

WORKSHEET FOR ESTIMATING WATER QUALITY FROM ELECTRICAL WELL LOGS

Well No. & Location KUTZ J F-2 #2

Max. Recorded Temp. 120 °F

Bottom Logged Interval 4300 feet

Temp. Gradient in degrees F/Foot = (max. Rec. Temp - 60°F ÷ Bottom Logged Interval) = $\frac{60}{4300} = 0.014$

Sand between 3220 and 3320 Feet Depth
 $T_r = (\text{Temp. Gradient} \times \text{Depth of } F_m) + 60^\circ\text{F} = \underline{105}^\circ\text{F}$

Rmf at T_f (From chart Gen-9 Schlumberger) = 0.85

Rsfl (or equivalent) = 12 ohm-meters (From Log)

Rild (or equivalent) = 7 ohm-meters (From Log)

$$F = \frac{R_{sfl}}{R_{mf}} = \frac{12}{0.85} = 14$$
$$R_{wa} = \frac{R_{ld}}{F} = \frac{7}{14} = 0.5 \text{ ohm} - \text{max at } T_f^{105^\circ}$$

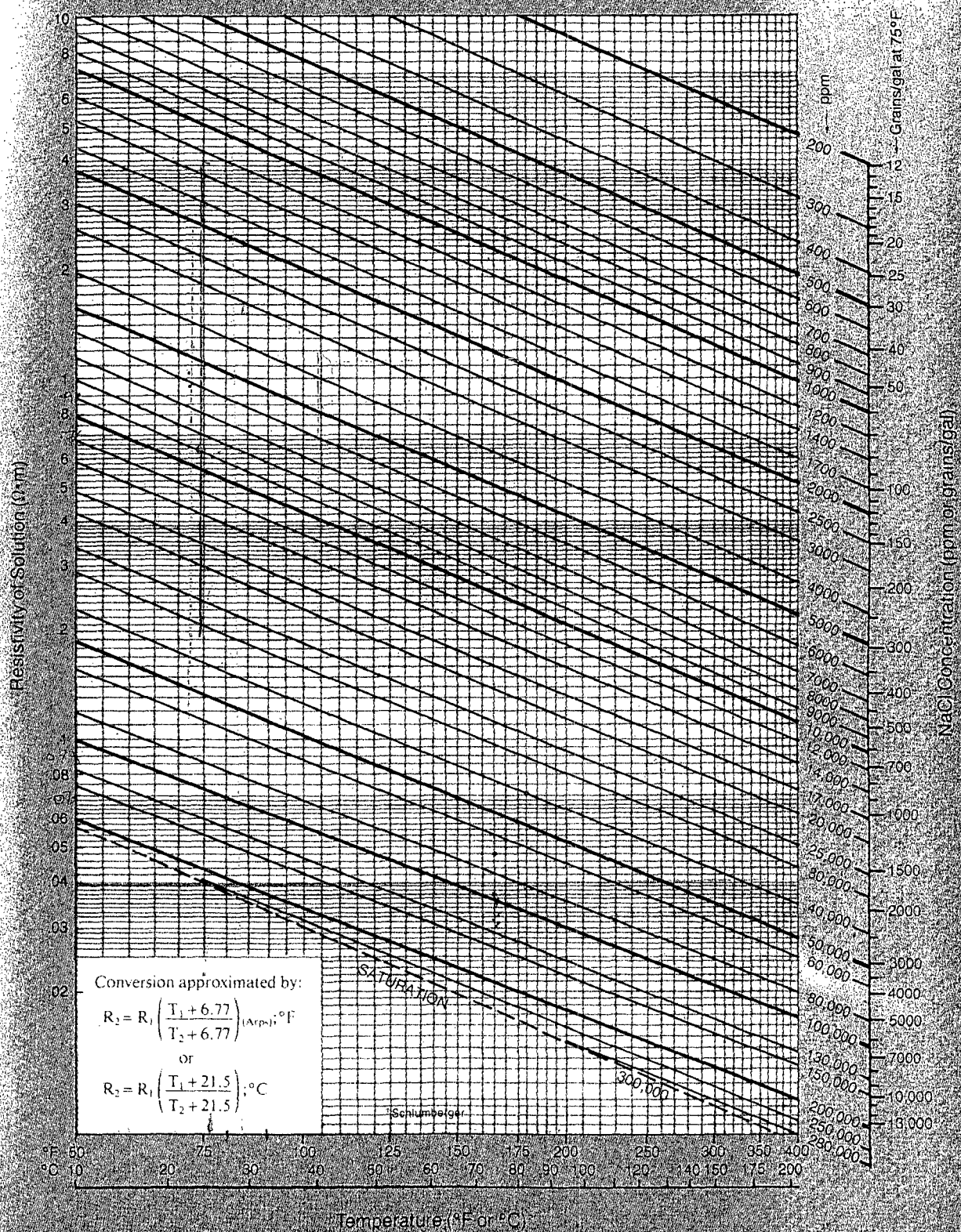
Convert R_{wa} @ T_f to R_{wa} @ 77°F (25°C) $R_{77} = R_{Tf} \left(\frac{T_f + 6.77}{77 + 6.77} \right)$; in $^\circ\text{F}$ (Arps Eqn.)

