



Pioneer Energy Services

# Dual Induction Log

API No.	15-141-20,463-00-00		
Company	Bruce Oil Company, LLC		
Well	KC Unit No. 1		
Field	Kill Creek Northwest		
County	Osborne	State	Kansas
Location	NW-NW-NE-SE 2500' FSL & 1275' FEL		
Sec: 16	Twp: 8S	Rge: 14W	Other Services CNL/CDL MEL

Permanent Datum	Ground Level	Elevation 1755	K.B. 1760
Log Measured From	Kelly Bushing	5 Ft. Above Perm. Datum	D.F. 1755
Drilling Measured From	Kelly Bushing		G.L. 1755
Date	10/24/13		
Run Number	One		
Depth Driller	3070		
Depth Logger	3068		
Bottom Logged Interval	3067		
Top Log Interval	700		
Casing Driller	8.625 @ 723		
Casing Logger	721		
Bit Size	7.875		
Type Fluid in Hole	Chemical		
Salinity, ppm CL	1,200		
Density / Viscosity	9.2	58	
pH / Fluid Loss	10.5	5.4	
Source of Sample	Flowline		
Rm @ Meas. Temp	.85	@	69
Rmf @ Meas. Temp	.64	@	69
Rmc @ Meas. Temp	1.15	@	69
Source of Rmf / Rmc	Charts		
Rm @ BHT	.55	@	107
Operating Rig Time	3 Hours		
Max Rec. Temp. F	107		
Equipment Number	108		
Location	Hays		
Recorded By	J. Henrickson		
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 Kansas  
11 North on 280th Rd(657 Rd), 1 East, 1 North, 6 East, South Into

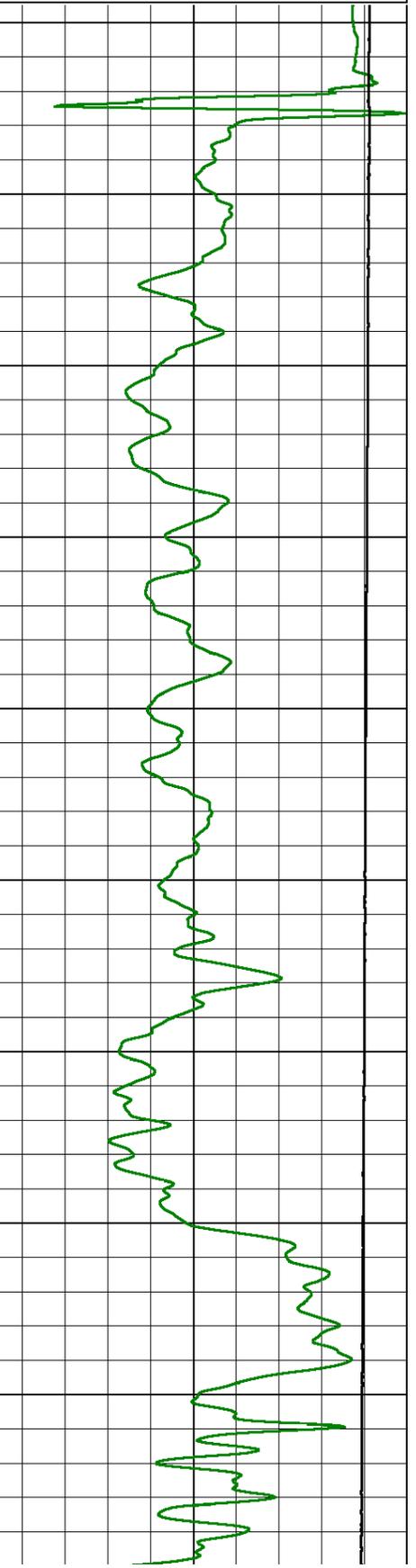
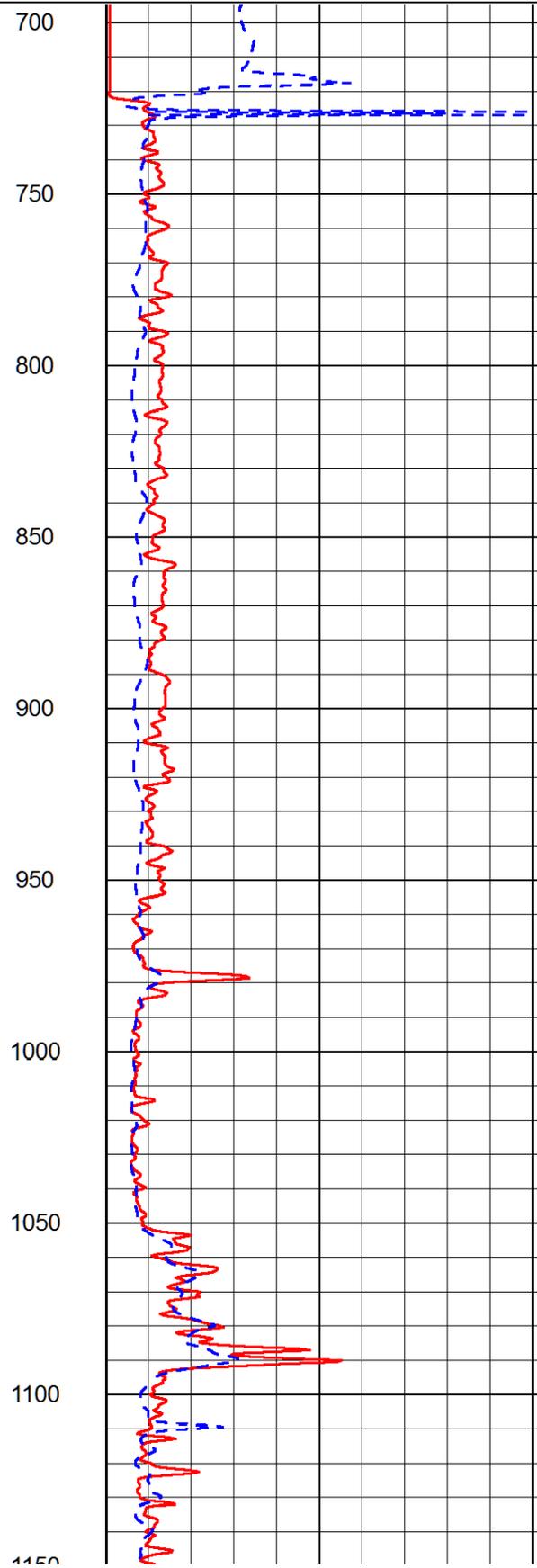
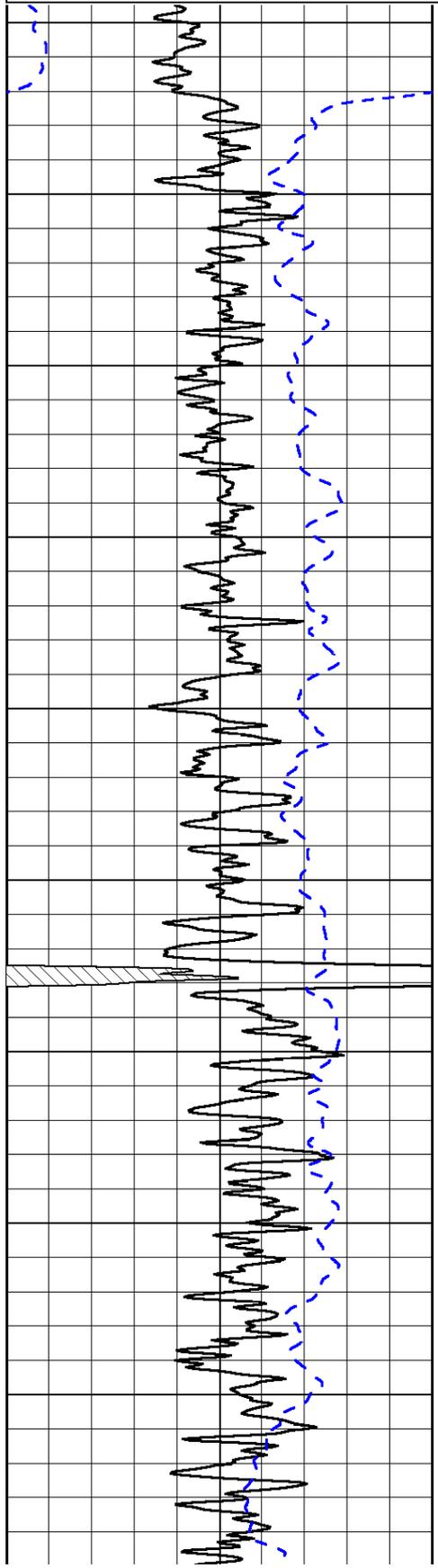
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 Presentation Format: dil2in  
 Dataset Creation: Thu Oct 24 17:03:25 2013  
 Charted by: Depth in Feet scaled 1:600

