



Pioneer Energy Services

Dual Induction Log

API No. 15-101-22,395-00-00

Company **Larson Engineering, Inc.**

Well **Joe No. 1 - 21**

Field **Wildcat**

County **Lane** State **Kansas**

Location **SE - SE - SW - NW
2454' FNL & 1285' FWL**

Sec: **21** Twp: **17 S** Rge: **30 W**

Other Services
CNL/CDL
MEL

Elevation

K.B. 2880
D.F. 2873
G.L. 2873

Permanent Datum Ground Level Elevation 2873
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing 7 Ft. Above Perm. Datum

Date 8/18/2012

Run Number One

Depth Driller 4630

Depth Logger 4630

Bottom Logged Interval 4629

Top Log Interval 250

Casing Driller 8.625 @ 261

Casing Logger 258

Bit Size 7.875

Type Fluid in Hole Chemical

Salinity, ppm CL 1600

Density / Viscosity 9.1 45

pH / Fluid Loss 10.0 9.2

Source of Sample Flowline

Rm @ Meas. Temp .80 @ 63

Rmf @ Meas. Temp .60 @ 63

Rmc @ Meas. Temp 1.08 @ 63

Source of Rmf / Rmc Charts

Rm @ BHT .41 @ 122

Operating Rig Time 4 1/2 Hours

Max Rec. Temp. F 122

Equipment Number 17

Location Hays

Recorded By D. Martin

Witnessed By Bob Lewellyn

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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.pioneer.com
 785 625 3858
 Healy, KS
 2 W to Bison Rd., 2 1/2 S,
 E Into

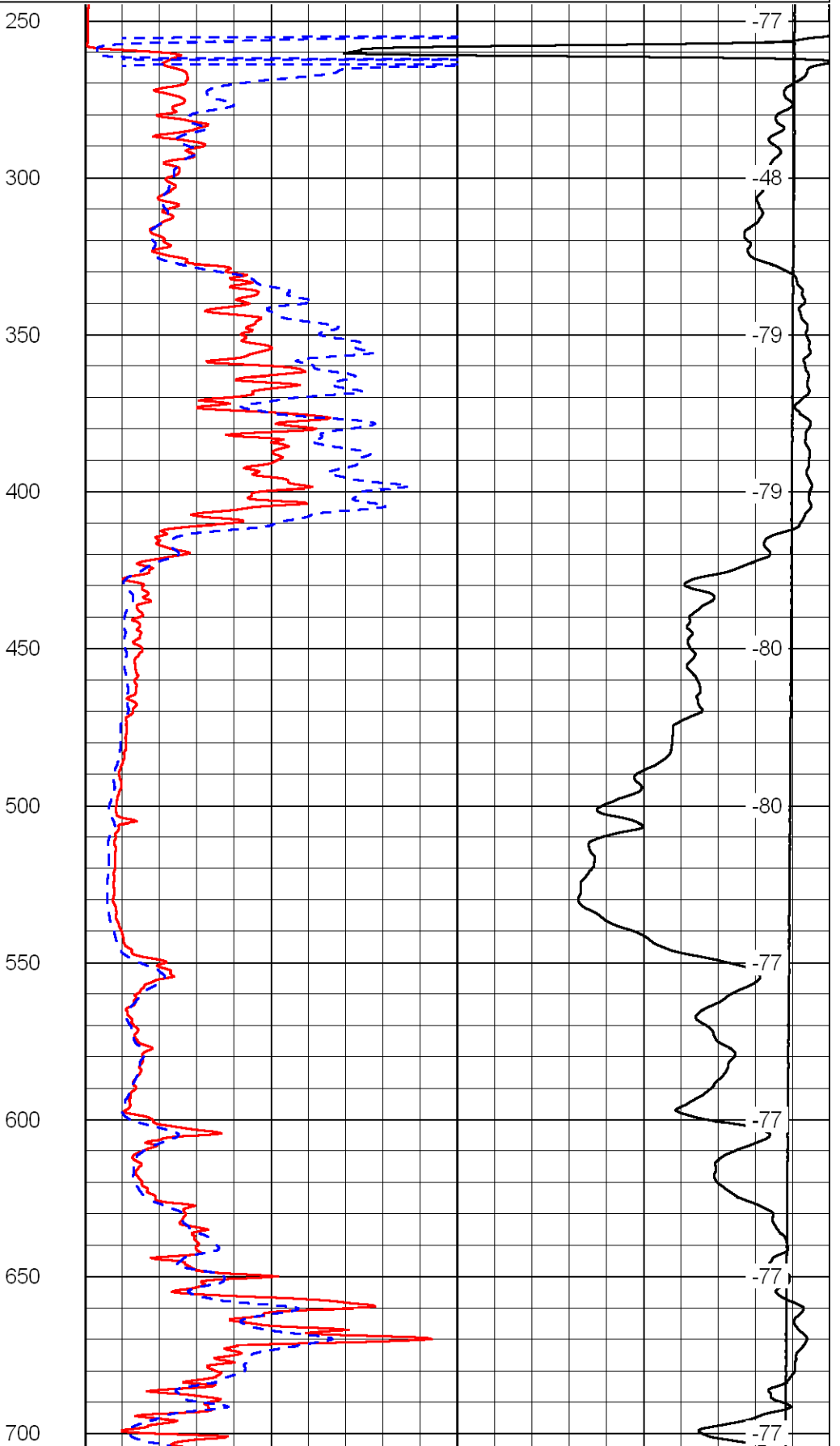
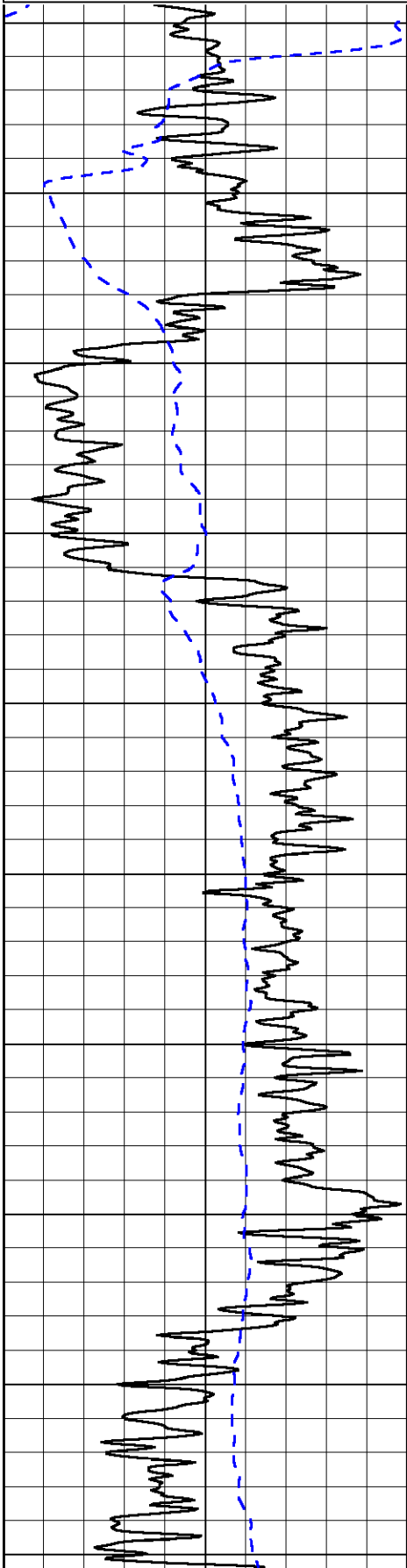
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 Charted by: Depth in Feet scaled 1:600

