



Dual Induction Log

Pioneer Energy Services

API No.

15-179-21,322-00-00

Company Dan Haffner

Well Haffner No.2-18

Field

County Sheridan State

Kansas

Location 2125' FSL & 1170' FWL

Sec: 18 Twp: 9S Rge: 27W

Other Services
CNL/CDL
MEL

Elevation

K.B. 2764
D.F. 2764
G.L. 2756

Elevation

Permanent Datum Ground Level Elevation 2756
Log Measured From Kelly Bushing 8 Ft. Above Perm. Datum
Drilling Measured From Kelly Bushing

Date 12/11/2012

Run Number One

Depth Driller 4491

Depth Logger 4494

Bottom Logged Interval 4493

Top Log Interval 250

Casing Driller 8.625 @ 264

Casing Logger 261

Bit Size 7.875

Type Fluid in Hole Chemical

Salinity,ppm CL 1100

Density / Viscosity 9.6 48

pH / Fluid Loss 9.0 7.6

Source of Sample Flowline

Rm @ Meas. Temp 1.45 @ 58

Rmf @ Meas. Temp 1.09 @ 58

Rmc @ Meas. Temp 1.96 @ 58

Source of Rmf / Rmc Charts

Rm @ BHT .70 @ 121

Operating Rig Time 4 Hours

Max Rec. Temp. F 121

Equipment Number 15

Location Hays

Recorded By D. Kerr

Witnessed By Richard Bell

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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.pioneerres.com
785 625 3858

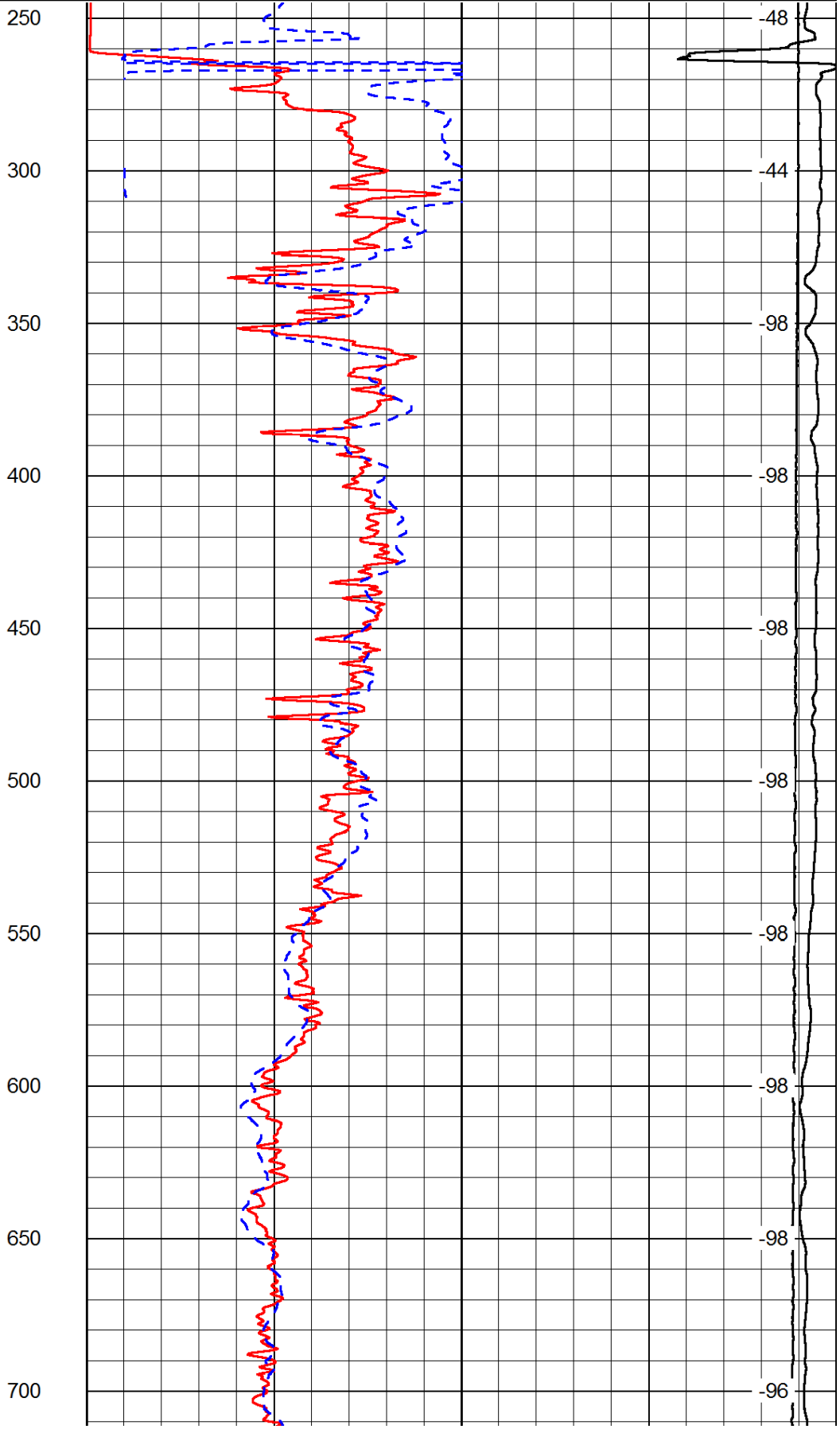
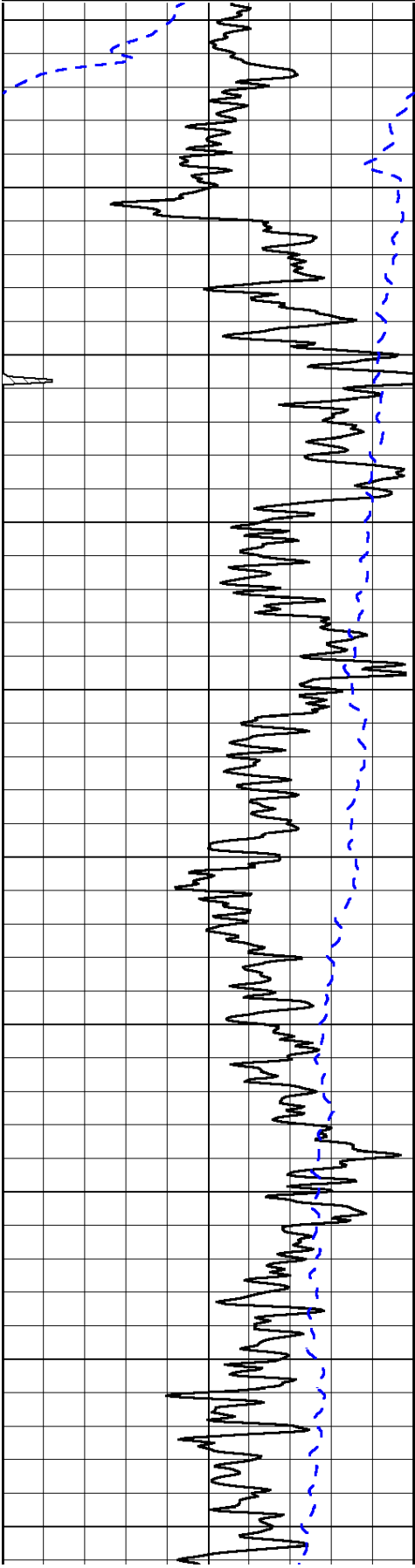
Hoxie Ks, 6 South to 406 RD (70 S RD),
3 1/2 East, North Into

