



Pioneer Energy Services

Dual Induction Log

15-147-20,703-00-00

Company Bach Oil Production
Well Tharman Unit No. 1
Field Starvation Creek
County Phillips **State** Kansas
Location NE NW/ NW NE
 280' FNL & 400' FWL
Sec: 9 **Twp:** 2 S **Rge:** 19 W

Other Services
 CNL/CDL
 MEL

Permanent Datum Ground Level Elevation 2258
Log Measured From Kelly Bushing 5 Ft. Above Perm. Datum
Drilling Measured From Kelly Bushing

Elevation
 K.B. 2263
 D.F. 2258
 G.L. 2258

Date	2/26/2013
Run Number	One
Depth Driller	3725
Depth Logger	3728
Bottom Logged Interval	3727
Top Log Interval	200
Casing Driller	8.625 @ 248
Casing Logger	248
Bit Size	7.875
Type Fluid in Hole	Chemical
Salinity, ppm CL	500
Density / Viscosity	9.0 50
pH / Fluid Loss	11.0 5.6
Source of Sample	Flowline
Rm @ Meas. Temp	1.20 @ 43
Rmf @ Meas. Temp	.90 @ 43
Rmc @ Meas. Temp	1.62 @ 43
Source of Rmf / Rmc	Charts
Rm @ BHT	.46 @ 113
Operating Rig Time	3 1/2 Hours
Max Rec. Temp. F	113
Equipment Number	15
Location	Hays
Recorded By	D. Martin
Witnessed By	Bob Petersen