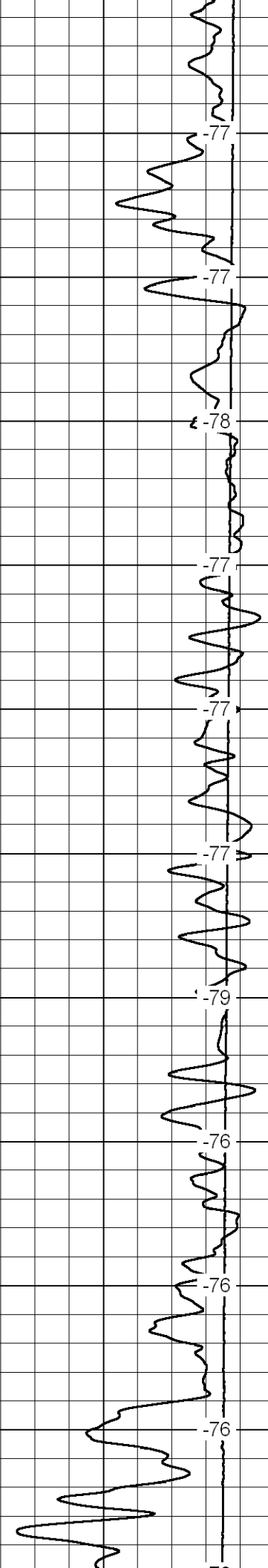
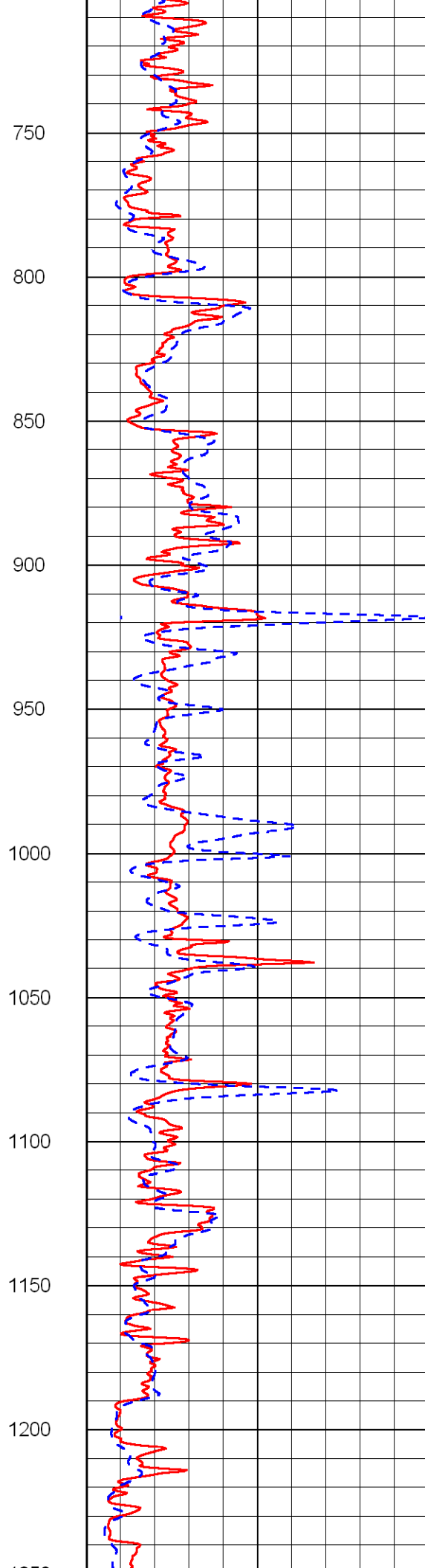
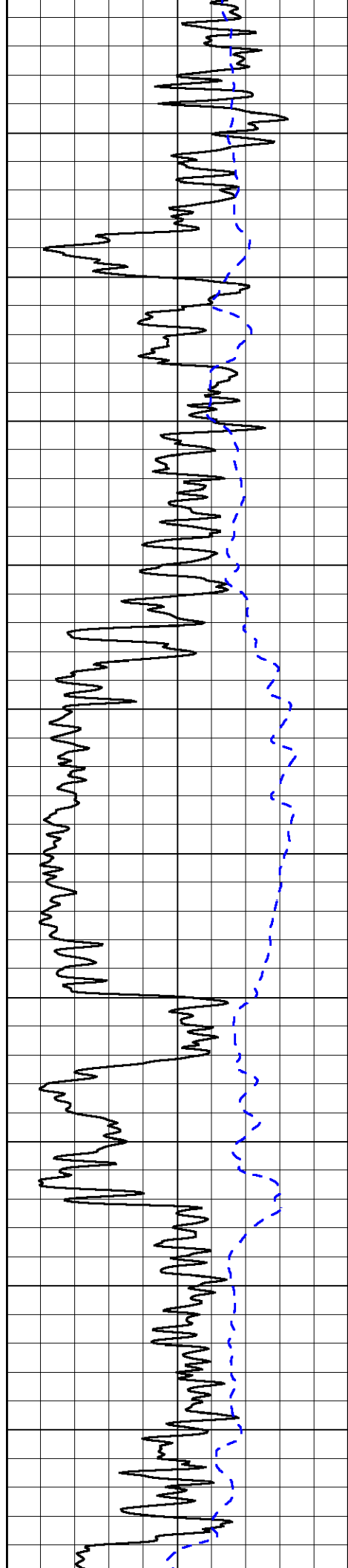
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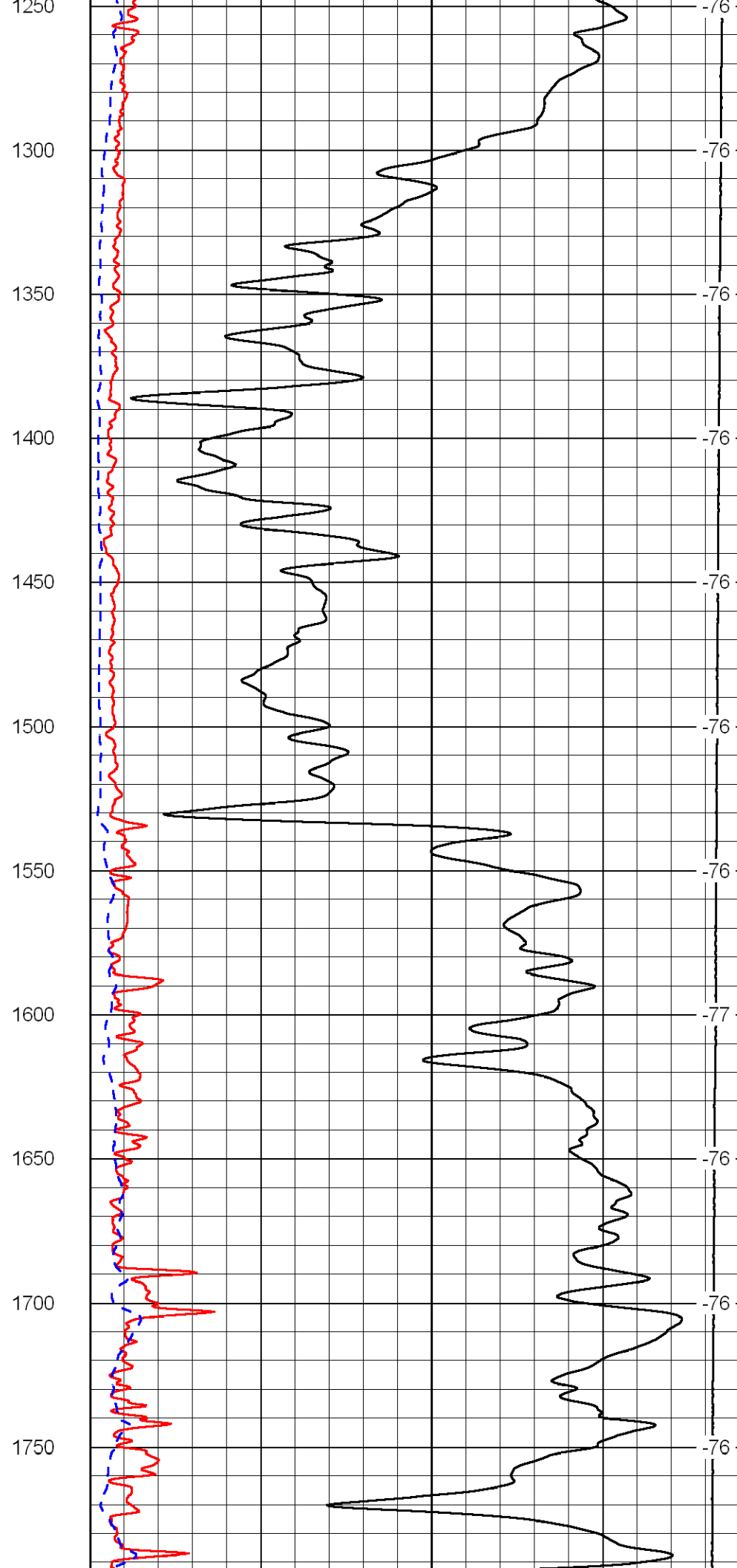
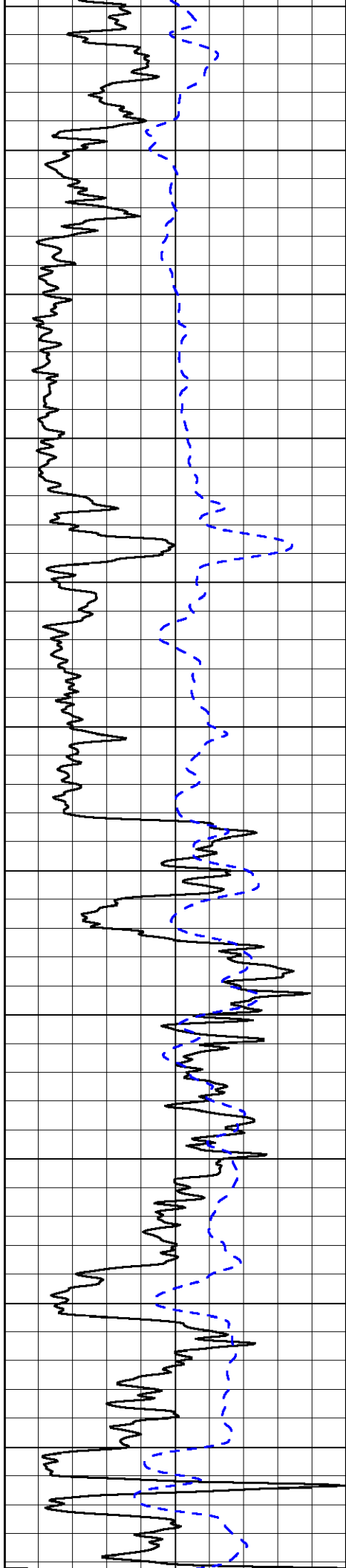
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0 Deep Resistivity (Ohm-m) 50
1000 Conductivity (mmho/m) 0
15000 Line Tension (lb) 0

