



Dual Induction Log

Pioneer Energy Services

15-167-24,007-00-00

API No.

Company **H&D Exploration, LLC**

Well **Michaelis #1**

Field **Roosevelt**

County **Russell** State **Kansas**

Location **1793' FNL & 2310' FWL**

Sec: **25** Twp: **15S** Rge: **15W**

Permanent Datum **Ground Level** Elevation **1903**

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

Drilling Measured From **Frontkelly Bushing** K.B. 1912
D.F. G.L. 1903

Date **12/11/2014**

Run Number **One**

Depth Driller **3480**

Depth Logger **3479**

Bottom Logged Interval **3478**

Top Log Interval **350**

Casing Driller **8.625 @ 390**

Casing Logger **390**

Bit Size **7.875**

Type Fluid in Hole **Chemical**

Salinity, ppm CL **10,000**

Density / Viscosity **9.3 44**

pH / Fluid Loss **10.0 11.2**

Source of Sample **Flowline**

Rm @ Meas. Temp **.45 @ 55**

Rmf @ Meas. Temp **.34 @ 55**

Rmc @ Meas. Temp **.61 @ 55**

Source of Rmf / Rmc **Charts**

Rm @ BHT **.22 @ 111**

Operating Rig Time **4 Hours**

Max Rec. Temp. F **111**

Equipment Number **51**

Location **Hays**

Recorded By **C. Desaire**

Witnessed By **Clint Musgrove**

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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

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785 625 3858

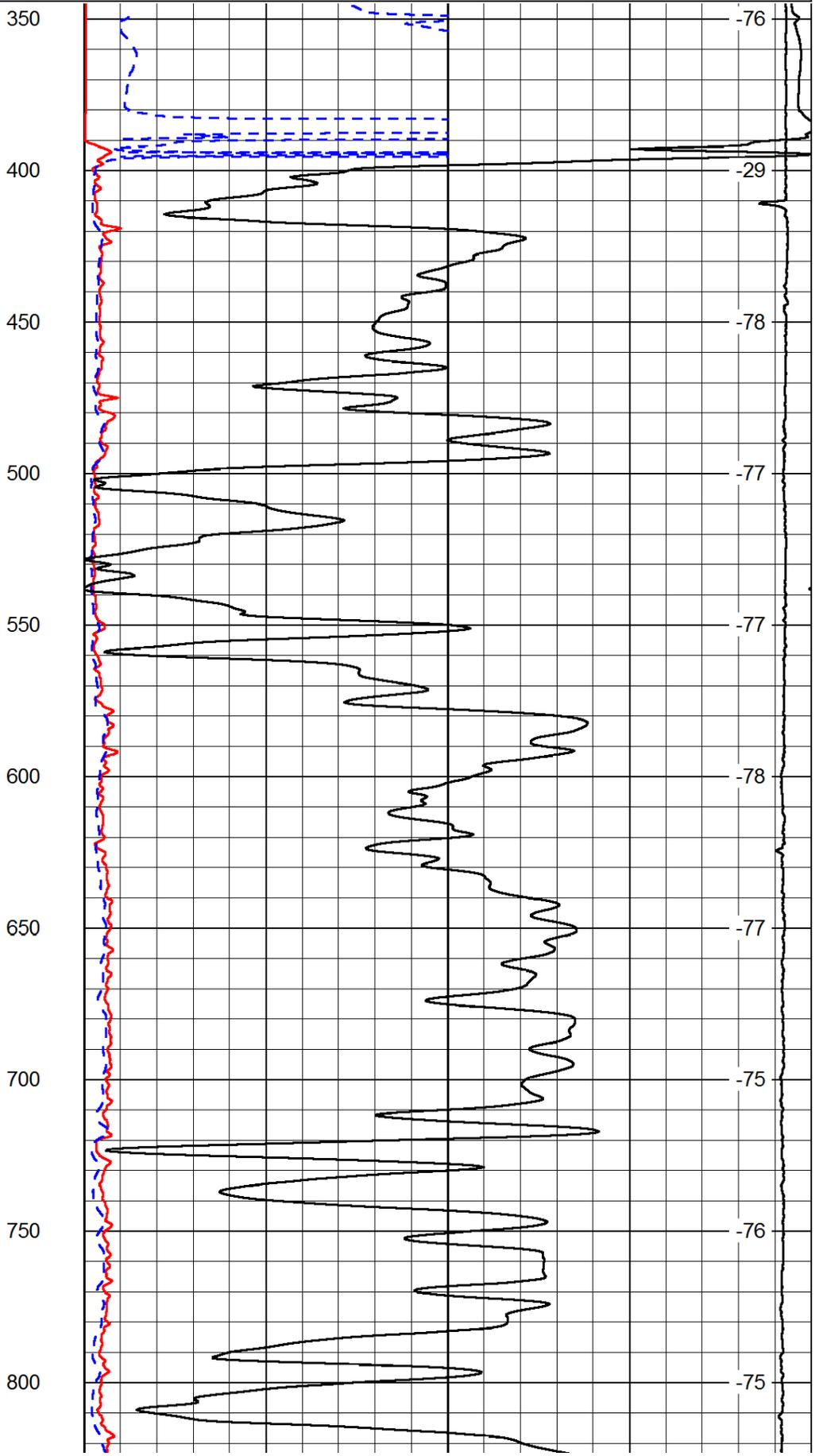
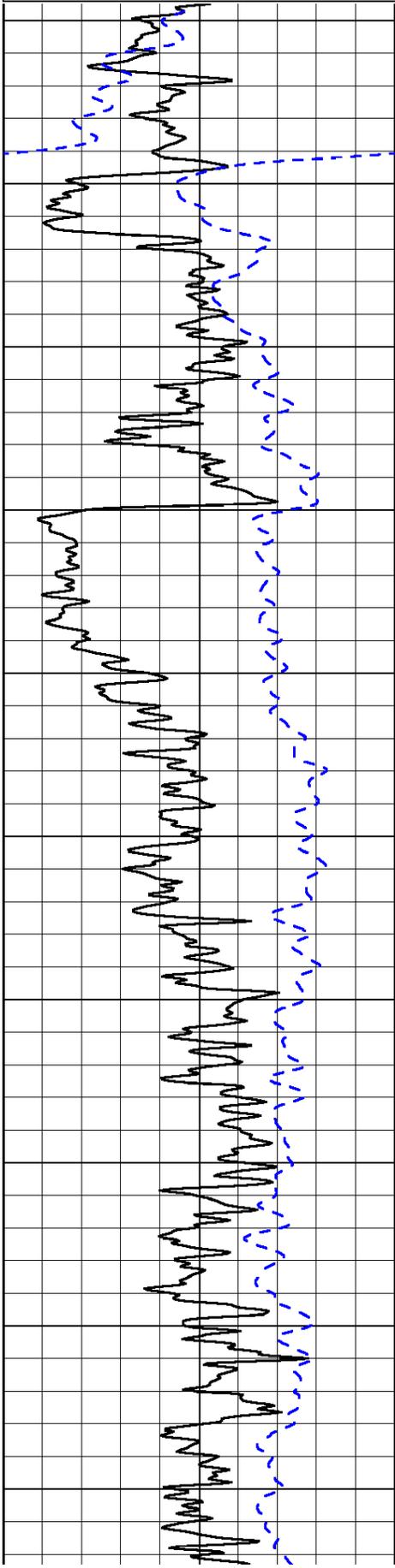
Russell KS, W on I-70 to Balta Rd,
9 1/2 S, 1/2 W, S Into

