



Pioneer Energy Services

# Dual Induction Log

15-095-22,292-00-00

API No.

Company **Messenger Petroleum, Inc.**

Well **Merven #1**

Field **Willowdale**

County **Kingman** State **Kansas**

Location **660' FNL & 1320' FWL**

Sec: **15** Twp: **29S** Rge: **9W**

Permanent Datum **Ground Level** Elevation **1691**

Log Measured From **Kelly Bushing** 9 Ft. Above Perm. Datum

Drilling Measured From **Kelly Bushing** K.B. 1700  
D.F. 1691  
G.L. 1691

Other Services  
CNL/CDL  
MEL

Date **1/7/2015**

Run Number **One**

Depth Driller **4568**

Depth Logger **4571**

Bottom Logged Interval **4570**

Top Log Interval **200**

Casing Driller **8.625 @ 223**

Casing Logger **223**

Bit Size **7.875**

Type Fluid in Hole **Chemical**

Salinity, ppm CL **4000**

Density / Viscosity **9.3 56**

pH / Fluid Loss **11.0 9.0**

Source of Sample **Flowline**

Rm @ Meas. Temp **.40 @ 62**

Rmf @ Meas. Temp **.30 @ 62**

Rmc @ Meas. Temp **.54 @ 62**

Source of Rmf / Rmc **Charts**

Rm @ BHT **.20 @ 122**

Operating Rig Time **4 Hours**

Max Rec. Temp. F **122**

Equipment Number **108**

Location **Hays**

Recorded By **D. Fischer**

Witnessed By **Jon F. Messenger**

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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 Pioneer Energy Services  
www.pioneeres.com  
785 625 3858

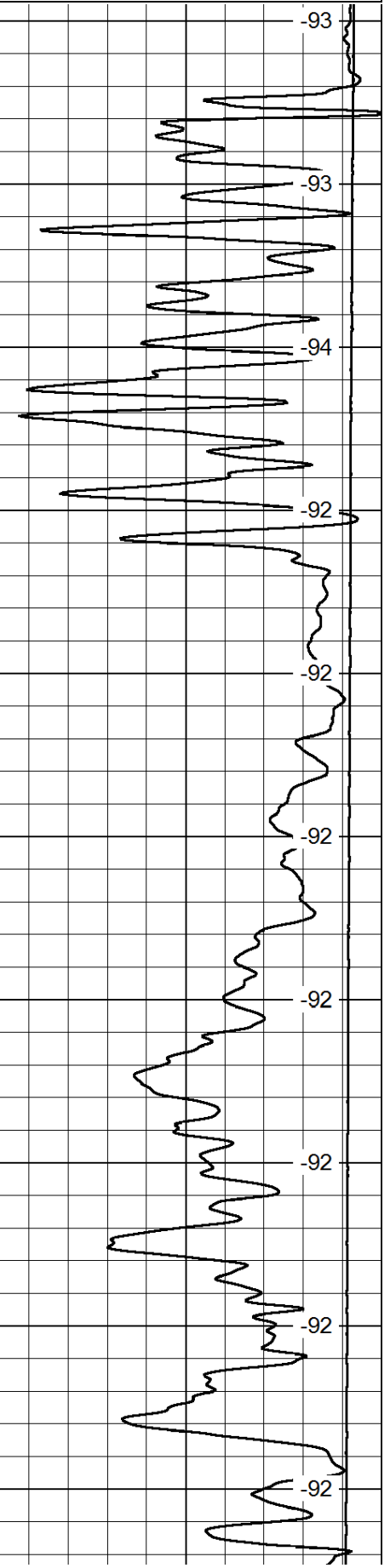
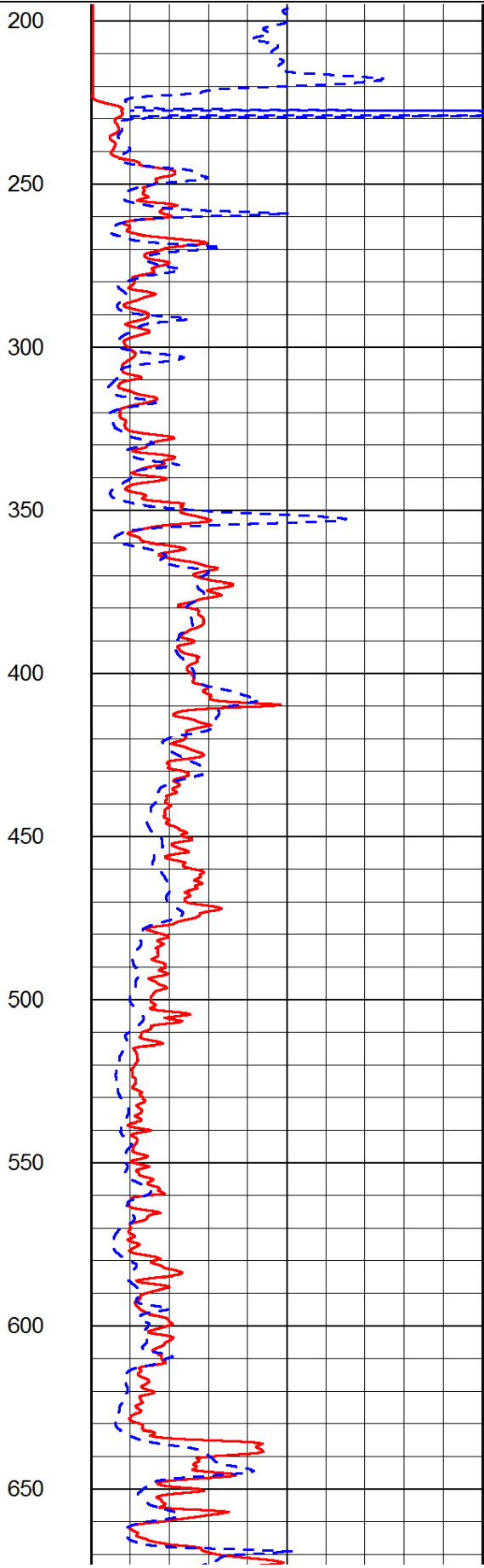
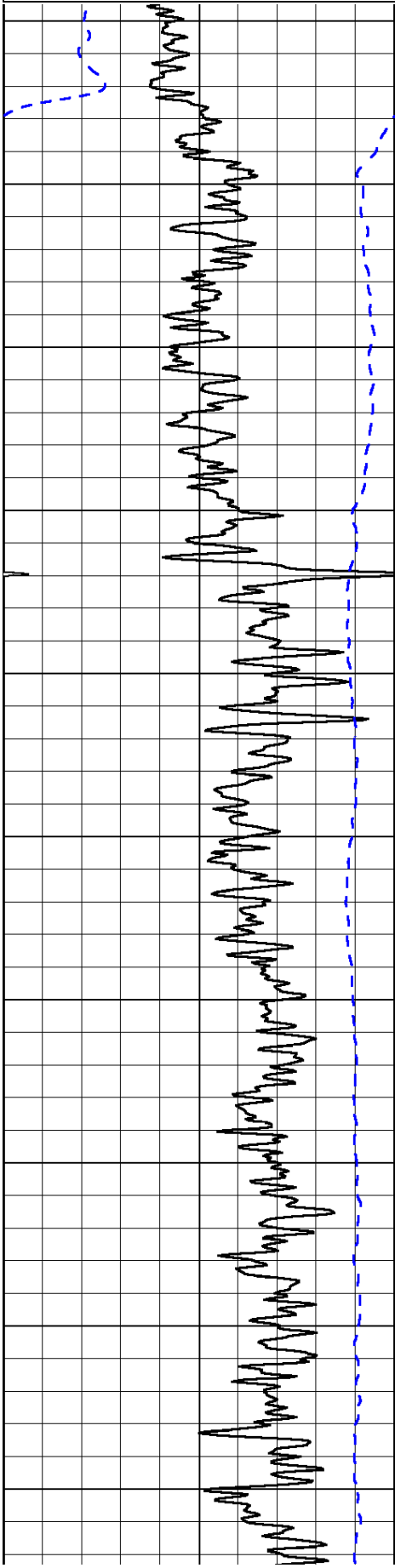
Hwy. 400 & Zenda Black Top, 8 South, 3/4 West, South Into.

