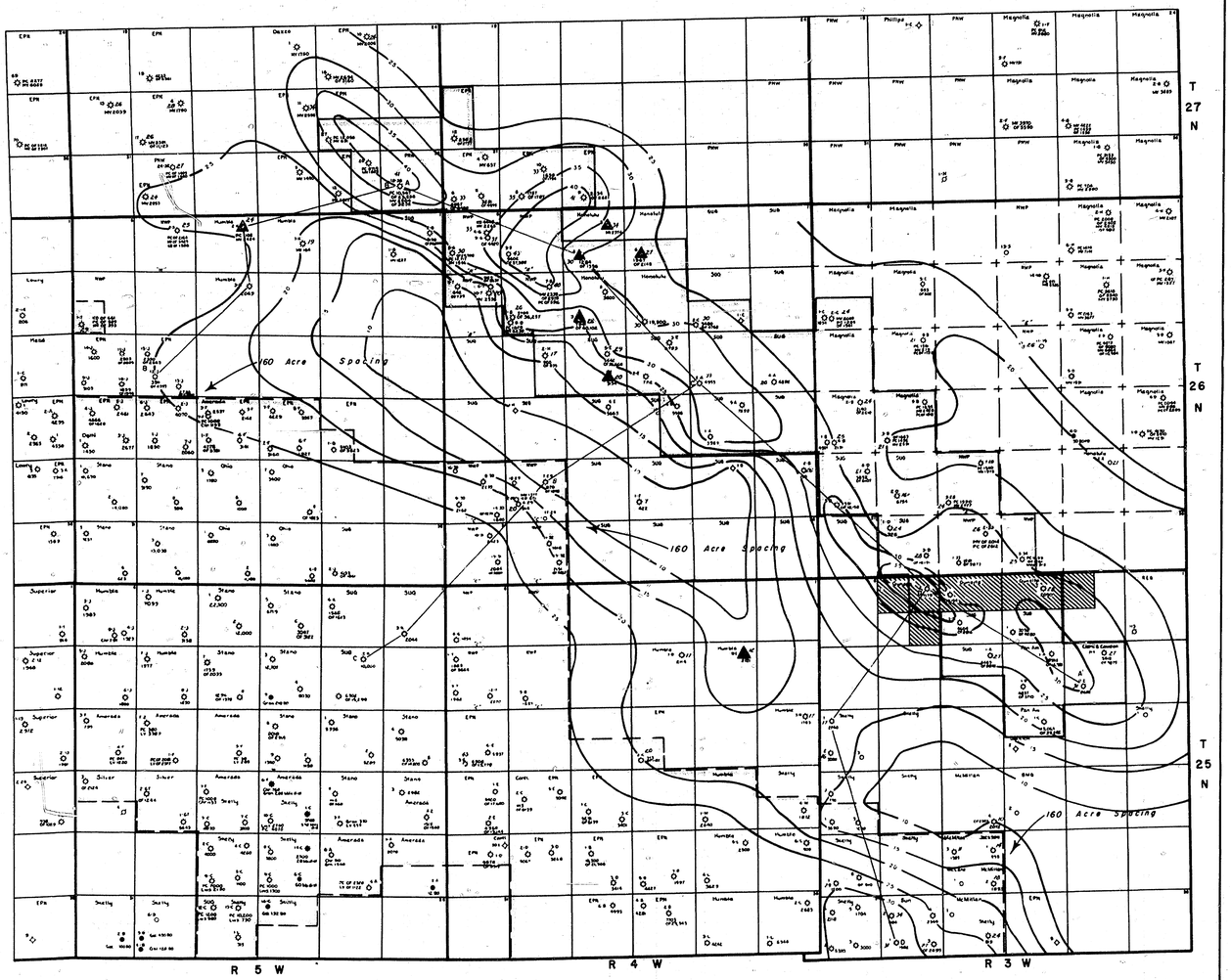


Isopachous Map of Net Pay Sand

TAPACITO PICTURED CLIFFS FIELD

Rio Arriba County, New Mexico

Contour interval 5 feet

33 Feet of net pay sand from core analysis and electrical log

▲ Cored well

Gunsite Butte Uranium Acreage

—— Limits of Tapacito Pictured Cliffs Field

— — Limits of S.Blanco Pictured Cliffs Field

A——A' Line of cross section (See cross sections AA', BB', CC', DD')

MAP I

February 1958

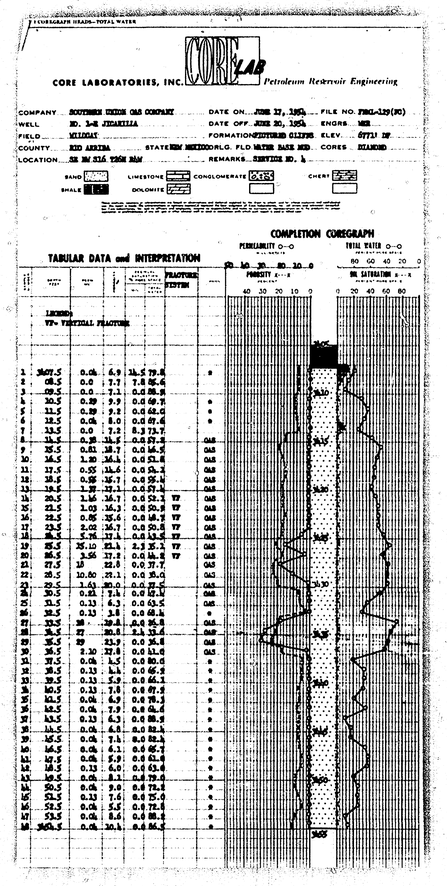
Val R. Reese and Associates, Inc.

○ Pictured Cliffs
○Lwm Lewis
○Chc Chacra
○Lv La Ventana
○Mv Mesaverde
○Gallup
○Gran Graneros
○Dakota

Gunsite Butte Exhibit No. 1
Docket No. 977

32

33



CORE LABORATORIES, INC. *Petroleum Reservoir Engineering*

COMPANY SOUTHERN UNION GAS COMPANY — DATE ON JUNE 17, 1954 — FILE NO. FRM-129(RC)
WELL NO. 3-E JICARILLA — DATE OFF JUNE 20, 1954 — ENGRS. MEB
FIELD WILDCAT — FORMATION FUTURED CLIFFS — ELEV. 6771' DF
COUNTY RIO ARRIBA — STATE NEW MEXICO — DRLG. FLD WATER BASE MUD — CORES DIAMOND
LOCATION SE NW S16 T26N R5W — REMARKS SERVICE NO. 4

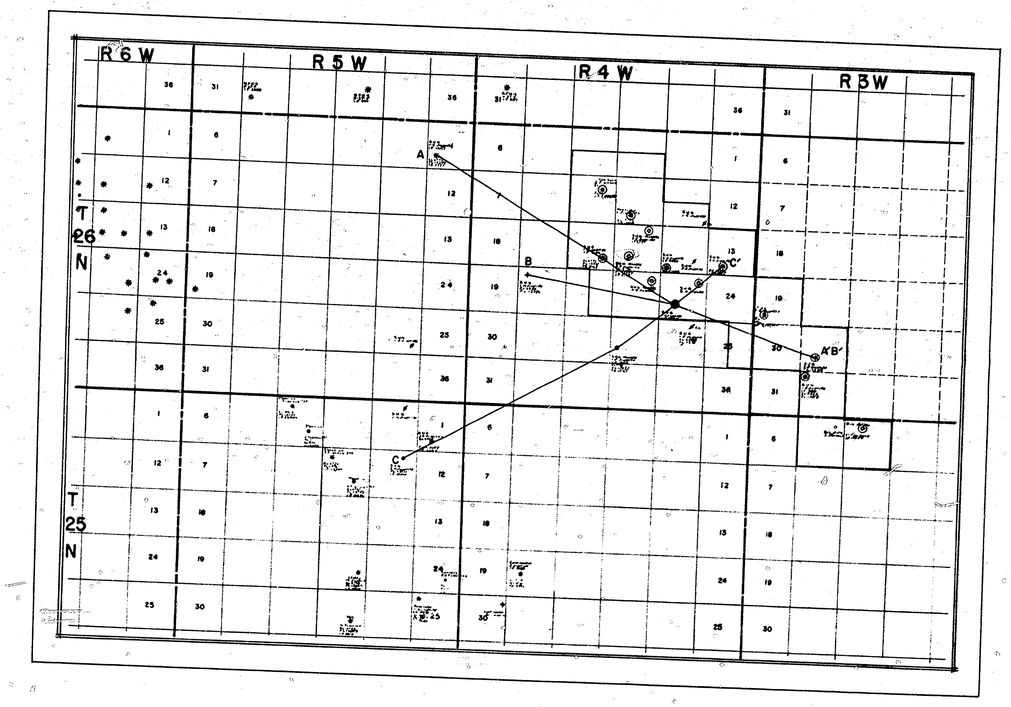
SAND — LIMESTONE — CONGLOMERATE — CHERT
SHALE — DOLOMITE

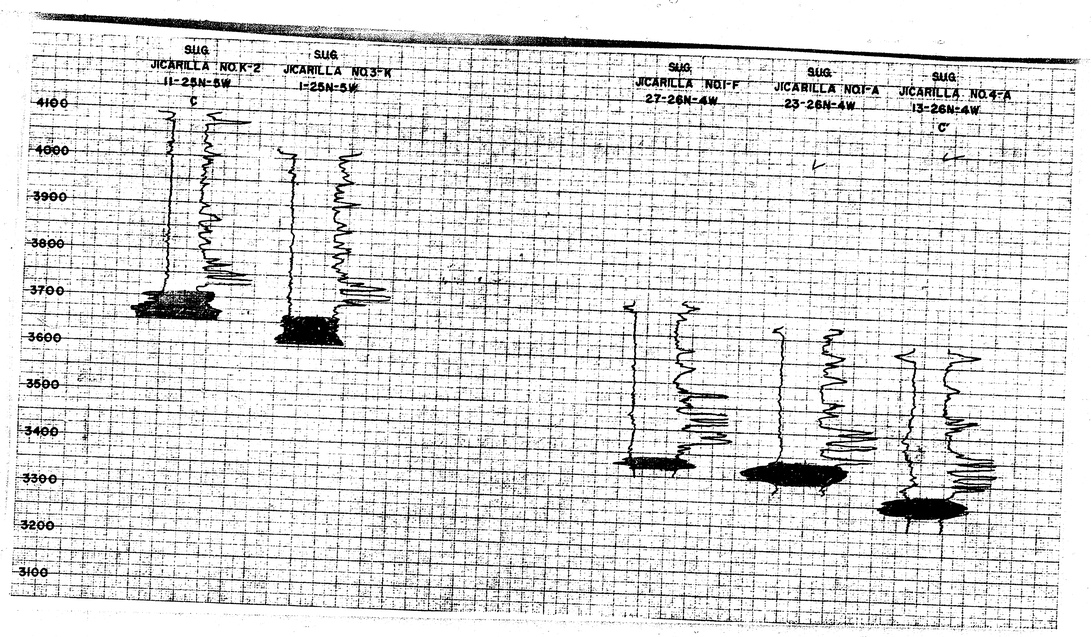
TABULAR DATA and INTERPRETATION

COMPLETION COREGRAPH
PERMEABILITY o--o (MILLIDARCYS) 50 40 30 20 10 0
TOTAL WATER O--O (PER CENT OF PORE SPACE) 60 50 40 30 20 0
POROSITY ∠---∠ (PER CENT) 40 30 20 10 0
OIL SATURATION ∧---∧ (PER CENT OF PORE SPACE) 0 20 40 60 80

LEGEND:
VF= VERTICAL FRACTURE

	DEPTH FEET	PERM MILLIDARCYS	POROSITY PER CENT	OIL SATURATION PER CENT OF PORE SPACE	FRACTURE TYPE	REMARKS
1	3607.5	0.04	6.9	31.5 79.8		*
2	08.5	0.0	7.7	7.8 85.6		
3	09.5	0.0	7.2	0.0 88.9		
4	10.5	0.29	9.9	0.0 69.7		*
5	11.5	0.29	9.2	0.0 62.0		*
6	12.5	0.04	8.0	0.0 67.6		*
7	13.5	0.0	7.2	8.3 73.7		
8	14.5	0.38	14.5	0.0 57.5		Gas
9	15.5	0.81	18.7	0.0 46.5		Gas
10	16.5	1.20	16.1	0.0 51.8		Gas
11	17.5	0.55	15.6	0.0 54.2		Gas
12	18.5	0.95	15.7	0.0 56.4		Gas
13	19.5	1.28	17.1	0.0 57.1		Gas
14	20.5	1.46	16.7	0.0 52.1	VF	Gas
15	21.5	1.03	16.3	0.0 50.8	VF	Gas
16	22.5	0.85	15.6	0.0 46.9	VF	Gas
17	23.5	2.02	16.7	0.0 50.5	VF	Gas
18	24.5	5.76	17.1	0.0 43.6	VF	Gas
19	25.5	25.10	21.4	2.3 35.1	VF	Gas
20	26.5	3.56	17.2	0.0 44.8	VF	Gas
21	27.5	15	22.8	0.0 37.7		Gas
22	28.5	10.80	22.1	0.0 38.0		Gas
23	29.5	1.65	20.0	0.0 39.4		Gas
24	30.5	0.22	7.4	0.0 82.4		Gas
25	31.5	0.13	6.3	0.0 63.5		Gas
26	32.5	0.13	5.8	0.0 68.4		*
27	33.5	38	28.8	0.0 45.8		Gas
28	34.5	27	28.8	2.1 35.4		Gas
29	35.5	29	23.9	0.0 34.8		Gas
30	36.5	2.30	22.8	0.0 41.6		Gas
31	37.5	0.04	4.5	0.0 80.6		*
32	38.5	0.13	4.4	0.0 66.9		*
33	39.5	0.13	5.9	0.0 66.1		*
34	40.5	0.13	7.8	0.0 67.9		*
35	41.5	0.04	6.9	0.0 78.3		*
36	42.5	0.04	7.9	0.0 84.4		*
37	43.5	0.13	6.3	0.0 88.9		*
38	44.5	0.04	4.8	0.0 82.4		*
39	45.5	0.04	7.4	0.0 82.3		*
40	46.5	0.04	6.1	0.0 66.7		*
41	47.5	0.04	5.9	0.0 61.8		*
42	48.5	0.13	6.0	0.0 63.8		*
43	49.5	0.04	8.1	0.0 72.0		*
44	50.5	0.04	9.0	0.0 72.4		*
45	51.5	0.13	7.6	0.0 75.0		*
46	52.5	0.04	5.5	0.0 72.6		*
47	53.5	0.04	8.6	0.0 88.0		*
48	3654.5	0.04	10.1	0.0 86.5		*


R 6 W
R 5 W
R 4 W
R 3 W
T 26 N
T 25 N
A
B
C
A'B'
C'


SUG.
JICARILLA NO.K-2
11-25N-5W
C
SUG.
JICARILLA NO.3-K
1-25N-5W
SUG.
JICARILLA NO1-F
27-26N-4W
SUG.
JICARILLA NO1-A
23-26N-4W
SUG.
JICARILLA NO.4-A
13-26N-4W
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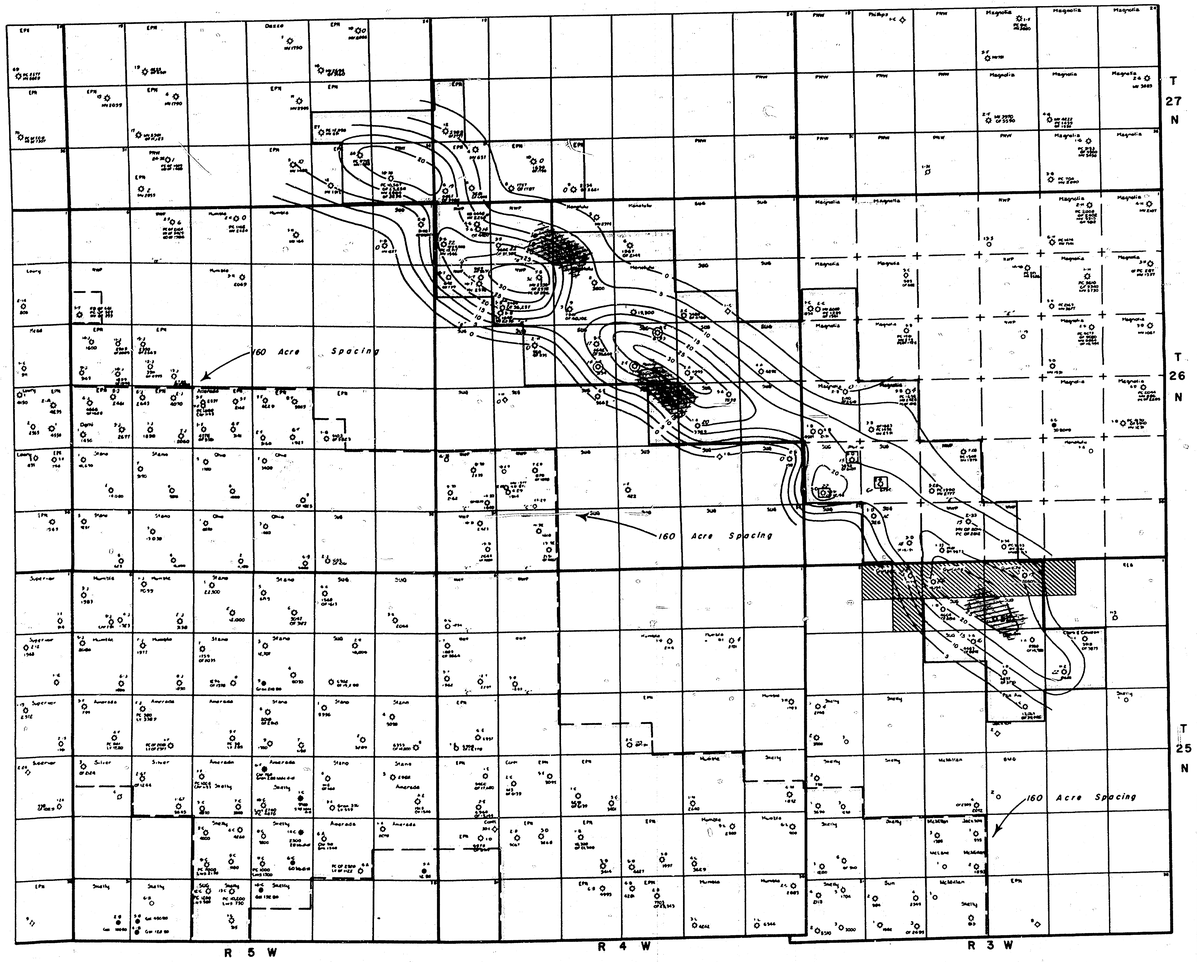


Isopachous Map of Microlog Porosity

TAPACITO PICTURED CLIFFS FIELD

Rio Arriba County, New Mexico

MAP 2

February 1958

Val R. Reese and Associates, Inc.

Contour interval 5 feet

10 Feet showing porosity x permeability on microlog

Wells on interference test #1

Well on interference test #2

Estimated present drainage area of 320Ac controlled by porosity x permeability

Gunsite Butte Uranium Acreage

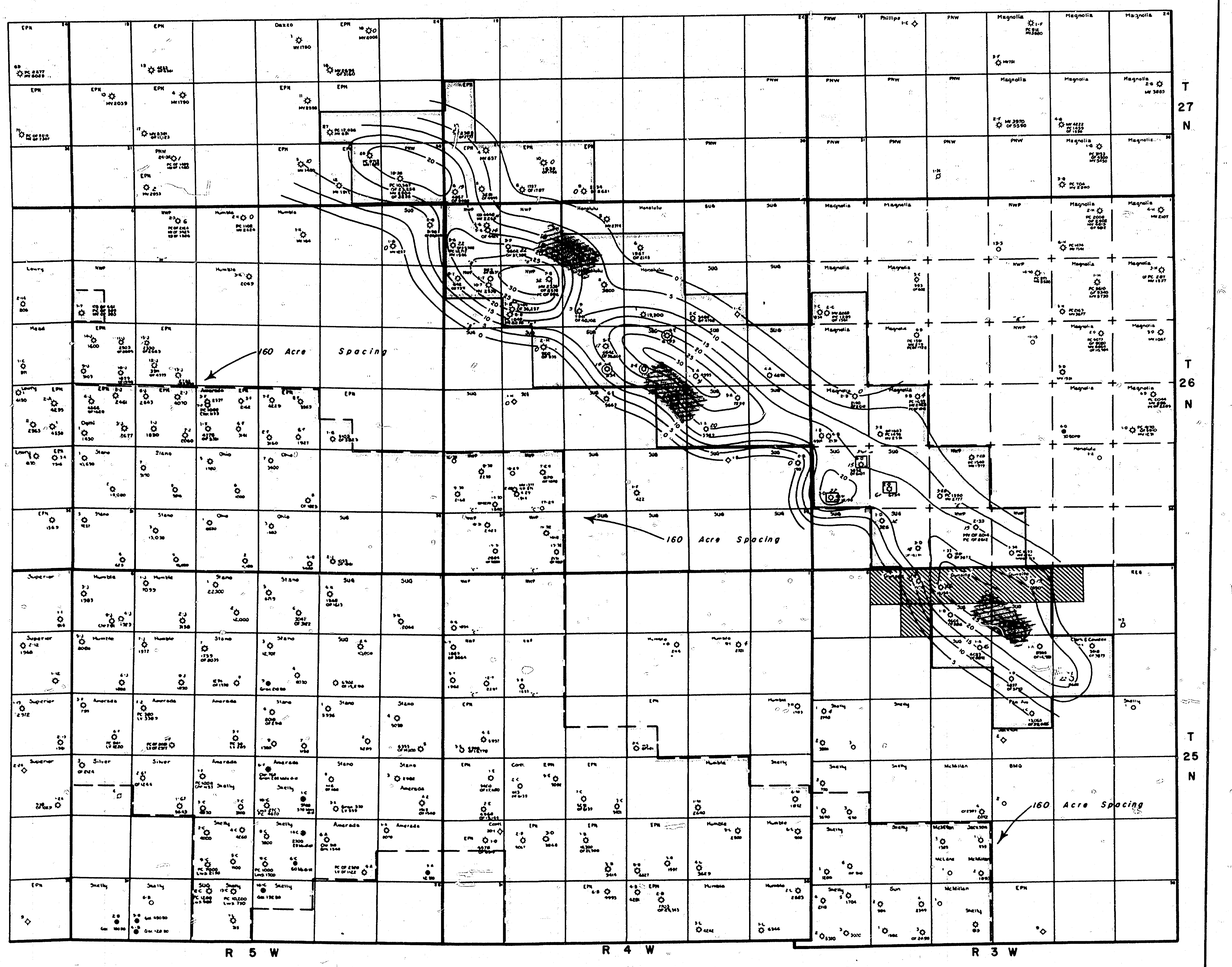
Limits of Tapacito Pictured Cliffs Field

Limits of Blanco Pictured Cliffs Field

Pictured Cliffs
Lewis
Chacra
La Ventana
Mesaverde
Gallup
Greenhorn
Dakota

35

Gunsite Butte Exhibit No. 4
Docket No. 477



Isopachous Map of Microlog Porosity

TAPACITO PICTURED CLIFFS FIELD

Rio Arriba County, New Mexico

MAP 2

February 1958

Val R. Reese and Associates, Inc.

Contour interval 5 feet

Feet showing porosity & permeability on microlog

Wells on interference test "1

Wells on interference test "2

Estimated present drainage area of 320Ac controlled by porosity & permeability

Gunsite Butte Uranium Acreage

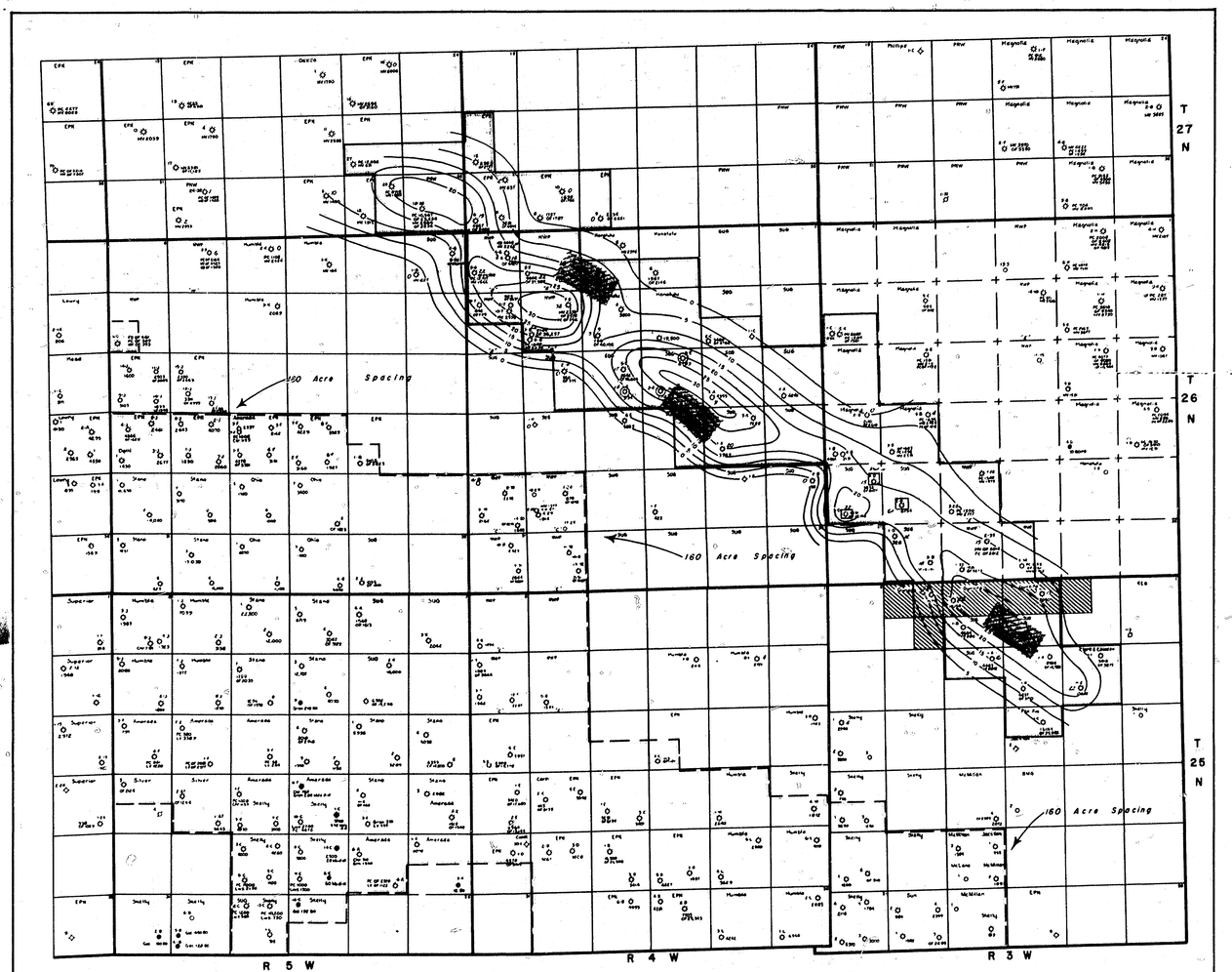
—— Limits of Tapacito Pictured Cliffs Field

— — Limits of Blanco Pictured Cliffs Field

Pictured Cliffs
Lewis
Chacra
La Ventana
Mesaverde
Gallup
Greenhorn
Dakota

36

Gunsite Butte Exhibit No. 4
D-61 No. 4577



Isopachous Map of Microlog Porosity

TAPACITO PICTURED CLIFFS FIELD

Rio Arriba County, New Mexico

MAP 2 #4

February 1958

Val R. Reese and Associates, Inc.

Contour interval 5 feet

.10 Feet showing porosity & permeability on microlog

Wells on interference test "1

Wells on interference test "2

Estimated present drainage area of 320 Ac controlled by porosity & permeability

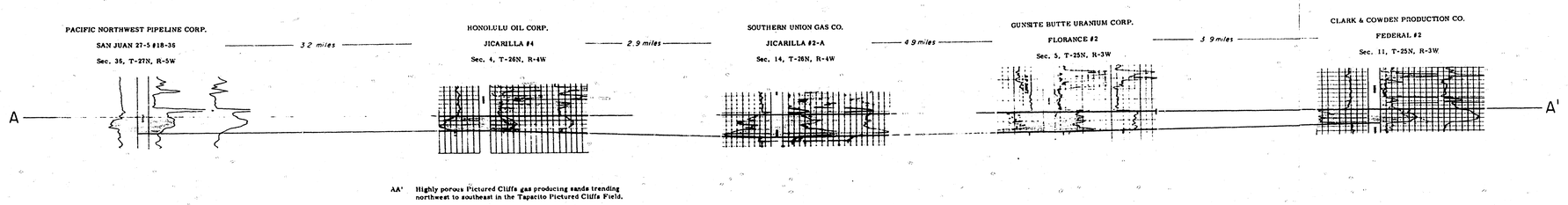
Gunsite Butte Uranium Acreage

—— Limits of Tapacito Pictured Cliffs Field

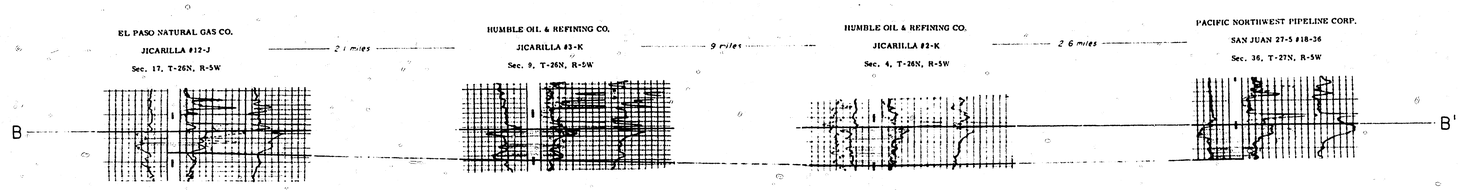
—— Limits of Blanco Pictured Cliffs Field

O Pictured Cliffs
Ol Lewis
Och Cliffhouse
Olv La Ventana
Om Mesaverde
Ocg Gallup
Ogr Graneros
Od Dakota

37



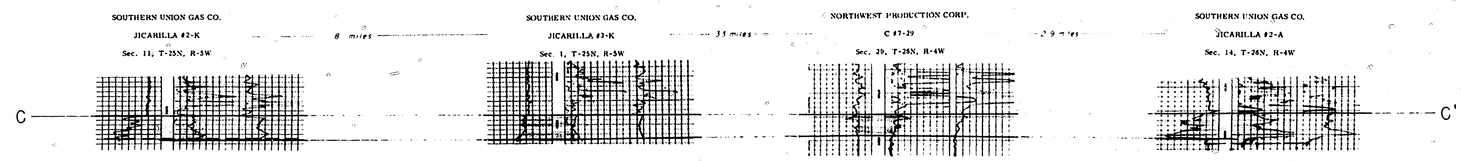
AA' Highly porous Pictured Cliffs gas producing sands trending northwest to southeast in the Tapacito Pictured Cliffs Field.



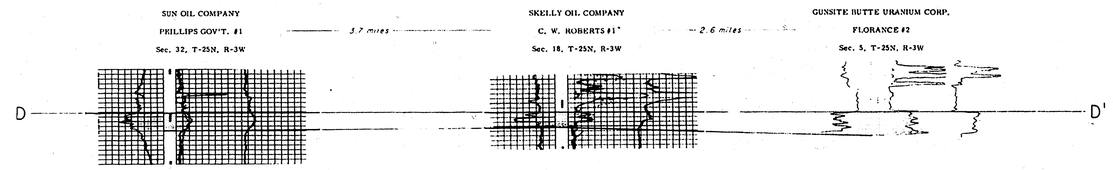
BB' Shows correlation of the Pictured Cliffs sandstone from the north end of the Tapacito Pictured Cliffs Field to the South Blanco Pictured Cliffs Field. Section shows variation in porosity of the sandstones with good correlation.

Shows correlation of Pictured Cliffs sandstone between the fields and highly porous belt in Tapacito Pictured Cliffs Field. (Section AA')

See Map #1 for location of Cross Sections AA', BB', CC', DD'.



CC' Shows correlation from the gas sands of Tapacito Field to the South Blanco Field. Section again shows variation in porosity with good correlation.



DD' Shows correlation of the gas sands of the Tapacito Pictured Cliffs Field to South Blanco Pictured Cliffs Field and shows good correlation with porosity variations.

CROSS SECTIONS OF PICTURED CLIFFS SANDSTONE
TAPACITO PICTURED CLIFFS FIELD AND SOUTH BLANCO PICTURED CLIFFS FIELD
RIO ARRIBA COUNTY, NEW MEXICO
FEBRUARY 1958
VAL R. REESE & ASSOCIATES, INC.

Gunsite Butte Exhibit No. 2
Docket No. 377

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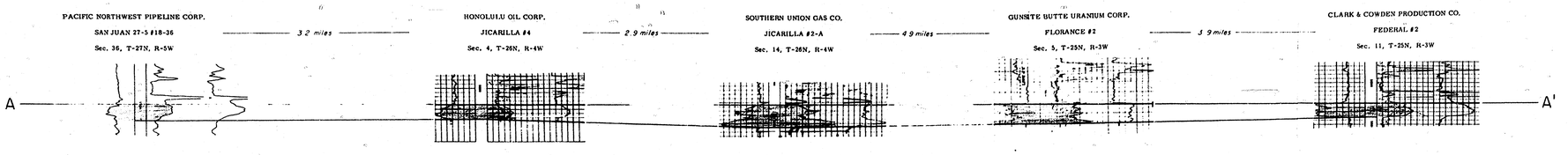
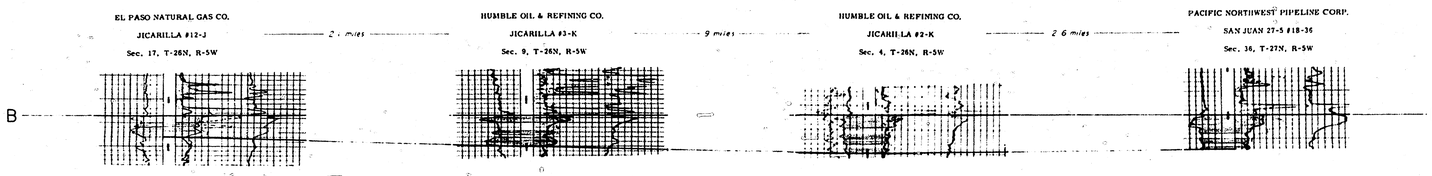
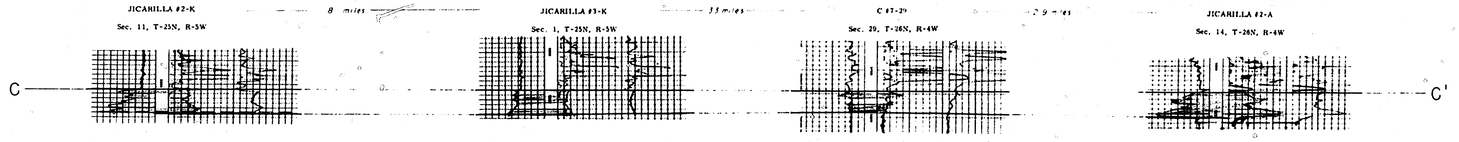


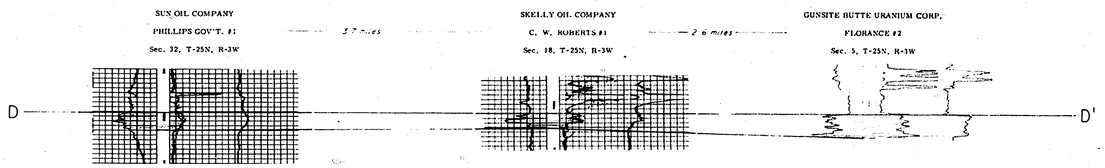
AA' Highly porous Pictured Cliffs gas producing sands trending northwest to southeast in the Tapacito Pictured Cliffs Field.



BB' Shows correlation of the Pictured Cliffs sandstone from the north end of the Tapacito Pictured Cliffs Field to the South Blanco Pictured Cliffs Field. Section shows variation in porosity of the sandstones with good correlation.



CC' Shows correlation from the gas sands of Tapacito Field to the South Blanco Field. Section again shows variation in porosity with good correlation.



DD' Shows correlation of the gas sands of the Tapacito Pictured Cliffs Field to South Blanco Pictured Cliffs Field and shows good correlation with porosity variations.

Shows correlation of Pictured Cliffs sandstone between the fields and highly porous belt in Tapacito Pictured Cliffs Field. (Section AA')

See Map #1 for location of Cross Sections AA', BB', CC', DD'.

CROSS SECTIONS OF PICTURED CLIFFS SANDSTONE

TAPACITO PICTURED CLIFFS FIELD AND SOUTH BLANCO PICTURED CLIFFS FIELD

RIO ARRIBA COUNTY, NEW MEXICO

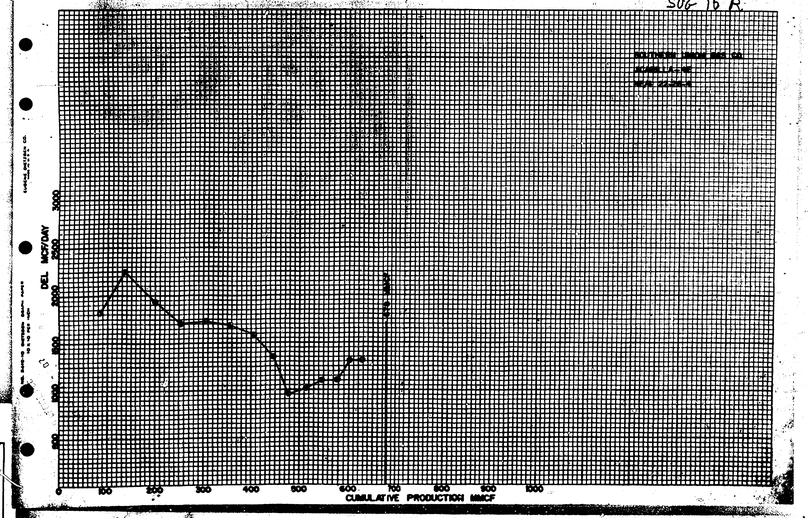
FEBRUARY 1958

VAL R. REESE & ASSOCIATES, INC.

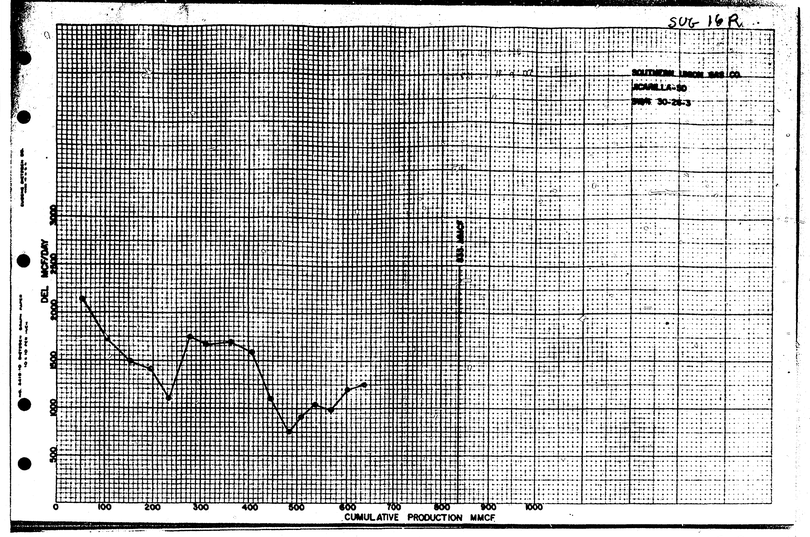
Tapacito Pict. Cliffs No. 5
F - 077

39

SUG 16 R.



SUG 16 R.



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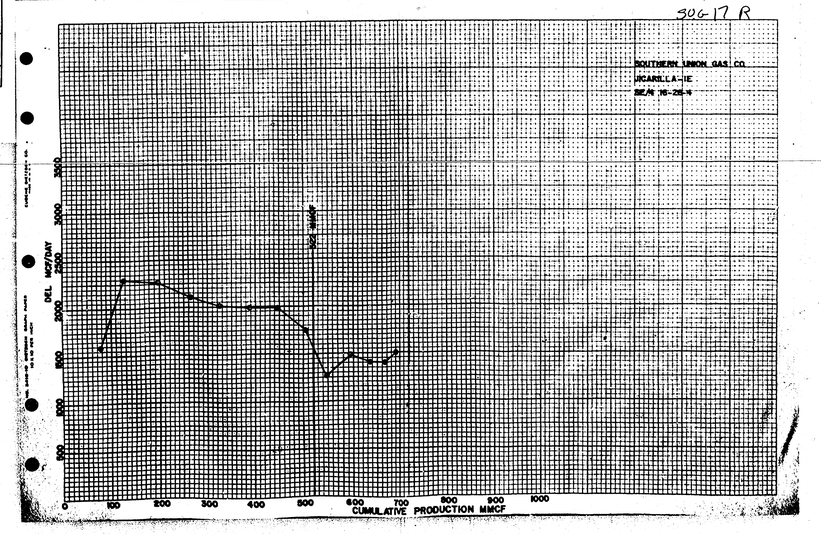

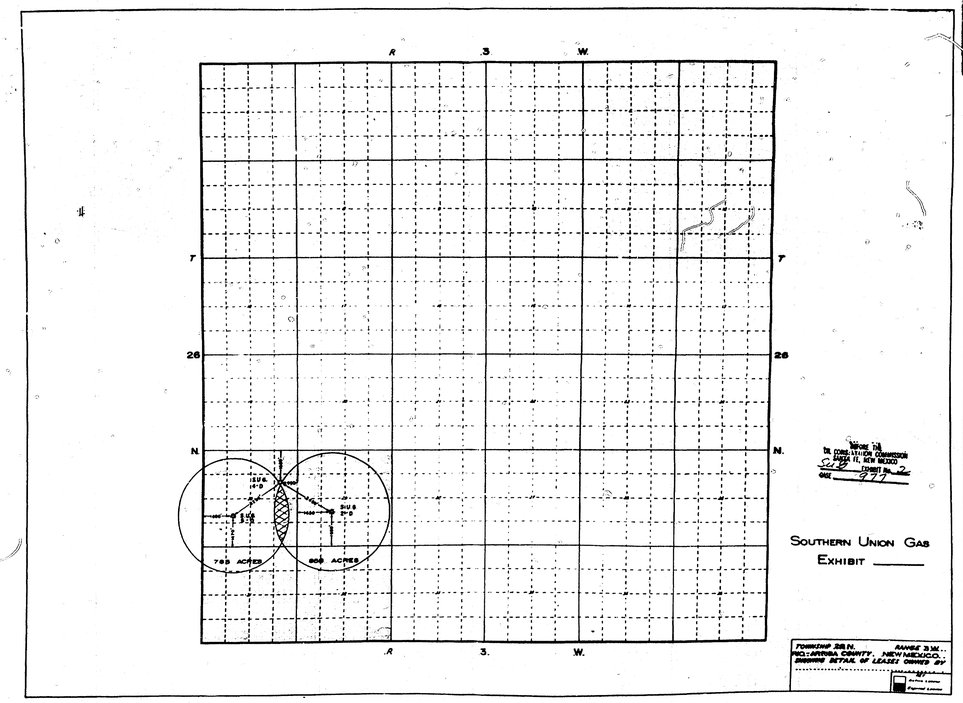

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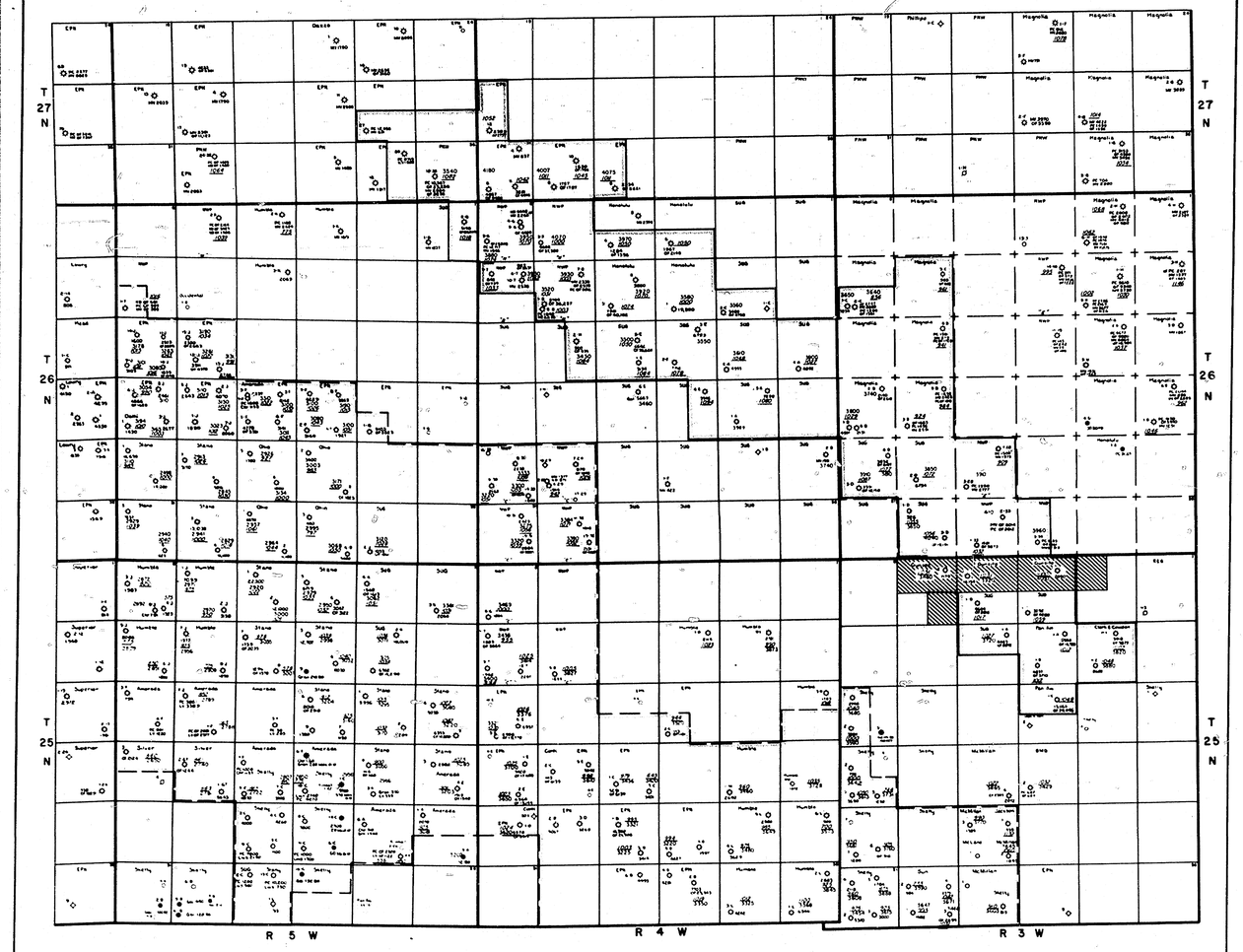

PRESSURE MAP

Based on Initial 7 Day Shut-In Pressures

TAPACITO-SOUTH BLANCO PICTURED CLIFFS FIELDS

Rio Arriba County, New Mexico

Two. Gunsite Butte 1 R

NOTE: SIMILARITY OF PRESSURES INDICATES COMMON RESERVOIR BETWEEN THE TWO FIELDS

Gunsite Butte Uranium Acreage

Limits of Tapacito Pictured Cliffs Field

Limits of Blanco Pictured Cliffs Field

MAY 14, 1958

Val R. Reese and Associates, Inc.

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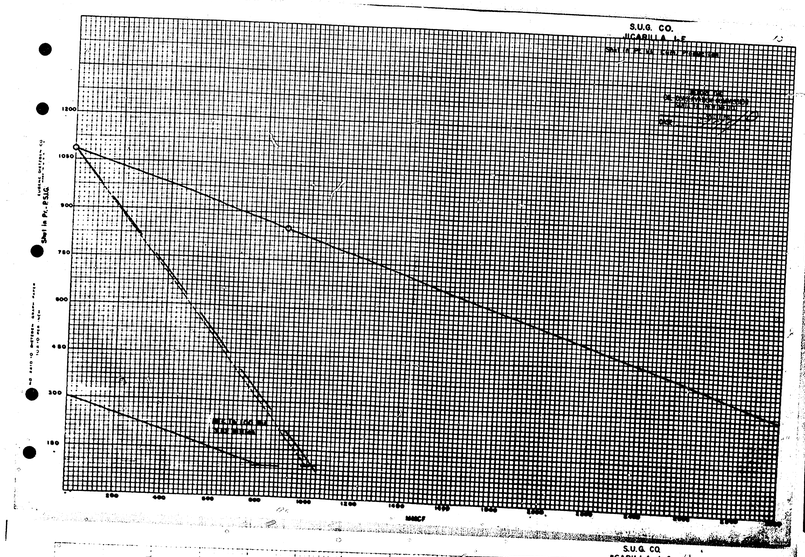
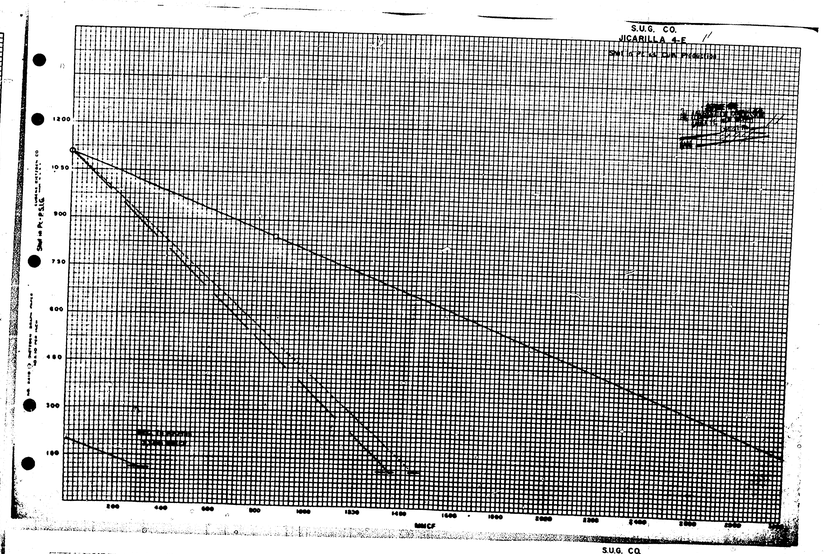

S.U.G. CO.
JICARILLA 4-E
MMCF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JICARILLA 4-F
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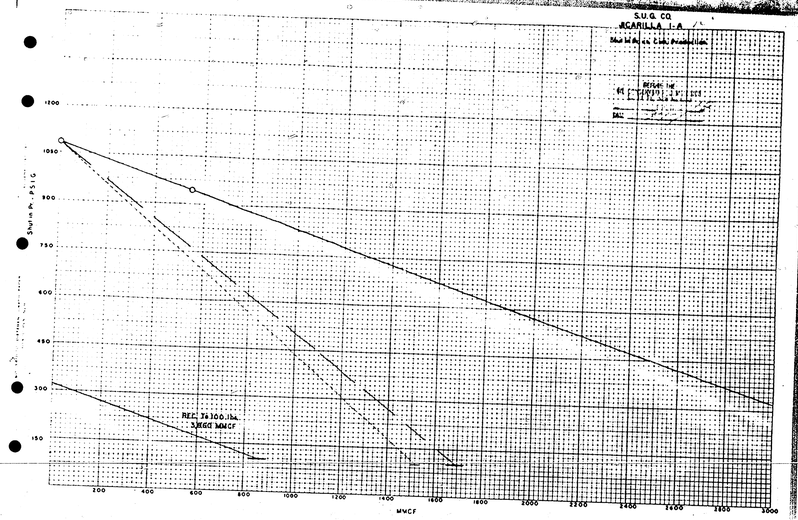
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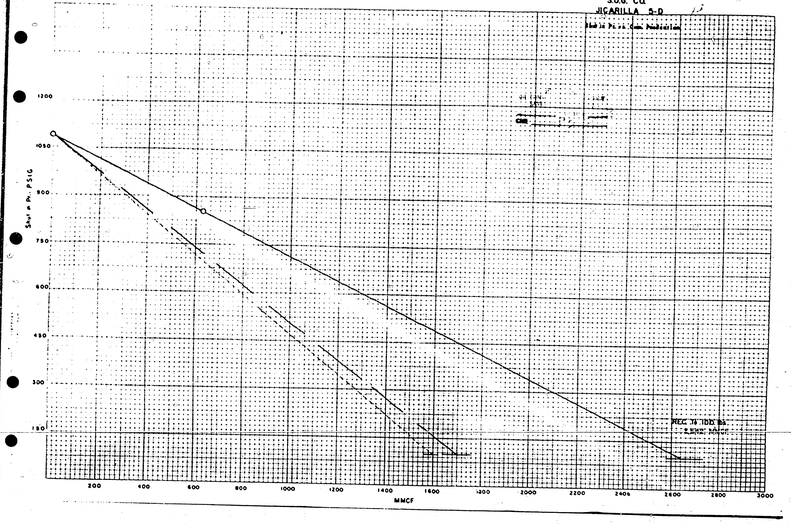
JICARILLA 1-A
MMCF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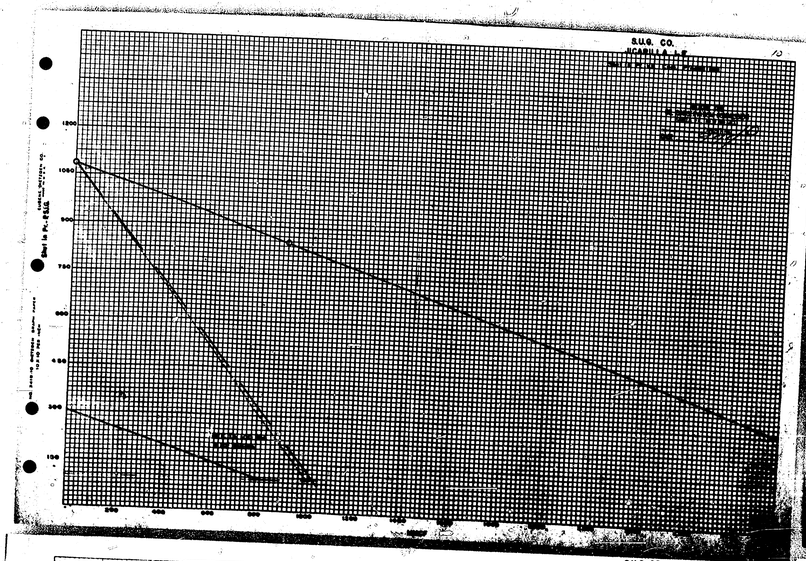
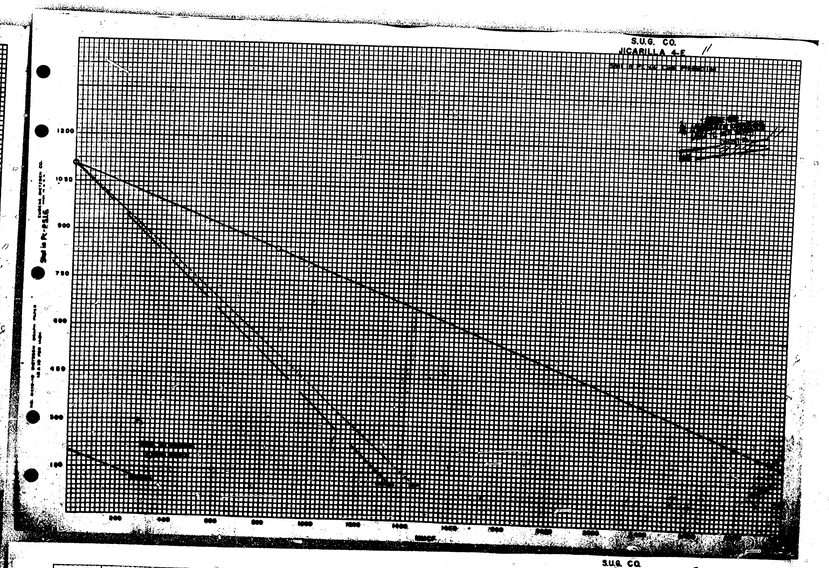
JICARILLA 5-D
MMCF


S.U.G. CO.
JICARILLA 1-E
Shut in Pt. - P.S.I.G.
MMCF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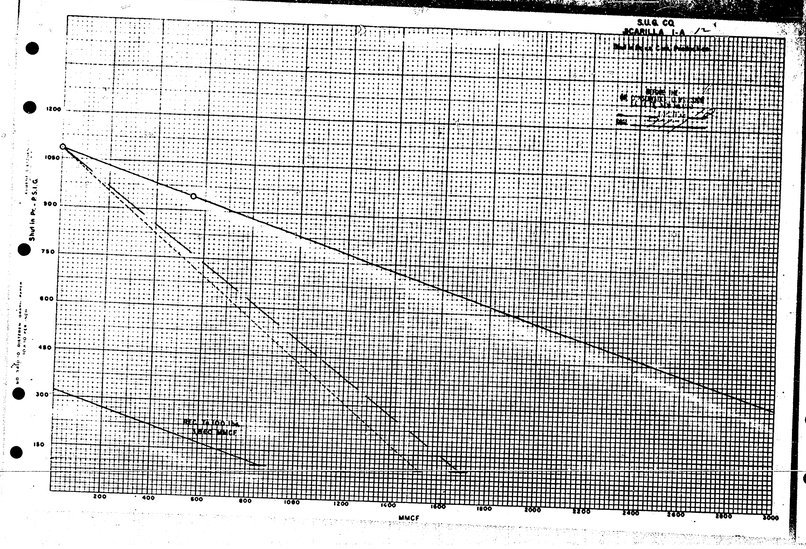
JICARILLA 4-E
Shut in Pt. - P.S.I.G.
MMCF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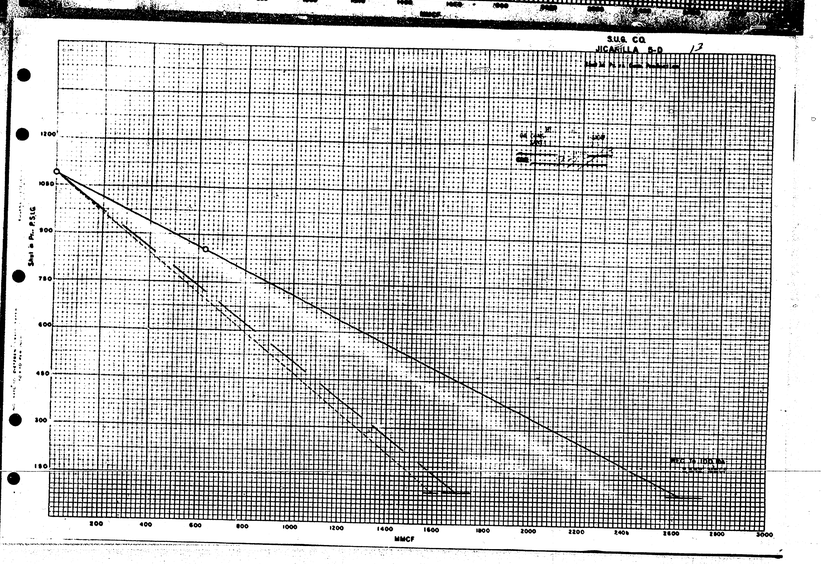
JICARILLA 1-A
Shut in Pt. - P.S.I.G.
MMCF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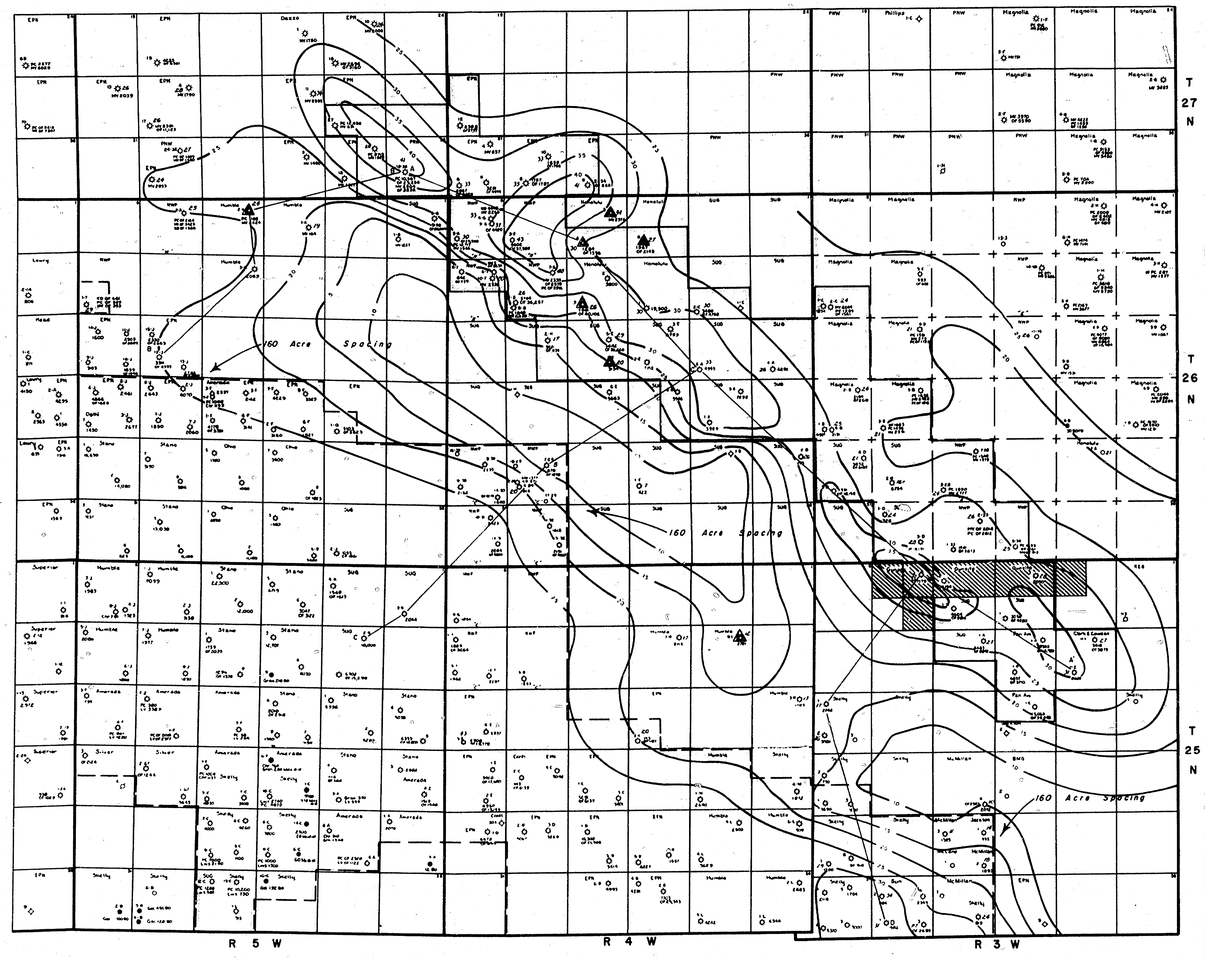
JICARILLA 5-D
Shut in Pt. - P.S.I.G.
MMCF

42



Isopachous Map of Net Pay Sand

TAPACITO PICTURED CLIFFS FIELD

Rio Arriba County, New Mexico

Contour interval 5 feet

33 Feet of net pay sand from core analysis and electrical log

Cored well

Gunsite Butte Uranium Acreage

Limits of Tapacito Pictured Cliffs Field

Limits of S Blanco Pictured Cliffs Field

A——A Line of cross section (See cross sections AA', BB', CC', DD')

MAP I

February 1958

Val R. Reese and Associates, Inc.

Pictured Cliffs
Lewis
Cliffhouse
La Ventana
Mesaverde
Gallup
Greenhorn
Dakota

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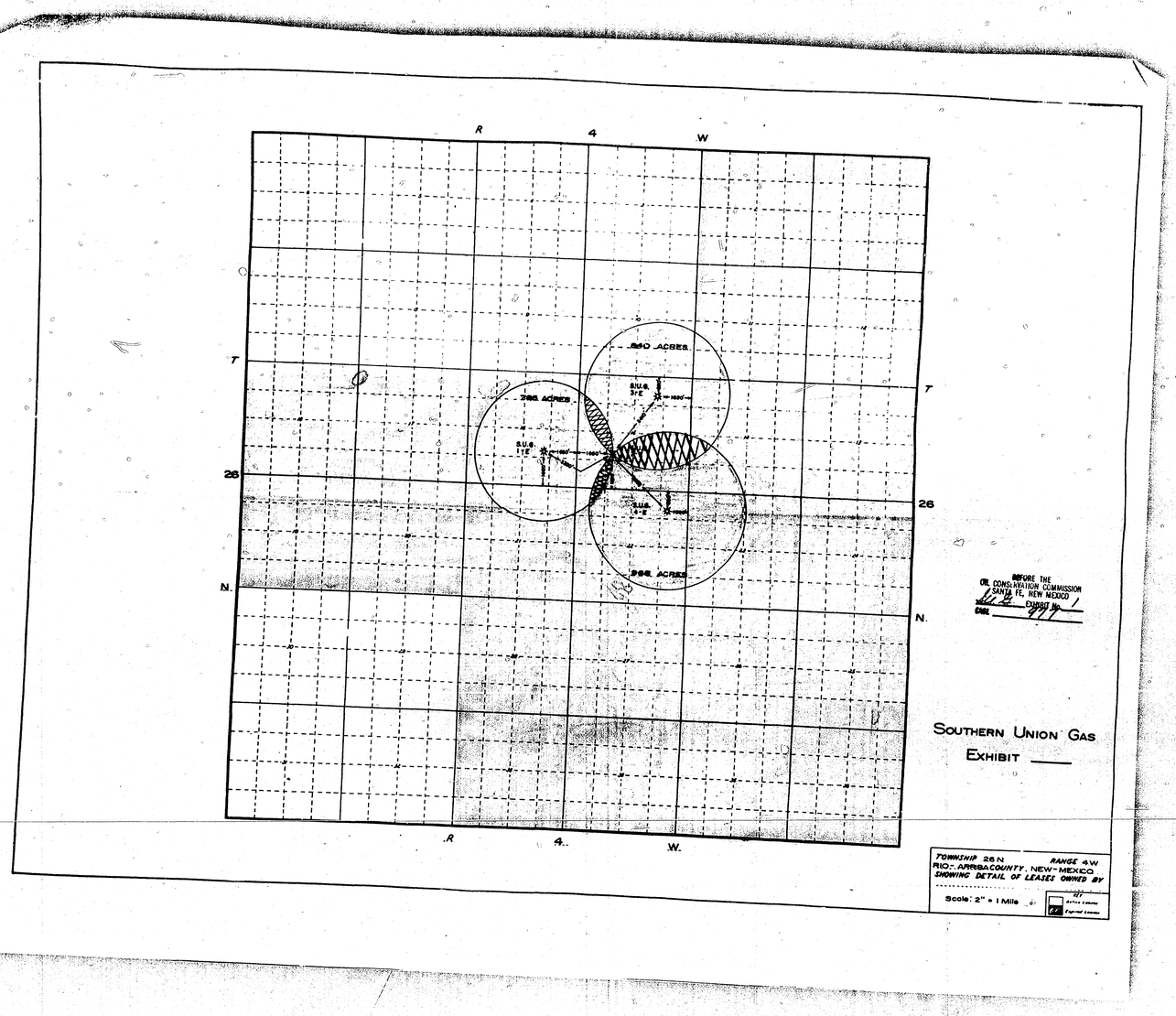

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 1
CASE 3777

SOUTHERN UNION GAS
EXHIBIT ——

TOWNSHIP 26 N. RANGE 4 W
RIO ARRIBA COUNTY, NEW MEXICO
SHOWING DETAIL OF LEASES OWNED BY
Scale: 2" = 1 Mile

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CORE LAB

CORE LABORATORIES, INC. *Petroleum Reservoir Engineering*

COMPANY SOUTHERN UNION GAS COMPANY — DATE ON APRIL 29, 1955 — FILE NO. FRC-355(20)
WELL NO. 1-E JICARILLA — DATE OFF MAY 3, 1955 — ENGRS. MBR
FIELD WILDCAT — FORMATION PICTURED CLIFFS — ELEV. 6607' DF
COUNTY RIO ARRIBA — STATE NEW MEXICO — FLD. WILDCAT — CORES CONVENTIONAL
LOCATION 990 FSL & 990 FWL SEC. 11-T26N-R4W — REMARKS ARRIVE NO. 1

SAND | LIMESTONE | CONGLOMERATE | CHERT
SHALE | DOLOMITE

COMPLETION CORRELATION

TABULAR DATA and INTERPRETATION

PERMEABILITY o—o TOTAL WATER o—o
POROSITY x—x GAS SATURATION x—x

SAMPLE NO.	DEPTH FEET	PERMEABILITY TO AIR MILLIDARCYS	POROSITY PER CENT	RESIDUAL LIQUID SATURATION PORE SPACE	REMARKS
1	3078.5	0.0	7.8	6.0	73.1
2	79.5	0.0	8.3	6.0	69.7
3	80.5	0.0	7.3	4.3	78.5
4	81.5	0.0	11.9	32.6	61.8
5	82.5	1.0	13.3	14.1	65.8
6	3083.5	0.0	12.6	33.9	54.1
7	84.5	0.03	12.1	25.7	60.4
8	85.5	0.0	8.2	8.0	69.7
9	86.5	0.0	7.4	6.8	76.9
10	87.5	0.0	10.5	14.0	65.5
11	88.5	0.0	12.3	26.2	61.0
12	89.5	0.0	9.2	8.0	63.1
13	90.5	0.0	7.5	6.0	73.8
14	91.5	0.0	6.5	0.0	82.3
15	3092.5	0.0	10.1	31.6	58.6

Cl⁻ 14,790 ppm.

This section is essentially non-productive due to low capacity.

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
Exhibit No. 5
CASE 577

CORE LABORATORIES, INC. *Petroleum Engineering* DALLAS, TEXAS

Company SOUTHERN UNION GAS COMPANY — Date Report APRIL 29, 1955 — File 1 of 1
Well NO. 1-E JICARILLA — Core CONVENTIONAL — File FRC-355(20)
Field WILDCAT — Formation PICTURED CLIFFS — Analysts MBR
County RIO ARRIBA — State NEW MEXICO — Elevation 6607' DF — Coring Fluid
Location 990 FSL & 990 FWL SEC. 11-T26N-R4W — Remarks ARRIVE NO. 1

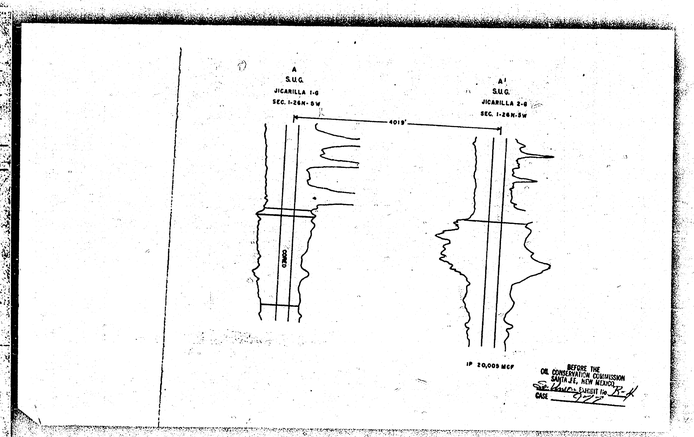
CORE ANALYSIS AND INTERPRETATION
(Figures in parentheses refer to footnote remarks)

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY TO AIR MILLIDARCYS	POROSITY PER CENT	RESIDUAL LIQUID SATURATION PORE SPACE	CHLORIDE CONCENTRATION	REMARKS
1	3078.5	0.0	7.8	6.0	73.1	
2	79.5	0.0	8.3	6.0	69.7	
3	80.5	0.0	7.3	4.3	78.5	
4	81.5	0.0	11.9	32.6	61.8	
5	82.5	1.0	13.3	14.1	65.8	
6	3083.5	0.0	12.6	33.9	54.1	
7	84.5	0.03	12.1	25.7	60.4	
8	85.5	0.0	8.2	8.0	69.7	
9	86.5	0.0	7.4	6.8	76.9	
10	87.5	0.0	10.5	14.0	65.5	
11	88.5	0.0	12.3	26.2	61.0	
12	89.5	0.0	9.2	8.0	63.1	
13	90.5	0.0	7.5	6.0	73.8	
14	91.5	0.0	6.5	0.0	82.3	
15	3092.5	0.0	10.1	31.6	58.6	

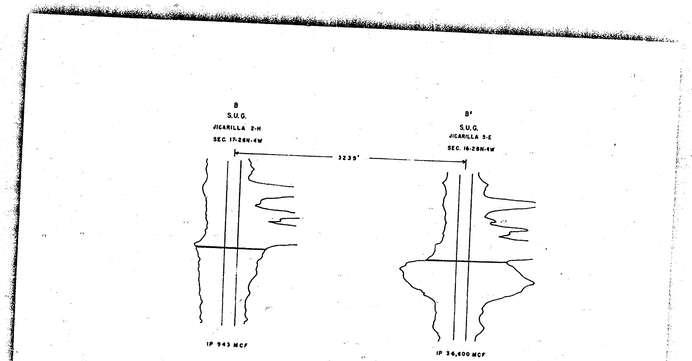
Cl⁻ 14,790 ppm.

This section is essentially non-productive due to low capacity.

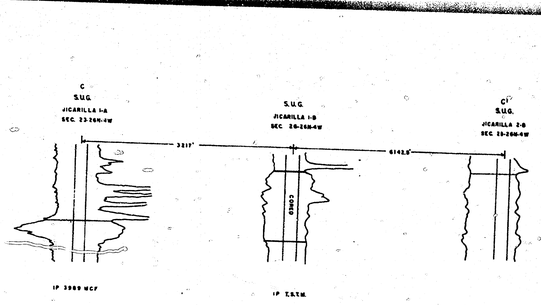
BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
Exhibit No. 5
CASE 577



BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
Exhibit No. 2
CASE 577



BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
Exhibit No. 5
CASE 577



BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
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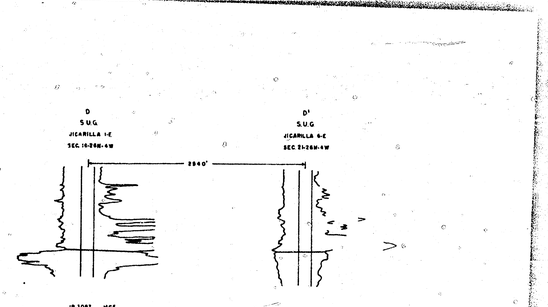


BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
Exhibit No. 7
CASE 577

EQUATION OF DARCYS LAW FOR RADIAL, HORIZONTAL GAS FLOW

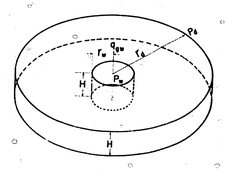
$$q_{gw} = \frac{0.0447\pi K_g H 144 (P_e^2 - P_w^2)}{1000 \mu_g P_w \ln \frac{r_e}{r_w}}$$

OR

$$\ln \frac{r_e}{r_w} = \frac{0.0447\pi K_g H 144 (P_e^2 - P_w^2)}{1000 \mu_g P_w q_{gw}}$$

WHERE

- q_{gw} = Rate of gas flow into well bore, cubic feet/day at bottom hole flowing conditions
- K_g = Permeability to gas, millidarcys
- H = Net pay thickness, feet
- P_e = Pressure in reservoir at distance r_e from well bore, psia
- P_w = Pressure in well bore, psia
- μ_g = Viscosity of gas, centipoises
- r_e = Drainage radius, feet
- r_w = Effective well bore radius, feet



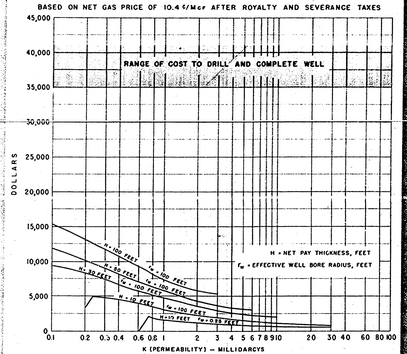
HUMBLE EXHIBIT NO. 1

45

INDICATED NET VALUE OF ADDITIONAL GAS RECOVERABLE UNDER 160 ACRE SPACING AS COMPARED TO 320 ACRE SPACING

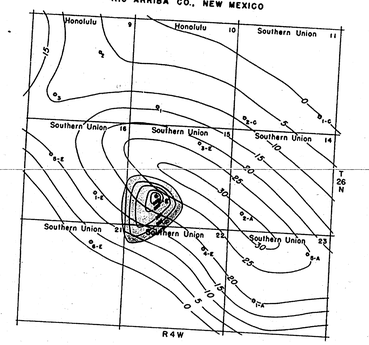
TAPACITO PICTURED CLIFFS GAS POOL
RIO ARRIBA COUNTY, NEW MEXICO

BASED ON NET GAS PRICE OF 10.4 ¢/Mcf AFTER ROYALTY AND SEVERANCE TAXES



HUMBLE EXHIBIT NO. 2

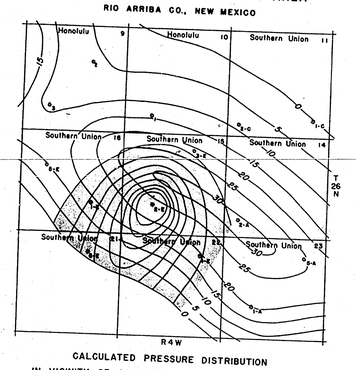
ISOPACHOUS MAP OF MICROLOG POROSITY
TAPACITO PICTURED CLIFFS GAS POOL
SOUTHERN UNION JICARILLA "E" AREA
RIO ARRIBA CO., NEW MEXICO



CALCULATED PRESSURE DISTRIBUTION
IN VICINITY OF SOUTHERN UNION JICARILLA NO. 2-E
ASSUMING UNIFORM PERMEABILITY
BASED ON EQUATION OF DARCY'S LAW FOR RADIAL, HORIZONTAL GAS FLOW

HUMBLE EXHIBIT NO. 3

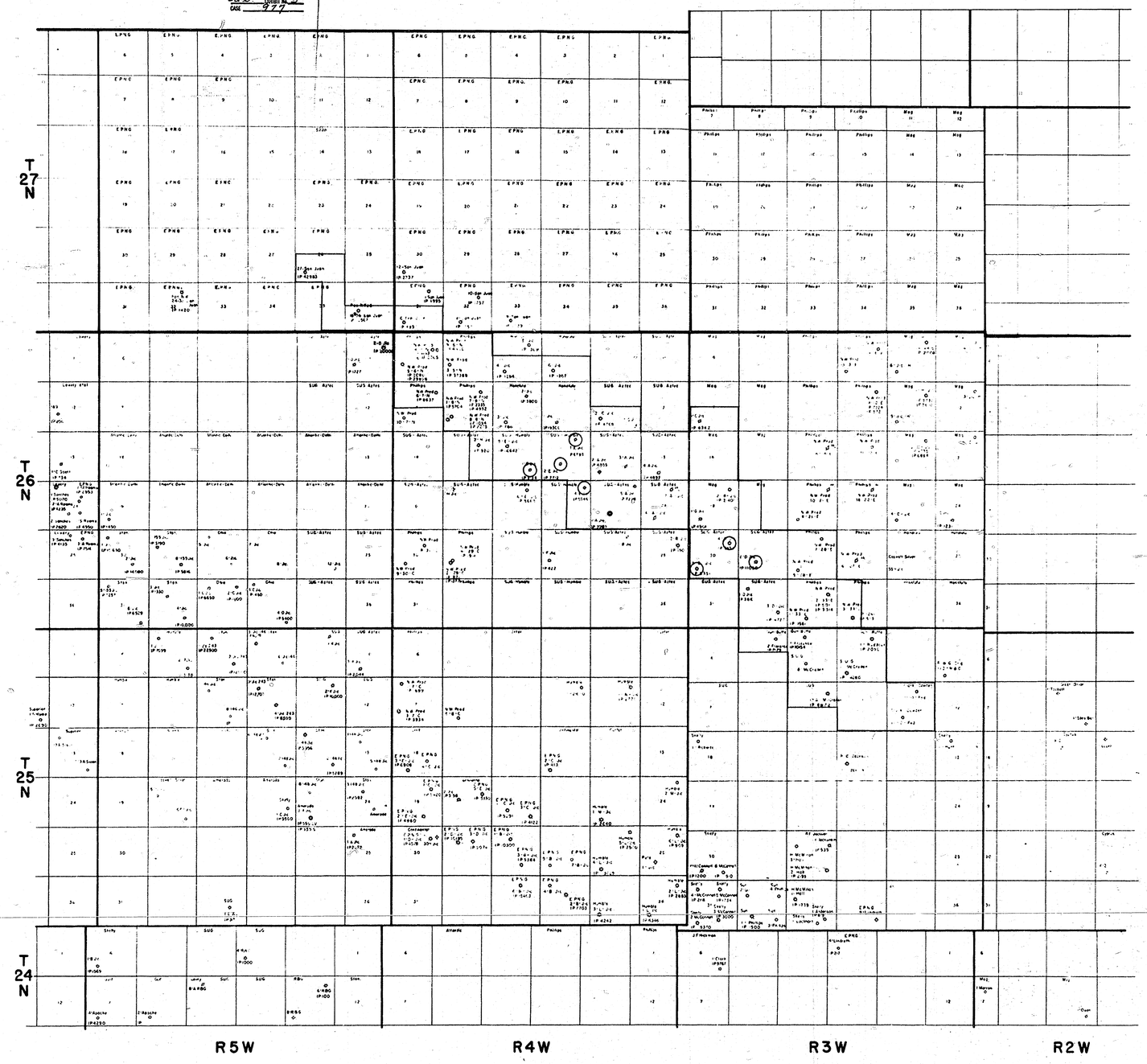
ISOPACHOUS MAP OF MICROLOG POROSITY
TAPACITO PICTURED CLIFFS GAS POOL
SOUTHERN UNION JICARILLA "E" AREA
RIO ARRIBA CO., NEW MEXICO



CALCULATED PRESSURE DISTRIBUTION
IN VICINITY OF SOUTHERN UNION JICARILLA NO. 2-E
ASSUMING VARYING PERMEABILITY
BASED ON COMPUTER SOLUTION OF UNSTEADY STATE EQUATION FLUID FLOW

HUMBLE EXHIBIT NO. 4

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 2
CASE 977



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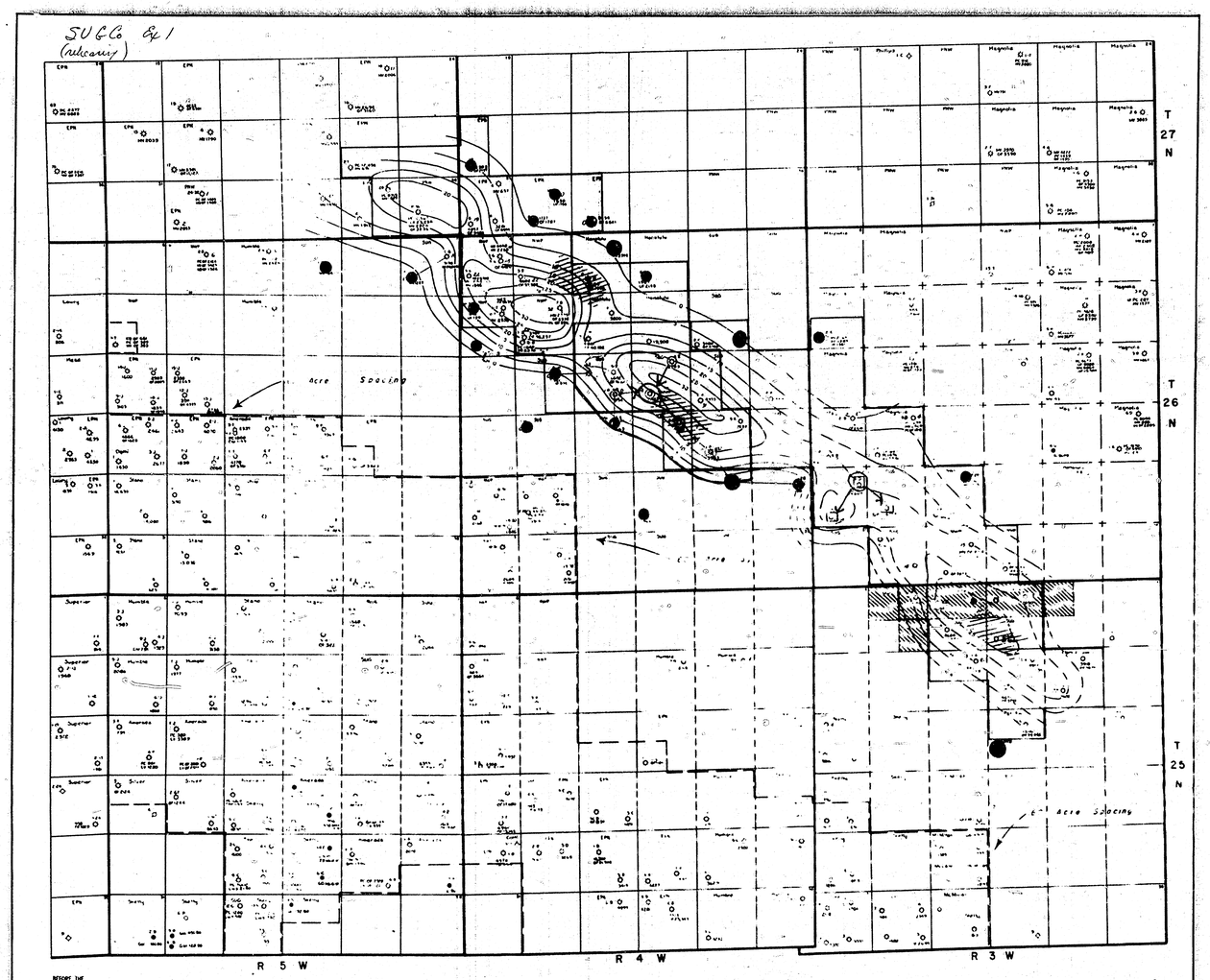
SUGCo Ex 1
(relocating)



BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Gulf Hill No. 1
CASE 9777

Contour interval 5 feet

Feet showing porosity & permeability on microlog

Wells on interference test #1

Wells on interference test #2

Estimated present drainage area of 320 Ac contours by porosity & permeability

Gunsite Butte Uranium Acreage

Limits of Tapacito Pictured Cliffs Field

Limits of Blanco Pictured Cliffs Field

PICTURED CLIFFS COMPLETION UNSUCCESSFUL

SAND CONDITIONS SO POOR NO COMPLETION ATTEMPTED IN PICTURED CLIFFS

PICTURED CLIFF WELLS NOT COMMERCIAL

Isopachous Map of Microlog Porosity

TAPACITO PICTURED CLIFFS FIELD

Rio Arriba County, New Mexico

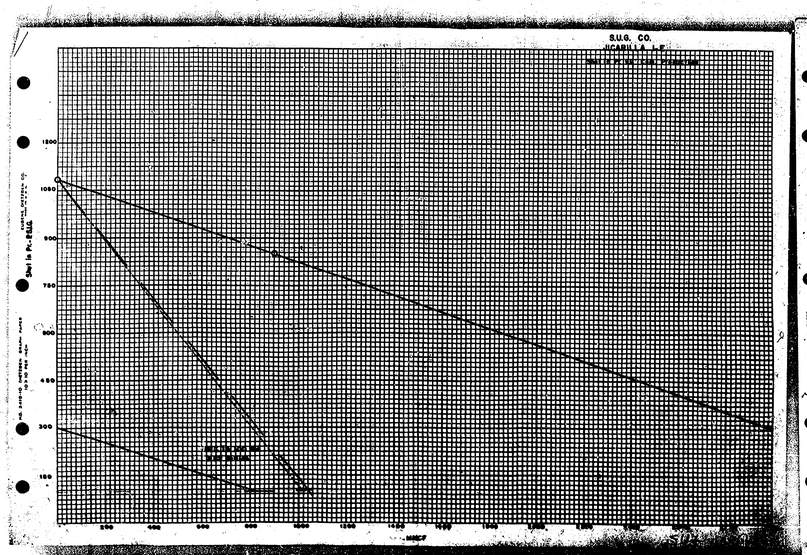
MAP 2

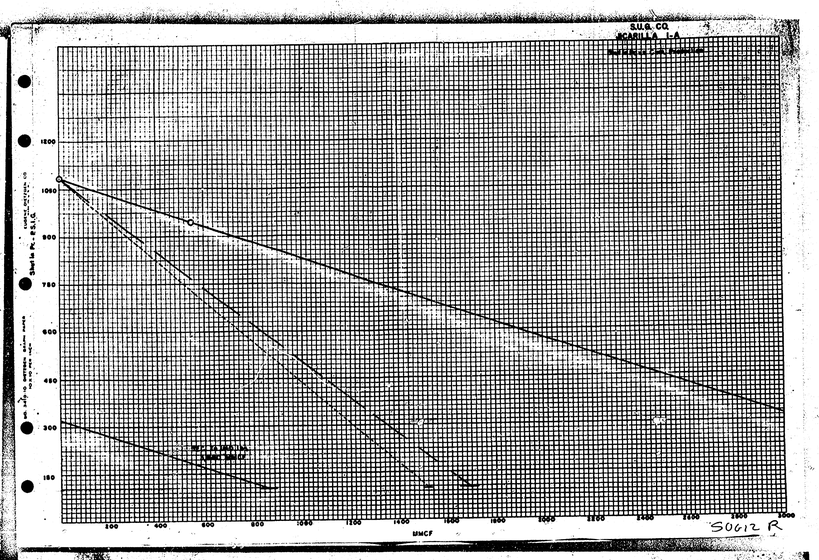
February 1958

Val R. Reese and Associates, Inc.

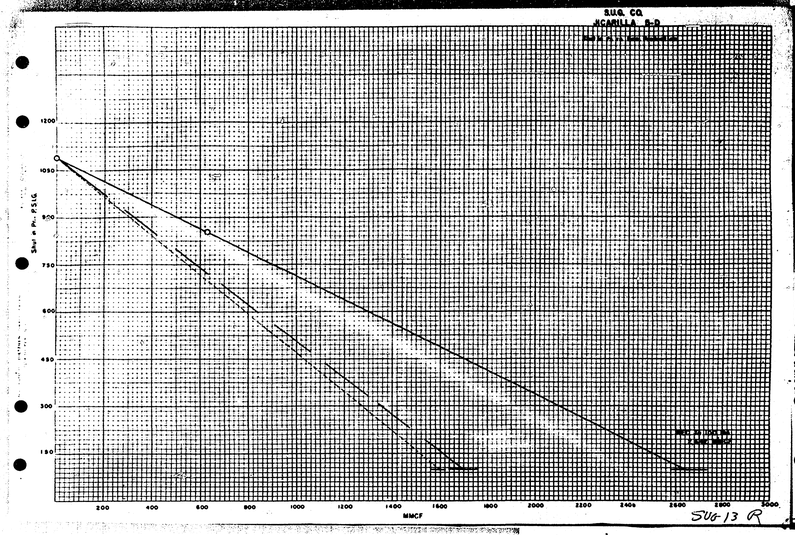
Pictured Cliffs
Lewis
Chacra
La Ventana
Mesaverde
Gallup
Graneros
Dakota

47





S0612 R



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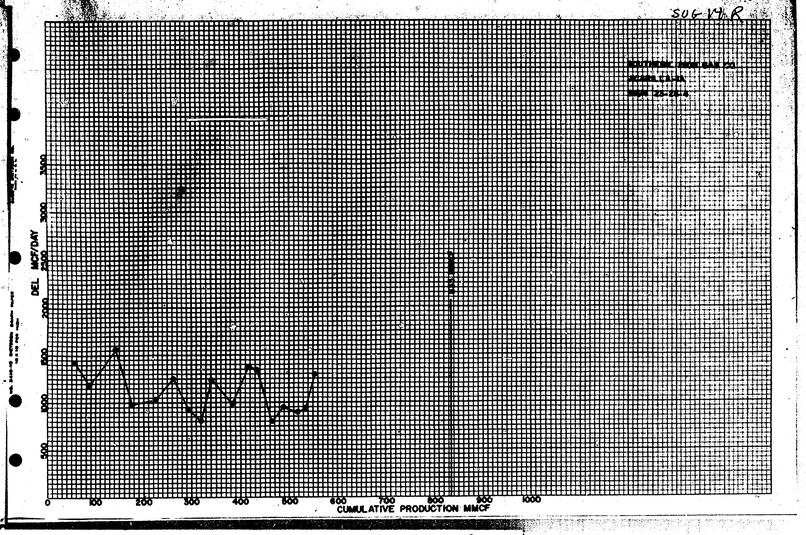

S0614 R

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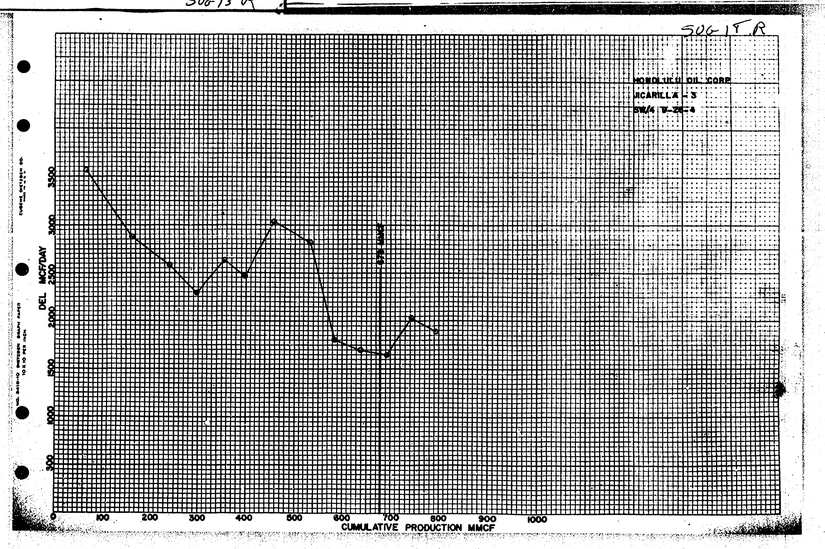

S0615 R

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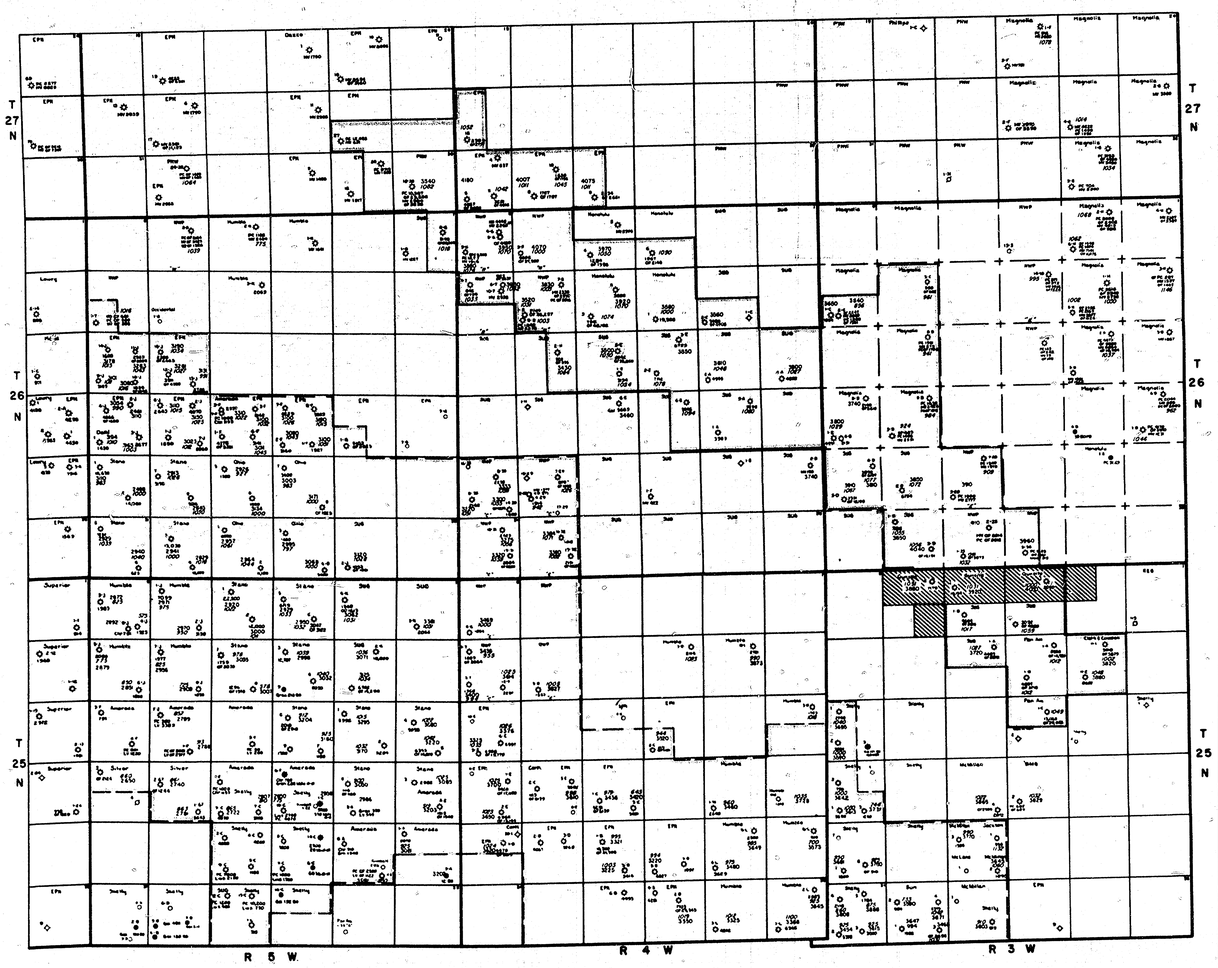

PRESSURE MAP

Based on Initial 7 Day Shut-In Pressures

TAPACITO-SOUTH BLANCO PICTURED CLIFFS FIELDS

Rio Arriba County, New Mexico

NOTE: SIMILARITY OF PRESSURES INDICATES COMMON RESERVOIR BETWEEN THE TWO FIELDS

1031 Pictured Cliffs 7 day shut-in pressure (psig)

3165 Well depth through Pictured Cliffs

Gunsite Butte Uranium Acreage

Limits of Tapacito Pictured Cliffs Field

Limits of Blanco Pictured Cliffs Field

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO EXHIBIT No. 1 CASE 977

MAY 14, 1958

Val R. Reese and Associates, Inc.

Pictured Cliffs
Lewis
Chacra
La Ventana
Mesaverde
Gallup
Graneros
Dakota

CORE LABORATORIES, INC. — Petroleum Reservoir Engineering

COMPANY	SOUTHERN UNION GAS COMPANY	DATE ON	APRIL 29,1954
WELL	NO. 1-E JICARILLA	DATE OFF	MAY 3,1954
FIELD	WILDCAT	FORMATION	PICTURED CLIFFS
COUNTY	RIO ARRIBA	STATE	NEW MEXICO
LOCATION	SE SW SE SEC T26N R5W	REMARKS	SERVICE NO. 5

FILE NO 7365-126(56) · ENGRS MM · ELEV 6977' DF · CORES CONVENTIONAL · DRLG FLD WATER BASE MUD

SAND · LIMESTONE · CONGLOMERATE · CHERT

SHALE · DOLOMITE

COMPLETION CORRELOGRAPH

TABULAR DATA and INTERPRETATION

CORE LABORATORIES, Inc.
Petroleum Reservoir Engineering
DALLAS, TEXAS

Company SOUTHERN UNION GAS COMPANY — Date Report APRIL 30, 1954 — Page 1 of 2
Well NO. 1-E JICARILLA — Core CONVENTIONAL — File 7365-126(56)
Field WILDCAT — Formation PICTURED CLIFFS — Analysts MM
County RIO ARRIBA State NEW MEXICO — Elevation 6977' DF — Cmgraph YES
Location SE SW SE SEC T26N R5W — Remarks SERVICE NO. 5

CORE ANALYSIS AND INTERPRETATION
(Figure in parentheses refer to formation remarks)

SAMPLE NUMBER	MAXIMUM PERMEABILITY 90 DEG	POROSITY PER CENT	RESIDUAL SATURATION OIL PER CENT	RESIDUAL SATURATION WATER PER CENT	PRODUCING RECOMMENDATION	REMARKS
1	3048.5	0.0	7.8	0.0	73.1	
2	05.5	0.0	8.3	0.0	80.7	
3	06.5	0.0	9.3	6.5	76.5	
4	07.5	0.0	11.9	27.6	61.8	
5	08.5	0.0	11.3	16.1	65.8	
6	3512.5	0.0	12.0	30.8	51.3	
7	13.5	0.03	12.1	15.7	63.6	
8	14.5	8.0	8.2	0.0	80.7	
9	15.5	0.0	9.5	0.0	76.9	
10	16.5	0.0	10.2	19.6	55.8	
11	17.5	0.0	12.3	16.7	61.0	
12	18.5	0.0	9.2	9.0	63.1	
13	19.5	0.0	7.2	0.0	70.8	
14	20.5	0.0	6.5	0.0	79.3	
15	3521.5	0.0	10.1	37.5	39.7	

Cl' 14,990 ppm

This section is essentially non-productive due to low capacity.

NOTE: (1) REFER TO ATTACHED LETTER. (2) OFF LOCATION ANALYSES—NO STRATIFICATION OF REMARKS (3) INCOMPLETE CORE RECOVERY—INTERPRETATION REQUIRED.

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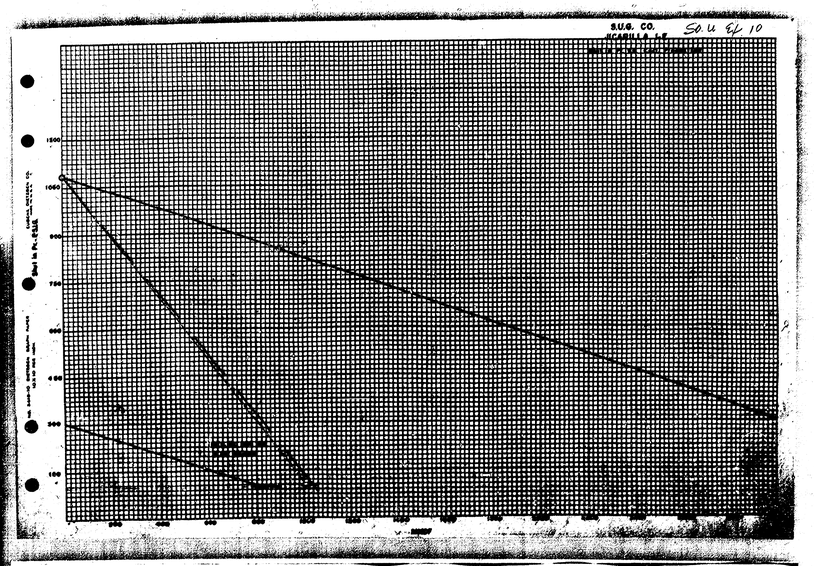
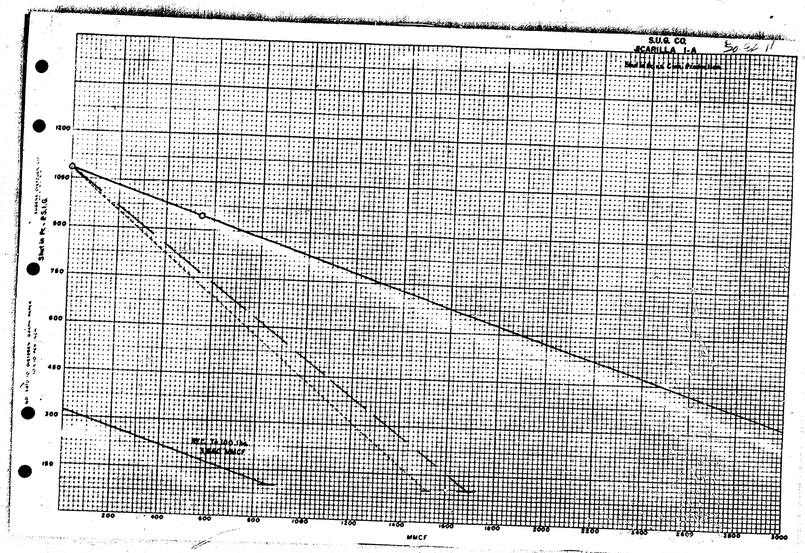
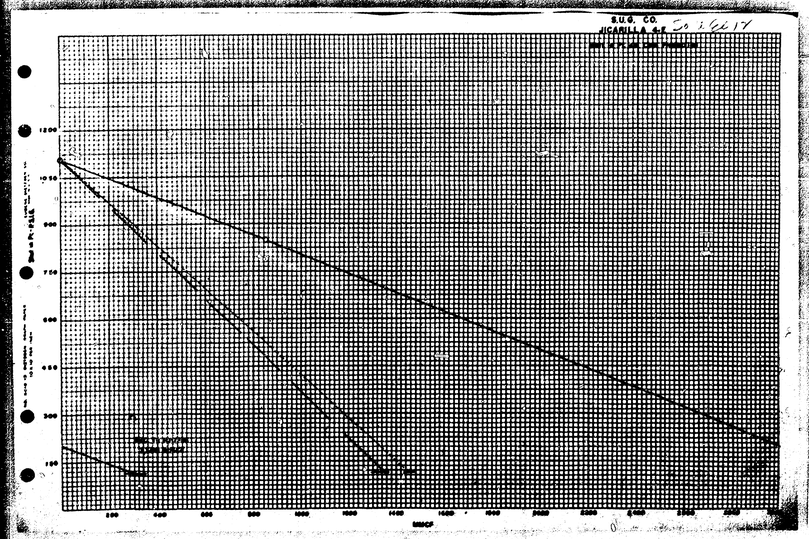
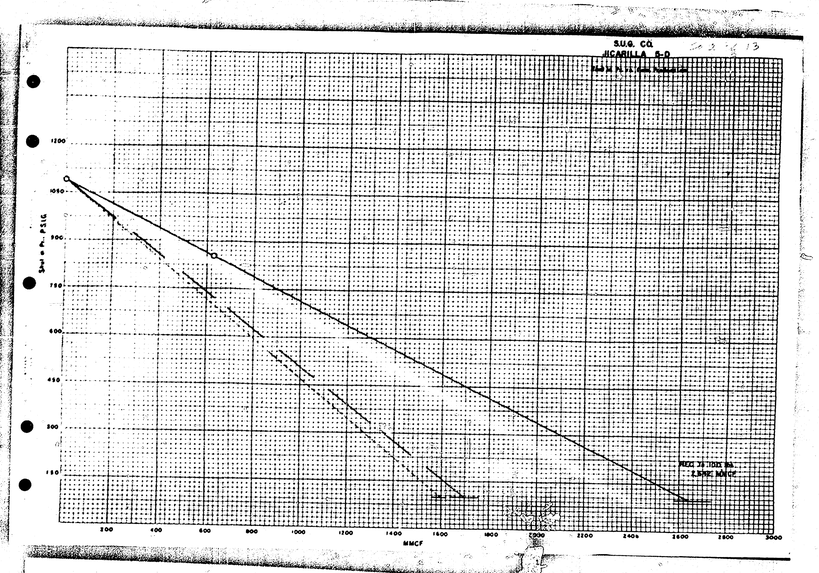
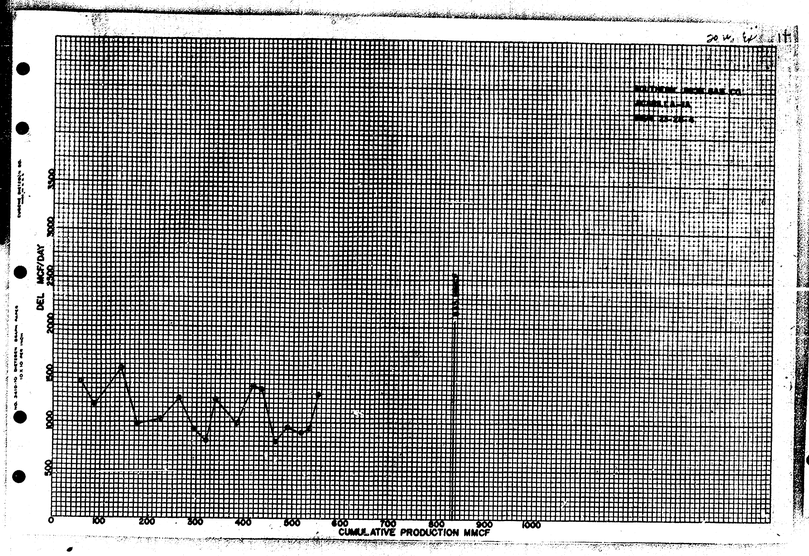
50

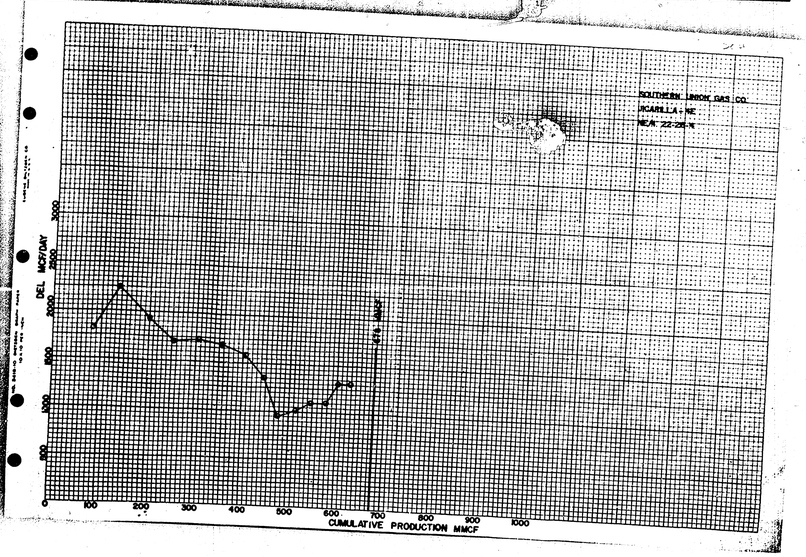


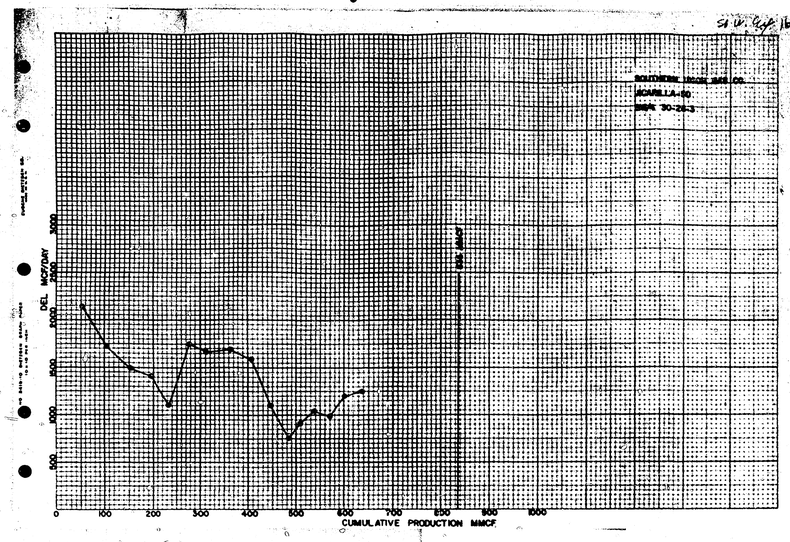


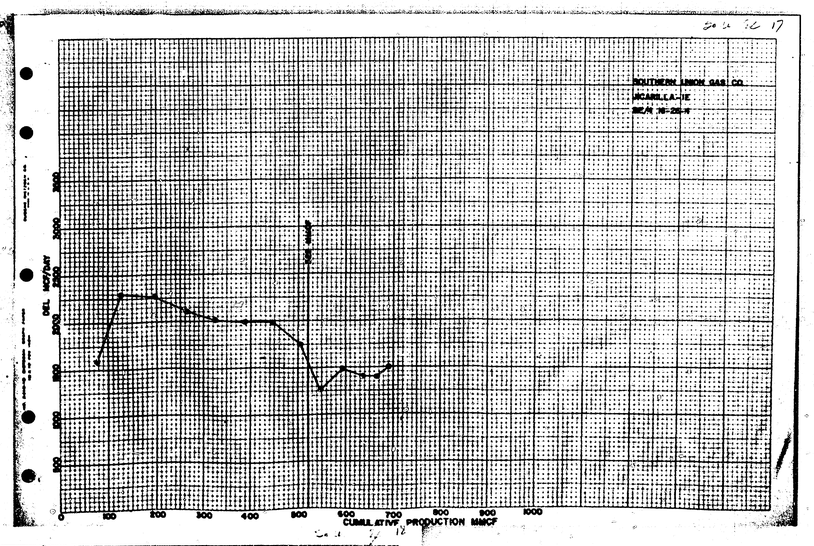


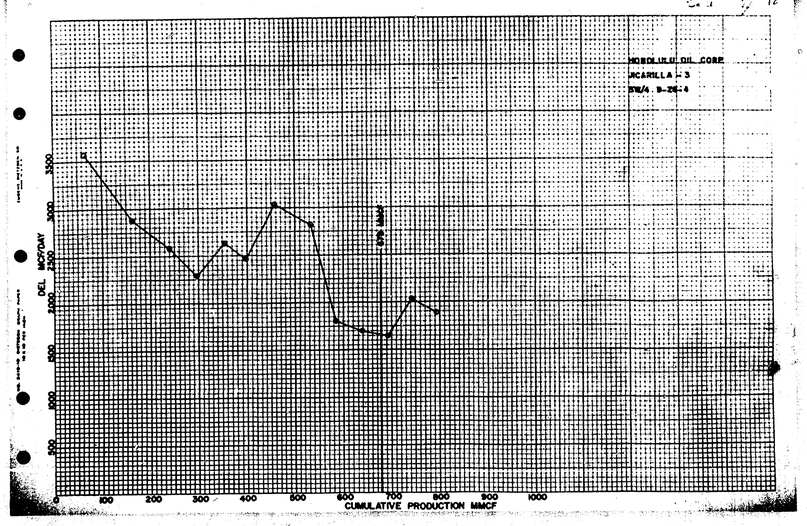







SOUTHERN UNION GAS CO.
JICARILLA-50
DEL MCF/DAY
CUMULATIVE PRODUCTION MMCF


SOUTHERN UNION GAS CO.
JICARILLA-1E
DEL MCF/DAY
CUMULATIVE PRODUCTION MMCF


HONOLULU OIL CORP.
JICARILLA - 3
DEL MCF/DAY
CUMULATIVE PRODUCTION MMCF

51

CORE LABORATORIES, Inc.
Petroleum Reservoir Engineering
DALLAS, TEXAS

Company SOUTHERN UNION GAS COMPANY — Date Report APRIL 30, 1953 — Page 1 of 2
Well NM. 1-E JICARILLA — Core CONVENTIONAL — File PRRA-1254(RC)
Field WILDCAT — Formation PICTURED CLIFFS — Analysts MEB
County RIO ARRIBA State NEW MEXICO — Elevation 6807' DF — Geograph. USB
Location SE SW NE 32N 5W NMPM — Remarks SUBJECT NO. 1

CORE ANALYSIS AND INTERPRETATION
(Figures in parentheses refer to footnote remarks)

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS 90 AIR	POROSITY PER CENT	RESIDUAL LIQUID SATURATION PORE SPACE PER CENT	PROBABLE PRODUCTION	REMARKS
1	3508.5	0.0	7.8	0.0	73.1	
2	09.5	0.0	8.3	0.0	80.7	
3	10.5	0.0	7.3	6.5	78.5	
4	11.5	0.0	11.9	17.6	61.4	
5	12.5	0.0	11.3	16.1	65.8	
6	3513.5	0.0	12.0	30.8	51.1	
7	13.5	0.03	12.1	26.7	63.6	
8	14.5	0.0	0.2	0.0	99.7	
9	15.5	0.0	9.5	0.0	80.9	
10	16.5	0.0	10.2	19.6	55.8	
11	17.5	0.0	12.3	16.2	71.0	
12	18.5	0.0	9.2	8.0	63.1	
13	19.5	0.0	7.7	0.0	70.8	
14	20.5	0.0	5.5	0.0	69.3	
15	3521.5	0.0	10.1	31.5	49.6	

Cl⁻ 11,920 ppm

This section is essentially non-productive due to low capacity.

NOTE:
(1) REFER TO ATTACHED LETTER.
(2) INCOMPLETE CORE RECOVERY--INTERPRETATION REMOVED
(3) OFF LOCATION ANALYSIS--NO INTERPRETATION OF RESULTS.

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive use, they are made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operation or profitableness of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

CORE LABORATORIES, INC. *Petroleum Reservoir Engineering*

COMPANY SOUTHERN UNION GAS COMPANY — DATE ON APRIL 29, 1953 — FILE NO PRRA-1254(RC)
WELL NM. 1-E JICARILLA — DATE OFF MAY 1, 1953 — ENGRS MEB
FIELD WILDCAT — FORMATION PICTURED CLIFFS — ELEV 6807' DF
COUNTY RIO ARRIBA STATE NEW MEXICO — LOCATION SE SW NE 32N 5W NMPM — CORES CONVENTIONAL
REMARKS SUBJECT NO. 1

GAS — LIMESTONE — CONGLOMERATE — CHERT
SHALE — DOLOMITE

TABULAR DATA and INTERPRETATION

COMPUTRON CORRELOGRAM
POROSITY ○–○ — PERMEABILITY ●–●

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS 90 AIR	POROSITY PER CENT	RESIDUAL LIQUID SATURATION PORE SPACE PER CENT	PROBABLE PRODUCTION	REMARKS
1	3508.5	0.0	7.8	0.0	73.1	
2	09.5	0.0	8.3	0.0	80.7	
3	10.5	0.0	7.3	6.5	78.5	
4	11.5	0.0	11.9	17.6	61.4	
5	12.5	0.0	11.3	16.1	65.8	
6	3513.5	0.0	12.0	30.8	51.1	
7	13.5	0.03	12.1	26.7	63.6	
8	14.5	0.0	0.2	0.0	99.7	
9	15.5	0.0	9.5	0.0	80.9	
10	16.5	0.0	10.2	19.6	55.8	
11	17.5	0.0	12.3	16.2	71.0	
12	18.5	0.0	9.2	8.0	63.1	
13	19.5	0.0	7.7	0.0	70.8	
14	20.5	0.0	5.5	0.0	69.3	
15	3521.5	0.0	10.1	31.5	49.6	

S.U.G. CO.
JICARILLA B-9
NE/4 Sec. 11, T26N, R5W, N.M.P.M.

Shut in P.S.I.G.

MCF/D TO TEST PIPE LINE MMCF

MMCF

52

EQUATION OF DARCY'S LAW FOR RADIAL, HORIZONTAL GAS FLOW

$$q_{gw} = \frac{0.0447\pi\, K_g\, H\, 144\, (P_d^2 - P_w^2)}{1000\,\mu_g\, P_w \ln \frac{r_d}{r_w}}$$

OR

$$\ln \frac{r_d}{r_w} = \frac{0.0447\pi\, K_g\, H\, 144\, (P_d^2 - P_w^2)}{1000\,\mu_g\, P_w\, q_{gw}}$$

WHERE

q_{gw} = Rate of gas flow into well bore, cubic feet/day at bottom hole flowing conditions

K_g = Permeability to gas, millidarcys

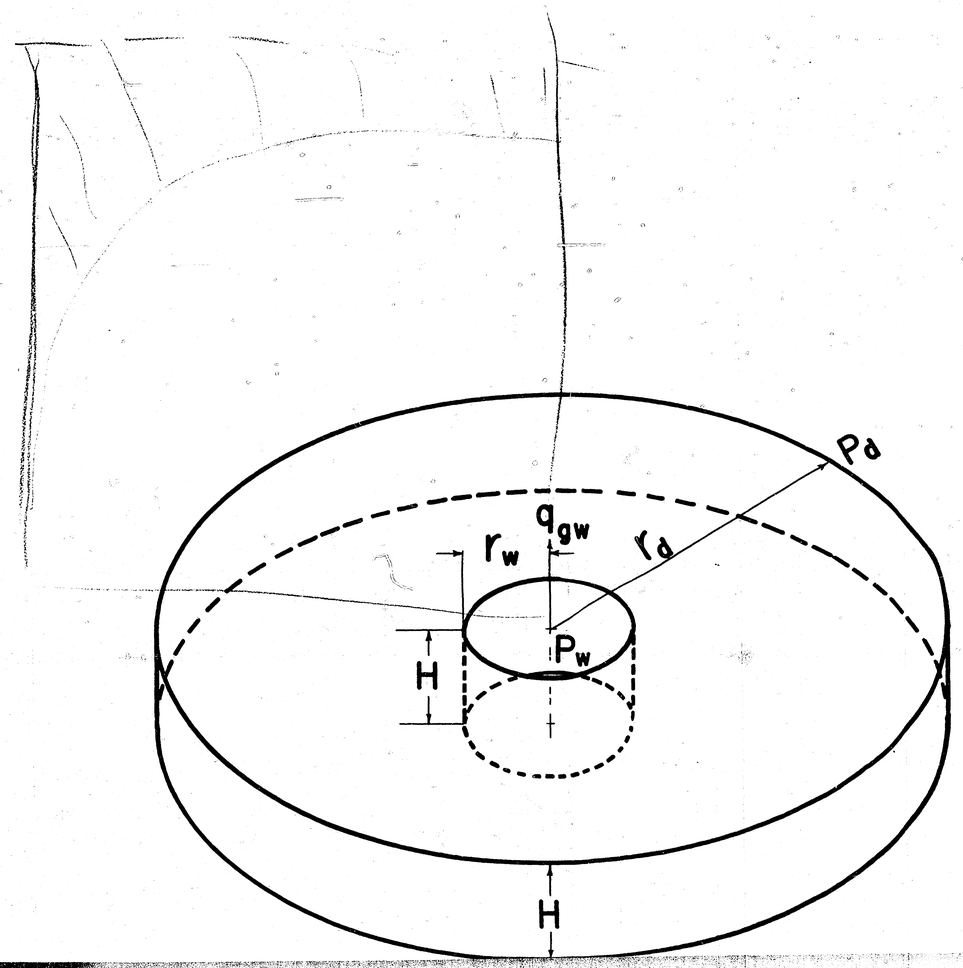
H = Net pay thickness, feet

P_d = Pressure in reservoir at distance r_d from well bore, psia

P_w Pressure in well bore, psia

μ_g Viscosity of gas, centipoises

r_d = Drainage radius, feet



$$\ln \frac{r_d}{r_w} = \frac{0.0447\pi\, K_g H\, 144\, (P_d^2 - P_w^2)}{1000 \mu_g\, P_w\, q_{gw}}$$

WHERE

q_{gw} = Rate of gas flow into well bore, cubic feet/day at bottom hole flowing conditions

K_g = Permeability to gas, millidarcys

H = Net pay thickness, feet

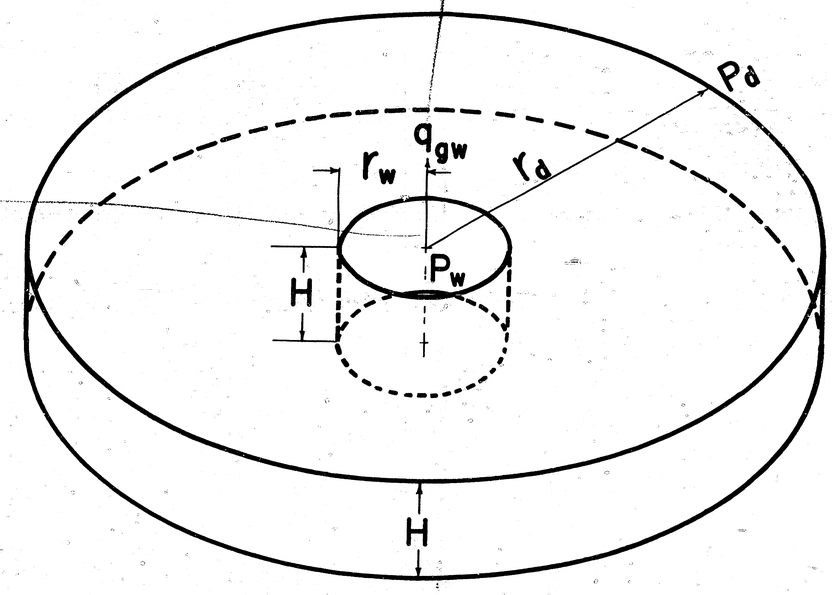
P_d = Pressure in reservoir at distance r_d from well bore, psia

P_w Pressure in well bore, psia

μ_g Viscosity of gas, centipoises

r_d = Drainage radius, feet

r_w = Effective well bore radius, feet



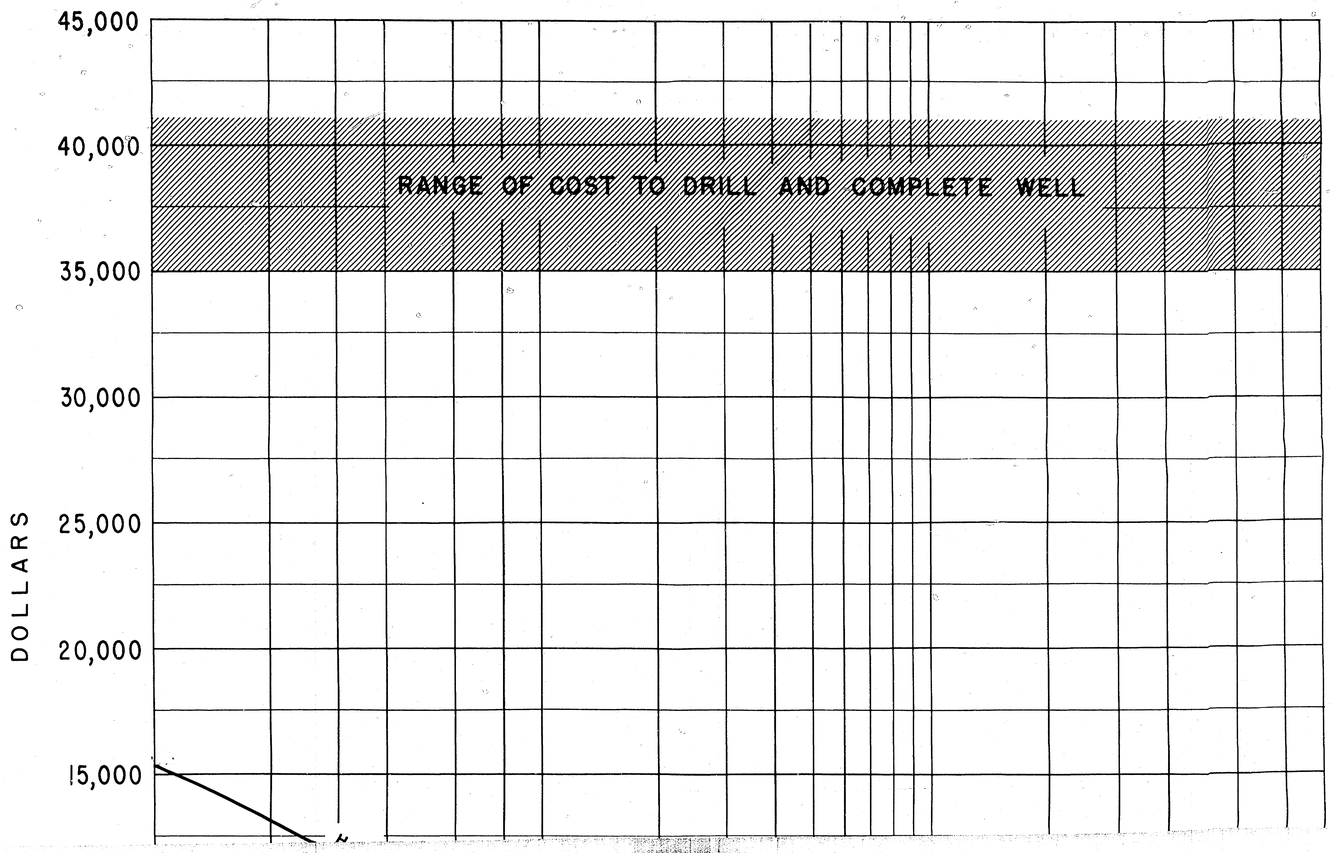
HUMBLE EXHIBIT NO. 1

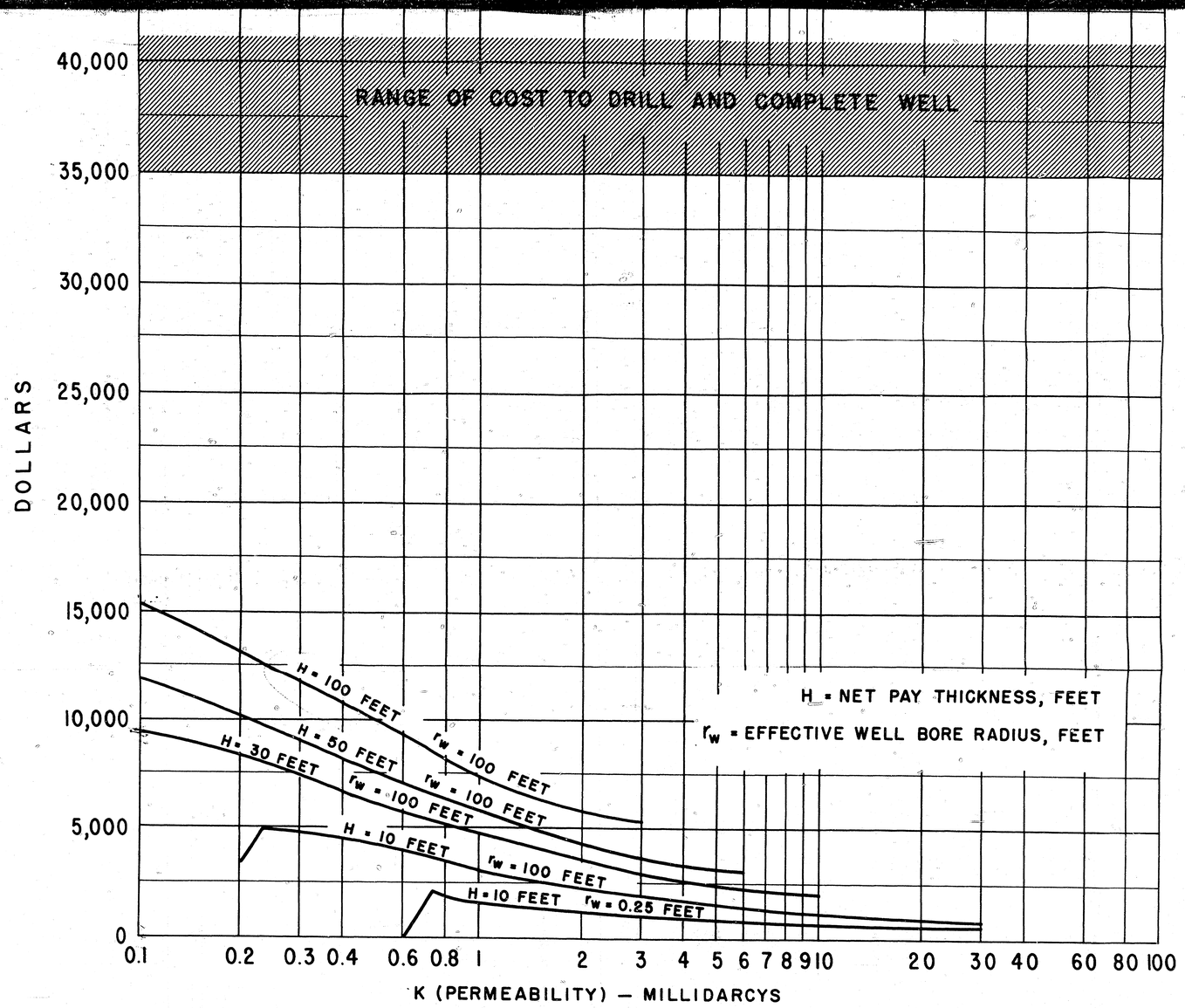
54

INDICATED NET VALUE OF ADDITIONAL GAS RECOVERABLE UNDER 160 ACRE SPACING AS COMPARED TO 320 ACRE SPACING

TAPACITO PICTURED CLIFFS GAS POOL
RIO ARRIBA COUNTY, NEW MEXICO

BASED ON NET GAS PRICE OF 10.4 ¢/Mcf AFTER ROYALTY AND SEVERANCE TAXES





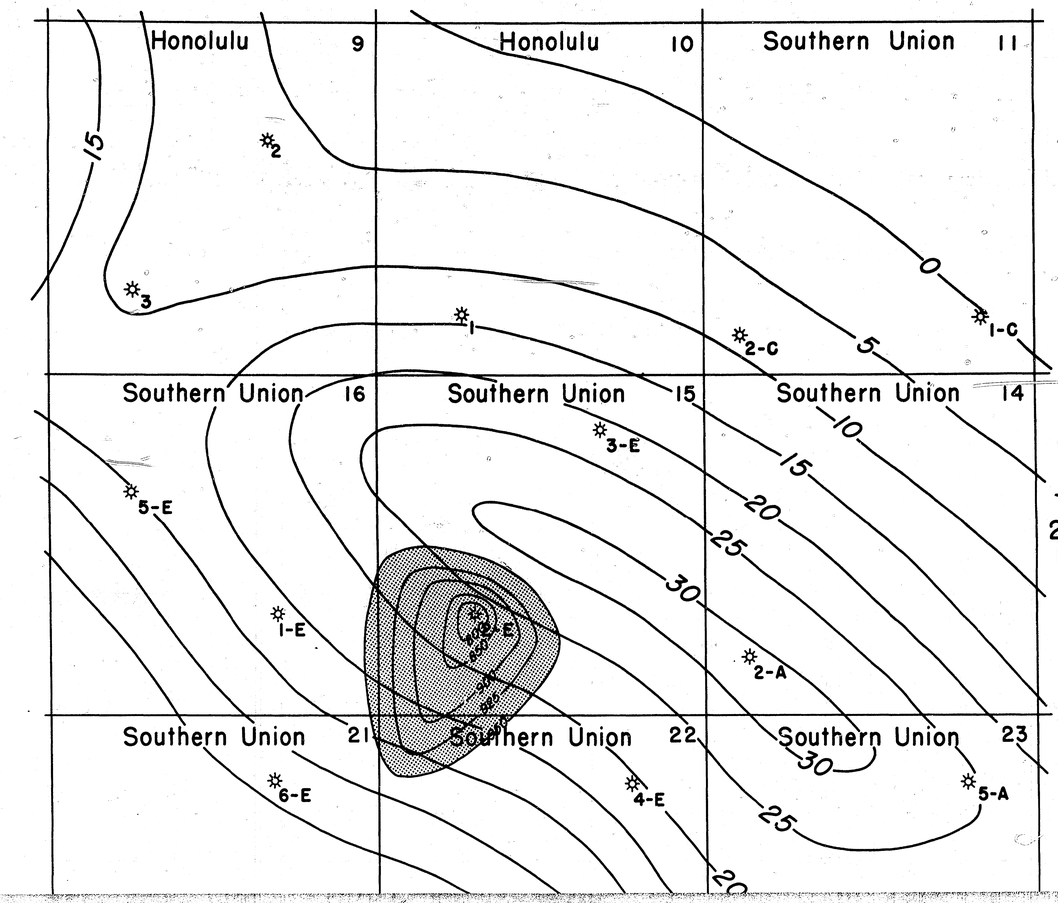
HUMBLE EXHIBIT NO. 2

BEFORE THE OIL CONSERVATION DIVISION
SANTA FE, N. M.
CASE

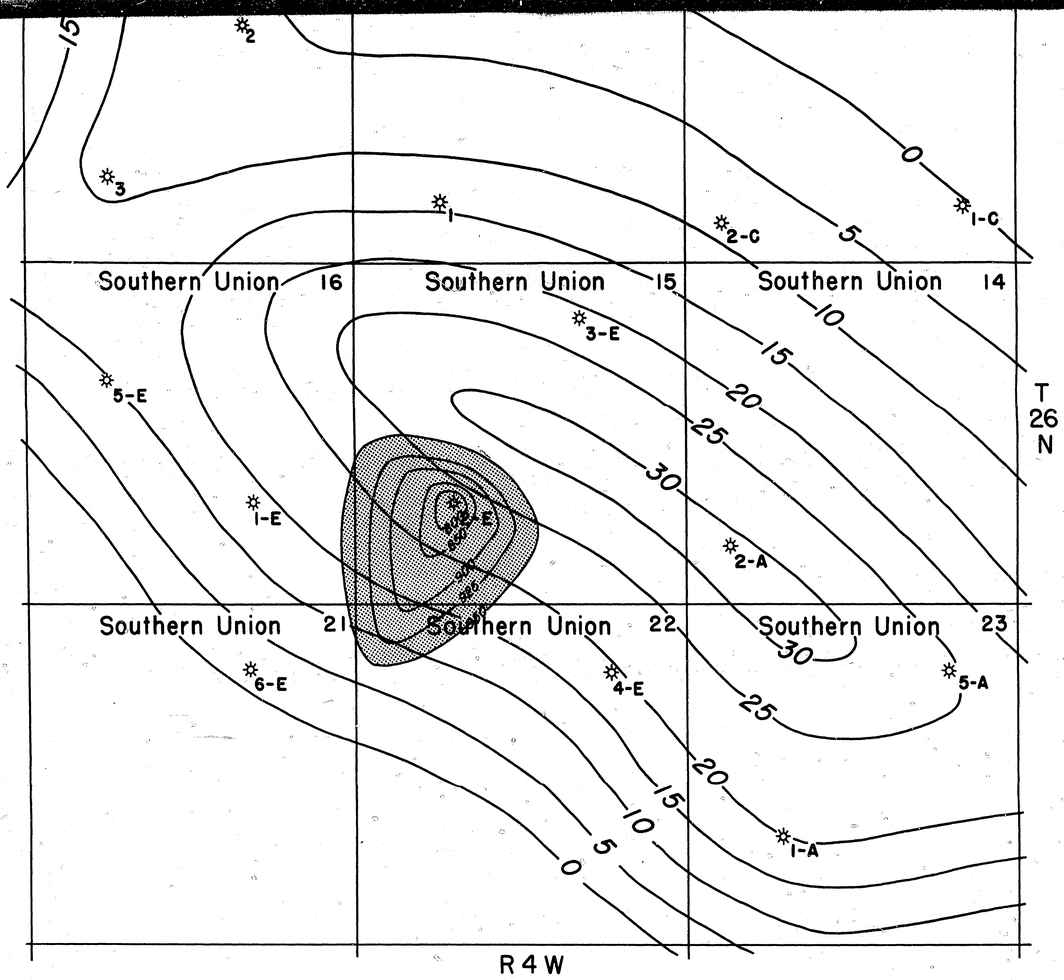
ISOPACHOUS MAP OF MICROLOG POROSITY

TAPACITO PICTURED CLIFFS GAS POOL
SOUTHERN UNION JICARILLA "E" AREA

RIO ARRIBA CO., NEW MEXICO



57



CALCULATED PRESSURE DISTRIBUTION

IN VICINITY OF SOUTHERN UNION JICARILLA NO. 2-E

ASSUMING UNIFORM PERMEABILITY

BASED ON EQUATION OF DARCY'S LAW FOR RADIAL, HORIZONTAL GAS FLOW

HUMBLE EXHIBIT NO. 3

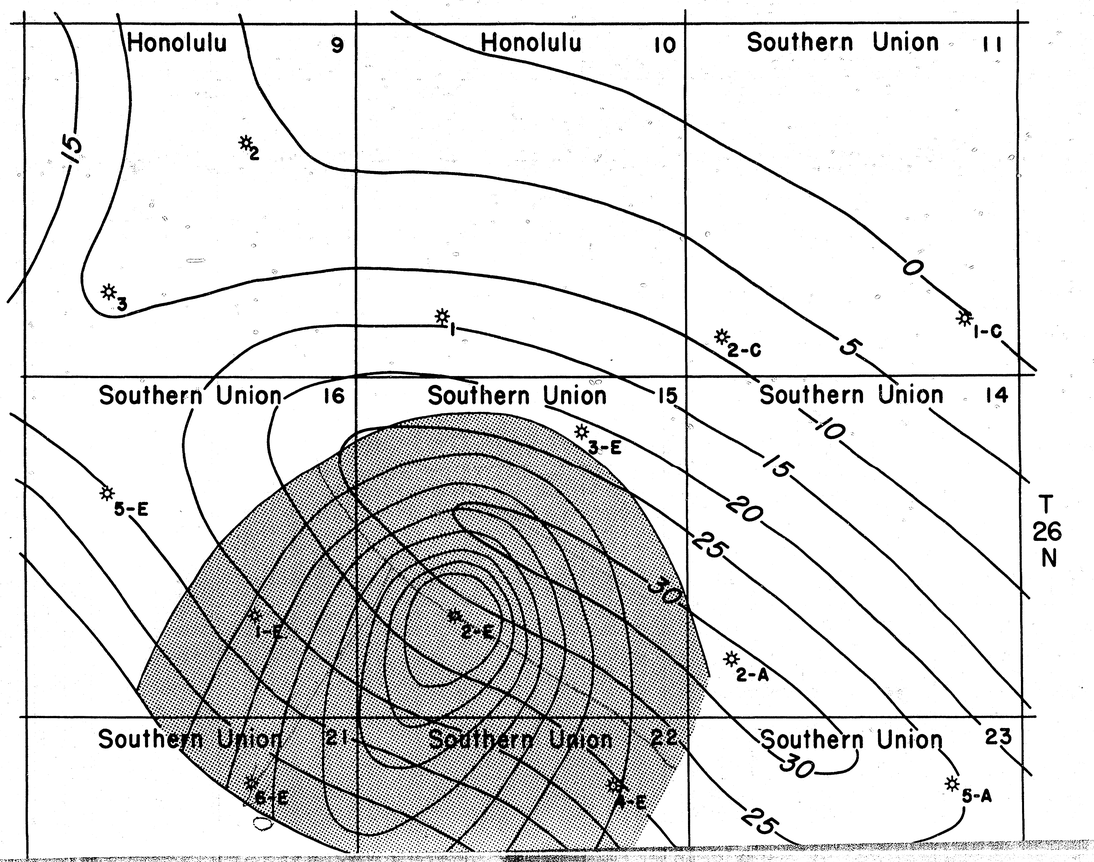
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
CASE

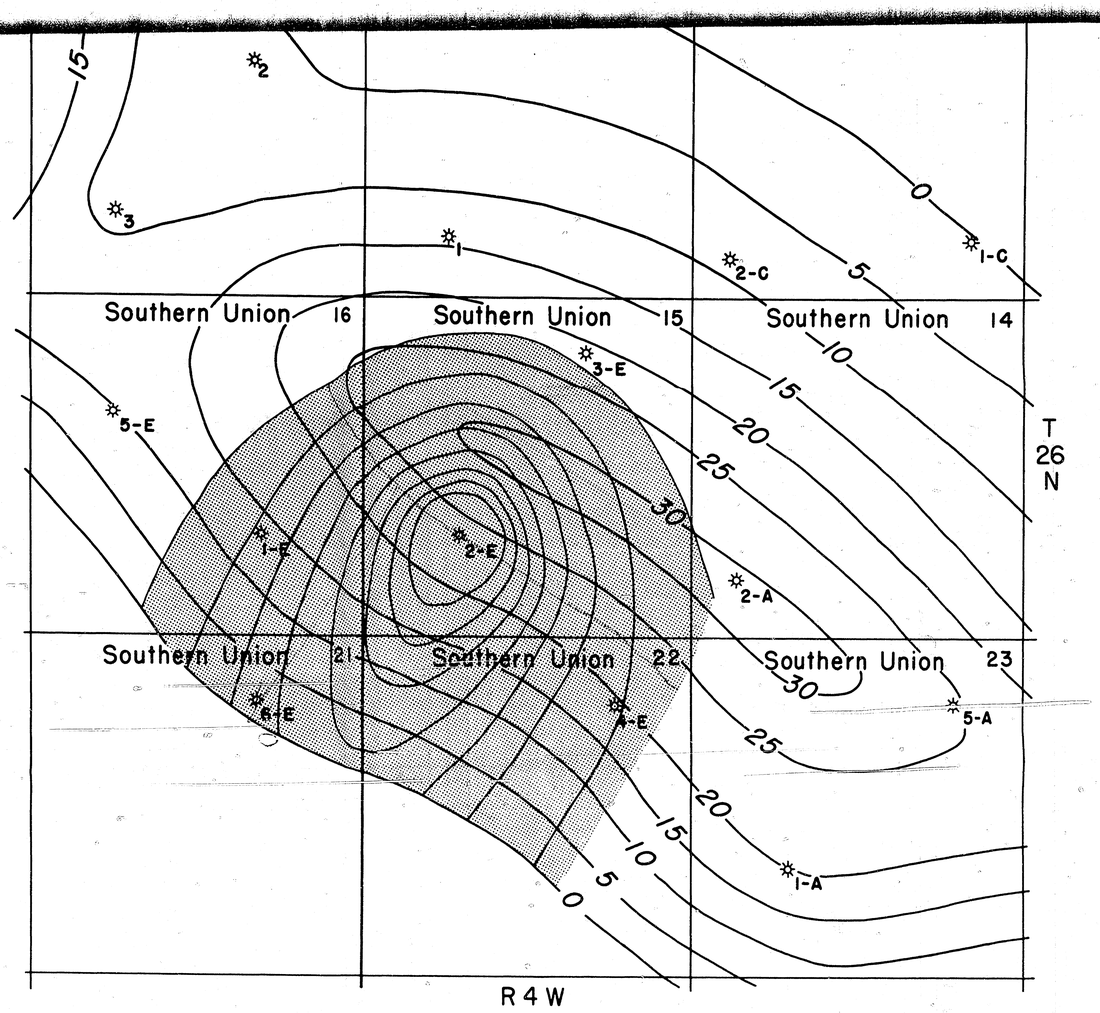
IX

ISOPACHOUS MAP OF MICROLOG POROSITY

TAPACITO PICTURED CLIFFS GAS POOL
SOUTHERN UNION JICARILLA "E" AREA

RIO ARRIBA CO., NEW MEXICO





CALCULATED PRESSURE DISTRIBUTION

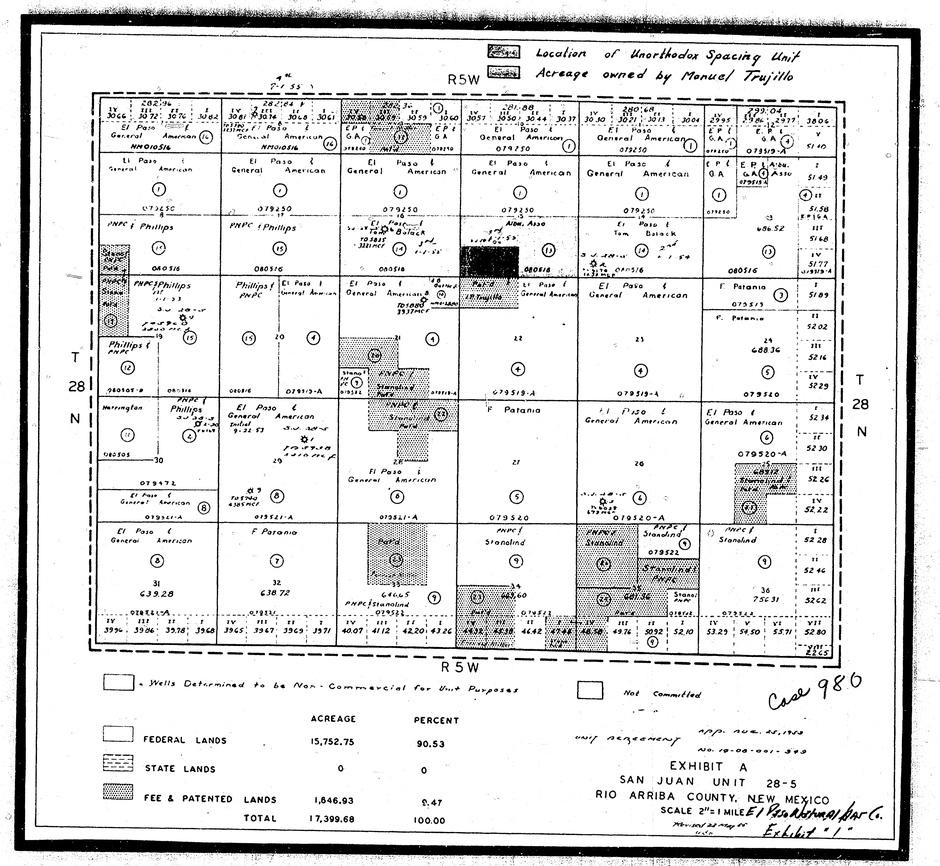
IN VICINITY OF SOUTHERN UNION JICARILLA NO. 2-E

ASSUMING VARYING PERMEABILITY

BASED ON COMPUTER SOLUTION OF UNSTEADY STATE EQUATION FLUID FLOW

HUMBLE EXHIBIT NO. 4

61



	ACREAGE	PERCENT
FEDERAL LANDS	15,752.75	90.53
STATE LANDS	0	0
FEE & PATENTED LANDS	1,646.93	9.47
TOTAL	17,399.68	100.00

Unit Agreement App. Aug. 25, 1953
No. 10-08-001-543

EXHIBIT A
SAN JUAN UNIT 28-5
RIO ARRIBA COUNTY, NEW MEXICO
SCALE 2"=1 MILE El Paso Natural Gas Co.
Revised 28 May 55 Exhibit "1"

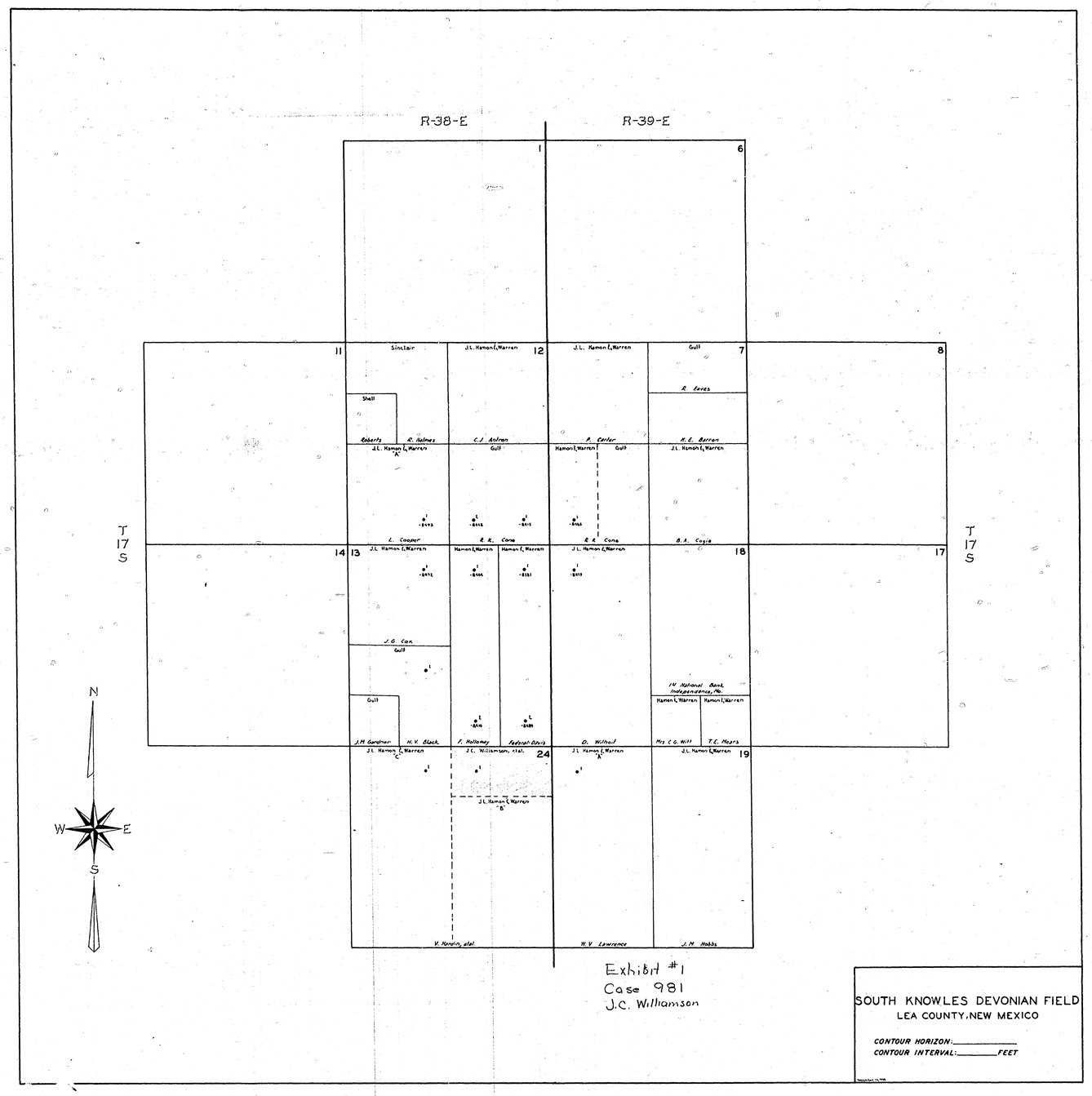


Exhibit #1
Case 981
J.C. Williamson

SOUTH KNOWLES DEVONIAN FIELD
LEA COUNTY, NEW MEXICO

CONTOUR HORIZON: _____
CONTOUR INTERVAL: _____ FEET

62

J.H. GIBSON
BLOCK D

852 853 854 855 856

905 904 903 902 901

PSL BLOCK A-6

6 7

5 4 3 2 1

5 4 3 2 1

PSL BLOCK A-7

YOAKUM COUNTY

GAINES COUNTY

N
W E
S

63

Exhibit # 4
Case 981
J.C. Williamson

JONES RANCH FIELD
YOAKUM & GAINES COUNTIES, TEXAS
80 Ac. Drainage Pattern
SCALE: 1 INCH = 1000 FEET

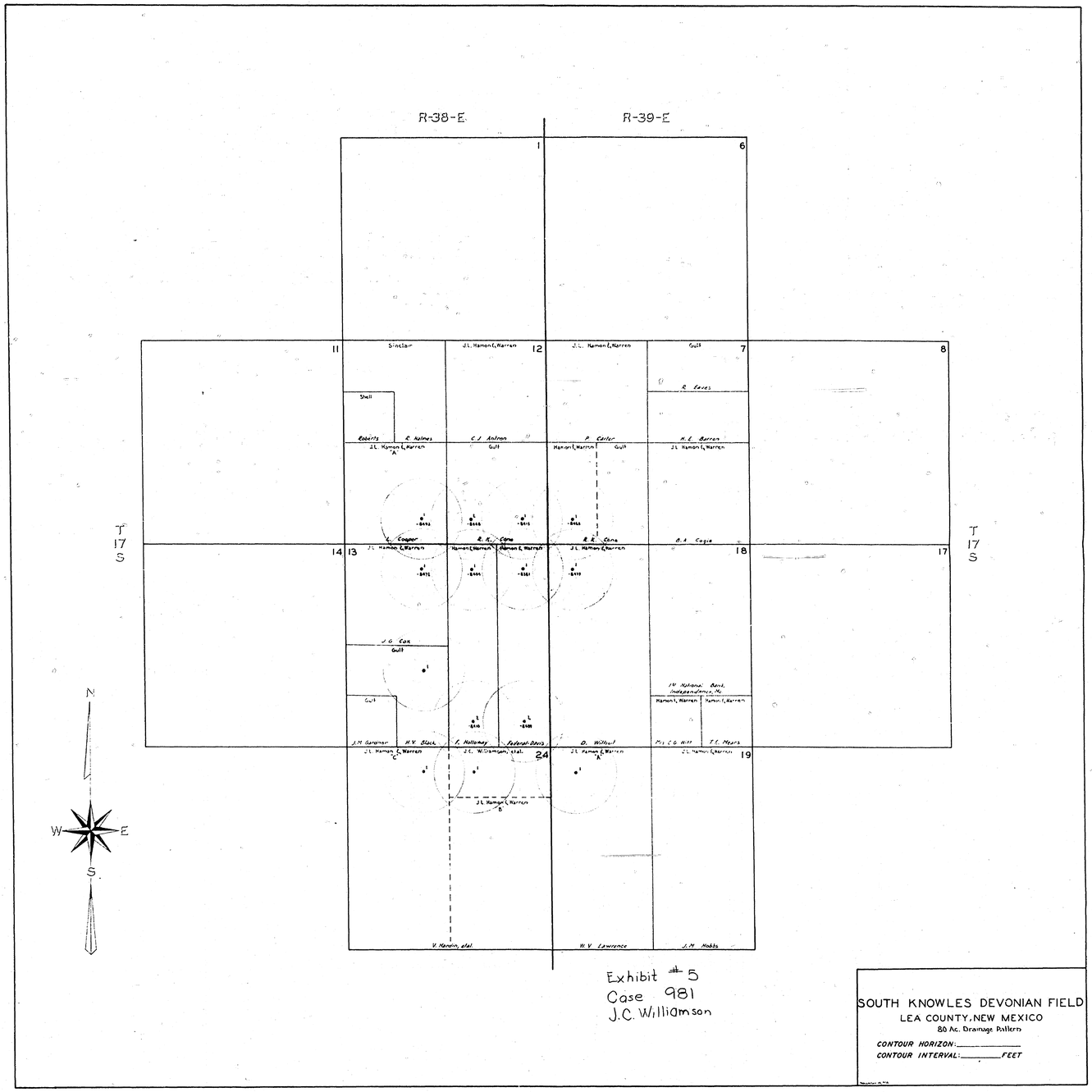


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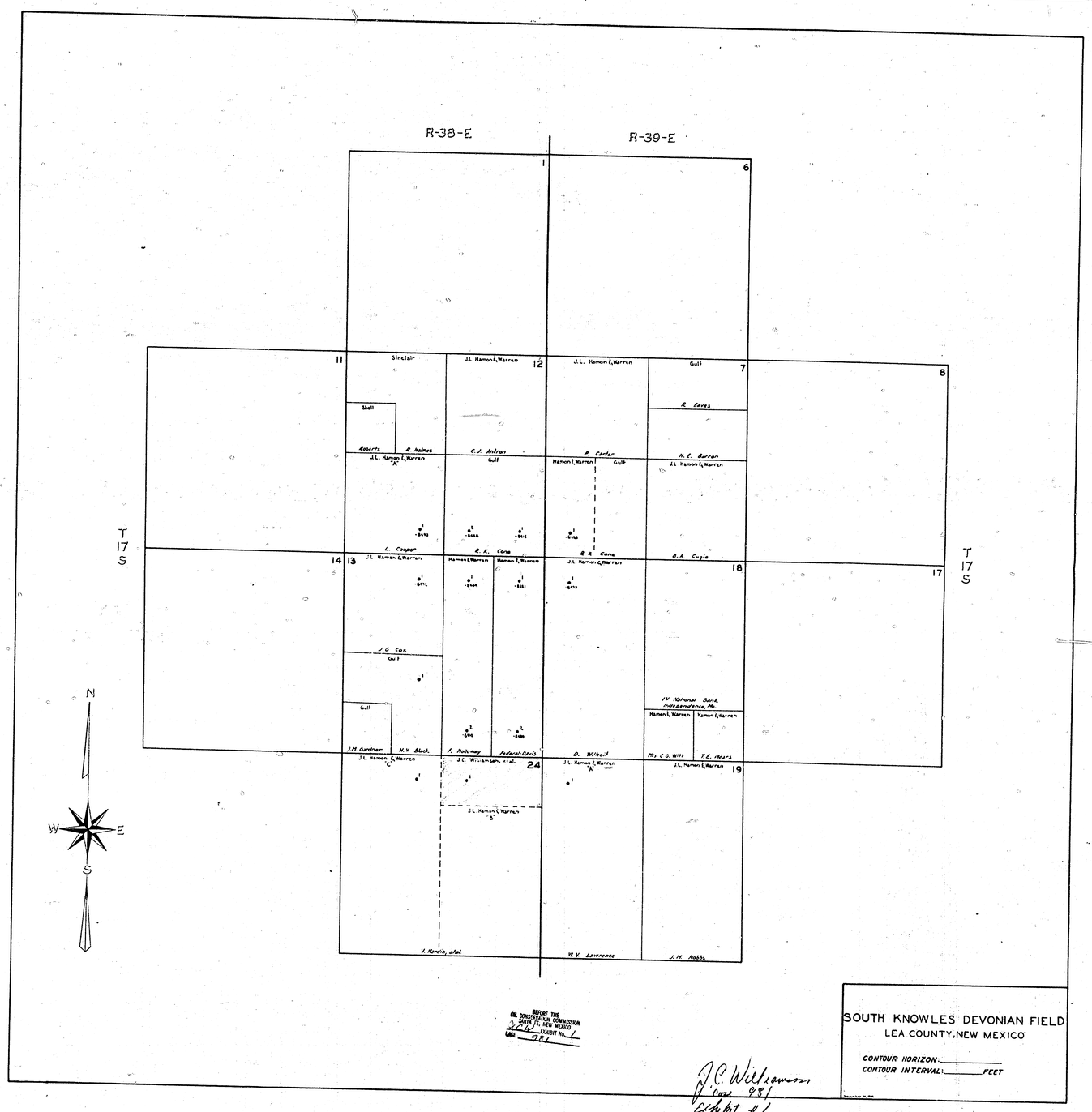
Exhibit # 5
Case 981
J.C. Williamson

SOUTH KNOWLES DEVONIAN FIELD
LEA COUNTY, NEW MEXICO
80 Ac. Drainage Patterns
CONTOUR HORIZON:_____
CONTOUR INTERVAL:_____FEET


R-38-E
R-39-E
T 17 S
T 17 S
N
W
E
S
1
6
11
12
7
8
14
13
18
17
24
19
Sinclair
J.L. Hamon & Warren
Gulf
Shell
Roberts
R. Holmes
C.J. Antron
P. Carter
H.E. Barron
R. Eaves
L. Cooper
R.K. Cone
B.A. Cugia
J.G. Cox
J.M. Gardner
H.V. Black
F. Holloway
Federal-Davis
D. Wilhoit
Mrs C.G. Witt
T.E. Mears
V. Hardin, etal.
W.V. Lawrence
J.M. Hobbs
Hamon & Warren
J.C. Williamson, etal.
J.L. Hamon & Warren "A"
J.L. Hamon & Warren "B"
J.L. Hamon & Warren "C"
IV National Bank Independence, Mo.
BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
EXHIBIT No. 1
CASE 981
SOUTH KNOWLES DEVONIAN FIELD
LEA COUNTY, NEW MEXICO
CONTOUR HORIZON:
CONTOUR INTERVAL: FEET
J.C. Williamson
Case 981
Exhibit #1.

65

Memo

From Wm
Re: Case # 981
Application for Hearing

To JWG

~~Go~~ ahead & write order approving 80 ac unit as requested as specified in R-638 B paragraph 1.

Wm

66

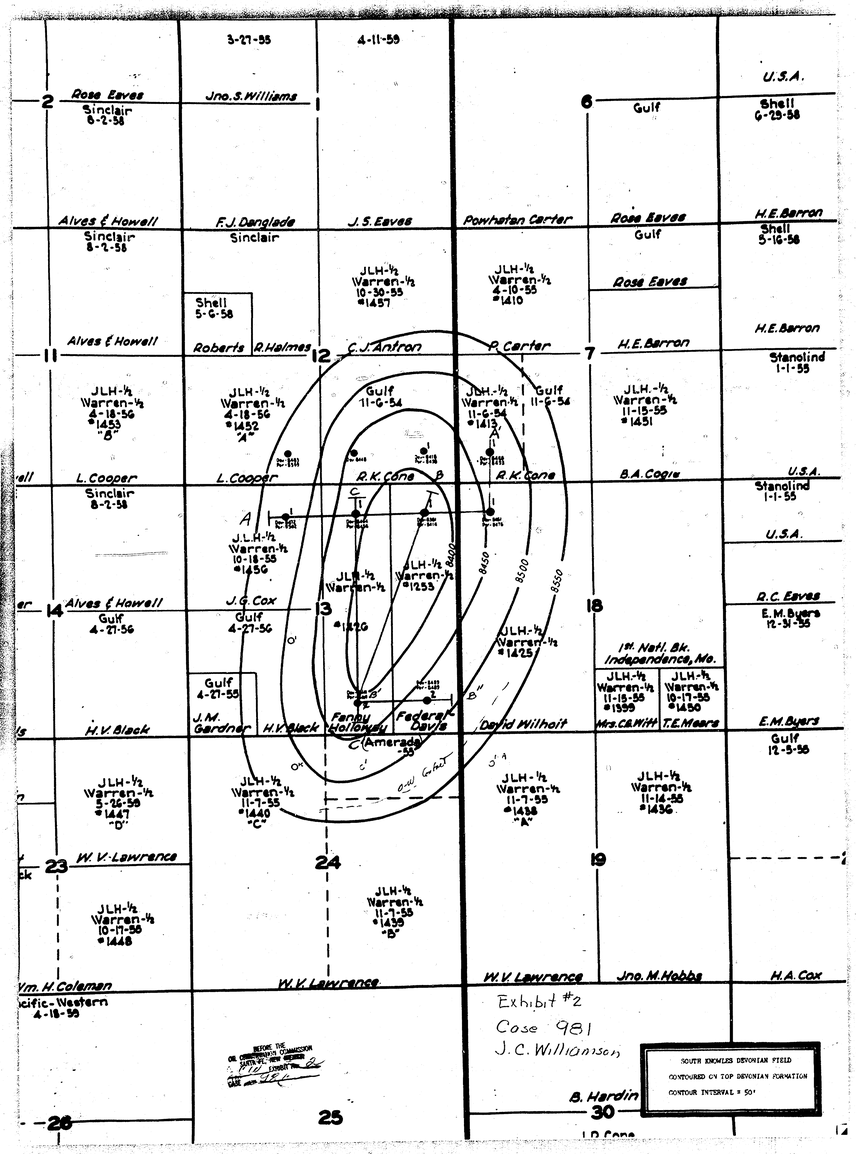
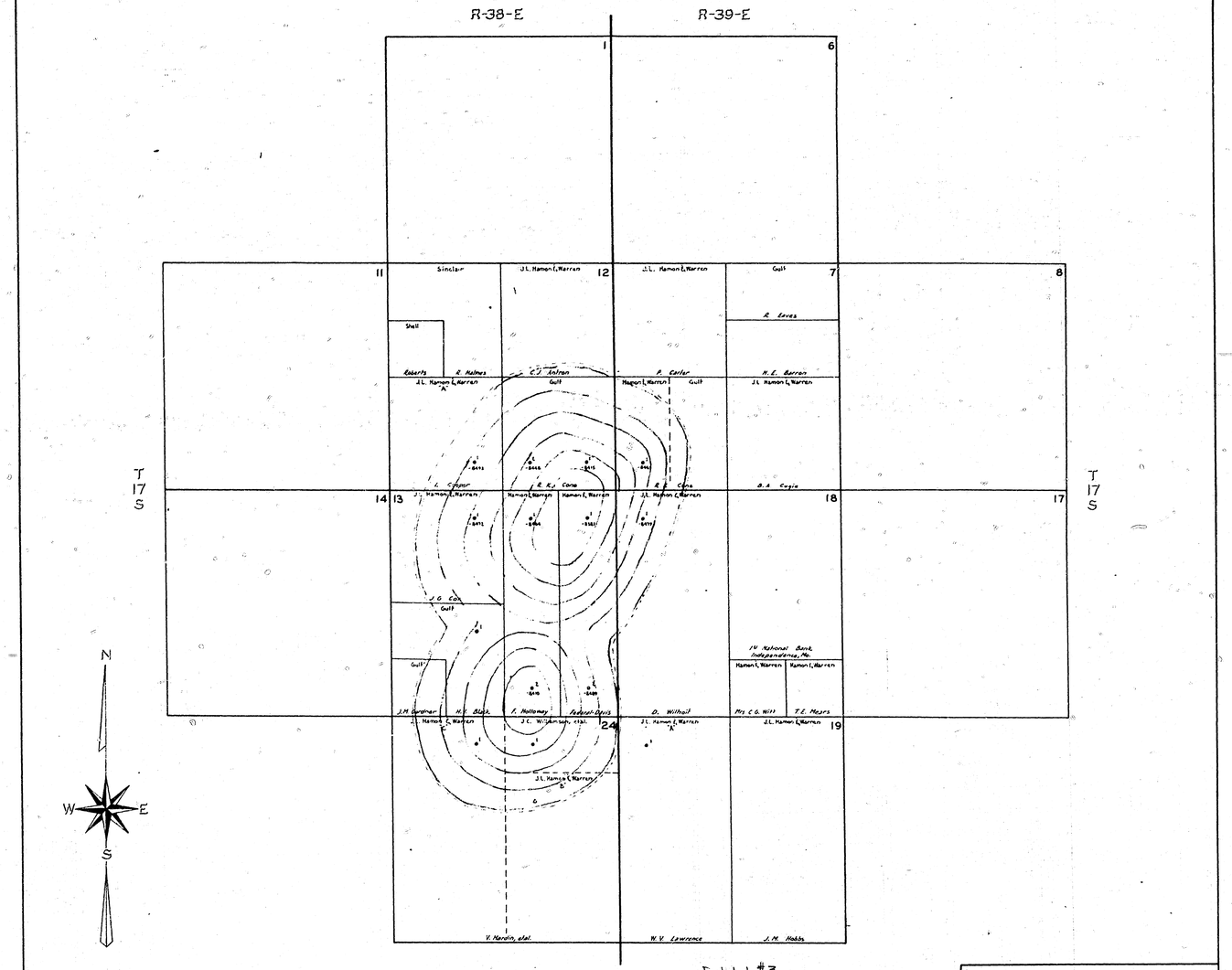


Exhibit #2
Case 981
J.C. Williamson



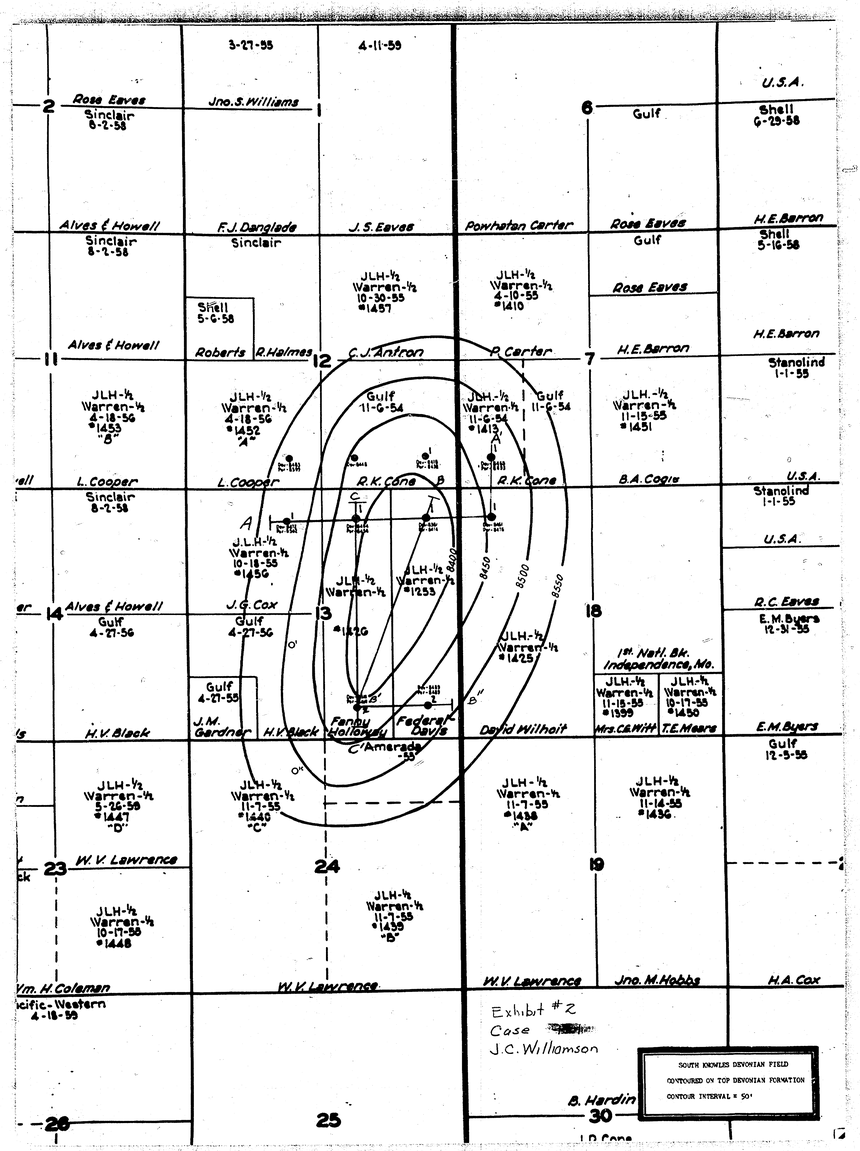
BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO EXHIBIT No. 3 CASE 981

Exhibit #3
Case 981
J.C. Williamson.

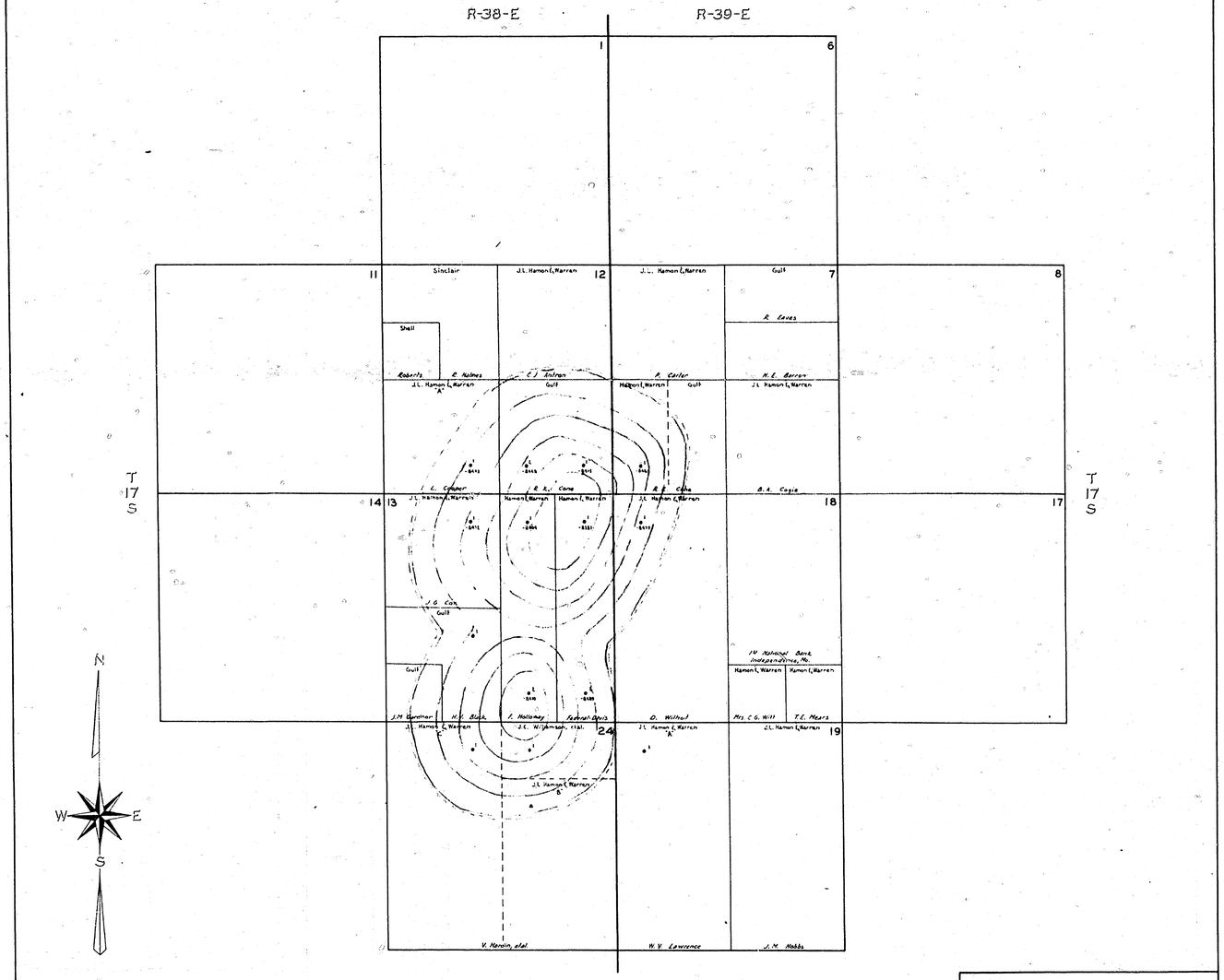
SOUTH KNOWLES DEVONIAN FIELD
LEA COUNTY, NEW MEXICO

CONTOUR HORIZON: DEVONIAN
CONTOUR INTERVAL: 25 FEET
--- WATER

67


3-27-55
4-11-55
U.S.A.
Rose Eaves
Sinclair
6-2-58
Jno.S.Williams
1
6
Gulf
Shell
6-29-58
Alves & Howell
Sinclair
8-2-58
F.J.Danglade
Sinclair
J.S.Eaves
Powhaton Carter
Rose Eaves
Gulf
H.E.Barron
Shell
5-16-58
JLH-½
Warren-½
10-30-55
#1457
JLH-½
Warren-½
4-10-55
#1410
Rose Eaves
Shell
5-6-58
Alves & Howell
Roberts
R.Holmes
11
12
C.J.Antron
P.Carter
7
H.E.Barron
H.E.Barron
Stanolind
1-1-55
JLH-½
Warren-½
4-18-56
#1453
"B"
JLH-½
Warren-½
4-18-56
#1452
"A"
Gulf
11-6-54
JLH-½
Warren-½
11-6-54
#1413
Gulf
11-6-54
JLH-½
Warren-½
11-15-55
#1451
L.Cooper
L.Cooper
R.K.Cone
R.K.Cone
B.A.Cogle
U.S.A.
L.Cooper
Sinclair
8-2-58
Stanolind
1-1-55
U.S.A.
JLH-½
Warren-½
10-18-55
#1456
JLH-½
Warren-½
#1253
8400
8450
8500
8550
Alves & Howell
Gulf
4-27-56
J.G.Cox
Gulf
4-27-56
14
13
#1426
18
R.C.Eaves
E.M.Byers
12-31-55
JLH-½
Warren-½
#1425
1st Natl. Bk.
Independence, Mo.
Gulf
4-27-55
J.M.
Gardner
H.V.Block
Fenley
Holloway
Federal
Davis
David Wilhoit
JLH-½
Warren-½
11-15-55
#1399
JLH-½
Warren-½
10-17-55
#1450
H.V.Block
Mrs.C.B.Hill
T.E.Mears
E.M.Byers
Gulf
12-5-55
C'Amerada
-55
JLH-½
Warren-½
5-16-56
#1447
"D"
JLH-½
Warren-½
11-7-55
#1440
"C"
JLH-½
Warren-½
11-7-55
#1438
"A"
JLH-½
Warren-½
11-14-55
#1436
W.V.Lawrence
23
24
19
JLH-½
Warren-½
10-17-55
#1448
JLH-½
Warren-½
11-7-55
#1439
"B"
Wm.H.Coleman
W.V.Lawrence
W.V.Lawrence
Jno.M.Hobbs
H.A.Cox
cific-Western
4-18-55
Exhibit #2
Case
J.C.Williamson
SOUTH KNOWLES DEVONIAN FIELD
CONTOURED ON TOP DEVONIAN FORMATION
CONTOUR INTERVAL = 50'
B.Hardin
26
25
30
I.P.Cone

68



69

Exibit # 3
Case 981
J.C. Williamson

SOUTH KNOWLES DEVONIAN FIELD
LEA COUNTY, NEW MEXICO

CONTOUR HORIZON: Devonian
CONTOUR INTERVAL: 25 FEET
--- WATER

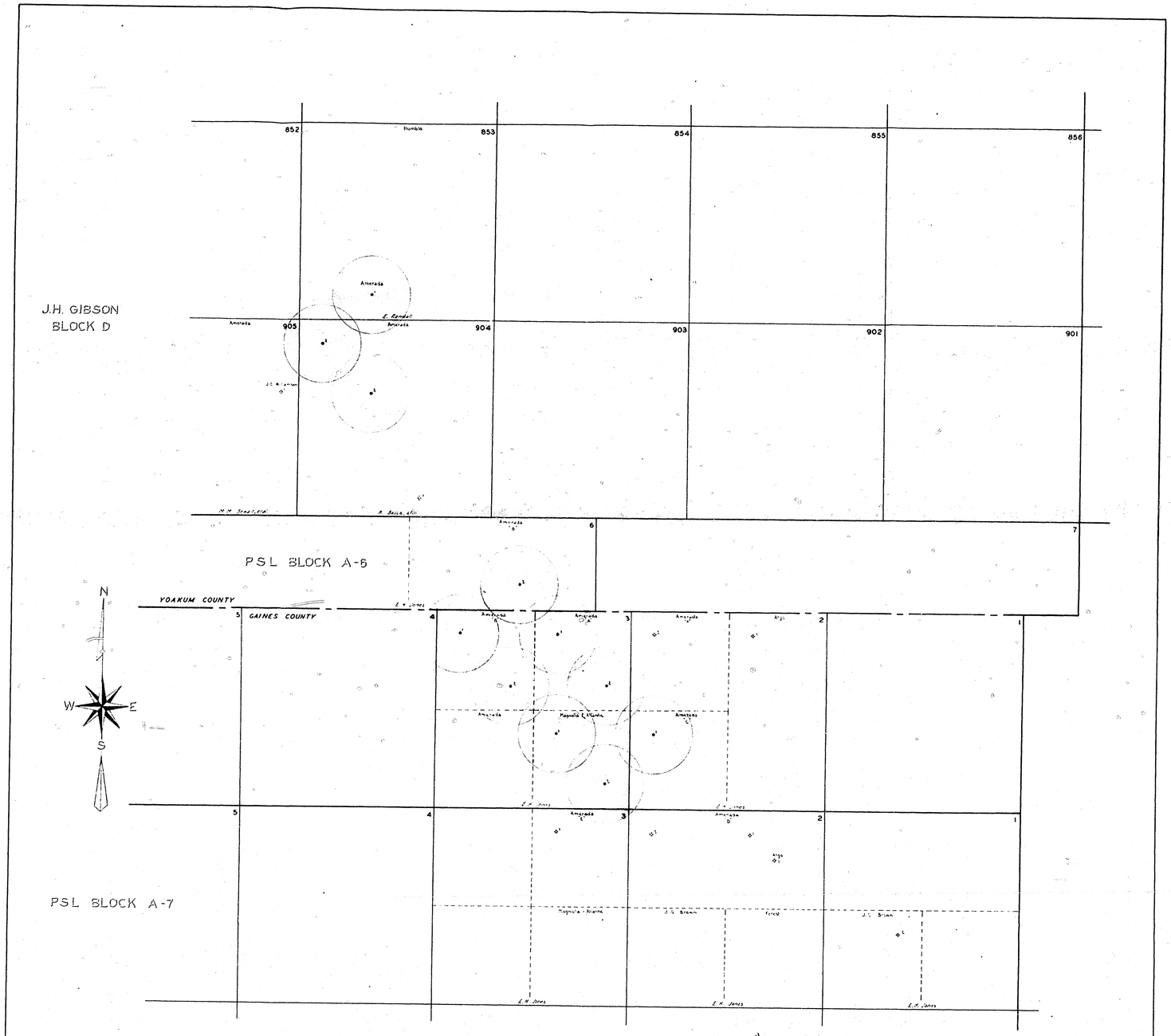


Exhibit #4
Case 981
J.C. Williamson

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Case 981 EXHIBIT No. 4
Date 9-61

JONES RANCH FIELD
YOAKUM & GAINES COUNTIES, TEXAS
80 Ac. Drainage Pattern
SCALE: 1 INCH = 1000 FEET

70

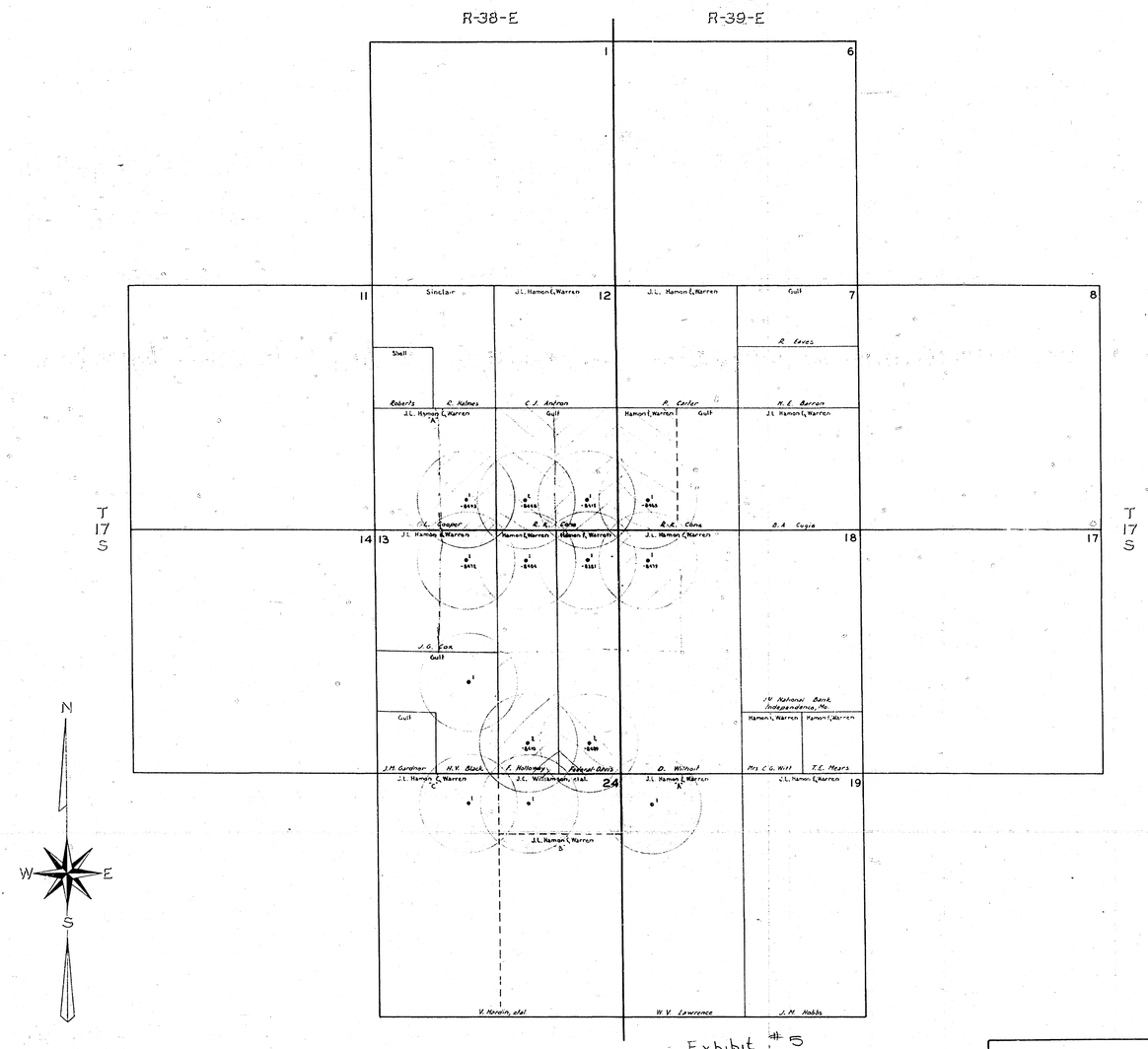


Exhibit #5
Case 981
J.C. Williamson

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
J.C. W. EXHIBIT No. 5
CASE 981

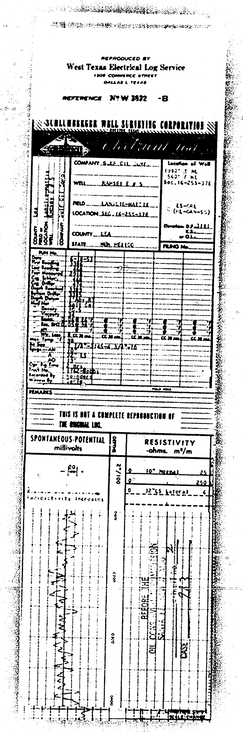
SOUTH KNOWLES DEVONIAN FIELD
LEA COUNTY, NEW MEXICO
80 Ac. Drainage Pattern

CONTOUR HORIZON: _____
CONTOUR INTERVAL: _____ FEET

71

REPRODUCED BY
West Texas Electrical Log Service
1909 COMMERCE STREET
DALLAS 1, TEXAS

REFERENCE No. W 3572 -B



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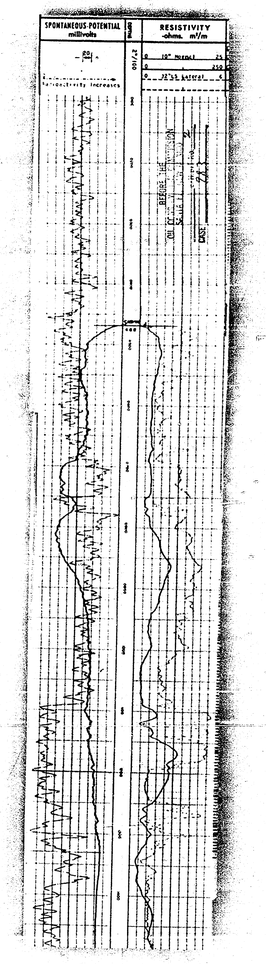
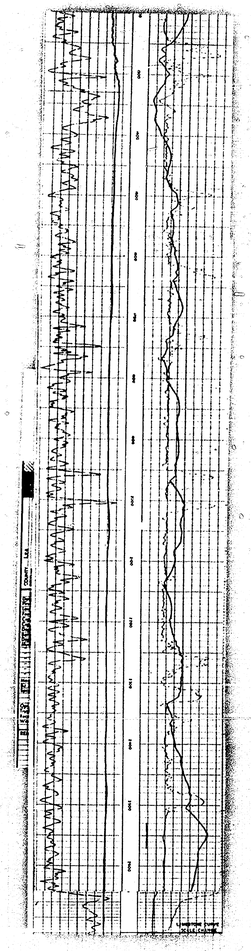
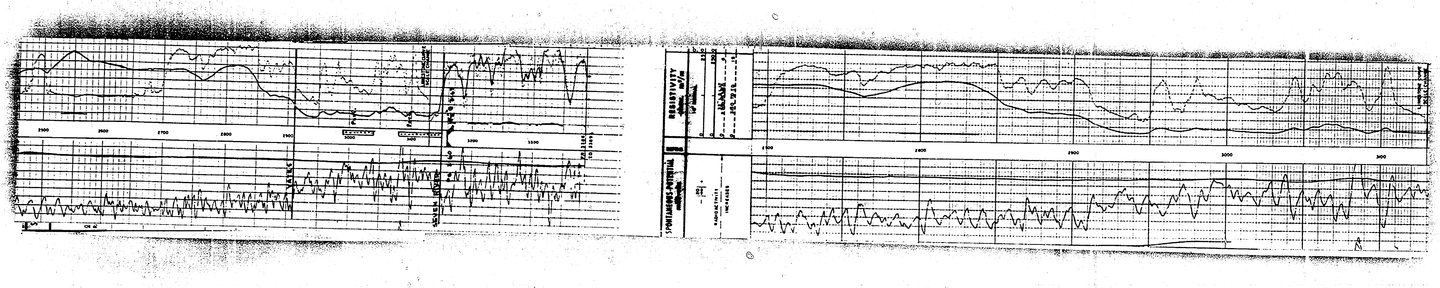

SPONTANEOUS-POTENTIAL
millivolts
RESISTIVITY
-ohms. m²/m
Radioactivity Increases
10" Normal
32"SS Lateral
REFORE THE
ON CT
SCALE
CASE

73

74





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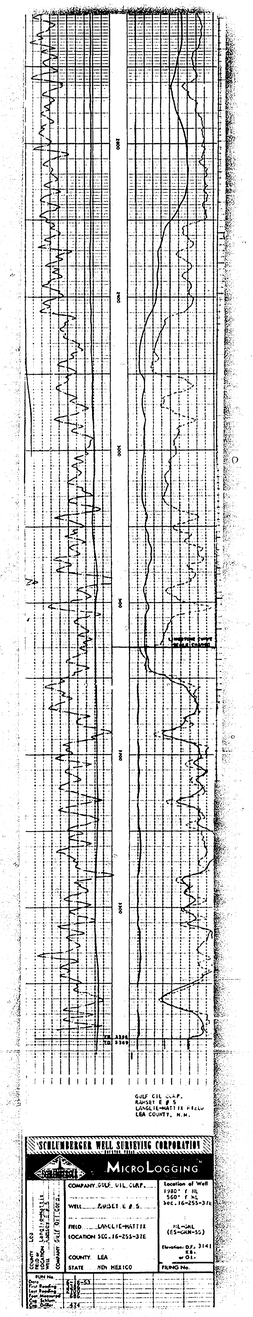
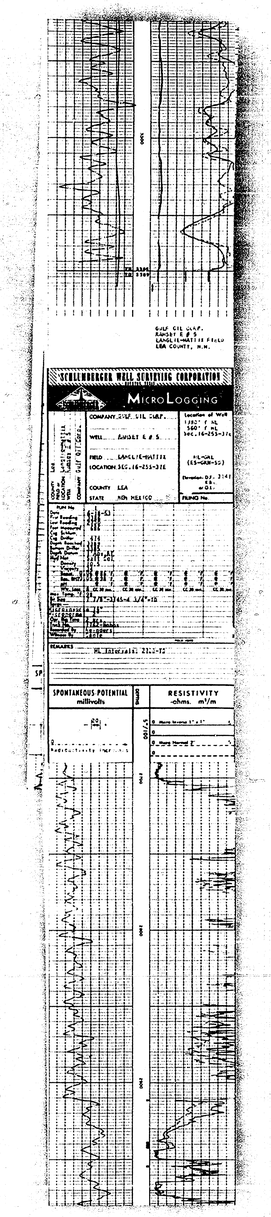
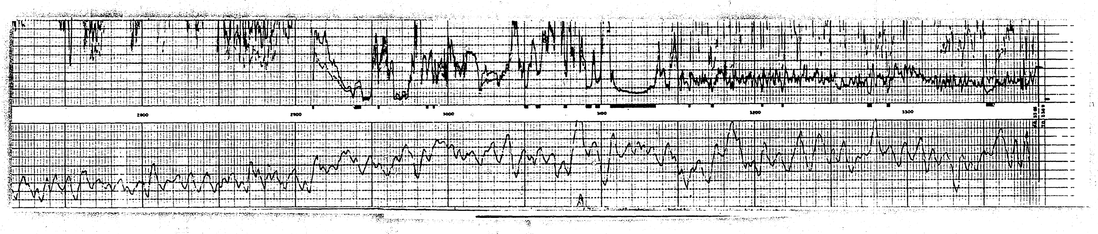


GULF OIL CORP.
RAMSEY E & S
LANGLIE-MATTIX FIELD
LEA COUNTY, N.M.
SCHLUMBERGER WELL SURVEYING CORPORATION
MICROLOGGING
COMPANY GULF OIL CORP.
WELL RAMSEY E & S
FIELD LANGLIE-MATTIX
LOCATION SEC. 16-25S-37E
COUNTY LEA
STATE NEW MEXICO
Location of Well
1980' F NL
560' F NL
Sec. 16-25S-37E
FILMING No.


GULF OIL CORP.
RANSEY E & S
LANGLIE-MATTIX FIELD
LEA COUNTY, N.M.
SCHLUMBERGER WELL SURVEYING CORPORATION
MICROLOGGING
COMPANY GULF OIL CORP.
WELL RANSEY E & S
FIELD LANGLIE-MATTIX
LOCATION SEC. 16-25S-37E
COUNTY LEA
STATE NEW MEXICO
Location of Well
HEIGHT (ES-GRN-SD)
Elevation: DF. 3141
KB.
GL.
PLANO No.
SPONTANEOUS POTENTIAL
millivolts
RESISTIVITY
-ohms. m²/m

77



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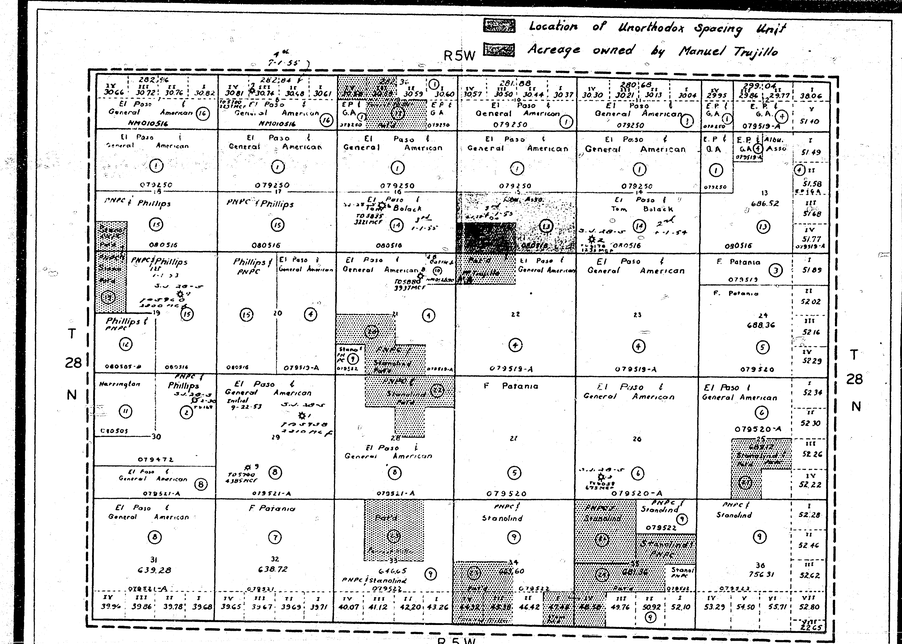
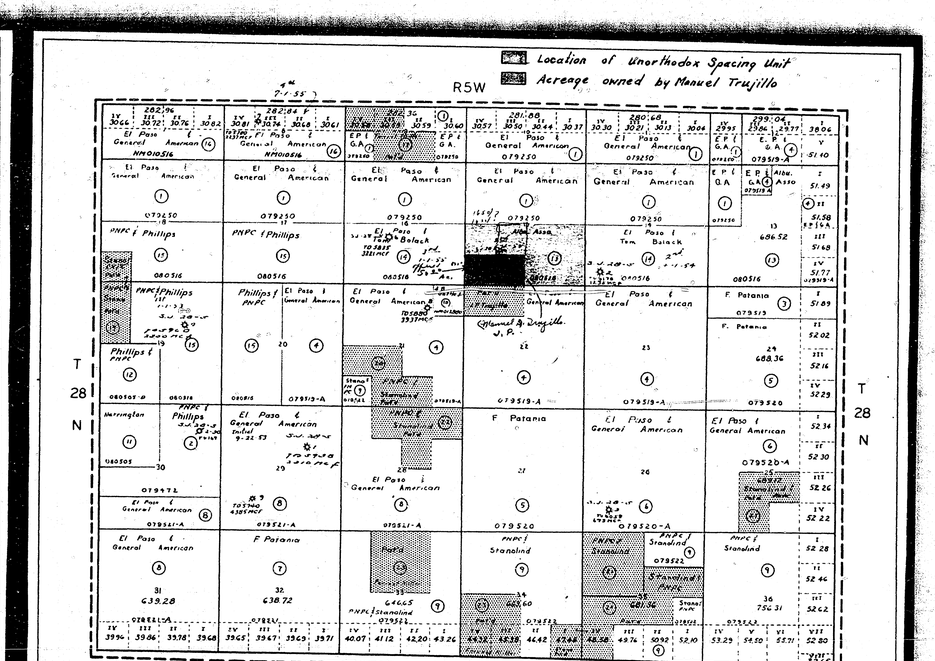

Location of Unorthodox Spacing Unit
Acreage owned by Manuel Trujillo
R5W
T 28 N
R5W
Wells Determined to be Non-Commercial for Unit Purposes
Not Committed
FEDERAL LANDS 15,752.75 90.53
STATE LANDS 0 0
FEE & PATENTED LANDS 1,846.93 9.47
TOTAL 17,399.68 100.00
EXHIBIT A
SAN JUAN UNIT 28-5
RIO ARRIBA COUNTY, NEW MEXICO
SCALE 2"=1 MILE
El Paso Natural Gas Co.
Exhibit "1"


Location of Unorthodox Spacing Unit
Acreage owned by Manuel Trujillo
R5W
T 28 N
R5W
Wells Determined to be Non-Commercial for Unit Purposes
Not Committed
FEDERAL LANDS 15,752.75 90.53
STATE LANDS 0 0
FEE & PATENTED LANDS 1,846.93 9.47
TOTAL 17,399.68 100.00
EXHIBIT A
SAN JUAN UNIT 28-5
RIO ARRIBA COUNTY, NEW MEXICO
SCALE 2"=1 MILE
El Paso Natural Gas Co.
Exhibit "1"

79

SCHLUMBERGER WELL SURVEYING CORPORATION

SCHLUMBERGER

Electrical Log

COMPANY HUMBLE OIL & REFG.

... COMPANY

WELL ... BLINEBRY TUBB

... GAS UNIT # 1

FIELD ..... BLINEBRY TUBB

LOCATION SEC. 10-21S-37E

... ...

COUNTY LEA

STATE NEW MEXICO

Location of Well
990' f SL
1980' f EL
Sec. 10-21S-37E

ES-3RL
(WL)

Elevation. D.F. 3459
K.B. 3460
or G.L. 3450

FILING No.

COUNTY Lea
LOCATION Blinebry Tubb
WELL Blinebry Tubb Gas
COMPANY Humble Oil & Refg.

RUN No.	1								
Date	6-21-55								
First Reading	6310								
Last Reading	3200								
Feet Measured	3110								
Csg. Schlum.	3200								
Csg. Driller	3200								
Depth Reached	6313								
Bottom Driller	6312								
Depth Datum	KB 10' Abv. GL								
Mud Nat.	Caustic-Driscose-Soda Ash								
" Density	10								
" Viscosity	50								
" Resist.	3 @ 75	F	@	F	@	F	@	F	
" Res. BHT	1.96@120	F	@	F	@	F	@	F	
" pH	11.6	F	@	F	@	F	@	F	
" Wtr. Loss	20 CC 30 min.		CC 30 min.		CC 30 min.		CC 30 min.		
Max. Temp. °F	120								
Bit Size	R 5/8"-200; T 3/4"-6700; 6 3/4"-TD								
Spcg.—AM	10								
" A.O.'	32" LS								
" AO.	19'								
Opr. Rig Time	14 Hrs.								
Truck No.	1760-Hobbs								
Recorded By	Maxwell								
Witness By	Mason								

DIVISION PRODUCTION GEOLOGIST
FILE

REMARKS

GR: 830 - 200-100(20 C)
Log-scale 100' TC - scaled 2000'x4000'/Fr.

RESISTIVITY -ohms. m²/m
0 -- 16" Lateral -- 50
5000

RESISTIVITY -ohms. m²/m
0 -- 10" Normal -- 60
600
0 -- 32"ls Lateral -- 40
600
0 -- 64" Ms -- 60

DEPTHS 2"/100

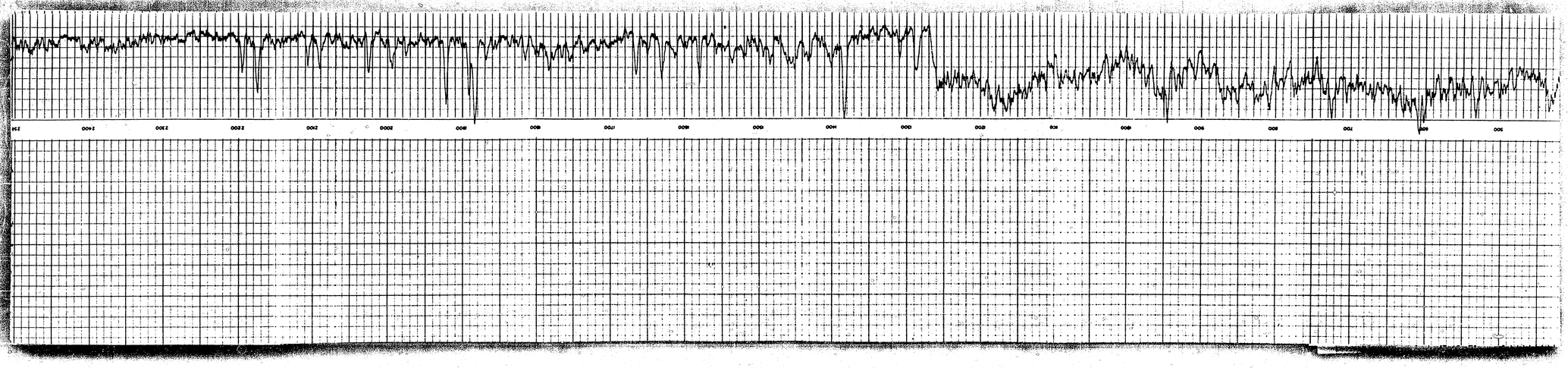
SPONTANEOUS POTENTIAL millivolts
-120 +

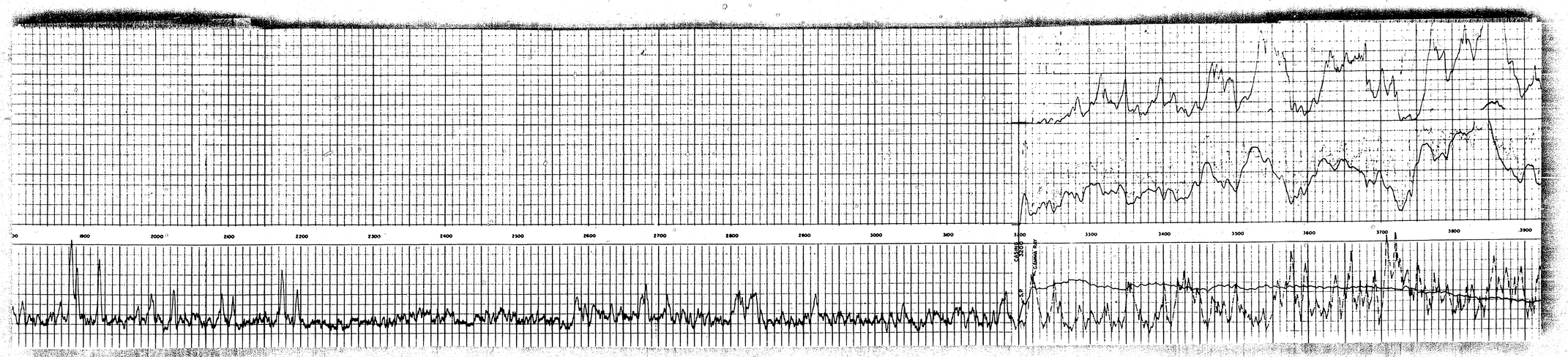
GAMMA RAY
0 Micrograms of Radium Equiv./Ton of Formation 20

0 100 200 300 400 500 600 700 800 900 1000 1100

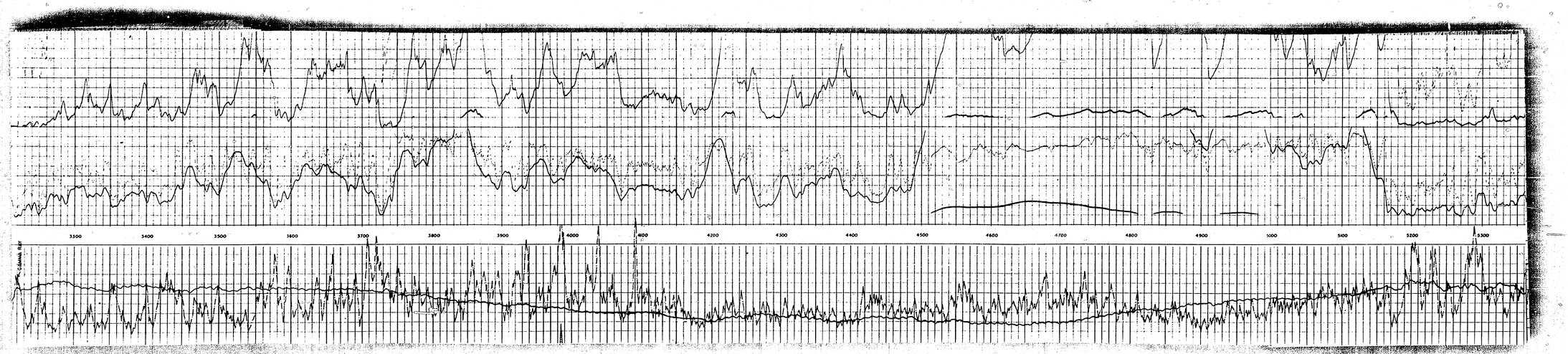
80

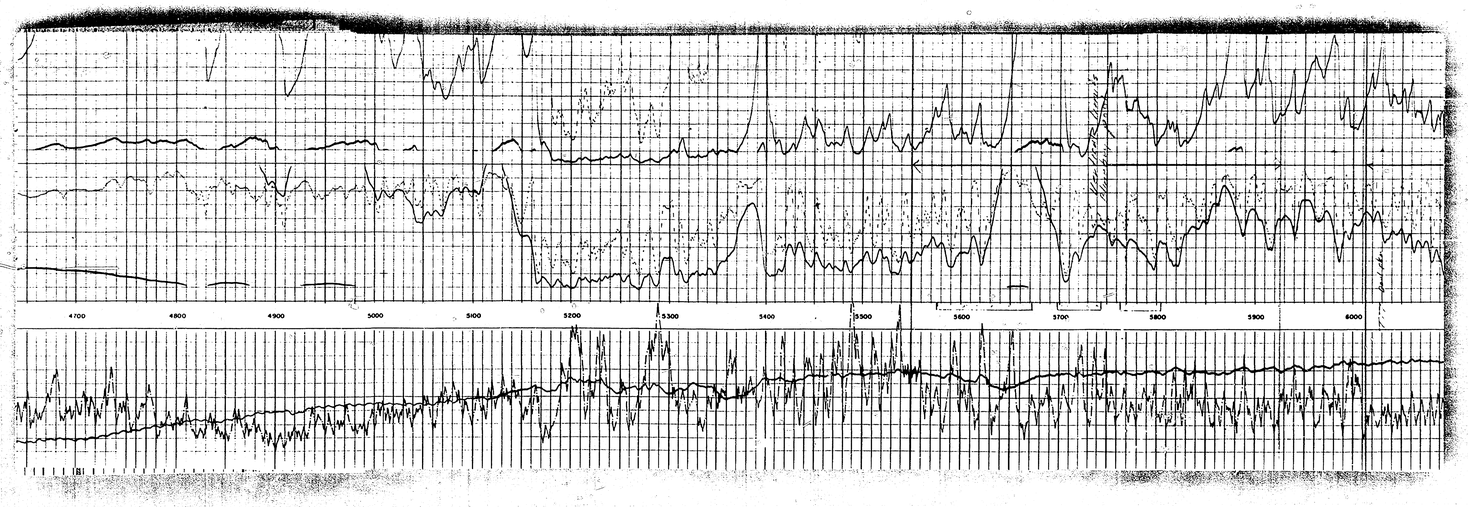
18



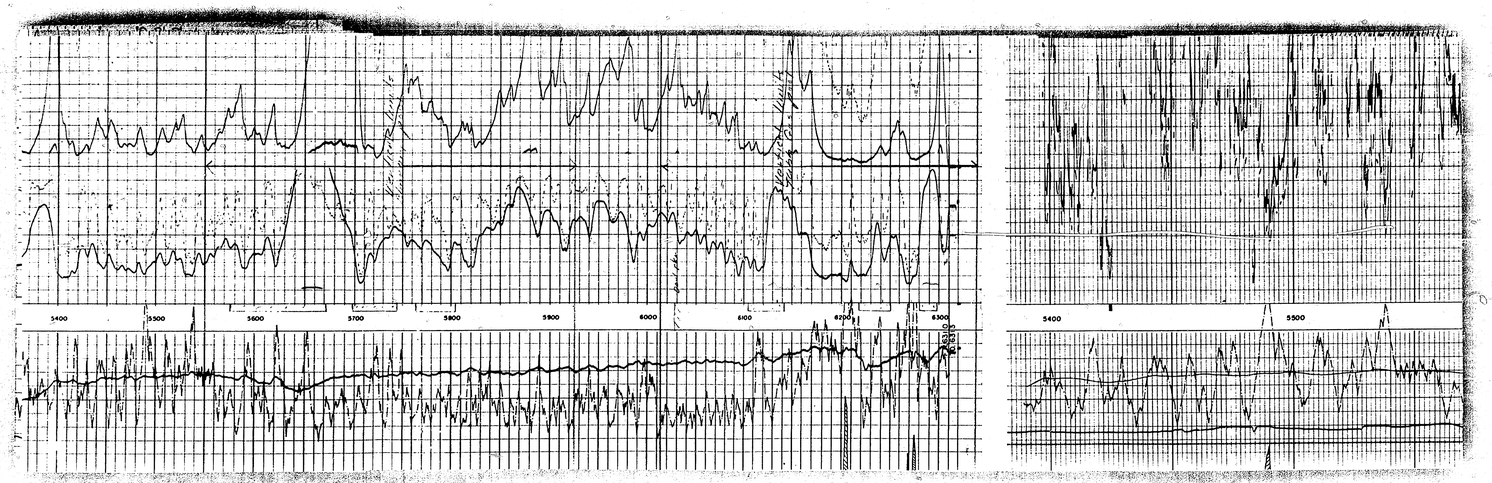

1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900

82

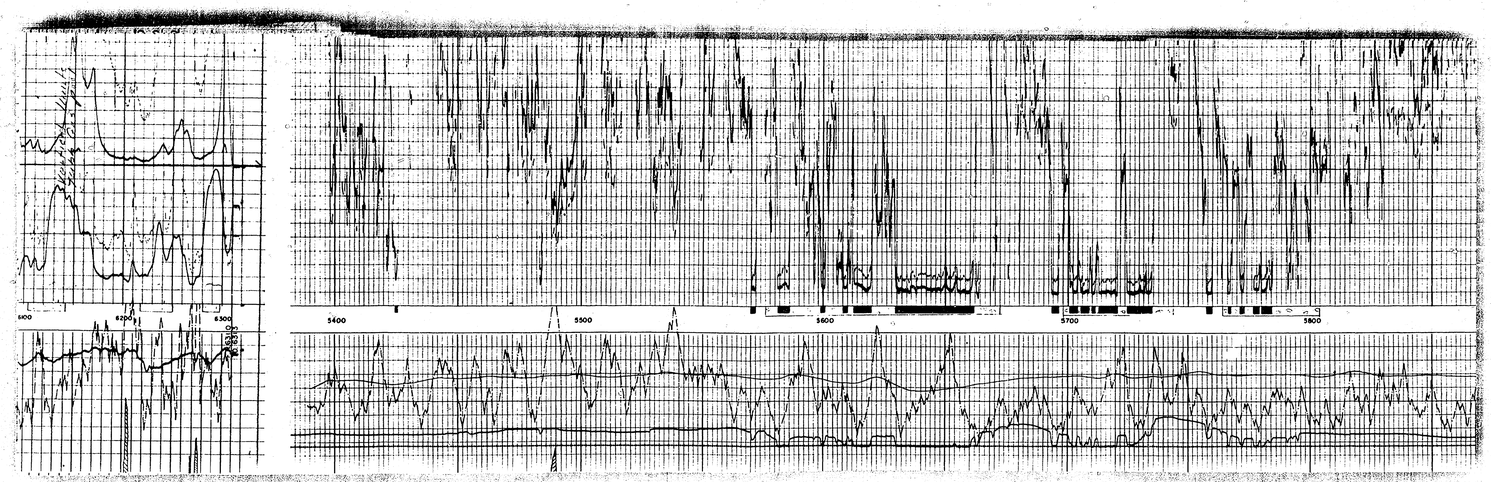

3300
3400
3500
3600
3700
3800
3900
4000
4100
4200
4300
4400
4500
4600
4700
4800
4900
5000
5100
5200
5300
GAMMA RAY

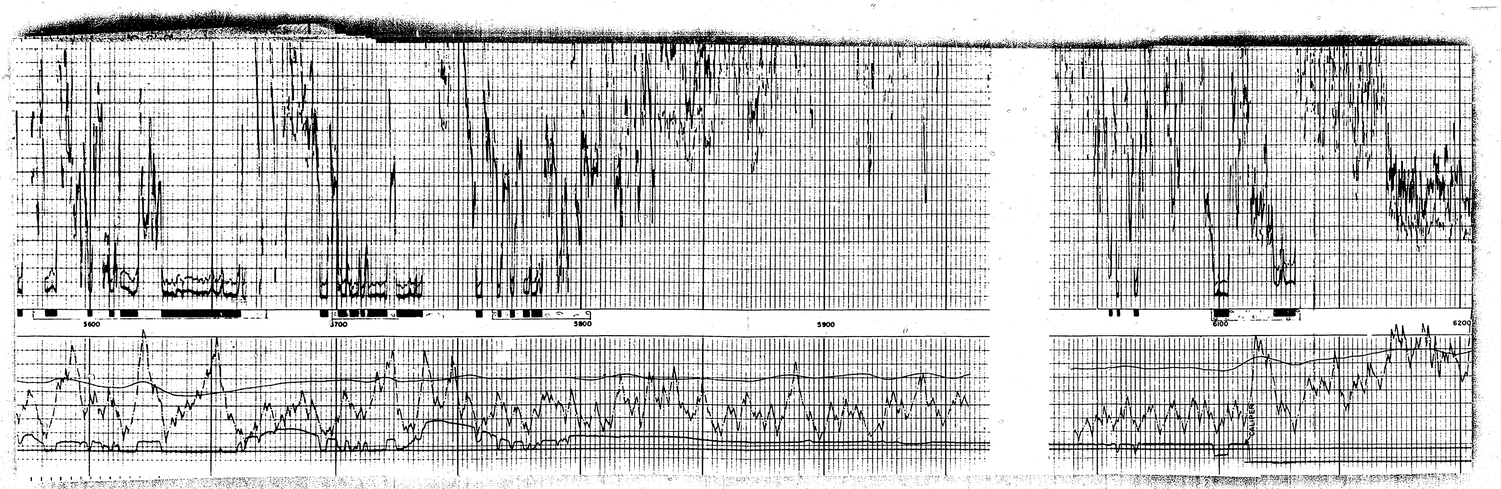

4700
4800
4900
5000
5100
5200
5300
5400
5500
5600
5700
5800
5900
6000

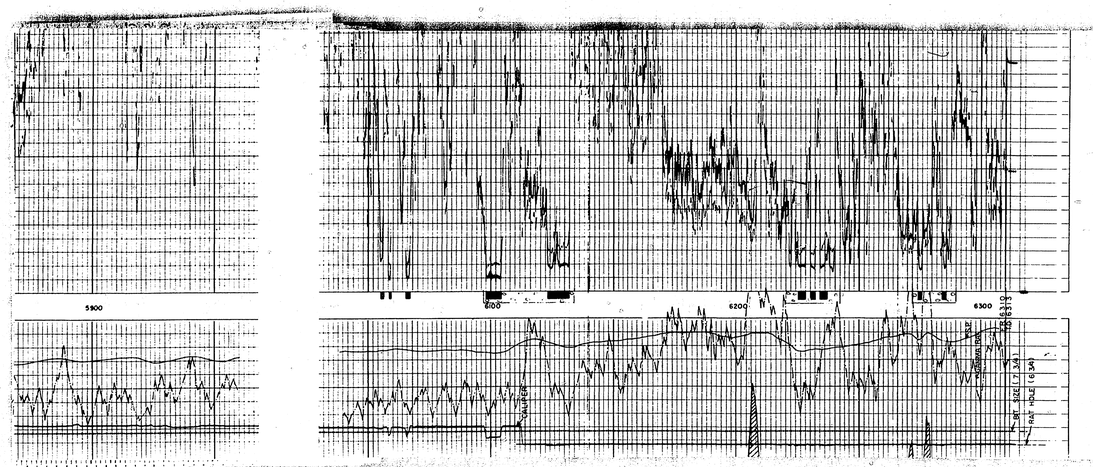
84



85


6400
6200
6300
5400
5500
5600
5700
5800


5600
5700
5800
5900
6100
6200

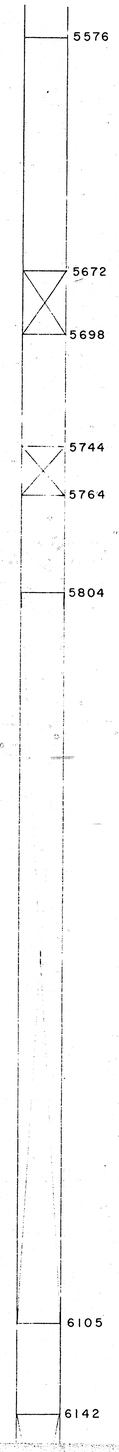


HUMBLE OIL & REFG. CO.
BLINEBRY TUBB GAS UNIT # 1
BLINEBRY TUBB FIELD
LEA COUNTY, N.M.

88

89

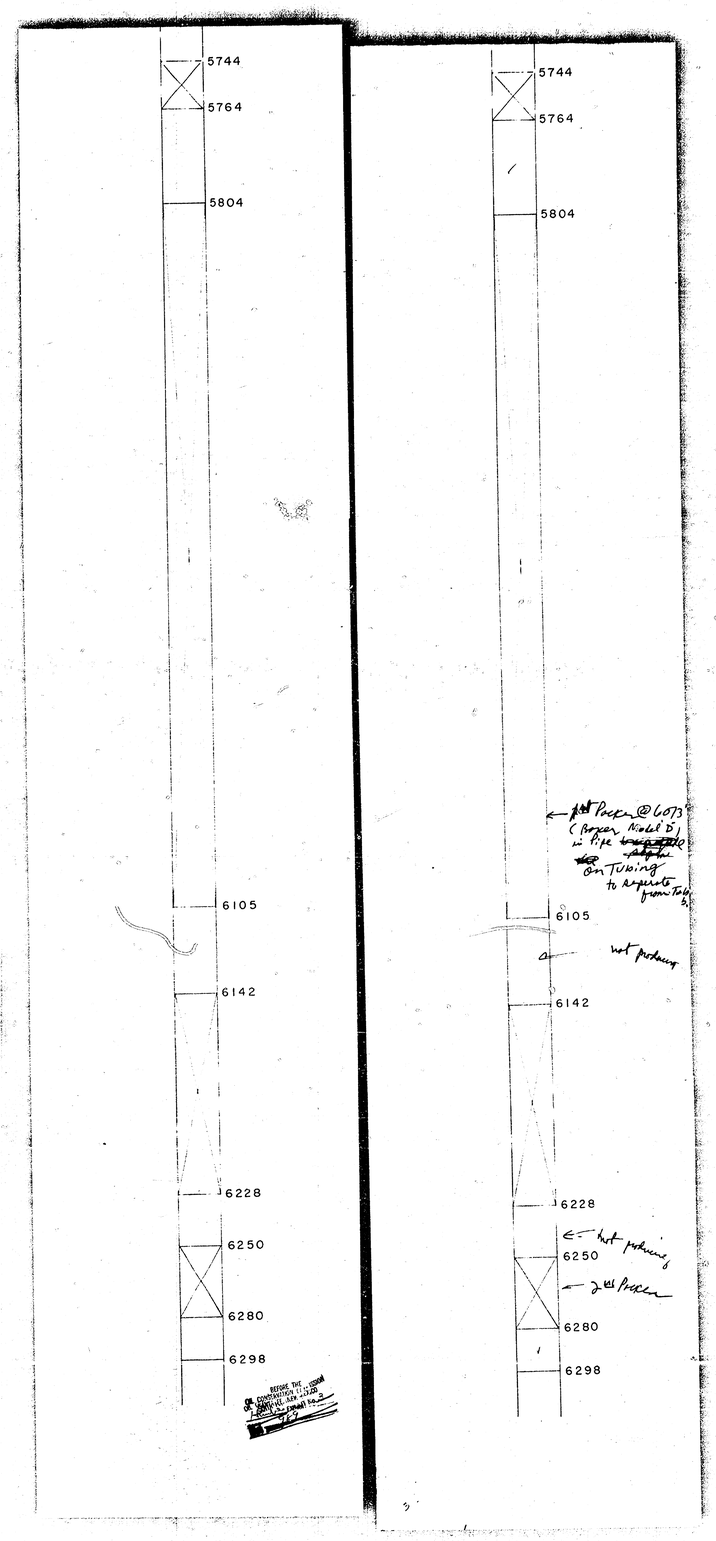
PERFORATED INTERVALS
HUMBLE OIL & REFINING CO.
BLINEBRY - TUBB GAS UNIT NO. 1

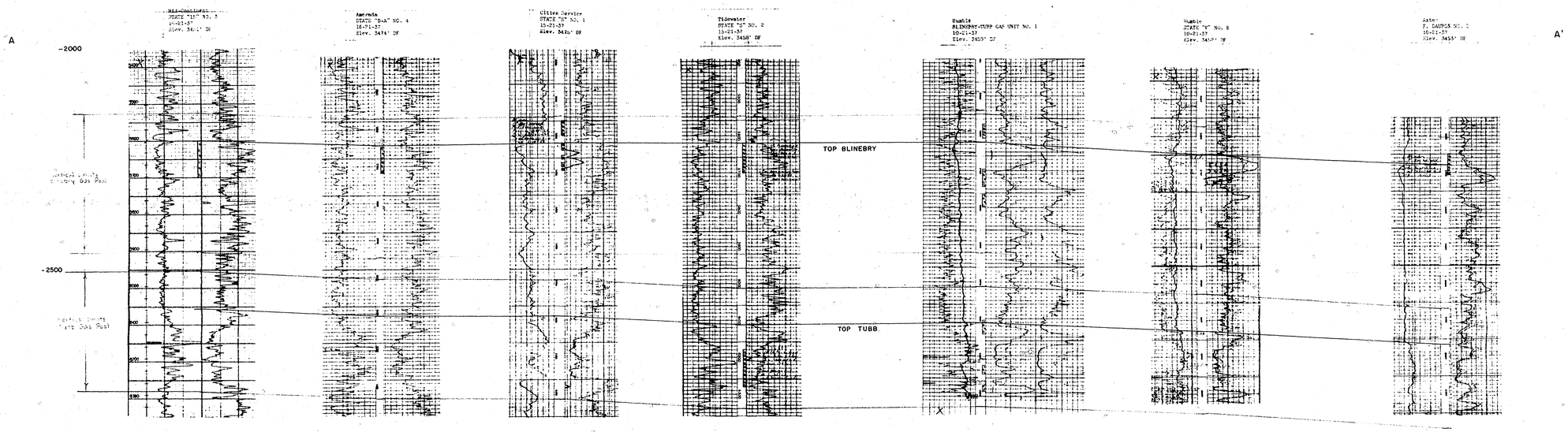


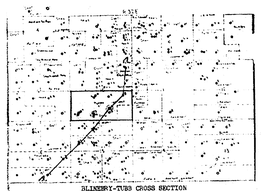
PERFORATED INTERVALS
HUMBLE OIL & REFINING CO.
BLINEBRY - TUBB GAS UNIT NO. 1



90


5744
5764
5804
6105
6142
6228
6250
6280
6298
5744
5764
5804
1st Packer @ 6073'
(Baker Model D)
in Pipe
On Tubing
to separate from Tubing
6105
not producing
6142
6228
not producing
6250
2nd Packer
6280
6298





BLINEBRY-TUBB CROSS SECTION
THRU STATE "V" LEASE
LEA COUNTY, NEW MEXICO
HUMBLE OIL & REFG. CO.
HORIZONTAL SCALE: 1" = 200'

4

91

A

A'

-2000

-2500

-3000

Vertical scale of Gas Rad.