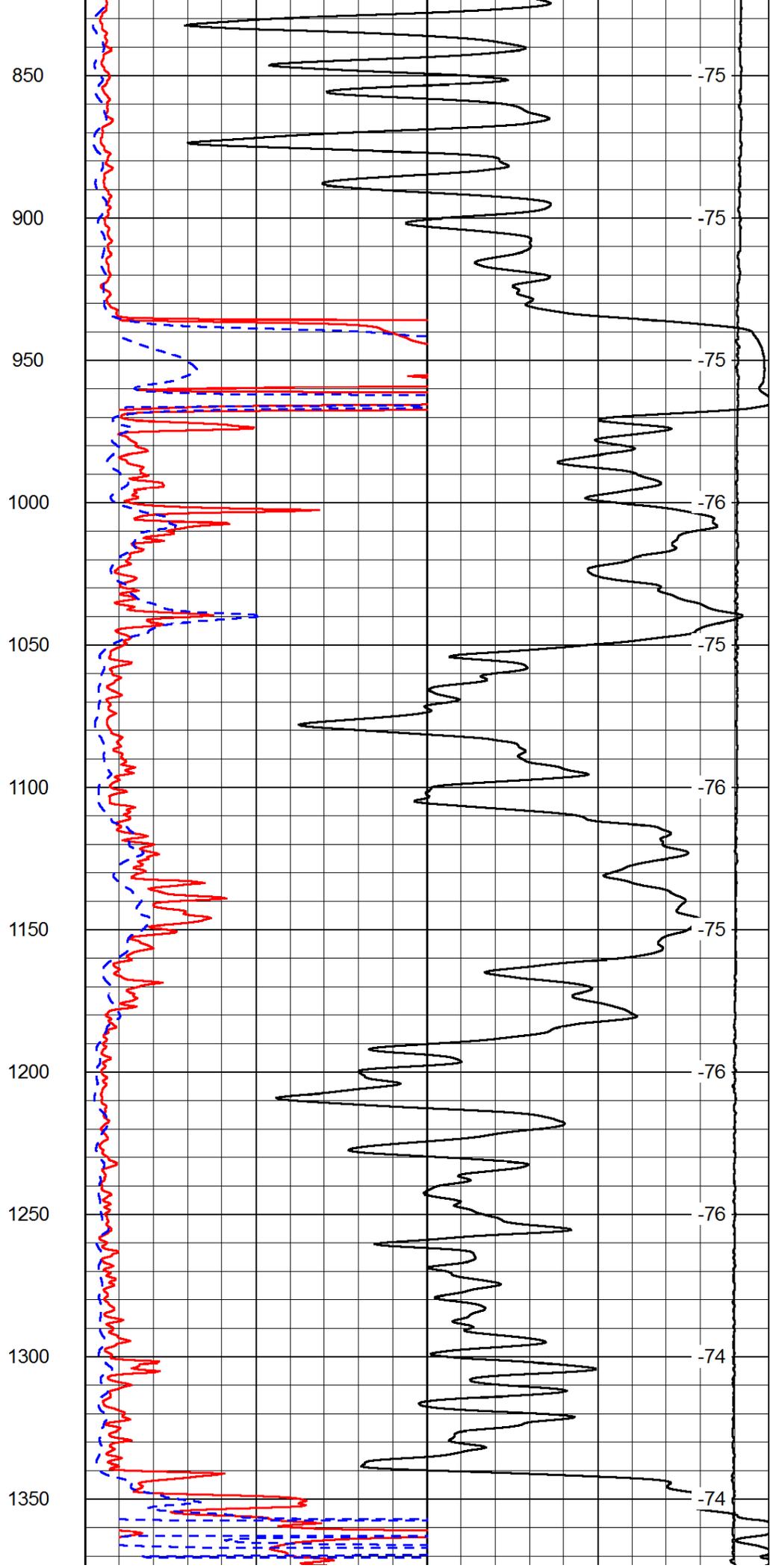
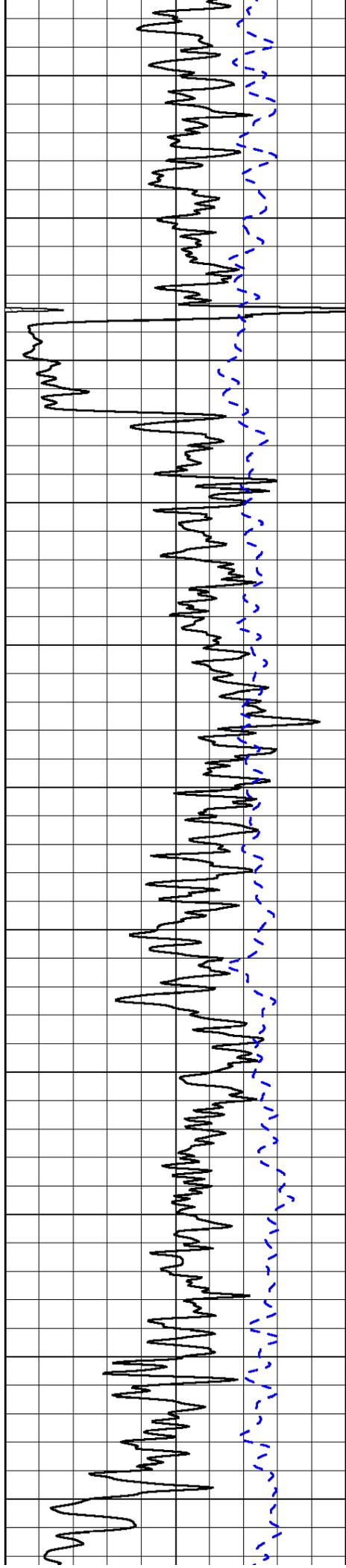
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Charted by: Depth in Feet scaled 1:600

