



Pioneer Energy Services

# Dual Induction Log

API No.	15-135-25407-00-00		
Company	American Warrior, Inc.		
Well	Ryerse #1-36		
Field	Ryerse		
County	Ness	State	Kansas
Location	2560' FSL & 335' FWL		
Sec: 36	Twp: 18 S	Rge: 21 W	Other Services CNL/CDL

Permanent Datum	Ground Level	Elevation 2142	K.B. 2150 D.F. 2142 G.L. 2142
Log Measured From	Kelly Bushing	8 Ft. Above Perm. Datum	
Drilling Measured From	Kelly Bushing		
Date	04-23-2013		
Run Number	One		
Depth Driller	4218		
Depth Logger	4217		
Bottom Logged Interval	4216		
Top Log Interval	200		
Casing Driller	8.625 @ 221		
Casing Logger	220		
Bit Size	7.875		
Type Fluid in Hole	Chemical		
Salinity, ppm CL	7400		
Density / Viscosity	9.5	50	
pH / Fluid Loss	10.0	7.2	
Source of Sample	Flowline		
Rm @ Meas. Temp	0.48 @ 50		
Rmf @ Meas. Temp	0.36 @ 50		
Rmc @ Meas. Temp	0.64 @ 50		
Source of Rmf / Rmc	Charts		
Rm @ BHT	0.20 @ 120		
Operating Rig Time	2 1/2 Hours		
Max Rec. Temp. F	120		
Equipment Number	91		
Location	Hays		
Recorded By	Y. Ruiz		
Witnessed By	Jason Alm		

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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

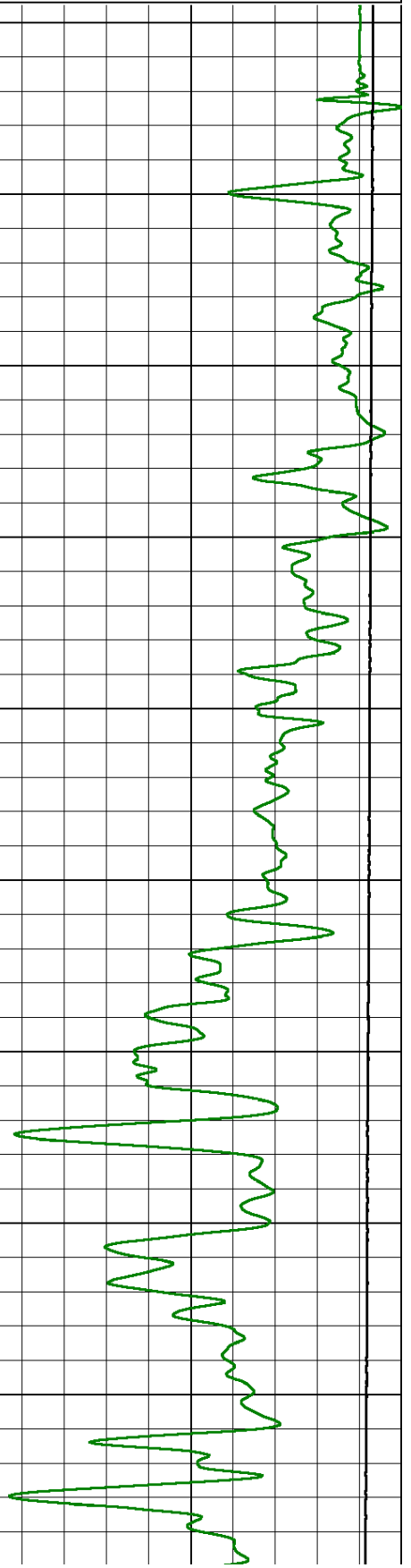
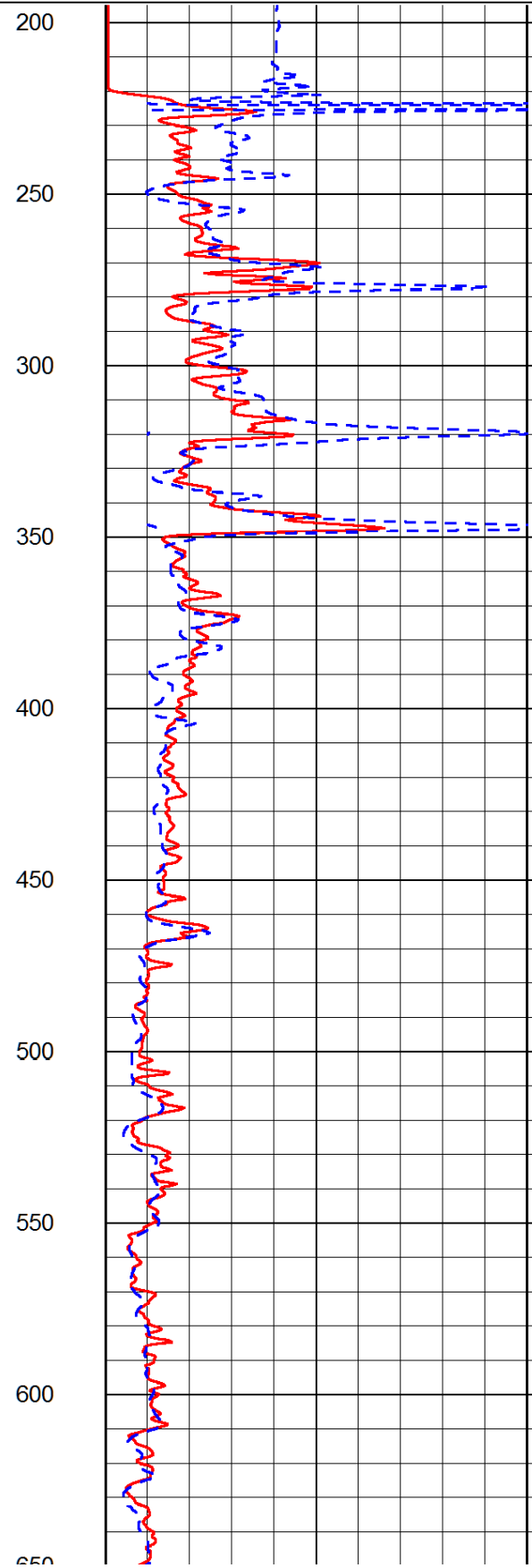
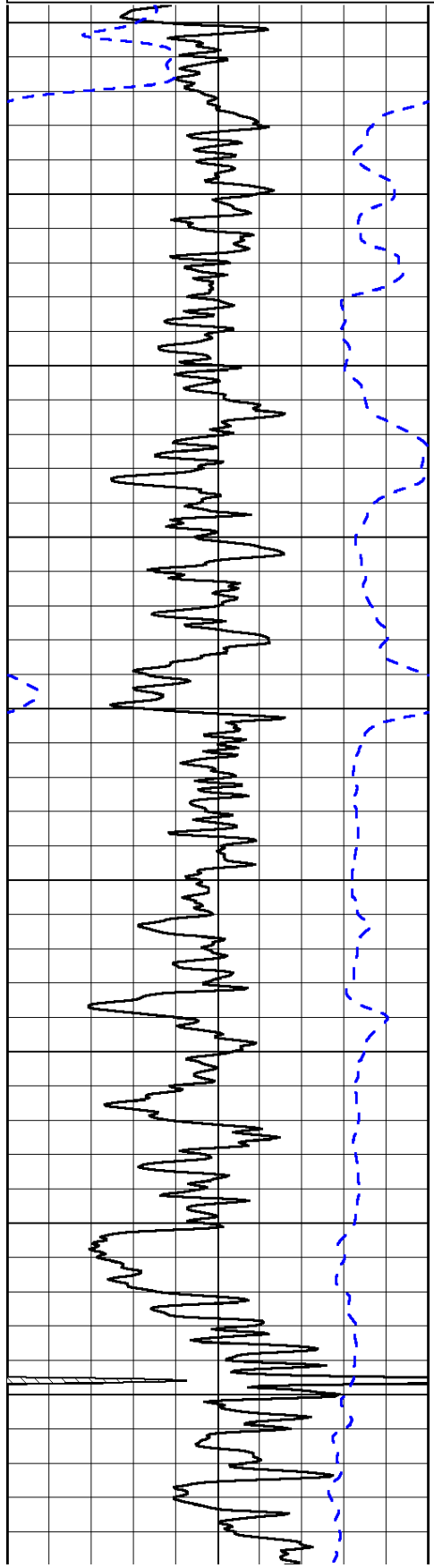
Alexander,  
2 1/2 West,  
South into

