



Pioneer Energy Services

Dual Induction Log

API No.

15-171-21,100-00-00

Company Ritchie Exploration, Inc.

Well Huseman 20A No.1

Field Michigan North

County Scott State

Kansas

Location

E/2 NE/4
1175' FNL & 770' FEL

Sec: 20

Twp: 16S

Rge: 31W

Elevation

Permanent Datum Ground Level Elevation 2932
Log Measured From Kelly Bushing 5 Ft. Above Perm. Datum
Drilling Measured From Kelly Bushing

K.B. 2937
D.F.
G.L. 2932

Date 10/23/2014

Run Number One

Depth Driller 4723

Depth Logger 4725

Bottom Logged Interval 4724

Top Log Interval 200

Casing Driller 8.625 @ 222

Casing Logger 218

Bit Size 7.875

Type Fluid in Hole Chemical

Salinity, ppm CL 2.500

Density / Viscosity 9.1 60

pH / Fluid Loss 10.0 6.8

Source of Sample Flowline

Rm @ Meas. Temp .85 @ 73

Rmf @ Meas. Temp .64 @ 73

Rmc @ Meas. Temp 1.15 @ 73

Source of Rmf / Rmc Charts

Rm @ BHT .5 @ 123

Operating Rig Time 2 Hours

Max Rec. Temp. F 123

Equipment Number 10

Location Hays

Recorded By C. Desaire

Witnessed By Mike Engelbrecht

<<< Fold Here >>>

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 Log-Tech, Inc.
(785) 625-3858

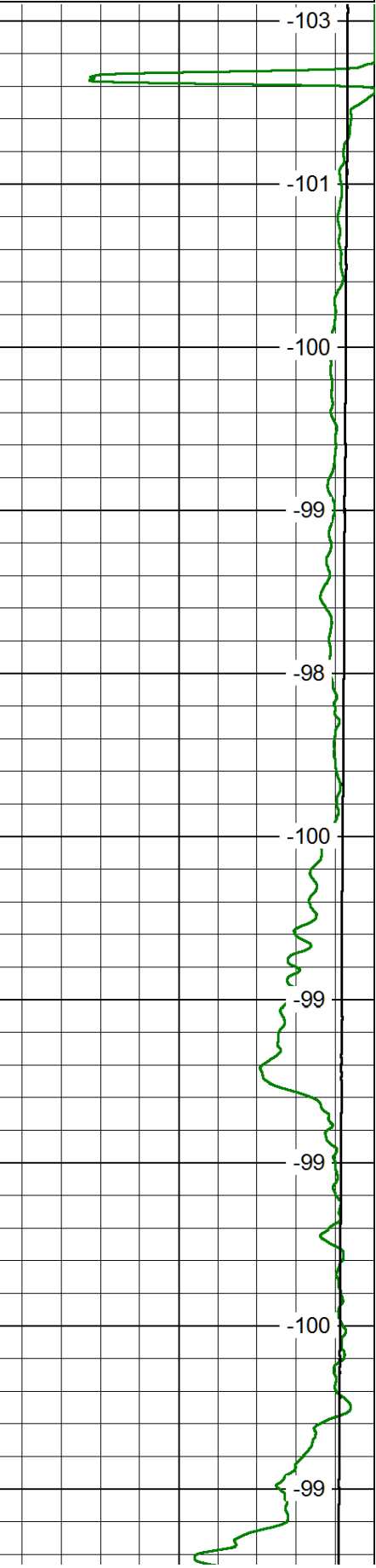
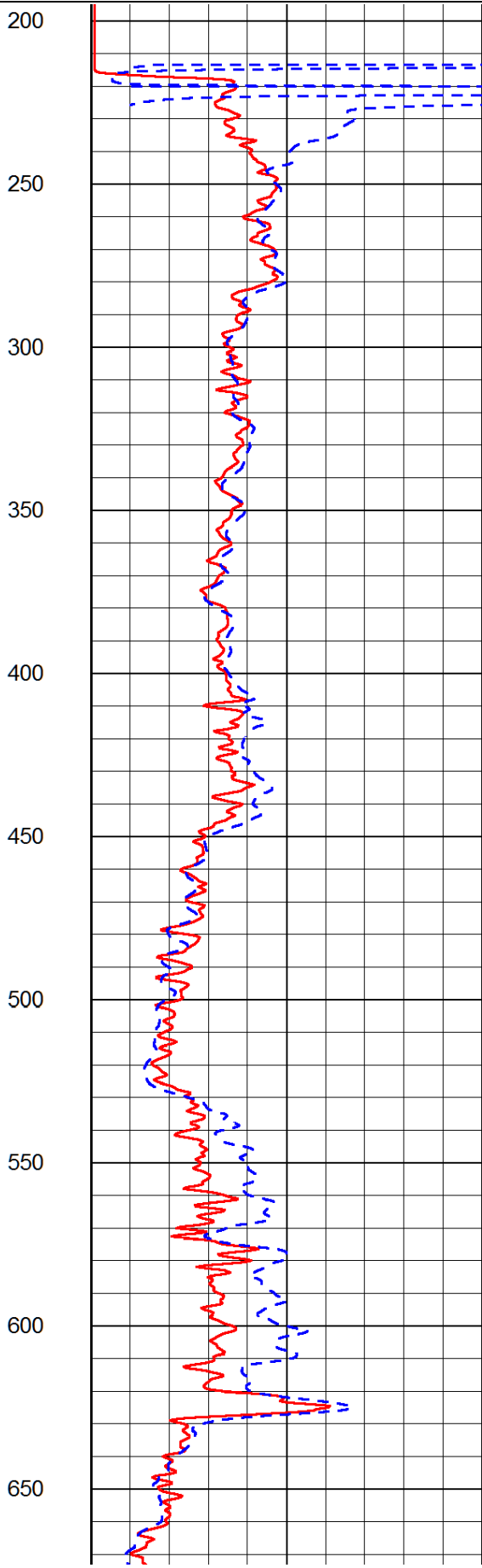
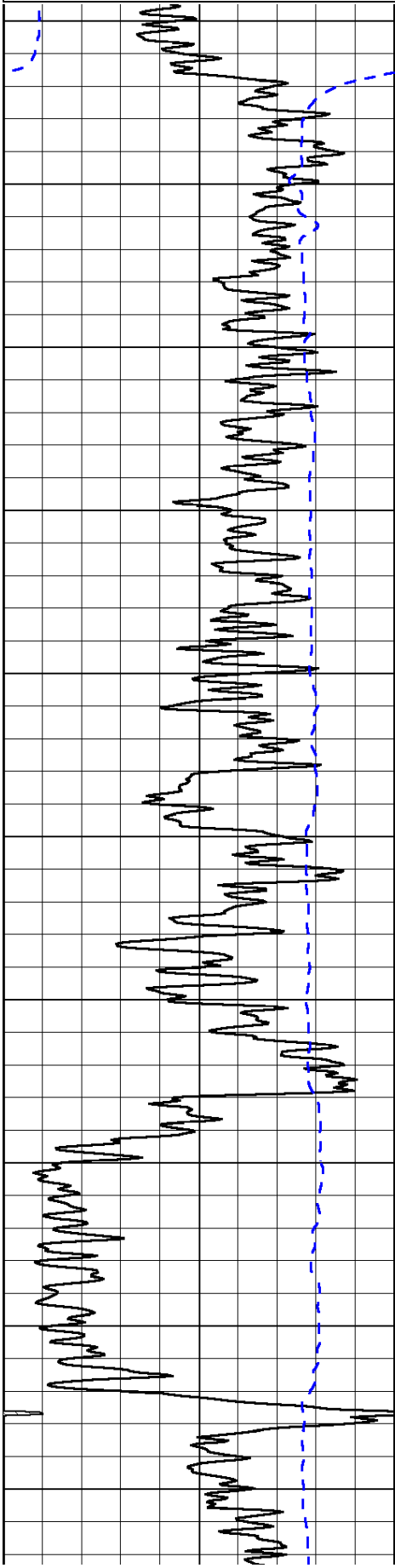
Healy KS, W to Taos Rd,
3 3/4 N, W Into

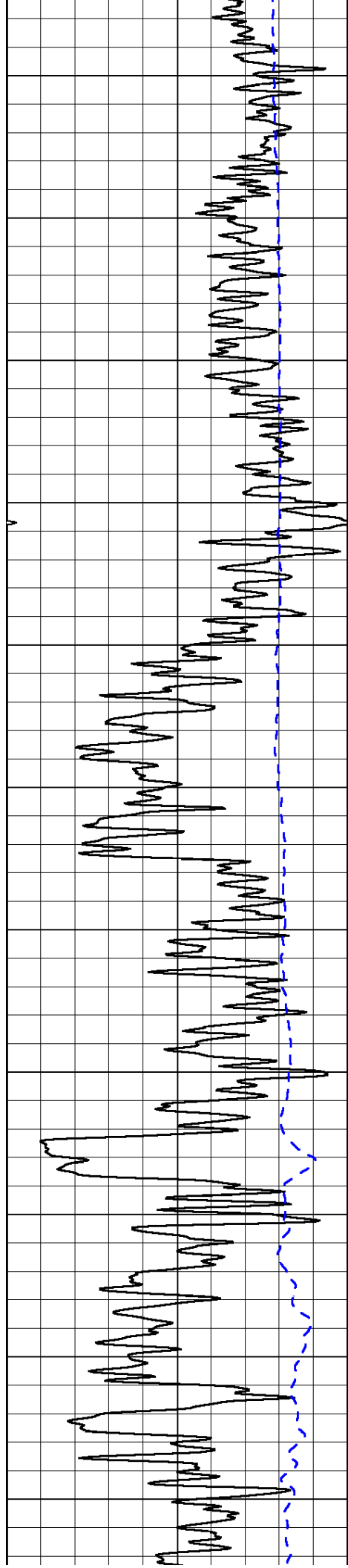
Database File: ritchhd.db
Dataset Pathname: dil/ritchstk2
Presentation Format: dil2in
Dataset Creation: Thu Oct 23 17:18:10 2014
Charted by: Depth in Feet scaled 1:600