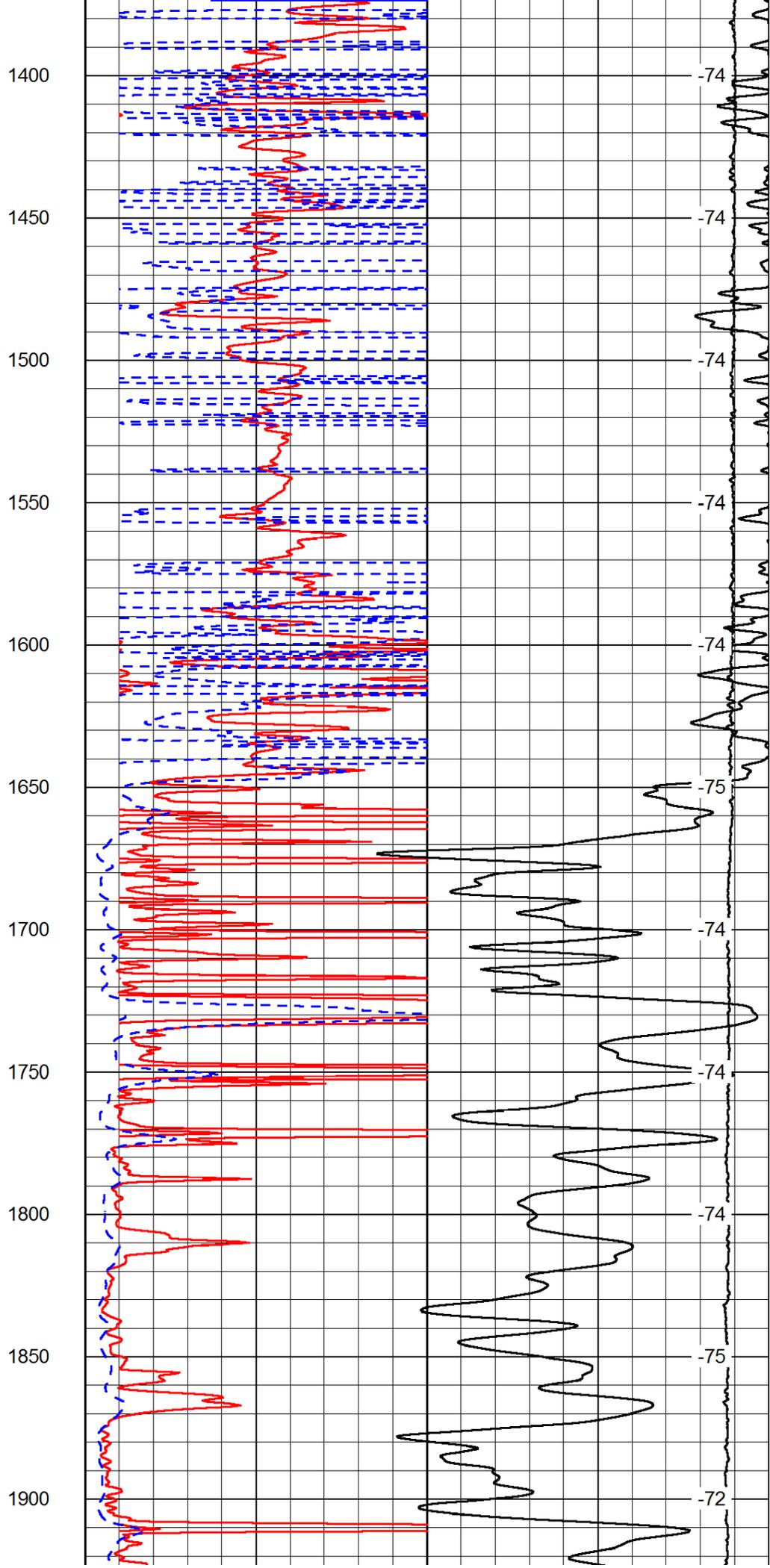
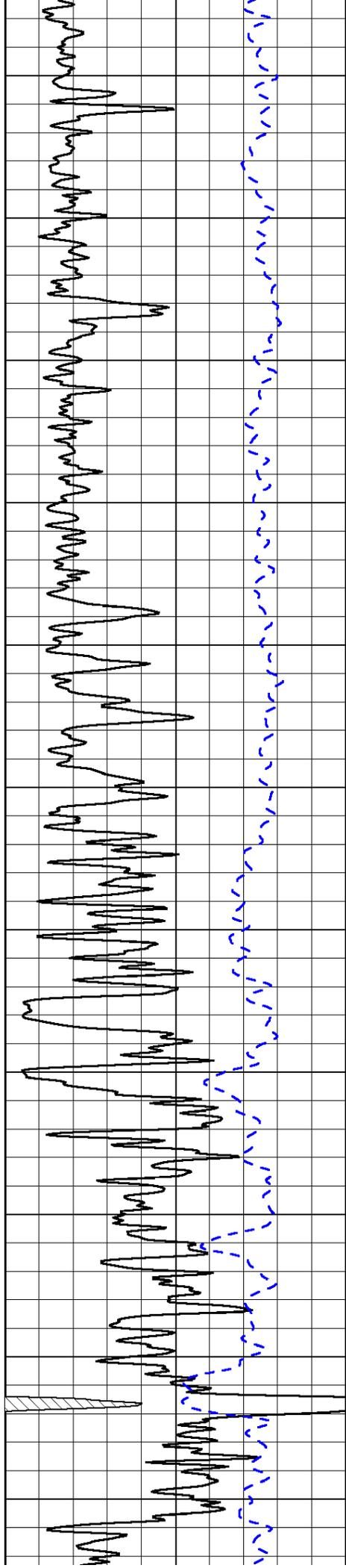
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-200 SP (mV) 0

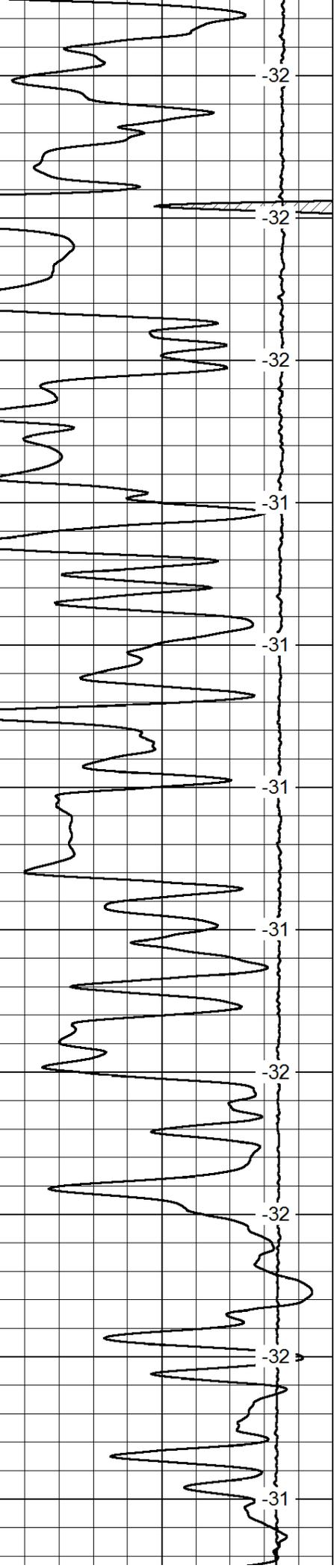
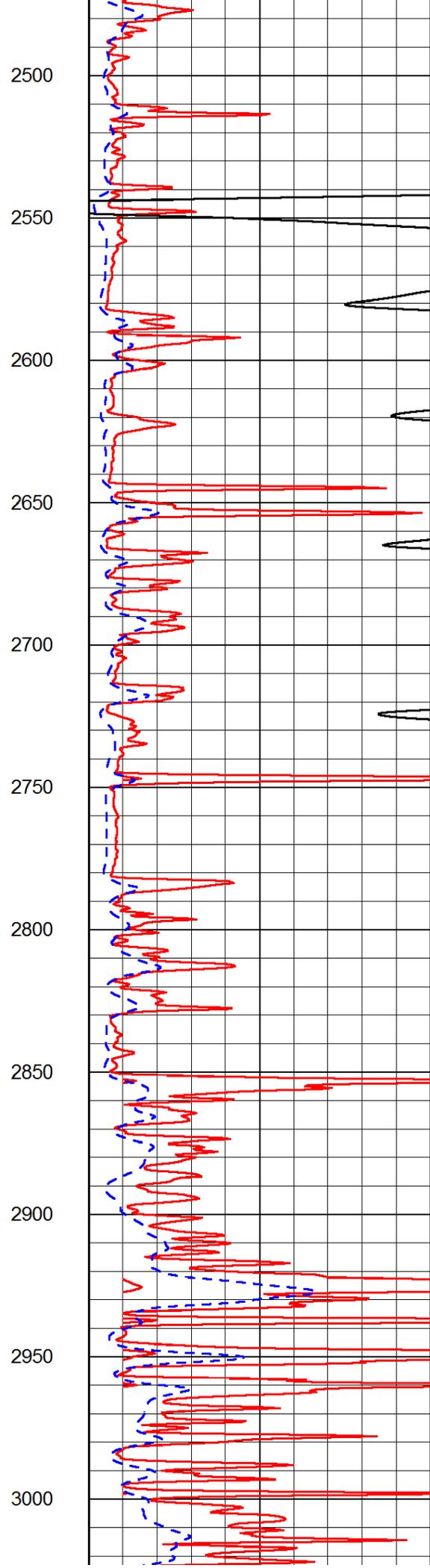
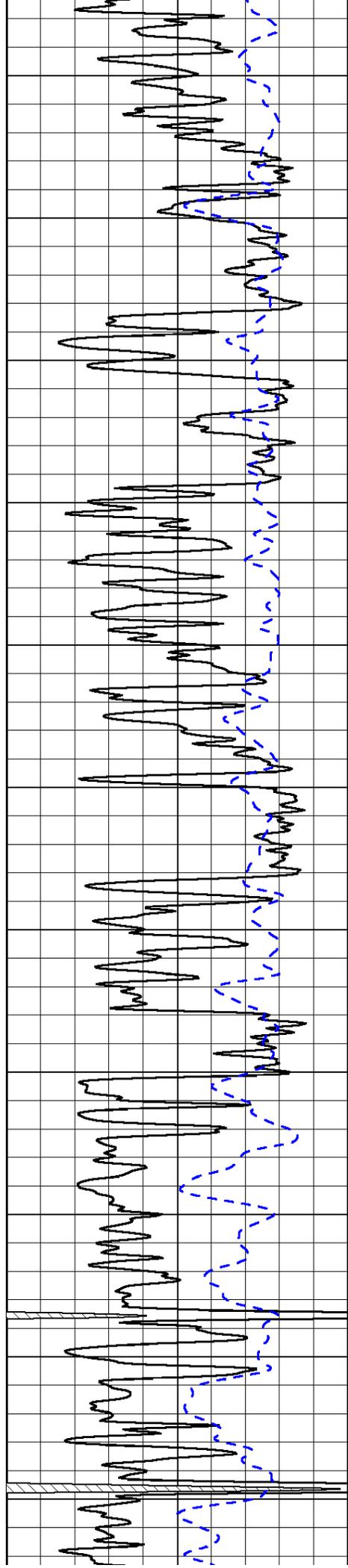
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0 Deep Resistivity 50
1000 Conductivity 0
15000 Line Tension 0
50 Shallow Resistivity 500
50 Deep Resistivity 500