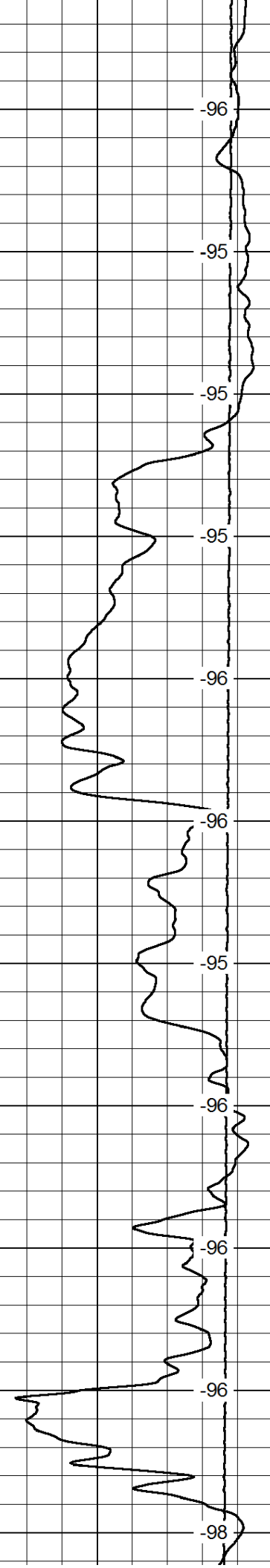
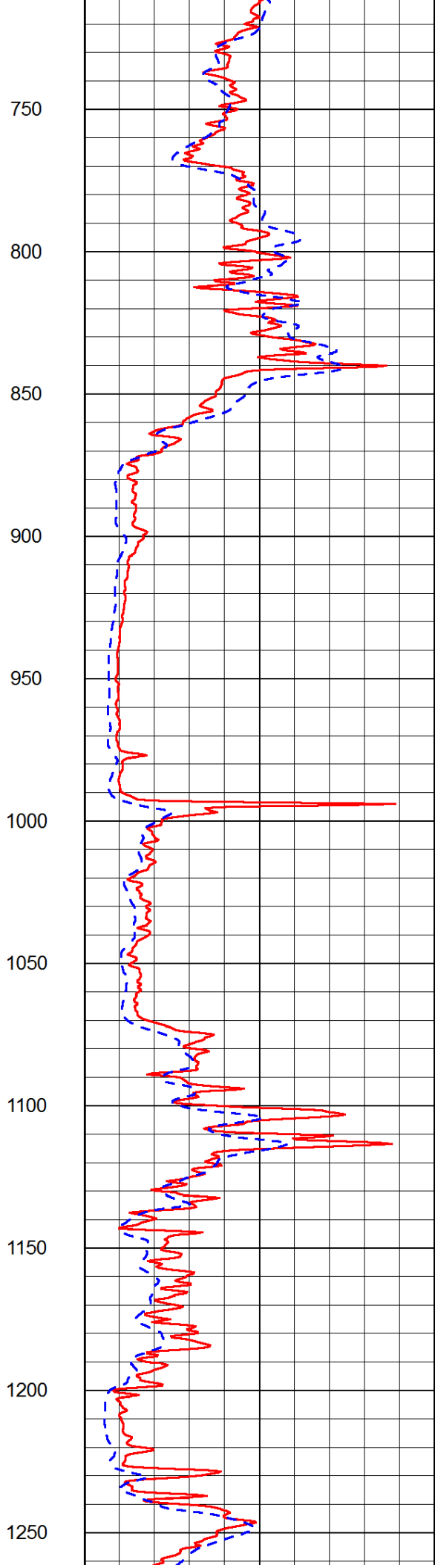
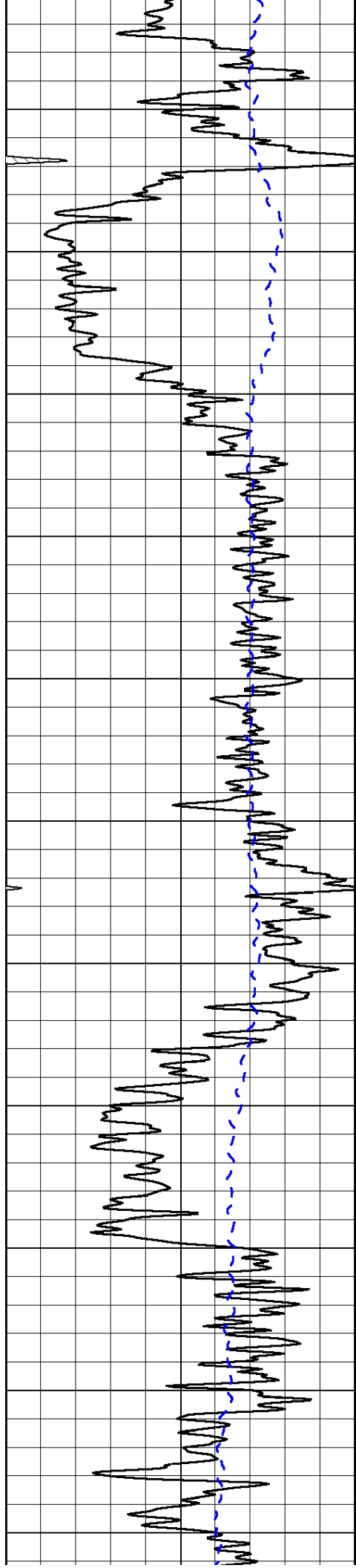
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Charted by: Depth in Feet scaled 1:600

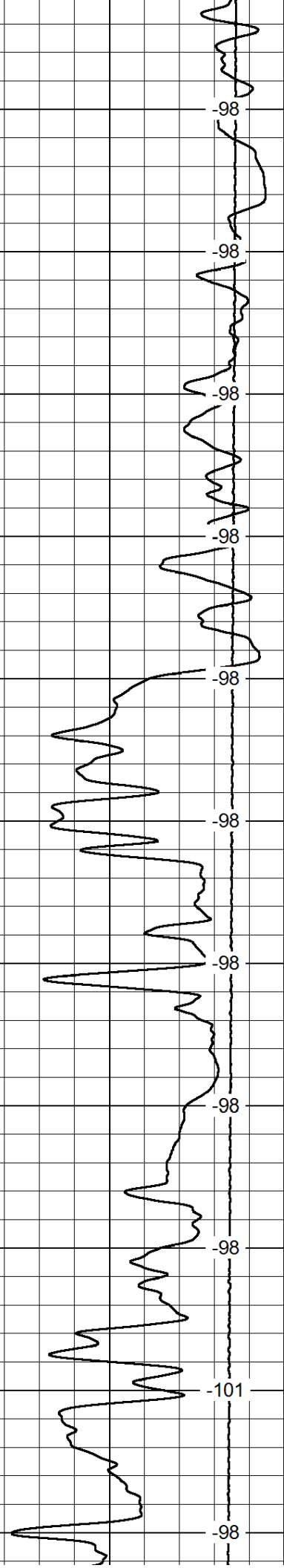
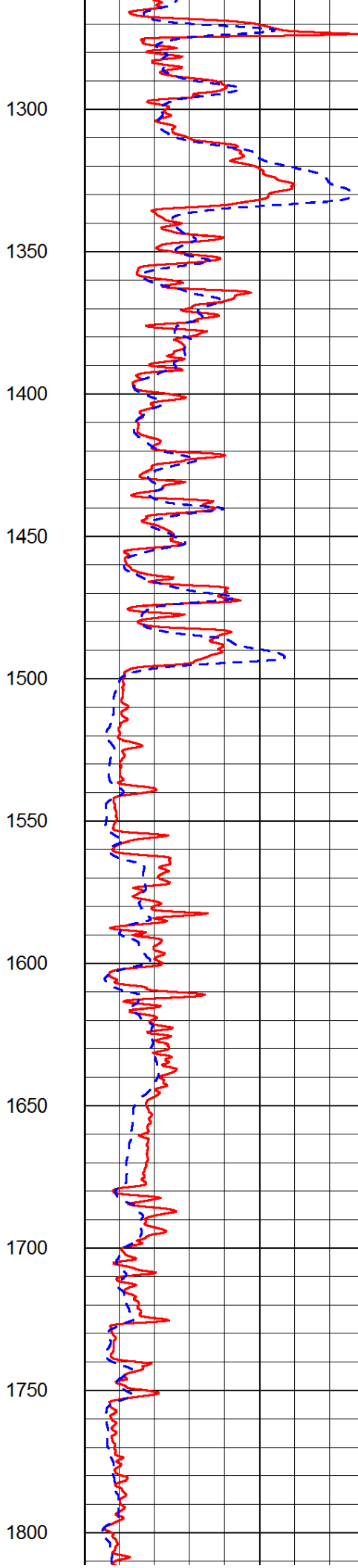
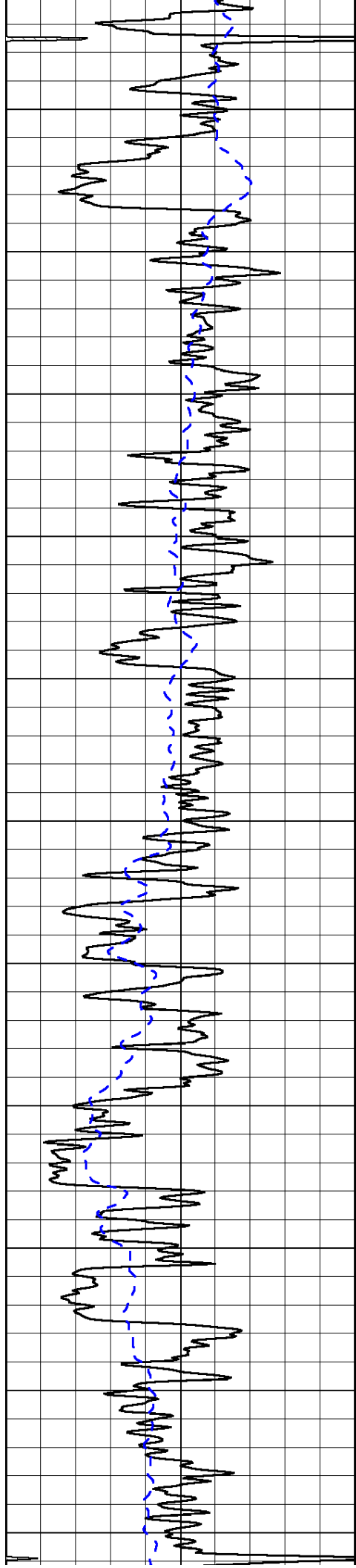
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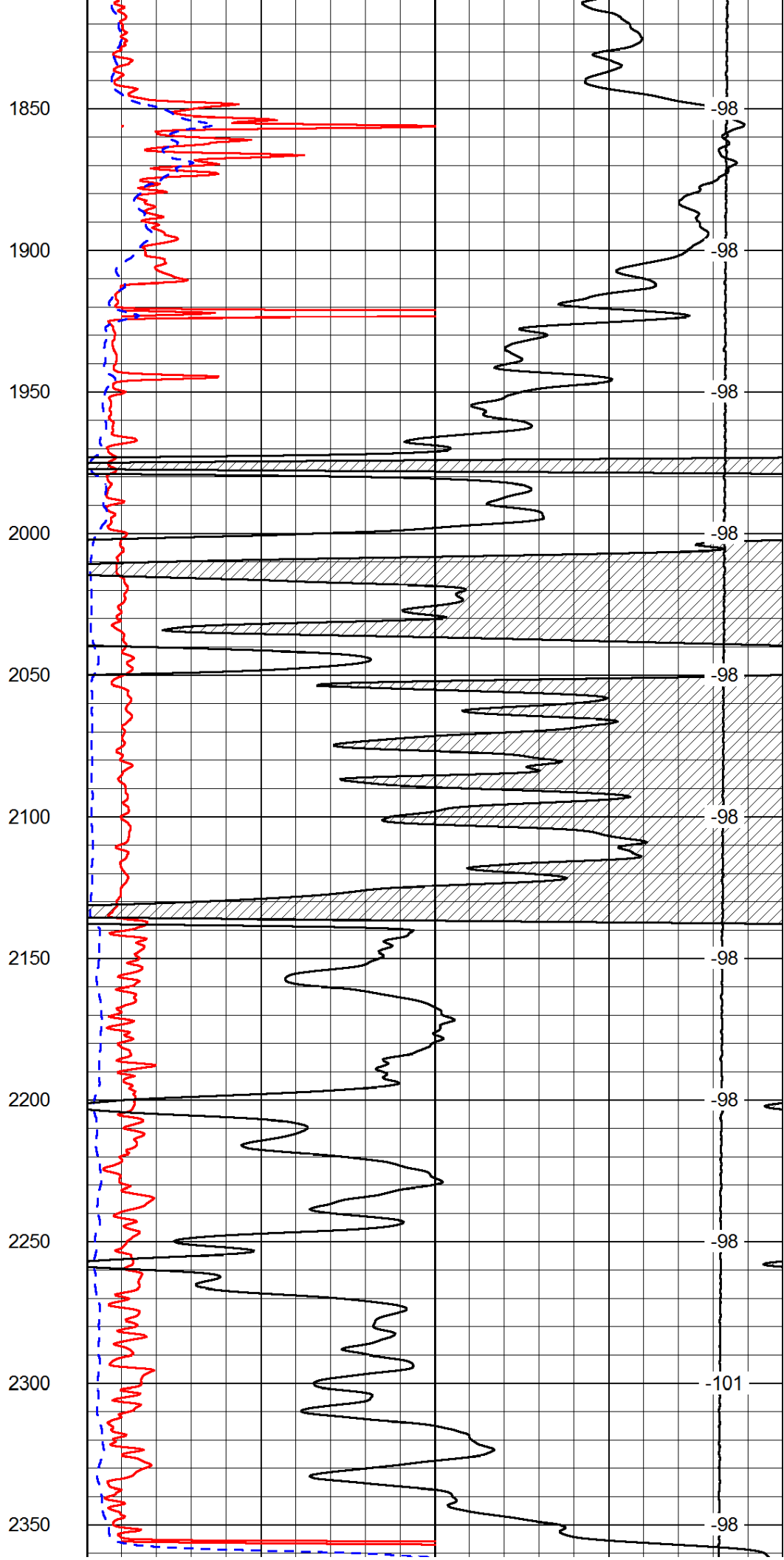
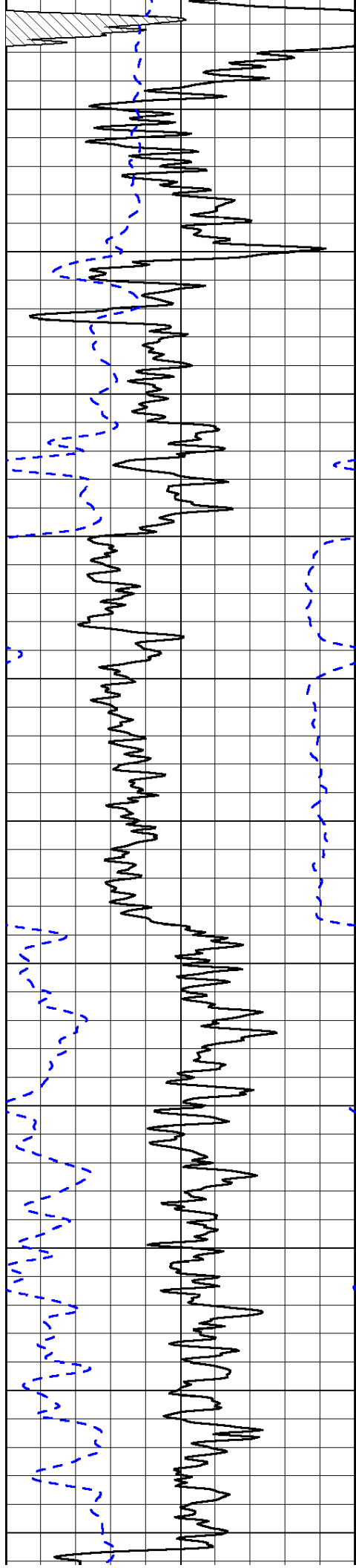
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-200	SP (mV)	0