0	Gamma Ray	150
-200	SP (mV)	0

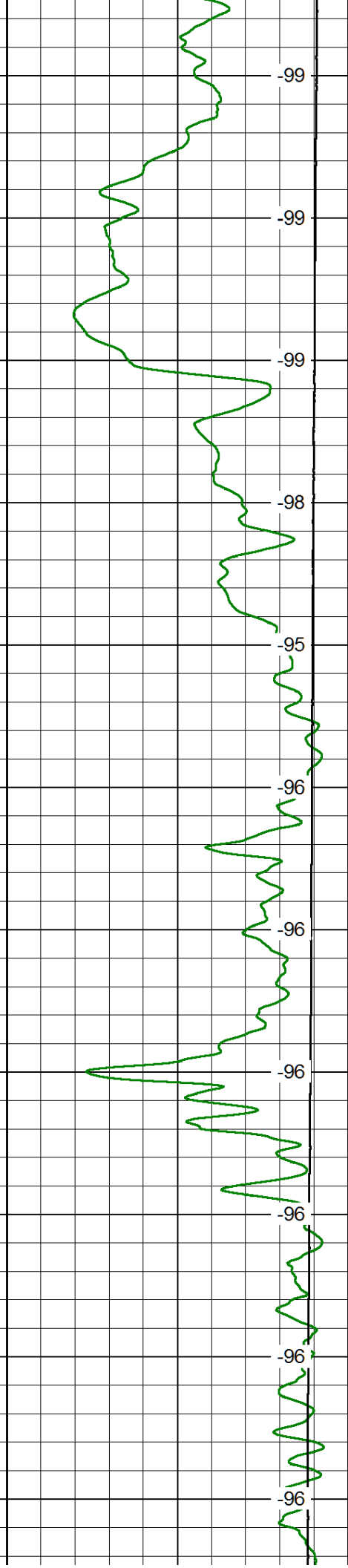
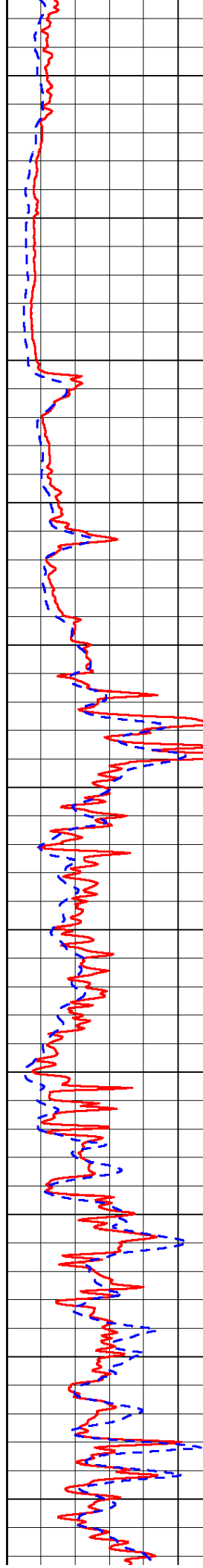
0	Shallow Resistivity	50
0	Deep Resistivity	50
1000	Conductivity	0
15000	Line Tension	0
50	Shallow Resistivity	500
50	Deep Resistivity	500

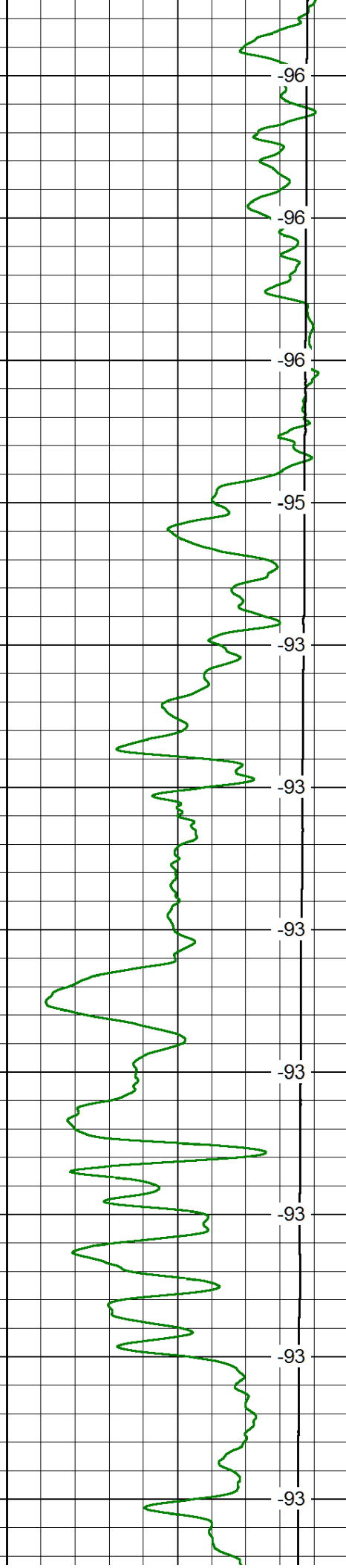
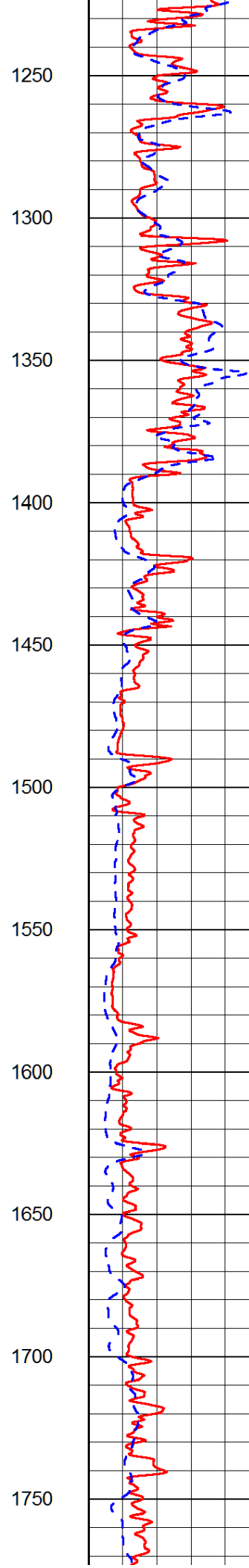
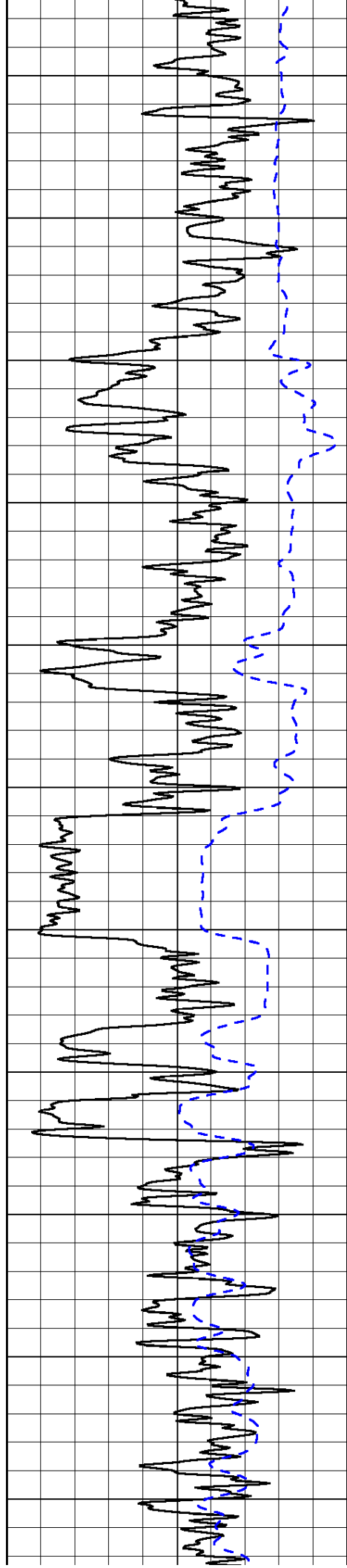
LSPD

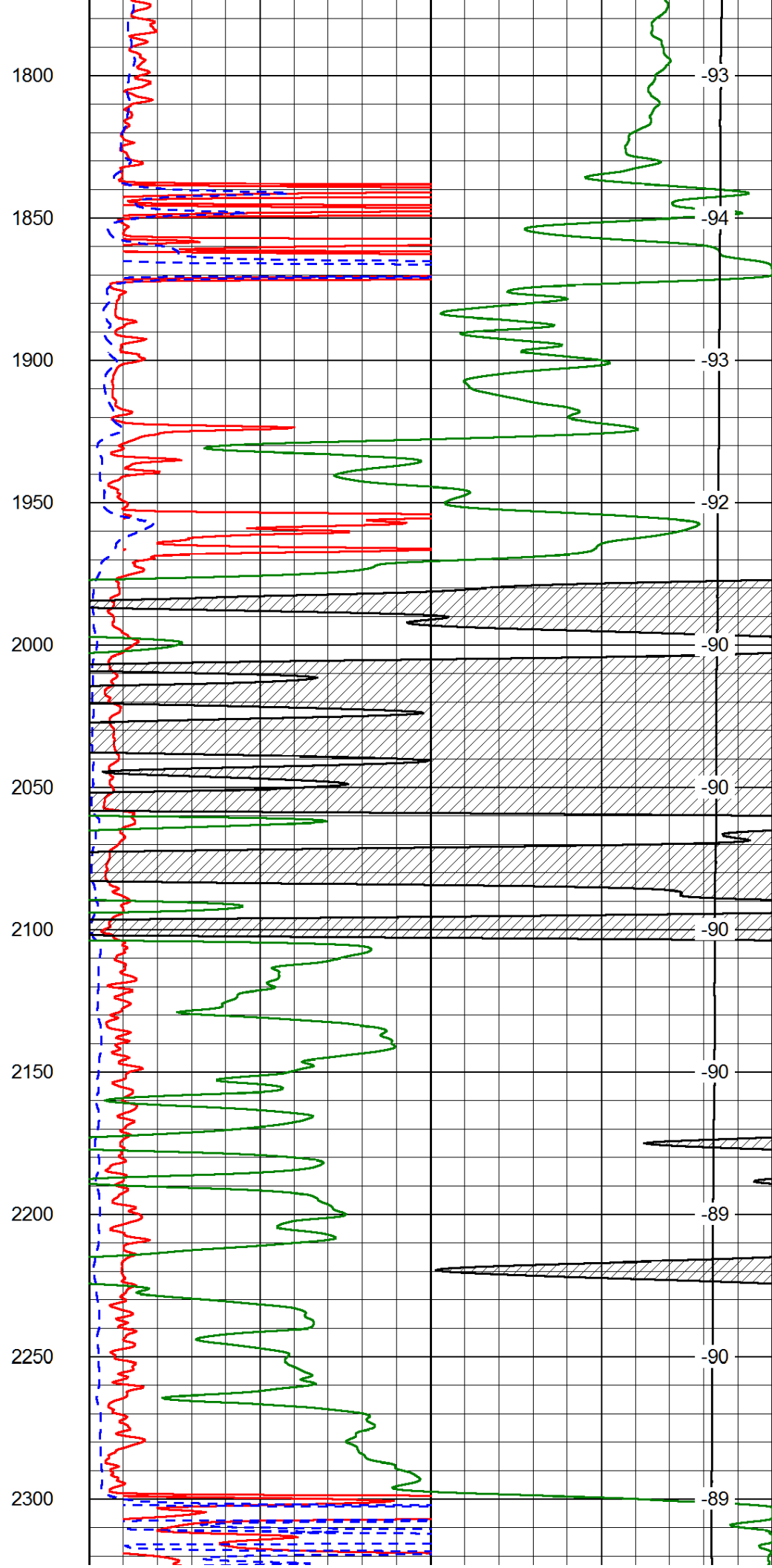
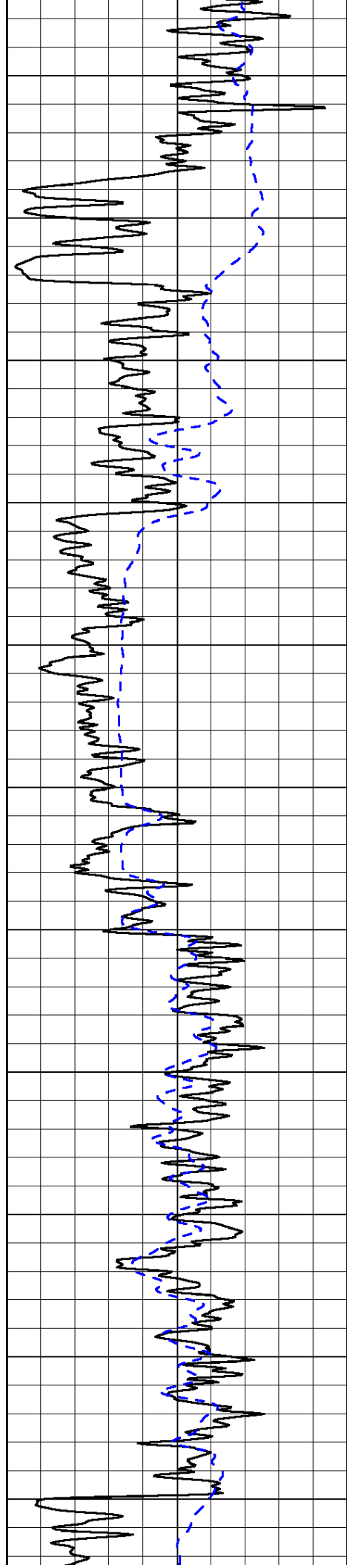