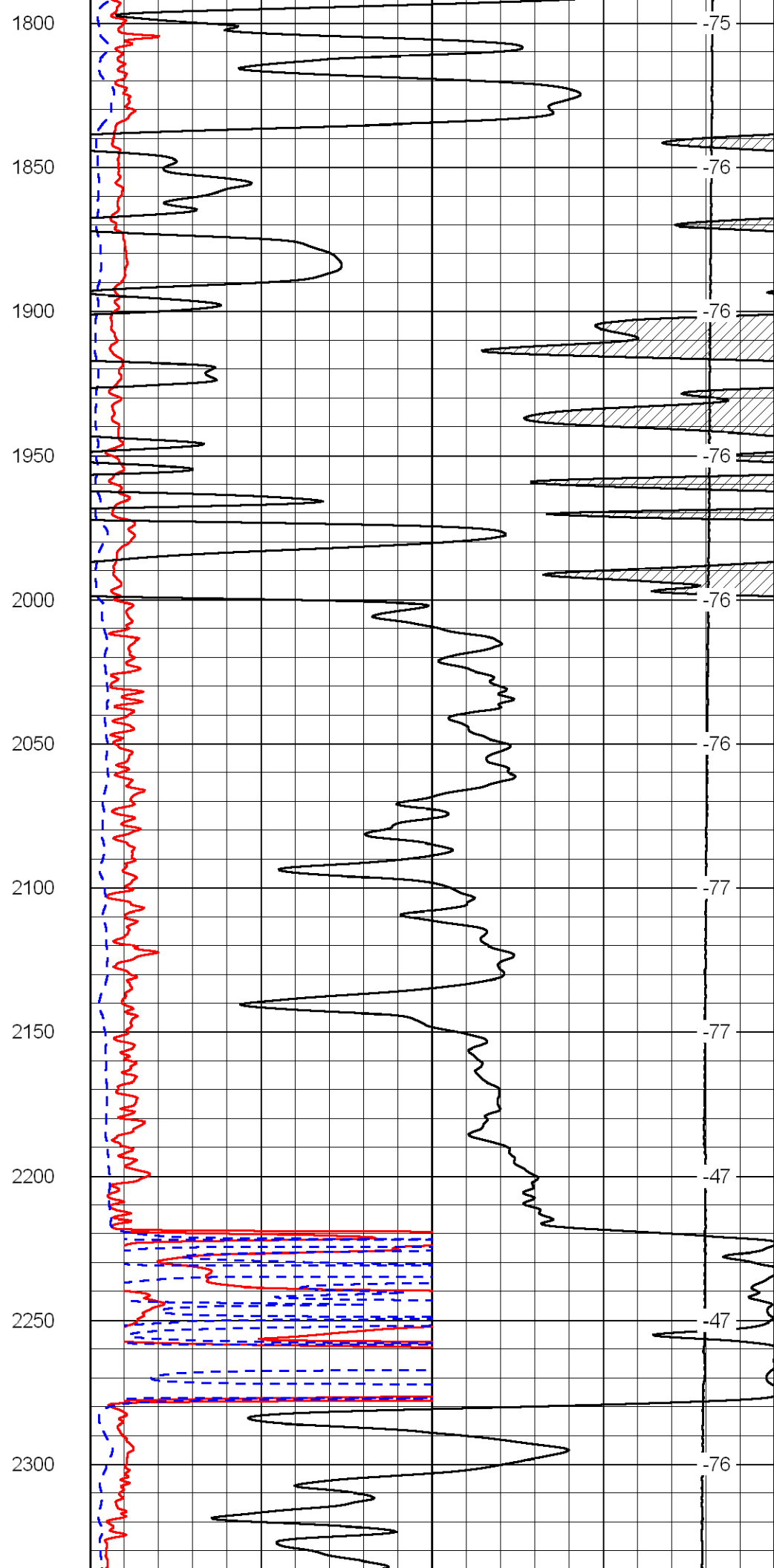
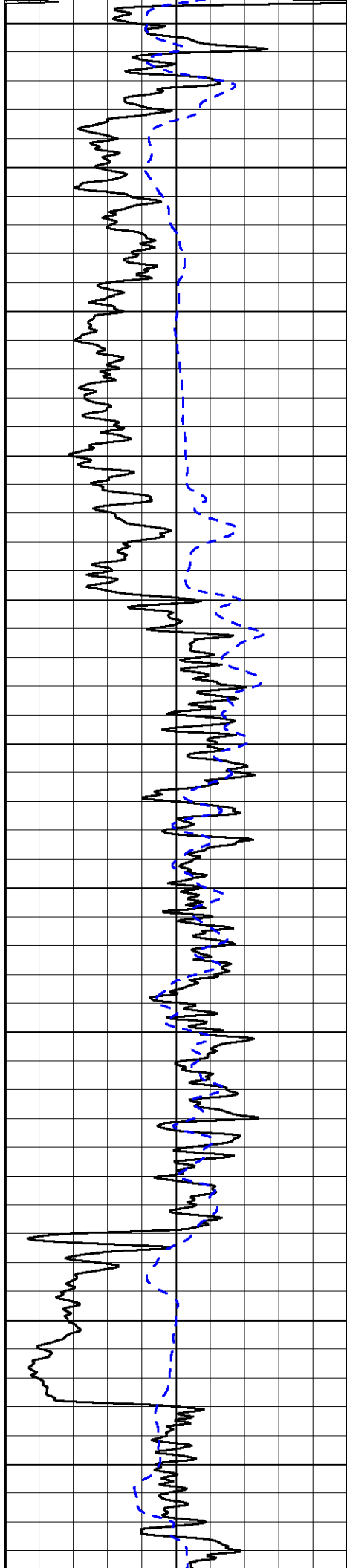
LSPD
(ft/min)

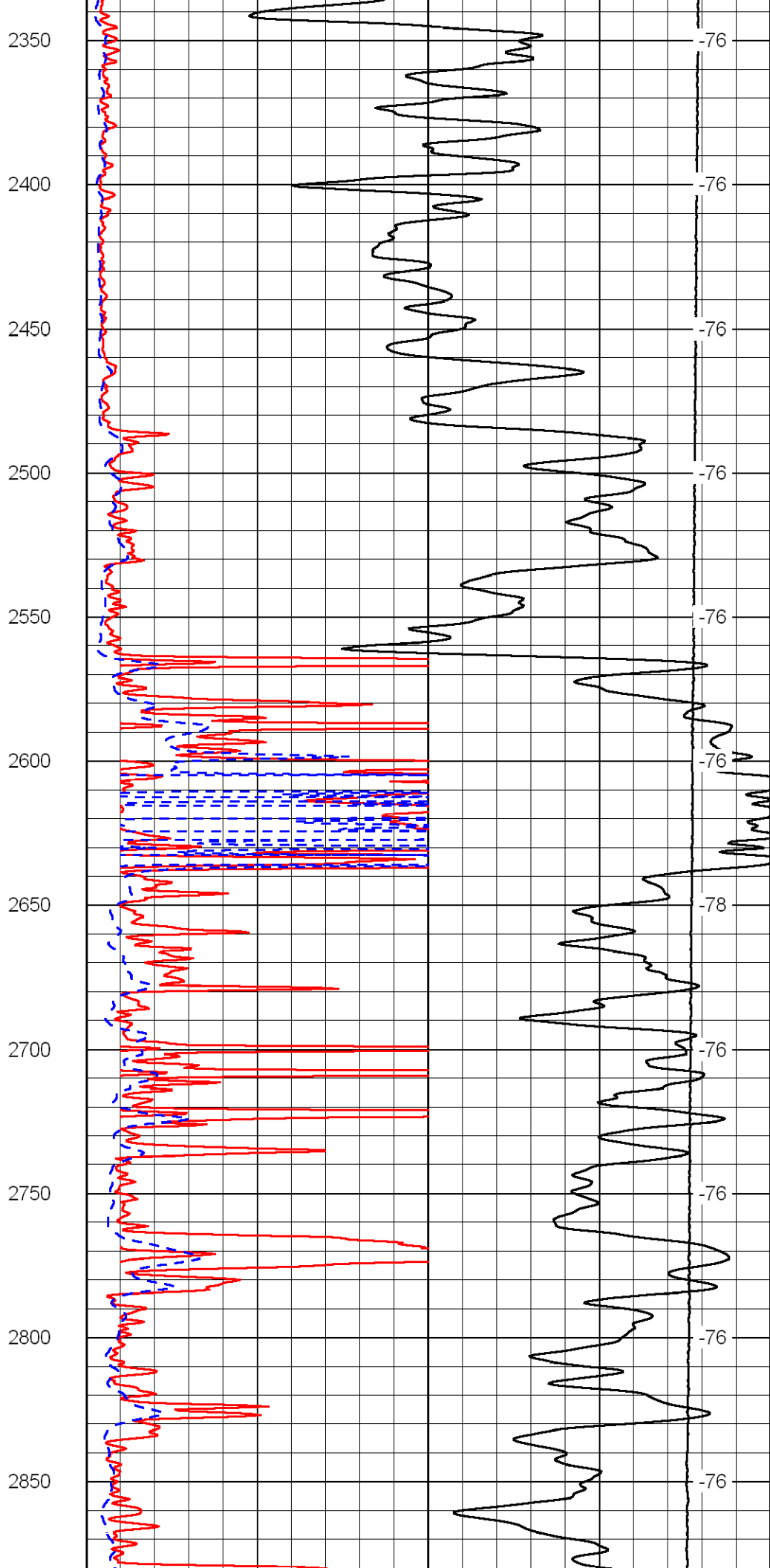
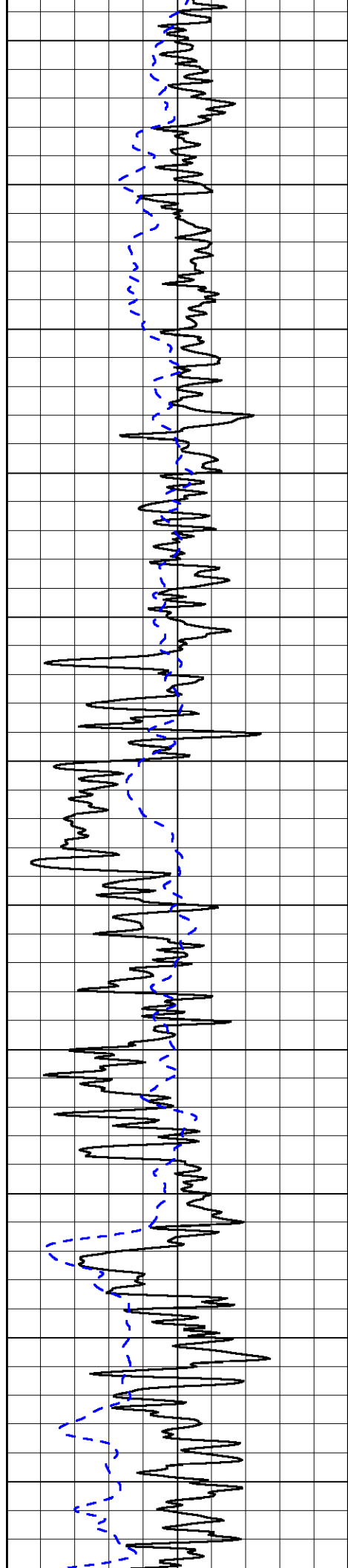
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50 (Ohm-m) 500
50 Deep Resistivity (Ohm-m) 500