Mid-Continent
STATE "H" NO. 3
10-21-57
Elev. 34..' DF

Amerada
STATE "B-A" NO. 4
10-21-57
Elev. 3474' DF

Cities Service
STATE "S" NO. 1
10-21-57
Elev. 3470' DF

Tidewater
STATE "S" NO. 2
10-21-57
Elev. 3458' DF

Humble
BLINEBRY-TUBB GAS UNIT NO. 1
10-21-57
Elev. 3463' DF

Humble
STATE "X" NO. 8
10-21-57
Elev. 3467' DF

Aztec
F. SAUNDS NO. 2
10-21-57
Elev. 3453' DF

TOP BLINEBRY

TOP TUBB

Completed 3-26-54
500 gals MA & 4000 gals L: Acid
Pot. 530 MCFD plus 96 BO
Gty 589.

Completed 4-11-55
5000 gals Dolofrac
Pot. 993 MCFGPD plus 68.5 B Cond/MMCFG
Gty. 73.2°, SICP 1750#.

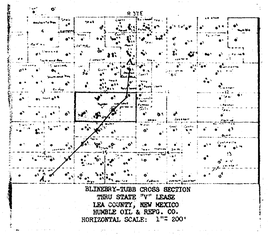
Completed 8-10-55
6000 gals acid
Pot. 5607 MCFD plus 14.8 B Cond/MMCFG

Blinebry Completed 5-4-55.
4000 gals acid.
Pot. 2150 MCFD plus 43.4 B Cond/MMCFG
Gty 68°, SICP 1910#.

Tubb Completed 9-28-55.
4000 gals acid.
Pot. 16,430 MCFD plus 26.1 B Cond/MMCFG
Gty 68° SICP 1840#.

Completed in Drinkard pay.

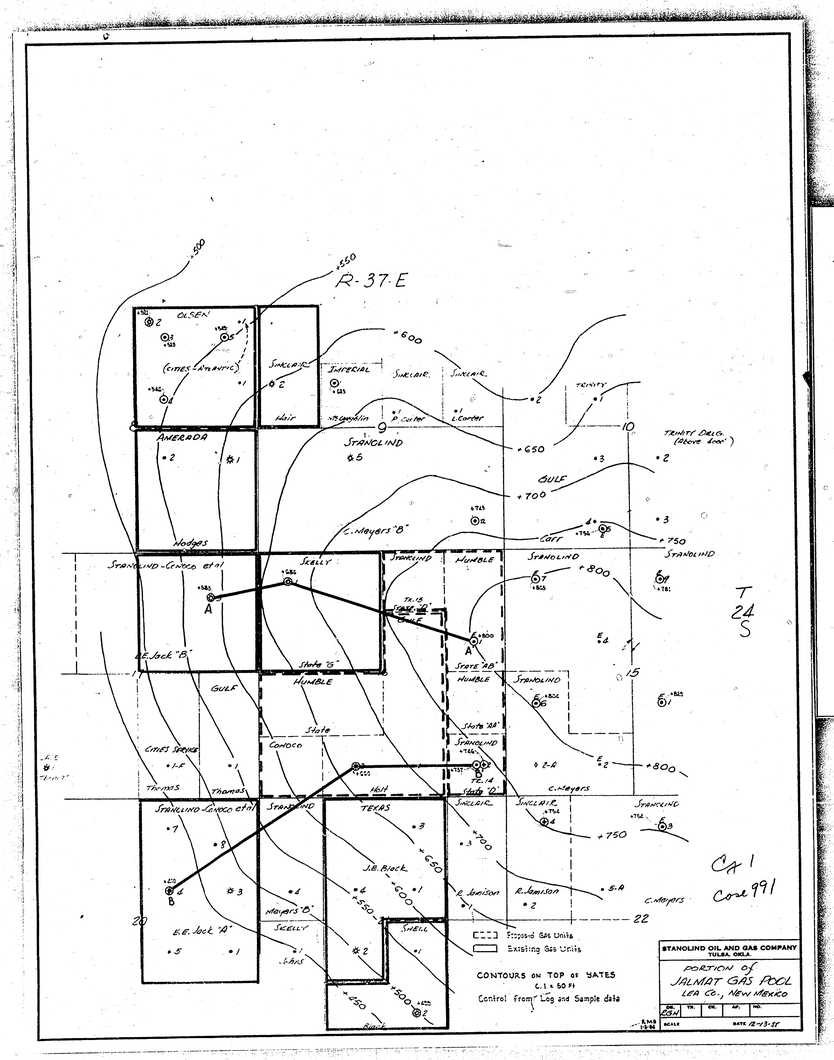
Completed 1-15-58
500 gals MA & 1400 lt Acid
Pot. 1800 MCFD plus 12.7 B Cond, MMCFG
SICP 1940#.



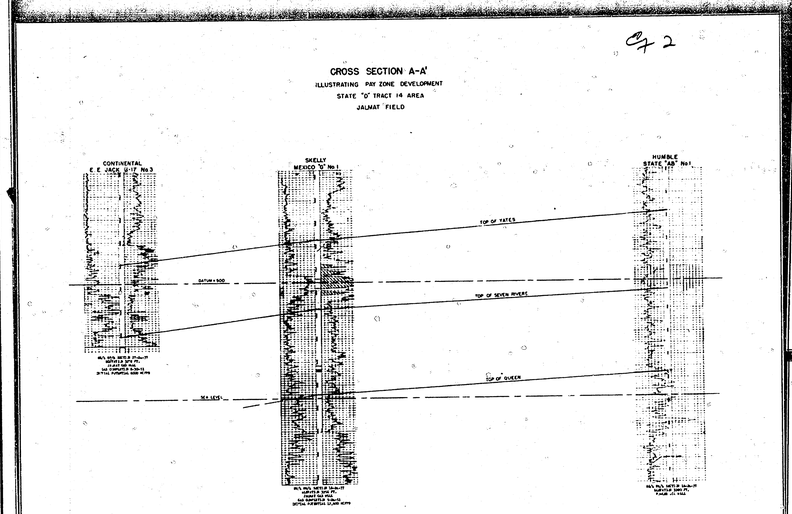
BLINEBRY-TUBB CROSS SECTION
THRU STATE "X" LEASE
LEA COUNTY, NEW MEXICO
HUMBLE OIL & REFG. CO.
HORIZONTAL SCALE: 1" = 200'

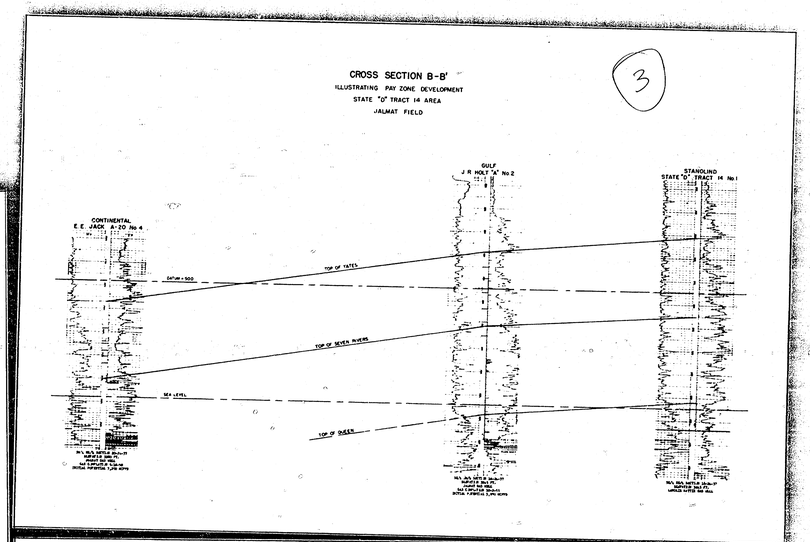
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
CASE NO. 12
EXHIBIT NO. 4
DATE 12-7

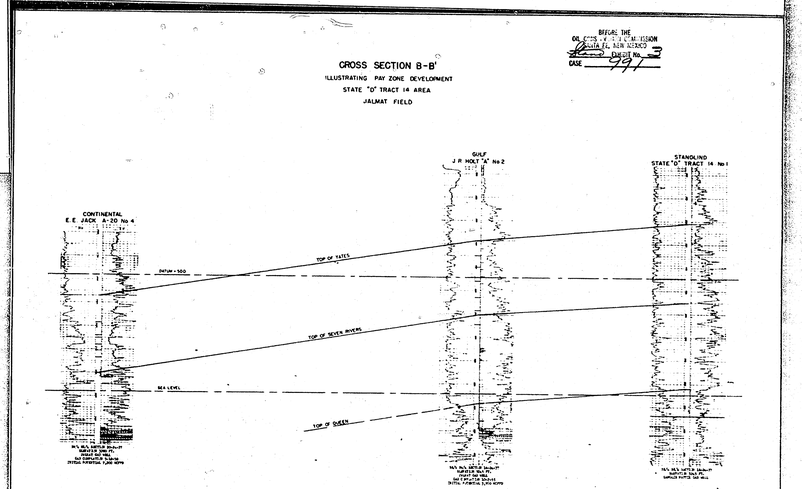
92

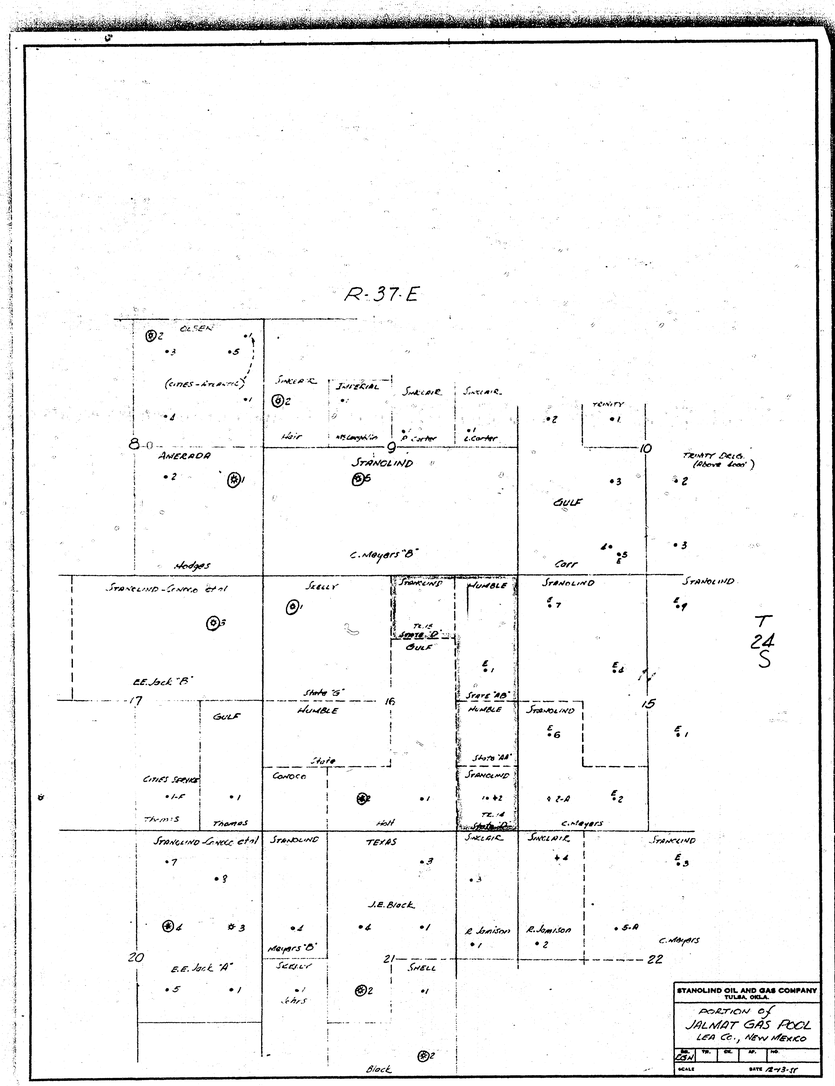

R-37-E
T 24 S
OLSEN
(TIMES ATLANTIC)
SINCLAIR
IMPERIAL
SINCLAIR
SINCLAIR
TRINITY
Hair
McLaughlin
"A" Carter
"L" Carter
AMERADA
STANOLIND
TRINITY DRLG. (Above Log)
GULF
C. Hoyers "B"
Cliff
STANOLIND
Hodges
Stanolind-Lenco et al
SKELLY
STANOLIND
HUMBLE
STANOLIND
STANOLIND
E.E. Jack "B"
State "B"
GULF
HUMBLE
State "A"
STANOLIND
State
CONOCO
Cities Service
Thomas
Thomas
Hilt
State "D"
C. Hoyers
Stanolind-Lenco et al
STANOLIND
TEXAS
SINCLAIR
SINCLAIR
STANOLIND
J.B. Black
R. Jamison
R. Jamison
C. Hoyers
Hoyers "B"
SKELLY
SHELL
E.E. Jack "A"
Shell
20
22
Proposed Gas Units
Existing Gas Units
CONTOURS on TOP of YATES
C.I. = 50 Ft
Control from Log and Sample data
STANOLIND OIL AND GAS COMPANY
TULSA, OKLA.
PORTION of
JALMAT GAS POOL
LEA CO., NEW MEXICO
DRAWN
SCALE
DATE 12-13-55
C-1
Case 991

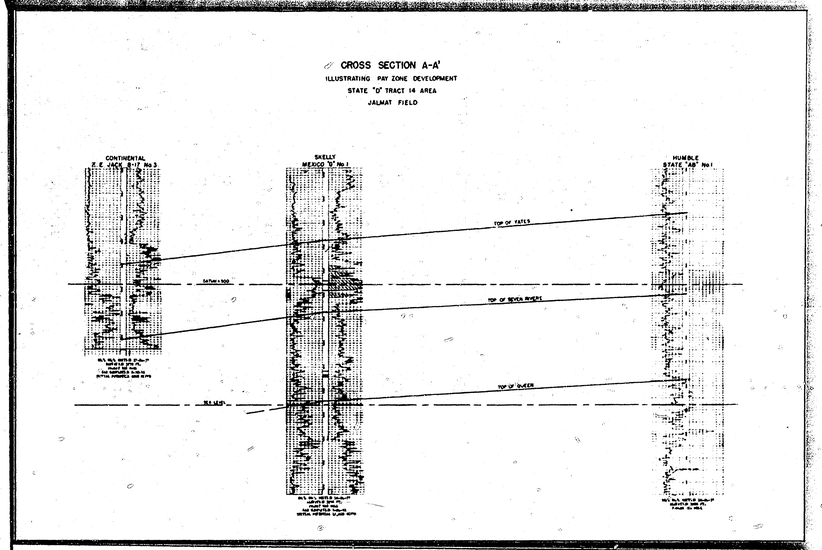
93

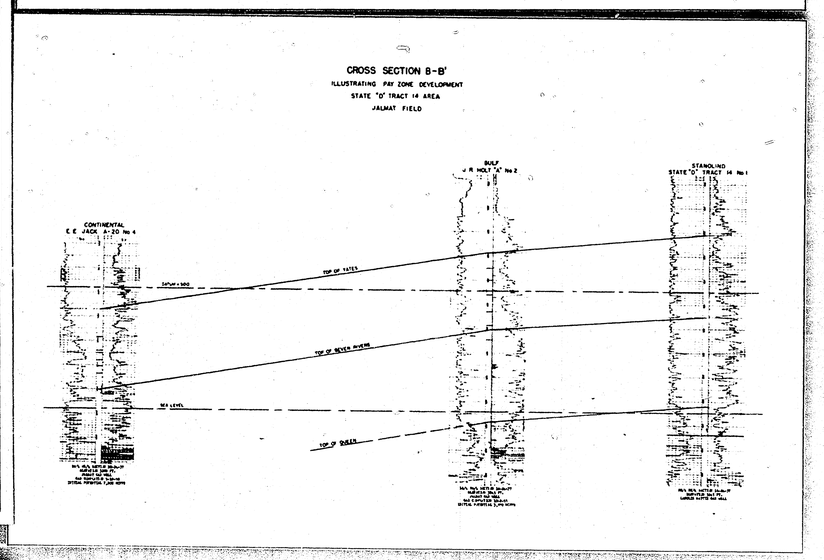

CROSS SECTION A-A'
ILLUSTRATING PAY ZONE DEVELOPMENT
STATE "D" TRACT 14 AREA
JALMAT FIELD
CONTINENTAL
E.E. JACK A-20 No. 4
SHELLY
MEXICO "B" No. 1
HUMBLE
STATE "AB" No. 1
DATUM = 500
TOP OF YATES
TOP OF SEVEN RIVERS
SEA LEVEL
TOP OF QUEEN


CROSS SECTION B-B'
ILLUSTRATING PAY ZONE DEVELOPMENT
STATE "D" TRACT 14 AREA
JALMAT FIELD
CONTINENTAL
E.E. JACK A-20 No. 4
GULF
J.R. HOLT "A" No. 2
STANOLIND
STATE "D" TRACT 14 No. 1
DATUM = 500
TOP OF YATES
TOP OF SEVEN RIVERS
SEA LEVEL
TOP OF QUEEN

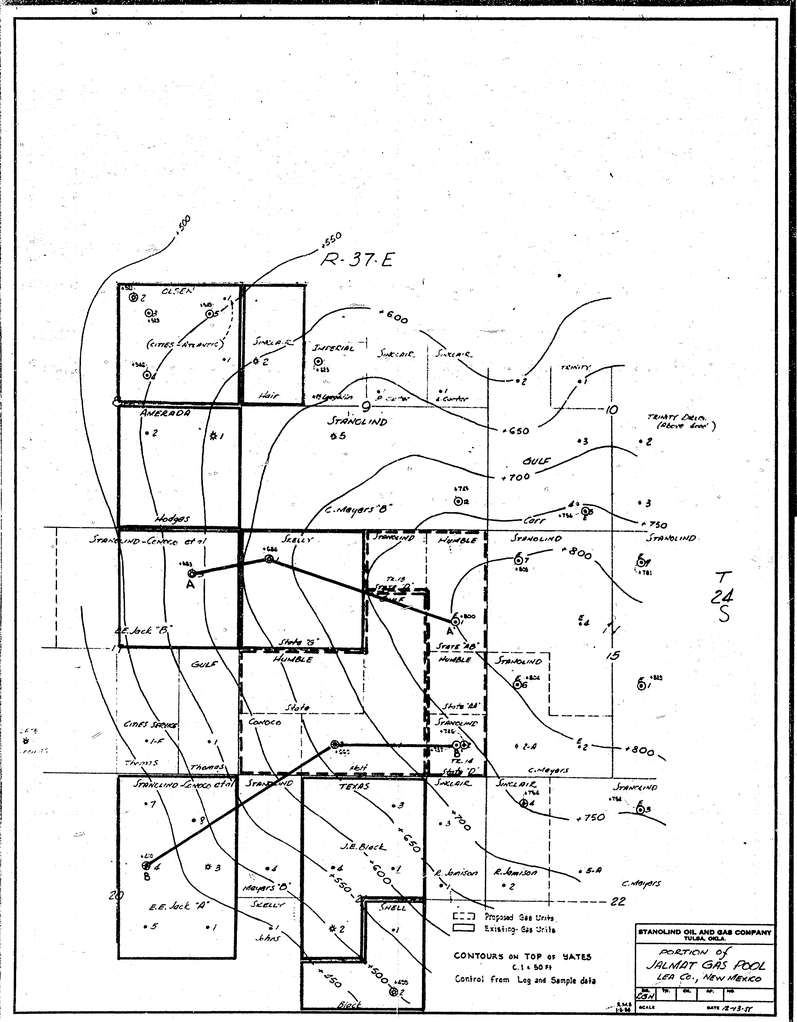

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 3
CASE 991
CROSS SECTION B-B'
ILLUSTRATING PAY ZONE DEVELOPMENT
STATE "D" TRACT 14 AREA
JALMAT FIELD
CONTINENTAL
E.E. JACK A-20 No. 4
GULF
J.R. HOLT "A" No. 2
STANOLIND
STATE "D" TRACT 14 No. 1
DATUM = 500
TOP OF YATES
TOP OF SEVEN RIVERS
SEA LEVEL
TOP OF QUEEN


R-37-E
T 24 S
OLSEN
(CITIES-ATLANTIC)
SINCLAIR
INTERIAL
SINCLAIR
SINCLAIR
TRINITY
Hair
P. Carter
L. Carter
AMERADA
STANOLIND
TRINITY DRLG. (Above Lead)
GULF
C. Meyers "B"
Hodges
Corr
STANOLIND-CONOCO etal
SKELLY
STANOLIND
HUMBLE
STANOLIND
STANOLIND
E.E. Jack "B"
State "G"
HUMBLE
GULF
State "AB"
HUMBLE
STANOLIND
State
CONOCO
State "AA"
STANOLIND
CITIES SERVICE
Thomas
Thomas
Holt
C. Meyers
STANOLIND-CONOCO etal
STANOLIND
TEXAS
SINCLAIR
SINCLAIR
STANOLIND
J.E. Black
R. Jamison
R. Jamison
C. Meyers
Meyers "B"
E.E. Jack "A"
SKELLY
SHELL
Black
STANOLIND OIL AND GAS COMPANY
TULSA, OKLA.
PORTION of
JALMAT GAS POOL
LEA Co., NEW MEXICO
SCALE
DATE 12-13-55


CROSS SECTION A-A'
ILLUSTRATING PAY ZONE DEVELOPMENT
STATE "O" TRACT 14 AREA
JALMAT FIELD
CONTINENTAL
E.E. JACK A-17 No 3
SKELLY
MEXICO "B" No 1
HUMBLE
STATE "AB" No 1
TOP OF YATES
TOP OF SEVEN RIVERS
TOP OF QUEEN
SEA LEVEL


CROSS SECTION B-B'
ILLUSTRATING PAY ZONE DEVELOPMENT
STATE "O" TRACT 14 AREA
JALMAT FIELD
CONTINENTAL
E.E. JACK A-20 No 4
GULF
J.R. HOLT "A" No 2
STANOLIND
STATE "O" TRACT 14 No 1
TOP OF YATES
TOP OF SEVEN RIVERS
SEA LEVEL
TOP OF QUEEN

94



1-17-56
Reg. Hearing

FORM 822 2-55

STANOLIND OIL AND GAS COMPANY

OIL AND GAS BUILDING
FORT WORTH, TEXAS

C. F. BEDFORD
DIVISION PRODUCTION SUPERINTENDENT

December 15, 1955

File: ROH-1632-986.510.1

Subject: Application for Exception to Rule 5(a), Order No. R-520, Jalmat Gas Pool, Lea County, New Mexico

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Attention: Mr. W. B. Macey

Gentlemen:

It is requested that a hearing be set on the application of the Stanolind Oil and Gas Company for an exception to Rule 5(a) of that part of New Mexico Oil Conservation Commission Order No. R-520 pertaining to the Jalmat Gas Pool, Lea County, New Mexico. The requested exception will be for the purpose of obtaining authority to form a 200 acre non-standard gas proration unit comprising the N/2 N/2 and the NW/4 NE/4, Section 16, T-24-S, R-37-E in the Jalmat Gas Pool. Contingent upon receiving Commission approval, the acreage in this non-standard unit would be assigned to Stanolind's State "D" Tract 14 Well No. 1, located 660' from the south and east lines of said Section 16. Attached is a map showing that portion of the Jalmat Field in which the proposed unit is located.

Of the 200 acres included in this proposed unit, Stanolind owns the working interest in the NW/4 NE/4 and the SE/4 SE/4 of Section 16. The working interest in the remaining 120 acres is owned by the Humble Oil and Refining Company. The entire 200 acres is composed of State leases. If the proposed non-standard unit is approved, all of the above acreage will be unitized for gas proration purposes.

Tentative plans call for recompletion of Stanolind's State "D" Tract 14 Well No. 1 as a gas well in the Jalmat Gas Pool. We do not desire, however, to proceed with recompletion operations until the Commission has

Mr. W. B. Macey - 2 - December 15, 1955

acted upon our request for a non-standard unit. There is no other well on the proposed unit to which the acreage can be assigned for gas allocation purposes. All acreage in Section 16, other than the non-standard unit proposed herein, is either currently assigned for proration purposes or is being considered for inclusion in other units.

Very truly yours,

[signature]

WGH:jm
Attachment

cc: Gulf Oil Corporation
Box 1290
Fort Worth, Texas

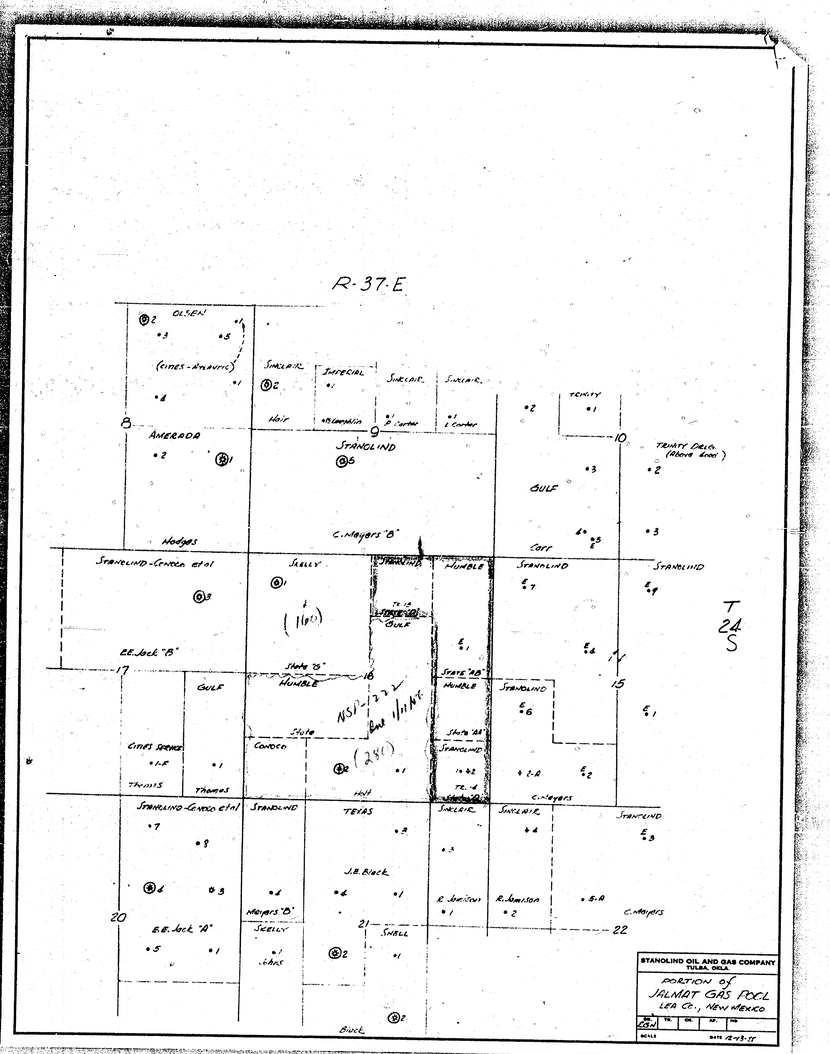
Skelly Oil Company
Box 1650
Skelly Building
Tulsa, Oklahoma

Humble Oil and Refining Company
Midland, Texas

Continental Oil Company
Fair Building
Fort Worth, Texas

Sinclair Oil and Gas Company
Fair Building
Fort Worth, Texas

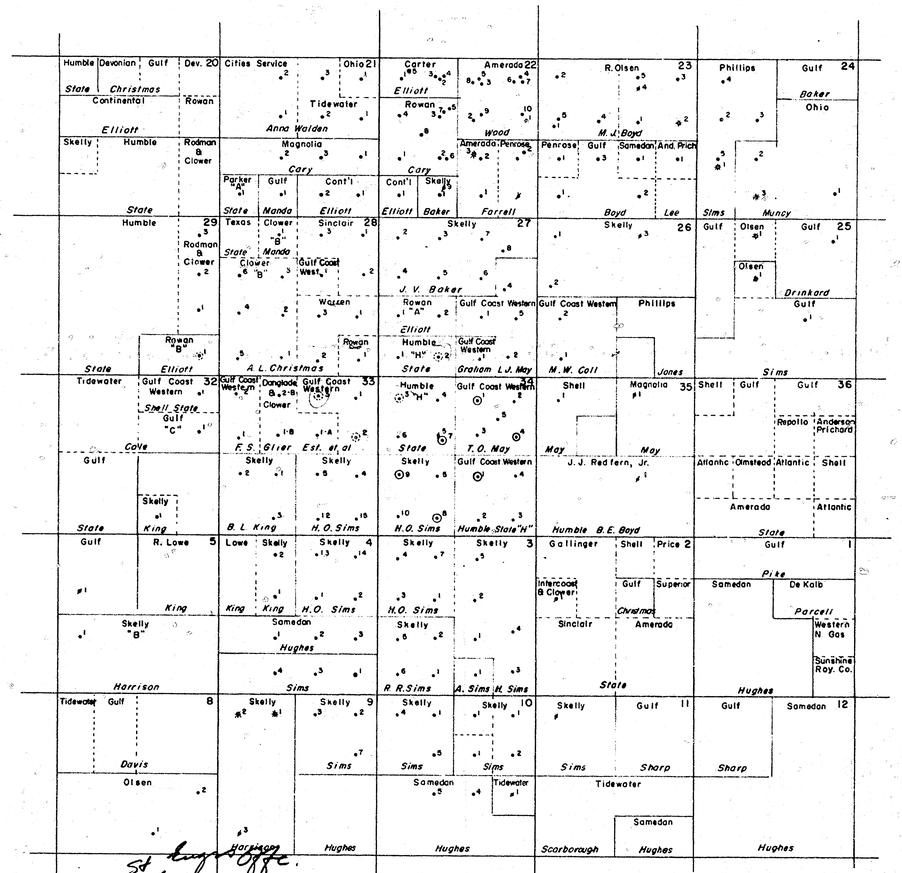
The Texas Company
Box 1720
Fort Worth, Texas



95

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 1
CASE 96

96



Galloway - St Engineer Office
34 - T22S-R37E

- LEGEND -

Water Injection Well

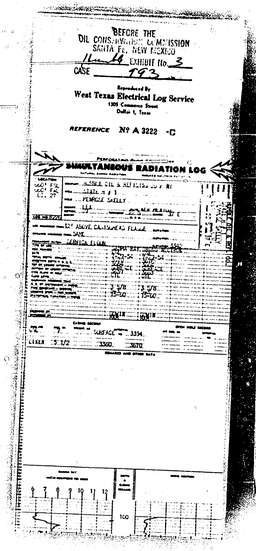
Proposed Water Injection Wells

REVISIONS				
Date	DESCRIPTION	By	Chk.	Appr.

PENROSE - SKELLY FIELD
HUMBLE - STATE "H"
LEASE & ADJACENT AREA

HUMBLE OIL & REFINING COMPANY
CIVIL ENGINEERING DIVISION

DRAWN
CHECKED
APPR.
SCALE
DATE
SHEET OF
FILE NO.



BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Humble EXHIBIT No. 3
CASE 193

Reproduced by
West Texas Electrical Log Service
1305 Commerce Street
Dallas 1, Texas

REFERENCE No. A 3222 -C

PERFORATING GUNS ATLAS CORP.
SIMULTANEOUS RADIATION LOG
NATURAL GAMMA RADIATION — INDUCED NEUTRON RADIATION

LOCATION	2120' FNL 2120' FWL SEC. 34
COMPANY	HUMBLE OIL & REFINING COMPANY
WELL	NEW MEXICO STATE H # 7
FIELD	PENROSE SKELLY
COUNTY	LEA
SECTION	34
TOWNSHIP	22S
RANGE	37E
STATE	NEW MEXICO
LOG NO./(TAPE)	7843
LOG MEASURED FROM	1' ABOVE ROTARY TABLE
DRILLING MEASURED FROM	SAME
PERMANENT DATUM	ROTARY TABLE 12' ABOVE G.L.

TYPE OF LOG	GAMMA RAY	NEUTRON		
RUN NUMBER	ONE	ONE	TWO	TWO
DATE	11-27-53	11-27-53	12-11-53	12-11-53
TOTAL DEPTH (DRILLER)	11141	11141	3683	3683
EFFECTIVE DEPTH P. B. & C.	11141	11141	3580	3580
TOP OF LOGGED INTERVAL	SURFACE	SURFACE	3580	3580
BOTTOM OF LOGGED INTERVAL	11136	11136	11141	11141
TYPE FLUID IN HOLE	SALT WATER	SALT WATER	FRESH WATER FUEL	FRESH WATER FUEL
FLUID LEVEL	FULL	FULL	FULL	FULL
MAXIMUM RECORDED TEMP.				
O. D. OF INSTRUMENT — INCHES	2 5/8	2 5/8	3 5/8	3 5/8
TIME CONSTANT — SECONDS	.26	.26	1.60	1.60
LOGGING SPEED — FEET/MINUTE	1	1	5'	5'
STATISTICAL VARIATION — INCHES				
RECORDED BY	HART / COLLINS		HART / COLLINS	
WITNESSED BY	McCLELLAN	McCLELLAN	McCLELLAN	McCLELLAN

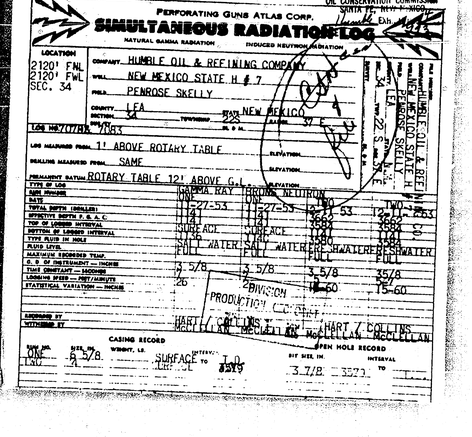
PRODUCTION DIVISION

CASING RECORD

RUN NO.	SIZE, IN.	WEIGHT, LB.	FROM	TO
ONE	8 5/8		SURFACE	T.D. 3579
TWO	7		SURFACE	11141

OPEN HOLE RECORD

BIT SIZE, IN.	INTERVAL FROM	TO
7 7/8	3579	11141
6 3/4	11141	



PERFORATING GUNS ATLAS CORP.
SIMULTANEOUS RADIATION LOG
NATURAL GAMMA RADIATION — INDUCED NEUTRON RADIATION

LOCATION	2120' FNL 2120' FWL SEC. 34
COMPANY	HUMBLE OIL & REFINING COMPANY
WELL	NEW MEXICO STATE H # 7
FIELD	PENROSE SKELLY
COUNTY	LEA
SECTION	34
TOWNSHIP	22S
RANGE	37E
STATE	NEW MEXICO
LOG NO./(TAPE)	7843
LOG MEASURED FROM	1' ABOVE ROTARY TABLE
DRILLING MEASURED FROM	SAME
PERMANENT DATUM	ROTARY TABLE 12' ABOVE G.L.

TYPE OF LOG	GAMMA RAY	NEUTRON		
RUN NUMBER	ONE	ONE	TWO	TWO
DATE	11-27-53	11-27-53	12-11-53	12-11-53
TOTAL DEPTH (DRILLER)	11141	11141	3683	3683
EFFECTIVE DEPTH P. B. & C.	11141	11141	3580	3580
TOP OF LOGGED INTERVAL	SURFACE	SURFACE	3580	3580
BOTTOM OF LOGGED INTERVAL	11136	11136	11141	11141
TYPE FLUID IN HOLE	SALT WATER	SALT WATER	FRESH WATER FUEL	FRESH WATER FUEL
FLUID LEVEL	FULL	FULL	FULL	FULL
MAXIMUM RECORDED TEMP.				
O. D. OF INSTRUMENT — INCHES	2 5/8	2 5/8	3 5/8	3 5/8
TIME CONSTANT — SECONDS	.26	.26	1.60	1.60
LOGGING SPEED — FEET/MINUTE	1	1	5'	5'
STATISTICAL VARIATION — INCHES				
RECORDED BY	HART / COLLINS		HART / COLLINS	
WITNESSED BY	McCLELLAN	McCLELLAN	McCLELLAN	McCLELLAN

PRODUCTION DIVISION

CASING RECORD

RUN NO.	SIZE, IN.	WEIGHT, LB.	FROM	TO
ONE	8 5/8		SURFACE	T.D. 3579
TWO	7		SURFACE	11141

OPEN HOLE RECORD

BIT SIZE, IN.	INTERVAL FROM	TO
7 7/8	3579	11141
6 3/4	11141	

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Humble EXHIBIT No. 3
CASE 193

97

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Humble EXHIBIT No. 3
CASE 993

Reproduced By
West Texas Electrical Log Service
108 Commerce Street
Dallas 1, Texas

REFERENCE NM A 3222 -C

PERFORATING GUNS ATLAS CORP.

SIMULTANEOUS RADIATION LOG

NATURAL GAMMA RADIATION — INDUCED NEUTRON RADIATION

LOCATION: 2190' FNL & 2120' FWL SEC. 34

COMPANY HUMBLE OIL & REFINING COMPANY
WELL NEW MEXICO STATE H # 7
FIELD PENROSE SKELLY
COUNTY LEA STATE NEW MEXICO
SECTION 34 TOWNSHIP 22S RANGE 37E

CASE NM 7177 RUN 1

LOG MEASURED FROM 11' ABOVE ROTARY TABLE ELEVATION
DRILLING MEASURED FROM SAME ELEVATION
PERMANENT DATUM ROTARY TABLE 12' ABOVE G.L. ELEVATION

	GAMMA RAY NEUTRON			
TYPE OF LOG	ONE	ONE	TWO	TWO
RUN NUMBER	ONE	ONE	ONE	ONE
DATE	12-27-53	12-27-53	12-28-53	12-28-53
TOTAL DEPTH (DRILLER)	1141	1141	3665	3665
DEPTH(S) DEPTH O.R.L.C.	SURFACE	SURFACE	1141	1141
BOTTOM OF LOGGED INTERVAL	1141	1141	3660	3660
TYPE FLUID IN HOLE	SALT WATER	SALT WATER	SALT WATER	SALT WATER
FLUID LEVEL	FULL	FULL	FULL	FULL
MAXIMUM RECORDED TEMP.				
O. D. OF INSTRUMENT — INCHES	2 5/8	2 5/8	3 5/8	3 5/8
TIME CONSTANT — SECONDS	26	26	1.60	1.60
LOGGING SPEED — FEET PER MIN.				
STATISTICAL FACTOR — INCHES				

WITNESSED BY: HARRY LEONARD — ENGINEER: HART / COLLINS

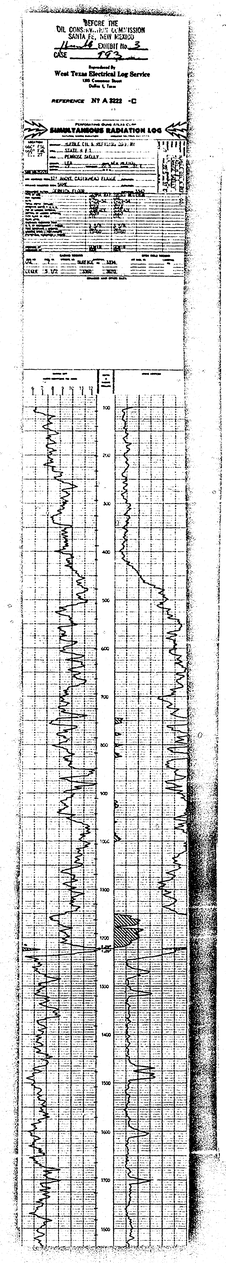
CASING RECORD

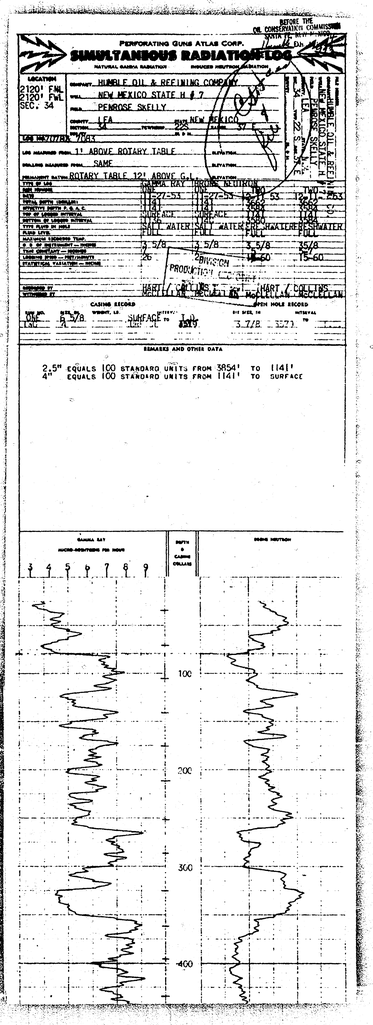
	SIZE	WEIGHT, LB.	SET AT	KIND	SIZE, IN.	SET AT
ONE	8 5/8		SURFACE			
TWO					3 7/8	3673

OPEN HOLE RECORD: SIZE, IN. — MATERIAL

REMARKS AND OTHER DATA

2.5" EQUALS 100 STANDARD UNITS FROM 3854' TO 1141'
4" EQUALS 100 STANDARD UNITS FROM 1141' TO SURFACE





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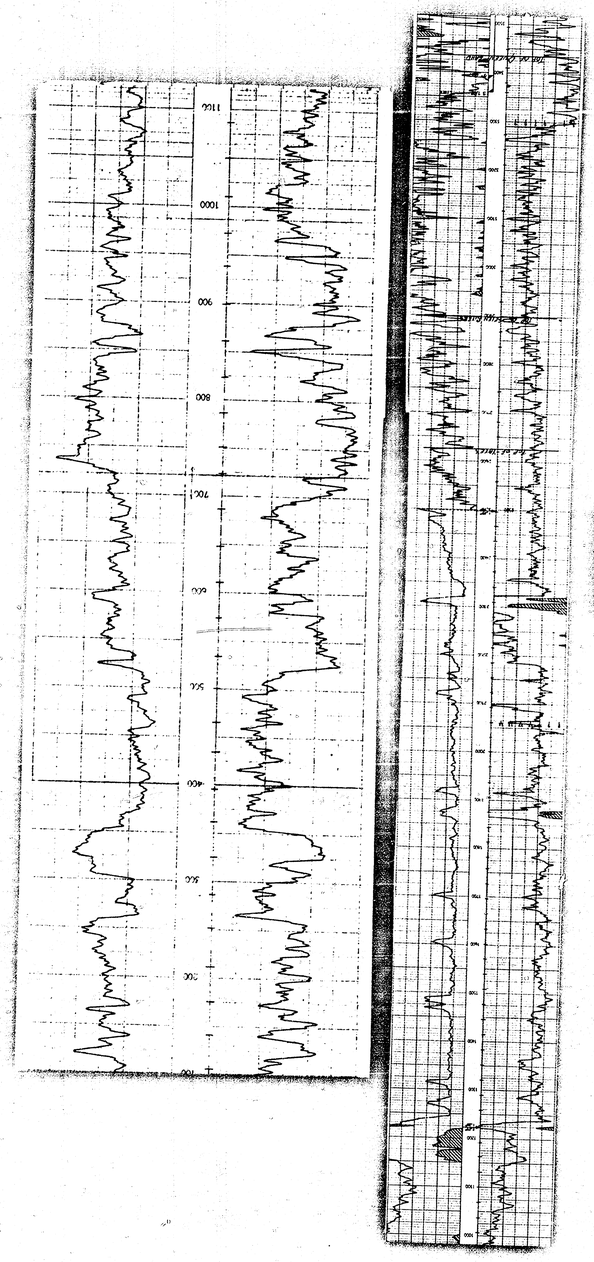

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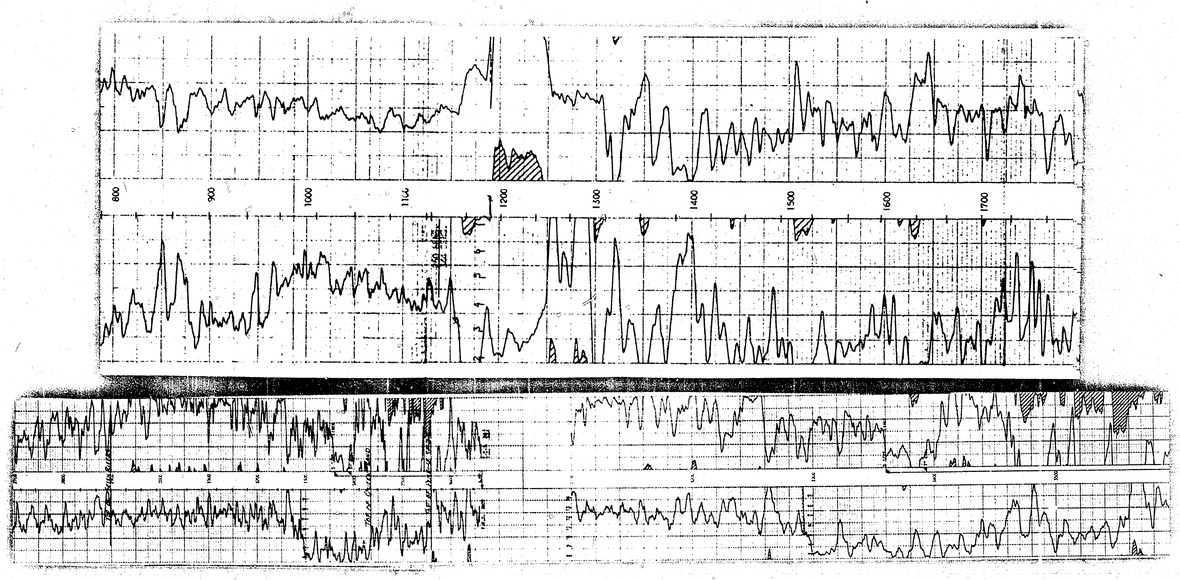

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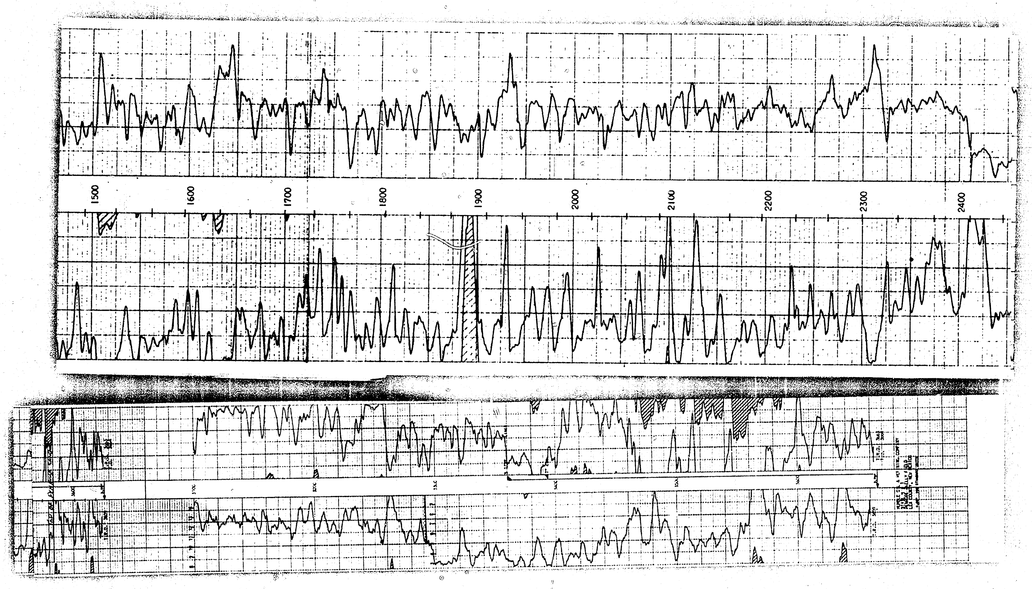
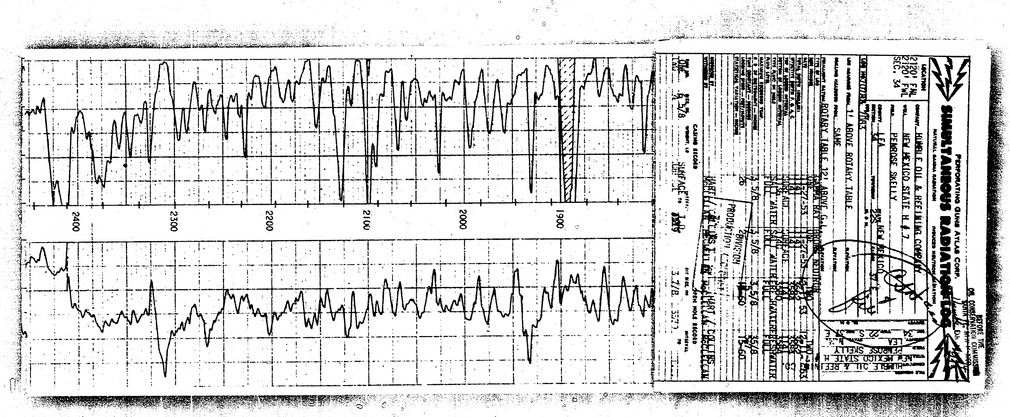
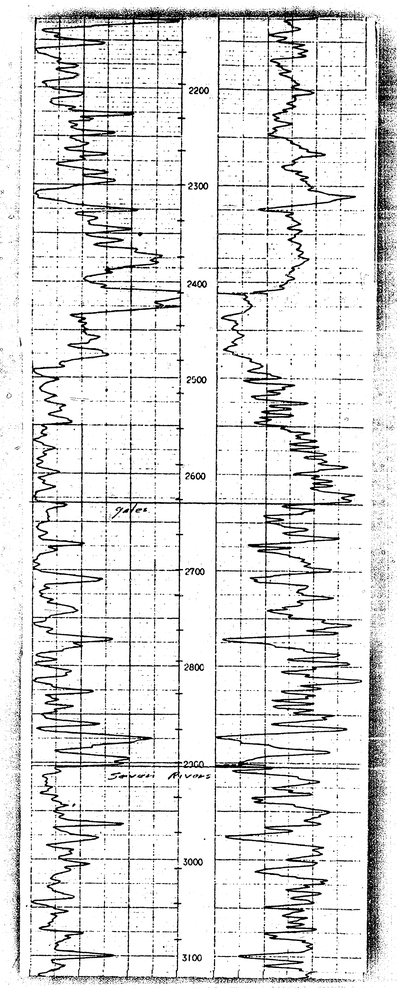

1500
1600
1700
1800
1900
2000
2100
2200
2300
2400

102

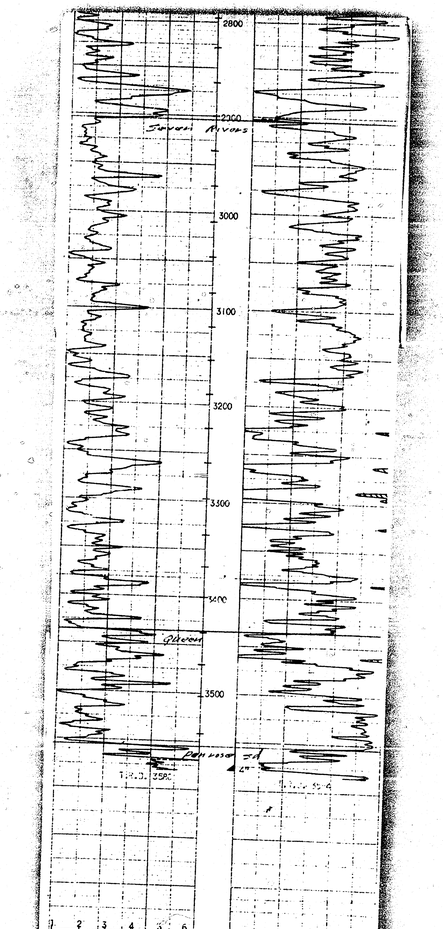


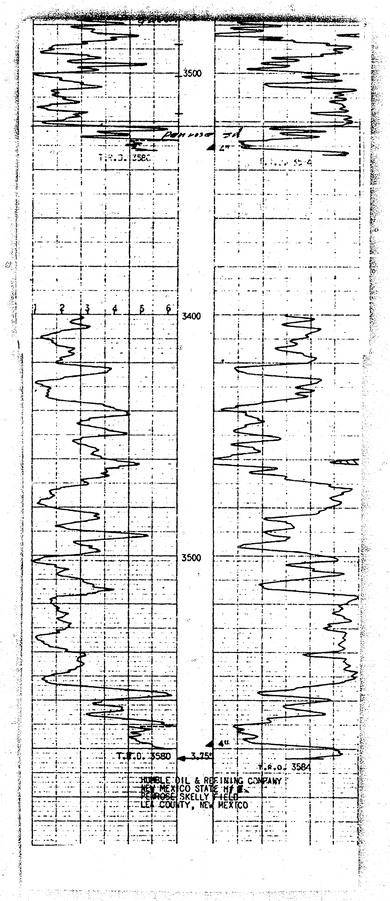
SIMULTANEOUS RADIATION LOG
PERFORATING GUNS ATLAS CORP.
HUMBLE OIL & REFINING COMPANY
NEW MEXICO STATE H & 7
PENROSE SKELLY
LEA
NEW MEXICO
ROTARY TABLE 12' ABOVE G.L.
SAME
ROTARY TABLE
2400
2300
2200
2100
2000
1900


2200
2300
2400
2500
2600
Jales
2700
2800
2900
Seneca Rivers
3000
3100

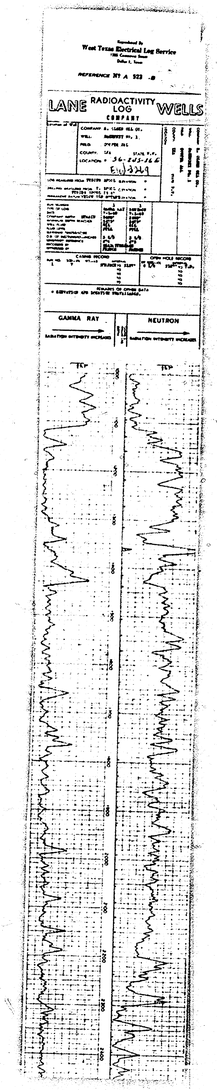
103

104

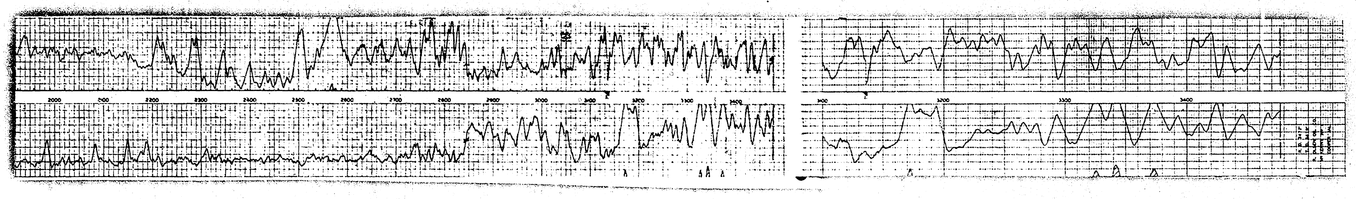

2800
2900
Jurassic Rivers
3000
3100
3200
3300
3400
3500
3400


3500
3400
3500
T.D. 3580
T.D. 3584
HUMBLE OIL & REFINING COMPANY
NEW MEXICO STATE "H"
PENROSE SKELLY
LEA COUNTY, NEW MEXICO

105


Reproduced by
West Texas Electrical Log Service
REFERENCE NO A 522 -B
LANE RADIOACTIVITY LOG COMPANY WELLS
GAMMA RAY
NEUTRON

106



Case 1001

TOWNSHIP PLAT

Township 32 North Range 10 West

San Juan County, New Mexico

North

E.P.N.G.

Dave Clark

Pacific Northwest

Saul Yager, et al

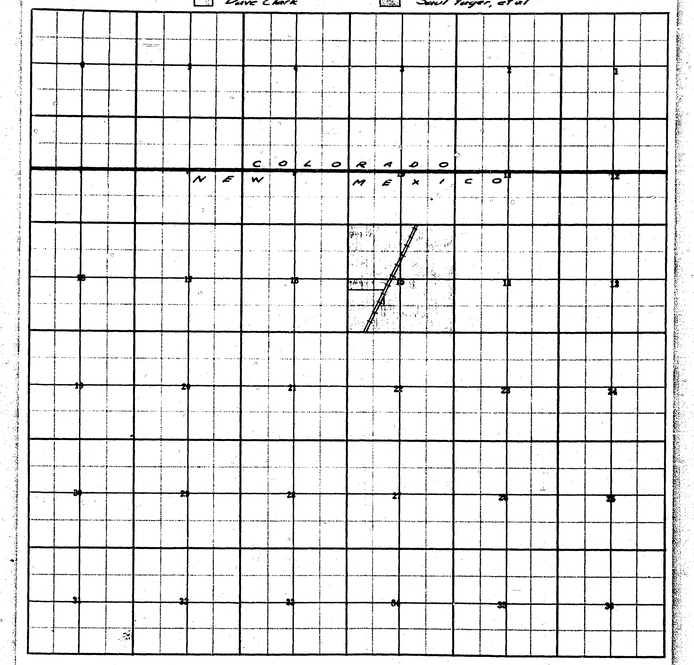
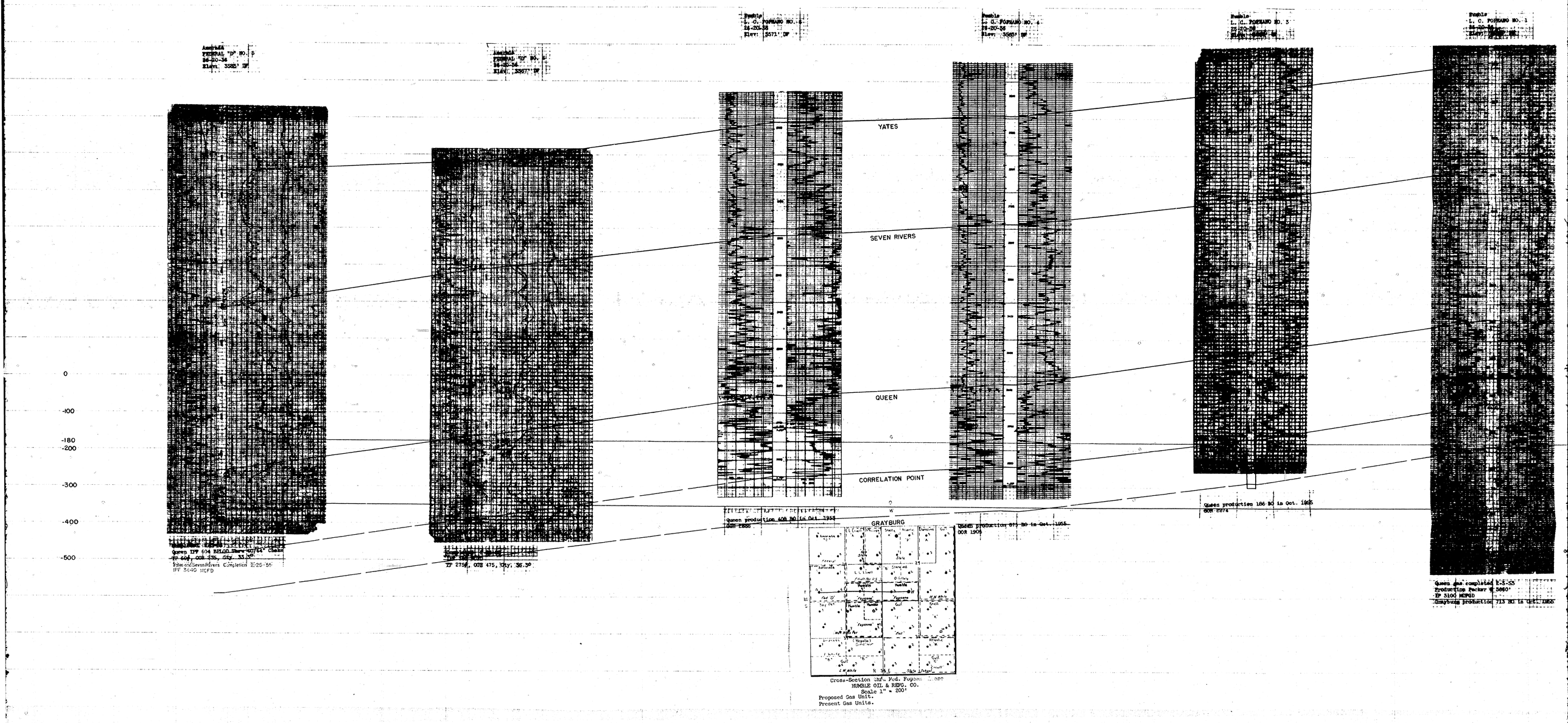


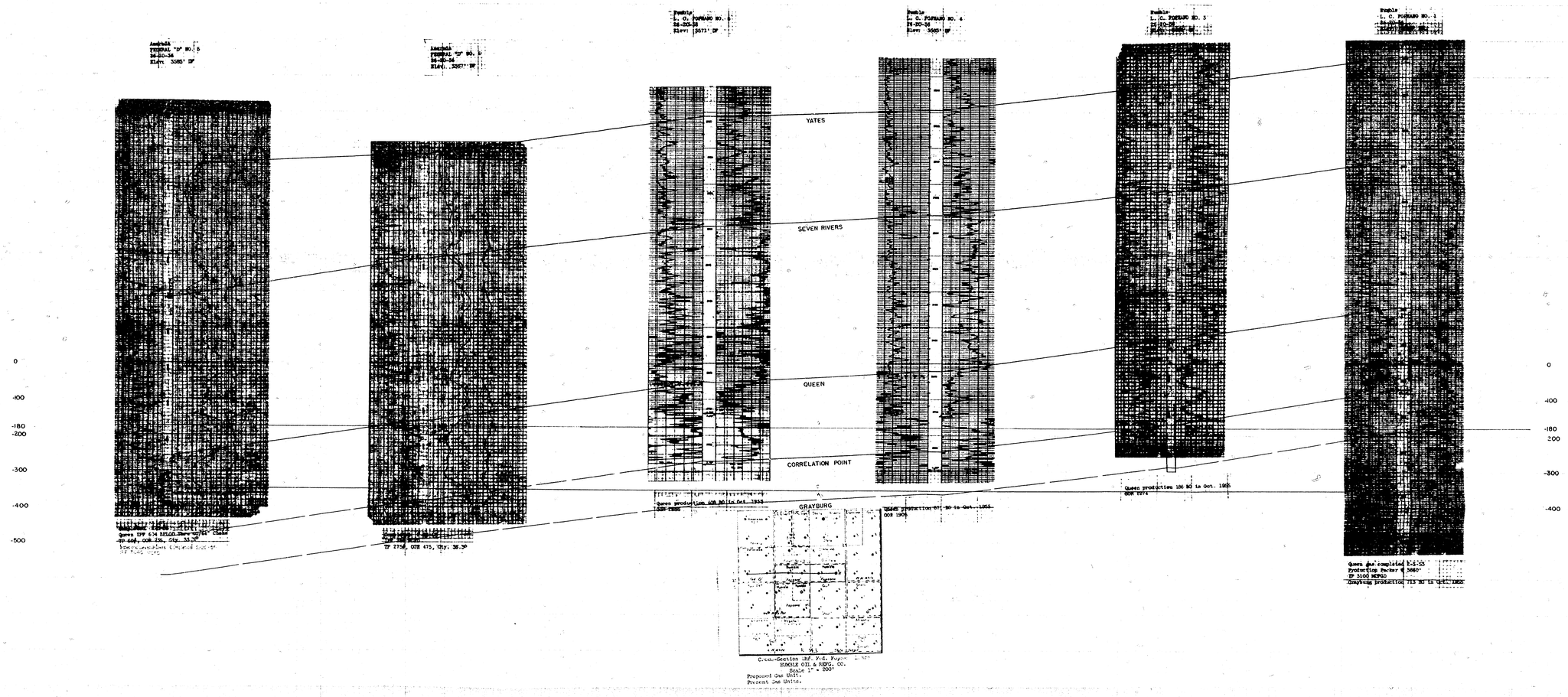
Exhibit A
To an Application for Unorthodox Spacing Unit
in the W/2 Section 15 T-32-N R-10-W N.M.P.M.

108

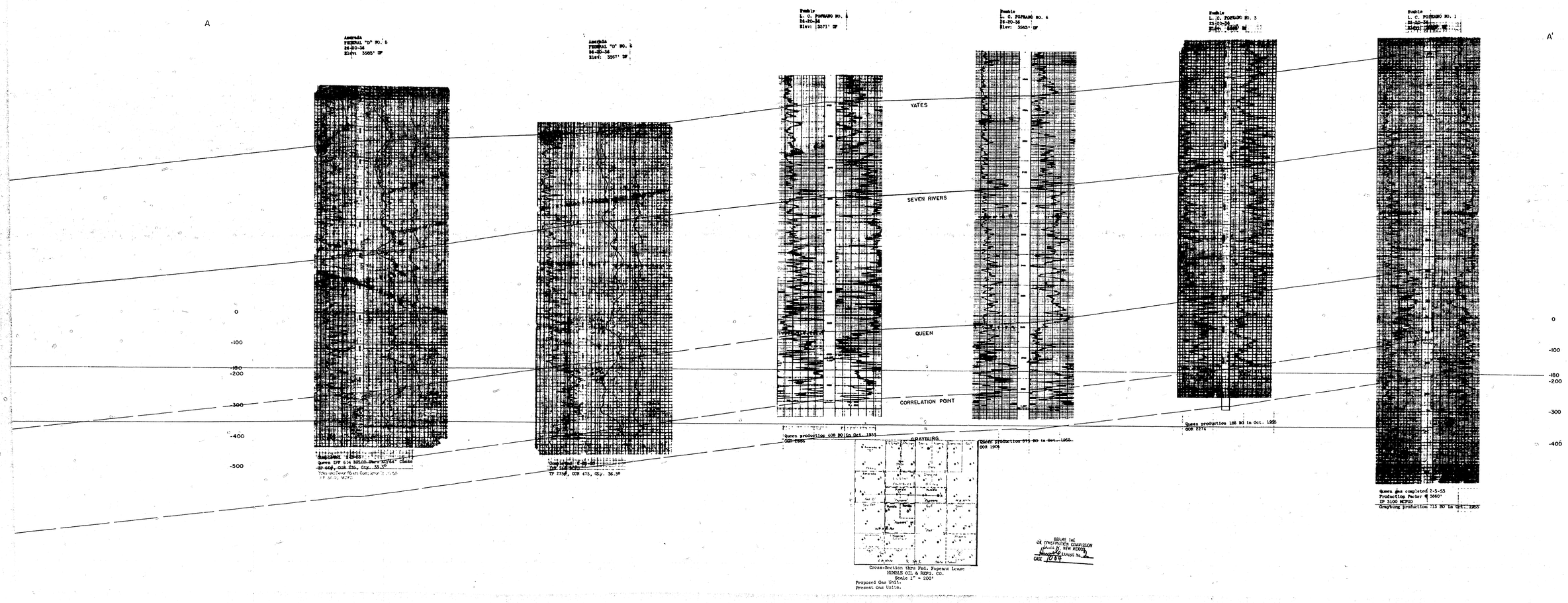


Amerada
FEDERAL "D" NO. 5
26-20-36
Elev. 3585' DF
Amerada
FEDERAL "D" NO. 6
26-20-36
Elev. 3567' DF
Humble
L. C. FOPEANO NO. 6
26-20-36
Elev. 3571' DF
Humble
L. C. FOPEANO NO. 4
26-20-36
Elev. 3565' DF
Humble
L. C. FOPEANO NO. 3
Humble
L. C. FOPEANO NO. 1
YATES
SEVEN RIVERS
QUEEN
CORRELATION POINT
GRAYBURG
0
-100
-180
-200
-300
-400
-500
Queen IPF 604 BPLOD Thru 60/64" Choke
TP 604, GOR 235, Gty. 33.5°
Yates and Seven Rivers Completion 2-25-55
IPF 3640 MCFD
TP 2754, GOR 475, Gty. 36.5°
Queen production 408 BO in Oct. 1955
GOR 2886
Queen production 875 BO in Oct. 1955
GOR 1906
Queen production 186 BO in Oct. 1955
GOR 2874
Queen gas completed 2-3-53
Production Packer @ 3660'
IP 3100 MCFGD
Grayburg production 713 BO in Oct. 1955
Cross-Section thru Fed. Fopeano Lease
HUMBLE OIL & REFG. CO.
Scale 1" = 200'
Proposed Gas Unit.
Present Gas Units.

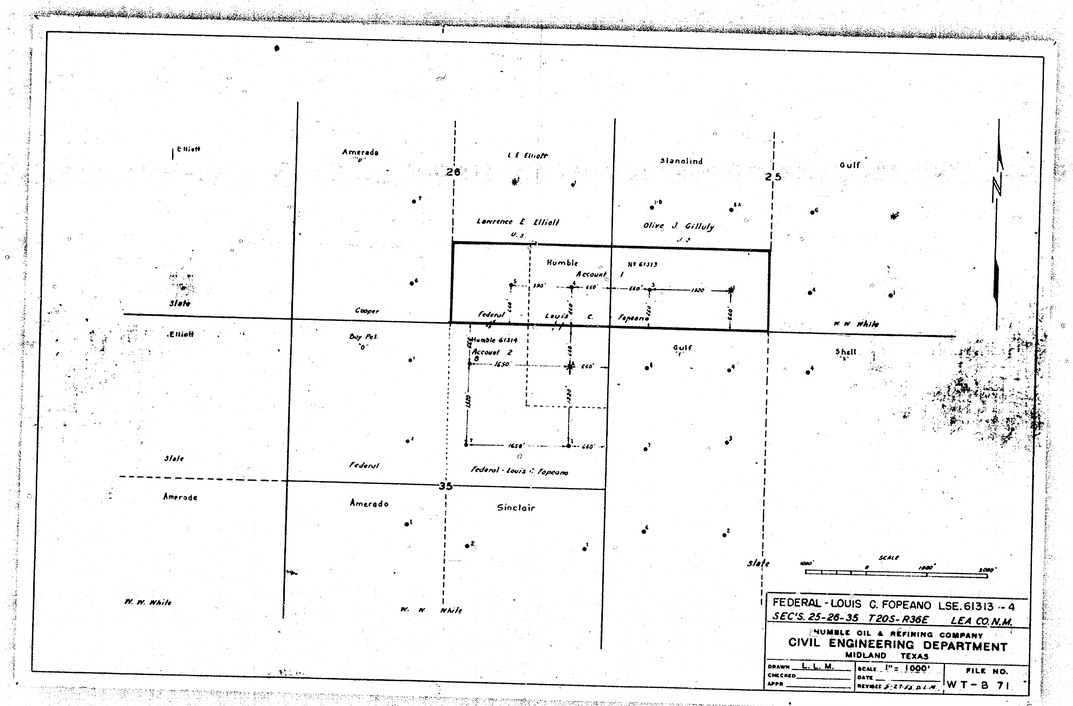
109


A
A'
YATES
SEVEN RIVERS
QUEEN
CORRELATION POINT
GRAYBURG
0
-100
-180
-200
-300
-400
-500
Proposed Gas Unit.
Present Gas Units.

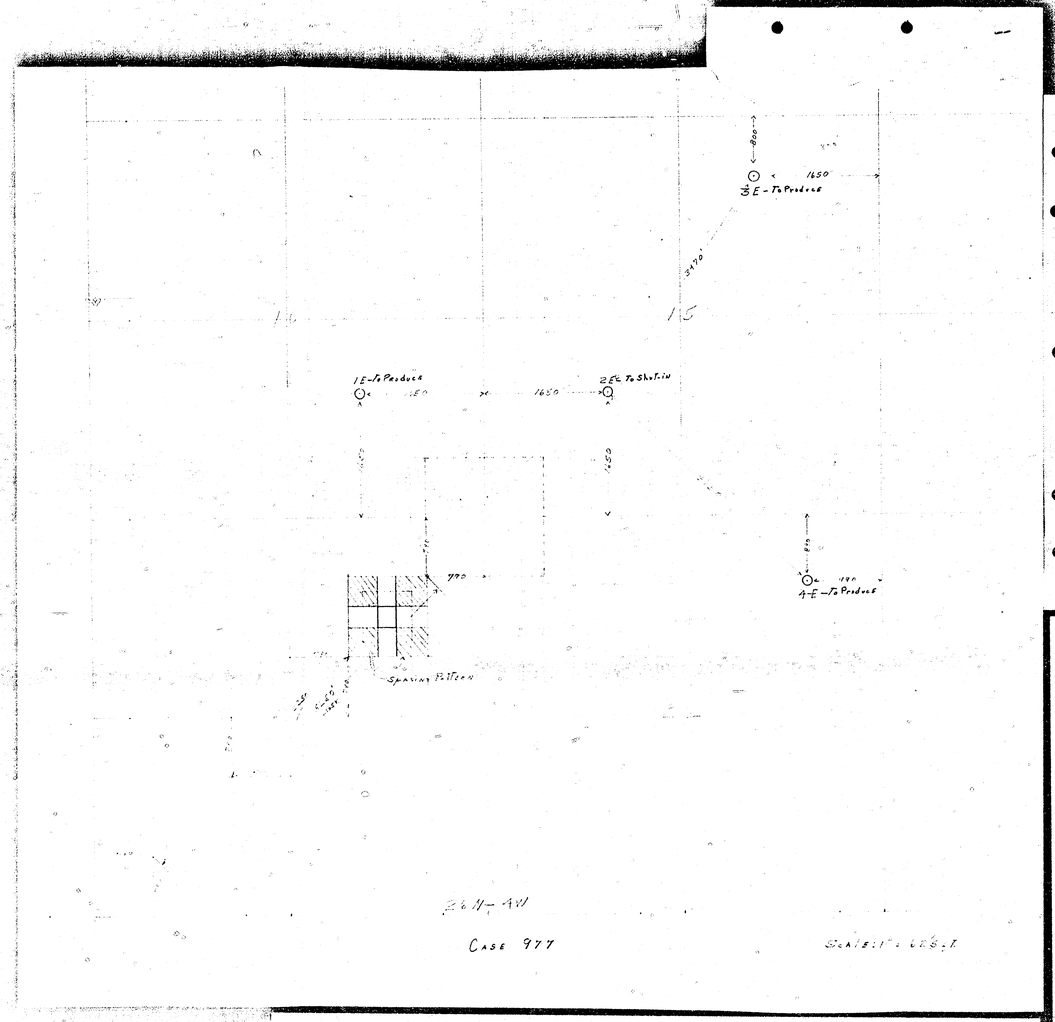
109


A
A'
YATES
SEVEN RIVERS
QUEEN
CORRELATION POINT
GRAYBURG
0
-100
-180
-200
-300
-400
-500
Cross-Section thru Fed. Fopeano Lease
HUMBLE OIL & REFG. CO.
Scale 1" = 200'
Proposed Gas Unit.
Present Gas Units.
BEFORE THE
OIL CONSERVATION COMMISSION
NEW MEXICO
EXHIBIT No. 2
CASE 1084

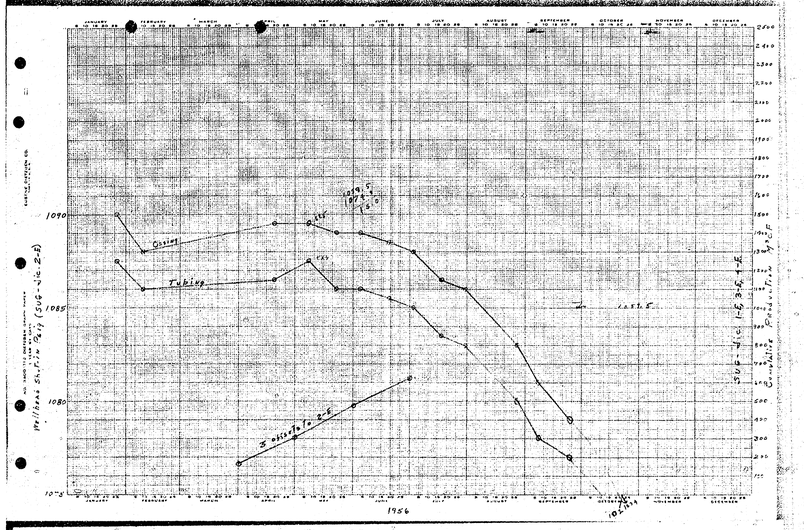
110


Elliott
Amerada
L E Elliott
Stanolind
Gulf
26
25
Lawrence E. Elliott
U. S.
Olive J. Gilluly
U. S.
Humble
Account 1
NM 61313
State
Cooper
Federal
Louis C.
Fopeano
W. W. White
Elliott
Bay Pet.
Humble 61314
Account 2
Gulf
Shell
State
Federal
Federal - Louis C. Fopeano
35
Amerada
Amerado
Sinclair
State
W. W. White
W. W. White
SCALE
FEDERAL - LOUIS C. FOPEANO LSE. 61313 - 4
SEC'S. 25-26-35 T20S- R36E LEA CO. N.M.
HUMBLE OIL & REFINING COMPANY
CIVIL ENGINEERING DEPARTMENT
MIDLAND TEXAS
DRAWN L. L. M.
CHECKED
APPR.
SCALE 1" = 1000'
DATE
REVISED 8-27-62 D.L.M.
FILE NO.
WT-B 71

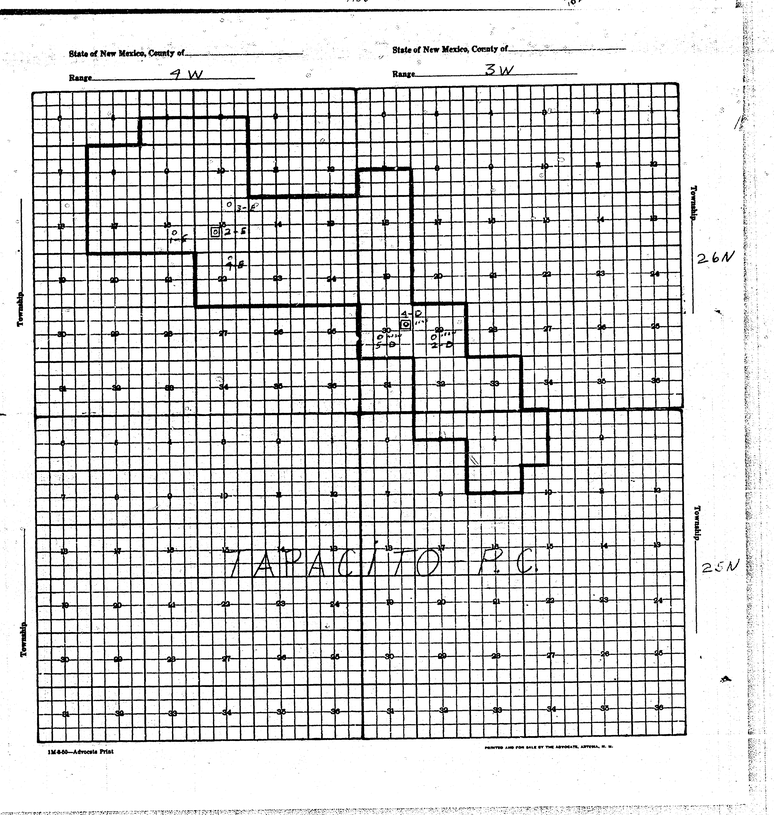
111



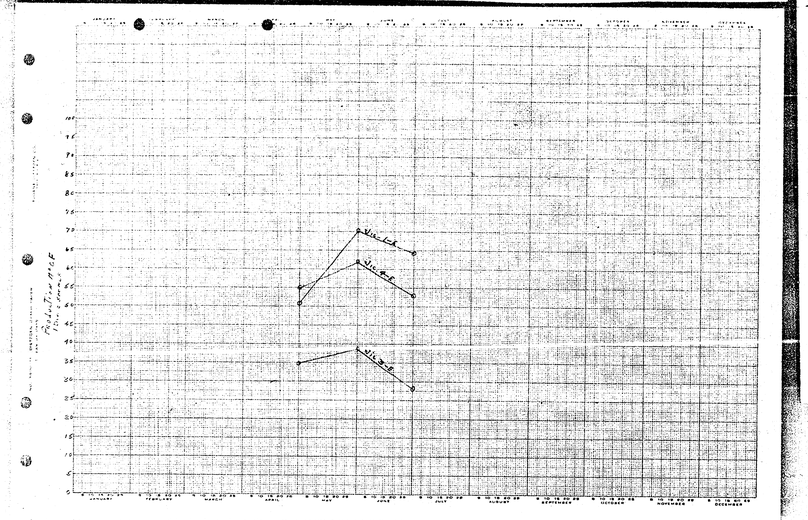
1650
3E - To Produce
1E - To Produce
2E - To Shut-in
4E - To Produce
Spacing Pattern
26N - 4W
Case 977



Casing
Tubing
1956



State of New Mexico, County of
Range 4W
State of New Mexico, County of
Range 3W
Township
26N
25N
TAPACITO P.C.



112

SCHLUMBERGER WELL SURVEYING CORPORATION
HOUSTON, TEXAS

Electrical Log

COUNTY Lea
FIELD or LOCATION Wantz Abo
WELL Lockhart B-13 A #1
COMPANY Continental Oil Co.

COMPANY CONTINENTAL OIL COMPANY
WELL LOCKHART B-13 A # 1
FIELD WANTZ ABO
LOCATION SEC. 13-21S-37E
COUNTY LEA
STATE NEW MEXICO

Location of Well
660' f S&W/L
Sec. 13-21S-37E
Case # 1010
Exhibit # 3

ES
(ML-SG)

Elevation: D.F. 3427
K.B.
or G.L.

FILING No.

RUN No.	1					
Date	4-12-53					
First Reading	7573					
Last Reading	3150					
Feet Measured	4423					
Csg. Schlum.	3150					
Csg. Driller	3150					
Depth Reached	7576					
Bottom Driller	7600					
Depth Datum	1' Abv. RT					
Mud Nat.	Gel-Chemicals					
" Density	9.6					
" Viscosity	39					
" Resist.	.64 @ 55 °F	@ °F	@ °F	@ °F	@ °F	
" Res. BHTO	.28 @ 131 °F	@ °F	@ °F	@ °F	@ °F	
" pH	@ °F	@ °F	@ °F	@ °F	@ °F	
" Wtr. Loss	10cc 30 min.	cc 30 min.	cc 30 min.	cc 30 min.	cc 30 min.	
Max. Temp. °F	131					
Bit Size	8 3/4"					
Spcgs.—AM	10'					
A	32" LS					
AO	19'					
Opr. Rig Time	2 Hrs.					
Truck No.	1762-Hobbs					
Recorded By	Reinders					
Witness By						

BEFORE THE OIL CONS. COMMISSION SANTA FE, NEW MEXICO
EXHIBIT No. 3
CASE 1010

113

SCHLUMBERGER WELL SURVEYING CORPORATION
HOUSTON, TEXAS

Electrical Log

COUNTY Lea
FIELD or LOCATION Wantz Abo
WELL Lockhart B-13 A #1
COMPANY Continental Oil Co.

COMPANY CONTINENTAL OIL COMPANY
WELL LOCKHART B-13 A # 1
FIELD WANTZ ABO
LOCATION SEC. 13-21S-37E
COUNTY LEA
STATE NEW MEXICO

Location of Well
660' f S&W/L
Sec. 13-21S-37E
Case # 1010
Exhibit # 3

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" Res. BHTO	.28 @ 131 °F	@ °F	@ °F	@ °F	@ °F	
" pH	@ °F	@ °F	@ °F	@ °F	@ °F	
" Wtr. Loss	10cc 30 min.	cc 30 min.	cc 30 min.	cc 30 min.	cc 30 min.	
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Bit Size	8 3/4"					
Spcgs.—AM	10'					
A	32" LS					
AO	19'					
Opr. Rig Time	2 Hrs.					
Truck No.	1762-Hobbs					
Recorded By	Reinders					
Witness By						

SCHLUMBERGER WELL SURVEYING CORPORATION

HOUSTON, TEXAS

Electrical Log

COUNTY Lea
FIELD or LOCATION Wantz Abo
WELL Lockhart B-13 A #1
COMPANY Continental Oil Co.

COMPANY CONTINENTAL OIL COMPANY
WELL LOCKHART B-13 A # 1
FIELD WANTZ ABO
LOCATION SEC. 13-21S-37E
COUNTY LEA
STATE NEW MEXICO

Location of Well
660' f S&W/L
Sec. 13-21S-37E
Case # 1010
Exhibit # 3

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K.B.:
or G.L.:

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" Viscosity	39				
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" pH	@ °F	@ °F	@ °F	@ °F	@ °F
" Wtr. Loss	10 CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.
Max. Temp. °F	131				
Bit Size	8 3/4"				
Spcgs.—AM	10"				
A	32" LS				
AO	19'				
Opr. Rig Time	2 Hrs.				
Truck No.	1762-Hobbs				
Recorded By	Reinders				
Witness By	Lennen				

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
Continental
EXHIBIT No. 3
CASE 1010

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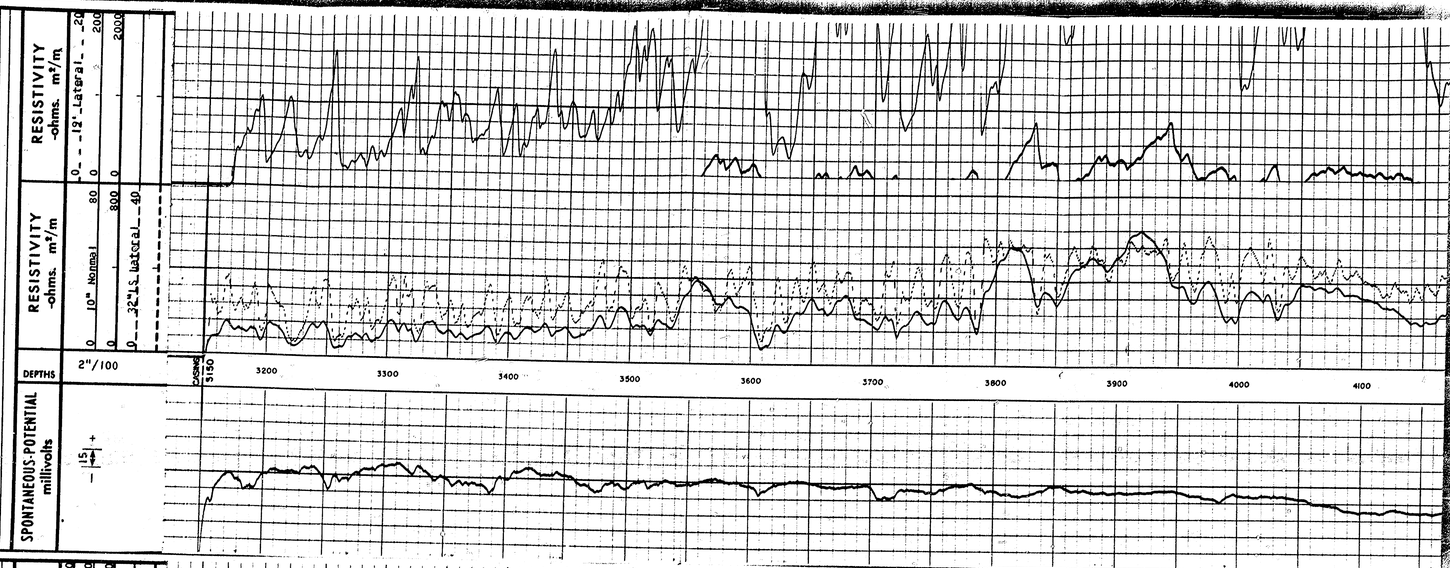
REMARKS



SCHLUMBERGER WELL SURVEYING CORPORATION

HOUSTON, TEXAS

Electrical Log

COUNTY Lea
FIELD or LOCATION Wantz Abo
WELL Lockhart B-13 A #1
COMPANY Continental Oil Co.

COMPANY CONTINENTAL OIL COMPANY
WELL LOCKHART B-13 A # 1
FIELD WANTZ ABO
LOCATION SEC. 13-21S-37E
COUNTY LEA
STATE NEW MEXICO

Location of Well
660' f S&W/L
Sec. 13-21S-37E
Case # 1010
Exhibit # 3

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K.B.:
or G.L.:

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" pH	@ °F	@ °F	@ °F	@ °F	@ °F
" Wtr. Loss	10 CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.
Max. Temp. °F	131				
Bit Size	8 3/4"				
Spcgs.—AM	10"				
A	32" LS				
AO	19'				
Opr. Rig Time	2 Hrs.				
Truck No.	1762-Hobbs				
Recorded By	Reinders				
Witness By					

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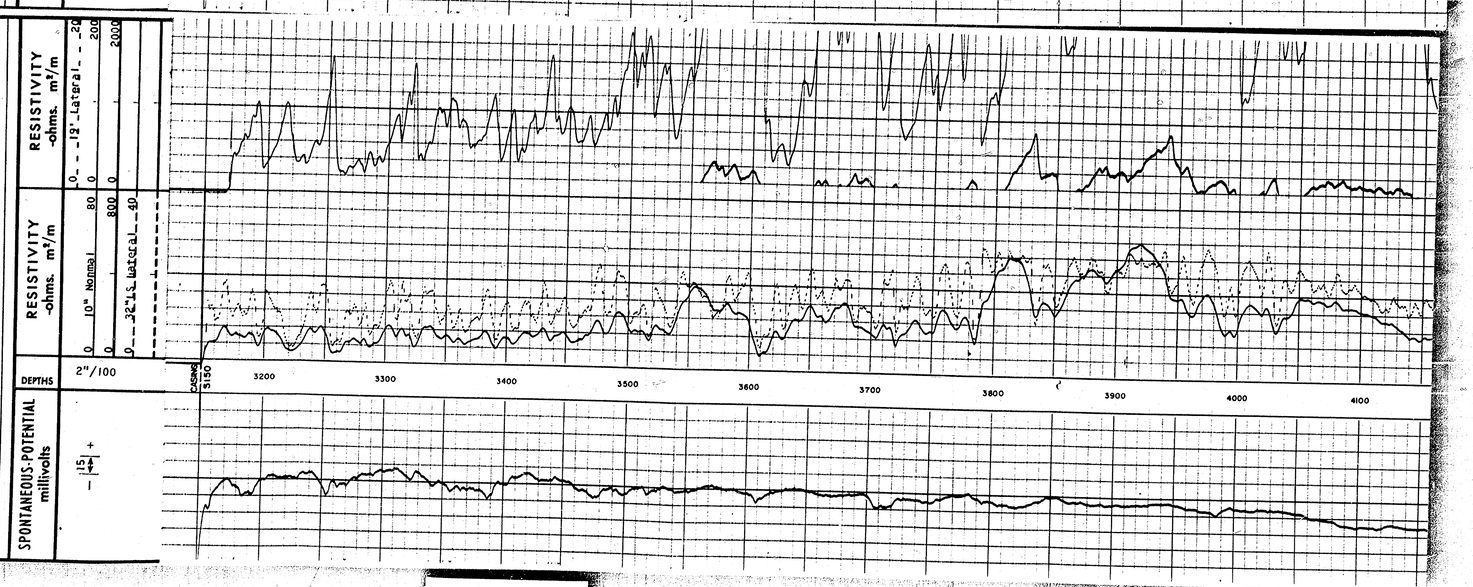
REMARKS



114


Top Glorieta 5233'
3900
4000
4100
4200
4300
4400
4500
4600
4700
4800
4900
5000
5100
5200
5300
5400
Witness By
Top Glorieta 5233'
3900
4000
4100
4200
4300
4400
4500
4600
4700
4800
4900
5000
5100
5200
5300

115


Top Glorieta 5235'
Blinebry Marker 5680'
Tubb Marker 6134'
Top Drinkard 6485'
5200
5300
5400
5500
5600
5700
5800
5900
6000
6100
6200
6300
6400
6500
6600

116


Top Dunkard 6485'
Top Abo 6810'
Present PBD 7140'
6400
6500
6600
6700
6800
6900
7000
7100
7200
7300
7400
7500
7600
F.R. 7573
T.D. 7576

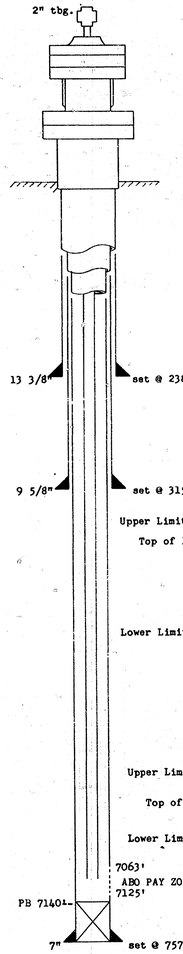
117

CONTINENTAL OIL COMPANY

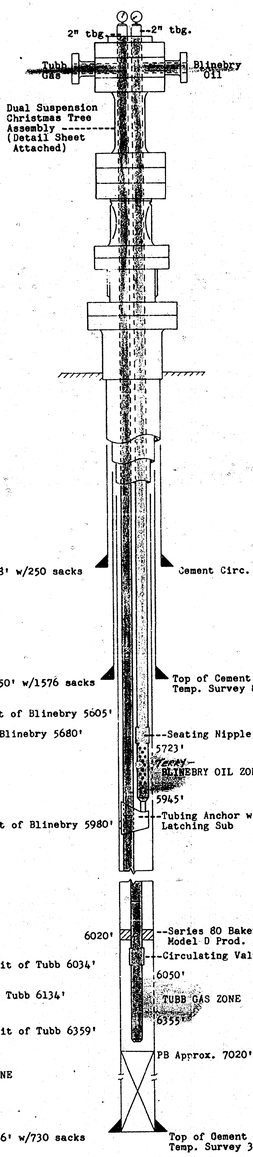
LOCKHART B-13 "A" No. 1-A

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
CASE 1010

PRESENT CONDITION



PROPOSED DUAL COMPLETION



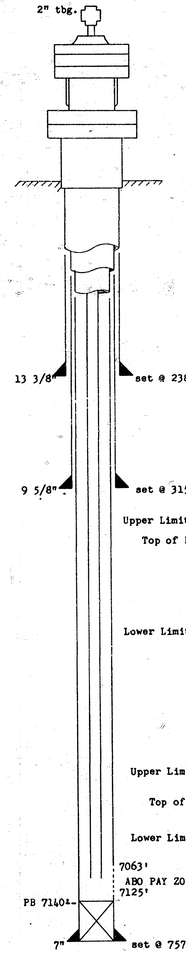
CONTINENTAL OIL COMPANY
Case # 1010 Exhibit # 4
Diagram of Proposed Completion

118

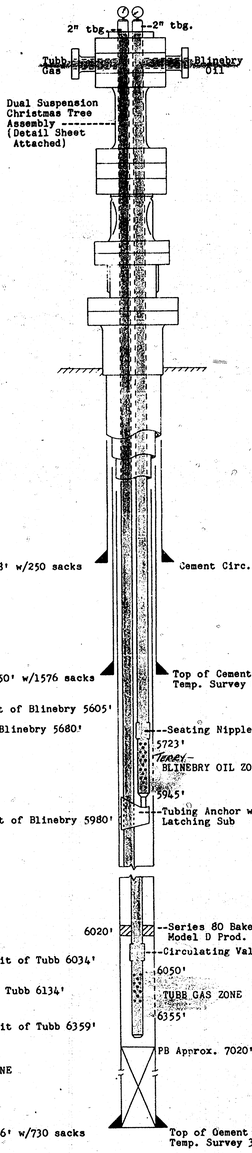
CONTINENTAL OIL COMPANY

LOCKHART B-13 "A" No. 1-A

PRESENT CONDITION



PROPOSED DUAL COMPLETION



CONTINENTAL OIL COMPANY
Case No. 1010 Exhibit No. 4
Diagram of Proposed Completion

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
CASE No. 2017 EXHIBIT No. 2

OIL CENTER TOOL CO. 11/29/55 vb

CHRISTMAS TREE PARTS LIST

TREE NO. X-1971-E DUAL SUSPENSION 6000# TEST PRESSURE
7"x2" EUE 8 RF x 2" EUE "CS" HYDRIL
SIZE W/ 10"SER. 600 BOTTOM FLANGE 3000# WORKING PRESSURE

ITEM	PART NO.	QUAN	DESCRIPTION	UNIT PRICE	TOTAL PRICE
			If 7-5/8" Full Bore 6-3/4"ID REQUIRED, Please Specify		
A	83-090-430	1	7" OD 6000# Test OCT 7-20-OU Body Assy. Comp. W/ 2-2" Ser. 1500 Flg. Pad Outlets Comp. W/ pad studs & nuts W/ 10"Ser. 600 Bottom Flange		359.00
		4	#85 API Metal Ring Gaskets	3.40	13.60
B		1	6"Ser. 900 (#45 RG) x 6"Ser. 900 (#45 RG) x 2" EUE x 2" EUE OCT SPECIAL Dual Suspension Tubing Head Adapter Assy. Comp. W/ pad studs & nuts W/ Test Port- Est. 1153		247.50
C		1	2" EUE SRP OCT SPECIAL Hanger Couplings Comp.W/ Floating Seal Ring Est. #1092		93.50
			Groove for OCT-OTIS Back Pressure Valve		17.80
C-1		1	CHARGE for OCT-OTIS Groove 2" EUE "CS" Hydril OCT SPECIAL Hanger Couplings Comp. W/Floating Seal Rings, Groove for OCT-OTIS Back Pressure Valve, Est. #1092		107.50
			CHARGE for OCT-OTIS Groove		17.80
D		4	2" Dual Floating Joint Sealing Elements, Est. #1083	47.85	191.40
E		1	6"Ser. 900 (#45 RG) x 2"Ser. 1500 (#24RG) Flanged Outlets OCT SPECIAL T-608 Dual Tee Drilled & Recessed for Dual Tubing Suspension Comp. W/ pad studs & nuts		495.00
F		1	6" Ser. 900 x 2" EUE SRP Thd. OCT SPECIAL Dual Adapter Fig. Est. #1106		176.00
G	25-320-028	2	2" EUE SRP OCT B-4 Ball Plugs	5.80	11.60
H		2	2" Ser. 1500 OCT Tee Type T-1 Positive Choke	121.00	242.00
J			LESS BEANS		
K		10	#24 A FI Metal Ring Gasket	1.85	18.50
L	26-015-601	4	2" Ser. 1500 Companion Flanges	15.99	63.90
M	25-300-030	1	2" OCT B Bull Plug		3.65
N	25-320-028	1	2" OCT B-4 Bull Plug		4.85
O	78-010-235	48	(6 Sets) 7/8"x6"Gr. C Alloy Studs W/2 nuts each for 2"Ser. 1500 Flange	7.00	42.00
P	88-030-020	3	1/2" OCT MFL Needle Valves	6.70	20.10
Q	61-382-005	3	4-1/2" 5000# OCT Xmas Tree Gauges	20.40	61.20
R	61-943-310	4	2" 6000# Test FE WKM Valve #24 RG	260.00	1040.00
S		1	2" 6000# Test FE Dual WKM Valve W/6"Ser.900 Flg, #85 RG W/Flex-Float Grooves		1868.00
		1	Guide Bushing for Flex-Float Adapter Est. #1165, Consisting of the following:		64.50
		4	- 5/8" x 2" Allen head cap screws		
		2	- 1/2" Eye Bolts		
		1	- 1/2" Allen Wrench		
			TOTAL		5159.30

Prices effective 11/29/55- POB Our Plant, Houston, Texas-Delivery approx. 3-5 days after receipt of order.

TOTAL "CO-2"EUE SRP x2" EUE "CS" HYDRIL HOOKUP

OIL CENTER TOOL CO. 11/29/55 vb

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			Groove for OCT-OTIS Back Pressure Valve		17.80
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		4	- 5/8" x 2" Allen head cap screws		
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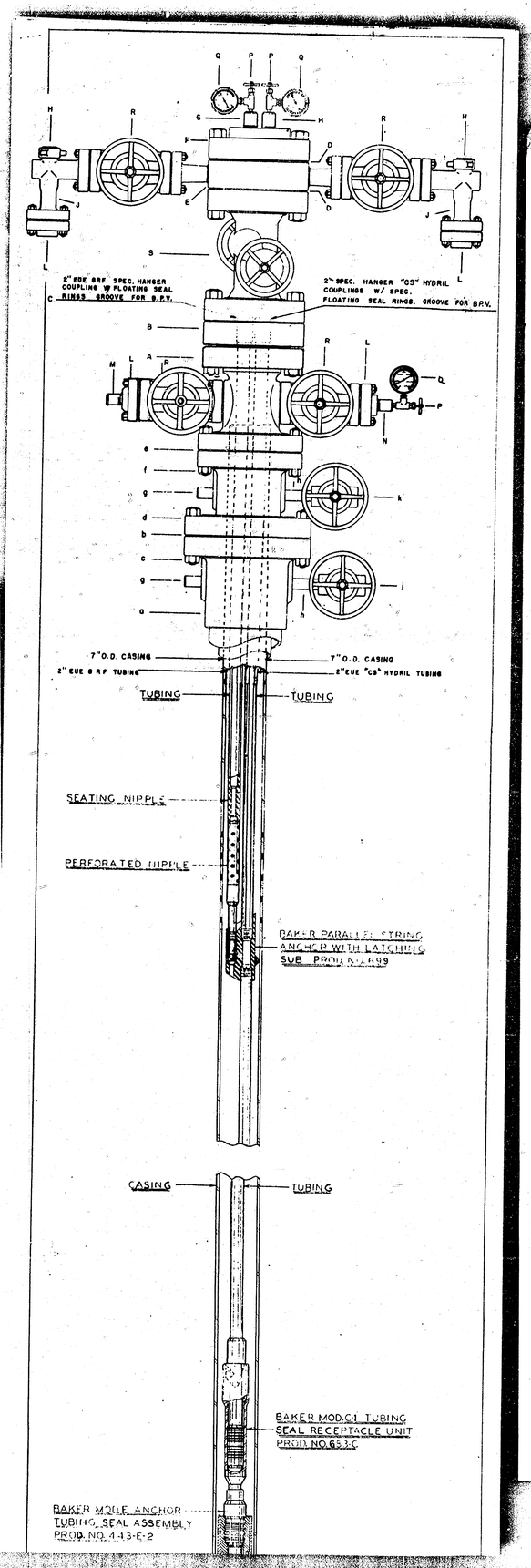
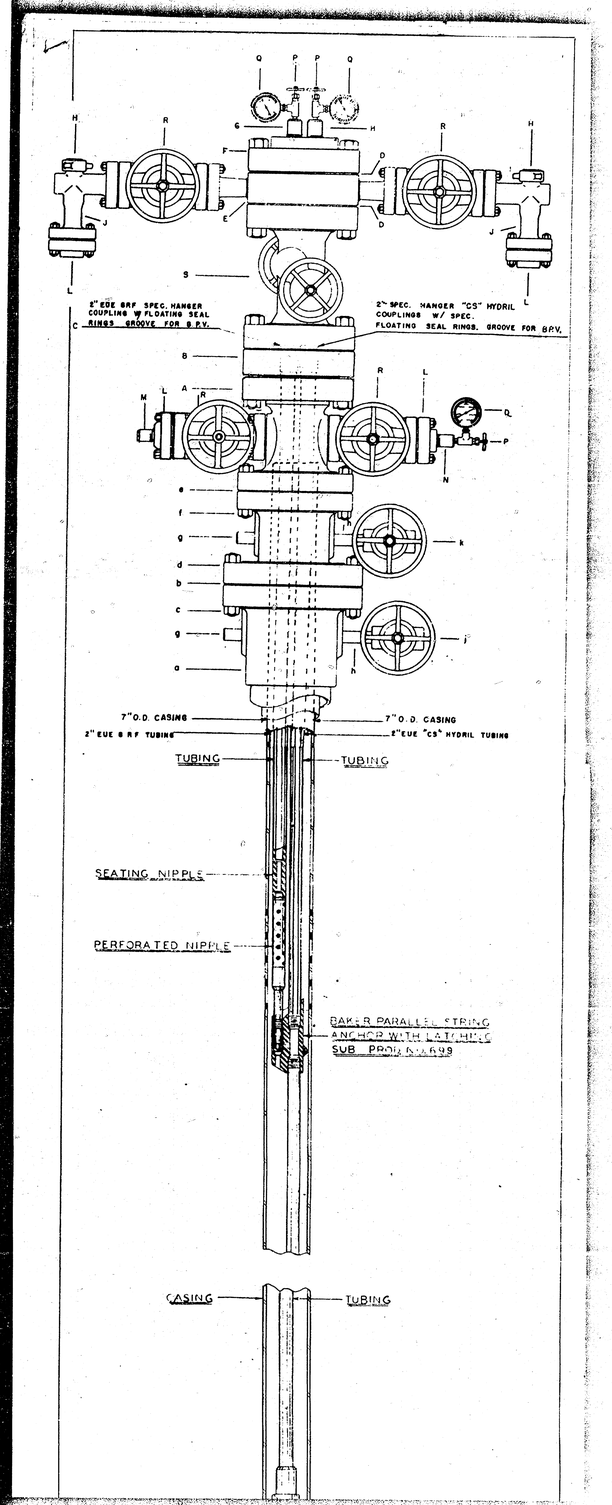
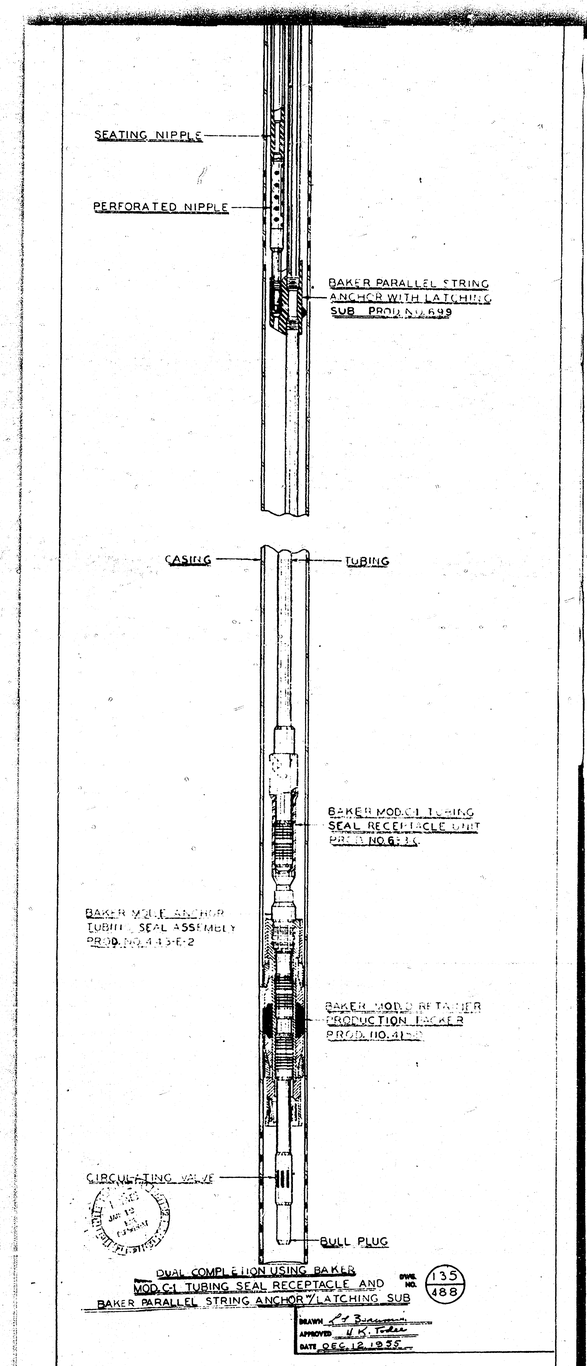
TOTAL "CO-2"EUE SRP x2" EUE "CS" HYDRIL HOOKUP

119







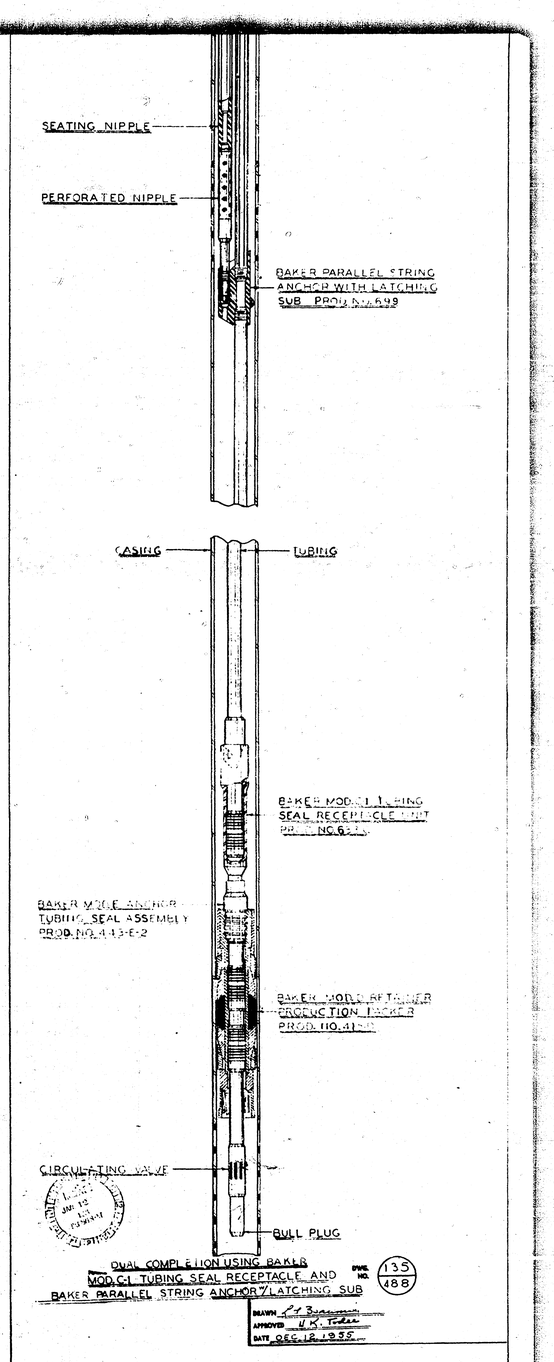
DUAL COMPLETION USING BAKER MOD. C-1 TUBING SEAL RECEPTACLE AND BAKER PARALLEL STRING ANCHOR W/LATCHING SUB

DWG. NO. 135/488

DRAWN L. T. Bozumin
APPROVED H. K. Todee
DATE DEC. 12, 1955

NOTE: OCT DUAL SUSPENSION XMAS TREE ASSEMBLY WITH BAKER DUAL COMPLETION PACKER ASSEMBLIES

DUAL TUBING SUSPENSION ASSEMBLY NO. X-1971-K	PREPARED BY OIL CENTER TOOL CO., INC. HOUSTON, TEXAS	CONTINENTAL OIL COMPANY Case No. 1010 Exhibit No. 5
PART NO. / SCALE / PATTERN NO.	DATE 11-29-55 / DRN. BY H.F. / CKD. BY H.F. / APPROVED	FILE NO. X / 1971-K
MATERIAL SPEC. FOR CONTINENTAL OIL CO.		Equipment Diagram of Dual Completion Using Parallel Tubing Strings



DUAL COMPLETION USING BAKER MOD. C-1 TUBING SEAL RECEPTACLE AND BAKER PARALLEL STRING ANCHOR W/LATCHING SUB

DWG. NO. 135/488

DRAWN L. T. Bozumin
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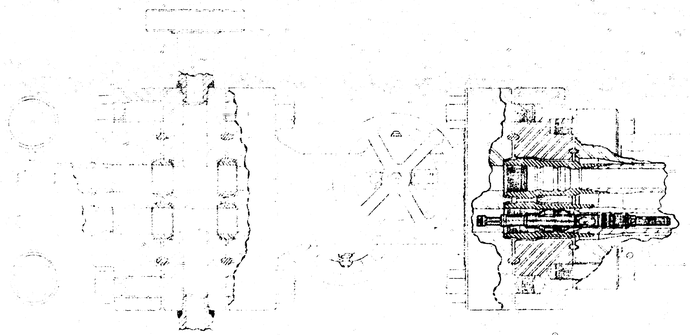
DUAL TUBING SUSPENSION ASSEMBLY NO. X-1971-K	PREPARED BY OIL CENTER TOOL CO., INC. HOUSTON, TEXAS	CONTINENTAL OIL COMPANY Case No. 1010 Exhibit No. 5
PART NO. / SCALE / PATTERN NO.	DATE 11-29-55 / DRN. BY H.F. / CKD. BY H.F. / APPROVED	FILE NO. X / 1971-K
MATERIAL SPEC. FOR CONTINENTAL OIL CO.		Equipment Diagram of Dual Completion Using Parallel Tubing Strings

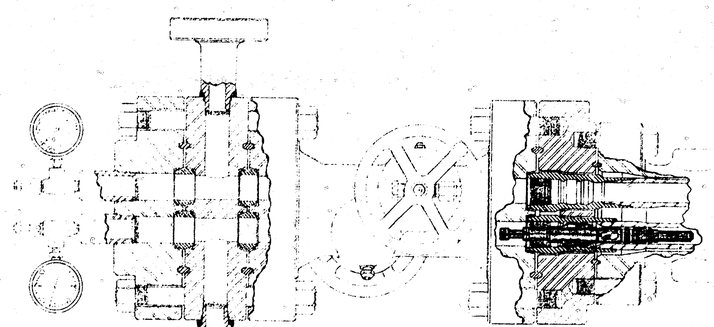
120

CONTINENTAL OIL COMPANY
Case No. 1010 Exhibit No. 6

Cutaway of Parallel Tubing
String Dual
Completion Christmas
Tree Assembly

S-1043





BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
CASE 1010 EXHIBIT No. 6

REVISIONS			PROPERTY OF OIL CENTER TOOL CO.	HOUSTON
J	E	A	ASSEM, CHRISTMAS TREE DUAL COMPLETION W.K.M VALVE & OTIS B.P. VALVE	DATE 4/15/55
K	F	B		DRN. R.H.S
L	G	C		CKD. J.A.G
M	H	D	MATL. C-S SPEC. C-S	APPR. JAG

FILE NO. C
PART NO. S-1043

CONTINENTAL OIL COMPANY
Case No. 1010 Exhibit No. 6

Cutaway of Parallel Tubing
String Dual
Completion Christmas
Tree Assembly

S-1043

REVISIONS | PROPERTY OF OIL CENTER TOOL CO. | HOUSTON
J | E | A
K | F | B
L | G | C
M | H | D
ASSEM, CHRISTMAS TREE DUAL COMPLETION W.K.M VALVE & OTIS B.P. VALVE
MATL. C-S SPEC. C-S
DATE 4/15/55
DRN. R.H.S
CKD. J.A.G
APPR. JAG
FILE NO. C
PART NO. S-1043

121

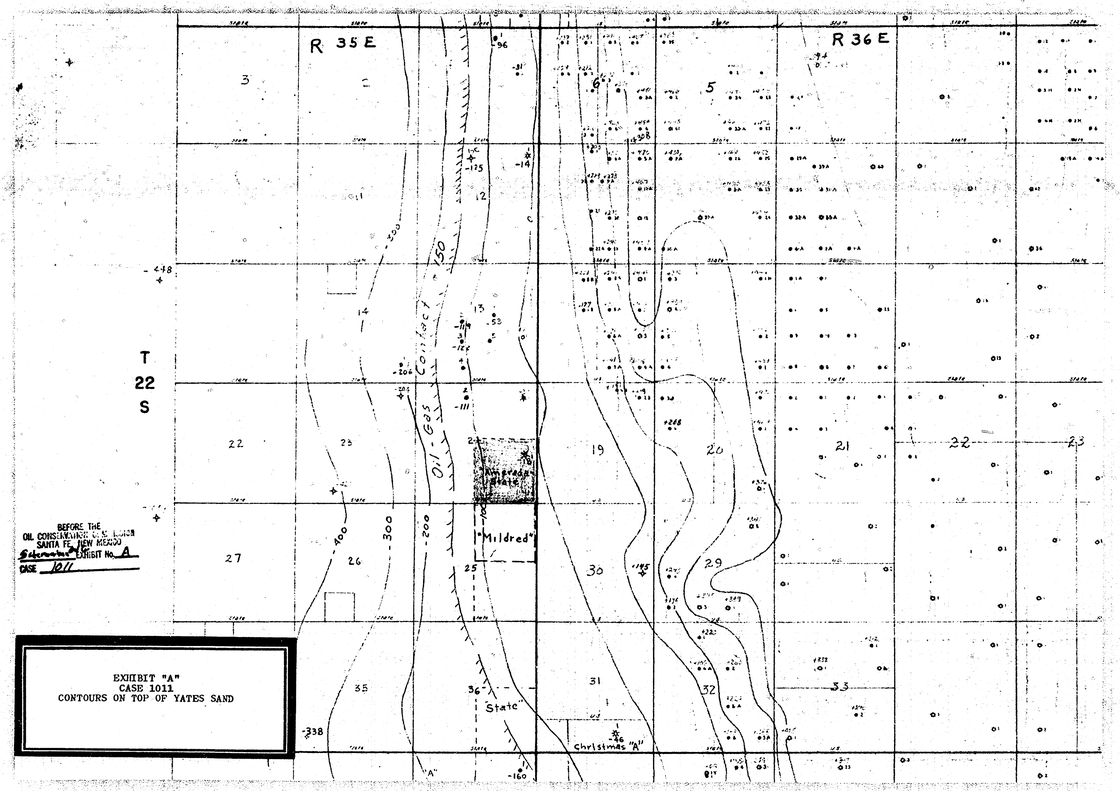
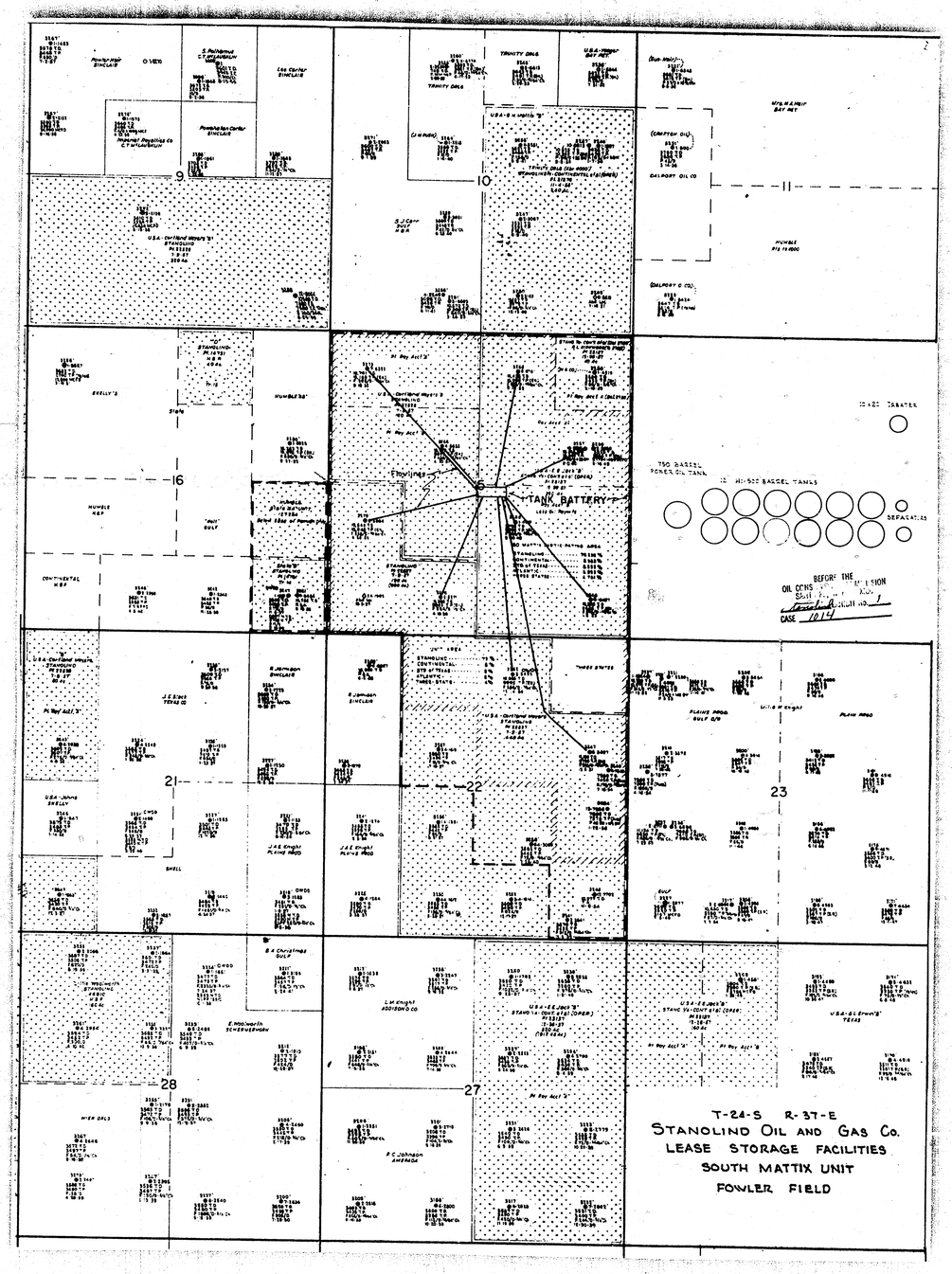
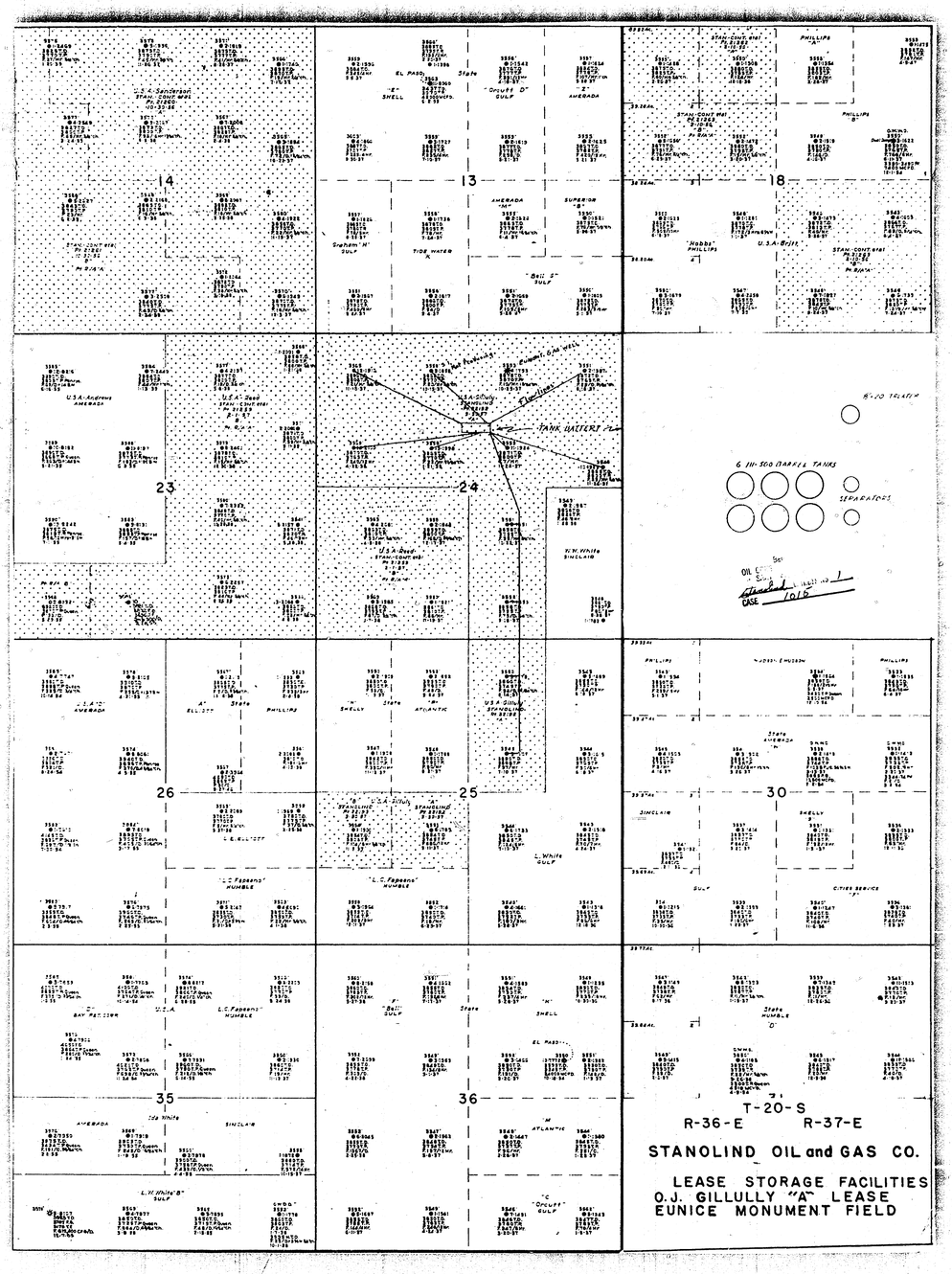


EXHIBIT "A"
CASE 1011
CONTOURS ON TOP OF YATES SAND

122


TANK BATTERY
Flowlines
750 BARREL POWER OIL TANK
10 HI-500 BARREL TANKS
HEATER TREATER
SEPARATOR
BEFORE THE
OIL CONS
CASE 1014
9
10
11
16
21
22
23
27
28
T-24-S R-37-E
STANOLIND OIL AND GAS Co.
LEASE STORAGE FACILITIES
SOUTH MATTIX UNIT
FOWLER FIELD

123


14
13
18
23
24
25
26
30
35
36
TANK BATTERY
8-10 TREATER
6 III-500 BARREL TANKS
SEPARATORS
T-20-S
R-36-E
R-37-E
STANOLIND OIL and GAS CO.
LEASE STORAGE FACILITIES
O.J. GILLULLY "A" LEASE
EUNICE MONUMENT FIELD

124

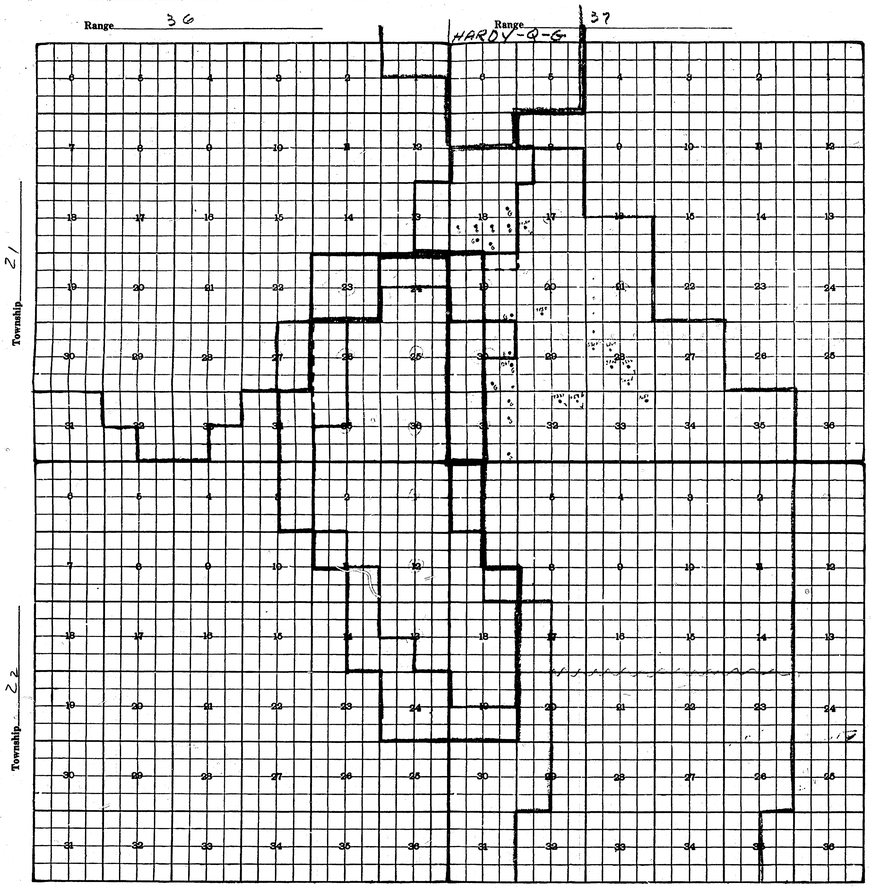
State of New Mexico, County of _____ State of New Mexico, County of _____

Range 36 Range 37

HARDY-Q-G

Township 21 Township _____

Township 22 Township _____



1M-8-50—Advocate Print

PRINTED AND FOR SALE BY THE ADVOCATE, ARTESIA, N. M.

BLUE = ARROWHEAD (Grayburg)
RED = PENROSE SKELLY (Queen & Grayburg)
PURPLE = EUMONT GAS (Y, SR, Q)
GREEN = ARROW GAS (Y, SR, Q)

CASE 1019

#1

County Rge. 35 | Rge 36 | County Rge. 37

Twp. 21

Twp. 22

Twp. 23

Twp. 24

EUMONT

ARROW

PENROSE-SKELLY

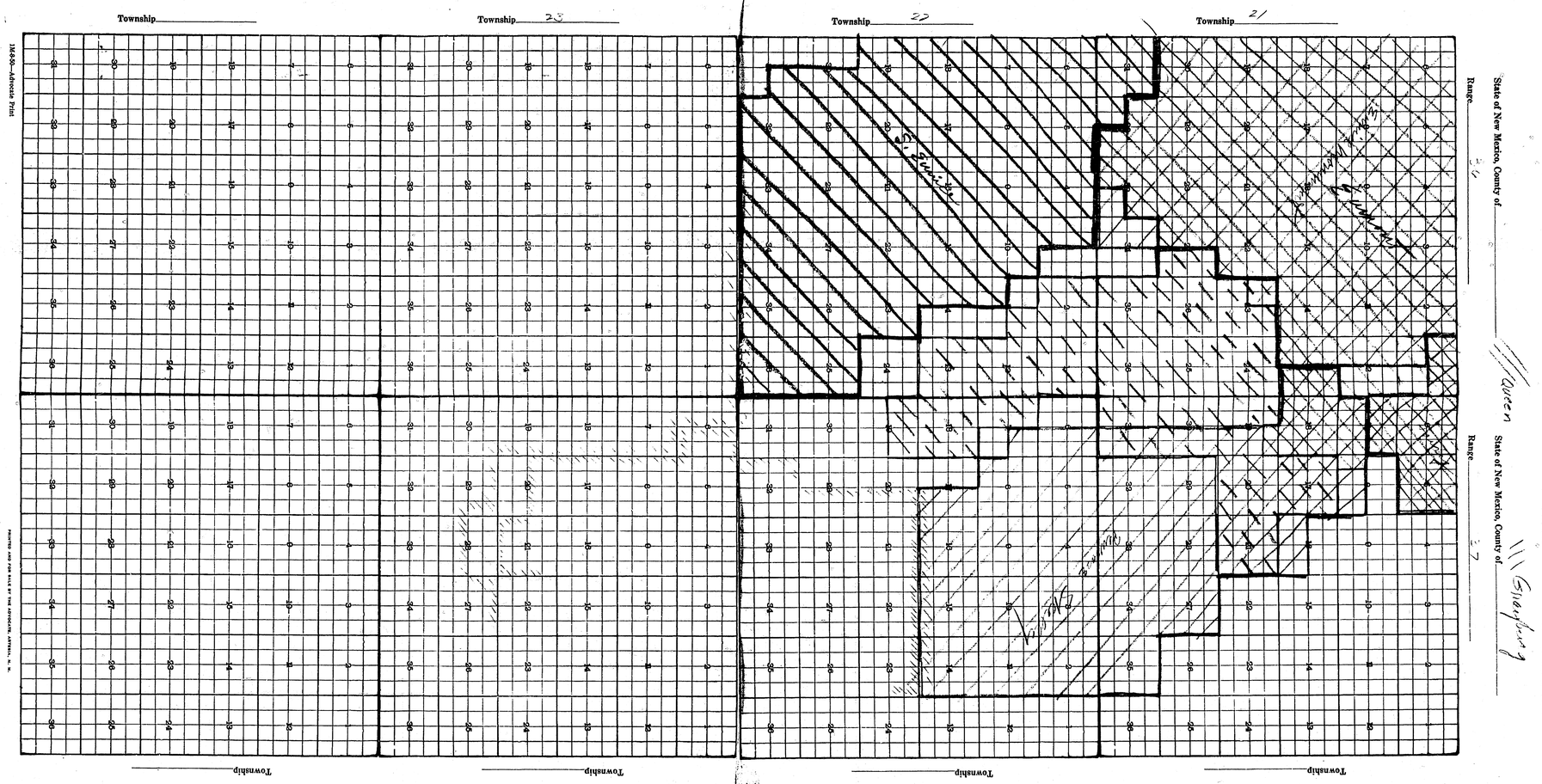
LANGLIE-MATTIX

Present Boundaries of Eumont-Outlined in Green
Proposed Extension to Eumont- Shaded in Green
Present Boundaries of Arrow(to be abolished) Outlined in Red
Present Boundaries of Penrose-Skelly-Outlined in Blue
Proposed Deletion to Penrose-Skelly-Blue Diagonal shading
Present Boundaries of Langlie-Mattix-Outlined in Gold
Proposed Extension to Langlie-Mattix-Shaded in Yellow

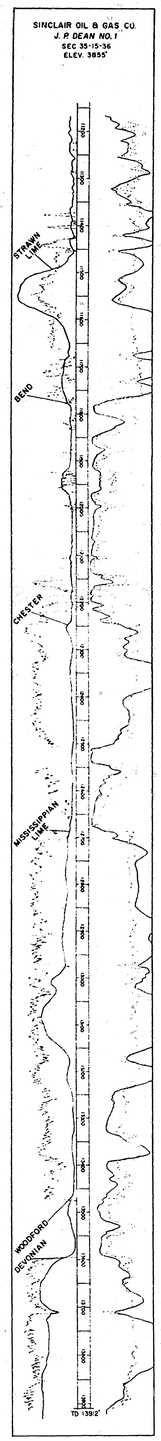
4 Twp. 3 Rge. In Stock and For Sale by OLDS PRESS, Tulsa, Okla.

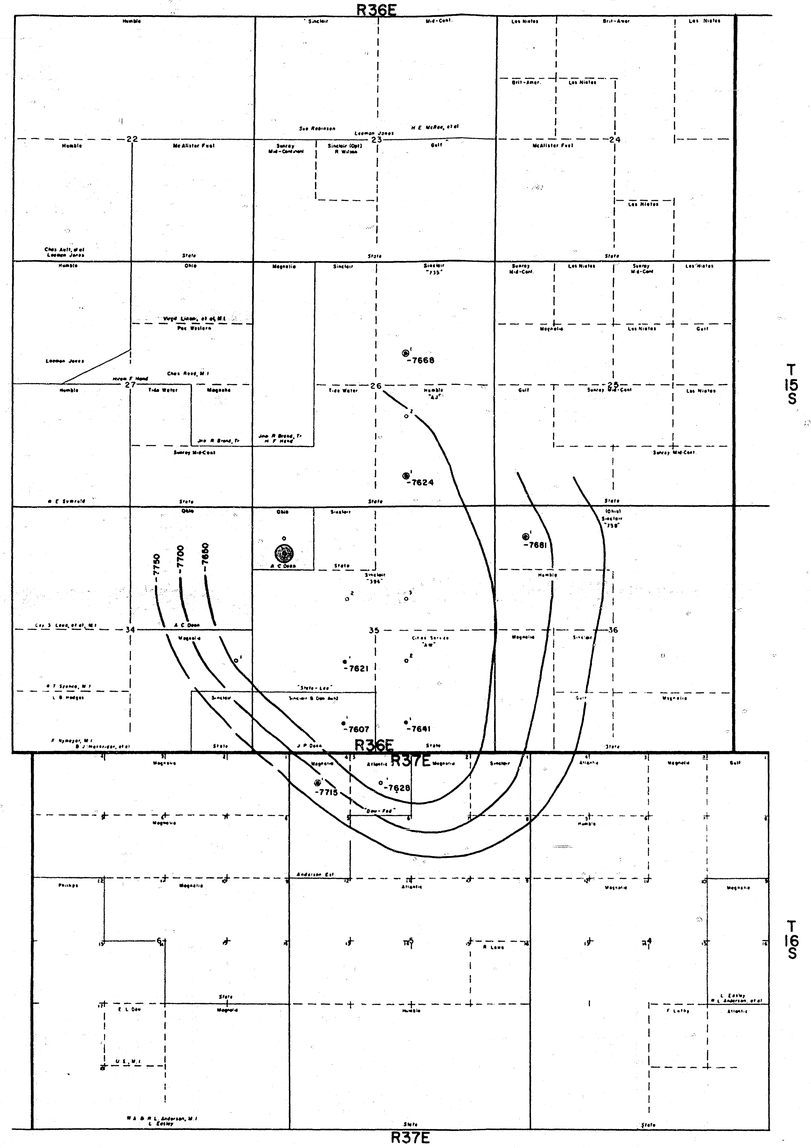
Case 1019 #1

125


Township
Township 23
Township 22
Township 21
Township
Township
Township
Township
Range 34
Range 37
State of New Mexico, County of Quay
State of New Mexico, County of Guadalupe
1M-8-50—Advocate Print
PRINTED AND FOR SALE BY THE ADVOCATE, ARTESIA, N. M.

126

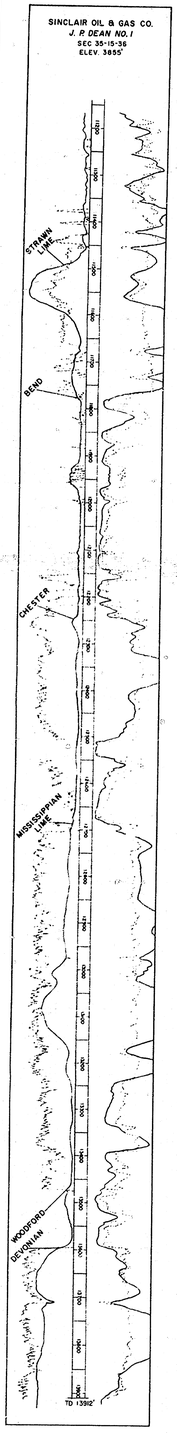




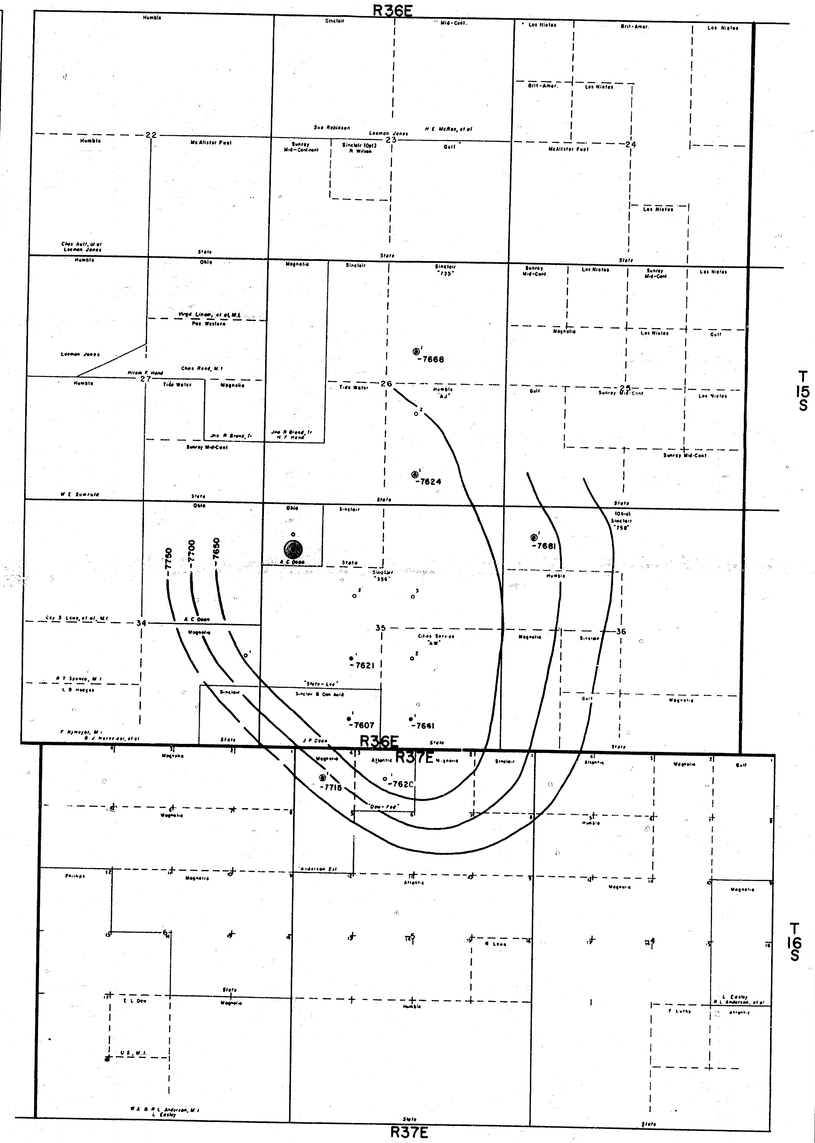
127

Case 1021
Ex #2

SINCLAIR OIL & GAS CO.
J. R. DEAN NO. 1
SEC 35-15-36
ELEV. 3855'



R36E



BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Exhibit No. 2
CASE 1031

LEGEND

- DEVONIAN WELLS
- STRAWN WELLS

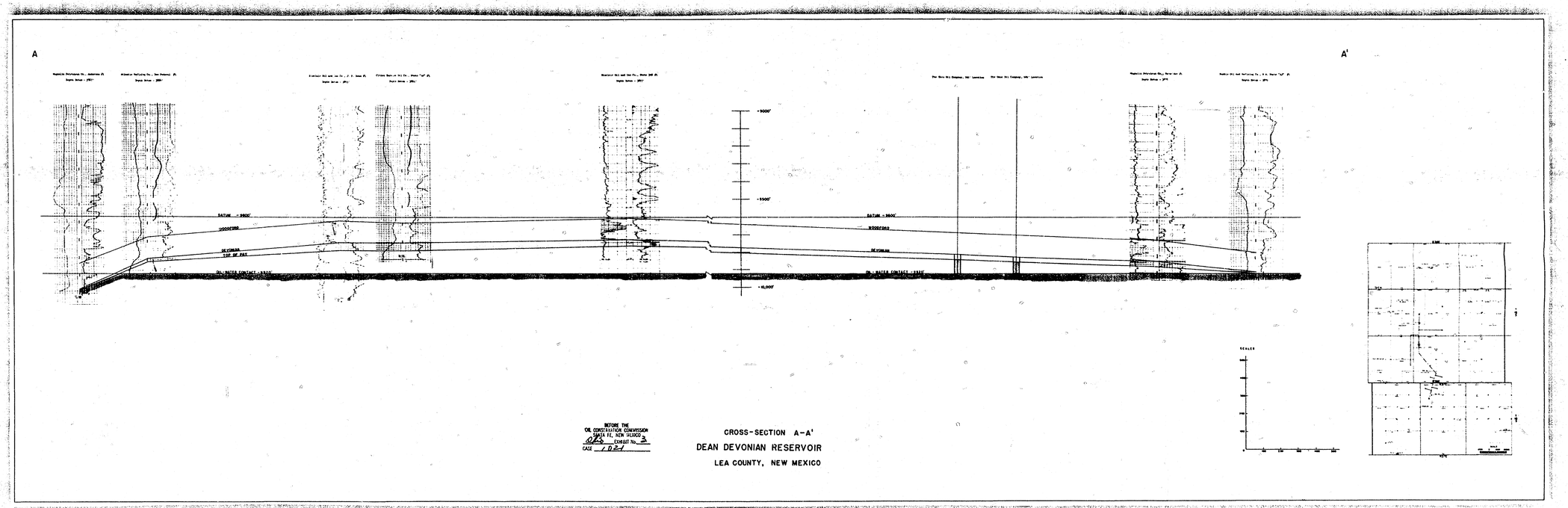
N

CONTOURS ON STRAWN — 50' INTERVAL

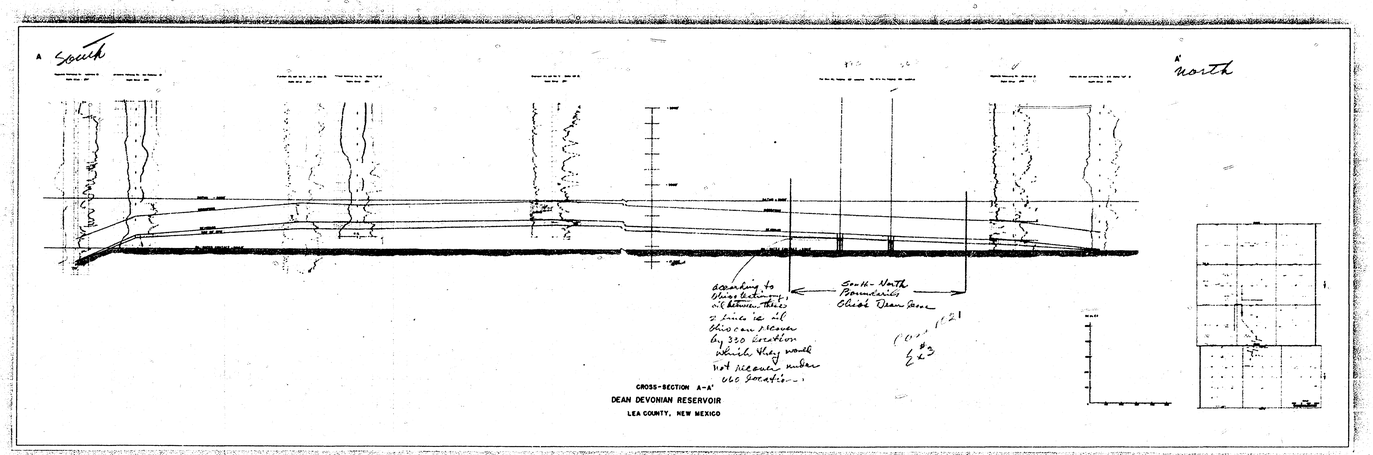
THE OHIO OIL COMPANY
DEAN FIELD
LEA COUNTY, NEW MEXICO
SCALE
0 1 2 3
THOUSAND FEET
ENGINEERING DEPT. —— MIDLAND, TEX.

2-3-56 RLP

128


A
A'
DATUM -9600'
WOODFORD
DEVONIAN
TOP OF PAY
OIL-WATER CONTACT -9920'
-9000'
-9500'
-10,000'
SCALES
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 3
CASE 1021
CROSS-SECTION A-A'
DEAN DEVONIAN RESERVOIR
LEA COUNTY, NEW MEXICO

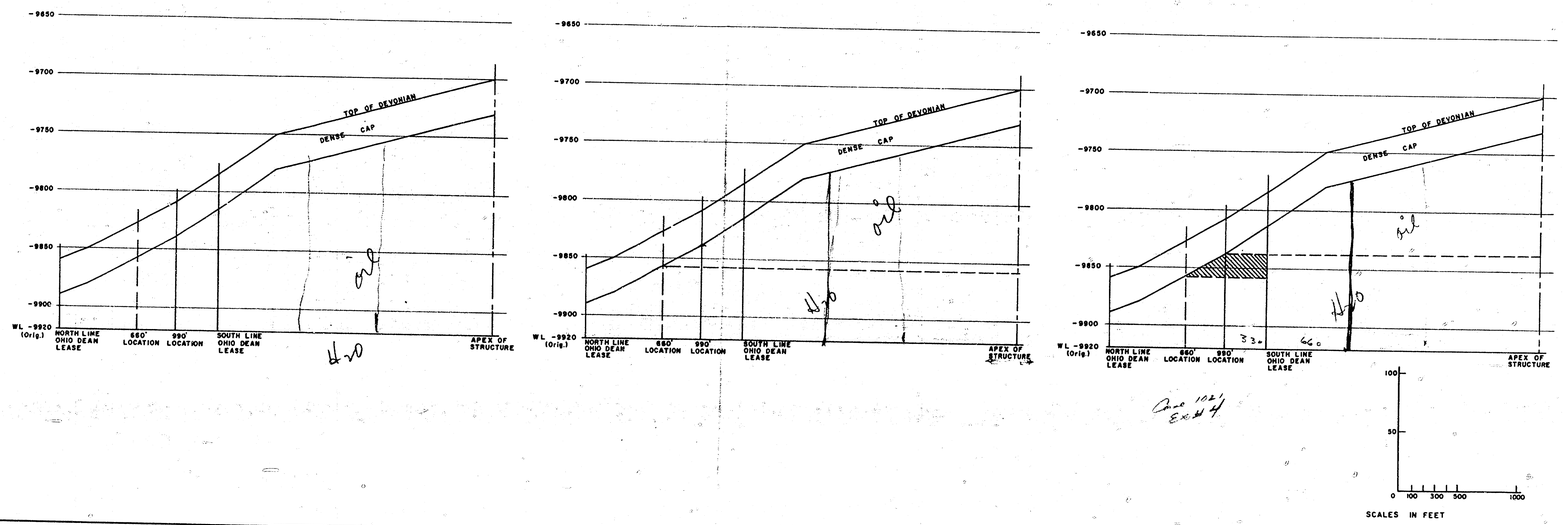
129



GROSS-SECTION A-A'
DEAN DEVONIAN RESERVOIR
LEA COUNTY, NEW MEXICO

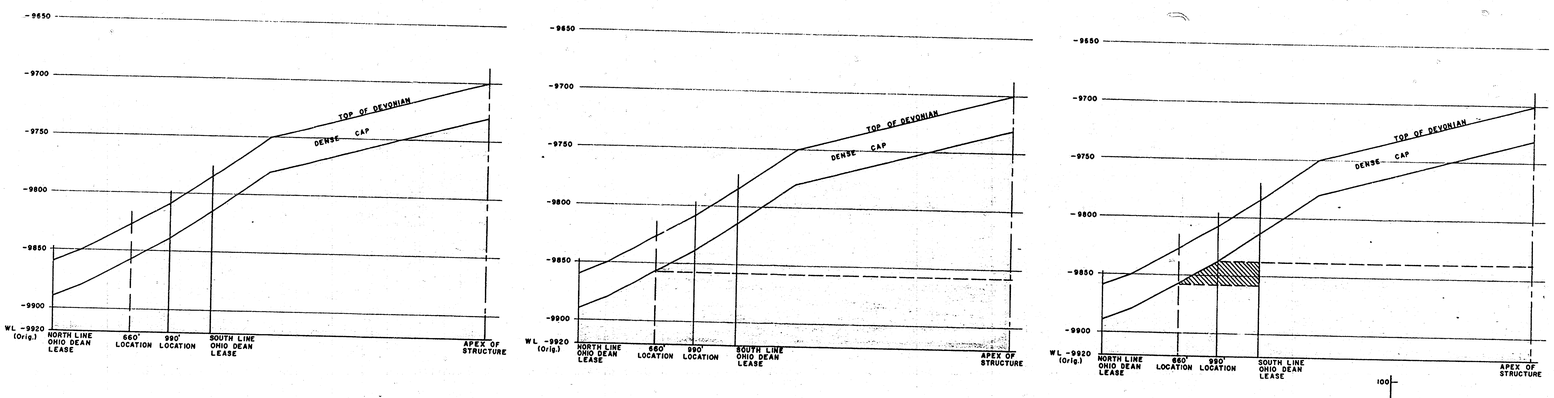
130

UP-DIP SCHEMATIC DIAGRAM
DEAN DEVONIAN RESERVOIR
LEA COUNTY, NEW MEXICO



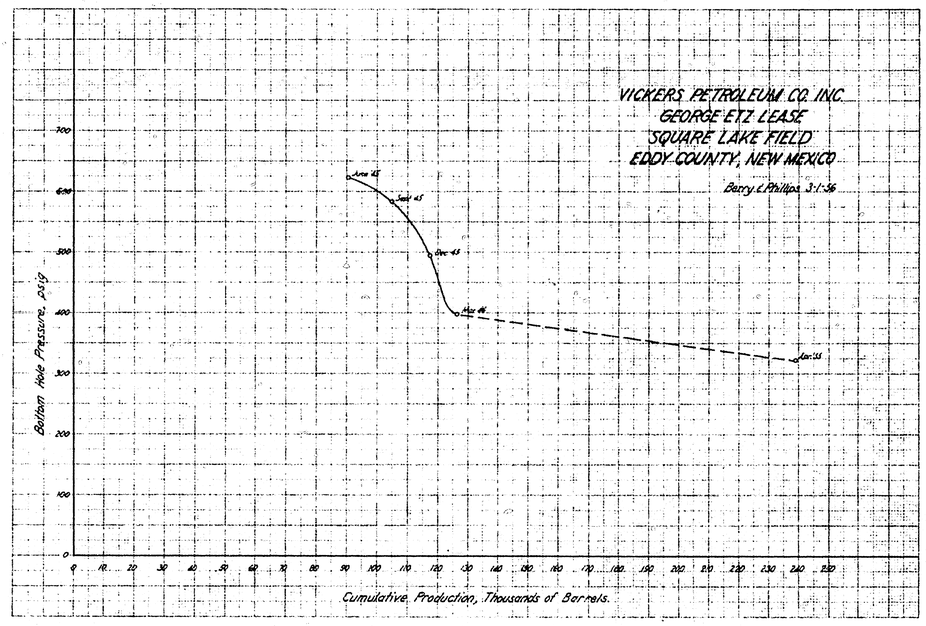
Case 102, Exh 4

UP-DIP SCHEMATIC DIAGRAM
DEAN DEVONIAN RESERVOIR
LEA COUNTY, NEW MEXICO



BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
EXHIBIT No. 4
Case 102

131


VICKERS PETROLEUM CO. INC.
GEORGE ETZ LEASE
SQUARE LAKE FIELD
EDDY COUNTY, NEW MEXICO
Barry L. Phillips 3-1-56
Bottom Hole Pressure, psig
Cumulative Production, Thousands of Barrels.
Apr '45
Jan '48
Dec '48
Apr '49
Jan '55

132

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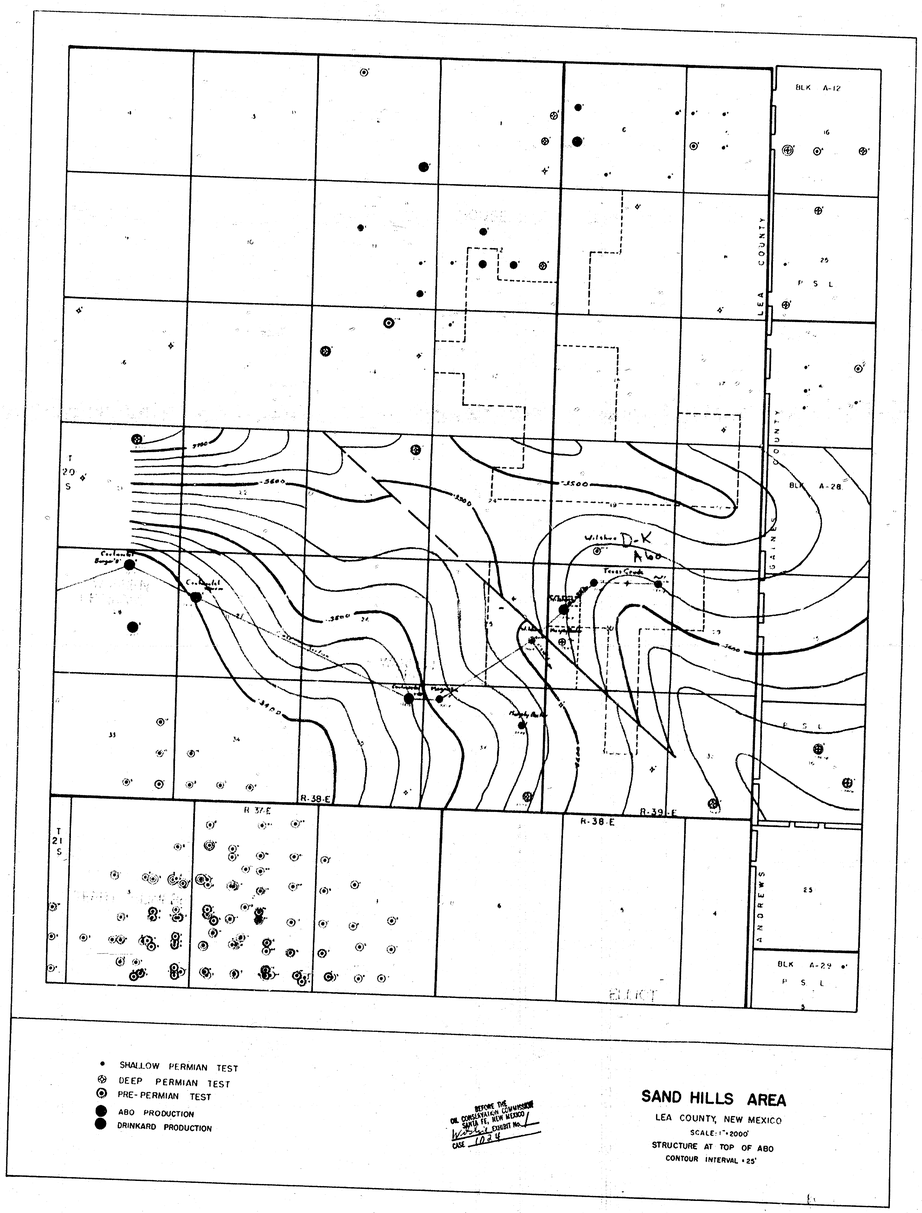

LEA COUNTY
BLK A-12
P S L
BLK A-28
P S L
ANDREWS
BLK A-29
P S L
T 20 S
T 21 S
R-38-E
R-39-E
R-37-E
Wilshire D-K
A60
Cities Service
Cities Service
Cities Service

CONTINENTAL No.1-A-30 WARREN "S"	CONTINENTAL No.1-A-29 WARREN	CONTINENTAL No.2-B-29 WARREN	CONTINENTAL No.1 BURGER "B-28"	CONTINENTAL No.1 WARREN	CONTINENTAL No.1-35 FISHER	MAGNOLIA No.1 NEW MEXICO "F"	WILSHIRE No.43-25 CARTER	WILSHIRE No.12-30 FEDERAL	TEXAS CRUDE No.1-30 CARTER	TEXAS CRUDE No.1-30 RALPH STATE
EL. 3559'	EL. 3538'	EL. 3548'	EL. 3560'	EL. 3552'	EL. 3586'	EL. 3576'	EL. 3580'	EL. 3579'	EL. 3568'	EL. 3560'
	McKEE SAND		DRINKARD	DRINKARD	ABO	ABO		DRINKARD	ABO	DRINKARD
P & A	IPF. 3,504 BOPD	P & A	IPF. 66 BO & 38 BWPD	IPF. 117 BOPD	IPF. 98 BOPD	IPF. 99 BO & 38 BAWPD	P & A	IPF. 29 BOPD	IPF 124 BOPD	IPP 11580 & 55 BWPD
			40°	42°	40°	40.8°		DRINKARD 37° ABO 375	37°	37°

3579

INDEX MAP
SCALE: 1"=8000'
SE LEA COUNTY, NEW MEXICO

GLORIETA

TUBB

ABO

DEVONIAN

-2500
-3000
-3500
-4000
-4500

LEGEND

D.S.T.
PERFORATIONS
PRODUCING ZONE
ATTEMPTED COMPLETION
CORE INTERVAL

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 3
CASE No. 1274

Ex. 3

WILSHIRE OIL COMPANY OF TEXAS

SCALE
HORIZONTAL SCALE: 1"=1000'
VERTICAL SCALE: 1"=100'

PREPARED BY: H.W. KUGLER
DATE: 2-24-56

134

Western Gulf Surveys

DELTA LOG

DIFFERENTIAL TEMPERATURE SURVEY

Company: WILSHIRE OIL COMPANY

File

Well: FEDERAL 12 - 30

Field: D. K. ABLE

County: LEA State: N.M.

Operator Zero Point: 10 'ABOVE TUBING HEAD

W W S Zero Point: 10 'ABOVE TUBING HEAD

COMPANY WILSHIRE OIL — WELL NO. FEDERAL 12-30 — FIELD D. K. ABLE — COUNTY LEA — STATE N.M.

WELL DATA

Csg. Size 7"	From SURFACE	To 7,500'	Open Hole Size	NONE	PBTD To	7,200'
Csg. Size	From	To	Tubing Size	2" OUE	To	7,150'
Csg. Size	From	To	Packer Type	NONE	Depth	
Well Completed Date			Cement Socks		Top	
Perforating Data on Pay Zones	From 6,945'	To 7,065'	From		To	
	From 7,114'	To 7,124'	From		To	

Surface Pressure — Production — Oil — Water — G O R

Csg. 800 Lb. Initial

Tbg. 900 Lb. Present

Survey Started Date 1/25/66 Time 8:00 A.M. Depth 6,500'

Completed Date 1/26/66 Time 12:30 P.M. Depth 7,066'

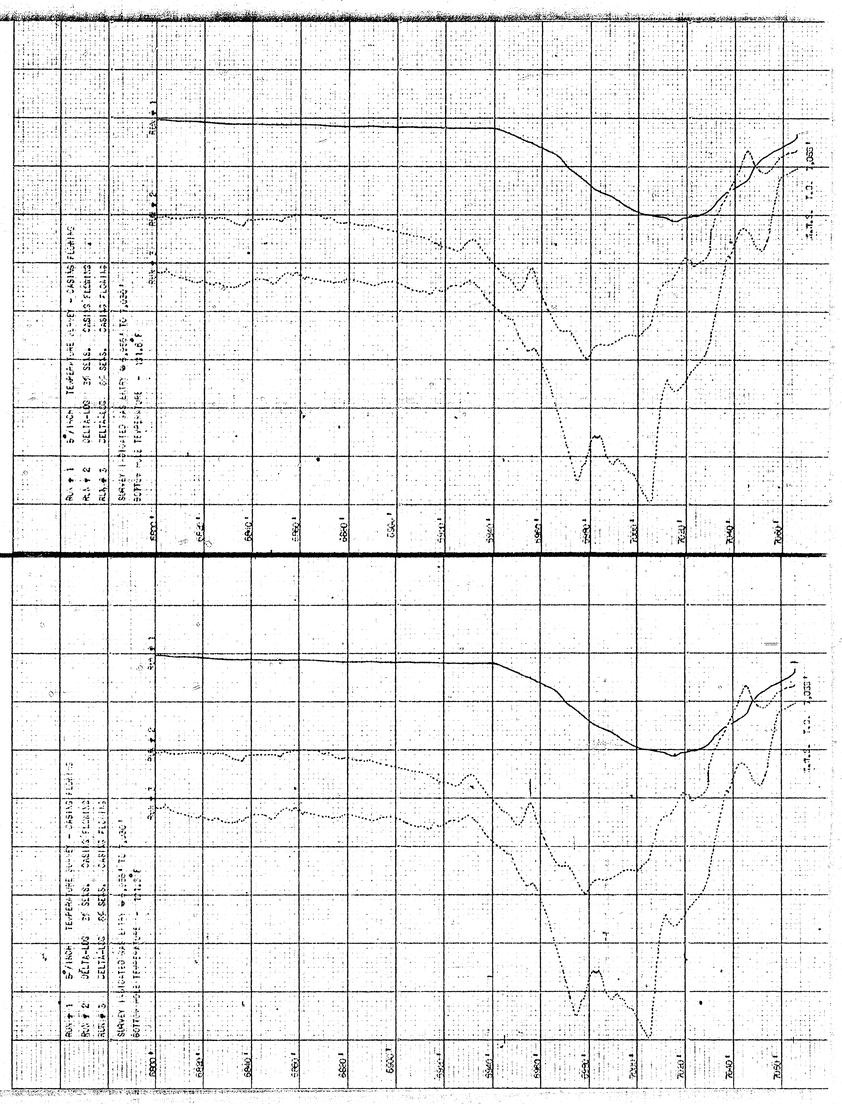
Survey to Locate GAS ENTRY

Operator MC NEESE Witnessed by MR. SANDELL

REMARKS

RR

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO EXHIBIT No. 6 CASE 1124



135

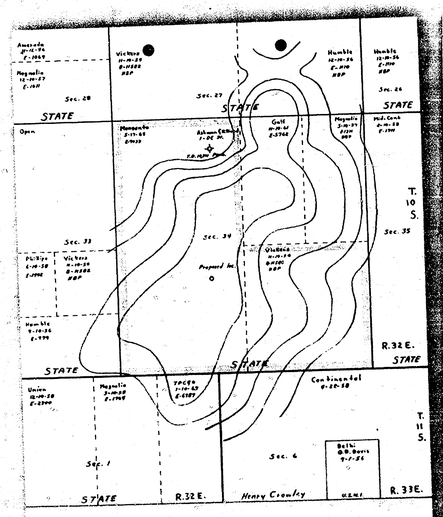


EXHIBIT B

PROPOSED SOUTH MESCALERO UNIT
SEC. 34, T.10S. R.32E.
LEA CO, N.MEX.

SEISMIC STRUCTURE MAP

HORIZON - MISSISSIPPIAN
C.I. - 200'
SCALE - 1"=1000'
UNIT OUTLINE

LION OIL CO. - A DIV. OF MONSANTO CHEM. CO.
ROSWELL DIST.
FEB 1956

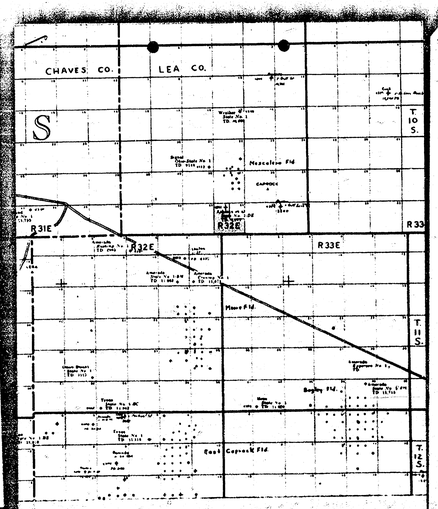


EXHIBIT A

PROPOSED SOUTH MESCALERO UNIT
SEC. 34, T.10S. R.32E.
LEA CO, N.MEX.

INDEX MAP

SCALE - 1"=8000'
UNIT OUTLINE

LION OIL CO. - A DIV. OF MONSANTO CHEM. CO
ROSWELL DIST.
FEB 1956

NM

New Mexico Oil Conservation Commission
Commissioner of Public Lands
Santa Fe, New Mexico

Proposed South Mescalero Unit
Section 34, Twp. 10 South, Rge. 32 East,
Lea County, New Mexico

INTRODUCTION:

Monsanto Chemical Company is the owner of a State Lease consisting of 320 acres, situated in the above captioned proposed Unit area. It is desired by Monsanto to form a State Approved Unit as outlined in Exhibit A, consisting of 480 acres and described as being the W½, SE¼ Section 34, Township 10 South, Range 32 East, Lea County, New Mexico.

REGIONAL GEOLOGY:

The area is situated on the north central portion of the Northwestern Shelf Area of New Mexico, which is bounded on the north by the Matador Arch and on the south by the Maljamar-Vacuum Uplift. The Shelf Area, gently rising to the west, terminates into the Sacramento Uplift which acts as its western boundary. The North Basin Platform of Texas borders the area to the east.

Regional dip as reflected by shallow Yates structure is to the east-southeast at an average of 75 feet to the mile. The rate of dip increases to 300 feet to the mile in a south-easterly direction as revealed by deeper Mississippian structure.

No tests have penetrated Pre-Devonian beds in the general area. The thickness of Post-Devonian beds range from 9,000 feet to 13,500 feet and consist in the majority of Permian, Pennsylvanian and Devonian Age sediments. Penn-Pennsylvanian and Devonian beds produce in the general locale from a series of north-south trending structural highs referred to as the Mescalero-Moore and Bagley-Lightner trends. Please refer to Exhibit A which shows the position of the proposed Unit in relationship to the forementioned producing fields.

LOCAL GEOLOGY:

Subsurface control is sparse in the area of interest and local structure is entirely dependent upon geophysical interpretation. At considerable expense, Monsanto undertook a seismic survey of the area which was completed in 1955. Results revealed a closed structure with a minimum of 200 feet closure in all directions. Please refer to the attached map indicated as Exhibit B.

The Mescalero Field, one-half mile north, and the Moore Field, two and one-half miles south, produce from both the Penn-Pennsylvanian and Devonian. Production may be expected under conditions similar to that of the forementioned fields and from equivalent geological units. The Devonian is the primary objective and should be encountered at approximately 10,000 feet. However, an 11,000 foot Devonian test is contemplated, contingent upon the approval of the proposed subject Unit.

CONCLUSIONS:

Development in subject area tends to be retarded due to the wide diversity of ownership. This, plus the fact that the individual tracts are small, results in a situation where no single operator owns sufficient acreage that would justify the expenditure of drilling a Devonian test. In the event development should be undertaken by the individual lessees, it would not be done in as orderly and scientific a manner as would be desired. The proposed South Mescalero Unit, as outlined in Exhibit B, is apparently a single anticlinal structure. It is therefore requested that this proposed Unit be approved in order to bring portions of this diversified ownership together so that development may be carried out in an orderly manner and in the best interests of conservation.

Respectfully submitted,

Billy B. Clifton

Billy B. Clifton
District Geologist
MONSANTO CHEMICAL COMPANY
Roswell, New Mexico, District

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BEFORE THE OIL CONSERVATION COMMISSION
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. 1028

THE APPLICATION OF MONSANTO CHEMICAL COMPANY FOR APPROVAL OF THE SOUTH MESCALERO UNIT AGREEMENT EMBRACING 480 ACRES, MORE OR LESS, LEA COUNTY, NEW MEXICO, WITHIN TWP. 10 S., RGE. 32 E., N.M.P.M.

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Comes the undersigned, the Monsanto Chemical Company, a corporation with offices at El Dorado, Arkansas, and files herewith three copies of the proposed Unit Agreement for the Development and Operation of the South Mescalero Unit Area, Lea County, New Mexico, and hereby makes application for the approval of said Unit Agreement as provided by law, and in support thereof, shows:

1. That the proposed unit area covered by said agreement embraces 480 acres, more or less, more particularly described as follows:

NEW MEXICO PRINCIPAL MERIDIAN, NEW MEXICO

T. 10 S., R. 32 E.

Sec. 34: W½, SE¼

2. That the lands embraced within the proposed unit area are all State lands.

3. That applicant is informed and believes, and upon such information and belief, states: That the proposed unit area covers substantially all of the geological feature involved, and in the event of the discovery of oil or gas thereon, that said unit agreement will permit the producing area to be developed and operated in the interest of conservation and the prevention of waste of the unitized substances.

4. That the Monsanto Chemical Company is designated as unit operator in said unit agreement, and as such is given authority under the terms thereof to carry on all operations necessary for the development and operation of the unit area for oil and gas, subject to all applicable laws and regulations. That said unit agreement provides for the commencement of a test well for oil and gas upon some part of the lands embraced in the unit area within 90 days from the effective date of the unit agreement and for the drilling thereof with due diligence, to a depth sufficient to test the Devonian formation or to such a depth as unitized substances shall be discovered in paying quantities if at a lesser depth; provided, however, operator is not required in any event to drill said well to a depth in excess of 11,000 feet.

5. That said unit agreement is in substantially the same form as unit agreements heretofore approved by the Commissioner of Public Lands of the State of New Mexico and by the New Mexico Oil Conservation Commission, and it is believed that in the event oil or gas in paying quantities is discovered on the lands within the unit area, that the field or area can be developed more economically and efficiently under the terms of said agreement, to the end that the maximum recovery will be obtained, and that said unit agreement is in the interest of the conservation of oil and gas and the prevention of waste as contemplated by the New Mexico Oil Conservation Commission statutes.

LAW OFFICES
HERVEY, DOW & HINKLE
FIRST NATIONAL BANK BUILDING
ROSWELL, NEW MEXICO

February 10, 1956

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Gentlemen:

We hand you herewith in triplicate application of the Monsanto Chemical Company, Lion Division, Roswell, for approval of the proposed South Mescalero Unit Agreement, Lea County, New Mexico. We also enclose three copies of the proposed form of unit agreement.

Application has heretofore been made for approval of the unit by the Commissioner of Public Lands. All of the lands involved are state lands which are embraced in two separate state leases, one of which is owned by the Monsanto Chemical Company and the other by the Vickers Petroleum Company. We are advised by the land office that they have no objections to the formation of the unit. We would like for you to give your usual notice of hearing so that it can be set down as quickly as possible, as the Monsanto is ready to commence drilling operations on a deep Devonian test as soon as the unit agreement has been approved. We would like to have it set down before an examiner and have no objections to having the hearing at Hobbs. Please advise us as soon as possible the date set for the hearing.

Yours very truly,

HERVEY, DOW & HINKLE

By

CEH:mp
Encl.

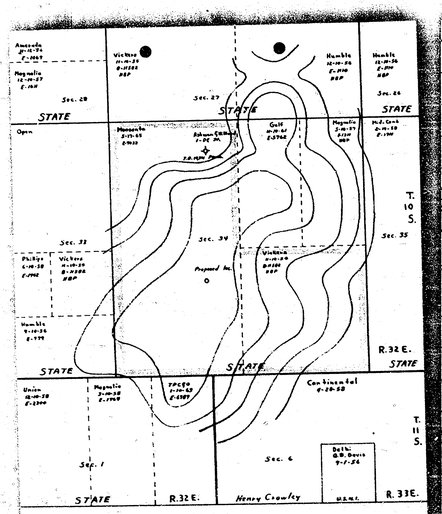

EXHIBIT B

PROPOSED SOUTH MESCALERO UNIT
SEC. 34, T.10S. R.32E.
LEA CO, N.MEX.

SEISMIC STRUCTURE MAP

HORIZON - MISSISSIPPIAN C.I
SCALE - 200'
SCALE - 1"=1000'
UNIT OUTLINE

LION OIL CO. - A DIV. OF MONSANTO CHEM. CO.
ROSWELL DIST.
FEB. 1956

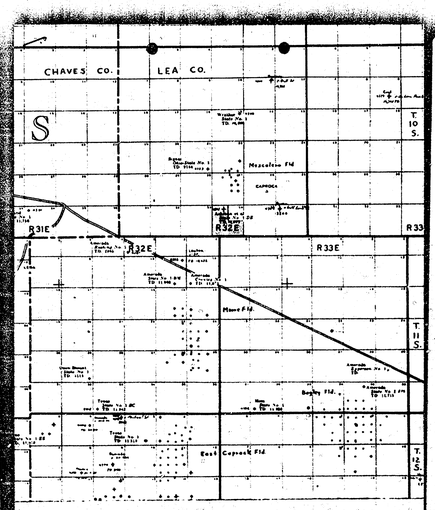

EXHIBIT A

PROPOSED SOUTH MESCALERO UNIT
SEC. 34, T.10S. R.32E.
LEA CO, N.MEX.

INDEX MAP

SCALE - 1"=8000'
UNIT OUTLINE

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ROSWELL DIST.
FEB 1956

NM

New Mexico Oil Conservation Commission
Commissioner of Public Lands
Santa Fe, New Mexico

Proposed South Mescalero Unit
Section 34, Twp. 10 South, Rge. 32 East,
Lea County, New Mexico

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The area is situated on the north central portion of the Northwestern Shelf Area of New Mexico, which is bounded on the north by the Matador Arch and on the south by the Maljamar-Vacuum Uplift. The Shelf Area, gently rising to the west, terminates into the Sacramento Uplift which acts as its western boundary. The North Basin Platform of Texas borders the area to the east.

Regional dip as reflected by shallow Yates structure is to the east-southeast at an average of 75 feet to the mile. The rate of dip increases to 300 feet to the mile in a southeasterly direction as revealed by deeper Mississippian structure.

No tests have penetrated Pre-Devonian beds in the general area. The thickness of Post-Devonian beds range from 9,000 feet to 13,500 feet and consist in the majority of Permian, Pennsylvanian and Devonian Age sediments. Permo-Pennsylvanian and Devonian beds produce in the general locale from a series of north-south trending structural highs referred to as the Mescalero-Moore and Bagley-Tightower trends. Please refer to Exhibit A which shows the position of the proposed Unit in relationship to the forementioned producing fields.

LOCAL GEOLOGY:

Subsurface control is sparse in the area of interest and local structure is entirely dependent upon geophysical interpretation. At considerable expense, Monsanto undertook a seismic survey of the area which was completed in 1955. Results revealed a closed structure with a minimum of 200 feet closure in all directions. Please refer to the attached map indicated as Exhibit B.

The Mescalero Field, one-half mile north, and the Moore Field, two and one-half miles south, produce from both the Permo-Pennsylvanian and Devonian. Production may be expected under conditions similar to that of the forementioned fields and from equivalent geological units. The Devonian is the primary objective and should be encountered at approximately 10,000 feet. However, an 11,000 foot Devonian test is contemplated, contingent upon the approval of the proposed subject Unit.

CONCLUSIONS:

Development in subject area tends to be retarded due to the wide diversity of ownership. This, plus the fact that the individual tracts are small, results in a situation where no single operator owns sufficient acreage that would justify the expenditure of drilling a Devonian test. In the event development should be undertaken by the individual lessees, it would not be done in as orderly and scientific a manner as would be desired. The proposed South Mescalero Unit, as outlined in Exhibit B, is apparently a single anticlinal structure. It is therefore requested that this proposed Unit be approved in order to bring portions of this diversified ownership together so that development may be carried out in an orderly manner and in the best interests of conservation.

Respectfully submitted,

Billy B. Clifton

Billy B. Clifton
District Geologist
MONSANTO CHEMICAL COMPANY
Roswell, New Mexico, District

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Case No. 1028 Cont'd. -2-

6. That application is being made for the approval of said unit agreement by the Commissioner of Public Lands of the State of New Mexico.

7. That upon an order being entered by the New Mexico Oil Conservation Commission approving said unit agreement and after approval thereof by the Commissioner of Public Lands of the State of New Mexico, an approved copy thereof will be filed with the New Mexico Oil Conservation Commission.

WHEREFORE, the undersigned applicant respectfully requests that a public hearing be held on the matter of the approval of said unit agreement and that upon said hearing, said unit agreement be approved by the New Mexico Oil Conservation Commission as being in the interest of conservation and prevention of waste.

DATED this the 7th day of February, 1956.

Respectfully submitted,

MONSANTO CHEMICAL COMPANY

/s/ By M. M. Wilson
Regional Manager
Lion Oil Company Division

Distributed by:
New Mexico Oil and Gas Engineering Committee
Hobbs, New Mexico
February 23, 1956

Law Offices
HERVEY, DOW & HINKLE
First National Bank Building
Roswell, New Mexico

February 10, 1956

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Gentlemen:

We hand you herewith in triplicate application of the Monsanto Chemical Company, Lion Division, Roswell, for approval of the proposed South Mescalero Unit Agreement, Lea County, New Mexico. We also enclose three copies of the proposed form of unit agreement.

Application has heretofore been made for approval of the unit by the Commissioner of Public Lands. All of the lands involved are state lands which are embraced in two separate state leases, one of which is owned by the Monsanto Chemical Company and the other by the Vickers Petroleum Company. We are advised by the land office that they have no objections to the formation of the unit. We would like for you to give your usual notice of hearing so that it can be set down as quickly as possible, as the Monsanto is ready to commence drilling operations on a deep Devonian test as soon as the unit agreement has been approved. We would like to have it set down before an examiner and have no objections to having the hearing at Hobbs. Please advise us as soon as possible the date set for the hearing.

Yours very truly,

HERVEY, DOW & HINKLE

By

CDH:mp
Encl.

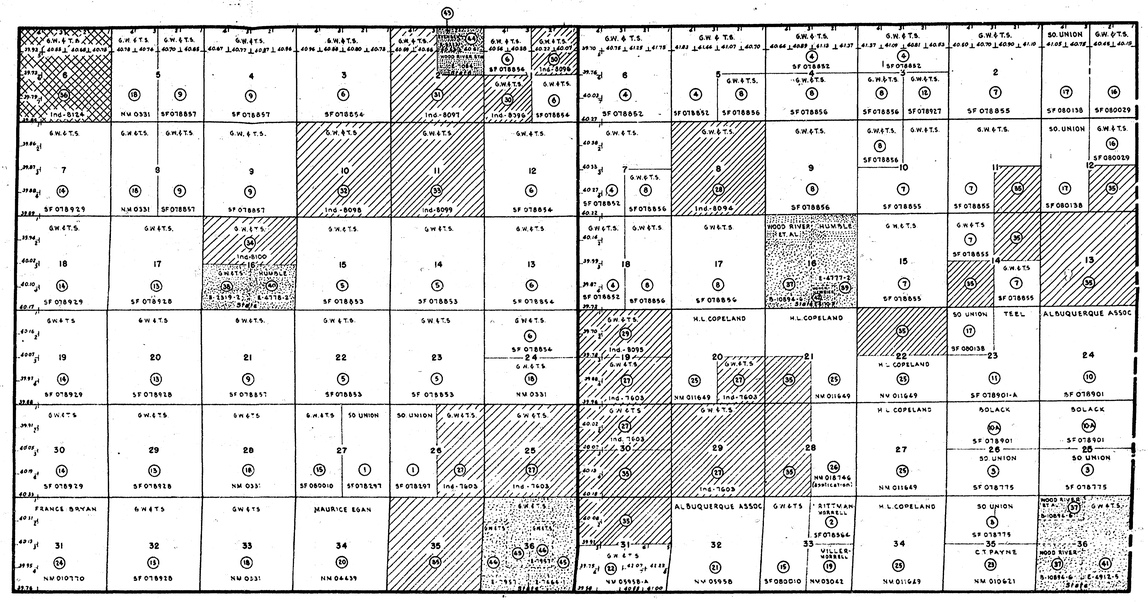
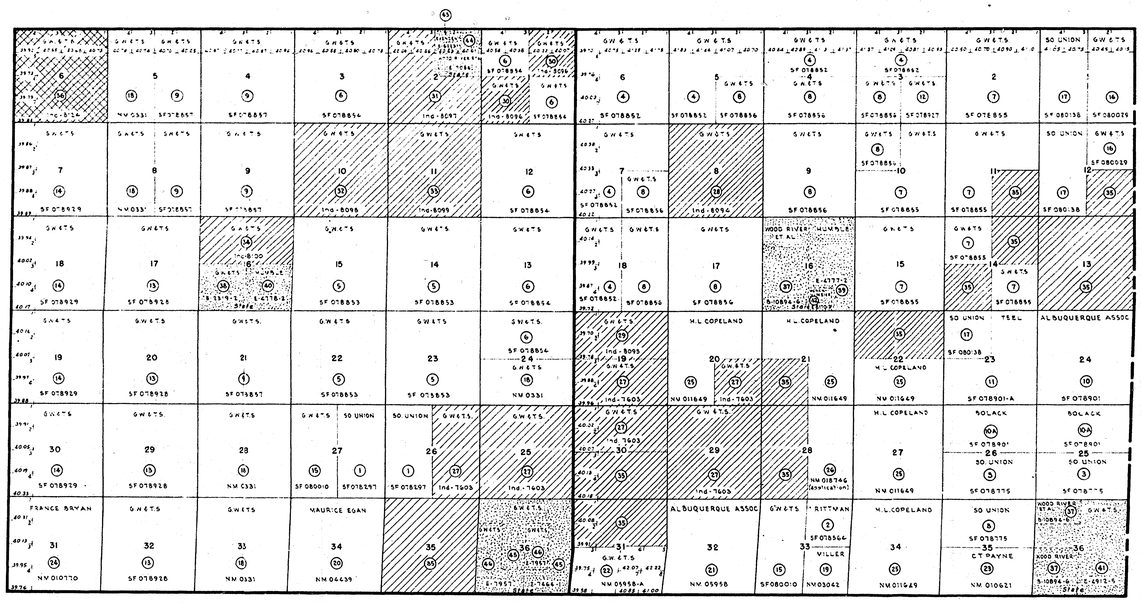


EXHIBIT "A"

SOUTH CHACO UNIT AREA

SAN JUAN COUNTY, NEW MEXICO

SCALE 2" = 1 MILE



GREAT WESTERN DRILLING COMPANY
EXHIBIT 6
Case No. 1033 March 14, 1956

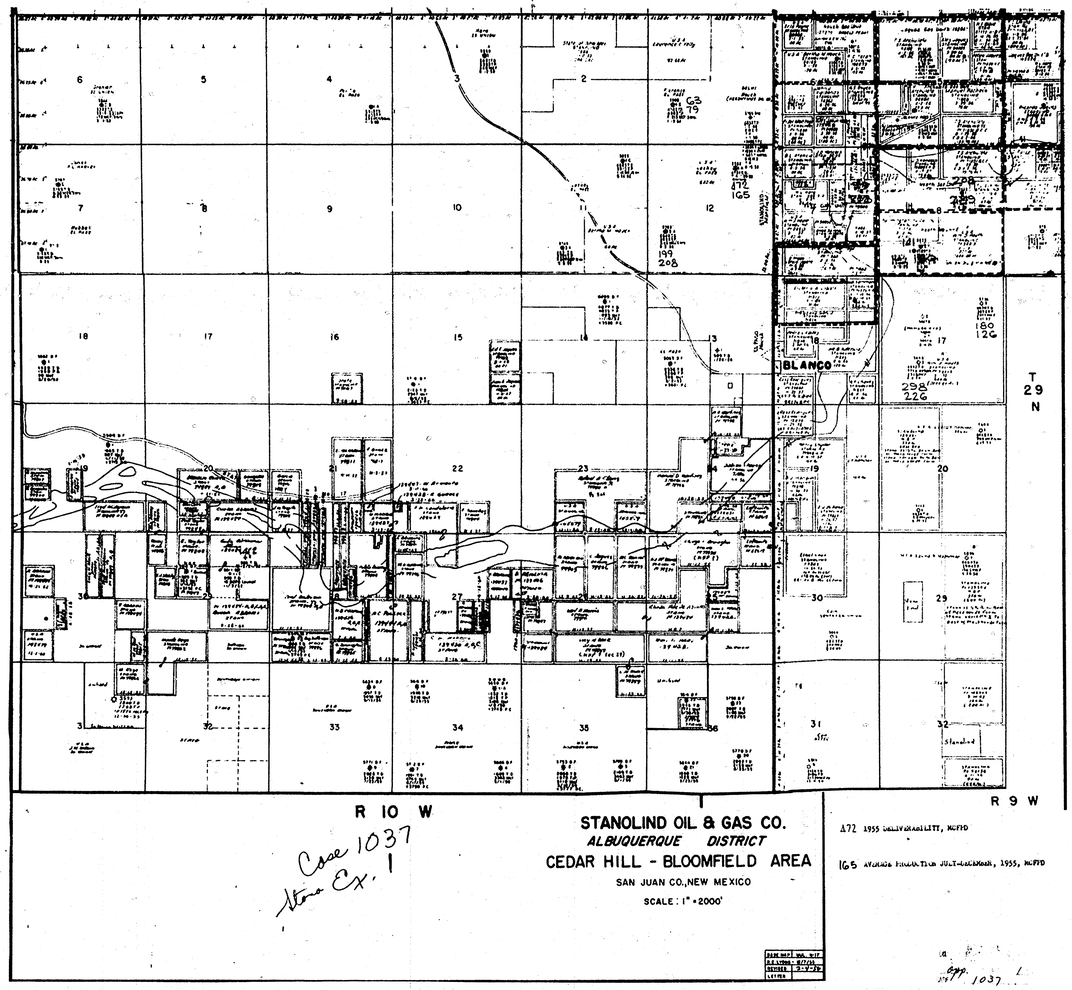
EXHIBIT "A"

SOUTH CHACO UNIT AREA

SAN JUAN COUNTY, NEW MEXICO

SCALE 2" = 1 MILE

138



STANOLIND OIL & GAS CO.
ALBUQUERQUE DISTRICT
CEDAR HILL - BLOOMFIELD AREA
SAN JUAN CO., NEW MEXICO
SCALE: 1" = 2000'

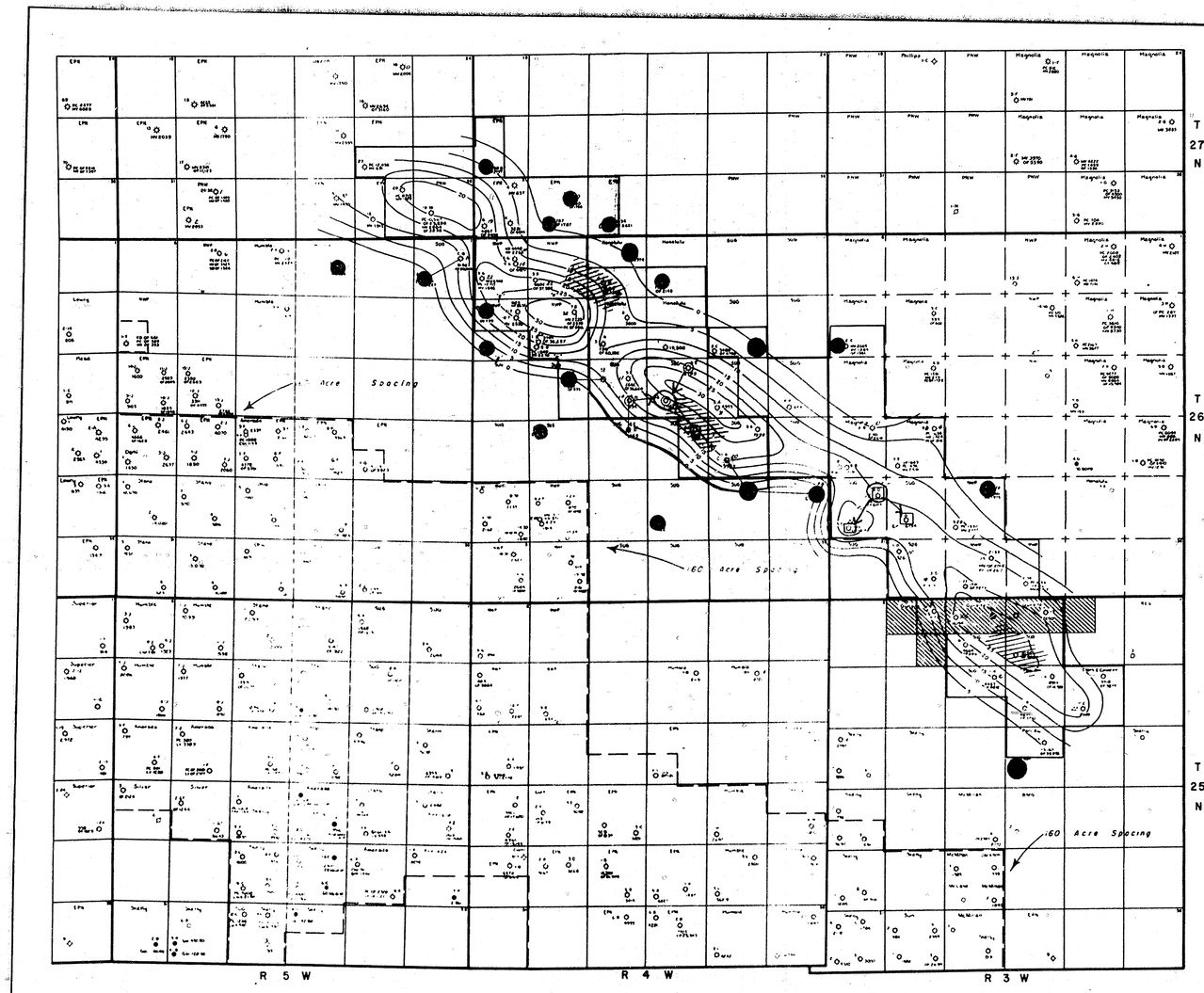
172 1955 DELIVERABILITY, MCFPD

165 AVERAGE PRODUCTION JULY-DECEMBER, 1955, MCFPD

Case 1037
Stano Ex. 1

139

Case 1037
Stano Ex. 1



Isopachous Map of Microlog Porosity

TAPACITO PICTURED CLIFFS FIELD

Rio Arriba County, New Mexico

MAP 2

February 1958

Val R. Reese and Associates, Inc.

Contour interval 5 feet

Feet showing porosity & permeability on microlog

Wells on interference test #1

Wells on interference test #2

Estimated present drainage area of 320 Ac controlled by porosity & permeability

Gunsite Butte Uranium Acreage

Limits of Tapacito Pictured Cliffs Field

Limits of Blanco Pictured Cliffs Field

PICTURED CLIFFS COMPLETION UNSUCCESSFUL

SAND CONDITIONS SO POOR NO COMPLETION ATTEMPTED IN PICTURED CLIFFS

PICTURED CLIFF WELLS NOT COMMERCIAL

Pictured Cliffs

Lewis

Chacra

La Ventana

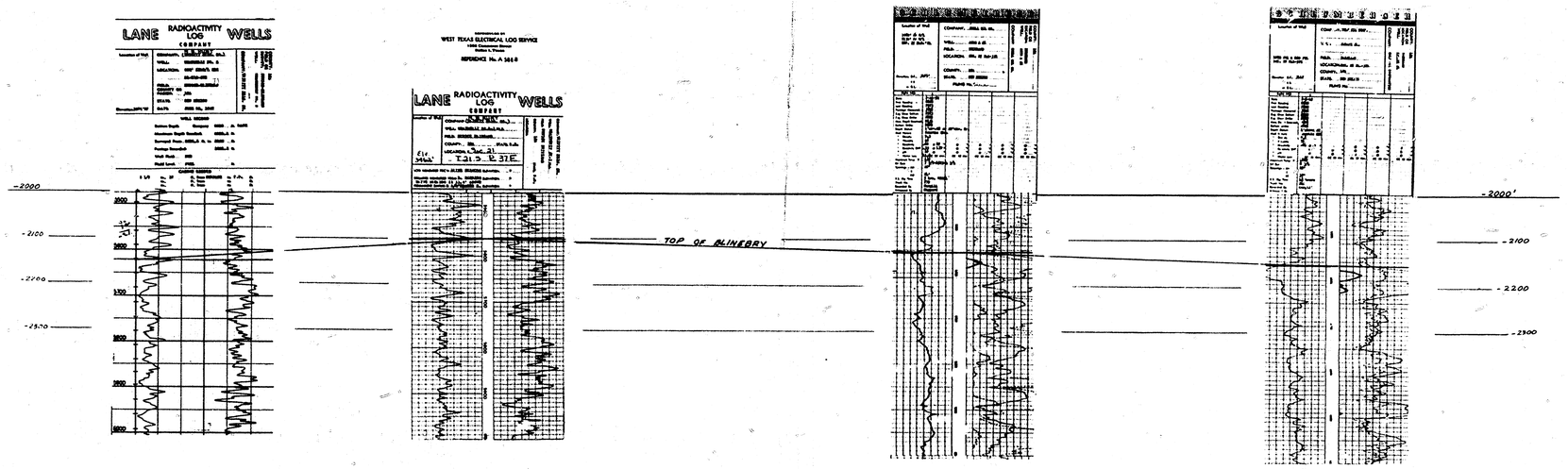
Mesaverde

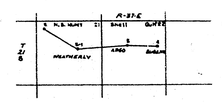
Gallup

Graneros

Dakota

140

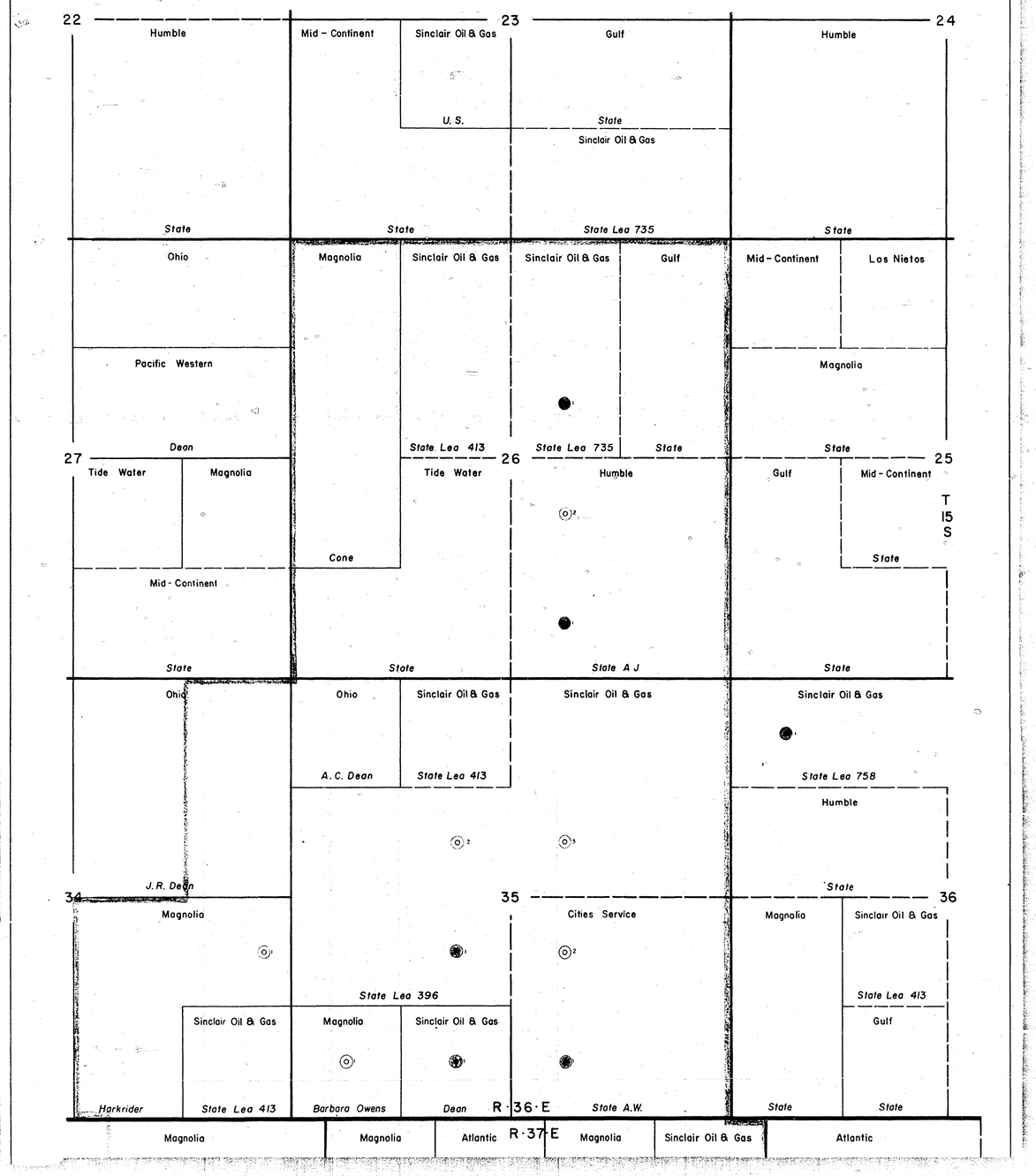




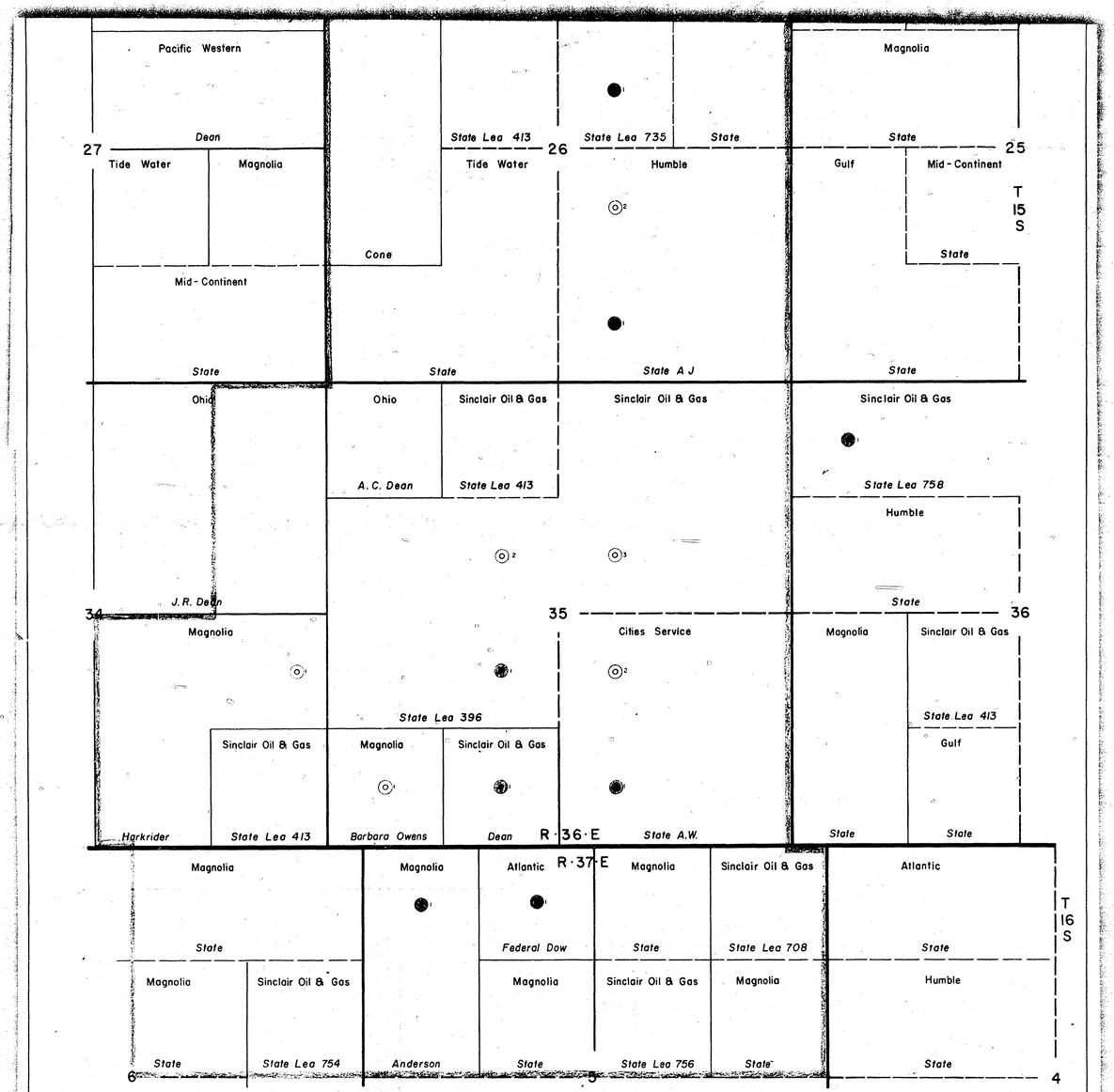
EAST-WEST CROSS SECTION
BLINEBRY FORMATION
SEC. 21-22 T21S R-37-E
BLINEBRY GAS POOL
LEA CO., NEW MEXICO
SCALE HORIZ 1"=800'
VERT 1"=100'

BEFORE THE OIL CONS. COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT NO. 17
CASE 1654

141


22
23
24
Humble
Mid – Continent
Sinclair Oil & Gas
Gulf
Humble
U. S.
State
Sinclair Oil & Gas
State
State
State Lea 735
State
Ohio
Magnolia
Sinclair Oil & Gas
Sinclair Oil & Gas
Gulf
Mid – Continent
Los Nietos
Pacific Western
Magnolia
Dean
State Lea 413
State Lea 735
State
State
27
26
25
Tide Water
Magnolia
Tide Water
Humble
Gulf
Mid – Continent
T
15
S
Cone
State
Mid - Continent
State
State
State A J
State
Ohio
Ohio
Sinclair Oil & Gas
Sinclair Oil & Gas
Sinclair Oil & Gas
A. C. Dean
State Lea 413
State Lea 758
Humble
J. R. Dean
State
34
35
36
Magnolia
Cities Service
Magnolia
Sinclair Oil & Gas
State Lea 396
State Lea 413
Sinclair Oil & Gas
Magnolia
Sinclair Oil & Gas
Gulf
Harkrider
State Lea 413
Barbara Owens
Dean
R-36-E
State A.W.
State
State
R-37-E
Magnolia
Magnolia
Atlantic
Magnolia
Sinclair Oil & Gas
Atlantic

142



DEAN FIELD
LEA COUNTY, NEW MEXICO
Scale: 1" = 500'

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Examiner Hearing, EXHIBIT No. 1 CASE 1014 - 1015

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO EXHIBIT No. CASE

● Pennsylvanian Well
● Devonian Well

143

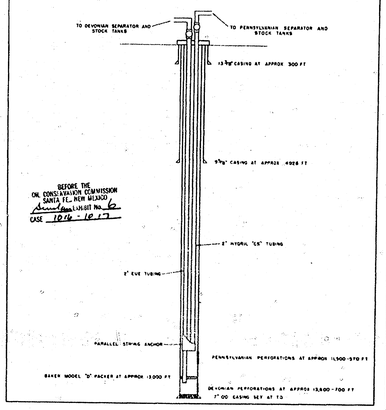
COST ESTIMATE - SINGLE VERSUS DUAL
DEAN FIELD, LEA COUNTY, N.MEXICO

	Devonian Single Completion	Pennsylvanian Single Completion	Devonian & Pennsylvanian Dual Completion
Footage	$146,200 (13,690'@10.75/ft.)	$104,400 (11,600'@9.00/ft.)	$146,200 (13690'@10.75/ft.)
Day Work	20,823	13,250	30,323
Special Services (Logs,DST's,Perf.,etc.)	9,035	10,370	14,975
Supplies (Mud,bits,etc.)	23,382	15,000	23,382
Cement & Cementing Services	8,528	6,380	8,528
Road, Location, Trucking	10,597	10,500	10,597
Wellhead, Shoes, etc.	6,982	1,082	6,982
Tank Battery & Lines	10,533	10,076	16,533
Surface Casing	1,188 (13 3/8")	1,188 (13 3/8")	1,188 (13 3/8")
Intermediate Casing	17,260 (9 5/8")	17,260 (9 5/8")	17,260 (9 5/8")
Production Casing	26,000 (5 1/2")	20,855 (5 1/2")	49,067 (7")
Tubing	5,800 (2")	7,381 (2")	20,075 (2" EUE & 2" Hydrill)
TOTAL	$286,362	$227,076	$344,659

Cost of Devonian Single	$286,362	Cost of Devonian & Pennsylvanian Dual	$344,659
Cost of Pennsylvanian Single	221,076	Cost of Devonian Single	$286,362
Total Cost of Two Wells	$507,438	Cost of Dual Completion	$ 58,297
Cost of Dual Completion	344,659		
Difference	$162,779		

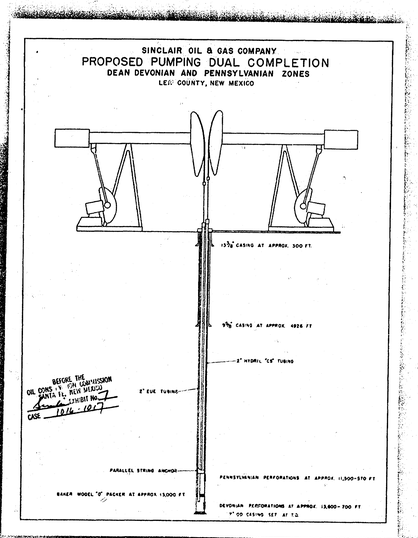
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 5
CASE 1016 - 1017

SINCLAIR OIL & GAS COMPANY
PROPOSED FLOWING DUAL COMPLETION
DEAN DEVONIAN AND PENNSYLVANIAN ZONES
LEA COUNTY, NEW MEXICO

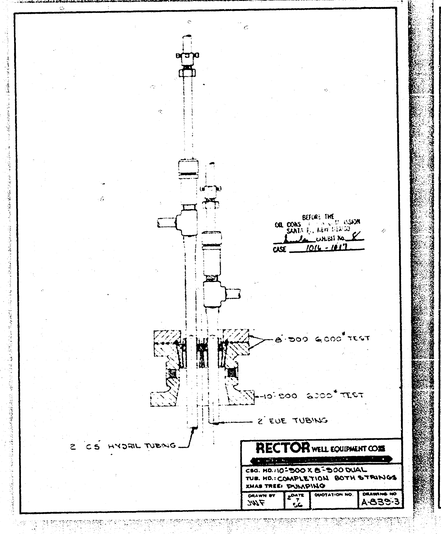


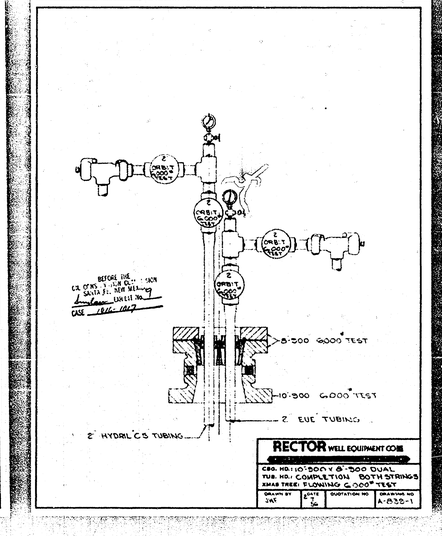
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 6
CASE 1016 - 1017

SINCLAIR OIL & GAS COMPANY
PROPOSED PUMPING DUAL COMPLETION
DEAN DEVONIAN AND PENNSYLVANIAN ZONES
LEA COUNTY, NEW MEXICO



BEFORE THE
OIL CONS. V. TION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 7
CASE 1016 - 1017



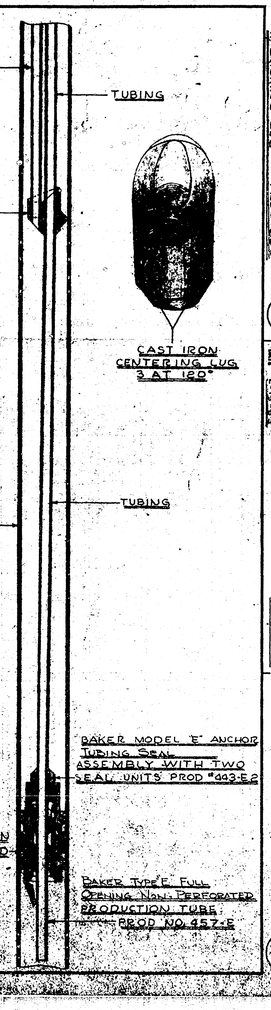


144

BAKER OIL TOOLS, INC.
LOS ANGELES HOUSTON
NEW YORK
U. S. A.

ILLUSTRATIVE DRAWINGS
OF SPECIAL
TOOLS AND METHODS

ENG. REPORT NO. 542



MAKE PARALLEL TUBING INSTALLATION USING PARALLEL STRING ANCHOR W/ LATCHING SUB PROD. 639

PAC. 132 5469

DRAWN H.W. Tyler

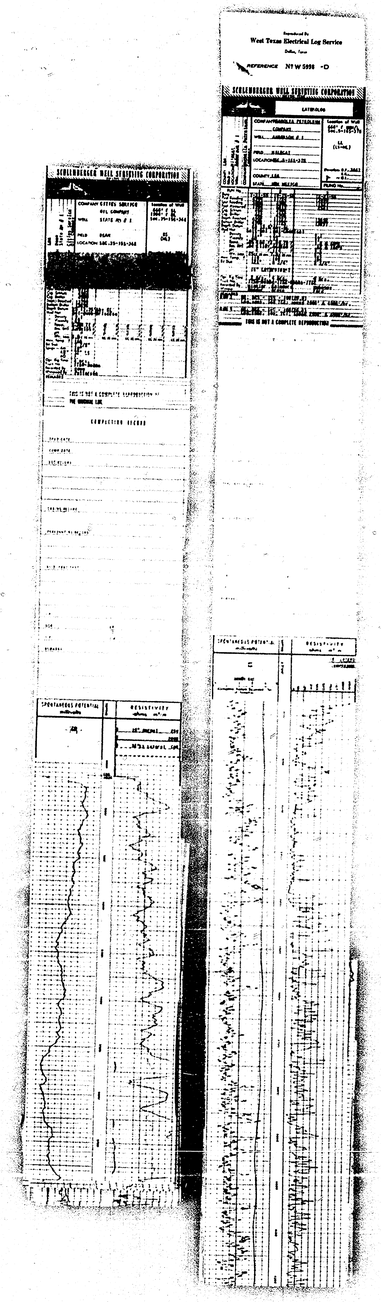
DATE 5-15-56

APPROVED

REVISION DATES: 5-16-56 JPC, 5-28-56 JPC

BAKER 132 5469

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 11
CASE 1016-10-17



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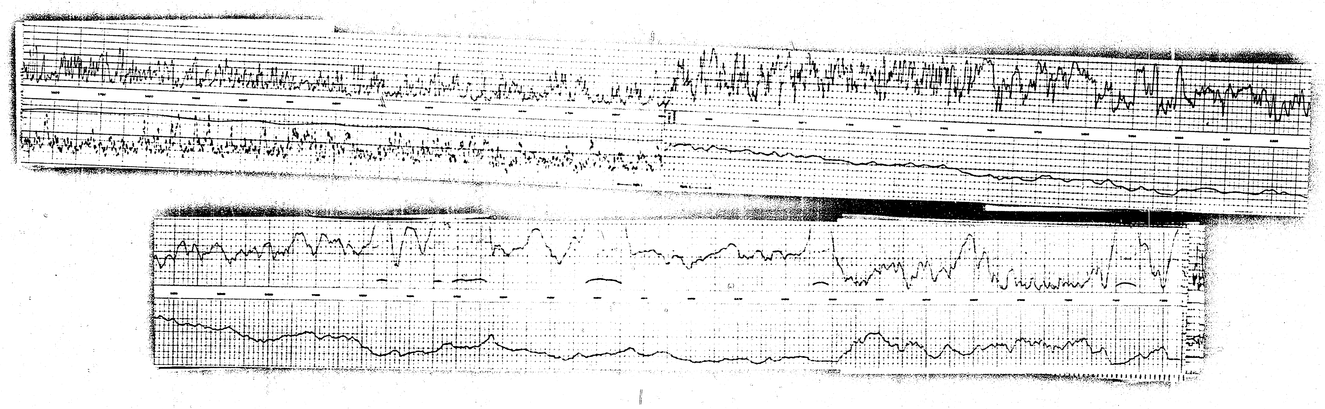

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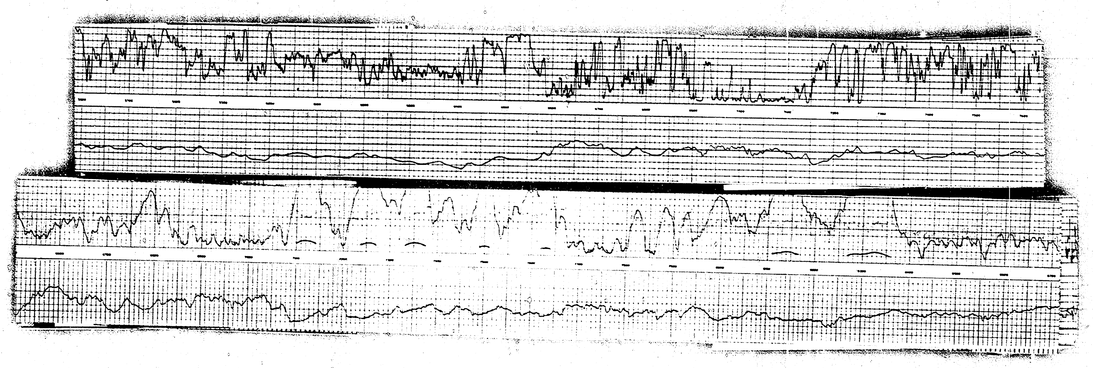

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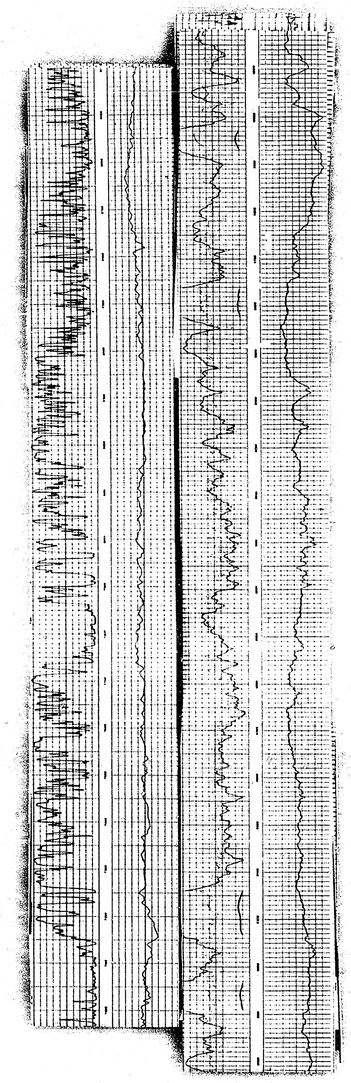
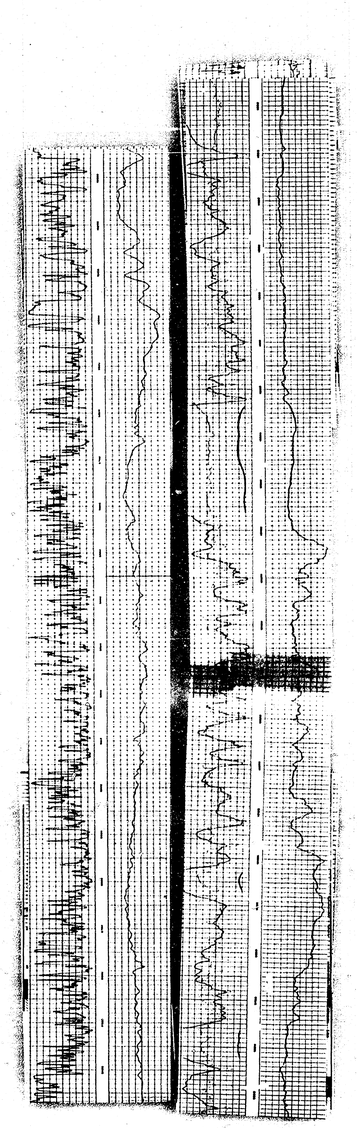
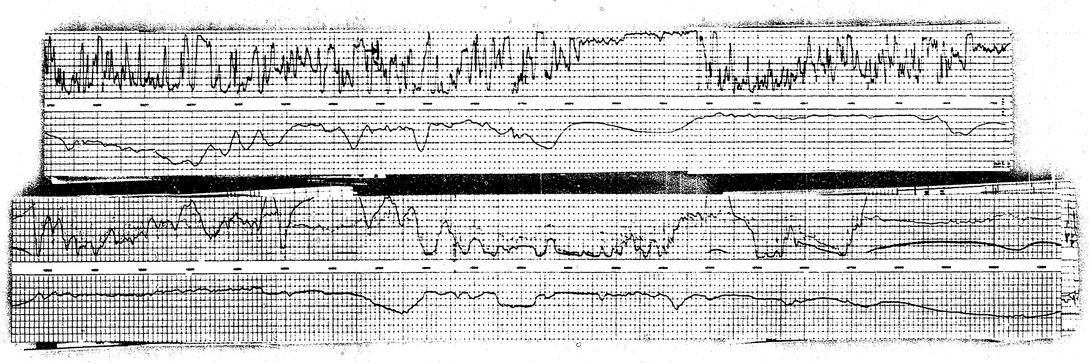
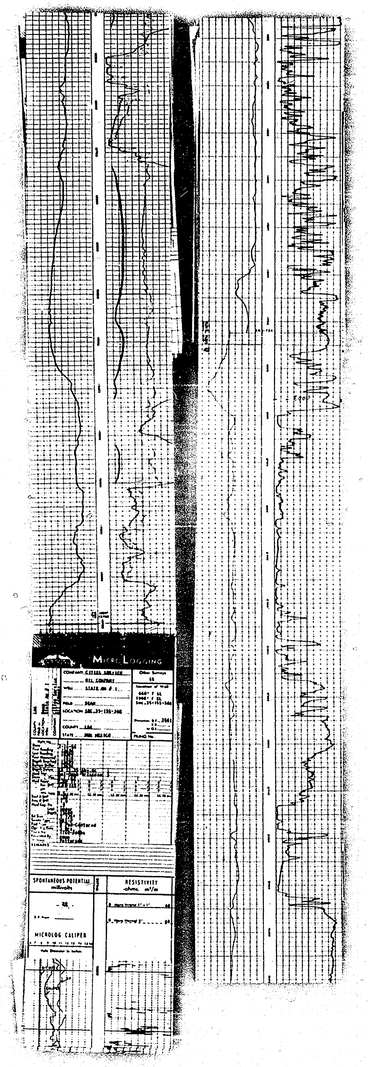
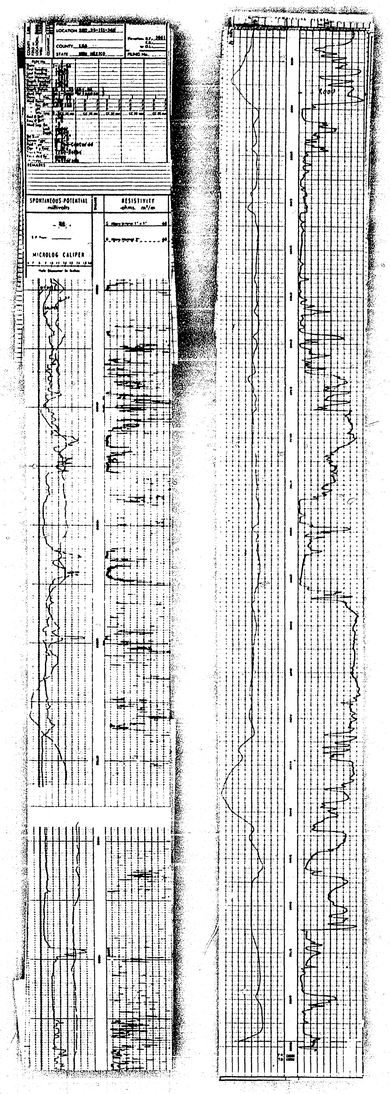




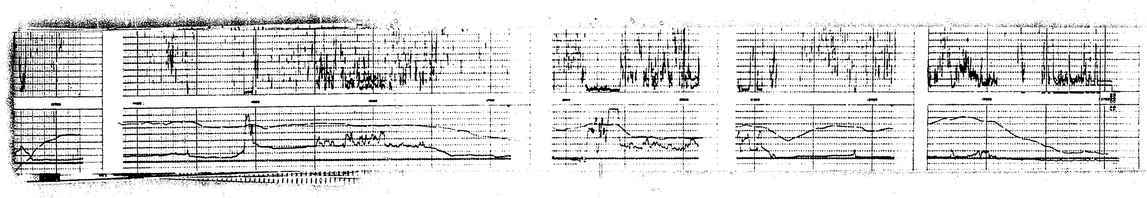



MICRO LOGGING
SPONTANEOUS POTENTIAL millivolts
RESISTIVITY ohms m²/m
MICROLOG CALIPER

151


SPONTANEOUS POTENTIAL
millivolts
RESISTIVITY
ohm. m²/m
MICROLOG CALIPER

152



Reproduced By
West Texas Electrical Log Service
Dallas, Texas

REFERENCE Nº W 5991 -C

SCHLUMBERGER WELL SURVEYING CORPORATION

Electrical Log

COMPANY KIMBELL OIL AND GAS COMPANY
WELL N.M., STATE A.J. # 1
FIELD WILDCAT
LOCATION SEC.28-19S-34E
COUNTY LEA
STATE NEW MEXICO

Elevation: K.B. 3870
D.F.
G.L.

THIS IS NOT A COMPLETE REPRODUCTION OF THE ORIGINAL LOG.

COMPLETION RECORD

SPONTANEOUS POTENTIAL millivolts | RESISTIVITY ohms m²/m

MICROLOG CALIPER

Reproduced By
West Texas Electrical Log Service
Dallas, Texas

REFERENCE Nº W 5991 -D

SCHLUMBERGER WELL SURVEYING CORPORATION

MicroLogging

COMPANY KIMBELL OIL AND GAS COMPANY
WELL N.M., STATE A.J. # 1
FIELD WILDCAT
LOCATION SEC.28-19S-34E
COUNTY LEA
STATE NEW MEXICO

Other Services: GR

Elevation: K.B. 3870
D.F.
G.L.

THIS IS NOT A COMPLETE REPRODUCTION OF THE ORIGINAL LOG.

COMPLETION RECORD

SPONTANEOUS POTENTIAL millivolts | RESISTIVITY ohms m²/m

MICROLOG CALIPER

Reproduced By
West Texas Electrical Log Service
Dallas, Texas

REFERENCE Nº A 6819 -B

Halliburton
OIL WELL CEMENTING CO.

RADIOACTIVITY LOG
NATURAL GAMMA RADIATION — INDUCED GAMMA RADIATION

COMPANY SINCLAIR PETROLEUM
WELL ANDERSON # 1
FIELD WILDCAT
COUNTY LEA
SEC. 36 TWP. 15 S RGE. 36 E
STATE NEW MEXICO

Elevation: K.B. 3852
D.F. 3851
G.L. 3841

CASING RECORD

RUN NO	SIZE	WT.	I.D.	INTERVAL	CEMENT	TOP
1	13 3/8			0-360	350	SURF
1	8 5/8			0-3000	1000	SURF
1	5 1/2			0-3854	300	2800

REMARKS: 2500 LOG BASE, MICRO GAMMA RAY EQUIPMENT.
FIRST SURVEY: 2500' & 4000' (M.)
SECOND SURVEY: 2500' & 4000' (M.)
FINAL SURVEY: 2500' & 4000' (M.)
ALL SURVEYS RUN WITH 100 PSI ON CASING.

THIS IS NOT A COMPLETE REPRODUCTION OF THE ORIGINAL LOG.

COMPLETION RECORD

GAMMA RAY — COUNTS PER SECOND | NEUTRON — COUNTS PER

Reproduced By
West Texas Electrical Log Service
Dallas, Texas

REFERENCE Nº W 6001 -C

Halliburton
OIL WELL CEMENTING CO.

CONTACT LOG

COMPANY SINCLAIR OIL AND GAS COMPANY
WELL ANDERSON # 1
FIELD WILDCAT
COUNTY LEA
SEC. 36 TWP. 15 S RGE. 36 E
STATE NEW MEXICO

Elevation: K.B. 3852
D.F. 3851
G.L. 3841

THIS IS NOT A COMPLETE REPRODUCTION OF THE ORIGINAL LOG.

COMPLETION RECORD

POTENTIAL MILLIVOLTS | RESISTIVITY OHMS M²/M

Reproduced By
West Texas Electrical Log Service
Dallas, Texas

REFERENCE Nº W 6001 -B

Halliburton
OIL WELL CEMENTING CO.

ELECTRIC WELL LOG

COMPANY SINCLAIR OIL AND GAS COMPANY
WELL ANDERSON # 1
FIELD WILDCAT
COUNTY LEA
SEC. 36 TWP. 15 S RGE. 36 E
STATE NEW MEXICO

Elevation: K.B. 3852
D.F. 3851
G.L. 3841

THIS IS NOT A COMPLETE REPRODUCTION OF THE ORIGINAL LOG.

COMPLETION RECORD

POTENTIAL MILLIVOLTS | RESISTIVITY OHMS M²/M

Reproduced By
West Texas Electrical Log Service
Dallas, Texas

REFERENCE Nº W 6001 -D

Halliburton
OIL WELL CEMENTING CO.

GUARD LOG

COMPANY SINCLAIR PETROLEUM
WELL ANDERSON # 1
FIELD WILDCAT
COUNTY LEA
SEC. 36 TWP. 15 S RGE. 36 E
STATE NEW MEXICO

Elevation: K.B. 3852
D.F. 3851
G.L. 3841

REMARKS: 2500 LOG BASE, MICRO GAMMA RAY EQUIPMENT.
FIRST SURVEY: 2500' & 4000' (M.)
SECOND SURVEY: 2500' & 4000' (M.)
FINAL SURVEY: 2500' & 4000' (M.)
ALL SURVEYS RUN WITH 100 PSI ON CASING.

THIS IS NOT A COMPLETE REPRODUCTION OF THE ORIGINAL LOG.

COMPLETION RECORD

POTENTIAL MILLIVOLTS | RESISTIVITY OHMS M²/M

Reproduced By
West Texas Electrical Log Service
Dallas, Texas

REFERENCE Nº W 5598 -A

SCHLUMBERGER WELL SURVEYING CORPORATION

MicroLogging

COMPANY SINCLAIR OIL AND GAS COMPANY
WELL A.J. BEAR # 1
FIELD WILDCAT
LOCATION SEC. 35-19S-36E
COUNTY LEA
STATE NEW MEXICO

Elevation: K.B. 3858
D.F.
G.L.

THIS IS NOT A COMPLETE REPRODUCTION OF THE ORIGINAL LOG.

SPONTANEOUS POTENTIAL millivolts | RESISTIVITY ohms m²/m

MICROLOG CALIPER

Reproduced By
West Texas Electrical Log Service
Dallas, Texas

REFERENCE Nº W A 6820 -B

Halliburton
OIL WELL CEMENTING CO.

