



Pioneer Energy Services

Borehole Compensated Sonic Log

API No. 15-153-20995-00-00

Company: **Murfin Drilling Company, Inc.**
 Well: **Friskie #3-23**
 Field: **Happy Southwest**
 County: **Rawlins** State: **Kansas**

Location: **1320' FNL & 1815' FWL**

Sec: **23** Twp: **2S** Rge: **36W**

Other Services: **CNL/CDL MEL/DIL**

Permanent Datum: **Ground Level** Elevation: **3309**
 Log Measured From: **Kelly Bushing** 5 Ft. Above Perm. Datum
 Drilling Measured From: **Kelly Bushing**

K.B. 3314
 D.F. G.L. 3309

Date	3/24/2014	
Run Number	Two	
Type Log	BHC Sonic	
Depth Driller	4830	
Depth Logger	4830	
Bottom Logged Interval	4819	
Top Logged Interval	300	
Type Fluid In Hole	Chemical	
Salinity, PPM CL	1400	
Density	9.3	
Level	Full	
Max. Rec. Temp. F	126	
Operating Rig Time	5 Hours	
Equipment -- Location	91 Hays	
Recorded By	D. Schmidt	
Witnessed By	Rocky Milford	

Borehole Record			Casing Record				
Run No.	Bit	From	To	Size	Wgt.	From	To
One	12.25	00	345	8.625	23#	00	345
Two	7.875	345	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.

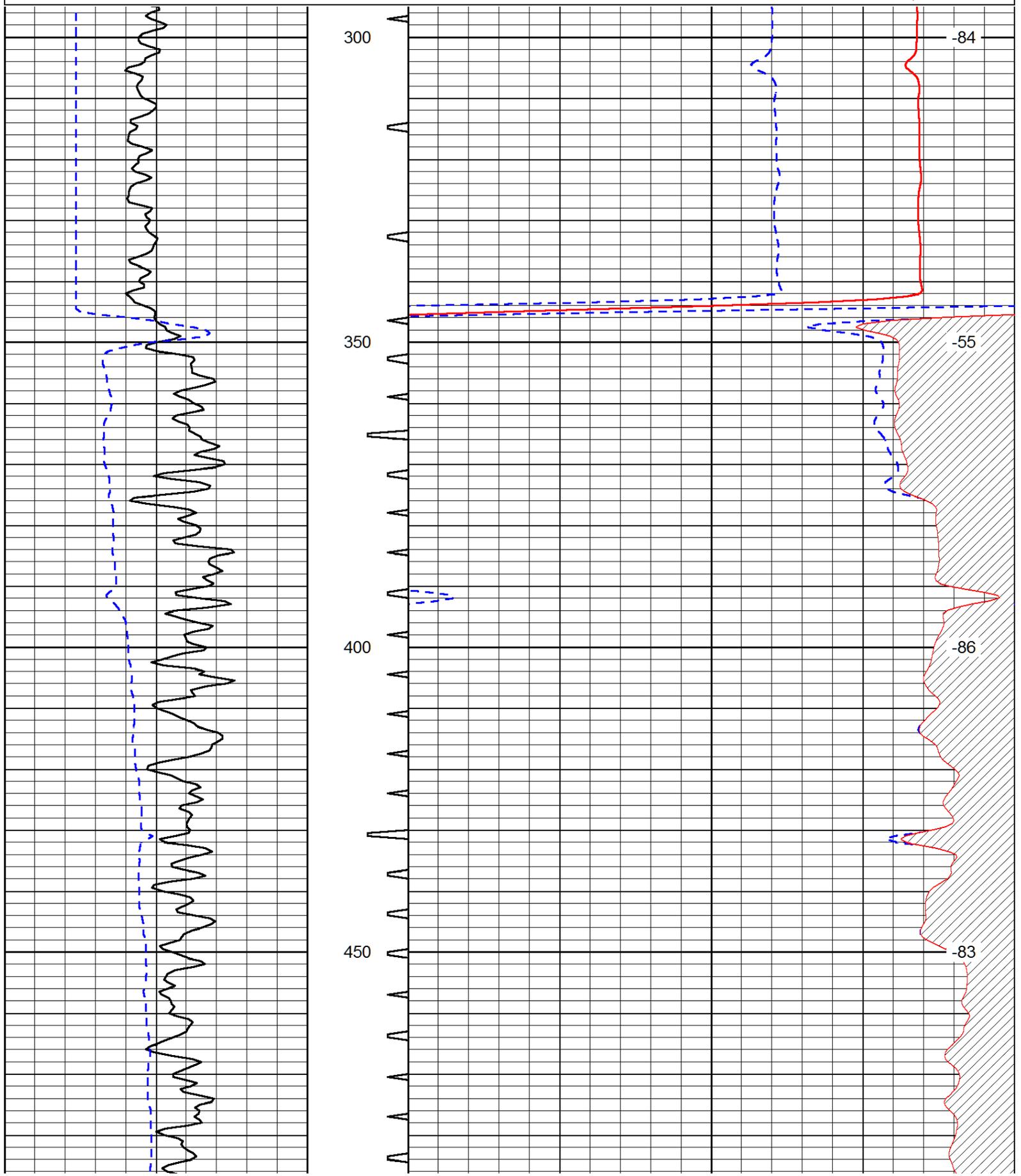
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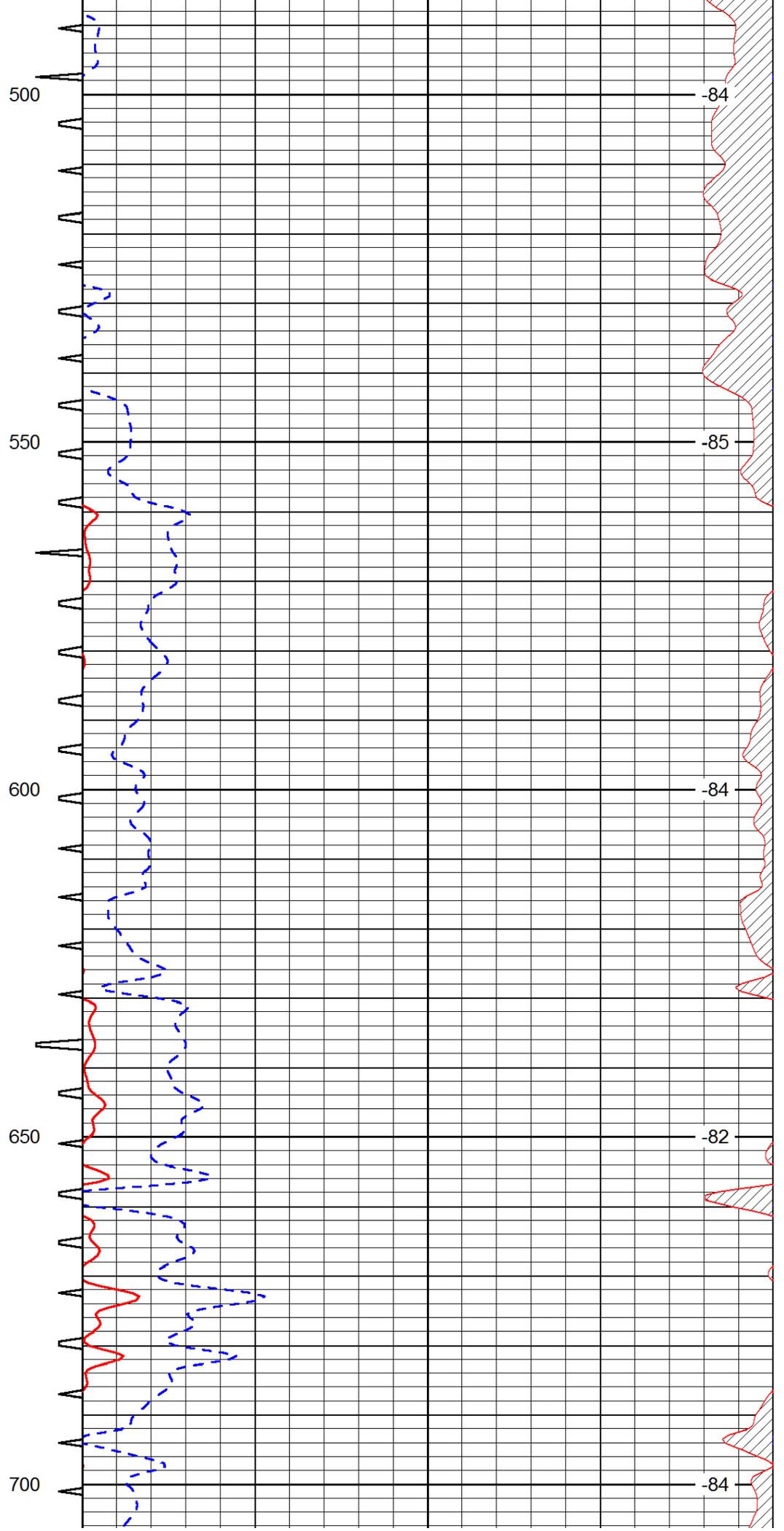
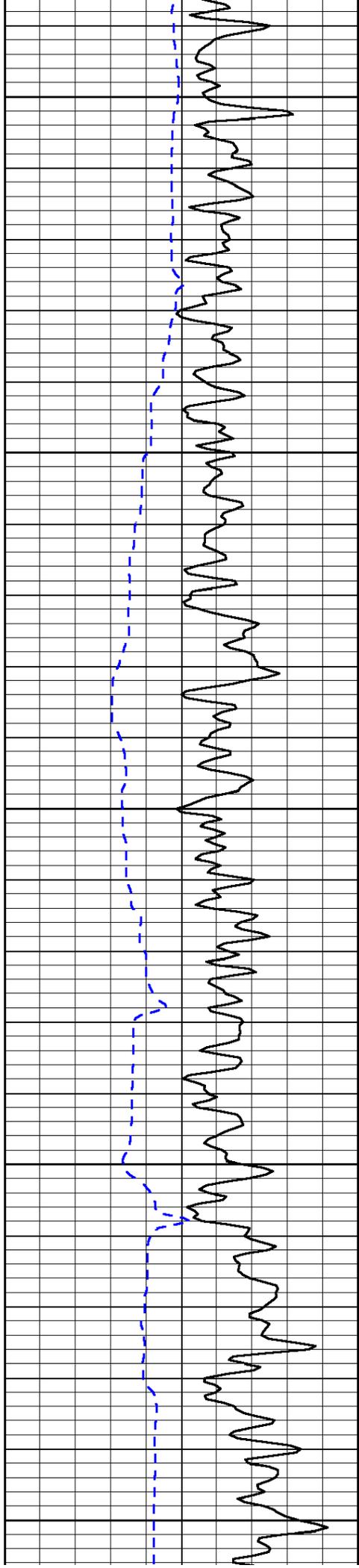
Thank you for using Log-Tech, Inc.
 (785) 625-3858

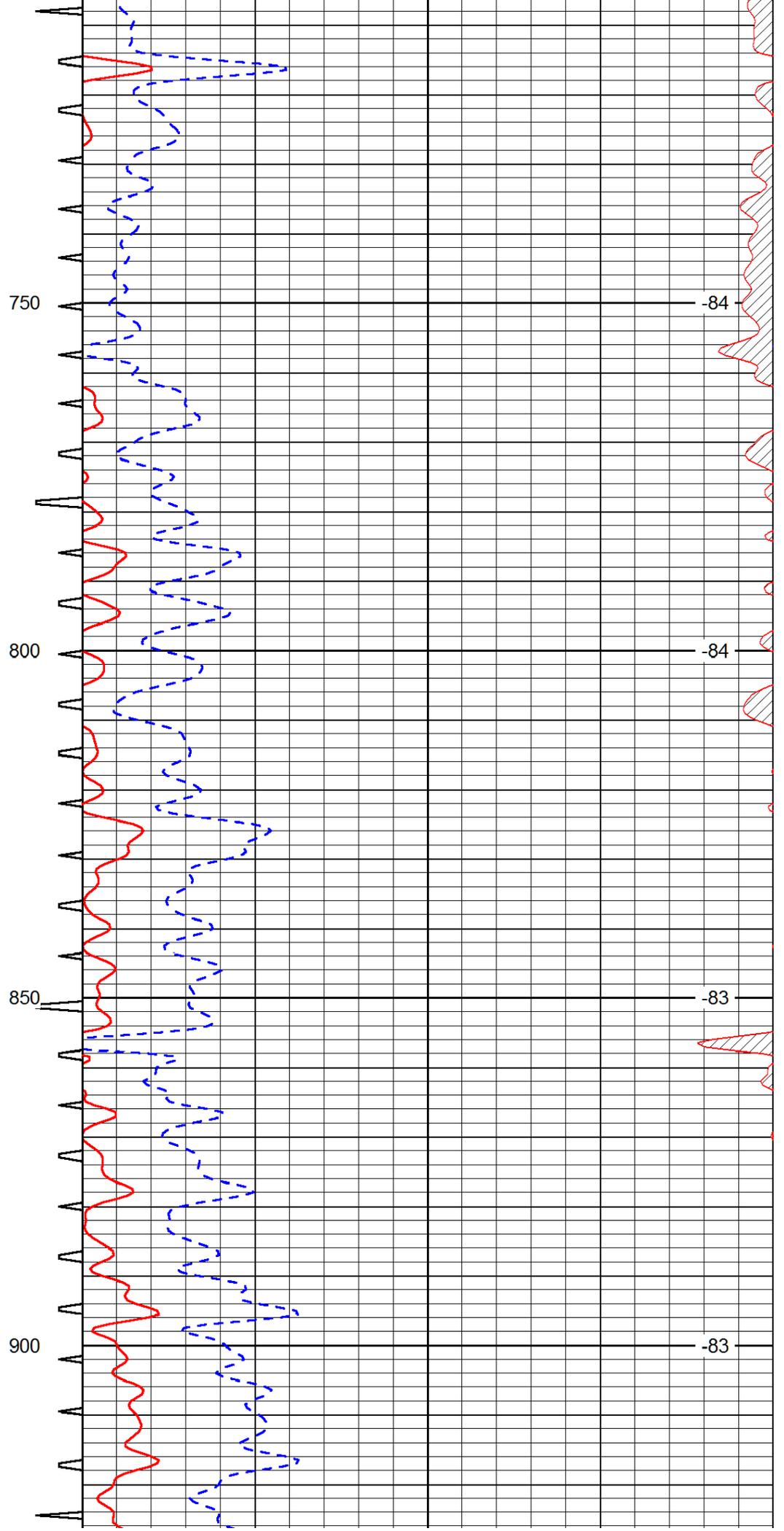
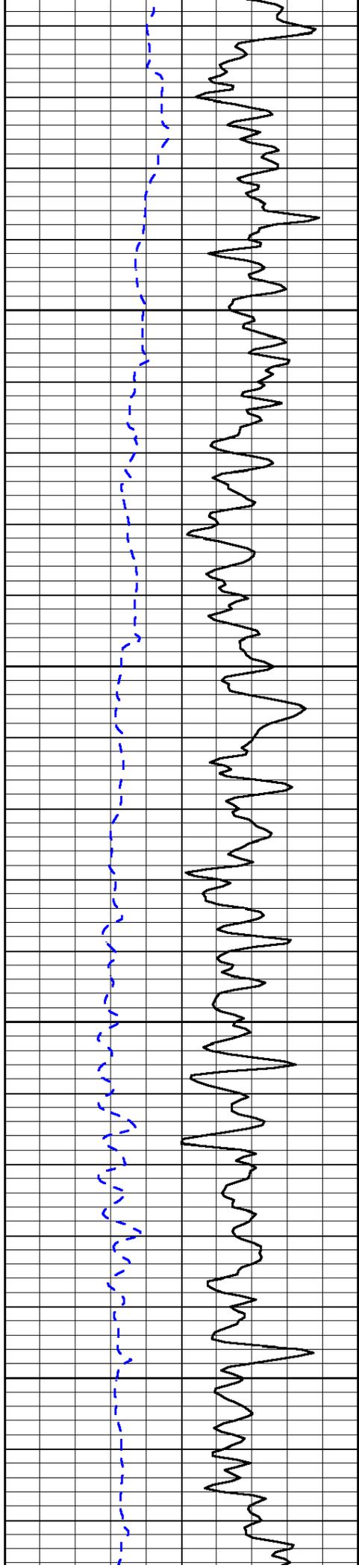
McDonald,
 2 East to 5 Rd, 6 North to V Rd, 1/2 East,
 South and West into