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

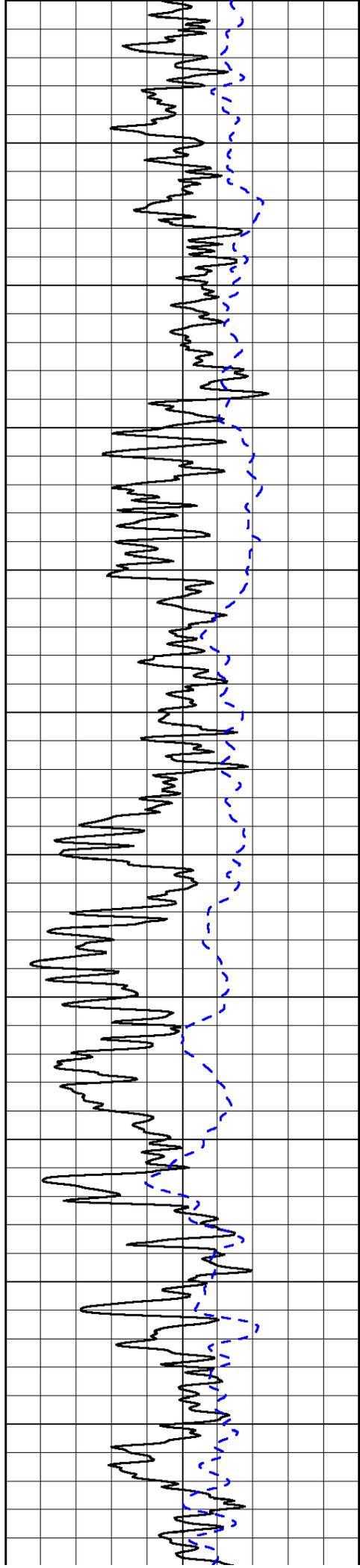
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0	Deep Resistivity (Ohm-m)	50

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

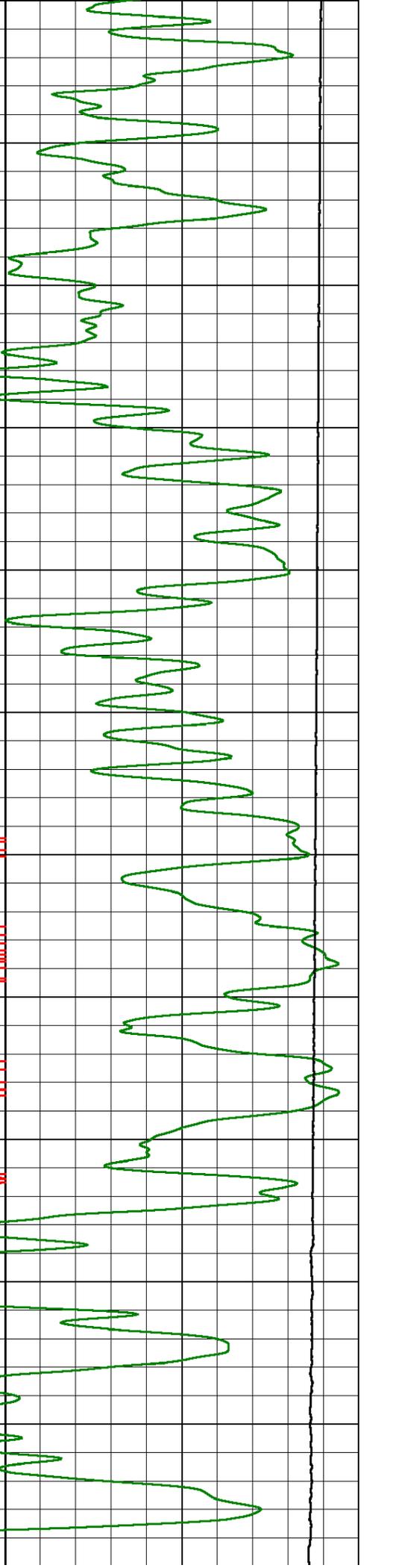
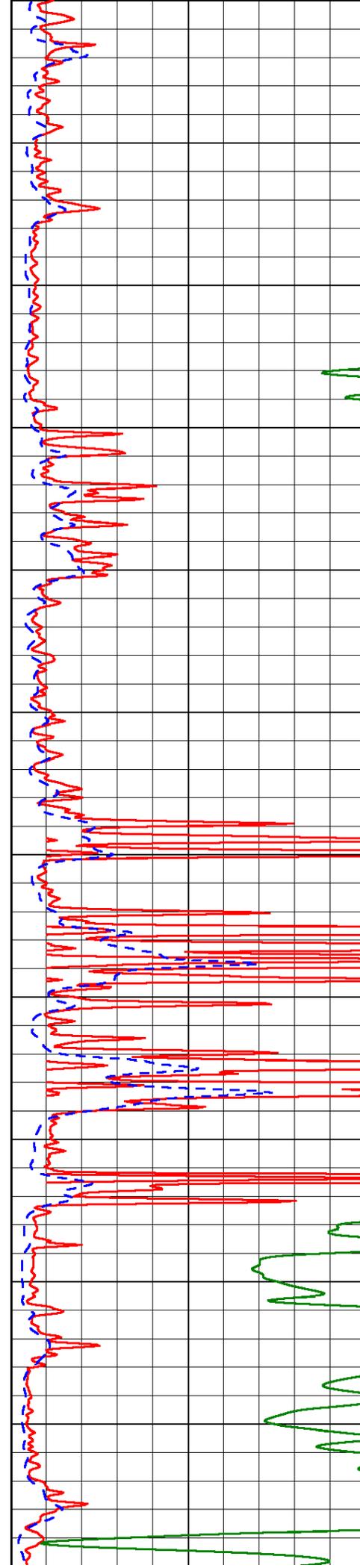
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50	(Ohm-m)	500
50	Deep Resistivity (Ohm-m)	500

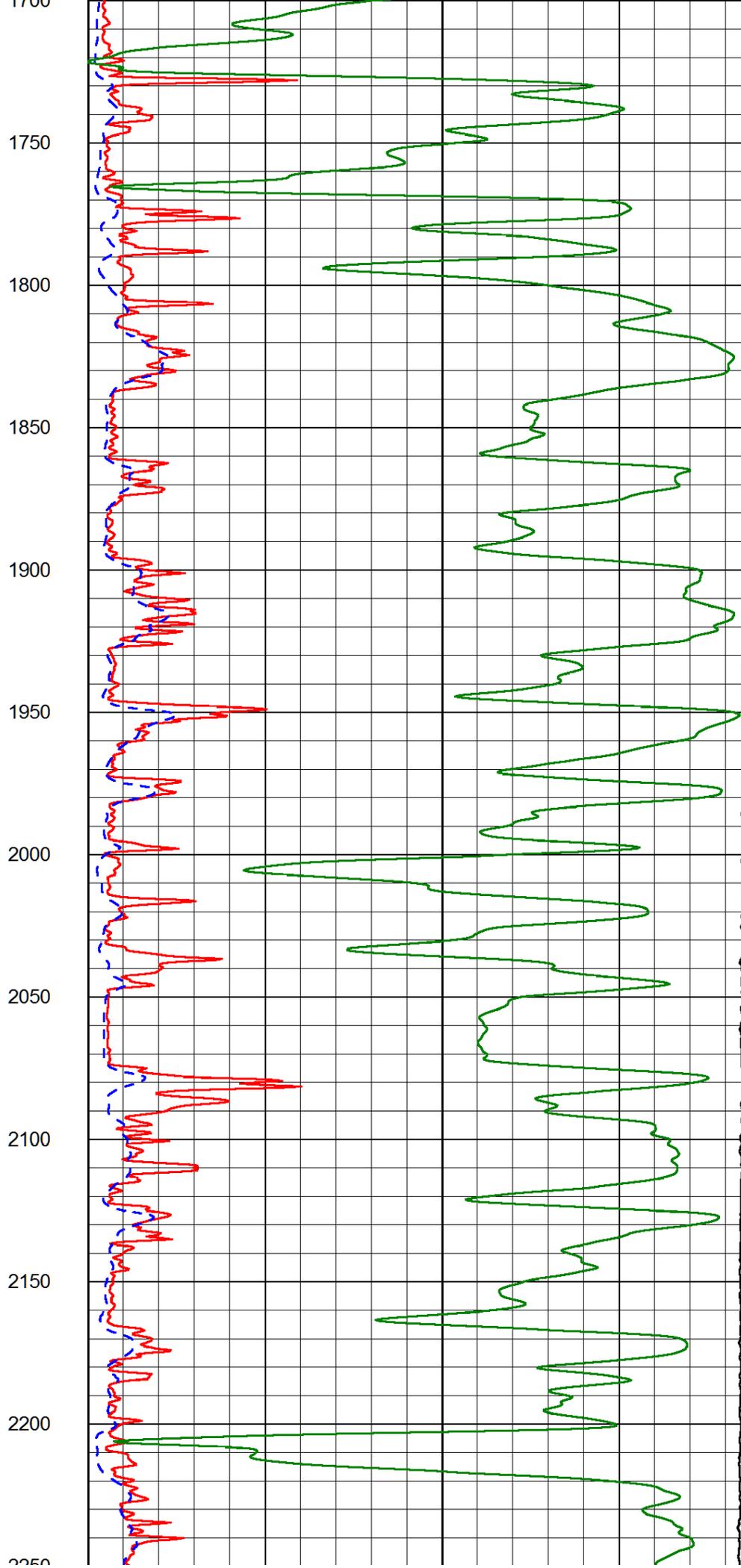
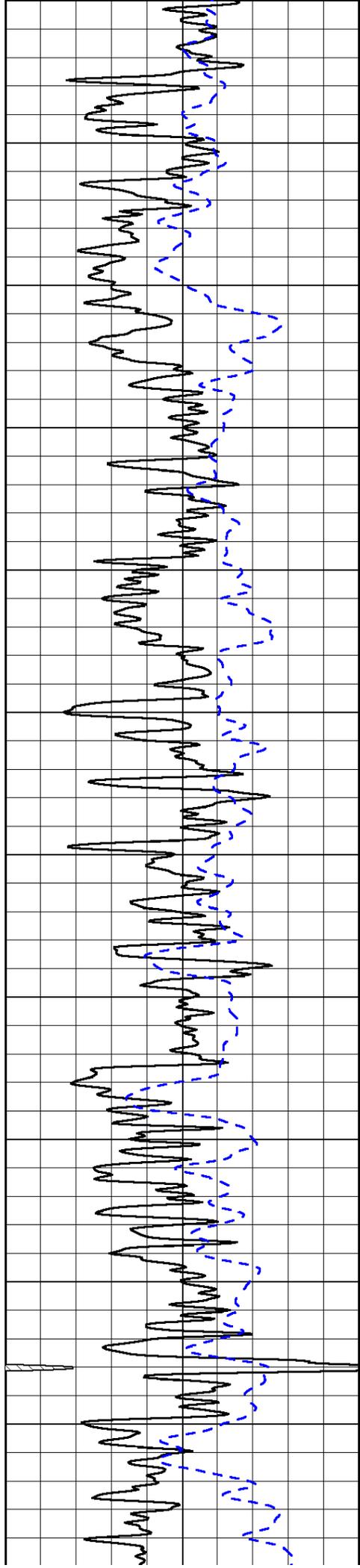


