

SWD 1097-A

WORKSHEET FOR ESTIMATING WATER QUALITY FROM
ELECTRICAL WELL LOGS

From Log Header:

Well No. & Location KUTZT Fe2 #2

Rmf 1.32 at 72 °F

Max. Recorded Temp. 120 °F

Bottom Logged Interval 4300 feet

Temp. Gradient in degrees F/foot = (max. Rec. Temp - 60°F ÷ Bottom Logged Interval)
= 60 / 4300 = 0.014

XX

Sand between 3220 and 3820 Feet Depth (CLIFF HOUSE)
 $T_r = (\text{Temp. Gradient} \times \text{Depth of } F_m) + 60^\circ\text{F} = \underline{105}^\circ\text{F}$

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

R_{sfl} (or equivalent) = 12 ohm-meters (From Log)

R_{ild} (or equivalent) = 7 ohm-meters (From Log)

$F = \frac{R_{sfl}}{R_{mf}} = \frac{12}{0.85} = \underline{14}$

$R_{wa} = \frac{R_{ild}}{F} = \frac{7}{14} = \underline{0.5}$ ohm - m at T_r ^{105°}

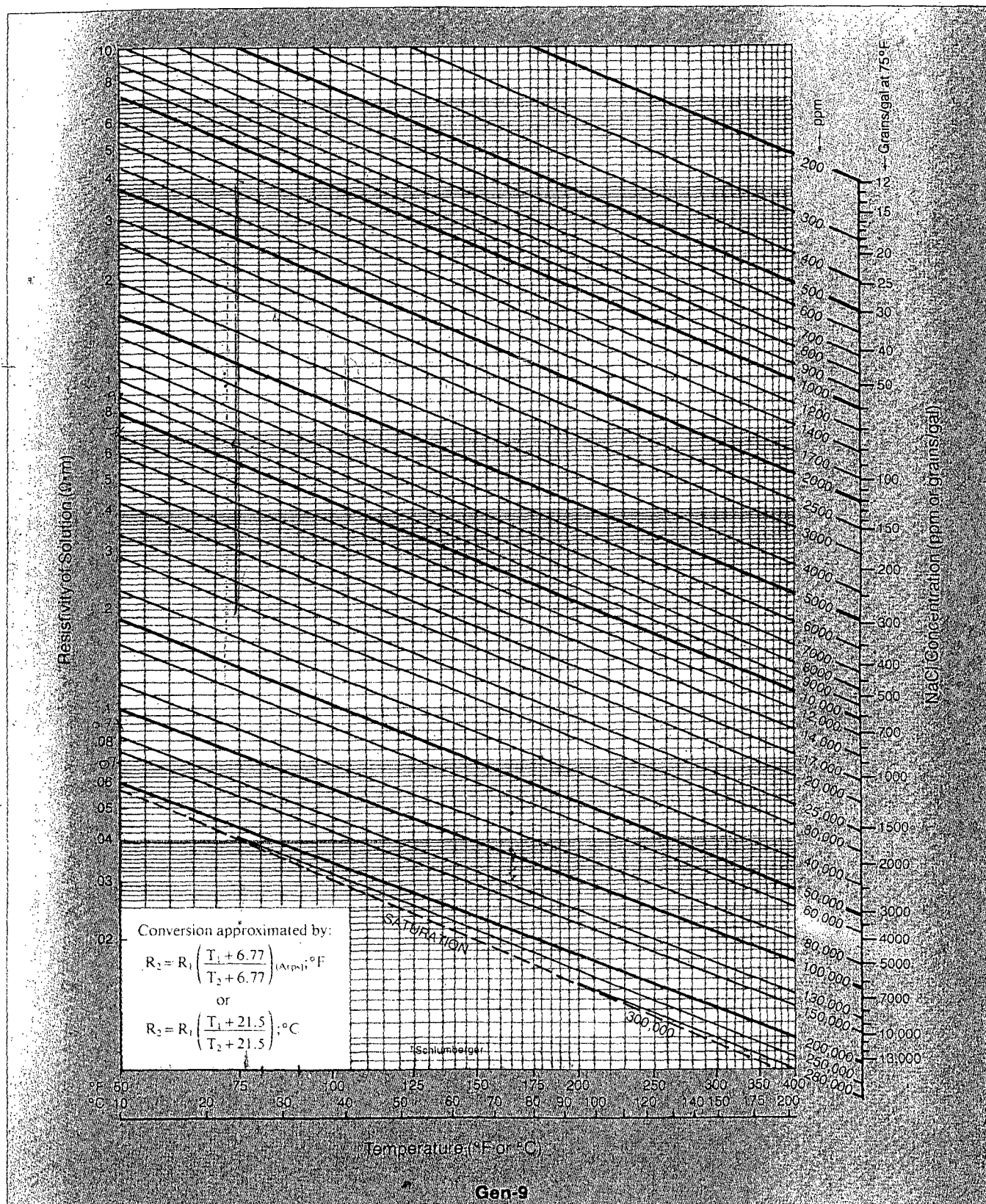
Convert R_{wa} @ T_r to R_{wa} @ 77°F (25°C) $R_{77} = R_{T_r} \left(\frac{T_r + 6.77}{77 + 6.77} \right)$; in °F (Arps Eqn.)
(105 + 6.77)