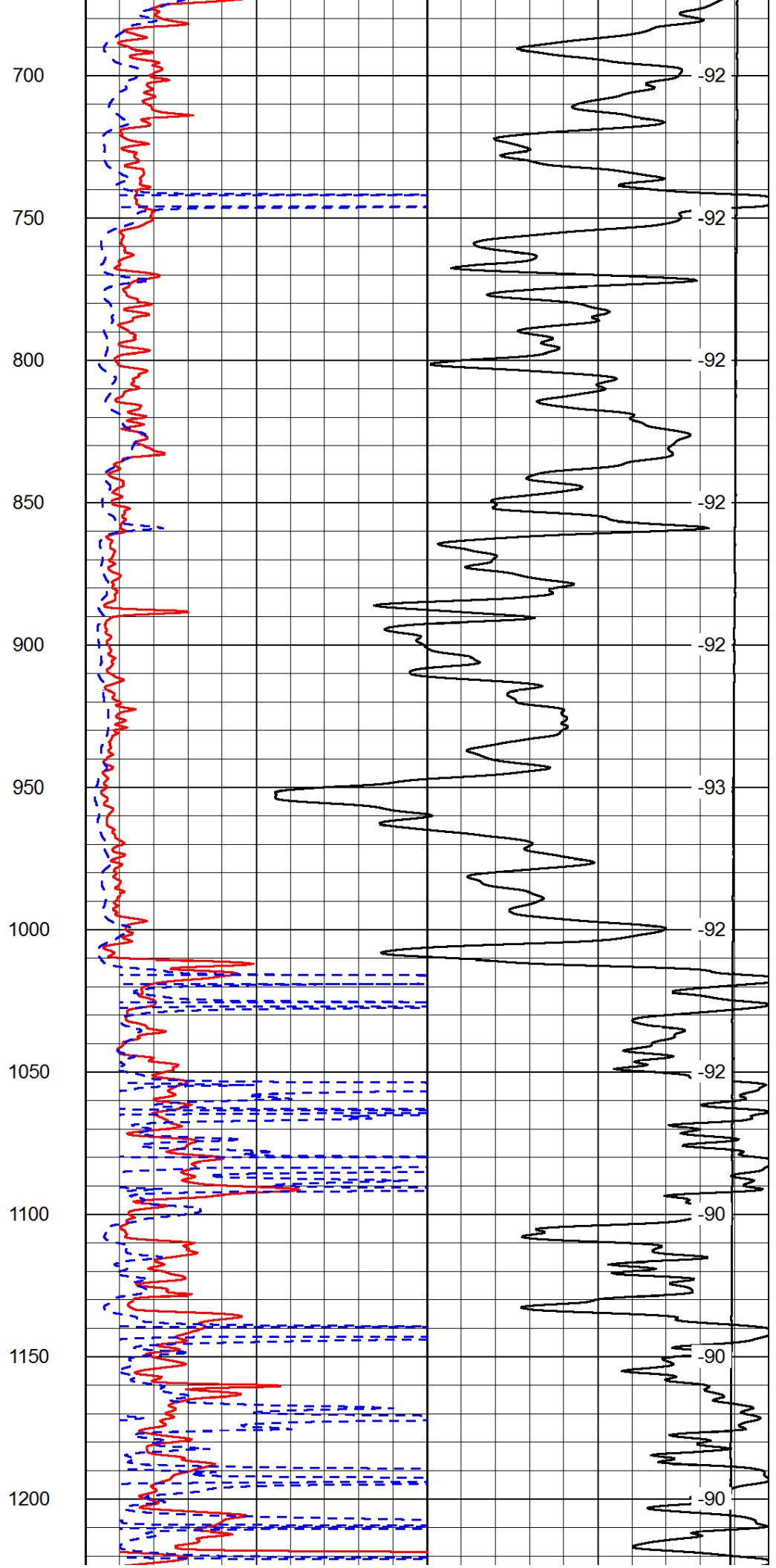
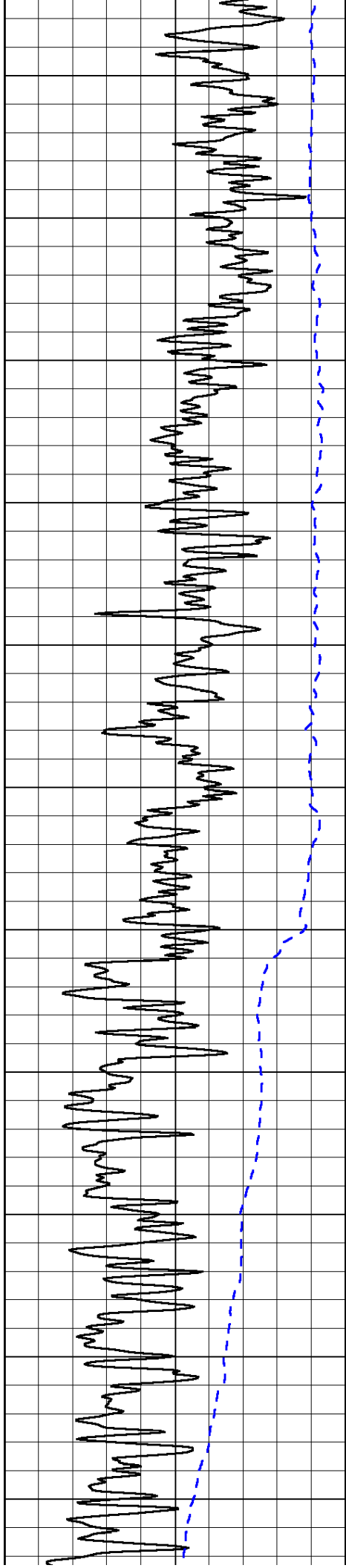
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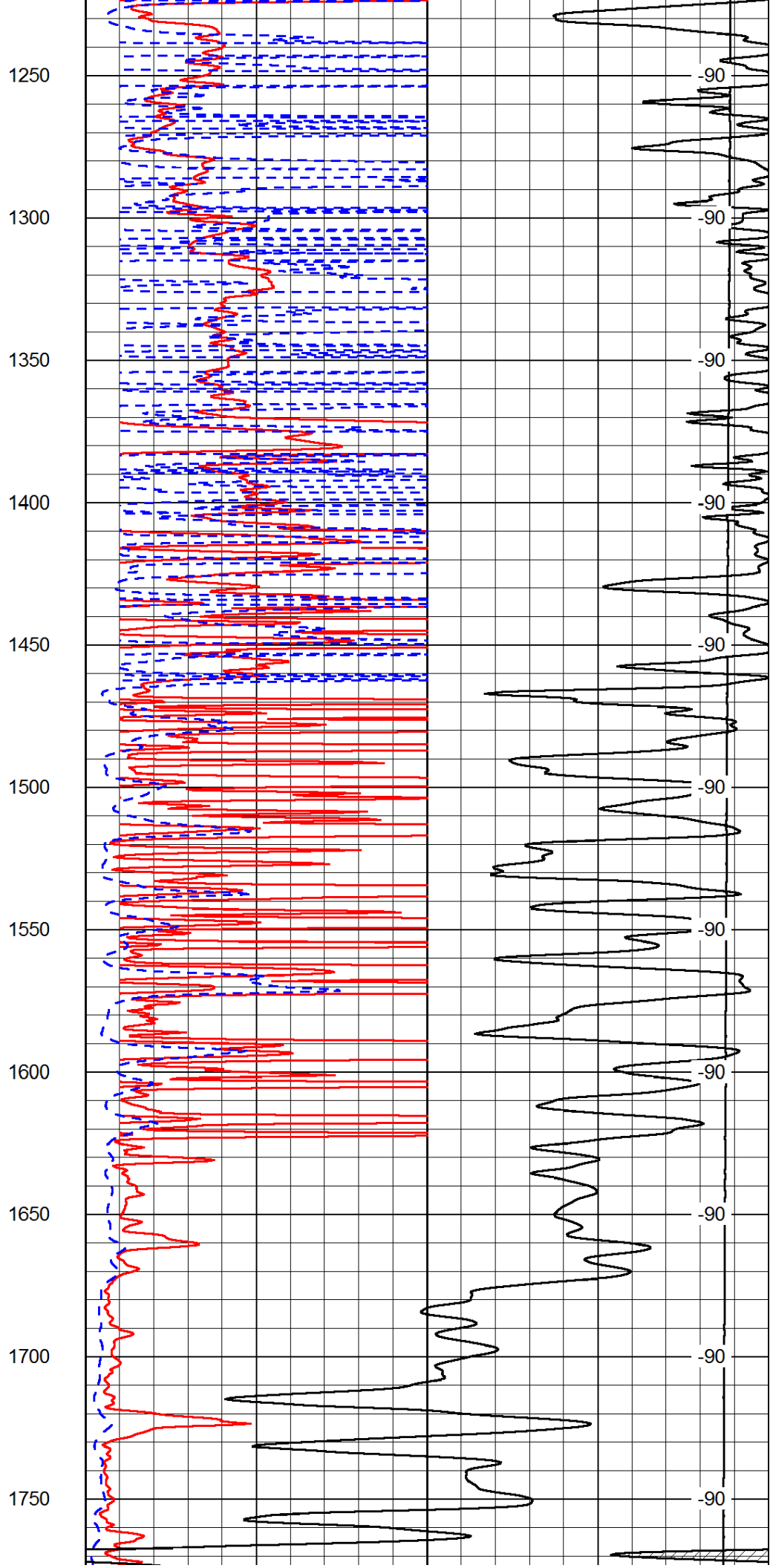
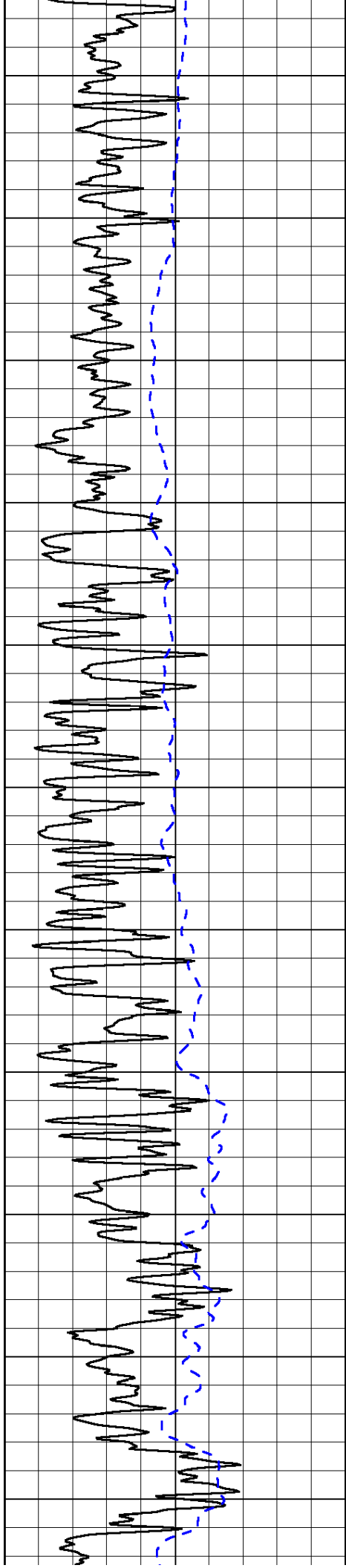
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-200	SP (mV)	0

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

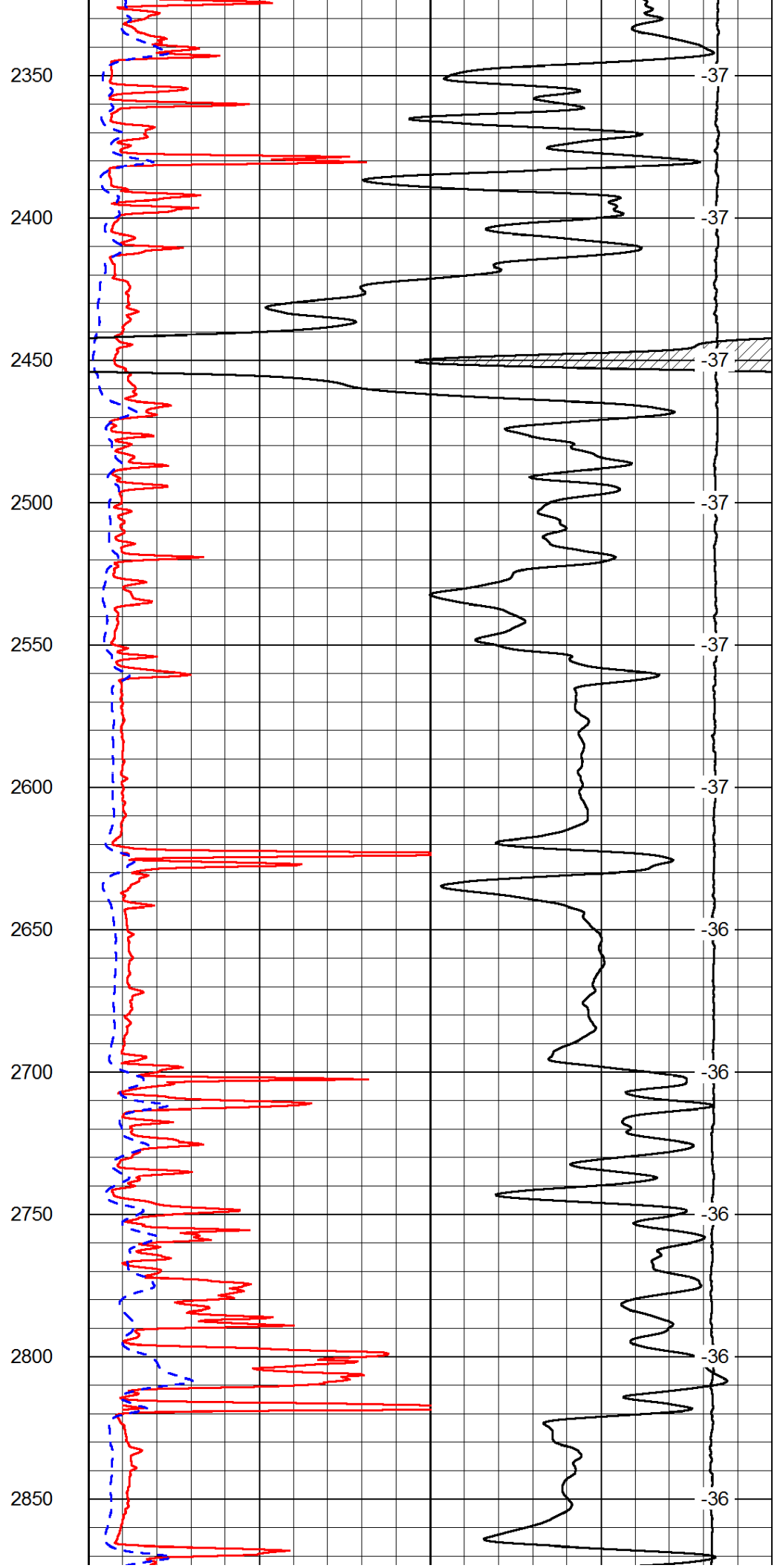
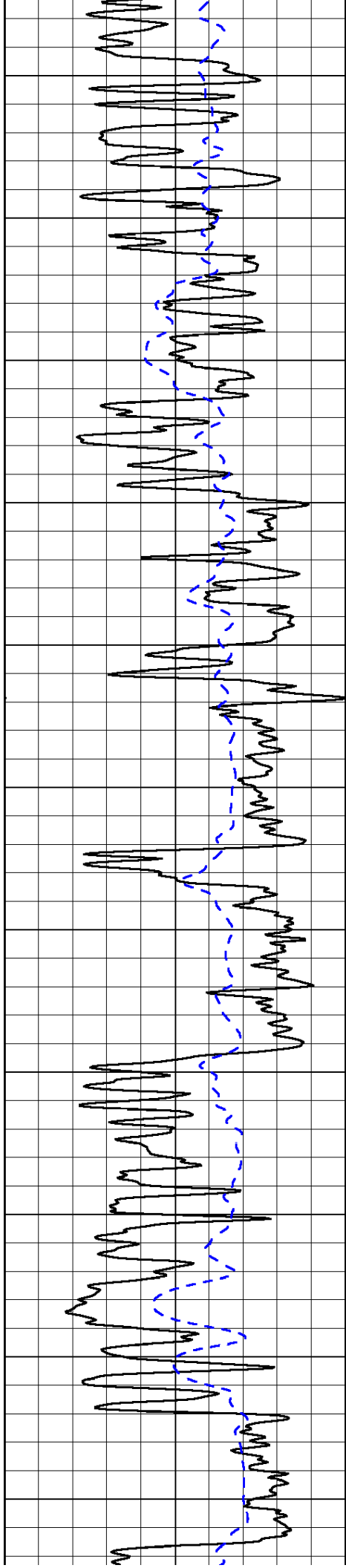
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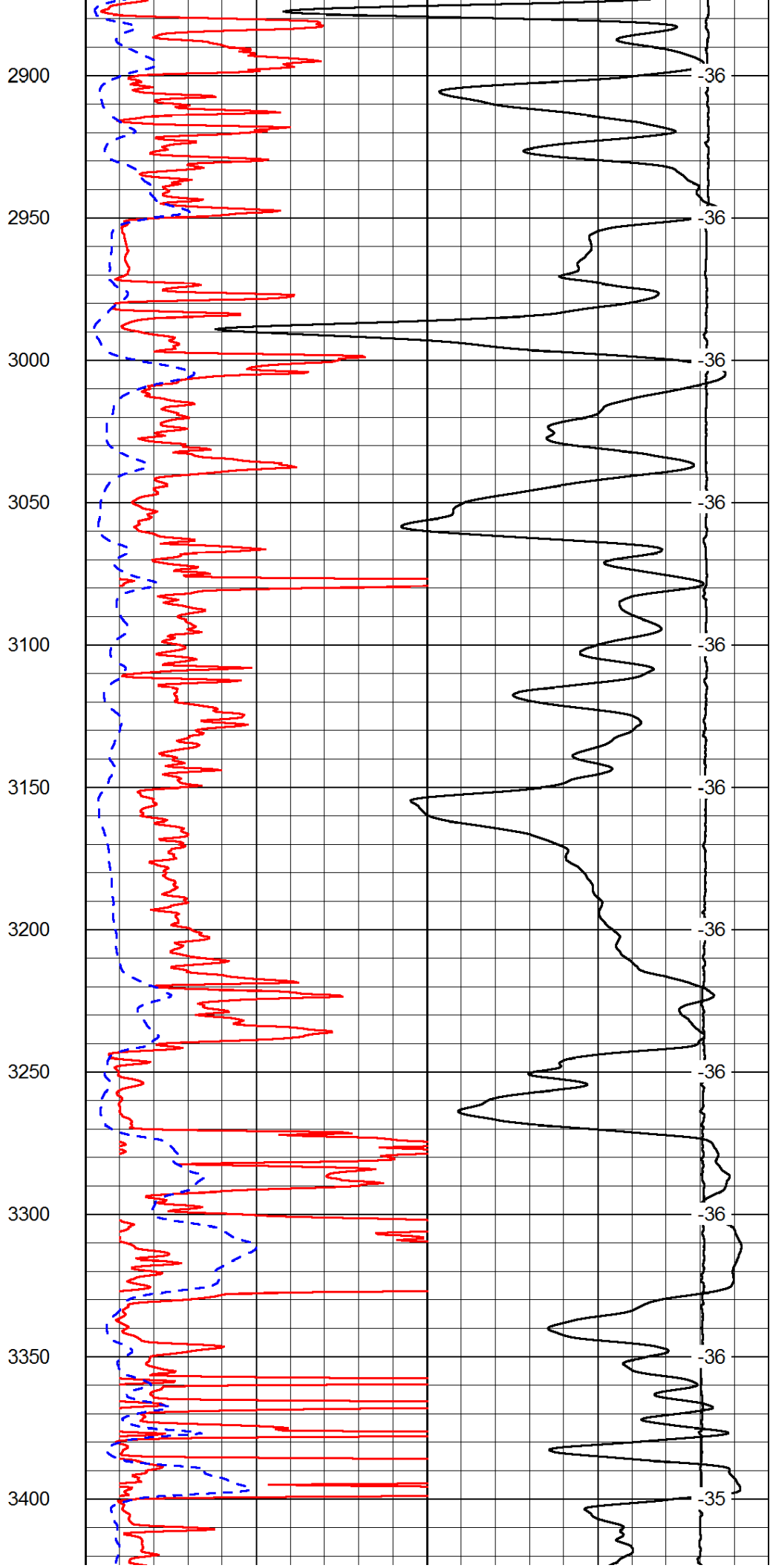
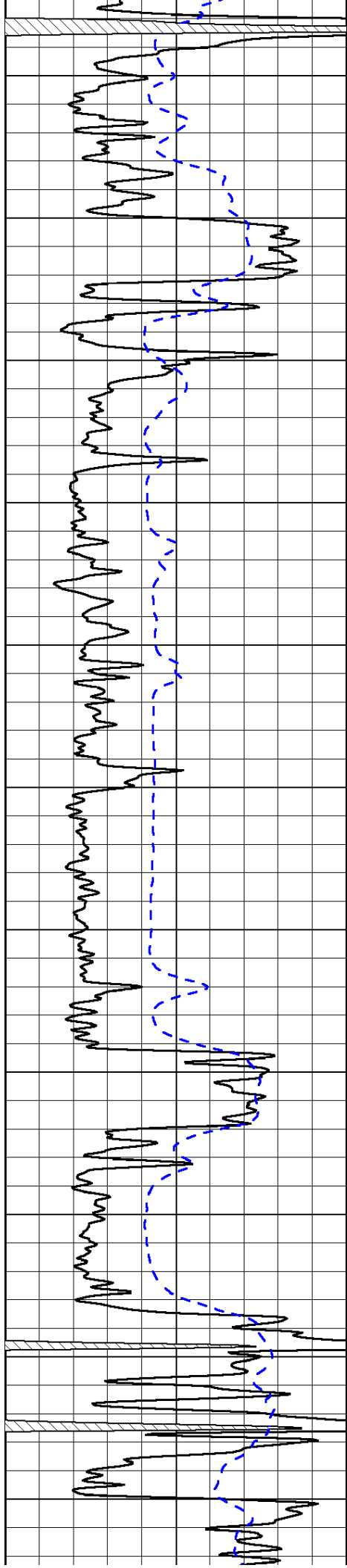