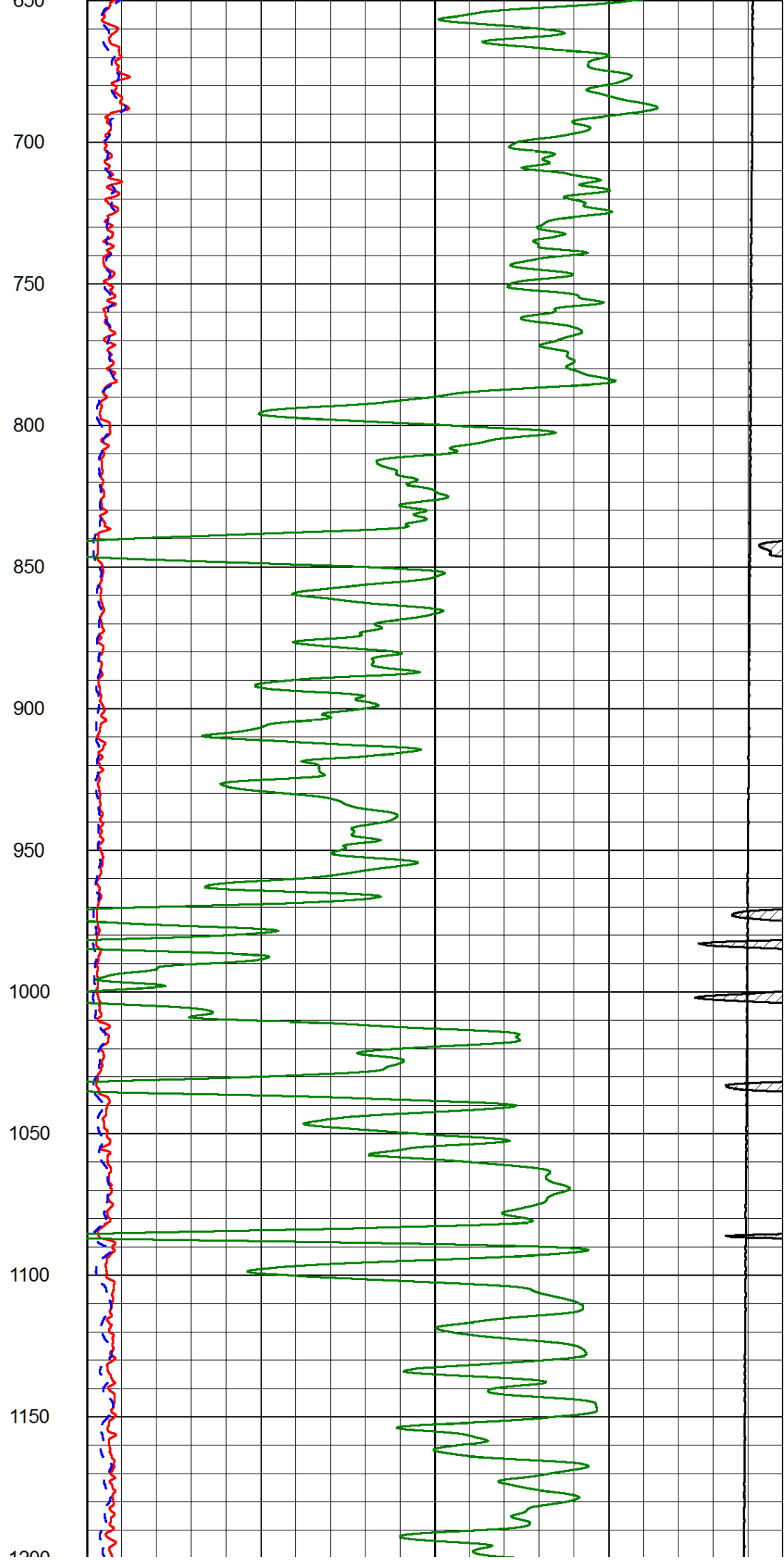
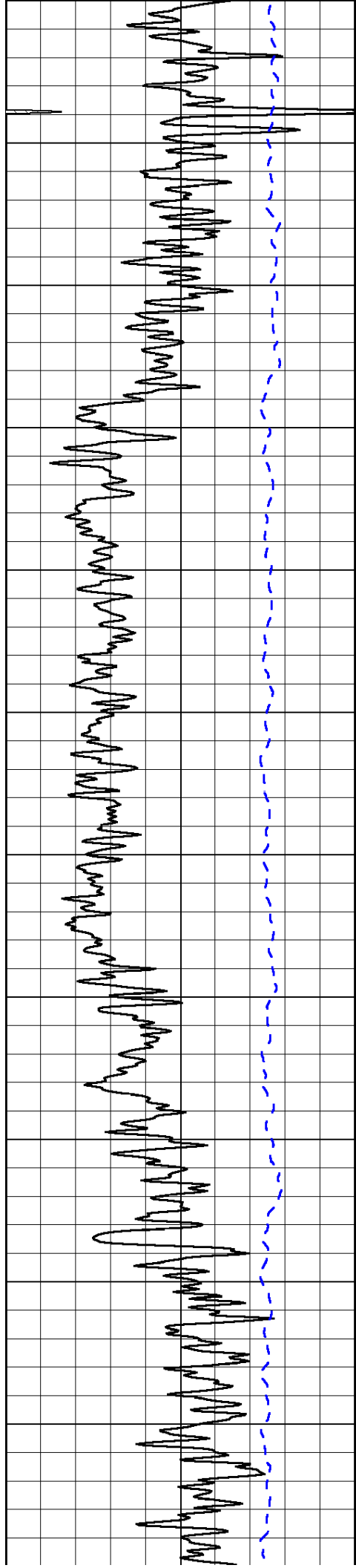
0	Gamma Ray (GAPI)	150
-200	SP (mV)	0

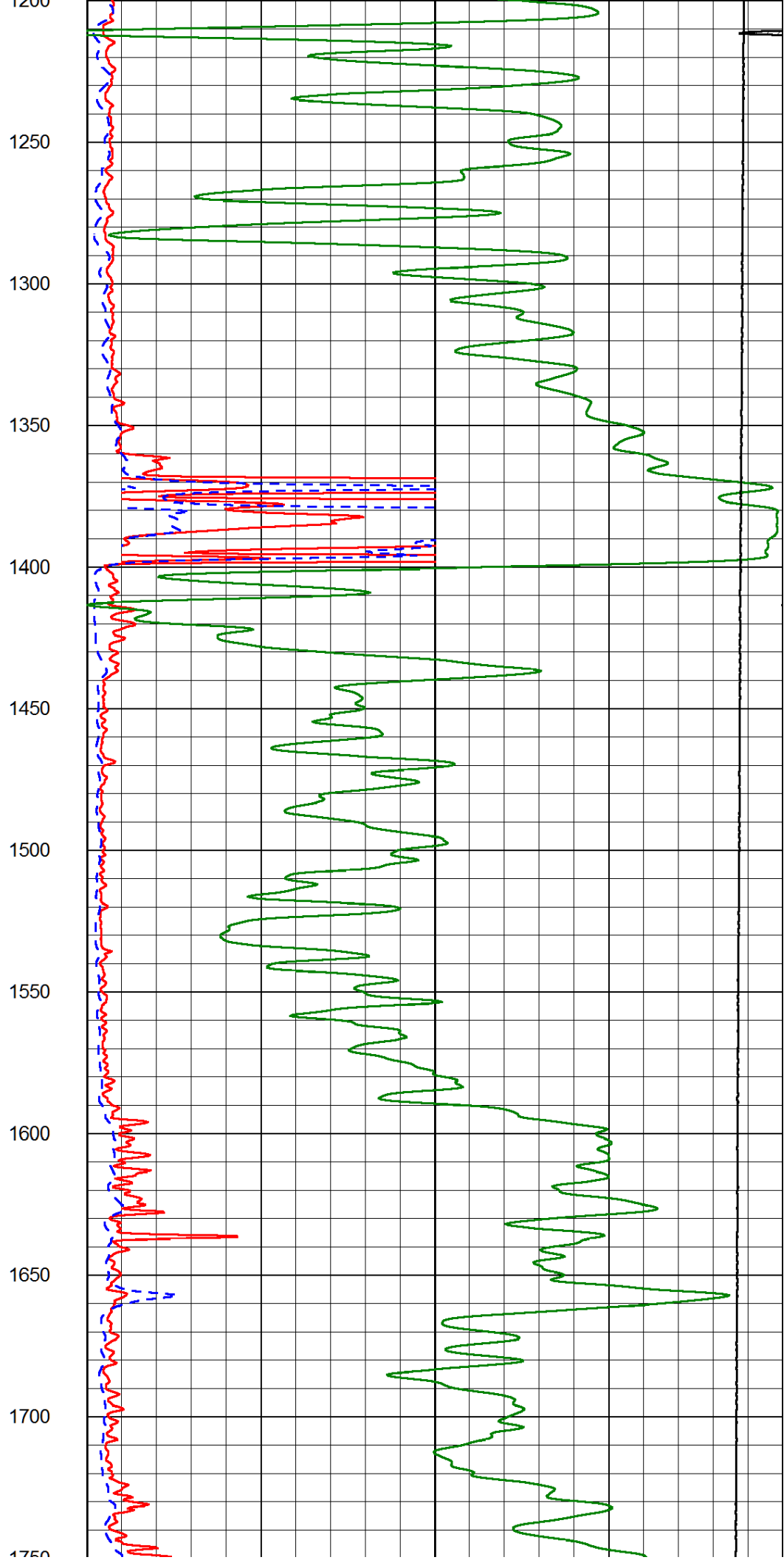
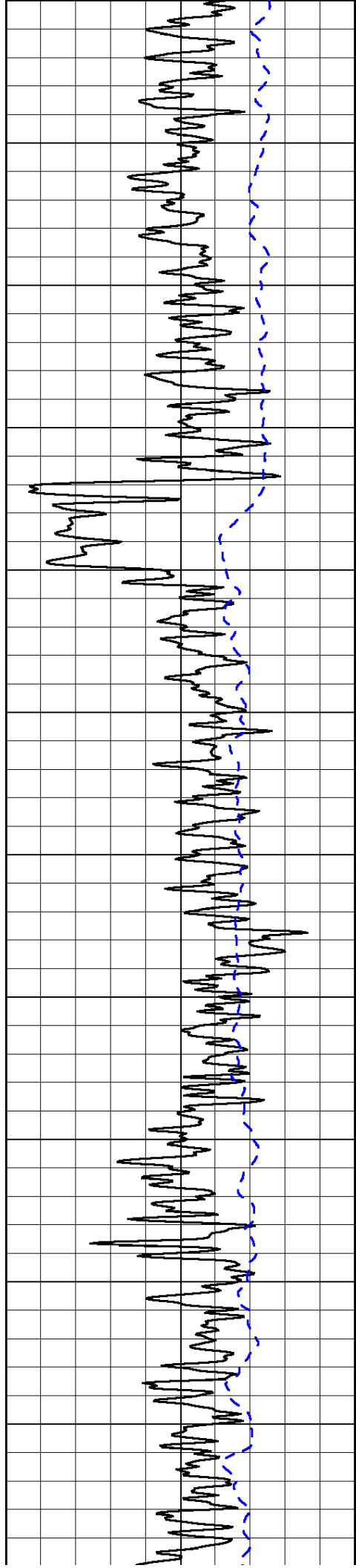
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0	Deep Resistivity (Ohm-m)	50