GAMMA RAY-NEUTRON LOG

COMPANY SINCLAIR OIL AND GAS COMPANY
WELL STATE 735 # 1
FIELD WILDCAT
COUNTY LEA
STATE NEW MEXICO

Elevation: K.B. 3852
D.F. 3851
G.L. 3841

COMPLETION RECORD

Reproduced By
West Texas Electrical Log Service
Dallas, Texas

REFERENCE Nº W 5592 -C

SCHLUMBERGER WELL SURVEYING CORPORATION

MicroLogging

COMPANY SINCLAIR OIL AND GAS COMPANY
WELL ANDERSON # 1
FIELD WILDCAT
LOCATION SEC. 36-19S-36E
COUNTY LEA
STATE NEW MEXICO

Elevation: K.B. 3852
D.F.
G.L.

THIS IS NOT A COMPLETE REPRODUCTION OF THE ORIGINAL LOG.

COMPLETION RECORD

SPONTANEOUS POTENTIAL millivolts | RESISTIVITY ohms m²/m

MICROLOG CALIPER

Reproduced By
West Texas Electrical Log Service
Dallas, Texas

REFERENCE Nº W 5595 -D

SCHLUMBERGER WELL SURVEYING CORPORATION

Electrical Log

COMPANY SINCLAIR OIL AND GAS COMPANY
WELL STATE 735 # 1
FIELD WILDCAT
LOCATION SEC.28-19S-34E
COUNTY LEA
STATE NEW MEXICO

Elevation: K.B. 3852
D.F.
G.L.

THIS IS NOT A COMPLETE REPRODUCTION OF THE ORIGINAL LOG.

COMPLETION RECORD

SPONTANEOUS POTENTIAL millivolts | RESISTIVITY ohms m²/m

MICROLOG CALIPER

Reproduced By
West Texas Electrical Log Service
Dallas, Texas

REFERENCE Nº W 5961 -C

SCHLUMBERGER WELL SURVEYING CORPORATION

MicroLogging

COMPANY SINCLAIR OIL AND GAS COMPANY
WELL STATE 735 # 1
FIELD WILDCAT
LOCATION SEC.28-19S-34E
COUNTY LEA
STATE NEW MEXICO

Elevation: K.B. 3852
D.F.
G.L.

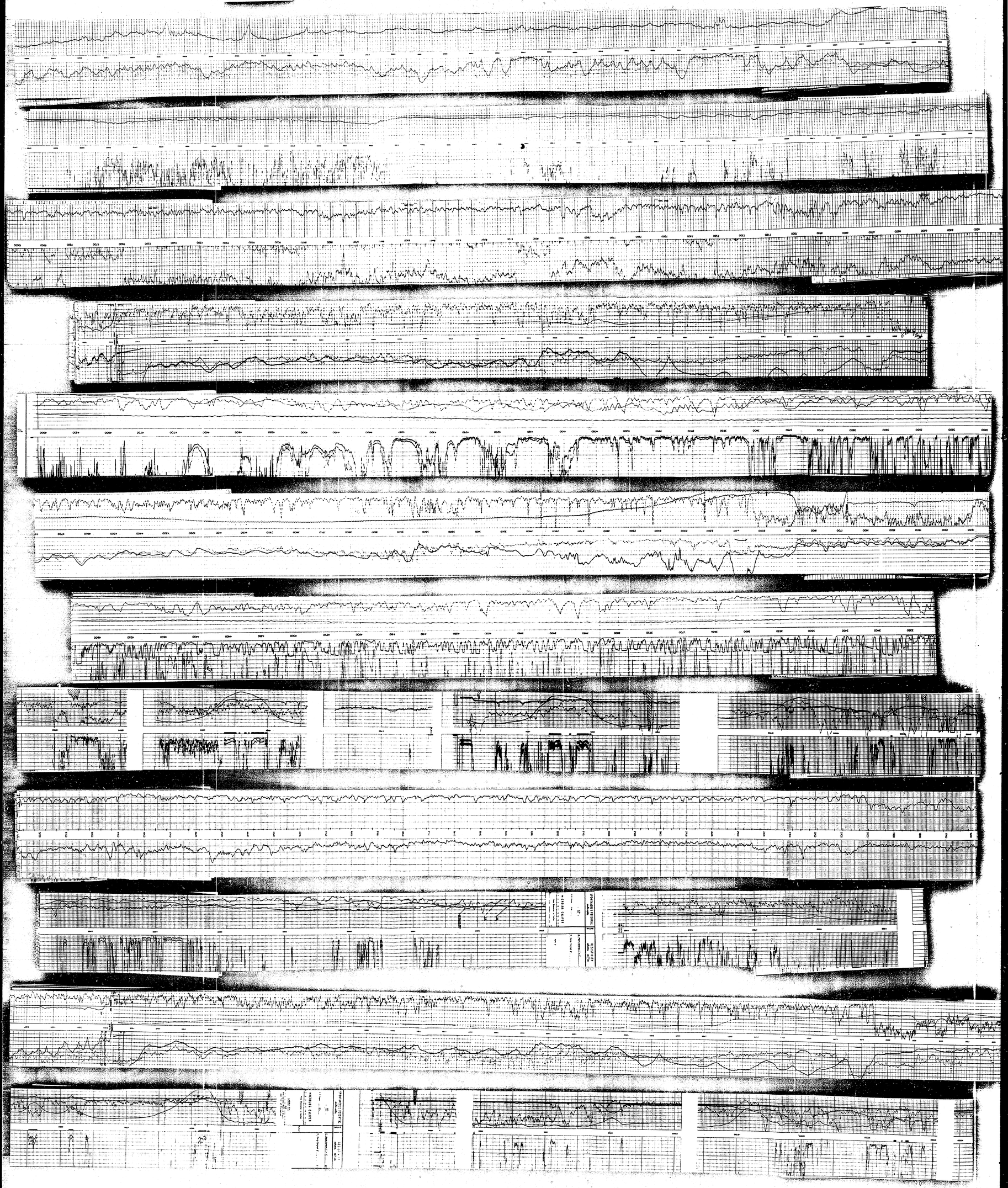
THIS IS NOT A COMPLETE REPRODUCTION OF THE ORIGINAL LOG.

COMPLETION RECORD

SPONTANEOUS POTENTIAL millivolts | RESISTIVITY ohms m²/m

MICROLOG CALIPER

154



Reproduced by
West Texas Electrical Log Service
Odessa, Texas

REFERENCE NM W 5938 -A

SCHLUMBERGER WELL SURVEYING CORPORATION

MicroLaterolog

COMPANY SINCLAIR OIL AND GAS CO.
WELL STATE TAX # 1
FIELD WILDCAT
LOCATION SEC. 28-15S-34E
COUNTY LEA
STATE NEW MEXICO

Other Services
CS-GR
Elevation: K.B. 4023
D.F. 4022
G.L. 4008

Permanent Datum: GROUND LEVEL
Log Measured From: KELLY BUSHING 15 Ft. Above Perm. Datum
Drilling Measured From: KELLY BUSHING

Run No.	One	Two	Three
Date	12-4-61		
Depth-Driller	11,000		
Depth-Logger	11,000		
Bottom Logged Interval	11,000		
Top Logged Interval	10,000		
Type Fluid in Hole	SALT GEL		
Salinity, P.P.M. Cl	150,000		
Density	10.0		
Level	FULL		
Max. Rec. Temp. Deg. F.	200		
Operating Rig Time	12 HR		
Recorded By	R. LEWIS		
Witnessed By	MR. MEEKS		

RUN NO. ONE — TYPE LOG MICROLATEROLOG
DEPTH-DRILLER 11,000 — DEPTH-LOGGER 11,000
BTM. LOG INTERVAL 11,000 — TOP LOG INTERVAL 10,000
CASING-DRILLER 13 3/8" @ 4,000 — CASING-LOGGER 4,000
BIT SIZE 12 1/4" — TYPE FLUID IN HOLE SALT GEL
DENS. 10.0 — VISC. 40 — PH 10.5 — FLUID LOSS 9 CC/30"
SOURCE OF SAMPLE FLOWLINE — RM @ MEAS. TEMP. .25 @ 200°F — RMF @ MEAS. TEMP. .20 @ 200°F — RMC @ MEAS. TEMP. .30 @ 200°F
RM @ BHT .11 @ 200°F — TIME SINCE CIRC. 12 HRS. — MAX. REC. TEMP. 200°F
THIS IS NOT A COMPLETE REPRODUCTION OF

POTENTIAL MILLIVOLTS — RESISTIVITY OHMS M²/M

156

Reproduced by
West Texas Electrical Log Service
Odessa, Texas

REFERENCE NM W 5961 -C

SCHLUMBERGER WELL SURVEYING CORPORATION

MicroLogging

COMPANY SINCLAIR OIL AND GAS CO.
WELL STATE TAX # 1
FIELD WILDCAT
LOCATION SEC. 28-15S-34E
COUNTY LEA
STATE NEW MEXICO

Other Services
CS-GR
Elevation: K.B. 4023
D.F. 4022
G.L. 4008

Permanent Datum: GROUND LEVEL
Log Measured From: KELLY BUSHING 15 Ft. Above Perm. Datum
Drilling Measured From: KELLY BUSHING

Run No.	One	Two	Three
Date	12-4-61		
Depth-Driller	11,000		
Depth-Logger	11,000		
Bottom Logged Interval	11,000		
Top Logged Interval	10,000		
Type Fluid in Hole	SALT GEL		
Salinity, P.P.M. Cl	150,000		
Density	10.0		
Level	FULL		
Max. Rec. Temp. Deg. F.	200		
Operating Rig Time	12 HR		
Recorded By	R. LEWIS		
Witnessed By	MR. MEEKS		

RUN NO. ONE — TYPE LOG MICROLOGGING
DEPTH-DRILLER 11,000 — DEPTH-LOGGER 11,000
BTM. LOG INTERVAL 11,000 — TOP LOG INTERVAL 10,000
CASING-DRILLER 13 3/8" @ 4,000 — CASING-LOGGER 4,000
BIT SIZE 12 1/4" — TYPE FLUID IN HOLE SALT GEL
DENS. 10.0 — VISC. 40 — PH 10.5 — FLUID LOSS 9 CC/30"
SOURCE OF SAMPLE FLOWLINE — RM @ MEAS. TEMP. .25 @ 200°F — RMF @ MEAS. TEMP. .20 @ 200°F — RMC @ MEAS. TEMP. .30 @ 200°F
RM @ BHT .11 @ 200°F — TIME SINCE CIRC. 12 HRS. — MAX. REC. TEMP. 200°F
THIS IS NOT A COMPLETE REPRODUCTION OF

SINCLAIR OIL AND GAS CO.
STATE TAX # 1
LEA COUNTY, NEW MEXICO

Reproduced By
West Texas Electrical Log Service
Reference NTW 5991 -C

SCHLUMBERGER WELL SURVEYING CORPORATION

COMPANY HUMBLE OIL & REFINING COMPANY
WELL R.J.L. STATE A/C # 1
FIELD WILDCAT
LOCATION SEC. 36-19S-34E
COUNTY LEA
STATE NEW MEXICO

Elevation: K.B. 3870
D.F.
G.L.

Permanent Datum: GROUND LEVEL
Log Measured From: KELLY BUSHING 9.75 Ft. Above Perm. Datum
Drilling Measured From: K.B.

Date: 1-10-52
Run No.: ONE
Depth—Driller: 13312
Depth—Logger: 13312
Bottom Logged Interval: 13312
Top Logged Interval: 12000
Type Fluid in Hole: SALT WATER
Salinity, P.P.M. Cl: 180,000
Density: 10.0
Level: FULL
Max. Rec. Temp. Deg. F.: 240
Operating Rig Time: 12 HRS.
Recorded By: J. HOLLEY
Witnessed By: MR. CHAMBERS

CASING RECORD

RUN NO.	SIZE	WT.	I.D.	INTERVAL	BIT SIZE
1	13 3/8"			SURF. - 1015	17 1/2"
1	9 5/8"			SURF. - 10,000	12 1/4"
1	7"			SURF. - 13,312	8 3/4"

REMARKS: LOG RUN ABOVE WELL'S PERMANENT DATUM

SPONTANEOUS POTENTIAL millivolts
RESISTIVITY ohms - M²/m
GAMMA RAY - NEUTRON
CORING CALIPER

Reproduced By
West Texas Electrical Log Service
Reference NM A 6615 -B

Halliburton
OIL WELL CEMENTING CO.

RADIOACTIVITY LOG
NATURAL GAMMA RADIATION — INDUCED GAMMA RADIATION

COMPANY HUMBLE OIL & REFINING CO.
WELL R.J.L. STATE A/C #1
FIELD WILDCAT
COUNTY LEA STATE NEW MEXICO
LOCATION: 1650' FSL & 990' FEL SEC. 36 TWP. 19 S. RGE. 34 E.
Elev.: K.B. 3870
Elev.: D.F.
Elev.: G.L.

SURVEY

Log Measured From: KELLY BUSHING 9.75 Ft. Above Perm. Datum
Drilling Measured From: K.B.

Run No. ONE
Date 1-10-52
Depth—Driller 13312
Depth—Logger 13312
Top Logged Interval 12000
Bottom Logged Interval 13312
Type Fluid in Hole SALT WATER
Salinity, P.P.M. Cl 180,000
Density 10.0
Level FULL
Max. Rec. Temp. Deg. F. 240
Operating Rig Time 12 HRS.
Recorded By J. HOLLEY
Witnessed By MR. CHAMBERS

CASING RECORD

RUN NO.	SIZE	WT.	I.D.	INTERVAL	BIT SIZE
1	13 3/8"			SURF. - 1015	17 1/2"
1	9 5/8"			SURF. - 10,000	12 1/4"
1	7"			SURF. - 13,312	8 3/4"

REMARKS: LOG RUN ABOVE WELL'S PERMANENT DATUM

HUMBLE OIL & REFINING CO. — R.J.L. STATE A/C #1 — WILDCAT — LEA COUNTY, NEW MEXICO

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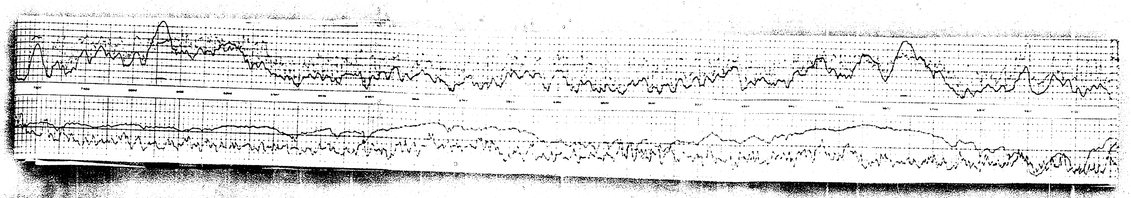
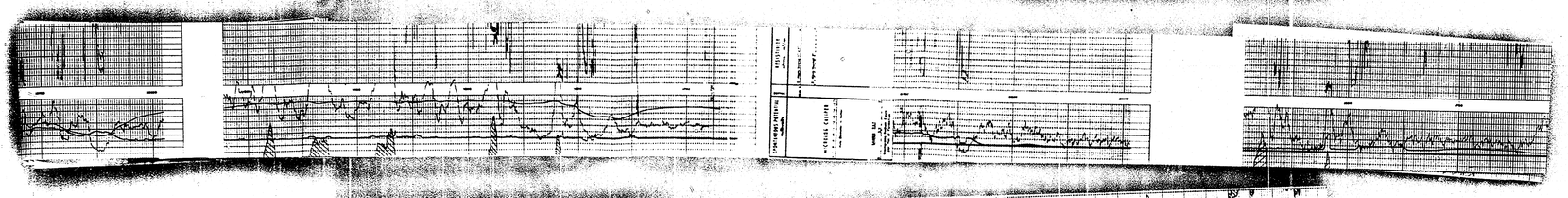
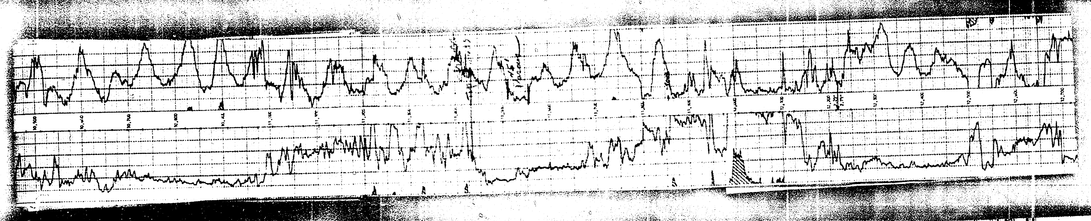
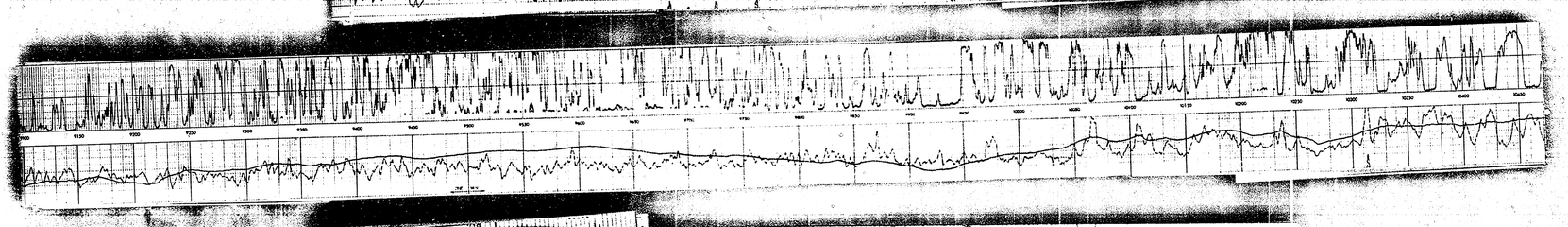
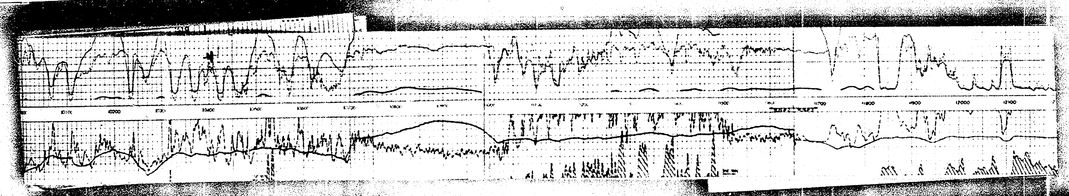
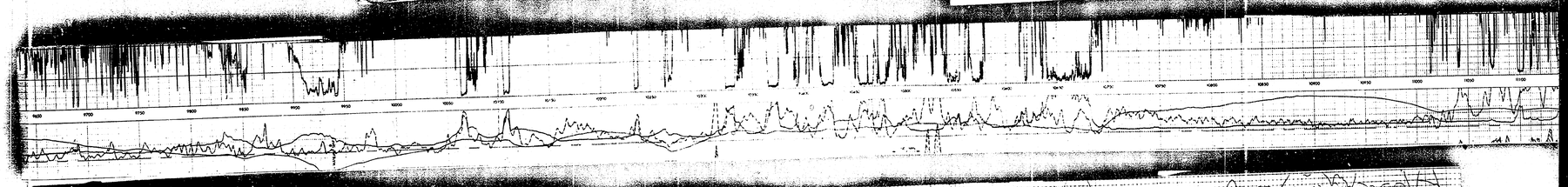


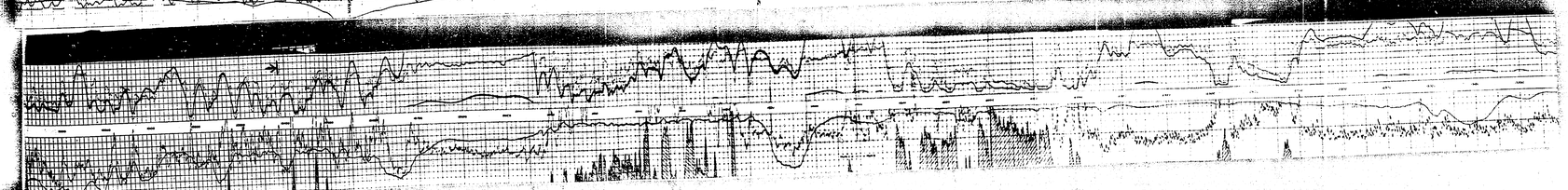


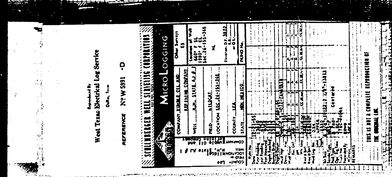


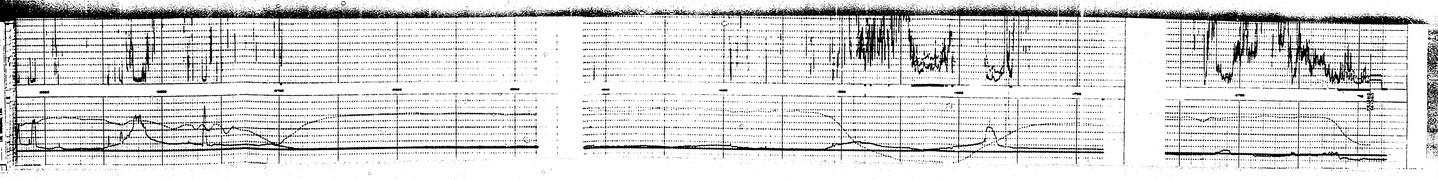






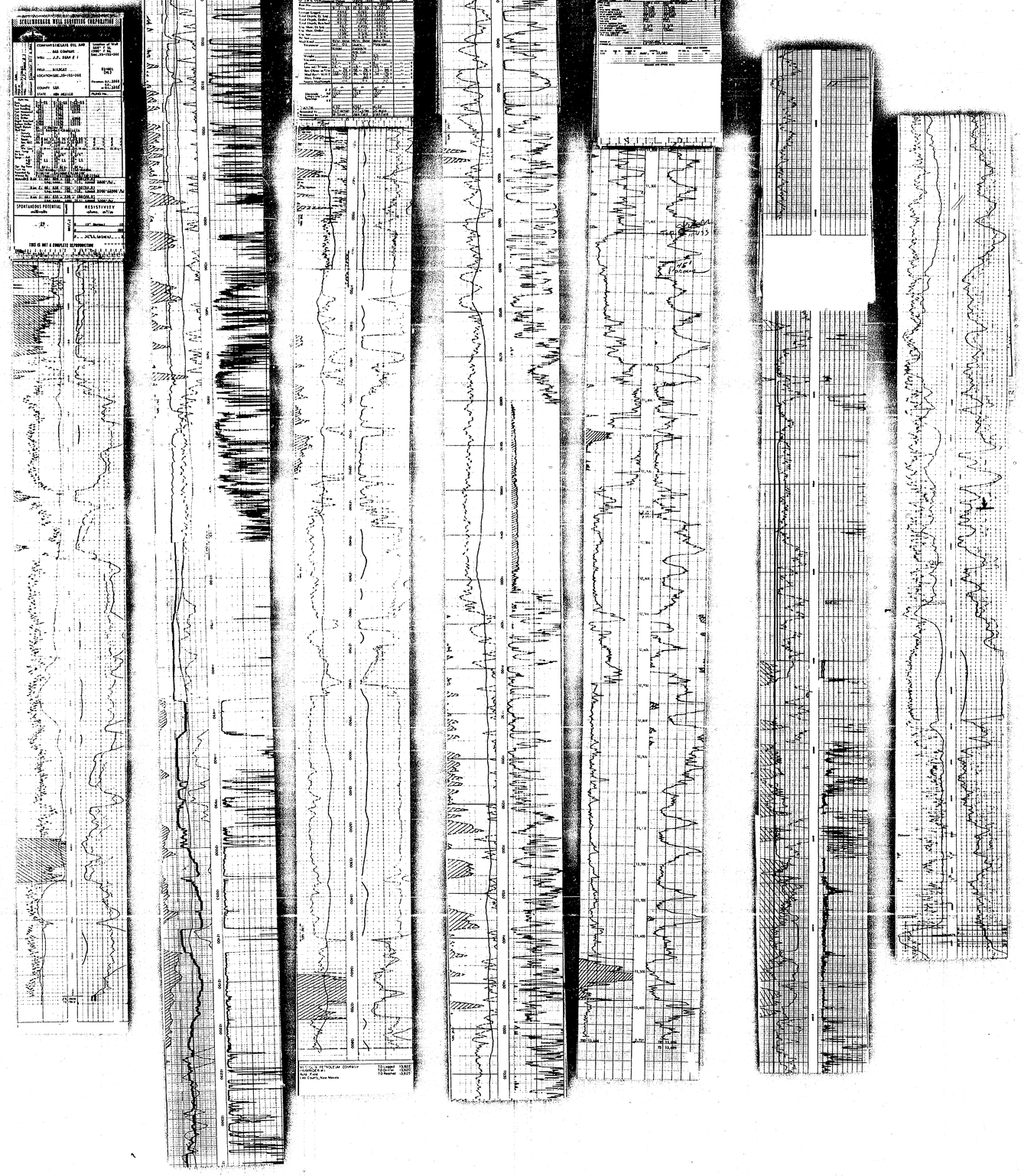


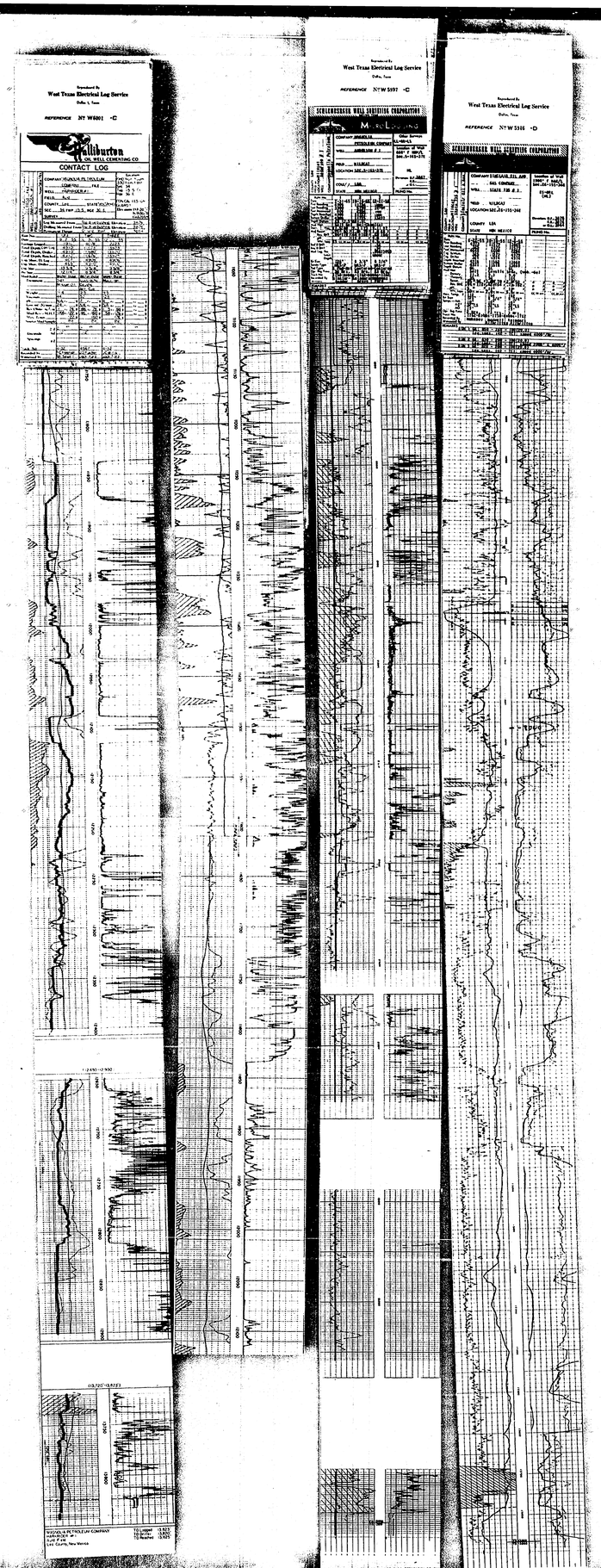




158

159


SCHLUMBERGER WELL SURVEYING CORPORATION
COMPANY SINCLAIR OIL AND GAS COMPANY
WELL J.F. SHAH # 1
FIELD WILDCAT
LOCATION SEC. 20-15S-34E
COUNTY LEA
STATE NEW MEXICO
Permanent Datum: GROUND LEVEL
Log Measured From: KELLY BUSHING
Drilling Measured From: KELLY BUSHING
SPONTANEOUS POTENTIAL
RESISTIVITY
THIS IS NOT A COMPLETE REPRODUCTION
Reproduced By
West Texas Electrical Log Service
Dallas 1, Texas
REFERENCE NM WF0001 -B
Halliburton
WELL CEMENTING CO.
ELECTRIC WELL LOG
COMPANY SINCLAIR PETROLEUM
WELL J.F. SHAH #1
FIELD WILDCAT
COUNTY LEA STATE New Mexico
SEC. 20 TWP. 15 S RGE. 34 E
SURVEY
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING
SINCLAIR PETROLEUM COMPANY
J.F. SHAH #1
Wildcat
Lea County, New Mexico
Reproduced By
West Texas Electrical Log Service
Dallas 1, Texas
REFERENCE NM A 6600 -B
SIMULTANEOUS RADIATION LOG
SINCLAIR OIL AND GAS COMPANY
STATE J.F. SHAH
WELL
FIELD WILDCAT
LEA COUNTY
NEW MEXICO
Permanent Datum GROUND LEVEL
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING
RUN NO. ONE
DATE 7-15-57
DEPTH DRILLER 13,000
DEPTH LOGGER 13,000
BTM. LOG INTERVAL 13,000
TOP LOG INTERVAL 11,500
CASING DRILLER 9 5/8 @ 4,500
CASING LOGGER 4,500
BIT SIZE 8 3/4
TYPE FLUID IN HOLE SALT GEL
DENSITY 10.0
VISCOSITY 40
PH 10.5
FLUID LOSS 6.0
SOURCE OF SAMPLE PIT
RM @ MEAS. TEMP. .45 @ 70°F
RMF @ MEAS. TEMP. .35 @ 70°F
RMC @ MEAS. TEMP. .60 @ 70°F
SOURCE OF RMF & RMC MEASURED
RM @ BHT .25 @ 180°F
TIME SINCE CIRC. 24 HRS.
MAX. REC. TEMP. 180°F
EQUIP. NO. & LOCATION 1502 HOBBS
RECORDED BY R. HOLLAND
WITNESSED BY MR. MILLER
RUN NO. ONE
BOREHOLE RECORD
BIT FROM 4,500 TO 13,000
CASING RECORD
SIZE 9 5/8 WGT. 36 GRADE J-55 FROM SURF. TO 4,500
TYPE JOINT
REMARKS
RUN NO. ONE
DATE 7-15-57
DEPTH DRILLER 13,000
DEPTH LOGGER 13,000
BTM. LOG INTERVAL 13,000
TOP LOG INTERVAL 11,500
CASING DRILLER 9 5/8 @ 4,500
CASING LOGGER 4,500
BIT SIZE 8 3/4
TYPE FLUID IN HOLE SALT GEL
DENSITY 10.0
VISCOSITY 40
PH 10.5
FLUID LOSS 6.0
SOURCE OF SAMPLE PIT
RM @ MEAS. TEMP. .45 @ 70°F
RMF @ MEAS. TEMP. .35 @ 70°F
RMC @ MEAS. TEMP. .60 @ 70°F
SOURCE OF RMF & RMC MEASURED
RM @ BHT .25 @ 180°F
TIME SINCE CIRC. 24 HRS.
MAX. REC. TEMP. 180°F
EQUIP. NO. & LOCATION 1502 HOBBS
RECORDED BY R. HOLLAND
WITNESSED BY MR. MILLER
RUN NO. ONE
BOREHOLE RECORD
BIT FROM 4,500 TO 13,000
CASING RECORD
SIZE 9 5/8 WGT. 36 GRADE J-55 FROM SURF. TO 4,500
TYPE JOINT
REMARKS


Reproduced By
West Texas Electrical Log Service
Dallas, Texas
REFERENCE Nº W6001 -C
Halliburton
OIL WELL CEMENTING CO
CONTACT LOG
Reproduced By
West Texas Electrical Log Service
Dallas, Texas
REFERENCE Nº W 5597 -C
SCHLUMBERGER WELL SURVEYING CORPORATION
Reproduced By
West Texas Electrical Log Service
Dallas, Texas
REFERENCE Nº W 5516 -D
SCHLUMBERGER WELL SURVEYING CORPORATION

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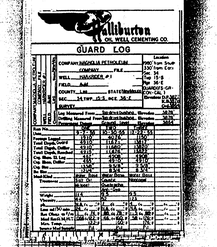
Odessa, Texas

REFERENCE NM W8001 -D


Halliburton
A DIV. WELL CEMENTING CO.

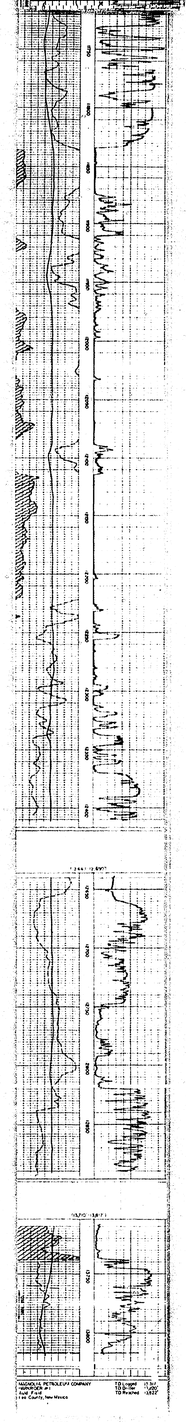
GUARD LOG

COMPANY MAGNOLIA PETROLEUM COMPANY
WELL HOUCKER #1
FIELD RAW
COUNTY LEA STATE New Mexico
SEC. 34 TWP. 17 S RGE. 36 E
SURVEY

Other Services: Sonic Gamma Ray Neutron

Permanent Datum: Ground Level — Elev. 3908
Log Measured From: Kelly Bushing — Elev. 3918
Drilling Measured From: Kelly Bushing — Elev. 3918

Run No.	One	Two	Three
Date	8-8-58	8-10-58	
Depth Driller	4310	11,410	
Depth Logger	4310	11,410	
Btm. Log Interval	4310	11,406	
Top Log Interval	400	4306	
Casing Driller	13 3/8 @ 400	9 5/8 @ 4306	
Casing Logger	400	4306	
Bit Size	17 1/2	8 3/4	
Type Fluid in Hole	Brine	Brine	
Density	10.0	10.0	
Viscosity	28	28	
pH	9.5	9.5	
Fluid Loss	8.4	8.4	
Source of Sample	Mud Pit	Mud Pit	
Rm @ Meas. Temp.	.61 @ 80°	.61 @ 80°	
Rmf @ Meas. Temp.	.50 @ 80°	.50 @ 80°	
Rmc @ Meas. Temp.	.75 @ 80°	.75 @ 80°	
Source of Rmf & Rmc	Calculated	Calculated	
Rm @ BHT	.61 @ 160°	Measured	
Time Since Circ.	8 hrs.	2 hrs.	
Max. Rec. Temp.	160°	160°	
Equip. Location	1-1	1-1	
Recorded By	Hall	Hall	
Witnessed By	Mr. Hall	Mr. Hall	



SCHLUMBERGER WELL SURVEYING CORPORATION
HOUSTON, TEXAS

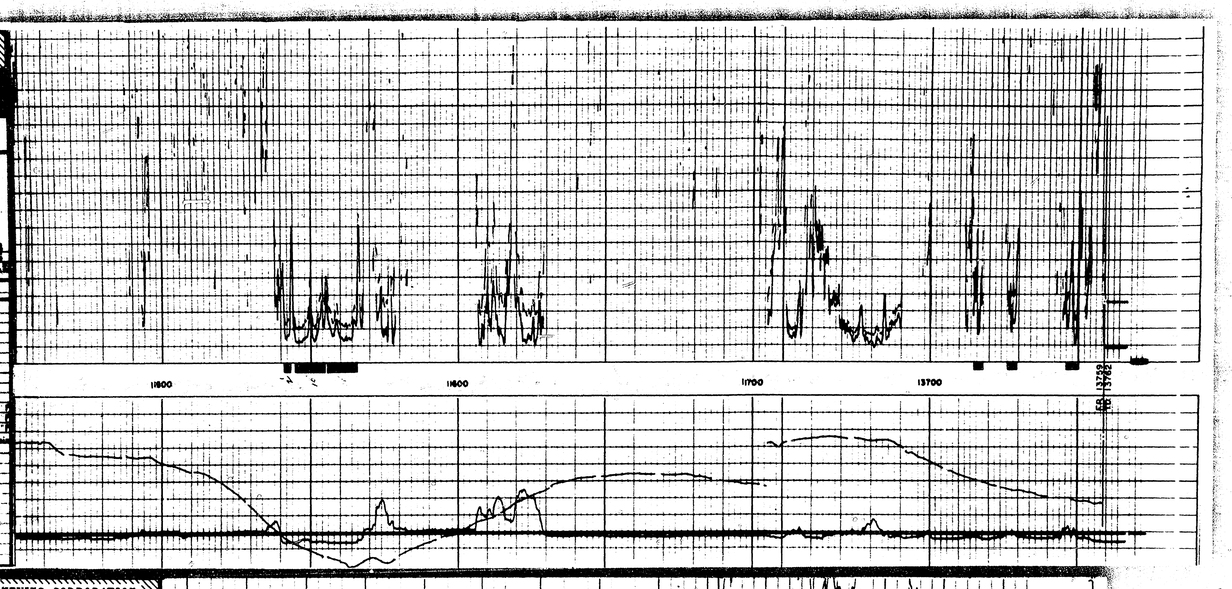
MICROLOGGING

COUNTY Lea
FIELD or LOCATION Dean
WELL Federal Dow # 1
COMPANY Atlantic Refining Company

COMPANY ATLANTIC REFINING COMPANY
WELL FEDERAL DOW # 1
FIELD DEAN
LOCATION SEC.5-16S-37E
COUNTY LEA
STATE NEW MEXICO

Other Surveys: ES
Location of Well: ~~330' f NL~~ ~~2310' f WL~~ Sec.5-16S-37E 1980 FWL 660 FNL
Elevation: D.F. 3864 K.B. 3864 or G.L. 3848.5
FILING No.

RUN No.	1				
Date	1-27-56				
First Reading	13759				
Last Reading	10000				
Feet Measured	3009				
Depth Reached	13762				
Bottom Driller	13760				
Depth Datum	KB 16.5' Abv. GL				
Mud Nat.	Chemical				
Dens. Visc.	9.1 170				
Mud Resist.	1.[illegible] @ 73 F	@ °F	@ °F	@ °F	@ °F
" Res. BHT	.7 @ 170 F	@ °F	@ °F	@ °F	@ °F
" pH	10.5 F	@ °F	@ °F	@ °F	@ °F
" Wtr. Loss	8 CC 30 min	CC 30 min	CC 30 min	CC 30 min	CC 30 min
Rmf @ BHT	.63				
Rmc @ BHT	.71				
Mud Log: Rm	.75				
Limit	Upper				
Depth	13651				
Bit Size	7 7/8"				
Sonde Type	HRS-P				
Pad Type	H Pad-Centered				
Opr. Rig Time	4½ Hrs.				
Truck No.	1760-Hobbs				
Recorded By	Maxwell				
Witness	Marvin				



SCHLUMBERGER WELL SURVEYING CORPORATION
HOUSTON, TEXAS

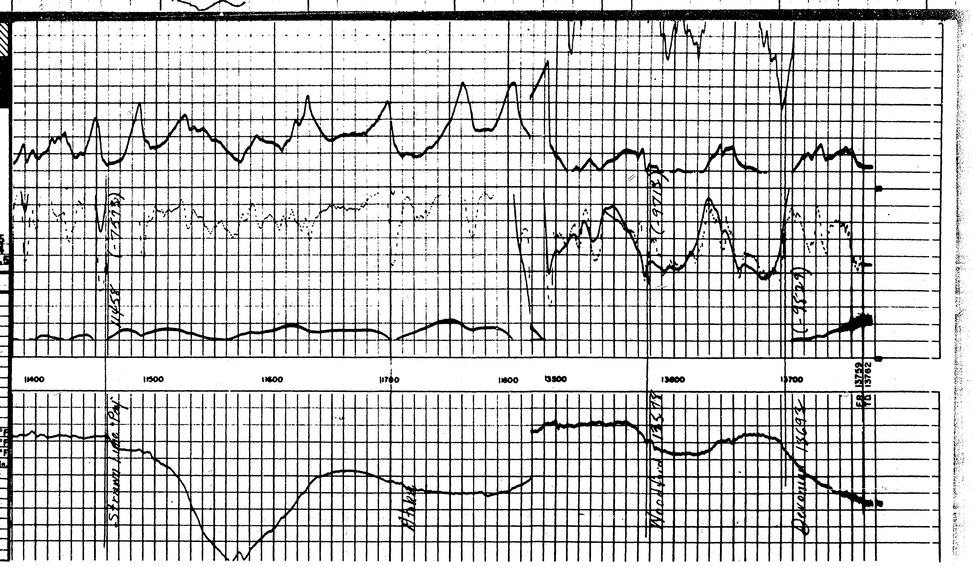
Electrical Log

COUNTY Lea
FIELD or LOCATION Dean
WELL Federal Dow # 1
COMPANY Atlantic Refining Company

COMPANY ATLANTIC REFINING COMPANY
WELL FEDERAL DOW # 1
FIELD DEAN
LOCATION SEC.5-16S-37E
COUNTY LEA
STATE NEW MEXICO

Location of Well: ~~330' f NL~~ ~~2310' f WL~~ Sec.5-16S-37E 660' FNL 1980 FWL (ML)
Elevation: D.F. 3865 K.B. 3864 or G.L. 3848.5
FILING No.

RUN No.	1				
Date	1-27-56				
First Reading	13759				
Last Reading	4956				
Feet Measured	8803				
Csg. Schlum.	4956				
Csg. Driller	4956				
Depth Reached	13762				
Bottom Driller	13760				
Depth Datum	KB 16.5' Abv. GL				
Mud Nat.	Chemical				
" Density	9.1				
" Viscosity	170				
" Resist.	1.[illegible] @ 73 °F	@ °F	@ °F	@ °F	@ °F
" Res. BHT	.7 @ 170 F	@ °F	@ °F	@ °F	@ °F
" pH	10.5 @ °F	@ °F	@ °F	@ °F	@ °F
" Wtr. Loss	8 CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.
Max. Temp. °F	170				
Bit Size	7 7/8"				
Spcgs.—AM	10"				
AO'	32" LS				
AO	15'				
Opr. Rig Time	3 Hrs.				
Truck No.	1760-Hobbs				
Recorded By	Maxwell				
Witness By	Marvin				



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SCHLUMBERGER WELL SURVEYING CORPORATION

MICROLOGGING®

COMPANY SINCLAIR OIL AND GAS COMPANY
WELL STATE 758 # 1
FIELD WILDCAT
LOCATION SEC.36-15S-36E
COUNTY LEA
STATE NEW MEXICO

Other Surveys: ES-GRL
Location of Well: 660' f N&W/L Sec.36-15S-36E
ML
Elevation: D.F. — K.B. 3862 — G.L. 3849
FILING No.

RUN No.	1	2	3
Date	12-24-55	1-3-56	
First Reading	11810	13006	
Last Reading	9900	11810	
Feet Measured	1910	1196	
Depth Reached	11813	13005	
Bottom Driller	11800	13005	
Depth Datum	GL 13'	Below KB	
Mud Not.	Chem.	Salt-Chem	
Dens. | Visc.	9.2 | 54	9.5 | 52	
Mud Resist.	0.88 @ 75 °F	0.66 @ 66 °F	@ °F @ °F @ °F
" Res. Bht	0.42 @ 160 °F	0.38 @ 176 °F	@ °F @ °F @ °F
" pH	11.5	10.5	
" Wtr. Loss	CC 30 min.	CC 30 min.	CC 30 min. CC 30 min.
Rmf @ Bht	0.38	0.64	
Rmc @ Bht	0.45	0.52	
Mud Log: Rm	0.72	0.8	
Limit			
Depth	10260	12200	
Bit Size	8 3/4"	8 3/4"	
Sonde Type	Mn-F	Mn-F	
Pad Type	4 Pad-Not Centered-H	Pad-Not Centered	
Opr. Rig Time	23 Hrs.	23 Hrs.	
Truck No.	1759-Hobbs-1759		
Recorded By	Roth	Roth	
Witness	Allbritton-Allbritton		

Field Print

- 100120 OD
- 101 Speed 2000' & 5000'/hr.
- 100120 OD
- 101 Speed 3000' & 5000'/hr.

RESISTIVITY -ohms. m²/m: 0 Micro Inverse 1" x 1" 10 20; 0 Micro Normal 2" 10 20

DEPTHS

SPONTANEOUS POTENTIAL millivolts: -80 | 0 | +20

REMARKS
RUN 1 GR: 830 - 180 - 100120 OD
Log scale. 160 To: 10260 Speed 2000'/hr.
RUN 2 GR: 830 - 180 - 100120 OD
Log scale. 160 To: 12200 Speed 3000' & 5000'/hr.

MICROLOG CALIPER
Hole Diameter in Inches: 6 7 8 9 10 11 12 13 14 15 16
GAMMA RAY
Micrograms Radium Eqvn./Ton of Formation: 0 50 100

9900 10000 10100 10200 10300 10400 10500

SCHLUMBERGER WELL SURVEYING CORPORATION

Electrical Log

COMPANY SINCLAIR OIL & GAS COMPANY
WELL STATE 758 # 1
FIELD WILDCAT
LOCATION SEC.36-15S-36E
COUNTY LEA
STATE NEW MEXICO

Location of Well: 660' f N&W/L Sec.36-15S-36E
ES-GRL (ML)
Elevation: D.F. — K.B. 3862 — G.L. 3849
FILING No.

RUN No.	1	2	3
Date	10-23-55	12-24-55	1-3-56
First Reading	4979	11810	13006
Last Reading	302	4981	11810
Feet Measured	4676	6821	1196
Csg. Schlum.	303	4983	4983
Csg. Driller	305	4985	4985
Depth Reached	4982	11813	13005
Bottom Driller	4985	11800	13005
Depth Datum	GL 13'	Below KB	
Mud Not.	Salt-Starch-Chem.		
" Density	11.3	9.2	9.5
" Viscosity	50	54	52
" Resist.	.06 @ 80 °F	0.88 @ 75 °F	0.66 @ 66 °F @ °F @ °F
" Res. Bht	.03 @ 110 °F	0.42 @ 160 °F	0.38 @ 176 °F @ °F @ °F
" pH	@ °F	11.5 @ °F	10.5 @ °F @ °F @ °F
" Wtr. Loss	CC 30 min.	CC 30 min.	CC 30 min. CC 30 min.
Max. Temp. °F	110	160	176
Bit Size	8 3/4"	8 3/4"	8 3/4"
Sects.—AM	104	104	104
A D*	32* LS	32* LS	32* LS
AO	19'	19'	19'
Opr. Rig Time	14 Hrs.	23 Hrs.	23 Hrs.
Truck No.	1760-Hobbs-1759	1760-Hobbs-1759	1760-Hobbs-1759
Recorded By	Reinders	Roth	Roth
Witnessed By	Allbritton	Allbritton	Allbritton

- 100120 OD
- 101 Speed 2000'/hr.
- 100120 OD
- 101 Speed 3000' & 5000'/hr.

RESISTIVITY -ohms. m²/m: 0 — 12" Lateral — 50 500

RESISTIVITY -ohms. m²/m: 0 10" Normal 12.5 125; 0 32"&64" Lateral 3

DEPTHS

SPONTANEOUS POTENTIAL millivolts: -120 | 0 | +40

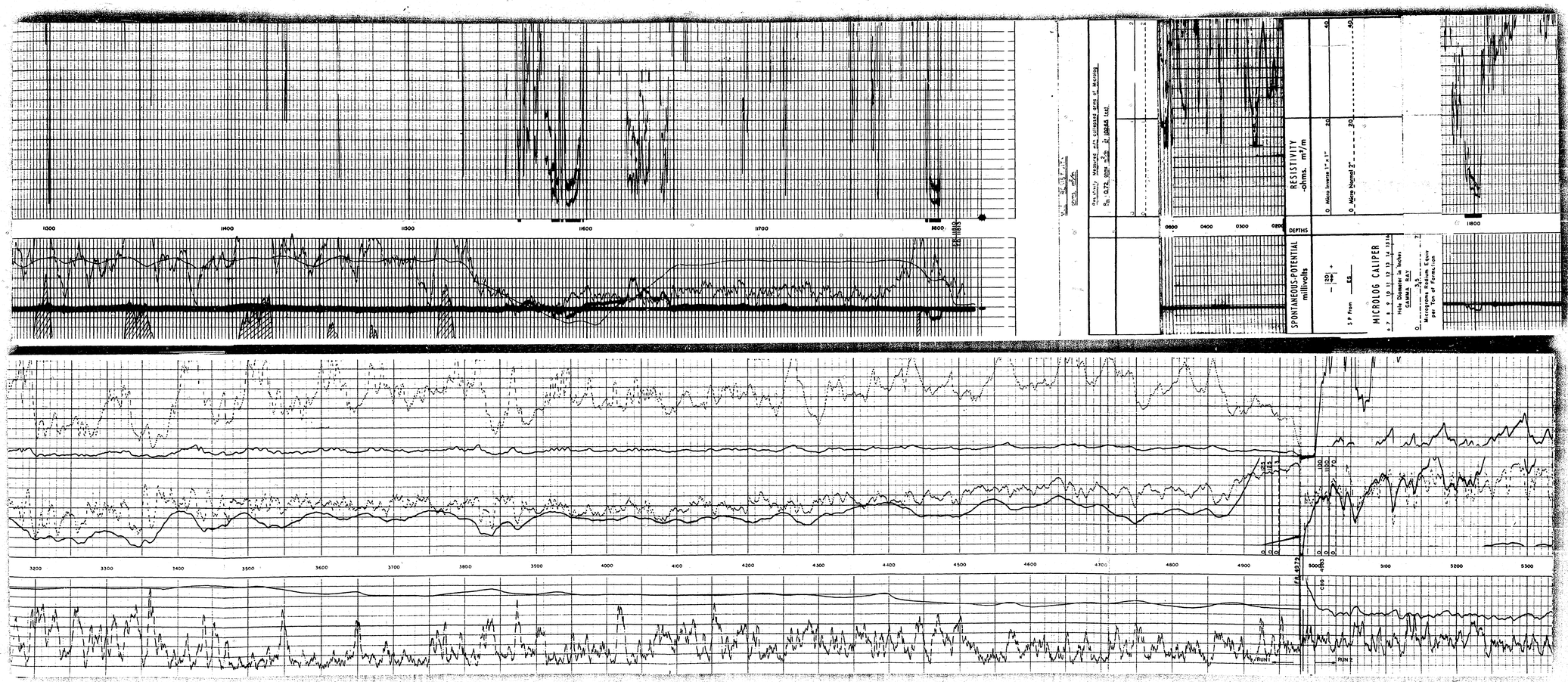
REMARKS
RUN 1 GR: 830 - 180 - 100120 OD
Log scale. 160 To: 10260 Speed 2000'/hr.
RUN 2 GR: 830 - 180 - 100120 OD
Log scale. 160 To: 12200 Speed 3000' & 5000'/hr.
RUN 3 GR: 830 - 170 - 100120 OD
Log scale. 160 To: 13005 Speed 3000' & 5000'/hr.

GAMMA RAY
Micrograms Radium Equiv. per Ton of Formation
0 50 100

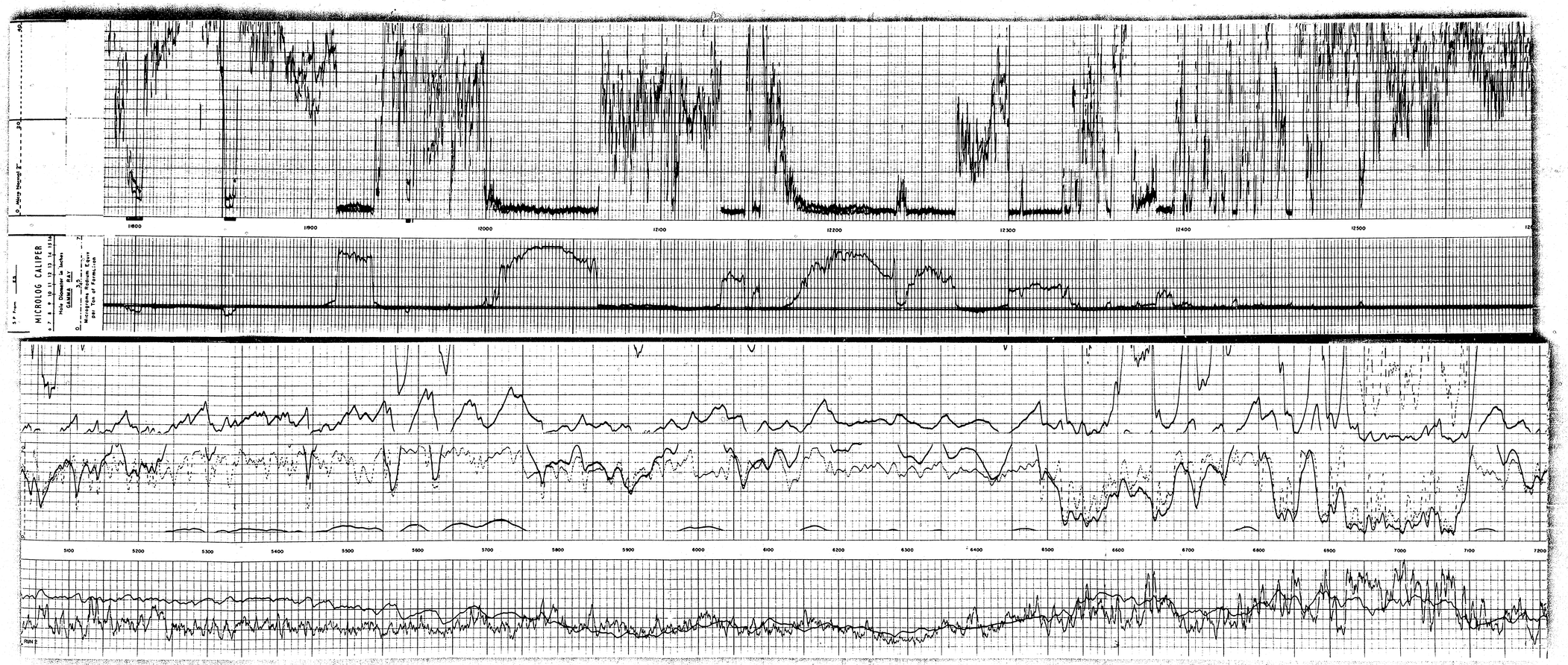
9000 9100 9200 9300 9400 9500 9600 9700 9800 9900 10000 10100 10200 10300 10400 10500

163


0400
10500
10600
10700
10800
11000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
3200
3300
3400


RESISTIVITY
-ohms. m²/m
Micro Inverse 1" x 1"
Micro Normal 2"
DEPTHS
SPONTANEOUS-POTENTIAL
millivolts
MICROLOG CALIPER
Hole Diameter in Inches
GAMMA RAY
RUN 1
RUN 2

165


MICROLOG CALIPER
Hole Diameter in Inches
GAMMA RAY
Micrograms Radium Equiv per Ton of Formation
11800
11900
12000
12100
12200
12300
12400
12500
5100
5200
5300
5400
5500
5600
5700
5800
5900
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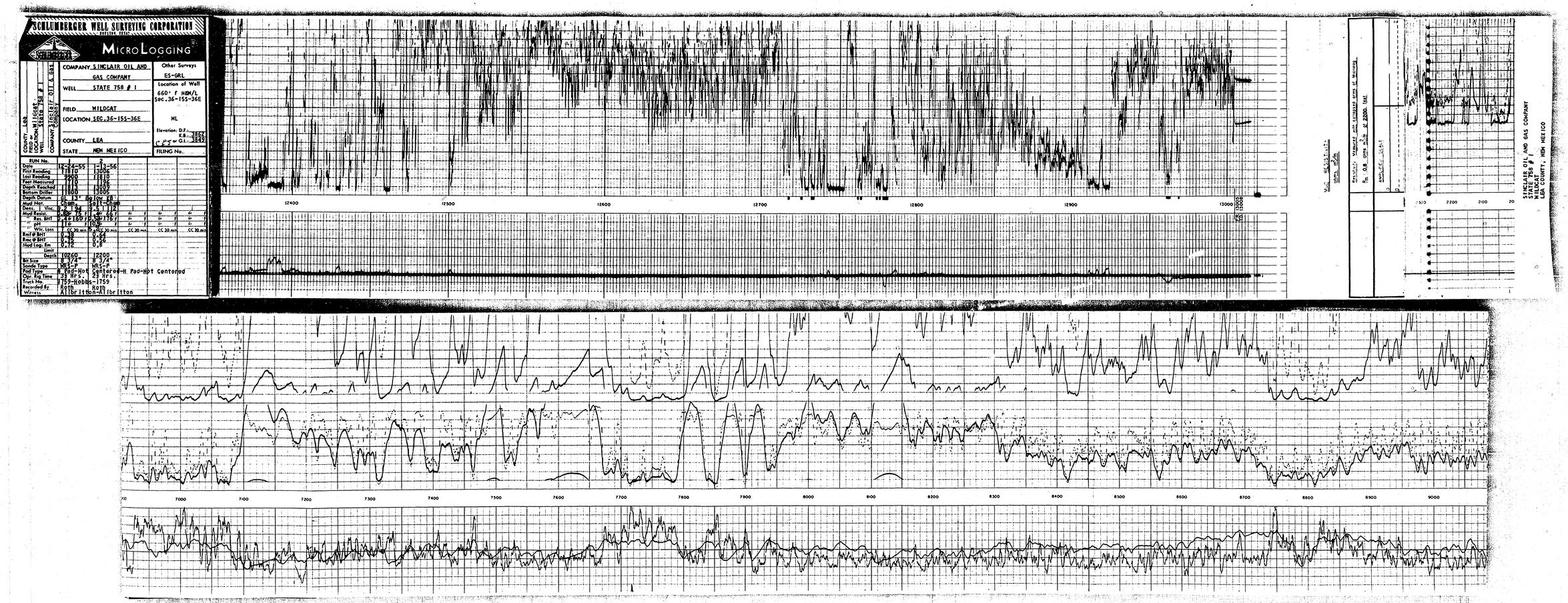
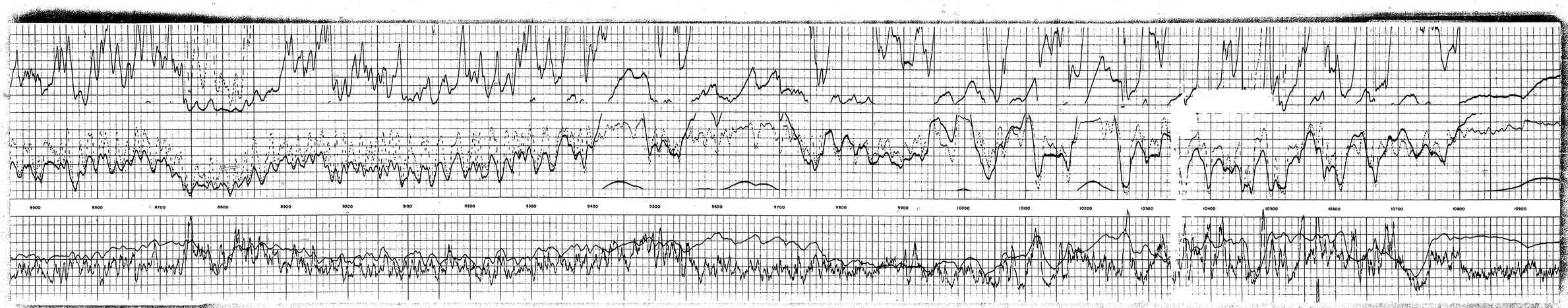
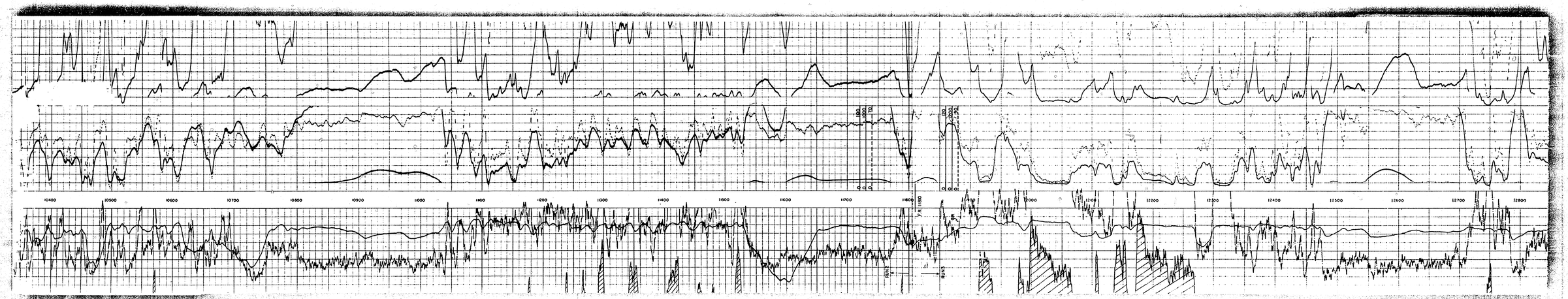
6800
6900
7000
7100
7200

166

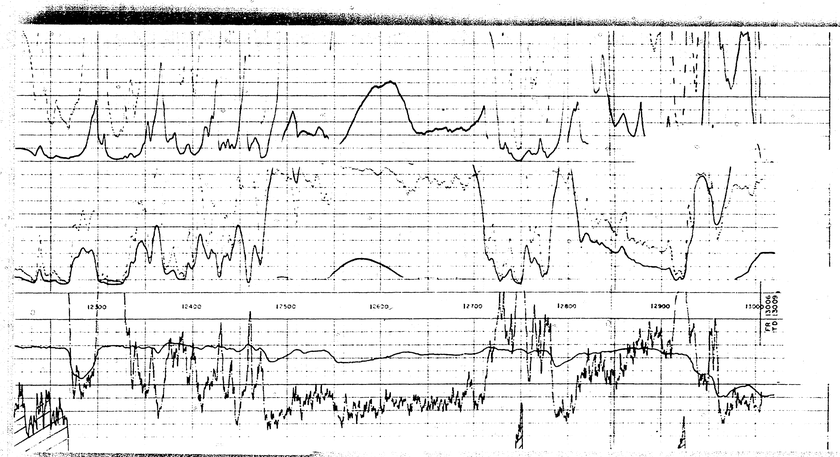

SCHLUMBERGER WELL SURVEYING CORPORATION
MICROLOGGING
COMPANY SINCLAIR OIL AND GAS COMPANY
WELL STATE 758 # 1
FIELD WILDCAT
LOCATION SEC.36-15S-36E
COUNTY LEA
STATE NEW MEXICO
Other Surveys ES-GRL
Location of Well 660' f NEW/L Sec.36-15S-36E
ML
Elevation: D.F.: K.B.: 3862 G.L.: 3849
FILING No.
RUN No. 1 2
Date 12-24-55 1-13-56
First Reading 11810 13006
Last Reading 9900 11810
Feet Measured 1710 1196
Depth Reached 11813 13009
Bottom Driller 11800 13005
Depth Datum GL 13' Below KB
Mud Nat. Chem. Salt-Chem
Dens. 1 Visc. 9.2 94 9.5 112
Mud Resist. 0.86 75 f 1.4 66 f
Res. BHT 0.46 160 f 0.55 176 f
pH 11.6 10.5
Wtr. Loss CC 30 min CC 30 min
Rmf @ BHT 0.38 0.64
Rmc @ BHT 0.45 0.56
Mud Log. Rm 0.12 0.8
Limit Depth 10260 12200
Bit Size 8 3/4" 8 3/4"
Sonde Type WRS-P WRS-P
Pad Type H Pad-Not Centered-H Pad-Not Centered
Opr. Rig Time 33 Hrs. 23 Hrs.
Truck No. 1759-Hobbs-1759
Recorded By Roth Roth
Witness Allbritton-Allbritton
12400
12500
12600
12700
12800
12900
13000
7000
7100
7200
7300
7400
7500
7600
7700
7800
7900
8000
8100
8200
8300
8400
8500
8600
8700
8800
8900
9000
SINCLAIR OIL AND GAS COMPANY
STATE 758 # 1
WILDCAT
LEA COUNTY, NEW MEXICO

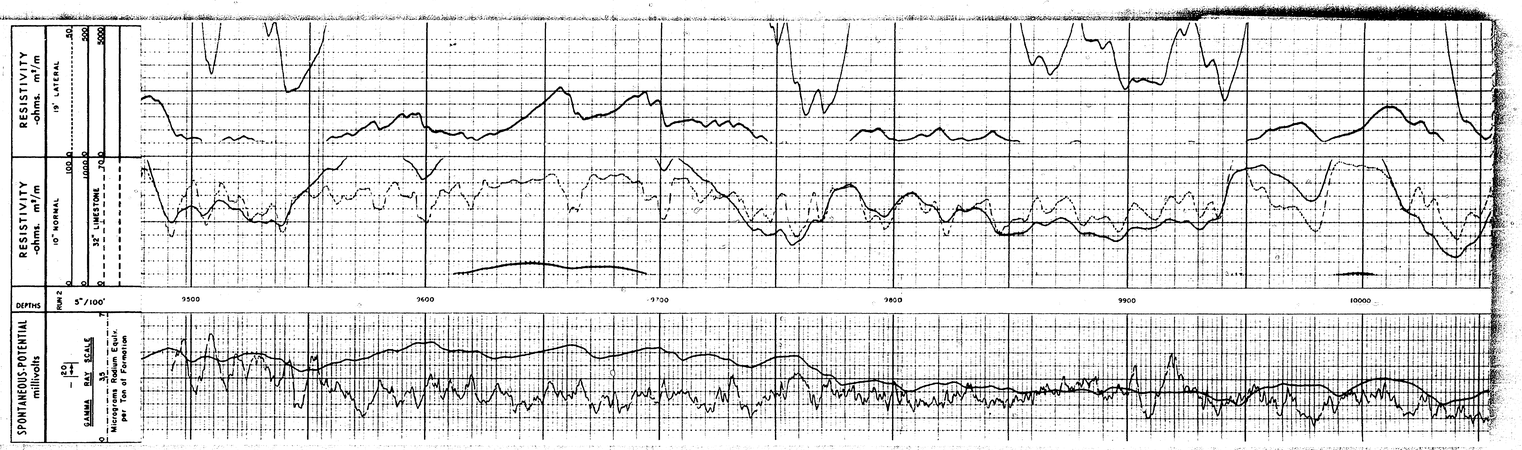
167


8500
8600
8700
8800
8900
9000
9100
9200
9300
9400
9500
9600
9700
9800
9900
10000
10100
10200
10300
10400
10500
10600
10700
10800
10900

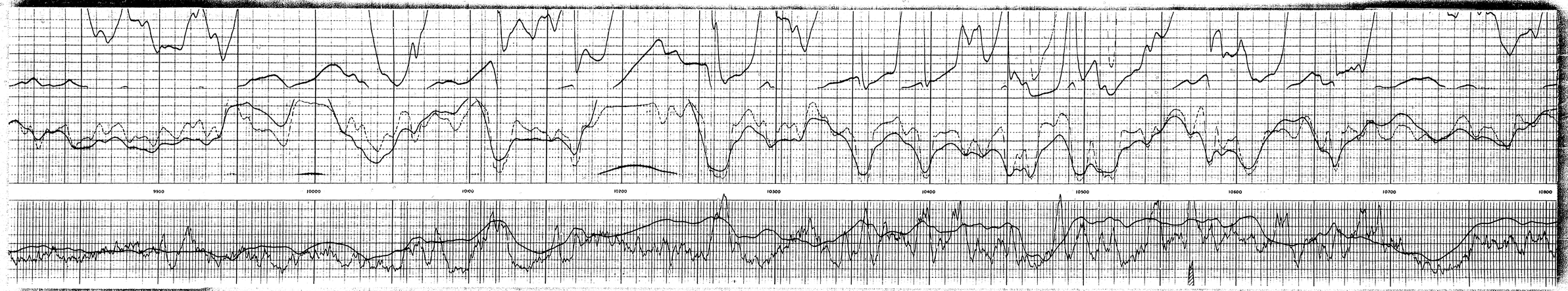

10400
10500
10600
10700
10800
10900
11000
1900
11200
11300
11400
11500
11600
11700
11800
12000
12100
12200
12300
12400
12500
12600
12700
12800

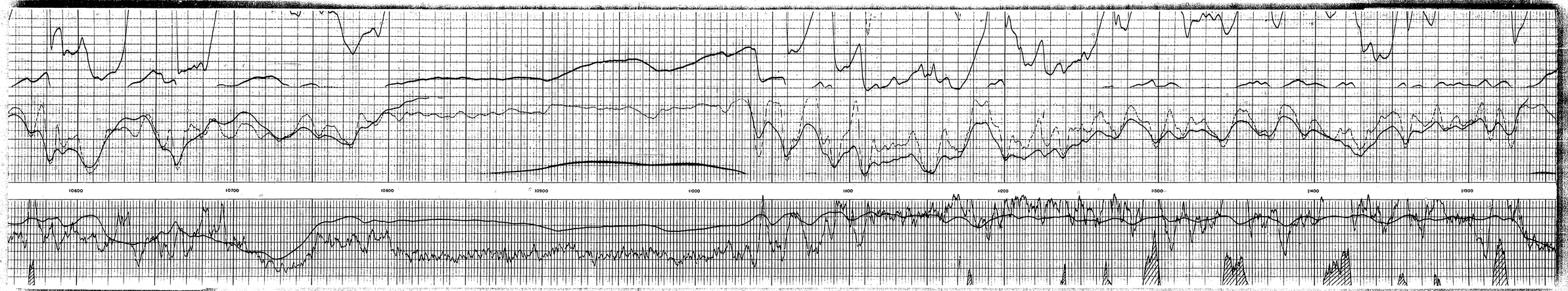
169


12300
12400
12500
12600
12700
12800
12900
13000
TO 13059

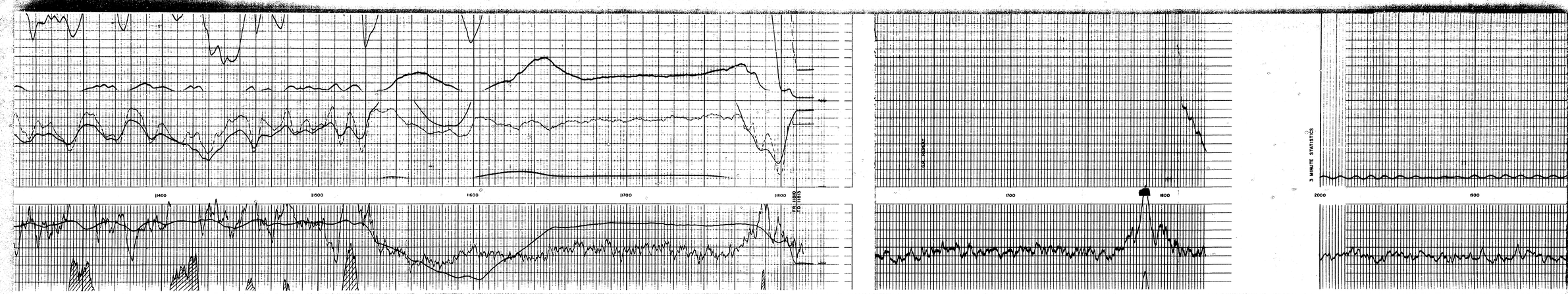

RESISTIVITY -ohms. m²/m
19" LATERAL
50
500
5000
RESISTIVITY -ohms. m²/m
16" NORMAL
100 Ω
1000 Ω
32" LIMESTONE
70 Ω
0
DEPTHS
RUN 2
5"/100'
9500
9600
9700
9800
9900
10000
SPONTANEOUS-POTENTIAL millivolts
+80
-80
GAMMA RAY SCALE
35
Micrograms Radium Equiv. per Ton of Formation

170

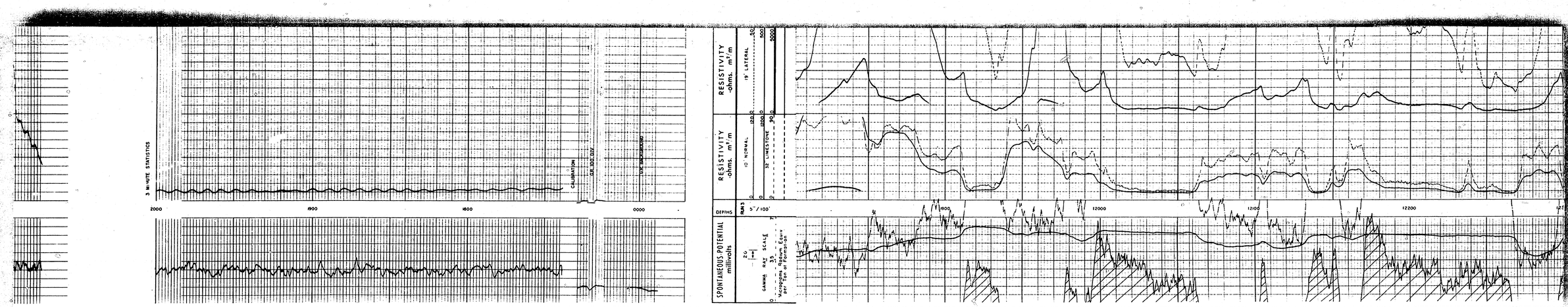

9900
10000
10100
10200
10300
10400
10500
10600
10700
10800



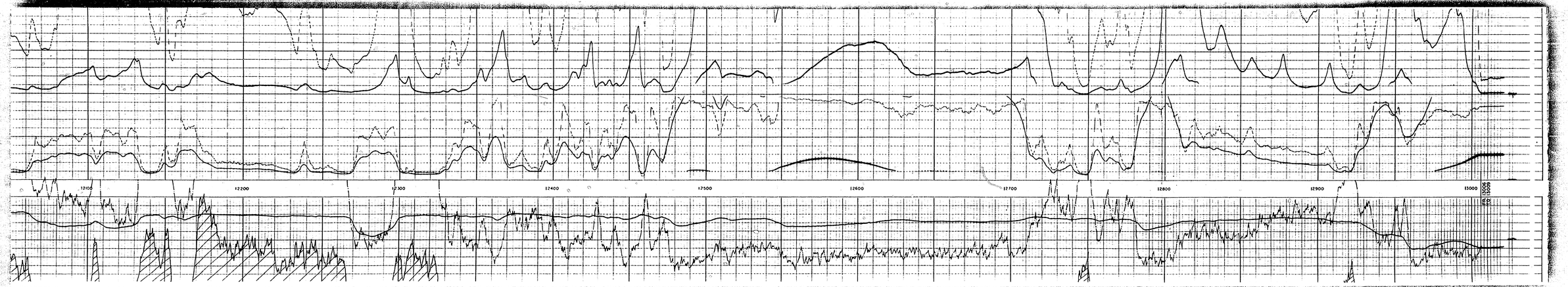
172

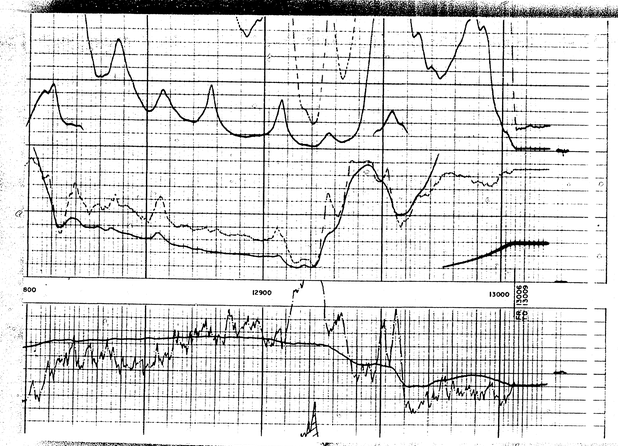

1400
1500
1600
1700
1800
1700
1800
2000
1900
3 MINUTE STATISTICS

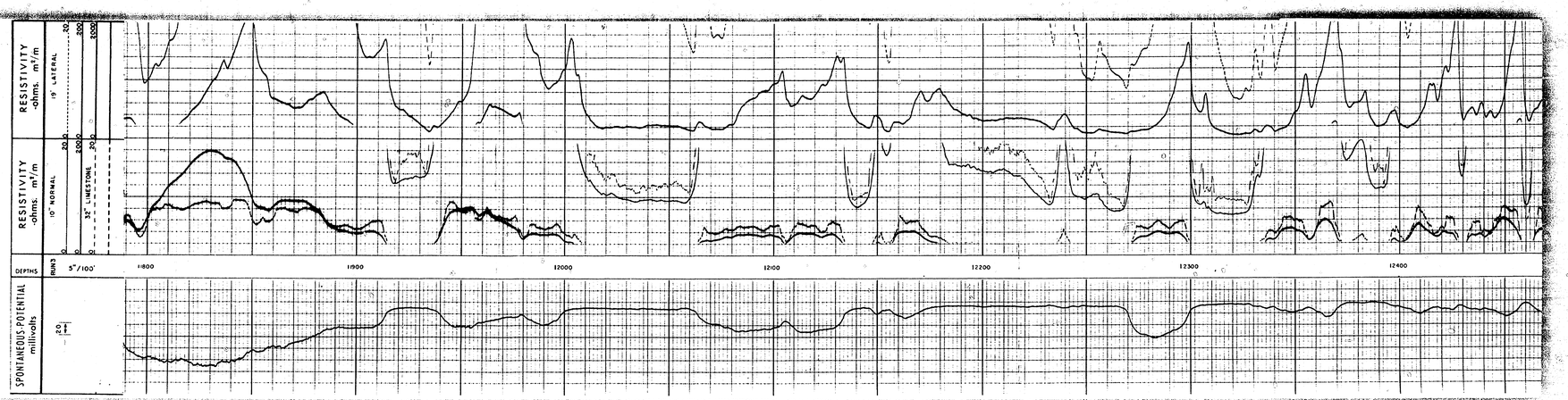
173


3 MINUTE STATISTICS
CALIBRATION
GR 100 DIV
UTC BACKGROUND
2000
1900
1800
0000
RESISTIVITY ohms. m²/m
19' LATERAL
10' NORMAL
32' LIMESTONE
DEPTHS
RUN 3
5"/100'
1900
12000
12100
12200
SPONTANEOUS-POTENTIAL millivolts
GAMMA RAY SCALE
Micrograms Radium Equiv per Ton of Formation

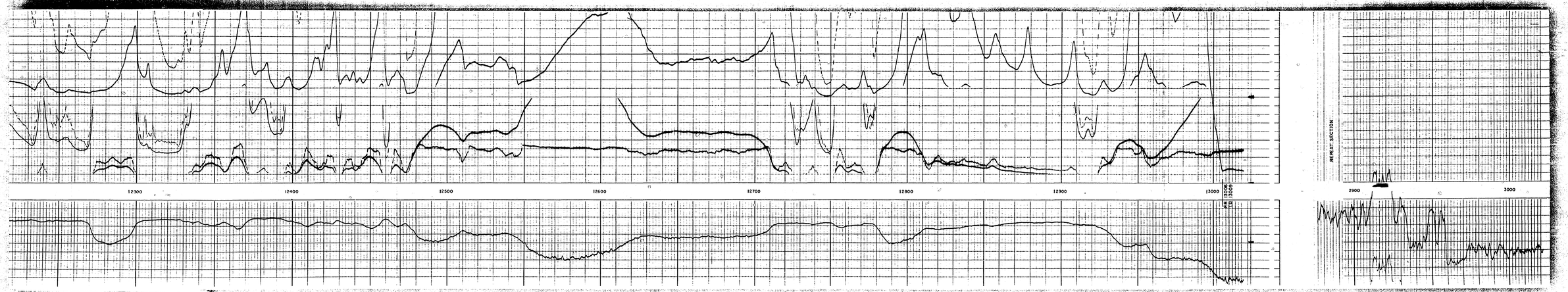
174


12100
12200
12300
12400
12500
12600
12700
12800
12900
13000
EEG

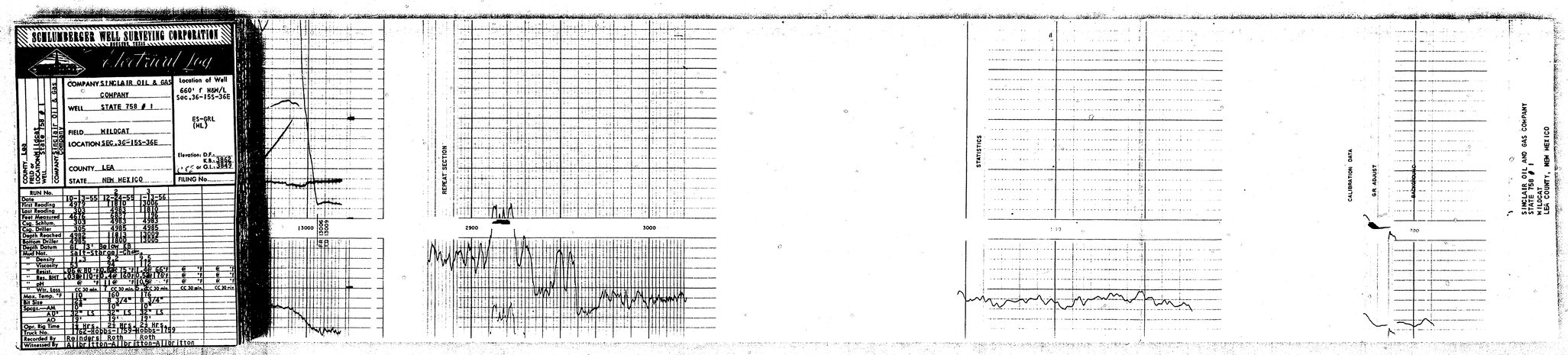

800
12900
13000
13056


RESISTIVITY ohms m²/m
16" LATERAL
20Ω
2000
2000
RESISTIVITY ohms m²/m
10" NORMAL
32" LIMESTONE
20Ω
2000
0
DEPTHS
FEET
5"/100'
11800
11900
12000
12100
12200
12300
12400
SPONTANEOUS POTENTIAL millivolts
20

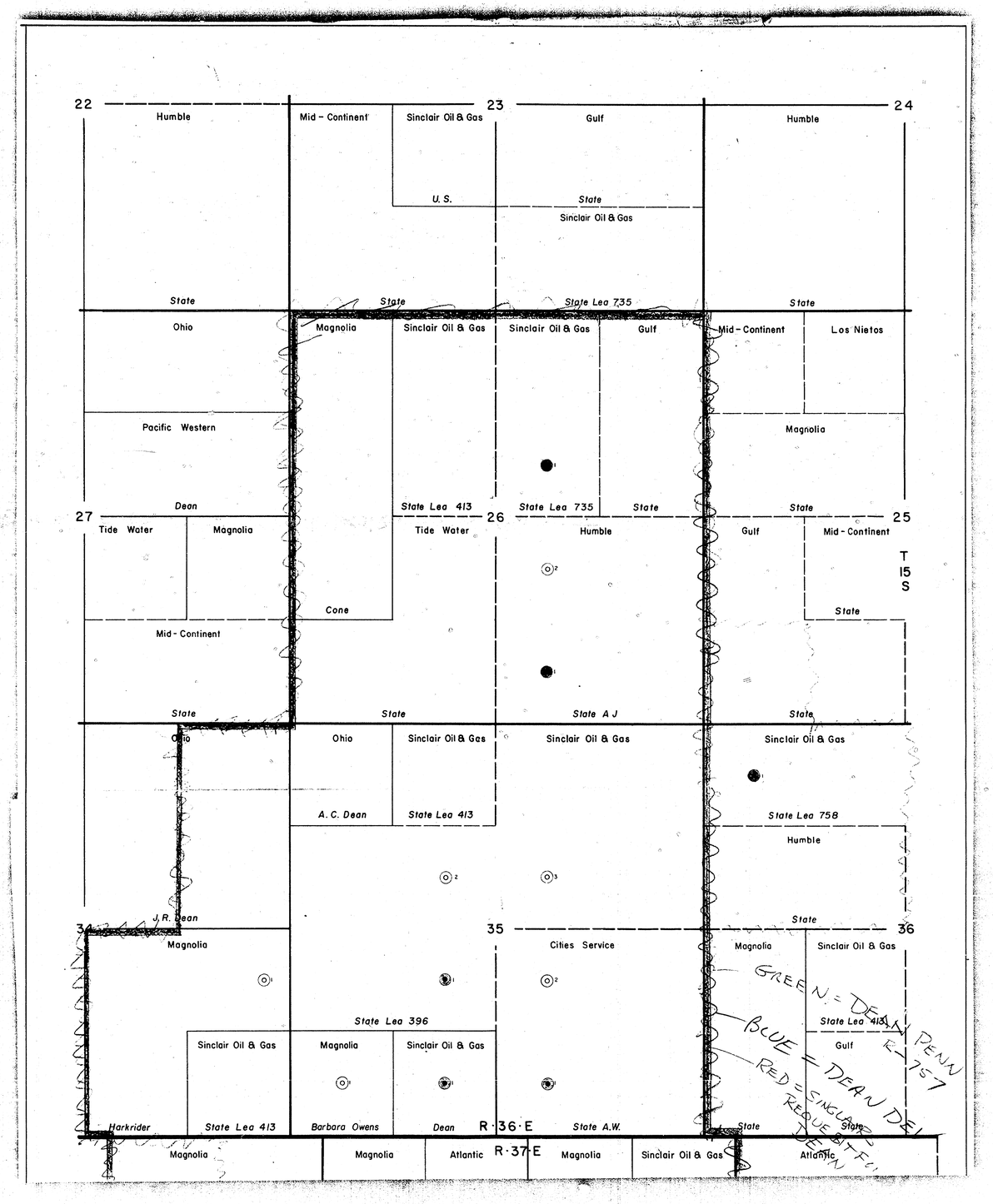
176


12300
12400
12500
12600
12700
12800
12900
13000
REPEAT SECTION
2900
3000

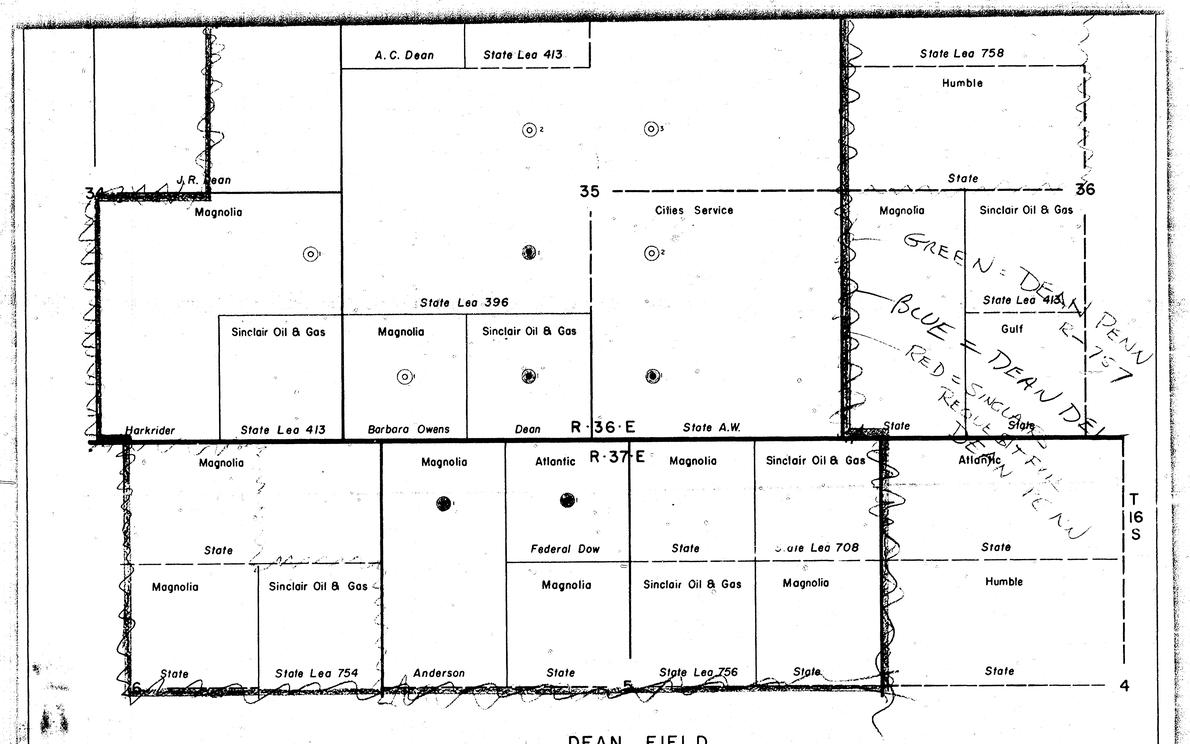
177


SCHLUMBERGER WELL SURVEYING CORPORATION
Electrical Log
COMPANY SINCLAIR OIL & GAS COMPANY
WELL STATE 758 # 1
FIELD WILDCAT
LOCATION SEC.36-15S-36E
COUNTY LEA
STATE NEW MEXICO
Location of Well
660' F N&W/L
Sec.36-15S-36E
ES-GRL
(ML)
Elevation: D.F.
K.B. 3862
G.L. 3849
FILING No.
RUN No. 1 2 3
Date 10-13-55 12-24-55 1-13-56
First Reading 4979 11810 13006
Last Reading 303 4983 11810
Feet Measured 4676 6837 1196
Csg. Schlum. 303 4983 4983
Csg. Driller 305 4985 4985
Depth Reached 4982 11813 13009
Bottom Driller 4985 11800 13005
Depth Datum GL 13' Below KB
Mud Not. Salt-Starch-Chem
" Density 11.3 9.2 9.5
" Viscosity 53 94 112
" Resist. .06@80°F 0.8@75°F 1.4@66°F @ °F @ °F
" Res. BHT .03@110°F 0.4@160°F 0.5@176°F @ °F @ °F
" pH @ °F 11@ °F 10.5@ °F @ °F @ °F
" Wtr. Loss CC 30 min. CC 30 min. CC 30 min. CC 30 min. CC 30 min.
Max. Temp. °F 110 160 176
Bit Size 12¼" 8 3/4" 8 3/4"
Spcgs.—AM 10" 10" 10"
AD 32" LS 32" LS 32" LS
AO 19' 19' 19'
Opr. Rig Time 1½ Hrs. 2½ Hrs. 2½ Hrs.
Truck No. 1762-Hobbs-1759-Hobbs-1759
Recorded By Reinders Roth Roth
Witnessed By Allbritton-Allbritton-Allbritton
REPEAT SECTION
13000
2900
3000
STATISTICS
CALIBRATION DATA
GR ADJUST
SINCLAIR OIL AND GAS COMPANY
STATE 758 # 1
WILDCAT
LEA COUNTY, NEW MEXICO

178


22
23
24
Humble
Mid - Continent
Sinclair Oil & Gas
Gulf
Humble
U. S.
State
Sinclair Oil & Gas
State
State
State Lea 735
State
Ohio
Magnolia
Sinclair Oil & Gas
Sinclair Oil & Gas
Gulf
Mid - Continent
Los Nietos
Pacific Western
Magnolia
Dean
State Lea 413
State Lea 735
State
State
27
26
25
Tide Water
Magnolia
Tide Water
Humble
Gulf
Mid - Continent
T
15
S
Cone
State
Mid - Continent
State
State
State A J
State
Ohio
Ohio
Sinclair Oil & Gas
Sinclair Oil & Gas
Sinclair Oil & Gas
A. C. Dean
State Lea 413
State Lea 758
Humble
J. R. Dean
State
34
35
36
Magnolia
Cities Service
Magnolia
Sinclair Oil & Gas
State Lea 396
State Lea 413
Sinclair Oil & Gas
Magnolia
Sinclair Oil & Gas
Gulf
Harkrider
State Lea 413
Barbara Owens
Dean
R·36·E
State A.W.
State
State
Magnolia
Magnolia
Atlantic
R·37·E
Magnolia
Sinclair Oil & Gas
Atlantic
GREEN = DEAN PENN R-757
BLUE = DEAN DEL
RED = SINCLAIR REQUE BITFU DEAN

179

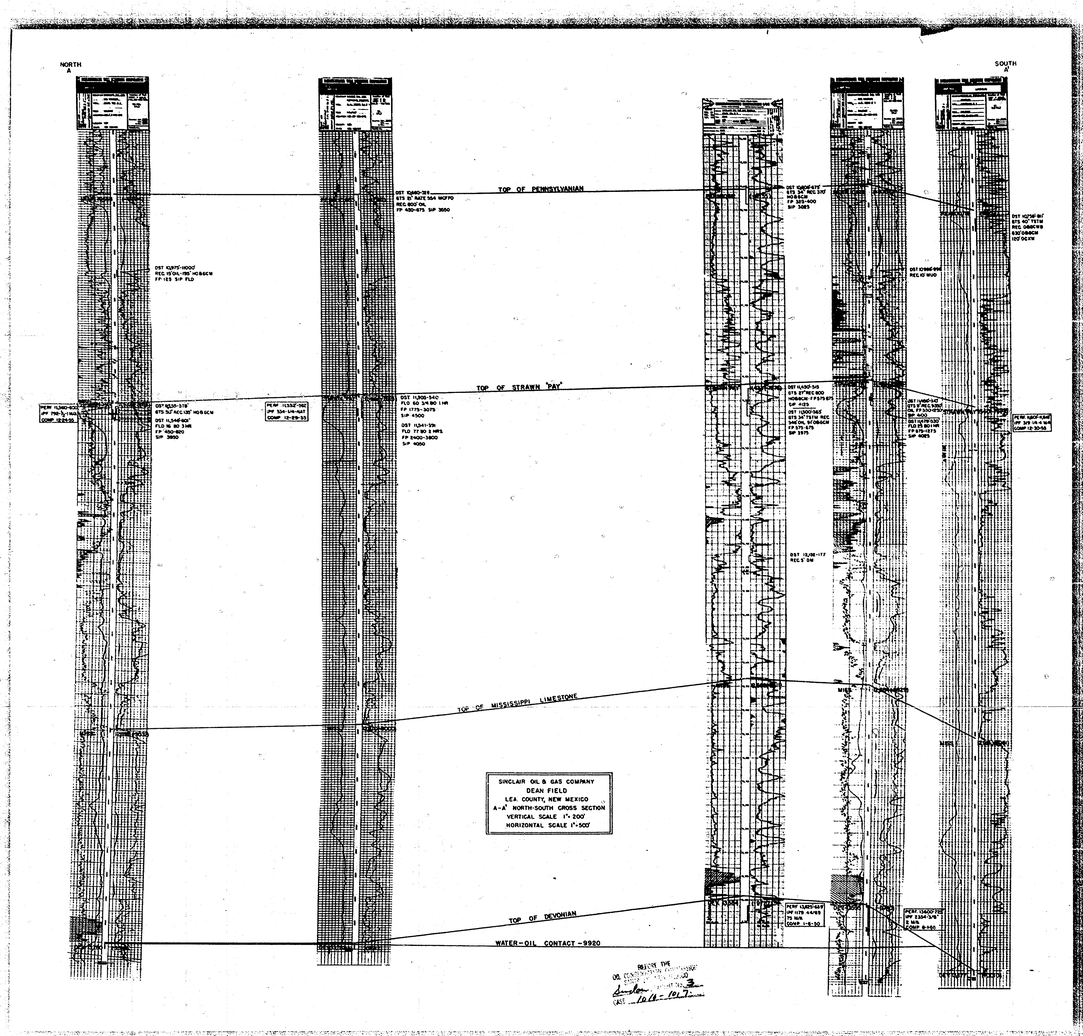


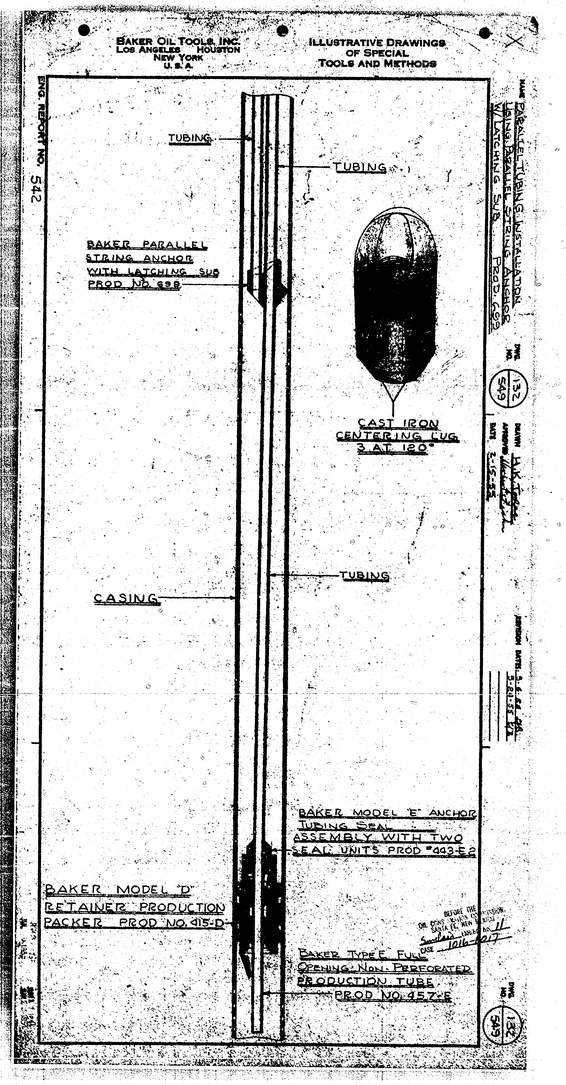
DEAN FIELD
LEA COUNTY, NEW MEXICO
Scale: 1" = 500'

Pennsylvanian Well
Devonian Well

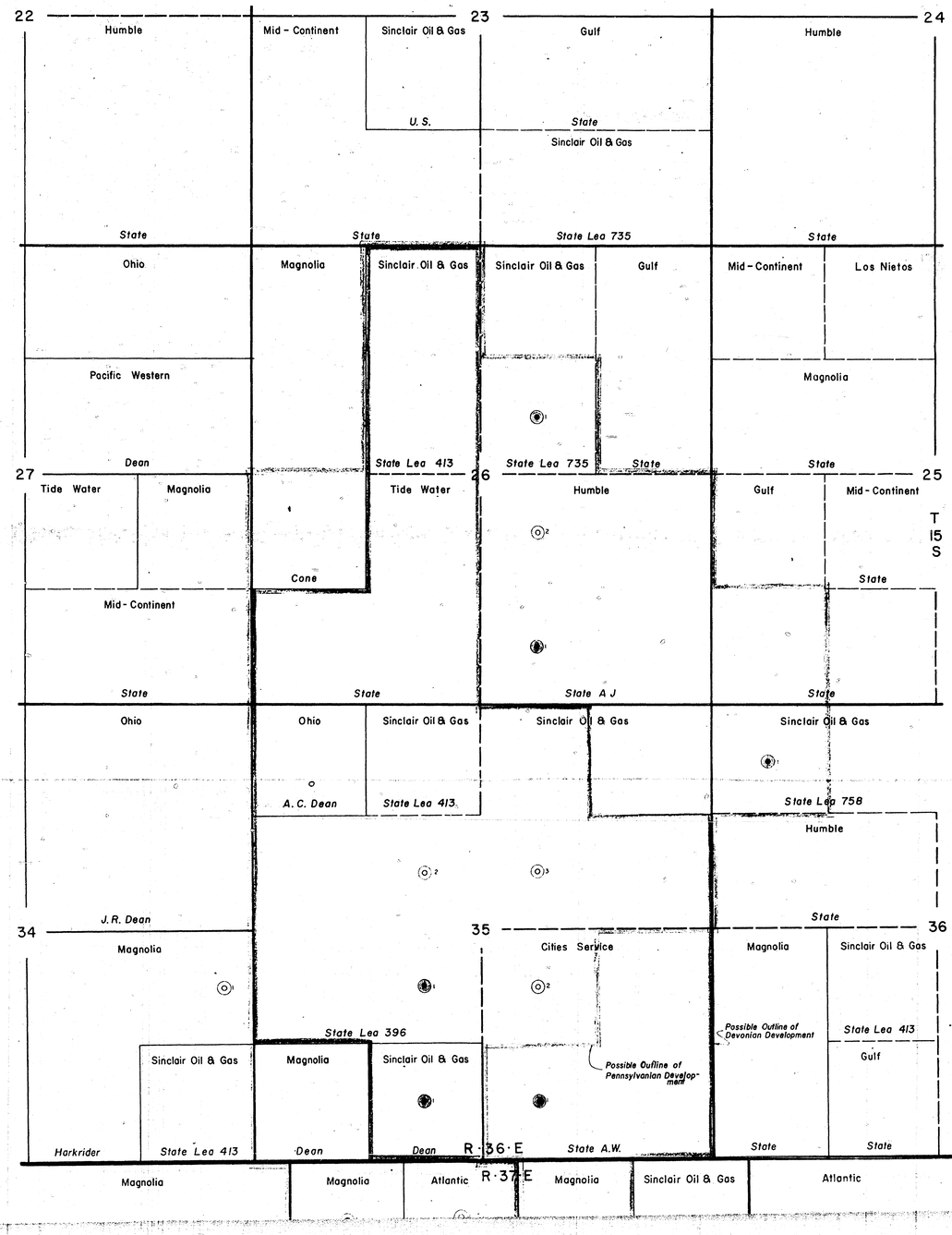
Sinclair
CASE 1016-101-1

180

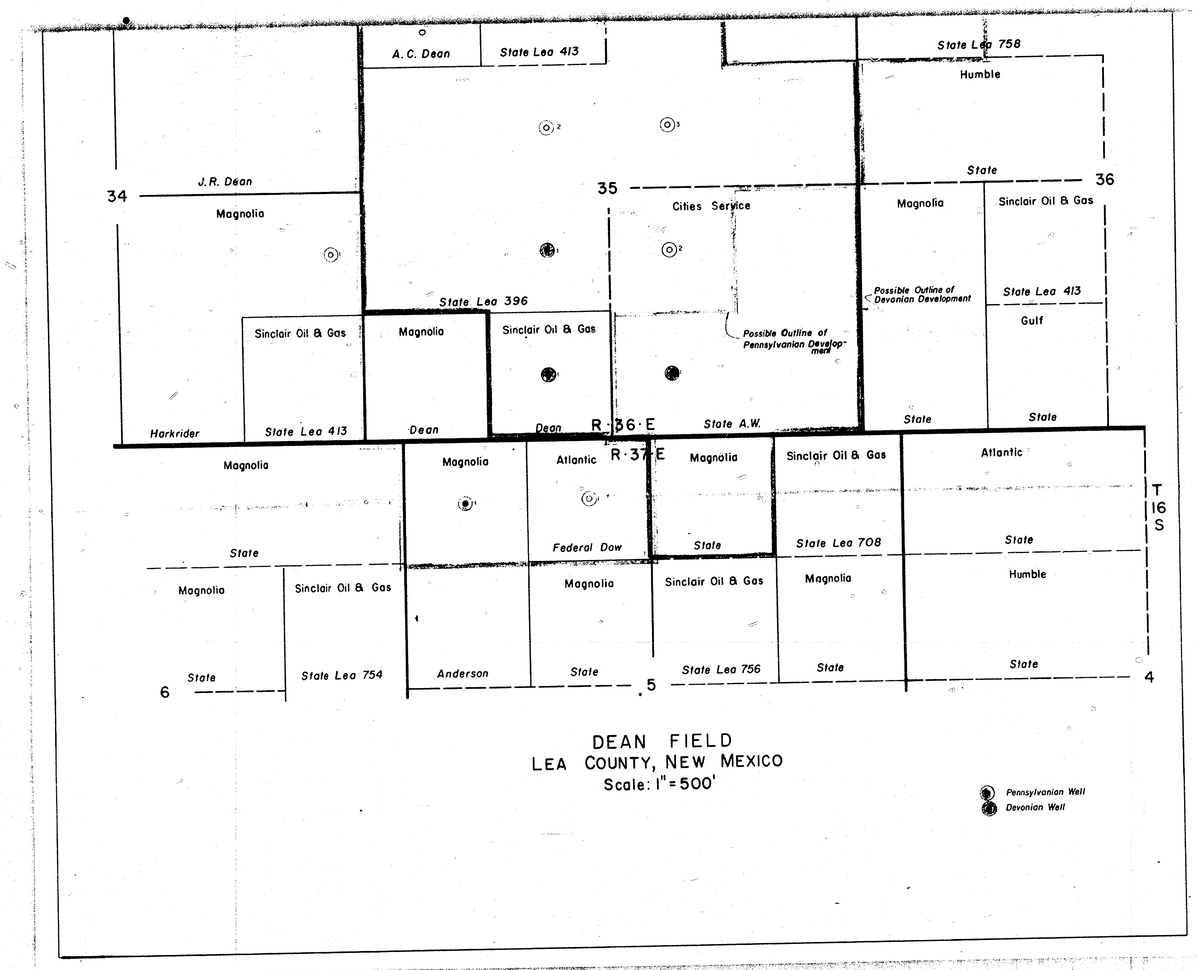

NORTH
A
SOUTH
A'
TOP OF PENNSYLVANIAN
TOP OF STRAWN "PAY"
TOP OF MISSISSIPPI LIMESTONE
TOP OF DEVONIAN
WATER-OIL CONTACT -9920
SINCLAIR OIL & GAS COMPANY
DEAN FIELD
LEA COUNTY, NEW MEXICO
A-A' NORTH-SOUTH CROSS SECTION
VERTICAL SCALE 1"=200'
HORIZONTAL SCALE 1"=500'


BAKER OIL TOOLS, INC.
LOS ANGELES HOUSTON
NEW YORK
U.S.A.
ILLUSTRATIVE DRAWINGS
OF SPECIAL
TOOLS AND METHODS
ENG. REPORT NO. 542
TUBING
TUBING
BAKER PARALLEL
STRING ANCHOR
WITH LATCHING SUB
PROD. NO. 698
CAST IRON
CENTERING LUG
3 AT 120°
TUBING
CASING
BAKER MODEL "E" ANCHOR
TUBING SEAL
ASSEMBLY WITH TWO
SEAL UNITS PROD #443-E2
BAKER MODEL "D"
RETAINER PRODUCTION
PACKER PROD NO. 415-D
BAKER TYPE E FULL
OPENING NON-PERFORATED
PRODUCTION TUBE
PROD NO. 457-E
NAME PARALLEL TUBING INSTALLATION
USING PARALLEL STRING ANCHOR
W/ LATCHING SUB PROD. 698
DWG. NO. 132
549
DRAWN
APPROVED
DATE 3-15-55
DWG. NO. 132
549

181


22
23
24
Humble
Mid - Continent
Sinclair Oil & Gas
Gulf
Humble
U. S.
State
Sinclair Oil & Gas
State
State
State Lea 735
State
Ohio
Magnolia
Sinclair Oil & Gas
Sinclair Oil & Gas
Gulf
Mid - Continent
Los Nietos
Pacific Western
Magnolia
Dean
State Lea 413
State Lea 735
State
State
27
26
25
Tide Water
Magnolia
Tide Water
Humble
Gulf
Mid - Continent
T
15
S
Cone
State
Mid - Continent
State
State
State A J
State
Ohio
Ohio
Sinclair Oil & Gas
Sinclair Oil & Gas
Sinclair Oil & Gas
A. C. Dean
State Lea 413.
State Lea 758
Humble
J.R. Dean
State
34
35
36
Magnolia
Cities Service
Magnolia
Sinclair Oil & Gas
State Lea 396
Possible Outline of Devonian Development
State Lea 413
Gulf
Sinclair Oil & Gas
Magnolia
Sinclair Oil & Gas
Possible Outline of Pennsylvanian Development
Harkrider
State Lea 413
Dean
Dean
R-36-E
State A.W.
State
State
Magnolia
Magnolia
Atlantic
R-37-E
Magnolia
Sinclair Oil & Gas
Atlantic

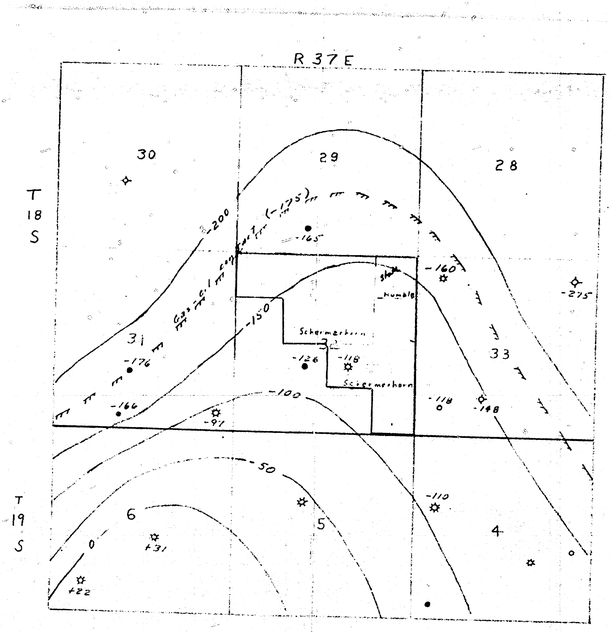
182



DEAN FIELD
LEA COUNTY, NEW MEXICO
Scale: 1" = 500'

Pennsylvanian Well
Devonian Well

183



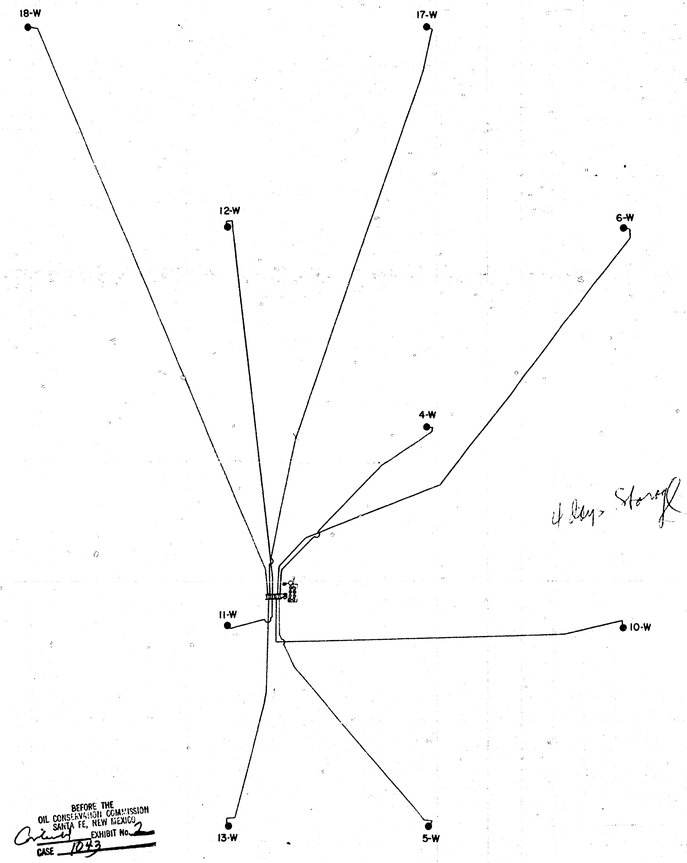
CASE 1042 - Exhibit # 1

CONTOURS ON TOP OF MAIN QUEEN porosity
C.I. = 50'
3-27-56

OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 1
CASE 1042

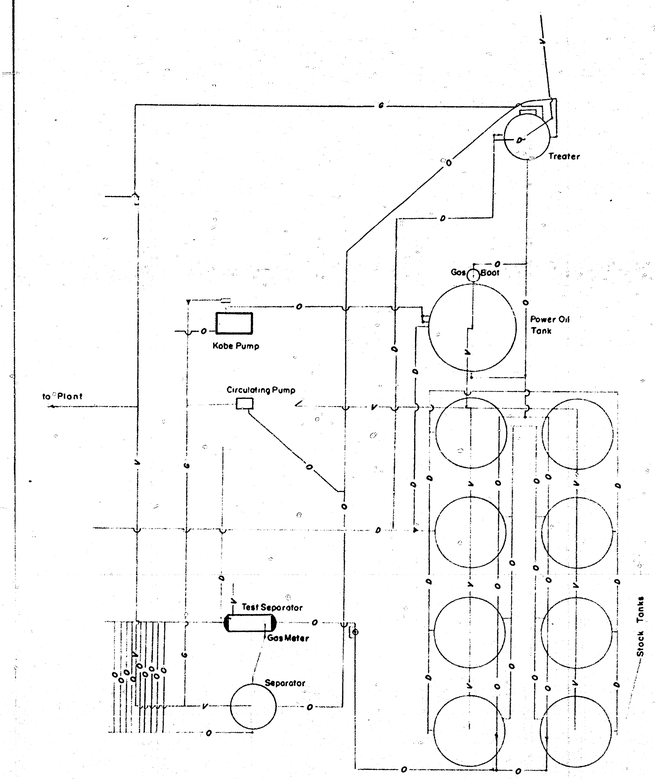
184

185



BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 2
CASE 1043

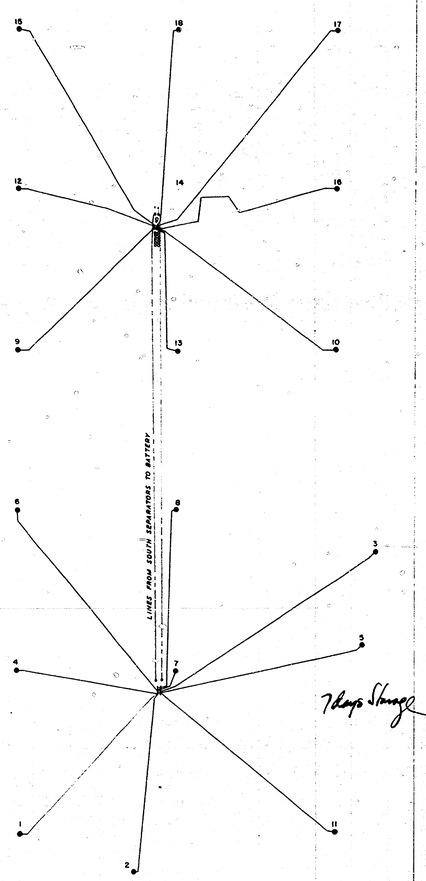
ANDERSON RANCH UNIT-WOLFCAMP
(Sections 2&11-16-32, N.M.)
SCALE: 1" = 400'



BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 3
CASE 1043

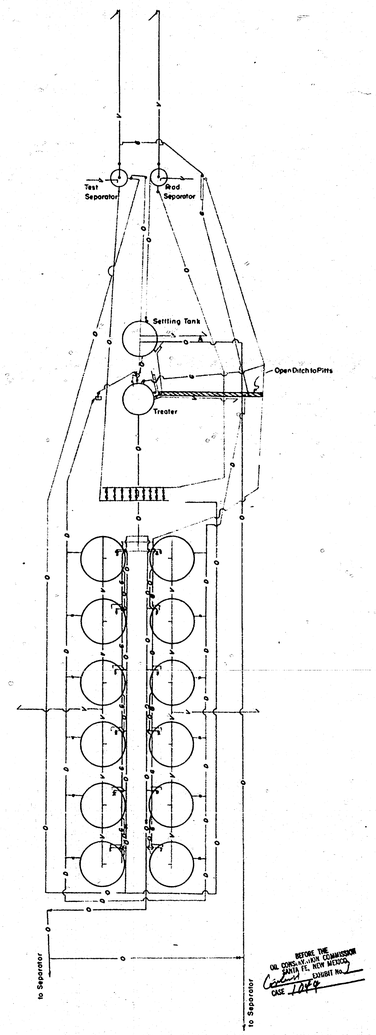
ANDERSON RANCH UNIT-WOLFCAMP
Battery Detail

LEGEND
O — Oil line
G — Gas line
V — Vent line
D — Drain line



CONTINENTAL OIL COMPANY
MEYER B-4 LEASE
Section 4-T21S-R36E, N.M.
SCALE: 1" = 400'

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO EXHIBIT NO. 2 CASE 1174

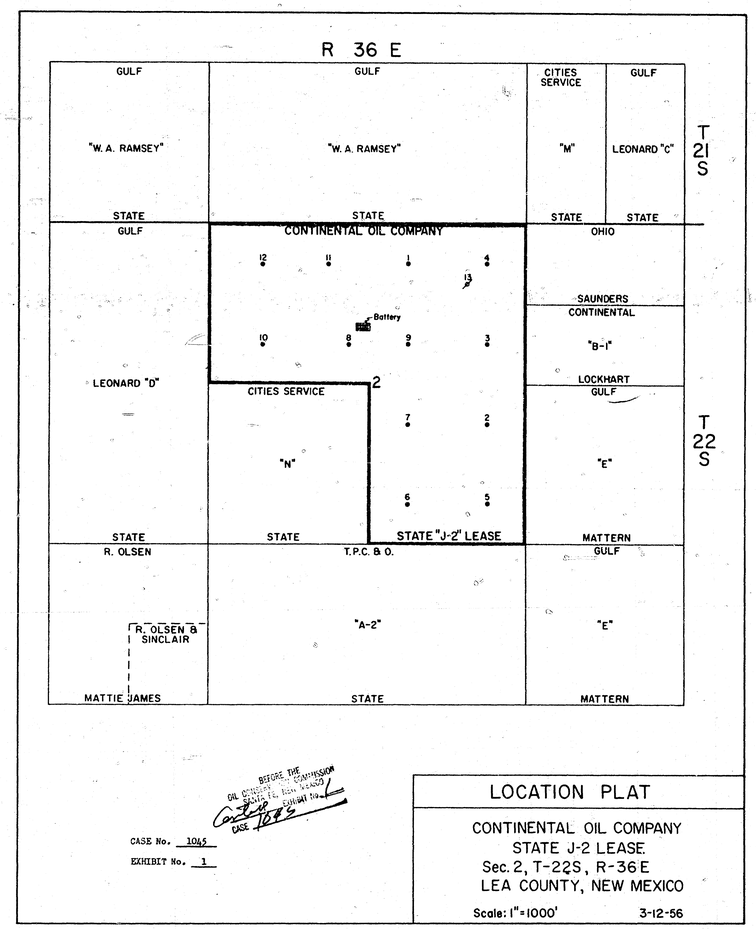


CONTINENTAL OIL COMPANY
MEYER B-4 LEASE
Battery Detail

LEGEND
O — Oil line
G — Gas line
V — Vent line
D — Drain line

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO EXHIBIT NO. 1 CASE 1174

186



BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO EXHIBIT No. 1 CASE 1045

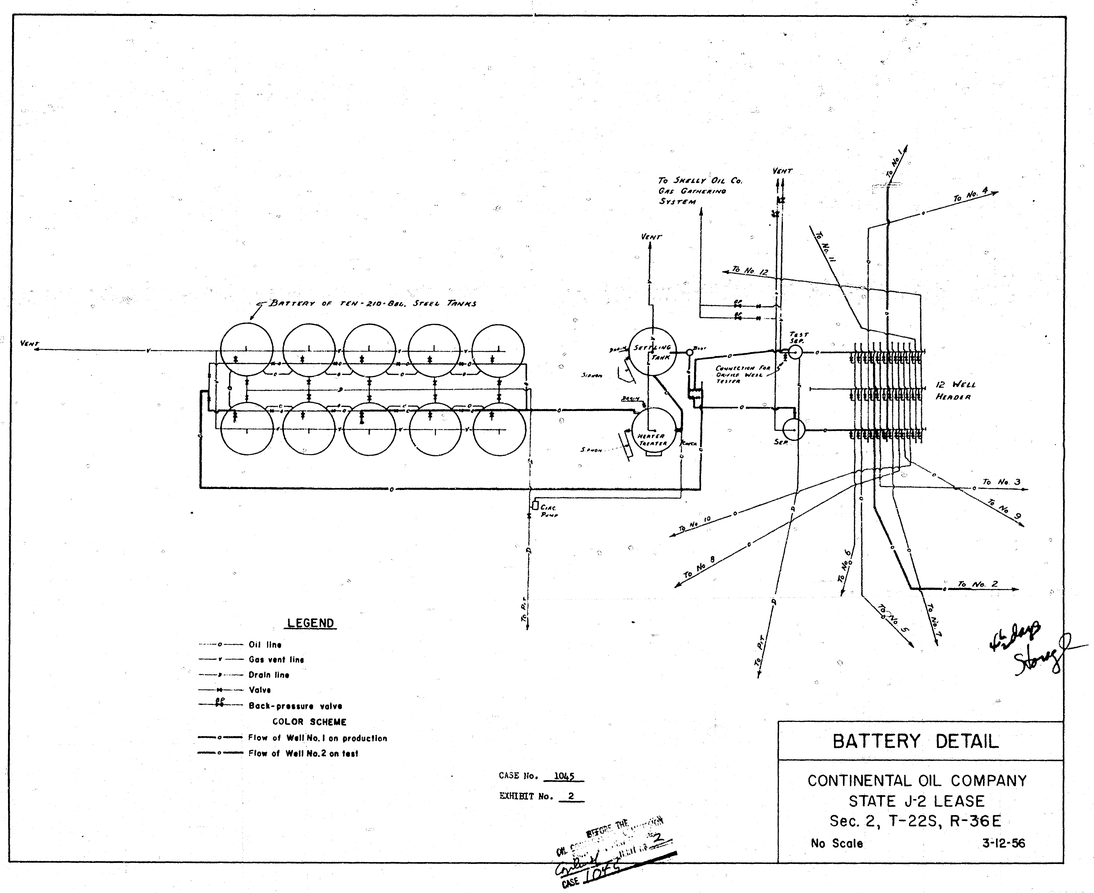
CASE No. 1045

EXHIBIT No. 1

LOCATION PLAT

CONTINENTAL OIL COMPANY
STATE J-2 LEASE
Sec. 2, T-22S, R-36E
LEA COUNTY, NEW MEXICO

Scale: 1"=1000' 3-12-56



LEGEND

- Oil line
- Gas vent line
- Drain line
- Valve
- Back-pressure valve

COLOR SCHEME

- Flow of Well No. 1 on production
- Flow of Well No. 2 on test

CASE No. 1045

EXHIBIT No. 2

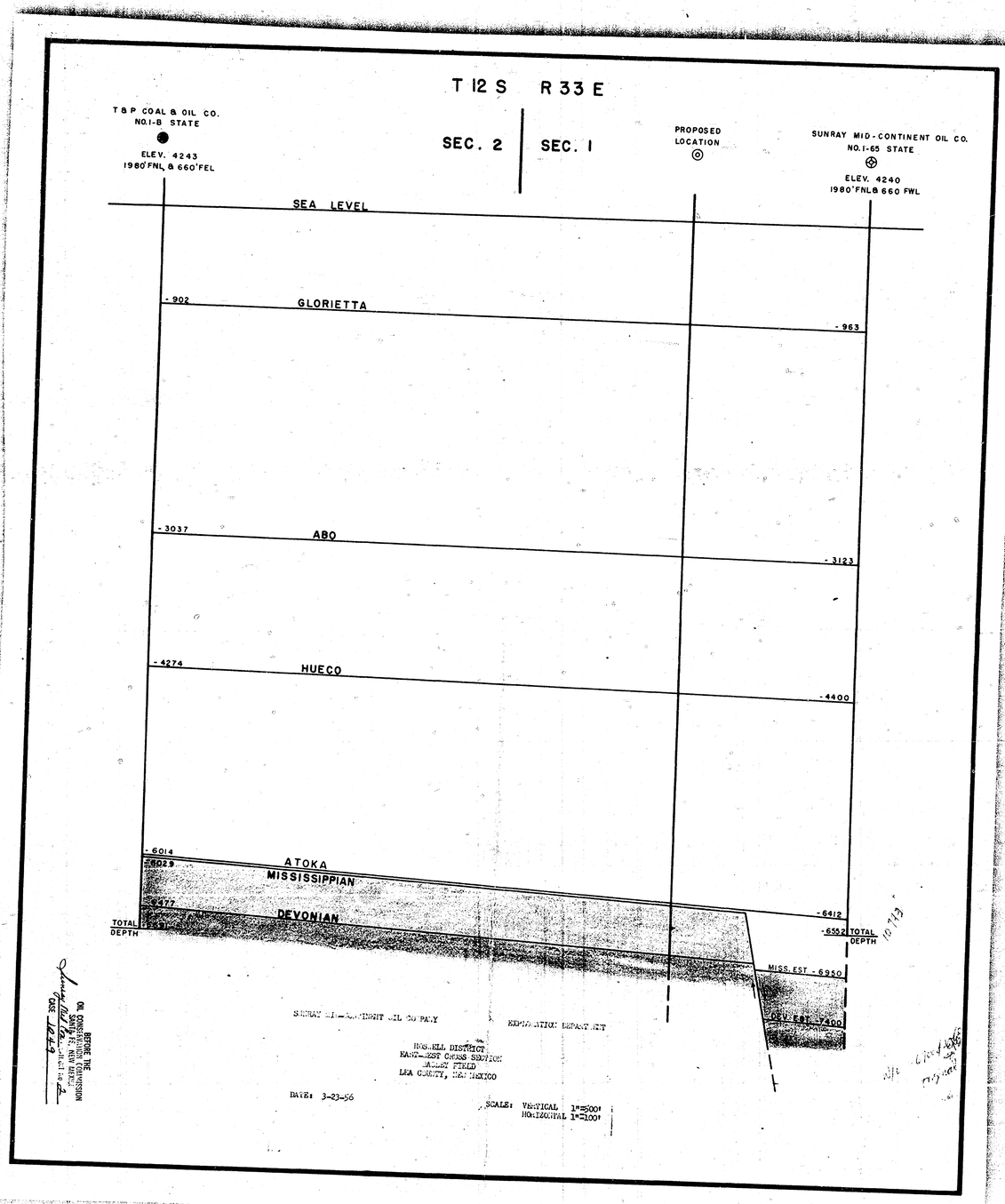
BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO EXHIBIT No. 2 CASE 1045

BATTERY DETAIL

CONTINENTAL OIL COMPANY
STATE J-2 LEASE
Sec. 2, T-22S, R-36E

No Scale 3-12-56

187


T 12 S R 33 E
T & P COAL & OIL CO.
NO.1-B STATE
ELEV. 4243
1980'FNL & 660'FEL
SEC. 2
SEC. 1
PROPOSED
LOCATION
SUNRAY MID-CONTINENT OIL CO.
NO.1-65 STATE
ELEV. 4240
1980'FNL & 660 FWL
SEA LEVEL
-902
GLORIETTA
-963
-3037
ABO
-3123
-4274
HUECO
-4400
-6014
ATOKA
-6029
MISSISSIPPIAN
-6477
DEVONIAN
TOTAL
DEPTH
-6412
-6552
TOTAL
DEPTH
MISS. EST. -6950
DEV. EST. -7400
SUNRAY MID-CONTINENT OIL COMPANY
EXPLORATION DEPARTMENT
ROSWELL DISTRICT
EAST-WEST CROSS SECTION
BAGLEY FIELD
LEA COUNTY, NEW MEXICO
DATE: 3-23-56
SCALE: VERTICAL 1"=500'
HORIZONTAL 1"=100'
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
CASE 1049

188

PERFORATING GUNS ATLAS CORP.

SIMULTANEOUS RADIATION LOG

NATURAL GAMMA RADIATION — INDUCED NEUTRON RADIATION

LOCATION	SEC. 20 TWP. 22S RGE. 37E 660' FNL 660' FWL
COMPANY	TRES OIL COMPANY
WELL	STATE # 1
FIELD	ARROWHEAD
COUNTY	LEA
STATE	NEW MEXICO
SECTION	20
TOWNSHIP	22 S
RANGE	37 E
SURVEY	
LOG NO.	12128
LOG MEASURED FROM	TOP OF ROTARY TABLE
ELEVATION	3404 KB
DRILLING MEASURED FROM	
ELEVATION	
PERMANENT DATUM	8' ABOVE GROUND LEVEL
ELEVATION	3394 GL

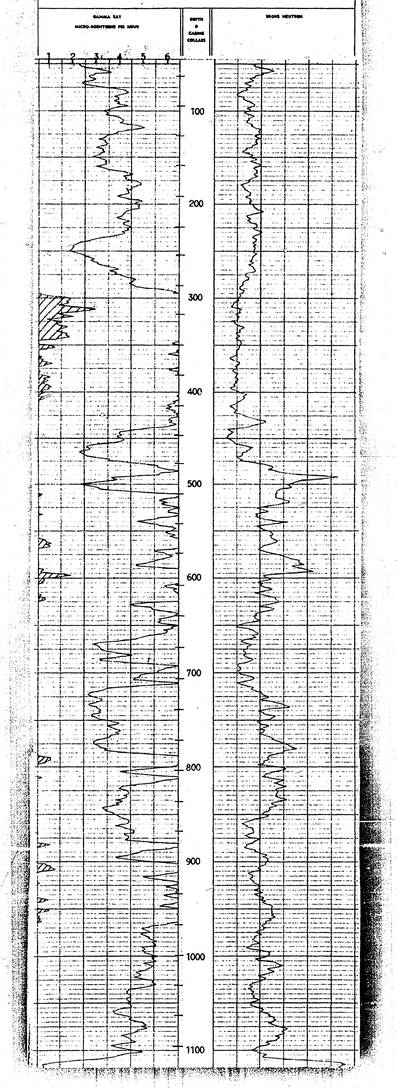
	GAMMA RAY	GROSS NEUTRON
TYPE OF LOG		
RUN NUMBER	0-2-56	0-2-56
DATE	3600	3600
TOTAL DEPTH (DRILLER)	3609.5	3615.5
DEPTH—SCHEDULE P. & A. C.	SURFACE	SURFACE
TOP OF LOGGED INTERVAL	3600	3600
SECTION OF LOGGED INTERVAL	MUD	MUD
TYPE FLUID IN HOLE	FULL	FULL
FLUID LEVEL		
MAXIMUM RECORDED TEMP.	3 5/8	3 5/8
O. D. OF INSTRUMENT — INCHES	C-A	C-A
TIME CONSTANT — SECONDS	15-60	15-60
LOGGING SPEED — FEET/MINUTE		
STATISTICAL VARIATION — INCHES	F	PH
COUNTER		
RECORDED BY	WRIGHT	WRIGHT
WITNESSED BY	KAHN	KAHN

FILE NUMBER	
COMPANY	TRES OIL CO.
WELL	STATE # 1
FIELD	ARROWHEAD
COUNTY	LEA
STATE	NEW MEXICO
SEC.	20
TWP.	22 S
RGE.	37 E
SURVEY	
LOG NO.	12128

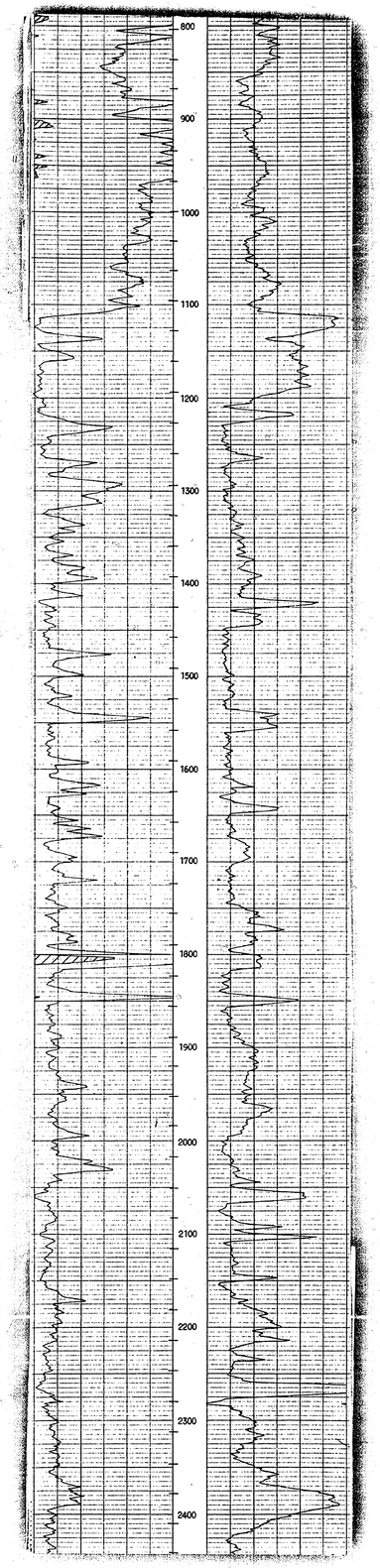
REFORM THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO

CASING RECORD				OPEN HOLE RECORD			
RUN NO.	SIZE IN.	WEIGHT, LB.	INTERVAL	BIT SIZE IN.	INTERVAL		
ONE	5 1/2		SURFACE TO 3456	4 3/4	3456 TO 3600		

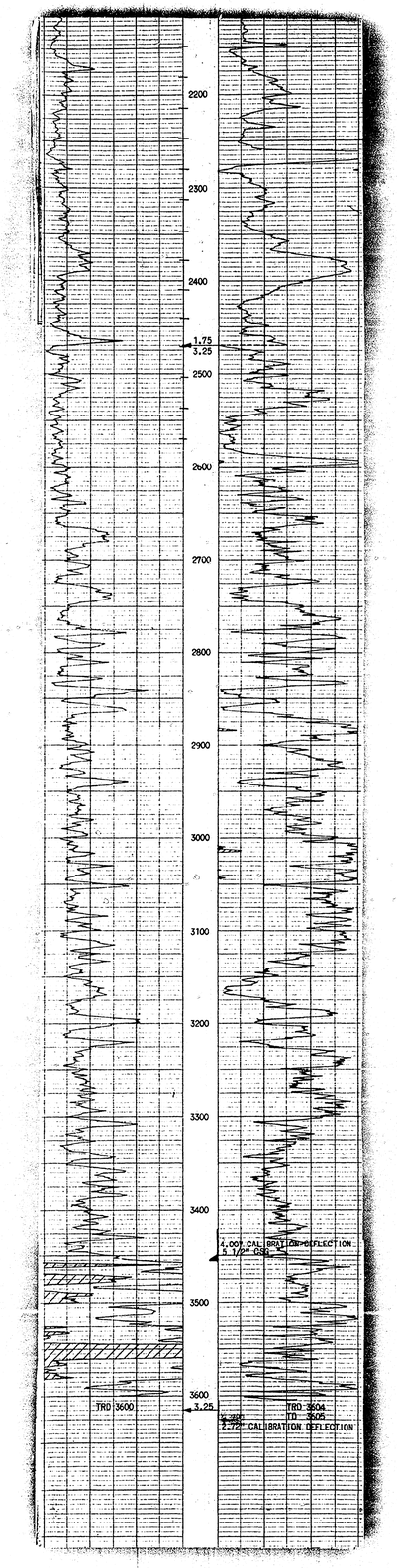
REMARKS AND OTHER DATA



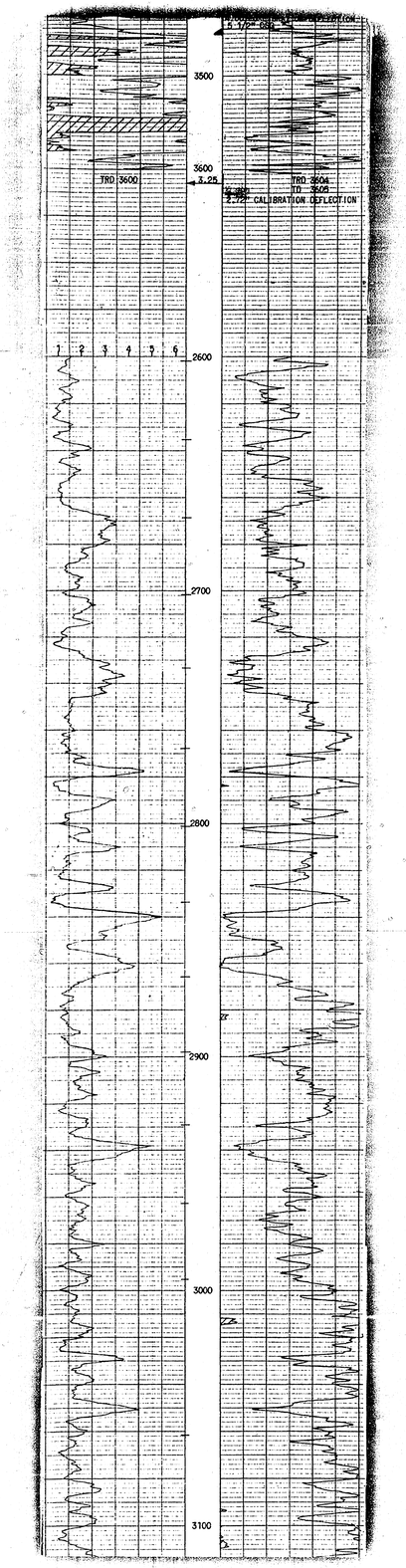
189


800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400

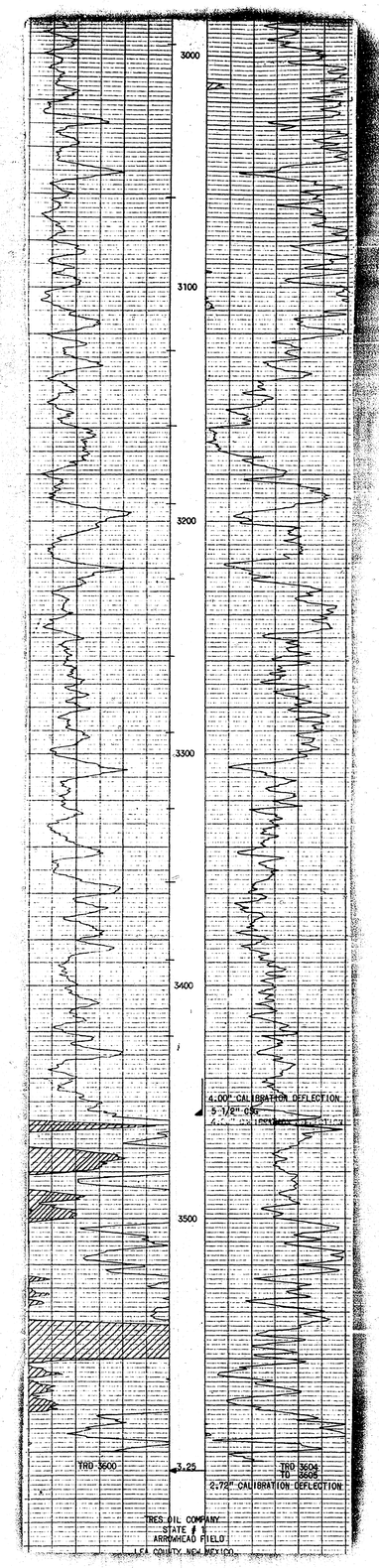
190


2200
2300
2400
1.75
3.25
2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
4.00" CALIBRATION DEFLECTION
3500
3600
3.25
TRD 3600
TRD 3604
TD 3605
2.75" CALIBRATION DEFLECTION

191


3500
3600
TRD 3600
3.25
TRD 3604
TD 3605
2.75" CALIBRATION DEFLECTION
1
2
3
4
5
6
2600
2700
2800
2900
3000
3100

192


3000
3100
3200
3300
3400
3500
4.00" CALIBRATION DEFLECTION
5-1/2" CSG
TRD 3600
3.25
TRD 3604
TO
3608
2.72" CALIBRATION DEFLECTION
TRES OIL COMPANY
STATE A C
ARMWICAD FIELD
LEA COUNTY, NEW MEXICO

193

PERFORATING GUNS ATLAS CORP.

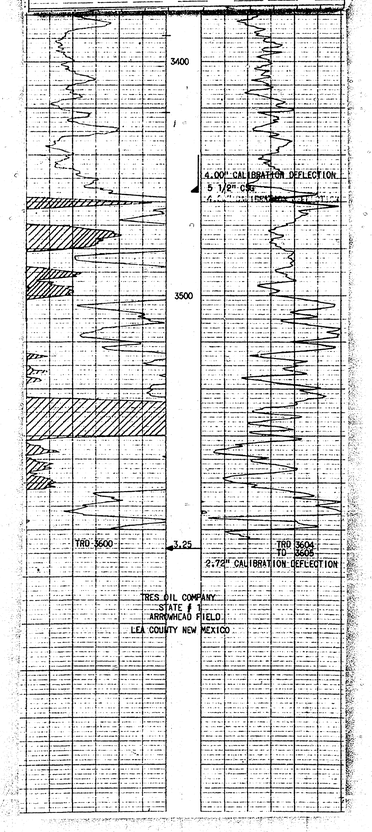
SIMULTANEOUS RADIATION LOG

NATURAL GAMMA RADIATION — INDUCED NEUTRON RADIATION

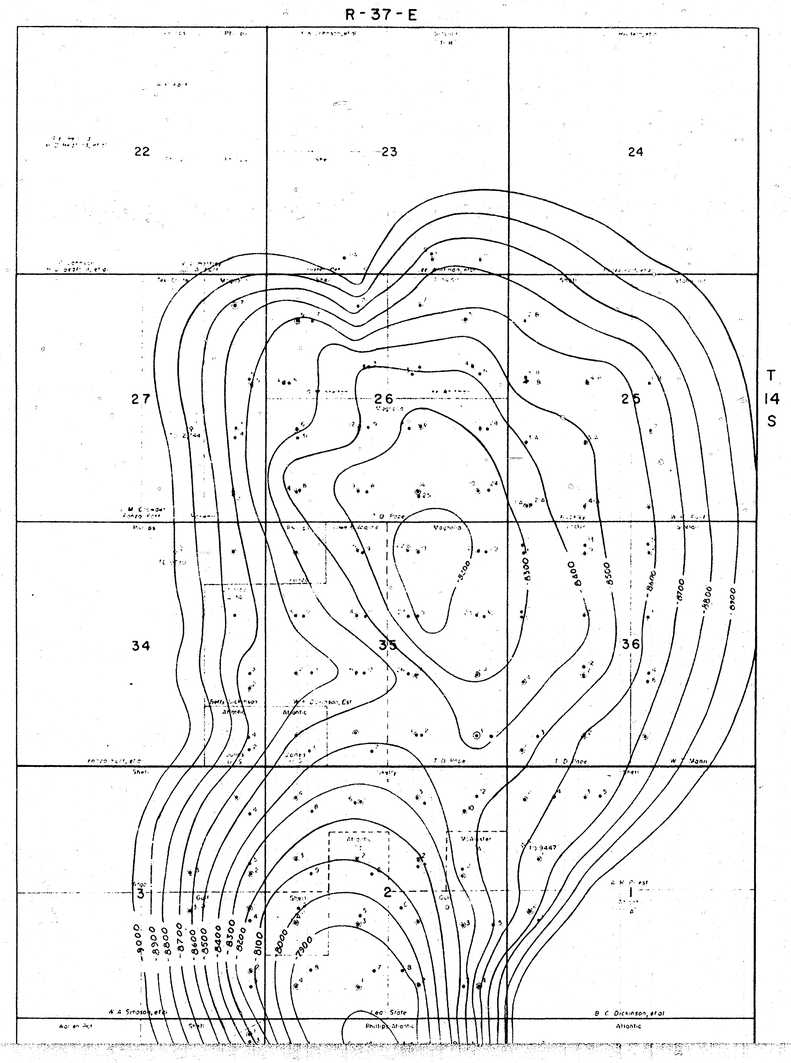
LOCATION	SEC. 20 TWP. 22S RGE. 37E 660' FNL 660' FWL
COMPANY	TRES OIL COMPANY
WELL	STATE # 1
FIELD	ARROWHEAD
COUNTY	LEA
STATE	NEW MEXICO
SECTION	20
TOWNSHIP	22 S
RANGE	37 E
SURVEY	
LOG MEASURED FROM	TOP OF ROTARY TABLE
ELEVATION	3404 KB
DRILLING MEASURED FROM	8' ABOVE GROUND LEVEL
ELEVATION	3394 GL
PERMANENT DATUM	
TYPE OF LOG	GAMMA RAY / GROUND NEUTRON
RUN NUMBER	ONE / ONE
DATE	3-25-56 / 3-25-56
TOTAL DEPTH (DRILLER)	3600 / 3600
DEPTH OF DRILLER	3605.5 / 3605.5
TOP OF LOGGED INTERVAL	SURFACE / SURFACE
SECTION OF LOGGED INTERVAL	3600 / 3600
TYPE FLUID IN HOLE	MUD / MUD
FLUID LEVEL	FULL / FULL
MAXIMUM RECORDED TEMP.	
D.O.D. OF INTERMEDIATE — INCHES	3 5/8 / 3 5/8
TIME CONSTANT — SECONDS	CSA / CSA
LOGGING SPEED — FEET/MINUTE	15-60 / 15-60
STATISTICAL RADIATION — INCHES	
COUNTER	F / PH
HYDRAULIC PT.	WEIGHT / WEIGHT
WITNESSED PT.	STARR / STARR

BEFORE THE CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
CASE 1250

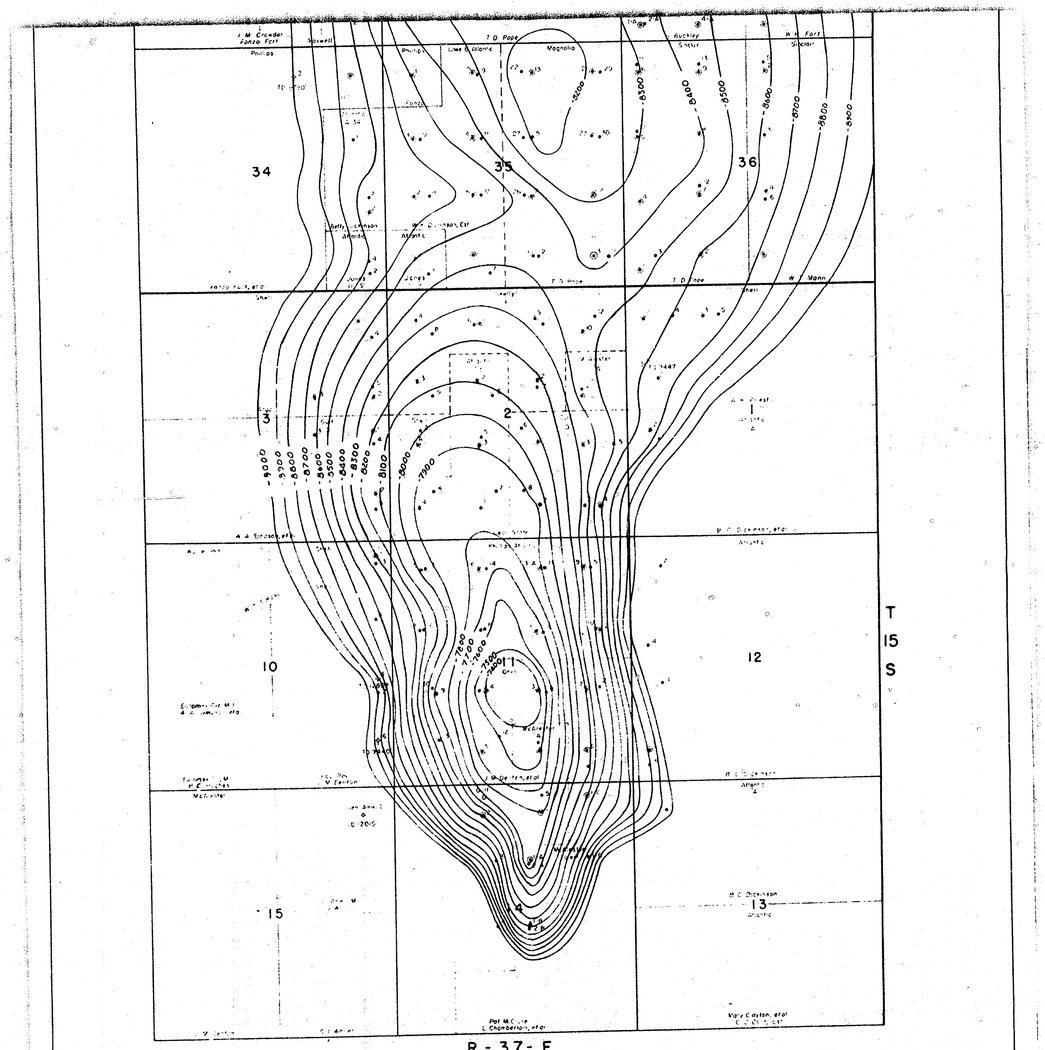
CASING RECORD				OPEN HOLE RECORD			
RUN NO.	SIZE, IN.	WEIGHT, LB.	INTERVAL	SIZE, IN.	INTERVAL		
ONE	5 1/2		SURFACE TO 3456	4 3/4 BH	3450 TO 3600		

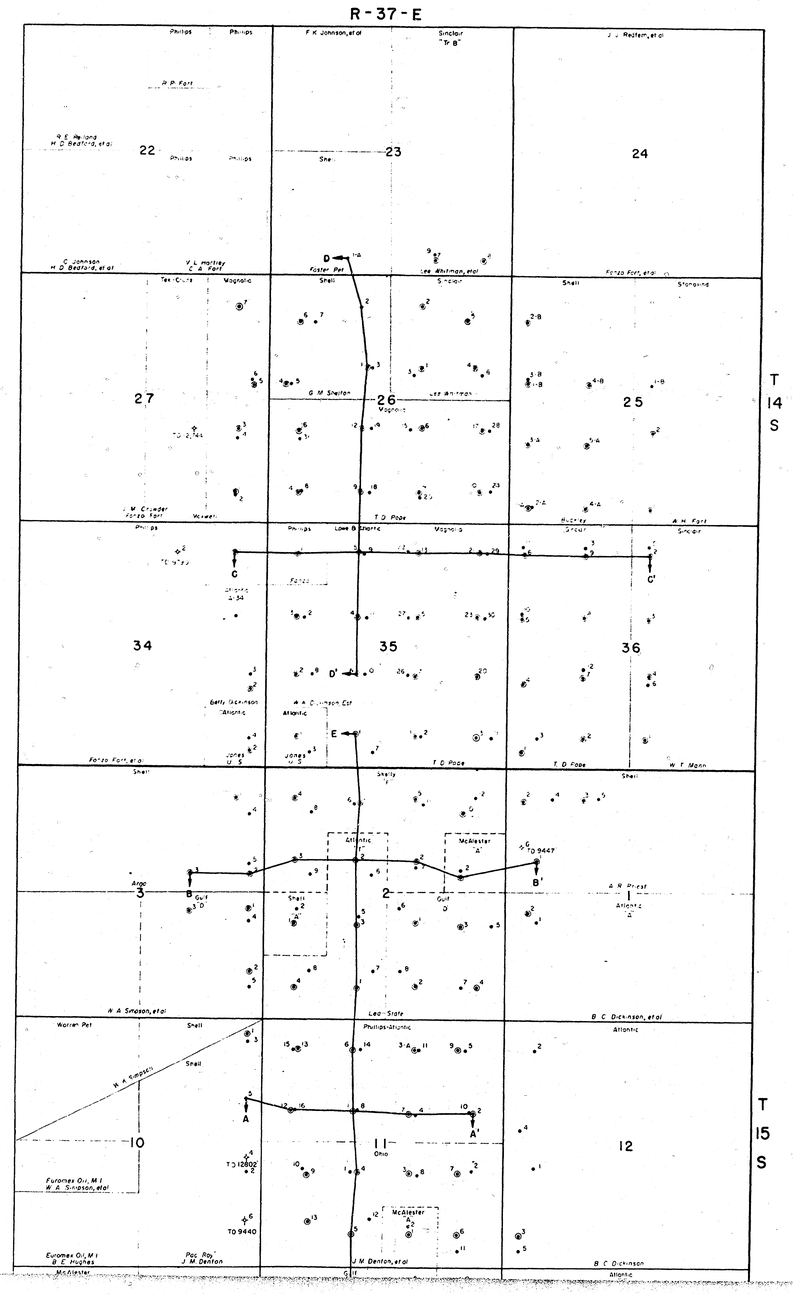


194

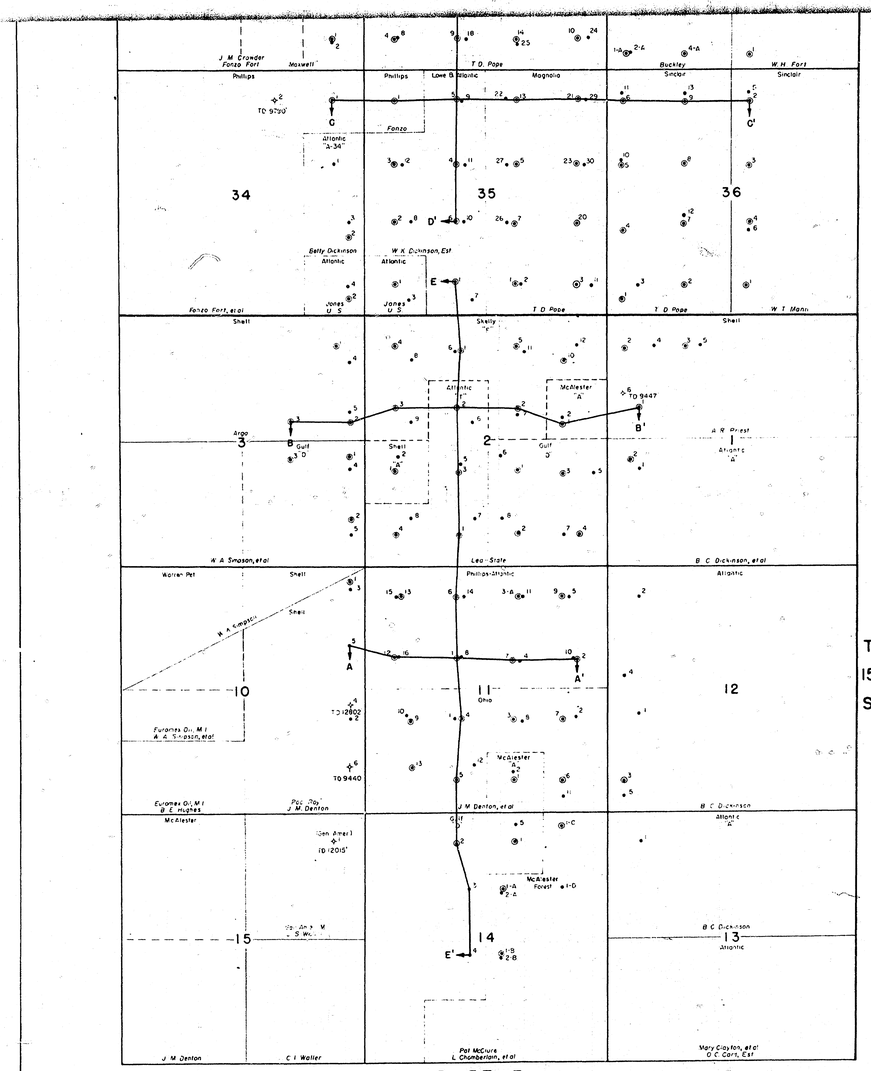

R-37-E
22
23
24
27
26
25
T
14
S
34
35
36
3
2
1
-8100
-8300
-8400
-8500
-8600
-8700
-8800
-8900
-9000
-8900
-8800
-8700
-8600
-8500
-8400
-8300
-8200
-8100
-8000
-7900
Magnolia
Atlantic
Shell
Leo State
Phillips Atlantic
B. C. Dickinson, et al
Atlantic

195


34
35
36
3
2
10
11
12
15
13
R-37-E
T 15 S
-9000
-8900
-8800
-8700
-8600
-8500
-8400
-8300
-8200
-8100
-8000
-7900
-7800
-7700
-7600
-7500
-7400
-7300
-7200
-7100
-7000
T. D. Pool
Magnolia
Kirkpatrick Stanolind
W. H. Ford
Skelly
Mann
Gulf
Amerada
Shell
Humble
Ohio
Sinclair
Pan Am
Stanolind
Atlantic
Texas
Continental
Phillips
Roswell
Amerada
Gulf


R-37-E
T 14 S
T 15 S
22
23
24
27
26
25
34
35
36
3
2
1
10
11
12
Phillips
Shell
Magnolia
Atlantic
Ohio
McAlester
Gulf
Argo
Lea-State
Phillips-Atlantic
Warren Pet
Euromex Oil, M.I.
W. A. Simpson, et al
B. C. Dickinson, et al
J. M. Denton, et al
Pac. Ray
TD 9440
TD 9447

197



LEGEND

- WOLFCAMP WELLS
- DEVONIAN WELLS

N

DENTON FIELD

LEA COUNTY, NEW MEXICO

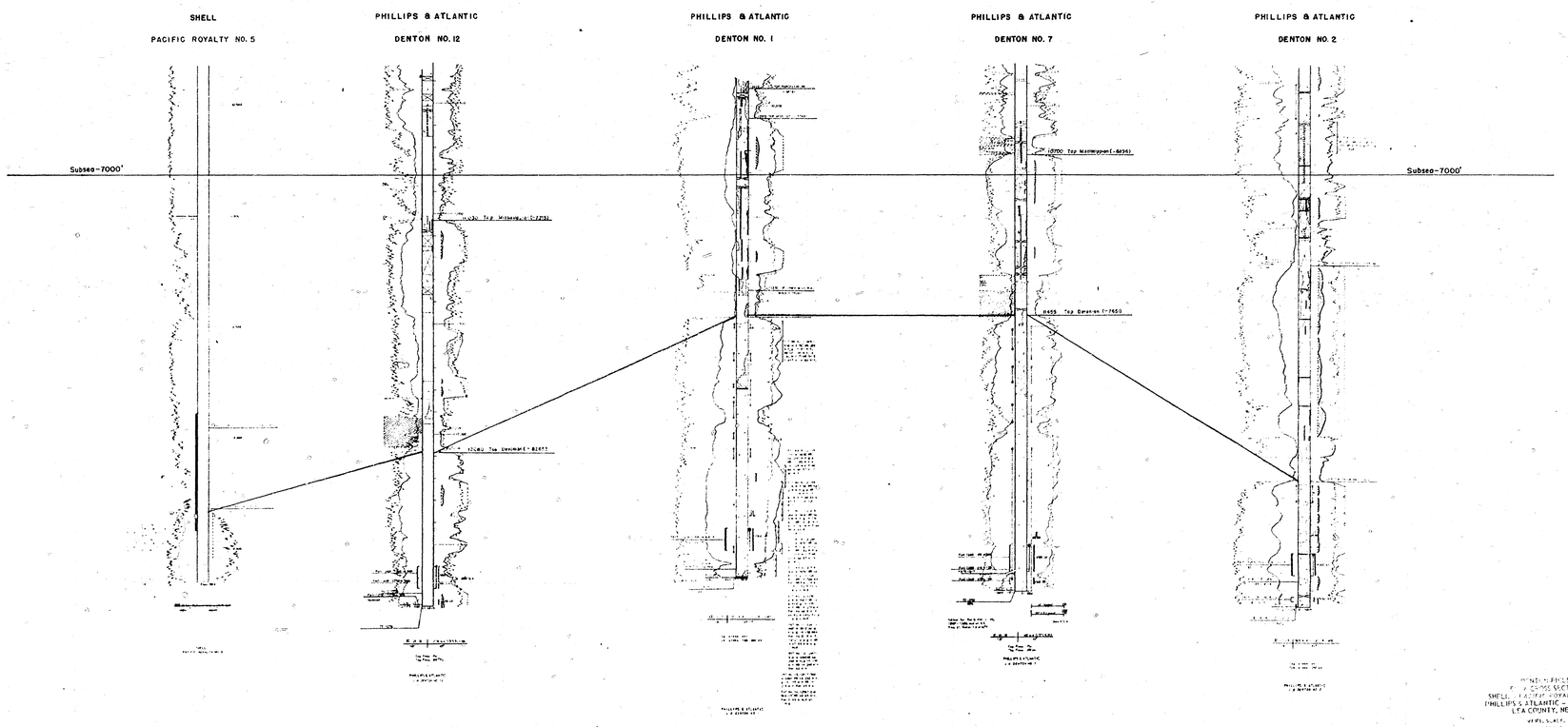
SCALE 0 1000 2000 FEET

GROSS SECTION INDEX

BEFORE THE
OIL CONS. MEXICO COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 2
CASE 1052

1-26-56 RLP

198

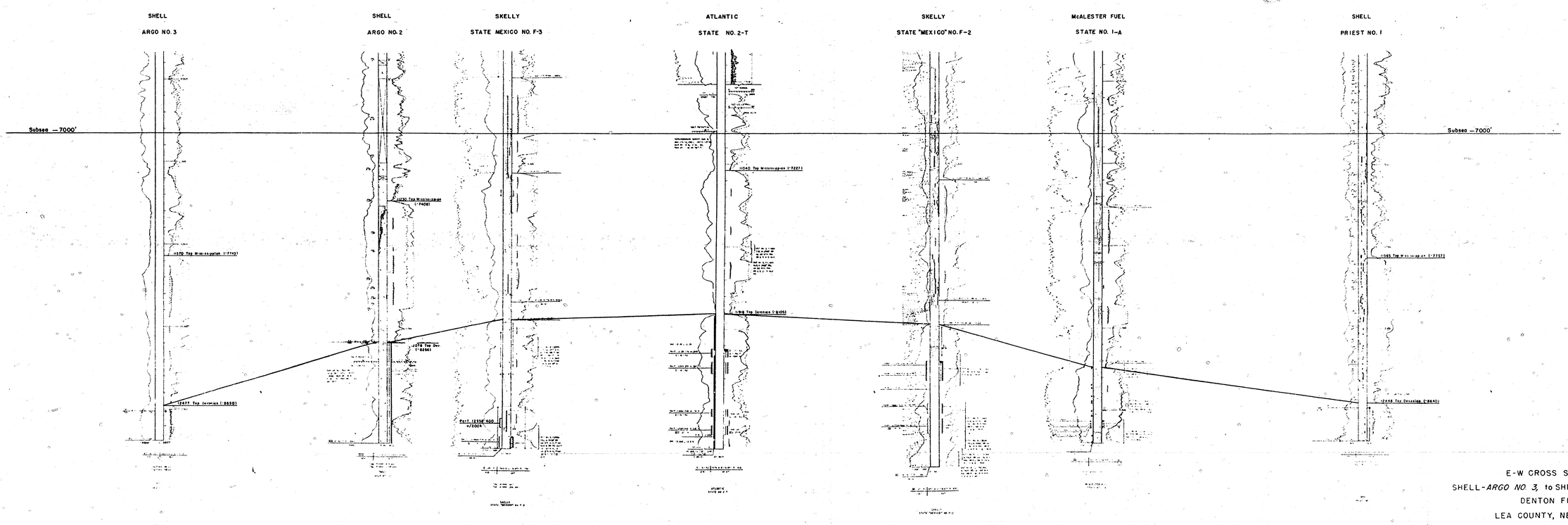


DENTON FIELD
E - E' CROSS SECTION
SHELL - PACIFIC ROYALTY NO. 5, 16
PHILLIPS & ATLANTIC - DENTON NO. 2
LEA COUNTY, NEW MEXICO

SECTION A-A'

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
CASE 1052 EXHIBIT NO. 3
CASE 1052 EX # 3

199



E-W CROSS SECTION

SHELL-*ARGO NO. 3,* to SHELL-*PRIEST NO. 1*

DENTON FIELD

LEA COUNTY, NEW MEXICO

VERT. SCALE-1"=200'

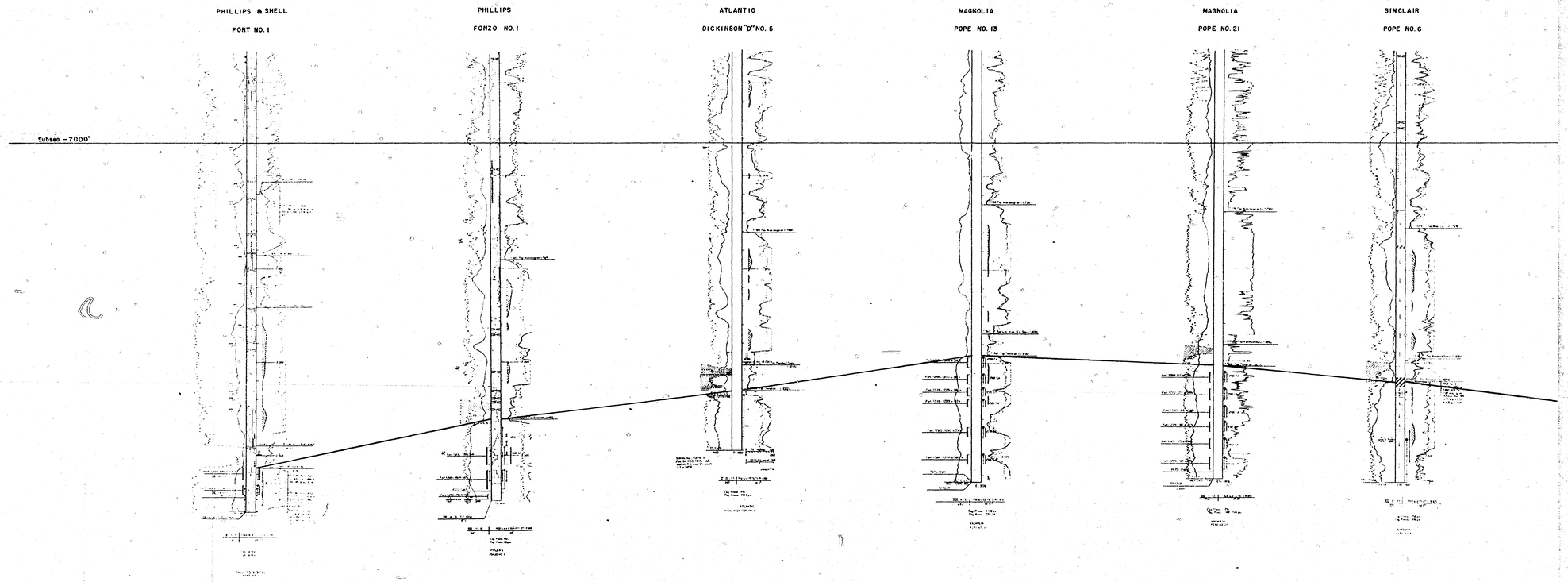
HORIZ. SCALE-1"=200'

SECTION B-B'

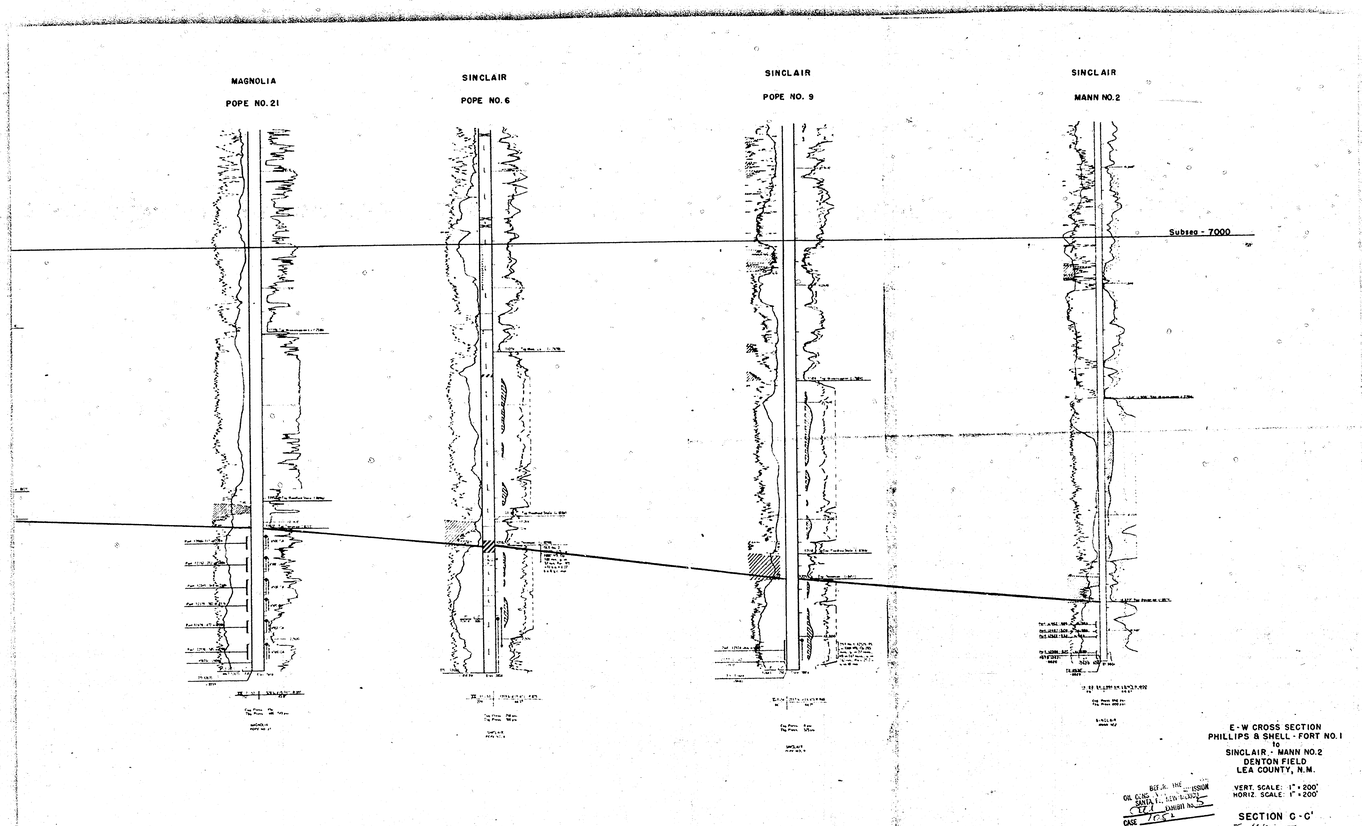
Exhibit 4

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Exhibit No. 4
CASE 1052

200


PHILLIPS & SHELL
FORT NO. 1
PHILLIPS
FONZO NO. 1
ATLANTIC
DICKINSON "D" NO. 5
MAGNOLIA
POPE NO. 13
MAGNOLIA
POPE NO. 21
SINCLAIR
POPE NO. 6
Subsea -7000'

201



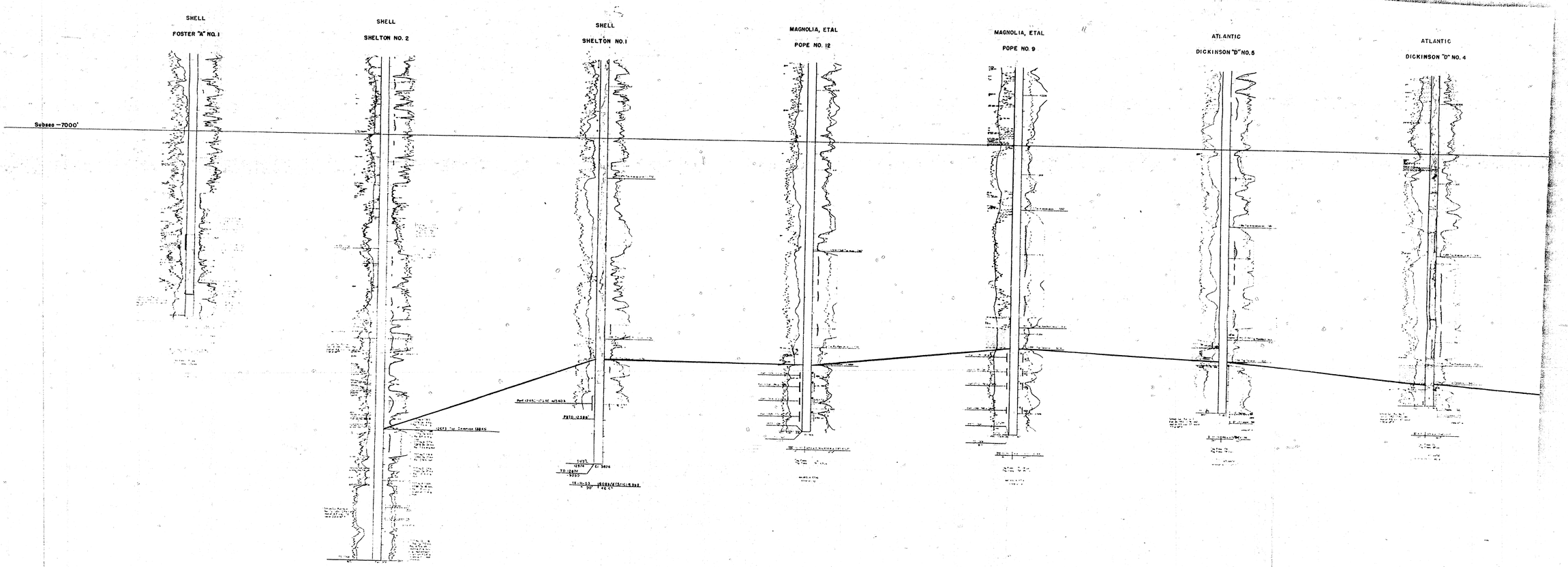
E-W CROSS SECTION
PHILLIPS & SHELL - FORT NO. 1
to
SINCLAIR - MANN NO. 2
DENTON FIELD
LEA COUNTY, N.M.

VERT. SCALE: 1" = 200'
HORIZ. SCALE: 1" = 200'

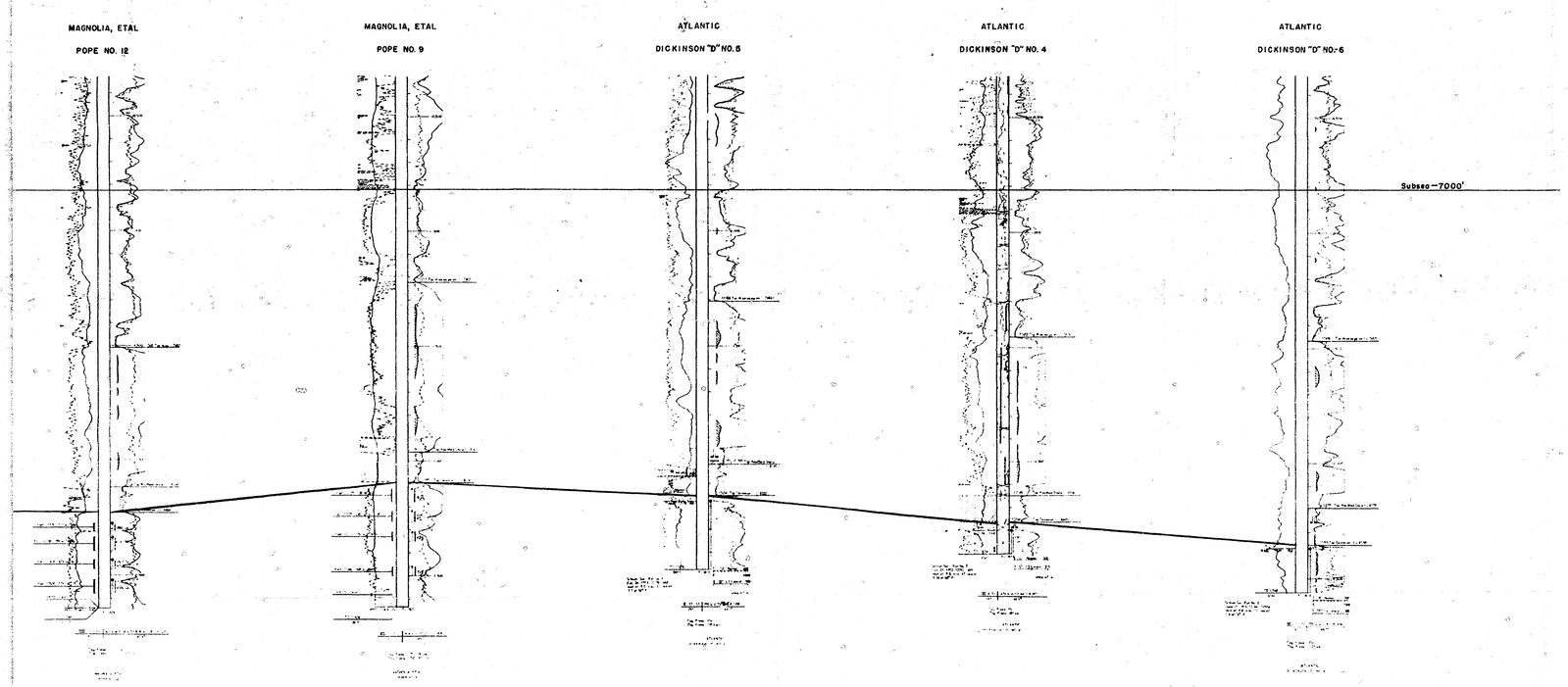
SECTION C-C'
Exhibit 5

OIL CONS. DIVISION
SANTA FE, NEW MEXICO
EXHIBIT No. 5
CASE 102

202


SHELL
FOSTER "A" NO. 1
SHELL
SHELTON NO. 2
SHELL
SHELTON NO. 1
MAGNOLIA, ETAL
POPE NO. 12
MAGNOLIA, ETAL
POPE NO. 9
ATLANTIC
DICKINSON "B" NO. 5
ATLANTIC
DICKINSON "D" NO. 4
Subsea -7000'

203

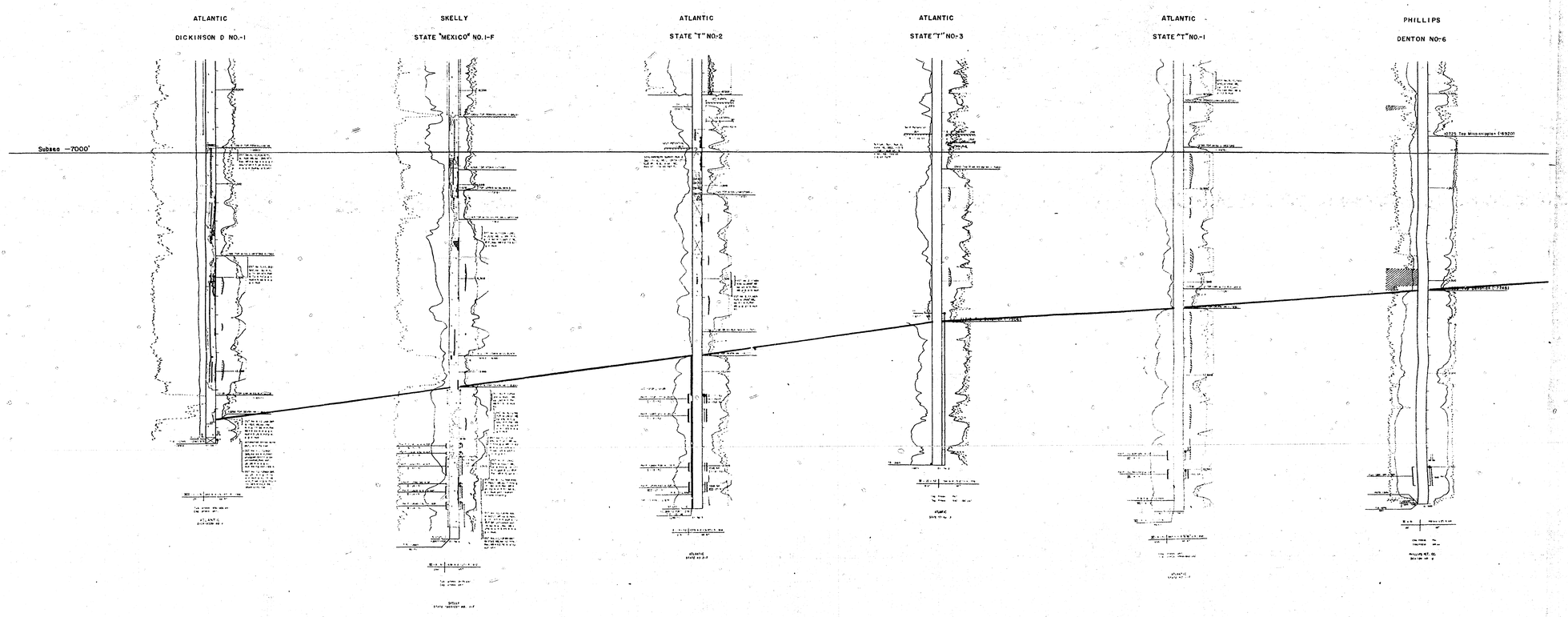


SECTION D-D'

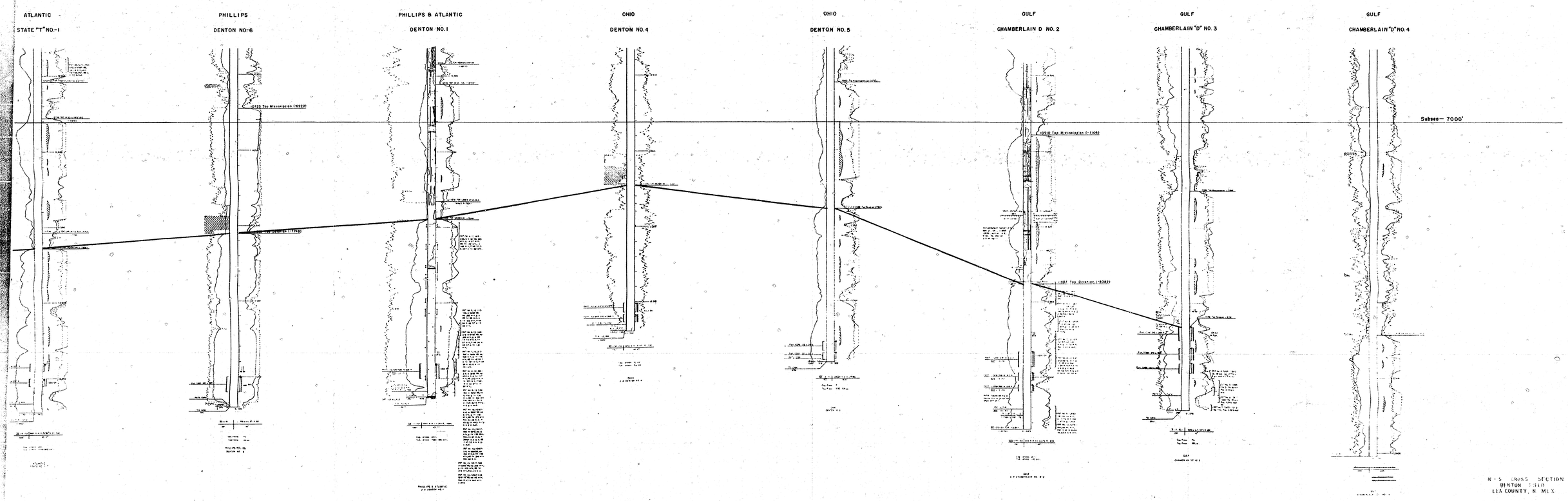
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
CASE 7152 EXHIBIT No. 6

Exhibit 6

204


ATLANTIC
DICKINSON D NO.-1
SKELLY
STATE "MEXICO" NO.1-F
ATLANTIC
STATE "T" NO-2
ATLANTIC
STATE "T" NO-3
ATLANTIC
STATE "T" NO-1
PHILLIPS
DENTON NO-6
Subsea —7000'

205



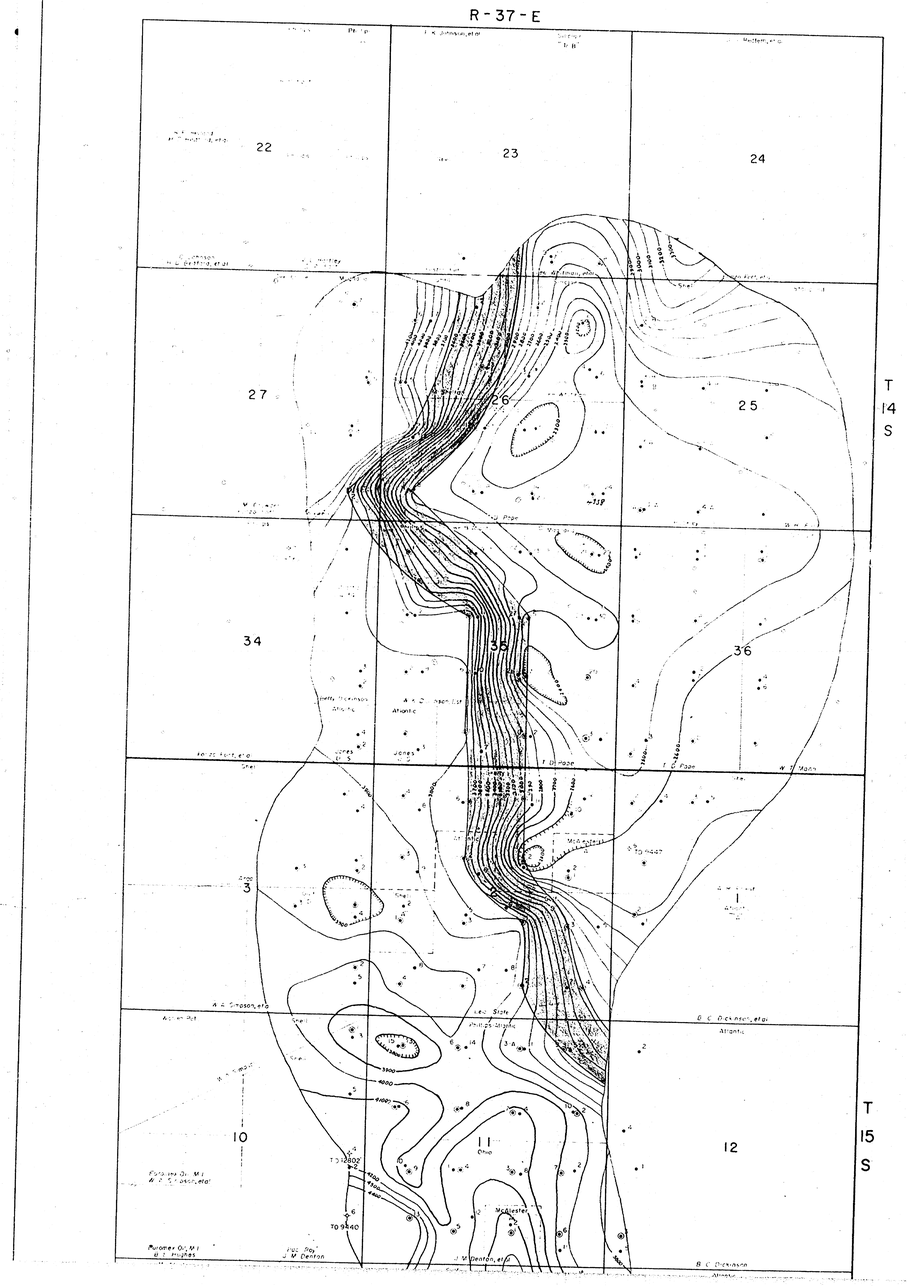
N-S CROSS SECTION
DENTON FIELD
LEA COUNTY, N. MEX.

SCALES
VERT. 1" = 200'
HORIZ. 1" = 200'

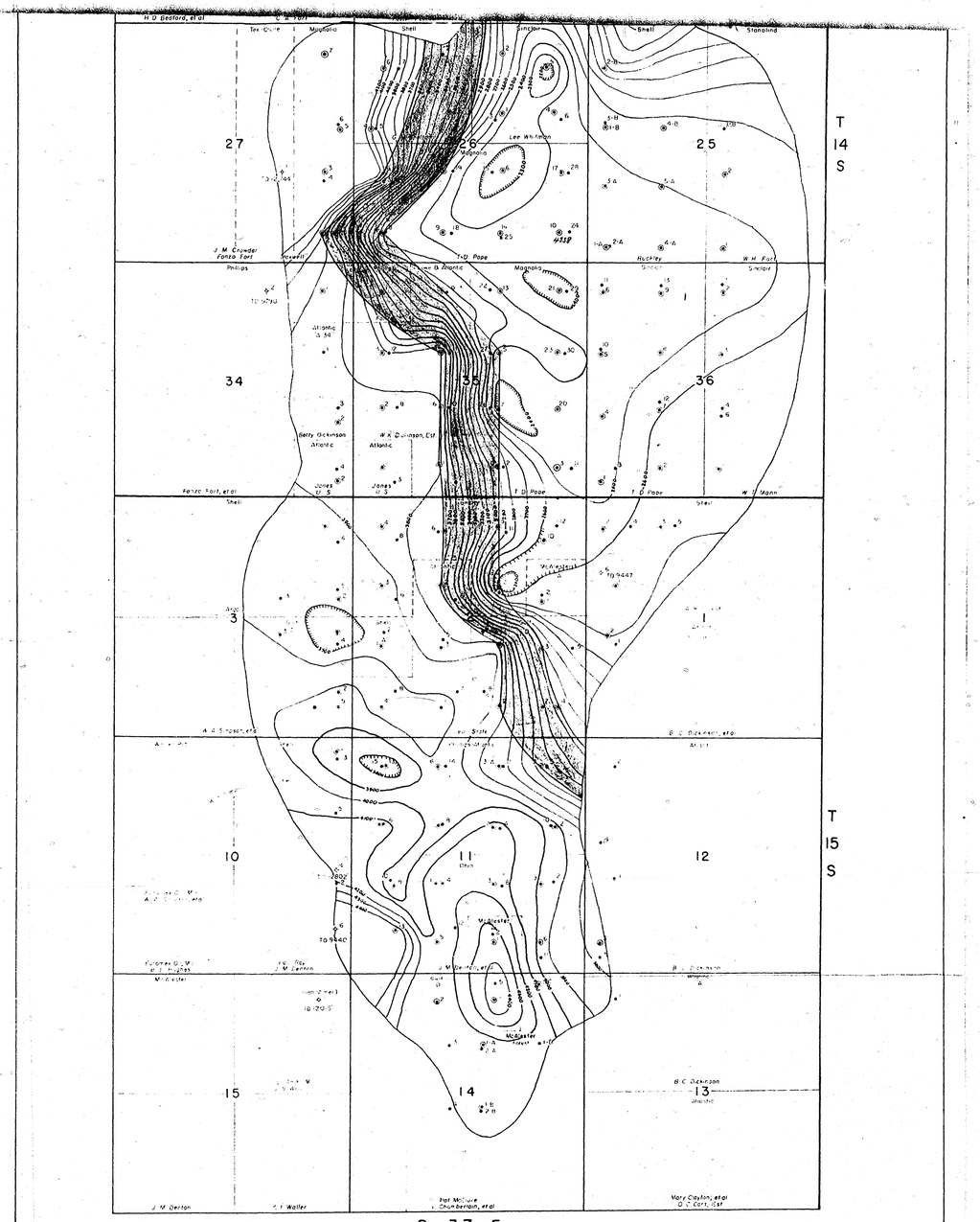
SECTION E-E'

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
CASE EXHIBIT No. 7
CASE

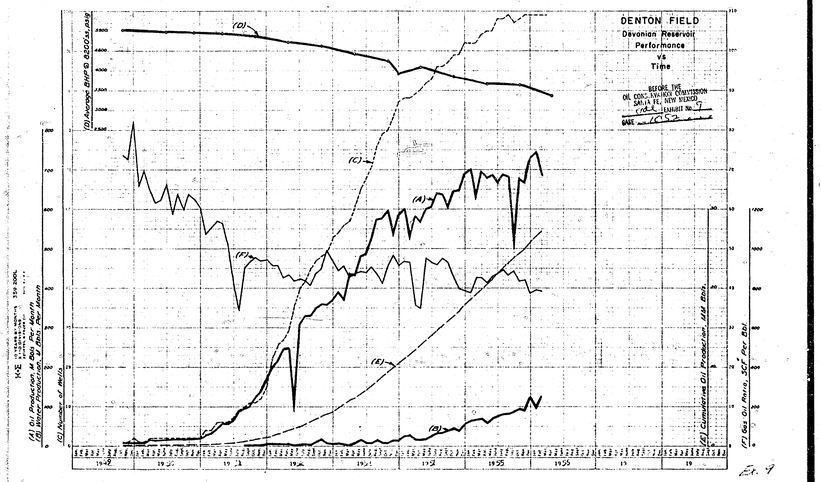
206



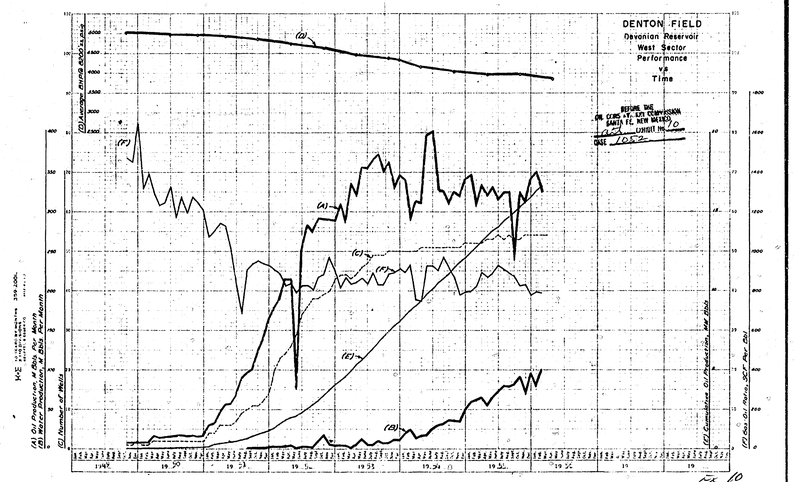
207


T 14 S
T 15 S
R-37-E
27
26
25
34
35
36
3
1
10
11
12
15
14
13
LEGEND
WOLFCAMP WELLS
DEVONIAN WELLS
N
DENTON FIELD
LEA COUNTY, NEW MEXICO
SCALE
FEET
ISOBARIC MAP
April, 1956 B.H.P. Survey
Contour Interval 100 psig
Field Datum 8200' ss
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
CASE 1052 EXHIBIT NO. 8
Exhibit 8.
1-26-56
RLP

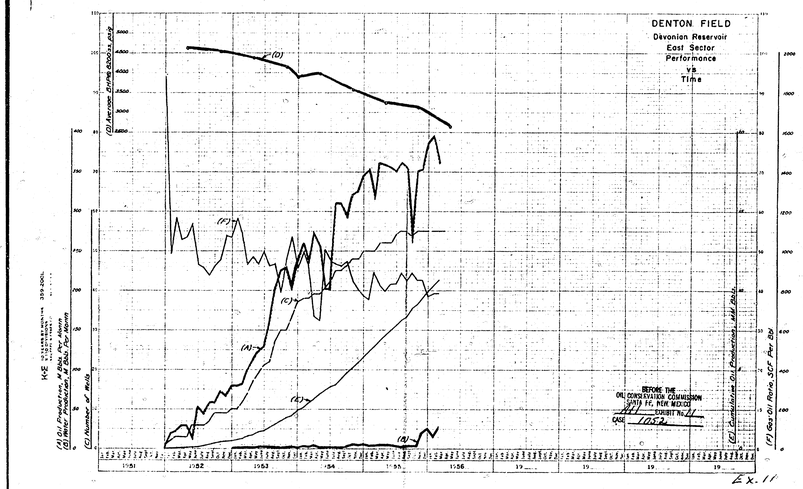
208



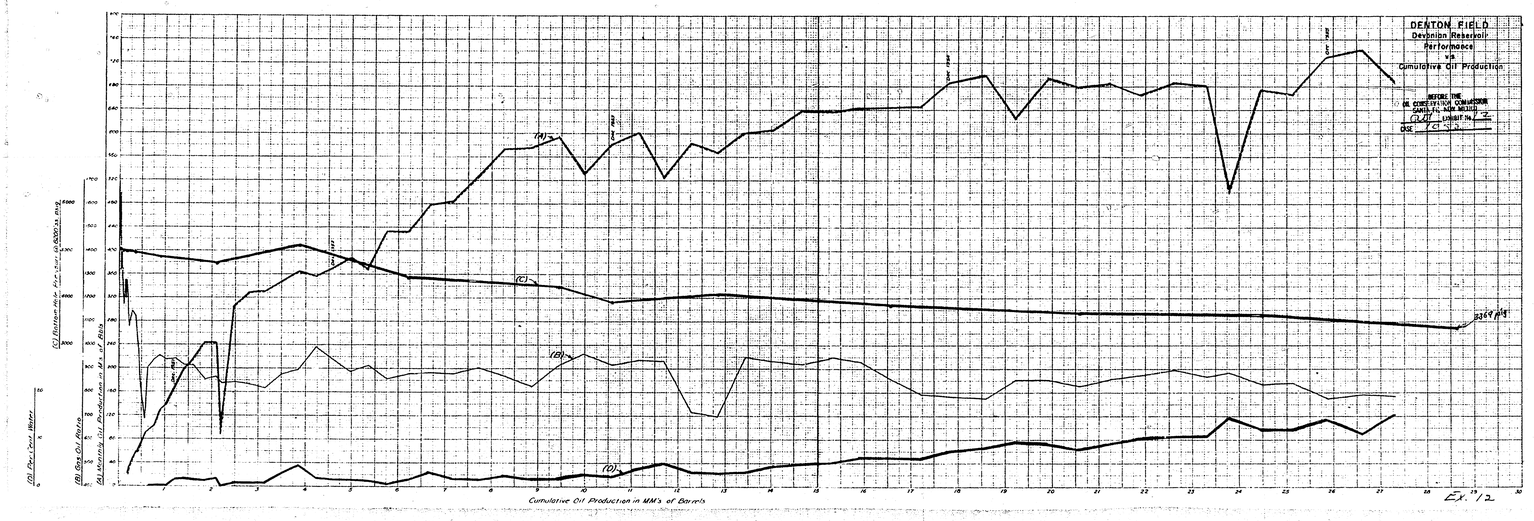
Ex. 9



Ex. 10

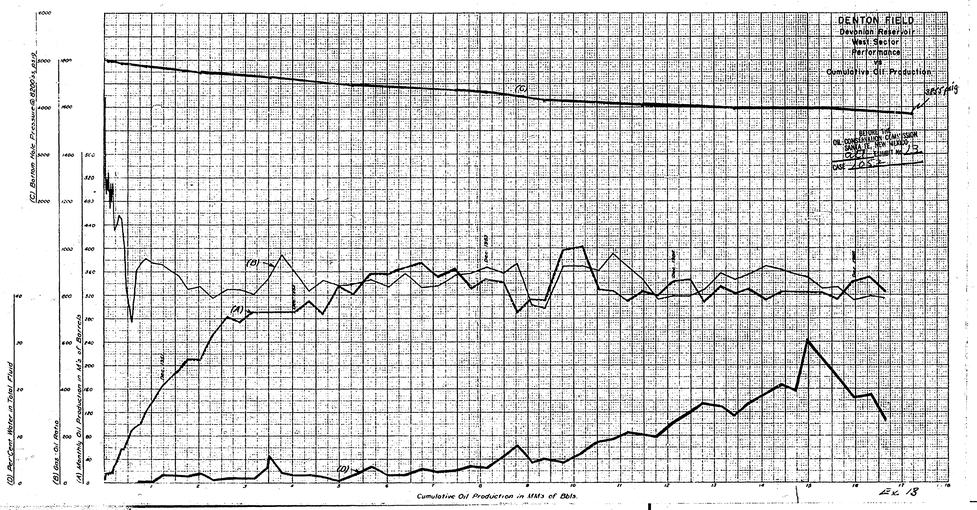


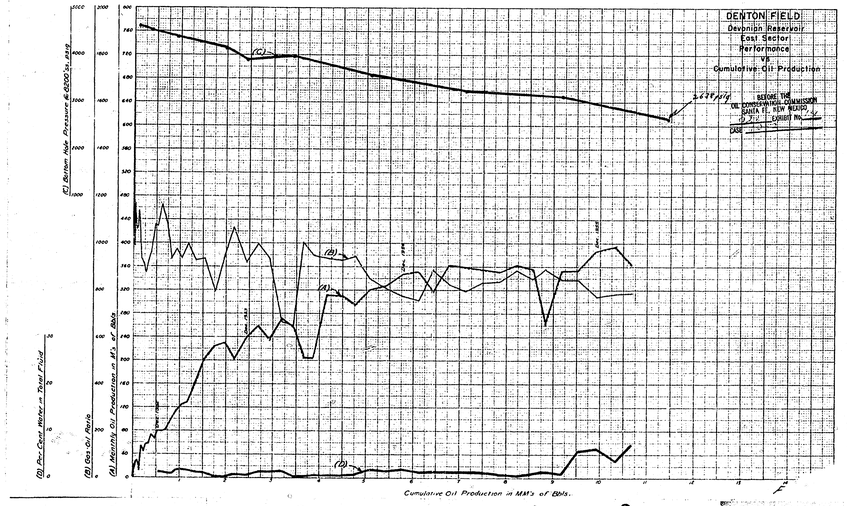
Ex. 11



Ex. 12

209





BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 15
CASE 1015

Ex. 15

OIL, GAS, AND WATER PRODUCTION RATES
DENTON DEVONIAN RESERVOIR

Year	Month	No. Wells	Oil Production Bbls	Cum. Oil Production Bbls	Water Production Bbls	Cum. Water Production Bbls	Gas Production MCF	Cum. Gas Production MCF	GOR	BHP Arith. or Weighted Avg.	% Water in Total Fluid
1949	Oct.	1	7,412	7,412			10,910	10,910	1476	5,009	
	Nov.	1	7,163	14,575			10,444	21,354	1458		
	Dec.	2	7,412	21,987			12,146	33,500	1641		
1950	Jan.	1	7,428	29,415			9,787	43,336	1318		
	Feb.	1	7,165	36,580			10,000	53,336	1396		
	March	2	16,863	53,443			21,261	74,617	1293		
	April	2	14,408	67,851			17,766	92,377	1233		
	May	2	14,915	82,766			18,575	110,952	1245		
	June	2	15,282	97,648			20,218	131,170	1323	4,977	
	July	2	16,512	114,160			19,318	150,488	1171		
	August	2	17,382	131,542			22,208	172,706	1278		
	Sept.	2	16,143	147,685			19,493	192,199	1198		
	Oct.	2	17,425	165,110			22,260	214,459	1277		
	Nov.	2	16,230	181,340			20,251	234,710	1248	4,965	
	Dec.	2	17,057	198,697			20,486	255,196	1201		
1951	Jan.	4	19,052	217,749			21,819	277,015	1107		
	Feb.	4	17,078	234,827			19,665	296,680	1101		
	March	6	15,719	250,546			17,315	313,995	1102		
	April	6	15,319	265,865			17,861	331,856	1166	4,947	
	May	6	17,487	283,352			17,536	349,392	1002		
	June	7	16,837	300,189			16,905	366,297	1004		
	July	9	18,938	319,127			21,275	387,572	1124		
	August	10	19,504	338,631			21,504	409,076	1102		
	Sept.	10	18,555	357,186			20,468	429,544	1103		
	Oct.	10	19,441	376,627			21,425	450,969	1102		
	Nov.	10	18,753	395,380			20,667	471,636	1102		
	Dec.	10	19,191	414,571			21,146	492,782	1102		
1952	Jan.	10	19,076	433,647			21,016	513,798	1102		
	Feb.	10	17,236	450,883			18,992	532,790	1102		
	March	10	19,191	470,074			21,146	553,936	1102		
	April	10	18,576	488,650			20,467	574,403	1102		
	May	10	19,191	507,841			21,146	595,549	1102		
	June	10	18,576	526,417			20,467	616,016	1102		
	July	10	19,191	545,608			21,146	637,162	1102		
	August	10	19,191	564,799			21,146	658,308	1102		
	Sept.	10	18,576	583,375			20,467	678,775	1102		
	Oct.	10	19,191	602,566			21,146	699,921	1102		
	Nov.	10	18,576	621,142			20,467	720,388	1102		
	Dec.	10	19,191	640,333			21,146	741,534	1102		
1953	Jan.	10	19,191	659,524			21,146	762,680	1102		
	Feb.	10	17,336	676,860			19,102	781,782	1102		
	March	10	19,191	696,051			21,146	802,928	1102		
	April	10	18,576	714,627			20,467	823,395	1102		
	May	10	19,191	733,818			21,146	844,541	1102		
	June	10	18,576	752,394			20,467	865,008	1102		
	July	10	19,191	771,585			21,146	886,154	1102		
	August	10	19,191	790,776			21,146	907,300	1102		
	Sept.	10	18,576	809,352			20,467	927,767	1102		
	Oct.	10	19,191	828,543			21,146	948,913	1102		
	Nov.	10	18,576	847,119			20,467	969,380	1102		
	Dec.	10	19,191	866,310			21,146	990,526	1102		
1954	Jan.	10	19,191	885,501			21,146	1,011,672	1102		
	Feb.	10	17,336	902,837			19,102	1,030,774	1102		
	March	10	19,191	922,028			21,146	1,051,920	1102		
	April	10	18,576	940,604			20,467	1,072,387	1102		
	May	10	19,191	959,795			21,146	1,093,533	1102		
	June	10	18,576	978,371			20,467	1,114,000	1102		
	July	10	19,191	997,562			21,146	1,135,146	1102		
	August	10	19,191	1,016,753			21,146	1,156,292	1102		
	Sept.	10	18,576	1,035,329			20,467	1,176,759	1102		
	Oct.	10	19,191	1,054,520			21,146	1,197,905	1102		
	Nov.	10	18,576	1,073,096			20,467	1,218,372	1102		
	Dec.	10	19,191	1,092,287			21,146	1,239,518	1102		
1955	Jan.	10	19,191	1,111,478			21,146	1,260,664	1102		
	Feb.	10	17,336	1,128,814			19,102	1,279,766	1102		
	March	10	19,191	1,148,005			21,146	1,300,912	1102		
	April	10	18,576	1,166,581			20,467	1,321,379	1102		
	May	10	19,191	1,185,772			21,146	1,342,525	1102		
	June	10	18,576	1,204,348			20,467	1,362,992	1102		
	July	10	19,191	1,223,539			21,146	1,384,138	1102		
	August	10	19,191	1,242,730			21,146	1,405,284	1102		
	Sept.	10	18,576	1,261,306			20,467	1,425,751	1102		
	Oct.	10	19,191	1,280,497			21,146	1,446,897	1102		
	Nov.	10	18,576	1,299,073			20,467	1,467,364	1102		
	Dec.	10	19,191	1,318,264			21,146	1,488,510	1102		
1956	Jan.	10	19,191	1,337,455			21,146	1,509,656	1102		
	Feb.	10	17,336	1,354,791			19,102	1,528,758	1102		
	March	10	19,191	1,373,982			21,146	1,549,904	1102		
	April	10	18,576	1,392,558			20,467	1,570,371	1102		
	May	10	19,191	1,411,749			21,146	1,591,517	1102		
	June	10	18,576	1,430,325			20,467	1,611,984	1102		
	July	10	19,191	1,449,516			21,146	1,633,130	1102		
	August	10	19,191	1,468,707			21,146	1,654,276	1102		
	Sept.	10	18,576	1,487,283			20,467	1,674,743	1102		
	Oct.	10	19,191	1,506,474			21,146	1,695,889	1102		
	Nov.	10	18,576	1,525,050			20,467	1,716,356	1102		
	Dec.	10	19,191	1,544,241			21,146	1,737,502	1102		
1957	Jan.	10	19,191	1,563,432			21,146	1,758,648	1102		
	Feb.	10	17,336	1,580,768			19,102	1,777,750	1102		
	March	10	19,191	1,599,959			21,146	1,798,896	1102		
	April	10	18,576	1,618,535			20,467	1,819,363	1102		
	May	10	19,191	1,637,726			21,146	1,840,509	1102		
	June	10	18,576	1,656,302			20,467	1,860,976	1102		
	July	10	19,191	1,675,493			21,146	1,882,122	1102		
	August	10	19,191	1,694,684			21,146	1,903,268	1102		
	Sept.	10	18,576	1,713,260			20,467	1,923,735	1102		
	Oct.	10	19,191	1,732,451			21,146	1,944,881	1102		
	Nov.	10	18,576	1,751,027			20,467	1,965,348	1102		
	Dec.	10	19,191	1,770,218			21,146	1,986,494	1102		
1958	Jan.	10	19,191	1,789,409			21,146	2,007,640	1102		
	Feb.	10	17,336	1,806,745			19,102	2,026,742	1102		
	March	10	19,191	1,825,936			21,146	2,047,888	1102		
	April	10	18,576	1,844,512			20,467	2,068,355	1102		
	May	10	19,191	1,863,703			21,146	2,089,501	1102		
	June	10	18,576	1,882,279			20,467	2,109,968	1102		
	July	10	19,191	1,901,470			21,146	2,131,114	1102		
	August	10	19,191	1,920,661			21,146	2,152,260	1102		
	Sept.	10	18,576	1,939,237			20,467	2,172,727	1102		
	Oct.	10	19,191	1,958,428			21,146	2,193,873	1102		
	Nov.	10	18,576	1,977,004			20,467	2,214,340	1102		
	Dec.	10	19,191	1,996,195			21,146	2,235,486	1102		
1959	Jan.	10	19,191	2,015,386			21,146	2,256,632	1102		
	Feb.	10	17,336	2,032,722			19,102	2,275,734	1102		
	March	10	19,191	2,051,913			21,146	2,296,880	1102		
	April	10	18,576	2,070,489			20,467	2,317,347	1102		
	May	10	19,191	2,089,680			21,146	2,338,493	1102		
	June	10	18,576	2,108,256			20,467	2,358,960	1102		
	July	10	19,191	2,127,447			21,146	2,380,106	1102		
	August	10	19,191	2,146,638			21,146	2,401,252	1102		
	Sept.	10	18,576	2,165,214			20,467	2,421,719	1102		
	Oct.	10	19,191	2,184,405			21,146	2,442,865	1102		
	Nov.	10	18,576	2,202,981			20,467	2,463,332	1102		
	Dec.	10	19,191	2,222,172			21,146	2,484,478	1102		
1960	Jan.	10	19,191	2,241,363			21,146	2,505,624	1102		
	Feb.	10	17,336	2,258,699			19,102	2,524,726	1102		
	March	10	19,191	2,277,890			21,146	2,545,872	1102		
	April	10	18,576	2,296,466			20,467	2,566,339	1102		
	May	10	19,191	2,315,657			21,146	2,587,485	1102		
	June	10	18,576	2,334,233			20,467	2,607,952	1102		
	July	10	19,191	2,353,424			21,146	2,629,098	1102		
	August	10	19,191	2,372,615			21,146	2,650,244	1102		
	Sept.	10	18,576	2,391,191			20,467	2,670,711	1102		
	Oct.	10	19,191	2,410,382			21,146	2,691,857	1102		
	Nov.	10	18,576	2,428,958			20,467	2,712,324	1102		
	Dec.	10	19,191	2,448,149			21,146	2,733,470	1102		
1961	Jan.	10	19,191	2,467,340			21,146	2,754,616	1102		
	Feb.	10	17,336	2,484,676			19,102	2,773,718	1102		
	March	10	19,191	2,503,867			21,146	2,794,864	1102		
	April	10	18,576	2,522,443			20,467	2,815,331	1102		
	May	10	19,191	2,541,634			21,146	2,836,477	1102		
	June	10	18,576	2,560,210			20,467	2,856,944	1102		
	July	10	19,191	2,579,401			21,146	2,878,090	1102		
	August	10	19,191	2,598,592			21,146	2,899,236	1102		
	Sept.	10	18,576	2,617,168			20,467	2,919,703	1102		
	Oct.	10	19,191	2,636,359			21,146	2,940,849	1102		
	Nov.	10	18,576	2,654,935			20,467	2,961,316	1102		
	Dec.	10	19,191	2,674,126			21,146	2,982,462	1102		
1962	Jan.	10	19,191	2,693,317			21,146	3,003,608	1102		
	Feb.	10	17,336	2,710,653			19,102	3,022,710	1102		
	March	10	19,191	2,729,844			21,146	3,043,856	1102		
	April	10	18,576	2,748,420			20,467	3,064,323	1102		
	May	10	19,191	2,767,611			21,146	3,085,469	1102		
	June	10	18,576	2,786,187			20,467	3,105,936	1102		
	July	10	19,191	2,805,378			21,146	3,127,082	1102		
	August	10	19,191	2,824,569			21,146	3,148,228	1102		
	Sept.	10	18,576	2,843,145			20,467	3,168,695	1102		
	Oct.	10	19,191	2,862,336			21,146	3,189,841	1102		
	Nov.	10	18,576	2,880,912			20,467	3,210,308	1102		
	Dec.	10	19,191	2,900,103			21,146	3,231,454	1102		
1963	Jan.	10	19,191	2,919,294			21,146	3,252,600	1102		
	Feb.	10	17,336	2,936,630			19,102	3,271,702	1102		
	March	10	19,191	2,955,821			21,146	3,292,848	1102		
	April	10	18,576	2,974,397			20,467	3,313,315	1102		
	May	10	19,191	2,993,588			21,146	3,334,461	1102		
	June	10	18,576	3,012,164			20,467	3,354,928	1102		
	July	10	19,191	3,031,355			21,146	3,376,074	1102		
	August	10	19,191	3,050,546			21,146	3,397,220	1102		
	Sept.	10	18,576	3,069,122			20,467	3,417,687	1102		
	Oct.	10	19,191	3,088,313			21,146	3,438,833	1102		
	Nov.	10	18,576	3,106,889			20,467	3,459,300	1102		
	Dec.	10	19,191	3,126,080			21,146	3,480,446	1102		
1964	Jan.	10	19,191	3,145,271			21,146	3,501,592	1102		
	Feb.	10	17,336	3,162,607			19,102	3,520,694	1102		
	March	10	19,191	3,181,798			21,146	3,541,840	1102		
	April	10	18,576	3,200,374			20,467	3,562,307	1102		
	May	10	19,191	3,219,565			21,146	3,583,453	1102		
	June	10	18,576	3,238,141			20,467	3,603,920	1102		
	July	10	19,191	3,257,332			21,146	3,625,066	1102		
	August	10	19,191	3,276,523			21,146	3,646,212	1102		
	Sept.	10	18,576	3,295,099			20,467	3,666,679	1102		
	Oct.	10	19,191	3,314,290			21,146	3,687,825	1102		
	Nov.	10	18,576	3,332,866			20,467	3,708,292	1102		
	Dec.	10	19,191	3,352,057			21,146	3,729,438	1102		
1965	Jan.	10	19,191	3,371,248			21,146	3,750,584	1102		
	Feb.	10	17,336	3,388,584			19,102	3,769,686	1102		
	March	10	19,191	3,407,775			21,146	3,790,832	1102		
	April	10	18,576	3,426,351			20,467	3,811,299	1102		
	May	10	19,191	3,445,542			21,146	3,832,445	1102		
	June	10	18,576	3,464,118			20,467	3,852,912	1102		
	July	10	19,191	3,483,309			21,146	3,874,058	1102		
	August	10	19,191	3,502,500			21,146	3,895,204	1102		
	Sept.	10	18,576	3,521,076			20,467	3,915,671	1102		
	Oct.	10	19,191	3,540,267			21,146	3,936,817	1102		
	Nov.	10	18,576	3,558,843			20,467	3,957,284	1102		
	Dec.	10	19,191	3,578,034			21,146	3,978,430	1102		
1966	Jan.	10	19,191	3,597,225			21,146	3,999,576	1102		
	Feb.	10	17,336	3,614,561			19,102	4,018,678	1102		
	March	10	19,191	3,633,752			21,146	4,039,824	1102		
	April	10	18,576	3,652,328			20,467	4,060,291	1102		
	May	10	19,191	3,671,519			21,146	4,081,437	1102		
	June	10	18,576	3,690,095			20,467	4,101,904	1102		
	July	10	19,191	3,709,286			21,146	4,123,050	1102		
	August	10	19,191	3,728,477			21,146	4,144,196	1102		
	Sept.	10	18,576	3,747,053			20,467	4,164,663	1102		
	Oct.	10	19,191	3,766,244			21,146	4,185,809	1102		
	Nov.	10	18,576	3,784,820			20,467	4,206,276	1102		
	Dec.	10	19,191	3,804,011			21,146	4,227,422	1102		
1967	Jan.	10	19,191	3,823,202			21,146	4,248,568	1102		
	Feb.	10	17,336	3,840,538			19,102	4,267,670	1102		
	March	10	19,191	3,859,729			21,146	4,288,816	1102		
	April	10	18,576	3,878,305			20,467	4,309,283	1102		
	May	10	19,191	3,897,496			21,146	4,330,429	1102		
	June	10	18,576	3,916,072			20,467	4,350,896	1102		
	July	10	19,191	3,935,263			21,146	4,372,042	1102		
	August	10	19,191	3,954,454			21,146	4,393,188	1102		
	Sept.	10	18,576	3,973,030			20,467	4,413,655	1102		
	Oct.	10	19,191	3,992,221			21,146	4,434,801	1102		
	Nov.	10	18,576	4,010,797			20,467	4,455,268	1102		
	Dec.	10	19,191	4,029,988			21,146	4,476,414	1102		
1968	Jan.	10	19,191	4,049,179			21,146	4,497,560	1102		
	Feb.	10	17,336	4,066,515			19,102	4,516,662	1102		
	March	10	19,191	4,085,706			21,146	4,537,808	1102		
	April	10	18,576	4,104,282			20,467	4,558,275	1102		
	May	10	19,191	4,123,473			21,146	4,579,421	1102		
	June	10	18,576	4,142,049			20,467	4,599,888	1102		
	July	10	19,191	4,161,240			21,146	4,621,034	1102		
	August	10	19,191	4,180,431			21,146	4,642,180	1102		
	Sept.	10	18,576	4,199,007			20,467	4,662,647	1102		
	Oct.	10	19,191	4,218,198			21,146	4,683,793	1102		
	Nov.	10	18,576	4,236,774			20,467	4,704,260	1102		
	Dec.	10	19,191	4,255,965			21,146	4,725,406	1102		
1969	Jan.	10	19,191	4,275,156			21,146	4,746,552	1102		
	Feb.	10	17,336	4,292,492			19,102	4,765,654	1102		
	March	10	19,191	4,311,683			21,146	4,786,800	1102		
	April	10	18,576	4,330,259			20,467	4,807,267	1102		
	May	10	19,191	4,349,450			21,146	4,828,413	1102		
	June	10	18,576	4,368,026			20,467	4,848,880	1102		
	July	10	19,191	4,387,217			21,146	4,870,026	1102		
	August	10	19,191	4,406,408			21,146	4,891,172	1102		
	Sept.	10	18,576	4,424,984			20,467	4,911,639	1102		
	Oct.	10	19,191	4,444,175			21,146	4,932,785	1102		
	Nov.	10	18,576	4,462,751			20,467	4,953,252	1102		
	Dec.	10	19,191	4,481,942			21,146	4,974,398	1102		
1970	Jan.	10	19,191	4,501,133			21,146	4,995,544	1102		
	Feb.	10	17,336	4,518,469			19,102	5,014,646	1102		
	March	10	19,191	4,537,660			21,146	5,035,792	1102		
	April	10	18,576	4,556,236			20,467	5,056,259	1102		
	May	10	19,191	4,575,427			21,146	5,077,405	1102		
	June	10	18,576	4,594,003			20,467	5,097,872	1102		
	July	10	19,191	4,613,194			21,146	5,119,018	1102		
	August	10	19,191	4,632,385			21,146	5,140,164	1102		
	Sept.	10	18,576	4,650,961			20,467	5,160,631	1102		
	Oct.	10	19,191	4,670,152			21,146	5,181,777	1102		
	Nov.	10	18,576	4,688,728			20,467	5,202,244	1102		
	Dec.	10	19,191	4,707,919			21,146	5,223,390	1102		
1971	Jan.	10	19,191	4,727,110			21,146	5,244,536	1102		
	Feb.	10	17,336	4,744,446			19,102	5,263,638	1102		
	March	10	19,191	4,763,637			21,146	5,284,784	1102		
	April	10	18,576	4,782,213			20,467	5,305,251	1102		
	May	10	19,191	4,801,404			21,146	5,326,397	1102		
	June	10	18,576	4,819,980			20,467	5,346,864	1102		
	July	10	19,191	4,839,171			21,146	5,368,010	1102		
	August	10	19,191	4,858,362			21,146	5,389,156	1102		
	Sept.	10	18,576	4,876,938			20,467	5,409,623	1102		
	Oct.	10	19,191	4,896,129			21,146	5,430,769	1102		
	Nov.	10	18,576	4,914,705			20,467	5,451,236	1102		
	Dec.	10	19,191	4,933,896			21,146	5,472,382	1102		
1972	Jan.	10	19,191	4,953,087			21,146	5,493,528	1102		
	Feb.	10	17,336	4,970,423			19,102	5,512,630	1102		
	March	10	19,191	4,989,614			21,146	5,533,776	1102		
	April	10	18,576	5,008,190			20,467	5,554,243	1102		
	May	10	19,191	5,027,381			21,146	5,575,389	1102		
	June	10	18,576	5,045,957			20,467	5,595,856	1102		
	July	10	19,191	5,065,148			21,146	5,617,002	1102		
	August	10	19,191	5,084,339			21,146	5,638,148	1102		
	Sept.	10	18,576	5,102,915			20,467	5,658,615	1102		
	Oct.	10	19,191	5,122,106			21,146	5,679,761	1102		
	Nov.	10	18,576	5,140,682			20,467	5,700,228	1102		
	Dec.	10	19,191	5,159,873			21,146	5,721,374	1102		
1973	Jan.	10	19,191	5,179,064			21,146	5,742,520	1102		
	Feb.	10	17,336	5,196,400			19,102	5,761,622	1102		
	March	10	19,191	5,215,591			21,146	5,782,768	1102		
	April	10	18,576	5,234,167			20,467	5,803,235	1102		
	May	10	19,191	5,253,358			21,146	5,824,381	1102		
	June	10	18,576	5,271,934			20,467	5,844,848	1102		
	July	10	19,191	5,291,125			21,146	5,865,994	1102		
	August	10	19,191	5,310,316			21,146	5,887,140	1102		
	Sept.	10	18,576	5,328,892			20,467	5,907,607	1102		
	Oct.	10	19,191	5,348,083			21,146	5,928,753	1102		
	Nov.	10	18,576	5,366,659			20,467	5,949,220	1102		
	Dec.	10	19,191	5,385,850			21,146	5,970,366	1102		
1974	Jan.	10	19,191	5,405,041			21,146	5,991,512	1102		
	Feb.	10	17,336	5,422,377			19,102	6,010,614	1102		
	March	10	19,191	5,441,568			21,146	6,031,760	1102		
	April	10	18,576	5,460,144			20,467	6,052,227	1102		
	May	10	19,191	5,479,335			21,146	6,073,373	1102		
	June	10	18,576	5,497,911			20,467	6,093,840	1102		
	July	10	19,191	5,517,102			21,146	6,114,986	1102		
	August	10	19,191	5,536,293			21,146	6,136,132	1102		
	Sept.	10	18,576	5,554,869			20,467	6,156,599	1102		
	Oct.	10	19,191	5,574,060			21,146	6,177,745	1102		
	Nov.	10	18,576	5,592,636			20,467	6,198,212	1102		
	Dec.	10	19,191	5,611,827			21,146	6,219,358	1102		
1975	Jan.	10	19,191	5,631,018			21,146	6,240,504	1102		
	Feb.	10	17,336	5,648,354			19,102	6,259,606	1102		
	March	10	19,191	5,667,545			21,146	6,280,752	1102		
	April	10	18,576	5,686,121			20,467	6,301,219	1102		
	May	10	19,191	5,705,312			21,146	6,322,365	1102		
	June	10	18,576	5,723,888			20,467	6,342,832	1102		
	July	10	19,191	5,743,079			21,146	6,363,978	1102		
	August	10	19,191	5,762,270			21,146	6,385,124	1102		
	Sept.	10	18,576	5,780,846			20,467	6,405,591	1102		
	Oct.	10	19,191	5,800,037			21,146	6,426,737	1102		
	Nov.	10	18,576	5,818,613			20,467	6,447,204	1102		
	Dec.	10	19,191	5,837,804			21,146	6,468,350	1102		
1976	Jan.	10	19,191	5,856,995			21,146	6,489,496	1102		
	Feb.	10	17,336	5,874,331			19,102	6,508,598	1102		
	March	10	19,191	5,893,522			21,146	6,529,744	1102		
	April	10	18,576	5,912,098			20,467	6,550,211	1102		
	May	10	19,191	5,931,289			21,146	6,571,357	1102		
	June	10	18,576	5,949,865			20,467	6,591,824	1102		
	July	10	19,191	5,969,056			21,146	6,612,970	1102		
	August	10	19,191	5,988,247			21,146	6,634,116	1

Ex. 18

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 18
CASE 1174

SUMMARY OF PRODUCTIVITY INDEX TESTS
DENTON DEVONIAN RESERVOIR

COMPANY Lease & Well No.	Date	Daily Rate BOPD	Choke Size Inches	Flowing Pressure at Datum psig	Static Pressure at Datum psig	Productivity Index	% Water & B.S.
ATLANTIC REFINING COMPANY							
Dickinson "A-34" No. 1	4-30-52	151.42	30/64	1620	4752	0.0483	Trace
(Plugged back to Wolfcamp 2-53)							
Dickinson "B" No. 1	11-5-52	123.15	18/64	2170	4454	0.0938	None
Dickinson "D" No. 1	1-15-51	386	24/64	4948	5099	2.556	None
Federal Jones No. 1	6-20-51	315	17/64	4,710	4925	1.458	None
Federal Jones No. 1	10-11-52	379.91	11/64	4377	4472	1.04	None
Federal Jones No. 2	1-21-53	252.30	13/64	4647	4648	31.4	0.9
State "T" No. 1	4-28-52	351	12/64	4483	4745	1.1629	Trace
State "T" No. 1	10-27-52	340.42	10/64	4457	4663	2.82	None
State "T" No. 2	1-19-52	458	24/64	4571	4830	1.758	None
State "T" No. 2	10-27-52	245.44	10/64	4532	4667	3.34	None
State "T" No. 3	11-3-52	226	11/64	4532	4596	3.31	None
State "T" No. 4	10-27-52	245.61	10/64	4538	4648	2.05	None
GULF OIL CORPORATION							
Chamberlin No. 1	3-2-52				5025	0.587	
Lea State No. 1	1-23-52					0.238	
Lea State "A" No. 4-D	4- -56	236	18/64	2801	3184	0.4214	None
MAGNOLIA PETROLEUM COMPANY							
J. C. Maxwell 9	3-18-56	155		3726	4030	.513	None
	3-1-56	132		3625	4030	.425	8.5
	3-18-56	238		3495	4030	.446	11.2
T. D. Pope No. 12	3-18-56	340		2383	2417	4.13	None
	3-18-56	292		2365	2417	3.56	None
	3-13-56	222		2339	2417	2.96	None
	3-16-56	256		2313	2417	3.32	None
T. D. Pope No. 3	3-18-56	119		2342	2416	1.51	None
	3-1-56	153		2316	2416	1.53	None
	3-16-56	222		2281	2416	1.43	None
T. D. Pope No. 13	3-16-56	157		2457	2483	5.85	None
	3-12-56	237		2432	2483	4.56	None
	3-16-56	173		2431	2483	5.29	None
McALESTER FUEL COMPANY							
Denton A No. 1	5-3-51				4939	0.518	
OHIO OIL COMPANY							
J. M. Denton No. 3	4-3-56	190.6	23/64	3665	4134	0.398	None
	10-31-51				4886	0.309	
Denton No. 4	11-5-51				4860	10.5	
PHILLIPS PETROLEUM COMPANY							
Denton No. 1	4-11-51				4957	2.50	
SHELL OIL COMPANY							
Argo No. 1	12/10-13/54	253	16/64	3135	4092	0.344	12.0
	6/11-14/54	182	13/64	4188	4265	2.503	10.0
	8/19-20/52	456	16/64	4469	4765	5.037	0.1
Argo No. 2	8/23-26/54	240	15/64	4125	4194	9.600	30.5
	8/28-9/52	353	13/64	4564	4762	4.473	0.7
Argo No. 3	9/10-13/54	323	16/64	3367	4345	1.146	12.0
	1/6-7/53	341	13/64	4533	4575	2.345	0.2
Buckley A No. 1	8/19-22/55	292	15/64	2771	2863	2.208	0.1
	10/22-25/54	247	15/64	3227	3556	2.220	0.1
	1/8-11/54	263	12/64	4122	4248	2.917	0.1
Buckley A No. 3	8/22-25/55	253	13/64	2938	2970	7.854	0.2
	10/12-15/54	253	14/64	3522	3655	7.247	0.1
	4/6-12/54	242	12/64	4057	4061	9.575	0.1
Buckley A No. 4	8/15-17/55	277	14/64	2835	2863	9.966	0.1
	8/2-5/54	254	14/64	3733	3755	11.445	0.1
Buckley A No. 5	7/8-11/55	230	18/64	2952	3043	2.529	0.1
	5/13-16/55	259	14/64	3049	3134	3.064	trace
	11/15-18/54	199	14/64	3393	3494	0.979	0.1
Buckley B No. 1	7/23-25/55	236	18/64	2933	2972	6.051	0.2
	7/6-7/55	247	16/64	3319	3344	9.680	6.0
	7/20-21/54	273	14/64	3045	3076	8.006	trace
Buckley B No. 2	7/20-22/55	290	20/64	2959	3271	0.929	0.1
Buckley B No. 4	7/5-8/55	197	18/64	2936	2992	0.661	0.2
	6/18-21/55	296	22/64	2969	3048	0.511	0.1
Pacific Royalty No. 1	7/1-5/55	224	13/64	3797	4100	0.738	0.1
	4/29-5/2-55	242	13/64	3985	4155	0.897	0.1
	9/19-20/54	237	12/64	4013	4274	0.906	0.2
	5/8-11/53	382	15/64	4100	4593	0.775	0.1