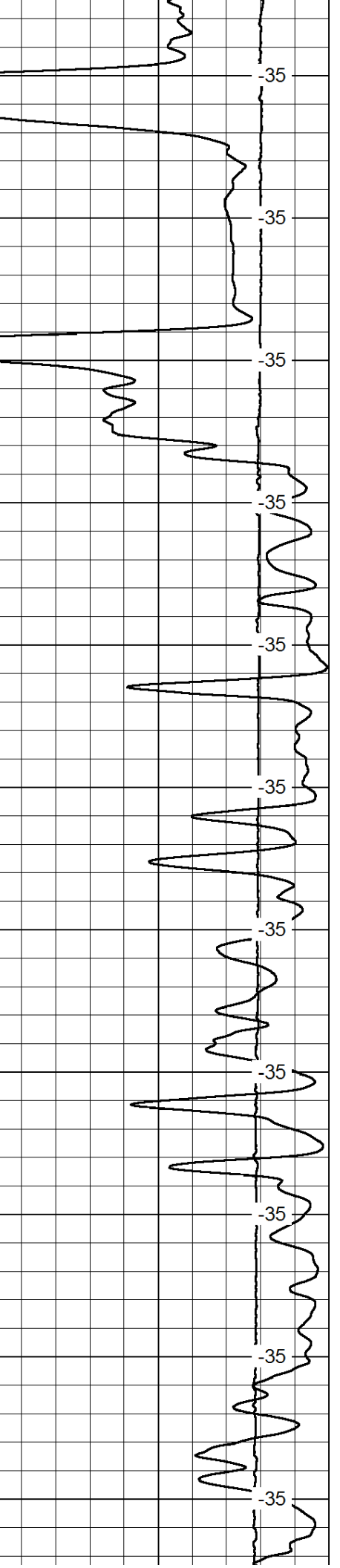
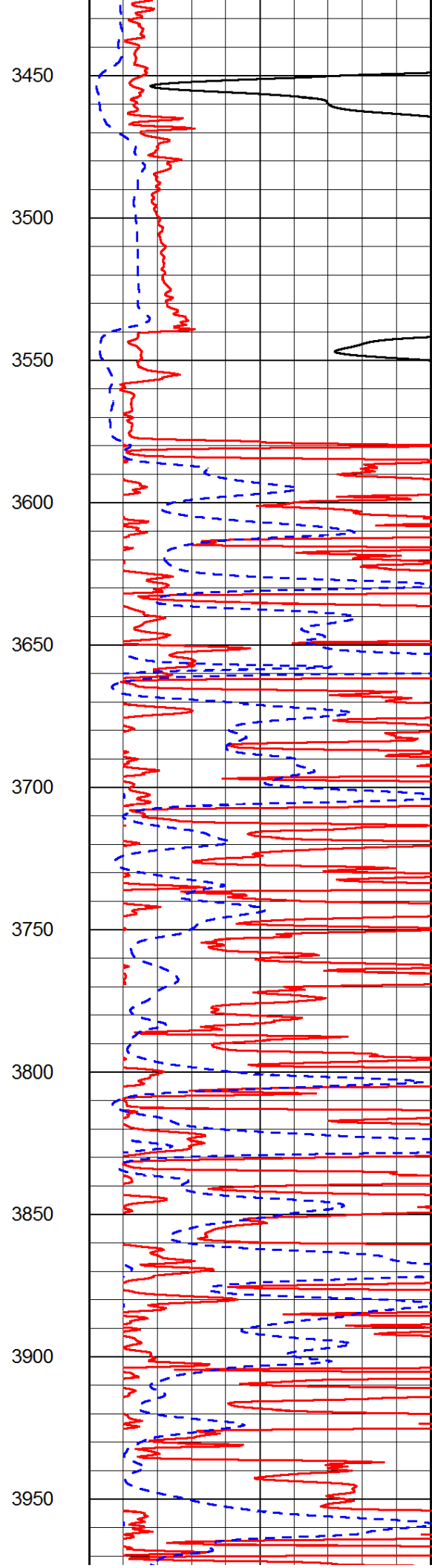
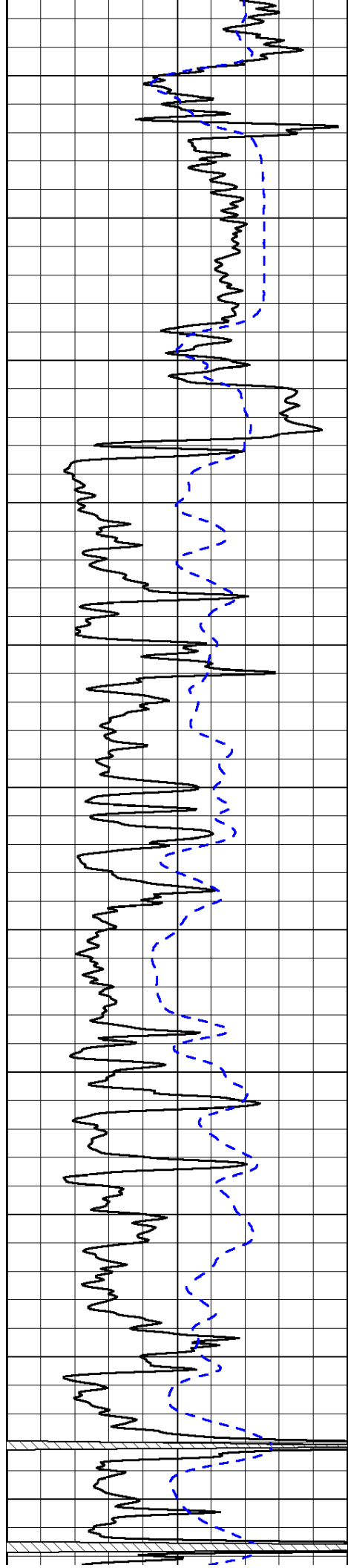


