



Pioneer Energy Services

# Dual Induction Log

15-135-25,602-00-00

API No.

Company **American Warrior, Inc.**

Well **Schaben #5-24**

Field **Schaben North**

County **Ness** State **Kansas**

Location **460' FNL & 260' FEL**

Sec: **24** Twp: **19S** Rge: **22W**

Permanent Datum **Ground Level** Elevation **2215**  
 Log Measured From **Kelly Bushing** **6** Ft. Above Perm. Datum  
 Drilling Measured From **Kelly Bushing**

Other Services  
CNL/CDL

Elevation  
K.B. 2221  
D.F. 2215  
G.L. 2215

Date **6/29/2013**

Run Number **One**

Depth Driller **4351**

Depth Logger **4346**

Bottom Logged Interval **4345**

Top Log Interval **200**

Casing Driller **8.625 @ 223**

Casing Logger **217**

Bit Size **7.875**

Type Fluid in Hole **Chemical**

Salinity, ppm CL **8200**

Density / Viscosity **9.4 68**

pH / Fluid Loss **10.5 11.5**

Source of Sample **Flowline**

Rm @ Meas. Temp **.23 @ 88**

Rmf @ Meas. Temp **.17 @ 88**

Rmc @ Meas. Temp **.31 @ 88**

Source of Rmf / Rmc **Charts**

Rm @ BHT **.17 @ 123**

Operating Rig Time **3 1/2 Hours**

Max Rec. Temp. F **123**

Equipment Number **108**

Location **Hays**

Recorded By **J. Long**

Witnessed By **Jason Alm**

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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

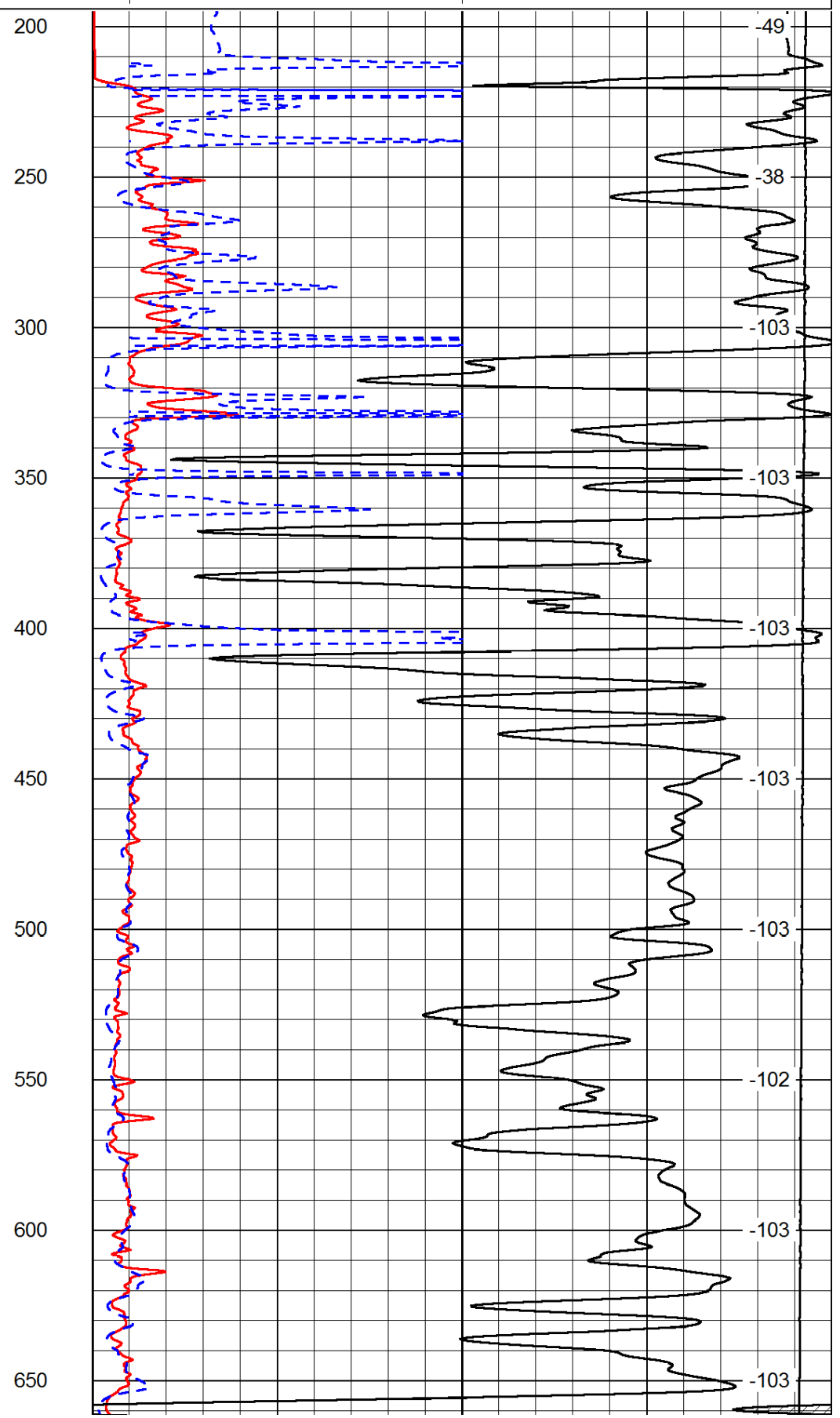
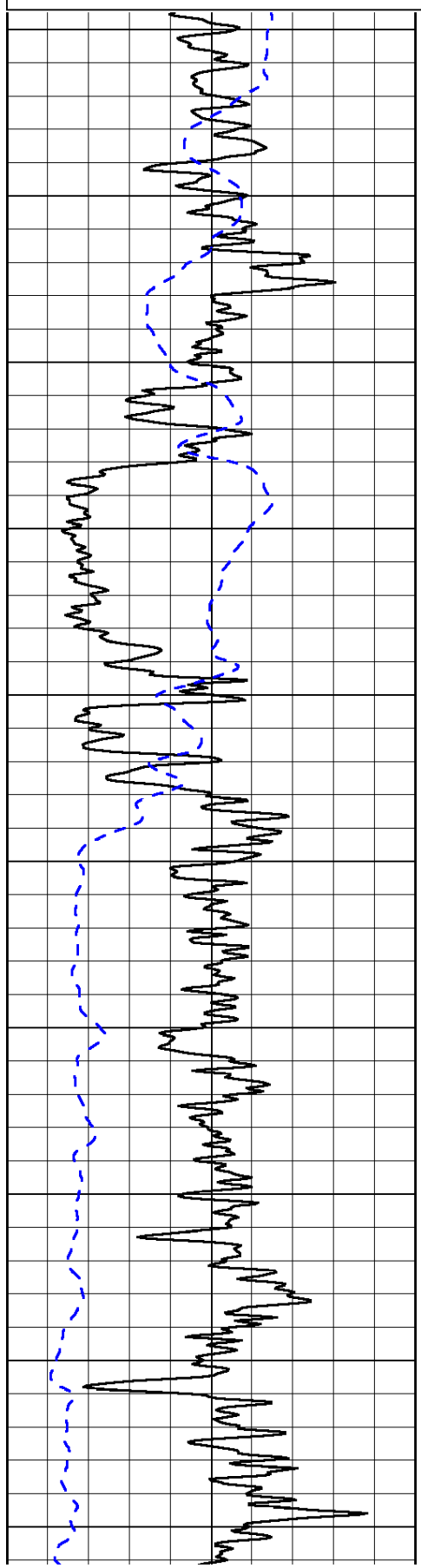
Bazine, 4 South on Austin Road, 200' West, South Into

