



Pioneer Energy Services

Borehole Compensated Sonic Log

API No.

15-109-21,886-00-00

Company **Murfin Drilling Company, Inc.**

Well **WWWMM 2 - 4**

Field

County **Logan**

State **Kansas**

Location

**N2 S2 NE SE
1735' FSL & 660' FEL**

Other Services
CNL/CDL
MEL/DIL

Sec: **4** Twp: **13 S** Rge: **32 W**

Permanent Datum **Ground Level** Elevation **3040**

Log Measured From **Kelly Bushing** 11 Ft. Above Perm. Datum

Drilling Measured From **Kelly Bushing**

Elevation
K.B. 3051
D.F. 3040
G.L. 3040

Date **4/14/2013**

Run Number **Two**

Type Log **BHC Sonic**

Depth Driller **4780**

Depth Logger **4783**

Bottom Logged Interval **4772**

Top Logged Interval **200**

Type Fluid In Hole **Chemical**

Salinity, PPM CL **2000**

Density **9.5**

Level **Full**

Max. Rec. Temp. F **124**

Operating Rig Time **5 1/2 Hours**

Equipment -- Location **17 Hays**

Recorded By **D. Martin**

Witnessed By **Steve Miller**

Borehole Record

Casing Record

Run No.	Bit	From	To	Size	Wgt.	From	To
One	12.25	00	226	8.625	23#	00	226
Two	7.875	226	TD				

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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.

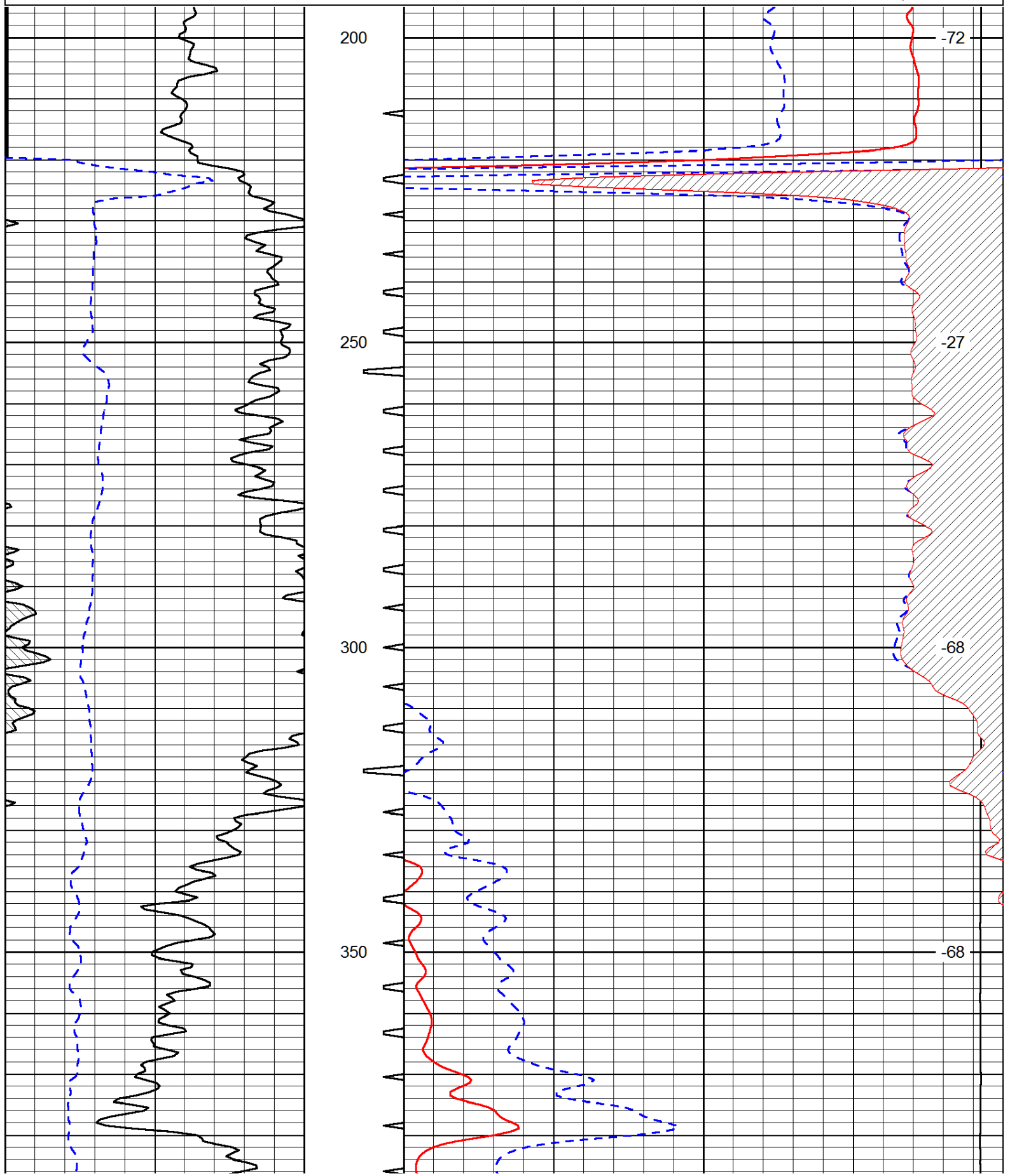
Comments

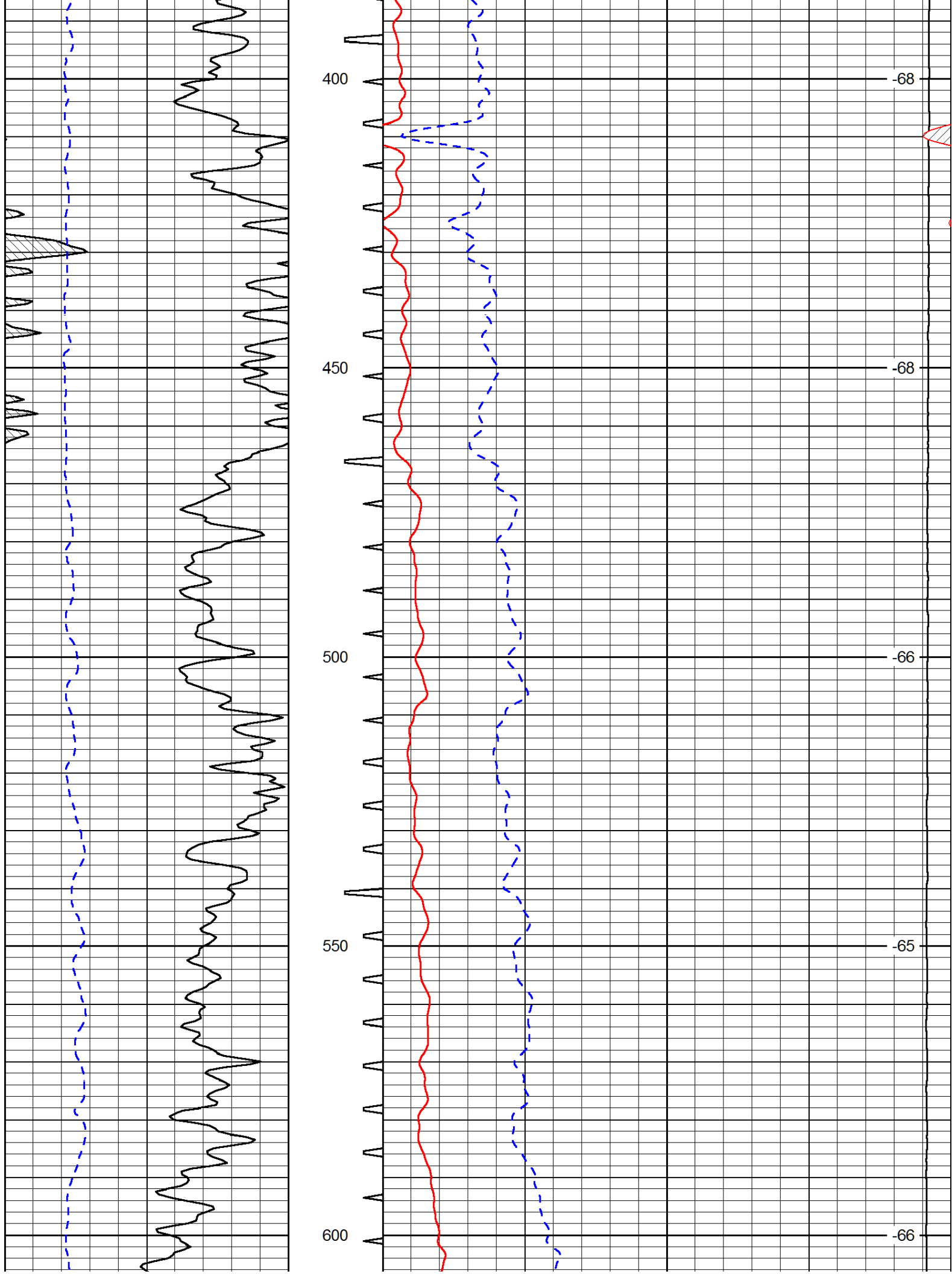
Thank you for using Log-Tech, Inc.
(785) 625-3858

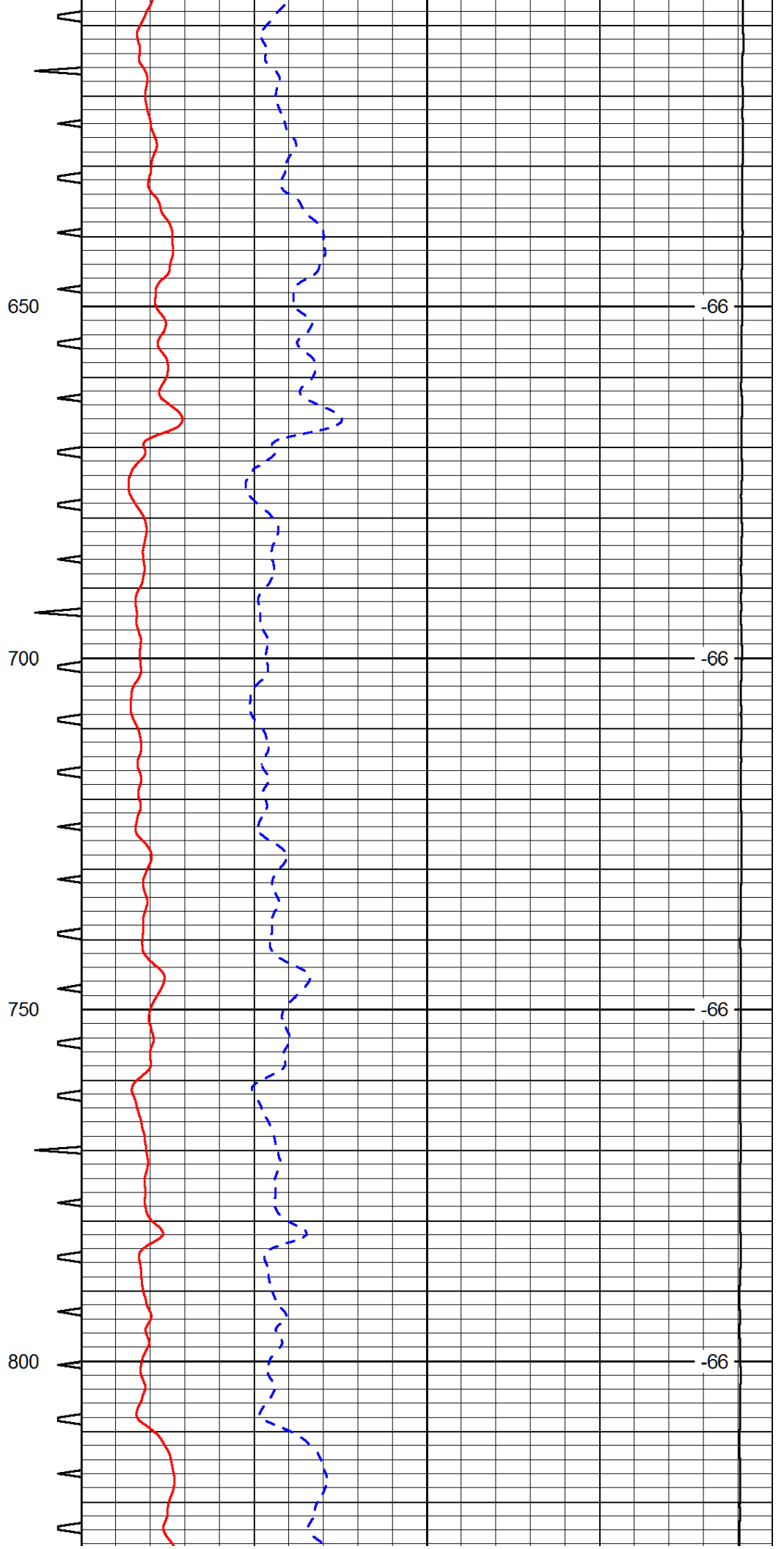
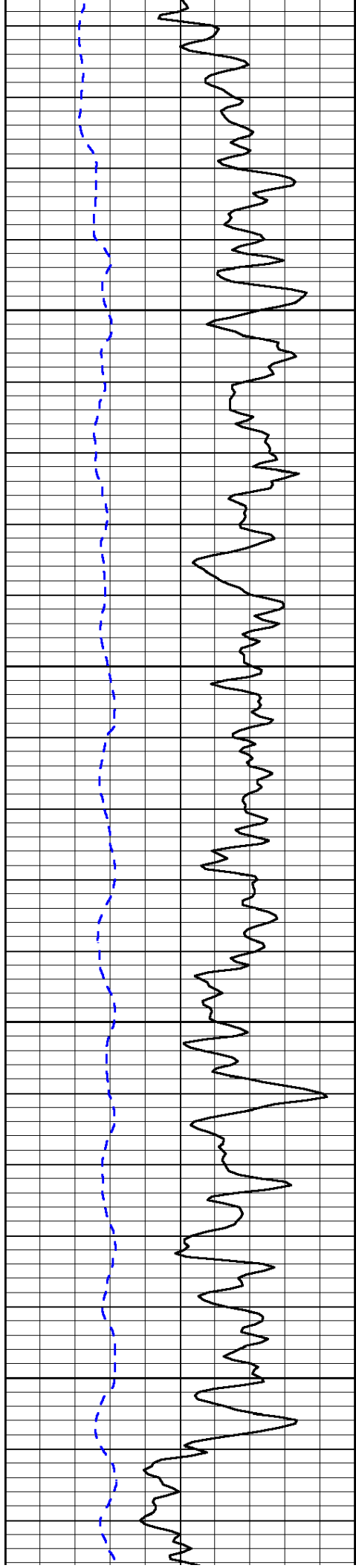
Oakley, KS
11 S to Seneca Rd.(Gove Rd.),
1 W, 3/4 S, W Into

