



Pioneer Energy Services

# Dual Induction Log

API No.	15-141-20,468-00-00	
Company	Bruce Oil Company LLC	
Well	Bowen No. 2	
Field	Kill Creek Northwest	
County	Osborne	State
Location	500' FSL & 2310' FWL	
	Sec: 15	Twp: 8s
		Rge: 14w
Permanent Datum	Ground Level	Elevation 1883
Log Measured From	Kelly Bushing	5 Ft. Above Perm. Datum
Drilling Measured From	Kelly Bushing	
		Other Services CNL/CDL MEL
		Elevation K.B. 1888 D.F. 1883 G.L. 1883

Date	8/26/2014
Run Number	One
Depth Driller	2910
Depth Logger	2913
Bottom Logged Interval	2912
Top Log Interval	800
Casing Driller	8.625 @ 806
Casing Logger	806
Bit Size	7.875
Type Fluid in Hole	Chemical
Salinity, ppm CL	1200
Density / Viscosity	8.9   41
pH / Fluid Loss	11.5   6.8
Source of Sample	Flowline
Rm @ Meas. Temp	1.45 @ 78
Rmf @ Meas. Temp	1.09 @ 78
Rmc @ Meas. Temp	1.96 @ 78
Source of Rmf / Rmc	Charts
Rm @ BHT	1.08 @ 105
Operating Rig Time	4 Hours
Max Rec. Temp. F	105
Equipment Number	108
Location	Hays
Recorded By	J. Long
Witnessed By	Bob Peterson

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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

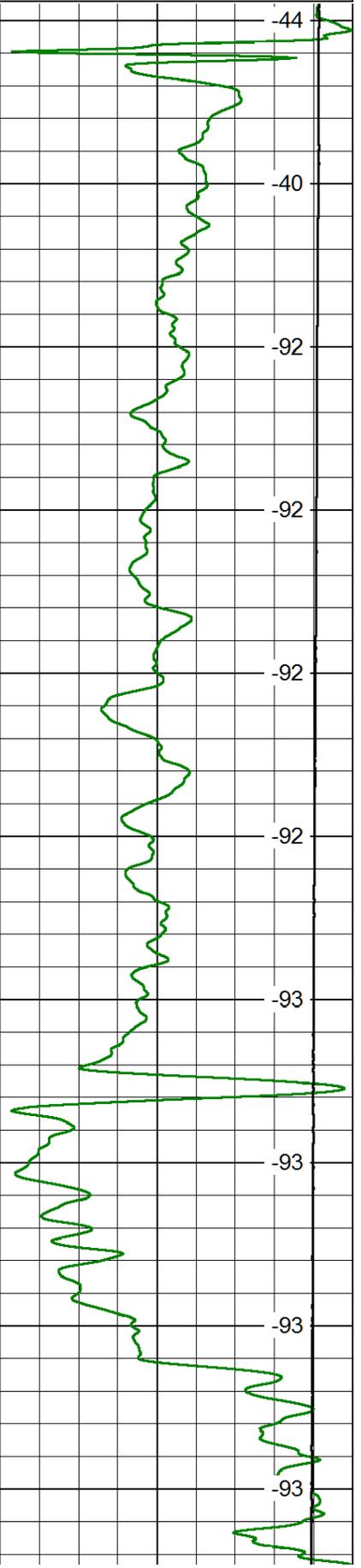
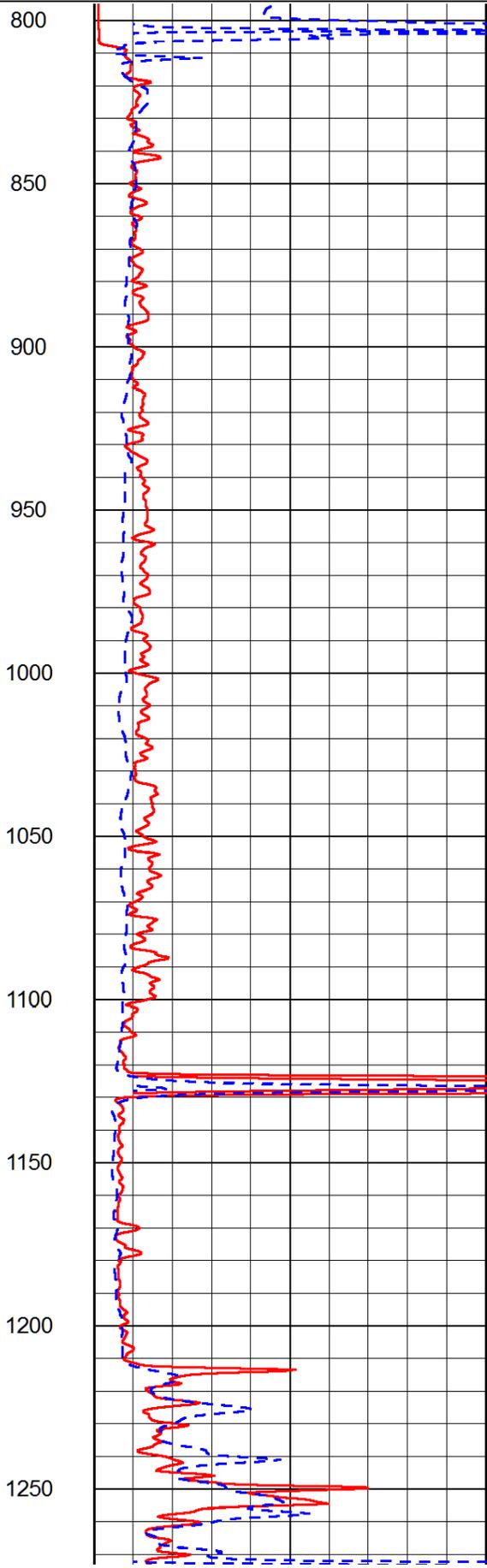
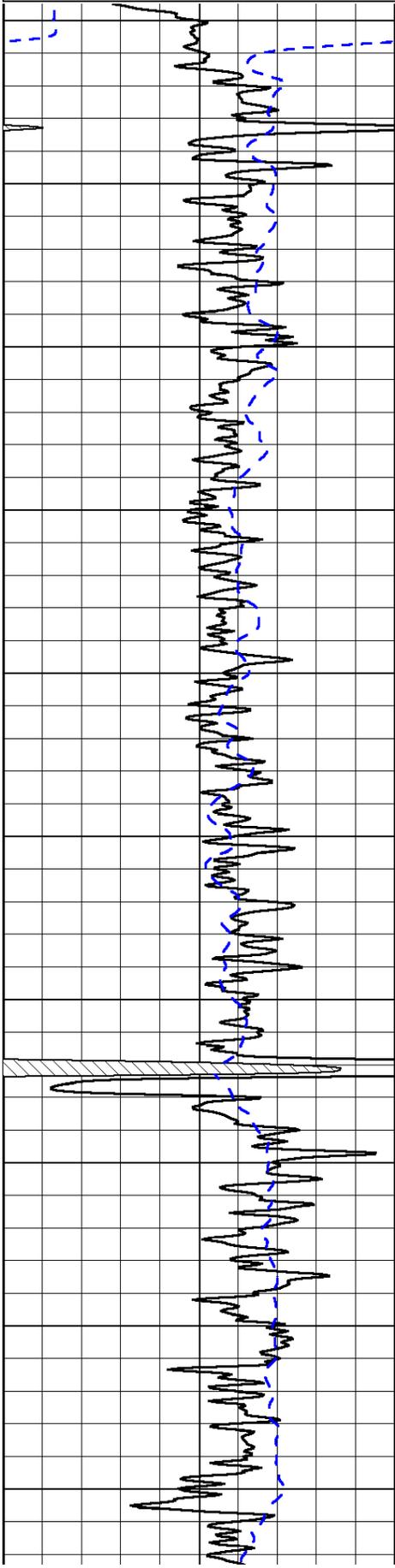
Natoma KS., North on 290th to Stop Sign, East to 250th, North to "T", East to 200th, North to Dead End, West Into Through Green Gate.