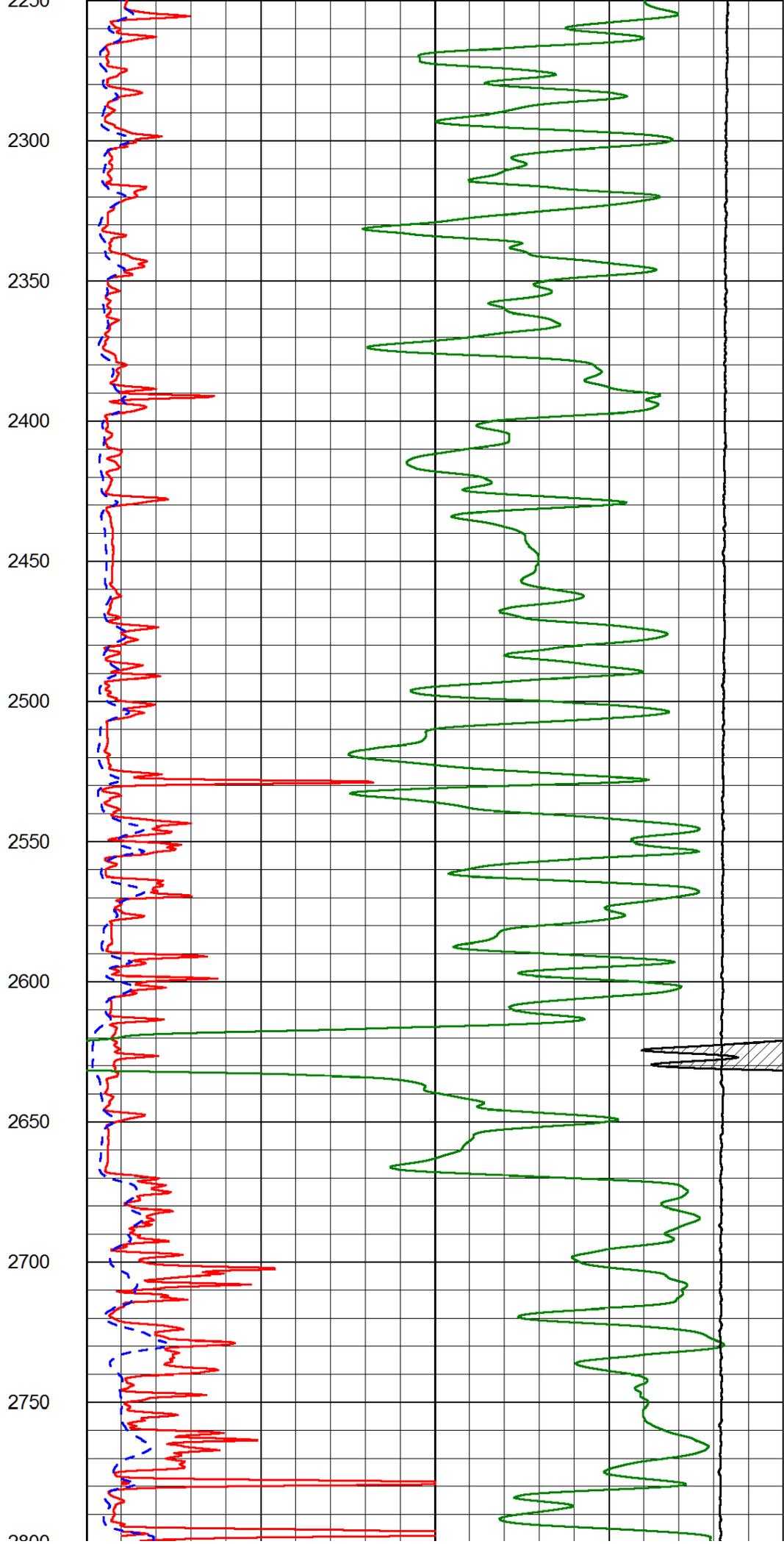
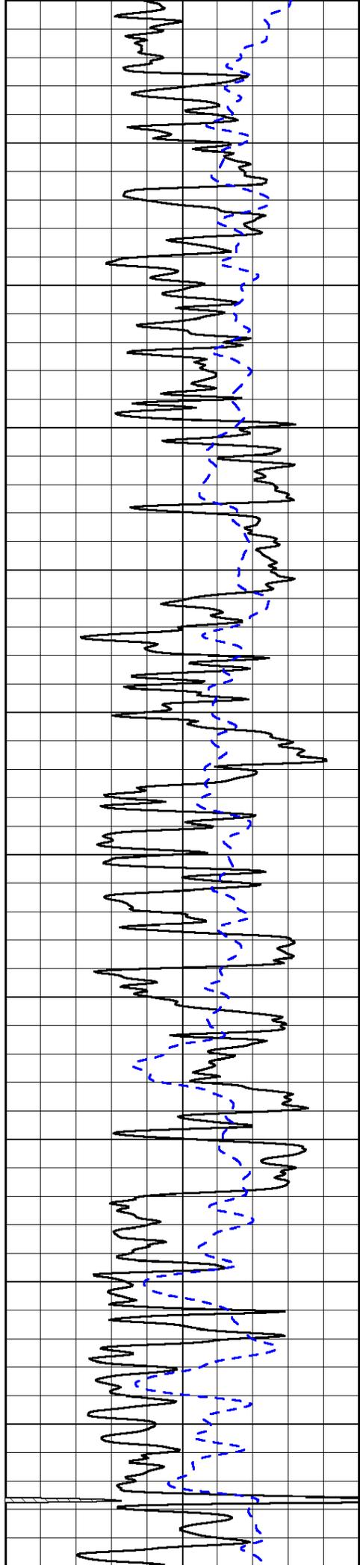
700  
750  
800  
850  
900  
950  
1000  
1050  
1100  
1150