$$R_{wa} @ 77^{\circ}\text{F} (25^{\circ}\text{C}) = 0.67$$

Use chart or equation to relate Rwa to TDS 900

(If TDS is less than 5000, continue to lower sand)

Resistivity of NaCl Solutions



Schlumberger

Platform Express
Array Induction PrintPlatform Express
Array Induction PrintNEW MEXICO
BL. CENS. INV.
ECT. 3Field: Blanco Mesaverte
Location: 2375 FNL & 1448 FWL
Well: Kutz Federal BWD #1
Company: XTO Energy Inc.LOCATION
2375 FNL & 1448 FWL
Platform Datum: GROUND LEVEL
Log Measured From: Kelly Bushing
Datum Measured From: Kelly Bushing
AW Serial No. 210000000
Section 8
Township 27N
Range 10WLogging Date
Run 1
Run 2
Run 3
Run 4

DEPTH SUMMARY LISTING

Data Created: 28-MAY-2008 8:25:25

Depth System Equipment

Depth Measuring Device	Tension Device	Logging Cable
Type: IDW-B Serial Number: 1972 Calibration Date: Calibrator Serial Number: 1 Calibration Cable Type: 7-39P LXS Wheel Correction 1: 0 Wheel Correction 2: -1	Type: CMTD-B/A Serial Number: 1656 Calibration Date: 24-May-08 Calibrator Serial Number: 1096 Calibration Gain: 0.90 Calibration Offset: 756.00	Type: 7-39P LXS Serial Number: 707083 Length: 16800 FT Conveyance Method: Wireline Rig Type: LAND

Depth Control Parameters

Log Sequence:	First Log In the Well
Rig Up Length At Surface:	120.00 FT
Rig Up Length At Bottom:	120.00 FT
Rig Up Length Correction:	0.00 FT
Stretch Correction:	4.00 FT
Tool Zero Check At Surface:	0.10 FT