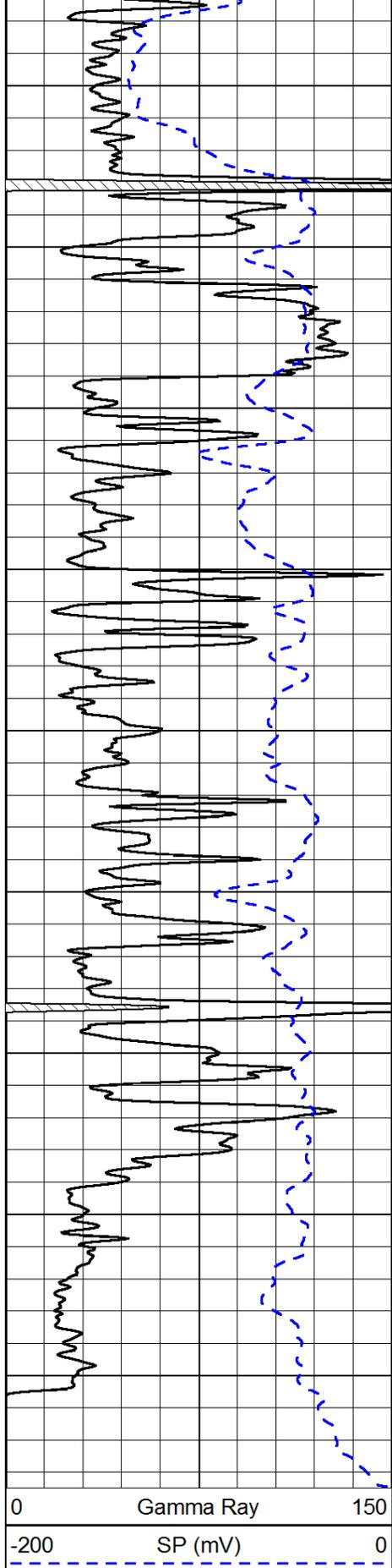
LSPD



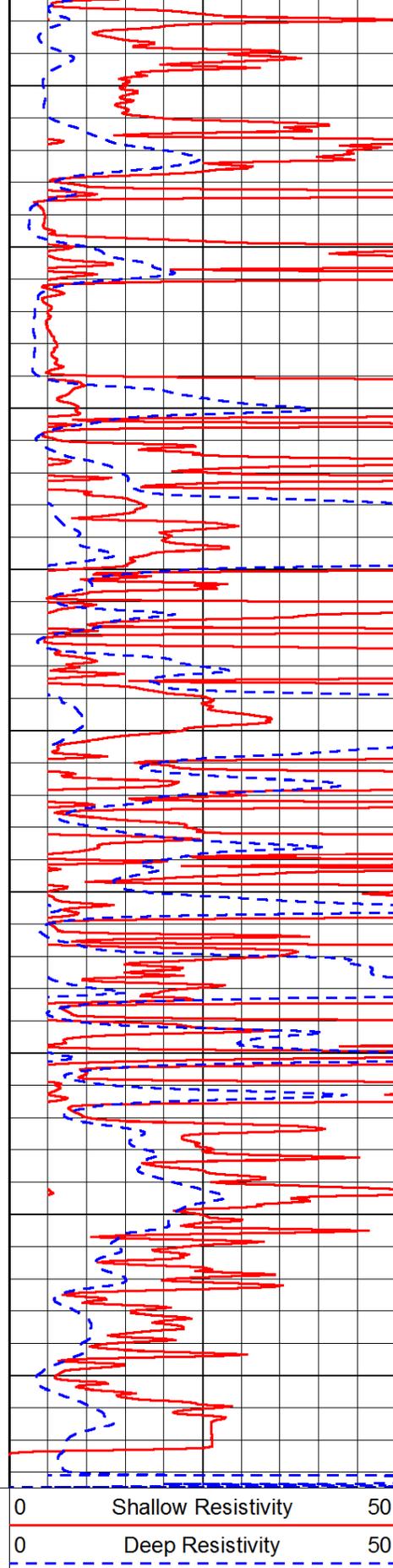




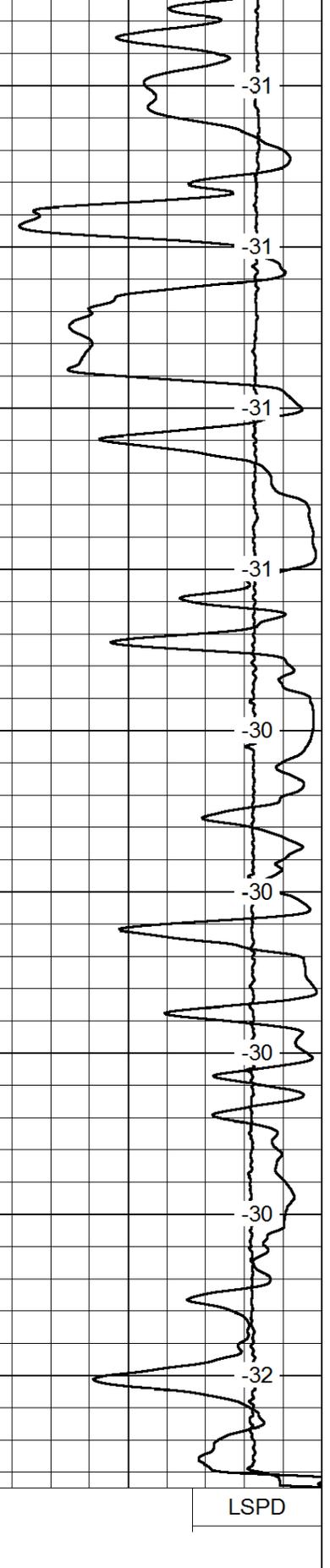




3050
3100
3150
3200
3250
3300
3350
3400
3450



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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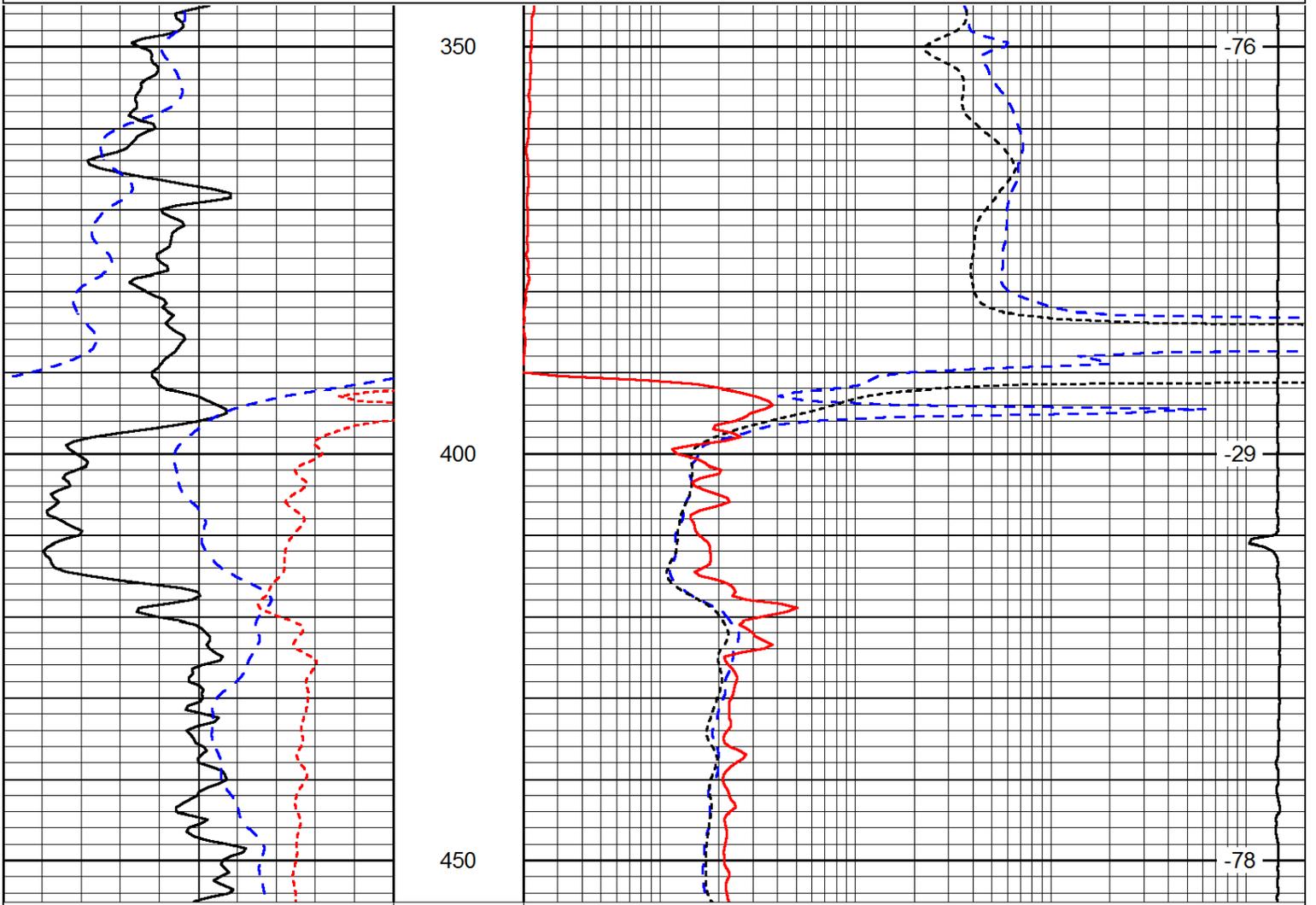
