



Pioneer Energy Services

# Dual Induction Log

15-015-23,977-00-00

API No.

Company Range Oil Company, Inc.

Well Breedlove A No.1

Field Wildcat

County Butler State

Kansas

Location 1340' FSL & 4500' FEL

Sec: 30 Twp: 28S Rge: 8E

Permanant Datum Ground Level Elevation 1574

Log Measured From Kelly Bushing 10 Ft. Above Perm. Datum

Drilling Measured From Kelly Bushing

Other Services  
CNL/CDL  
BHCS  
Elevation  
K.B. 1584  
D.F.  
G.L. 1574

Date 5/3/2013

Run Number One

Depth Driller 3225

Depth Logger 3225

Bottom Logged Interval 3224

Top Log Interval 200

Casing Driller 8.625 @ 227

Casing Logger 227

Bit Size 7.875

Type Fluid in Hole Chemical

Salinity,ppm CL 1,600

Density / Viscosity 9.4 55

pH / Fluid Loss 9.5 8.2

Source of Sample Flowline

Rm @ Meas. Temp 1.35 @ 52

Rmf @ Meas. Temp 1.01 @ 52

Rmc @ Meas. Temp 1.82 @ 52

Source of Rmf / Rmc Charts

Rm @ BHT .65 @ 108

Operating Rig Time 3 1/2 Hours

Max Rec. Temp. F 108

Equipment Number 17

Location Hays

Recorded By C. Desaire

Witnessed By John Washburn

Ken Wallace

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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.pioneerenergy.com](http://www.pioneerenergy.com)  
 785 625 3858  
 Augusta KS, 17 E to Stony Creek Rd,  
 7 S to 180 Rd, 4 E to Tank Batt, E Side thru cttl grd, 1/2 N,  
 W thru gate, 3/4 N

Database File: c:\warrior\data\range\_breedlove a #1\rangehd.db  
 Dataset Pathname: dil\rngstk  
 Presentation Format: dil2in  
 Dataset Creation: Sat May 04 00:51:57 2013  
 Charted by: Depth in Feet scaled 1:600

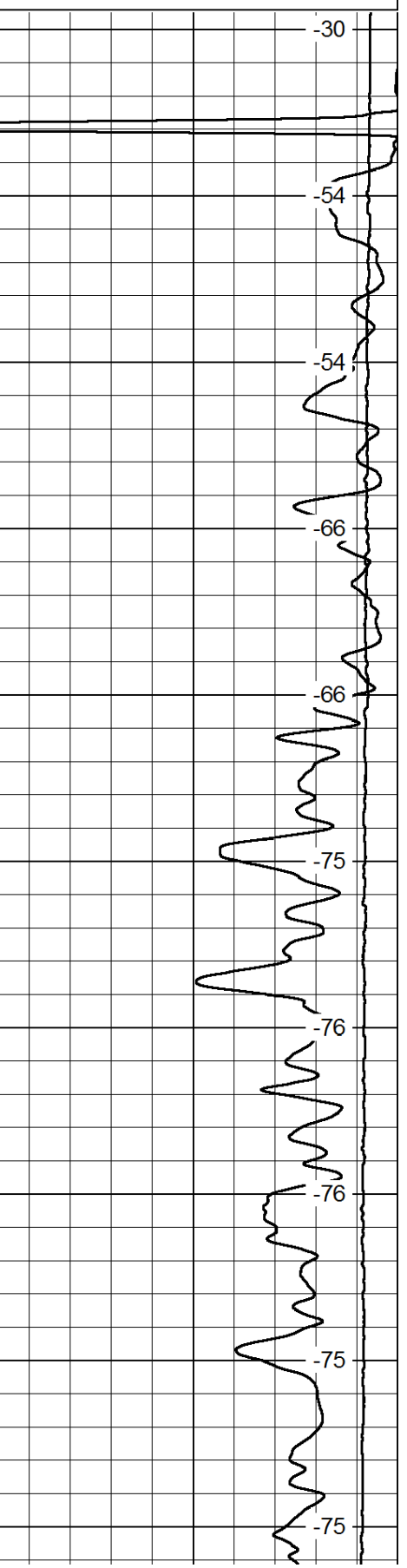
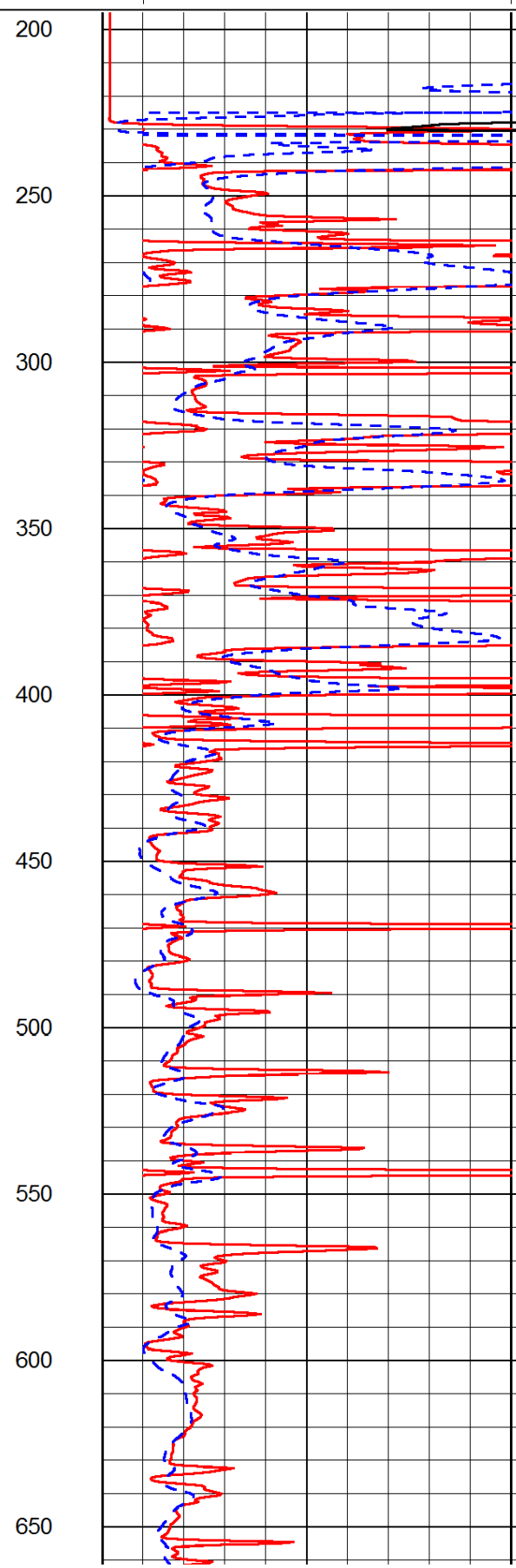
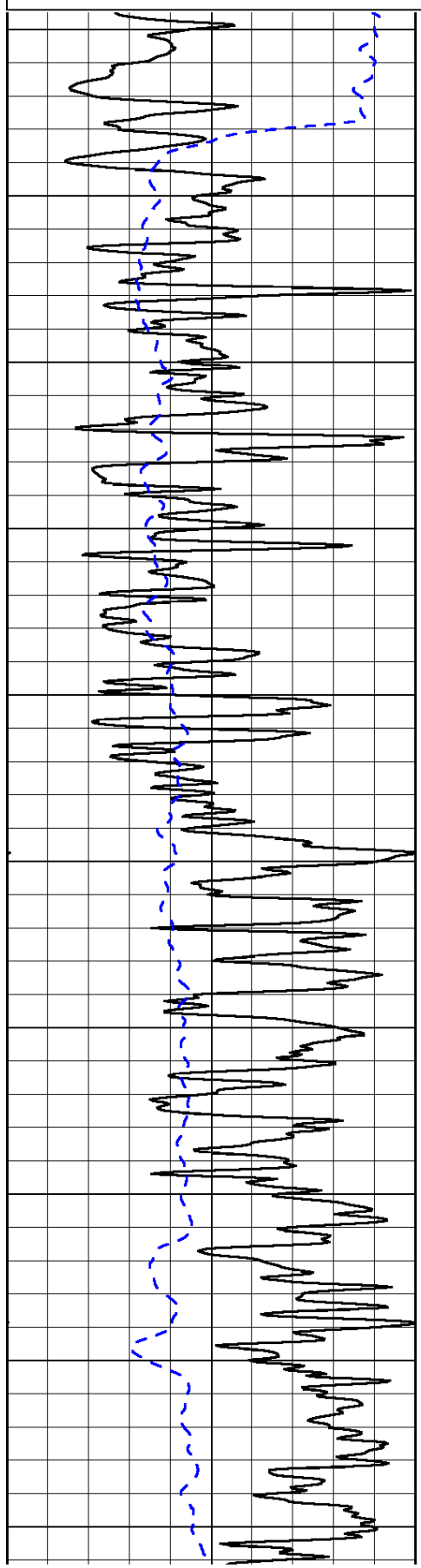
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-200	SP (mV)	0