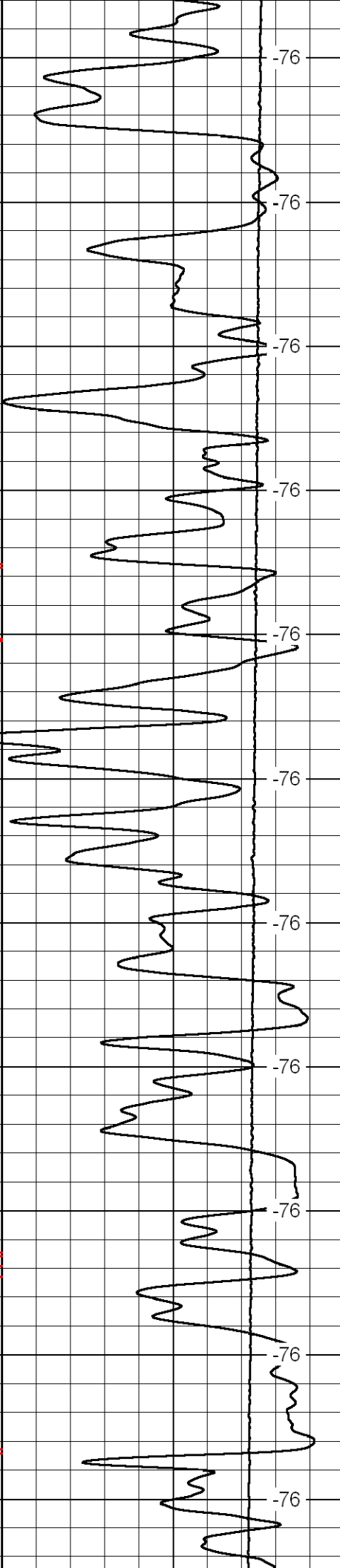
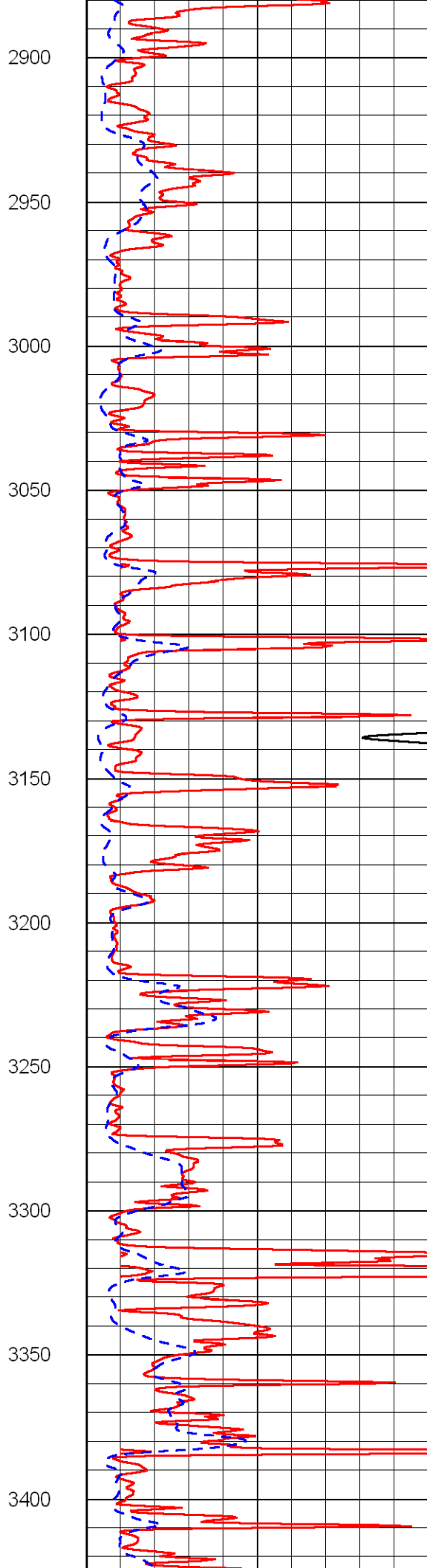
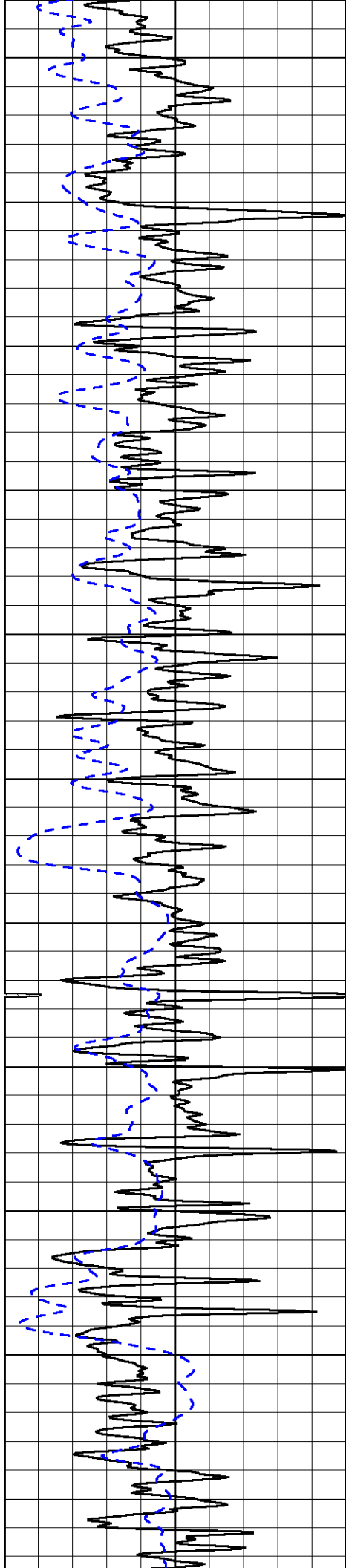


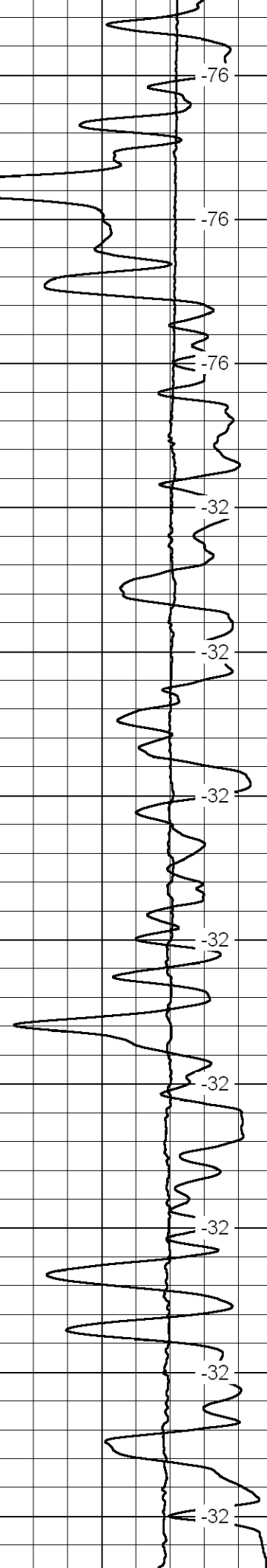
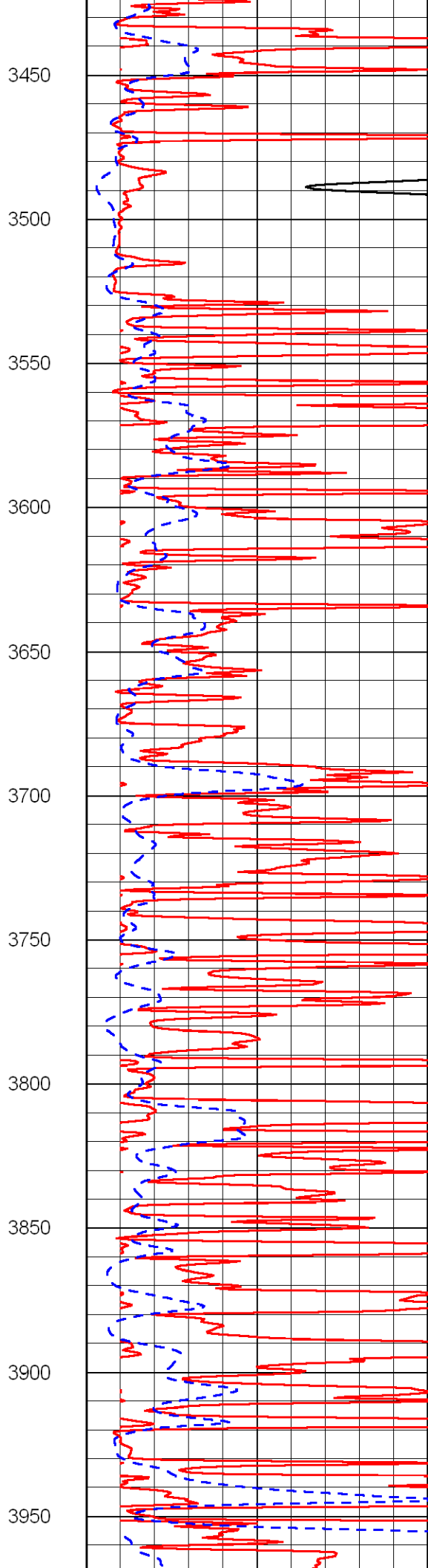
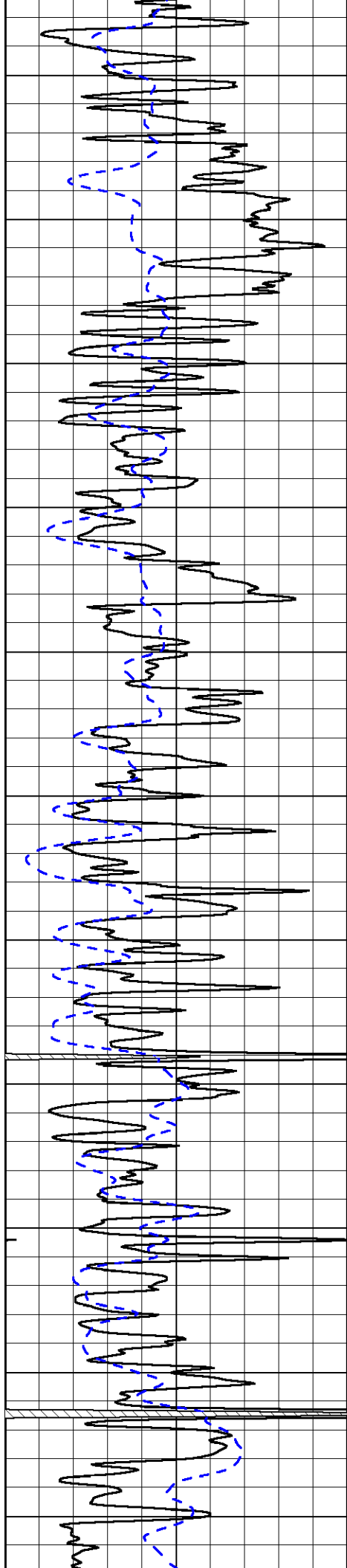