SUMMARY OF PRODUCTIVITY INDEX TESTS
DENTON DEVONIAN RESERVOIR
(Page 2)

COMPANY Lease & Well No.	Date	Daily Rate BOPD	Choke Size Inches	Flowing Pressure at Datum psig	Static Pressure at Datum psig	Productivity Index	% Water & B.S.
SHELL OIL COMPANY (Continued)							
Priest No. 1	7/25-25/55	253	18/64	2969	3036	3.524	0.2
	9/1-10/54	220	18/64	3545	3596	4.314	0.2
	6/17-18/52	421	16/64	4623	4808	3.496	0.1
Priest No. 2	7/23-28/55	257	18/64	2819	2907	1.365	0.1
	3/22-23/55	275	19/64	3027	3235	1.238	0.1
	11/1-4/54	259	18/64	2871	3.66	0.179	0.1
	10/8-11/54	257	18/64	Test Failed			
	9/23-27/52	255	17/64	4245	4716	0.357	0.1
Priest No. 3	8/14-15/55	214	18/64	2758	2890	0.561	0.1
	11/15-17/54	243	15/64	3238	3587	0.391	0.2
	2/12-13/54	308	16/64	3503	3950	0.674	0.5 to 10.0
	9/16-24/53	272	25/64	4215	4279	0.137	0.2
	2/21-24/53	237	16/64	3147	4553	0.157	0.1
	2/24-27/53	484	48/64	1845	4553	.1265	0.1
	1/31-2/1-53	326	1"	1991	4426	0.127	0.2
Shelton No. 1	8/5-7/55	147	18/64	2841	2954	11.455	0.1
	9/20-23/54	168	13/64	3369	3392	54.990	0.1
	1/11-21/54	232	14/64	3536	3546	23.20	0.3
	9/24-27/53	175	18/64	4220	4237	24.74	trace
Shelton No. 4	8/7-11/55	309	14/64	2965	4211	1.734	trace
	10/14-17/54	317	13/64	4231	4357	1.996	0.1
	4/14-17/54	245	12/64	4384	4534	2.011	0.7
Shelton No. 6	8/12-15/55	319	14/64	4077	4278	1.588	0.2
	1/18-21/55	293	12/64	4440	4394	1.098	0.1
State A No. 1	9/2-5/55	378	15/64	3662	4271	0.534	0.3 B.S. + trace wtr
	5/14-17/54	246	20/64	3573	4234	0.121	37.0
	1/7-12/53	240	11/64	4072	4478	1.162	1.3
	4/25-26/53	444	14/64	4315	4372	1.741	0.1
	2/15-17/52	266	21/64	3137	4236	0.457	0.2
SINCLAIR OIL AND GAS COMPANY							
Lea Whatman No. 2	3-2-- -4	328	23/64	2325	2955	1.34	trace
T. D. Pope No. 7	3-31-54	237	24/64	2.4	2944	1.60	None
SKELLY OIL COMPANY							
Mexico "F" No. 1	8-1-51				4934	2.648	

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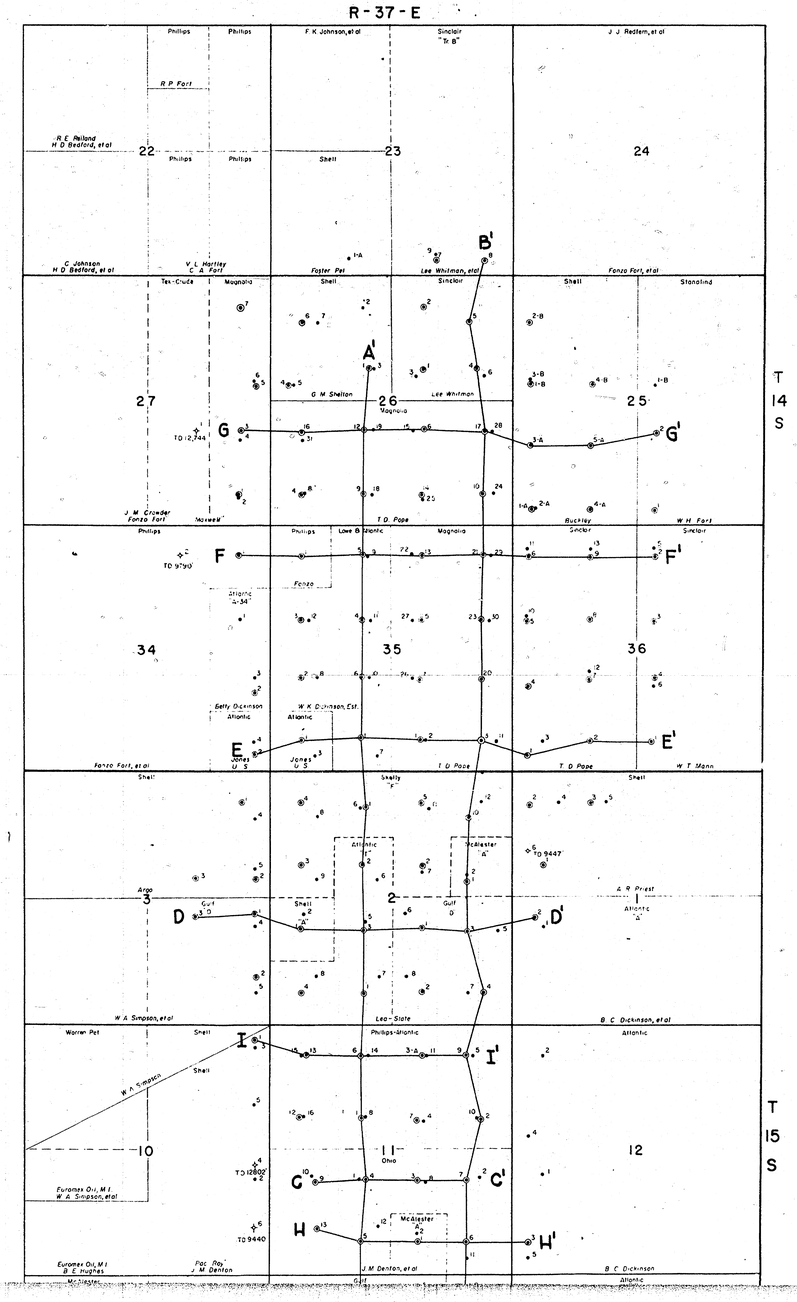
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J. J. Redfern, et al
R. P. Fort
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H. D. Bedford, et al
Shell
C. Johnson
H. D. Bedford, et al
V. L. Hartley
C. A. Fort
Foster Pet
Lee Whitman, et al
Fonzo Fort, et al
Tex-Cruce
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"Maxwell"
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Buckley
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Gulf
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Skelly
W. T. Mann
McAlister
A. R. Priest
Argo
Lea-State
B. C. Dickinson, et al
Warren Pet
Phillips-Atlantic
W. A. Simpson
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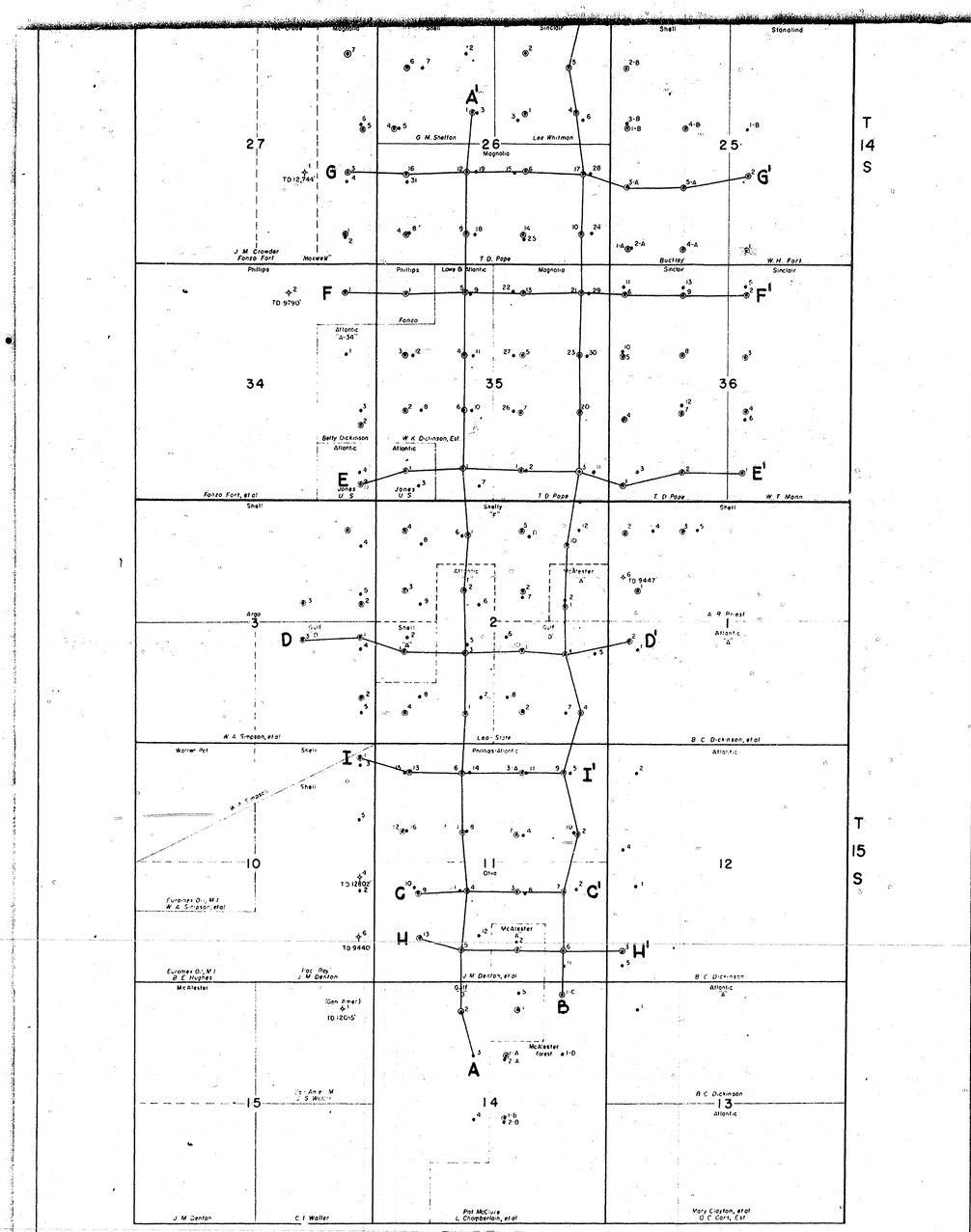

LEGEND

- WOLFCAMP WELLS
- DEVONIAN WELLS

N

DENTON FIELD

LEA COUNTY, NEW MEXICO

SCALE 0 1000 2000 FEET

INDEX TO CROSS-SECTION DIAGRAMS

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
EXHIBIT NO. 19
CASE 1052

Exhibit 19

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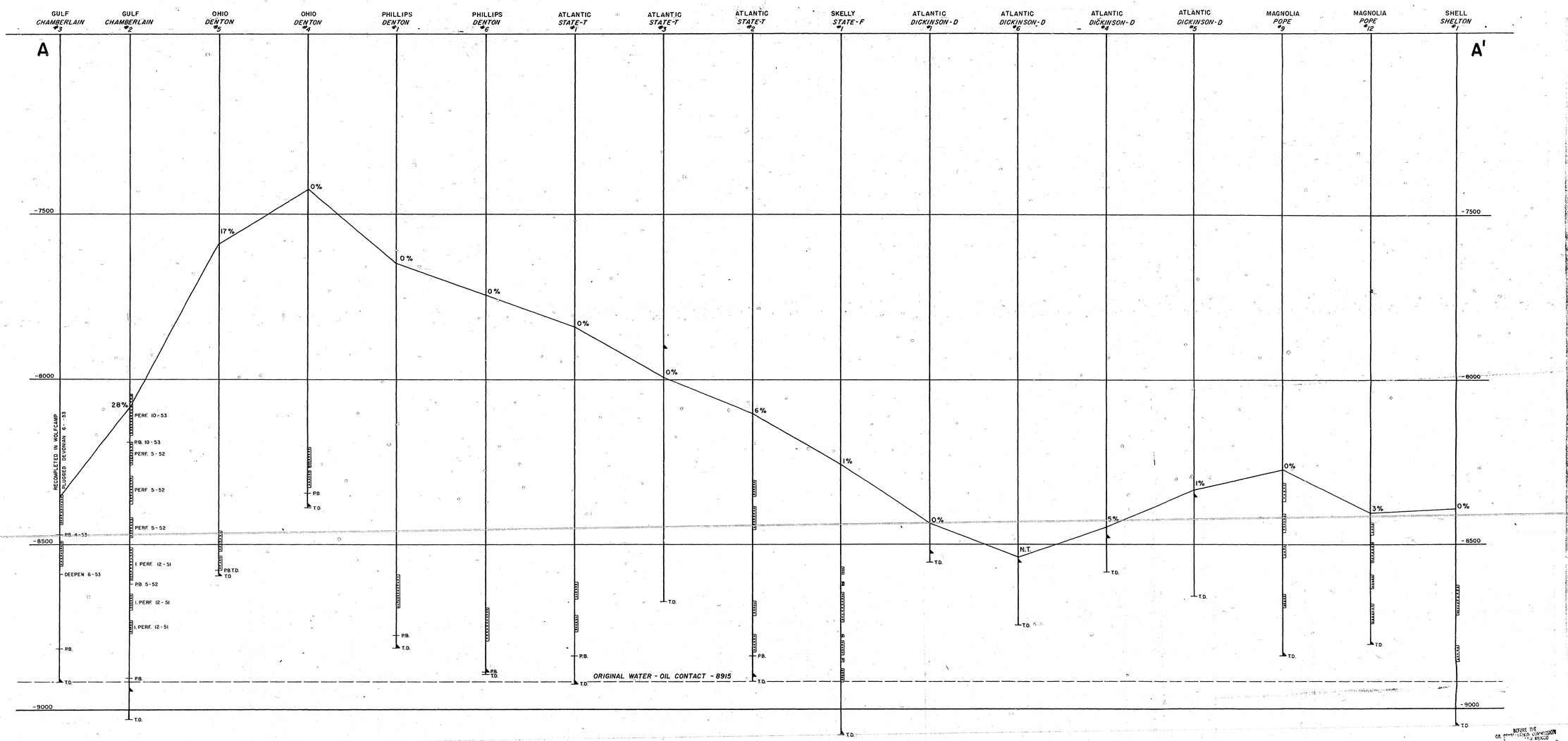

Exhibit 20

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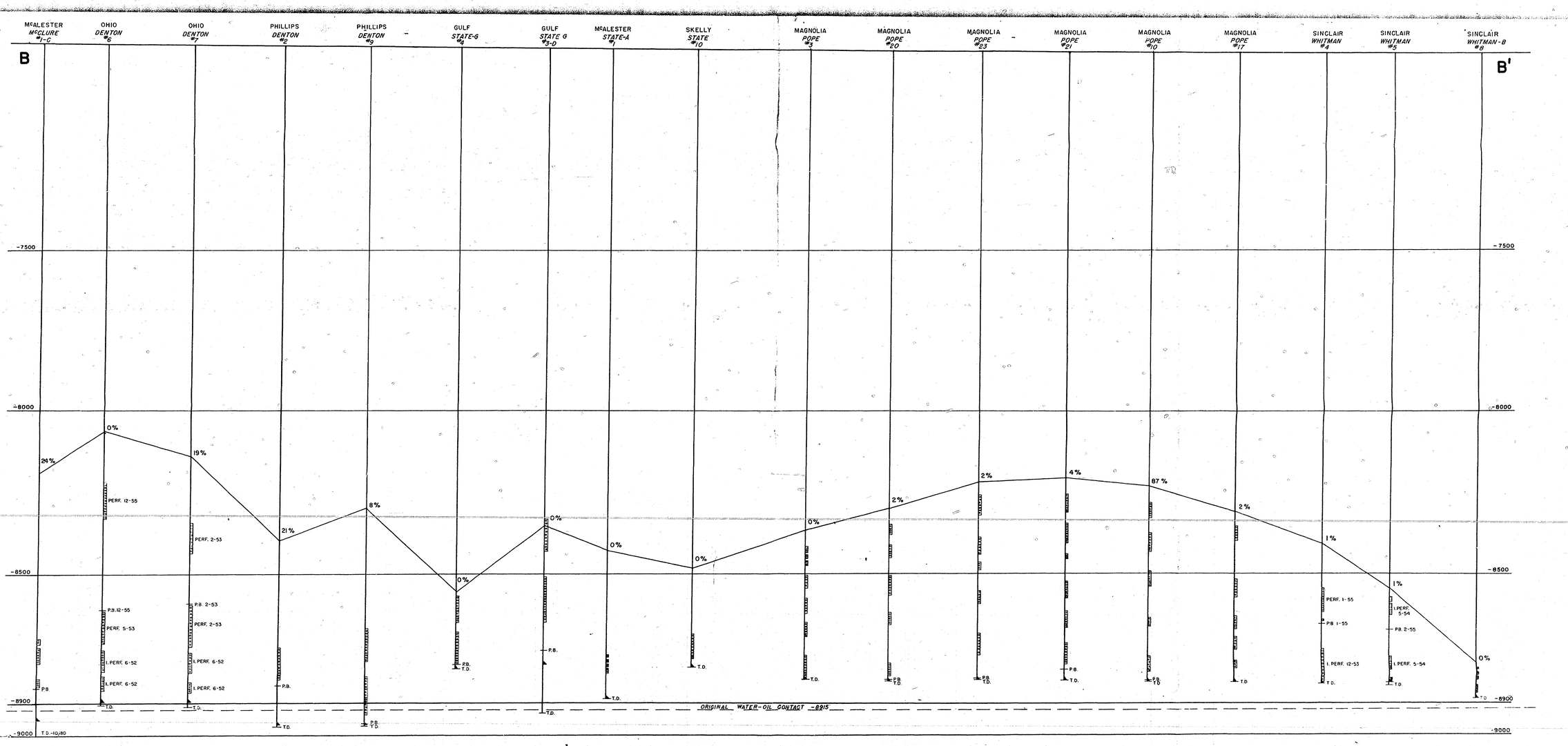

Ex. 21

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
EXHIBIT No. 21
1052

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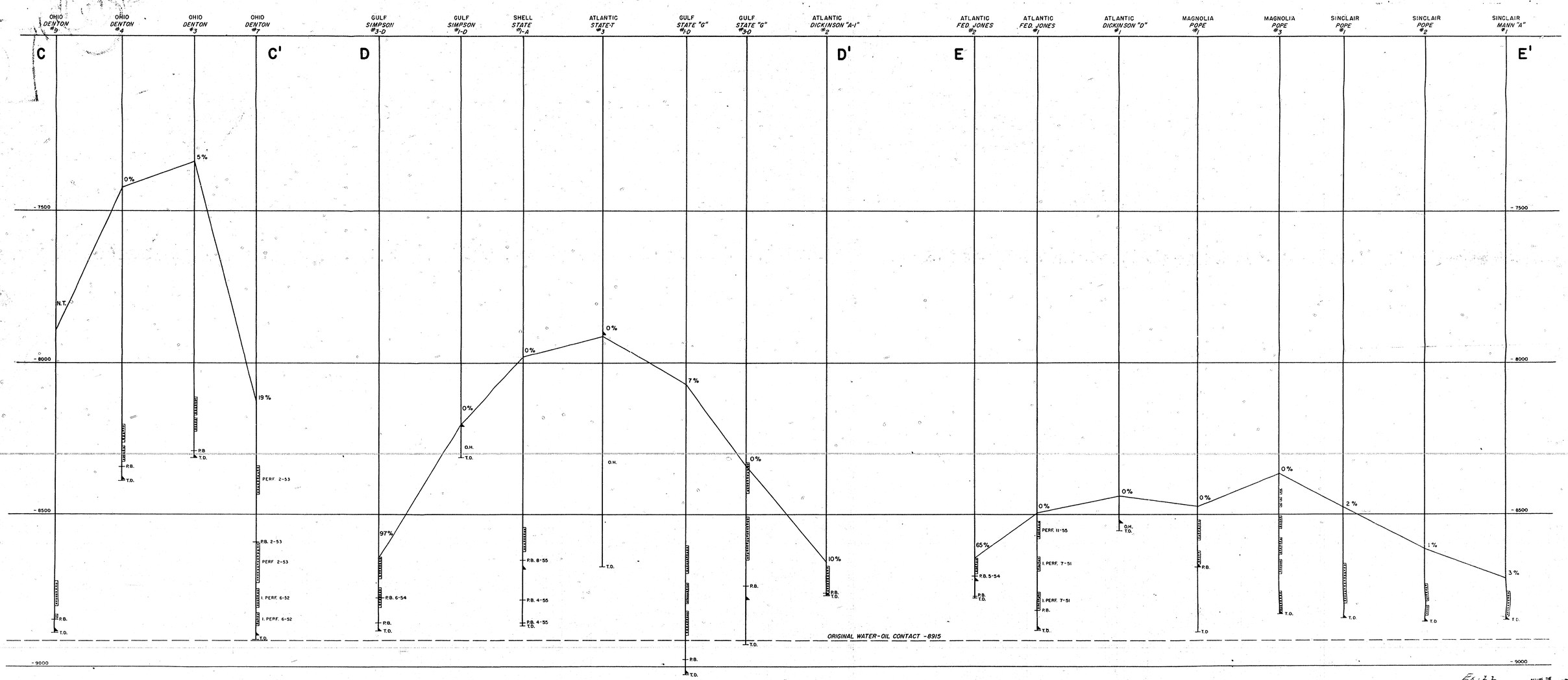

Ex. 22

BEFORE THE
OIL CONSERVATION COMMISSION
OF ST. NEW MEXICO
CASE 1052

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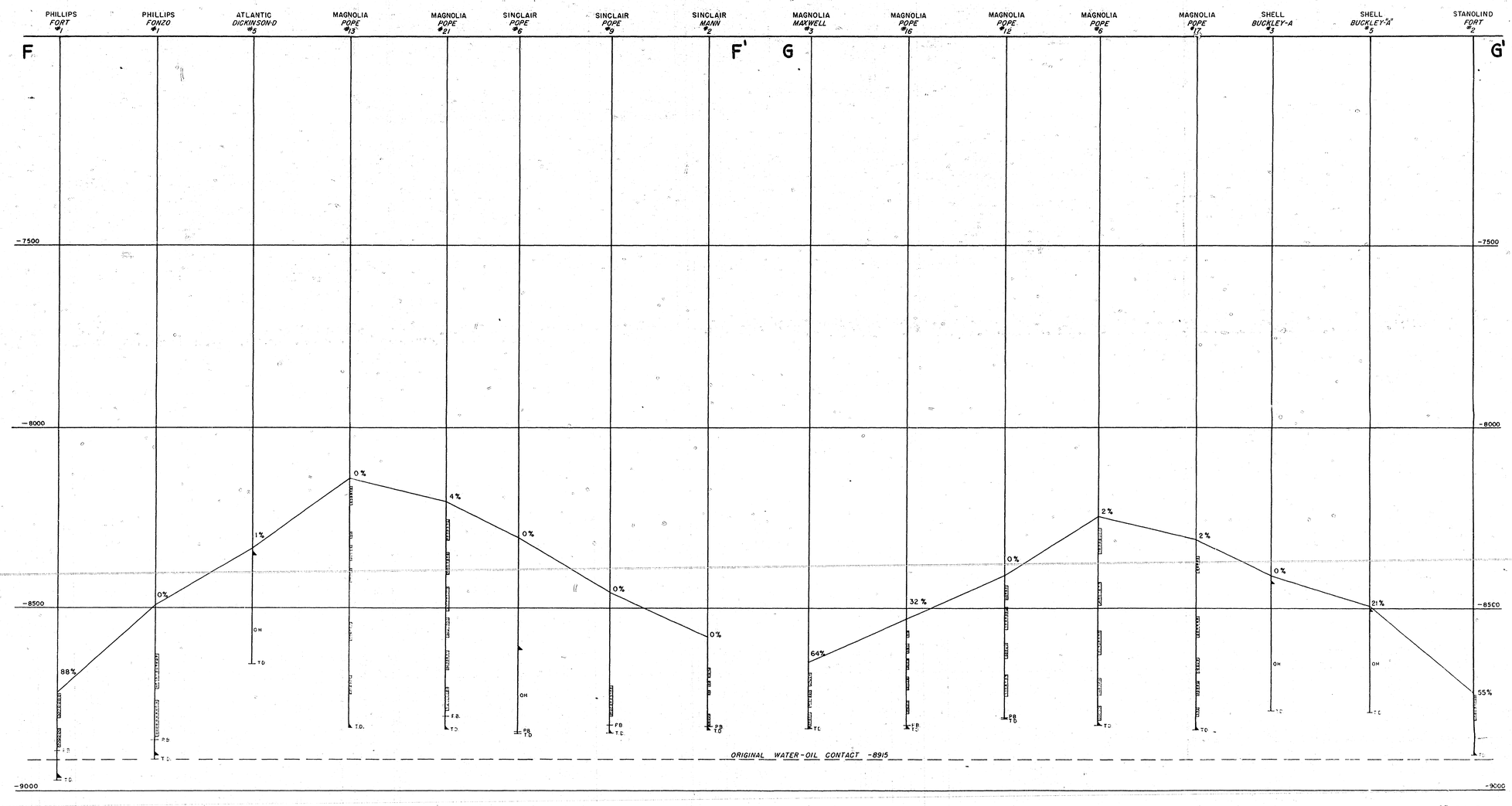

Ex 23

BEFORE THE OIL CONSERVATION COMMISSION
STATE OF NEW MEXICO
Att. Exhibit 23
CASE 1052

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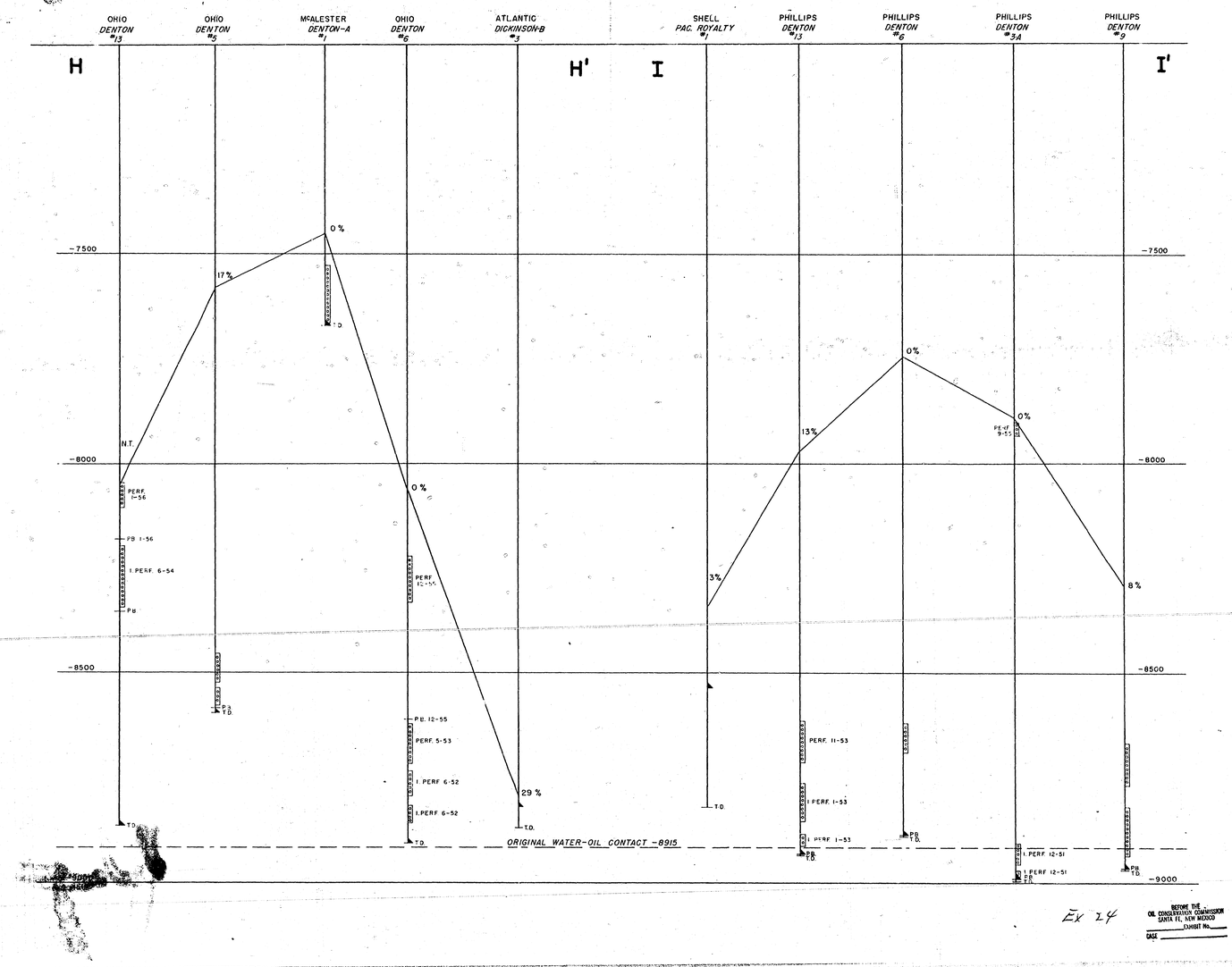

Ex 24

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
EXHIBIT No.
CASE

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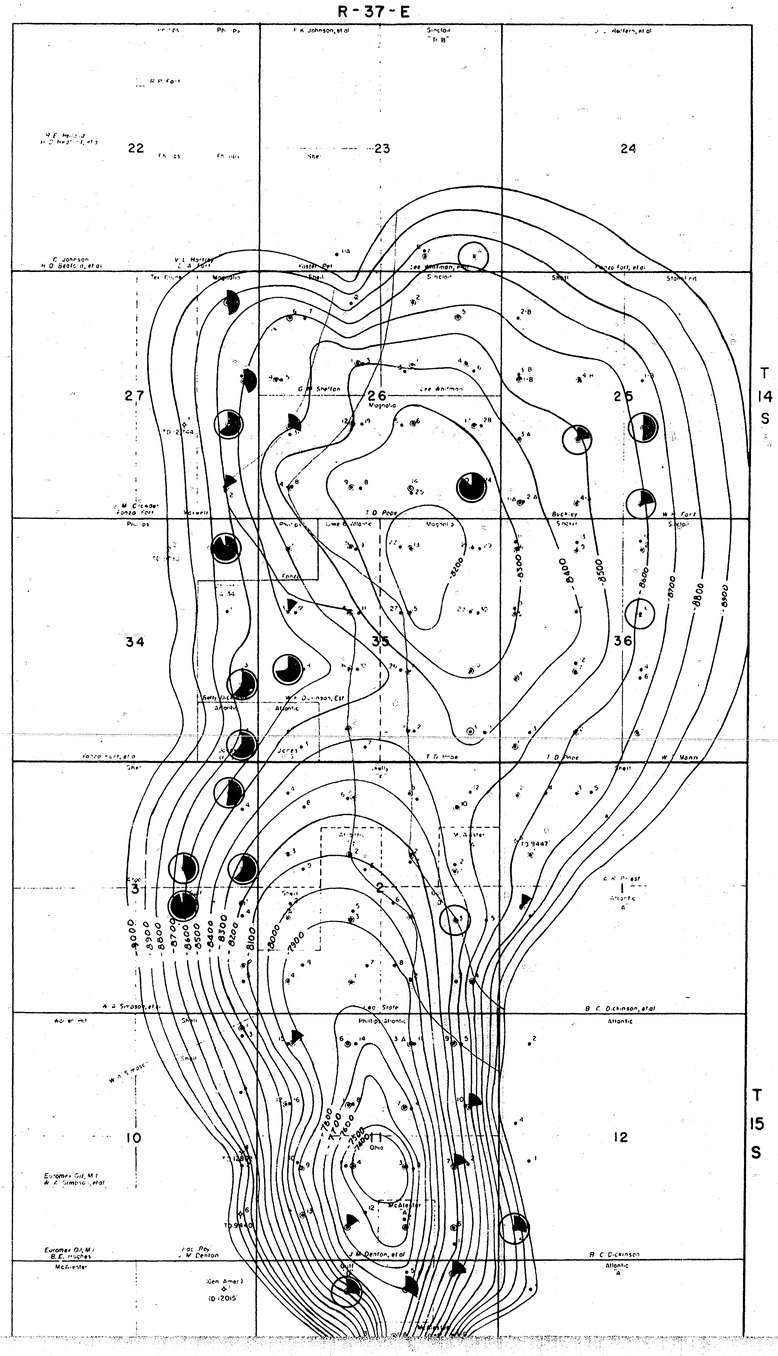
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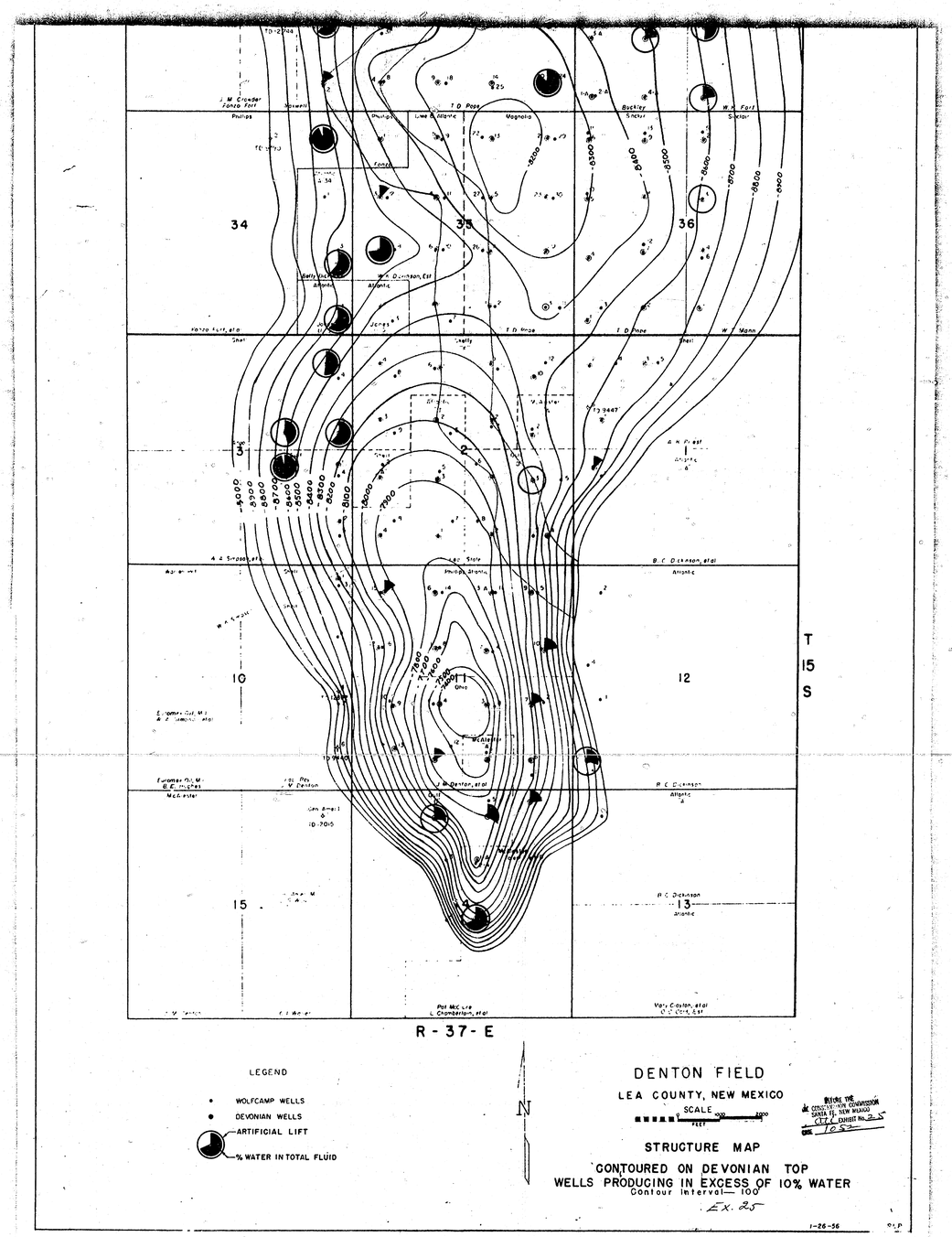
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R - 37 - E
LEGEND
WOLFCAMP WELLS
DEVONIAN WELLS
ARTIFICIAL LIFT
% WATER IN TOTAL FLUID
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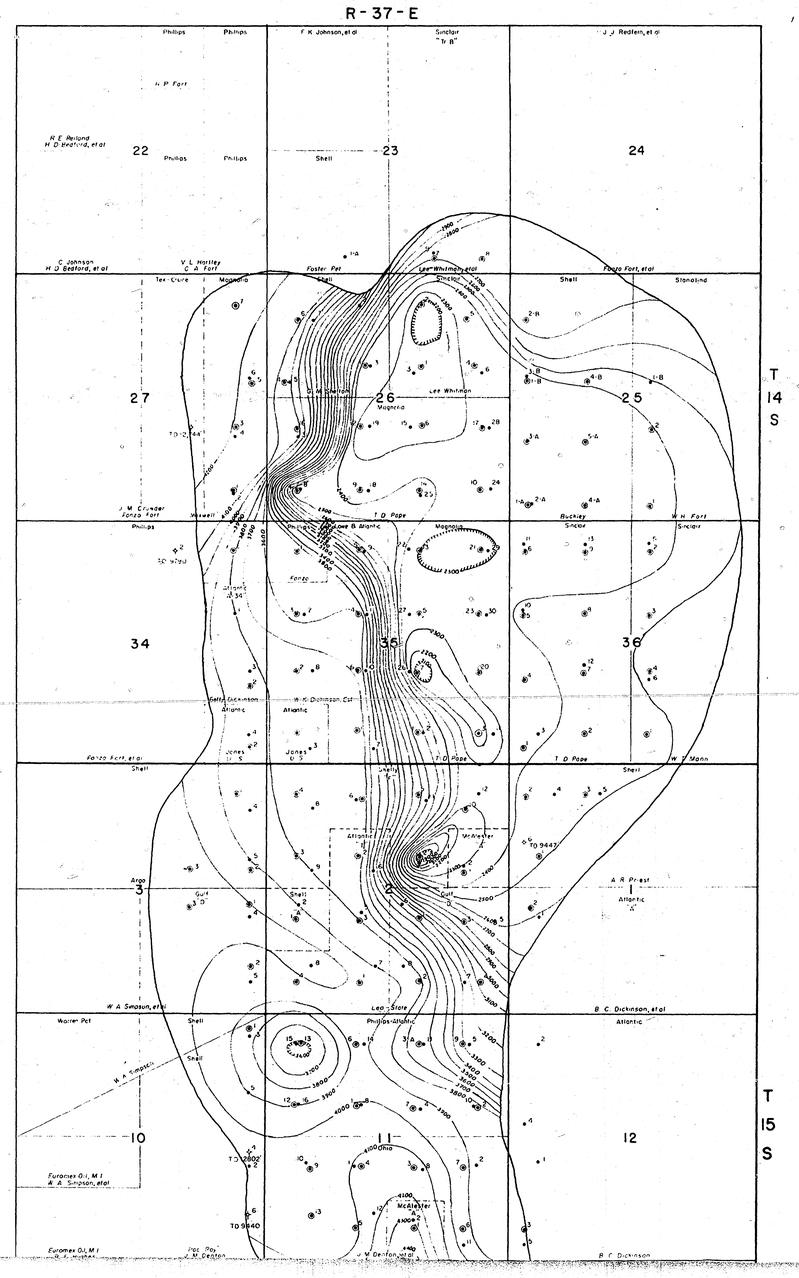
DENTON FIELD
LEA COUNTY, NEW MEXICO
SCALE
FEET
STRUCTURE MAP
CONTOURED ON DEVONIAN TOP
WELLS PRODUCING IN EXCESS OF 10% WATER
Contour Interval— 100'
Ex. 25
1-26-56

220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Sinclair
Ohio
McAlester
Lee Whitman
T. D. Pope
Fanzo
Fanzo Fort, et al
Faster Pet
Lee-State
Phillips-Atlantic
Warren Pet
W. A. Simpson, et al
B. C. Dickinson, et al
A. R. Priest
W. H. Fort
Buckley
Euramex Oil, M. I.
Roc Roy
J. M. Denton, et al
R. E. Reiland
H. D. Bedford, et al
C. Johnson
V. L. Hartley
C. A. Fort
J. M. Crowder
Fanzo Fort
Gelty Dickinson
W. K. Dickinson, Est.
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Maxwell
Lowe B. Martin
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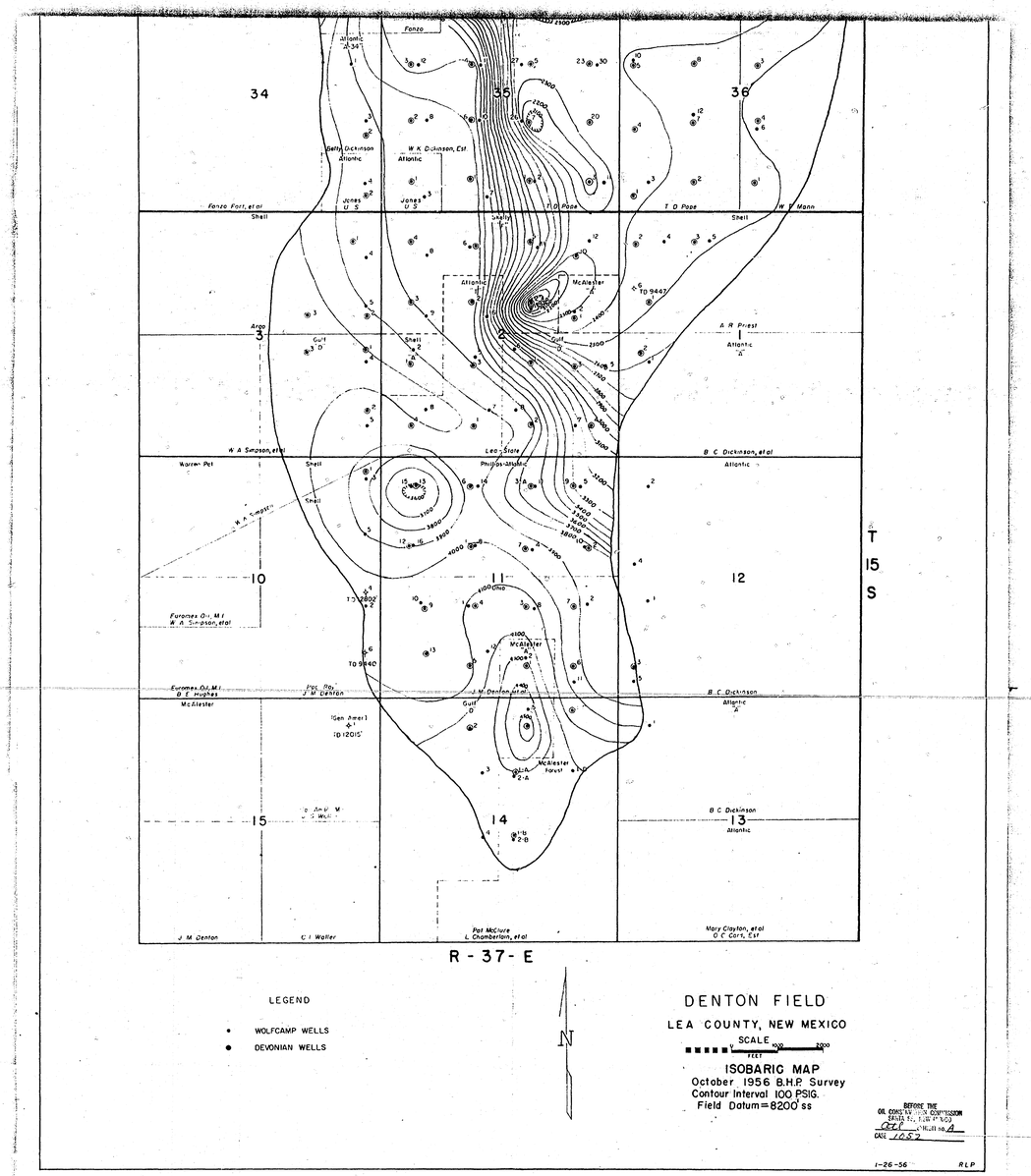


LEGEND

- WOLFCAMP WELLS
- DEVONIAN WELLS

N

DENTON FIELD

LEA COUNTY, NEW MEXICO

SCALE

0 1000 2000

FEET

ISOBARIC MAP

October 1956 B.H.P. Survey

Contour Interval 100 PSIG.

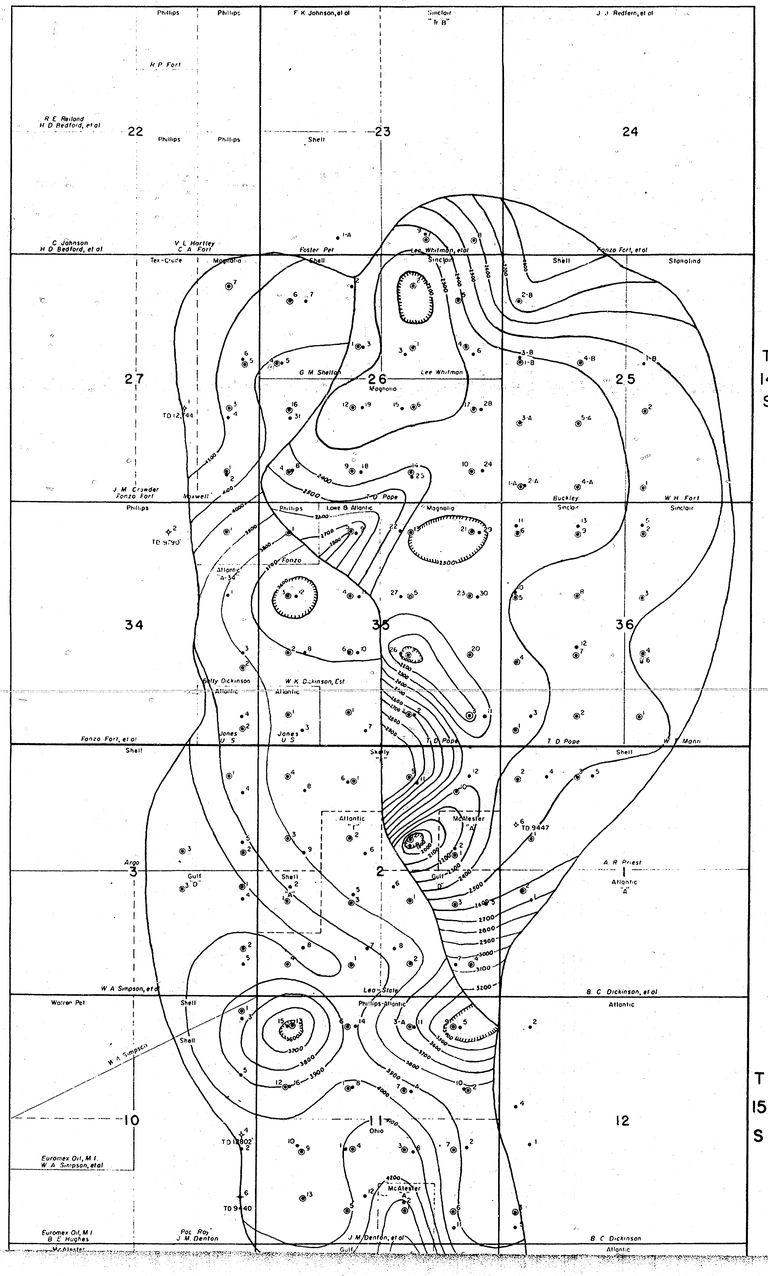
Field Datum=8200' ss

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Oil Conservation Commission
CASE 1052

1-26-56 RLP

222

R - 37 - E



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T 15 S

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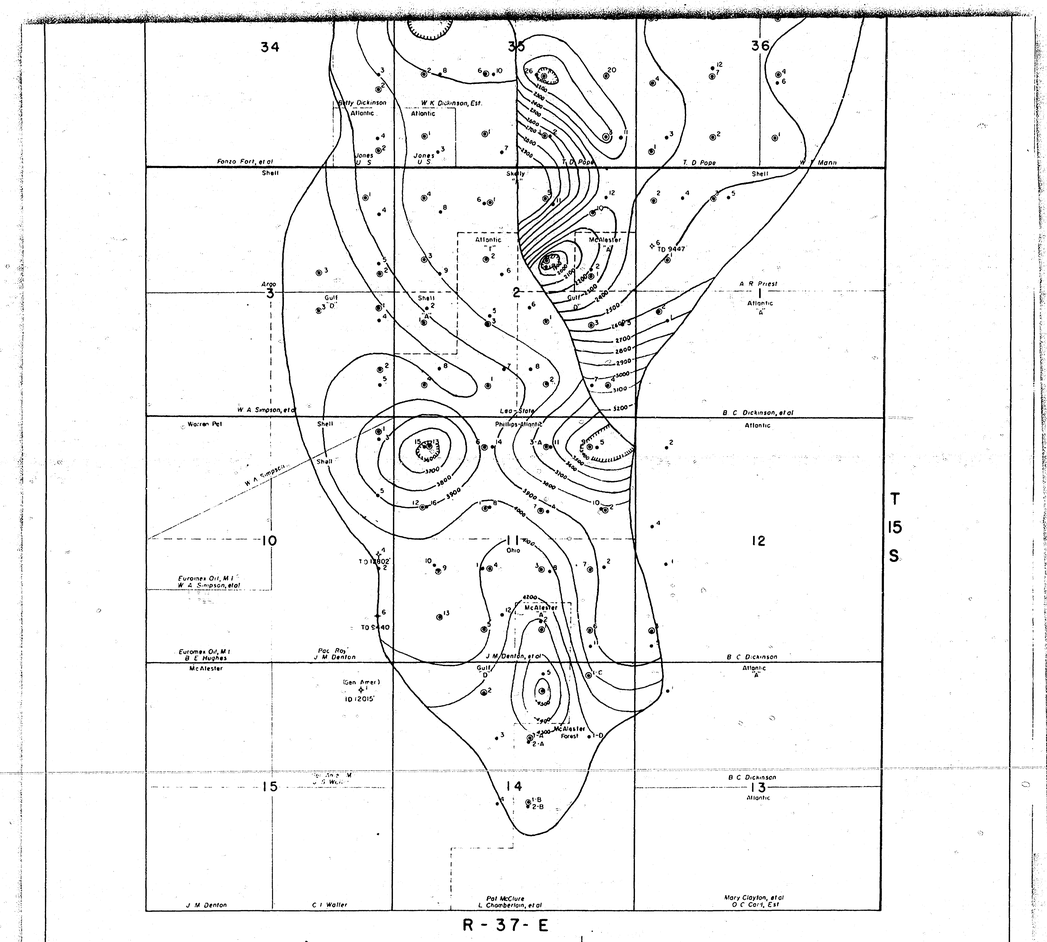


R - 37 - E

LEGEND

- WOLFCAMP WELLS
- DEVONIAN WELLS

N

DENTON FIELD

LEA COUNTY, NEW MEXICO

SCALE 0 1000 2000 FEET

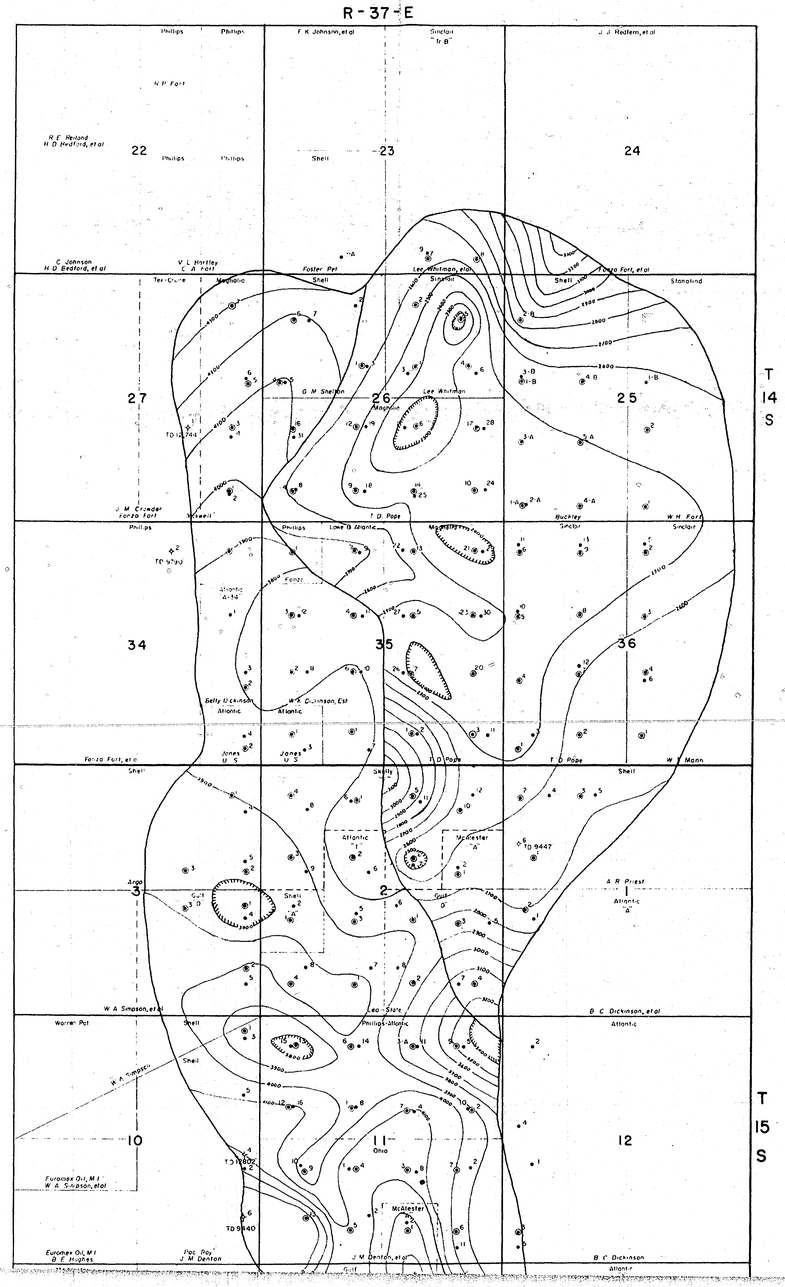
ISOBARIC MAP

October 1956 B.H.P. Survey
Contour Interval = 100 Psig.
Field Datum 8200' ss

BEFORE THE OIL CONS. COMMISSION SANTA FE, NEW MEXICO
CASE 1052 EXHIBIT NO. 13

1-26-56 RLP

224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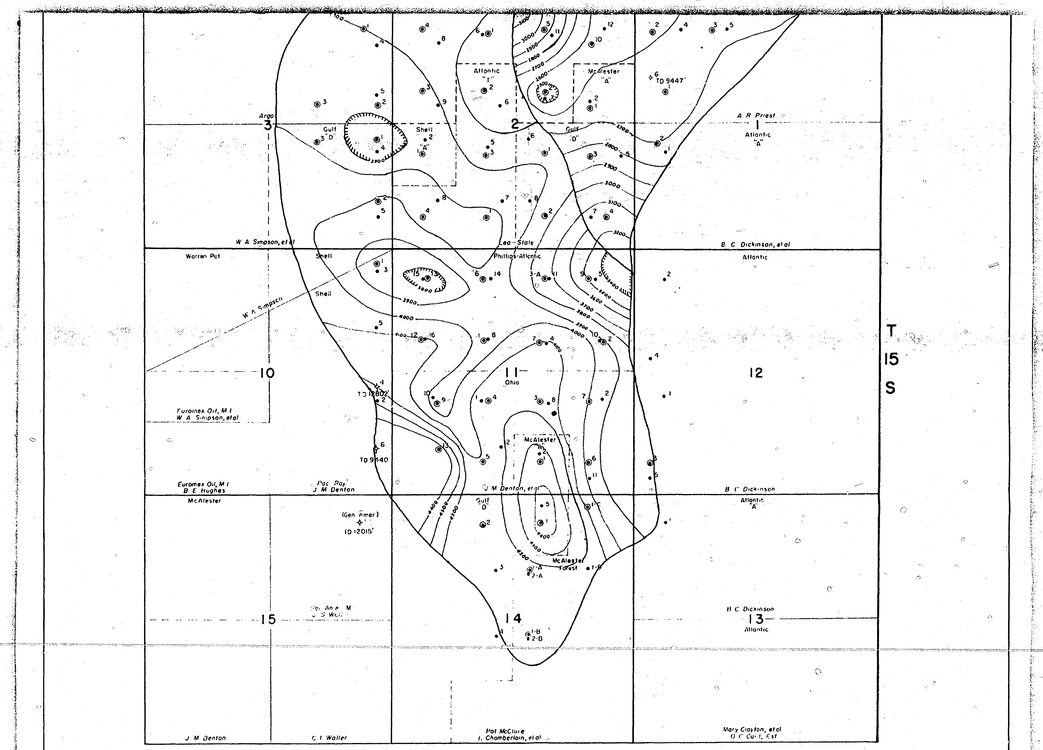
Phillips
Shell
Atlantic
Magnolia
Sinclair
Stanolind
Gulf
Ohio
Lee Whitman, et al
G. M. Shelton
T. D. Pope
McAlester
A. R. Priest
W. A. Simpson, et al
B. C. Dickinson, et al
Euromex Oil, M.I.
B. E. Hughes
J. M. Denton, et al
Warren Pet
Skelly
Jones
Betty Dickinson
Forza Fort, et al
Buckley
W. H. Fort
Lowe & Atlantic
Foster Pet
Leo-State
Phillips-Atlantic
Pac. Pay
TD 9447
TD 9440

225



R - 37 - E

LEGEND

- WOLFCAMP WELLS
- DEVONIAN WELLS

N

DENTON FIELD

LEA COUNTY, NEW MEXICO

SCALE 0 1000 2000 FEET

ISOBARIC MAP

April 1956 B.H.P Survey
Contour Interval = 100 Psig.
Field Datum 8200' ss

BEFORE THE OIL CONS. VATION COMMISSION SANTA FE, NEW MEXICO
Oil EXHIBIT No. 6
CASE 1052

1-26-56 R.L.P

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BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Oxy EXHIBIT No. D
CASE 1052

OIL AND WATER PRODUCTION RATES
DENTON DEVONIAN RESERVOIR

Year	Month	No. Wells	Oil Production Bbls	Cum. Oil Production Bbls	Water Production Bbls	Cum. Water Production Bbls	OOR	BHP Arith. or Weighted* Avg.	% Water in Total Fluid
						1476	5,009		
1949	Oct.	1	7,122	7,122		1476			
	Nov.	1	7,153	14,275	4	1480			
	Dec.	2	8,921	23,196	361	1841			3.9
1950	Jan.	2	7,118	30,314		1841			.0
	Feb.	2	7,165	37,479		1841			.0
	March	2	8,163	45,642		1841			.0
	April	2	8,108	53,750		1841			.0
	May	2	7,155	60,905		1841			.0
	June	2	7,165	68,070		1841			.0
	July	2	8,921	76,991		1841			.0
	Aug.	2	8,915	85,906		1841			.0
	Sept.	2	8,883	94,789		1841			.0
	Oct.	2	8,861	103,650		1841			.0
	Nov.	2	8,919	112,569		1841			.0
	Dec.	2	8,930	121,499		1841			.0
1951	Jan.	2	8,938	130,437		1841			.0
	Feb.	4	17,719	148,156		1841			.0
	March	6	26,576	174,732		1841			.0
	April	6	25,819	200,551		1841			.0
	May	7	27,232	227,783		1841			.0
	June	7	27,050	254,833		1841			.0
	July	7	27,906	282,739		1841			.0
	Aug.	8	31,041	313,780		1841			.0
	Sept.	10	30,853	344,633		1841			.0
	Oct.	10	31,061	375,694	93	1934			.3
	Nov.	12	36,235	411,929	2,341	4,275			5.5
	Dec.	12	36,235	448,164	2,787	7,062			7.2
1952	Jan.	12	36,235	484,399	2,787	9,849			7.2
	Feb.	12	33,354	517,753	2,787	12,636			7.7
	March	12	36,235	553,988	3,482	16,118			8.7
	April	12	35,063	589,051	3,482	19,600			9.0
	May	12	36,235	625,286	3,482	23,082			8.8
	June	12	35,080	660,366	3,482	26,564			9.0
	July	12	36,235	696,601	3,482	30,046			8.8
	Aug.	12	36,235	732,836	3,482	33,528			8.8
	Sept.	12	35,063	767,899	3,482	37,010			9.0
	Oct.	12	36,235	804,134	3,482	40,492			8.8
	Nov.	12	35,063	839,197	3,482	43,974			9.0
	Dec.	12	36,235	875,432	3,482	47,456			8.8
1953	Jan.	12	36,235	911,667	3,482	50,938			8.8
	Feb.	12	32,726	944,393	3,482	54,420			9.6
	March	12	36,235	980,628	3,482	57,902			8.8
	April	12	35,063	1,015,691	3,482	61,384			9.0
	May	12	36,235	1,051,926	3,482	64,866			8.8
	June	12	35,063	1,086,989	3,482	68,348			9.0
	July	12	36,235	1,123,224	3,482	71,830			8.8
	Aug.	12	36,235	1,159,459	3,482	75,312			8.8
	Sept.	12	35,063	1,194,522	3,482	78,794			9.0
	Oct.	12	36,235	1,230,757	3,482	82,276			8.8
	Nov.	12	35,063	1,265,820	3,482	85,758			9.0
	Dec.	12	36,235	1,302,055	3,482	89,240			8.8
1954	Jan.	12	36,235	1,338,290	3,482	92,722			8.8
	Feb.	12	32,726	1,371,016	3,482	96,204			9.6
	March	12	36,235	1,407,251	3,482	99,686			8.8
	April	12	35,063	1,442,314	3,482	103,168			9.0
	May	12	36,235	1,478,549	3,482	106,650			8.8
	June	12	35,063	1,513,612	3,482	110,132			9.0
	July	12	36,235	1,549,847	3,482	113,614			8.8
	Aug.	12	36,235	1,586,082	3,482	117,096			8.8
	Sept.	12	35,063	1,621,145	3,482	120,578			9.0
	Oct.	12	36,235	1,657,380	3,482	124,060			8.8
	Nov.	12	35,063	1,692,443	3,482	127,542			9.0
	Dec.	12	36,235	1,728,678	3,482	131,024			8.8
1955	Jan.	12	36,235	1,764,913	3,482	134,506			8.8
	Feb.	12	32,726	1,797,639	3,482	137,988			9.6
	March	12	36,235	1,833,874	3,482	141,470			8.8
	April	12	35,063	1,868,937	3,482	144,952			9.0
	May	12	36,235	1,905,172	3,482	148,434			8.8
	June	12	35,063	1,940,235	3,482	151,916			9.0
	July	12	36,235	1,976,470	3,482	155,398			8.8
	Aug.	12	36,235	2,012,705	3,482	158,880			8.8
	Sept.	12	35,063	2,047,768	3,482	162,362			9.0
	Oct.	12	36,235	2,084,003	3,482	165,844			8.8
	Nov.	12	35,063	2,119,066	3,482	169,326			9.0
	Dec.	12	36,235	2,155,301	3,482	172,808			8.8
1956	Jan.	12	36,235	2,191,536	3,482	176,290			8.8
	Feb.	12	32,726	2,224,262	3,482	179,772			9.6
	March	12	36,235	2,260,497	3,482	183,254			8.8
	April	12	35,063	2,295,560	3,482	186,736			9.0
	May	12	36,235	2,331,795	3,482	190,218			8.8
	June	12	35,063	2,366,858	3,482	193,700			9.0
	July	12	36,235	2,403,093	3,482	197,182			8.8

OIL AND WATER PRODUCTION RATES
DENTON DEVONIAN RESERVOIR
(Page 2)

Year	Month	No. Wells	Oil Production Bbls	Cum. Oil Production Bbls	Water Production Bbls	Cum. Water Production Bbls	OOR	BHP Arith. or Weighted* Avg.	% Water in Total Fluid
1956	Aug.	96	636,012	15,302,002	33,455	366,380	949		5.0
	Sept.	97	601,930	15,903,932	35,196	401,576	930		6.0
	Oct.	99	644,849	16,548,781	41,151	442,730	858	3,850*	6.0
	Nov.	99	645,771	17,194,552	38,783	481,493	793		5.7
	Dec.	102	686,659	17,881,211	54,460	535,953	765		7.4
1957	Jan.	102	698,065	18,579,269	63,118	602,091	735		8.2
	Feb.	102	628,049	19,203,309	65,486	667,217	856		9.4
	March	104	693,611	19,896,723	68,127	735,344	896		8.9
	April	105	678,880	20,575,703	67,959	793,303	828	3,682*	7.9
	May	106	655,251	21,259,960	69,152	862,455	899		9.2
	June	108	665,582	21,925,542	84,472	946,927	895		10.1
	July	108	691,766	22,617,308	80,178	1,027,105	896		11.6
	Aug.	109	680,341	23,297,652	80,665	1,097,770	866		10.6
	Sept.	107	1,099,000	24,396,652	131,089	1,183,063	882		10.6
	Oct.	108	673,795	25,470,447	92,863	1,275,926	837	3,687*	12.1
	Nov.	108	665,488	25,135,935	89,613	1,365,539	810		11.9
	Dec.	109	729,269	25,865,200	121,652	1,487,211	774		14.3
1958	Jan.	109	712,811	26,578,011	93,666	1,580,877	791		11.2
	Feb.	109	686,538	27,264,549	103,693	1,684,570	786		15.3
	March	109	702,260	27,966,809	135,066	1,840,736	855		16.2
	April	109	655,779	28,622,588	113,650	1,954,385	680	3,369*	18.0
	May	109	652,688	29,305,212	140,816	2,125,041	945		17.7
	Sept.	108	617,398	29,922,610	145,081	2,270,122	930		19.1
	Oct.	107	627,013	30,549,623	132,225	2,403,049	982		17.4
	Aug.	107	637,227	31,186,850	131,089	2,534,138	978		17.2
	Sept.	107	605,177	31,787,027	118,246	2,652,384	948		16.3
	Oct.	109	623,820	32,410,847	119,703	2,832,087	874	3,335*	22.4

OIL AND WATER PRODUCTION RATES
DENTON DEVONIAN RESERVOIR
WEST SECTOR

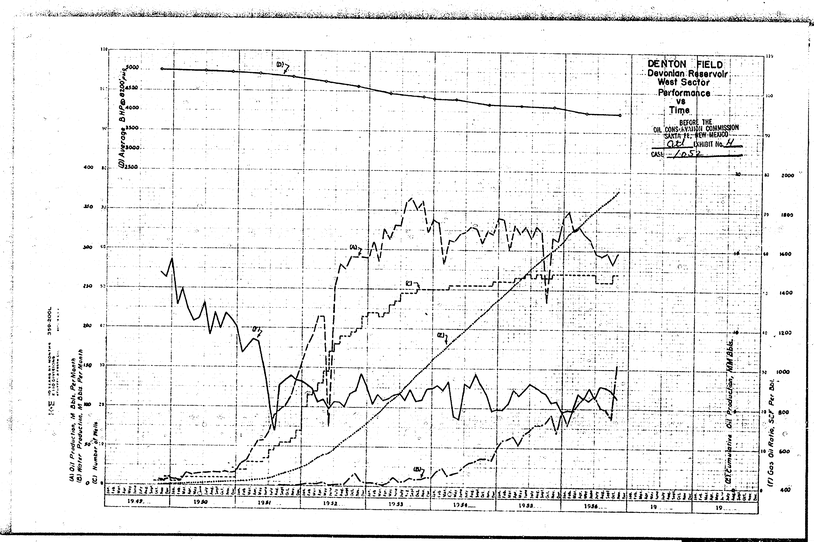
Year	Month	No. Wells	Oil Production Bbls	Cum. Oil Production Bbls	Water Production Bbls	Cum. Water Production Bbls	OOR	BHP Arith. or Weighted Avg.	% Water in Total Fluids
						1476	5,009		
1949	Oct.	1	7,122	7,122	4	1458			
	Nov.	1	7,153	14,275		1458			
	Dec.	2	8,921	23,196	361	1819			3.9
1950	Jan.	2	7,118	30,314		1819			.0
	Feb.	2	7,165	37,479		1819			.0
	March	2	8,163	45,642		1819			.0
	April	2	8,108	53,750		1819			.0
	May	2	7,155	60,905		1819			.0
	June	2	7,165	68,070		1819			.0
	July	2	8,921	76,991		1819			.0
	Aug.	2	8,915	85,906		1819			.0
	Sept.	2	8,883	94,789		1819			.0
	Oct.	2	8,861	103,650		1819			.0
	Nov.	2	8,919	112,569		1819			.0
	Dec.	2	8,930	121,499		1819			.0
1951	Jan.	2	8,938	130,437		1819			.0
	Feb.	4	17,719	148,156		1819			.0
	March	6	26,576	174,732		1819			.0
	April	6	25,819	200,551		1819			.0
	May	7	27,232	227,783		1819			.0
	June	7	27,050	254,833		1819			.0
	July	7	27,906	282,739		1819			.0
	Aug.	8	31,041	313,780		1819			.0
	Sept.	10	30,853	344,633		1819			.0
	Oct.	10	31,061	375,694	93	1912			.3
	Nov.	12	36,235	411,929	2,341	4,253			5.5
	Dec.	12	36,235	448,164	2,787	7,040			7.2
1952	Jan.	12	36,235	484,399	2,787	9,827			7.2
	Feb.	12	33,354	517,753	2,787	12,614			7.7
	March	12	36,235	553,988	3,482	16,096			8.7
	April	12	35,063	589,051	3,482	19,578			9.0
	May	12	36,235	625,286	3,482	23,060			8.8
	June	12	35,080	660,366	3,482	26,542			9.0
	July	12	36,235	696,601	3,482	30,024			8.8
	Aug.	12	36,235	732,836	3,482	33,506			8.8
	Sept.	12	35,063	767,899	3,482	36,988			9.0
	Oct.	12	36,235	804,134	3,482	40,470			8.8
	Nov.	12	35,063	839,197	3,482	43,952			9.0
	Dec.	12	36,235	875,432	3,482	47,434			8.8
1953	Jan.	12	36,235	911,667	3,482	50,916			8.8
	Feb.	12	32,726	944,393	3,482	54,398			9.6
	March	12	36,235	980,628	3,482	57,880			8.8
	April	12	35,063	1,015,691	3,482	61,362			9.0
	May	12	36,235	1,051,926	3,482	64,844			8.8
	June	12	35,063	1,086,989	3,482	68,326			9.0
	July	12	36,235	1,123,224	3,482	71,808			8.8
	Aug.	12	36,235	1,159,459	3,482	75,290			8.8
	Sept.	12	35,063	1,194,522	3,482	78,772			9.0
	Oct.	12	36,235	1,230,757	3,482	82,254			8.8
	Nov.	12	35,063	1,265,820	3,482	85,736			9.0
	Dec.	12	36,235	1,302,055	3,482	89,218			8.8
1954	Jan.	12	36,235	1,338,290	3,482	92,700			8.8
	Feb.	12	32,726	1,371,016	3,482	96,182			9.6
	March	12	36,235	1,407,251	3,482	99,664			8.8
	April	12	35,063	1,442,314	3,482	103,146			9.0
	May	12	36,235	1,478,549	3,482	106,628			8.8
	June	12	35,063	1,513,612	3,482	110,110			9.0
	July	12	36,235	1,549,847	3,482	113,592			8.8
	Aug.	12	36,235	1,586,082	3,482	117,074			8.8
	Sept.	12	35,063	1,621,145	3,482	120,556			9.0
	Oct.	12	36,235	1,657,380	3,482	124,038			8.8
	Nov.	12	35,063	1,692,443	3,482	127,520			9.0
	Dec.	12	36,235	1,728,678	3,482	131,002			8.8
1955	Jan.	12	36,235	1,764,913	3,482	134,484			8.8
	Feb.	12	32,726	1,797,639	3,482	137,966			9.6
	March	12	36,235	1,833,874	3,482	141,448			8.8
	April	12	35,063	1,868,937	3,482	144,930			9.0
	May	12	36,235	1,905,172	3,482	148,412			8.8
	June	12	35,063	1,940,235	3,482	151,894			9.0
	July	12	36,235	1,976,470	3,482	155,376			8.8
	Aug.	12	36,235	2,012,705	3,482	158,858			8.8
	Sept.	12	35,063	2,047,768	3,482	162,340			9.0
	Oct.	12	36,235	2,084,003	3,482	165,822			8.8
	Nov.	12	35,063	2,119,066	3,482	169,304			9.0
	Dec.	12	36,235	2,155,301	3,482	172,786			8.8
1956	Jan.	12	36,235	2,191,536	3,482	176,268			8.8
	Feb.	12	32,726	2,224,262	3,482	179,750			9.6
	March	12	36,235	2,260,497	3,482	183,232			8.8
	April	12	35,063	2,295,560	3,482	186,714			9.0
	May	12	36,235	2,331,795	3,482	190,196			8.8
	June	12	35,063	2,366,858	3,482	193,678			9.0
	July	12	36,235	2,403,093	3,482	197,160			8.8

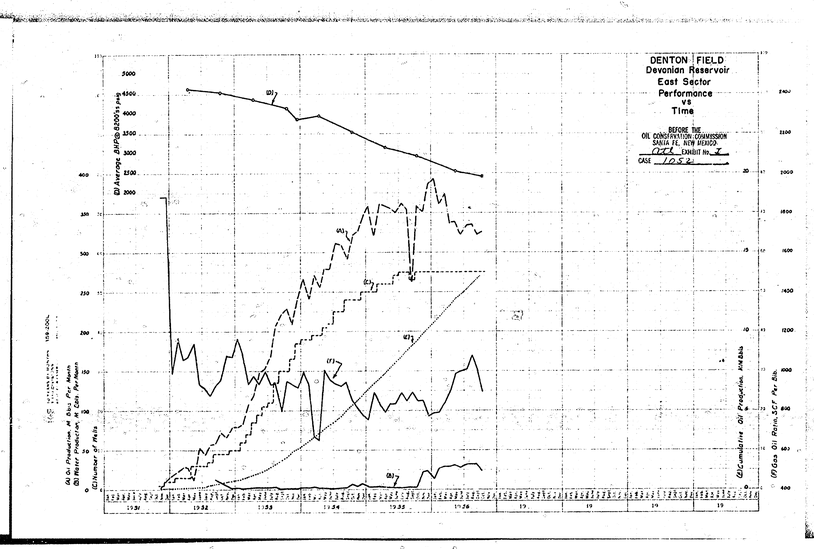
OIL AND WATER PRODUCTION RATES
DENTON DEVONIAN RESERVOIR
WEST SECTOR
(Page 2)

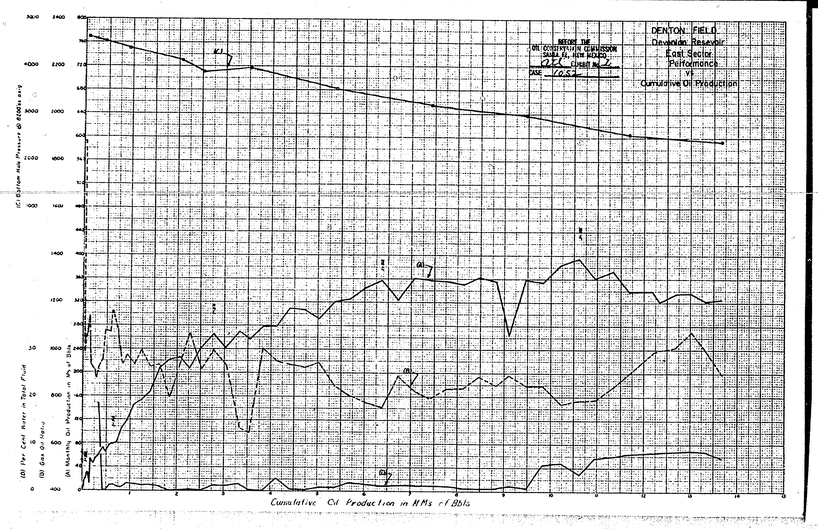
Year	Month	No. Wells	Oil Production Bbls	Cum. Oil Production Bbls	Water Production Bbls	Cum. Water Production Bbls	OOR	BHP Arith. or Weighted* Avg.	% Water in Total Fluids
1956	Aug.	96	636,012	15,302,002	33,455	366,380	949		5.0
	Sept.	97	601,930	15,903,932	35,196	401,576	930		6.0
	Oct.	99	644,849	16,548,781	41,151	442,730	858	3,850*	6.0
	Nov.	99	645,771	17,194,552	38,783	481,493	793		5.7
	Dec.	102	686,659	17,881,211	54,460	535,953	765		7.4
1957	Jan.	102	698,065	18,579,269	63,118	602,091	735		8.2
	Feb.	102	628,049	19,203,309	65,486	667,217	856		9.4
	March	104	693,611	19,896,723	68,127	735,344	896		8.9
	April	105	678,880	20,575,703	67,959	793,303	828	3,682*	7.9
	May	106	655,251	21,259,960	69,152	862,455	899		9.2
	June	108	665,582	21,925,542	84,472	946,927	895		10.1
	July	108	691,766	22,617,308	80,178	1,027,105	896		11.6
	Aug.	109	680,341	23,297,652	80,665	1,097,770	866		10.6
	Sept.	107	1,099,000	24,396,652	131,089	1,183,063	882		10.6
	Oct.	108	673,795	25,470,447	92,863	1,275,926	837	3,687*	12.1
	Nov.	108	665,488	25,135,935	89,613	1,365,539	810		11.9
	Dec.	109	729,269	25,865,200	121,652	1,487,211	774		14.3
1958	Jan.	109	712,811	26,578,011	93,666	1,580,877	791		11.2
	Feb.	109	686,538	27,264,549	103,693	1,684,570	786		15.3
	March	109	702,260	27,966,809	135,066	1,840,736	855		16.2
	April	109	655,779	28,622,588	113,650	1,954,385	680	3,369*	18.0
	May	109	652,688	29,305,212	140,816	2,125,041	945		17.7
	Sept.	108	617,398	29,922,610	145,081	2,270,122	930		19.1
	Oct.	107	627,013	30,549,623	132,225	2,403,049	982		17.4
	Aug.	107	637,227	31,186,850	131,089	2,534,138	978		17.2
	Sept.	107	605,177	31,787,027	118,246	2,652,384	948		16.3
	Oct.	109	623,820	32,410,847	119,703	2,832,087	874	3,335*	22.4

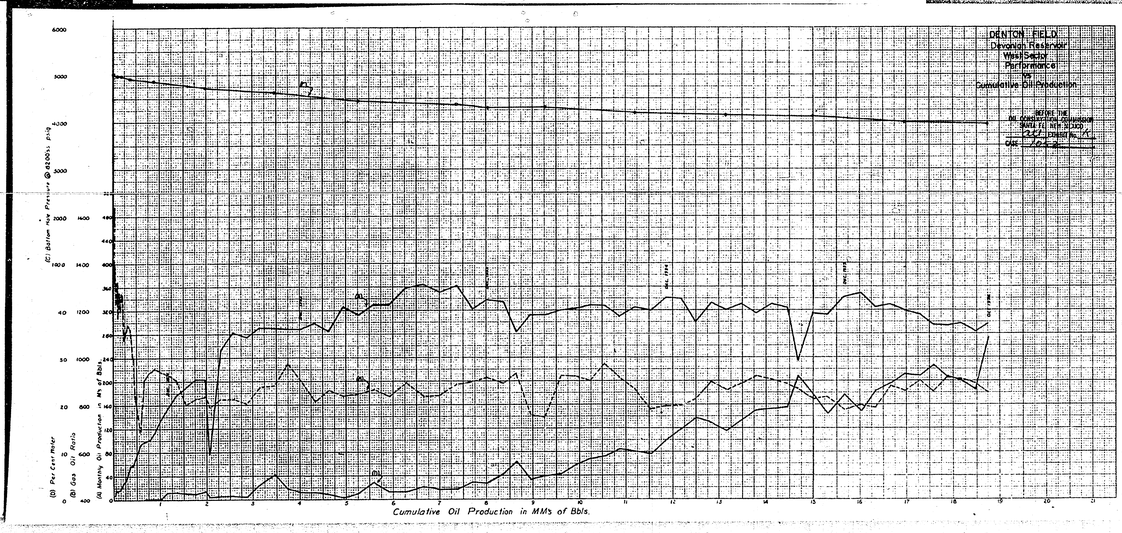
OIL AND WATER PRODUCTION RATES
DENTON DEVONIAN RESERVOIR
EAST SECTOR

Year	Month	No. Wells	Oil Production Bbls	Cum. Oil Production Bbls	Water Production Bbls	Cum. Water Production Bbls	OOR	BHP Arith. or Weighted* Avg.	% Water in Total Fluids
1951	Nov.	1	2,908	2,908			1809		
	Dec.	2	16,355	19,263			1730		
1952	Jan.	2	16,140	35,403					
	Feb.	3	22,355	57,759			1168		
	March	3	28,059	85,818			1059		
	April	3	28,755	114,573			1036	4,644	
	May	5	32,357	146,930			1138		
	June	6	27,668	174,598	933		1138		
	July	6	44,844	219,442			978		
	Aug.	7	55,650	275,092			984		
	Sept.	9	58,446	333,538	13,313	13,313	993		10.6
	Oct.	9	32,696	366,234		13,313	955	4,535	.0
	Nov.	9	46,913	413,147		13,313	1009		.0
	Dec.	9	47,038	460,185	816	14,129	1021		1.7
1953	Jan.	10	54,182	514,367	396	14,525	1043		1.1
	Feb.	10	49,739	564,106		14,525	1049		.0
	March	14	107,243	671,349	774	15,299	937		.7
	April	17	119,497	790,846	1,931	17,230	934	4,375	1.6
	May	17	147,937	938,783	2,785	20,015	938		1.9
	June	21	153,457	1,092,240	3,483	23,498	926		2.2
	July	22	157,370	1,249,610	1,933	25,431	876		1.2
	Aug.	27	177,178	1,426,788	2,976	28,407	934		1.6
	Sept.	30	222,743	1,649,531		28,407	927		.0
	Oct.	30	239,136	1,888,667	548	28,955	940	4,145	.2
	Nov.	33	259,018	2,147,685	1,133	30,088	1045		.4
	Dec.	37	243,000	2,390,685	2,321	32,409	914	3,897	.9
1954	Jan.	38	265,692	2,656,377	3,139	35,548	919		1.2
	Feb.	38	241,132	2,897,509	2,789	38,337	918		1.2
	March	39	277,501	3,175,010	3,936	42,273	940		1.4
	April	39	265,134	3,440,144	574	42,847	944	3,953*	.2
	May	41	279,597	3,719,741	333	43,180	1036		.1
	June	42	273,913	3,993,654	757	43,937	1000		.3
	July	43	313,359	4,307,013	866	44,803	1035		.3
	Aug.	45	325,993	4,633,006	1,774	46,577	1017		.5
	Sept.	46	312,297	4,945,303	1,235	47,812	1047		.4
	Oct.	46	325,993	5,271,296	1,774	49,586	1017		.5
	Nov.	46	315,297	5,586,593	1,235	50,821	1047		.4
	Dec.	46	325,993	5,912,586	1,774	52,595	1017		.5
1955	Jan.	46	325,993	6,238,579	1,774	54,369	1017		.5
	Feb.	46	294,393	6,532,972	1,596	55,965	1047		.5
	March	46	325,993	6,858,965	1,774	57,739	1017		.5
	April	46	315,297	7,174,262	1,235	58,974	1047		.4
	May	46	325,993	7,500,255	1,774	60,748	1017		.5
	June	46	315,297	7,815,552	1,235	61,983	1047		.4
	July	46	325,993	8,141,545	1,774	63,757	1017		.5
	Aug.	46	325,993	8,467,538	1,774	65,531	1017		.5
	Sept.	46	315,297	8,782,835	1,235	66,766	1047		.4
	Oct.	46	325,993	9,108,828	1,774	68,540	1017		.5
	Nov.	46	315,297	9,424,125	1,235	69,775	1047		.4
	Dec.	46	325,993	9,750,118	1,774	71,549	1017		.5
1956	Jan.	46	325,993	10,076,111	1,774	73,323	1017		.5
	Feb.	46	294,393	10,370,504	1,596	74,919	1047		.5
	March	46	325,993	10,696,497	1,774	76,693	1017		.5
	April	46	315,297	11,011,794	1,235	77,928	1047		.4
	May	46	325,993	11,337,787	1,774	79,702	1017		.5
	June	46	315,297	11,653,084	1,235	80,937	1047		.4
	July	46	325,993	11,979,077	1,774	82,711	1017		.5
	Aug.	46	325,993	12,305,070	1,774	84,485	1017		.5
	Sept.	46	315,297	12,620,367	1,235	85,720	1047		.4
	Oct.	46	325,993	12,946,360	1,774	87,494	1017		.5
	Nov.	46	315,297	13,261,657	1,235	88,729	1047		.4
	Dec.	46	325,993	13,587,650	1,774	90,503	1017		.5
1957	Jan.	46	325,993	13,913,643	1,774	92,277	1017		.5
	Feb.	46	294,393	14,208,036	1,596	93,873	1047		.5
	March	46	325,993	14,534,029	1,774	95,647	1017		.5
	April	46	315,297	14,849,326	1,235	96,882	1047		.4
	May	46	325,993	15,175,319	1,774	98,656	1017		.5
	June	46	315,297	15,490,616	1,235	99,891	1047		.4
	July	46	325,993	15,816,609	1,774	101,665	1017		.5
	Aug.	46	325,993	16,142,602	1,774	103,439	1017		.5
	Sept.	46	315,297	16,457,899	1,235	104,674	1047		.4
	Oct.	46	325,993	16,783,892	1,774	106,448	1017		.5
	Nov.	46	315,297	17,099,189	1,235	107,683	1047		.4
	Dec.	46	325,993	17,425,182	1,774	109,457	1017		.5
1958	Jan.	46	325,993	17,751,175	1,774	111,231	1017		.5
	Feb.	46	294,393	18,045,568	1,596	112,827	1047		.5
	March	46	325,993	18,371,561	1,774	114,601	1017		.5
	April	46	315,297	18,686,858	1,235	115,836	1047		.4
	May	46	325,993	19,012,851	1,774	117,610	1017		.5
	Sept.	46	304,497	19,317,348	1,193	118,803	1047		.4
	Oct.	46	314,993	19,632,341	1,715	120,518	1017		.5
	Nov.	46	304,497	19,936,838	1,193	121,711	1047		.4
	Dec.	46	314,993	20,251,831	1,715	123,426	1017		.5
1959	Jan.	46	314,993	20,566,824	1,715	125,141	1017		.5
	Feb.	46	284,593	20,851,417	1,549	126,690	1047		.5
	March	46	314,993	21,166,410	1,715	128,405	1017		.5
	April	46	304,497	21,470,907	1,193	129,598	1047		.4
	May	46	314,993	21,785,900	1,715	131,313	1017		.5
	June	46	304,497	22,090,397	1,193	132,506	1047		.4
	July	46	314,993	22,405,390	1,715	134,221	1017		.5
	Aug.	46	314,993	22,720,383	1,715	135,936	1017		.5
	Sept.	46	304,497	23,024,880	1,193	137,129	1047		.4
	Oct.	46	314,993	23,339,873	1,715	138,844	1017		.5
	Nov.	46	304,497	23,644,370	1,193	140,037	1047		.4
	Dec.	46	314,993	23,959,363	1,715	141,752	1017		.5
1960	Jan.	46	314,993	24,274,356	1,715	143,467	1017		.5
	Feb.	46	284,593	24,558,949	1,549	145,016	1047		.5
	March	46	314,993	24,873,942	1,715	146,731	1017		.5
	April	46	304,497	25,178,439	1,193	147,924	1047		.4
	May	46	314,993	25,493,432	1,715	149,639	1017		.5
	June	46	304,497	25,797,929	1,193	150,832	1047		.4
	July	46	314,993	26,112,922	1,715	152,547	1017		.5
	Aug.	46	314,993	26,427,915	1,715	154,262	1017		.5
	Sept.	46	304,497	26,732,412	1,193	155,455	1047		.4
	Oct.	46	314,993	27,047,405	1,715	157,170	1017		.5
	Nov.	46	304,497	27,351,902	1,193	158,363	1047		.4
	Dec.	46	314,993	27,666,895	1,715	160,078	1017		.5
1961	Jan.	46	314,993	27,981,888	1,715	161,793	1017		.5
	Feb.	46	284,593	28,266,481	1,549	163,342	1047		.5
	March	46	314,993	28,581,474	1,715	165,057	1017		.5
	April	46	304,497	28,885,971	1,193	166,250	1047		.4
	May	46	314,993	29,200,964	1,715	167,965	1017		.5
	June	46	304,497	29,505,461	1,193	169,158	1047		.4
	July	46	314,993	29,820,454	1,715	170,873	1017		.5
	Aug.	46	314,993	30,135,447	1,715	172,588	1017		.5
	Sept.	46	304,497	30,439,944	1,193	173,781	1047		.4
	Oct.	46	314,993	30,754,937	1,715	175,496	1017		.5
	Nov.	46	304,497	31,059,434	1,193	176,689	1047		.4
	Dec.	46	314,993	31,374,427	1,715	178,404	1017		.5
1962	Jan.	46	314,993	31,689,420	1,715	180,119	1017		.5
	Feb.	46	284,593


DENTON FIELD
Devonian Reservoir
West Sector
Performance
vs
Time
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
CASE 1052
(A) Oil Production, M Bbls. Per Month
(B) Water Production, M Bbls Per Month
(C) Number of Wells
(D) Average BHP @ 8200'ss psig
(E) Cumulative Oil Production, MM Bbls.
(F) Gas Oil Ratio, SCF Per Bbl.


DENTON FIELD
Devonian Reservoir
East Sector
Performance
vs
Time
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
CASE 1052
(A) Oil Production, M Bbls. Per Month
(B) Water Production, M Bbls Per Month
(C) Number of Wells
(D) Average BHP @ 8200'ss psig
(E) Cumulative Oil Production, MM Bbls.
(F) Gas Oil Ratio, SCF Per Bbl.


DENTON FIELD
Devonian Reservoir
East Sector
Performance
vs
Cumulative Oil Production
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
CASE 1052
(A) Monthly Oil Production in M's of Bbls.
(B) Gas Oil Ratio
(C) Bottom Hole Pressure @ 8200'ss psig
Cumulative Oil Production in MM's of Bbls.


DENTON FIELD
Devonian Reservoir
West Sector
Performance
vs
Cumulative Oil Production
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
CASE 1052
(A) Monthly Oil Production in M's of Bbls.
(B) Gas Oil Ratio
(C) Bottom Hole Pressure @ 8200'ss psig
Cumulative Oil Production in MM's of Bbls.

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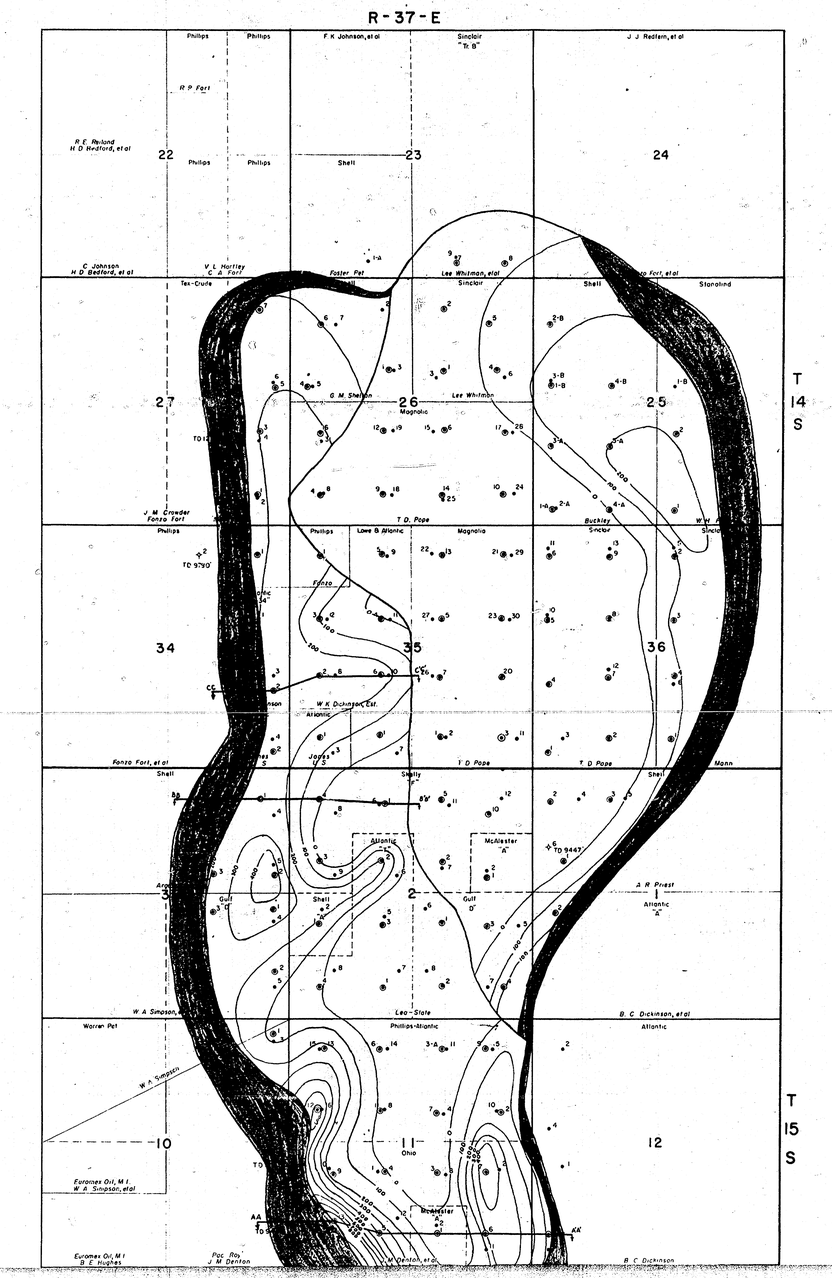
R-37-E
T 14 S
T 15 S
22
23
24
27
26
25
34
35
36
3
2
10
11
12
Phillips
F K Johnson, et al
Sinclair "Tr. B"
J J Redfern, et al
R P Fort
R E Reiland
H D Hedford, et al
Shell
C Johnson
H D Bedford, et al
V L Hartley
C A Fort
Foster Pet
Lee Whitman, et al
Tex-Crude
Sinclair
Stanolind
G M Shelton
Lee Whitman
Magnolia
J M Crowder
Fonzo Fort
T D Pope
Buckley
Lowe & Atlantic
Fonzo
W K Dickinson, Est.
Atlantic
Fonzo Fort, et al
Shelly
McAlester "A"
A R Priest
Gulf
Lea-State
Phillips-Atlantic
B C Dickinson, et al
Warren Pet
W A Simpson
Ohio
Euromex Oil, M I
W A Simpson, et al
Euromex Oil, M I
B E Hughes
Pac Roy
J M Denton
B C Dickinson

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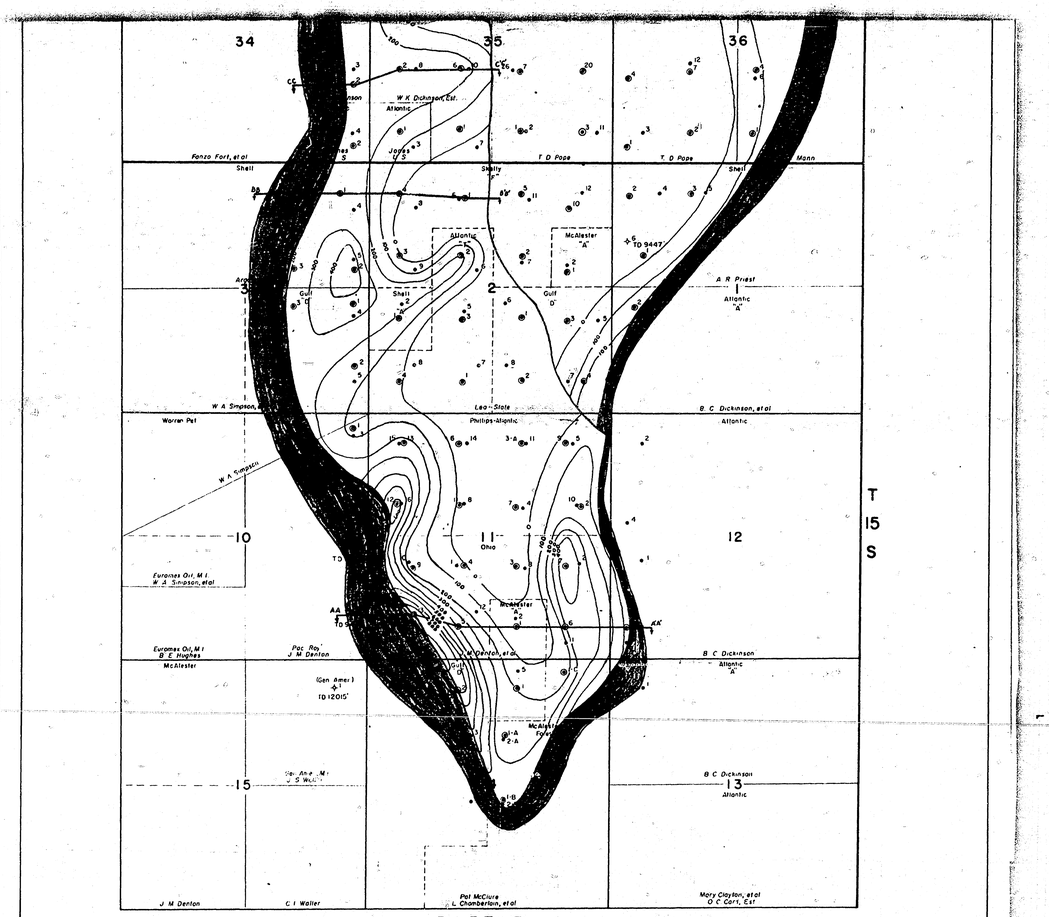

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 7
CASE 1052

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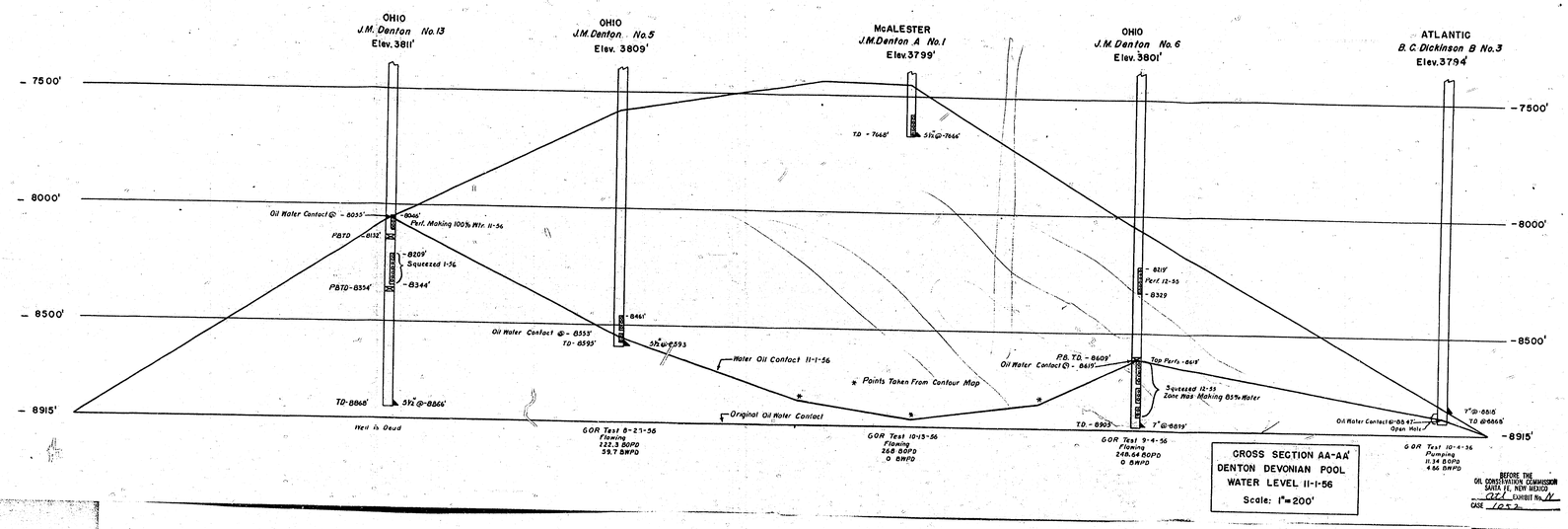
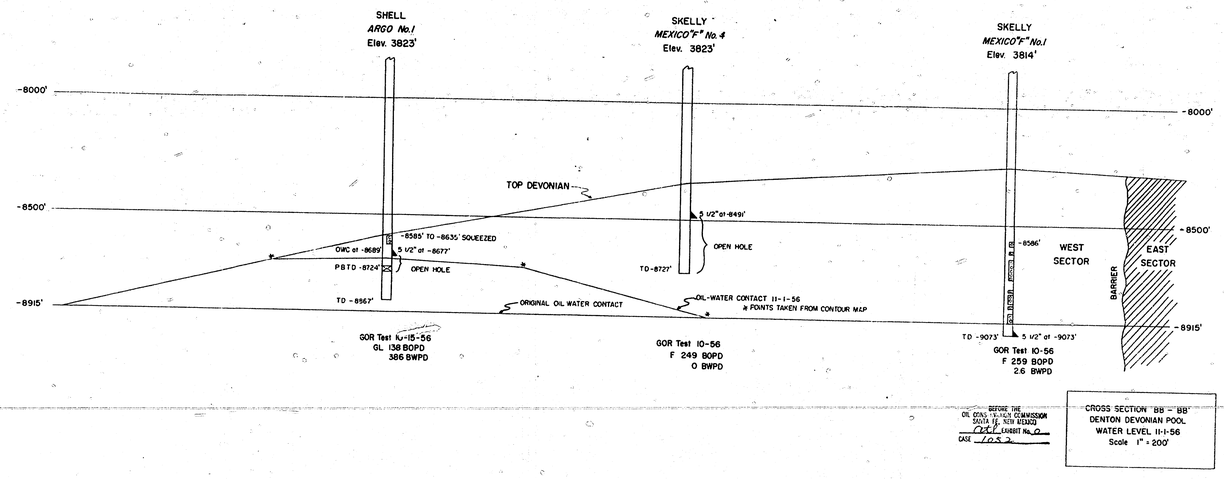
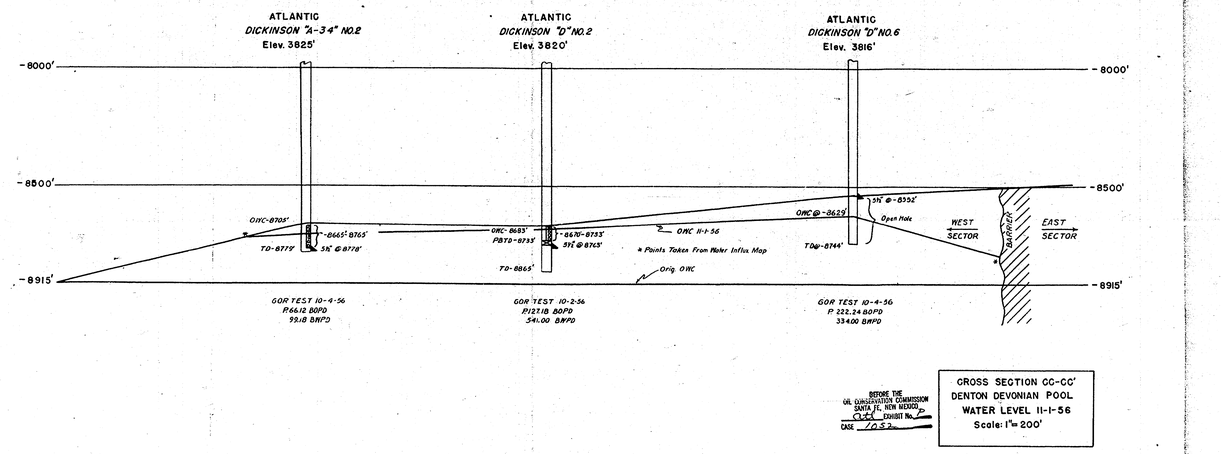

OHIO
J.M. Denton No.13
Elev. 3811'
OHIO
J.M.Denton No.5
Elev. 3809'
McALESTER
J.M.Denton A No.1
Elev.3799'
OHIO
J.M. Denton No.6
Elev. 3801'
ATLANTIC
B.C.Dickinson B No.3
Elev.3794'
- 7500'
- 8000'
- 8500'
- 8915'
Oil Water Contact @ - 8055'
8046'
Perf. Making 100% Wtr. 11-56
PBTD - 8132'
- 8209'
Squeezed 1-56
- 8344'
PBTD-8354'
TD-8868'
5½" @-8866'
Well is Dead
- 8461'
Oil Water Contact @- 8559'
TD - 8595'
5½" @-8593'
Water Oil Contact 11-1-56
Original Oil Water Contact
GOR Test 8-21-56
Flowing
122.3 BOPD
39.7 BWPD
TD - 7668'
5½" @-7666'
* Points Taken From Contour Map
- 8219'
Perf. 12-55
- 8329
P.B. TD - 8609'
Oil Water Contact @ - 8619'
Top Perfs -8619'
Squeezed 12-55
Zone Was Making 85% Water
TD - 8903'
7" @-8899'
GOR Test 10-13-56
Flowing
268 BOPD
0 BWPD
GOR Test 9-4-56
Flowing
248.64 BOPD
0 BWPD
Oil Water Contact @-8547'
Open Hole
7" @- 8515'
TD @8666'
GOR Test 10-4-56
Pumping
11.34 BOPD
4.86 BWPD
CROSS SECTION AA-AA'
DENTON DEVONIAN POOL
WATER LEVEL 11-1-56
Scale: 1"=200'
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. V
CASE 1052


SHELL
ARGO No.1
Elev. 3823'
SKELLY
MEXICO"F" No.4
Elev. 3823'
SKELLY
MEXICO"F" No.1
Elev. 3814'
- 8000'
- 8500'
- 8915'
TOP DEVONIAN
-8585' TO -8635' SQUEEZED
OWC at -8689'
5 1/2" at -8677'
OPEN HOLE
PBTD -8724'
TD - 8867'
ORIGINAL OIL WATER CONTACT
GOR Test 10-15-56
GL 138 BOPD
386 BWPD
5 1/2" at -8491'
OPEN HOLE
TD-8727'
OIL-WATER CONTACT 11-1-56
* POINTS TAKEN FROM CONTOUR MAP
GOR Test 10-56
F 249 BOPD
0 BWPD
-8586'
WEST SECTOR
EAST SECTOR
BARRIER
TD -9073'
5 1/2" at -9073'
GOR Test 10-56
F 259 BOPD
2.6 BWPD
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 2
CASE 1052
CROSS SECTION 'BB - BB'
DENTON DEVONIAN POOL
WATER LEVEL 11-1-56
Scale 1" = 200'


ATLANTIC
DICKINSON "A-34" NO.2
Elev. 3825'
ATLANTIC
DICKINSON "D" NO.2
Elev. 3820'
ATLANTIC
DICKINSON "D" NO.6
Elev. 3816'
- 8000'
- 8500'
- 8915'
OWC-8705'
-8665'-8765'
TD-8779'
5½" @-8778'
OWC- 8683'
PBTD-8793'
-8671'-8733'
5½" @-8765'
TD-8865'
OWC @ 11-1-56
* Points Taken From Water Influx Map
Orig. OWC
GOR TEST 10-4-56
F 662.12 BOPD
99.18 BWPD
GOR TEST 10-2-56
F 1271.18 BOPD
541.00 BWPD
OWC @-8629'
5½" @-8752'
Open Hole
TD@-8744'
WEST SECTOR
BARRIER
EAST SECTOR
GOR TEST 10-4-56
F 222.24 BOPD
334.00 BWPD
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 3
CASE 1052
CROSS SECTION CC-CC'
DENTON DEVONIAN POOL
WATER LEVEL 11-1-56
Scale: 1"= 200'

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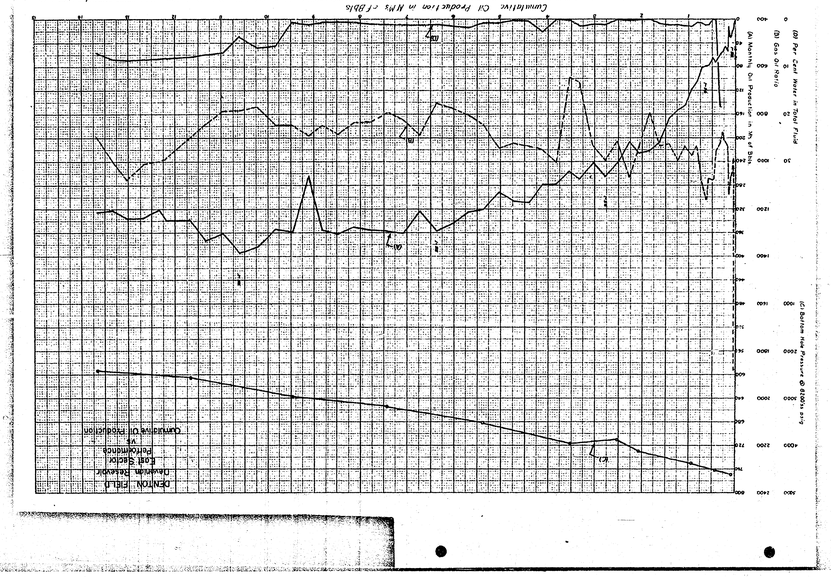
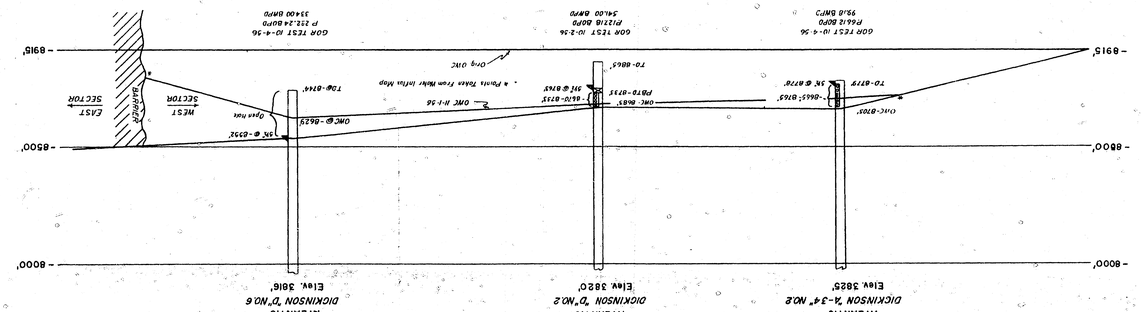
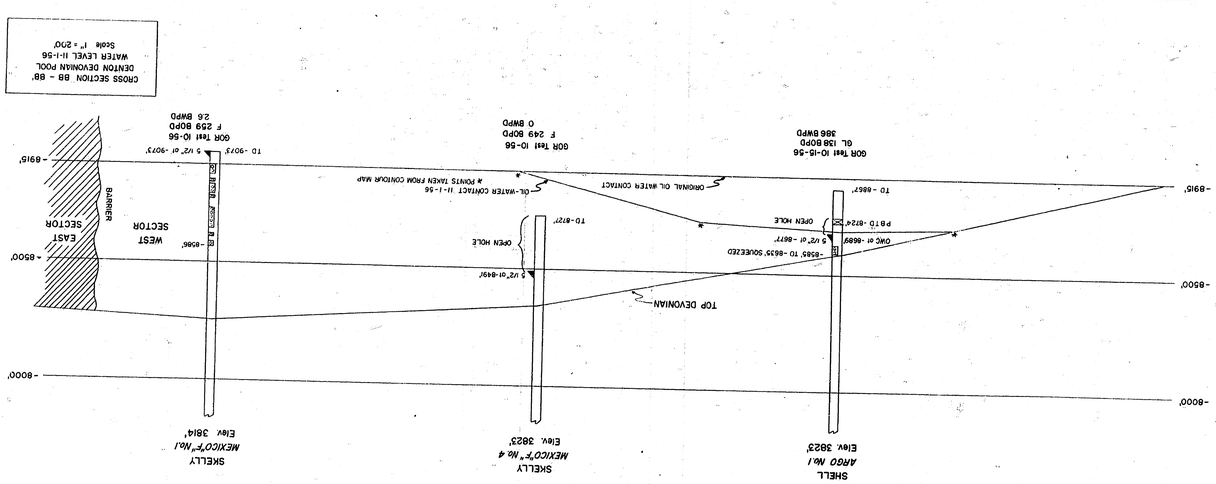
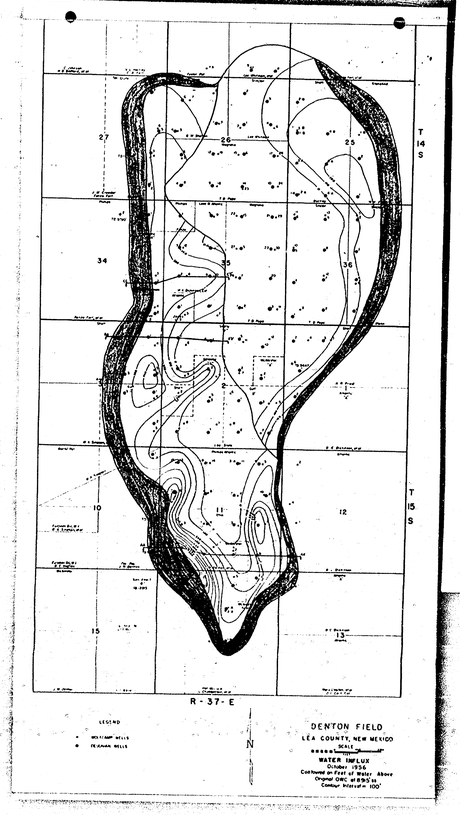


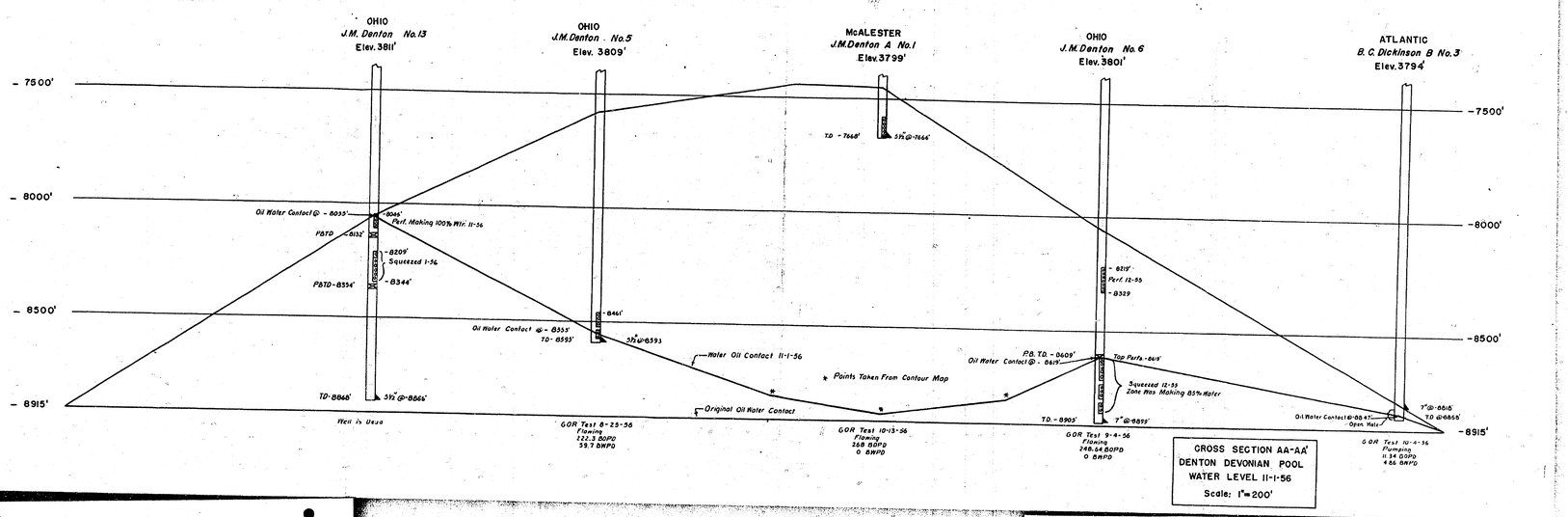
GROSS SECTION CC-CC'
DENTON DEVONIAN POOL
WATER LEVEL 11-1-56
Scale: 1"= 200'



CROSS SECTION BB - BB'
DENTON DEVONIAN POOL
WATER LEVEL 11-1-56
Scale 1" = 200'

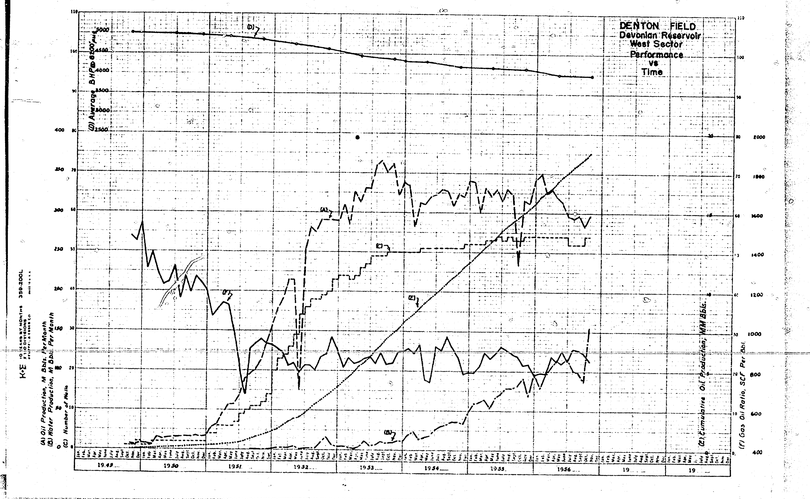


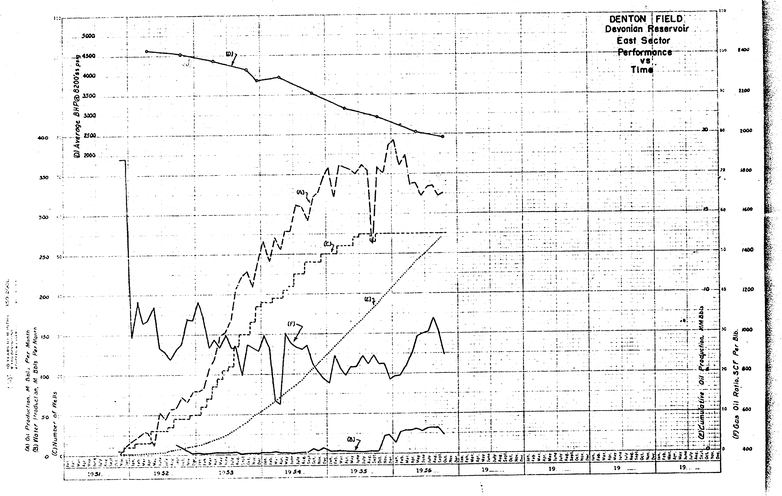


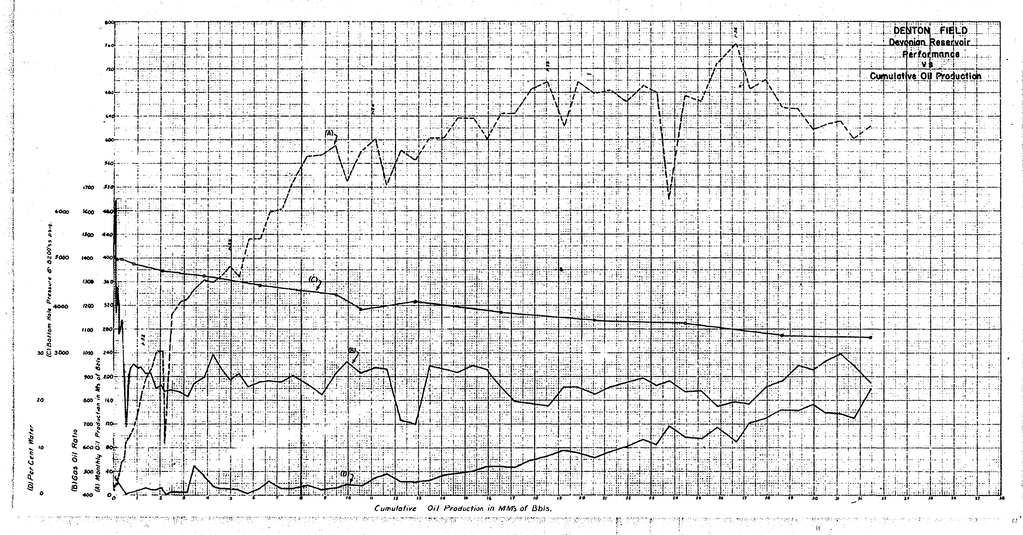


GROSS SECTION AA-AA'
DENTON DEVONIAN POOL
WATER LEVEL 11-1-56
Scale: 1"=200'









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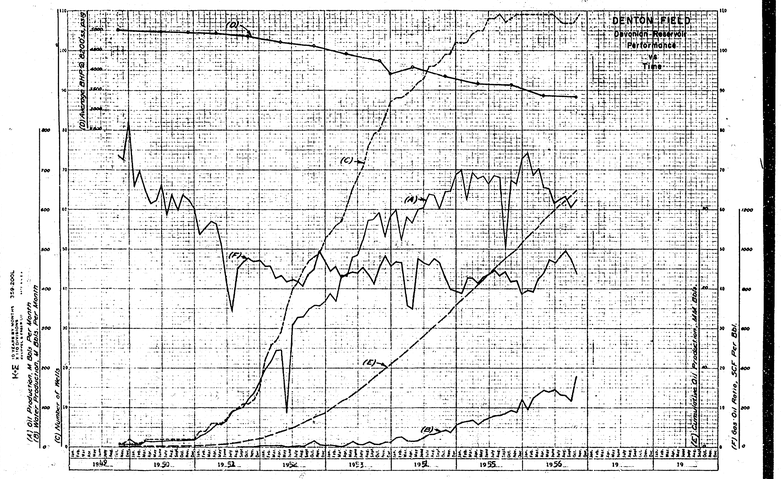

OIL AND WATER PRODUCTION RATES
DENTON DEVONIAN RESERVOIR

Year	Month	No. Wells	Oil Production Bbls	Cum. Oil Production Bbls	Water Production Bbls	Cum. Water Production Bbls	GOR	BHP Arith. or Weighted* Avg.	% Water in Total Fluids
1949	Oct.	1	7,412	7,412			1176	5,009	
	Nov.	1	7,163	14,575			1176		
	Dec.	1	8,991	23,566	361	361	1161		3.9
1950	Jan.	1	7,628	31,194		361	1313		.0
	Feb.	1	7,165	38,089		361	1396		.0
	March	1	16,663	54,752		361	1233		.0
	April	2	14,406	68,960		361	1233		.0
	May	2	14,935	83,895		361	1293		.0
	June	2	15,282	99,157		361	1323	4,977	.0
	July	2	16,512	115,669		361	1278		.0
	Aug.	2	17,382	133,051		361	1198		.0
	Sept.	2	16,143	149,194		361	1171		.0
	Oct.	2	17,445	166,639		361	1278		.0
	Nov.	2	16,230	183,449		361	1345	4,965	.0
	Dec.	2	17,451	200,900		361	1201		.0
1951	Jan.	4	29,052	229,952		361	1077		.0
	Feb.	4	27,578	257,530		361	1101		.0
	March	6	45,719	307,255		361	1077		.0
	April	6	56,819	364,074		361	1101		.0
	May	6	57,487	421,561		361	1116	4,947	.0
	June	7	58,232	479,793		361	1002		.0
	July	9	89,674	569,467		361	821		.0
	Aug.	10	96,641	666,108	93	454	906		.1
	Sept.	11	101,612	767,720	16	470	939		.0
	Oct.	11	113,689	881,409	9	509	955	4,868	.0
	Nov.	13	139,853	1,021,262	17	526	939		.0
	Dec.	16	166,235	1,196,527	2,341	2,867	961		1.4
1952	Jan.	22	196,876	1,393,403	2,787	5,654	916		1.4
	Feb.	26	213,176	1,606,577	2,787	8,441	913		1.3
	March	27	243,554	1,849,731	2,792	11,443	858		1.1
	April	29	233,665	2,083,396	3,482	14,925	866	4,724	1.6
	May	35	88,981	2,182,577	362	15,287	939		.0
	June	40	106,680	2,289,257	1,450	16,737	843		.6
	July	42	127,016	2,416,273	2,445	19,762	837		.8
	Aug.	44	139,118	2,555,391	1,723	21,485	811		.6
	Sept.	47	349,350	2,895,741	22,760	44,245	811		6.1
	Oct.	48	345,984	3,241,725	16,136	60,379	896	4,605	4.3
	Nov.	49	357,679	3,599,404	6,540	66,919	939		1.8
	Dec.	53	386,519	3,985,923	5,274	72,193	939		1.4
1953	Jan.	54	371,972	4,357,895	5,613	77,806	888		1.5
	Feb.	56	366,214	4,724,109	4,207	82,213	911		1.1
	March	57	393,606	5,118,715	3,482	85,695	866		.9
	April	61	432,168	5,550,883	6,330	92,450	878	4,613	1.4
	May	65	479,723	6,030,606	10,784	103,234	863		2.2
	June	68	483,567	6,514,173	7,378	110,612	879		1.9
	July	71	504,866	7,019,039	7,571	118,183	801		1.5
	Aug.	76	572,485	7,591,524	12,198	130,381	868		2.1
	Sept.	79	574,484	8,166,008	7,766	138,147	822		1.3
	Oct.	80	591,681	8,757,689	6,771	144,918	911	4,230	1.1
	Nov.	83	531,742	9,289,431	12,409	157,327	961		2.3
	Dec.	87	581,372	9,870,803	12,125	169,452	915	3,902	2.1
1954	Jan.	88	600,746	10,471,549	12,842	182,294	937		2.7
	Feb.	86	524,004	10,995,553	10,918	193,212	959		2.5
	March	89	583,535	11,579,088	17,668	210,880	735		2.9
	April	90	567,332	12,146,420	16,543	227,423	699	4,079*	2.8
	May	93	600,660	12,747,080	18,796	246,219	769		3.0
	June	93	603,516	13,350,596	20,985	267,204	886		3.4
	July	96	638,703	13,989,299	31,129	298,333	935		4.6

OIL AND WATER PRODUCTION RATES
DENTON DEVONIAN RESERVOIR
(Page 2)

Year	Month	No. Wells	Oil Production Bbls	Cum. Oil Production Bbls	Water Production Bbls	Cum. Water Production Bbls	GOR	BHP Arith. or Weighted* Avg.	% Water in Total Fluids
1954	Aug.	96	635,012	14,624,311	33,455	331,788	919		5.0
	Sept.	97	601,932	15,226,243	35,108	366,896	930		5.6
	Oct.	99	644,849	15,871,092	41,152	408,048	938		6.0
	Nov.	99	645,771	16,516,863	42,682	450,730	858	3,850*	5.7
	Dec.	102	686,660	17,203,523	50,680	501,410	893		5.8
1955	Jan.	102	690,065	17,893,588	63,118	564,528	913		6.2
	Feb.	102	634,040	18,527,628	69,126	633,654	859		6.2
	March	104	693,444	19,221,072	68,127	701,781	856		6.2
	April	105	670,980	19,892,052	57,959	759,740	848	3,682*	5.9
	May	105	684,257	20,576,309	69,152	828,892	859		6.2
	June	108	666,182	21,242,491	72,472	901,364	875		6.5
	July	108	693,766	21,936,257	80,178	981,542	896		6.8
	Aug.	107	685,344	22,621,601	85,565	1,067,107	866		7.0
	Sept.	107	699,000	23,320,601	92,796	1,159,903	866		7.1
	Oct.	108	673,795	23,994,396	81,766	1,241,669	838		6.8
	Nov.	109	665,484	24,659,880	85,448	1,327,117	837	3,627*	6.9
	Dec.	109	729,269	25,389,149	78,784	1,405,901	840		6.7
1956	Jan.	109	742,811	26,131,960	73,666	1,479,567	791		6.3
	Feb.	109	686,538	26,818,498	73,693	1,553,260	786		6.3
	March	109	702,260	27,520,758	73,805	1,627,065	786		6.3
	April	109	655,779	28,176,537	73,772	1,700,837	786		6.3
	May	109	652,620	28,829,157	73,751	1,774,588	786		6.3
	June	108	617,398	29,446,555	73,733	1,848,321	786		6.3
	July	107	627,013	30,073,568	73,725	1,922,046	786		6.3
	Aug.	107	638,227	30,711,795	73,751	1,995,797	786		6.3
	Sept.	107	605,177	31,316,972	73,742	2,069,539	786		6.3
	Oct.	109	623,880	31,940,852	73,747	2,143,286	786		6.3

OIL AND WATER PRODUCTION RATES
DENTON DEVONIAN RESERVOIR
(Page 2)

Year	Month	No. Wells	Oil Production Bbls	Cum. Oil Production Bbls	Water Production Bbls	Cum. Water Production Bbls	GOR	BHP Arith. or Weighted* Avg.	% Water in Total Fluids
1954	Aug.	96	635,012	15,300,009	33,455	366,380	919		5.0
	Sept.	97	601,932	15,901,934	35,108	401,578	930		5.6
	Oct.	99	644,849	16,546,783	41,152	442,730	938		6.0
	Nov.	99	645,771	17,192,554	42,682	485,412	858	3,850*	5.7
	Dec.	102	686,660	17,879,214	50,680	536,092	893		5.8
1955	Jan.	102	690,065	18,569,279	63,118	599,210	913		6.2
	Feb.	102	634,040	19,203,319	69,126	668,336	859		6.2
	March	104	693,444	19,896,763	68,127	736,463	856		6.2
	April	105	670,980	20,567,743	57,959	794,422	848	3,682*	5.9
	May	105	684,257	21,252,000	69,152	863,574	859		6.2
	June	108	666,182	21,918,182	72,472	936,046	875		6.5
	July	108	693,766	22,611,948	80,178	1,016,224	896		6.8
	Aug.	107	685,344	23,297,292	85,565	1,101,789	866		7.0
	Sept.	107	699,000	23,996,292	92,796	1,194,585	866		7.1
	Oct.	108	673,795	24,670,087	81,766	1,276,351	838		6.8
	Nov.	109	665,484	25,335,571	85,448	1,361,799	837	3,627*	6.9
	Dec.	109	729,269	26,064,840	78,784	1,440,583	840		6.7
1956	Jan.	109	742,811	26,807,651	73,666	1,514,249	791		6.3
	Feb.	109	686,538	27,494,189	73,693	1,587,942	786		6.3
	March	109	702,260	28,196,449	73,805	1,661,747	786		6.3
	April	109	655,779	28,852,228	73,772	1,735,519	786		6.3
	May	109	652,620	29,504,848	73,751	1,809,270	786		6.3
	June	108	617,398	30,122,246	73,733	1,883,003	786		6.3
	July	107	627,013	30,749,259	73,725	1,956,728	786		6.3
	Aug.	107	638,227	31,387,486	73,751	2,030,479	786		6.3
	Sept.	107	605,177	31,992,663	73,742	2,104,221	786		6.3
	Oct.	109	623,880	32,616,543	73,747	2,177,968	786		6.3

OIL AND WATER PRODUCTION RATES
DENTON DEVONIAN RESERVOIR
WEST SECTOR

Year	Month	No. Wells	Oil Production Bbls	Cum. Oil Production Bbls	Water Production Bbls	Cum. Water Production Bbls	GOR	BHP Arith. or Weighted* Avg.	% Water in Total Fluids
1949	Oct.	1	7,412	7,412			1176	5,009	
	Nov.	1	7,163	14,575			1176		
	Dec.	1	8,991	23,566			1161		
1950	Jan.	1	7,628	31,194	361	361	1313		3.9
	Feb.	1	7,165	38,089		361	1396		.0
	March	1	16,663	54,752		361	1233		.0
	April	2	14,406	68,960		361	1233		.0
	May	2	14,935	83,895		361	1293		.0
	June	2	15,282	99,157		361	1323	4,977	.0
	July	2	16,512	115,669		361	1278		.0
	Aug.	2	17,382	133,051		361	1278		.0
	Sept.	2	16,143	149,194		361	1198		.0
	Oct.	2	17,445	166,639		361	1171		.0
	Nov.	2	16,230	183,449		361	1345	4,965	.0
	Dec.	2	17,451	200,900		361	1201		.0
1951	Jan.	4	29,052	229,952		361	1077		.0
	Feb.	4	27,578	257,530		361	1101		.0
	March	6	45,719	307,255		361	1077		.0
	April	6	56,819	364,074		361	1101		.0
	May	6	57,487	421,561		361	1116	4,947	.0
	June	7	58,232	479,793		361	1002		.0
	July	9	89,674	569,467		361	821		.0
	Aug.	10	96,641	666,108	93	454	906		.1
	Sept.	11	101,612	767,720	16	470	939		.0
	Oct.	11	113,689	881,409	9	509	955	4,868	.0
	Nov.	13	139,853	1,021,262	17	526	939		.0
	Dec.	14	155,850	1,183,234	2,341	2,867	933		1.5
1952	Jan.	20	159,153	1,342,387	2,787	5,654	997		1.6
	Feb.	23	190,891	1,533,508	2,797	8,451	883		1.4
	March	24	214,509	1,747,017	2,792	11,243	825		1.3
	April	26	214,996	1,962,013	3,482	14,725	825	4,746	1.6
	May	29	76,614	2,038,633	362	15,087	799		.5
	June	34	92,736	2,131,369	1,830	16,917	799		1.7
	July	36	282,772	2,414,141	2,445	19,362	854		.8
	Aug.	38	274,558	2,688,699	1,723	21,085	906		.6
	Sept.	38	291,135	2,979,834	9,467	31,132	867		3.1
	Oct.	39	290,134	3,269,968	16,136	47,268	882	4,624	5.3
	Nov.	40	290,736	3,561,050	9,540	53,806	972		3.2
	Dec.	43	269,238	3,830,288	4,395	58,201	903		1.5
1953	Jan.	44	252,820	4,083,108	4,953	63,154	883		1.5
	Feb.	46	266,175	4,349,283	3,510	66,664	861		1.2
	March	48	294,283	4,643,566	3,133	69,797	838		1.0
	April	48	312,821	5,044,337	4,509	74,306	844	4,462	1.4
	May	48	390,736	5,595,073	12,181	86,487	846		3.0
	June	47	330,110	5,925,183	5,465	89,728	835		1.6
	July	49	356,316	6,281,499	5,584	95,312	891		1.5
	Aug.	49	365,107	6,646,606	10,322	105,634	837		2.7
	Sept.	49	351,471	7,000,317	7,720	113,354	818		2.1
	Oct.	50	362,205	7,362,522	8,663	122,017	888	4,371	2.3
	Nov.	50	322,717	7,685,239	11,976	133,993	894		3.6
	Dec.	50	338,272	8,023,511	11,908	145,901	916		3.4
1954	Jan.	50	334,844	8,358,355	19,703	165,604	892	4,322	5.6
	Feb.	50	282,892	8,641,247	14,129	179,733	932		4.8
	March	50	312,534	8,953,901	13,632	193,365	757		4.2
	April	51	311,521	9,265,423	16,039	209,404	744	4,301*	4.9
	May	51	309,273	9,574,696	17,923	227,327	921		5.3
	June	51	323,605	9,909,301	25,735	253,062	922		7.4

OIL AND WATER PRODUCTION RATES
DENTON DEVONIAN RESERVOIR
WEST SECTOR
(Page 2)

Year	Month	No. Wells	Oil Production Bbls	Cum. Oil Production Bbls	Water Production Bbls	Cum. Water Production Bbls	GOR	BHP Arith. or Weighted* Avg.	% Water in Total Fluids
1954	July	51	328,614	10,237,935	30,343	283,405	903		8.5
	Aug.	51	326,345	10,564,280	28,613	312,018	876		7.1
	Sept.	51	309,035	10,873,315	26,253	338,271	918		7.8
	Oct.	51	334,057	11,197,372	35,872	374,143	868	4,152*	10.0
	Nov.	51	319,778	11,517,150	36,019	410,162	781		9.6
	Dec.	52	343,110	11,858,260	48,534	458,696	796		12.4
1955	Jan.	52	339,143	12,197,403	59,181	517,877	795		14.3
	Feb.	52	309,717	12,489,020	61,056	578,933	822		17.0
	March	52	332,105	12,820,725	64,668	643,601	899		16.2
	April	53	320,795	13,141,520	54,034	697,635	886	4,143*	14.4
	May	53	329,215	13,470,735	65,604	763,239	869		16.6
	June	54	315,813	13,786,552	71,249	834,488	922		18.7
	July	53	329,533	14,116,085	78,226	912,714	907		19.2
	Aug.	54	316,415	14,432,500	77,284	989,998	880		19.6
	Sept.	53	314,237	14,746,737	81,891	1,071,889	874		20.3
	Oct.	53	315,007	15,061,744	90,623	1,162,512	887	4,126*	22.3
	Nov.	54	312,188	15,373,932	96,318	1,258,830	832		24.0
	Dec.	54	342,431	15,716,363	96,931	1,355,761	779		27.1
1956	Jan.	54	349,751	16,066,114	79,077	1,434,838	798		23.5
	Feb.	54	324,786	16,390,900	97,657	1,532,495	757		27.9
	March	54	327,769	16,718,669	105,898	1,638,393	696		29.4
	April	54	318,589	17,037,258	111,284	1,749,677	856	3,991*	28.6
	May	54	312,999	17,350,257	110,436	1,860,113	901		29.1
	June	54	295,226	17,645,483	118,671	1,978,784	855		27.3
	July	52	292,793	17,938,276	101,358	2,080,142	932		25.7
	Aug.	52	297,126	18,235,402	99,390	2,179,532	926		25.0
	Sept.	52	282,655	18,518,057	86,932	2,266,464	890		23.5
	Oct.	54	296,923	18,814,980	154,753	2,421,093	850	3,972*	34.3

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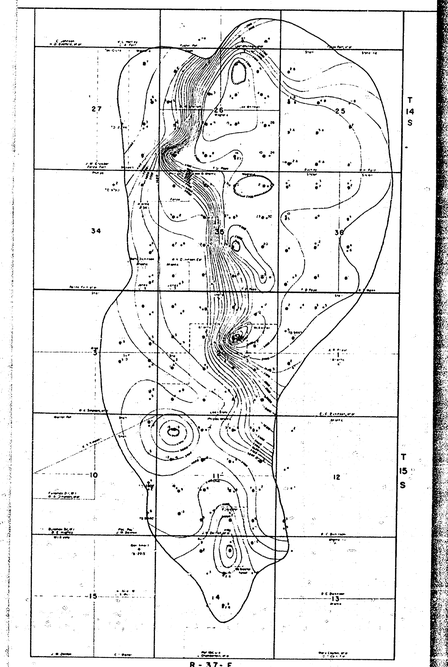
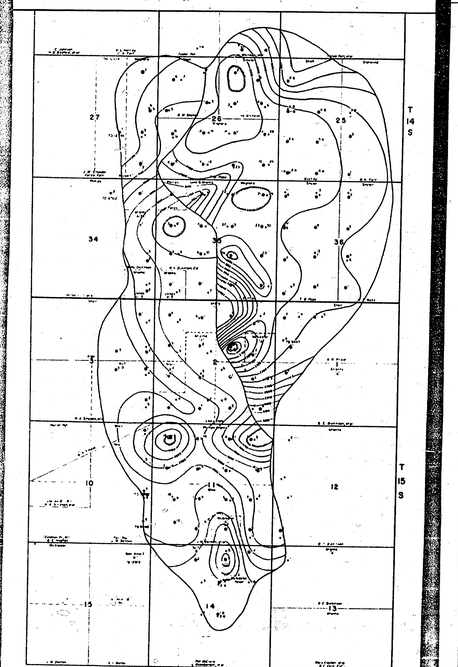
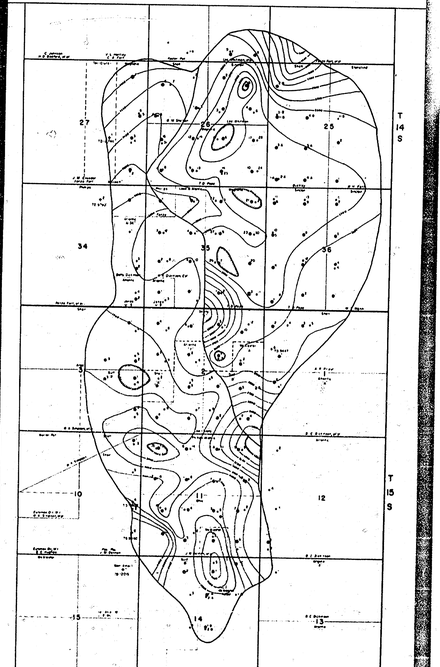






OIL AND WATER PRODUCTION RATES
DENTON DEVONIAN RESERVOIR

Year	Month	No. Wells	Oil Production Bbls	Cum. Oil Production Bbls	Water Production Bbls	Cum. Water Production Bbls	OOR	BHP Arith. or Weighted Avg.	% Water in Total Fluids
1949	Oct.	1	7,412	7,412			1176	5,009	
	Nov.	1	7,163	14,575			1458		
	Dec.	1	6,901	21,476	361	361	1641		3.9
1950	Jan.	1	7,428	28,904		361	1311		.0
	Feb.	2	7,155	36,059		361	1396		.0
	March	2	14,463	50,522		361	1293		.0
	April	2	14,408	64,930		361	1293		.0
	May	2	14,945	79,875		361	1233		.0
	June	2	15,282	95,157		361	1265		.0
	July	2	15,512	110,669		361	1323	4,977	.0
	Aug.	2	17,382	128,051		361	1278		.0
	Sept.	2	16,443	144,494		361	1198		.0
	Oct.	2	17,425	161,919		361	1199		.0
	Nov.	2	17,230	179,149		361	1277		.0
	Dec.	2	17,057	196,206		361	1245	4,965	.0
1951	Jan.	4	33,052	229,258		361	1201		.0
	Feb.	4	31,578	260,836		361	1077		.0
	March	6	46,719	307,555		361	1101		.0
	April	6	46,819	354,374		361	1140		.0
	May	6	47,487	401,861		361	1126	4,917	.0
	June	7	47,232	449,093		361	1002		.0
	July	9	89,508	538,601		361	821		.0
	Aug.	10	95,641	634,242		361	685		.0
	Sept.	11	101,612	777,854	63	424	906		.1
	Oct.	11	113,680	891,534	46	509	939		.0
	Nov.	13	138,743	1,030,277	9	509	955	4,958	.0
	Dec.	16	166,235	1,196,527	17	526	939		.0
1952	Jan.	22	196,875	1,393,401	2,361	2,887	961		1.6
	Feb.	26	213,176	1,606,577	2,791	5,681	913		1.5
	March	27	243,356	1,849,931	2,799	8,480	852		1.1
	April	29	243,666	2,093,596	3,482	11,962	852		1.1
	May	29	88,881	2,182,477	52	12,014	866	4,724	.6
	June	10	106,680	2,288,157	1,830	13,845	839		1.6
	July	8	127,616	2,015,773	2,145	15,990	837		1.6
	Aug.	15	130,118	2,145,891	1,823	17,813	817		1.4
	Sept.	17	349,750	3,495,641	22,760	40,645	876		6.1
	Oct.	18	353,084	3,848,725	18,134	60,579	899		4.9
	Nov.	19	357,679	4,216,444	6,540	67,119	992		1.8
	Dec.	53	368,519	4,584,963	7,776	74,893	939		1.8
1953	Jan.	54	387,952	4,972,915	7,513	82,406	915		1.8
	Feb.	56	368,714	5,341,629	6,807	89,213	913		1.8
	March	57	433,626	5,774,755	4,907	94,120	859		1.1
	April	61	439,768	6,207,523	4,330	98,450	878	4,613	1.0
	May	65	478,731	6,686,254	6,766	104,716	882		1.4
	June	68	483,567	7,169,813	7,378	112,094	879		1.5
	July	71	505,866	7,675,679	7,571	119,665	901		1.5
	Aug.	76	572,485	8,248,164	12,298	131,963	866		2.1
	Sept.	78	534,454	8,782,618	7,766	139,729	872		1.3
	Oct.	80	591,581	9,434,299	6,771	146,500	911	4,430	1.1
	Nov.	83	511,762	9,946,061	12,405	158,905	961		2.3
	Dec.	87	581,372	10,527,433	12,125	171,030	915	3,949	2.0
1954	Jan.	88	600,746	11,128,159	29,842	195,876	937		3.7
	Feb.	88	534,094	11,662,253	26,918	222,794	932		4.8
	March	85	583,535	12,255,698	17,458	240,252	715		2.9
	April	90	547,913	12,803,611	16,541	256,805	699		2.8
	May	93	600,080	13,423,691	18,295	275,101	969		3.0
	June	93	603,216	14,027,207	26,699	301,796	931		4.2
	July	96	638,783	14,665,990	31,129	332,925	919		4.7

OIL AND WATER PRODUCTION RATES
DENTON DEVONIAN RESERVOIR
(Page 2)

Year	Month	No. Wells	Oil Production Bbls	Cum. Oil Production Bbls	Water Production Bbls	Cum. Water Production Bbls	OOR	BHP Arith. or Weighted Avg.	% Water in Total Fluids
1954	Aug.	95	636,012	15,302,002	33,455	366,380	859		5.0
	Sept.	97	601,232	15,903,234	38,166	404,576	930		6.0
	Oct.	99	644,549	16,547,783	41,157	445,730	888	3,650*	6.0
	Nov.	99	645,771	17,196,554	38,763	484,493	893		5.7
	Dec.	102	685,680	17,881,234	54,480	538,973	785		7.4
1955	Jan.	102	648,045	18,529,279	63,118	602,091	775		8.2
	Feb.	102	584,040	19,113,319	65,126	667,217	856		9.4
	March	105	673,414	19,786,733	69,129	736,346	858		8.9
	April	105	638,985	20,425,703	57,159	793,503	828	3,682*	7.9
	May	105	686,279	21,259,982	69,152	862,655	859		9.2
	June	108	665,582	21,925,564	74,472	936,907	875		10.1
	July	108	693,766	22,619,330	69,178	1,006,085	896		11.6
	Aug.	107	685,344	23,304,674	69,665	1,075,750	866		10.6
	Sept.	107	675,099	23,796,652	85,333	1,161,081	882		11.6
	Oct.	108	693,795	24,470,447	97,863	1,278,946	837	3,627*	12.1
	Nov.	109	665,484	25,135,931	89,613	1,368,559	820		11.9
	Dec.	109	729,269	25,865,200	121,652	1,489,211	774		14.3
1956	Jan.	109	749,911	26,608,011	123,666	1,580,877	791		14.2
	Feb.	109	686,518	27,298,529	123,593	1,704,470	786		15.3
	March	109	709,456	27,998,809	135,606	1,840,736	855		16.2
	April	109	655,779	28,652,588	143,866	1,984,025	880	3,369*	18.0
	May	108	665,882	29,318,470	140,816	2,124,841	915		17.7
	June	108	617,398	29,922,510	145,983	2,270,824	930		19.1
	July	107	627,013	30,549,523	132,235	2,403,059	968		17.4
	Aug.	107	632,227	31,181,750	131,069	2,534,128	958		17.2
	Sept.	108	605,177	31,786,927	118,746	2,652,874	958		16.3
	Oct.	109	623,820	32,410,747	119,703	2,772,587	874	3,335*	20.4

OIL AND WATER PRODUCTION RATES
DENTON DEVONIAN RESERVOIR
WEST SECTOR

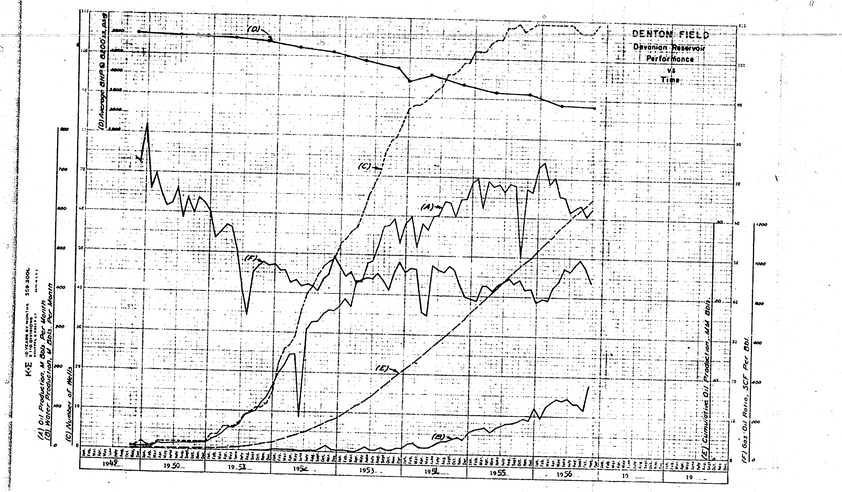
Year	Month	No. Wells	Oil Production Bbls	Cum. Oil Production Bbls	Water Production Bbls	Cum. Water Production Bbls	OOR	BHP Arith. or Weighted Avg.	% Water in Total Fluids
1949	Oct.	1	7,412	7,412			1176	5,009	
	Nov.	1	7,163	14,575			1458		
	Dec.	1	6,901	21,476	361	361	1641		3.9
1950	Jan.	1	7,428	30,904		361	1311		.0
	Feb.	2	7,155	38,059		361	1396		.0
	March	2	14,463	52,522		361	1293		.0
	April	2	14,408	67,930		361	1293		.0
	May	2	14,945	82,875		361	1233		.0
	June	2	15,282	98,157		361	1265		.0
	July	2	15,512	113,669		361	1323	4,977	.0
	Aug.	2	17,382	131,051		361	1278		.0
	Sept.	2	16,443	147,494		361	1198		.0
	Oct.	2	17,425	164,919		361	1277		.0
	Nov.	2	17,230	182,149		361	1277		.0
	Dec.	2	17,057	199,206		361	1245	4,965	.0
1951	Jan.	4	29,052	228,258		361	1201		.0
	Feb.	4	31,578	259,836		361	1077		.0
	March	6	45,719	305,555		361	1101		.0
	April	6	46,819	352,374		361	1140		.0
	May	6	47,487	399,861		361	1126	4,917	.0
	June	7	47,232	447,093		361	1002		.0
	July	9	89,508	536,601		361	821		.0
	Aug.	10	95,641	632,242		361	685		.0
	Sept.	11	101,612	775,854	63	424	906		.1
	Oct.	11	113,680	889,534	46	509	939		.0
	Nov.	13	138,743	1,028,277	9	509	955	4,958	.0
	Dec.	16	166,235	1,194,527	17	526	939		.0
1952	Jan.	22	196,875	1,391,401	2,361	2,887	961		1.6
	Feb.	26	213,176	1,604,577	2,791	5,681	913		1.5
	March	27	243,356	1,847,931	2,799	8,480	852		1.1
	April	29	243,666	2,091,596	3,482	11,962	852		1.1
	May	29	88,881	2,180,477	52	12,014	866	4,724	.6
	June	10	106,680	2,286,157	1,830	13,845	839		1.6
	July	8	127,616	2,013,773	2,145	15,990	837		1.6
	Aug.	15	130,118	2,143,891	1,823	17,813	817		1.4
	Sept.	17	349,750	3,493,641	22,760	40,645	876		6.1
	Oct.	18	353,084	3,846,725	18,134	60,579	899	4,565	4.9
	Nov.	19	357,679	4,214,444	6,540	67,119	992		1.8
	Dec.	53	368,519	4,582,963	7,776	74,893	939		1.8
1953	Jan.	54	387,952	4,970,915	7,513	82,406	915		1.8
	Feb.	56	368,714	5,339,629	6,807	89,213	913		1.8
	March	57	433,626	5,773,755	4,907	94,120	859		1.1
	April	61	439,768	6,207,523	4,330	98,450	878	4,613	1.0
	May	65	478,731	6,686,254	6,766	104,716	882		1.4
	June	68	483,567	7,169,813	7,378	112,094	879		1.5
	July	71	505,866	7,675,679	7,571	119,665	901		1.5
	Aug.	76	572,485	8,248,164	12,298	131,963	866		2.1
	Sept.	78	534,454	8,782,618	7,766	139,729	872		1.3
	Oct.	80	591,581	9,434,299	6,771	146,500	911	4,430	1.1
	Nov.	83	511,762	9,946,061	12,405	158,905	961		2.3
	Dec.	87	581,372	10,527,433	12,125	171,030	915	3,949	2.0
1954	Jan.	88	600,746	11,128,159	29,842	195,876	937		3.7
	Feb.	88	534,094	11,662,253	26,918	222,794	932		4.8
	March	85	583,535	12,255,698	17,458	240,252	715		2.9
	April	90	547,913	12,803,611	16,541	256,805	699		2.8
	May	93	600,080	13,423,691	18,295	275,101	969		3.0
	June	93	603,216	14,027,207	26,699	301,796	931		4.2
	July	96	638,783	14,665,990	31,129	332,925	919		4.7

OIL AND WATER PRODUCTION RATES
DENTON DEVONIAN RESERVOIR
WEST SECTOR
(Page 2)

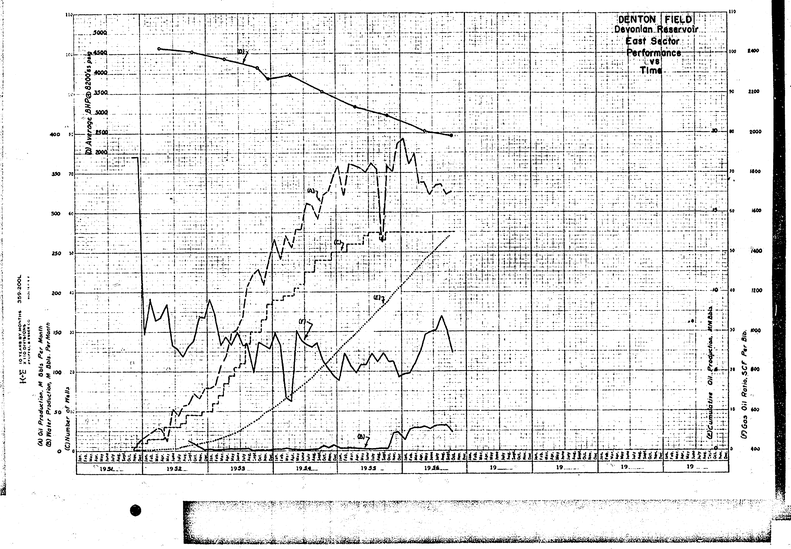
Year	Month	No. Wells	Oil Production Bbls	Cum. Oil Production Bbls	Water Production Bbls	Cum. Water Production Bbls	OOR	BHP Arith. or Weighted Avg.	% Water in Total Fluids
1954	July	51	328,614	10,237,935	30,343	293,508	903		8.5
	Aug.	51	306,545	10,544,480	32,413	325,921	974		9.1
	Sept.	51	309,035	10,853,515	34,453	360,484	917		10.5
	Oct.	51	314,057	11,167,572	35,472	396,356	867	4,142*	10.0
	Nov.	51	319,718	11,487,290	36,913	433,368	781		9.4
	Dec.	52	341,110	11,828,400	40,634	480,902	745		10.5
1955	Jan.	52	339,143	12,167,543	59,181	540,083	745		14.8
	Feb.	52	300,717	12,468,260	54,470	594,553	822		15.0
	March	52	332,105	12,800,365	64,064	658,617	699		16.2
	April	53	306,795	13,151,160	54,014	712,631	686	4,143*	14.6
	May	53	329,215	13,480,375	65,454	778,085	669		16.6
	June	54	315,413	13,795,788	73,479	851,564	722		18.7
	July	53	329,533	14,125,321	73,329	924,893	906		18.2
	Aug.	54	326,615	14,451,936	77,984	1,002,877	880		19.3
	Sept.	53	336,237	14,788,173	81,821	1,084,698	840		19.6
	Oct.	53	315,077	14,999,344	90,623	1,166,340	827	4,120*	22.3
	Nov.	54	318,158	15,311,532	68,416	1,234,866	832		18.5
	Dec.	54	342,421	15,653,953	96,931	1,331,847	779		27.1
1956	Jan.	54	349,351	16,003,324	79,077	1,410,974	798		21.4
	Feb.	54	324,706	16,328,119	98,457	1,527,431	787		25.9
	March	54	327,749	16,655,979	106,896	1,634,329	836		26.6
	April	52	315,586	16,971,668	118,734	1,747,553	912		29.6
	May	52	312,999	17,284,767	110,436	1,857,989	901		24.1
	June	54	295,826	17,580,493	118,671	1,976,660	855		28.3
	July	52	292,793	17,873,286	101,388	2,078,048	912		25.7
	Aug.	52	297,126	18,170,412	99,390	2,175,438	936		25.1
	Sept.	52	282,655	18,453,067	86,812	2,262,250	890		23.5
	Oct.	54	296,923	18,751,990	150,753	2,413,003	850	3,972*	34.3

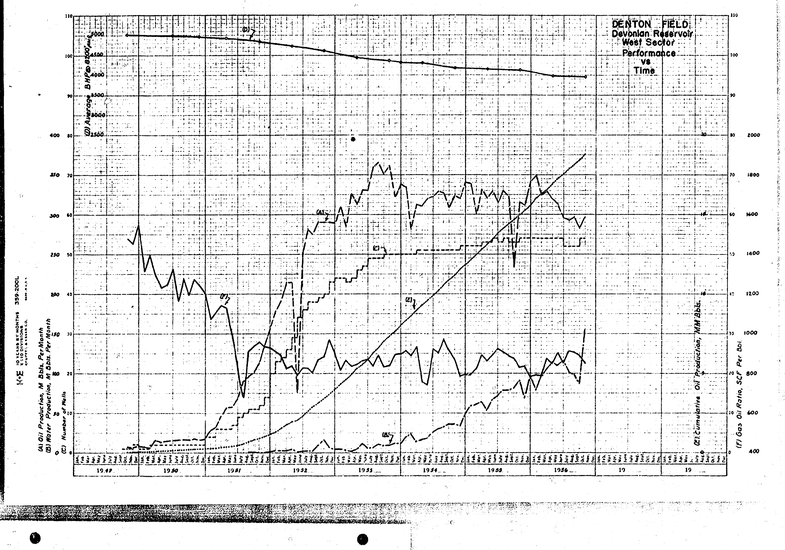
OIL AND WATER PRODUCTION RATES
DENTON DEVONIAN RESERVOIR
EAST SECTOR

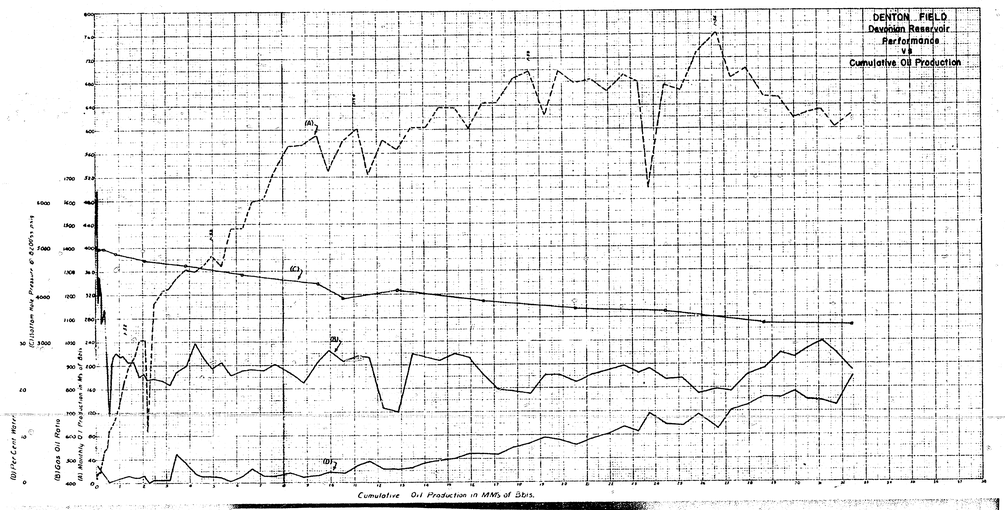
Year	Month	No. Wells	Oil Production Bbls	Cum. Oil Production Bbls	Water Production Bbls	Cum. Water Production Bbls	OOR	BHP Arith. or Weighted Avg.	% Water in Total Fluids
1951	Nov.	1	2,908	2,908			1880		
	Dec.	2	10,385	13,293			1680		
1952	Jan.	2	18,421	31,714			1680		
	Feb.	3	22,357	54,069			1168		
	March	3	28,849	82,918			1059		
	April	3	28,759	111,677			1068	4,614	
	May	6	12,801	124,478			1138		
	June	6	52,698	176,742			933		
	July	6	44,844	221,586			918		
	Aug.	7	55,660	277,246			879		
	Sept.	7	58,515	335,761	13,313	13,313	923		18.5
	Oct.	9	72,640	408,401		13,313	955	4,535	.0
	Nov.	9	66,963	475,364		13,313	1070		.0
	Dec.	10	79,981	555,345	878	14,191	1071		1.1
1953	Jan.	10	77,882	633,227	846	15,056	1162		1.1
	Feb.	12	82,639	715,866	697	15,753	1082		.8
	March	14	107,243	823,239	774	16,527	932		.7
	April	17	118,967	942,206	1,821	18,348	974	4,375	1.5
	May	19	147,987	1,090,193	2,065	20,413	935		1.4
	June	21	153,457	1,243,650	1,813	22,366	958		1.2
	July	22	157,310	1,411,960	1,887	24,253	901		1.2
	Aug.	27	167,178	1,619,318	1,976	26,329	934		1.2
	Sept.	30	229,983	1,849,301	46	26,375	797		.9
	Oct.	30	229,476	2,071,777	108	26,483	848	4,148	.0
	Nov.	33	209,025	2,280,802	433	26,916	1098		1.1
	Dec.	37	243,100	2,523,902	217	27,133	915	3,897	.1
1954	Jan.	38	245,882	2,769,784	3,139	30,272	998		1.2
	Feb.	38	241,112	3,010,896	2,789	33,061	932		1.1
	March	39	270,901	3,301,797	3,836	36,897	667		1.4
	April	39	256,191	3,558,188	544	37,441	844	3,953*	.1
	May	42	279,807	3,837,995	373	37,774	1006		.1
	June	42	279,891	4,117,886	757	38,531	959		.2
	July	45	310,169	4,428,055	786	39,317	935		.2
	Aug.	46	309,467	4,737,522	812	40,129	923		.3
	Sept.	46	292,897	5,030,419	1,935	42,064	962		.7
	Oct.	48	320,792	5,351,211	2,990	45,054	848	3,532*	.7
	Nov.	48	325,993	5,677,204	1,751	46,805	806		.5
	Dec.	50	365,540	6,042,744	5,966	52,771	776		1.7
1955	Jan.	50	358,662	6,401,406	5,635	58,071	776		1.4
	Feb.	50	321,313	6,722,719	5,174	63,245	756		1.4
	March	52	361,309	7,084,028	5,473	68,718	889		1.4
	April	52	350,185	7,434,213	4,955	73,673	823		1.3
	May	52	355,698	7,789,911	3,548	77,221	795	3,181*	1.1
	June	51	350,159	8,140,070	2,043	79,264	831		.6
	July	51	349,553	8,489,623	1,955	81,219	885		.5
	Aug.	55	355,929	8,845,552	2,581	83,800	847		.7
	Sept.	54	346,763	9,192,315	3,422	87,222	890		.9
	Oct.	55	359,788	9,471,103	2,767	89,598	817	2,905*	.8
	Nov.	55	353,396	9,824,499	20,995	110,593	847		5.6
	Dec.	55	360,838	10,185,337	24,271	134,864	770		6.3
1956	Jan.	55	391,660	10,576,997	14,589	149,453	784		3.6
	Feb.	55	361,752	10,938,749	27,390	177,139	786		7.0
	March	55	374,491	11,313,130	29,907	207,046	839		7.4
	April	55	337,199	11,650,329	29,426	236,472	899		8.0
	May	55	339,625	11,989,954	30,380	266,852	985	2,553*	8.2
	June	55	332,178	12,322,132	29,312	296,164	999		8.1
	July	55	334,220	12,656,352	30,837	327,001	1007		8.3
	Aug.	55	336,101	13,009,456	31,709	358,710	1078		8.6
	Sept.	55	322,522	13,331,980	31,274	390,044	1001		8.8
	Oct.	55	326,897	13,658,857	24,950	414,994	897	2,405*	7.1

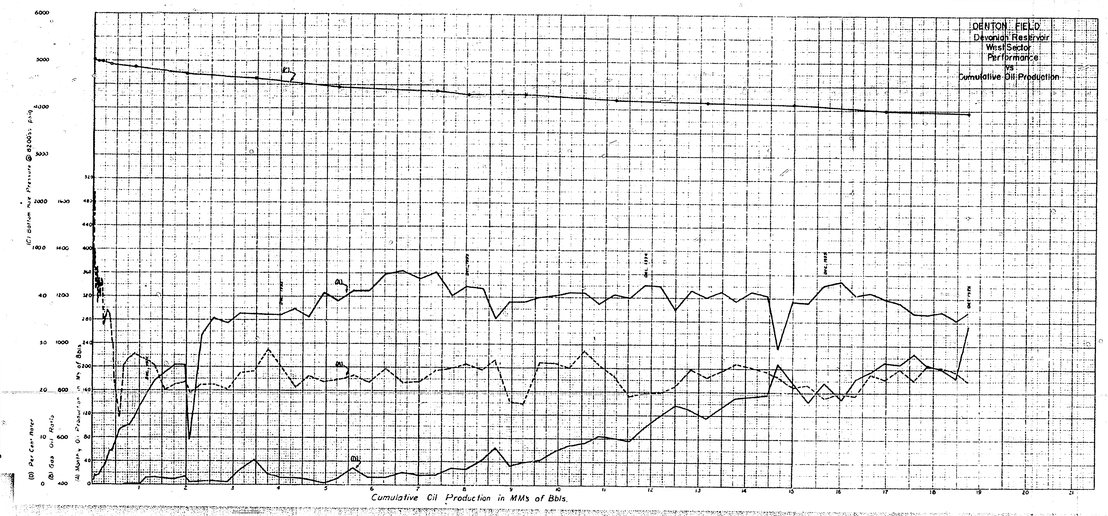


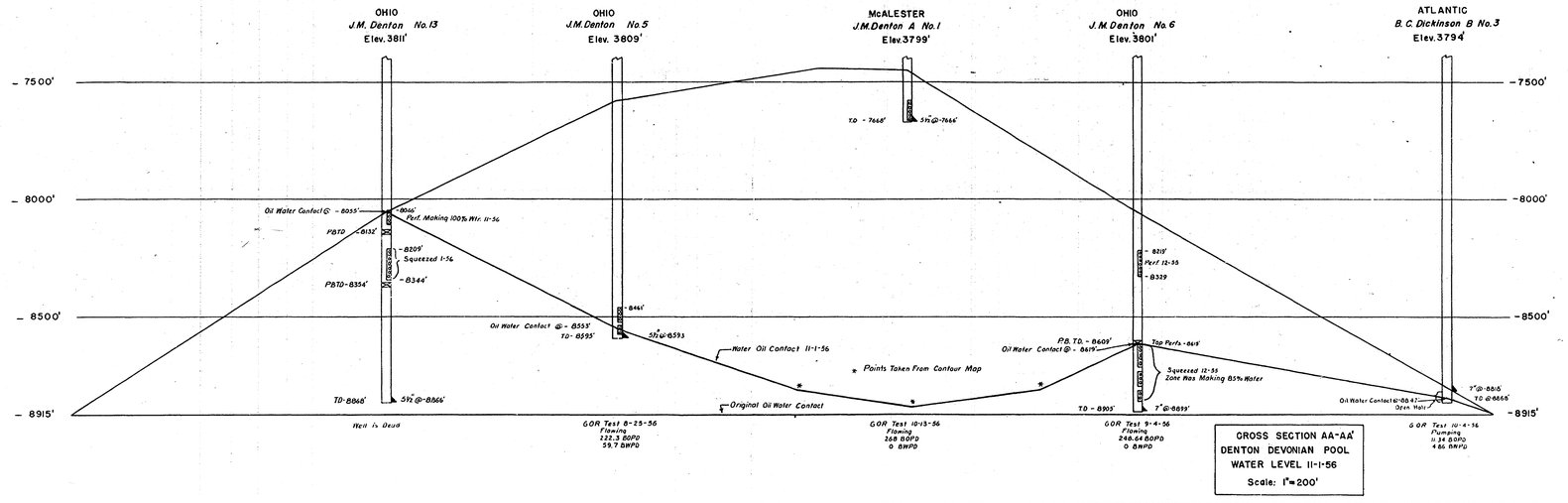
235


DENTON FIELD
Devonian Reservoir
East Sector
Performance
vs
Time

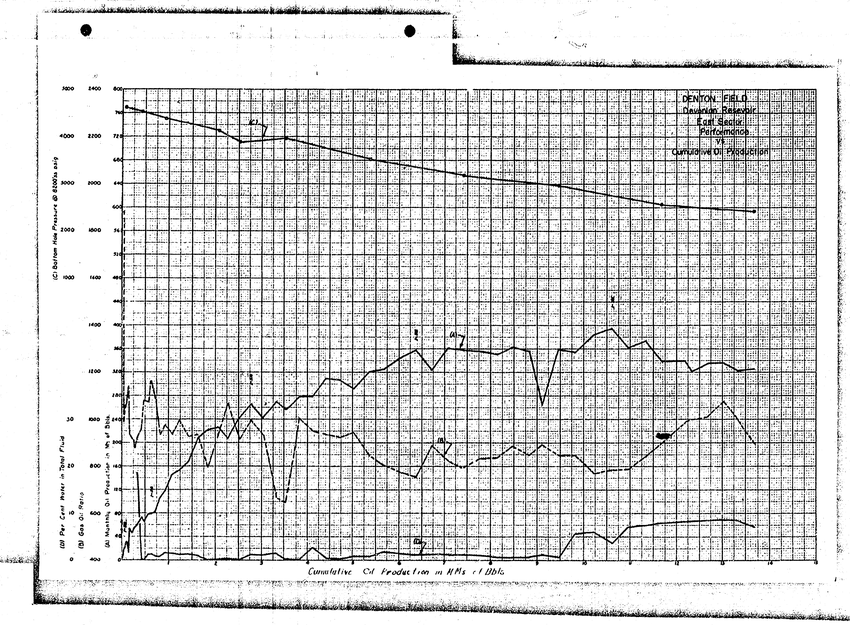

DENTON FIELD
Devonian Reservoir
West Sector
Performance
vs
Time

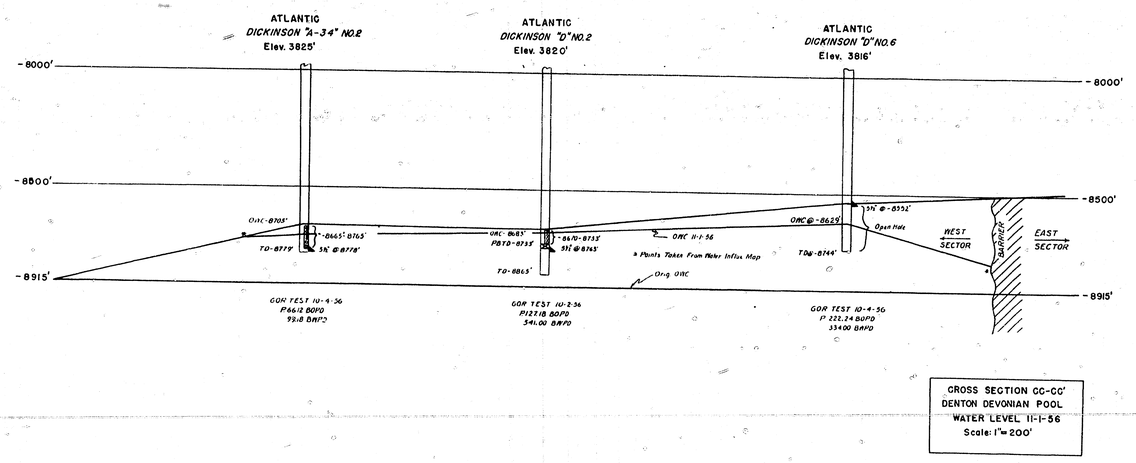

DENTON FIELD
Devonian Reservoir
Performance
vs
Cumulative Oil Production
Cumulative Oil Production in MMs of Bbls.


DENTON FIELD
Devonian Reservoir
West Sector
Performance
vs
Cumulative Oil Production
Cumulative Oil Production in MMs of Bbls.

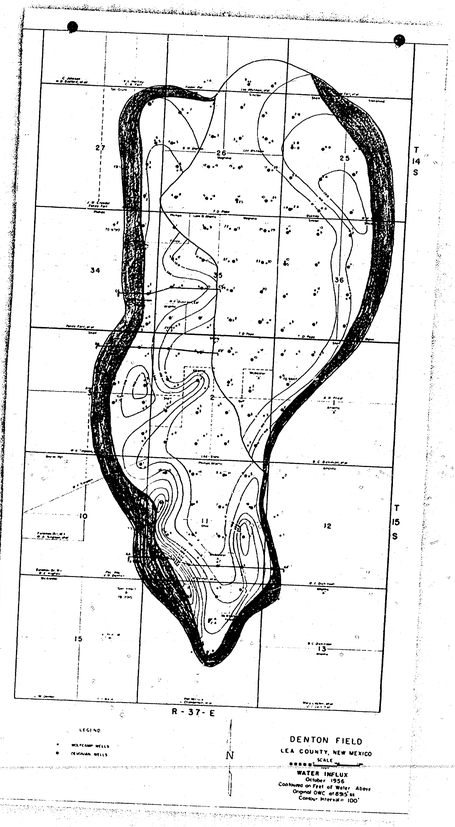

OHIO
J.M. Denton No.13
Elev. 3811'
OHIO
J.M.Denton No.5
Elev. 3809'
McALESTER
J.M.Denton A No.1
Elev.3799'
OHIO
J.M.Denton No.6
Elev. 3801'
ATLANTIC
B.C. Dickinson B No.3
Elev.3794'
-7500'
-8000'
-8500'
-8915'
Oil Water Contact @ -8055'
PBTD -8132'
Perf. Making 100% Wtr. 11-56
-8209'
Squeezed 1-56
-8344'
PBTD-8354'
TD-8868'
5½"@-8866'
Well is Dead
Oil Water Contact @ -8555'
TD- 8595'
5½"@-8593
Water Oil Contact 11-1-56
Original Oil Water Contact
GOR Test 8-25-56
Flowing
122.3 BOPD
59.7 BWPD
TD - 7668'
5½"@-7666'
* Points Taken From Contour Map
GOR Test 10-13-56
Flowing
268 BOPD
0 BWPD
P.B. TD - 8609'
Oil Water Contact @ - 8619'
Top Perfs - 8615'
Squeezed 12-55
Zone Was Making 85% Water
TD - 8905'
7"@-8859'
GOR Test 9-4-56
Flowing
248.64 BOPD
0 BWPD
7"@-8815'
TD @8865'
Oil Water Contact@-8847'
Open Hole
GOR Test 10-4-56
Pumping
11.34 BOPD
4.66 BWPD
CROSS SECTION AA-A'A'
DENTON DEVONIAN POOL
WATER LEVEL 11-1-56
Scale: 1"=200'

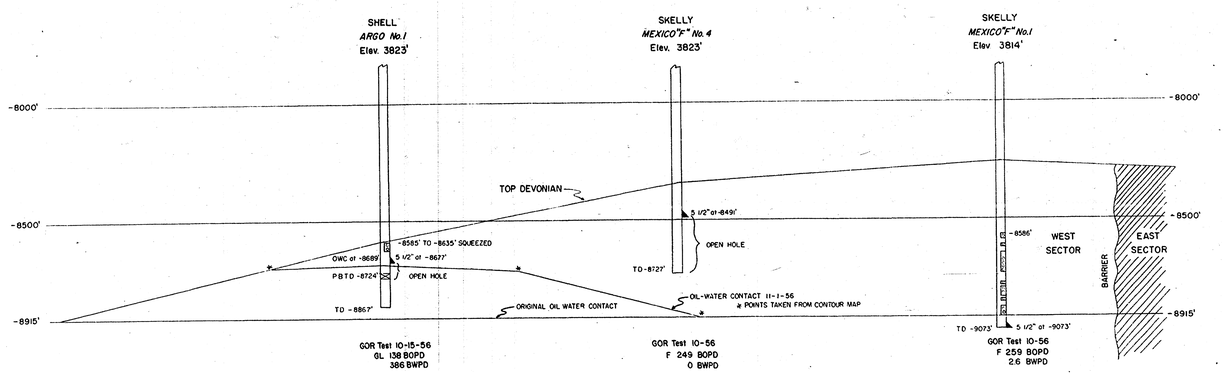
236





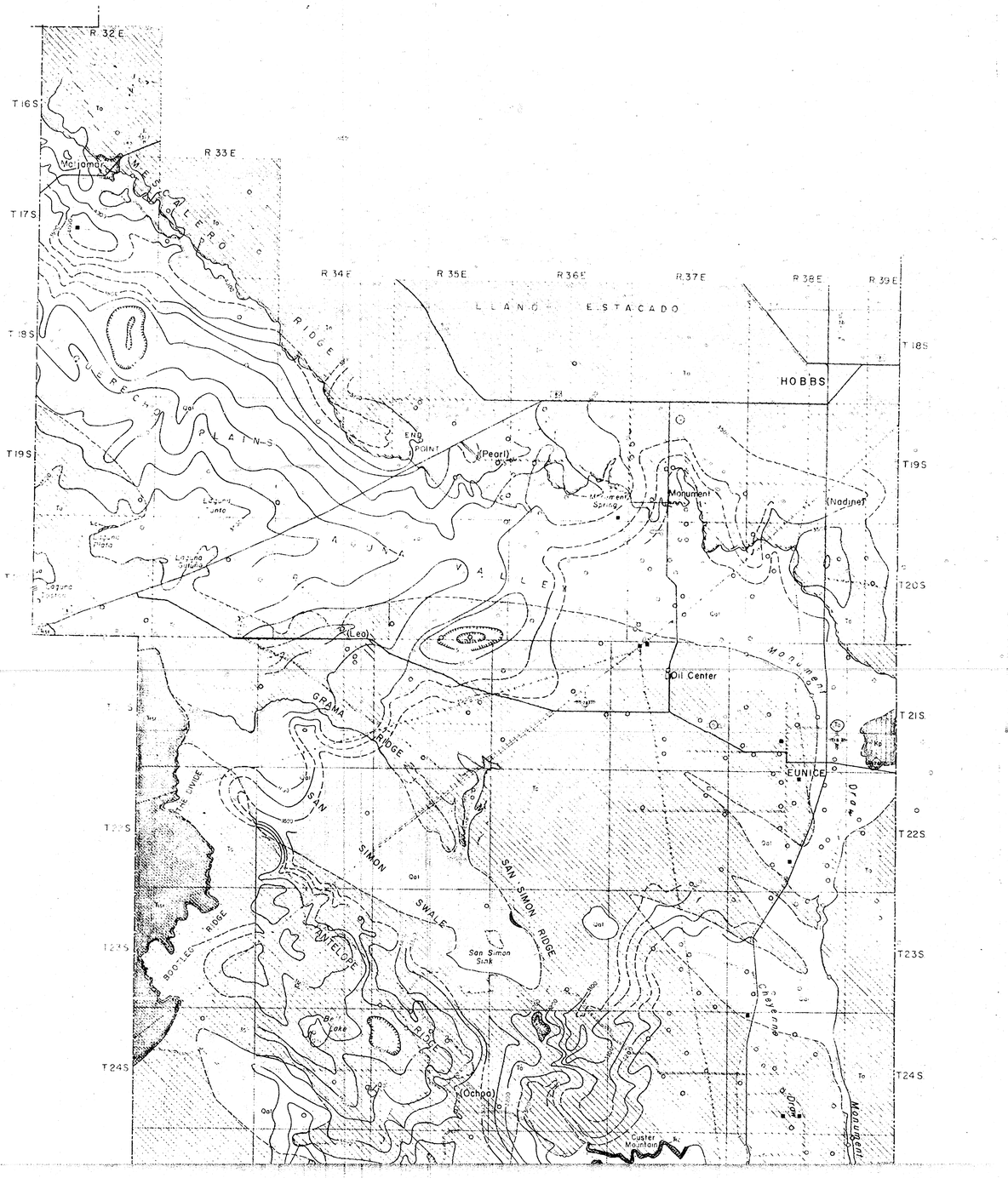
GROSS SECTION CC-CC'
DENTON DEVONIAN POOL
WATER LEVEL 11-1-56
Scale: 1"= 200'





CROSS SECTION BB - BB'
DENTON DEVONIAN POOL
WATER LEVEL 11-1-56
Scale 1" = 200'

237


R 32 E
R 33 E
R 34 E
R 35 E
R 36 E
R 37 E
R 38 E
R 39 E
T 16 S
T 17 S
T 18 S
T 19 S
T 20 S
T 21 S
T 22 S
T 23 S
T 24 S
Maljamar
MESCALERO
RIDGE
LLANO ESTACADO
HOBBS
END POINT
(Pearl)
Monument Spring
Monument
(Nadine)
QUERECHO PLAINS
AGUNA VALLEY
(Leo)
Oil Center
Monument
GRAMA RIDGE
EUNICE
Draw
SAN SIMON SWALE
SAN SIMON RIDGE
San Simon Sink
ANTELOPE RIDGE
BOOTLEG RIDGE
THE DIVIDE
Bell Lake
(Ochoa)
Custer Mountain
Cheyenne Draw
Monument

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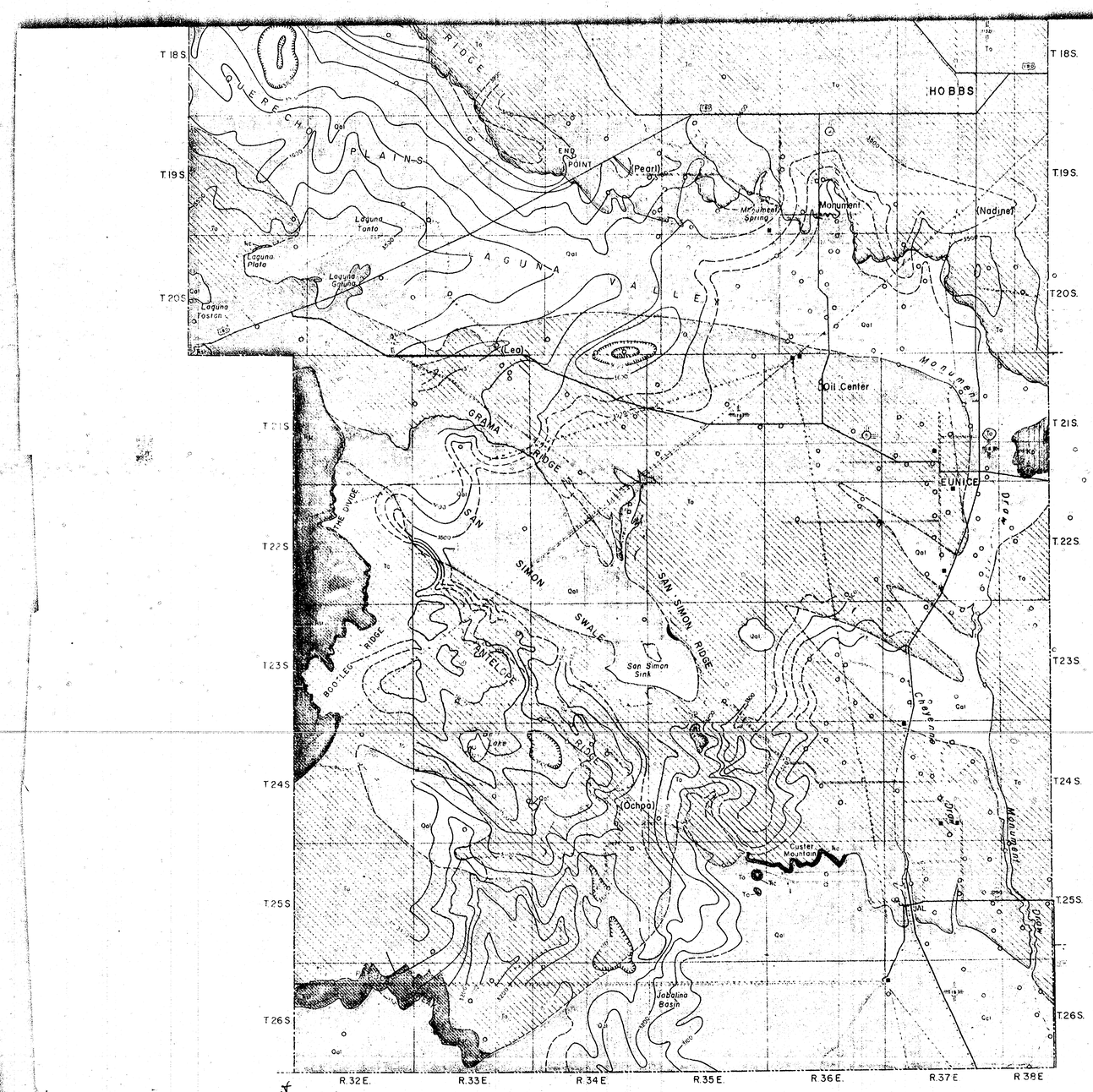

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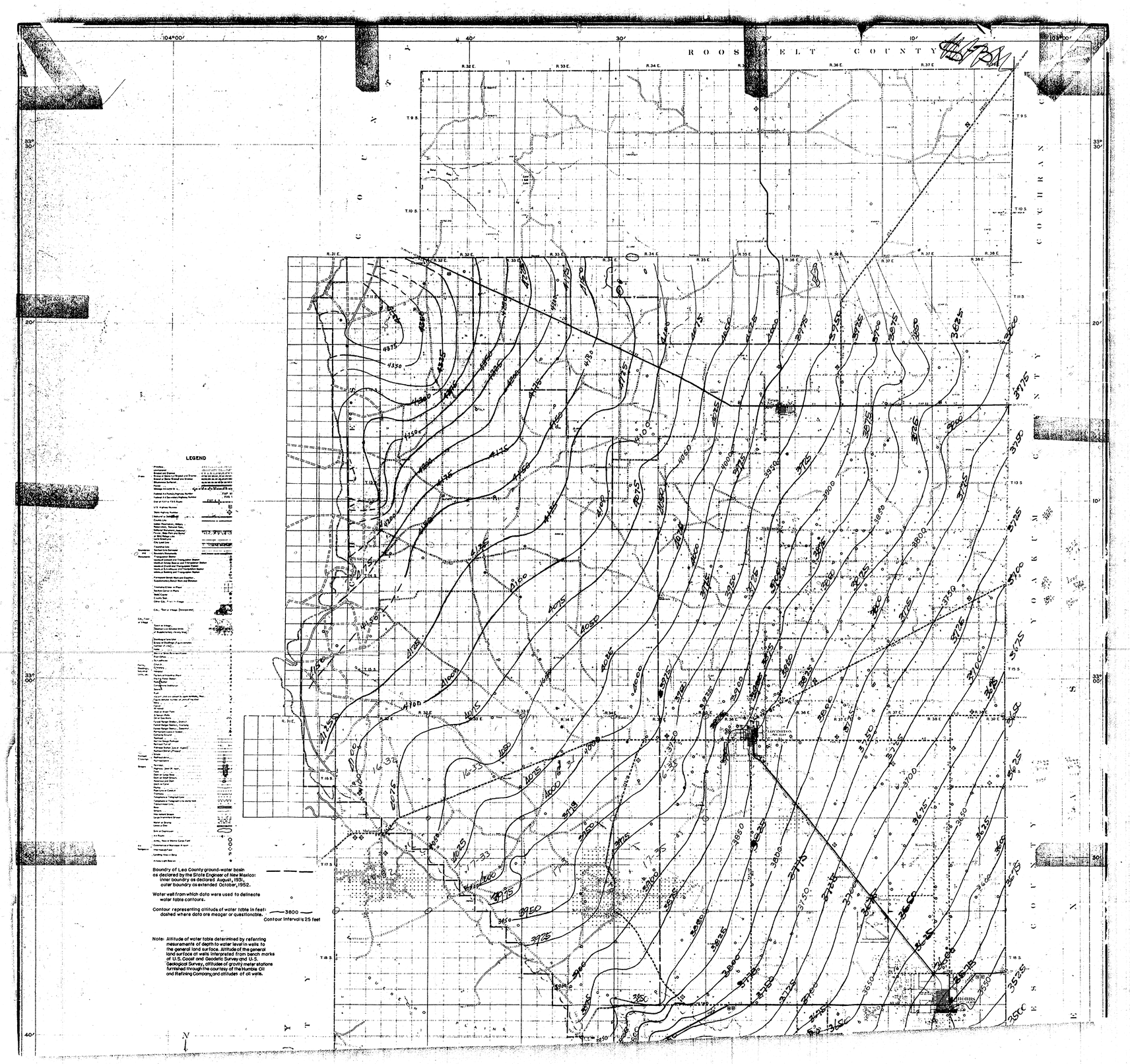
This is not an exhibit in Case 1053

Explanation

- Dune sand cover (Mescalero sd.) } Quaternary
- Qal Alluvium
- Ogallala fm } Tertiary
- Paloma fm } Cretaceous
- Chinle fm } Triassic
- Santa Rosa fm
- natural
- pipeline
- gasoline plant
- edge of Permian


ROOSEVELT COUNTY
COCHRAN COUNTY
YOAKUM COUNTY
LEGEND
Boundary of Lea County ground-water basin as declared by the State Engineer of New Mexico: inner boundary as declared August, 1931, outer boundary as extended October, 1952.
Water well from which data were used to delineate water table contours.
Contour representing altitude of water table in feet: dashed where data are meager or questionable.
3800
Contour interval is 25 feet
Note: Altitude of water table determined by referring measurements of depth to water level in wells to the general land surface. Altitude of the general land surface at wells interpreted from bench marks of U.S. Coast and Geodetic Survey and U.S. Geological Survey, altitudes of gravity meter stations furnished through the courtesy of the Humble Oil and Refining Company, and altitudes of oil wells.
LOVINGTON
HOBBS

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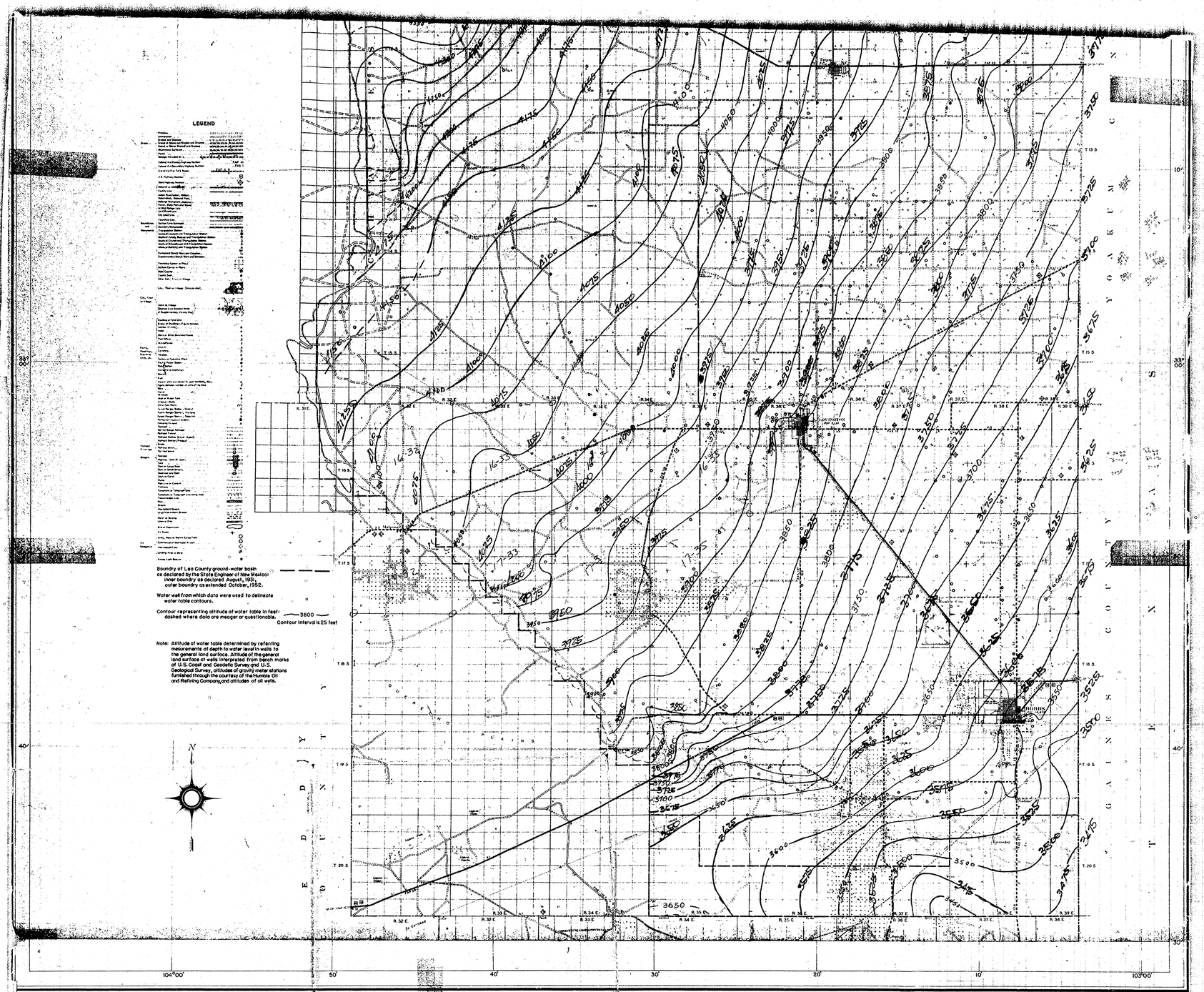

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO EXHIBIT No. 9 CASE 1073

Exhibit 9

ALTITUDE OF WATER TABLE IN PART OF LEA COUNTY, NEW MEXICO, 1952

November 1952 - January 1953

PREPARED BY THE U.S. GEOLOGICAL SURVEY IN COOPERATION WITH THE STATE ENGINEER OF NEW MEXICO

PRELIMINARY MAP, SUBJECT TO REVISION

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- Mail
- Written Reports Prior to Sept. 17, 58 Hearing

Salt Water Disposal Check List

Case 1053 - R# 1224
Rehearing of Sept. 17, 1958.

1.

Operator	Byrom HOBBS	Atlantic DENTON WC	Atlantic DENTON DEV.	Byrom EUNICE-MON.	Rice Monument EUMONT	Rice MON-BLINE (Non-Prorated)	Texas Co. MOORE-DEV	Gruenberg Sherrod CAPROCK EAST DEVON	Gruenberg Sherrod BAGLEY Siluro-Penn	Gruenberg Hamilton SAUNDERS	Hall-Mahaffey CROSSROADS	Magnolia BOUSH	Gulf ECHOL-DEV.
Ohmart Co.	✓A			✓A	✓A	✓	✓	✓	✓	✓			
Anderson-Prich.				✓		✓							
Anhwil, Morris R.	✓				✓								
Atlantic Ref. Co.	✓	✓	✓	✓	✓					✓			
Aztec Oil & Gas Co.					✓								
Byrom, W. H.	✓A			✓A									
Cochis Drlg. Co.					✓								
Charm Oil Co.					✓								
Cities Service Oil	✓A			✓	✓	✓				✓			
Coates & Foster					✓								
Continental Oil Co.	✓A			✓A	✓A	✓A	✓A						
Colorado Oil & Gas										✓			
Dinglade & Glover					✓ (1) Letter								
Drilling & Exploration Co.					✓								
Eisner, John J.					✓								
Elliott, Inc.					✓A								
Fields, Beet				✓									
First Chicago Oil Corp.					✓ (1) Letter from Great Western Drlg. Co., Williamson								
Fish, Northcut Const.										✓			
Gackle, Albert	✓A												
General Crude Oil				✓									
Getty Oil Co.	✓A			✓									

2.

Operator	Hobbs	Denton WC	Denton DEV	Eunice-Monument Area EU-MON	Eunice-Monument Area EUMONT	Mon-Bline	Moore-Dev	Caprock E. Devon	Bagley Siluro-Penn	Saunders	Crossroads	Boush	Echol-Dev
Great Western Drlg. Co.				✓A									
Grover, MacCurdy & Grover					✓								
Gulf Oil Corporation	✓A	✓	✓	✓	✓	✓			✓	✓	✓		
Gulf Oil Corp. (Byrom)	✓A												
Harris & Miles					✓								
Hodge, T. F.					✓								
Honeyman, R. B.				✓ (2) Letter									
Hudson & Hudson Inc.				✓									
Hunt, Stuart Trustee				✓	✓								
Humble Oil & Ref. Co.	✓			✓	✓								
~~Keating Drlg. Co.~~		✓											
Kelly, John M. Koch Oil Corp.				✓ (1) Letter	✓ (2) Letter								
Lane, J. F.													
Lone Star Prod. Co.											✓ (Like Commingling)		
McAlester Fuel Co.		✓			✓								
McPheron, R. C.				✓A									
Magnolia Pet. Co.	✓	✓	✓		✓A					✓	✓	✓ (2)	
Mapenea Oil Corp.	✓A												
Moran Oil Prod. & Drlg. Co.	✓												
Moran, R. M.	✓												
Moss, H. S.				✓ Letter rec'd 10-8-58									
Murray, J. L., et al				✓									

3.

Operator	Hobbs	Denton WC	Denton DEV	Eunice-Monument Area EUNICE-MON	Eunice-Monument Area EUMONT	Mon-Bline	Moore-Dev	Caprock E. Devon	Bagley Siluro-Penn	Saunders	Crossroads	Boush	Echol-Dev
Nolan & Byrom			✓	✓									
Nolan & Lane				✓									
Ohio Oil Co.	✓A	✓	✓	✓A	✓A	✓A							
Oil Develop. Co. of Texas											✓		
Oil Well Drlg. Co.				✓									
Pan-American Pet. Corp.	✓A	✓	✓	✓	✓								
Pearose, N. G., Inc.					✓								
Phillips Pet. Co.		✓	✓	✓A	✓A								
Pollard, C. C.					✓								
Reatta Corporation					✓A (1) Letter								
Reatta Corp. & B. Hagar					✓A (1) Letter								
Reser & Sheldon					✓								
Rodman, E. G.					✓ Letter dtd 10-7-58	✓ (Called) 10-8-58							
Rodman-Noel Oil Co.													
Solach, Neil E.					✓								
Solsich, McGrath & Smith					✓								
Somedon Oil Corp.	✓						✓						
Schermerhorn Oil Corp.					✓								
Sharp, J. R., Inc.												(WAIT)	
Shell Oil Co.	✓A	✓	✓	✓	✓			✓		✓			✓A
Shelton, Bill A.					✓								
Signal Oil & Gas Co. Siegfried, R. H.			✓ (Gas)										

4.

Operator	Hobbs	Denton WC	Denton DEV	Eunice-Monument Area EUNICE-MON	Eunice-Monument Area EUMONT	Mon-Bline	Moore-Dev	Caprock East-Devon	Bagley Siluro-Penn	Saunders	Crossroads	Boush	Echol-Dev
Signal & Stand. of Tex.													
Sinclair Oil & Gas	✓	✓	✓	✓	✓	✓							✓
Skelly Oil Co.	✓	✓	✓	✓	✓	✓		✓					
Southern Pet. Exp. Co.	✓			✓	✓								
Standard of Texas	✓				✓								
Sun Oil Co.	✓A			✓A									
Sunray Mid-Continent	✓A			✓A		✓A					✓A		
Superior Oil Co.				✓	✓								
Sweet, C. H.	✓												
Texas Co.	✓			✓	✓	✓	✓	✓		✓	✓+		✓
Texas Pacific Coal & Oil	✓							✓	✓	✓			
Tennessee Gas Trans.					✓								
Tidewater Oil Co.	✓A			✓A	✓A	✓ (Gas) A							
Tres Oil Co.				✓A									
Two States Oil Co.				✓ (1) Letter	✓ (2) Letter								
Turner, Fred Jr.													
Union Oil of Calif.								✓					
Vem Oil Co.				✓ (2) Letter									
Walker Oil Co.	✓												
Wilson Oil Co.					✓								
Yates, John A.	✓												
Zachary, Guy R.					✓								

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Q, EXHIBIT II

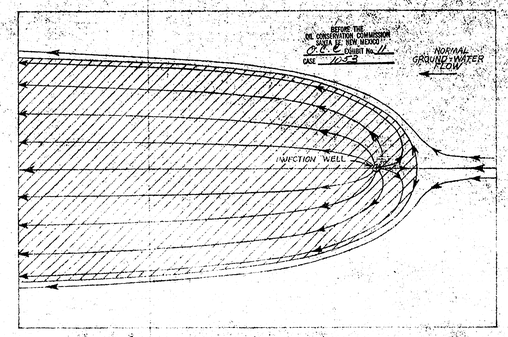
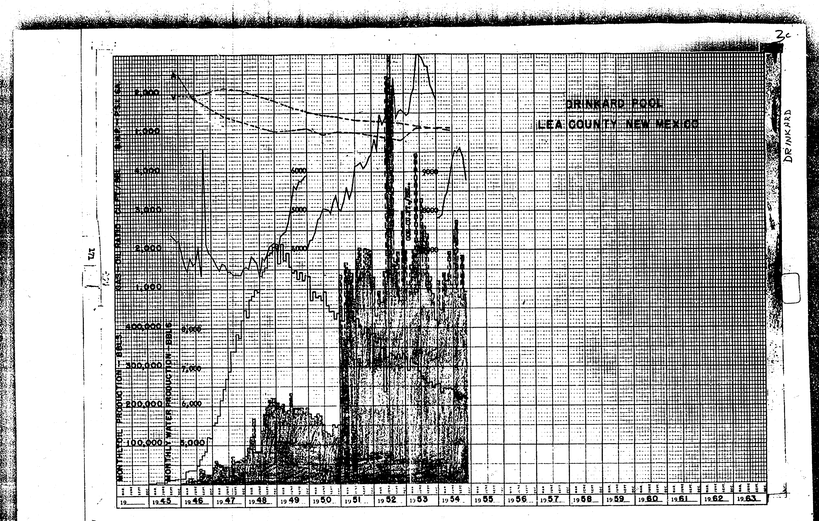
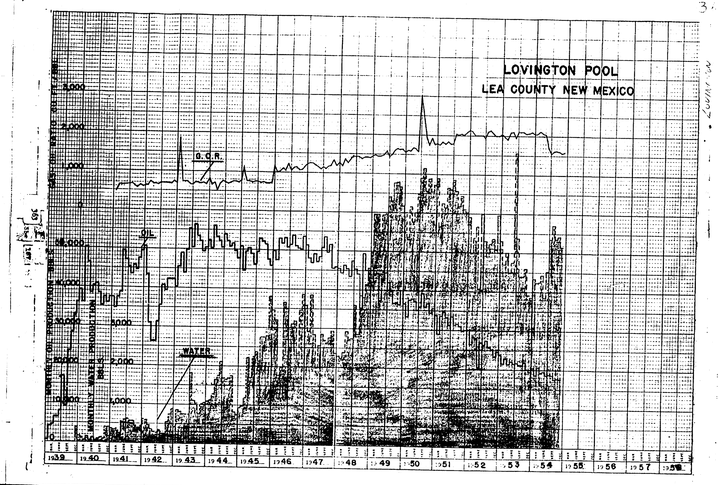
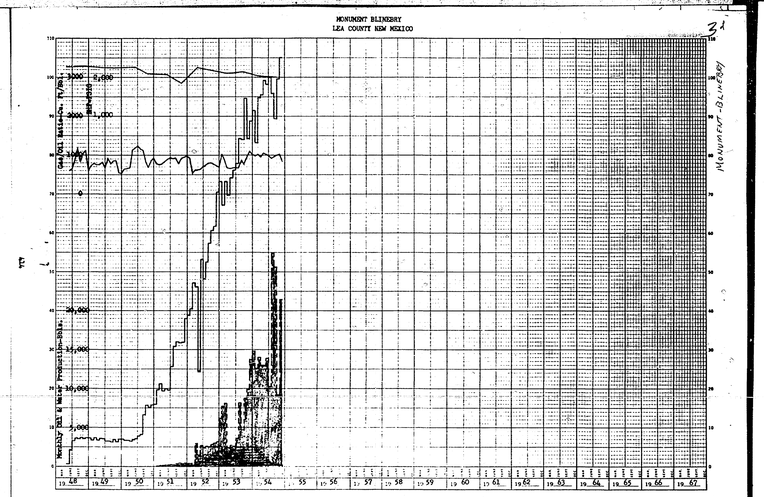
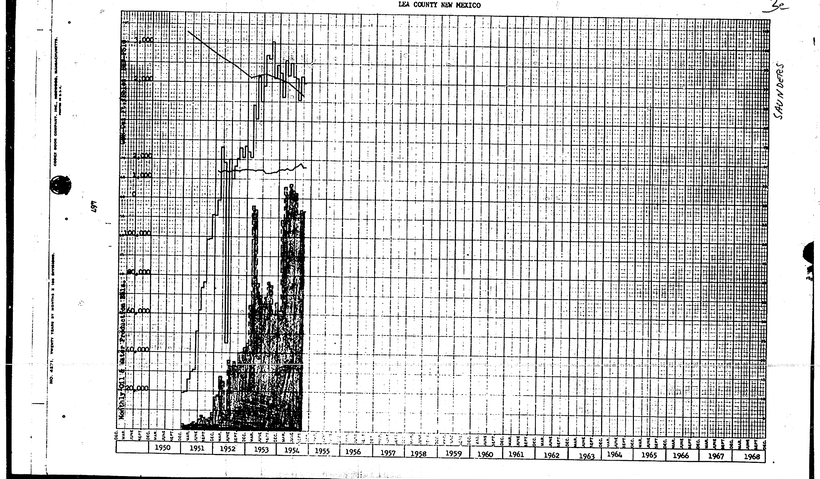


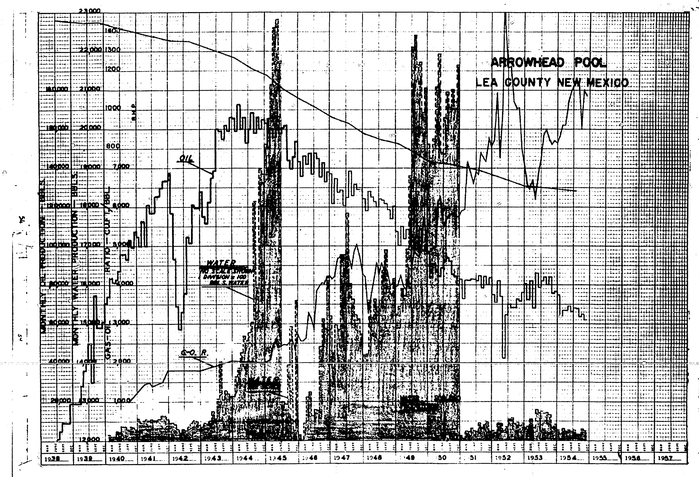
Fig. Lines of flow from a well injecting water into an artesian aquifer, with no density contrast. (Modified from Theis, C. V., 1903, Equation for lines of flow in vicinity of discharging artesian well: U. S. Geol. Survey Open-File Report, Ground-Water Notes No. 17, Fig. 1.)

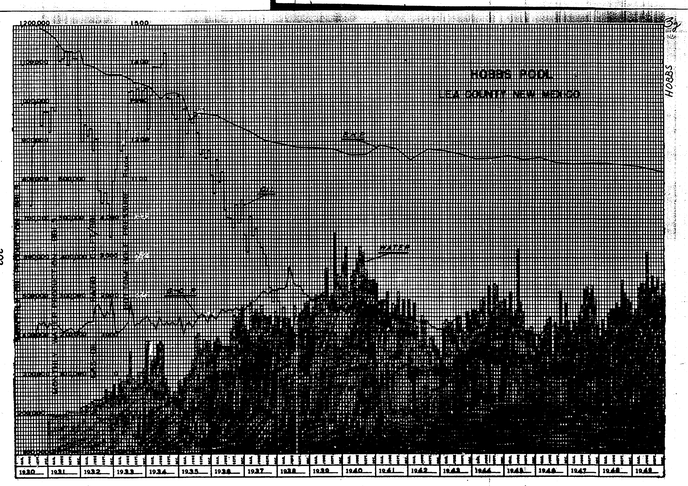


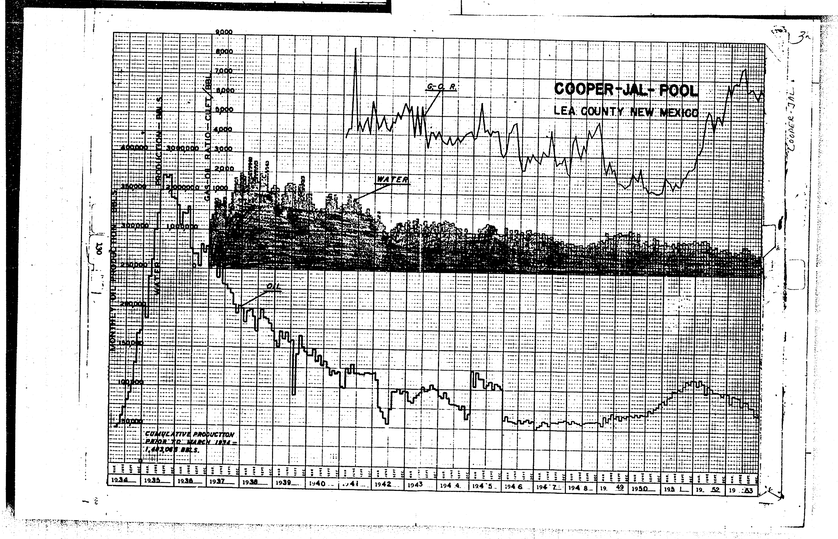












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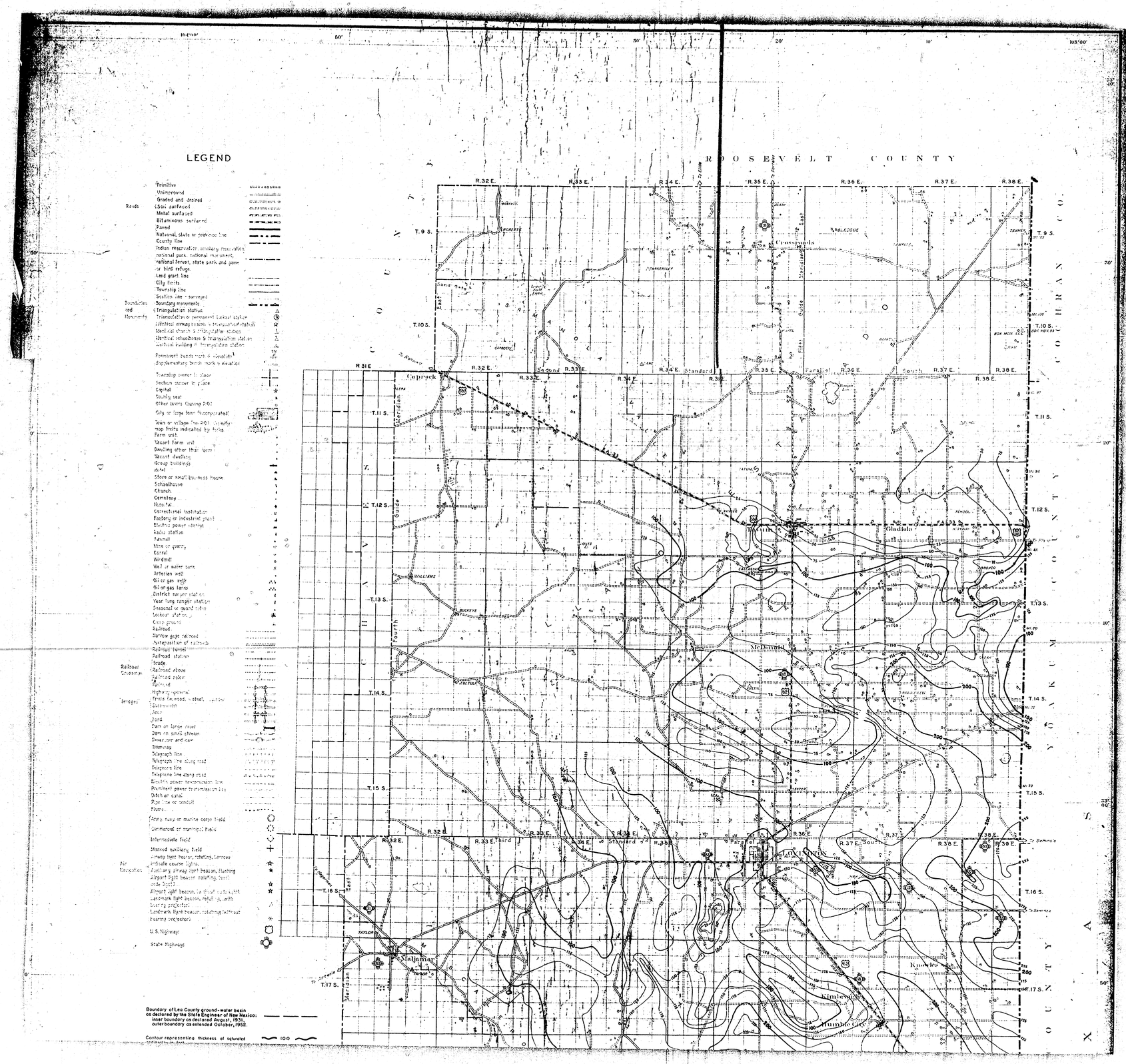
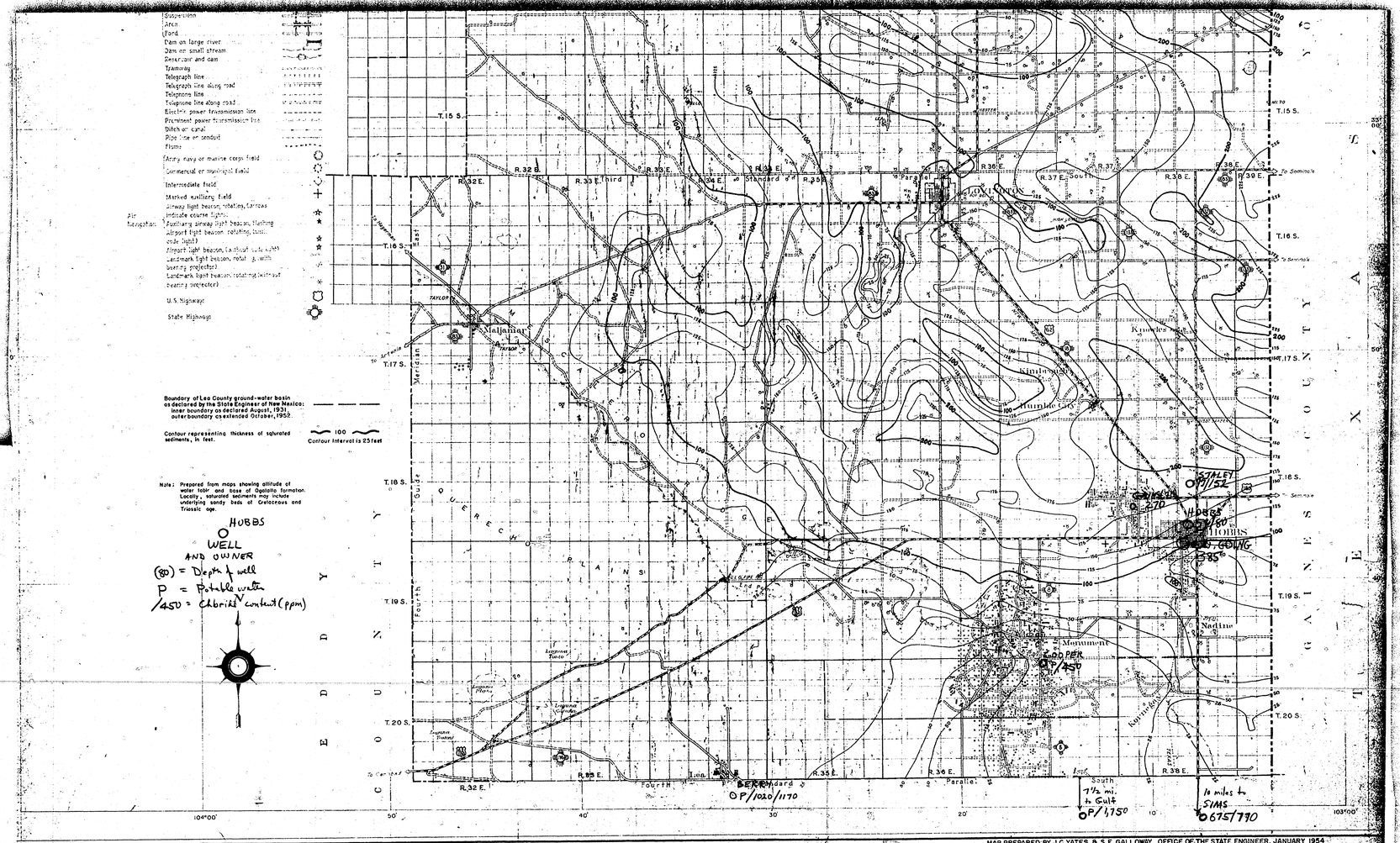
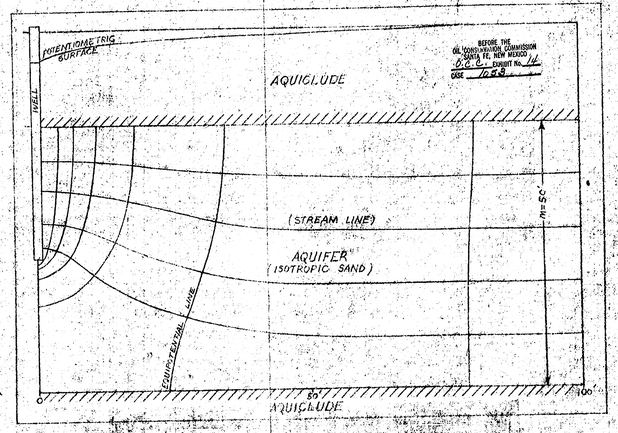

LEGEND
Primitive
Unimproved
Graded and drained
Roads
Hard surfaced
Metal surfaced
Bituminous surfaced
Paved
National, state or provincial line
County line
Indian reservation, military reservation, national park, national monument, national forest, state park and game or bird refuge
Land grant line
City limits
Township line
Section line - surveyed
Boundaries and Monuments
Boundary monuments
Triangulation station
Triangulation or permanent transit station
Vertical triangulation & transit station
Identical church & triangulation station
Vertical schoolhouse & triangulation station
Vertical building & triangulation station
Prominent bench mark & elevation
Supplementary bench mark & elevation
Township corner in place
Section corner in place
Capital
County seat
Other towns (Census 1940)
City or large town incorporated
Town or village (no 1940 census) map limits indicated by ticks
Farm unit
Vacant farm unit
Dwelling other than farm
Vacant dwelling
Group buildings
Hotel
Store or small business house
Schoolhouse
Church
Cemetery
Hospital
Correctional institution
Factory or industrial plant
Electric power station
Radio station
Sawmill
Mine or quarry
Corral
Windmill
Well or water tank
Artesian well
Oil or gas wells
Oil or gas tanks
District ranger station
Year long ranger station
Seasonal or guard cabin
Lookout station
Camp ground
Railroad
Narrow gage railroad
Interposition of railroads
Railroad tunnel
Railroad station
Grade
Railroad Crossings
Railroad above
Railroad below
Highway
Highway (general)
Bridges
Fixed (wood, steel, concrete)
Drawbridge
Ford
Dam on large river
Dam on small stream
Pipeline and cable
Tramway
Telegraph line
Telegraph line along road
Telephone line
Telephone line along road
Electric power transmission line
Prominent power transmission line
Ditch or canal
Pipe line or conduit
Flume
Army, navy or marine corps field
Commercial or municipal field
Intermediate field
Marked auxiliary field
Air Navigation
Airway beacon, rotating, flashes
Intermediate course lights
Auxiliary airway light beacon, flashing
Airport light beacon, rotating, (civil code 12-21)
Airport light beacon, rotating, (civil code 12-21) with
Landmark light beacon, rotating (without beaming projector)
U. S. Highways
State Highways
Boundary of Lea County ground-water basin as declared by the State Engineer of New Mexico:
inner boundary as declared August, 1931;
outer boundary as extended October, 1952.
Contour representing thickness of saturated
100
ROOSEVELT COUNTY
CHAVES CO.
LEA COUNTY
GUADALUPE COUNTY
QUAY COUNTY
R.31E.
R.32E.
R.33E.
R.34E.
R.35E.
R.36E.
R.37E.
R.38E.
R.39E.
T.9 S.
T.10S.
T.11 S.
T.12 S.
T.13 S.
T.14 S.
T.15 S.
T.16 S.
T.17 S.
Caprock
Second
Standard
Parallel
South
Third
Fourth
Meridian
Guide
Crossroads
Tatum
Lovington
McDonald
Gladiola
Knowles
Kimbrough
Maljamar
Humble City
Buckeye
Stanolind
Roberts
Stanberry
Taylor
Sand Dunes
Caprock
Tatum
Lovington
McDonald
Gladiola
Knowles
Maljamar
Humble City
Buckeye
Stanolind
Roberts
Stanberry
Taylor
Sand Dunes

244


Suspension
Ferry
Ford
Dam on large river
Dam on small stream
Reservoir and dam
Tramway
Telegraph line
Telegraph line along road
Telephone line
Telephone line along road
Electric power transmission line
Prominent power transmission line
Ditch or canal
Pipe line or conduit
Flume
Army navy or marine corps field
Commercial or municipal field
Intermediate field
Marked auxiliary field
Airway light beacon, rotating, farrows indicate course lights
Auxiliary airway light beacon, flashing
Airport light beacon, rotating, (unit. code light)
Airport light beacon, (without code light)
Landmark light beacon, rotat. (s. with beaming projector)
Landmark light beacon, rotating (without beaming projector)
Air Navigation
U.S. Highways
State Highways
Boundary of Lea County ground-water basin as declared by the State Engineer of New Mexico: inner boundary as declared August, 1931, outer boundary as extended October, 1952.
Contour representing thickness of saturated sediments, in feet.
100
Contour interval is 25 feet
Note: Prepared from maps showing altitude of water table and base of Ogallala formation. Locally, saturated sediments may include underlying sandy beds of Cretaceous and Triassic age.
HOBBS
WELL
AND OWNER
(80) = Depth of well
P = Potable water
/450 = Chloride content (ppm)
LEA COUNTY
EDDY COUNTY
GAINES
T.15 S.
T.16 S.
T.17 S.
T.18 S.
T.19 S.
T.20 S.
R.32 E.
R.33 E.
R.34 E.
R.35 E.
R.36 E.
R.37 E.
R.38 E.
R.39 E.
Maljamar
Knowles
Monument
Nadine
Hobbs
Lovington
Tatum
Artesia
Carlsbad
Texas
New Mexico
Meridian
Fourth
Third
Standard
Parallel
Guadalupe
Pecos
Plains
Lea
Taylor
Lovington Terrace
Lovington Plains
Lovington Uplands
Lovington Flats
Northwest
Hobbs Channel
To Artesia
To Seminole
To Carlsbad
South 7½ mi. to Gulf
10 miles to SIMS
OP/1020/1170
OP/1750
0675/790
OP/450
OP/1750
OP/1750
OP/1750

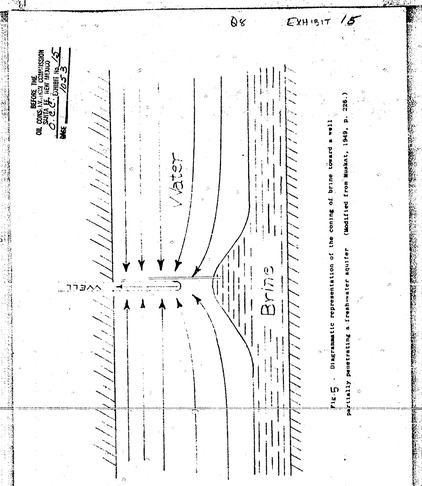
Q8 EXHIBIT 14



BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO O.C.C. EXHIBIT NO. 14 CASE 1028

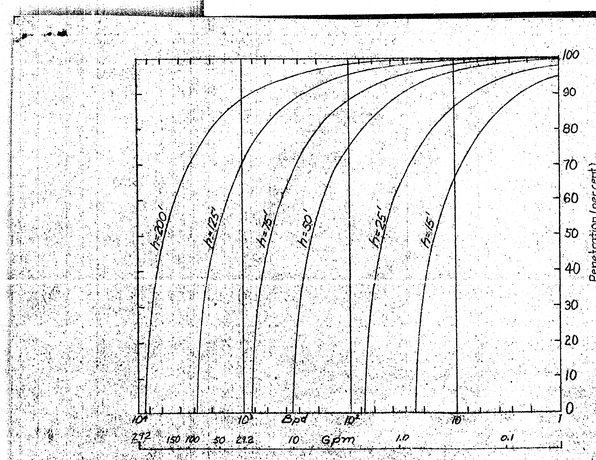
Fig. 1. Generalized flow net showing streamlines and equipotential lines in the vicinity of a discharging well with fifty percent penetration in an isotropic sand (After U. S. Geol. Survey, 1939, unpublished data.)

Q8 EXHIBIT 15



BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO O.C.C. EXHIBIT NO. 15 CASE 1028

Fig. 5. Diagrammatic representation of the coning of brine toward a well partially penetrating a freshwater aquifer (modified from Muskat, 1949, p. 326.)



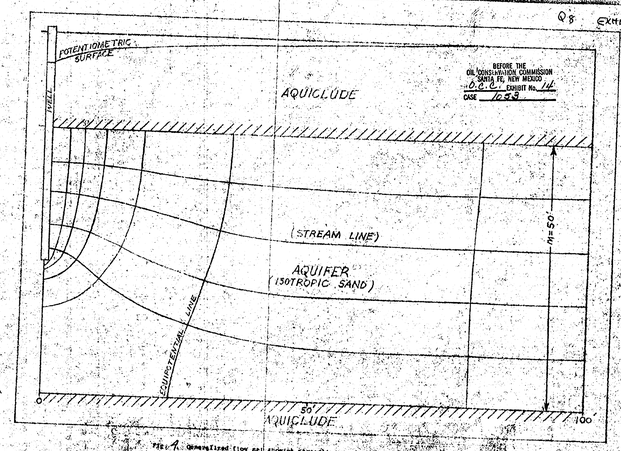
Q8 EXHIBIT 16

Fig. 6. The calculated maximal rates of steady-state homogeneous-fluid flow without water-cone breakthrough, as functions of the well penetration, for various oil-zone thicknesses h. Well radius = 1/4 ft; external-boundary radius = 500 ft; water-oil density contrast = 0.1 gm/cc, $\mu_o/\mu_{saturated} = 1$; k = permeability; μ = viscosity; B = formation-volume factor. (After Muskat and Wyckoff, 1935, AIME, Trans., and Muskat, 1949, p. 233.)

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO O.C.C. EXHIBIT NO. 16 CASE 1028

246

Q8 EXHIBIT 14



BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
O.C.C. EXHIBIT No. 14
CASE 1038

Fig. 4. Generalized flow net showing streamlines and equipotential lines in the vicinity of a discharging well with fifty percent penetration in an isotropic sand (After U. S. Geol. Survey, 1933, unpublished data.)