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 Presentation Format: dil
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 Charted by: Depth in Feet scaled 1:240

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



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

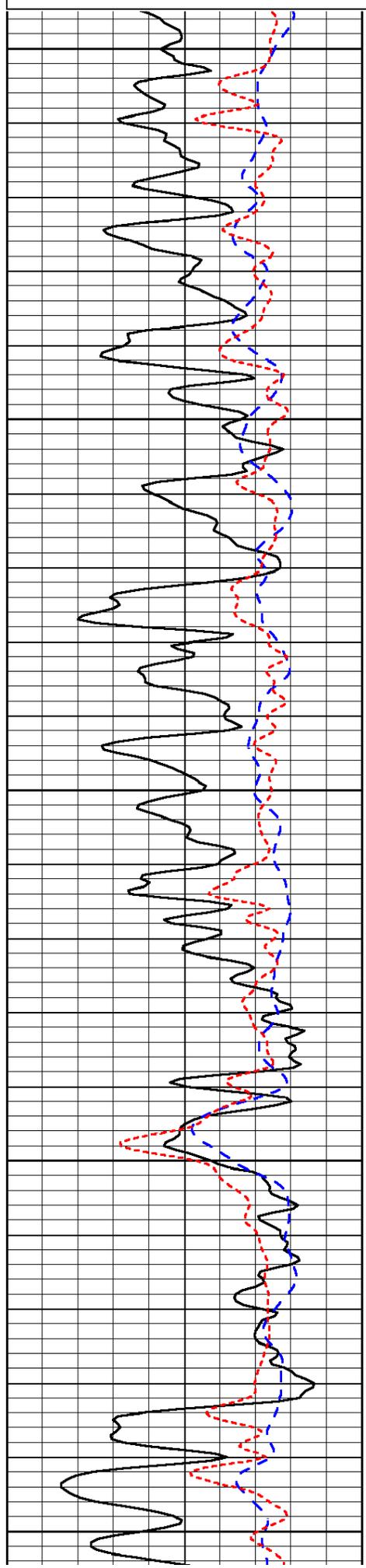
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LSPD