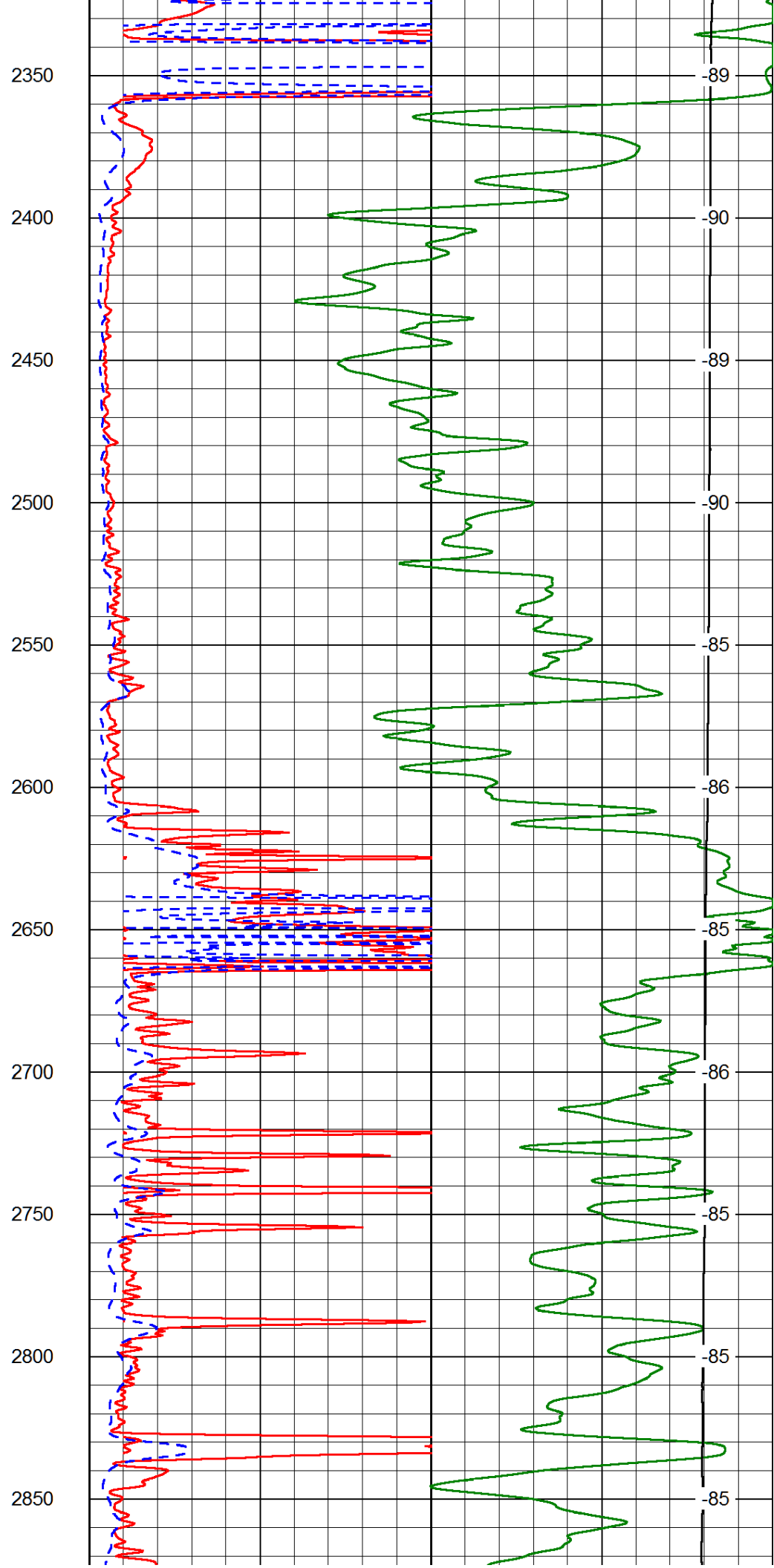
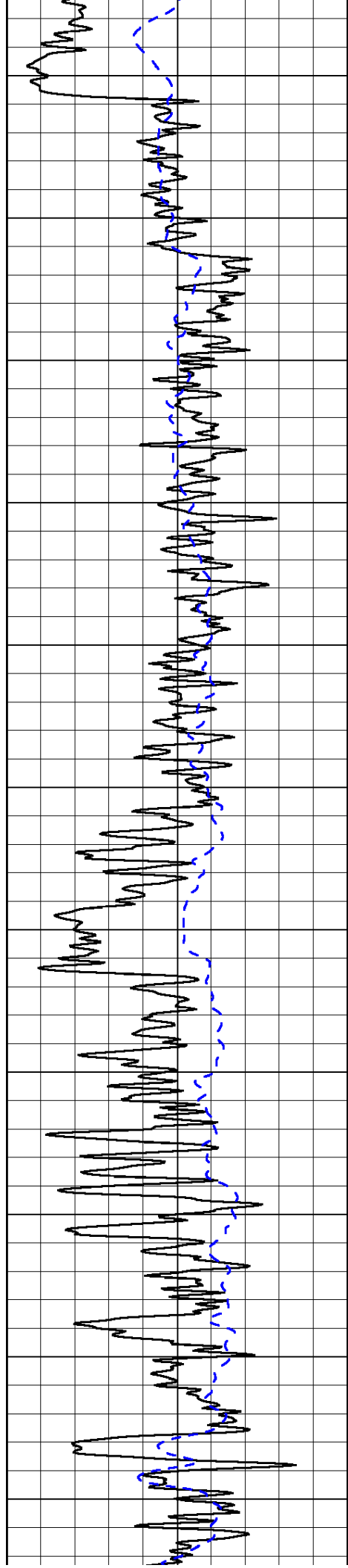


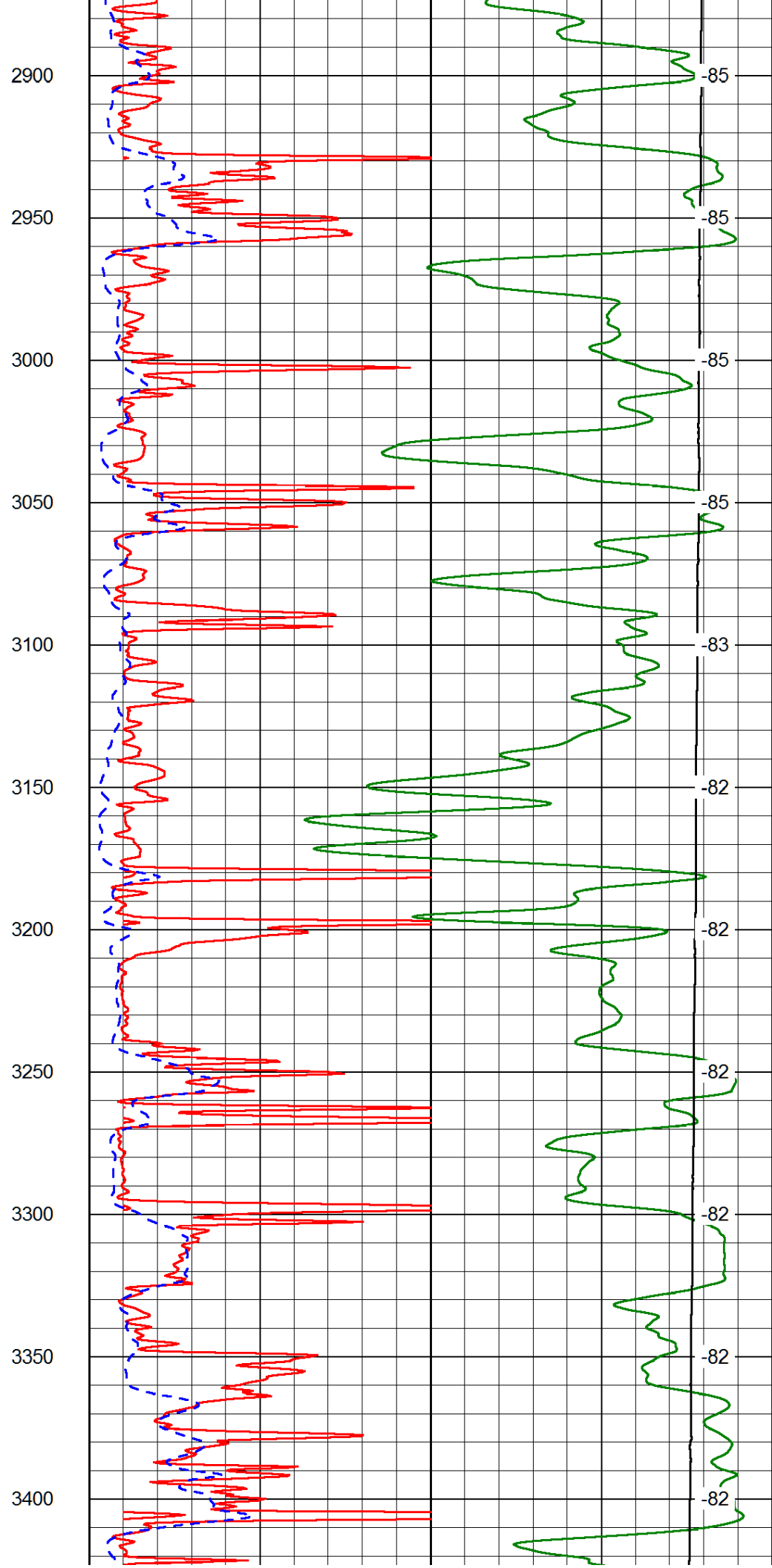
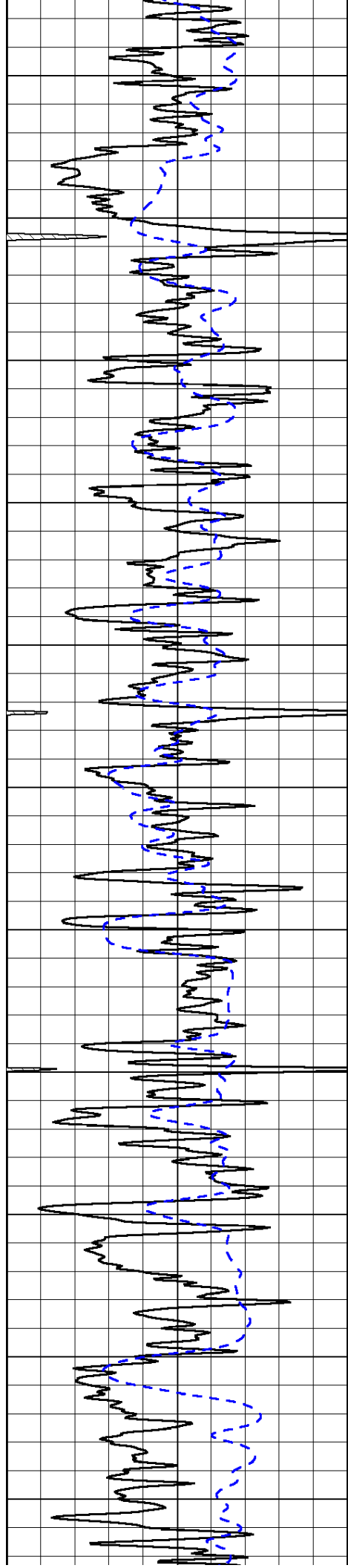
700
750
800
850
900
950
1000
1050
1100
1150
1200