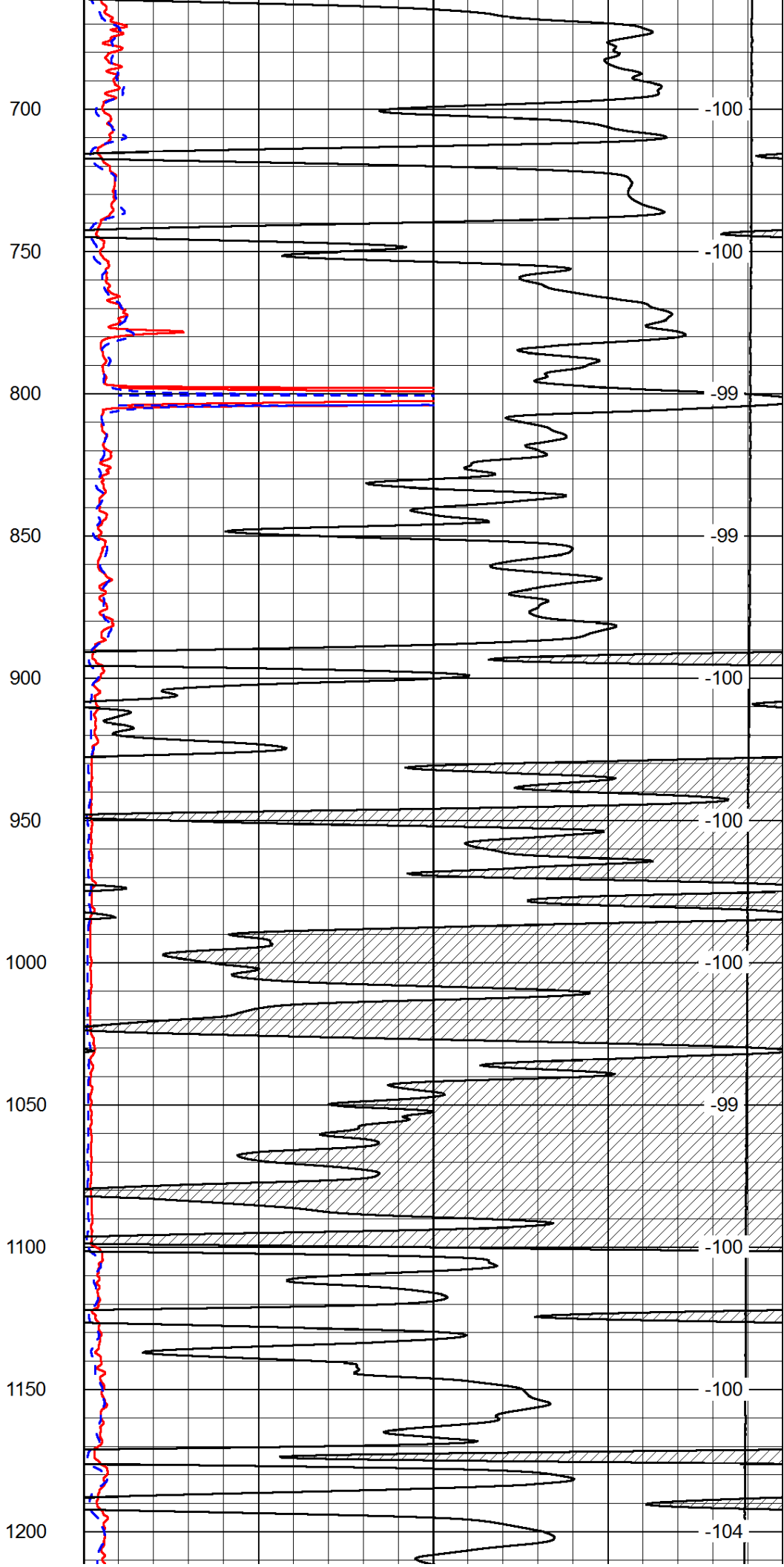
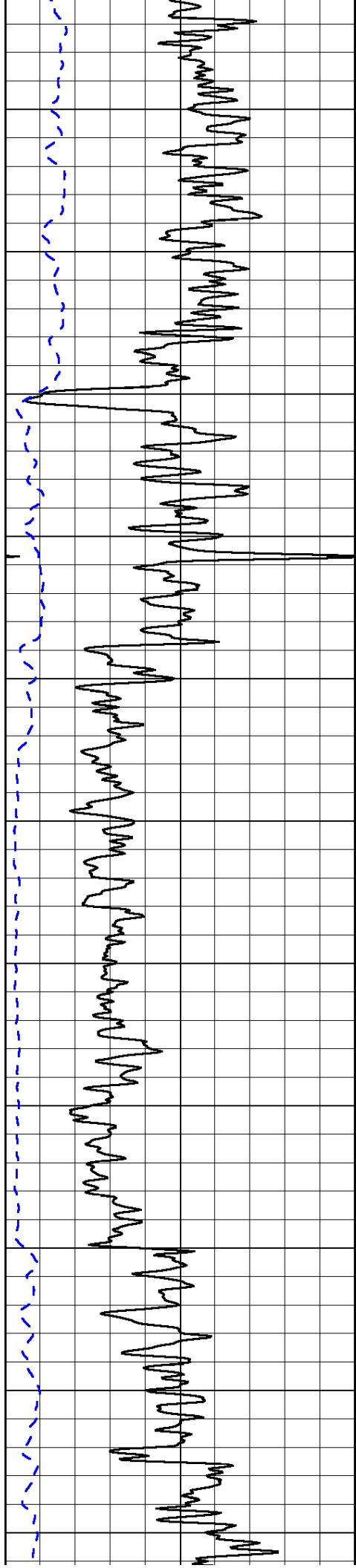
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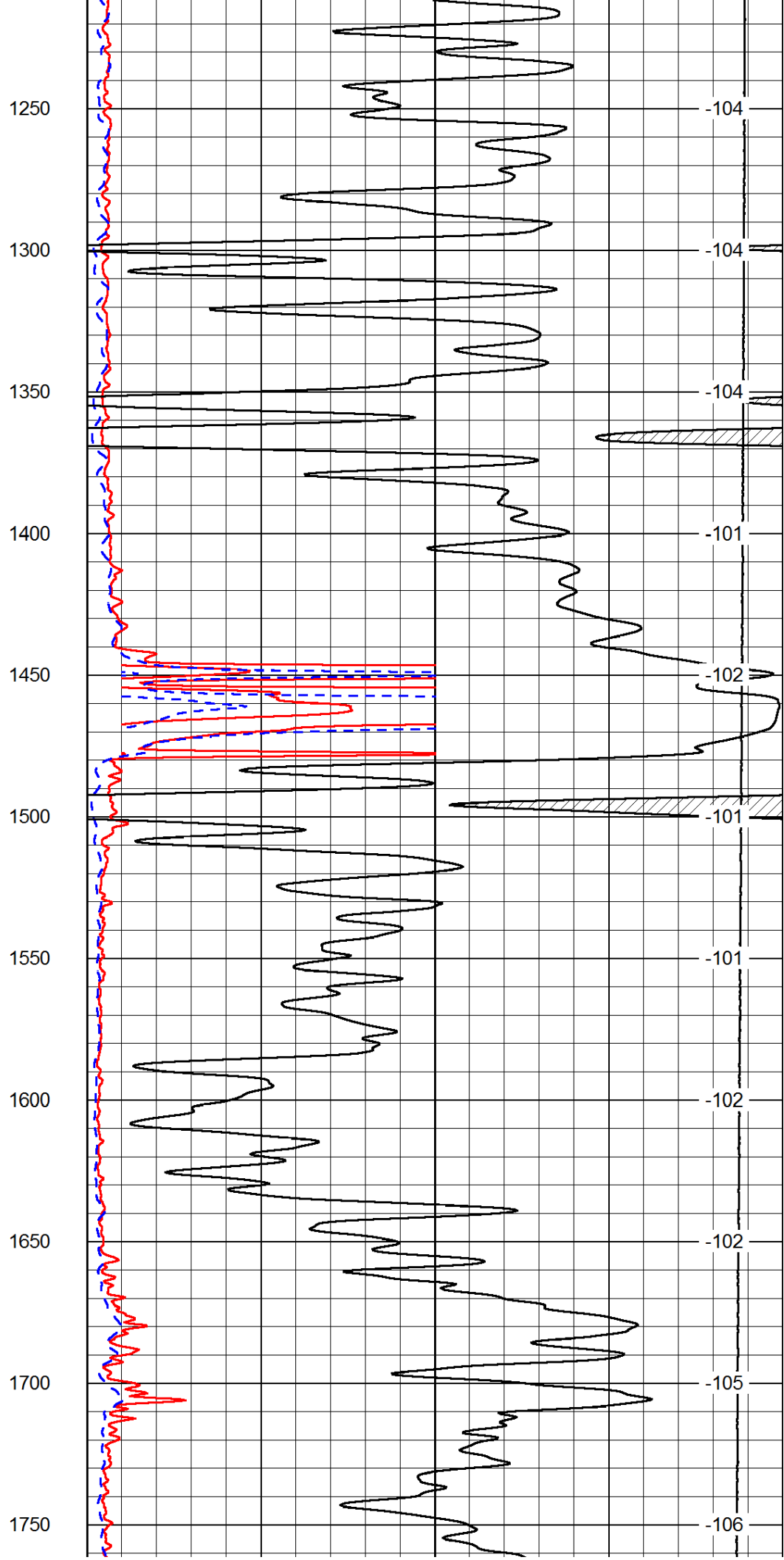
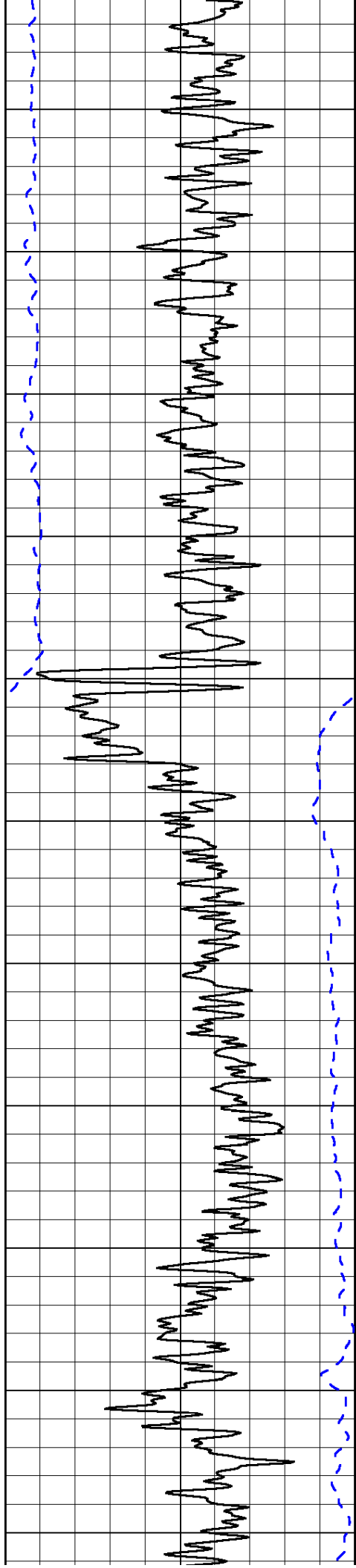
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-200	SP (mV)	0