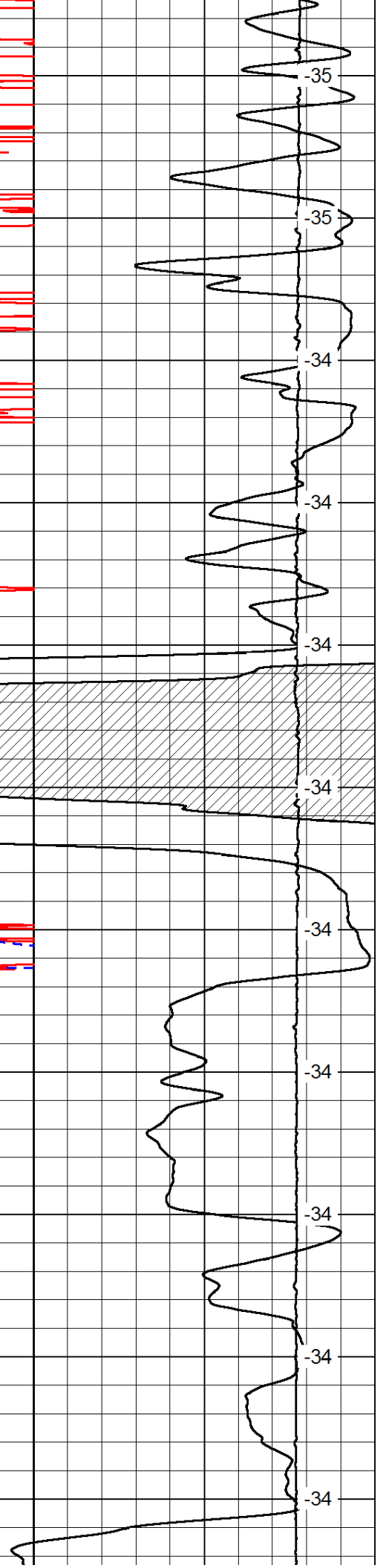
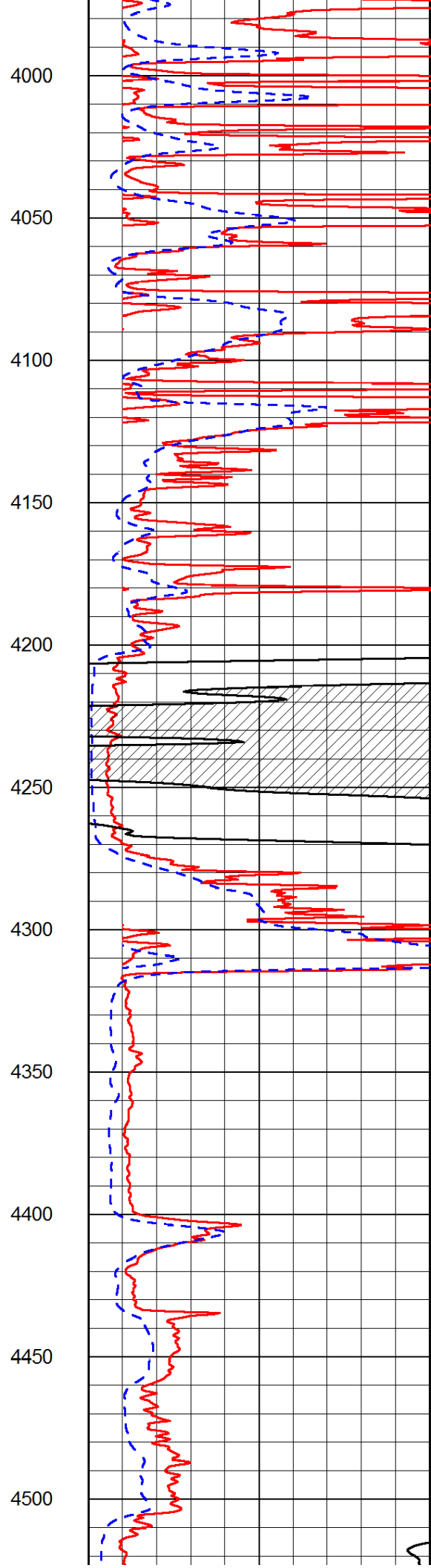
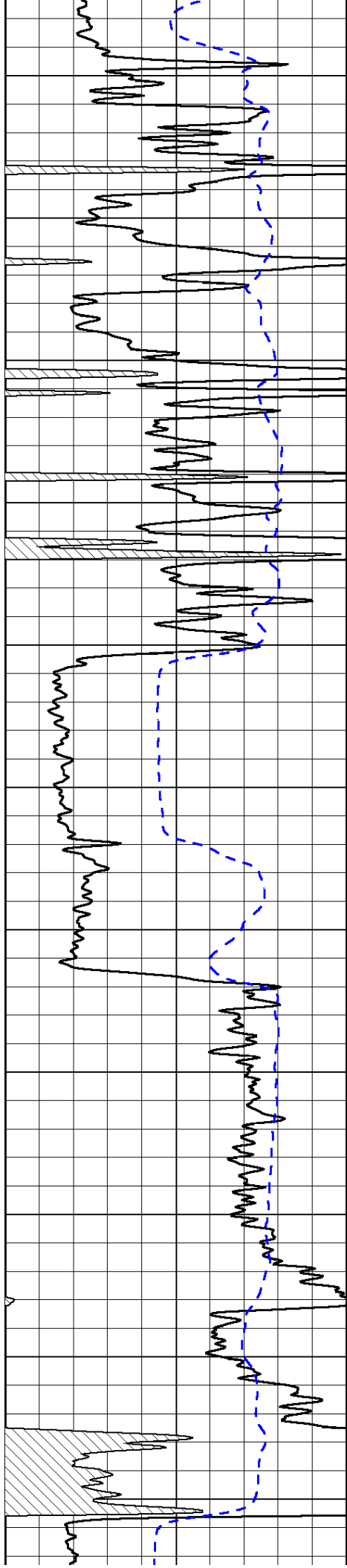


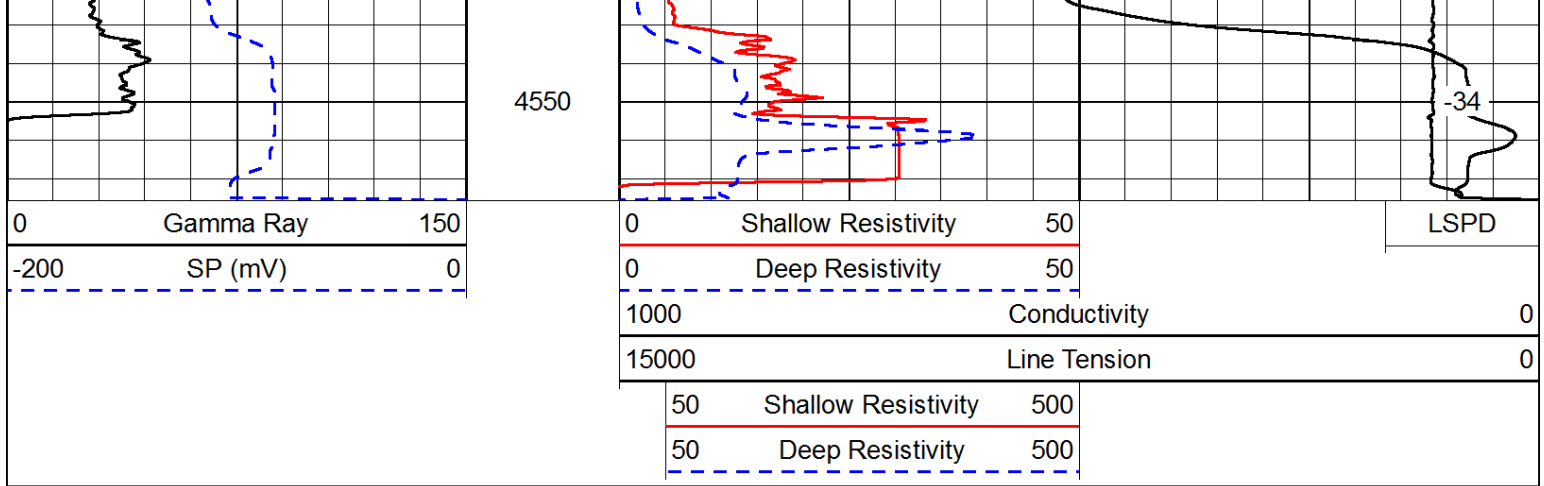




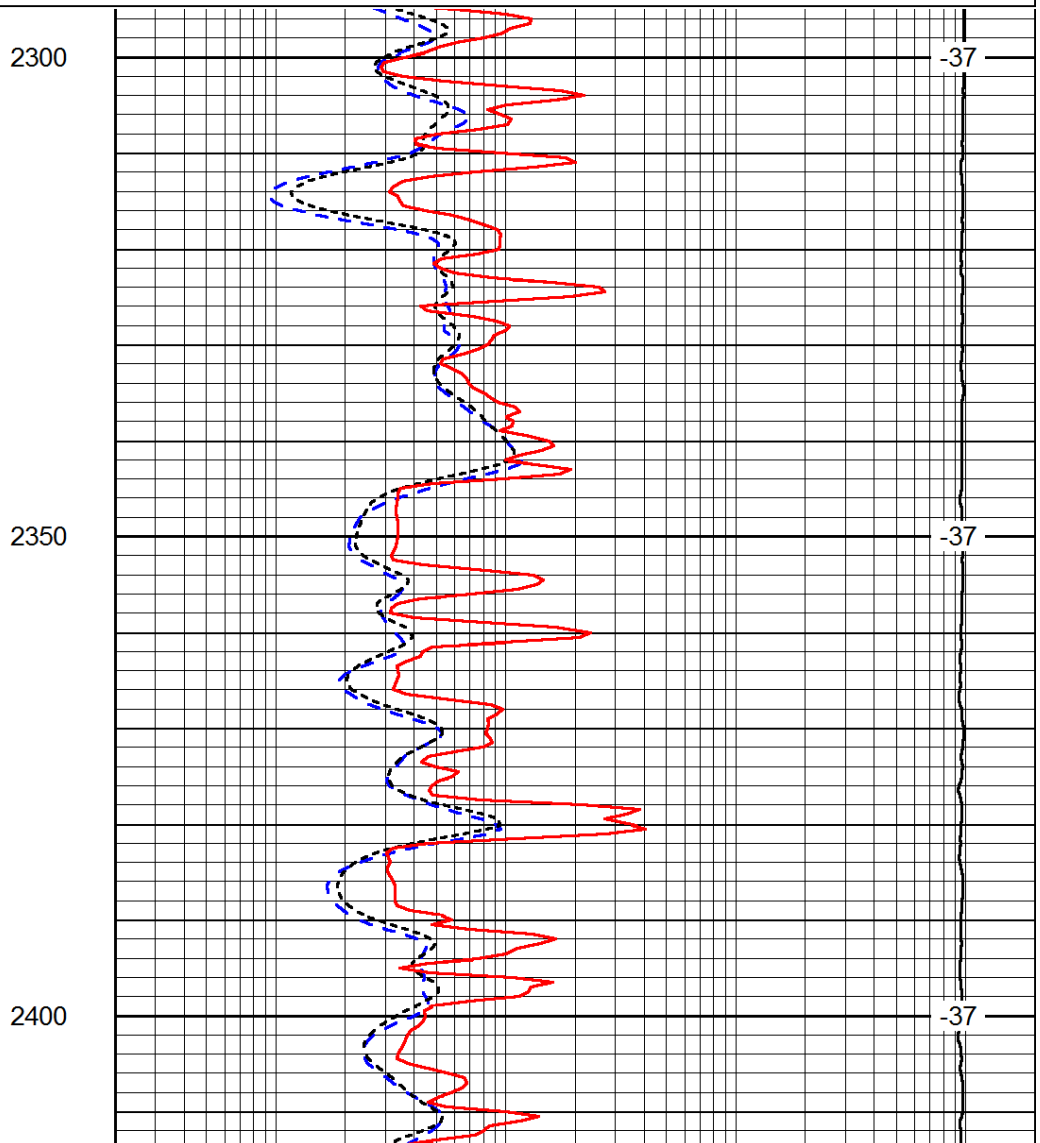
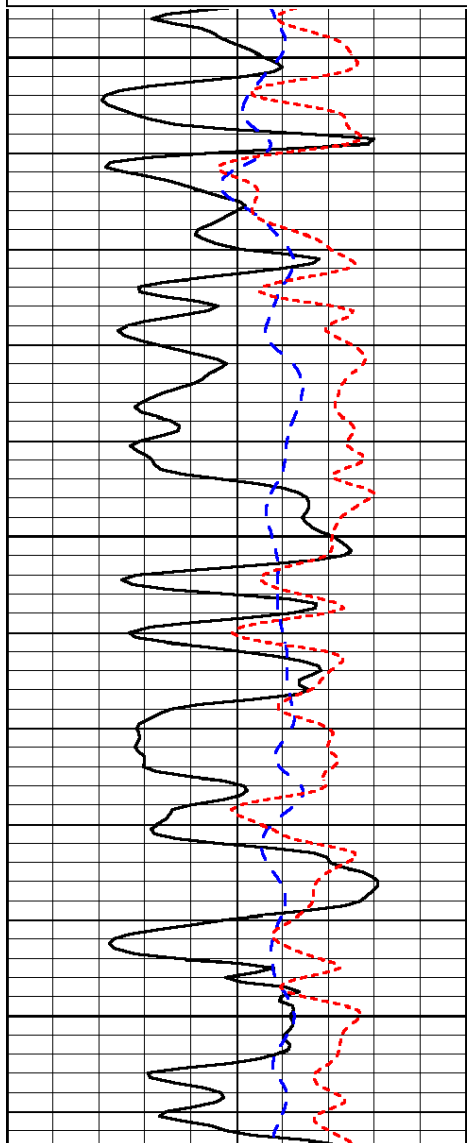
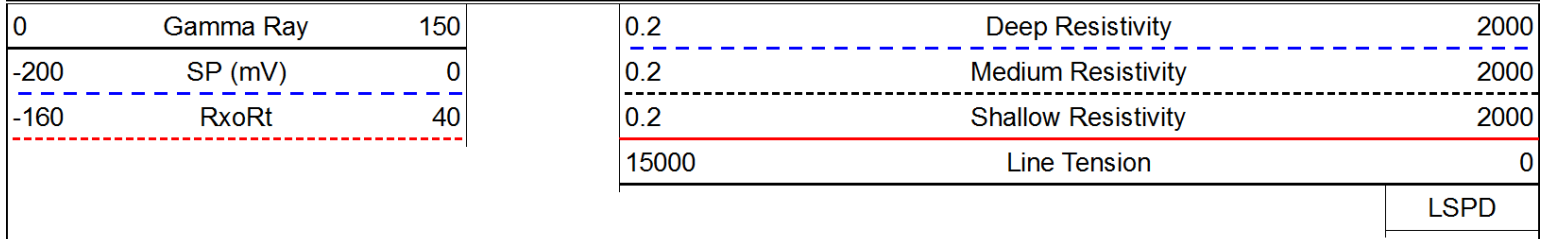