Depth Control Remarks

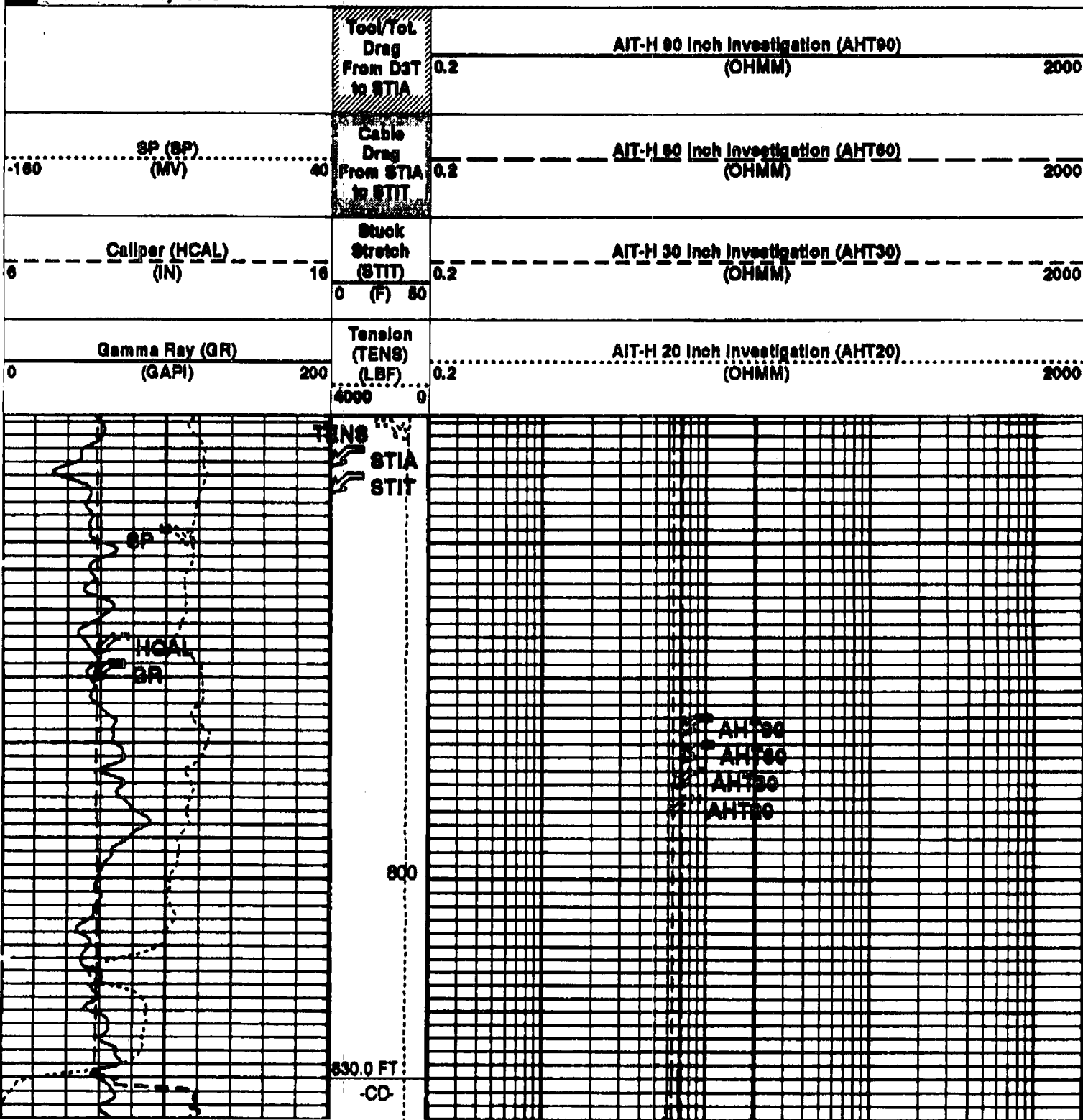
- Schlumberger depth control policy was followed.
- IDW used as primary depth reference.
-
-
-
-

