Case No.

1668

Large Exhibits

NORTH-SOUTH CROSS SECTION

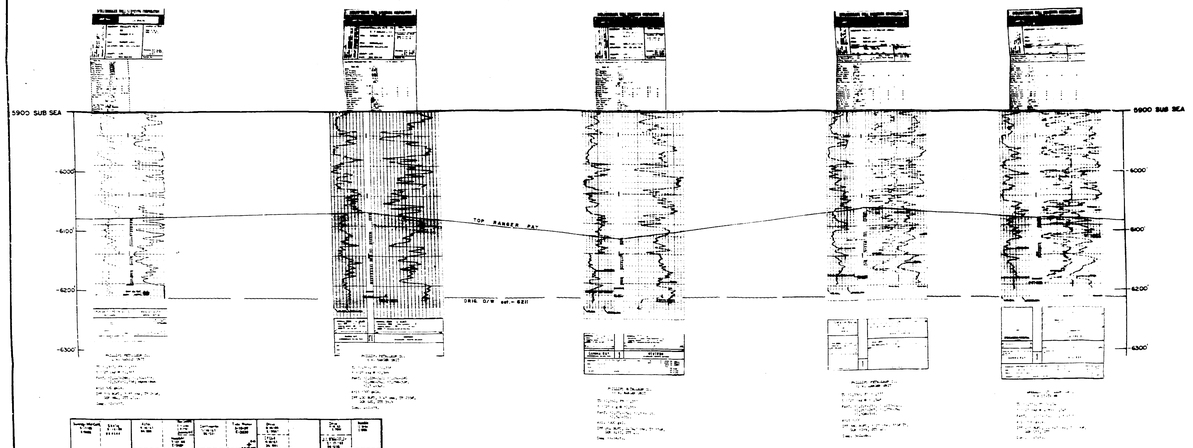
RANGER LAKE PENNSYLVANIAN FIELD

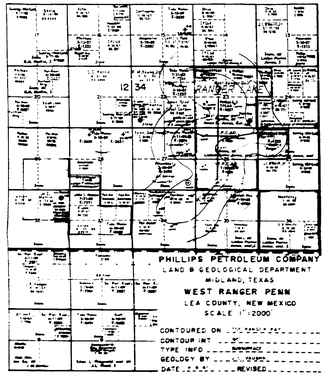
T 12 S R 34 E

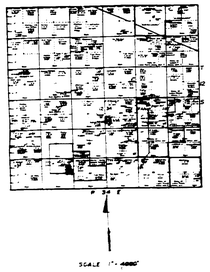
LEA CO., NEW MEXICO

A

A'







GEOLOGY DETAIL PENN PAY ZONE
GEOLOGIST C F LAWRENCE
DATE 8-8-60
HORIZONTAL SCALE 1"= 330'
VERTICAL SCALE 1"= 40'
WELL BORE ℄ DEPTH TRACK

F-12

EAST-WEST CROSS SECTION

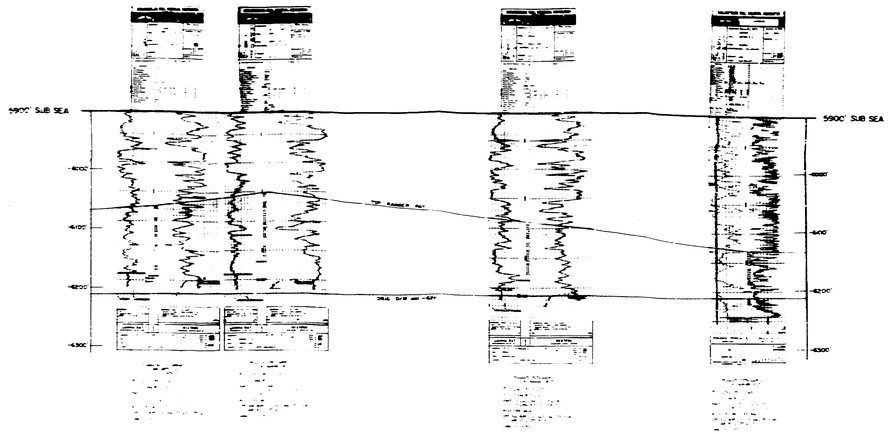
RANGER LAKE PENNSYLVANIAN FIELD

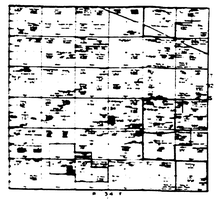
T 12 S R 34 E

LEA CO., NEW MEXICO

B

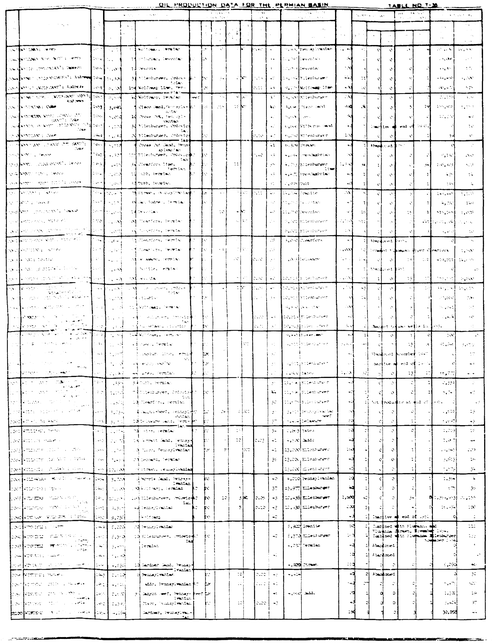
B'



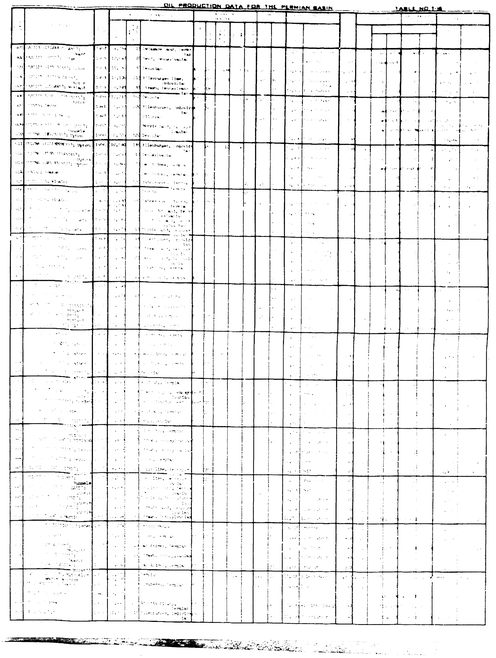


GEOLOGY DETAIL PENN PAY ZONE
GEOLOGIST C. F. LAWRENCE
DATE
HORIZONTAL SCALE
VERTICAL SCALE
WELL BORE & DEPTH TRACK

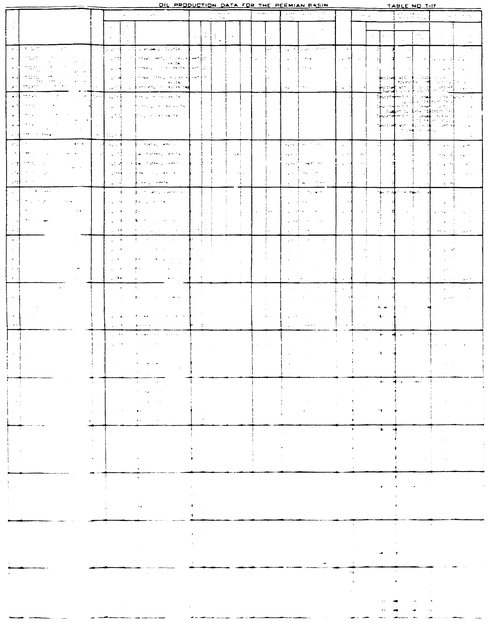
OIL PRODUCTION DATA FOR THE PERMIAN BASIN TABLE NO. 7-A



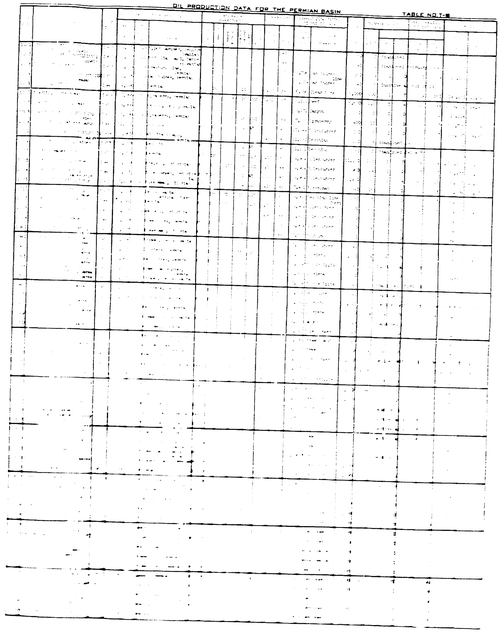
OIL PRODUCTION DATA FOR THE PERMIAN BASIN TABLE NO. 7-B



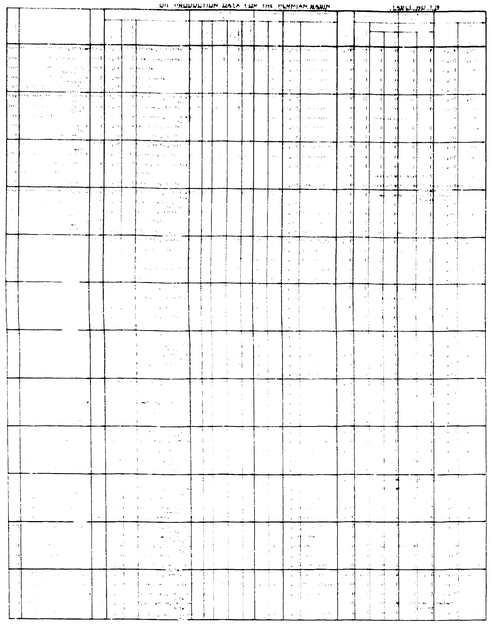
OIL PRODUCTION DATA FOR THE PERMIAN BASIN TABLE NO. 7-C

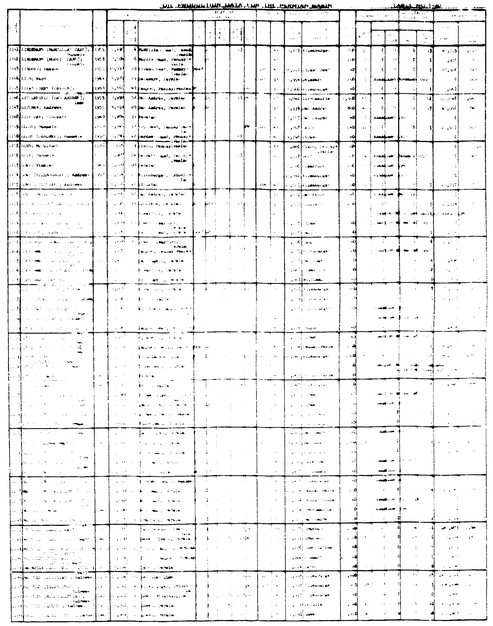


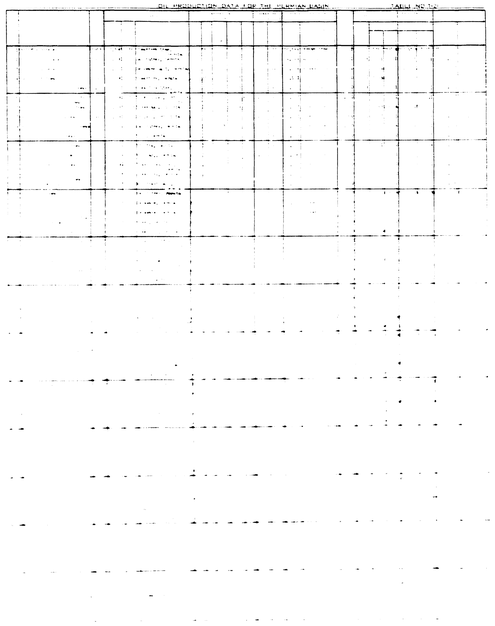
OIL PRODUCTION DATA FOR THE PERMIAN BASIN TABLE NO. 7-D

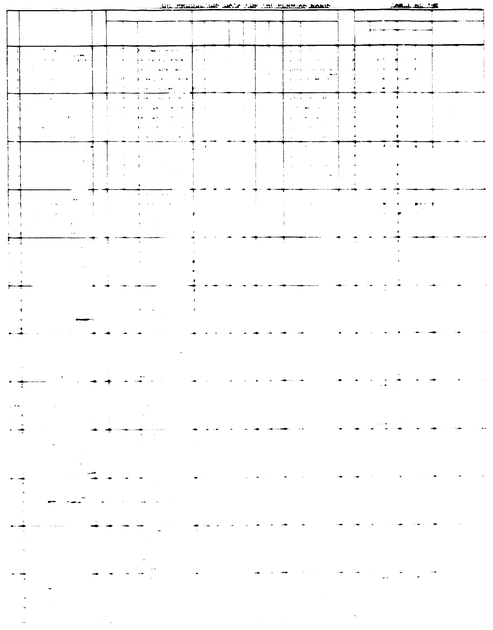




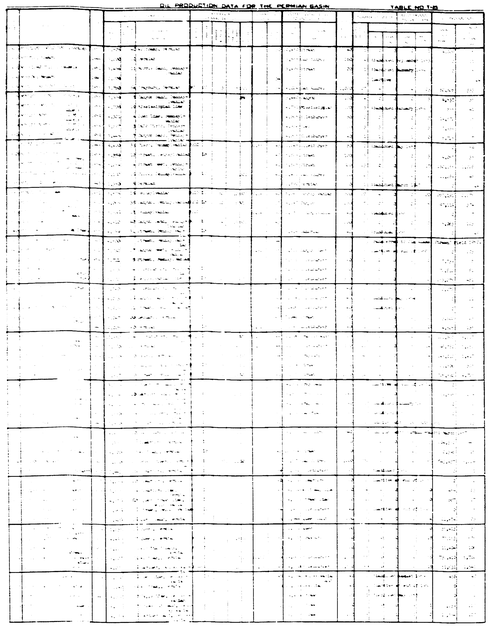


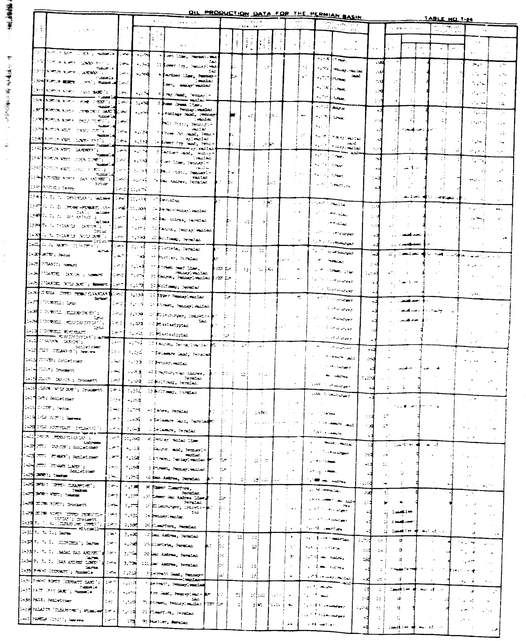


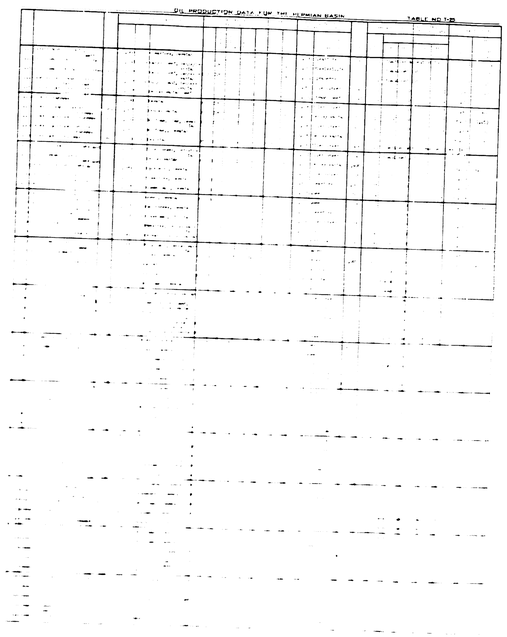












...ARCHIVE MICROGRAPHICS

BEST AVAILABLE COPY

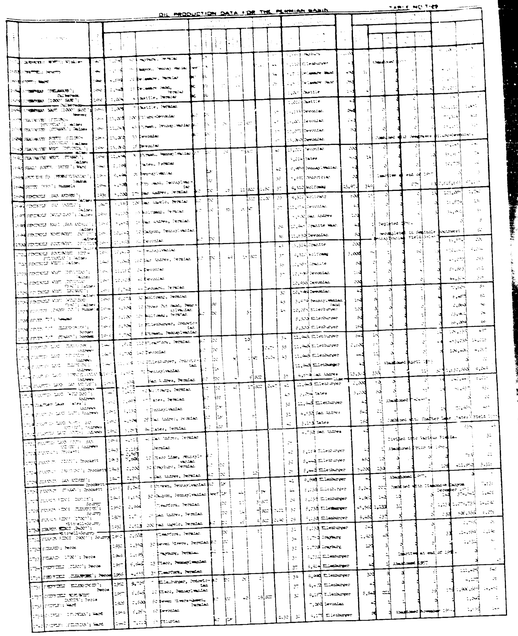
OIL PRODUCTION DATA FOR THE PERMIAN BASIN — TABLE NO. 1-A

OIL PRODUCTION DATA FOR THE PERMIAN BASIN — TABLE NO. 1-B

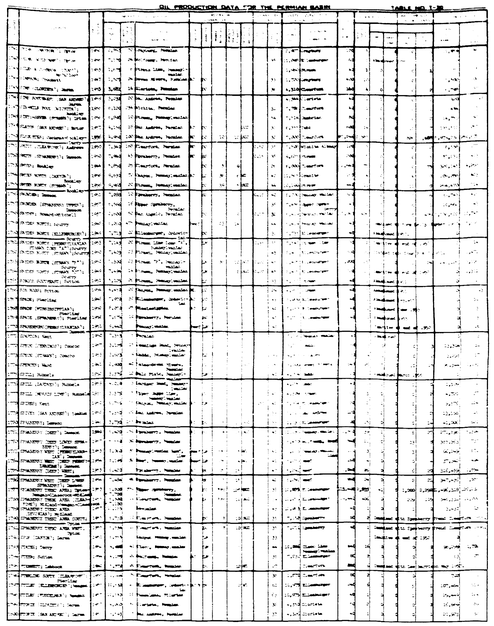
OIL PRODUCTION DATA FOR THE PERMIAN BASIN — TABLE NO. 1-C

OIL PRODUCTION DATA FOR THE PERMIAN BASIN — TABLE NO. 1-D

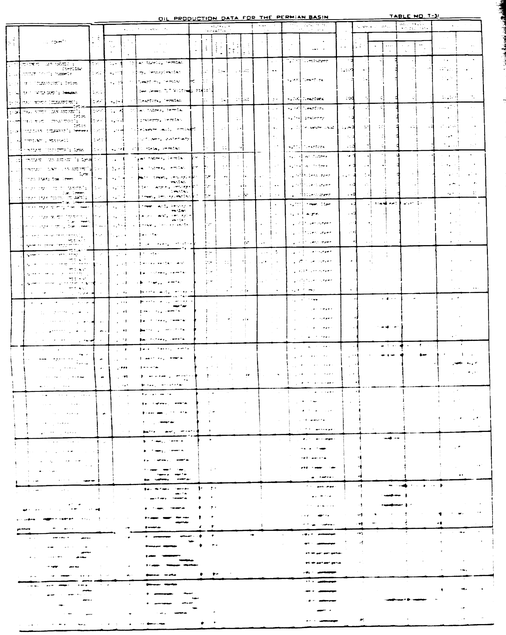
OIL PRODUCTION DATA FOR THE PERMIAN BASIN — TABLE NO. T-29



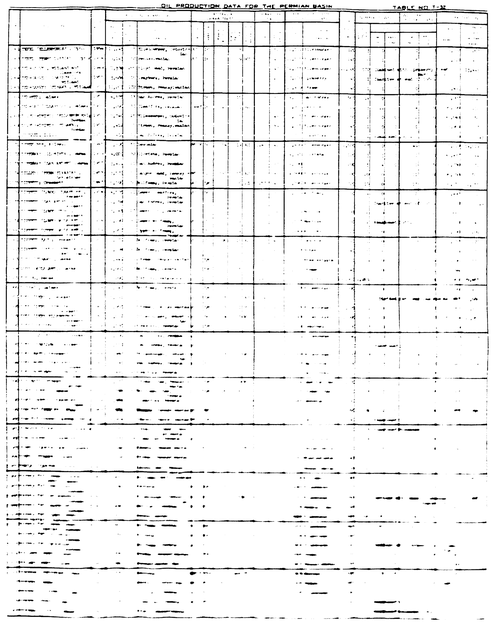
OIL PRODUCTION DATA FOR THE PERMIAN BASIN — TABLE NO. T-30



OIL PRODUCTION DATA FOR THE PERMIAN BASIN — TABLE NO. T-31

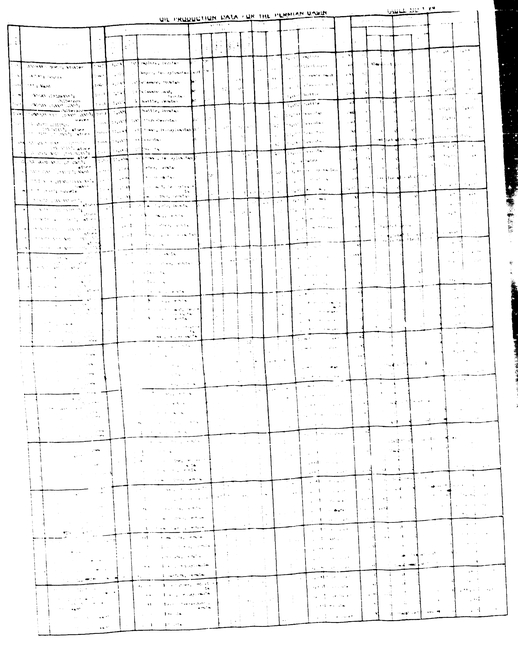


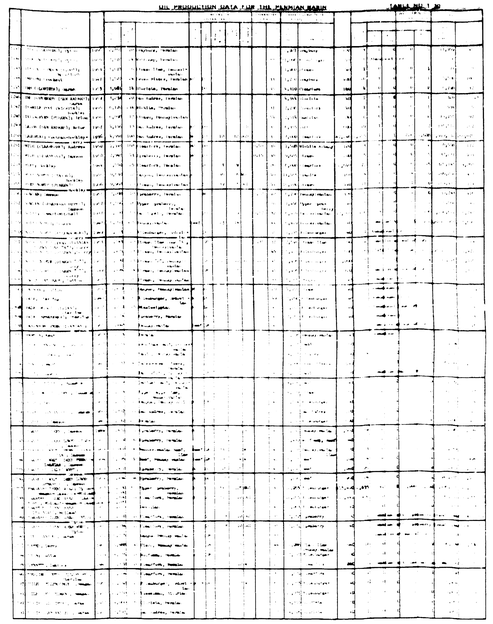
OIL PRODUCTION DATA FOR THE PERMIAN BASIN — TABLE NO. T-32

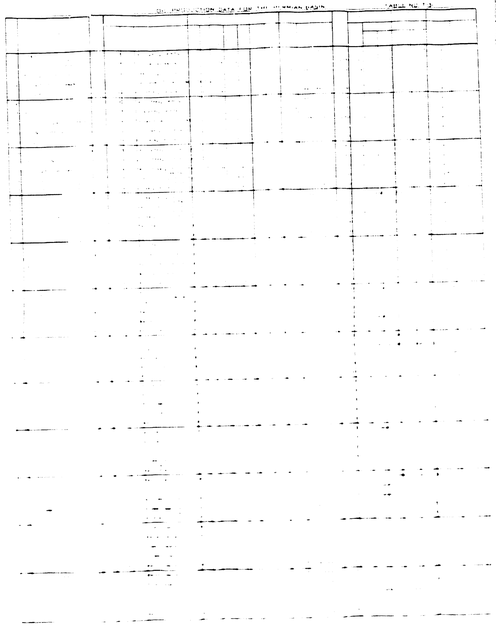


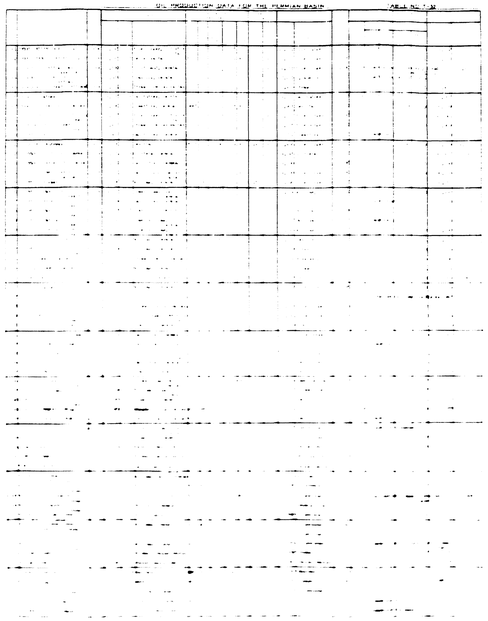
A.R.M.A.I.L. MICROGRAPHICS

BEST AVAILABLE COPY

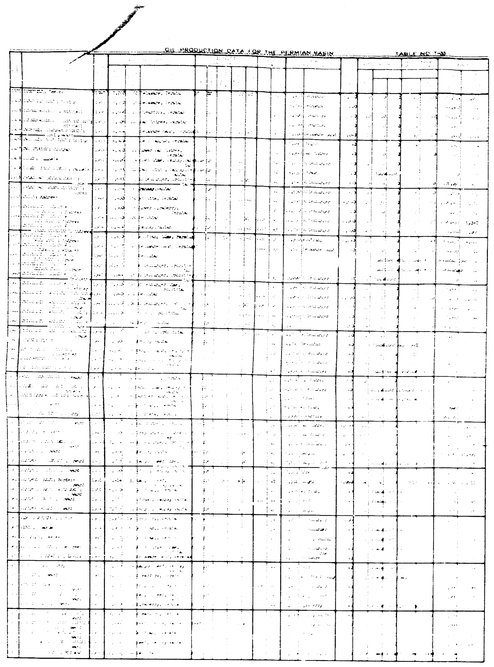


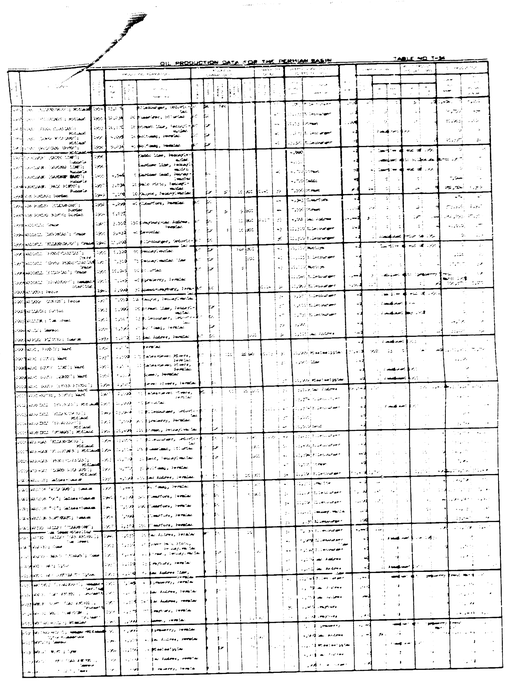


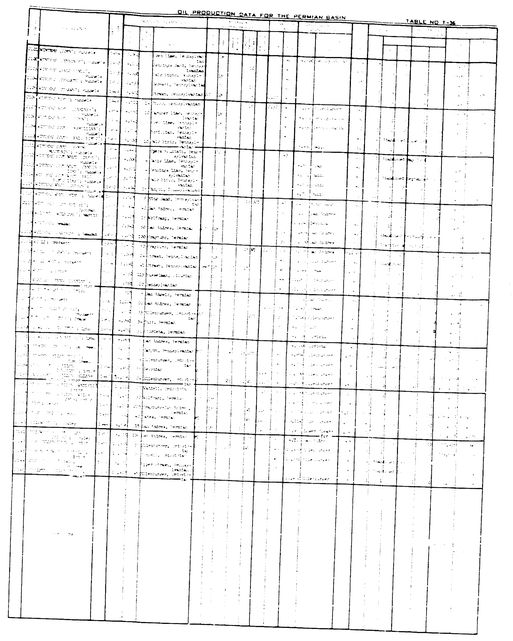


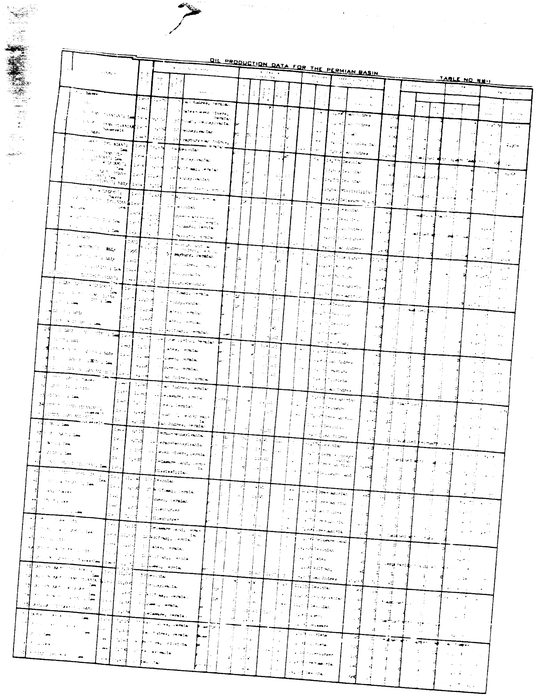


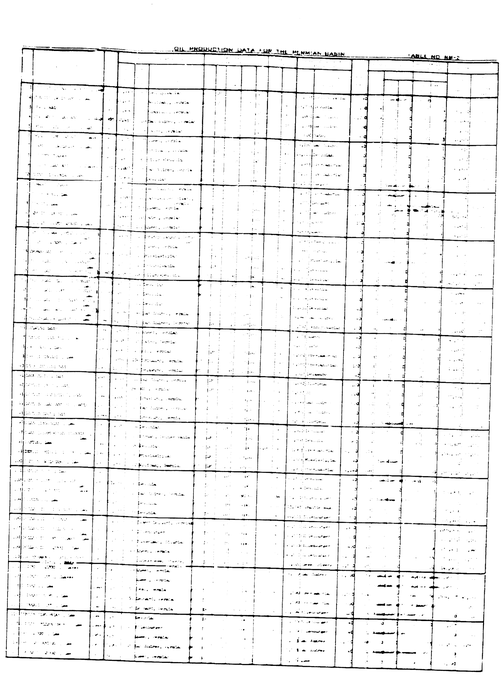


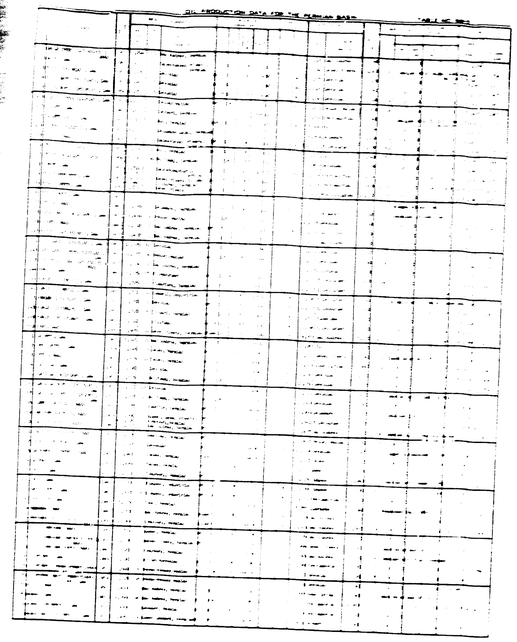





OIL PRODUCTION DATA FOR THE PERMIAN BASIN TABLE NO. T-36

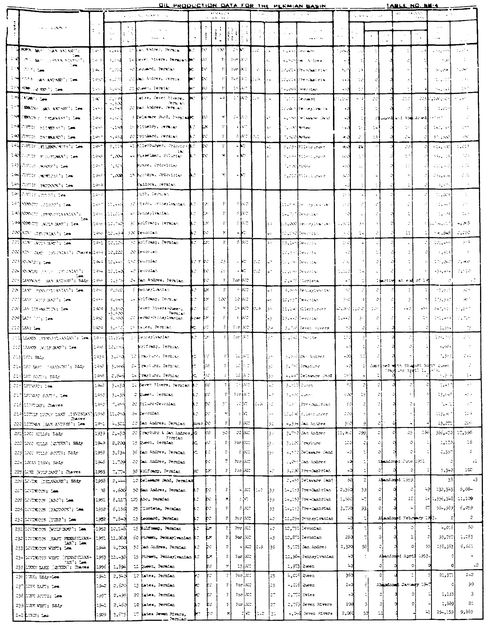

OIL PRODUCTION DATA FOR THE PERMIAN BASIN TABLE NO. RRC



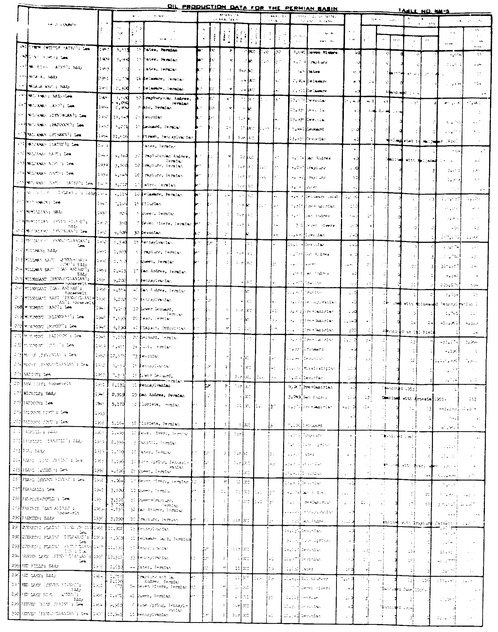




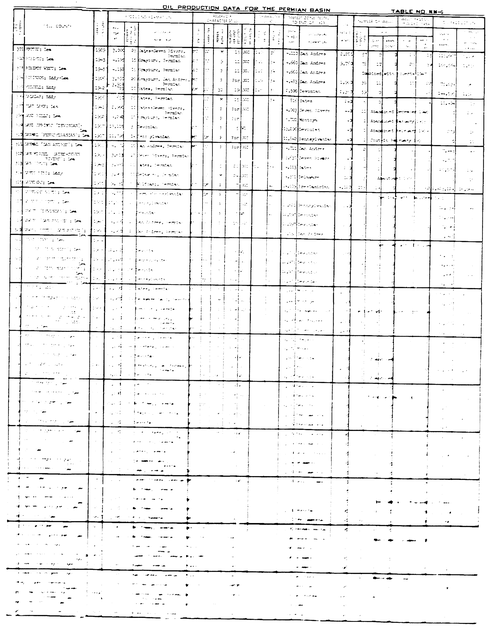
OIL PRODUCTION DATA FOR THE PERMIAN BASIN — TABLE NO. RM-5



OIL PRODUCTION DATA FOR THE PERMIAN BASIN — TABLE NO. RM-5

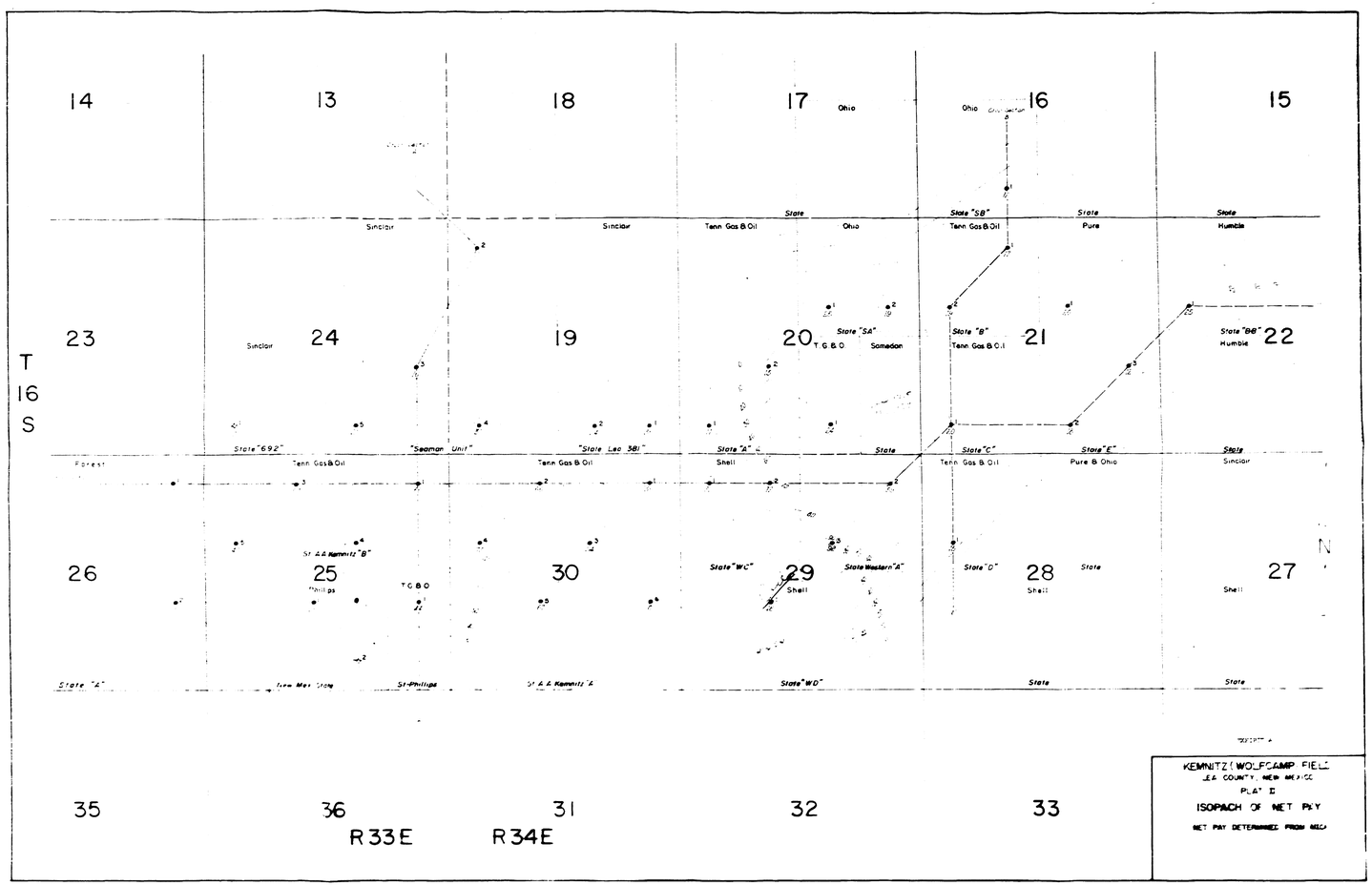


OIL PRODUCTION DATA FOR THE PERMIAN BASIN — TABLE NO. RM-5



A.A.R.G.P. MICROGRAPHICS

BEST AVAILABLE COPY


14
13
18
17
Ohio
Ohio
16
15
Sinclair
Sinclair
Tenn. Gas & Oil
State
Ohio
State "SB"
Tenn. Gas & Oil
State
Pure
State
Humble
23
Sinclair
24
19
20
State "SA"
T. G. & O.
Somedon
State "B"
Tenn. Gas & Oil
21
State "BB"
Humble
22
T
16
S
State "692"
Forest
Tenn. Gas & Oil
"Seaman Unit"
Tenn. Gas & Oil
"State Lea 381"
Tenn. Gas & Oil
State "A"
Shell
State
State "C"
Tenn. Gas & Oil
State "E"
Pure & Ohio
State
Sinclair
26
St. A. & Kemnitz "B"
25
Phillips
T. G. & O.
30
State "WC"
29
Shell
State Western "A"
State "D"
28
Shell
State
27
Shell
State "A"
Texas Mex. Stag
St-Phillips
St. A. & Kemnitz "A"
State "WD"
State
State
35
36
31
32
33
R33E
R34E
KEMNITZ (WOLFCAMP) FIELD
LEA COUNTY, NEW MEXICO
PLAT II
ISOPACH OF NET PAY
NET PAY DETERMINED FROM MICRO
N

NORTH-SOUTH CROSS SECTION

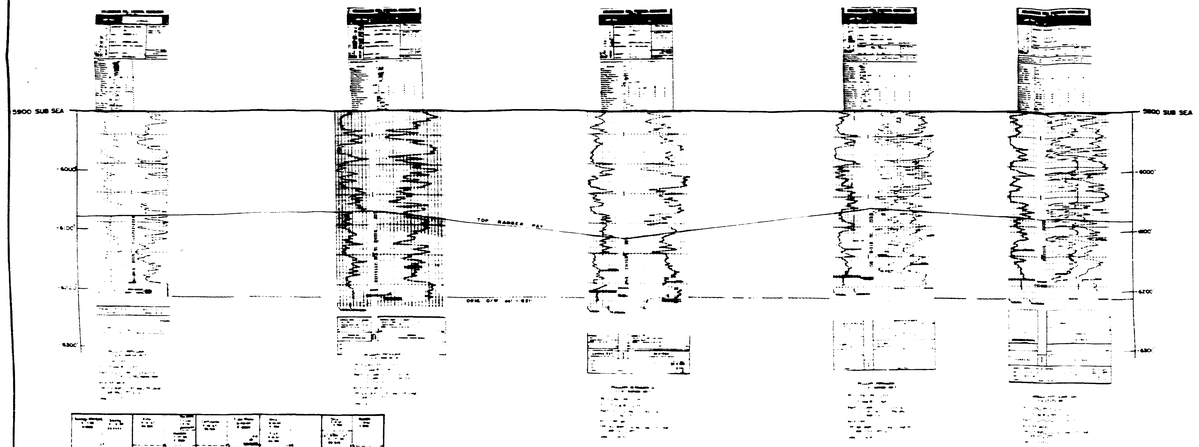
RANGER LAKE PENNSYLVANIAN FIELD

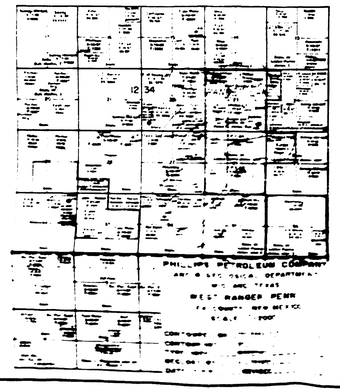
T 12 S R 34 E

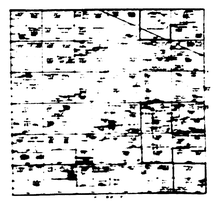
LEA CO., NEW MEXICO

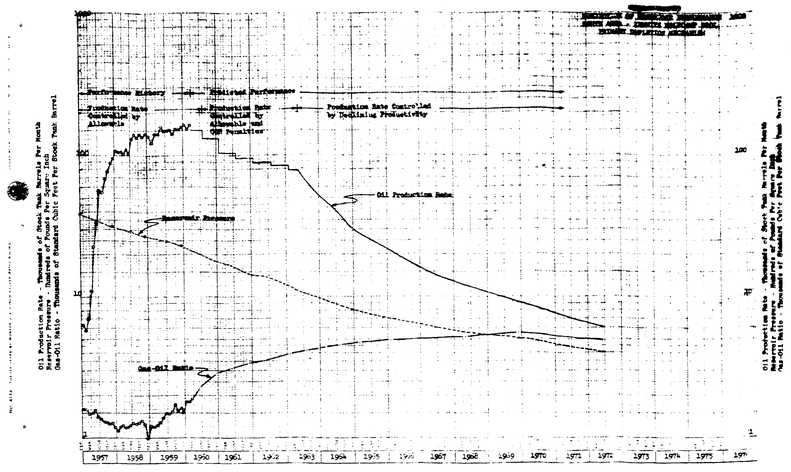
A

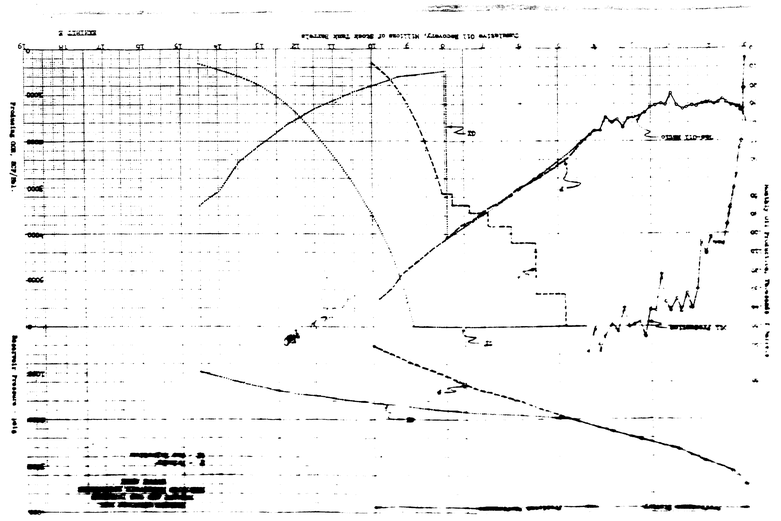
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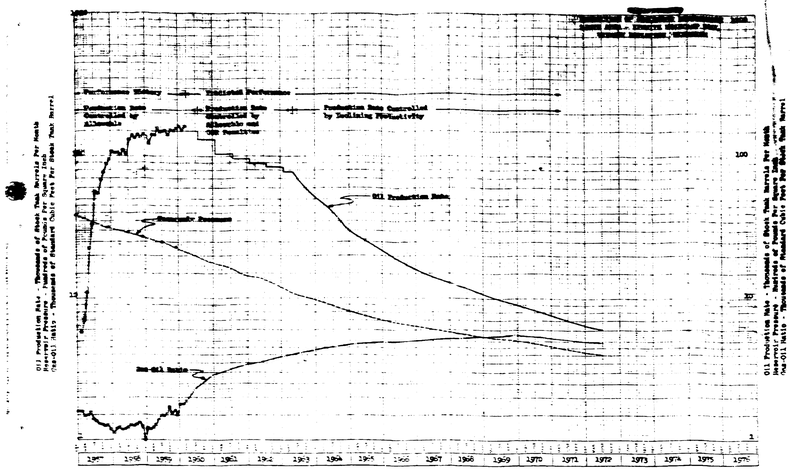


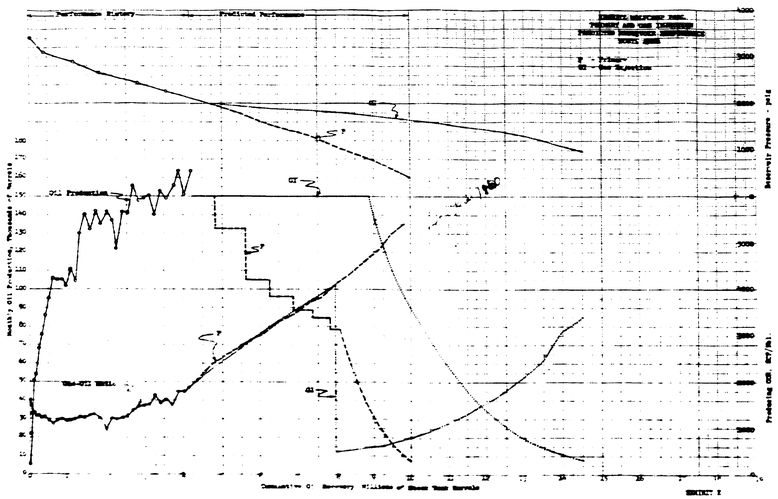


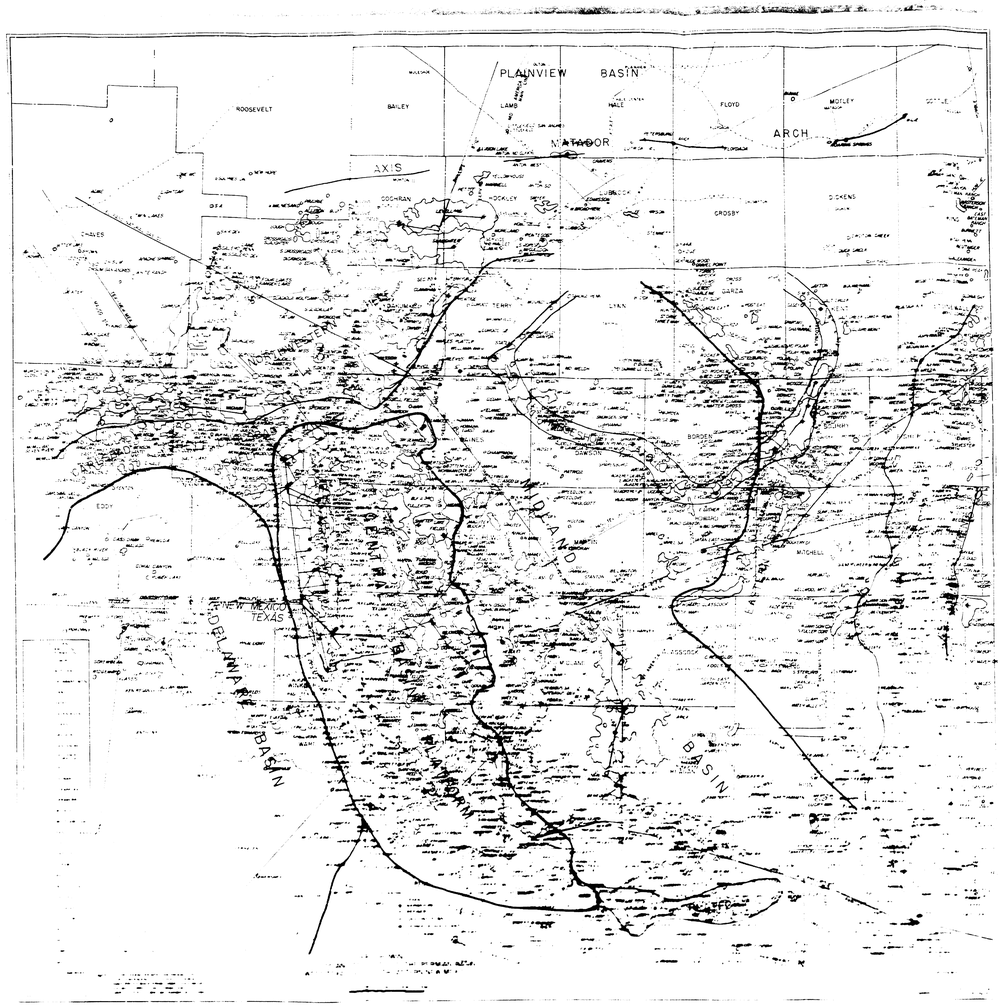


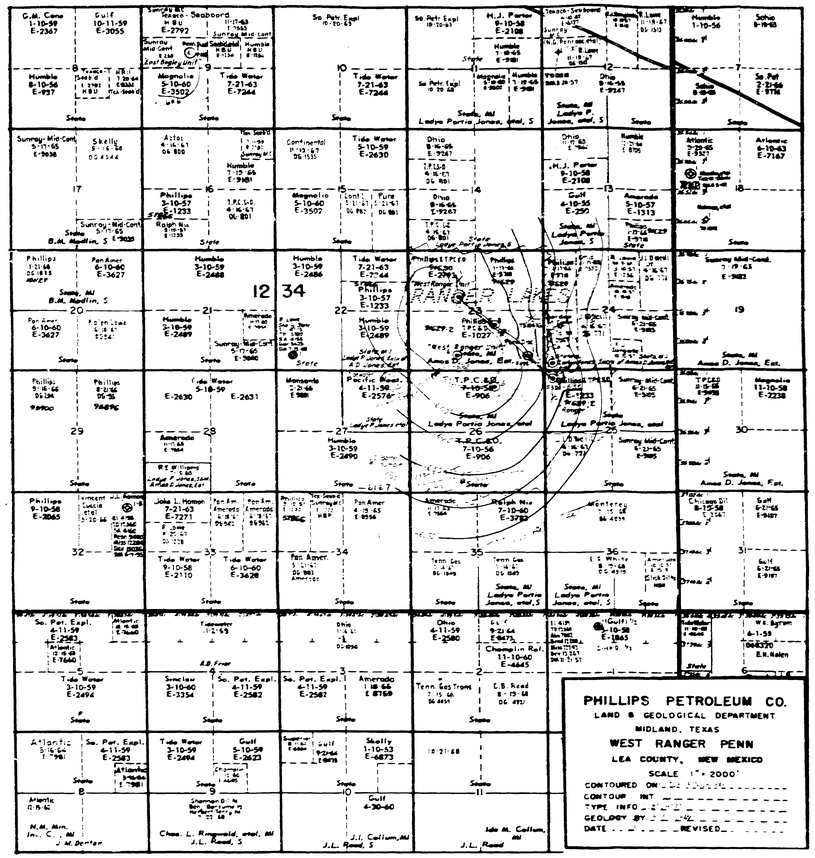

Oil Production Rate - Thousands of Stock Tank Barrels Per Month
Gas-Oil Ratio - Thousands of Cubic Feet Per Stock Tank Barrel
Production Allowable
Maximum Permissible
Production Rate Controlled by Well
Production Rate Controlled by Gathering Facilities
Production Rate Controlled by Technological Factors
Oil Production Rate
Gas-Oil Ratio
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976

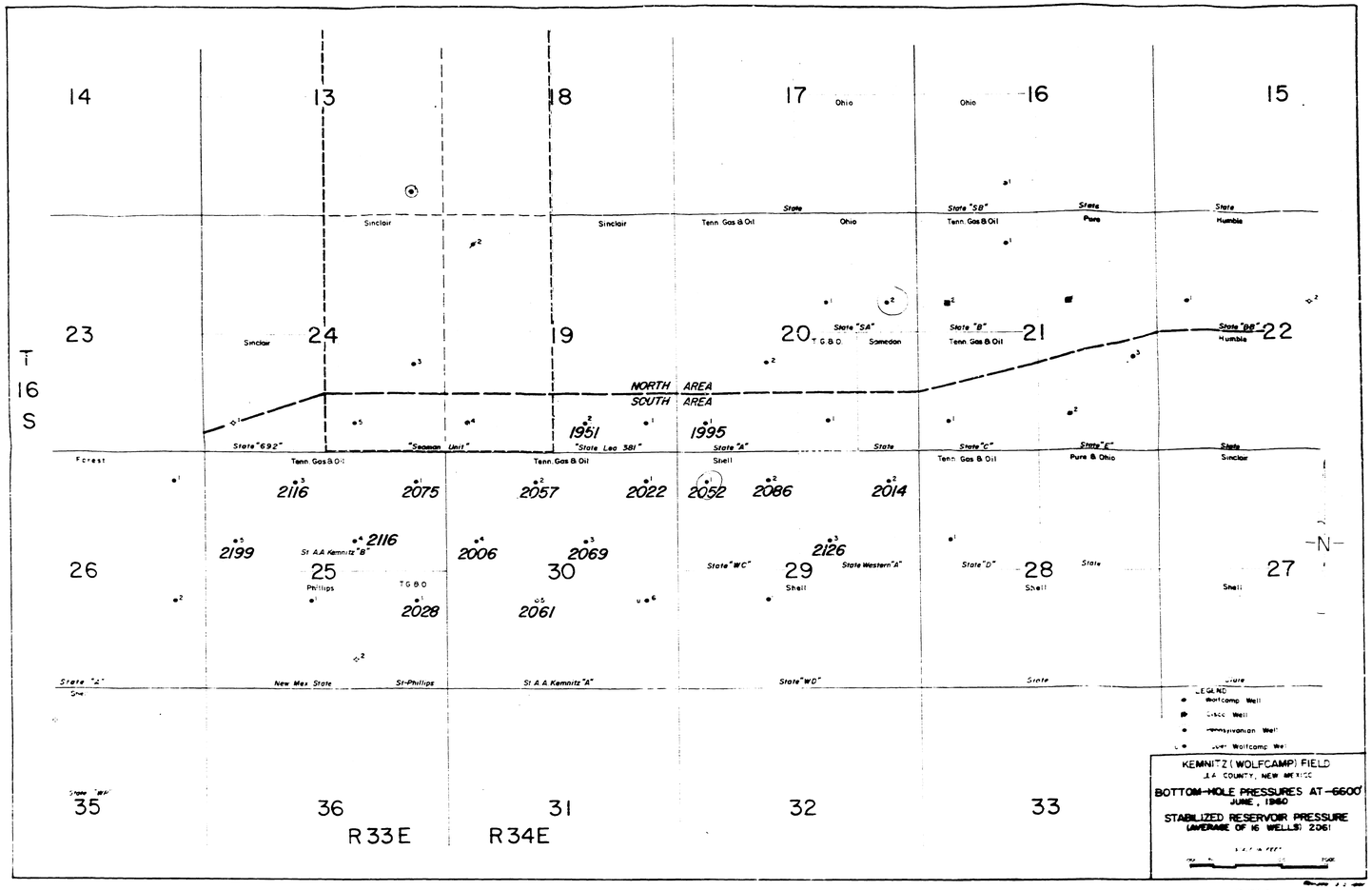



Performance History
Predicted Performance
Production Rate Controlled by Declining Productivity
Oil Production Rate
Reservoir Pressure
Gas-Oil Ratio
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976


Performance History
Predicted Performance
Oil Production
Gas-Oil Ratio
Reservoir Pressure - psia
Producing GOR, SCF/Bbl.
Cumulative Oil Recovery, Millions of Stock Tank Barrels

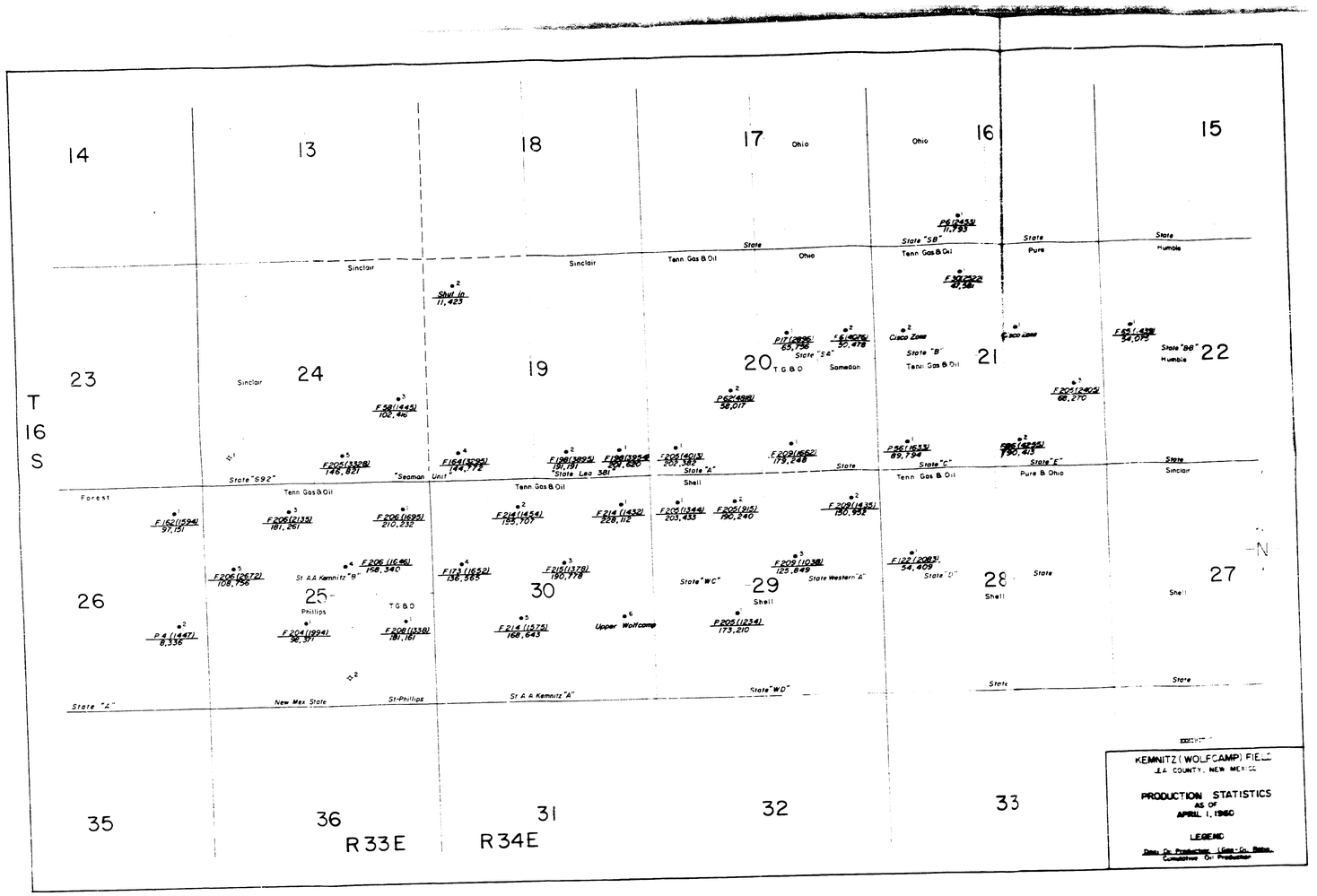

PLAINVIEW BASIN
ROOSEVELT
BAILEY
LAMB
HALE
FLOYD
MOTLEY
MATADOR
ARCH
AXIS
COCHRAN
HOCKLEY
CROSBY
DICKENS
CHAVES
GARZA
LYNN
EDDY
BORDEN
MITCHELL
NEW MEXICO
TEXAS
PECOS
BASIN


PANTHER LAKES
PHILLIPS PETROLEUM CO.
LAND & GEOLOGICAL DEPARTMENT
MIDLAND, TEXAS
WEST RANGER PENN
LEA COUNTY, NEW MEXICO
SCALE 1" = 2000'
CONTOURED ON
CONTOUR INT
TYPE INFO
GEOLOGY BY
DATE
REVISED


14
13
18
17
Ohio
Ohio
16
15
Sinclair
Sinclair
State
Tenn. Gas & Oil
Ohio
State "SB"
Tenn. Gas & Oil
State
Pure
State
Humble
23
Sinclair
24
19
20
T. G. & O.
State "SA"
Samedan
State "B"
Tenn. Gas & Oil
21
State "BB"
Humble
22
T
16
S
NORTH AREA
SOUTH AREA
State "692"
"Seaman Unit"
"State Leo 581"
State "A"
State
State "C"
State "E"
State
Forest
Tenn. Gas & Oil
Tenn. Gas & Oil
Shell
Tenn. Gas & Oil
Pure & Ohio
Sinclair
1951
1995
2116
2075
2057
2022
2052
2086
2014
2199
2116
St. A.A. Kemnitz "B"
2006
2069
2126
State "WC"
State Western "A"
State "D"
State
N
26
25
Phillips
T.G.&O.
2028
30
2061
29
Shell
28
Shell
27
Shell
State "A"
Shell
New Mex. State
St-Phillips
St. A. A. Kemnitz "A"
State "WD"
State
35
36
31
32
33
R 33 E
R 34 E
LEGEND
Wolfcamp Well
Penn Well
Pennsylvanian Well
Lower Wolfcamp Well
KEMNITZ (WOLFCAMP) FIELD
LEA COUNTY, NEW MEXICO
BOTTOM-HOLE PRESSURES AT -6600'
JUNE, 1940
STABILIZED RESERVOIR PRESSURE
(AVERAGE OF 16 WELLS): 2061

4.0 MM BO
Beginning 6/1, 9/1/60
Est BHP 2000 psi
6 Mo. Shut-in
Loss 3.3 MM BO
4.1 MM BO
Beginning 6/1, 3/1/61
Est BHP 1600 psi
12 Mo. Shut-in
Loss 1.3 MM BO
3.2 MM BO
Beginning 6/1, 9/1/61
Est BHP 1600 psi
TENNESSEE GAS AND OIL COMPANY
SOUTH AREA
KEMNITZ WOLFCAMP POOL
PREDICTED LOSS IN RECOVERY BY DELAY
OF
GAS INJECTION OPERATIONS
SCALE 1"=1.0 MM BO
EXHIBIT F

LAS ANIMAS ARCH
SIERRA GRANDE UPLIFT
DALHART BASIN
AMARILLO UPLIFT
BRAVO DOME
NORTHERN SHELF
PLAINVIEW BASIN
PALO DURO BASIN
MATADOR ARCH
TAMAROSA BASIN
CENTRAL BASIN
MIDLAND BASIN



KEMNITZ (WOLFCAMP) FIELD
LEA COUNTY, NEW MEXICO

PRODUCTION STATISTICS
AS OF
APRIL 1, 1960

LEGEND

Oper. Or Producing (Gas - Co. Status)
Cumulative Oil Production

NORTH-SOUTH CROSS SECTION

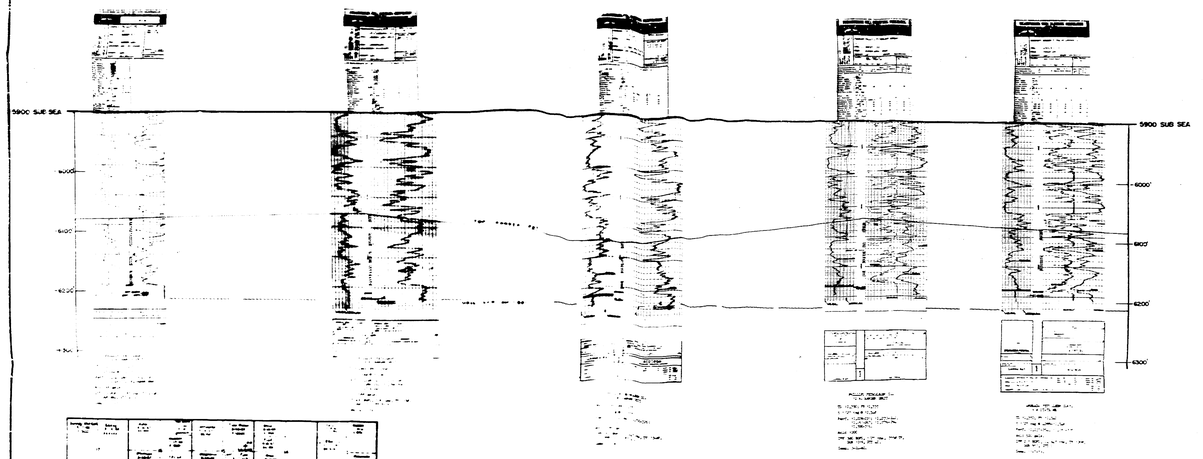
RANGER LAKE PENNSYLVANIAN FIELD

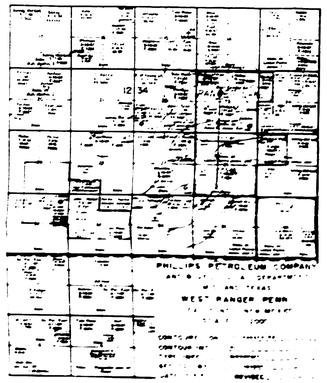
T 12 S R 34 E

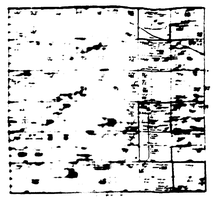
LEA CO. NEW MEXICO

A

A'