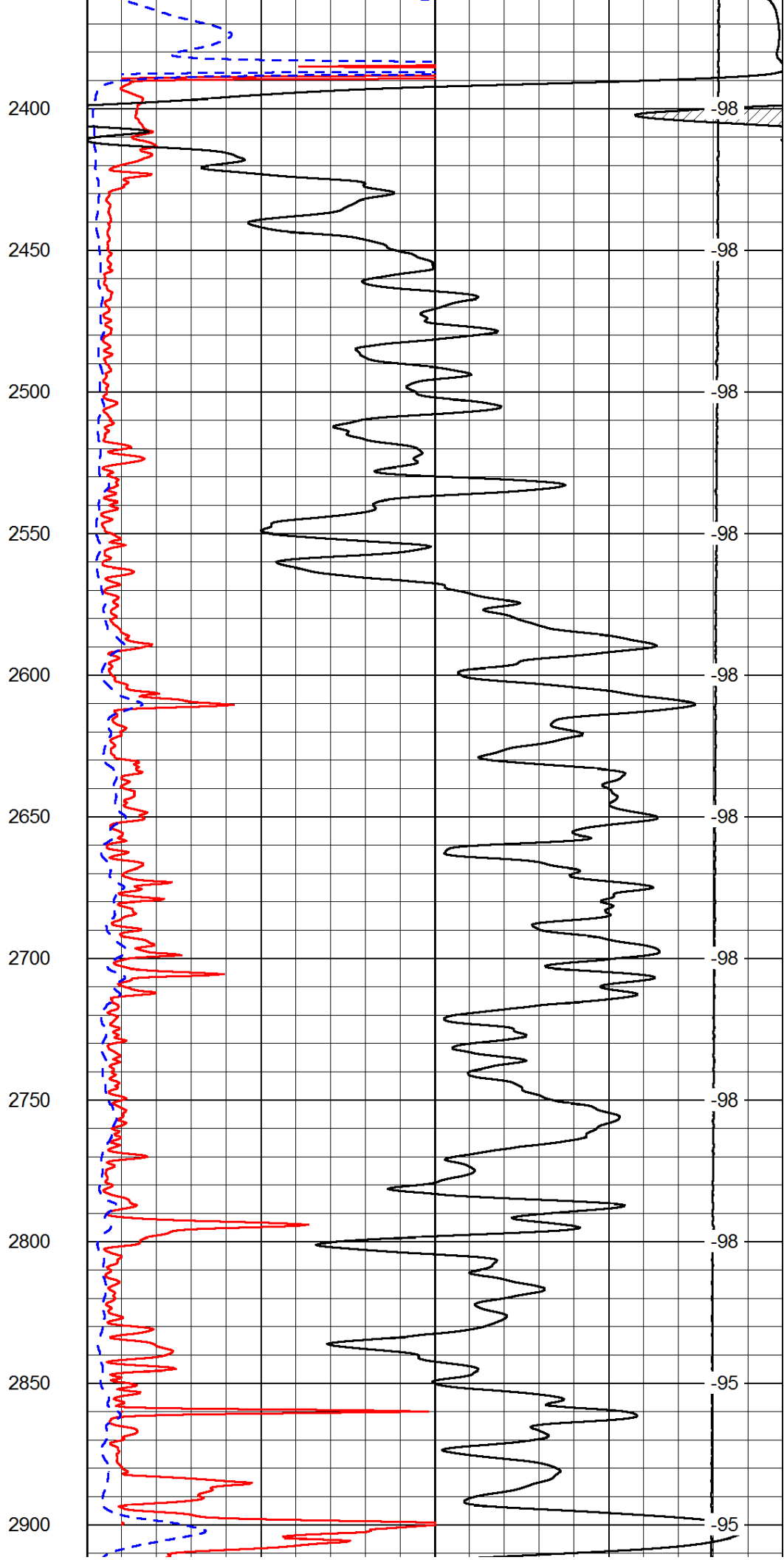
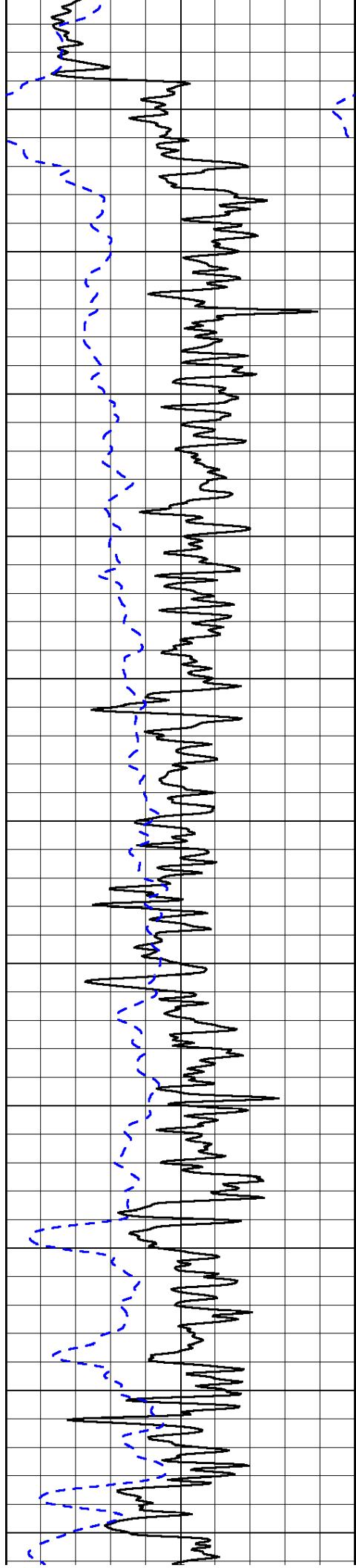
0			Shallow Resistivity	50	LSPD
0			Deep Resistivity	50	
1000			Conductivity		0
15000			Line Tension		0
	50			Shallow Resistivity	500
	50			Deep Resistivity	500