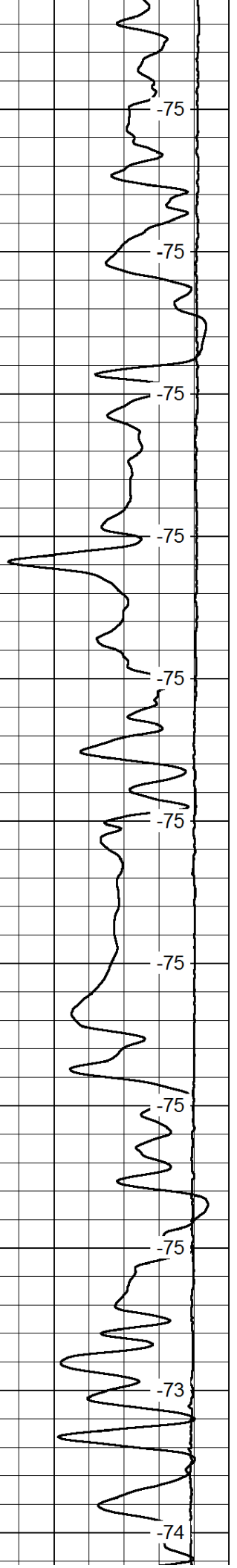
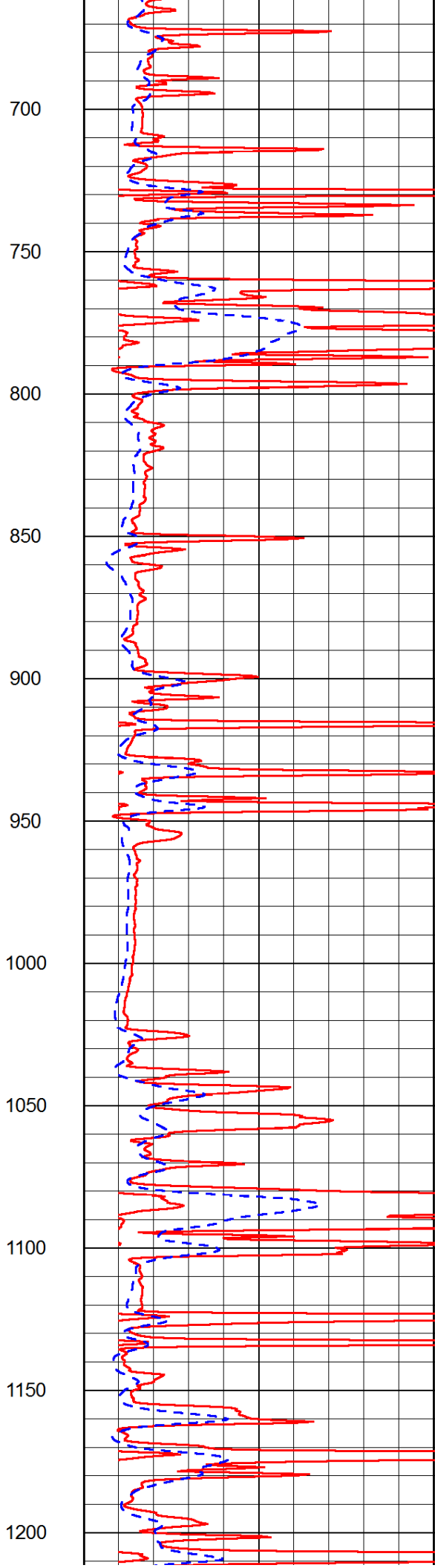
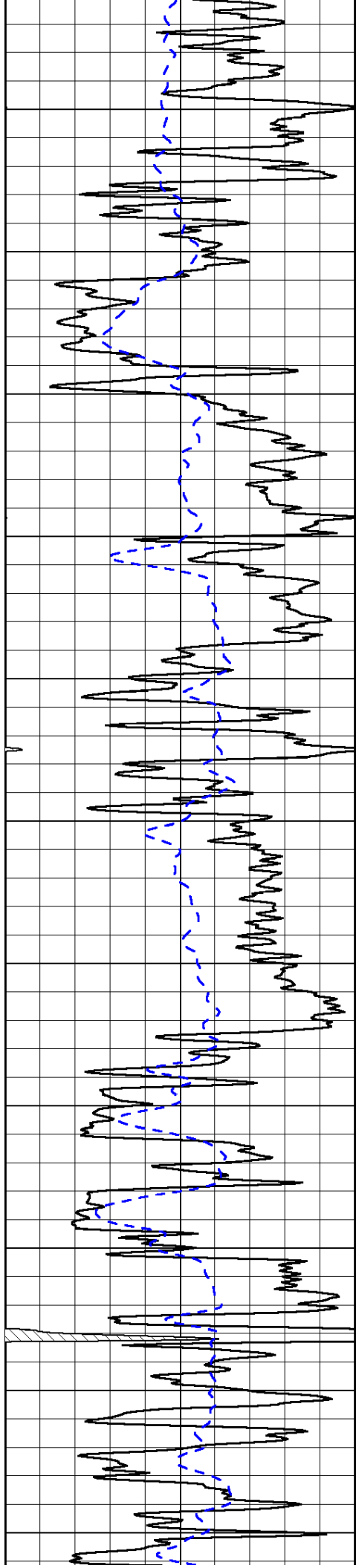
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0	Deep Resistivity	50

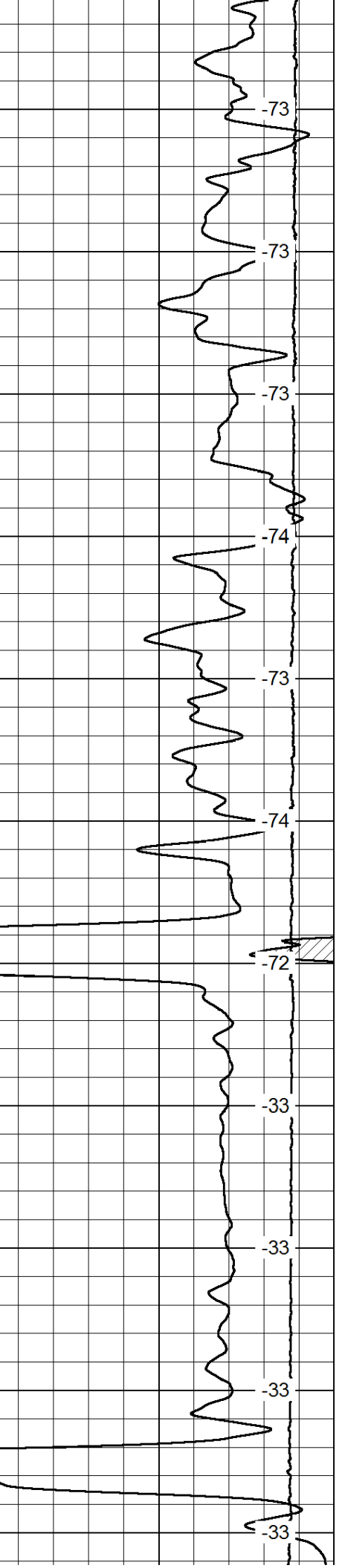
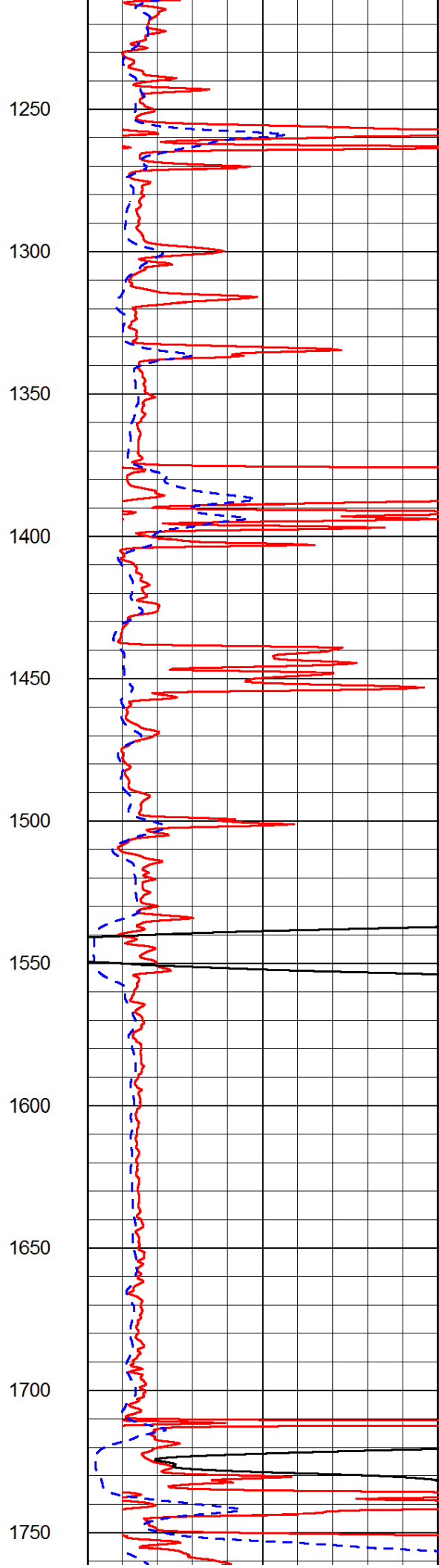
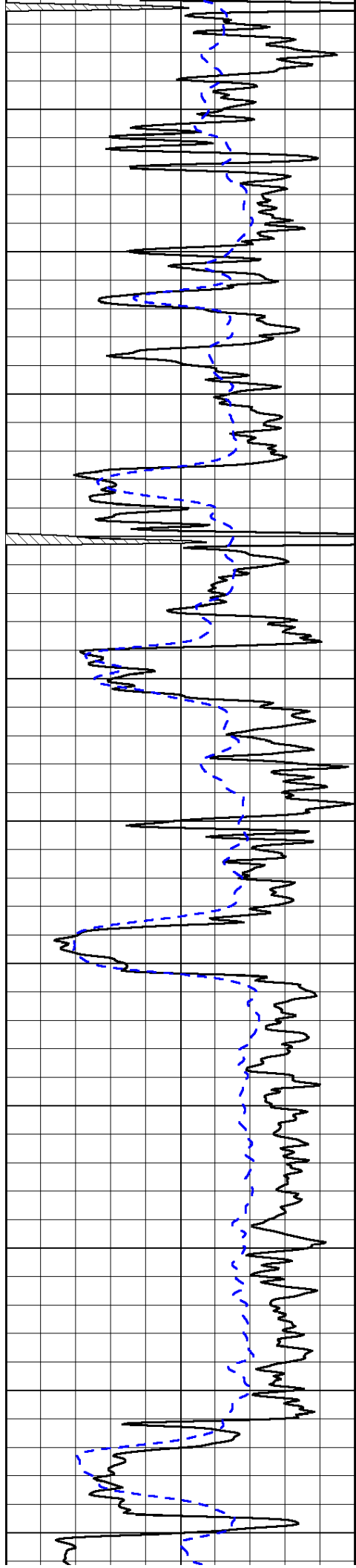
LSPD