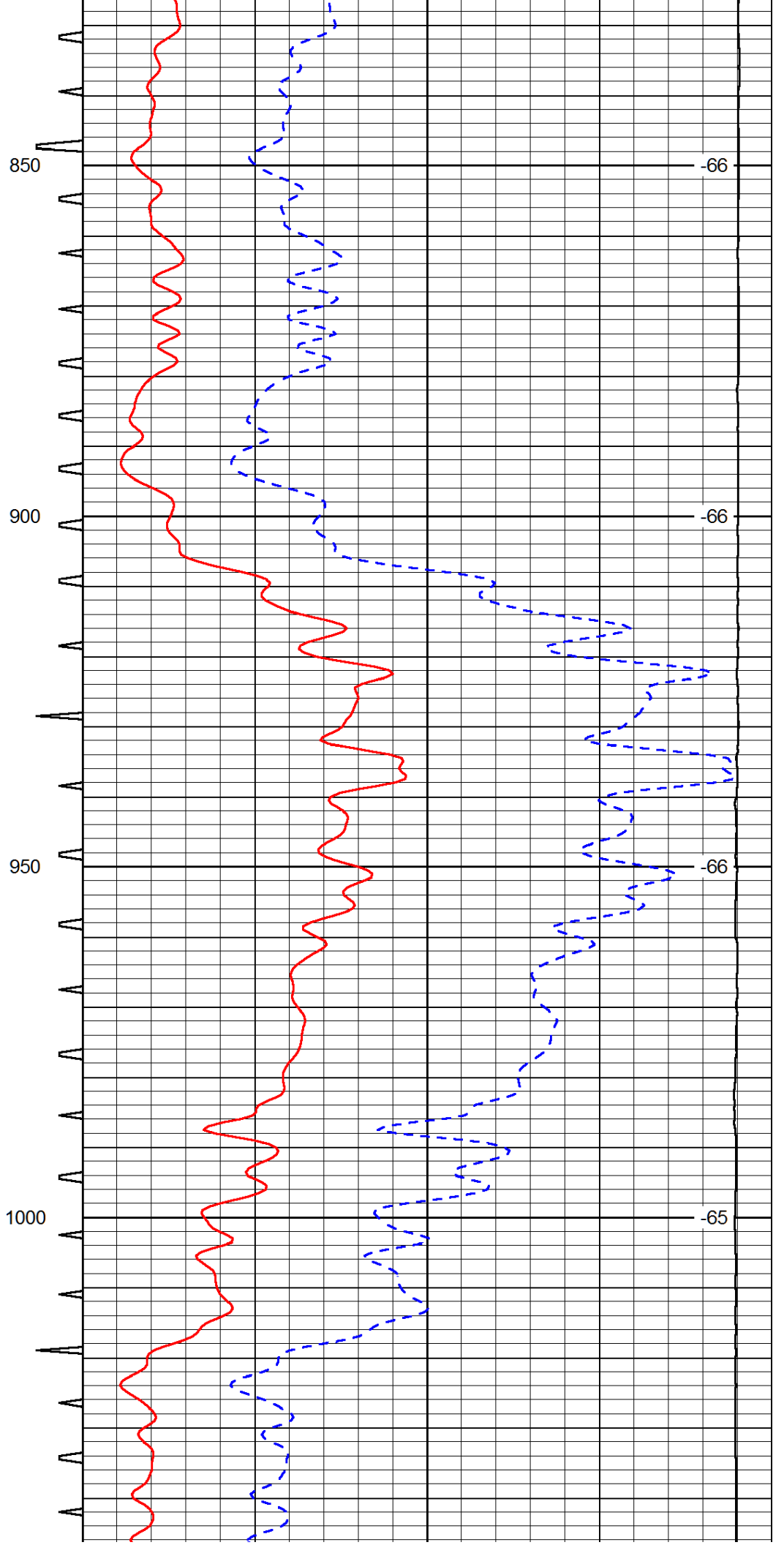
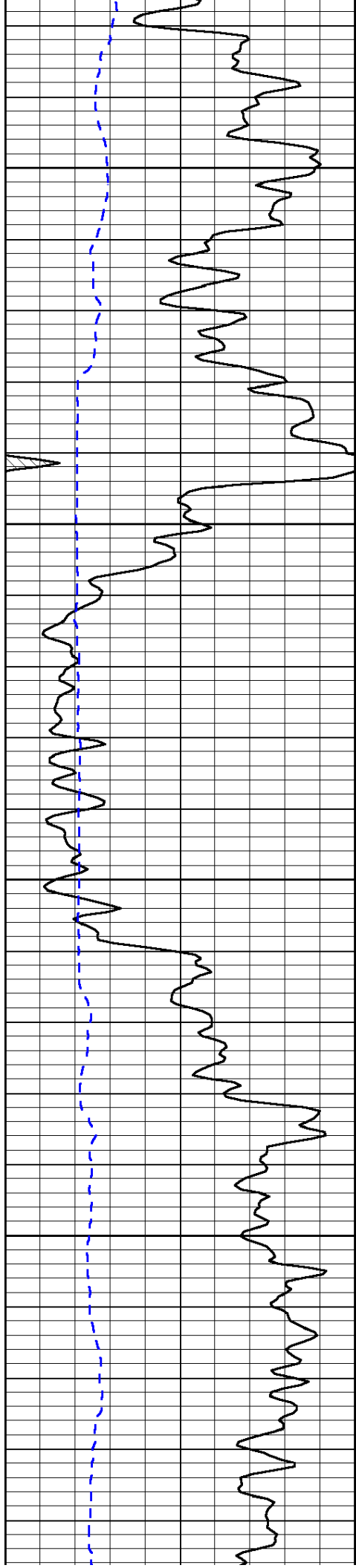
Database File: murfin_wwwm_2-4hd.db
Dataset Pathname: DIL/murfstk
Presentation Format: sonic
Dataset Creation: Sun Apr 14 23:07:31 2013
Charted by: Depth in Feet scaled 1:240

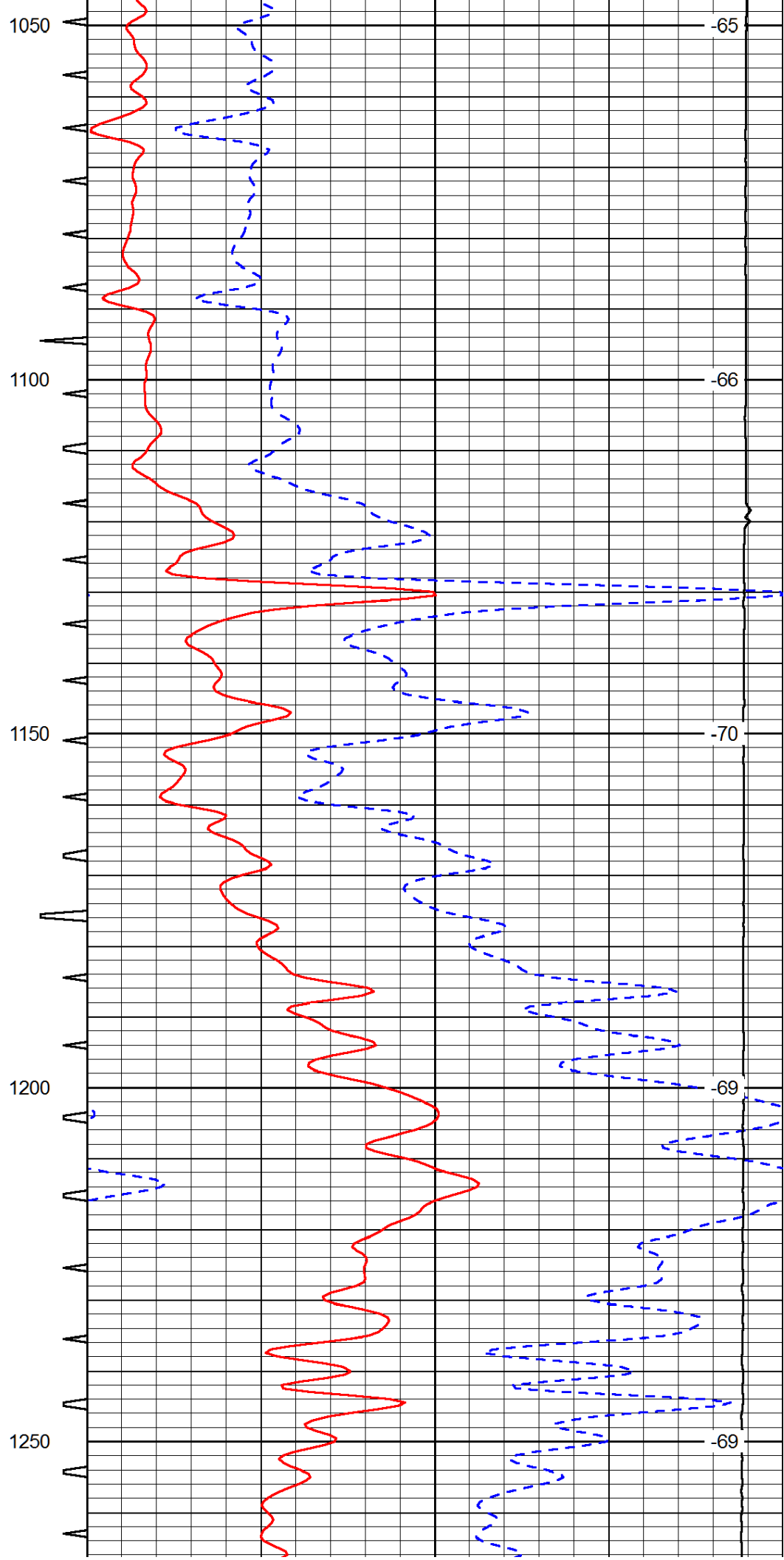
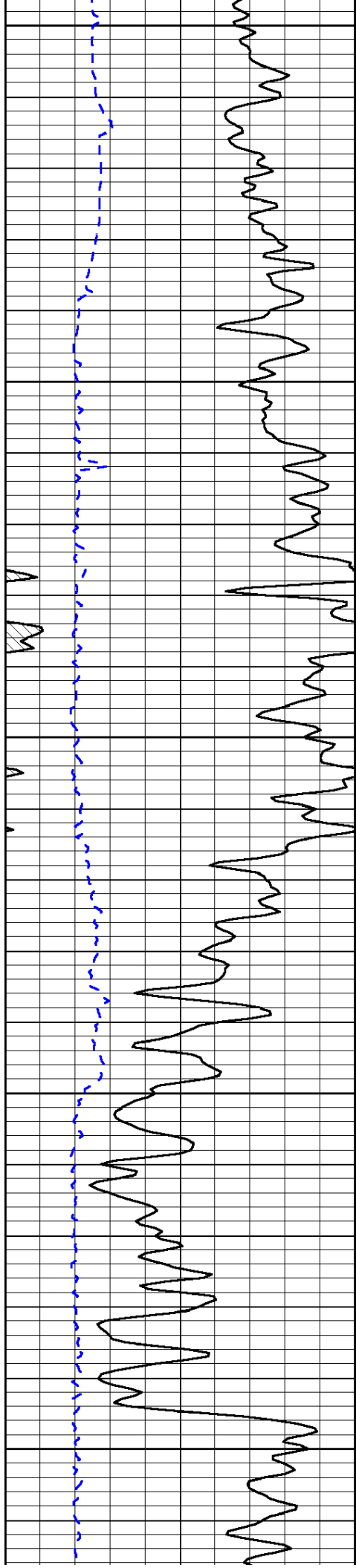
0	Gamma Ray (GAPI)	150	Sonic Int	140	Delta Time (usec/ft) (usec/ft)	40
150	Gamma Ray (GAPI)	300	5 (msec) 0	30	Sonic Porosity (pu)	-10
6	dCAL (in)	16		15000	LTEN (lb) (lb)	0
						LSPD (ft/min)