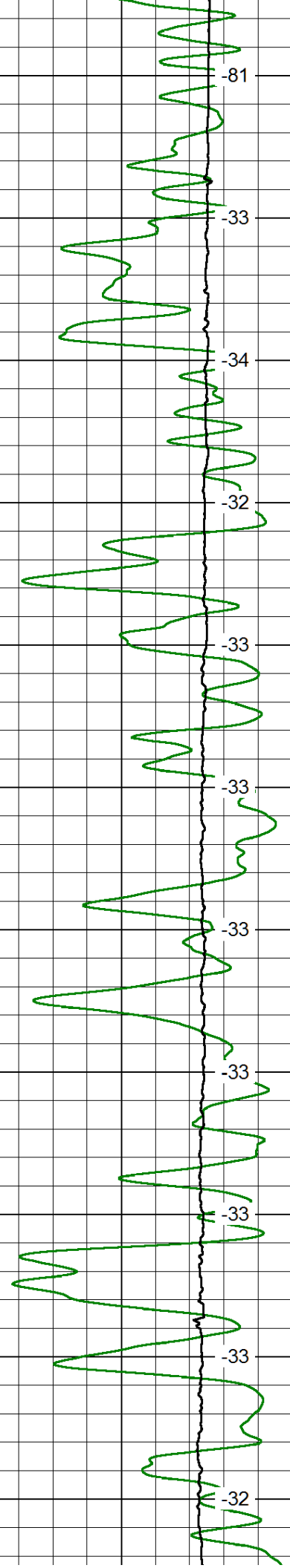
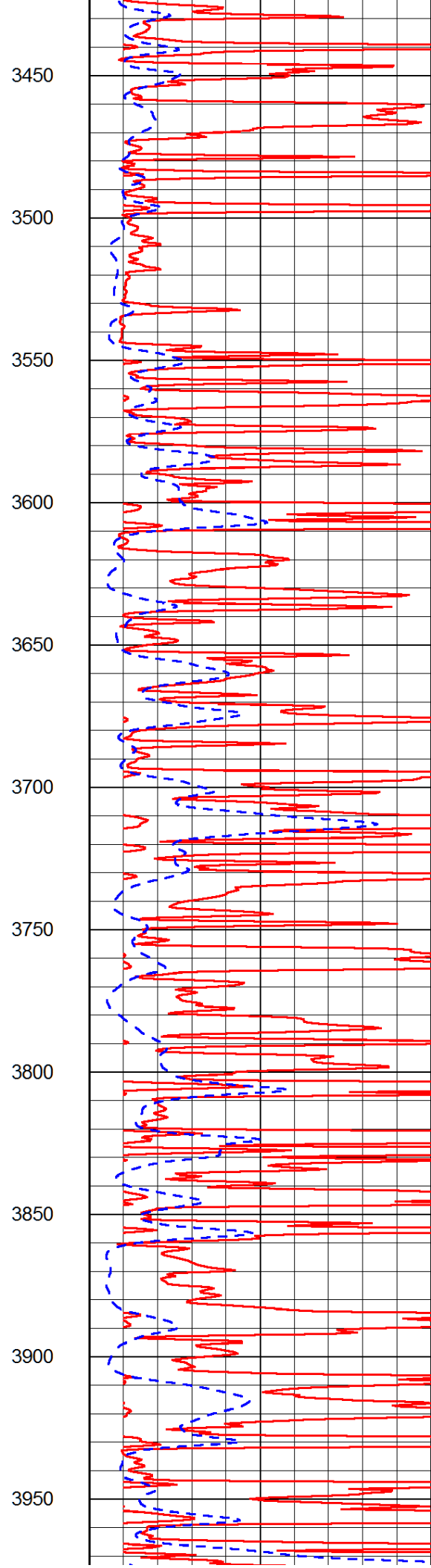
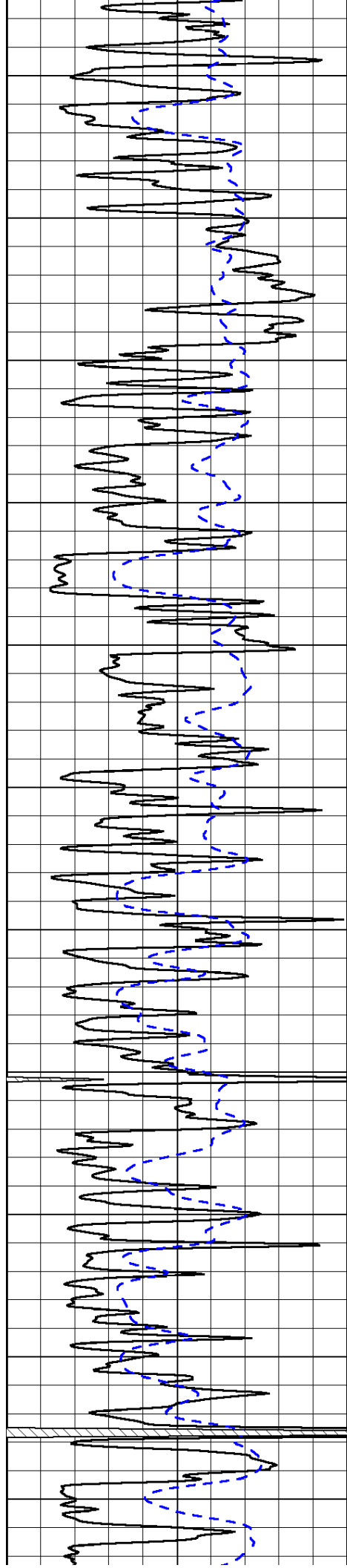


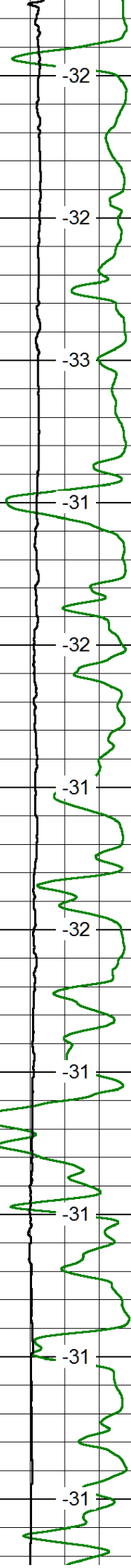
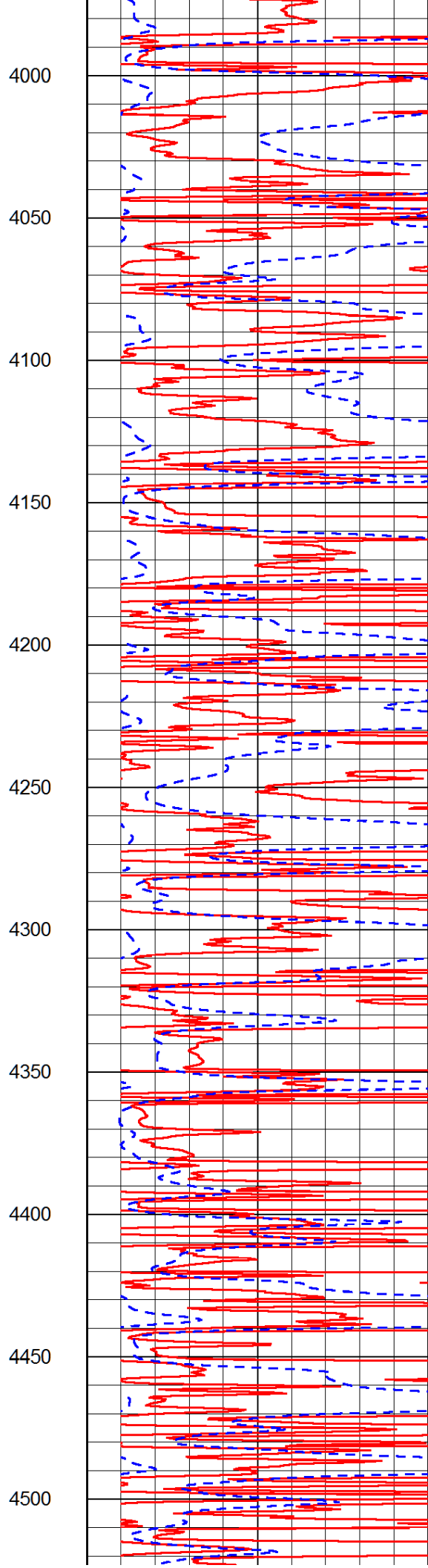
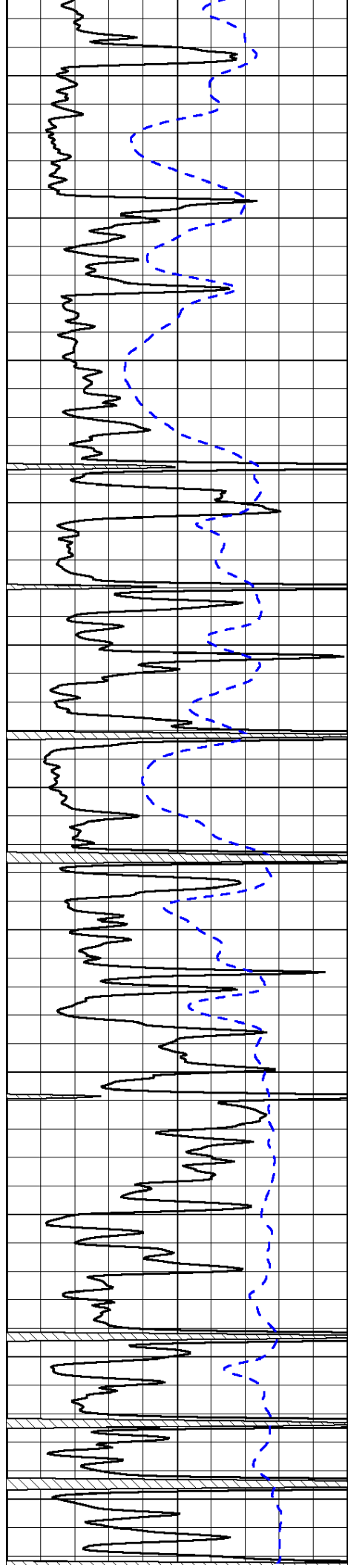