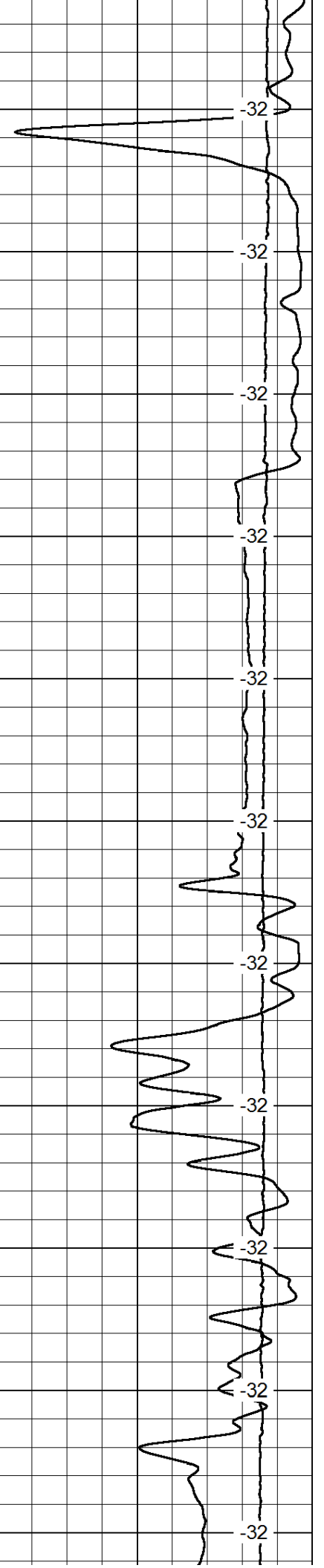
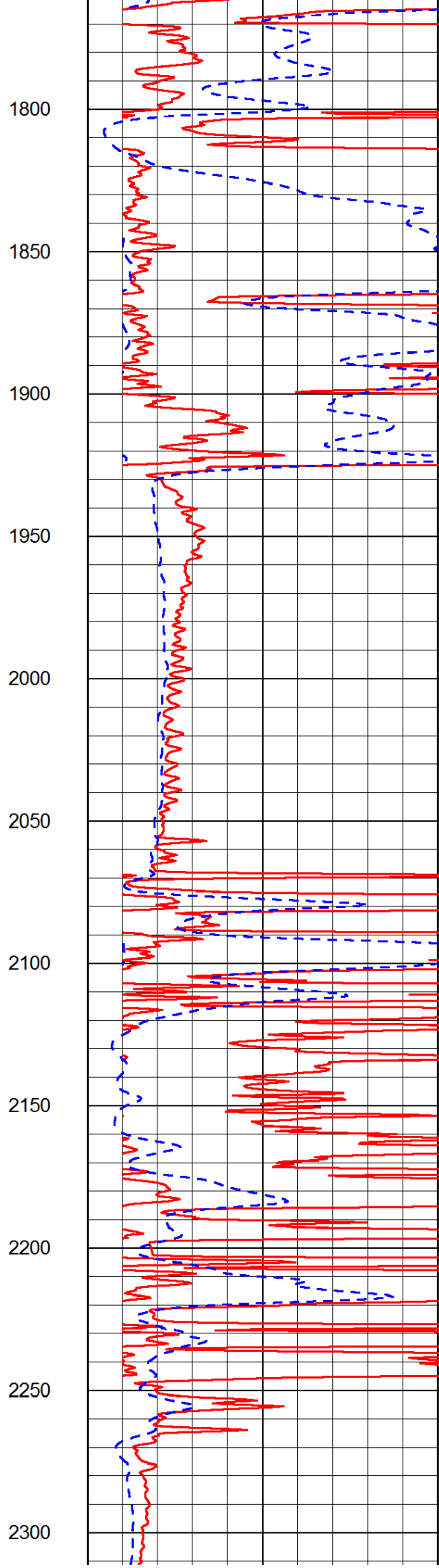
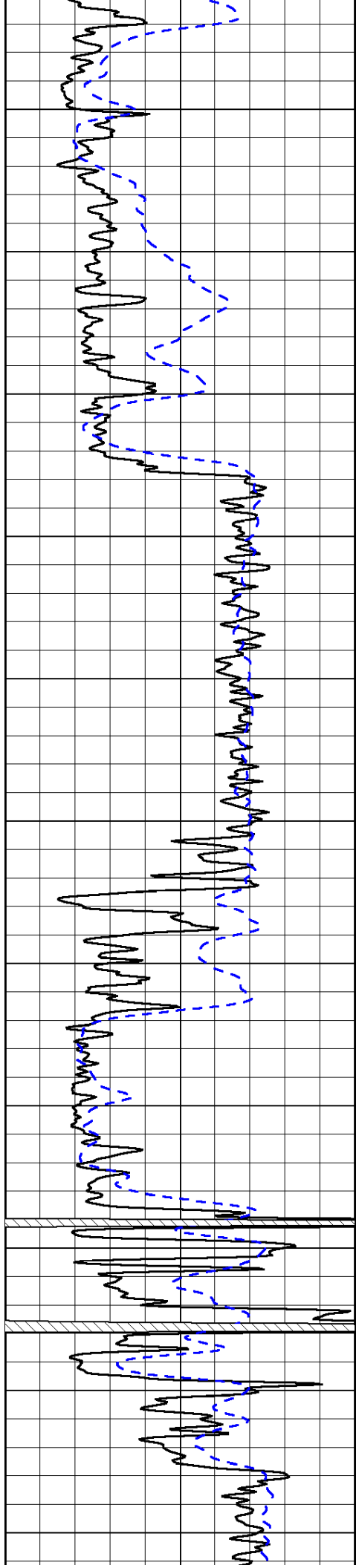
1000	Conductivity	0
15000	Line Tension	0