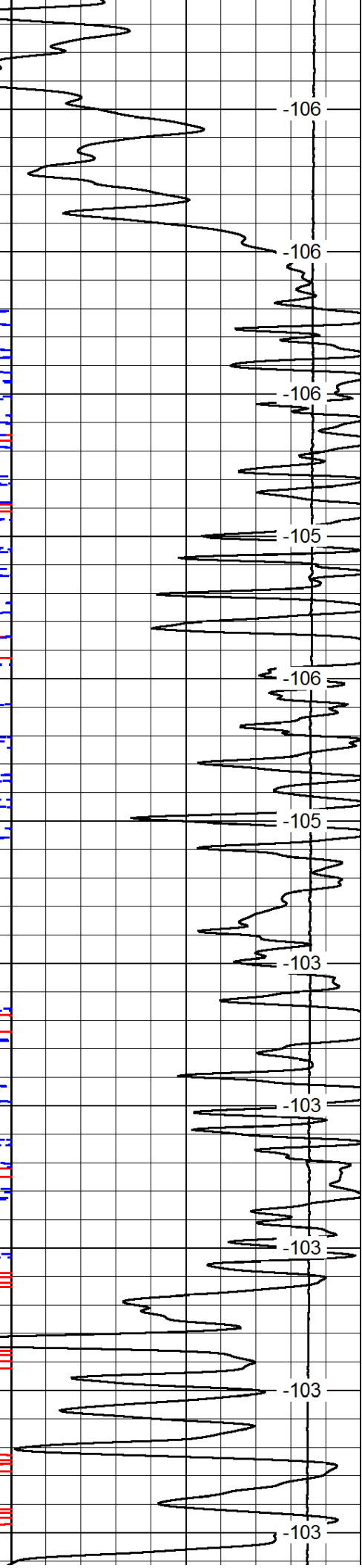
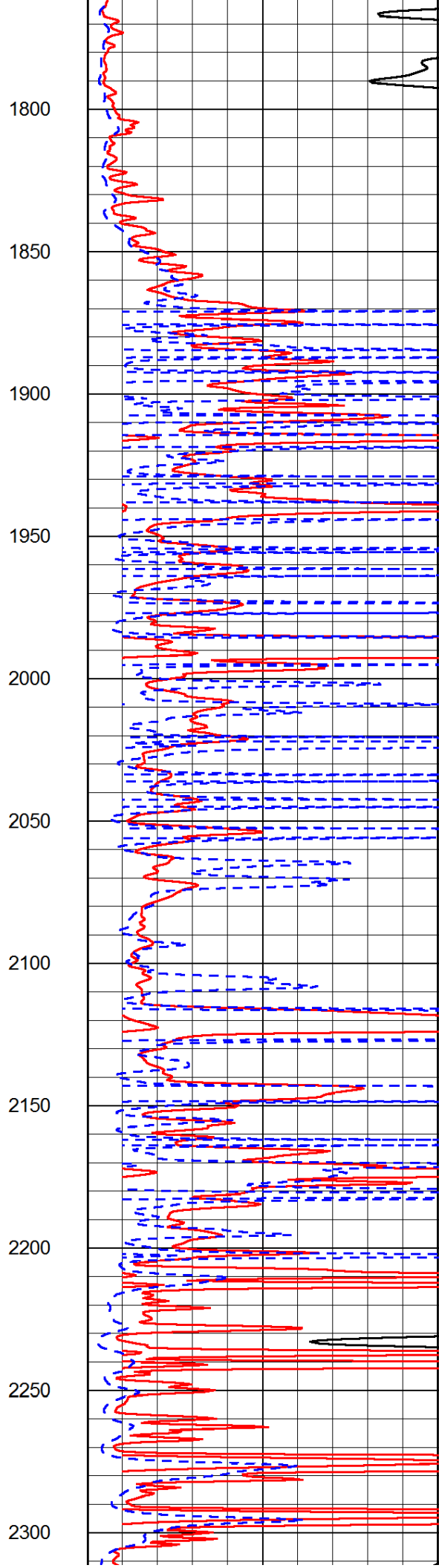
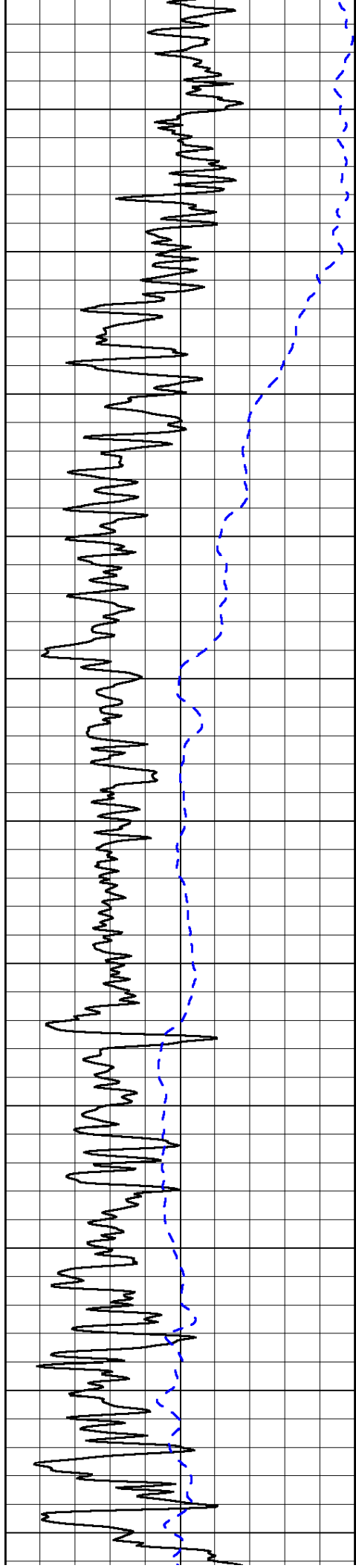
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0	Deep Resistivity	50
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15000	Line Tension	0
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50	Deep Resistivity	500