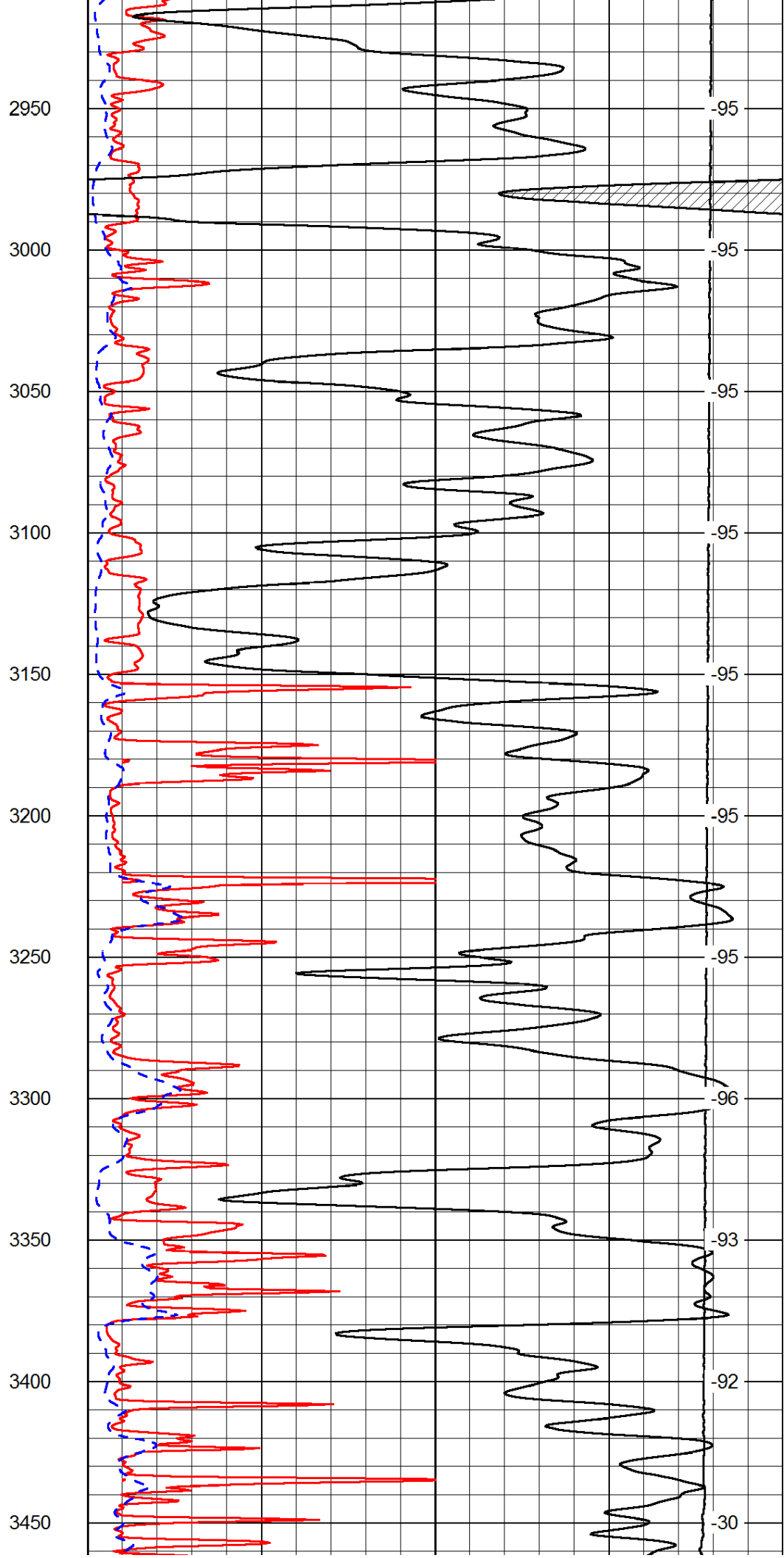
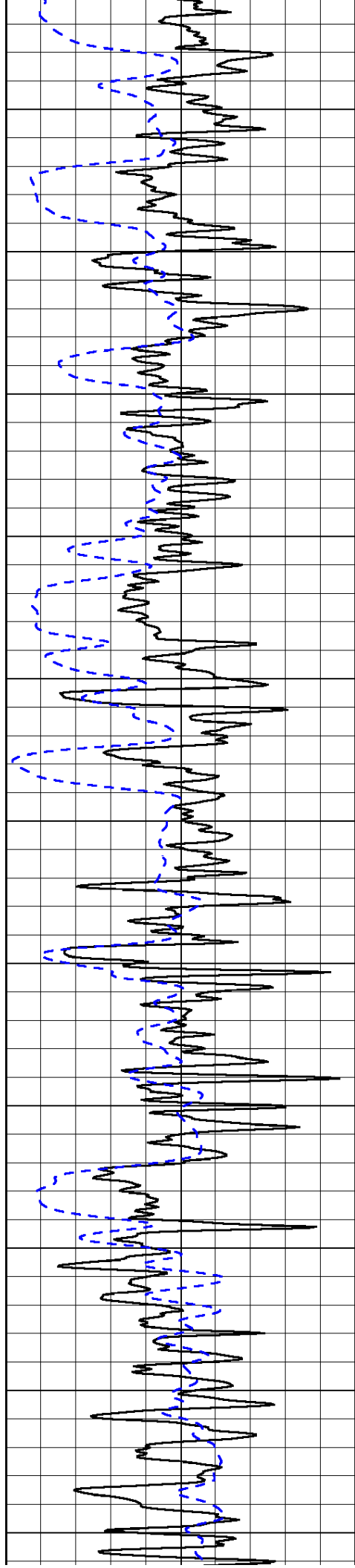


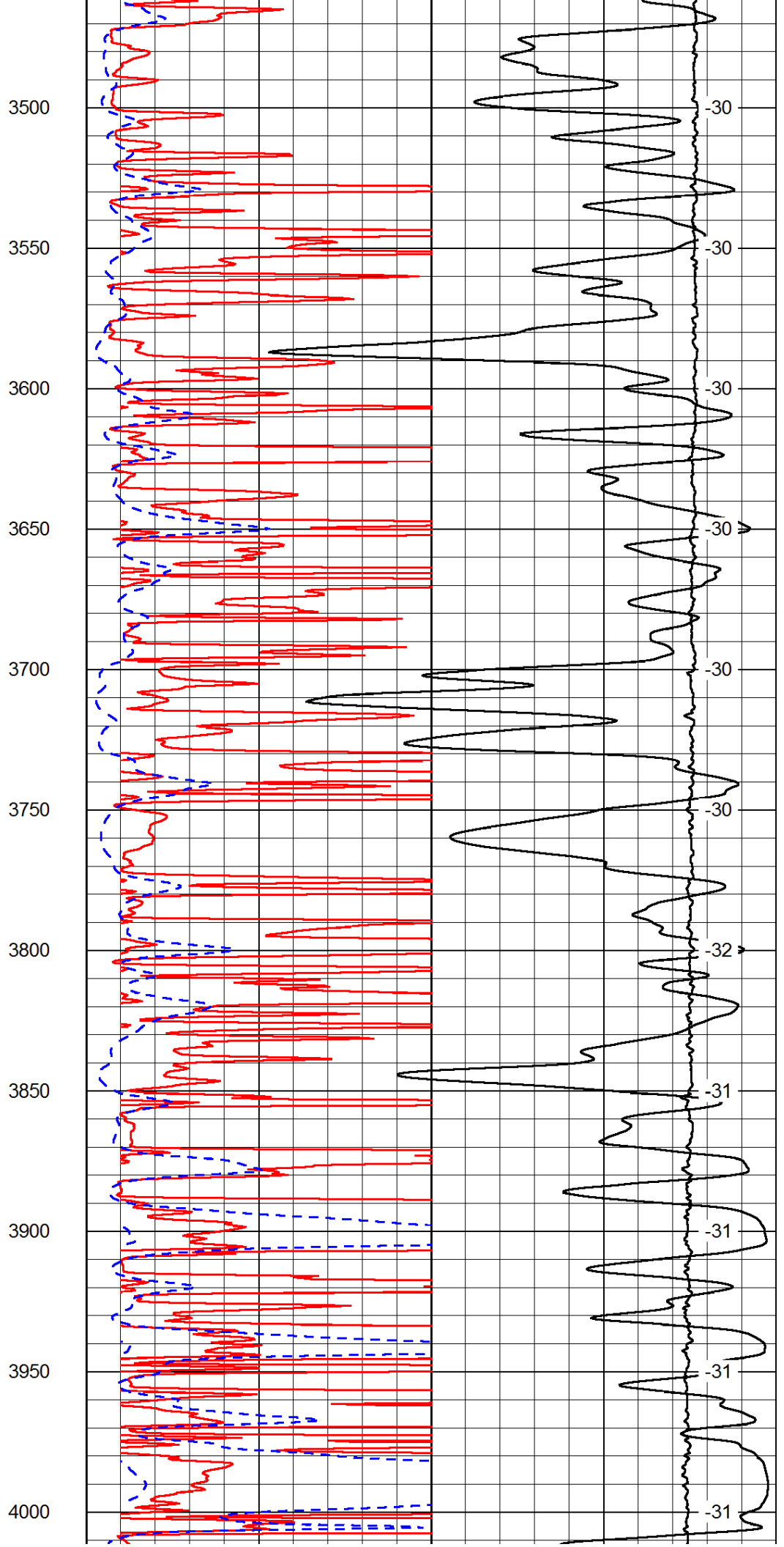
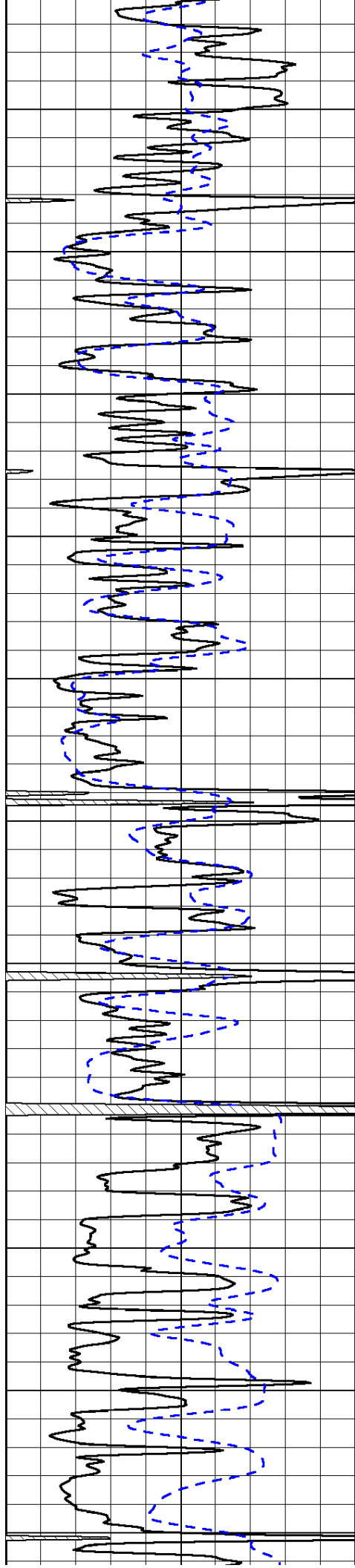


