SCHLUMBERGER WELL SURVEYING CORPORATION
HOUSTON, TEXAS

Electrical Log

4-314

COMPANY	PAN AMERICAN PETROLEUM CORPORATION
WELL	OSTGREN UNIT NO. 13
FIELD	OSTGREN
COUNTY	BANNER
STATE	NEBRASKA
LOCATION	NW NE (SE?) 10
Sec.	32
Twp.	17N
Rge.	54W
Other Services:	ML

COUNTY BANNER
FIELD or LOCATION OSTGREN SEC. 32-17N-54W
WELL OSTGREN UNIT #13
COMPANY PAN AMERICAN

Permanent Datum: G.L., Elev. 4814
Log Measured From K.B., 10 Ft. Above Perm. Datum
Drilling Measured From K.B.
Elev.: K.B. 4824, D.F. , G.L. 4814

Date	5-17-63			
Run No.	ONE			
Depth—Driller	6120			
Depth—Logger	6121			
Btm. Log Interval	6120			
Top Log Interval	462			
Casing—Driller	8-5/8 @ 462	@	@	@
Casing—Logger	462			
Bit Size	7-7/8"			
Type Fluid in Hole	GEL-CHEM-OIL			
Dens. | Visc.	10.1 | 87			
pH | Fluid Loss	7.5 | 6.4 ml	ml	ml	ml
Source of Sample	FLOW LINE			
R_m @ Meas. Temp.	4.1 @ 71°F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	3.9 @ 64°F	1.7 @ 146°F	@ °F	@ °F
R_{mc} @ Meas. Temp.	--- @ ---°F	1.7 @ 146°F	@ °F	@ °F
Source: R_{mf} | R_{mc}	F.P. | C-4			
R_m @ BHT	2.0 @ 146°F	@ °F	@ °F	@ °F
Time Since Circ.	2 HOURS			
Max. Rec. Temp.	146 °F	°F	°F	°F
Equip. | Location	4530 | KIM			
Recorded By	HANDLEY			
Witnessed By	MR. WILSON			

FOLD HERE — THIS HEADING AND LOG CONFORMS TO API RP 31

REMARKS

SPONTANEOUS POTENTIAL millivolts	Depths	RESISTIVITY ohms. m²/m	RESISTIVITY ohms. m²/m
– 20 +		SHORT NORMAL 0 — 50	LONG NORMAL 0 — 50
		18'8" LATERAL 0 — 50	
		AMP SHORT NORMAL 0 — 10	

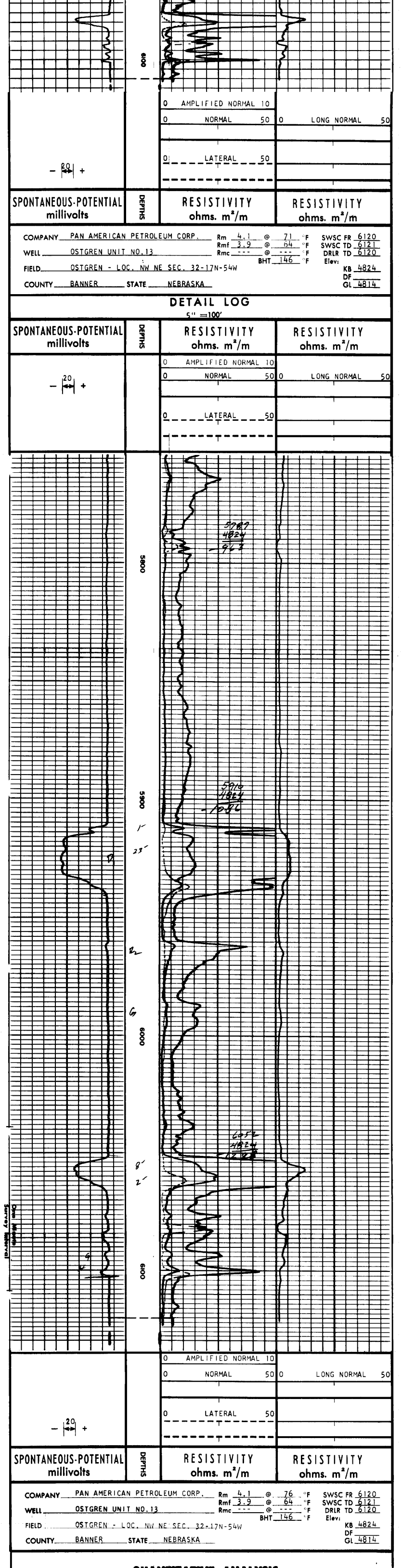
SPONTANEOUS-POTENTIAL millivolts	DEPTHS	RESISTIVITY ohms. m²/m	RESISTIVITY ohms. m²/m
– 20 +		AMPLIFIED NORMAL 0 — 10	
		NORMAL 0 — 50	LONG NORMAL 0 — 50
		LATERAL 0 — 50	

COMPANY PAN AMERICAN PETROLEUM CORP. Rm 4.1 @ 71 °F SWSC FR 6120
WELL OSTGREN UNIT NO. 13 Rmf 3.9 @ 64 °F SWSC TD 6121
Rmc --- @ --- °F DRLR TD 6120
BHT 146 °F Elev:
FIELD OSTGREN - LOC. NW NE SEC. 32-17N-54W KB 4824
DF
COUNTY BANNER STATE NEBRASKA GL 4814

DETAIL LOG

5" = 100'

SPONTANEOUS-POTENTIAL millivolts	DEPTHS	RESISTIVITY ohms. m²/m	RESISTIVITY ohms. m²/m
– 20 +		AMPLIFIED NORMAL 0 — 10	
		NORMAL 0 — 50	LONG NORMAL 0 — 50
		LATERAL 0 — 50	



– 20 +		AMPLIFIED NORMAL 0 — 10	
		NORMAL 0 — 50	LONG NORMAL 0 — 50
		LATERAL 0 — 50	
SPONTANEOUS-POTENTIAL millivolts	DEPTHS	RESISTIVITY ohms. m²/m	RESISTIVITY ohms. m²/m

COMPANY PAN AMERICAN PETROLEUM CORP. Rm 4.1 @ 76 °F SWSC FR 6120
WELL OSTGREN UNIT NO. 13 Rmf 3.9 @ 64 °F SWSC TD 6121
Rmc --- @ --- °F DRLR TD 6120
BHT 146 °F Elev:
FIELD OSTGREN - LOC. NW NE SEC. 32-17N-54W KB 4824
DF
COUNTY BANNER STATE NEBRASKA GL 4814

QUANTITATIVE ANALYSIS

Below are tabulated some average values of porosity and water saturation calculated from your logs on this well. Since all interpretations are opinions based on inferences from electrical or other measurements, we cannot, and do not, guarantee the accuracy or correctness of these values.

The pages from the Schlumberger Interpretation Chart Book which were used for these calculations are listed for your convenience.

ZONE	EFFECTIVE POROSITY Ø in %	WATER SATURATION S_w in %	PROBABLE PRODUCTION	PAGES USED (SWSC Chart Book)
5912 to 5928	24	80	WATER	C-4; C-12; D-2
6054 to 6067	21 AVG.	70	WATER	C-4; C-12; D-2
to				RW USED = .3