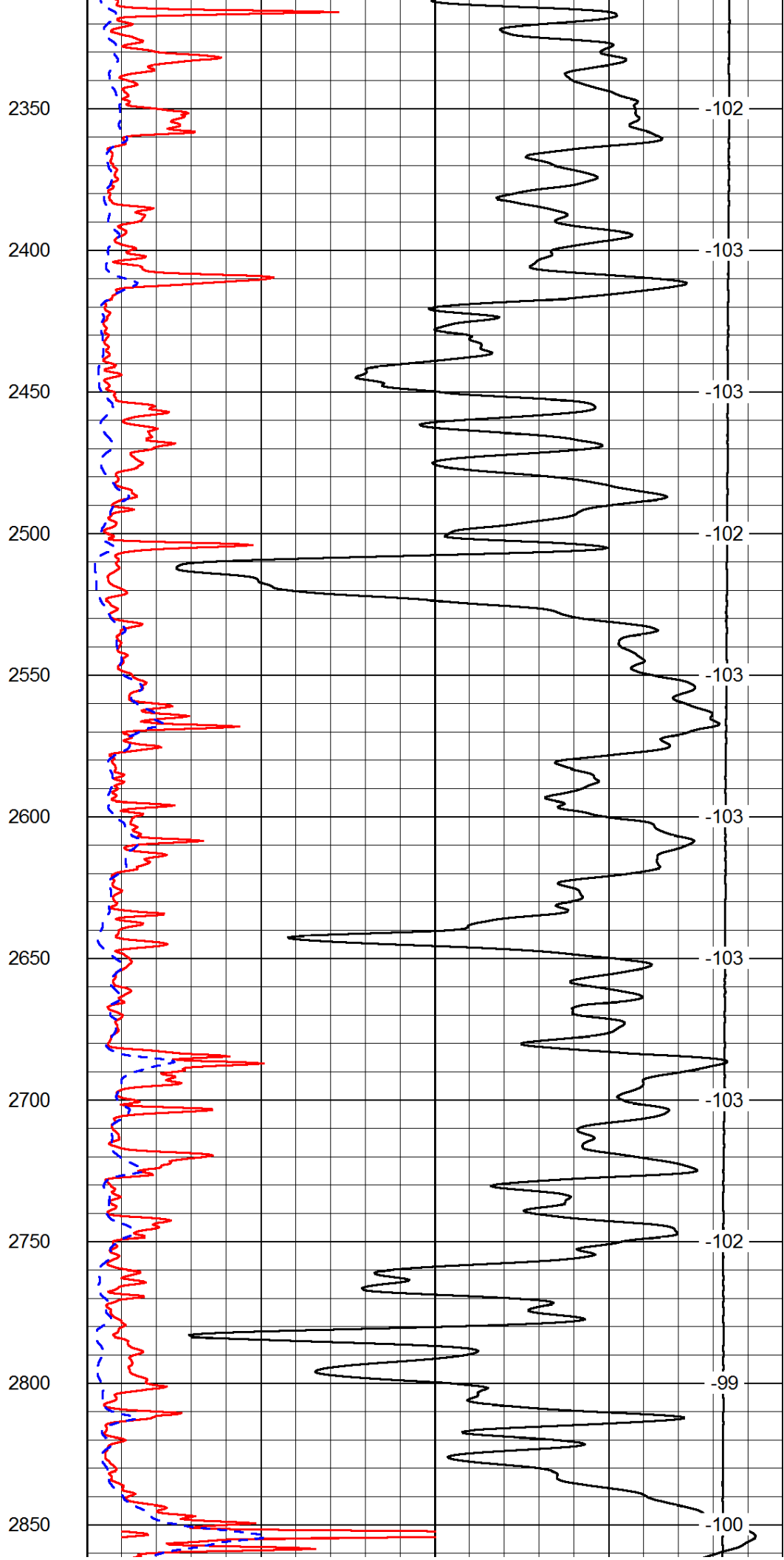
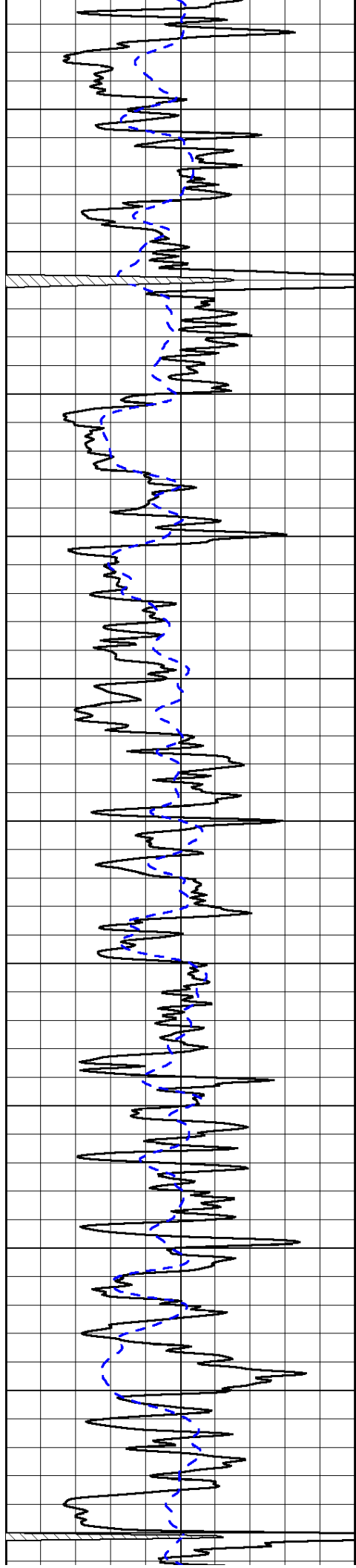
LSPD

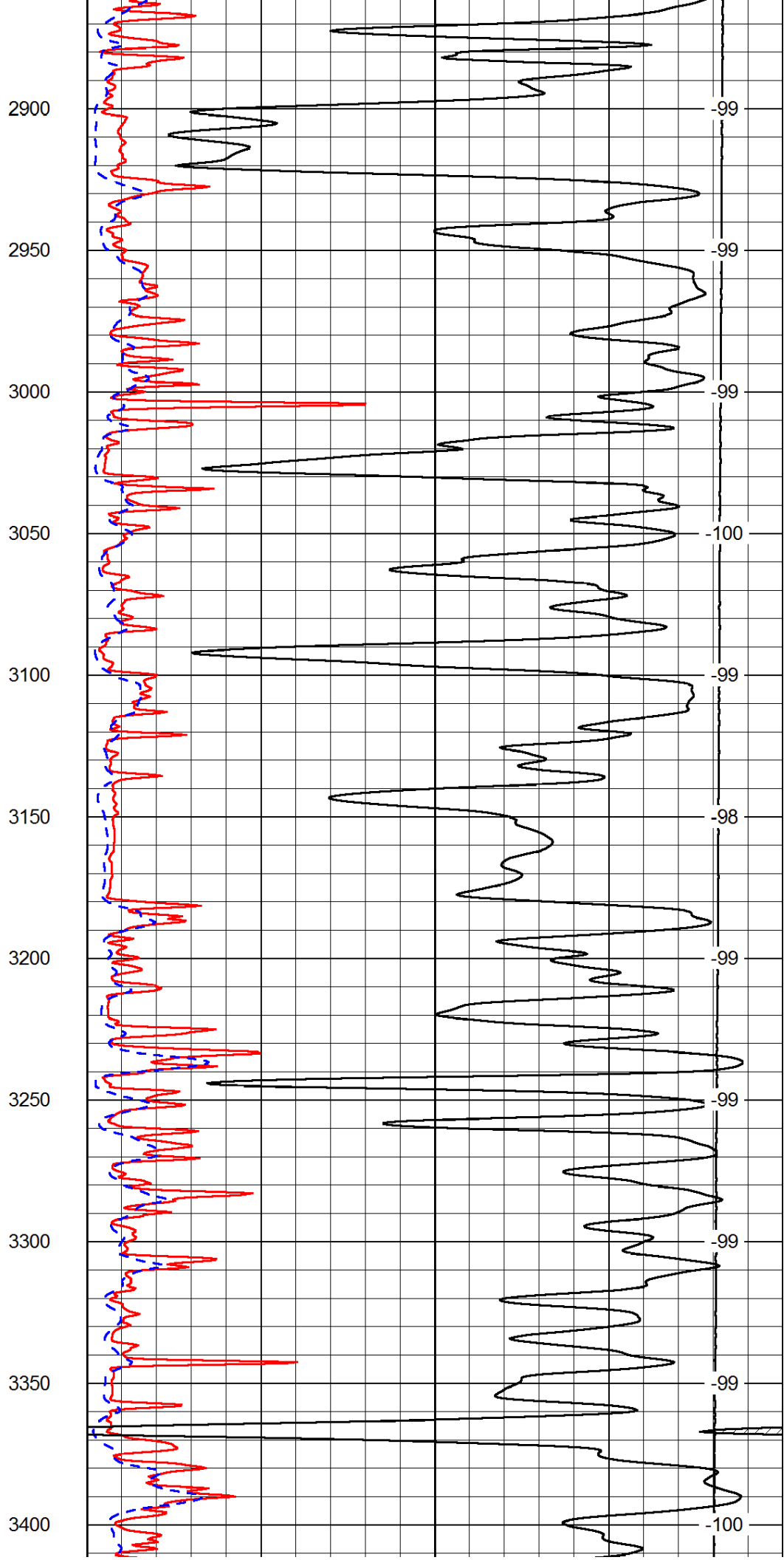
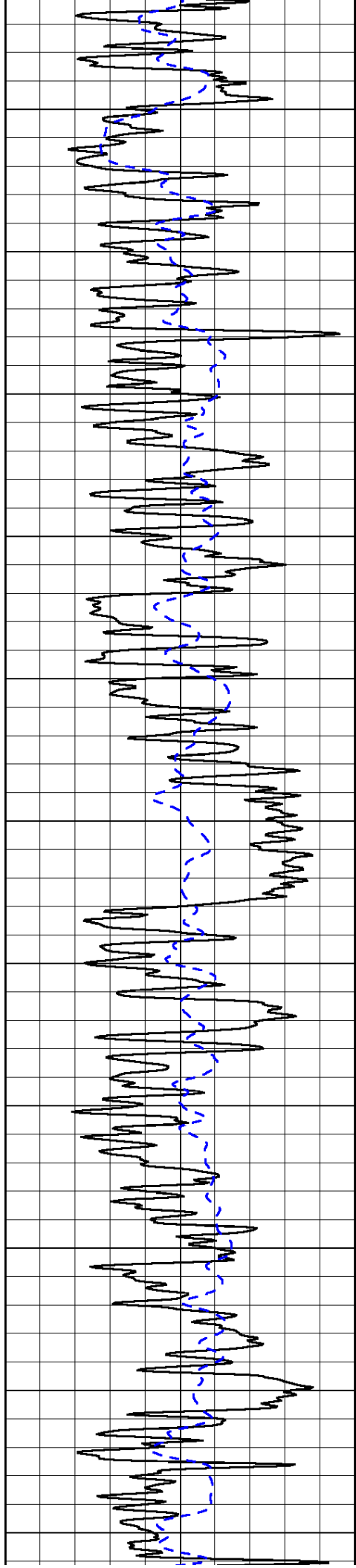