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

Thank you for using Log-Tech, Inc.
 (785) 625-3858

 Phillipsburg, KS
 8 N to Hunter Rd., 7 W, S Into

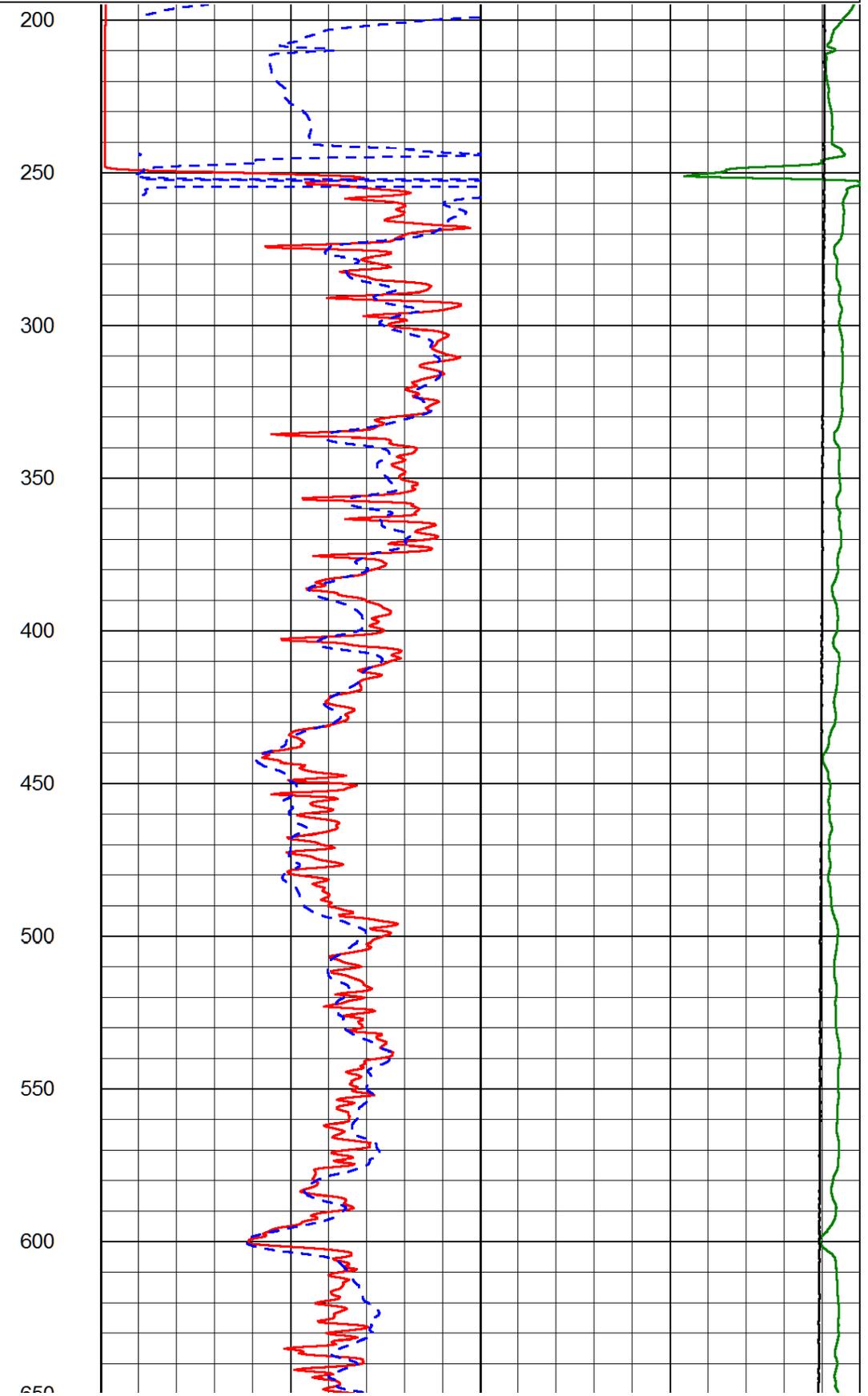
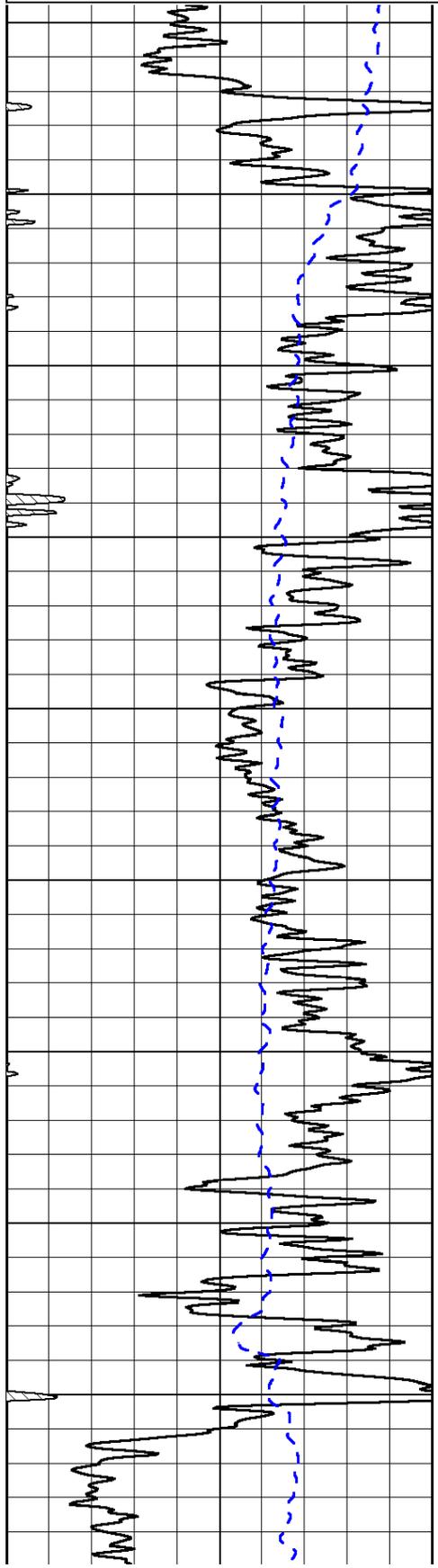
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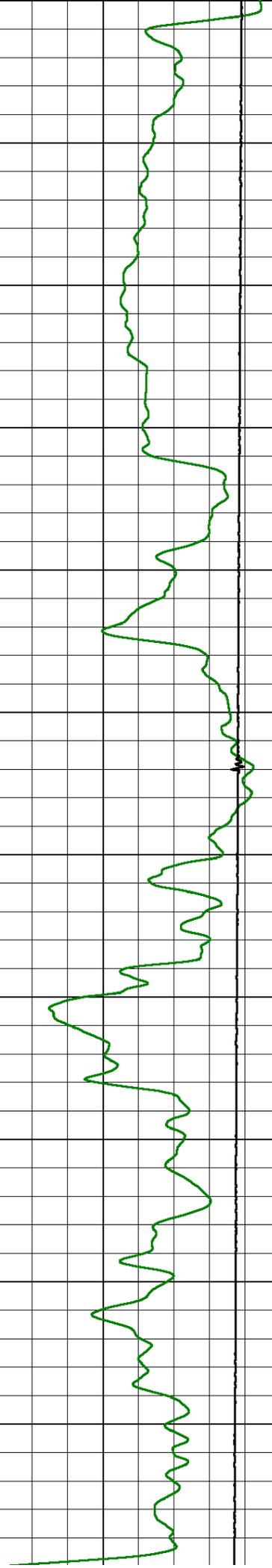
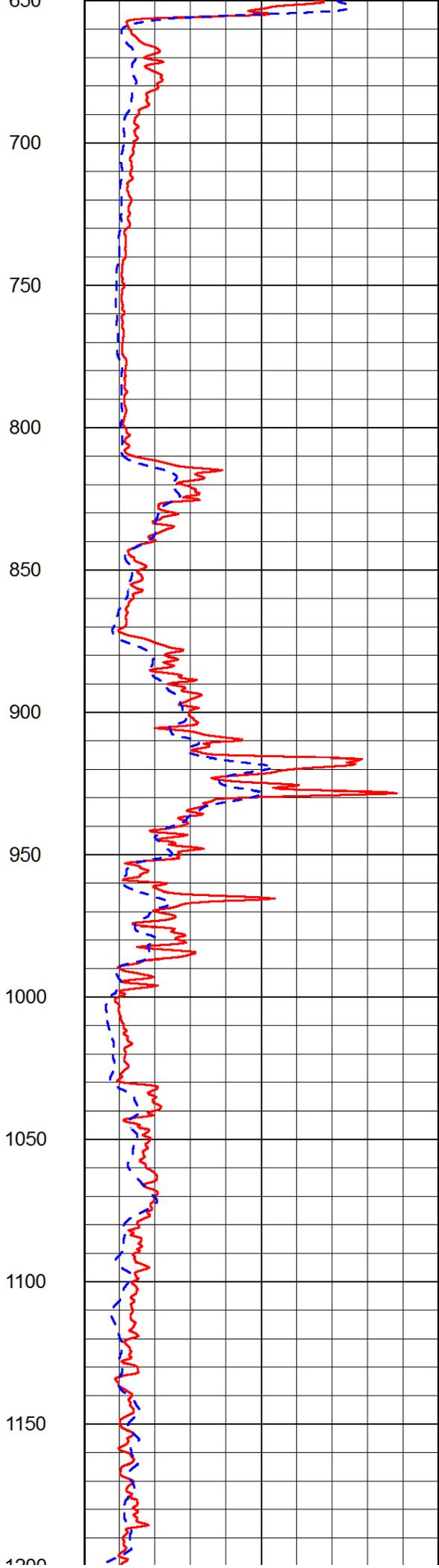
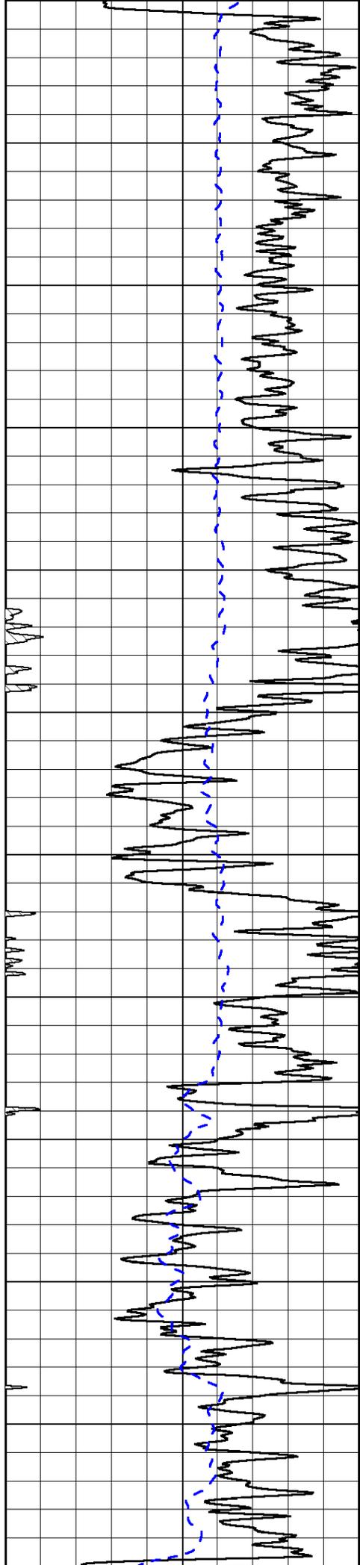
0	Gamma Ray (GAPI)	150
-200	SP (mV)	0