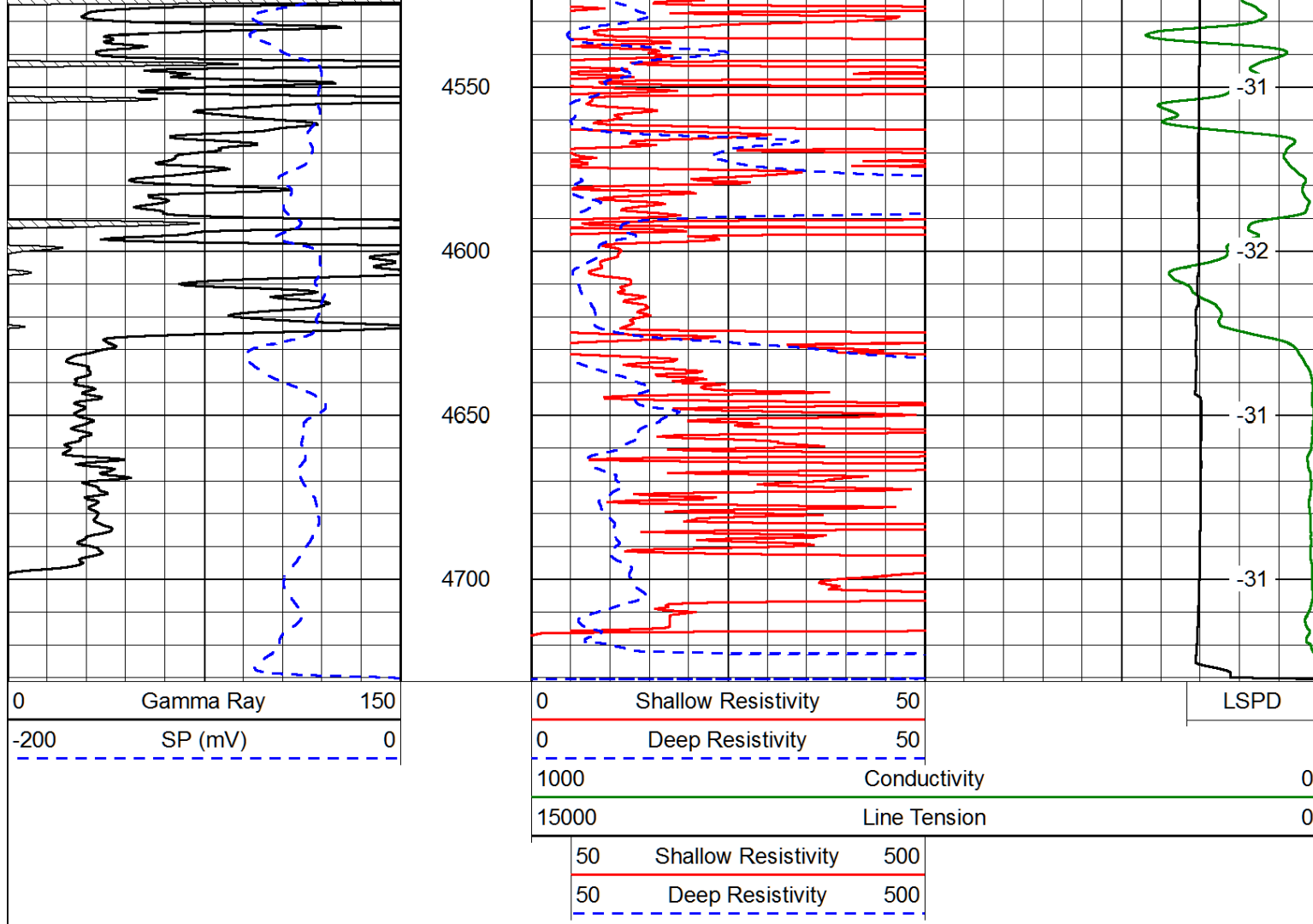




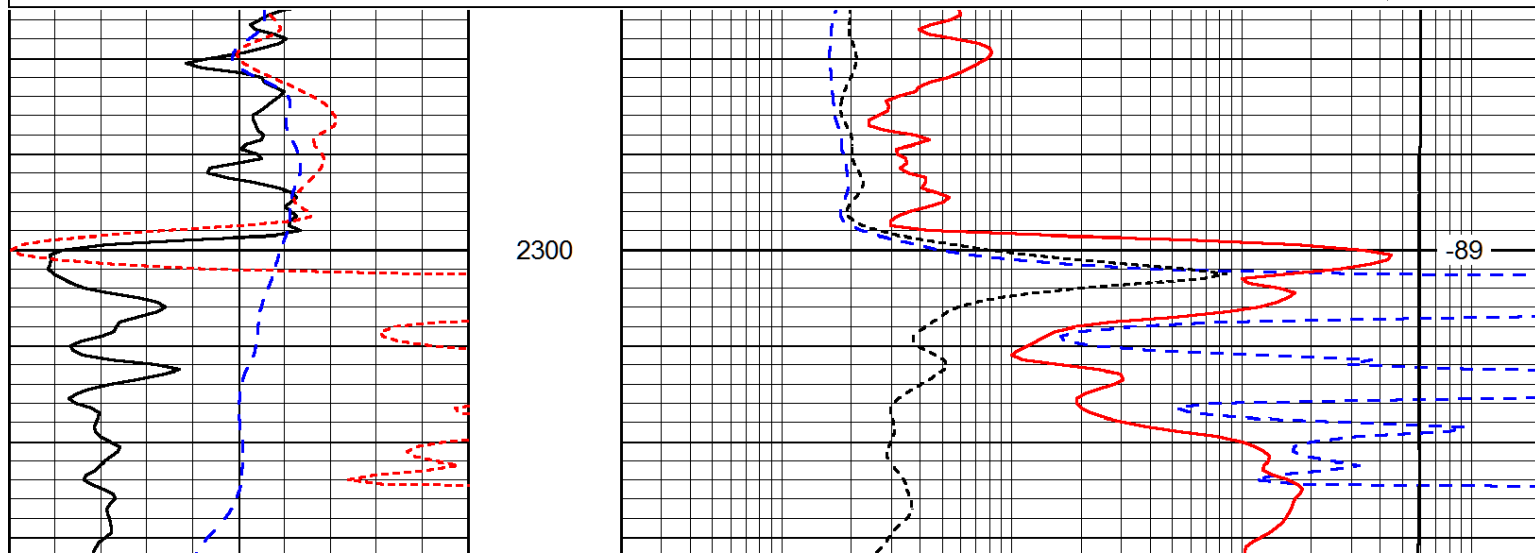
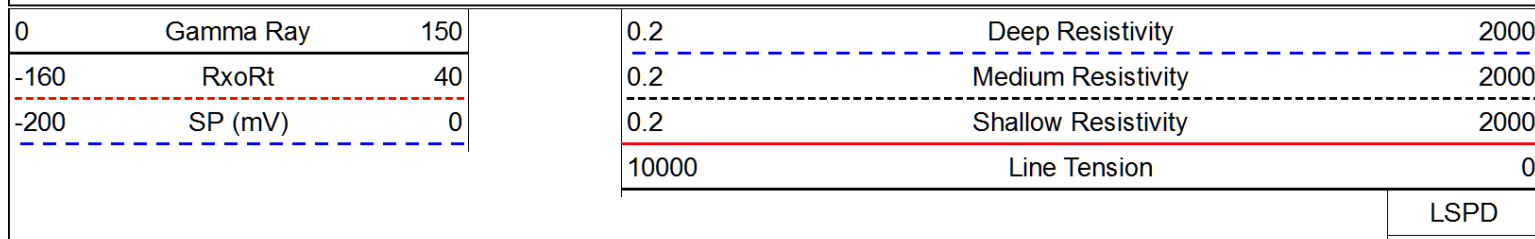


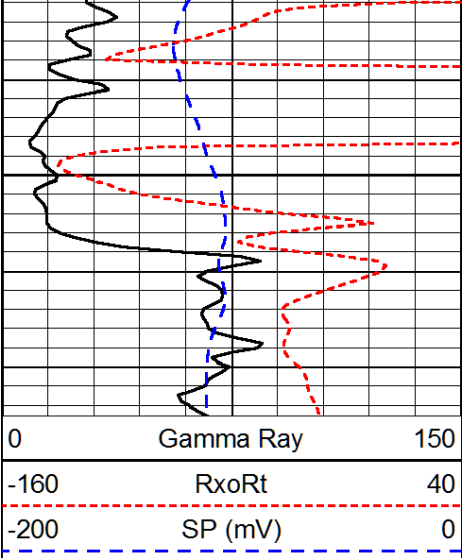




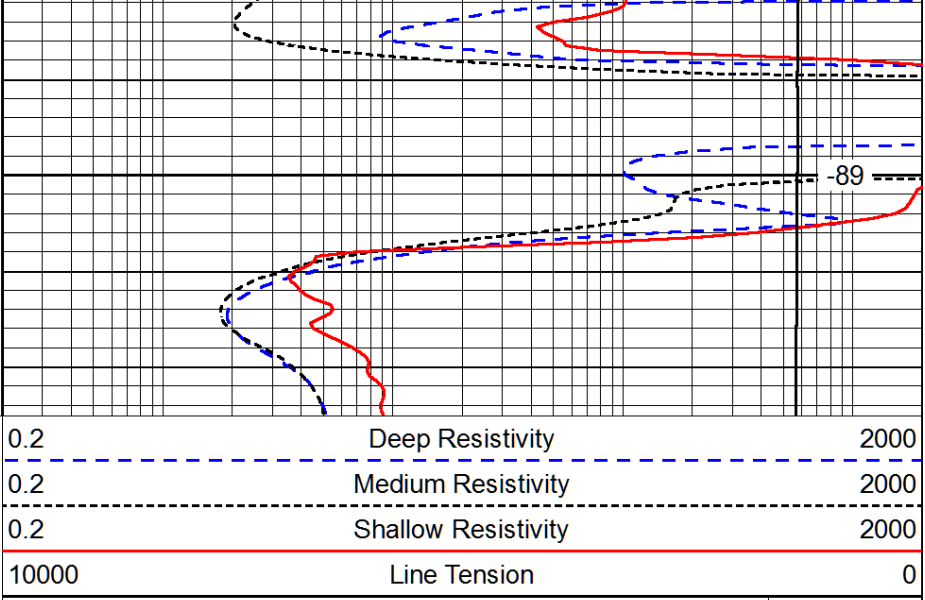


Database File: ritchhd.db
 Dataset Pathname: dil/ritchstk2
 Presentation Format: dil
 Dataset Creation: Thu Oct 23 17:18:10 2014
 Charted by: Depth in Feet scaled 1:240