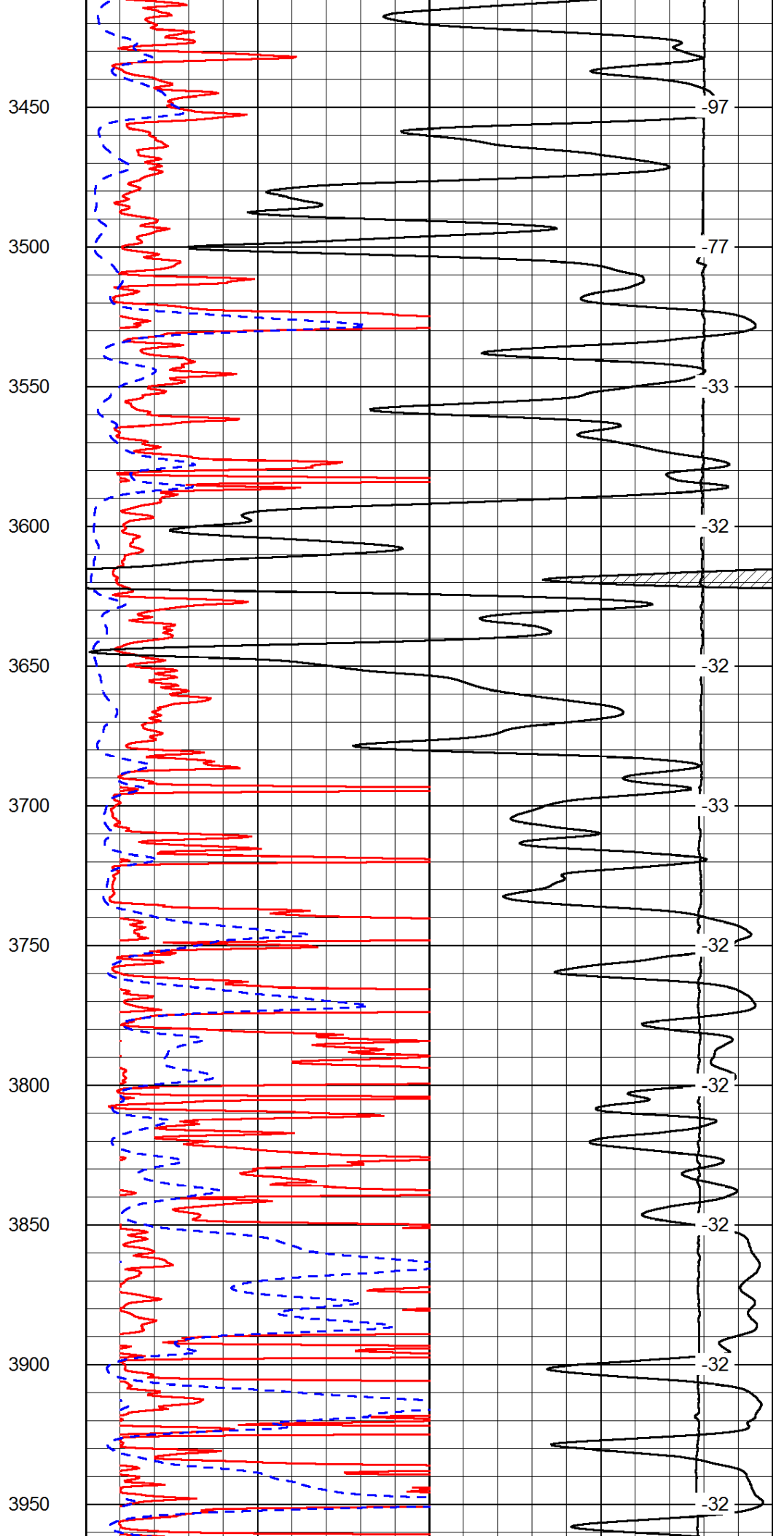
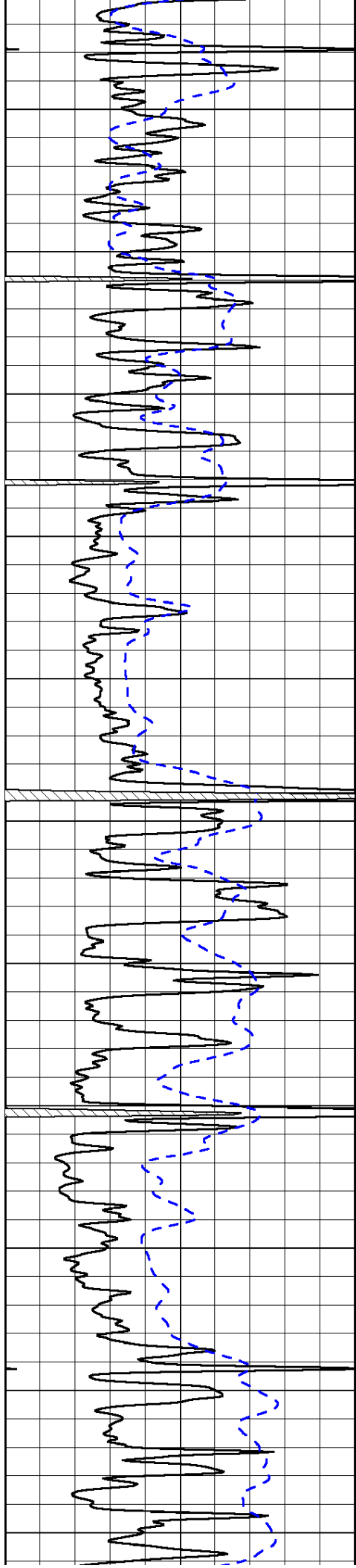