3450

-76

3500

-76

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-76

3600

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3650

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3700

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3750

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3800

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3850

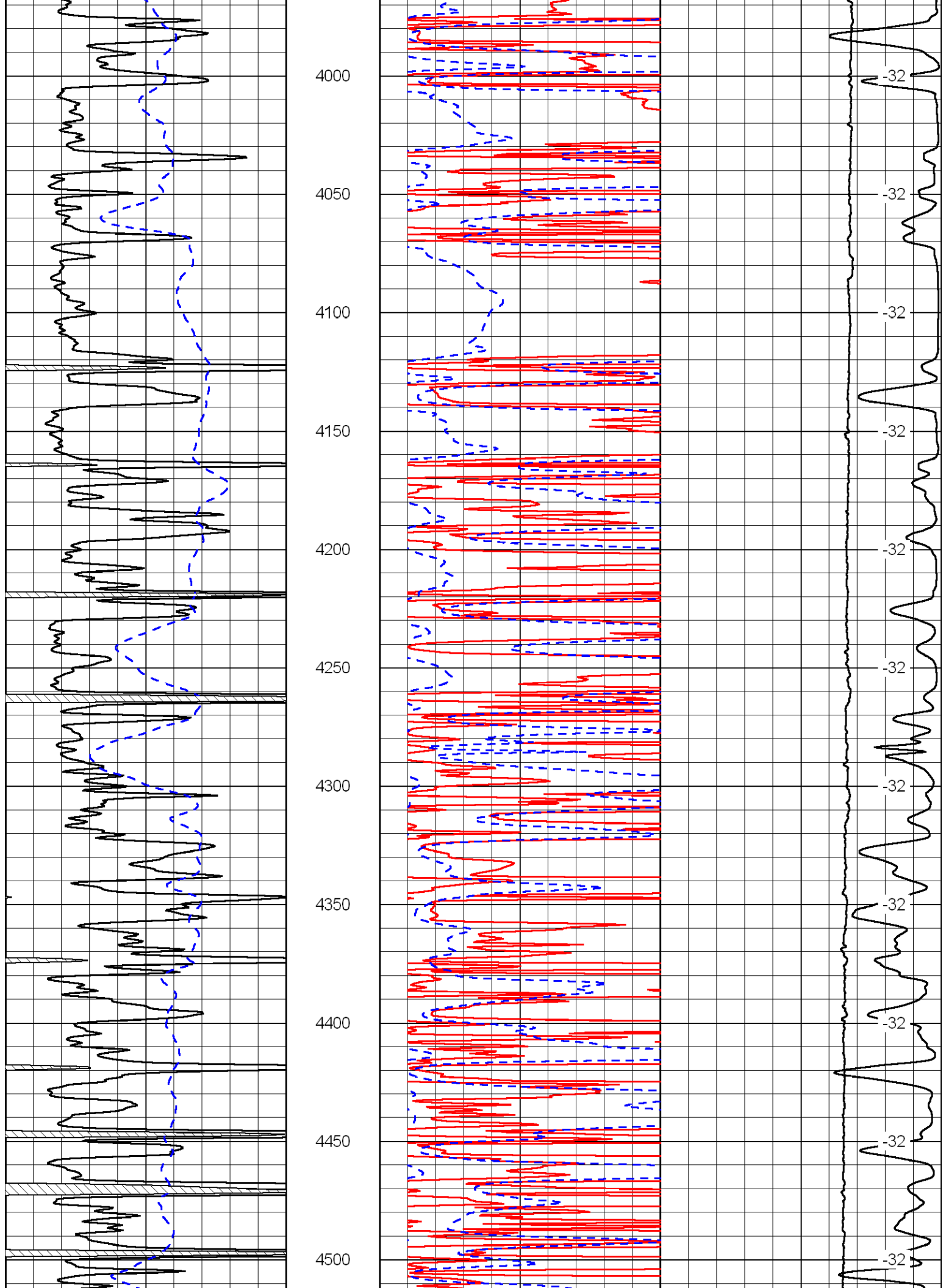
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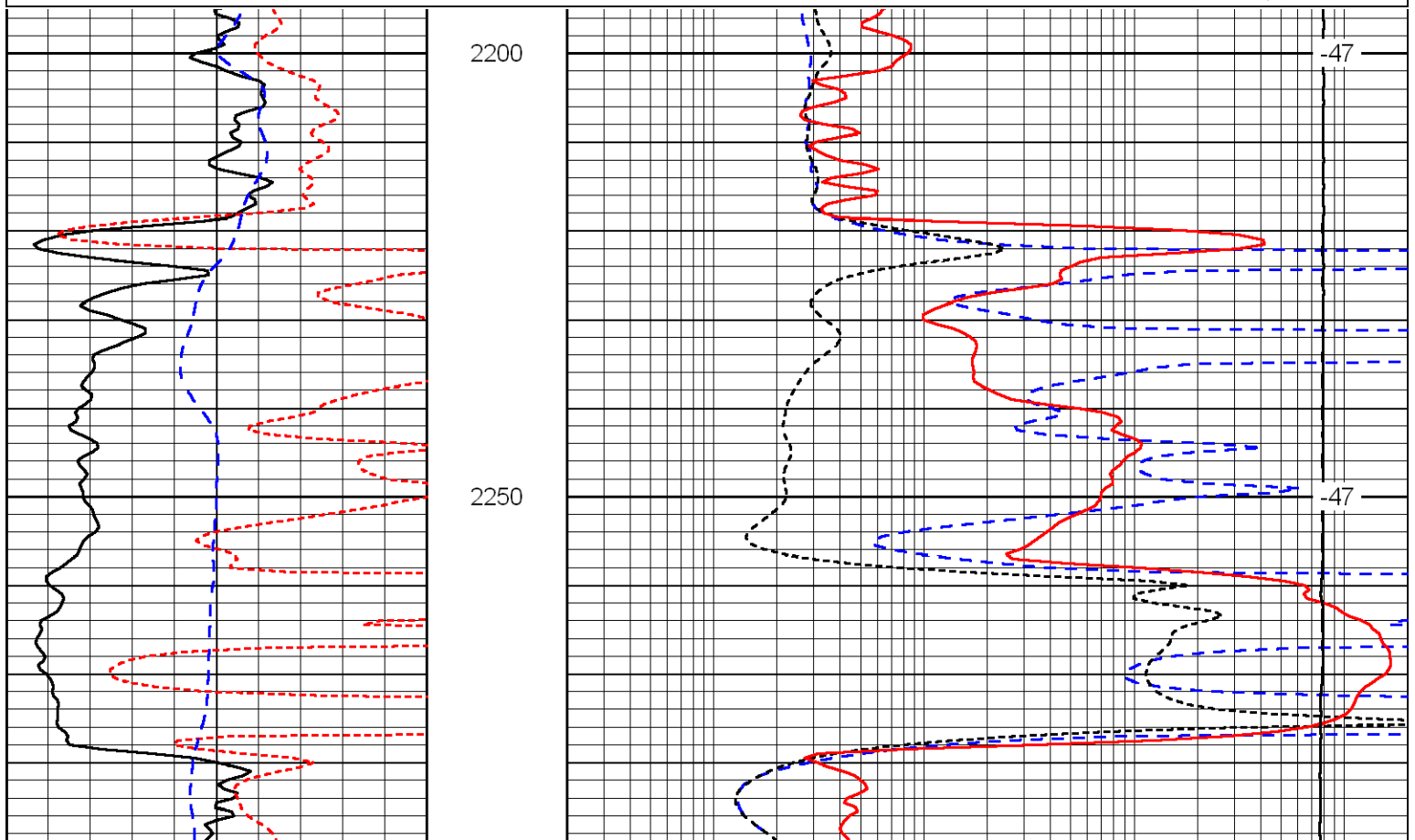
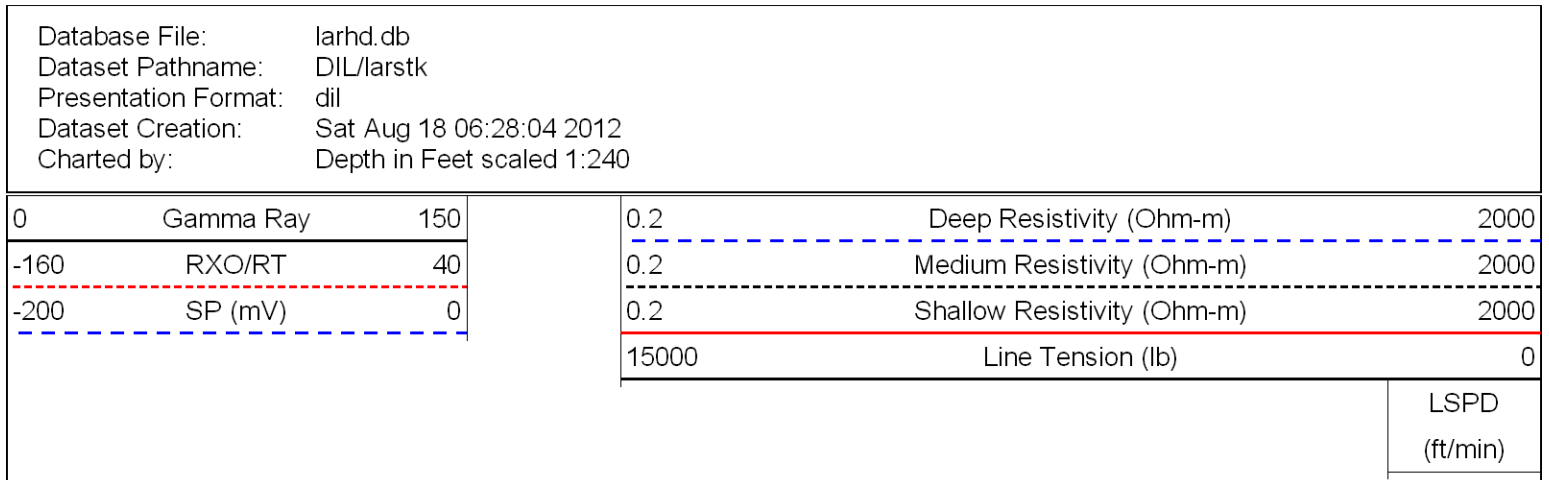
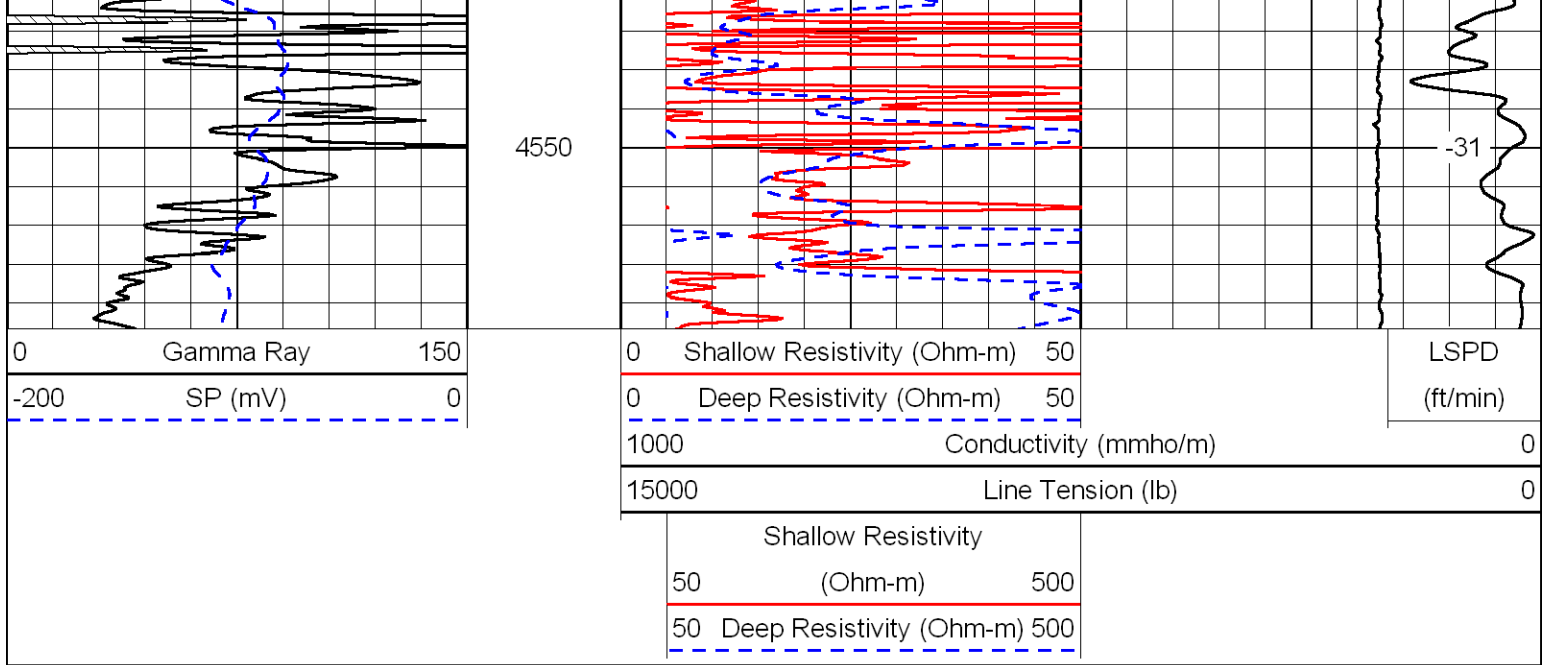
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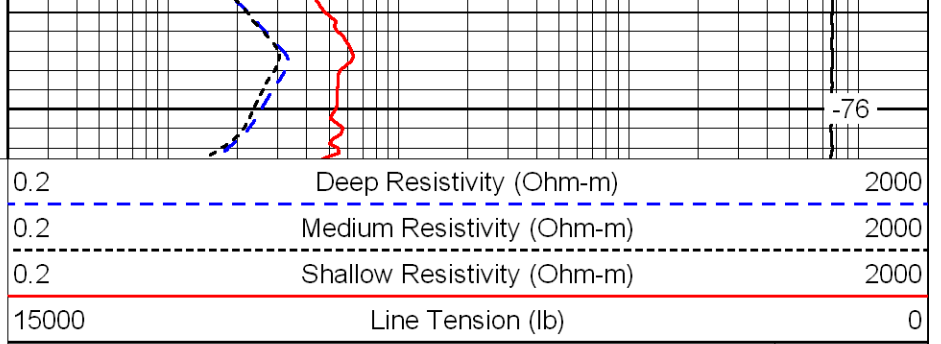
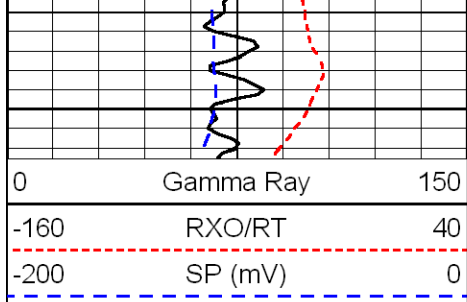
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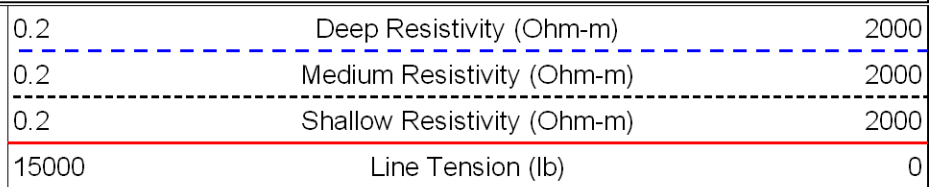
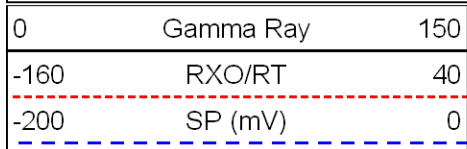