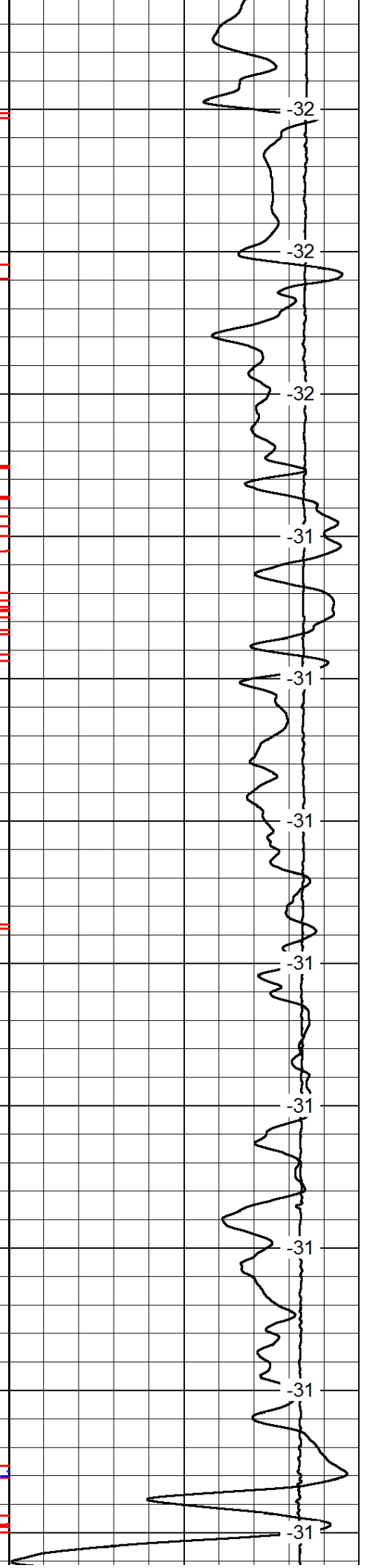
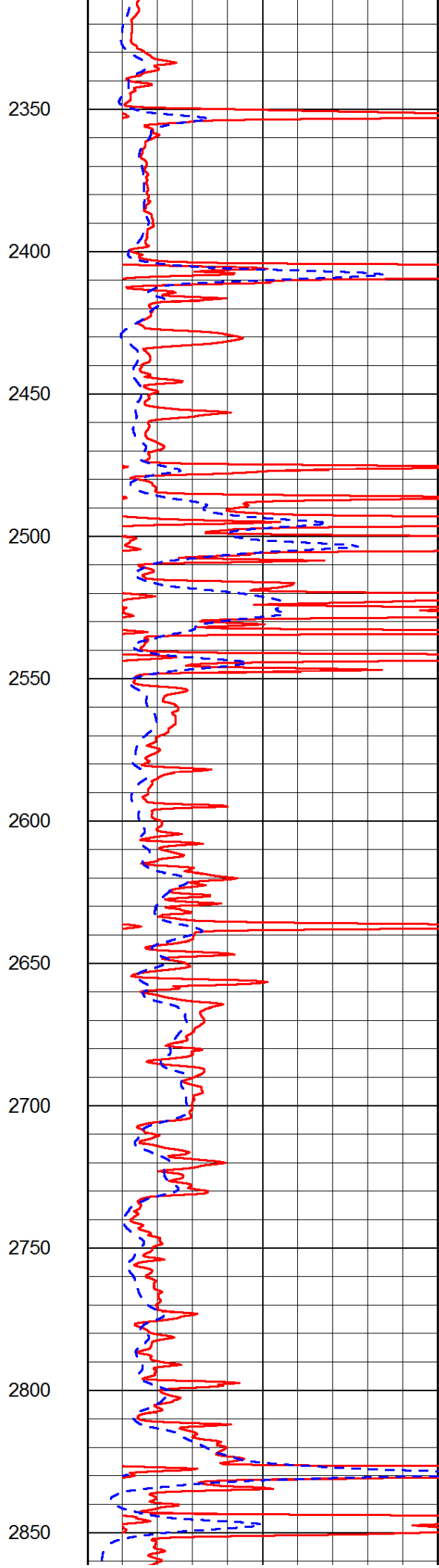
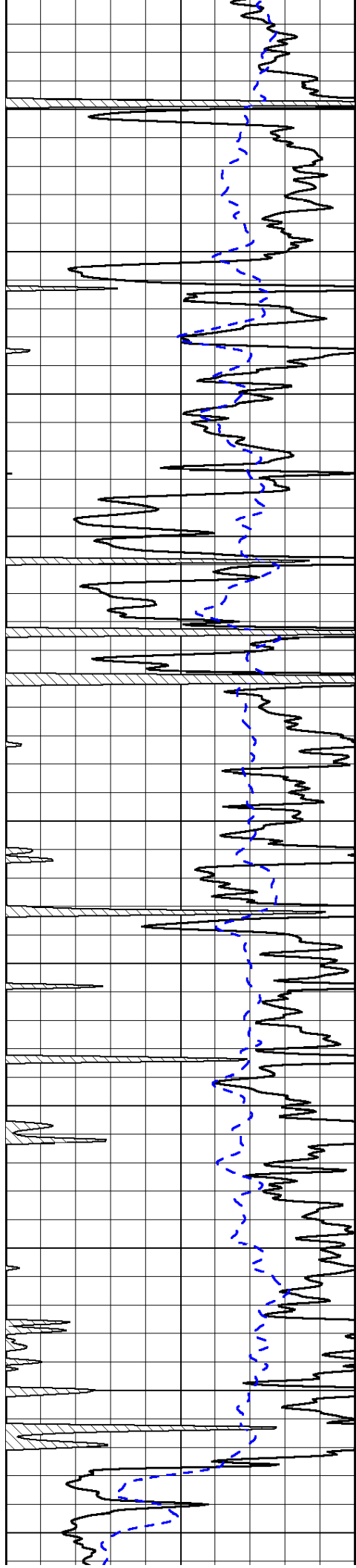
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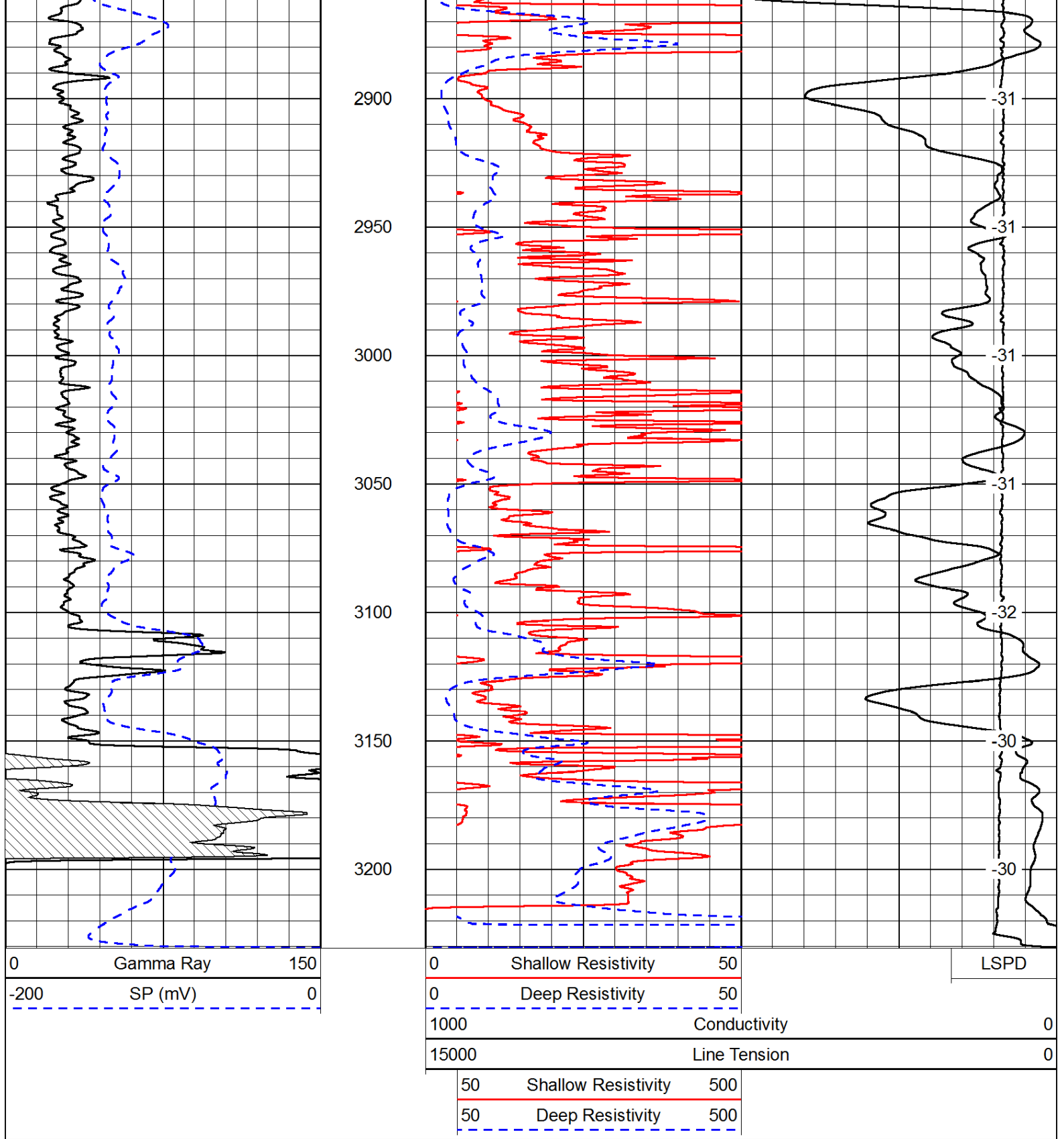