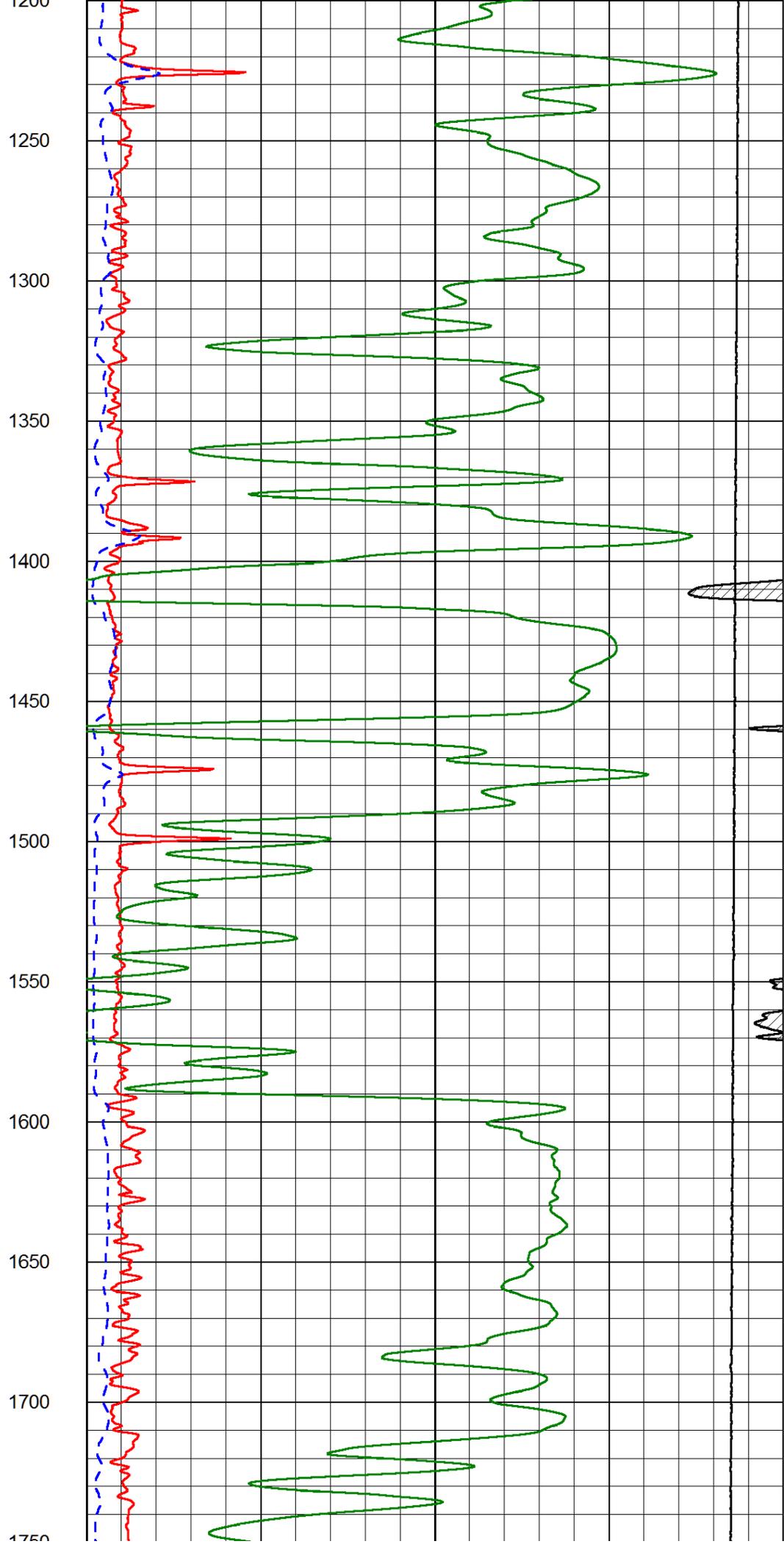
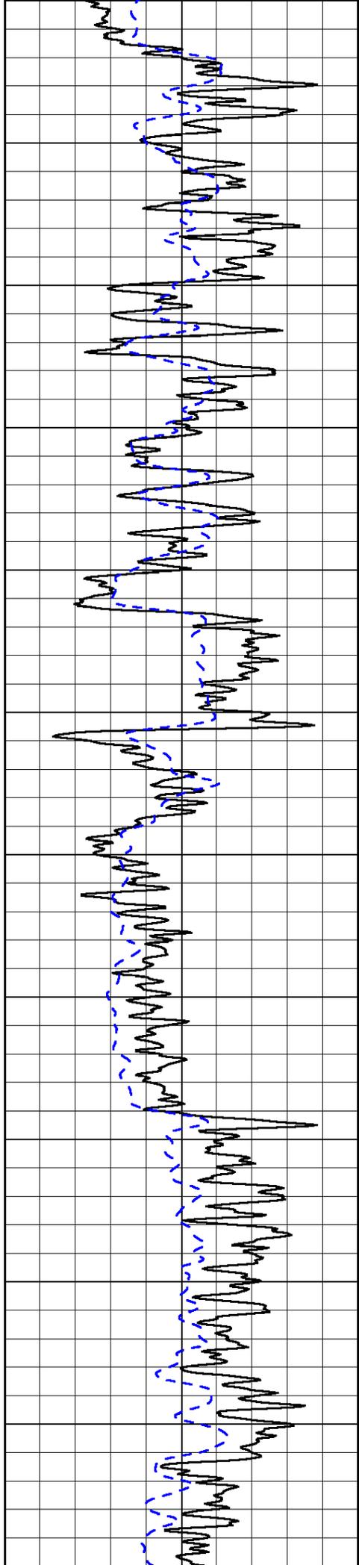
0	Shallow Resistivity (Ohm-m)	50
0	Deep Resistivity (Ohm-m)	50

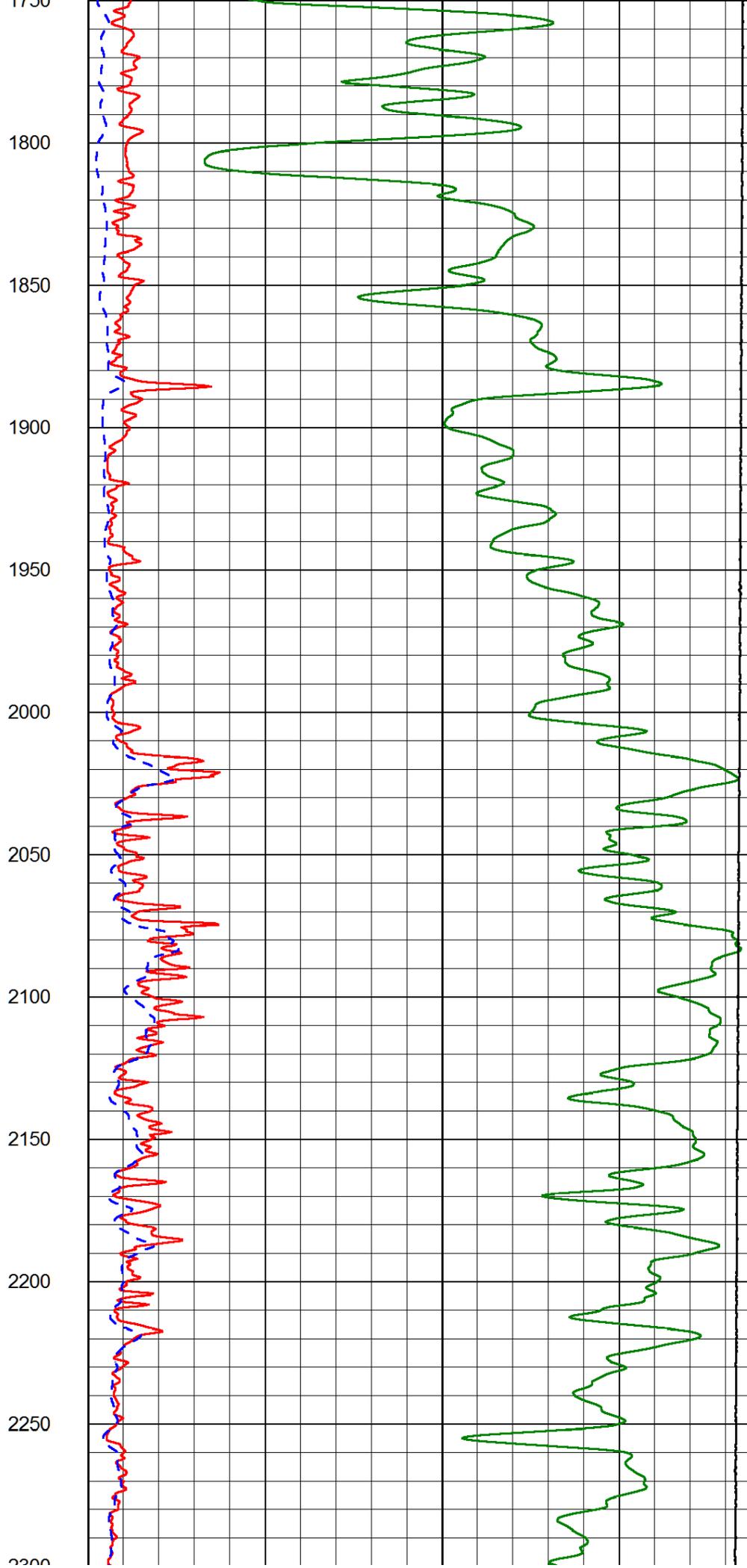
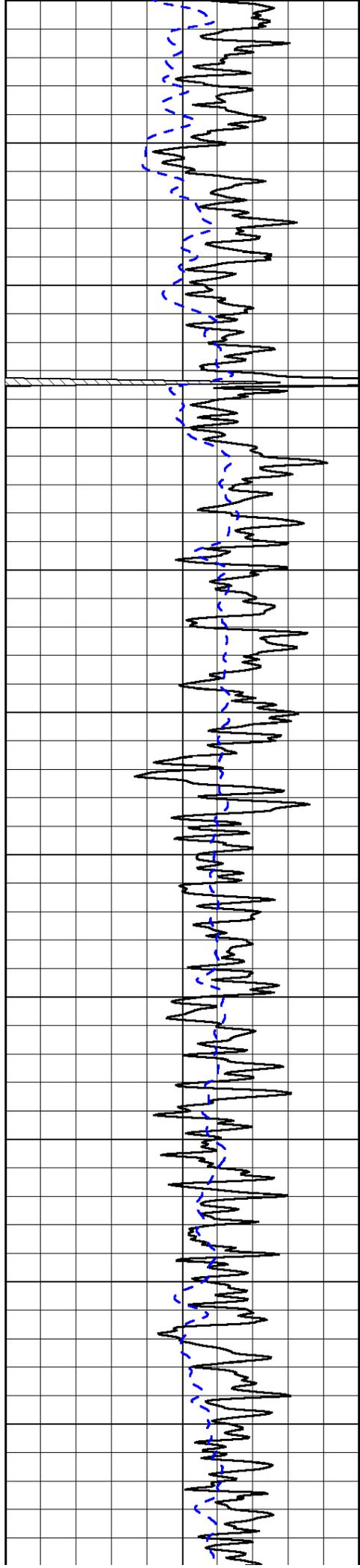
1000	Conductivity (Ohm-m)	0
15000	Line Tension (lb)	0