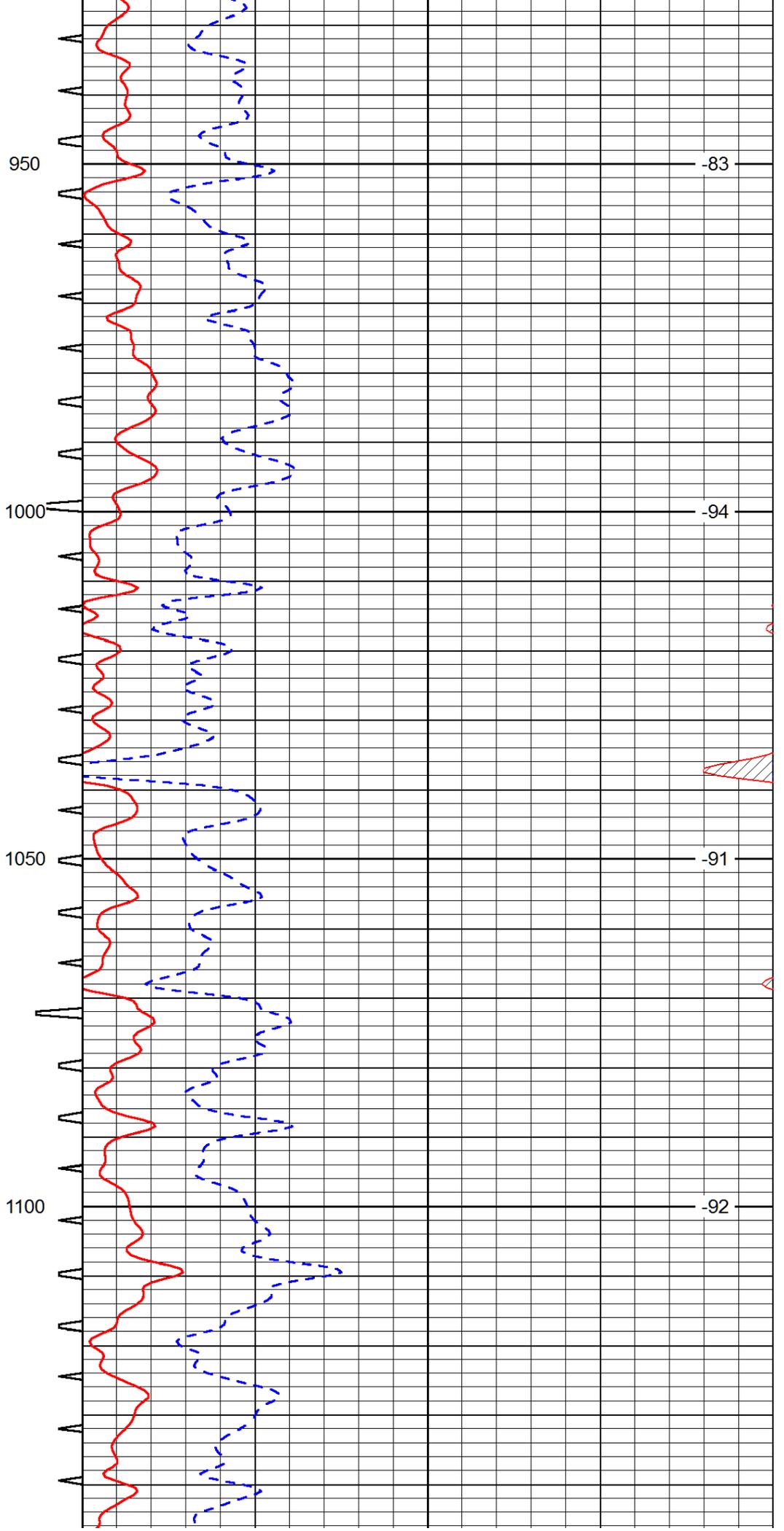
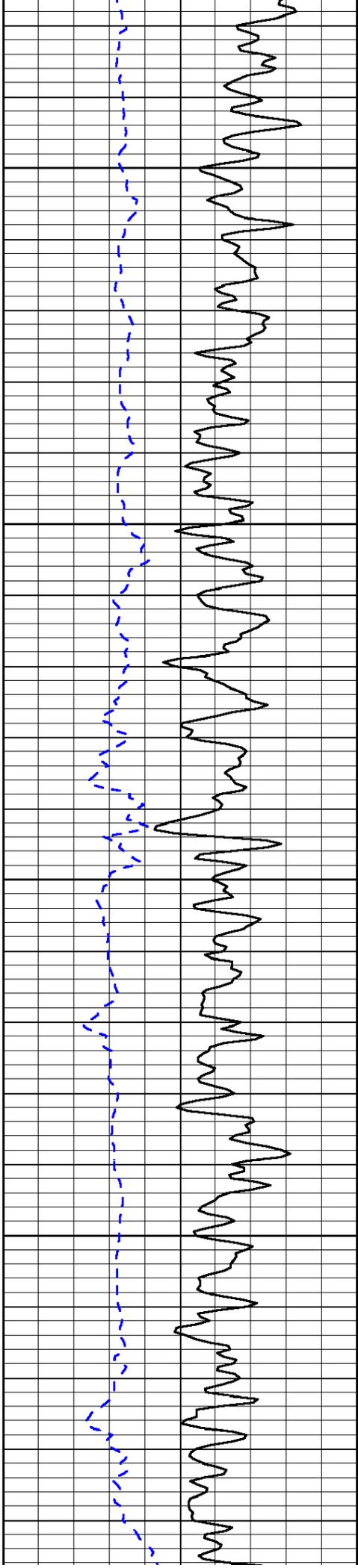
Database File: murfin_032414hd.db
 Dataset Pathname: dil/mrfstck
 Presentation Format: sonic
 Dataset Creation: Tue Mar 25 02:47:56 2014
 Charted by: Depth in Feet scaled 1:240

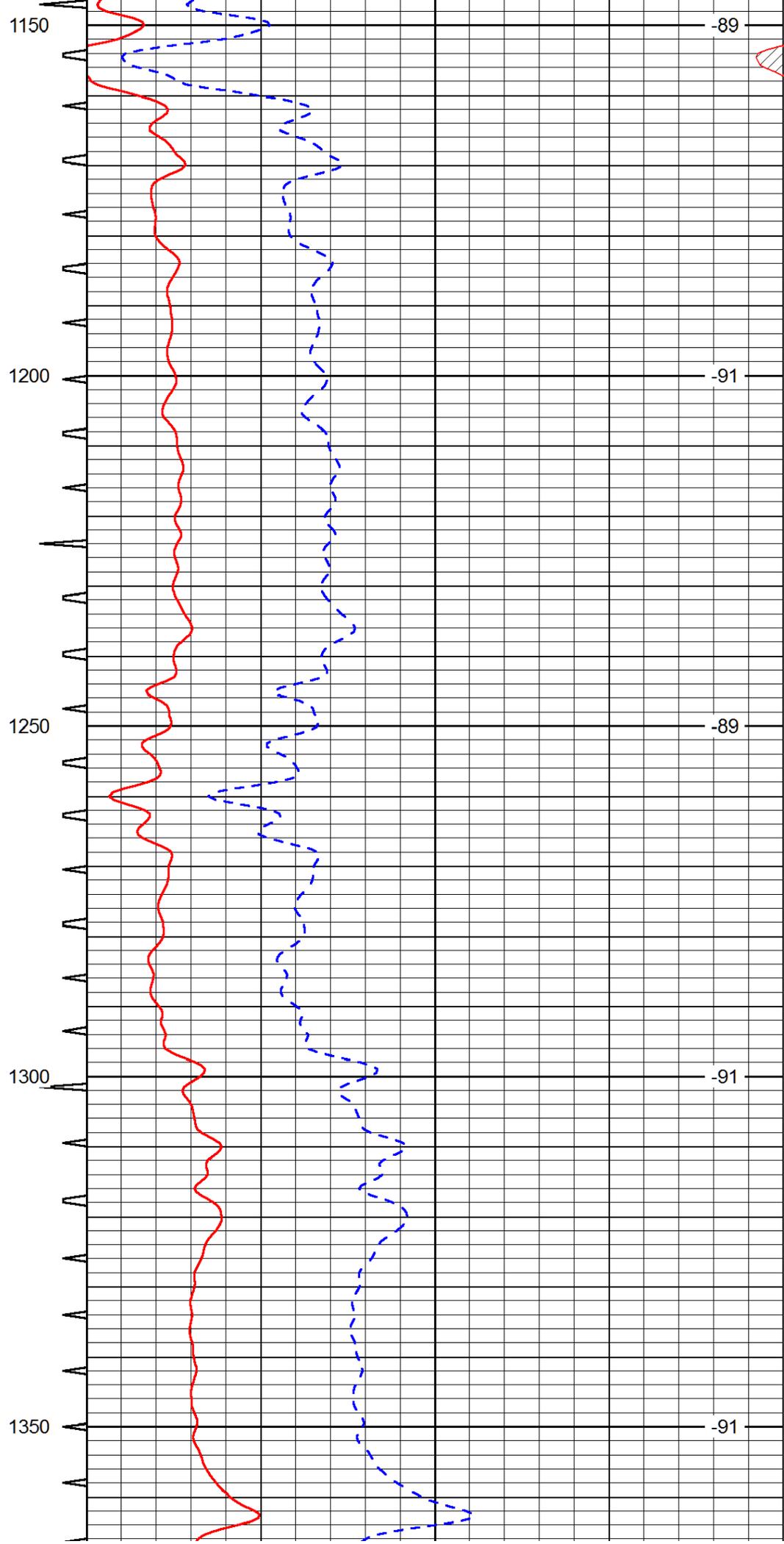
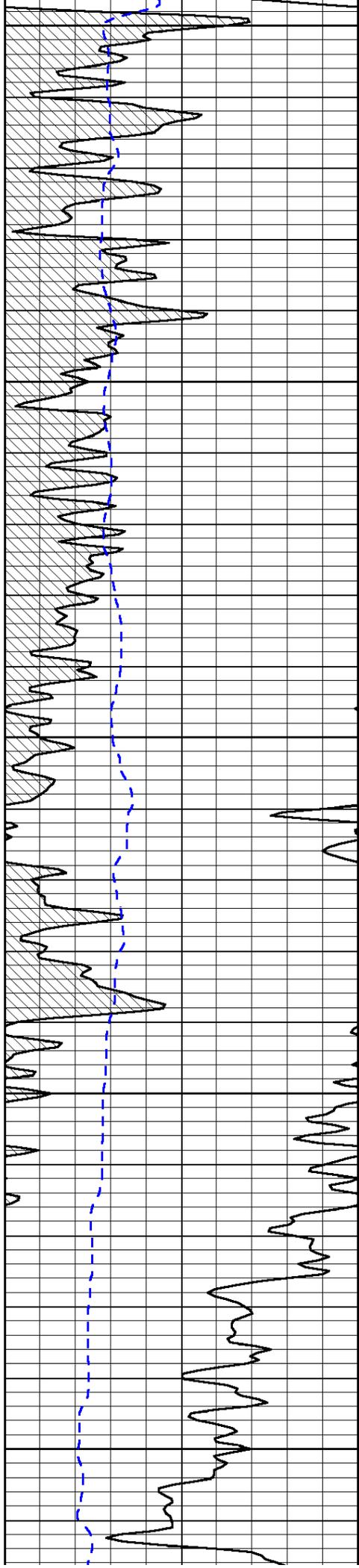
0	Gamma Ray (GAPI)	150	Sonic Int	140	Delta Time (usec/ft) (usec/ft)	40
150	Gamma Ray (GAPI)	300	5 (msec) 0	30	Sonic Porosity (pu)	-10
6	dCAL (in)	16		15000	LTEN (lb) (lb)	0
						LSPD (ft/min)