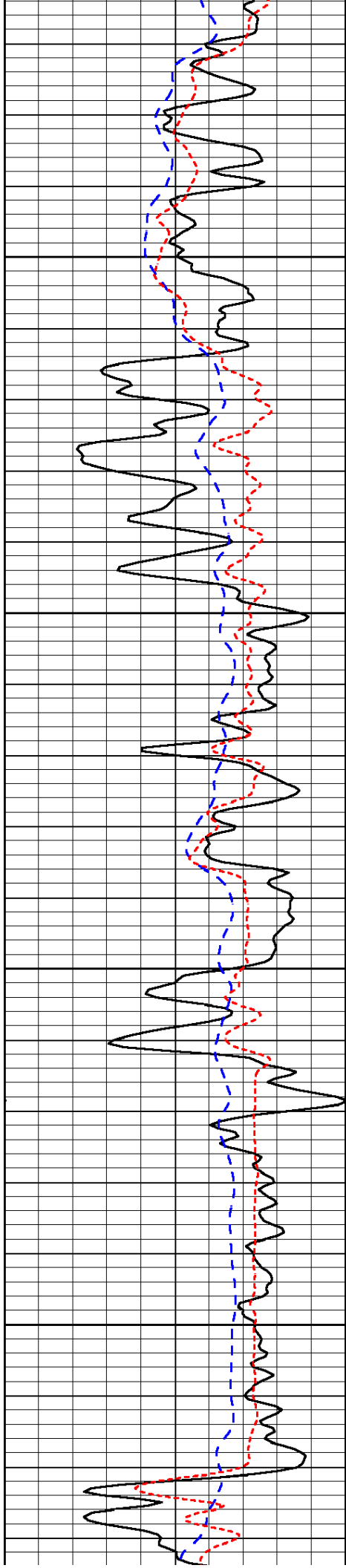






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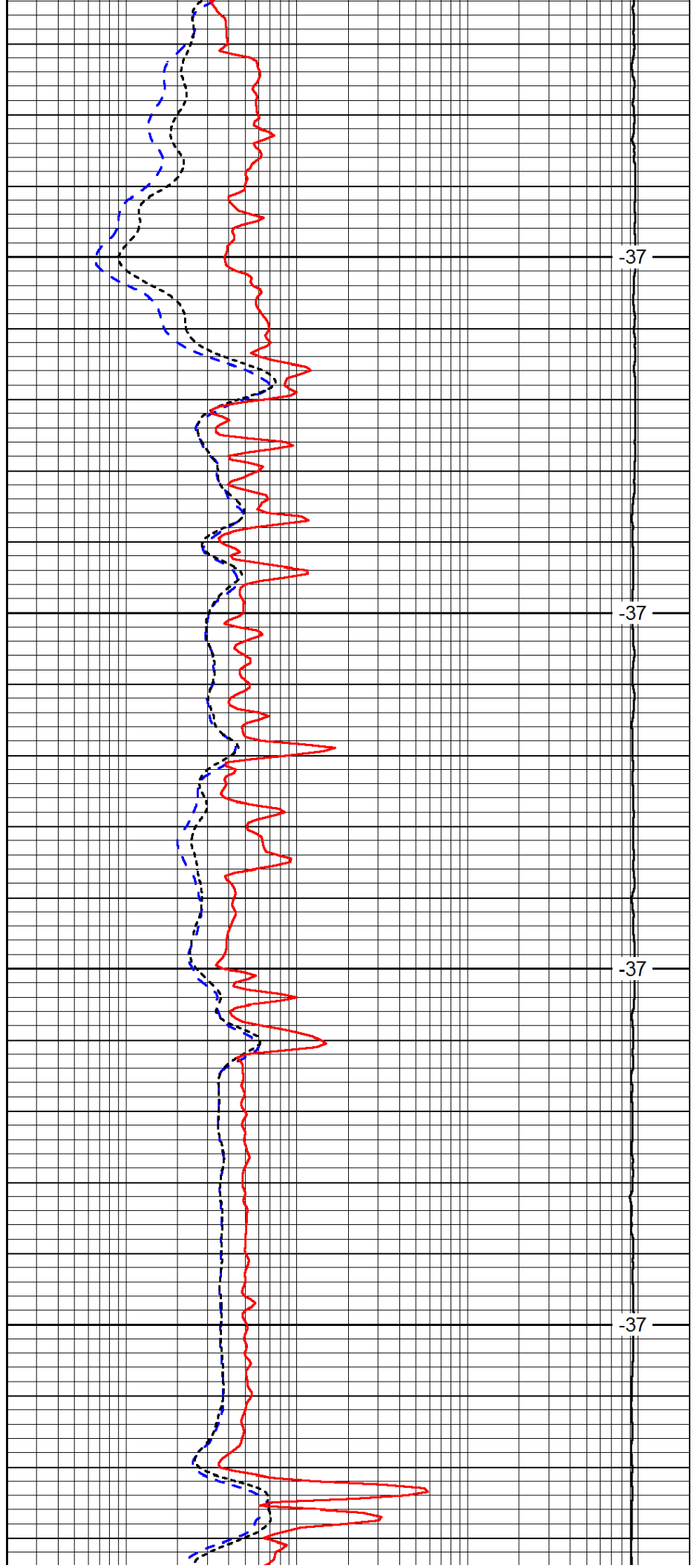


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2500

2550

2600

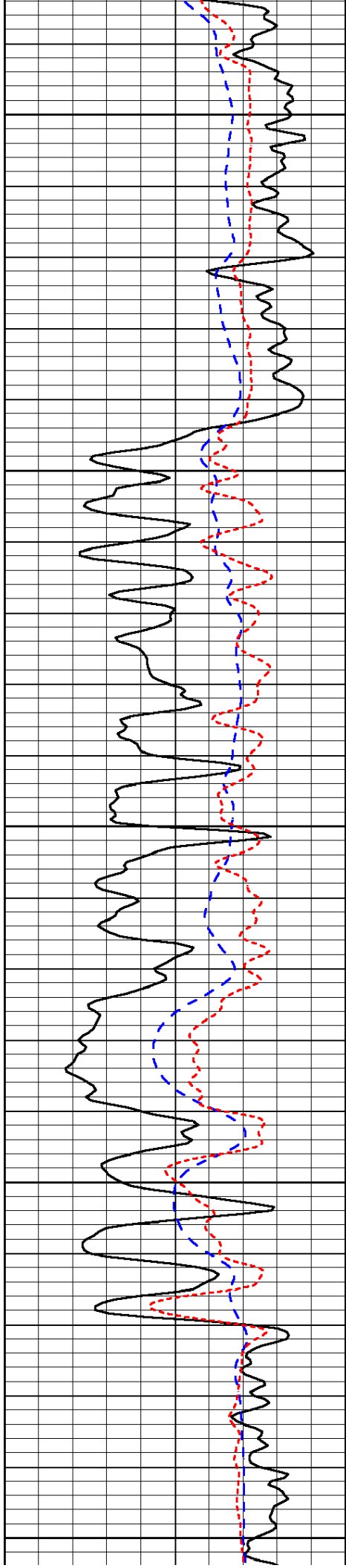


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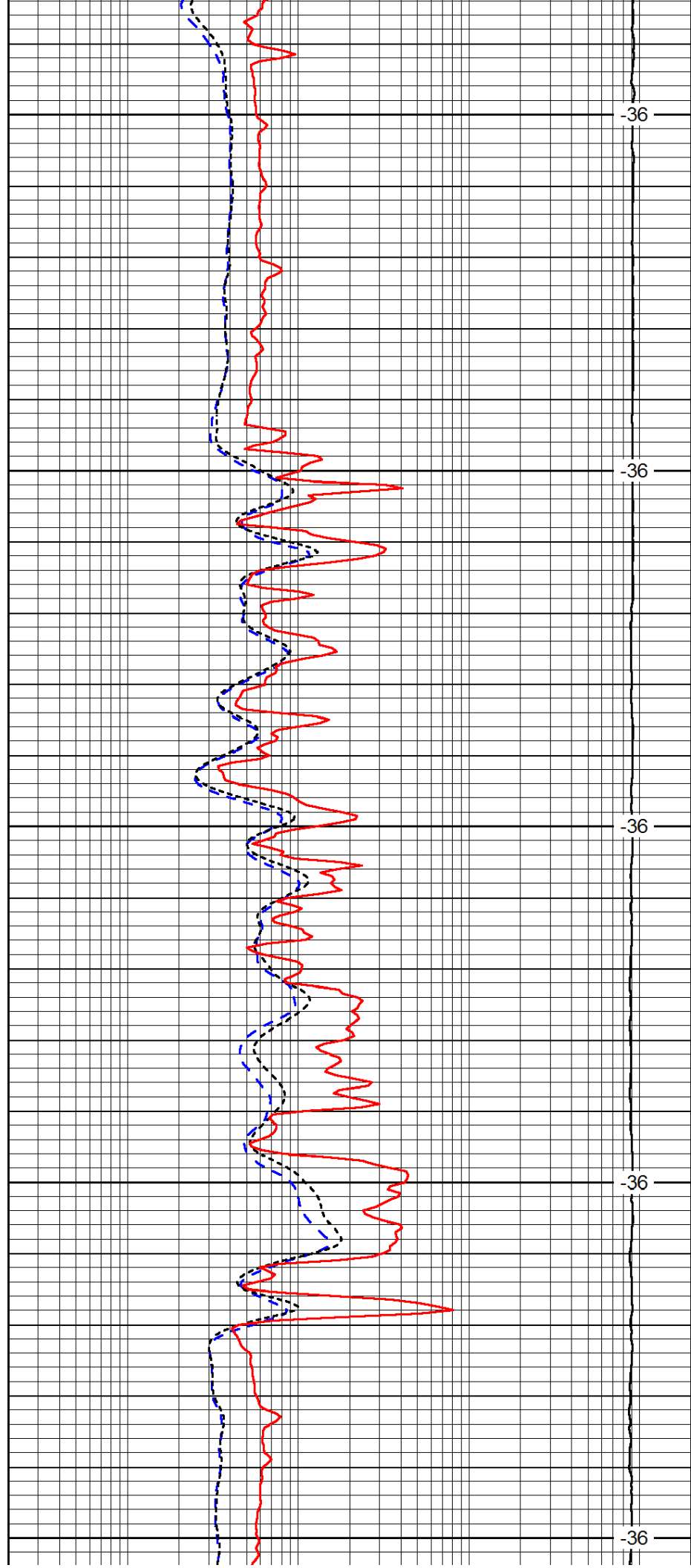
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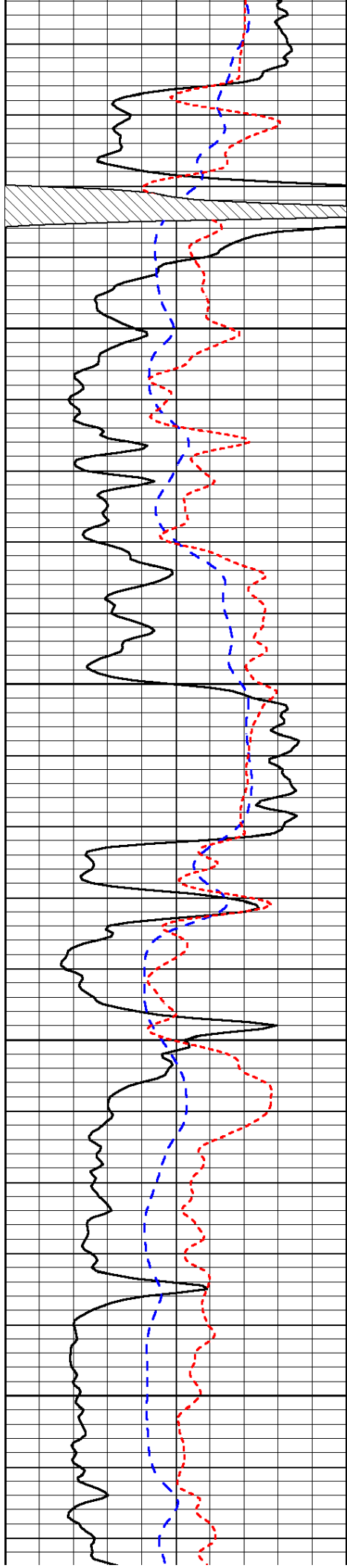
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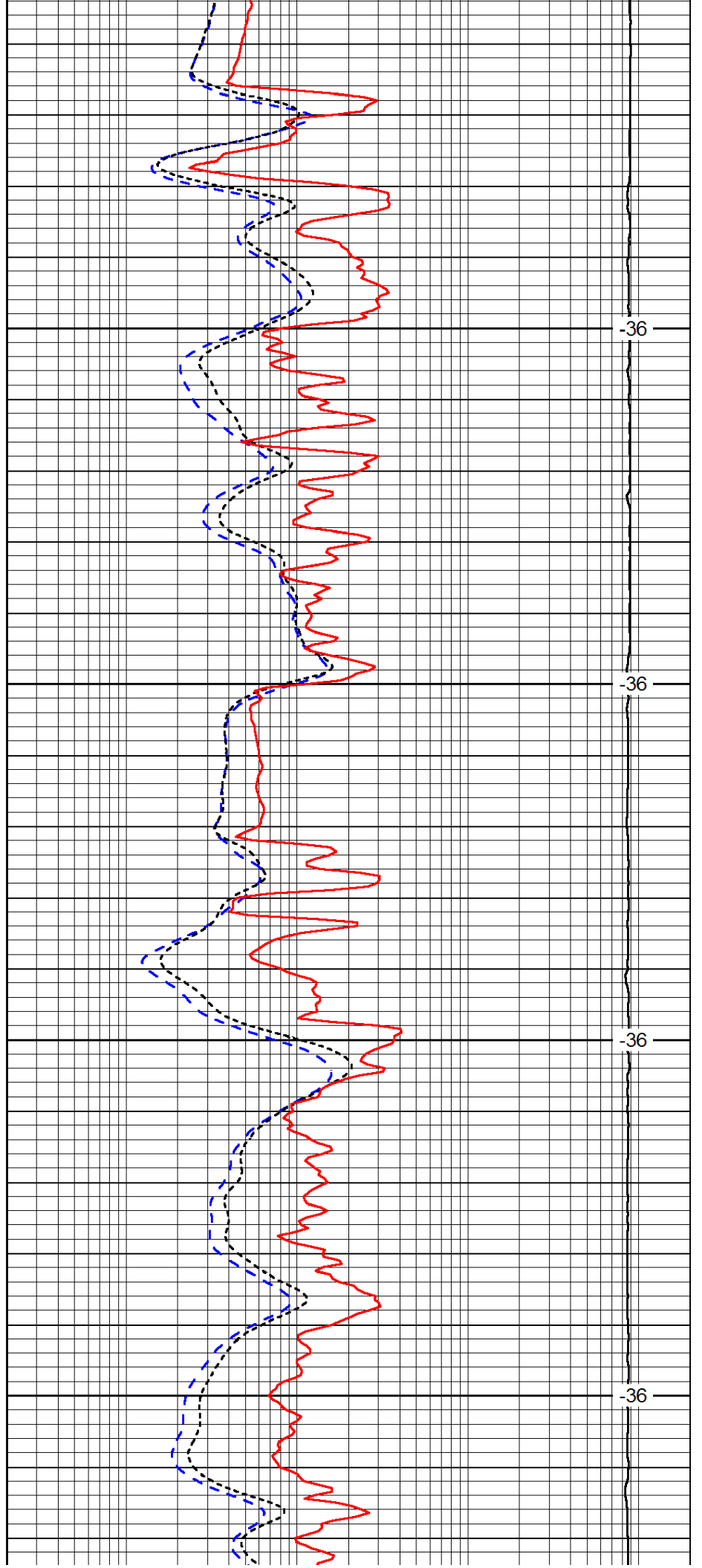