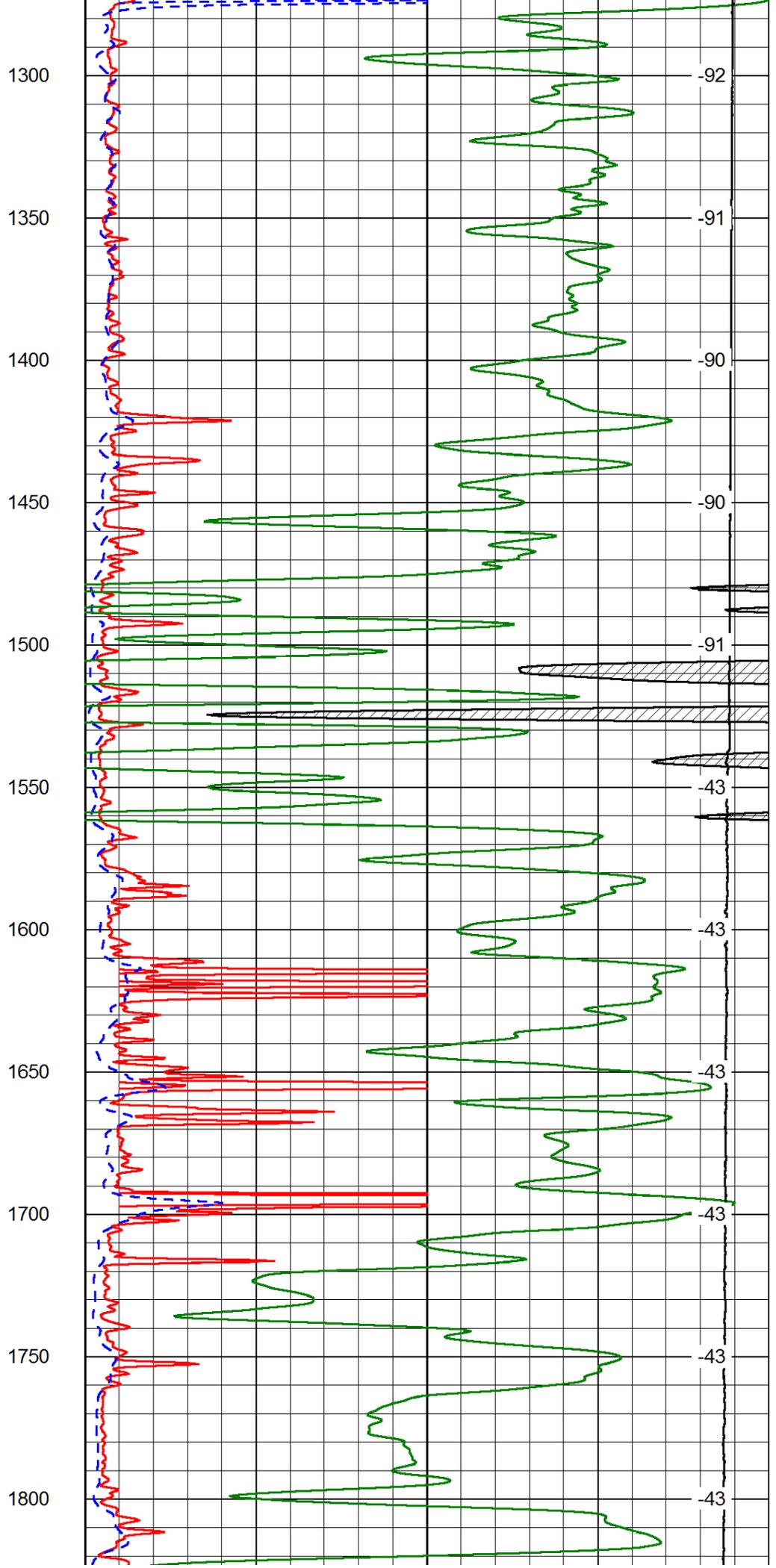
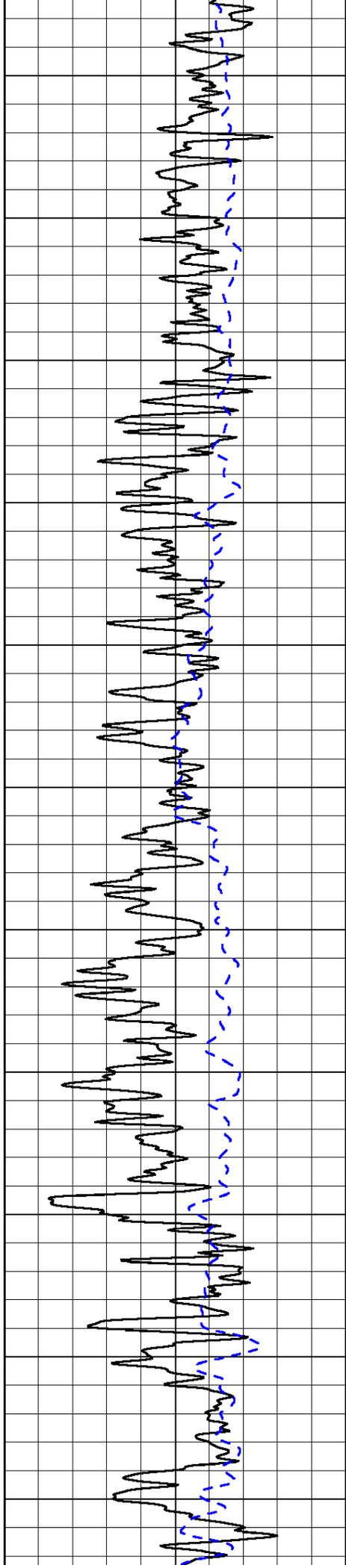
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 Presentation Format: dil2in  
 Dataset Creation: Tue Aug 26 09:30:47 2014  
 Charted by: Depth in Feet scaled 1:600