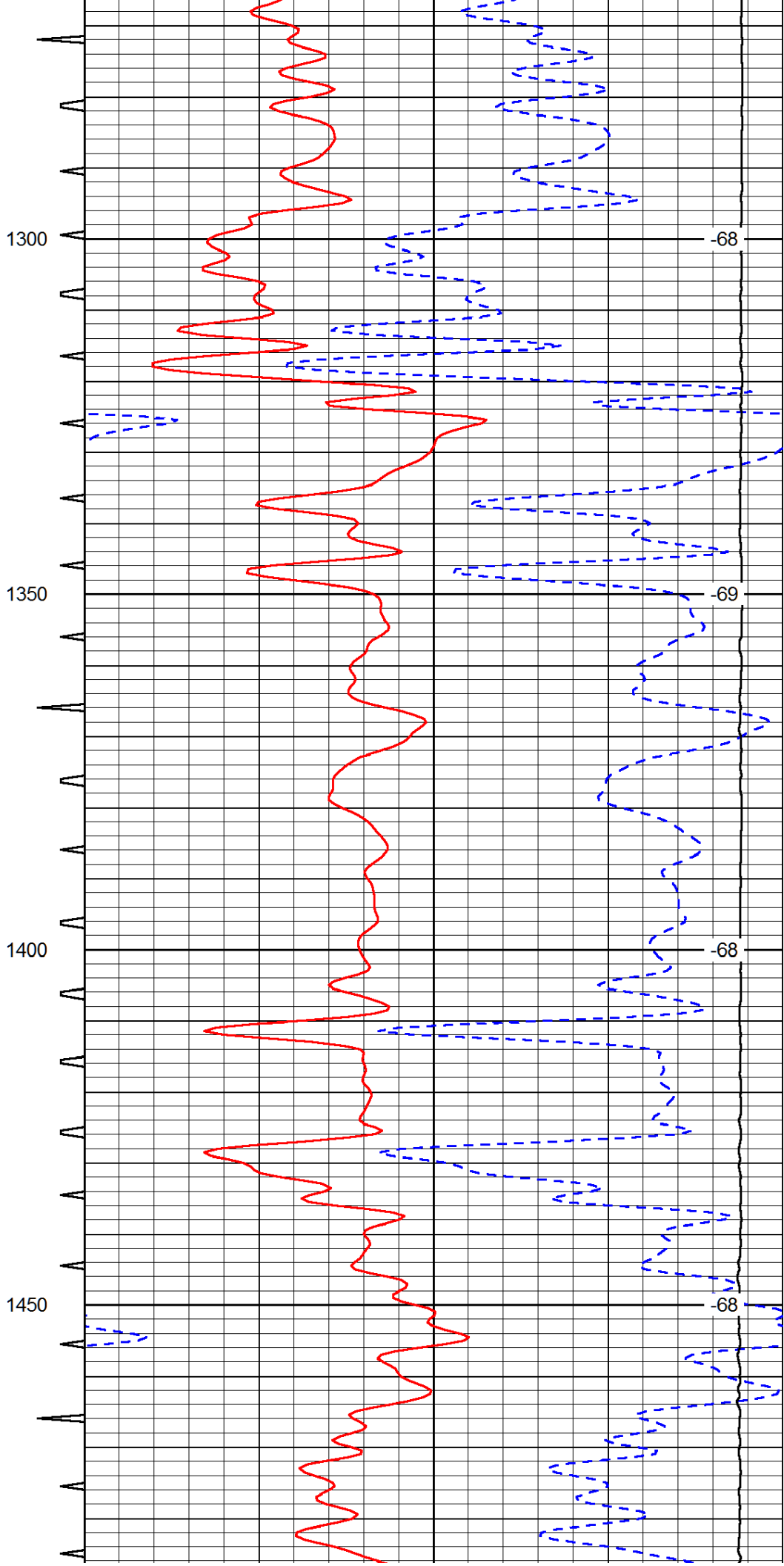
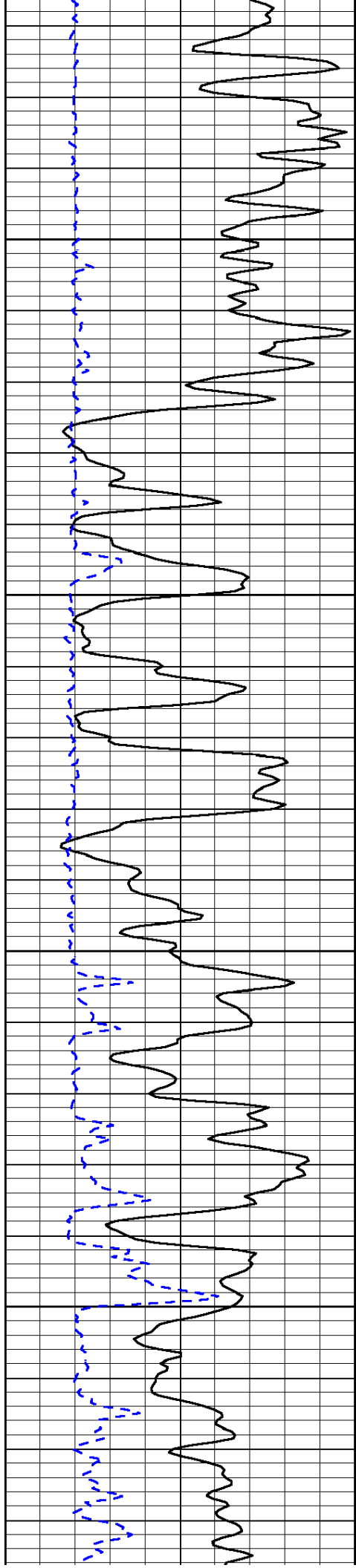


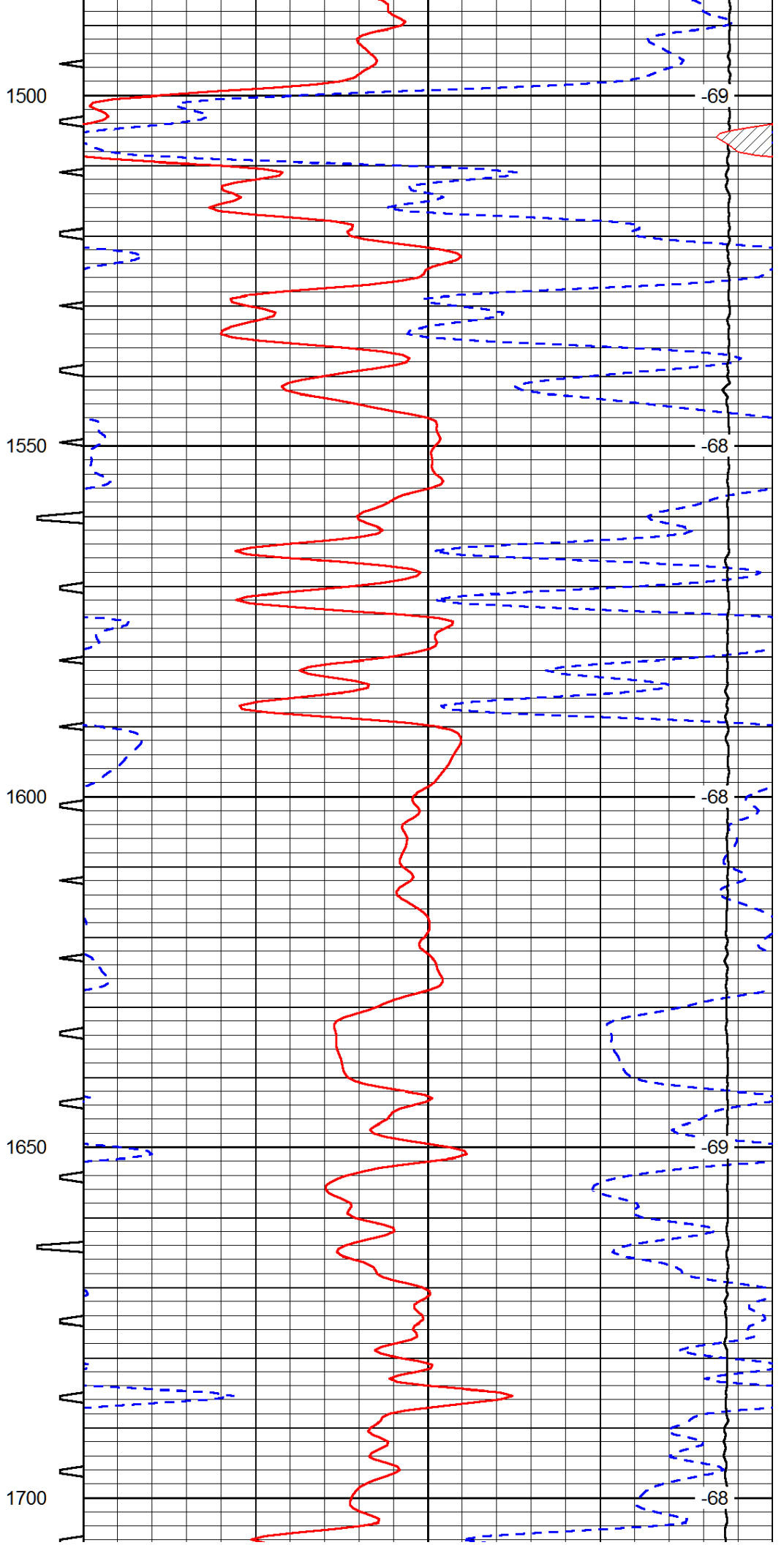
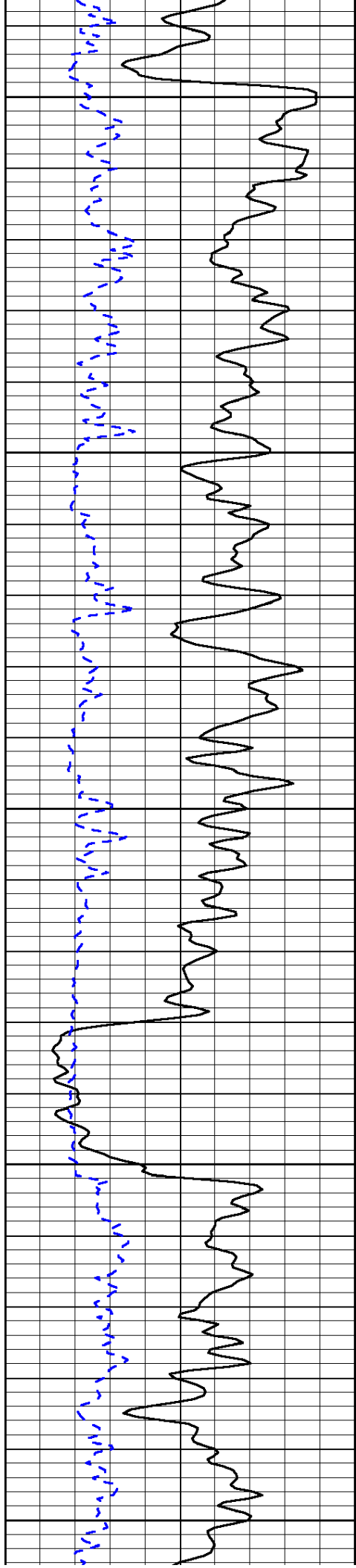


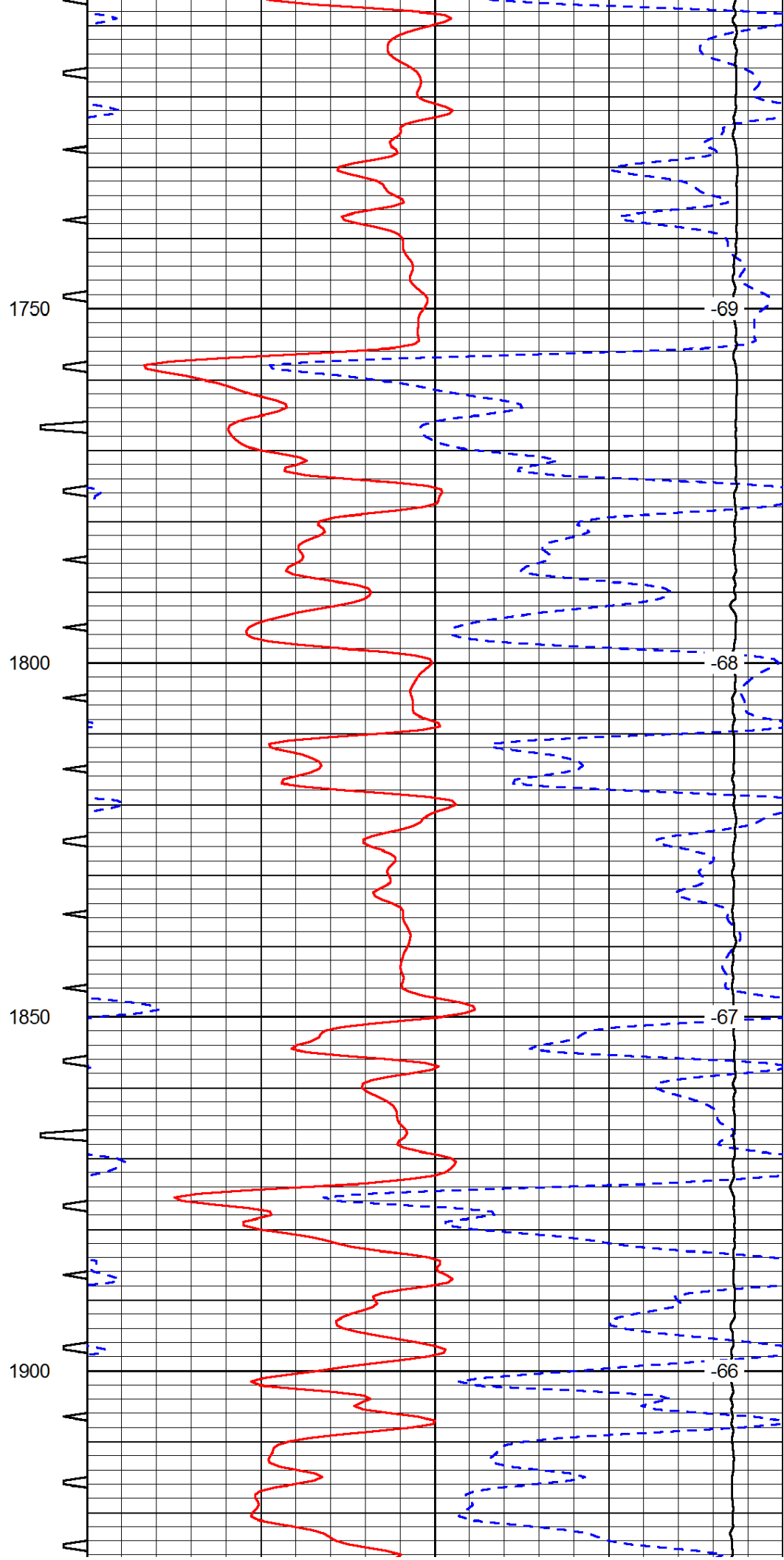
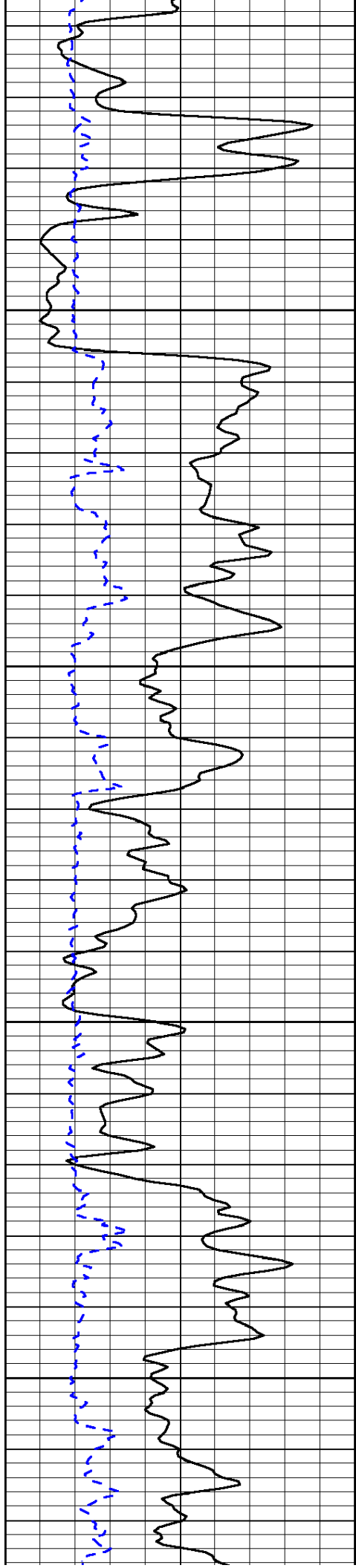