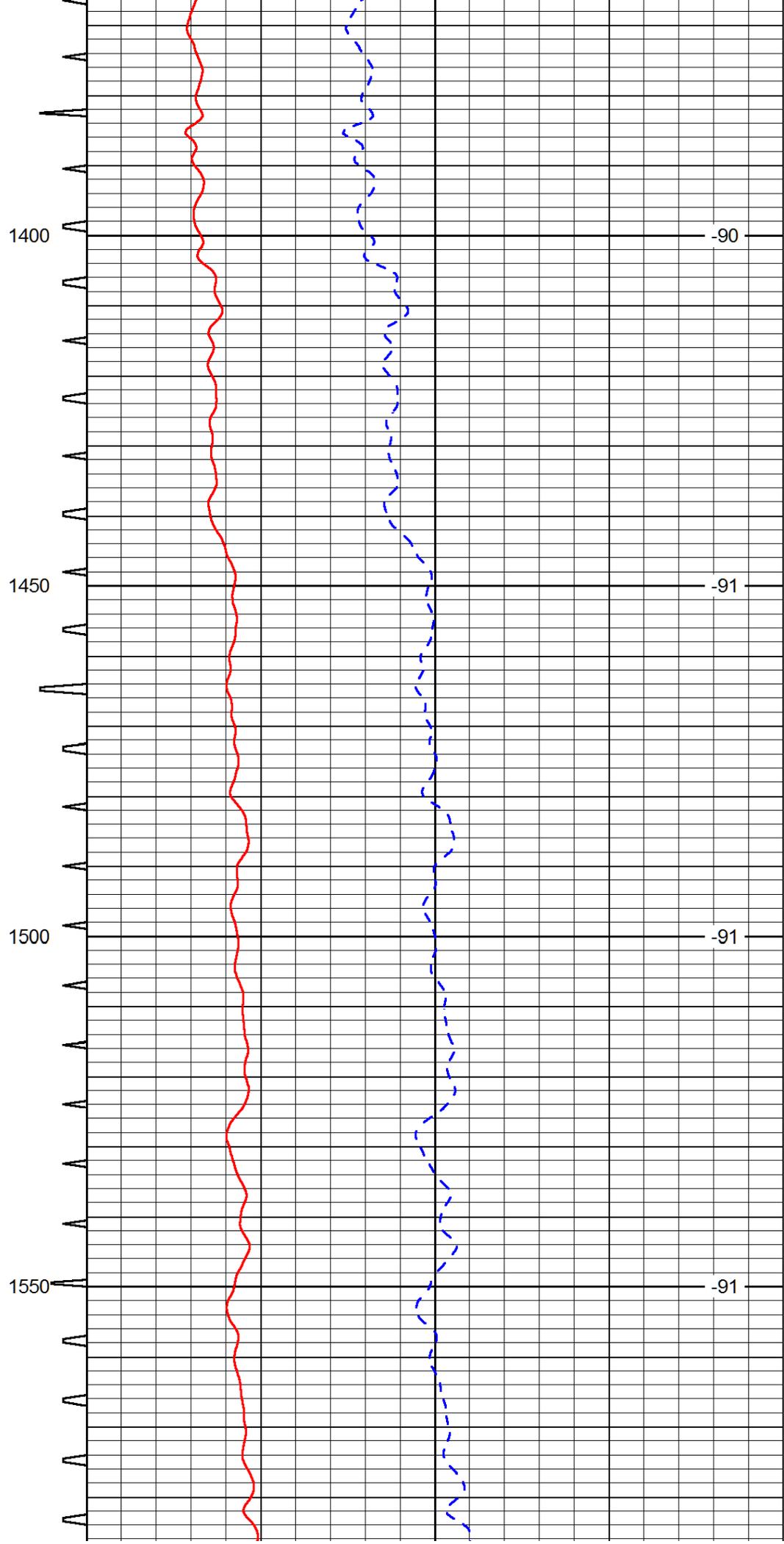
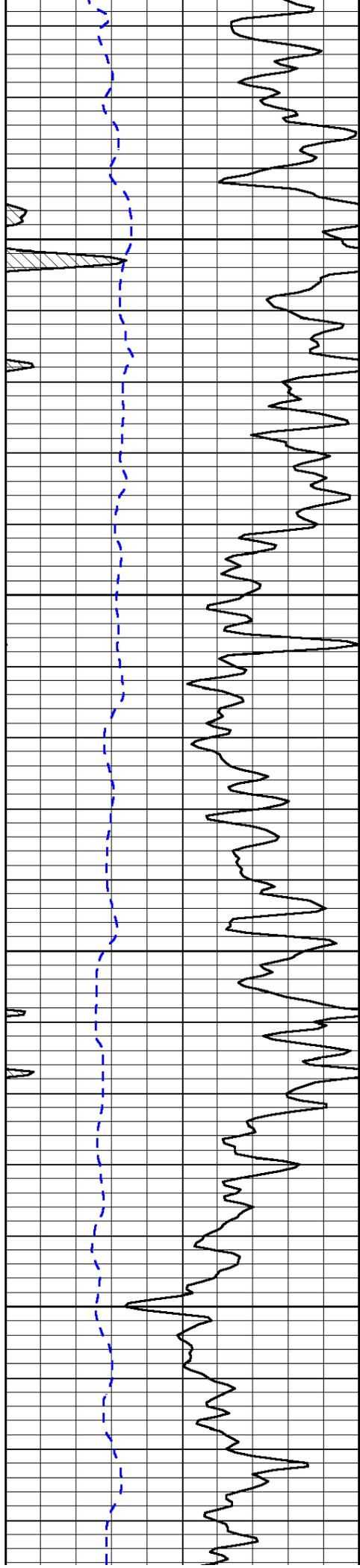


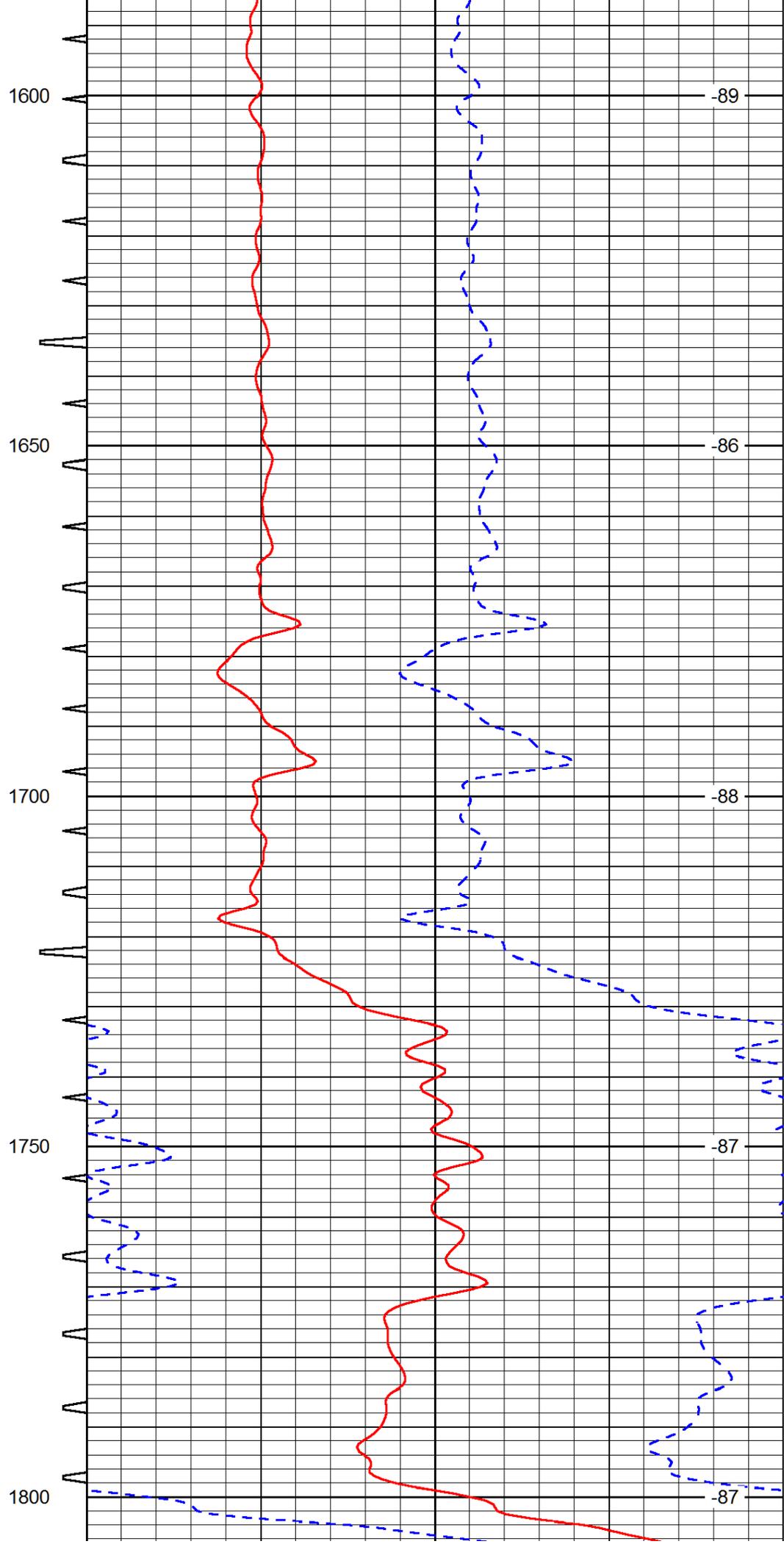
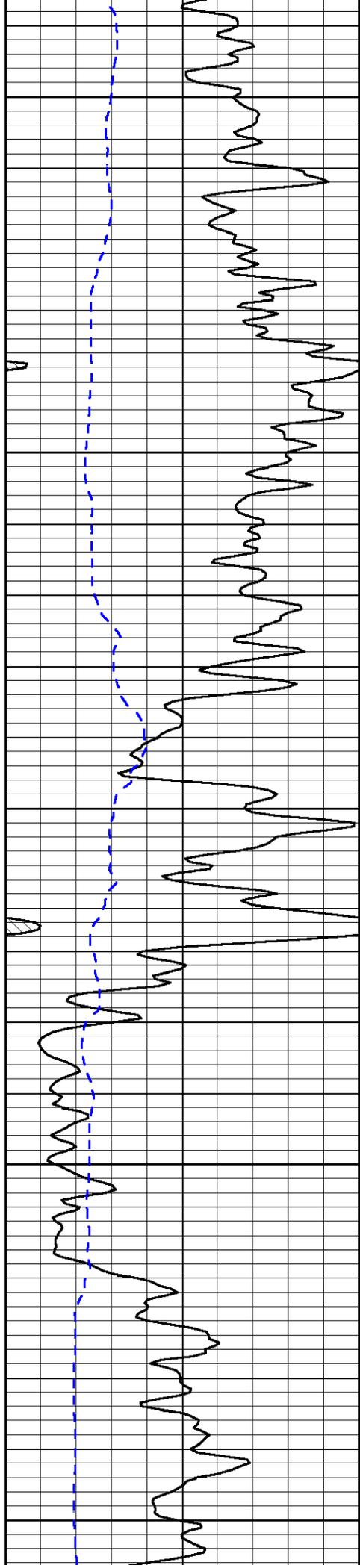


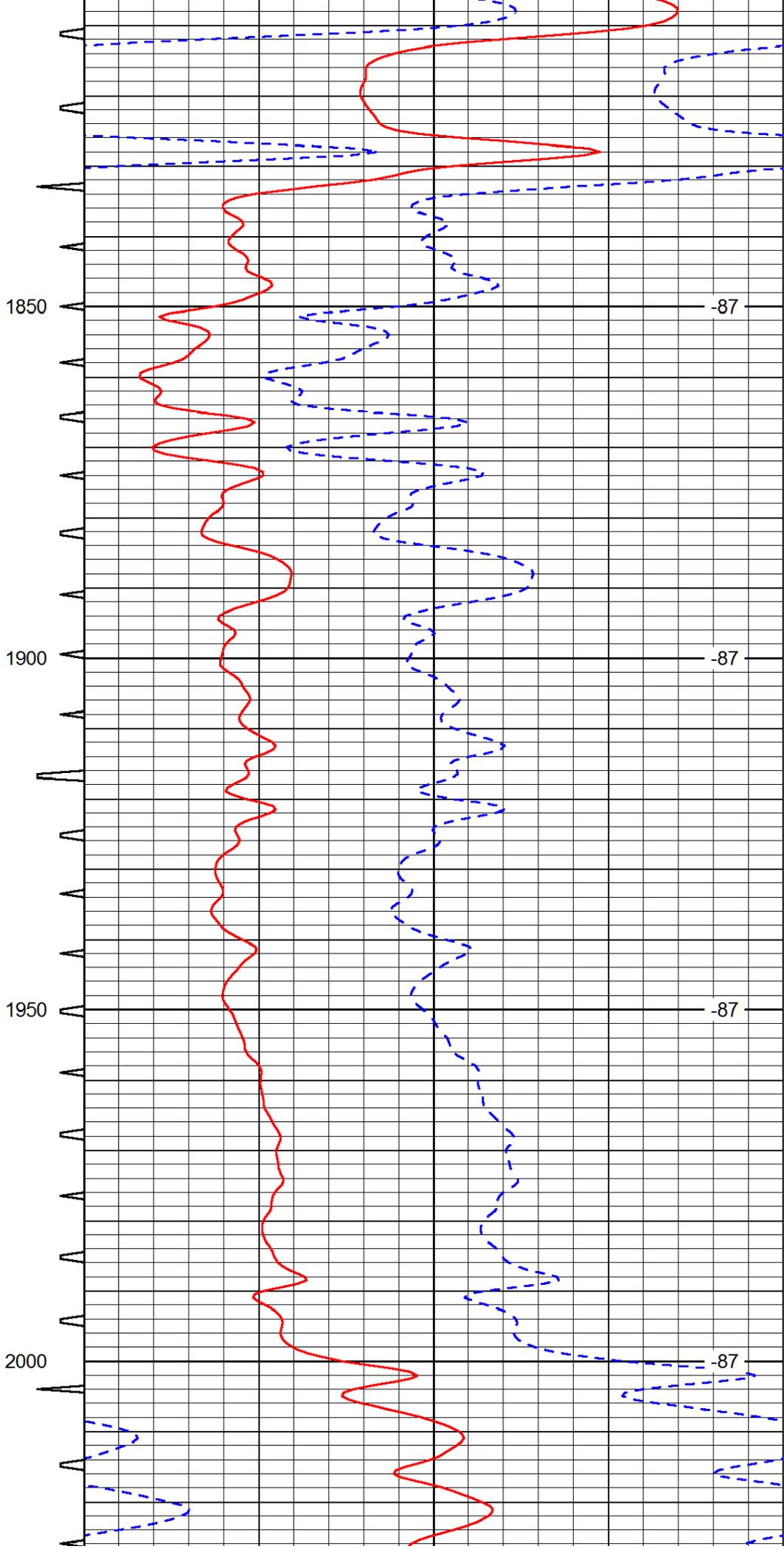
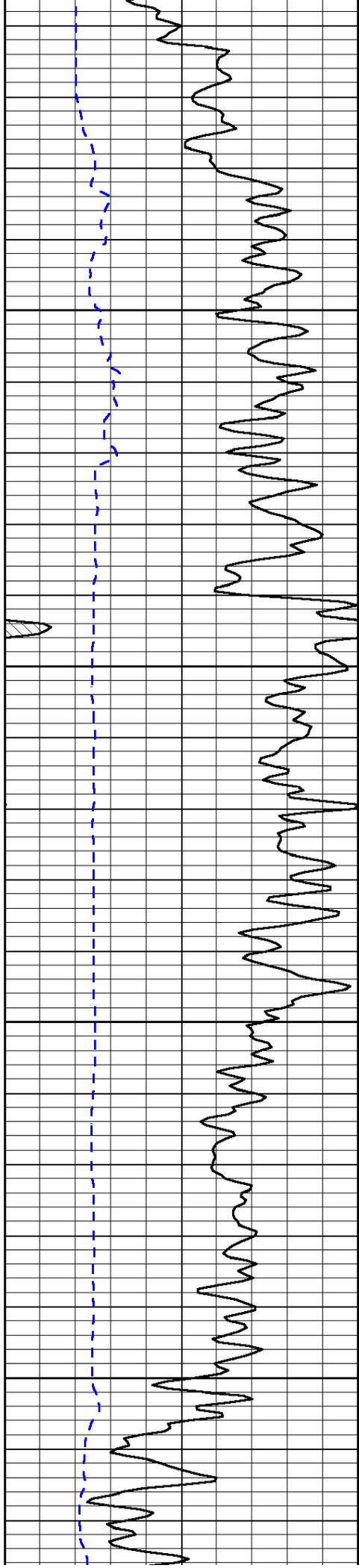