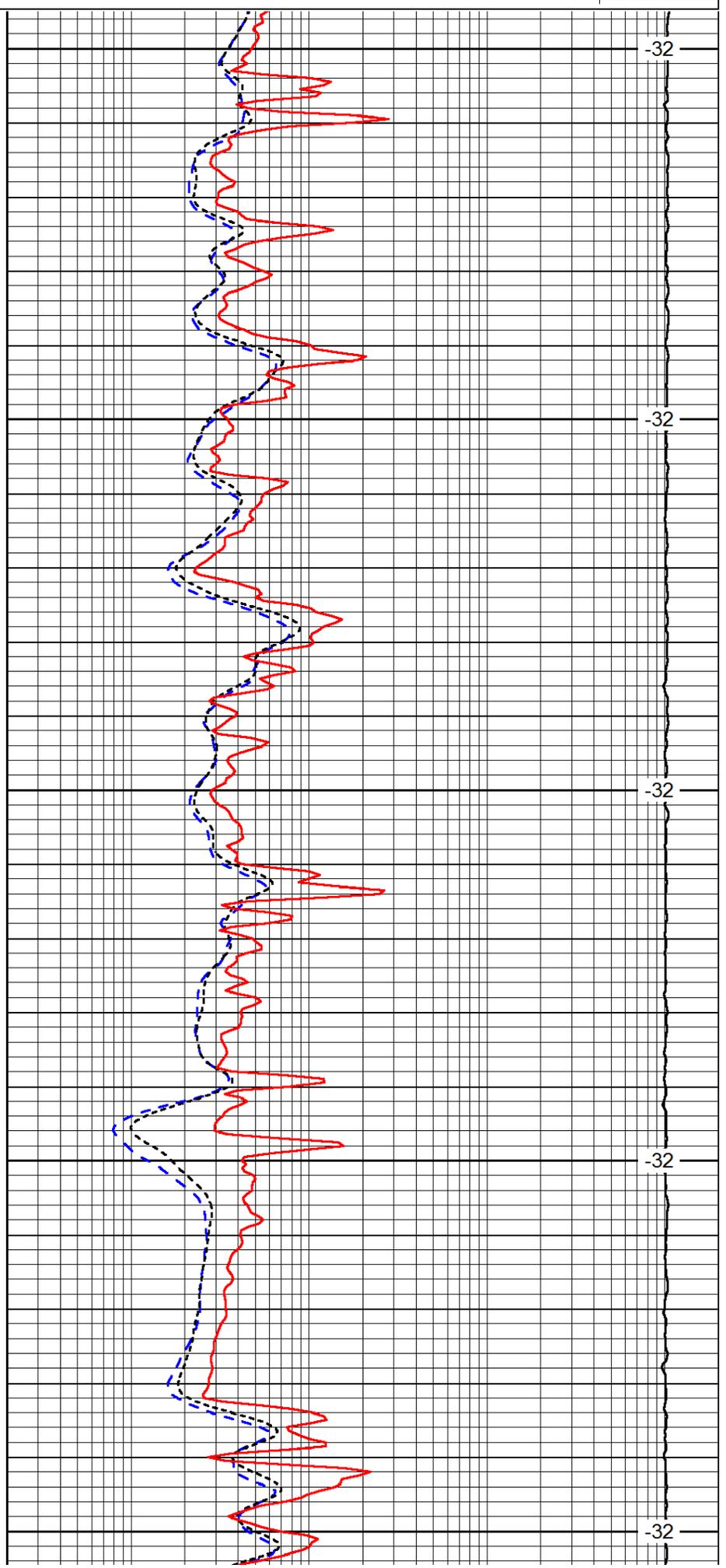
2400

2450

2500

2550

2600



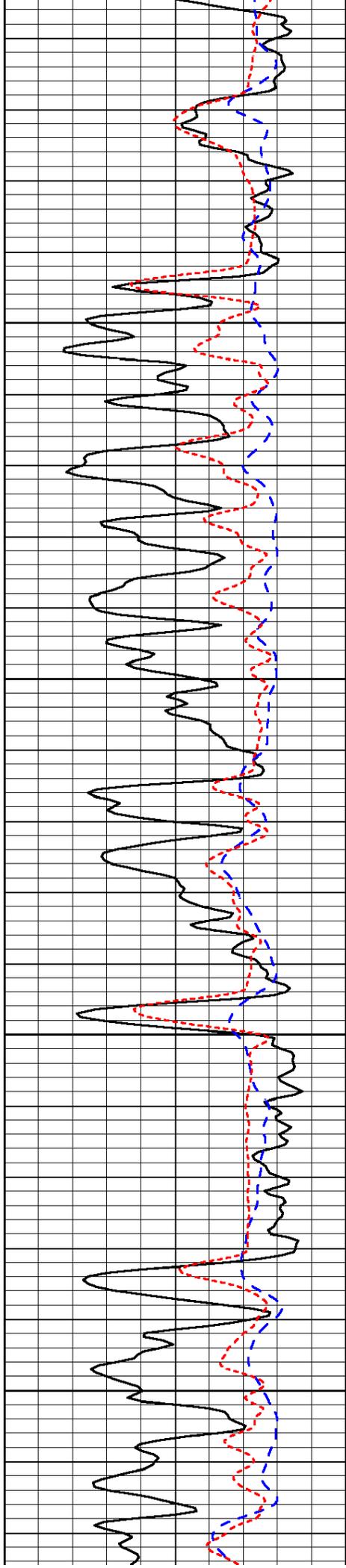
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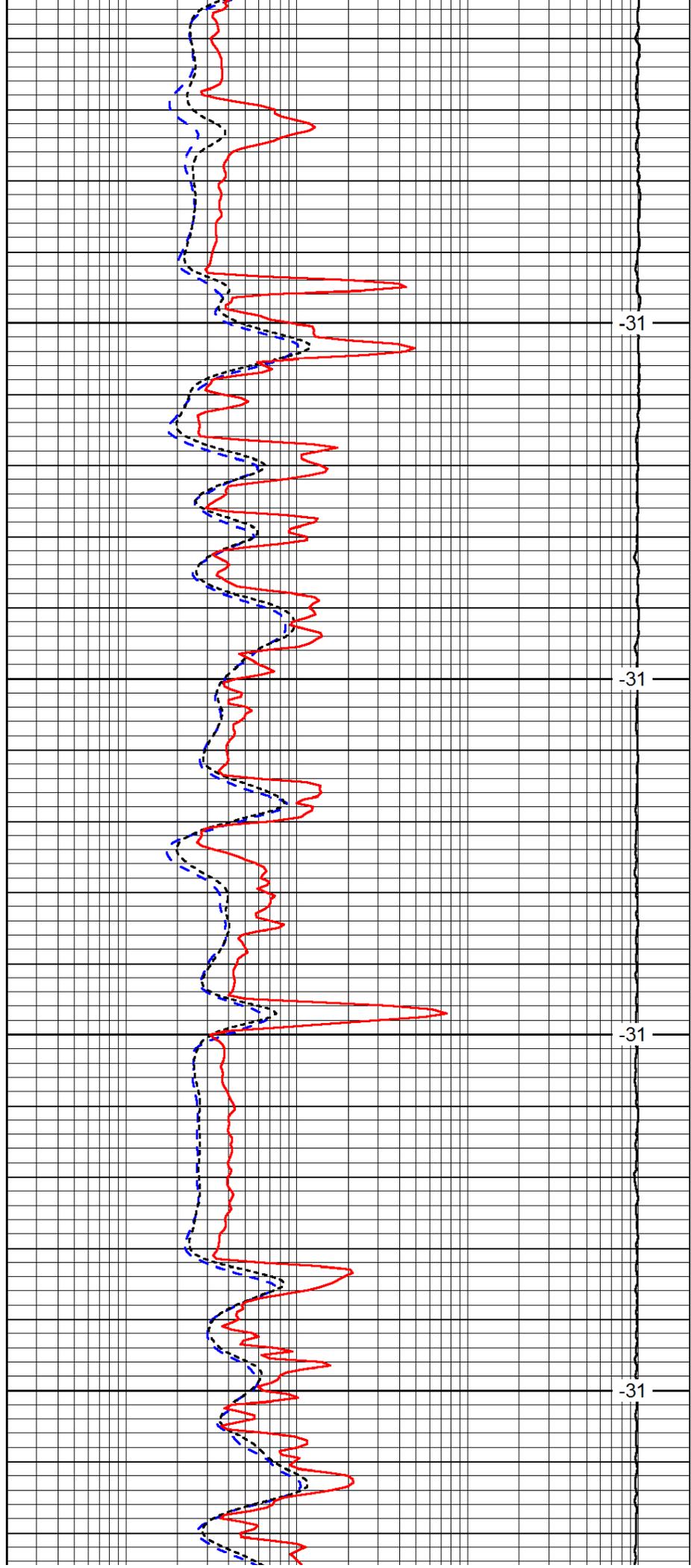