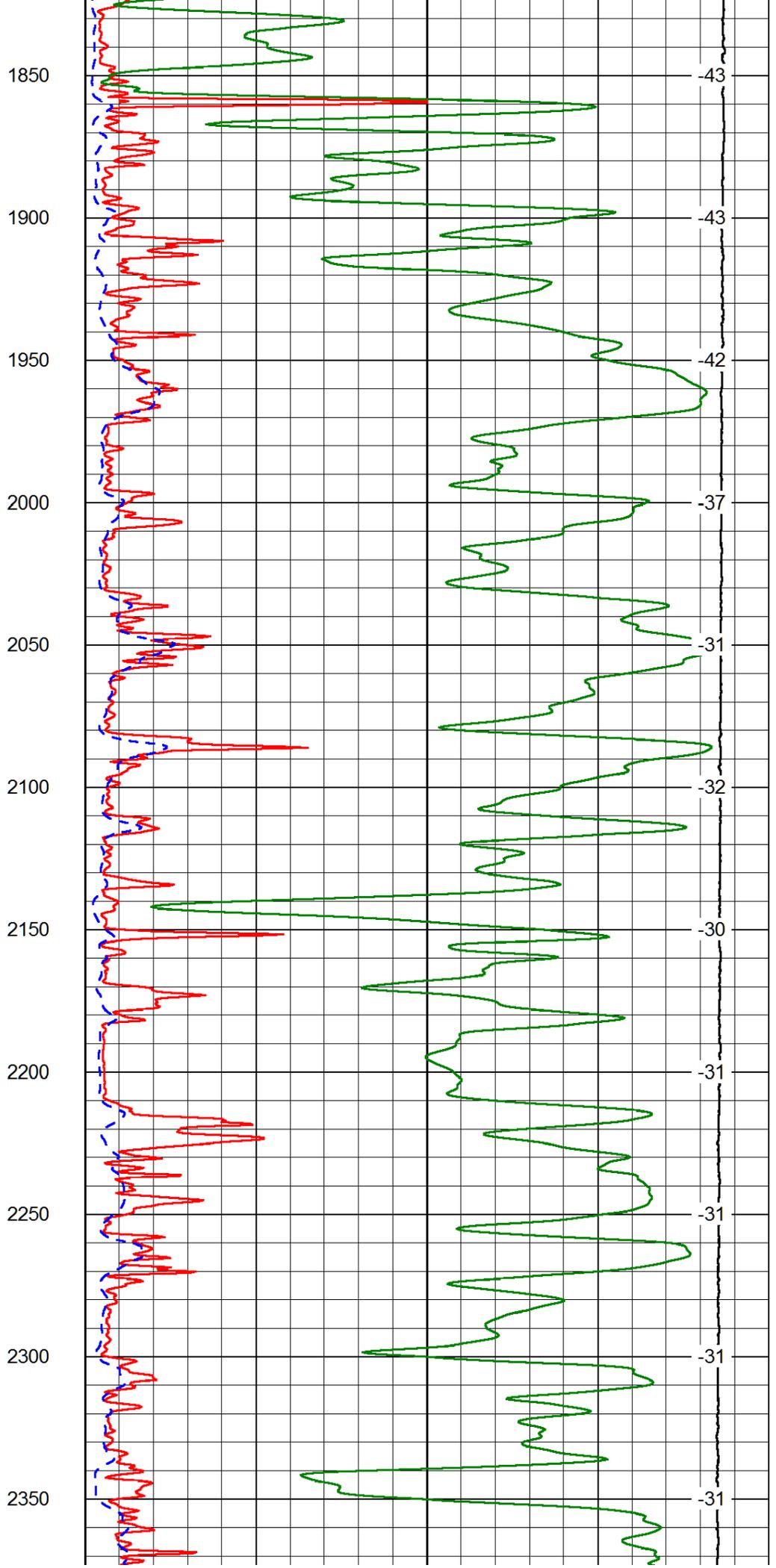
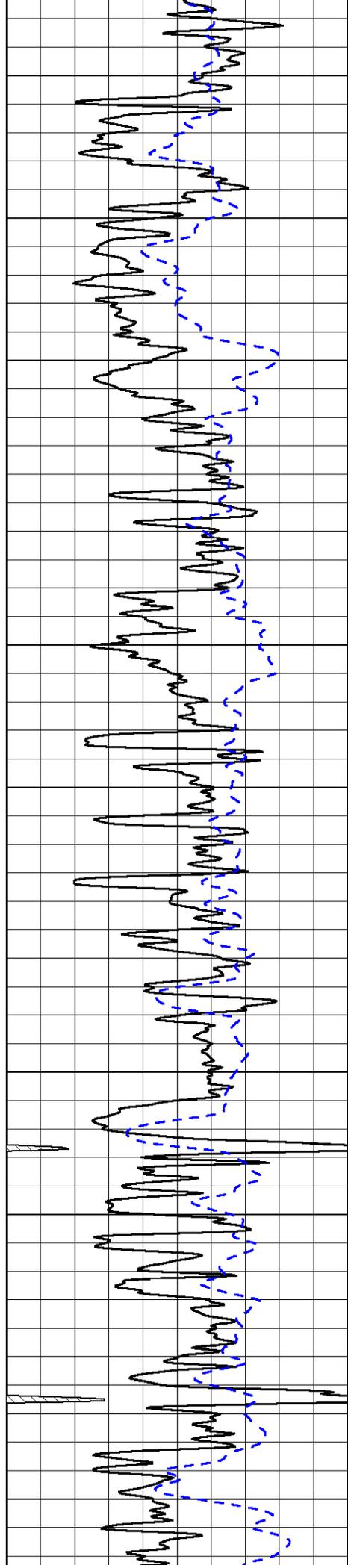
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-200	SP (mV)	0

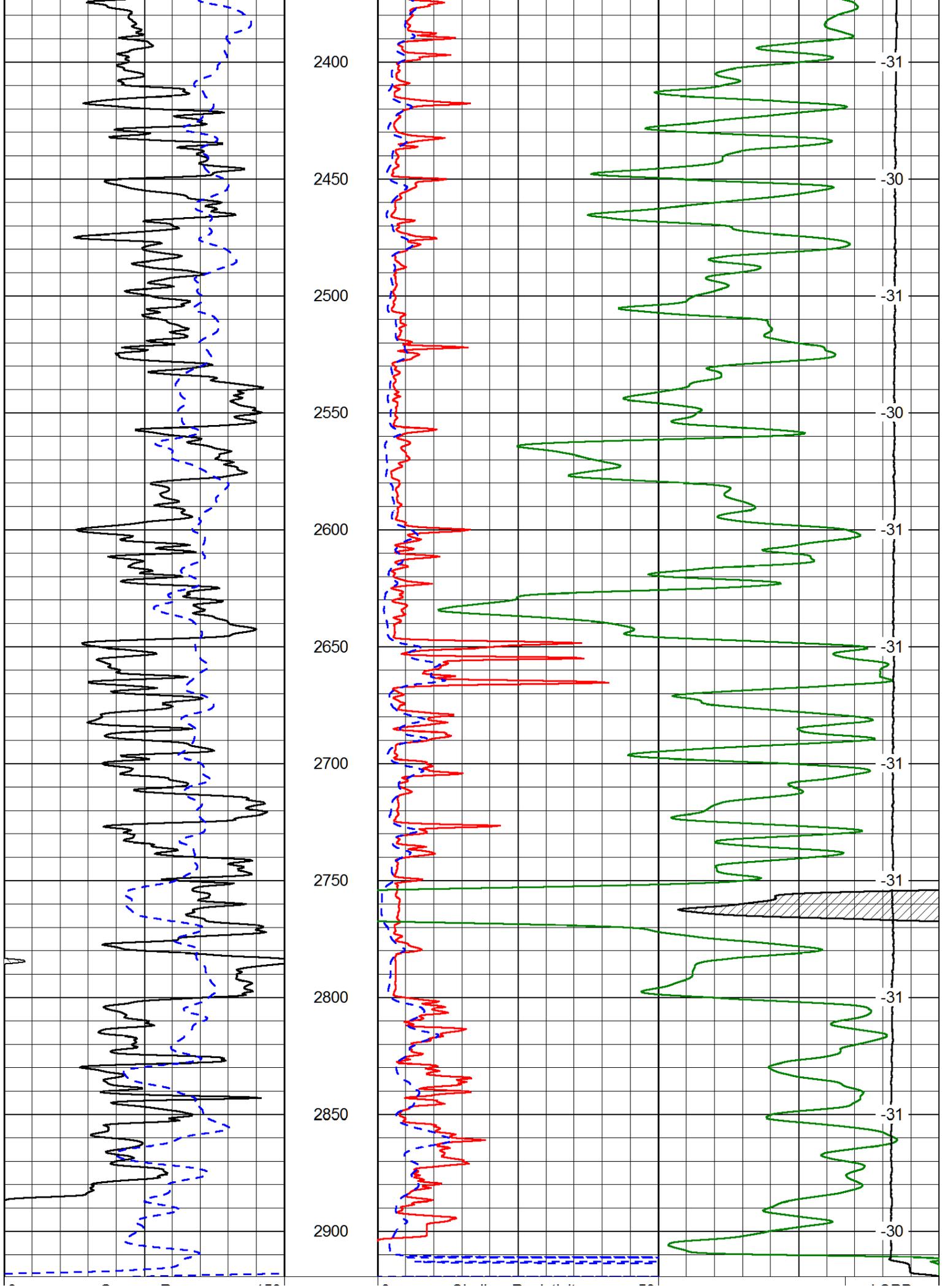
0	Shallow Resistivity	50
0	Deep Resistivity	50
1000	Conductivity	0
15000	Line Tension	0