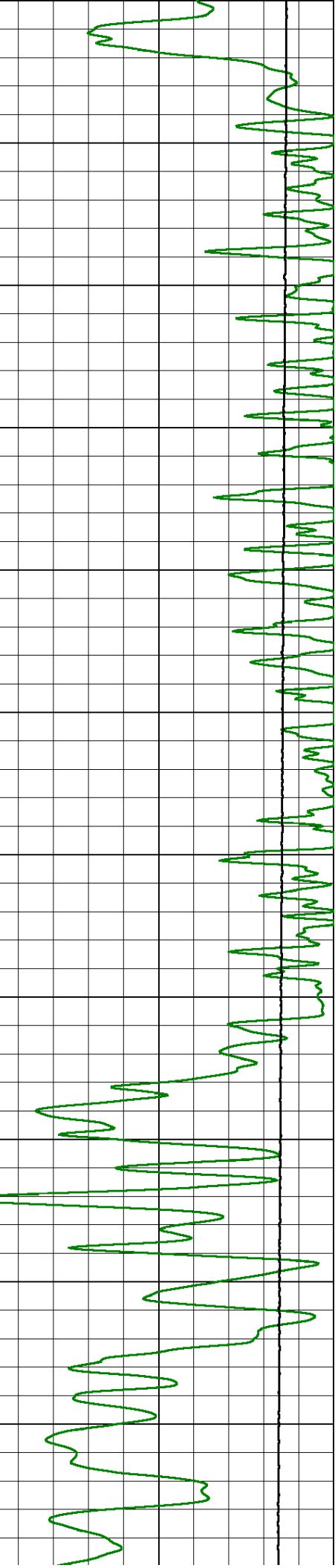
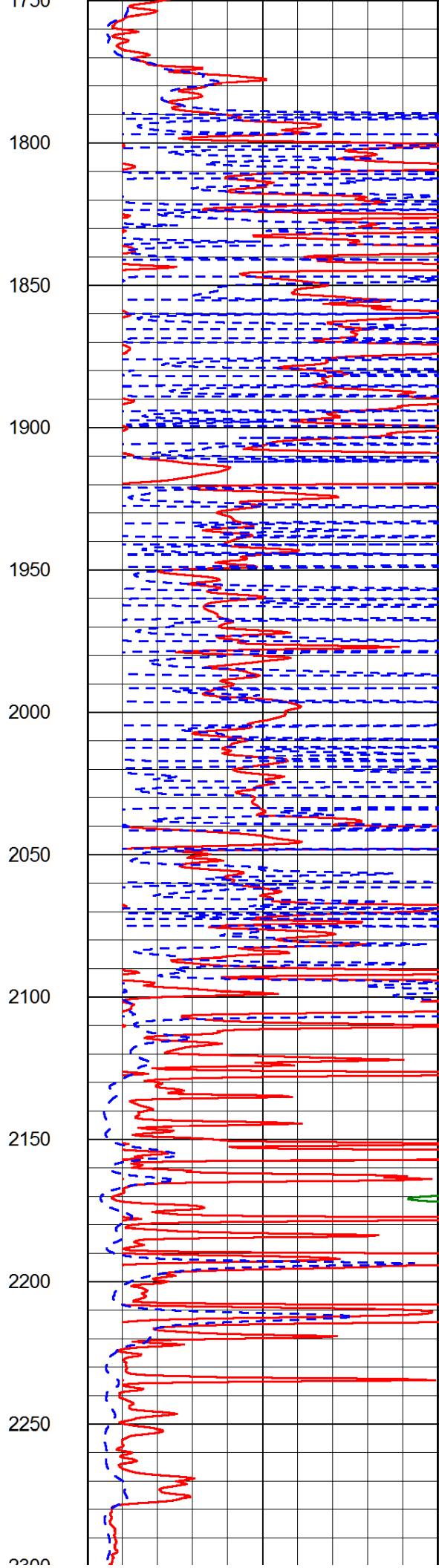
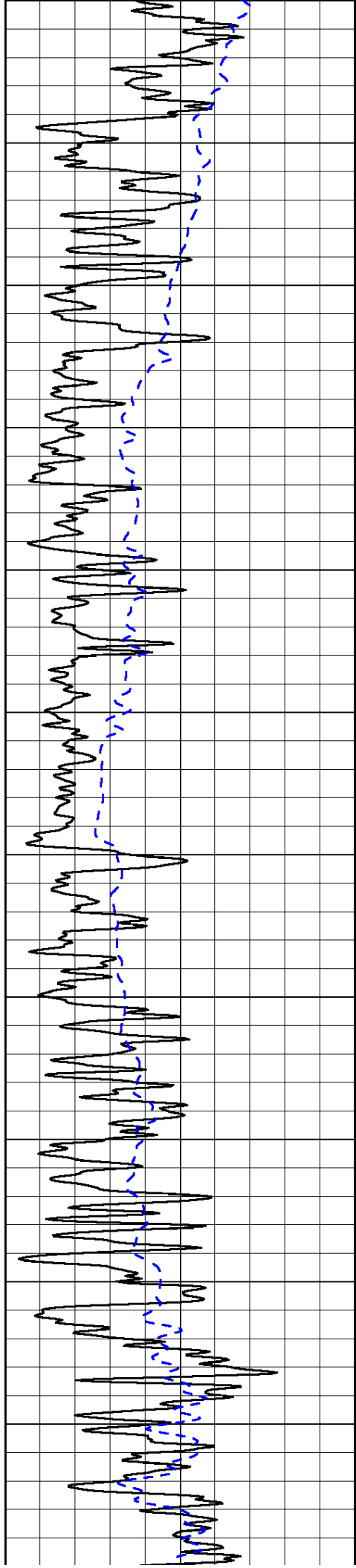
1000	Conductivity (Ohm-m)	0
15000	Line Tension (lb)	0