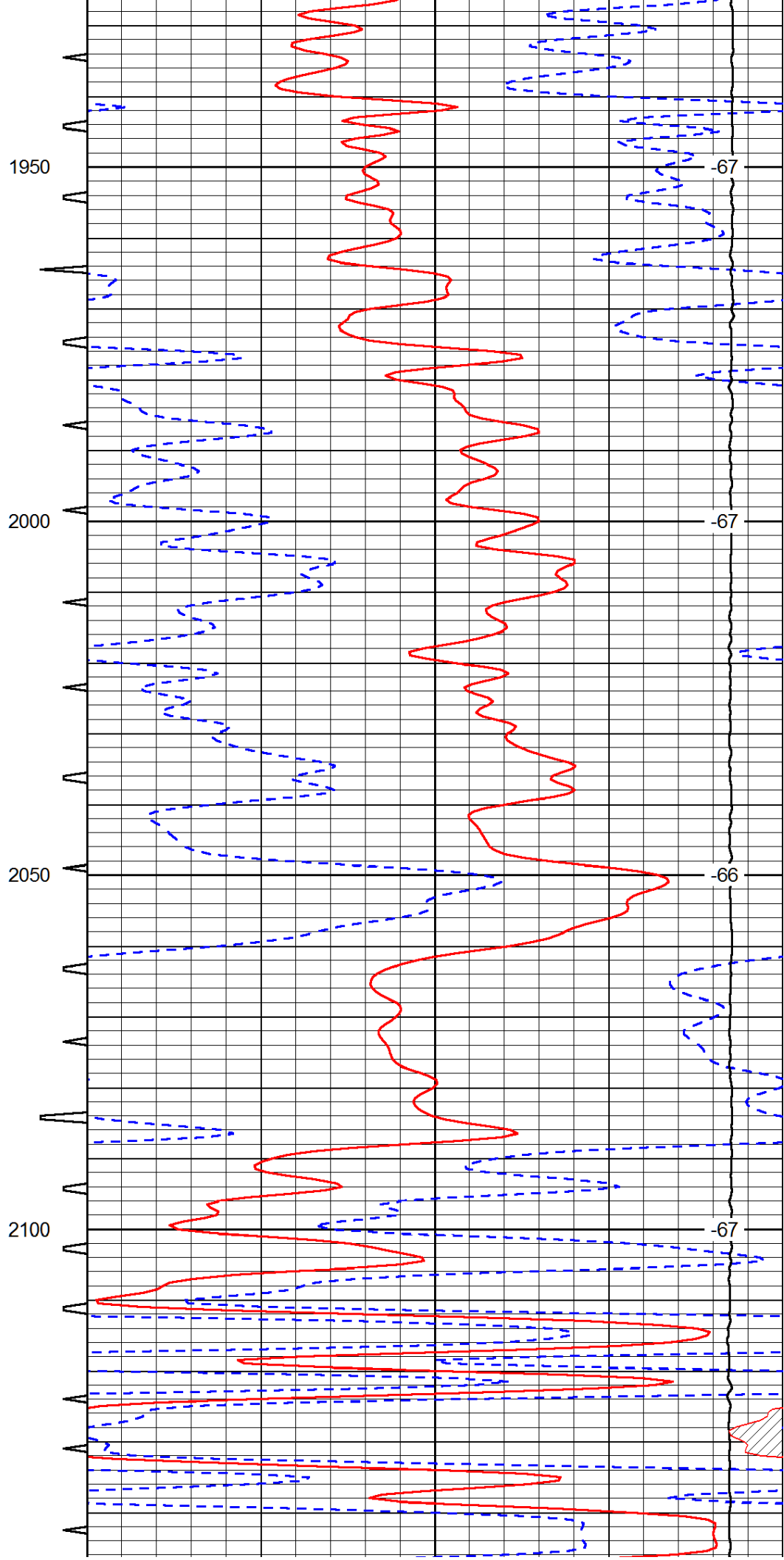
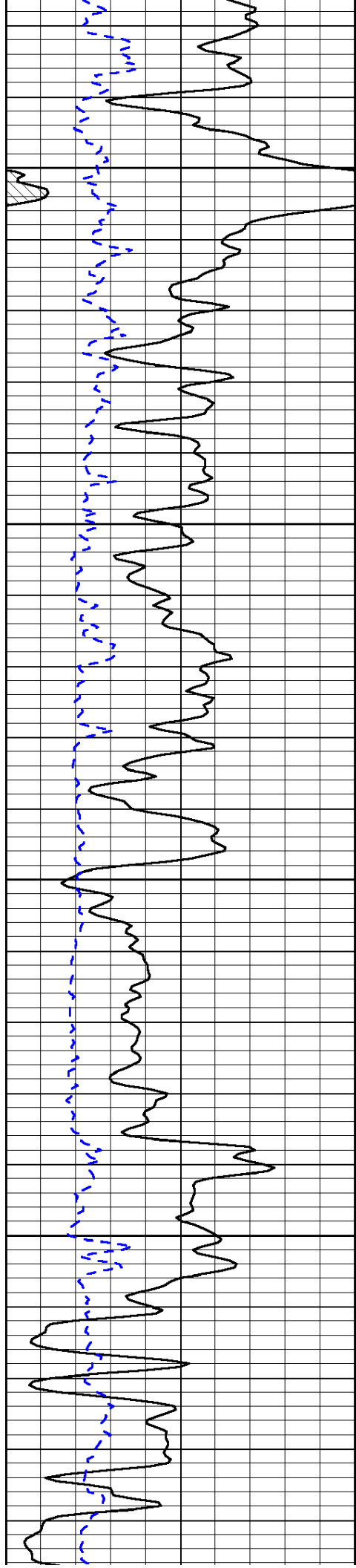


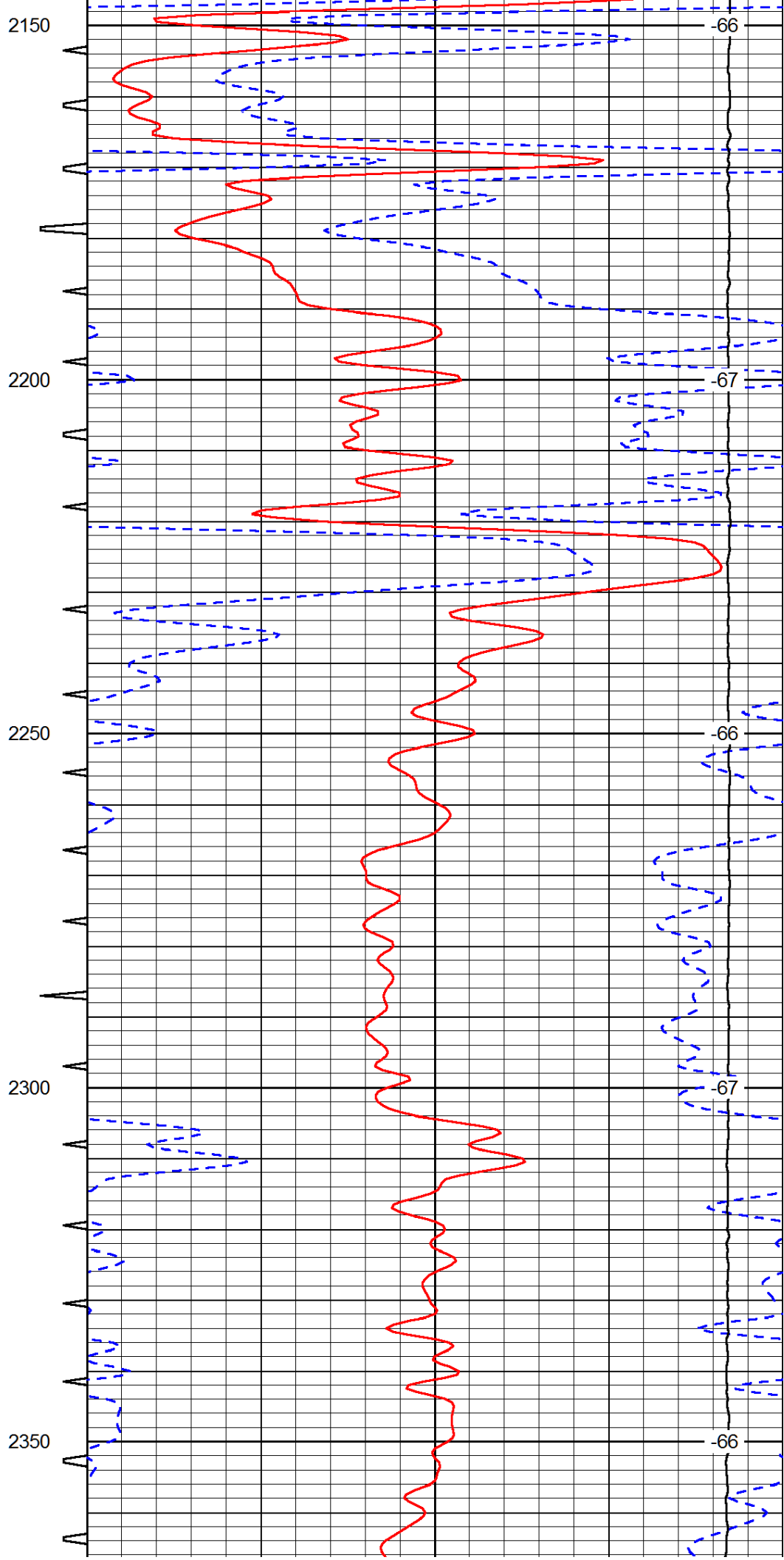
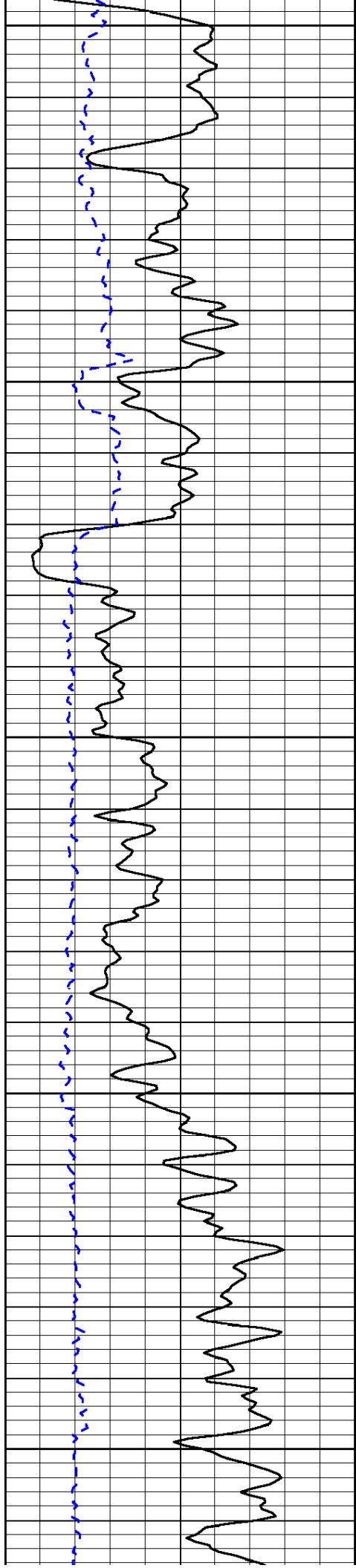


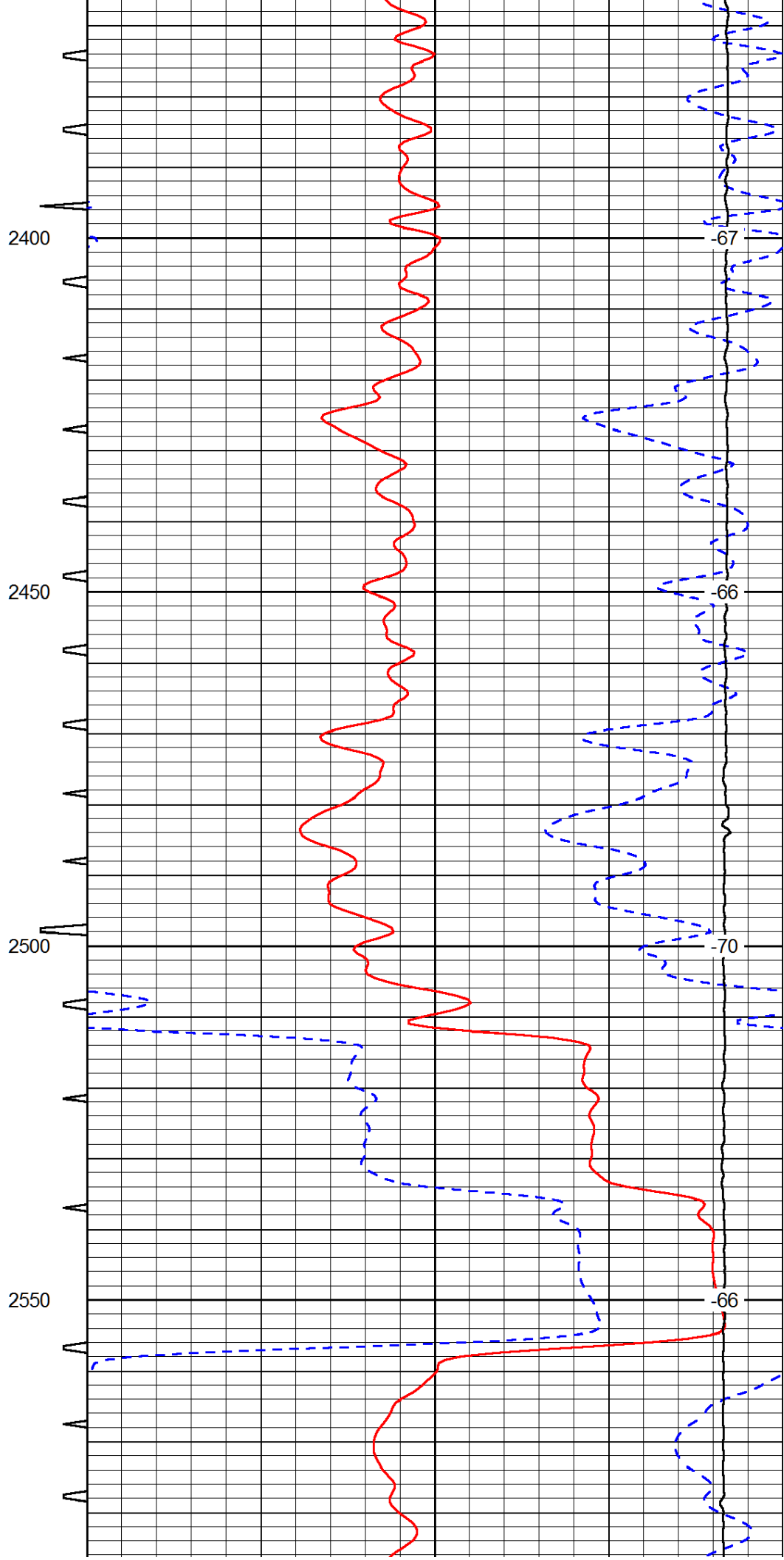
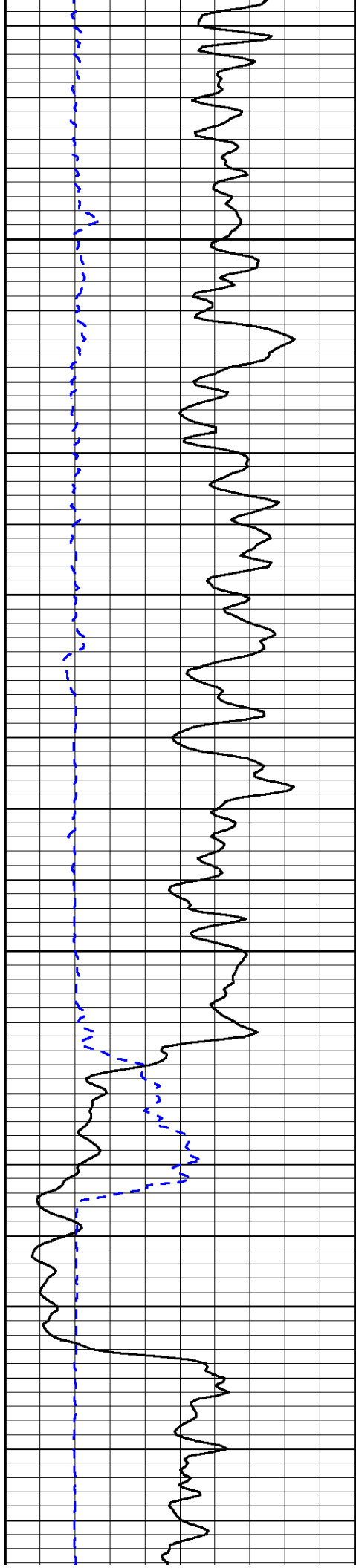