2650

2700

2750

2800

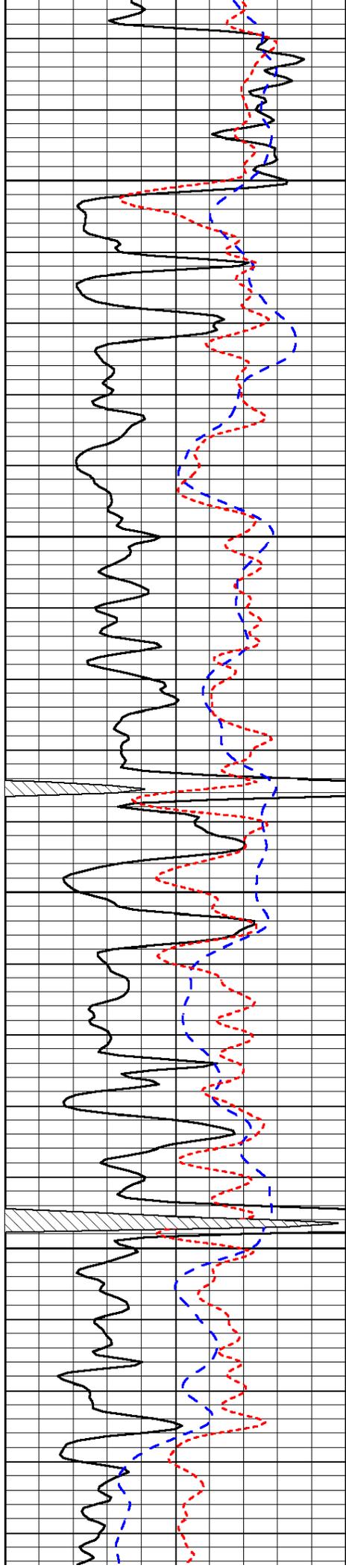


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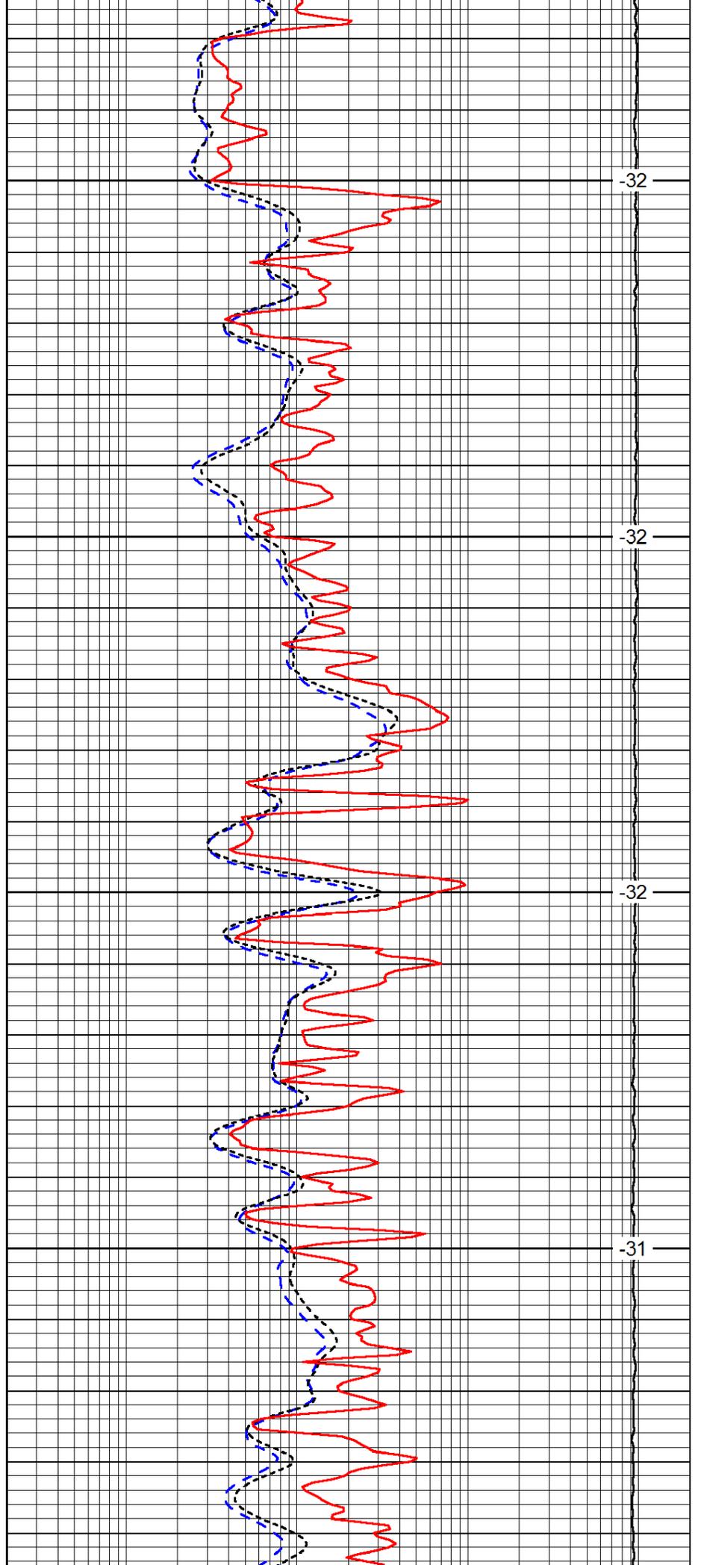