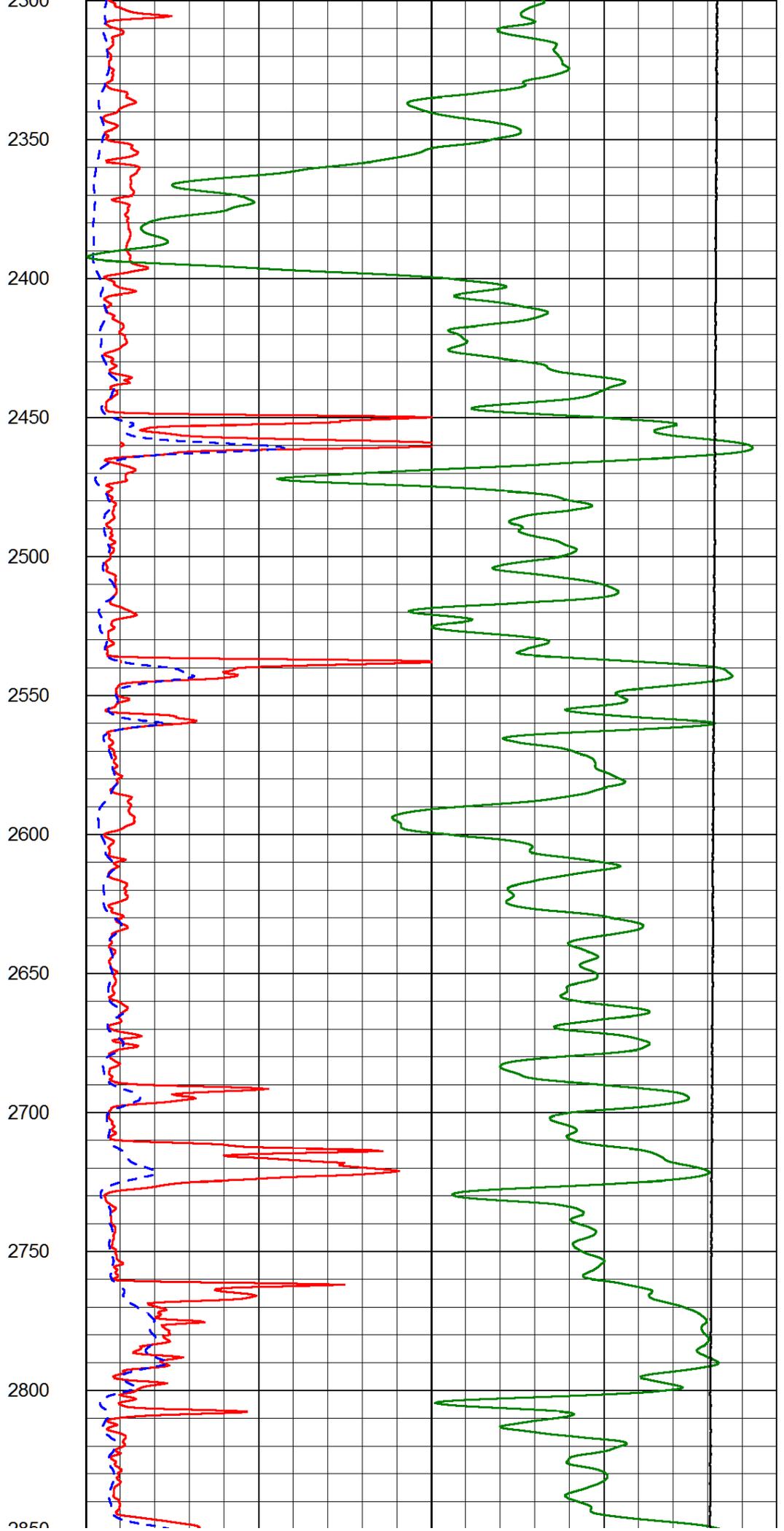
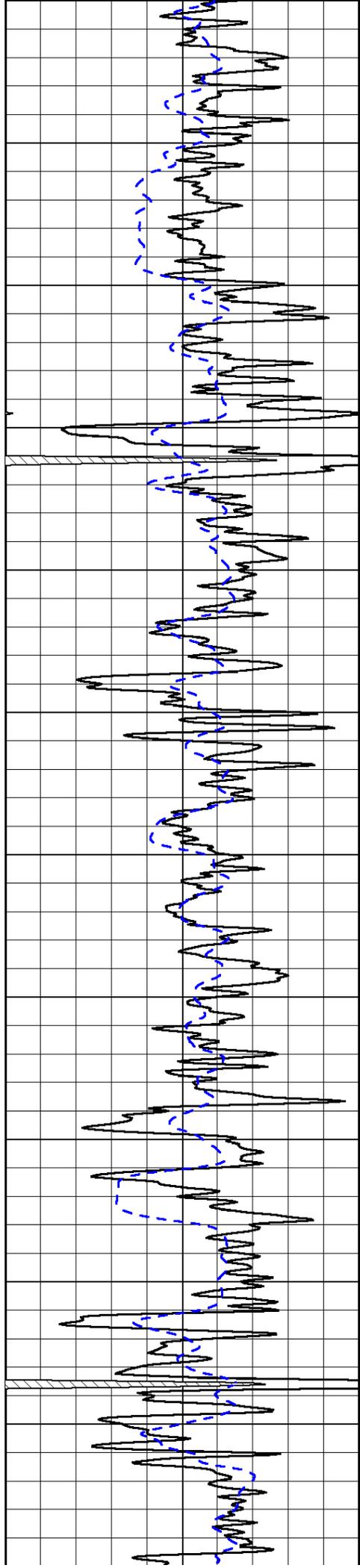
Shallow Resistivity		
50	(Ohm-m)	500
50	Deep Resistivity (Ohm-m)	500