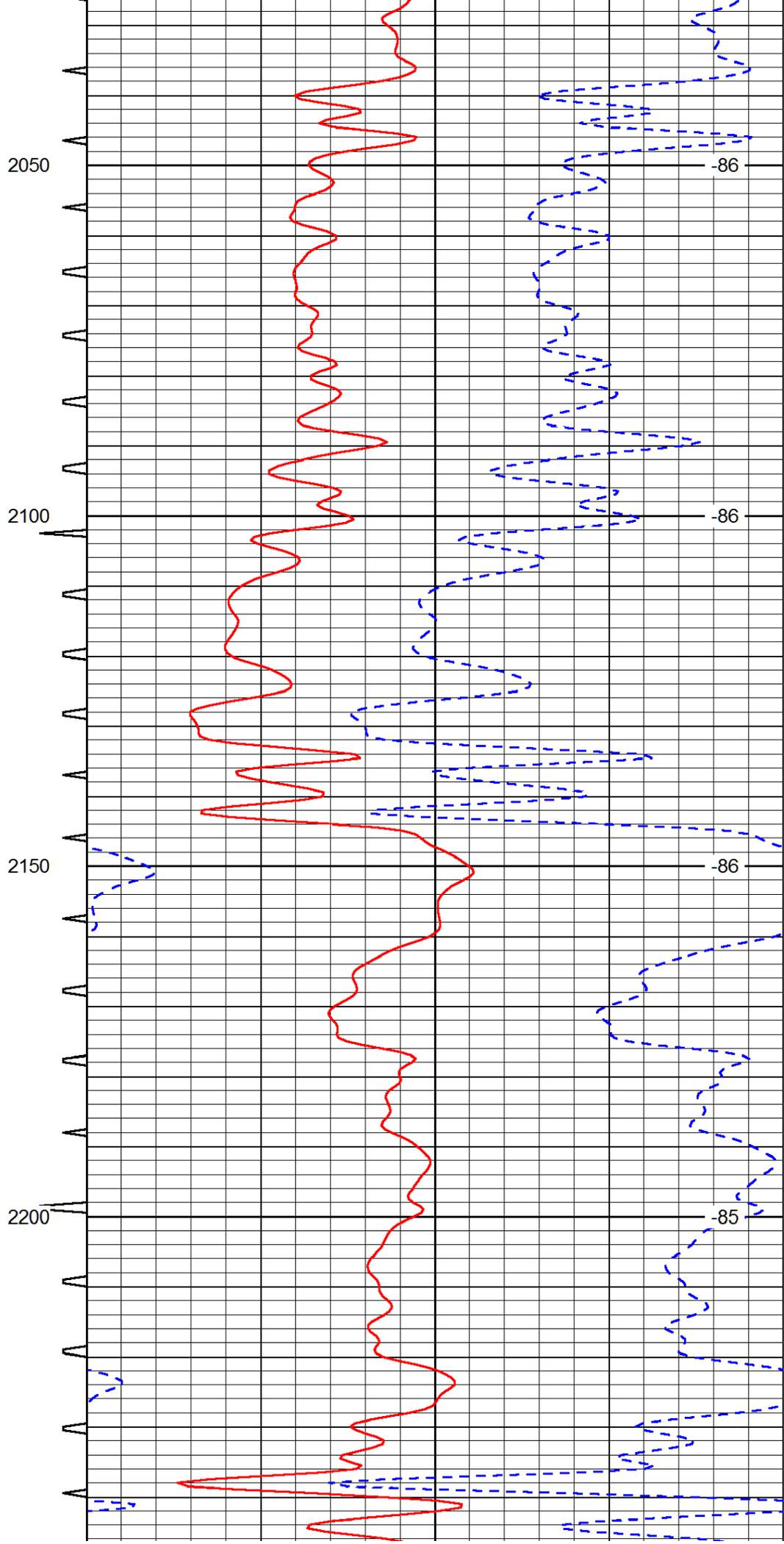
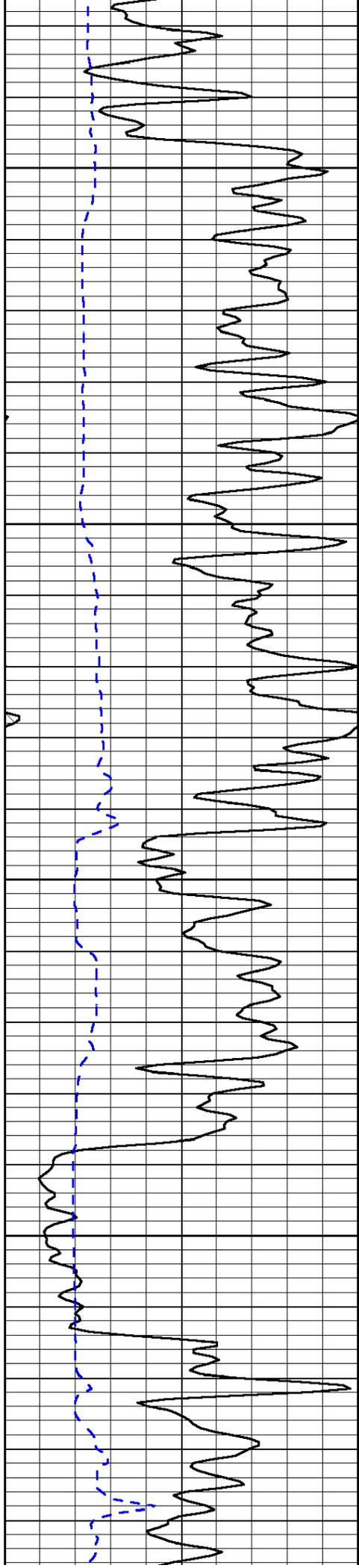


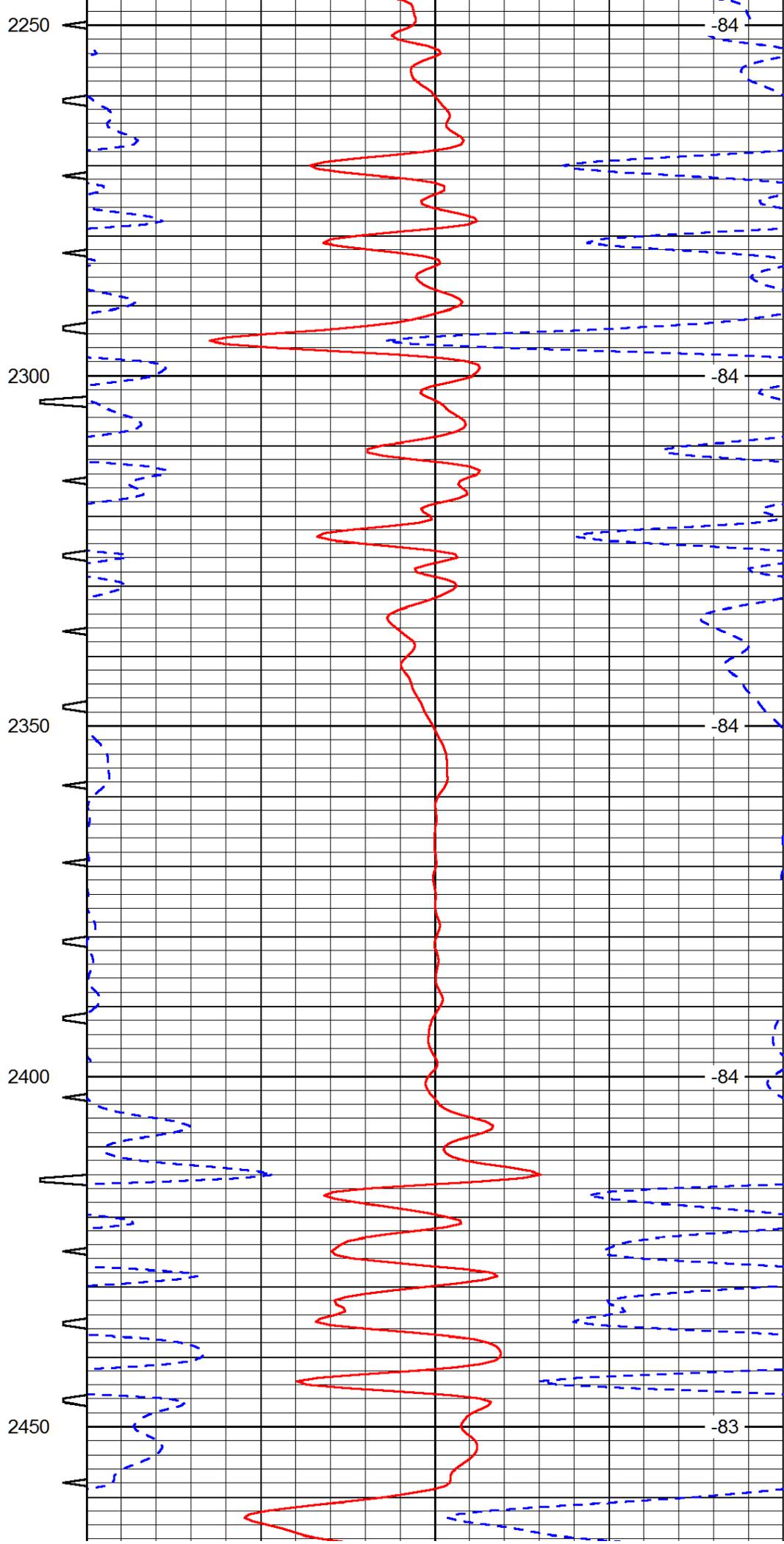
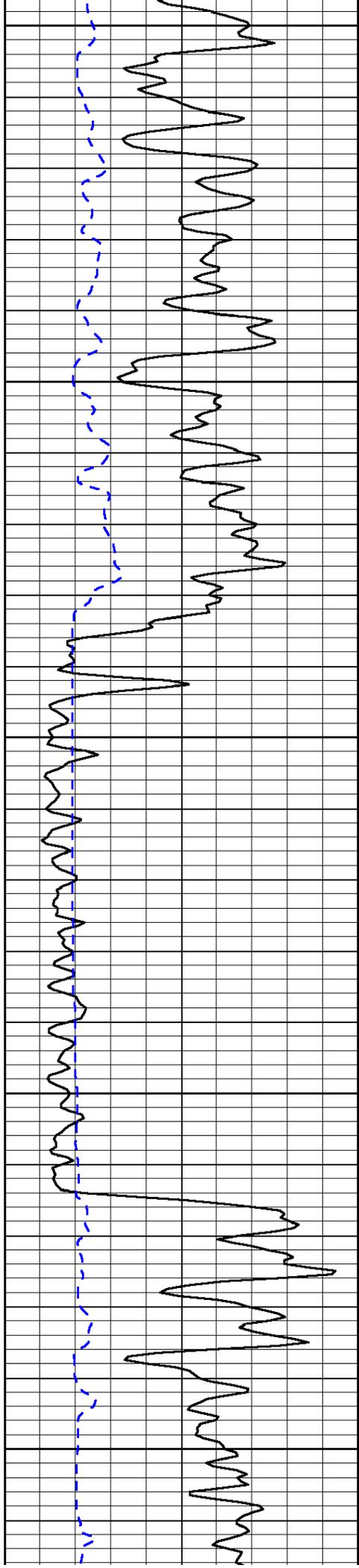