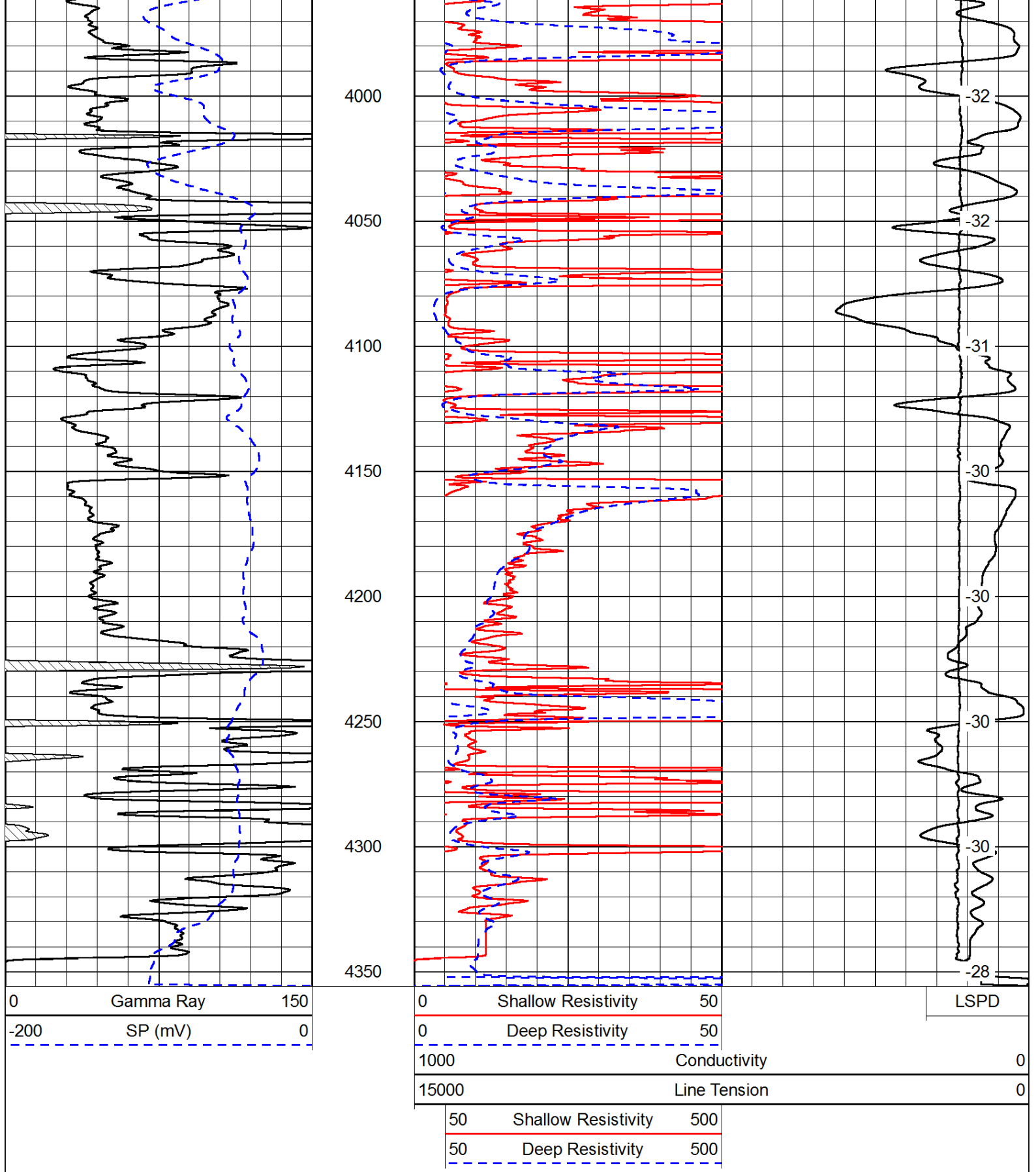




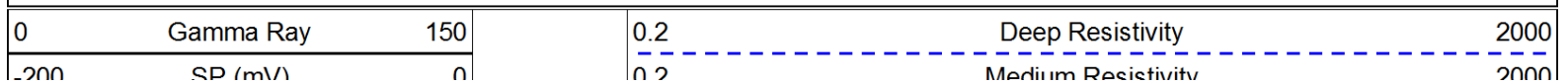








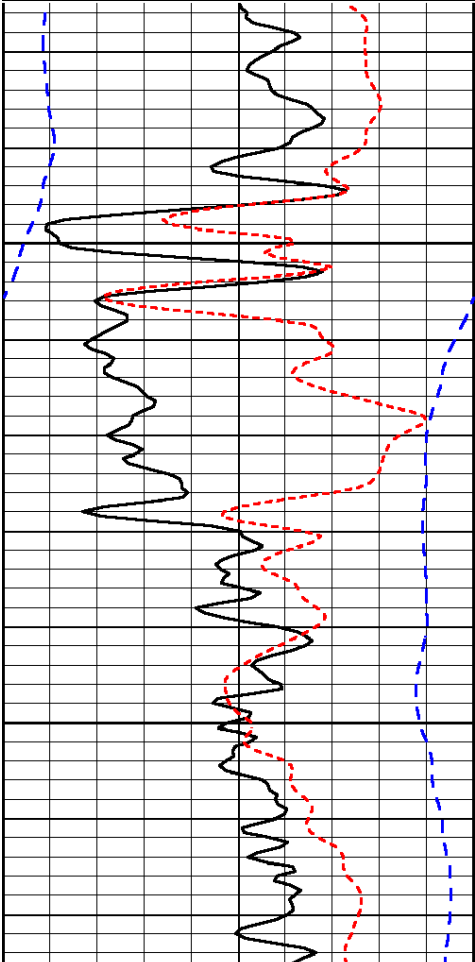
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200  
-160 RxoRt 40

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

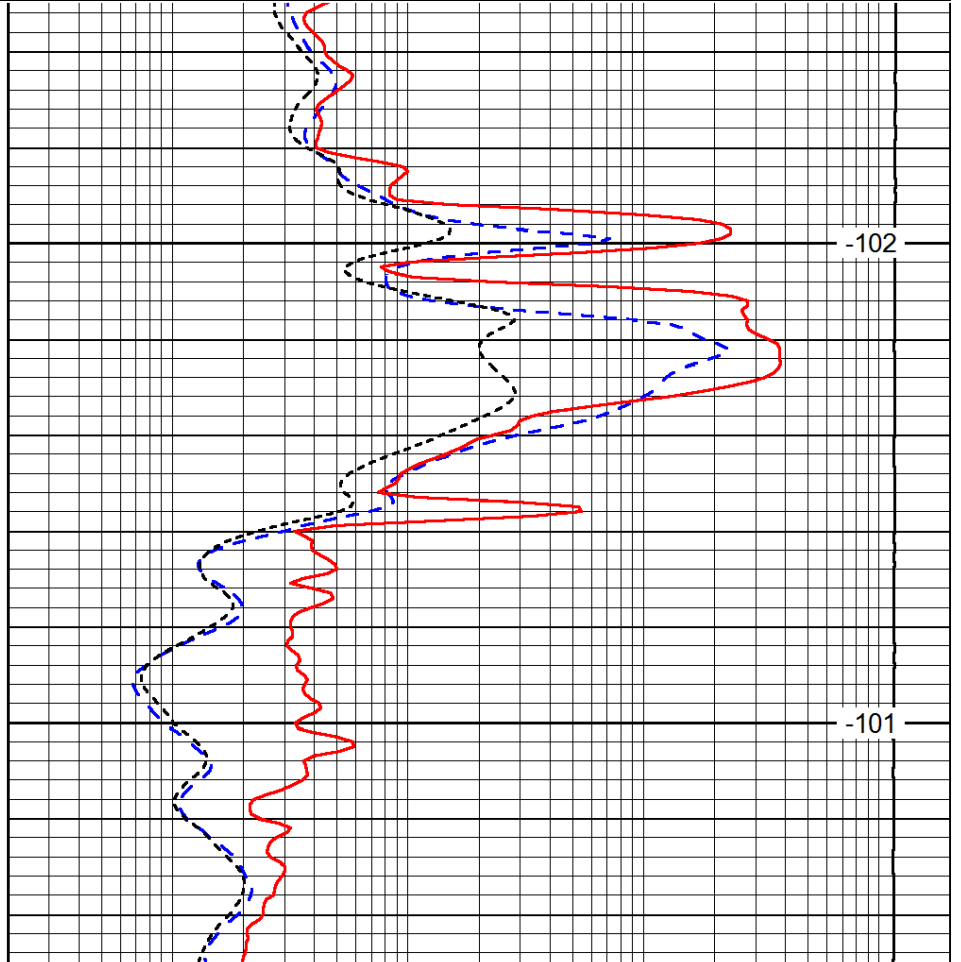
LSPD



1450

1500

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



-102

-101

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

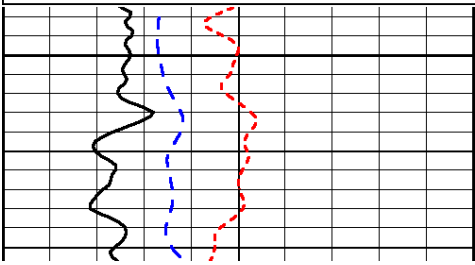
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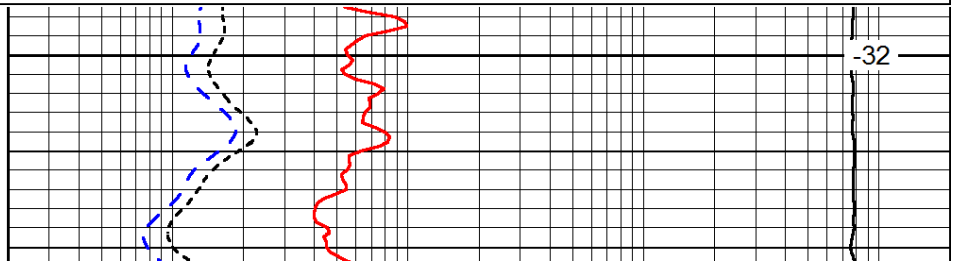
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-200 SP (mV) 0  
-160 RxoRt 40