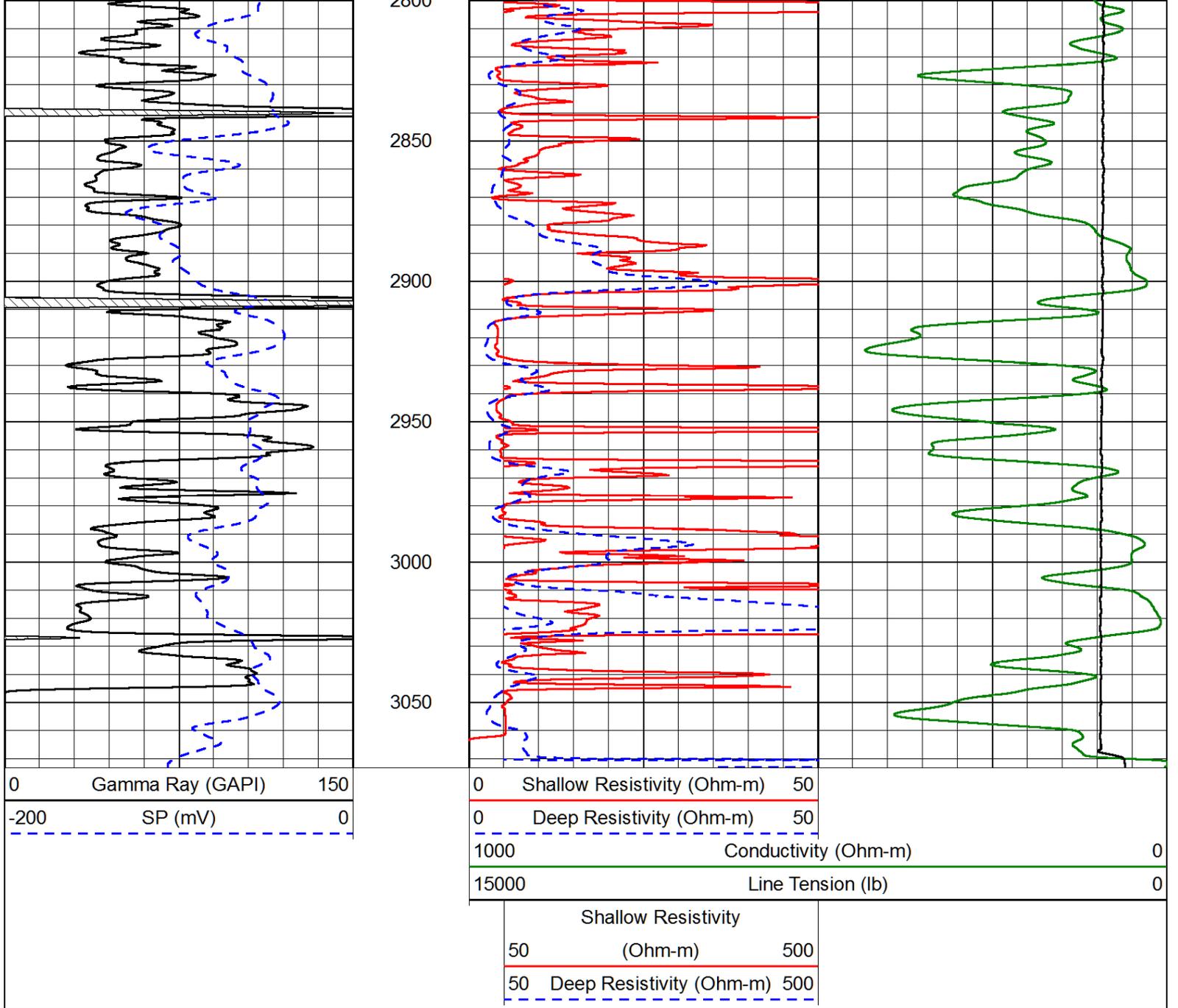


1150  
1200  
1250  
1300  
1350  
1400  
1450  
1500  
1550  
1600  
1650  
1700

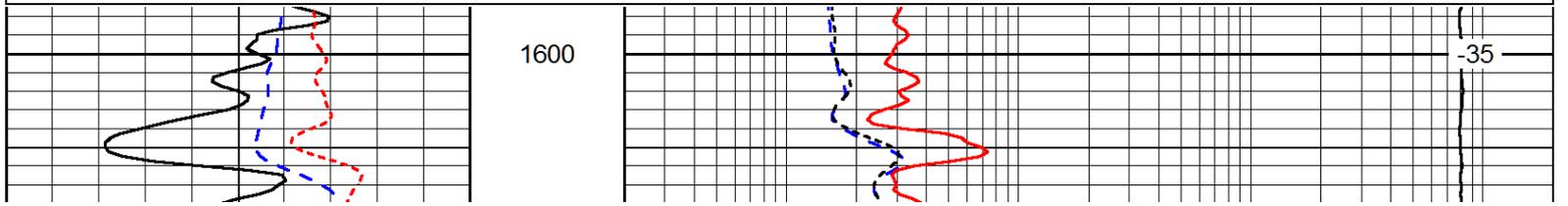
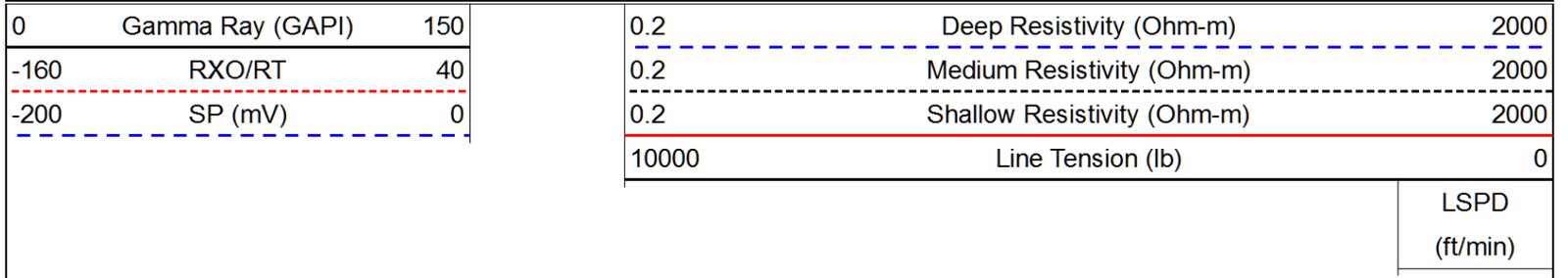