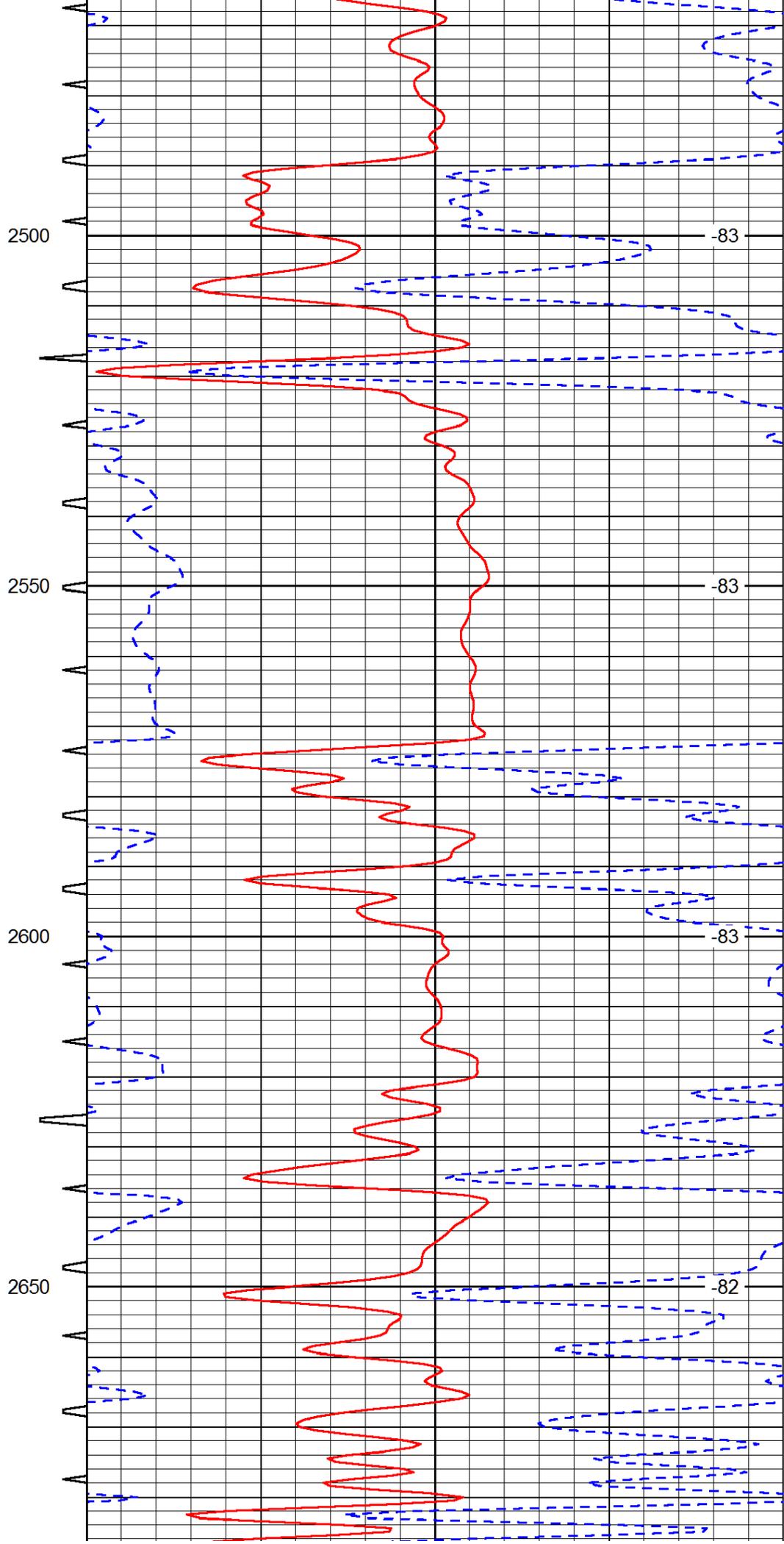
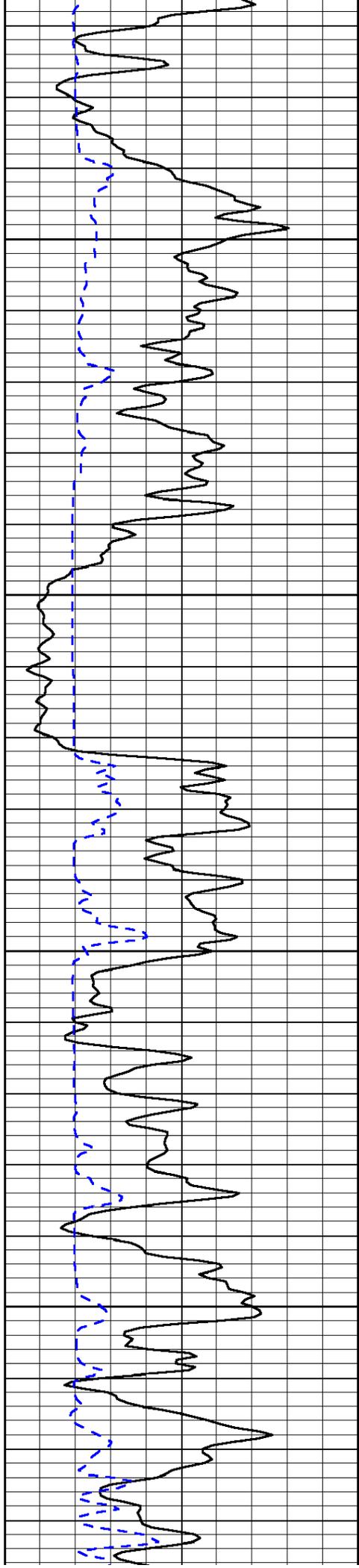


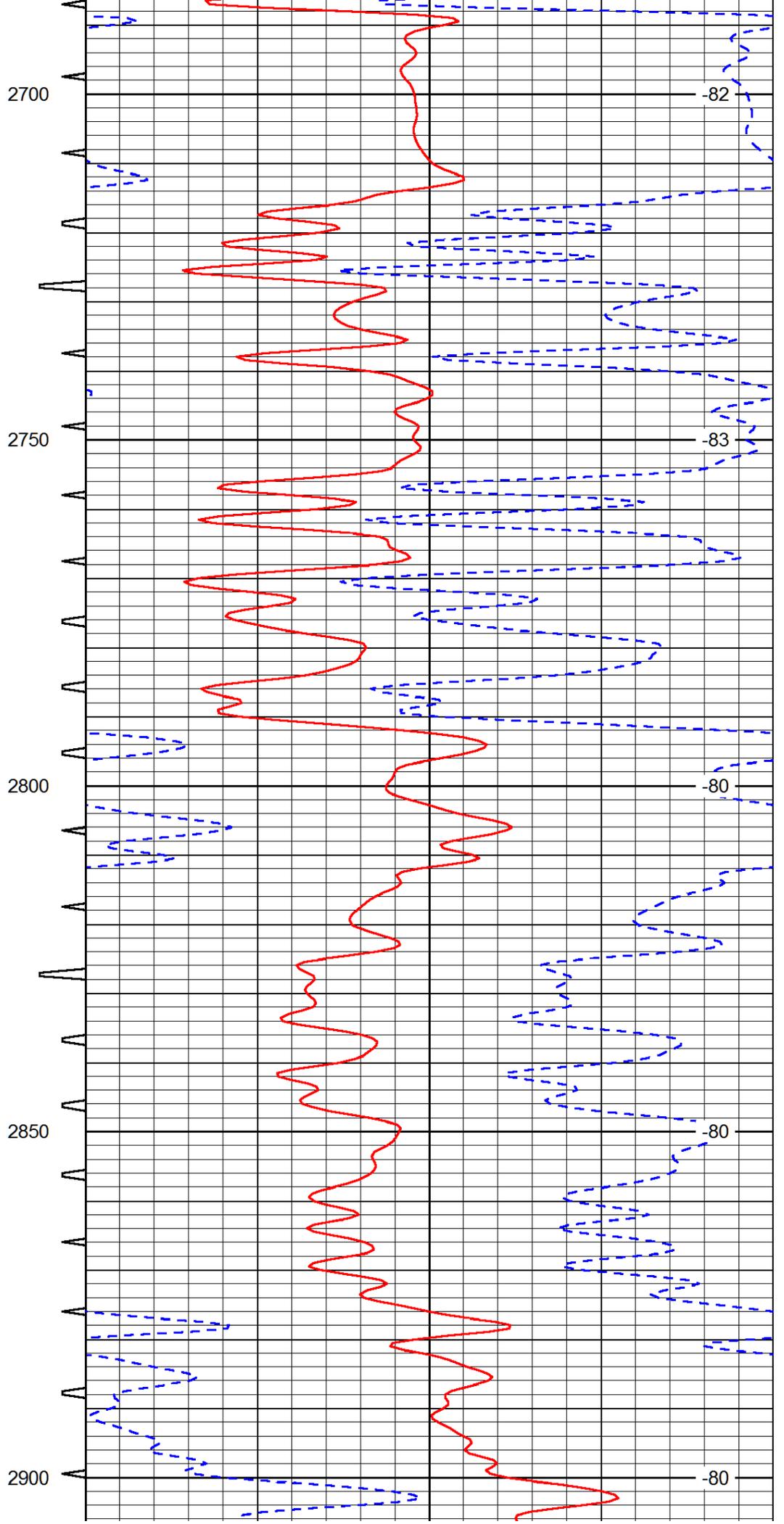
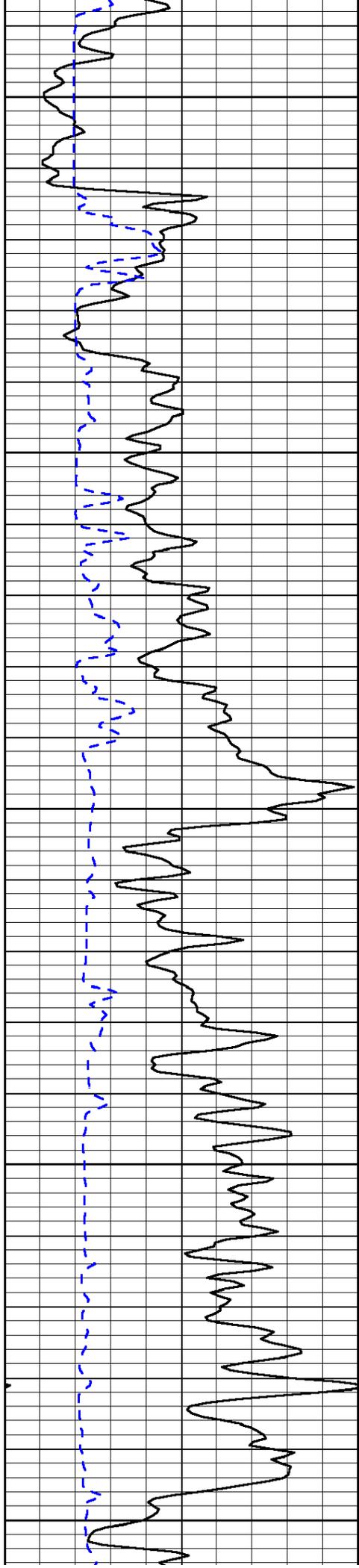


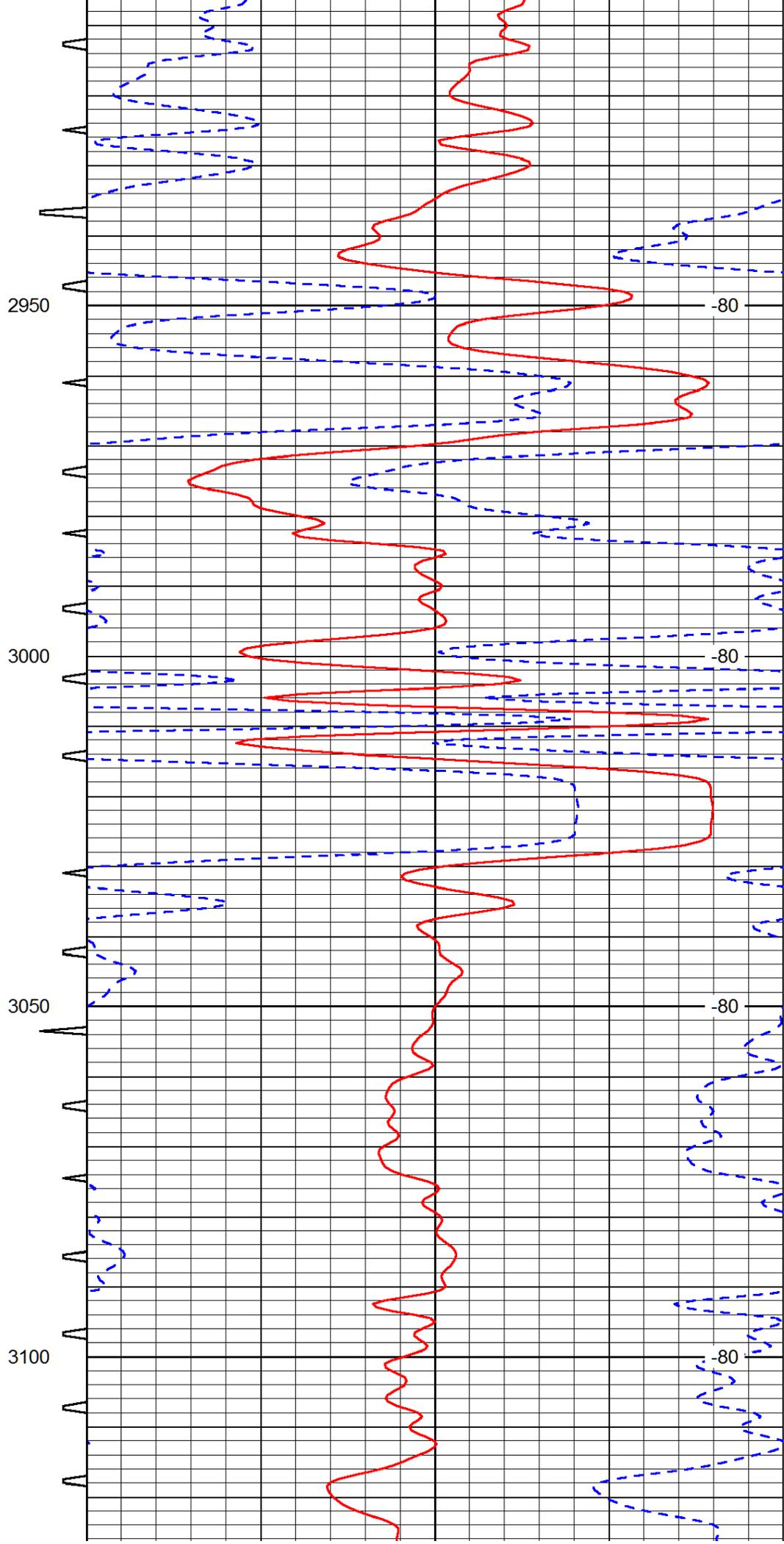
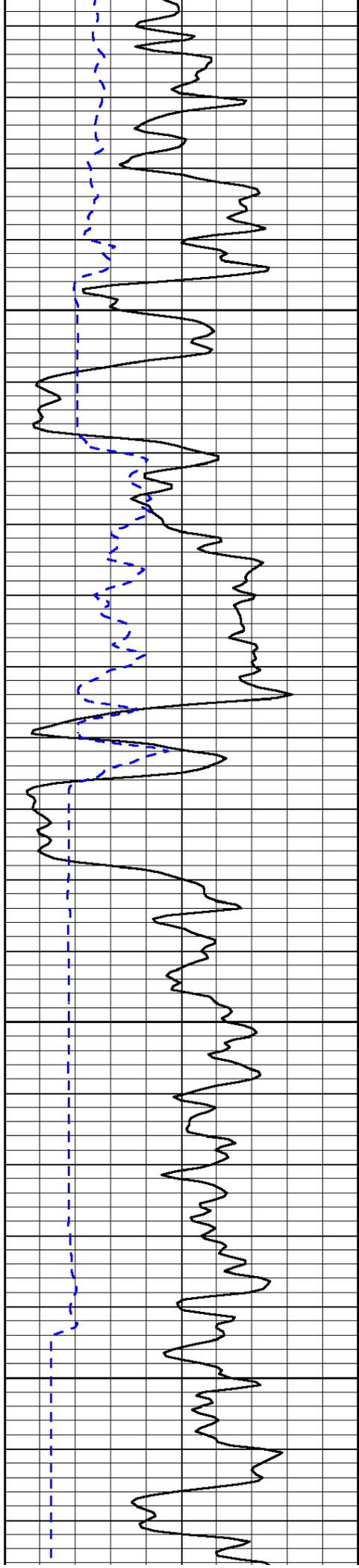