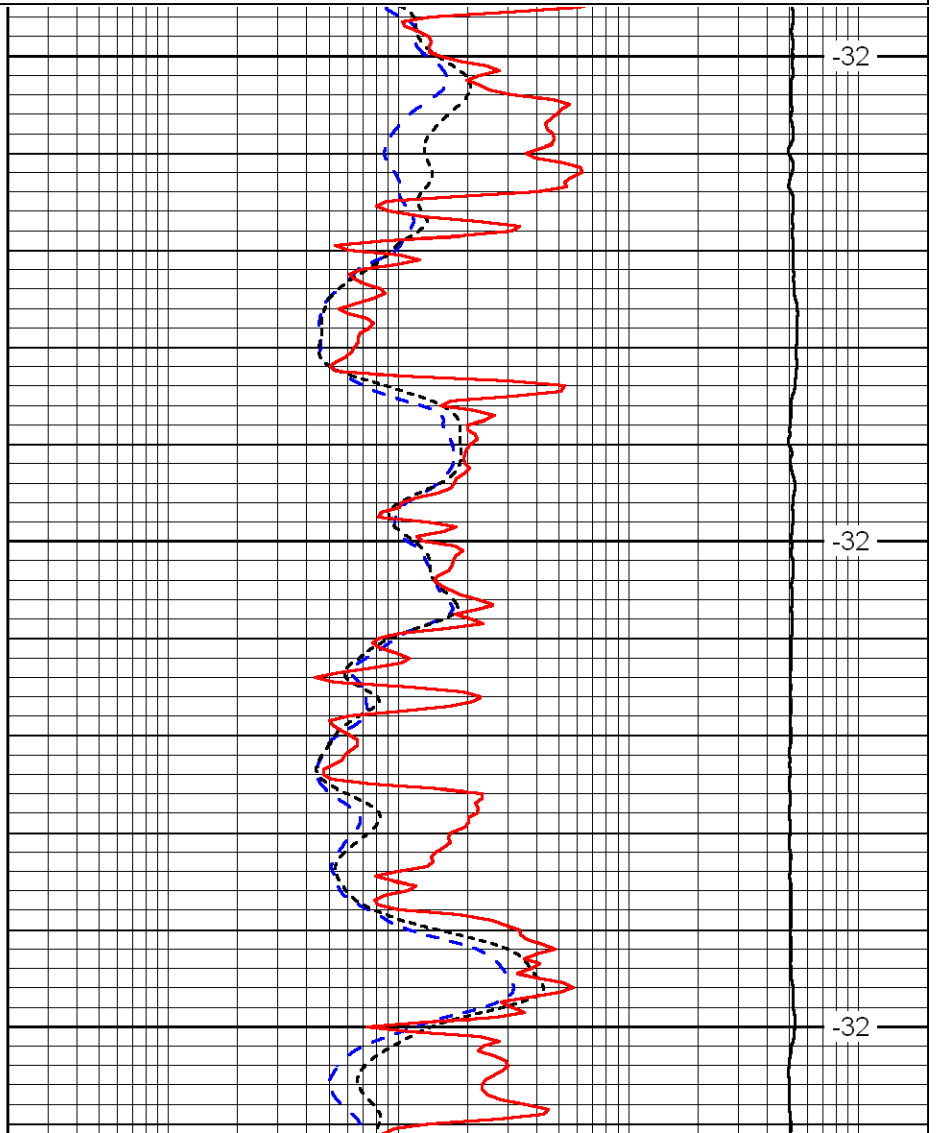
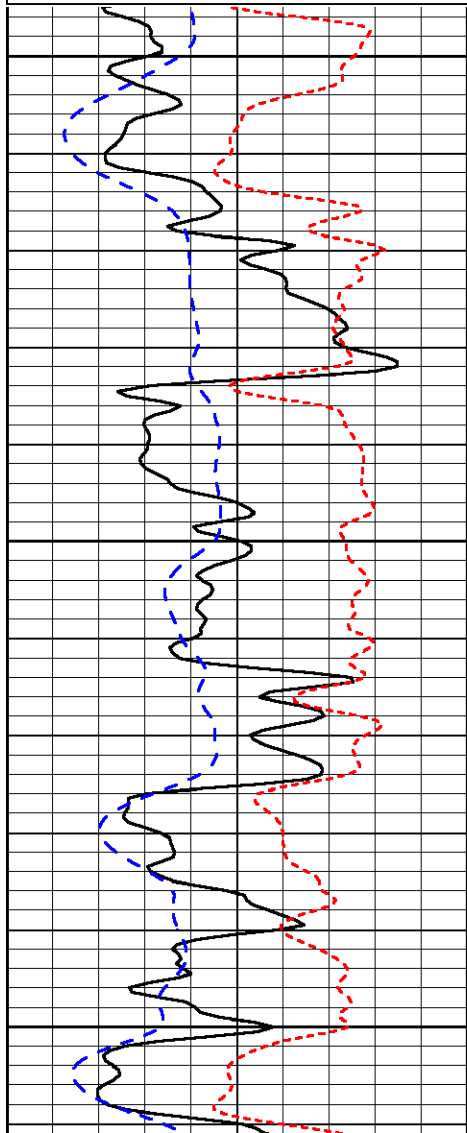