LSPD	
50	Shallow Resistivity
50	Deep Resistivity









0	Gamma Ray	150
-200	SP (mV)	0

0	Shallow Resistivity	50
0	Deep Resistivity	50
1000	Conductivity	0
15000	Line Tension	0
50	Shallow Resistivity	500
50	Deep Resistivity	500

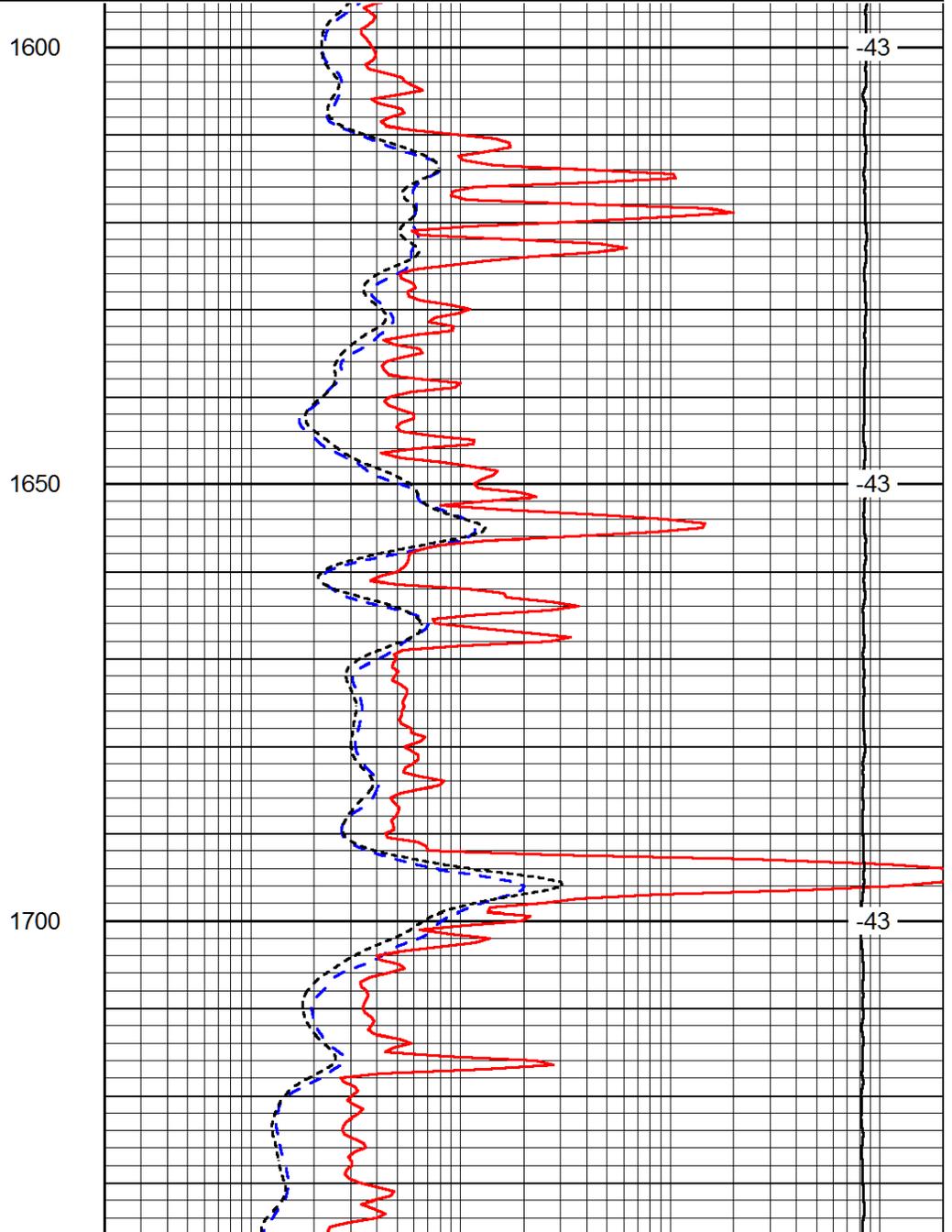
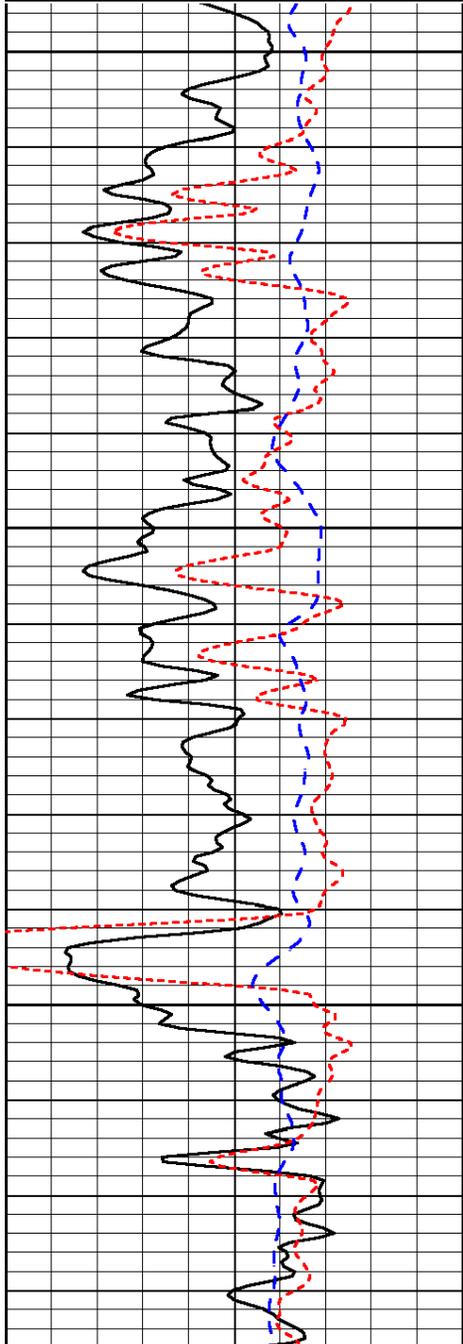
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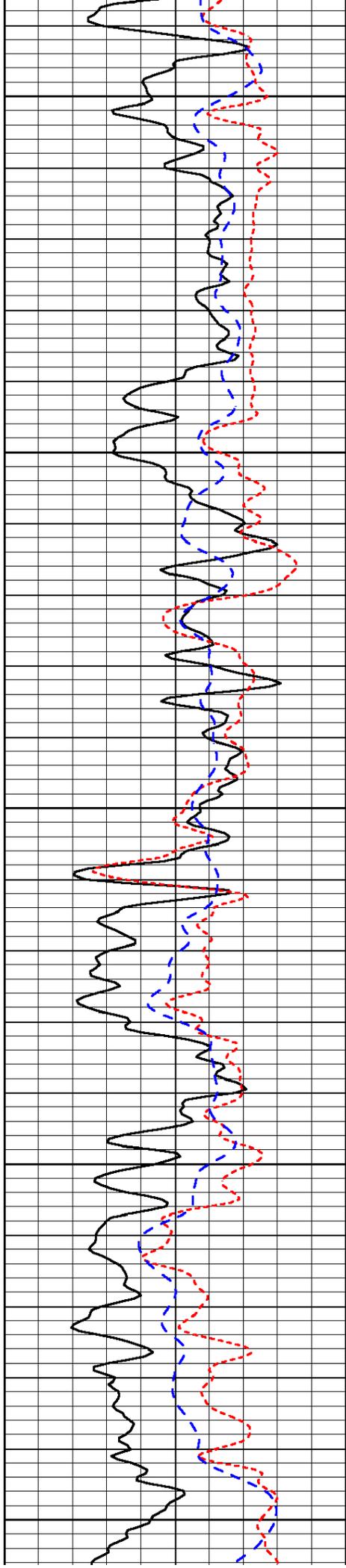
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0	Gamma Ray	150
-160	RXO/RT	40
-200	SP (mV)	0