2850

2900

2950

3000

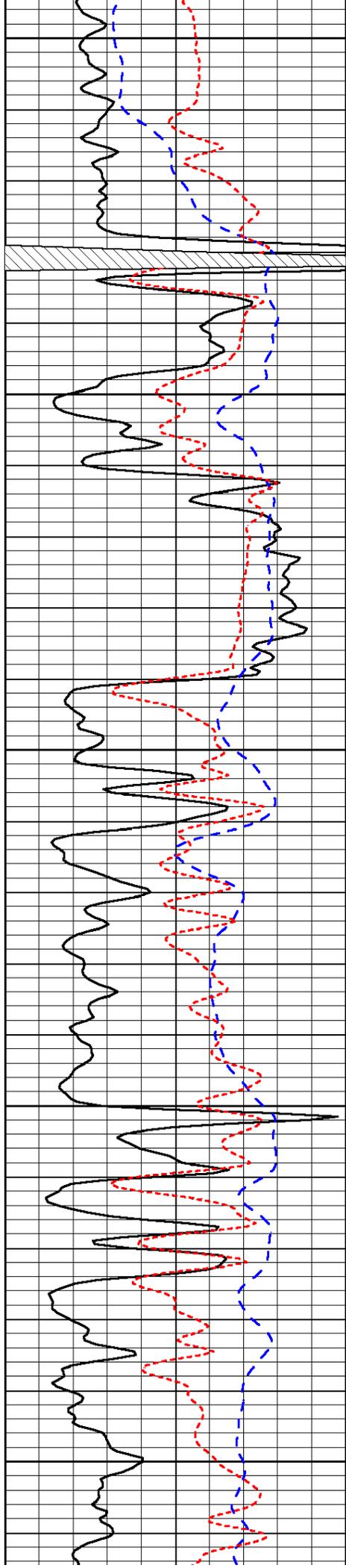


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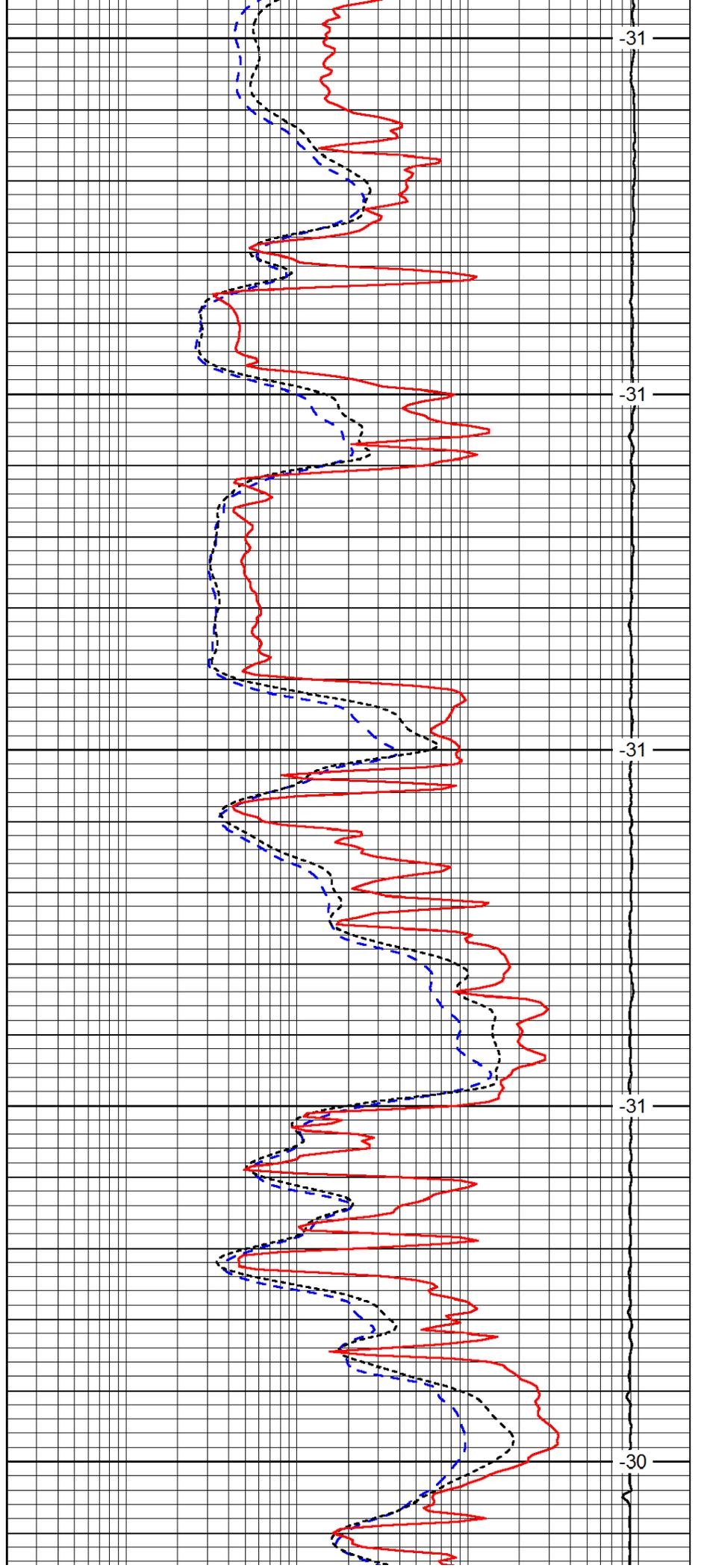
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3100

3150

3200

3250



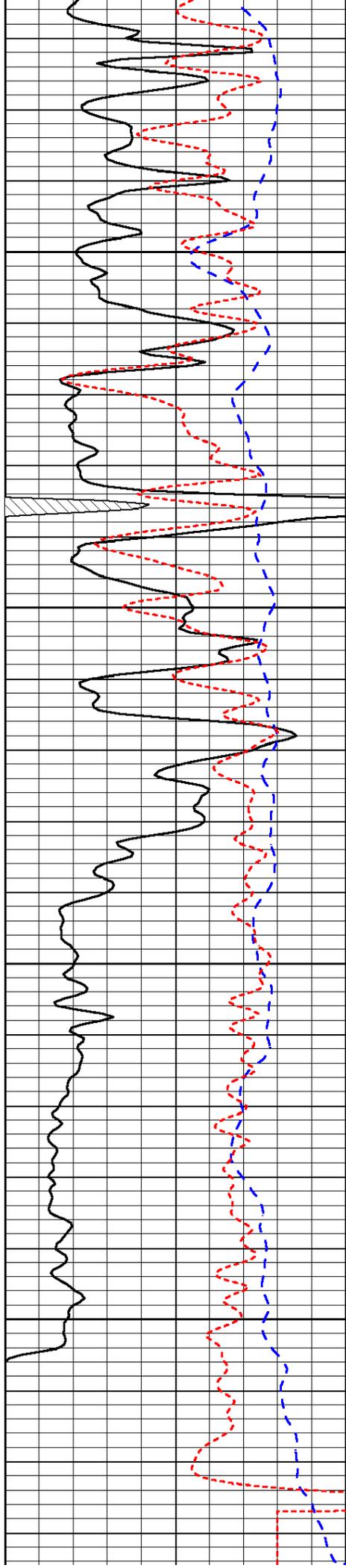
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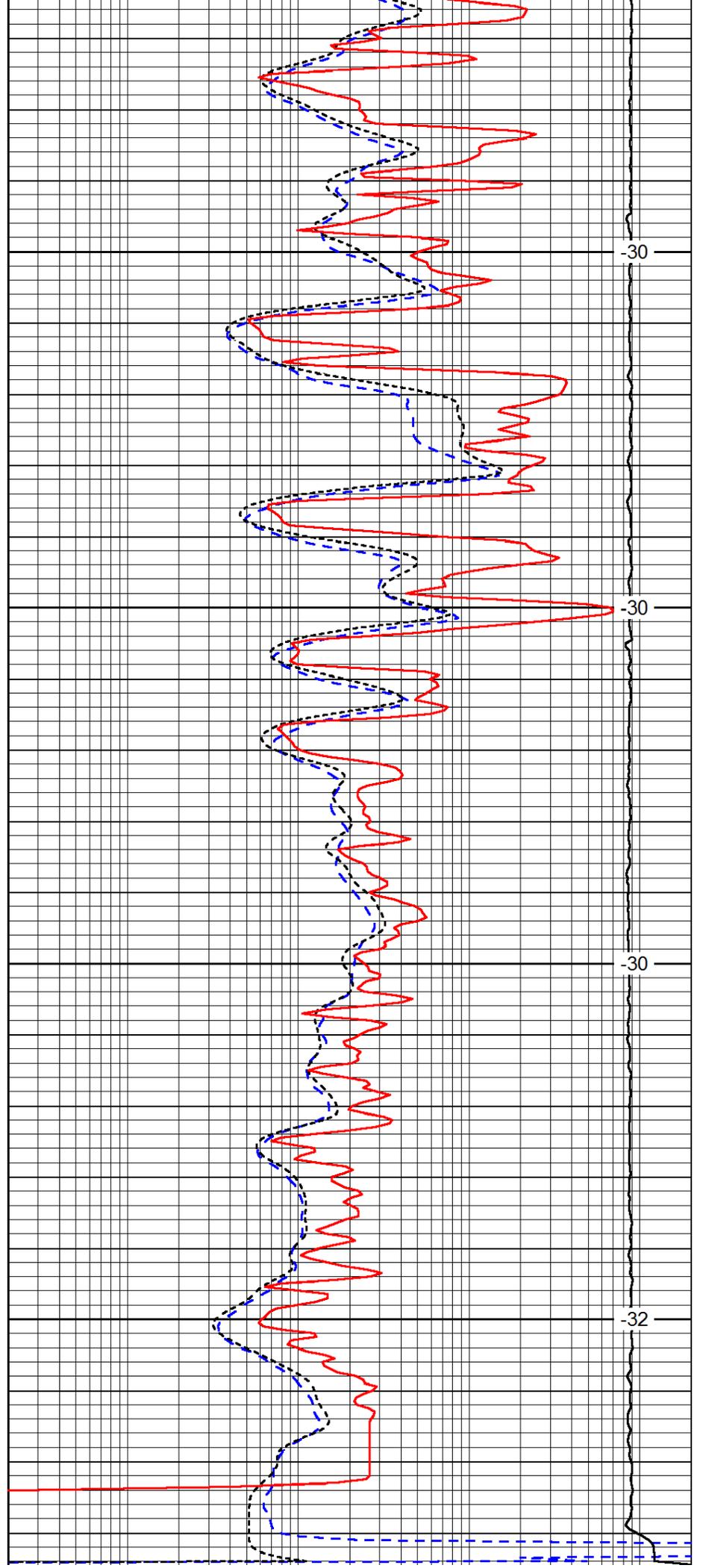


3300

3350

3400

3450



-30

-30

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