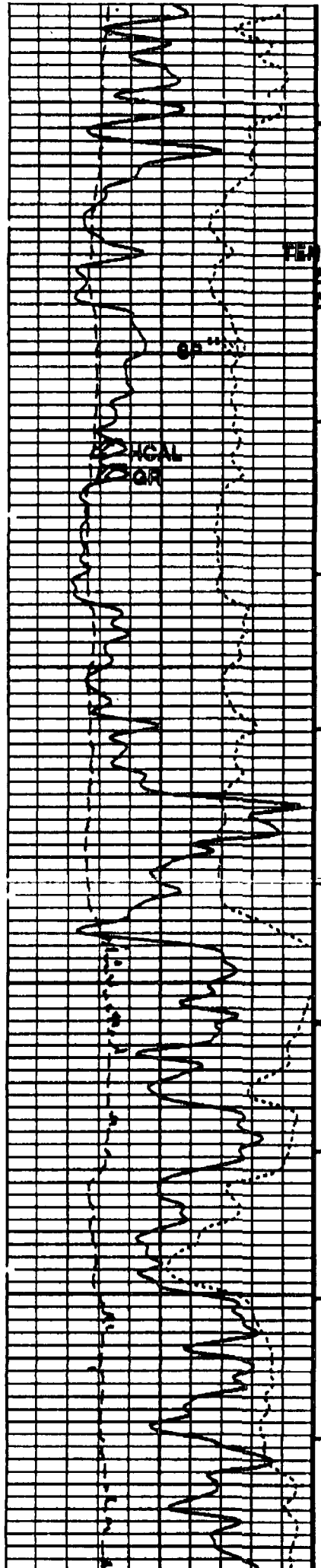
DISCLAIMER

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OTHER SERVICES1	OTHER SERVICES2
OS1: density	OS1:
OS2: neutron	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
Thank you for choosing Schlumberger.	
Toolstring run as per toolstring.	
Cement volume computed assuming FCG of 7 inches.	
Log processed on a sandstone matrix with a density of 2.65 g/cc.	
Standoff correction used for neutron measurement.	