0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000
10000	Line Tension	0

LSPD





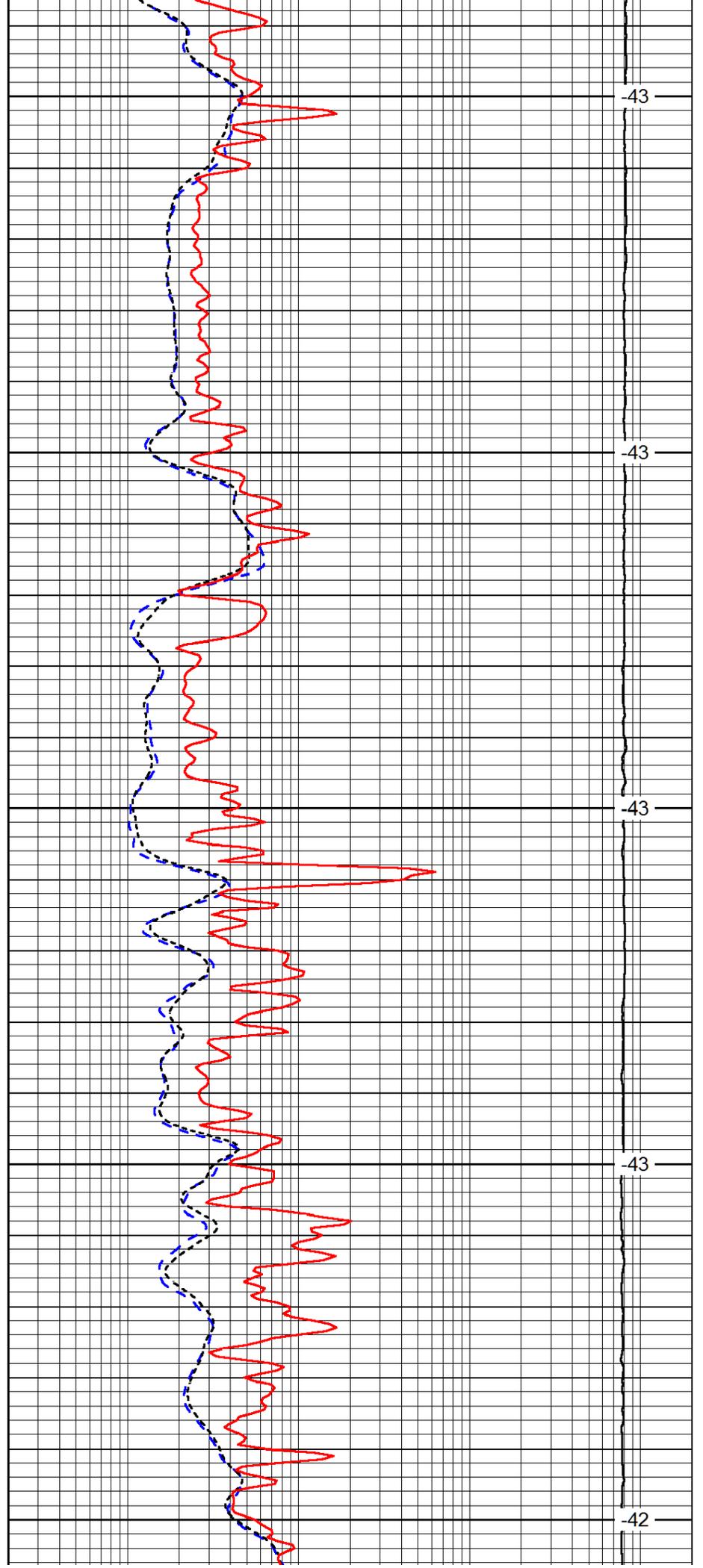
1750

1800

1850

1900

1950



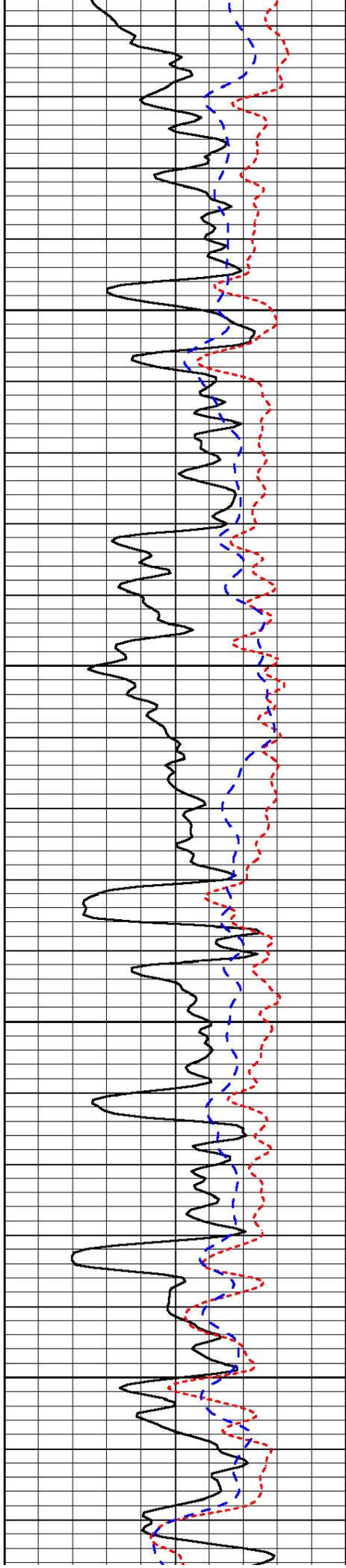