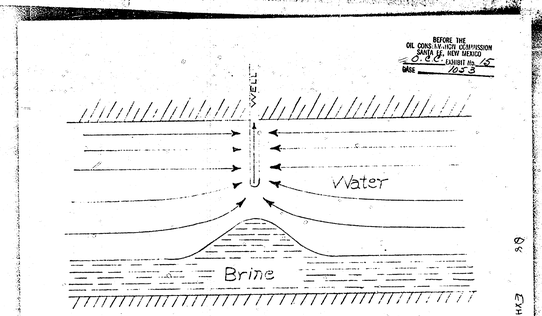
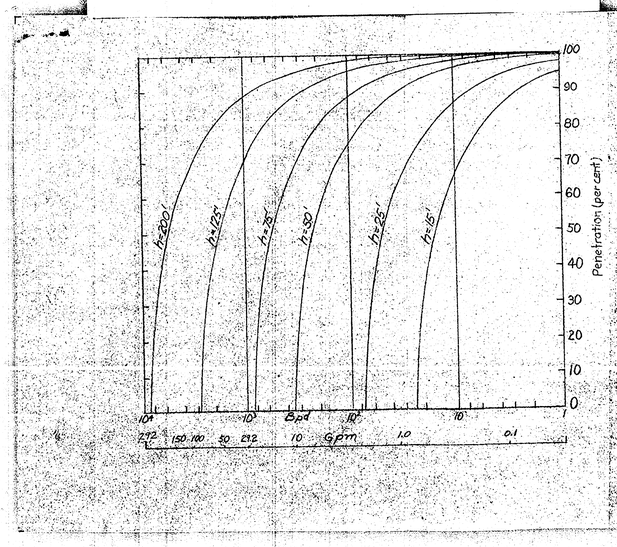


Fig. 5. Diagrammatic representation of the coning of brine toward a well partially penetrating a fresh-water aquifer. (Modified from Muskat, 1949, p. 226.)

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
O.C.C. EXHIBIT No. 15
CASE 1038

Q9 EXHIBIT 15

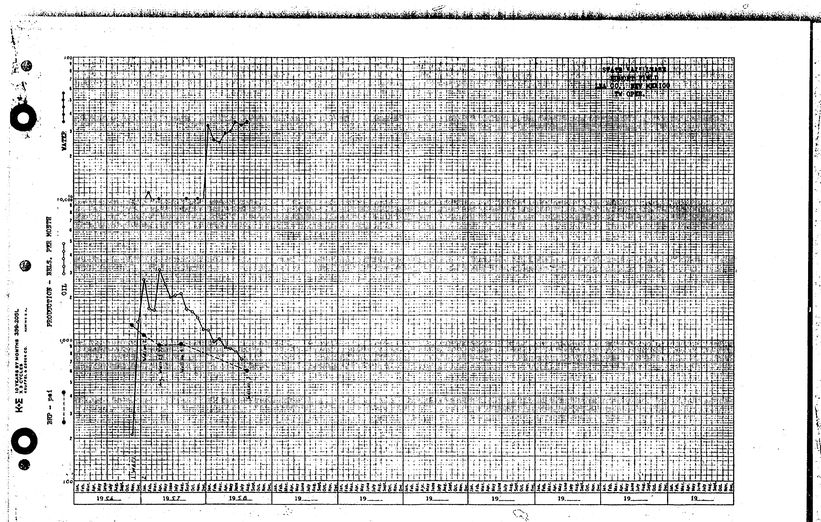


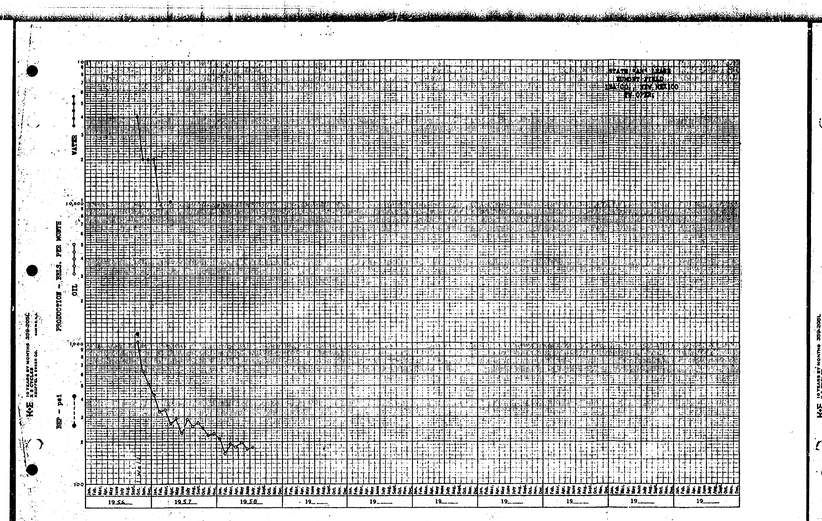
Q10 EXHIBIT 16

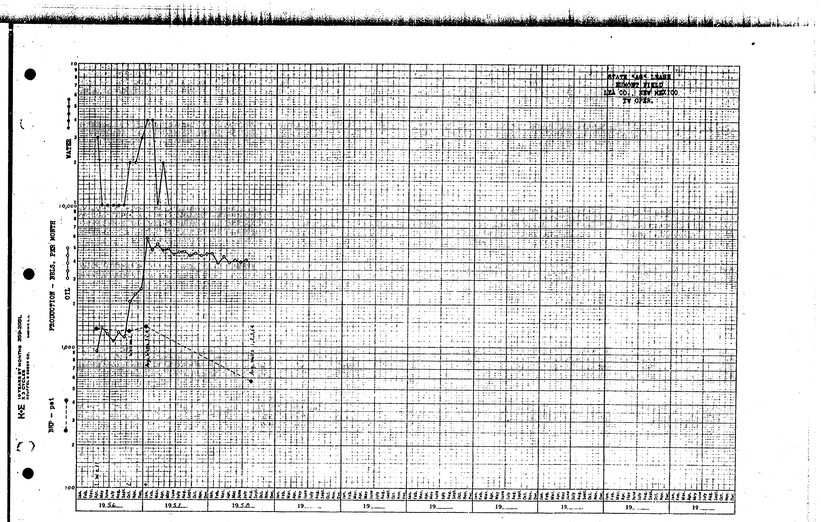
Fig. 6. The calculated maximal rates of steady-state homogeneous-fluid flow without water-cone break-through, as functions of the well penetration, for various oil-zone thicknesses h. Well radius = 1/4 ft; external-boundary radius = 500 ft; water-oil density contrast = 0.3 gm/cc; B_o assumed = 1; k = permeability; μ = viscosity; B = formation-volume factor. (After Muskat and Wyckoff, 1935, AIME, Trans., and Muskat, 1949, p. 233.)

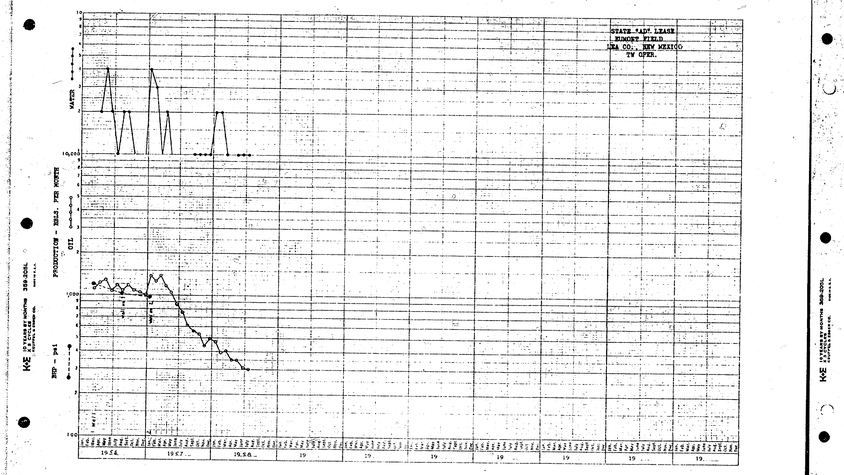
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
O.C.C. EXHIBIT No. 16
CASE 1038

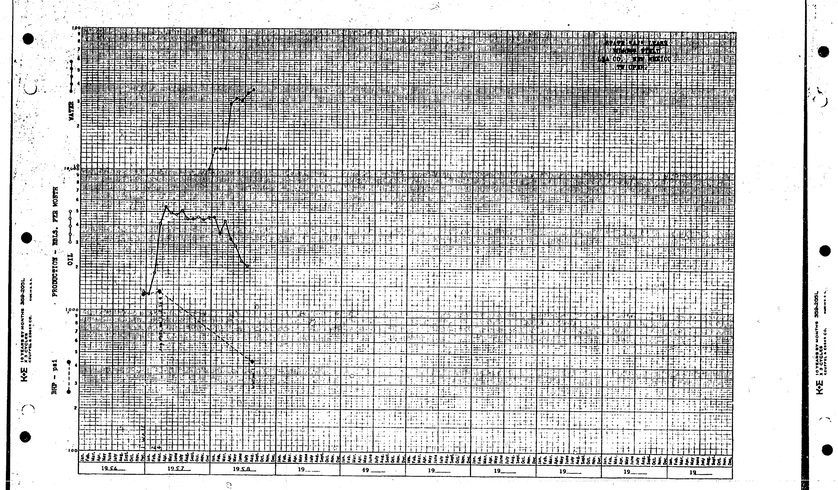
246

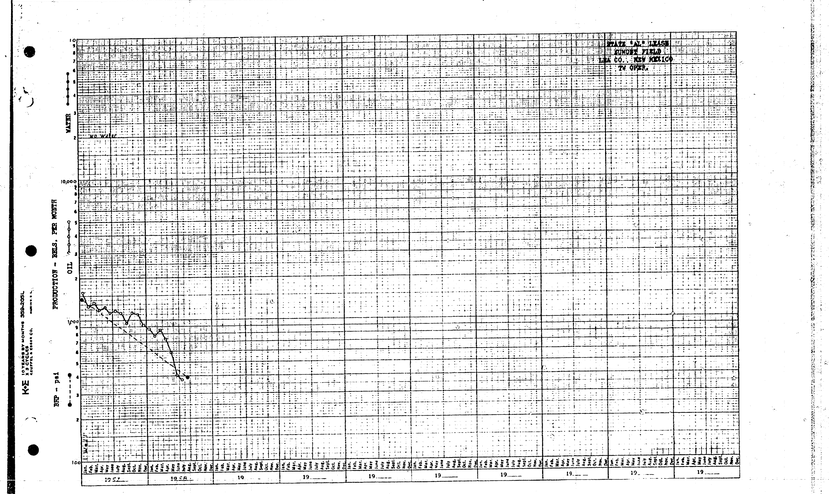

STATE "AD" LEASE
BOWERS FIELD
LEA CO., NEW MEXICO
TW OPER.
WATER
OIL
PRODUCTION - BBLS. PER MONTH
MCF - psi

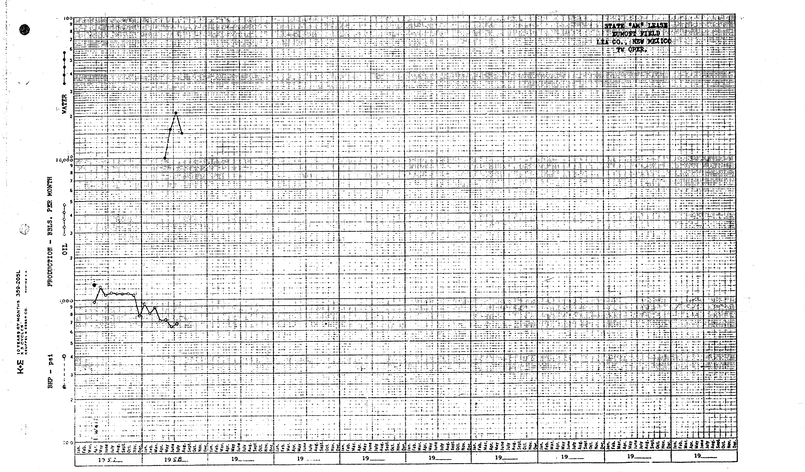

STATE "AD" LEASE
BOWERS FIELD
LEA CO., NEW MEXICO
TW OPER.
WATER
OIL
PRODUCTION - BBLS. PER MONTH
MCF - psi

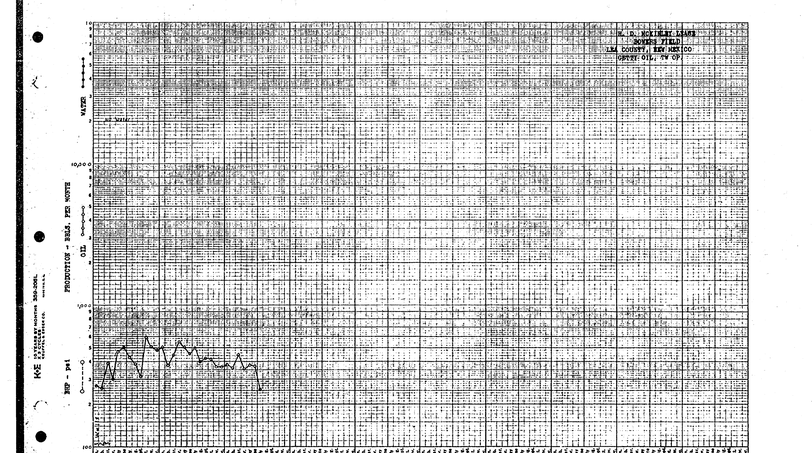

STATE "AD" LEASE
BOWERS FIELD
LEA CO., NEW MEXICO
TW OPER.
WATER
OIL
PRODUCTION - BBLS. PER MONTH
MCF - psi

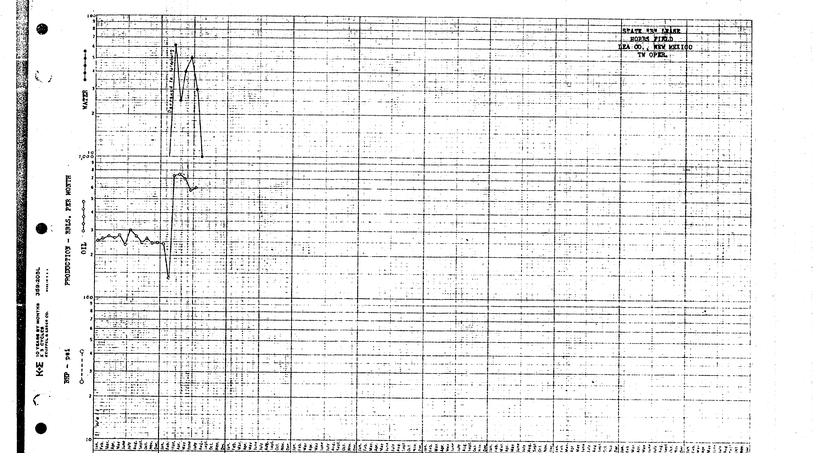

STATE "AD" LEASE
BOWERS FIELD
LEA CO., NEW MEXICO
TW OPER.
WATER
OIL
PRODUCTION - BBLS. PER MONTH
MCF - psi


STATE "AD" LEASE
BOWERS FIELD
LEA CO., NEW MEXICO
TW OPER.
WATER
OIL
PRODUCTION - BBLS. PER MONTH
MCF - psi

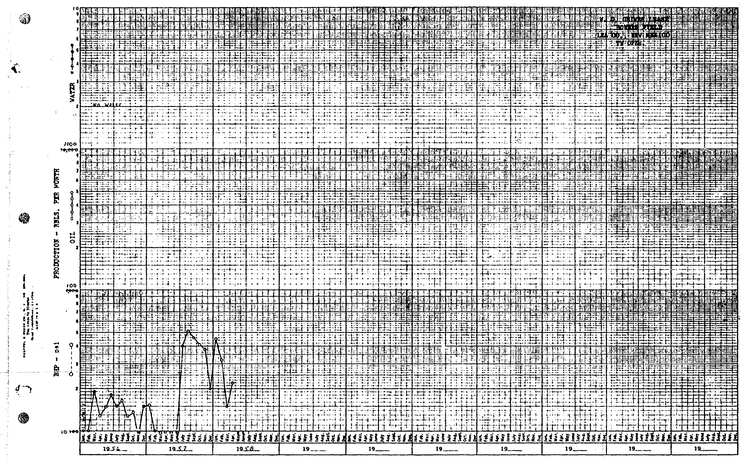

STATE "AD" LEASE
BOWERS FIELD
LEA CO., NEW MEXICO
TW OPER.
WATER
OIL
PRODUCTION - BBLS. PER MONTH
MCF - psi


STATE "AM" LEASE
BOWERS FIELD
LEA CO., NEW MEXICO
TW OPER.
WATER
OIL
PRODUCTION - BBLS. PER MONTH
MCF - psi

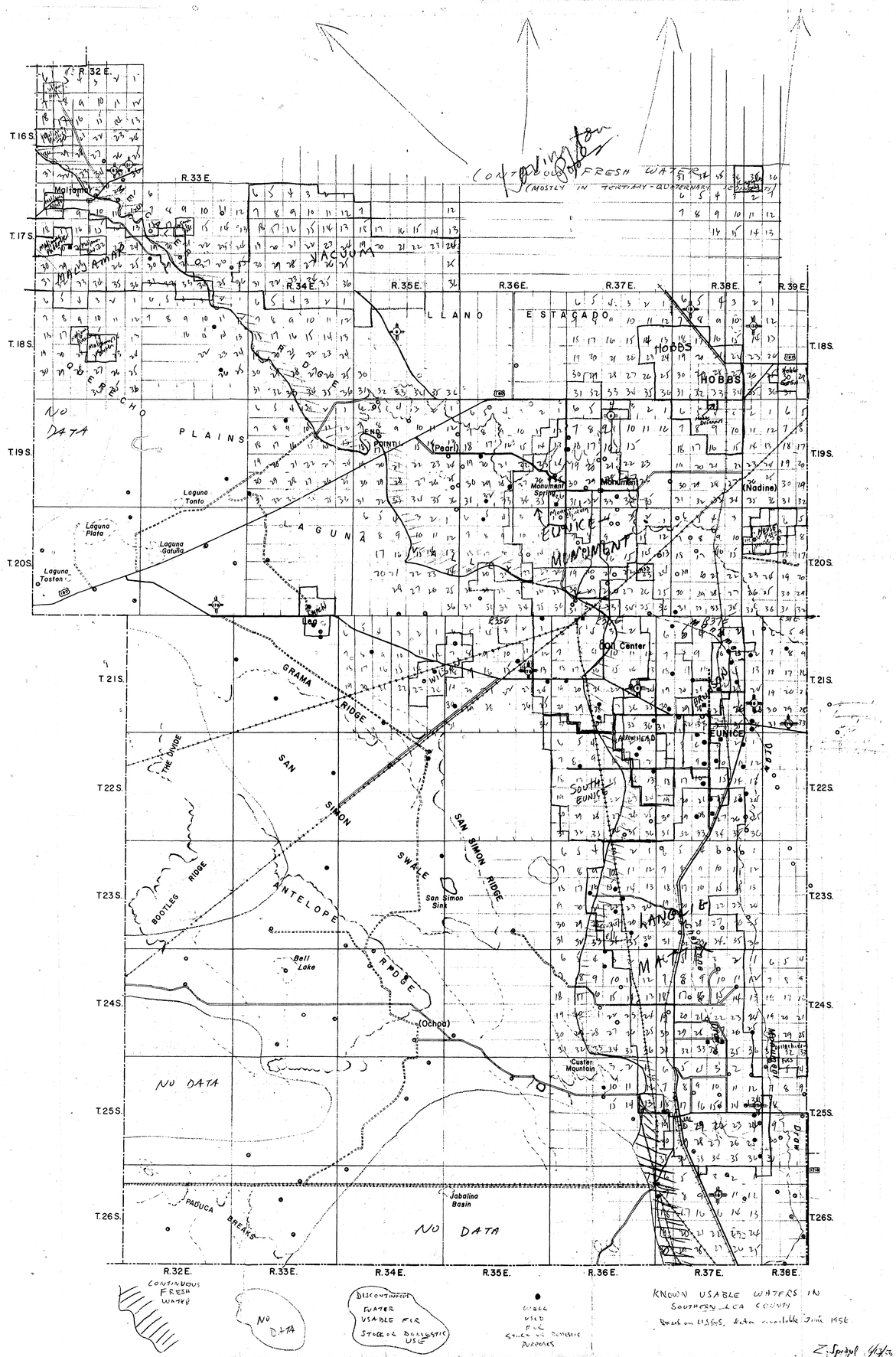

W. D. MCKINNEY LEASE
BOWERS FIELD
LEA COUNTY, NEW MEXICO
GRYT OIL, TW OP
WATER
OIL
PRODUCTION - BBLS. PER MONTH
MCF - psi


STATE "AD" LEASE
BOWERS FIELD
LEA CO., NEW MEXICO
TW OPER.
WATER
OIL
PRODUCTION - BBLS. PER MONTH
MCF - psi

247


PRODUCTION - BBLS. PER MONTH
WATER
OIL
BHP - psi
19.54
19.57
19.58
19
19
19
19
19
19

248

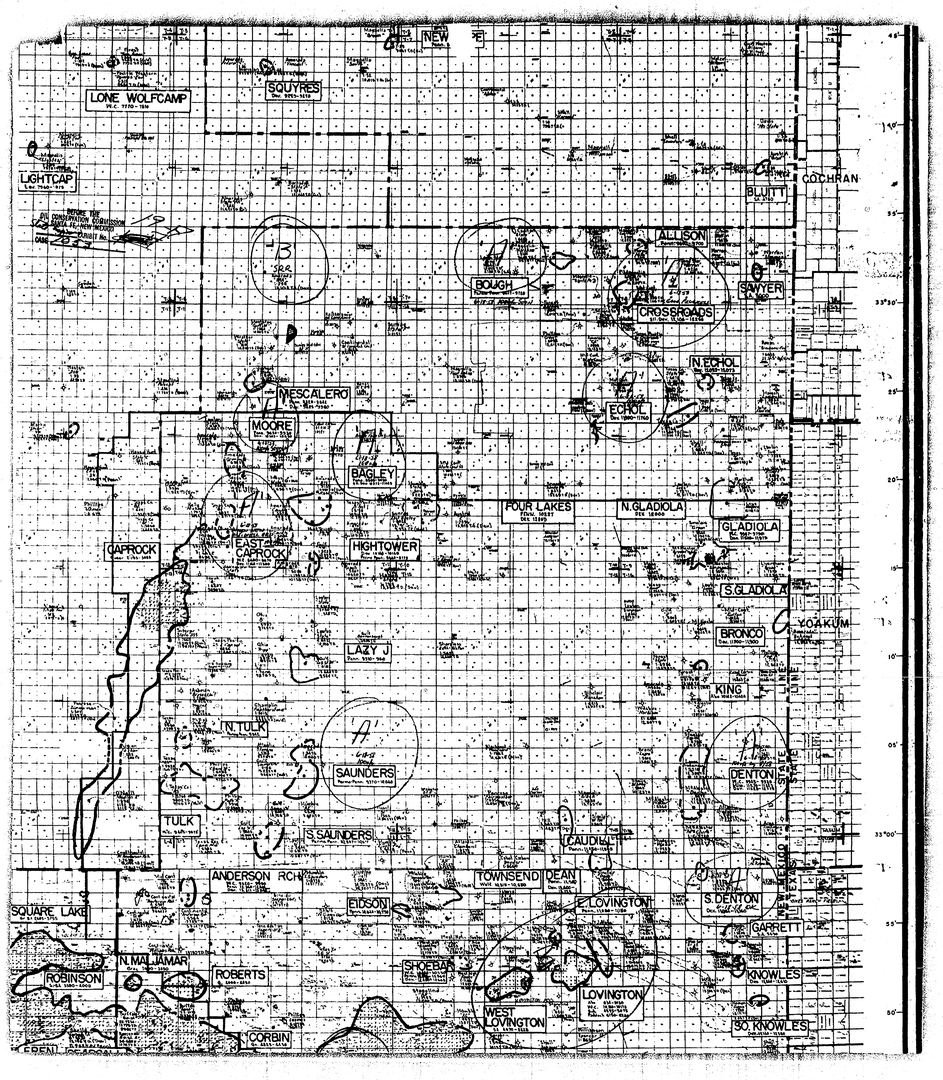


KNOWN USABLE WATERS IN SOUTHERN LEA COUNTY

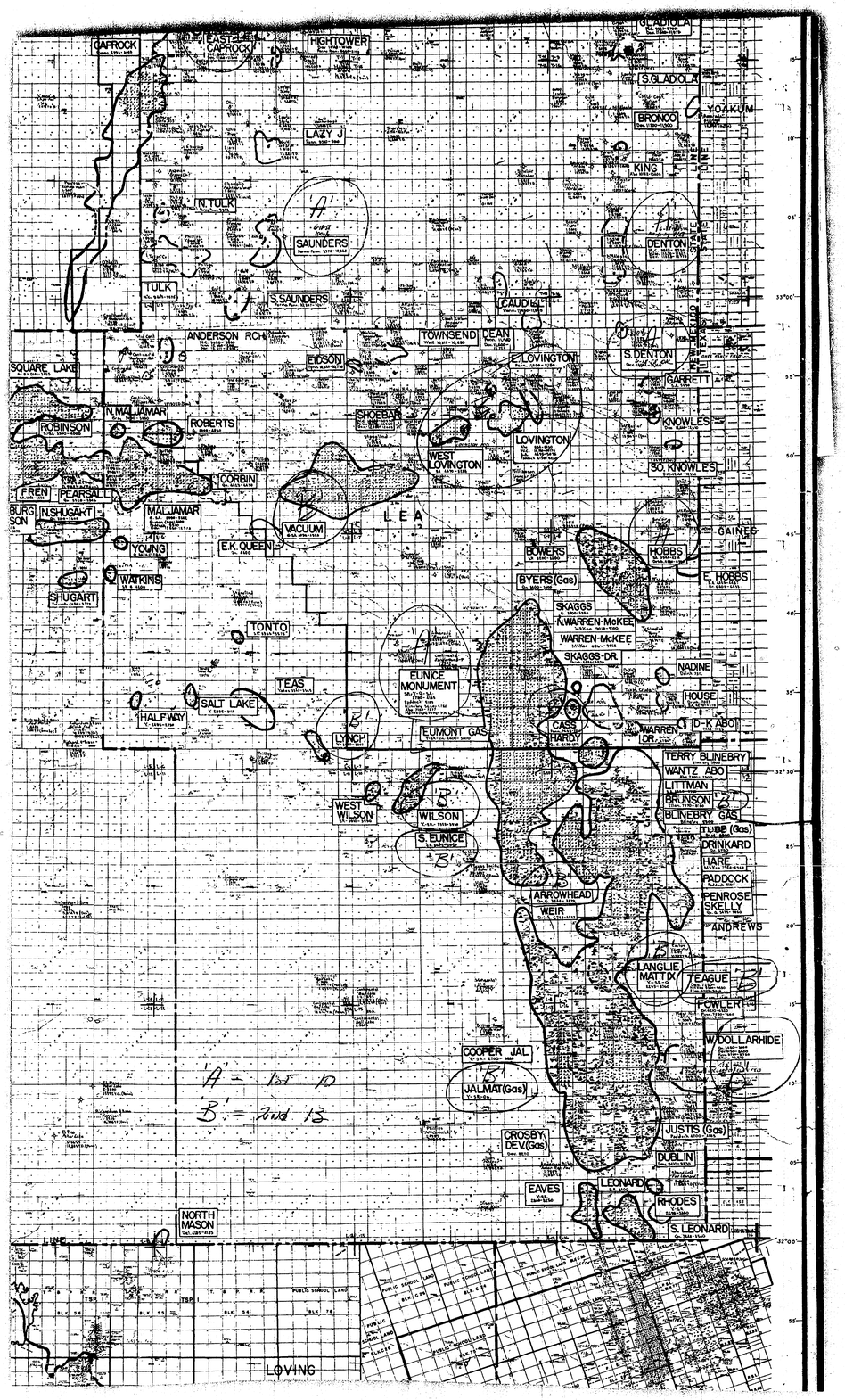
Based on USGS, data available June 1956

Z. Spiegel 4/3/56

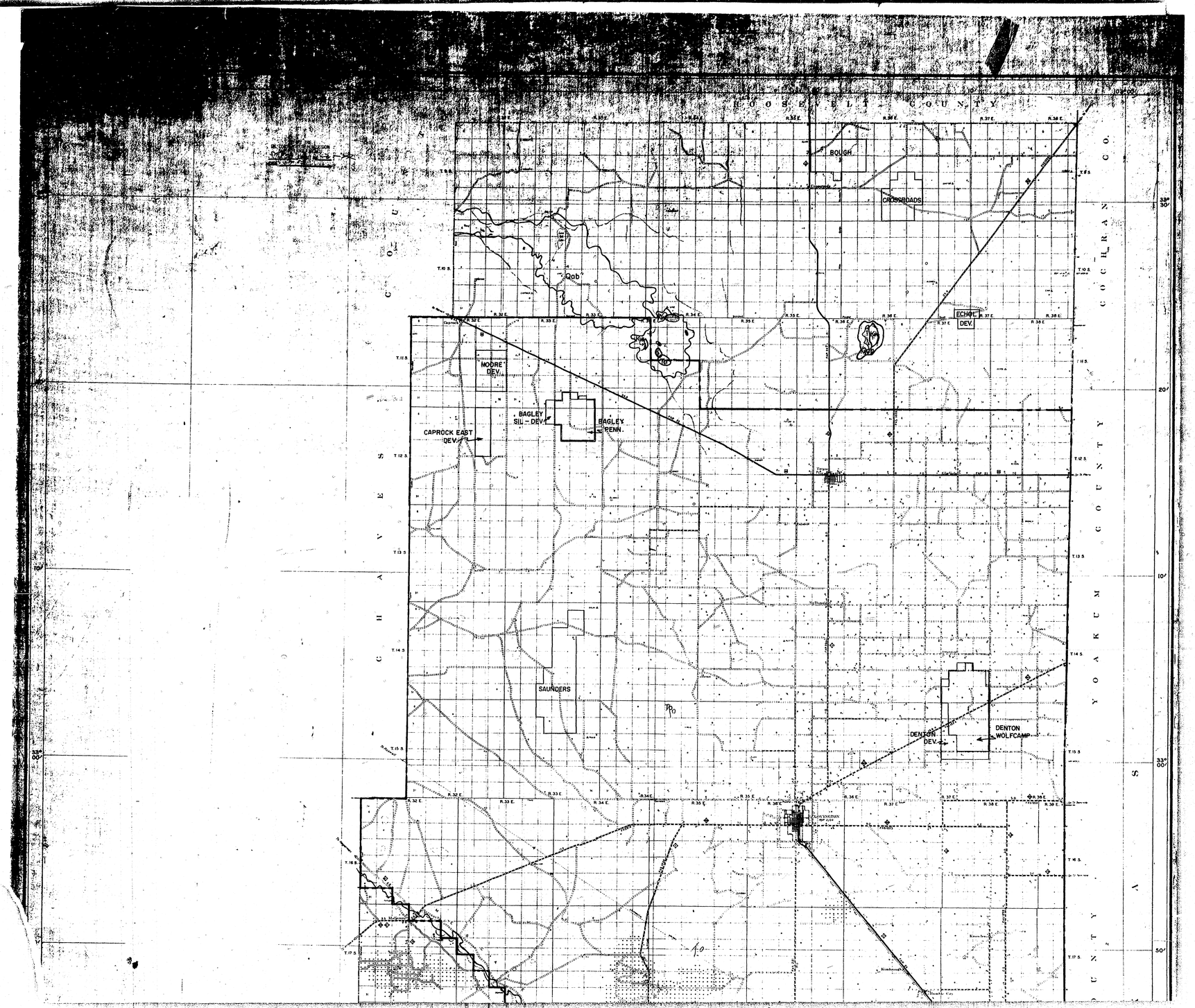
249


NEW
LONE WOLFCAMP
SQUYRES
LIGHTCAP
COCHRAN
BLUITT
ALLISON
BOUGH
SAWYER
CROSSROADS
N.ECHOL
ECHOL
MESCALERO
MOORE
BAGLEY
FOUR LAKES
N.GLADIOLA
GLADIOLA
CAPROCK
EAST CAPROCK
HIGHTOWER
S.GLADIOLA
YOAKUM
BRONCO
LAZY J
KING
N.TULK
SAUNDERS
DENTON
TULK
S.SAUNDERS
CAUDILL
ANDERSON RCH
TOWNSEND
DEAN
E.LOVINGTON
S.DENTON
SQUARE LAKE
EIDSON
GARRETT
N.MALJAMAR
ROBERTS
SHOEBAR
KNOWLES
ROBINSON
LOVINGTON
WEST LOVINGTON
SO.KNOWLES
CORBIN

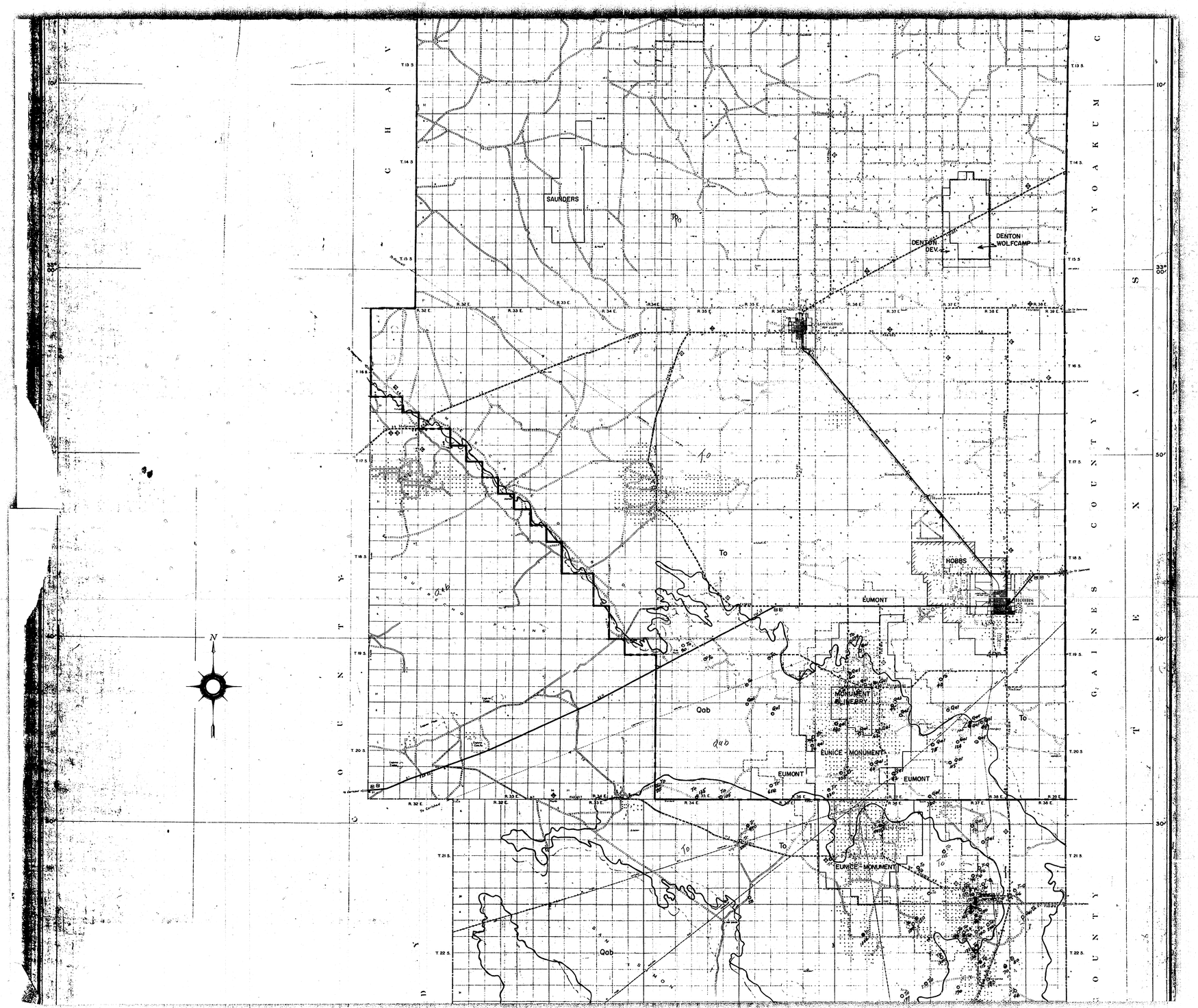
250


CAPROCK
EAST CAPROCK
HIGHTOWER
GLADIOLA
S.GLADIOLA
YOAKUM
BRONCO
LAZY J
KING
N.TULK
SAUNDERS
DENTON
TULK
S.SAUNDERS
CAUDILL
ANDERSON RCH
TOWNSEND
DEAN
SQUARE LAKE
EIDSON
E.LOVINGTON
S.DENTON
GARRETT
N.MALJAMAR
ROBINSON
ROBERTS
SHOEBAR
KNOWLES
LOVINGTON
WEST LOVINGTON
SO. KNOWLES
CORBIN
FREN
PEARSALL
BURGSON
N.SHUGART
MALJAMAR
LEA
VACUUM
GAINES
YOUNG
E.K.QUEEN
BOWERS
HOBBS
E. HOBBS
WATKINS
SHUGART
BYERS(Gas)
SKAGGS
N.WARREN-McKEE
WARREN-McKEE
SKAGGS-DR.
TONTO
NADINE
EUNICE MONUMENT
TEAS
HOUSE
SALT LAKE
HALFWAY
CASS HARDY
D-K ABO
LYNCH
EUMONT GAS
WARREN DR.
TERRY BLINEBRY
WANTZ ABO
LITTMAN
BRUNSON
BLINEBRY GAS
WEST WILSON
WILSON
S.EUNICE
TUBB (Gas)
DRINKARD
HARE
PADDOCK
ARROWHEAD
WEIR
PENROSE SKELLY
ANDREWS
LANGLIE MATTIX
TEAGUE
FOWLER
W.DOLLARHIDE
COOPER JAL
JALMAT(Gas)
'A' = 1st 10
'B' = 2nd 13
JUSTIS (Gas)
CROSBY DEV.(Gas)
DUBLIN
EAVES
LEONARD
RHODES
NORTH MASON
S.LEONARD
LOVING

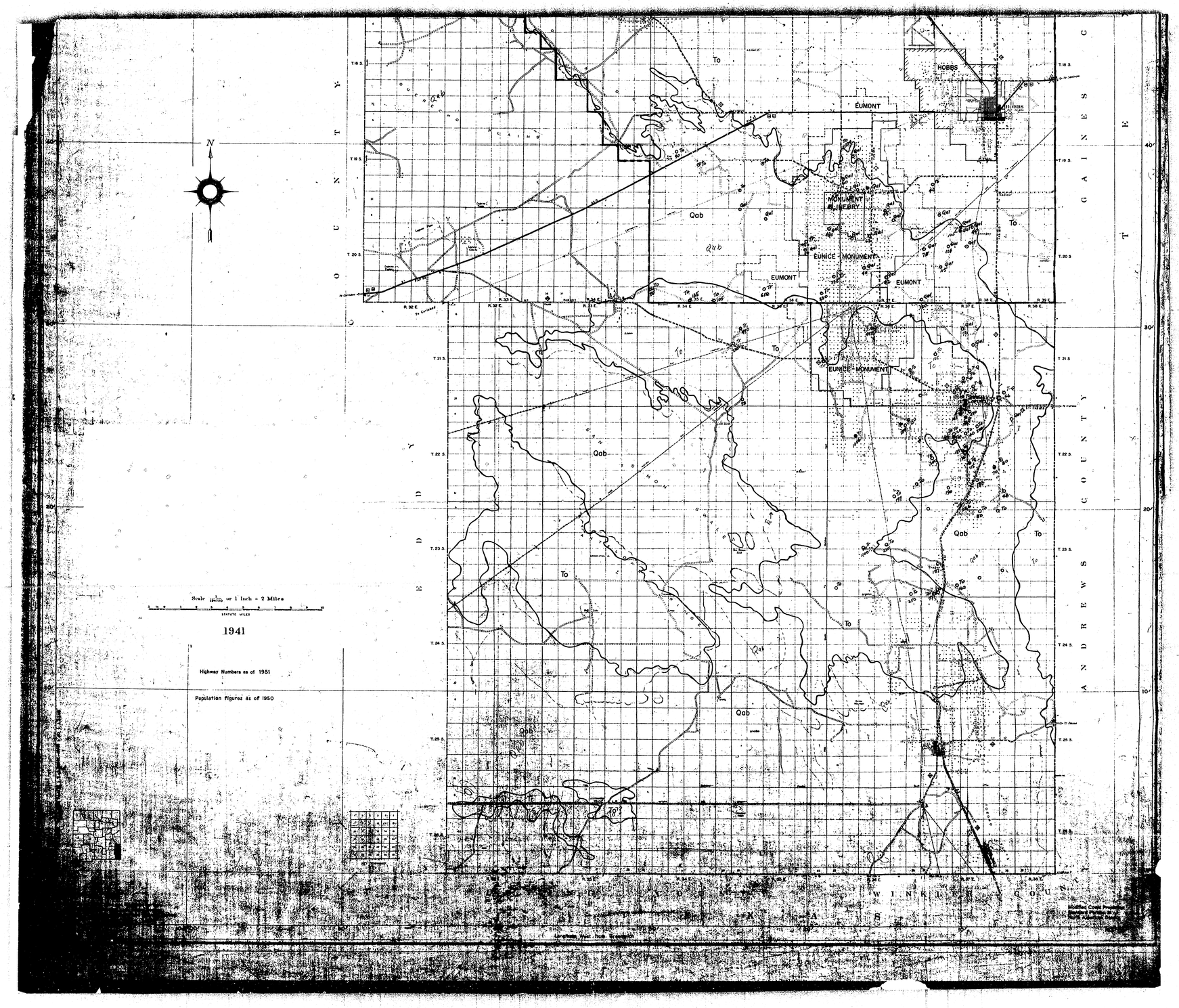
251


ROOSEVELT COUNTY
CHAVES COUNTY
YOAKUM COUNTY
COCHRAN CO.
BOUGH
CROSSROADS
ECHOL DEV.
MOORE DEV.
BAGLEY SIL-DEV.
BAGLEY PENN.
CAPROCK EAST DEV.
SAUNDERS
DENTON DEV.
DENTON WOLFCAMP
Qab

252

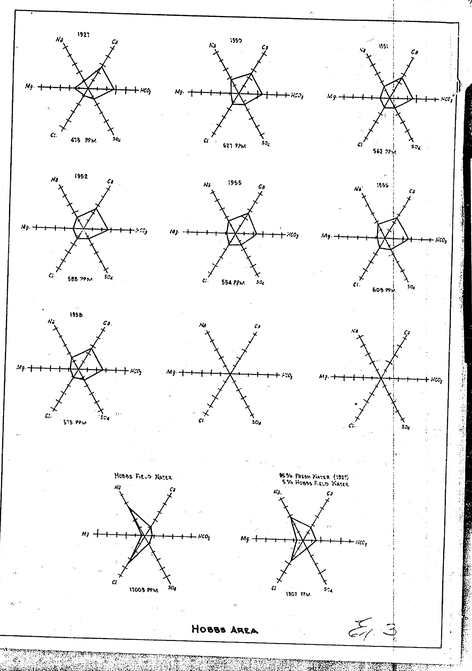

SAUNDERS
DENTON DEV.
DENTON WOLFCAMP
HOBBS
EUMONT
MONUMENT BLINEBRY
EUNICE MONUMENT
EUMONT
EUMONT
EUNICE MONUMENT
To
Qab
Qab
To
To
To
Qab
N
CHAV
YOAKUM
GAINES
COUNTY
COUNTY
COUNTY
T.13 S.
T.14 S.
T.15 S.
T.16 S.
T.17 S.
T.18 S.
T.19 S.
T.20 S.
T.21 S.
T.22 S.
R.32 E.
R.33 E.
R.34 E.
R.35 E.
R.36 E.
R.37 E.
R.38 E.
R.39 E.
10'
33° 00'
50'
40'
30'

253



N
Scale 1/126720 or 1 Inch = 2 Miles
STATUTE MILES
1941
Highway Numbers as of 1951
Population figures as of 1950
HOBBS
EUMONT
MONUMENT
LINEBRY
EUNICE MONUMENT
EUMONT
EUMONT
EUNICE MONUMENT
Qab
To
ANDREWS COUNTY
GAINES COUNTY
WINKLER COUNTY

254



HOBBS AREA

Ex. 3

HOBBS AREA

Fresh Water

Component	1927 ppm	1927 % Reacting Value	1950 ppm	1950 % Reacting Value	1951 ppm	1951 % Reacting Value	1952 ppm	1952 % Reacting Value	1955 ppm	1955 % Reacting Value	1956 ppm	1956 % Reacting Value	1958 ppm	1958 % Reacting Value
Na	29	9.1	67	16.67	52	14.20	52	13.73	58	15.97	66	16.73	62	15.04
Ca	72	27.3	89	25.00	79	24.88	86	25.85	80	25.19	86	25.08	84	26.58
Mg	22	13.6	18	8.33	21	10.92	21	10.42	17	8.84	17	8.19	16	8.38
SO_4	82	13.0	109	12.78	93	12.18	96	12.05	103	13.51	113	13.74	101	13.32
Cl	42	9.0	82	13.00	67	11.93	71	12.05	78	13.89	71	11.70	56	10.03
HCO_3	226	28.0	262	24.22	250	25.89	262	25.90	218	22.60	256	24.56	256	26.65
Total Solids	473		627		562		588		554		609		575	

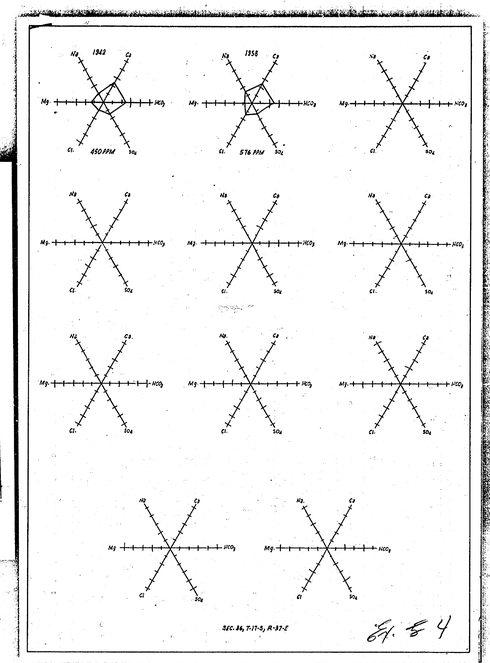
Hobbs Field Water

Component	ppm	% Reacting Value
Na	4399	35.62
Ca	1218	11.31
Mg	201	3.07
SO_4	2488	9.63
Cl	6294	33.04
HCO_3	2403	7.33
Total Solids	17003	

Mixture 95% Fresh Water
5% Hobbs Field Water

ppm	% Reacting Value
255	27.75
129	16.00
31	6.25
202	10.50
355	25.00
335	14.50
1307	

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Pres. Exhibit No. 3-A
1053



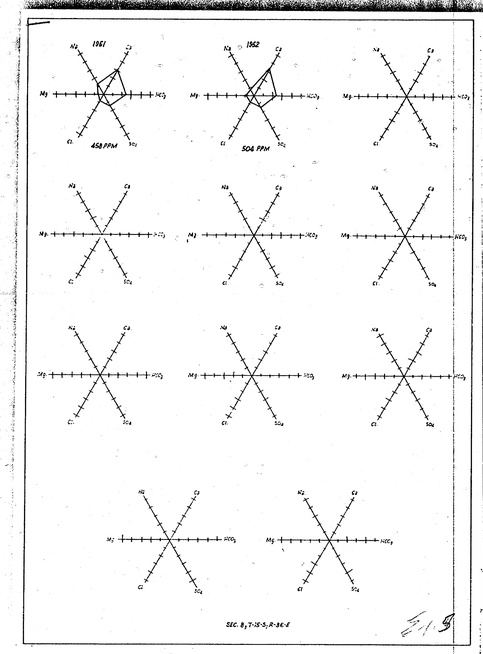
SEC. 36, T-17-S, R-37-E

Ex. 4

NW/4 NW/4 Section 36, T-17-S, R-37-E

Component	7-15-1942 ppm	7-15-1942 % Reacting Value	7-15-1958 ppm	7-15-1958 % Reacting Value
Na	41	11.43	59	15.75
Ca	66	26.11	84	25.67
Mg	17	12.46	17	8.58
SO_4	95	15.71	94	12.00
Cl	45	10.08	78	13.48
HCO_3	186	24.21	244	24.52
Total Solids	450		576	

4A



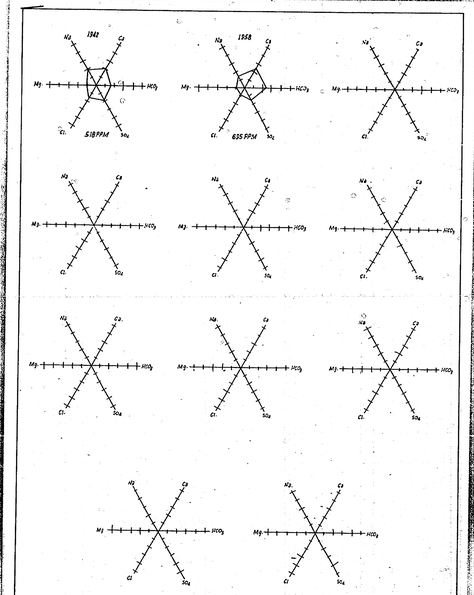
SEC. 8, T-15-S, R-36-E

Ex. 5

NW/4 NW/4 NW/4 Section 8, T-15-S, R-36-E

Component	9-20-1951 ppm	9-20-1951 % Reacting Value	9-20-1954 ppm	9-20-1954 % Reacting Value
Na	40	12.50	27	7.34
Ca	79	31.57	86	33.15
Mg	9	5.53	15	9.51
SO_4	89	14.82	98	15.76
Cl	37	8.33	38	8.27
HCO_3	204	26.85	205	25.97
Total Solids	458		469	

5A



SEC. 21, T-17-S, R-37-E

Ex. 6

SW/4 SW/4 Section 21, T-17-S, R-37-E

Component	7-15-1942 ppm	7-15-1942 % Reacting Value	7-17-1958 ppm	7-17-1958 % Reacting Value
Na	70	19.10	67	15.05
Ca	61	20.38	98	25.21
Mg	21	10.52	23	9.74
SO_4	143	19.91	144	15.46
Cl	71	13.40	64	9.28
HCO_3	152	16.69	299	25.26
Total Solids	518		695	

6A

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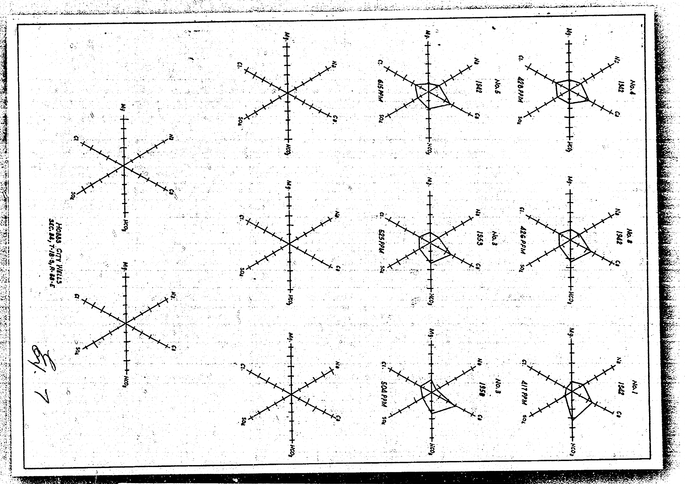


HOBBS CITY WELLS

No. 1 - 1942
P-24-1942
5-Reacting Value

Component	ppm	% Reacting Value
Na	25	2.72
Ca	78	15.60
Mg	24	5.92
CO_3	0	0.00
HCO$_3$	251	27.76
Total Solids	456	

No. 2 - 1942
P-24-1942
5-Reacting Value

Component	ppm	% Reacting Value
Na	87	10.26
Ca	77	15.72
Mg	22	6.77
CO_3	0	0.00
HCO$_3$	339	37.15
Total Solids	1446	

No. 4 - 1942
P-24-1942
5-Reacting Value

Component	ppm	% Reacting Value
Na	105	10.56
Ca	120	20.03
Mg	34	8.31
CO_3	0	0.00
HCO$_3$	354	36.54
Total Solids	613	

No. 5 - 1942
P-24-1942
5-Reacting Value

Component	ppm	% Reacting Value
Na	66	6.91
Ca	98	16.35
Mg	34	8.31
CO_3	0	0.00
HCO$_3$	339	34.84
Total Solids	585	

No. 3 - 1955
P-24-1955
5-Reacting Value

Component	ppm	% Reacting Value
Na	97	10.42
Ca	98	15.69
Mg	34	8.31
CO_3	0	0.00
HCO$_3$	354	36.54
Total Solids	584	

No. 6 - 1959
P-24-1959
5-Reacting Value

Component	ppm	% Reacting Value
Na	87	9.79
Ca	98	15.69
Mg	34	8.31
CO_3	0	0.00
HCO$_3$	354	36.54
Total Solids	585	

Section 35, T-23-S, R-34-E
P-23-1956
5-Reacting Value

Component	ppm	% Reacting Value
Na	488	44.10
Ca	59	7.07
Mg	39	7.46
CO_3	0	0.00
HCO$_3$	390	17.46
Total Solids	1594	31.71

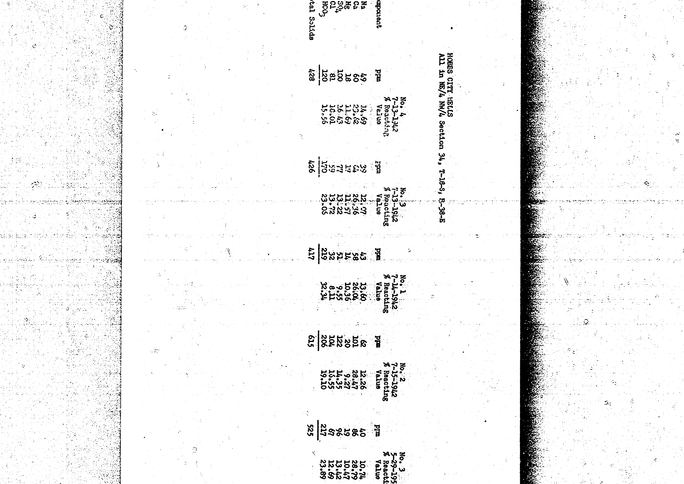
Section 35, T-23-S, R-34-E
P-23-1956
5-Reacting Value

Component	ppm	% Reacting Value
Na	335	41.26
Ca	60	11.98
Mg	9	2.29
CO_3	0	0.00
HCO$_3$	135	16.79
Total Solids	537	21.77
	1280	

Section 35, T-23-S, R-34-E
P-23-1956
5-Reacting Value

Component	ppm	% Reacting Value
Na	75	11.60
Ca	60	12.00
Mg	20	12.06
CO_3	0	0.00
HCO$_3$	98	12.07
Total Solids	353	22.79

7-A



HOBBS CITY WELLS

No. 1 - 1942
P-24-1942
5-Reacting Value

Component	ppm	% Reacting Value
Na	25	2.72
Ca	78	15.60
Mg	24	5.92
CO_3	0	0.00
HCO$_3$	251	27.76
Total Solids	456	

No. 2 - 1942
P-24-1942
5-Reacting Value

Component	ppm	% Reacting Value
Na	87	10.26
Ca	77	15.72
Mg	22	6.77
CO_3	0	0.00
HCO$_3$	339	37.15
Total Solids	1446	

No. 4 - 1942
P-24-1942
5-Reacting Value

Component	ppm	% Reacting Value
Na	105	10.56
Ca	120	20.03
Mg	34	8.31
CO_3	0	0.00
HCO$_3$	354	36.54
Total Solids	613	

No. 5 - 1942
P-24-1942
5-Reacting Value

Component	ppm	% Reacting Value
Na	66	6.91
Ca	98	16.35
Mg	34	8.31
CO_3	0	0.00
HCO$_3$	339	34.84
Total Solids	585	

No. 3 - 1955
P-24-1955
5-Reacting Value

Component	ppm	% Reacting Value
Na	97	10.42
Ca	98	15.69
Mg	34	8.31
CO_3	0	0.00
HCO$_3$	354	36.54
Total Solids	584	

No. 6 - 1959
P-24-1959
5-Reacting Value

Component	ppm	% Reacting Value
Na	87	9.79
Ca	98	15.69
Mg	34	8.31
CO_3	0	0.00
HCO$_3$	354	36.54
Total Solids	585	

Section 35, T-23-S, R-34-E
P-23-1956
5-Reacting Value

Component	ppm	% Reacting Value
Na	488	44.10
Ca	59	7.07
Mg	39	7.46
CO_3	0	0.00
HCO$_3$	390	17.46
Total Solids	1594	31.71

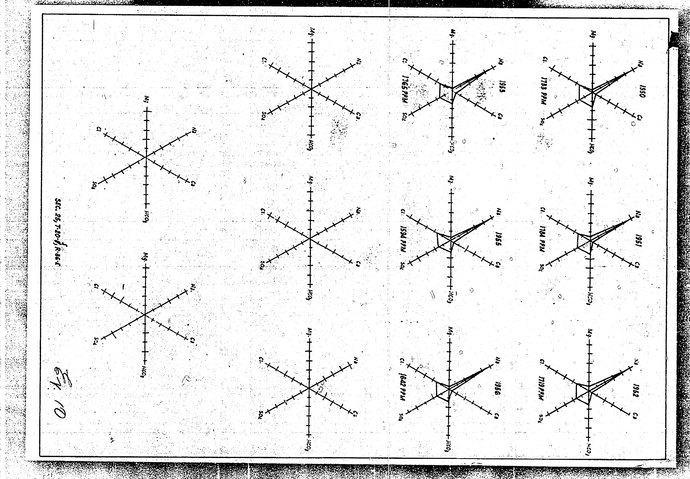
Section 35, T-23-S, R-34-E
P-23-1956
5-Reacting Value

Component	ppm	% Reacting Value
Na	335	41.26
Ca	60	11.98
Mg	9	2.29
CO_3	0	0.00
HCO$_3$	135	16.79
Total Solids	537	21.77
	1280	

Section 35, T-23-S, R-34-E
P-23-1956
5-Reacting Value

Component	ppm	% Reacting Value
Na	75	11.60
Ca	60	12.00
Mg	20	12.06
CO_3	0	0.00
HCO$_3$	98	12.07
Total Solids	353	22.79

8-A



SW/4 Section 35, T-20-S, R-34-E

1949-1959
5-Reacting Value

Component	ppm	% Reacting Value
Na	335	41.65
Ca	74	3.43
Mg	36	7.47
CO_3	0	0.00
HCO$_3$	454	22.10
Total Solids	1299	

1952-1959
5-Reacting Value

Component	ppm	% Reacting Value
Na	279	40.70
Ca	78	3.58
Mg	31	7.43
CO_3	0	0.00
HCO$_3$	401	21.89
	1332	

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SW/4 NE/4 SW/4 Section 25, T-20-S, R-34-E

1949-1959
5-Reacting Value

Component	ppm	% Reacting Value
Na	310	44.98
Ca	30	1.97
Mg	18	17.66
CO_3	0	0.00
HCO$_3$	284	15.66
Total Solids	1733	

1951-1959
5-Reacting Value

Component	ppm	% Reacting Value
Na	326	44.39
Ca	34	2.25
Mg	18	16.53
CO_3	0	0.00
HCO$_3$	268	15.15
	1784	

1952-1959
5-Reacting Value

Component	ppm	% Reacting Value
Na	477	44.03
Ca	28	1.85
Mg	18	17.46
CO_3	0	0.00
HCO$_3$	246	15.70
	1719	

1949-1959
5-Reacting Value

Component	ppm	% Reacting Value
Na	334	44.20
Ca	40	1.97
Mg	18	17.79
CO_3	0	0.00
HCO$_3$	278	15.31
	1745	

1952-1959
5-Reacting Value

Component	ppm	% Reacting Value
Na	335	44.26
Ca	40	1.97
Mg	18	17.46
CO_3	0	0.00
HCO$_3$	278	15.31
	1719	

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SEC. 35, T-20-S, R-34-E

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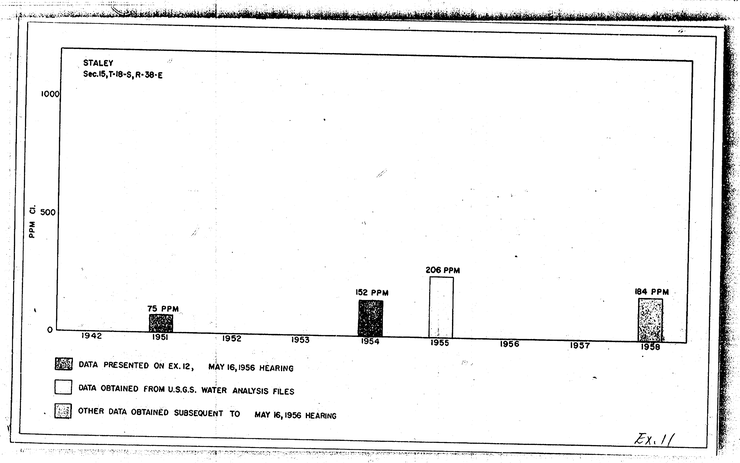
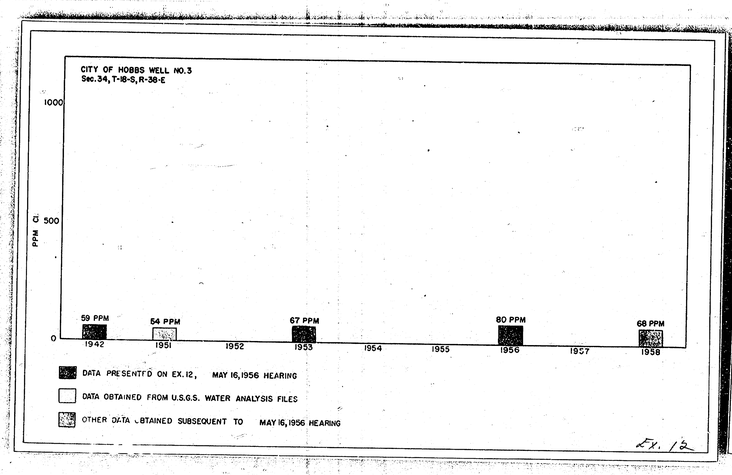
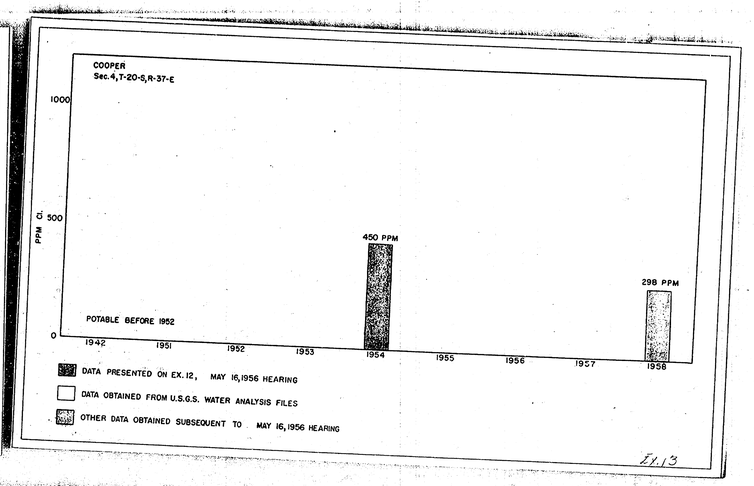
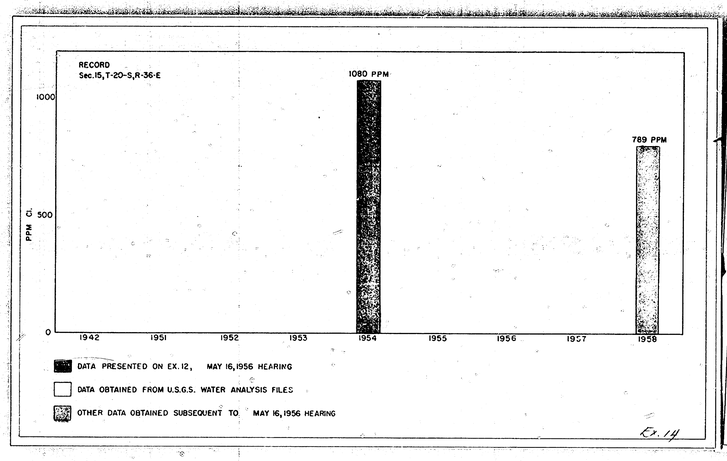








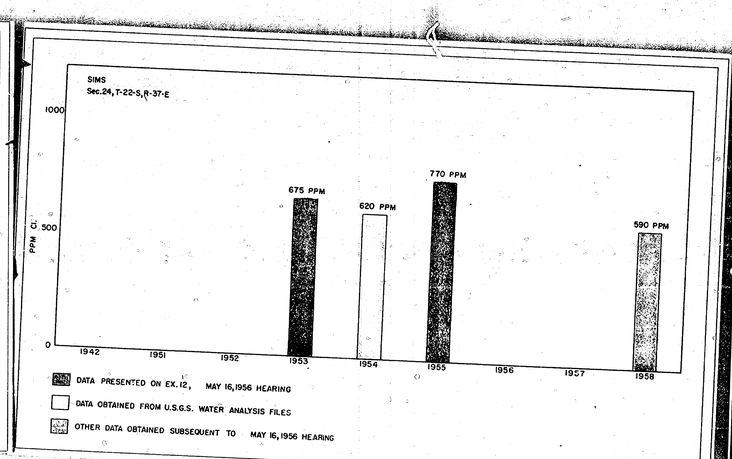
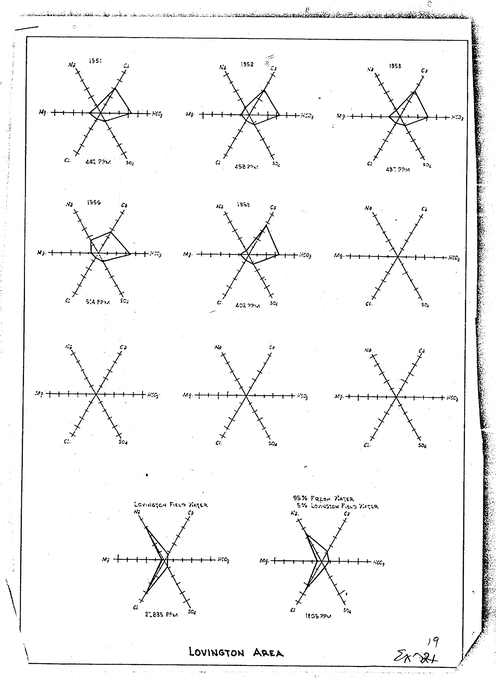
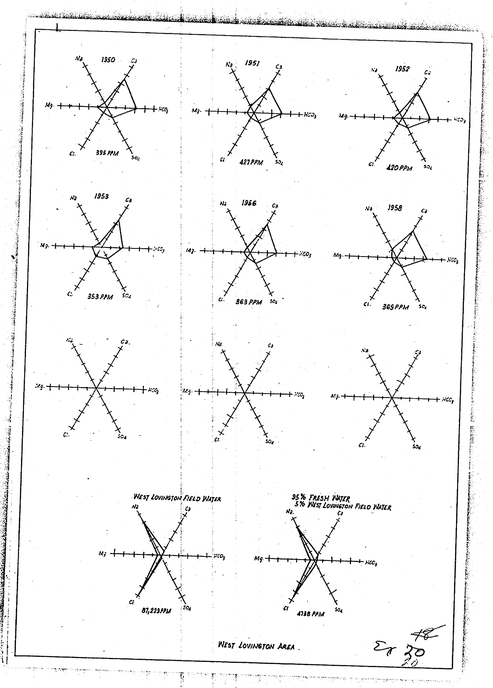




Figure 17. GROUND-WATER AREAS IN THE U. S.

TAKEN FROM:
THE WATER SITUATION IN THE UNITED STATES WITH SPECIAL REFERENCE TO GROUND WATER BY C.L. McGUINNESS
GEOLOGICAL SURVEY CIRCULAR 114
JUNE 1951
ADAPTED FROM A REPORT PREPARED FOR THE PRESIDENT'S WATER RESOURCES POLICY COMMISSION





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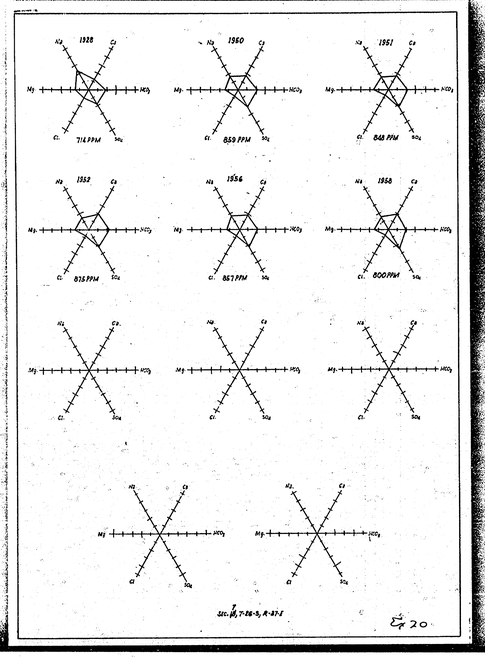


NE/4, SW/4, SW/4 Section 7, T-26-S, R-37-E

Ex 204

Component	10-18-1928 ppm	10-18-1928 % Reacting Value	10-4-1950 ppm	10-4-1950 % Reacting Value	8-3-1951 ppm	8-3-1951 % Reacting Value	7-25-1952 ppm	7-25-1952 % Reacting Value	6-12-1956 ppm	6-12-1956 % Reacting Value	5-12-1958 ppm	5-12-1958 % Reacting Value
Na	111	23.1	100	17.71	89	15.98	80	13.61	102	18.22	86	16.35
Ca	52	12.5	51	18.54	91	18.74	102	20.38	94	19.28	88	19.23
Mg	37	10.4	41	13.75	45	15.28	48	15.81	77	12.50	40	14.42
SO_4	197	19.7	268	21.06	251	21.55	255	21.22	268	21.22	253	23.79
Cl	79	10.6	74	8.53	67	7.80	67	7.57	71	8.22	59	7.27
HCO_3	248	19.7	305	20.41	305	20.64	323	21.21	305	20.56	274	19.68
Total Solids	714		839		848		875		857		800	

WEST LOVINGTON AREA

Fresh Water

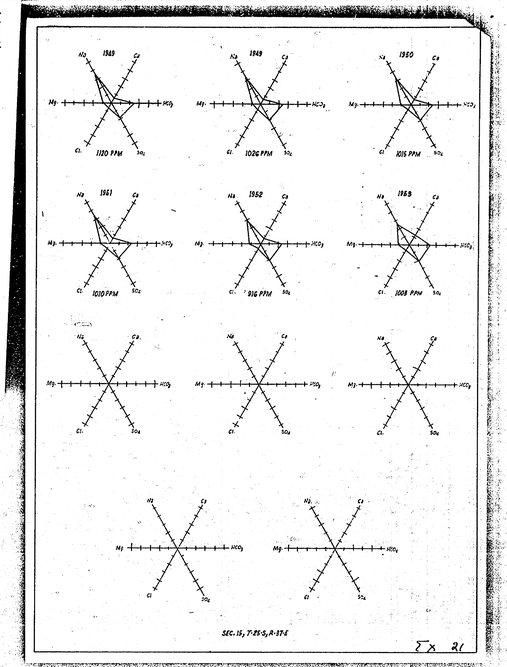
Component	1950 ppm	1950 % Reacting Value	1951 ppm	1951 % Reacting Value	1952 ppm	1952 % Reacting Value	1953 ppm	1953 % Reacting Value	1956 ppm	1956 % Reacting Value	1958 ppm	1958 % Reacting Value
Na	10	4.34	26	9.59	21	7.73	7	2.97	14	6.00	27	10.81
Ca	76	34.09	74	31.86	75	32.86	74	34.46	72	36.48	69	35.76
Mg	14	10.43	12	8.55	13	9.41	13	10.57	9	7.52	4	3.43
SO_4	83	22.11	67	72.00	66	12.41	69	14.23	64	13.52	55	11.85
Cl	25	6.45	28	6.82	24	6.24	43	11.96	21	6.00	13	3.85
HCO_3	207	31.33	220	31.18	220	31.72	147	23.81	169	30.48	201	34.30
Total Solids	395		427		420		353		363		369	

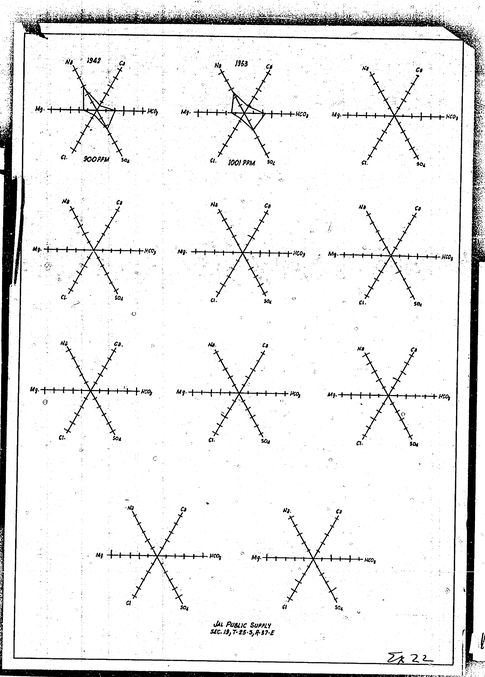
West Lovington Field Water

Component	ppm	% Reacting Value
Na	29,240	42.39
Ca	3,206	5.34
Mg	677	2.27
SO_4	2,516	1.75
Cl	51,062	48.05
HCO_3	328	.20
Total Solids	87,229	

Mixture 95% Fresh Water
5% West Lovington Field Water

ppm	% Reacting Value
1473	40.00
232	7.23
54	2.77
186	2.42
2577	45.37
216	2.21
4738	





NW/4 Section 15, T-25-S, R-37-E

Ex 214

Component	5-3-1949 ppm	5-3-1949 % Reacting Value	6-15-1949 ppm	6-15-1949 % Reacting Value	10-2-1950 ppm	10-2-1950 % Reacting Value	8-3-1951 ppm	8-3-1951 % Reacting Value	7-25-1952 ppm	7-25-1952 % Reacting Value	9-4-1953 ppm	9-4-1953 % Reacting Value
Na	240	34.12	208	32.23	206	32.37	211	33.05	173	29.79	167	26.10
Ca	38	6.21	44	7.83	42	7.57	36	6.52	43	8.50	72	12.94
Mg	56	9.67	74	9.24	34	10.06	35	10.43	36	11.71	37	10.96
SO_4	284	19.30	271	20.09	267	20.01	265	19.95	257	21.17	272	20.40
Cl	71	6.53	60	5.01	57	5.80	60	6.12	53	5.89	64	6.49
HCO_3	451	24.17	409	23.90	409	24.19	403	23.93	354	22.94	391	23.11
Total Solids	1120		1026		1015		1010		916		1003	

LOVINGTON Area

Fresh Water

Component	1951 ppm	1951 % Reacting Value	1952 ppm	1952 % Reacting Value	1953 ppm	1953 % Reacting Value	1956 ppm	1956 % Reacting Value	1958 ppm	1958 % Reacting Value
Na	21	7.38	27	9.22	24	8.05	49	15.42	16	4.55
Ca	75	31.01	78	31.18	77	31.22	75	27.34	80	37.09
Mg	17	11.61	14	9.30	16	10.73	12	7.24	11	8.36
SO_4	59	10.20	67	11.25	66	11.14	69	10.53	58	13.25
Cl	32	7.46	28	6.39	35	8.05	28	5.77	24	6.32
HCO_3	238	32.34	241	32.36	219	30.81	281	33.70	213	32.43
Total Solids	442		458		437		514		402	

Lovington Field Water

Component	ppm	% Reacting Value
Na	8581	40.39
Ca	1243	6.71
Mg	326	2.90
SO_4	2737	6.16
Cl	13563	41.38
HCO_3	1385	2.46
Total Solids	27835	

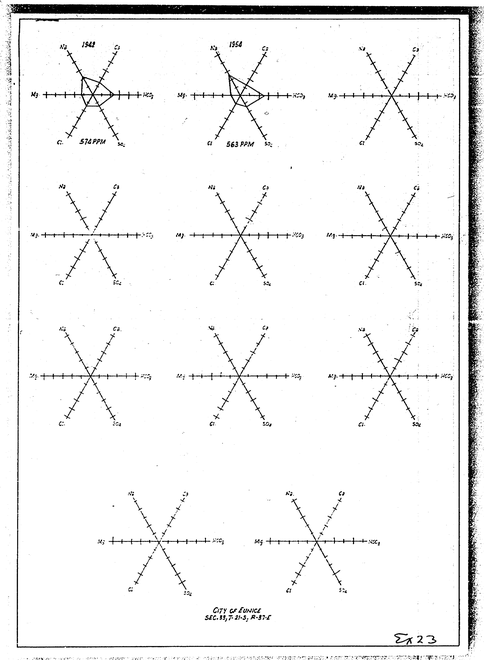
Mixture 95% Fresh Water
5% Lovington Field Water

ppm	% Reacting Value
449	33.97
133	11.50
32	4.39
188	6.32
708	34.84
295	8.37
1805	

Jal Public Supply
NW/4 Section 19, T-25-S, R-37-E

Ex 219

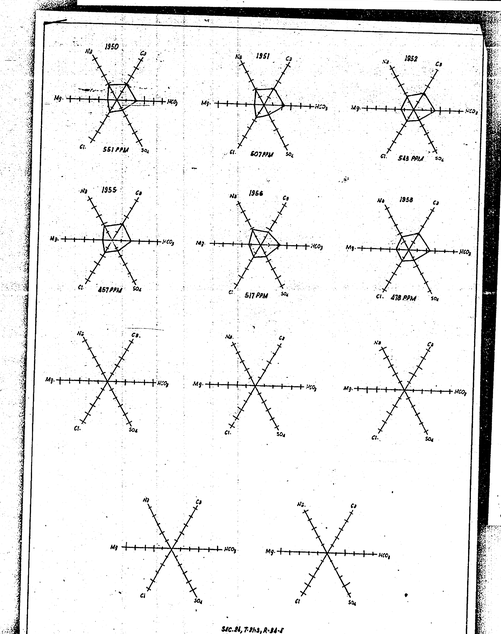
Component	7-18-1942 ppm	7-18-1942 % Reacting Value	7-31-1953 ppm	7-31-1953 % Reacting Value
Na	169	29.27	170	25.81
Ca	34	6.74	55	9.79
Mg	43	13.99	69	14.40
SO_4	286	23.57	280	20.80
Cl	54	6.02	71	7.31
HCO_3	314	20.41	376	22.05
Total Solids	900		1001	



CITY OF EUNICE
N/2 Section 33, T-21-S, R-37-E

Ex 223

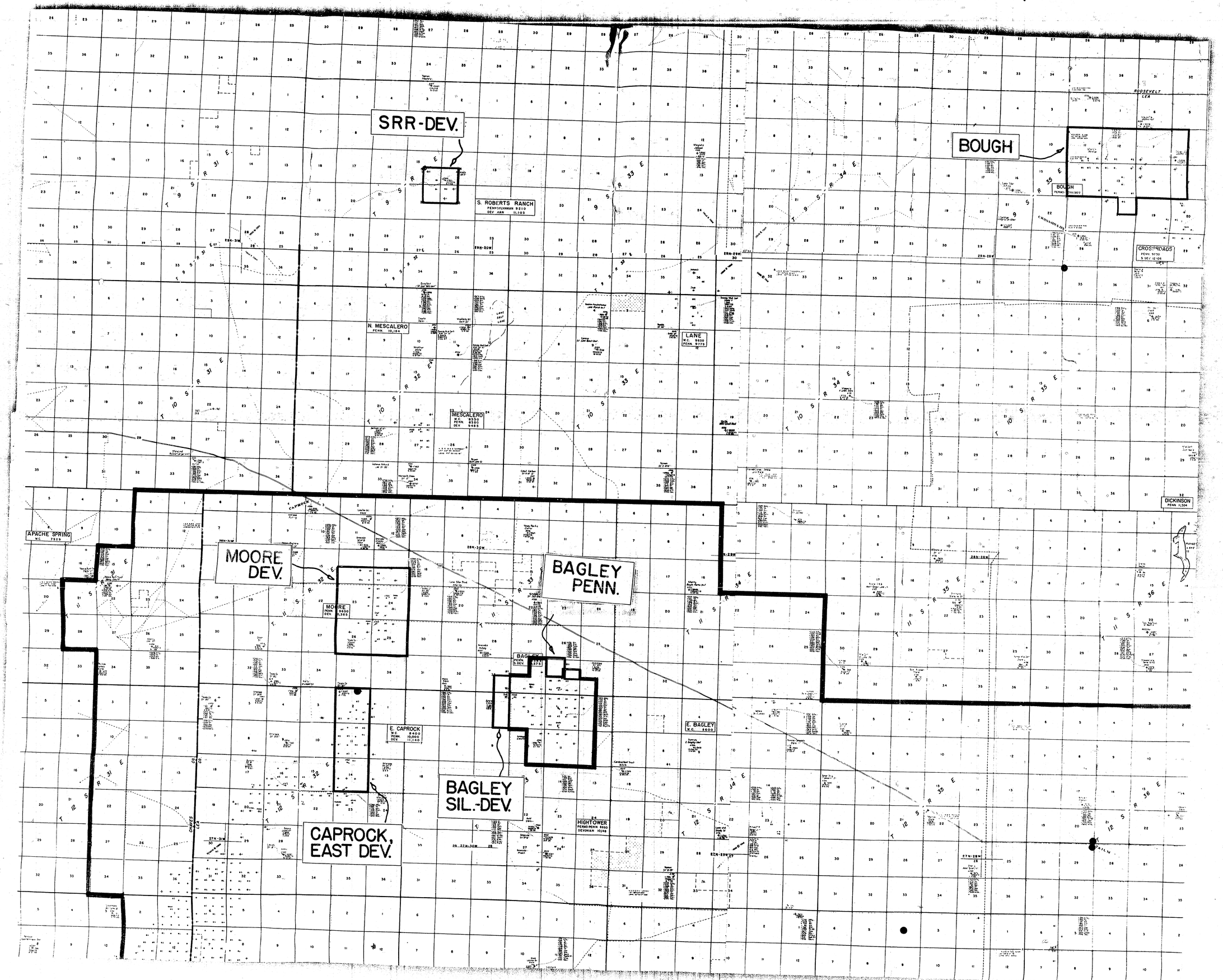
Component	7-18-1942 ppm	7-18-1942 % Reacting Value	7-31-1954 ppm	7-31-1954 % Reacting Value
Na	96	22.96	100	26.45
Ca	45	14.12	40	12.94
Mg	25	12.92	20	10.61
SO_4	108	14.12	97	13.07
Cl	68	12.06	79	10.74
HCO_3	232	23.84	247	26.19
Total Solids	574		583	



SE/4 NW/4 NE/4 Section 24, T-21-S, R-34-E

Ex 224

Component	10-4-1950 ppm	10-4-1950 % Reacting Value	8-3-1951 ppm	8-3-1951 % Reacting Value	7-25-1952 ppm	7-25-1952 % Reacting Value	8-16-1955 ppm	8-16-1955 % Reacting Value	6-12-1956 ppm	6-12-1956 % Reacting Value	5-12-1958 ppm	5-12-1958 % Reacting Value
Na	69	19.17	66	19.30	57	15.52	57	18.54	66	19.25	57	16.25
Ca	64	19.99	59	20.05	67	21.23	56	20.95	56	18.65	57	20.97
Mg	21	10.84	19	10.64	25	13.15	37	10.51	22	12.10	21	12.78
SO_4	96	12.28	83	11.80	92	12.20	84	13.14	100	13.90	82	12.63
Cl	89	15.73	85	16.37	82	14.75	78	16.52	78	14.71	66	13.74
HCO_3	234	21.99	195	21.83	220	23.05	165	20.34	195	21.39	195	23.63
Total Solids	551		527		543		457		517		478	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259

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EC

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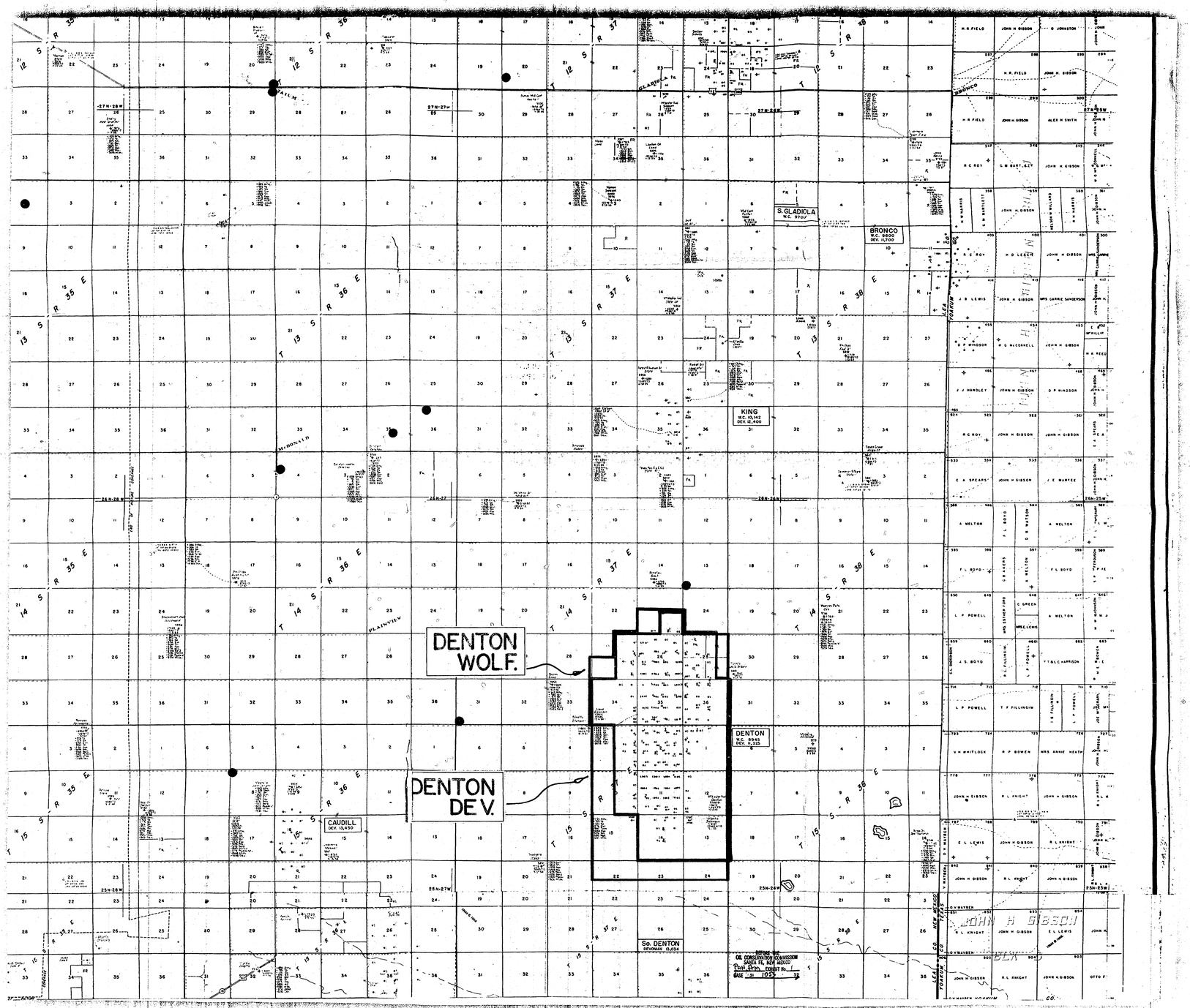
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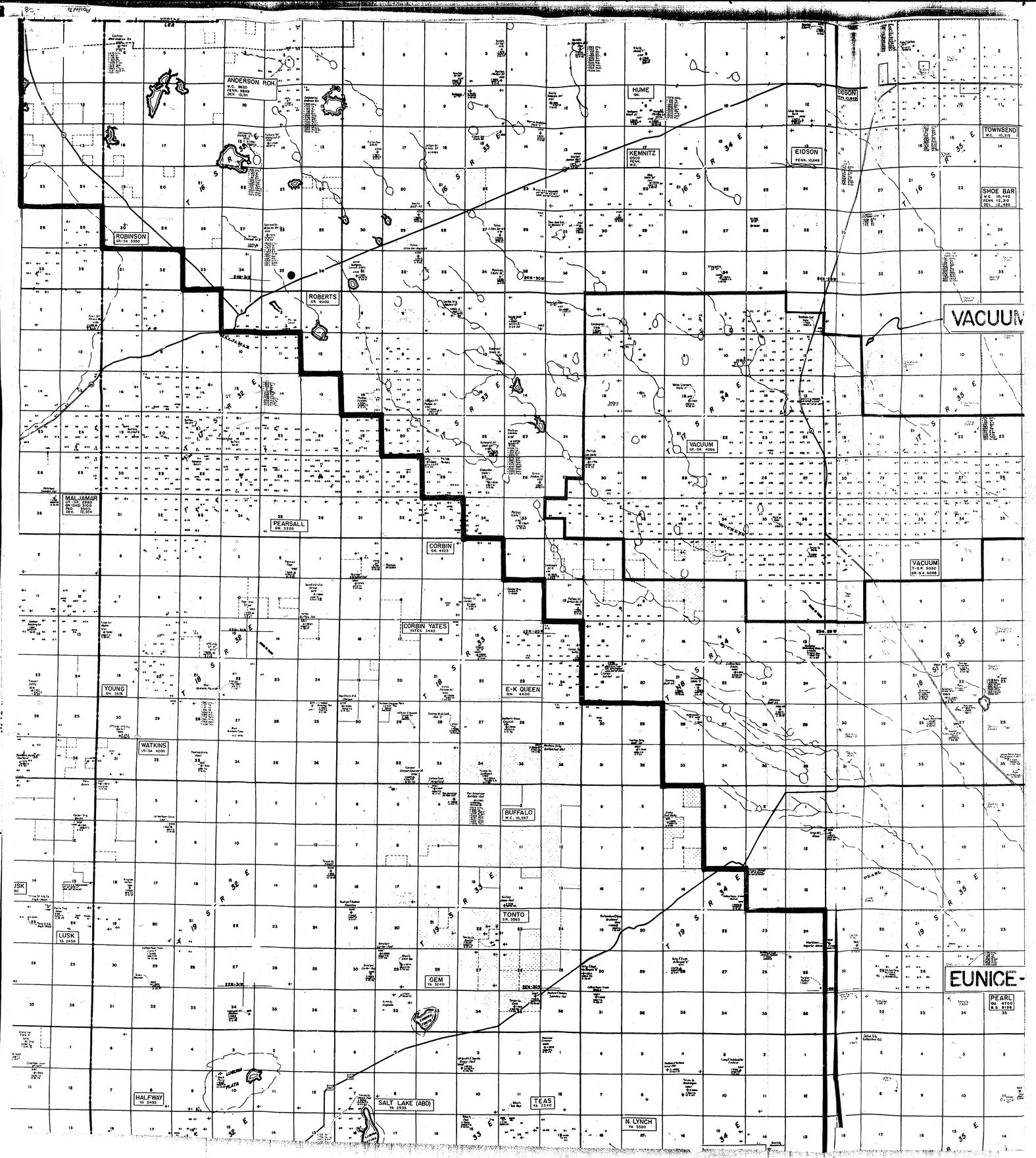
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YOUNG
E-K QUEEN
WATKINS
BUFFALO
TONTO
LUSK
GEM
EUNICE-
PEARL
HALFWAY
SALT LAKE (ABD)
TEAS
N. LYNCH

263

LOVINGTON
S.A.
ABO
WOLF.
PAD.

VACUUM

MONUMENT
BLINE.

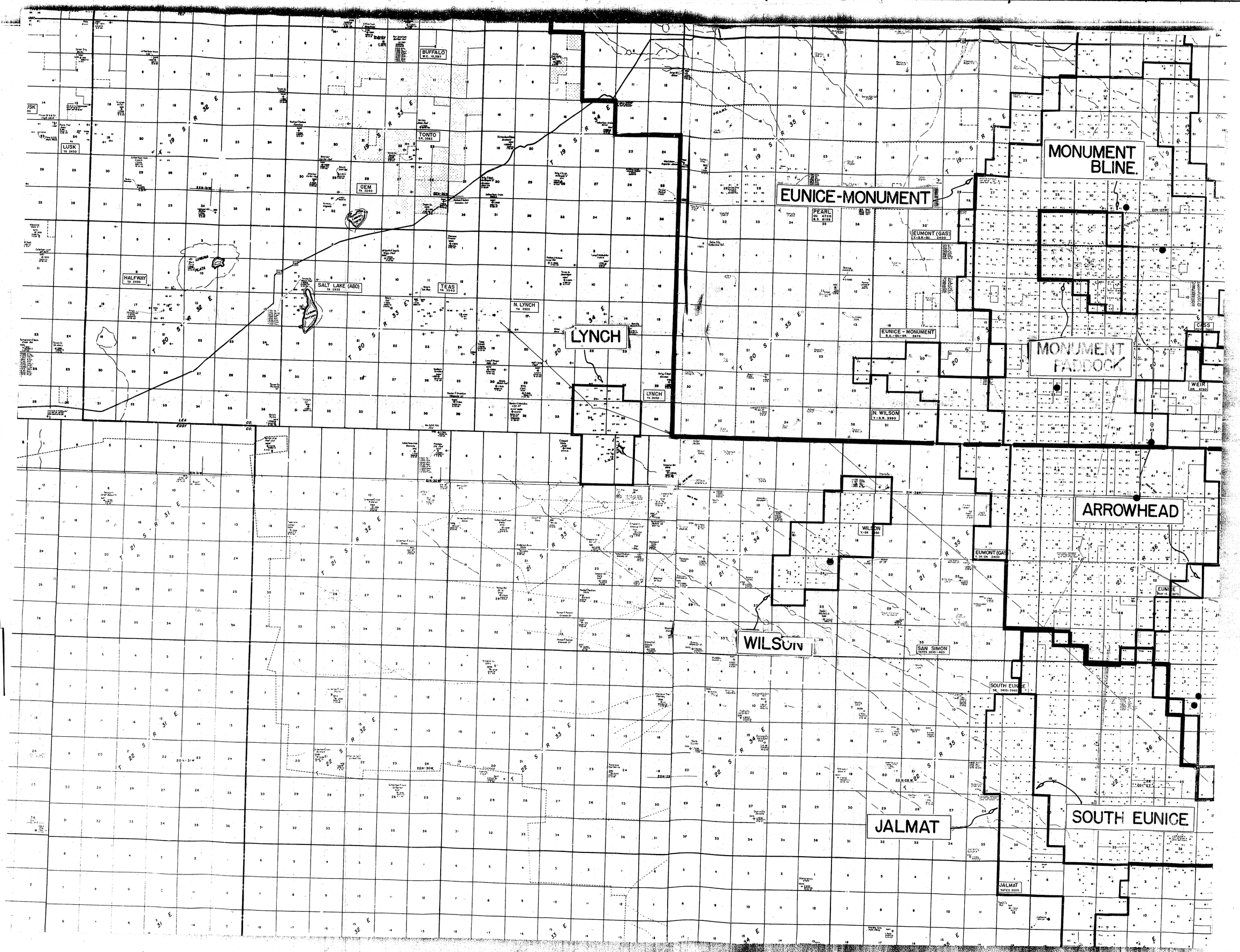
EUNICE-MONUMENT

HOBBS

CASS

EUMONT

264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ARROWHEAD
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LUSK
GEM
HALFWAY
SALT LAKE (ABD)
TEAS
N. LYNCH
PEARL
EUMONT (GAS)
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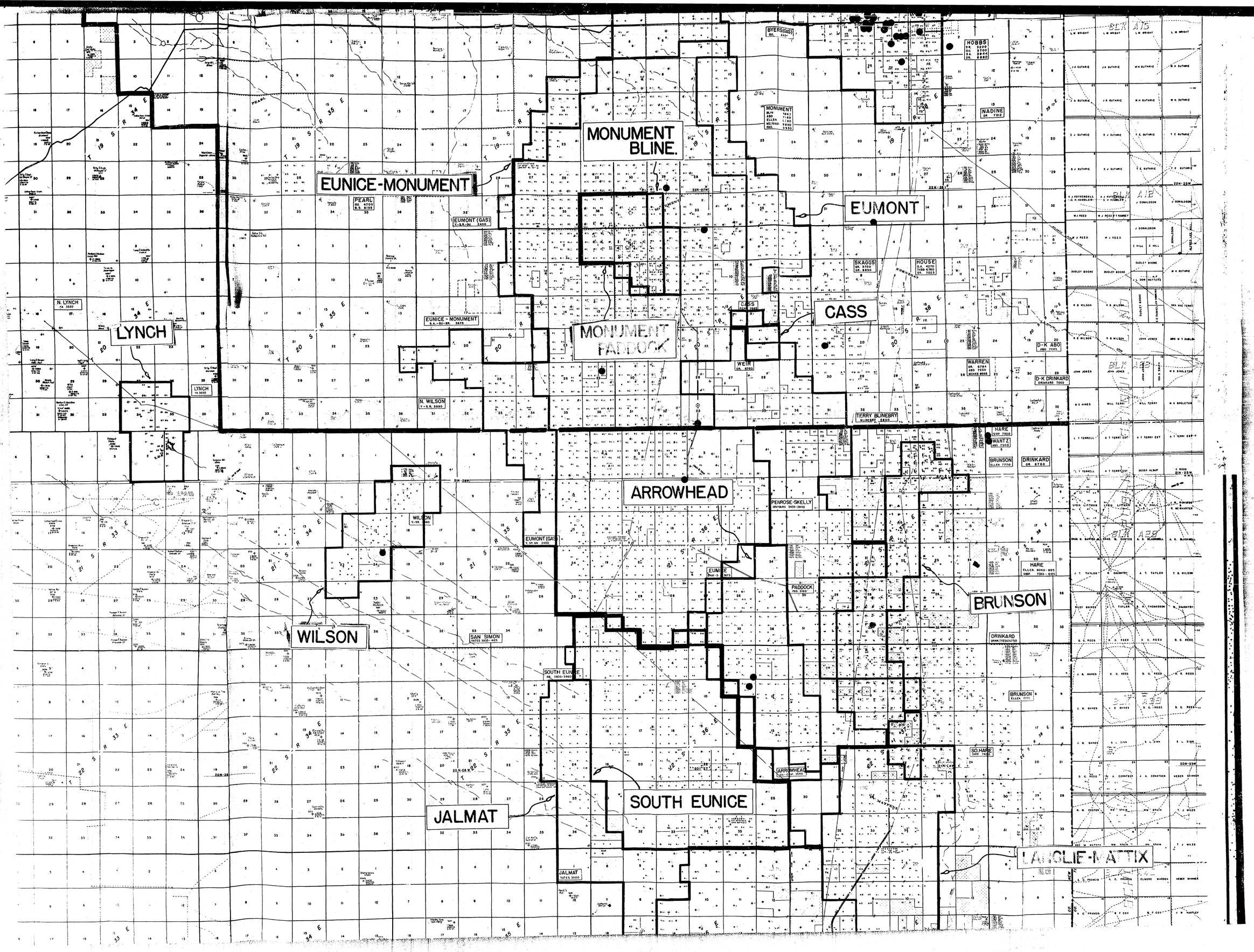
SAN SIMON
SOUTH EUNICE
JALMAT
LEA CO.
EDDY CO.

265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LANGLIE-MATTIX
HOBBS
NADINE
BYERS(GAS)
MONUMENT
PEARL
EUMONT (GAS)
N. LYNCH
LYNCH
EUNICE - MONUMENT
N. WILSON
SKAGGS
HOUSE
WEIR
WARREN
D-K ABO
D-K DRINKARD
TERRY BLINEBRY
HARE
WANTZ
BRUNSON
DRINKARD
PENROSE-SKELLY
WILSON
EUMONT (GAS)
EUNICE
PADDOCK
SAN SIMON
SOUTH EUNICE
ARROWHEAD
SO.HARE
JALMAT

266

267

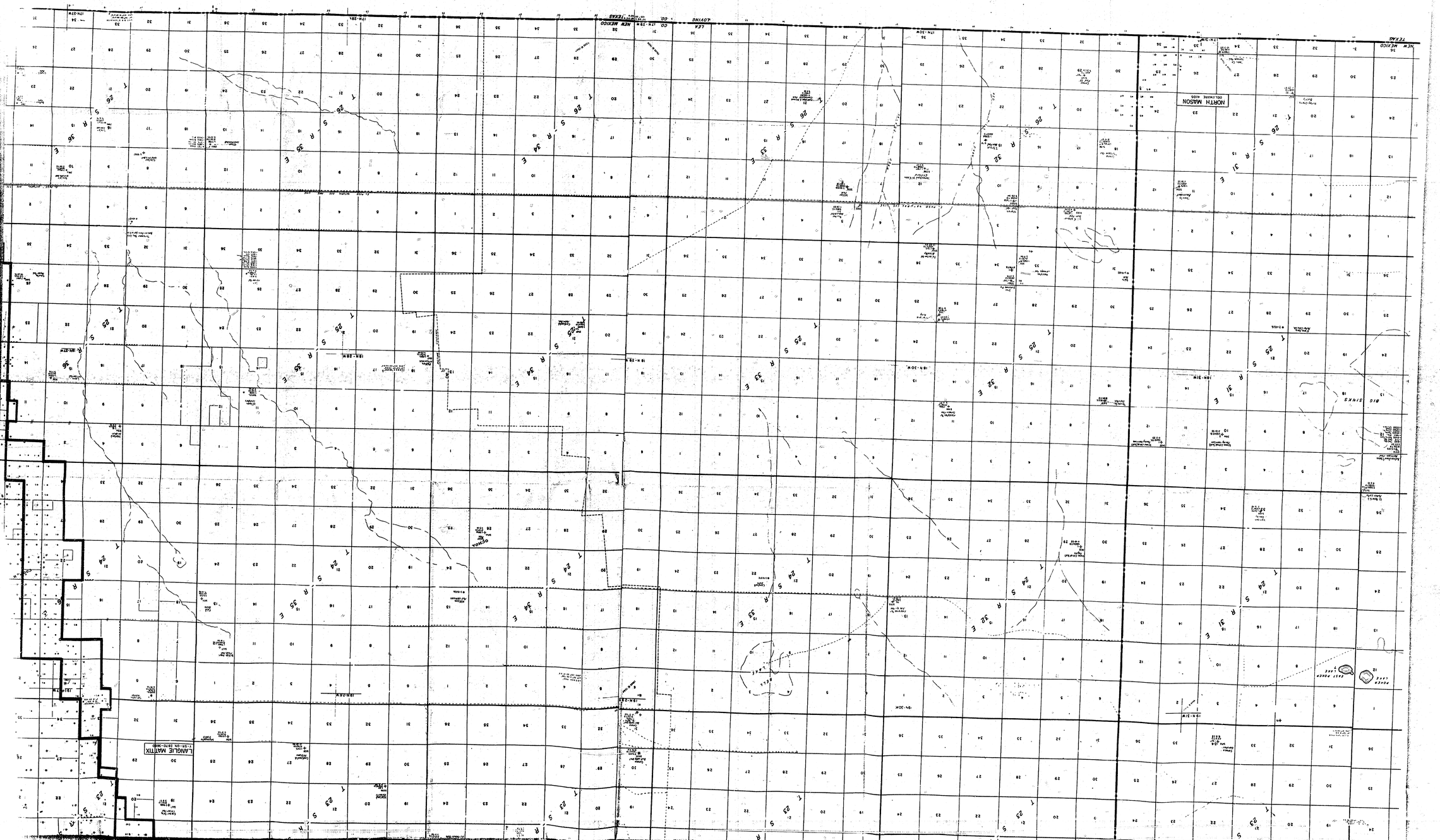
S-22 SW

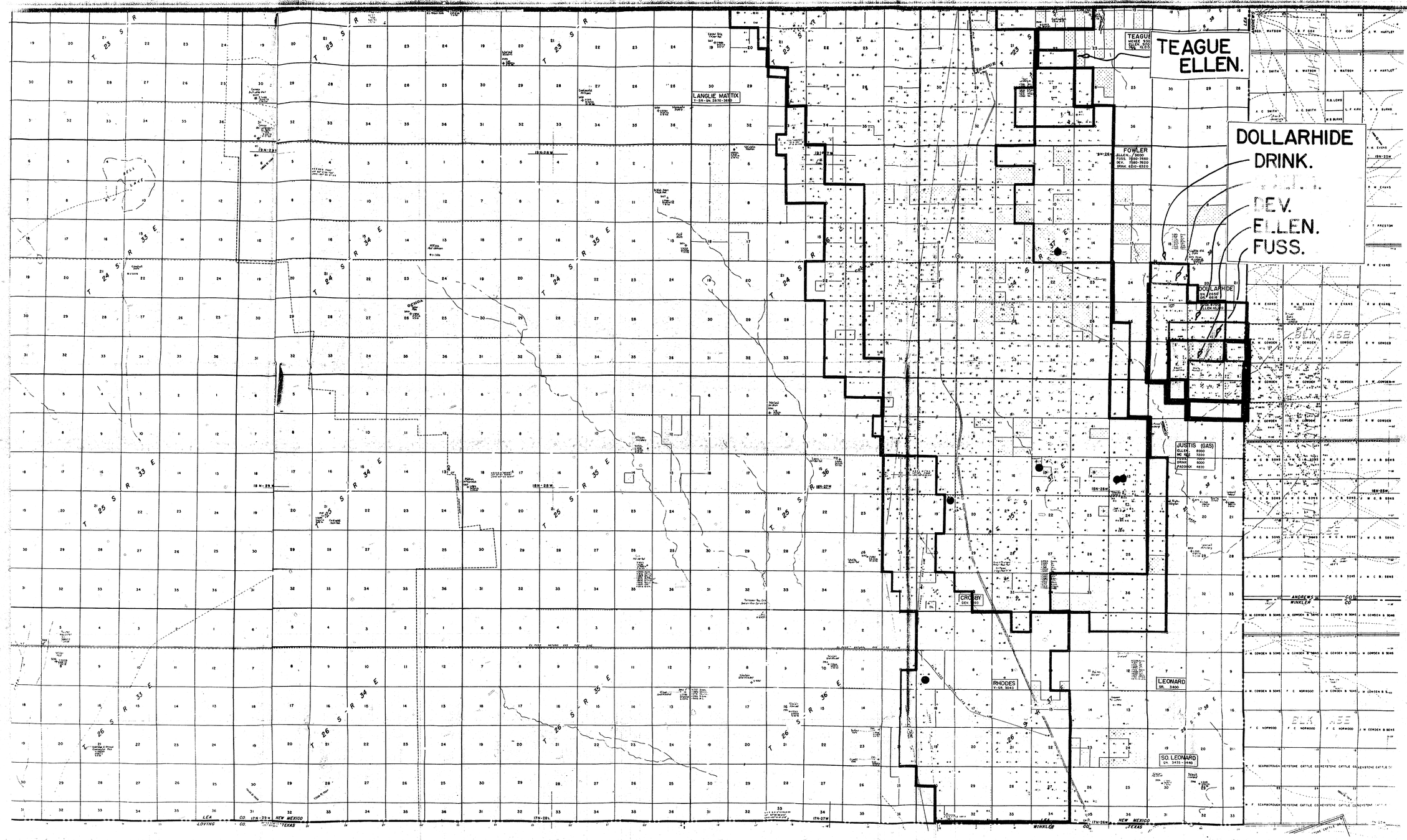
ROSWELL DISTRICT

1" = 4000'

NEW MEXICO

32°00' to 32°30'N - 103°30' to 104°00'W





2°00' to 32°30'N - 103°30' to 104°00'W

NEW MEXICO

S-22 SW

ROSWELL DISTRICT

1" = 4000'

32°00' to 32°30'N - 103°00' to 103°30'W

NEW MEXICO

S-22 SE

ROSWELL DISTRICT

1" = 4,000'

268

269

ROOSEVELT COUNTY

COCHRAN CO.

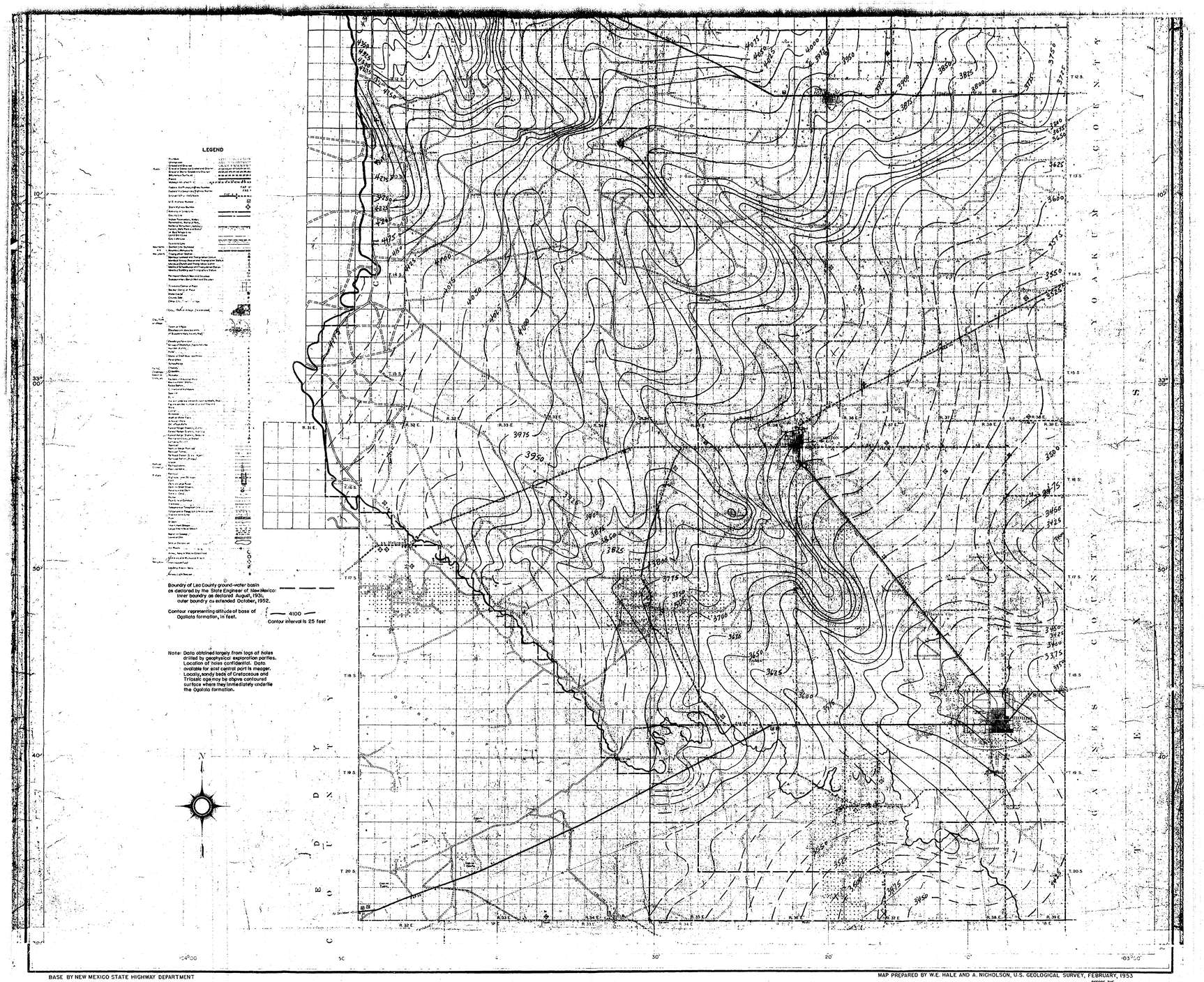
YOAKUM CO.

LEGEND

Boundry of Lea County ground-water basin as declared by the State Engineer of New Mexico: inner boundry as declared August, 1936, outer boundry as extended October, 1952.

Contour representing altitude of base of Ogallala formation, in feet. — 4100 — Contour interval is 25 feet

Note: Data obtained largely from logs of holes drilled by geophysical exploration parties. Location of holes confidential. Data available for east central part is meager. Locally, sandy beds of Cretaceous and Triassic age may be above contoured surface where they immediately underlie the Ogallala formation.



BASE BY NEW MEXICO STATE HIGHWAY DEPARTMENT

MAP PREPARED BY W.E. HALE AND A. NICHOLSON, U.S. GEOLOGICAL SURVEY, FEBRUARY, 1953

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 2
CASE 1659

APPROXIMATE ALTITUDE AND CONFIGURATION OF THE BASE OF THE OGALLALA FORMATION IN PART OF LEA COUNTY, NEW MEXICO

PREPARED BY THE U.S. GEOLOGICAL SURVEY IN COOPERATION WITH THE STATE ENGINEER OF NEW MEXICO

PRELIMINARY MAP, SUBJECT TO REVISION

270

271

ROOSEVELT COUNTY

COCHRAN CO.

YOAKUM COUNTY

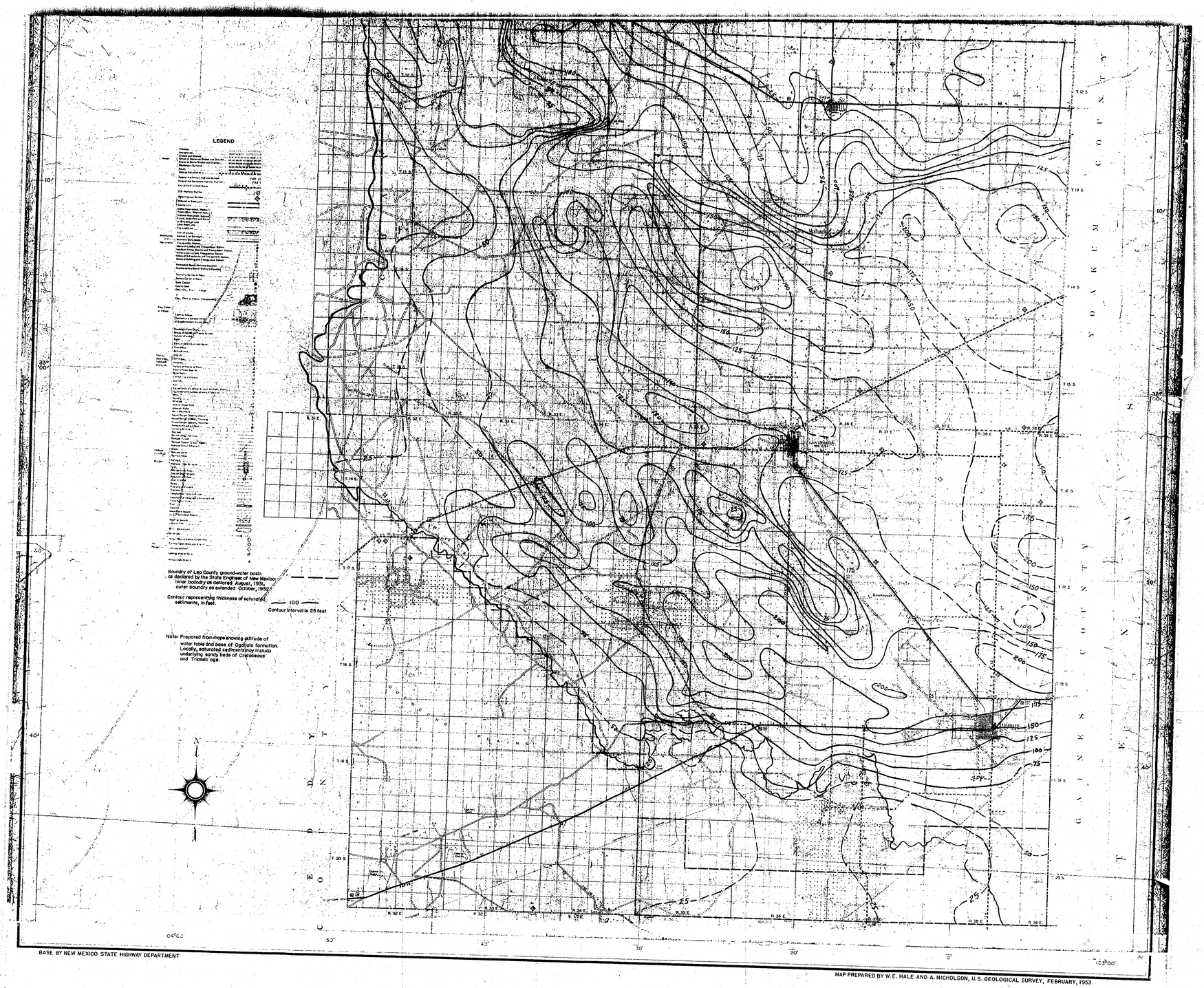
TEXAS

LEGEND

Boundary of Lea County ground-water basin as declared by the State Engineer of New Mexico: inner boundary as declared August, 1931; outer boundary as extended October, 1955.

Contour representing thickness of saturated sediments, in feet. — 100 — Contour interval is 25 feet

Note: Prepared from maps showing altitude of water table and base of Ogallala formation. Locally, saturated sediments may include underlying sandy beds of Cretaceous and Triassic age.



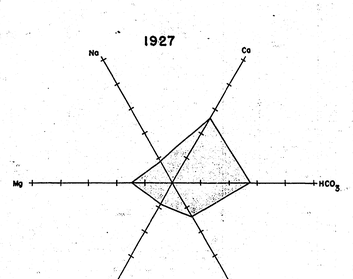
272

APPROXIMATE THICKNESS OF SATURATED SEDIMENTS IN THE OGALLALA FORMATION IN PART OF LEA COUNTY, NEW MEXICO

PREPARED BY THE U.S. GEOLOGICAL SURVEY IN COOPERATION WITH THE STATE ENGINEER OF NEW MEXICO

PRELIMINARY MAP, SUBJECT TO REVISION

BEFORE THE
OIL CONSERVATION COMM.
SANTA FE, NEW MEXICO
Rev. 7-44 EXHIBIT No. 2-42
CASE 1053



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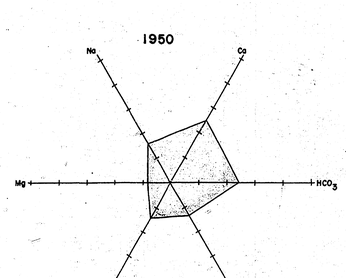

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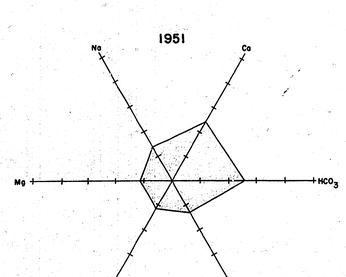

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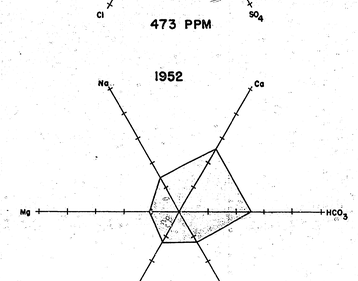

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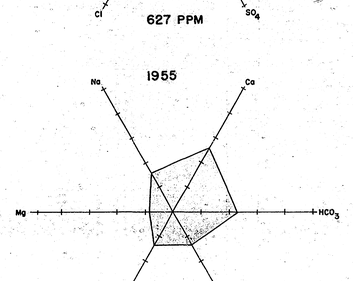

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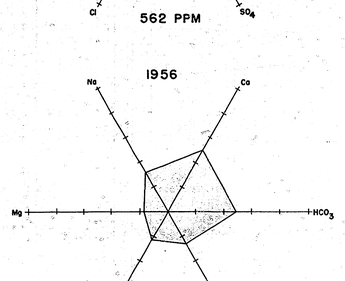

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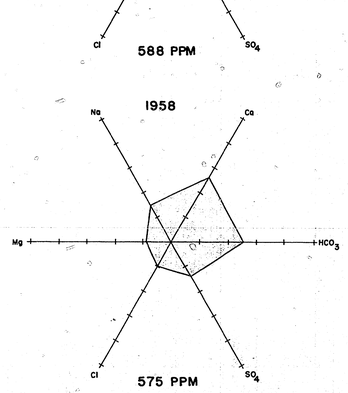

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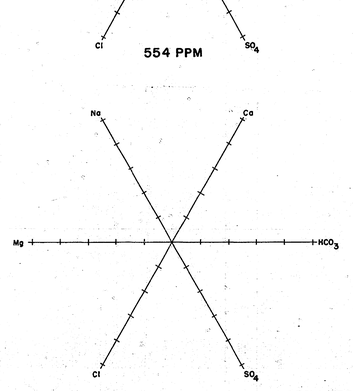

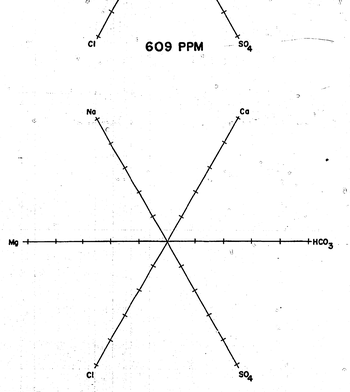

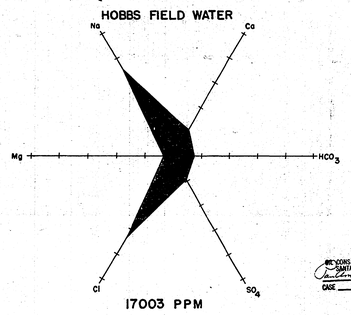

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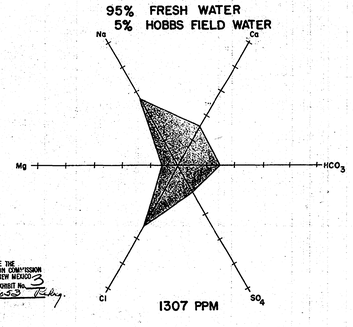

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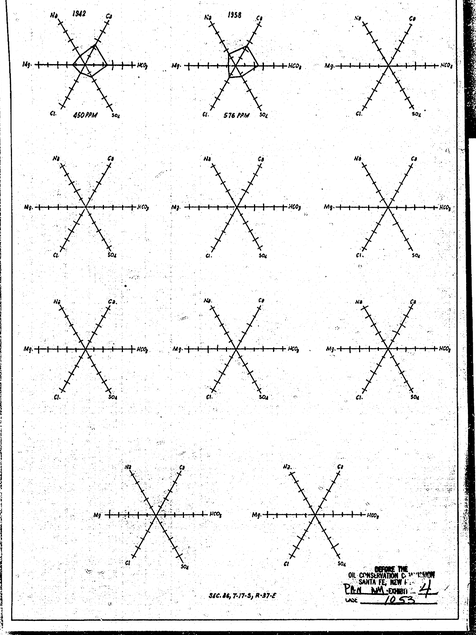
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Oklahoma EXHIBIT No. 3
CASE 1283

HOBBS AREA

273

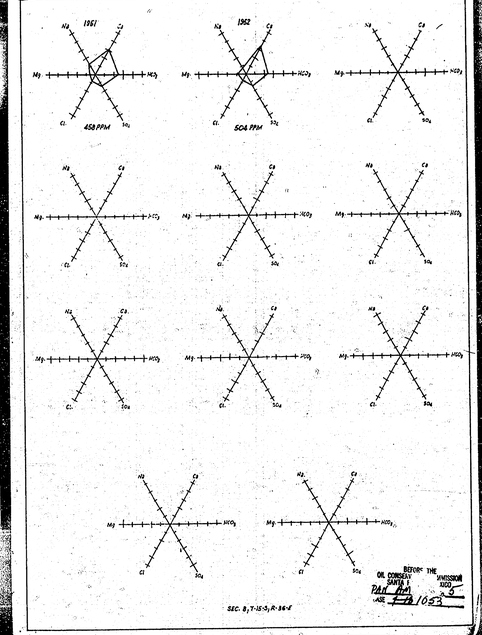


BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Exhibit No. 4 CASE 1053

NE/4 NW/4 Section 36, T-17-S, R-37-E

Component	7-15-1942 ppm	7-15-1942 % Reacting Value	7-15-1958 ppm	7-15-1958 % Reacting Value
Na	41	11.43	59	15.75
Ca	66	26.11	84	25.67
Mg	32	12.45	17	8.58
SO_4	95	15.71	94	12.00
Cl	45	10.08	78	13.48
HCO_3	186	24.21	244	24.52
Total Solids	450		576	

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Case No. 1053 Exhibit No. 9

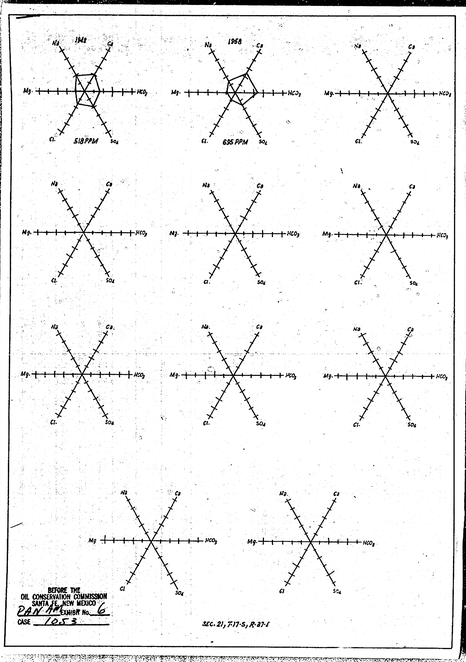


BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Case No. 1053 Exhibit No. 5

NW/4 NW/4 Section 8, T-18-S, R-36-E

Component	9-20-1951 ppm	9-20-1951 % Reacting Value	9-20-1954 ppm	9-20-1954 % Reacting Value
Na	40	12.50	27	7.34
Ca	79	31.57	86	33.15
Mg	9	5.93	15	9.51
SO_4	89	14.62	98	15.76
Cl	37	8.53	38	8.27
HCO_3	204	26.85	205	25.97
Total Solids	458		469	

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Case No. 1053 Exhibit No. 3-A

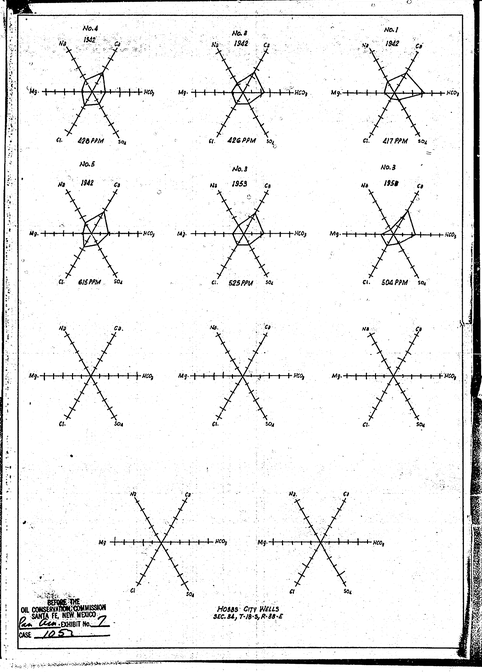


BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Exhibit No. 6 CASE 1053

SW/4 SW/4 Section 21, T-17-S, R-37-E

Component	7-15-1942 ppm	7-15-1942 % Reacting Value	7-17-1958 ppm	7-17-1958 % Reacting Value
Na	70	19.10	67	15.05
Ca	81	28.38	98	25.21
Mg	21	10.52	23	9.74
SO_4	113	19.91	144	15.16
Cl	71	13.40	64	9.28
HCO_3	152	16.69	299	25.26
Total Solids	518		695	

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Case No. 1053 Exhibit No. 8

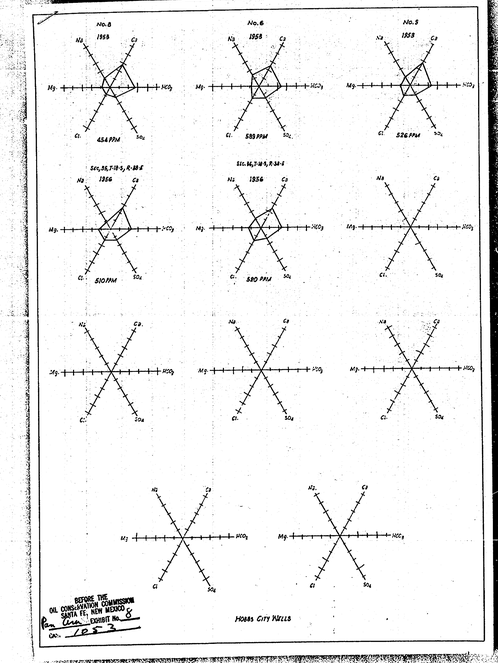


BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Case No. 1053 Exhibit No. 7

HOBBS CITY WELLS
All in NE/4 NW/4 Section 34, T-18-S, R-38-E

Component	No. 4 7-13-1942 ppm	No. 4 7-13-1942 % Reacting Value	No. 3 7-13-1942 ppm	No. 3 7-13-1942 % Reacting Value	No. 1 7-14-1942 ppm	No. 1 7-14-1942 % Reacting Value	No. 2 7-15-1942 ppm	No. 2 7-15-1942 % Reacting Value	No. 3 5-29-1953 ppm	No. 3 5-29-1953 % Reacting Value	No. 3 9-4-1958 ppm	No. 3 9-4-1958 % Reacting Value
Na	49	14.69	39	12.07	43	13.60	62	12.26	40	10.74	23	6.84
Ca	60	23.82	44	26.36	58	26.04	101	28.47	86	28.79	89	30.66
Mg	18	11.69	17	11.57	14	10.36	20	9.27	19	10.47	22	12.50
SO_4	100	16.43	77	13.22	51	9.55	122	14.35	96	13.42	83	11.95
Cl	81	10.01	53	13.72	32	8.11	104	16.55	67	12.69	68	13.26
HCO_3	120	15.56	170	23.05	219	32.34	206	19.10	217	23.89	219	24.79
Total Solids	428		426		417		615		525		504	

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Case No. 1053 Exhibit No. 2



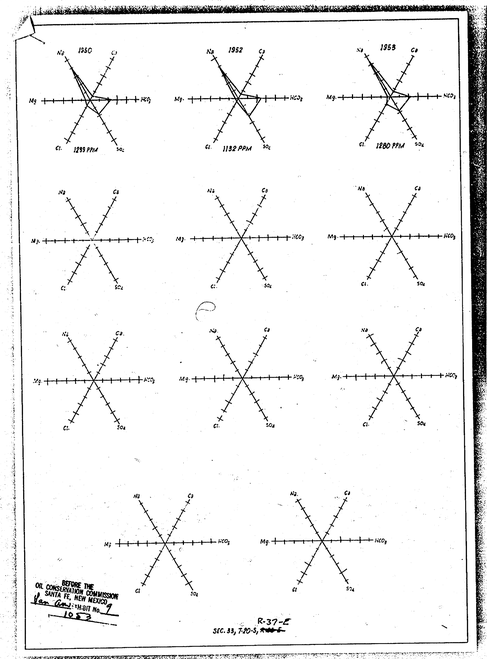
BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Case No. 1053 Exhibit No. 8

HOBBS CITY WELLS

Component	No. 8 5-29-1953 ppm	No. 8 5-29-1953 % Reacting Value	No. 6 5-29-1953 ppm	No. 6 5-29-1953 % Reacting Value	No. 5 9-29-1953 ppm	No. 5 9-29-1953 % Reacting Value	Section 35, T-18-S, R-38-E 5-12-1956 ppm	Section 35, T-18-S, R-38-E 5-12-1956 % Reacting Value	Section 36, T-18-S, R-38-E 5-12-1956 ppm	Section 36, T-18-S, R-38-E 5-12-1956 % Reacting Value
Na	40	11.90	57	14.02	40	10.56	35	9.21	45	11.80
Ca	72	28.86	88	26.19	87	29.01	82	27.90	77	25.60
Mg	14	9.24	20	9.79	19	10.43	23	12.89	23	12.60
SO_4	73	12.22	108	13.42	91	12.63	106	14.19	93	12.87
Cl	44	9.97	80	13.48	72	13.97	70	13.44	80	15.06
HCO_3	231	27.81	236	23.10	217	23.80	200	22.57	202	22.07
Total Solids	454		509		526		510		520	

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Case No. 1053 Exhibit No. 9

274



BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Exhibit No. 1 Case 1053

R-37-E
SEC. 33, T-20-S, R-36-E

SW/4 Section 33, T-20-S, R-37-E

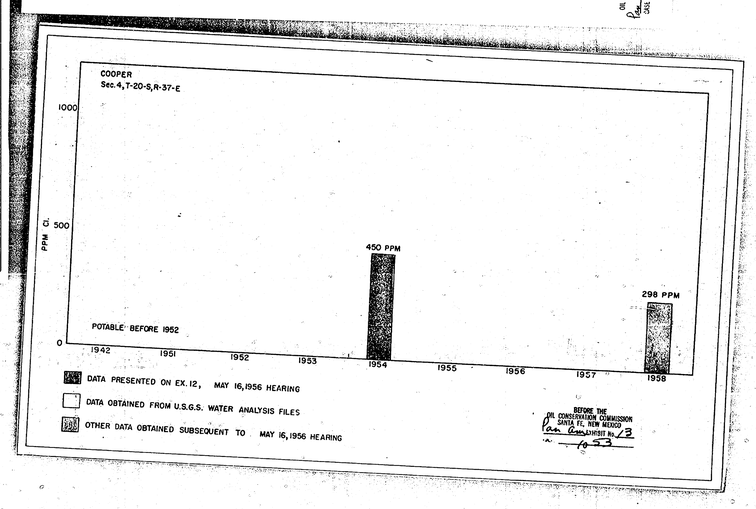
Component	ppm	10-4-1950 % Reacting Value	ppm	7-25-1952 % Reacting Value	ppm	9-4-1953 % Reacting Value
Na	332	41.65	279	40.70	335	41.92
Ca	33	4.92	29	4.87	48	6.90
Mg	14	3.43	16	1.32	5	1.18
SO_4	320	19.87	317	22.13	322	19.26
Cl	92	7.73	71	1.90	110	9.17
HCO_3	458	22.40	470	25.89	457	21.57
Total Solids	1239		1132		1280	

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Exhibit No. 9 Case 1053

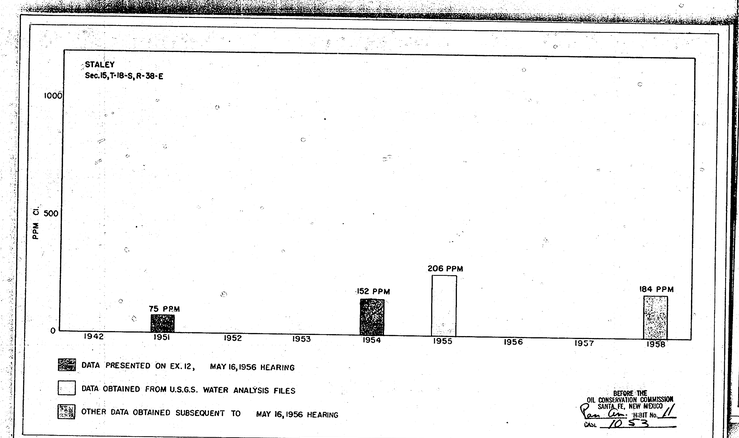
NW/4 NE/4 SW/4 Section 25, T-20-S, R-36-E

Component	ppm	10-2-1950 % Reacting Value	ppm	8-3-1951 % Reacting Value	ppm	7-25-1952 % Reacting Value	ppm	9-4-1953 % Reacting Value	ppm	8-16-1955 % Reacting Value	ppm	6-12-1956 % Reacting Value
Na	510	44.98	526	44.99	497	44.03	514	44.30	488	46.16	495	45.96
Ca	33	3.35	28	2.75	29	2.95	41	4.07	19	2.07	23	2.46
Mg	10	1.67	14	2.26	18	3.02	10	1.63	10	1.78	9	1.58
SO_4	404	17.08	446	18.32	411	17.62	421	17.39	390	17.65	404	17.94
Cl	294	16.86	298	16.52	294	16.88	309	17.30	305	18.71	284	17.10
HCO_3	482	16.06	470	15.16	470	15.70	470	15.31	382	13.64	427	14.96
Total Solids	1733		1784		1719		1765		1594		1642	

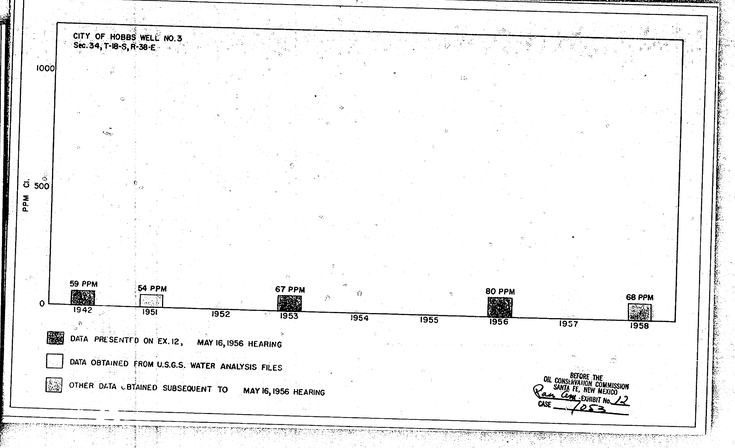
BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Exhibit No. 9-A Case 1053



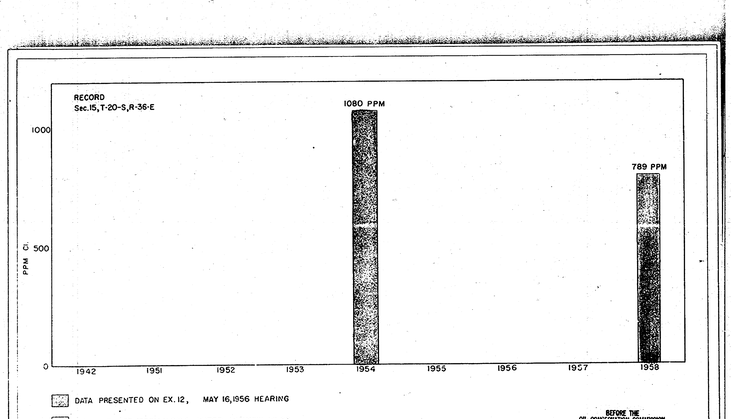
BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Exhibit No. 13 Case 1053



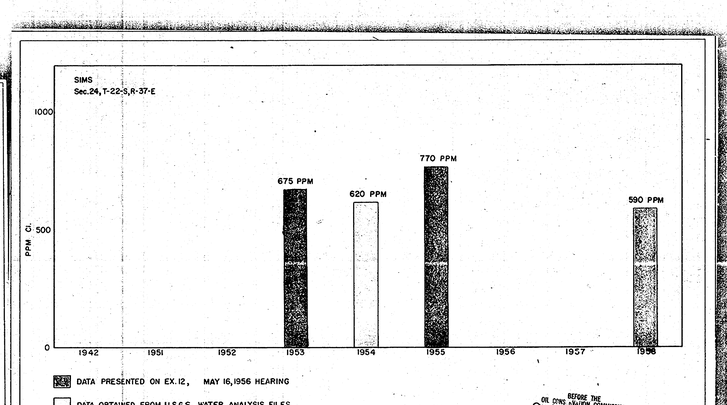
BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Exhibit No. 11 Case 1053



BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Exhibit No. 12 Case 1053



BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Exhibit No. 14 Case 1053



BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Exhibit No. 15 Case 1053

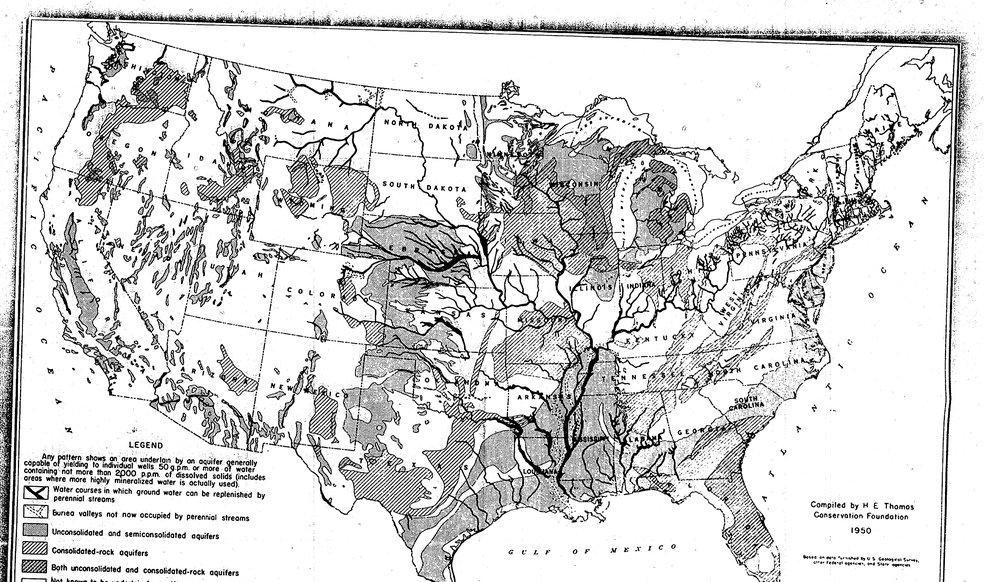
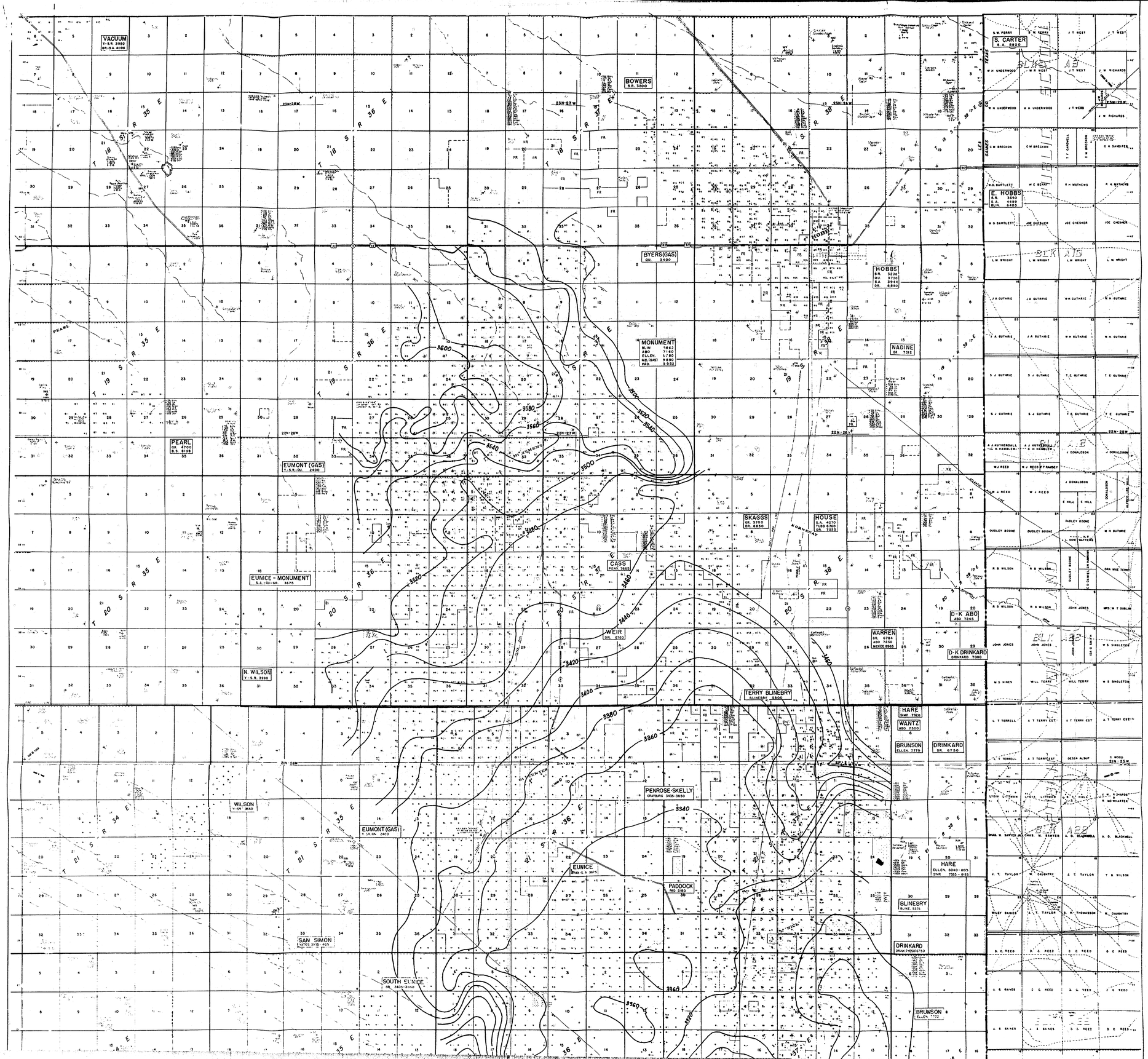


Figure 17. GROUND-WATER AREAS IN THE U. S.

TAKEN FROM:
THE WATER SITUATION IN THE UNITED STATES WITH SPECIAL REFERENCE TO GROUND WATER BY C.L. McGUINNESS
GEOLOGICAL SURVEY CIRCULAR 114
JUNE 1951
ADAPTED FROM A REPORT PREPARED FOR THE PRESIDENT'S WATER RESOURCES POLICY COMMISSION

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Exhibit No. 16 Case 1053


VACUUM
T-S-R 3000
GR-S-A 4095
BOWERS
S.R. 3200
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MC.(GAS) 9690
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GR 7312
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S.S. 6198
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T-S-R-GU 2400
EUNICE - MONUMENT
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PENN. 7665
WEIR
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N. WILSON
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TUBB 6760
GR. 7025
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ABO 7245
WARREN
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ABO 7250
MCKEE 8065
D-K DRINKARD
DRINKARD 7000
TERRY BLINEBRY
BLINEBRY 5800
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GRAYBURG 3435-3650
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BLINE. 5375
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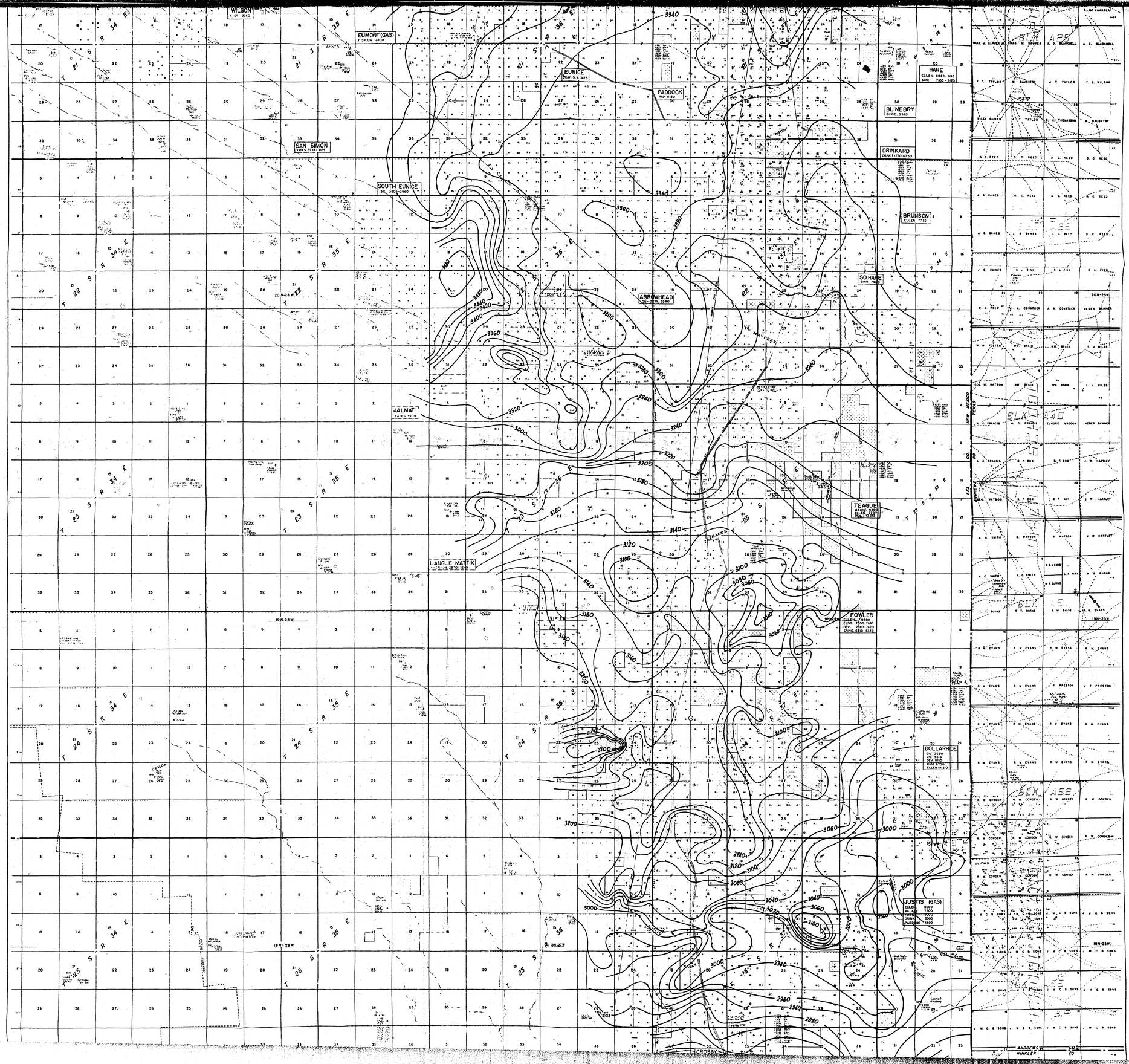
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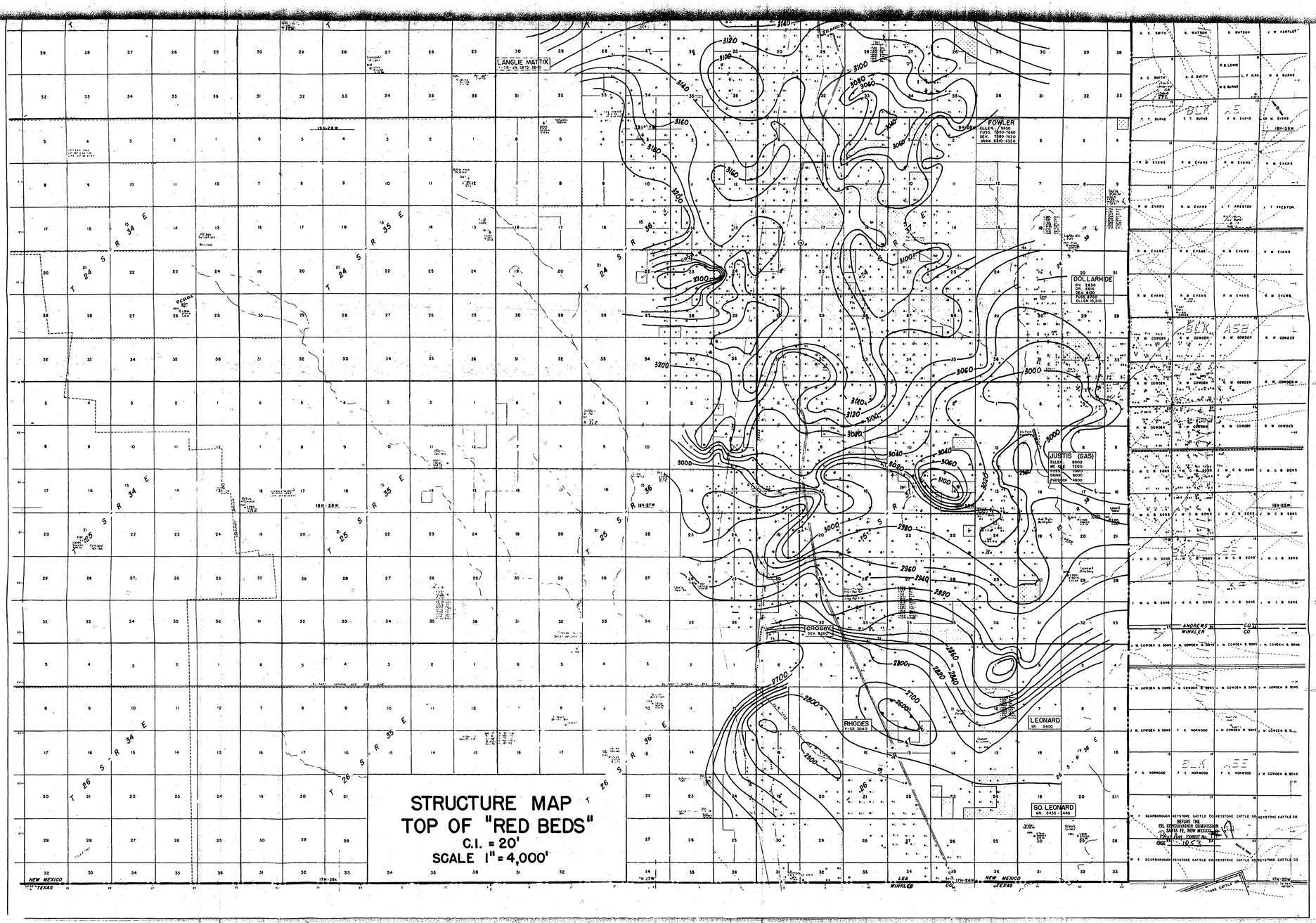

STRUCTURE MAP
TOP OF "RED BEDS"
C.I. = 20'
SCALE 1" = 4,000'

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LOVINGTON AREA

Fresh water

Component	ppm	1951 % Reacting Value	ppm	1950 % Reacting Value	ppm	1953 % Reacting Value	ppm	1956 % Reacting Value	ppm	1958 % Reacting Value
Na	21	7.28	27	9.42	21	8.05	49	15.42	16	4.55
Ca	17	11.61	16	9.38	17	11.22	75	27.24	80	37.69
Mg	12	10.20	8	7.05	11	10.00	13	13.78	11	11.54
Cl	32	14.25	67	11.25	64	11.16	69	10.53	58	11.25
HCO_3	32	54.65	42	32.90	32	49.57	28	33.77	24	6.26
	228	34.34	344	32.30	212	30.01	288	35.00	212	34.43
Total Solids	442		458		479		514		402	

Lovington Field Water

Component	ppm	% Reacting Value
Na	6585	40.39
Ca	1343	6.71
Mg	736	6.30
Cl	13583	47.38
HCO_3	2525	2.66
Total Solids	25365	

Mixture 95% Fresh Water 5% Lovington Field Water

	ppm	% Reacting Value
	149	33.97
	133	11.68
	138	4.58
	708	34.84
	222	8.37
	1805	

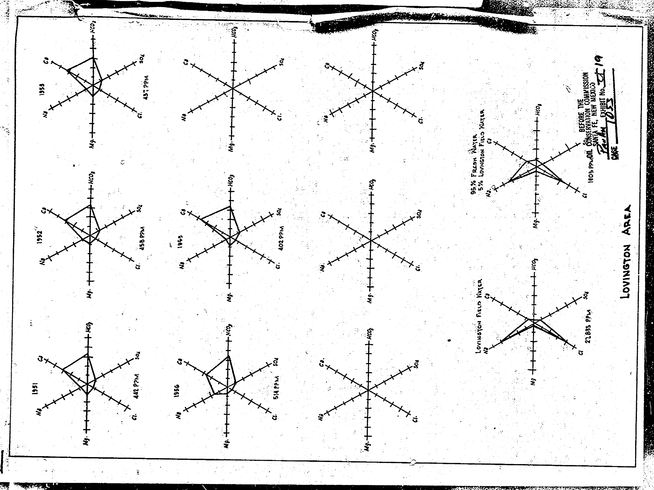
Lovington Field Water

Mixture

Mixture 95% Fresh Water 5% Lovington Field Water

	ppm	% Reacting Value
	1425	40.00
	230	9.77
	54	2.72
	1276	43.52
	216	2.21
	4739	

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Exhibit No. 19-A Case 1053



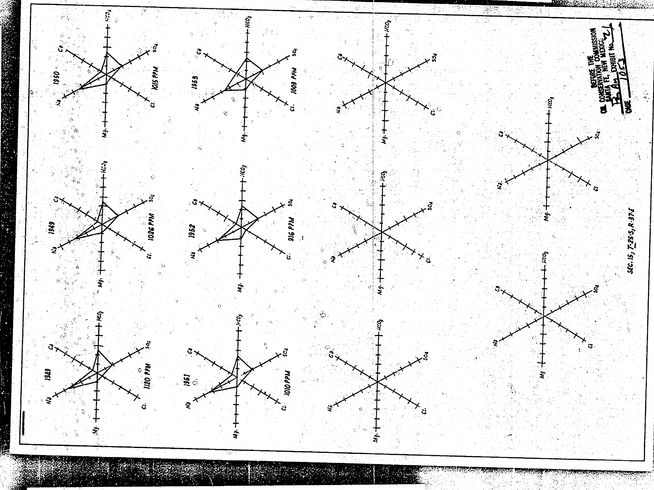
Fresh water

Component	ppm	5-3-1949 % Reacting Value	ppm	6-15-1949 % Reacting Value	ppm	10-20-1949 % Reacting Value	ppm	6-3-1951 % Reacting Value	ppm	7-25-1952 % Reacting Value	ppm	9-4-1953 % Reacting Value
Na	240	34.10	208	32.23	206	32.37	211	35.05	173	29.79	167	28.30
Ca	38	6.21	36	7.05	33	7.57	34	6.52	43	8.50	77	15.25
Mg	34	9.60	31	8.84	34	10.08	34	10.43	36	11.17	37	10.46
Cl	351	43.73	273	43.69	197	30.01	265	37.95	247	51.11	227	36.40
HCO_3	61	16.37	60	6.01	97	24.19	60	9.33	32	2.89	64	6.49
Total Solids	1120		1006		1005		1010		916		1009	

Mixture 95% Fresh Water 5% Lovington Field Water

Component	ppm	5-3-1949 % Reacting Value	ppm	6-15-1949 % Reacting Value	ppm	10-20-1949 % Reacting Value	ppm	6-3-1951 % Reacting Value	ppm	7-25-1952 % Reacting Value	ppm	9-4-1953 % Reacting Value
Na	1112	33.3	100	31.71	89	31.98	80	33.81	102	18.22	86	16.35
Ca	192	12.1	91	16.54	91	18.74	102	20.38	94	19.28	83	17.23
Mg	157	19.4	148	21.16	145	21.57	146	21.46	158	21.22	153	21.49
Cl	1575	30.2	428	21.16	425	21.85	395	21.22	468	21.22	493	21.05
HCO_3	289	4.7	76	3.13	70	5.60	63	1.47	395	20.56	84	7.48
Total Solids	3325		899		820		846		1217		1019	

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Exhibit No. 21-A Case 1053



WEST LOVINGTON AREA

Fresh Water

Component	ppm	1950 % Reacting Value	ppm	1951 % Reacting Value	ppm	1952 % Reacting Value	ppm	1953 % Reacting Value	ppm	1956 % Reacting Value	ppm	1958 % Reacting Value
Na	10	4.34	26	9.52	21	7.73	7	2.47	11	6.00	27	10.81
Ca	74	19.00	72	31.86	75	32.46	74	36.46	72	36.48	69	35.76
Mg	14	10.33	13	12.05	13	12.41	13	12.57	13	13.52	13	11.85
Cl	69	19.45	63	12.00	64	12.04	69	11.23	69	13.52	63	11.85
HCO_3	28	6.45	28	2.48	28	3.36	28	1.27	28	4.48	28	9.73
	292	34.43	288	31.48	290	31.02	297	34.01	282	30.48	280	34.30
Total Solids	595		427		490		353		369		369	

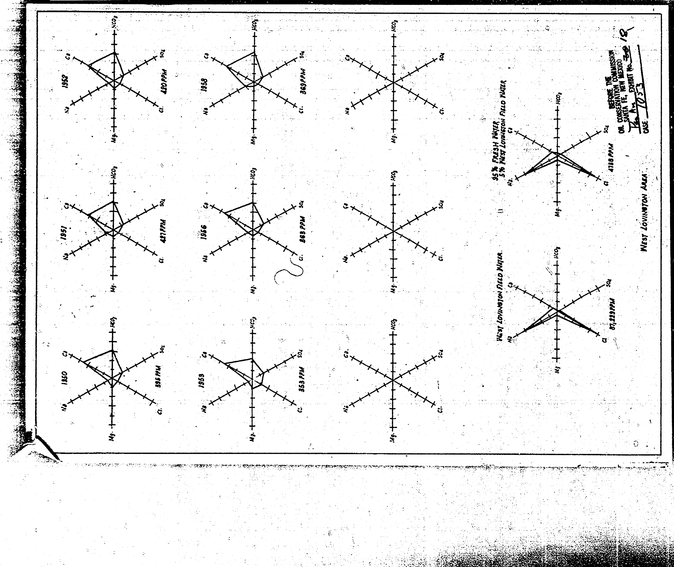
West Lovington Field Water

Component	ppm	% Reacting Value
Na+	29,240	42.39
Ca	3,206	3.24
Mg	2,510	3.75
Cl	51,500	49.60
HCO_3	118	.20
Total Solids	87,299	

Mixture 95% Fresh Water 5% West Lovington Field Water

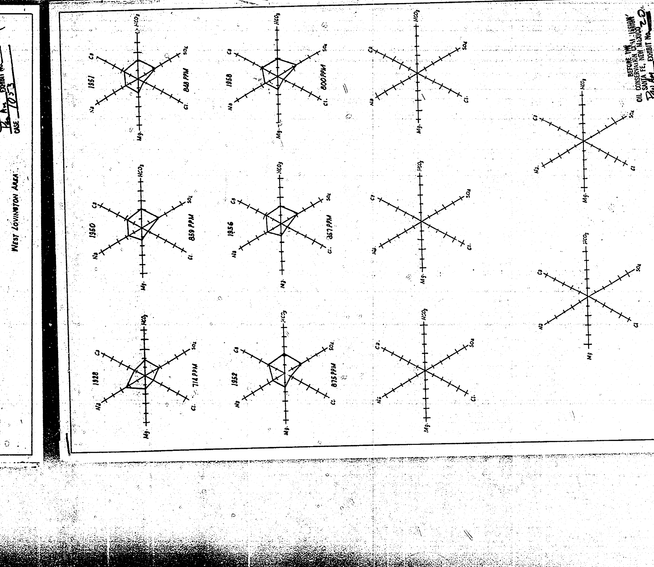
	ppm	% Reacting Value
	1425	40.00
	230	9.77
	54	2.72
	1276	43.52
	216	2.21
	4739	

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO Exhibit No. 18-A Case 1053



NE/4, Sec/1, Sec/4 Section 7, T-16-S, R-37-E

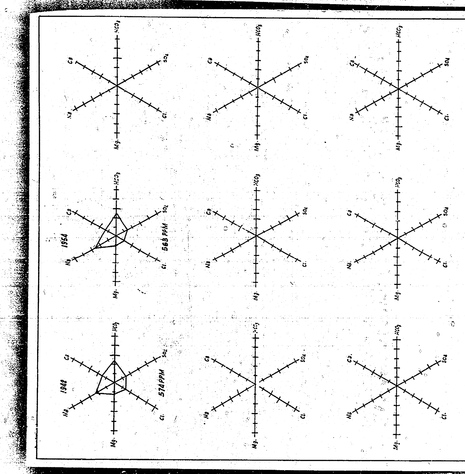
Component	ppm	10-18-1948 % Reacting Value	ppm	10-4-1950 % Reacting Value	ppm	6-3-1951 % Reacting Value	ppm	7-25-1952 % Reacting Value	ppm	5-12-1958 % Reacting Value
Na	112	23.1	100	17.71	89	15.98	80	13.81	102	14.35
Ca	52	12.1	91	18.54	91	18.74	102	20.38	94	17.23
Mg	57	14.4	148	31.57	145	31.46	146	31.46	158	31.49
Cl	379	30.4	348	31.16	325	31.85	295	31.22	368	31.05
HCO_3	248	19.7	76	3.13	70	5.60	63	1.47	395	20.56
Total Solids	704		899		820		846		1217	



279

CITY OF LAMESA
N/2 Section 35, T-23-S, R-37-E

Component	7-16-1962 ppm	7-16-1962 % Reacting Value	7-31-1964 ppm	7-31-1964 % Reacting Value
Na	16	22.66	100	28.45
Ca	17	13.22	50	10.84
Mg	12	12.12	50	13.07
Cl	28	12.04	99	15.48
HCO_3	202	23.94	207	26.19
Total Solids	274		503	



RECEIVED
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
DEC 1965

SE/4 NW/4 NE/4 Section 24, T-23-S, R-34-E

Component	10-4-1950 ppm	10-4-1950 % Reacting Value	5-3-1951 ppm	5-3-1951 % Reacting Value	7-25-1952 ppm	7-25-1952 % Reacting Value	8-16-1955 ppm	8-16-1955 % Reacting Value	6-10-1956 ppm	6-10-1956 % Reacting Value	5-13-1958 ppm	5-13-1958 % Reacting Value
Na	69	19.17	66	19.50	67	15.32	67	16.54	66	19.82	57	16.95
Ca	64	19.39	59	20.06	67	21.33	58	20.95	56	18.65	57	20.97
Mg	24	13.28	19	11.80	22	13.55	21	13.61	22	15.10	21	12.78
Cl	24	12.33	19	11.97	22	12.26	21	13.14	100	15.90	86	12.78
HCO_3	234	21.99	165	21.83	203	21.55	145	20.54	78	11.75	65	13.74
Total Solids	551		507		543		497		337		478	

RECEIVED
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
DEC 1965

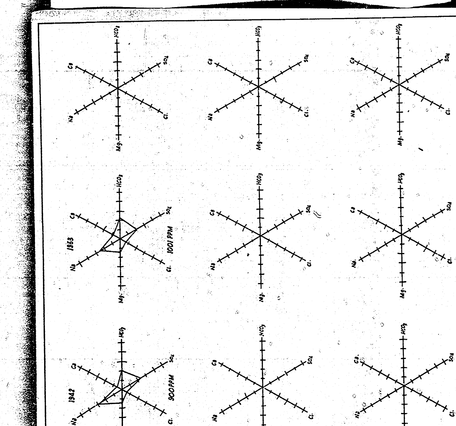
NW/4 Section 31, T-23-S, R-37-E

Component	7-18-1962 ppm	7-18-1962 % Reacting Value	7-31-1964 ppm	7-31-1964 % Reacting Value
Na	16	8.47	170	25.81
Ca	45	21.74	55	9.79
Mg	45	35.49	280	30.80
Cl	28	6.02	71	7.35
HCO_3	54	28.44	375	26.25
Total Solids	900		1001	

RECEIVED
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
DEC 1965

NW/4 Section 31, T-23-S, R-37-E

Component	7-18-1962 ppm	7-18-1962 % Reacting Value	7-31-1964 ppm	7-31-1964 % Reacting Value
Na	16	8.47	170	25.81
Ca	45	21.74	55	9.79
Mg	45	35.49	280	30.80
Cl	28	6.02	71	7.35
HCO_3	54	28.44	375	26.25
Total Solids	900		1001	



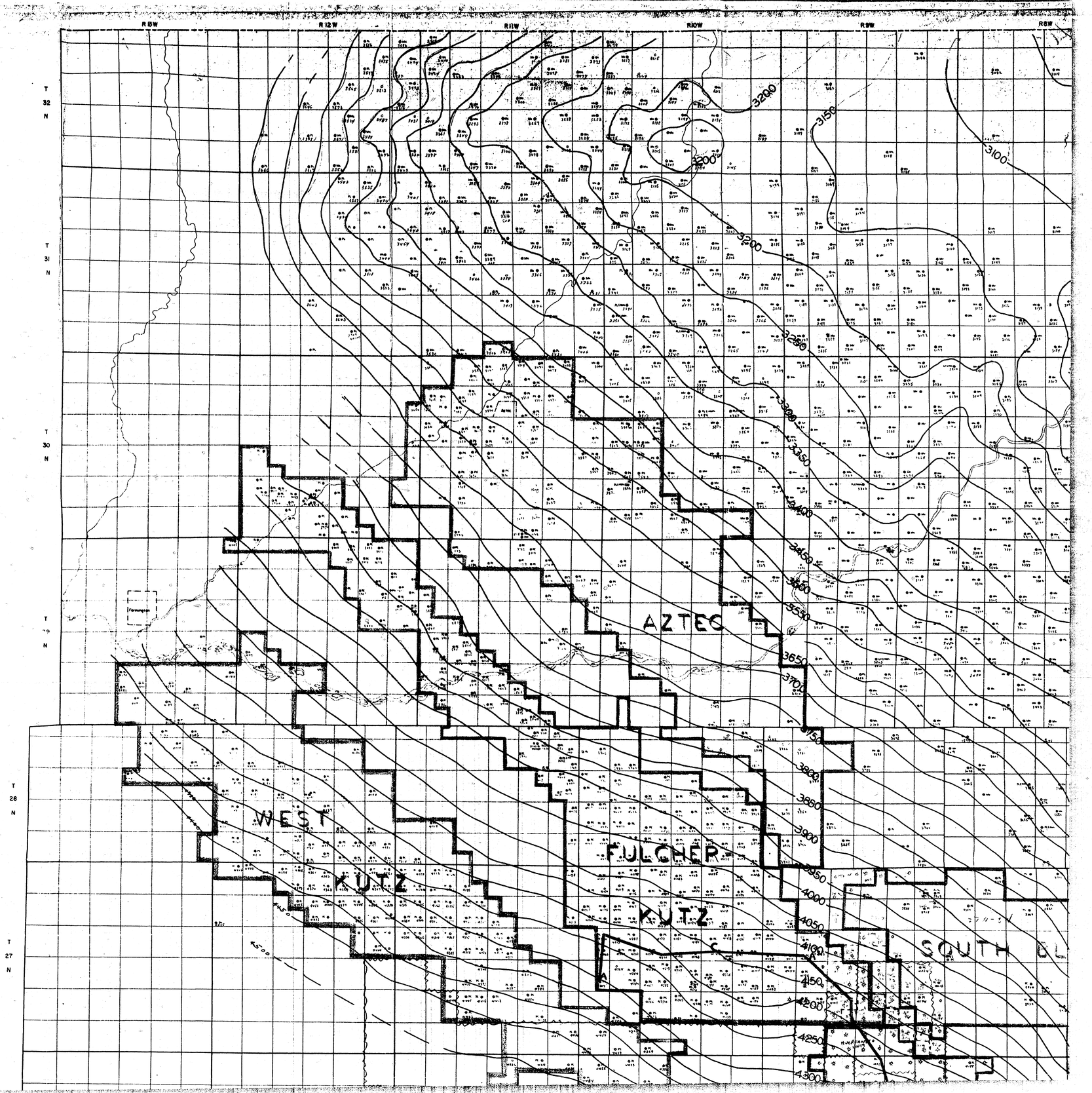
RECEIVED
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
DEC 1965

SE/4 NW/4 NE/4 Section 24, T-23-S, R-34-E

Component	10-4-1950 ppm	10-4-1950 % Reacting Value	5-3-1951 ppm	5-3-1951 % Reacting Value	7-25-1952 ppm	7-25-1952 % Reacting Value	8-16-1955 ppm	8-16-1955 % Reacting Value	6-10-1956 ppm	6-10-1956 % Reacting Value	5-13-1958 ppm	5-13-1958 % Reacting Value
Na	69	19.17	66	19.50	67	15.32	67	16.54	66	19.82	57	16.95
Ca	64	19.39	59	20.06	67	21.33	58	20.95	56	18.65	57	20.97
Mg	24	13.28	19	11.80	22	13.55	21	13.61	22	15.10	21	12.78
Cl	24	12.33	19	11.97	22	12.26	21	13.14	100	15.90	86	12.78
HCO_3	234	21.99	165	21.83	203	21.55	145	20.54	78	11.75	65	13.74
Total Solids	551		507		543		497		337		478	

RECEIVED
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
DEC 1965

SEC. 24, T-23-S, R-34-E


R15W
R14W
R13W
R12W
R11W
R10W
R9W
R8W
T 32 N
T 31 N
T 30 N
T 29 N
T 28 N
T 27 N
Farmington
AZTEC
WEST KUTZ
FULCHER KUTZ
SOUTH
3200
3150
3100
3250
3300
3350
3400
3450
3500
3550
3600
3650
3700
3750
3800
3850
3900
3950
4000
4050
4100
4150
4200
4250
4300
4500

281

R8W R7W R6W R5W R4W R3W R2W R1W

T 32 N

T 31 N

T 30 N

T 29 N

T 28 N

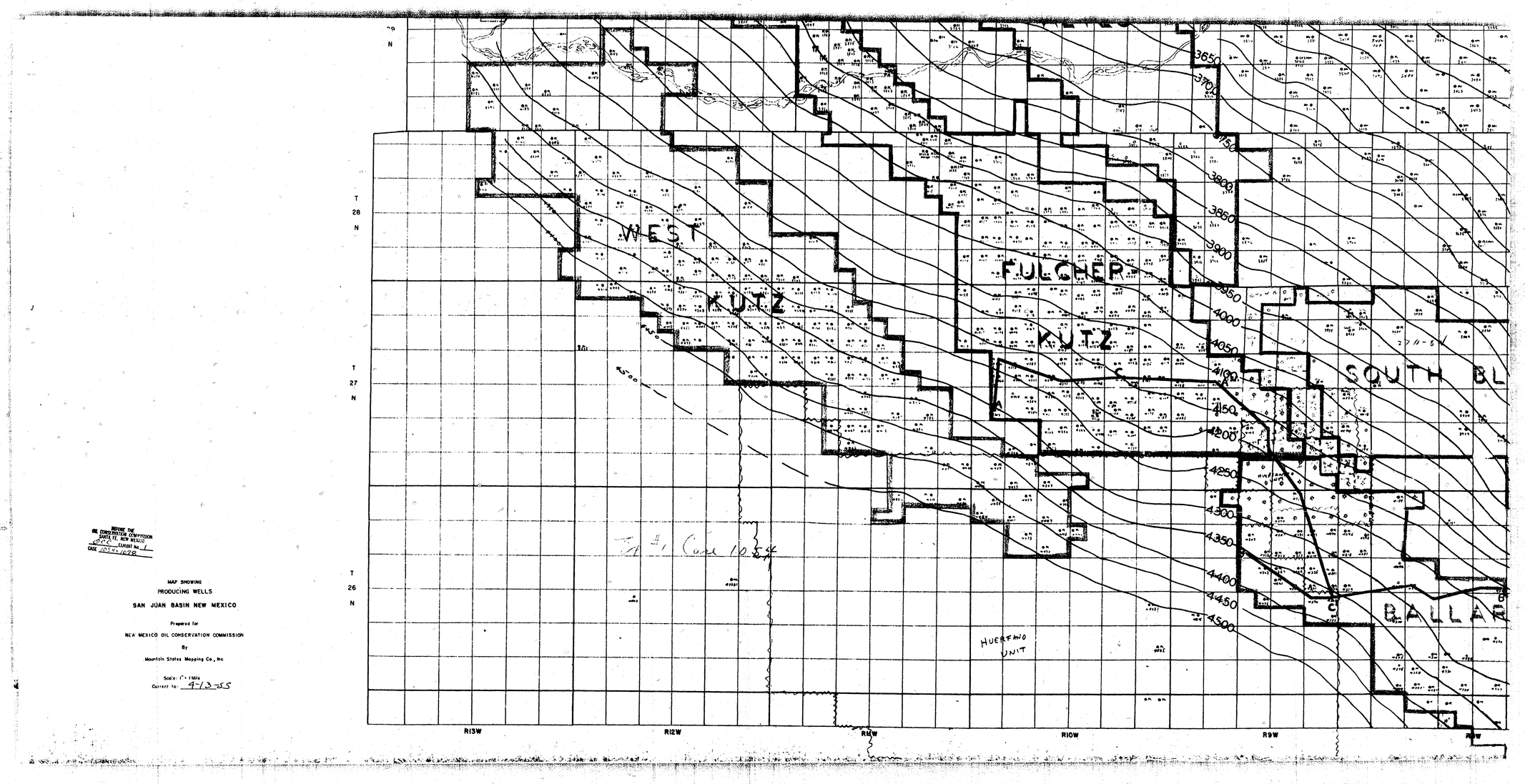
T 27 N

Dulce

3100 3150 3200 3250 3300 3050

SOUTH BLANCO

282



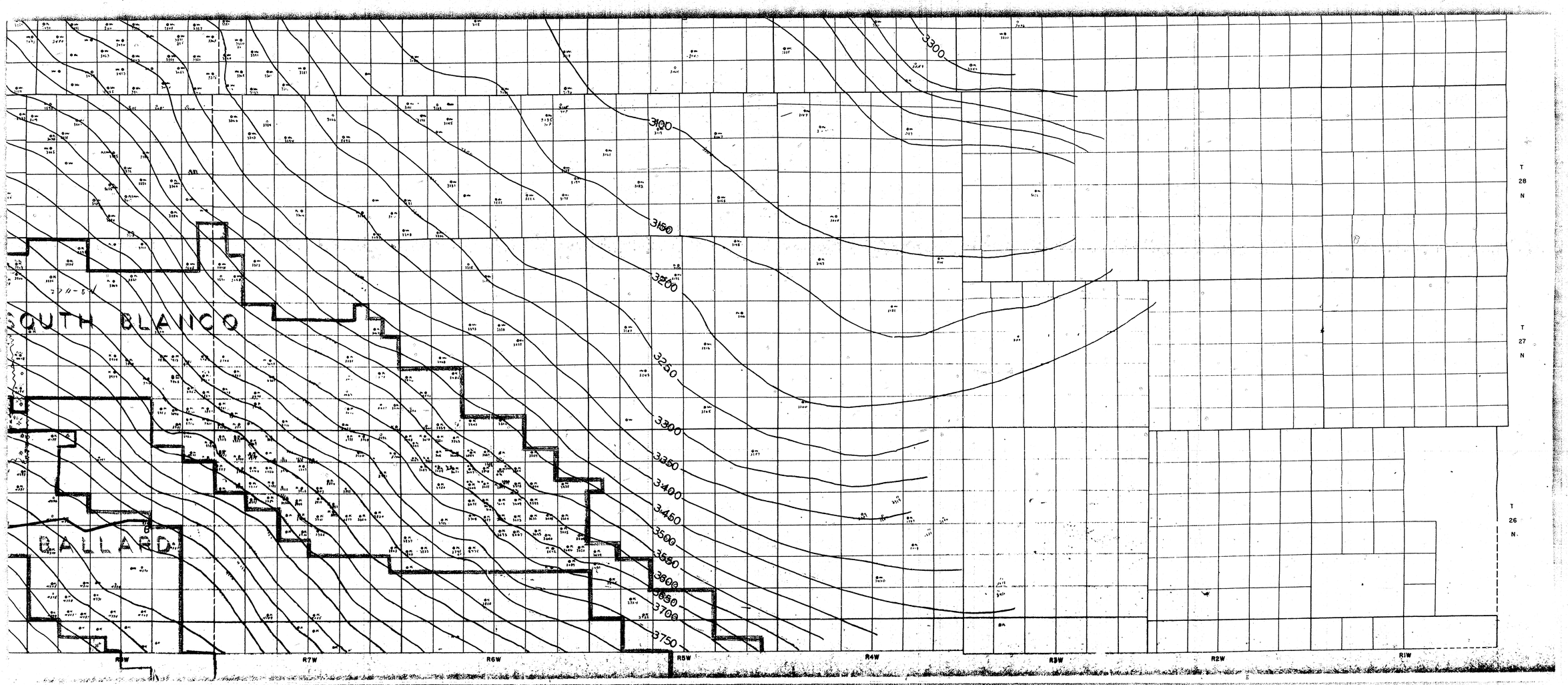
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
OCC EXHIBIT No. 1
CASE 1054 & 1078

MAP SHOWING
PRODUCING WELLS
SAN JUAN BASIN NEW MEXICO

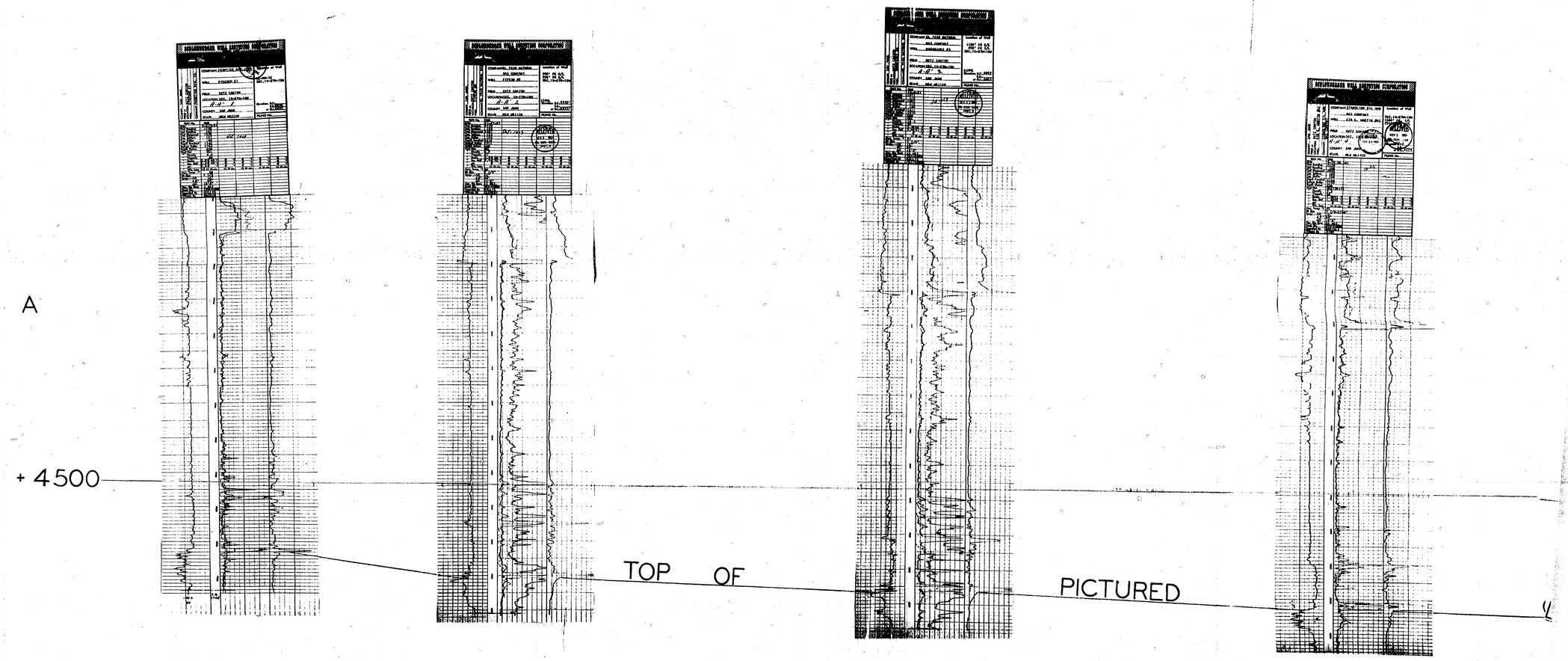
Prepared for
NEW MEXICO OIL CONSERVATION COMMISSION
By
Mountain States Mapping Co., Inc.

Scale: 1" = 1 Mile
Current to: 4-13-55

283

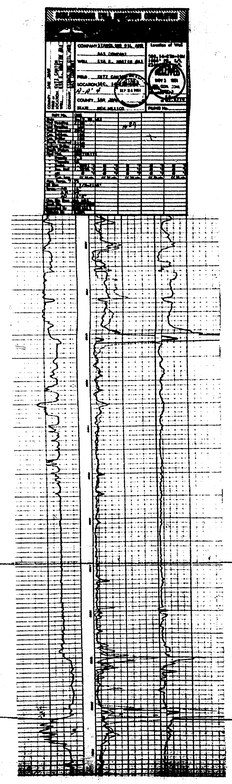

SOUTH BLANCO
GALLARD
3300
3100
3150
3200
3250
3300
3350
3400
3450
3500
3550
3600
3650
3700
3750
R8W
R7W
R6W
R5W
R4W
R3W
R2W
R1W
T 28 N
T 27 N
T 26 N.

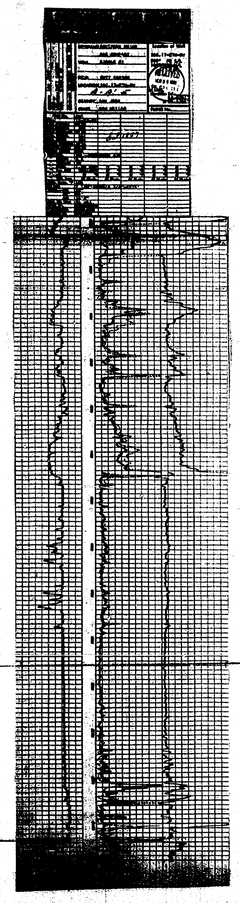
284



SECTION A-A'

285



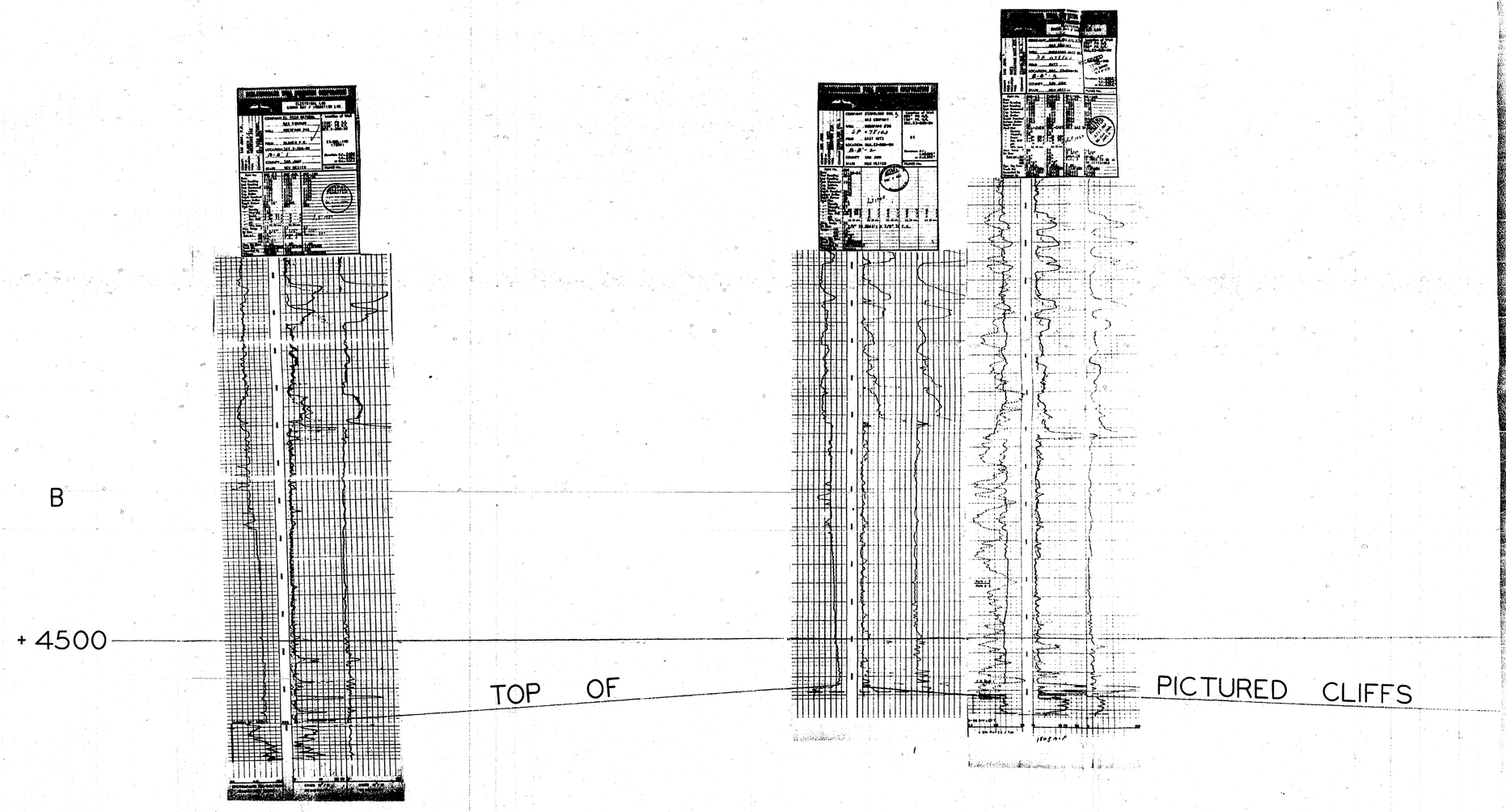


A'

+4500

CLIFFS

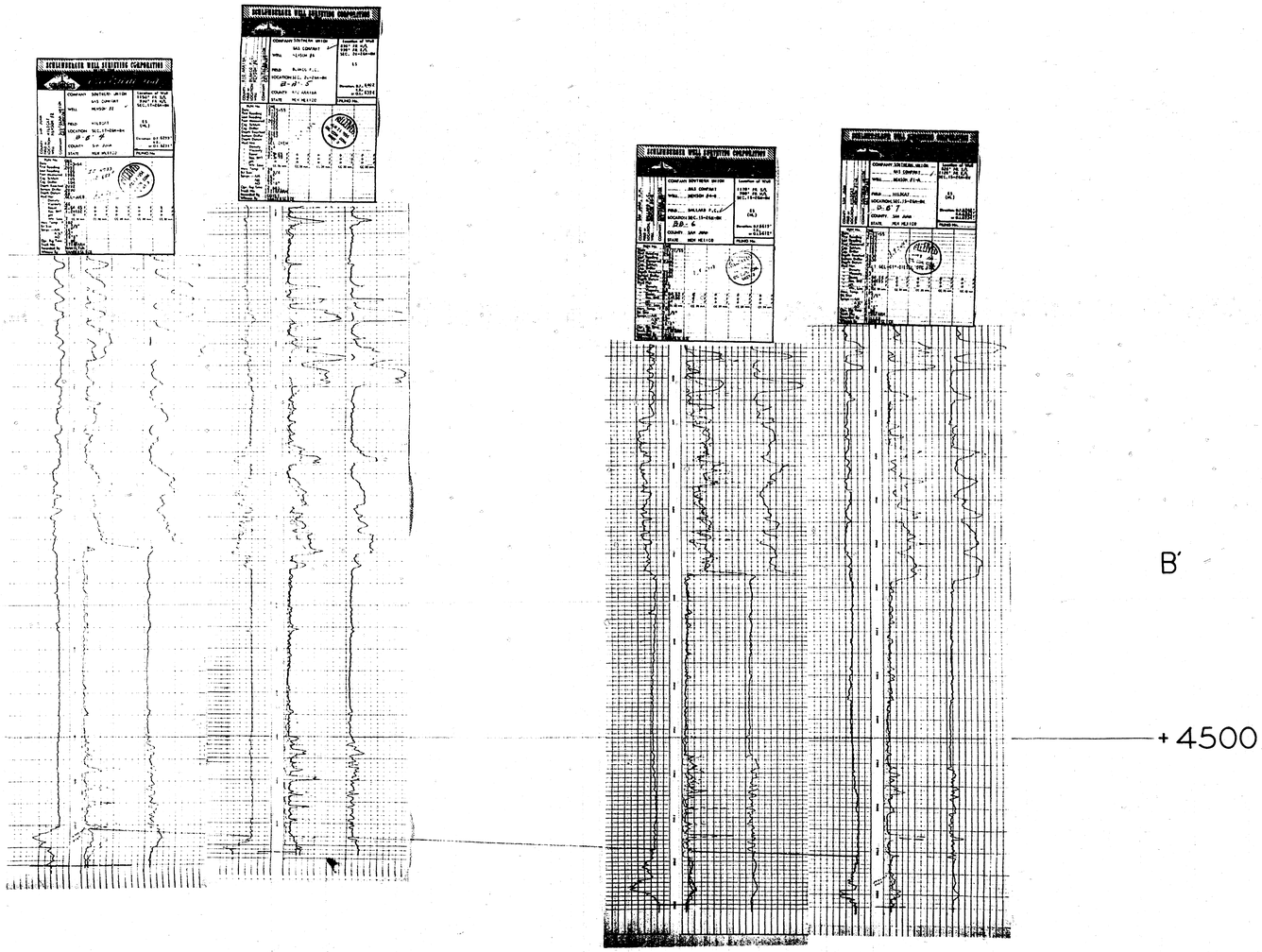
286



SECTION B-B'

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEX.
OCC EXHIBIT No. 3
CASE 7050/1678

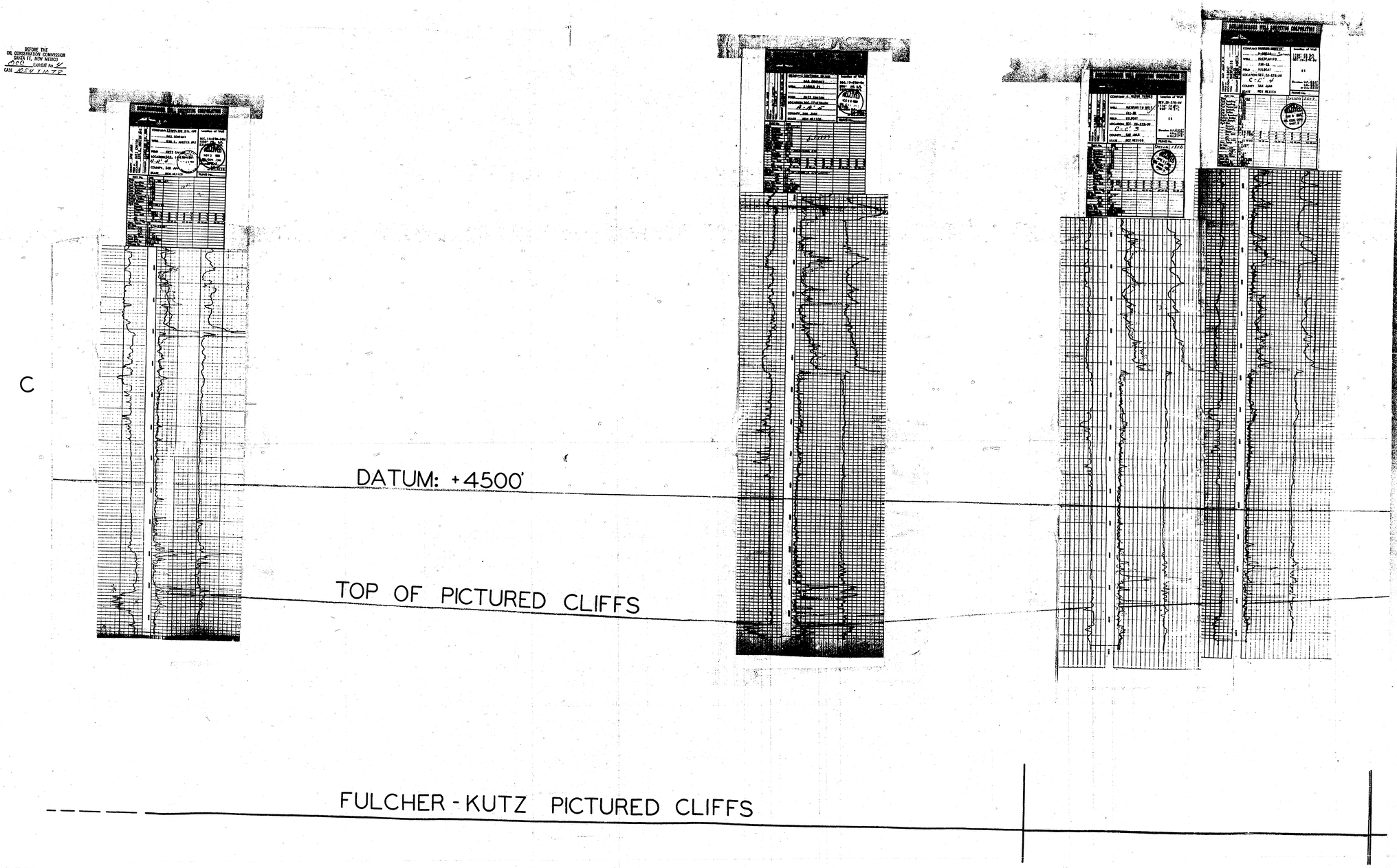
287

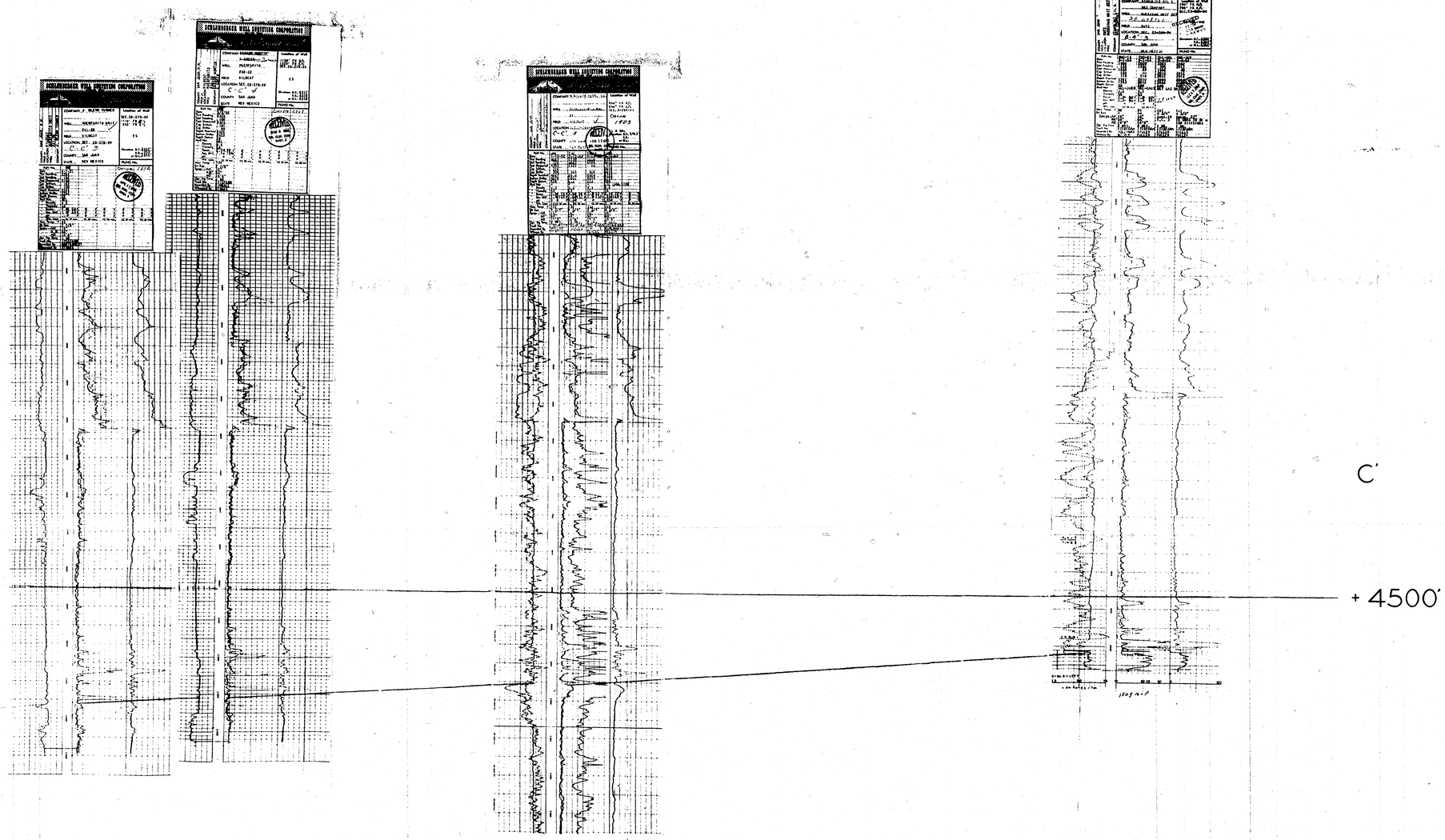


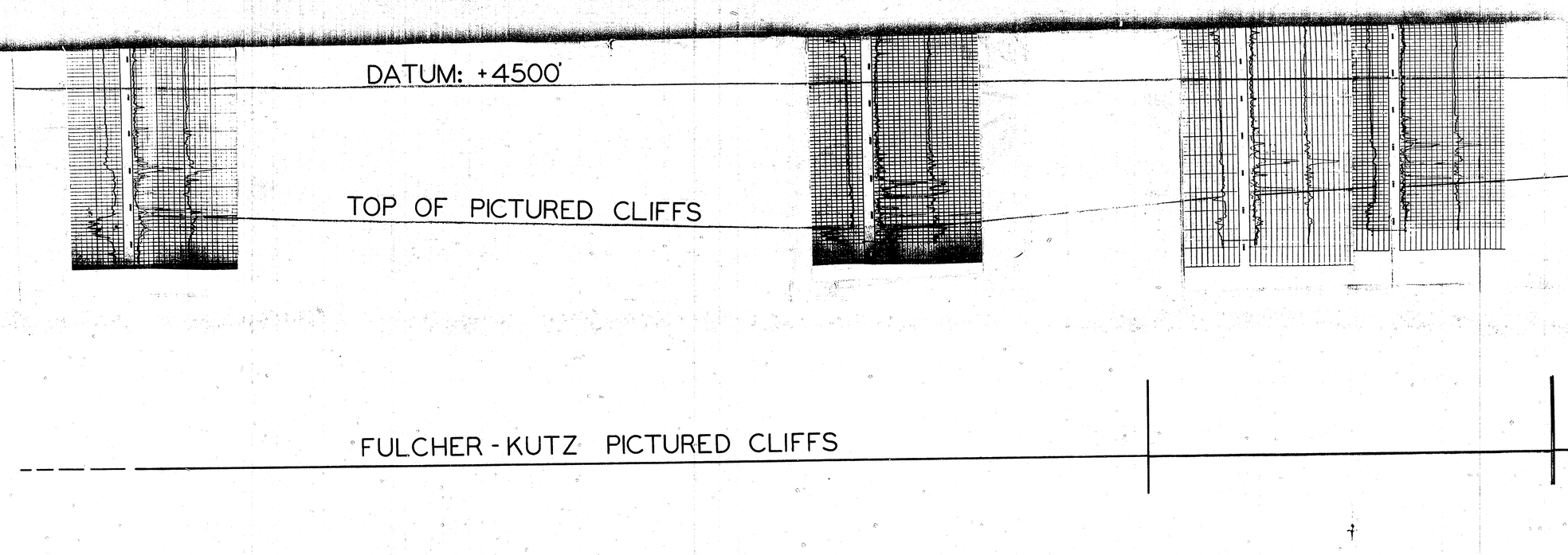
B'

+4500

CLIFFS


BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
C
DATUM: +4500'
TOP OF PICTURED CLIFFS
FULCHER-KUTZ PICTURED CLIFFS

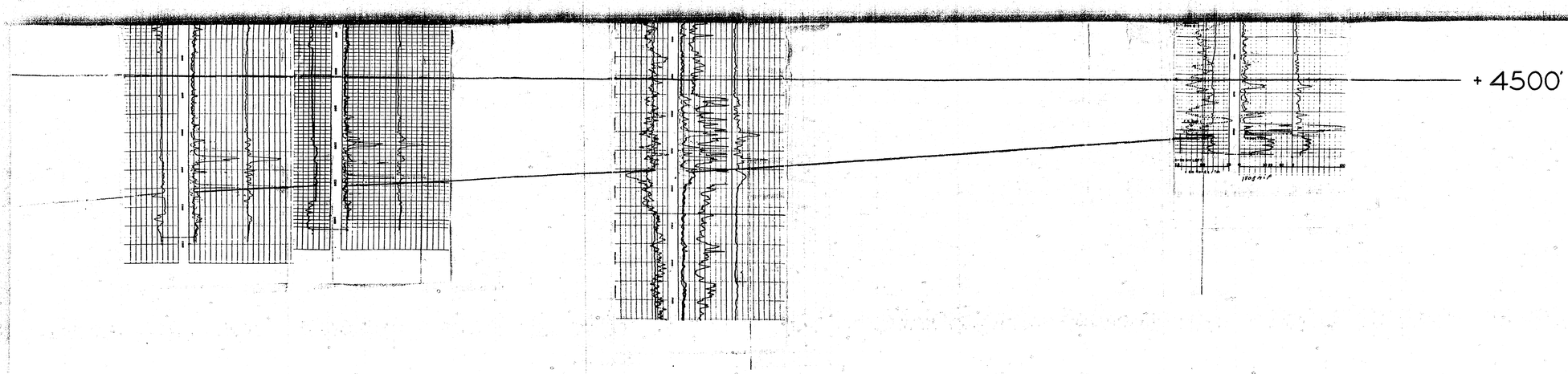

C'
+4500'
BALLARD PICTURED CLIFFS



SECTION C-C'

Ex #4.
Case 1059

291

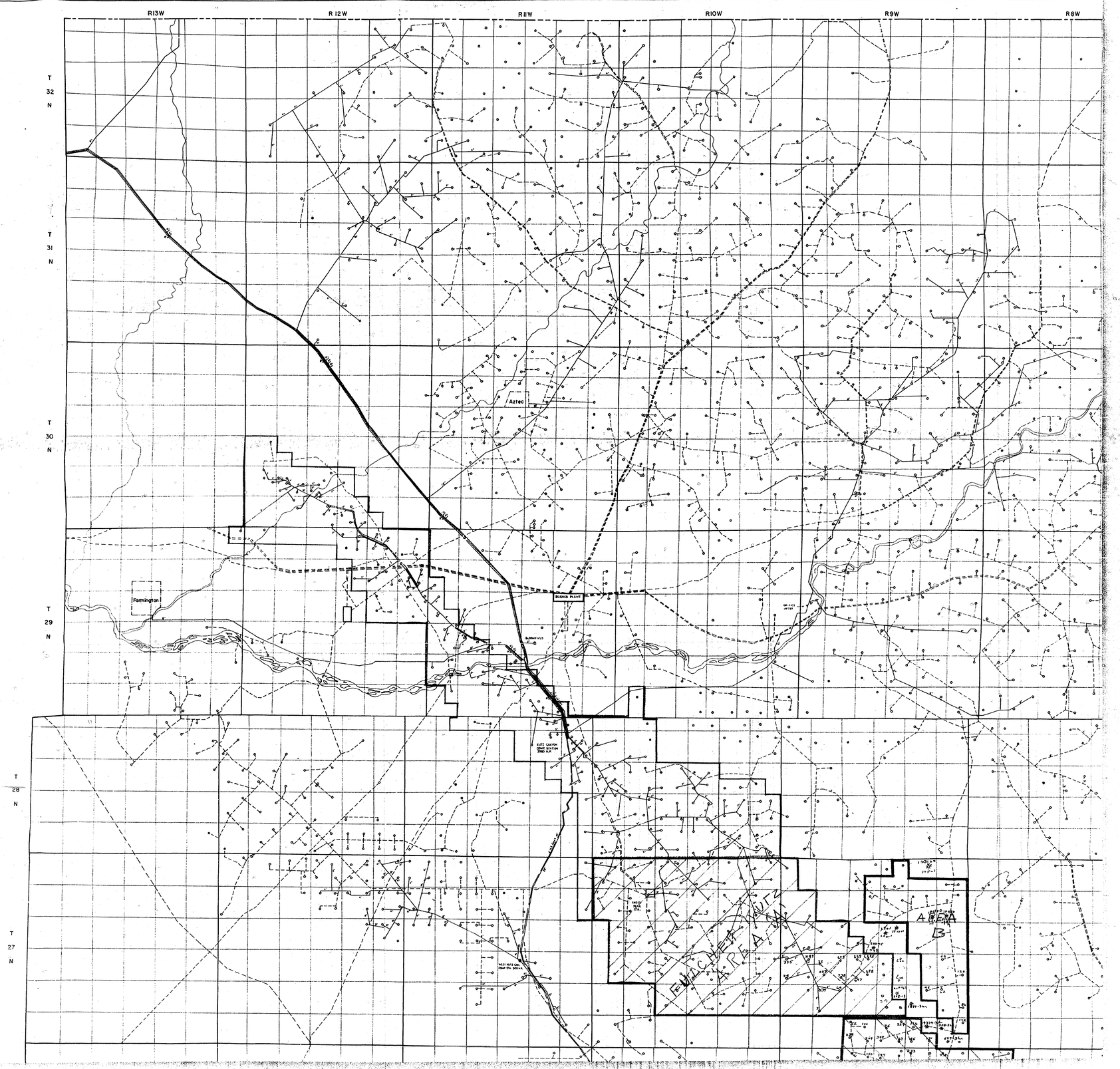


BALLARD PICTURED CLIFFS

SECTION C-C'

#4
1059

292


R13W
R12W
R11W
R10W
R9W
R8W
T 32 N
T 31 N
T 30 N
T 29 N
T 28 N
T 27 N
Aztec
Farmington
BLANCO PLANT
KUTZ CANYON COMP STATION 2980 H.P.
WEST KUTZ CANYON COMP STA. 5000 H.P.
EL PASO NATURAL GAS COMPANY
AREA B

293

R8W R7W R6W R5W R4W R3W R2W R1W

T 32 N

T 31 N

T 30 N

T 29 N

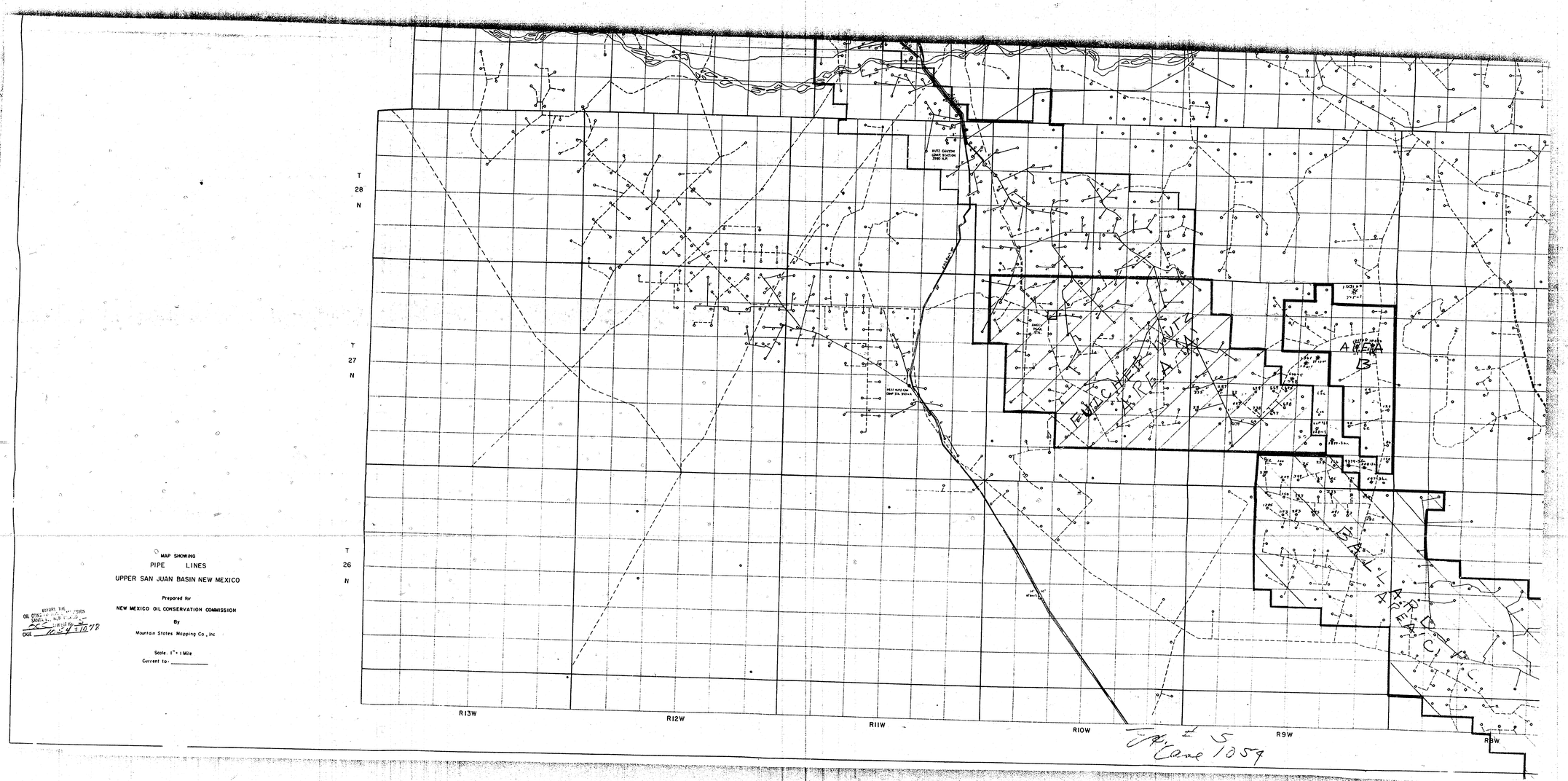
T 28 N

T 27 N

Dulce

Gobernador

294



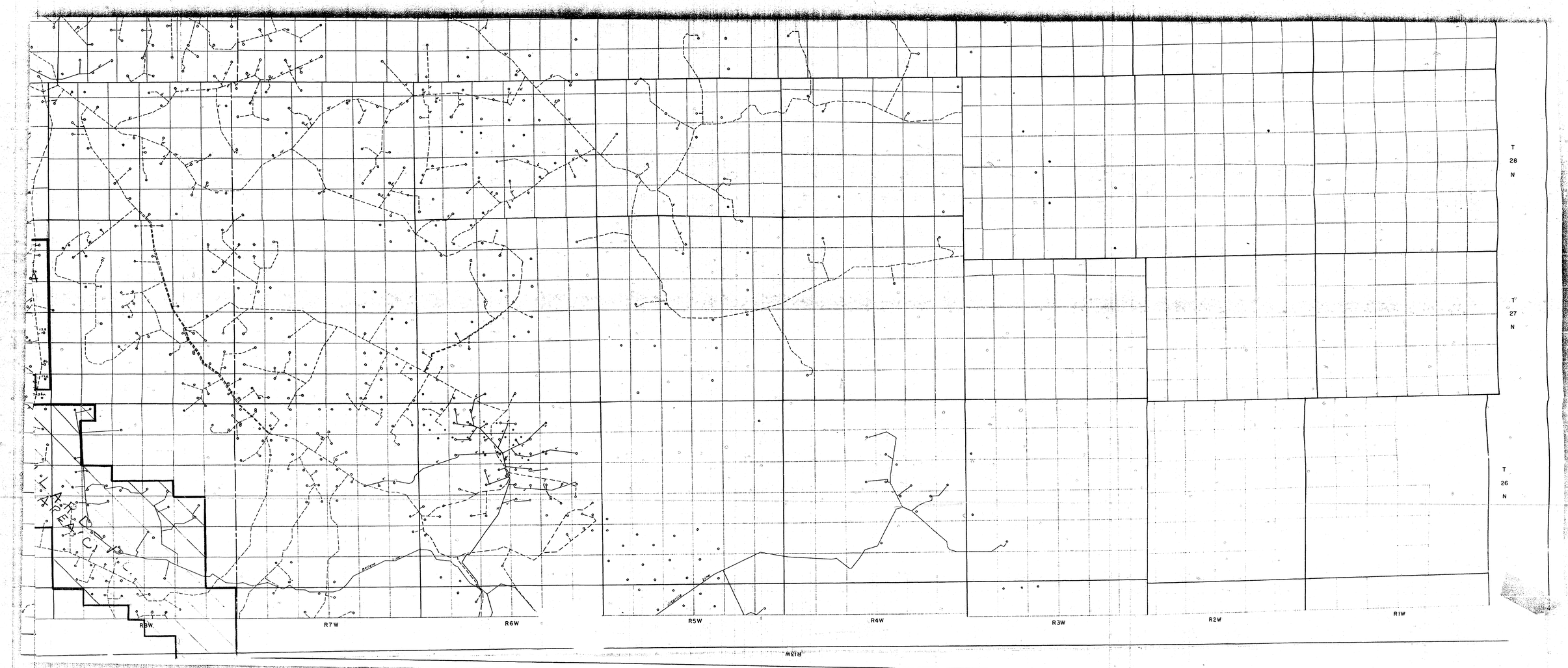
MAP SHOWING
PIPE LINES
UPPER SAN JUAN BASIN NEW MEXICO

Prepared for
NEW MEXICO OIL CONSERVATION COMMISSION
By
Mountain States Mapping Co., Inc

Scale: 1" = 1 Mile
Current to: _____

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT NO. 5
CASE 1054 & 1078

295



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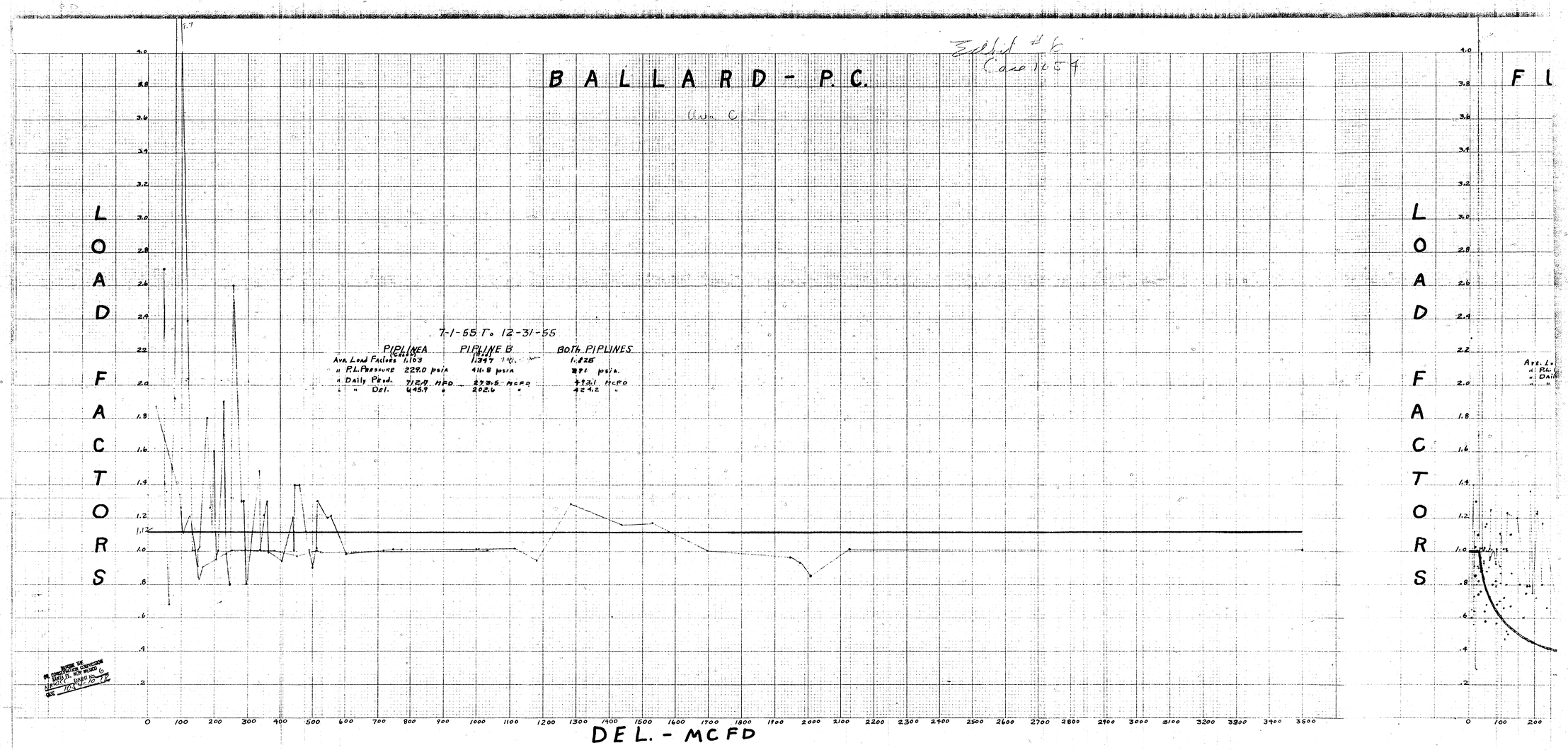


BALLARD - P.C.
Exhibit #6
Case 1054
Area C
LOAD FACTORS
7-1-55 To 12-31-55
PIPLINE A (Gross) PIPLINE B (Net) BOTH PIPLINES
Ave. Load Factors 1.103 1.347 1.825
" P.L. Pressure 229.0 psia 411.8 psia 391 psia.
" Daily Prod. 712.7 MFD 273.5 MCFD 493.1 MCFD
" " Del. 645.9 " 202.6 " 424.2 "
DEL. - MCFD

297

6
54

FULCHER-KUTZ
P. C.
27-9 AND 27-10

7-1-55 To 12-31-55

	PIPELINE 'A' (Lower)	PIPELINE 'B' (Upper)	Both PIPELINES
Av. Load Factors	1.06	.759	.922
" Pl. Pressures	116.7 psia	261.6 psia	233.2
" Daily Prod.	1112.0 MCFD	167.5 "	137.7
" " Del.	105.3 "	131.2 "	118.3

LOAD FACTORS

PRODUCTION FOR PERIOD

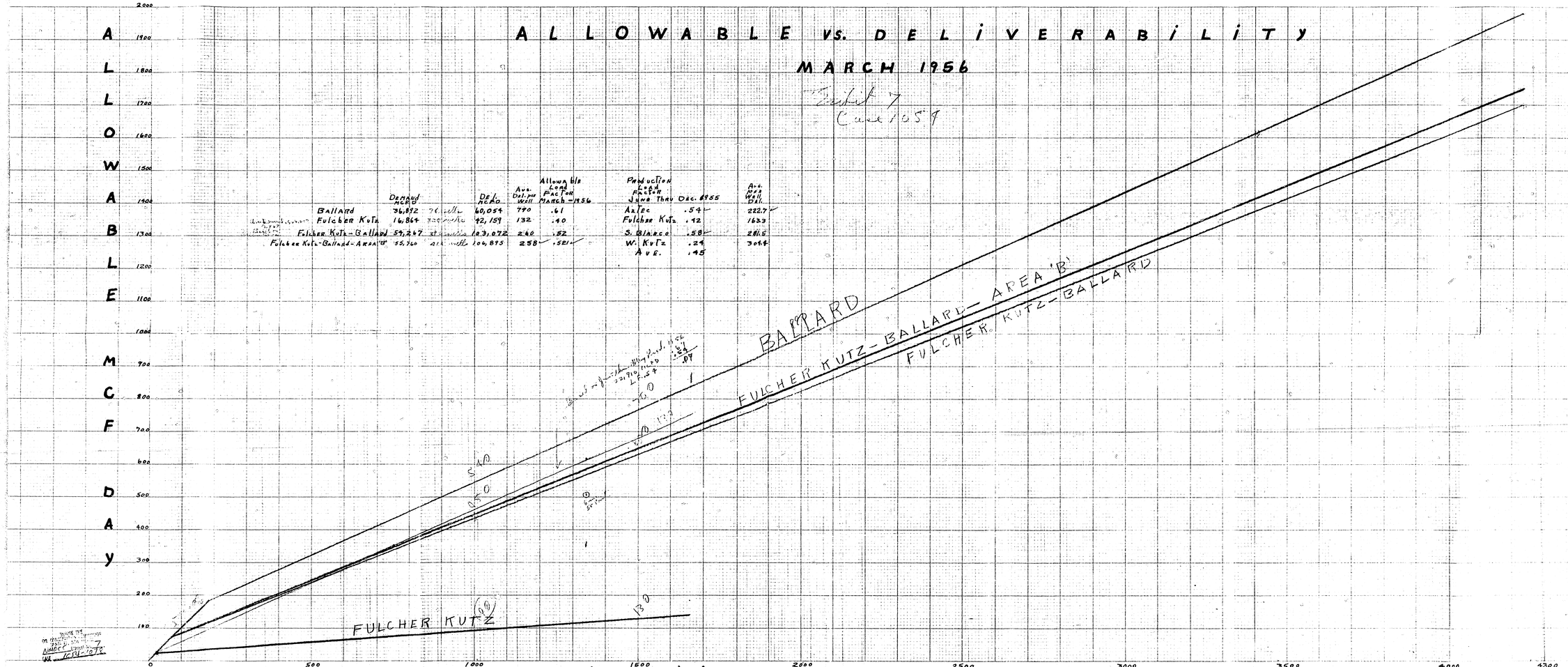
DEL. - MCFD

298

ALLOWABLE vs. DELIVERABILITY

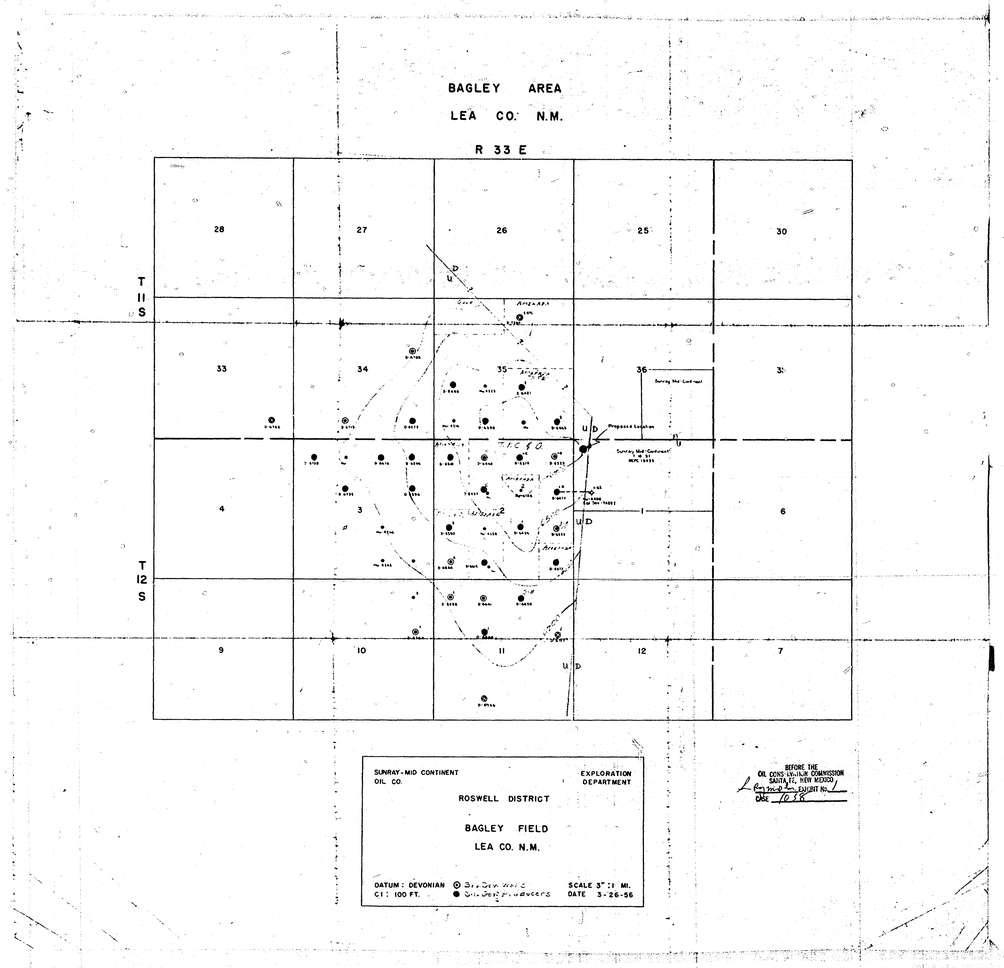
MARCH 1956

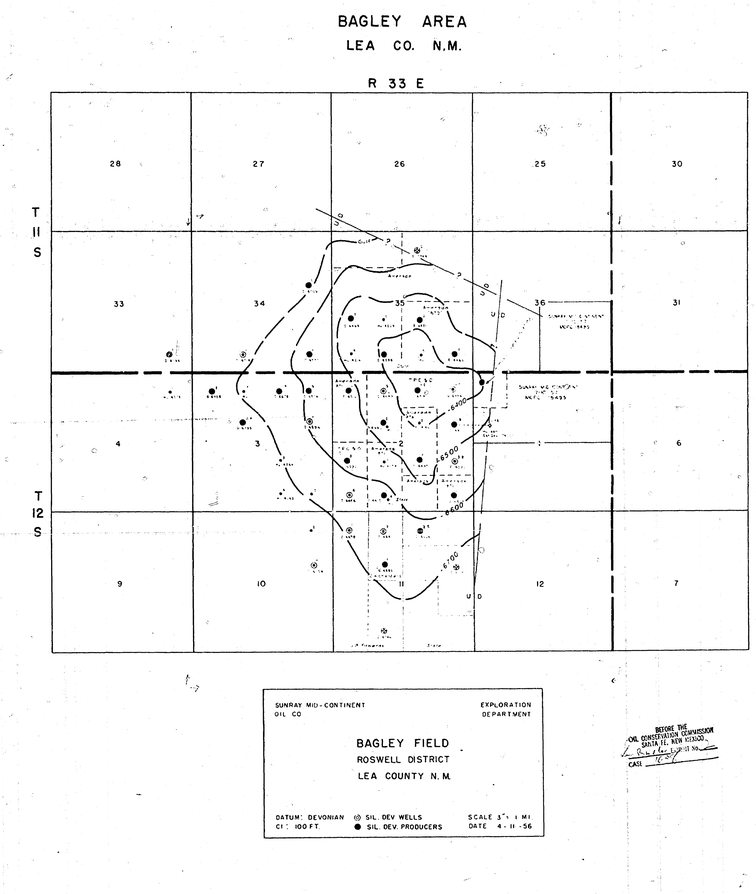
Exhibit 7
Case 1059



	Demand MCFD		Del. MCFD	Ave. Del. per Well	Allowable Load Factor March - 1956	Production Load Factor June Thru Dec. 1955		Ave. Net Well Del.
Ballard	36,892	76 wells	60,054	790	.61	Aztec	.54	222.7
Fulcher Kutz	16,864	320 wells	42,159	132	.40	Fulcher Kutz	.42	163.3
Fulcher Kutz-Ballard	54,267	37 wells	103,072	260	.52	S. Blanco	.58	281.5
Fulcher Kutz-Ballard-Area 'B'	55,760	41 wells	106,895	258	.521	W. Kutz	.24	304.4
						Ave.	.45	

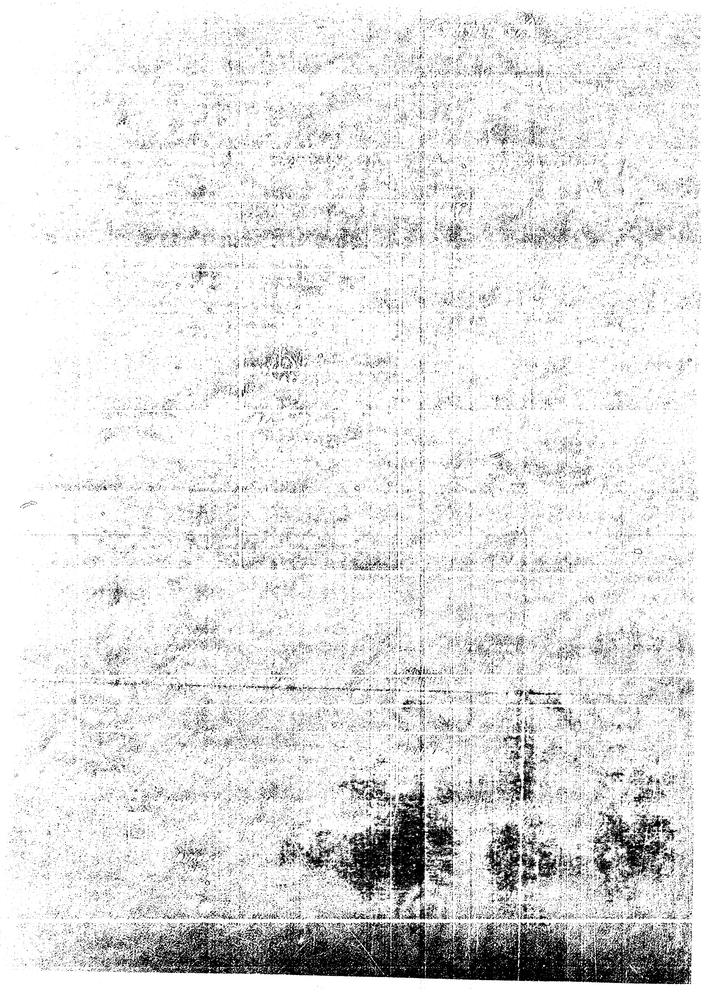
299


BAGLEY AREA
LEA CO. N.M.
R 33 E
T 11 S
T 12 S
28
27
26
25
30
33
34
35
36
4
3
6
9
10
11
12
7
Proposed Location
Sunray Mid-Continent
SUNRAY-MID CONTINENT
OIL CO.
EXPLORATION
DEPARTMENT
ROSWELL DISTRICT
BAGLEY FIELD
LEA CO. N.M.
DATUM: DEVONIAN
CI: 100 FT.
SCALE 3" = 1 MI.
DATE 3-26-56
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT NO.
CASE 1058


BAGLEY AREA
LEA CO. N.M.
R 33 E
T 11 S
T 12 S
28
27
26
25
30
33
34
35
36
31
4
3
6
9
10
11
12
7
SUNRAY MID-CONTINENT
OIL CO
EXPLORATION
DEPARTMENT
BAGLEY FIELD
ROSWELL DISTRICT
LEA COUNTY N.M.
DATUM: DEVONIAN
CI: 100 FT.
SIL. DEV WELLS
SIL. DEV. PRODUCERS
SCALE 3" = 1 MI.
DATE 4-11-56
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
CASE

300

301



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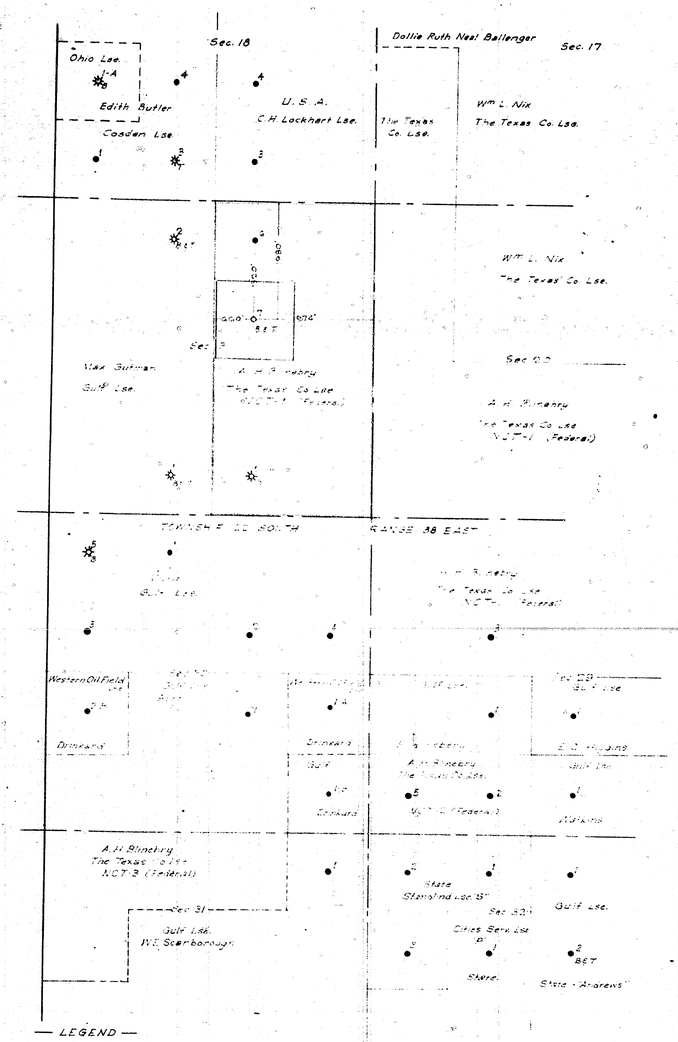


— LEGEND —

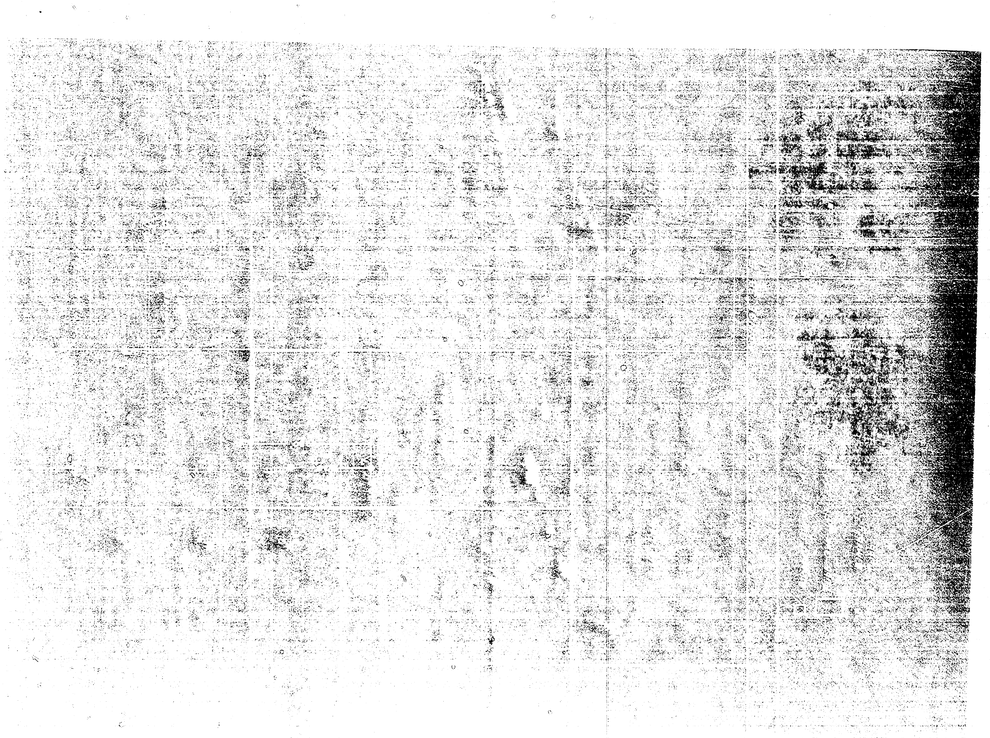
Blinebry Oil Unit (40 Ac.)