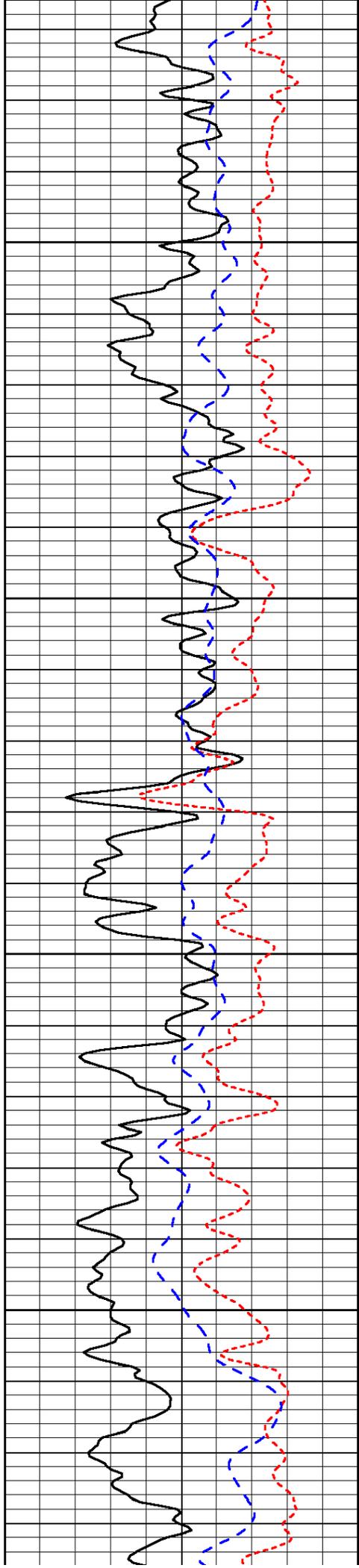






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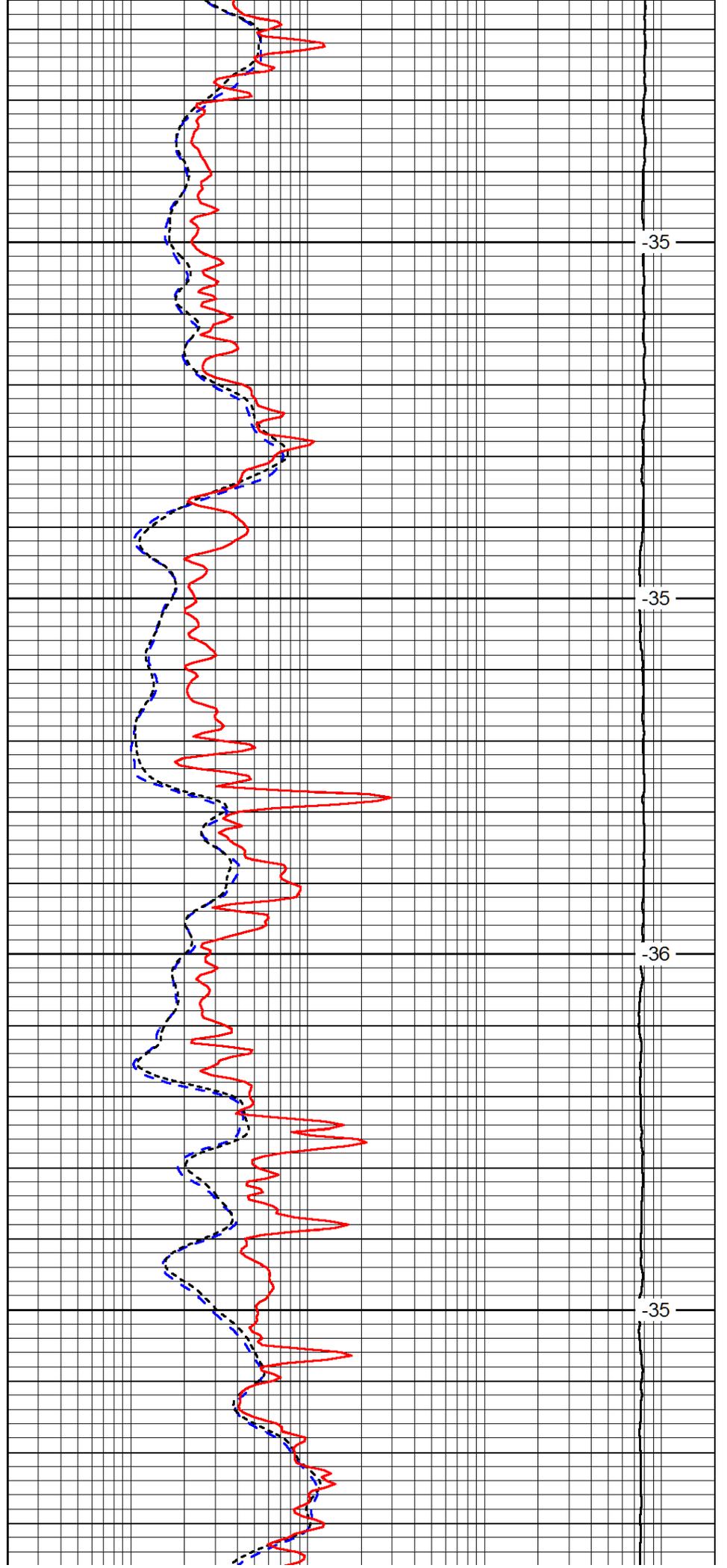


1650

1700

1750

1800

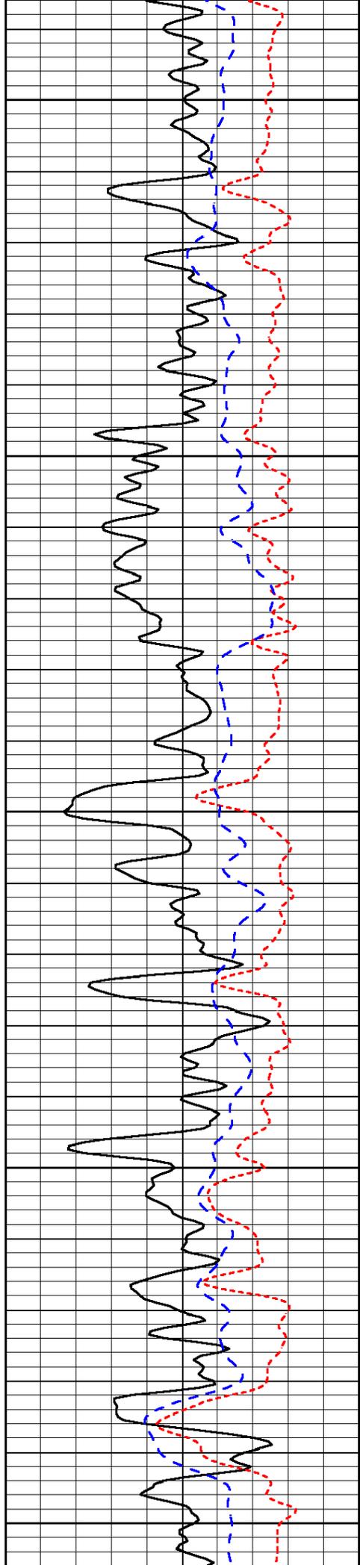


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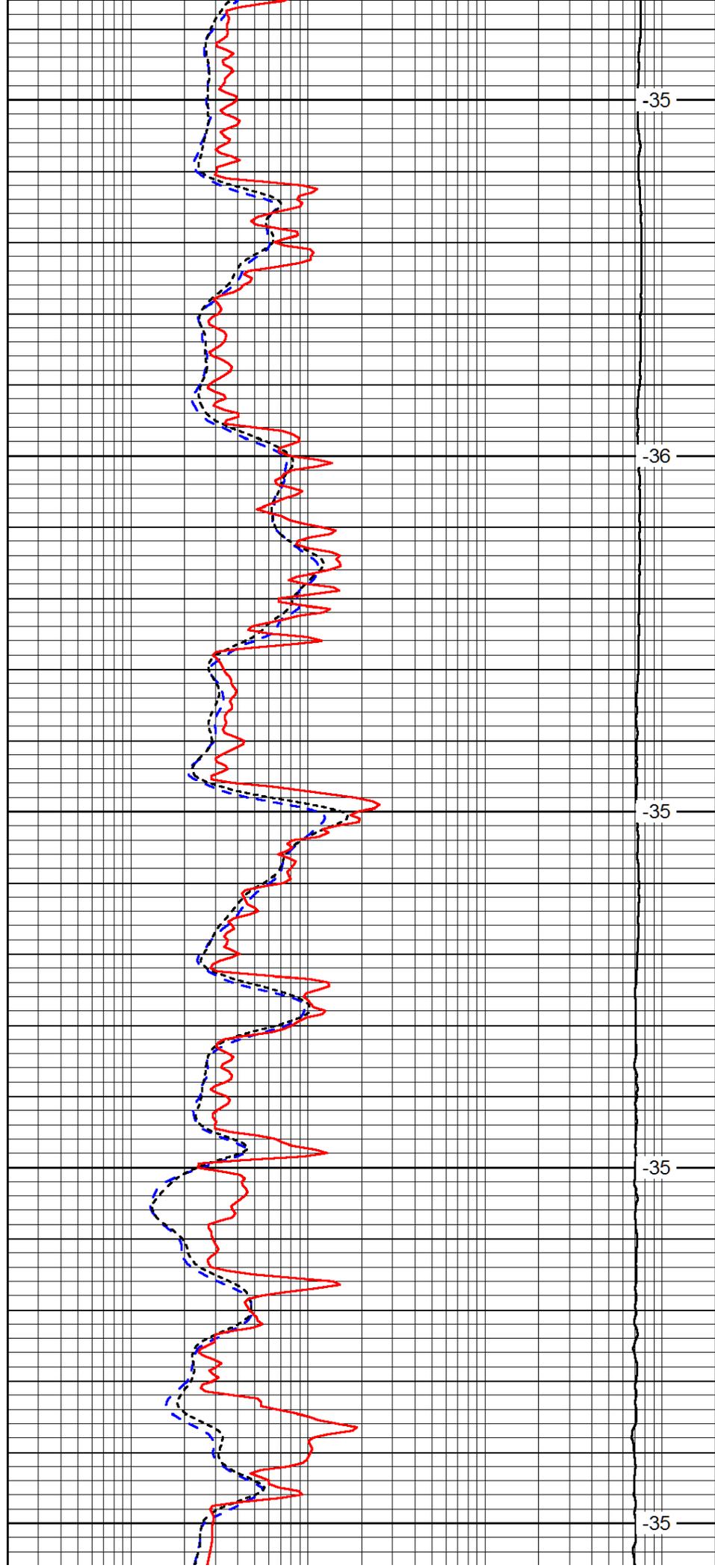
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1900