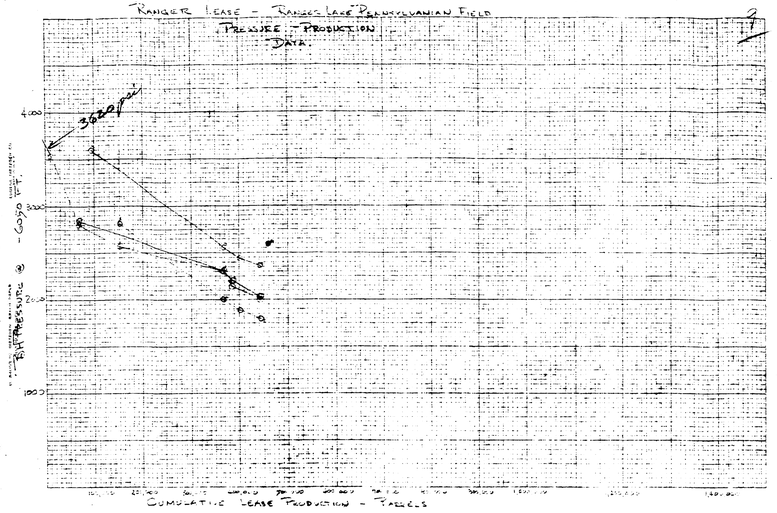


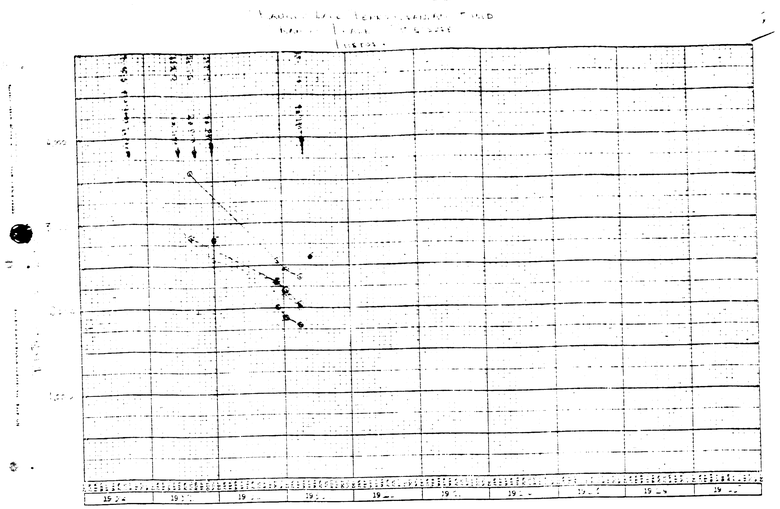


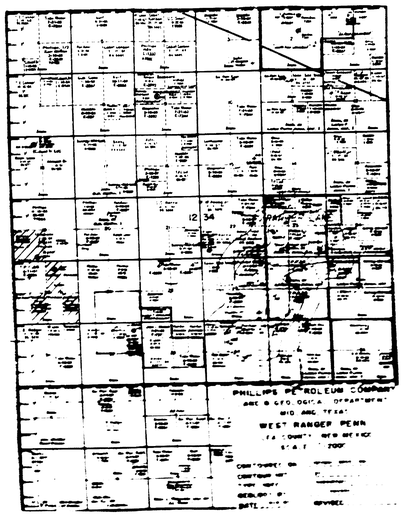
GEOLOGY DETAIL PENN PAY ZONE
GEOLOGIST C. F. LAWRENCE
DATE 8-6-60
HORIZONTAL SCALE 1" = 660'
VERTICAL SCALE 1" = 40'
WELL BORE ℄ DEPTH TRACK

RANGER LEASE - RANGER LAKE PENNSYLVANIAN FIELD

PRESSURE - PRODUCTION DATA







U.S. DEPT. OF AGRICULTURE

EAST-WEST CROSS SECTION

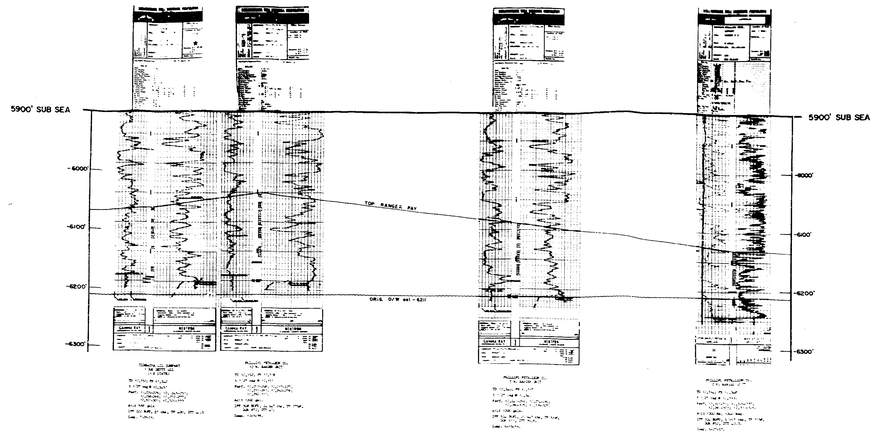
RANGER LAKE PENNSYLVANIAN FIELD

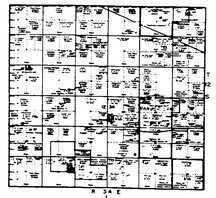
T 12 S R 34 E

LEA CO., NEW MEXICO

B

B'

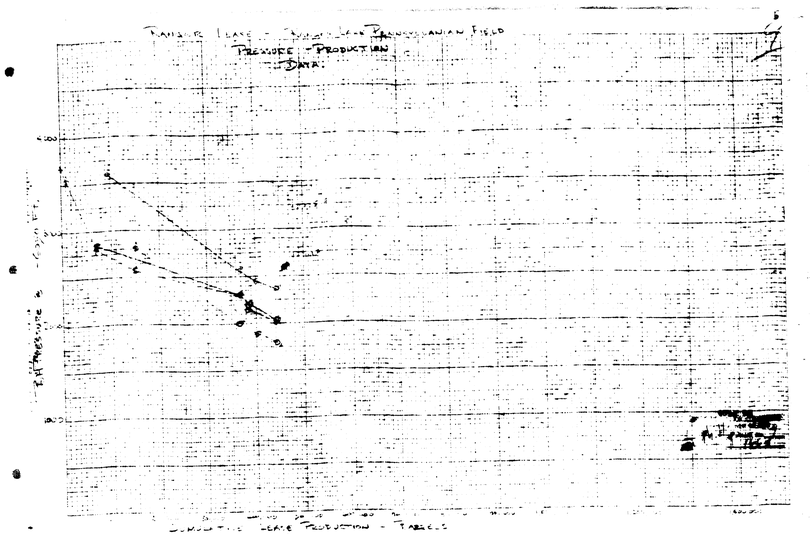




SCALE 1"=1000'

GEOLOGY DETAIL PENN PAY ZONE
GEOLOGIST C F LAWRENCE
DATE 6-1-60
HORIZONTAL SCALE 1" = 250'
VERTICAL SCALE 1" = 40'
WELLBORE ℄ DEPTH TRACK

A.R.M.A.-F. MICROGRAPHICS


PRESSURE - PRODUCTION DATA

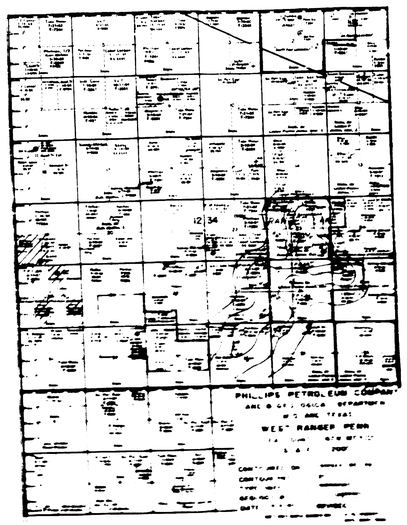
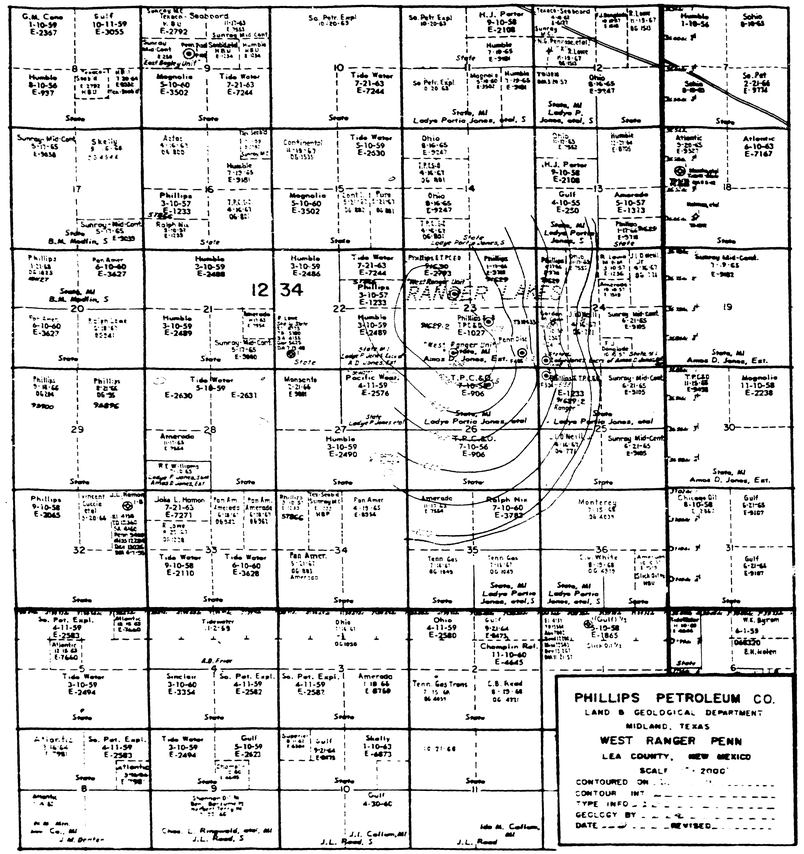

PHILLIPS PETROLEUM COMPANY
WEST RANGER PENN

EXHIBIT #1



PHILLIPS PETROLEUM CO.
LAND & GEOLOGICAL DEPARTMENT
MIDLAND, TEXAS
WEST RANGER PENN
LEA COUNTY, NEW MEXICO
SCALE 1" = 2000'
CONTOURED ON
CONTOUR INT.
TYPE INFO.
GEOLOGY BY
DATE REVISED

EAST-WEST CROSS SECTION

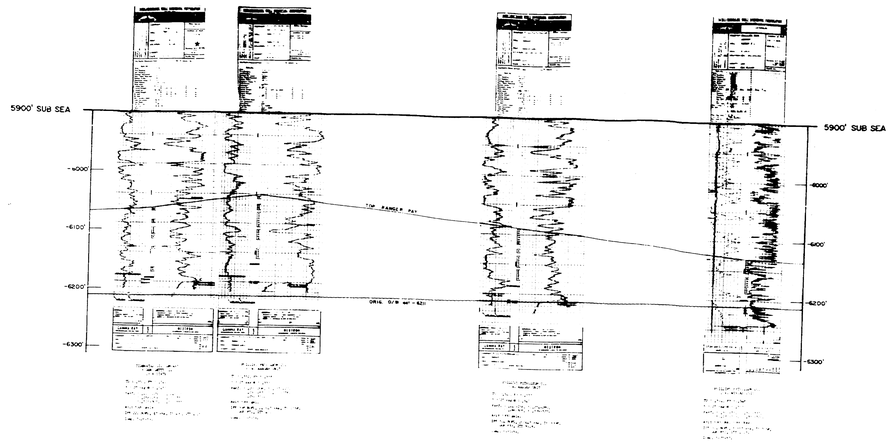
RANGER LAKE PENNSYLVANIAN FIELD

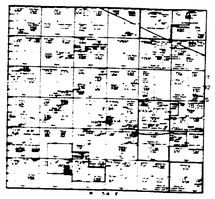
T 12 S R 34 E

LEA CO., NEW MEXICO

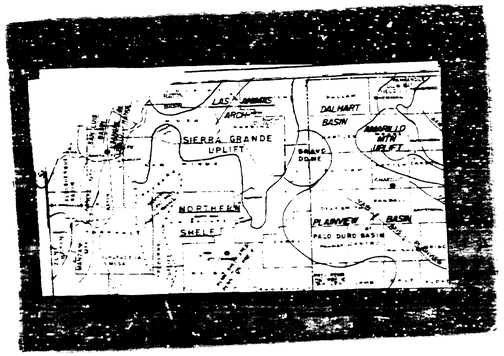
B

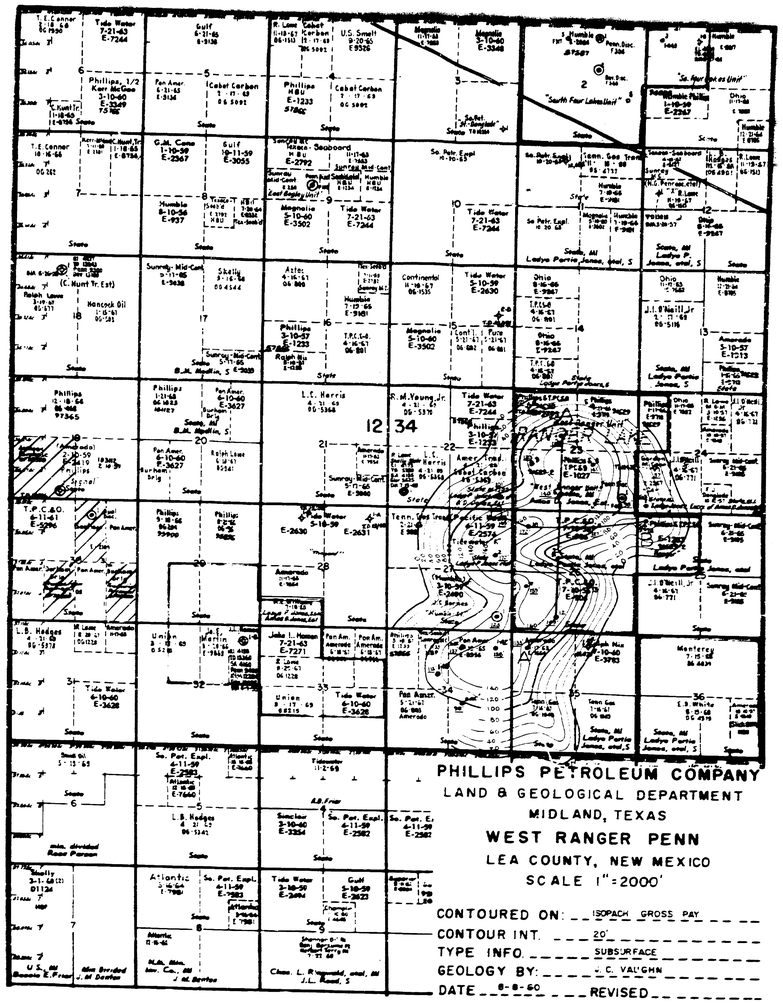
B'

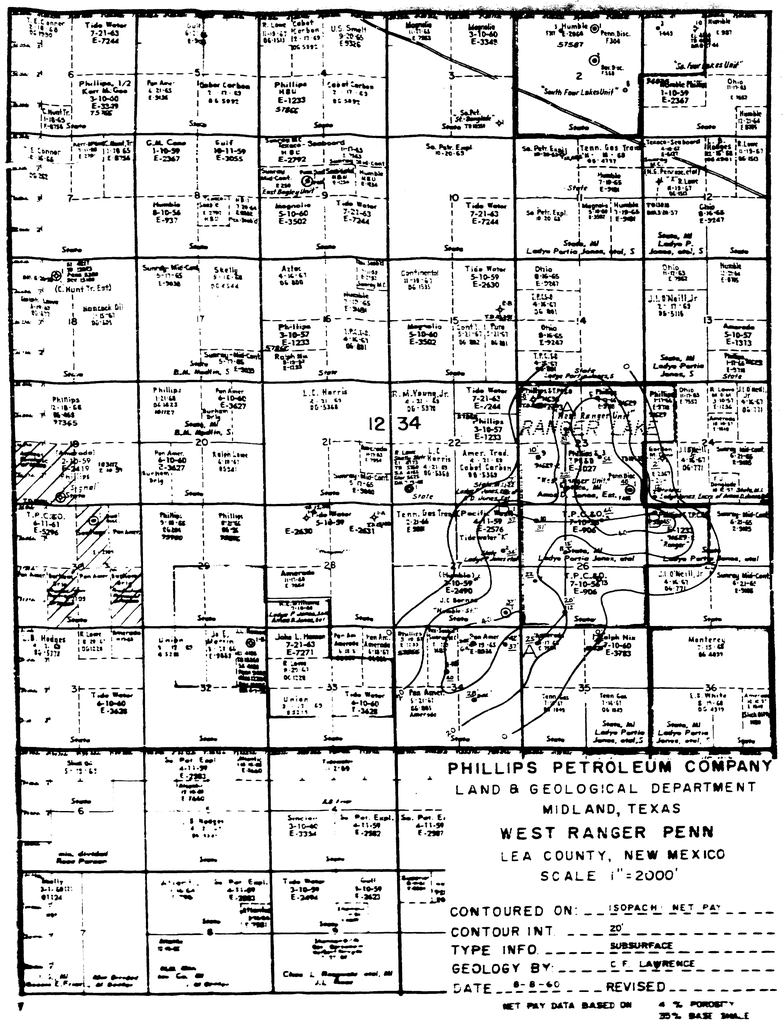




GEOLOGY DETAIL PENN PAY ZONE
GEOLOGIST C F LAWRENCE
DATE 8-8-60
HORIZONTAL SCALE 1" = 660'
VERTICAL SCALE 1" = 100'
WT. BORE ℄ DEPTH TRACK


LAS ANIMAS
ARCH
SIERRA GRANDE
UPLIFT
DALHART
BASIN
AMARILLO
ARCH
UPLIFT
BRAVO
DOME
NORTHERN
SHELF
PANHANDLE
BASIN
PALO DURO BASIN


WEST RANGER PENN
12
34
"South Four Lakes Unit"
"Ja Ripley Unit"
Sunray Mid-Cont.
Phillips
Tide Water
Gulf
Cabot Carbon
Magnolia
Humble
Ohio
Continental
Shell
Atlantic
Union
Texas
Tenn. Gas Trans.
So. Pac. Expl.
Amerada
Monterey
Sinclair
Skelly
Aztec
Hancock Oil
Kerr-McGee
Pan Amer.
Sohio
Stanolind
Kelly-Snyder
Ralph Lowe
Mesa Pet.
Sun Oil
Cities Service
Texaco
Shell
Stanolind
Sinclair-Seaboard
Sun Oil
Mesa Pet.



PHILLIPS PETROLEUM COMPANY
LAND & GEOLOGICAL DEPARTMENT
MIDLAND, TEXAS

WEST RANGER PENN
LEA COUNTY, NEW MEXICO
SCALE 1"=2000'

CONTOURED ON: ISOPACH NET PAY
CONTOUR INT 20'
TYPE INFO SUBSURFACE
GEOLOGY BY C.F. LAWRENCE
DATE 8-8-60 REVISED

NET PAY DATA BASED ON 4 % POROSITY
35% BASE SHALE

MICROFILMED

NORTH-SOUTH CROSS SECTION

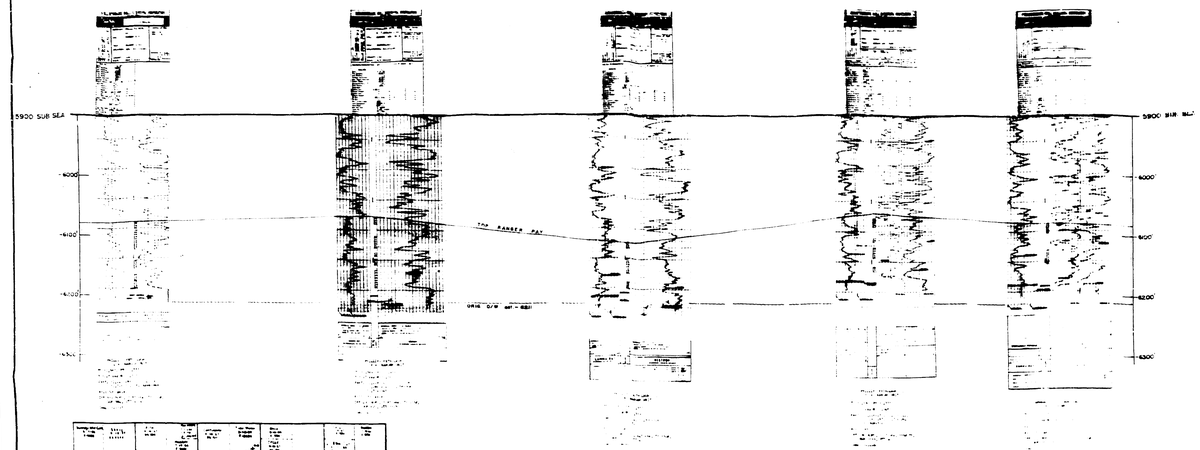
RANGER LAKE PENNSYLVANIAN FIELD

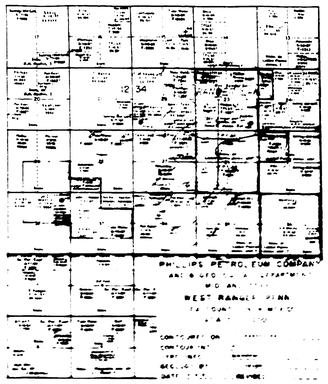
T 12 S R 34 E

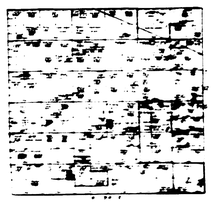
LEA CO., NEW MEXICO

A

A'







GEOLOGY: DETAIL PENN PAY ZONE

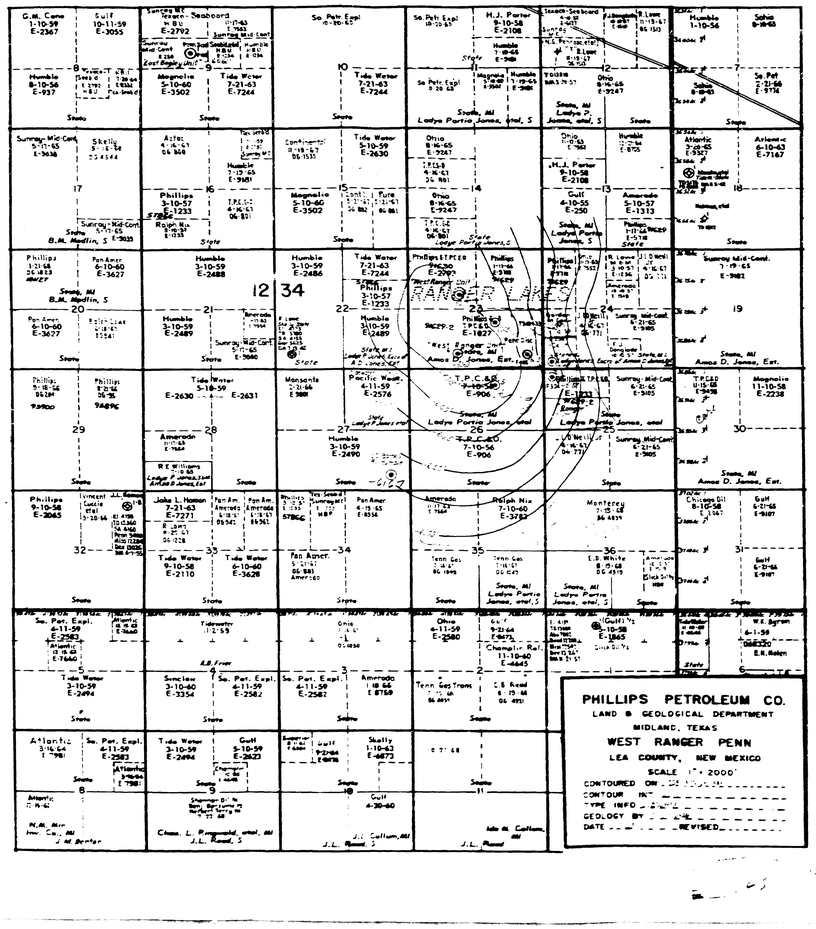
GEOLOGIST: C. F. HARRISON

DATE: 6-8-61

HORIZONTAL SCALE: 1" = 660'

VERTICAL SCALE: 1" = 10'

WT. WORT & DEPTH TRACK


RANGER LAKE
PHILLIPS PETROLEUM CO.
LAND & GEOLOGICAL DEPARTMENT
MIDLAND, TEXAS
WEST RANGER PENN
LEA COUNTY, NEW MEXICO
SCALE 1" = 2000'
CONTOURED ON
CONTOUR INT.
TYPE INFO
GEOLOGY BY
DATE
REVISED

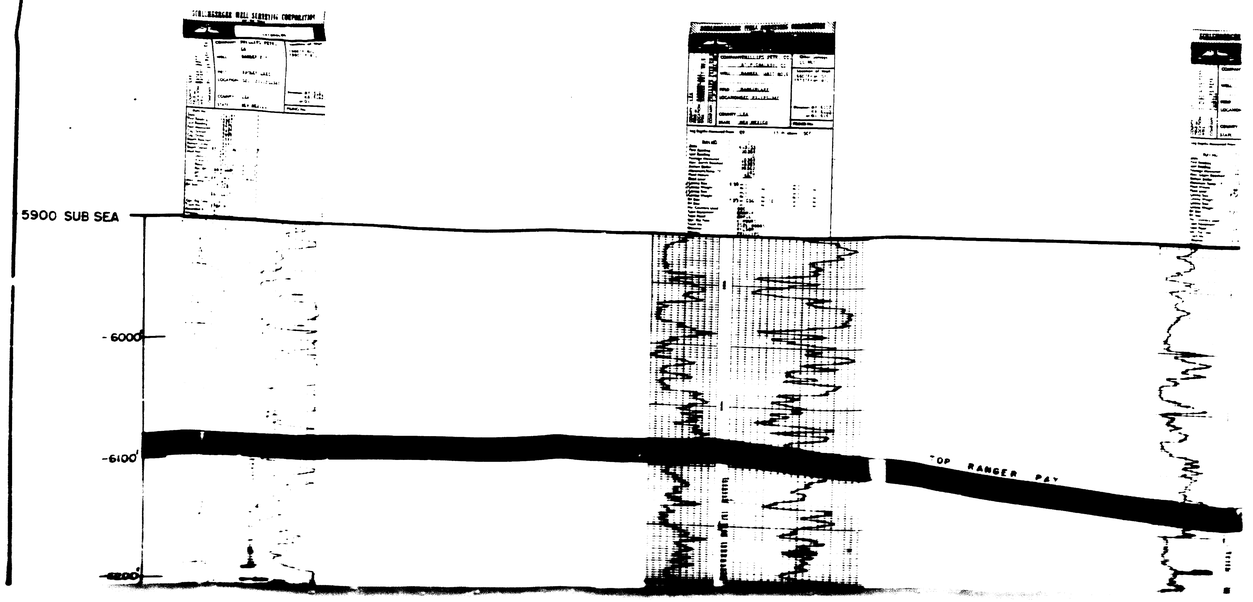
NORTH-SOUTH CROSS

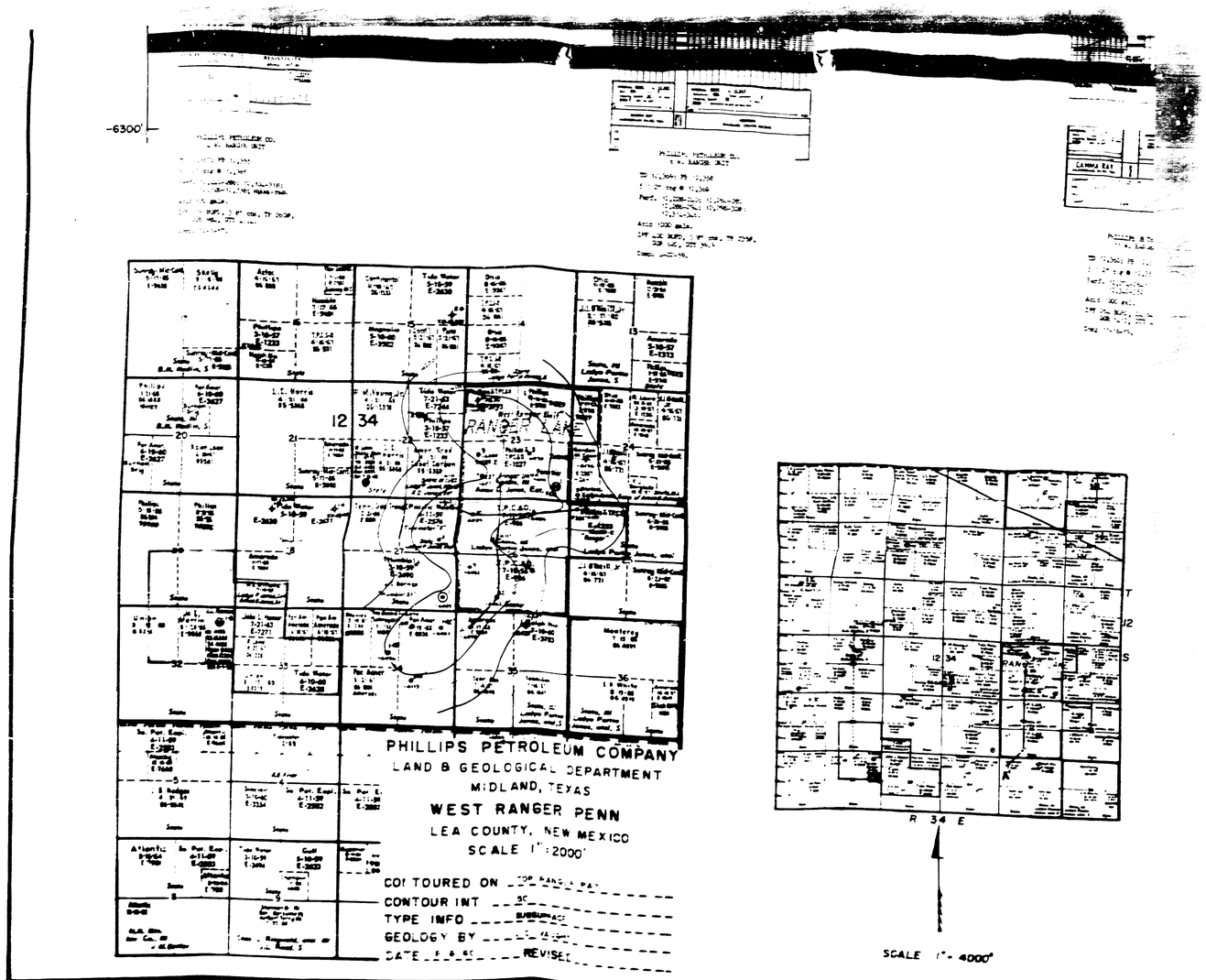
RANGER LAKE PENNSYLVANIAN

T 12 S R 34 E

LEA CO., NEW MEXICO

A



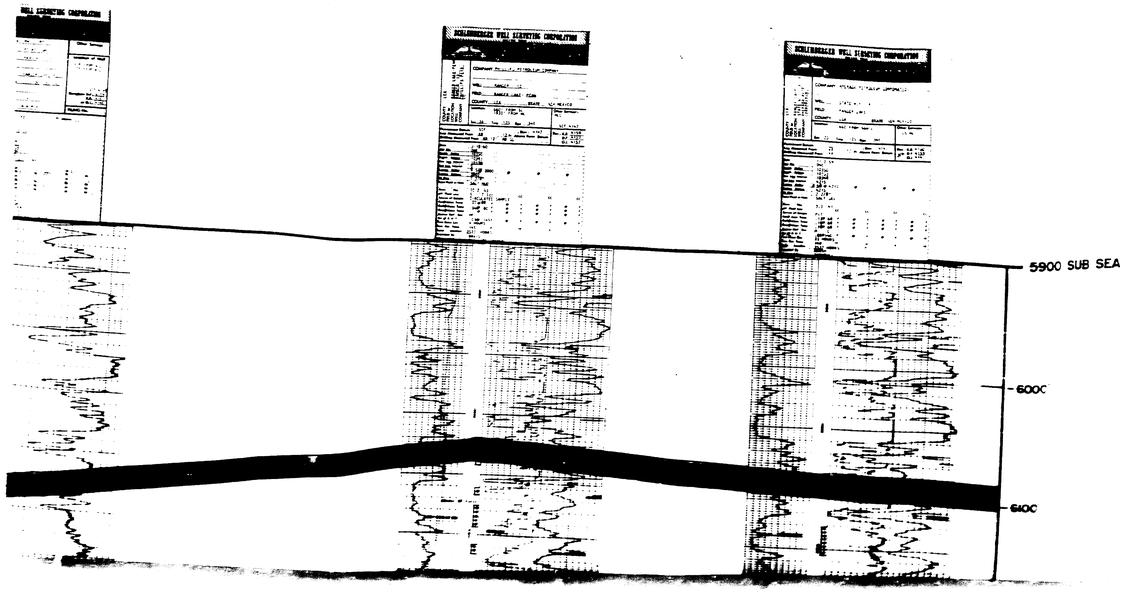

-6300'
12
34
RANGER LAKE
PHILLIPS PETROLEUM COMPANY
LAND & GEOLOGICAL DEPARTMENT
MIDLAND, TEXAS
WEST RANGER PENN
LEA COUNTY, NEW MEXICO
SCALE 1"=2000'
CONTOURED ON
CONTOUR INT
TYPE INFO
GEOLOGY BY
DATE
REVISED
T
12
S
R 34 E
SCALE 1"= 4000'

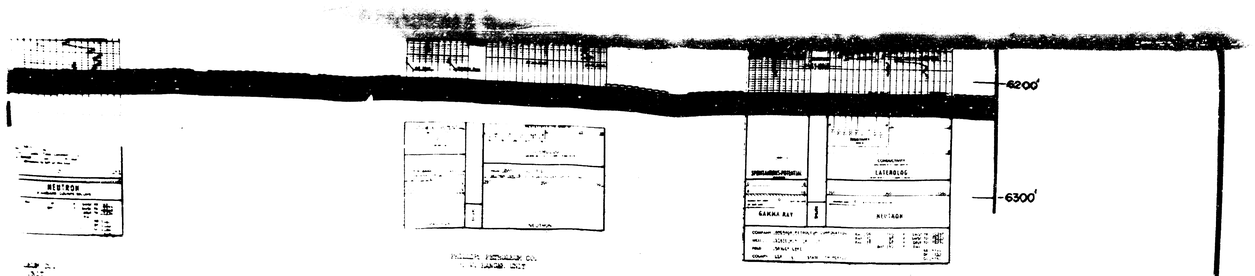
SECTION

FIELD

BEFORE THE
OIL CONSERVATION COMMISSION

A'





AMERADA PETROLEUM CORP.
1 A STATE NE

TD 10,350; PB 10,340
5 1/2" csg @ 6099-10,348
Perf. 10,237-254; 10,281-305.
Acid 500 gals.
IPF 215 BOPD, 24/64" chk, TP 1000,
GOR 953, WTR 0
Comp. 11-7-55.

GEOLOGY: DETAIL PENN. PAY ZONE
GEOLOGIST: C. F. LAWRENCE
DATE: 8-8-60
HORIZONTAL SCALE 1" = 250'
VERTICAL SCALE 1" = 40'
WELL BORE ℄ DEPTH TRACK

A

A

T 12 S R 34 E

LEA CO., NEW MEXICO

5900 SUB SEA

-6000'

-6100'

-6200'

-6300'

TOP RANGER PAY

5900 SUB SEA

-6000'

-6100'

-6200'

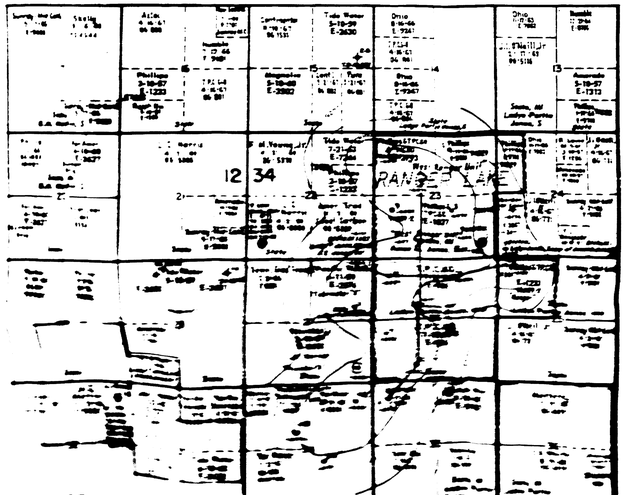
-6300'

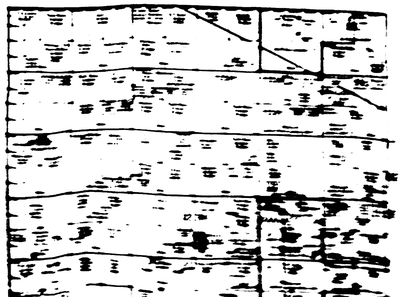
PHILLIPS PETROLEUM CO.
L.K. RANGER UNIT

PHILLIPS PETROLEUM CO.
L.K. RANGER UNIT

PHILLIPS PETROLEUM CO.
L.K. RANGER UNIT

PHILLIPS PETROLEUM CO.
L.K. RANGER UNIT





GEOLOGY DETAIL PENN PAY ZON.
GEOLOGIST L. LAWRENCE
DATE 8-8-62
HORIZONTAL SCALE 1" = 200'
VERTICAL SCALE 1" = 40'
WELL SCALE & DEPTH TRACK

T 12 S R 34 E

LEA CO., NEW MEXICO

A'

5900 SUB SEA

-6000'

-6100'

-6200'

-6300'

TOP RANGER PAY

5900 SUB SEA

6000'

6100'

6200'

6300'

GAMMA RAY

NEUTRON

RANGER LAKE

12 34

GEOLOGY DETAIL PENN PAY ZONE

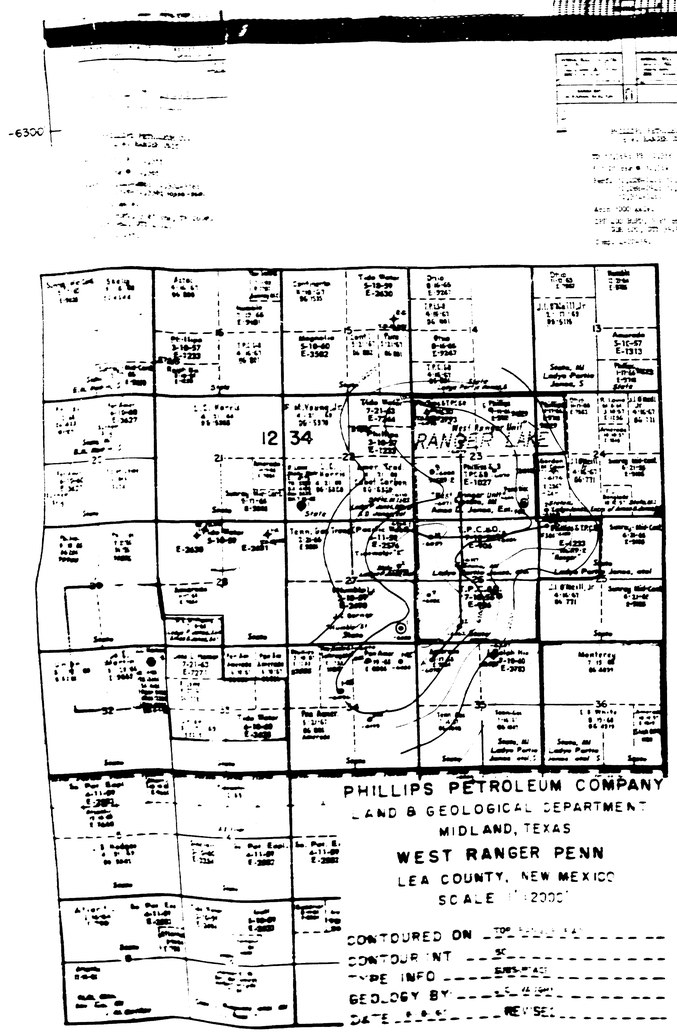
GEOLOGIST J. F. LAWRENCE

DATE 6-6-61

HORIZONTAL SCALE 1" = 880'

VERTICAL SCALE 1" = 40'

WELL BORE & DEPTH TRACK

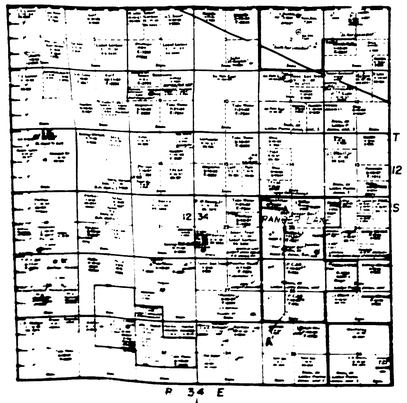


PHILLIPS PETROLEUM COMPANY
LAND & GEOLOGICAL DEPARTMENT
MIDLAND, TEXAS

WEST RANGER PENN

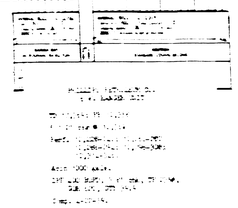
LEA COUNTY, NEW MEXICO
SCALE 1"=2000'

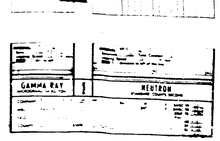
CONTOURED ON TOP PENN PAY
CONTOUR INT 5'
TYPE INFO SUBSEA
GEOLOGY BY C. F. LAWRENCE
DATE 8-8-60 REVISED



SCALE 1"= 4000'

-6300





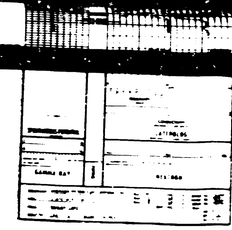
PHILLIPS PETROLEUM CO.
11 W. RANGER UNIT

TD 10,360' PB 10,359'
5 1/2" csg @ 10,359'
Perf. 10,[illegible]; 10,300-306;
10,334-340'
Acid 1000 gal.
IPF [illegible] BOPD, [illegible] mcf, TP 150#,
GOR [illegible], grav [illegible].
Comp. 11-16-55.



PHILLIPS PETROLEUM CO.
12 W. RANGER UNIT

TD 10,350' PB 10,335'
5 1/2" csg @ 10,348'
Perf. 10,296-298; 10,326-340;
10,354-360; 10,394-396;
10,398-414'.
Acid 1000
IPF 380 BOPD, 1/2" ck, 355# TP,
GOR 1019, grav 40.
Comp. 3-20-60.



AMERADA PETROLEUM CORP.
1 A STATE NL

TD 10,350' PB 10,334'
5 1/2" csg @ [illegible]
Perf. [illegible]; 10,298-306'.
Acid 500 gals.
IPF [illegible] BOPD, [illegible] mcf, TP [illegible],
GOR [illegible], grav [illegible].
Comp. [illegible]-59.

6200'

6300'

GEOLOGY: DETAIL PENN. PAY ZONE
GEOLOGIST : C. F. LAWRENCE
DATE : 8-8-60
HORIZONTAL SCALE 1" = 250'
VERTICAL SCALE 1" = 40'
WELL BORE ℄ DEPTH TRACK

A GENERAL REPORT

Covering the

PERMIAN BASIN

WEST TEXAS AND SOUTHEASTERN NEW MEXICO

Prepared by
NORTH BASIN POOLS ENGINEERING COMMITTEE
T. D. Post, Chairman

Midland, Texas
January 1, 1961

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A GENERAL STATEMENT

This is the eighteenth annual report prepared by the North Basin Pools Engineering Committee which covers certain facets of the gas activities in the Permian Basin area of West Texas and Southeastern New Mexico. It is not the purpose of this report to go into the many different phases of oil and gas conservation practiced in this area. However, a brief review picture may be obtained from the factual data contained herein as to what is being accomplished in this regard. This is especially true with respect to the conservation of associated gas produced in connection with oil production, which was stopped by the enforcement of proration schedules. Figures 1 and 2 show graphically the relationship of gas conservation with the industry moving into a stripper era as a result of proration.

THE PERMIAN BASIN

[illegible] the center of major hydrocarbon [illegible] the Permian Basin area. This topographic [illegible] a depressed area on the eastern [illegible] of which, as well as underlying, [illegible] a structural [illegible] of the Permian Basin are [illegible] formations are [illegible]

[illegible] the Permian Basin [illegible] Permian Basin [illegible] Permian Basin [illegible]

A GENERAL REPORT

Covering the

PERMIAN BASIN

WEST TEXAS AND SOUTHEASTERN NEW MEXICO

Prepared by
NORTH BASIN POOLS ENGINEERING COMMITTEE
T. O. Post, Chairman

Midland, Texas
January 1, 1961

Illustrations (Cont'd)

Figure

3 - Chart Showing Percentages of Daily Intake Volumes and Residue Gas Disposition of Gasoline Plants for Year 1960 - - - - - - 31

4 - Correlation Chart for Producing Formations of the Permian Basin in West Texas and Southeastern New Mexico - - - - - - - - - - 32

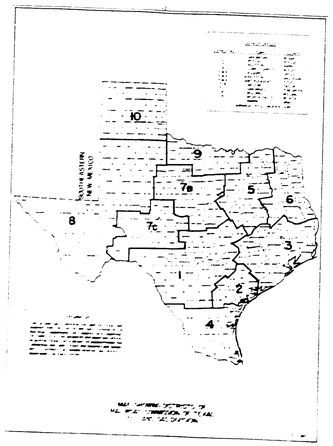
5 - Generalized Section Showing Pay Producing Formations, Lea County, New Mexico - 33

6 - Oil Field and Pipe Line Map of the Permian Basin, January 1, 1961. (Bound in back of Report).

COMMITTEE PERSONNEL

The following Committee employees who aided in acquiring, assembling and compiling the material contained in this report are listed below as a matter of general record and to give due acknowledgment for work done. The title designations are those used for payroll purposes.

NAME	POSITION	HEADQUARTERS
T. O. Post	Chairman	Midland, Texas
Norman W. Jones	Office Petroleum Engineer	Midland, Texas
Norma Carpenter	Secretary	Midland, Texas
Shirley Benson	Typist - Bookkeeper	Midland, Texas
Rodrigo Beltran	Senior Petroleum Engineer	Denver City, Texas
Louis E. McBee	Field Petroleum Engineer	Denver City, Texas
J. R. Elenis	Field Petroleum Engineer	Denver City, Texas
Ray D. Cook	Field Petroleum Engineer	Denver City, Texas



Gasoline Plants in West Texas (Cont'd)

PLANT OPERATOR	PLANT NAME	PLANT LOCATION FIELD	COUNTY	DAILY CAPACITY MCF	DESCRIPTION OF LOCATION
Cities Service Oil Co.	W. Seminole	W. Seminole	Gaines	15000	SW¼ Sec. 334, Blk. G, CCSD & RGNG Survey
Continental Oil Company	*Emmory	Ford-Sullivan Reeves	Reeves	5000	NW Sec. 36, Blk. 58, T-1-S, T&P RR Sur.
*Continental Oil Company	Todd Ranch PM	Todd Deep	Crockett	9300	SW¼ NE¼ Sec. 29, Blk. 40DC, AFRR Survey
*Dorchester Corporation	*Pierson	Big Lake	Reagan	6000	SE¼ Sec. 11, Blk. 2, University Lands
*El Paso Natural Gas Co.	Midkiff	Spraberry	Reagan	169000	NW¼ Sec. 22, Blk. 37, T-3-S, T&P RR Sur.
El Paso Natural Gas Co.	Sealy-Smith	Monahans	Ward	17000	NW¼ Sec. 43, Blk. A, C & NRR & A Survey
General Crude Oil Co.	Salt Creek PM	Salt Creek	Kent	5000	SE¼ Sec. 193, Blk. G, W B RR Survey
Honolulu Oil Corporation	Prentice	Prentice	Yoakum	17860	SW¼ Sec. 20, Blk. E, PSL
Honolulu Oil Corporation	*Keyes	Keyes	Hockley	1700	Labor 12, Leaguer 7, Wilbarger School Land
Houston Hydrocarbon Corp.	*Cardona Lake	Juan Cardona Lake	Crane	5000	SW¼ NE¼ Sec. 4, Juan Cardona Survey
*Humble Oil & Ref. Co.	Bronte	Bronte	Coke	3500	Sec. 5, CAH RR Survey
*Hunt Oil Company	Wilshire	Wilshire-Ellen	Upton	14000	NW Sec. 135, Blk. O, [illegible] & A&M Survey
Lion Oil Company	Diamond "M"	Diamond "M"	Scurry	11000	SW 10 Ac., Sec. 146, Blk. X, H & T Sur
*Lone Star Producing Co.	Ft. Chadbourne PM	Ft. Chadbourne	Runnels	10000	SE Cor. Odom Lse., Sec. 102, P. S. & T. Sur
*Mertzon Corporation	Mertzon	Mertzon	Irion	4000	NE Abs. 3542, Tom Green CSL
*Mesquite Gas Proc. ...	Davis	Davis	Upton	4000	NW NE Sec. 20, Blk. ... T-3-S, T&P
*Wilcox Petroleums Co.	R.C. Strawn	R.C. Strawn	Tom Green	1250	NE Sec. 2130, Abs. ... CAH
*District ...	*Refrigeration Plant.				

Gasoline Plants in West Texas (Cont'd) - 5 -

PLANT OPERATOR	PLANT NAME	PLANT LOCATION FIELD	COUNTY	DAILY CAPACITY MCF	DESCRIPTION OF LOCATION
*Pubco Petrochemical Co.	Sudan Peak	Sudan Peak	Tom Green	2500	NE¼ Sec. 193, T P RR Co. District 11
Natural Gas Products Co.	Imperial #1 Imperial #2	Abell Abell	Crane Pecos	15000 45000	Sec. 21, Blk. 1, H & TC Survey SE¼ SE¼ Sec. 41, Blk. 3, H & TC Survey
Odessa Nat'l Gasoline Co.	Odessa Cowden South	Foster Cowden South	Ector Ector	40000 5000	SW¼ Sec. 16, Blk. 42, T-2-S, TAP RR Surv. NE NW¼ Sec. 38, Blk. 42, T-2-S, TAP RY.
Pan American Pet. Corp.	*Anton-Irish	Anton-Irish	Hale	4000	SW Cor. SE¼ Sec. 14, Blk. D-7, HT&WT RR
Pan American Pet. Corp.	North Cowden	North Cowden	Ector	75000	SE¼ Sec. 34, Blk. 43, T-1-N, TAP RR Surv.
Pan American Pet. Corp.	S. Fullerton	Fullerton & Union	Andrews	57500	Center Sec. 8, Blk. A-46, PSL
Pan American Pet. Corp.	**Hendrick CL	Hendrick	Winkler	7000	SE Corner Sec. 39, Blk. 26, PSL
Pan American Pet. Corp.	Levelland	Levelland	Hockley	30000	NW Cor. Labor 7, League 72, Val Verde Sl
Pan American Pet. Corp.	Midland Farms	Midland Farms	Andrews	14000	Center Sec. 8, Blk. 42, T-1-N, G & MMB & A Survey
Pan American Pet. Corp.	*Monahans	N. Monahans	Winkler	5000	SW¼ Sec. 24, Blk. B-10, PSL
Pan American Pet. Corp.	Slaughter	Slaughter	Hockley	110000	Labors 14 and 15, League 49
Pan American Pet. Corp.	Three Bar PP	Three Bar	Andrews	18000	S½ NW¼ Sec. 4, Blk. 12, University Lands
Pecos Company		Midland	Spraberry	Midland	30000	Lot. 84 NE¼ Sec. 14, Blk. 37, T-3-S, TAP RR Survey
Pecos Company		Santa Rosa #2	Santa Rosa	Pecos	45000	SE¼ Sec. 105, Blk. F, H & GN Survey
Phillips Petroleum Co.		Andrews	Andrews	Andrews	108000	NW¼ Sec. 19, Blk. A-46, PSL
*Phillips Petroleum Co.		Benedum	Benedum	Upton	34000	NW¼ SE¼ Sec. 46, Blk. 9, MK & T Survey

*District 7-C. #Refrigeration Plant. **Gas Lift Compression Plant.

PLANT OPERATOR	PLANT NAME	PLANT LOCATION FIELD	COUNTY	DAILY CAPACITY MCF	DESCRIPTION OF LOCATION
Shell Oil Company	Wasson #1) Wasson #2)	Wasson	Yoakum Yoakum	150000	NW¼ NE¼ Sec. 892, Blk. D, Gibson Survey S ½ Sec. 827, Blk. D, Gibson Survey
*Sinclair Oil & Gas Co.	Hulldale #23	Hulldale	Schleicher	30000	2750' W. of SE Cor. Sec. 81, Blk. TT, GH & SA Survey
*Sinclair Oil & Gas Co.	*Ketchum Mt.	Ketchum Mt.	Irion	1250	SW¼ Sec. 48, Blk. 14, H & TC Survey
Skelly Oil Company	Kermit	Kermit	Winkler	10000	SW¼ Sec. 1, Blk. 26, PSL
*Skelly Mobil Oil Company	Parks Booster	Parks	Midland	8000	Sec. 15, Blk. 41, T-3-S, TAP RR Survey
*Skelly Mobil Oil Company	Pegasus	Pegasus	Midland	60000	Near Center Sl Sec. 20, Blk. 40, T-4-S, TAP RR Survey
Standard Oil Co. of Texas	North Snyder	Kelly-Snyder	Scurry	19000	NW¼ NE¼ Sec. 440, Blk. 97, H & TC Survey
*Sun Oil Company	Jameson	Jameson	Coke	50000	Cen. W½ Sec. 315, Blk. 1-A, H & TC Survey
Sunray Mid-Continent Oil Company	Snyder	Kelly-Snyder	Scurry	35000	Tract 20, Sec. 40, Kirkland & Fields Sur.
Texaco Inc.	F. L. Fuller	Cogdell	Scurry	25000	SE¼ Sec. 652, Blk. 97, H & TC RR Survey
Texas Pacific Coal & Oil Co.	Spraberry	Spraberry	Dawson	6000	SW¼ Sec. 36, Blk. 34, T-5-N, T&P
*Texas Gas Products Corp.	Benedum	Benedum-Spraberry	Upton	110000	NE¼ NE¼ Sec. 3, Chris Bendle Survey
Texas Gulf Prod. Co.	Headley	Headley	Ector	30000	SE Cor. NW¼ Sec. 8, Blk. 41, T-2-S T&P RR Survey
*Union Texas Natural Gas	**Perkins #10	Jameson-Strawn	Coke	70000	NE Cor. Sec. 2 & SE Cor. Sec. 1, Blk. 2, H & TC Survey
Warren Petroleum Corp.	Monahans	North Ward-Estes	Ward	25000	SW¼ Sec. 4, Blk. P, G & MMB & A Survey

*District 7-C. #Initial Report - March, 1960. **Operated by Texas Hydrocarbon Co. until June, 1960.

Gasoline Plants in Southeastern New Mexico (Cont'd) - 9 -

PLANT OPERATOR	PLANT NAME	PLANT LOCATION FIELD	COUNTY	DAILY CAPACITY MCF	DESCRIPTION OF LOCATION
Phillips Petroleum Co.	Tex	Vacuum	Lea	24000	N. Side of Hwy between Sec. 30 & 31, T-17-S, R-35-E
Sinclair Oil & Gas Co.	Plant #25	Cladiola	Lea	15000	NE NW¼ NE¼ Sec. 16, T-12-S, R-38-E
Skelly Oil Company	Eunice #1	Ferrum-Skelly	Lea	40000	NE SW¼ Sec. [illegible], T-22-S, R-37-E
Skelly Oil Company	Eunice #2	Drinkard	Lea	17000	SE SE¼ NE¼ Sec. 24, T-21-S, R-37-E
Skelly Oil Company	Lovington	Lovington	Lea	10000	SW¼ SW¼ Sec. 31, T-16-S, R-37-E on Skelly "CT" Lease
*Skelly Oil Company	Maljamar	Grayburg-Jackson	Eddy	20000	NW¼ Sec. 18, T-17-S, R-31-E
Valley Gas Corporation	Anderson Ranch	Anderson	Lea	500	NE of SW¼ NW¼ Sec., T-14-S, R-32-E
Valley Gas Corporation	Lone Mills Pp	Lone Mills	Eddy	600	W. 50% SW¼ Sec. 2, T-18-S, R-29-E
Warren Petroleum Corp.	Eunice	Eunice	Lea	7000	NE¼ Sec. 3, T-22-S, R-37-E
Warren Petroleum Corp.	Monument	Monument	Lea	7500	SE¼ SW¼ Sec. 36, T-19-S, R-36-E
Warren Petroleum Corp.	Saunders	Saunders Area	Lea	9000	SW¼ Sec. 34, T-14-S, R-34-E
Total Daily Capacity -		Southeastern New Mexico		218000	
Total Daily Capacity -		West Texas		1179000	
Grand Total Daily Capacity -		Permian Basin Area		1397000	

*Initial Report - June, 1960.

Annual Gasoline Plant Operations (Cont'd) - 11 -

COMPANY	AMARILLO	ANDREWS	ATLANTIC	BARNHART	CABOT CORP.	CABOT CORP.
PLANT West Texas	SHAFTER LAKE	ADAIR	BLOCK 31 PP	BARNHART	ESTES	WALTON & KEYSTONE
*NUMBER OF WELLS						
Oil	0	122	64	284	470	810
Gas	35	0	0	0	0	22
Total	35	122	64	284	470	832
*DAILY CAPACITY MCF	2,000	1,500	44,000	25,000	30,000	53,000
INTAKE VOLUMES MCF						
Casinghead Gas	0	397,813	10,733,780	5,212,168	9,211,023	9,947,835
Gas Well Gas	0	0	0	0	0	937,394
Int. Gathering System	1,809,750	397,813	10,733,780	5,212,168	9,211,023	10,885,229
From Gathering System	0	0	0	0	0	0
To Plant for Processing	1,809,750	397,813	10,733,780	5,212,168	9,211,023	10,885,229
Intake from Plant Meters	1,809,750	397,813	11,020,567	5,233,172	9,540,255	10,733,160	
Loss or Gain (Meters)	0	0	- 286,787	- 21,004	- 329,232	- 152,069
Gas from Other Sources	0	0	19,456,238	0	0	0
Net use for Processing	1,809,750	397,813	23,576,805	5,233,172	9,540,255	10,733,160
RESIDUE DISPOSITION MCF						
Ref. Loss & Acid Gas	0	131,212	1,522,658	806,115	385,832	586,261
Plant Fuel	0	78,397	1,180,151	892,134	947,569	1,286,488
Fuel & Losses	0	171,481	18,207	19,481	562,427	254,748
L. & P. Maint.	0	0	20,566,087	848,725	271,527	0
Warren Black Plants	0	0	0	0	2,386,745	5,820,208
Transmission Lines	1,809,750	7,024	0	2,650,987	3,420,804	0
Vapor	0	470	122,892	0	2,867,231	0
Meter Difference	0	9,249	0	15,487	139,296	254,743
Total	1,809,750	397,813	23,576,805	5,233,172	9,540,255	10,733,160
PLANT PRODUCTION BBLS.						
Gasoline	#1,243	14,406	**22,909	124,843	210,080	160,577
Butane	0	34,136	301,798	74,284	**148,864	**140,435
Propane	0	41,205	484,536	122,406	22,275	103,105
Total	1,243	93,747	1,109,243	321,533	381,219	404,117

*As January 1, 1961. #Includes other condensate. **Includes de-ethanized. ##Iso-butane combined.

Gasoline Plants in West Texas (Cont'd)

PLANT OPERATOR	PLANT NAME	PLANT LOCATION FIELD	COUNTY	DAILY CAPACITY MCF	DESCRIPTION OF LOCATION
Phillips Petroleum Co.	Crane	McElroy	Crane	550MM	NE¼ Sec. 259, Blk. F, CCSD & RGNG Survey
Phillips Petroleum Co.	N. Fullerton	Fullerton	Andrews	72MM	Center Sec. 17, Blk. A-42, PSL
Phillips Petroleum Co.	Goldsmith	Goldsmith	Ector	300MM	SE¼ Sec. 33, Blk. 44, T-1-N, T&P RR Sur.
Phillips Petroleum Co.	Jadwin	Penwell	Crane & Ector	410MM	N½ SW¼ Sec. 1, Blk. 35, University Lands; NW¼ Sec. 27, Blk. 44, T-2-S, TLP RR Sur.
*Phillips Petroleum Co.	Pembrook	Spraberry	Upton	75MM	NE¼ Sec. 47, Blk. 38, T-3-S, T&P RR Sur.
Phillips Petroleum Co.	Puckett	Puckett	Pecos	235MM	NE Sec. 26, Blk. 101, TCRR Survey
Phillips Petroleum Co.	Seminole	Seminole	Gaines	36MM	NE¼ Sec. 229, Blk. C, WTRR Survey
Phillips Petroleum Co.	Spraberry	Spraberry	Midland	25MM	SE¼ Sec. 25, Blk. 37, T-3-S, T&P RR Sur.
Phillips Petroleum Co.	**Tunstill	Tunstill	Reeves	13MM	NE Sec. 10, Blk. 56, T-2-S, T&P
Phillips Petroleum Co.	Winkler	Emperor Deep	Winkler	14MM	Center NE¼ NE¼ Sec. 27, Blk. B-5, PSL
The Pure Oil Company	Dollarhide	Dollarhide	Andrews	90MM	SE¼ Sec. 23, Blk. A-42, PSL
Reef Corporation	T. Vealmoor	T.Vealmoor	Howard	90MM	NE¼ Sec. 20, Blk. 33, H & TC Survey
Sid Richardson Gasoline Co.	Keystone	Keystone	Winkler	45MM	Center NE¼ Sec. 5, Blk. B-7, PSL
*Sunnels Gas Products Co.	Sykes	Cone-Sykes	Runnels	18MM	NE¼ NE¼ Sec. 6, MT & P RR Survey
*Shell Oil Company	Crossett	Crossett	Upton	3MM	NW Sec. 55, Blk. 35, H & T. Survey
Shell Oil Company	TXL	TXL-Wheeler	Ector	112MM	E½ NE¼ Sec. 17, Blk. 43, T-1-S, T&P RR Sur.

*District Pkg. -Refrigeration Plant. **Formerly Pecos Petroleum Company. ***Formerly Rycade Oil Corporation.

ANNUAL GASOLINE PLANT OPERATIONS
For Year 1960

On January 1, 1960, there were 104 gasoline plants operating in the Permian Basin Area of West Texas and Southeastern New Mexico, or 7 more than there were for the year 1959.

The tabulations beginning on the next page reflect: (1) the intake volume of gas, (2) the disposition of the gas, and (3) the amount of products recovered from each of these 104 plants operating in the Permian Basin on January 1, 1960. A summary of the gasoline plant operations for the year 1960 is outlined following these tabulations on page 20 hereof. A summary for the year 1959 may be noted on page 23 of the January 1, 1960 Annual Report of the Permian Basin in West Texas and Southeastern New Mexico.

In Texas producers are required to report gas volumes used, a pressure base of 14.65# sq.in., while in New Mexico a base of 15.025 sq.in. is used. The individual plant volumes beginning on the next page are shown as reported in each state, however, for comparison purposes, the volumes shown below and in the summary on page 20 have been converted to a common base of 14.65# sq.in.

Year	*TOTAL WELLS CONNECTED: Oil	Gas	DAILY AVERAGE GAS INTAKE MCF: Casinghead	Gas Well	DAILY AVERAGE RECD. OF PRODUCTS	*TOTAL PLANT CAPACITY MCF
1955	27,[illegible]	1,[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1956	27,[illegible]	1,[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1957	27,[illegible]	1,[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1958	27,[illegible]	1,[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1959	28,[illegible]	1,[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1960	28,[illegible]	1,[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

*Connected at the end of each year.

Gasoline Plants in West Texas (Cont'd)

PLANT OPERATOR	PLANT NAME	PLANT LOCATION FIELD	COUNTY	DAILY CAPACITY MCF	DESCRIPTION OF LOCATION
*Warren Petroleum Corp.	Pamela	Justiss	Winkler	50MM	E. Cent. Sec. 2, Blk. A-26, PSL Survey
Warren Petroleum Corp.	Waddell	Seed Hills	Crane	440MM	SE¼ Sec. 25, Blk. A-26, PSL
Total Daily Capacity - West Texas				37,[illegible]MM	

GASOLINE PLANTS IN SOUTHEASTERN NEW MEXICO

Atlantic Refining Co.	Levington	Denton	Lea	25000	NW¼ SE¼ Sec. 2, T-15-S, R-37-E
Great Western Drilling Company	Kiley	Kiley-Stevenson	Lea	3000	NW¼ SE¼ Sec. 35, T-12-S, R-32-E
Continental Oil Co.	**El Mar	El Mar	Lea	[illegible]	[illegible]
El Paso Natural Gas Co.	Jal No. 1	Cooper-Jal	Lea	7000	E. Cent. Sec. 21, T-25-S, R-37-E
El Paso Natural Gas Co.	**Jal No. 2)	Langlie-Mattix	Lea	120000	SW cor. Sec. 34, T-24-S, R-36-E
	**Jal No. 3)	Langlie-Mattix	Lea	[illegible]	[illegible]
	**Jal No. 4	Langlie-Mattix	Lea	[illegible]	[illegible]
Frontier Gas Co.	Old Floats; Jackson Pr	Stanolind-Jackson	Lea	[illegible]	[illegible]
Humble Oil & Ref. Co.	Saunders	South Point	Lea	1000	NW cor. Sec. 1, T-17-S, R-33-E
Northern Nat'l Gas Co.	Robbs	Robbs-Bough	Lea	[illegible]	[illegible]
**Phillips Petroleum Co.	Artesia	Empire	Eddy	150000	NE¼ Sec. 1, T-18-S, R-28-E
Phillips Petroleum Co.	Lusco	Lusco	Lea	[illegible]	Sec 31 Lea [illegible] T-24-S, R-37-E
Phillips Petroleum Co.	Robbs	Robbs	Lea	240000	W NE¼ Sec. 2, T-12-S, R-34-E

*District Pkg. (*Formerly Phillips Petroleum Co.) **Formerly Maljamar Co-Op Exp. Assn. ***Combined Jal Operating Companies.
**Initial Report - Annual: Inc.

Annual Gasoline Plant Operations (Cont'd)

COMPANY	CHILDAD	CITIES SERVICE	CITIES SERVICE	CITIES SERVICE	CITIES SERVICE	CONTINENTAL
PLANT - West Texas	WELLMAN	LEMAN	*PAGE	ROBERTS RANCH	WEST SPRABERRY	RANKIN
NUMBER OF WELLS:						
Oil	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gas	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
*DAILY CAPACITY MCF	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
INTAKE VOLUMES MCF						
Casinghead Gas	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gas Well Gas	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Into Gathering System	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
From Gathering System	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Plant for Processing	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Intake from Plant Meters	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Loss or Gain (Meters)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gas from Other Sources	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Net Gas for Processing	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RESIDUE DISPOSITION MCF						
Sold, Gross & Acct. Use	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Plant Fuel	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Repressuring						
Flared						
Other Disposition						
Vented	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PLANT PRODUCTION BBL:						
Gas - Lpg	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Natural	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Propane	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

*As of January 1, [illegible]

Annual Gasoline Plant Operations (Cont'd) - 13 -

COMPANY	CONTINENTAL	CONOCHEM	EL PASO	EL PASO	GENERAL CRUDE	HUMPHREY
PLANT - West Texas	TODD RANCH	**TEXON	MIDKIFF	SEALY-SMITH	SALT CREEK FK	TRENTICE
*NUMBER OF WELLS						
Oil	143	12	1,486	166	70	474
Gas	0	3	0	17	5	27
Total	143	15	1,486	183	75	501
*DAILY CAPACITY MCF	4,000	6,000	140,000	17,000	5,000	12,860
INTAKE VOLUMES MCF						
Casinghead Gas	744,393	54,297	36,402,097	2,543,435	1,443,432	3,610,840
Gas Well Gas	0	1,192,728	49,334	2,636,981	0	0
Into Gathering System	744,393	1,247,025	36,451,431	4,880,396	1,443,432	3,610,840
From Gathering System	50	0	2,727,457	11,892	211,442	0
To Plant for Processing	793,943	1,247,025	35,033,344	4,868,504	1,228,010	3,610,840
To Plant for Processing	1,537,178	1,247,025	70,390,465	5,078,765	1,228,010	3,552,100
Intake from Plant Meters	51,765	0	- 4,628,849	- 139,591	0	- 58,148
Loss or Gain (Meters)	579,478	0	3,138,561	0	0	0
Gas from Other Sources	0	0	0	0	0	0
Net Gas for Processing	1,537,178	1,247,025	72,733,259	5,078,765	1,228,010	3,552,100
RESIDUE DISPOSITION MCF						
Est. Loss & Acid Gas	131,030	128,188	5,469,173	310,255	37,982	705,151
Plant Fuel	241,825	201,304	4,800,559	628,811	0	435,225
Fuel & Losses	477,249	278,511	47,098	310,420	0	30,941
G. L. & F. Maint.	83,425	0	8,757,970	0	1,190,028	0
Carbon Black Plants	0	0	0	0	0	0
Transmission Lines	0	1,131,023	35,301,960	3,693,133	0	2,044,211
Vented	11,549	0	0	1,385	0	103,427
Meter Difference	- 10,496	0	448,062	63,861	0	40,581
Total	934,578	1,739,026	55,777,822	5,008,755	1,228,010	3,359,735
PLANT PRODUCTION BBLS.						
Gasoline	29,928	115,833	959,140	82,231	0	0
Butane	15,110	0	1,178,780	0	0	0
Propane	31,139	0	1,866,437	44,133	0	0
Total	85,177	115,833	4,004,357	126,364	35,895	360,412

*On January 1, 1961. -De-ethanized product. **Refrigeration plant.