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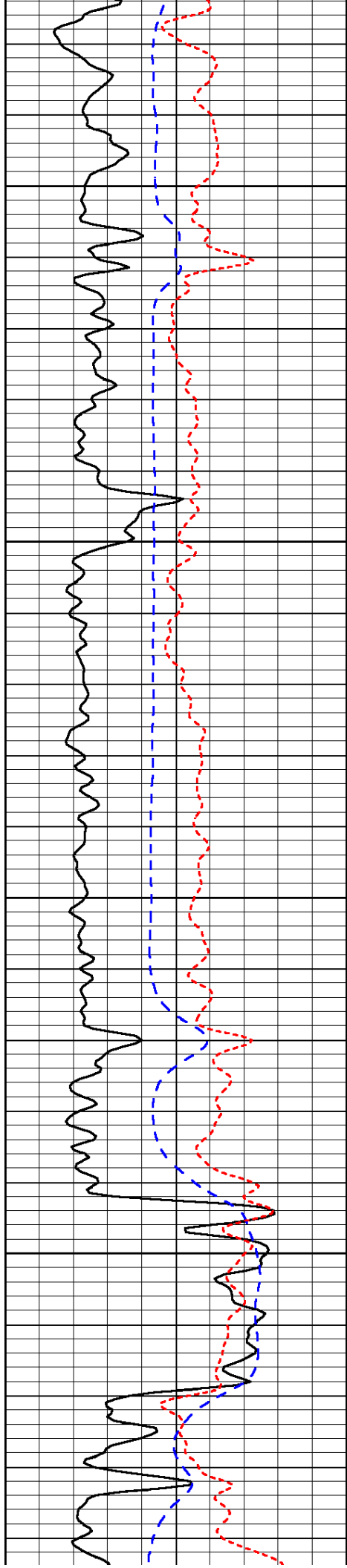


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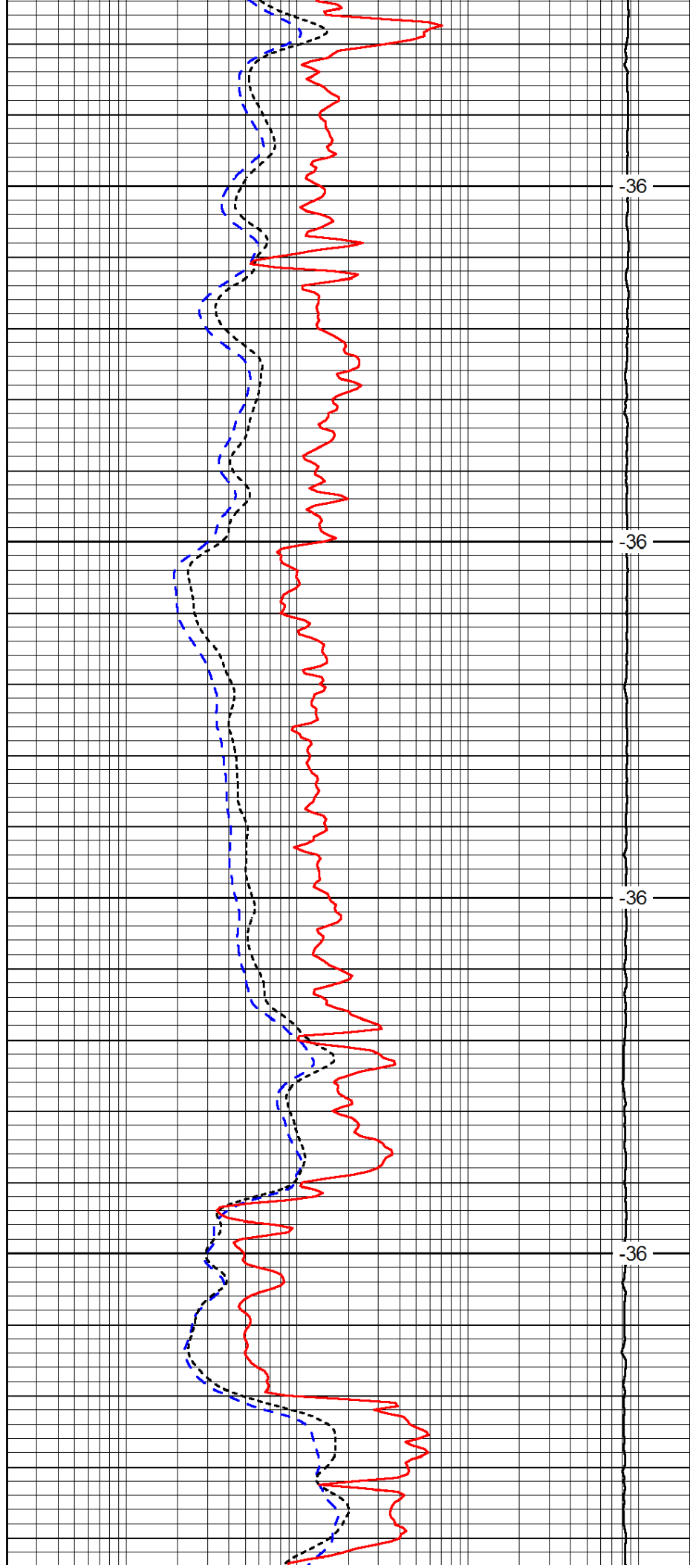


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3150

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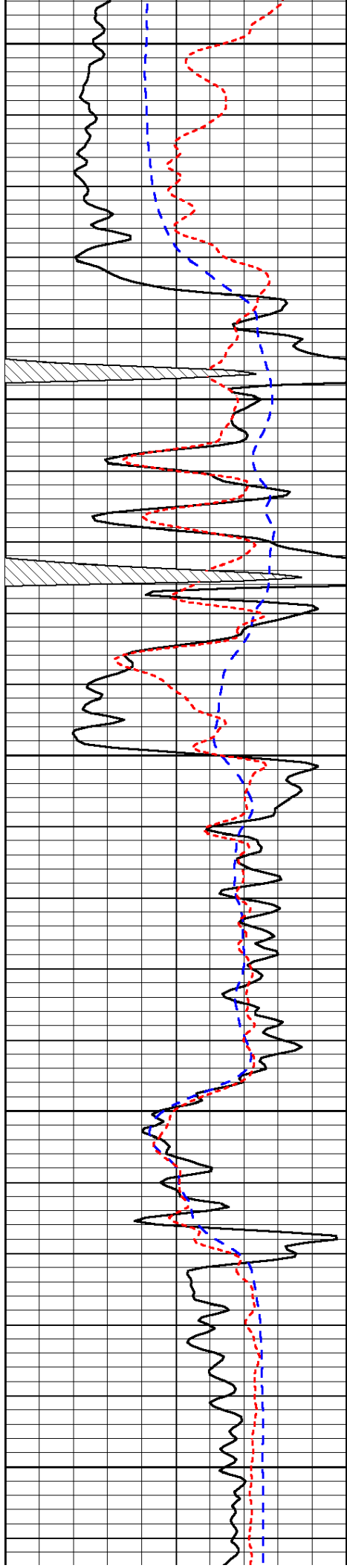


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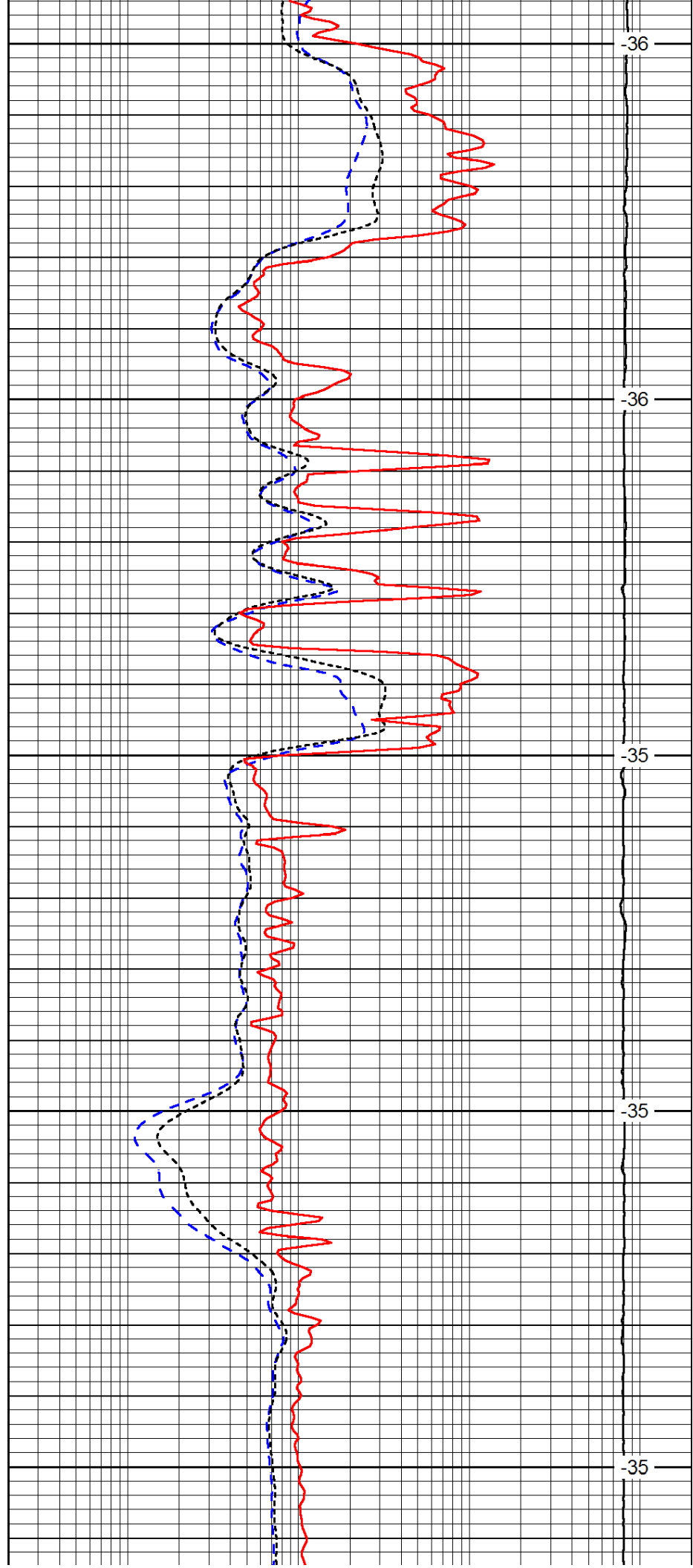
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3400