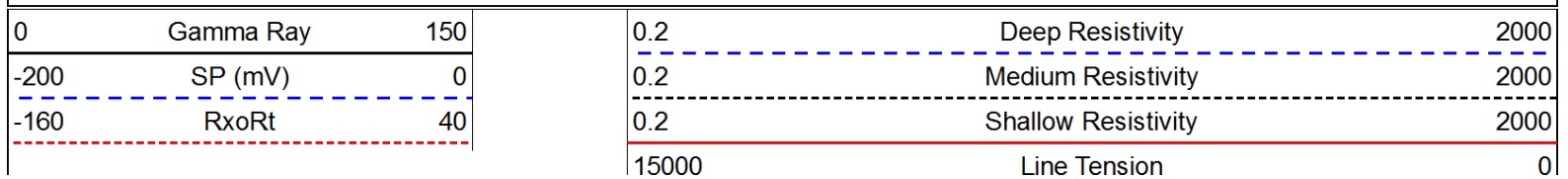


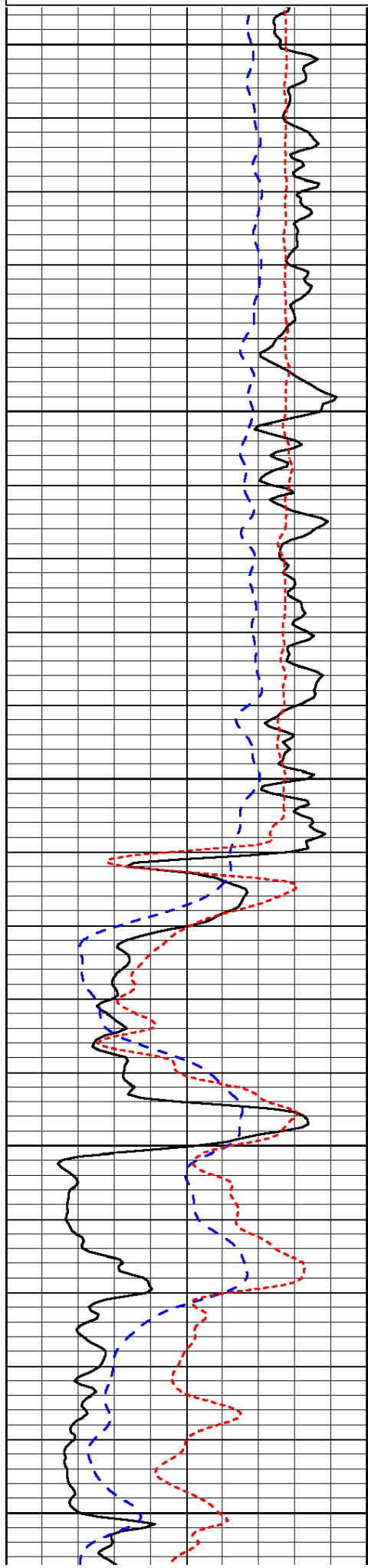






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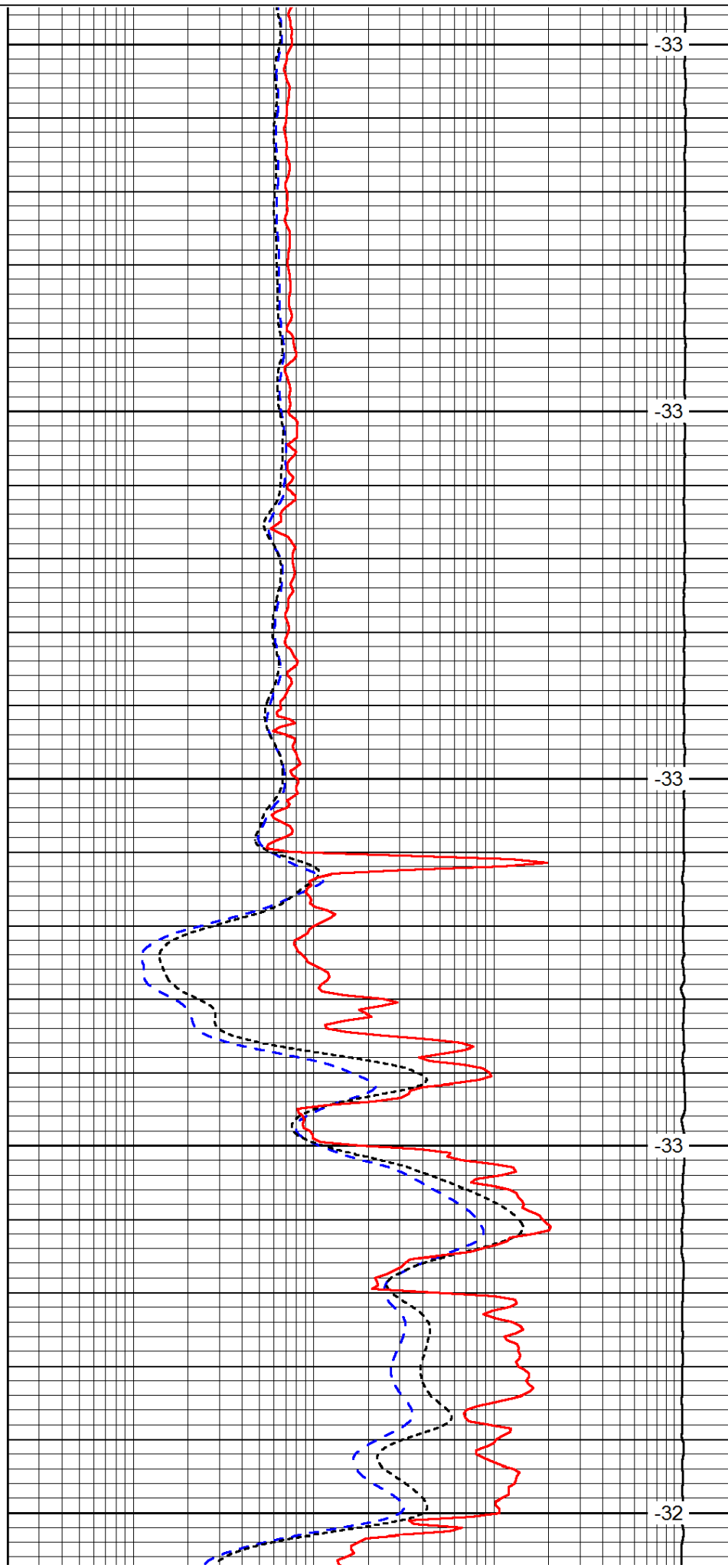
1600