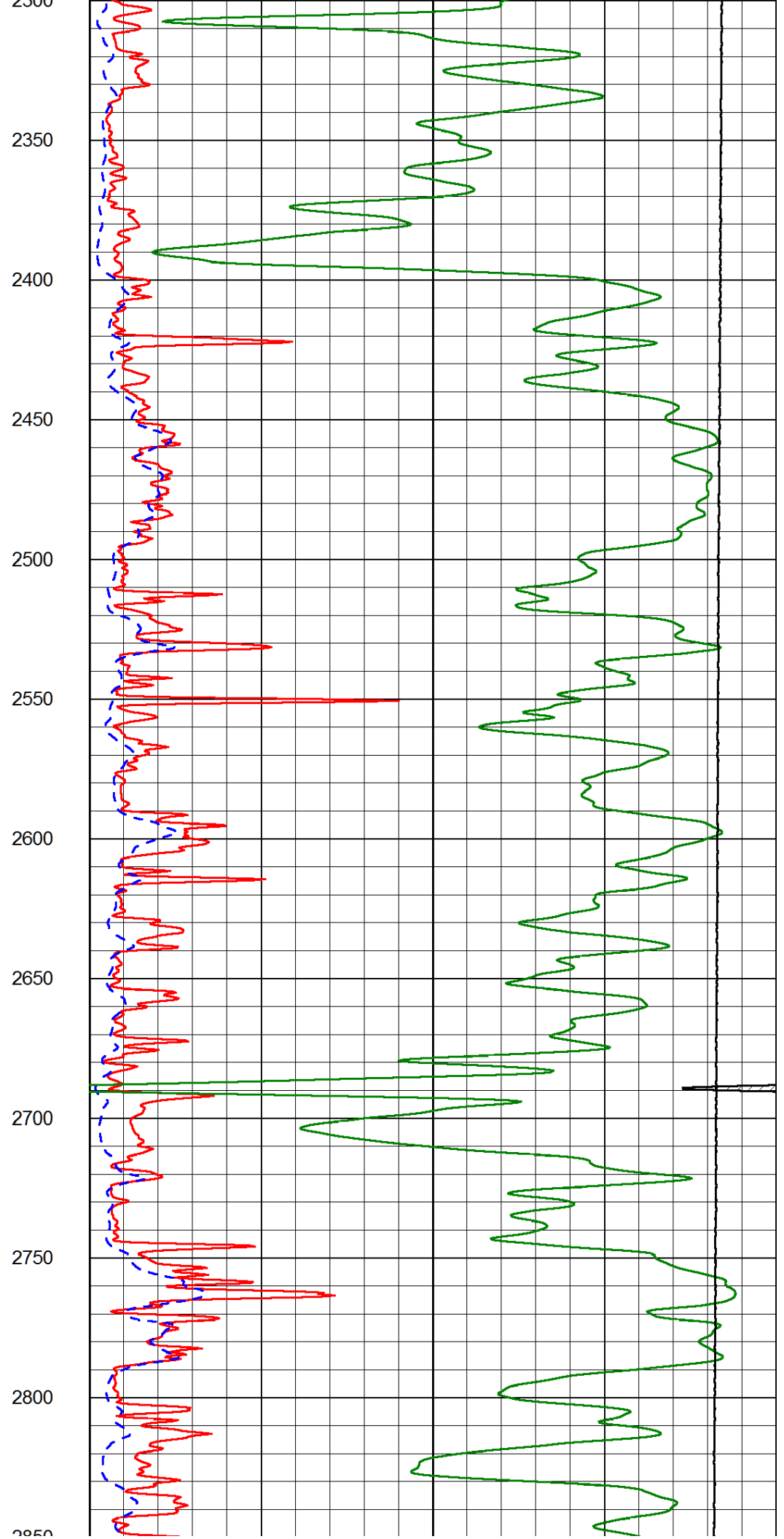
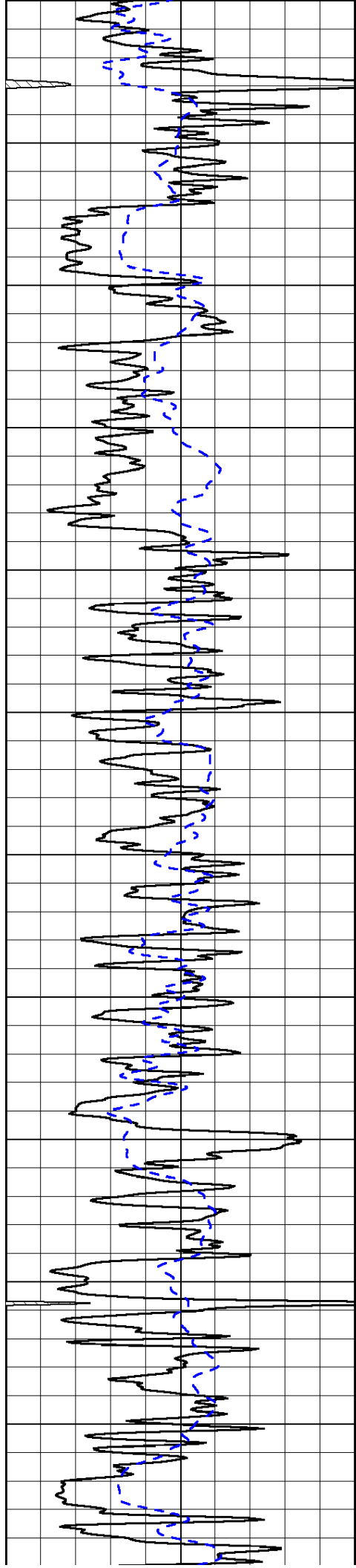
Shallow Resistivity		
50	(Ohm-m)	500
Deep Resistivity (Ohm-m)		
50	Deep Resistivity (Ohm-m)	500

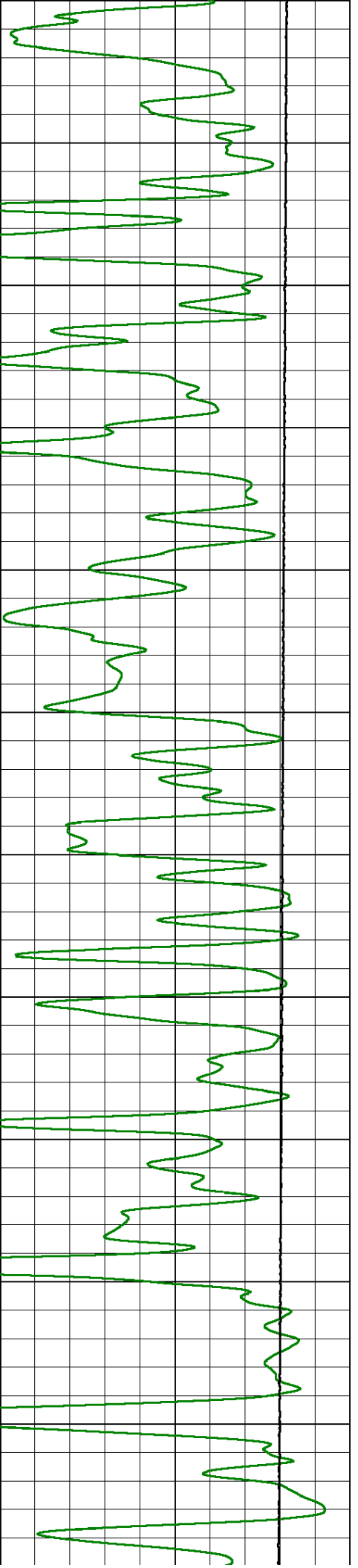
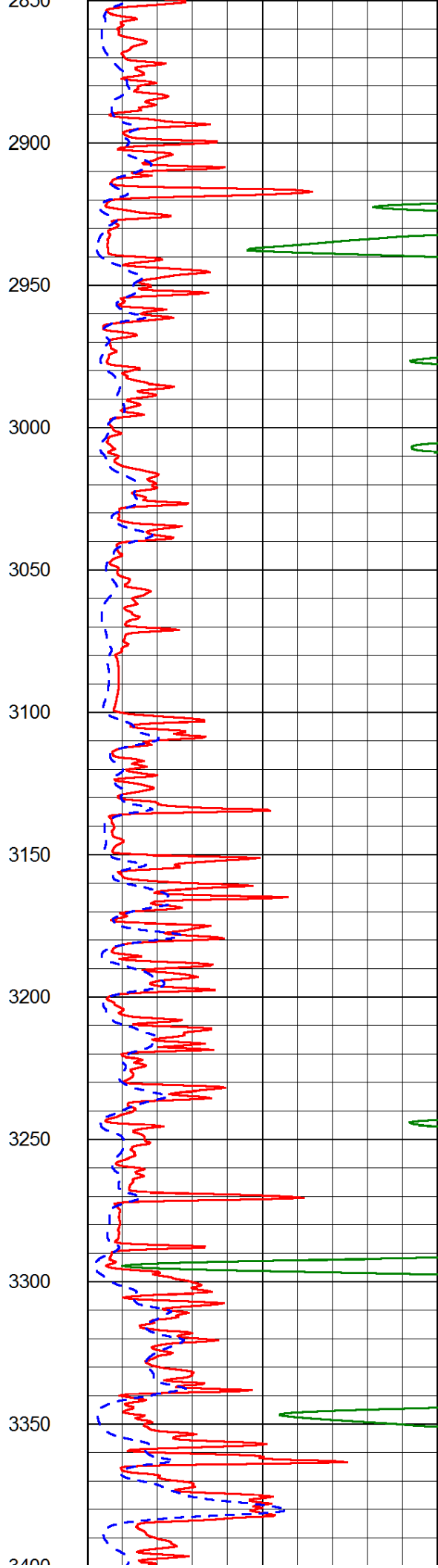
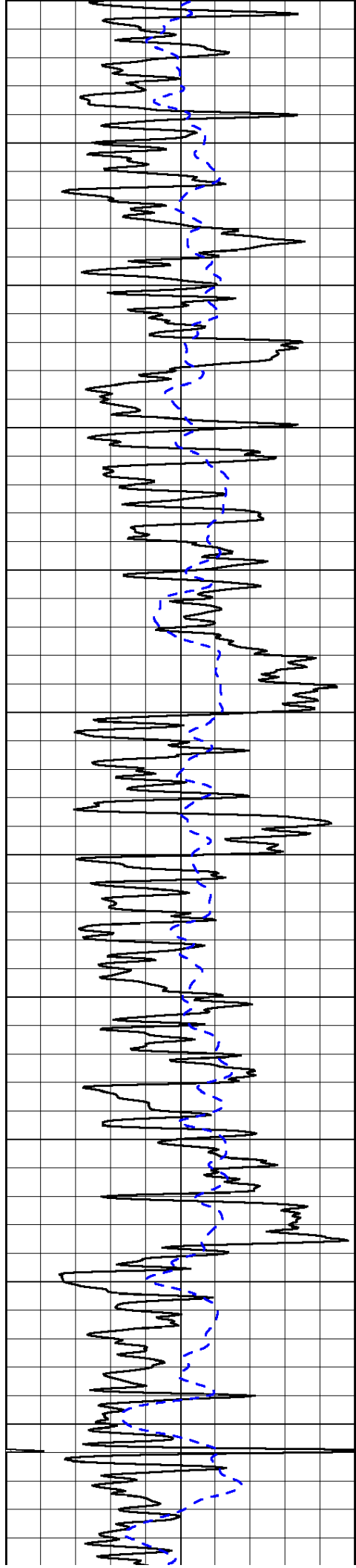