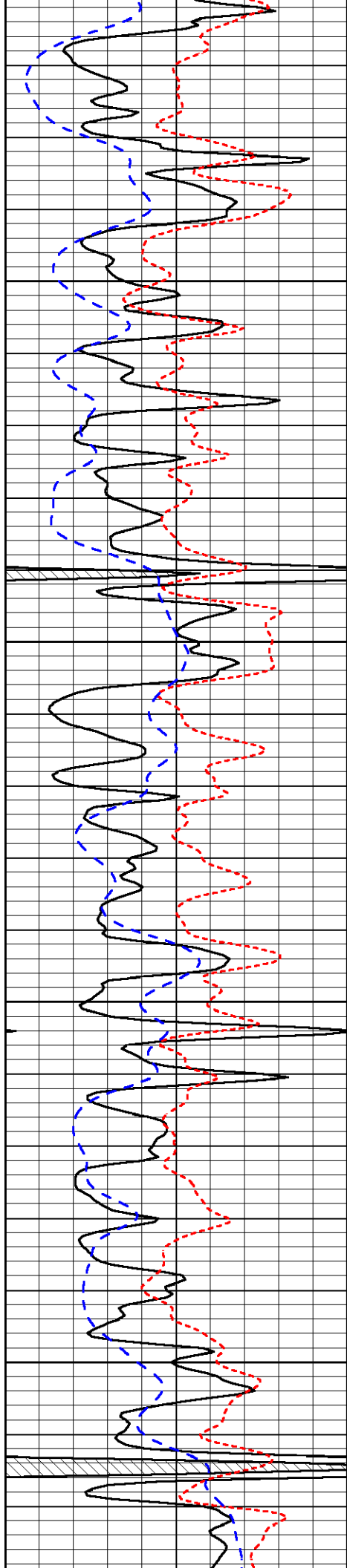
LSPD
(ft/min)

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LSPD
(ft/min)



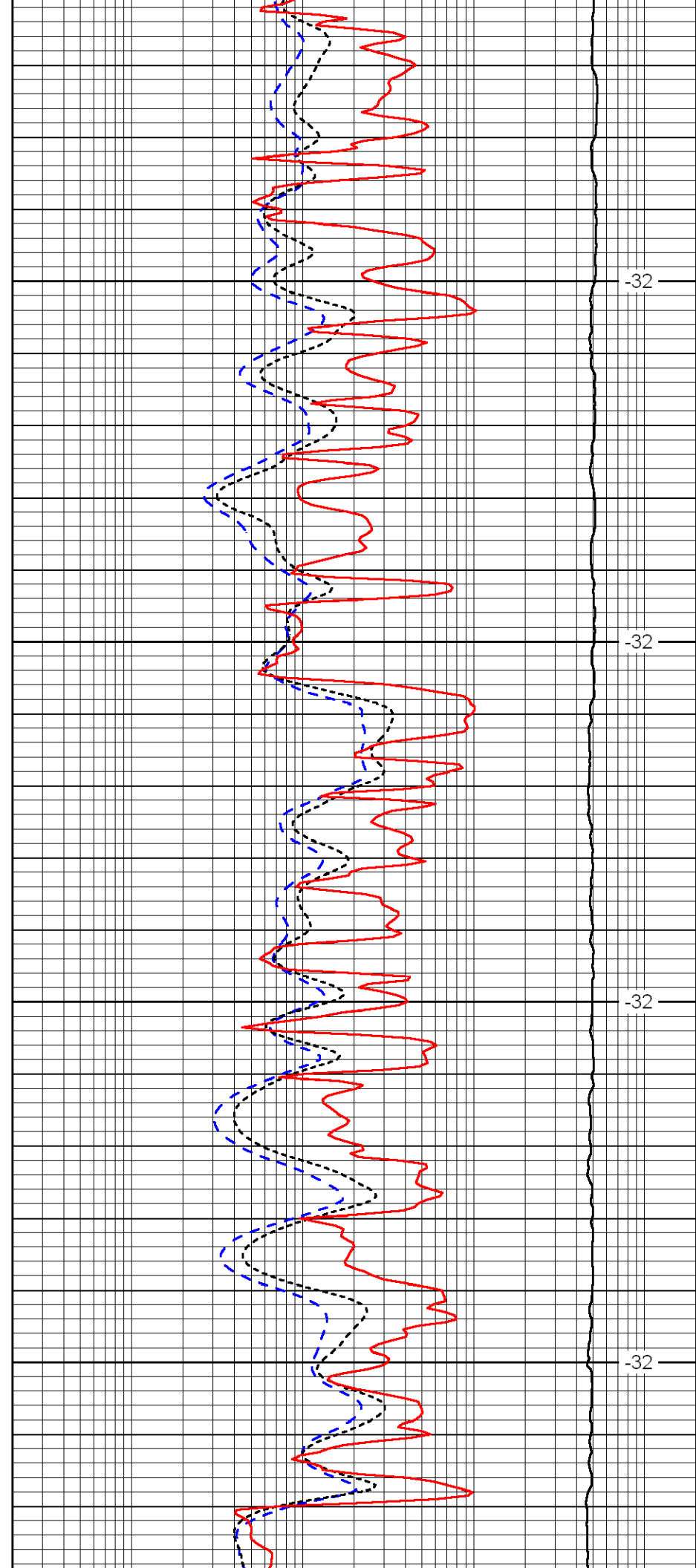


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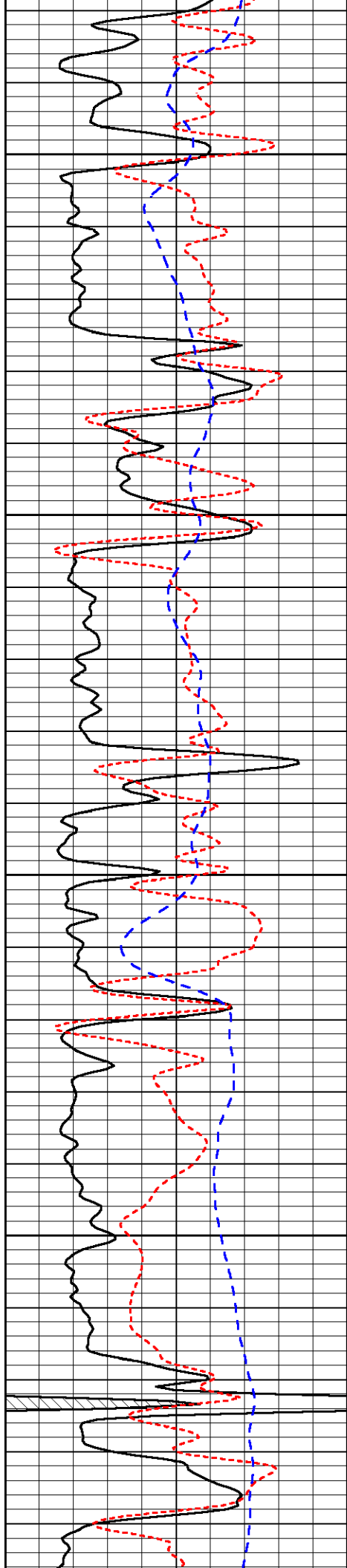


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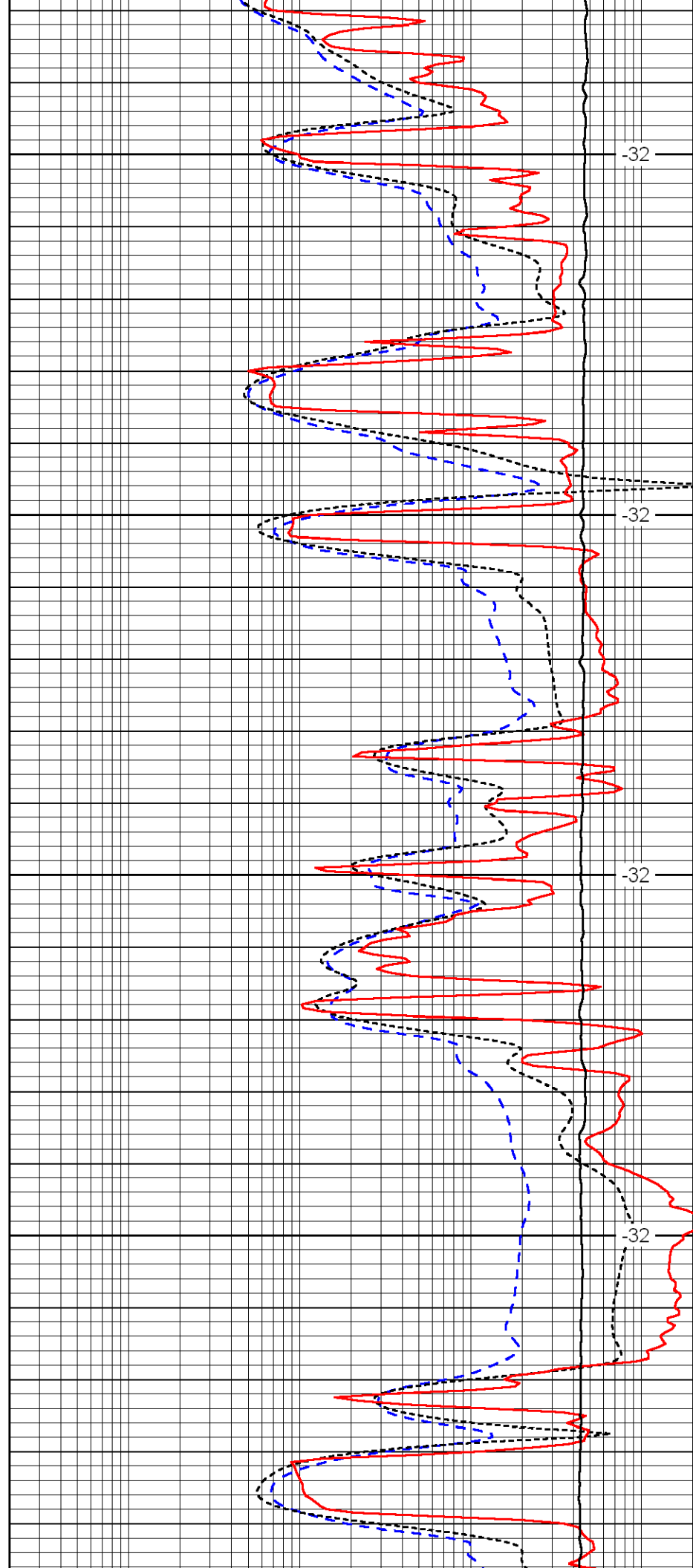