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3500



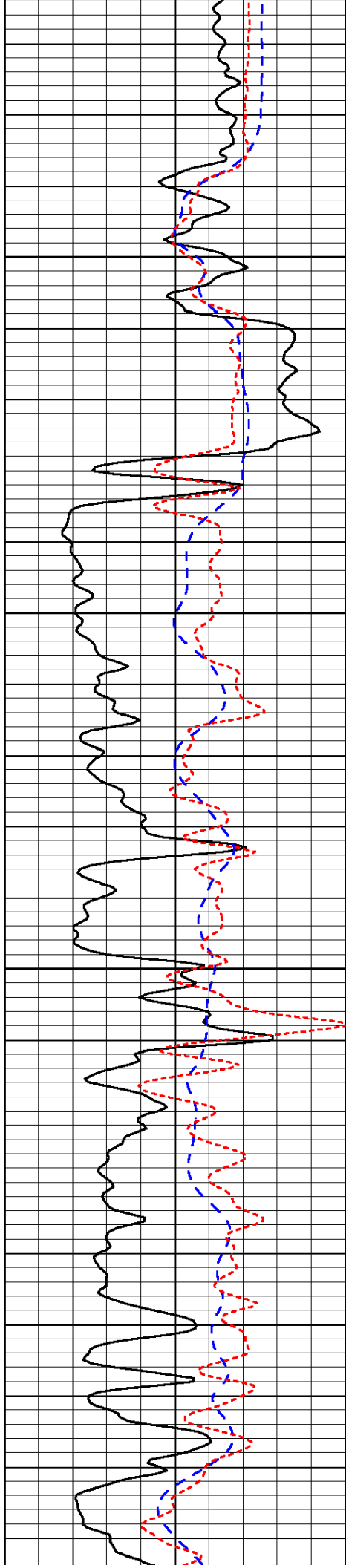
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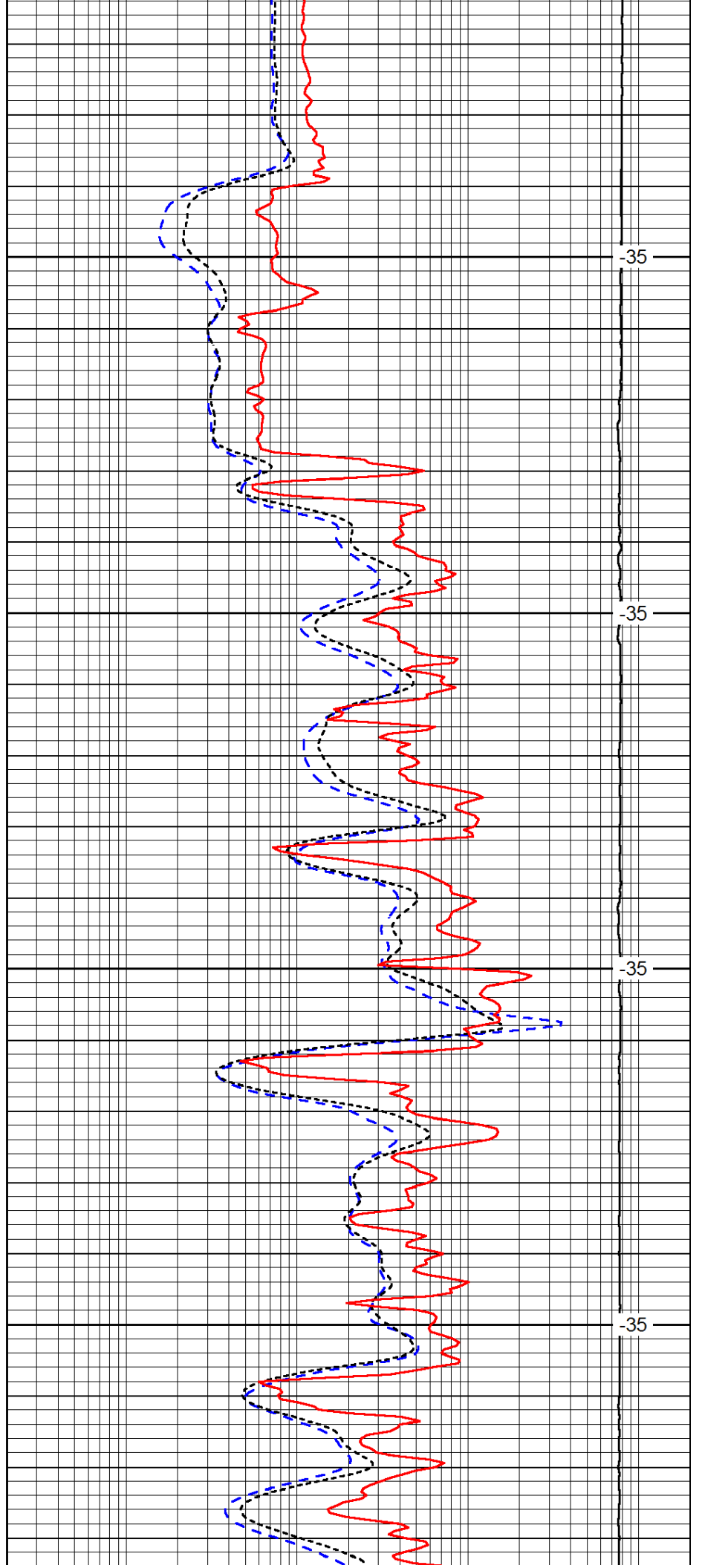


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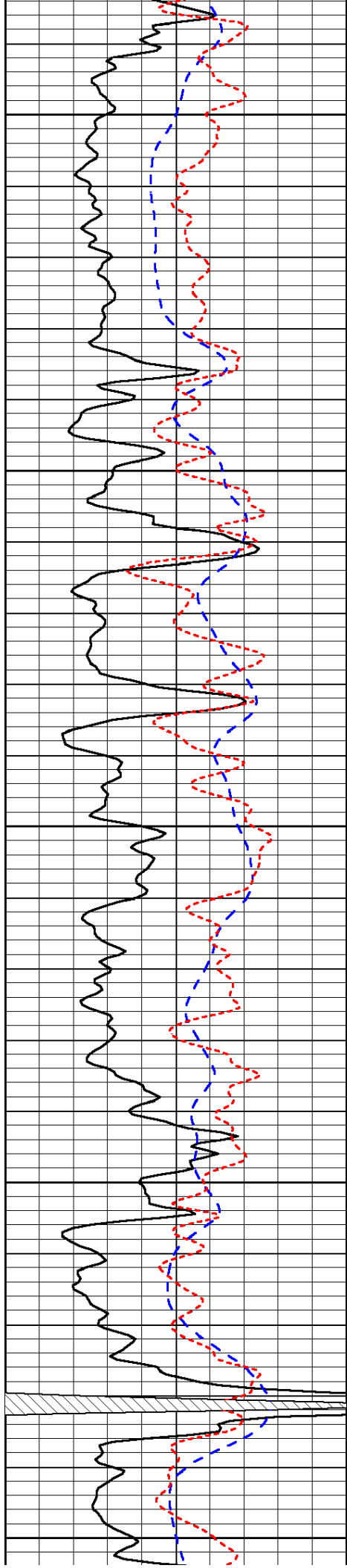


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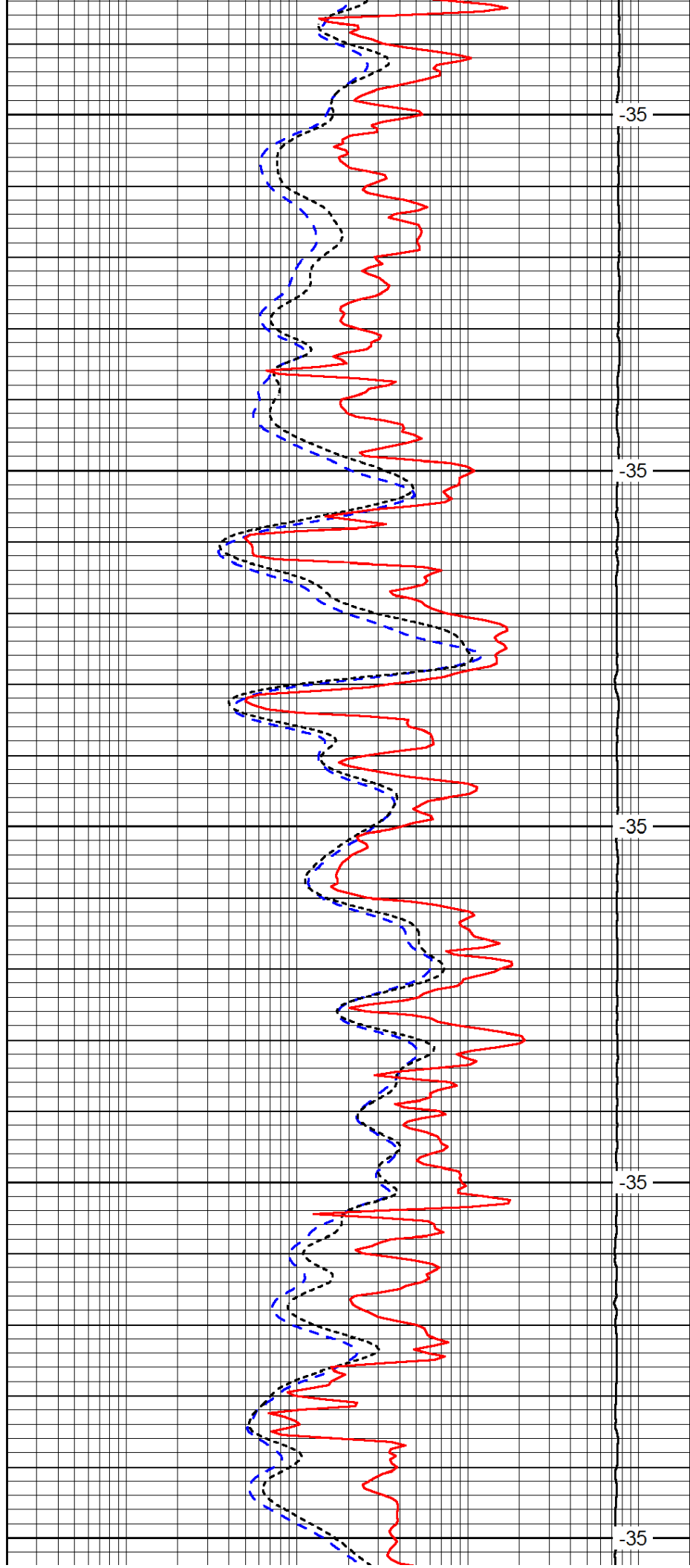
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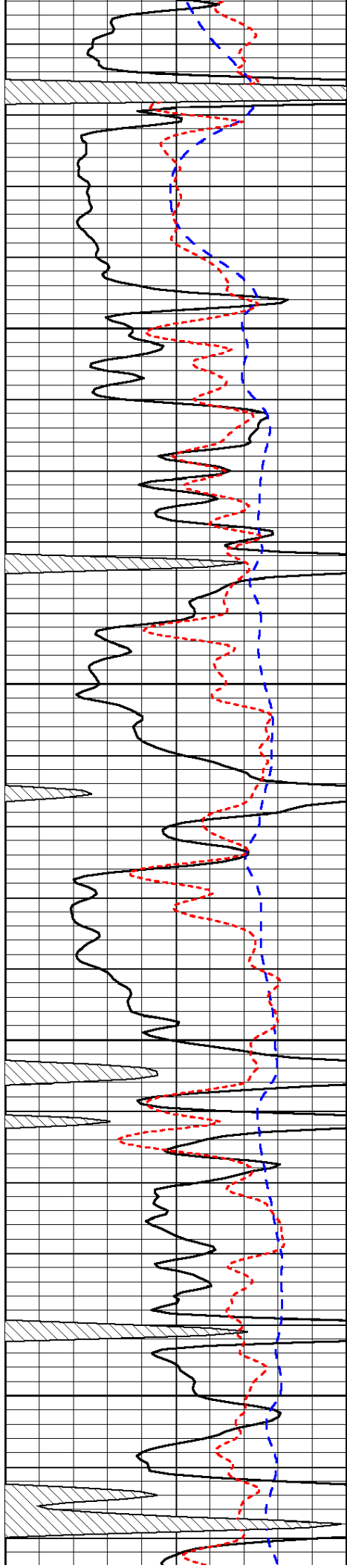
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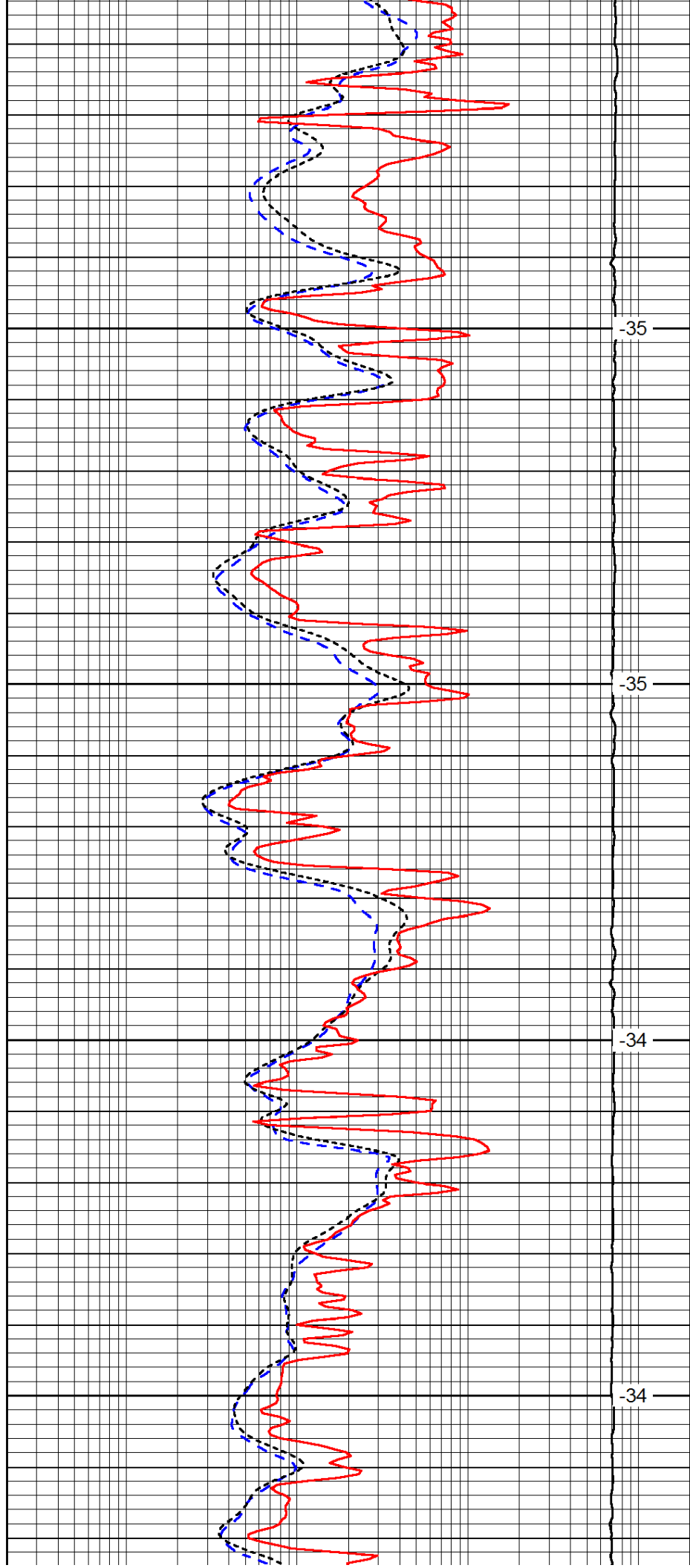