1950

2000

2050



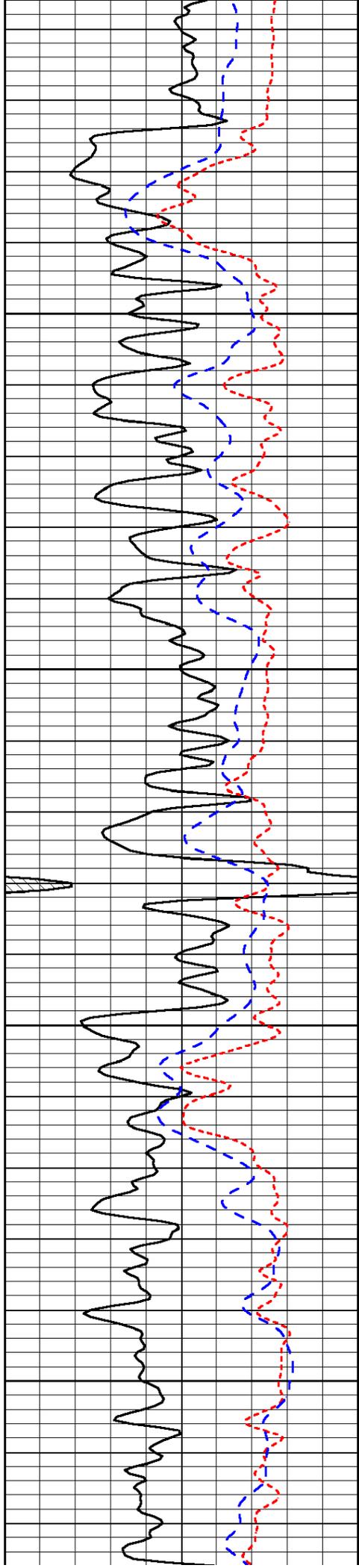
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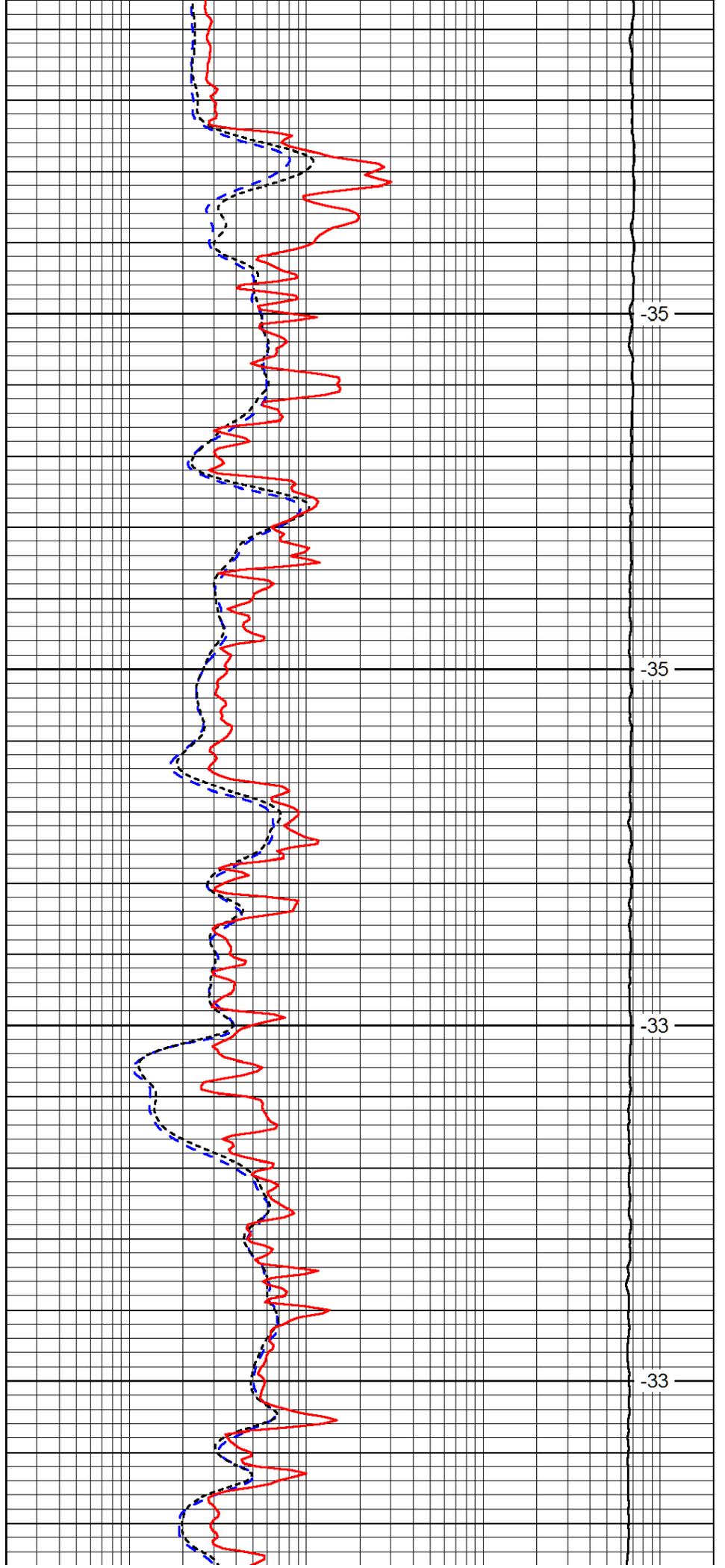


2100

2150

2200

2250

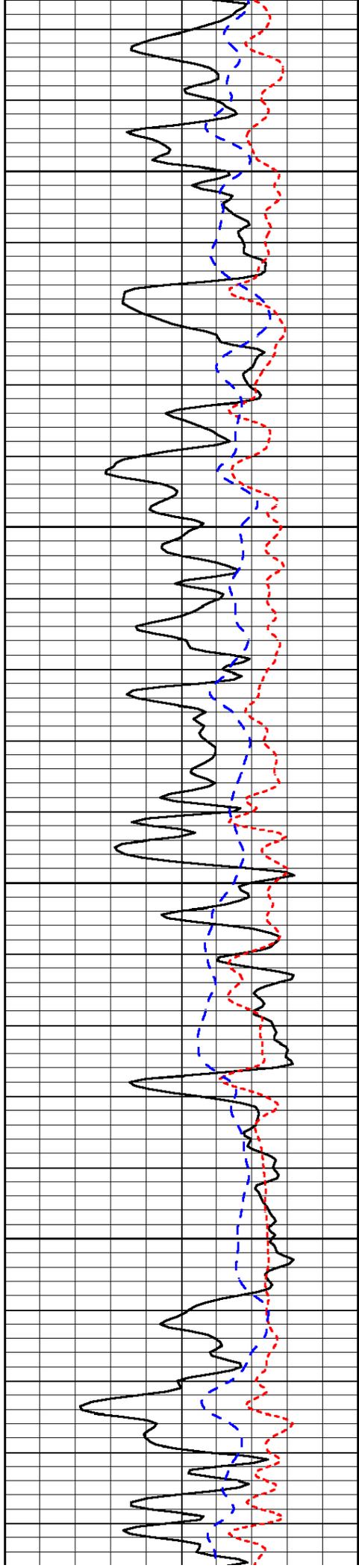


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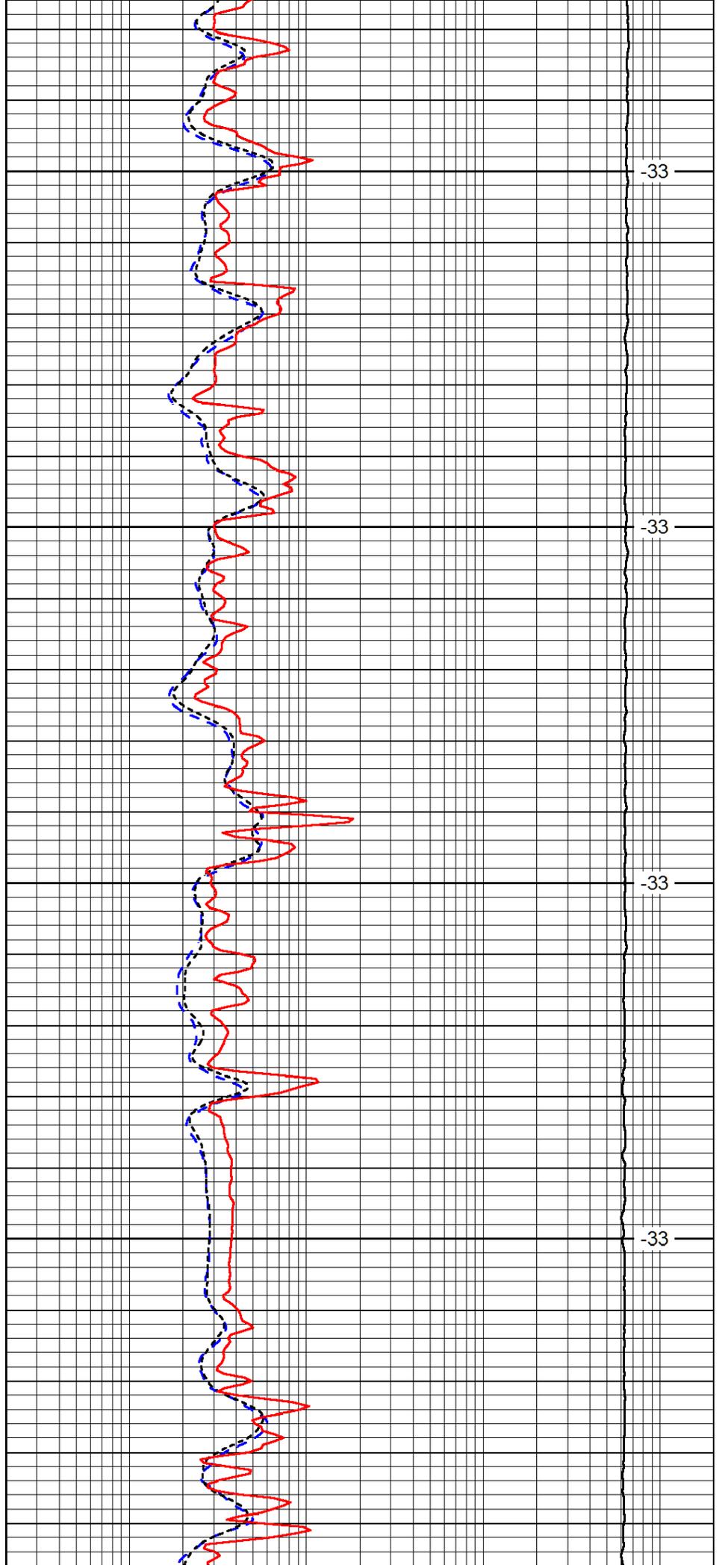