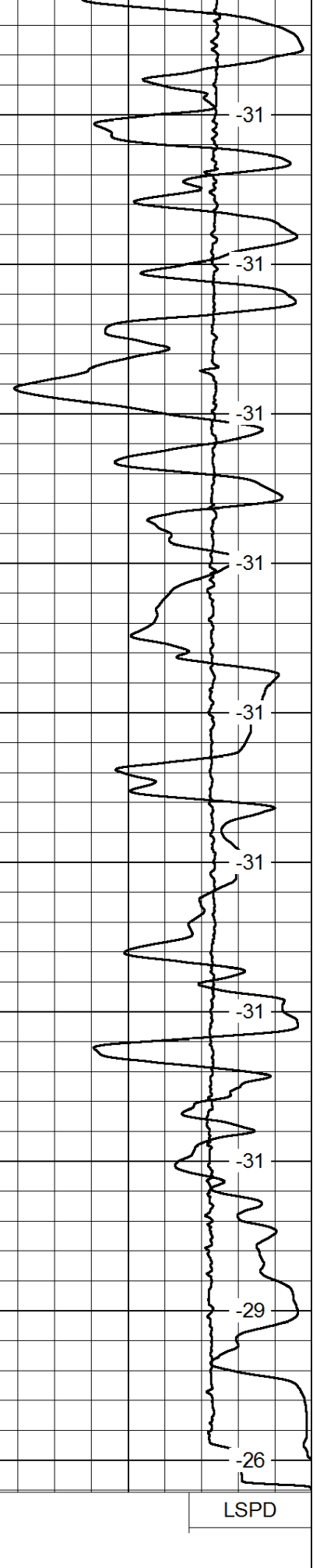
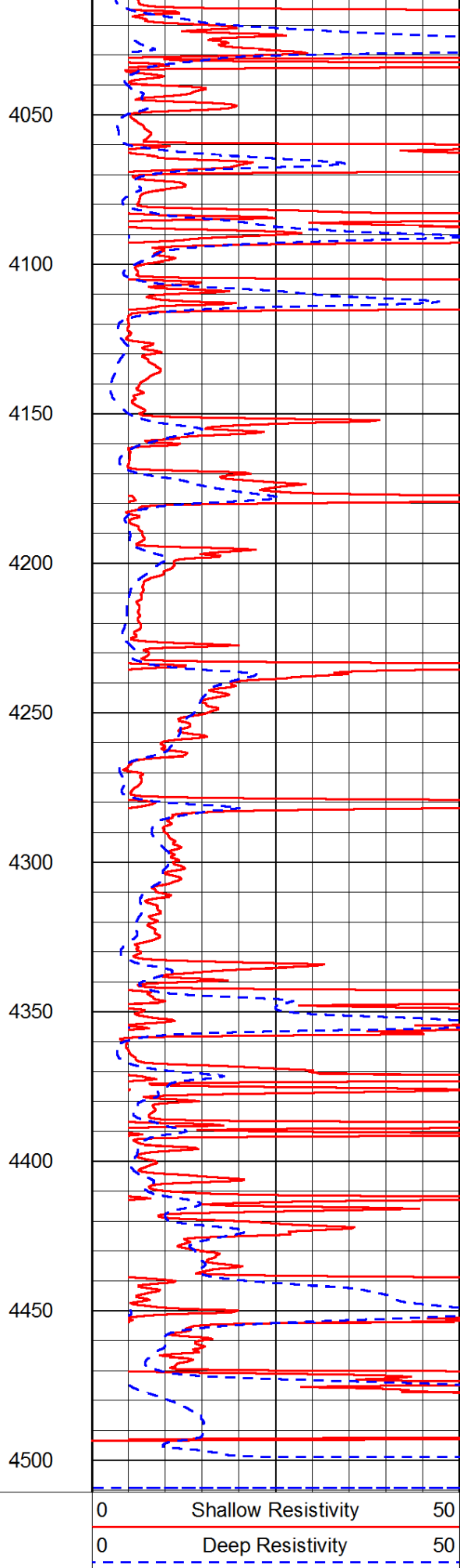
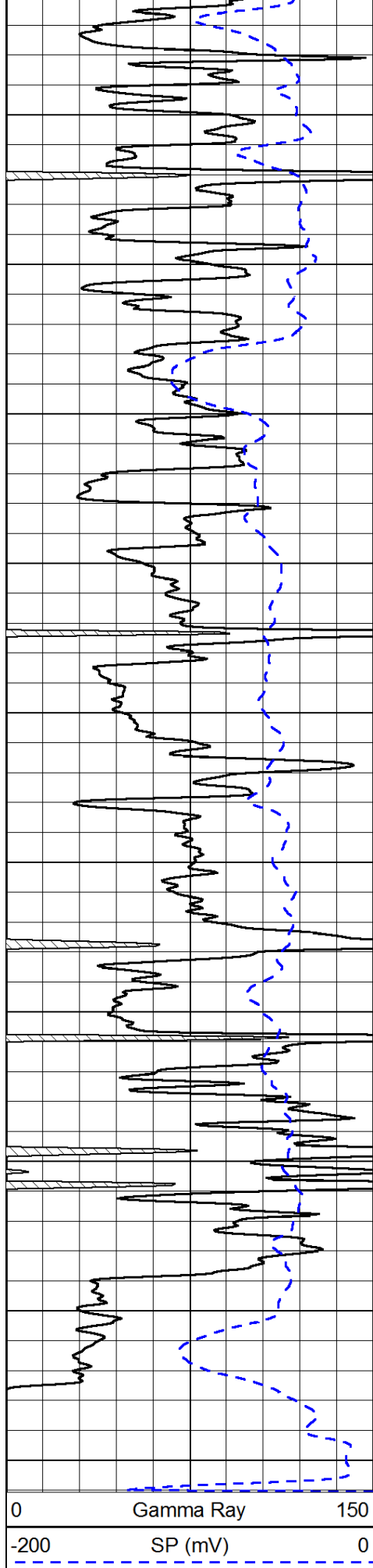












0 Gamma Ray 150
-200 SP (mV) 0

0 Shallow Resistivity 50
0 Deep Resistivity 50

LSPD
0

1000 Conductivity 0
15000 Line Tension 0

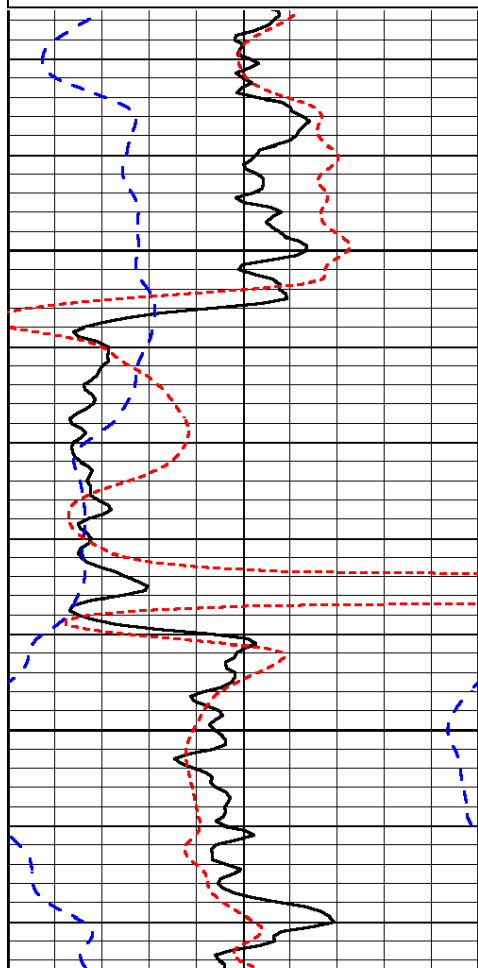
50	Shallow Resistivity	500
50	Deep Resistivity	500

Database File: c:\warrior\data\dan haffner_haffner no.2-18\danhaffner_haffner_2_18hd.db
Dataset Pathname: DIL/hafstk
Presentation Format: dil
Dataset Creation: Tue Dec 11 23:22:14 2012
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