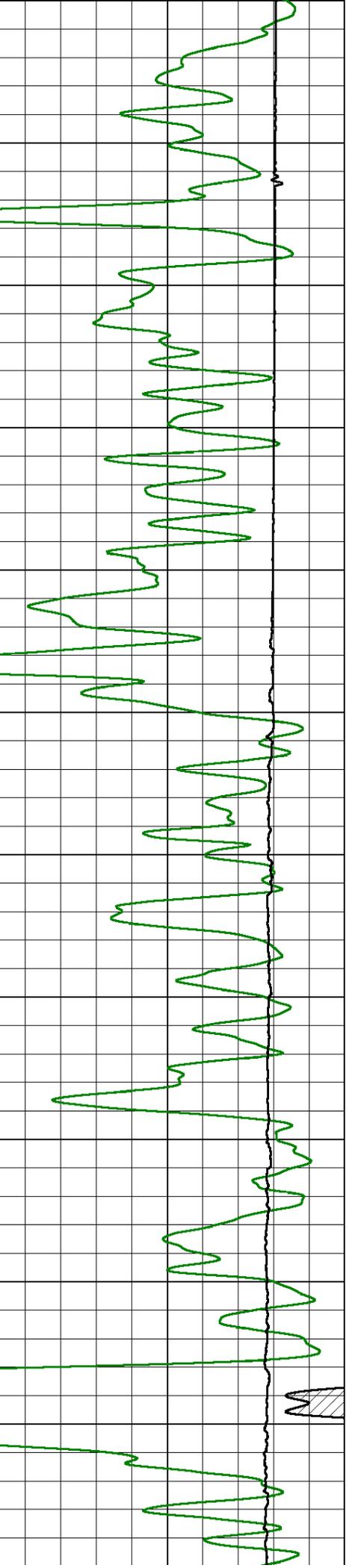
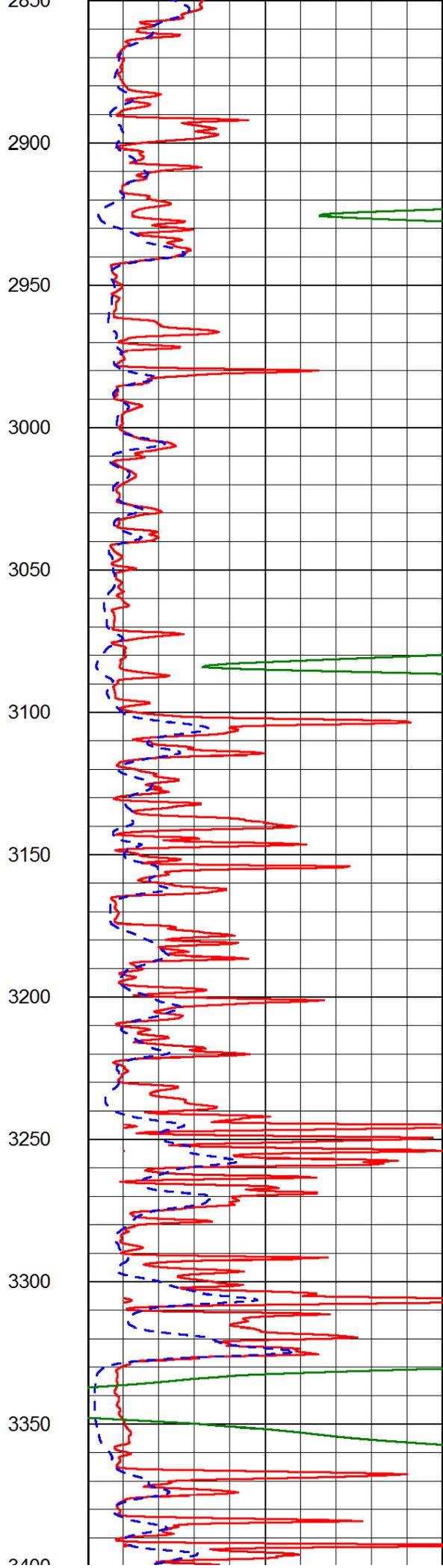
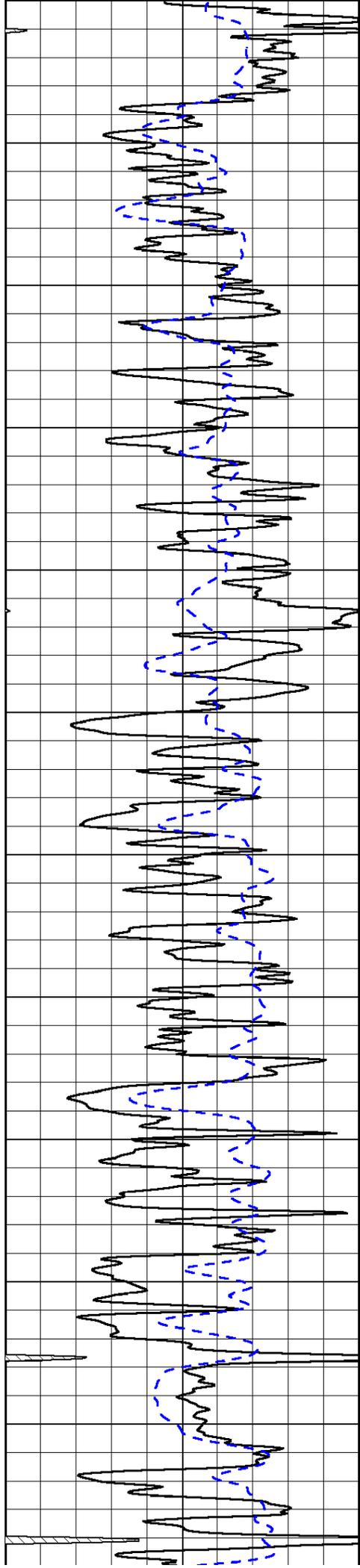