Tubb Gas Unit (320 Ac.)

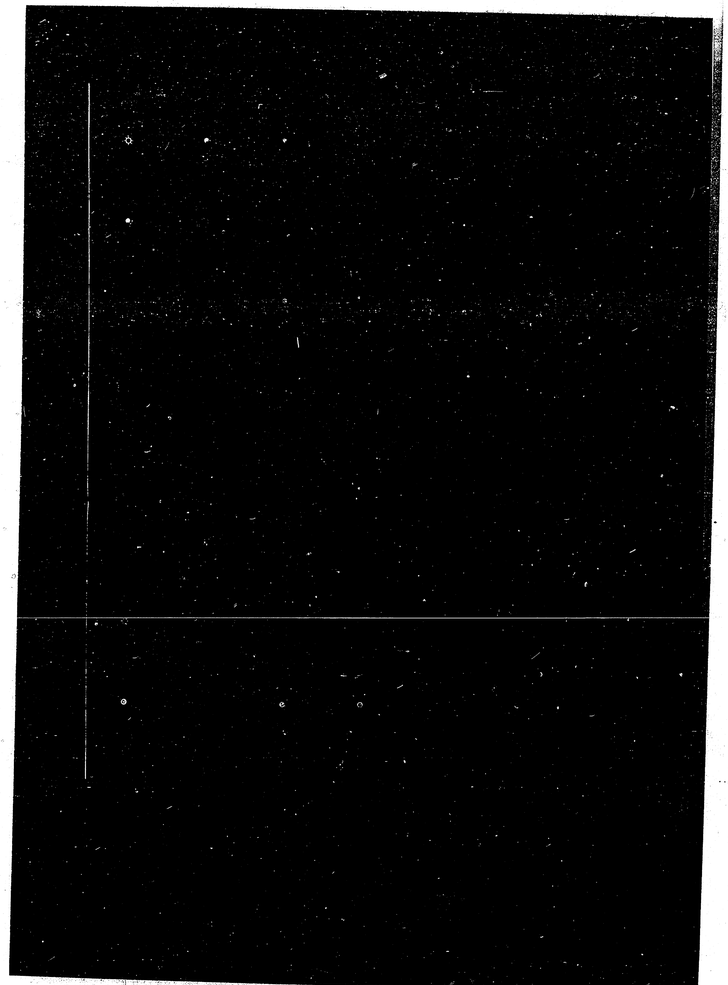
B - Blinebry
T - Tubb

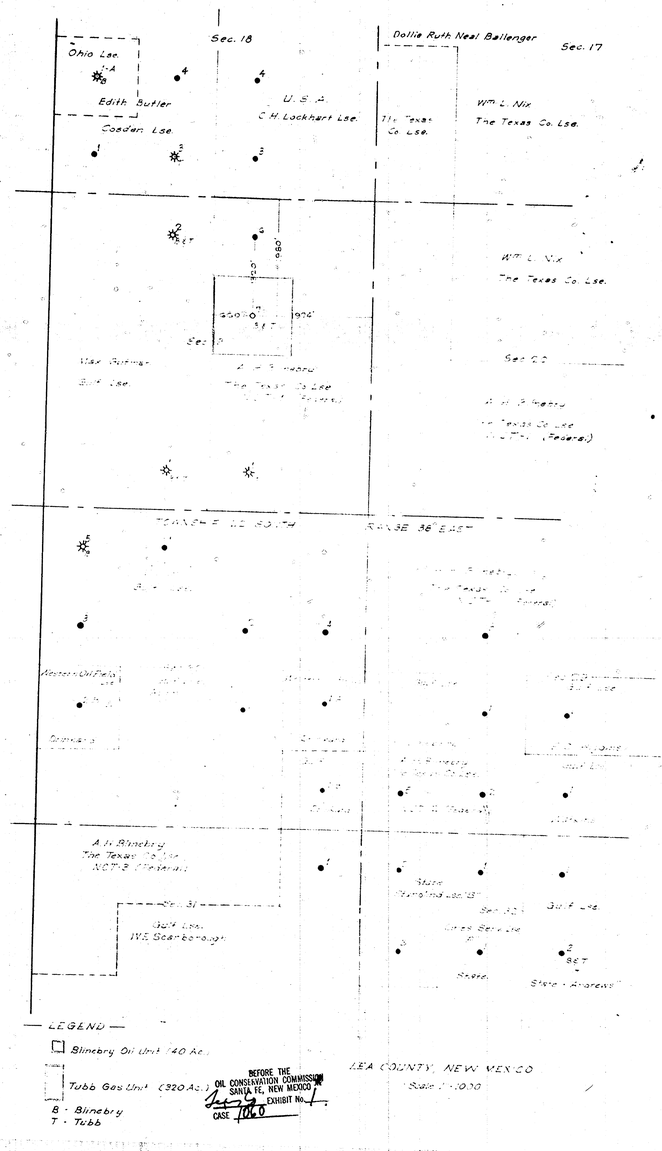
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 1
CASE 1059

LEA COUNTY, NEW MEXICO
Scale 1" = 1000'

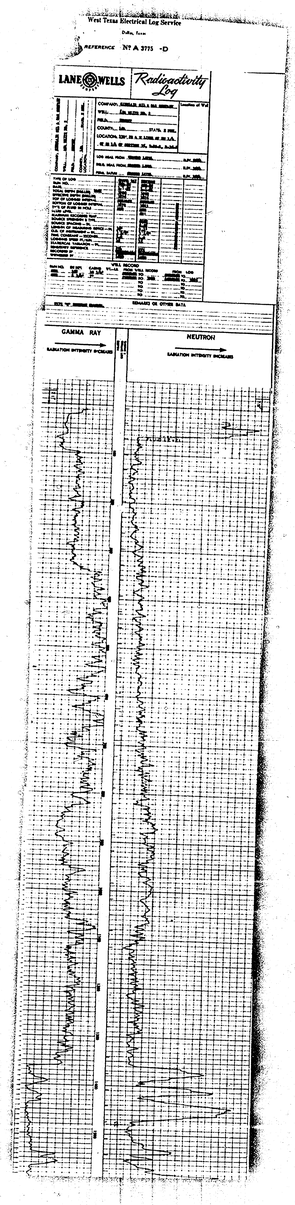


302





Sec. 18
Dollie Ruth Neal Ballenger
Sec. 17
Ohio Lse.
Edith Butler
Cosden Lse.
U. S. A.
C. H. Lockhart Lse.
The Texas Co. Lse.
Wm. L. Nix
The Texas Co. Lse.
Sec. 20
Sec. 22
Gulf Lse.
W.E. Scarborough
Sec. 31
State
State - Andrews
LEGEND
Blinebry Oil Unit (40 Ac.)
Tubb Gas Unit (320 Ac.)
B - Blinebry
T - Tubb
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 1
CASE 1060
LEA COUNTY, NEW MEXICO


West Texas Electrical Log Service

REFERENCE No A 3775 -D

LANE WELLS Radioactivity Log

GAMMA RAY

NEUTRON

BEAL ENGINEERING COMPANY

"Petroleum Services"

Phone 3-3813
P. O. Box 1826

HOBBS, NEW MEXICO

TEMPERATURE SURVEY

COMPANY SINCLAIR OIL AND GAS COMPANY

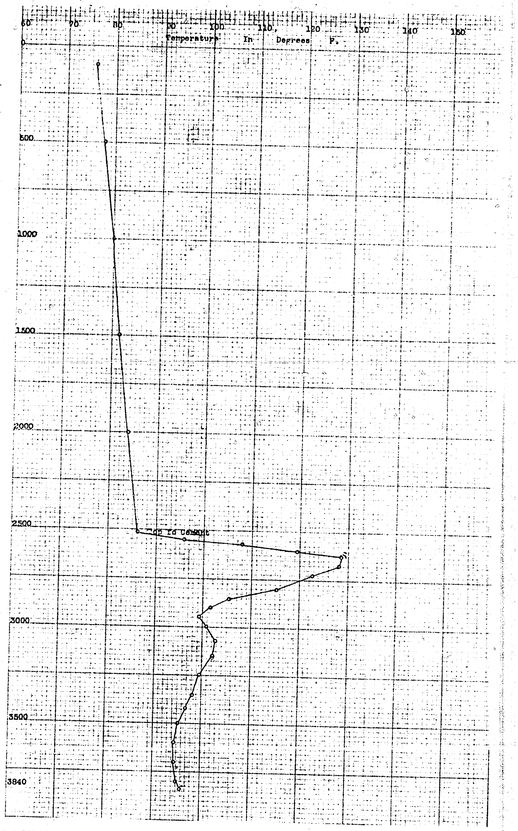
FIELD SUMONT

LEASE IDA WHITE WELL NO. 2

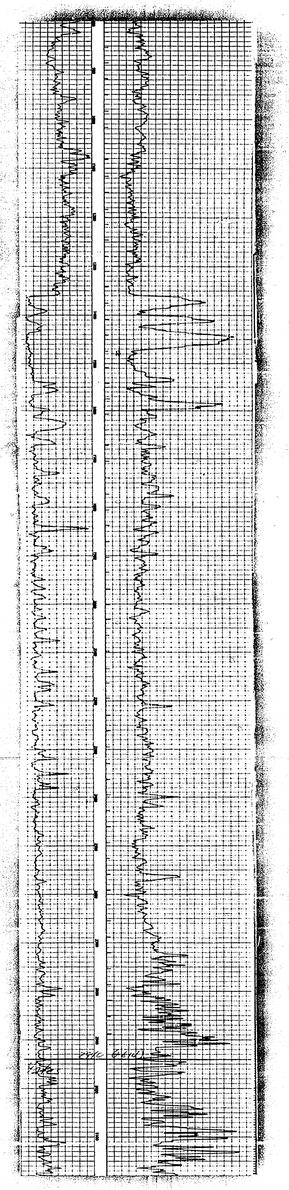
DATE 3-30-55 TIME RUN 4:00 A.M. HOURS CEMENT IN PLACE 12

CEMENT DATA 7" OIL STRING CEMENTED WITH

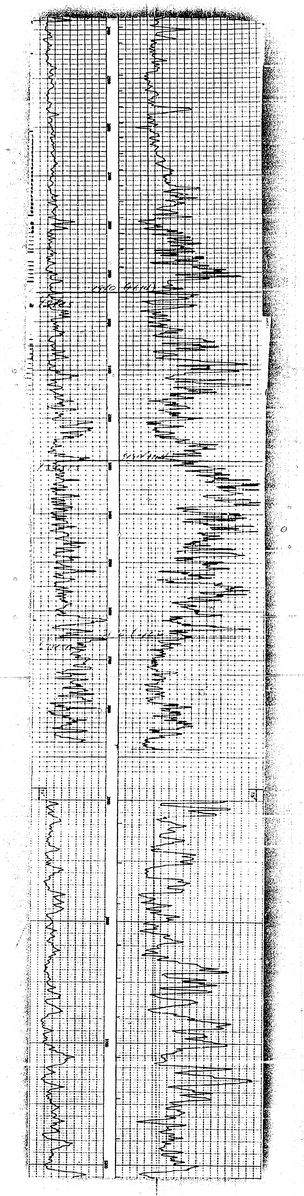
AT 3900 IN 8 3/4" Hole

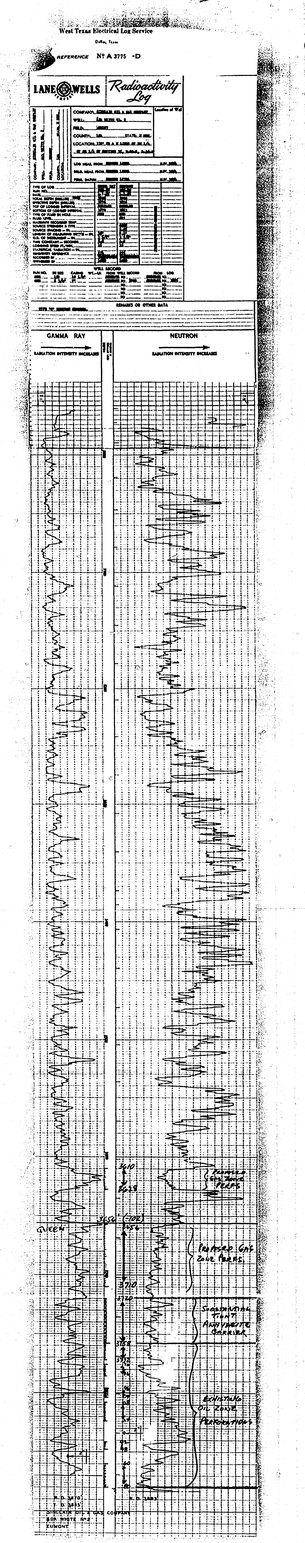


303

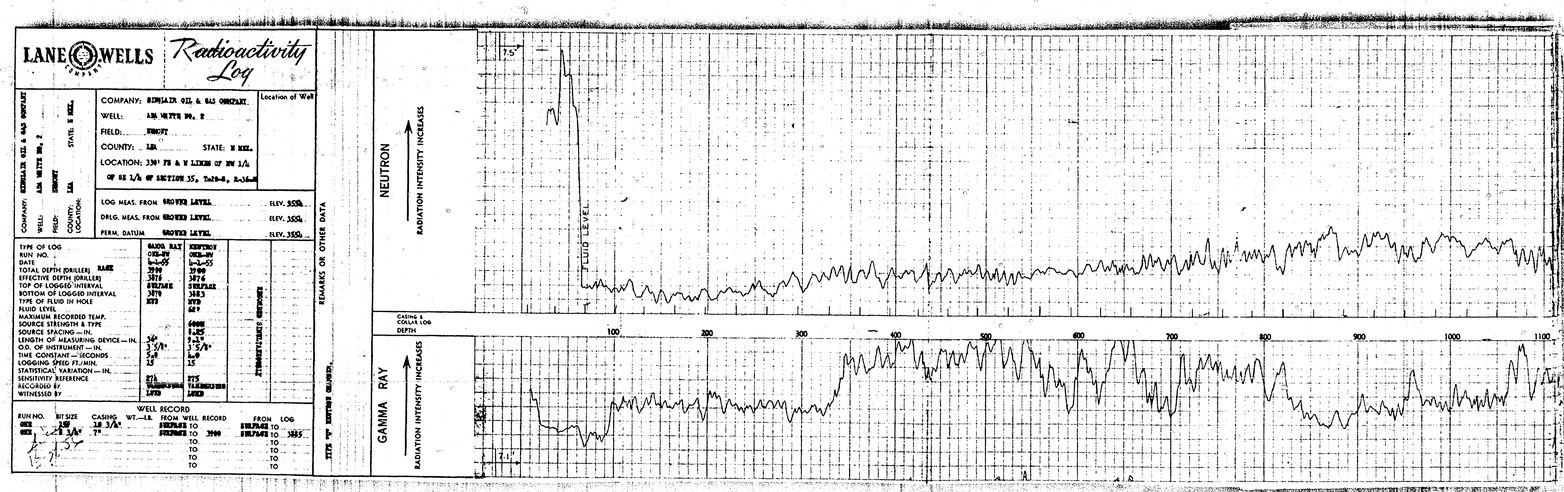


304

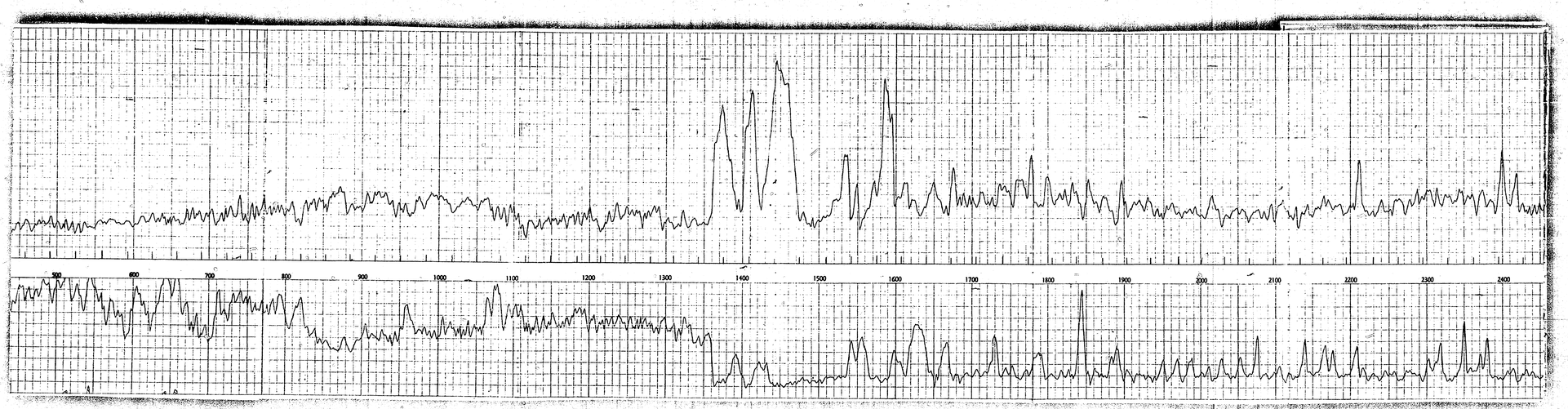



West Texas Electrical Log Service
REFERENCE Nº A 2775 -D
LANE WELLS
Radioactivity Log
GAMMA RAY
NEUTRON
SATURATION INTENSITY INCREASES
SATURATION INTENSITY INCREASES
PROPOSED GAS ZONE PERFS.
SUBSTANTIAL TIGHT ANHYDRITE BARRIER
EXISTING OIL ZONE PERFORATIONS

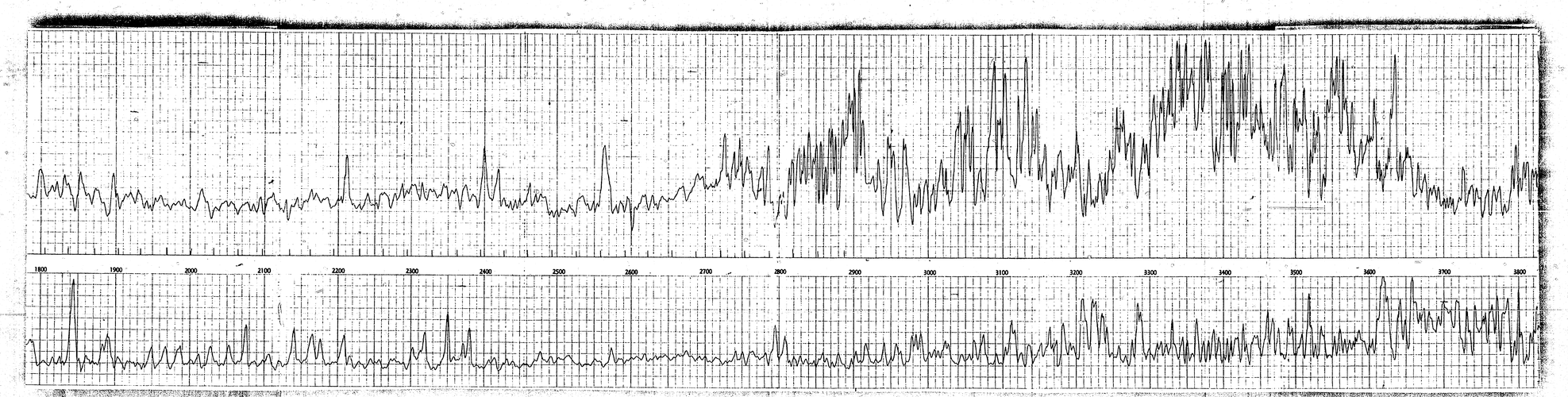
306


LANE WELLS COMPANY
Radioactivity Log
COMPANY: SIMMLAIR OIL & GAS COMPANY
WELL: ADA WHITE NO. 2
FIELD: EMMONT
COUNTY: LEA STATE: N MEX.
LOCATION: 330' FS & W LINES OF NW 1/4 OF SE 1/4 OF SECTION 35, T=20-S, R=36-E
Location of Well
LOG MEAS. FROM GROUND LEVEL ELEV. 3554
DRLG. MEAS. FROM GROUND LEVEL ELEV. 3554
PERM. DATUM GROUND LEVEL ELEV. 3554
TYPE OF LOG
RUN NO.
DATE
TOTAL DEPTH (DRILLER) RACE
EFFECTIVE DEPTH (DRILLER)
TOP OF LOGGED INTERVAL
BOTTOM OF LOGGED INTERVAL
TYPE OF FLUID IN HOLE
FLUID LEVEL
MAXIMUM RECORDED TEMP.
SOURCE STRENGTH & TYPE
SOURCE SPACING — IN.
LENGTH OF MEASURING DEVICE — IN.
O.D. OF INSTRUMENT — IN.
TIME CONSTANT — SECONDS
LOGGING SPEED FT./MIN.
STATISTICAL VARIATION — IN.
SENSITIVITY REFERENCE
RECORDED BY
WITNESSED BY
GAMMA RAY
NEUTRON
RADIATION INTENSITY INCREASES
FLUID LEVEL
CASING & COLLAR LOG
DEPTH
100
200
300
400
500
600
700
800
900
1000
1100
WELL RECORD
RUN NO. BIT SIZE CASING WT.—LB. FROM WELL RECORD FROM LOG
REMARKS OR OTHER DATA

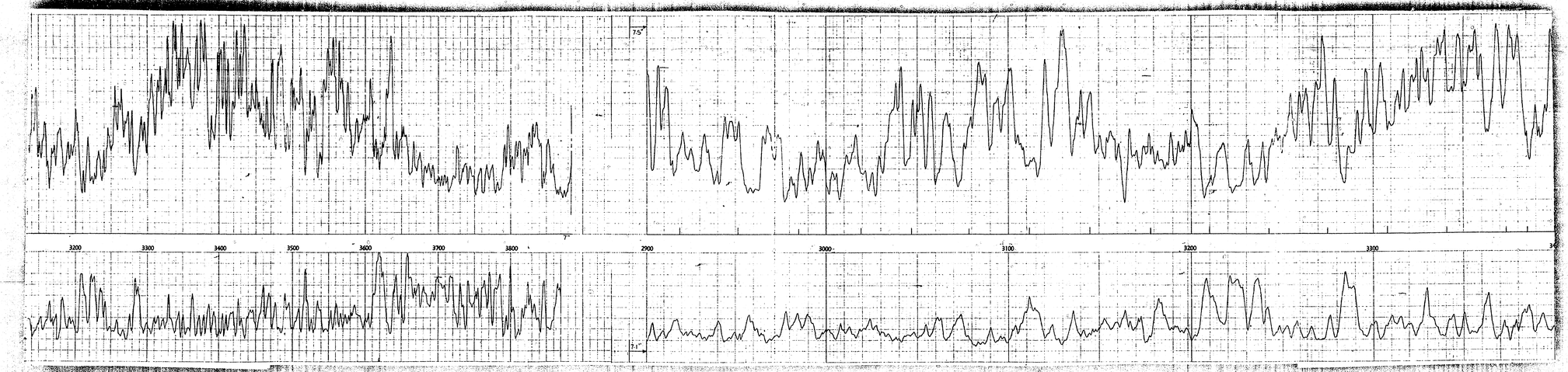
307


500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400

308


1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800

309


7.5"
3200
3300
3400
3500
3600
3700
3800
2900
3000
3100
3200
3300

310

LANE WELLS COMPANY — *Radioactivity Log*

COMPANY: SINCLAIR OIL & GAS COMPANY
WELL: ADA WHITE NO. 2
FIELD: EUMONT
COUNTY: LEA STATE: N MEX.
LOCATION: 330' FS & W LINES OF NW 1/4 OF SE 1/4 OF SECTION 35, T-20-S, R-36-E

Location of Well

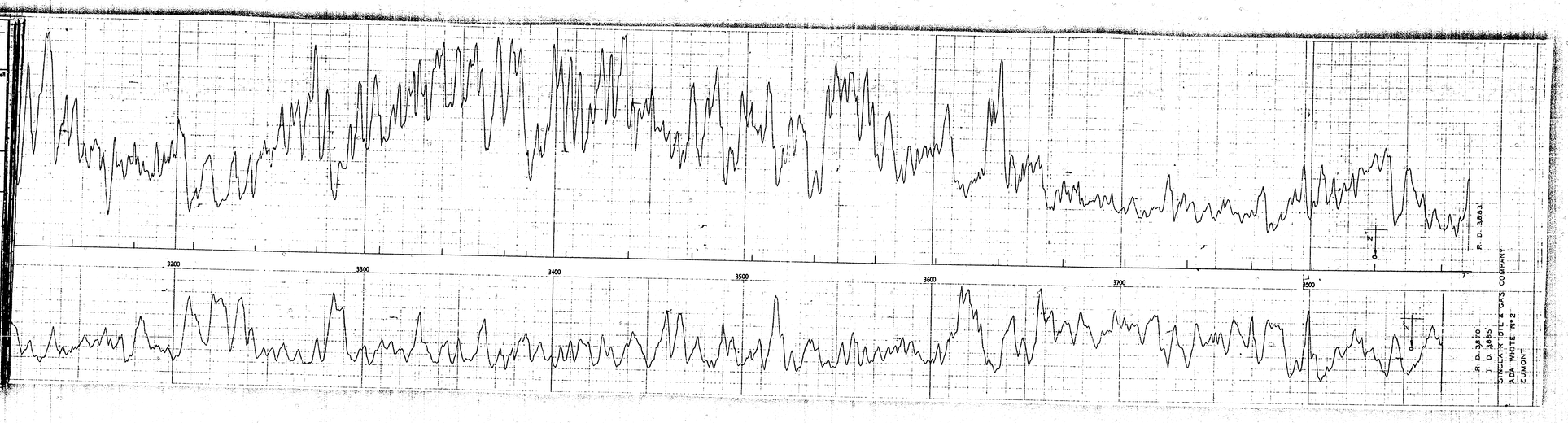
LOG MEAS. FROM GROUND LEVEL ELEV. 3554
DRLG. MEAS. FROM GROUND LEVEL ELEV. 3554
PERM. DATUM GROUND LEVEL ELEV. 3554

TYPE OF LOG	GAMMA RAY	NEUTRON
RUN NO.	ONE-NW	ONE-NW
DATE	4-1-55	4-1-55
TOTAL DEPTH (DRILLER) RACK	3900	3900
EFFECTIVE DEPTH (DRILLER)	3876	3876
TOP OF LOGGED INTERVAL	SURFACE	SURFACE
BOTTOM OF LOGGED INTERVAL	3870	3883
TYPE OF FLUID IN HOLE	MUD	MUD
FLUID LEVEL		62'
MAXIMUM RECORDED TEMP.		
SOURCE STRENGTH & TYPE		600M
SOURCE SPACING — IN.		8.25
LENGTH OF MEASURING DEVICE — IN.	36"	9.1"
O.D. OF INSTRUMENT — IN.	3 5/8"	3 5/8"
TIME CONSTANT — SECONDS	5.0	4.0
LOGGING SPEED FT./MIN.	15	15
STATISTICAL VARIATION — IN.		
SENSITIVITY REFERENCE	274	275
RECORDED BY	[illegible]	[illegible]
WITNESSED BY	LEED	LEED

ATMOSPHERIC CONDITIONS

WELL RECORD

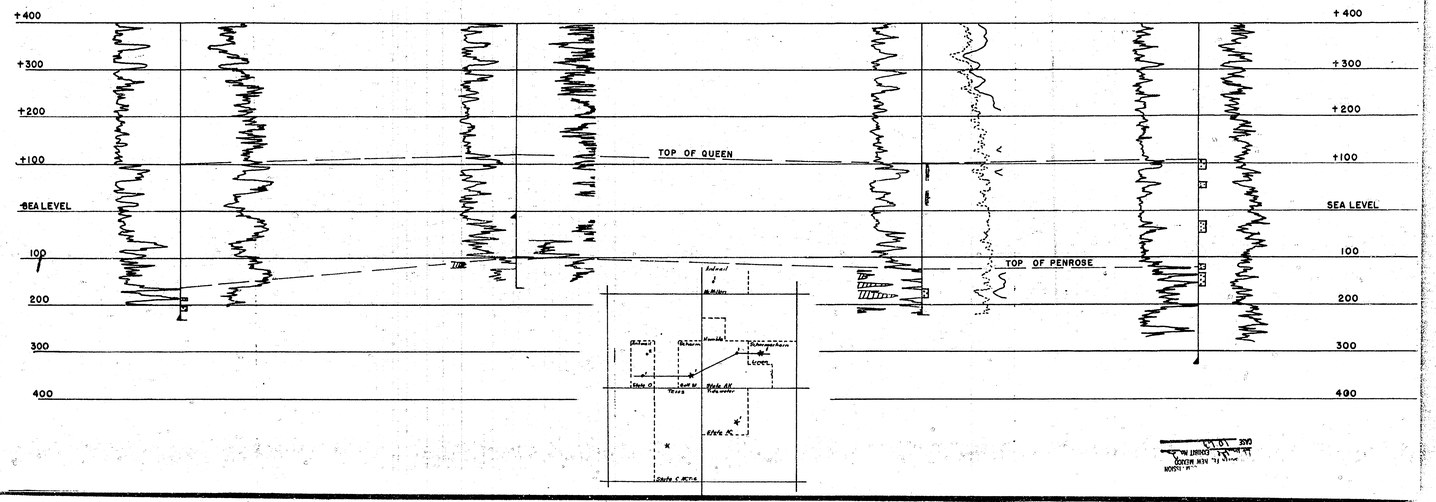
RUN NO.	BIT SIZE	CASING	WT.—LB.	FROM WELL RECORD	FROM LOG
ONE	7"	10 3/4"		SURFACE TO	SURFACE TO
ONE	8 3/4"	7"		SURFACE TO 3900	SURFACE TO 3885
				TO	TO
				TO	TO
				TO	TO
				TO	TO



311

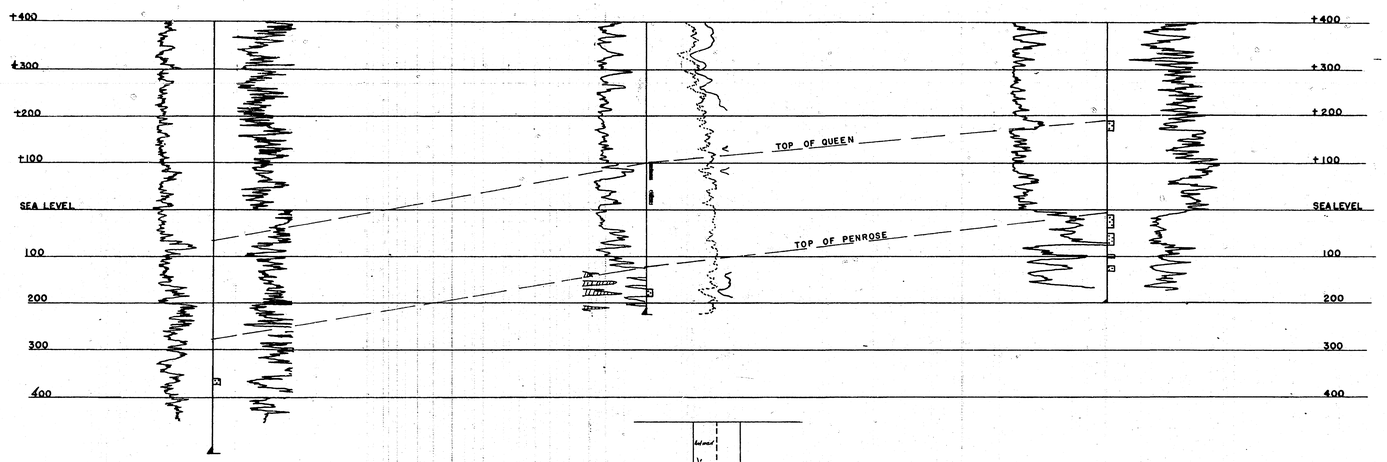
HUMBLE OIL & REFINING CO.
EXHIBIT NO. 2

WEST	ANTWEIL OHIO STATE O-1 ELEVATION 3744	SCHERMERHORN GULF STATE 1 ELEVATION 3728	HUMBLE N M STATE AK-1 ELEVATION 3724	SCHERMERHORN LINAM A-1 ELEVATION 3717	EAST
DEPTH FEET SUBSEA					DEPTH FEET SUBSEA



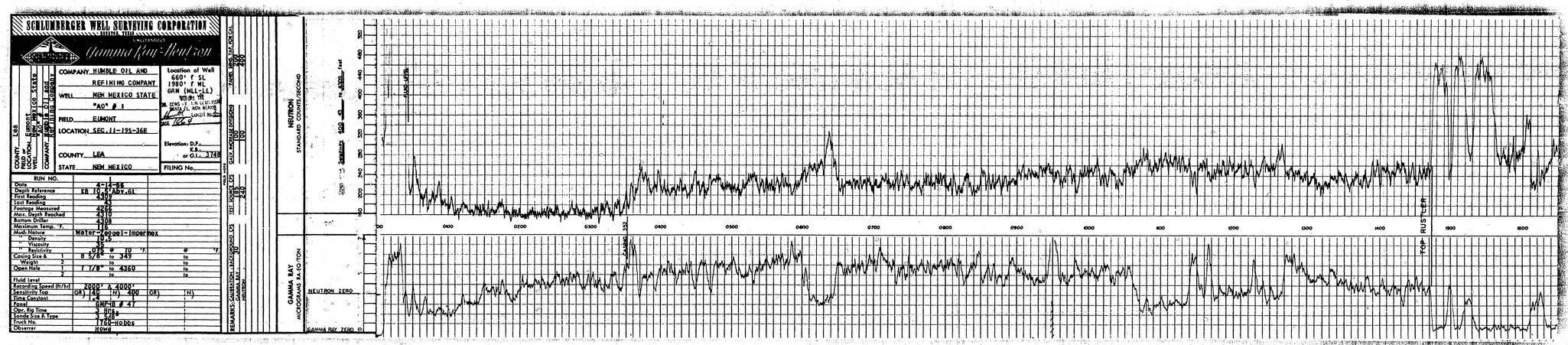
HUMBLE OIL & REFINING CO.
EXHIBIT NO. 3

NORTH	ANTWEIL MCMILLAN 1 ELEVATION 3730	HUMBLE NM STATE AK-1 ELEVATION 3724	TIDEWATER STATE AC-1 ELEVATION 3722	SOUTH
DEPTH FEET SUBSEA				DEPTH FEET SUBSEA

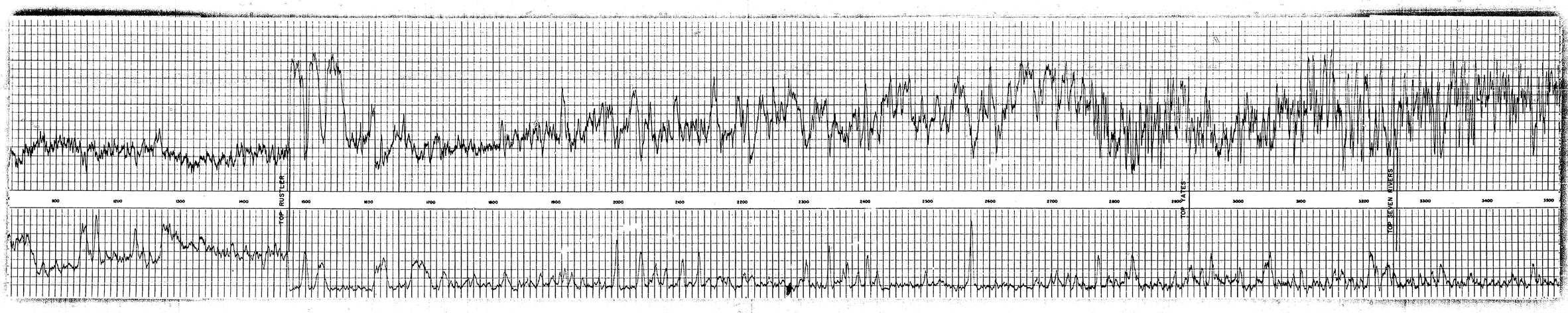


312

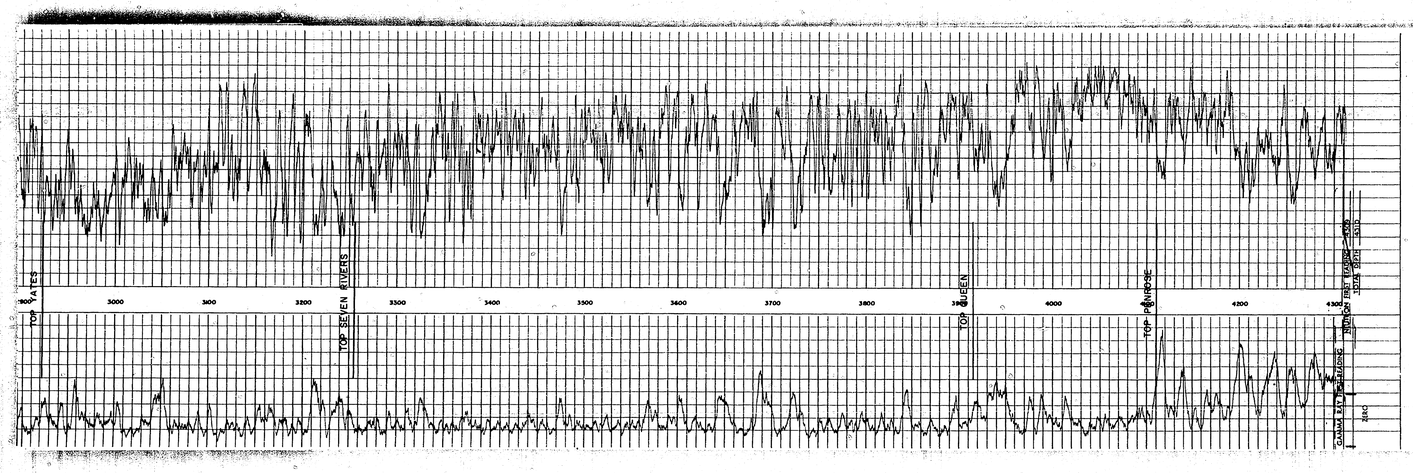
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT NO. 3
CASE 1043


SCHLUMBERGER WELL SURVEYING CORPORATION
Gamma Ray-Neutron
COMPANY HUMBLE OIL AND REFINING COMPANY
WELL NEW MEXICO STATE "AO" # 1
FIELD EUMONT
LOCATION SEC. 11-19S-36E
COUNTY LEA
STATE NEW MEXICO
Location of Well 660' f SL 1980' f WL GRN (WLL-LL)
Elevation: D.F. K.B. or G.L. 3748
FILING No.
RUN NO.
Date 4-14-56
Depth Reference KB 10.5' Abv. GL
First Reading 4309
Last Reading 43
Footage Measured 4266
Max. Depth Reached 4310
Bottom Driller 4308
Maximum Temp. °F. 116
Mud Nature Water-Zeogel-Impermax
Density 10.5
Viscosity 35
Resistivity .075 @ 70 °F. @ °F.
Casing Size & Weight 1 8 5/8" to 349 to
2 to to
Open Hole 1 7 7/8" to 4360 to
2 to to
Fluid Level
Recording Speed (ft/hr) 2000' & 4000'
Sensitivity Top GR) 140 IN) 400 GR) IN)
Time Constant 1.4
Panel GNP-18 # 47
Opr. Rig Time 3 Hrs.
Sande Size & Type 3 5/8"
Truck No. 1760-Hobbs
Observer Howe
REMARKS: CALIBRATION - RECORDING CPS
GAMMA RAY 30
NEUTRON
TEST SOURCE CPS
GALV. MICRO-SE DIVISIONS
PANEL SENS. TAP FOR CAL.
NEUTRON
STANDARD COUNTS/SECOND
GAMMA RAY
MICROGRAMS RA-EQ/TON
NEUTRON ZERO
GAMMA RAY ZERO
TOP RUSTLER

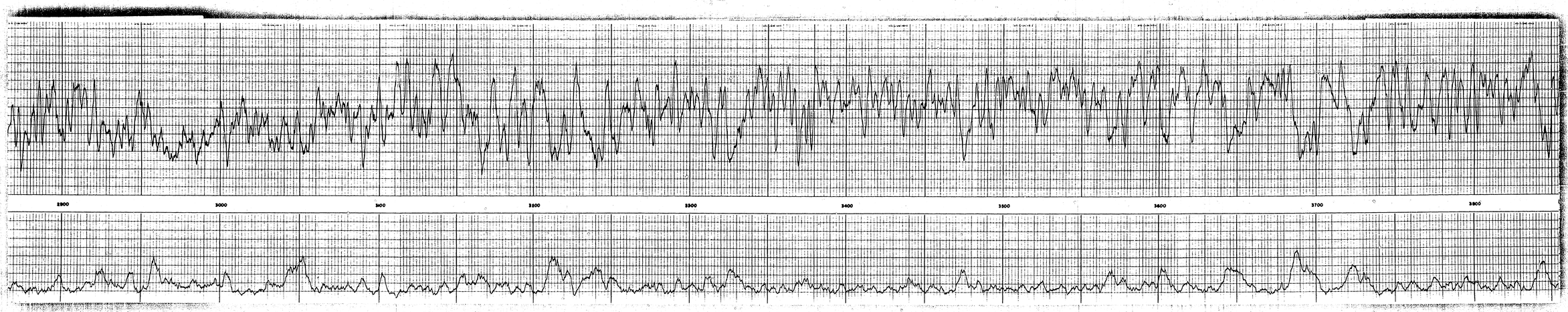
313


800
1200
1300
1400
TOP RUSTLER
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
TOP SALADO
TOP YATES
3000
3100
3200
TOP SEVEN RIVERS
3300
3400
3500

314


TOP YATES
TOP SEVEN RIVERS
TOP QUEEN
TOP PENROSE
3000
3100
3200
3300
3400
3500
3600
3700
3800
4000
4200
4300
NEUTRON
STANDARD COUNTS/SECOND
GAMMA RAY
MICROGRAMS RA-EQ/TON
NEUTRON ZERO
GAMMA RAY ZERO
5"=100'
2800
2900
3000
3100

315



316

SCHLUMBERGER WELL SURVEYING CORPORATION

Gamma Ray-Neutron

COMPANY	HUMBLE OIL AND REFINING COMPANY
WELL	NEW MEXICO STATE "AO" # 1
FIELD	EUMONT
LOCATION	SEC. 11-19S-36E
COUNTY	LEA
STATE	NEW MEXICO

Location of Well: 660' f SL, 1980' f WL, GRN (MLL-LL)

WITHIN THE OIL CONS. CY. COM. LOAN ISSUE MONTH FIL. NEW MEXICO CONSENT No. 5

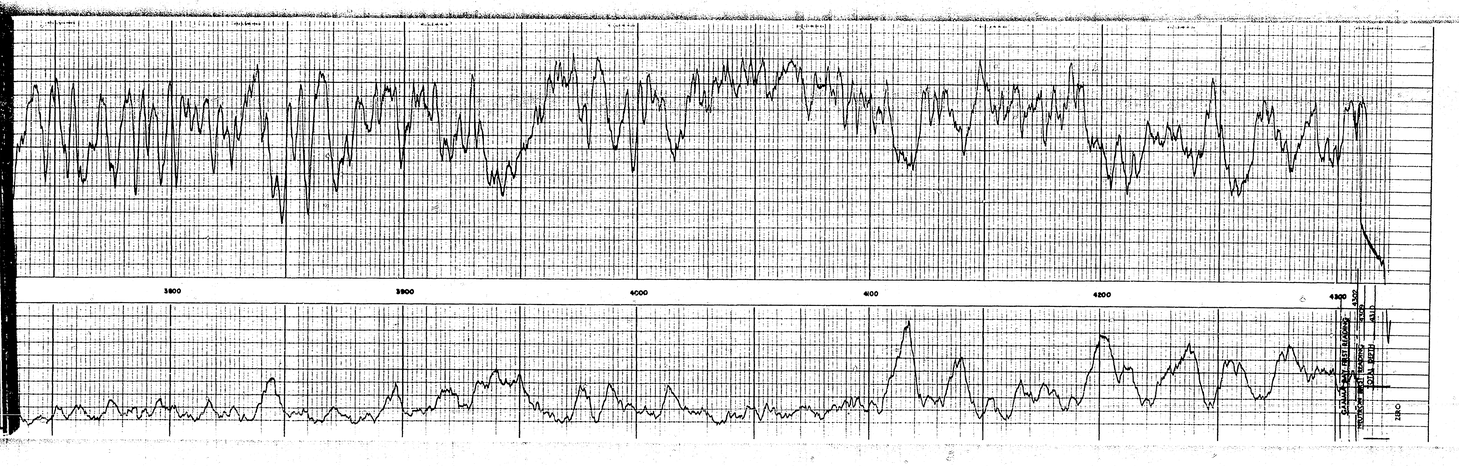
DATE 1964

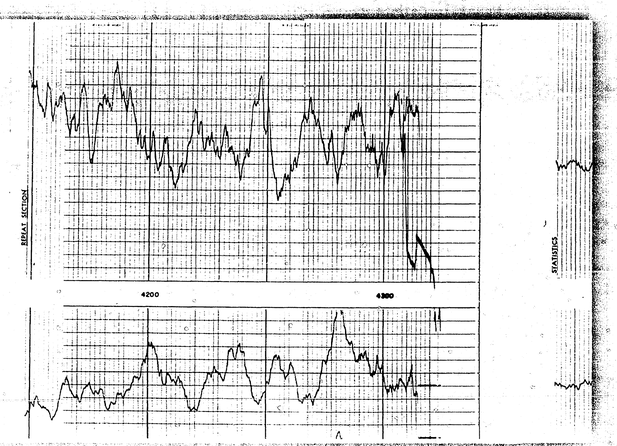
Elevation: D.F., K.B., or G.L. 3748

FILING No.

COUNTY	Lea		
FIELD or LOCATION	Eumont		
WELL	New Mexico State "AO" # 1		
COMPANY	Humble Oil and Refining Company		

RUN NO.			
Date	4-14-56		
Depth Reference	KB 10.6' Abv. GL		
First Reading	4309		
Last Reading	43		
Footage Measured	4266		
Max. Depth Reached	4310		
Bottom Driller	4308		
Maximum Temp. °F.	116		
Mud: Nature	Water-Zeogel-Impermex		
" Density	10.5		
" Viscosity	35		
" Resistivity	.015 @ 70 °F.	@ °F.	
Casing Size & Weight 1	8 5/8" to 349	to	
2	to	to	
Open Hole 1	7 7/8" to 4360	to	
2	to	to	
Fluid Level			
Recording Speed (ft/hr)	2000' & 4000'		
Sensitivity Top	GR) 40 (N) 400	GR)	(N)
Time Constant	1.4		
Panel	GNP-IB # 47		
Opr. Rig Time	3 HRS		
Sonde Size & Type	3 5/8"		
Truck No.	1760-Hobbs		
Observer	HOWG		





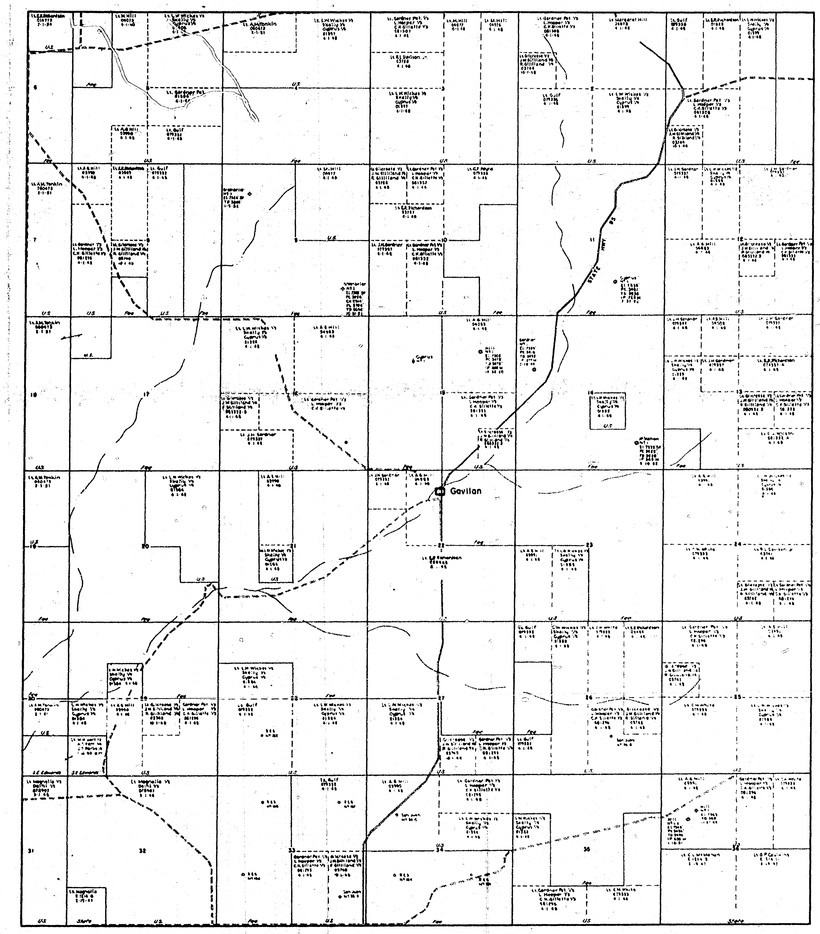
317

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
IV-49 EXHIBIT No. 1
CASE 1846

Magnolia Lindrith Unit Includes Secs.: 31, 32.

Gavilan PC Gas Pool Includes Secs.: 30 SE¼, 11 S½, 14, 15, 22 NE¼, 23 N½.

STATE NEW MEXICO COUNTY RIO ARRIBA TOWNSHIP 25 NORTH RANGE 2 WEST



MOUNTAIN STATES MAPPING CO., INC.
BOX 1300 SANTA FE, NEW MEXICO

SCALE 3" = 1 MILE

MAP NO. N.M. 25-2

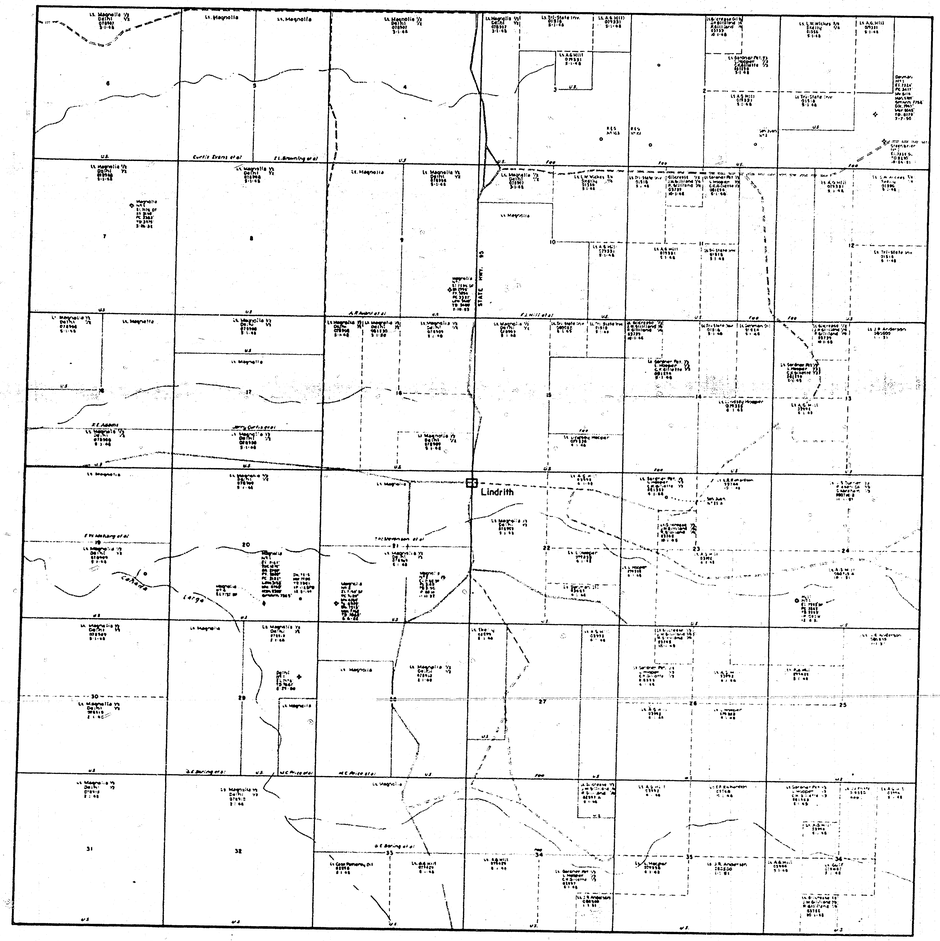
318

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 2
CASE No. 1264

Magnolia Lindrith Unit includes Secs.: 3 W½ W½, 4, 5, 6, 7, 8, 9, 10 W½, 15 W½, 16, 17, 18, 19, 20, 21, 22 W½, 28, 29, 30, 31, 32, 33 W½.

Lindrith Dk. Oil Pool includes Secs.: 20, 21, 28, 29.

STATE NEW MEXICO COUNTY RIO ARRIBA TOWNSHIP 24 NORTH RANGE 2 WEST



MOUNTAIN STATES MAPPING CO., INC.
MIDLAND, TEXAS SANTA FE, NEW MEXICO

SCALE 1" = 1 MILE
MAP NO. NW 24 - 2

319

SCHLUMBERGER WELL SURVEYING CORPORATION
HOUSTON, TEXAS

Electrical Log

COMPANY R & G DRILLING
COMPANY
WELL R & G #101
FIELD WILDCAT
LOCATION SEC. 2-24N-2W
COUNTY RIO ARRIBA
STATE NEW MEXICO

Location of Well
799' FR S/L
799' FR W/L
SEC. 2-24N-2W
ES
Elevation: D.F., K.B., or G.L. 7215'
FILING No.

RUN No.	ONE									
Date	4-13-56									
First Reading	3398									
Last Reading	108									
Feet Measured	3292									
Csg. Schlum.	108									
Csg. Driller	106									
Depth Reached	3393									
Bottom Driller	3398									
Depth Datum	KB									
Mud Mat.	GEL									
" Density										
" Viscosity	40									
" Resist.	7.0K 62°	@	°F	@	°F	@	°F	@	°F	
" Res. Bht	4.6@104°	@	°F	@	°F	@	°F	@	°F	
" pH	—	@	°F	@	°F	@	°F	@	°F	
" Wtr. Loss	— CC 30 min.	CC 30 min.		CC 30 min.		CC 30 min.		CC 30 min.		
Max. Temp. °F	104									
Bit Size	8 3/4"									
Spcgs.—AM	16'									
A M	64'									
AO	18'8"									
Opr. Rig Time	1 1/2 HRS									
Truck No.	1772 FARM									
Recorded By	HAMILTON									
Witnessed By	RUSSELL									

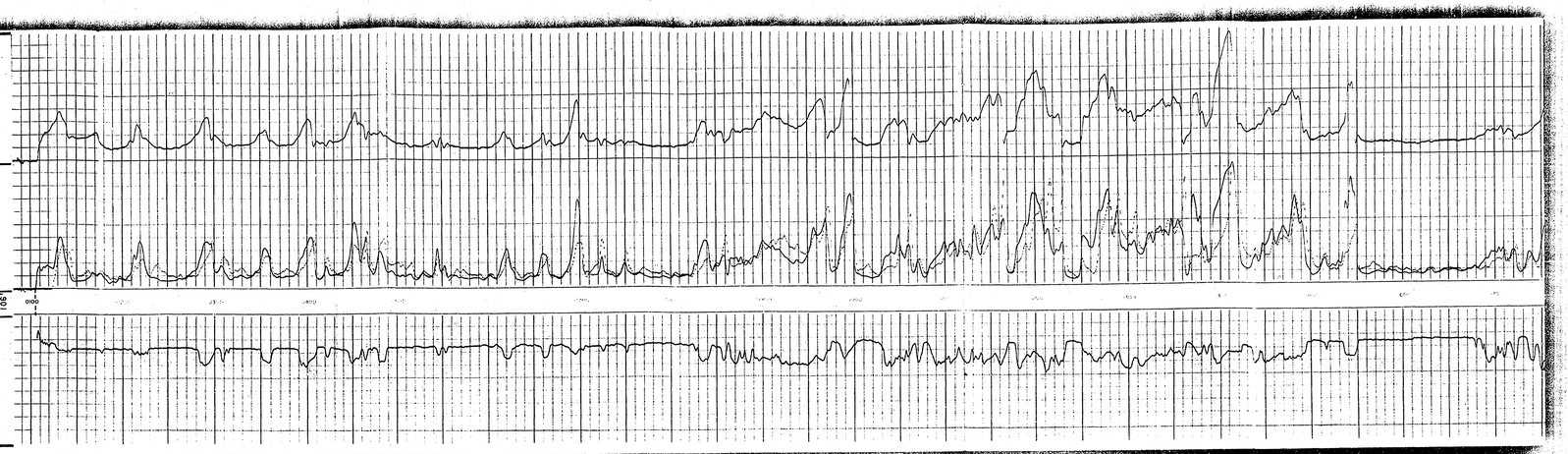
BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
EXHIBIT No. 3
CASE

REMARKS RUN ONE MUD FROM FLOW LINE

RESISTIVITY -ohms. m²/m
NORMAL 100 0 1000
LATERAL 100 0 1000
LONG NORMAL 100 0 1000

DEPTHS 2"/100' CSG. 106

SPONTANEOUS POTENTIAL millivolts 10 mv



SCHLUMBERGER WELL SURVEYING CORPORATION
HOUSTON, TEXAS

Electrical Log

COMPANY R & G DRILLING
COMPANY
WELL R & G #102
FIELD WILDCAT
LOCATION SEC. 28-25N-2W
COUNTY RIO ARRIBA
STATE NEW MEXICO

Location of Well
1547' FR W/L
1440' FR S/L
ES (ML)
Elevation: D.F. 7216' K.B., or G.L. 7206'
FILING No.

RUN No.	ONE									
Date	5-7-56									
First Reading	3551									
Last Reading	110									
Feet Measured	3441									
Csg. Schlum.	110									
Csg. Driller	110									
Depth Reached	3522									
Bottom Driller	3520									
Depth Datum	KB									
Mud Mat.	GEL									
" Density	9.3									
" Viscosity	125									
" Resist.	5.0K 63°	@	°F	@	°F	@	°F	@	°F	
" Res. Bht	2.7@118°	@	°F	@	°F	@	°F	@	°F	
" pH	7.5K	@	°F	@	°F	@	°F	@	°F	
" Wtr. Loss	CC 30 min.	CC 30 min.		CC 30 min.		CC 30 min.		CC 30 min.		
Max. Temp. °F	118									
Bit Size	8 3/4"									
Spcgs.—AM	16'									
A M	64'									
AO	18'8"									
Opr. Rig Time	1 1/2 HR									
Truck No.	1772 FARM									
Recorded By	MILLER									
Witnessed By	RUSSELL									

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
EXHIBIT No. 4
CASE

REMARKS RUN ONE MUD FROM FLOW LINE

RESISTIVITY -ohms. m²/m
NORMAL 100 0 1000
LATERAL 100 0 1000
LONG NORMAL 100 0 1000

DEPTHS 2"/100' CSG. 110

SPONTANEOUS POTENTIAL millivolts 10 mv



SCHLUMBERGER WELL SURVEYING CORPORATION
HOUSTON, TEXAS

Electrical Log

COMPANY R & G DRILLING
COMPANY
WELL R & G #103
FIELD WILDCAT
LOCATION SEC. 3-24N-2W
COUNTY RIO ARRIBA
STATE NEW MEXICO

Location of Well
990' FR S/L
990' FR E/L
SEC. 3-24N-2W
ES (ML)
Elevation: D.F. 7213' K.B., or G.L. 7202'
FILING No.

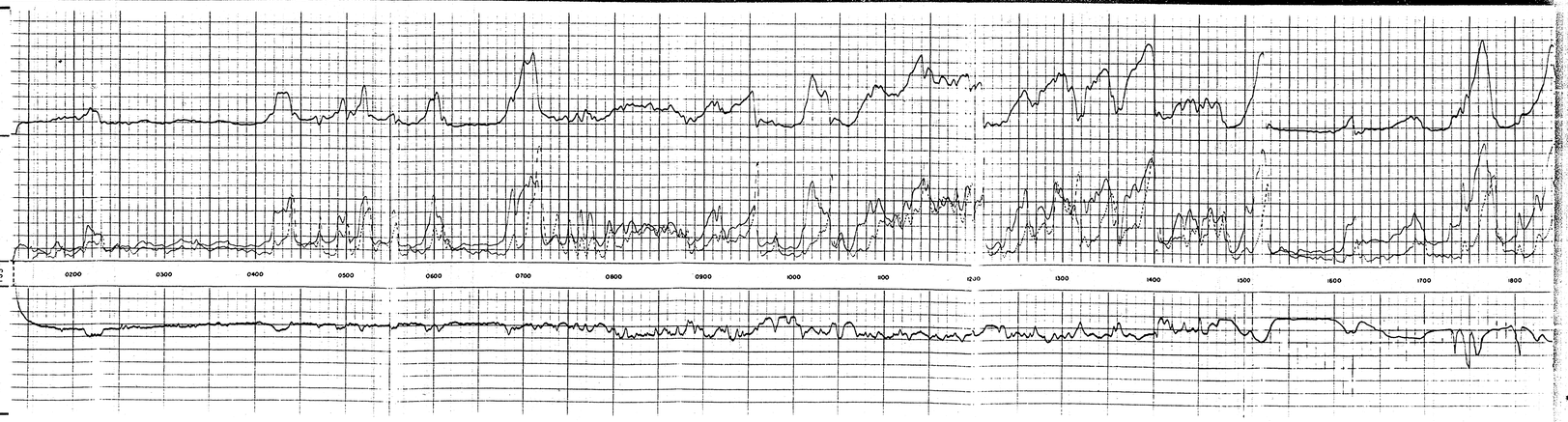
RUN No.	ONE									
Date	4-26-56									
First Reading	3316									
Last Reading	135									
Feet Measured	3181									
Csg. Schlum	135									
Csg. Driller	100									
Depth Reached	3317									
Bottom Driller	3315									
Depth Datum	KB									
Mud Mat.	GEL									
" Density	10									
" Viscosity	52									
" Resist.	4.2K 70°	@	°F	@	°F	@	°F	@	°F	
" Res. Bht	3.0@113°	@	°F	@	°F	@	°F	@	°F	
" pH	—	@	°F	@	°F	@	°F	@	°F	
" Wtr. Loss	— CC 30 min.	CC 30 min.		CC 30 min.		CC 30 min.		CC 30 min.		
Max. Temp. °F	113									
Bit Size	8 3/4"									
Spcgs.—AM	16'									
A M	64'									
AO	18'8"									
Opr. Rig Time	1 HR									
Truck No.	1772 FARM									
Recorded By	KIMBALL									
Witnessed By	RUSSELL									

REMARKS RUN ONE MUD FROM FLOW LINE

RESISTIVITY -ohms. m²/m
NORMAL 100 0 1000
LATERAL 100 0 1000
LONG NORMAL 100 0 1000

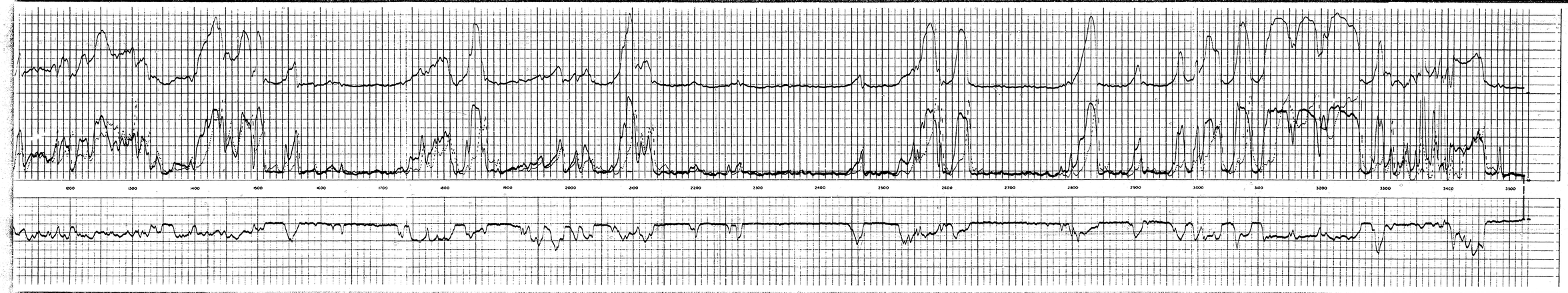
DEPTHS 2"/100' CSG. 135

SPONTANEOUS POTENTIAL millivolts 10 mv



320


1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
5" = 100'
2800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3200
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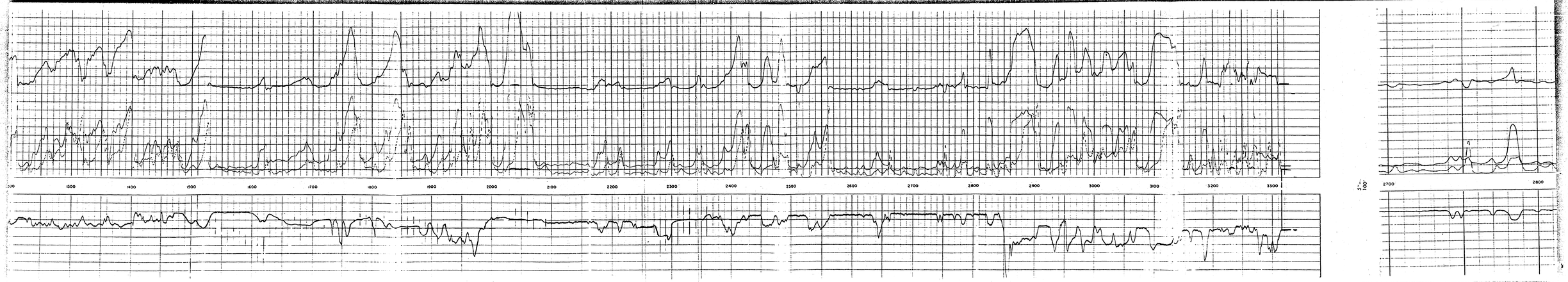
3400
3500


1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
3200
3300
5" = 100'
2700
2800

321

SCHLUMBERGER WELL SURVEYING CORPORATION

BRESTON, TEXAS

Electrical Log

COUNTY RIO ARRIBA, N.M.
FIELD or LOCATION WILDCAT
WELL R & G #101
COMPANY R & G DRILLING COMPANY

COMPANY	R & G DRILLING COMPANY
WELL	R & G #101
FIELD	WILDCAT
LOCATION	SEC. 2-24N-2W
COUNTY	RIO ARRIBA
STATE	NEW MEXICO

Location of Well: 799' FR S/L, 799' FR W/L, SEC. 2-24N-2W

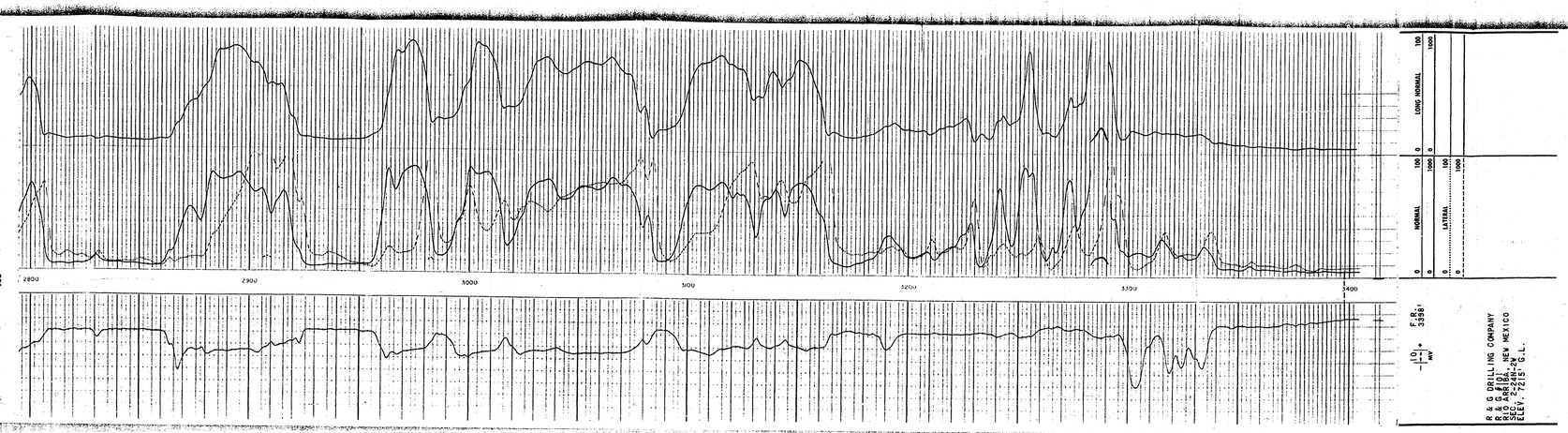
ES

Elevation: D.F.: K.B.: or G.L.: 7215

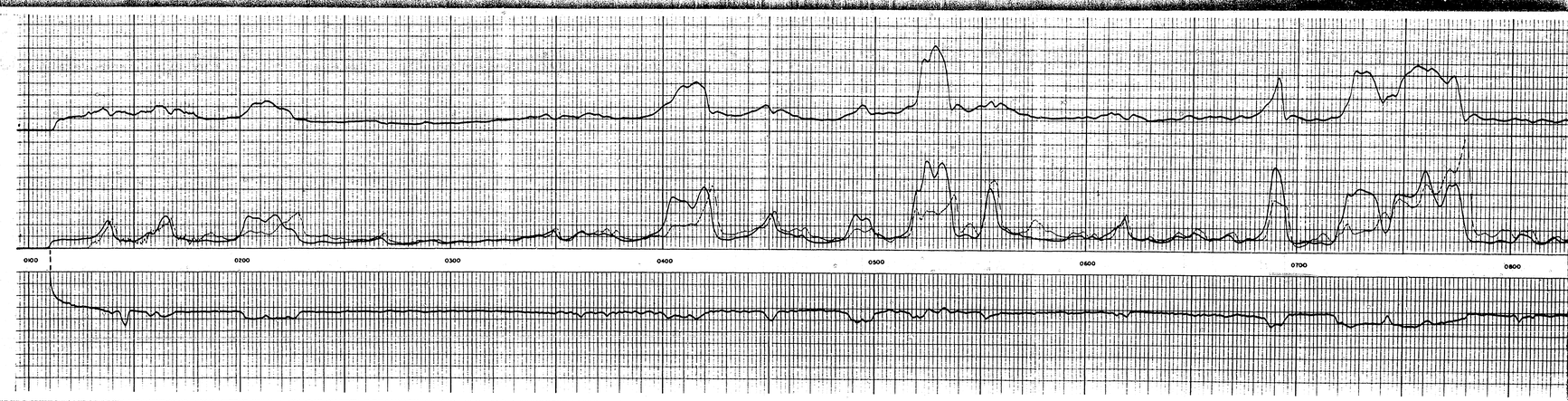
FILING No.

RUN No.	ONE
Date	4-19-56
First Reading	3398
Last Reading	106
Feet Measured	3292
Csg. Schlum.	106
Csg. Driller	106
Depth Reached	3399
Bottom Driller	3398
Depth Datum	KB
Mud Not.	GEL
" Density	--
" Viscosity	40
" Resist.	7.0@67°F
" Res. BHT	4.6@104°F
" pH	-- @ °F
" Wtr. Loss	-- CC 30 min.
Max. Temp. °F	104
Bit Size	8 3/4"
Spcgs.—AM	16"
A M	64"
AO	18'8"
Opr. Rig Time	9 1/2 HRS
Truck No.	1718FARM
Recorded By	HAMILTON
Witnessed By	RUSSELL

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
CASE 1056 EXHIBIT No. 3







SCHLUMBERGER WELL SURVEYING CORPORATION

BRESTON, TEXAS

Electrical Log

COUNTY RIO ARRIBA, N.M.
FIELD or LOCATION WILDCAT
WELL R & G #103
COMPANY R & G DRILLING COMPANY

COMPANY	R & G DRILLING COMPANY
WELL	R & G #103
FIELD	WILDCAT
LOCATION	SEC. 3-24N-2W
COUNTY	RIO ARRIBA
STATE	NEW MEXICO

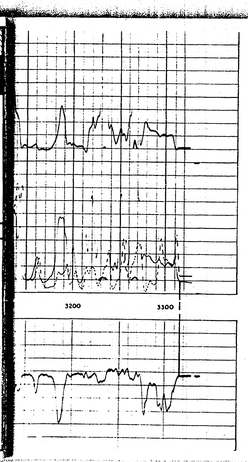
Location of Well: 990' FR S/L, 990' FR E/L, SEC. 3-24N-2W

ES (ML)

Elevation: D.F.: K.B.: 7213' or G.L.: 7202'

FILING No.

RUN No.	ONE
Date	4-26-56
First Reading	3316
Last Reading	135
Feet Measured	3181
Csg. Schlum.	135
Csg. Driller	100
Depth Reached	3317
Bottom Driller	3315
Depth Datum	KB
Mud Not.	GEL
" Density	10
" Viscosity	62
" Resist.	4.9@70°F
" Res. BHT	3.0@113°F
" pH	-- @ °F
" Wtr. Loss	-- CC 30 min.
Max. Temp. °F	113
Bit Size	8 3/4"
Spcgs.—AM	16"
A M	64"
AO	18'8"
Opr. Rig Time	1 HR
Truck No.	1714FARM
Recorded By	KIMBALL
Witnessed By	RUSSELL





322

SCHLUMBERGER WELL SURVEYING CORPORATION

HOUSTON, TEXAS

Electrical Log

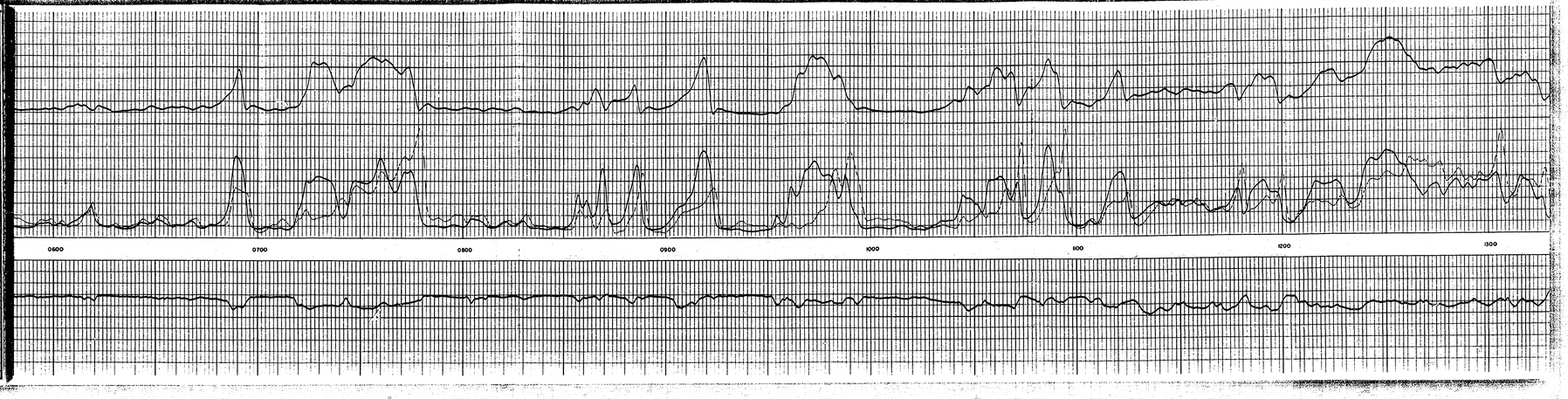
COUNTY RIO ARRIBA, N. M.
FIELD WILDCAT
LOCATION SEC. 28-25N-2W
WELL R & G #102
COMPANY R & G DRILLING

COMPANY R & G DRILLING
COMPANY
WELL R & G #102
FIELD WILDCAT
LOCATION SEC. 28-25N-2W
COUNTY RIO ARRIBA
STATE NEW MEXICO

Location of Well
1547' FR W/L
1440' FR S/L
ES
(ML)
Elevation: D.F. K.B. 7215' or G.L. 7206'
FILING No.

RUN No.	ONE									
Date	5-7-56									
First Reading	8521									
Last Reading	110									
Feet Measured	3411									
Csg. Schlum.	110									
Csg. Driller	110									
Depth Reached	3522									
Bottom Driller	3520									
Depth Datum	KB									
Mud Nat.	GEL									
" Density	8.8									
" Viscosity	125									
" Resist.	8.0@ 68°F	@	°F	@	°F	@	°F	@	°F	
" Res. BHT	2.76@118°F	@	°F	@	°F	@	°F	@	°F	
" pH	7.5@ °F	@	°F	@	°F	@	°F	@	°F	
" Wtr. Loss	7	CC 30 min.		CC 30 min.		CC 30 min.		CC 30 min.		CC 30 min.
Max. Temp. °F	118									
Bit Size	8 3/4"									
Sonde—AM	IES									
" A M	64"									
" AO	18'8"									
Opr. Rig Time	1½ HR									
Truck No.	1773/FARM									
Recorded By	MILLER									
Witnessed By	RUSSELL									

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
EXHIBIT NO. 4
CASE 1666



SCHLUMBERGER WELL SURVEYING CORPORATION

HOUSTON, TEXAS

MICROLOGGING®

COUNTY RIO ARRIBA, N. M.
FIELD WILDCAT
LOCATION SEC. 3-24N-2W
WELL R & G #103
COMPANY R & G DRILLING

COMPANY R & G DRILLING
COMPANY
WELL R & G #103
FIELD WILDCAT
LOCATION SEC. 3-24N-2W
COUNTY RIO ARRIBA
STATE NEW MEXICO

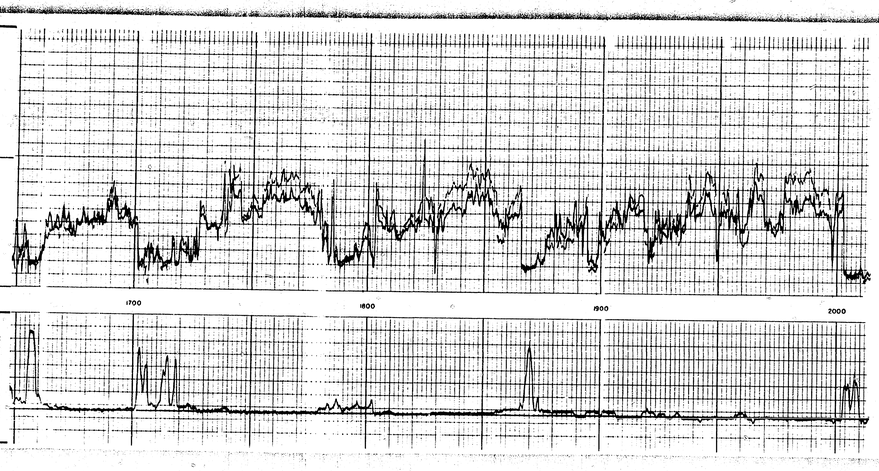
Other Surveys
ES
Location of Well
990' FR S/L
990' FR E/L
SEC. 3-24N-2W
Elevation: D.F. K.B. 7213' or G.L. 7202'
FILING No.

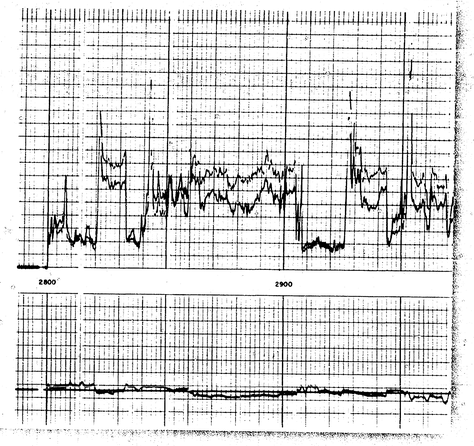
RUN No.	ONE									
Date	4-26-56									
First Reading	3304									
Last Reading	1500									
Feet Measured	1804									
Depth Reached	3307									
Bottom Driller	3315									
Depth Datum	KB									
Mud Nat.	GEL									
Dens. Visc.	10 62									
Mud Resist.	3.3@ 70°F	@	°F	@	°F	@	°F	@	°F	
" Res. BHT	3.0@113°F	@	°F	@	°F	@	°F	@	°F	
" pH	9.4									
" Wtr. Loss	9.4	CC 30 min.		CC 30 min.		CC 30 min.		CC 30 min.		CC 30 min.
Rmf @ BHT	2.1									
Rmc @ BHT	2.5									
Mud Log. Rm.	3.5									
Limit	UPPER									
Depth	2900									
Bit Size	8 3/4"									
Sonde Type	REG									
Pad Type	N									
Opr. Rig Time	HRS									
Truck No.	1773/FARM									
Recorded By	K.HOALL									
Witness	RUSSELL									

RUN ONE MUD FROM FLOW LINE
RME 3.4 @ 72°F M

REMARKS

RESISTIVITY — Ohms. m²/m
Micro Normal 2" — D_Micro Normal 2"
DEPTHS 100'
MICROLOG CALIPER
Hole Diameter in Inches





SCHLUMBERGER WELL SURVEYING CORPORATION

FIELD PRINT

COUNTY
FIELD
LOCATION
WELL
COMPANY

COMPANY R & G Drilling
WELL R & G #102
FIELD Wildcat
LOCATION Sec 28-25N-2W
1547' fr W&, 1440' fr S&
COUNTY Rio Arriba
STATE N. M.

Location of Well
ML
102
Elevation: D.F. K.B. 7216 or G.L. 7206
FILING No.

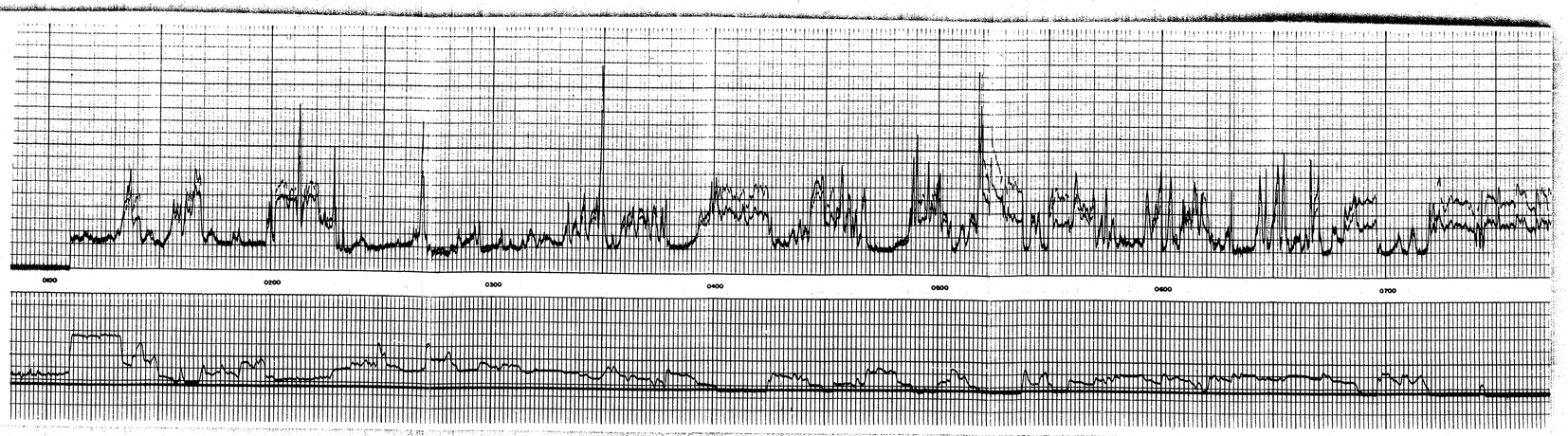
RUN No.	1									
Date	5-7-56									
First Reading	3522									
Last Reading	114									
Feet Measured	3408									
Csg. Schlum.	110									
Csg. Driller	110									
Depth Reached	3522									
Bottom Driller	3520									
Depth Datum	KB									
Mud Nat.	GEL									
" Density	8.8									
" Viscosity	125									
" Resist.	8.0@68°F	@	°F							
" Res. BHT	2.76@118°F	@	°F							
" pH	7.5@	°F	@	°F						
" Wtr. Loss	7 CC 30 min.		CC 30 min.							
Max. Temp. °F	118									
Bit Size	8 3/4"									
Sonde— Am	16"									
" AO	18"									
Opr. Rig Time	3									
Truck No.	1773									
Recorded By	Miller									
Witness By	Russell									

Rmf = 3.8@70° 2.30@118°
Rmc = 4.5@70° 2.6@118°
Rm = 2.7@77°F
Lower Limits

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
EXHIBIT NO. 3
CASE 1666

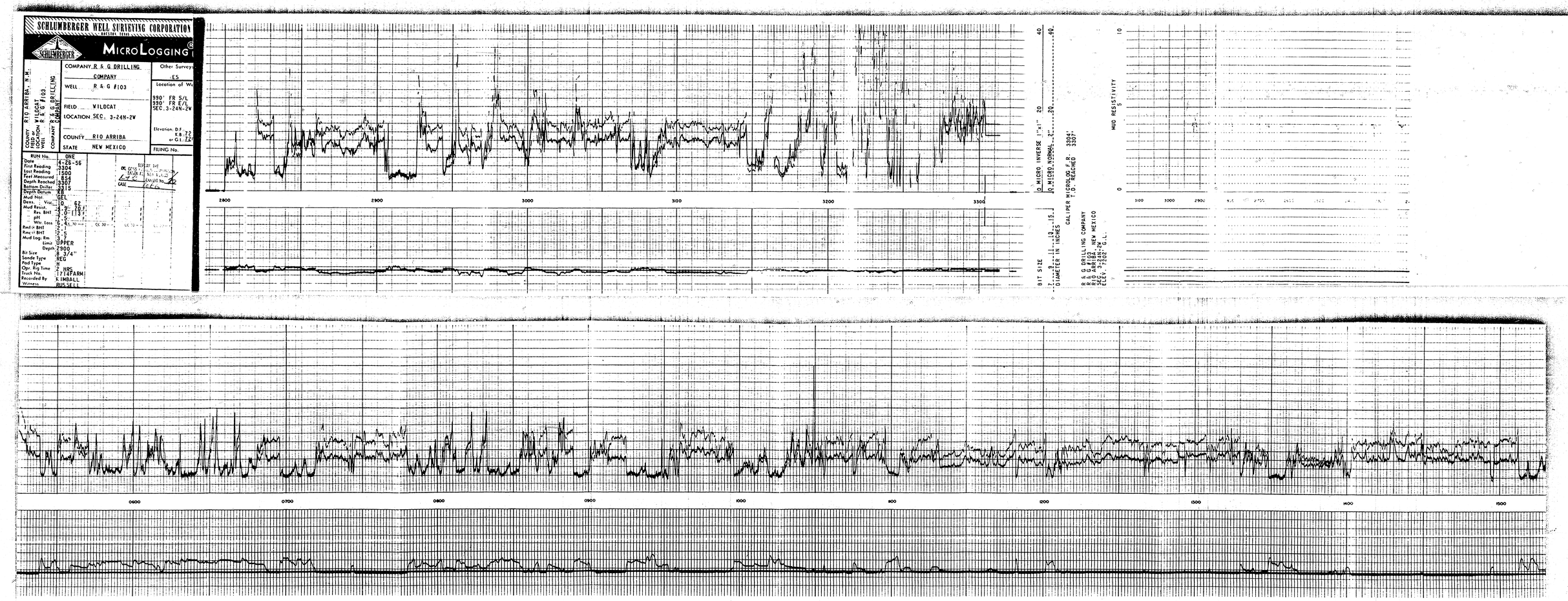
REMARKS

RESISTIVITY — Ohms. m²/m
16" Normal — 64" Normal
CALIPER
Hole Diameter in Inches



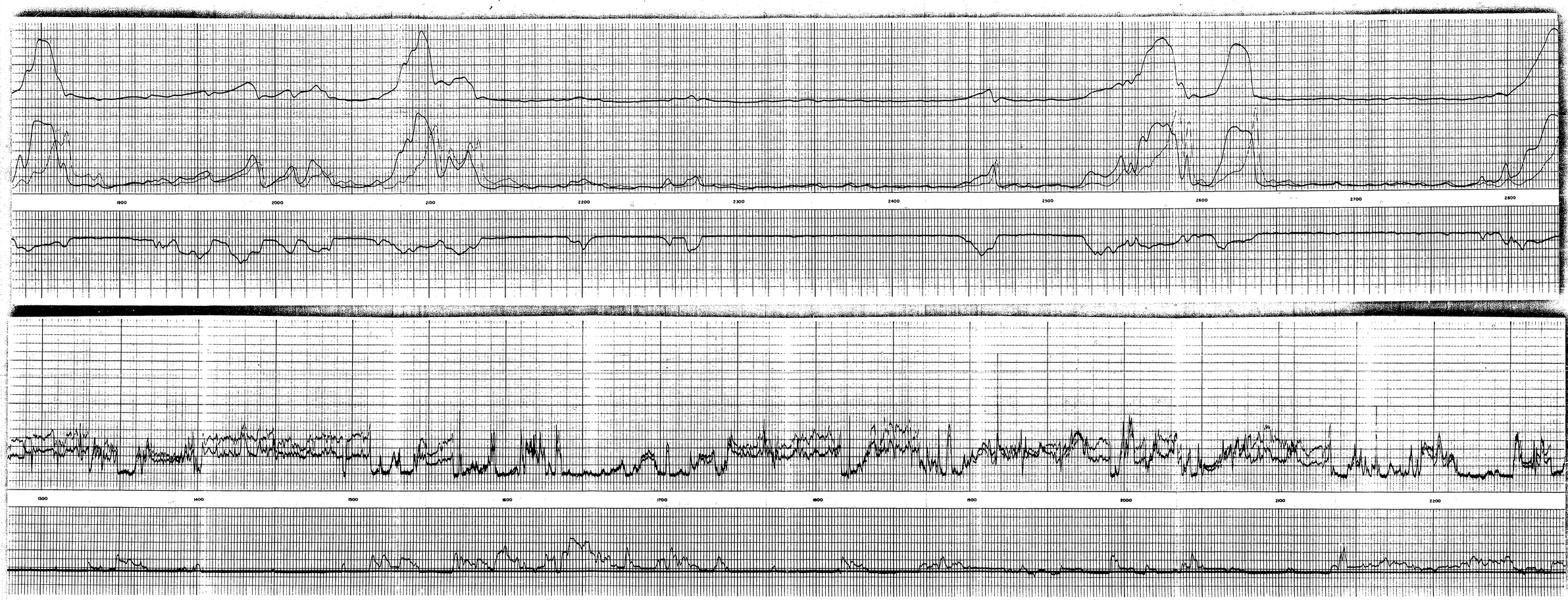
323


1100
1200
1300
1400
1500
1600
1700
1800
1900
2000


SCHLUMBERGER WELL SURVEYING CORPORATION
MICROLOGGING
COMPANY R & G DRILLING COMPANY
WELL R & G #103
FIELD WILDCAT
LOCATION SEC. 3-24N-2W
COUNTY RIO ARRIBA
STATE NEW MEXICO
Other Surveys ES
Location of Well 990' FR S/L 990' FR E/L SEC. 3-24N-2W
Elevation: D.F. K.B. 72 or G.L. 72
FILING No.
RUN No. ONE
Date 4-26-56
First Reading 3304
Last Reading 1500
Feet Measured 854
Depth Reached 3307
Bottom Driller 3315
Depth Datum KB
Mud Not. GEL
Dens. Visc. 10 62
Mud Resist. 4.9 70
Res. BHT 3.0 113
pH 7.5
Wtr. Loss 6.4
Rmf @ BHT 2.1
Rmc @ BHT 2.5
Mud Log. Rm. 3.7
Limit UPPER
Depth 2900
Bit Size 8 3/4"
Sonde Type REG
Pad Type H
Opr. Rig Time 2 HRS
Truck No. 1714FARM
Recorded By KIMBALL
Witness RUSSELL
2800
2900
3000
3100
3200
3300
BIT SIZE
7 9 11 13 15
DIAMETER IN INCHES
CALIPER MICROLOG F.R. 3304'
T.D. REACHED 3307'
R & G DRILLING COMPANY
R & G #103
RIO ARRIBA, NEW MEXICO
SEC. 3-24N-2W
ELEV. 7202' G.L.
MUD RESISTIVITY
0
5
10
3100
3000
2900

0600
0700
0800
0900
1000
1100
1200
1300
1400
1500

324


1900
2000
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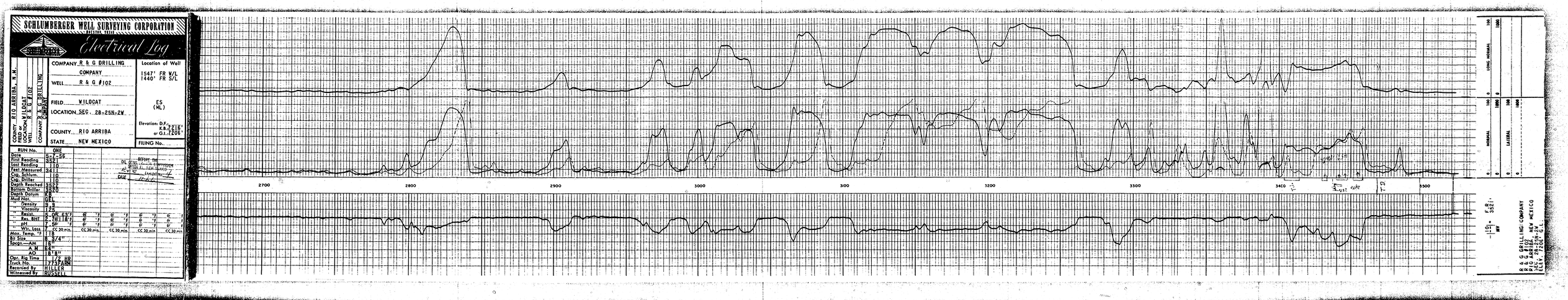
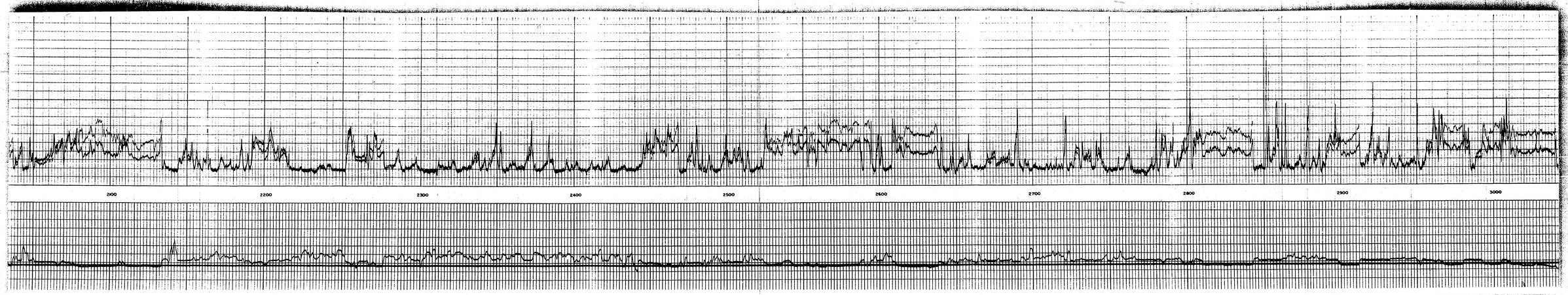
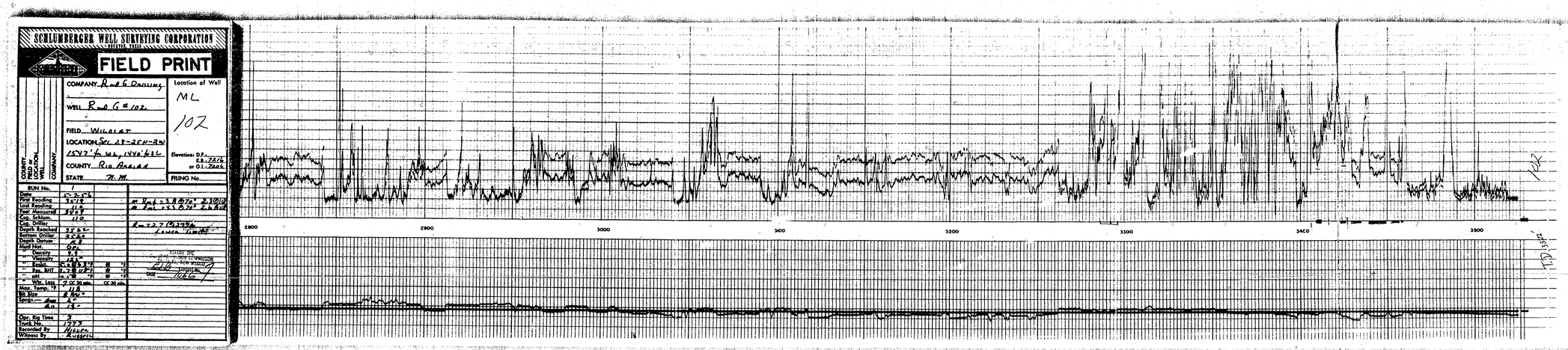
1600
1700
1800
1900
2000
2100
2200

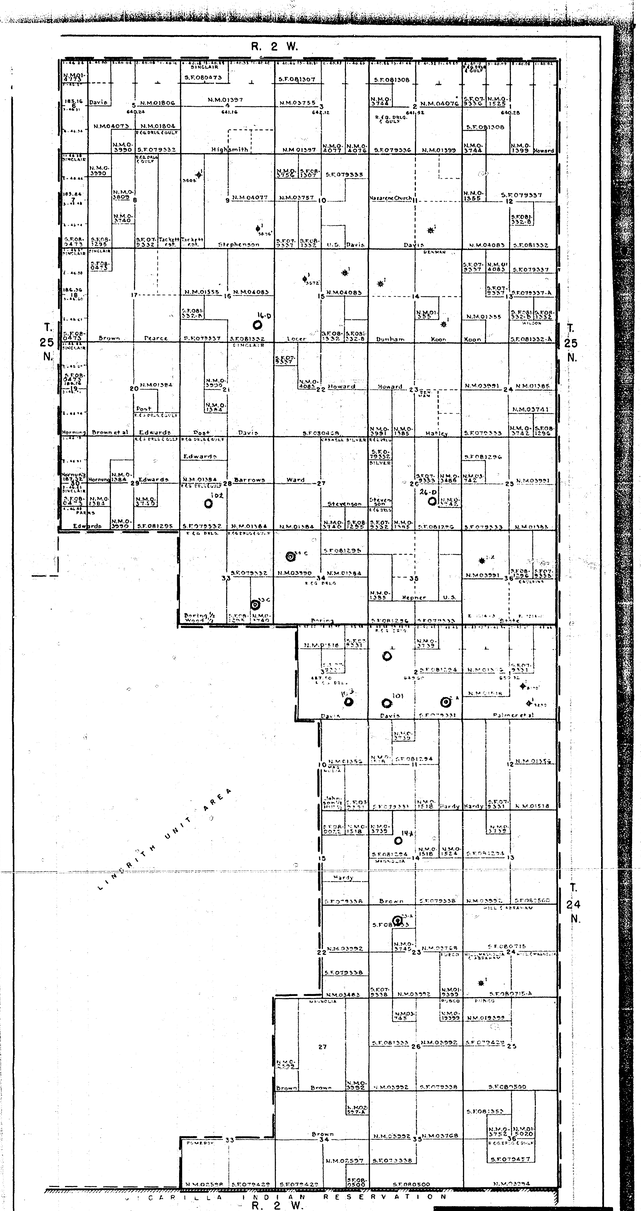

SCHLUMBERGER WELL SURVEYING CORPORATION
Electrical Log
COMPANY R & G DRILLING COMPANY
WELL R & G #102
FIELD WILDCAT
LOCATION SEC. 28-25N-2W
COUNTY RIO ARRIBA
STATE NEW MEXICO
Location of Well
1547' FR W/L
1440' FR S/L
ES (ML)
Elevation: D.F. K.B. 7216' or G.L. 7206'
FILING No.
RUN No. ONE
Date 5-7-56
First Reading 3521
Last Reading 110
Feet Measured 3411
Csg. Schlum. 110
Csg. Driller 110
Depth Reached 3522
Bottom Driller 3520
Depth Datum KB
Mud Nat. GEL
" Density 9.9
" Viscosity 125
" Resist. 5.06 63°F @ °F @ °F @ °F @ °F
" Res. BHT 2.76 118°F @ °F @ °F @ °F @ °F
" pH 7.56 °F @ °F @ °F @ °F @ °F
" Wtr. Loss 7 CC 30 min. CC 30 min. CC 30 min. CC 30 min. CC 30 min.
Max. Temp. °F 118
Bit Size 8 3/4"
Spcgs.—AM 6"
A M 64"
AO 18'8"
Opr. Rig Time 1 1/2 HR
Truck No. 1773 FARM
Recorded By HILLER
Witnessed By RUSSELL
BEFORE THE OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
CASE
2700
2800
2900
3000
3100
3200
3300
3400
3500
NORMAL
LATERAL
LONG NORMAL
R & G DRILLING COMPANY
R & G #102
RIO ARRIBA, NEW MEXICO
SEC. 28-25N-2W
ELEV. 7206' G.L.


2100
2200
2300
2400
2500
2600
2700
2800
2900
3000

326


SCHLUMBERGER WELL SURVEYING CORPORATION
FIELD PRINT
COMPANY R and G Drilling
WELL R and G #102
FIELD Wildcat
LOCATION Sec. 28-25N-2W
1547' fn WL, 1440' fn SL
COUNTY Rio Arriba
STATE N.M.
Location of Well
ML
102
Elevation: D.F.
K.B. 7216
or O.L. 7206
FILING No.
RUN No. 1
Date 5-2-56
First Reading 3519
Last Reading 110
Feet Measured 3409
Csg. Schlum. 110
Csg. Driller
Depth Reached 3522
Bottom Driller 3520
Depth Datum KB
Mud Nat. Gel
" Density 9.9
" Viscosity 125
" Resist. 0.3 @ 63°F @ °F
" Res. Bht 2.7 @ 110°F @ °F
" pH 7.5 @ °F @ °F
" Wtr. Loss 7 CC 30 min. CC 30 min.
Max. Temp. °F 118
Bit Size 8 3/4"
Spcg. Bot 2"
Bot 13"
Opr. Rig Time 5
Truck No. 1773
Recorded By Hilger
Witness By Russell
2800
2900
3000
3100
3200
3300
3400
3500
102

327



LEGEND

	ACREAGE	PERCENT
FEDERAL LANDS	20,023.94	66.21 %
STATE LANDS	320.00	1.06 %
PATENTED LANDS	9,900.24	32.73 %
TOTAL	30,244.18	100.00%

BOUNDARY UNIT AREA

(12) TRACT NUMBERS FROM EXHIBIT "B"

NOTE: SAN JUAN GAS CORPORATION holds Operating Rights, wholly or in part, to base of Mesaverde formation (for details see Exhibit "B") in all land within unit area unless such ownership is otherwise shown.

SAN JUAN GAS CORPORATION
EXHIBIT NO. 1
CASE NO. 1066
MAY 16, 1956

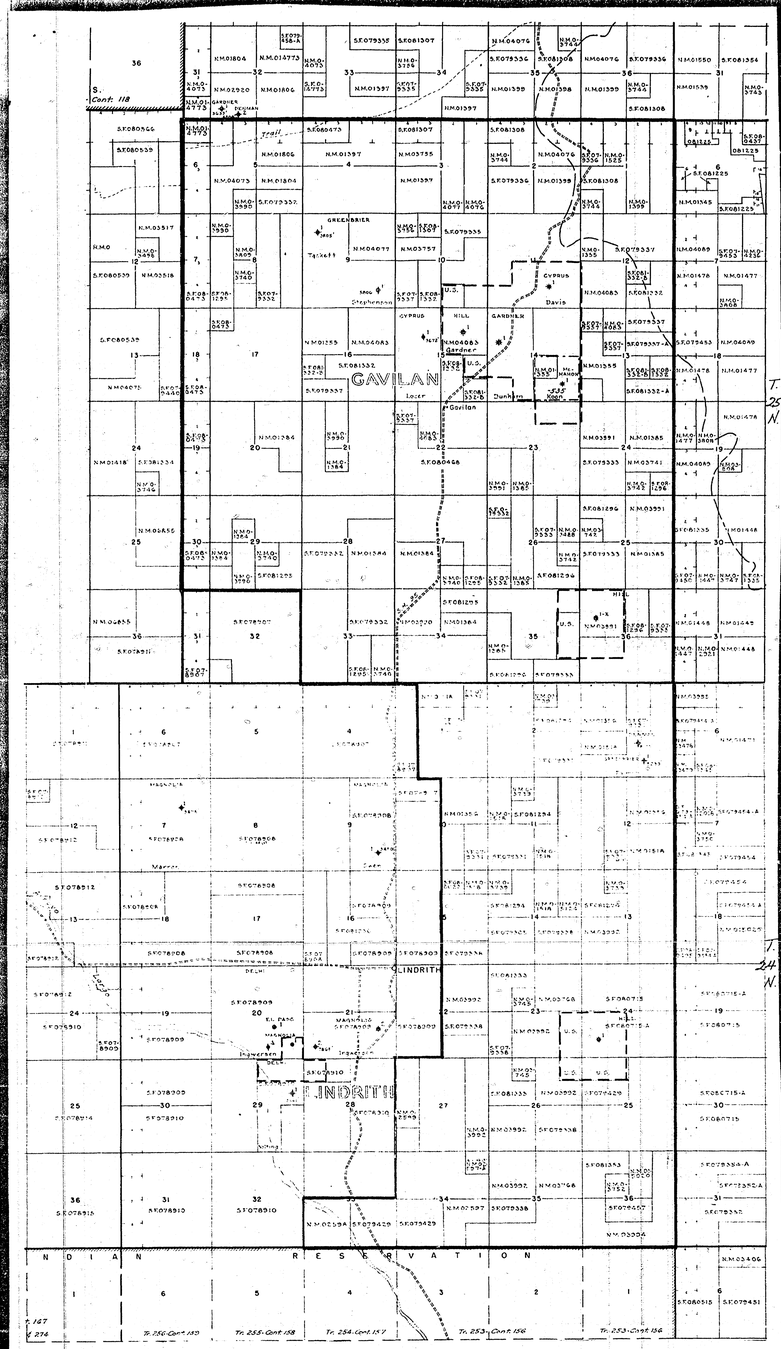
EXHIBIT "A"

GAVILAN UNIT AREA

RIO ARRIBA COUNTY, NEW MEXICO

SCALE 2" = 1 MILE

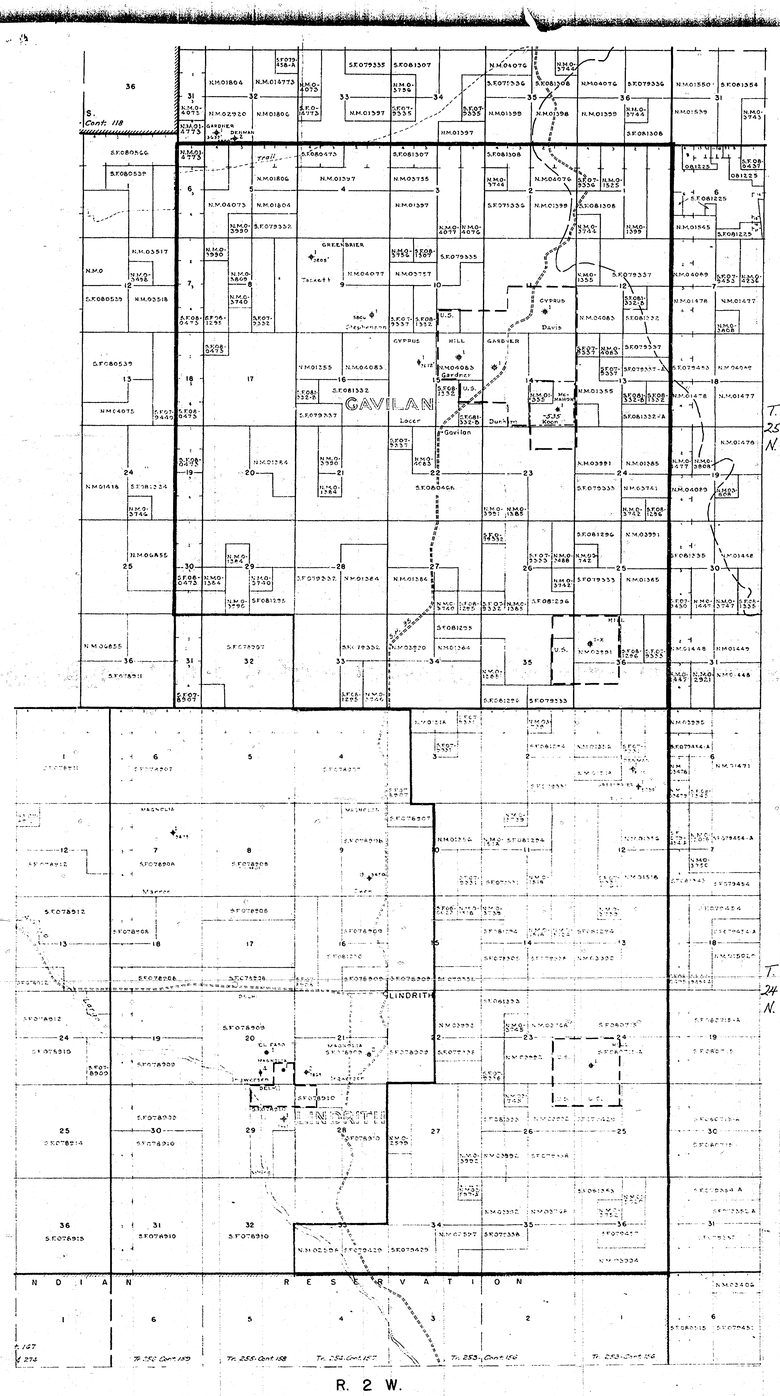
328



REVISIONS		
SUBJECT	DATE	REVISED BY

BOUNDARY OF PROPOSED GAVILAN UNIT AREA

SCALE-MILES 0 ½ 1 2

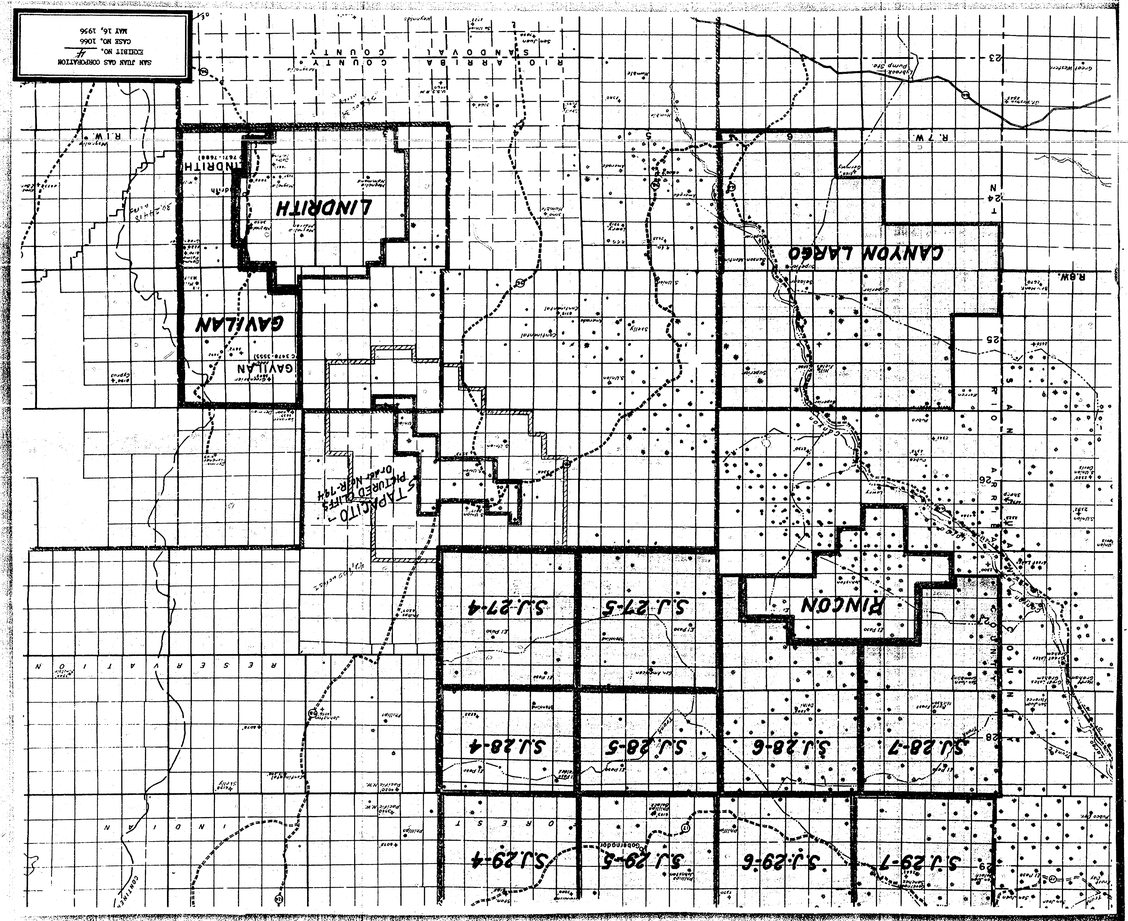


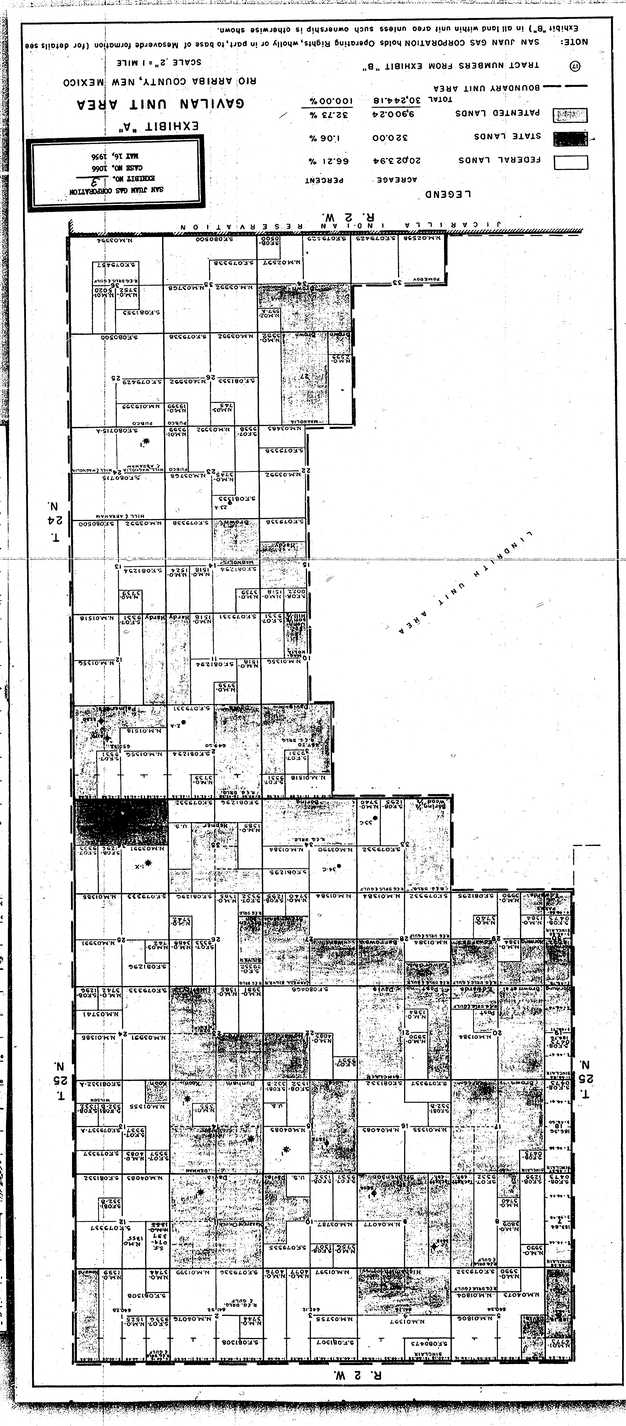
REVISIONS		
SUBJECT	DATE	REVISED BY

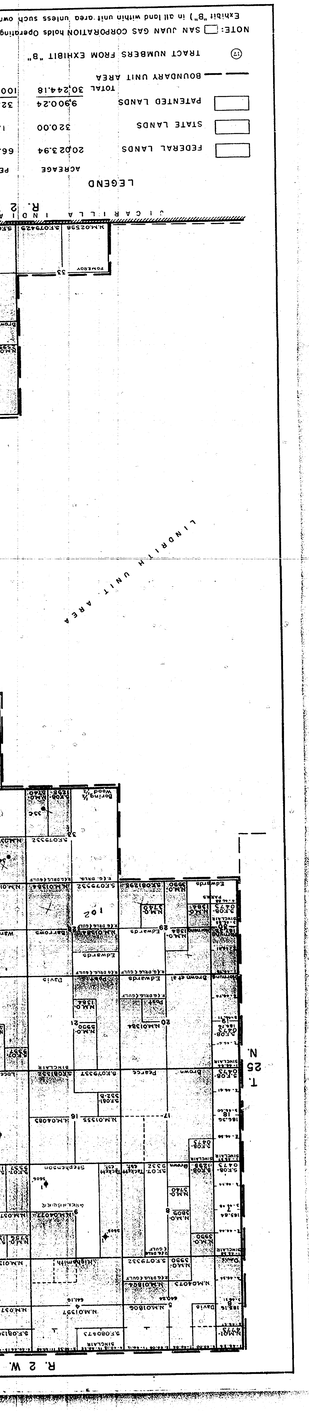
BOUNDARY OF PROPOSED GAVILAN UNIT AREA

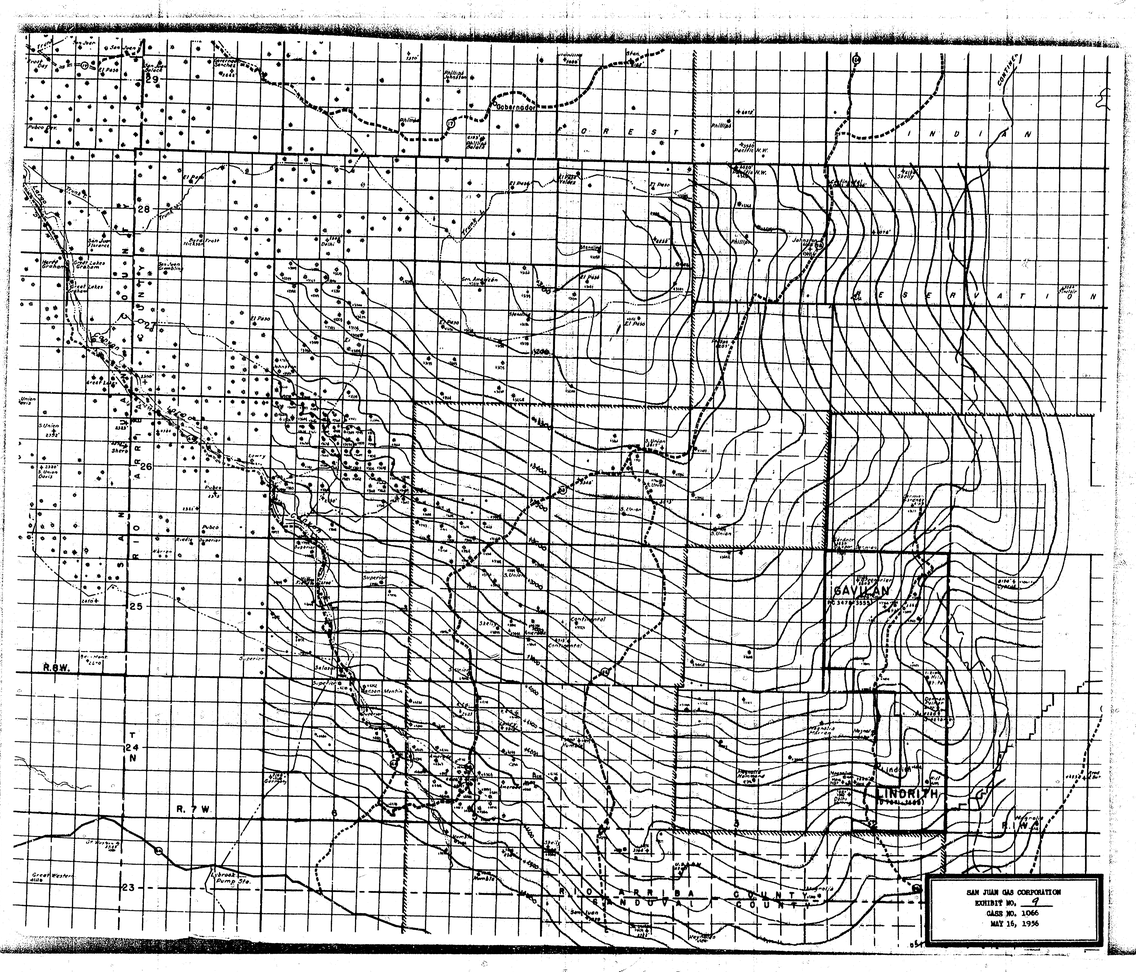
SCALE-MILES 0 ½ 1 2

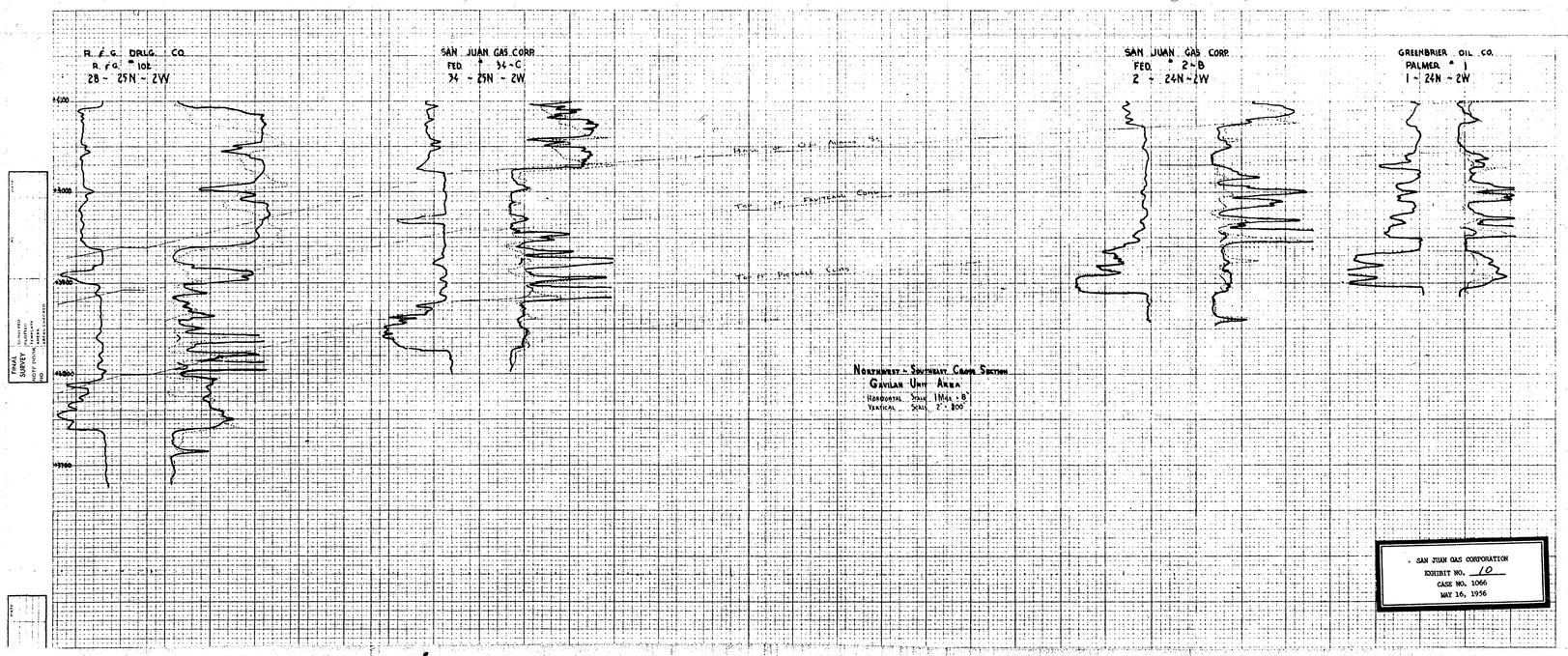
349


SAN JUAN GAS CORPORATION
EXHIBIT NO. 4
CASE NO. 1066
MAY 16, 1956
RIO ARRIBA COUNTY
SANDOVAL COUNTY
LINDRITH
GAVILAN
CANYON LARGO
RINCON
S.J. 27-5
S.J. 27-4
S.J. 28-7
S.J. 28-6
S.J. 28-5
S.J. 28-4
S.J. 29-7
S.J. 29-6
S.J. 29-5
S.J. 29-4
R.7W.
R.6W.
T. 24 N.
T. 25 N.
23
26
28
29
TAPACITO - PICTURED CLIFFS Gradient-Mar.-1949
R E S E R V A T I O N
I N D I A N


SAN JUAN GAS CORPORATION
EXHIBIT NO. 3
CASE NO. 1066
MAY 16, 1956
EXHIBIT "A"
GAVILAN UNIT AREA
RIO ARRIBA COUNTY, NEW MEXICO
SCALE 2" = 1 MILE
LEGEND
ACREAGE PERCENT
FEDERAL LANDS 20,02 3.94 66.21 %
STATE LANDS 320.00 1.06 %
PATENTED LANDS 9900.24 32.73 %
TOTAL 30,244.18 100.00 %
BOUNDARY UNIT AREA
TRACT NUMBERS FROM EXHIBIT "B"
NOTE: SAN JUAN GAS CORPORATION holds Operating Rights, wholly or in part, to base of Mesaverde formation (for details see Exhibit "B") in all land within unit area unless such ownership is otherwise shown.
JICARILLA INDIAN RESERVATION
LINDRITH UNIT AREA
R. 2 W.
T. 24 N.
T. 25 N.


SAN JUAN GAS CORPORATION
EXHIBIT NO. 2
CASE NO. 1066
MAY 16, 1956
EXHIBIT "A"
GAVILAN UNIT AREA
RIO ARRIBA COUNTY, NEW MEXICO
SCALE 2" = 1 MILE
LEGEND
ACREAGE PERCENT
FEDERAL LANDS 20,02 3.94 66.21 %
STATE LANDS 320.00 1.06 %
PATENTED LANDS 9900.24 32.73 %
TOTAL 30,244.18 100.00 %
BOUNDARY UNIT AREA
TRACT NUMBERS FROM EXHIBIT "B"
NOTE: SAN JUAN GAS CORPORATION holds Operating Rights, wholly or in part, to base of Mesaverde formation (for details see Exhibit "B") in all land within unit area unless such ownership is otherwise shown.
8,119.67 Acres 79.757
JICARILLA INDIAN RESERVATION
LINDRITH UNIT AREA
R. 2 W.
T. 24 N.
T. 25 N.


SAVILAN
LINDRITH
R.8W.
R. 7 W
T 24 N
SAN JUAN COUNTY
SANDOVAL COUNTY
SAN JUAN GAS CORPORATION
EXHIBIT NO. 9
CASE NO. 1066
MAY 16, 1956


R. F. G. DRLG. CO.
R. F. G. # 102
28 - 25N - 2W
SAN JUAN GAS CORP.
FED. # 34-C
34 - 25N - 2W
SAN JUAN GAS CORP.
FED. # 2-B
2 - 24N - 2W
GREENBRIER OIL CO.
PALMER # 1
1 - 24N - 2W
NORTHWEST - SOUTHEAST CROSS SECTION
GAVILAN UNIT AREA
HORIZONTAL SCALE 1 INCH = 8
VERTICAL SCALE 2" = 200'
SAN JUAN GAS CORPORATION
EXHIBIT NO. 10
CASE NO. 1066
MAY 16, 1956

330

SCHLUMBERGER WELL SURVEYING CORPORATION

Electrical Log

COUNTY RIO ARRIBA N. M. | FIELD or LOCATION GAVALIN | WELL PRICE 23-A | COMPANY SAN JUAN GAS CORPORATION

COMPANY SAN JUAN GAS CORPORATION

WELL PRICE 23-A

FIELD GAVALIN

LOCATION SEC. 23-24N-2W

COUNTY RIO ARRIBA

STATE NEW MEXICO

Location of Well: 830' FR N/L, 1650' FR W/L, SEC. 23-24N-2W

ES

Elevation: D.F. 7283', K.B. 7284', or G.L. 7274'

FILING No.

RUN No.	ONE
Date	3/15/56
First Reading	3336
Last Reading	100
Feet Measured	2236
Cog. Schlum.	06
Cog. Driller	100
Depth Reached	3336
Bottom Driller	3553
Depth Datum	KB
Mud Mat.	CHEM-GEL
" Density	9.2
" Viscosity	45
" Resist.	4.86@72°F
" Res. BHT	2.66@120°F
" pH	7.5@ °F
" Wtr. loss	8 cc 30 min
Max. Temp. °F	120
Bit Size	7 7/8"
Spcgs.—AM	16"
AM	64"
AO	18'8"
Opr. Rig Time	1 1/2 HRS
Truck No.	1718FARM
Recorded By	WILCOX
Witnessed By	LARSON

SAN JUAN GAS CORPORATION
EXHIBIT NO. 11
CASE NO. 1066
MAY 16, 1956

REMARKS: RUN ONE MUD FROM FLOW LINE

RESISTIVITY -ohms. m²/m — LONG NORMAL 100 0 1000

RESISTIVITY -ohms. m²/m — NORMAL 100 0 1000; LATERAL 100 0 1000

DEPTHS 2"/100' 0500 0600 0700 0800 0900 1000 1100 1200 1300 1400 1500 1600 1700

SPONTANEOUS-POTENTIAL millivolts 10 / -

SCHLUMBERGER WELL SURVEYING CORPORATION

Electrical Log

COUNTY RIO ARRIBA N. M. | FIELD or LOCATION GAVALIN | WELL FEDERAL #2-B | COMPANY SAN JUAN GAS CORPORATION

COMPANY SAN JUAN GAS CORPORATION

WELL FEDERAL #2-B

FIELD GAVALIN

LOCATION SEC. 2-24N-2W

COUNTY RIO ARRIBA

STATE NEW MEXICO

Location of Well: 860' FR S/L, 824' FR E/L, SEC. 2-24N-2W

ES

Elevation: D.F. 7260', K.B. 7261', or G.L. 7251'

FILING No.

RUN No.	ONE
Date	8-27-56
First Reading	3404
Last Reading	92
Feet Measured	3312
Cog. Schlum.	92
Cog. Driller	80 1/2
Depth Reached	3405
Bottom Driller	3400
Depth Datum	KB 11' G.L.
Mud Mat.	GEL
" Density	8
" Viscosity	45
" Resist.	8.8@64°F
" Res. BHT	2.54@120°F
" pH	8 @52°F
" Wtr. loss	10 cc 30 min
Max. Temp. °F	120
Bit Size	7 7/8"
Spcgs.—AM	16"
AM	64"
AO	18'8"
Opr. Rig Time	1 1/2 HR
Truck No.	775
Recorded By	ELLIS
Witnessed By	LARSON

SAN JUAN GAS CORPORATION
EXHIBIT NO. 12
CASE NO. 1066
MAY 16, 1956

REMARKS: RUN ONE MUD FROM FLOW LINE

RESISTIVITY -ohms. m²/m — LONG NORMAL 100 0 1000

RESISTIVITY -ohms. m²/m — NORMAL 100 0 1000; LATERAL 100 0 1000

DEPTHS 2"/100' 0500 0600 0700 0800 0900 1000 1100 1200 1300 1400 1500 1600 1700

SPONTANEOUS-POTENTIAL millivolts 10 / -

SCHLUMBERGER WELL SURVEYING CORPORATION

Electrical Log

COUNTY RIO ARRIBA N. M. | FIELD or LOCATION GAVALIN | WELL FEDERAL #33-D | COMPANY SAN JUAN GAS CORPORATION

COMPANY SAN JUAN GAS CORPORATION

WELL FEDERAL #33-D

FIELD GAVALIN

LOCATION SEC. 33-25N-2W

COUNTY RIO ARRIBA

STATE NEW MEXICO

Location of Well: 1060' FR S/L, 960' FR E/L, SEC. 33-25N-2W

ES

Elevation: D.F. 7228', K.B. 7229', or G.L. 7219'

FILING No.

RUN No.	ONE
Date	4-5-56
First Reading	3446
Last Reading	103
Feet Measured	3343
Cog. Schlum.	103
Cog. Driller	99
Depth Reached	3447
Bottom Driller	3442
Depth Datum	KB
Mud Mat.	GEL
" Density	9.8
" Viscosity	55
" Resist.	7.2@54°F
" Res. BHT	3.58@105°F
" pH	— @ °F
" Wtr. loss	— cc 30 min
Max. Temp. °F	105
Bit Size	7 7/8"
Spcgs.—AM	16"
AM	64"
AO	18'8"
Opr. Rig Time	2 HRS
Truck No.	1788FARM
Recorded By	MONTGOMERY
Witnessed By	BENNETT

SAN JUAN GAS CORPORATION
EXHIBIT NO. 13
CASE NO. 1066
MAY 16, 1956

REMARKS: RUN ONE MUD FROM FLOW LINE

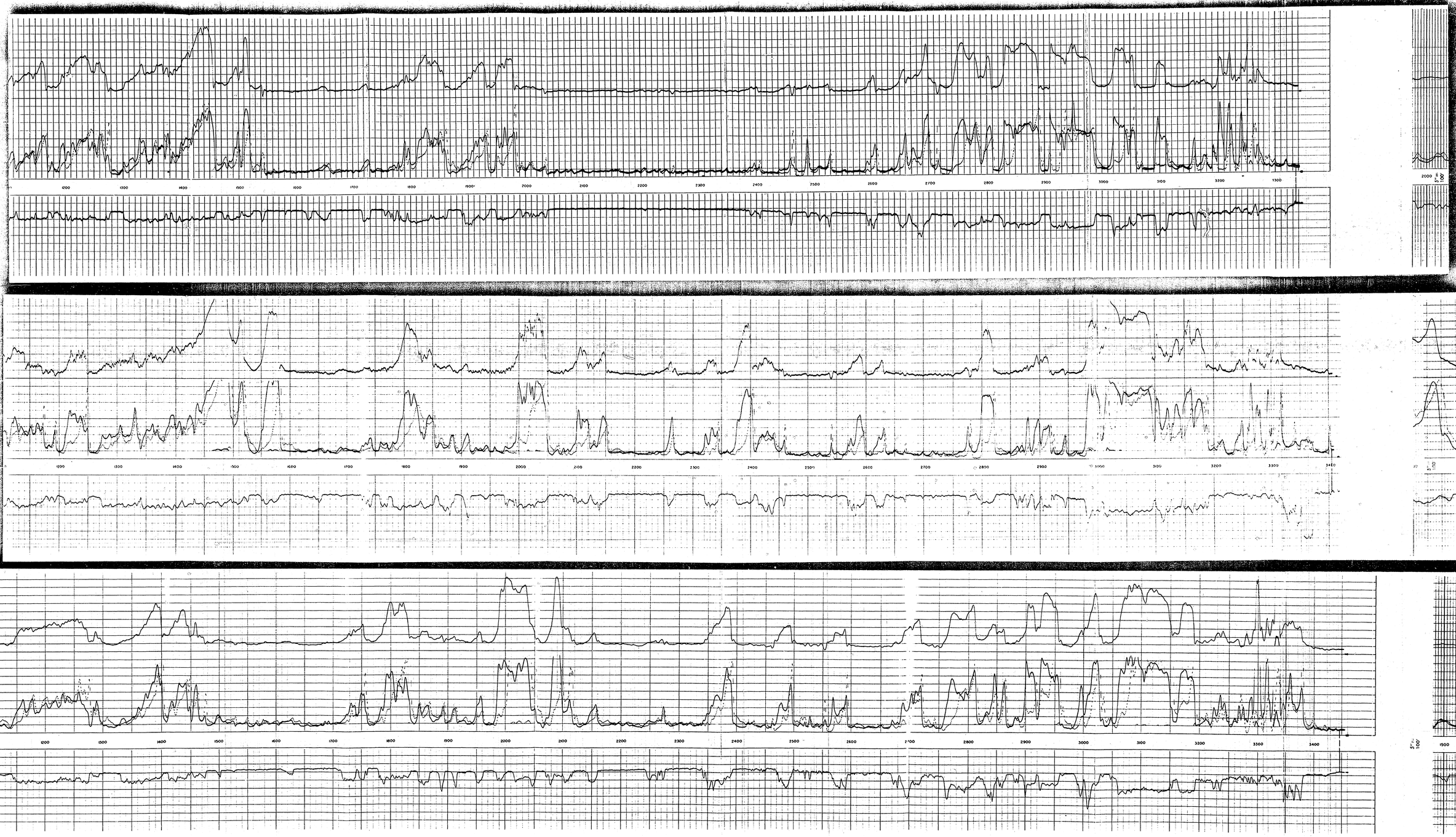
RESISTIVITY -ohms. m²/m — LONG NORMAL 100 0 1000

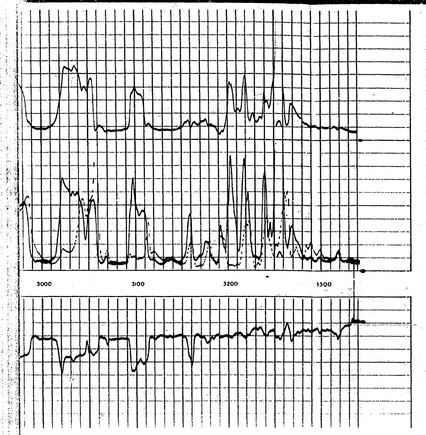
RESISTIVITY -ohms. m²/m — NORMAL 100 0 1000; LATERAL 100 0 1000

DEPTHS 2"/100' 0500 0600 0700 0800 0900 1000 1100 1200 1300 1400 1500 1600 1700

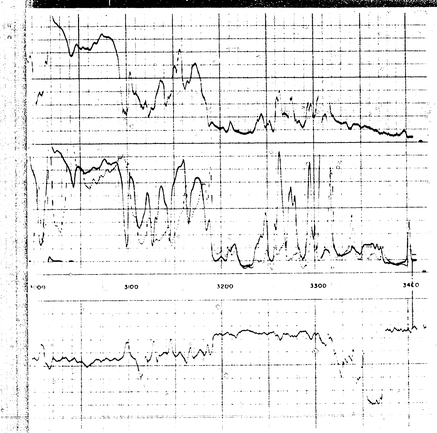
SPONTANEOUS-POTENTIAL millivolts 10 / -

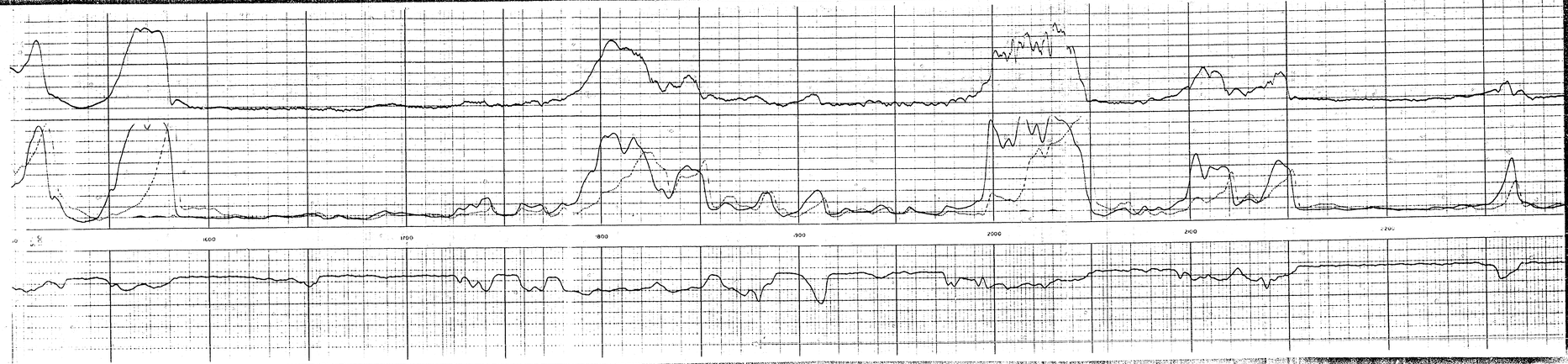
331

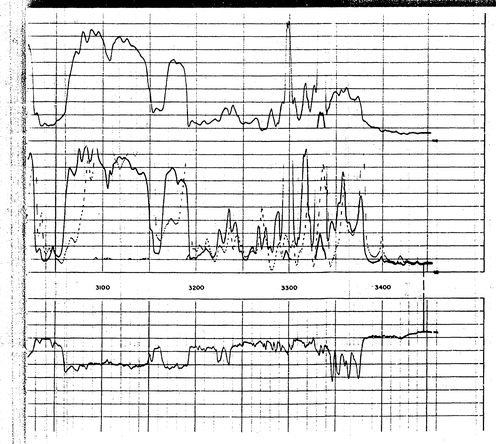

1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
2000
1500

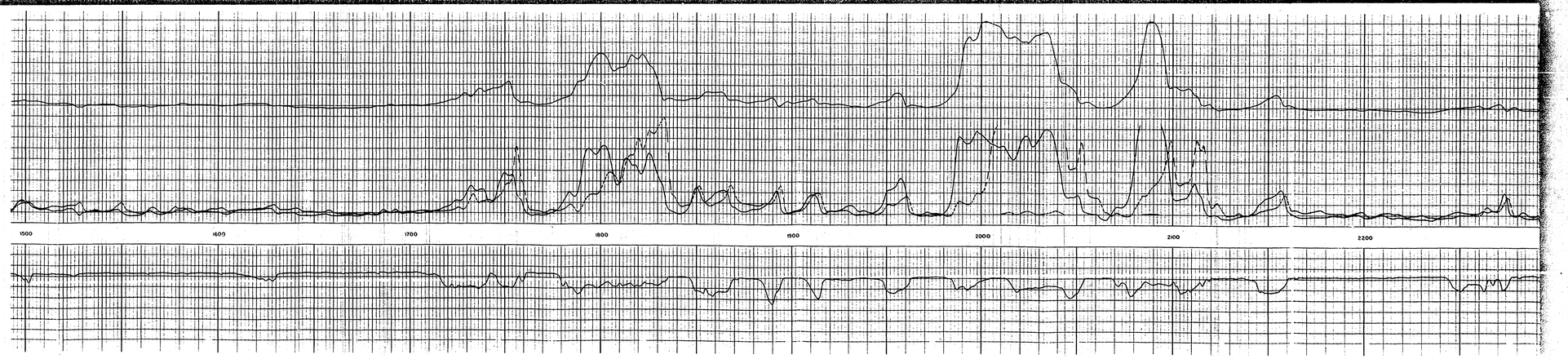

3000
3100
3200
3300


2000
2100
2200
2300
2400
2500
2600
2700

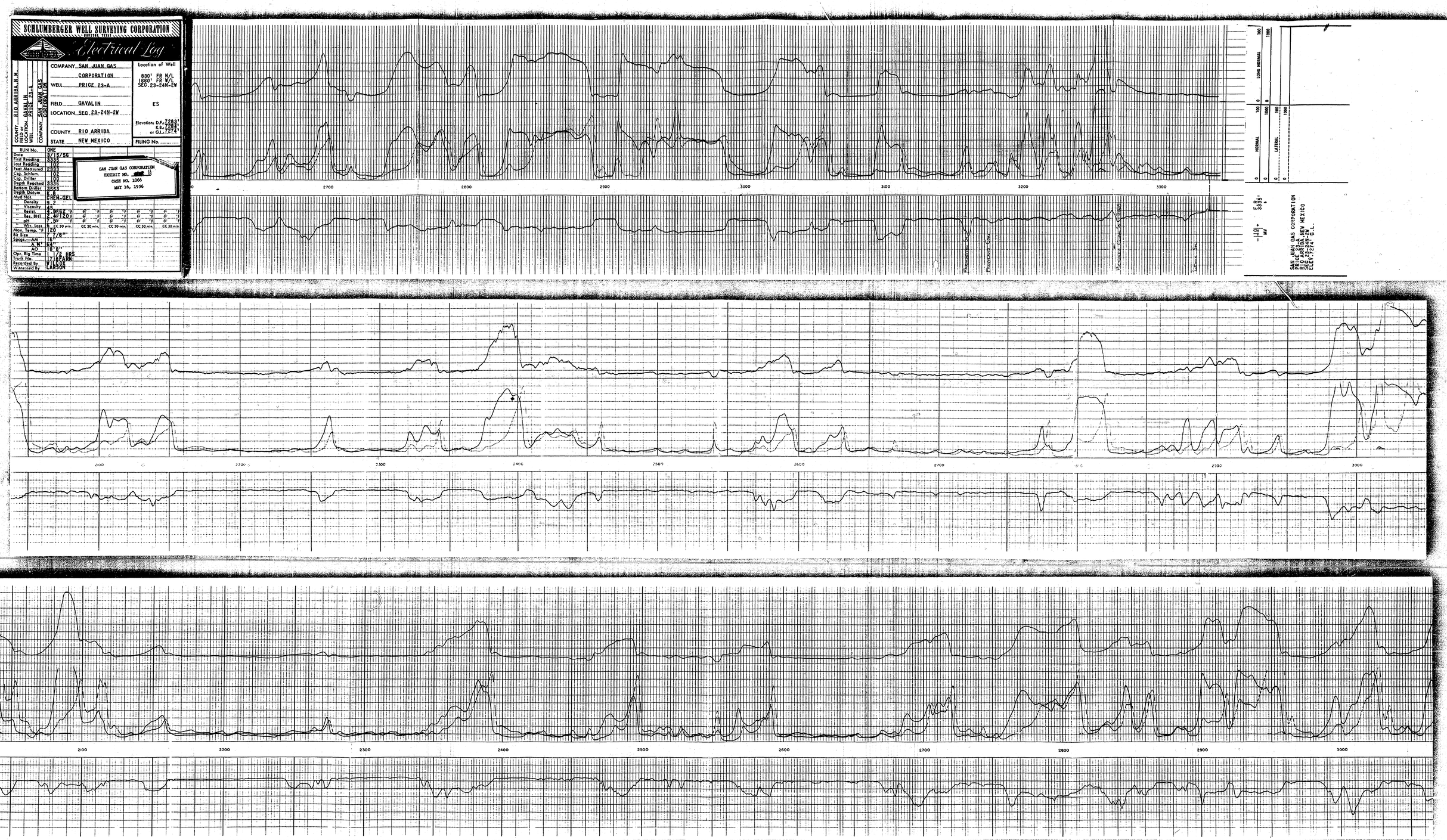

3100
3200
3300
3400


1500
1600
1700
1800
1900
2000
2100
2200


3100
3200
3300
3400


1500
1600
1700
1800
1900
2000
2100
2200

333


SCHLUMBERGER WELL SURVEYING CORPORATION
BOOSTER, TEXAS
Electrical Log
COMPANY SAN JUAN GAS CORPORATION
WELL PRICE 23-A
FIELD GAVALIN
LOCATION SEC. 23-24N-2W
COUNTY RIO ARRIBA
STATE NEW MEXICO
Location of Well
830' FR N/L
1660' FR W/L
SEC. 23-24N-2W
ES
Elevation: D.F. 7283'
K.B. 7284'
or G.L. 7274'
FILING No.
COUNTY RIO ARRIBA, N.M.
FIELD or LOCATION GAVALIN
WELL PRICE 23-A
COMPANY SAN JUAN GAS CORPORATION
RUN No. ONE
Date 3/15/56
First Reading 3335
Last Reading 102
Feet Measured 2333
Csg. Schlum. 102
Csg. Driller 100
Depth Reached 3336
Bottom Driller 3553
Depth Datum K.B.
Mud Nat. CHEM-GEL
" Density 9.2
" Viscosity 45
" Resist. 4.9@62 °F
" Res. BHT 2.4@120 °F
" pH 7.5
" Wtr. Loss 6 CC 30 min.
Max. Temp. °F 120
Bit Size 7 7/8"
Spcgs.—AM 16"
A M 64"
AO 18'8"
Opr. Rig Time 1 1/2 HRS
Truck No. 1718FARM
Recorded By WILCOX
Witnessed By LARSON
SAN JUAN GAS CORPORATION
EXHIBIT NO. 11
CASE NO. 1066
MAY 16, 1956
2700
2800
2900
3000
3100
3200
3300
NORMAL
LATERAL
LONG NORMAL
SAN JUAN GAS CORPORATION
PRICE 23-A
RIO ARRIBA, NEW MEXICO
SEC. 23-24N-2W
ELEV. 7274' G.L.
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000

334

SCHLUMBERGER WELL SURVEYING CORPORATION
HOUSTON, TEXAS

Electrical Log

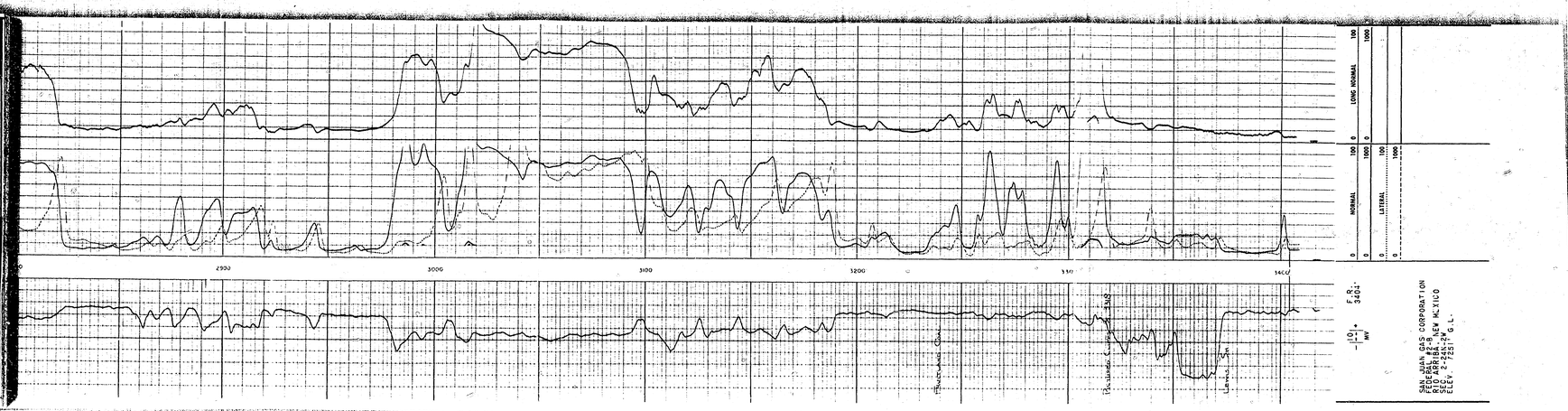
COUNTY RIO ARRIBA, N.M.
FIELD or LOCATION GAVALIN
WELL FEDERAL #2-B
COMPANY SAN JUAN GAS CORPORATION

COMPANY SAN JUAN GAS CORPORATION
WELL FEDERAL #2-B
FIELD GAVALIN
LOCATION SEC. 2-24N-2W
COUNTY RIO ARRIBA
STATE NEW MEXICO

Location of Well
860' FR S/L
824' FR E/L
SEC. 2-24N-2W
ES
Elevation: D.F. 7260'
K.B. 7281'
or G.L. 7251'
FILING No.

RUN No.	ONE							
Date	8-27-56							
First Reading	3404							
Last Reading	32							
Feet Measured	3372							
Csg. Schlum.	92							
Csg. Driller	80 1/2							
Depth Reached	3405							
Bottom Driller	3400							
Depth Datum	KB 11'/G.L.							
Mud Nat.	GEL							
" Density	9							
" Viscosity	45							
" Resist.	1.8 @ 64 F	@ F	@ F	@ F	@ F	@ F	@ F	
" Res. Bht	2.5 @ 120 F	@ F	@ F	@ F	@ F	@ F	@ F	
" pH	9.5							
" Wtr. Loss	9 CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.
Max. Temp. °F	120							
Bit Size	7 7/8"							
Spcgs.—Am.	16"							
AM	64'							
AO	8'8"							
Opr. Rig Time	22 HR							
Truck No.	7755							
Recorded By	ELLIS							
Witnessed By	LARSON							

SAN JUAN GAS CORPORATION
EXHIBIT NO. 12
CASE NO. 1066
MAY 16, 1956



F.R. 3403'
MV

SAN JUAN GAS CORPORATION
FEDERAL #2-B
RIO ARRIBA, NEW MEXICO
SEC. 2-24N-2W
ELEV. 7260 K.B. 7251 G.L.

SCHLUMBERGER WELL SURVEYING CORPORATION
HOUSTON, TEXAS

Electrical Log

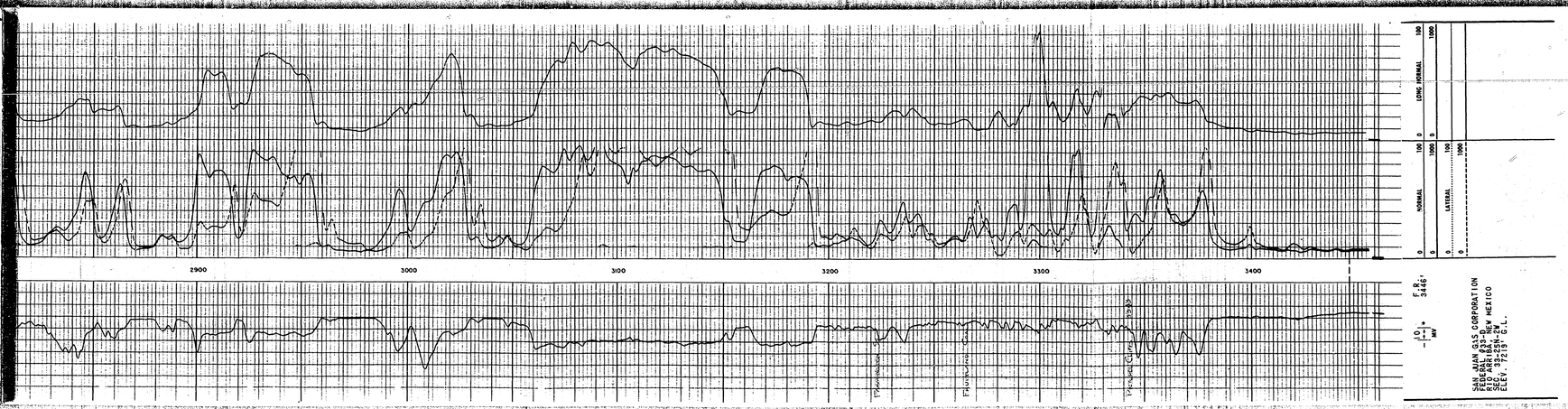
COUNTY RIO ARRIBA, N.M.
FIELD or LOCATION GAVALIN
WELL FEDERAL 733-D
COMPANY SAN JUAN GAS CORPORATION

COMPANY SAN JUAN GAS CORPORATION
WELL FEDERAL #33 D
FIELD GAVALIN
LOCATION SEC. 33-25N-2W
COUNTY RIO ARRIBA
STATE NEW MEXICO

Location of Well
1060' FR S/L
960' FR E/L
SEC. 33-25N-2W
ES
Elevation: D.F.
K.B. 7228'
or G.L. 7219'
FILING No.

RUN No.	ONE							
Date	4-15-56							
First Reading	3448							
Last Reading	103							
Feet Measured	3345							
Csg. Schlum.	103							
Csg. Driller	99							
Depth Reached	3447							
Bottom Driller	3442							
Depth Datum	KB							
Mud Nat.	GEL							
" Density	9.8							
" Viscosity	55							
" Resist.	1.26 @ 54 F	@ F	@ F	@ F	@ F	@ F	@ F	
" Res. Bht	3.3 @ 105 F	@ F	@ F	@ F	@ F	@ F	@ F	
" pH	9.6							
" Wtr. Loss	9 CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.
Max. Temp. °F	105							
Bit Size	7 7/8"							
Spcgs.—AM	16"							
AM	64'							
AO	18'8"							
Opr. Rig Time	2 HRS							
Truck No.	1705FARM							
Recorded By	MONTGOMERY							
Witnessed By	BENNETT							

SAN JUAN GAS CORPORATION
EXHIBIT NO. 13
CASE NO. 1066
MAY 16, 1956



F.R. 3446'
MV

SAN JUAN GAS CORPORATION
FEDERAL #33-D
RIO ARRIBA, NEW MEXICO
SEC. 33-25N-2W
ELEV. 7228 K.B. 7219 G.L.

335

SCHLUMBERGER WELL SURVEYING CORPORATION

Electrical Log

COMPANY SAN JUAN GAS CORPORATION

WELL FEDERAL C #34

FIELD WILDCAT (GAVALIN)

LOCATION SEC. 34-25N-2W

COUNTY RIO ARRIBA

STATE NEW MEXICO

Location of Well: SEC. 34-25N-2W — ES

Elevation: D.F. ___ K.B. ___ or G.L. ___

FILING No.

COUNTY RIO ARRIBA · FIELD OR LOCATION WILDCAT (GAVALIN) · WELL FEDERAL C #34 · COMPANY SAN JUAN GAS CORPORATION

RUN No.	ONE							
Date	4-13-56							
First Reading	3464							
Last Reading	103							
Feet Measured	3361							
Csg. Schlum.	103							
Csg. Driller	103							
Depth Reached	3465							
Bottom Driller	3460							
Depth Datum	KB							
Mud Nat.	CHEM							
" Density	9.9							
" Viscosity	72							
" Resist.	2.36 35°F	@ °F	@ °F	@ °F	@ °F	@ °F	@ °F	
" Res. Bht	2.46 104°F	@ °F	@ °F	@ °F	@ °F	@ °F	@ °F	
" pH	---	@ °F	@ °F	@ °F	@ °F	@ °F	@ °F	
" Wtr. Loss	--- CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.		
Max. Temp. °F	104							
Bit Size	7 7/8"							
Spcgs.—AM	16"							
AN	64"							
AO	18'8"							
Opr. Rig Time	10							
Truck No.	1714 FARM							
Recorded By	HAMILTON							
Witnessed By	LARSON							

SAN JUAN GAS CORPORATION
EXHIBIT NO. 14
CASE NO. 1066
MAY 16, 1956

REMARKS: RUN ONE MUD FROM FLOW LINE

RESISTIVITY -ohms. m²/m — NORMAL 100 / 1000 — LONG NORMAL 0 / 1000

RESISTIVITY -ohms. m²/m — NORMAL 100 / 1000 — LATERAL 0 / 100

DEPTHS 2"=100' — CSG 103'

SPONTANEOUS-POTENTIAL millivolts — 10 mv

0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 1200 1300 1400 1500 1600 1700

SCHLUMBERGER WELL SURVEYING CORPORATION

Electrical Log

COMPANY SAN JUAN GAS CORPORATION

WELL FEDERAL #26 D

FIELD WILDCAT

LOCATION SEC. 26-25N-2W

COUNTY RIO ARRIBA

STATE NEW MEXICO

Location of Well: 1370' FR S/L, 1820' FR E/L, SEC. 26-25N-2W — ES

Elevation: D.F. 7431' K.B. 7431' or G.L. 7421'

FILING No.

COUNTY RIO ARRIBA · FIELD OR LOCATION WILDCAT · WELL FEDERAL #26 D · COMPANY SAN JUAN GAS CORPORATION

RUN No.	ONE							
Date	5-2-56							
First Reading	3615							
Last Reading	104							
Feet Measured	3511							
Csg. Schlum.	104							
Csg. Driller	103							
Depth Reached	3615							
Bottom Driller	3622							
Depth Datum	KB							
Mud Nat.	CHEM GEL							
" Density	9.4							
" Viscosity	48							
" Resist.	5.49 68 F	@ F	@ F	@ F	@ F	@ F	@ F	
" Res. BHT	3.06 105 F	@ F	@ F	@ F	@ F	@ F	@ F	
" pH	---	@ F	@ F	@ F	@ F	@ F	@ F	
" Wtr. Loss	--- CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.		
Max. Temp. °F	105							
Bit Size	7 7/8"							
Spcgs.—AM	16"							
AN	64"							
AO	18'8"							
Opr. Rig Time	8 HR							
Truck No.	1718 FARM							
Recorded By	WILCOX							
Witnessed By	BENNETT							

SAN JUAN GAS CORPORATION
EXHIBIT NO. 15
CASE NO. 1066
MAY 16, 1956

REMARKS: RUN ONE MUD FROM FLOW LINE

RESISTIVITY -ohms. m²/m — NORMAL 100 / 1000 — LONG NORMAL 0 / 1000

RESISTIVITY -ohms. m²/m — NORMAL 100 / 1000 — LATERAL 0 / 100

DEPTHS 2"=100' — CSG 104'

SPONTANEOUS-POTENTIAL millivolts — 10 mv

0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 1200 1300 1400 1500 1600 1700

SCHLUMBERGER WELL SURVEYING CORPORATION

FIELD PRINT

COMPANY San Juan Gas Corp

WELL Federal 16-D

FIELD Wildcat-Gavalin

LOCATION Sec. 16-25N-2W

990' S.L. 825' F.E.L.

COUNTY Rio Arriba

STATE New Mex

Location of Well: ES

Elevation: D.F. K.B. 7265 or G.L. 7256

FILING No.

COUNTY · FIELD OR LOCATION · WELL · COMPANY

RUN No.	1							
Date	5-8-56							
First Reading	3615							
Last Reading	104							
Feet Measured	3511							
Csg. Schlum.	105							
Csg. Driller	105							
Depth Reached	3557							
Bottom Driller	3558							
Depth Datum	KB							
Mud Nat.	GEL-CHEM							
" Density	10.0							
" Viscosity	56							
" Resist.	4.65 65°F	@ °F						
" Res. BHT	4.08 90°F	@ °F						
" pH	8.0	@ °F						
" Wtr. Loss	12.6 CC 30 min.	CC 30 min.						
Max. Temp. °F	92							
Bit Size	7 7/8"							
Spcgs.— AM	16"							
AN	64"							
AO	18'8"							
Opr. Rig Time	12							
Truck No.	1773							
Recorded By	HILSON							
Witnessed By								

SAN JUAN GAS CORPORATION
EXHIBIT NO. 16
CASE NO. 1066
MAY 16, 1956

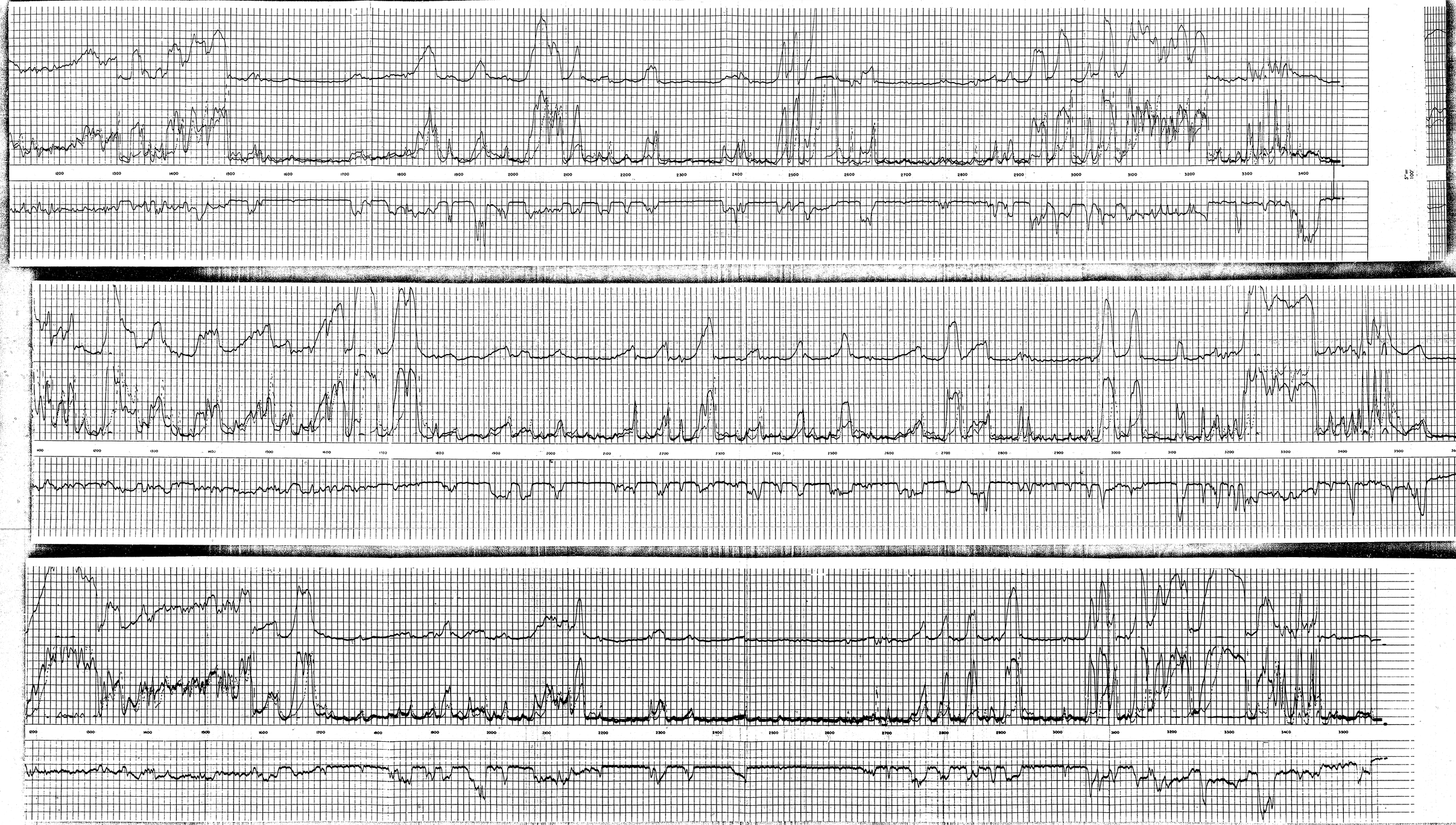
REMARKS: MUD FROM FLOW LINE

RESISTIVITY — 16" Short Normal — 64" Long Normal

S.P.

0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 1200 1300 1400 1500 1600 1700 1800

336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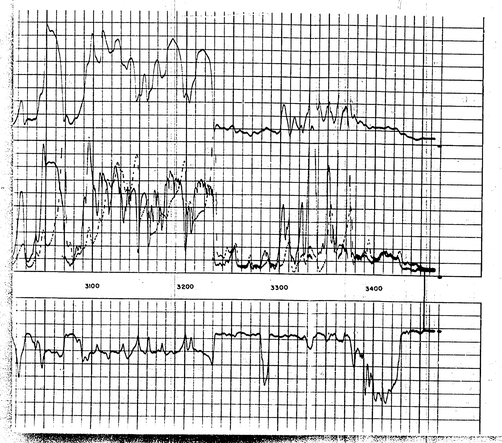
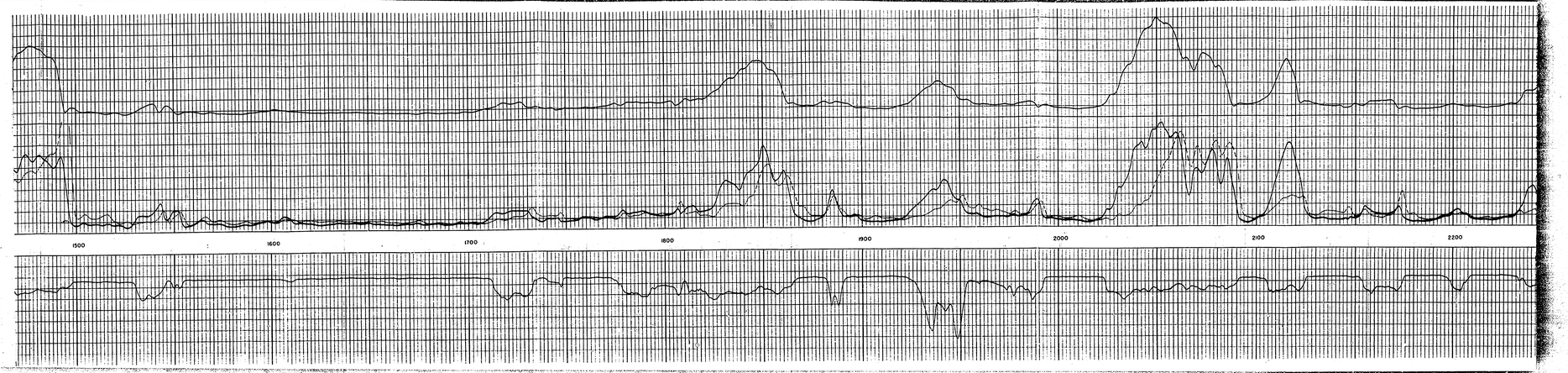




SCHLUMBERGER WELL SURVEYING CORPORATION

Electrical Log

COMPANY SAN JUAN GAS CORPORATION

WELL FEDERAL #26 D

FIELD WILDCAT

LOCATION SEC. 26-25N-2W

COUNTY RIO ARRIBA

STATE NEW MEXICO

Location of Well: 1370' FR S/L, 1820' FR E/L, SEC. 26-25N-2W

ES

Elevation: D.F. K.B.7431' or G.L.7421'

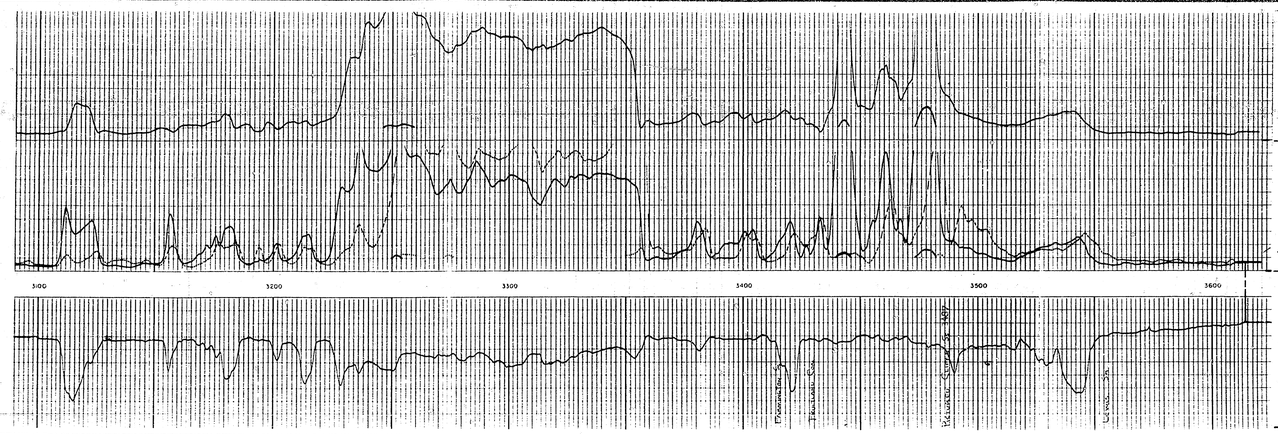
FILING No.

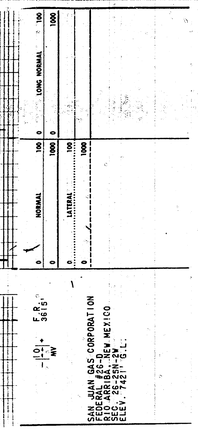
COUNTY RIO ARRIBA, N.M. | FIELD or LOCATION WILDCAT | WELL FEDERAL #26 D | COMPANY SAN JUAN GAS CORPORATION

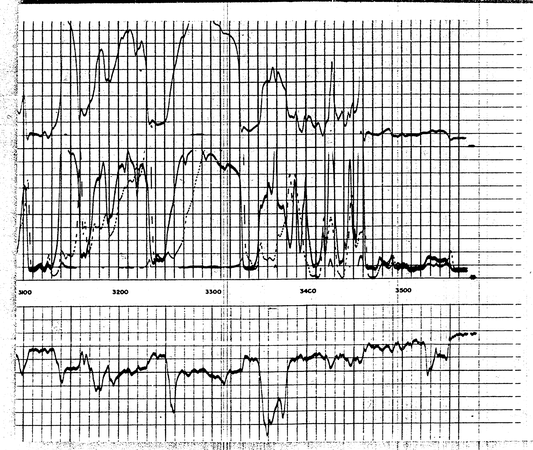
RUN No.	ONE							
Date	Sep-56							
First Reading	3615							
Last Reading	104							
Feet Measured	3511							
Csg. Schlum.	104							
Csg. Driller	103							
Depth Reached	3618							
Bottom D.Iller.	3822							
Depth Datum	KB							
Mud Mat.	CHEM GEL							
Density	9.4							
Viscosity	40							
Resis.	5.46.58	F	@ F	F	@ F	F	@ F	F
Res. BHT	3.06105	F	@ F	F	@ F	F	@ F	F
pH	— 6	F	@ F	F	@ F	F	@ F	F
Wtr. Loss	— CC 30 min		CC 30 min		CC 30 min		CC 30 min	
Max. Temp. °F	105							
Bit Size	7 7/8"							
Spcl.—AM	18"							
AO	18"							
Opr. Rig Time	HR							
Truck No.	11 & FARM							
Recorded By	WILCOX							
Witnessed By	BENNETT							

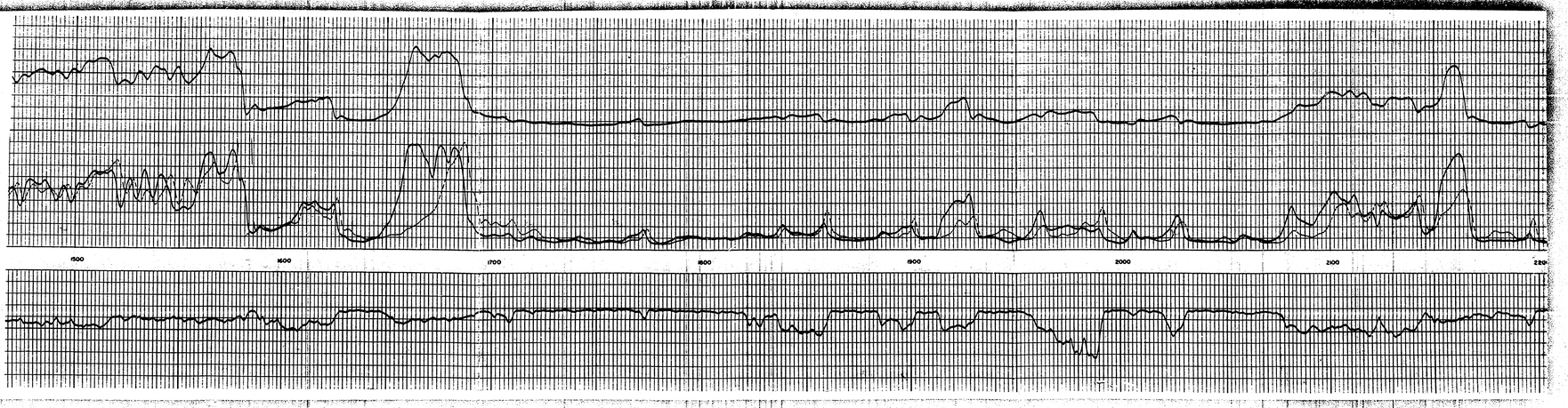
SAN JUAN GAS CORPORATION
EXHIBIT NO. 15
CASE NO. 1066
MAY 16, 1956











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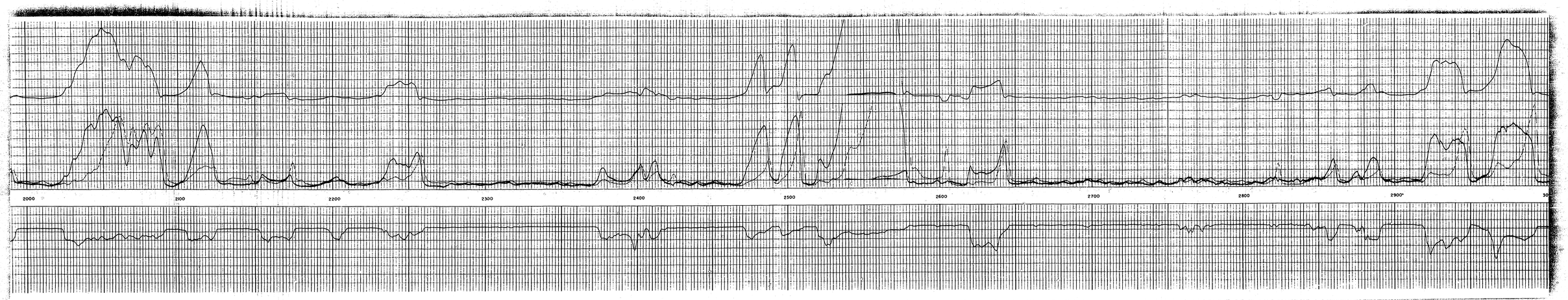
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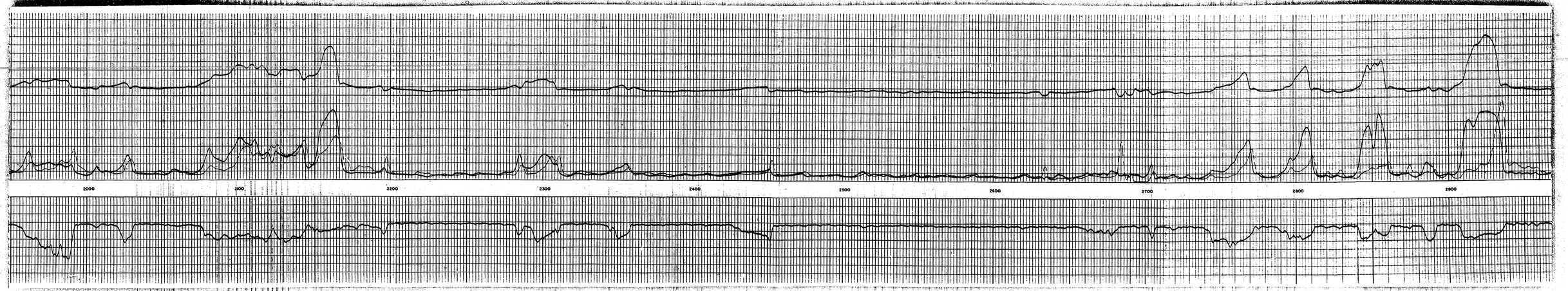
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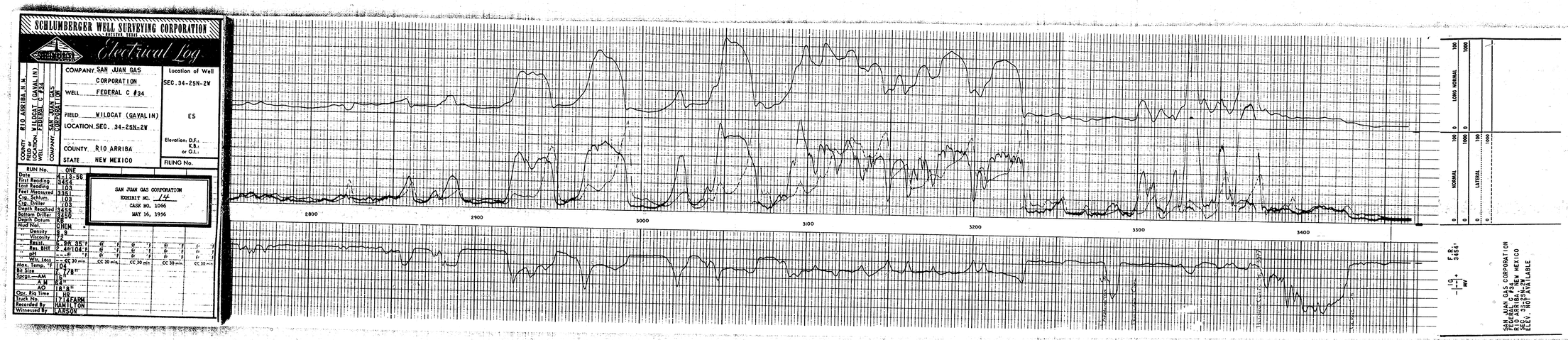
SCHLUMBERGER WELL SURVEYING CORPORATION
Electrical Log
COMPANY SAN JUAN GAS CORPORATION
WELL FEDERAL C #34
FIELD WILDCAT (GAVALIN)
LOCATION SEC. 34-25N-2W
COUNTY RIO ARRIBA
STATE NEW MEXICO
Location of Well
SEC. 34-25N-2W
ES
Elevation: D.F.: K.B.: or G.L.:
FILING No.
RUN No. ONE
Date 4-13-56
First Reading 3454
Last Reading 103
Feet Measured 3351
Csg. Schlum. 103
Csg. Driller 103
Depth Reached 3455
Bottom Driller 3450
Depth Datum KB
Mud Not. CHEM
Density 9.9
Viscosity 72
Resist. 6.9@ 35°F
Res. BHT 2.4@ 104°F
pH
Wtr. Loss
Max. Temp. °F 104
Bit Size 7 7/8"
Spcgs.—AM 16"
AM 64"
AO 18 1/8"
Opr. Rig Time HR
Truck No. 1714 FARM
Recorded By HAMILTON
Witnessed By LARSON
SAN JUAN GAS CORPORATION
EXHIBIT NO. 14
CASE NO. 1066
MAY 16, 1956
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LONG NORMAL
NORMAL
LATERAL
SAN JUAN GAS CORPORATION
FEDERAL C #34
RIO ARRIBA, NEW MEXICO
SEC. 34-25N-2W
ELEV. NOT AVAILABLE
SCHLUMBERGER WELL SURVEYING CORPORATION
FIELD PRINT
COMPANY SAN JUAN GAS CORP
WELL FEDERAL 16-D
FIELD WILDCAT-GAVALIN
LOCATION SEC. 16-25N-2W
990' ± SL, 865' ± BL
COUNTY RIO ARRIBA
STATE New Mex
Location of Well
ES
Elevation: D.F.: K.B.: 7256 or G.L.: 7246
FILING No.
RUN No. 1
Date 5-9-56
First Reading 3556
Last Reading 105
Feet Measured 3451
Csg. Schlum. 105
Csg. Driller 105
Depth Reached 3557
Bottom Driller 3558
Depth Datum KB
Mud Not. GEL-CHEM
Density 10.4
Viscosity 46
Resist. 6.0@ 83°F
Res. BHT 4.0@ 90°F
pH
Wtr. Loss
Max. Temp. °F 90
Bit Size 7 7/8"
Spcgs.—AM 16"
AM 64"
AO 18 1/8"
Opr. Rig Time 13
Truck No. 1773
Recorded By Hillman
SAN JUAN GAS CORPORATION
EXHIBIT NO. 16
CASE NO. 1066
MAY 16, 1956
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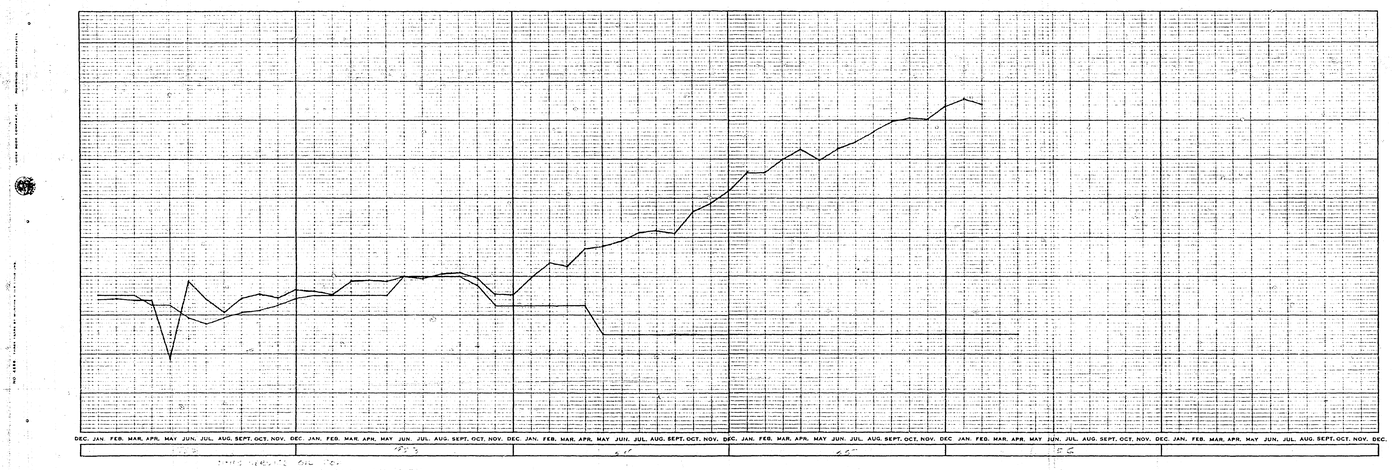
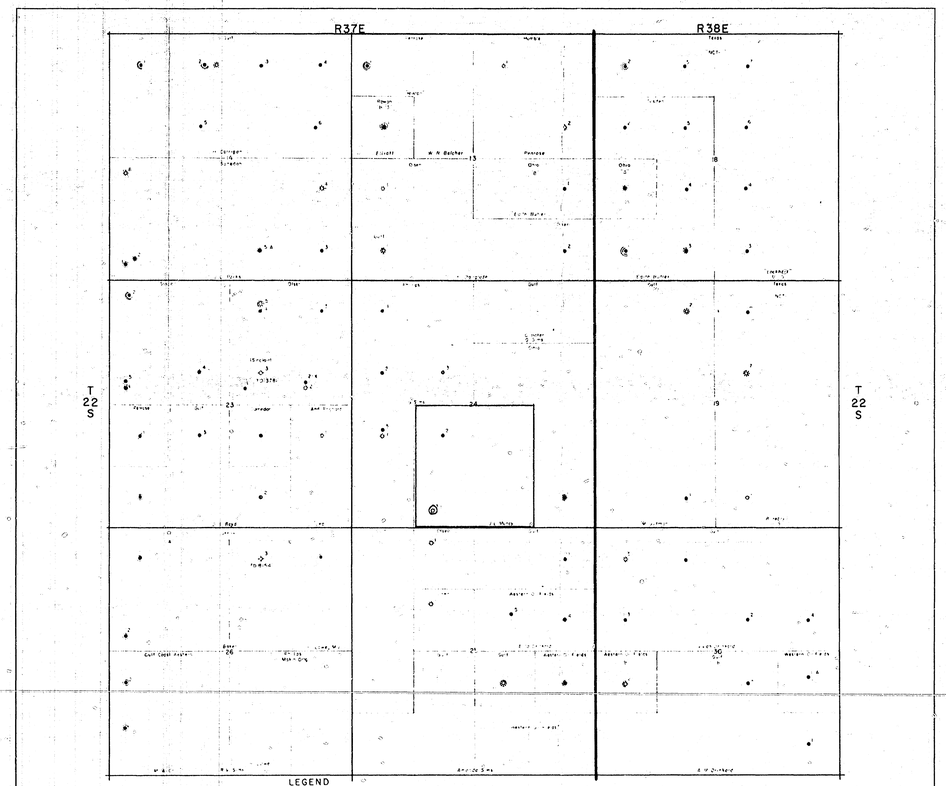
LEWIS SH.

340


DEC. JAN. FEB. MAR. APR. MAY JUN. JUL. AUG. SEPT. OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY JUN. JUL. AUG. SEPT. OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY JUN. JUL. AUG. SEPT. OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY JUN. JUL. AUG. SEPT. OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY JUN. JUL. AUG. SEPT. OCT. NOV. DEC.

341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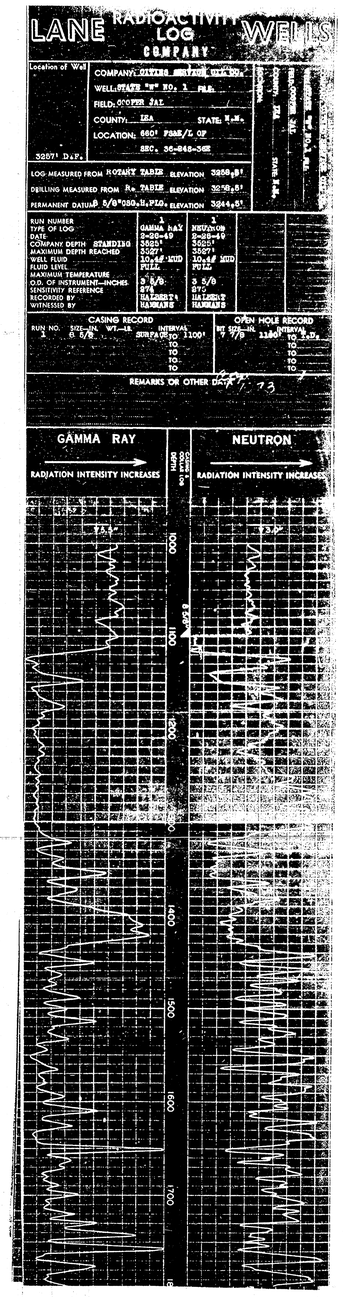
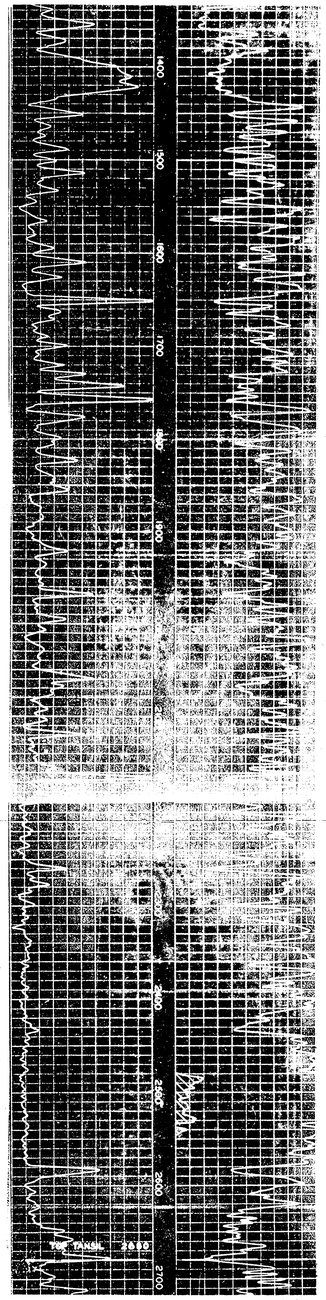
R38E
T 22 S
T 22 S
W. W. Butcher
Ohio
Ohio
Ohio


LANE RADIOACTIVITY LOG WELLS
COMPANY
Location of Well
COMPANY: OLYMPIC [illegible] NO. 1
WELL: STATE "E" NO. 1 FEE
FIELD: COOPER JAL
COUNTY: LEA STATE: N.M.
LOCATION: 660' FSAE/L OF
SEC. 36-24S-36E
3257' D.F.
LOG MEASURED FROM ROTARY TABLE ELEVATION 3258.8'
DRILLING MEASURED FROM R. TABLE ELEVATION 3258.8'
PERMANENT DATUM 8 5/8"CSG.H.PLG. ELEVATION 3244.5'
RUN NUMBER 1 1
TYPE OF LOG GAMMA RAY NEUTRON
DATE 2-28-49 2-28-49
COMPANY DEPTH STANDING 3525' 3525'
MAXIMUM DEPTH REACHED 3527' 3527'
WELL FLUID 10.4# MUD 10.4# MUD
FLUID LEVEL FULL FULL
MAXIMUM TEMPERATURE
O.D. OF INSTRUMENT—INCHES 3 5/8 3 5/8
SENSITIVITY REFERENCE 274 270
RECORDED BY HALBERT HALBERT
WITNESSED BY HAMMANS HAMMANS
CASING RECORD
RUN NO. SIZE—IN. WT.—LB. INTERVAL
1 8 5/8 SURFACE TO 1100'
TO
TO
TO
TO
OPEN HOLE RECORD
WT SIZE—IN. INTERVAL
7 7/8 1180 TO T.D.
TO
TO
TO
TO
REMARKS OR OTHER DATA
GAMMA RAY
RADIATION INTENSITY INCREASES
NEUTRON
RADIATION INTENSITY INCREASES
1000
1100
1200
1400
1500
1600
1700

343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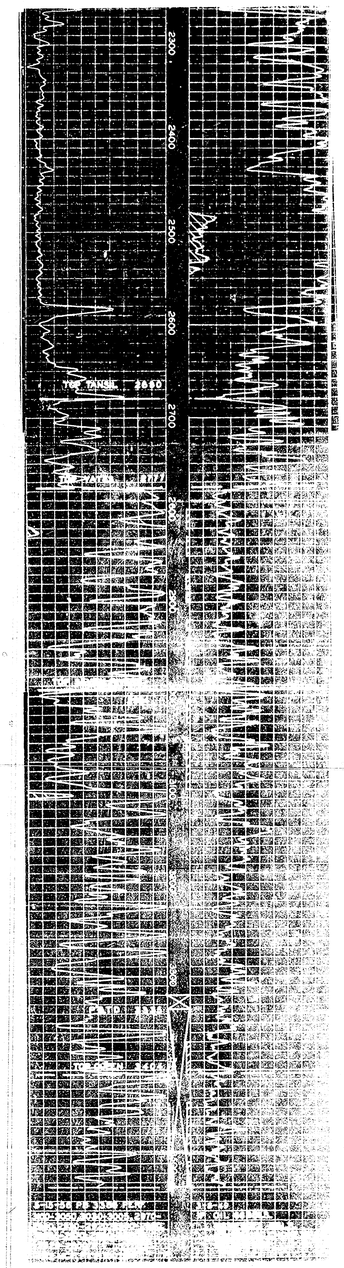
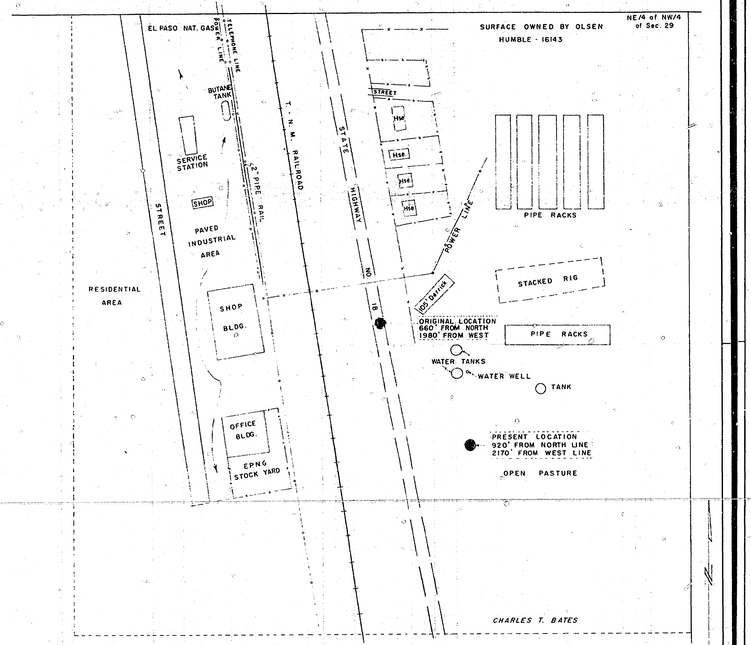
99100
99200
99300
99400
99500
99600
99700
99800
99900
100000

344


2300
2400
2500
2600
2700



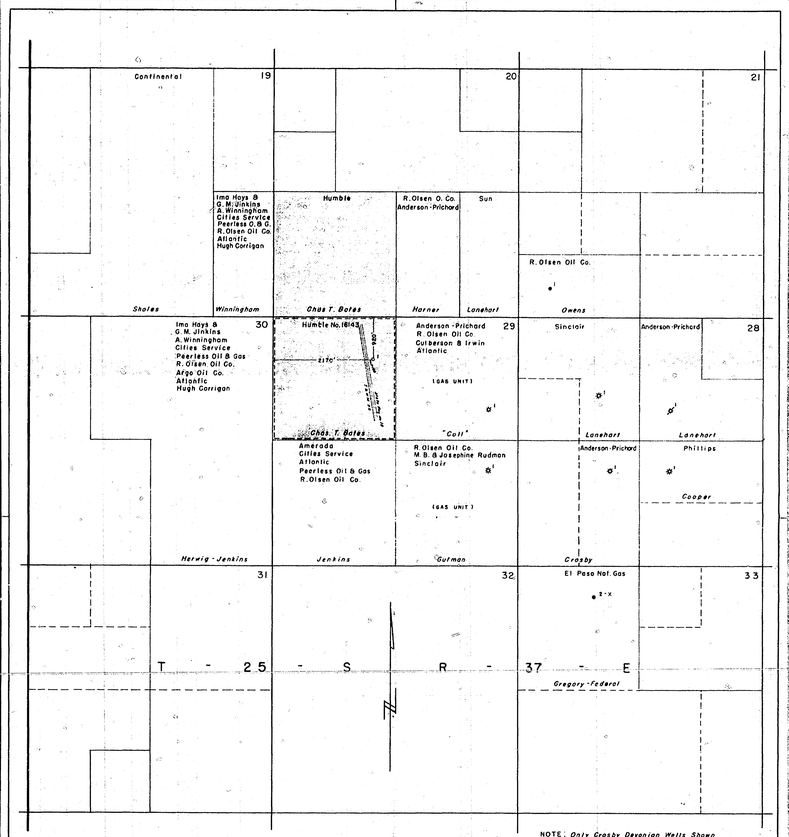
BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
EXHIBIT No. 1
CASE 1075

REVISIONS					
NO.	DATE	DESCRIPTION	BY	CHK.	APPR.

TOPOGRAPHIC MAP OF NE/4 OF NW/4 OF SEC. 29, T-25-S, R-37-E, PORTION OF CHAS. T. BATES LSE., LEA COUNTY, N. M.

HUMBLE OIL & REFINING COMPANY
CIVIL ENGINEERING DIVISION
MIDLAND, TEXAS

DRAWN R. McGaughey
CHECKED
APPR.
SCALE 1" = 100'
DATE 5-7-56
SHEET ___ OF ___
FILE NO. W-C-780



BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
EXHIBIT No. 2
CASE 1075

REVISIONS					
NO.	DATE	DESCRIPTION	BY	CHK.	APPR.

PLAT SHOWING OWNERSHIP SURROUNDING HUMBLE'S CHAS. T. BATES LEASE
SEC. 29, T-25-S R-37-E, LEA CO. NEW MEX.