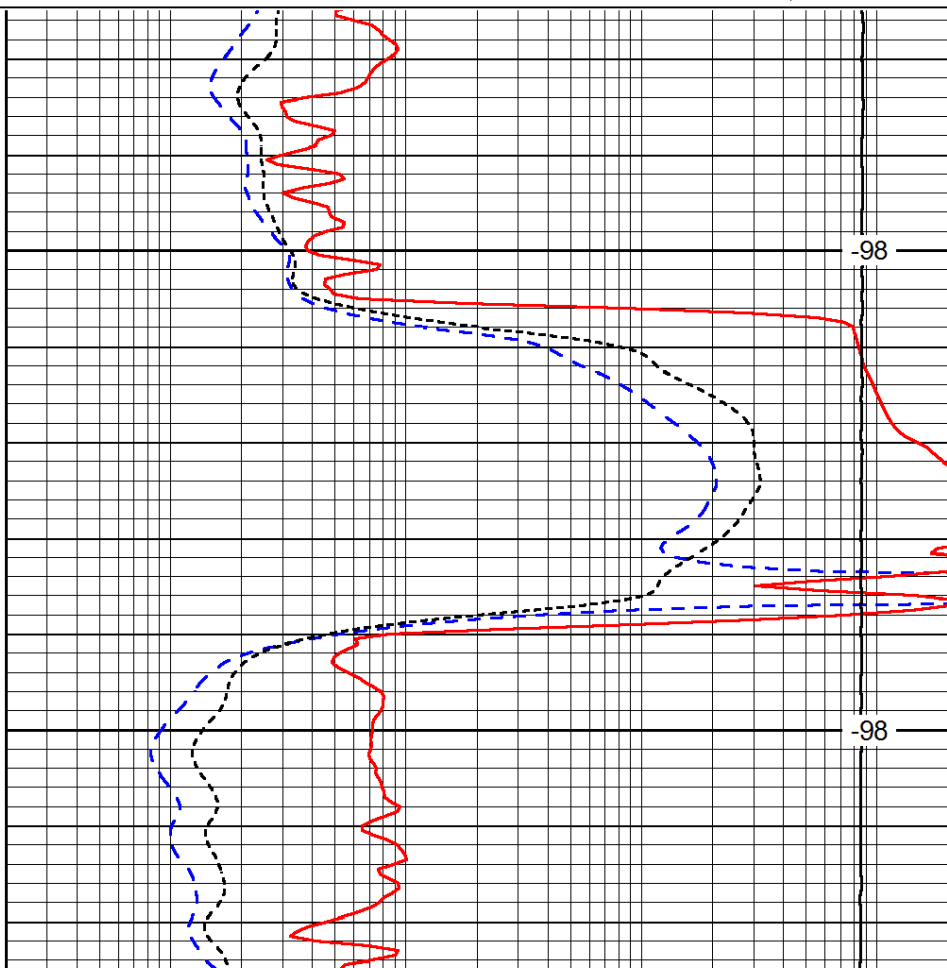
LSPD



2350

2400

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



-98

-98

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

LSPD

Database File: c:\warrior\data\dan haffner_haffner no.2-18\danhaffner_haffner_2_18hd.db
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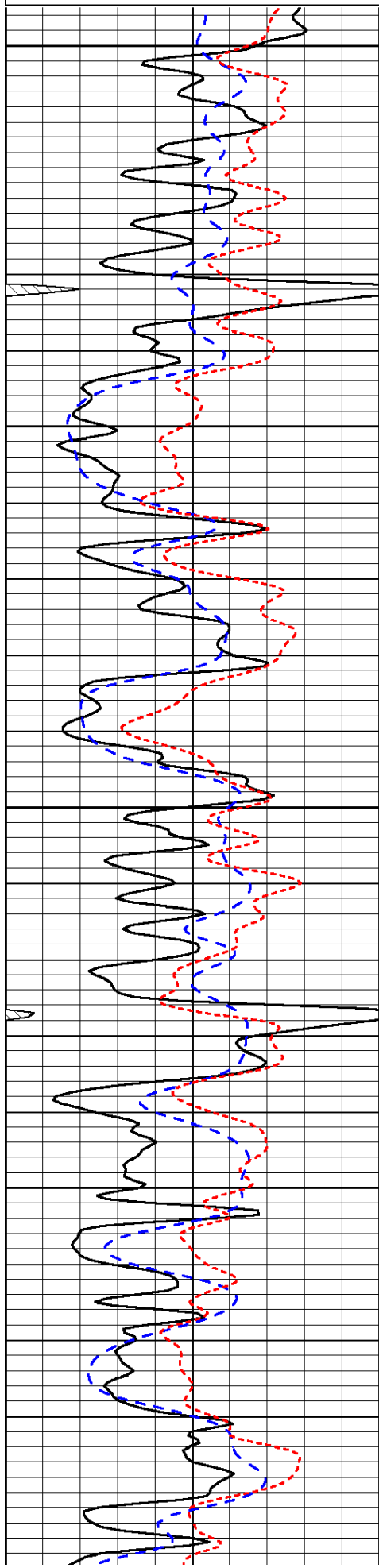
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-200	SP (mV)	0