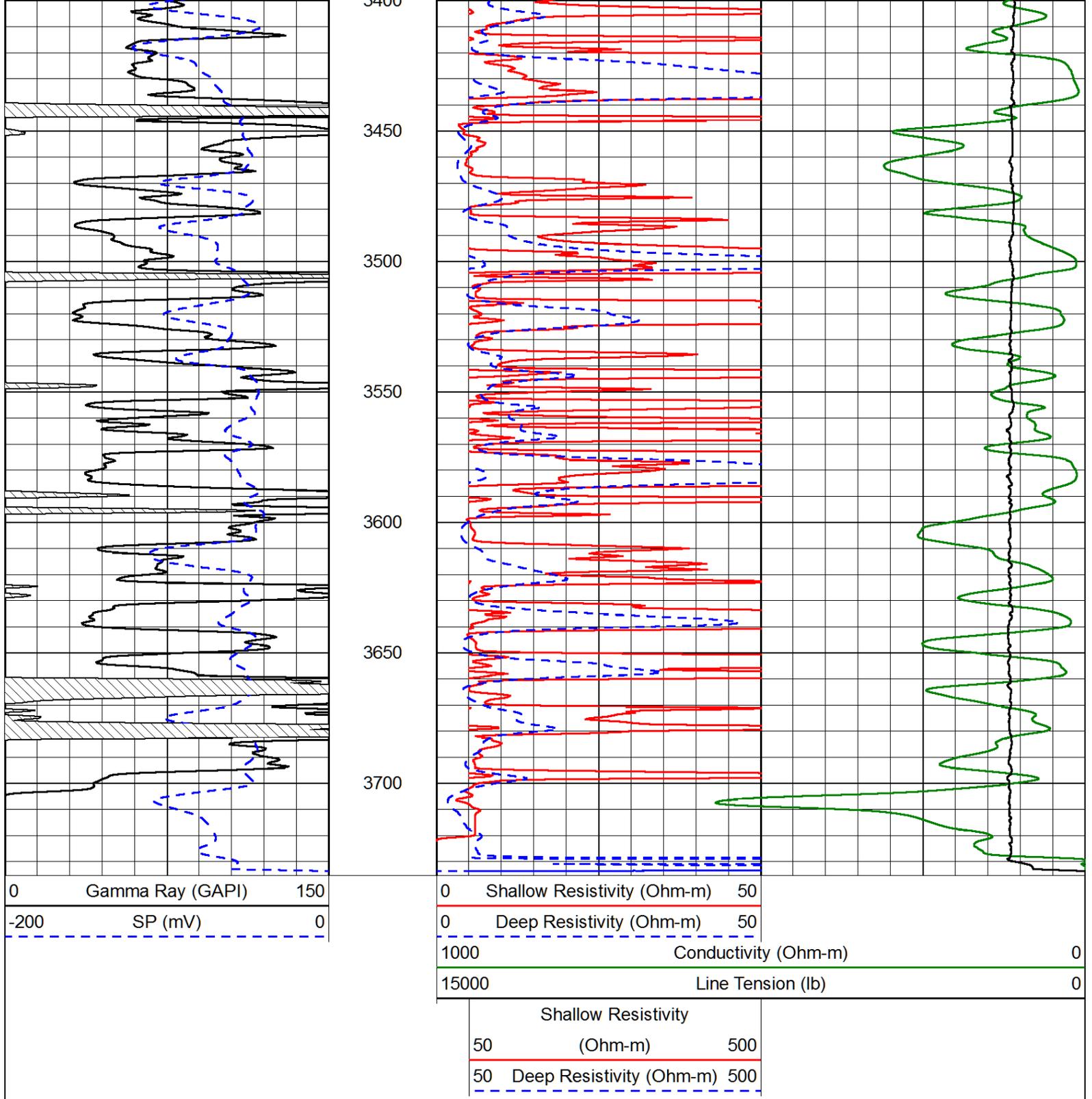




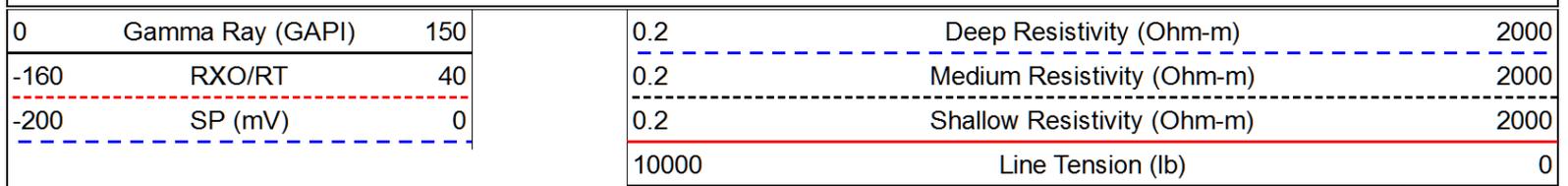




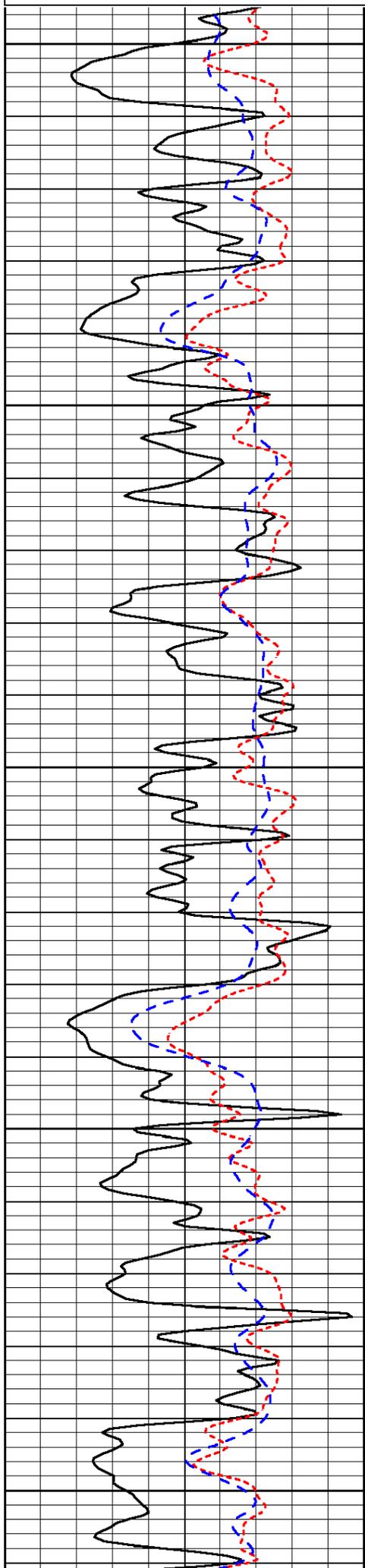




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LSPD (ft/min)