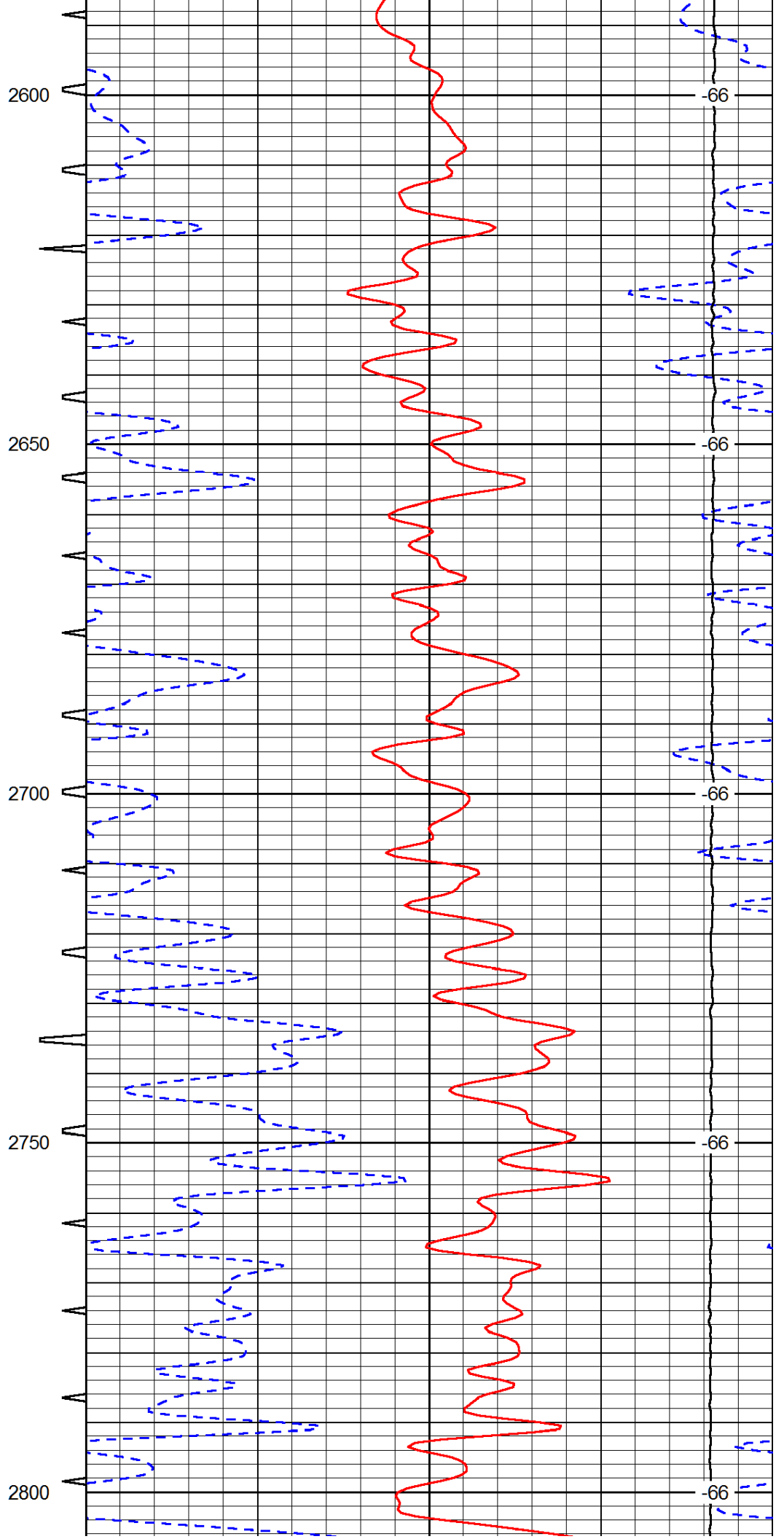
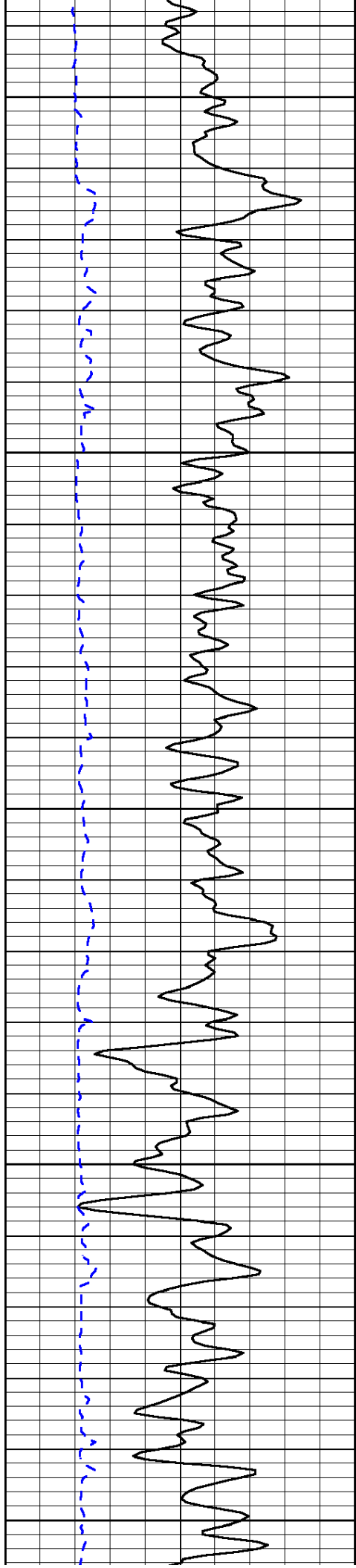


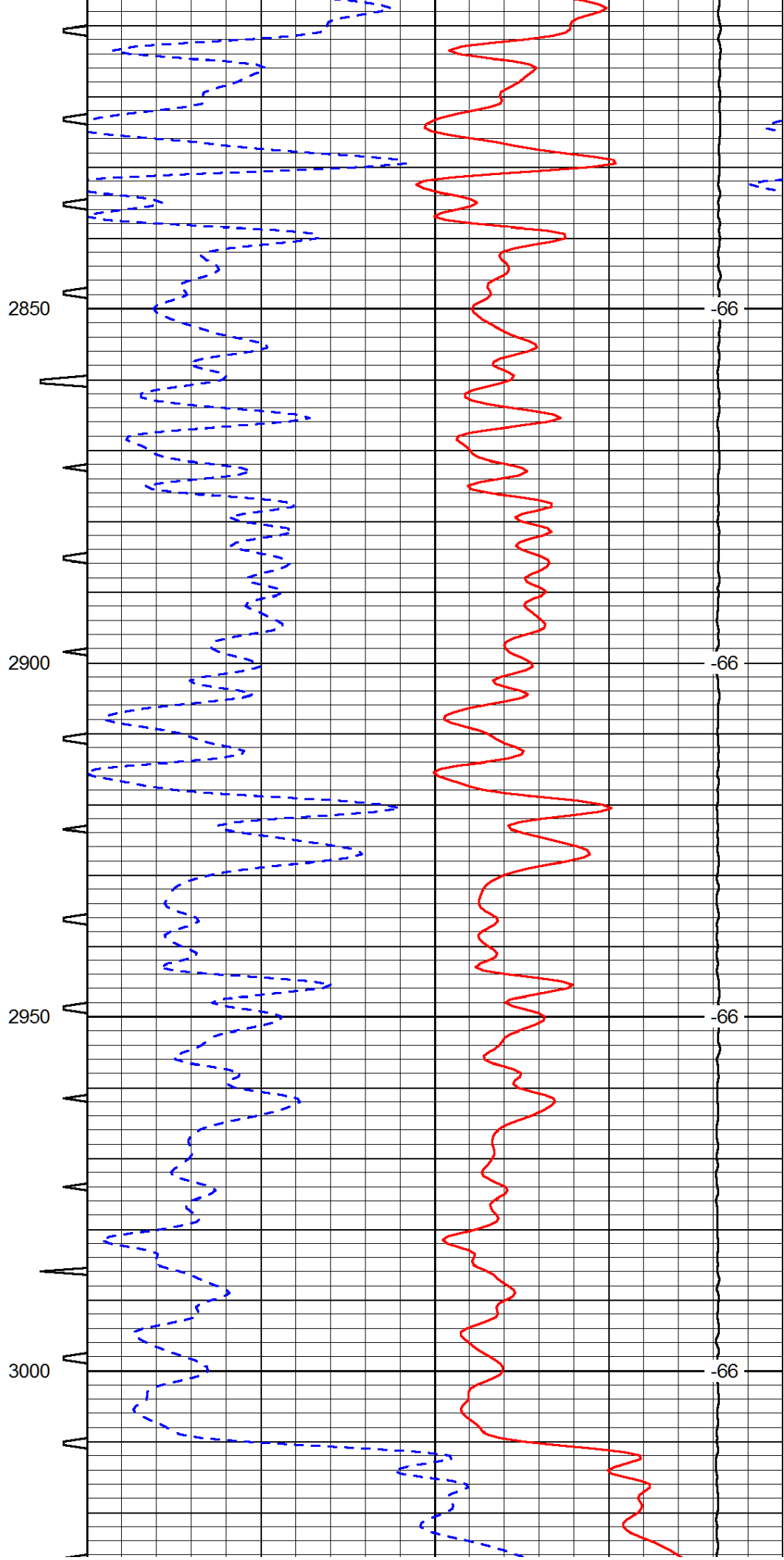
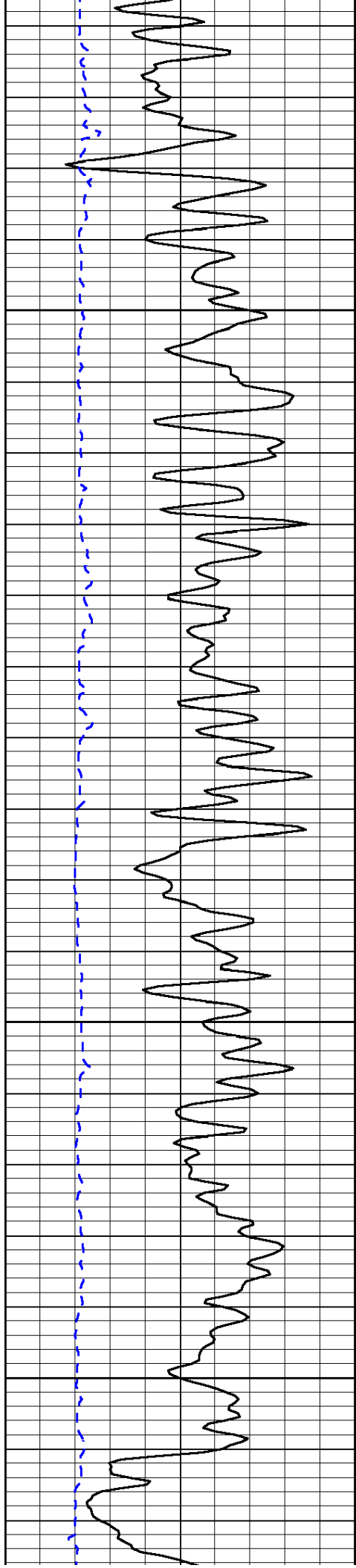