Time Mark Every 60 S



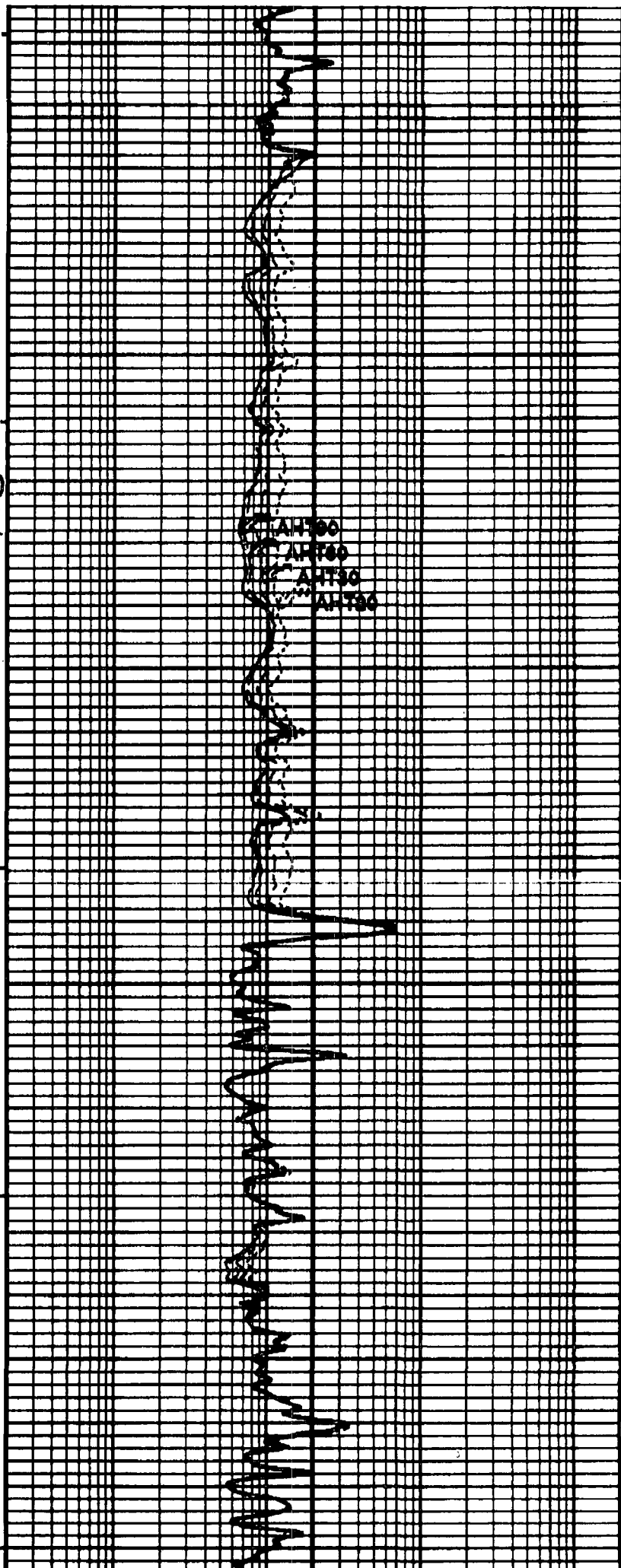


3800

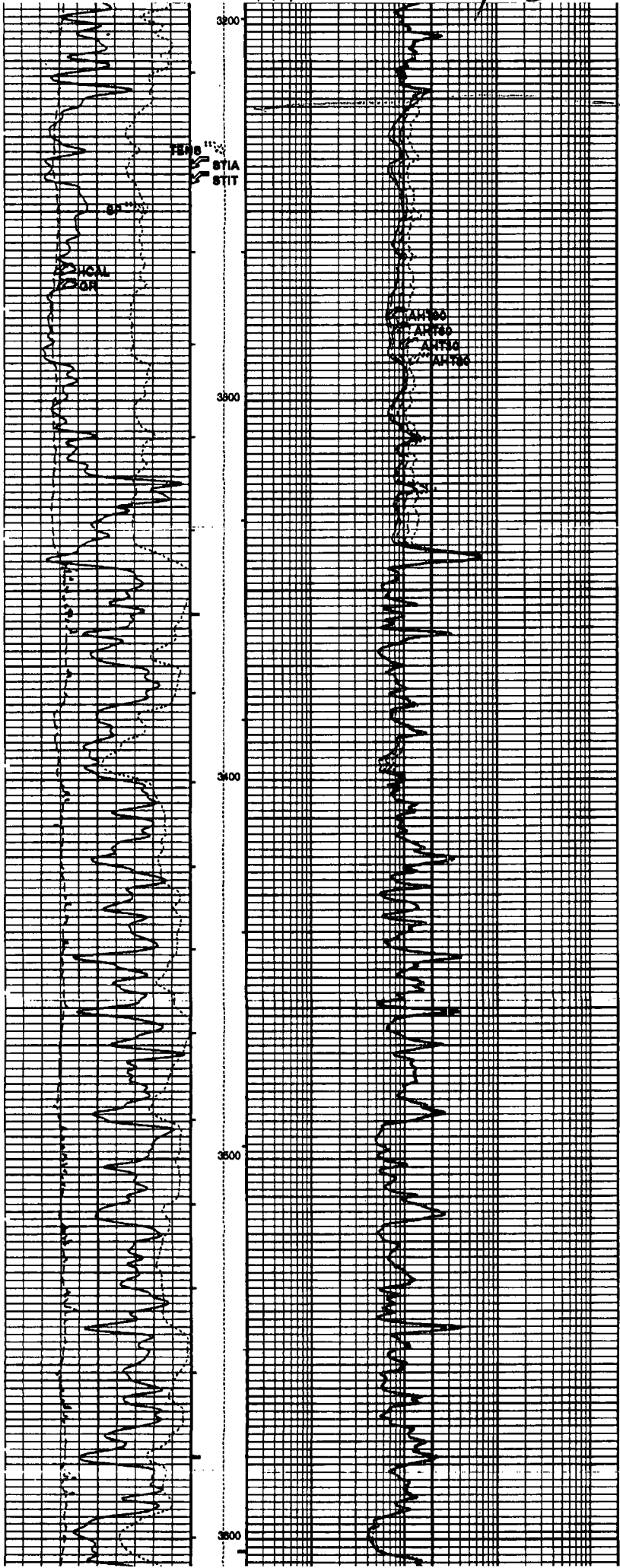
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751