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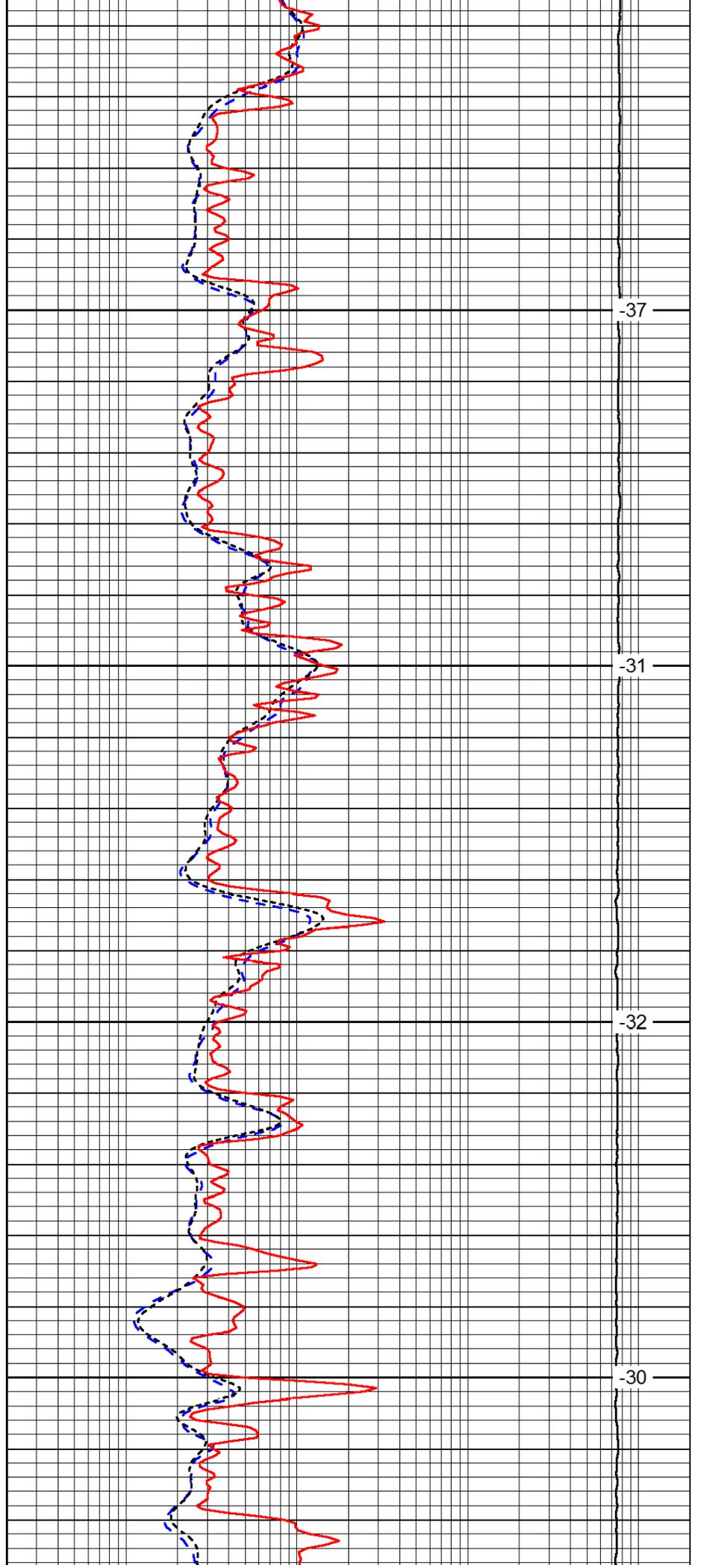


2000

2050

2100

2150

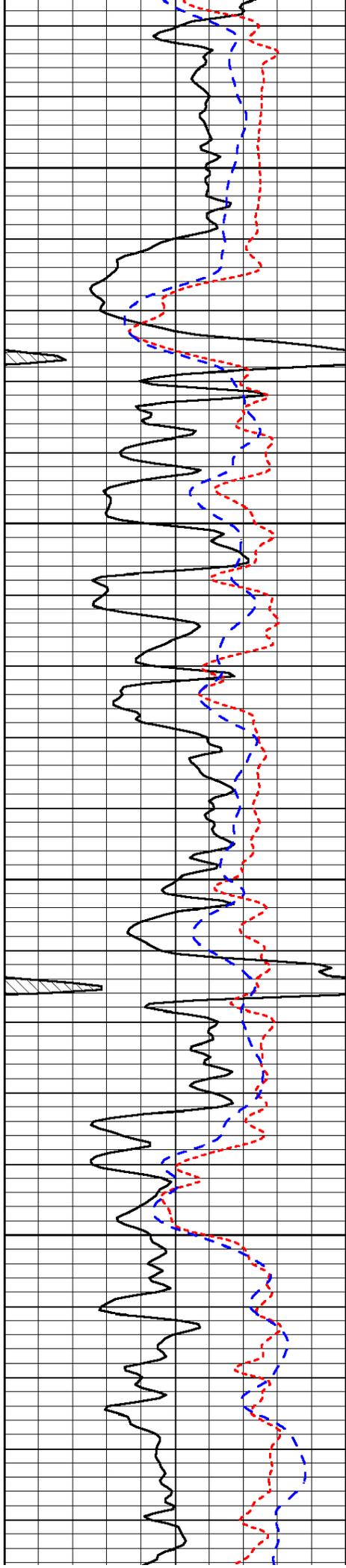


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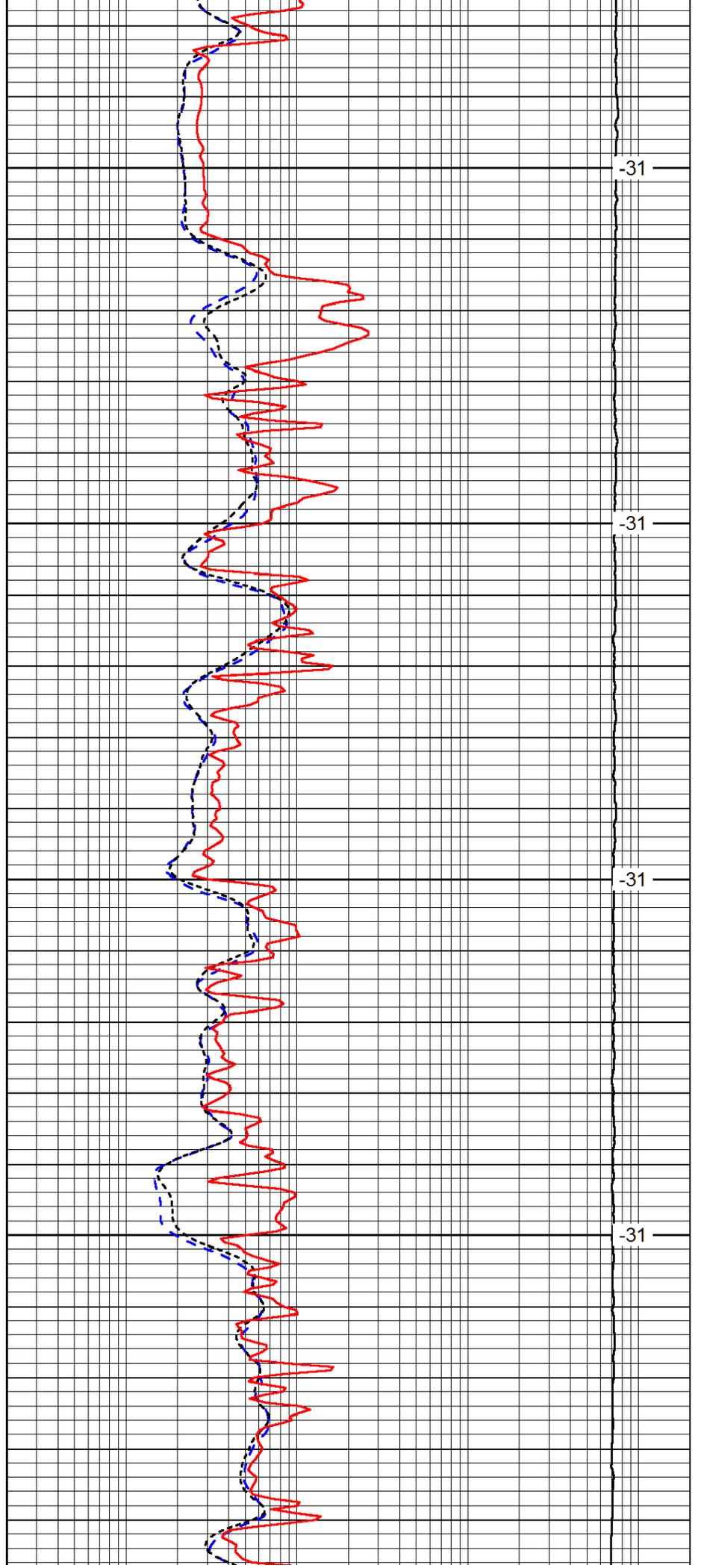