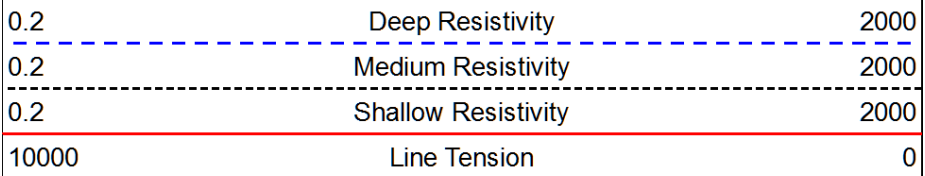
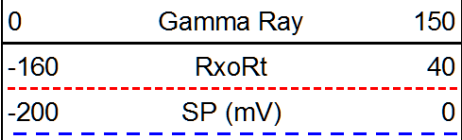


2350

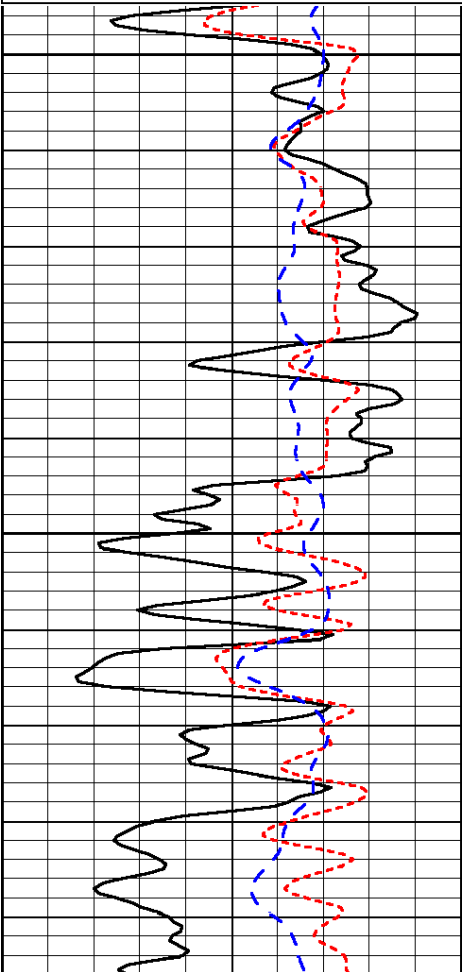


LSPD

Database File: ritchhd.db
Dataset Pathname: dil/ritchstk2
Presentation Format: dil
Dataset Creation: Thu Oct 23 17:18:10 2014
Charted by: Depth in Feet scaled 1:240