2300

2350

2400

2450

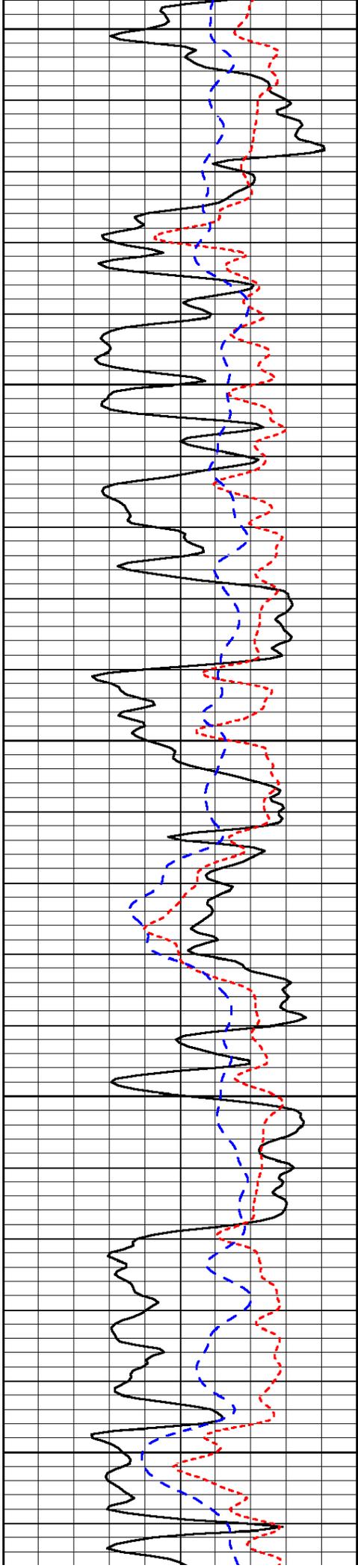


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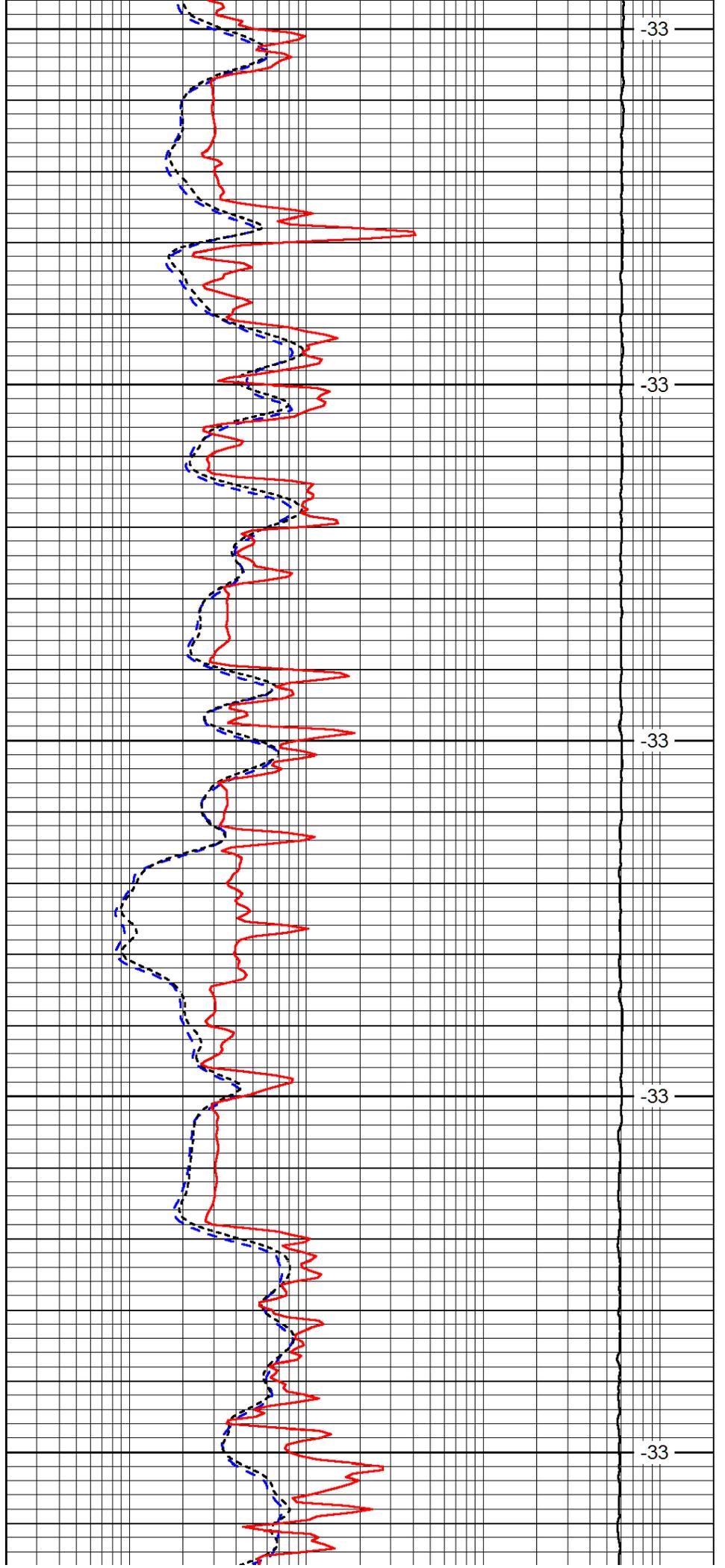
2500