1650

1700

1750

1800



-33

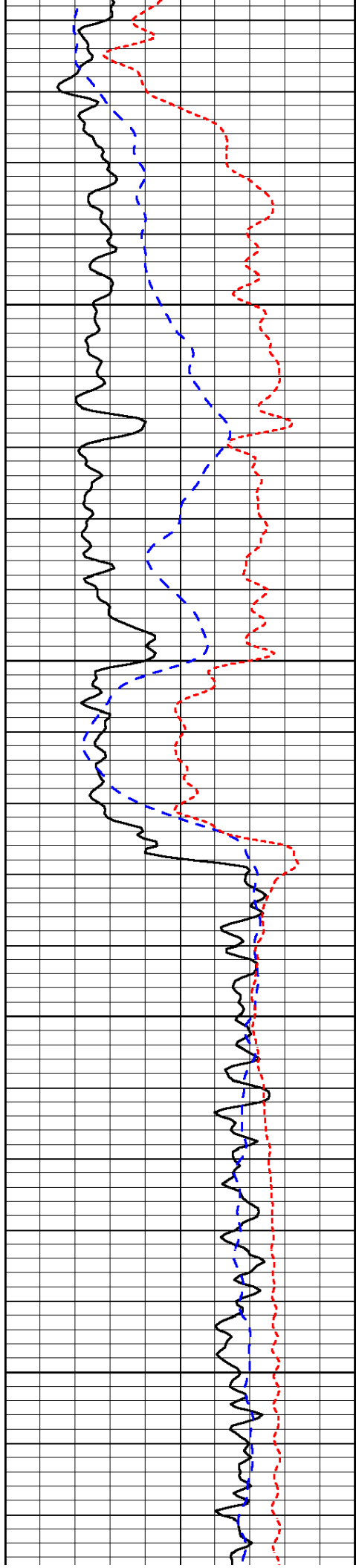
-33

-33

-33

-32



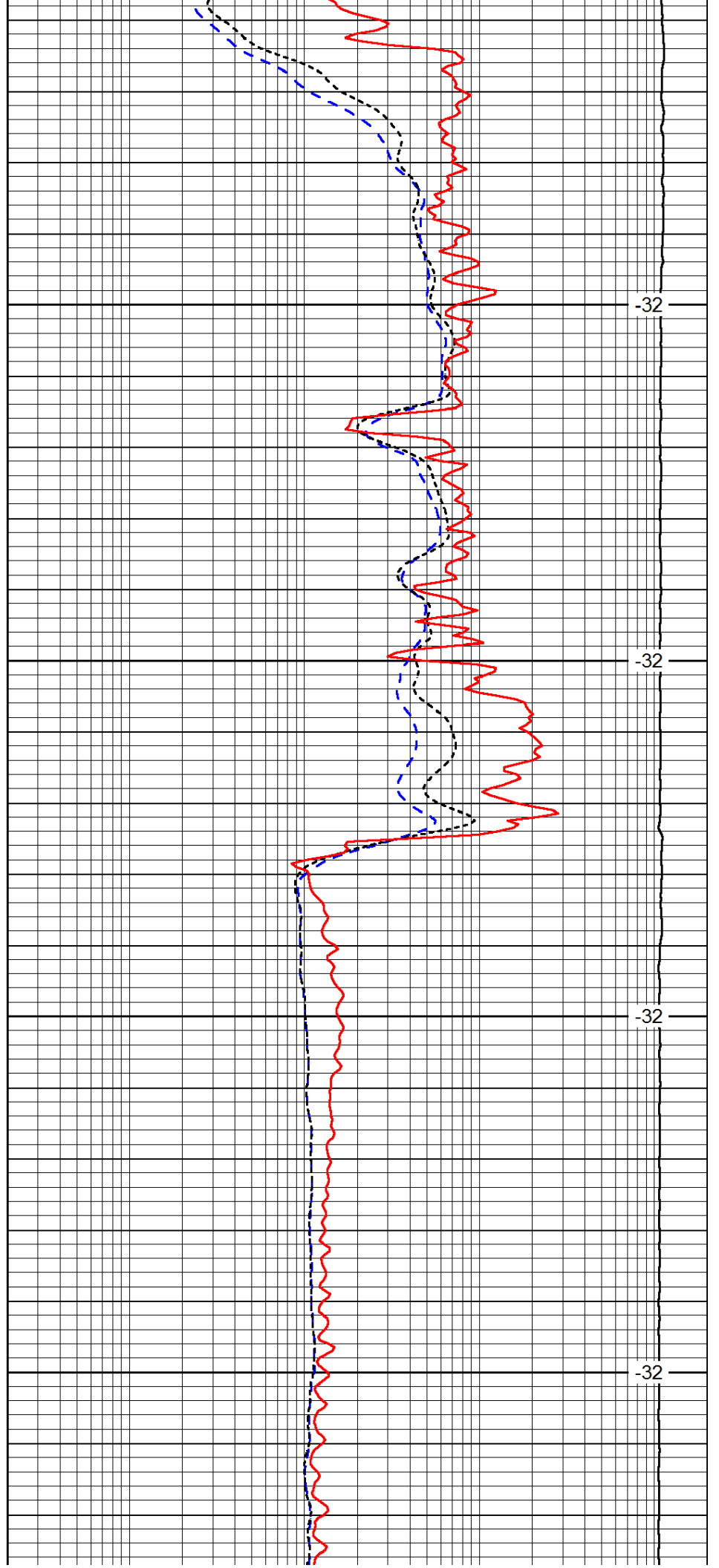


1850

1900

1950

2000

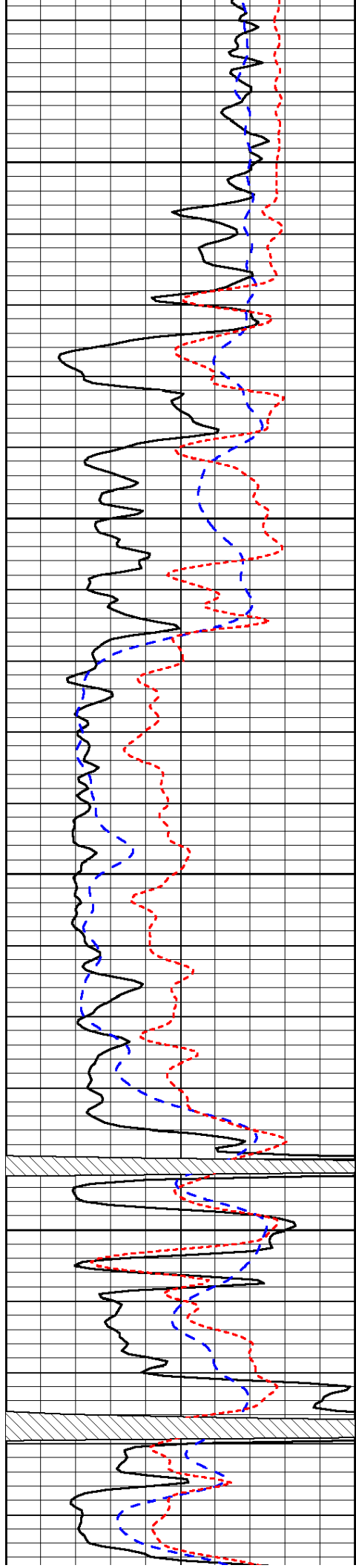


-32

-32

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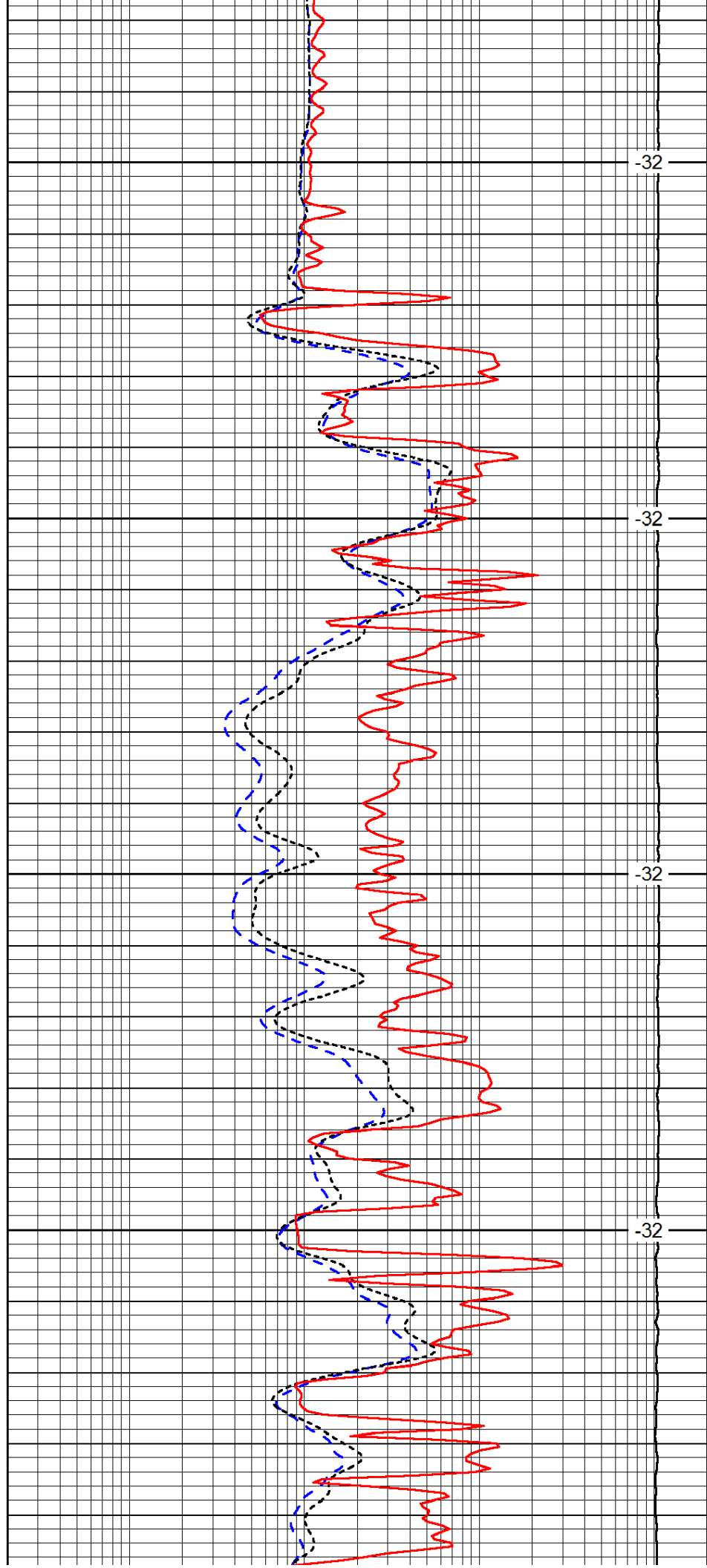


2050

2100

2150

2200

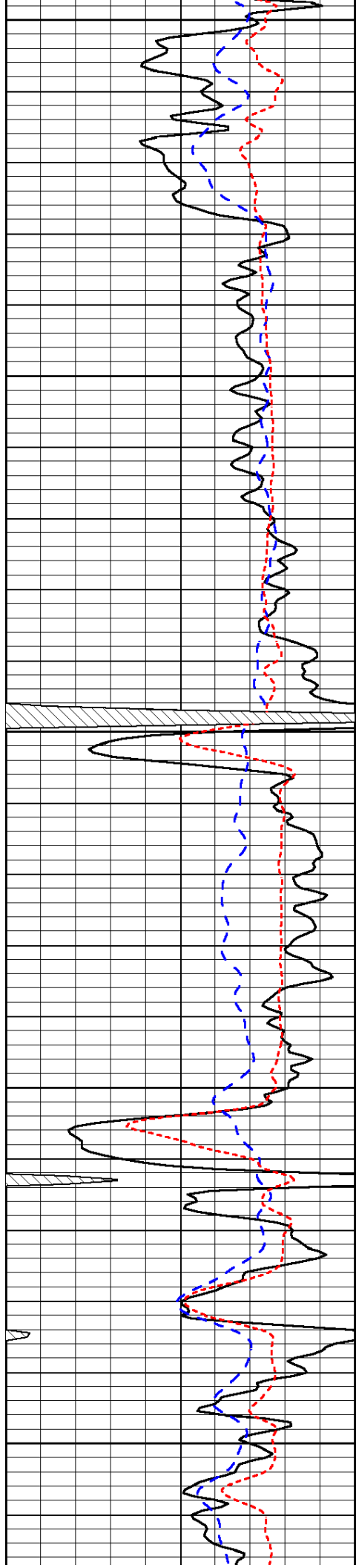


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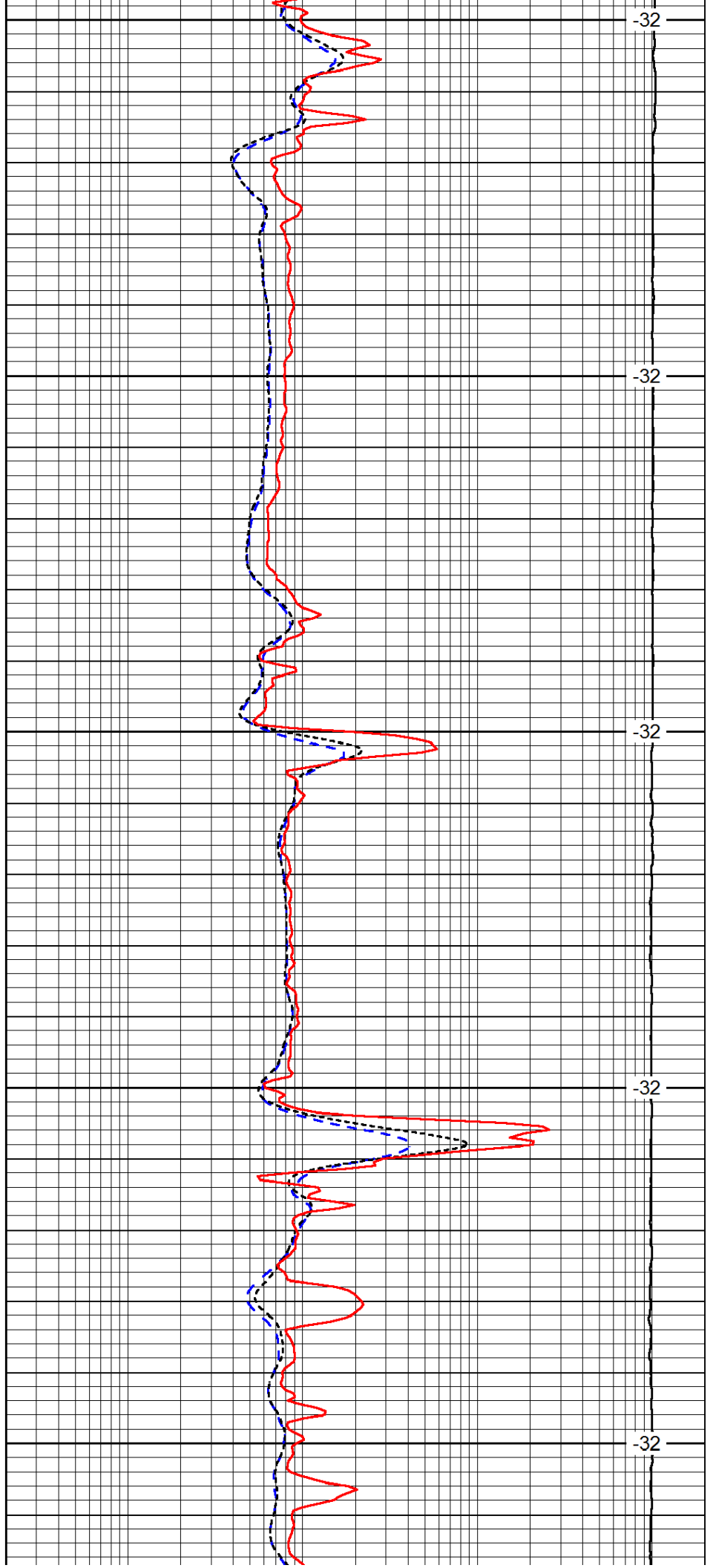
2250