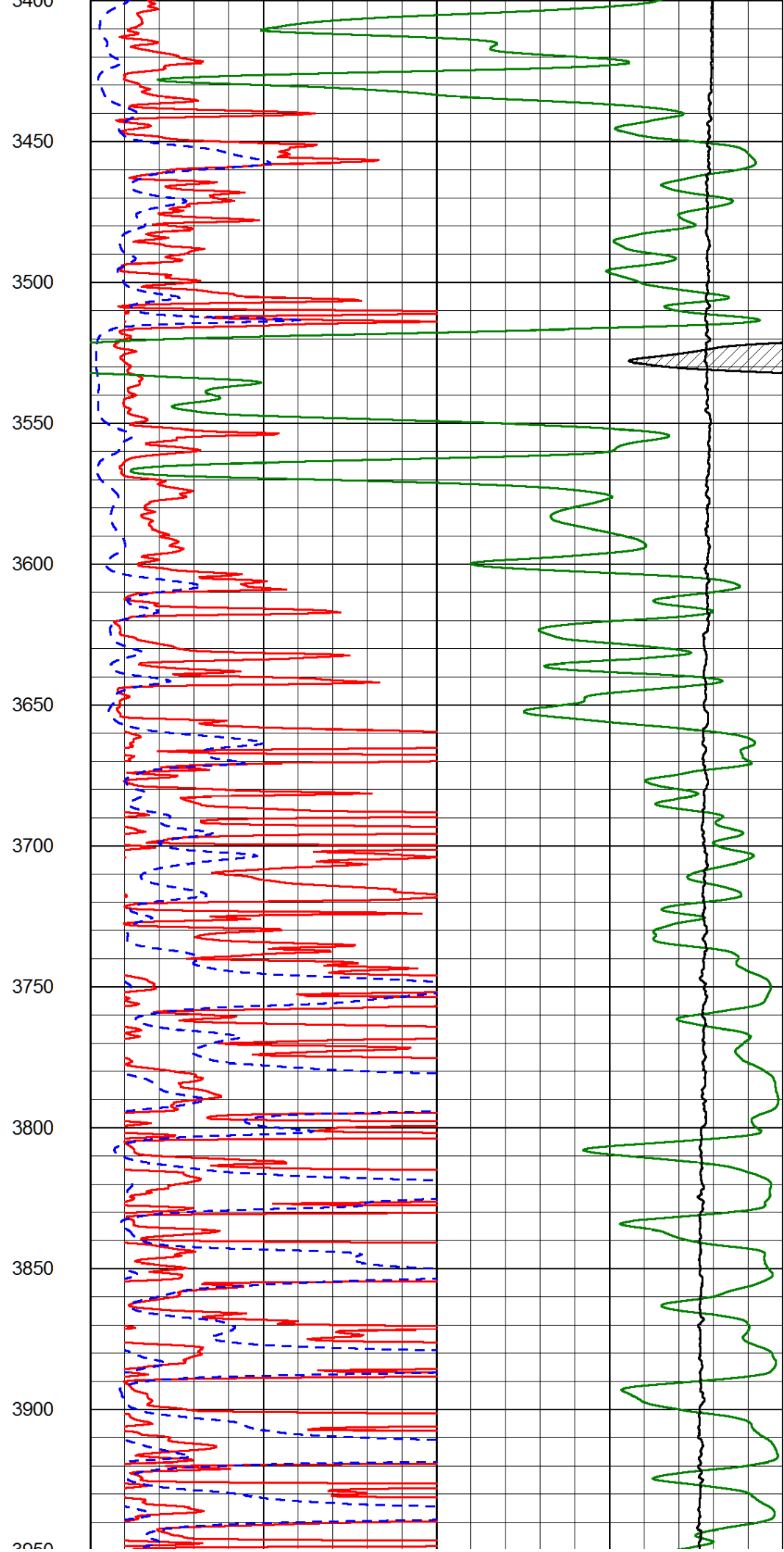
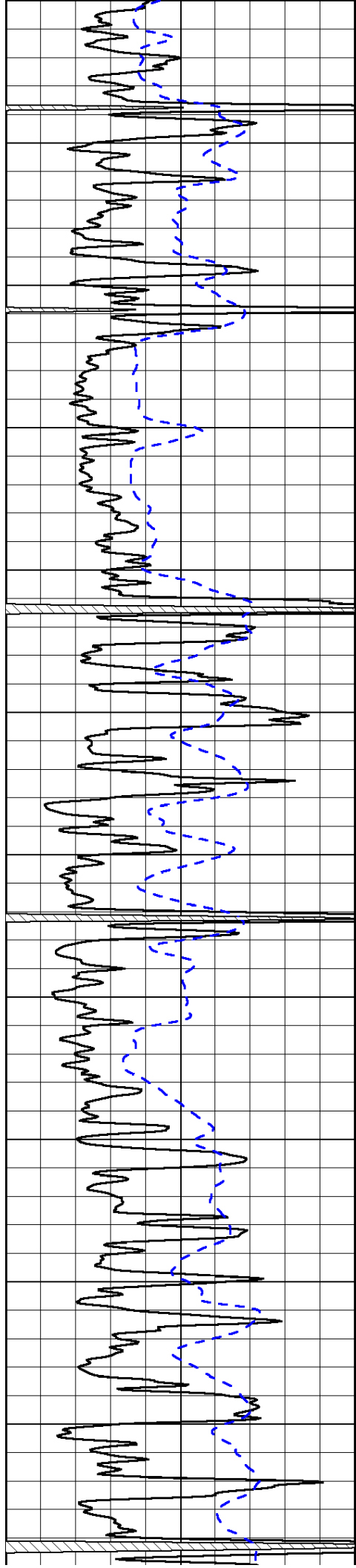