0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000

-160 RxoRt 40

0.2 Shallow Resistivity 2000
15000 Line Tension 0

LSPD



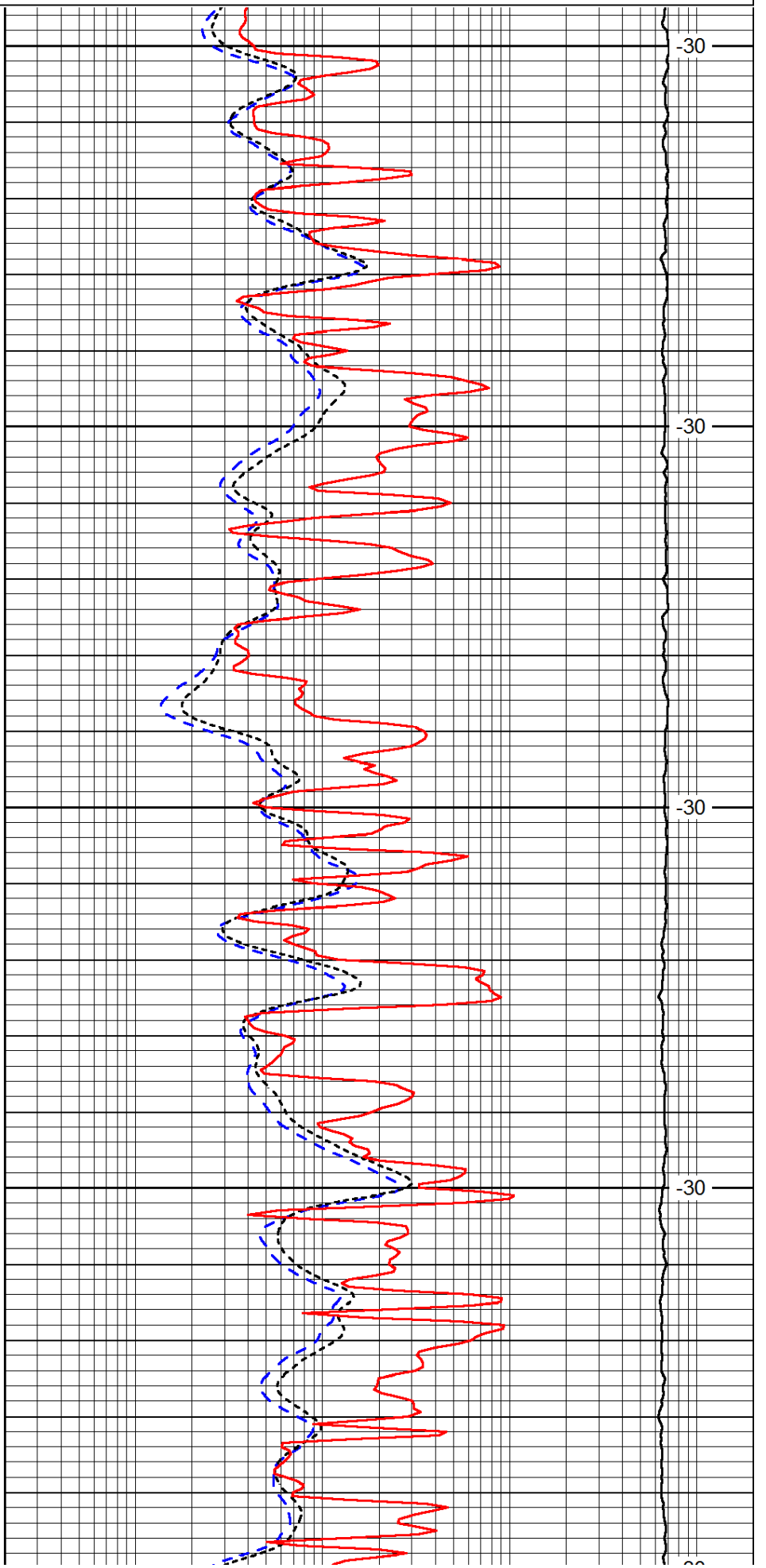
3500

3550

3600

3650

3700



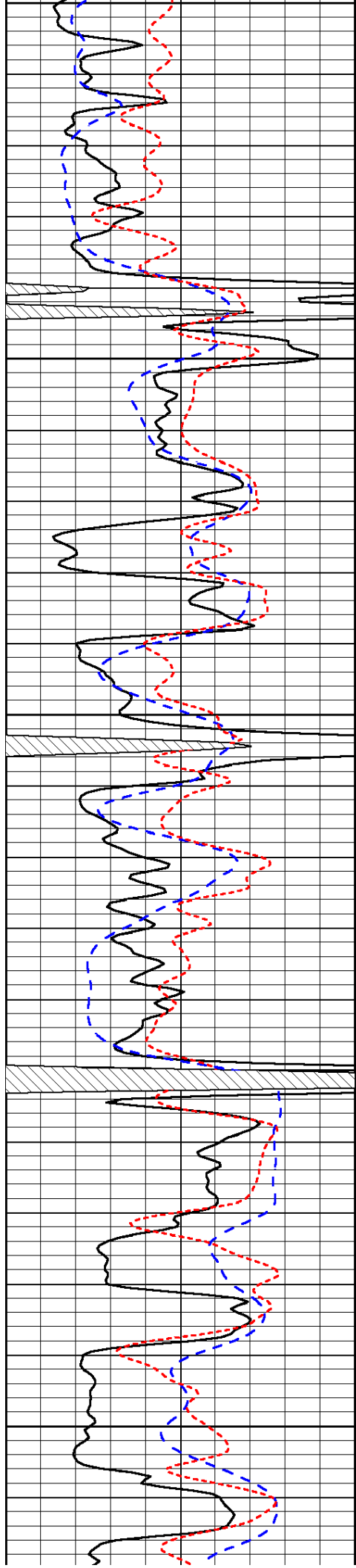
-30

-30

-30

-30

-30



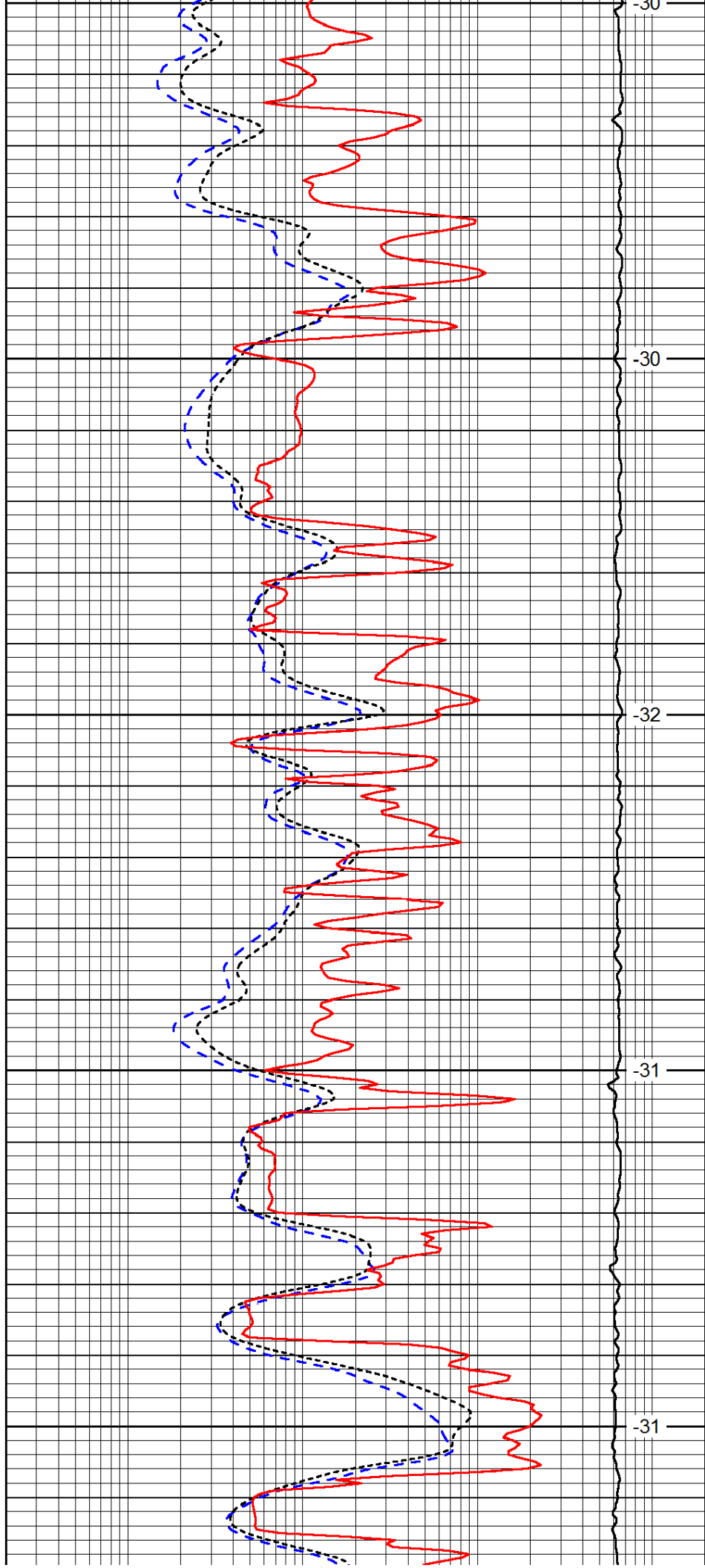
3700

3750

3800

3850

3900



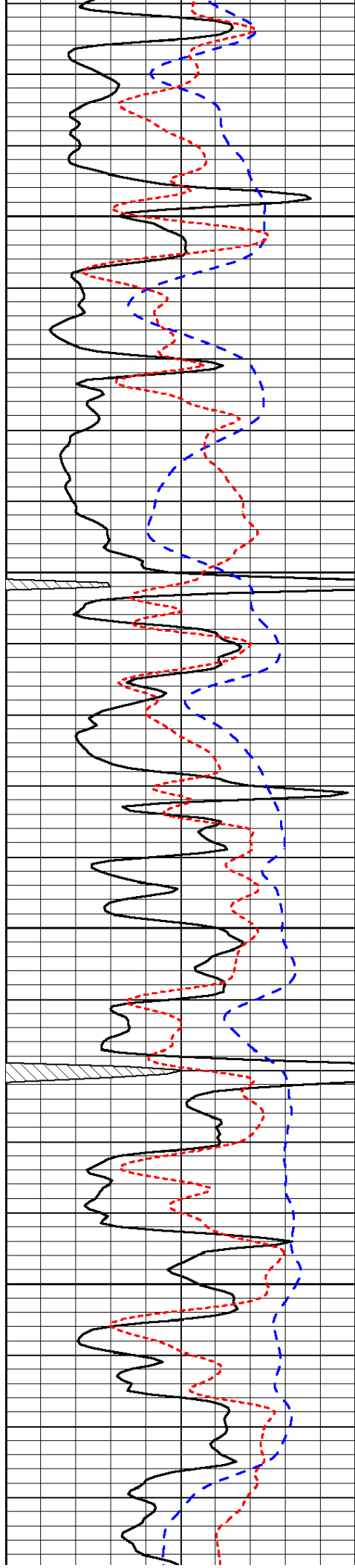
-30

-30

-32

-31

-31