2300

2350

2400

2450



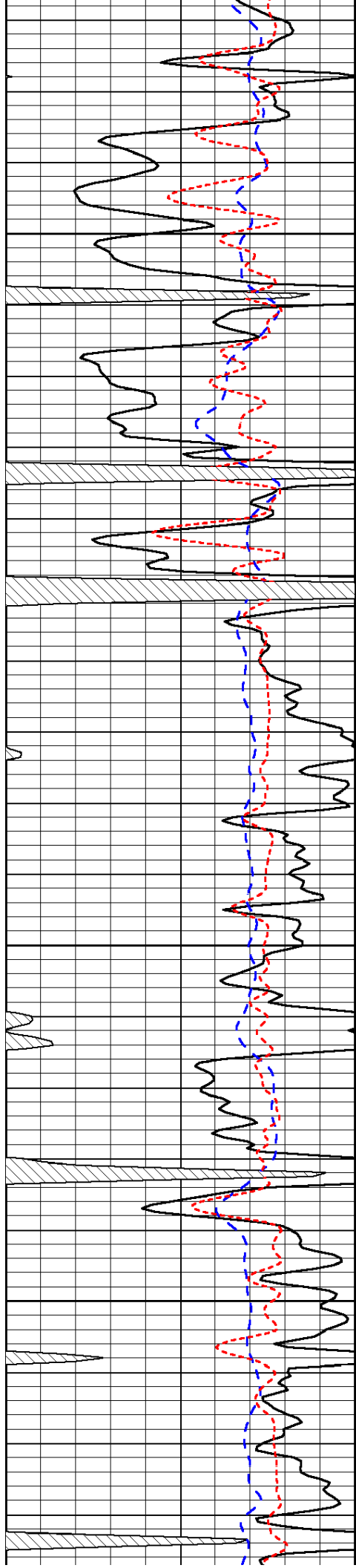
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-32

-32

-32

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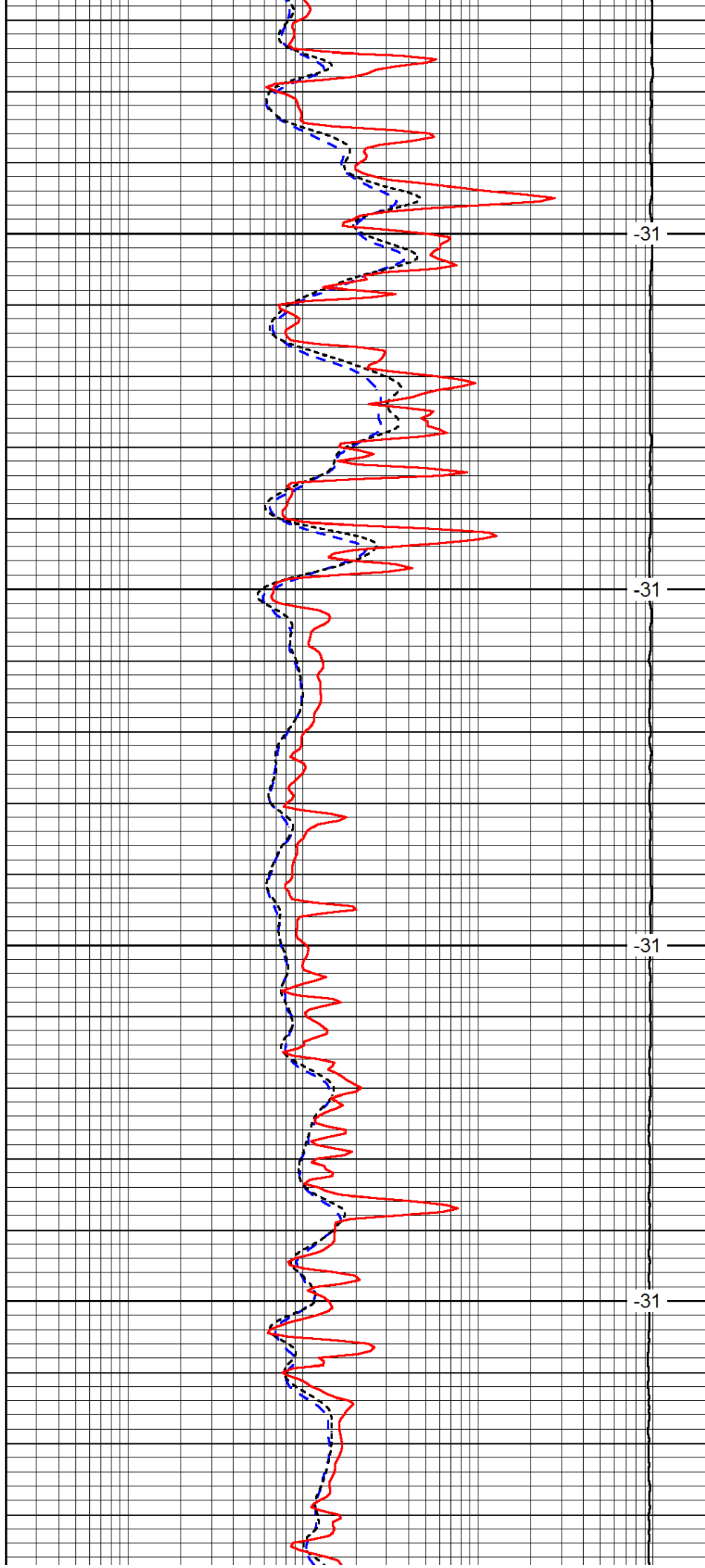