R_{wa} @ 77°F (25°C) = 0.67

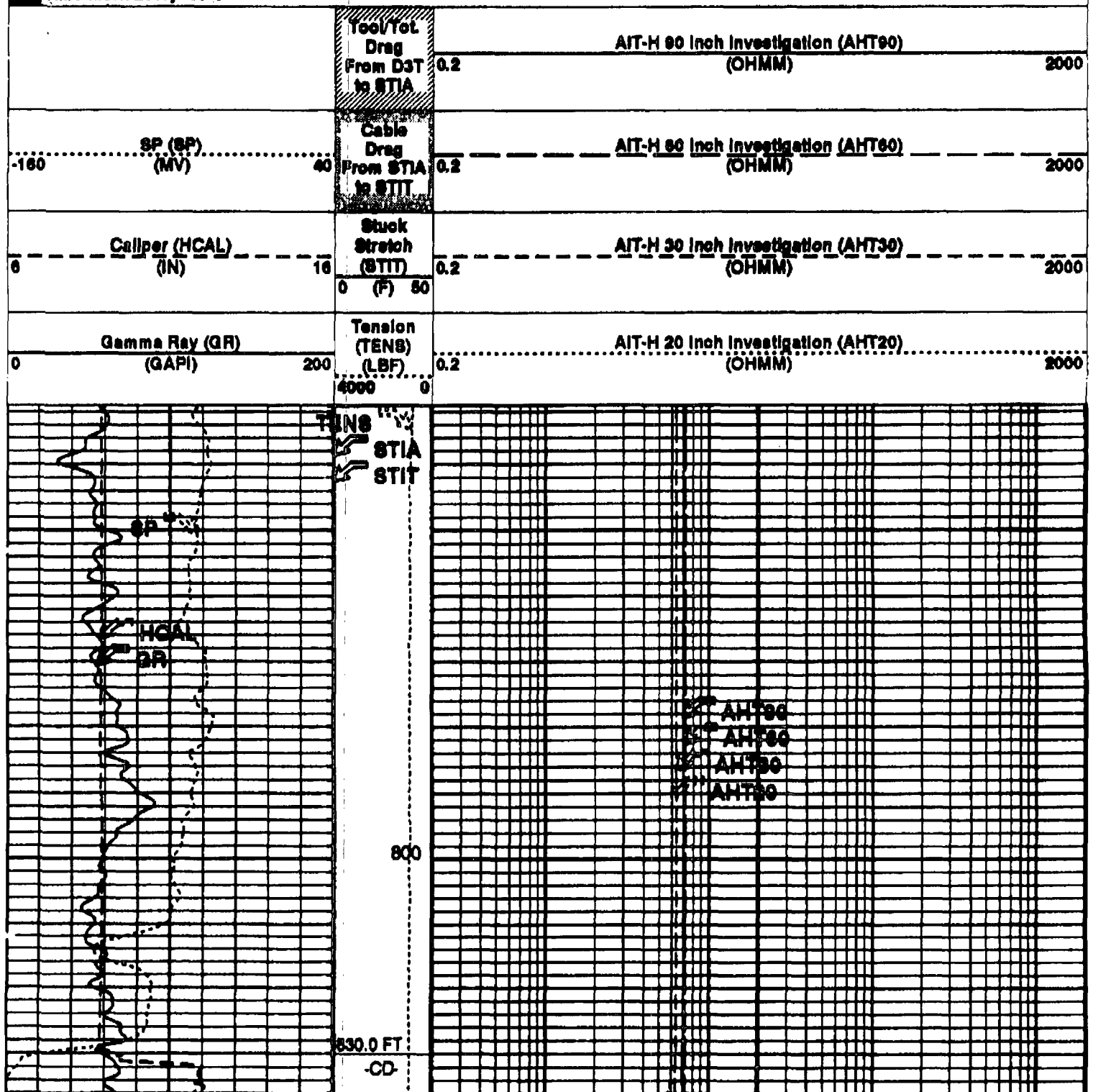
Use chart or equation to relate R_{wa} to TDS 9000