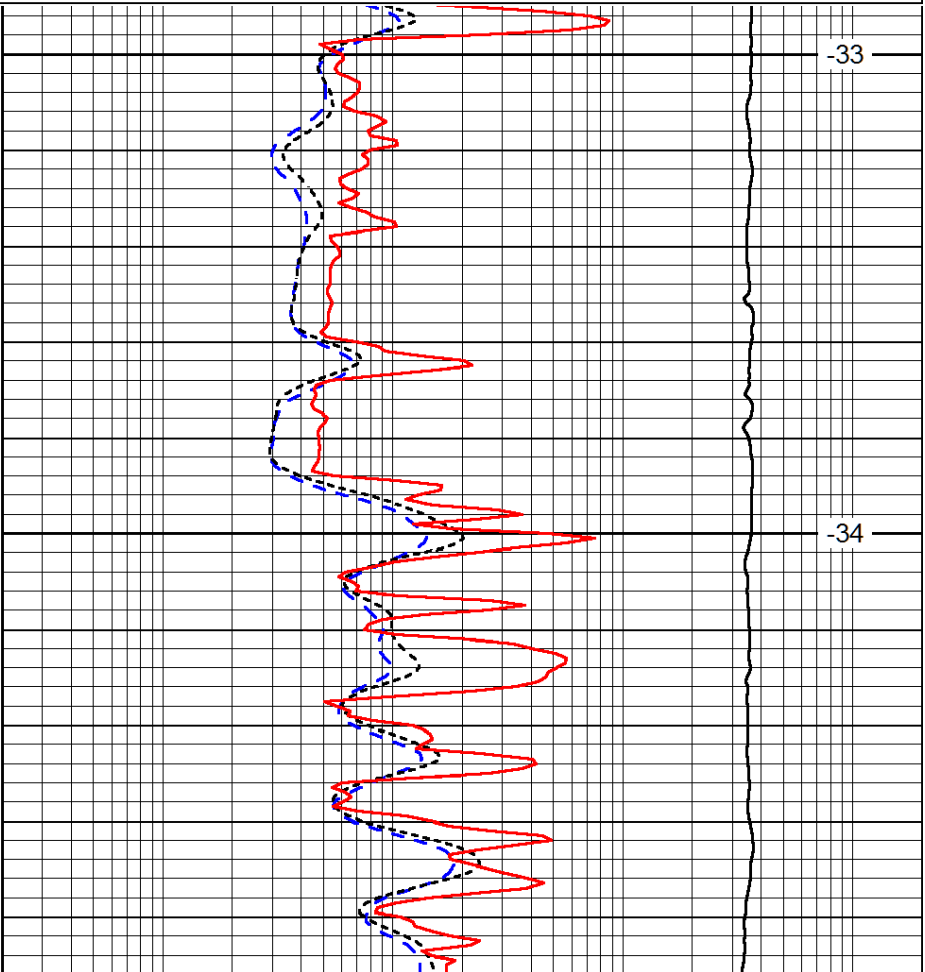


LSPD



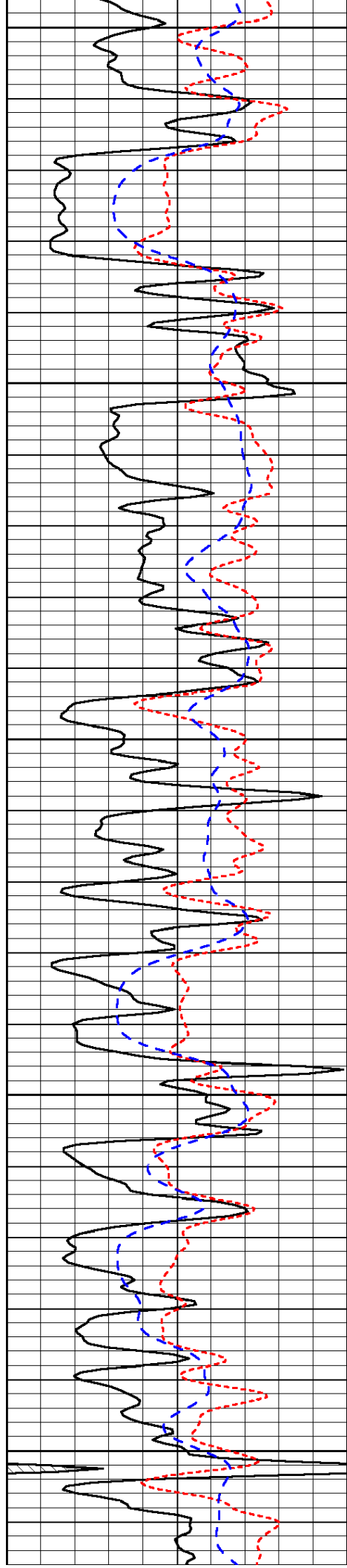
3500

3550



-33

-34



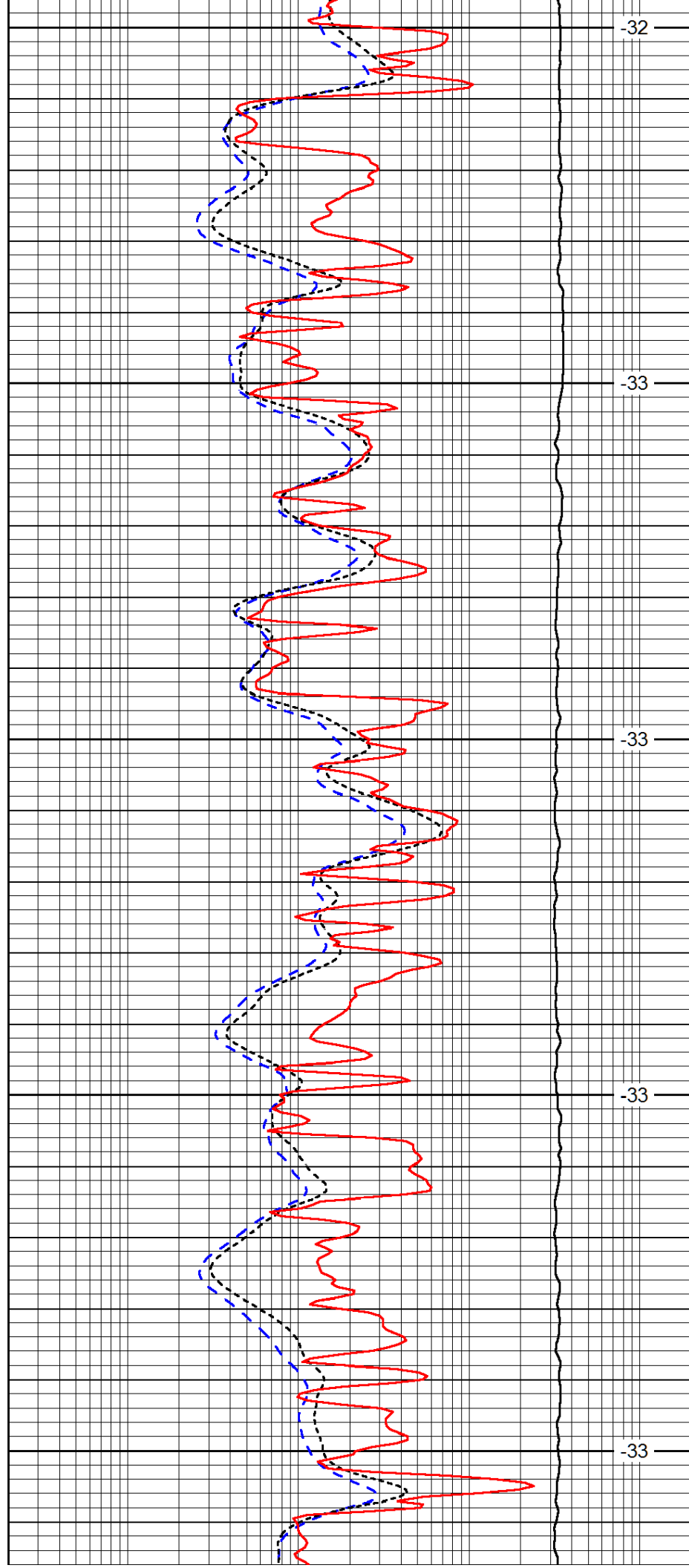
3600

3650

3700

3750

3800



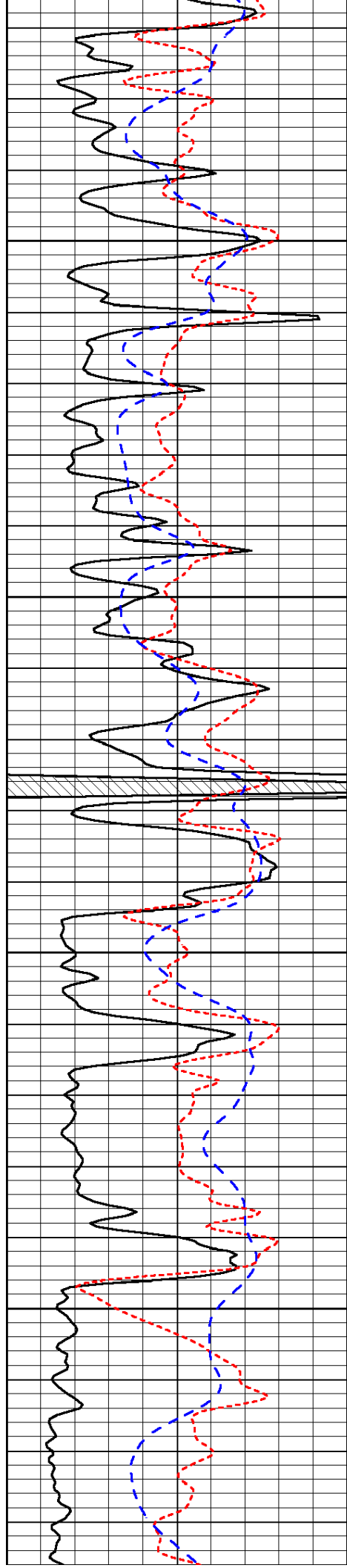
-32

-33

-33

-33

-33

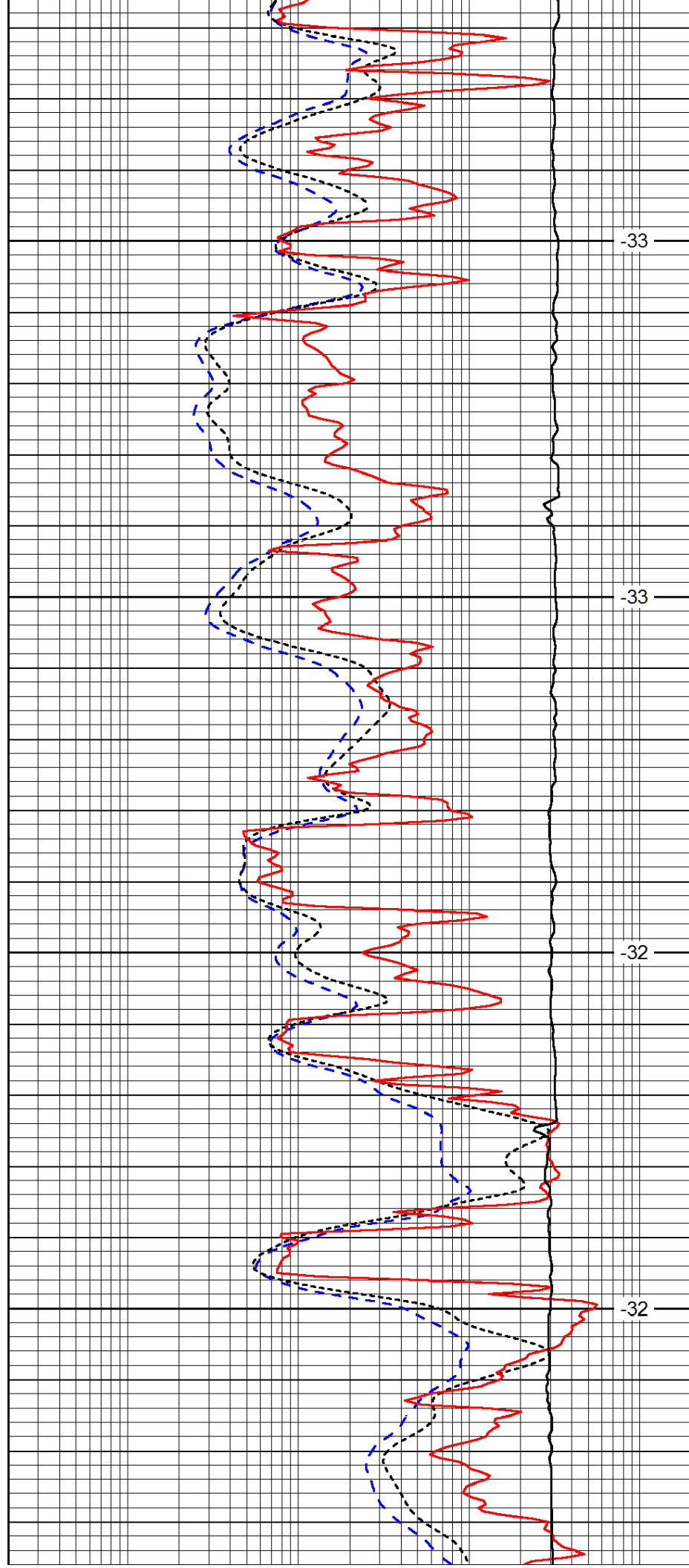


3850

3900

3950

4000

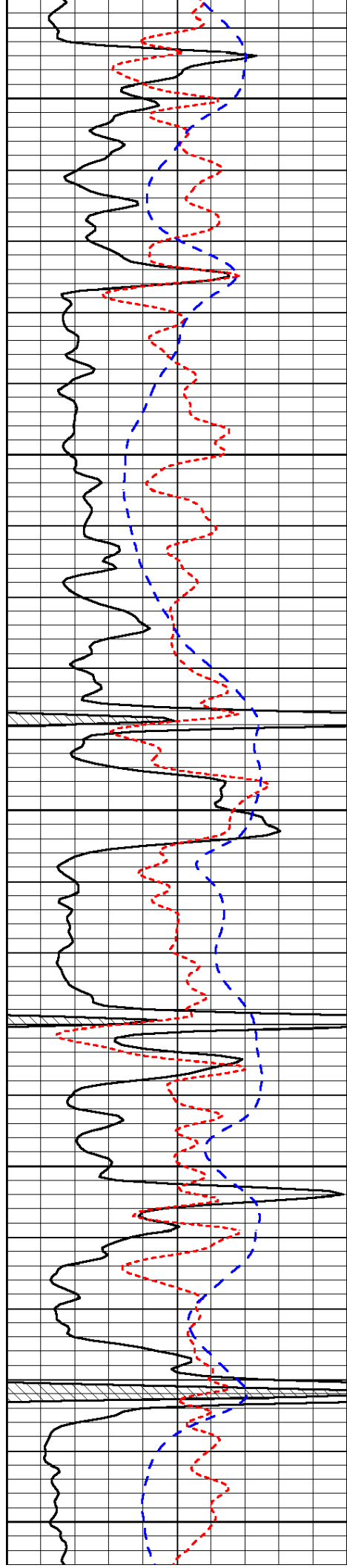


-33

-33

-32

-32