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4050

4100

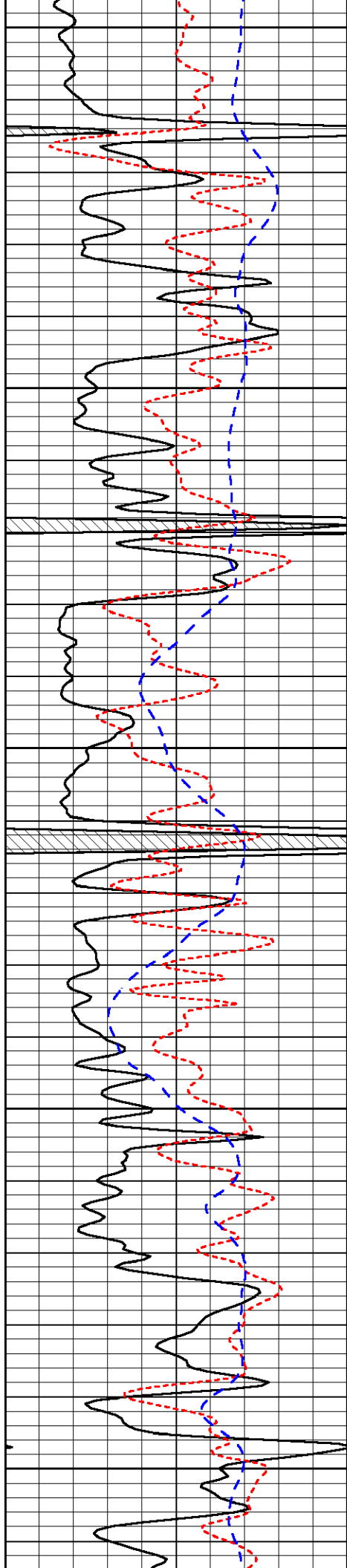


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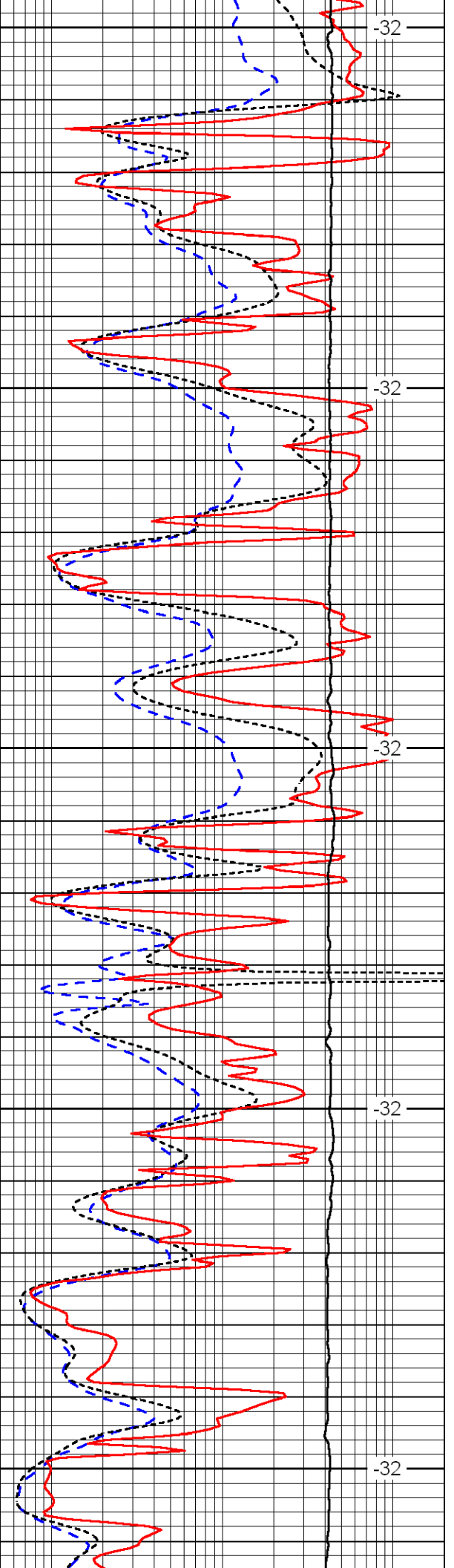
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4250

4300

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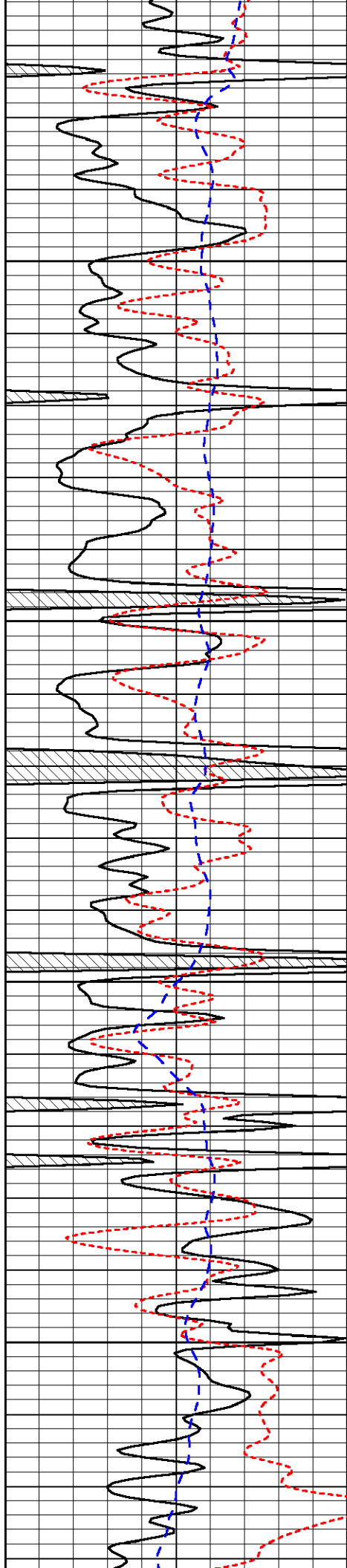
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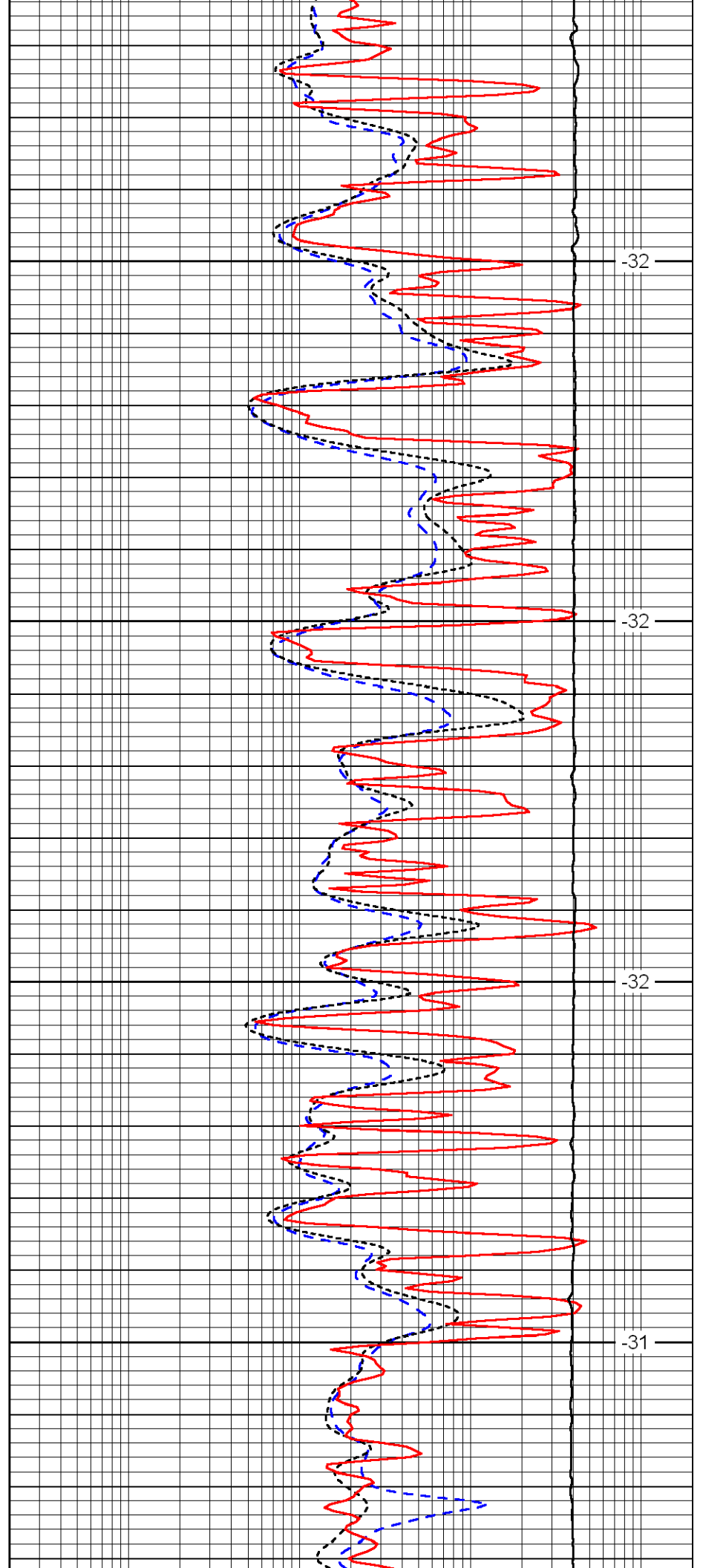


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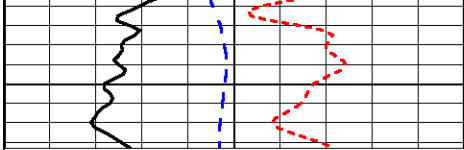


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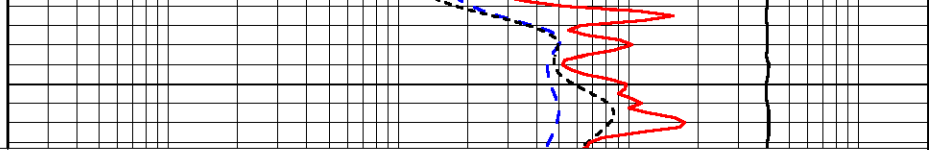
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-31



0	Gamma Ray	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
15000	Line Tension (lb)	0

LSPD (ft/min)