3800

3800



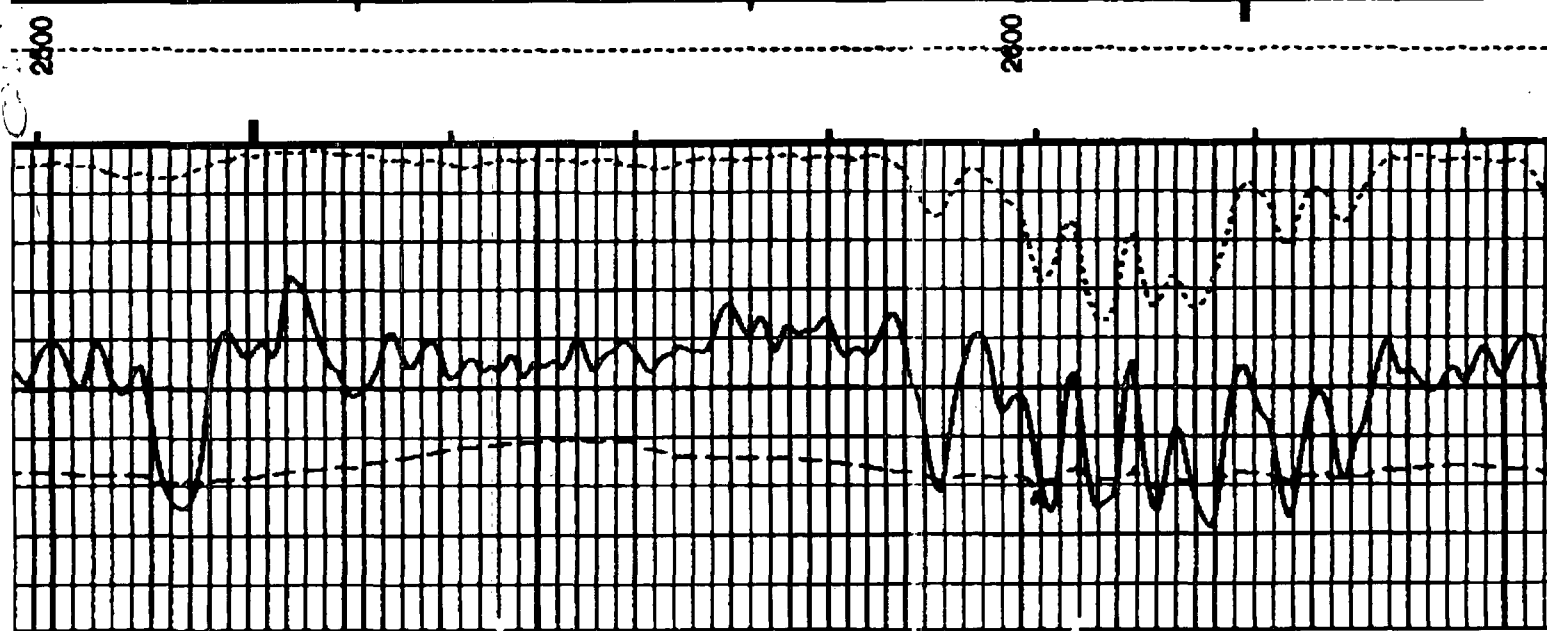