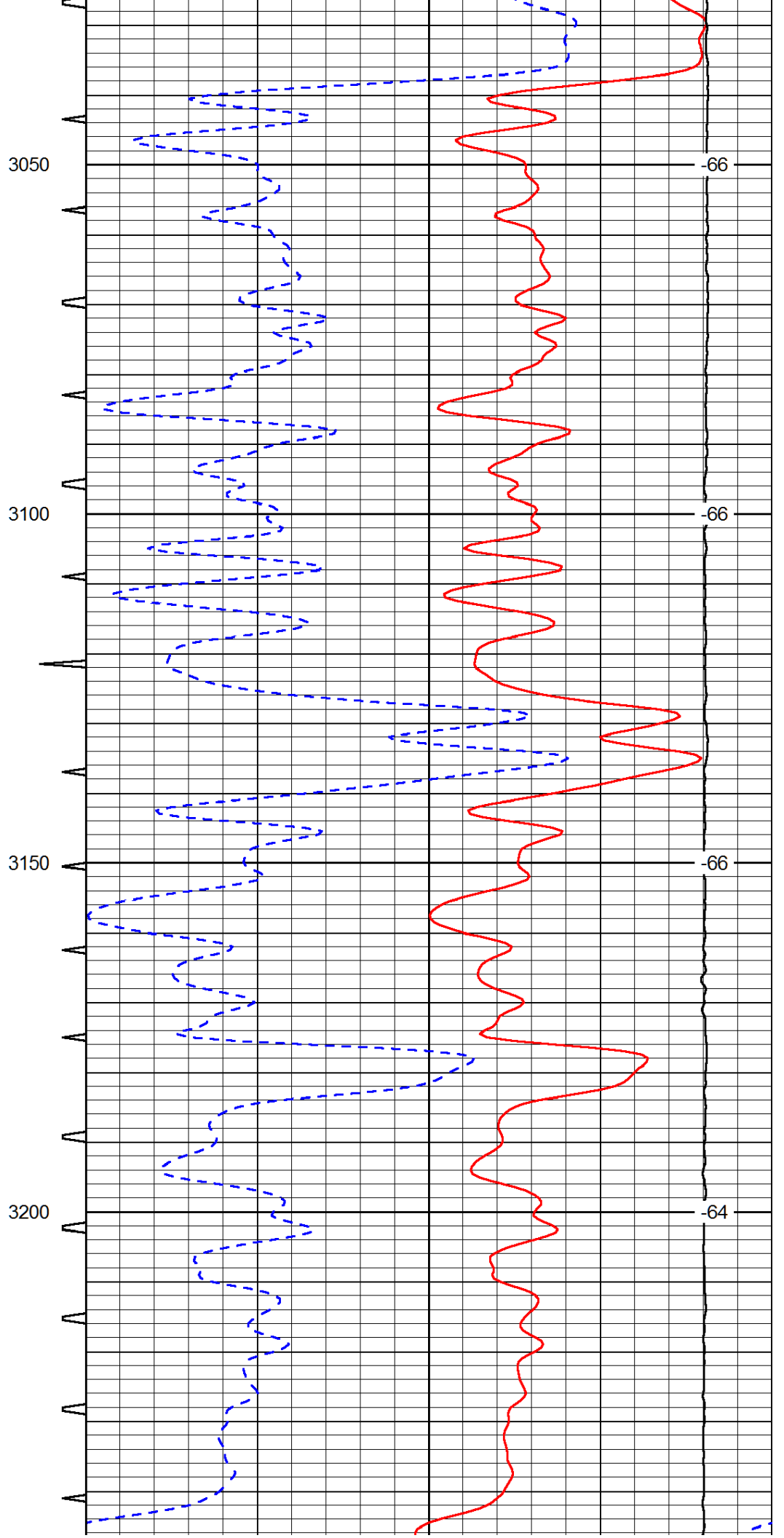
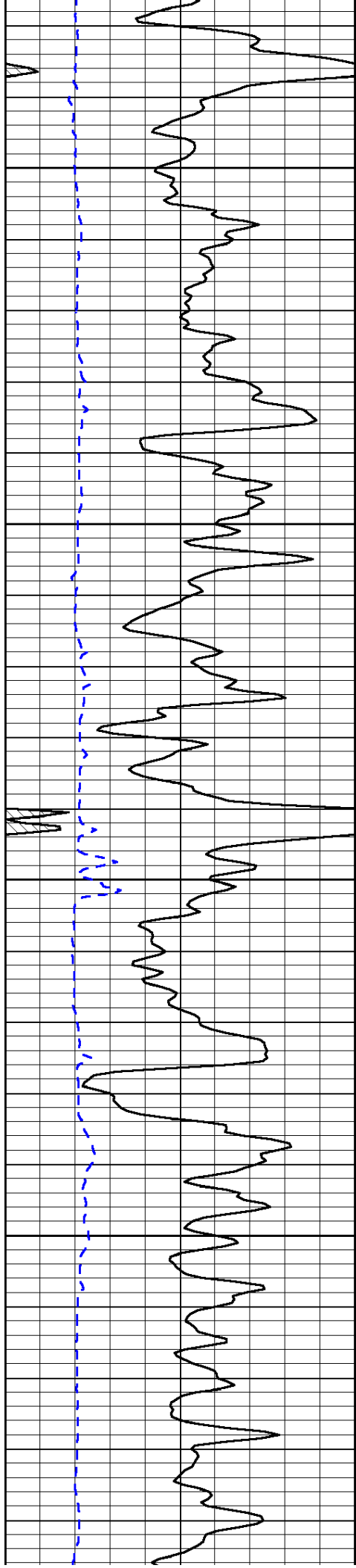


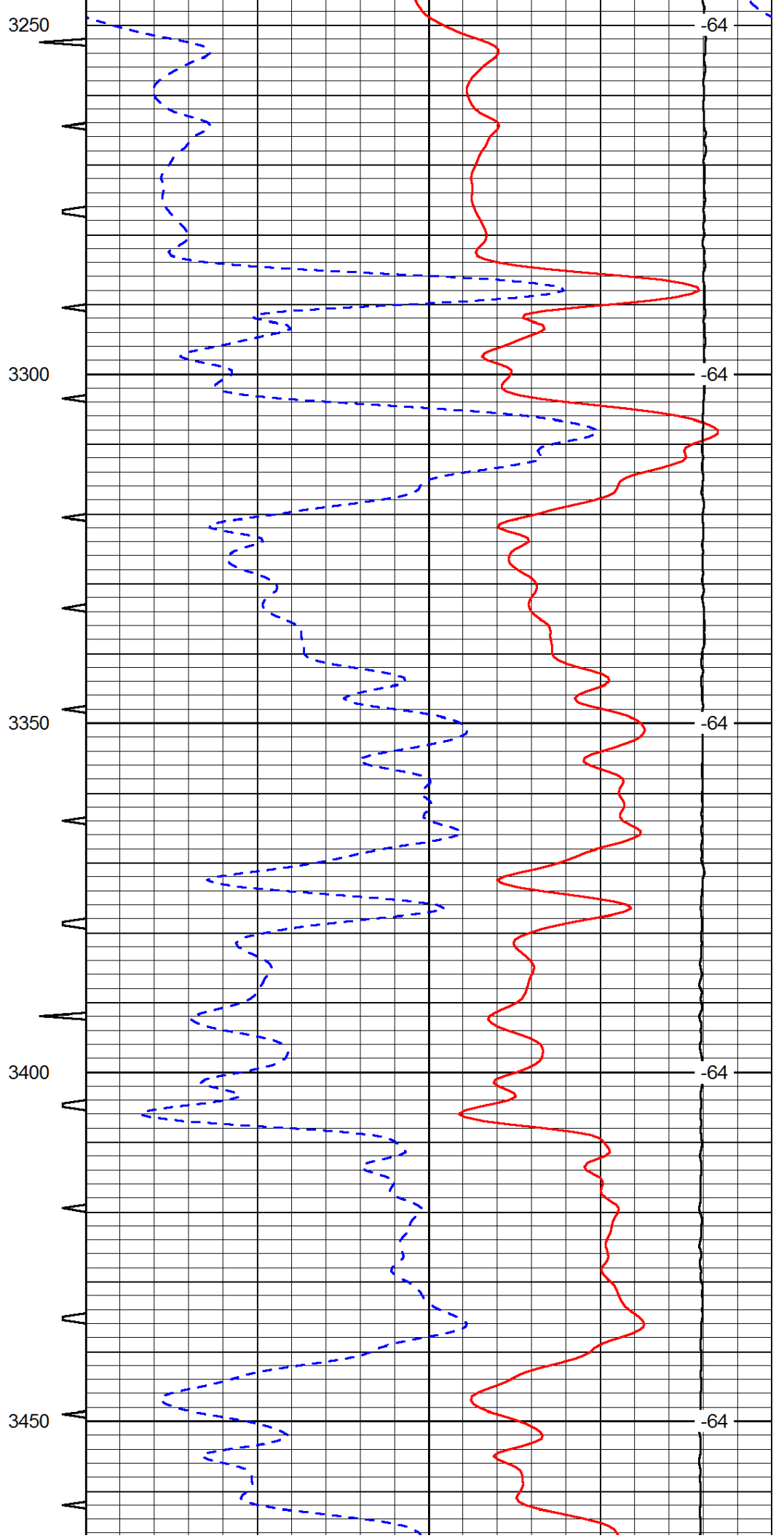
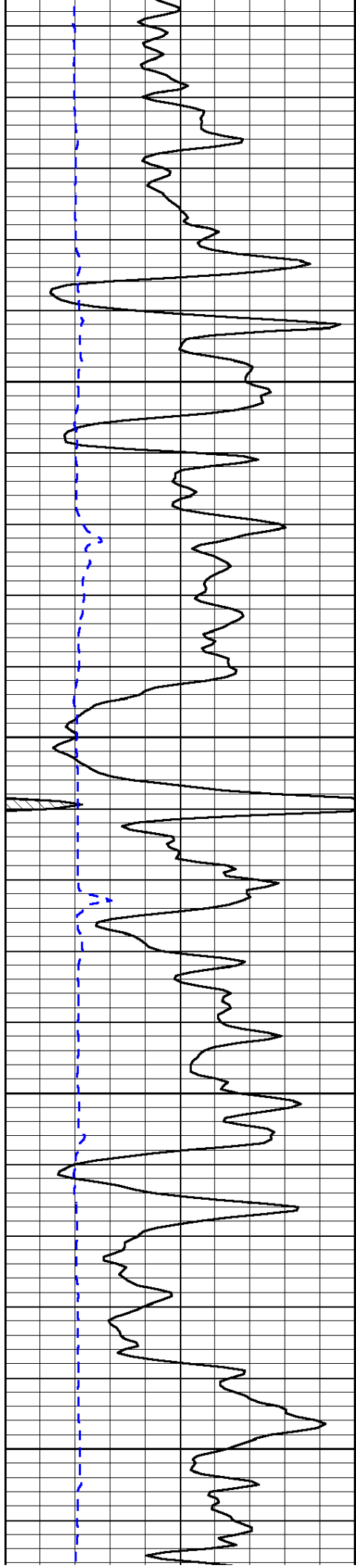


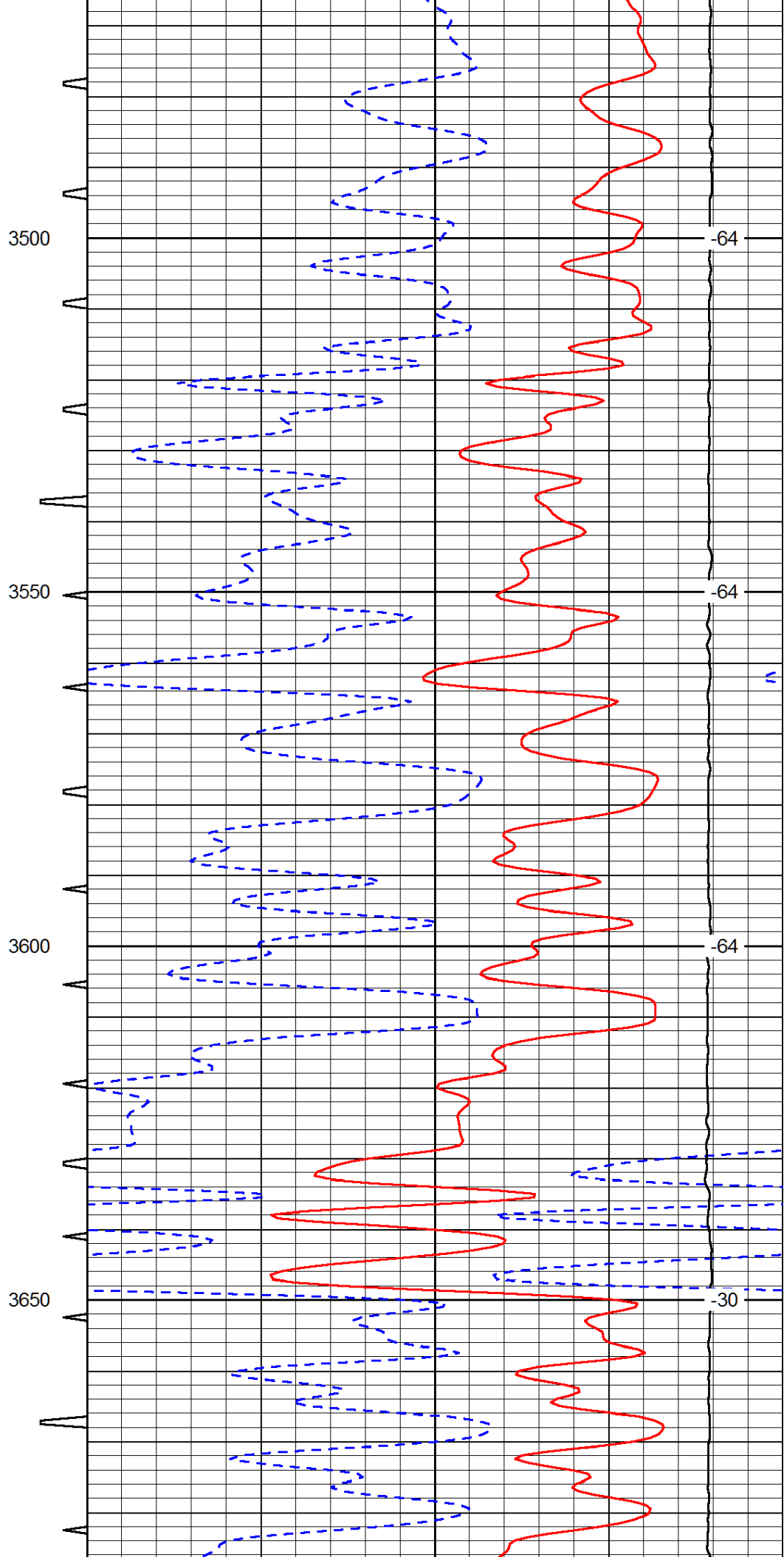
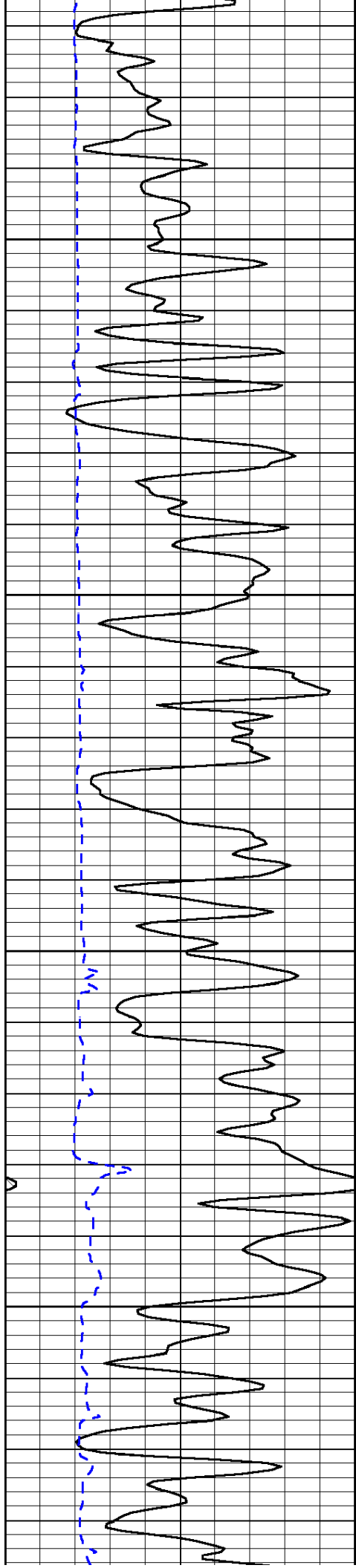