Annual Gasoline Plant Operations (Cont'd) - 15 -

COMPANY	MERTON CORP.	MESQUITE	MIDLAND PETROCHEMICAL	MIDLAND PETROCHEMICAL	NATURAL GAS PRODUCTS CO.	OZARK GAS TRANS.
PLANT - West Texas	MERTON	**DAVIS	**MR-J STRAWN	STRAWN PLAN	IMPERIAL #1 & #2	SOUTH CROCKE
*NUMBER OF WELLS						
Oil	46	9	27	65	237	1,704
Gas	20	11	0	16	16	1,704
Total	66	20	27	81	253	3,408
*DAILY CAPACITY MCF	4,000	6,000	1,250	2,500	21,500	45,000
INTAKE VOLUMES MCF						
Casinghead Gas	492,547	187,394	158,093	526,475	6,733,934	9,111,290
Gas Well Gas	0	36,347	0	13,600	2,022,994	0
Into Gathering System	492,547	223,741	158,093	527,075	8,756,928	9,111,290
From Gathering System	3,418	3,447	0	0	2,233,410	0
To Plant for Processing	487,129	220,006	158,093	527,075	9,823,675	9,823,290
Intake from Plant Meters	493,229	220,006	158,093	527,075	9,823,675	9,823,290
Loss or Gain (Meters)	- 6,100	0	0	0	- 54,747	0
Gas from Other Sources	0	0	0	0	54,747	0
Net Gas for Processing	493,229	220,006	158,093	527,075	9,823,675	9,823,290
RESIDUE DISPOSITION MCF						
Est. Loss & Acid Gas	89,267	42,270	30,580	49,336	383,314	1,106,411
Plant Fuel	91,255	31,451	38,364	93,235	838,794	907,361
Fuel & Losses	436	11,581	33,910	23,753	30,300	201,369
G. L. & F. Maint.	0	0	0	96,840	0	0
Carbon Black Plants	0	0	0	0	2,261,773	2,261,773
Transmission Lines	312,218	120,434	50,938	221,436	5,111,744	4,630,149
Vented	0	11,841	5,731	42,105	149,238	0
Meter Difference	- 23	- 19,148	0	- 9,068	- 45,218	116,588
Total	493,229	220,006	158,093	527,075	9,823,675	9,823,290
PLANT PRODUCTION BBLS.						
Gasoline	22,252	39,967	27,878	21,957	334,487	280,087
Butane	48,338	0	0	11,021	0	181,966
Propane	0	0	0	0	0	61,260
Total	70,590	39,967	27,878	32,978	334,487	523,313

*On January 1, 1961. **Started January 1960. #Started May 1960. ##Butane-Propane Mix.

Annual Gasoline Plant Operations (Cont'd) - 17 -

COMPANY	PAN AMERICAN	PAN AMERICAN	PAN AMERICAN	**PECOS CO.	PECOS CO.	PHILLIPS
PLANT - West Texas	MORAVANS	SLAUGHTER	THREE BAR FK	MIDLAND	SANTA ROSA	ANDREWS
*NUMBER OF WELLS						
Oil	32	2,484	56	145	0	2,671
Gas	0	2	0	0	2	12
Total	32	2,486	56	145	2	2,683
*DAILY CAPACITY MCF	5,000	110,000	18,500	30,000	45,000	108,000
INTAKE VOLUMES MCF						
Casinghead Gas	1,470,449	29,286,649	6,601,646	1,249,211	0	32,534,169
Gas Well Gas	0	32,118	0	0	81,451	974,182
Into Gathering System	1,470,449	29,318,767	6,601,646	1,249,211	81,451	33,508,748
From Gathering System	0	32,517	7,129	547,735	0	131,293
To Plant for Processing	1,470,449	29,308,250	6,594,517	646,889	81,451	33,377,455
To Plant for Processing	1,463,831	29,833,109	6,686,529	739,985	81,451	32,934,175
Intake from Plant Meters	6,618	- 524,859	- 92,012	- 93,096	0	- 443,310
Loss or Gain (Meters)	0	520,333	0	2,809,678	1,439,237	0
Gas from Other Sources	0	520,333	0	2,809,678	1,439,237	0
Net Gas for Processing	1,463,831	30,053,442	6,686,529	3,359,773	1,520,688	32,934,175
RESIDUE DISPOSITION MCF						
Est. Loss & Acid Gas	150,983	3,248,446	662,322	132,437	436,533	4,171,780
Plant Fuel	96,436	1,249,367	830,065	221,441	194,762	1,851,188
Fuel & Losses	0	1,333,966	1,961	4,275	47,369	3,241,973
G. L. & F. Maint.	163,680	0	0	0	0	656,194
Carbon Black Plants	0	0	0	0	0	0
Transmission Lines	1,038,275	19,260,362	0	4,814,747	1,735,216	24,720,751
Vented	11,394	89,181	2,825	0	0	231,239
Meter Difference	9,035	20,082	2,292	1,144,751	224,708	0
Total	1,469,803	30,203,404	1,501,465	5,317,651	2,638,588	33,873,125
PLANT PRODUCTION BBLS.						
Gasoline	113,676	658,424	19,396	21,741	86,234	2,861,483
Butane	0	272,446	141,435	44,744	86,767	0
Propane	0	818,308	256,084	4,241	122,958	0
Total	113,676	1,749,178	416,915	70,725	295,959	2,861,483

*On January 1, 1961. -Includes Dethanized & Condensate. **Plant price-ed gas through July 1960 but is now being dismantled.

Annual Gasoline Plant Operations (Cont'd) - 19 -

COMPANY	PHILLIPS	PHILLIPS	PHILLIPS	PHILLIPS	PHILLIPS	PHILLIPS
PLANT - West Texas	FUDGIT	SEMINOLE	SPRABERRY	TUBBS	WINKLER	WILLARD
*NUMBER OF WELLS						
Oil	0	[illegible]	251	[illegible]	[illegible]	[illegible]
Gas	23	[illegible]	83	[illegible]	[illegible]	[illegible]
Total	23	[illegible]	334	[illegible]	[illegible]	[illegible]
*DAILY CAPACITY MCF	225,000	[illegible]	25,000	[illegible]	[illegible]	[illegible]
INTAKE VOLUMES MCF						
Casinghead Gas	0	[illegible]	4,859,847	[illegible]	[illegible]	[illegible]
Gas Well Gas	50,909,878	[illegible]	11,926,109	[illegible]	[illegible]	[illegible]
Into Gathering System	50,909,878	[illegible]	16,781,956	[illegible]	[illegible]	[illegible]
From Gathering System	0	[illegible]	121,040	[illegible]	[illegible]	[illegible]
To Plant for Processing	50,909,878	[illegible]	16,660,916	[illegible]	[illegible]	[illegible]
Intake from Plant Meters	57,909,878	[illegible]	15,772,679	[illegible]	[illegible]	[illegible]
Loss or Gain (Meters)	0	[illegible]	- 888,237	[illegible]	[illegible]	[illegible]
Gas from Other Sources	0	[illegible]	888,237	[illegible]	[illegible]	[illegible]
Net Gas for Processing	50,909,878	[illegible]	15,772,679	[illegible]	[illegible]	[illegible]
RESIDUE DISPOSITION MCF						
Est. Loss & Acid Gas	136,844	[illegible]	1,763,241	[illegible]	[illegible]	[illegible]
Plant Fuel	127,162	[illegible]	821,574	[illegible]	[illegible]	[illegible]
Fuel & Losses	0	[illegible]	4,275	[illegible]	[illegible]	[illegible]
G. L. & F. Maint.	0	[illegible]	244,154	[illegible]	[illegible]	[illegible]
Carbon Black Plants	0	[illegible]	0	[illegible]	[illegible]	[illegible]
Transmission Lines	50,544,822	[illegible]	12,473,234	[illegible]	[illegible]	[illegible]
Vented	0	[illegible]	0	[illegible]	[illegible]	[illegible]
Meter Difference	0	[illegible]	0	[illegible]	[illegible]	[illegible]
Total	50,908,828	[illegible]	15,306,478	[illegible]	[illegible]	[illegible]
PLANT PRODUCTION BBLS.						
Gasoline	111,427	[illegible]	1,179,941	[illegible]	[illegible]	[illegible]
Butane	0	[illegible]	0	[illegible]	[illegible]	[illegible]
Propane	0	[illegible]	0	[illegible]	[illegible]	[illegible]
Total	111,427	[illegible]	1,179,941	[illegible]	[illegible]	[illegible]

*On January 1, 1961. **Phillips Petroleum [illegible] Formerly operated by Pan Am. Petroleum.

COMPANY	HOUSTON OIL	HUMBLE	HUNT	LION	LONE STAR
PLANT - West Texas	ALVIS	CANADA LAKE	EARNEST #1	CLARENDON "A" PT.	CHARLOTTE #1
NUMBER OF WELLS					
Oil	5	21	9	114	214
Gas	0	0	0	0	0
Total	5	21	9	114	214
*DAILY CAPACITY MCF	1,000	5,000	4,000	10,000	30,000
INTAKE VOLUMES MCF					
Casinghead Gas	473,919	410,348	408,848	3,107,968	10,678,296
Gas Well Gas	0	0	0	1,793,863	0
Inlet Gathering System	473,919	410,348	408,848	4,901,831	10,678,296
From Gathering System	0	0	0	123,158	0
In Plant for Processing	473,919	410,348	408,848	4,778,673	10,678,296
Intake from Plant Meters	473,919	410,348	408,848	4,900,294	10,678,296
Loss or Gain (Meters)	- 11,452	- 18,134	- 7,921	- 121,453	- 80,930
Gas from Other Source	0	0	0	0	0
Net Gas for Processing	473,919	410,348	408,848	4,900,294	10,678,296
RESIDUE DISPOSITION MCF					
Sal. Gas & Acid Gas	46,308	84,334	77,211	921,000	2,240,536	542,215
Plant Fuel	27,540	0	40,834	204,471	1,071,242	474,236
Fuel & Losses	7,198	58,182	11,214	0	1,119,286	0
Oil & F. Maint.	0	0	0	0	0	0
Carbon Black Plants	0	0	0	0	0	0
Transmission Lines	142,873	254,830	0	2,903,431	7,134,232	92,236
Vented	0	14,936	0	0	0	0
Meter Difference	249	0	1,589	871,392	1,233,620	1,170,209
Total	473,919	410,348	408,848	4,900,294	10,678,296	2,278,896
PLANT PRODUCTION BBLS.						
Gasoline	14,414	12,349	11,243	***148,838	324,440	451,840
Butane	***8,210	0	0	0	140,241	161,474
Propane	***7,000	0	0	0	77,000	134,248
Total	29,624	12,349	11,243	148,838	541,681	747,562

*At January 1, 1961. **Stabilization plant. ***LPG & propane. ****Includes condensate. *****All products mixed.

COMPANY	PAN AMERICAN	PAN AMERICAN	PAN AMERICAN	PAN AMERICAN	PAN AMERICAN	PAN AMERICAN
PLANT - West Texas	ANTON-IRISH	NORTH COWDEN	S. FULLERTON	HENDRICK CO.	LEVELLAND	MIDLAND FARMS
NUMBER OF WELLS						
Oil	152	991	434	24	1,093	173
Gas	0	25	0	1	0	0
Total	152	996	434	25	1,093	173
*DAILY CAPACITY MCF	4,000	45,000	57,500	7,000	33,300	14,500
INTAKE VOLUMES MCF						
Casinghead Gas	906,805	25,485,619	19,575,936	1,910,357	6,579,869	3,814,959
Gas Well Gas	0	340,043	0	471,600	91,855	0
Inlet Gathering System	906,805	25,825,662	19,575,936	2,381,957	6,671,684	3,814,959
From Gathering System	3,659	452,973	0	0	37,946	11,871
In Plant for Processing	901,146	25,382,689	19,575,936	2,381,957	6,633,868	3,873,088
Intake from Plant Meters	919,961	24,923,481	18,989,151	2,381,957	6,562,626	3,795,460
Loss or Gain (Meters)	- 18,815	- 243,425	- 586,785	0	- 71,724	- 77,628
Gas from Other Source	0	0	0	0	0	0
Net Gas for Processing	919,961	24,923,481	18,989,151	2,381,957	6,562,626	3,795,460
RESIDUE DISPOSITION MCF						
Sal. Gas & Acid Gas	83,353	1,560,899	1,748,645	1,099	857,821	950,895
Plant Fuel	8,610	2,869,550	7,587,780	145,705	1,028,507	440,867
Fuel & Losses	0	807,241	710,727	131,335	1,803	386,024
Oil & F. Maint.	818,021	9,518,582	5,896,658	1,895,575	1,860,963	958,44-
Carbon Black Plants	0	0	0	0	0	0
Transmission Lines	0	10,768,988	8,035,659	110,103	2,729,007	1,255,89-
Vented	3,659	3,022	29,162	3,895	9,148	2,749
Meter Difference	6,318	- 607,282	- 219,066	- 102,232	- 65,715	- 219,274
Total	919,961	24,923,481	23,989,151	2,381,957	6,562,626	3,795,460
PLANT PRODUCTION BBLS.						
Gasoline	23,444	***580,728	295,916	***1,607	134,389	***23,562
Butane	0	119,418	145,984	0	157,640	0
Propane	0	166,961	104,237	0	114,845	0
Total	23,444	867,107	546,137	1,607	406,874	23,562

*At January 1, 1961. **Includes condensate. ***Propanized product.

COMPANY	PHILLIPS	PHILLIPS	PHILLIPS	PHILLIPS	PHILLIPS	PHILLIPS
PLANT - West Texas	ACKERLY	CRANE	D. [illegible] SPR	GOLDSMITH	JUDKINS	PECKHAM
NUMBER OF WELLS						
Oil	74	1,832	48	1,[illegible]	[illegible]	[illegible]
Gas	23	28	0	[illegible]	[illegible]	[illegible]
Total	97	1,860	48	[illegible]	[illegible]	[illegible]
*DAILY CAPACITY MCF	[illegible]	45,000	[illegible]	[illegible]	[illegible]	[illegible]
INTAKE VOLUMES MCF						
Casinghead Gas	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gas Well Gas	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Inlet Gathering System	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
From Gathering System	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
In Plant for Processing	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Intake from Plant Meters	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Loss or Gain (Meters)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gas from Other Source	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Net Gas for Processing	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RESIDUE DISPOSITION MCF						
Sal. Gas & Acid Gas	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Plant Fuel	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fuel & Losses	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Oil & F. Maint.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Carbon Black Plants	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Transmission Lines	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Vented	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Meter Difference	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PLANT PRODUCTION BBLS.						
Gasoline	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Butane	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Propane	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

*At January 1, 1961. **Includes condensate. ***Propanized product. ****Includes stabilizer plant. *****Includes condensate

COMPANY	REEF CORP.	RICHARDSON	RUNNELS	SHELL	SHELL	SHELL
PLANT - West Texas*	S. TEAGUE	KEYSTONE	STYLE	CROSSETT	TEX	ALLISON #1 & #2
NUMBER OF WELLS						
Oil	740	471	312	46	1,114	4,[illegible]
Gas	0	23	3	0	13	0
Total	740	494	315	46	1,127	4,[illegible]
*DAILY CAPACITY MCF	45,800	45,000	28,000	3,000	111,000	150,000
INTAKE VOLUMES MCF						
Casinghead Gas	11,304,495	14,265,875	6,359,108	1,142,566	27,393,034	34,[illegible]
Gas Well Gas	0	8,101,922	380,982	0	207,463	0
Inlet Gathering System	11,304,495	22,367,801	6,740,090	1,142,566	27,600,497	34,[illegible]
From Gathering System	0	67,955	338	0	0	0
In Plant for Processing	11,304,495	22,299,846	6,739,752	1,142,566	27,600,497	34,[illegible]
Intake from Plant Meters	11,342,042	22,060,802	6,601,708	1,118,394	26,237,210	34,[illegible]
Loss or Gain (Meters)	- 37,547	- 239,044	- 138,044	- 24,172	- 363,287	- [illegible]
Gas from Other Source	0	0	0	0	1,726,574	0
Net Gas for Processing	11,342,042	22,060,802	6,601,708	1,118,394	27,963,784	34,[illegible]
RESIDUE DISPOSITION MCF						
Sal. Gas & Acid Gas	1,247,440	1,449,576	567,615	44,747	3,437,041	3,[illegible]
Plant Fuel	1,449,434	2,867,844	728,847	71,972	4,122,171	3,[illegible]
Fuel & Losses	481,436	941,174	282,714	1,928	1,211,272	1,[illegible]
Oil & F. Maint.	0	1,451,198	1,434,836	0	9,599,973	232,[illegible]
Carbon Black Plants	0	0	0	0	0	0
Transmission Lines	7,747,132	14,[illegible]	3,331,732	738,278	24,149,866	25,[illegible]
Vented	1,[illegible]	1,[illegible]	1,[illegible]	282,938	134,[illegible]	1,[illegible]
Meter Difference	1,[illegible]	1,[illegible]	1,[illegible]	28,932	187,[illegible]	1,[illegible]
Total	11,[illegible]	22,[illegible]	6,[illegible]	1,[illegible]	27,[illegible]	34,[illegible]
PLANT PRODUCTION BBLS.						
Gasoline	11,[illegible]	***[illegible]	***[illegible]	***[illegible]	[illegible]	1,[illegible]
Butane	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Propane	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

*At January 1, 1961. **Includes condensate. ***Propane-butane mix. ****Includes stabilizer plant. *****Includes condensate

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COMPANY	SINCLAIR	SINCLAIR	SOCONY MOBIL	SOCONY MOBIL	SOCONY MOBIL	STANDARD
PLANT - West Texas	HULLDALE #23	**LETCHER	KERMIT	PARKS BOOSTER	PEGASUS	NORTH ANDREWS
*NUMBER OF WELLS						
Oil	312	17	215	74	314	293
Gas	47	59	59	41	0	0
Total	359	76	274	115	314	293
*DAILY CAPACITY MCF	30,000	1,250	10,000	8,000	60,000	19,000
INTAKE VOLUMES MCF						
Casinghead Gas	9,217,213	197,998	2,687,523	2,871,838	13,317,200	4,026,115
Gas Well Gas	3,996,474	11,167	294,204	0	0	0
Into Gathering System	13,213,687	209,165	2,981,727	2,871,838	13,317,200	4,026,115
From Gathering System	241,186	0	147,704	0	0	0
To Plant for Processing	12,954,501	209,165	2,774,023	2,871,838	13,317,200	4,026,115
Intake from Plant Meters	12,966,501	210,033	2,823,135	2,810,530	13,427,882	4,060,901
Loss or Gain (Meters)	0	- 870	- 49,112	+ 61,308	- 110,682	+ 34,786
Gas from Other Sources	0	0	57,139	0	0	0
Net Gas for Processing	12,966,501	210,033	2,880,274	2,749,222	13,538,564	4,026,115
RESIDUE DISPOSITION MCF						
Est. Loss & Acid Gas	1,063,085	4,765	129,557	84,181	1,494,026	1,329,761
Plant Fuel	872,755	15,957	218,586	177,572	1,423,071	844,184
Fuel & Lease	161,403	0	4,860	826	14,441	560,809
G. L. & P. Maint.	0	0	0	4,447,220	5,775,835	0
Carbon Black Plants	0	0	0	0	0	0
Transmission Lines	11,001,141	185,912	2,426,646	0	5,568,343	1,387,070
Vented	53,109	0	22,077	0	0	480
Meter Difference	+ 15,825	- 591	- 28,548	- 12,577	- 126,483	- 108,427
Total	12,966,501	210,033	2,880,274	4,749,222	14,139,233	4,060,901
PLANT PRODUCTION BBLS.						
Gasoline	170,847	2,635	50,551	***46,113	***466,862	286,237
Butane	+336,973	541	#56,130	0	486,798	(3) 281,796
Propane	285,773	581	0	0	822,938	221,372
Total	847,593	3,937	106,681	46,113	1,776,598	988,735

*On January 1, 1961. #Butane & propane mixed. **Initial report - March 1960. ***Unstabilized. ***Includes drip. (1) Also Iso-butane.

COMPANY	TEXAS GULF	**UNION TEXAS	WARREN	WARREN	WARREN
PLANT - West Texas	HEADLEE	PERKINS #10	MONAHANS	ROMERO-4	WADDELL
*NUMBER OF WELLS					
Oil	74	752	678	133	2,053
Gas	0	27	0	0	0
Total	74	779	678	133	2,053
*DAILY CAPACITY MCF	30,000	70,000	35,000	5,000	44,000
INTAKE VOLUMES MCF					
Casinghead Gas	8,752,443	18,433,701	7,453,456	982,944	30,977,855
Gas Well Gas	0	5,209,495	0	0	0
Into Gathering System	8,752,443	23,643,196	7,453,456	982,944	30,977,855
From Gathering System	0	1,245,197	0	4,990	127,258
To Plant for Processing	8,752,443	22,397,999	7,453,456	977,954	30,850,597
Intake from Plant Meters	8,681,685	22,397,999	7,476,172	943,922	30,891,890
Loss or Gain (Meters)	+ 70,758	0	- 22,716	+ 34,032	- 41,293
Gas from Other Sources	0	0	1,305,989	0	304,336
Net Gas for Processing	8,681,685	22,397,999	8,786,161	943,922	31,196,228
RESIDUE DISPOSITION MCF					
Est. Loss & Acid Gas					
Plant Fuel	1,167,551	3,790,461	371,897	111,577	3,635,920
Fuel & Lease	628,808	2,150,732	430,466	111,577	1,327,215
G. L. & P. Maint.	125,536	490,000	130,224	222,732	1,146,779
Carbon Black Plants	6,523,536	0	267,365	0	0
Transmission Lines	0	0	0	0	0
Vented	0	17,754,472	7,289,481	447,841	23,483,112
Meter Difference	+ 262,206	+ 1,006,646	205,514	84,196	80,350
Total	8,681,685	23,397,999	+ 248,193	+ 34	+ 21,025
PLANT PRODUCTION BBLS.			8,786,161	977,957	29,682,105
Gasoline	859,825	**88,834	190,388	##25,675	1,278,511
Butane	0	538,861	0	40,894	263,536
Propane	0	1,798,172	0	0	380,320
Total:	859,825	2,136,997	190,388	87,569	1,922,367

*On January 1, 1961. **Operated by Texas Hydrocarbon until June 1960. ***Unstabilized Product. ##Includes Condensate & Drip.

COMPANY	*HUMBLE	**NORTHERN NATURAL	**PHILLIPS	PHILLIPS	PHILLIPS	PHILLIPS
PLANT - S. E. New Mexico	WINK	HOBBS	ARTESIA	KERMIT	HOBBS	LEA
*NUMBER OF WELLS						
Oil	4	6	425	81[illegible]	403	1,319
Gas	2	295	3	4	2	31
Total	6	301	428	85	405	1,350
*DAILY CAPACITY MCF	5,000	200,000	18,000	14[illegible]	25,000	24,900
INTAKE VOLUMES MCF						
Casinghead Gas	293,303	252,556	1,356,554	40,713,[illegible]	8,764,312	16,871,088
Gas Well Gas	1,111,001	51,148,669	4,865	2,34[illegible]	277,358	931,028
Into Gathering System	1,404,304	51,401,225	1,361,419	40,[illegible]	9,041,670	17,822,116
From Gathering System	0	0	0	0	0	0
To Plant for Processing	1,404,304	51,401,225	1,361,419	40,[illegible]	9,041,670	17,822,116
Intake from Plant Meters	1,404,304	51,401,225	1,361,419	40,[illegible]	9,041,670	17,822,116
Loss or Gain (Meters)	0	0	0	0	0	0
Gas from Other Sources	0	1,927,063	0	0	0	0
Net Gas for Processing	1,404,304	53,328,288	1,361,419	40,[illegible]	9,041,670	17,822,116
RESIDUE DISPOSITION MCF						
Shrinkage	161,861	2,758,538	332,553	2,[illegible]	621,180	1,930,967
Plant Use	54,793	7,809,232	257,972	3,[illegible]	1,278,899	3,996,331
Lease Use	0	0	0	[illegible]	333,191	428,254
Returned to Earth	0	0	0	0	0	0
Carbon Black Plants	0	0	0	0	0	0
Pipeline	1,186,671	34,272,184	184,417	31,[illegible]	4,294,940	12,901,140
Vented	1,558	0	586,477	1,[illegible]	17,239	1,463,754
Meter Difference	0	0	0	0	0	0
Total	1,404,304	53,322,284	1,361,419	40,[illegible]	9,041,670	17,822,116
PLANT PRODUCTION BBLS.						
Gasoline	3,375	516,650	121,798	1,5[illegible]	413,256	1,327,011
Butane	0	317,560	0	0	58,459	0
Propane	0	272,051	0	0	0	0
Total	3,375	1,106,261	121,798	1,5[illegible]	471,715	1,327,011

*On January 1, 1961. #Initial Report - January 1960. **Formerly Permian Basin Pipe Line Co. #Initial Report - August 1960.

COMPANY	VALLEY GAS	VALLEY GAS	WARREN	WARREN	WARREN
PLANT - S. E. New Mexico	ANDERSON RANCH	LOCO HILLS PH	EUNICE	MONUMENT	SAUNDERS
*NUMBER OF WELLS					
Oil	42	129	482	422	101
Gas	10	0	96	1	0
Total	52	129	578	423	195
*DAILY CAPACITY MCF	5,000	4,000	57,000	75,[illegible]	30,000
INTAKE VOLUMES MCF					
Casinghead Gas	1,001,836	859,764	19,075,[illegible]	30,248,716	11,141,570
Gas Well Gas	0	0	403,[illegible]	96,[illegible]	24,891
Into Gathering System	1,001,836	859,764	19,479,595	30,345,153	11,[illegible]
From Gathering System	0	0	0	0	0
To Plant for Processing	1,001,836	859,764	19,479,595	30,345,153	11,[illegible]
Intake from Plant Meters	1,001,836	859,764	19,479,595	30,345,153	11,[illegible]
Loss or Gain (Meters)	0	0	0	0	0
Gas from Other Sources	23,474	340,038	0	0	0
Net Gas for Processing	1,025,310	1,199,802	19,479,595	30,345,153	11,[illegible]
RESIDUE DISPOSITION MCF					
Shrinkage	361,747	878,341	1,947,818	3,[illegible]	[illegible]
Plant Use	154,995	366,000	2,[illegible]	3,[illegible]	[illegible]
Lease Use	69,216	0	0	[illegible]	[illegible]
Returned to Earth	11,474	0	0	734,[illegible]	[illegible]
Carbon Black Plants	0	0	0	0	0
Pipeline	467,838	161,[illegible]	14,610,[illegible]	22,705,[illegible]	[illegible]
Vented	839	0	72,[illegible]	271,[illegible]	[illegible]
Meter Difference	0	0	0	0	0
Total:	1,065,309	1,199,802	19,479,595	30,345,153	11,[illegible]
PLANT PRODUCTION BBLS.					
Gasoline	140,788	42,[illegible]	2[illegible],701	3[illegible],[illegible]	[illegible]
Butane	0	[illegible],[illegible]	8[illegible],[illegible]	76[illegible]	[illegible]
Propane	0	59,[illegible]	0	0	0
Total:	140,788	101,[illegible]	[illegible],[illegible]	[illegible],[illegible]	[illegible]

*On January 1, 1961.

Annual Gasoline Plant Operations (Cont'd) - 22 -

COMPANY	SUN OIL CO.	SUNRAY MID-CONTINENT	TEXACO INC.	**TEXACO-SEABOARD, INC.	TEXAS GAS PROD.
PLANT - West Texas	JAMESON	SNYDER	F. L. FULLER	LAMESA	BIRKEDN
*NUMBER OF WELLS					
Oil	293	1,079	375	104	646
Gas	0	0	0	2	16
Total	293	1,079	375	106	662
*DAILY CAPACITY MCF	50,000	35,000	25,000	6,000	115,000
INTAKE VOLUMES MCF					
Casinghead Gas	25,707,257	11,576,350	5,981,326	51,599	10,832,653
Gas Well Gas	0	0	0	0	3,613,563
Into Gathering System	25,707,257	11,576,350	5,981,326	51,599	14,448,216
From Gathering System	6,345,272	17,688	0	0	0
To Plant for Processing	19,360,885	11,563,662	5,981,326	51,599	14,448,216
Intake from Plant Meters	19,150,323	11,528,138	5,981,326	56,899	14,448,216
Loss or Gain (Meters)	- 210,562	- 35,524	0	+ 5,300	0
Gas from Other Sources+	0	0	0	0	2,088,406
Net Gas for Processing	19,150,323	11,528,138	5,981,326	56,899	16,536,622
RESIDUE DISPOSITION MCF					
Shrinkage	1,221,587	2,877,130	1,107,961	9,924	1,988,693
Plant Use	1,021,312	1,920,864	742,693	4,456	2,361,105
Fuel & Lease	106,759	971,423	846,193	0	36,145
G. L. & P. Maint.	3,983,118	0	2,975,839	0	88,490
Carbon Black Plants	0	0	0	0	0
Transmission Lines	12,480,364	4,757,463	310,085	0	11,150,249
Vented	0	1,276	178	42,519	0
Meter Difference	- 353,178	0	- 1,823	0	+ 913,220
Total	19,150,323	11,528,138	5,981,326	56,899	16,536,622
PLANT PRODUCTION BBLS.					
Gasoline	260,102	674,899	165,178	405,010	***309,124
Butane	247,910	#138,268	#250,605	0	357,827
Propane	376,015	1,433,724	457,280	0	771,384
Total	884,027	2,246,891	913,063	5,010	1,438,335

*On January 1, 1961. #Includes Butane and Iso-Butane. **Initial Report - December 1960.
+Includes Gasoline and De-ethanized Mix. ***Includes Condensate.

Annual Gasoline Plant Operations (Cont'd) - 24 -

COMPANY	ATLANTIC	CABOT CORP.	CONTINENTAL	EL PASO	EL PASO	FRONTIER
PLANT - S. E. New Mexico	LOVINGTON	KING	#MALJAMAR PM	Jal #1	Jal #2, #3 & #4	GRAYBURG-JACKSON
*NUMBER OF WELLS						
Oil	233	16	172	36	1,402	157
Gas	0	0	0	251	55	0
Total	233	16	172	287	1,457	157
*DAILY CAPACITY MCF	25,000	3,800	7,000	130,000	341,000	7,000
INTAKE VOLUMES MCF						
Casinghead Gas	5,805,015	981,185	5,466,228	1,548,675	43,963,004	1,680,090
Gas Well Gas	0	0	0	110,018,341	858,454	0
Into Gathering System	5,805,015	981,185	5,466,228	111,567,016	43,831,658	1,680,090
From Gathering System	0	0	0	0	0	0
To Plant for Processing	5,805,015	981,185	5,466,228	111,567,016	43,551,158	1,680,090
Intake from Plant Meters	5,805,015	981,185	5,466,228	111,567,016	43,831,658	1,680,090
Loss or Gain (Meters)	0	0	0	0	0	0
Gas from Other Sources	0	0	0	212,685	533,120	0
Net Gas for Processing	5,805,015	981,185	5,466,228	111,784,311	44,476,828	1,680,090
RESIDUE DISPOSITION MCF						
Shrinkage	1,208,858	134,444	466,497	4,170,417	8,227,906	344,152
Plant Use	1,141,248	111,770	653,193	4,035,110	2,802,754	353,781
Lease Use	872,449	16,448	0	0	0	0
Returned to Earth	0	0	4,151,684	0	0	0
Carbon Black Plants	0	0	0	0	0	0
Pipeline	2,582,420	718,523	94,849	103,578,984	33,372,257	952,117
Vented	0	0	122,005	0	73,916	0
Meter Difference	0	0	0	0	0	0
Total	5,805,015	981,185	5,466,228	111,784,511	44,476,828	1,680,090
PLANT PRODUCTION BBLS.						
Gasoline	208,276	29,193	90,333	All products	1,250,163	42,274
Butane	288,032	28,798	**66,024	combined with	1,002,786	40,846
Propane	371,179	32,512	136,476	Jal #2, 3 & 4	523,689	79,250
Total	867,487	90,503	292,833		2,776,638	161,456

*On January 1, 1961. #Formerly Maljamar Co-Operative Repressuring Agreement. **Includes Butane-Propane Mix.

Annual Gasoline Plant Operations (Cont'd) - 26 -

COMPANY	SINCLAIR	SKELLY	SKELLY	SKELLY	**SKELLY
PLANT - S. E. New Mexico	PLANT #29	EUNICE #1	EUNICE #2	LOVINGTON	MALJAMAR
*NUMBER OF WELLS					
Oil	328	984	Wells com-	172	423
Gas	2	3	bined with	0	2
Total	330	987	Plant #1	172	425
*DAILY CAPACITY MCF	10,000	66,000	57,000	10,000	20,000
INTAKE VOLUMES MCF					
Casinghead Gas	2,442,169	17,400,977	24,305,291	2,466,619	2,708,674
Gas Well Gas	100,893	0	93,314	0	168,590
Into Gathering System	2,543,062	17,400,977	24,398,605	2,466,619	2,877,264
From Gathering System	0	0	0	0	0
To Plant for Processing	2,543,062	17,400,977	24,398,605	2,466,619	2,877,264
Intake from Plant Meters	2,543,062	17,400,977	24,398,605	2,466,619	2,877,264
Loss or Gain (Meters)	0	0	0	0	0
Gas from Other Sources	2,158,942	60,644	0	0	0
Net Gas for Processing	4,702,004	17,461,621	24,398,605	2,466,619	2,877,264
RESIDUE DISPOSITION MCF					
Shrinkage	1,131,919	2,090,327	2,522,130	916,541	535,894
Plant Use	525,457	1,833,445	2,277,443	266,618	283,547
Lease Use	709,040	202,081	98,739	213,429	0
Returned to Earth	0	0	0	0	0
Carbon Black Plants	0	12,687,967	16,292,020	0	0
Pipeline	1,751,067	629,194	3,163,891	1,062,291	1,691,665
Vented	584,331	18,626	44,382	7,736	366,178
Meter Difference	0	0	0	0	0
Total	4,702,004	17,461,641	24,398,605	2,466,619	2,877,264
PLANT PRODUCTION BBLS.					
Gasoline	105,262	702,783	Combined	73,884	100,720
Butane	129,891	364,277	with	81,434	0
Propane	97,129	705,448	Eunice #1	148,721	90,450
Total	332,282	1,772,508		304,039	191,170

*On January 1, 1961. **Initial Report - June 1960.

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SUMMARY OF GASOLINE PLANT OPERATIONS
IN PERMIAN BASIN - FOR YEAR 1960

	ANNUAL WEST TEXAS	#ANNUAL S. E. NEW MEXICO	ANNUAL WEST TEXAS & S. E. NEW MEXICO	DAILY WEST TEXAS & S. E. NEW MEXICO	PERCENTAGES
*NUMBER OF WELLS					
Oil	39,676	8,765	48,441	48,441	96.19%
Gas	636	1,285	1,921	1,921	3.81%
Total	40,312	10,050	50,362	50,362	100.00%
*DAILY CAPACITY MCF	3,120,960	1,281,800	4,402,760	4,402,760	--
INTAKE VOLUMES MCF					
Casinghead Gas	767,586,678	245,207,960	1,012,794,638	2,767,399	78.78%
Gas Well Gas	102,900,415	169,891,416	272,791,829	745,333	21.22%
Into Gathering System	870,487,093	415,099,376	1,285,586,467	3,512,732	100.00%
From Gathering System	20,681,168	0	20,681,168	56,506	--
To Plant for Processing	849,805,925	415,099,376	1,264,905,499	3,456,226	--
Intake from Plant Meters	842,914,416	415,099,376	1,258,013,960	3,437,197	--
Loss or Gain (Meters)	- 6,891,509	0	- 6,891,509	- 18,829	--
Gas from Other Sources	94,944,039	5,683,710	100,627,749	275,040	--
Net Gas for Processing	937,858,455	420,783,086	1,358,641,541	3,712,137	--
RESIDUE DISPOSITION MCF					
Est. Loss & Acid Gas	92,547,666	33,211,224	125,759,090	343,604	9.28%
Plant Fuel	78,738,763	32,864,046	111,602,809	304,926	8.21%
Fuel & Lease	22,367,551	4,148,786	26,516,358	72,449	1.95%
G. L. & P. Maint.	136,018,892	4,276,087	140,294,979	383,320	10.33%
Carbon Black Plants	14,975,138	29,725,793	79,701,231	217,763	5.87%
Transmission Lines	547,649,947	311,284,234	858,934,281	2,346,815	63.22%
Vented	1,948,747	5,277,214	10,263,965	27,994	0.75%
Meter Difference	+ 5,587,228	0	+ 5,587,228	- 15,266	0.41%
Total	937,858,455	420,783,086	1,358,641,541	3,712,137	100.00%
PLANT PRODUCTION BBLS.					
Gasoline	33,909,319	7,717,845	41,624,264	113,728	33.63%
Butane	10,462,856	4,870,389	15,533,845	42,442	20.01%
Propane	17,850,823	2,662,538	20,463,361	55,911	26.36%
Total	62,222,998	15,250,772	77,621,470	212,081	100.00%

*On January 1, 1961. #Gas Volumes Corrected to Pressure Base of 14.65 P/sq.in.

EL PASO NATURAL GAS COMPANY'S PIPE LINE SYSTEM

EL PASO NATURAL GAS COMPANY

This report is concerned primarily with the Permian Basin of West Texas and Southeastern New Mexico. Figure 2 shown on the preceding page is a chart which reflects graphically the operations of the El Paso Natural Gas Company's pipe line system in this area for a 16-year period. The first deliveries of gas to California from this area were in October 1947, at the rate of 30,000 MCF daily. Since that time, over a thirteen-year period, the expansion of this market outlet has been a remarkable achievement.

Figure 2 was prepared in order to focus attention on what is being accomplished towards gas conservation in this area, especially with respect to casinghead gas produced incident to oil production. Gas well gas may be kept stored in the ground until there is a market, which requirement may then be regulated by the turn of the valves to fit fluctuating market conditions, provided the over-all gas volume is sufficient. On the other hand, casinghead gas withdrawals are dependent on the amount of oil production necessarily to supply the market demand for petroleum products, which fluctuates seasonally and from month to month. In this area the casinghead gas volume fluctuations are absorbed by a supplemental supply of gas produced from strictly gas wells. This has resulted in there being very little if any preventable waste of gas produced incident to oil production in the Permian Basin. This conservation achievement was made possible only after a market was established for the casinghead gas, and backed up with a sustaining reserve of gas well gas to insure an uninterrupted gas supply to fulfill market requirements as shown on Figure 2.

CHIEF RESIDUE GAS MARKETS

It may be noted from pages 3 and 10 that during the year 1960 a total of 104 gasoline plants were operating in the Permian Basin area. Page 28 is a "Summary of Gasoline Plant Operations" covering these plants. The following shows the number of wells connected to these plants on January 1, 1961 and the average amount of casinghead gas, gas well gas and total gas processed daily during 1960.

AREA	WELLS CONNECTED OIL	WELLS CONNECTED GAS	CASINGHEAD GAS MCF	GAS WELL GAS MCF	OTHER SOURCES	TOTAL GAS MCF
West Texas	39,876	836	1,997,232	181,148	239,610	2,637,790
N. M. New Mexico	6,765	1,285	569,967	464,185	15,520	1,149,682
Total:	46,641	2,121	2,567,199	645,333	255,130	3,787,472
			73.0%	26.9%		100.0%

The pie chart and gas figures on the following page show the disposition of the residue gas from the 104 gasoline plants operating in the Permian Basin during the year 1960. While this gas was being processed for its liquid hydrocarbon content, a total of nearly 78 million barrels of natural gasoline, butane and propane were manufactured.

It may be noted from Figure 3 that approximately 63.2% of the residue gas is utilized by transmission lines. By far the largest single market for this residue gas is provided for by the El Paso Natural Gas Company's pipe line system which makes deliveries to other pipe line systems serving Los Angeles, San Francisco and other western cities. This company's residue gas gathering lines in the Permian Basin are shown in red on Figure 6 found in the back of this report.

CARBON BLACK PLANTS IN PERMIAN BASIN
For Year 1960

The following shows the carbon black production for the nine plants operating in the Permian Basin during the year 1960. All of these plants are of the channel type except the Columbian Carbon Company's Seagraves furnace type plant which utilized gas and some fuel oil, as shown in the footnotes. The location of these plants may be noted from page 33 of the December 1, 1953 Permian Basin Report. The Cabot Corporation has 4 carbon black plant at Big Spring, Texas. Since it utilized fuel oil exclusively, its production record is not shown.

CARBON BLACK PLANTS IN WEST TEXAS

OPERATOR	PLANT NAME	DAILY CAPACITY MCF	ANNUAL INTAKE MCF OR BBLS	ANNUAL PROD. IN POUNDS	POUNDS PER MCF
Cabot Corporation	Kermit	97,000	31,086,955	27,855,680	1.40
*Columbian Carbon Co.	Seagraves #66	10,000	4,894,625 **835,910	70,016,730	14.30
Columbian Carbon Co.	Seminole #66	35,000	11,068,360	22,135,490	2.00
Sid Richardson Carbon Company	Odessa "A", "B" & "C"	100,000	26,921,080	54,578,375	2.03
Total for 1960		201,000	73,981,186 **835,910	174,586,275	2.33

CARBON BLACK PLANTS IN SOUTHEASTERN N.M. MEXICO

Columbian Carbon Co.	#58 Eunice	40,000	13,334,401	22,681,21	1.68
Continental Carbon Co.	Eunice	36,000	21,270,804	35,494,950	2.01
United Carbon Company	#2 Eunice	50,000	14,393,048	41,450,015	2.12
Total for 1960		126,000	48,998,338	104,160,075	2.09
GRAND TOTAL		327,000	203,061,448	290,146,840	

*Utilized Gas and Fuel Oil. **Barrels of Fuel Oil.

SULPHUR PLANTS IN THE PERMIAN BASIN
Extraction from Natural Gas

On January 1, 1961 there had been sixteen Sulphur plants in the Permian Basin Area, thirteen being located in West Texas and three in Southeastern New Mexico. These plants are located adjacent to desulphurizing units serving gasoline plants. Sulphur is extracted from the hydrogen sulphide derived from these gas treating plants. Two of the New Mexico plants have been dismantled.

The following outline shows the December 1960 production and cumulative production for each plant to January 1, 1961 in long tons. (A long ton equals 2,240 pounds.)

	DECEMBER 1960 PRODUCTION	CUMULATIVE PRODUCTION
TEXAS-GULF HYDROCARBON CORPORATION'S HARRIMAN PLANT Andrews County, Texas	75	2,480
COLUMBIAN CARBON COMPANY'S SEMINOLE PLANT #67 Gaines County, Texas	968	32,440
EL PASO NATURAL GAS COMPANY'S OIL CENTER PLANT Lea County, New Mexico (Dismantled)	0	13,475
NATIONAL SULPHUR COMPANY'S IMPERIAL PLANT Pecos County, Texas	0	16
ODESSA NATURAL GASOLINE COMPANY & SID RICHARDSON'S PACTEX PLANT - Ector County, Texas	827	27,954
PAN AMERICAN PETROLEUM CORPORATION'S NORTH COWDEN PLANT - Ector County, Texas	494 Est.	41,869
PAN AMERICAN PETROLEUM CORPORATION'S EMPIRE ABO PLANT - Eddy County, New Mexico	497	11,575
PAN AMERICAN PETROLEUM CORPORATION'S MIDLAND FARMS PLANT - Andrews County, Texas	186 Est.	11,200
PAN AMERICAN PETROLEUM CORPORATION'S SHAMROCK PLANT - Crockett County, Texas	1,210 Est.	100,000
PARKER'S ANDREWS PLANT Andrews County, Texas	17 Est.	8,000
PARKER'S PEGASUS PLANT Crockett County, Texas	186 Est.	20,000
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

FIELD AND COUNTY	COMPANY OR OPERATOR	FORMATION
Dollarhide (Clearfork), Andrews	Pure Oil Company	Clearfork
Dollarhide (Devonian), Andrews	Cities Service Petroleum Co.	Devonian
Dollarhide (Devonian), Andrews	Pure Oil Company	Devonian
Dollarhide (Ellenburger), Andrews	Pure Oil Company	Ellenburger
Dollarhide (Silurian), Andrews	Pure Oil Company	Silurian
Dutwerd, Lartas (Pilot)	Humble Oil & Ref. Co.	San Angelo
Dutwerd, Lartas (Pilot)	R. M. & A. P. Fuller	San Andres
[illegible]	Gulf Oil Corporation	[illegible]
[illegible]	Tennessee Gas Trans.	Victoria
[illegible]	Gladden Petroleum Corp.	Wolfe
Emperor, Winkler	Demuth, Inc.	San Andres
Emperor, Winkler	F. M. Hall	Yates
Emperor, Winkler	Hudson & Hudson, Inc.	Yates
Emperor, Winkler	Skelly Oil Company	Yates
Emperor, Winkler	Texas Pacific [illegible]	Yates & Seven Rivers
Emperor, Winkler	Ann Arthur	Yates
Emperor (Deep), Winkler	Bert Fields [illegible]	Queen
[illegible] Johnson - Morris Admr., Runnels	Arcade Oil [illegible]	Queen
Foster, Ector	Humble Oil & Ref. Co.	Grayburg - Queen
Foster, Ector	Pan American Petroleum Corp.	Grayburg
Foster, Ector	Shell Oil Company	Grayburg
[illegible] Foster, Ector	Texas Pacific [illegible]	Grayburg
Foster, Ector	Union Producing Co.	Grayburg
Foster, Ector	Texas Pacific [illegible]	Grayburg
Fullerton, Andrews [illegible]	Byrd Drilling Company	Queen
[illegible]	[illegible] Oil Co.	Yates
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

Active Water Flood - Texas (Cont'd) - 40 -

FIELD AND COUNTY	COMPANY OR OPERATOR	FORMATION
+(1)Hendrick, Winkler	W. A. & C. K. Hudson	Yates
Howard-Glasscock, Howard (Pilot)	Amerada Petroleum Corp.	Queen
+(1)Howard-Glasscock, Howard (Pilot)	Amerada Petroleum Corp.	Yates
Howard-Glasscock, Howard	Continental Oil Company	Yates
Howard-Glasscock, Howard	Continental Oil Company	Yates
Howard-Glasscock, Howard	Continental Oil Co., et al	Yates
Howard-Glasscock, Howard & Glasscock	Cowden Petroleum Corporation	Queen
Howard-Glasscock, Howard (Pilot)	Gulf Oil Corporation	Chalk 1800'
Howard-Glasscock, Howard	Humble Oil & Ref. Co.	Yates
Howard-Glasscock, Howard	Mobil Oil Company	Seven Rivers
Howard-Glasscock, Howard	Sunray Mid-Continent Oil Co.	Queen
Iatan-East, Howard	Sinclair Oil & Gas Company	Clearfork
Jameson (Strawn), Coke	Perkins-Prothro Co. and Crescent Oil Company	Strawn Sand
Jameson (Strawn), Coke & Mitchell	Miami Pet. Co., Inc. & Texaco Inc.	Strawn Sand
+(1)Jameson (Strawn), Coke & Mitchell	Tex American Pet. Corp.	Strawn Sand
Jim Adams (Fry), Runnels	Murray Petroleum	Fry Sand
Johnson, Ector	Cities Service Petroleum Co.	San Andres
Kelly-Snyder, Scurry	Sacroc Unit	Canyon-Kent
Kelly-Snyder (Cisco), Scurry	Standard of Texas	Cisco
Kelly-Snyder (Cisco), Scurry	Texaco Inc.	Cisco
Kermit, Winkler	Ambassador Oil Corp.	Yates
Kermit, Winkler	Ambassador Oil Corp.	Yates
Kermit, Winkler	Ambassador Oil Corp.	Yates
Kermit, Winkler	Ambassador Oil Corp.	Yates & Queen
Kermit, Winkler	Amerada Petroleum Corp.	Yates
Kermit, Winkler	The Atlantic Refining Co.	Yates
Kermit, Winkler	Geo. L. Buckles Company	Yates
Kermit, Winkler	D. H. Bolin (6 leases)	Yates
Kermit, Winkler	Gulf Oil Corporation	Yates
Kermit, Winkler	Gulf Oil Corporation	Yates
Kermit, Winkler	Harlan Production Co.	Yates
Kermit, Winkler	Humble Oil & Ref. Co.	Yates & Queen
Kermit, Winkler	Humble Oil & Ref. Co.	Yates
Kermit, Winkler	Humble Oil & Ref. Co.	Yates
Kermit, Winkler	Humble Oil & Ref. Co.	Yates
Kermit, Winkler	Humble Oil & Ref. Co.	Yates
Kermit, Winkler	Humble Oil & Ref. Co.	Yates
+Kermit, Winkler	Humble Oil & Ref. Co.	Yates
Kermit, Winkler	Kermit Oil Company	Yates
Kermit, Winkler	Maxwell Oil Company	Yates
Kermit, Winkler	Maxwell Oil Company	Yates
Kermit, Winkler	Maxwell Oil Company	Yates
Kermit, Winkler	Maxwell Oil Company	Yates
Kermit, Winkler	Mobil Oil Company	Queen
Kermit, Winkler	Mobil Oil Company	Yates

+Added since previous report.
(1)From Railroad Commission "Special Orders".

Active Water Flood - Texas (Cont'd) - 41 -

FIELD AND COUNTY	COMPANY OR OPERATOR	FORMATION
East Keystone, Crane	Gulf Oil Corporation	Tubb
Scarborough, Winkler	Ambassador Oil Corp.	Yates
Scarborough, Winkler	L. D. Crumly, Jr.	Yates
Scarborough, Winkler	L. D. Crumly, Jr.	Yates
Scarborough, Winkler	L. D. Crumly, Jr.	Yates
Scarborough, Winkler	Gulf Oil Corporation	Yates
Scarborough, Winkler	Hudson & Hudson, Inc.	Yates
Scarborough, Winkler	Mobil Oil Company	Yates
Scarborough, Winkler	Rader Corporation	Yates
Scarborough, Winkler	Richardson Oils, Inc.	Yates
Scarborough, Winkler	Sid W. Richardson, Inc.	Yates
Scarborough, Winkler	Shell & Pure Oil Company	Yates
Scarborough, Winkler	Sinclair Oil & Gas Co.	Yates
Scarborough, Winkler	Texas Pacific Coal & Oil Co.	Yates
Scarborough, North, Winkler	Rock Island Oil & Ref. Co.	Yates
Shearer, Pecos	Burk Royalty Company	Queen
Shipley, Ward	Luse & Ice	Seven Rivers-Queen
+(1)Shipley, Ward	Maber Petroleum Corp.	Queen
Shipley, Ward	Sinclair Oil & Gas Co.	Queen
Shipley, Ward	James M. Snowden, et al	Queen
Shipley, Ward	Tennessee Gas Transmission Co.	Queen
Shipley, Ward	Tidewater Oil Company	Queen
Shipley, Ward	Frank Waters Oil Company	Queen
Slaughter, Cochran	Eagle Oil Company	San Andres
Slaughter, Hockley	Great Western Drilling Co.	San Andres
+Slaughter, Cochran (Pilot)	Gulf Oil Corporation	San Andres
+Slaughter, Hockley	Mobil Oil Company	San Andres
Slaughter, Cochran (Pilot)	Pan American Petroleum Corp.	San Andres
Slaughter, Cochran & Hockley	Pan American Petroleum Corp.	San Andres
+Slaughter, Cochran (Pilot)	Sunset Int'l. Petroleum Corp.	San Andres
Slaughter, Hockley (Pilot)	Texaco Inc.	San Andres
Spraberry Trend, Midland	Tex Harvey	Spraberry
Spraberry Trend, Midland (Pilot)	Mobil Oil Company	Spraberry
Spraberry Trend (Clearfork), Upton (Pilot)	J. E. Jones Drlg. Co., et al	Clearfork
Spraberry Trend (Clearfork), Upton & Reagan (Pilot)	Miami Pet. Co., Inc., et al	Clearfork
Spraberry Trend (Pennsylvanian), Midland (Pilot)	Gulf Oil Corporation	Pennsylvanian
Sprott, Ector	Sunray Mid-Continent Oil Co.	Morris Sand
Sue Lor Lone, Pecos	C. Stratton & Bland & Scott	Grayburg
Sue Lor Lone, Pecos	C. Stratton & Bland & Scott	Queen
Three Bar (Devonian), Andrews	Hanks Oil & Ref. Co.	Devonian
Three Bar (Devonian), Andrews	Pan American Petroleum Corp.	Devonian
Tom-Tom, Pecos	Richardson & Payne, Inc.	Tobosa Sand
Tom-Tom, Pecos	Richardson & Payne, Inc.	Tobosa Sand
Tom-Tom, Pecos (Pilot)	Gulf Oil Corporation	Tobosa Sand
Tom-Tom, Pecos	Stanolind Oil Company	Tobosa Sand

-Added since previous report. (1)From Railroad Commission "Special Orders".

Active Water Flood - Texas (Cont'd) - 42 -

FIELD AND COUNTY	COMPANY OR OPERATOR	FORMATION
Sullivan, Crane	Gulf Oil Corporation	Grayburg
McFarland (Queen), Andrews (Pilot)	Tex American Petroleum Corp.	Queen
+Hanks (Queen), Andrews	Humble Oil & Ref. Co.	Queen
Hilliard Farms, Rustler (Gravsburg), Andrews	Tex American Petroleum Corp.	Grayburg
Mickey Lane (Yates), Crockett	Gulf Oil Corporation	Queen
Mickey Lane (Yates), Crockett	Shell Oil Company	Queen
+(1)Midland (Queen), Ector	Minerals Assets	Queen
Needham (Clearfork), Hazel (Pilot)	Shell Oil Company	Clearfork
Nottleville, Pecos	Landa Oil Company	Yates
Nottleville, Pecos	Maxwell Oil Company	Yates
Nottleville, Pecos	Sunray Mid-Continent Oil Co.	Yates
Norlke, Crockett	Ambassador Oil Corp.	Seven Sand
Norlke, Crockett	Ambassador Oil Corp.	Seven Sand
Norlke, Crockett	Henry Cohen	Seven Sand
Norlke, Crockett	General American Oil Co.	Seven Sand
Norlke, Crockett	J. T. Holmes	Seven Sand
Norton, West (Lower Fry), Runnels	Burt Fields (Unit)	Fry Sand
Orient, Pecos	J. Kirk Gansler	Yates
Pear (Fry Sand), Runnels	C. W. Stoke	Fry Sand
Pegg, Schleicher	Cities Service Petroleum Co.	Strawn
Patey, Runnels	Loudyo Oil Company	Swastika Sand
+(1)Patey, Runnels	Loudyo Oil Company, et al	Bortell
Parks, Midland	Mobil Oil Company	Pennsylvanian
Payton, Ward	Burk Royalty Co. (Unit)	Yates
Payton, Ward	Burk Royalty Co.	Yates
+(1)Payton, Ward	Group of Independents	Yates
Payton, Ward	Luse & Ice	Yates
Payton, Ward	Masterson & Sweet	Yates
Payton, Ward	C. K. Holland & Son	Yates
Pecos Valley High Gravity, Pecos	Ambassador Oil Corp.	Yates
Pecos Valley High Gravity, Pecos	Ambassador Oil Corp.	Yates
Pecos Valley High Gravity, Pecos	L. D. Crumly, Jr.	Yates
Pecos Valley High Gravity, Pecos	L. D. Crumly, Jr.	Yates
Pecos Valley High Gravity, Pecos	L. D. Crumly, Jr.	Yates
Pecos Valley High Gravity, Pecos	El Paso Water Flood	Yates
Pecos Valley High Gravity, Pecos	Hedlock & MacFolton	Yates
Pecos Valley High Gravity, Pecos	Hedlock & MacFolton	Yates
Pecos Valley High Gravity, Pecos	John L. Harlan, Trustee	Yates

-Added since previous report. (1)From Railroad Commission "Special Orders".

Active Water Flood - Texas (Cont'd) - 43 -

FIELD AND COUNTY	COMPANY OR OPERATOR	FORMATION
Ward, South, Ward	D. H. Bolin	Yates
Ward, South, Ward	D. H. Bolin	Lower Yates
Ward, South, Ward	Bolin Oil Company	Yates
Ward, South, Ward	C. K. S. Oil Operation	Yates
Ward, South, Ward	Cities Service Petroleum Co.	Yates
Ward, South, Ward	Cities Service Petroleum Co.	Yates
Ward, South, Ward	Forest Oil Corporation	Yates
Ward, South, Ward	Forest Oil Corporation	Yates
Ward, South, Ward	Graridge Corporation	Yates
Ward, South, Ward	Grover, MacCurdy & Knox	Yates
+(1)Ward, South, Ward	Group of Independents	Yates
+(1)Ward, South, Ward	Hamilton Brothers	Yates
Ward, South, Ward	John L. Harlan, Trustee	Yates
Ward, South, Ward	Harlan Production Co.	Yates
Ward, South, Ward	Holmerich & Payne, Inc.	Yates
Ward, South, Ward	Hunsteller Engineering	Yates
Ward, South, Ward	Hunsteller Engineering	Yates
Ward, South, Ward	Hunsteller Engineering	Yates
Ward, South, Ward	Hunsteller Engineering	Yates
Ward, South, Ware	J. K. Oil Company	Yates
+(1)Ward, South, Ward	Jocelyn-Yates Oil Co. & Grover-MacCurdy-Knox Oil Co.	Yates
Ward, South, Ward	Kennedy & Mann	Yates
Ward, South, Ward	Barton Kidd	Queen
-Ward, South, Ward	J. W. Loveladv	Yates
Ward, South, Ward	Maxwell Oil Company	Yates
-Ward, South, Ward	Maxwell Oil Company	Yates
Ward, South, Ward	P. H. S. Oil Company	Yates
Ward, South, Ward	Prince Bros. Drilling Co.	Yates
Ward, South, Ward	Richardson Oils, Inc.	Yates
Ward, South, Ward	Sinclair Oil & Gas Co.	Yates
Ward, South, Ward	Skelly Oil Company	Yates
Ward, South, Ward	Standard of Texas	Yates
Ward, South, Ward	Standard of Texas	Yates
Ward, South, Ward	Sunset Int'l. Petroleum Corp.	Yates
Ward, South, Ward	Tennessee Gas Trans. Co.	Yates
Ward, South, Ward	Tennessee Gas Trans. Co.	Yates
Ward, South, Ward	Tennessee Gas Trans. Co.	Yates
Ward, South, Ward	Texas Pacific Coal & Oil Co.	Yates
Ward, South, Ward	Texas Pacific Coal & Oil Co.	Yates
Ward, South, Ward	Texas Petroleum Corp.	Yates
Ward, South, Ward	Texas Petroleum Corp.	Yates
Ward, South, Ward	Texas Petroleum Corp.	Yates
Ward, South, Ward	Wm. M. Westbrook	Yates
Wasser Colby, Winkler	Continental Oil Company	Queen (Colby Sand)
Wasser Colby, Winkler	Gulf Fields	Queen
Wasser Colby, Winkler	Pikasile Oil Company	Queen
Wasser Colby, Winkler	Sun Oil Co. & White Eagle	Queen

-Added since previous report. (1)From Railroad Commission "Special Orders".
--Changed from inactive to active.

Active Water Flood - Texas (Cont'd) - 48 -

FIELD AND COUNTY	COMPANY OR OPERATOR	FORMATION
Kermit, Winkler	Kelman Oil Company	Yates and Queen
Kermit, Winkler	Shoreline Petroleum Corp.	Yates
Kermit, Winkler	Sinclair Oil & Gas Company	Yates
Kermit, Winkler	Sinclair Oil & Gas Company	Yates
Kermit, Winkler	Sinclair Oil & Gas Company	Yates
Kermit, Winkler	Sinclair Oil & Gas Company	Yates
Kermit, Winkler	Shell Oil Company	Yates
Kermit, Winkler	Sun Oil Company	Yates
Kermit, Winkler	Sunray Mid-Continent Oil Co.	Yates
Kermit, Winkler	Sunray Mid-Continent Oil Co.	Yates
Kermit, Winkler	Sunray Mid-Continent Oil Co.	Yates
Kermit, Winkler	Texas Pacific Coal & Oil Co.	Yates
Kermit, Winkler	Tidewater Oil Company	Yates
Kermit, Winkler	Tex-Oil Corporation	Yates
Kermit, Winkler	Water Flood Assoc., Inc.	Yates & Seven Rivers
Kermit-Keystone (Colby Sand), Winkler	Ambassador Oil Corp.	Colby Sand
Kermit-Keystone (Colby Sand), Winkler	Perry R. Bass	Colby Sand
Kermit-Keystone (Colby Sand), Winkler	Shell Oil Company	Colby Sand
Kermit-Keystone (Colby Sand), Winkler	Tex American Petroleum Corp.	Colby Sand
Kermit-Keystone (Colby Sand), Winkler	Permian-Fleming Co.	Colby Sand
Kermit-Keystone (Colby Sand), Winkler	Warrenton Oils, Inc.	Colby Sand
Kermit-Keystone (Colby Sand), Winkler	Zantik Oil Company	Colby Sand
Kermit-Keystone (Colby Sand), Winkler	Standard Of Texas	Colby Sand
Kermit-Keystone (Colby Sand), Winkler	Tenneco Inc.	Colby Sand
Kermit-Keystone (Colby Sand), Winkler	Tidewater Oil Company	Colby Sand
Lewis, Winkler	T. F. Hodge	Yates
Lewis, Winkler	Nicholson Oils, Inc.	Yates
Lee Northwest, Lubbock	Cities Service Oil Co.	Clearfork
Levelland, (Sixty), Pecos	Shell Oil Company	Queen
Levelland, North (Sixty), Pecos	Shell Oil Company	Queen
Levelland, North (Sixty), Pecos	Texaco, Inc.	Queen
Lewis Ranch, Upton	Amoco Chemical Company	San Andres
Lewis Ranch, Upton	Water Flood Assoc., Inc.	San Andres
Light, Southwest, Borden	RSR Oil Producers, Inc.	Clearfork
Lockett, Andrews & Martin	Texaco, Inc.	San Andres
Mabee-Cole Sand, Ward	Mosteller Engineering	Yates
Mabee-Cole Sand, Ward	Shell Oil Company	Yates
Mabee-Cole Sand, Ward	Stanolind Oil & Gas Co.	Yates
Mabee-Cole Sand, Ward	Sunray Mid-Continent Oil Co.	Yates
Mahoney, Queen Sand), Pecos	Texaco, Inc.	Queen
Mahoney, Queen Sand), Pecos	Texaco, Inc.	Queen
Mahoney, Pecos	Sun Oil Company	Queen
Mahoney, Pecos	Tate Royalty Company	Queen
Mahoney, Upton, (Pilot)	Continental Oil Company	Grayburg
Mahoney, Upton (Pilot)	Shell Oil Company	Grayburg
Mahoney, Upton (Pilot)	Skelly Oil Company	Grayburg
Mahoney, Upton	Sun Oil Corporation	Grayburg

--Added since previous report. --Effective Commission "Special Order".
--Changed from inactive to active.

Active Water Flood - Texas (Cont'd) - 49 -

FIELD AND COUNTY	COMPANY OR OPERATOR	FORMATION
Pecos Valley High Gravity, Pecos	Mosteller Engineering	Yates
Pecos Valley High Gravity, Pecos	Mosteller Engineering	Yates
Pecos Valley High Gravity, Pecos	Mosteller Engineering	Yates
Pecos Valley High Gravity Pecos	Mosteller Engineering	Yates
Pecos Valley High Gravity, Pecos	Mosteller Engineering	Yates
Pecos Valley High Gravity, Pecos	Mosteller Engineering	Yates
Pecos Valley High Gravity, Pecos	Mosteller Engineering	Yates
Pecos Valley High Gravity, Pecos	Kennedy & Mann	Yates
Pecos Valley High Gravity, Pecos	Nathanael Corporation	Yates
Pecos Valley High Gravity, Pecos	Mosteller Oil Company	Yates
Pecos Valley High Gravity, Pecos	Murchison	Yates
Pecos Valley High Gravity, Pecos	W. C. Kemmerer	Yates
Pecos Valley High Gravity, Pecos	W. C. Kemmerer	Yates
Pecos Valley High Gravity, Ward	Sigma Oil & Gas Company	Yates
Pecos Valley High Gravity Pecos	Sun Oil Company	Yates
Pecos Valley High Gravity, Pecos	Texaco, Inc.	Yates
Pecos Valley Low Gravity, Pecos	Ambassador Oil Corp.	Yates
Pecos Valley Low Gravity, Pecos	Mosteller Engineering	Yates
Pecos Valley Low Gravity, Pecos	Mosteller Engineering	Yates
Pecos Valley Low Gravity, Pecos	Mosteller Engineering	Yates
Pecos Valley Low Gravity, Pecos	Mosteller Oil Company	Yates
Pecos Valley Low Gravity, Pecos	W. C. Kemmerer	Yates
Pecos Valley Low Gravity, Pecos	Southern California Pet.	Yates
Pecos Valley Low Gravity, Pecos	Sunray Mid-Continent Oil Co.	Yates
Pecos Valley Low Gravity, Pecos	Sunray Mid-Continent Oil Co.	Yates
Pegasus (Ellenburger), Midland & Upton	Mobil Oil Corp. et al	Ellenburger
Pegasus (Ellenburger), Midland & Upton	Mobil Oil Corp. et al	Lennox
Penwell (Pennsylvanian), Midland & Upton	Mobil Oil Corp. et al	Pennsylvanian
Parville (Fusselman), Scurry	Sun Oil Company	Fusselman
Ropers, Hockley	Humble Oil Corporation	Lennox-Reef
Shell Creek, West Sand Hills (Wolfe), Crane (Pilot)	General Crude Oil Co. Shell Oil Corporation	Pennsylvanian Clearfork

--Added since previous report. --Abandoned: water and gas pressure maintenance.
--Pilot Unutilized. --Changed from inactive to active.