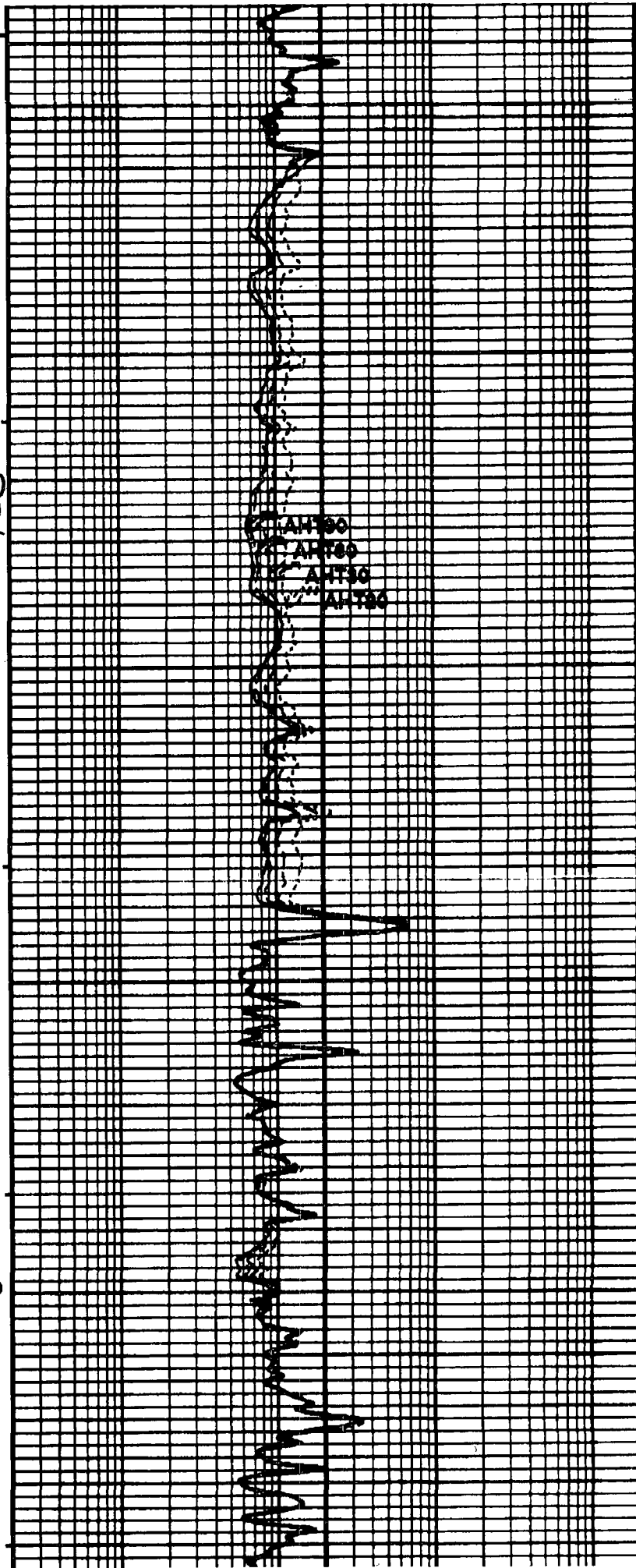
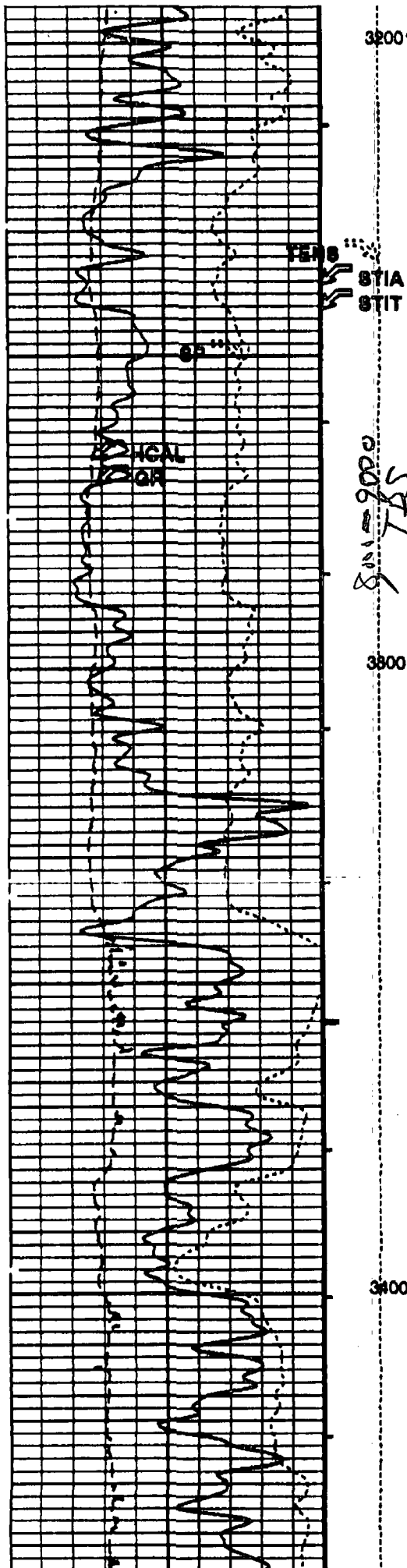
(If TDS is less than 5000, continue to lower sand)