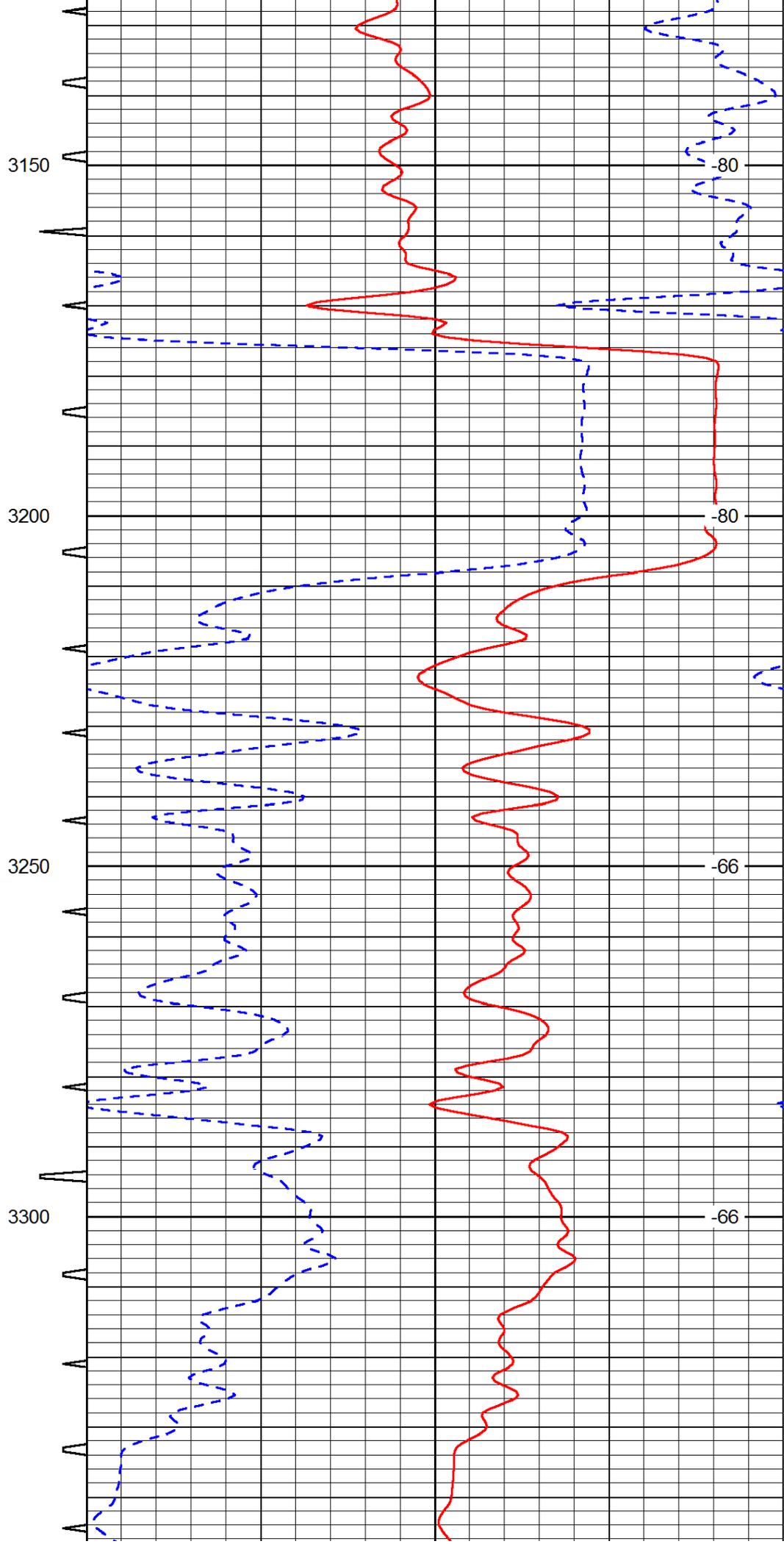
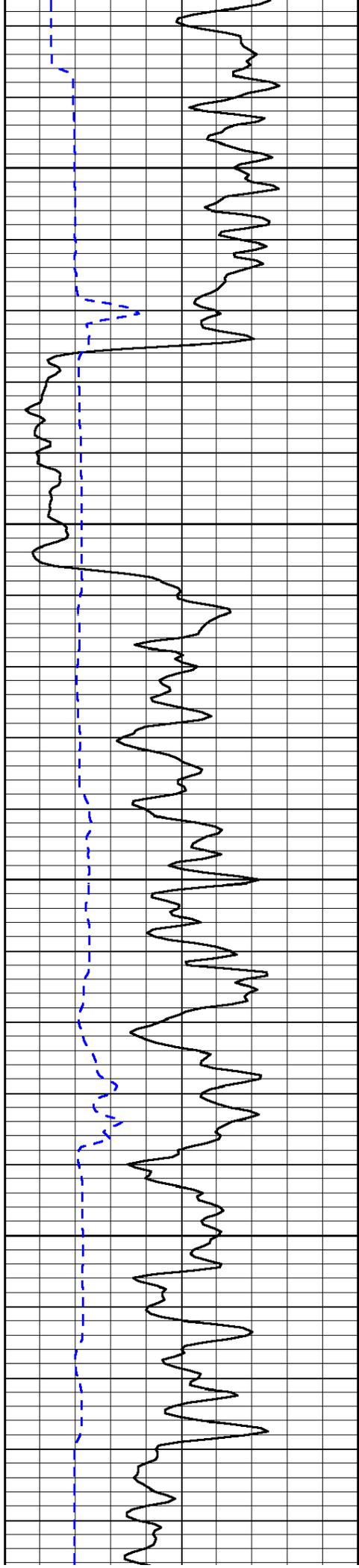


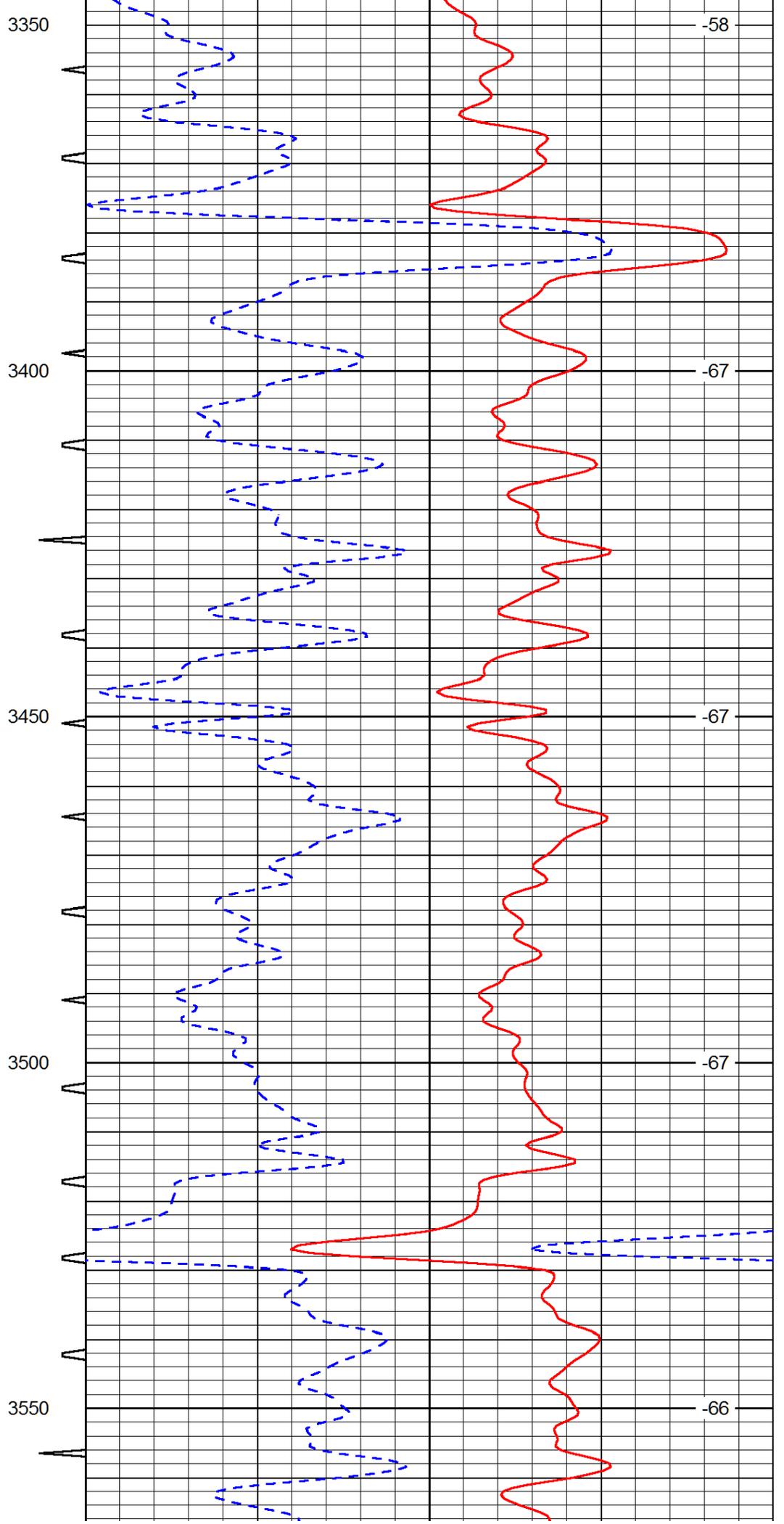
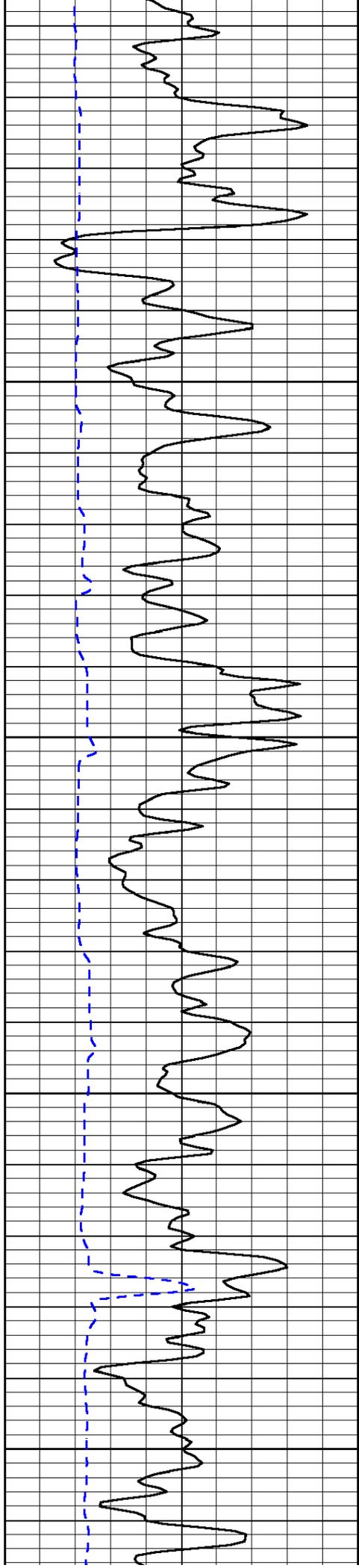


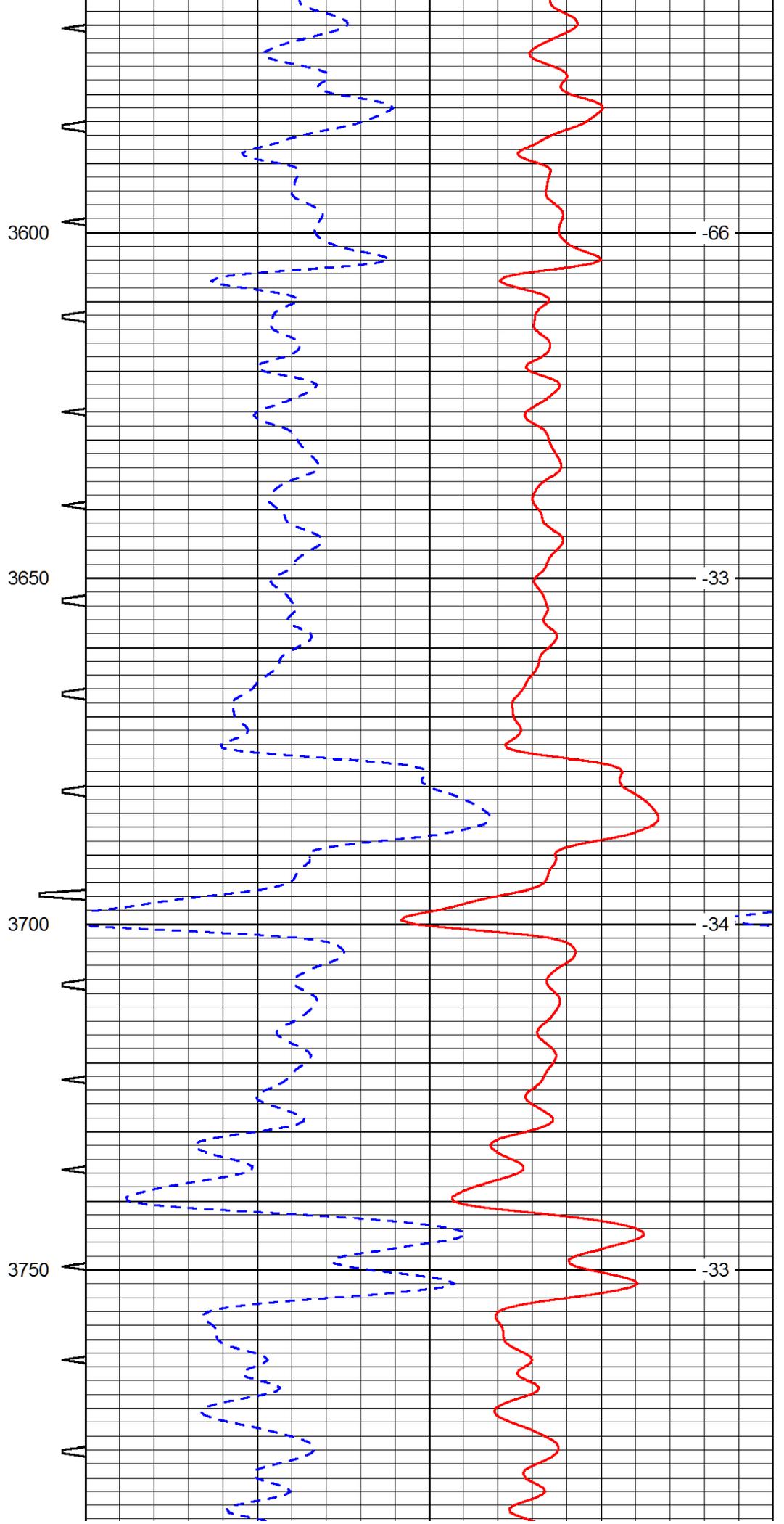
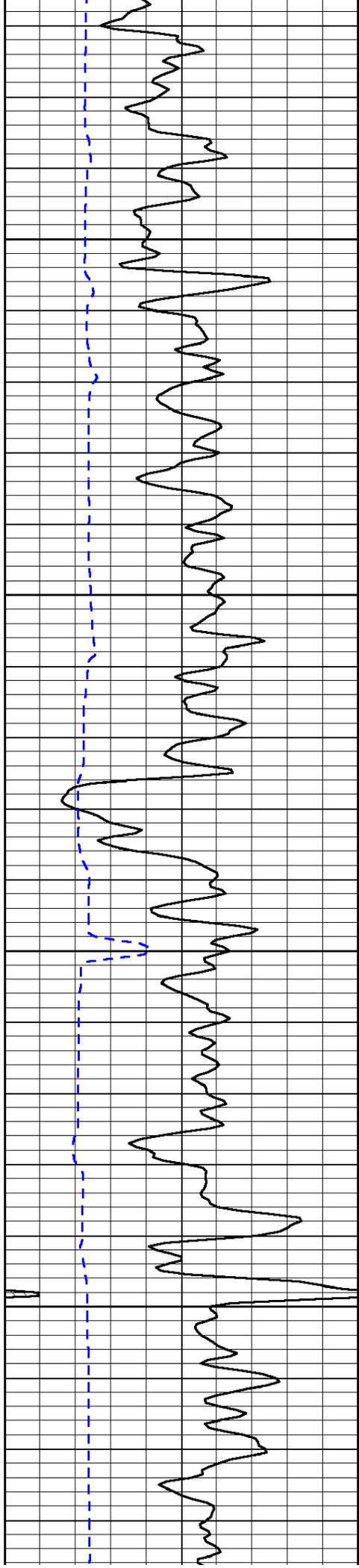