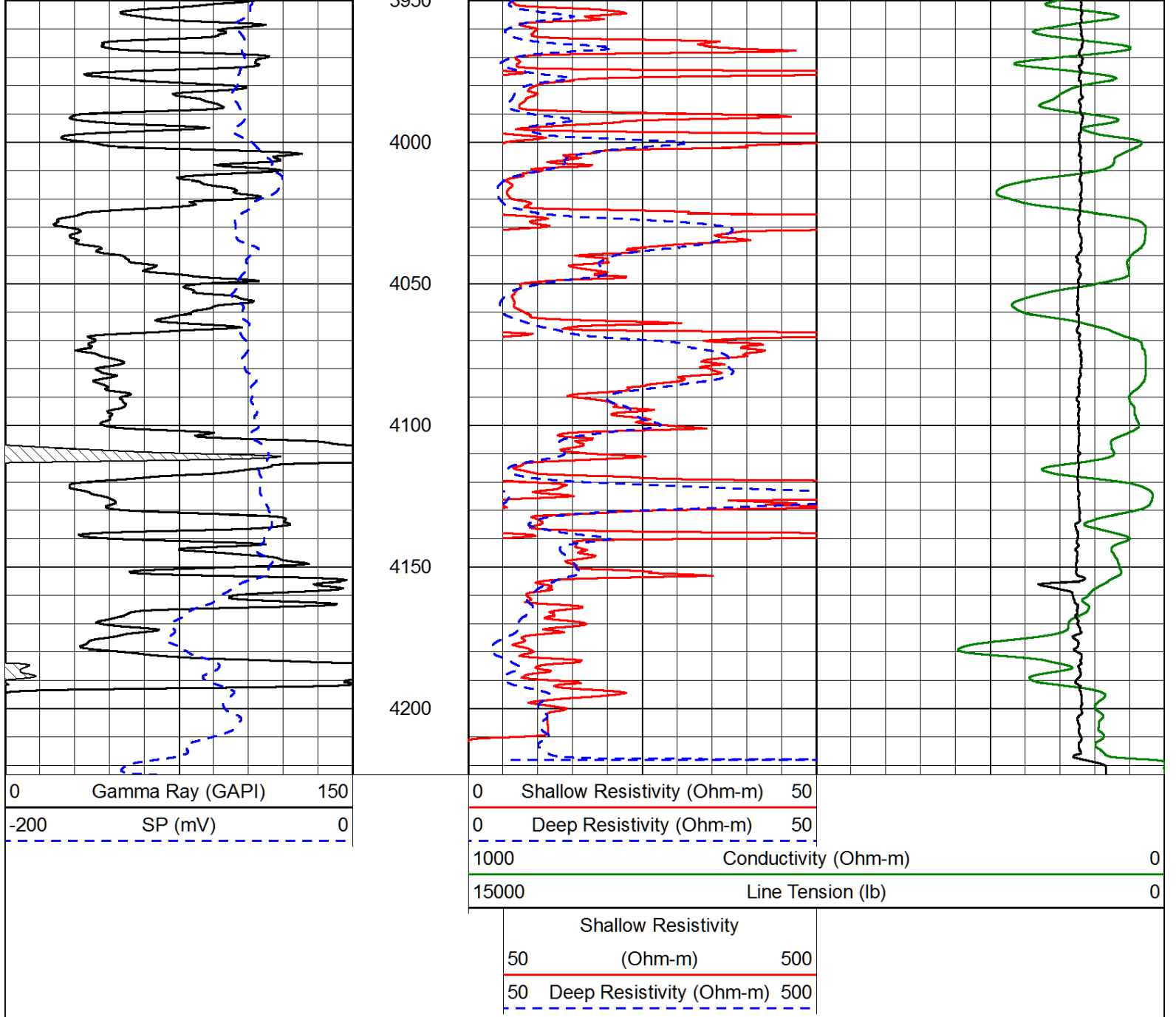




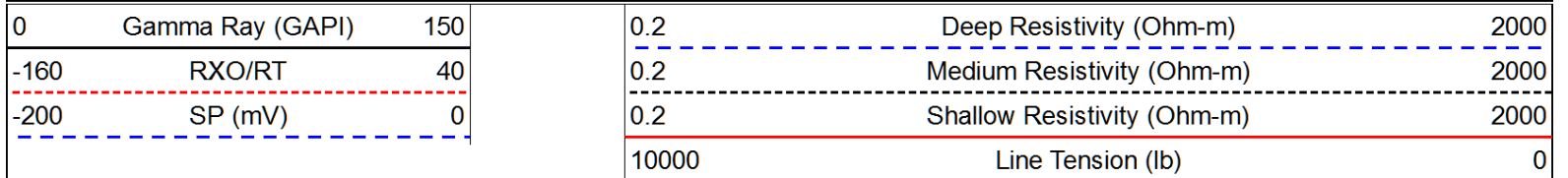




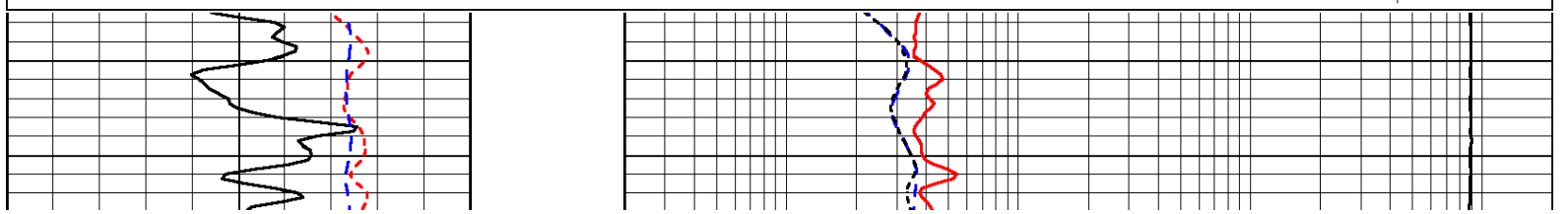


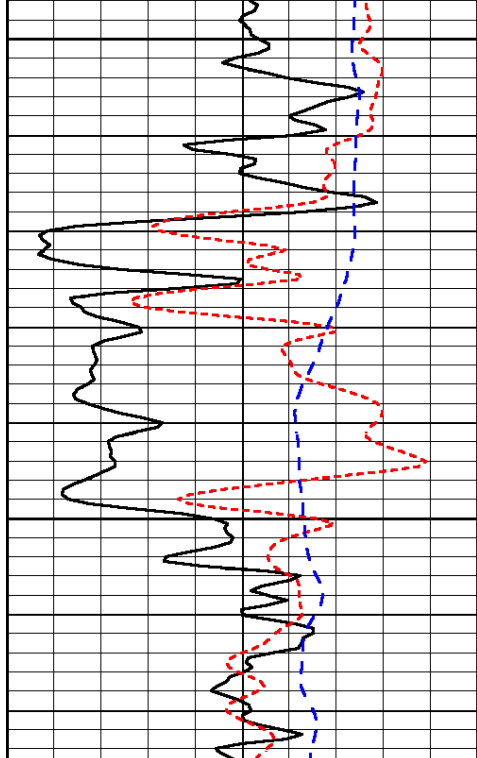


Database File: american\_warrior\_042313hd.db  
 Dataset Pathname: Dil/awstk  
 Presentation Format: dil  
 Dataset Creation: Tue Apr 23 14:36:44 2013  
 Charted by: Depth in Feet scaled 1:240



LSPD  
(ft/min)





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

1350

1400



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

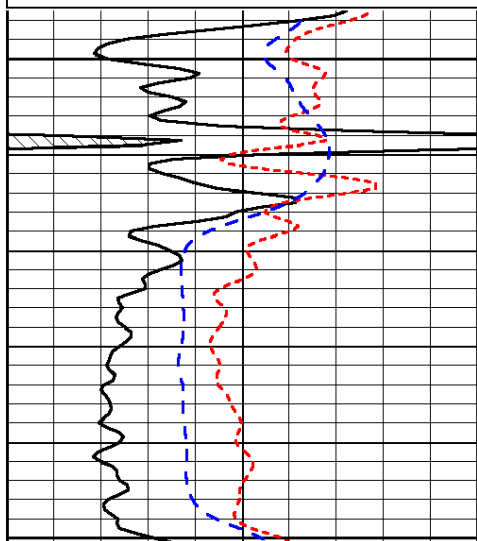
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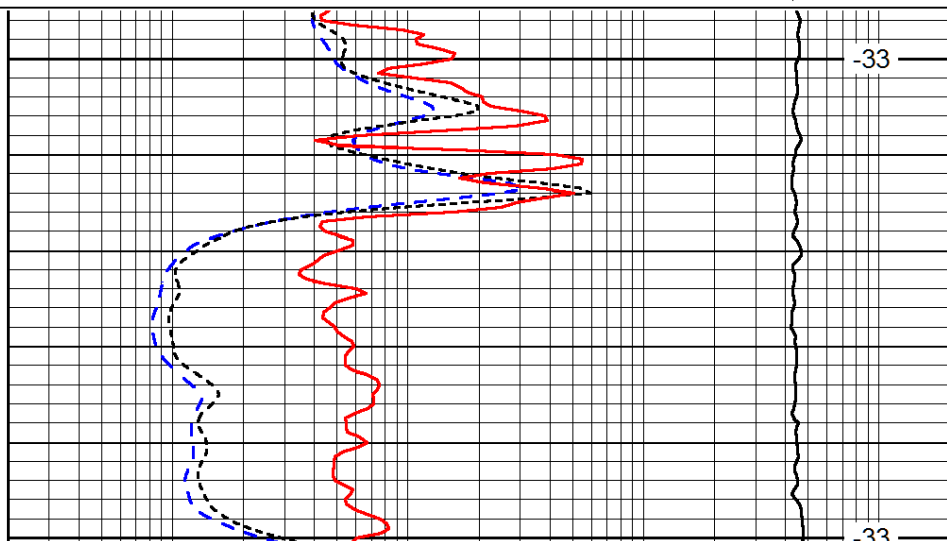
0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0