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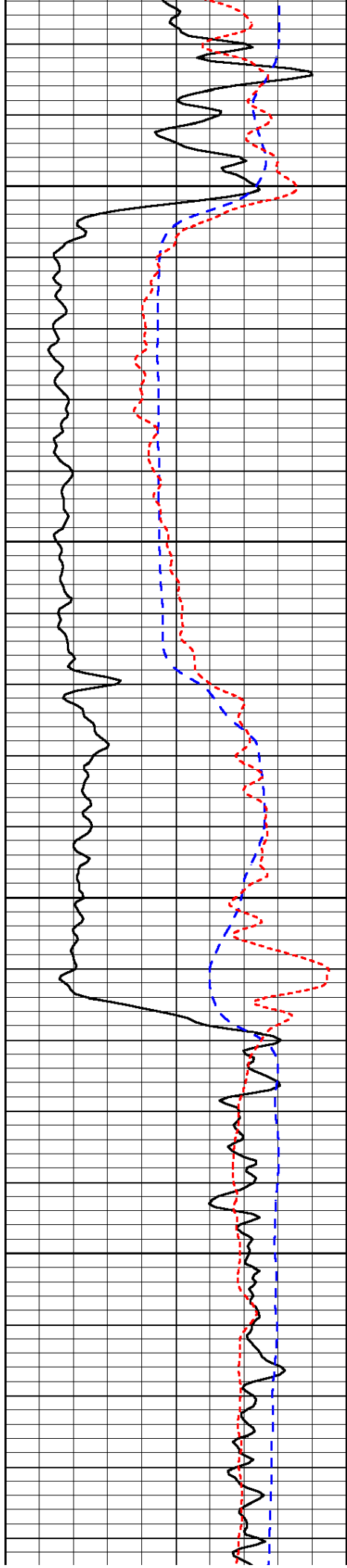


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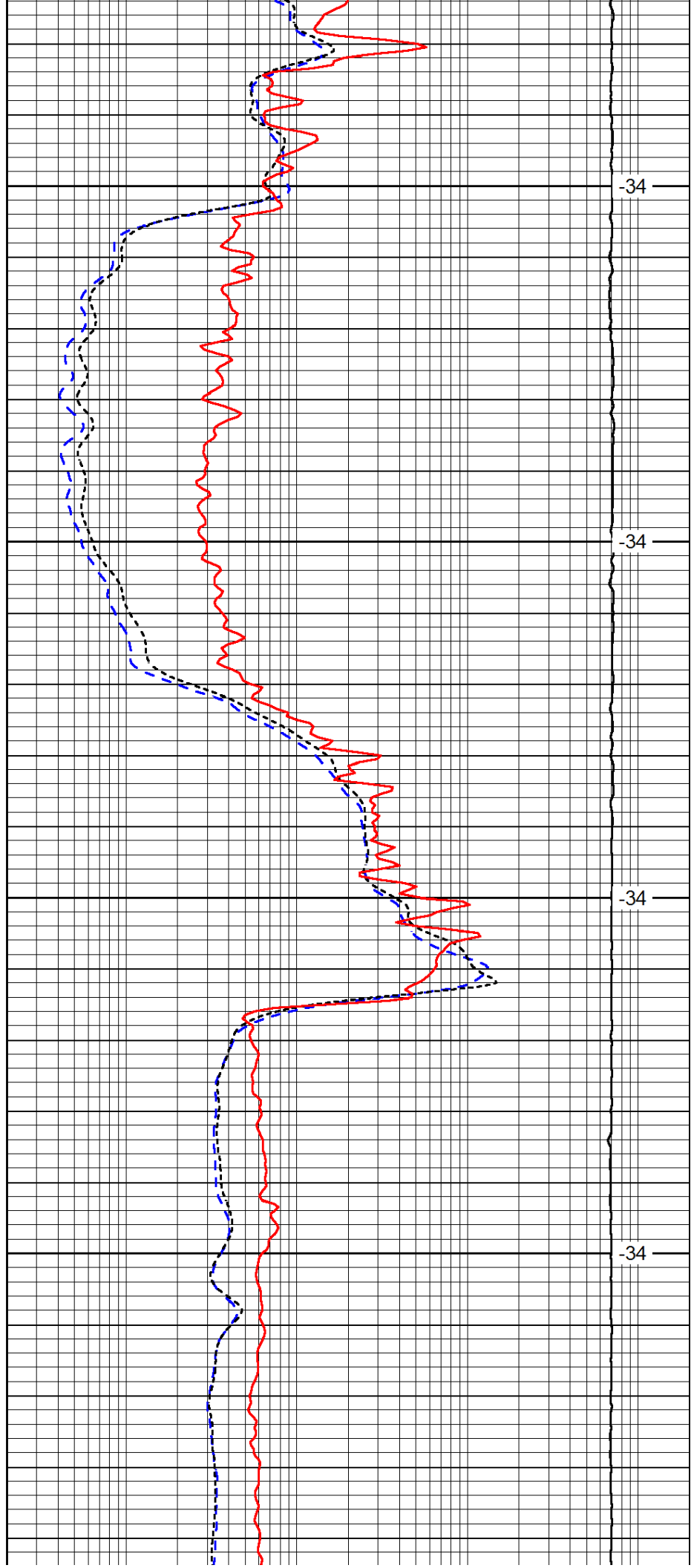


4200

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4300

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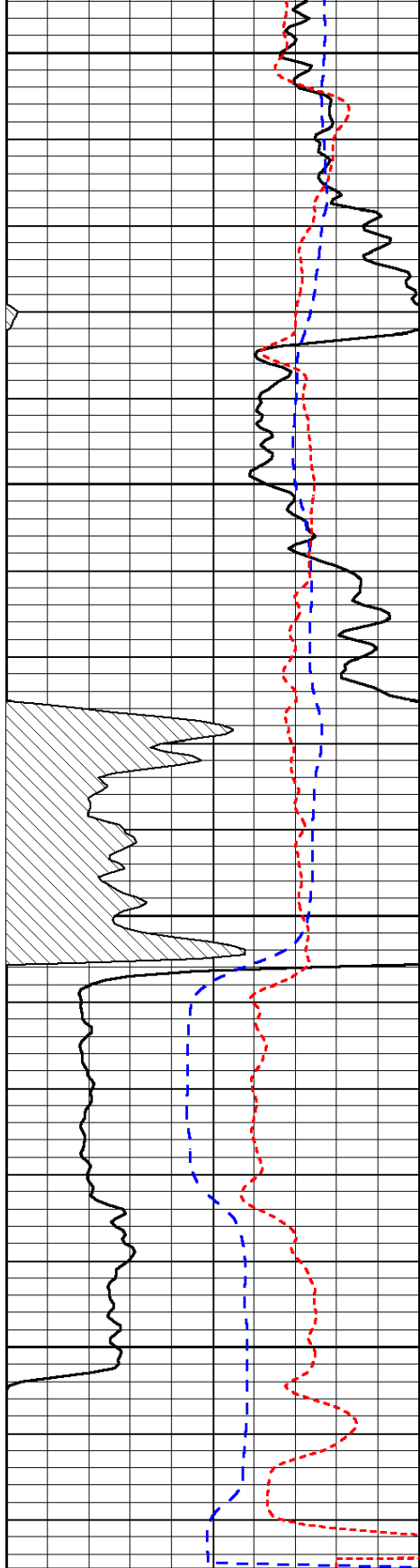


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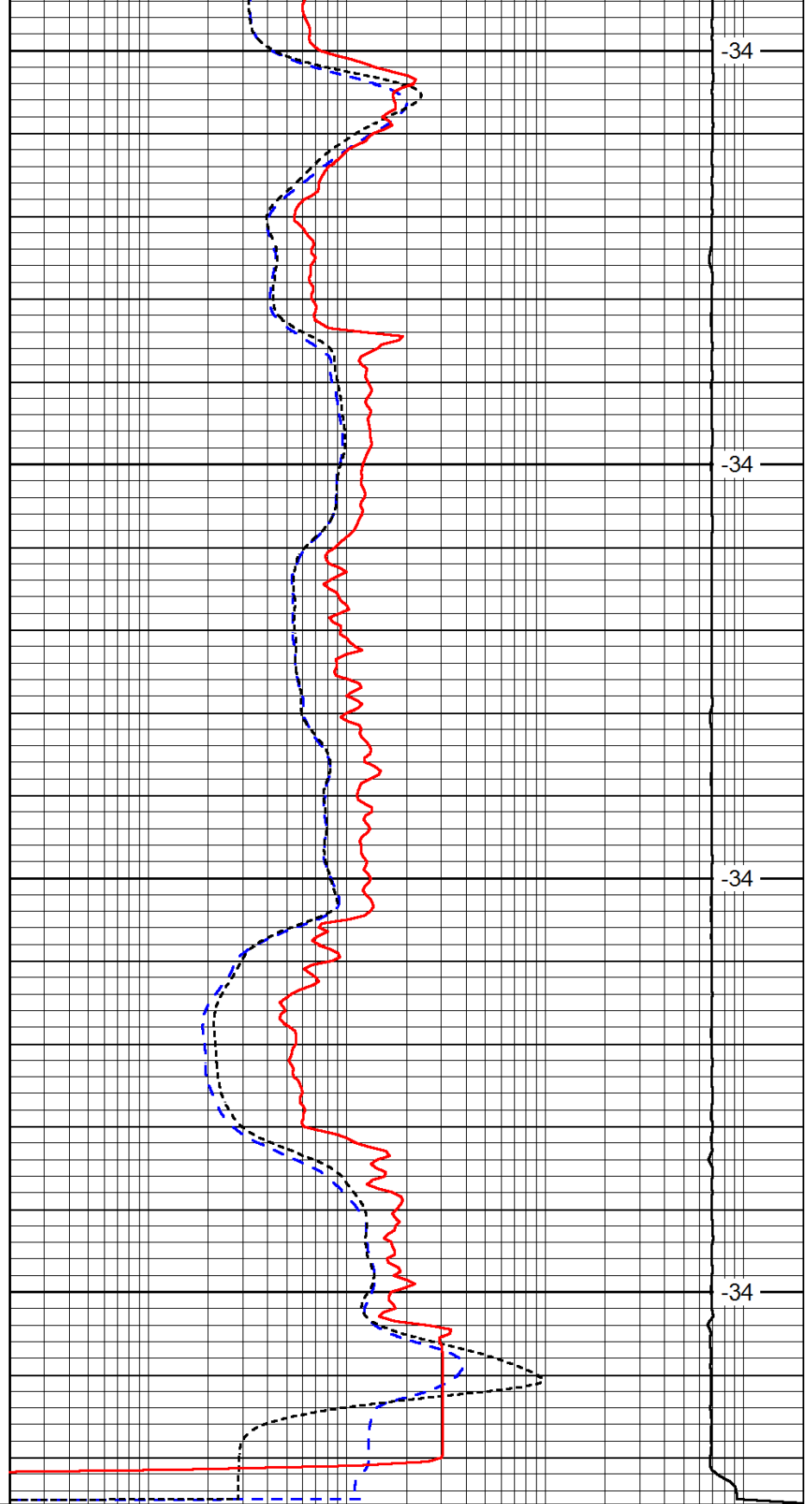
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-34

-34



4400  
4450  
4500  
4550



-34  
-34  
-34  
-34

0	Gamma Ray	150
-200	SP (mV)	0
-160	RxoRt	40

0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000
15000	Line Tension	0

LSPD