2550

2600

2650

2700



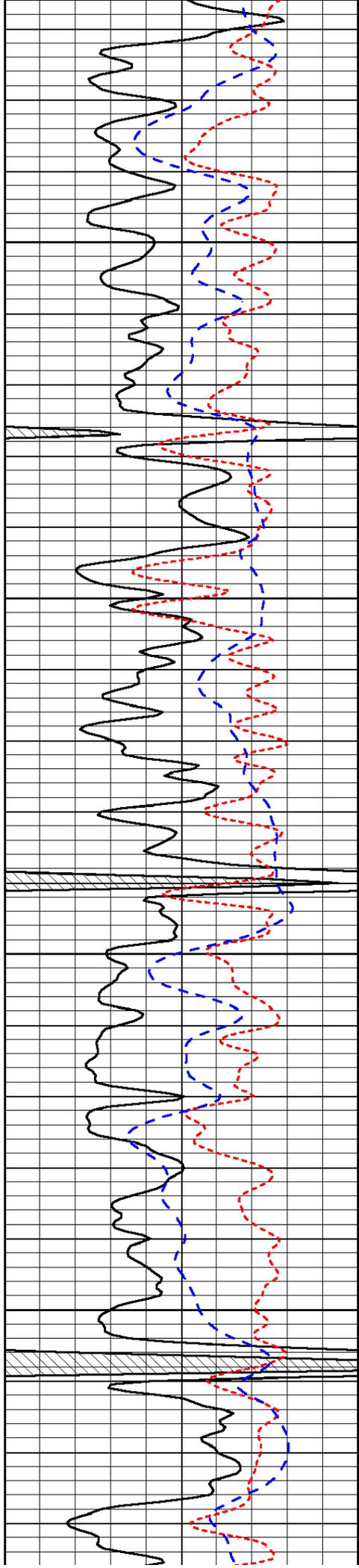
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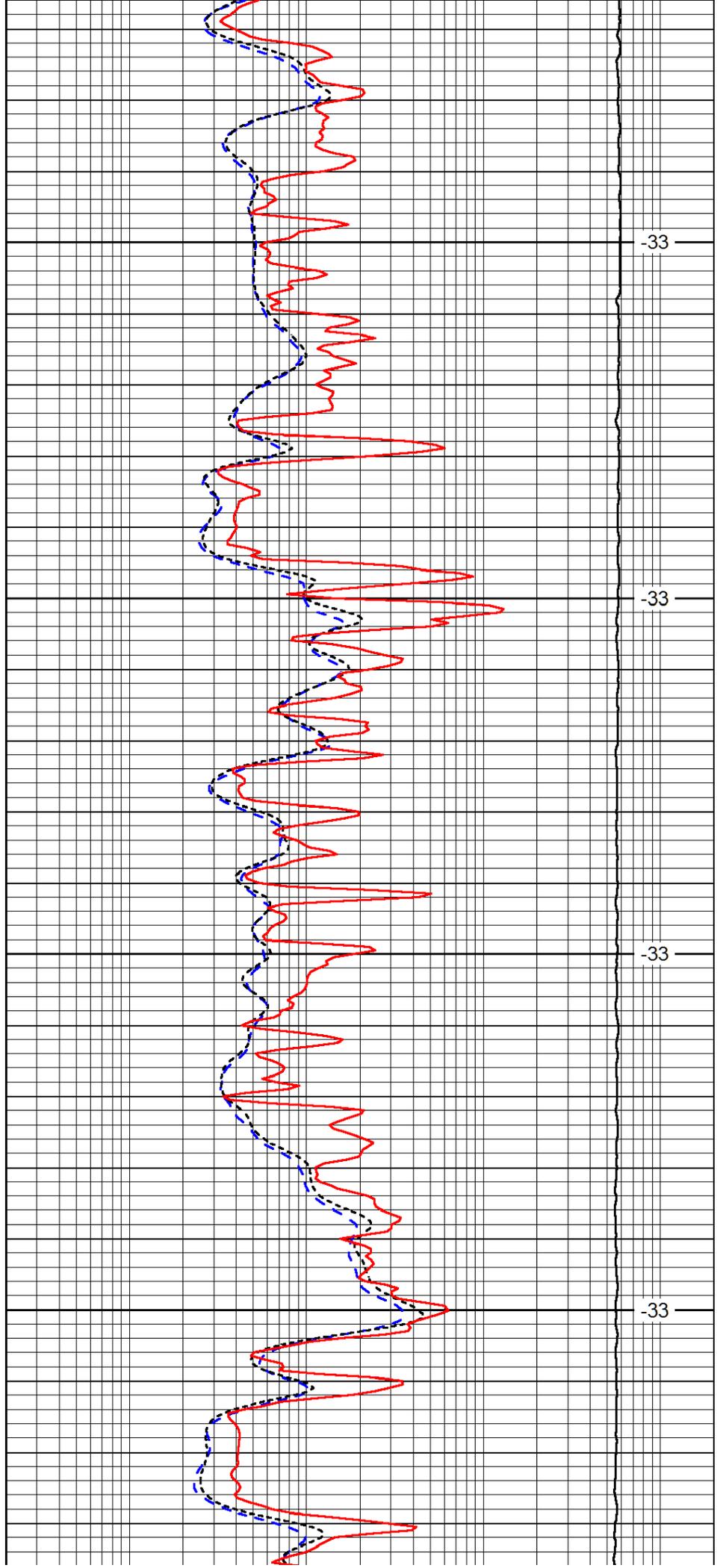


2750

2800

2850

2900

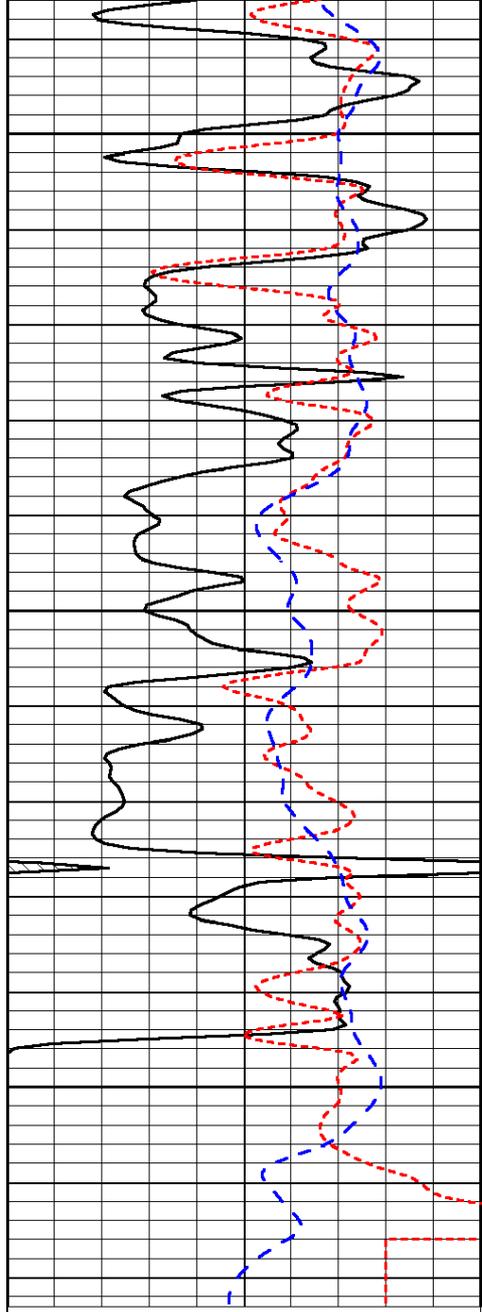


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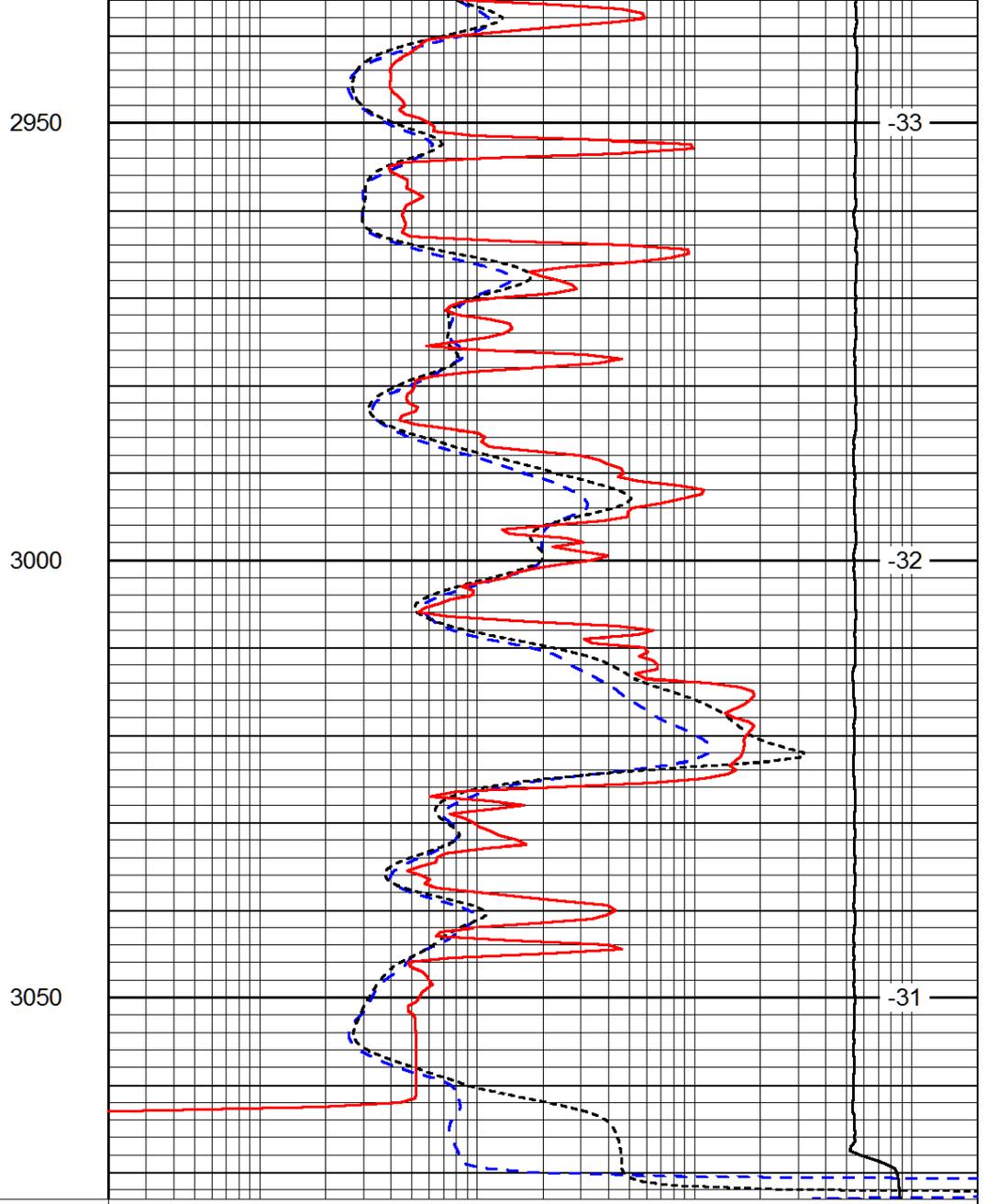
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0	Gamma Ray (GAPI)	150
-160	RXO/RT	40
-200	SP (mV)	0



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)