2200

2250

2300

2350

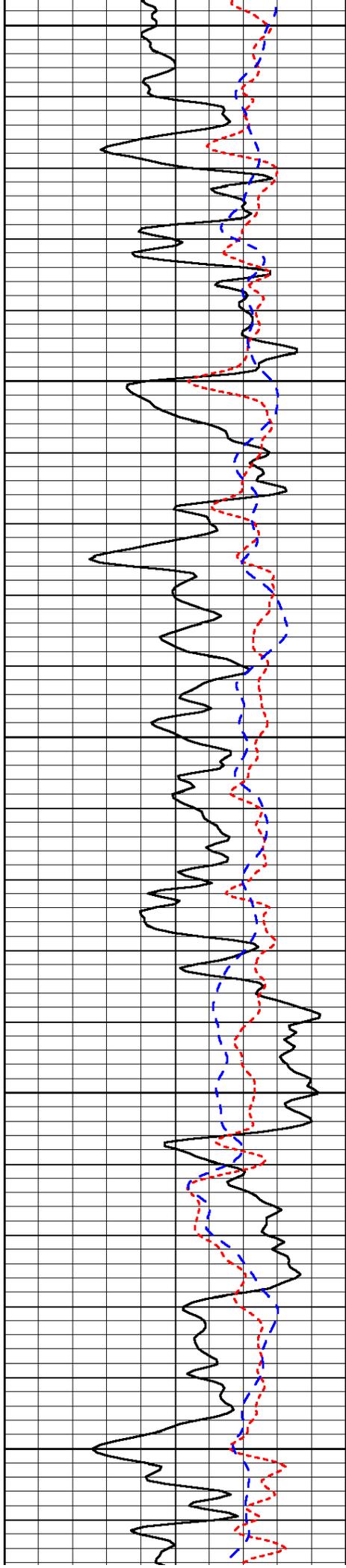


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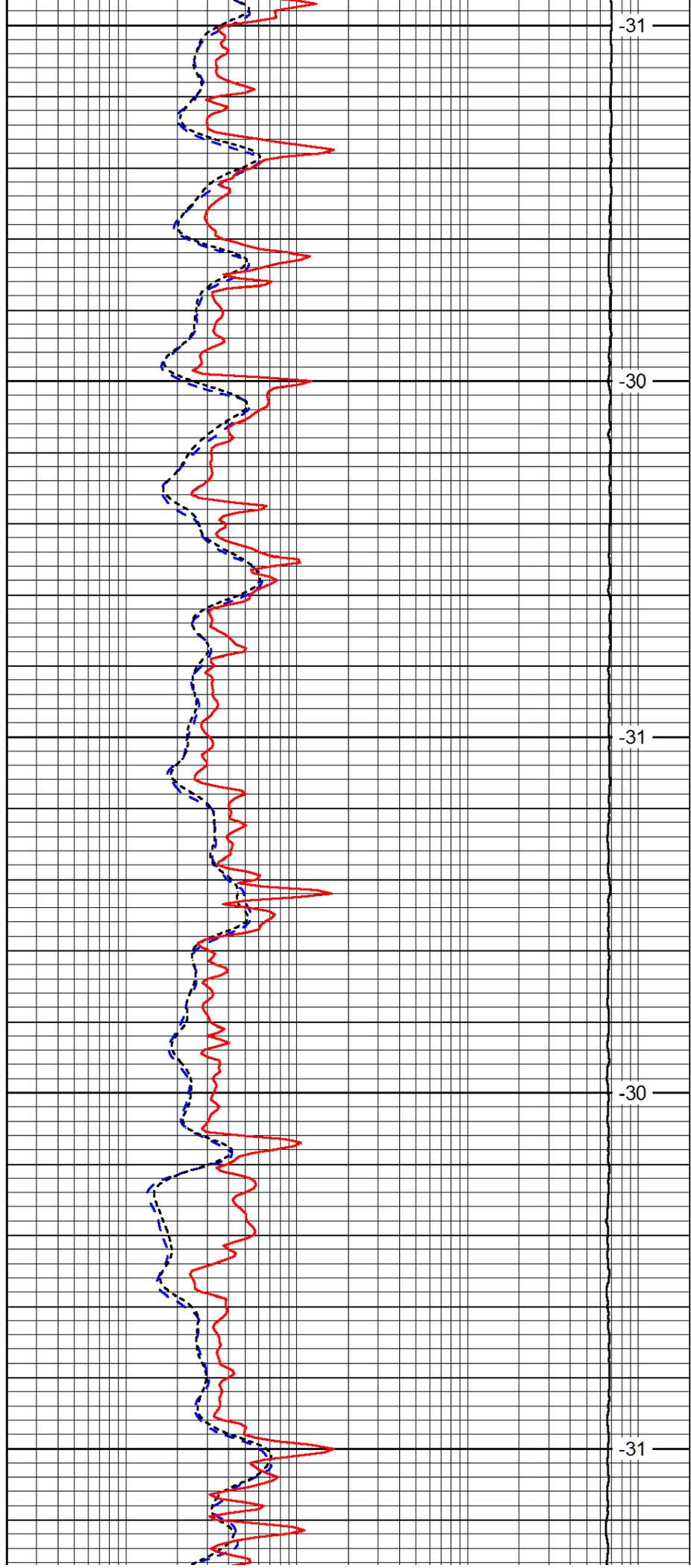
2400