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

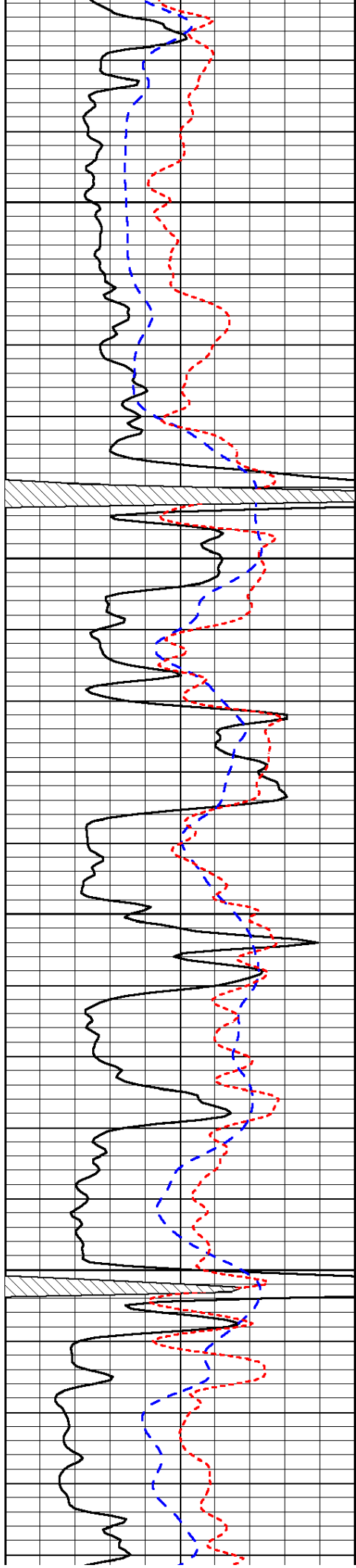
LSPD



3600



-32

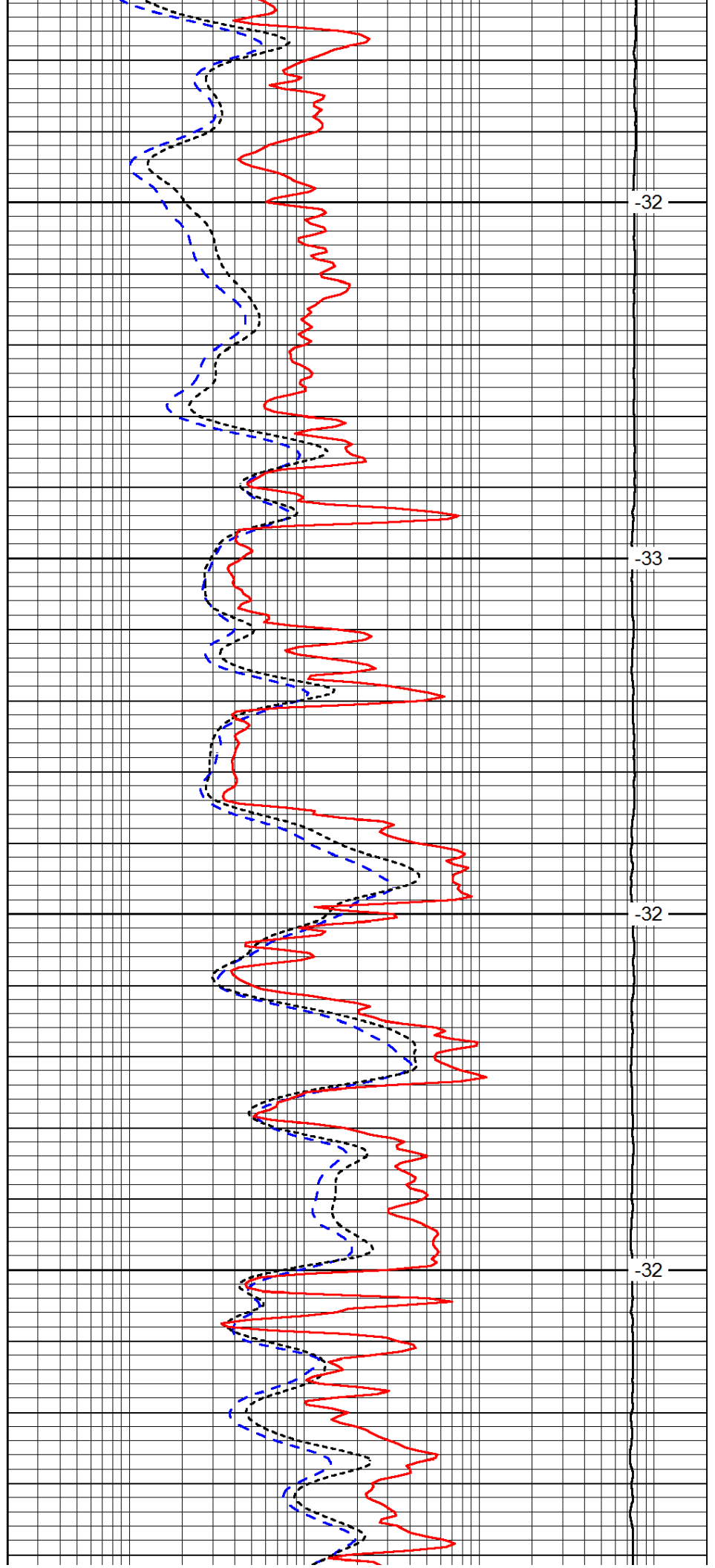


3650

3700

3750

3800

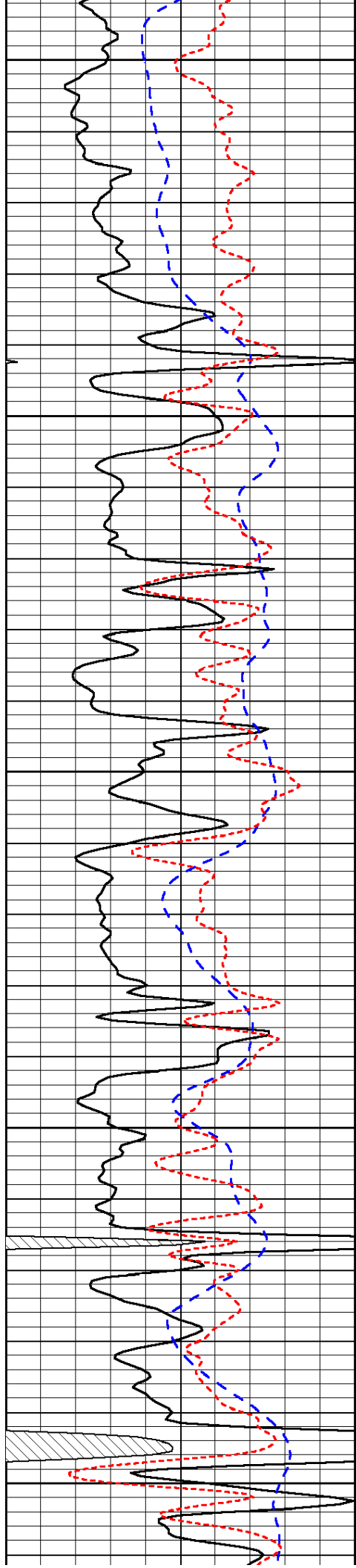


-32

-33

-32

-32



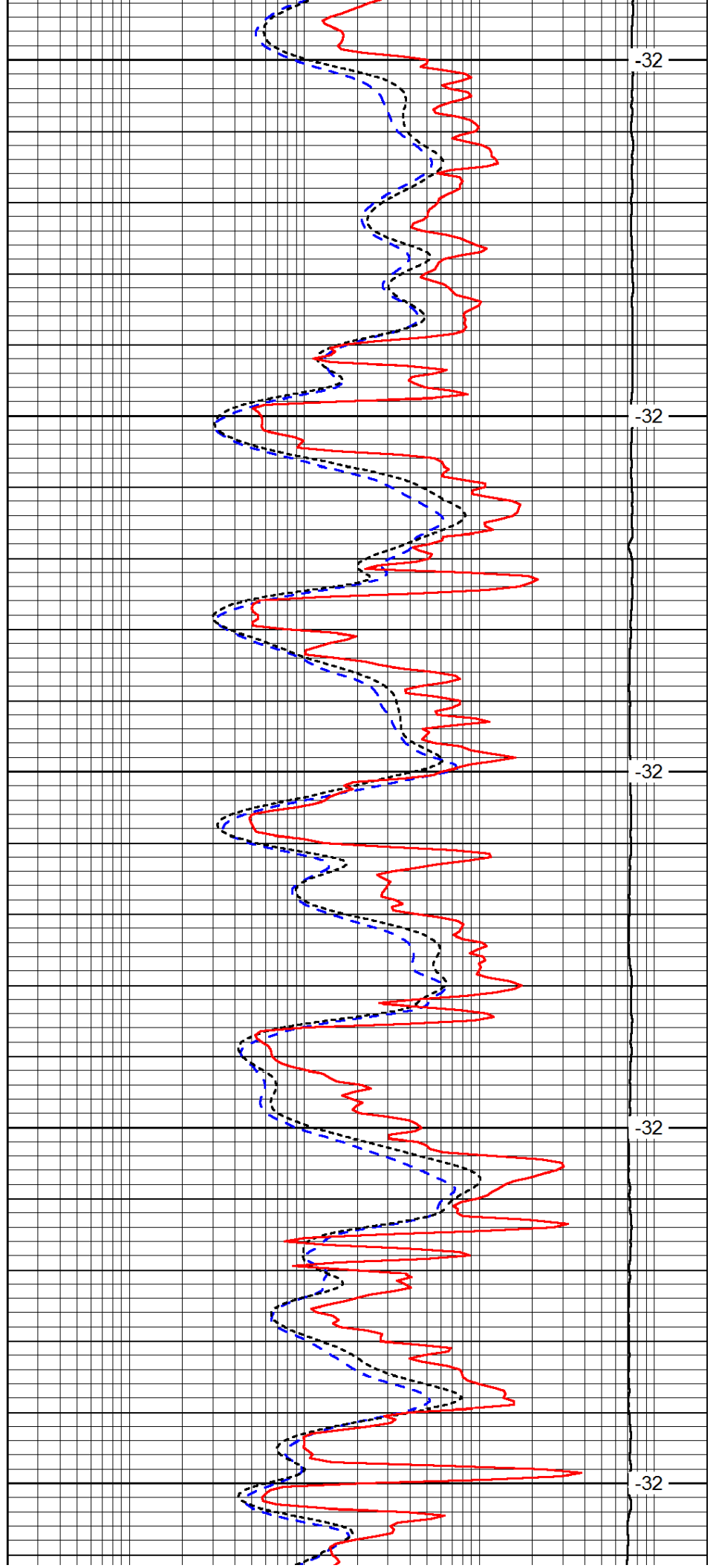
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3900