Active Water Flood - Texas (Cont'd) - 50 -

FIELD AND COUNTY	COMPANY OR OPERATOR	FORMATION
Skelly, Lubbock	Tex-Star Petroleum Corp.	Yates
Skelly, Lubbock	Skelly Oil Company	Yates
Skelly, Lubbock	Skelly Oil Company	Yates
Skelly, Lubbock	Tex-Star Petroleum Corp.	Yates
Slaughter, Andrews (Pilot)	Shell Oil Company

Proposed Water Flood - Texas (Cont'd)

FIELD AND COUNTY	COMPANY OR OPERATOR	FORMATION
Lee Harrison, Lubbock	James G. Brown	Clearfork
*Leha Apco (1600'), Pecos	Harlan Production Co.	Queen
*Lloyd, Runnels	G. W. Strake	Fry Sand
*Levelland, Cochran	Stanton Oil Co., Ltd.	San Andres
Mason, North, Loving	The Ohio Oil Co., et al	Delaware
*(2)McCamey, Upton	Dean & Latch	Grayburg
*(2)McCamey, Upton (Pilot)	Gulf Oil Corporation	Grayburg
*(2)McCamey, Upton	Texaco Inc.	Grayburg
*(2)Means (Queen), Andrews	The Ard Drilling Company	Queen
*Means (Queen), Andrews	Gulf Oil Corporation	Queen
*(2)Means (Queen), Andrews	Shell Oil Company	Queen
*(2)Means (Queen), Andrews	Sinclair Oil & Gas Co.	Queen
Means, North, Andrews	Cities Service Petroleum Co.	Queen
Midland Farms, Andrews (Pilot)	Pan American Petroleum Corp.	Grayburg
*Midland Farms, North (Grayburg) Unit, Andrews	Pan American Petroleum Corp.	Grayburg
Midland Farms (Deep), Andrews	Pan American Petroleum Corp.	Wolfcamp
Midway Lane (Permian), Crockett	Sinclair Oil & Gas Co.	Queen
*Mitchell, Runnels	G. W. Strake	Fry Sand
*Nora, Runnels	G. W. Strake	Gardner Sand
Sand Hills McKnight, Crane (Pilot)	Gulf Oil Corporation	?
Scarborough, North, Winkler	Ambassador Oil Corp.	Yates
Shipley (Queen), Ward	James M. Bowden, et al	Queen
*Slaughter, Cochran	Honolulu C.I Corporation	San Andres
*Slaughter, Cochran	Pan American Petroleum Corp.	San Andres
*Slaughter, Hockley	Pan American Petroleum Corp.	San Andres
Spraberry Trend, Upton & Reagan	Humble Oil & Ref. Co.	Spraberry
Spraberry Trend, Midland & Glasscock	Mobil Oil Company	Spraberry
Spraberry Trend (Aldwell Unit), Reagan	Southland Royalty Co.	Spraberry
Spraberry Trend (Midkiff Unit), Upton & Midland	Humble Oil & Ref. Co.	Spraberry
Spraberry Trend, Upton & Reagan	Phillips Petroleum Co.	Spraberry
Spraberry Trend, (Driver Unit), Upton, Reagan, Midland & Glasscock	Sohio Petroleum Co.	Spraberry
*Sudan, Runnels	**Gulf Oil Corporation	Fry Sand
*Ward-Estes, North, Ward	Humble Oil & Ref. Co.	Yates & Queen
Ward-Estes, North, Ward	Texaco Inc.	Yates
*Ward-Estes, North, Ward	Tidewater Oil Company	Queen & Grandfalls
Ward, South, Ward	Ambassador Oil Corp.	Yates
Ward, South, Ward	Noatztler Engineering	Yates
Weiner Colby, Winkler	Westbrook Oil Corp.	Queen
Winters, North, Runnels	G. W. Strake	Gunsight

*Added since previous report. (2)From Railroad Commission "Notice of Hearing".
**Probable Operator.

Active Gas Injection Projects - West Texas (Cont'd)

FIELD AND COUNTY	COMPANY OR OPERATOR	FORMATION
Penwell (Ellenburger), Winkler	Standard of Texas	Ellenburger
Siler & Johnson (1700'), McCulloch	American-Australian Oil Co.	Upper Strawn
Slaughter, Cochran & Hockley	Cities Service Pet. Co.	San Andres
Slaughter, Cochran & Hockley	Sid W. Richardson, Inc.	San Andres
*Smyer, Hockley	Honolulu Oil Corporation	Clearfork
Spraberry (Deep), Dawson	Seaboard Oil Company	Sylberry
Susan Peak, Tom Green	Plymouth Oil Company	Strawn
Three Bar, Andrews	Pan American Petroleum Corp.	Devonian
Wasson, Yoakum	Cornell Oil Company	San Andres
West World, Crockett	Cities Service Pet. Co.	Strawn
*Dollarhide, Andrews	Pure Oil Company	Clearfork
*Dollarhide, Andrews	Pure Oil Company	Devonian
*(1)Dora Roberts, Ector & Midland (Pilot)	Cities Service Pet. Co.	Devonian
*(2)Healy (Monroye), Winkler	Pan American Petroleum Corp.	Monroye
*(2)Running-W (Waddell), Crane	Gulf Oil Corporation	Waddell
Seminole, West, Gaines	Cities Service Pet. Co.	San Andres
TXL (Devonian), Ector	Shell Oil Company	Devonian

ACTIVE WATER FLOOD PROJECTS - NEW MEXICO

Artesia, Eddy (#1, #2 & #3)	Graridge Corporation	Grayburg, San Andres
Artesia, Eddy	Kersey and Company	Grayburg
Brown, Chaves (Pilot)	J. W. Brown	Queen
Caprock Queen, Lea & Chaves	Ambassador Oil Corporation	Queen
Caprock Queen, Chaves	Cities Service Pet. Co.	Queen
Caprock Queen, Lea & Chaves	Graridge Corporation	Queen
Caprock Queen, Chaves	Great Western Drilling Co.	Queen
Caprock Queen, Chaves	Great Western Drilling Co.	Queen
Caprock Queen, Chaves	Great Western Drilling Co.	Queen
Caprock Queen, Chaves (Pilot)	John H. Trigg	Queen
Cass, Lea	Continental Oil Company	Pennsylvanian
Coyote Queen, Chaves	C. E. Robertson	Queen
Graybug Jackson, Eddy	General American Oil Co.	Grayburg
High Lonesome, Eddy	Charles A. Steen	?
Langlie-Mattix, Lea	Gulf Coast Western Oil Co.	Queen
Langlie-Mattix, Lea	Humble Oil & Ref. Co.	Queen
Langlie-Mattix, Lea	Skelly Oil Company	Queen
Loco Hills, Eddy	Newmont Oil Company	Grayburg
*Maljamar, Lea	Continental Oil Company	?
North Shugart, Eddy	Maxwell Oil Company	Queen
Pencroe-Skelly, Lea	Ambassador, Skelly Oil & Humble Oil & Ref. Co.	Queen
Red Lake, Eddy	Kersey & Co. & Graridge Corp.	Grayburg
Rhodes, Lea	Rock Island Oil & Ref. Co.	Yates

*Added since previous report. (1)From Railroad Commission "Special Orders".
*Combination water & gas pressure maintenance. (2)From Railroad Commission "Notice of Hearing".

LIST OF PRODUCING FORMATIONS

The following outline was tabulated from the enclosed A.I.M.E. Oil Production Tables covering the Permian Basin for the year 1939. A number of fields having multiple reservoirs are reported separately in each producing zone, where such information was available. Thus, the total number of pool designations is different from the total number of producing formations. The following shows the number of times the various formations are reported productive in the A.I.M.E. Tables following page 53.

	NUMBER OF POOLS		
NAME AND AGE	WEST TEXAS	S.E. NEW MEXICO	TOTAL
Recent	1	0	1
Sunflower	2	0	2
Cretaceous	1	0	1
Permian (Undifferentiated)	27	9	36
Rustler, Permian	2	0	2
Castile, Permian	5	1	6
Delaware Mountain, Permian	48	10	58
Tansill, Permian	2	1	3
Yates, Permian	33	38	71
Seven Rivers, Permian	25	22	47
White Horse, Permian	1	0	1
Queen, Permian	50	26	76
Colby Sand, Permian	1	0	1
Grayburg, Permian	73	30	103
San Andres, Permian	197	45	242
Holt, Permian	3	0	3
San Angelo - Glorieta, Permian	87	4	91
Yeso, Permian	0	16	16
Leonard, Permian	6	1	7
Bone Springs, Permian	0	2	2
Clearfork, Permian	144	0	144
Tubb, Permian	20	3	23
Spraberry, Permian	52	0	52
Wichita, Permian	28	0	28
Wolfcamp (Abo), Permian	132	29	161
Dean, Permian	8	0	8
Tannehill, Permian	6	0	6
Pennsylvanian (Undifferentiated)	132	37	169
Cisco, Pennsylvanian	76	1	77
Canyon, Pennsylvanian	142	0	142
Strawn, Pennsylvanian	111	0	111
Bend, Pennsylvanian	11	0	11
Mississippian (Undifferentiated	21	1	22
Devonian (Undifferentiated)	134	42	176
Silurian (Undifferentiated)	29	2	31
Fusselman, Silurian	48	3	51
Ordovician (Undifferentiated)	12	1	13
McKee, Ordovician	11	1	12
Montoya, Ordovician	1	2	3
Simpson, Ordovician	11	4	15
Waddell, Ordovician	15	1	16
Ellenburger, Ordovician	142	5	147
Cambrian (Undifferentiated)	2	0	2
Total	1,777	361	2,138

ABBREVIATIONS USED IN A.I.M.E. TABLES

The following abbreviations are used in the A.I.M.E. oil field production tables in columns under "Reservoir Characteristics".

COLUMN: STRUCTURE

AC	-	Anticlinal
AC/F	-	Anticlinal with faulting as an important factor
AC/f	-	Anticlinal with faulting as a minor factor
AM	-	Accumulation due to both anticlinal and monoclinal structure
D	-	Dome
Ds	-	Salt Dome
H	-	Strata horizontal or nearly horizontal
MC	-	Monoclinal with accumulation due to change in character of stratum
MF	-	Monocline with fault
MI	-	Monocline with accumulation against igneous barrier
ML	-	Monocline lens
MU	-	Monocline unconformity
MW	-	Monocline with accumulation due to sealing at outcrop by asphalt
None	-	None or Dubious
Sync	-	Syncline
SF	-	Serpentine flow
SL	-	Sheets flow
Terr	-	Terrace
TW	-	Terrace with faulting as an important factor

COLUMN: CHARACTER OF PRODUCING FORMATION

Ar	-	Arkosite
Chk	-	Chalk
Cg	-	Conglomerate
Ch	-	Chert
Gr	-	Gravel
Is	-	Limestone
Ms	-	Arkosic Limonite

COLUMN: CHARACTER OF PRODUCING FORMATION (Cont'd)

Gn	-	Granite Wash
Sh	-	Shale
Ls	-	Limestone
Ls	-	Limestone, sandy
Ll	-	Lime
Ol	-	Oolitic Limestone
Ss	-	Sandstone
Sd	-	Sand
Sdy	-	Sandy

COLUMN: PERMEABILITY

P	-	Poor or pressure
M	-	Middle or medium
Ex	-	Excellent
Frc	-	Fracture
c	-	Cavernous

COLUMN: POROSITY

por	-	Reservoir rock is of porous type but ratio not known by author
c	-	Indicates reservoir rock is of cavernous type
f	-	Pissure type porosity

COLUMN: PRODUCING MECHANISM

SGD	-	Solution gas drive
WD	-	Water drive
GCD	-	Gas cap drive
GE	-	Gravity segregation
PM	-	Pressure maintenance
GI	-	Gas injection
WI	-	Water injection
WF	-	Water flood
LPG	-	Miscible drive
IC	-	In Situ combustion

ACTIVE GAS INJECTION PROJECTS - WEST TEXAS

FIELD AND COUNTY	COMPANY OR OPERATOR	FORMATION
Antelope Hill, Hale & Lamb	Pan American Petroleum Corp.	Clearfork
Block #31, Crane	The Atlantic Ref. Co.	Devonian
Crane, Upton, Waddell	Pan American Petroleum Corp.	San Andres
Cowden, North, Ector	The Atlantic Ref. Co.	Grayburg
Cowden, North, Ector	Cities Service Pet. Co.	Grayburg
Cowden, North, Ector	Pan American Petroleum Corp.	Grayburg
Cowden, North, Ector	Phillips Petroleum Company	Grayburg
Cowden, North, Ector	Pure Oil Company	Grayburg
Cowden, North, Ector	SinClair Oil & Gas Co.	Grayburg
Cowden, North, Ector	Sun Oil Company	Grayburg
Cowden, North, Ector	Texaco Inc.	Grayburg
Cowden, North, Ector	Tidewater Oil Company	Grayburg
Cowden, North, Ector	Kewanee Oil Company	Lechner
*Cree-Sykes, Runnels		
Cree-Sykes, Runnels	Tait-Kewanee Oil Company	Lechner
Cree-Sykes, Runnels	Operator	
Cree-Sykes, Runnels		
Dollarhide (Clearfork), Andrews	Cities Service Pet. Co.	Clearfork
Donnelly (San Andres), Lea	SinClair Oil & Gas Co.	San Andres
Fair Charbonnet, Runnels, Coke	Humble Oil & Ref. Co.	Strawn (Ordo)
Fullerton, Andrews	Humble Oil & Ref. Co.	Clearfork
Fullerton, North Dome, Andrews	Monterey Oil Company	Clearfork
Fullerton, South Dome, Andrews	Monterey Oil Company	Clearfork
Goldsmith, Ector	Amerada Petroleum Corp.	San Andres
Goldsmith, Ector	The Atlantic Ref. Co.	San Andres
Goldsmith, Ector	Cities Service Pet. Co.	San Andres
Goldsmith, Ector	Felmont Oil Company	San Andres
Goldsmith, Ector	Gulf Oil Corporation	San Andres
Goldsmith, Ector	Humble Oil & Ref. Co.	San Andres
Goldsmith, Ector	Pan American Petroleum Corp.	San Andres
Goldsmith, Ector	Phillips Petroleum Co.	San Andres
Goldsmith, Ector	Ramsdell Oil Corporation	San Andres
Goldsmith, Ector	Shell Oil Company	San Andres
Goldsmith, Ector	SinClair Oil & Gas Co.	San Andres
Goldsmith, Ector	Texas Pacific Coal & Oil Co.	San Andres
Goldsmith, Ector	SinClair Oil & Gas Co.	Devonian
Hatley (Devonian), Whitaker	Sunray Mid-Continent Oil Co.	Devonian
Hatley (Devonian), Whitaker	Sun Oil Company	Strawn Reef
Jameson, Coke	Carter Foundation Prod. Co.	Noll
Keystone (Noll), Winkler	Phillips Petroleum Company	Noll Sand
Keystone (Noll), Winkler	Richardson & Bass	Noll
Keystone (Noll), Winkler	Pan American Petroleum Corp.	San Andres
Levelland, Hockley	D. W. Stroke	Fry Sand
Lloyd, Runnels	Texaco Inc.	Grayburg
Parker, Midland & Martin	Sun Oil Company	Strawn
Pegasus (Pennsylvanian), Midland & Upton	Mobil Oil Company	Pennsylvanian
Ranch (Strawn), Crockett	Continental Oil Company	Strawn

*Gas Injection with Pilot Water Flood.

NOTE: The following number of formations of Pennsylvanian Age were included under Cisco, Canyon, Strawn and Bend Groups in the count on the preceding page:

Cisco: Serratt, 17; King, 4; McMillan, 4; Breckenridge, 1; Semaille, 1; Bunger, 1.

Canyon: Palo Pinto, 25; Crosscut, 8; Adams Branch, 1; Dog Bend, 1.

Strawn: Gaspe Lime, 7; Jennings, 10; Gardner, 43; Morris, 17; Fry, 14; Goen Lime, 17; Caddo, 9; Grey, 3; Des Moines, 2; Fuller, 1; Eats Bend, 1.

Bend: Marble Falls, 1; Atoka, 1.

Oil PRODUCTION TABLES OF PERMIAN BASIN AREA

Following page 53 are A.I.M.E. Oil Production Tables for the Permian Basin Area. This area covers the Texas Railroad Commission's Districts 7-C and 8 in West Texas, a 2 Southeastern New Mexico. The Table numbers are T-1 to T-36, inclusive, for Texas, and NM-1 to NM-7, inclusive, for New Mexico, or a total of 43 tables for both areas of the Permian Basin

The 1959 oil production and related data shown on these tables were acquired from reprints taken from Part 2, Volume 30, "International Oil and Gas Development" and are reproduced here, in part, with the special permission of the International Oil Scouts Association and the Society of Petroleum Engineers - AIME. The data from this source was typed on the accompanying table forms, and double-proofed before being lithographed

It may be noted that certain adjustments have been made from the original reprint: Fields listed which were lacking in information as to location, year of completion, oil production, etc., have had that data furnished where available, generally from the "Annual Report of Oil and Gas Division", prepared by the Railroad Commission of Texas for 1959. This report was also checked with the view to removing as much duplication as possible, and to bring up to date consolidation of various fields.

Data in the 7 reservoir tables for the North Basin Pools Engineering Committee in the course of regular annual operations was adjusted to conform with our figures

Active Water Flood Projects - New Mexico (Cont'd)

FIELD AND COUNTY	COMPANY OR OPERATOR	FORMATION
-Roberts, Lea	Roller & Nichols & Leonard Nichols	Grayburg
Russell, Eddy	Nell R. Wills, et al	Yates
-Skaggs, Lea	Texaco Inc.	?
Square Lake, Eddy (Pilot)	Newmont Oil Company	Grayburg
-Square Lake, Eddy	J. Cleo Thompson	Grayburg
Turkey Track, Eddy (Pilot)	Stanton Oil Company, Ltd.	Queen
Vacuum, Lea (Pilot)	Mobil Oil Company	Grayburg & San Andres

PROPOSED WATER FLOOD PROJECTS - NEW MEXICO

+(1)Cyprock Queen, Lea & Chaves	Union Oil Co. of California	Queen
Corbin, Lea	Denina	Queen
Empire, Eddy	Leonard Latch	Seven Rivers
Empire, Eddy	Leonard Latch	Seven Rivers
+(1)Emmet, Lea	Gulf Oil Corporation	Queen
+(1)Ramirez, South, Lea	Gulf Oil Corporation	Queen
Grayburg-Jackson, Eddy	Franklin, Aston & Fair, Inc.	Grayburg
+(1)Skaggs, Lea	Continental Oil Company	Grayburg

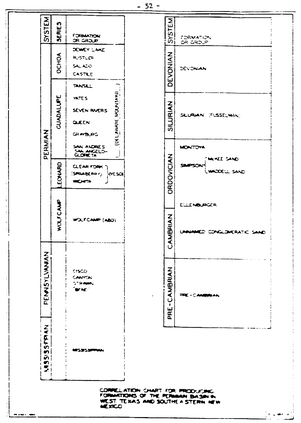
ACTIVE GAS INJECTION PROJECTS - NEW MEXICO

Grayburg, Eddy	Grayburg Unit Association	Grayburg
Langlie-Mattix, Lea	Langlie Unit, Rep. Proj.	Queen
Loco Hills, Eddy	Coronada Gas Corporation	Grayburg
Loco Hills, Eddy	Newmont Oil Corporation	?
*Maljamar, Lea	Maljamar Co-Operative Repressuring Agreement	Grayburg & San Andres
*Maljamar, Lea	Kewanee Oil Company	Grayburg & San Andres

ACTIVE MISCIBLE DISPLACEMENT PROJECTS - WEST TEXAS

Block #31 (Devonian), Crane	The Atlantic Ref. Co.	Devonian
Bronte, Coke	Humble Oil & Ref. Co.	Goen
--+(1)Midland Farms (Wolfcamp), Andrews	Pan American Petroleum Corp.	Wolfcamp
#Parks (Pennsylvanian), Midland	Mobil Oil Company	Pennsylvanian (Gerf)
*Slaughter, Cochran	The Atlantic Ref. Co.	San Andres
-*University Block 9 (Wolfcamp), Andrews	The Atlantic Ref. Co. (Unit)	Wolfcamp
Wasson, Yoakum	Shell Oil Company	Grayburg San Andres

--Added since previous report. (1)From Railroad Commission "Special Orders". *Propane, Gas & Water. **Enriched Gas, Dry Gas & Water. #Propane. --Changed from inactive to active.



CORRELATION CHART FOR PRODUCING FORMATIONS OF THE PERMIAN BASIN, WEST TEXAS AND SOUTHEASTERN NEW MEXICO

A.I.M.E. F.F. MICROGRAPHICS

WEST A'MOUNTAIN DEPT

OIL PRODUCTION DATA FOR THE PERMIAN BASIN TABLE NO. 1-E

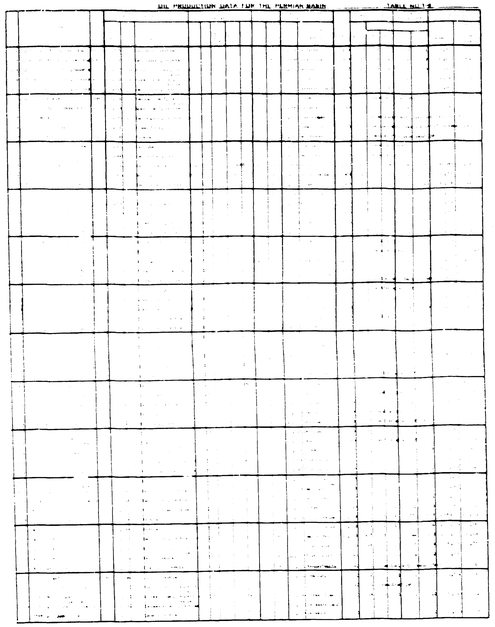
OIL PRODUCTION DATA FOR THE PERMIAN BASIN TABLE NO. 1-E

OIL PRODUCTION DATA FOR THE PERMIAN BASIN TABLE NO. 1-E

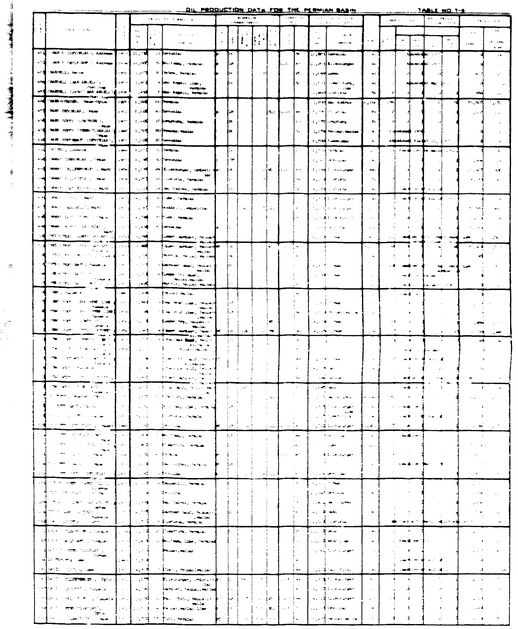
OIL PRODUCTION DATA FOR THE PERMIAN BASIN TABLE NO. 1-E

U.S.A.F. PHOTOGRAPHICS

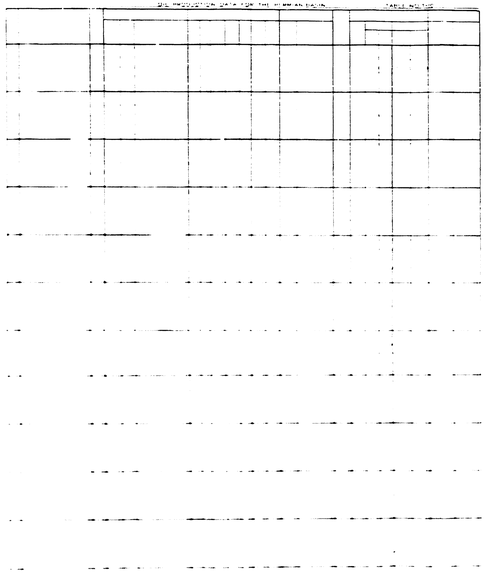
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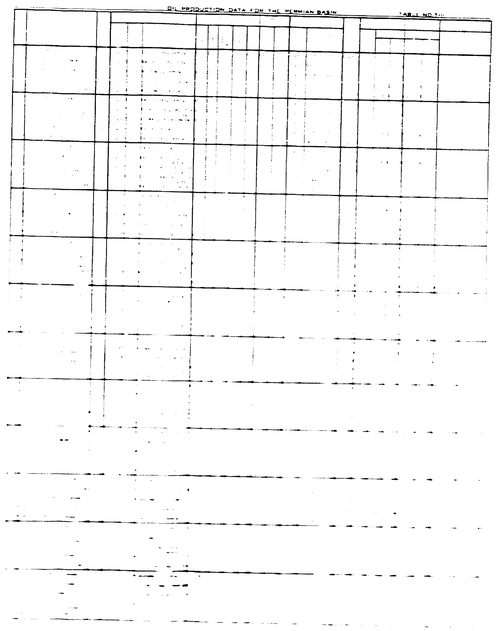
OIL PRODUCTION DATA FOR THE PERMIAN BASIN — TABLE NO. 9



OIL PRODUCTION DATA FOR THE PERMIAN BASIN — TABLE NO. 10

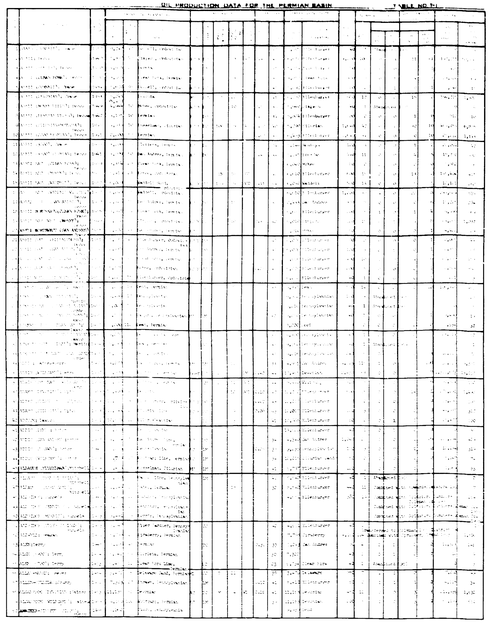


OIL PRODUCTION DATA FOR THE PERMIAN BASIN — TABLE NO. 11

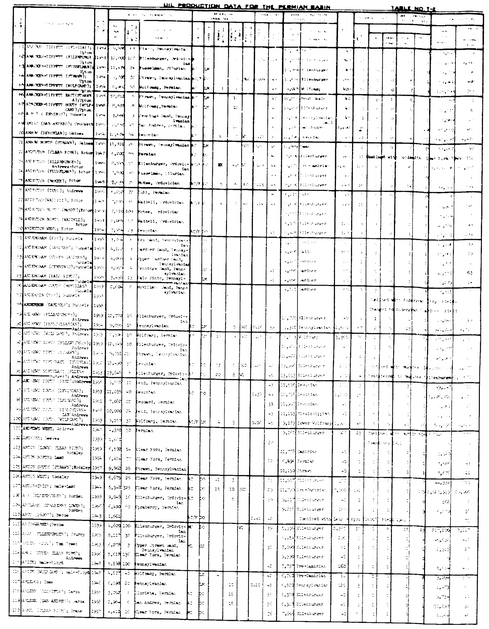




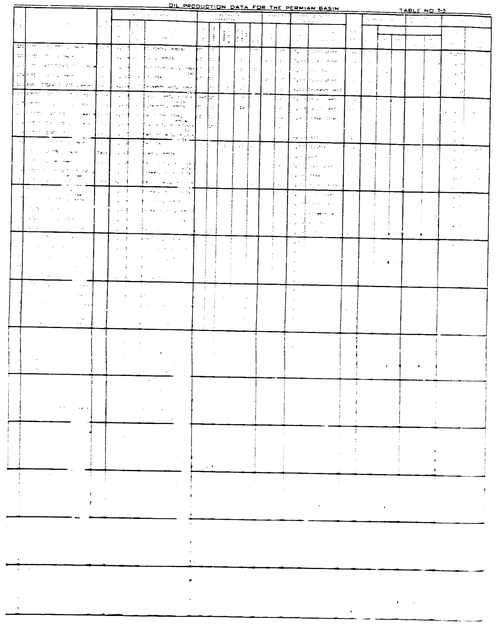
OIL PRODUCTION DATA FOR THE PERMIAN BASIN TABLE NO 1-1



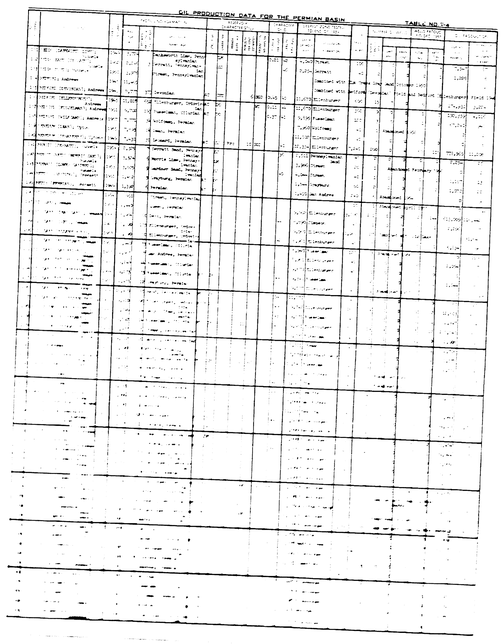
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OIL PRODUCTION DATA FOR THE PERMIAN BASIN TABLE NO 1-3



OIL PRODUCTION DATA FOR THE PERMIAN BASIN TABLE NO 1-4

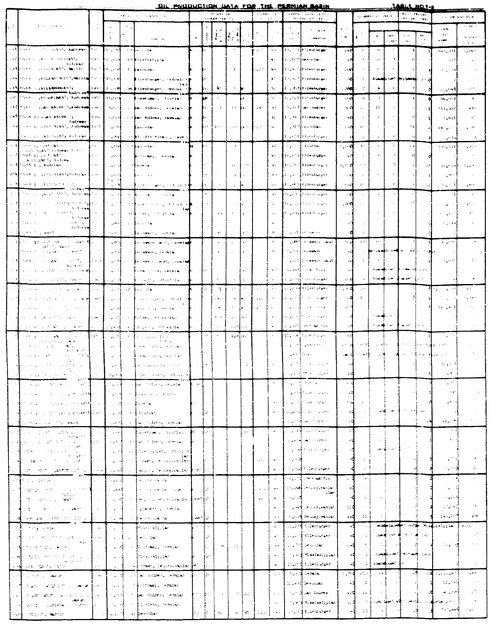


U.S.G.S. PHOTOGRAPHICS

BEST AVAILABLE COPY

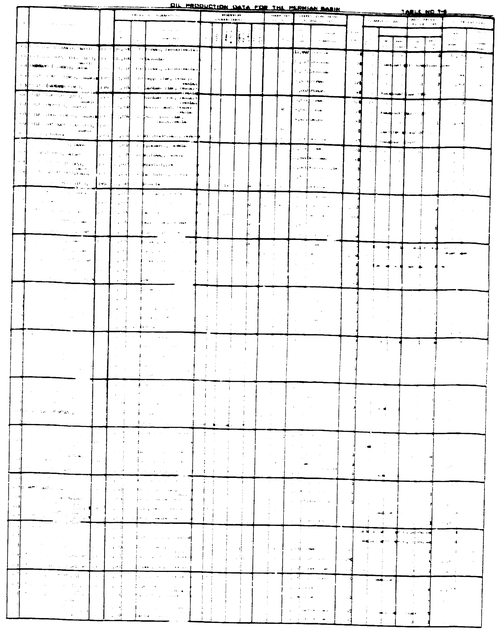
OIL PRODUCTION DATA FOR THE PERMIAN BASIN

TABLE NO. 1



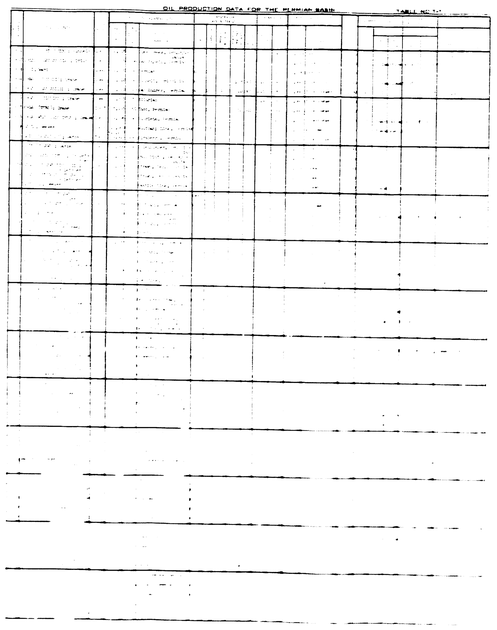
OIL PRODUCTION DATA FOR THE PERMIAN BASIN

TABLE NO. 1A



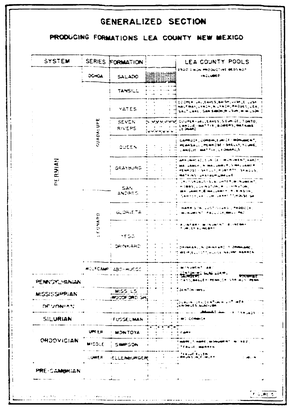
OIL PRODUCTION DATA FOR THE PERMIAN BASIN

TABLE NO. 1



GENERALIZED SECTION

PRODUCING FORMATIONS LEA COUNTY NEW MEXICO



EAST-WEST CROSS SECTION

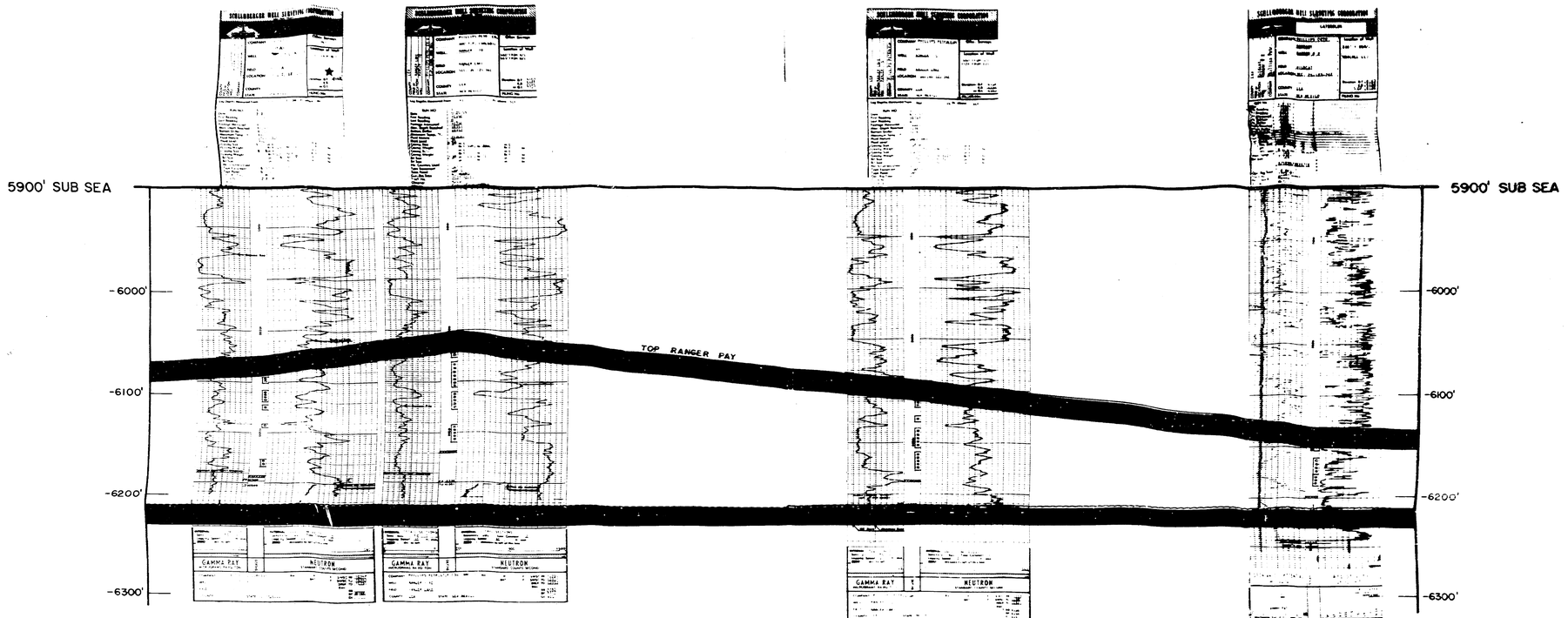
RANGER LAKE PENNSYLVANIAN FIELD

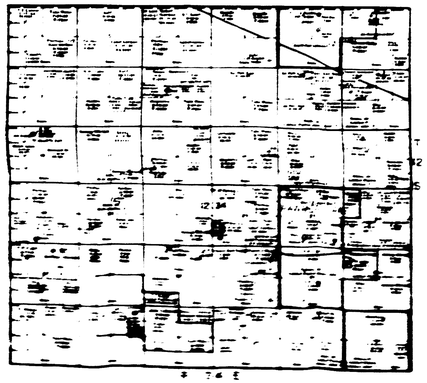
T 12 S R 34 E

LEA CO., NEW MEXICO

B

B'





SCALE 1"=4000'

GEOLOGY DETAIL PENN PAY ZONE
GEOLOGIST C F LAWRENCE
DATE 6-6-60
HORIZONTAL SCALE 1" = 250'
VERTICAL SCALE 1" = 40'
WELL BORE ℄ DEPTH TRACK

SCHLUMBERGER WELL SURVEYING CORPORATION

COMPANY PHILLIPS PETROLEUM COMPANY

WELL WEST RANGER UNIT #1

FIELD WILDCAT

LOCATION SEC. 23 - T2S - R5-34E

COUNTY LEA

STATE NEW MEXICO

Location of Well: 660' FNL & 660' FEL SEC. 23 T2S R5-34E

Elevation: D.F. 4215 G.L. 4200

FILING No.

RUN NO. 1

Casing Driller 13 3/8" @ 423 w/ 500 sx — 9 5/8" @ 4256

Casing Logger 13 3/4" @ 425 — 8 3/8" @ 4256

Bottom Log Interval 4260 — Top Log Interval 425

Type Fluid in Hole Gel Chem

Density 9.2 — Viscosity 40

pH 10.5 — Fluid Loss 8.4 cc

Source of Sample Pit

Rm @ Meas. Temp. .75 @ 80°F

Rmf @ Meas. Temp. .60 @ 80°F

Rmc @ Meas. Temp. .90 @ 80°F

Source of Rmf Rmc Flowline

Rm @ BHT .45 @ 150°F

Time Since Circulation 12 HRS

Time Logger on Bottom 0400 HRS

Maximum Recorded Temp. 150°F

Equipment No. 4 — Location HOBBS

Recorded By Hodges

Witnessed By Mr. Hall

REMARKS: GAMMA RAY-NEUTRON-GAMMA RAY COLLAR LOG

NEUTRON STANDARD COUNTS/SECOND — 6 DIV. TO LEFT OF THIS LINE

GAMMA RAY MICROGAMMA/MICROGAMMA RATIO

SCHLUMBERGER WELL SURVEYING CORPORATION

COMPANY PHILLIPS PETROLEUM COMPANY

WELL RANGER #1

FIELD RANGER WELL PARK

LOCATION SEC. 23 - T2S - R5E

COUNTY LEA

STATE NEW MEXICO

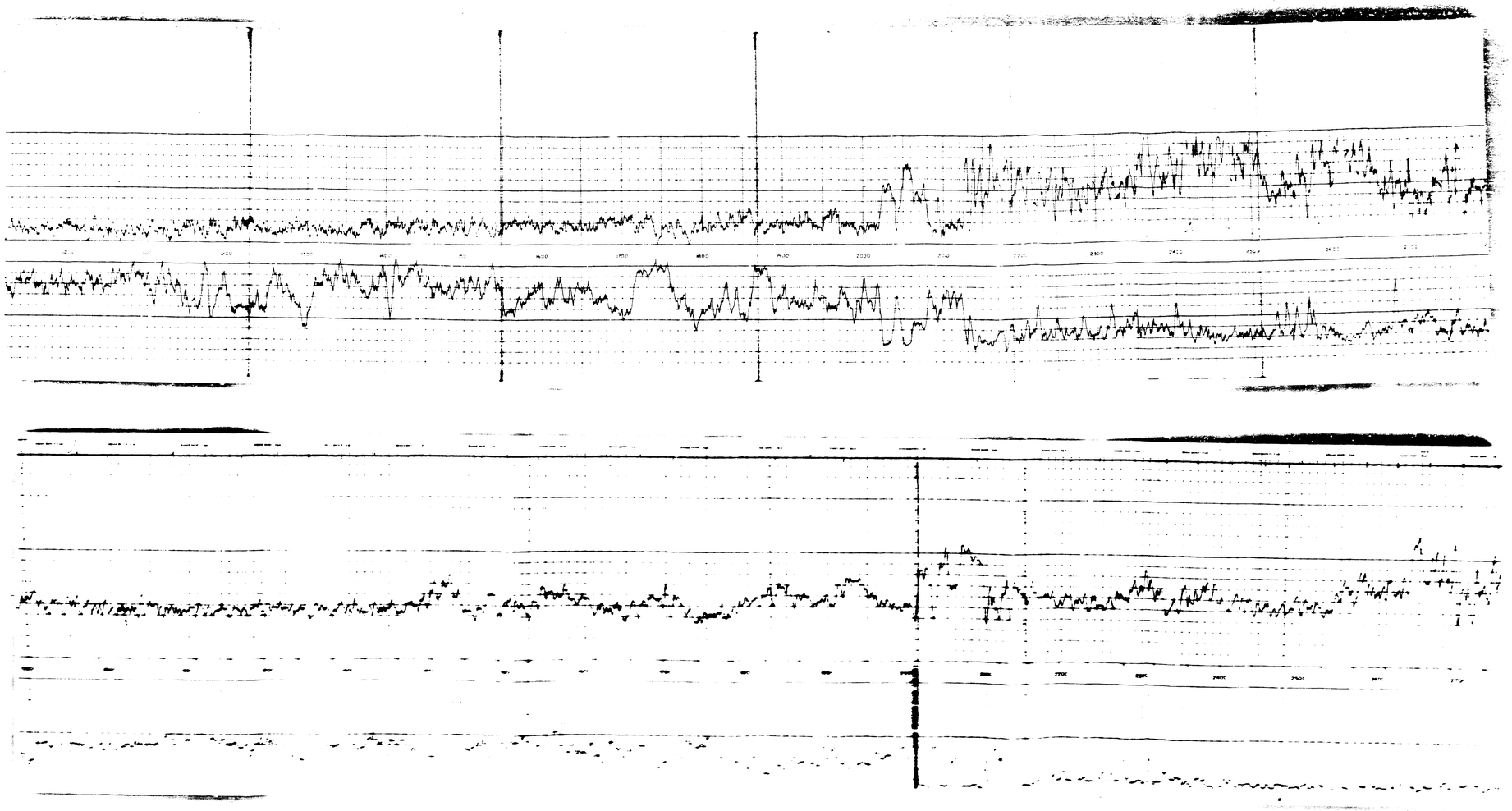
Location of Well

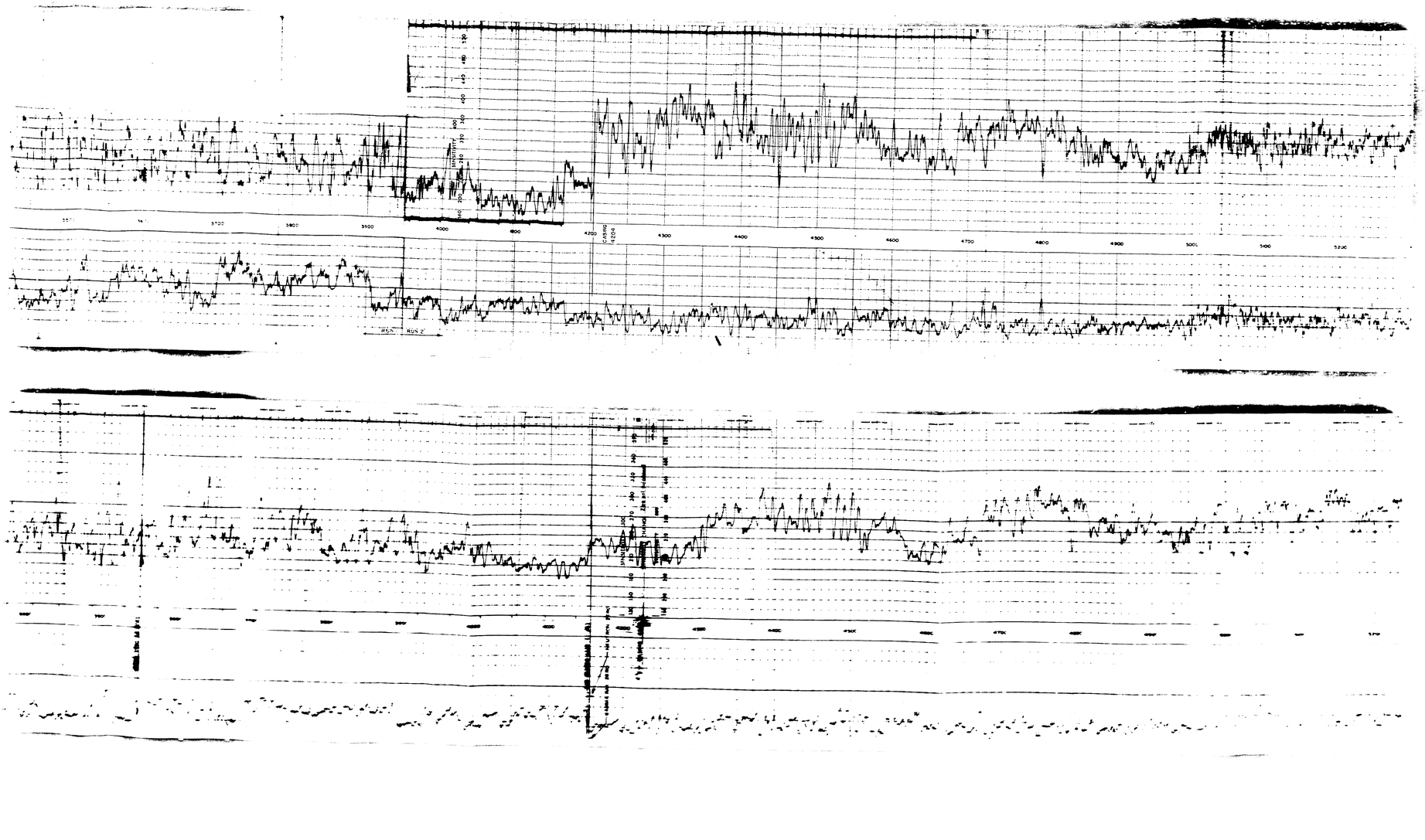
Elevation: D.F. 4215 G.L. 4200

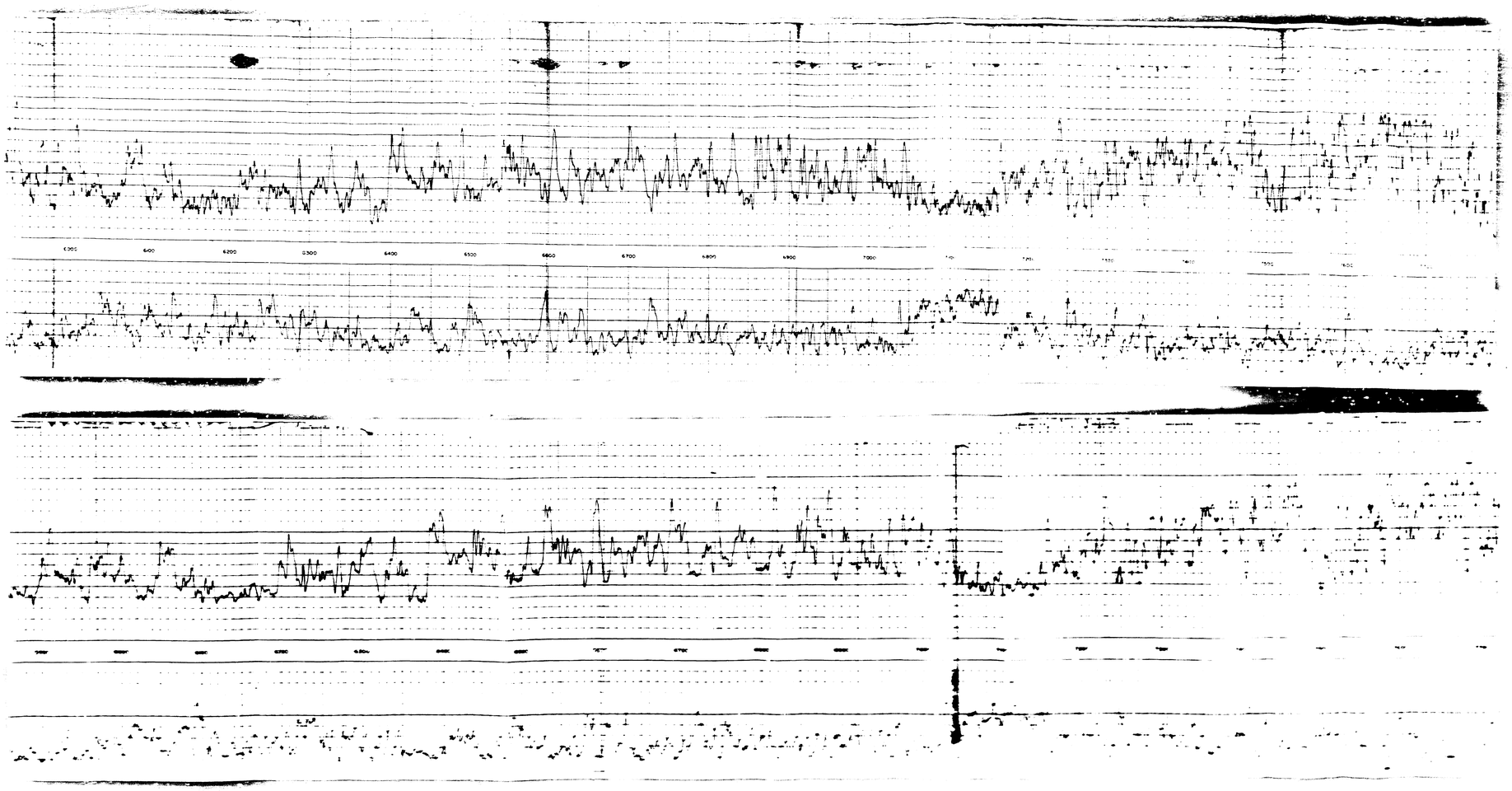
FILING No.

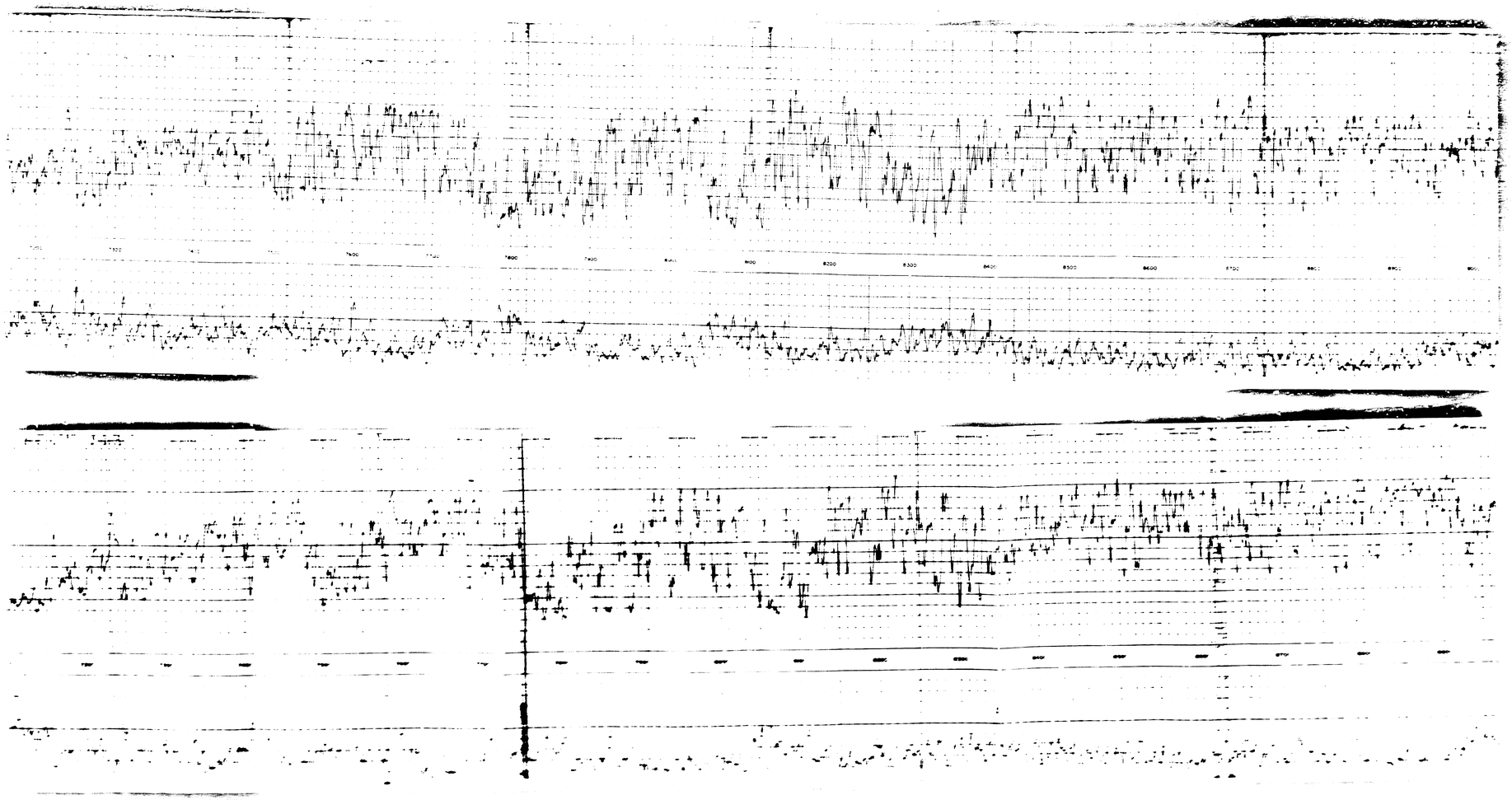
NEUTRON STANDARD COUNTS/SECOND

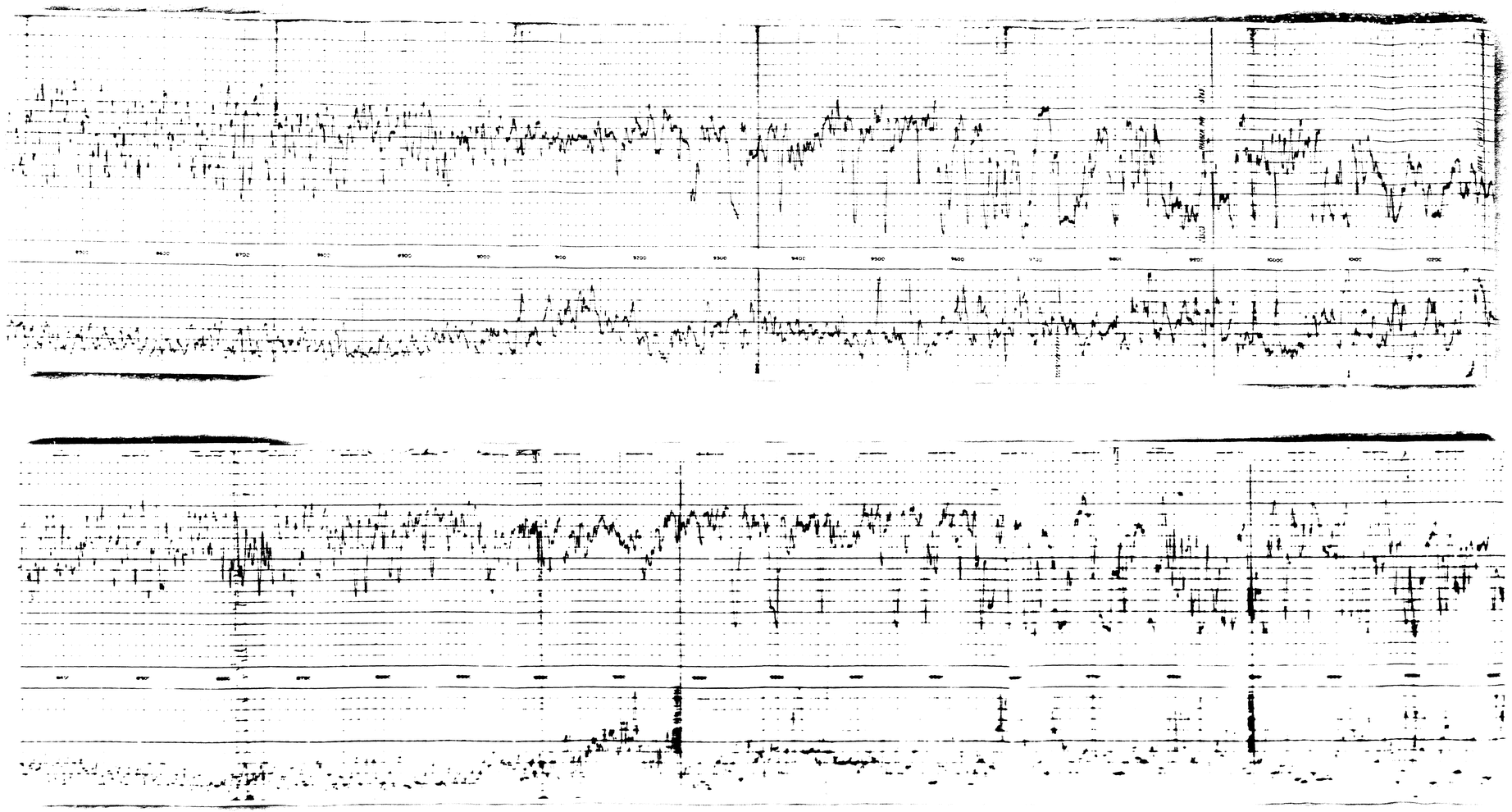
GAMMA RAY MICROGAMMA/MICROGAMMA RATIO




RUN
RUN 2

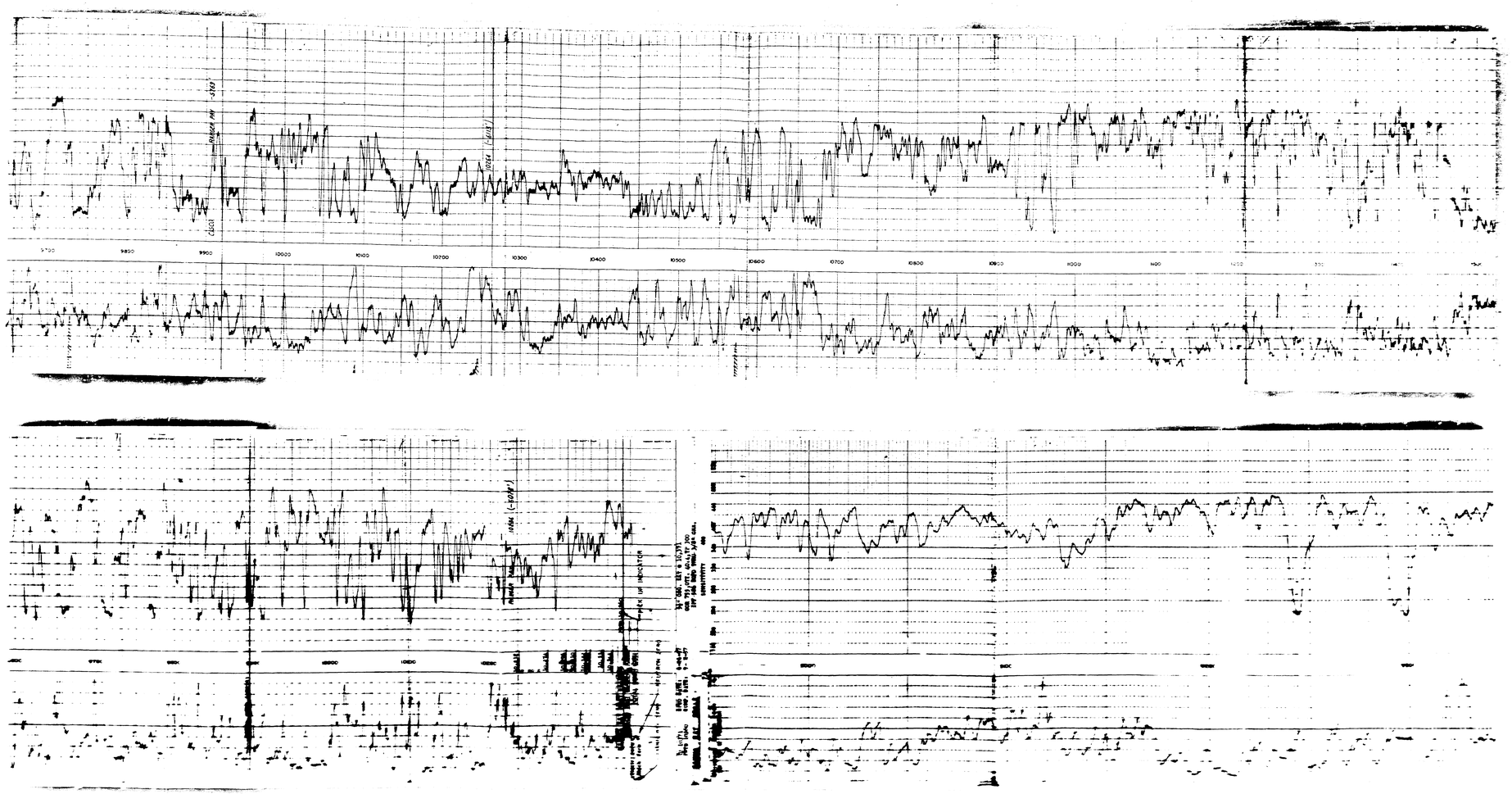




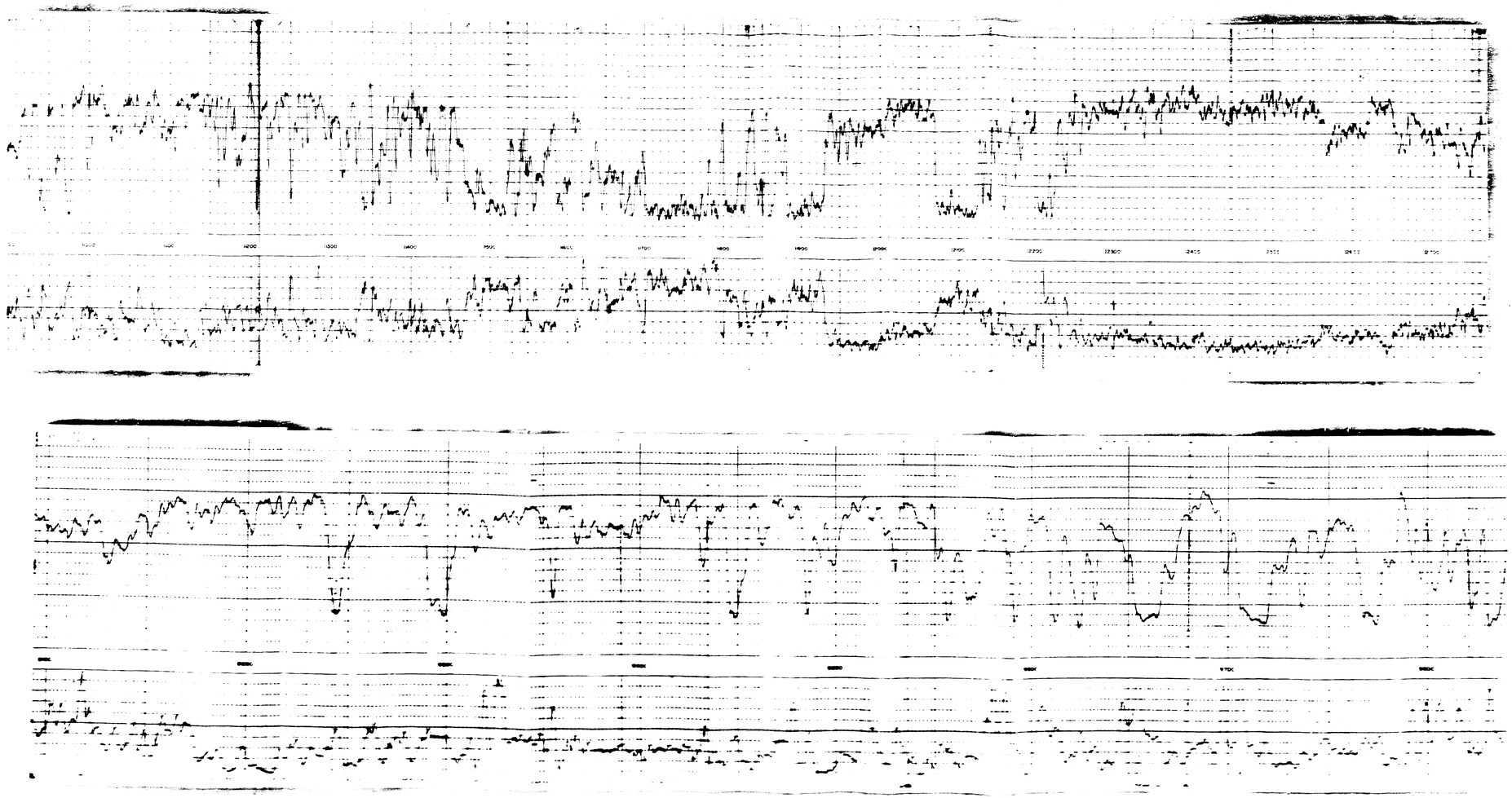


U.S.N.C.F. MICROGRAPHICS

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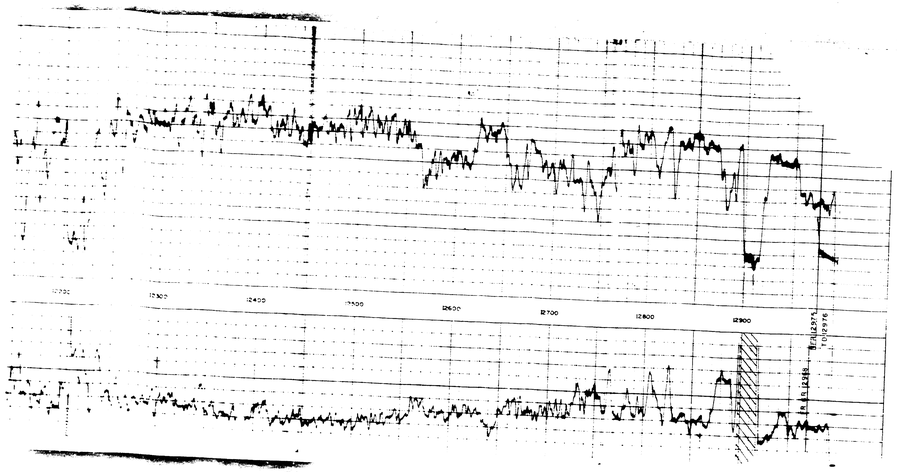