2450

2500

2550

2600



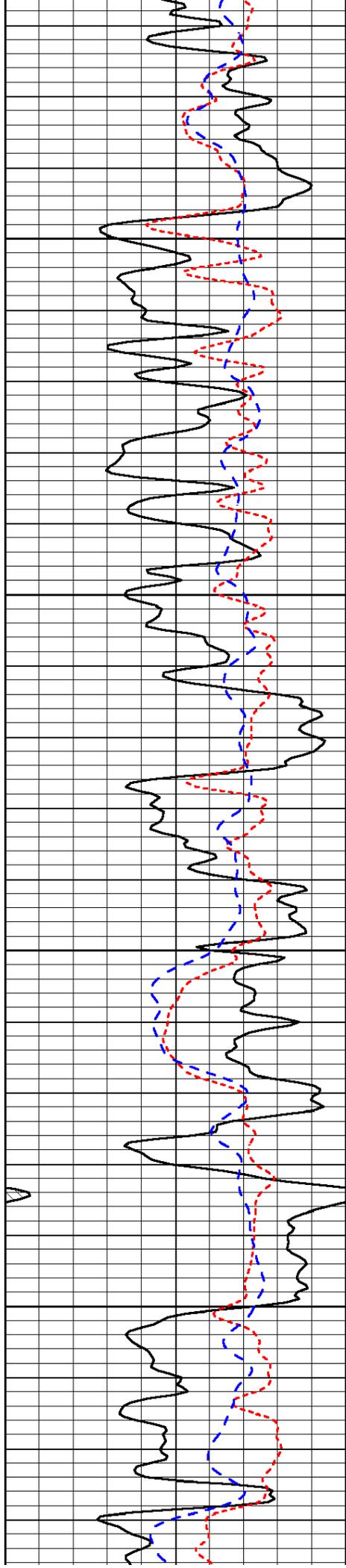
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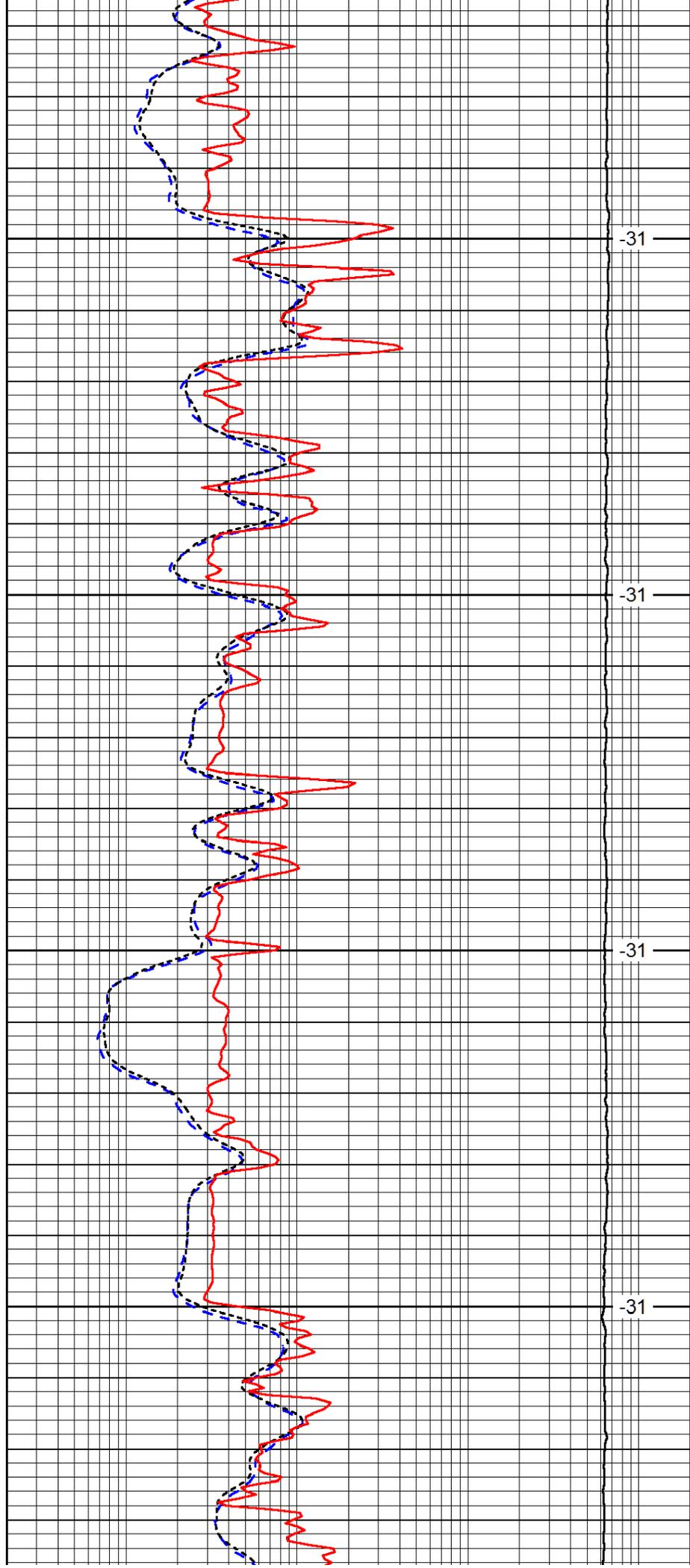


2650

2700

2750

2800

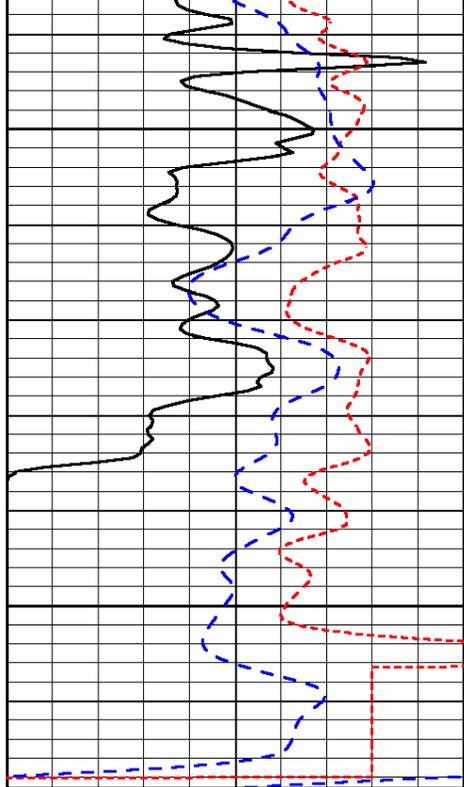


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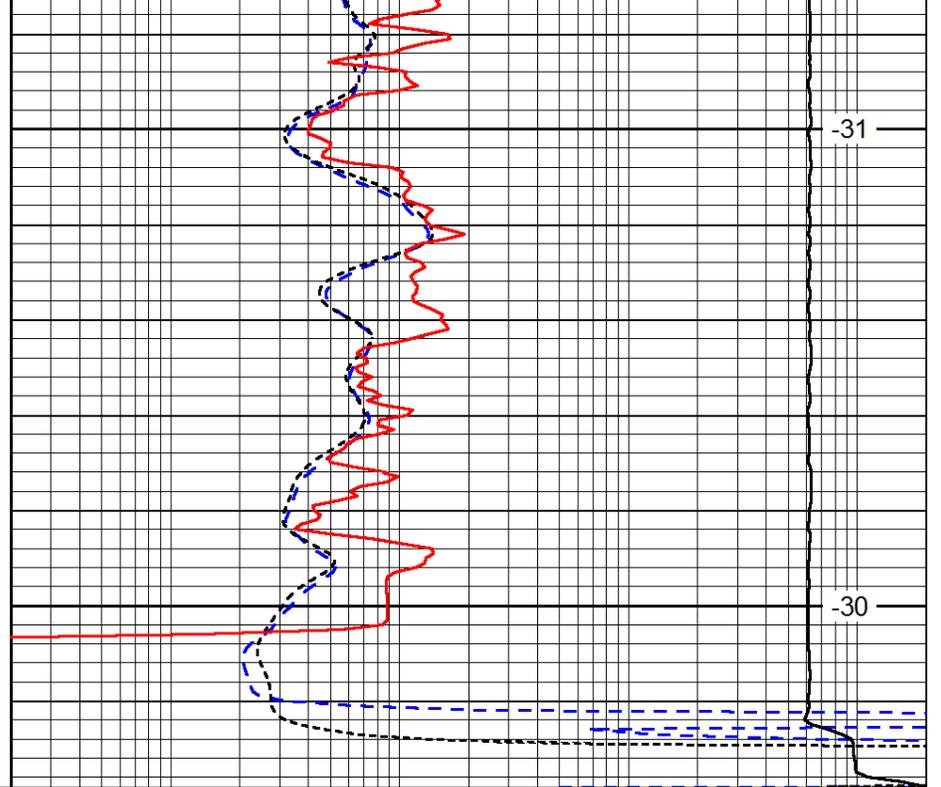
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0	Gamma Ray	150
-160	RXO/RT	40
-200	SP (mV)	0

2850

2900



-31

-30

0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000
10000	Line Tension	0

LSPD