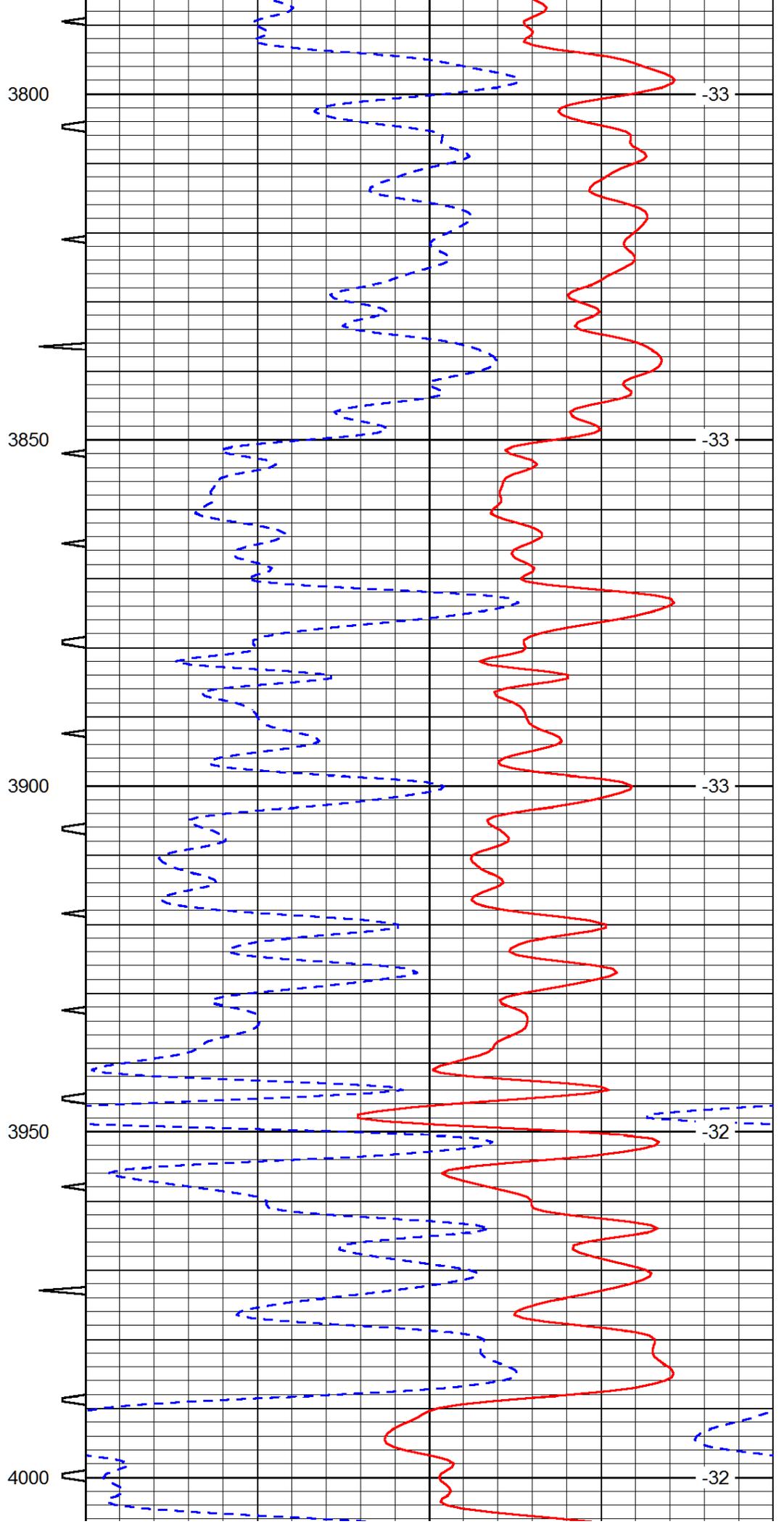
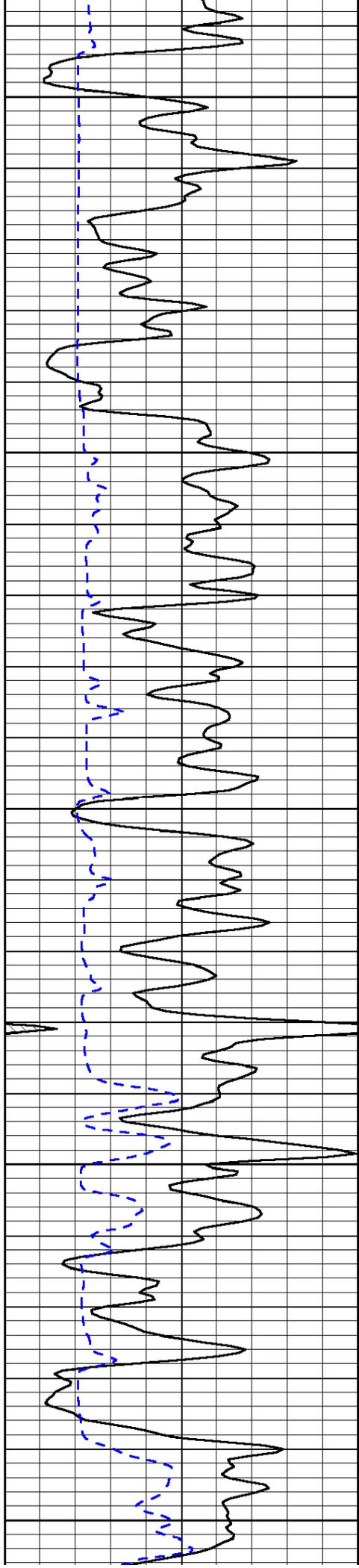


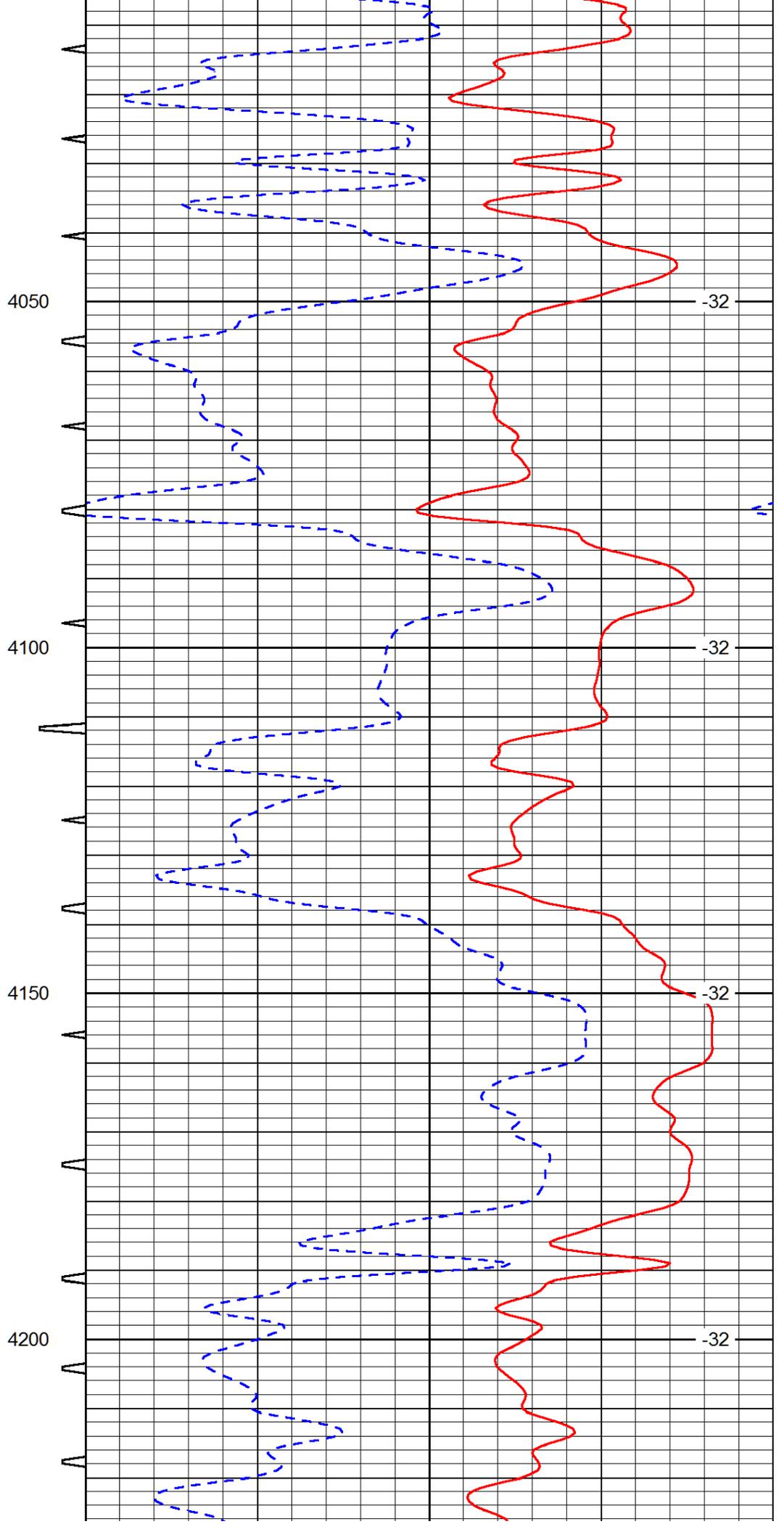
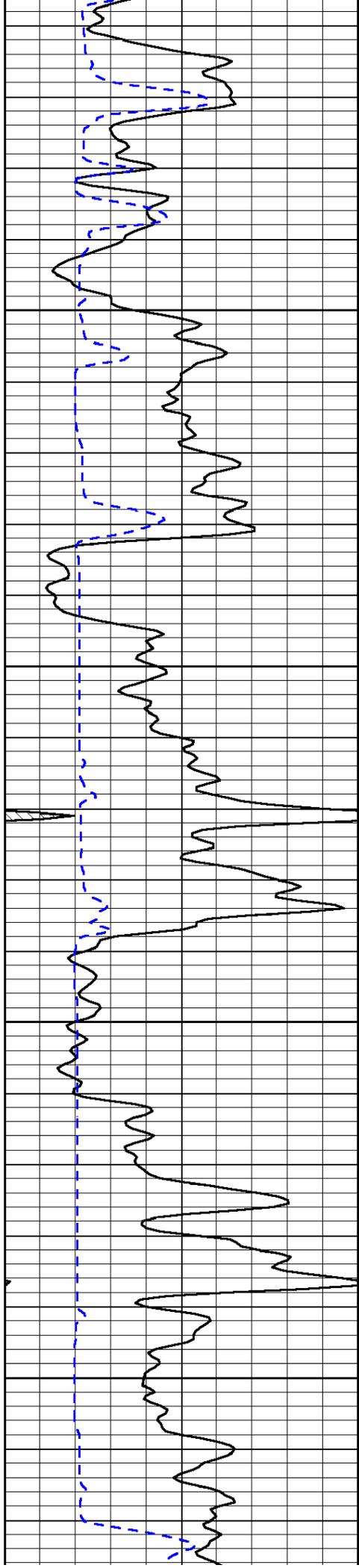