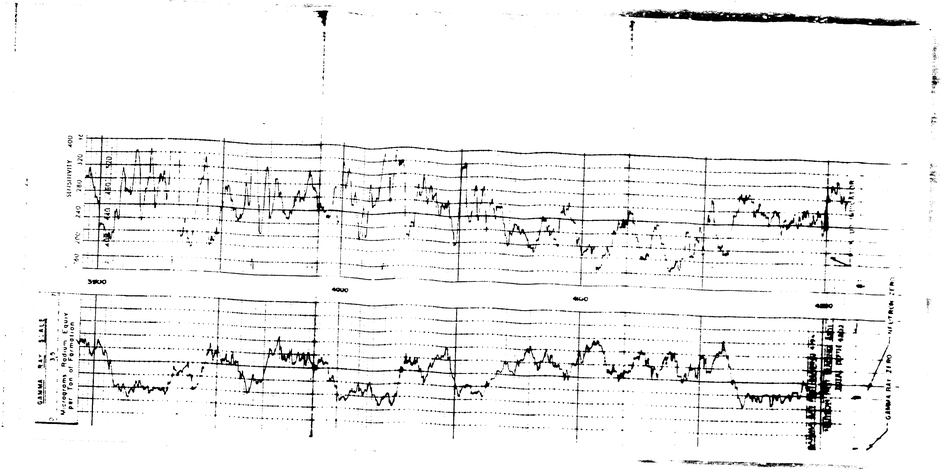


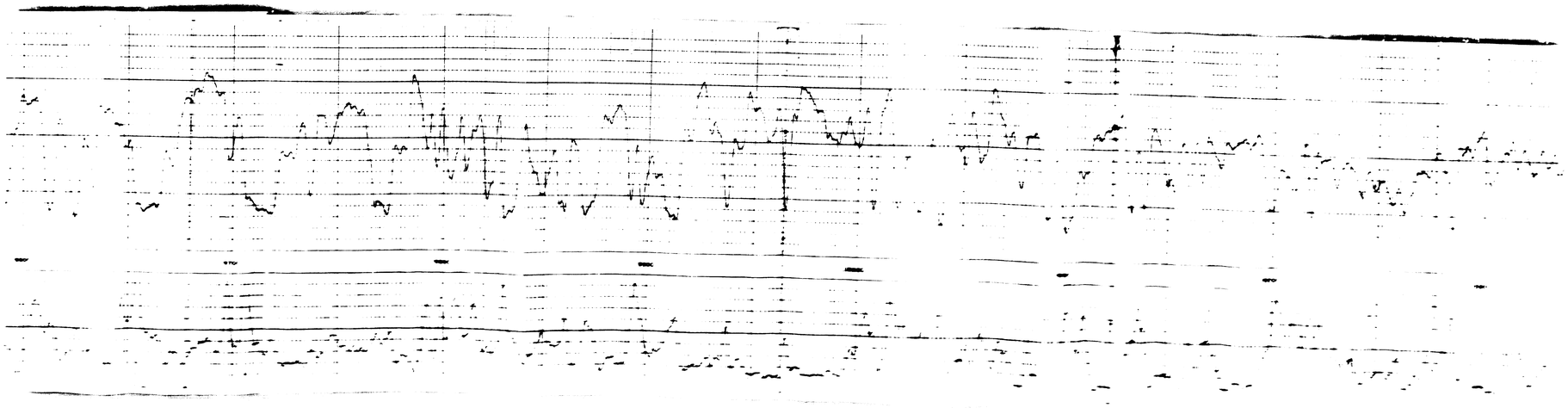


U.S.N.R.C.F. MICROGRAPHICS

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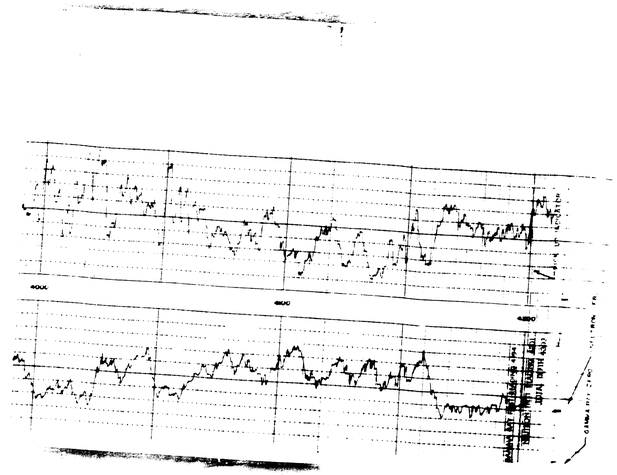


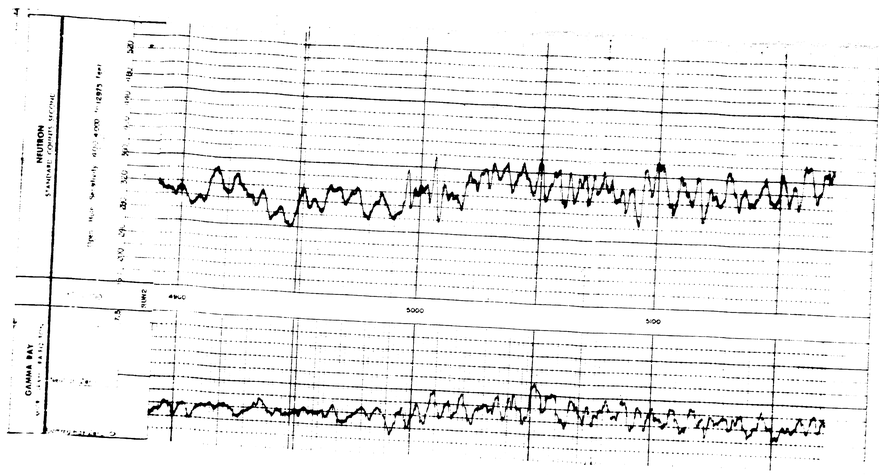


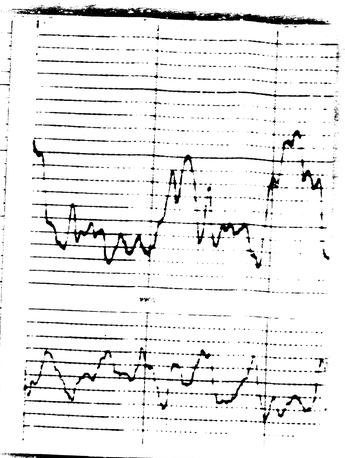


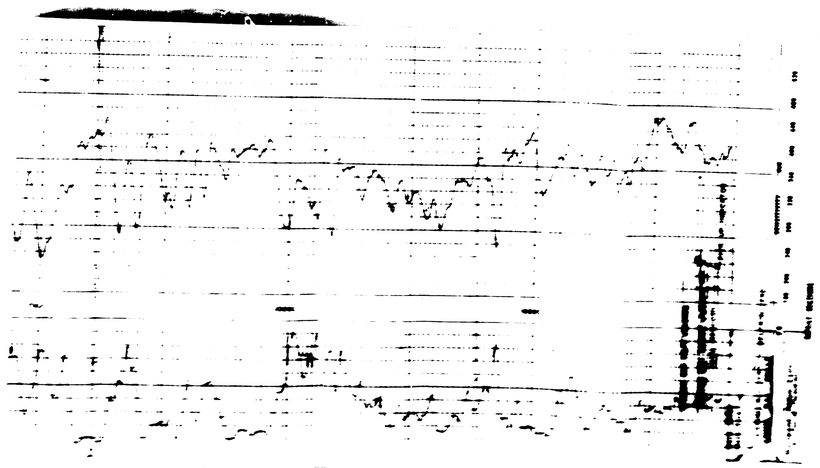
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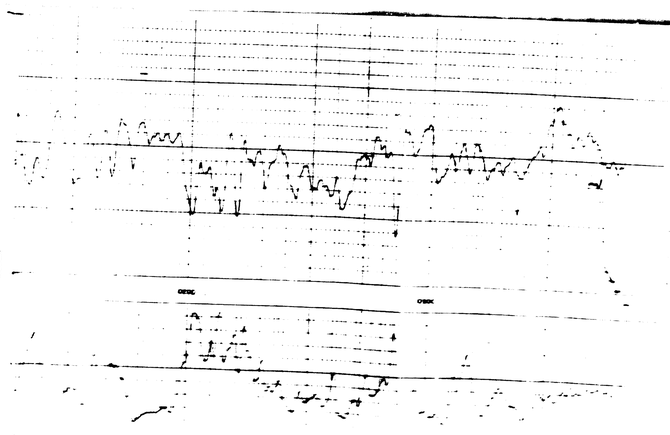
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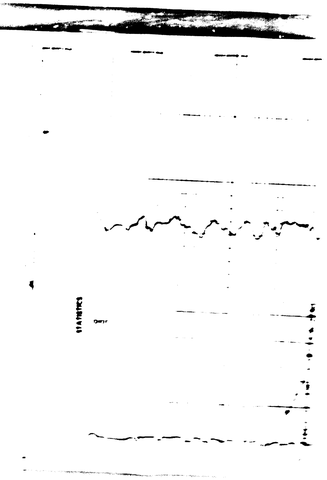




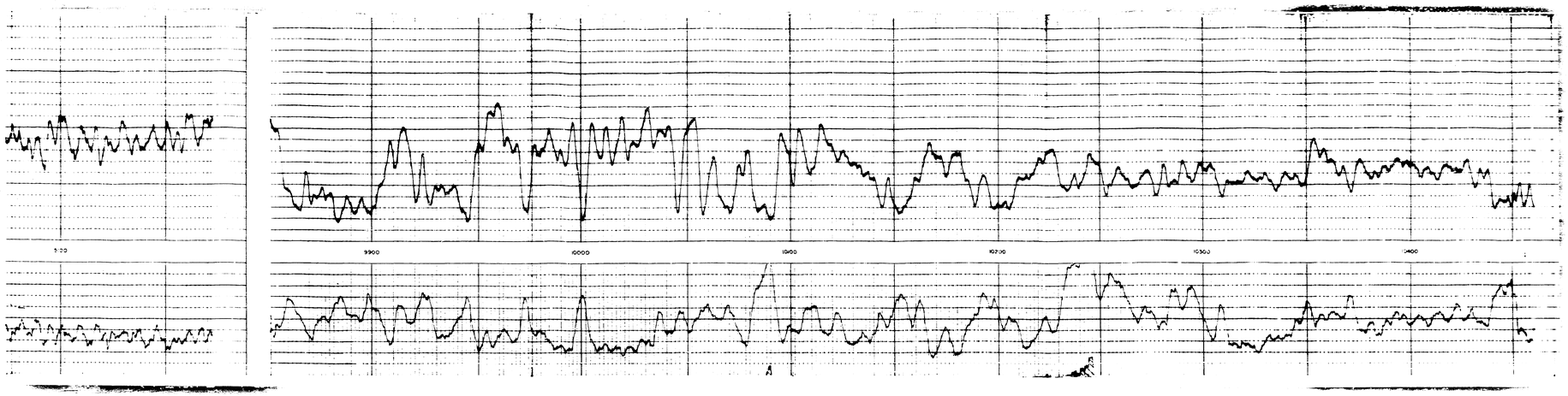


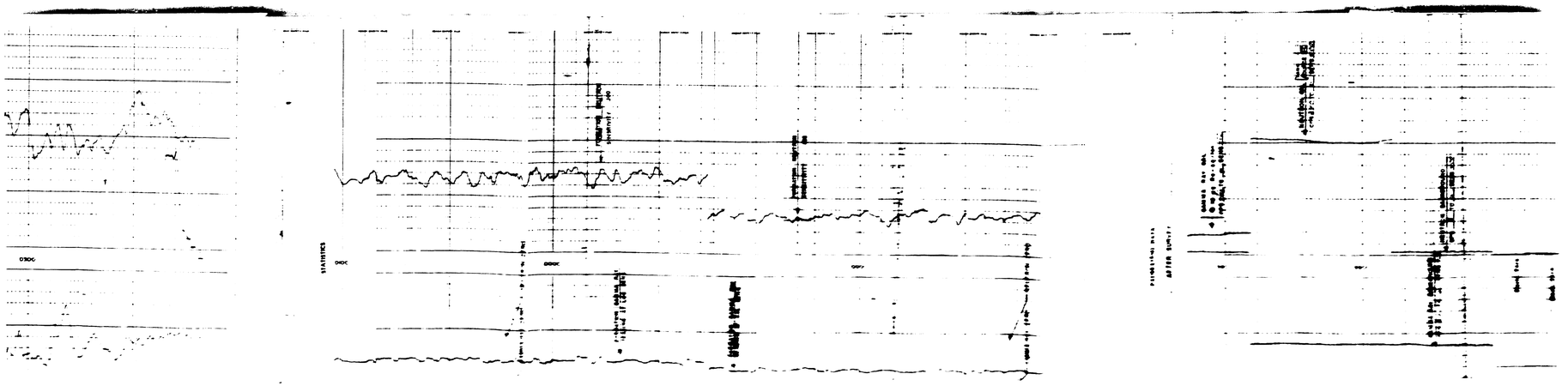






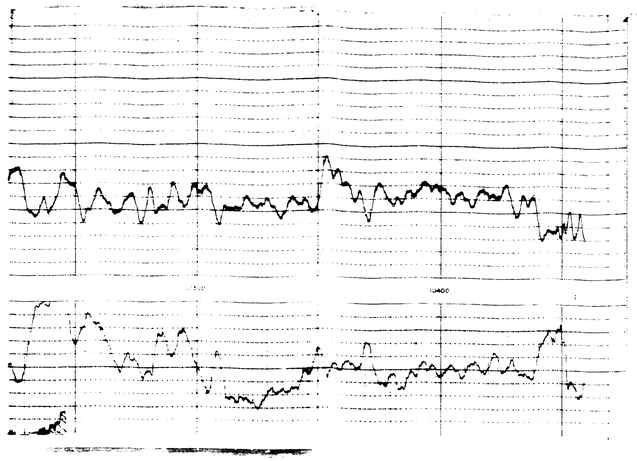
N.A.S.A. STI FACILITY
INPUT
BEST AVAILABLE COPY

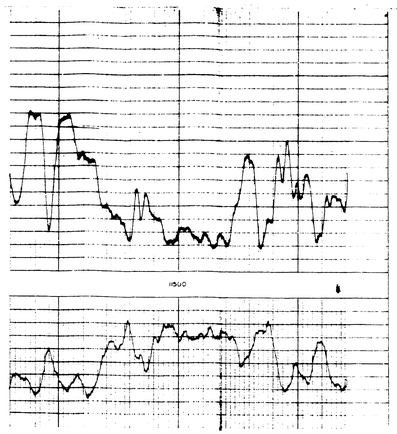


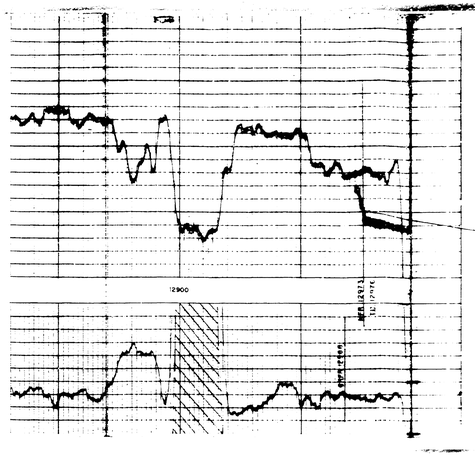


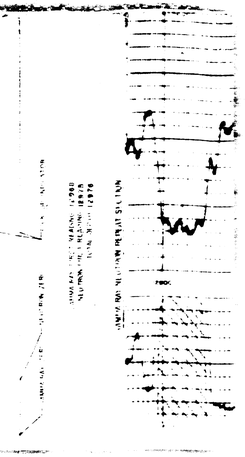
U.M.I.P.C.F. MICROGRAPHICS

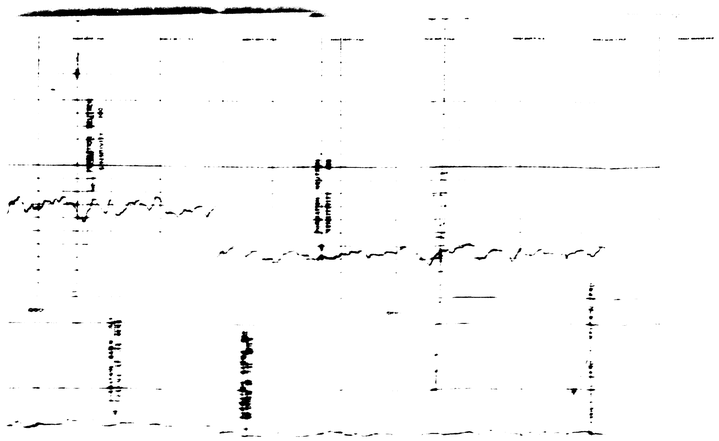
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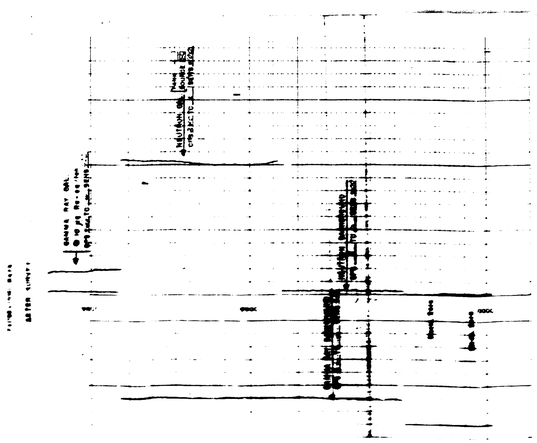


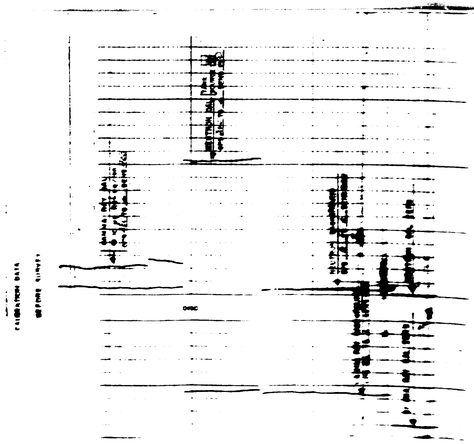


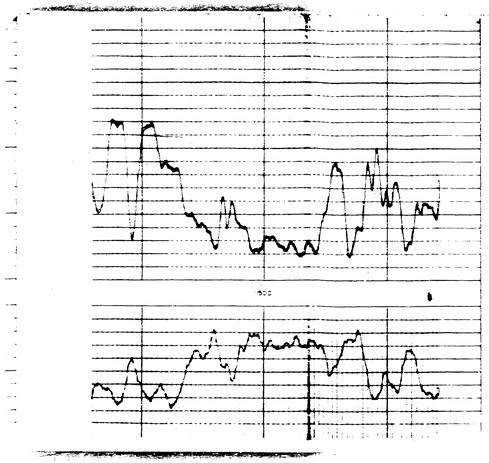


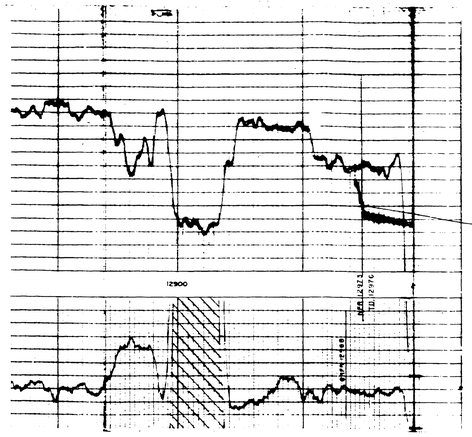


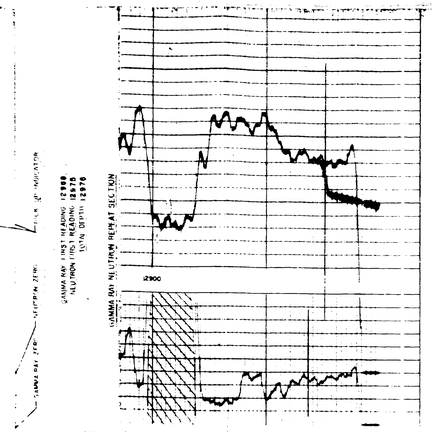


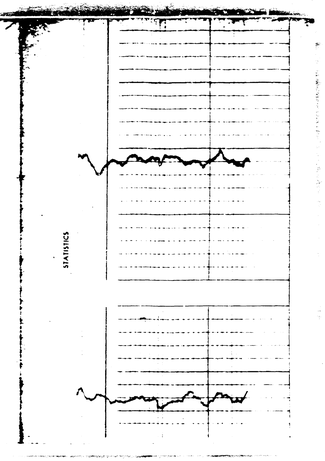




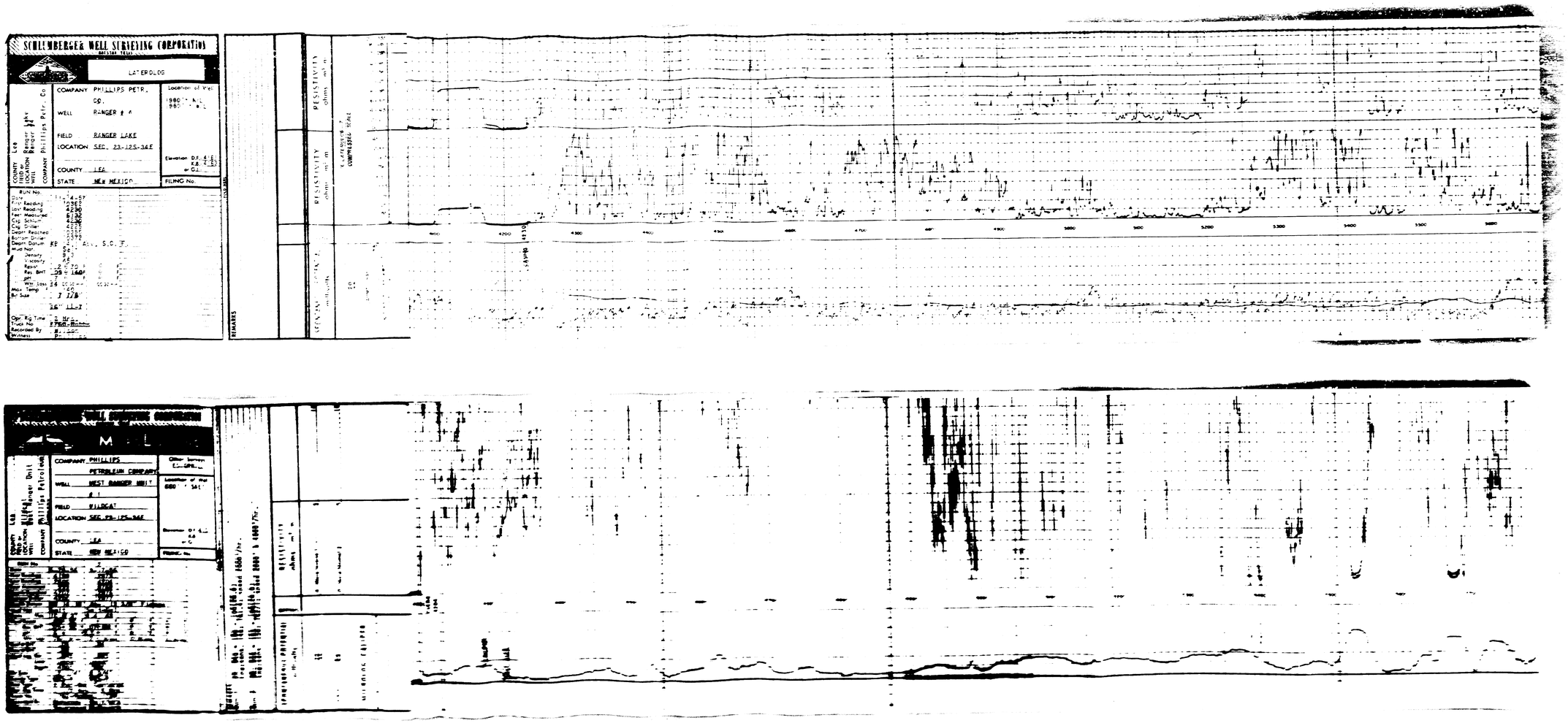




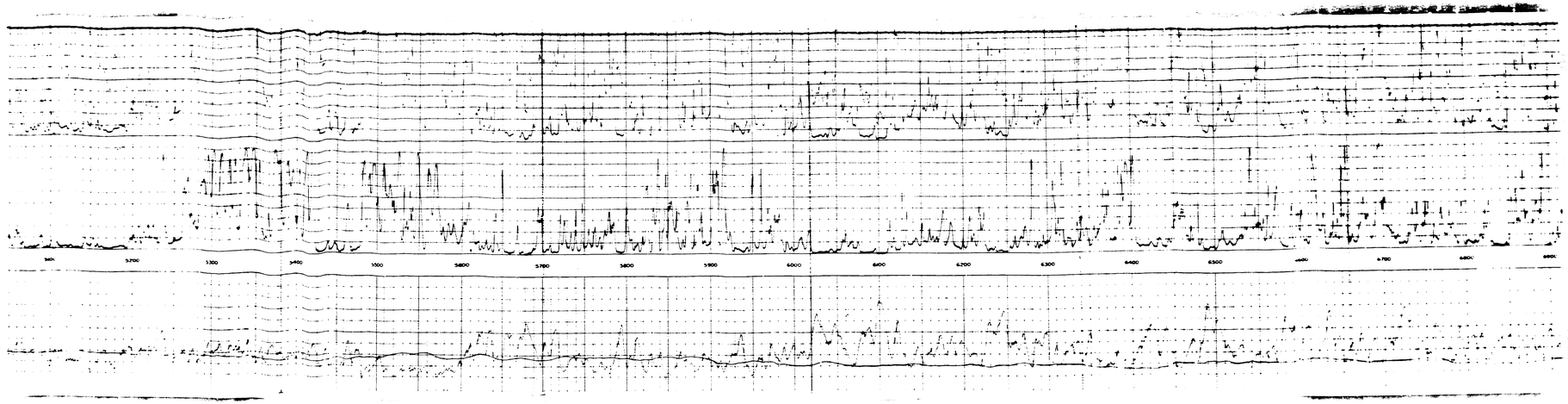


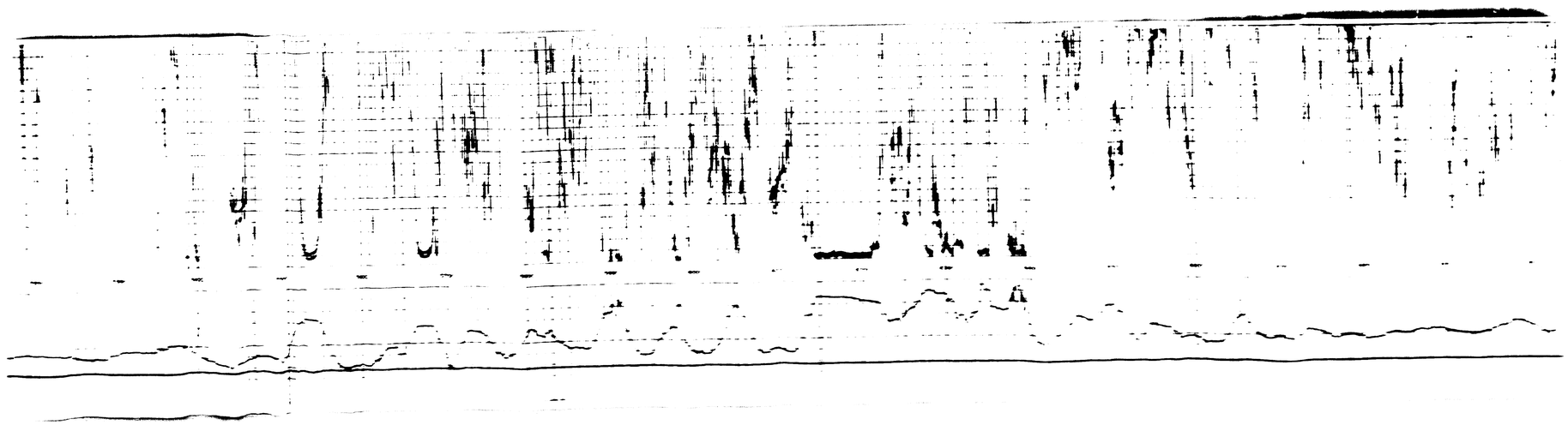


PHILLIPS PETROLEUM COMPANY
WELCH LANGER UNIT #1
LEA COUNTY, NEW MEXICO
STATISTICS
CALIBRATION DATA
GAMMA RAY (TEST) READING 12988
NEUTRON (TEST) READING 12975
DATUM DEPTH 12976
GAMMA RAY (TEST) NEUTRON REPEAT SECTION
GAMMA RAY / NEUTRON ZERO
NEUTRON ZERO
TRUCK UP INDICATOR
12900
12900
12900

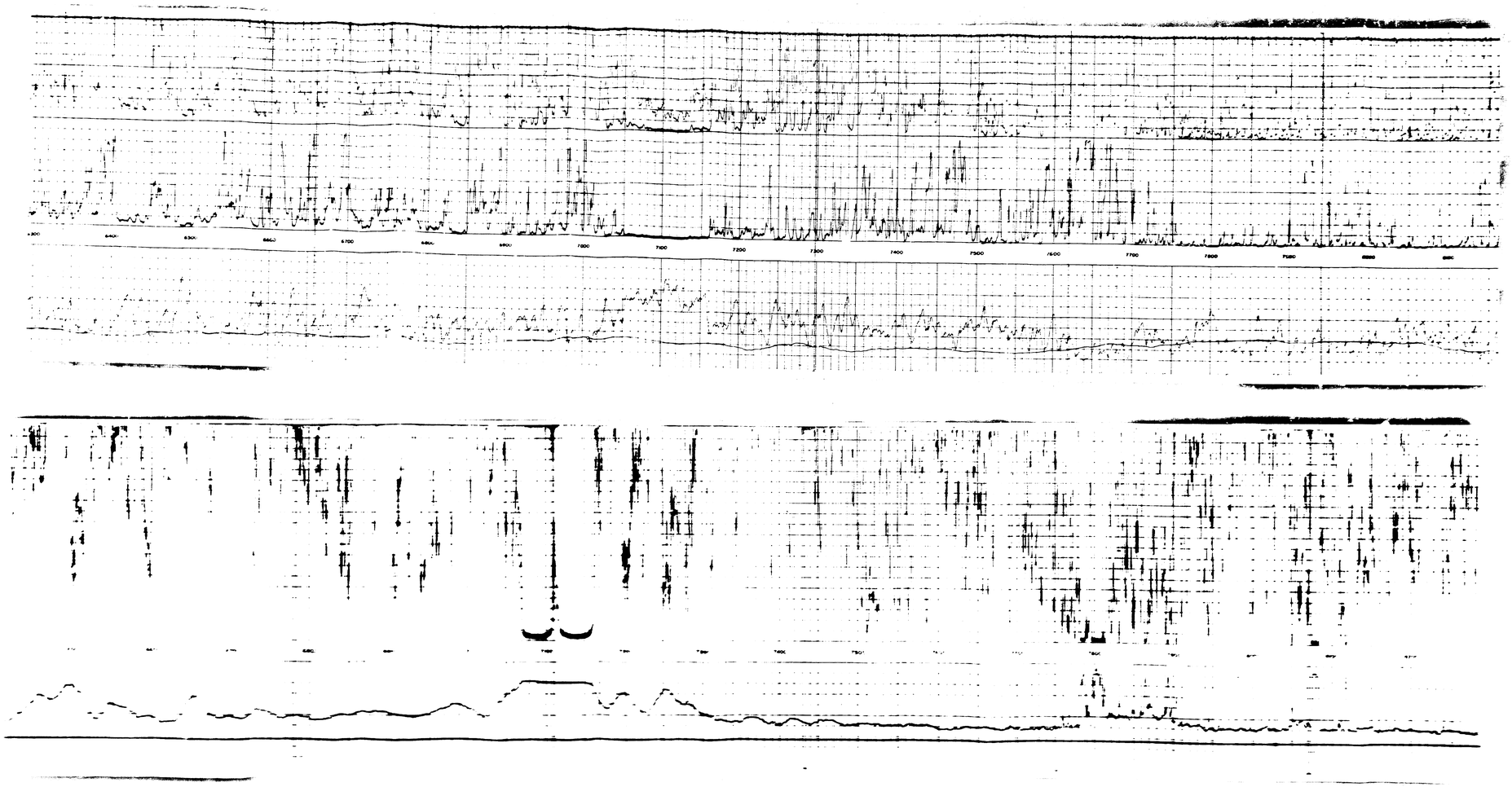

SCHLUMBERGER WELL SURVEYING CORPORATION
LATEROLOG
COMPANY PHILLIPS PETR. CO.
WELL RANGER # 4
FIELD RANGER LAKE
LOCATION SEC. 23-12S-34E
COUNTY LEA
STATE NEW MEXICO
Location of Well
Elevation D.F. 4m
K.B. 4m
G.L.
FILING No.
COUNTY Lea
FIELD Ranger Lake
LOCATION Ranger Unit
WELL #4
COMPANY Phillips Petr. Co
RUN No. One
Date 4-57
First Reading 4230
Last Reading 4230
Feet Measured 6 3/8
Csg. Schlum. 4230
Csg. Driller 4230
Depth Reached 11372
Bottom Driller 11372
Depth Datum KB
Datum Above Perm. Datum
Mud Type Salt
Density 9
Viscosity 45
Resist. .270 @ 70 F
Res. Bht. .155 @ 160 F
pH
Wtr. Loss 24 cc @ 30 min
Max. Temp. 160 F
Bit Size 7 7/8
36" LL-7
Opr. Rig Time 3 Hrs.
Truck No. 27505-Ashley
Recorded By R. Scott
Witness P. Hall, S.O.F.
REMARKS
RESISTIVITY ohms m²/m
Conductivity COMPRESSED SCALE
4200
4300
4400
4500
4600
4700
4800
4900
5000
5100
5200
5300
5400
5500
5600
COMPANY PHILLIPS PETROLEUM COMPANY
WELL WEST RANGER UNIT #1
FIELD WILDCAT
LOCATION SEC 23-12S-34E
COUNTY LEA
STATE NEW MEXICO
Other Services
Location of Well
660' FSL
Elevation D.F. K.B. G.L.
FILING No.
Drlg. Measured From KB
Date Run No. One
Depth-Driller 11372
Depth-Logger 11372
Bottom Logged Interval 11372
Top Logged Interval 8000
Type Fluid in Hole SALT WATER
Salinity, PPM Cl 160,000
Density 10.0
Level FULL
Max. Rec. Temp. Deg. F 160
Operating Rig Time 3 HRS
Recorded By R. SCOTT
Witnessed By P. HALL, S.O.F.
RESISTIVITY ohms m²/m
Conductivity COMPRESSED SCALE
CALIPER
8000
8100
8200
8300
8400
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
11000
11100
11200
11300
11372

U.M.I.C.F. MICROGRAPHICS
ANN ARBOR, MICH.

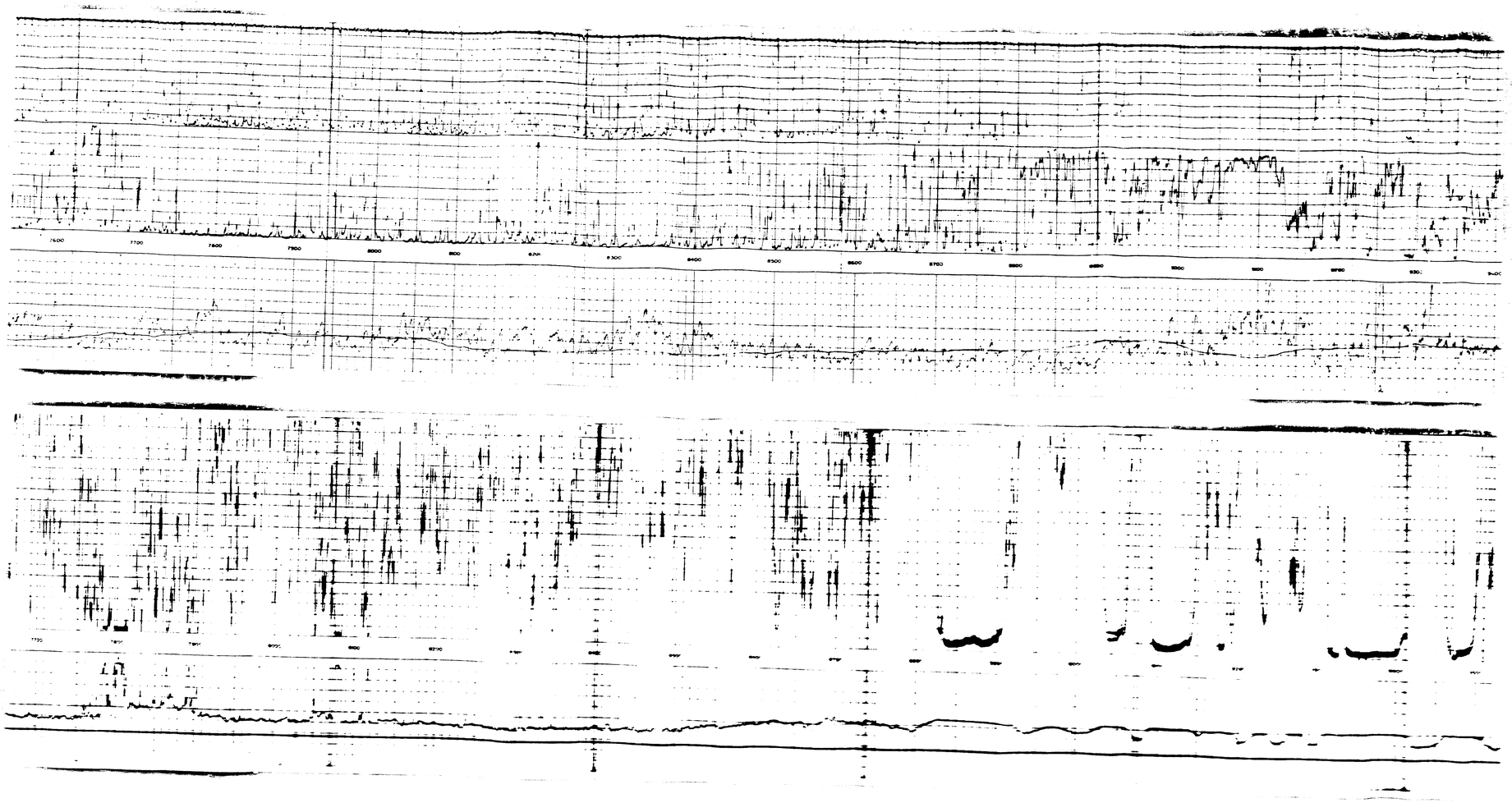


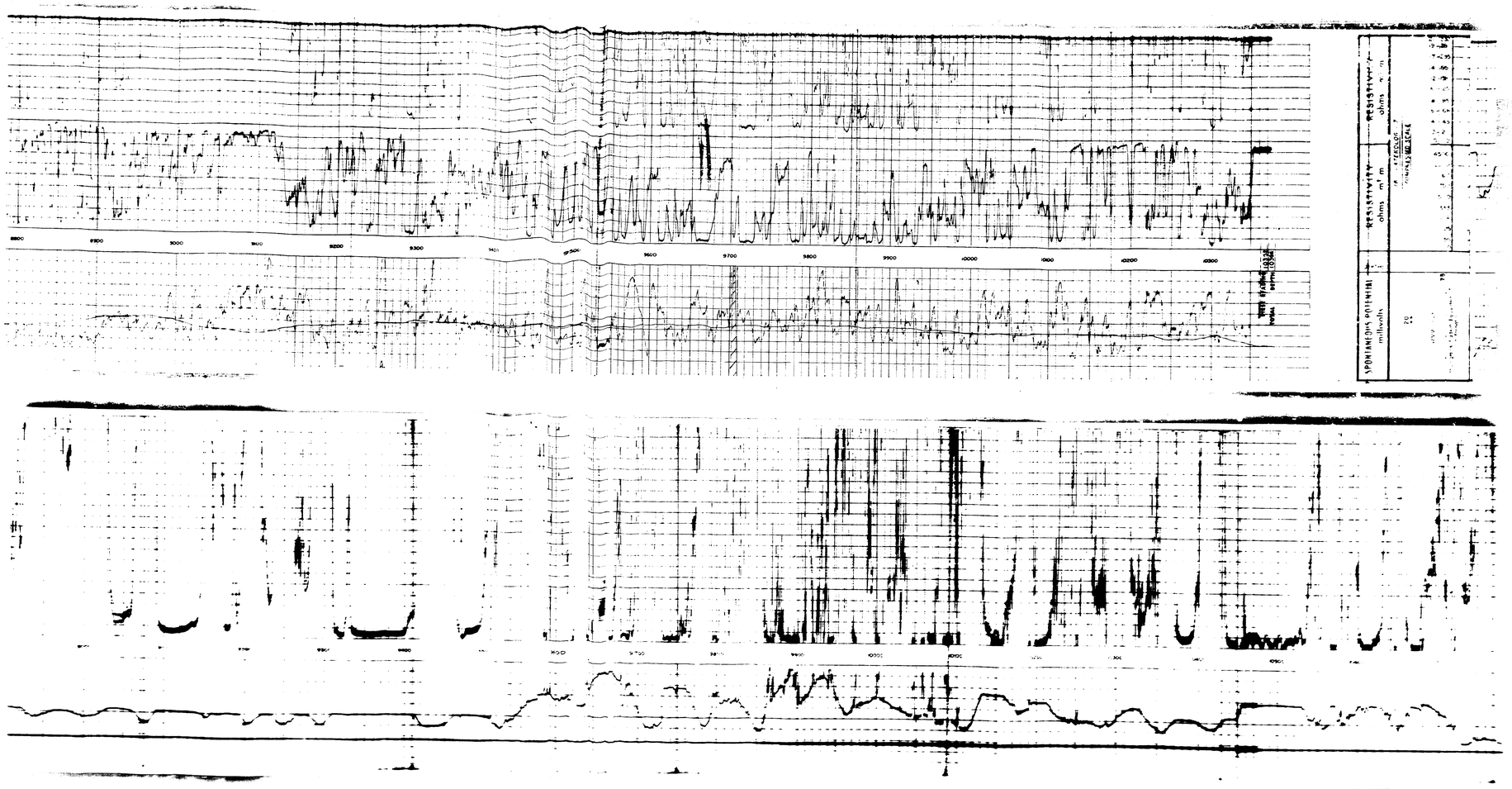


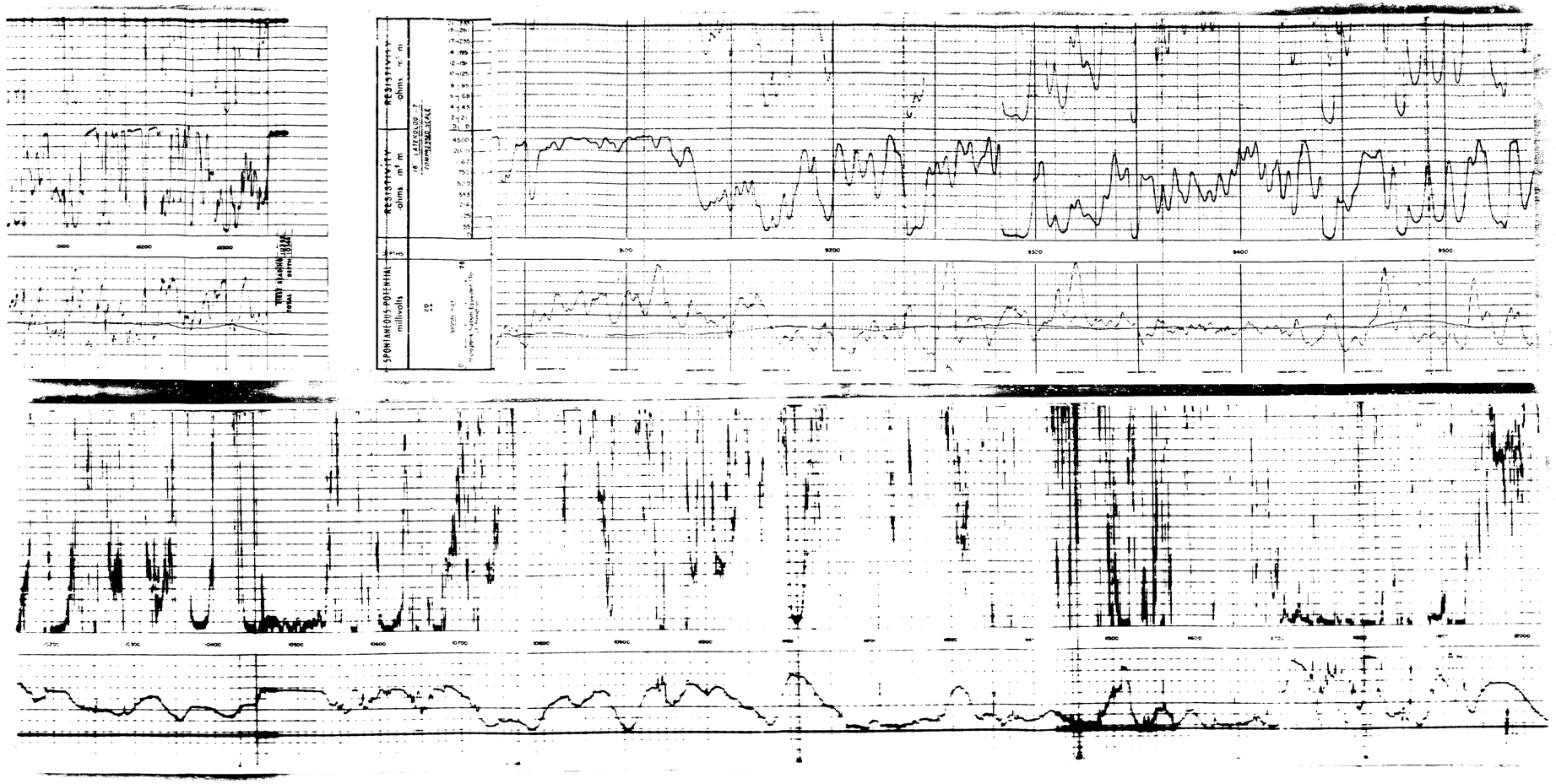
U.S.B.C.F. BIBLIOTHÈQUE
DON RÉSERVÉ AU CDFT



U.S.A.E.C. HEADQUARTERS
NOT ENTER ABSENT COPY




SPONTANEOUS POTENTIAL
millivolts
RESISTIVITY
ohms m²/m
RESISTIVITY
ohms m²/m


RESISTIVITY
ohms m²/m
RESISTIVITY
ohms m²/m
SPONTANEOUS-POTENTIAL
millivolts
9100
9200
9300
9400
9500
10600
10700
10800
10900
11000
11100
11200
11300
11400
11500
11600
11700
11800
11900
12000

9300
9400
9500
9600
9700
9800
9900
10000

RESISTIVITY
ohm-m
MICROLOG CALIPER

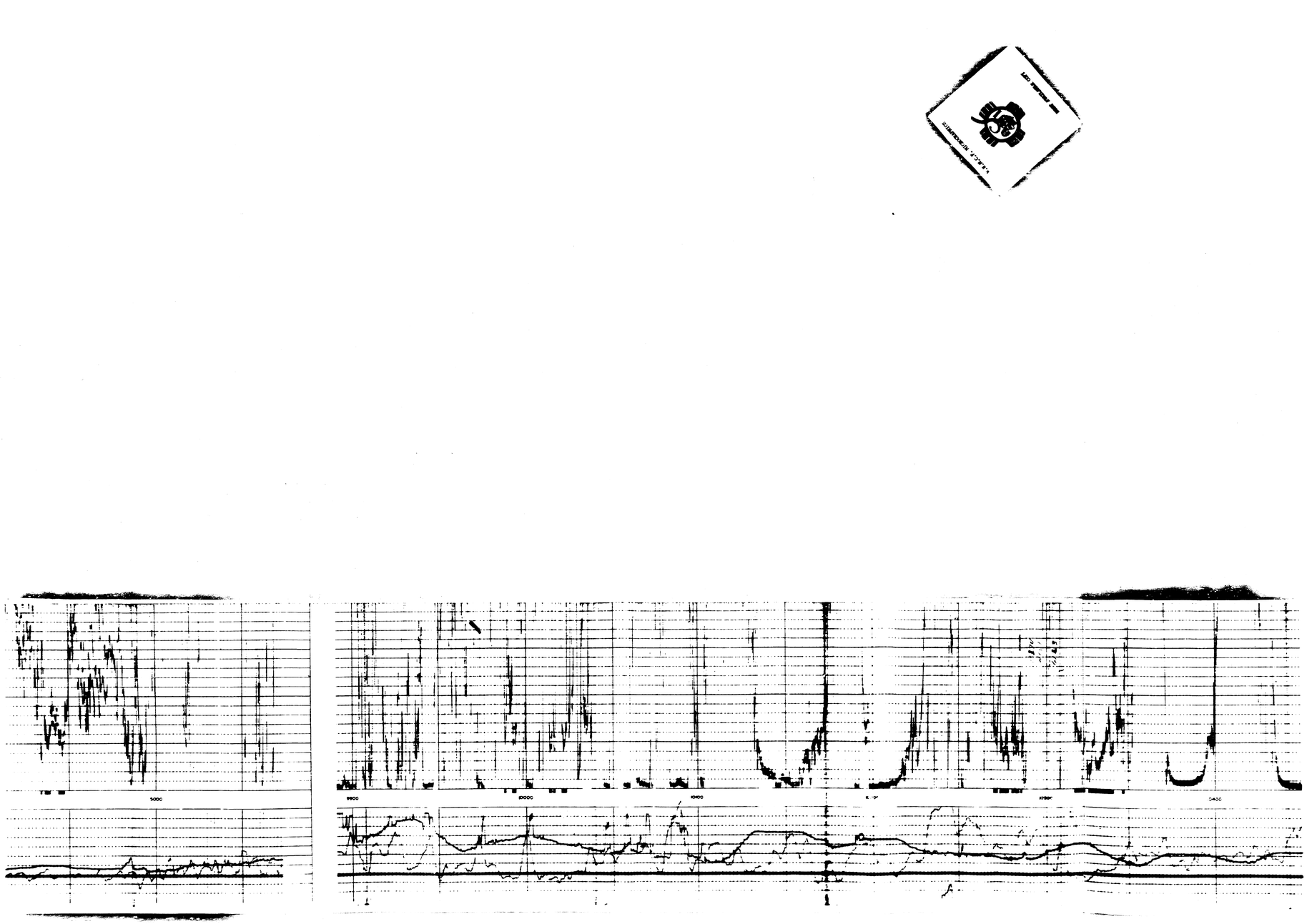
9800
9900
10000
10100
10200
10300
PHILLIPS PETR. CO
SIMMS LAT FIELD
LEA COUNTY, NEW MEXICO

RESISTIVITY
ohms m²/m
MICROLOG CALIPER
2000
2500
3000

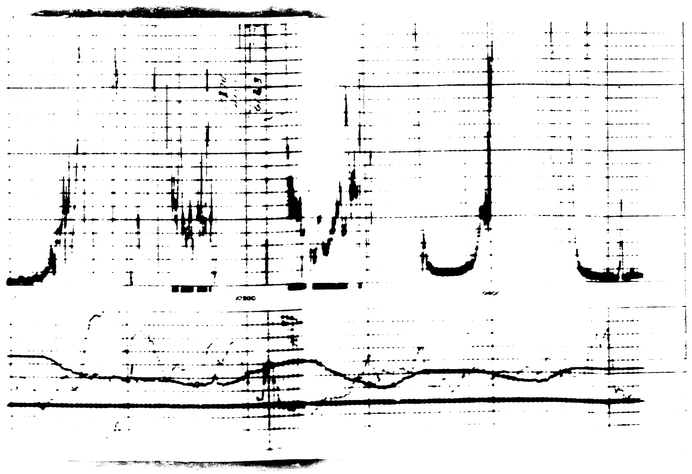
2900
3000

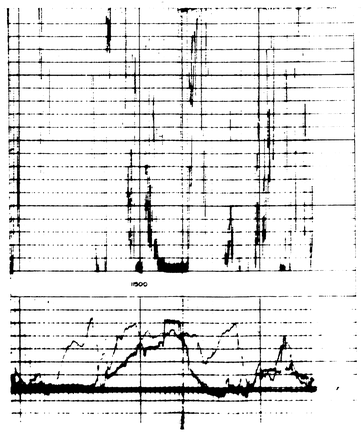
3600
3700
3800
3900

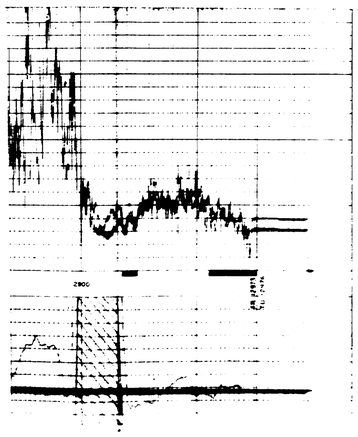
RESISTIVITY
-ohms. m²/m
DEPTHS
SPONTANEOUS POTENTIAL
millivolts
MICROLOG CALIPER

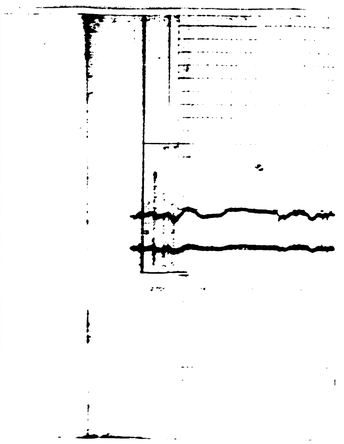






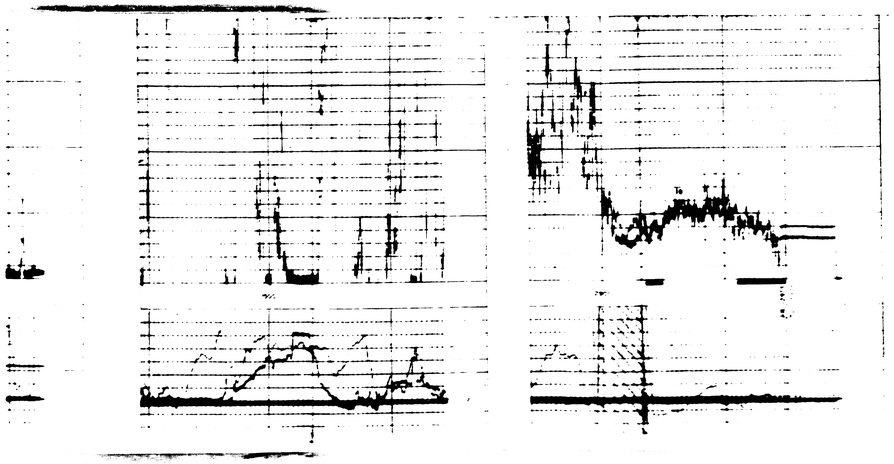


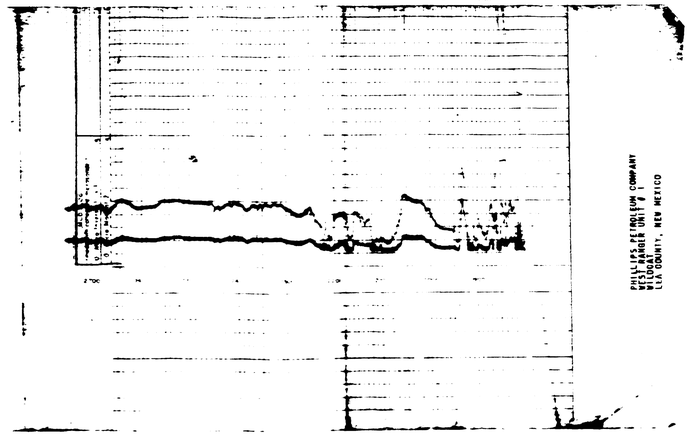




U.S.D.O.E. MICROGRAPHICS

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U.S.B.M.C.F. MICROGRAPHICS

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SCHLUMBERGER WELL SURVEYING CORPORATION

COMPANY PHILLIPS PETR. COMPANY

WELL RANGER # 2

FIELD WILDCAT

LOCATION SEC. 25-12S-34E

COUNTY LEA

STATE NEW MEXICO

Other Services: I.L. MCL

Location of Well: 330' : #&N/L

Elevation: DF 4,4 KB 4,3 GL 4,1

FILING No.

Log Depth Measured From KB 14.25 Above Perm. Datum

Run No. 1

Date 5-6-57

First Reading 394

Last Reading 0

Bottom Driller 10394

Bottom Logger 10395

Top Logged Interval 9867

Casing Driller 13 3/8 @ 394

Casing Logger 13 3/8 @ 394

Bit Size 12 1/4

Type Fluid in Hole SALT GEL

Density 10.0

Viscosity 38

Fluid Loss 8.4

Source of Sample CIRC.

Rm @ Meas. Temp. .68 @ 70°F

Rmf @ Meas. Temp. .52 @ 70°F

Rmc @ Meas. Temp. 1.0 @ 70°F

Source of Rmf & Rmc MEAS.

Rm @ BHT .38 @ 190°F

Time Since Circ. 12 HRS.

Max. Rec. Temp. Deg. F. 190

Equip. No. & Location 1166 HOBBS

Recorded By HAMPTON

Witnessed By GUBA JR.

85/8" @ Surf. to 4221

7 7/8" Dia. Surf. to 10330

3/4" @ 10330

Sonde Decentralized

CASING COLLAR

GAMMA RAY MICRONORMAN RATIO 20"

INTERVAL Surface to 4200 Sensitivity 300 Linear Speed 60 Logging Speed 0 ZERO 0

INTERVAL 4200 to 9100 Sensitivity 100 Linear Speed 60 Logging Speed 0 ZERO 0

INTERVAL 9100 to 10394 Sensitivity 400 Linear Speed 30 Logging Speed 0 ZERO 0

NEUTRON STANDARD COUNTS SECOND

INTERVAL Surface to 4200 Sensitivity 200 Time Constant 2 Logging Speed 60 ft./min. ZERO 0 divisions to left of this line

INTERVAL 4200 to 9100 Sensitivity 100 Time Constant 2 Logging Speed 60 ft./min. ZERO 0 divisions to left of this line

INTERVAL 9100 to 10394 Sensitivity 400 Time Constant 2 Logging Speed 30 ft./min. ZERO 0 divisions to left of this line

CALIPER

Sand Cliff Material Boundary

U.D. Base

0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 1200 1300 1400 1500

SCHLUMBERGER WELL SURVEYING CORPORATION

LATEROLOG

COMPANY PHILLIPS PETR. COMPANY

WELL RANGER # 2

FIELD WILDCAT

LOCATION SEC. 25-12S-34E

COUNTY LEA

STATE NEW MEXICO

Other Services: I.L. MCL

Location of Well: 330' : #&N/L

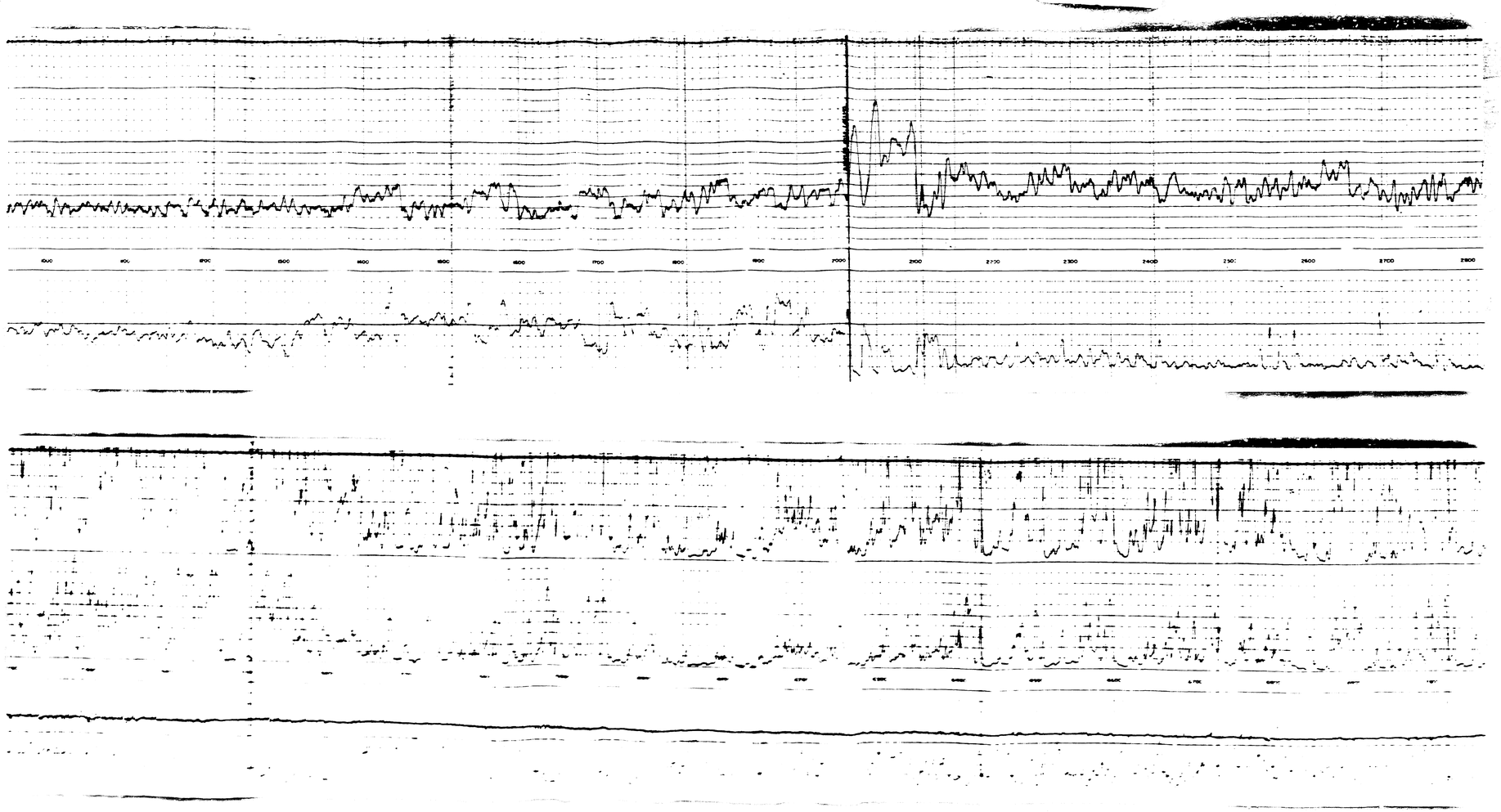
Elevation: DF 4,4 KB 4,3 GL 4,1

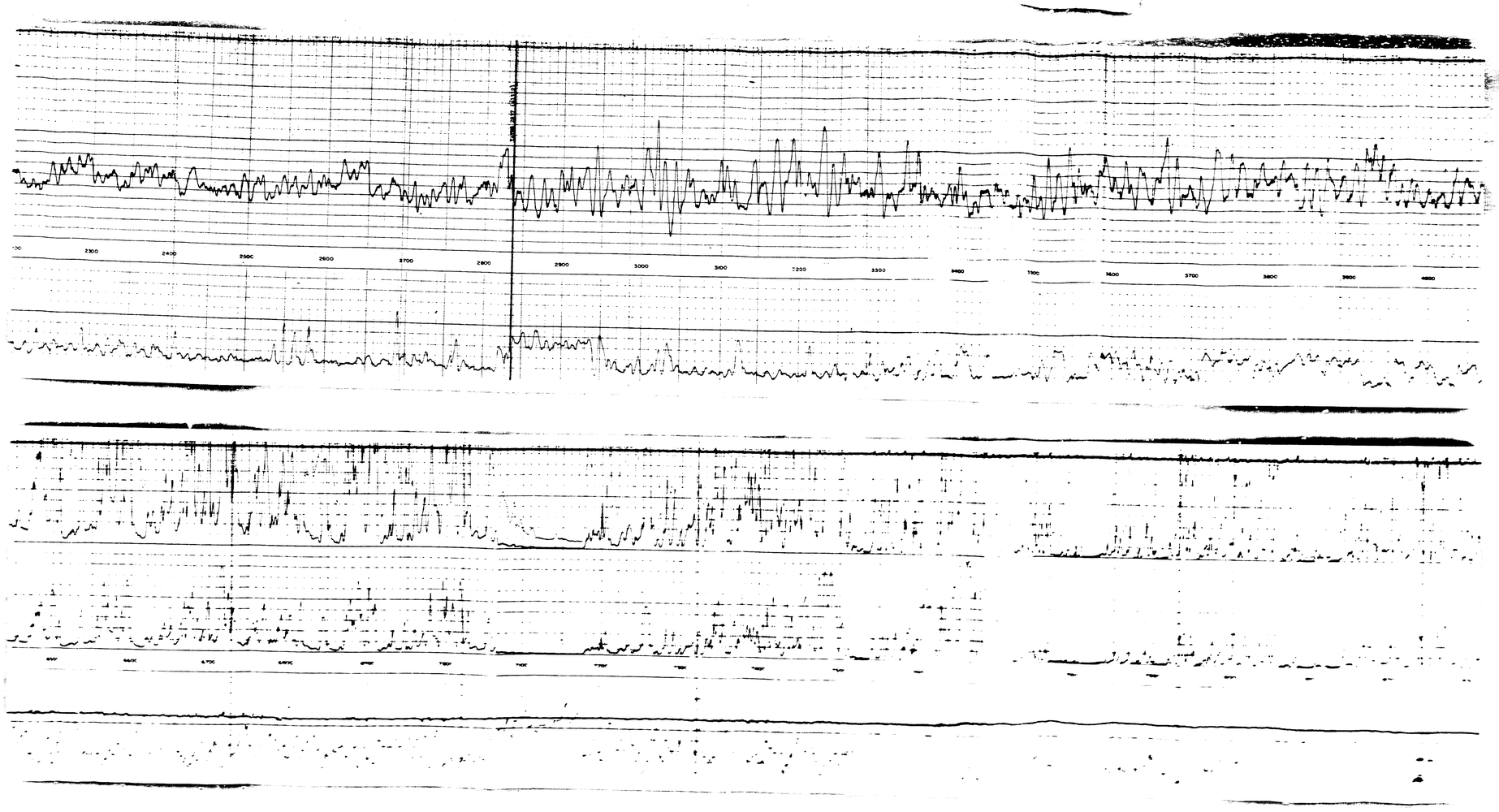
FILING No.