Resistivity of NaCl Solutions

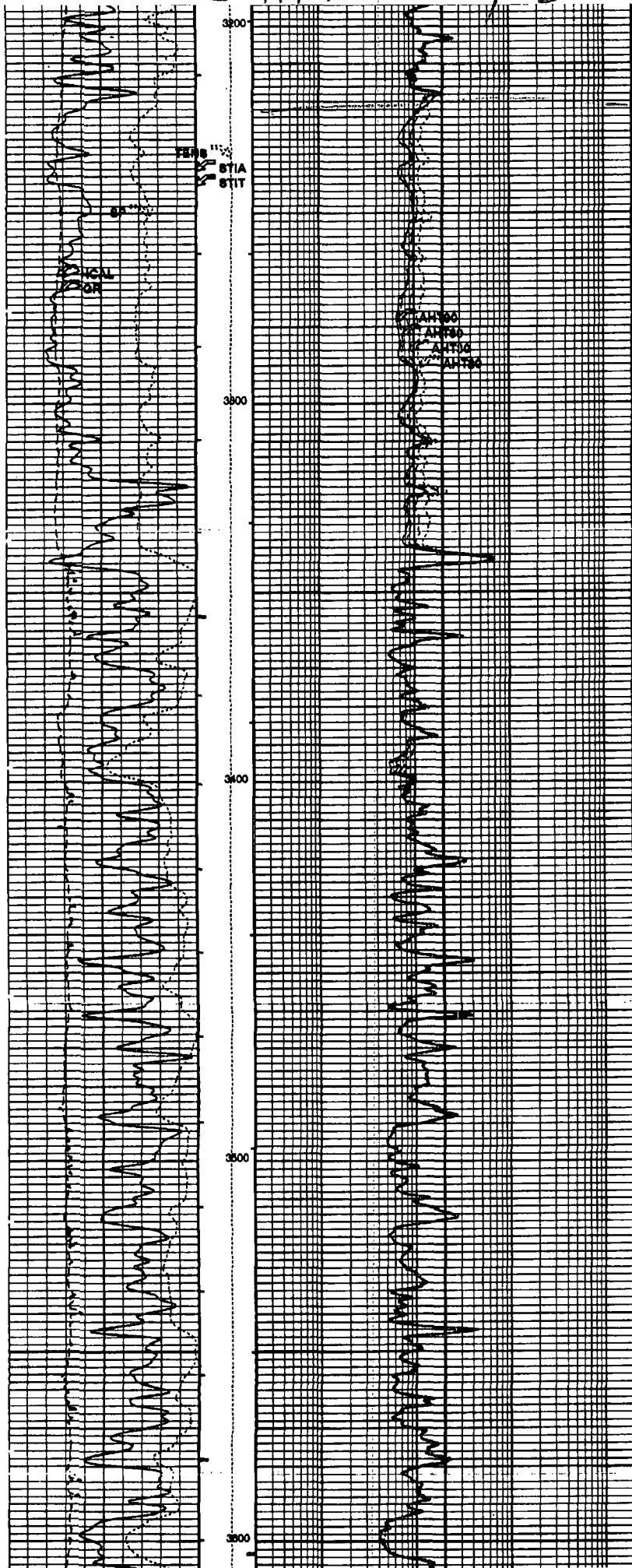


Time Mark Every 60 S