2500

2550

2600

2650

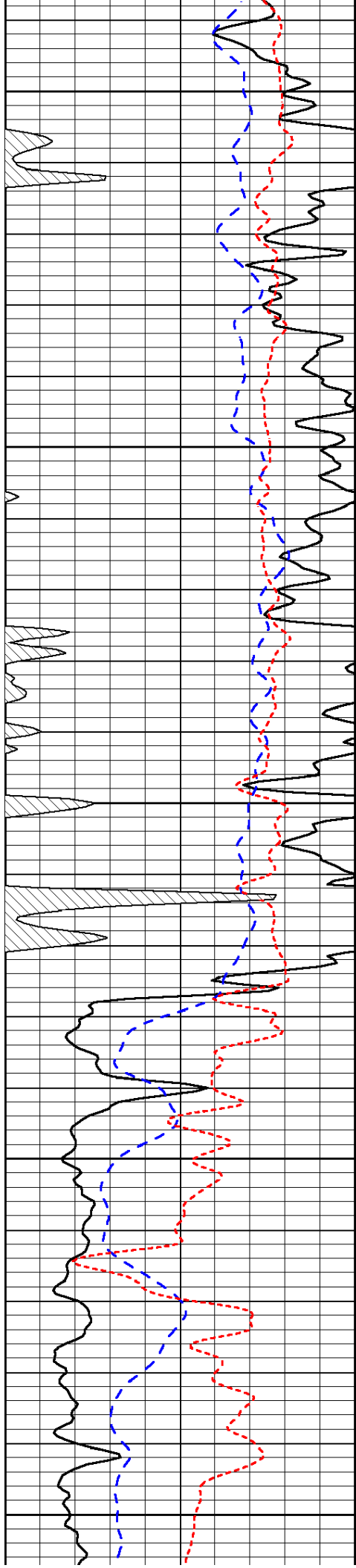


-31

-31

-31

-31



2700

2750

2800

2850

2900

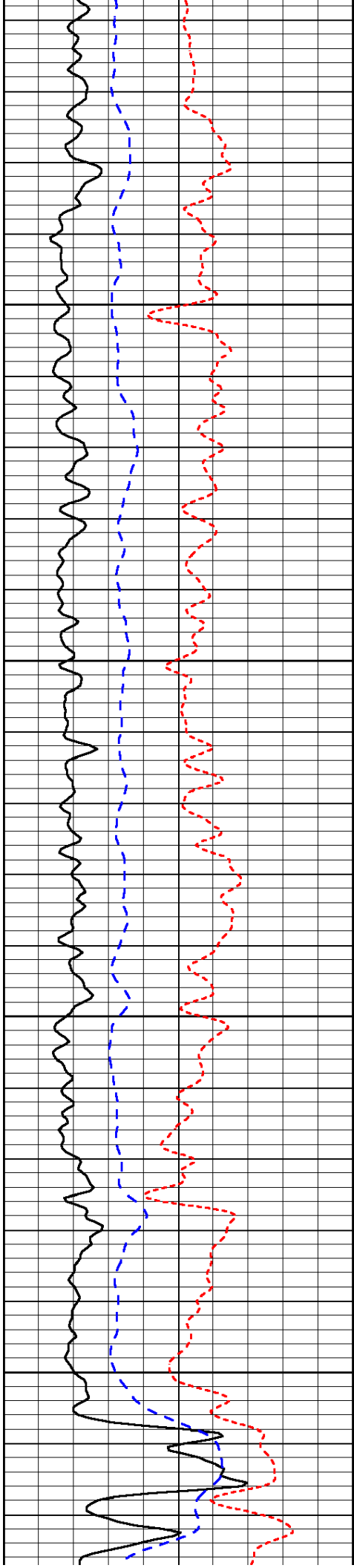
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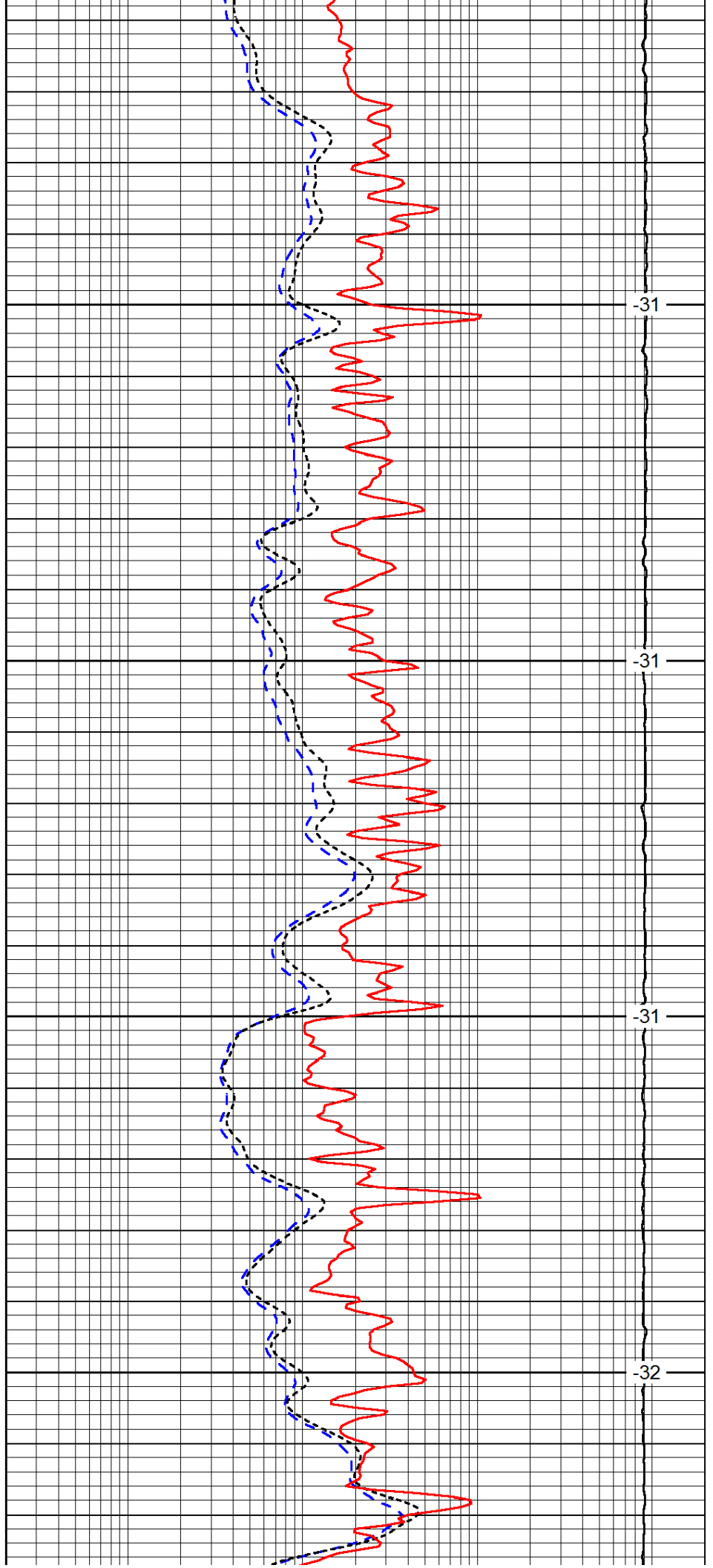


2950

3000

3050

3100

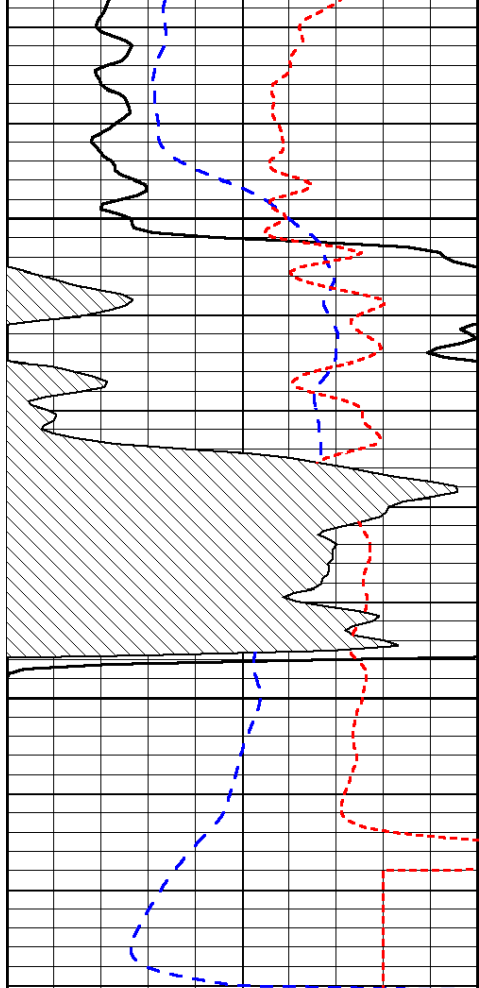


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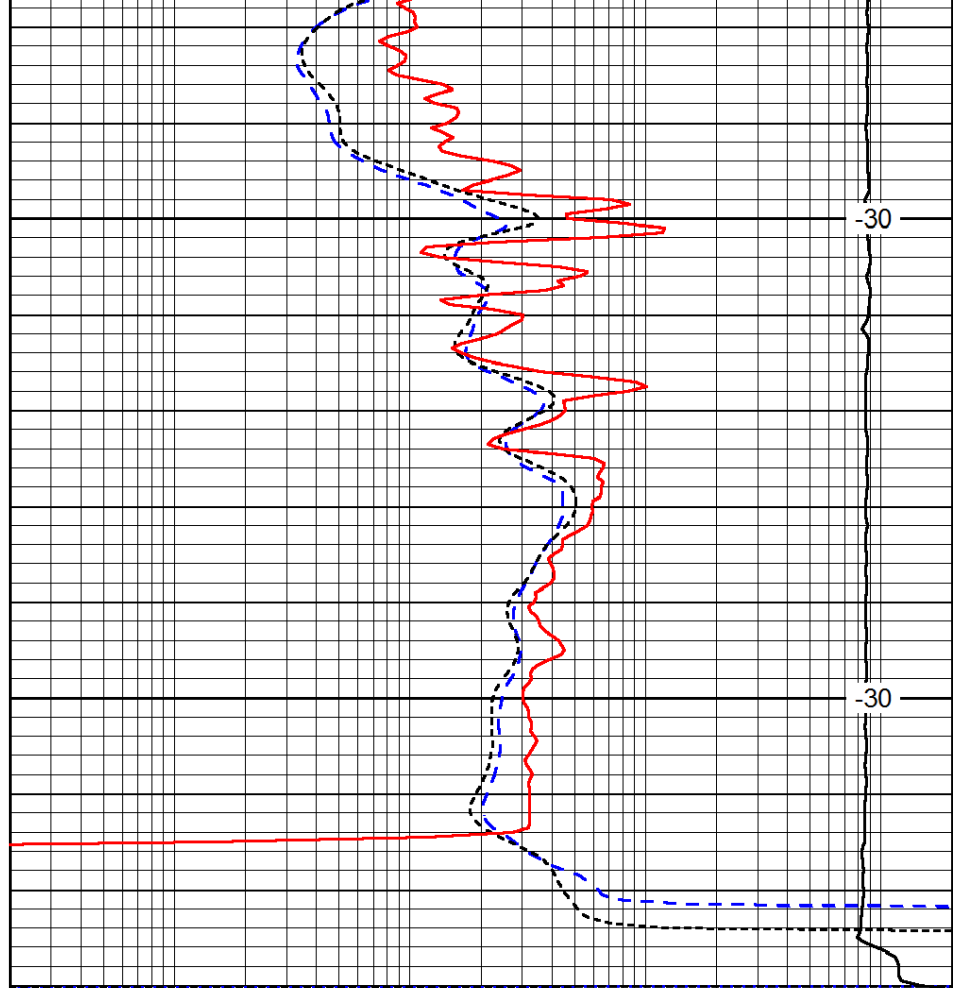
-32



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

3150

3200



-30

-30

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

LSPD