RESISTIVITY ohms m²/m

RESISTIVITY ohms m²/m

SPONTANEOUS POTENTIAL millivolts



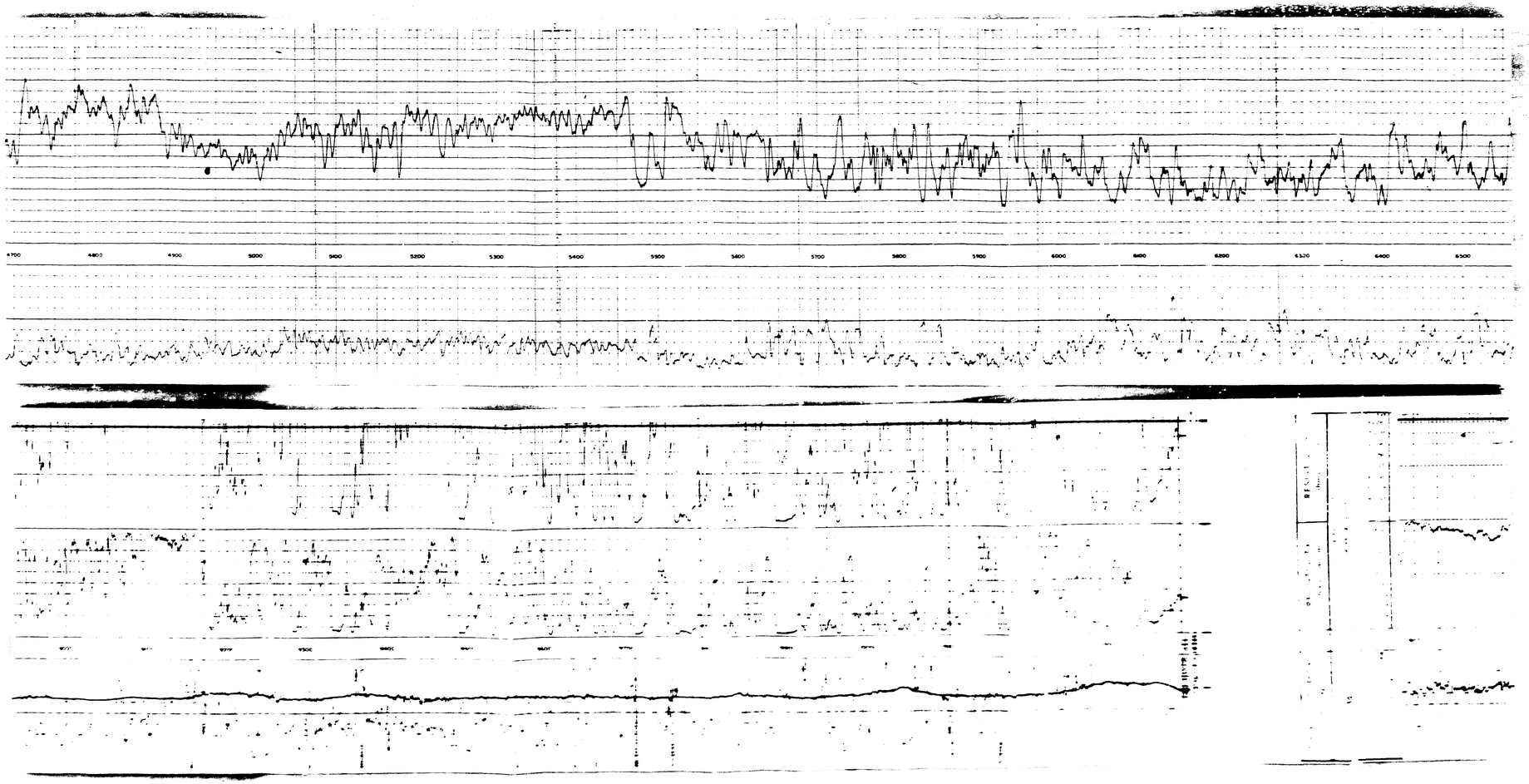


A.R.M.C.P. MICROGRAPHICS

BEST AVAILABLE COPY

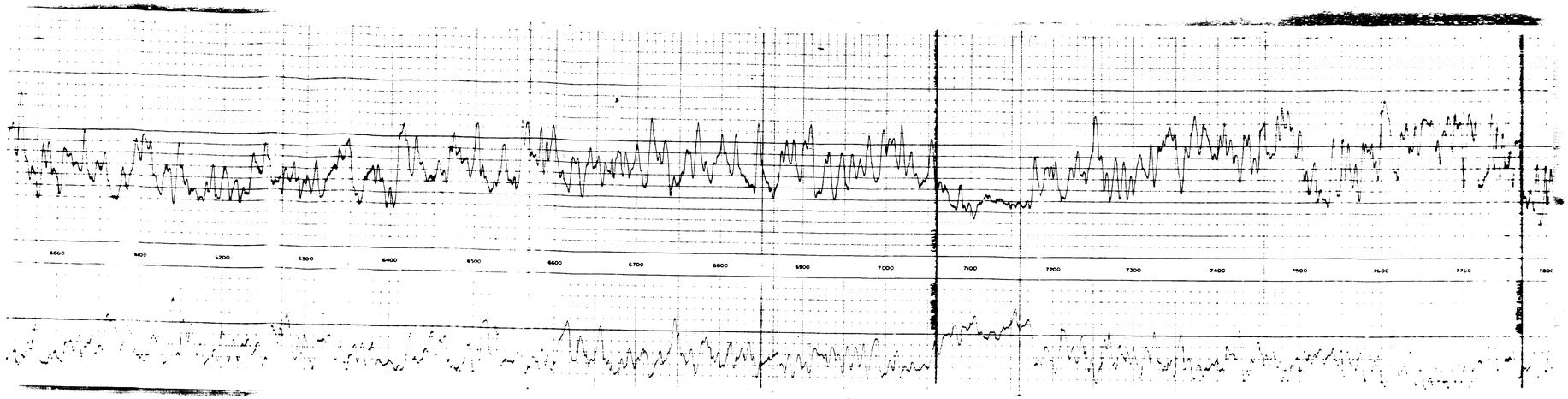
U.S.N.R.C.P. MICROGRAPHICS

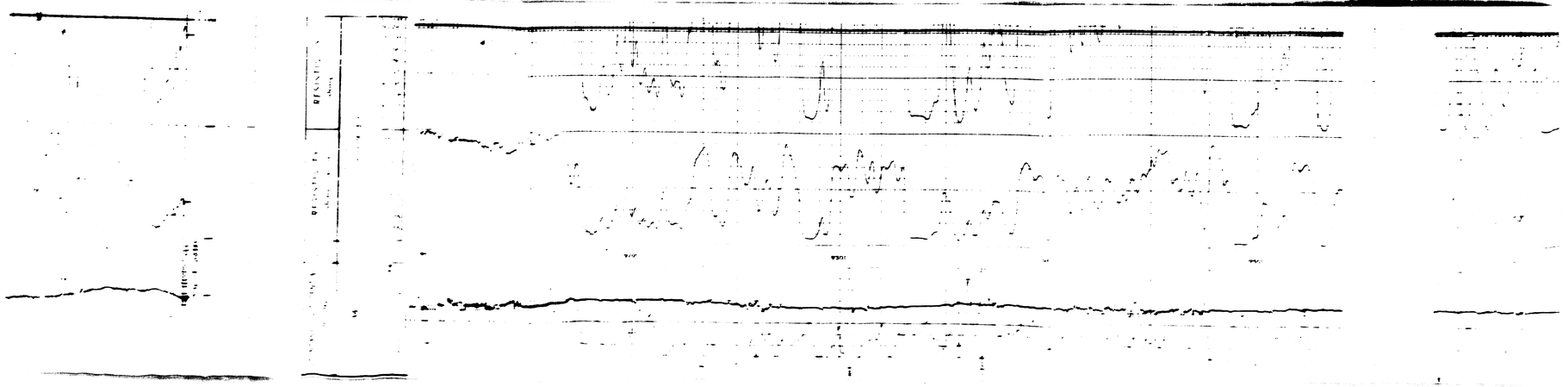
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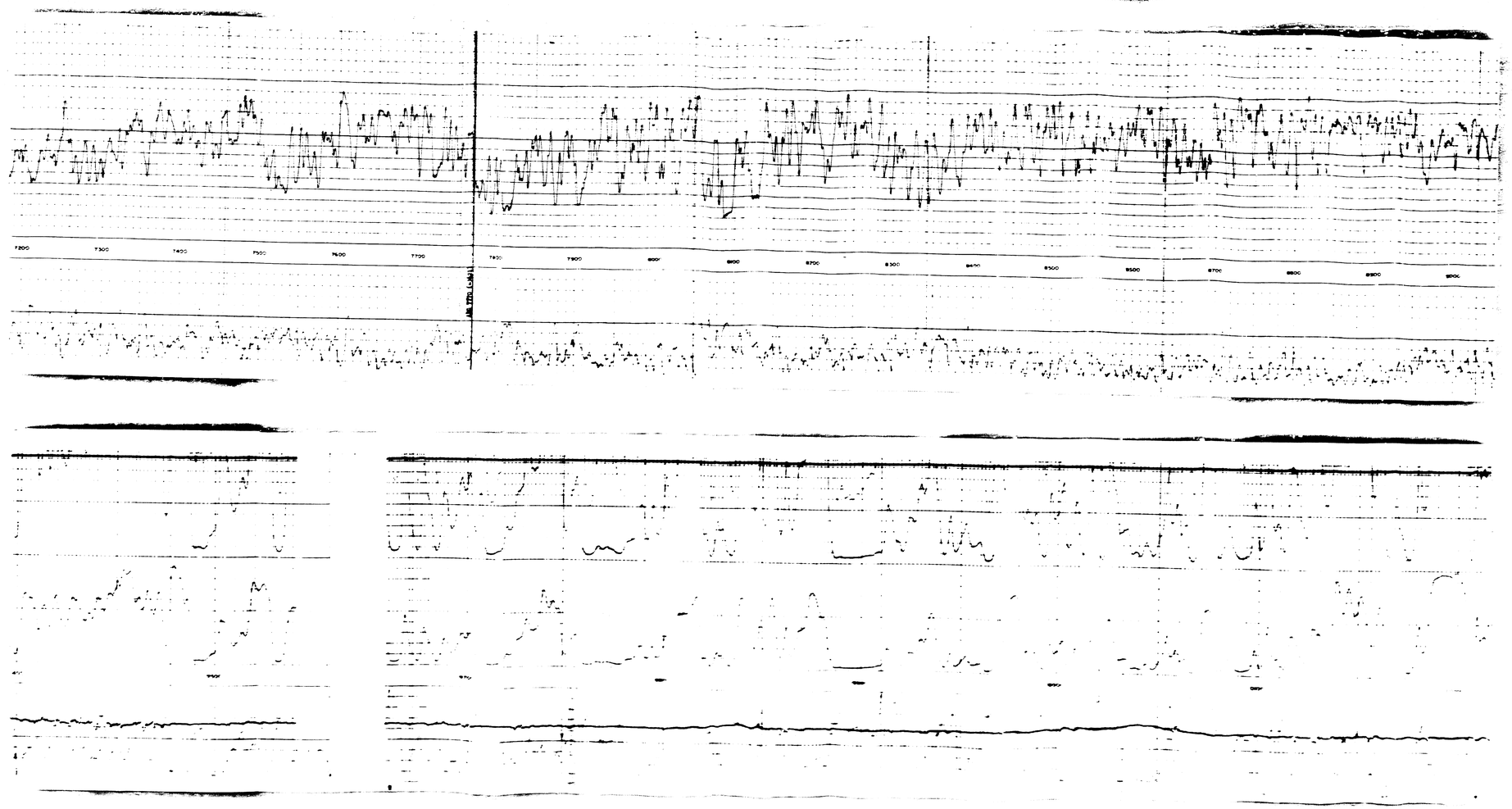


U.S.B.M.C.F. MICROGRAPHICS

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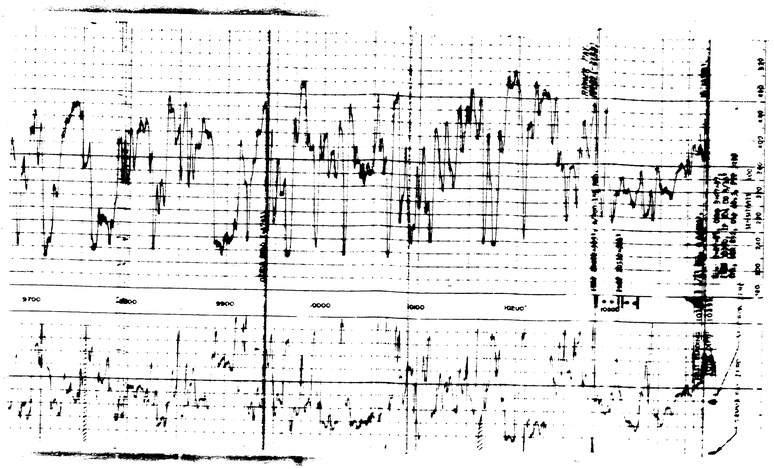


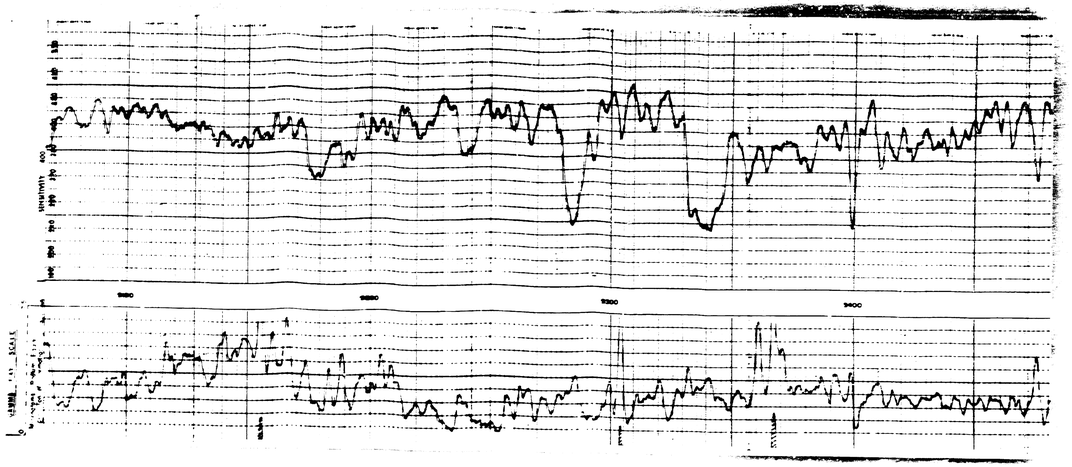


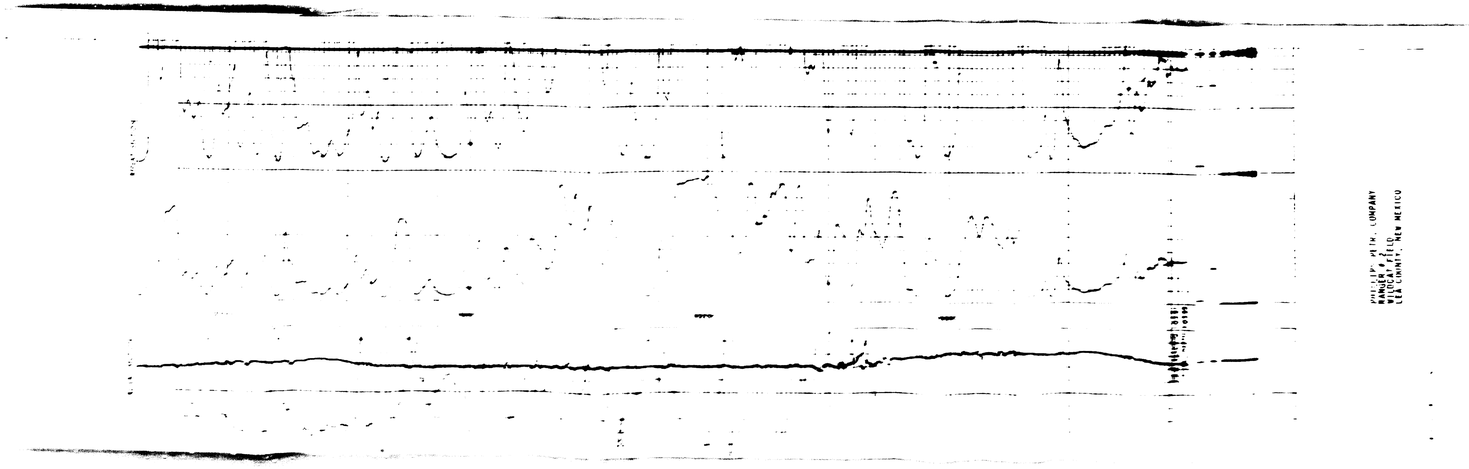


U.M.I./C.P. MICROGRAPHICS

BEST AVAILABLE COPY



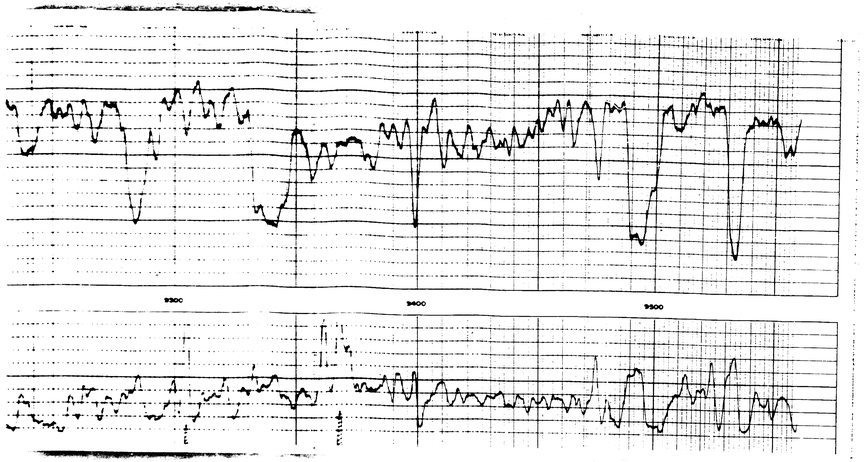


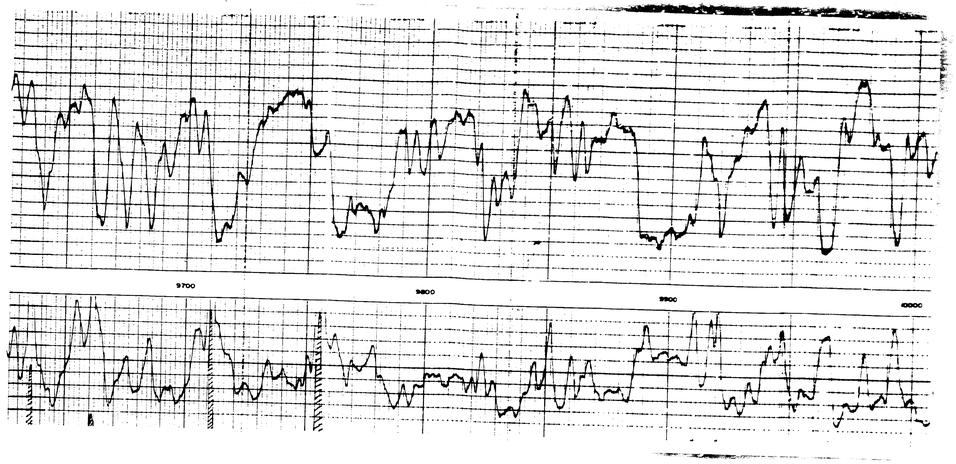


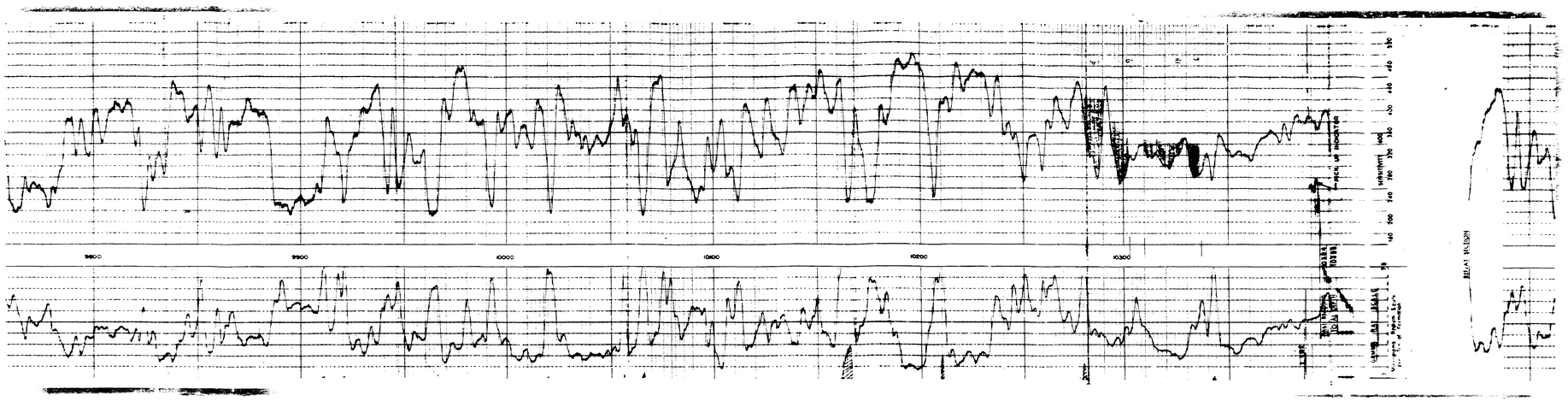
PHILLIPS PETR. COMPANY
RANGER #1
WILDCAT FIELD
LEA COUNTY, NEW MEXICO

W.R.N.C.F. MICROGRAPHICS

BEST AVAILABLE COPY

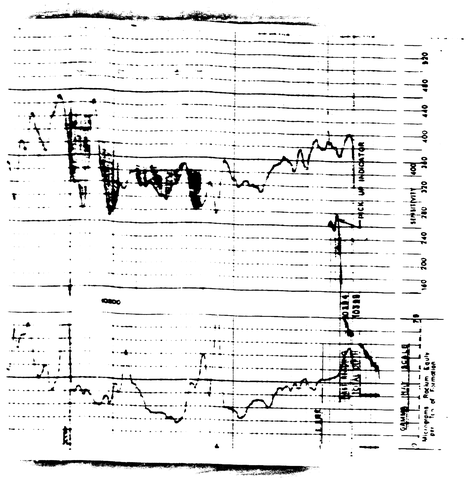


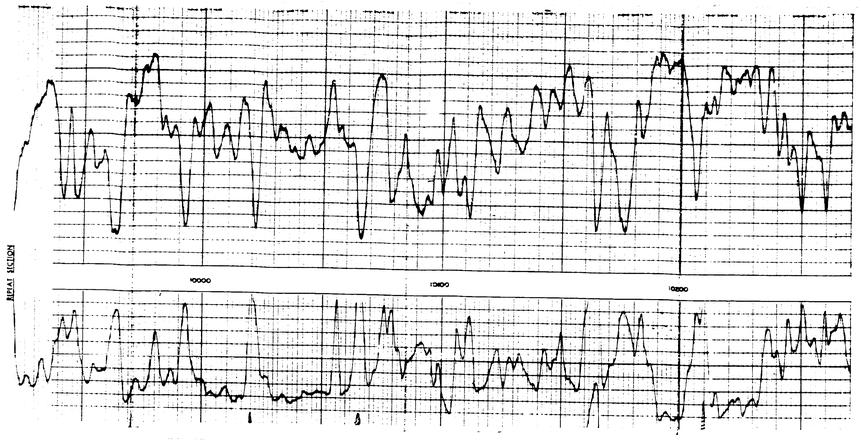


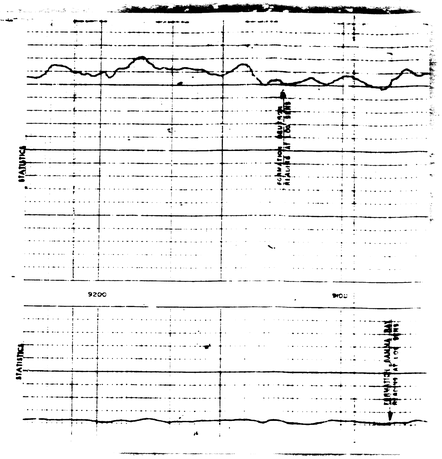

9800
9900
10000
10100
10200
10300
RATE METER
RECT. OR INDICATOR
RELAY POSITION

N.B.S.R.C.F. MICROGRAPHICS

BEST AVAILABLE COPY

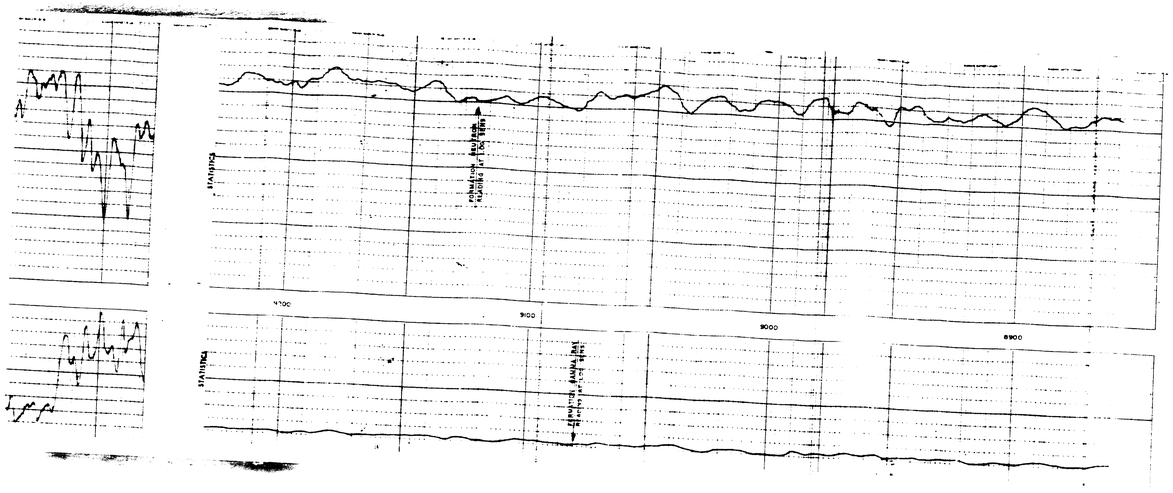


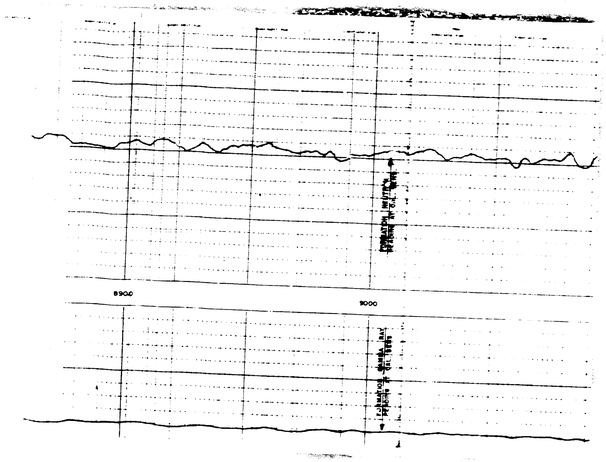




N.A.R.A.C.P. MICROGRAPHICS

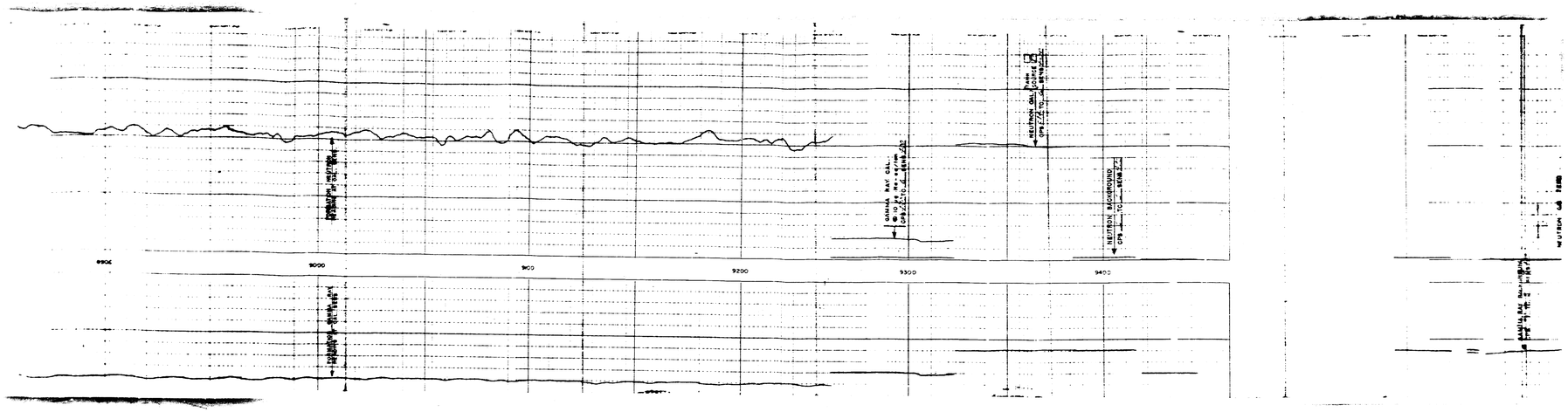
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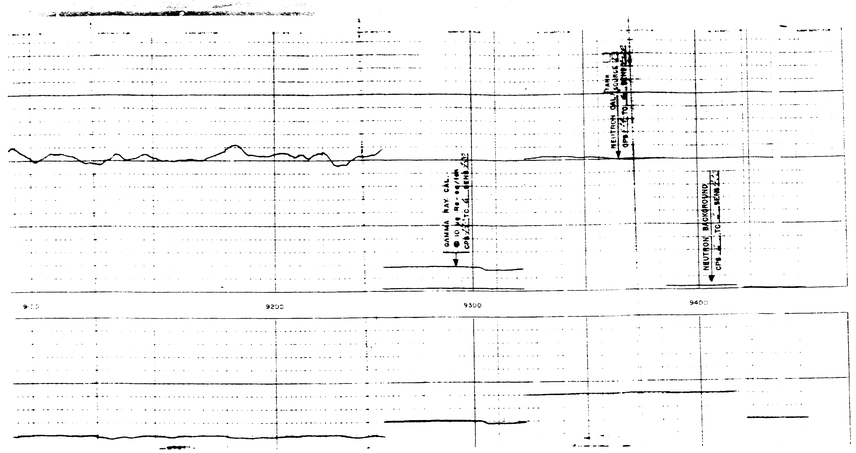
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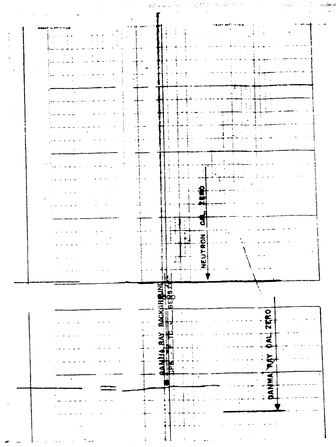
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U.S.N.M.C.F. MICROGRAPHICS

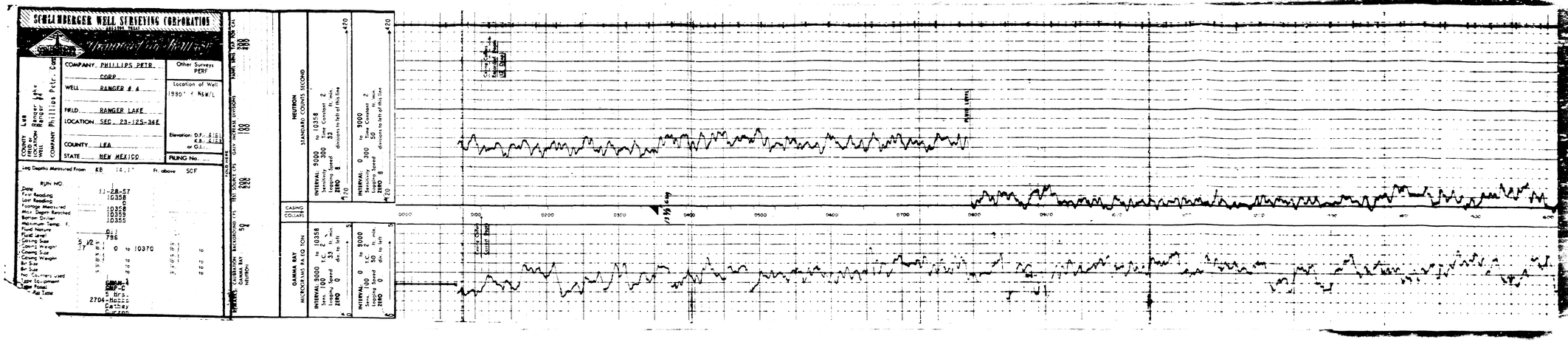
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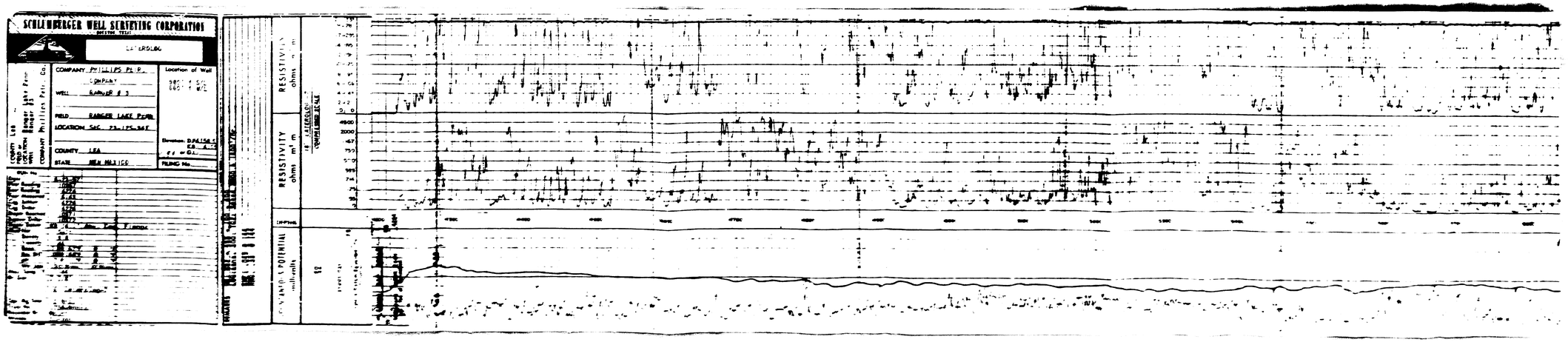




PHILLIPS PETR. COMPANY
RANGER # 2
WILDCAT FIELD
LEA COUNTY - NEW MEXICO

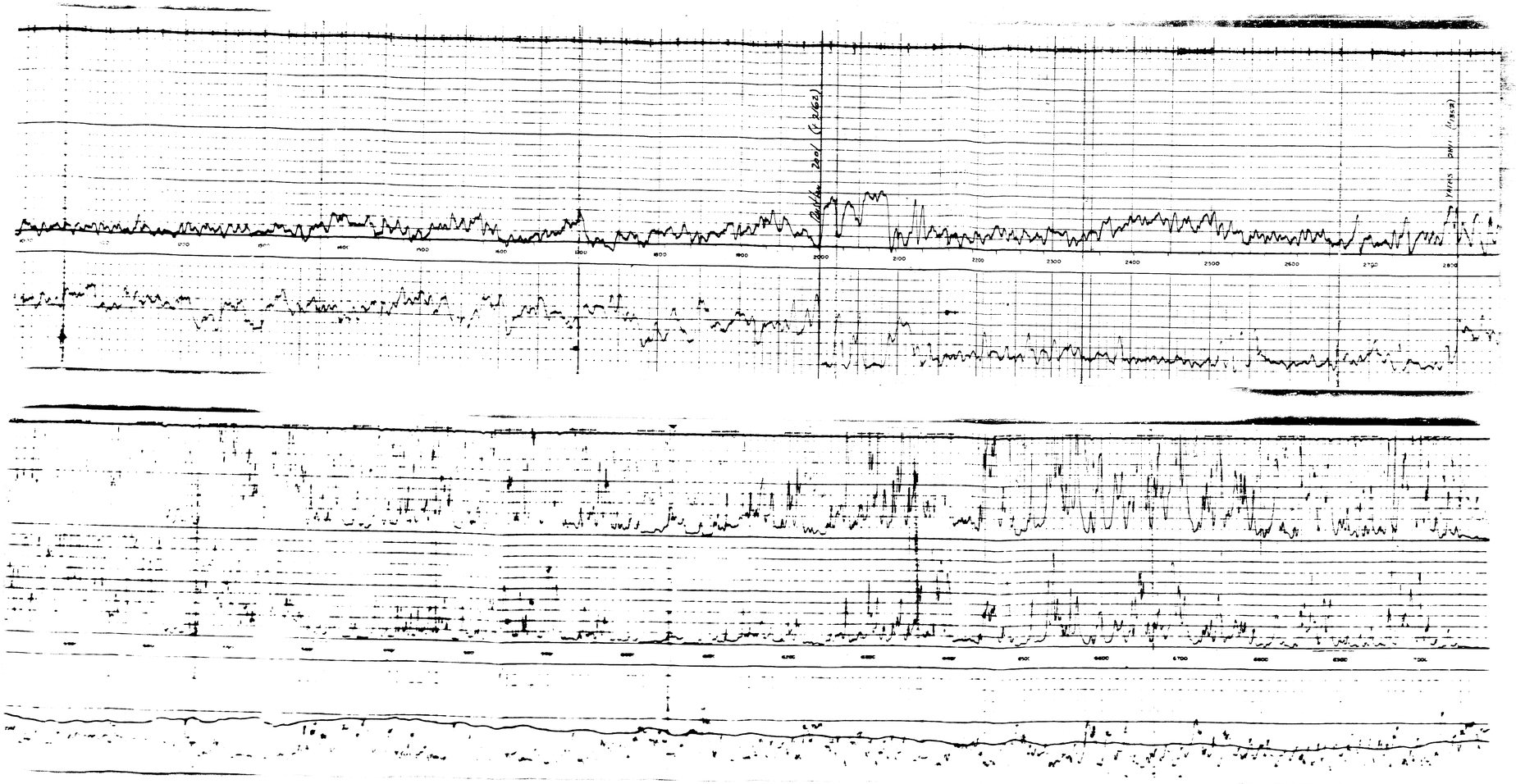


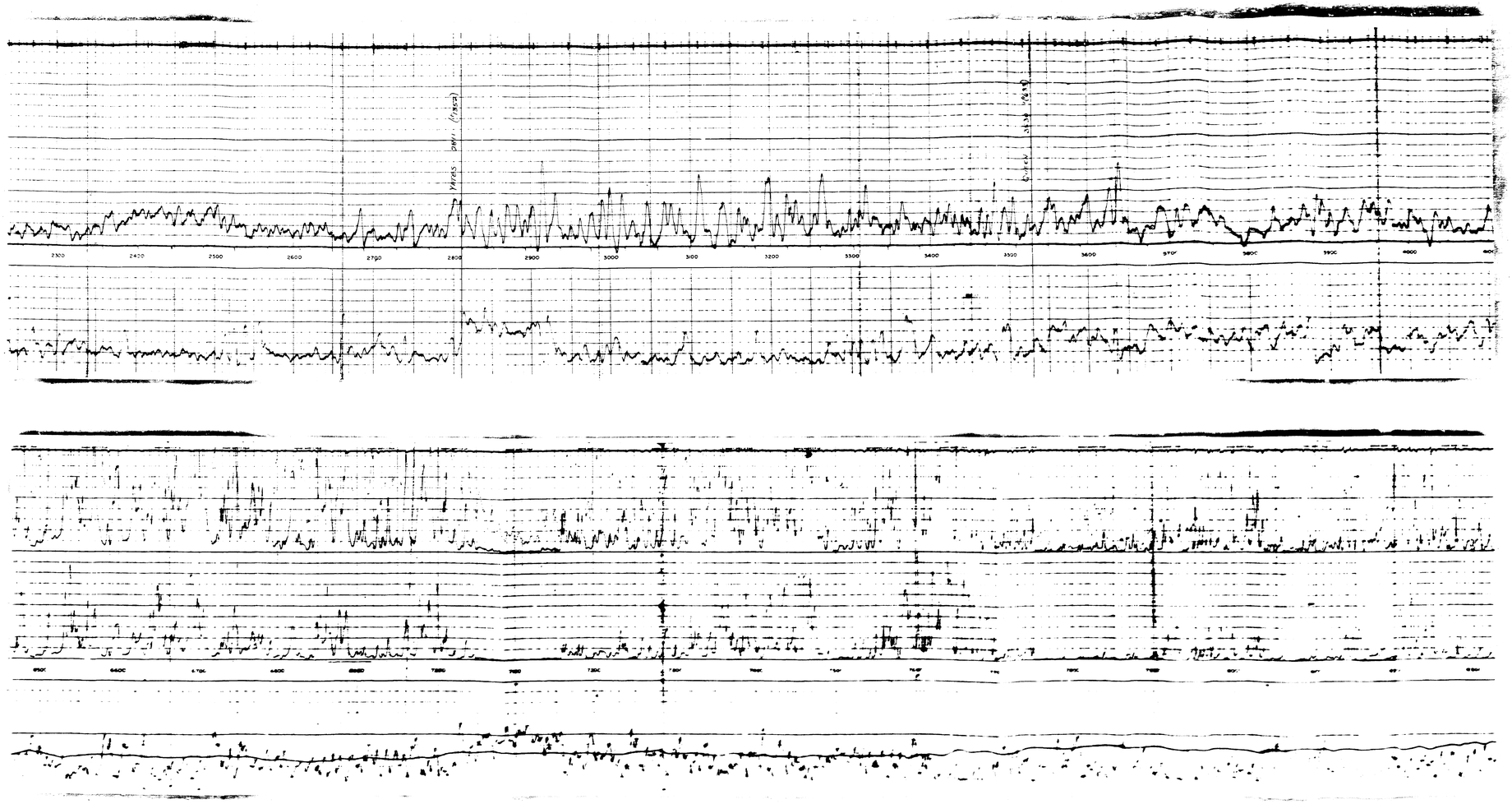

SCHLUMBERGER WELL SURVEYING CORPORATION
COMPANY PHILLIPS PETR. CORP.
WELL RANGER # 4
FIELD RANGER LAKE
LOCATION SEC. 23-12S-34E
COUNTY LEA
STATE NEW MEXICO
Other Services PERF
Location of Well 1980' ' N&W/L
Elevation D.F. 4161 K.B. 4175 G.L.
FILING No.
Log Depths Measured From KB 14.1' Ft. above SCF
RUN NO. 1
Date 11-28-57
First Reading 10358
Last Reading 0
Footage Measured 10358
Max. Depth Reached 10355
Bottom Driller 10355
Maximum Temp. F
Fluid Nature Oil
Fluid Level 786
Casing Size 5 1/2 in.
Casing Weight 17 lb. 0 to 10370
Casing Size in. to
Casing Weight lb. to
Tubing Size in. to
Tubing Size in. to
No. Centralizers used
Type Equipment Gamma Ray Neutron
Time 2 Hrs.
Rig No. 2704 - Hobbs
Recorded by Gaffey
Witnessed by Durrett
NEUTRON STANDARD COUNTS/SECOND
INTERVAL 5000 to 10358
Sensitivity 30 Time Constant 2
Logging Speed 33 ft. min.
ZERO 8 divisions to left of this line
INTERVAL 0 to 5000
Sensitivity 30 Time Constant 2
Logging Speed 33 ft. min.
ZERO 8 divisions to left of this line
GAMMA RAY MICROROADS A.P.I. UNITS
INTERVAL 5000 to 10358
Sensitivity 10 Time Constant 2
Logging Speed 33 ft. min.
ZERO 0 dn. to left
INTERVAL 0 to 5000
Sensitivity 10 Time Constant 2
Logging Speed 33 ft. min.
ZERO 0 dn. to left
CASING COLLAR
TEMPERATURE
FOLD HERE
TEST BOOKLET 25% GAIN INCREASE DIVISIONS POINT SET FOR CUT
Cable Head
Center Bow
Cable Head
Center Bow
Neutron
Gamma Ray
Temperature
1 1/16 Csg.
0000
0100
0200
0300
0400
0500
0600
0700
0800
0900
1000
1100
1200
1300
1400


SCHLUMBERGER WELL SURVEYING CORPORATION
LATEROLOG
COMPANY PHILLIPS PET. CORP.
WELL RANGER # 3
FIELD RANGER LAKE POOL
LOCATION SEC. 23-12S-34E
COUNTY LEA
STATE NEW MEXICO
Location of Well
Elevation D.F. 4156
K.B. 4170
G.L. or G.I.
FILING No.
RESISTIVITY ohms m²/m
16" LATEROLOG
CONDUCTIVITY MILLIMHOS
SPONTANEOUS POTENTIAL millivolts
DEPTH
SP
0
4000
2000
1000
500
250
125
63
32
16
8
4
2
1
0
0000
0100
0200
0300
0400
0500
0600
0700
0800
0900
1000
1100
1200
1300
1400

U.S.B.M.C.F. MICROGRAPHICS

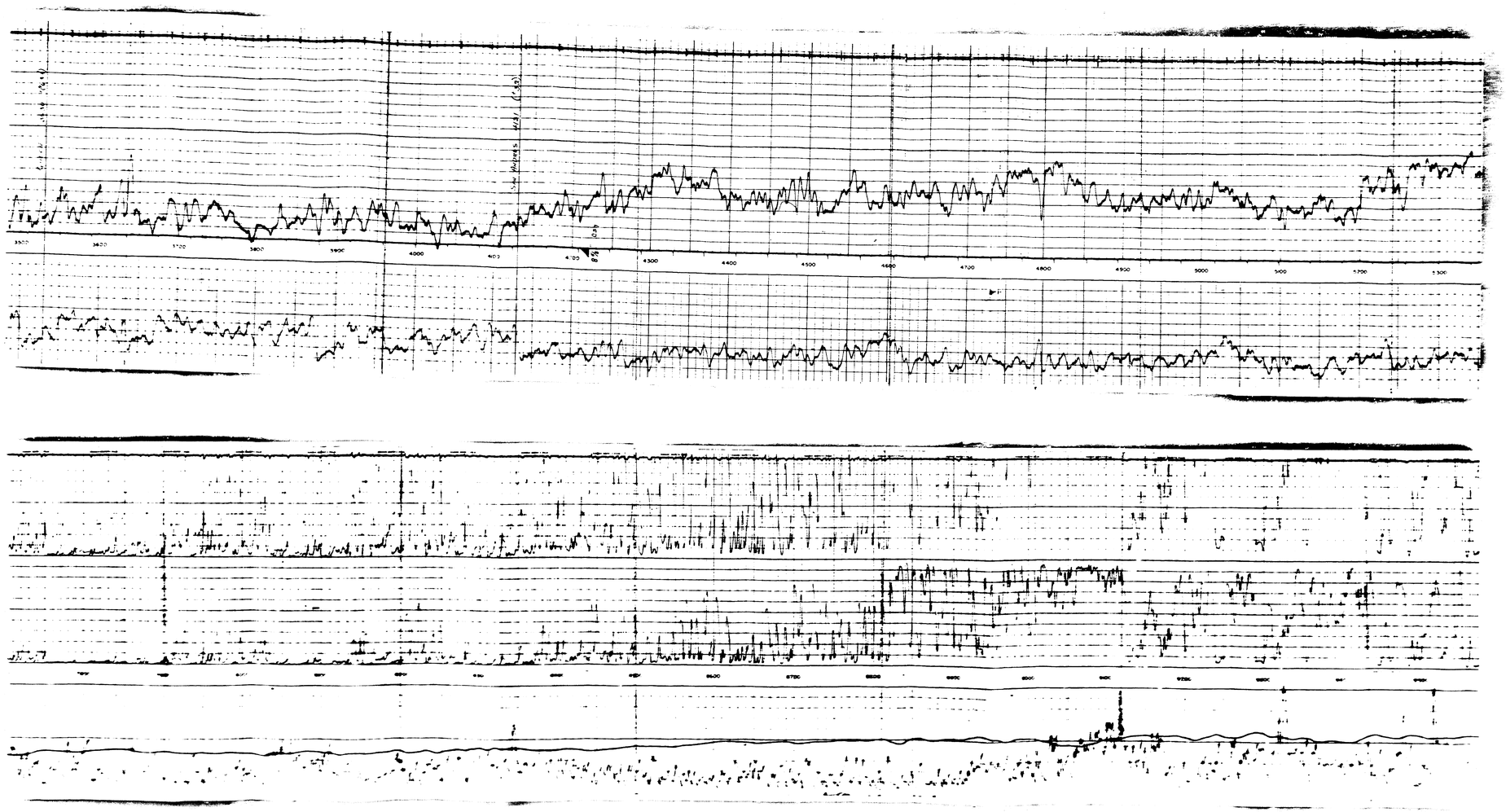
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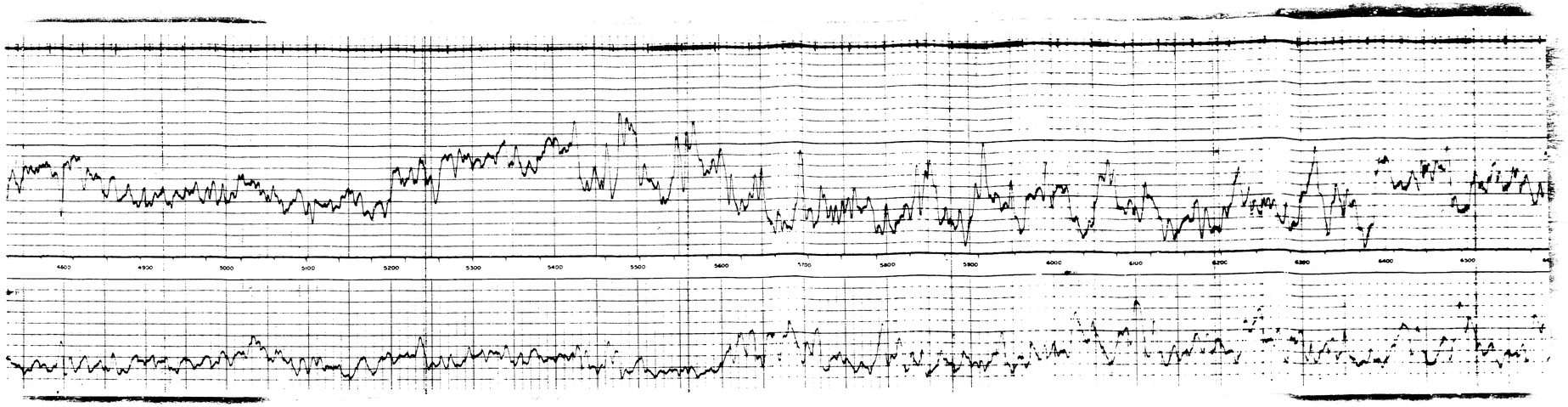
U.M.R.C.P. MICROGRAPHICS

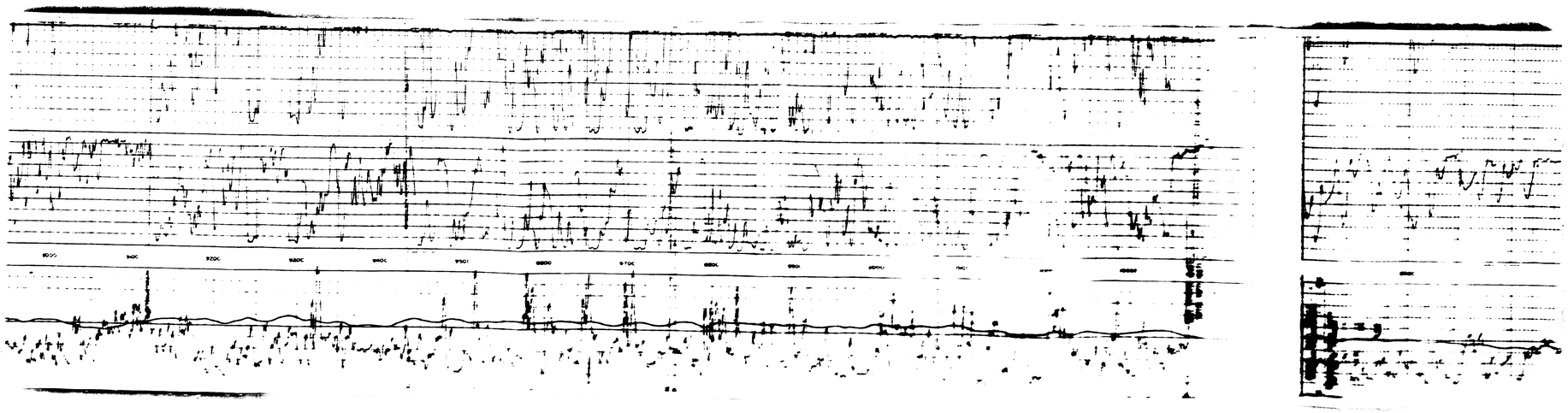
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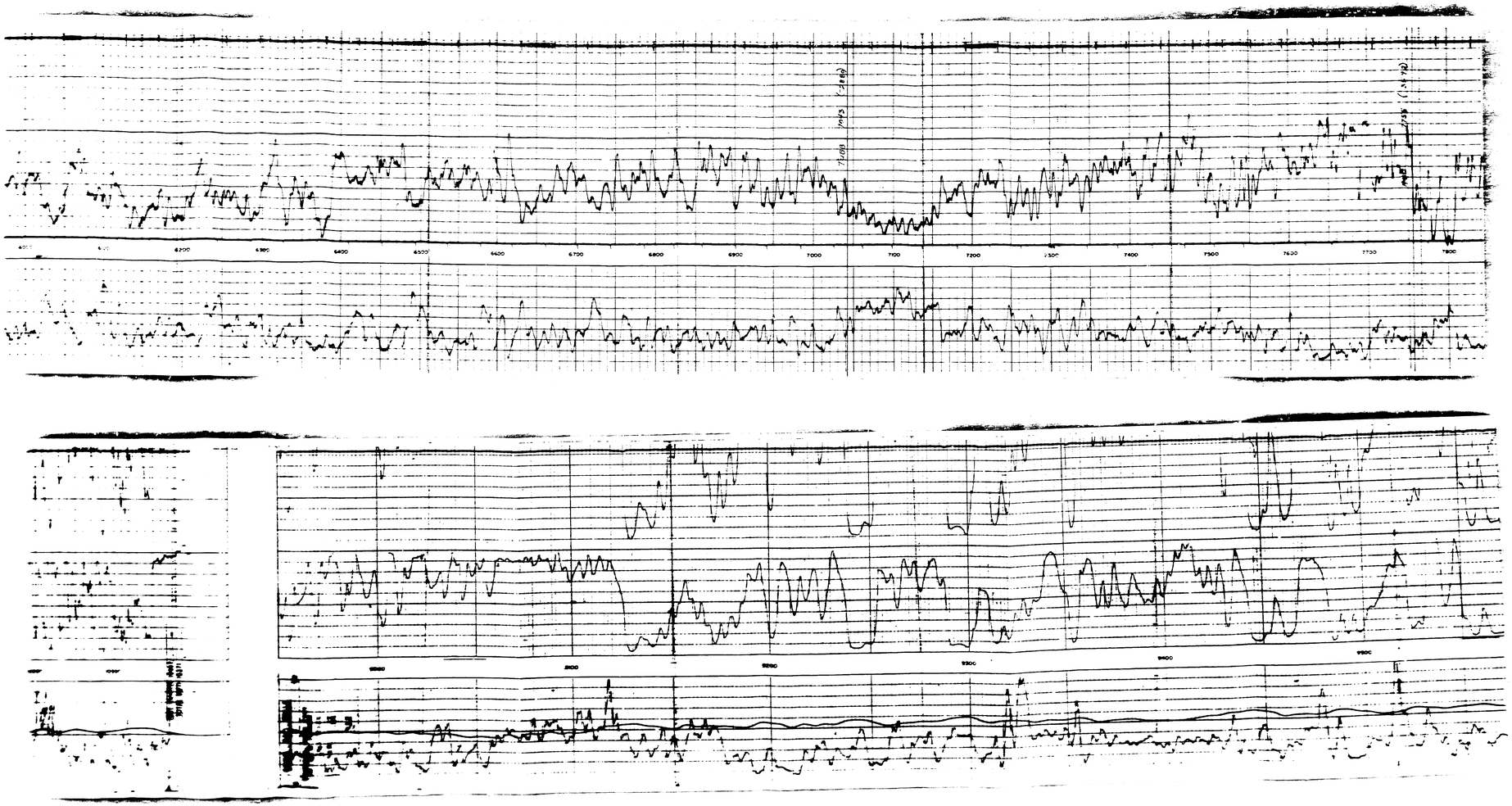


U.S.N.R.C.F. MICROGRAPHICS

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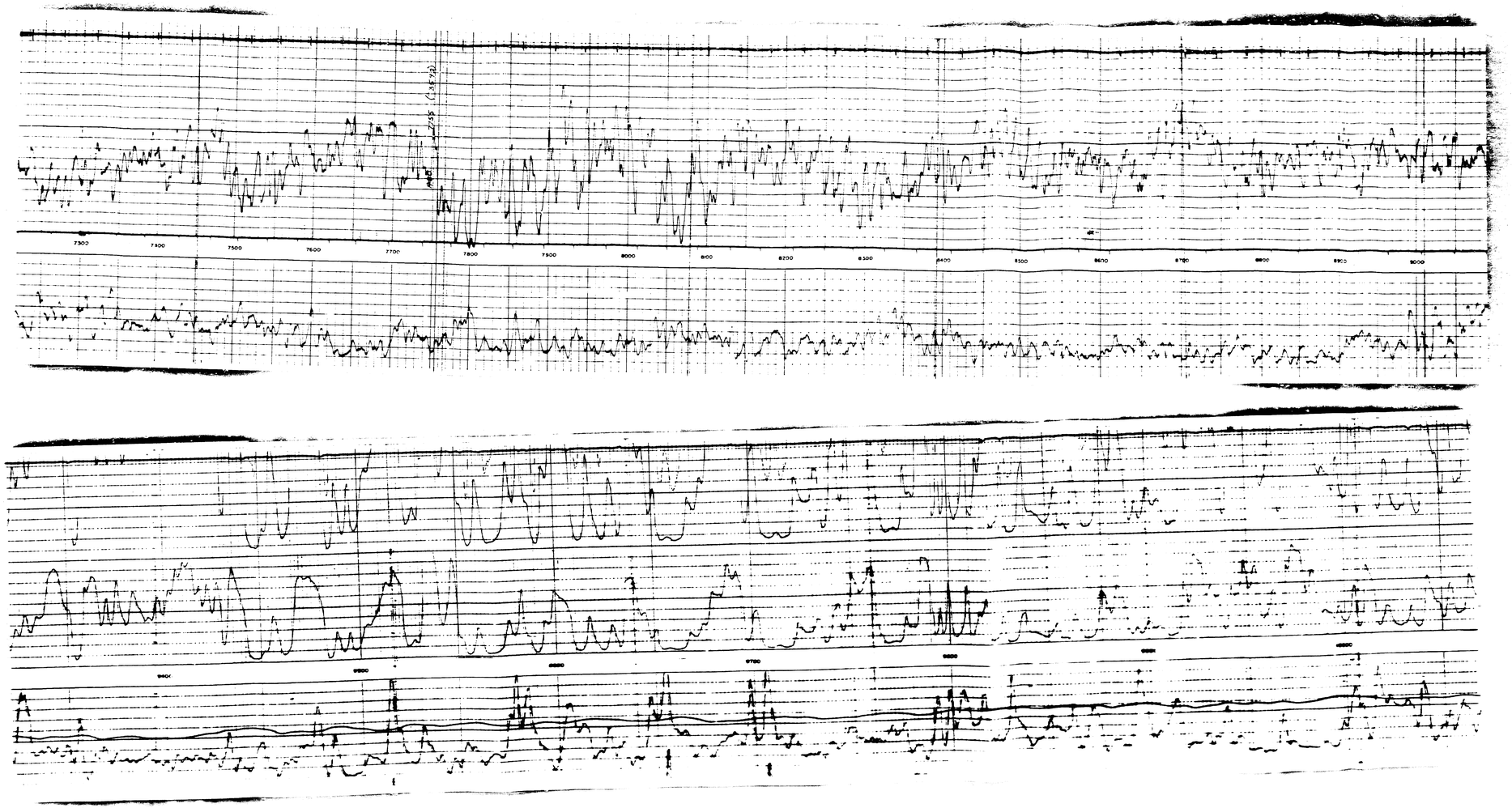






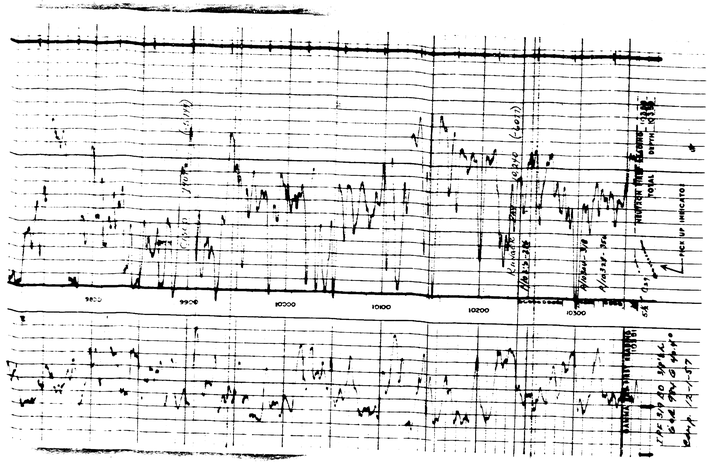
U.S.B.M.C.F. MICROGRAPHICS

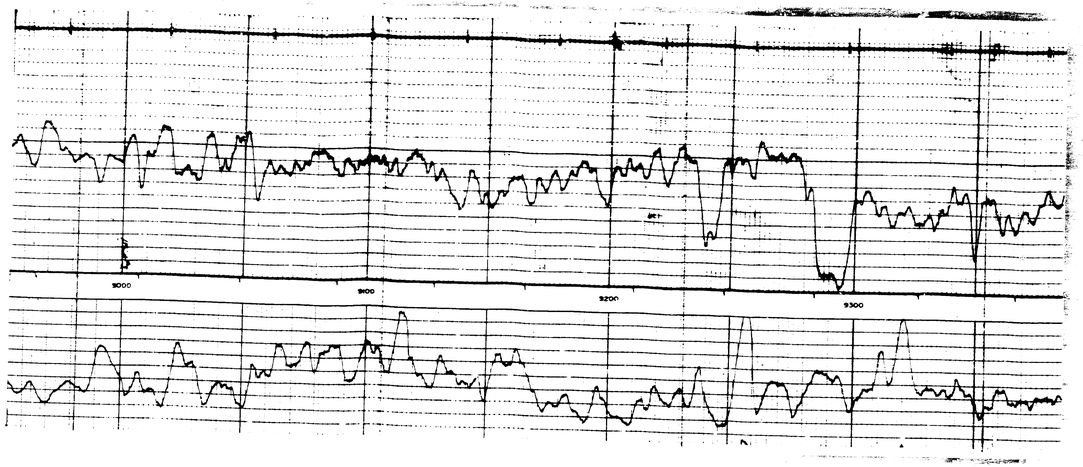
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PHILLIPS PETR COMPANY
[illegible]
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LEA COUNTY, N.M., MEXICO

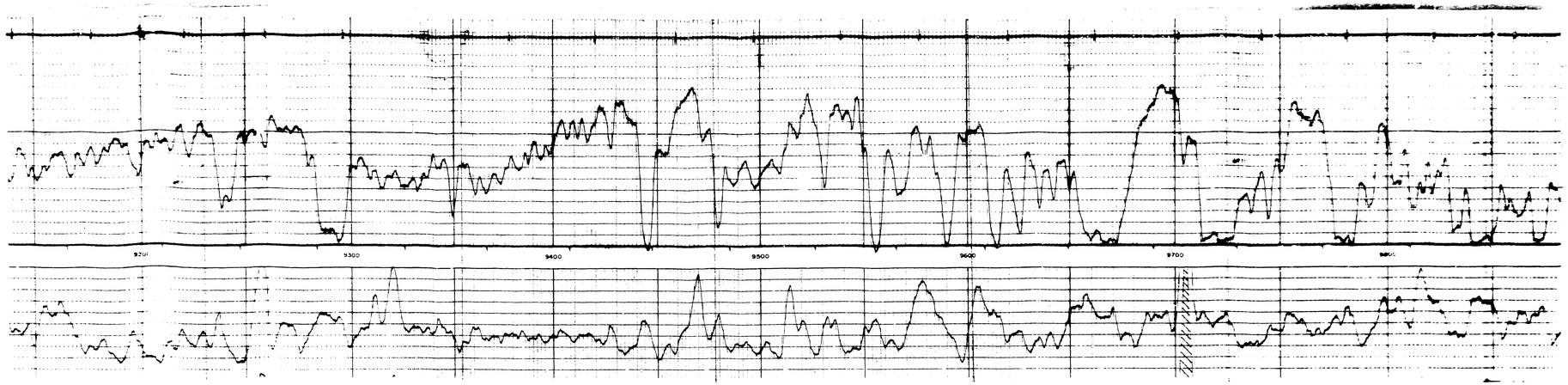
U.S.B.C.F. HYDROGRAPHICS
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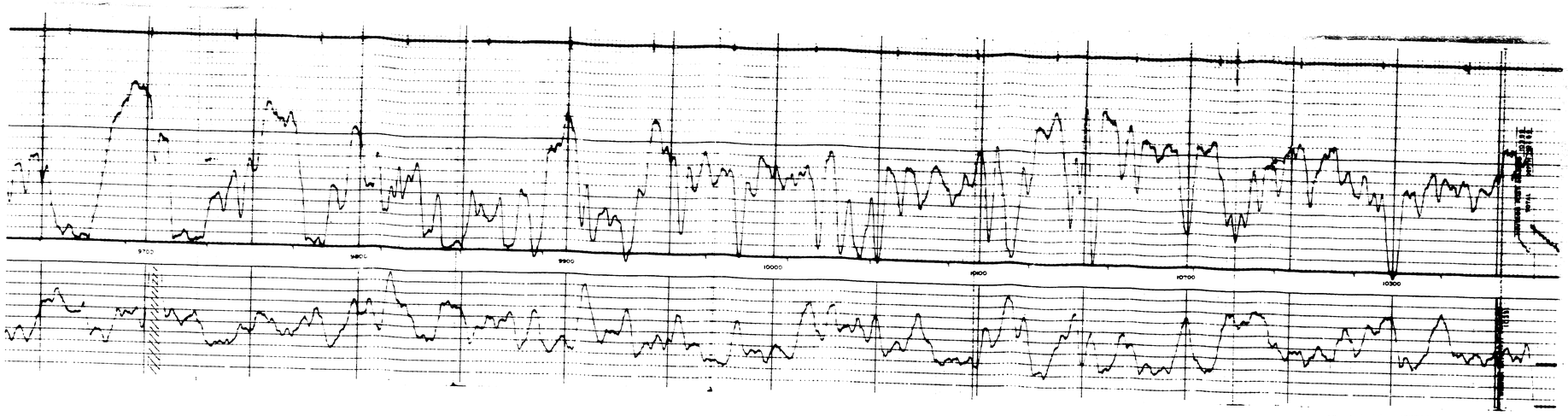


N.A.R.A.I.P. MICROGRAPHICS

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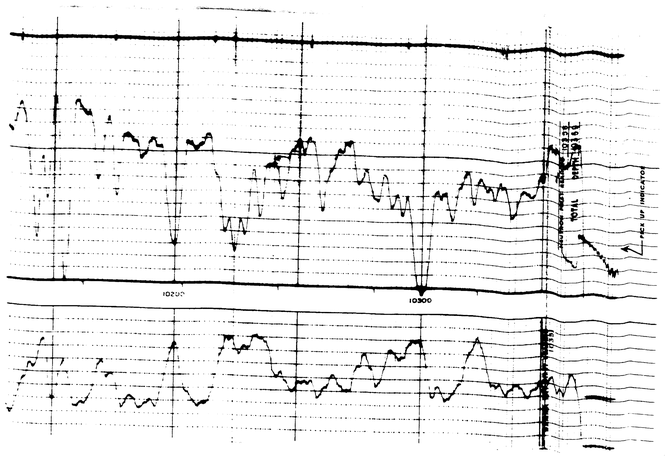


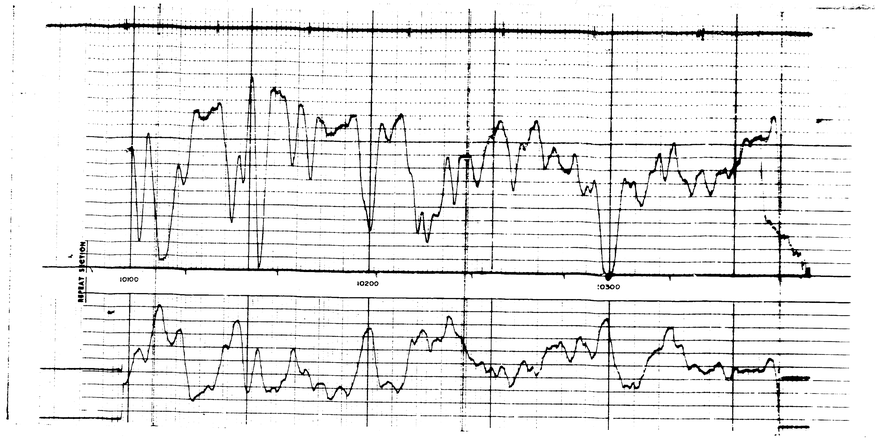
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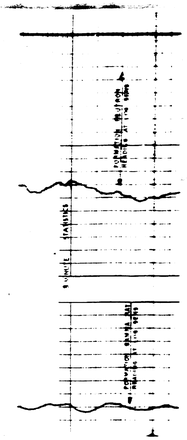


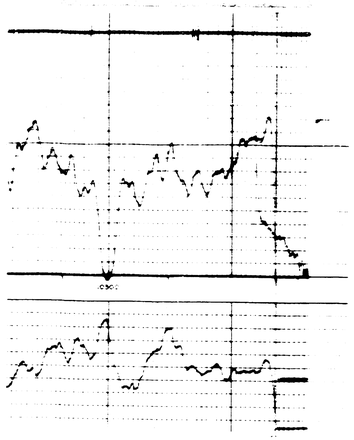
N.A.R.A.C.F. MICROGRAPHICS

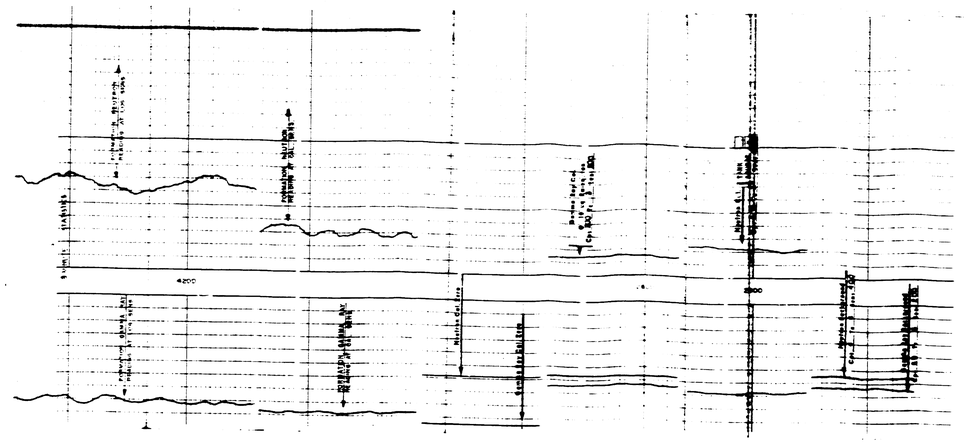
BEST AVAILABLE COPY











PHILLIPS PETR. CORP.
RANGER LAKE
LEA COUNTY, NEW MEXICO

W.H.M.C.F. MICROGRAPHICS

BEST AVAILABLE COPY

SCHLUMBERGER WELL SURVEYING CORPORATION

MICROLATEROLOG

COMPANY PHILLIPS PETR. CO.