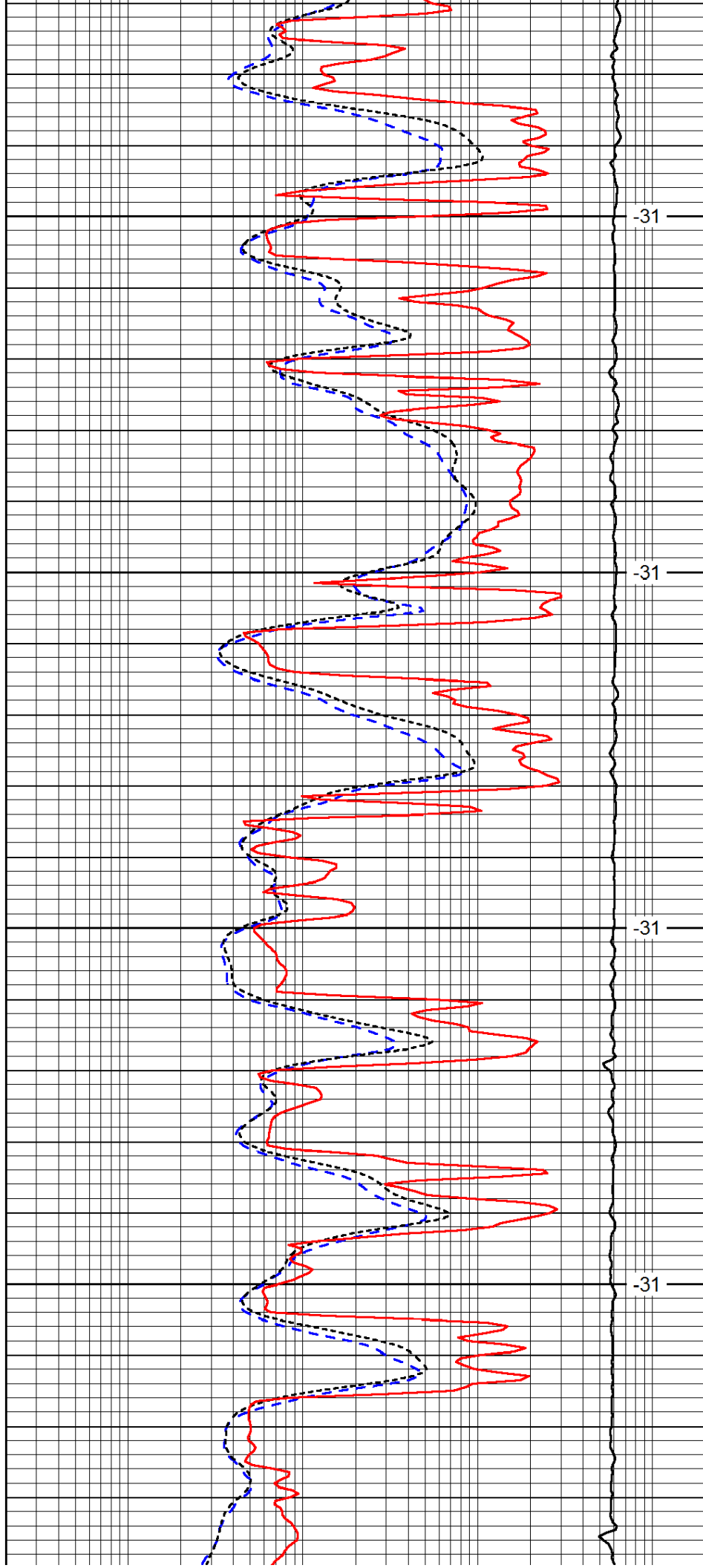


3950

4000

4050

4100

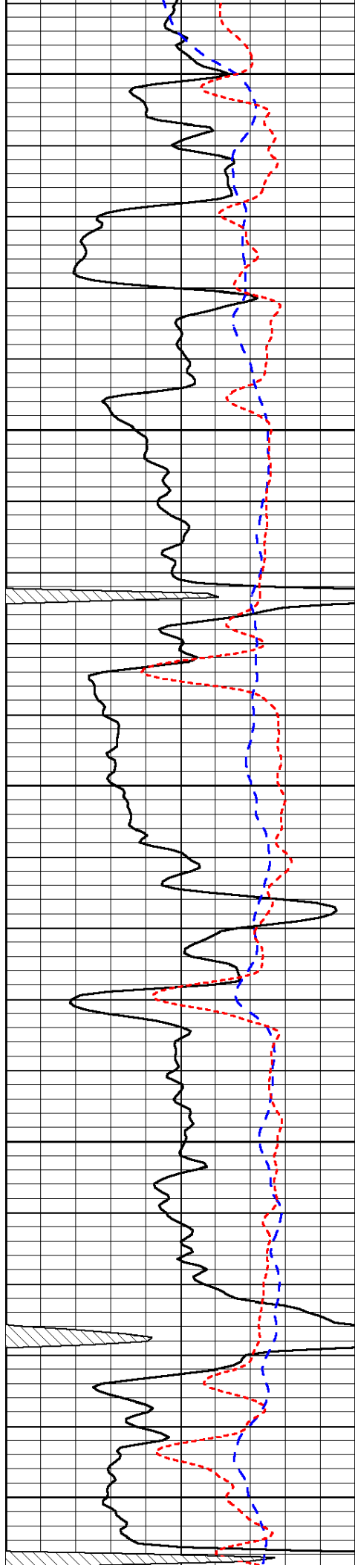


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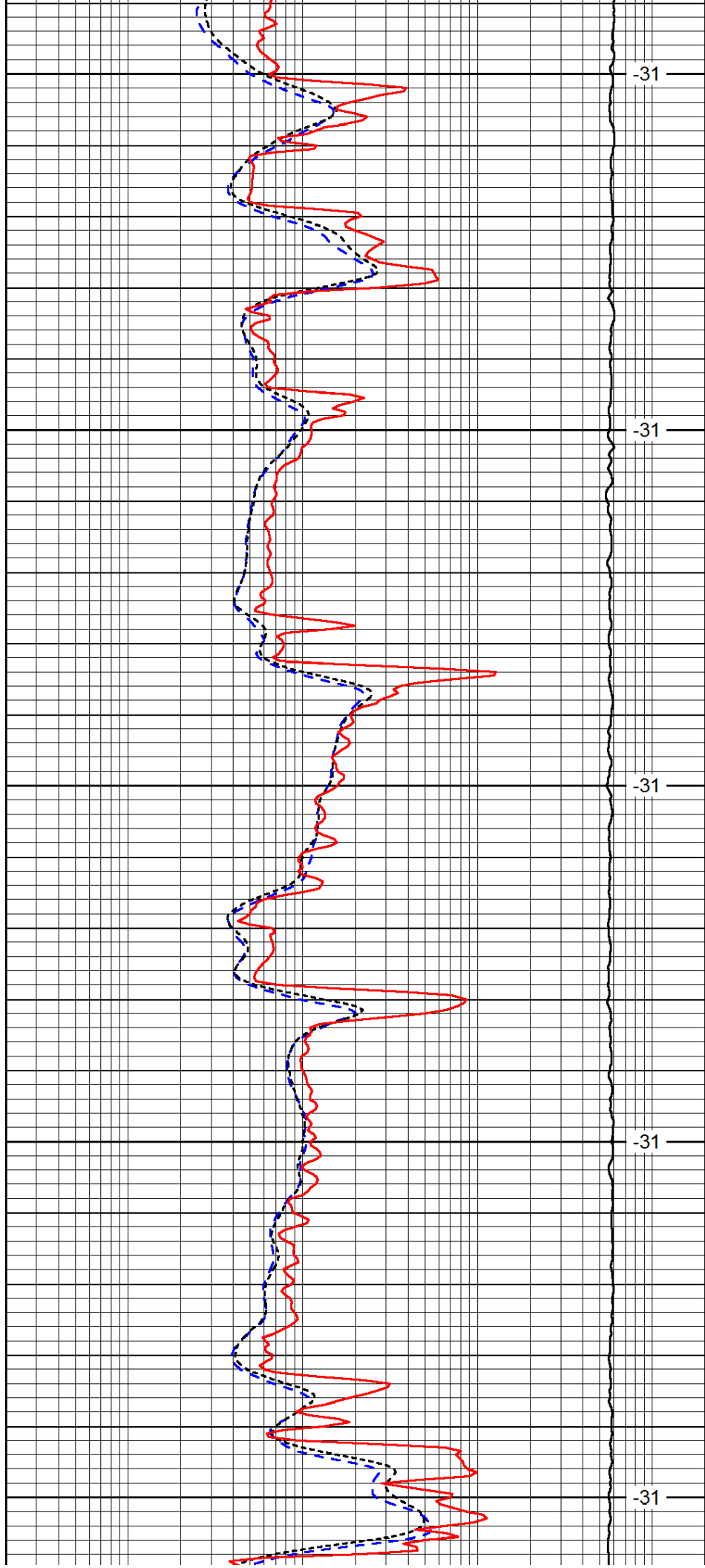
4150

4200

4250

4300

4350



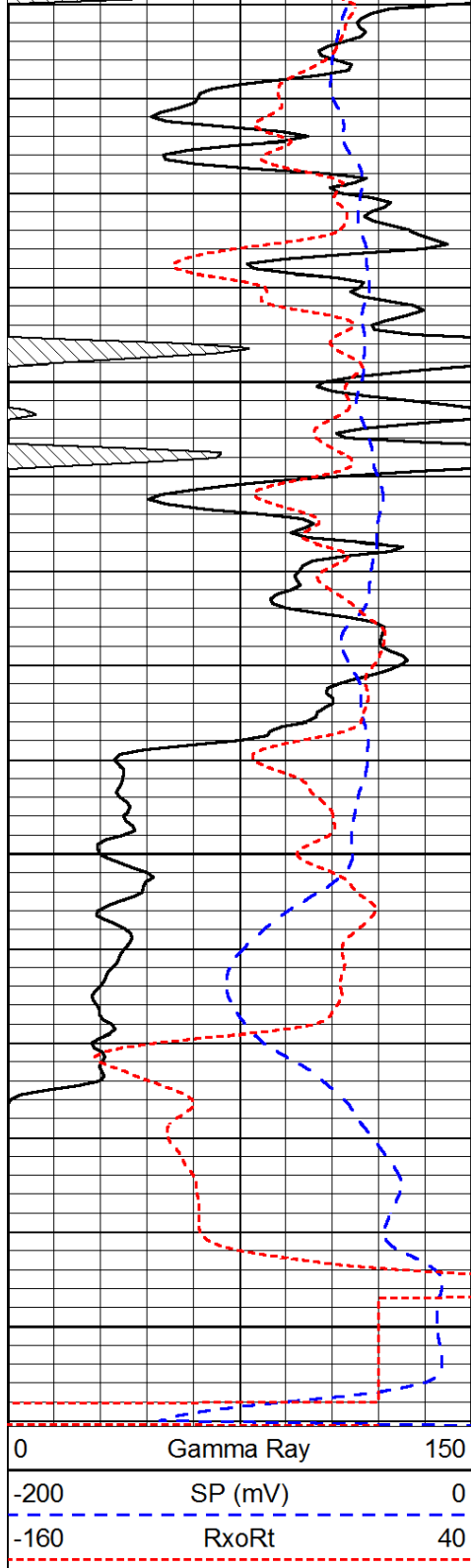
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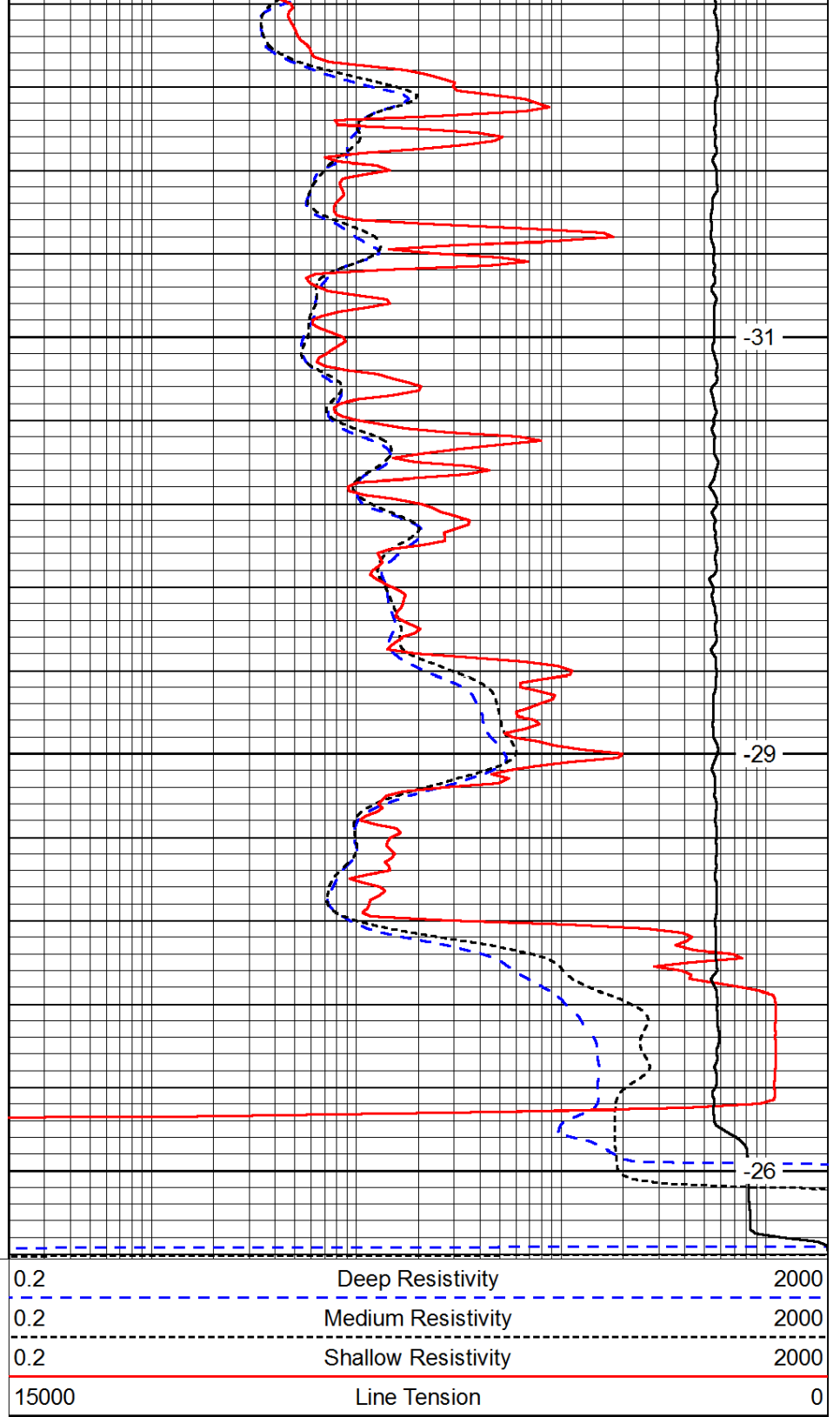
-31



4400

4450

4500



-31

-29

-26

LSPD