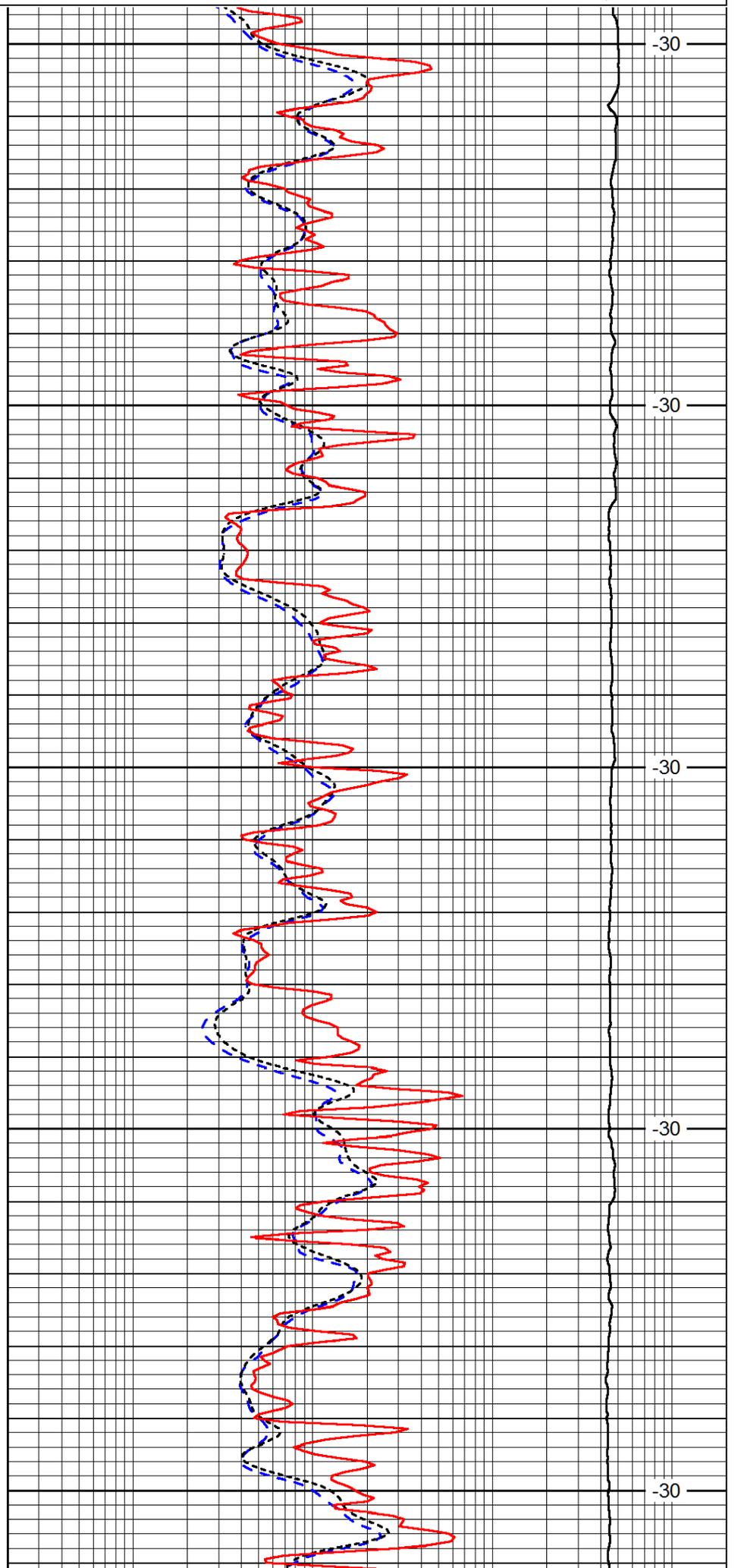
3100

3150

3200

3250

3300



-30

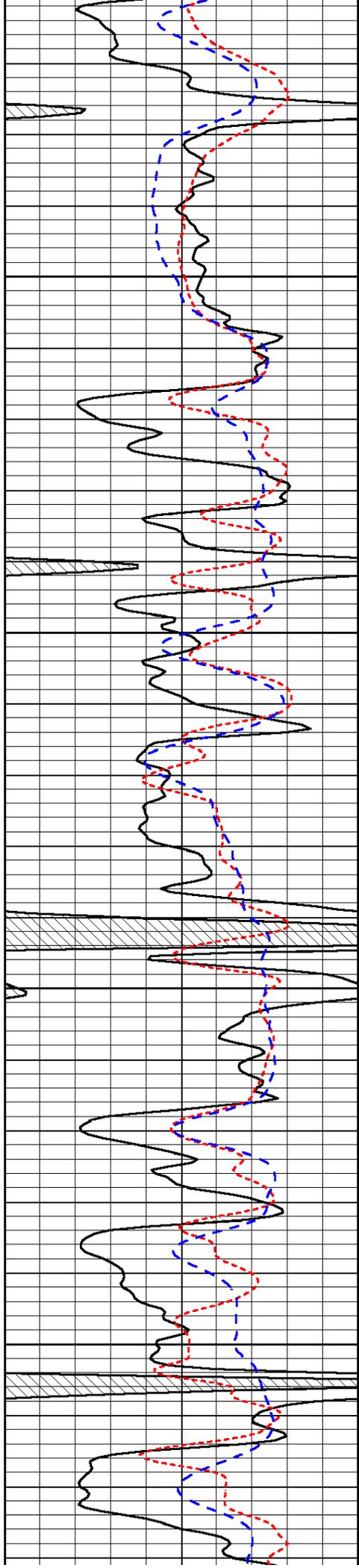
-30

-30

-30

-30

(10mm)