WELL RAMSEY # 2

FIELD RADER LATE PENN

LOCATION SEC. 23-12S-34E

COUNTY LEA

STATE NEW MEXICO

Other Services: LL URN

Location of Well: 1980' FSL 660' FWL

Elevation: DF 4158 GL 4145 KB 4158

Log Depths Measured From KB 14 Ft. above DSG. Permanent Datum

RUN No.	
Date	8-22-57
First Reading	10376
Last Reading	9100
Feet Measured	1276
Depth Reached	10571
Bottom Driller	10572
Mud No.	5811
Dens. Visc.	9.8 45
Mud Resist.	60 67°F
Res. BHT	975 @ 144 °F
pH	
Wtr. Loss	
Rmf	574 @ 84 °F
Rmc	33 @ 84 °F
Bit Size	7 7/8
	S. P. RES. M. N. M.
Sonde Type	PIXLER
Mud Type	CHEM
Gen. Sal. Conc.	2.5 PPM
Truck No.	758 - HANNA
Recorded By	McNAIR
Witness	DUTTON

REMARKS: LOG TIED TO GR-N LOG RUN 1. 1980' FSL & 660' FWL SEC. 23-12S-34E. RUN 1 @ 10376 - 9100. RUN 2 @ 9100 - 3000 & 1600'/Hr. RUN 3 @ 3000 - 1600'/Hr.

RESISTIVITY ohms. m²/m — LINEAR SCALE 0 — 20

RESISTIVITY ohms. m²/m — 9/16"-9/16"-9/16" COMPRESSED SCALE: 900, 400, 232.5, 150, 100, 66.5, 43, 25, 11, 0

DEPTHS: 9100, 9200, 9300, 9400, 9500, 9600, 9700

MICROCALIPER — Hole Diameter in Inches: 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

Caliper Scale 1:240

Bit Size

Mud Cake Thickness

Mud Resistivity

Flushed Zone Resistivity

Uninvaded Zone Resistivity

Bed Thickness

Invaded Zone Resistivity

Shale Resistivity

Bed Boundary Indication

Mud Resistivity

Mud Cake Thickness

Caliper Reading

Hole Diameter

Bit Size

Caliper Scale 1:240

SCHLUMBERGER WELL SURVEYING CORPORATION

MICROLATEROLOG

COMPANY PHILLIPS PETR. CO.

WELL RAMSEY #2

FIELD RADER LATE PENN

LOCATION SEC. 23-12S-34E

COUNTY LEA

STATE NEW MEXICO

Other Services: LL URN

Location of Well: 1980' FSL 660' FWL

Elevation: DF 4158 GL 4145 KB 4158

Log Depths Measured From KB 14 Ft. above DSG. Permanent Datum

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Bit Size	7 7/8
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Sonde Type	PIXLER
Mud Type	CHEM
Gen. Sal. Conc.	2.5 PPM
Truck No.	758 - HANNA
Recorded By	McNAIR
Witness	DUTTON

REMARKS: LOG TIED TO GR-N LOG RUN 1. 1980' FSL & 660' FWL SEC. 23-12S-34E. RUN 1 @ 10376 - 9100. RUN 2 @ 9100 - 3000 & 1600'/Hr. RUN 3 @ 3000 - 1600'/Hr.

RESISTIVITY ohms. m²/m — LINEAR SCALE 0 — 20

RESISTIVITY ohms. m²/m — 9/16"-9/16"-9/16" COMPRESSED SCALE: 900, 400, 232.5, 150, 100, 66.5, 43, 25, 11, 0

DEPTHS: 9100, 9200, 9300, 9400, 9500, 9600, 9700

MICROCALIPER — Hole Diameter in Inches: 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

Caliper Scale 1:240

Bit Size

Mud Cake Thickness

Mud Resistivity

Flushed Zone Resistivity

Uninvaded Zone Resistivity

Bed Thickness

Invaded Zone Resistivity

Shale Resistivity

Bed Boundary Indication

Mud Resistivity

Mud Cake Thickness

Caliper Reading

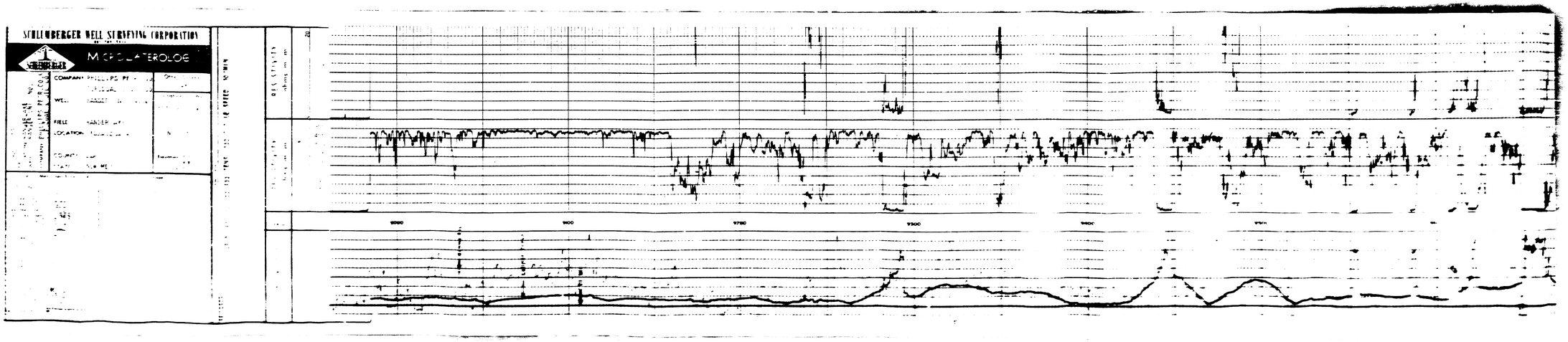
Hole Diameter

Bit Size

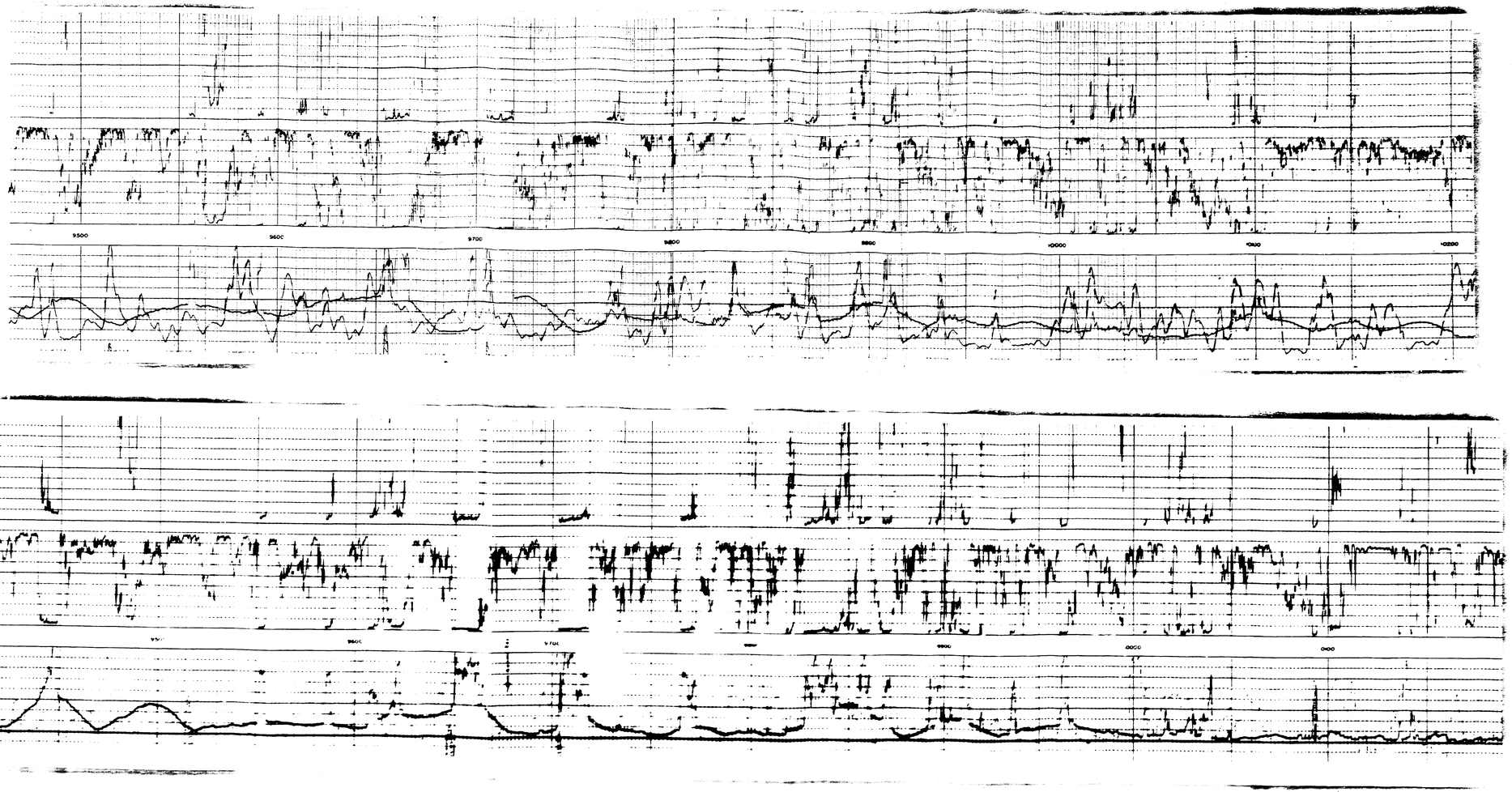
Caliper Scale 1:240

SCHLUMBERGER WELL SURVEYING CORPORATION

MICROLATEROLOG

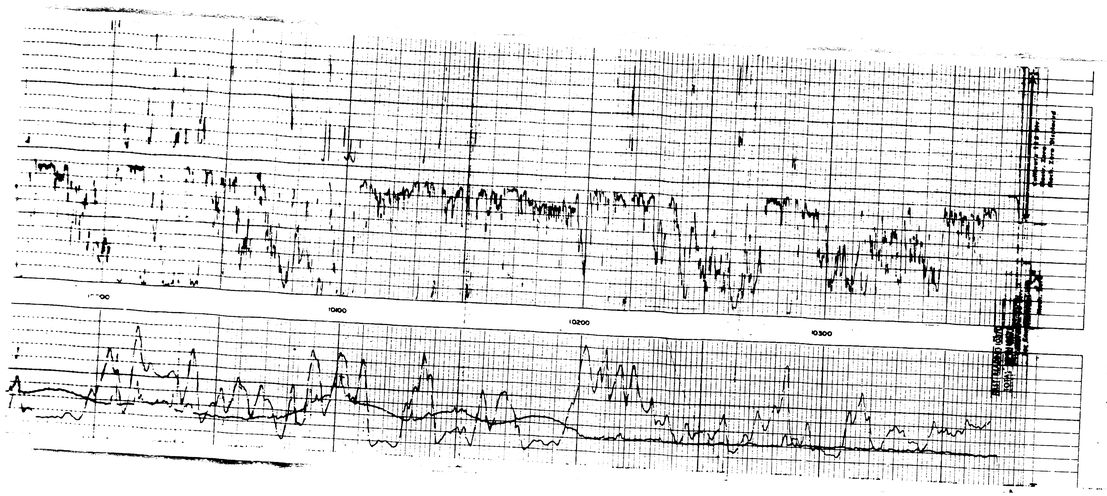


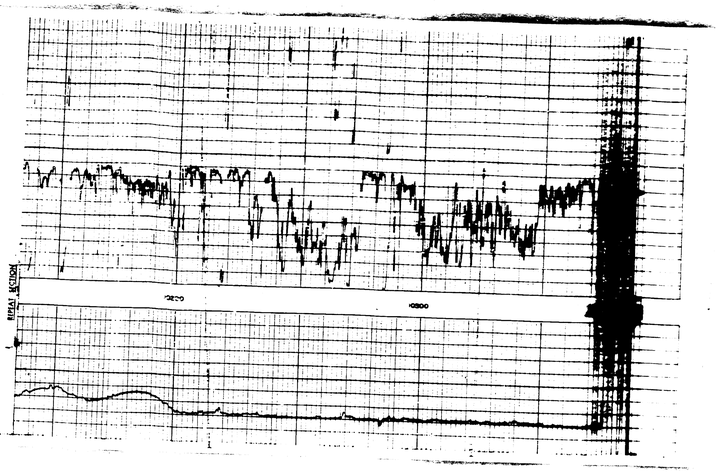
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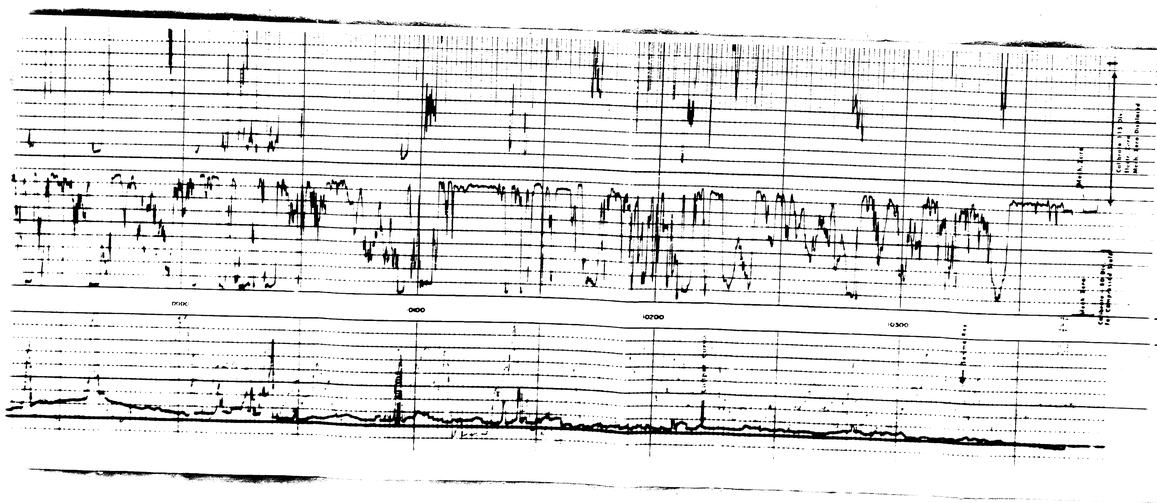

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9600
9700
9800
9900
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10100
10200

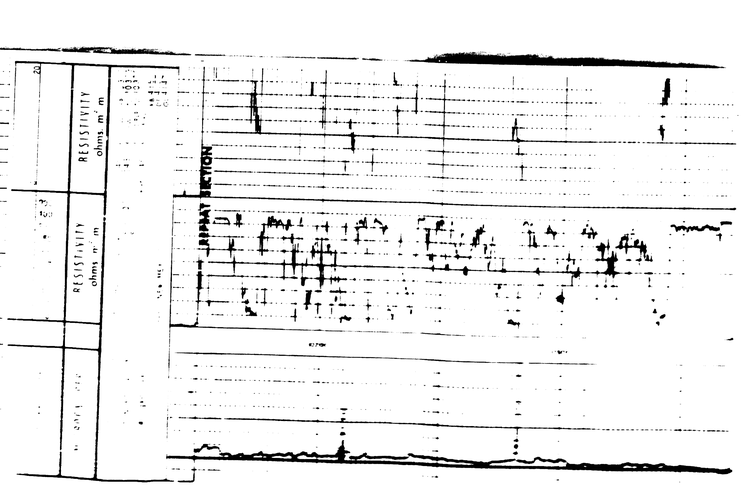
V.R.N.C.F. MICROGRAPHICS

BEST AVAILABLE COPY



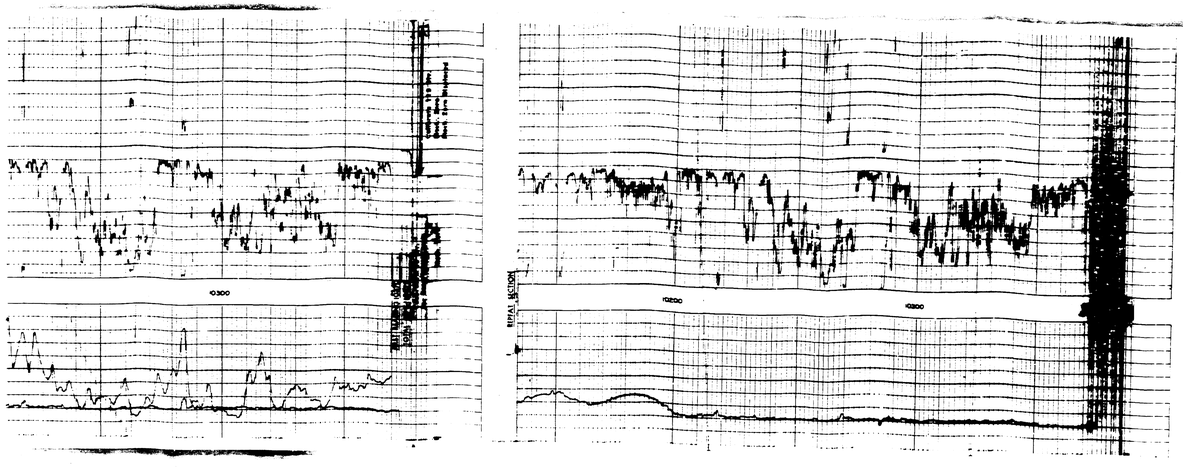




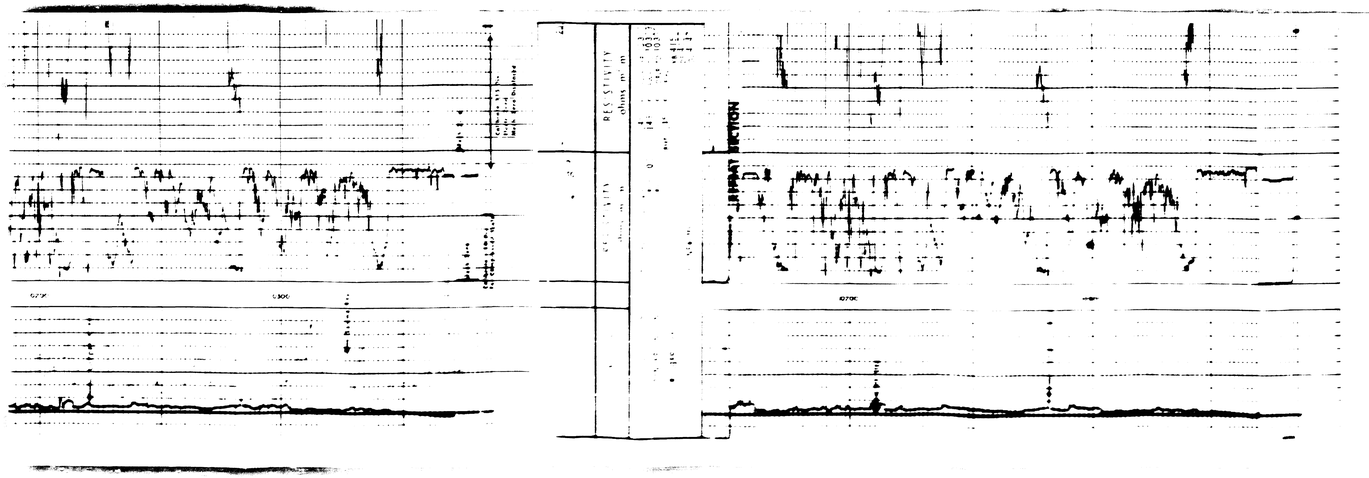


U.S.B.C.F. MICROGRAPHICS

BEST AVAILABLE COPY



COMPANY PHILLIPS PETR. COMPANY
WELL RANGE # 3
FIELD RANGER LAKE PENN
COUNTY LEA STATE NEW MEXICO



M.B.R.C.P. MICROGRAPHICS

BEST AVAILABLE COPY

SCHLUMBERGER WELL SURVEYING CORPORATION

MICROLATEROLOG

COMPANY Phillips Petr. Co.

WELL Ranger # 2

FIELD Wildcat

LOCATION SEC. 24-T25-S-R36E

COUNTY Lea

STATE New Mexico

Location of Well: 330' FNL & 330' FWL, Drill Hole Loc.

Elevation: D.F. 4,4[illegible]
G.L. [illegible]
S.C. [illegible]

FILING No.

COUNTY Lea
WELL LOCATION Wildcat Ranger # 2
COMPANY Phillips Petr.

RESISTIVITY -ohms. m²/m
COMPRESSED SCALE
DEPTHS
MICRO CALIPER

4300 4400 4500 4600 4700 4800 4900 5000 5100 5200 5300 5400 5500 5600 5700

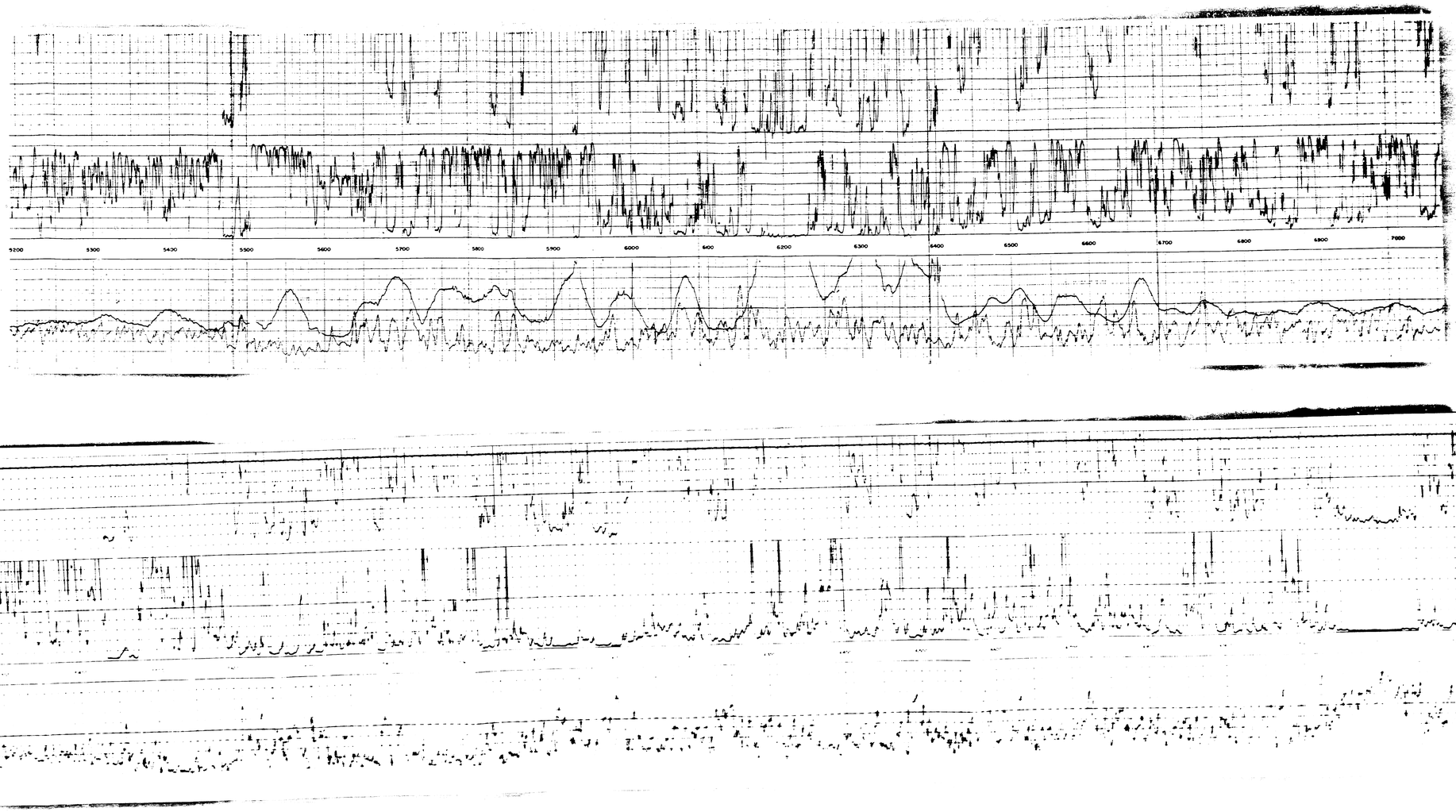
SCHLUMBERGER WELL SURVEYING CORPORATION

Laterolog

RESISTIVITY -ohms. m²/m

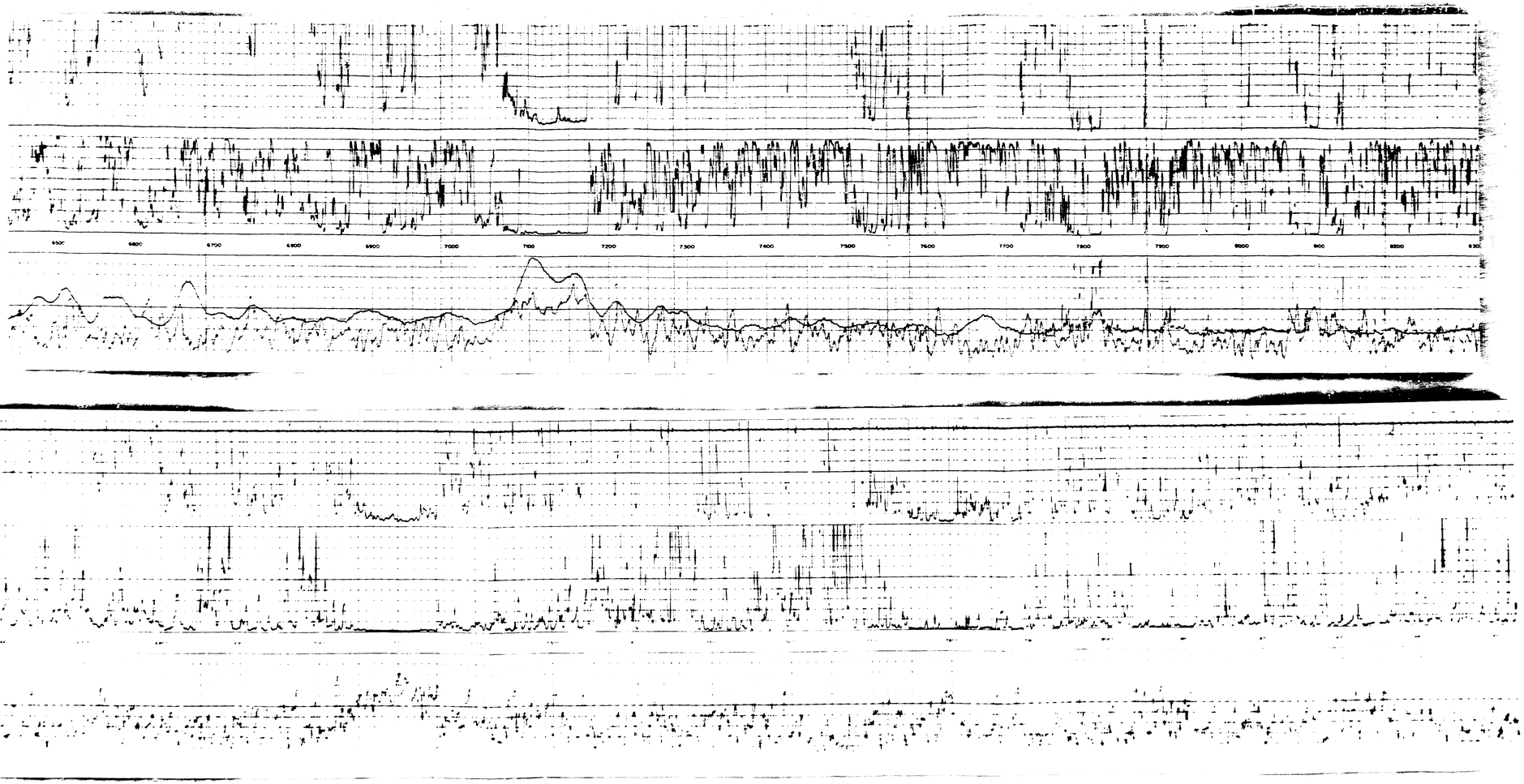
U.K.R.C.F. MICROGRAPHICS

BEST AVAILABLE COPY



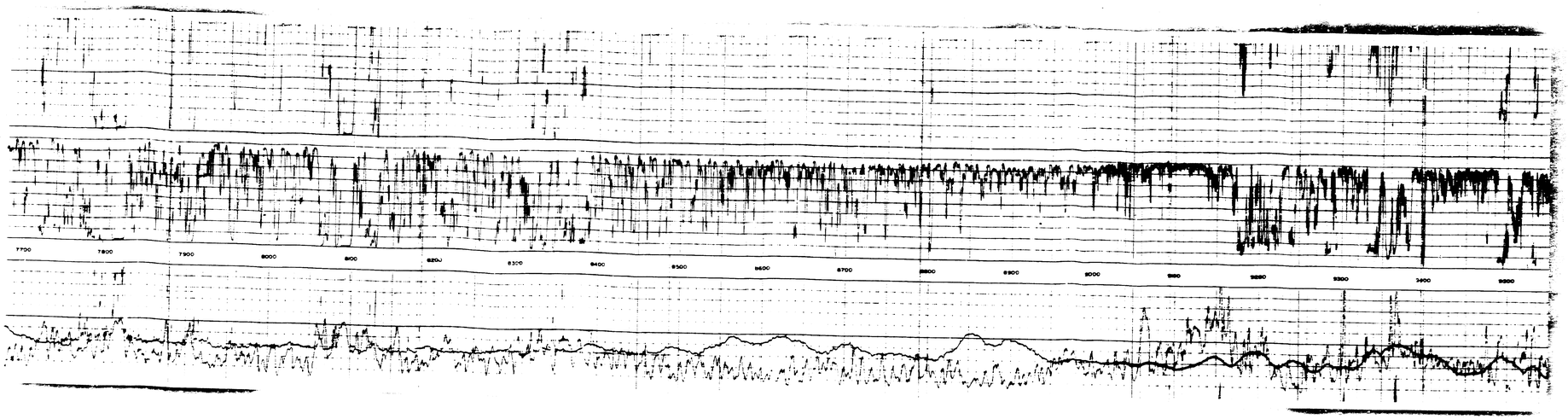
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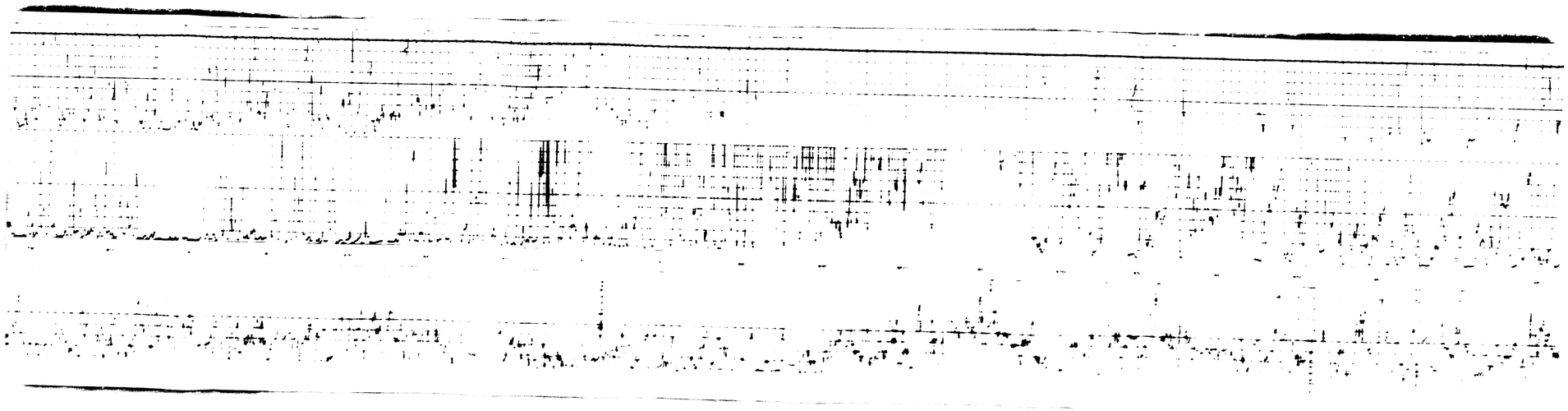
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U.S.B.C.F. PHOTOGRAPHICS

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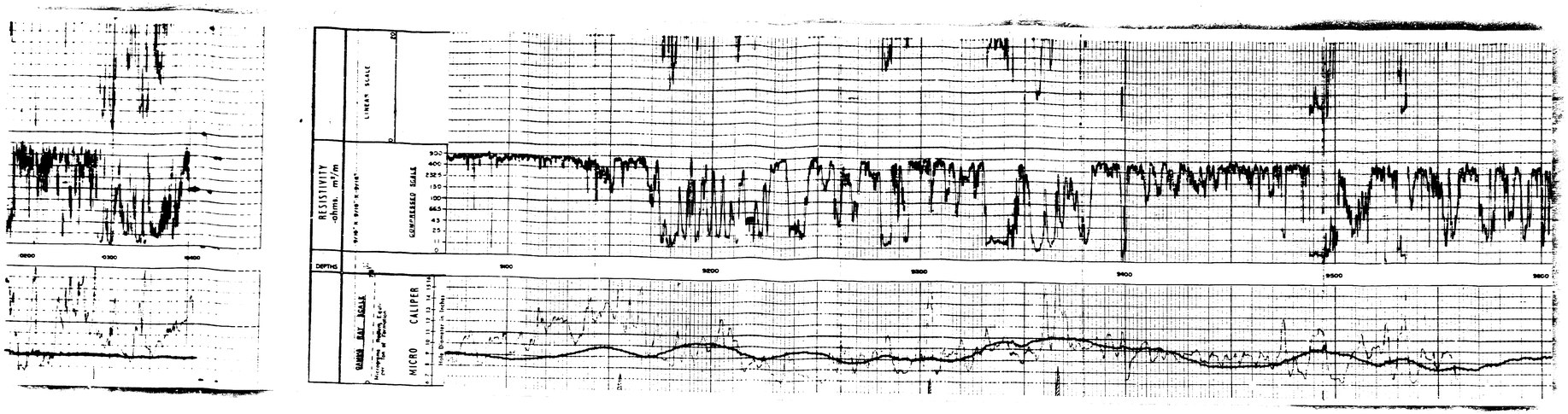


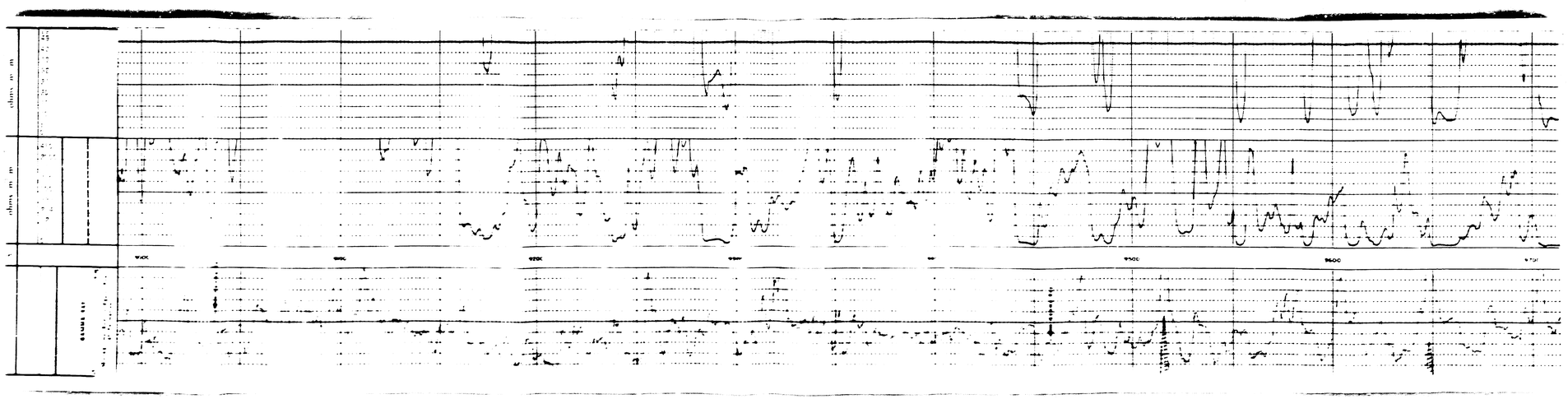
RESISTIVITY
ohms m²/m
LINEAR SCALE
CONDUCTIVITY SCALE
DEPTHS
MICRO CALIPER

DETAIL LOG
RESISTIVITY
ohms m² m
RESISTIVITY
ohms m² m
DEPTHS

V.R.M.C.F. MICROGRAPHICS

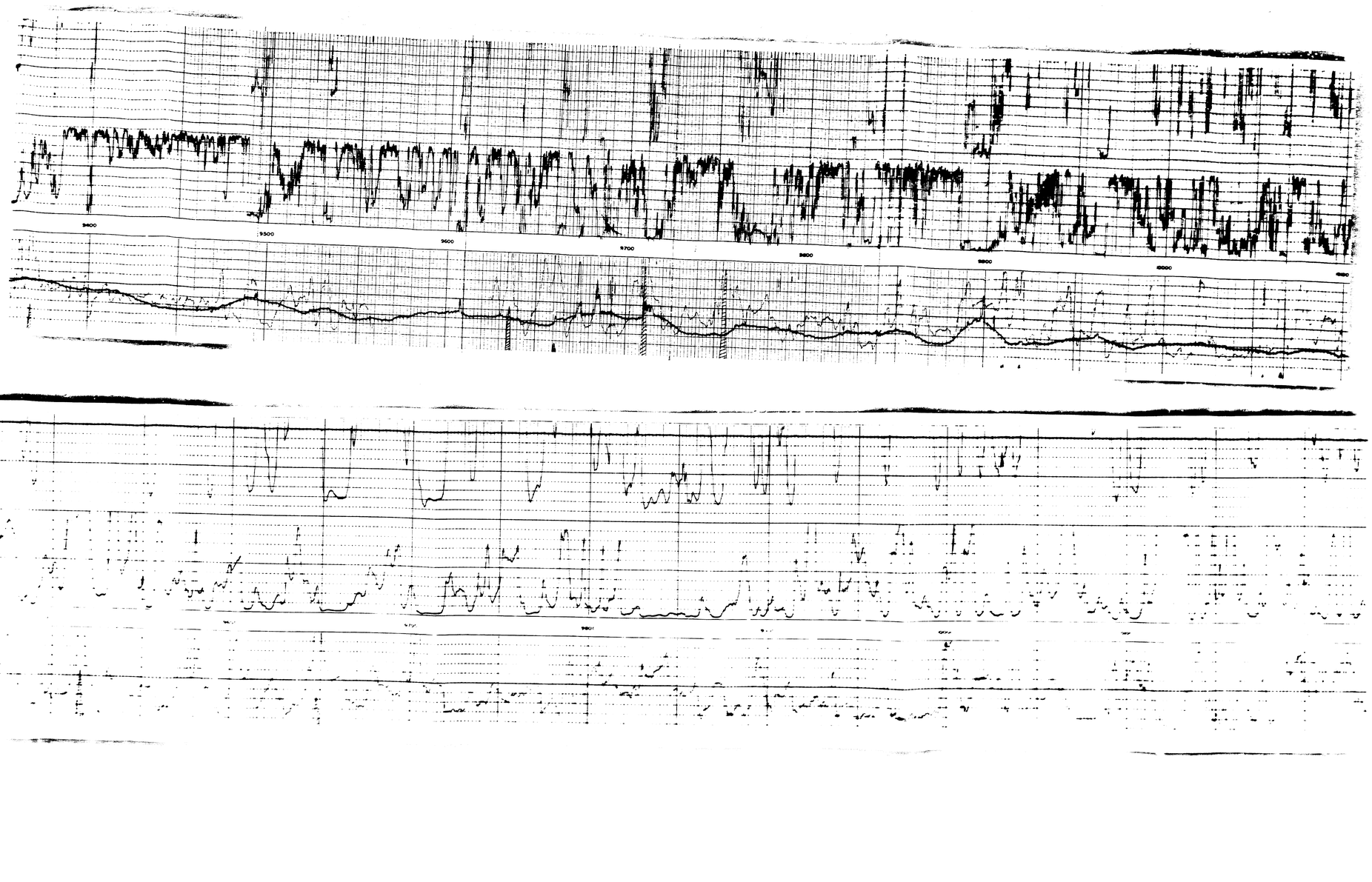
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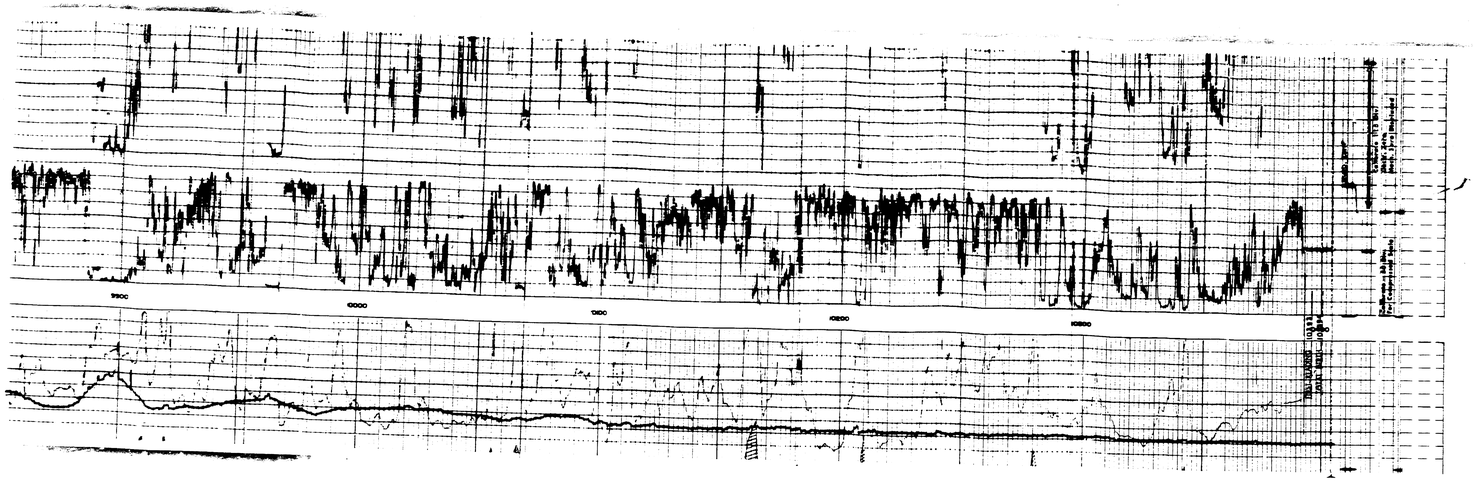
U.S.G.S. PHOTOGRAPHICS

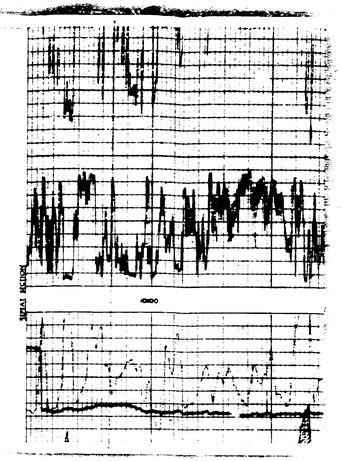
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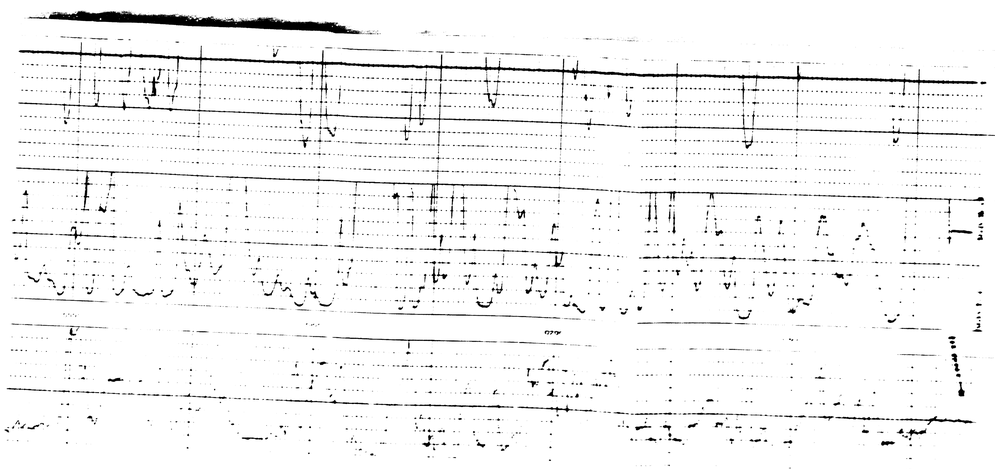


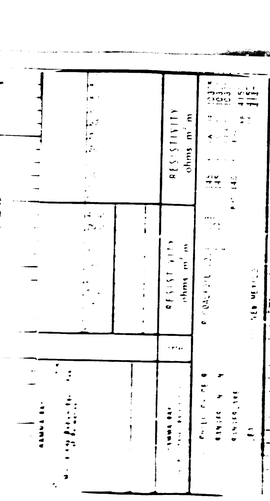
U.S.G.S. - GEOPHYSICS

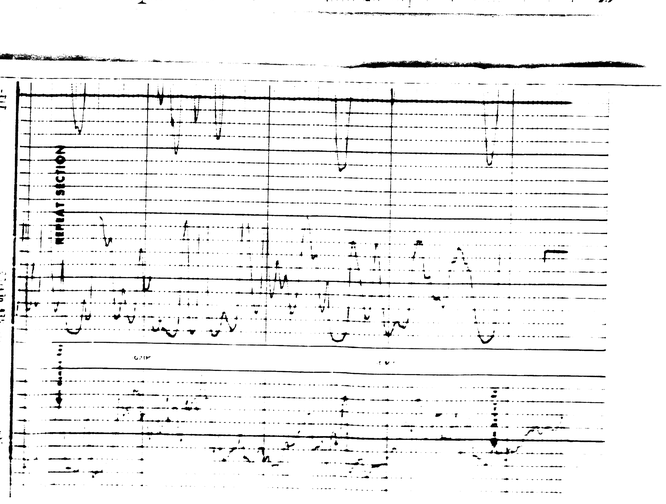
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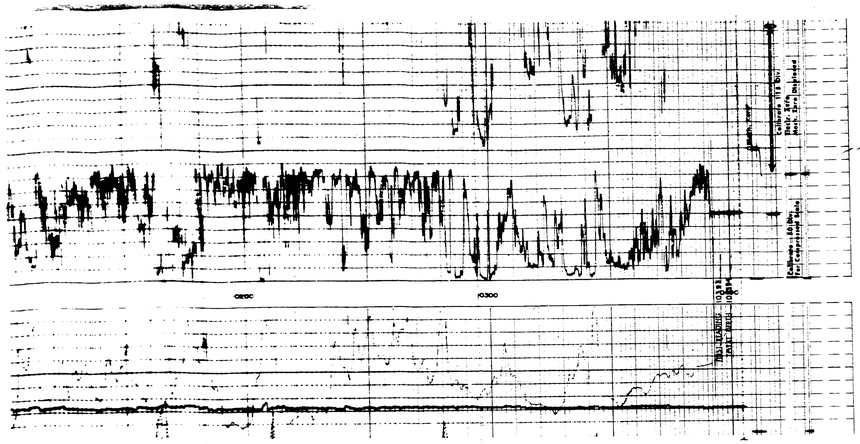


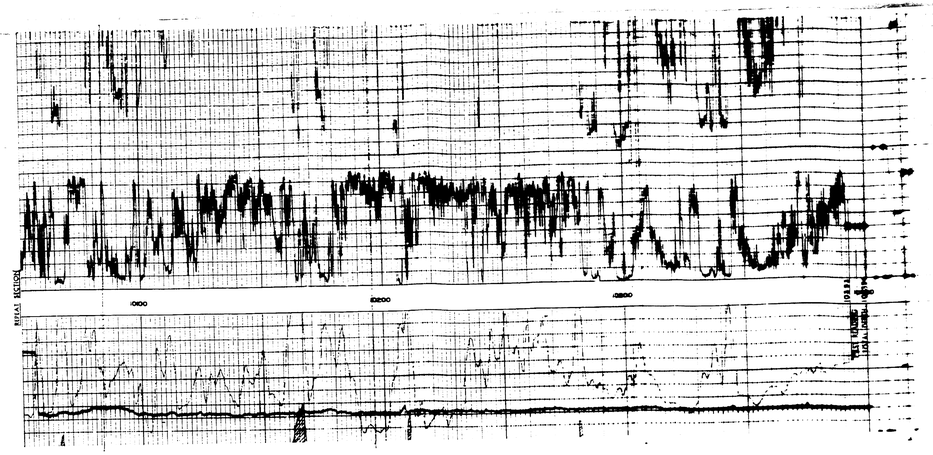




U.S.N.M.C.F. MICROGRAPHICS

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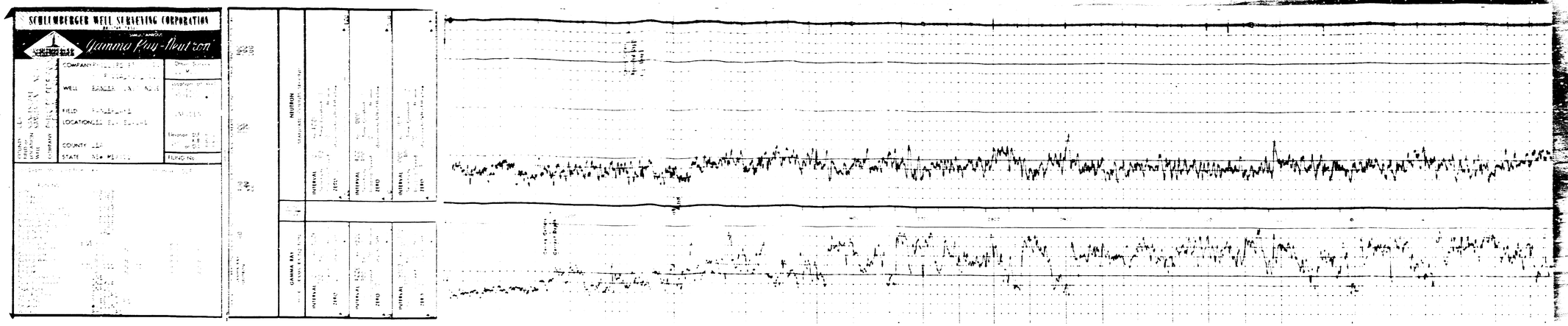


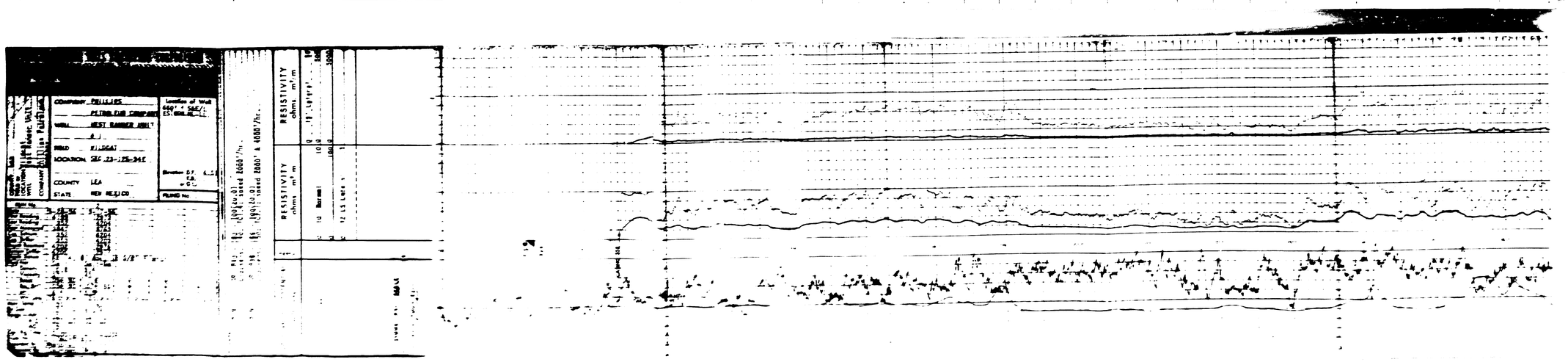


PHILLIPS PETR. COMPANY
RANGER # 2
VACUUM FIELD
LEA COUNTY, NEW MEXICO

U.S.G.S. PHOTOGRAPHIC

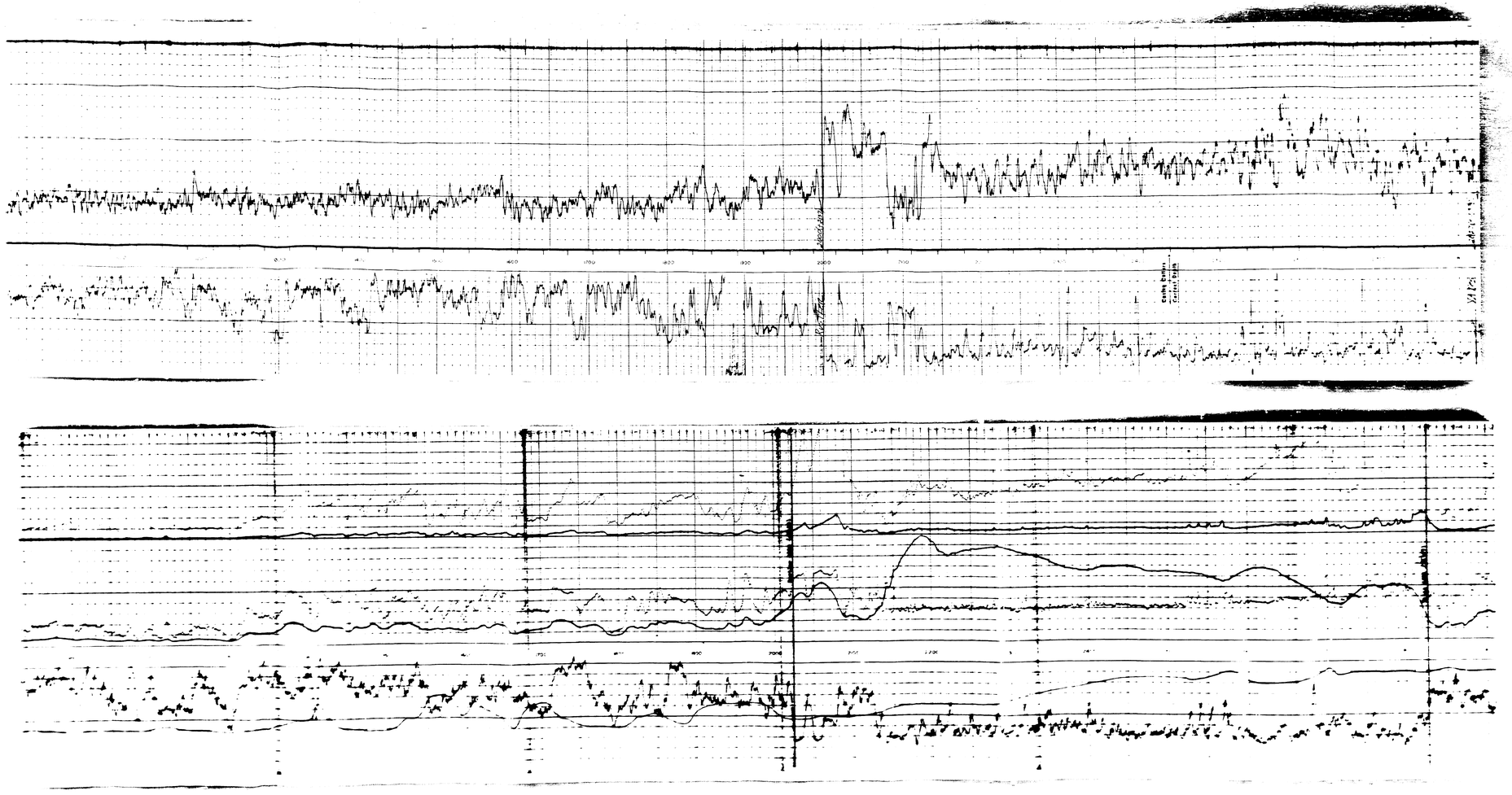
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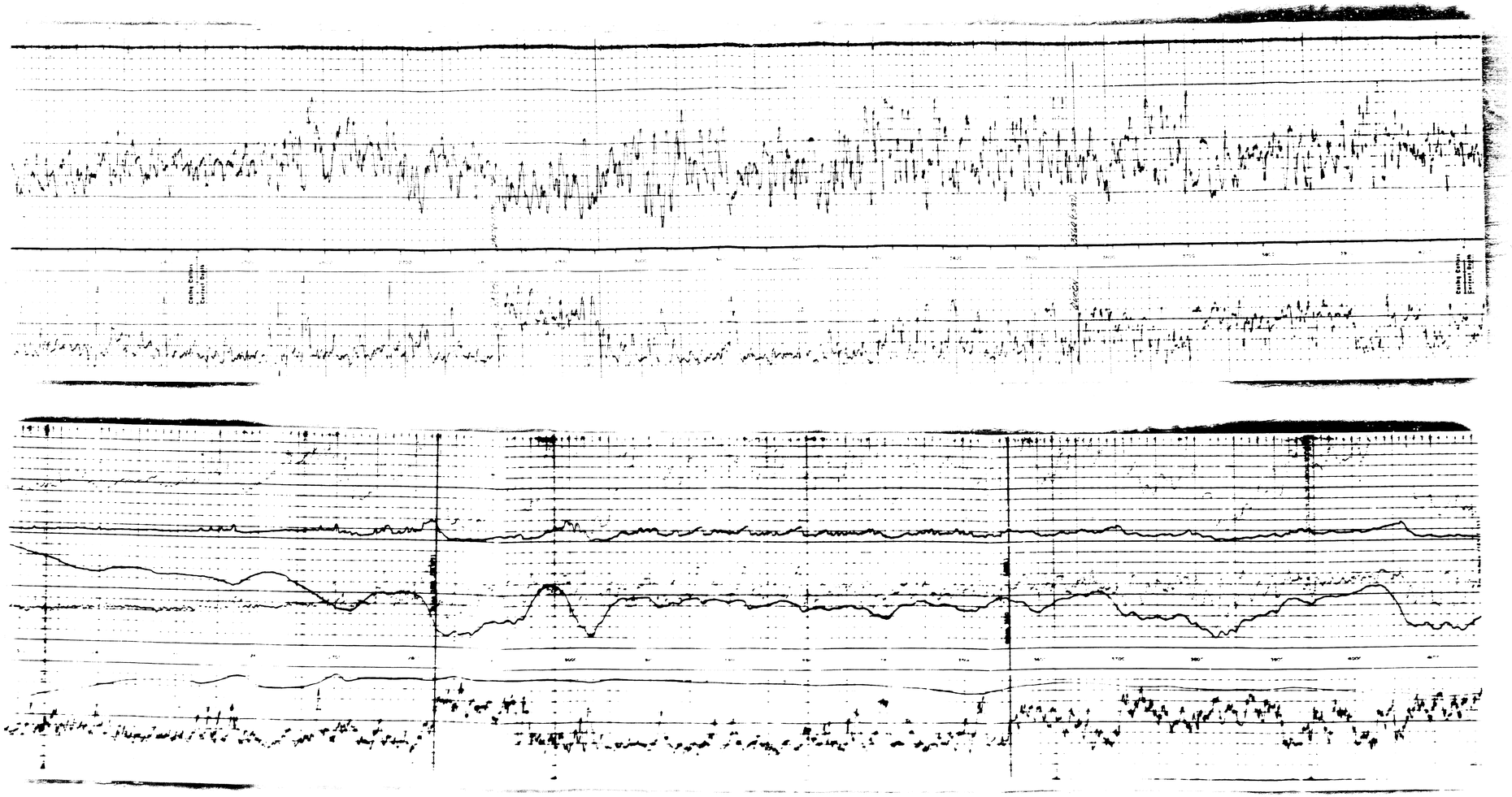




N.S.M.C.P. MICROGRAPHICS

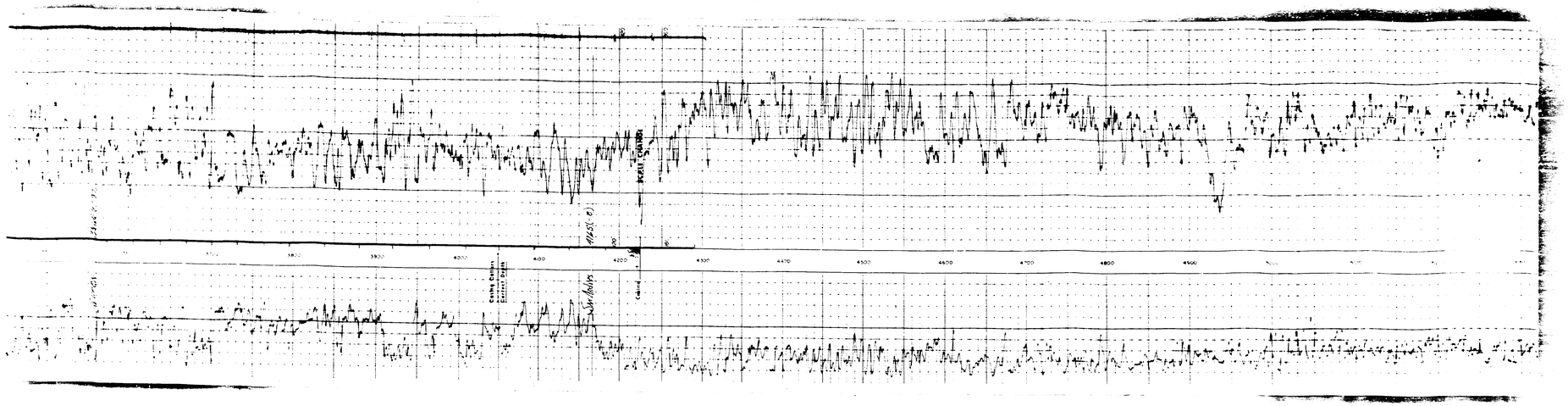
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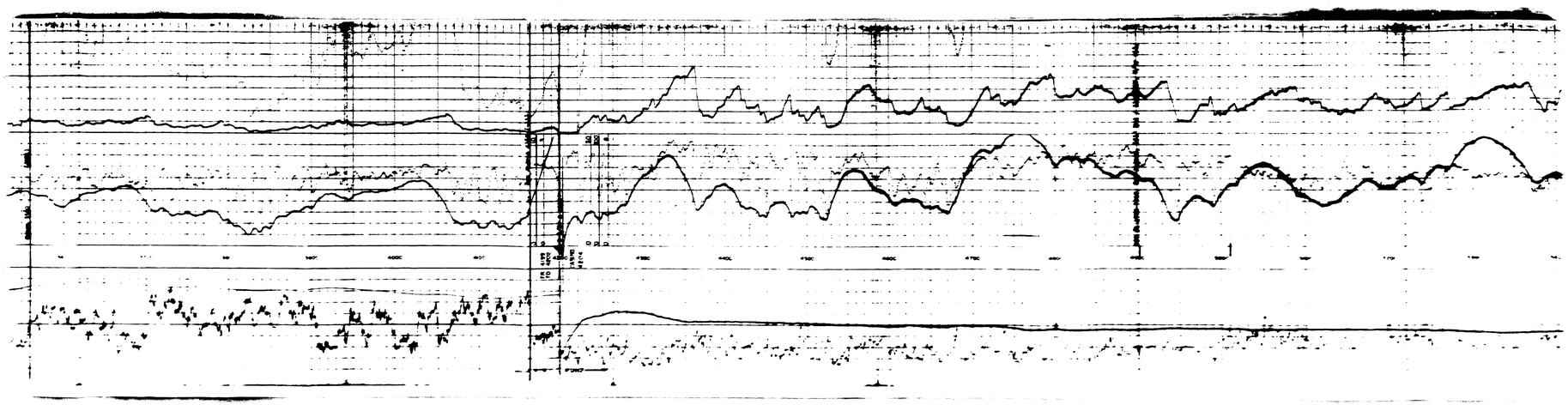