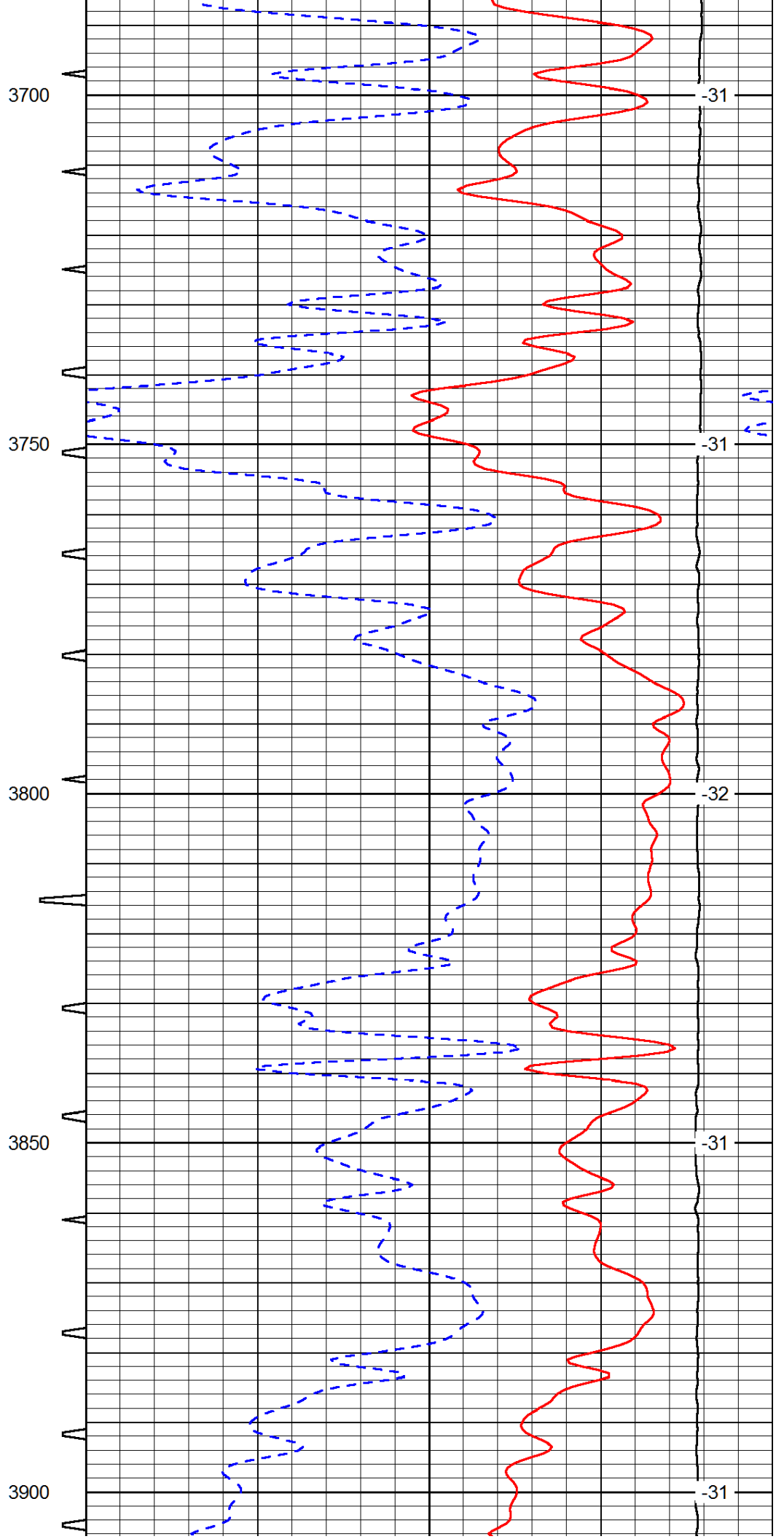
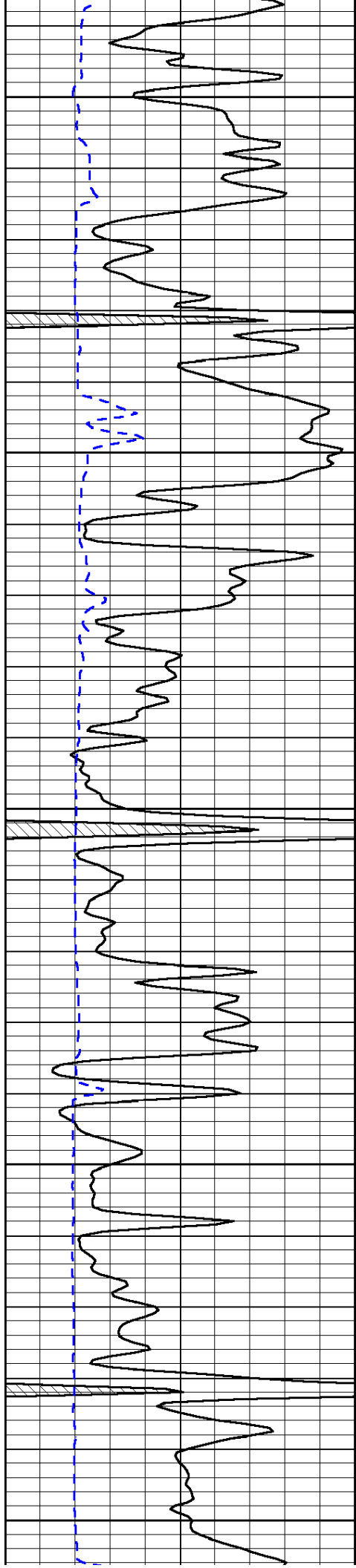


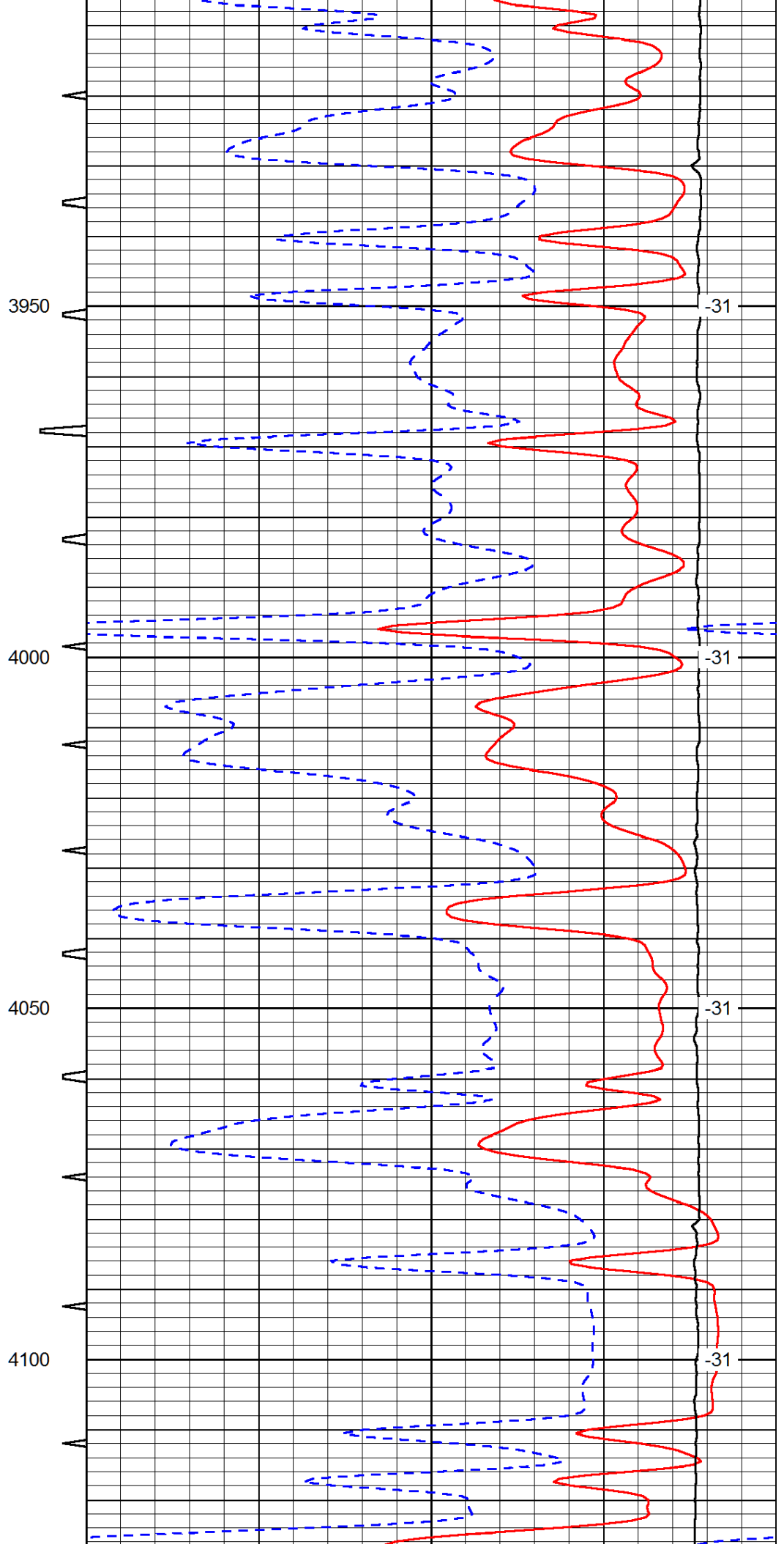
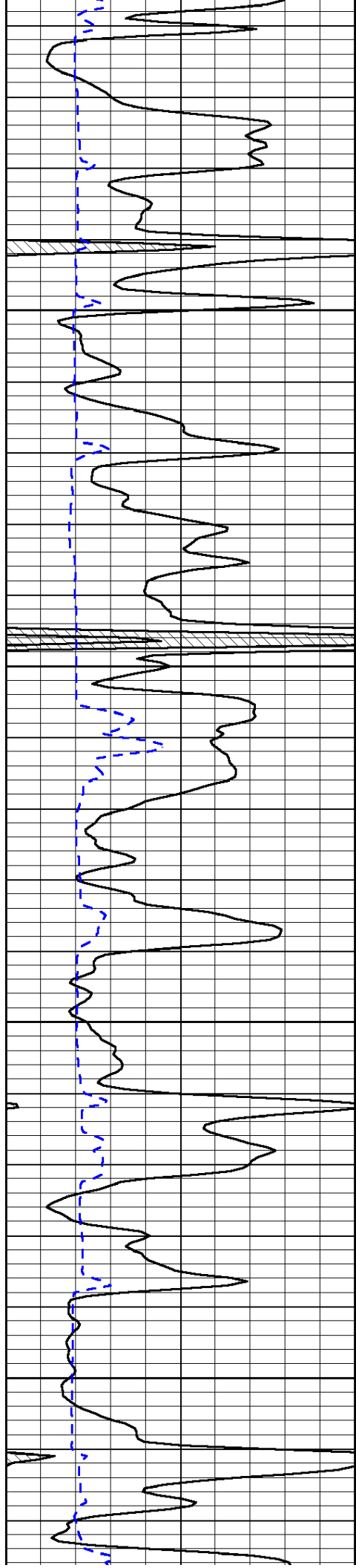