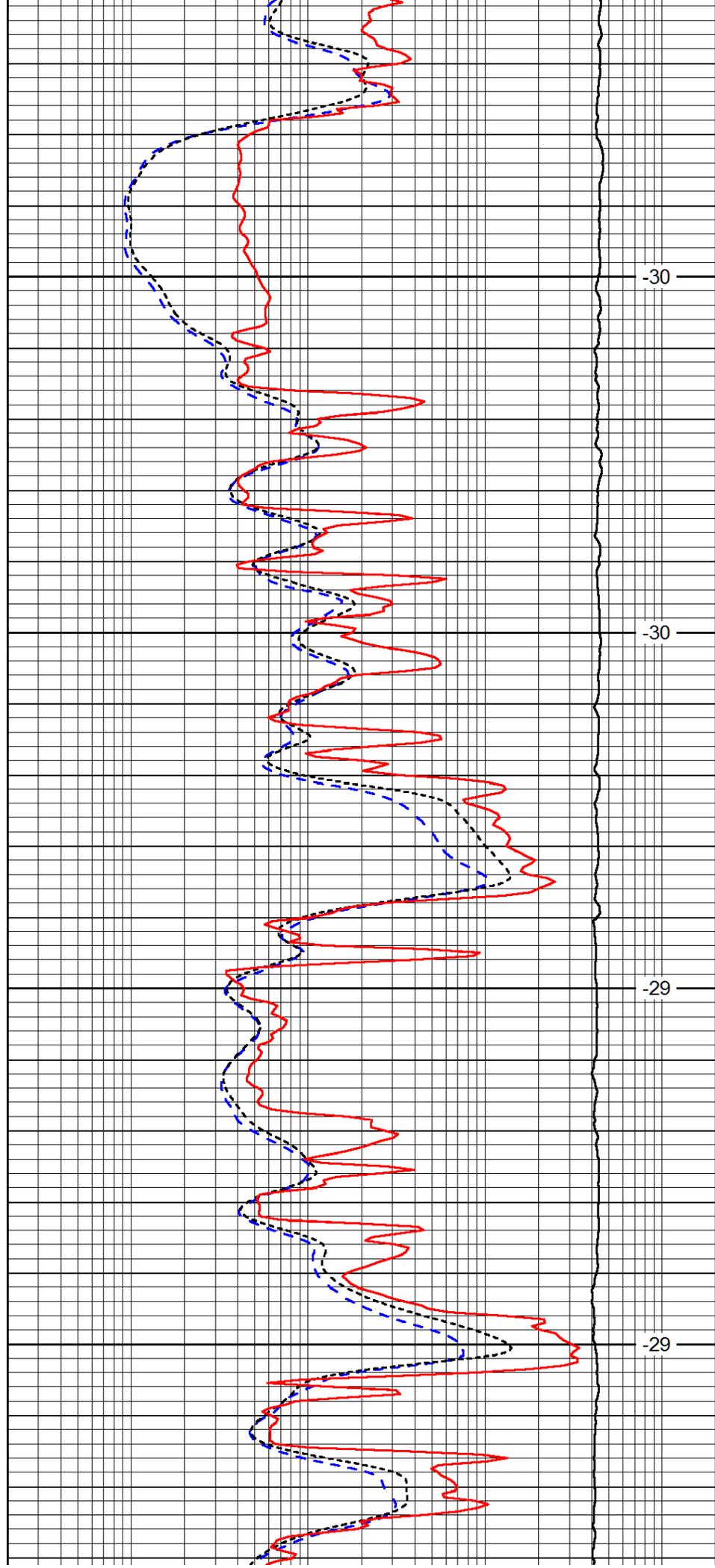


3350

3400

3450

3500

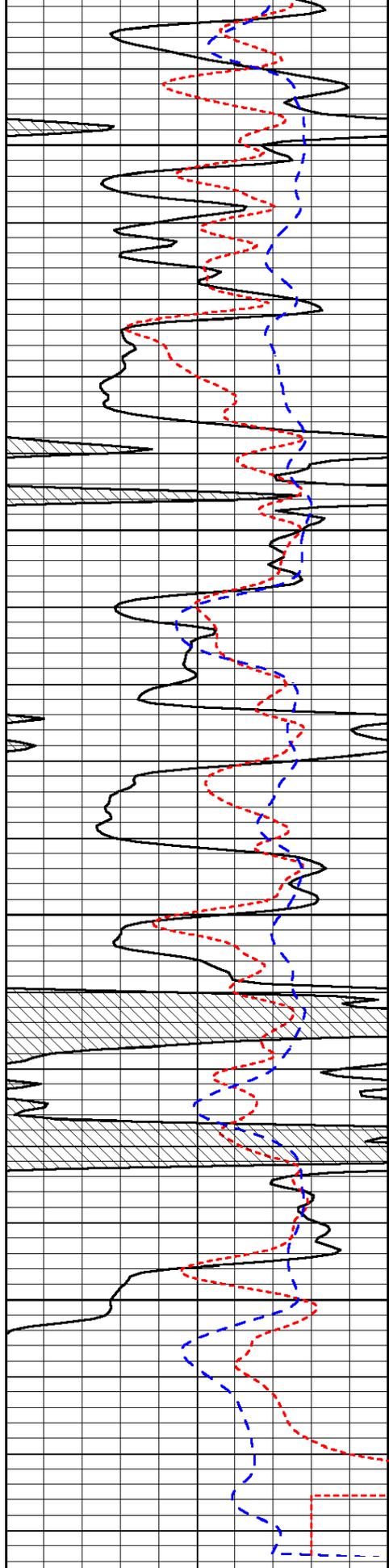


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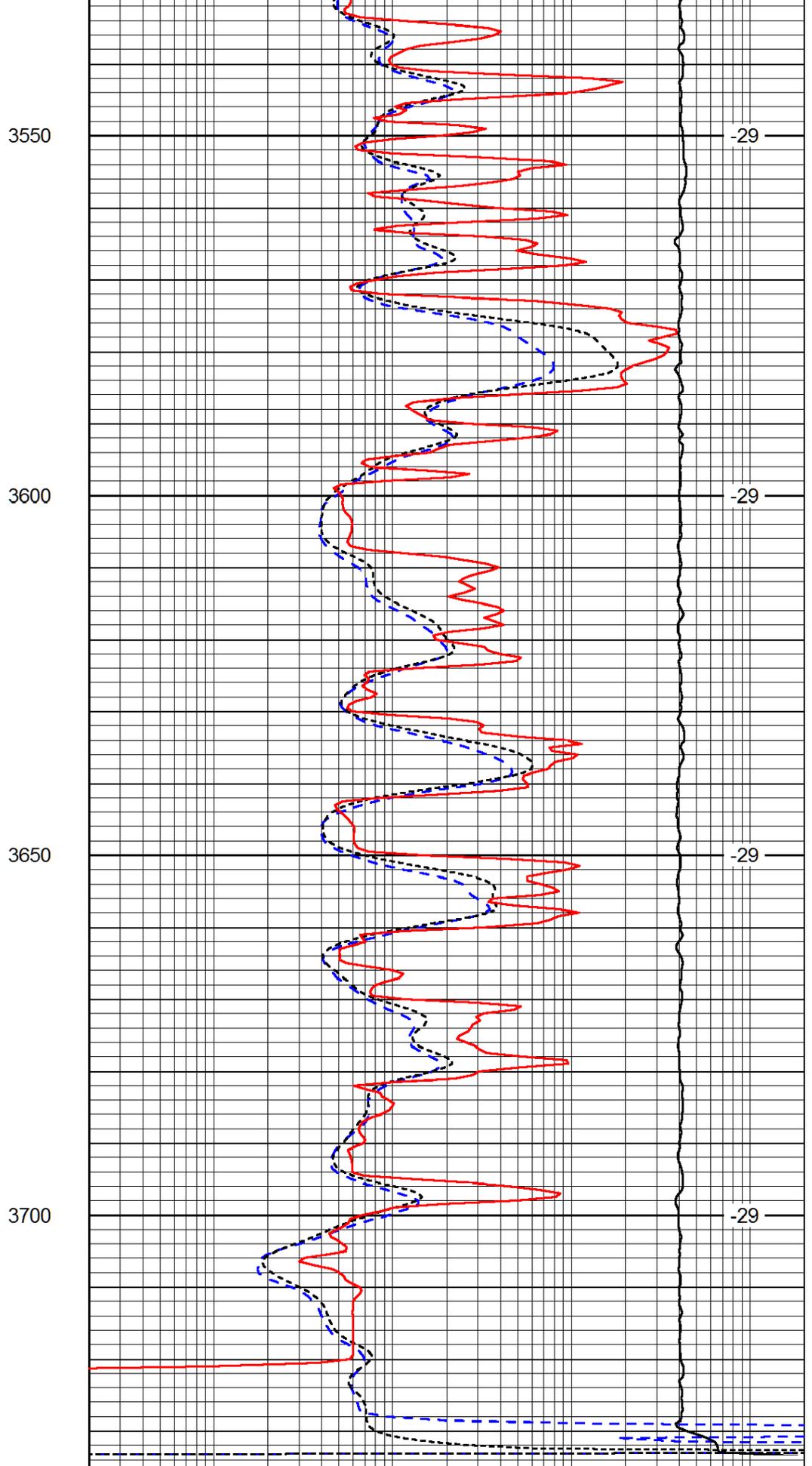
-30

-29

-29



0	Gamma Ray (GAPI)	150
-160	RXO/RT	40
-200	SP (mV)	0



0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000

10000

Line Tension (lb)

0

LSPD
(ft/min)