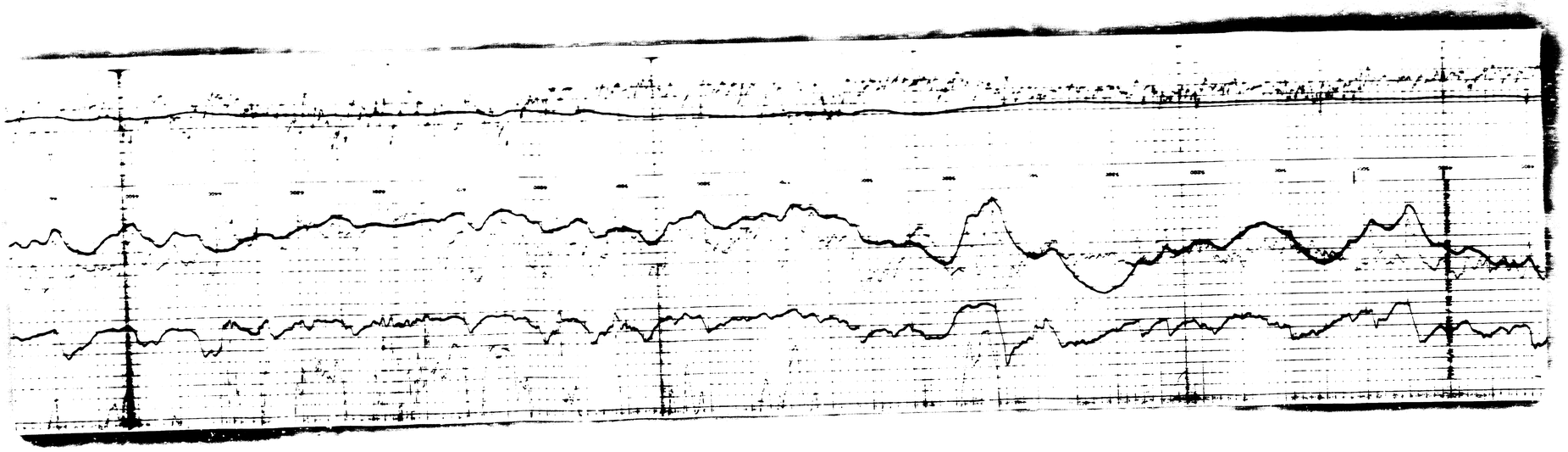


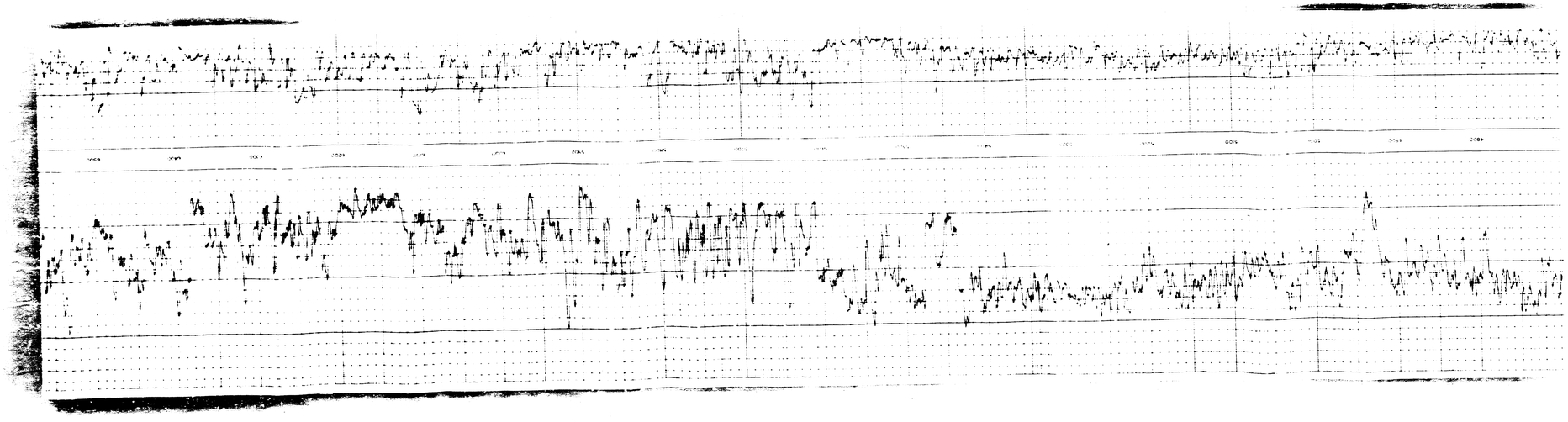
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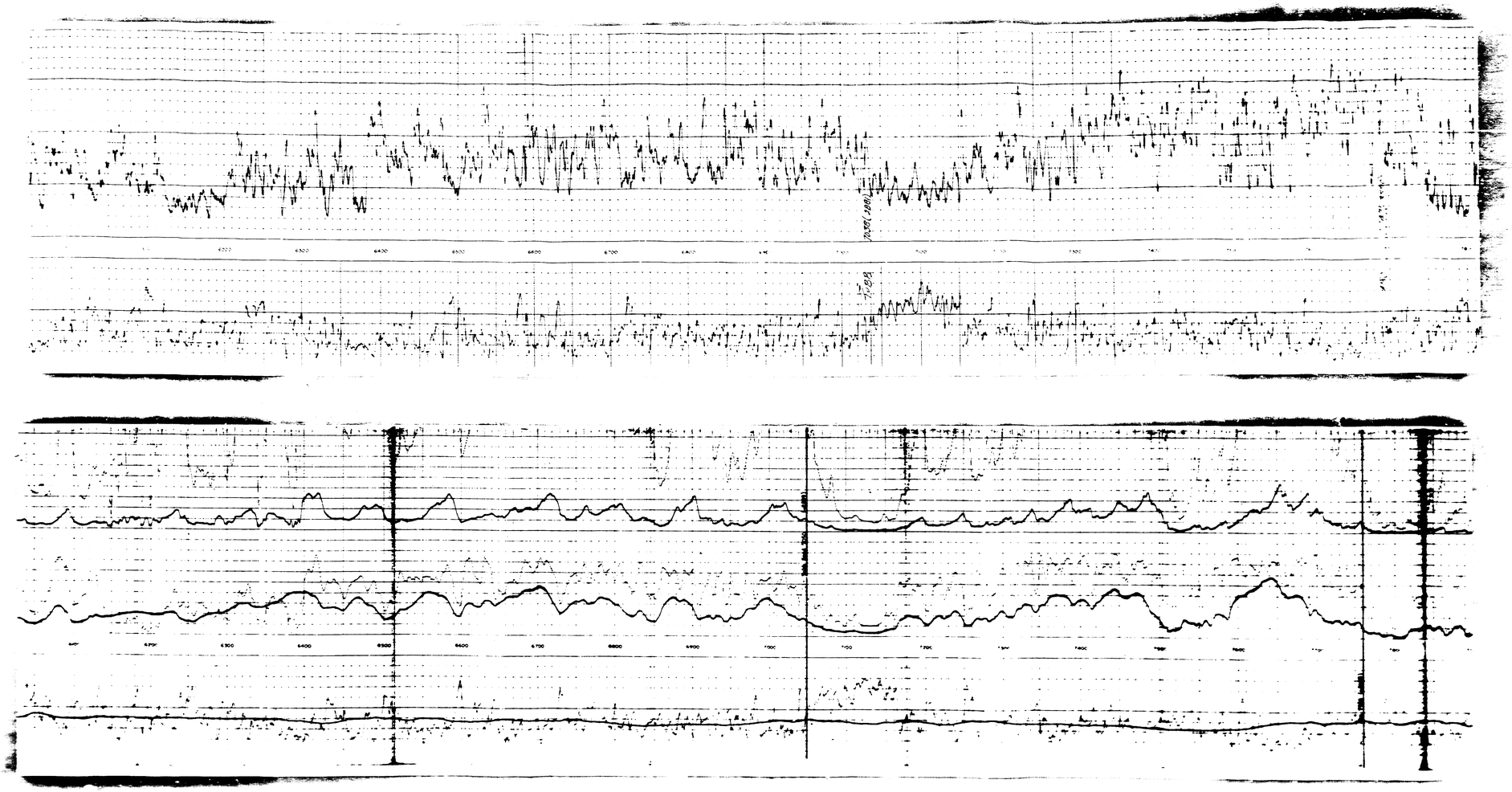






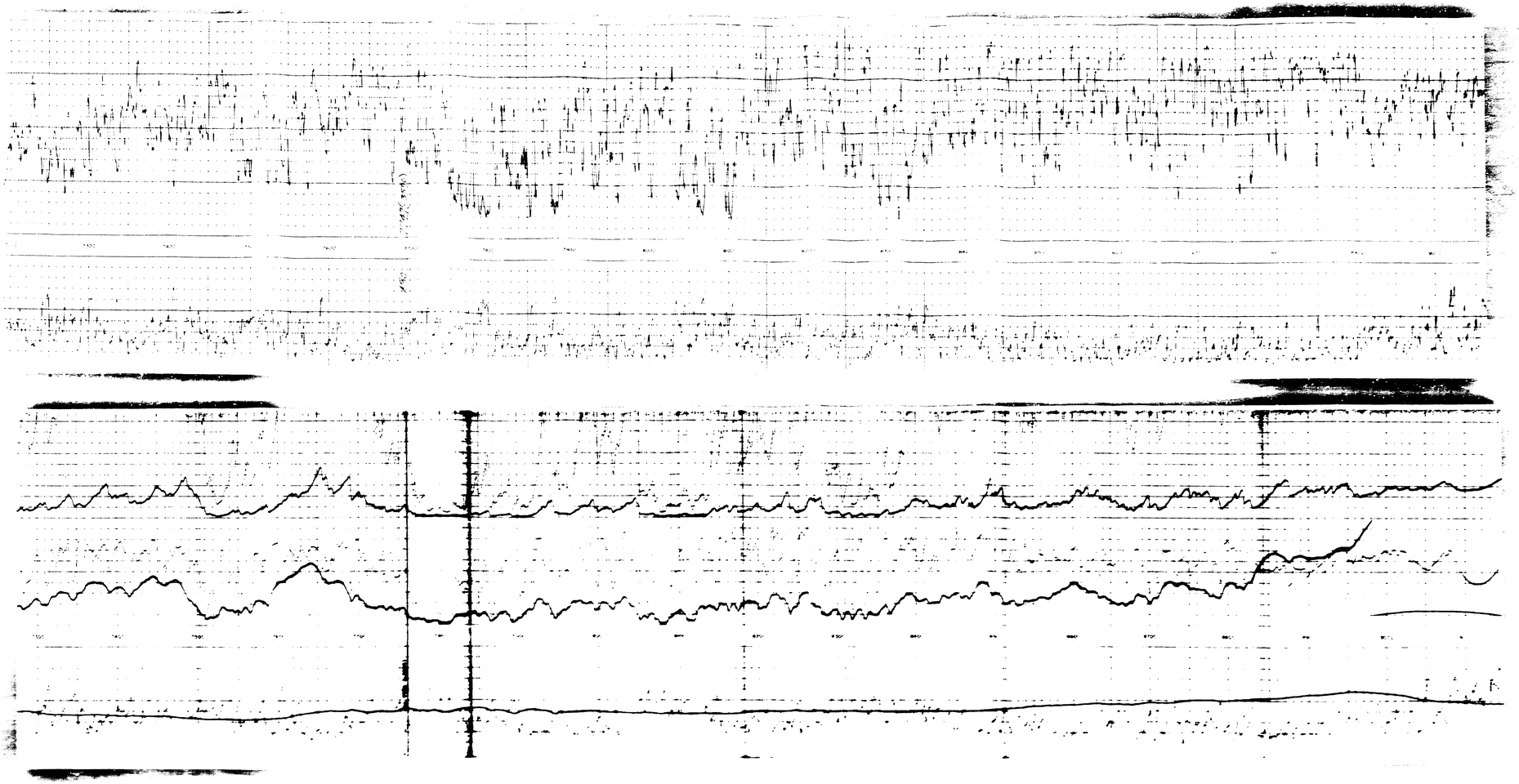






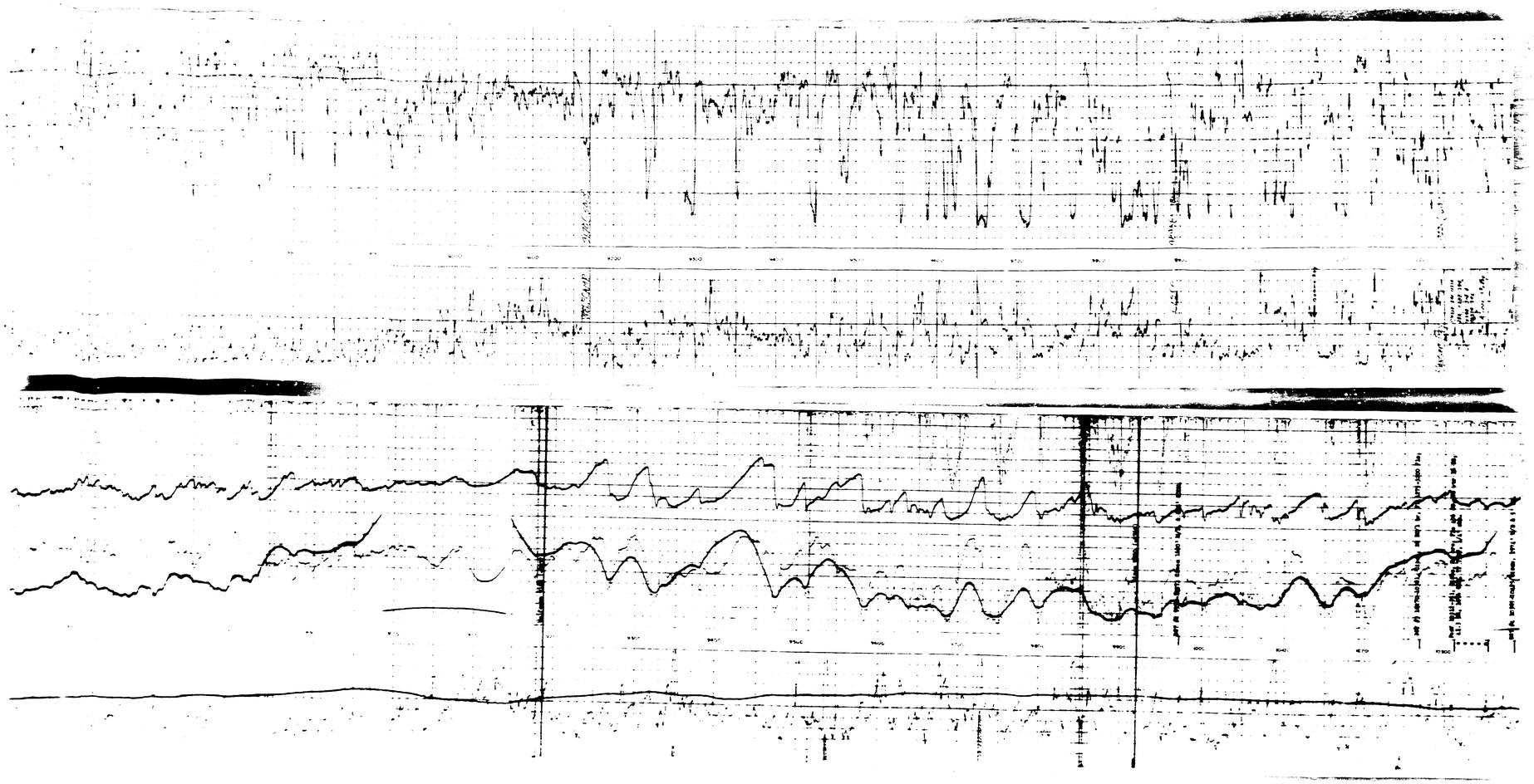
N.R.M.C.P. MICROGRAPHICS

BEST AVAILABLE COPY



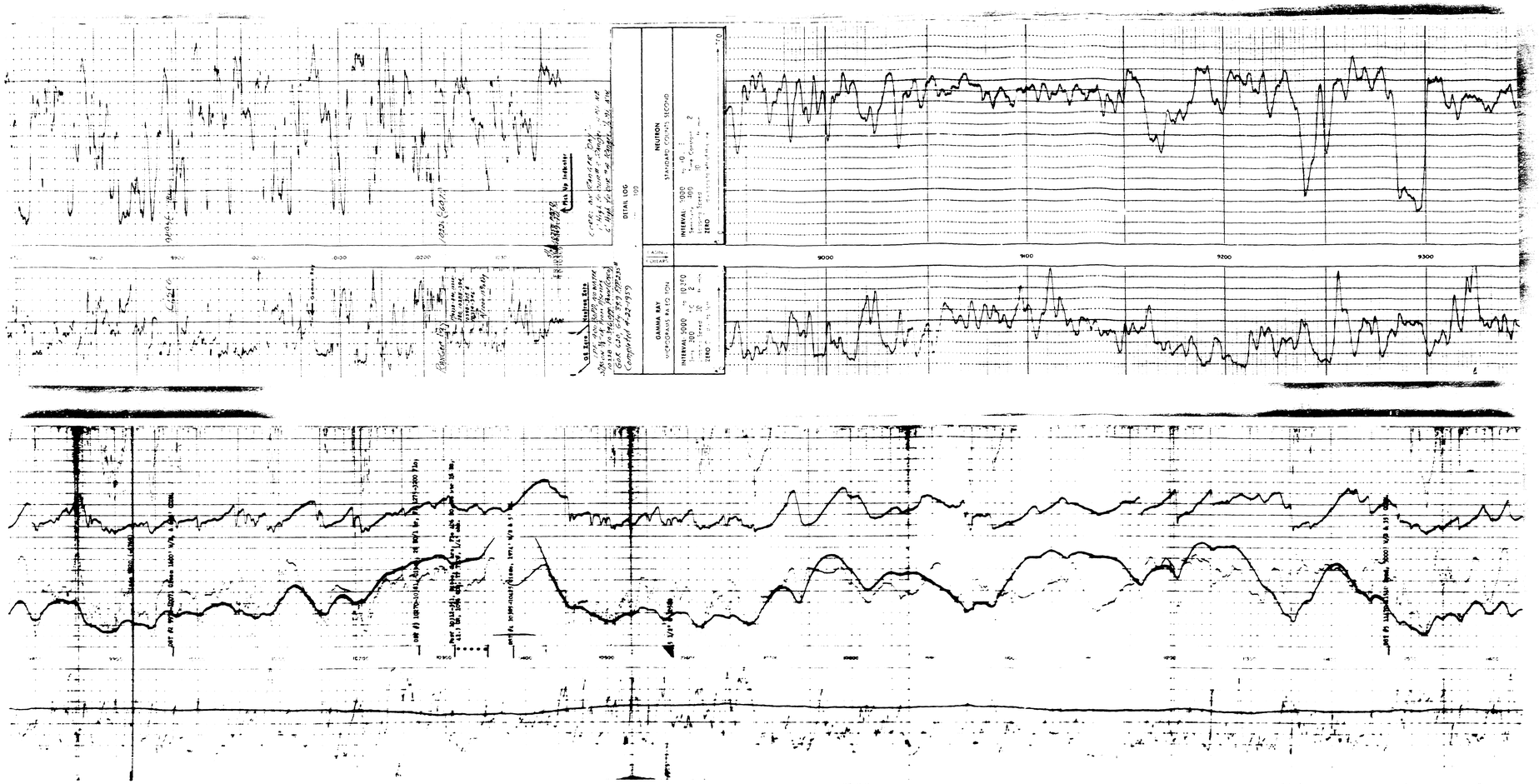
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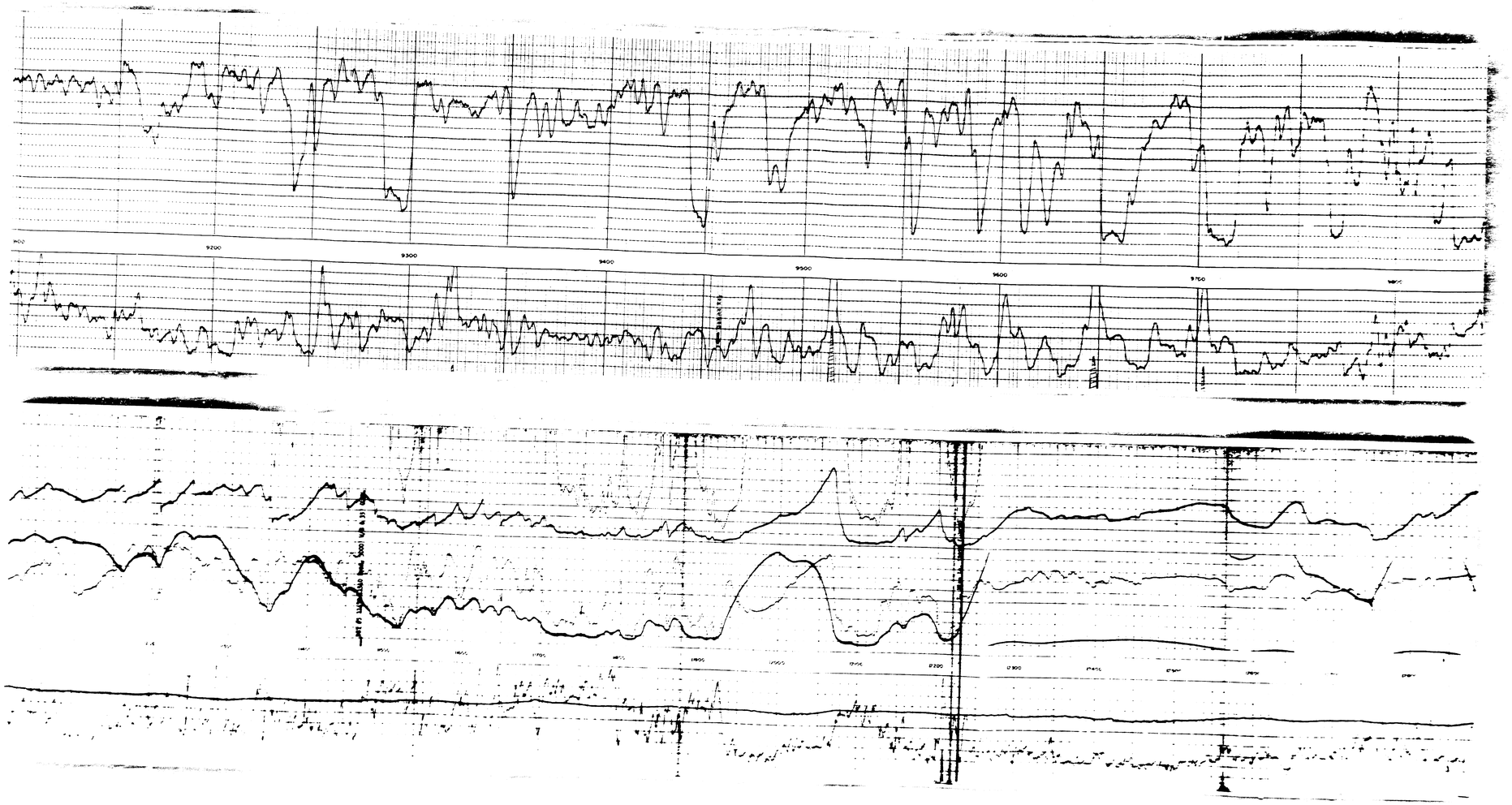


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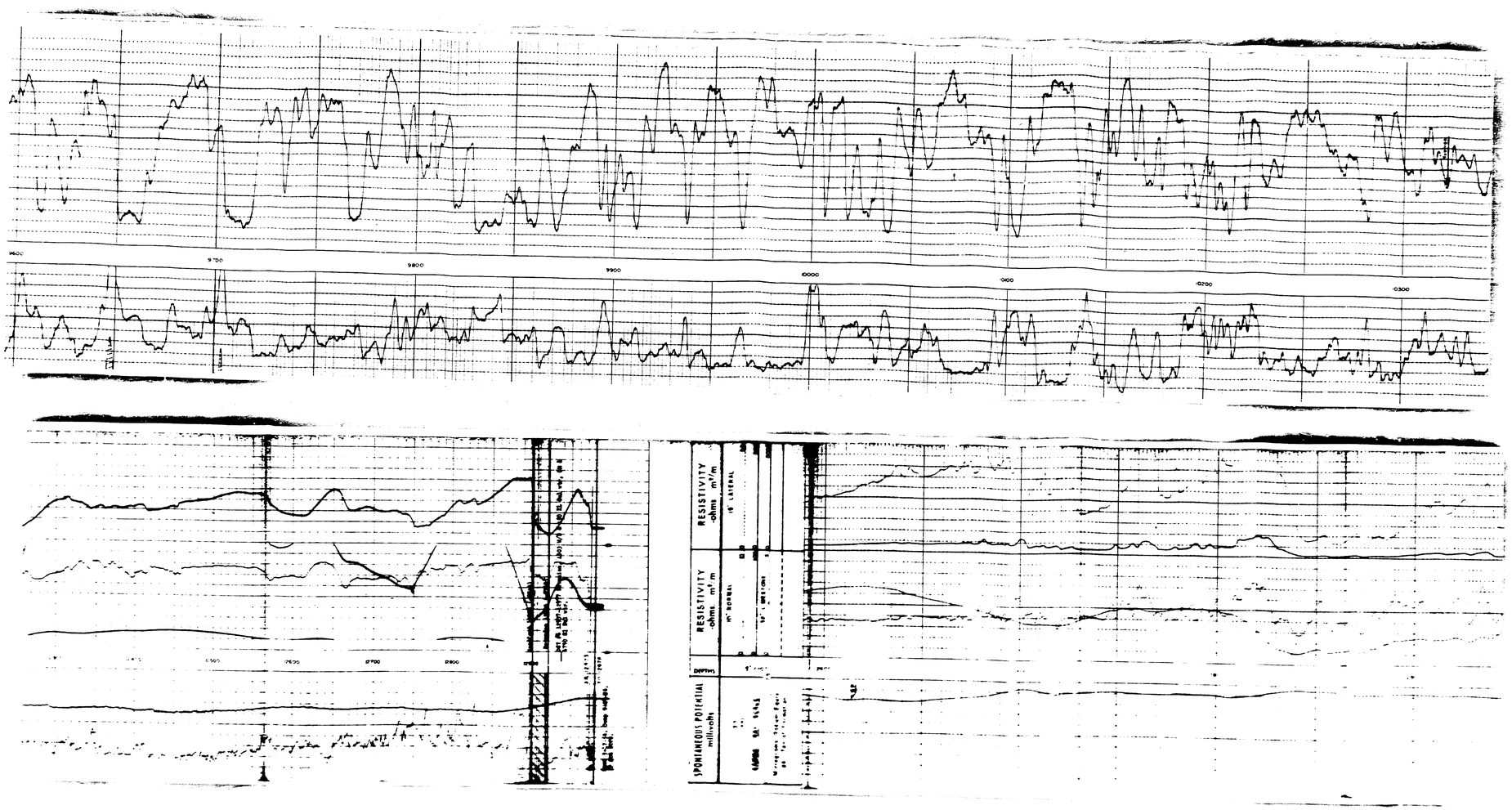


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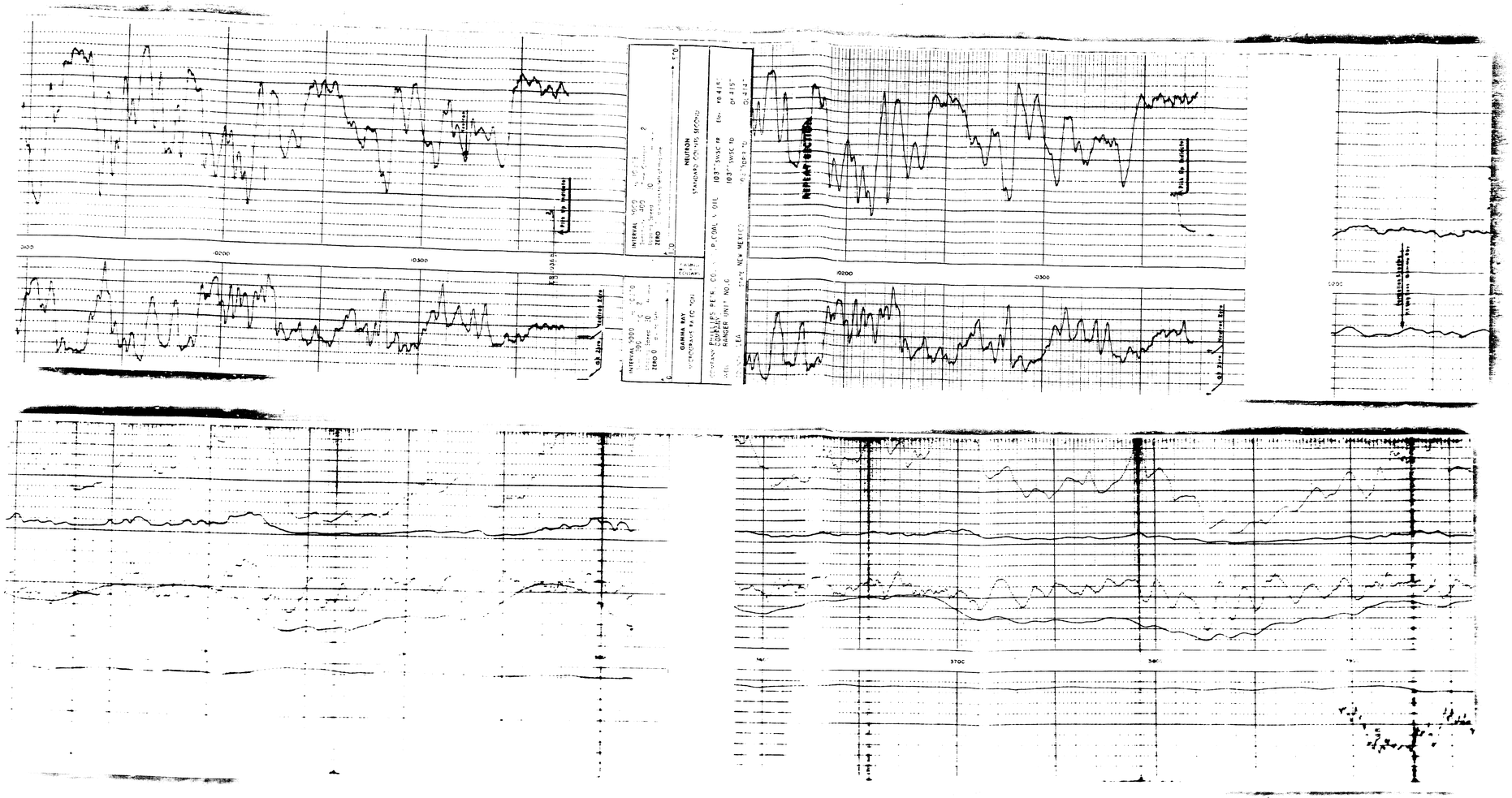
U.N.M.C.F. MICROGRAPHICS

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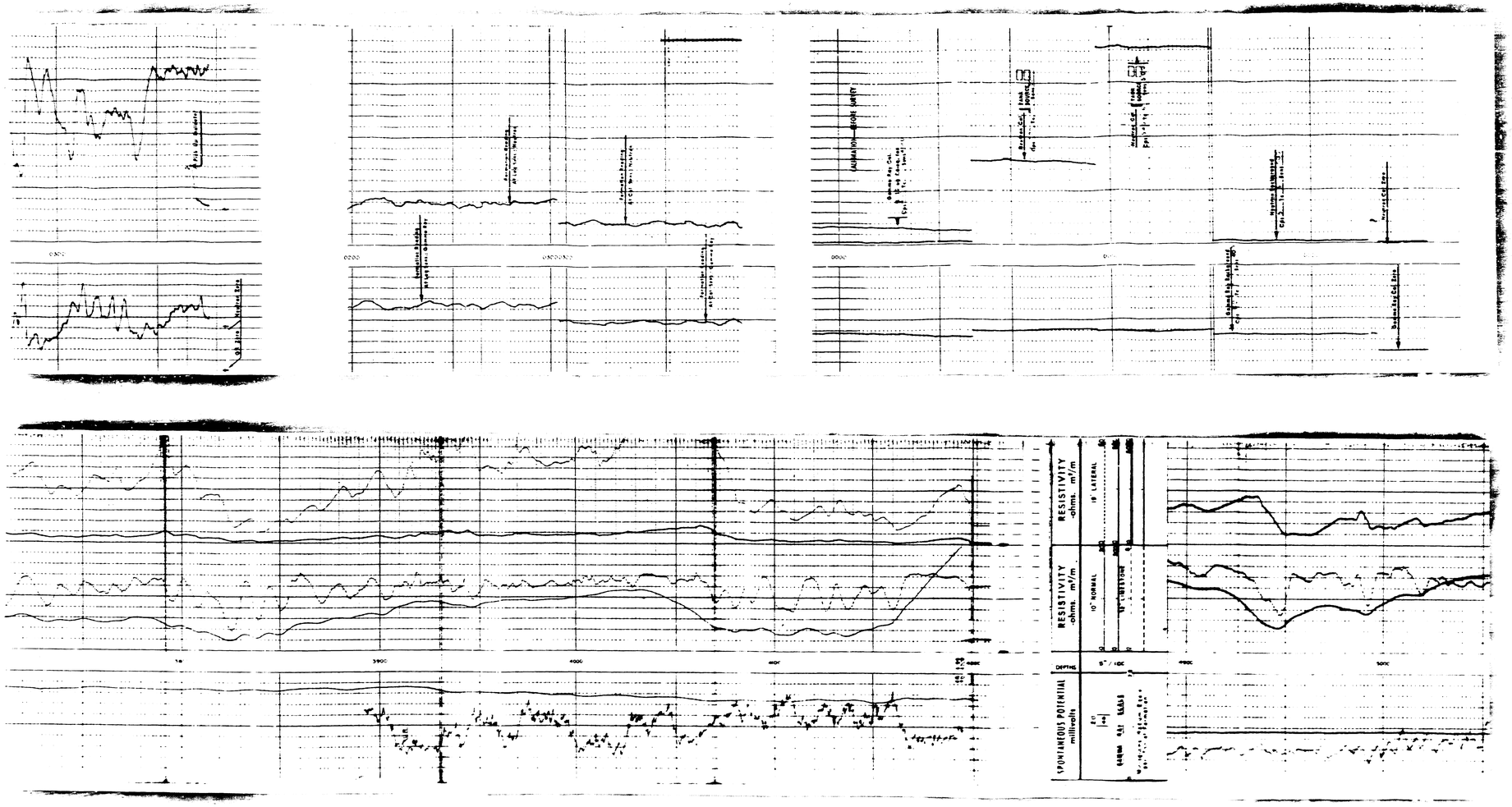


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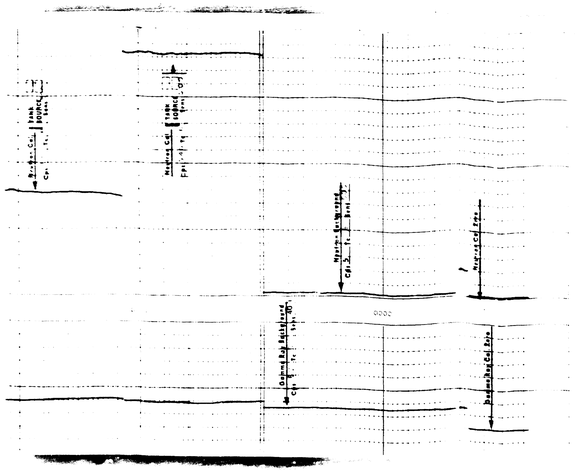


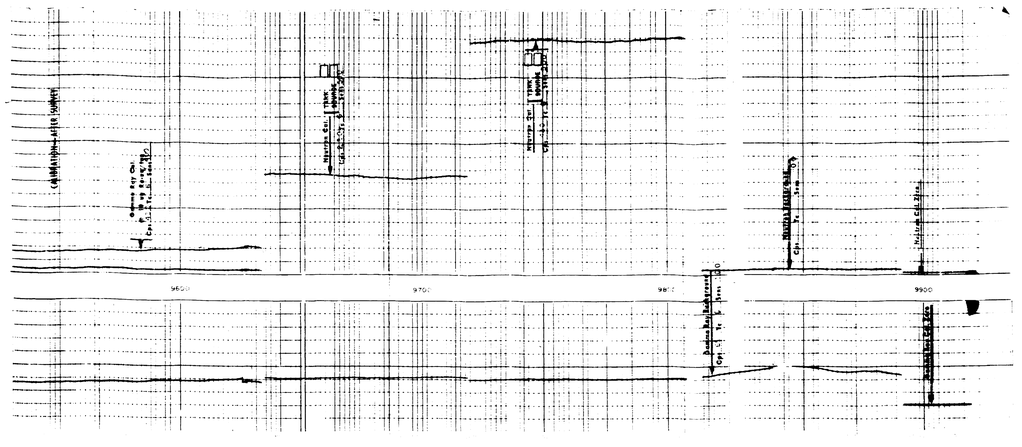


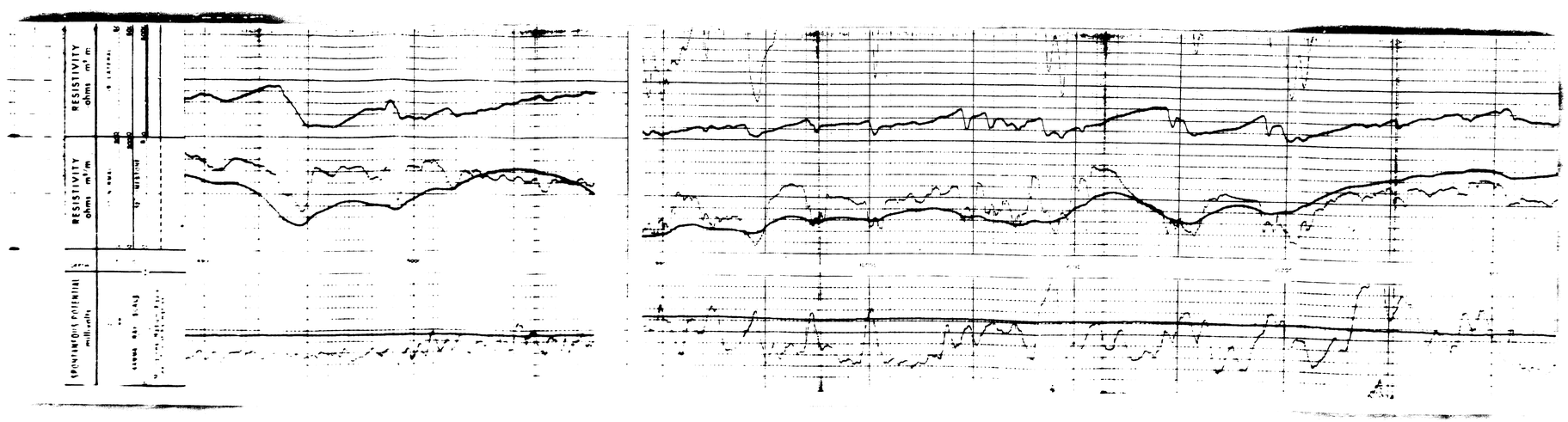

RESISTIVITY
ohms m²/m
16" LATERAL
RESISTIVITY
ohms m²/m
10" NORMAL
DEPTHS
SPONTANEOUS POTENTIAL
millivolts

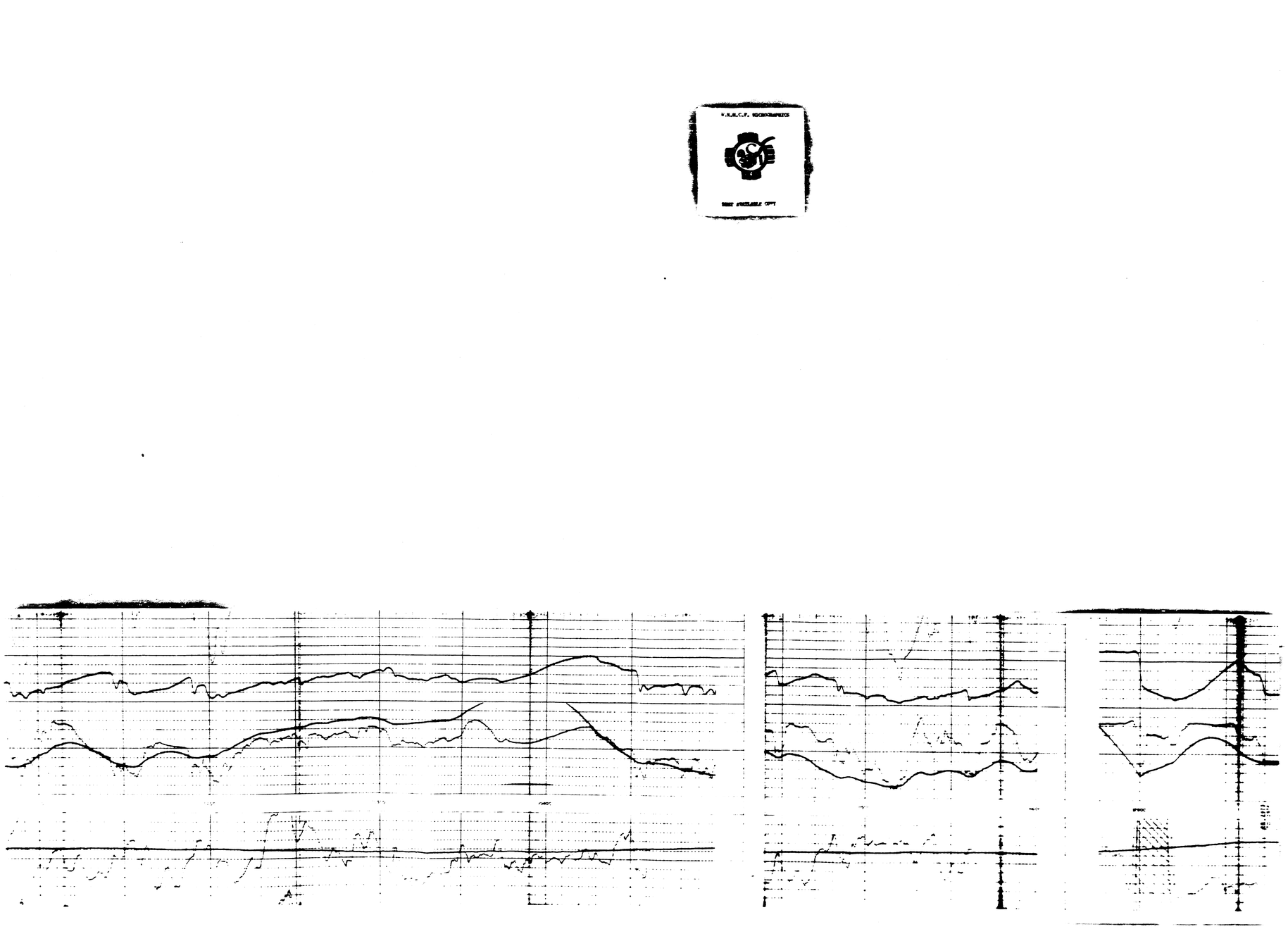
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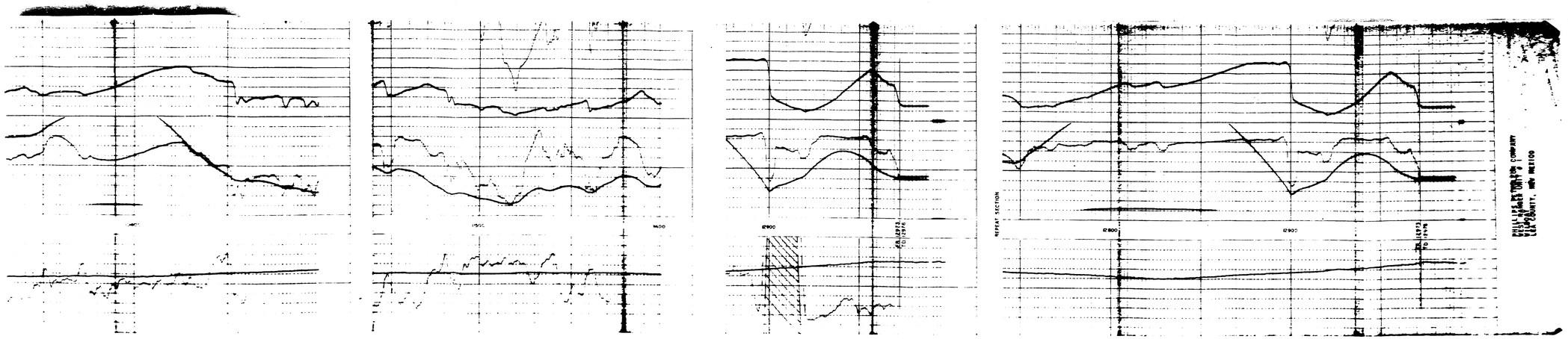




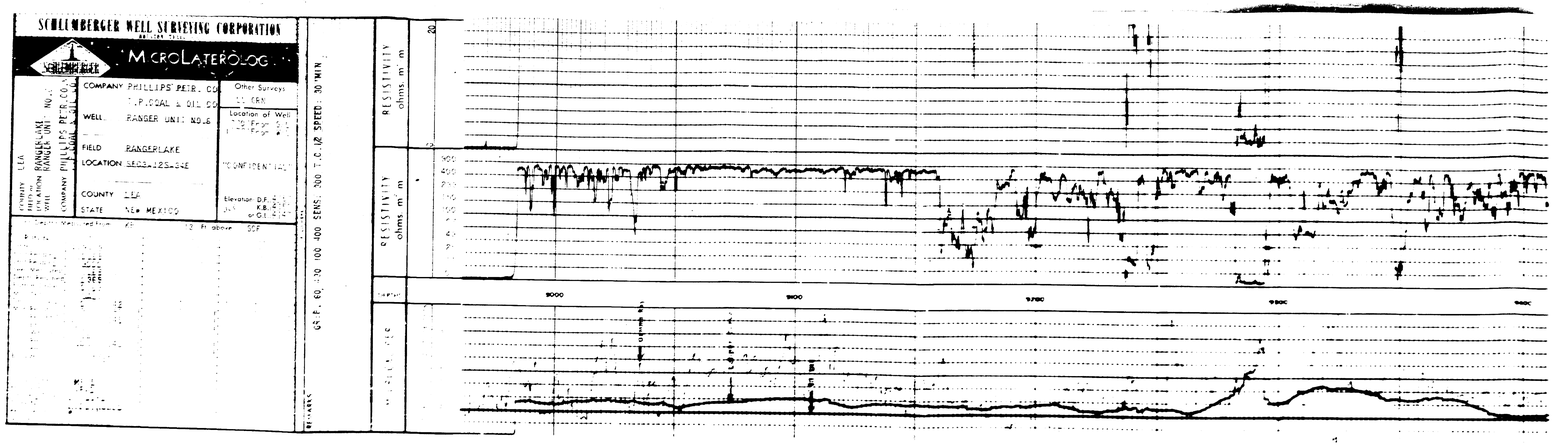


M.E.N.C.F. MICROGRAPHICS

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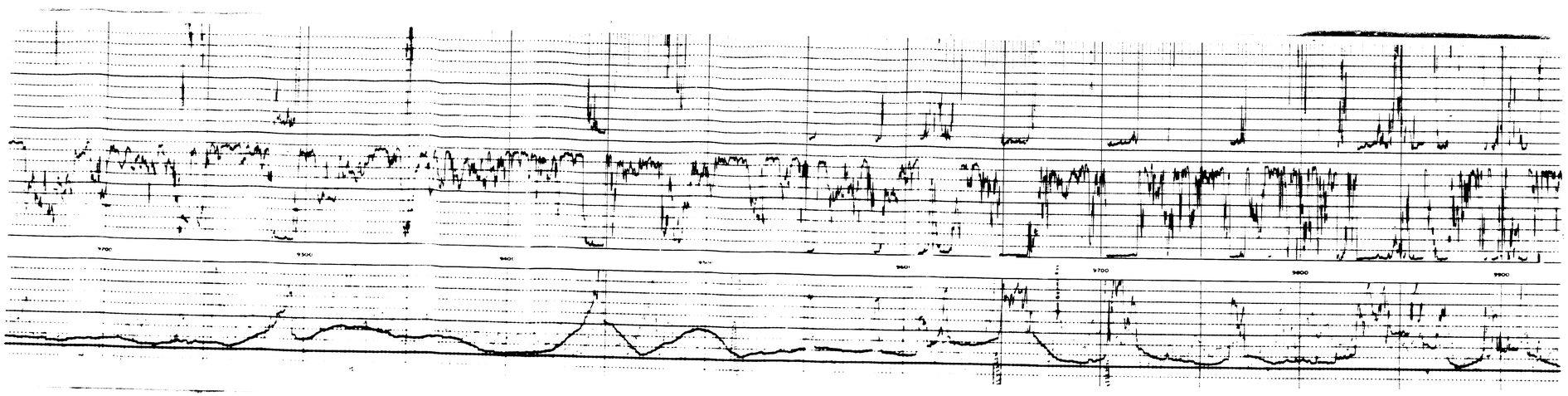





SCHLUMBERGER WELL SURVEYING CORPORATION
MICROLATEROLOG
COMPANY PHILLIPS PETR. CO.
P.COAL & OIL CO.
WELL RANGER UNIT NO.6
FIELD RANGERLAKE
LOCATION SEC3-12S-35E
CONFIDENTIAL
COUNTY LEA
STATE NEW MEXICO
Other Surveys
Location of Well
Elevation
RESISTIVITY ohms m²/m
RESISTIVITY ohms m²/m
9000
9100
9200
9300
9400

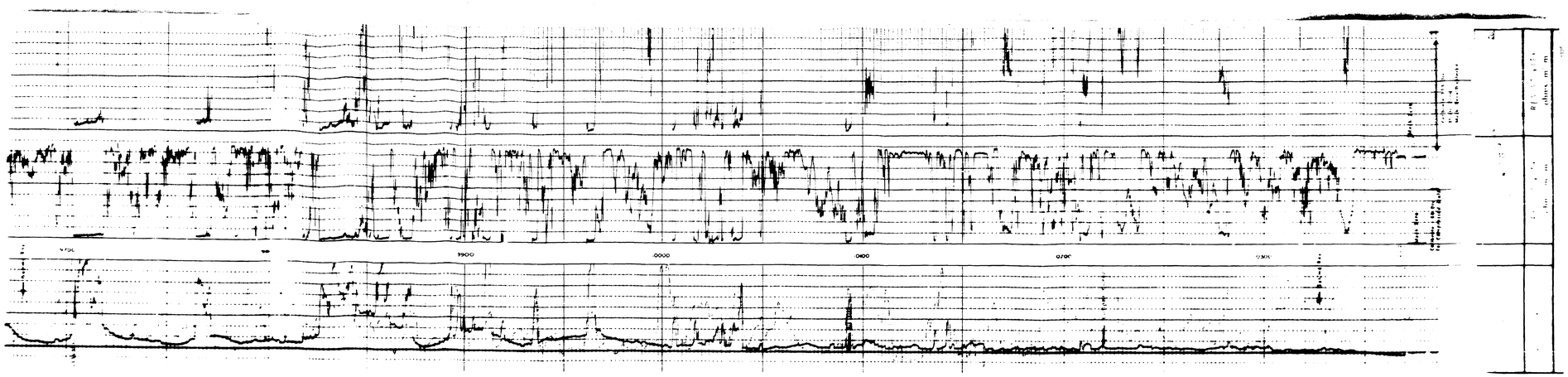
N.E.M.C.F. MICROGRAPHICS

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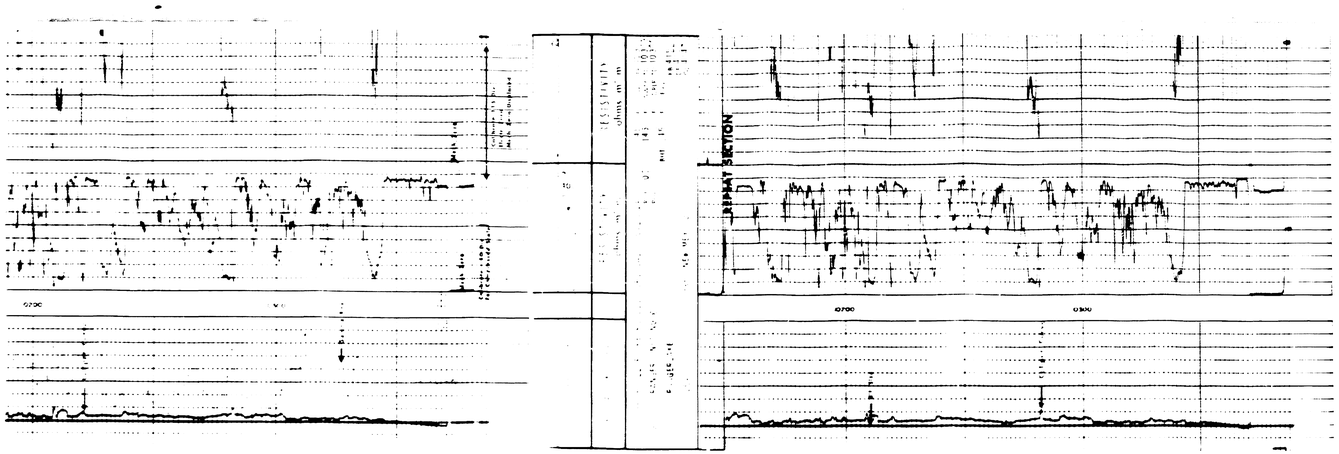


U.S.N.R.C.F. MICROGRAPHICS

BEST AVAILABLE COPY



U.S.G.S. PHOTOGRAPHS
NOT AVAILABLE OPT



NORTHWEST — SOUTHEAST

RANGER LAKE PENNSYL

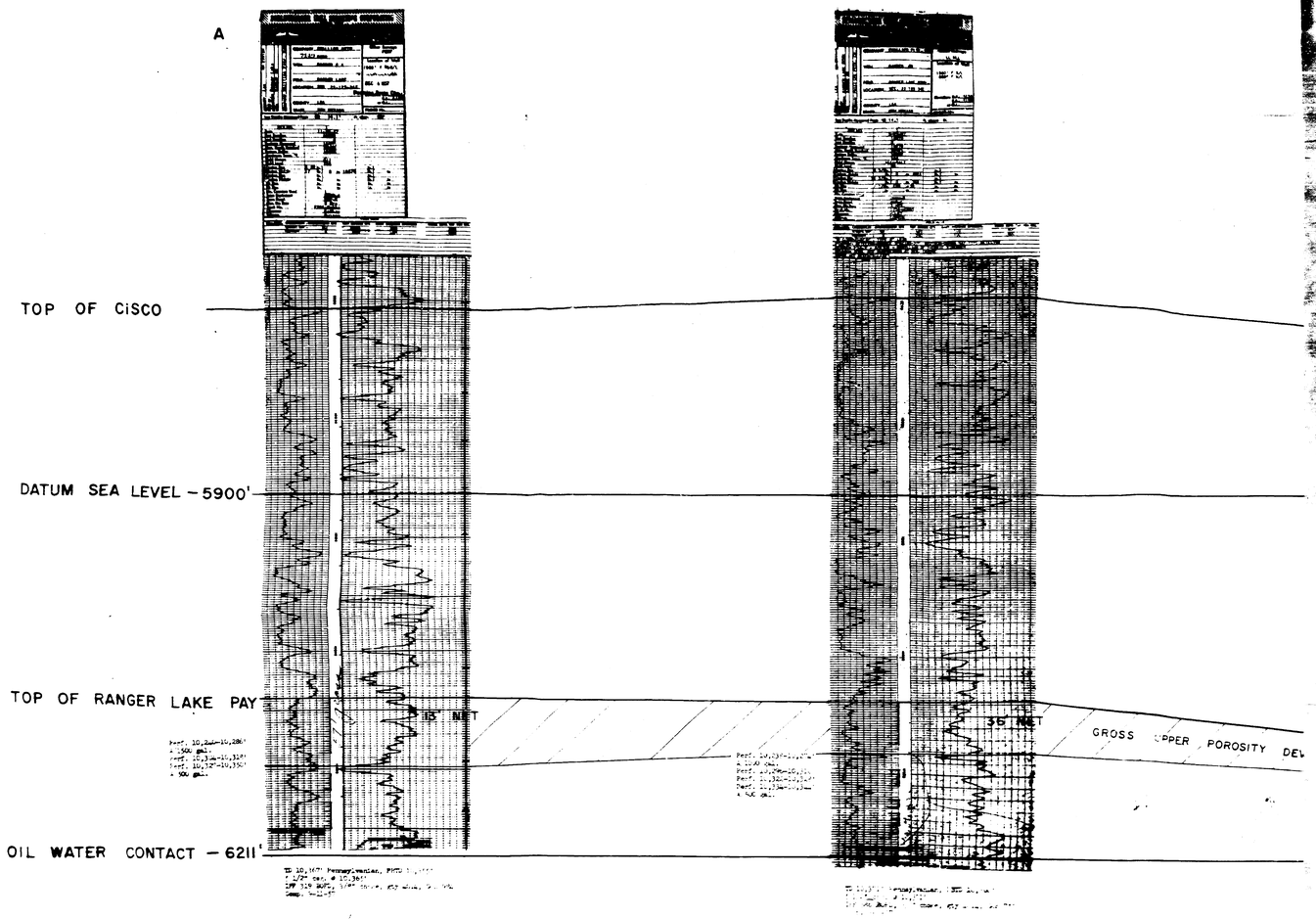
T-12-S, R-34-

LEA, CO., NEW MEX

SCALE

HORIZONTAL 1"= 150

VERTICAL 1"= 40



RANGER LAKE PENNSYLVANIAN POOL

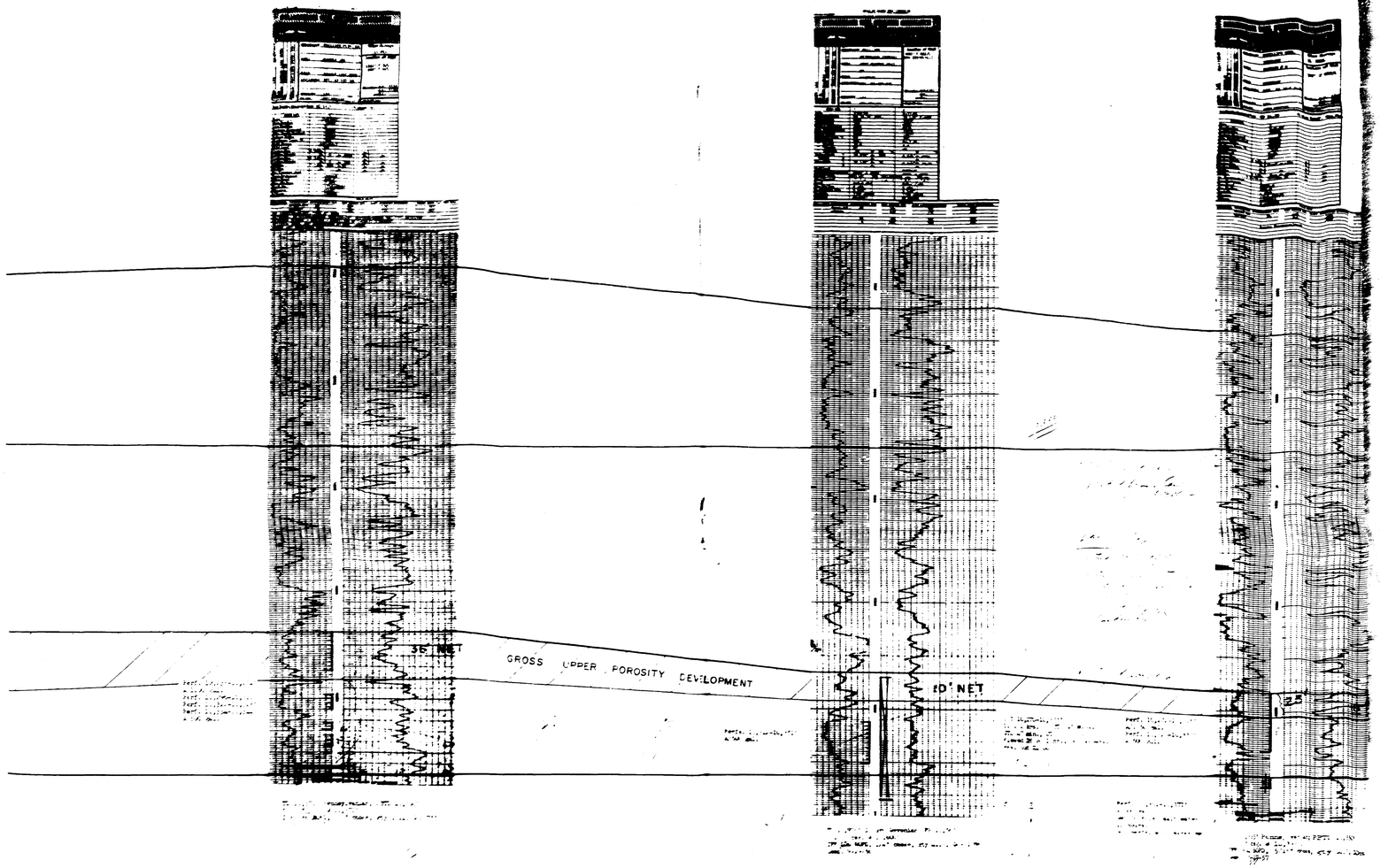
T-12-S, R-34-E

LEA, CO., NEW MEXICO

SCALE

HORIZONTAL 1" = 150'

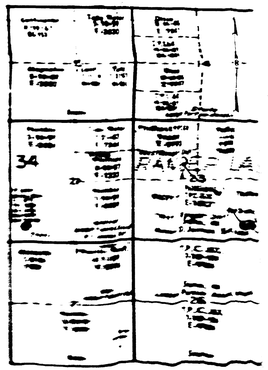
VERTICAL 1" = 40'



GEOLOGY BY R. E. GRAMLY

DRAFTSMAN DAVID B. ZZELL

DATE 5 - - -59



NORTHWEST — SOUTHEAST CROSS SECTION

RANGER LAKE PENNSYLVANIAN POOL

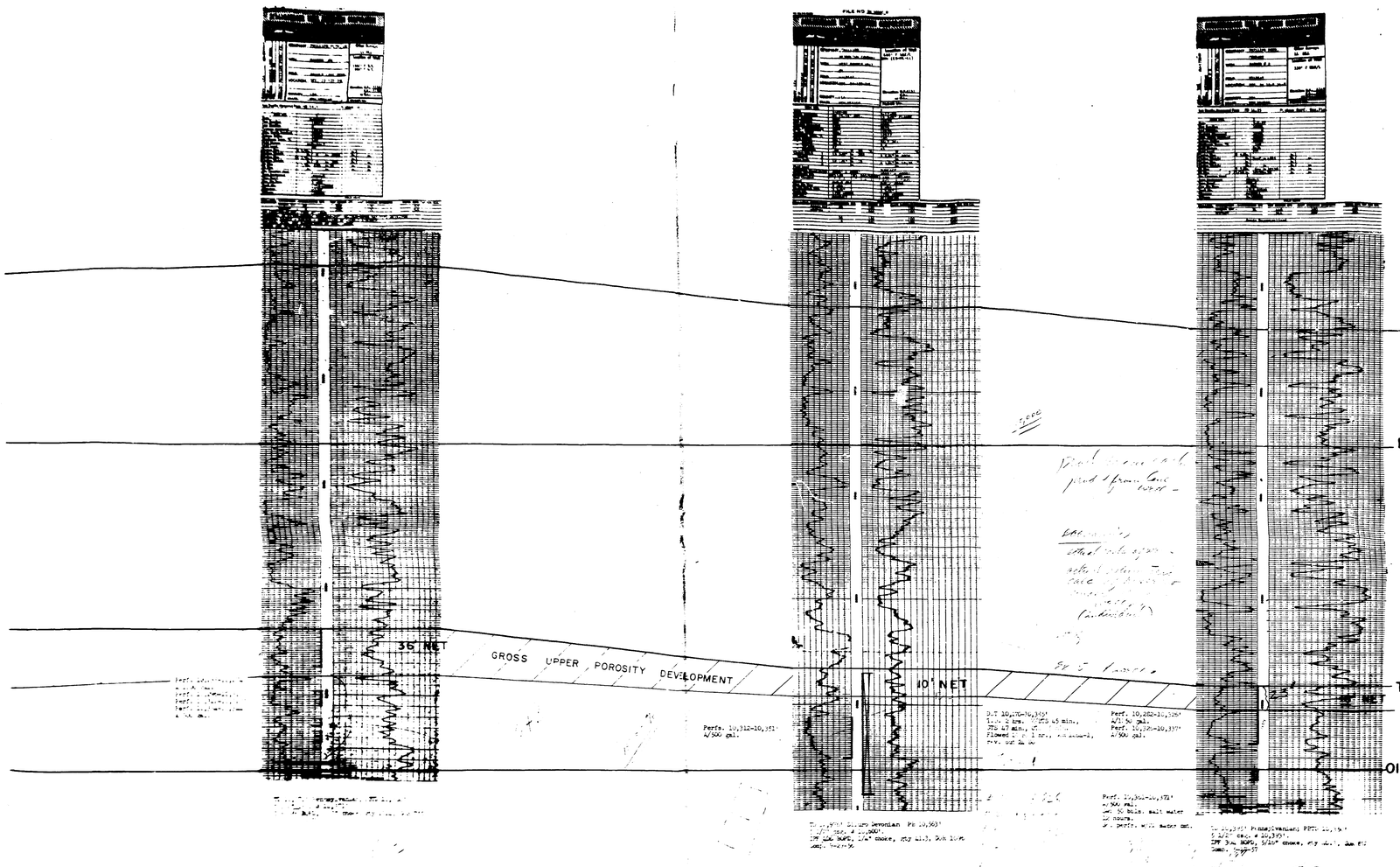
T-12-S, R-34-E

LEA, CO., NEW MEXICO

SCALE

HORIZONTAL 1" = 150'

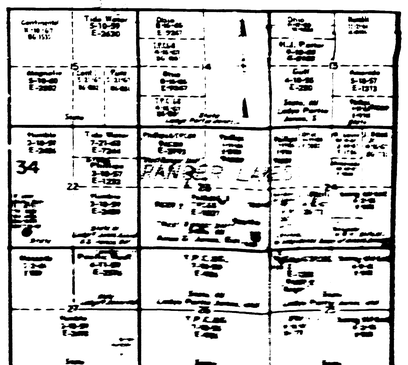
VERTICAL 1" = 40'



GEOLOGY BY: R. E. GRAMLY

DRAFTSMAN: DAVID BIZZELL

DATE: 5-7-59



NORTHWEST — SOUTHEAST CROSS SECTION

RANGER LAKE PENNSYLVANIAN POOL

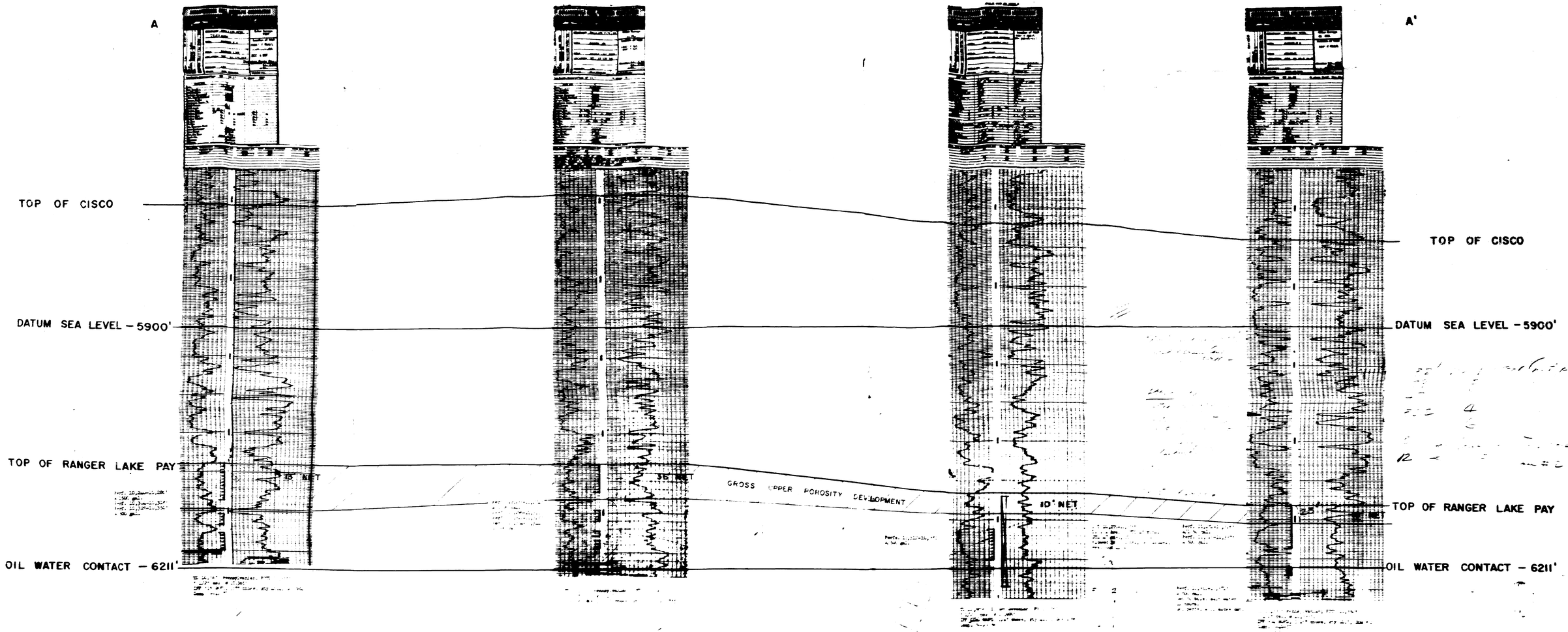
T-12-S, R-34-E

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