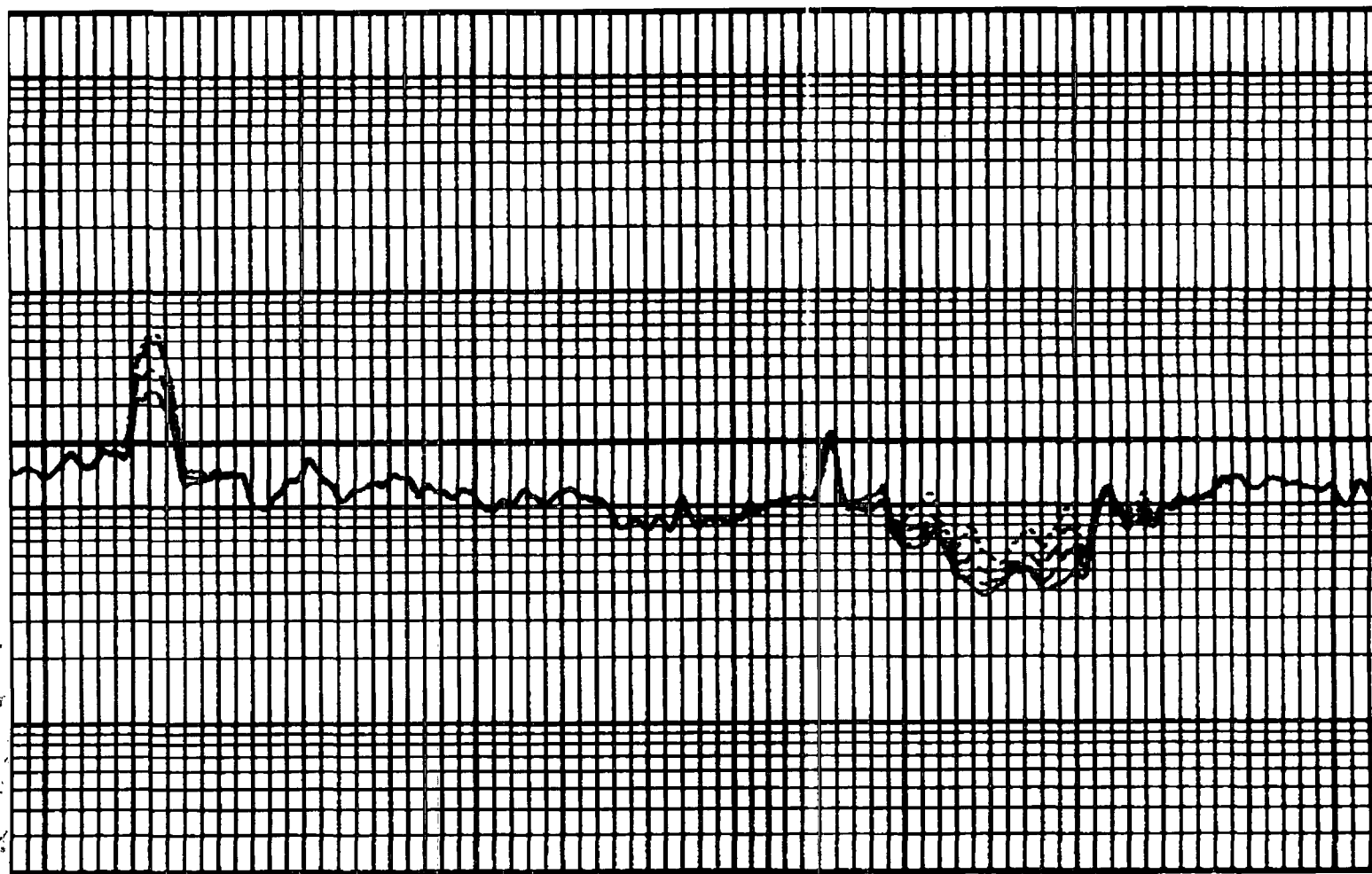
CLIFF HOUSE @ 3403' 3200'