HUMBLE OIL & REFINING COMPANY
CIVIL ENGINEERING DIVISION
MIDLAND, TEXAS

DRAWN D. L. MCKIBBIN
CHECKED
APPR.
SCALE 1" = 1000'
DATE 5-18-56
SHEET ___ OF ___
FILE NO. W-C 782

346

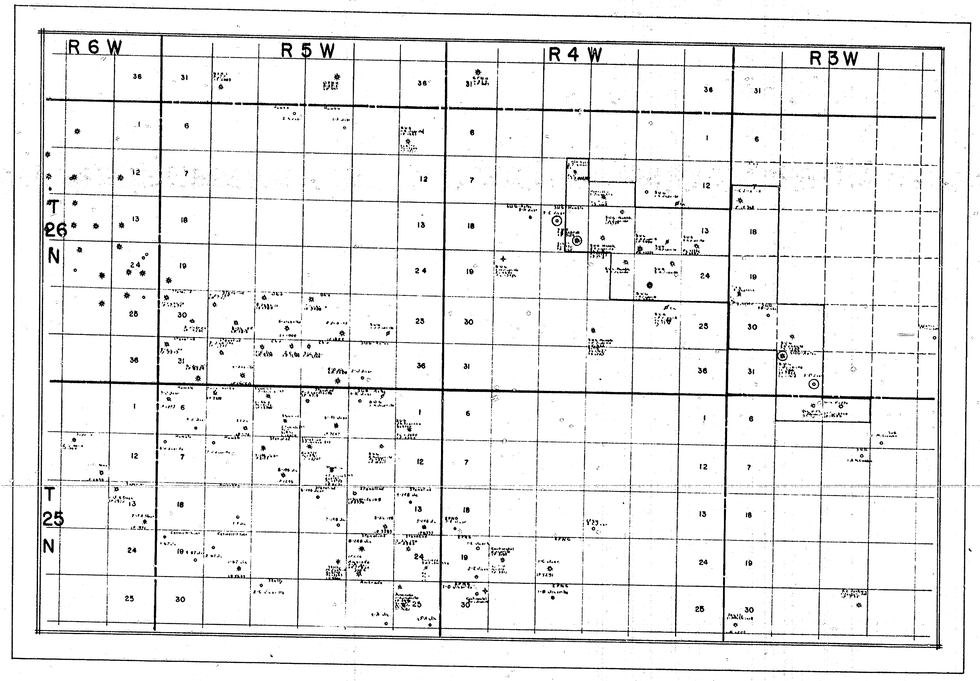


Exhibit 1.
Case 1077

Ex 1

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 1
CASE 1070, 1220

R - 37 - E

T 20 S

STANOLIND OIL & GAS COMPANY
ROSWELL DISTRICT OFFICE
YATES STRUCTURE
CONTOUR INTERVAL - 50'
PORTION OF THE EUMONT
GAS FIELD
LEA COUNTY, NEW MEXICO

Ex 2

R - 37 - E

T 20 S

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 2
CASE 1074 1220

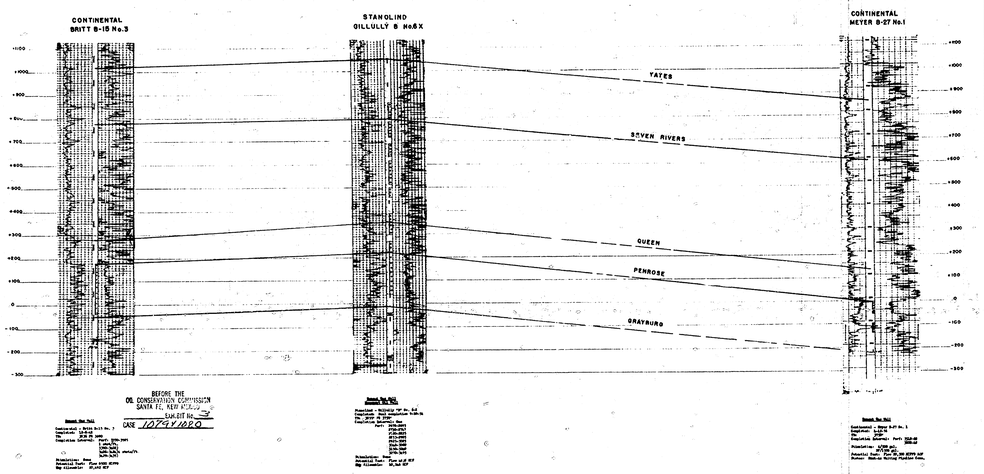
STANOLIND OIL & GAS COMPANY
ROSWELL DISTRICT OFFICE
YATES STRUCTURE
CONTOUR INTERVAL - 50'
PORTION OF THE EUMONT
GAS FIELD
LEA COUNTY, NEW MEXICO

348

N

NORTH-SOUTH CROSS SECTION

S

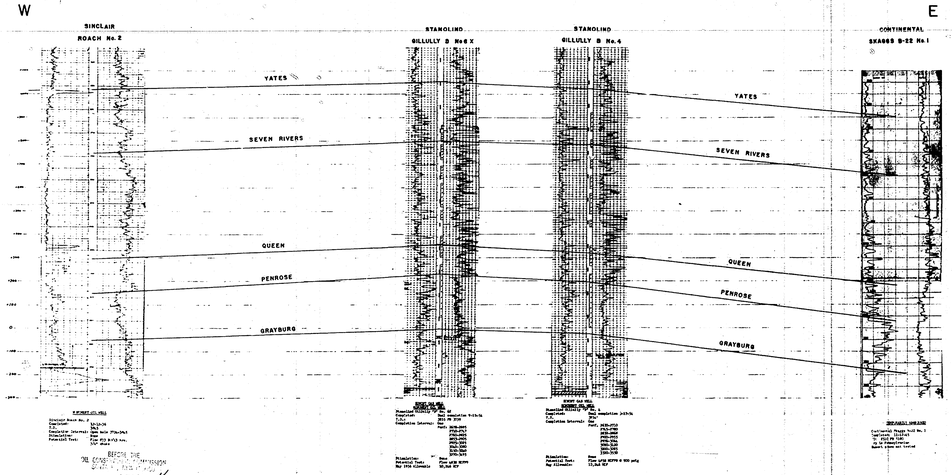


BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 3
CASE 1079 & 1080

W

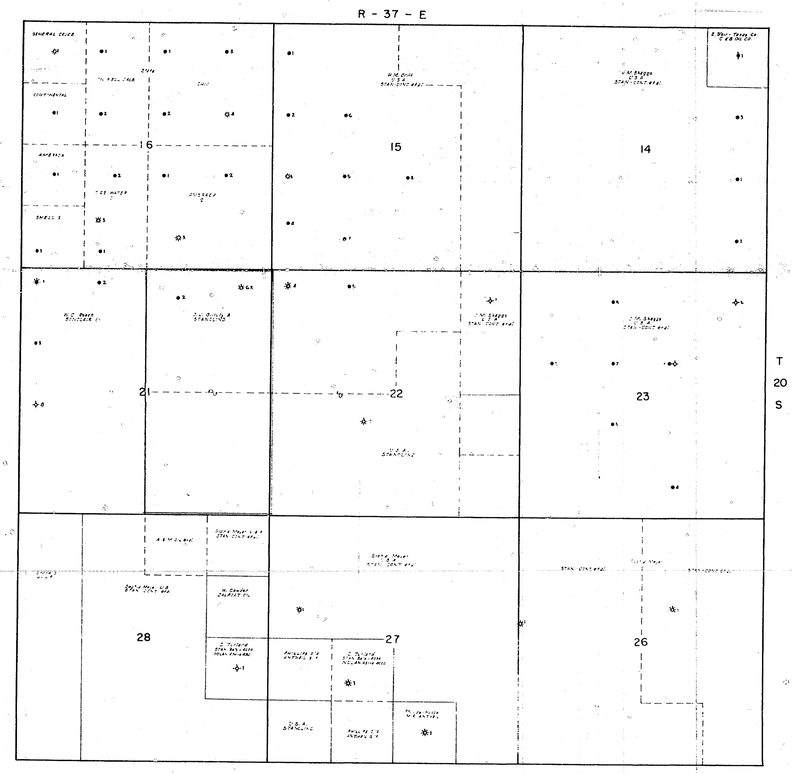
EAST WEST CROSS SECTION

E



BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 4
CASE 1079 & 1080

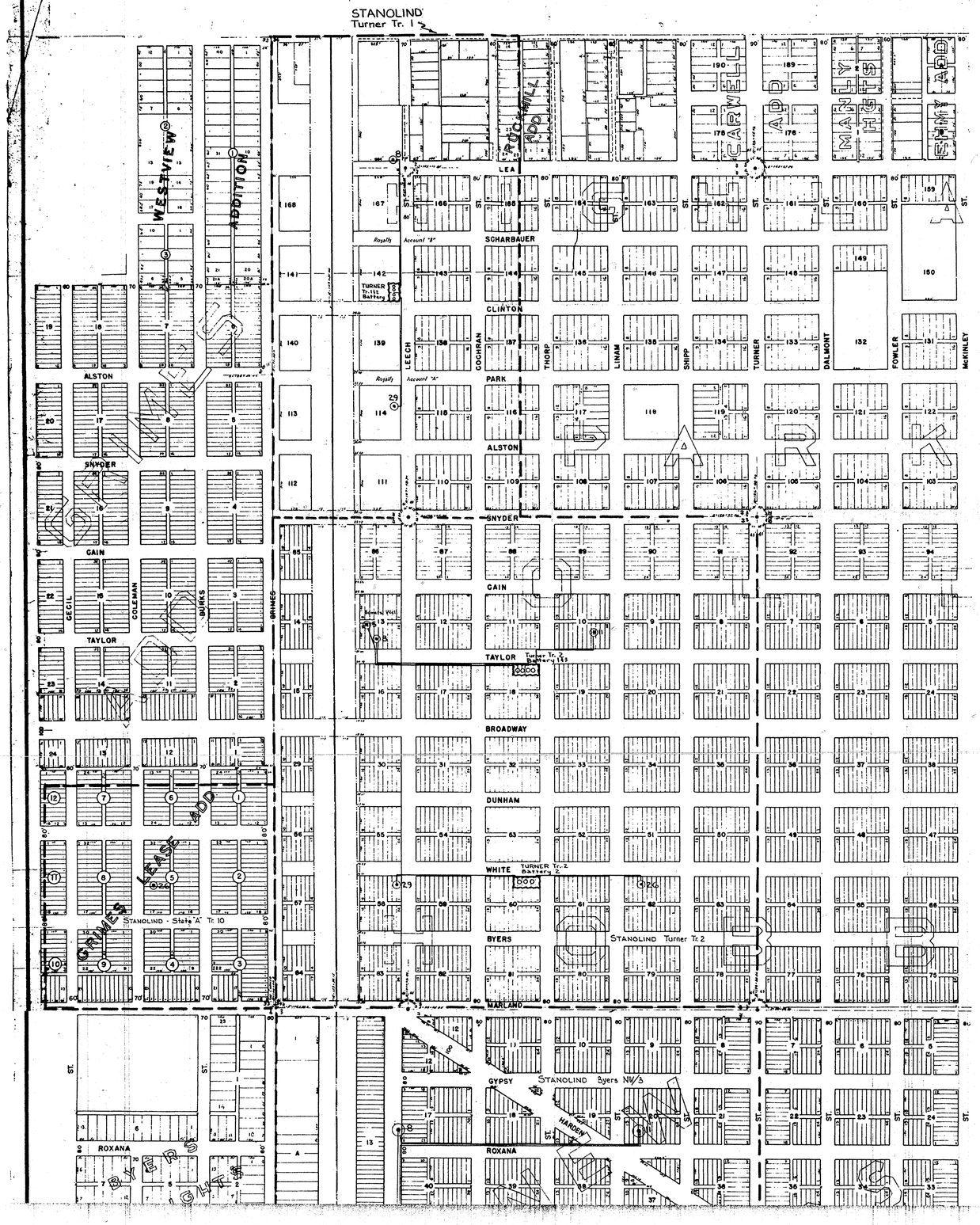
R - 37 - E



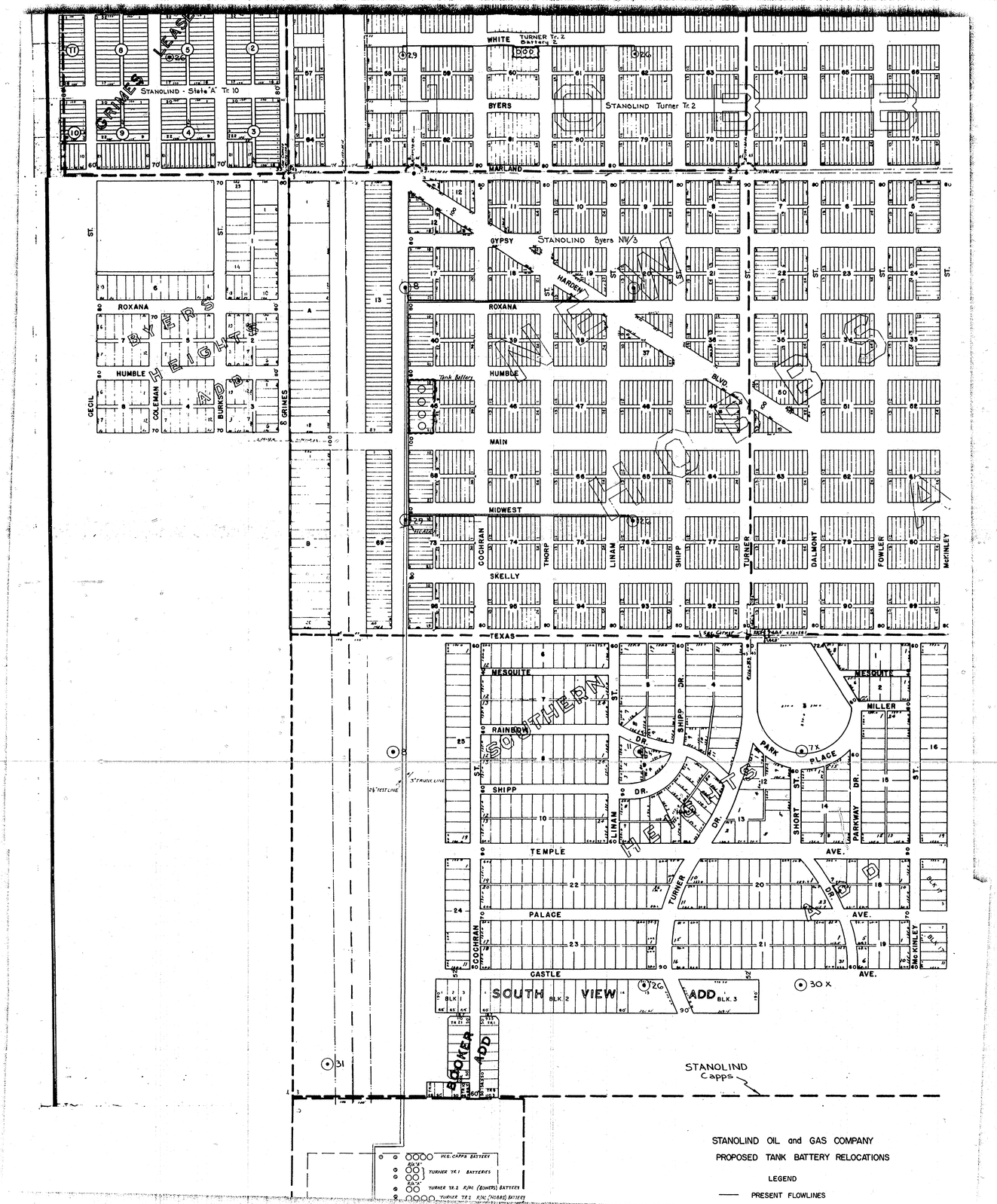
STANOLIND OIL & GAS COMPANY
ROSWELL DISTRICT OFFICE

PORTION OF THE EUMONT
GAS FIELD
LEA COUNTY, NEW MEXICO

349


STANOLIND
Turner Tr. 1
WESTVIEW
ADDITION
ROCKMILL ADD
CARWELL ADD
MANLY HTS
ENMY ADD
LEA
SCHARBAUER
CLINTON
PARK
ALSTON
SNYDER
GAIN
TAYLOR
BROADWAY
DUNHAM
WHITE
BYERS
MARLAND
GYPSY
ROXANA
LEECH
COCHRAN
THORP
LINAM
SHIPP
TURNER
DALMONT
FOWLER
McKINLEY
CECIL
COLEMAN
BURKS
GRIMES
GRIMES LEASE ADD
STANOLIND - State "A" Tr. 10
STANOLIND Turner Tr. 2
STANOLIND Byers NW/3
HARDEN
BYERS
LIGHTS

350

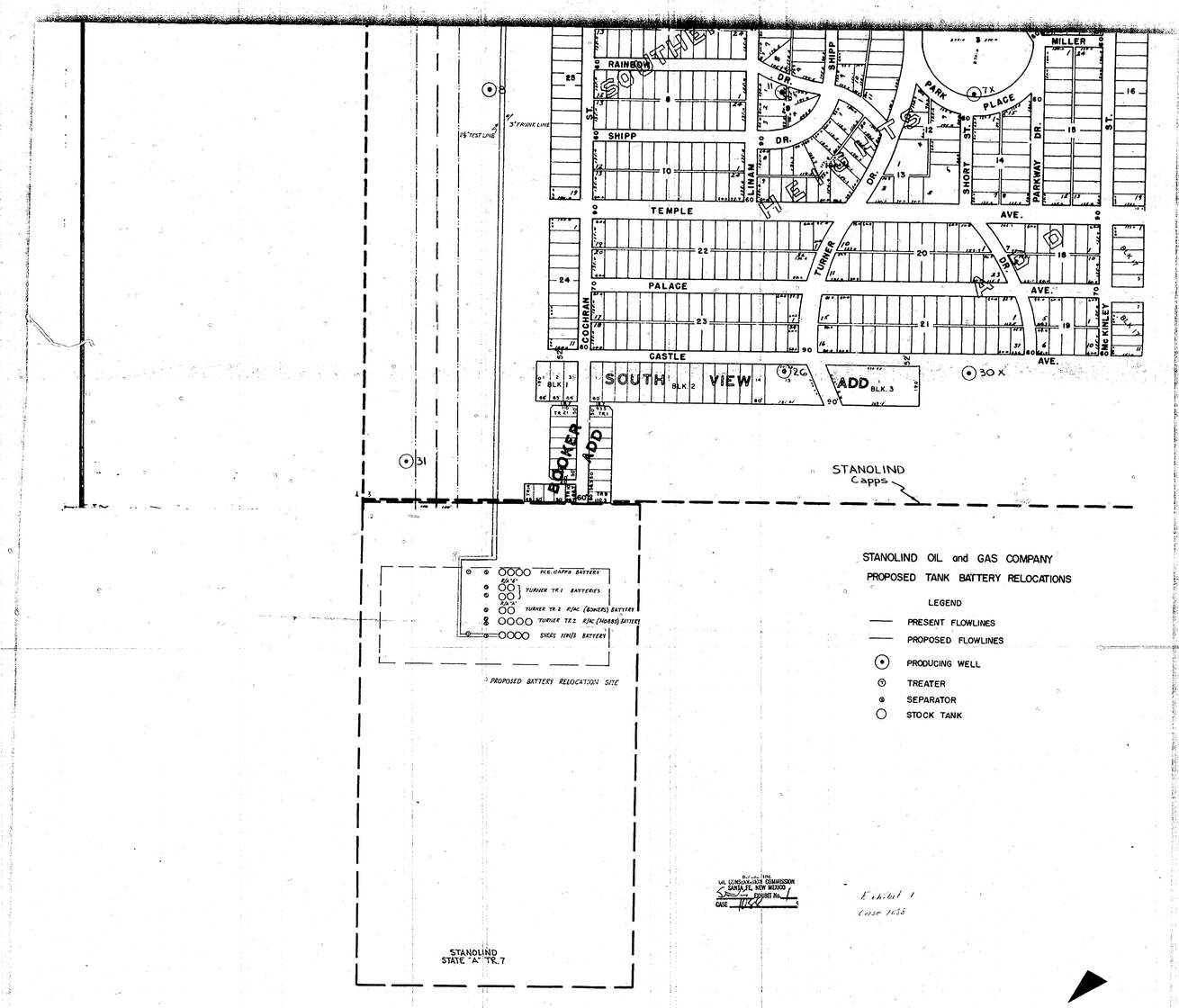


STANOLIND OIL and GAS COMPANY
PROPOSED TANK BATTERY RELOCATIONS

LEGEND

—— PRESENT FLOWLINES

351



STANOLIND OIL and GAS COMPANY

PROPOSED TANK BATTERY RELOCATIONS

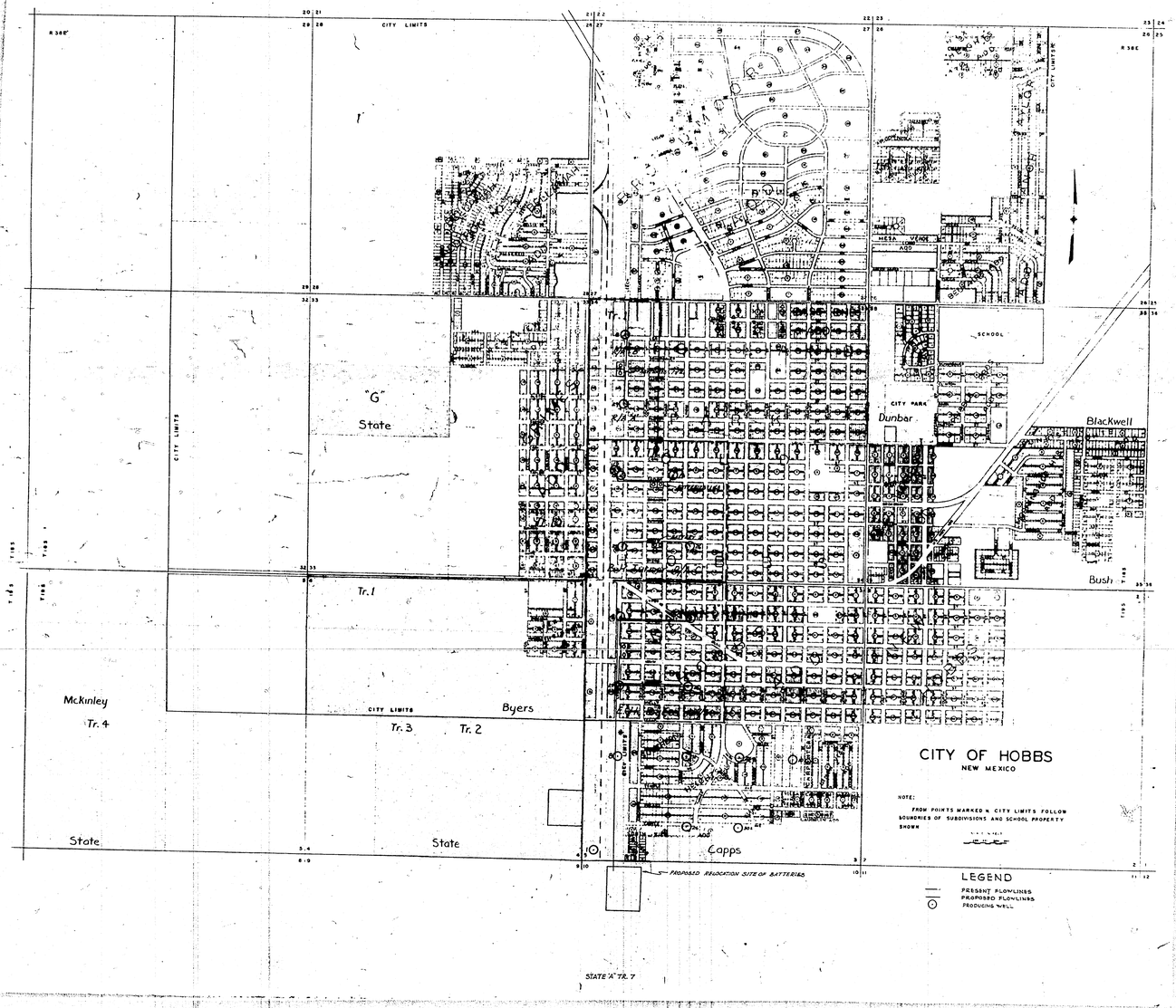
LEGEND

- PRESENT FLOWLINES
- PROPOSED FLOWLINES
- PRODUCING WELL
- TREATER
- SEPARATOR
- STOCK TANK

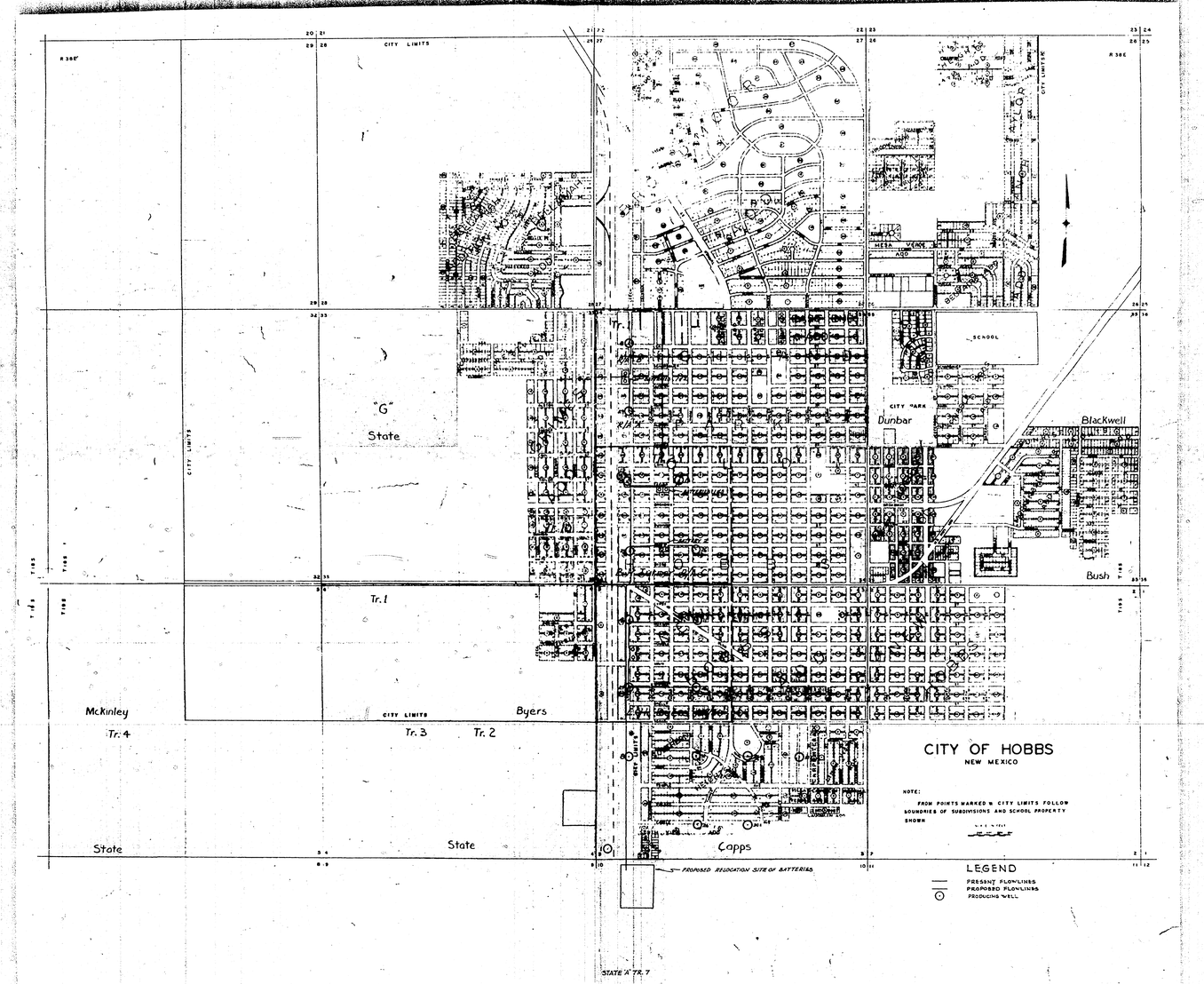
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT NO. 1
CASE 1056

Exhibit 1
Case 1056

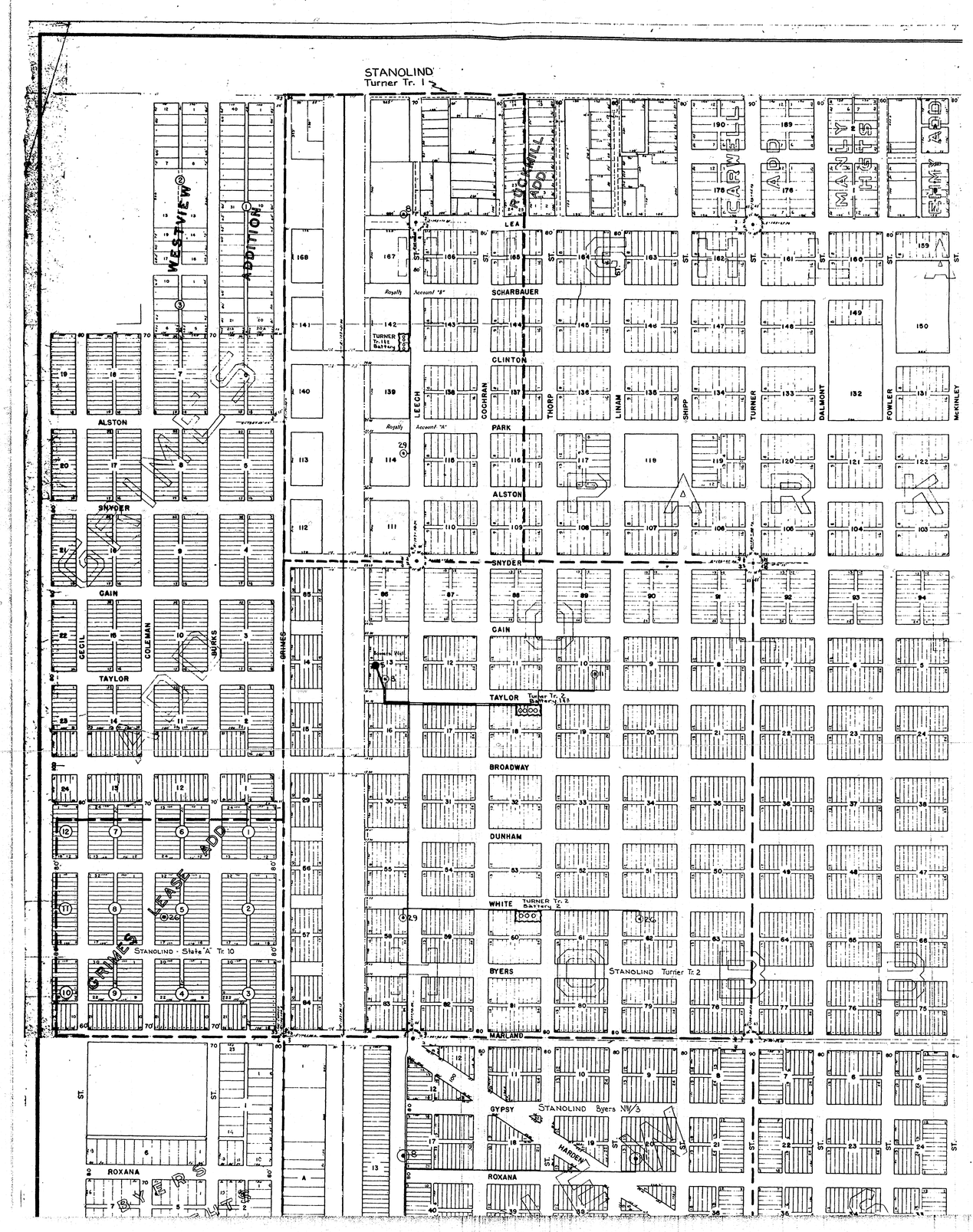
352


CITY OF HOBBS
NEW MEXICO
NOTE:
FROM POINTS MARKED & CITY LIMITS FOLLOW BOUNDRIES OF SUBDIVISIONS AND SCHOOL PROPERTY SHOWN
LEGEND
PRESENT FLOWLINES
PROPOSED FLOWLINES
PRODUCING WELL
CITY LIMITS
"G"
State
Tr. 1
Tr. 2
Tr. 3
Tr. 4
McKinley
Byers
Capps
Dunbar
Blackwell
Bush
SCHOOL
CITY PARK
PROPOSED RELOCATION SITE OF BATTERIES
STATE "A" TR. 7

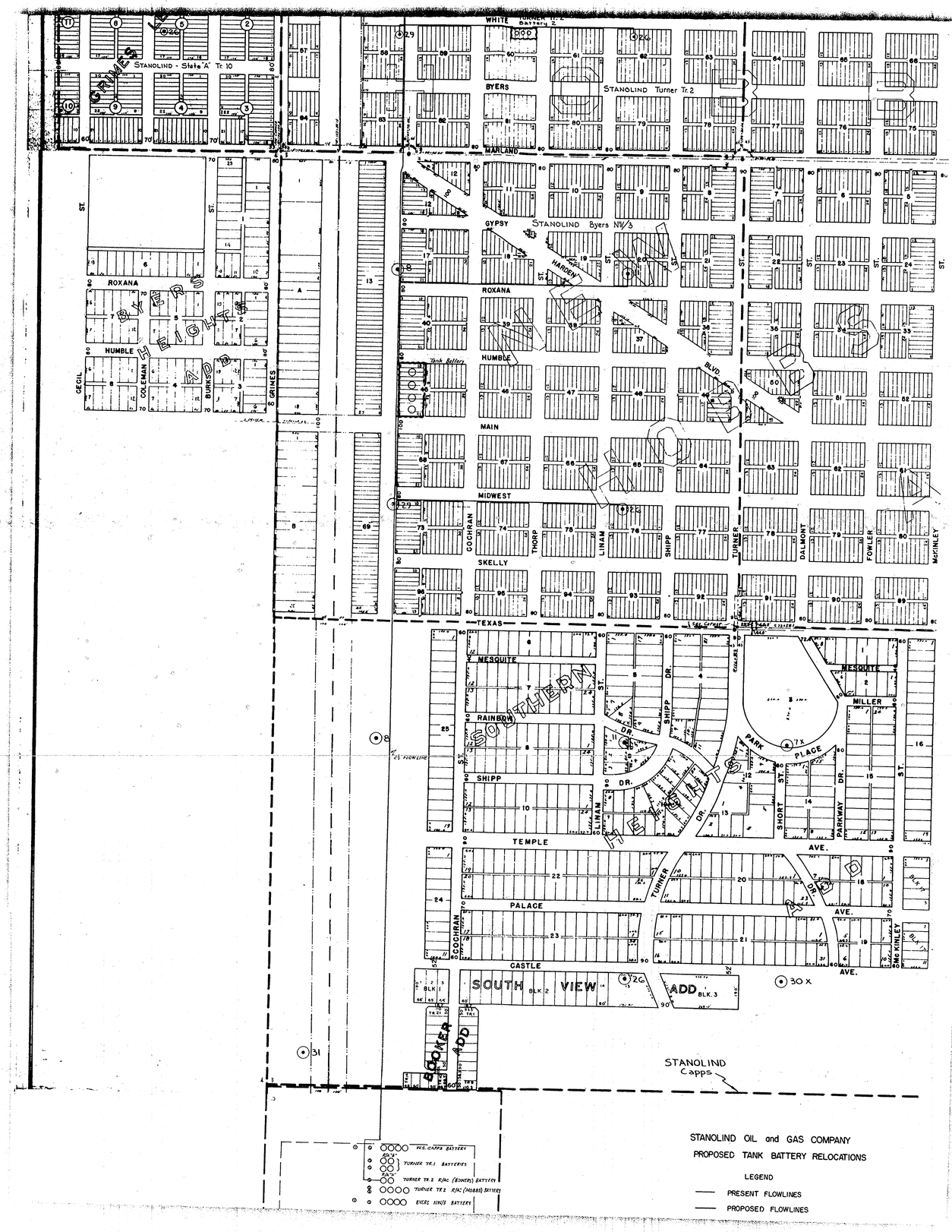
353


CITY LIMITS
"G"
State
Tr. 1
Dunbar
Blackwell
Bush
McKinley
Tr. 4
Tr. 3
Tr. 2
Byers
State
State
Capps
CITY OF HOBBS
NEW MEXICO
NOTE:
FROM POINTS MARKED ■ CITY LIMITS FOLLOW BOUNDRIES OF SUBDIVISIONS AND SCHOOL PROPERTY SHOWN
LEGEND
PRESENT FLOWLINES
PROPOSED FLOWLINES
PRODUCING WELL
PROPOSED RELOCATION SITE OF BATTERIES
STATE 'A' TR. 7

354


STANOLIND
Turner Tr. 1
WESTVIEW
ADDITION
ROCKHILL ADD
CARWELL ADD
MANLY HGTS
EMMY ADD
LEA
SCHARBAUER
CLINTON
PARK
ALSTON
SNYDER
CAIN
TAYLOR
BROADWAY
DUNHAM
WHITE
BYERS
MARLAND
GYPSY
ROXANA
LEECH
COCHRAN
THORP
LINAM
SHIPP
TURNER
DALMONT
FOWLER
McKINLEY
CECIL
COLEMAN
BURKS
GRIMES
GRIMES LEASE ADD
STANOLIND - State "A" Tr. 10
STANOLIND Turner Tr. 2
STANOLIND Byers NW/3
HARDEN
BYERS
Royalty Account "B"
Royalty Account "A"
TURNER Tr. 1 & 2 Battery
Turner Tr. 2 Battery 1 & 3
Turner Tr. 2 Battery 2

355

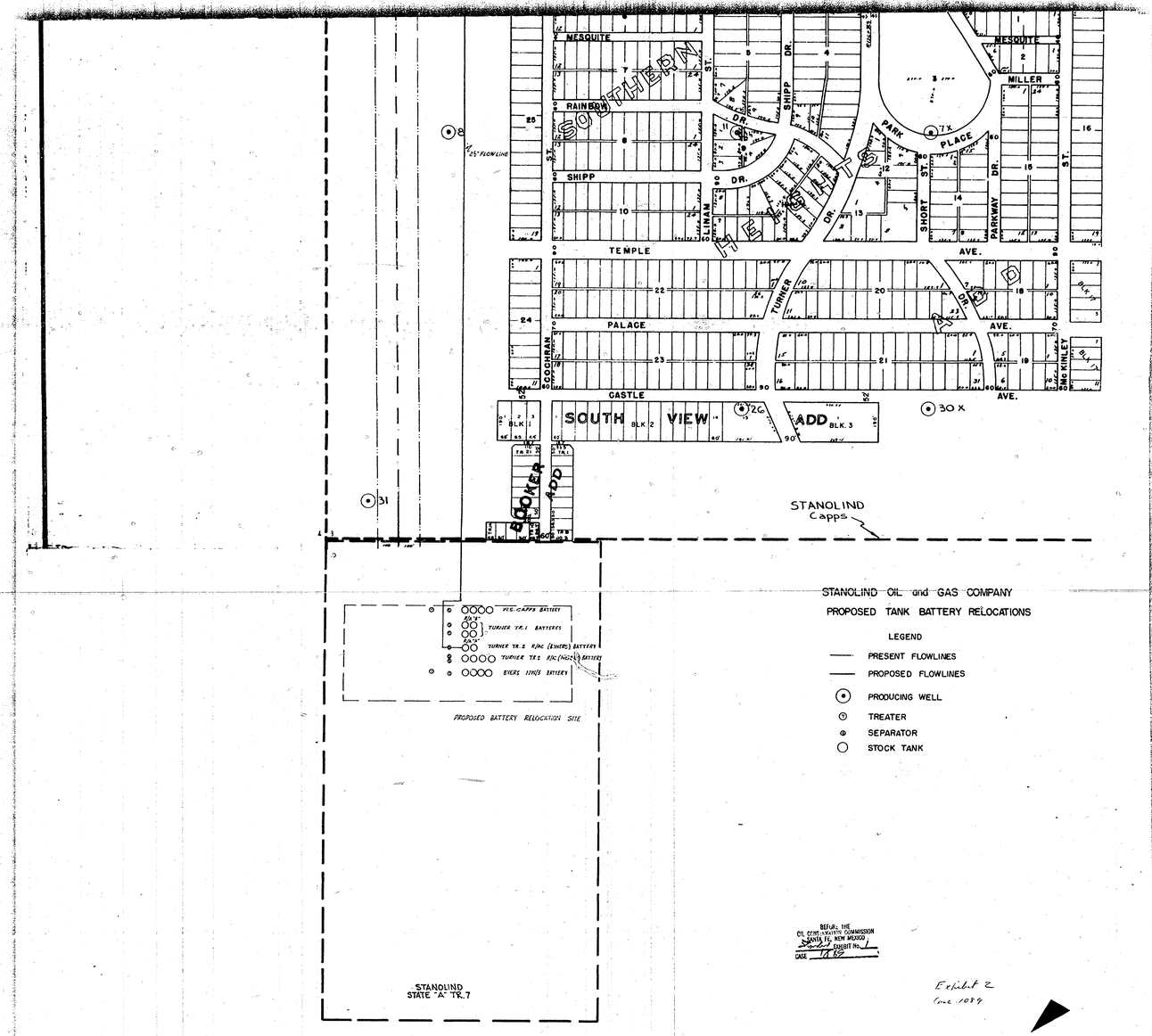


STANOLIND OIL and GAS COMPANY
PROPOSED TANK BATTERY RELOCATIONS

LEGEND

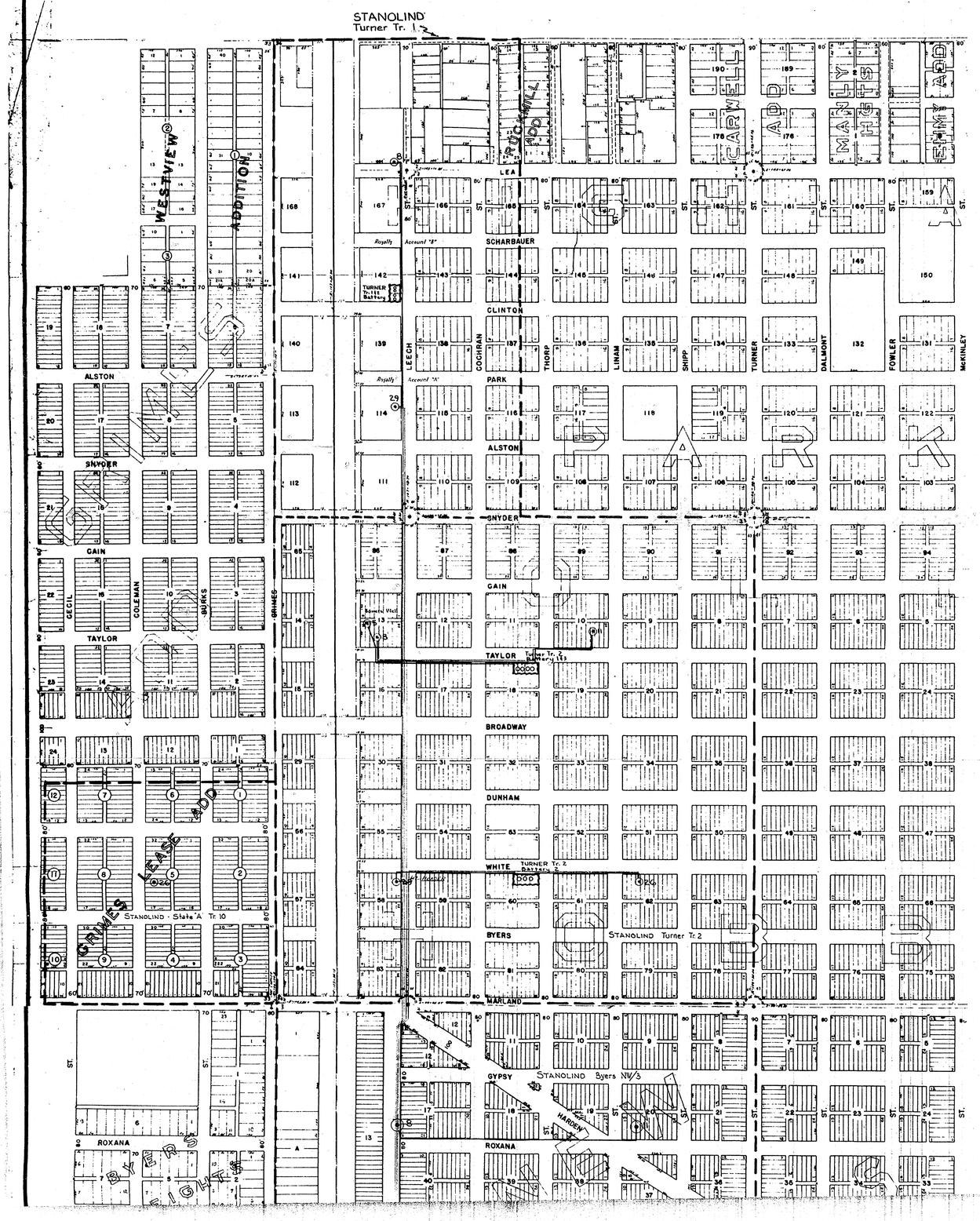
— PRESENT FLOWLINES
— PROPOSED FLOWLINES

356

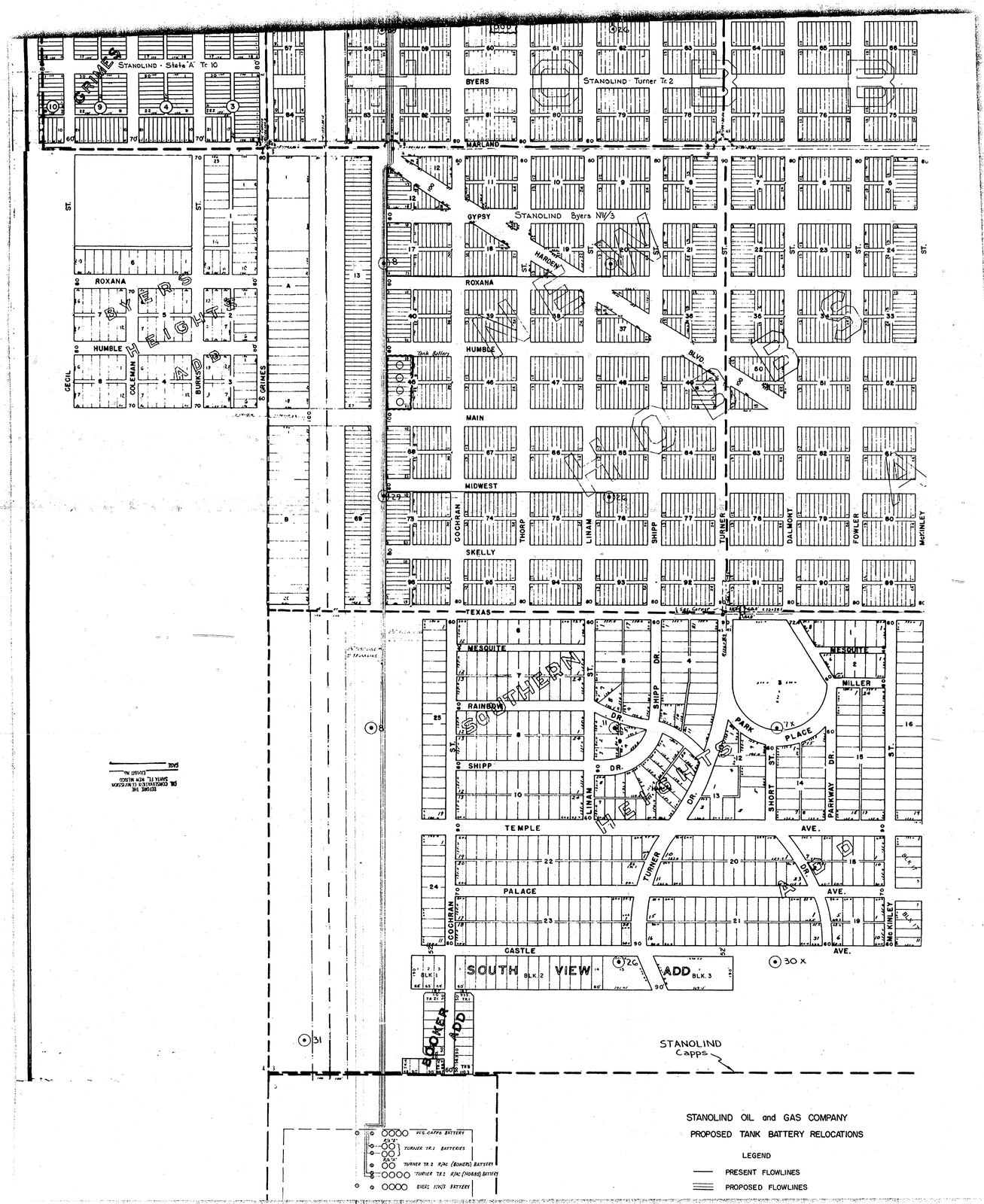


357

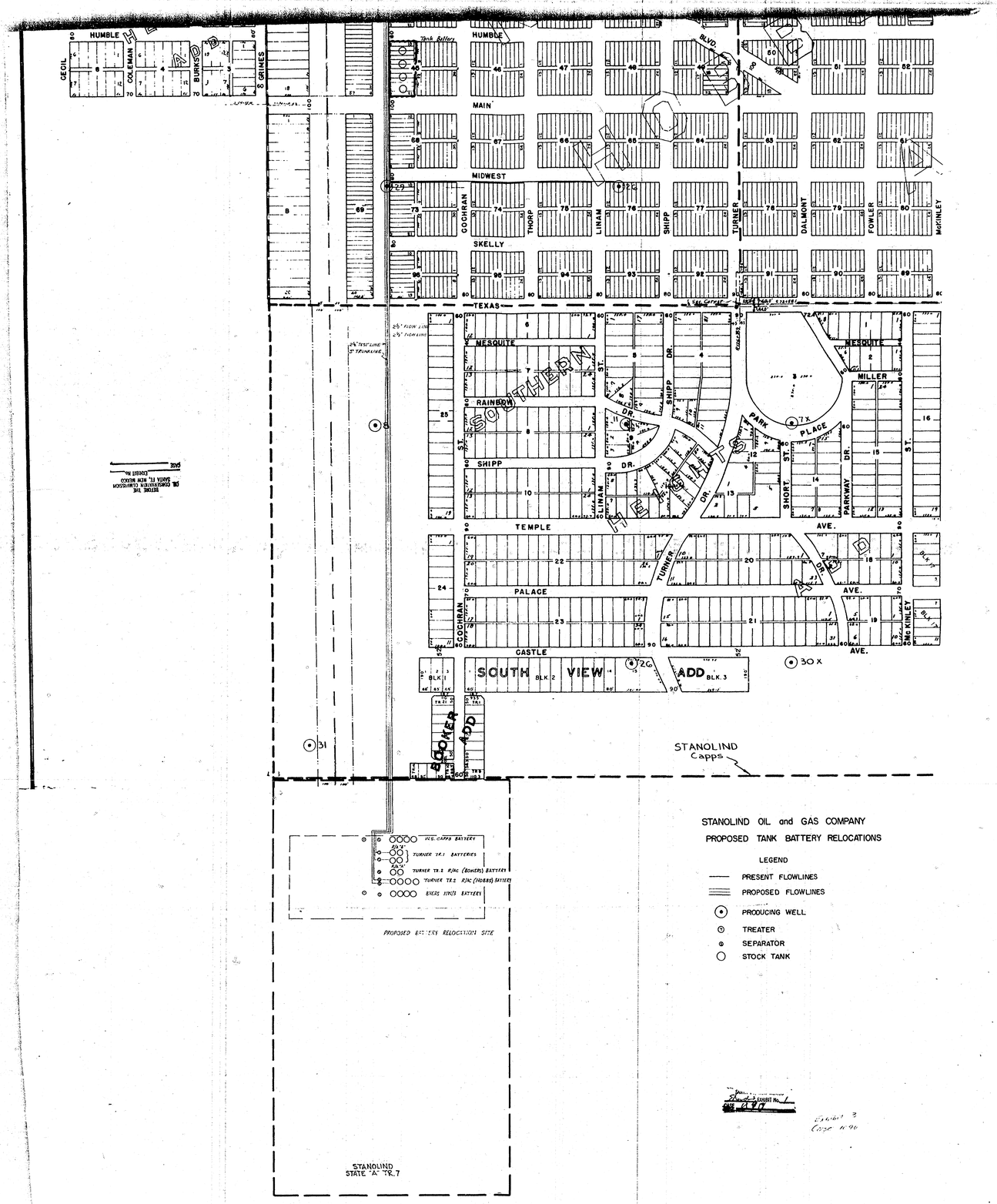
Exhibit 2
Case 1088


STANOLIND
Turner Tr. 1
WESTVIEW
ADDITION
RUCKMILL ADD
CARWELL ADD
MANLY HGTS
EMMY ADD
LEA
SCHARBAUER
CLINTON
PARK
ALSTON
SNYDER
GAIN
TAYLOR
BROADWAY
DUNHAM
WHITE
BYERS
MARLAND
GYPSY
ROXANA
LEECH
COCHRAN
THORP
LINAM
SHIPP
TURNER
DALMONT
FOWLER
McKINLEY
CECIL
COLEMAN
BURKS
GRIMES
GRIMES LEASE ADD
BYERS EIGHTS
STANOLIND - State 'A' Tr. 10
STANOLIND Turner Tr. 2
STANOLIND Byers NW/3
HARDEN
Royalty Account "B"
Royalty Account "A"
TURNER Tr. 1 Battery
Turner Tr. 2 Battery 2
Turner Tr. 2 Battery 1

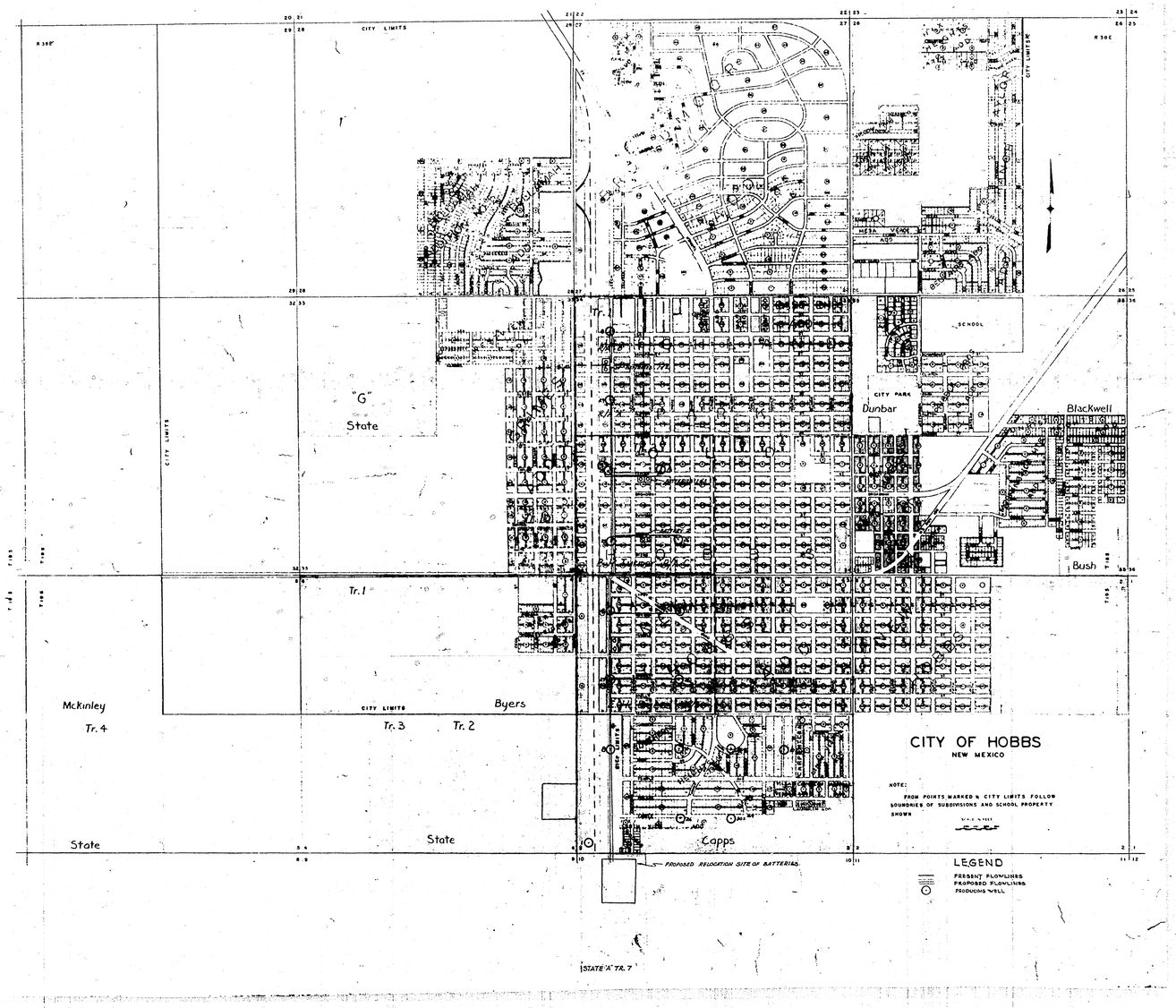
358


STANOLIND - State "A" Tr. 10
STANOLIND Turner Tr. 2
STANOLIND Byers NW/3
STANOLIND Capps
BYERS HEIGHTS ADD
SOUTHERN HEIGHTS ADD
SOUTH VIEW ADD
BOOKER ADD
GRIMES
BYERS
MARLAND
GYPSY
ROXANA
HUMBLE
MAIN
MIDWEST
SKELLY
TEXAS
MESQUITE
RAINBOW
SHIPP
TEMPLE
PALACE
CASTLE
MILLER
PARK PLACE
SHORT ST.
PARKWAY DR.
TURNER
COCHRAN
THORP
LINAM
SHIPP
DALMONT
FOWLER
McKINLEY
CECIL
COLEMAN
BURKS
HARDEN
BLVD.
STANOLIND OIL and GAS COMPANY
PROPOSED TANK BATTERY RELOCATIONS
LEGEND
PRESENT FLOWLINES
PROPOSED FLOWLINES

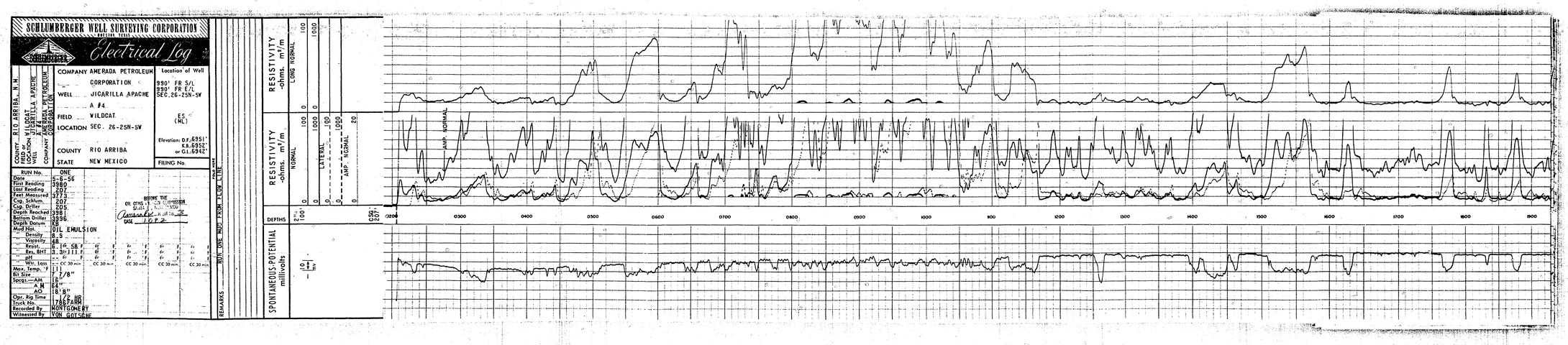
359


HUMBLE
CECIL
COLEMAN
BURKS
GRIMES
MAIN
MIDWEST
SKELLY
COCHRAN
THORP
LINAM
SHIPP
TURNER
DALMONT
FOWLER
McKINLEY
TEXAS
MESQUITE
RAINBOW
SHIPP
TEMPLE
PALACE
CASTLE
MILLER
PARK PLACE
SHORT ST.
PARKWAY DR.
AVE.
SOUTHERN HEIGHTS
SOUTH VIEW ADD
BLK. 1
BLK. 2
BLK. 3
BOOKER ADD
STANOLIND Capps
STANOLIND OIL and GAS COMPANY
PROPOSED TANK BATTERY RELOCATIONS
LEGEND
PRESENT FLOWLINES
PROPOSED FLOWLINES
PRODUCING WELL
TREATER
SEPARATOR
STOCK TANK
PROPOSED BATTERY RELOCATION SITE
STANOLIND
STATE "A" TR. 7

360


CITY OF HOBBS
NEW MEXICO
NOTE:
FROM POINTS MARKED & CITY LIMITS FOLLOW BOUNDRIES OF SUBDIVISIONS AND SCHOOL PROPERTY SHOWN
LEGEND
PRESENT FLOWLINES
PROPOSED FLOWLINES
PRODUCING WELL
PROPOSED RELOCATION SITE OF BATTERIES
CITY LIMITS
"G" State
Tr. 1
Tr. 2
Tr. 3
Tr. 4
Mckinley
Byers
State
Capps
Dunbar
Blackwell
Bush
SCHOOL
CITY PARK
STATE 'A' TR. 7

361


SCHLUMBERGER WELL SURVEYING CORPORATION
Electrical Log
COMPANY AMERADA PETROLEUM CORPORATION
WELL JICARILLA APACHE A #4
FIELD WILDCAT
LOCATION SEC. 26-25N-5W
COUNTY RIO ARRIBA
STATE NEW MEXICO
Location of Well
990' FR S/L
990' FR E/L
SEC. 26-25N-5W
ES (ML)
Elevation: D.F. 6951' K.B. 6952' or G.L. 6942'
FILING No.
RUN No. ONE
Date 5-6-56
First Reading 3980
Last Reading 207
Feet Measured 3773
Csg. Schlum. 207
Csg. Driller 205
Depth Reached 3981
Bottom Driller 3996
Depth Datum KB
Mud Not. OIL EMULSION
Density 8.5
Viscosity 48
Resist. 6.14 58 F
Res. BHT 3.3 111 F
pH
Wtr. Loss CC 30 min
Max. Temp. °F 111
Bit Size 7 7/8"
Spcgs.—AM 16"
AM 64"
AO 18'8"
Opr. Rig Time 1 1/2 HR
Truck No. 1786 FARM
Recorded By MONTGOMERY
Witnessed By VON GOTSCHE
BEFORE THE OIL CONS. COMMISSION
CASE 1092
REMARKS
RUN ONE MUD FROM FLOW LINE
RESISTIVITY -ohms. m²/m
LONG NORMAL
NORMAL
LATERAL
AMP. NORMAL
DEPTHS
SPONTANEOUS-POTENTIAL millivolts
0200
0300
0400
0500
0600
0700
0800
0900
1000
1100
1200
1300
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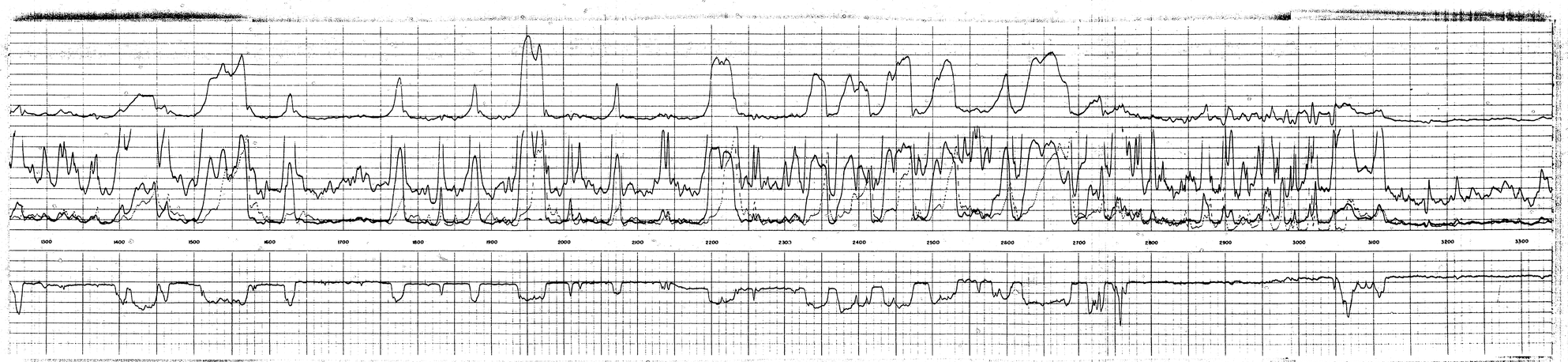
1500
1600
1700
1800
1900

362


1300
1400
1500
1600
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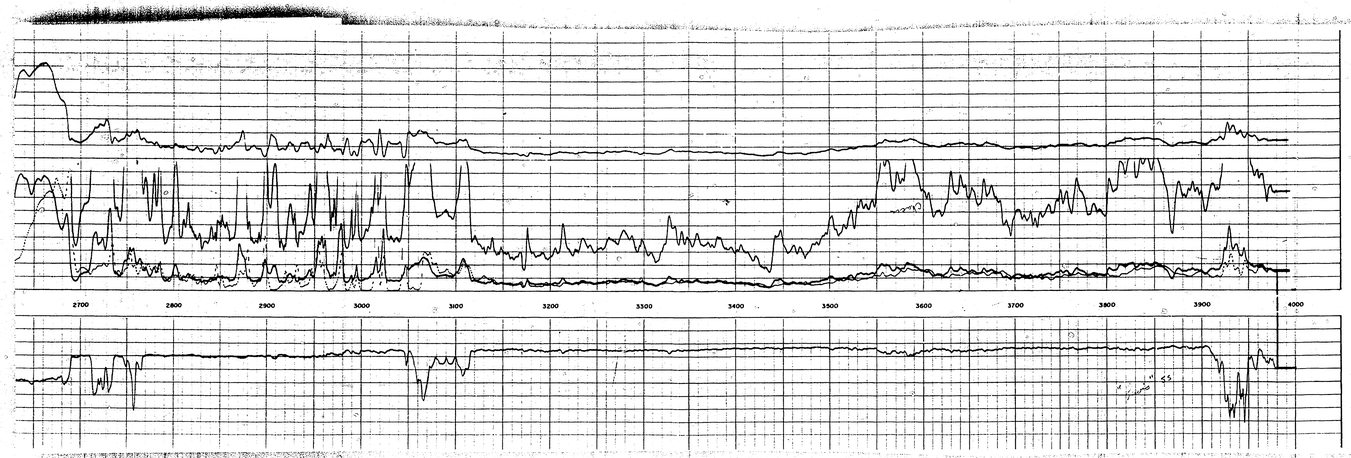
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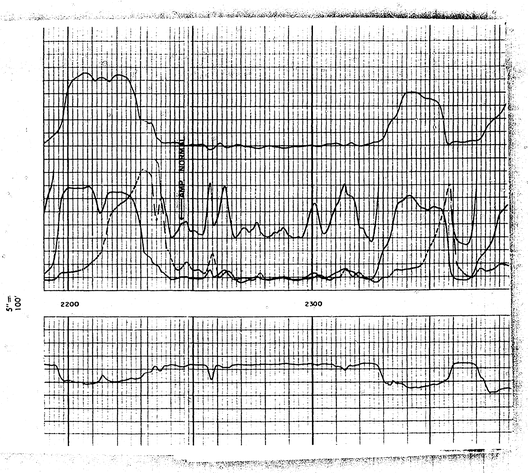
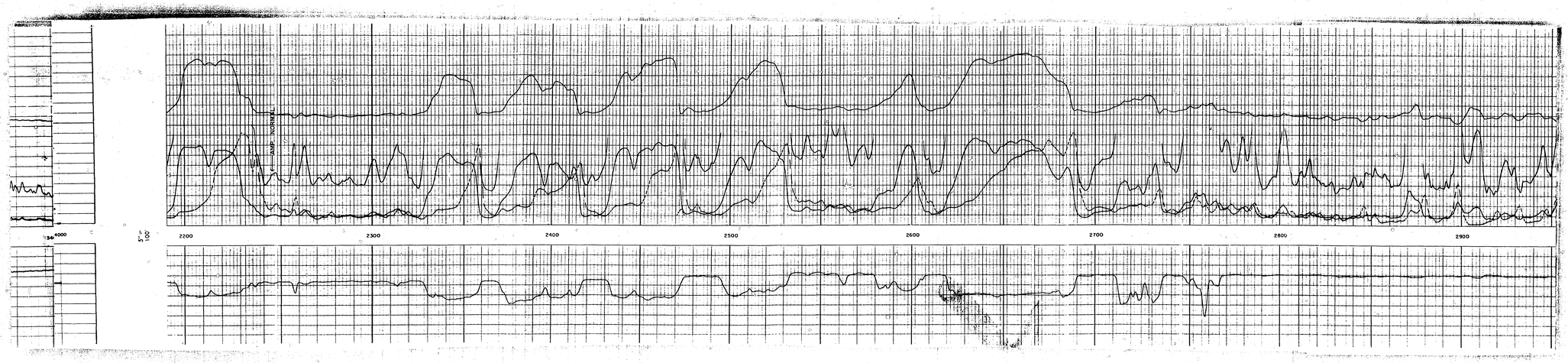
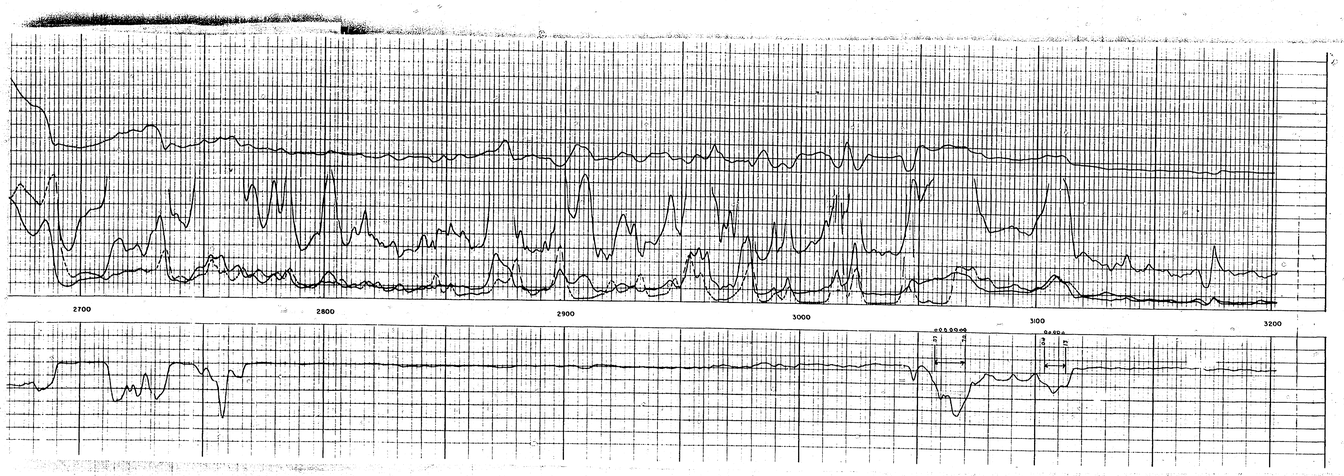
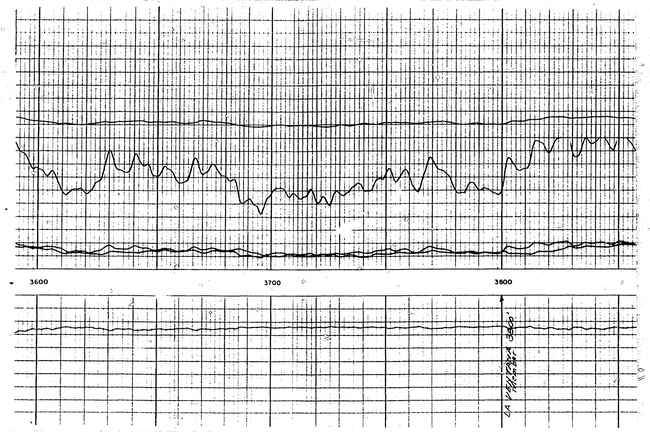

2200
2300

364


JUMP NORMAL
2200
2300
2400
2500
2600
2700
2800
2900
4000
5" = 100


2700
2800
2900
3000
3100
3200
2700
2800
2900
3000
3100
3200


3600
3700
3800
3600
3700
3800

SCHLUMBERGER WELL SURVEYING CORPORATION
HOUSTON, TEXAS

Electrical Log

COMPANY AMERADA PETROLEUM CORPORATION
WELL JICARILLA APACHE A #4
FIELD WILDCAT
LOCATION SEC. 26-25N-5W
COUNTY RIO ARRIBA
STATE NEW MEXICO

Location of Well
930' FR S/L
990' FR E/L
SEC. 26-25N-5W

ES
(ML)

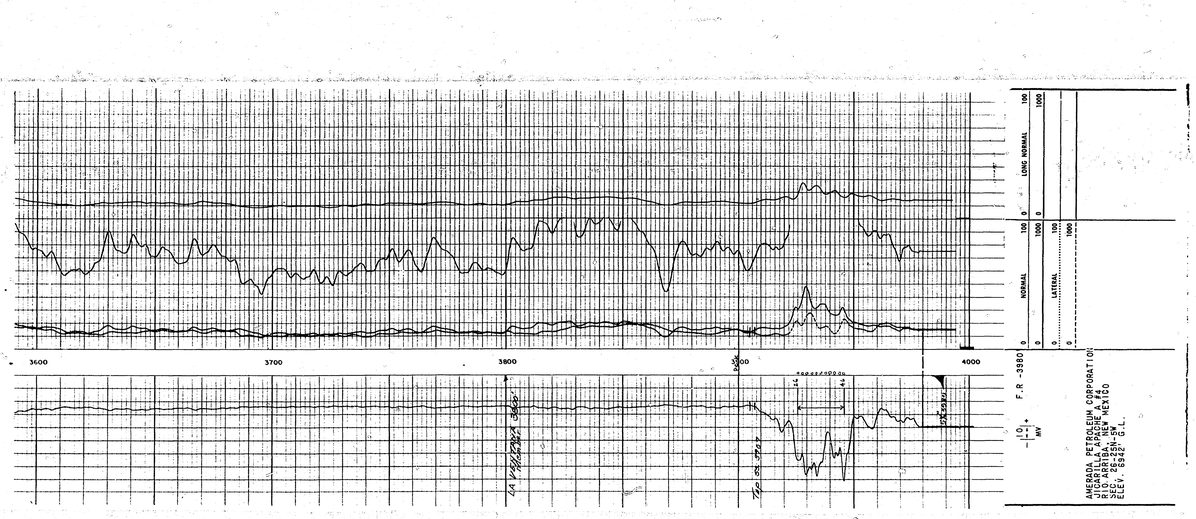
Elevation: D.F. 6951'
K.B. 6952'
or G.L. 6942'

FILING No.

COMPANY AMERADA PETROLEUM CORPORATION
WELL JICARILLA APACHE A #4
FIELD WILDCAT
COUNTY RIO ARRIBA STATE NEW MEXICO
LOCATION SEC. 26-25N-5W

RUN No.	ONE							
Date	5-8-56							
First Reading	3980							
Last Reading	207							
Feet Measured	3773							
Csg. Schlum.	205							
Csg. Driller	205							
Depth Reached	3981							
Bottom Driller	3996							
Depth Datum	KB							
Mud No.	OIL EMULSION							
Density	8.9							
Viscosity	48							
Resist.	@ 14.5B F	@ F	@ F	@ F	@ F	@ F	@ F	@ F
Res. Bht.	3.3@111 F	@ F	@ F	@ F	@ F	@ F	@ F	@ F
pH	- - @	@ F	@ F	@ F	@ F	@ F	@ F	@ F
Wtr. Loss	- - CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.
Max. Temp. °F	111							
Bit Size	7 7/8"							
Depth—Am.	18'							
—M	64'							
—AO	18'3"							
Opr. Rig Time	7 1/2 HR							
Truck No.	1786 PAN							
Recorded By	MONTGOMERY							
Witnessed By	VON GOTSCHE							

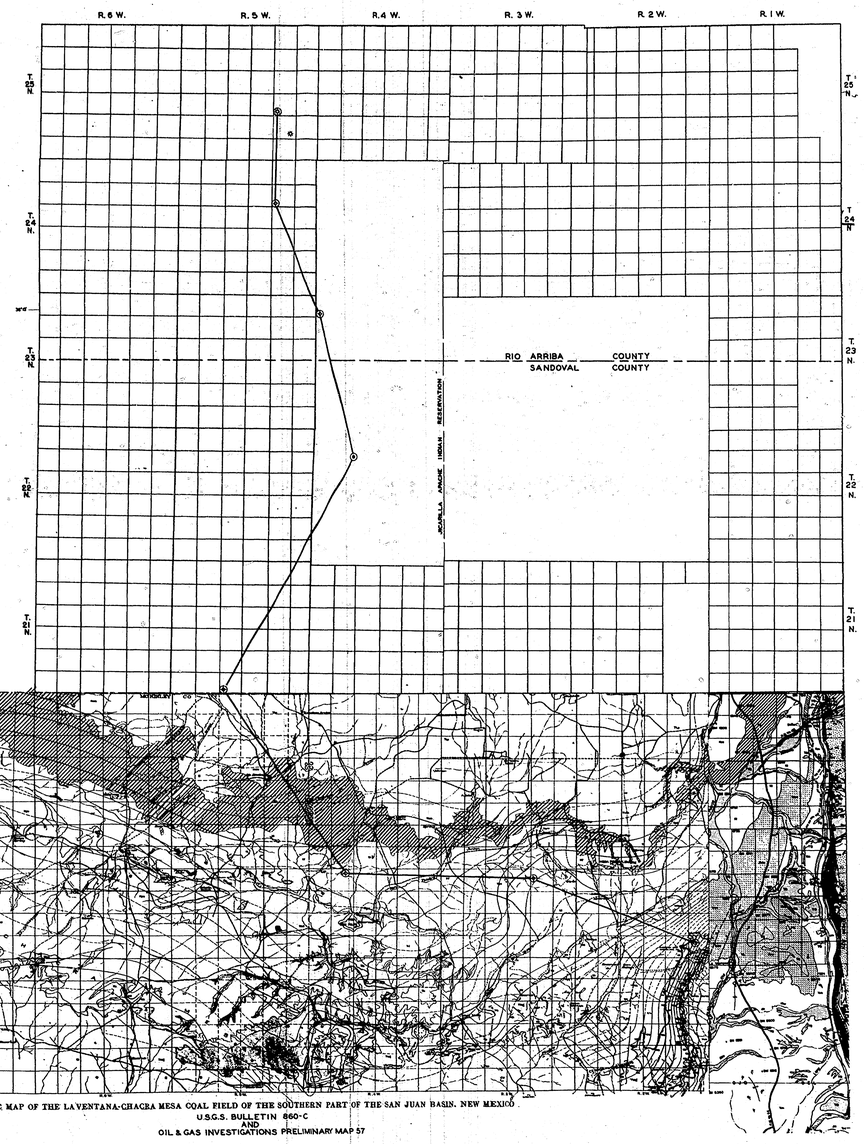
BEFORE THE
OIL CONS. COMMISSION
STATE OF NEW MEXICO
Case 1072 Exhibit No. 3



367

EXHIBIT:
REFERENCE MAP
RIO ARRIBA & SANDOVAL COUNTIES
NEW MEXICO
JUNE 1956

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Gulf Exhibit No. 4
CASE 1180



GEOLOGIC MAP OF THE LA VENTANA-CHACRA MESA COAL FIELD OF THE SOUTHERN PART OF THE SAN JUAN BASIN, NEW MEXICO
U.S.G.S. BULLETIN 860-C
AND
OIL & GAS INVESTIGATIONS PRELIMINARY MAP 57

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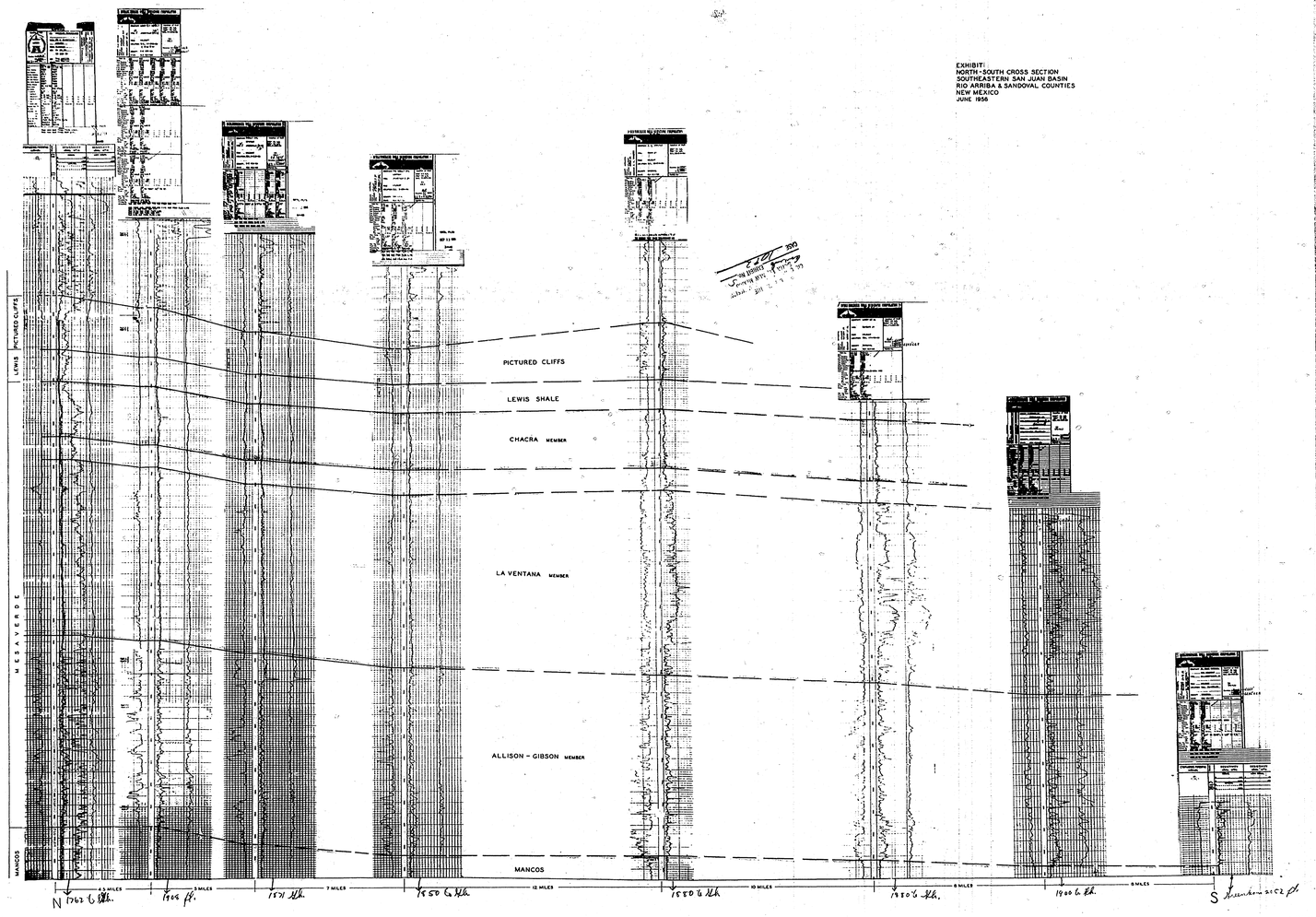
EXHIBIT:
NORTH-SOUTH CROSS SECTION
SOUTHEASTERN SAN JUAN BASIN
RIO ARRIBA & SANDOVAL COUNTIES
NEW MEXICO
JUNE 1956



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FORM 8610 REVISED J. WALLACE

THIS FORM CONFORMS TO API RP 33

RADIOACTIVITY LOG
WELEX JET SERVICES, Inc.

LICENSED BY: WELL SURVEYS, INC.

FILE NO.

Location of Well

COMPANY AMERADA PETROLEUM CORPORATION

WELL C. C. CAGLE "C" NO. 1

FIELD LANGLIE - MATTIX

COUNTY LEA STATE NEW MEXICO

LOCATION 990' FWL & 990' FNL OF SEC. 3

T - 26 - S, R - 37 - E.

RECEIVED BY THE OCD OF NEW MEXICO COMMISSION
MAY 31 1974
ARTIFICIAL CONTROL COMMISSION
RECEIVED

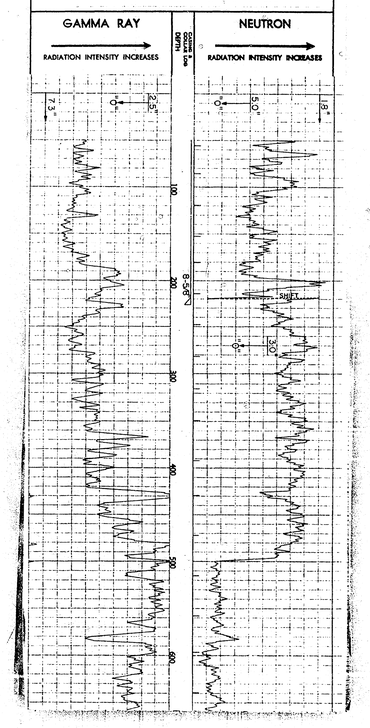
LOG MEAS. FROM	TOP ROTARY TABLE	ELEV. 3004'
DRLG. MEAS. FROM	TOP ROTARY TABLE	ELEV. 3004'
PERM. DATUM	GROUND LEVEL	ELEV. 2993'

	GAMMA RAY	NEUTRON
TYPE OF LOG	GAMMA RAY	NEUTRON
RUN NO.	- 1 -	- 1 -
DATE	5/8/56	5/8/56
JOB NO.	268-484 &	528-690
TOTAL DEPTH (DRILLER)	3308	3308
EFFECTIVE DEPTH (DRILLER)	3308	3308
TOTAL DEPTH (R/A LOG)	3307	3307
TOP OF LOGGED INTERVAL	50	50
BOTTOM OF LOGGED INTERVAL	3296	3305
TYPE OF FLUID IN HOLE	OIL	OIL
FLUID LEVEL	220	220
MAXIMUM RECORDED TEMPERATURE		
NEUTRON SOURCE STRENGTH & TYPE		600 N
SOURCE SPACING—IN.		3.75
LENGTH OF MEASURING DEVICE—IN.	30	9.1
O.D. OF INSTRUMENT—IN.	3 5/8	3 5/8
TIME CONSTANT—SECONDS	4.7	4.0
LOGGING SPEED FT./MIN. 2" =	20-40	20-40
5" =	20	20
STATISTICAL VARIATION—IN.	0.35	0.35
SENSITIVITY REFERENCE	274	275
RECORDED BY	WILLIS	WILLIS
WITNESSED BY	MR. MAULDIN	

CASING RECORD				BORE HOLE		
		INTERVAL			INTERVAL	
SIZE—INS.	WT.—LB.	FROM WELL RECORD	FROM R/A LOG	BIT SIZE INS.	FROM WELL RECORD	FROM R/A LOG
8 5/8		0 To 227'	To	12 1/4	To	To
5 1/2	J-15	0 To 3334'	To	7 7/8	To	To
		To	To		To	To
		To	To		To	To

REMARKS OR OTHER DATA

*C 209 NEUTRON CHAMBER USED - SENSITIVITY SHOWN IS BOTTLE SENSITIVITY



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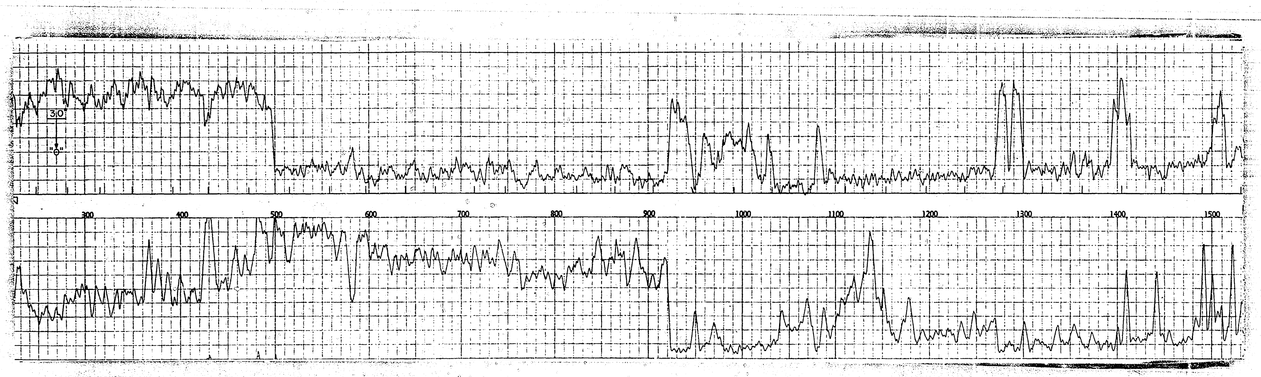

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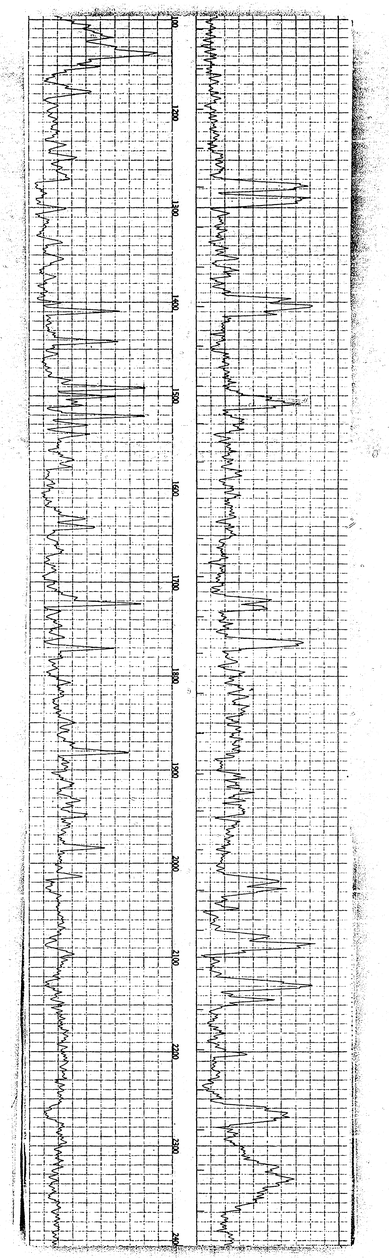
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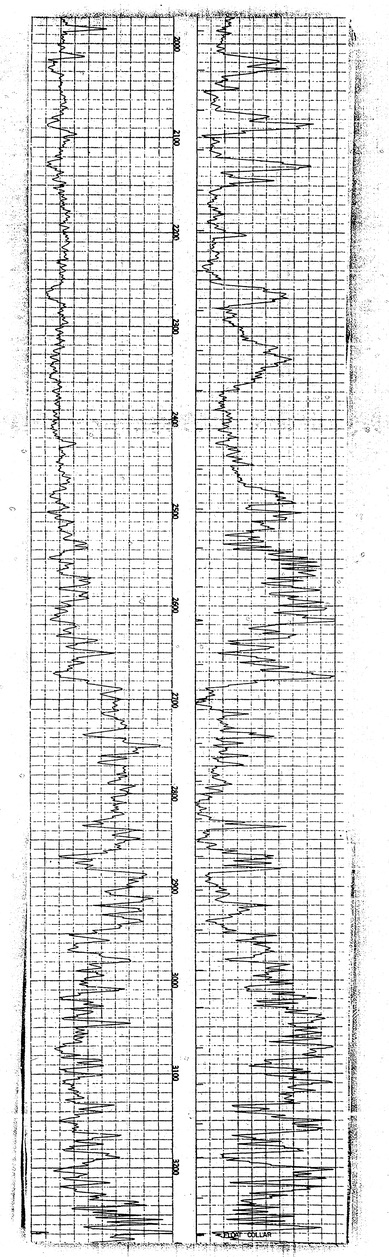
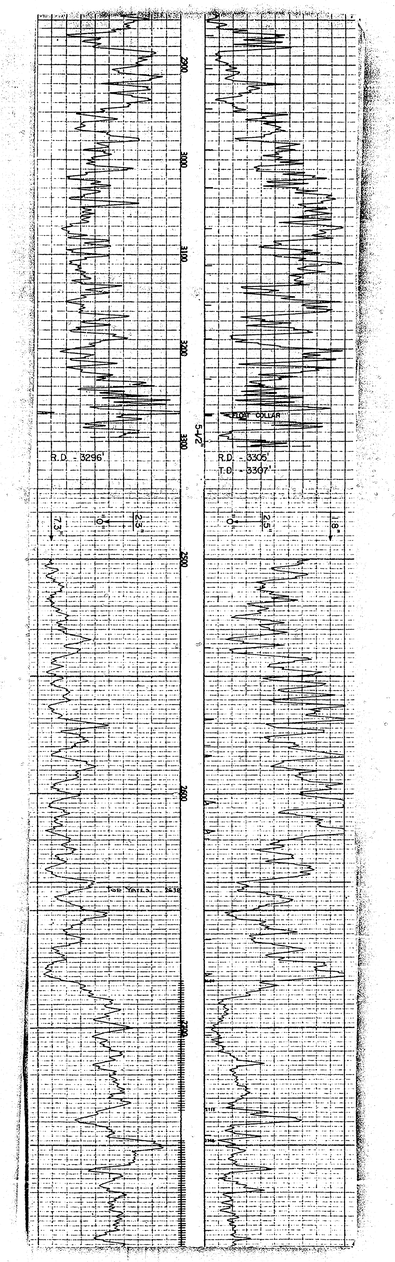
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400

372

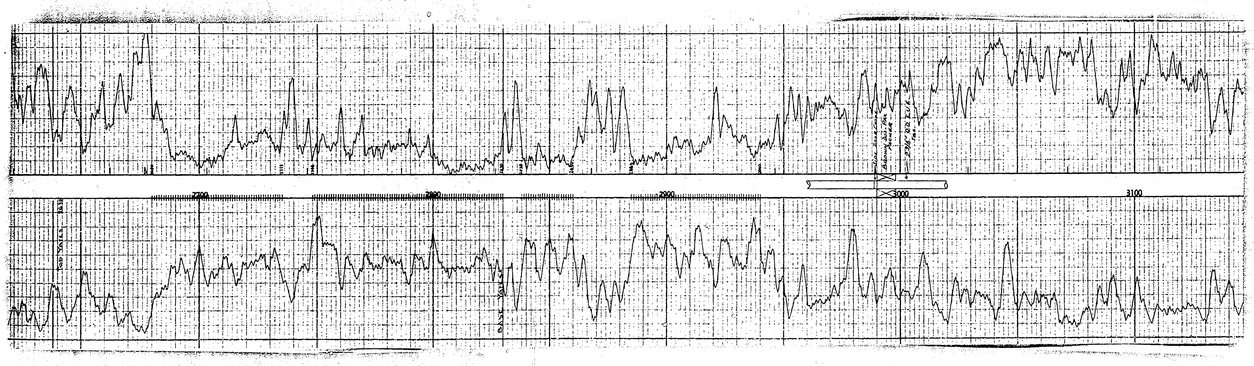

2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
3200
FLOAT COLLAR

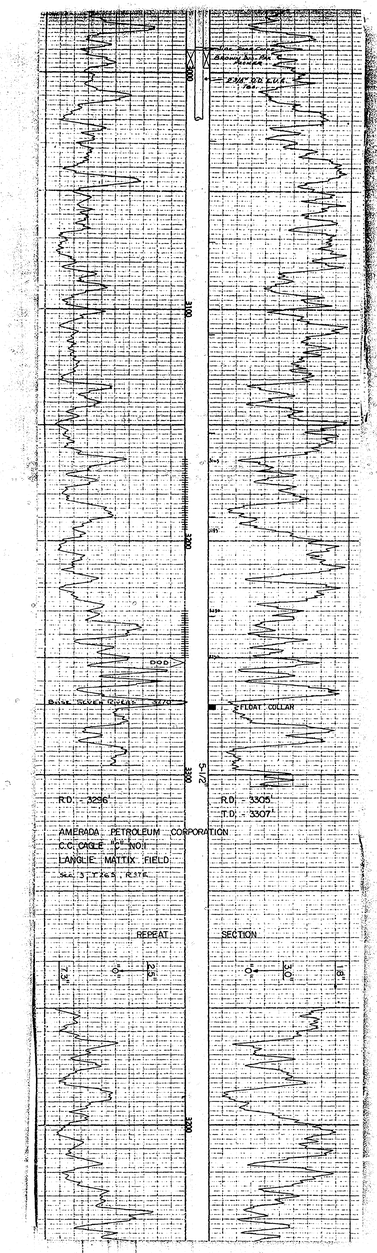
373



FLOAT COLLAR
R.D. - 3296'
R.D. - 3305'
T.D. - 3307'
5-42"
2900
3000
3100
3200
3300
2500
2600
2700
7.3"
0"
2.3"
0"
2.5"
1.8"

374


2700
2900
2900
3000
3100



3300
3100
3200
3300
3200
FLOAT COLLAR
5-1/2"
R.D. - 3296'
R.D. - 3305'
T.D. - 3307'
AMERADA PETROLEUM CORPORATION
C.C. CAGLE "C" NO.1
LANGLIE MATTIX FIELD
REPEAT
SECTION
7.3"
0"
2.5"
0"
3.0"
1.8"

376

FORM 841-B REVISED J. WALLACE

THIS FORM CONFORMS TO API RP 33

RADIOACTIVITY LOG
WELEX JET SERVICES, Inc.

LICENSED BY: WELL SURVEYS, INC. FILE NO.

Location of Well

COMPANY AMERADA PETROLEUM CORPORATION

WELL C. C. CAGLE "C" NO. 1

FIELD LANGLIE - MATTIX

COUNTY LEA STATE NEW MEXICO

LOCATION 990' FWL & 990' FWL OF SEC. 3

T - 26 - S, R - 37 - E.

REFERENCE: NE CORPORATION COMMISSION, NEW MEXICO, 1-1-1-1

LOG MEAS. FROM	TOP ROTARY TABLE	ELEV. 3004'
DRLG. MEAS. FROM	TOP ROTARY TABLE	ELEV. 3004'
PERM. DATUM	GROUND LEVEL	ELEV. 2993'

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TOTAL DEPTH (R/A LOG)	3307	3307		
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BOTTOM OF LOGGED INTERVAL	3296	3305		
TYPE OF FLUID IN HOLE	OIL	OIL		
FLUID LEVEL	220	220		
MAXIMUM RECORDED TEMPERATURE				
NEUTRON SOURCE STRENGTH & TYPE		600 N		
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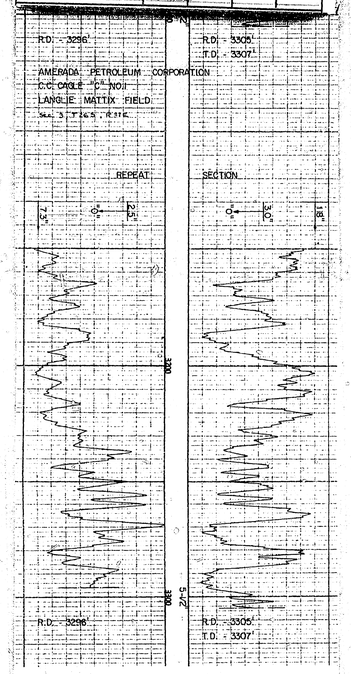
LENGTH OF MEASURING DEVICE—IN.	30	9.1		
O.D. OF INSTRUMENT—IN.	3 5/8	3 5/8		
TIME CONSTANT—SECONDS	4.7	4.0		
LOGGING SPEED FT./MIN. 2" =	20-40	20-40		
5" =	20	20		
STATISTICAL VARIATION—IN.	0.35	0.35		
SENSITIVITY REFERENCE	275	275		
RECORDED BY	WILLIS	WILLIS		
WITNESSED BY	MR. MAULDIN			



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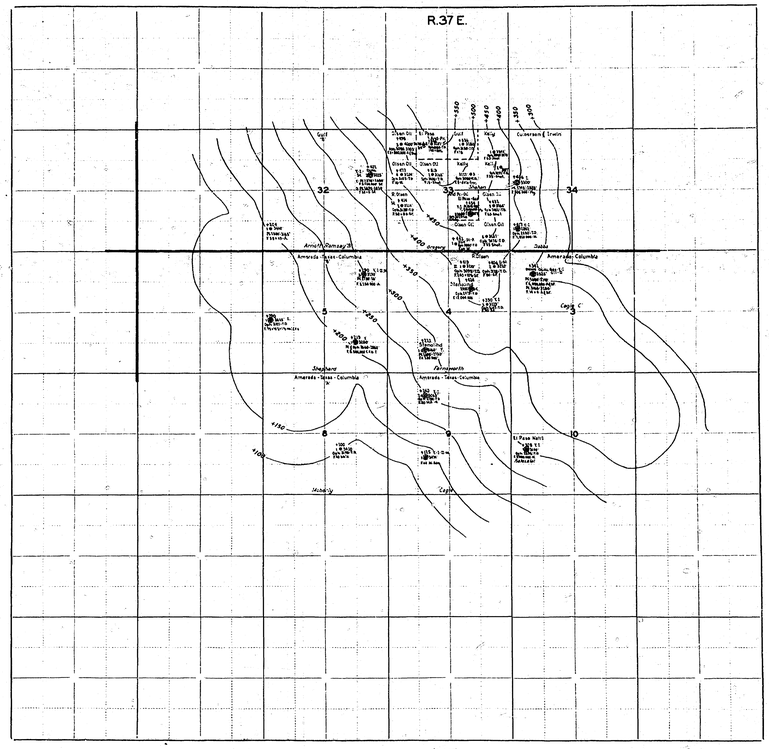
TOWNSHIP 25 & 26 S. RANGE 37 E. LEA COUNTY, STATE OF NEW MEXICO



Legend

Y - Yates
7 R - 7 Rivers
Qu - Queen
Gr - Grayburg
SA - San Andres
Gl - Glorieta
Sc - Clearfork
B - Blinebry
T - Tubb
D - Drinkard
Ab - Abo
W - Wolfcamp
P - Penn
M - Miss
Sil - Silurian
Ord - Ordovician
Fm - Fusselman
Mon - Montoya
Simp - Simpson
Ell - Ellenburger
PC - Pre Cambrian
TD - Total Depth
Comp - Completed
IP - Initial Production
GOR - Gas Oil Ratio
Grav - Gravity
A - Allowable
Acid - Acidized
A-Frac - Acid-Fracture
Frac - Fracture
Chem - Chemical
Shot - Shot
Sqz - Squeeze
Perf - Perforated
Ran - Ran
Csg - Casing
Tbg - Tubing
Pkr - Packer
Rec - Recovered
BO - Barrels Oil
MCF - Thousand Cubic Feet Gas
BW - Barrels Water
ILD - Induction Electrical Log
ML - Micro Log
Sam - Sample Log
Core - Core Analysis
DST - Drill Stem Test
Elev - Elevation
Perf - Perforation
PB - Plug Back
Sd - Sand
Lm - Lime
Anh - Anhydrite
Gyp - Gypsum
Salt - Salt
Strks - Streaks
Bent - Bentonite
Ss - Sandstone
Sh - Shale
Conglom - Conglomerate
Gran - Granite
Wsh - Wash
Rep - Repair
Pot - Potash
Oil Strks - Oil Streaks
Gas Strks - Gas Streaks
Wtr Strks - Water Streaks
Wtr Sd - Water Sand
Wtr Flow - Water Flow
Gas Sd - Gas Sand
Oil Sd - Oil Sand
Lost Circ - Lost Circulation
Abnd - Abandoned
Loc - Location
Spd - Spudded
Drlg - Drilling
Rig Rel - Rig Released
Comp - Completed
Wtr Inj - Water Injection
Gas Inj - Gas Injection
Wtr Supply - Water Supply
Comm - Commingle
Inj - Injection
Disp - Disposal
Stim - Stimulation
Press - Pressure
Temp - Temperature
Equip - Equipment
Prod - Production
Pot - Potential
Ref - Reference
Rpt - Report
Rec - Recomplete
Ext - Extension
Rev - Revised
Surf - Surface
Int - Intermediate
Prod - Production
Liner - Liner
Csg Pt - Casing Point
Csg Leak - Casing Leak
Csg Collapse - Casing Collapse
Csg Shoe - Casing Shoe
Csg Cmt - Casing Cement
Csg Perf - Casing Perforated
Csg Frac - Casing Fracture
Csg Shot - Casing Shot
Csg Sqz - Casing Squeeze
Csg Ran - Casing Ran
Csg Rec - Casing Recovered
Csg Pkr - Casing Packer
Csg Tbg - Casing Tubing
Csg Rep - Casing Repair
Csg Pot - Casing Potash
Csg Oil Strks - Casing Oil Streaks
Csg Gas Strks - Casing Gas Streaks
Csg Wtr Strks - Casing Water Streaks
Csg Wtr Sd - Casing Water Sand
Csg Wtr Flow - Casing Water Flow
Csg Gas Sd - Casing Gas Sand
Csg Oil Sd - Casing Oil Sand
Csg Lost Circ - Casing Lost Circulation
Csg Abnd - Casing Abandoned
Csg Loc - Casing Location
Csg Spd - Casing Spudded
Csg Drlg - Casing Drilling
Csg Rig Rel - Casing Rig Released
Csg Comp - Casing Completed
Csg Wtr Inj - Casing Water Injection
Csg Gas Inj - Casing Gas Injection
Csg Wtr Supply - Casing Water Supply
Csg Comm - Casing Commingle
Csg Inj - Casing Injection
Csg Disp - Casing Disposal
Csg Stim - Casing Stimulation
Csg Press - Casing Pressure
Csg Temp - Casing Temperature
Csg Equip - Casing Equipment
Csg Prod - Casing Production
Csg Pot - Casing Potential
Csg Ref - Casing Reference
Csg Rpt - Casing Report
Csg Rec - Casing Recomplete
Csg Ext - Casing Extension
Csg Rev - Casing Revised
Csg Surf - Casing Surface
Csg Int - Casing Intermediate
Csg Prod - Casing Production
Csg Liner - Casing Liner
Csg Csg Pt - Casing Casing Point
Csg Csg Leak - Casing Casing Leak
Csg Csg Collapse - Casing Casing Collapse
Csg Csg Shoe - Casing Casing Shoe
Csg Csg Cmt - Casing Casing Cement
Csg Csg Perf - Casing Casing Perforated
Csg Csg Frac - Casing Casing Fracture
Csg Csg Shot - Casing Casing Shot
Csg Csg Sqz - Casing Casing Squeeze
Csg Csg Ran - Casing Casing Ran
Csg Csg Rec - Casing Casing Recovered
Csg Csg Pkr - Casing Casing Packer
Csg Csg Tbg - Casing Casing Tubing
Csg Csg Rep - Casing Casing Repair
Csg Csg Pot - Casing Casing Potash
Csg Csg Oil Strks - Casing Casing Oil Streaks
Csg Csg Gas Strks - Casing Casing Gas Streaks
Csg Csg Wtr Strks - Casing Casing Water Streaks
Csg Csg Wtr Sd - Casing Casing Water Sand
Csg Csg Wtr Flow - Casing Casing Water Flow
Csg Csg Gas Sd - Casing Casing Gas Sand
Csg Csg Oil Sd - Casing Casing Oil Sand
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Csg Csg Abnd - Casing Casing Abandoned
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Csg Csg Wtr Supply - Casing Casing Water Supply
Csg Csg Comm - Casing Casing Commingle
Csg Csg Inj - Casing Casing Injection
Csg Csg Disp - Casing Casing Disposal
Csg Csg Stim - Casing Casing Stimulation
Csg Csg Press - Casing Casing Pressure
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Csg Csg Pot - Casing Casing Potential
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Csg Csg Prod - Casing Casing Production
Csg Csg Liner - Casing Casing Liner
Csg Csg Csg Pt - Casing Casing Casing Point
Csg Csg Csg Leak - Casing Casing Casing Leak
Csg Csg Csg Collapse - Casing Casing Casing Collapse
Csg Csg Csg Shoe - Casing Casing Casing Shoe
Csg Csg Csg Cmt - Casing Casing Casing Cement
Csg Csg Csg Perf - Casing Casing Casing Perforated
Csg Csg Csg Frac - Casing Casing Casing Fracture
Csg Csg Csg Shot - Casing Casing Casing Shot
Csg Csg Csg Sqz - Casing Casing Casing Squeeze
Csg Csg Csg Ran - Casing Casing Casing Ran
Csg Csg Csg Rec - Casing Casing Casing Recovered
Csg Csg Csg Pkr - Casing Casing Casing Packer
Csg Csg Csg Tbg - Casing Casing Casing Tubing
Csg Csg Csg Rep - Casing Casing Casing Repair
Csg Csg Csg Pot - Casing Casing Casing Potash
Csg Csg Csg Oil Strks - Casing Casing Casing Oil Streaks
Csg Csg Csg Gas Strks - Casing Casing Casing Gas Streaks
Csg Csg Csg Wtr Strks - Casing Casing Casing Water Streaks
Csg Csg Csg Wtr Sd - Casing Casing Casing Water Sand
Csg Csg Csg Wtr Flow - Casing Casing Casing Water Flow
Csg Csg Csg Gas Sd - Casing Casing Casing Gas Sand
Csg Csg Csg Oil Sd - Casing Casing Casing Oil Sand
Csg Csg Csg Lost Circ - Casing Casing Casing Lost Circulation
Csg Csg Csg Abnd - Casing Casing Casing Abandoned
Csg Csg Csg Loc - Casing Casing Casing Location
Csg Csg Csg Spd - Casing Casing Casing Spudded
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Csg Csg Csg Comp - Casing Casing Casing Completed
Csg Csg Csg Wtr Inj - Casing Casing Casing Water Injection
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Csg Csg Csg Wtr Supply - Casing Casing Casing Water Supply
Csg Csg Csg Comm - Casing Casing Casing Commingle
Csg Csg Csg Inj - Casing Casing Casing Injection
Csg Csg Csg Disp - Casing Casing Casing Disposal
Csg Csg Csg Stim - Casing Casing Casing Stimulation
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Csg Csg Csg Temp - Casing Casing Casing Temperature
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Csg Csg Csg Csg Collapse - Casing Casing Casing Casing Collapse
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Csg Csg Csg Csg Cmt - Casing Casing Casing Casing Cement
Csg Csg Csg Csg Perf - Casing Casing Casing Casing Perforated
Csg Csg Csg Csg Frac - Casing Casing Casing Casing Fracture
Csg Csg Csg Csg Shot - Casing Casing Casing Casing Shot
Csg Csg Csg Csg Sqz - Casing Casing Casing Casing Squeeze
Csg Csg Csg Csg Ran - Casing Casing Casing Casing Ran
Csg Csg Csg Csg Rec - Casing Casing Casing Casing Recovered
Csg Csg Csg Csg Pkr - Casing Casing Casing Casing Packer
Csg Csg Csg Csg Tbg - Casing Casing Casing Casing Tubing
Csg Csg Csg Csg Rep - Casing Casing Casing Casing Repair
Csg Csg Csg Csg Pot - Casing Casing Casing Casing Potash
Csg Csg Csg Csg Oil Strks - Casing Casing Casing Casing Oil Streaks
Csg Csg Csg Csg Gas Strks - Casing Casing Casing Casing Gas Streaks
Csg Csg Csg Csg Wtr Strks - Casing Casing Casing Casing Water Streaks
Csg Csg Csg Csg Wtr Sd - Casing Casing Casing Casing Water Sand
Csg Csg Csg Csg Wtr Flow - Casing Casing Casing Casing Water Flow
Csg Csg Csg Csg Gas Sd - Casing Casing Casing Casing Gas Sand
Csg Csg Csg Csg Oil Sd - Casing Casing Casing Casing Oil Sand
Csg Csg Csg Csg Lost Circ - Casing Casing Casing Casing Lost Circulation
Csg Csg Csg Csg Abnd - Casing Casing Casing Casing Abandoned
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Csg Csg Csg Csg Drlg - Casing Casing Casing Casing Drilling
Csg Csg Csg Csg Rig Rel - Casing Casing Casing Casing Rig Released
Csg Csg Csg Csg Comp - Casing Casing Casing Casing Completed
Csg Csg Csg Csg Wtr Inj - Casing Casing Casing Casing Water Injection
Csg Csg Csg Csg Gas Inj - Casing Casing Casing Casing Gas Injection
Csg Csg Csg Csg Wtr Supply - Casing Casing Casing Casing Water Supply
Csg Csg Csg Csg Comm - Casing Casing Casing Casing Commingle
Csg Csg Csg Csg Inj - Casing Casing Casing Casing Injection
Csg Csg Csg Csg Disp - Casing Casing Casing Casing Disposal
Csg Csg Csg Csg Stim - Casing Casing Casing Casing Stimulation
Csg Csg Csg Csg Press - Casing Casing Casing Casing Pressure
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Csg Csg Csg Csg Prod - Casing Casing Casing Casing Production
Csg Csg Csg Csg Pot - Casing Casing Casing Casing Potential
Csg Csg Csg Csg Ref - Casing Casing Casing Casing Reference
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Csg Csg Csg Csg Prod - Casing Casing Casing Casing Production
Csg Csg Csg Csg Liner - Casing Casing Casing Casing Liner
Csg Csg Csg Csg Csg Pt - Casing Casing Casing Casing Casing Point
Csg Csg Csg Csg Csg Leak - Casing Casing Casing Casing Casing Leak
Csg Csg Csg Csg Csg Collapse - Casing Casing Casing Casing Casing Collapse
Csg Csg Csg Csg Csg Shoe - Casing Casing Casing Casing Casing Shoe
Csg Csg Csg Csg Csg Cmt - Casing Casing Casing Casing Casing Cement
Csg Csg Csg Csg Csg Perf - Casing Casing Casing Casing Casing Perforated
Csg Csg Csg Csg Csg Frac - Casing Casing Casing Casing Casing Fracture
Csg Csg Csg Csg Csg Shot - Casing Casing Casing Casing Casing Shot
Csg Csg Csg Csg Csg Sqz - Casing Casing Casing Casing Casing Squeeze
Csg Csg Csg Csg Csg Ran - Casing Casing Casing Casing Casing Ran
Csg Csg Csg Csg Csg Rec - Casing Casing Casing Casing Casing Recovered
Csg Csg Csg Csg Csg Pkr - Casing Casing Casing Casing Casing Packer
Csg Csg Csg Csg Csg Tbg - Casing Casing Casing Casing Casing Tubing
Csg Csg Csg Csg Csg Rep - Casing Casing Casing Casing Casing Repair
Csg Csg Csg Csg Csg Pot - Casing Casing Casing Casing Casing Potash
Csg Csg Csg Csg Csg Oil Strks - Casing Casing Casing Casing Casing Oil Streaks
Csg Csg Csg Csg Csg Gas Strks - Casing Casing Casing Casing Casing Gas Streaks
Csg Csg Csg Csg Csg Wtr Strks - Casing Casing Casing Casing Casing Water Streaks
Csg Csg Csg Csg Csg Wtr Sd - Casing Casing Casing Casing Casing Water Sand
Csg Csg Csg Csg Csg Wtr Flow - Casing Casing Casing Casing Casing Water Flow
Csg Csg Csg Csg Csg Gas Sd - Casing Casing Casing Casing Casing Gas Sand
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Csg Csg Csg Csg Csg Abnd - Casing Casing Casing Casing Casing Abandoned
Csg Csg Csg Csg Csg Loc - Casing Casing Casing Casing Casing Location
Csg Csg Csg Csg Csg Spd - Casing Casing Casing Casing Casing Spudded
Csg Csg Csg Csg Csg Drlg - Casing Casing Casing Casing Casing Drilling
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Csg Csg Csg Csg Csg Comp - Casing Casing Casing Casing Casing Completed
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Csg Csg Csg Csg Csg Ext - Casing Casing Casing Casing Casing Extension
Csg Csg Csg Csg Csg Rev - Casing Casing Casing Casing Casing Revised
Csg Csg Csg Csg Csg Surf - Casing Casing Casing Casing Casing Surface
Csg Csg Csg Csg Csg Int - Casing Casing Casing Casing Casing Intermediate
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Csg Csg Csg Csg Csg Csg Surf - Casing Casing Casing Casing Casing Casing Surface
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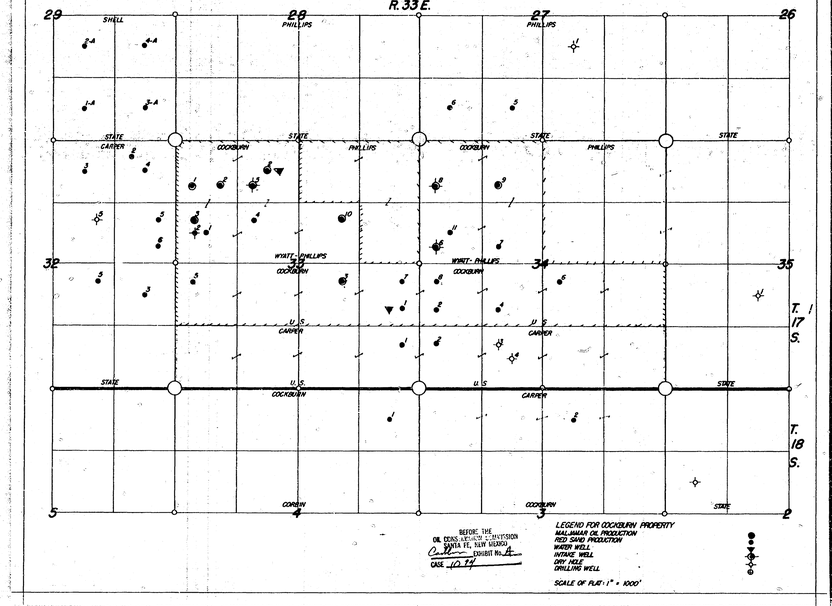
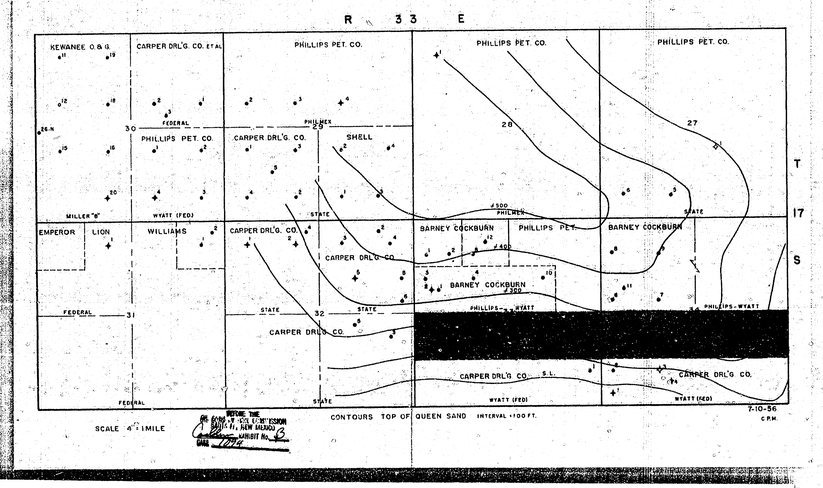
PLAT OF COCKBURN OIL PROPERTY
SHOWING ADJACENT LOCATIONS



BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 4
CASE 107

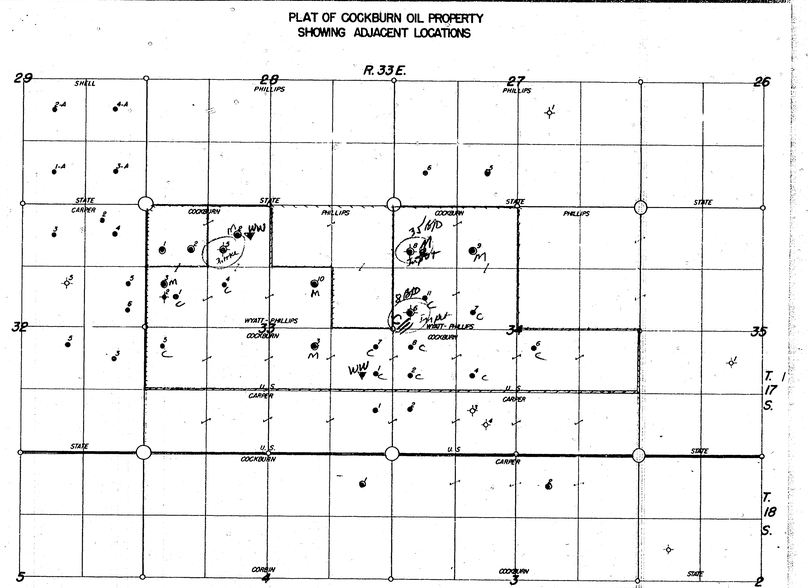
LEGEND FOR COCKBURN PROPERTY
MALJAMAR OIL PRODUCTION
RED SAND PRODUCTION
WATER WELL
INTAKE WELL
DRY HOLE
DRILLING WELL

SCALE OF PLAT-1" = 1000'



BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 3
CASE 107

PLAT OF COCKBURN OIL PROPERTY
SHOWING ADJACENT LOCATIONS



LEGEND FOR COCKBURN PROPERTY
MALJAMAR OIL PRODUCTION
RED SAND PRODUCTION
WATER WELL
INTAKE WELL
DRY HOLE
DRILLING WELL

SCALE OF PLAT-1" = 1000'

379

Reproduced by
West Texas Electrical Log Service
Dallas, Texas

REFERENCE Nº A 4512 -C

RADIOACTIVITY LOG
WELEX JET SERVICES, Inc.

COMPANY TEXAS HILL CORPORATION
WELL BELL RANCH UNIT - 12 NO. 5
FIELD ESCRIT
COUNTY LEA STATE N. MEX.
LOCATION 660' FEL & 660' FNL OF SEC. 5
T - 21 - S R - 34 - E

LOG MEAS. FROM 7.5' ABOVE S/L^M CASING ELEV. 3556.5'
DRLG. MEAS. FROM ELEV.
PERM. DATUM TOP OF S/L^M CASING ELEV. 3549.0'

TYPE OF LOG	RUN NO.	RUN NO.		
DATE	12-6-54	12-6-54		
TOTAL DEPTH (DRILLER)	4250	4250		
EFFECTIVE DEPTH (DRILLER)	4250	4250		
TOP OF CASING (LOG)	GL	GL		
TOP OF CEMENT BEHIND CASING	2961	2961		
BOTTOM OF LOG INTERVAL	4250	4250		
TYPE OF FLUID IN HOLE	WATER	WATER		
FLUID LEVEL				
MAXIMUM RECORDED TEMPERATURE				
NEUTRON SOURCE STRENGTH & TYPE		200 M		
SOURCE SPACING-IN.		6 1/2"		
DIA. OF DETECTOR-IN. (OPEN-IN.)		2 1/2"		
DIA. OF DETECTOR-IN.		3 1/2"		
TIME CONSTANT-SECONDS		1 SEC		
LOGGING SPEED FT./MIN.		30 FPM		
STATISTICAL FLUCTUATION-%		20		
SENSITIVITY REFERENCE		20		
RECORDED BY		RAMEY		
WITNESSED BY		MR. LEE		

CASING RECORD

SIZE	WT.-LB.	NEW OR USED	SET FROM-FT.	SET TO-FT.	SIZE HOLE
7"	20	NEW	0	2951	8 3/4
5 1/2"	14	NEW	2951	4250	6 3/4

REMARKS OR OTHER DATA
*C FOR NEUTRON CHANGED TO 2 1/2" DIA. DETECTOR SPACED 12 INCHES BELOW SOURCE
DERRICK FLOOR ELEVATION - 3564'
GROUND LEVEL ELEVATION - 3549'

COMPLETION RECORD

SPUD DATE COMP. DATE

OIL RECORD

CASING RECORD

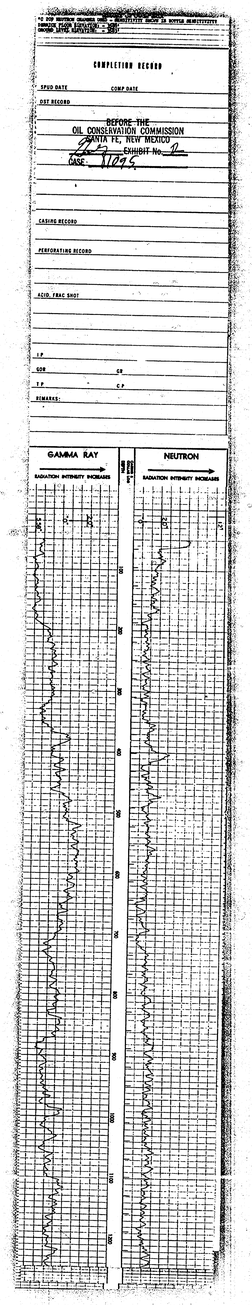
PERFORATING RECORD

ACID, FRAC SHOT

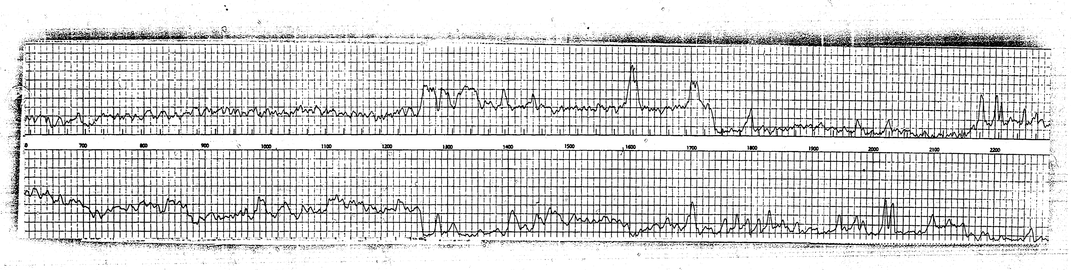
I.P.
GOR CH
T.P. C.P.
REMARKS:

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT NO. 2
CASE 1104

380


COMPLETION RECORD
SPUD DATE
COMP DATE
DST RECORD
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 2
CASE: 81095
CASING RECORD
PERFORATING RECORD
ACID, FRAC SHOT
I P
GOR
CO
T P
C P
REMARKS:
GAMMA RAY
RADIATION INTENSITY INCREASES
NEUTRON
RADIATION INTENSITY INCREASES

381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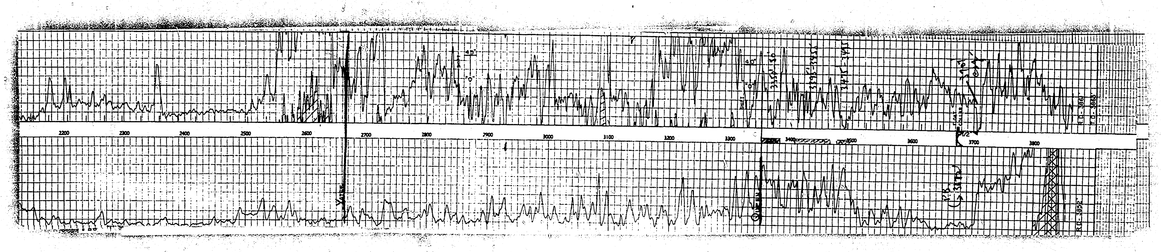
382



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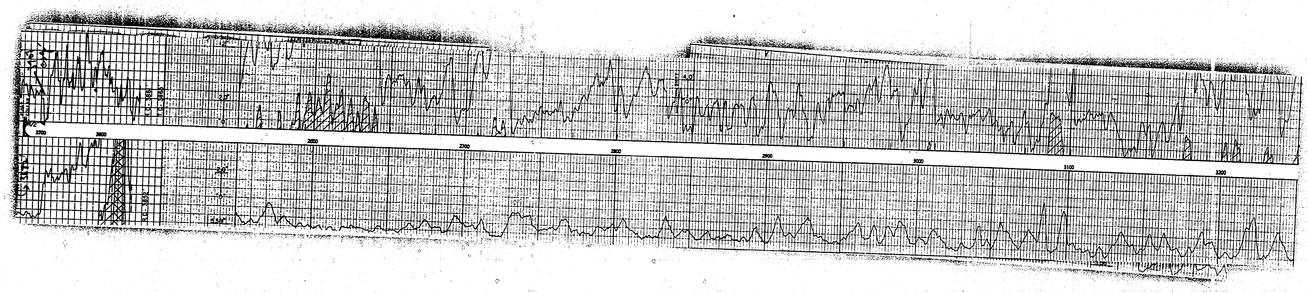

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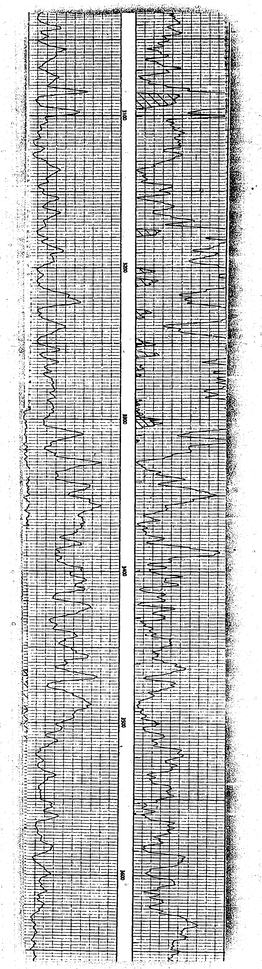

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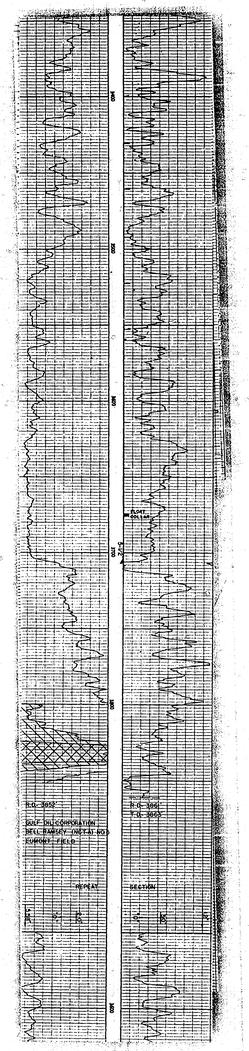
RG-3052
GULF OIL CORPORATION
BELL BARSLEY UNIT A1 60
EUMONT FIELD
REPEAT
SECTION
N.G. 105
P.E. 105
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
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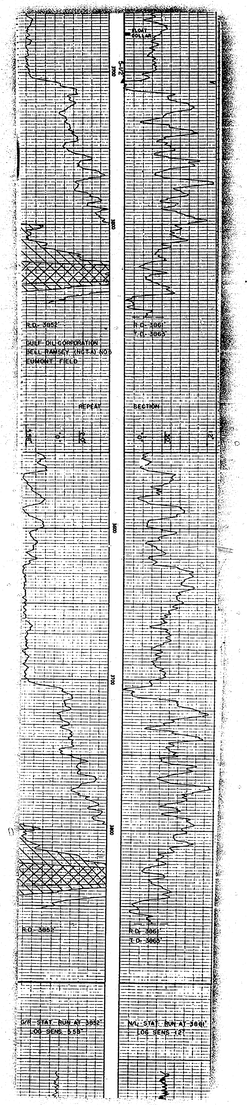
386



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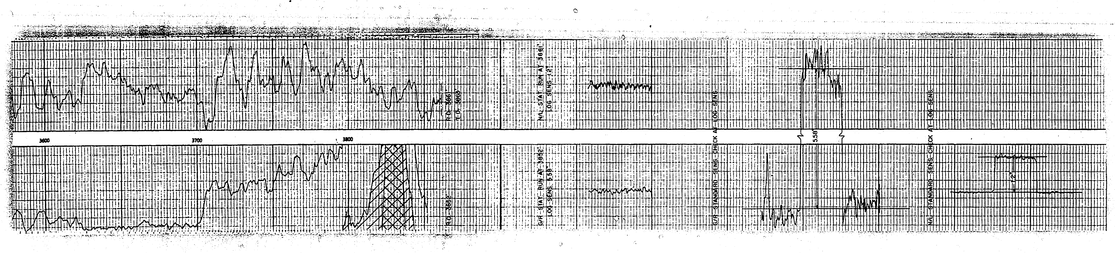

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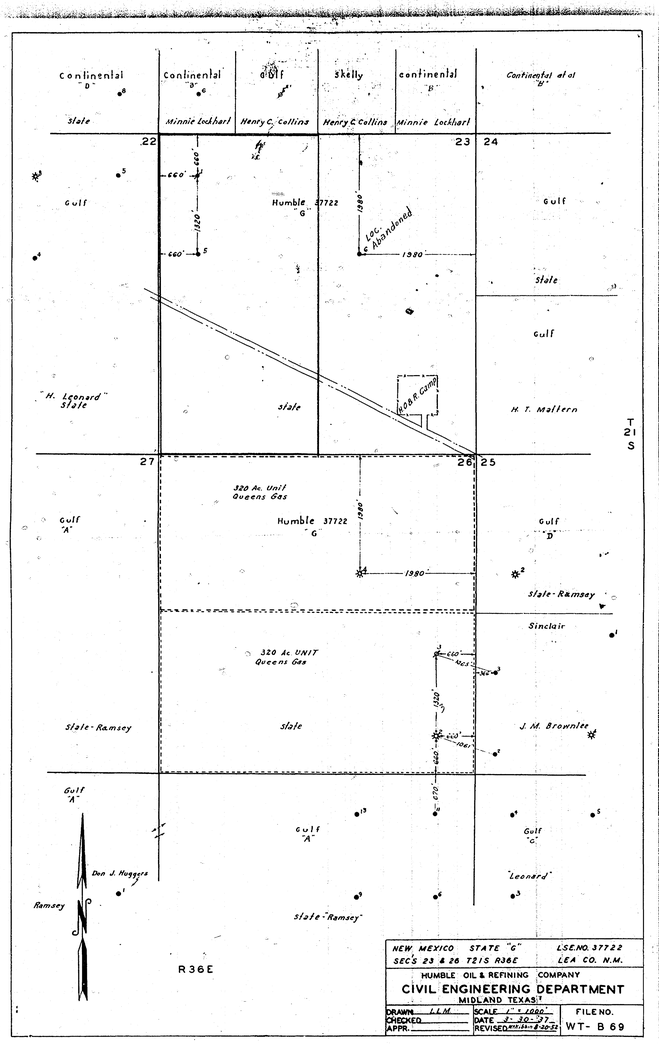
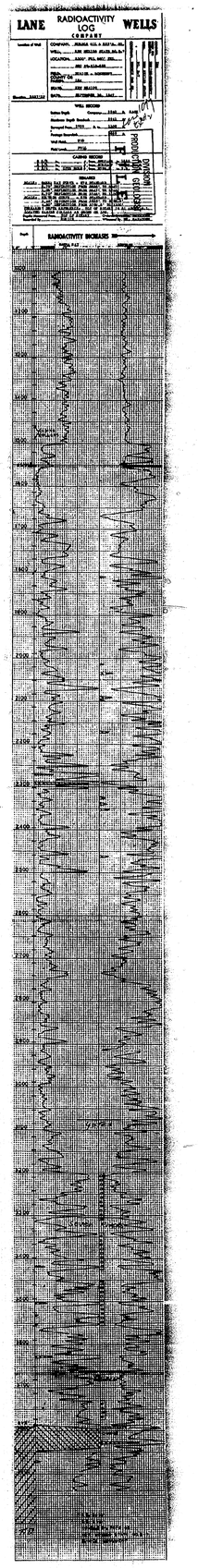


Continental "D"
Continental "D"
Gulf
Skelly
Continental "B"
Continental et al "B"
State
Minnie Lockhart
Henry C. Collins
Henry C. Collins
Minnie Lockhart
22
23
24
Gulf
Humble 37722 "G"
Lac. Abandoned
1980'
Gulf
State
Gulf
"H. Leonard" State
State
H. T. Mattern
T 21 S
27
26
25
320 Ac. Unit Queens Gas
Gulf "A"
Humble 37722 "G"
Gulf "D"
State-Ramsey
Sinclair
320 Ac. UNIT Queens Gas
State-Ramsey
State
J. M. Brownlee
Gulf "A"
Gulf "A"
Gulf "C"
Don J. Huggers
"Leonard"
Ramsey
State-"Ramsey"
R36E
NEW MEXICO STATE "G" LSE.NO. 37722
SEC'S 23 & 26 T21S R36E LEA CO. N.M.
HUMBLE OIL & REFINING COMPANY
CIVIL ENGINEERING DEPARTMENT
MIDLAND TEXAS
DRAWN L.L.M.
CHECKED
APPR.
SCALE 1" = 1000'
DATE 3-30-37
REVISED
FILE NO.
WT- B 69


LANE WELLS
RADIOACTIVITY LOG
COMPANY
WELL RECORD
CASING RECORD
RADIOACTIVITY INCREASES
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2250
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2350
2400
2450
2500
2550
2600
2650
2700
2750
2800
2850
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3000
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3150
3200
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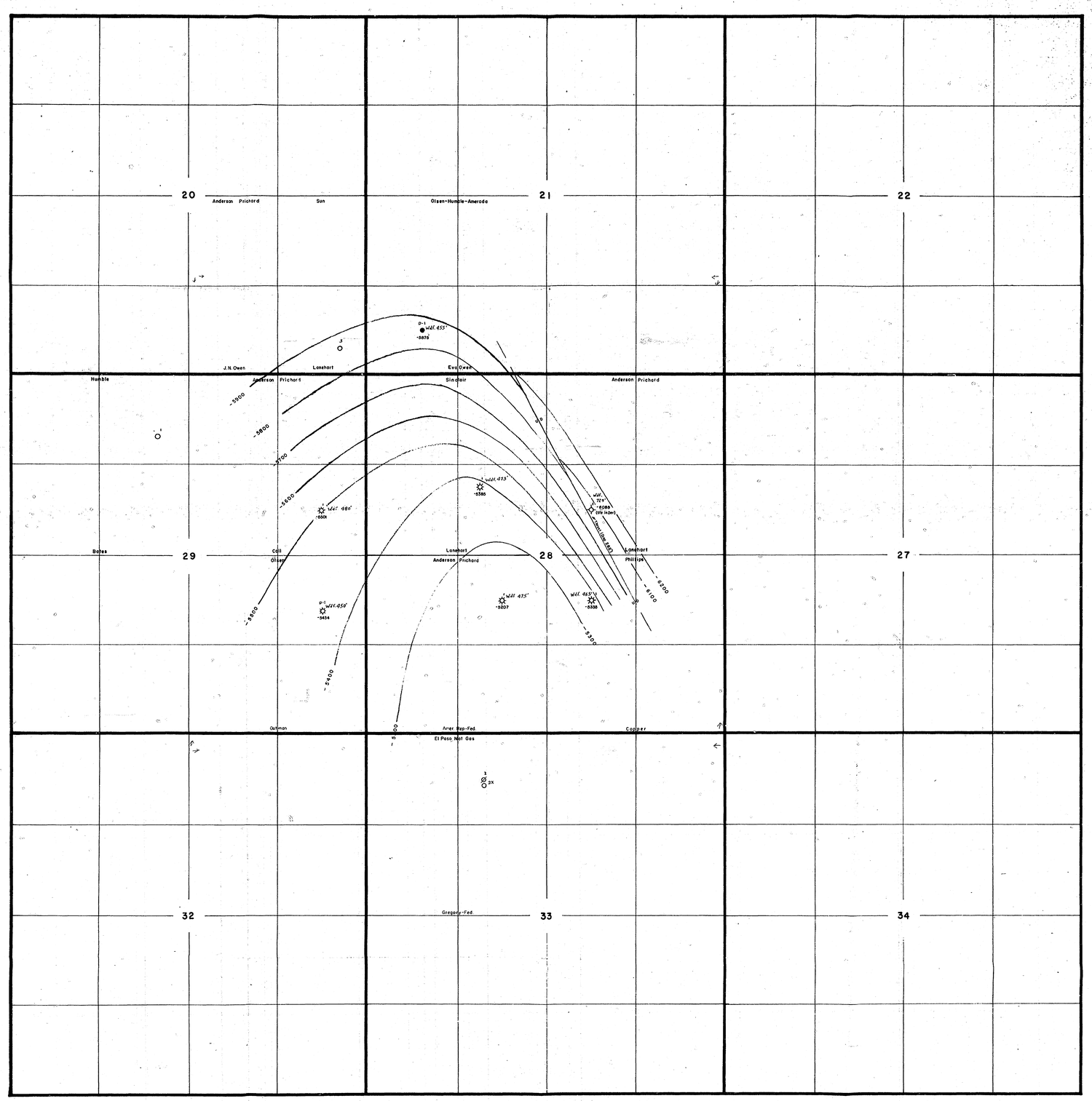
3950
4000
4050



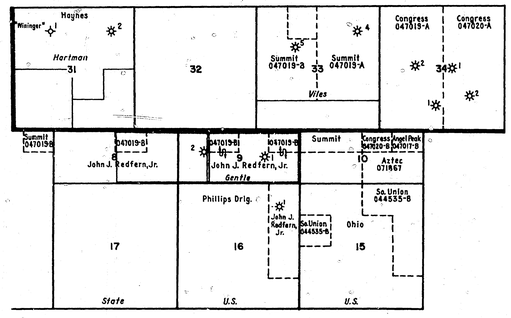
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 1
CASE 1127

CROSBY DEVONIAN POOL

T25S - R37E LEA CO., N.M.

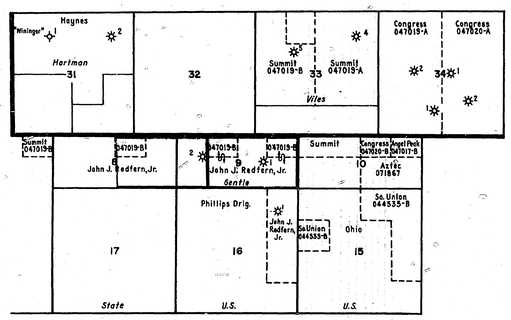
DATUM	:	TOP DEVONIAN
CONTOUR INTERVAL	:	100 FEET
SCALE	:	1 INCH = 500 FEET
BY	:	HANS WINKLER
DATE	:	APRIL 1956

391



BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 1
CASE 1049

392

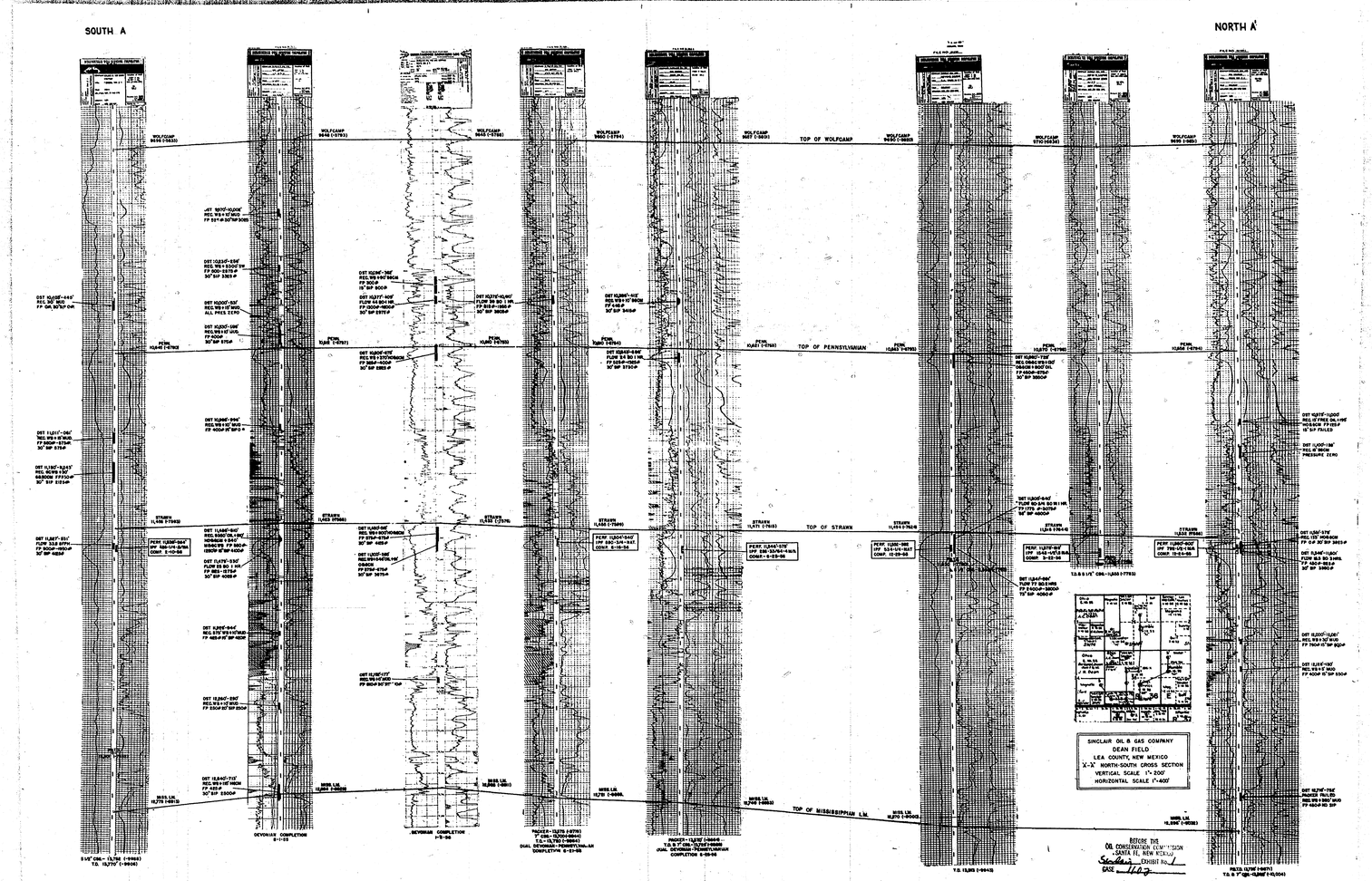


BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
CASE 1700 EXHIBIT No. 1

393

SOUTH A

NORTH A'

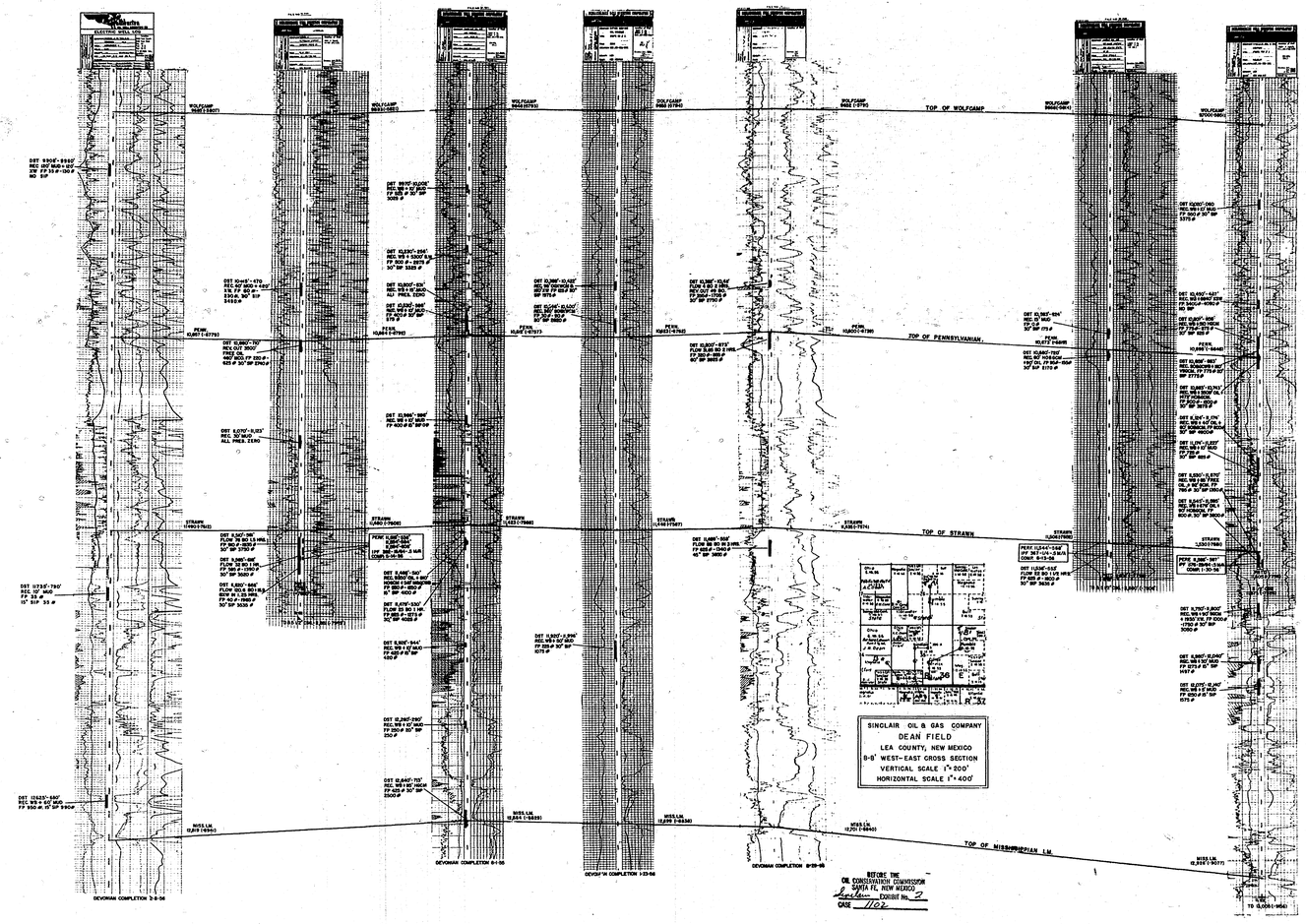


BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 1
CASE 1107

394

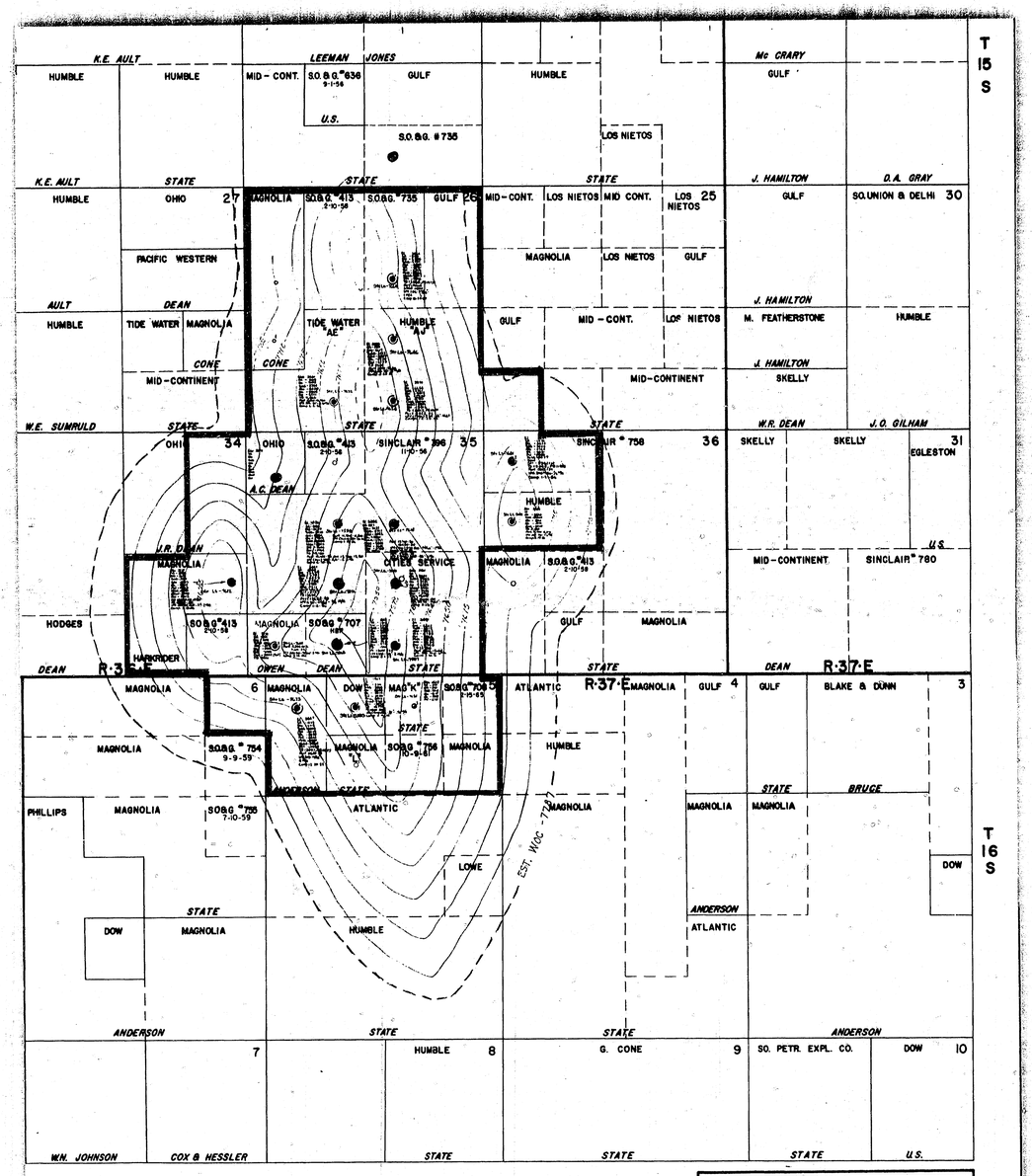
WEST B

EAST B'



BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Sinclair EXHIBIT No. 2
CASE 1102

395



LEGEND

PRODUCING FORMATION		OIL-WATER CONTACT
GREEN	WOLFCAMP	
YELLOW	PENN.	-7787 -7888 TENT.
BLUE	DEVONIAN	-9920

DEAN POOL
LEA COUNTY, NEW MEXICO

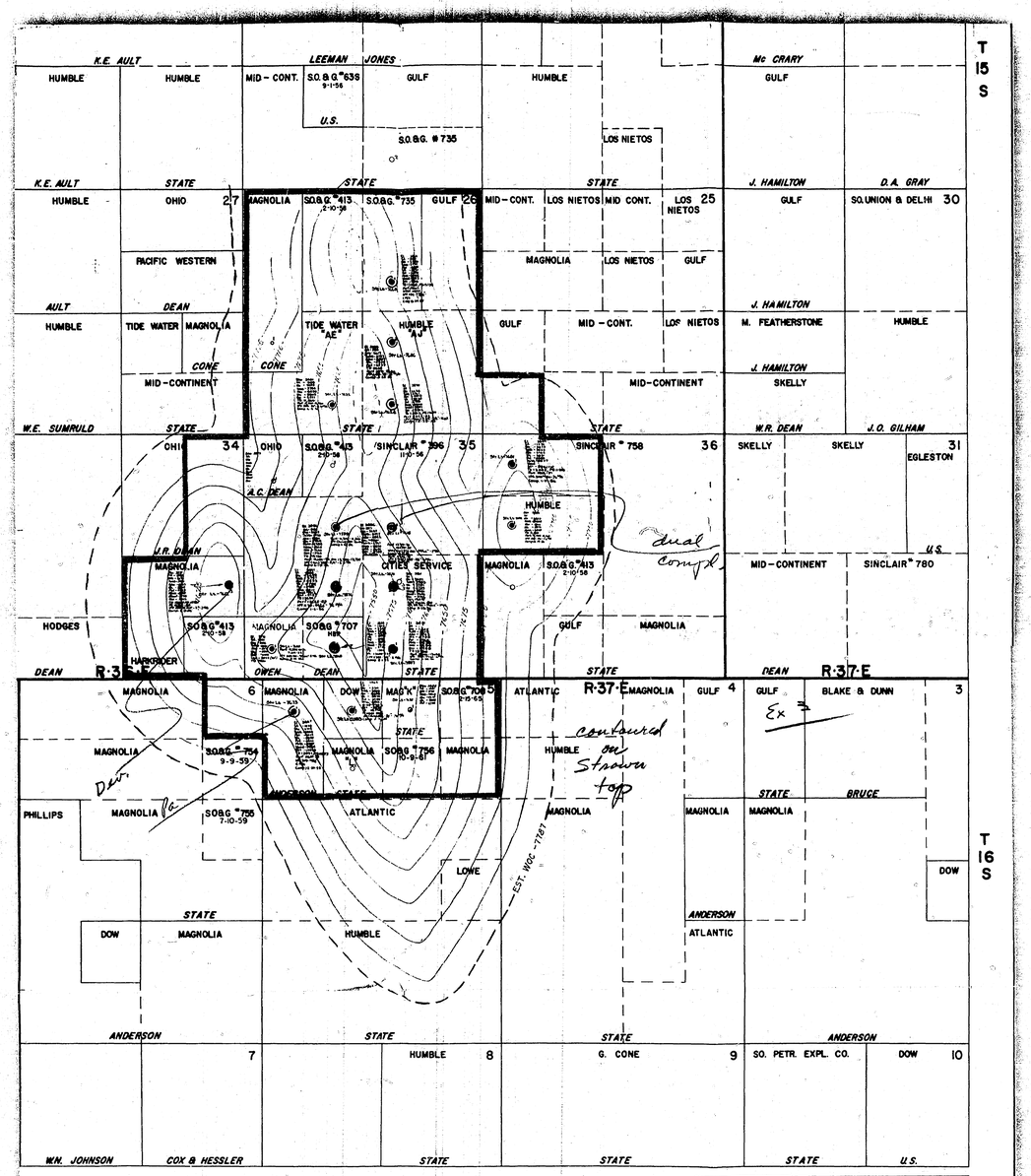
CONTOUR DATUM: TOP STRAWN LIME
CONTOUR INTERVAL: 25'
CONTOURED BY: J.W. HODGES
SCALE: 1"=1000'
DATE: 8-22-56

BY	CONTOURING REVISED DATE	BY	DATE
JWH	7-2-56		

SINCLAIR OIL & GAS CO.
GEOLOGICAL DEPARTMENT
TEXAS DIVISION

396

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
SINCLAIR EXHIBIT NO. 3
CASE 1102



LEGEND

PRODUCING FORMATION		OIL-WATER CONTACT
GREEN	WOLFCAMP	-7767
YELLOW	PENN.	TENT.
BLUE	DEVONIAN	-9920

DEAN POOL

LEA COUNTY, NEW MEXICO

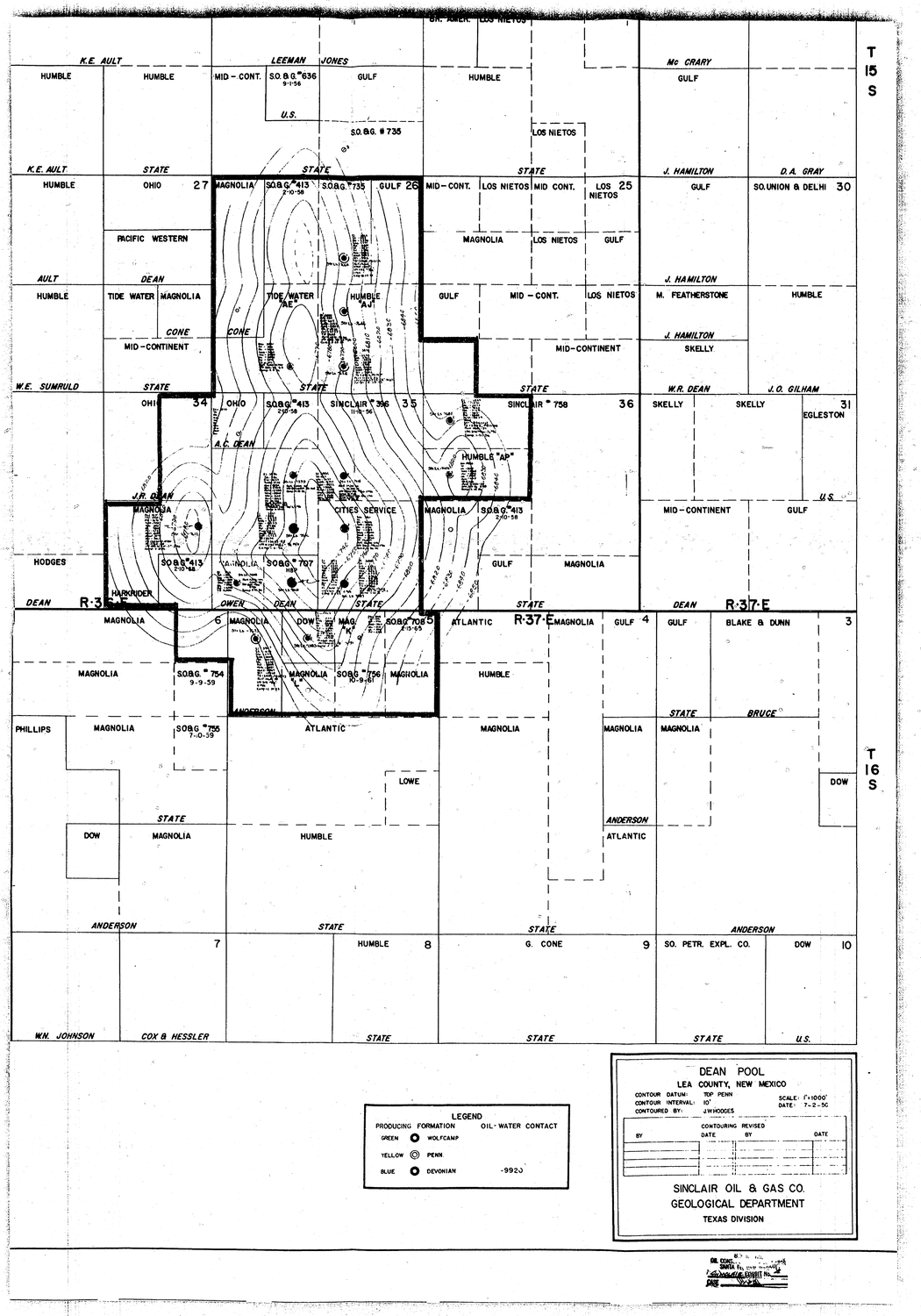
CONTOUR DATUM: TOP STRAWN LIME — SCALE: 1"=1000'
CONTOUR INTERVAL: 25' — DATE: 8-22-56
CONTOURED BY: J.W. HODGES

BY	CONTOURING REVISED DATE	BY	DATE
JWH	7-2-56		

SINCLAIR OIL & GAS CO.
GEOLOGICAL DEPARTMENT
TEXAS DIVISION

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO SINCLAIR EXHIBIT No. 3 CASE 1104

397



LEGEND

PRODUCING FORMATION — OIL-WATER CONTACT

GREEN — WOLFCAMP

YELLOW — PENN.

BLUE — DEVONIAN — -9920

DEAN POOL

LEA COUNTY, NEW MEXICO

CONTOUR DATUM: TOP PENN
CONTOUR INTERVAL: 10'
CONTOURED BY: J.W. HODGES

SCALE: 1"=1000'
DATE: 7-2-50

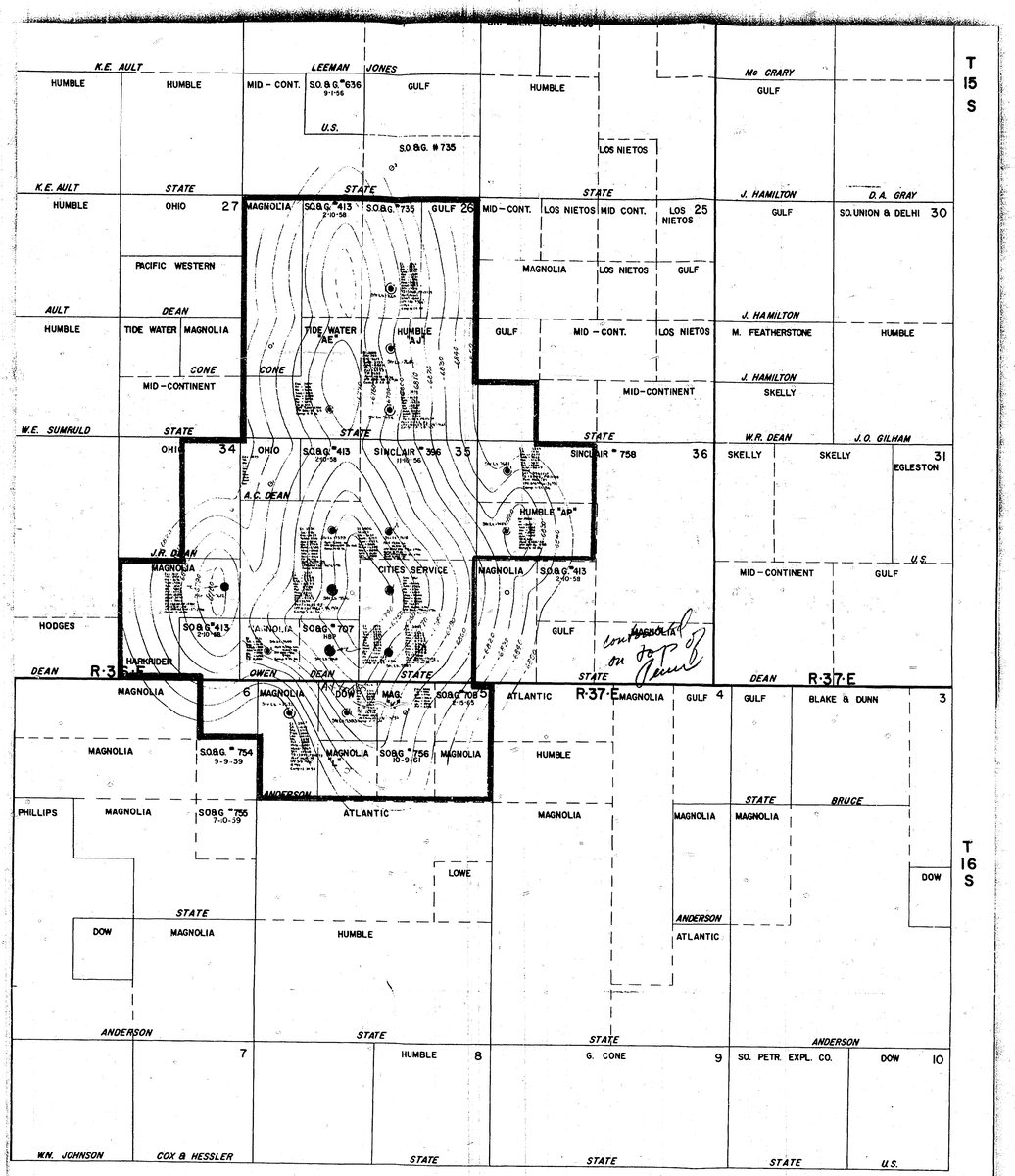
CONTOURING REVISED

BY	DATE	BY	DATE

SINCLAIR OIL & GAS CO.
GEOLOGICAL DEPARTMENT
TEXAS DIVISION

OIL CONS. SANTA FE, NEW MEXICO
EXHIBIT No.
CASE

398



LEGEND

PRODUCING FORMATION		OIL-WATER CONTACT
GREEN	WOLFCAMP	
YELLOW	PENN	
BLUE	DEVONIAN	-9920

DEAN POOL
LEA COUNTY, NEW MEXICO

CONTOUR DATUM: TOP PENN
CONTOUR INTERVAL: 10'
CONTOURED BY: J.W. HODGES
SCALE: 1"=1000'
DATE: 7-2-50

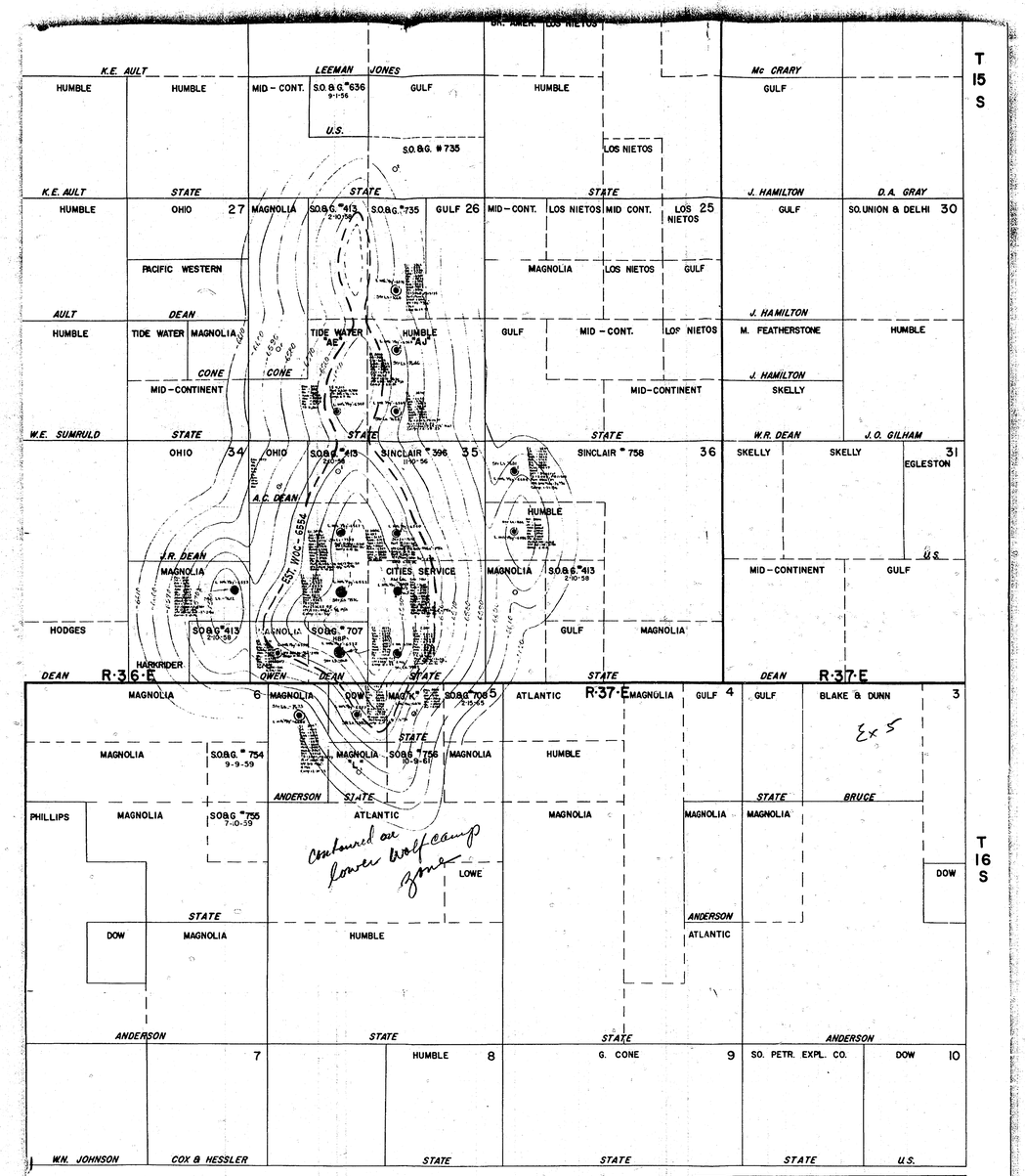
CONTOURING REVISED

BY	DATE	BY	DATE

SINCLAIR OIL & GAS CO.
GEOLOGICAL DEPARTMENT
TEXAS DIVISION

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
SINCLAIR EXHIBIT No. 4
CASE 1102

399



400

LEGEND

PRODUCING FORMATION		OIL - WATER CONTACT
GREEN	WOLFCAMP	-6554 ± 15
YELLOW	PENN.	
BLUE	DEVONIAN	-9920

DEAN POOL

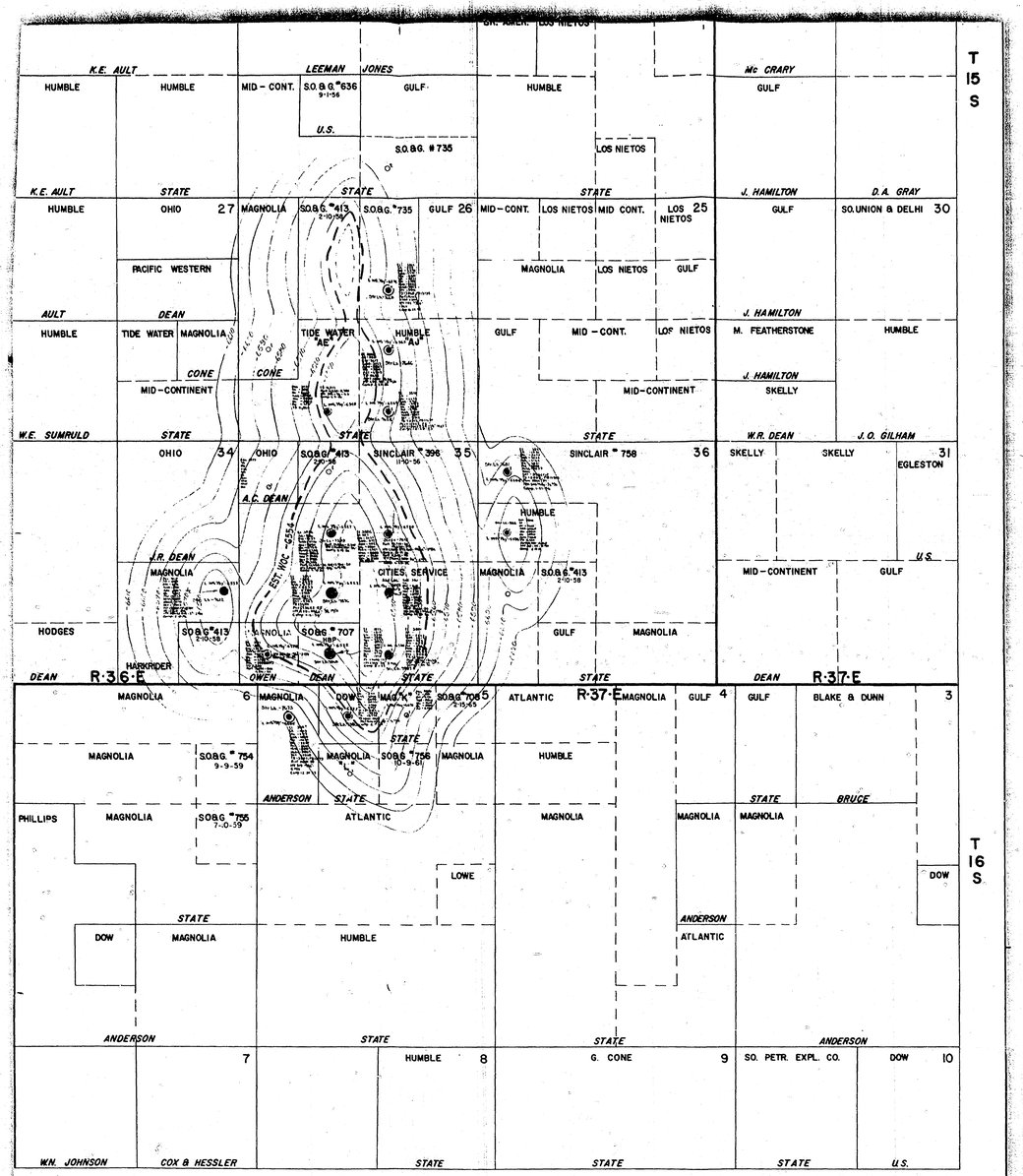
LEA COUNTY, NEW MEXICO

CONTOUR DATUM: LOWER WOLFCAMP PAY
CONTOUR INTERVAL: 10'
CONTOURED BY: J.W. HODGES
SCALE: 1"=1000'
DATE: 5-31-56

BY	CONTOURING DATE	REVISED BY	DATE
[illegible]	7-2-56		

SINCLAIR OIL & GAS CO.
GEOLOGICAL DEPARTMENT
TEXAS DIVISION

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
EXHIBIT No. 5
CASE 1102



LEGEND

PRODUCING FORMATION		OIL-WATER CONTACT
GREEN	WOLFCAMP	-6554 ± 15'
YELLOW	PENN	
BLUE	DEVONIAN	-9920

DEAN POOL
LEA COUNTY, NEW MEXICO

CONTOUR DATUM: LOWER WOLFCAMP PAY
CONTOUR INTERVAL: 10'
CONTOURED BY: J.W. HODGES
SCALE: 1"=1000'
DATE: 5-31-56

BY	CONTOURING DATE	REVISED BY	DATE
JWH	7-2-56		

SINCLAIR OIL & GAS CO.
GEOLOGICAL DEPARTMENT
TEXAS DIVISION

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Examiner EXHIBIT No. 5
CASE 110

401

CORE LABORATORIES, INC. CORE LAB *Petroleum Reservoir Engineering*

COMPANY CITIES SERVICE OIL COMPANY DATE ON 4-5-56 FILE NO WP-3-159 S & K
WELL STATE "AA" 30 - 2 DATE OFF 4-10-56 ENGRS WOMER
FIELD TEXA FORMATION STRAWN ELEV.
COUNTY LEA STATE NEW MEXICO DRLG. FLD WATER BASE MUD CORES CHRISTENSEN 34"
LOCATION REMARKS SAMPLED BY A REPRESENTATIVE OF CITIES SERVICE OIL COMPANY

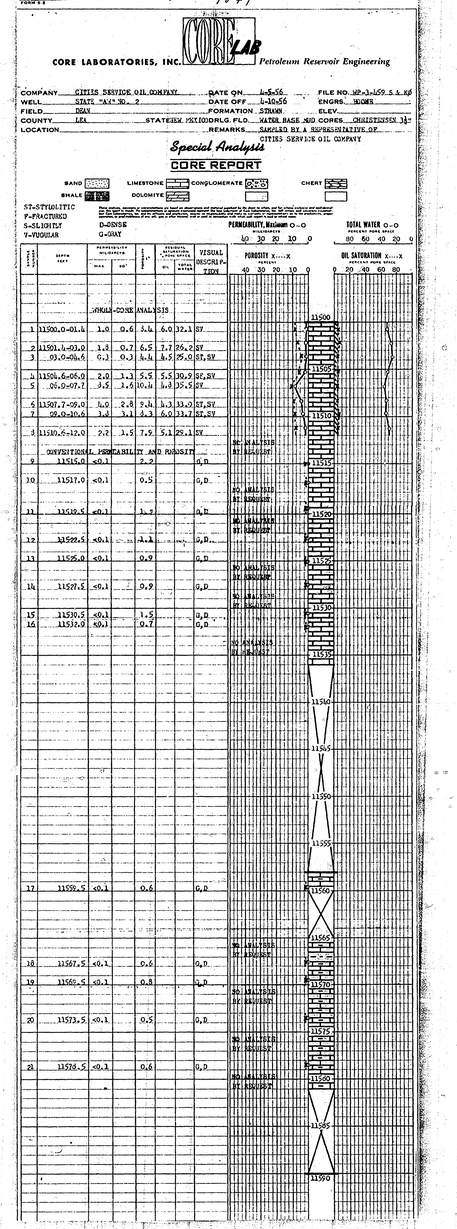
Special Analysis
CORE REPORT

BAND | LIMESTONE | CONGLOMERATE | CHERT
SHALE | DOLOMITE

ST-STYLOLITIC
F-FRACTURED
S-SLICKEN
V-VUGULAR
D-DENSE
G-GRAY

PERMEABILITY, Maximum O--O millidarcies 40 30 20 10 0
TOTAL WATER O--O percent pore space 80 60 40 20 0
POROSITY X----X percent 40 30 20 10 0
OIL SATURATION X----X percent pore space 0 20 40 60 80

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCIES MAX.	PERMEABILITY MILLIDARCIES 90°	FEET	RESIDUAL SATURATION, PORE SPACE PERCENT OIL	RESIDUAL SATURATION, PORE SPACE PERCENT WATER	VISUAL DESCRIPTION
			NORMAL CORE ANALYSIS				
1	11500.0-01.4	1.0	0.6	3.4	6.0	32.1	ST
2	11501.4-03.0	1.8	0.7	6.5	7.7	26.2	SV
3	03.0-04.6	0.3	0.3	4.4	3.5	25.0	ST, SV
4	11504.6-06.0	2.0	1.3	5.5	5.5	30.9	ST, SV
5	06.0-07.7	3.5	1.6	10.4	4.8	35.5	SV
6	11507.7-09.0	4.0	2.8	3.4	4.3	33.0	ST, SV
7	09.0-10.6	1.2	1.1	3.3	6.0	33.7	ST, SV
8	11510.6-12.0	2.2	1.5	7.9	5.1	25.1	SV
			CONVENTIONAL PERMEABILITY AND POROSITY				
9	11515.0	<0.1		2.2			G,D
10	11517.0	<0.1		0.5			G,D
11	11519.5	<0.1		1.2			G,D
12	11522.5	<0.1		1.1			G,D
13	11525.0	<0.1		0.9			G,D
14	11527.5	<0.1		0.9			G,D
15	11530.5	<0.1		1.5			G,D
16	11532.0	<0.1		0.7			G,D
17	11559.5	<0.1		0.6			G,D
18	11567.5	<0.1		0.6			G,D
19	11569.5	<0.1		0.8			G,D
20	11573.5	<0.1		0.5			G,D
21	11578.5	<0.1		0.6			G,D



402

SCHLUMBERGER WELL SURVEYING CORPORATION — HOUSTON, TEXAS

SIMULTANEOUS

Gamma Ray-Neutron

COMPANY CITIES SERVICE OIL COMPANY

WELL STATE "AW" # 2

FIELD DEAN

LOCATION SEC. 35-15S-36E

COUNTY LEA

STATE NEW MEXICO

Location of Well: 1980' f S&W/L GRN (ES-ML)

Ex 2

Elevation: D.F. 3861 K.B. — or G.L.

FILING No.

RUN NO.			
Date		5-2-56	
Depth Reference		KB 12.60' Abv. GL	
First Reading		13858	
Last Reading		0	
Footage Measured		13858	
Max. Depth Reached		13857	
Bottom Driller		13825	
Maximum Temp. °F.		171	
Mud Nature		Chem.	
" Density		9.05	
" Viscosity		54	
" Resistivity		.84 @ 96 °F.	@ °F.
Casing Size & Weight	1	8 5/8" to 4819	to
	2	to	to
Open Hole	1	7 7/8" to TD	to
	2	to	to
Fluid Level			
Recording Speed (ft/hr)		20000' & 40000'	
Sensitivity Top		GR) 140 (N)2807/400 GR)	N)
Time Constant		3	
Pound		GNP-B # 42	
Opr. Rig Time		Hrs.	
Sonde Size & Type		5/8" GRN	
Truck No.		1759-Hobbs	
Recorded By		Roth	
Witness			

REMARKS: CBL-1440 - 120 - 100 - 20 - 0 Scale 2000' & 40000'/hr. Log Scale

TIME MARKS EVERY 60 SECONDS

GAMMA RAY CALIBRATION RECORDED ON: 5-2-56 AT 1400 HRS.

SOURCE STRENGTH: 50 MILLICURIES RADIUM EQUIVALENT

SONDE NO. 1

FRAME SPEED FOR FOOTAGE DIVISIONS: 400

GAUGE PRESSURE DIVISIONS: 100

TEST CHART CPS: 1440

GAMMA RAY CPS: 50

NEUTRON — STANDARD COUNTS/SECOND — 8 DIV. TO LEFT OF THIS LINE — NEUTRON ZERO

GAMMA RAY — MICROROENTGENS PER HOUR — 0 DIV. TO LEFT OF THIS LINE — GAMMA RAY ZERO

Casing Collars — Recorded Depth — 12" Deep — Fluid Level — Casing Collars — Correct Depth

0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 100 1200 1300 1400 1500 1600

NEUTRON SCALE — GAMMA RAY SCALE — MAGNETIC MARKS EVERY 1000'

SCHLUMBERGER WELL SURVEYING CORPORATION — HOUSTON, TEXAS

MicroLogging®

COMPANY CITIES SERVICE OIL COMPANY

WELL STATE "AW" # 2

FIELD DEAN

LOCATION SEC. 35-15S-36E

COUNTY LEA

STATE NEW MEXICO

Other Surveys: ES-GRN

Location of Well: 1980' f S&W/L NL

Elevation: D.F. 3861 K.B. — or G.L.

FILING No.

RUN No.													
Date	5-2-56												
First Reading	13857												
Last Reading	7400												
Feet Measured	1752												
Depth Reached	13857												
Bottom Driller	13825												
Depth Datum	KB 12.60' Abv. GL												
Mud Nat.	Chem												
Dens. Visc.	9.05 54												
Mud Resist.	.84@96F	@ °F.		@ °F.		@ °F.		@ °F.		@ °F.		@ °F.	
" Res. BHT	.61@171	@ °F.		@ °F.		@ °F.		@ °F.		@ °F.		@ °F.	
" pH	10.5e	@ °F.		@ °F.		@ °F.		@ °F.		@ °F.		@ °F.	
Wtr. Loss	SCC 30 min.	CC 30 min.		CC 30 min.		CC 30 min.		CC 30 min.		CC 30 min.		CC 30 min.	
Rmf @ BHT	.8												
Rmc @ BHT													
Mud Top. Rm	1.38												
Limit	upper												
Depth	13825												
Bit Size	7 7/8"												
Sonde Type	MRS-P												
Pad Type	H Pad Centered												
Opr. Rig Time	2 1/2 Hrs.												
Truck No.	1759-Hobbs												
Recorded By	Roth												
Witness	Hollister												

REMARKS: CBL-1440 - 120 - 100 - 20 - 0 Scale 2000' & 40000'/hr.

RESISTIVITY -ohms. m²/m — 0 Micro Inverse 1" x 1" — 0 Micro Normal 2" — 40 — 80

DEPTHS

SPONTANEOUS POTENTIAL millivolts — SP From ES

MICROLOG CALIPER — Hole Diameter in Inches — 6 7 8 9 10 11 12 13 14 15 16

Caliper Scale — Mud Resistivity Scale — Mud Cake Thickness Scale — Bit Size

10200 10300 10400 10500 10600 10700

SCHLUMBERGER WELL SURVEYING CORPORATION — HOUSTON, TEXAS

Electrical Log

COMPANY CITIES SERVICE OIL COMPANY

WELL STATE "AW" # 2

FIELD DEAN

LOCATION SEC. 35-15S-36E

COUNTY LEA

STATE NEW MEXICO

Location of Well: 1980' f S&W/L ES (GRN-ML)

Elevation: D.F. 3861 K.B. — or G.L.

FILING No.

RUN No.													
Date	5-2-56												
First Reading	13857												
Last Reading	4912												
Feet Measured	8742												
Csg. Schlum.	4912												
Csg. Driller	4919												
Depth Reached	13857												
Bottom Driller	13825												
Depth Datum	KB 12.60' Abv. GL												
Mud Nat.	Chem.												
" Density	9.05												
" Viscosity	54												
" Resist.	.84@98°F	@ °F.		@ °F.		@ °F.		@ °F.		@ °F.		@ °F.	
" Res. BHT	.61@171°F	@ °F.		@ °F.		@ °F.		@ °F.		@ °F.		@ °F.	
" pH	10.8	@ °F.		@ °F.		@ °F.		@ °F.		@ °F.		@ °F.	
" Wtr. Loss	3 CC 30 min.	CC 30 min.		CC 30 min.		CC 30 min.		CC 30 min.		CC 30 min.		CC 30 min.	
Max. Temp. °F	171												
Bit Size	7 7/8"												
Spcgt.—AM	16"												
AO	32" LS												
AO	18												
Opr. Rig Time	6 Hrs.												
Truck No.	1759-Hobbs												
Recorded By	Roth												
Witnessed By	Hollister												

REMARKS: CBL-1440 - 120 - 100 - 20 - 0 Scale 2000' & 40000'/hr. Log Scale, TIME MARKS EVERY 60 SECONDS

RESISTIVITY -ohms. m²/m — 0 — 10' Lateral — 500 — 5000

RESISTIVITY -ohms. m²/m — 0 — 10" Normal — 200 — 2000 — 0 — 32" & Lateral — 120

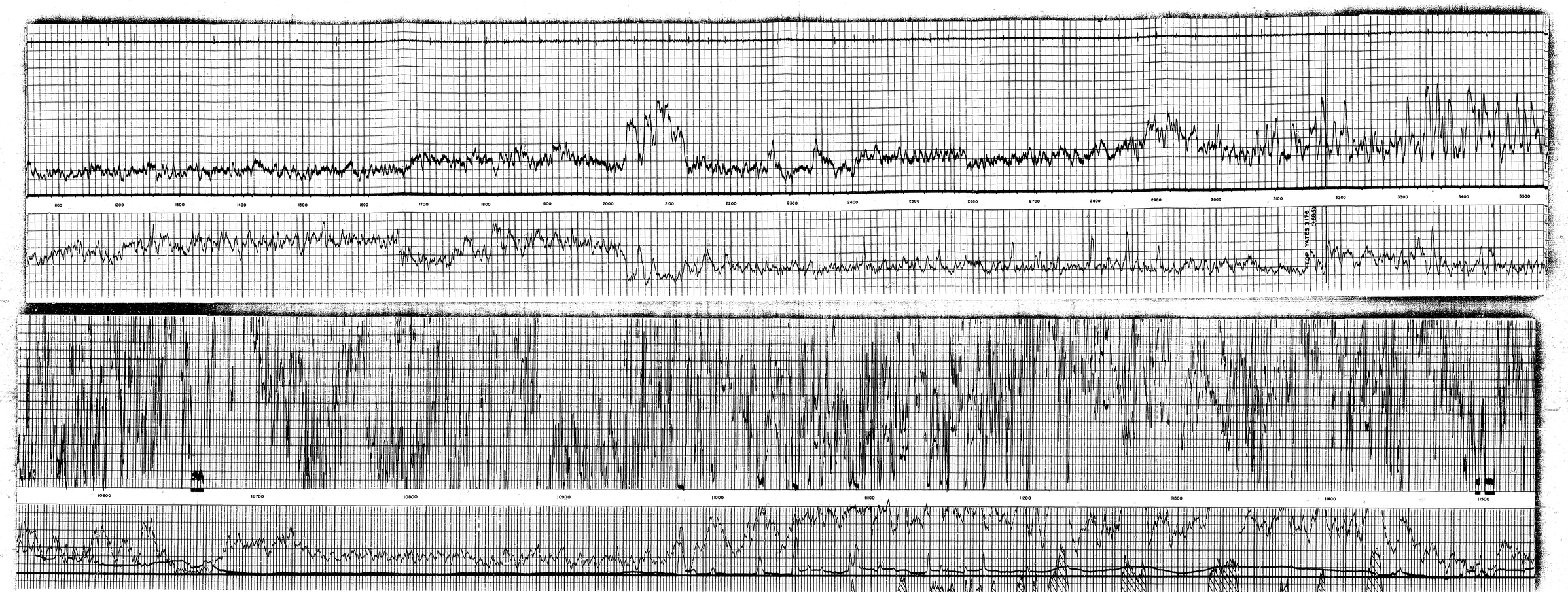
DEPTHS

SPONTANEOUS POTENTIAL millivolts — SP From ES

Caliper Scale — Mud Resistivity Scale — Mud Cake Thickness Scale — Bit Size

4900 5000 5100 5200 5300 5400 5500 5600 5700 5800 5900 6000 6100 6200 6300 6400 6500

403


1100
1200
1300
1400
1500
1600
1700
1800
1900
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2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
ESSO YATES 3176
(.0853)
10600
10700
10800
10900
11000
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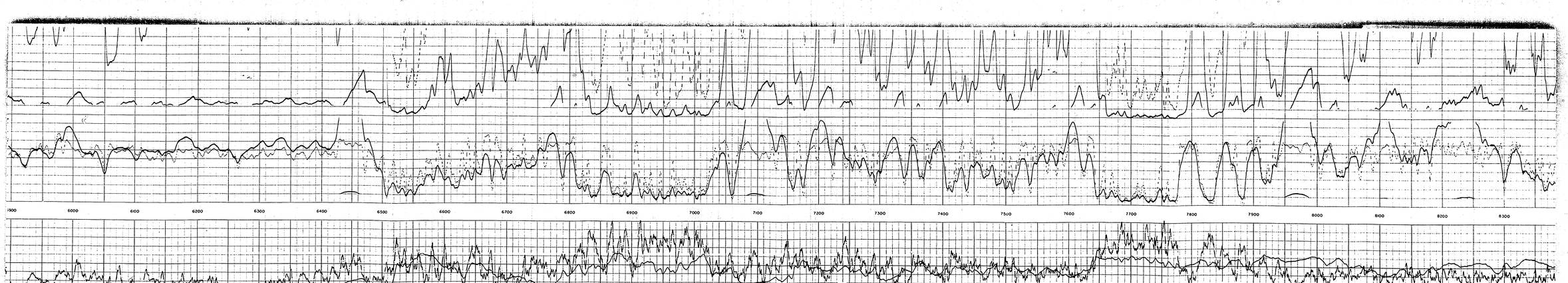
11200
11300
11400
11500


5900
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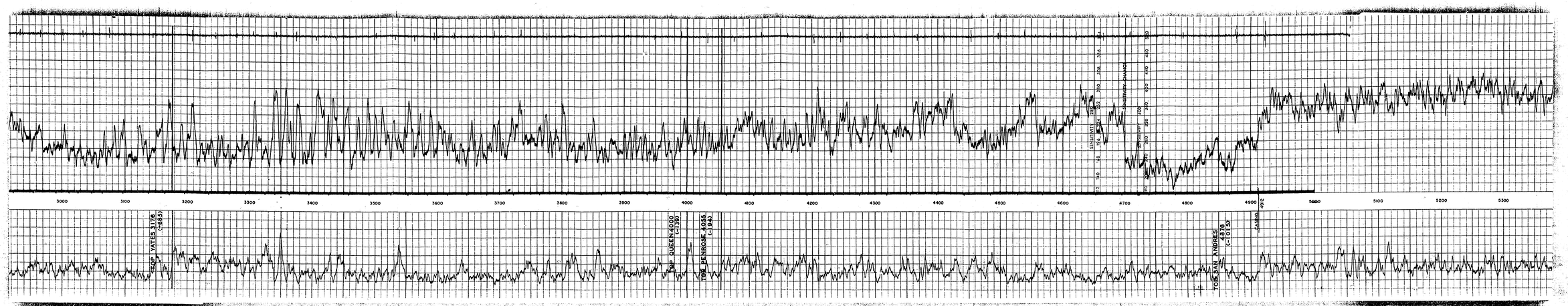
8100
8200
8300

404



SCHLUMBERGER WELL SURVEYING CORPORATION

MICROLOGGING®

COMPANY CITIES SERVICE OIL COMPANY
WELL STATE "AW" # 2
FIELD DEAN
LOCATION SEC. 35-15S-36E
COUNTY LEA
STATE NEW MEXICO

Other Surveys ES-GRN

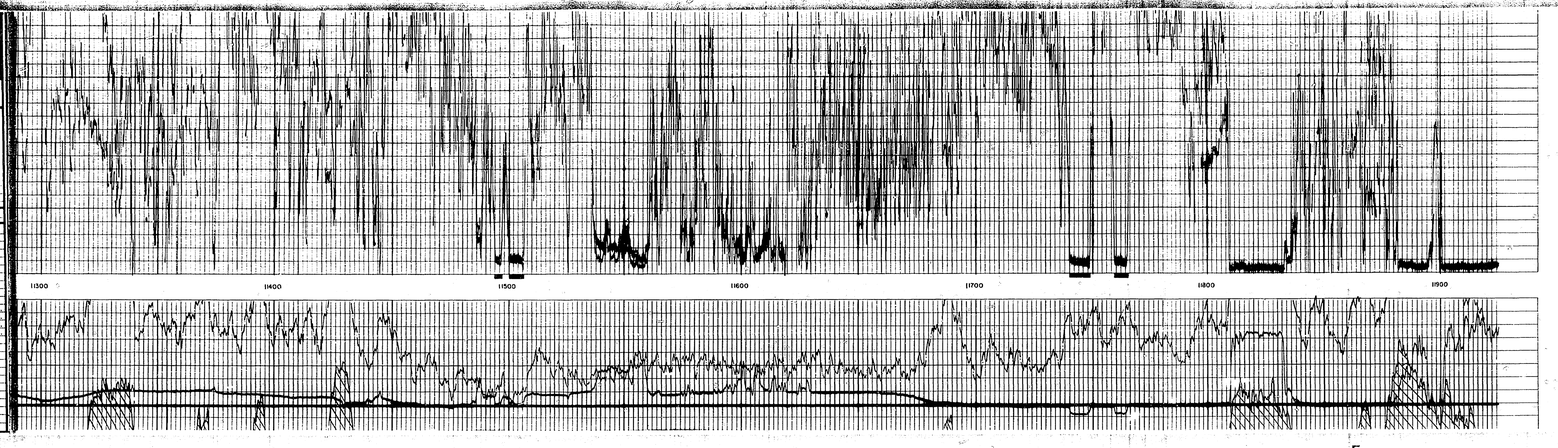
Location of Well 1980' f S&W/L ML

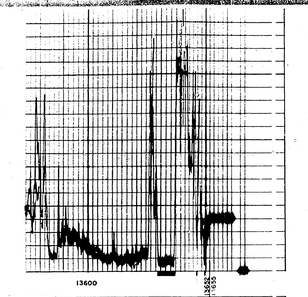
Elevation: D.F. 3861 K.B. or G.L.

FILING No.

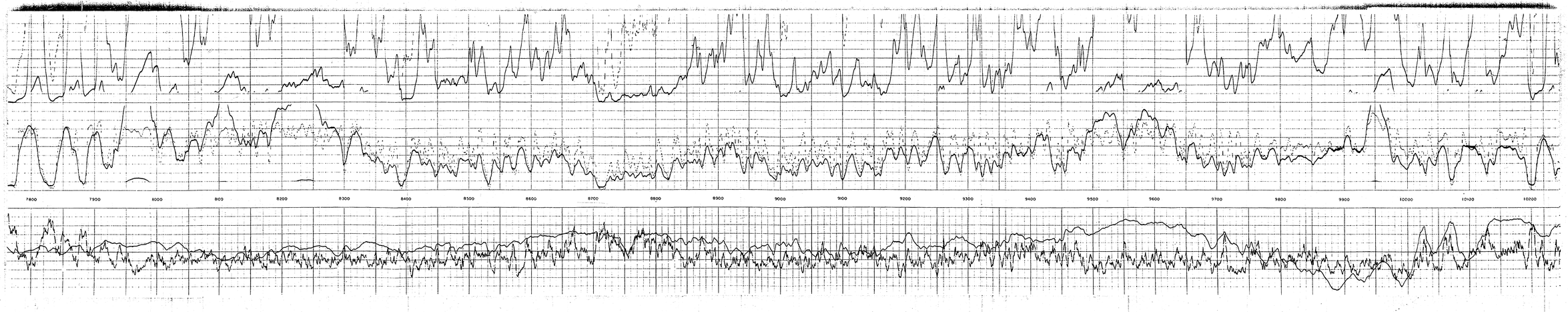
COUNTY Lea
FIELD or Wildcat Dean
WELL STATE "AW" # 2
COMPANY CITIES SERVICE OIL

RUN No.									
Date	5-2-56								
First Reading	13852								
Last Reading	10200								
Feet Measured	1752								
Depth Reached	13857								
Bottom Driller	13885								
Depth Datum	KB 12.50' Abv. GL								
Mud Nat.	Chem.								
Dens. | Visc.	9.05 54								
Mud Resist.	1.66@88F	@ °F.		@ °F.		@ °F.		@ °F.	
— Res. BHT	.687@77F	@ °F.		@ °F.		@ °F.		@ °F.	
— pH	10.5@	@ °F.		@ °F.		@ °F.		@ °F.	
Wtr. Loss	9CC 30 min.	CC 30 min.		CC 30 min.		CC 30 min.		CC 30 min.	
Rmf @ BHT	.8								
Rmc @ BHT									
Mud Log: Rm	1.38								
Limit	upper								
Depth	13872								
Bit Size	7 7/8"								
Sonde Type	WRS-P								
Pad Type	11 Pad Centered								
Opr. Rig Time	2 1/2 Hrs.								
Truck No.	1753-Hobbs								
Recorded By	Roth								
Witness	Hollister								





CITIES SERVICE OIL COMPANY
STATE "AW" # 2
DEAN FIELD
LEA COUNTY, NEW MEXICO



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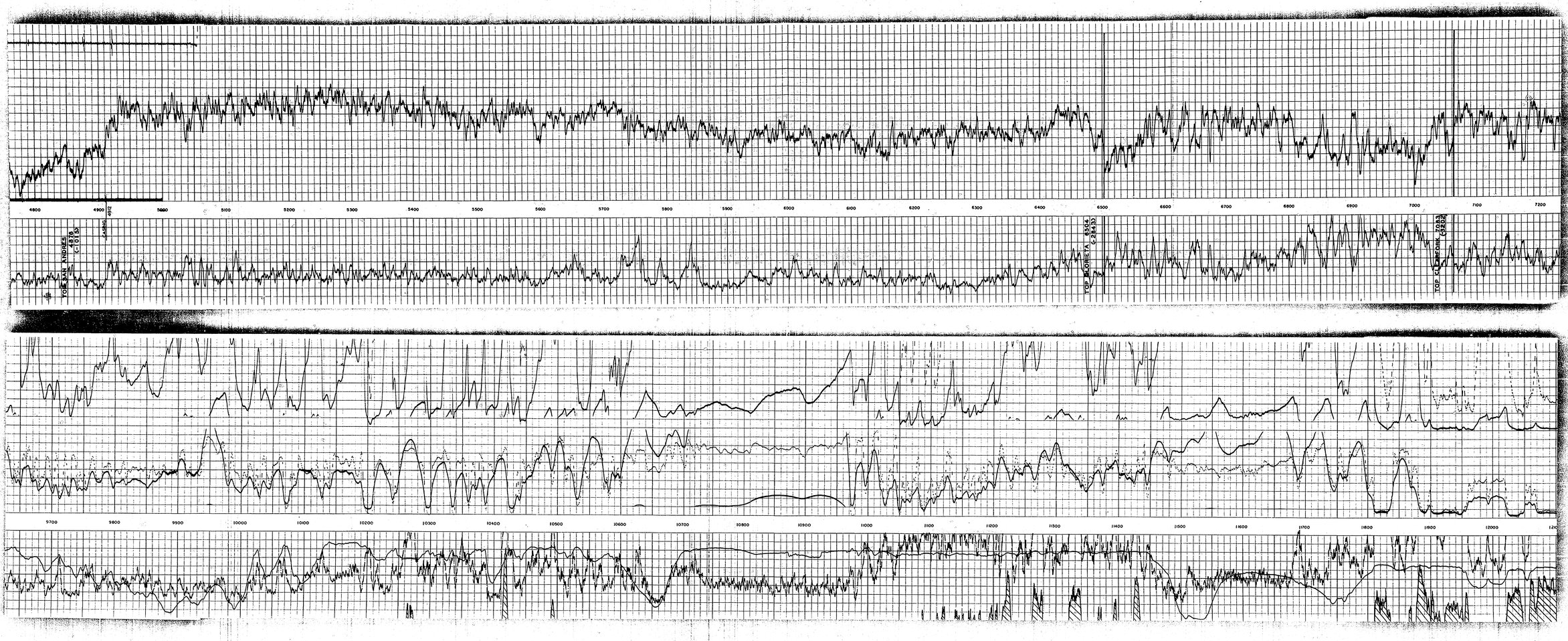
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4900
5000
5100
5200
5300
5400
5500
5600
5700
5800
5900
6000
6100
6200
6300
6400
6500
6600
6700
6800
6900
7000
7100
7200
TOP SAN ANDRES 4810 (-1619)
TOP SORIETA 6504 (-3313)
TOP CLEAR FORK 7053 (-3862)
9700
9800
9900
10000
10100
10200
10300
10400
10500
10600
10700
10800
10900
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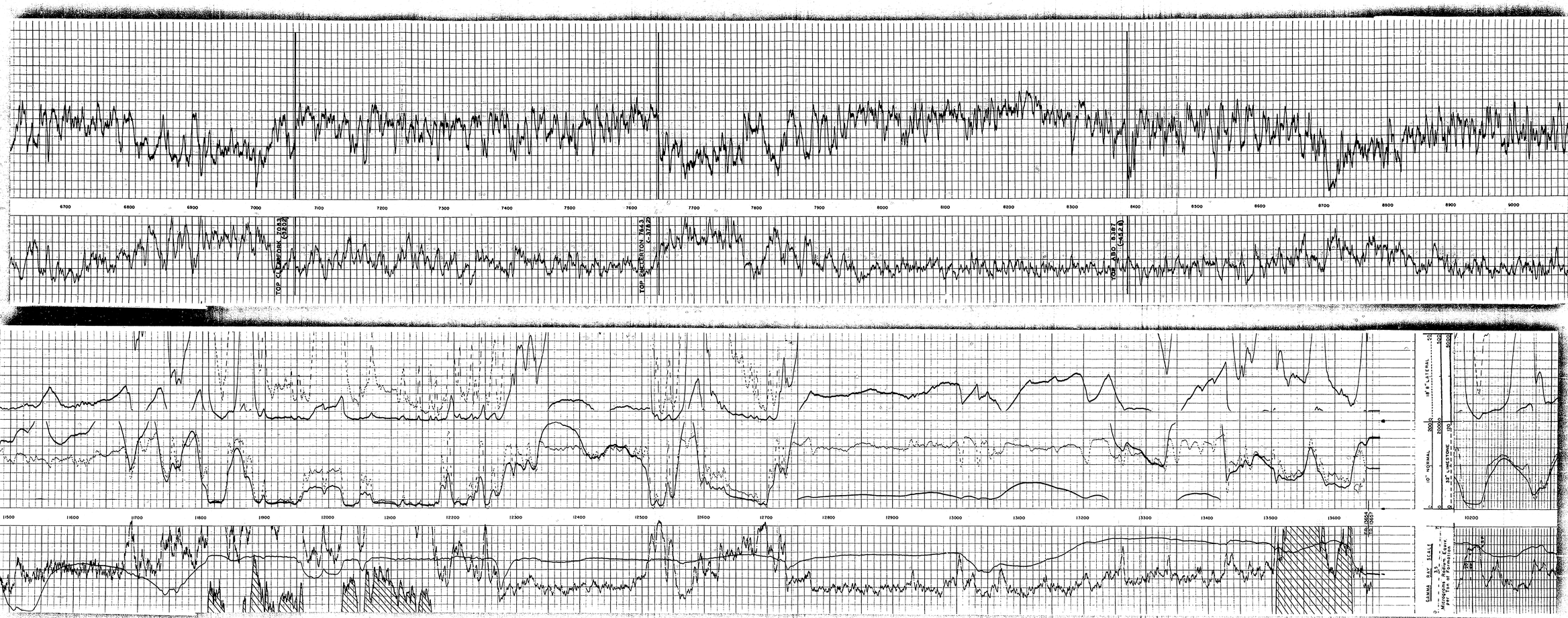
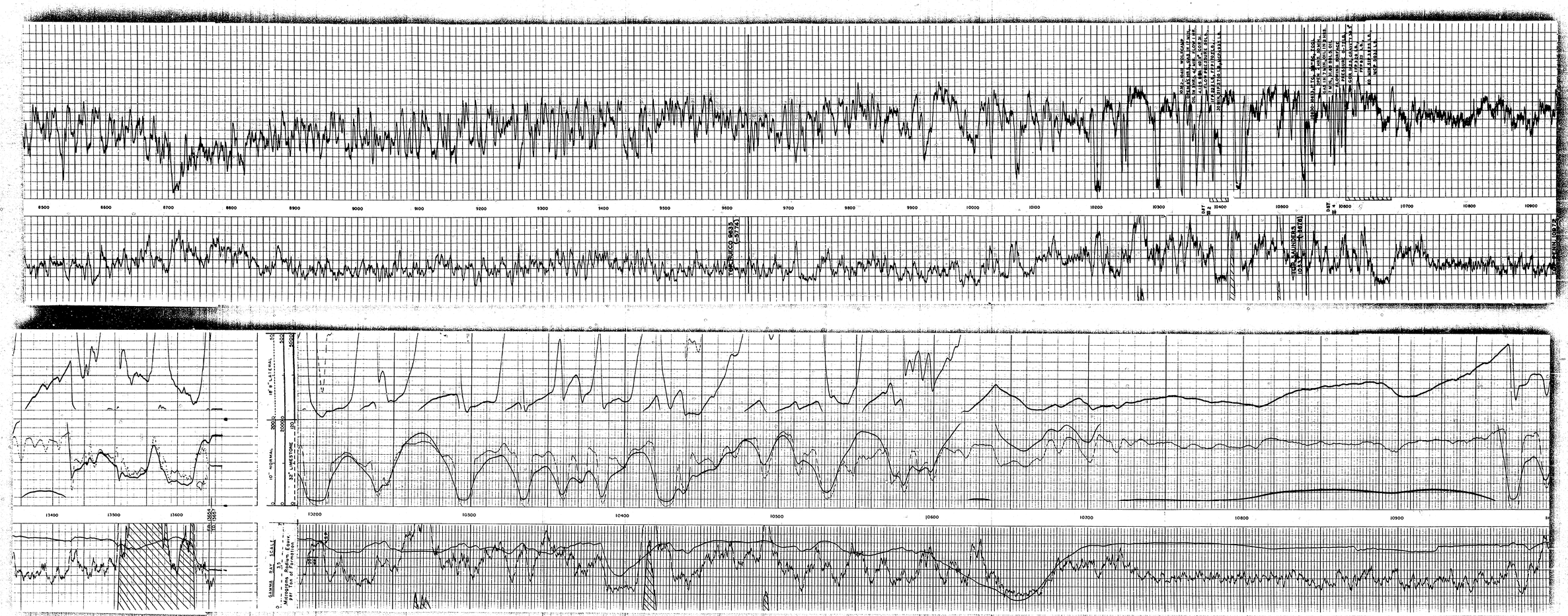
11700
11800
11900
12000

406


TOP CLEARFORK 7083 (-3202)
TOP ELLENBURGER 7643 (-3782)
TOP ABO 8387 (-4528)
10" NORMAL
18" 8" LATERAL
32" LIMESTONE
GAMMA RAY SCALE
Micrograms Radium Equiv. per Ton of Formation

407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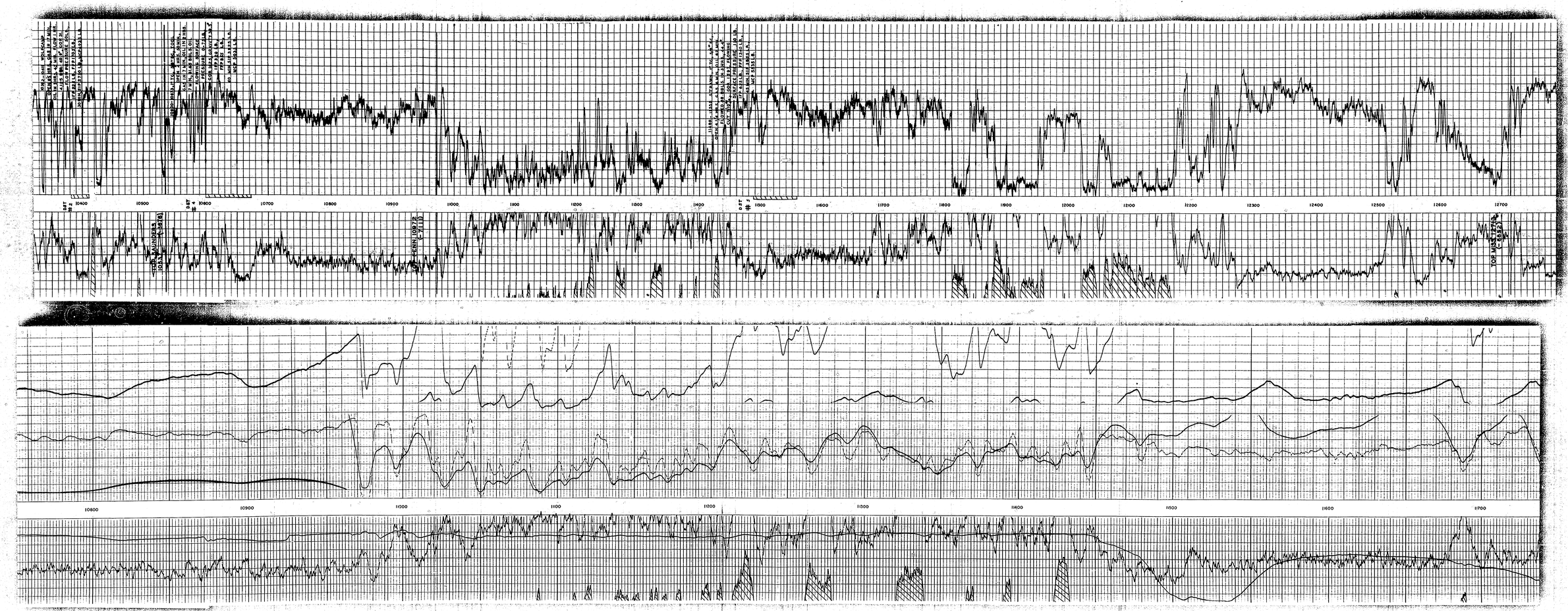
10300
10400
10500
10600
10700
10800
10900
DST #2
DST #3
TSC RUCCO 9635 (-5776)
TSC MAUNDERS 10334 (-6475)
KCL-GEL
KCL-GEL
KCL-GEL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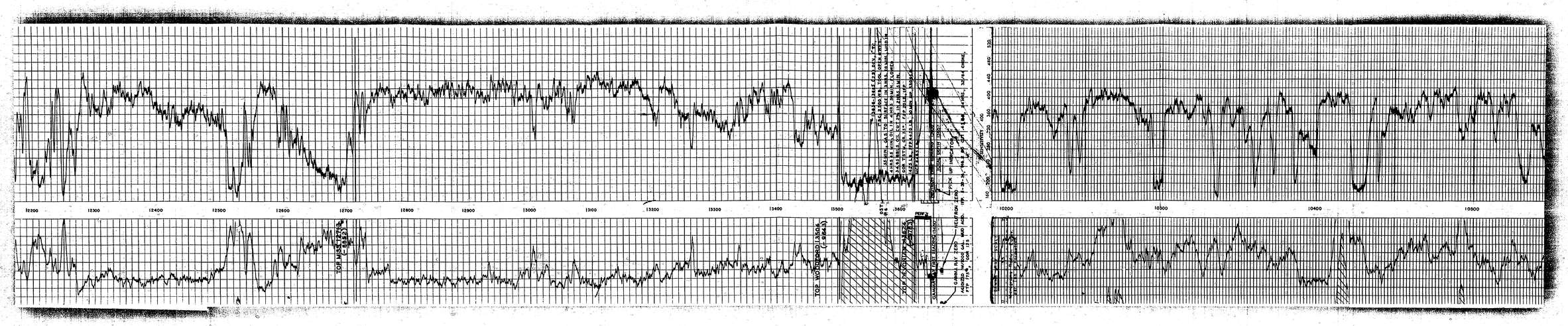
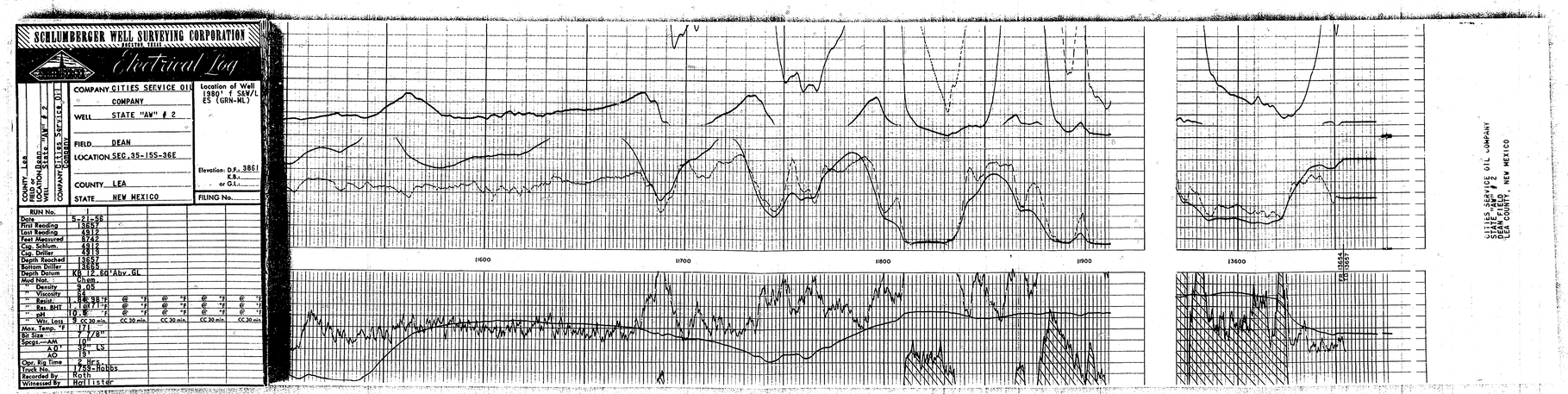
11400
11500
11600
11700

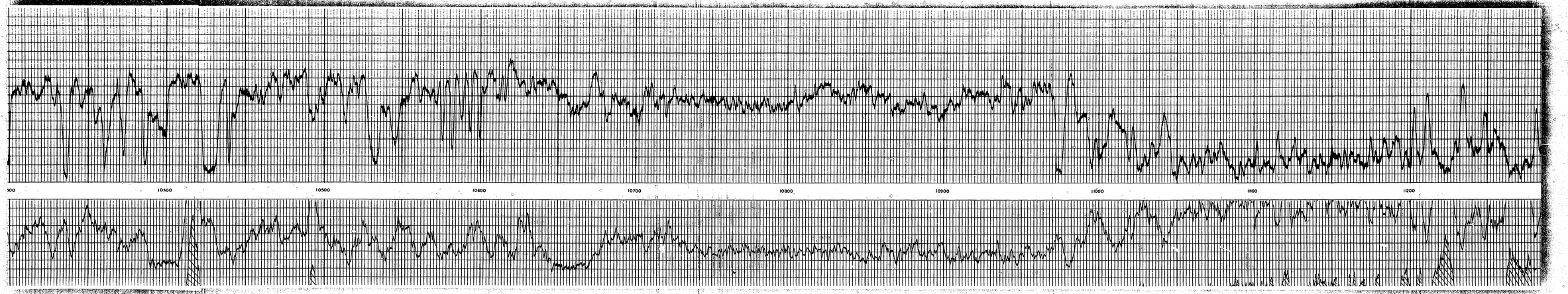


12200
12300
12400
12500
12600
12700
12800
12900
13000
13100
13200
13300
13400
13500
13600
10200
10300
10400
10500
TOP WOODFORD 13504 (-9643)
TOP DEVONIAN 13624 (-9763)
SENSITIVITY

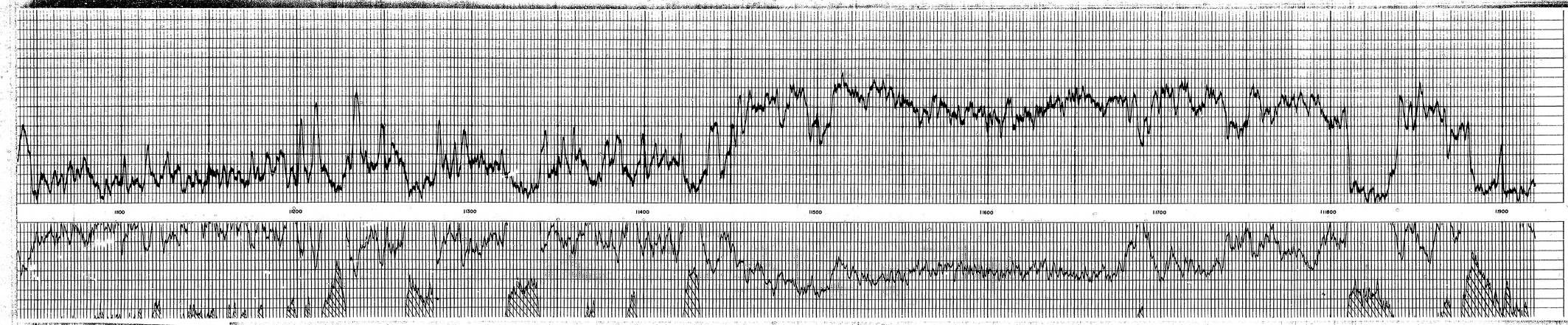


SCHLUMBERGER WELL SURVEYING CORPORATION
Electrical Log
COMPANY CITIES SERVICE OIL COMPANY
WELL STATE "AW" # 2
FIELD DEAN
LOCATION SEC. 35-15S-36E
COUNTY LEA
STATE NEW MEXICO
Location of Well 1980' f S&W/L ES (GRN-ML)
Elevation: D.F.: 3861
K.B.:
or G.L.:
FILING No.
COUNTY Lea
FIELD or LOCATION Dean
WELL State "AW" # 2
COMPANY Cities Service Oil Company
RUN No. 1
Date 5-21-56
First Reading 13657
Last Reading 4912
Feet Measured 8742
Csg. Schlum. 4912
Csg. Driller 4919
Depth Reached 13657
Bottom Driller 13665
Depth Datum KB 12.60' Abv. GL
Mud Nat. Chem.
" Density 9.05
" Viscosity 64
" Resist. .86 @ 98 °F @ °F @ °F @ °F @ °F
" Res. RHT .1 @ 171 °F @ °F @ °F @ °F @ °F
" pH 10.6 °F @ °F @ °F @ °F @ °F
" Wtr. Loss 9 CC 30 min. CC 30 min. CC 30 min. CC 30 min. CC 30 min.
Max. Temp. °F 171
Bit Size 7 7/8"
Spcgs.—AM 10"
AO 32" LS
AO 19"
Opr. Rig Time 2 Hrs.
Truck No. 1759-Hobbs
Recorded By Roth
Witnessed By Hollister
11600
11700
11800
11900
13600
PB 13654
TD 13657
CITIES SERVICE OIL COMPANY
STATE "AW" # 2
DEAN FIELD
LEA COUNTY, NEW MEXICO

410



411



412

SCHLUMBERGER WELL SURVEYING CORPORATION

HOUSTON, TEXAS

Gamma Ray-Neutron

COMPANY CITIES SERVICE OIL COMPANY

WELL STATE "AW" # 2

FIELD DEAN

LOCATION SEC. 35-15S-36E

COUNTY LEA

STATE NEW MEXICO

Location of Well
1980' f. S&W/L
GRN (ES-ML)

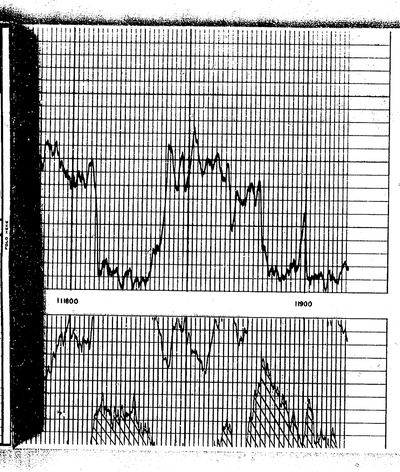
Ex 2
#103

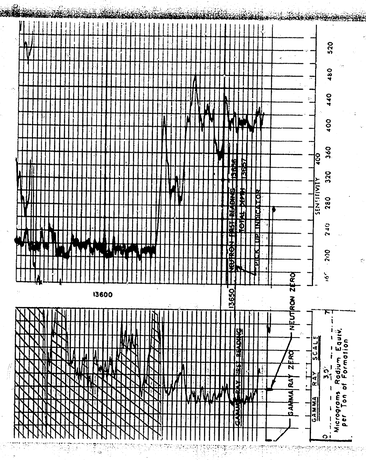
Elevation: D.F. 3861
K.B.
at G.L.

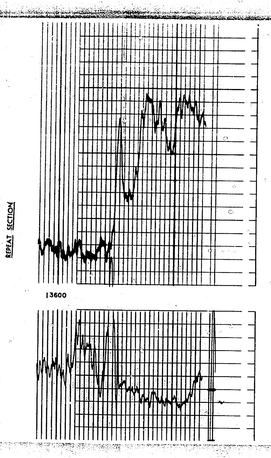
FILING No.

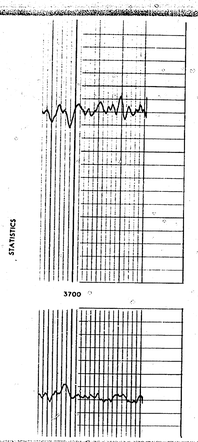
COUNTY Lea
FIELD or LOCATION Dean
WELL State "AW" # 2
COMPANY Cities Service Oil Company

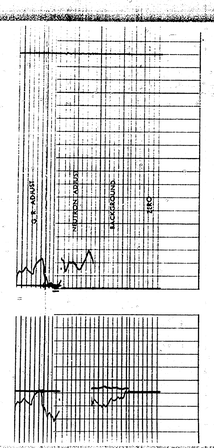
RUN NO.						
Date		6-2-55				
Depth Reference		KB 12.20' Abv. GL				
First Reading		3805				
Last Reading		0				
Footage Measured		13650				
Max. Depth Reached		13650				
Bottom Driller		13655				
Maximum Temp. °F.		71				
Mud: Nature		Chem.				
" Density		9.05				
" Viscosity		64				
" Resistivity		1.56	@ 88	F.	@	F.
Casing Size &	1	8 5/8"	to 4313		to	
Weight	2		to		to	
Open Hole	1	7 7/8"	to TD		to	
	2		to		to	
Fluid level						
Recording Speed (ft/hr)		2000' & 4000'				
Sensitivity Top		GR) 10	N) 280/400	GR)	N)	
Time Constant		1	1.5	1		
Panel		GNP-S # 42				
Opr. Rig Time		S Urdy				
Sonde Size & Type		3 5/8				
Truck No.		7753-Hobbs				
Observer		Roth				





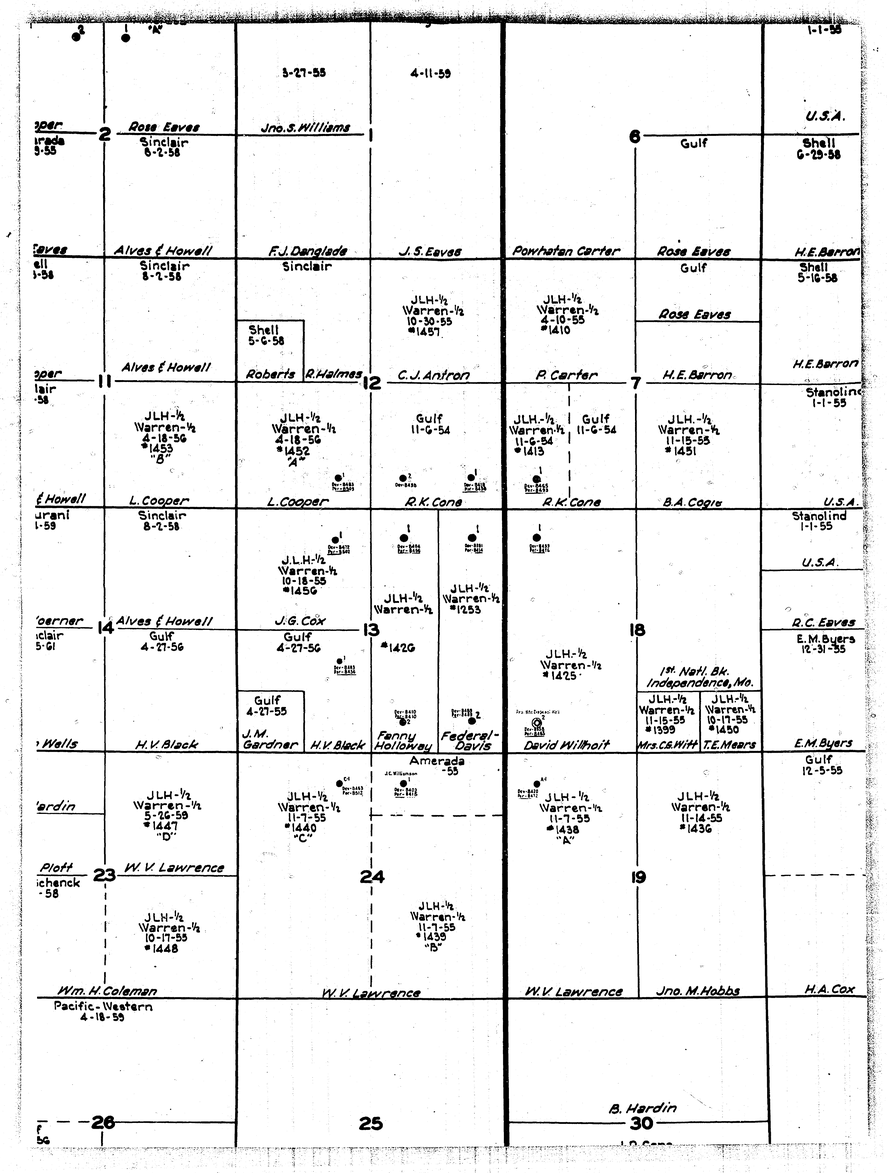






CITIES SERVICE OIL COMPANY
STATE "AW" # 2
DEAN FIELD
LEA COUNTY, NEW MEXICO

413



1-1-55
3-27-55
4-11-59
U.S.A.
Rose Eaves
Sinclair
8-2-58
Jno. S. Williams
Gulf
Shell
6-29-58
Alves & Howell
F.J. Danglade
J.S. Eaves
Powhatan Carter
Rose Eaves
H.E. Barron
Sinclair
8-2-58
Sinclair
Gulf
Shell
5-16-58
JLH-½
Warren-½
10-30-55
#1457
JLH-½
Warren-½
4-10-55
#1410
Rose Eaves
Shell
5-6-58
Alves & Howell
Roberts
R. Holmes
C.J. Antron
P. Carter
H.E. Barron
H.E. Barron
Stanolind
1-1-55
JLH-½
Warren-½
4-18-56
#1453
"B"
JLH-½
Warren-½
4-18-56
#1452
"A"
Gulf
11-6-54
JLH-½
Warren-½
11-6-54
#1413
Gulf
11-6-54
JLH-½
Warren-½
11-15-55
#1451
L. Cooper
L. Cooper
R.K. Cone
R.K. Cone
B.A. Cogle
U.S.A.
Sinclair
8-2-58
Stanolind
1-1-55
U.S.A.
J.L.H.-½
Warren-½
10-18-55
#1456
JLH-½
Warren-½
JLH-½
Warren-½
#1253
Alves & Howell
J.G. Cox
R.C. Eaves
Gulf
4-27-56
Gulf
4-27-56
#1426
E.M. Byers
12-31-55
JLH-½
Warren-½
#1425
1st. Natl. Bk.
Independence, Mo.
Gulf
4-27-55
JLH-½
Warren-½
11-15-55
#1399
JLH-½
Warren-½
10-17-55
#1450
H.V. Black
J.M. Gardner
H.V. Black
Fanny Holloway
Federal-Davis
David Wilhoit
Mrs. C.G. Witt
T.E. Mears
E.M. Byers
Amerada
-55
Gulf
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JLH-½
Warren-½
5-26-59
#1447
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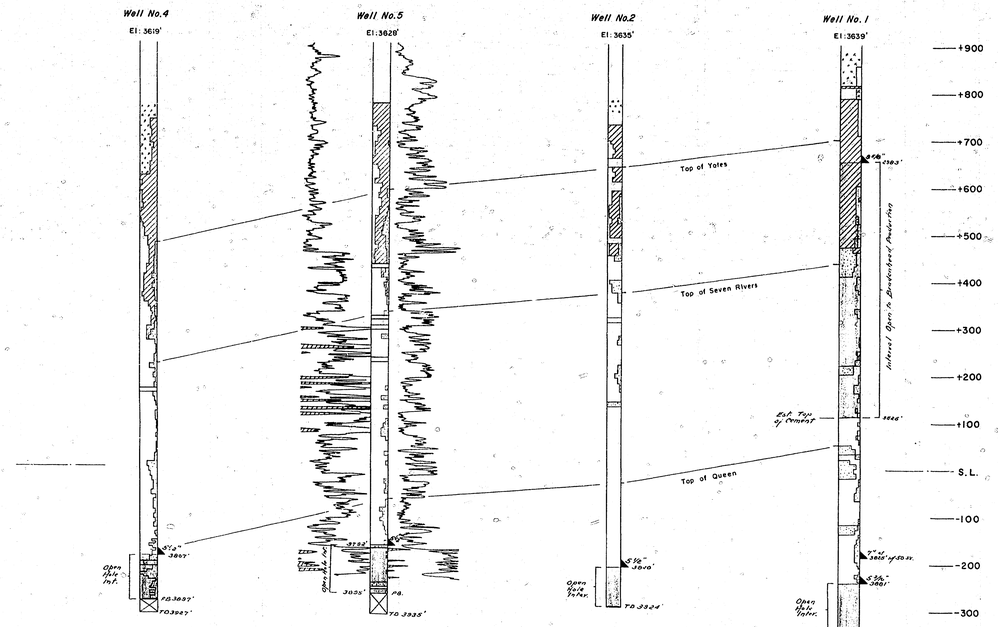
JLH-½
Warren-½
11-7-55
#1440
"C"
JLH-½
Warren-½
11-7-55
#1438
"A"
JLH-½
Warren-½
11-14-55
#1436
W.V. Lawrence
JLH-½
Warren-½
10-17-55
#1448
JLH-½
Warren-½
11-7-55
#1439
"B"
Wm. H. Coleman
W.V. Lawrence
W.V. Lawrence
Jno. M. Hobbs
H.A. Cox
Pacific-Western
4-18-59
B. Hardin

414

COMPARISON OF WELL LOGS
CONTINENTAL OIL COMPANY
LOCKHART A-18 LEASE



Completed 3-27-36 at TD 3927' for IP of 201 BOPD, no water, thru 3/4" choke with 786 MCF gas.
2-1-40, plugged back to 3897' w/19 sx.
3-5-54, sand fraced w/6000 gals. Prod. increased from 8 to 112 BOPD thru 2", no water, GOR 28,900.

Completed 7-8-36 at TD 3935' for IP of 1875 BOPD, no water, thru 3/4" choke with 2420 MCF gas.
9-10-40, plugged back to 3895', with new potential of 15.80 + 32 BW in 5 hours with 742 MCF gas thru 25/64" choke.
Shut in 8-13-54.

Completed 12-19-34 at TD 3924' for IP of 1056 BOPD, no water, thru 3/4" choke with 1400 MCF gas.

Completed 2-4-31 at TD 3990' for IP of 404 BOPD + 440 BWPD thru 7" csg with 8000 MCF gas.
7" csg was set at 3825' w/50 sx.
3-19-31, set 5 3/16" csg at 3881' w/25 sx.
Oil from 3881' to 3990'.
Bradenhead gas from 2983' to est. top of cement at 3525'.

LEGEND

Gas Production

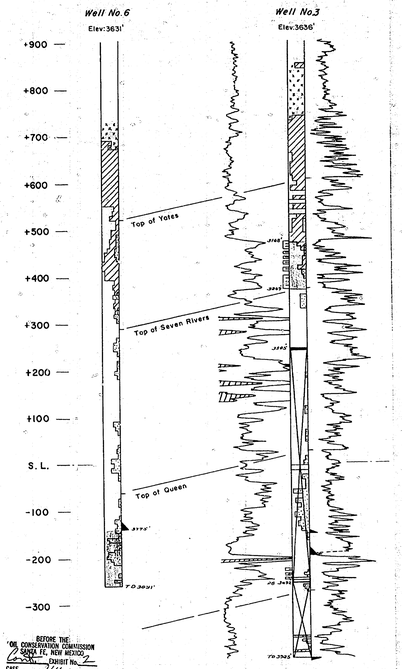
Oil Production

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 2
CASE 1110

415

CONTINENTAL OIL COMPANY

LOCKHART A-18 LEASE



BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO EXHIBIT No. 2 CASE

Completed 1-1-39 @ TD 3891' for IP of 528 BOPD, no water, thru 3/4" choke with 2420 MCF gas. 5½" csg (17#) @ 3775' w/425 sx.

9-15-40, set packer @ 3806' with blank side-door choke @ 3768'. GOR reduced from 14,000 to 6810.

Completed 10-23-35 @ TD 3925' for IP of 800 BOPD thru 3/4" choke with 1500 MCF gas. 5½" csg (17#) @ 3834' w/400 sx.

2-15-48, deepened to 4048'. Set 4" OD liner, 3925' to 4048' w/60 sx. PB 3892'. Perforated liner: 3882-85', 3971-78' & 3860-66' and acidized w/3500 gals. IP of 35 BOPD & 64 BWPD with GOR 1375, by gas-lift.

7-23-51, set retainer @ 3395' w/75 sx and perforated csg between 3168' and 3269'. Re-completed as gas well for IP of 2130 MCF sour gas (cal. open flow) with SIP 1066.2 psia.

LEGEND

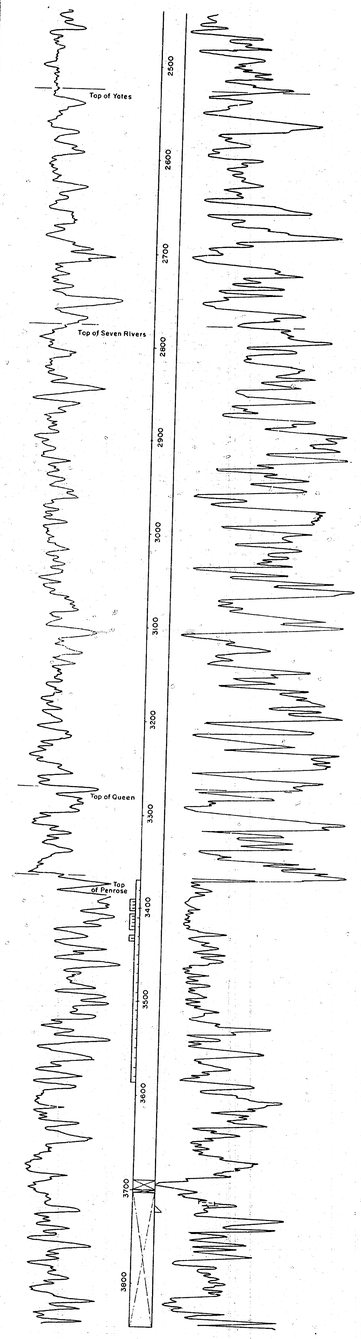
Gas Production

Oil Production

416

CONTINENTAL OIL COMPANY
BRITT B-15 NO.3

Elev: 3552'



7 5/8" csg @ 1234' w/425 sx
5 1/2" csg @ 3723' w/425 sx
TD 3836'

Completed, 11-17-38, thru open hole, 3723' to 3836' for IP of 216 BOPD thru open 2" with 1836 MCF gas.

Set Baker retainer @ 3700' with 3 sx on top. PB 3690'. Perforated 3370-3585' with 1 shot per foot. Then perforated between 3350' and 3435' with 4 shots per foot.
Re-completed as gas well for IP of 6550 MCF (cal. open flow) with SIP 1137.2 psia. 12-8-49.

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 2
CASE 1112

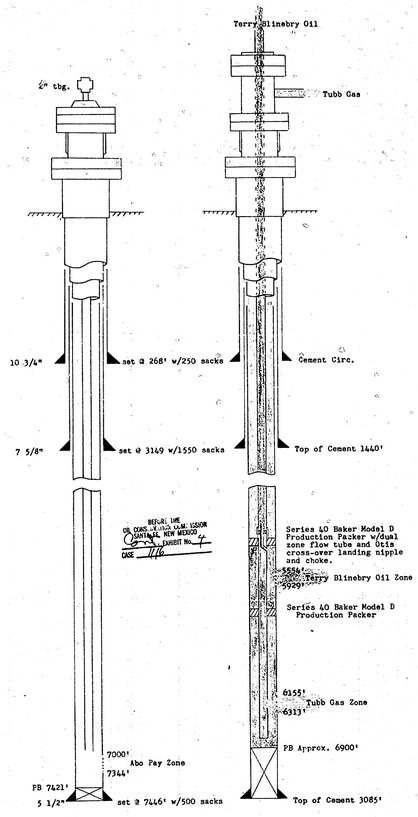
417

CONTINENTAL OIL COMPANY

LOCKHART B-14 "A" NO. 2-A

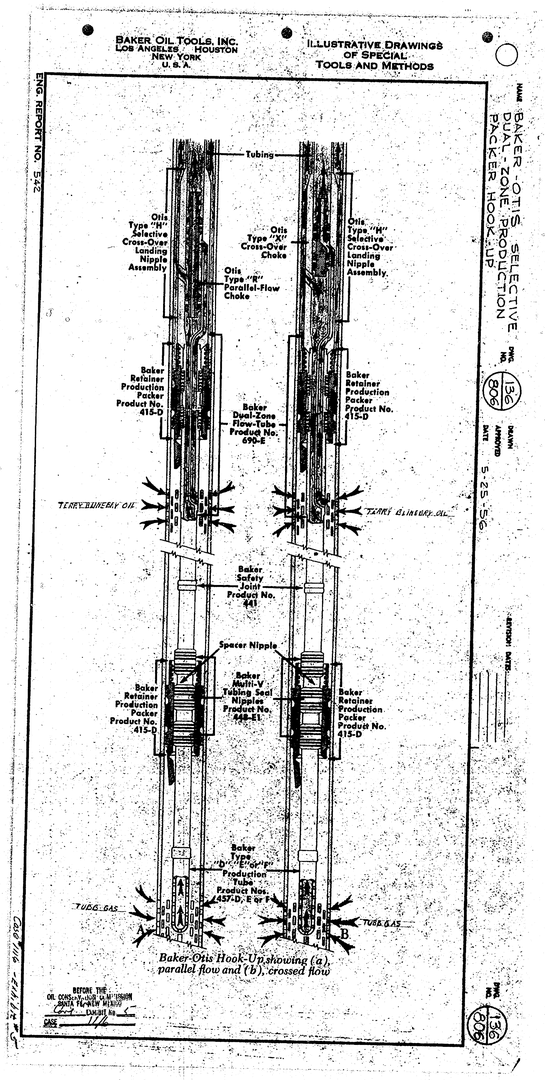
PRESENT CONDITION

PROPOSED DUAL COMPLETION

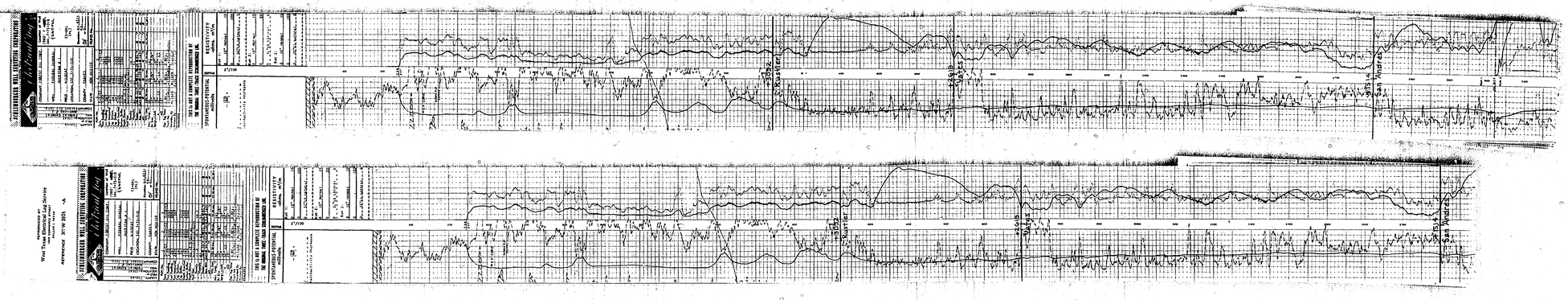


T.D. 7446'

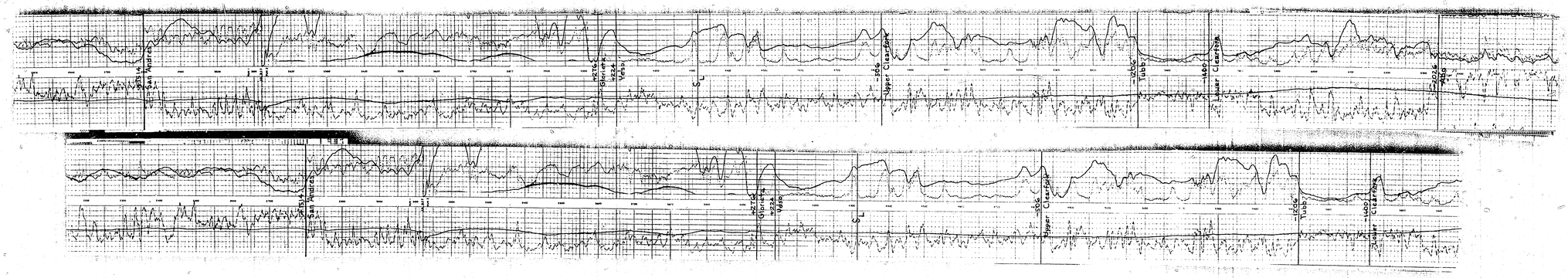
418



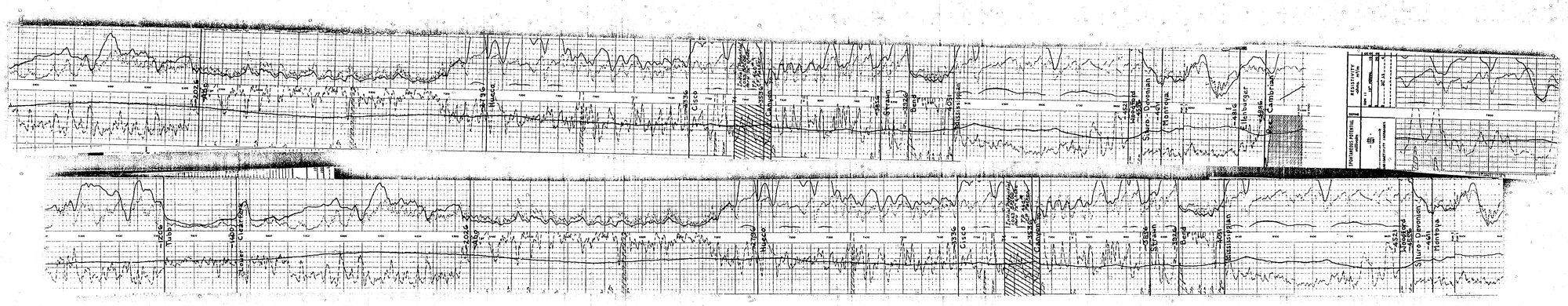
Baker-Otis Hook-Up showing (a), parallel flow and (b), crossed flow

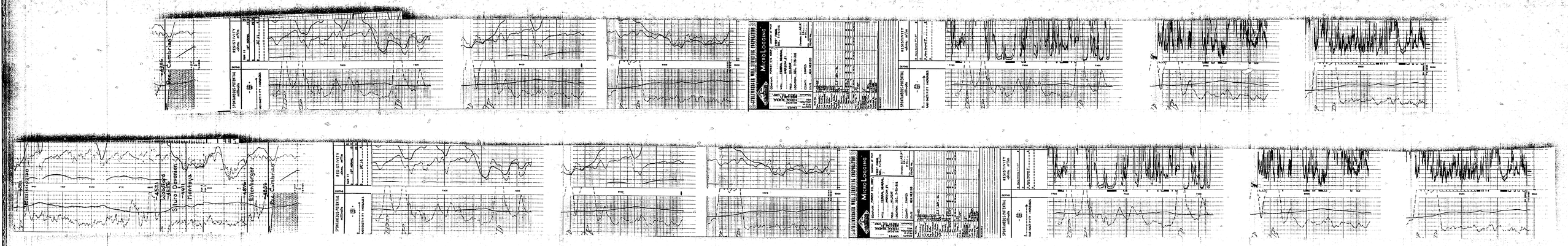


419


San Andres
Gloriete
Vado
Upper Clearfork
Tubb
Lower Clearfork

420


Devonian
Silurian
Ordovician
Cambrian
Precambrian
Mississippian
Pennsylvanian
Permian
Triassic
Jurassic
Cretaceous
Tertiary
Quaternary
Clinton
Medina
Queenston
Juniata
Tuscarora
Oneida
Chemung
Catskill
Portage
Genesee
Tully
Hamilton
Marcellus
Onondaga
Oriskany
Helderberg
Salina
Wills Creek
Tonoloway
Keyser
Tuscarora
Rose Hill
Juniata
Bald Eagle
Reedsville
Antes
Martinsburg
Eggleston
Edinburg
Lincolnshire
Strodes
Moccasin
Beekmantown
Stonehenge
Rockdale
Conococheague
Elbrook
Waynesboro
Gatesburg
Warrior
Pleasant Hill
Tomstown
Frederick
Grenville
Catoctin
Loudoun
Weverton
Harpers
Antietam
Hampton
Erwin
Unicoi
Hesse
Tuscarora
Juniata
Bald Eagle
Reedsville
Oswego
Tuscarora
Clinton
Medina
Queenston
Sherwood

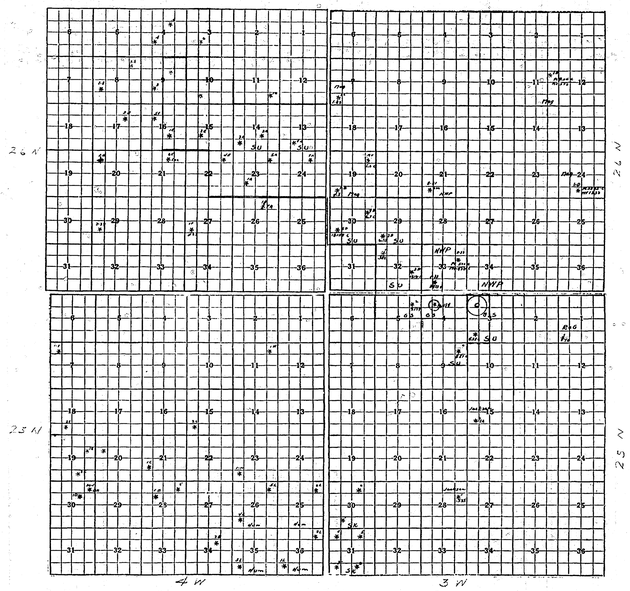

Rec. Cambrian
Silurian-Devonian
Montoya
Ellenburger
Rec. Cambrian
SPONTANEOUS POTENTIAL
RESISTIVITY
MICROLOGGING

422

No. 1018—TOWNSHIP PLAT, (1 inch scale) Printed and for sale by Hunter Press, Farmington, New Mexico

Township..... Range..... Township..... Range.....