3950

4000

4050



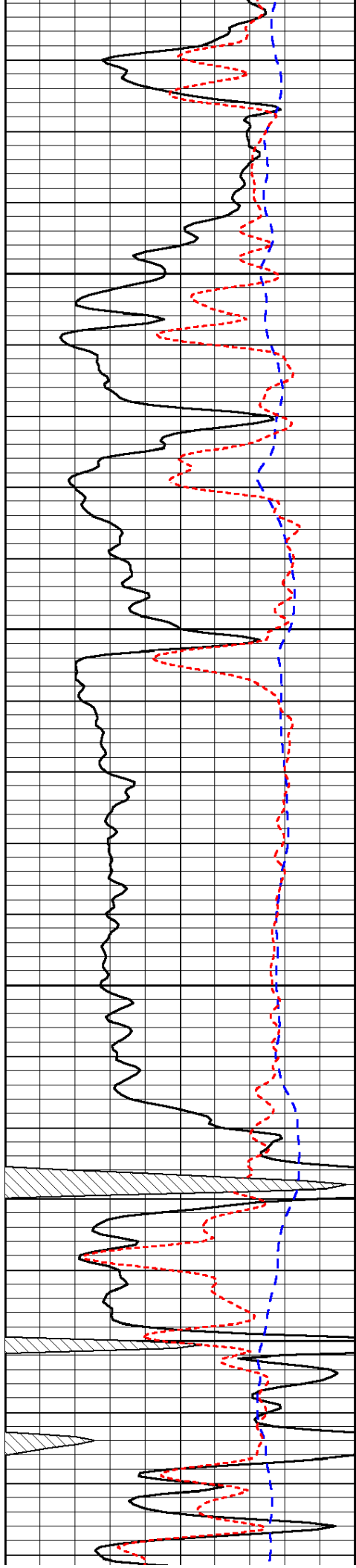
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-32

-32

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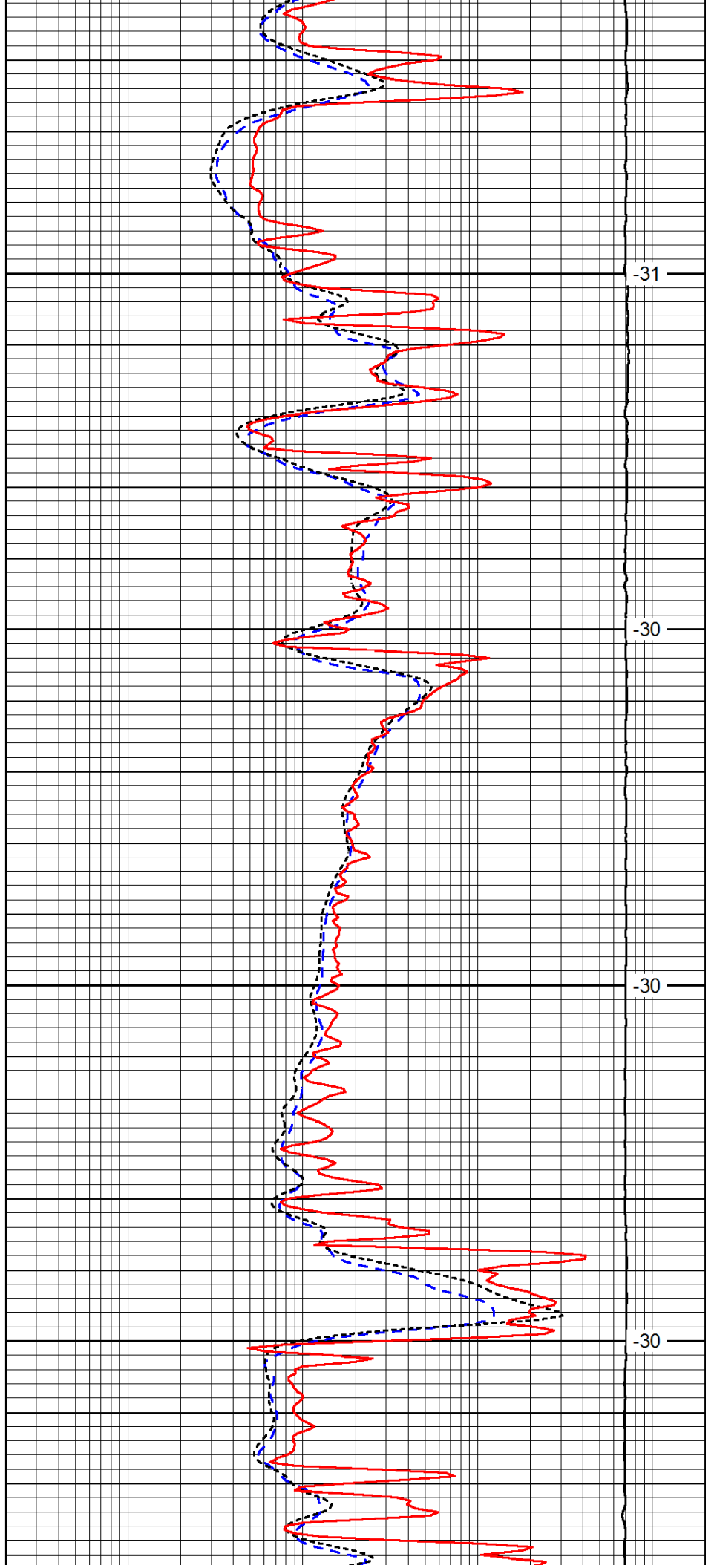


4100

4150

4200

4250

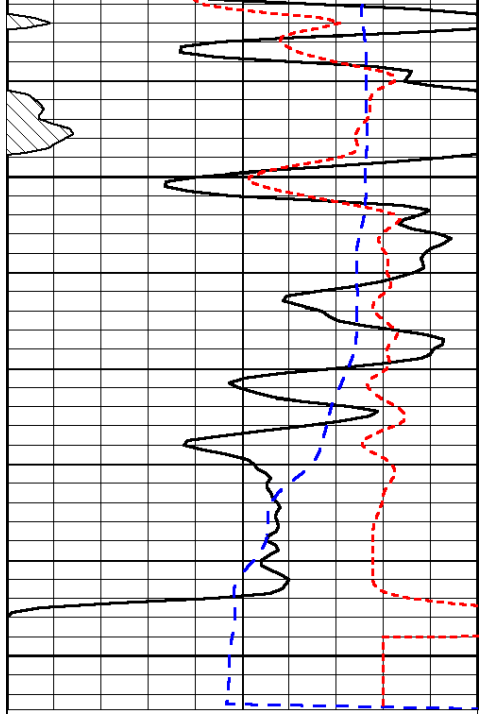


-31

-30

-30

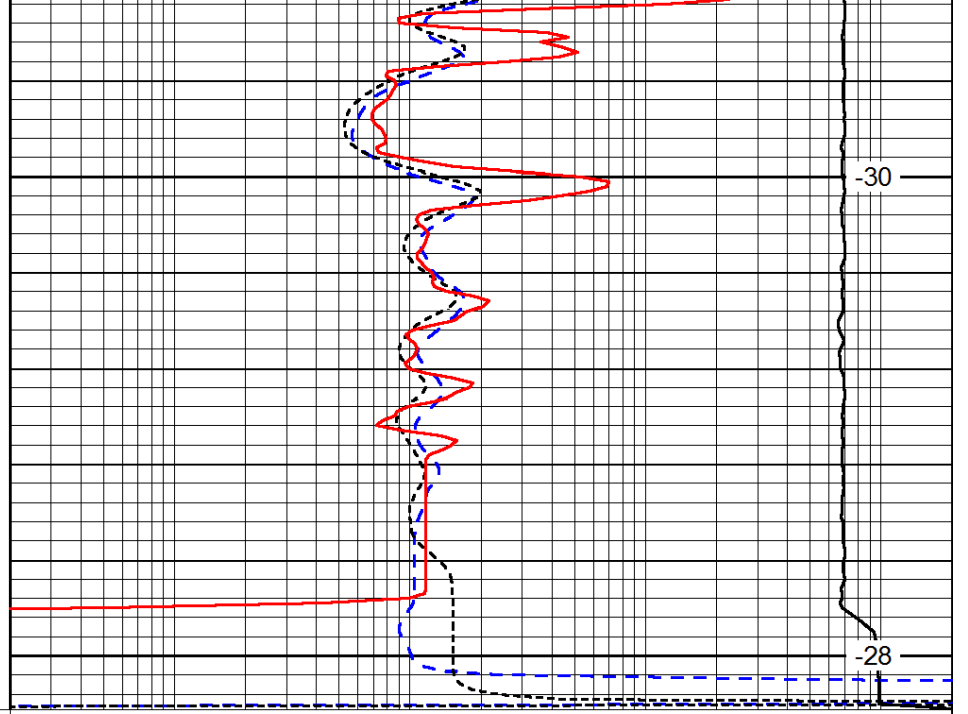
-30



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

4300

4350



-30

-28

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

LSPD