~~perfect top~~

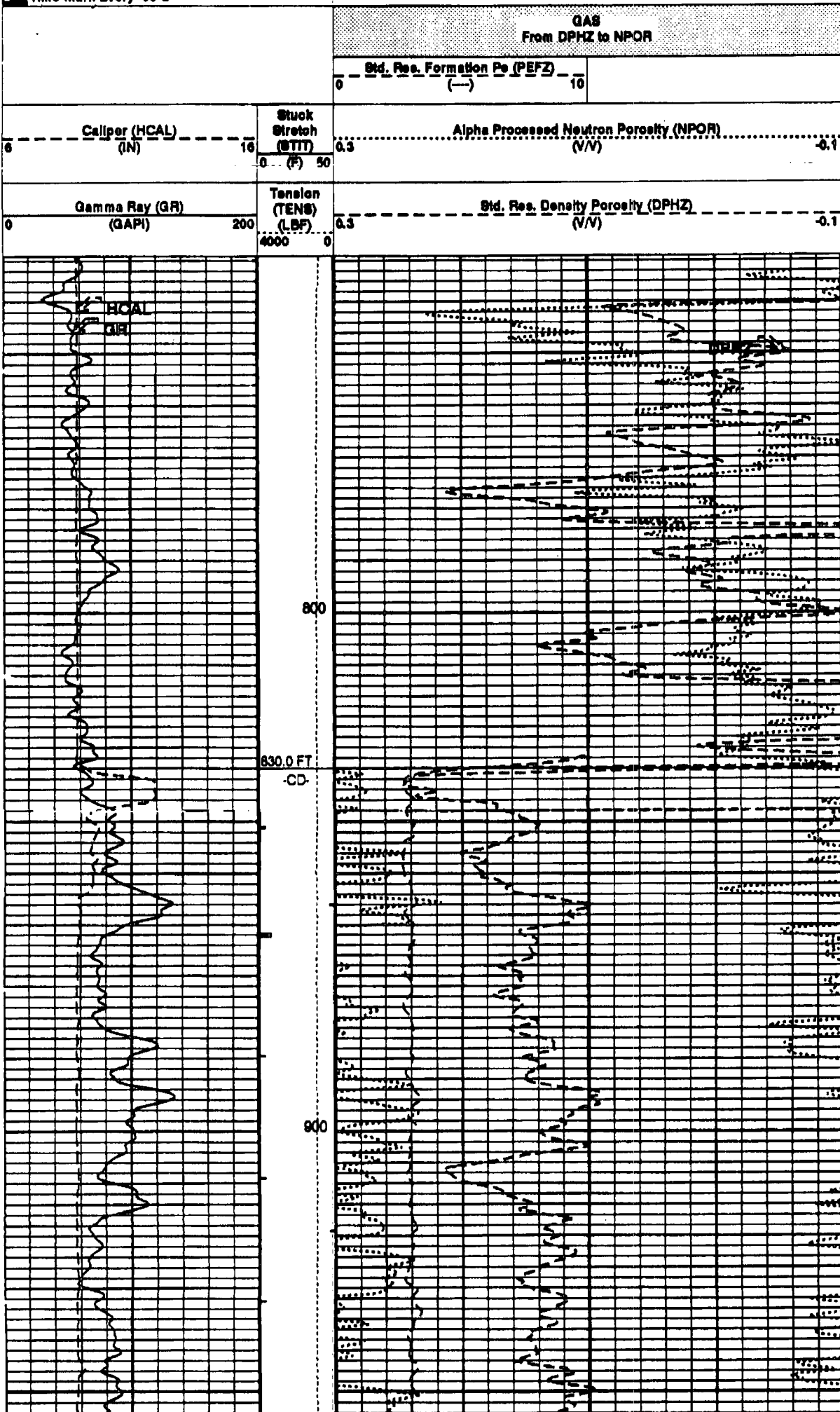
3830 = mangae

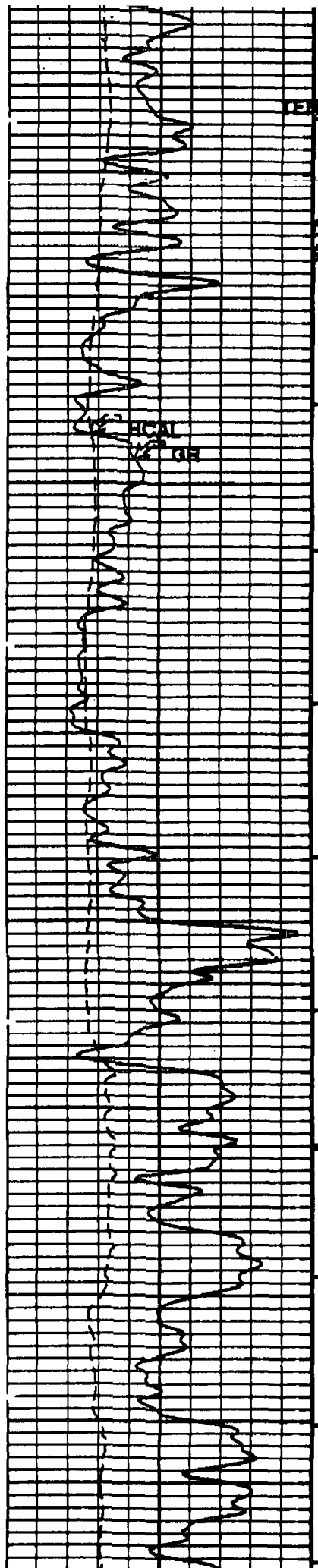
PL0 @ 3973' TOP



Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S





TESS

3200

3300

3400