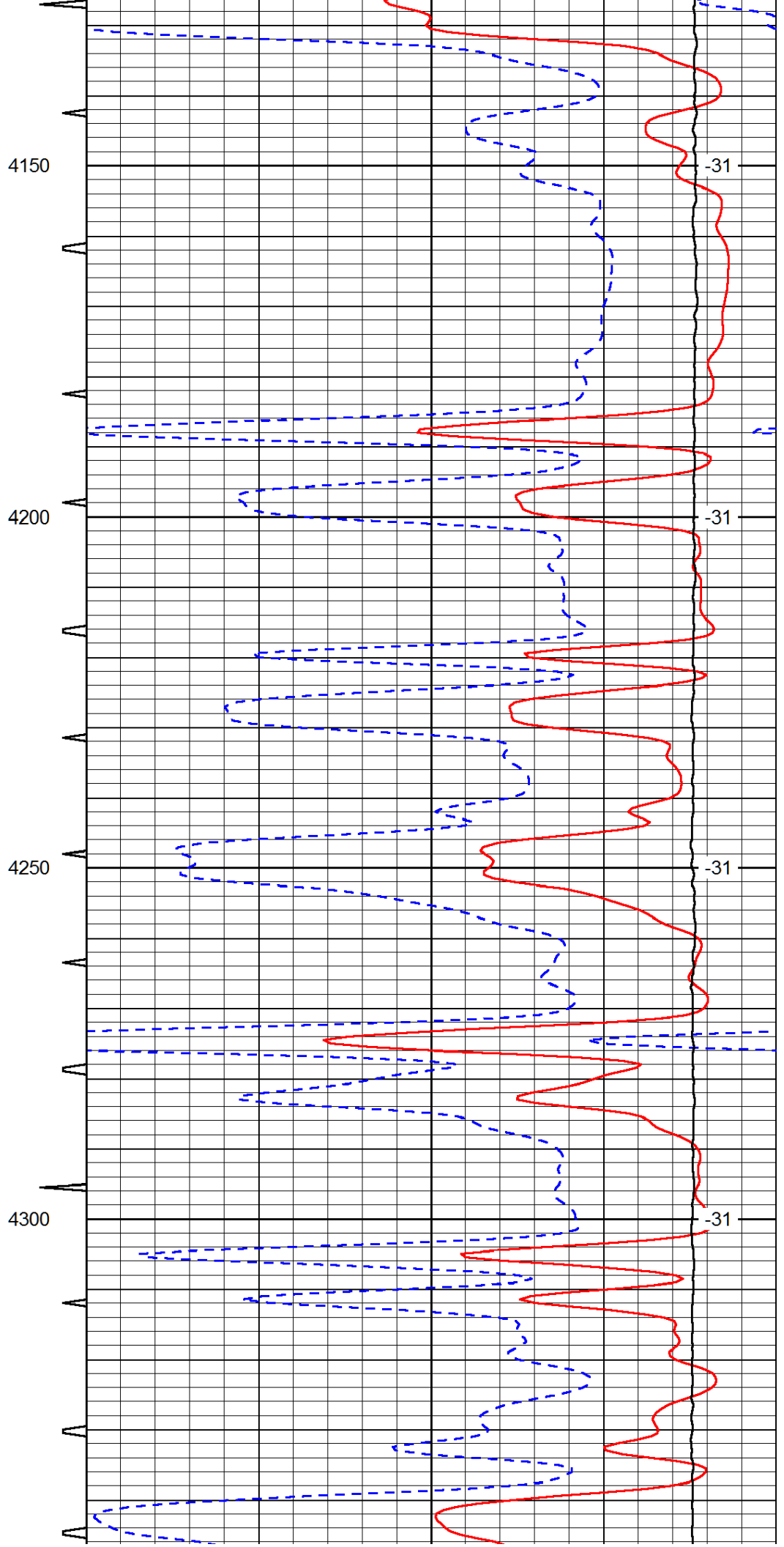
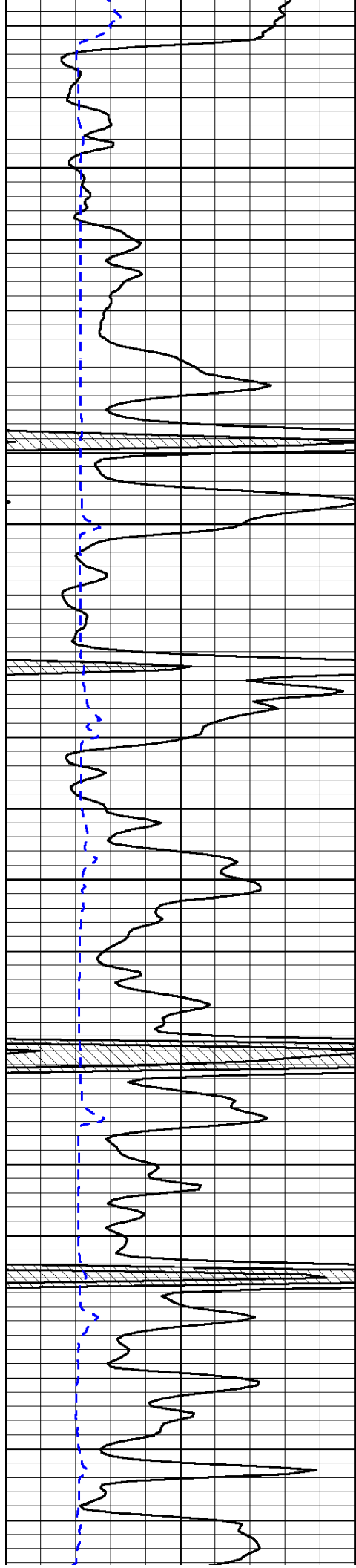


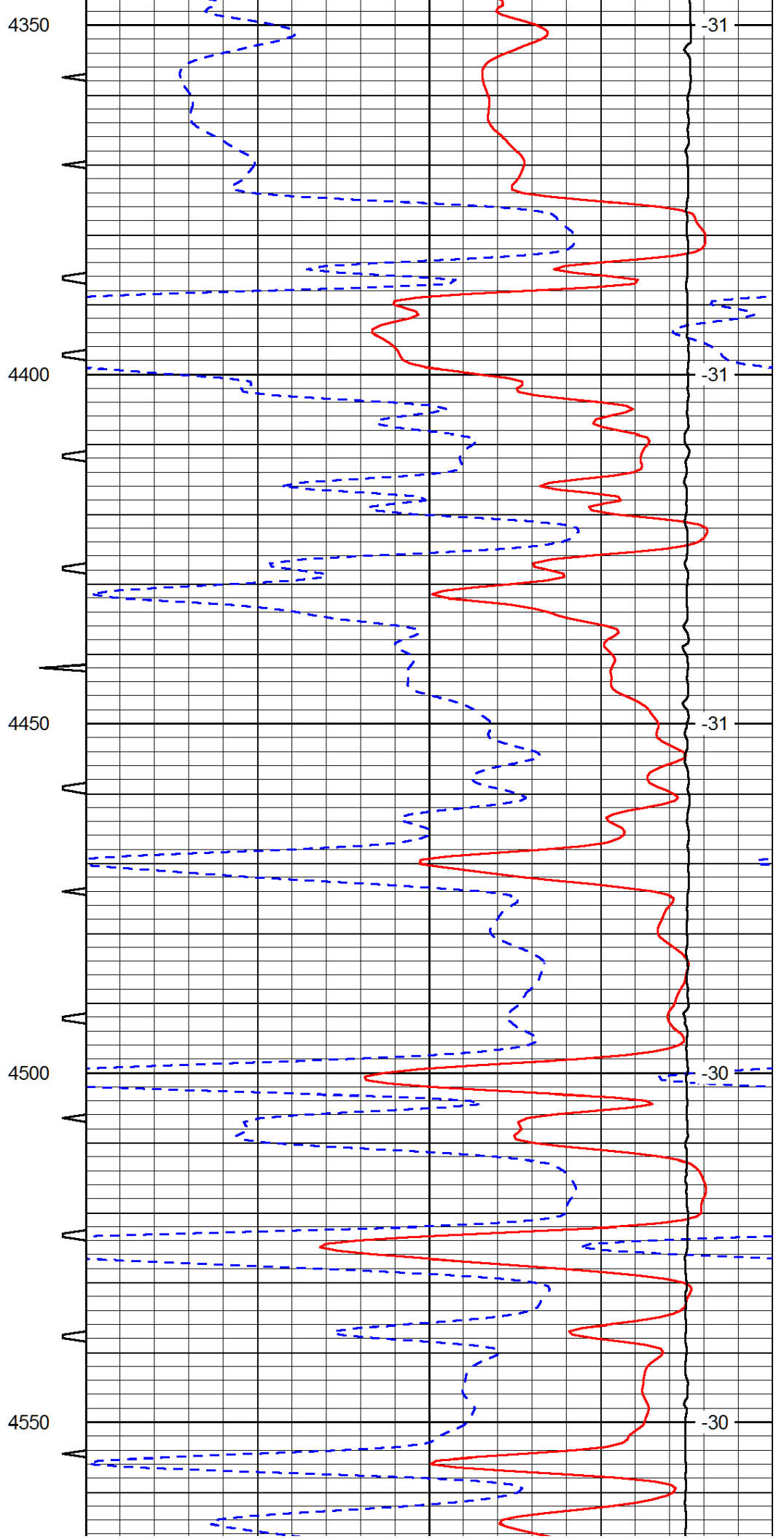
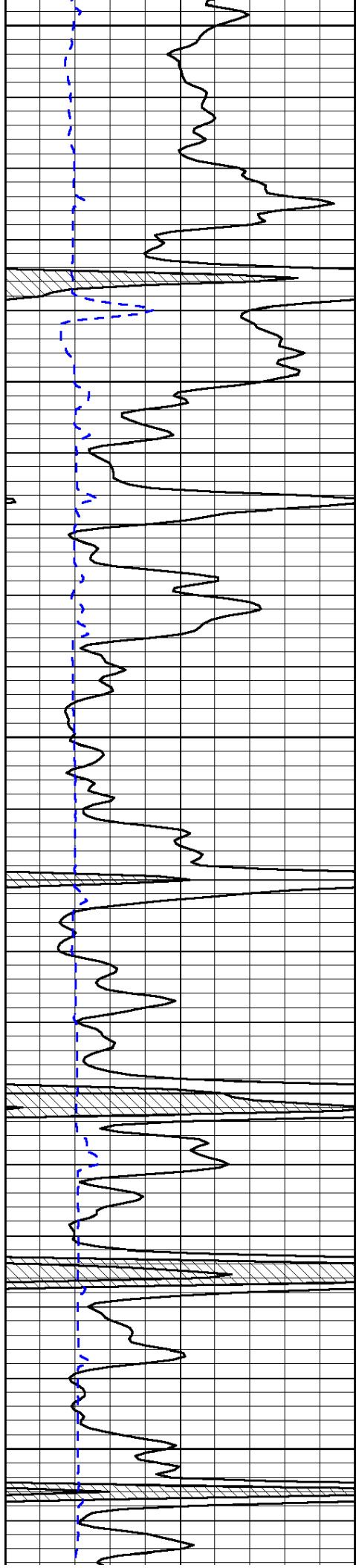


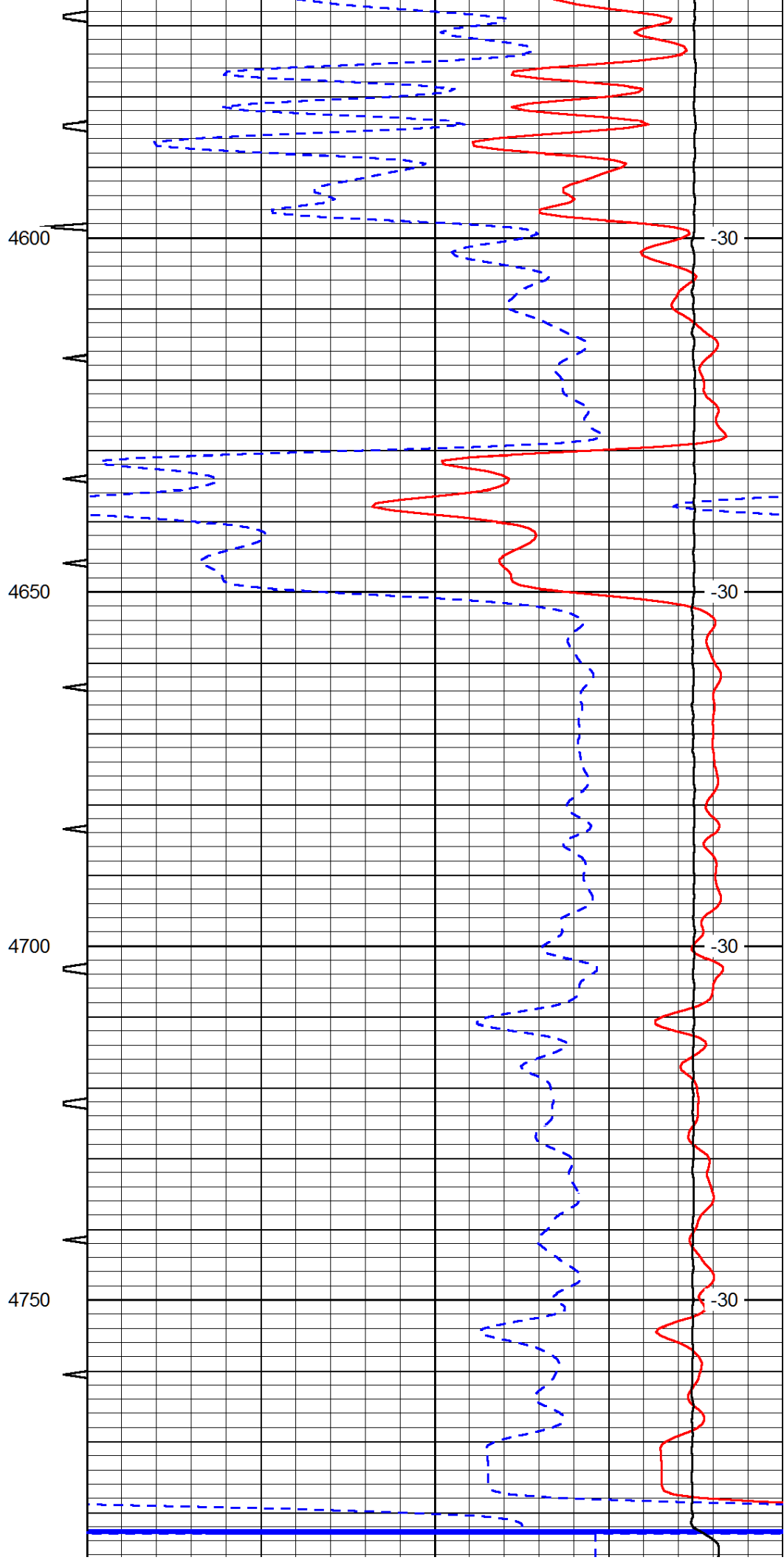
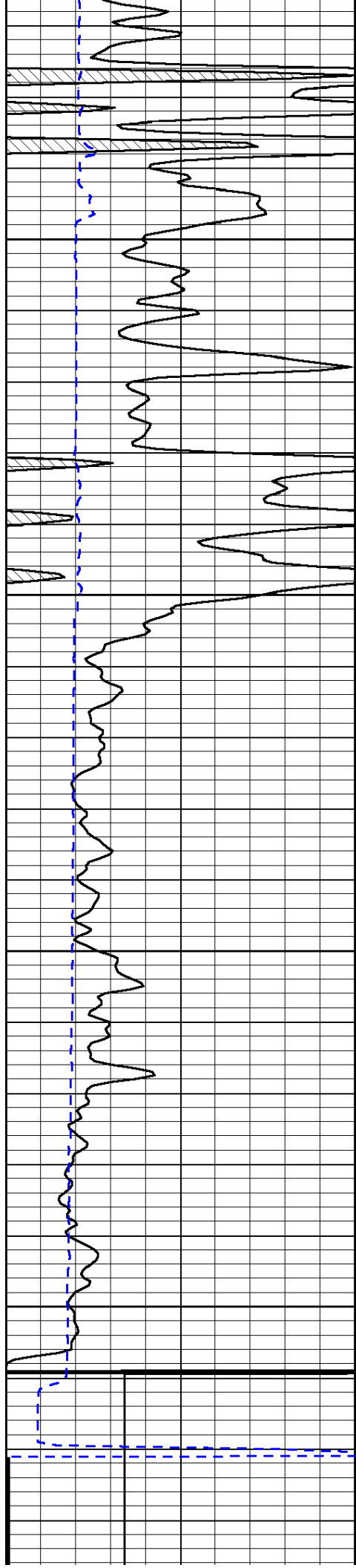












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