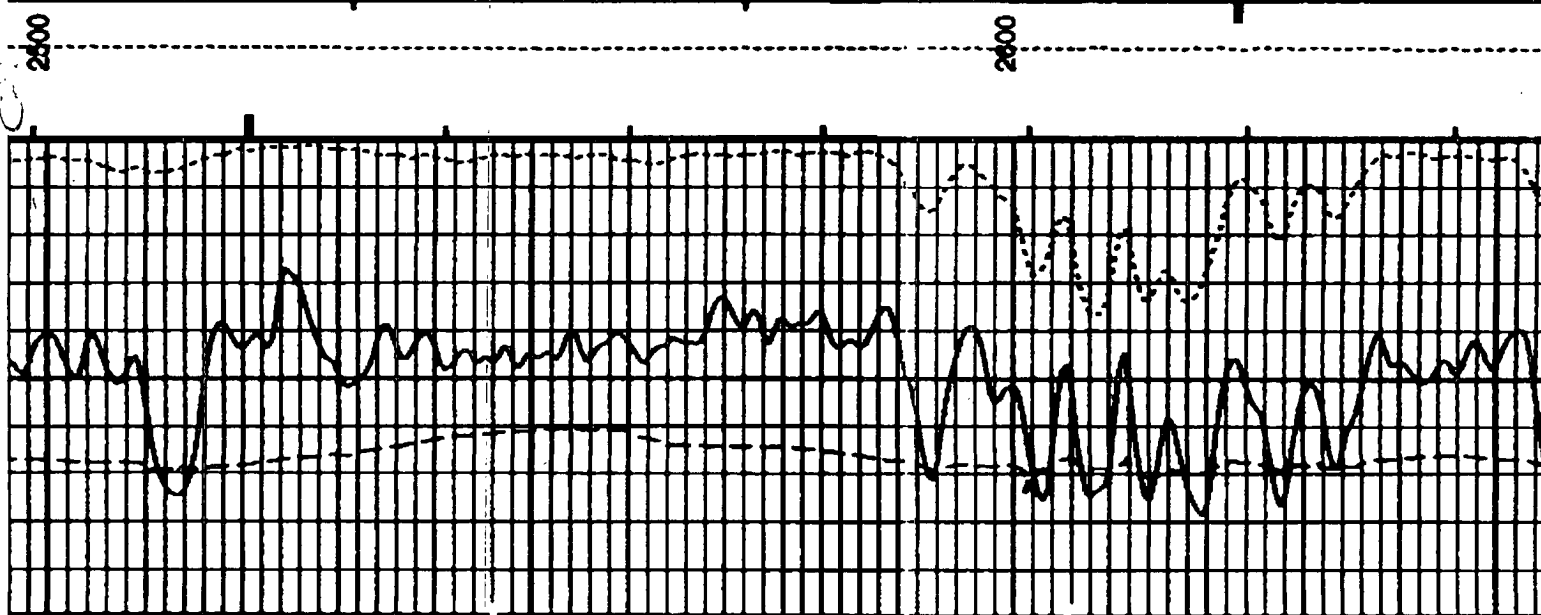
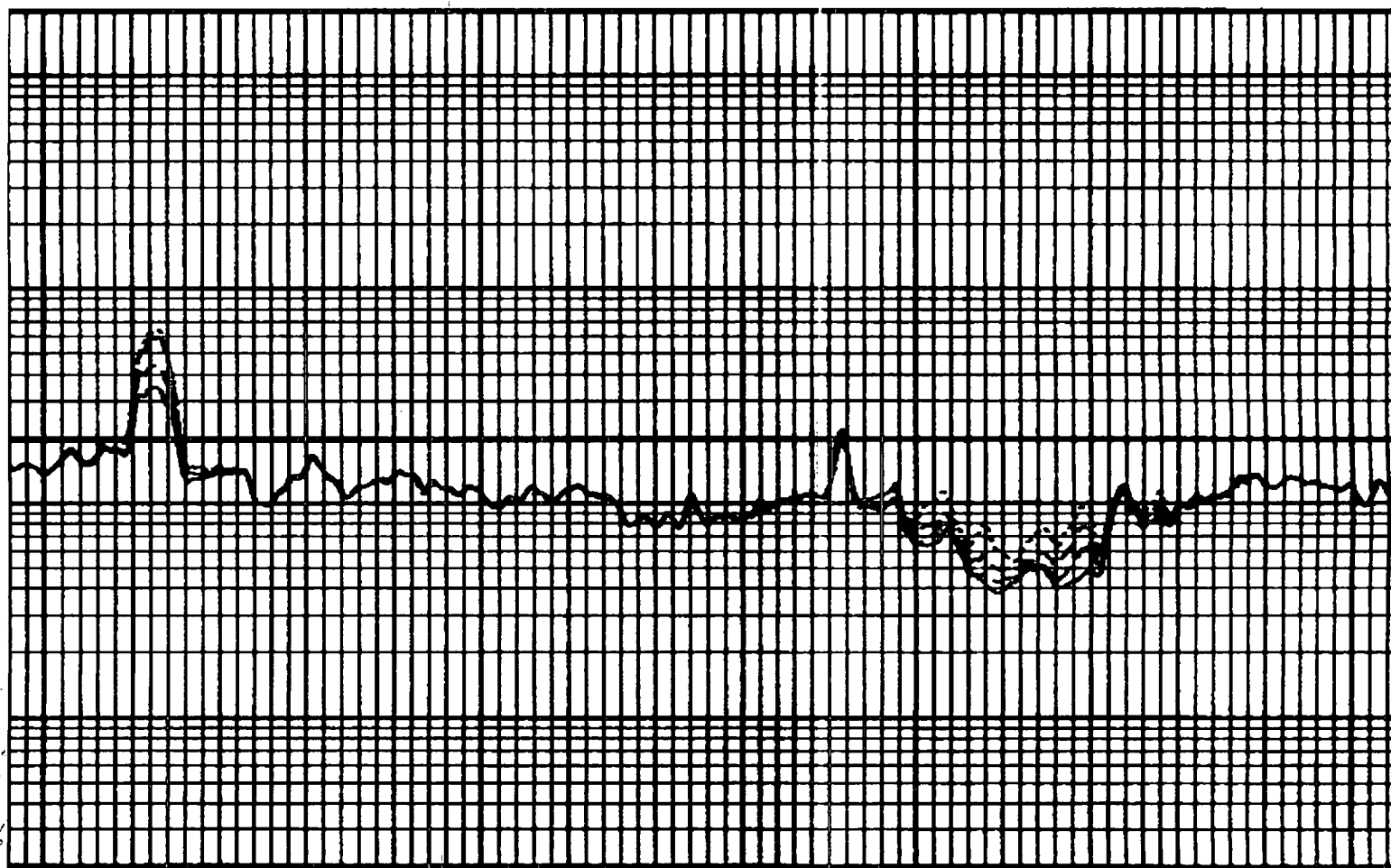
CLIFF HOUSE @ 3103+ 3200'



~~manufac top~~

3830 = manufac

PL0 @ 3973' TOP



Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 80 S