.....Meridian.....Meridian

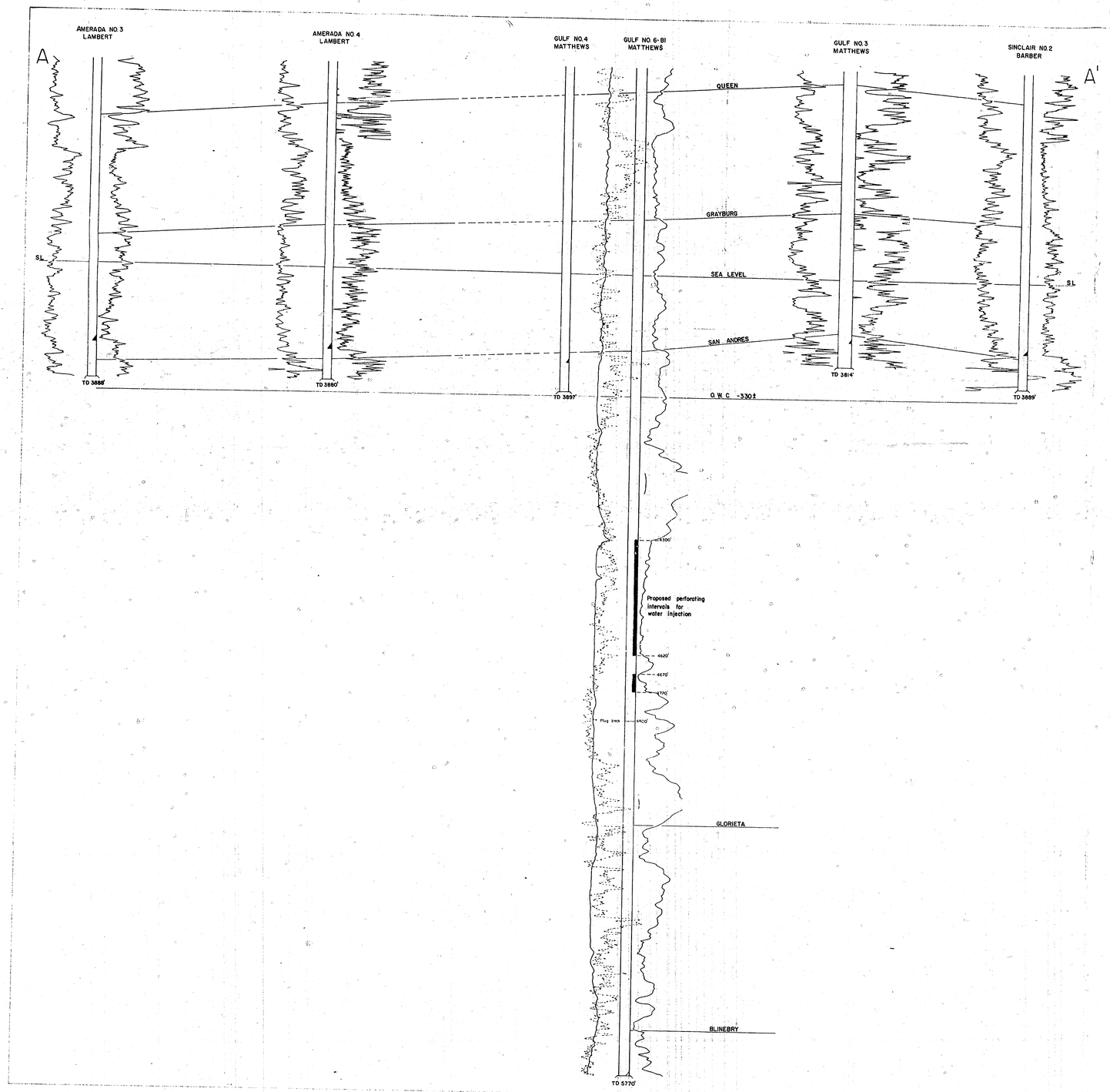


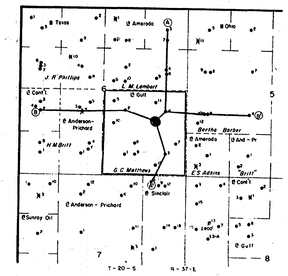
Township..... Range..... Township..... Range.....

.....Meridian.....

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT NO. [illegible]
CASE [illegible]

423





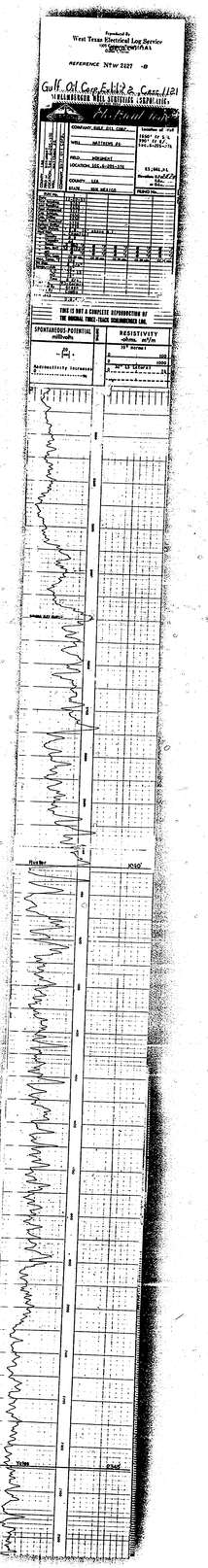
North-South cross section through proposed salt water injection well, Gulf No. 6, Matthews.

GULF OIL CORP
EXHIBIT NO. 1
CASE NO. 1121

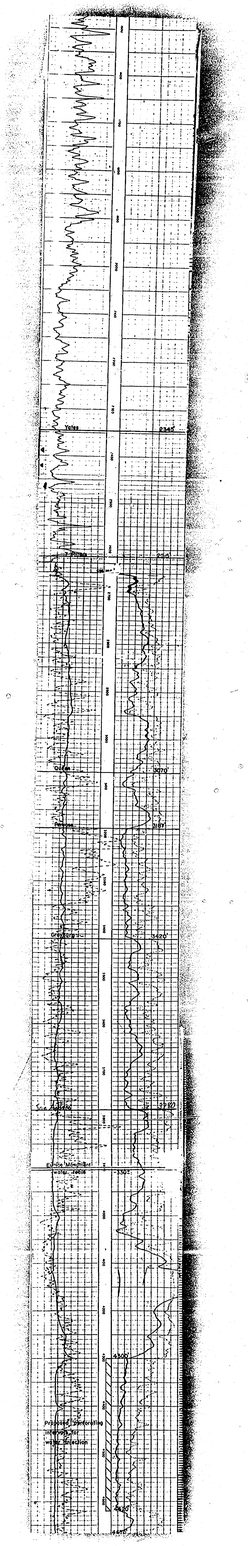
Scale 1" = 200'

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT NO. 1
CASE NO. 1121

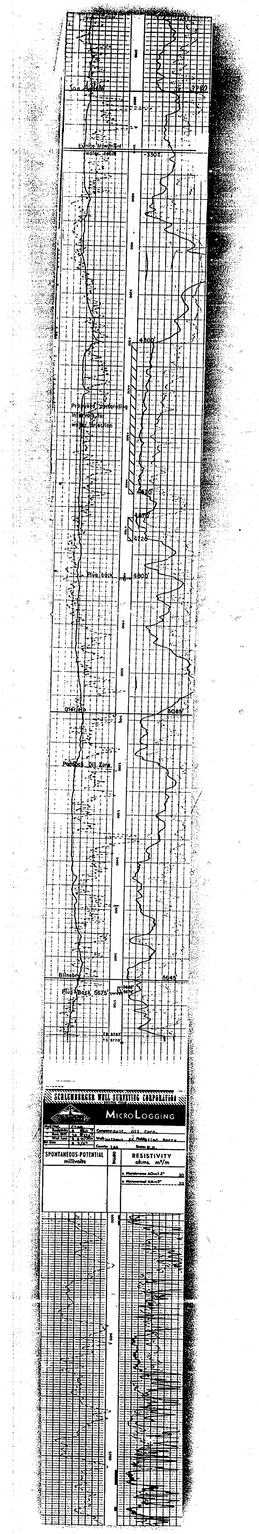
424


Reproduced by
West Texas Electrical Log Service
REFERENCE NTW 2127 -B
Gulf Oil Corp. Exhibit 2, Case 1121
COMPANY GULF OIL CORP.
WELL NOTTROTT #1
FIELD NOVEMENT
LOCATION SEC. 6-20S-37E
COUNTY LEA
STATE NEW MEXICO
THIS IS NOT A COMPLETE REPRODUCTION OF THE ORIGINAL THREE-TRACK SCHLUMBERGER LOG.
SPONTANEOUS-POTENTIAL millivolts
REGISTIVITY ohms m²/m
16" NORMAL
Resistivity increases
Resistivity decreases

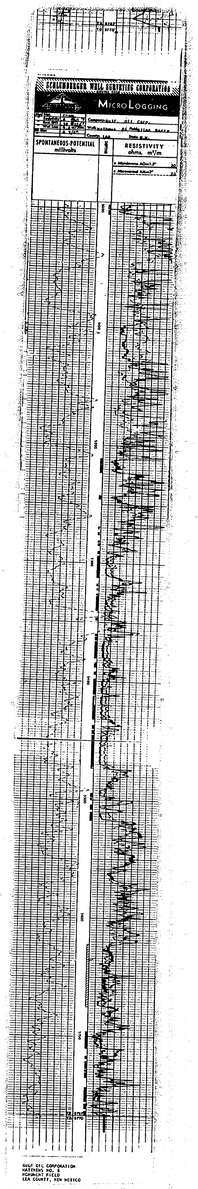
425



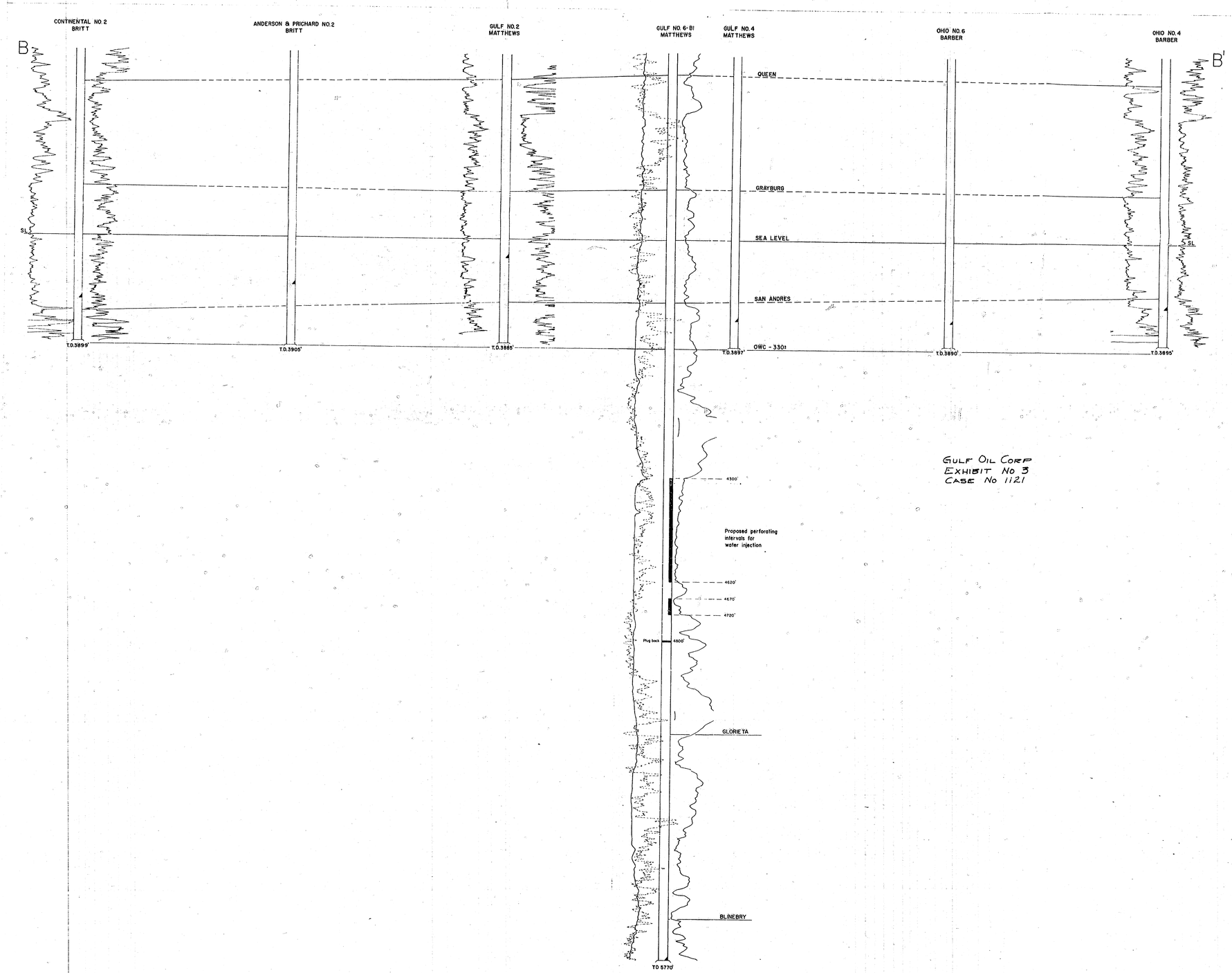
426


SCHLUMBERGER WELL SURVEYING CORPORATION
MICROLOGGING
SPONTANEOUS-POTENTIAL
millivolts
RESISTIVITY
ohms m²/m

427


SCHLUMBERGER WELL SURVEYING CORPORATION
MICROLOGGING
SPONTANEOUS POTENTIAL
millivolts
RESISTIVITY
ohms m²/m
GULF OIL CORPORATION
HARTMENS NO. 8
MCKINNEY FIELD
LEA COUNTY, NEW MEXICO

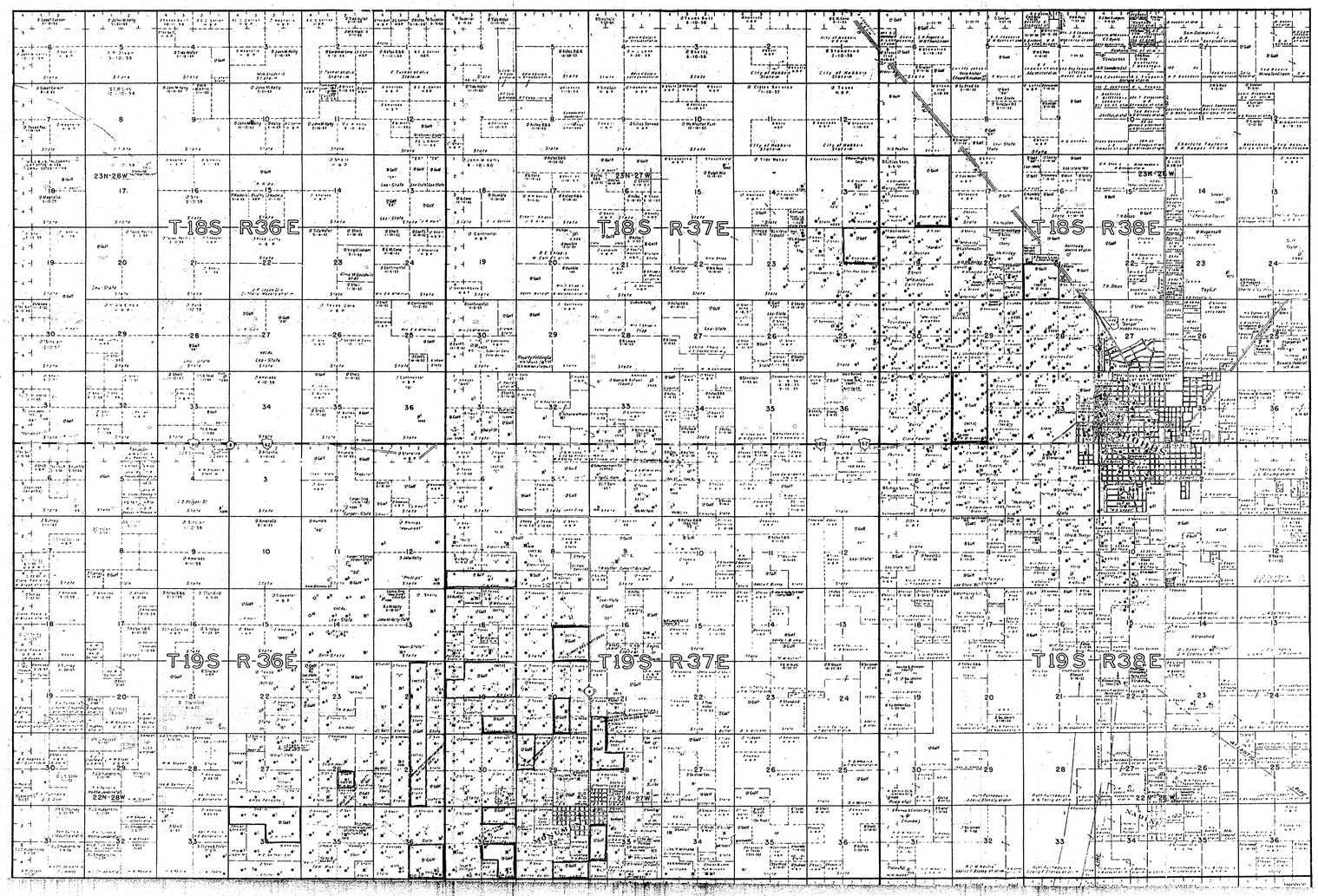
428



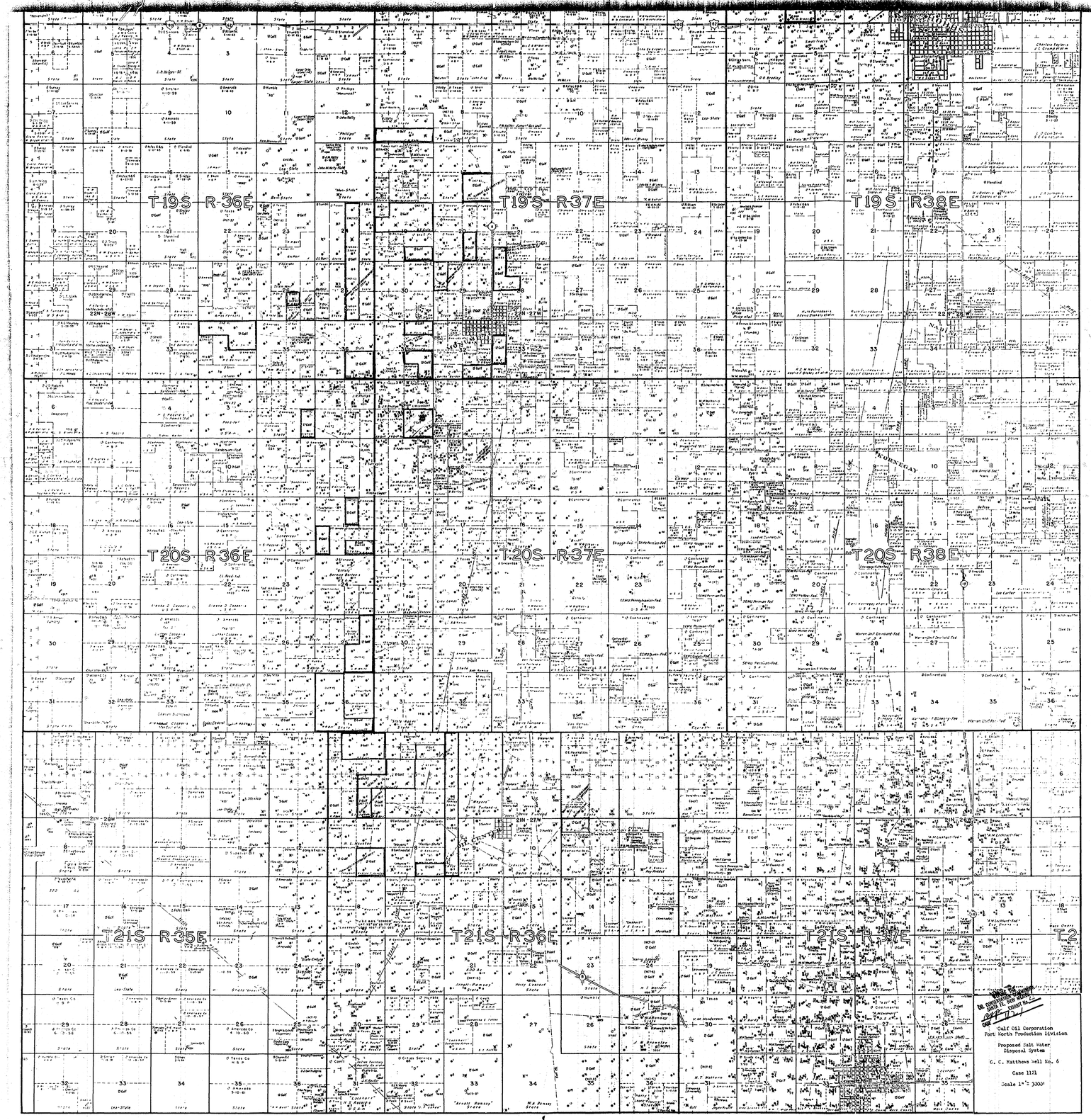
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Gulf EXHIBIT No. 3
CASE 1121

GULF OIL CORP
EXHIBIT No 3
CASE No 1121

429

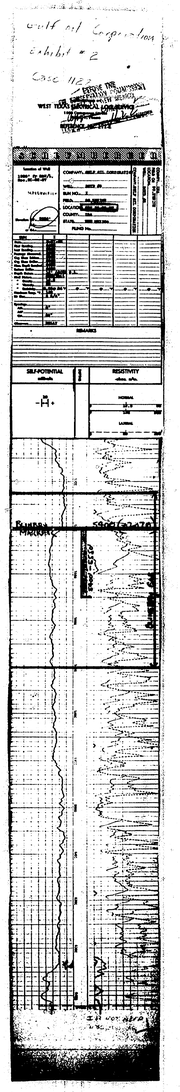

T-18S R36E
T18S R37E
T18S R38E
T19S R36E
T19S R37E
T19S R38E
23N-28W
23N-27W
23N-26W
22N-28W
22N-27W
22N-26W
HOBBS

430

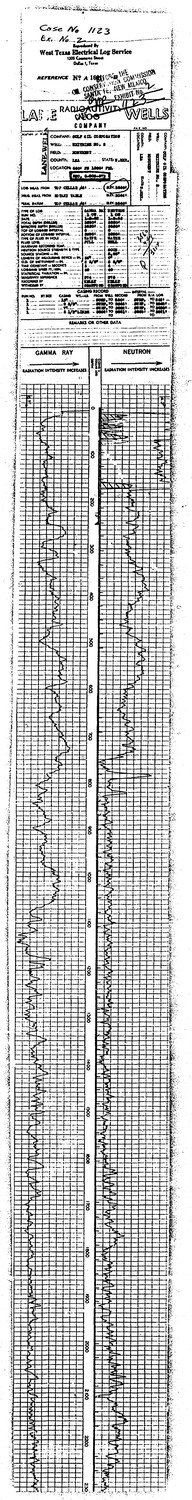

T19S R36E
T19S R37E
T19S R38E
T20S R36E
T20S R37E
T20S R38E
T21S R35E
T21S R36E
T21S R37E
T2
KORNEGAY
Gulf Oil Corporation
Fort Worth Production Division
Proposed Salt Water
Disposal System
G. C. Matthews Well No. 6
Case 1121
Scale 1" = 3000'

431

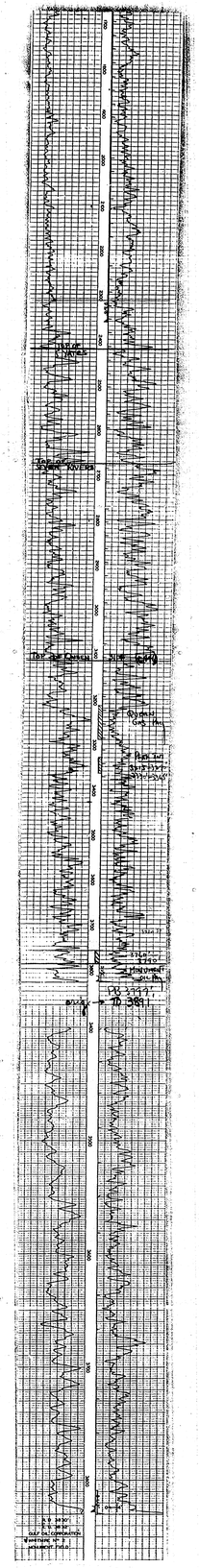
Gulf Oil Corporation
Exhibit # 2
Case 112

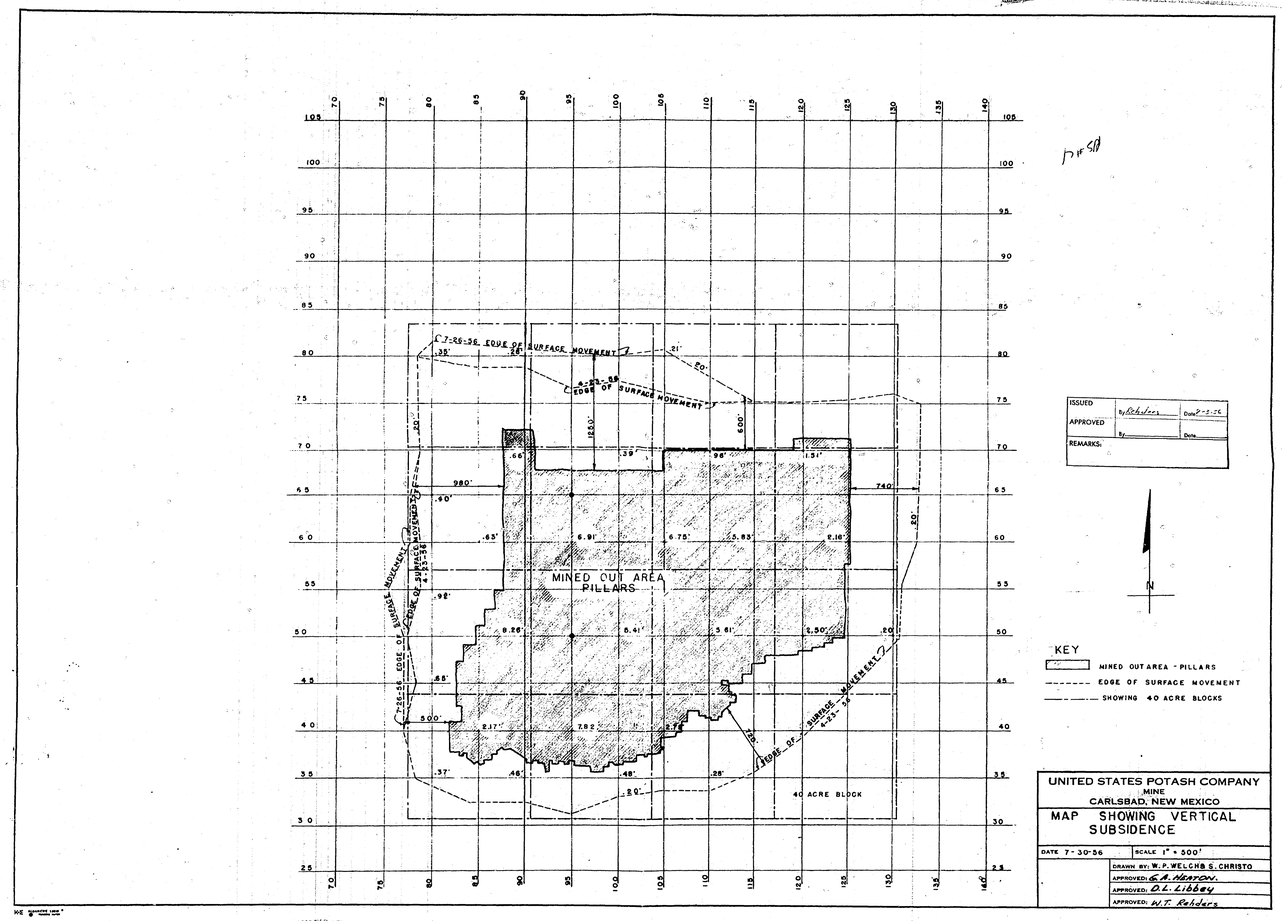


432


Case No 1123
Ex. No 2
Reproduced by
West Texas Electrical Log Service
Dallas 1, Texas
REFERENCE No A 1001
OR CONSERVATION DIVISION
SUBJECT TO SUBMISSION
RADIOACTIVITY
LAKE WELLS
COMPANY
GAMMA RAY
NEUTRON
SATURATION INTENSITY INCREASES

433


TOP OF COAL
TOP OF LOWER KWEBE
TOP OF CARBON
TOP OF SALT
TOP OF ANHYDRITE
TOP OF SALT
TOP OF ANHYDRITE
TOP OF SALT
TOP OF ANHYDRITE

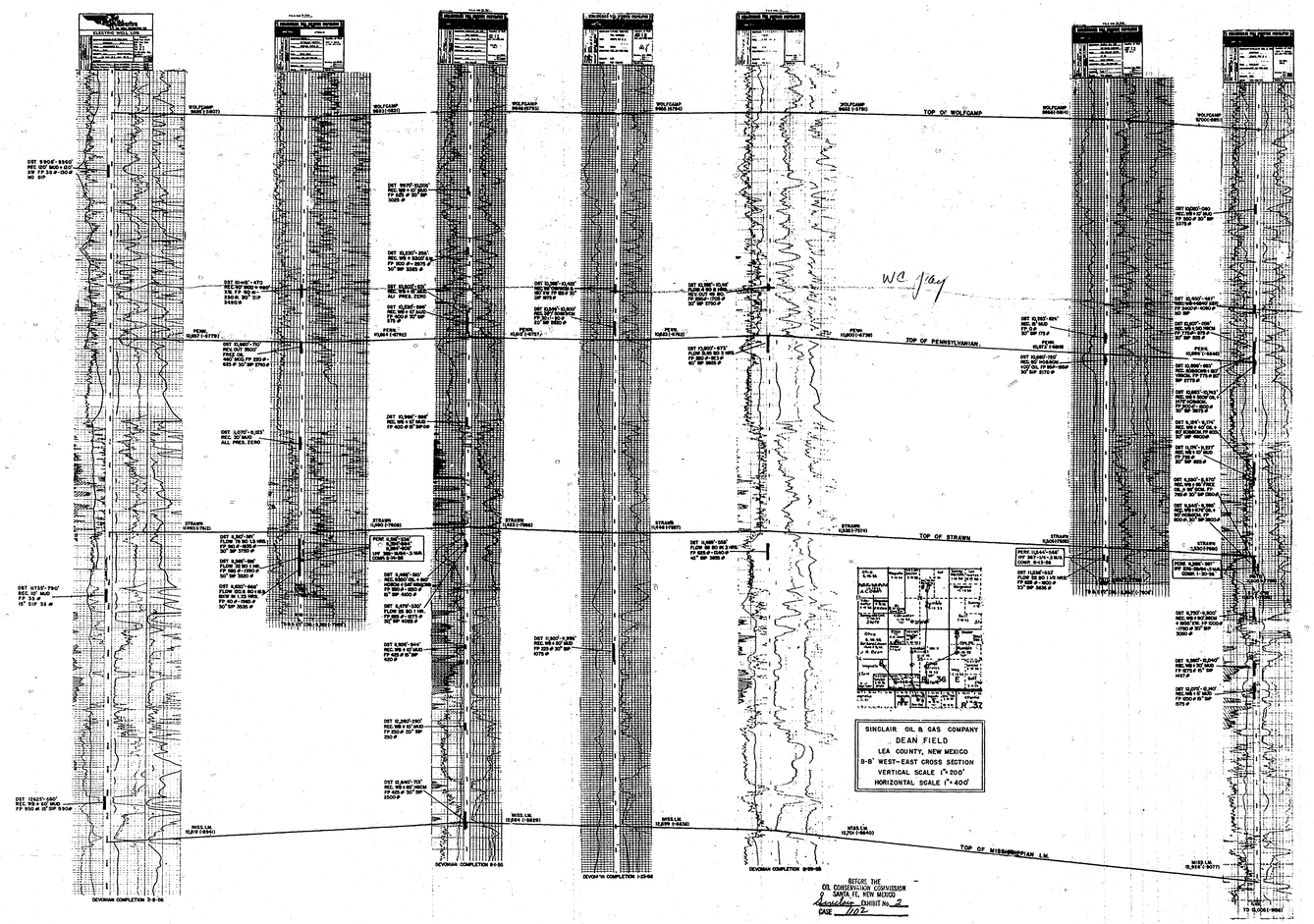


7-26-56 EDGE OF SURFACE MOVEMENT
4-23-56 EDGE OF SURFACE MOVEMENT
MINED OUT AREA PILLARS
40 ACRE BLOCK
ISSUED
APPROVED
REMARKS:
N
KEY
MINED OUT AREA - PILLARS
EDGE OF SURFACE MOVEMENT
SHOWING 40 ACRE BLOCKS
UNITED STATES POTASH COMPANY
MINE
CARLSBAD, NEW MEXICO
MAP SHOWING VERTICAL SUBSIDENCE
DATE 7-30-56
SCALE 1" = 500'
DRAWN BY: W. P. WELCH & S. CHRISTO
APPROVED: G. A. HEATON.
APPROVED: D. L. Libbey
APPROVED: W. T. Rehders

435

WEST B

EAST B'

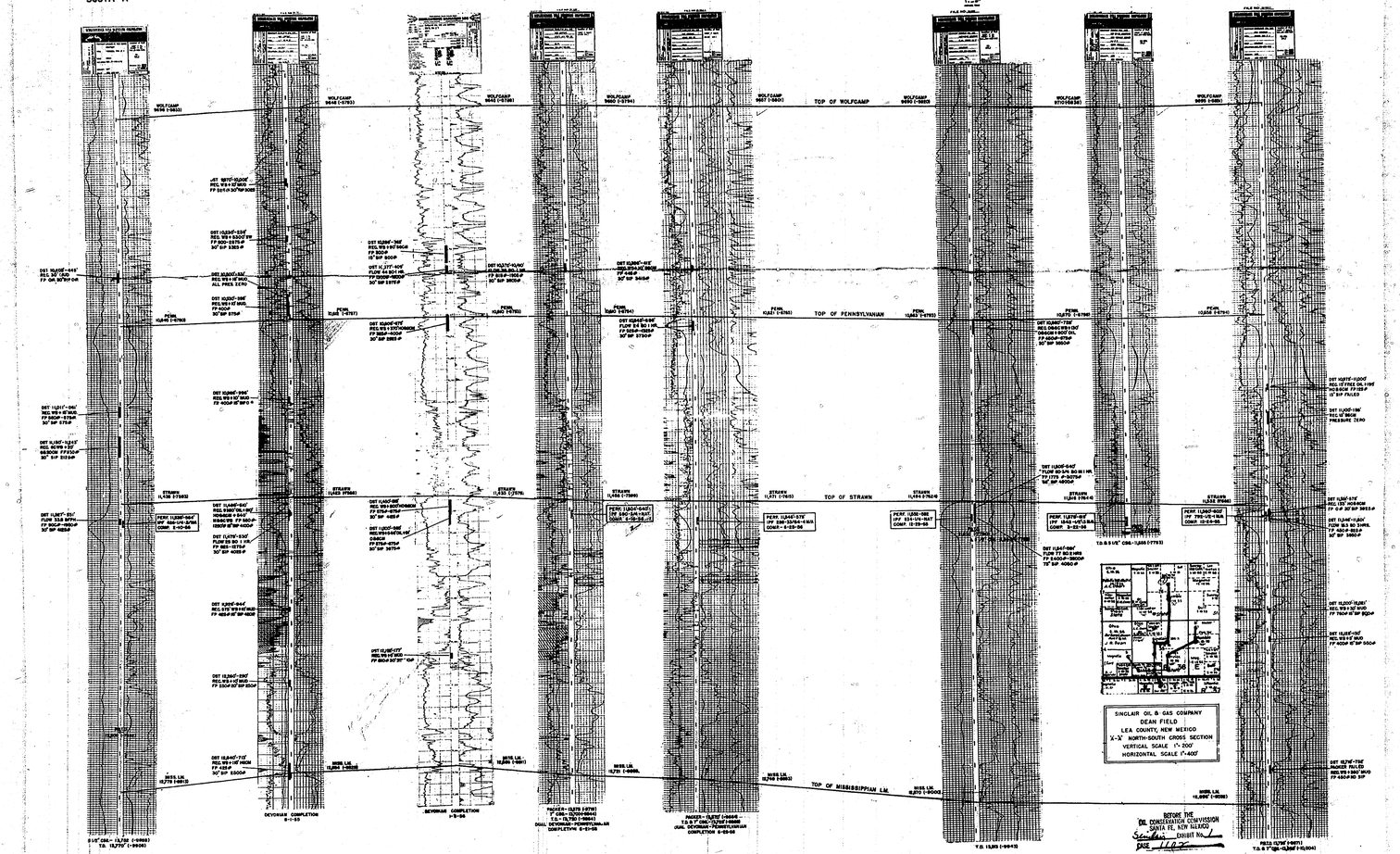


BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 2
CASE 1102

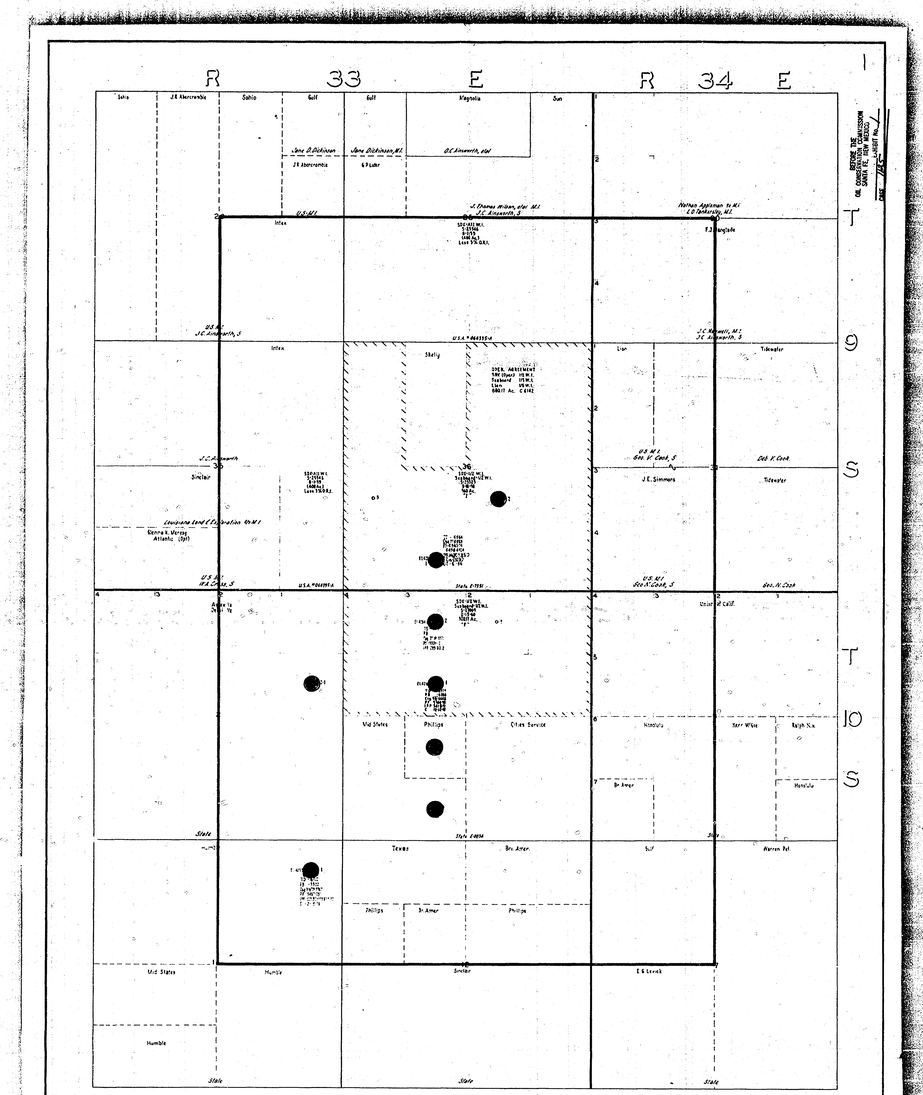
436

SOUTH A

NORTH A'



437

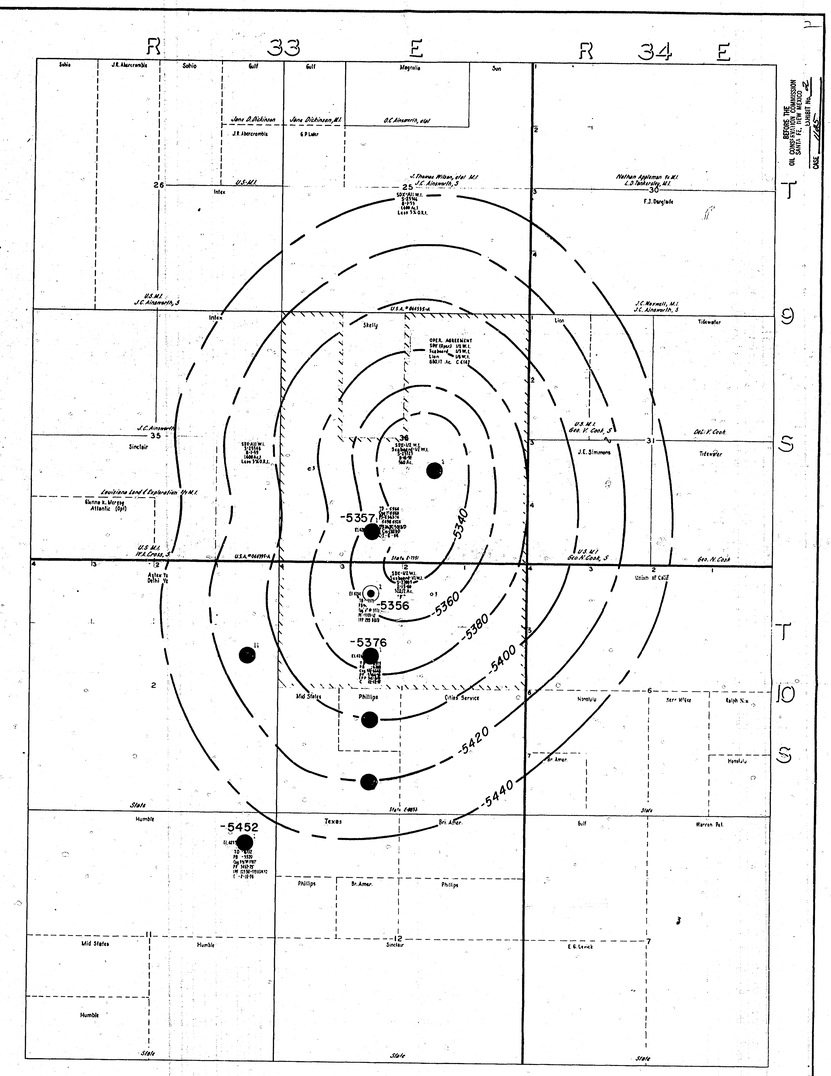


PRODUCING WELLS

DRILLING WELLS

SUNRAY MID-CONTINENT OIL CO.
LANE FIELD
Portions of
Townships 9 & 10 S. Ranges 33 & 34 E.
County Lea State New Mexico.
1000 500 0 500 1000 2000
SCALE IN FEET
PREPARED BY EXPLORATION DRAFTING SECTION

8-9-56



TOP OF WOLFCAMP PAY ZONE

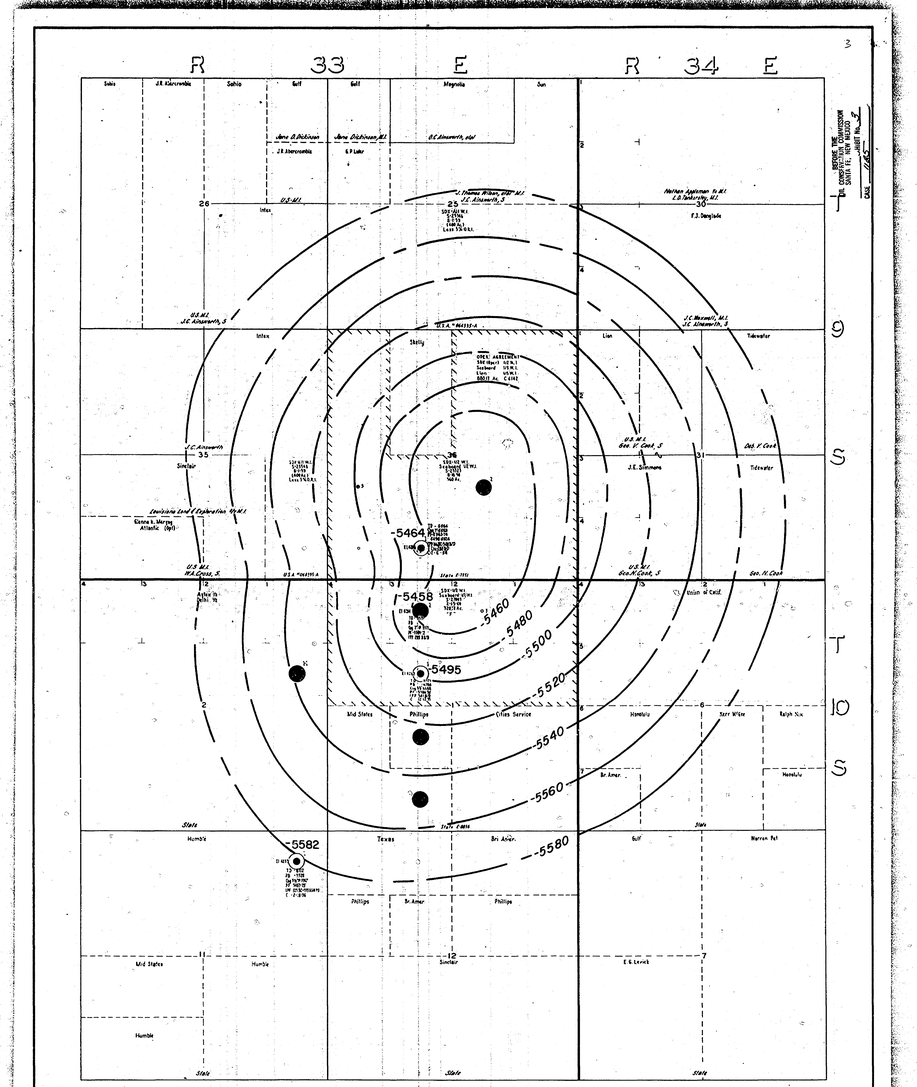
PRODUCING WELLS

DRILLING WELLS

SUNRAY MID-CONTINENT OIL CO.
LANE FIELD
Portions of
Townships 9 & 10 S. Ranges 33 & 34 E.
County Lea State New Mexico.
1000 500 0 500 1000 2000
SCALE IN FEET
PREPARED BY EXPLORATION DRAFTING SECTION

8-9-56

438



TOP OF PENNSYLVANIAN
(CISCO)

● PRODUCING WELLS

● DRILLING WELLS

SUNRAY MID-CONTINENT OIL CO.

LANE FIELD
Portions of
Townships 9 & 10 S Ranges 33 & 34 E
County Lea State New Mexico.

1000 500 0 500 1000 2000
SCALE IN FEET

PREPARED BY EXPLORATION DRAFTING SECTION

8-9-56

439

BEFORE THE
OIL CONS. COMM. OF NEW MEXICO
SANTA FE, NEW MEXICO
EXHIBIT No. 4
CASE 1186

CROSS SECTION WITH GAMMA RAY NEUTRON LOGS

Lane Field

Lea County, New Mexico

A

HUMBLE OIL & REFINING CO.
STATE "AN" NO. 1
ELEV. 4243' D.F.

SUNRAY MID-CONTINENT OIL CO.
STATE "F" NO. 1
ELEV. 4262' D.F.

SUNRAY MID-CONTINENT OIL CO.
STATE "F" NO. 2
ELEV. 4284' D.F.

A'

SUNRAY MID-CONTINENT OIL CO.
STATE "I" NO. 1
ELEV. 4288' D.F.

POROSITY
CORE ANALYSIS
15% 10% 5% 0

- 5300'

DST No.1 9655-9710 open 2 hrs.
Rec. 900' w/cr-cushion plus 540'
formation water plus 1530' no show.
FP 510-720 psi SIP 30 min. 2795 psi

PERF 9706-18' Seb. 38 BLO x 36 BSW w/frac
to 8% raw oil in 24 hrs.
ACD w/500 gals. mud acid. Fluid 52 BO + 147 BSW
in 5 hrs. 1/4" ch. TP 250-175 CP 637 GR 43

DST No 2 9708-9750 op. 1 min.
Rev. failed. Rec. 900' water cushion
and 900' oil and gas cut mud

DST No. 3 9700-9750 op. 3 hr. 16 min. Gas in 14 min.
Est 703 MCF. Mud in 16 min. Oil in 35 min.
1st hr. fired 36 BF 70% Oil 30% SW. Total
Rev. and rec. 57 BO GR. 44) and 28 BSW. FP 1040-
2545 psi 30 min. SIP 3535 psi

DST No 4 9760-9815 op 2 hr. Rec. 90' mud and
4840 SW. FP 193-2195 psi. 30 min. SIP 3535 psi.

TOP OF WOLFCAMP PAY ZONE
TOP OF WOLFCAMP WATER ZONE
WATER
TOP PENNSYLVANIAN (CISCO)
TOP PENNSYLVANIAN (CISCO) PAY ZONE

INITIAL PRODUCTION 187.8 BO + 628 BSW per day
based on 176 BO + 589 BSW in 22 hrs 30 min. thru 1/2"
ch. GOR 1999-1 Gr. 44.0

DST NO.1 9595-9738 op 2 hrs 30 min. Gas
immed. Oil in 5 min. Fired to pits 25 min.
Fired. 4362 BOPH on 3/4" ch. gauged 1,000,000
CFPD gas Rec. 76' gas 10' oil below TC tool
IFP 2040 psi, FFP 3365 psi 30 min.
SIP 3575 psi.

PERF 9645-56, 9694-9700, 9734-46
ACD w/500 gal. mud acid. Fired. total 10 hr.
then died. Rec. 181 BO + 157 BSW. Seb. 19 hr.
rec. 95 BSW, no oil.

SQ PERF. 9645-56, 9694-9700, 9734-46.

PERF 9647-59, LW (9648-60 Schl.)

WATER

TOP PENNSYLVANIAN SCOTPAY ZONE

DST NO 2 9775-9810 op 1 hr 30 min. Gas 38
min, mud in 15 min., oil in 20 min. Fired. 24
BO in 1 hr. Rec. 65' gas 20' oil below TC tool
IFP 555 psi FFP 2525 psi 30 min. SIP 3295 psi

DST NO. 3 9813-9895 op 1 hr. weak blow throughout
Rec. 60' drilling mud.
IFP 35 psi FFP 35 psi 30 min. SIP 70 psi.

INITIAL PRODUCTION 341 BO, No water in
24 hr. on 14/64" ch. TP 1300 GOR 2000 Gr. 45.7

DST NO.1 9605-95 1 hr. test. No water cushion, 5/8" Tch.
op w/strong blow gas in 3 min. Gas cut drilling mud in
5 min. Clear gas in 9 min. Fired 27 min. gas w/spray
oil + SW. Gas est. 8.5 MCFPD TP 750-840 psi. Fired
25 min. on 10/64" ch. gas w/spray oil + SW. TP 1750-1650.
Rec. 1380 OC 25% SW 360' SW (OC
OC 25% SW below TC tool. BHPF
2350-3065 psi 45 min. BHPSI 3480 psi.

DST NO 2 9615-58 1" Tx Bch. No water cushion
Gas in 3 min. mud in 5 min. Oil in 9 min. Tch 10/64
37 min. test 5.07 bbls. oil NW. Gas at 2150 psi.
After 37 min. test fired dry gas 1 hr. 45 min. Rec.
500 FLO + 15 mud above TC tool BHPF
2135-3525 psi. 30 min. SIP 3525 psi.

DST NO. 3 9693-9759 op. 1 hr. 15 min. 1" Tx Bch strong
blow declined to weak blow. Rec. 540' mud 5% gas
cut 6720' gas cut SW and 150' gas cut SW below
TC tool FP 1075-3615 psi.
30 min SIP 3615 psi

DST NO. 4 9759-9805 s/8" 8 x 1" Tch. op w/strong
blow gas to surface in 4 min, oil in 1 hr. 8 min. Fired
22.77 BO in 1 hr. TP 60-70 psi. Rev. out 3 BO and 5
bbls gas cut mud. Rec. 60' clean oil below TC tool
BHPF 2105-3160 psi. 30 min. BHPSI 3525 psi.

PERF. 9785-96, 9799-9810 Schl

ACD w/500 gal mud acid

INITIAL PRODUCTION 298 BO BOPD
on 12/64" ch. TP 825 psi, GOR 1600 Gr 49.5

7" CSG 9855'

DST NO 1 9620-70 tool op 15 min. Gas to surf in 3 min.
mud in 5 min., oil in 8 min. Fired to pits est 15 BPM
for 7 min. Est 4000/1 GOR Rec. 530' oil, no water.
IHP 5150 lbs IFP 1505 lbs. FFP 3340 lbs.
15 min. SIP 3520 lbs. FHP 5115 lbs.

PERF 9647-60 (9649-62 LW)
ACD w/500 gals. mud acd.

DST NO 2 9695-9710 op. 45 min., weak blow 7 min and died.
By-passed tool after 40 min., few bubbles and died.
Rec 10' very sli. GCOM, very salty. IHP 5155 lbs.
IFP 0 FFP 0 15 min. SIP 0 FHP 5155 lbs.

PERF. 9802-10, Schl. (9804-12 LW)
PERF. 9784-9670, Schl. (9786-9812 LW)

PT- Wolf camp 300 BO in 24 hrs. on 16/64" ch. TP 600 lbs.
GOR 1702

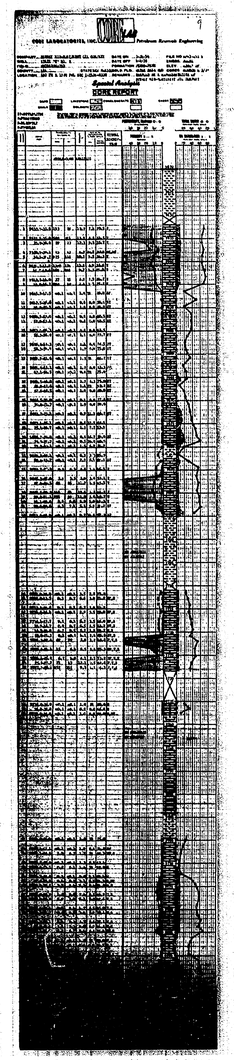
PT- Cisco 280 BO in 24 hrs on 16/64" ch. TP 580 lbs
GOR 1281

7" CSG 9849'

SUNRAY MID-CONTINENT OIL CO.

8-9-56

440



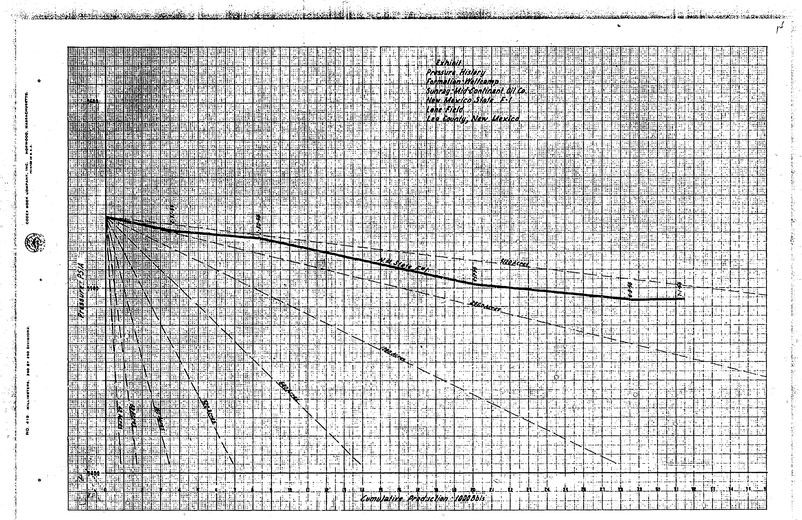
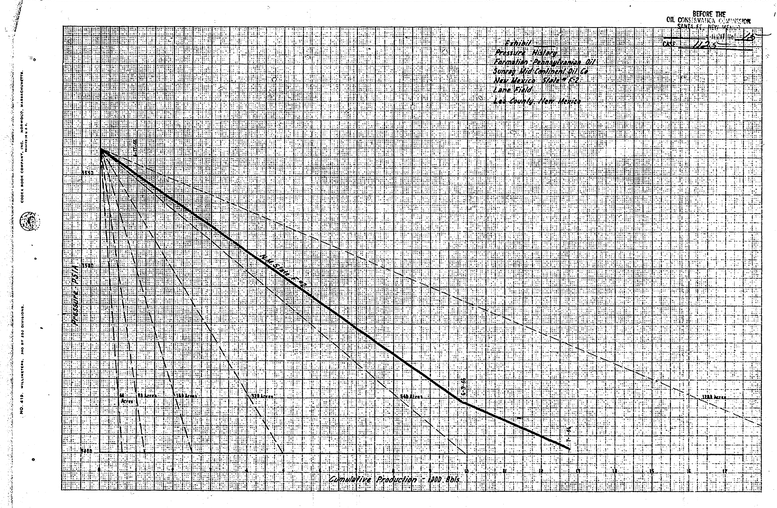
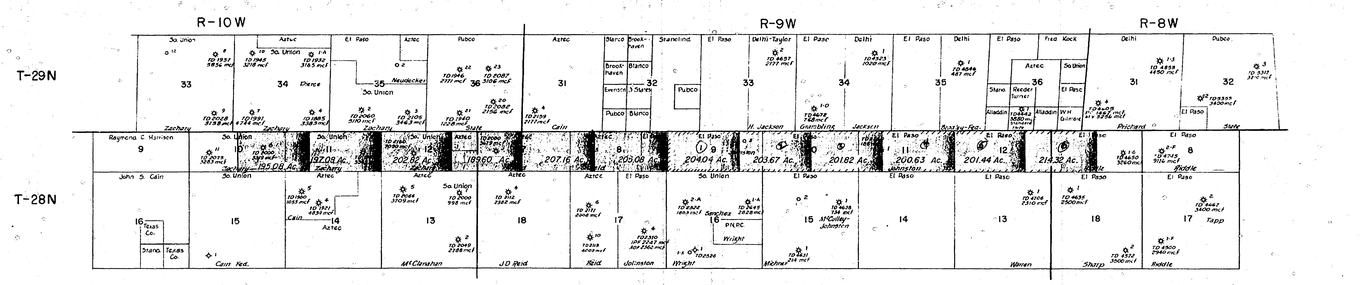


Exhibit
Pressure History
Formation: Wolfcamp
Survey: Mid-Continent Oil Co.
New Mexico State C-1
Lane Field
Lea County, New Mexico
Pressure Psig
Cumulative Production - 1000 Bbls


BEFORE THE
OIL CONSERVATION COMMISSION
CASE
Exhibit
Pressure History
Formation: Pennsylvanian Oil
Survey: Mid-Continent Oil Co.
New Mexico State C-1
Lane Field
Lea County, New Mexico
Pressure Psig
Cumulative Production - 1000 Bbls

441

EL PASO NATURAL GAS

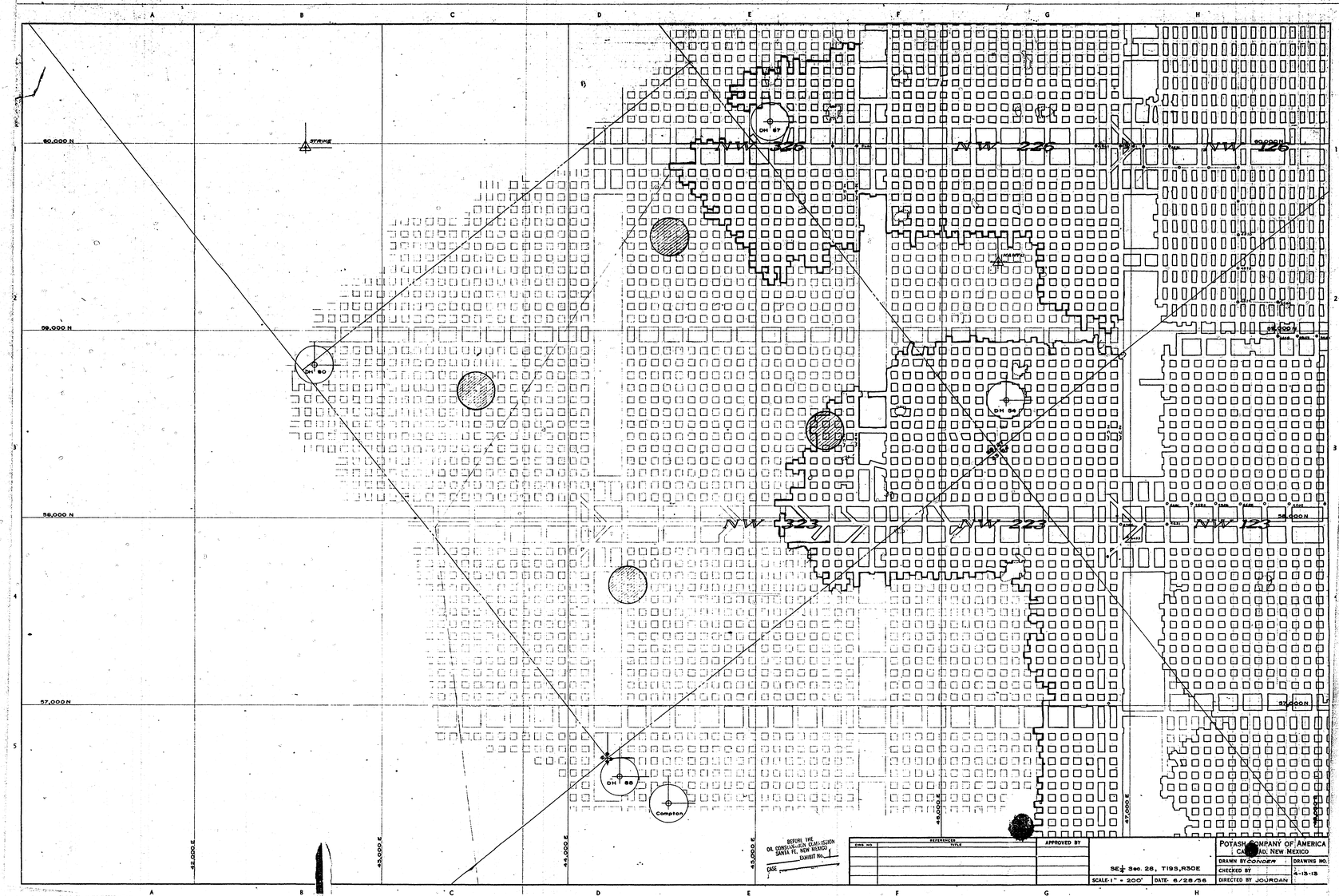


PLAT ACCOMPANYING APPLICATION FOR
PROPOSED NON-STANDARD PRORATION UNITS

Unorthodox Proration units established by Order No. R-658

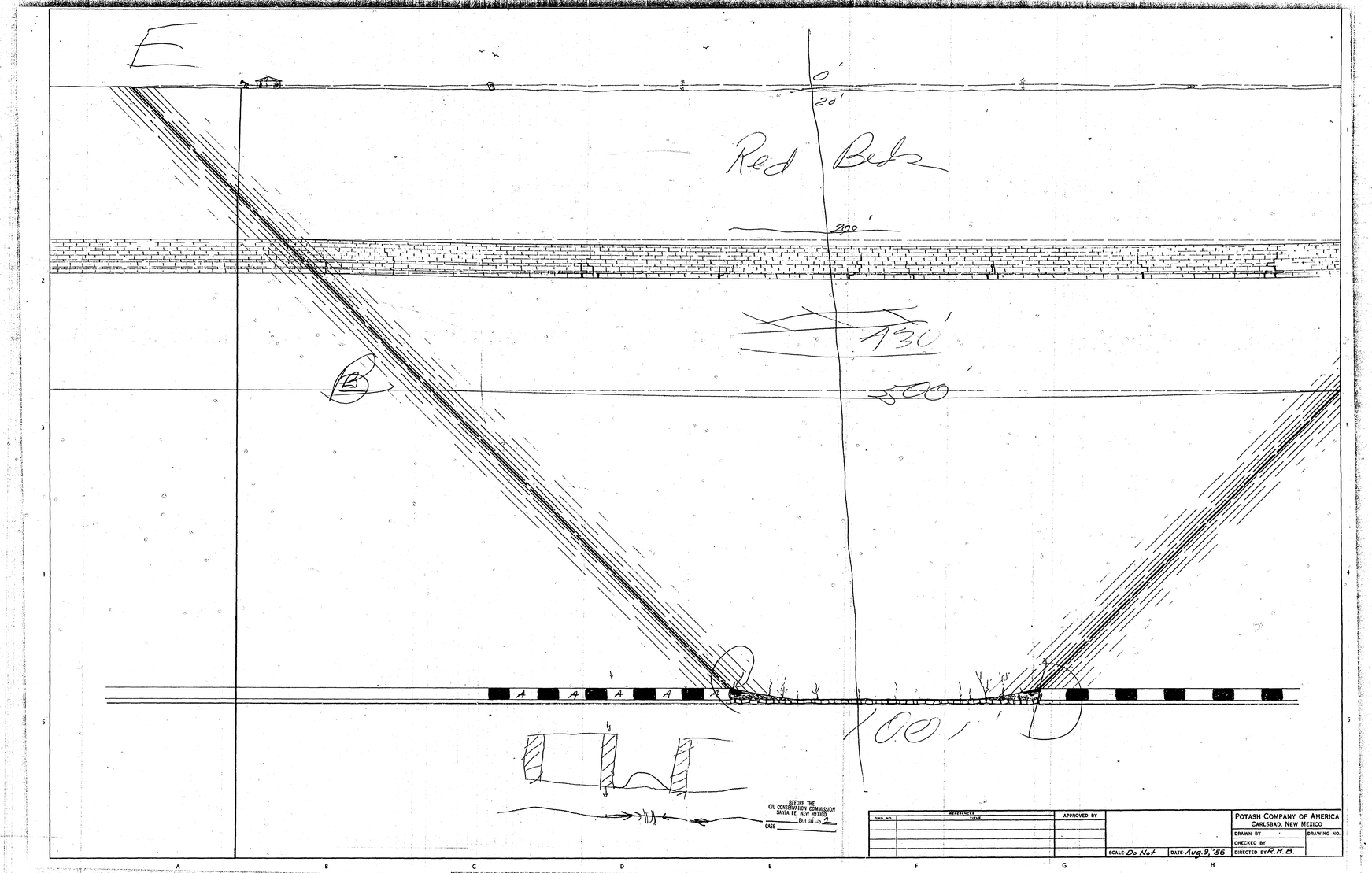
Proposed Non-Standard Proration Units

442



NW 326
NW 226
NW 126
NW 323
NW 223
NW 123
DH 87
DH 90
DH 84
DH 88
Compton
60,000 N
59,000 N
58,000 N
57,000 N
42,000 E
43,000 E
44,000 E
45,000 E
46,000 E
47,000 E
BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO EXHIBIT No.
CASE
REFERENCES
DWG NO
TITLE
APPROVED BY
SE¼ Sec. 26, T19S, R30E
SCALE: 1" = 200'
DATE: 6/28/56
POTASH COMPANY OF AMERICA
CARLSBAD, NEW MEXICO
DRAWN BY CONDER
DRAWING NO.
CHECKED BY
4-13-13
DIRECTED BY JOURDAN

443


E
0'
20'
Red Beds
200'
430'
500'
B
A
A
A
A
A
100'
D
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 2
CASE
REFERENCES
DWG. NO.
TITLE
APPROVED BY
POTASH COMPANY OF AMERICA
CARLSBAD, NEW MEXICO
DRAWN BY
DRAWING NO.
CHECKED BY
SCALE: Do Not
DATE: Aug. 9, '56
DIRECTED BY R.H.B.

444

3

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Stipulations to be executed and made part of any oil and gas lease involving lands described in the Departmental Notice of October 16, 1951.

The lessee further agrees that:

(1) No wells will be drilled for oil or gas in formations above the base of the Delaware sand, or above a depth of 5,000 feet, whichever is the lesser, except upon approval of the Director of the Geological Survey, it being understood that drilling for production to these formations will be permitted only in the event that it is satisfactorily established that such drilling will not interfere with the mining and recovery of potash deposits or the interest of the United States would best be subserved thereby.

(2) No wells will be drilled for oil or gas in formations below the base of the Delaware sand, or below a depth of 5,000 feet, whichever is the lesser, except pursuant to a unit plan approved by the Director of the Geological Survey, unless drilling is otherwise required or approved by the Director to protect the lease from drainage.

(3) No wells will be drilled for oil or gas at a location which, in the opinion of the Oil and Gas Supervisor of the Geological Survey, would result in undue waste of potash deposits or constitute a hazard to or unduly interfere with mining operations being conducted for the extraction of potash deposits.

(4) The drilling or the abandonment of any well on said lease shall be done in accordance with applicable oil and gas operating regulations including such requirements as the Oil and Gas Supervisor of the Geological Survey may prescribe as necessary to prevent the infiltration of oil, gas, or water into formations containing potash deposits or into mines or workings being utilized in the extraction of such deposits.

Signature of Offeror or Lessee

Interior—Duplicating Section, Washington, D. C. "417

3

3

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Stipulations to be executed and made part of any oil and gas lease involving lands described in the Departmental Notice of October 16, 1951.

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(2) No wells will be drilled for oil or gas in formations below the base of the Delaware sand, or below a depth of 5,000 feet, whichever is the lesser, except pursuant to a unit plan approved by the Director of the Geological Survey, unless drilling is otherwise required or approved by the Director to protect the lease from drainage.

(3) No wells will be drilled for oil or gas at a location which, in the opinion of the Oil and Gas Supervisor of the Geological Survey, would result in undue waste of potash deposits or constitute a hazard to or unduly interfere with mining operations being conducted for the extraction of potash deposits.

(4) The drilling or the abandonment of any well on said lease shall be done in accordance with applicable oil and gas operating regulations including such requirements as the Oil and Gas Supervisor of the Geological Survey may prescribe as necessary to prevent the infiltration of oil, gas, or water into formations containing potash deposits or into mines or workings being utilized in the extraction of such deposits.

Signature of Offeror or Lessee

Interior—Duplicating Section, Washington, D. C. "417

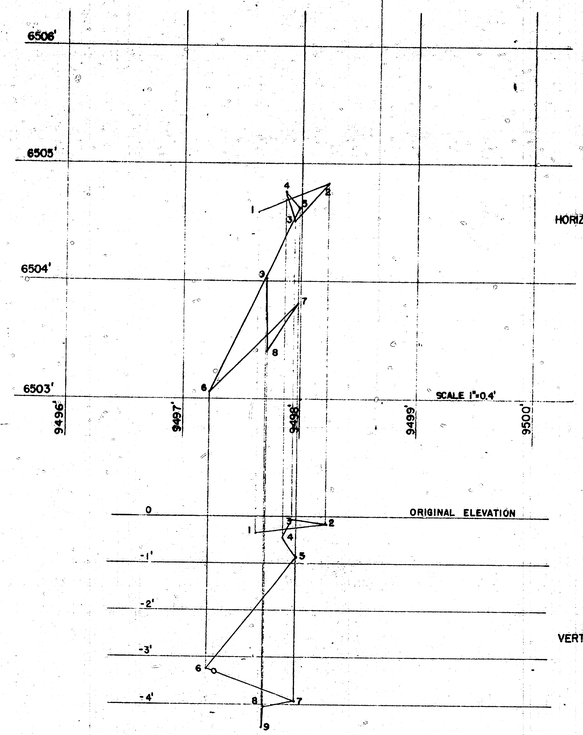
3

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Potash EXHIBIT No. 2
CASE 1130

445

STATION 65N-95E

DATE
1. 9-15-55
2. 11-29-55
3. 12-21-55
4. 1-25-56
5. 2-24-56
6. 3-24-56
7. 4-25-56
8. 5-29-56
9. 6-26-56



BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 5
CASE

ISSUED	By Rahders	Date 8-16-56
APPROVED	By	Date
REMARKS:		

UNITED STATES POTASH COMPANY
MINE
CARLSBAD, NEW MEXICO

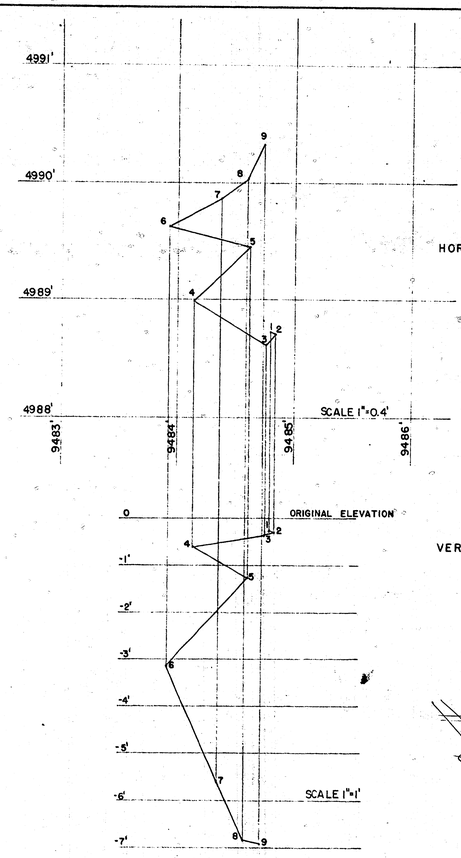
MAP SHOWING HORIZONTAL DISPLACEMENT & VERTICAL SUBSIDENCE OF STATION 65N-95E

DATE 8-2-56	SCALE AS SHOWN
	DRAWN BY: SAM CHRISTO
	APPROVED: E.A. Hegeman
	APPROVED: O.L. Libbey
	APPROVED: W.T. Rahders

STATION 50N-95E

DATE

1. 9-15-55
2. 11-29-55
3. 12-21-55
4. 1-25-56
5. 2-24-56
6. 3-24-56
7. 4-25-56
8. 5-29-56
9. 6-26-56



ISSUED	By Rehalders	Date 9-16-56
APPROVED	By	Date
REMARKS		

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO EXHIBIT No. 9 CASE

UNITED STATES POTASH COMPANY
MINE
CARLSBAD, NEW MEXICO

MAP SHOWING HORIZONTAL DISPLACEMENT & VERTICAL SUBSIDENCE OF STATION 50N-95E

DATE 8-2-56 | SCALE AS SHOWN

DRAWN BY: SAM CHRISTO
APPROVED: G.A. Hearon
APPROVED: O.L. Libbey
APPROVED: W.T. Rehalders

446

FORM 8418 REVISED J. WALLACE — THIS FORM CONFORMS TO API RP 50

RADIOACTIVITY LOG
WELEX JET SERVICES, Inc.

LICENSED BY: WELL SURVEYS, INC. — FILE NO.

Location of Well

COMPANY AMERADA PETROLEUM CORPORATION
WELL C. C. CAGLE "C" NO. 1
FIELD LANGLIE - MATTIX
COUNTY LEA STATE NEW MEXICO
LOCATION 990' FWL & 990' FWL OF SEC. 3
T - 26 - S, R - 37 - E.

FILE NO.
COMPANY AMERADA PETROLEUM CORPORATION
WELL C. C. CAGLE "C" NO. 1
FIELD LANGLIE - MATTIX
COUNTY LEA STATE NEW MEXICO
LOCATION 990' FWL & 990' FWL OF SEC. 3, T - 26 - S, R - 37 - E.

LOG MEAS. FROM TOP ROTARY TABLE ELEV. 3004'
DRLG. MEAS. FROM TOP ROTARY TABLE ELEV. 3004'
PERM. DATUM GROUND LEVEL ELEV. 2993'

TYPE OF LOG	GAMMA RAY	NEUTRON		
RUN NO.	- 1 -	- 1 -		
DATE	5/8/56	5/8/56		
JOB NO.	268-484 &	528-690		
TOTAL DEPTH (DRILLER)	3308	3308		
EFFECTIVE DEPTH (DRILLER)	3308	3308		
TOTAL DEPTH (R/A LOG)	3307	3307		
TOP OF LOGGED INTERVAL	50	50		
BOTTOM OF LOGGED INTERVAL	3296	3305		
TYPE OF FLUID IN HOLE	OIL	OIL		
FLUID LEVEL	220	220		
MAXIMUM RECORDED TEMPERATURE				
NEUTRON SOURCE STRENGTH & TYPE		600 N		
SOURCE SPACING—IN.		3.75		
LENGTH OF MEASURING DEVICE—IN.	30	9.1		
O.D. OF INSTRUMENT—IN.	3 5/8	3 5/8		
TIME CONSTANT—SECONDS	4.7	4.0		
LOGGING SPEED FT./MIN. 2" =	20-40	20-40		
5" =	20	20		
STATISTICAL VARIATION—IN.	0.35	0.35		
SENSITIVITY REFERENCE	276	275		
RECORDED BY	WILLIS	WILLIS		
WITNESSED BY	MR. MAULDIN			

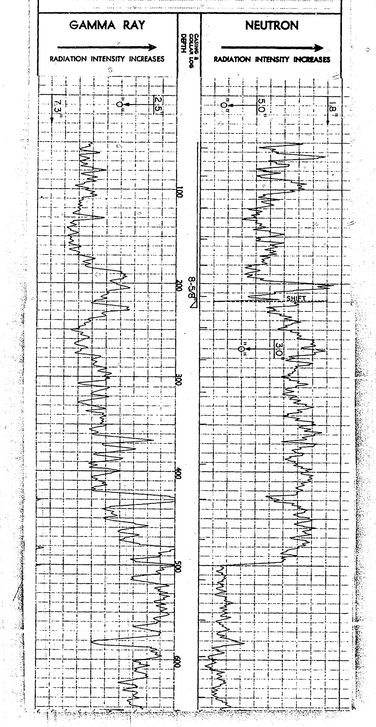
CASING RECORD

SIZE—INS.	WT.—LB.	INTERVAL FROM WELL RECORD	INTERVAL FROM R/A LOG
8 5/8		0 To 227'	To
5 1/2	J-15	0 To 3314'	To
		To	To
		To	To

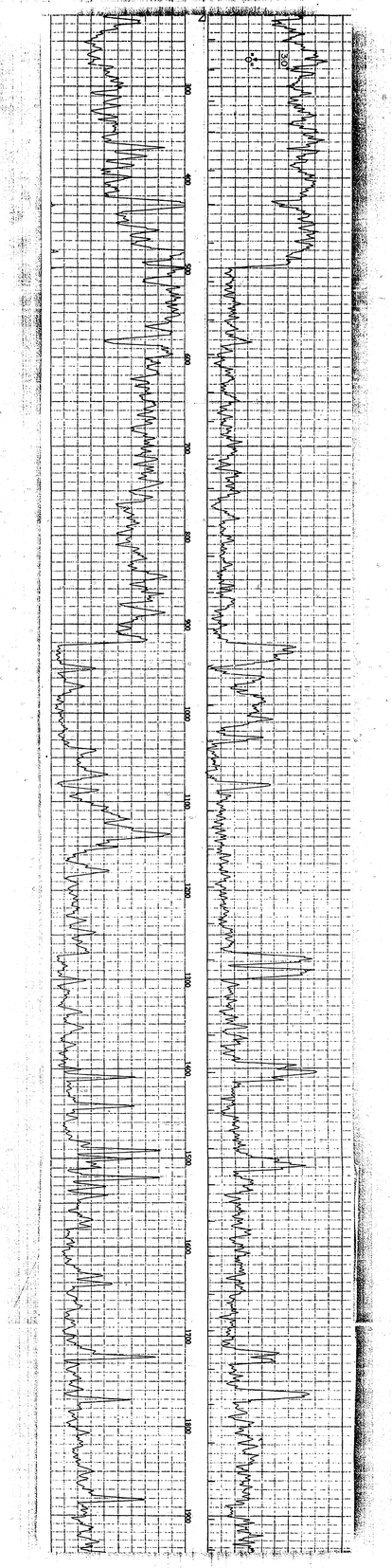
BORE HOLE

BIT SIZE INS.	INTERVAL FROM WELL RECORD	INTERVAL FROM R/A LOG
12 1/4	To	To
7 7/8	To	To
	To	To
	To	To

REMARKS OR OTHER DATA
*C 209 NEUTRON CHAMBER USED - SENSITIVITY SHOWN IS BOTTLE SENSITIVITY!



447



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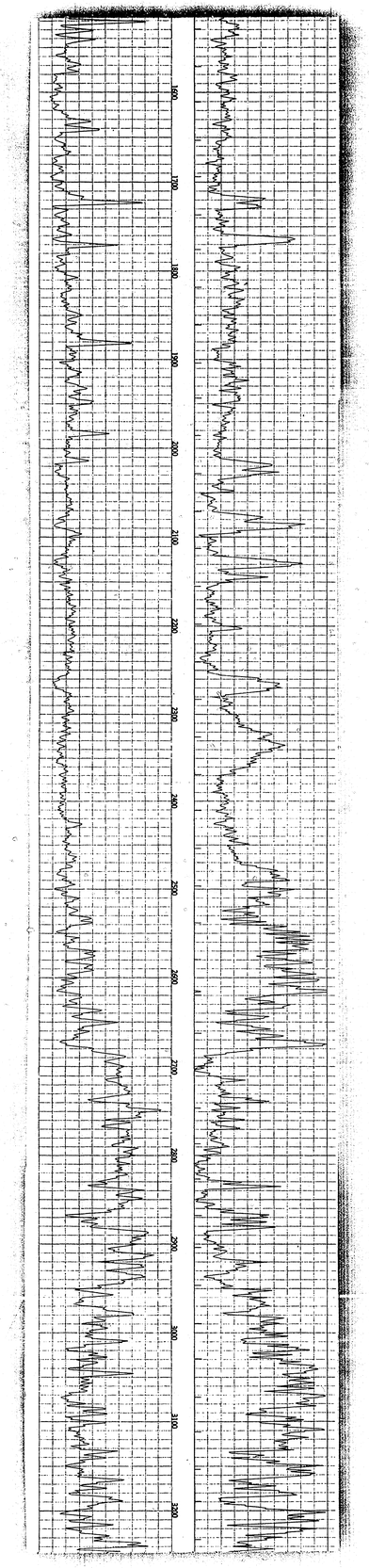
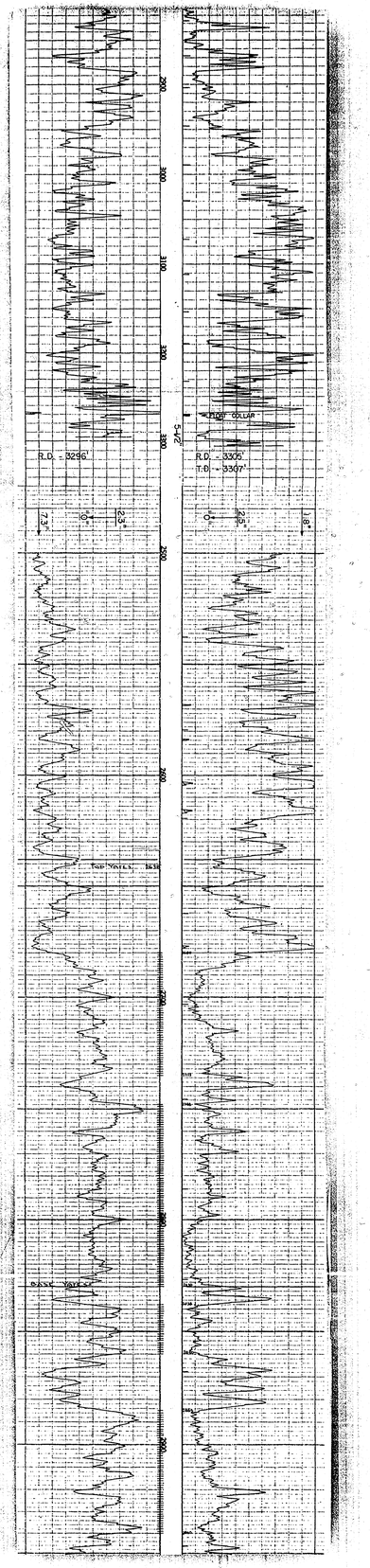
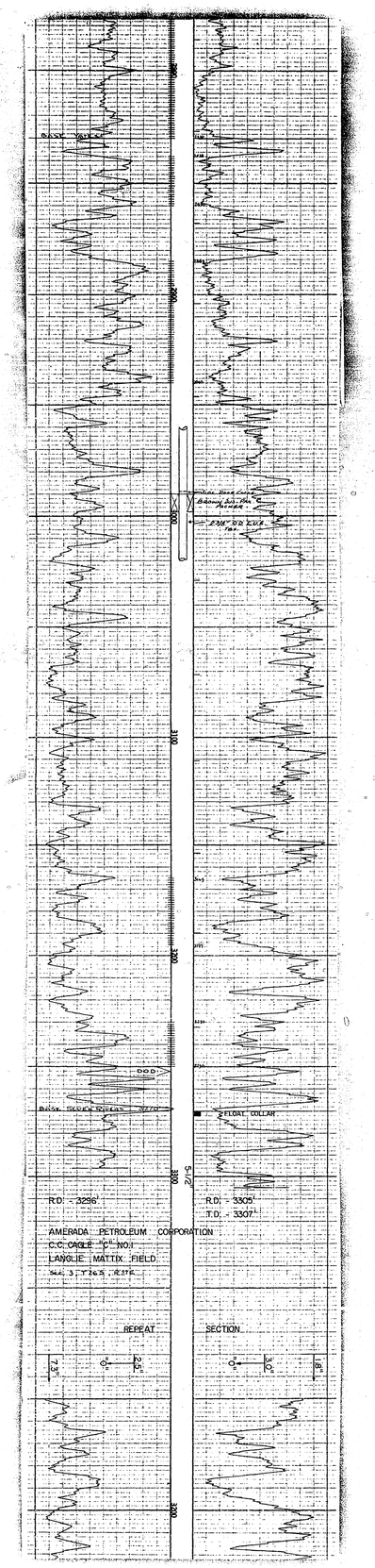

1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
3200

449



450



AMERADA PETROLEUM CORPORATION
C.C. CAGLE "C" NO.1
LANGLIE MATTIX FIELD
Sec. 3, T 24 S, R 37 E

451

FORM 8418-REVISED J. WALLACE

THIS FORM CONFORMS TO API RP 33

RADIOACTIVITY LOG
WELEX JET SERVICES, Inc.

LICENSED BY: WELL SURVEYS, INC.

FILE NO.

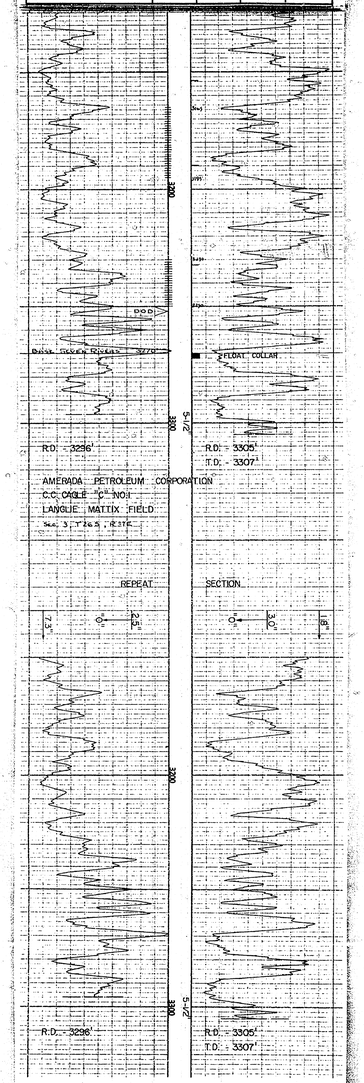
Location of Well

COMPANY AMERADA PETROLEUM CORPORATION
WELL C. C. CAGLE "C" NO. 1
FIELD LANGLIE - MATTIX
COUNTY LEA STATE NEW MEXICO
LOCATION 990' FWL & 990' FNL OF SEC. 3
T - 26 - S, R - 37 - E.

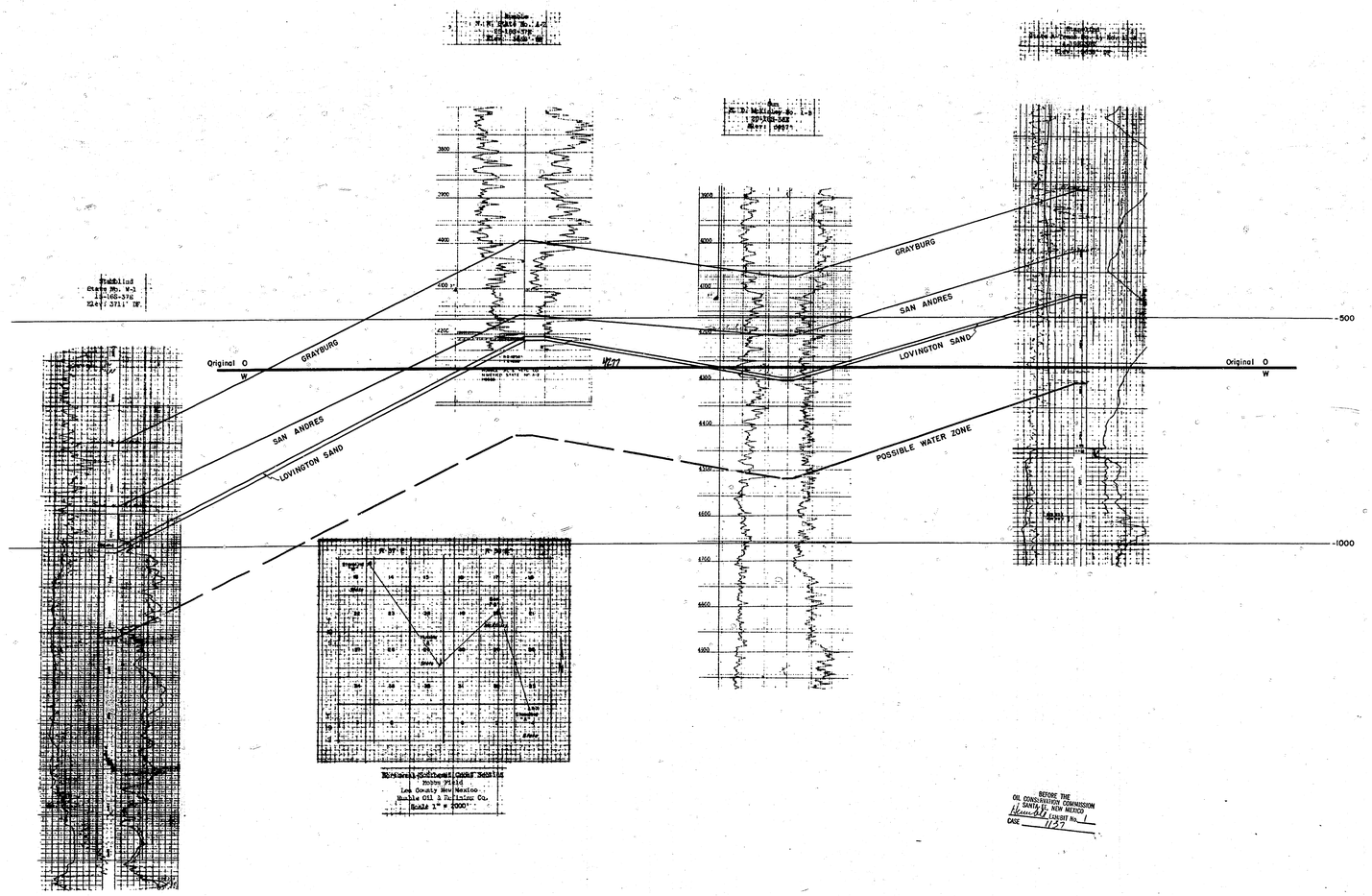
COMPANY AMERADA PETROLEUM CORPORATION
WELL C. C. CAGLE "C" NO. 1
FIELD LANGLIE - MATTIX
COUNTY LEA STATE NEW MEXICO
LOCATION 990' FWL & 990' FNL OF SEC. 3, T - 26 - S, R - 37 - E.

LOG MEAS. FROM TOP ROTARY TABLE ELEV. 3004'
DRLG. MEAS. FROM TOP ROTARY TABLE ELEV. 3004'
PERM. DATUM GROUND LEVEL ELEV. 2993'

TYPE OF LOG	GAMMA RAY	NEUTRON
RUN NO.	- 1 -	- 1 -
DATE	5/8/56	5/8/56
JOB NO.	268-484 &	528-690
TOTAL DEPTH (DRILLER)	3308	3308
EFFECTIVE DEPTH (DRILLER)	3308	3308
TOTAL DEPTH (R/A LOG)	3307	3307
TOP OF LOGGED INTERVAL	50	50
BOTTOM OF LOGGED INTERVAL	3296	3305
TYPE OF FLUID IN HOLE	OIL	OIL
FLUID LEVEL	220	220
MAXIMUM RECORDED TEMPERATURE		
NEUTRON SOURCE STRENGTH & TYPE		600 M
SOURCE SPACING—IN.		3.75
LENGTH OF MEASURING DEVICE—IN.	30	9.1
O.D. OF INSTRUMENT—IN.	3 5/8	3 5/8
TIME CONSTANT—SECONDS	4.7	4.0
LOGGING SPEED FT./MIN. 2" -	20-40	20-40
5" -	20	20
STATISTICAL VARIATION—IN.	0.35	0.35
SENSITIVITY REFERENCE	274	275
RECORDED BY	WILLIS	WILLIS
WITNESSED BY	Mrs. MAULDIN	



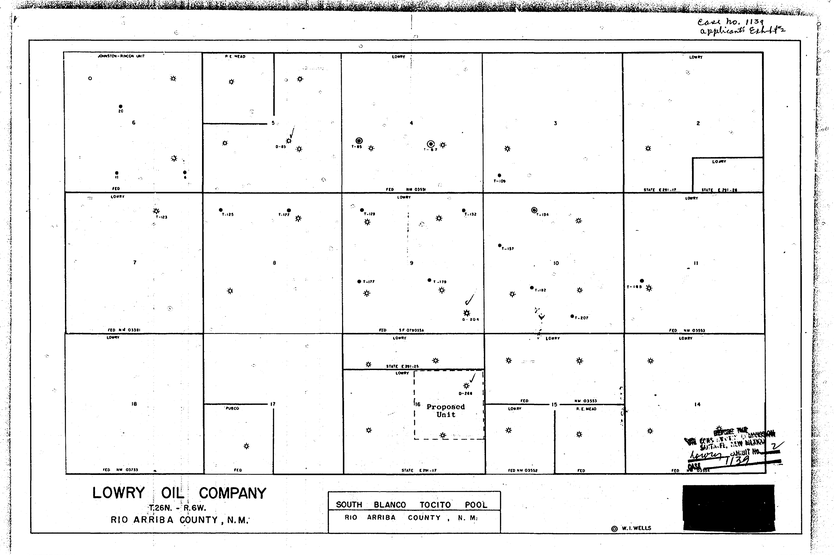
452

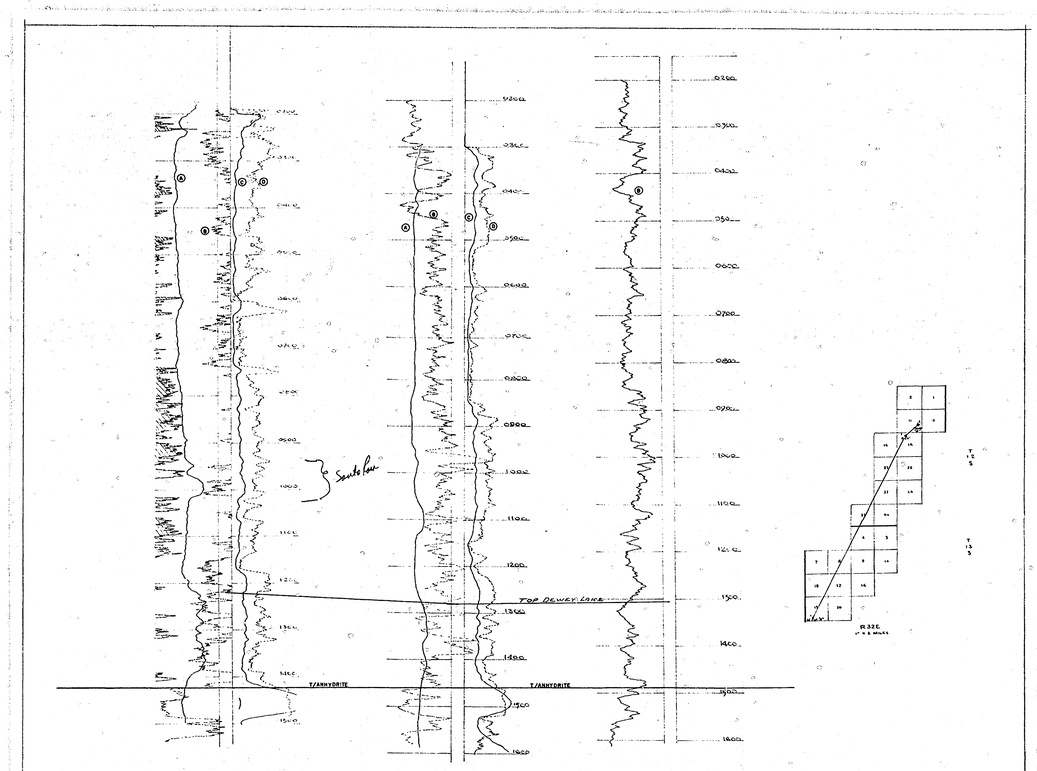


Original O
W
GRAYBURG
SAN ANDRES
LOVINGTON SAND
POSSIBLE WATER ZONE
-500
-1000
Horizontal Southeast Cross Section
Hobbs Field
Lea County New Mexico
Humble Oil & Refining Co.
Scale 1" = 2000'
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 1
CASE 1157

453

Case No. 1134
Applicant Exhibit 2


JOHNSTON-RINCON UNIT
N.E. MESA
LOWRY
LOWRY
LOWRY
Proposed Unit
PUBCO
N.E. MESA
LOWRY
LOWRY
LOWRY



APC STATE CAPROCK "A" NO. 1
19-13S-32 E
4369 dfe

APC STATE. EC "A" NO. 1
14-12S-32 E
4364 dfe

APC H.C. POSEY "A" NO. 2
11-12S-32 E
4337 dfe

NW LEA COUNTY

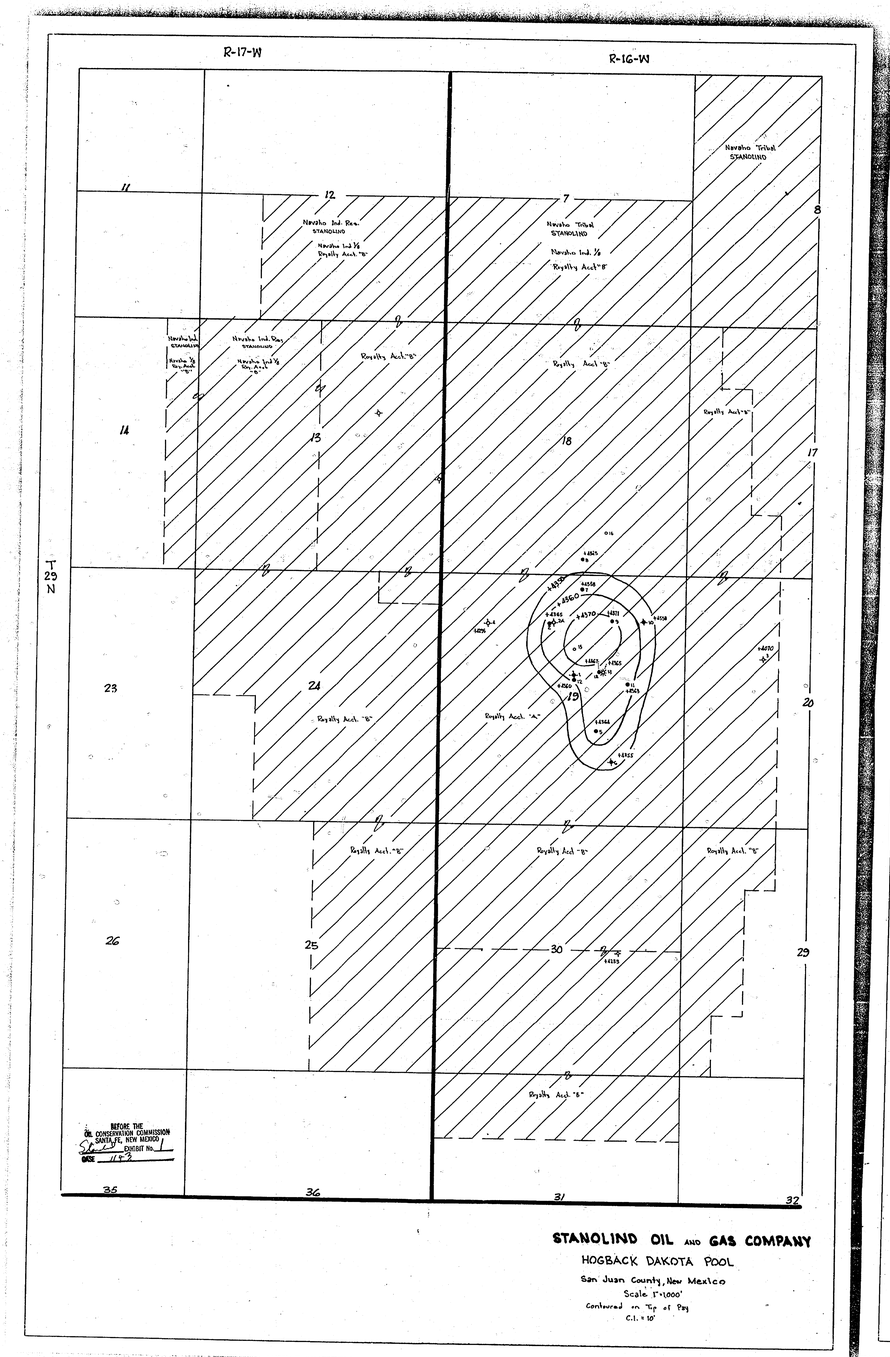
LOWER TRIASSIC-UPPER PERMIAN

VERTICAL SCALE 1" = 100'
NO HORIZONTAL SCALE

Ⓐ S P CURVE
Ⓑ GAMMA RAY
Ⓒ 10" NORMAL
Ⓓ 32" LIMESTONE LATERAL

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 3
CASE 1747-1

455



STANOLIND OIL AND GAS COMPANY

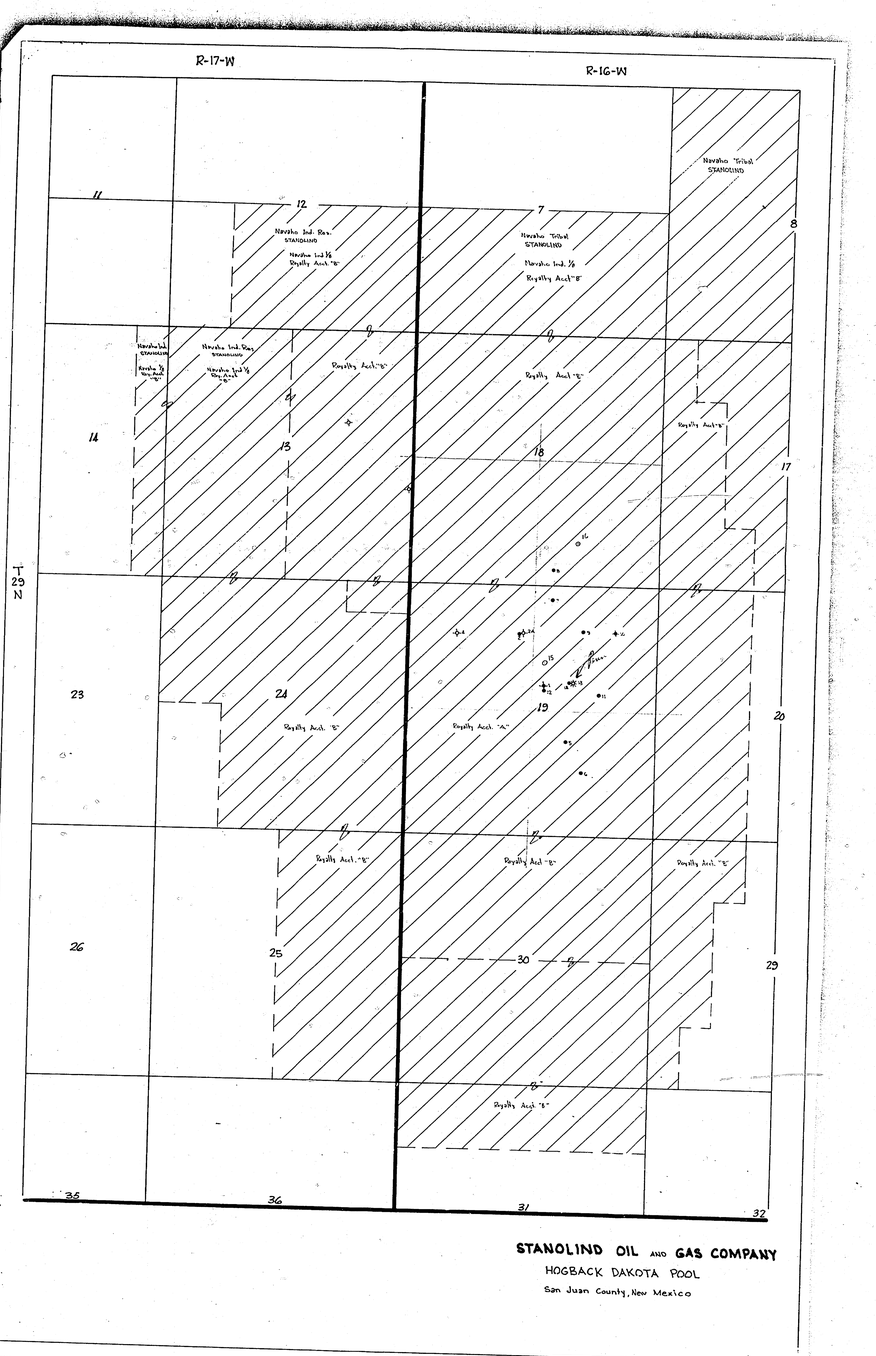
HOGBACK DAKOTA POOL

San Juan County, New Mexico

Scale 1"=1000'

Contoured on "Top of Pay"

C.I. = 10'



STANOLIND OIL AND GAS COMPANY

HOGBACK DAKOTA POOL

San Juan County, New Mexico

456

LANE WELLS COMPANY

Radioactivity Log

COMPANY: AMERADA PET. CORP.
WELL: SARA PHILLIPS NO. 2
FIELD: MONUMENT
COUNTY: LEA STATE: N MEX.
LOCATION: NE 1/4 OF SW 1/4 OF SEC. 33, T-19-S, R-37-E

Location of Wel

LOG MEAS. FROM TOP CELLAR FLOOR + 10' ELEV. +
DRLG. MEAS. FROM TOP CELLAR FLOOR + 10' ELEV. +
PERM. DATUM TOP CELLAR FLOOR ELEV. +

	GAMMA RAY	NEUTRON		
TYPE OF LOG	GAMMA RAY	NEUTRON		
RUN NO.	ONE-ON	ONE-ON		
DATE	12-5-55	12-5-55		
TOTAL DEPTH (DRILLER) RACK	3910	3910		
EFFECTIVE DEPTH (DRILLER)	3910	3910		
TOP OF LOGGED INTERVAL	SURFACE	SURFACE		
BOTTOM OF LOGGED INTERVAL	3906	3905		
TYPE OF FLUID IN HOLE	OIL	OIL		
FLUID LEVEL		36/71		
MAXIMUM RECORDED TEMP.				
SOURCE STRENGTH & TYPE		60MC		
SOURCE SPACING — IN.		8.25		
LENGTH OF MEASURING DEVICE — IN.	36"	9.41		
O.D. OF INSTRUMENT — IN.	1 5/8"	1 5/8"		
TIME CONSTANT — SECONDS	4.0	3.2		
LOGGING SPEED FT./MIN.	20-40	20-40		
STATISTICAL VARIATION — IN.				
SENSITIVITY REFERENCE	275	275		
RECORDED BY	SCHLOTTERBACK			
WITNESSED BY	TROOP	TROOP		

REMARKS OR OTHER DATA

TYPE AND DIAMETER OF CENTRALIZERS

TYPE AND POSITION OF SCRATCHERS

WELL RECORD

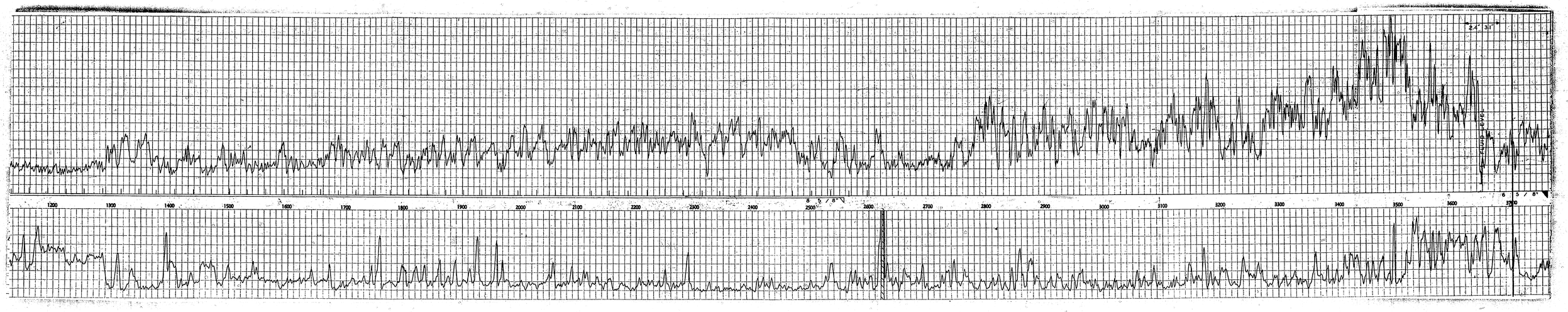
RUN NO.	BIT SIZE	CASING	WT.—LB.	FROM	WELL RECORD TO	FROM	LOG TO
ONE	11"	12 3/4"		SURFACE	324'	SURFACE	
ONE	11"	8 5/8"		SURFACE	2527'	SURFACE	
ONE	7 7/8"	6 5/8"	20	SURFACE	3760	SURFACE	3759
ONE	5 7/8"			3760	3910	3759	3907
					TO		TO

NEUTRON — RADIATION INTENSITY INCREASES

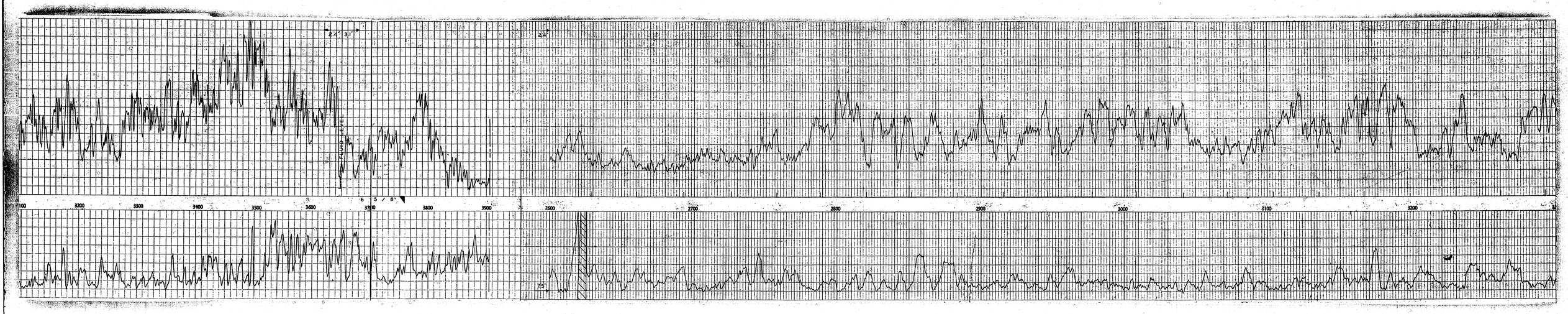


GAMMA RAY — RADIATION INTENSITY INCREASES

457


1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700

458


2.4" 3.1"
2.4"
FLUID LEVEL
3200
3300
3400
3500
3600
3700
3800
3900
2600
2700
2800
2900
3000
3100
3200

459

LANE WELLS COMPANY — Radioactivity Log

COMPANY: AMERADA PET. CORP.
WELL: SARA PHILLIPS NO. 2
FIELD: WORKOUT
COUNTY: LEA STATE: N MEX.
LOCATION:

COMPANY: AMERADA PET. CORP.
WELL: SARA PHILLIPS NO. 2
FIELD: WORKOUT
COUNTY: LEA STATE: N MEX.
LOCATION:

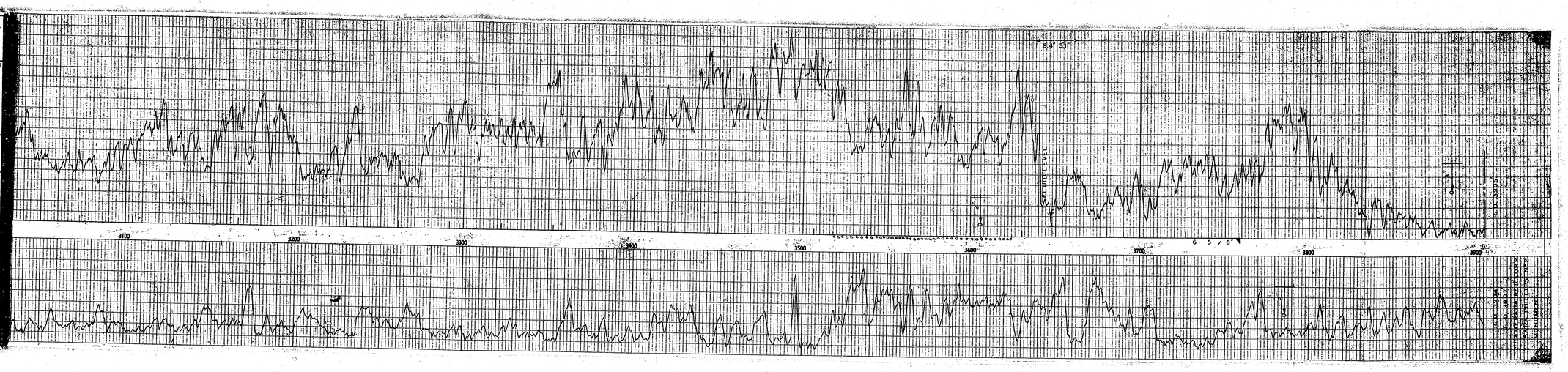
Location of Well
NE 1/4 OF SW 1/4 OF SEC. 33, T-19-S, R-37-E

LOG MEAS. FROM TOP CELLAR FLOOR + 10' ELEV. 0
DRLG. MEAS. FROM TOP CELLAR FLOOR + 10' ELEV. 0
PERM. DATUM TOP CELLAR FLOOR ELEV. 0

	GAMMA RAY	NEUTRON		
TYPE OF LOG	GRN-CN	GRN-CN		
RUN NO.	1	1		
DATE	12-5-55	12-5-55		
TOTAL DEPTH (DRILLER) RACK	3910	3910		
EFFECTIVE DEPTH (DRILLER)	3910	3910		
TOP OF LOGGED INTERVAL	SURFACE	SURFACE		
BOTTOM OF LOGGED INTERVAL	3908	3905		
TYPE OF FLUID IN HOLE	OIL	OIL		
FLUID LEVEL		3647		
MAXIMUM RECORDED TEMP.				
SOURCE STRENGTH & TYPE		600M		
SOURCE SPACING — IN.		6.25		
LENGTH OF MEASURING DEVICE — IN.	36"	9.45		
O.D. OF INSTRUMENT — IN.	2 5/8"	2 5/8"		
TIME CONSTANT — SECONDS	1.0	3.2		
LOGGING SPEED FT./MIN.	20-40	20-40		
STATISTICAL VARIATION — IN.				
SENSITIVITY REFERENCE	275	275		
RECORDED BY	SCHLUMBERGER			
WITNESSED BY	TROOP	TROOP		

WELL RECORD

RUN NO.	BIT SIZE	CASING	WT.—LB.	FROM		TO	FROM		TO
ONE	17"	13 3/8"		SURFACE	TO	354	SURFACE	TO	
ONE	11"	8 5/8"		SURFACE	TO	2527	SURFACE	TO	
ONE	7 7/8"	5 1/2"	20	SURFACE	TO	3750	SURFACE	TO	3759
ONE	7 7/8"			3760	TO	3910	3759	TO	3957
					TO			TO	
					TO			TO	



460

RUSSELL POOL

T. 20 S., R. 28 E.

EDDY COUNTY, NEW MEXICO

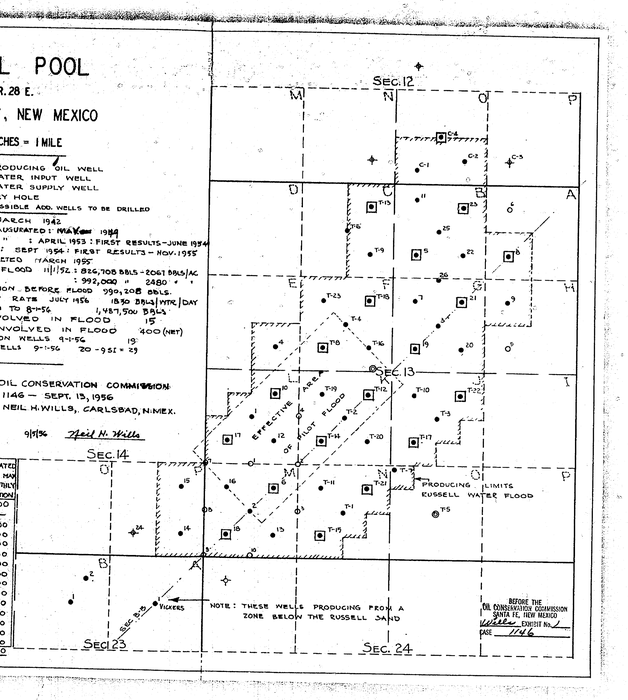
SCALE 8 INCHES = 1 MILE

- PRODUCING OIL WELL
- WATER INPUT WELL
- WATER SUPPLY WELL
- DRY HOLE
- POSSIBLE ADD. WELLS TO BE DRILLED

DISCOVERY DATE : MARCH 1942
GAS REPRESSURING INAUGURATED : MAY 1944
PILOT WATER FLOOD " : APRIL 1953 : FIRST RESULTS – JUNE 1954
START COMPLETE FLOOD : SEPT 1954 : FIRST RESULTS – NOV. 1955
FINAL INPUT WELL COMPLETED MARCH 1955
PRODUCTION PRIOR TO FLOOD 11/1/52 : 826,708 BBLS – 2067 BBLS/AC
" TO 9-1-56 : 992,000 " 2480 " "
EST. ULTIMATE PRODUCTION BEFORE FLOOD 990,208 BBLS.
PRESENT WATER INJECT RATE JULY 1956 1830 BBLS/WTR/DAY
TOTAL WATER INJECTED TO 8-1-56 1,487,500 BBLS
PRORATION UNITS INVOLVED IN FLOOD 15
TOTAL ACREAGE INVOLVED IN FLOOD 400 (NET)
NO. OF WATER INJECTION WELLS 9-1-56 19
NO. OF PRODUCING OIL WELLS 9-1-56 20 – 9 SI = 29

EXHIBIT "A" — OIL CONSERVATION COMMISSION
CASE 1146 — SEPT. 13, 1956
PREPARED BY : NEIL H. WILLS, CARLSBAD, N. MEX.

9/5/56 Neil H. Wills



UNIT	SEC	WELLS	PRODUCTION FOR AUGUST 1956	ESTIMATED FUTURE MAX UNIT MONTHLY PRODUCTION
O	12	C1 – C2	90	1,200
A	13	8	—	—
B	"	11-22-25-½ OF 26	1070	3,000
C	"	T6 – T9	217	500
E	"	4	45	100
F	"	T16 – T23	692	800
G	"	3-7-20-½ OF 26	2263	3,000
H	"	8	31	900
J	"	T3 – T10	588	800
K	"	T2 – T19 – T20	1410	1,500
L	"	1-12	341	1,200
M	"	2-13-16	184	1,300
N	"	T1 – T11	496	600
O	"	T7	—	100
P	14	14 – 15	128	800
			7556	16,000

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
Willis EXHIBIT No. 1
CASE 1146

461

Stanolind Exh #1

R-13-W

R-12-W

R-11-W

T 29 N

T 28 N

FARMINGTON

ANIMAS

LA PLATA

GALLEGOS CANYON UNIT

GALLEGOS CANYON UNIT AREA

PARTICIPATING AREA

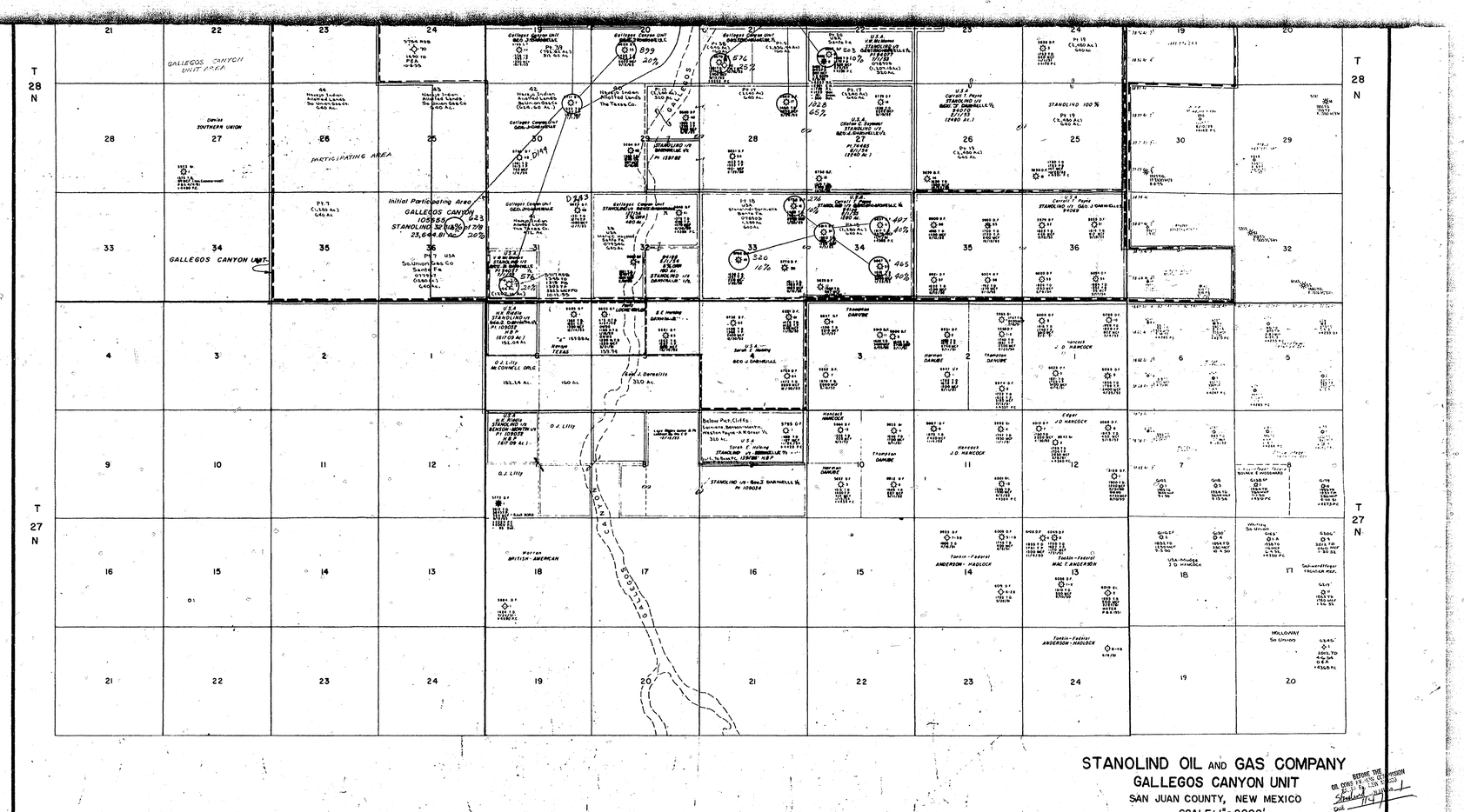
Initial Participating Area GALLEGOS CANYON 105855 Stanolind 32.913% of 1/8 26,648.81 Ac.

Initial Participating Area GALLEGOS CANYON 105855 STANOLIND 32.913% of 1/8 23,644.81 Ac. 20%

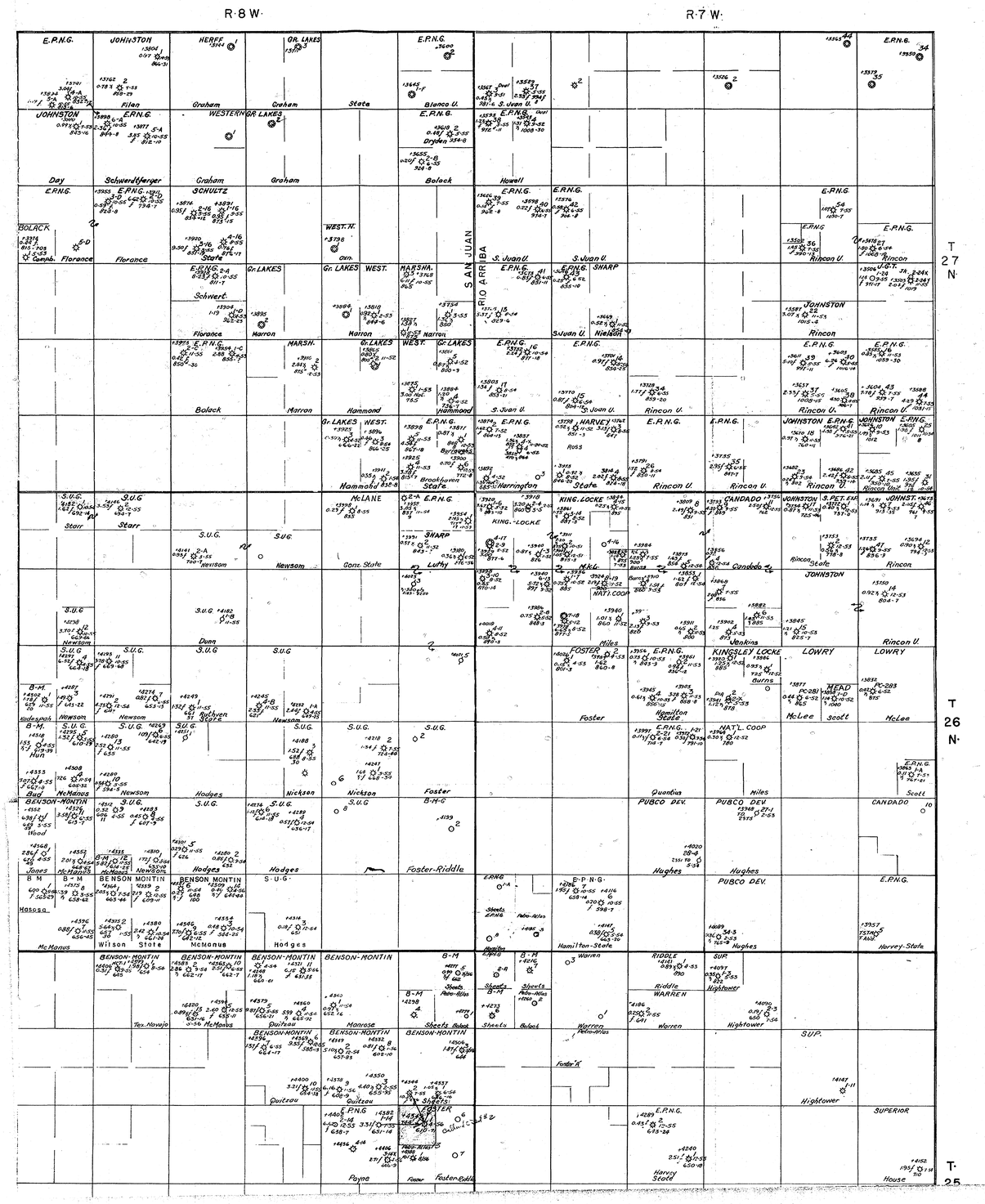
SAN JUAN RIVER

ARROYO

462


GALLEGOS CANYON UNIT P.P.A.
Initial Participating Area
GALLEGOS CANYON
1039.89 Ac. 42.3%
STANOLIND 32.1% of 7/8
23,644.61 Ac. 20%
PARTICIPATING AREA
GALLEGOS CANYON UNIT
Gallegos Canyon Unit
STANOLIND 1/2
BURNSIDE 1/2
Pt 10
STANOLIND 1/2
BURNSIDE 1/2
Below Pict. Cliffs
STANOLIND 1/2 - Sec. 2 BARNHILL 1/2
Pt 15
STANOLIND 100 %
Pt 13
STANOLIND 1/2 BURNSIDE 1/2
Pt 19
STANOLIND 1/2 BARNHILL 1/2
Pt 20
STANOLIND 1/2 BARNHILL 1/2
Pt 17
STANOLIND 1/2 BARNHILL 1/2
Pt 18
STANOLIND 1/2 BARNHILL 1/2
Pt 14
STANOLIND 1/2 BARNHILL 1/2
Pt 16
STANOLIND 1/2 BARNHILL 1/2
Pt 21
STANOLIND 1/2 BARNHILL 1/2
Pt 22
STANOLIND 1/2 BARNHILL 1/2
Pt 23
STANOLIND 1/2 BARNHILL 1/2
Pt 24
STANOLIND 1/2 BARNHILL 1/2
Pt 25
STANOLIND 1/2 BARNHILL 1/2
Pt 26
STANOLIND 1/2 BARNHILL 1/2
Pt 27
STANOLIND 1/2 BARNHILL 1/2
Pt 28
STANOLIND 1/2 BARNHILL 1/2
Pt 29
STANOLIND 1/2 BARNHILL 1/2
Pt 30
STANOLIND 1/2 BARNHILL 1/2
Pt 31
STANOLIND 1/2 BARNHILL 1/2
Pt 32
STANOLIND 1/2 BARNHILL 1/2
Pt 33
STANOLIND 1/2 BARNHILL 1/2
Pt 34
STANOLIND 1/2 BARNHILL 1/2
Pt 35
STANOLIND 1/2 BARNHILL 1/2
Pt 36
STANOLIND 1/2 BARNHILL 1/2
T 28 N
T 27 N
STANOLIND OIL AND GAS COMPANY
GALLEGOS CANYON UNIT
SAN JUAN COUNTY, NEW MEXICO
SCALE: 1" = 2000'
O INTERFERENCE TEST WELL
OOO MILES TO WHICH ENERGIES TO TRANSFER TEST WELL ALLOWABLE
49% 1966 VULNERABILITY
20% % PROPOSED ALLOWABLE TRANSFER TO EACH WELL
BEFORE THE OIL CONS. COMMISSION
Exhibit No. 1
Case No.
Dock
Posted 4-18-52

463



MAP OF THE BALLARD POOL

and

ADJOINING AREA

SAN JUAN and RIO ARRIBA
COUNTIES
NEW MEXICO

SCALE
0 1
miles

Exhibit #1

LEGEND

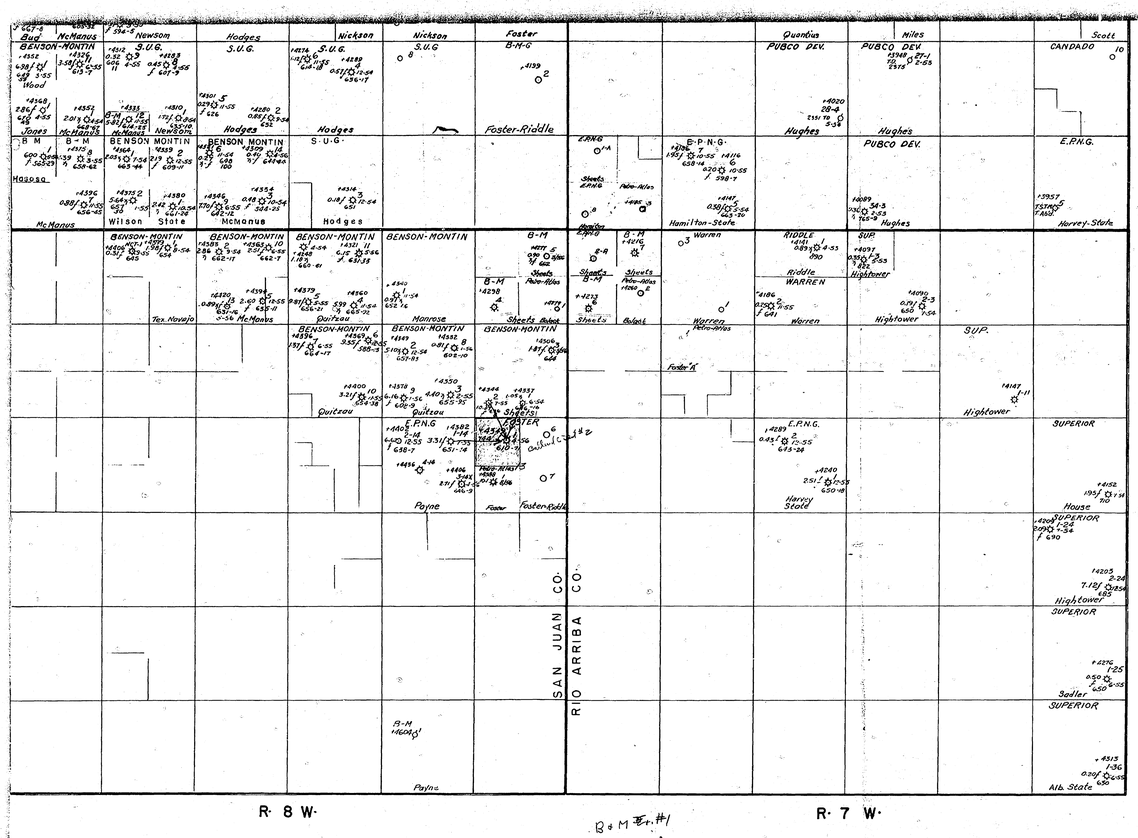
- Producing Pictured Cliffs Well
- Well Abandoned
- Well Location

Data Plotted

+4180 23
238x f 4-53
670-17

23 - Well No.
+4180 - Top Pictured Cliffs - sea level datum
238 Initial Potential - Millions cu. ft.
4-53 Completion Date - Month and Year
670-17 Initial Pressure - Days Shut-In
x Shot
f Frac

464



Bud
McManus
Newsom
Hodges
Nickson
Foster
Quantius
Miles
Scott
BENSON-MONTIN
S.U.G.
B-M-G
PUBCO DEV.
CANDADO
Wood
Jones
McManus
Hodges
Foster-Riddle
Hughes
B M
B-M
BENSON MONTIN
S.U.G.
E.P.N.G.
PUBCO DEV.
E.P.N.G.
Hagoso
Wilson
State
McManus
Hodges
Hamilton-State
Harvey-State
BENSON-MONTIN
B-M
Warren
RIDDLE
SUP.
Tex. Navajo
McManus
Quitzau
Monrose
Sheets
Bulgak
Warren
Riddle
WARREN
Hightower
BENSON-MONTIN
BENSON-MONTIN
BENSON-MONTIN
SUP.
Quitzau
Quitzau
Sheets
Foster "K"
Hightower
E.P.N.G.
FOSTER
E.P.N.G.
SUPERIOR
Payne
Foster
Foster-Riddle
Harvey State
House
SUPERIOR
Hightower
SUPERIOR
Sadler
SUPERIOR
Alb. State
SAN JUAN CO.
RIO ARRIBA CO.
T. 25 N.
R. 8 W.
R. 7 W.

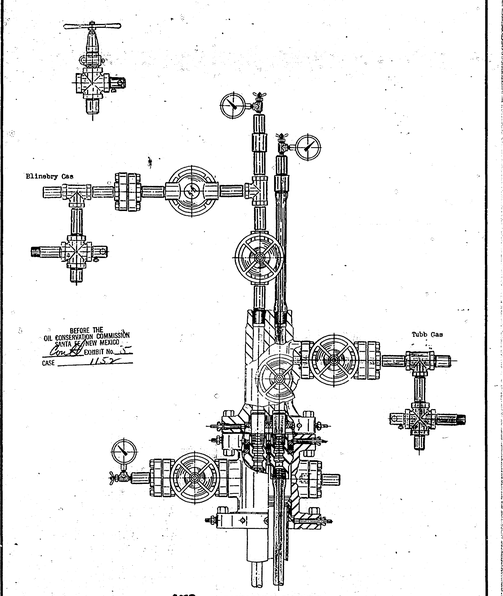
B & M Tr. #1

465

CONTINENTAL OIL COMPANY

PROPOSED WELLHEAD EQUIPMENT
for
DUAL COMPLETION

Warren Unit - Blinebry Tubb No.8



BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 5
CASE 1152

REPRODUCTION OF THIS DRAWING CAN NOT BE MADE WITHOUT PERMISSION OF McEVOY COMPANY.
McEVOY RESERVES ALL PATENT RIGHTS TO THE FEATURES DISCLOSED HEREIN.

McEvoy CHRISTMAS TREE

7 5/8" X 2 7/8" & 2 3/8"
7" X 2 3/8" & 2 3/8"
5 1/2" X 1.900 & 1.900
W. O. G. 3,000# - 2,000#

CASE 1152
EXHIBIT 5

BY
McEVOY COMPANY
HOUSTON, TEXAS
XT - 2904

466

LANE RADIOACTIVITY LOG WELLS

COMPANY

Tabulated
Location of Well
D. Mims
5-8-58
Midland Un
WELLS.

3549' D.F.

COMPANY: CONTINENTAL OIL CO.
Warren Unit - Blinebry Tubb No.8
WELL: ~~(WARREN Unit-Tubb-No.8)~~
FIELD: WARREN McKEE
COUNTY: LEA STATE: N.M.
LOCATION: 1980' FSL & 1980' FWL
SEC. 28-20S-38E

FILE NO.

COMPANY CONTINENTAL OIL CO.
WELL WARREN UNIT TUBB NO. 2
FIELD WARREN MCKEE
COUNTY LEA STATE N.M.
LOCATION

LOG MEAS. FROM ORIG. ROTARY TABLE ELEV. 3550.5'
ORIG. MEAS. FROM ORIG. ROTARY TABLE ELEV. 3550.5'
PERM. DATUM 7" BRADEN HEAD ELEV. 3540.5'

	n/a	N/L
TYPE OF LOG	1	1
RUN NO.		
DATE	3-2-58	3-8-58
TOTAL DEPTH (DRILLER) JACK	6972'	6972'
EFFECTIVE DEPTH (DRILLER)	6921'	6921'
TOP OF LOGGED INTERVAL	2600'	2600'
BOTTOM OF LOGGED INTERVAL	6922.5'	6922.5'
TYPE OF FLUID IN HOLE	WATER	WATER
FLUID LEVEL	FULL	FULL
MAXIMUM RECORDED TEMP.		600F
NEUTRON SOURCE, STRENGTH & TYPE		0.25
SOURCE SPACING — IN.		9
LENGTH OF MEASURING DEVICE — IN.	36	3 5/8
O.D. OF INSTRUMENT — IN.	3 5/8	8
TIME CONSTANT — SECONDS	1	25
LOGGING SPEED FT. MIN.	25	
STATISTICAL VARIATION — IN.		275
SENSITIVITY REFERENCE	274	HALLIBURTON
RECORDED BY	HALLIBURTON	WM. CUMARD
WITNESSED BY	WOODWARD	

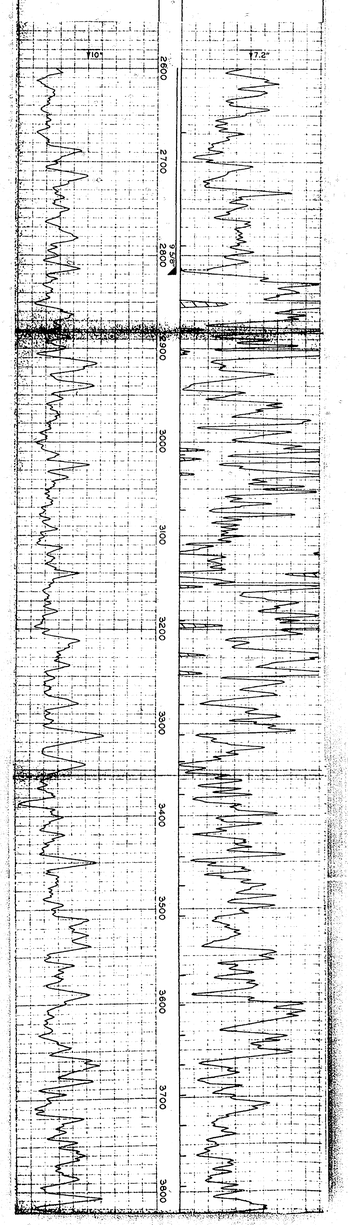
RECEIVED
OIL CONSERVATION COMMISSION
HOBBS, NEW MEXICO
MAR 10 1958

CASING RECORD			
RUN NO.	SIZE—IN	WT.—LB	INTERVAL
1	9 5/8		SURFACE TO 2820'
1	7		SURFACE TO T.D.
			TO
			TO
			TO

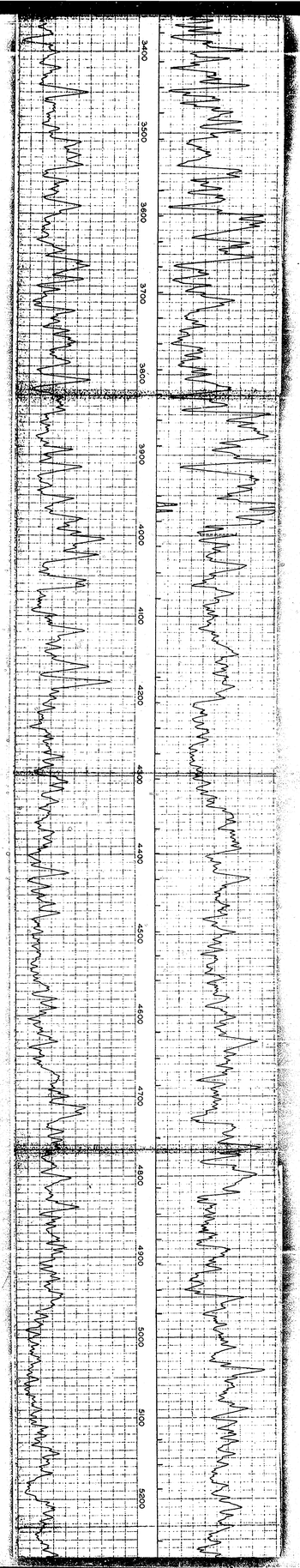
OPEN (BORE) HOLE RECORD	
BIT SIZE—IN.	INTERVAL
	TO
	TO
	TO
	TO
	TO

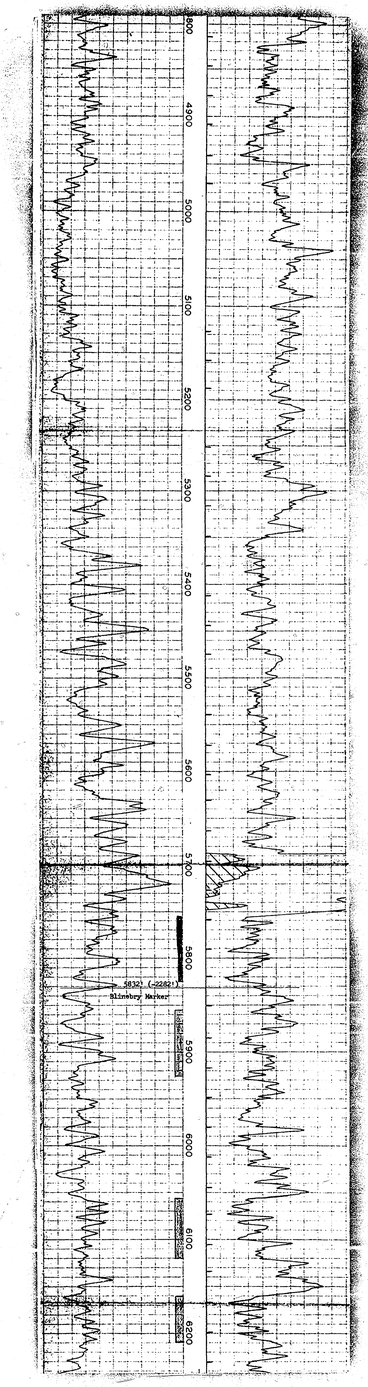
REMARKS OR OTHER DATA

GAMMA RAY — RADIATION INTENSITY INCREASES →
NEUTRON — RADIATION INTENSITY INCREASES →
CASING COLLAR LOCATOR



467


3400
3500
3600
3700
3800
3900
4000
4100
4200
4300
4400
4500
4600
4700
4800
4900
5000
5100
5200


4800
4900
5000
5100
5200
5300
5400
5500
5600
5700
5800
5832' (-5282')
Blinebry Marker
5900
6000
6100
6200

469

LANE RADIOACTIVITY LOG WELLS

COMPANY

FILE NO.

Tanner Lift
Location of Well
G. Plains
5-5-50
Midland Via
W.T.E.L.S.

COMPANY: CONTINENTAL OIL CO.
WELL: Warren Unit - Blinebry Tubb No.8
(~~WARREN B-28 NO. 2~~)
FIELD: WARREN McKEE
COUNTY: LEA STATE: N.M.
LOCATION: 1980' FSME/L OF
SEC. 28-20S-38E

3549' D.F.

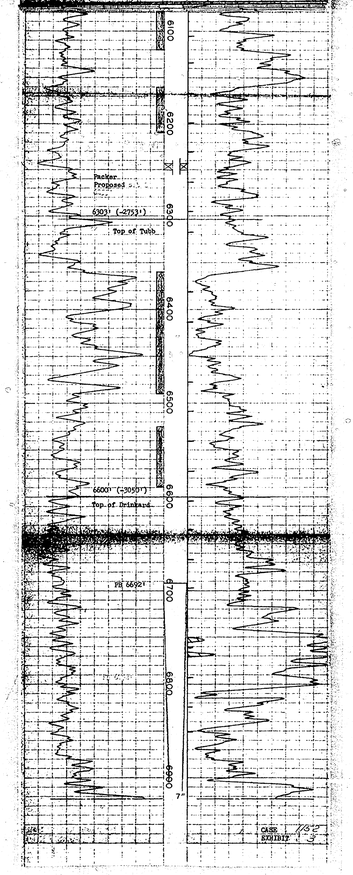
COMPANY: CONTINENTAL OIL CO.
WELL: WARREN B-28 NO. 2
FIELD: WARREN MC KEE
COUNTY: LEA STATE: N.M.
LOCATION:

LOG MEAS. FROM	ORIG. ROTARY TABLE	ELEV 3550.5'
DRLG. MEAS. FROM	ORIG. ROTARY TABLE	ELEV 3550.5'
PERM. DATUM	7" BRADEN HEAD	ELEV 3540.5'

TYPE OF LOG	G/R	N/L
RUN NO.	1	1
DATE	3-2-50	3-2-50
TOTAL DEPTH (DRILLER) RACK	9072'	9072'
EFFECTIVE DEPTH (DRILLER)	6921'	6921'
TOP OF LOGGED INTERVAL	2600'	2600'
BOTTOM OF LOGGED INTERVAL	6922.5'	6922.5'
TYPE OF FLUID IN HOLE	WATER	WATER
FLUID LEVEL	FULL	FULL
MAXIMUM RECORDED TEMP.		
NEUTRON SOURCE STRENGTH & TYPE		600K
SOURCE SPACING — IN.		P.25
LENGTH OF MEASURING DEVICE — IN.	36	9
C.D. OF INSTRUMENT — IN.	3 5/8	3 5/8
TIME CONSTANT — SECONDS	E	E
LOGGING SPEED FT./MIN.	25	25
STATISTICAL VARIATION — IN.		
SENSITIVITY REFERENCE	274	275
RECORDED BY	HALBERT	HALBERT
WITNESSED BY	WOODWARD	WOODWARD

BEFORE THE OIL CONSERVATION COMMISSION
STATE OF NEW MEXICO
CASE 1152
EXHIBIT No. 3
1152

CASING RECORD				OPEN (BORE) HOLE RECORD	
RUN NO.	SIZE—IN.	WT.—LB.	INTERVAL	BIT SIZE—IN.	INTERVAL
1	9 5/8		SURFACE 10 2820'		10
1	7		SURFACE 10 T.D.		10
			10		10
			10		10
			10		10



470

RADIOACTIVITY LOG

WELEX JET SERVICES, Inc.

BEFORE THE CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT NO. 1153

LICENSED BY: WELL SURVEYS, INC.

FILE NO.

Location of Well

Case 1153
Exhibit #2

COMPANY CONTINENTAL OIL COMPANY
WELL H. M. BRITT B - 10 NO. 3
FIELD EUMONT
COUNTY LEA STATE NEW MEXICO
LOCATION 660' FSL & 660' FEL OF SEC. 10
T - 20, R - 37.

COMPANY CONTINENTAL OIL COMPANY
WELL H. M. BRITT B - 10 NO. 3
FIELD EUMONT
COUNTY LEA STATE NEW MEXICO
LOCATION 660' FSL & 660' FEL OF SEC. 10, T - 20, R - 37.

LOG MEAS. FROM 1' ABOVE ROTARY TABLE ELEV.
DRLG. MEAS. FROM KELLY DRIVE BUSHING ELEV.
PERM. DATUM LANDING FLANGE ELEV.

	GAMMA RAY	NEUTRON
TYPE OF LOG	GAMMA RAY	NEUTRON
RUN NO.	- 1 -	- 1 -
DATE	5/20/56	5/20/56
JOB NO.	276-LRL &	447-693
TOTAL DEPTH (DRILLER)	3900	3900
EFFECTIVE DEPTH (DRILLER)	3891	3891
TOTAL DEPTH (R/A LOG)	3891	3891
TOP OF LOGGED INTERVAL	1300	1300
BOTTOM OF LOGGED INTERVAL	3880	3889
TYPE OF FLUID IN HOLE	OIL	OIL
FLUID LEVEL	500	500
MAXIMUM RECORDED TEMPERATURE		
NEUTRON SOURCE STRENGTH & TYPE		600 N
SOURCE SPACING—IN.		3.75
LENGTH OF MEASURING DEVICE—IN.	30	9.1
O.D. OF INSTRUMENT—IN.	3 5/8	3 5/8
TIME CONSTANT—SECONDS	5.3	3.9
LOGGING SPEED FT./MIN. 2" -	20-40	20-40
5" -	20	20
STATISTICAL VARIATION—IN.	0.4	0.5
SENSITIVITY REFERENCE	275	275
RECORDED BY	MONDEN	MONDEN
WITNESSED BY	MR. BOYNTON	

CASING RECORD

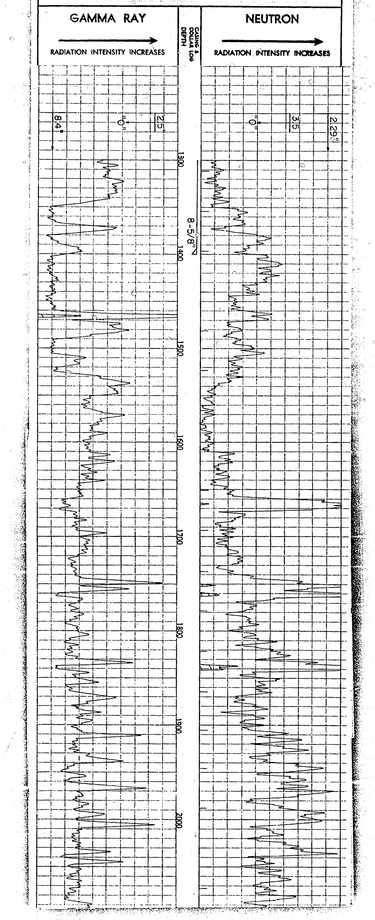
SIZE—INS.	WT.—LB.	INTERVAL FROM WELL RECORD	INTERVAL FROM R/A LOG
8 5/8		0 to 1400'	to
5 1/2		0 to 3899'	to
		to	to
		to	to

BORE HOLE

BIT SIZE INS.	INTERVAL FROM WELL RECORD	INTERVAL FROM R/A LOG
11	to	to
7 7/8	to	to
	to	to
	to	to

REMARKS OR OTHER DATA

*C 209 NEUTRON CHAMBER USED - SENSITIVITY SHOWN IS BOTTLE SENSITIVITY?



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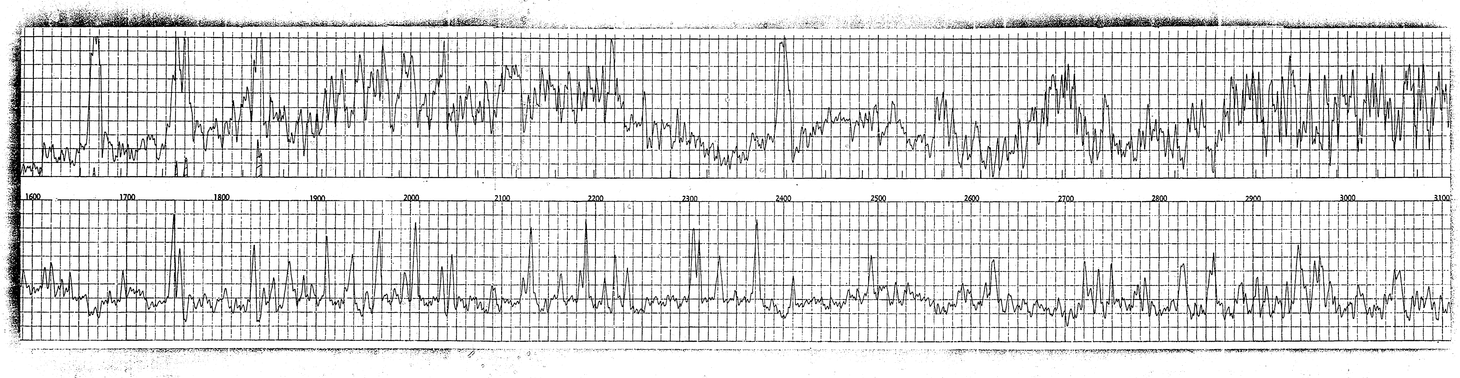

1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100

478

Case 193
Exhibit 2

BEFORE THE OIL CONSERVATION COMMISSION
Weller DATA FURNISHED VOLUNTARILY
No. 24 DO NOT SCALE

RADIOACTIVITY LOG
WELEX JET SERVICES, Inc.

LICENSED BY: WELL SURVEYS, INC. FILE NO.

Location of Well

COMPANY CONTINENTAL OIL COMPANY
WELL N. M. BRITT B - 10 NO. 3
FIELD BUMONT
COUNTY LEA STATE NEW MEXICO
LOCATION 660' FSL & 660' FEL OF SEC. 10
T - 20, R - 37.

COMPANY CONTINENTAL OIL COMPANY
WELL N. M. BRITT B - 10 NO. 3
FIELD BUMONT
COUNTY LEA STATE NEW MEXICO
LOCATION 660' FSL & 660' FEL OF SEC. 10 T - 20, R - 37.

LOG MEAS. FROM 1' ABOVE ROTARY TABLE ELEV. .....
DRLG. MEAS. FROM KELLY DRIVE BUSHING ELEV. .....
PERM. DATUM LANDING FLANGE ELEV. .....

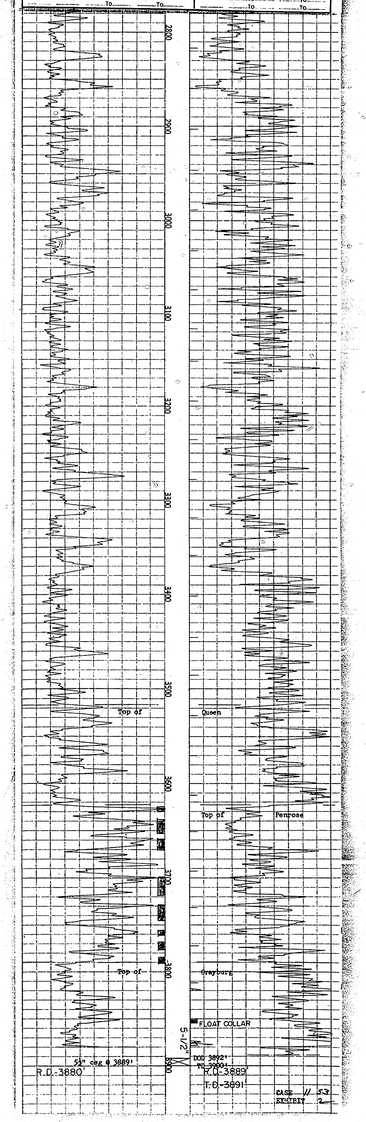
TYPE OF LOG	GAMMA RAY	NEUTRON		
RUN NO.	1	1		
DATE	5/20/56	5/20/56		
JOB NO.	276-56 A	147-693		
TOTAL DEPTH (DRILLER)	3900	3900		
EFFECTIVE DEPTH (DRILLER)	3891	3891		
TOTAL DEPTH (R/A LOG)	3891	3891		
TOP OF LOGGED INTERVAL	1300	1300		
BOTTOM OF LOGGED INTERVAL	3880	3889		
TYPE OF FLUID IN HOLE	OIL	OIL		
FLUID LEVEL	500	500		
MAXIMUM RECORDED TEMPERATURE				
NEUTRON SOURCE STRENGTH & TYPE		600 M		
SOURCE SPACING—IN.		1.75		
LENGTH OF MEASURING DEVICE—IN.	30	24		
O.D. OF INSTRUMENT—IN.	3 5/8	3 5/8		
TIME CONSTANT—SECONDS	2.3	1.9		
LOGGING SPEED FT./MIN. 5" =	30-40	30-40		
2" =	20	20		
STATISTICAL VARIATION—IN.	0.1	0.5		
SENSITIVITY REFERENCE	276	276		
RECORDED BY	MONDEN	MONDEN		
WITNESSED BY	MR. BOYNTON			

CASING RECORD

SIZE—INS.	WT.—LB.	INTERVAL FROM WELL RECORD	TO	FROM R/A LOG	TO
8 5/8		0	To 1100'		To
5 1/2		0	To 3892'		To
			To		To
			To		To

BORE HOLE

BIT SIZE INS.	INTERVAL FROM WELL RECORD	TO	FROM R/A LOG	TO
11		To		To
7 7/8		To		To
		To		To
		To		To



473

RADIOACTIVITY LOG

WELEX JET SERVICES, Inc.

LICENSED BY WELL SURVEYS, INC.

FILE NO.

COMPANY CONTINENTAL OIL COMPANY

WELL SEMOR B - 34 NO. 1

FIELD EUNICE

COUNTY LEA STATE NEW MEXICO

LOCATION 1980' FSL & 660' FWL OF SEC. 34, T - 20, R - 37.

LOG MEAS. FROM 10' ABOVE GROUND LEVEL ELEV. 3577'

DRIL. MEAS. FROM 30' ABOVE GROUND LEVEL ELEV. 3577'

PERM. DATUM GROUND LEVEL ELEV. 3567'

	GAMMA RAY	NEUTRON
TYPE OF LOG		
RUN NO.	One	Two
JOB NO.	6-2-1056	6-2-1056
DATE	6-2-56	6-2-56
DEPTH-DRILLER	3750	3750
DEPTH-LOGGER	3750	3750
TOP LOGGED INTERVAL	SURFACE	SURFACE
BOTTOM LOGGED INTERVAL	3750	3750
TYPE FLUID IN HOLE	OIL	OIL
FLUID LEVEL		FULL
MAX. RECORDED TEMPERATURE		90
NEUTRON SOURCE STRENGTH & TYPE		1 Ra/Be
LENGTH OF MEASURING DEVICE-IN.		12-30
O.D. OF INSTRUMENT-IN.		2 1/8
MAX. OUTSIDE PRESS.-PSI.		2500
LOGGING SPEED FT./MIN.	9" = 100'	9" = 100'
	9" = 50'	9" = 50'
STATISTICAL VARIATION-IN.	0.4	0.4
RECORDED BY	WILLIS	WILLIS
WITNESSED BY	MR. HATCHER	MR. HATCHER

BORE HOLE RECORD

BIT SIZE	FROM	TO
10	SURFACE	3750'

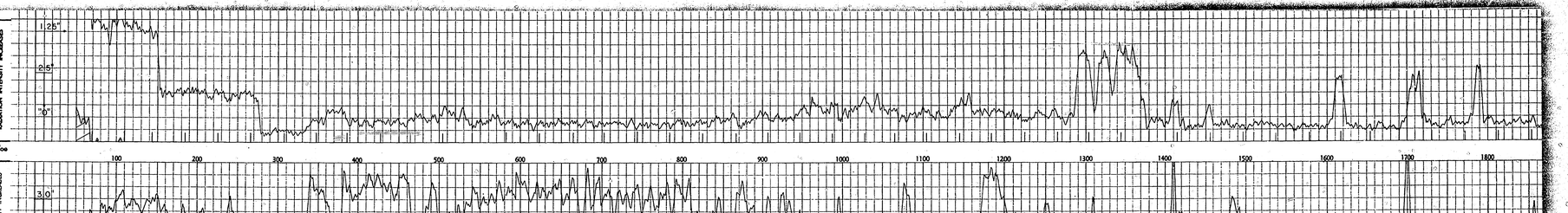
CASING RECORD

SIZE	WT.	FROM	TO
5 1/2	14.0	0	3755'

REMARKS OR OTHER DATA

*2 209 BOTTOM CENTERS USED SCHLUMBERGER CHART NO. 3 SCALE 1" = 100'

Licensed by the Radiation Control Agency of the State of New Mexico
NMOCD(LOG) RCA(W) NMSH 310
2Mi. 360208



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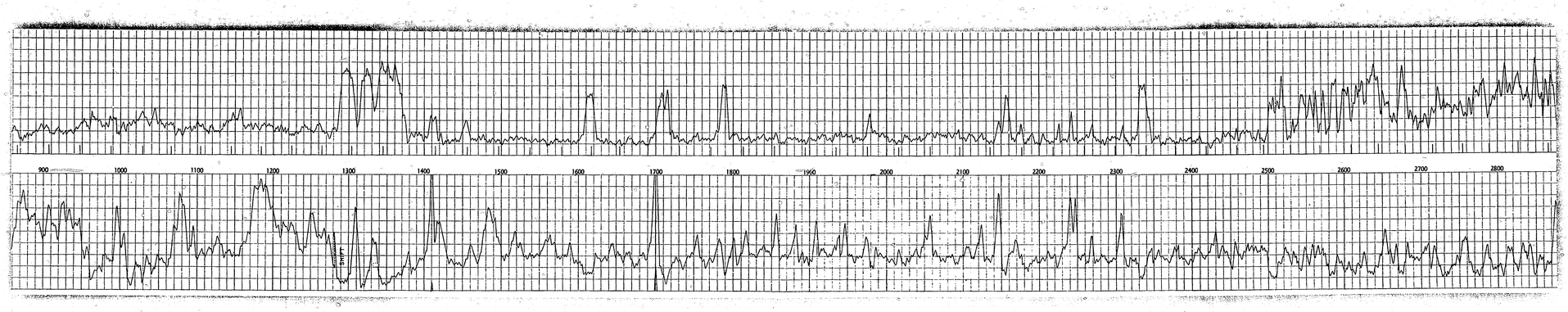
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2800
SHIFT

475

RADIOACTIVITY LOG

WELEX JET SERVICES, Inc.

FILE NO.

COMPANY CONTINENTAL OIL COMPANY

WELL SEARS B - 14 NO. 1

FIELD EUMONT

COUNTY LEA STATE NEW MEXICO

LOCATION 1980' FSL & 660' FWL OF SEC.
14 - T - 20S R - 37E

LICENSED BY: WELL SURVEYS, INC.

Location of Well: Section Line or State Boundary Line
1980' FSL & 660' FWL
Sec. 14 T-20S R-37E

Permanent Datum	GROUND LEVEL
Log Measured from	10' ABOVE GROUND LEVEL
Drilling Measured from	30' ABOVE GROUND LEVEL

Date	5-14-59
Run No.	ONE
Type Log	GAMMA RAY NEUTRON
Depth—Driller	3820
Depth—Logger	3822
Bottom Logged Interval	3822
Top Logged Interval	1900
Type Fluid in Hole	OIL
Salinity, P.P.M. Cl	
Density	
Level	FULL
Max. Rec. Temperature	
Estimated Cement Top	
Equipment No. & Location	59 HOBBS
Recorded By	WELLS
Witnessed By	MR. SAUDER

Run No.	Bit From	Bit To	Size	Wgt.	Type Fluid	Fluid Level
ONE	SURFACE	3820	7-7/8"		OIL	FULL

Run No.	Type	From	To	Size	Wgt.	Grade	Type Joint	Top	Bottom
ONE	CASING	SURFACE	3820	5-1/2"	14				

Run No.	Type	From	To	Size	Wgt.	Grade	Type Joint	Top	Bottom
ONE	CASING	SURFACE	1900	8-5/8"	24				

Gamma Ray Neutron

Gamma Ray Scale 0-100

Neutron Source 50 MC Ra Be

Detector 6 1/2" Spacing

Time Constant .1

Logging Speed 7½"/Min.

Bore Hole Record

Casing Record

Well Record

Witnessed By: MR. SAUDER

Recorded By: WELLS

Statistical Variation—%: 5

Lagging Speed Ft./Min.: 30

Time Constant: .1

Neutron Source Strength & Type: 50 MC Ra Be

Gamma Ray Scale: 0-100

Detector: 6 1/2" Spacing

Fluid Level: FULL

Top of Logged Interval: 1900

Bottom of Logged Interval: 3822

Max. Rec. Temperature:

Equipment No. & Location: 59 HOBBS

Recorded By: WELLS

Witnessed By: MR. SAUDER

Top of Cement

Top of Anhydrite

Base of Anhydrite

Top of Salt

Base of Salt

Top of Grayburg

Base of Grayburg

Top of Queen

Top of Penrose

Base of Penrose

Top of Yates

Base of Yates

Top of Seven Rivers

Base of Seven Rivers

Top of Queen

Top of Grayburg

Base of Grayburg

Top of San Andres

Base of San Andres

Top of Glorieta

Top of Clearfork

Base of Clearfork

Top of Tubb

Base of Tubb

Top of Drinkard

Base of Drinkard

Top of Abo

Base of Abo

Top of Wolfcamp

Base of Wolfcamp

Top of Penn

Base of Penn

Top of Miss

Base of Miss

Top of Ellenburger

Base of Ellenburger

Top of Granite

Base of Granite

Top of Precambrian

Base of Precambrian

Top of Devonian

Base of Devonian

Top of Simpson

Base of Simpson

Top of Montoya

Base of Montoya

Top of Fusselman

Base of Fusselman

Top of Silurian

Base of Silurian

Top of Ordovician

Base of Ordovician

Top of Pennsylvanian

Base of Pennsylvanian

Top of Strawn

Base of Strawn

Top of Atoka

Base of Atoka

Top of Morrow

Base of Morrow

Top of Chester

Base of Chester

Top of Mississippian

Base of Mississippian

Top of Osage

Base of Osage

Top of Kinderhook

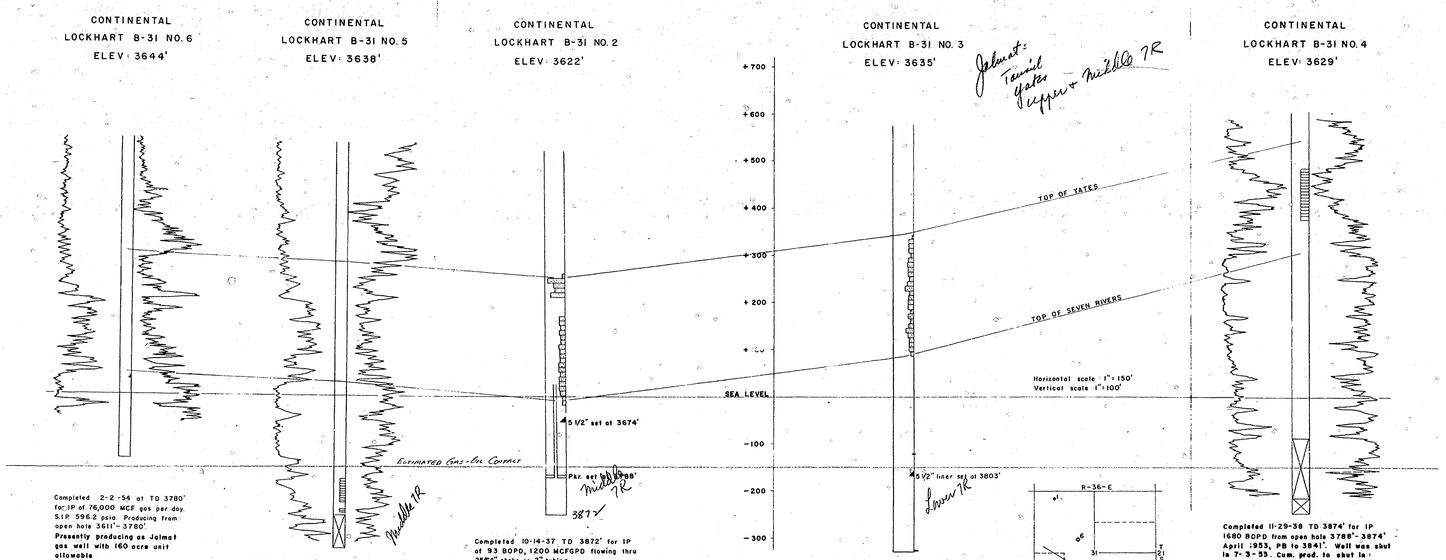
Base of Kinderhook

Top of Woodford

Base of Woodford

Top of Devonian

Base of Devonian



Completed 2-2-54 at TD 3780' for IP of 76,000 MCF gas per day. S.I.P. 596.2 psia. Producing from open hole 3611'-3780'.
Presently producing as Jalmat gas well with 160 acre unit allowable
As of 9-1-56: overproduced 73,107 MCF, Cum. production 565,503 MCF gas.

Completed 6-2-49 at PB 3868' (TD 3960') for IP of 144 BOPD thru perf 3814'-3864'.
Oct. 1951 drilled out to 3891' perf 3878'-3886'
5-12-56 Tested 16 BO, 3 SW flowing on 1" ck. GOR 8500.
Present allowable 16 BO.
Cum. prod. to 9-1-56 64,851 bbls. oil.

Completed 10-14-37 TD 3872' for IP of 93 BOPD, 1200 MCFGPD flowing thru 25/64" choke on 2" tubing.
Exner-Dodge packer now set at 3788'.
August 1955, reclassified as Jalmat gas well, shut in due to inability to flow. Cum. oil prod. to Aug. 1955: 134,508 bbls.
Present status: shut in. 40 acre NSP unit cancelled 6-18-56, NSP order 162.

Recompleted 2-26-39 for IP of 57 BOPD, 190 MCFGPD, TD 3967'. Producing interval 3790'-3967', lower Seven Rivers, South Eunice Pool. Present prod. 5 BOPD. Cum. prod. to 9-1-56: 147,895 bbls oil.

Completed 11-29-38 TD 3874' for IP 1680 BOPD from open hole 3788'-3874'
April 1953, PB to 3841'. Well was shut in 7-3-53. Cum. prod. to shut in: 113,522 bbls. oil.
Sept. 1956 Plugged back to 3715' within limits of Jalmat Pool. Perf. Yates gas pay 3145' to 3255'. Recompleted for IP of 8,480 MCFGPD, absolute open flow potential.

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Cont'd EXHIBIT No. 3
CASE 1155

EXHIBIT 3

477

Reproduced By
West Texas Electrical Log Service
Dallas 1, Texas

REFERENCE NT A 6985 -E

RADIOACTIVITY LOG
WELEX JET SERVICES, Inc.

COMPANY PURE OIL CORPORATION
WELL A. L. HUTTON (DEF + ST) NO. 2
FIELD ARMSTRONG
COUNTY LEA STATE N. MEX.
LOCATION 990' FNL & 990' FWL OF SEC. 4
T - 22 - S, R - 37 - E

CASING RECORD

	SIZE	WGT.	GRADE	TYPE JOINT	DEPTH SET	SACKS CMT.	PULLED FROM
SURF. STRING	13 3/8"	48#	H-40		320'	300	
1ST INT.	8 5/8"	24#	J-55		3000'	1000	
PROD. STRING	5 1/2"	14#	J-55		6000'	200	

TUBING RECORD

SIZE	WGT.	GRADE	JOINTS	DEPTH SET	PACKER SET AT
2"	4.7#	J-55	190	5900'	

PERFORATING RECORD

TYPE SHOT	SHOTS PER FT.	FROM	TO
4" Csg. Gun	2	5776'	5788'

COMPLETION RECORD

SPUD DATE COMP. DATE

DST RECORD

Case No. 1158
Exhibit No. 2
Gulf Oil Corp.
October 4, 1956

CASING RECORD

PERFORATING RECORD

ACID, FRAC. SHOT

GAMMA RAY
RADIATION INTENSITY INCREASES

NEUTRON
RADIATION INTENSITY INCREASES

Reproduced By
West Texas Electrical Log Service
Dallas 1, Texas

REFERENCE NT A 6985 -E

RADIOACTIVITY LOG
WELEX JET SERVICES, Inc.

COMPANY PURE OIL CORPORATION
WELL A. L. HUTTON (DEF + ST) NO. 2
FIELD ARMSTRONG
COUNTY LEA STATE N. MEX.
LOCATION 990' FNL & 990' FWL OF SEC. 4
T - 22 - S, R - 37 - E

CASING RECORD

	SIZE	WGT.	GRADE	TYPE JOINT	DEPTH SET	SACKS CMT.	PULLED FROM
SURF. STRING	13 3/8"	48#	H-40		320'	300	
1ST INT.	8 5/8"	24#	J-55		3000'	1000	
PROD. STRING	5 1/2"	14#	J-55		6000'	200	

TUBING RECORD

SIZE	WGT.	GRADE	JOINTS	DEPTH SET	PACKER SET AT
2"	4.7#	J-55	190	5900'	

PERFORATING RECORD

TYPE SHOT	SHOTS PER FT.	FROM	TO
4" Csg. Gun	2	5776'	5788'

COMPLETION RECORD

SPUD DATE COMP. DATE

DST RECORD

Case No. 1158
Exhibit No. 2
Gulf Oil Corp.
October 4, 1956

CASING RECORD

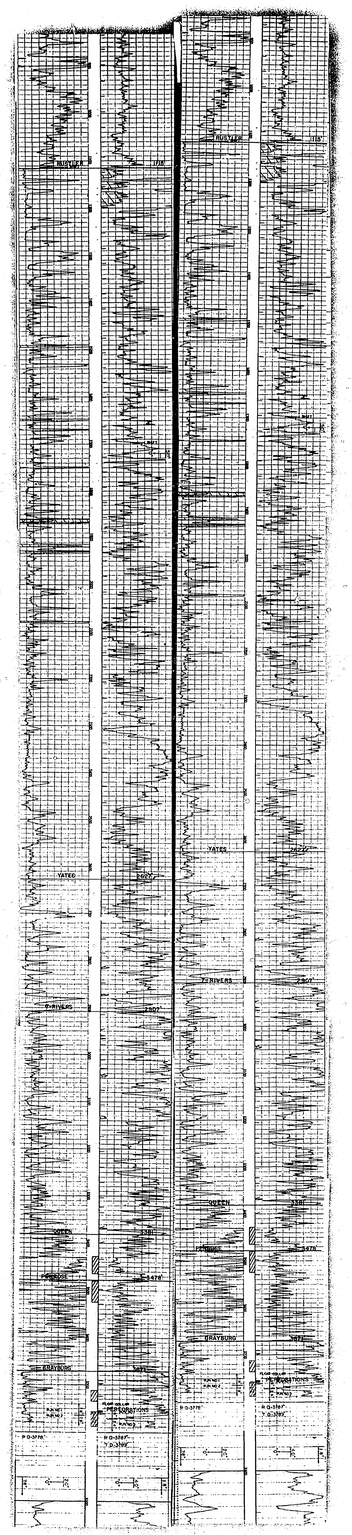
PERFORATING RECORD

ACID, FRAC. SHOT

GAMMA RAY
RADIATION INTENSITY INCREASES

NEUTRON
RADIATION INTENSITY INCREASES

478



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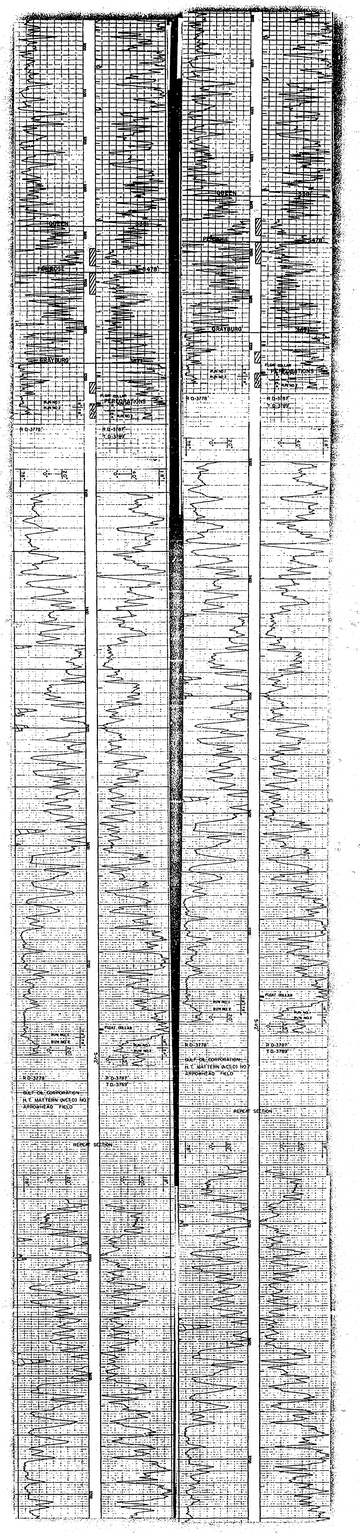

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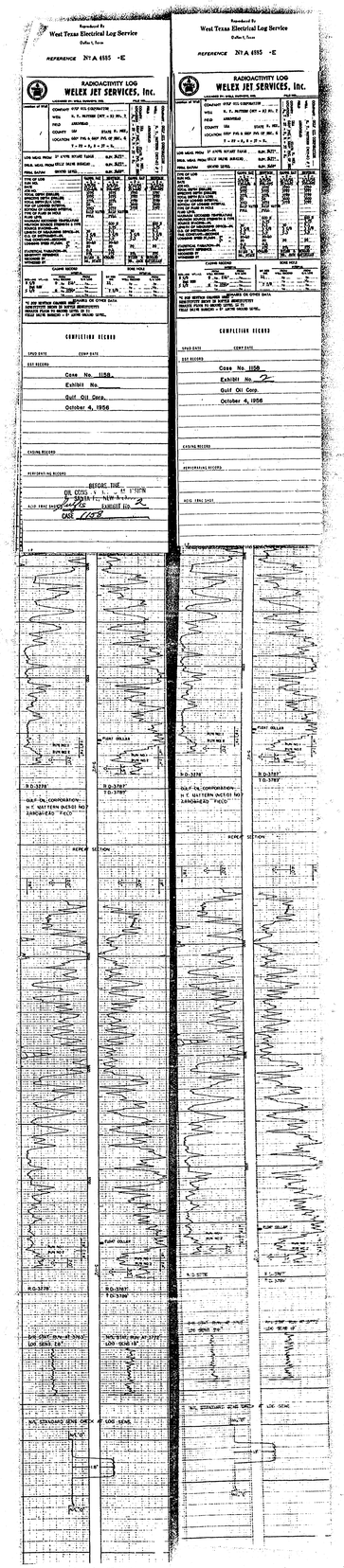
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Dallas 1, Texas
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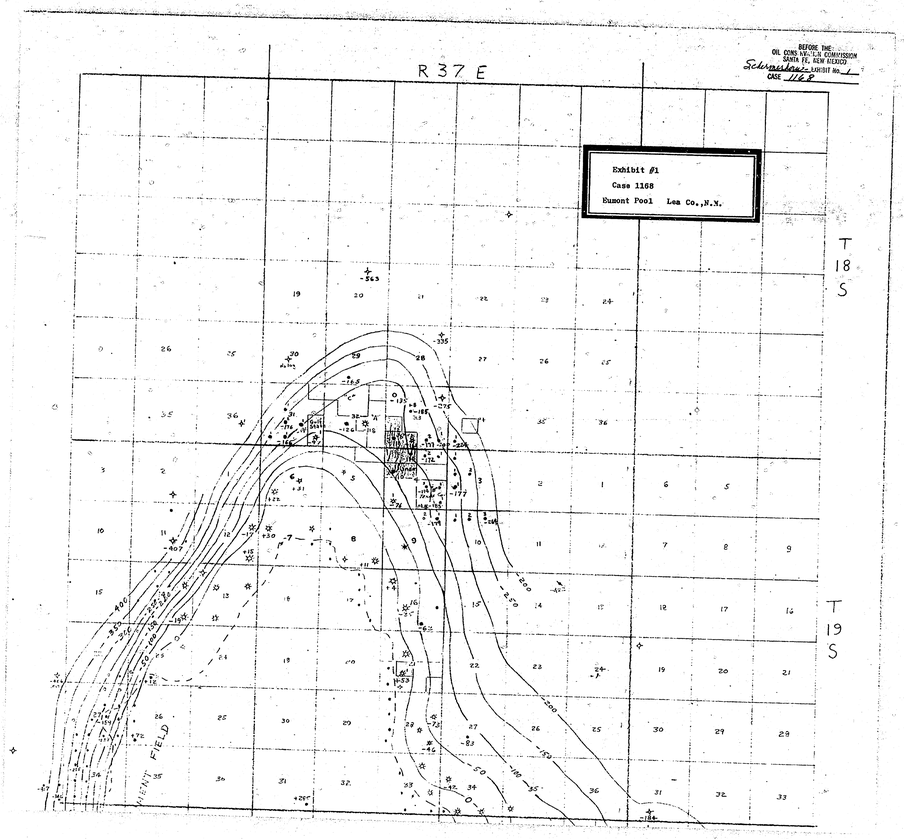
RADIOACTIVITY LOG
WELEX JET SERVICES, Inc.
COMPLETION RECORD
Case No. 1158
Exhibit No. 2
Gulf Oil Corp.
October 4, 1956
CASING RECORD
PERFORATING RECORD
BEFORE THE
OIL CONS. COMM.
EXHIBIT NO. 2
CASE 1158
GULF OIL CORPORATION
H. C. MATTERN (NCRC) NO. 7
ZANGANEAD FIELD
REPEAT SECTION

481


BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Schumacher EXHIBIT No. 1
CASE 1168
R 37 E
Exhibit #1
Case 1168
Eumont Pool Lea Co.,N.M.
T 18 S
T 19 S
FIELD

482

WEST

EAST

SCHERMERHORN,
LINAM "B" # 1
SW SW Sec. 33-18S-37E
Elev. 3,707

SCHERMERHORN
LINAM "B" #2
SE SW Sec. 33-18S-37E
Elev. 3,704+

AZTEC,
State 33-#2
SW SE Sec. 33-18S-37E
Elev. 3,705

TOP OF YATES

TOP OF QUEEN

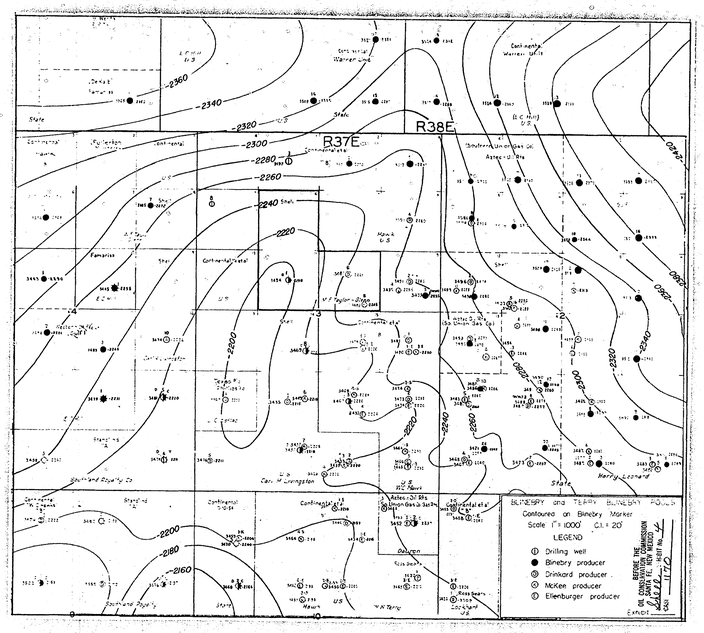
Flo 935 natural
I.P. 3,500 MCF/day
open flow

Gas - Oil Contact -1951

Z.P. Flowed 144.43 BO in 5 hrs.
2"/64 ck.

483

Exhibit #2
Case 1168
Rumont Pool Lea Co.,N.M.


R37E
R38E
-2360
-2340
-2320
-2300
-2280
-2260
-2240
-2220
-2200
-2180
-2160
BLINEBRY and TUBB BLINEBRY POOLS
Contoured on Blinebry Marker
Scale 1" = 1000' C.I. = 20'
LEGEND
Drilling well
Blinebry producer
Drinkard producer
McKee producer
Ellenburger producer
OIL CONSERVATION COMMISSION
HOBBS, NEW MEXICO
Exhibit No. 11

484

FORM 8410 REVISED J. WALLACE

THIS FORM CONFORMS TO API RP 33

RADIOACTIVITY LOG

WELEX JET SERVICES, Inc.

LICENSED BY: WELL SURVEYS, INC.

FILE NO.

Location of Well

COMPANY SHELL OIL COMPANY

WELL TAYLOR GLENN # 3

FIELD DRINKARD

COUNTY LEA STATE NEW MEXICO

LOCATION 1980' FNL 3226' FNL SEC. 3

21-S 37-E

COMPANY SHELL OIL COMPANY

WELL TAYLOR GLENN # 3

FIELD DRINKARD

COUNTY LEA STATE NEW MEXICO

LOCATION 1980' FNL 3226' FNL SEC. 3 21-S 37-E

LOG MEAS. FROM 15' ABOVE CASING FLANGE ELEV. 3484

DRLG. MEAS. FROM 15' ABOVE CASING FLANGE ELEV. 3484

PERM. DATUM TOP CASING HEAD FLANGE ELEV. 3469

TYPE OF LOG	GAMMA RAY	NEUTRON
RUN NO.	1	1
DATE	4-29-56	4-29-56
JOB NO.	370-485 &	524-650
TOTAL DEPTH (DRILLER)	8590	8590
EFFECTIVE DEPTH (DRILLER)	6720	6720
TOTAL DEPTH (R/A LOG)	6710	6710
TOP OF LOGGED INTERVAL	50	50
BOTTOM OF LOGGED INTERVAL	6699	6708
TYPE OF FLUID IN HOLE	OIL	OIL
FLUID LEVEL	410	410
MAXIMUM RECORDED TEMPERATURE		
NEUTRON SOURCE STRENGTH & TYPE		COCH
SOURCE SPACING—IN.		3.75
LENGTH OF MEASURING DEVICE—IN.	30	9.1
O.D. OF INSTRUMENT—IN.	3 5/8	3 5/8
TIME CONSTANT—SECONDS	4.7	4
LOGGING SPEED FT./MIN. 5"	20	20
2"	40	40
STATISTICAL VARIATION—IN.	0.5	0.6
SENSITIVITY REFERENCE	274	275
RECORDED BY	WILLIS &	BILES
WITNESSED BY	DUVALL	DUVALL

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE NEW MEXICO

Shell EXHIBIT No. 1

CASE 1170

CASING RECORD

SIZE—INS. WT.—LB.	INTERVAL FROM WELL RECORD	INTERVAL FROM R/A LOG
8 5/8	SURF. To 1880	To
5 1/2	SURF. To 8060	To
	To	To
	To	To

BORE HOLE

BIT SIZE INS.	INTERVAL FROM WELL RECORD	INTERVAL FROM R/A LOG
	To	To
	To	To
	To	To
	To	To

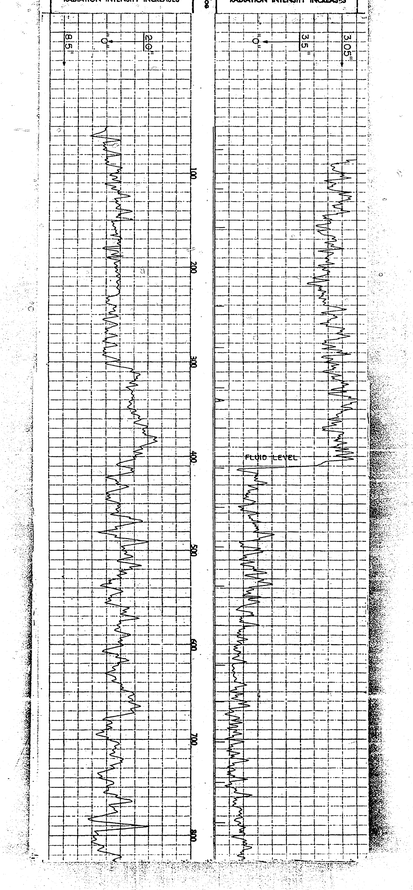
REMARKS OR OTHER DATA

N/L SENSITIVITY FROM 50' TO 3890' (1.05)
N/L SENSITIVITY FROM 3890' TO T.D. (1.9)
C7C7 NEUTRON SENSITIVITY USED
SENSITIVITY SHOWN IS BOTTLE SENSITIVITY

GAMMA RAY → RADIATION INTENSITY INCREASES

CASING & COLLAR LOG DEPTH

NEUTRON → RADIATION INTENSITY INCREASES



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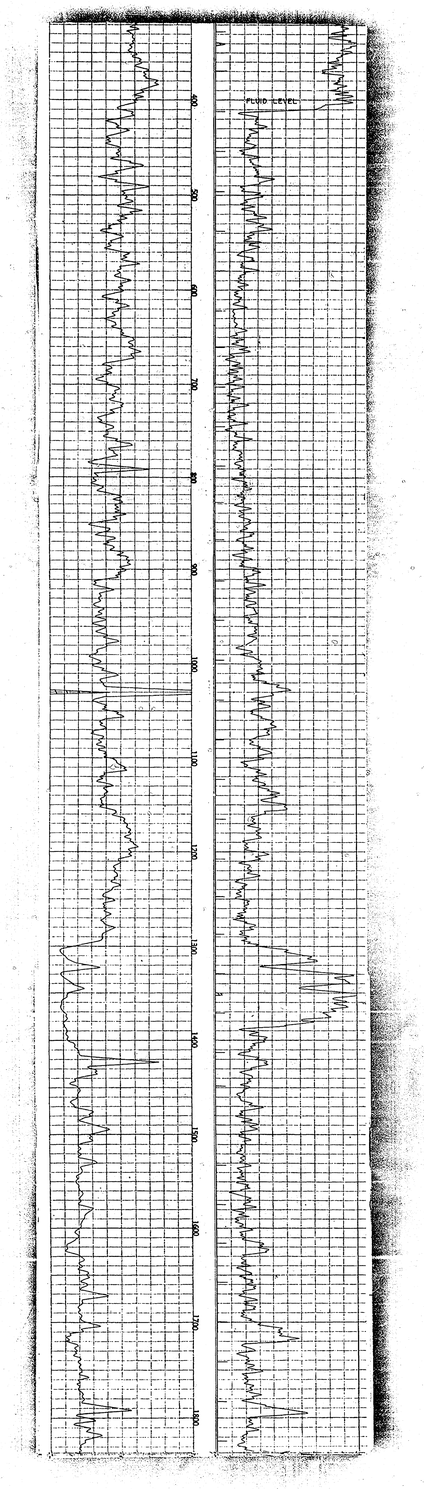
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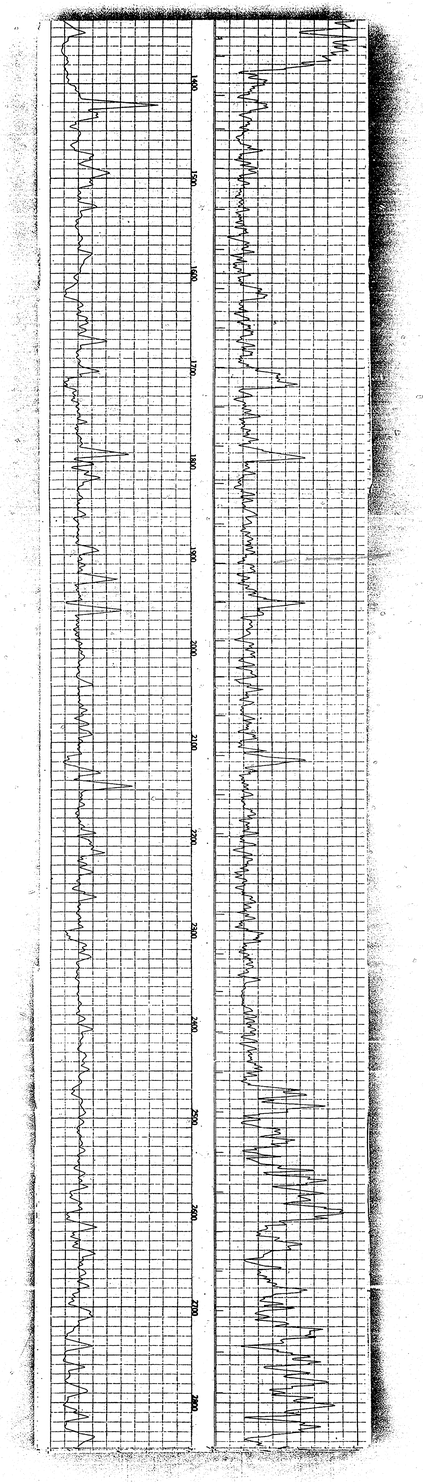
FLOW LEVEL

486



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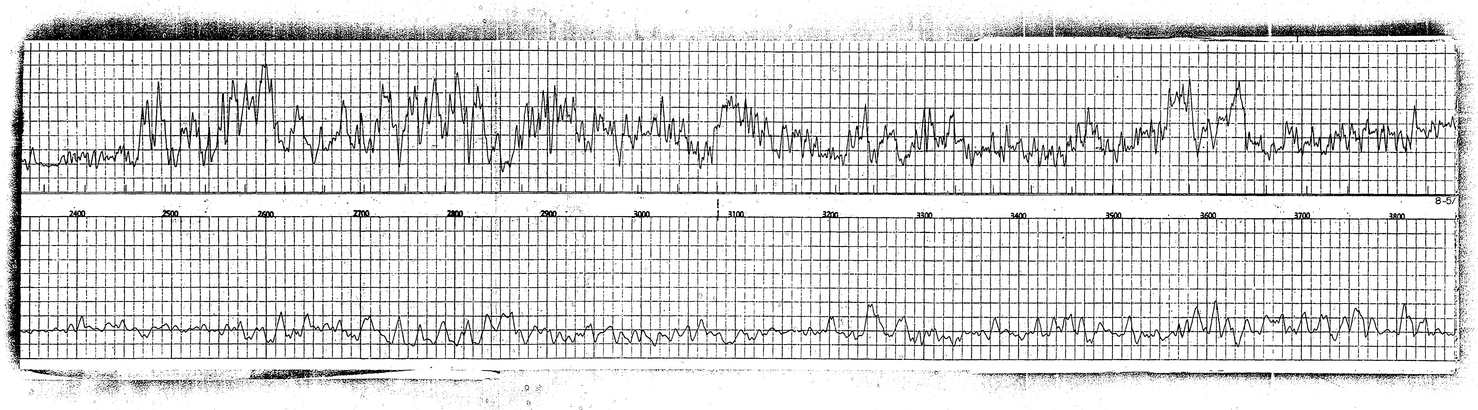
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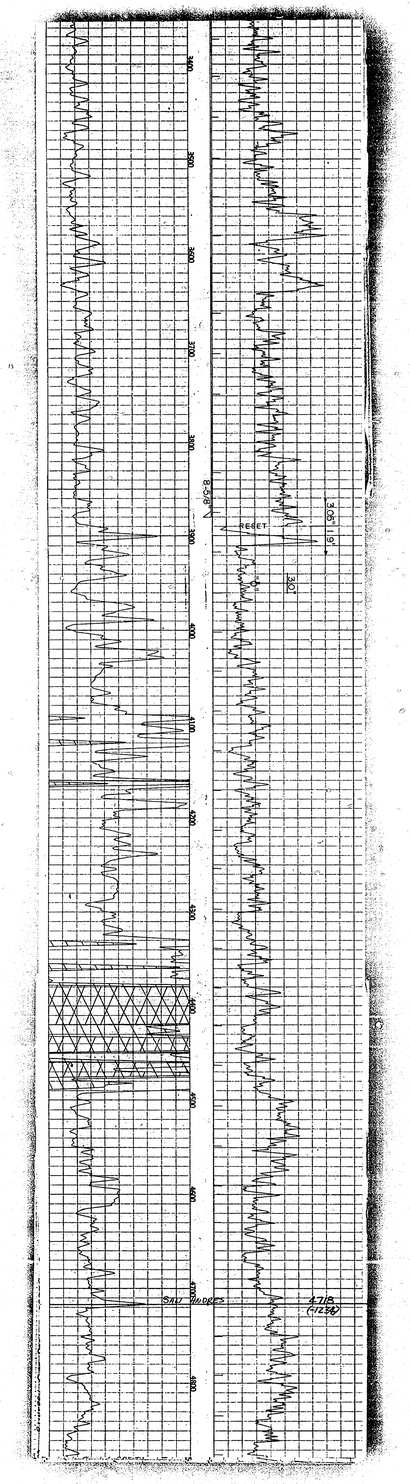
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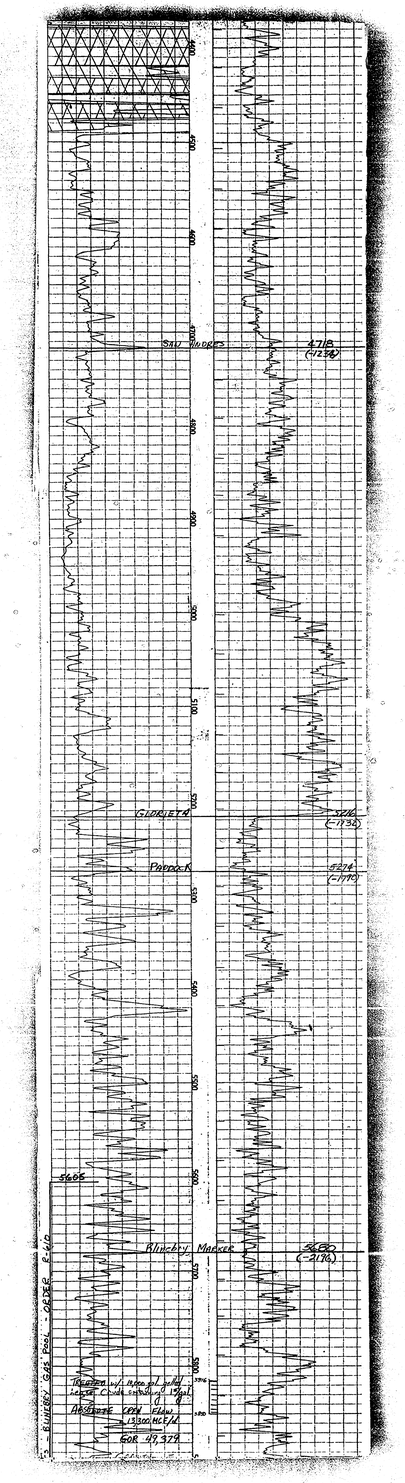
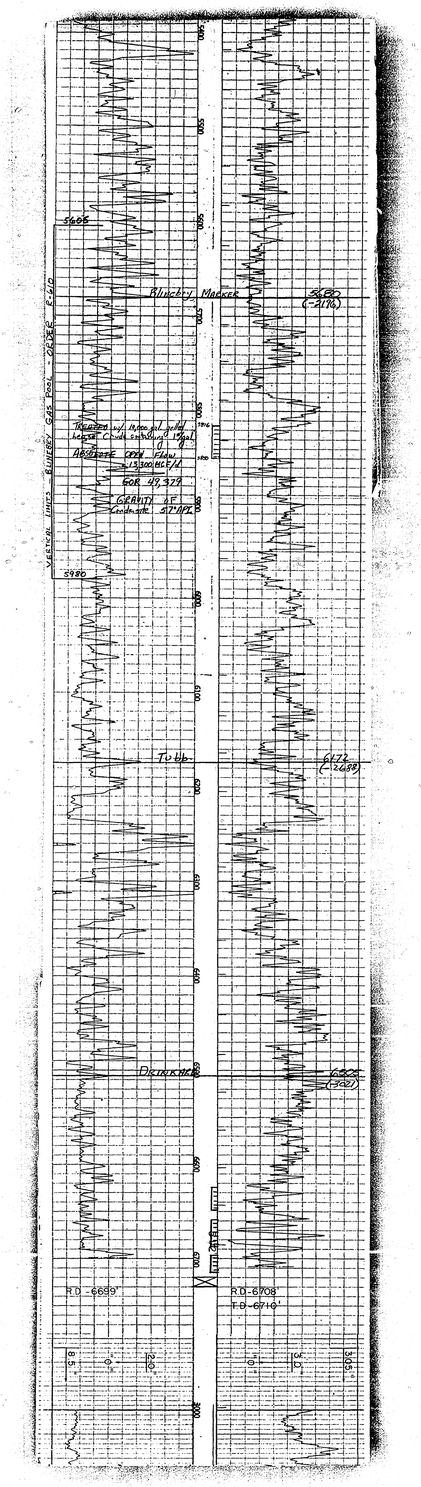
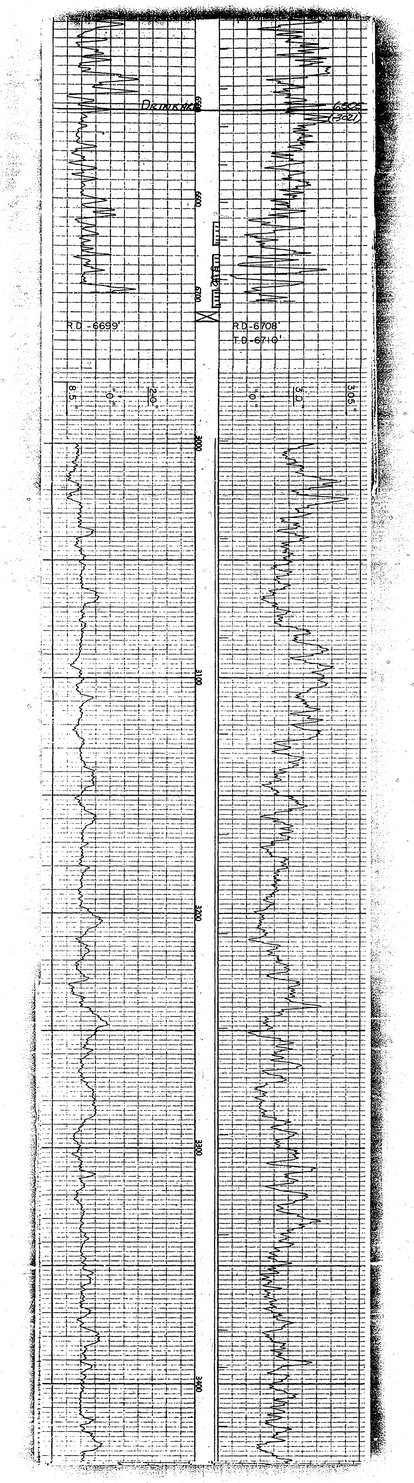

SAN ANDRES
4718
(-1234)
GLORIETA
5216
(-1732)
PADDOCK
5274
(-1790)
5605
Blinebry Marker
5680
(-2196)
BLINEBRY GAS POOL - ORDER R-610
Treated w/ 18,000 gal gelled
Lease Crude sampling 1% gal.
Absolute Open Flow
13,300 MCF/d
GOR 49,379

490



VERTICAL LIMITS - BLINEBRY GAS POOL - ORDER R-610
5605
Blinebry Marker
5680
(-2176)
TREATED w/ 14,000 gal gelled heavy Crude containing 1% gal
ABSOLUTE OPEN FLOW
13,300 MCF/d
GOR 49,379
GRAVITY OF
Condensate 57° API
5980
Tubb
6172
(-2688)
DRINKARD
6505
(-3021)
R.D. -6699'
R.D. -6708'
T.D. -6710'

491



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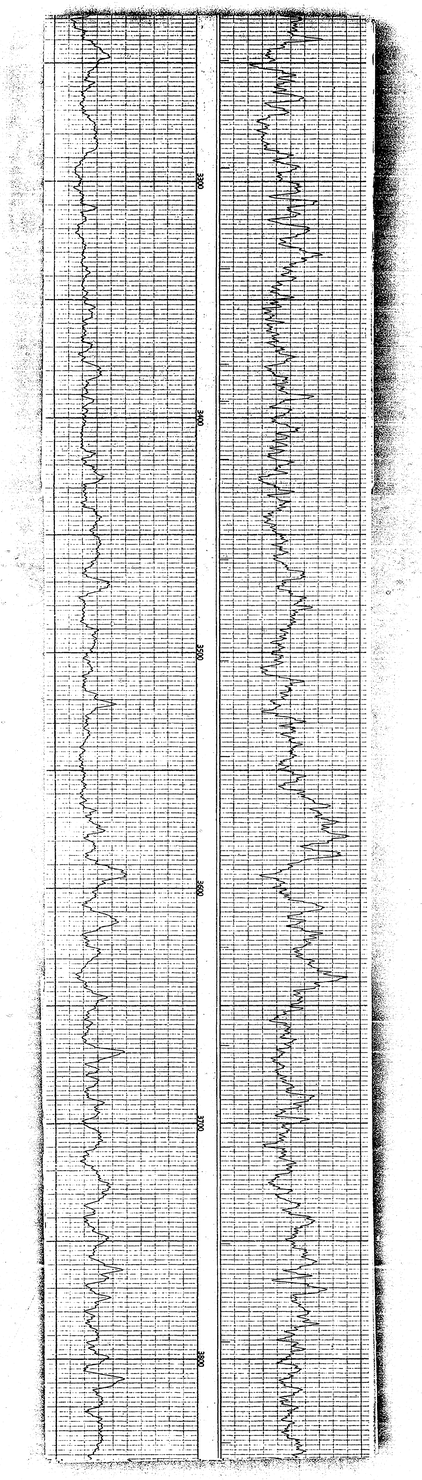

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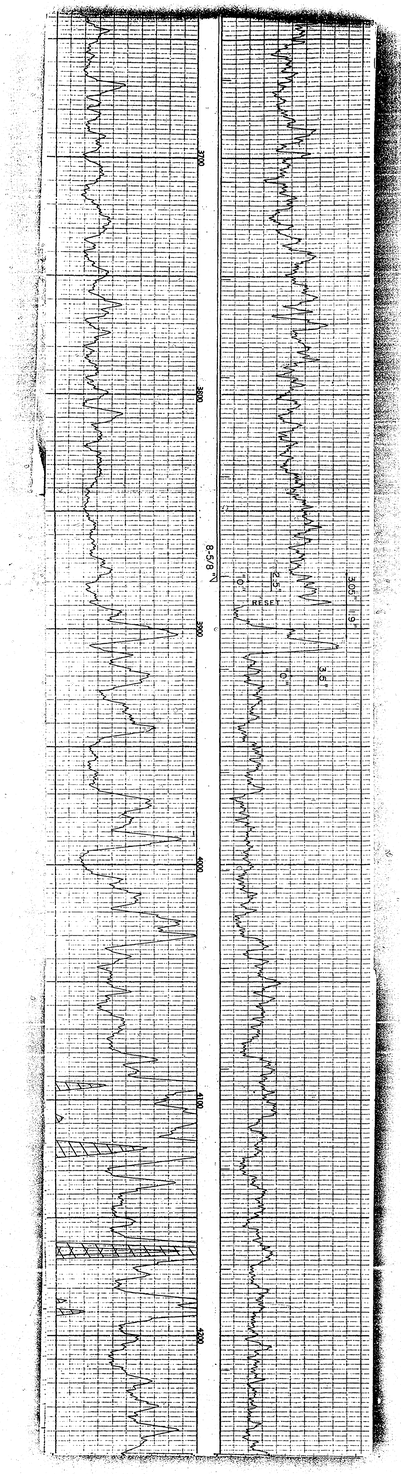

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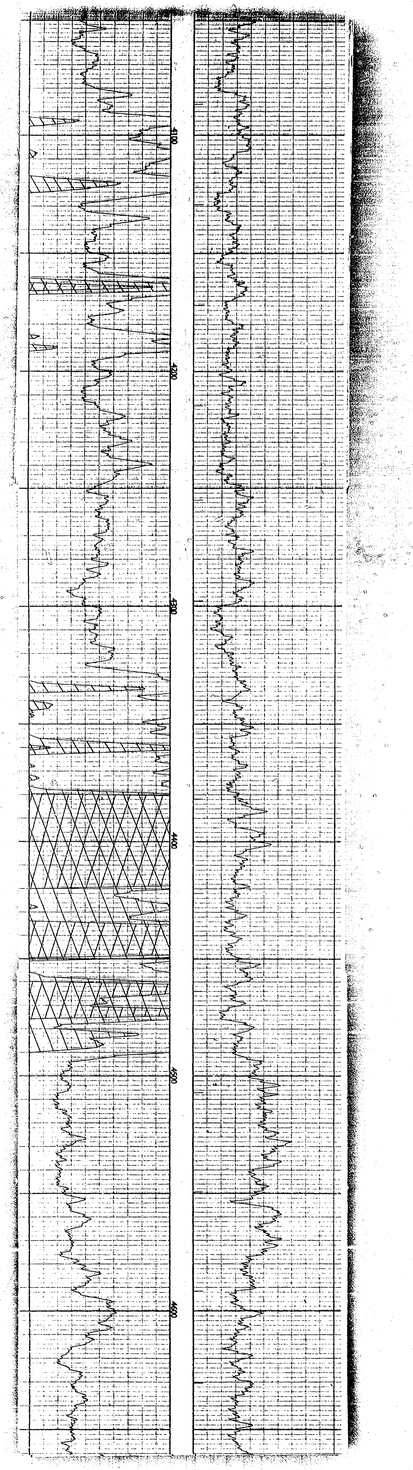

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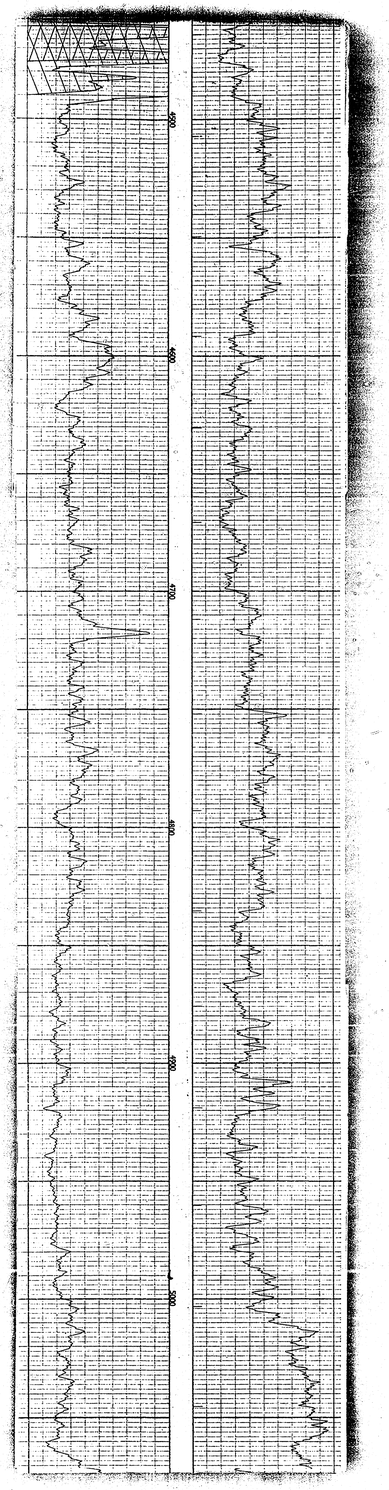

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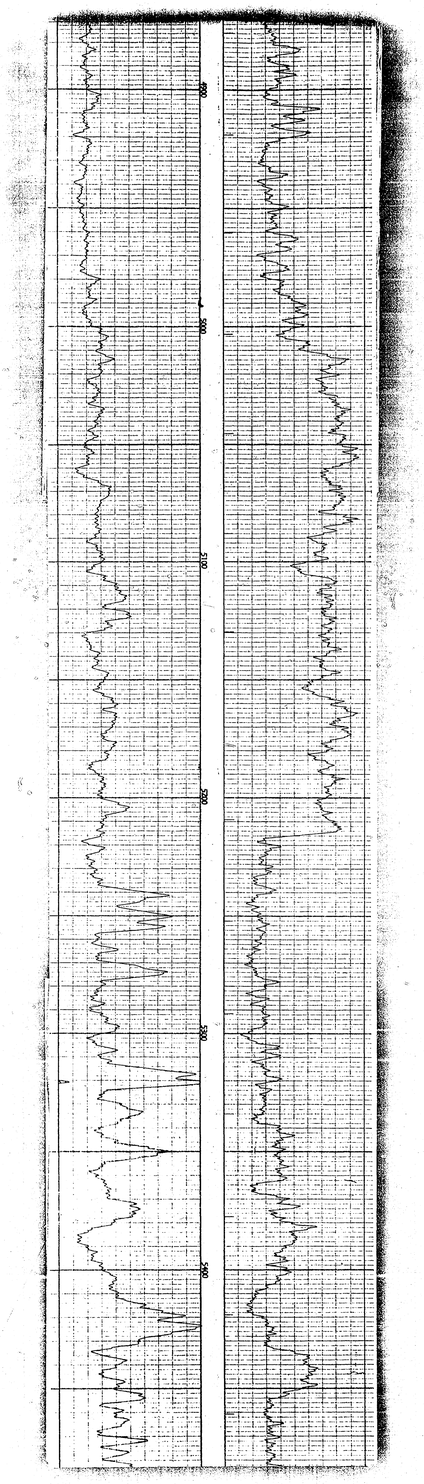

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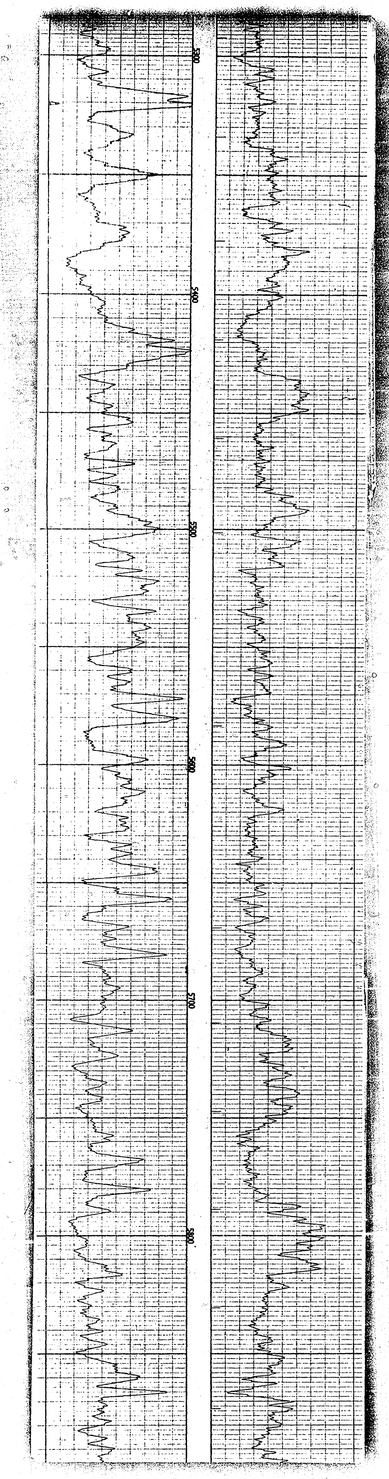

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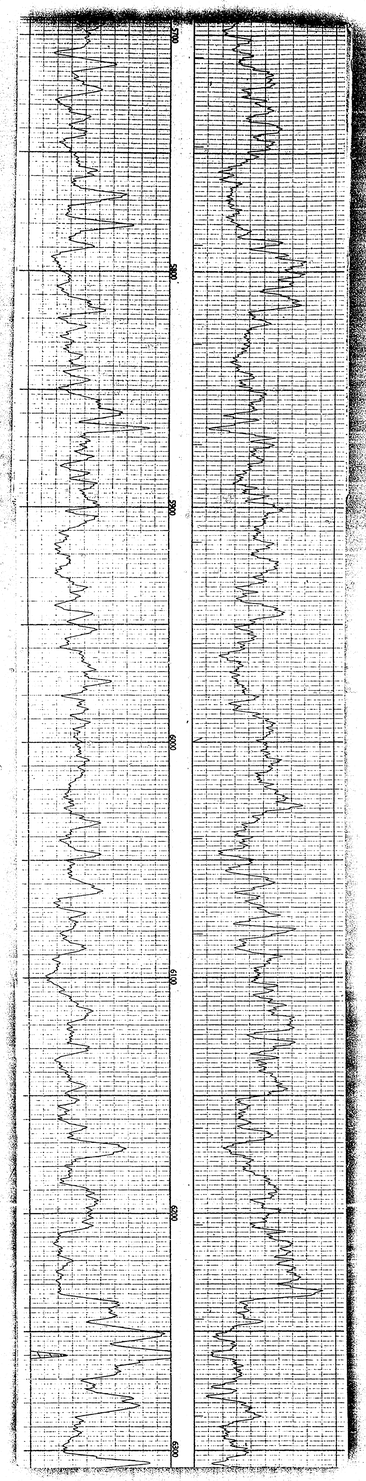

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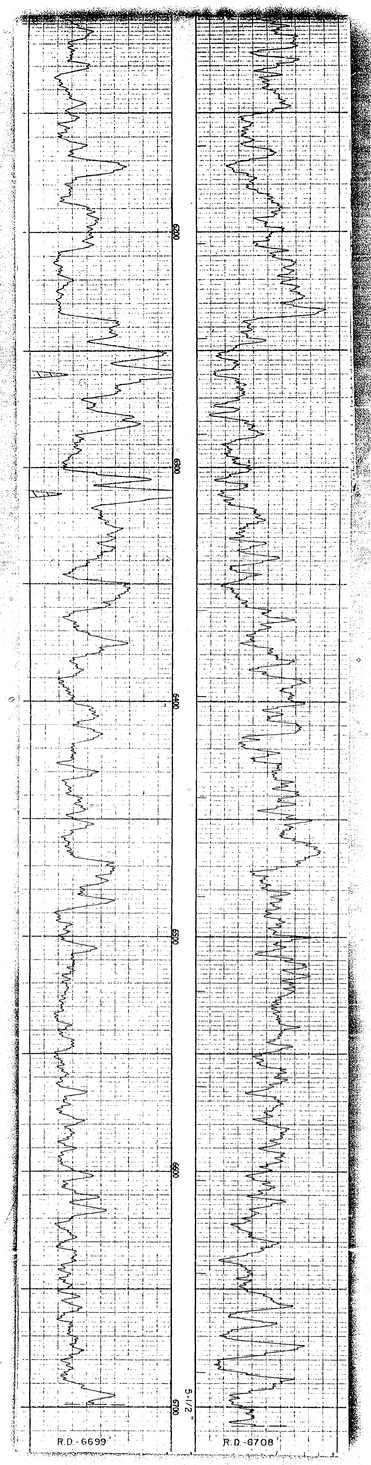

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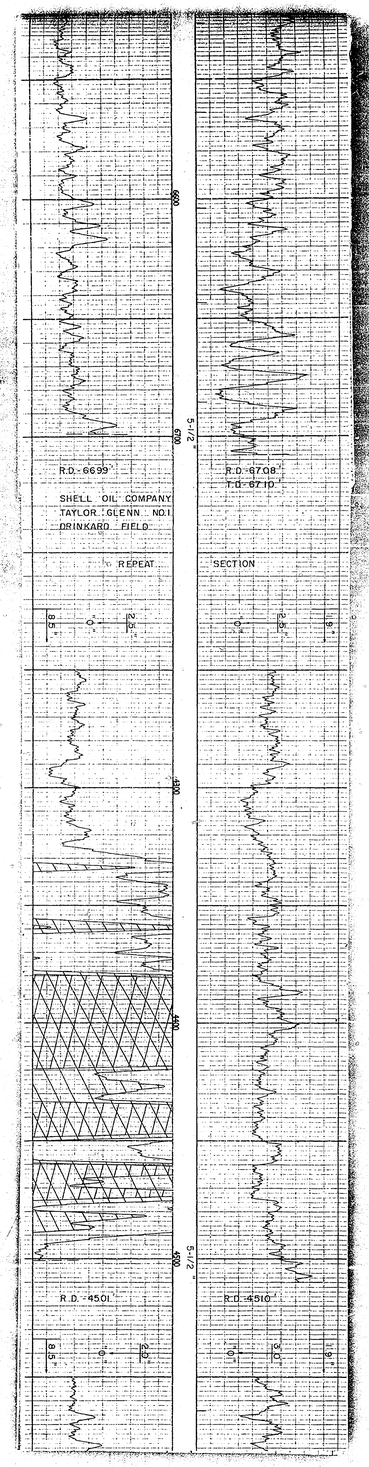

6600
6700
5-1/2"
R.D. 6699
SHELL OIL COMPANY
TAYLOR GLENN NO.1
DRINKARD FIELD
REPEAT
R.D. 6708
T.D. 6710
SECTION
4500
4600
4700
5-1/2"
R.D. 4501
R.D. 4510

501

FORM 8618 REVISED J. WALLACE

THIS FORM CONFORMS TO API RP 33

RADIOACTIVITY LOG

WELEX JET SERVICES, Inc.

LICENSED BY: WELL SURVEYS, INC.

FILE NO.

Location of Well

COMPANY SHELL OIL COMPANY

WELL TAYLOR GLENN # 1

FIELD DRINKARD

COUNTY LEA STATE NEW MEXICO

LOCATION 1980' FWL 3226' FNL SEC. 3

21-S 37-E

COMPANY SHELL OIL COMPANY

WELL TAYLOR GLENN # 1

FIELD DRINKARD

COUNTY LEA STATE NEW MEXICO

LOCATION 1980' FWL 3226' FNL SEC. 3 21-S 37-E

LOG MEAS. FROM 15' ABOVE CASING FLANGE ELEV. 3484

DRLG. MEAS. FROM 15' ABOVE CASING FLANGE ELEV. 3484

PERM. DATUM TOP CASING HEAD FLANGE ELEV. 3469

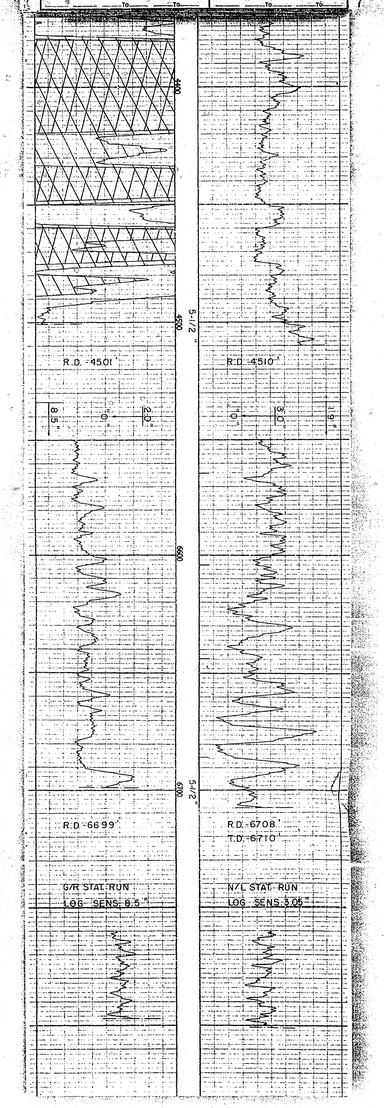
TYPE OF LOG	GAMMA RAY	NEUTRON		
RUN NO.	1	1		
DATE	4-29-56	4-29-56		
JOB NO.	370-485 &	524-690		
TOTAL DEPTH (DRILLER)	8590	8590		
EFFECTIVE DEPTH (DRILLER)	6720	6720		
TOTAL DEPTH (R/A LOG)	6710	6710		
TOP OF LOGGED INTERVAL	50	50		
BOTTOM OF LOGGED INTERVAL	6699	6708		
TYPE OF FLUID IN HOLE	OIL	OIL		
FLUID LEVEL	410	410		
MAXIMUM RECORDED TEMPERATURE				
NEUTRON SOURCE STRENGTH & TYPE		GOUN		
SOURCE SPACING—IN.		3.75		
LENGTH OF MEASURING DEVICE—IN.	30	9.1		
O.D. OF INSTRUMENT—IN.	3 5/8	3 5/8		
TIME CONSTANT—SECONDS	4.7	4		
LOGGING SPEED FT./MIN. 5"	20	20		
2"	40	40		
STATISTICAL VARIATION—IN.	0.5	0.6		
SENSITIVITY REFERENCE	274	275		
RECORDED BY	WILLIS &	BILES		
WITNESSED BY	DUVALL	DUVALL		

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE NEW MEXICO

Shell EXHIBIT No. 1

CASE 1170

CASING RECORD				BORE HOLE		
SIZE—INS. WT.—LB.	INTERVAL FROM WELL RECORD	INTERVAL FROM R/A LOG		BIT SIZE INS.	INTERVAL FROM WELL RECORD	INTERVAL FROM R/A LOG
8 5/8"	STRIP TO 1880	TO			TO	TO
5 1/2"	STRIP TO 6650	TO			TO	TO
	TO	TO			TO	TO
	TO	TO			TO	TO



502