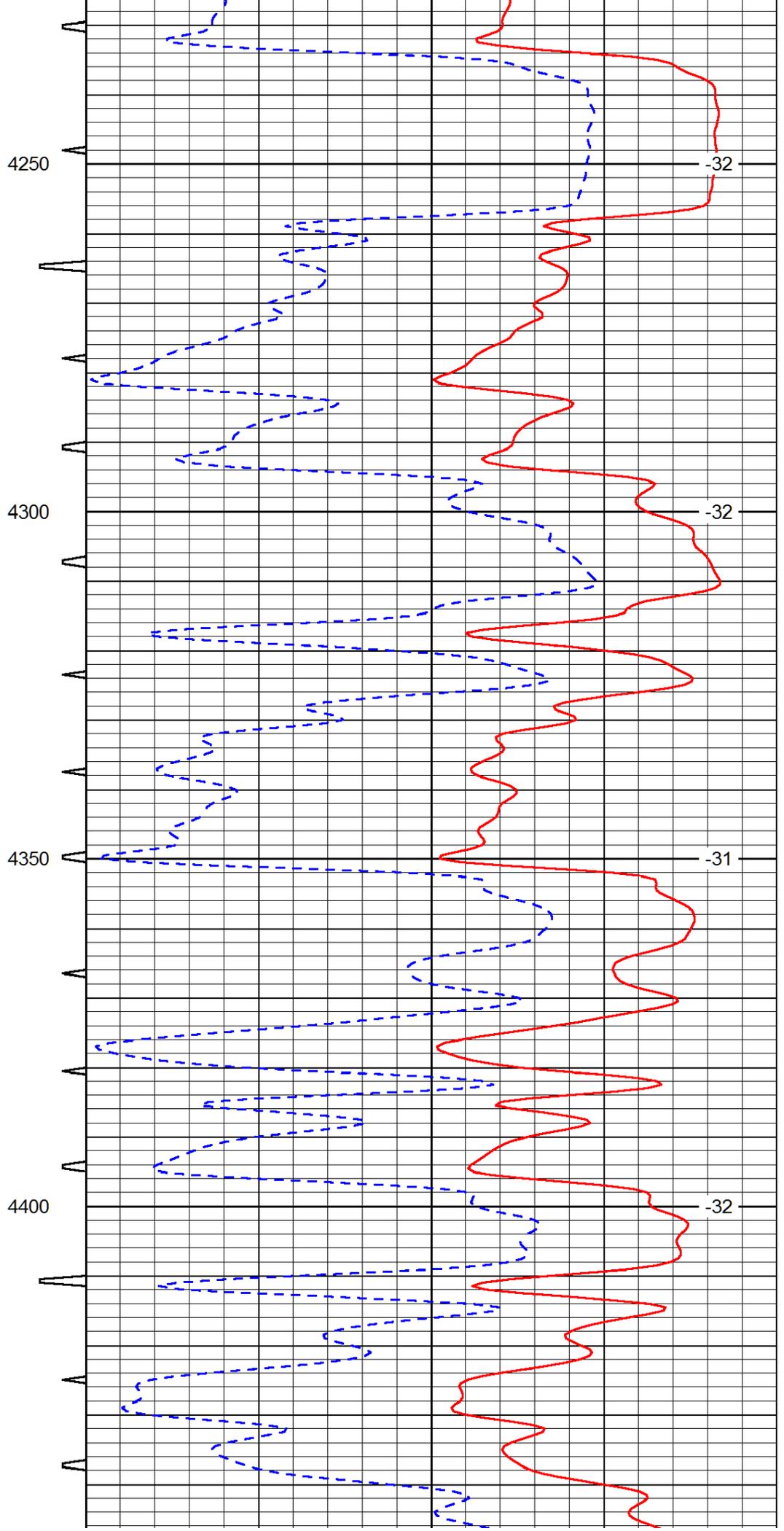
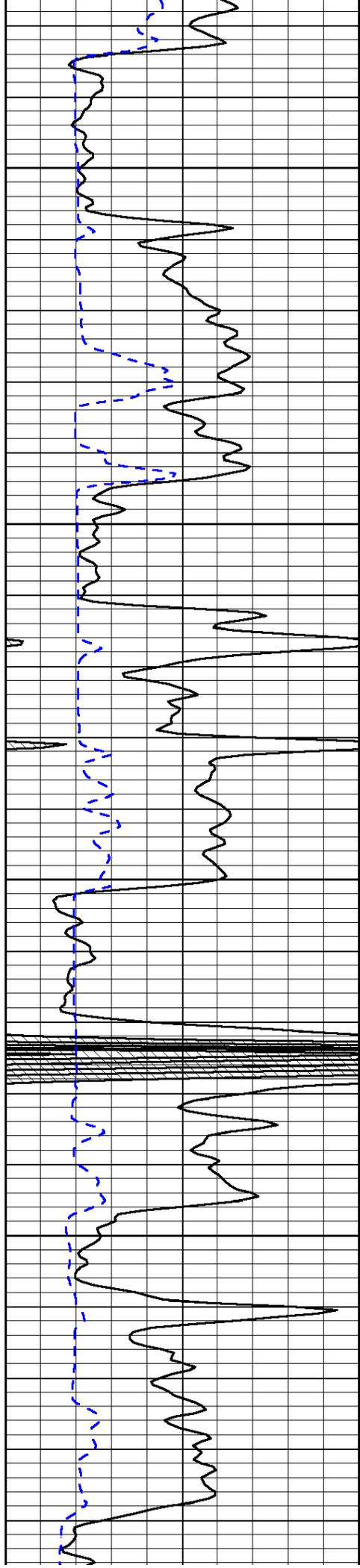


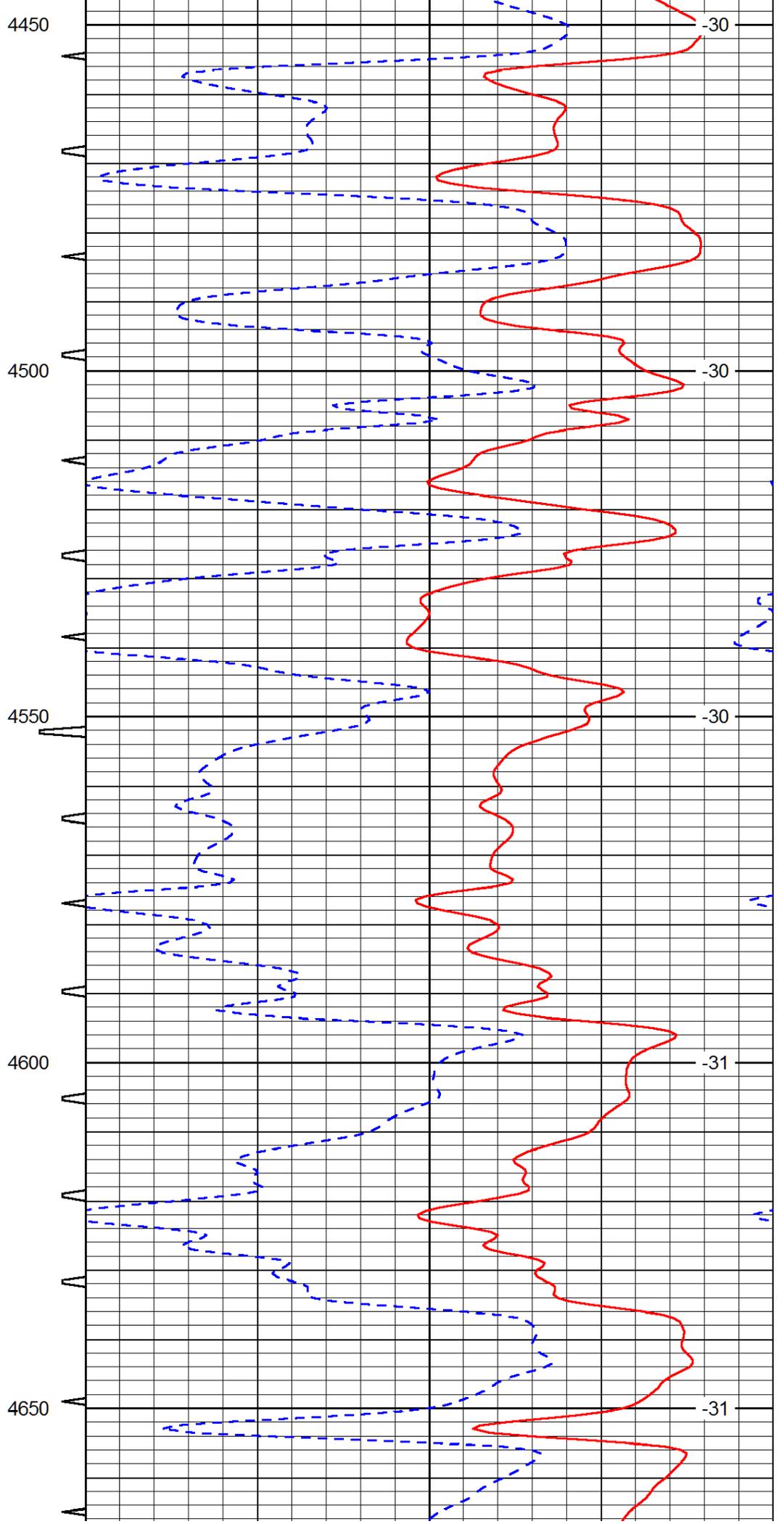
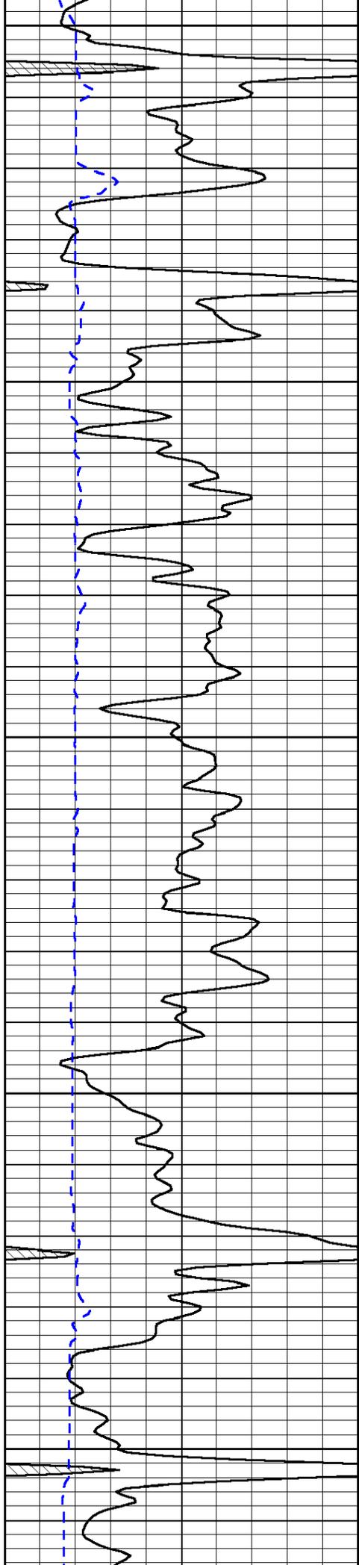


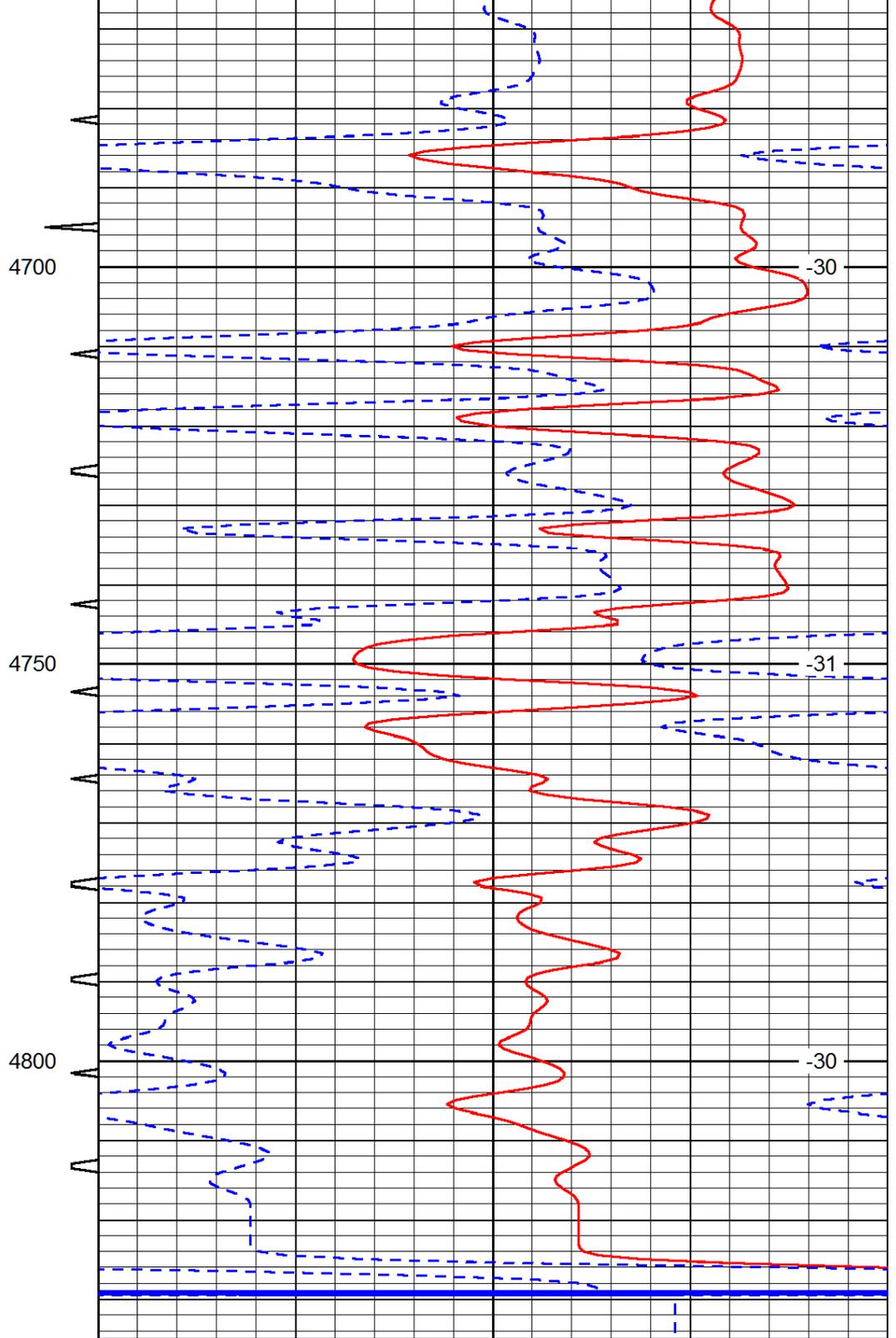
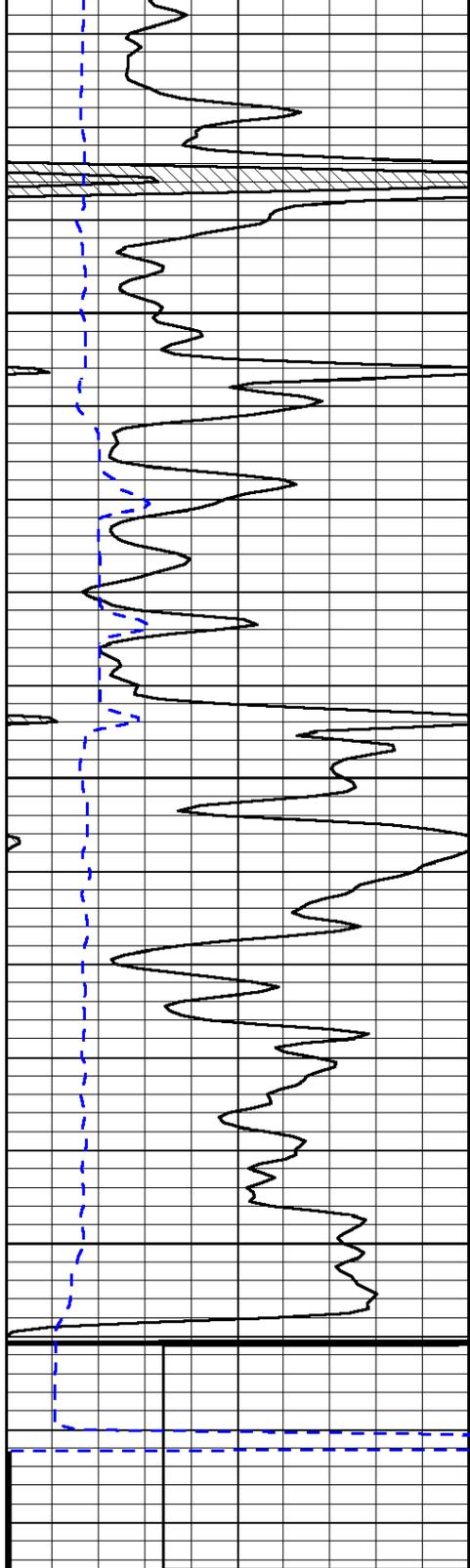












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LSPD
(ft/min)