LSPD  
(ft/min)



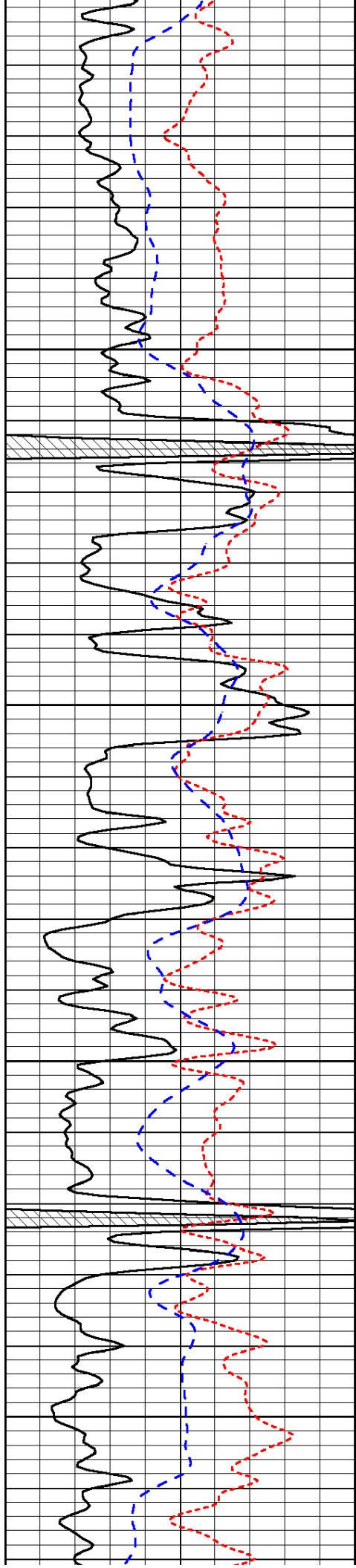
3500

3550



-33

-33

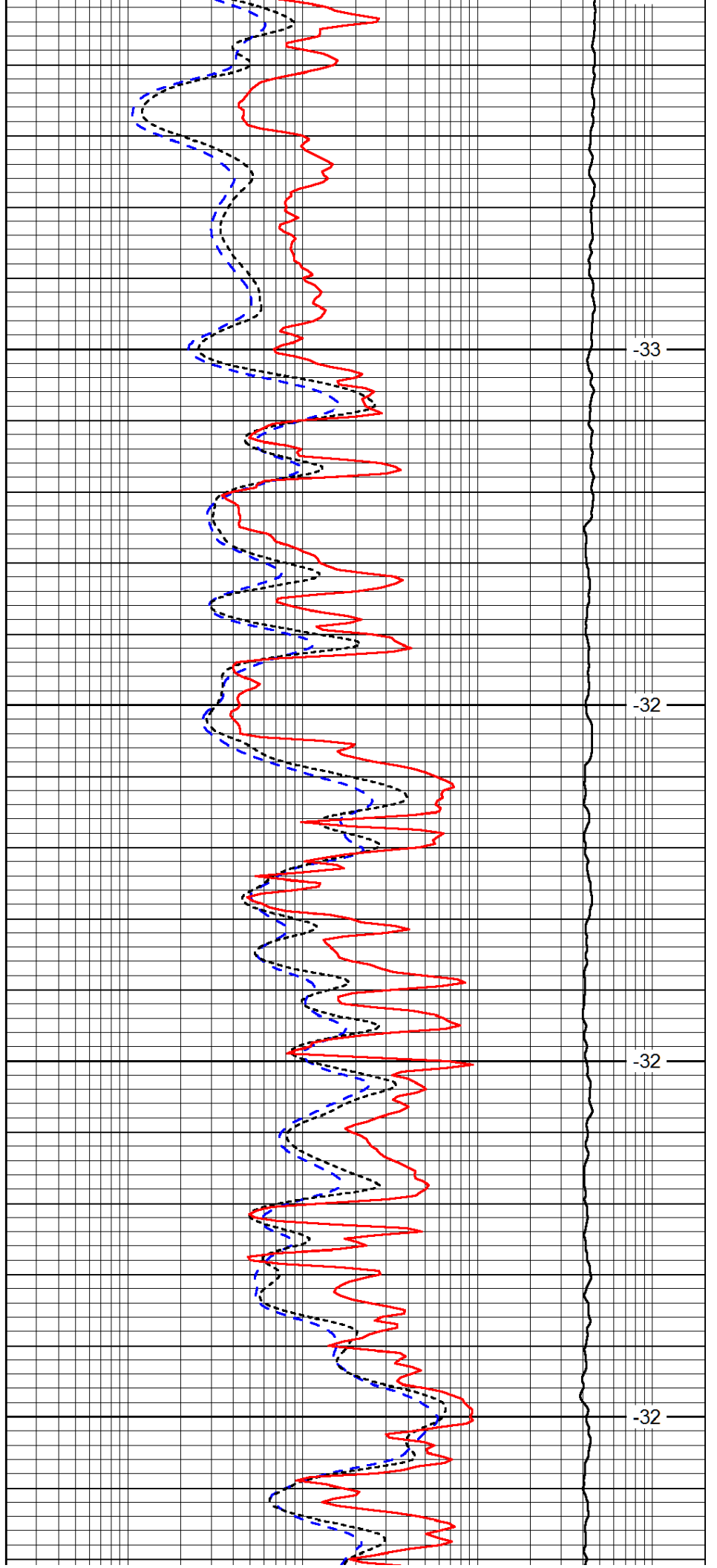


3600

3650

3700

3750

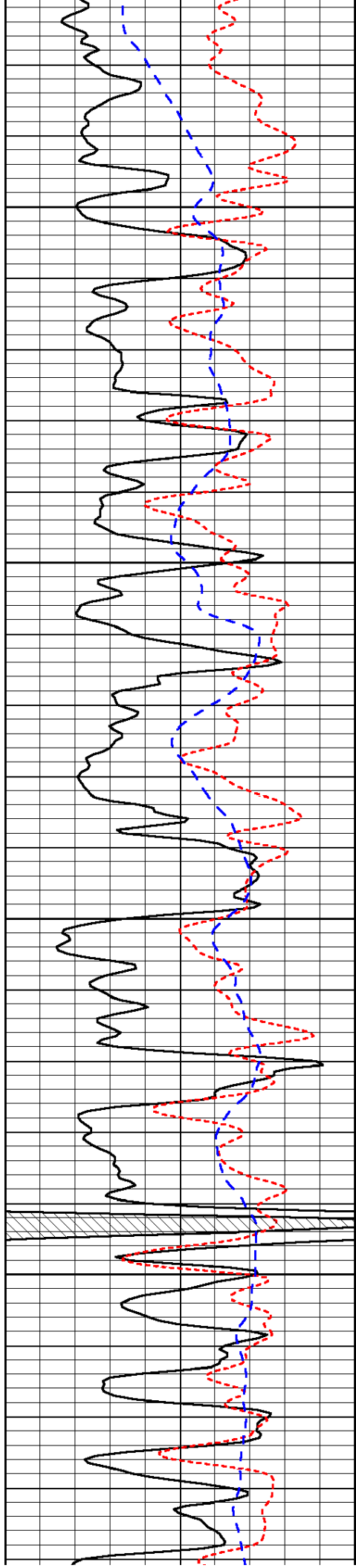


-33

-32

-32

-32

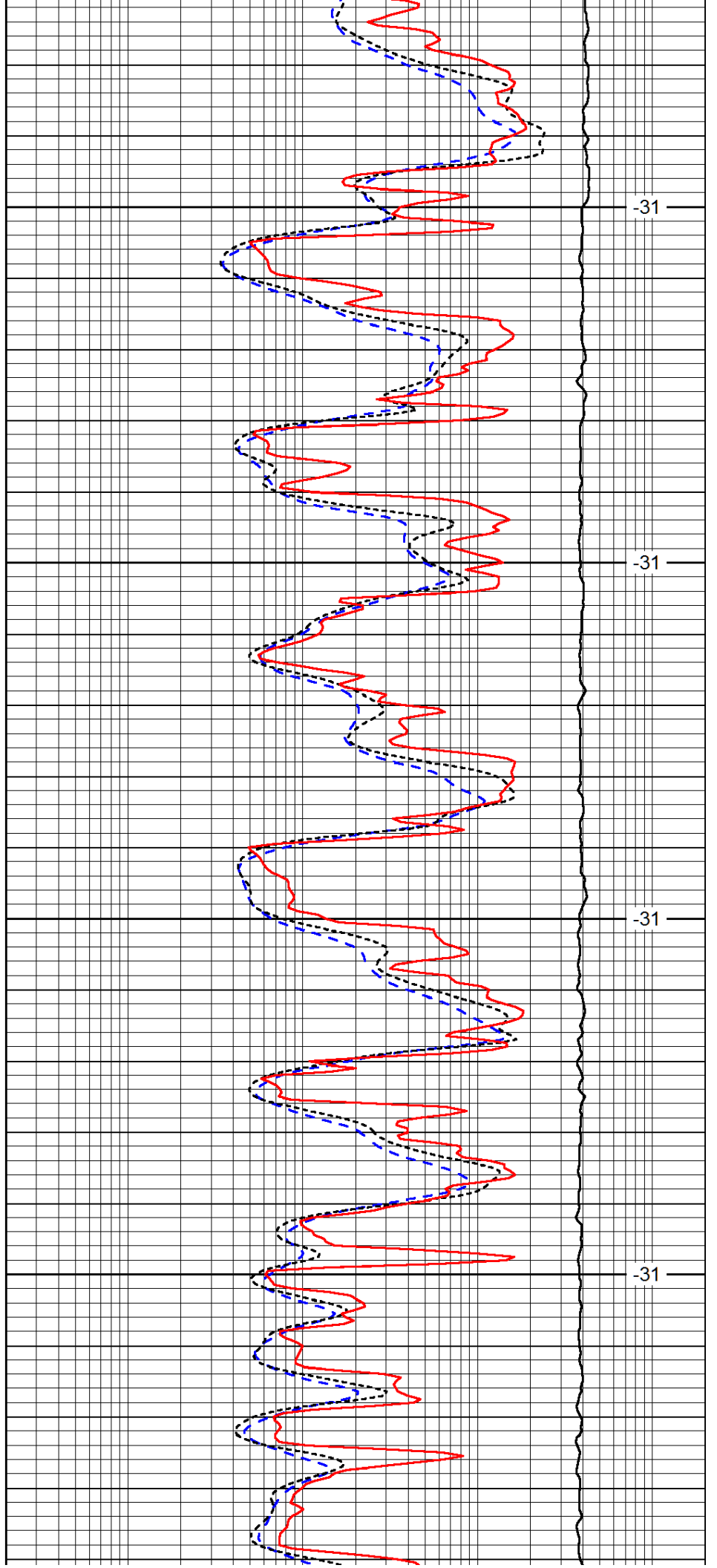


3800

3850

3900

3950

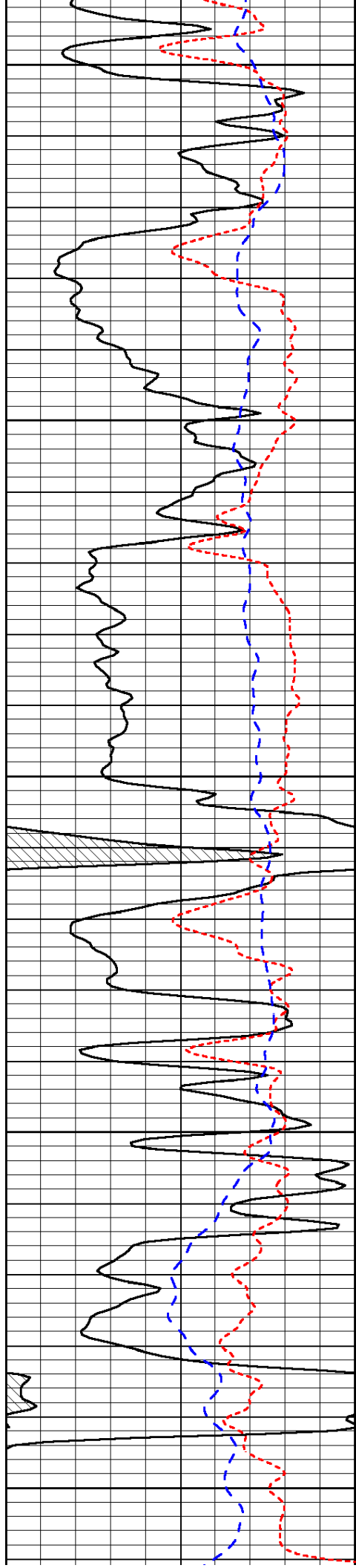


-31

-31