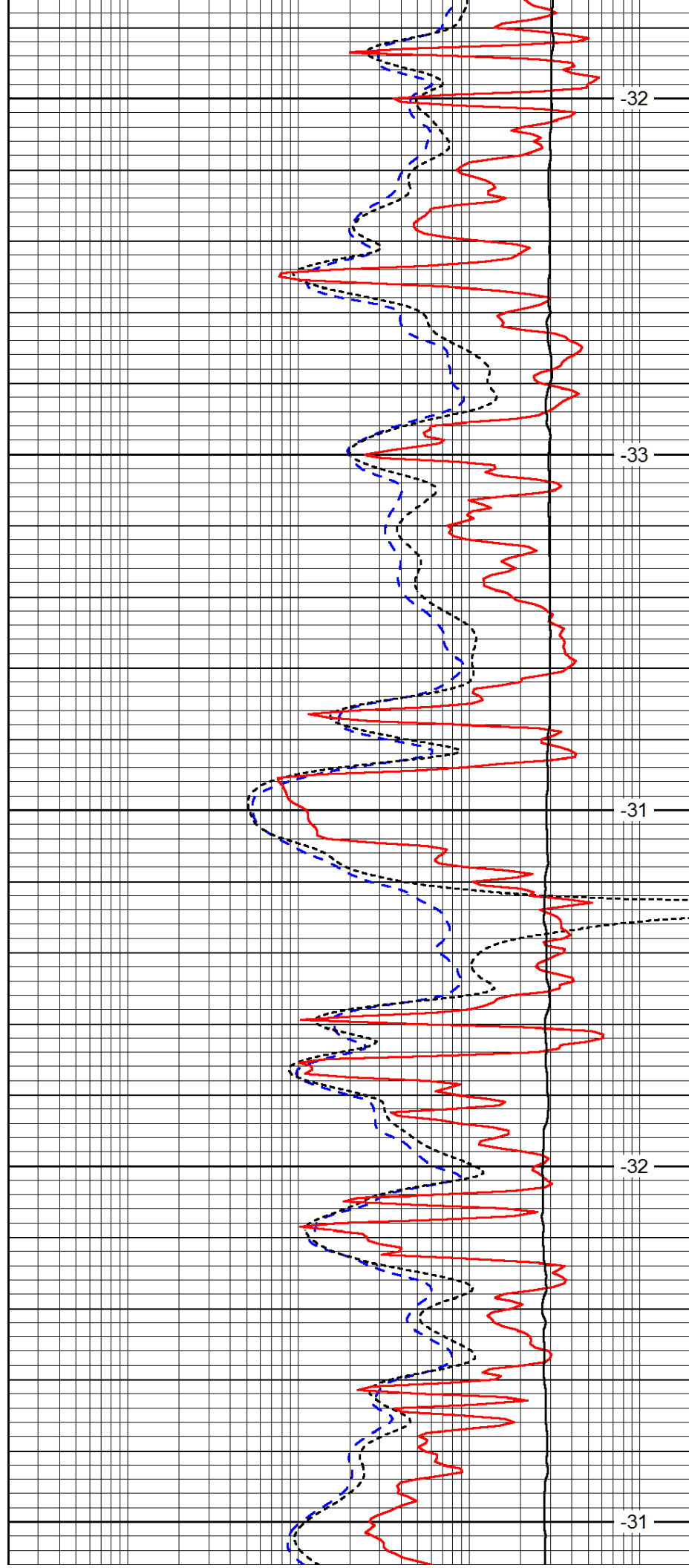
4050

4100

4150

4200

4250



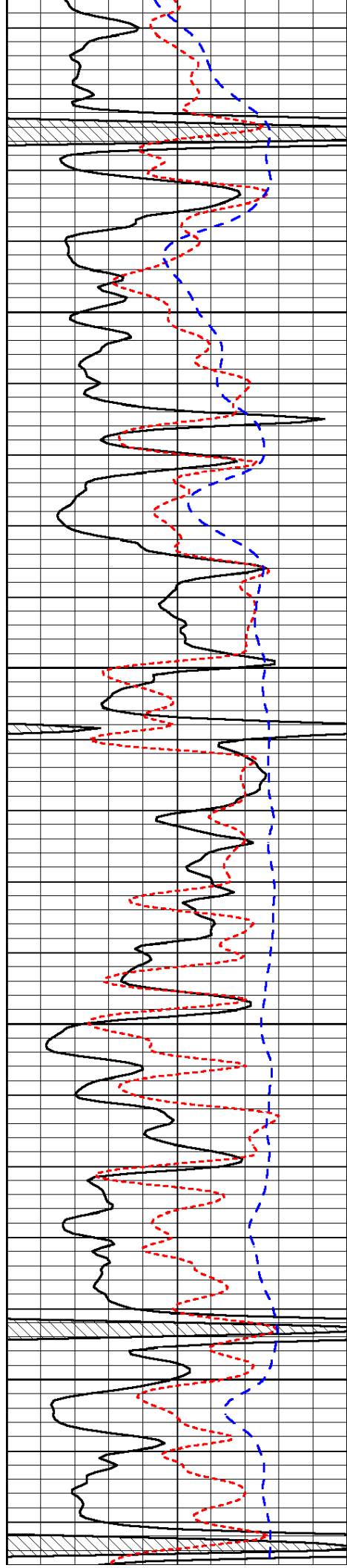
-32

-33

-31

-32

-31

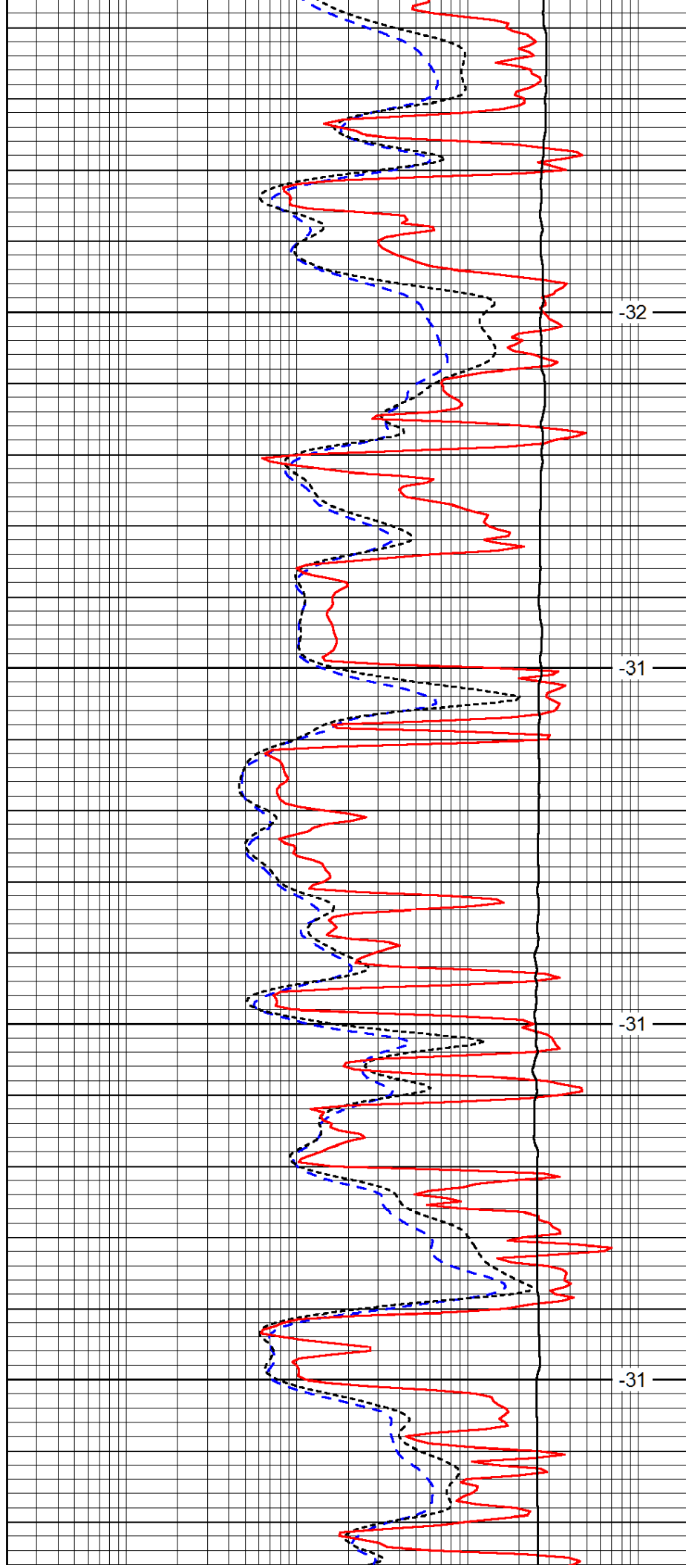


4300

4350

4400

4450

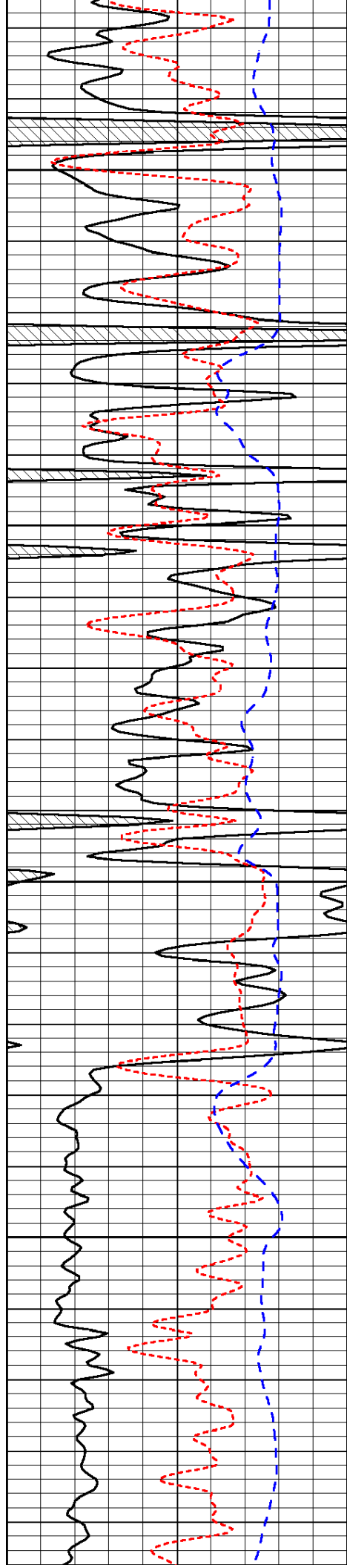


-32

-31

-31

-31

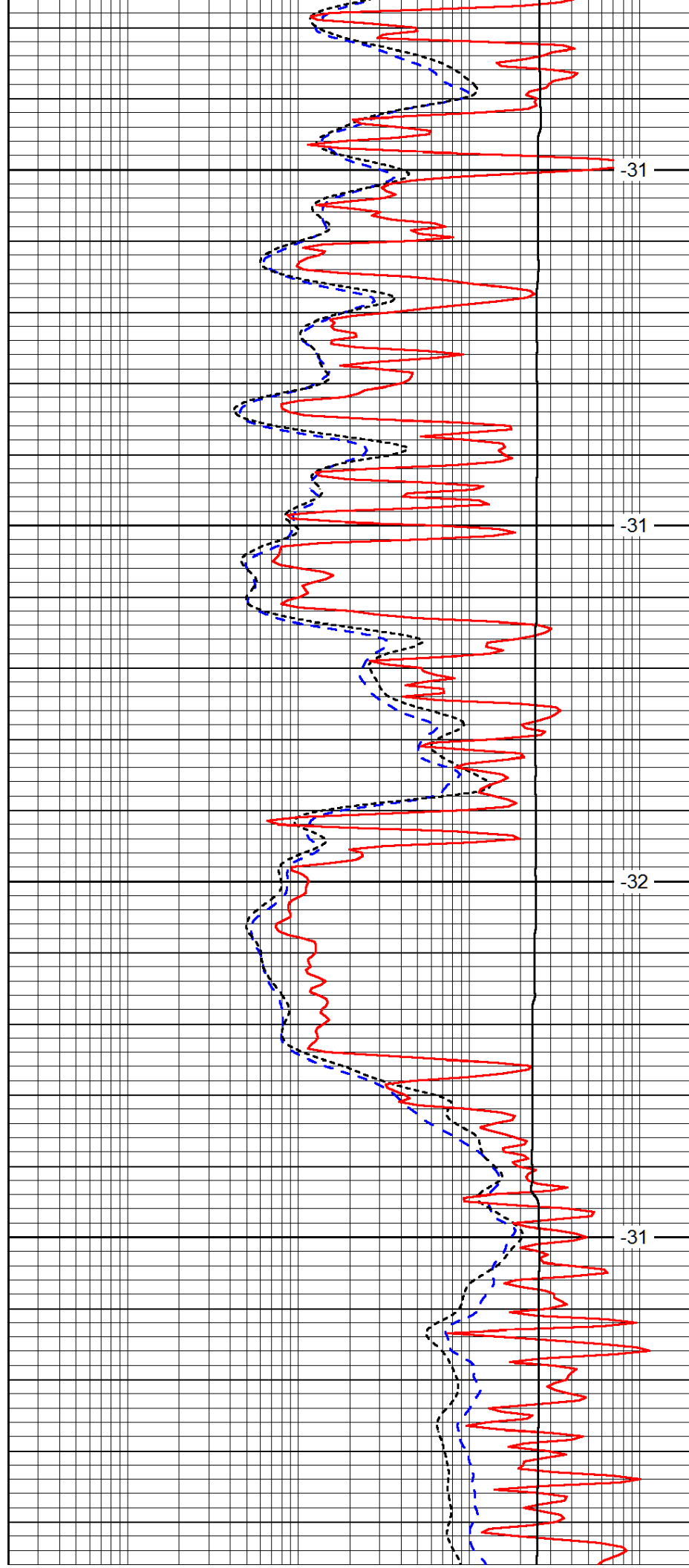


4500

4550

4600

4650

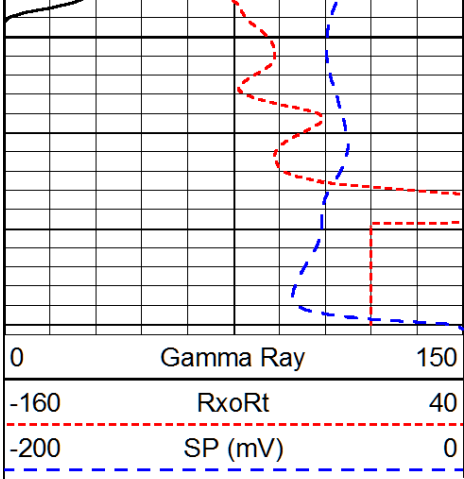


-31

-31

-32

-31



4700