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-31



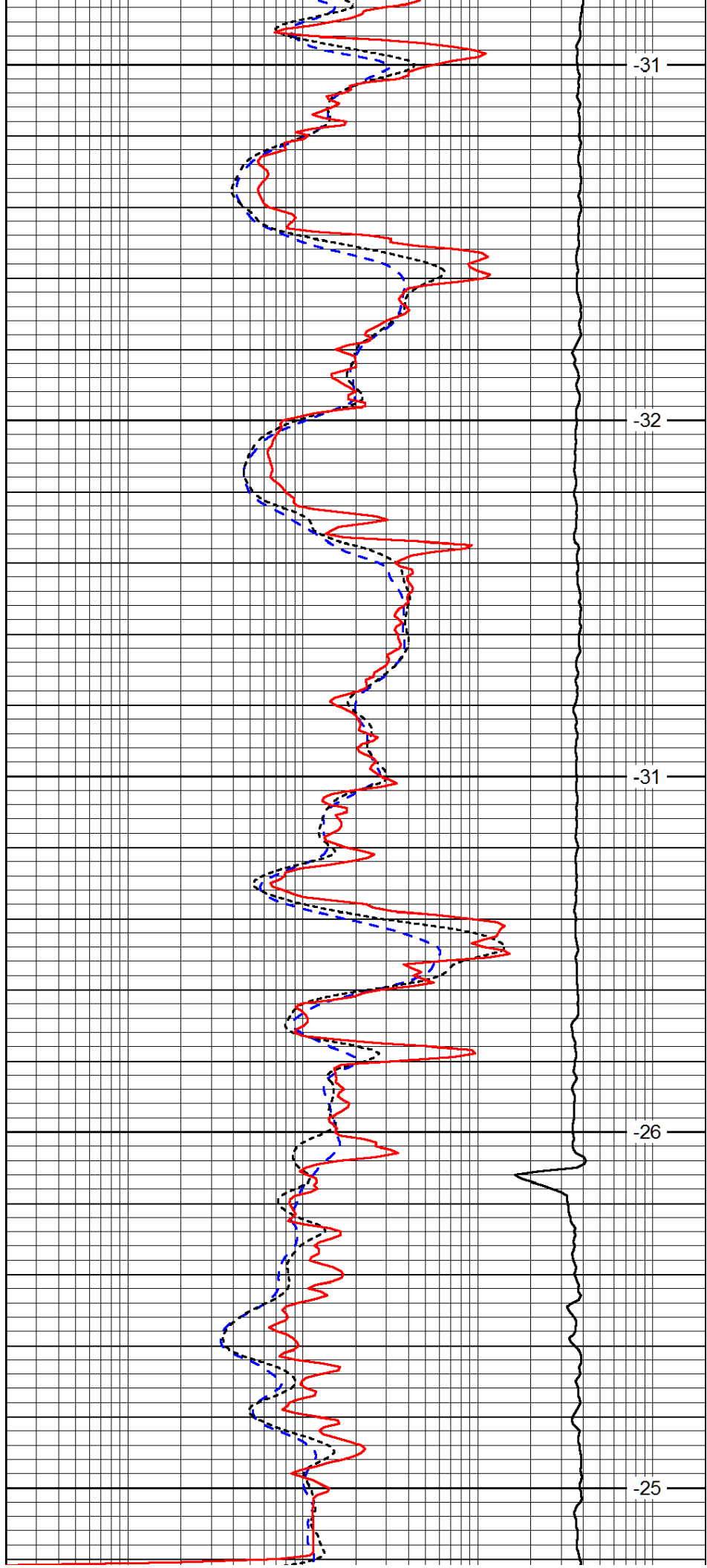
4000

4050

4100

4150

4200



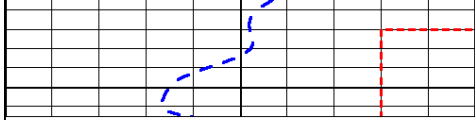
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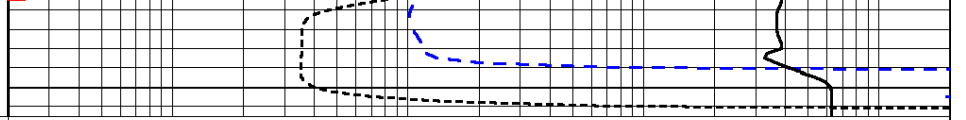
-31

-26

-25



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)