



Pioneer Energy Services

Borehole Compensated Sonic Log

API No.

15-051-26,481-00-00

Company American Warrior, Inc.

Well G.E. Riedel No. 4-31

Field Irvin

County Ellis

State Kansas

Location 1,685' FSL & 1,664' FEL

Sec: 31

Twp: 13S

Rge: 19W

Other Services
CNL/CDL
MEL/DIL

Permanent Datum Ground Level Elevation 2268
Log Measured From Kelly Bushing 8 Ft. Above Perm. Datum
Drilling Measured From Kelly Bushing

Date 3/13/2013

Run Number Two

Type Log BHC Sonic

Depth Driller 3980

Depth Logger 3979

Bottom Logged Interval 3968

Top Logged Interval 200

Type Fluid In Hole Chemical

Salinity, PPM CL 6500

Density 9.3

Level Full

Max. Rec. Temp. F 116

Operating Rig Time 4 Hours

Equipment -- Location 108 Hays

Recorded By J. Long

Witnessed By Jason Alm

Austin Klaus

Borehole Record

Casing Record

Run No.

Bit

From

To

Size

Wgt.

From

To

One 12.25

00

221

8.625

23#

00

221

Two 7.875

221

TD

<<< 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.

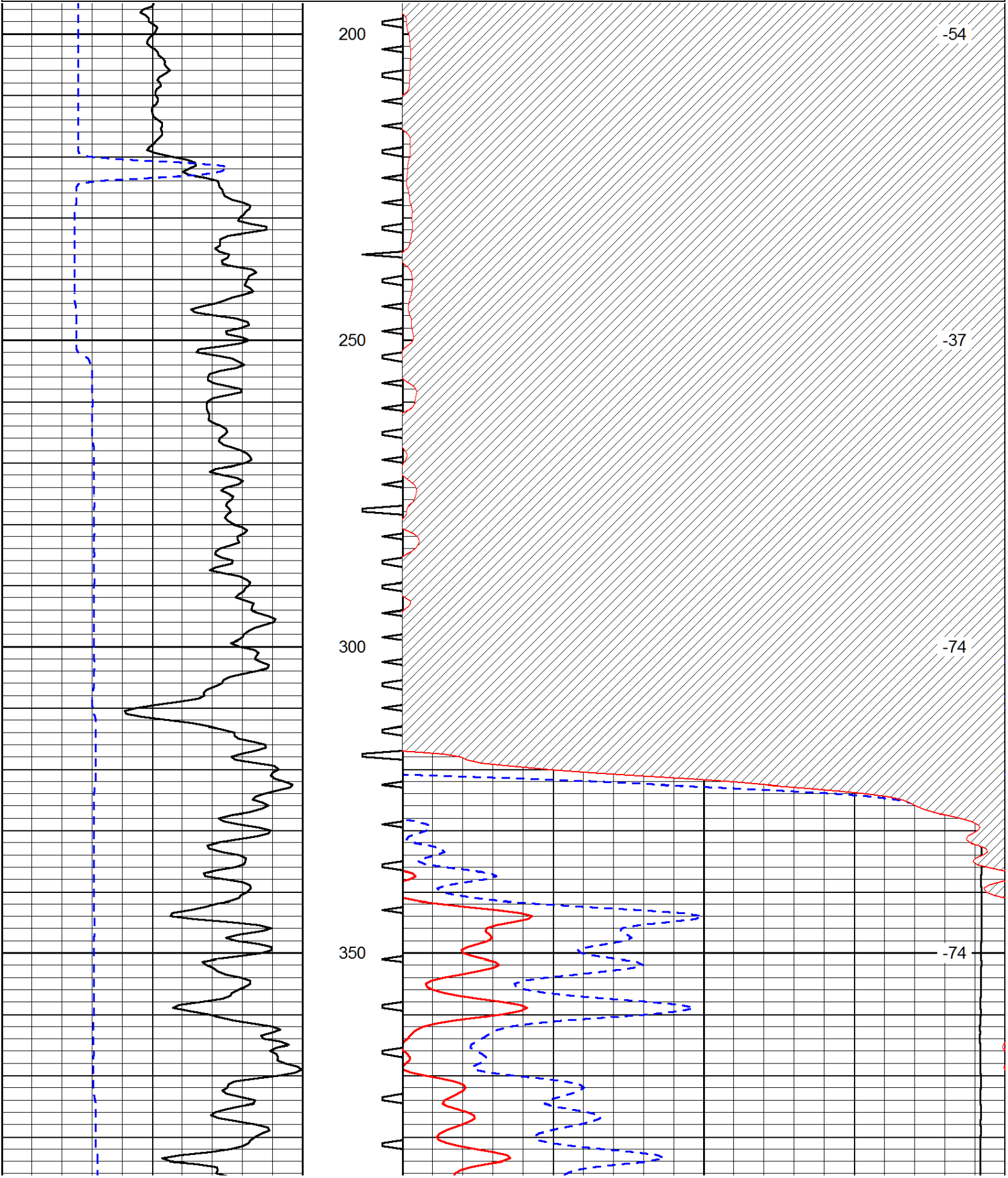
Comments

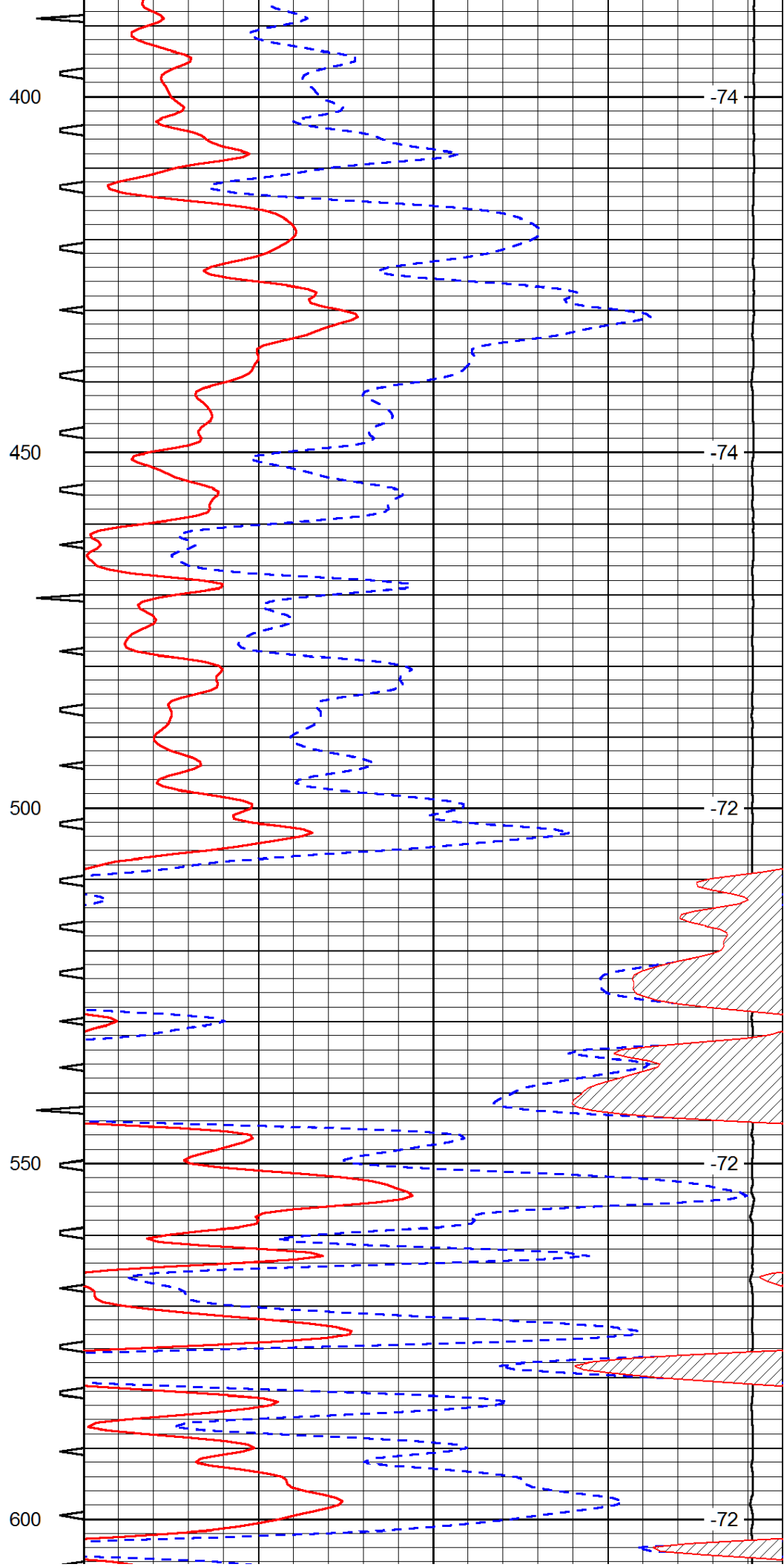
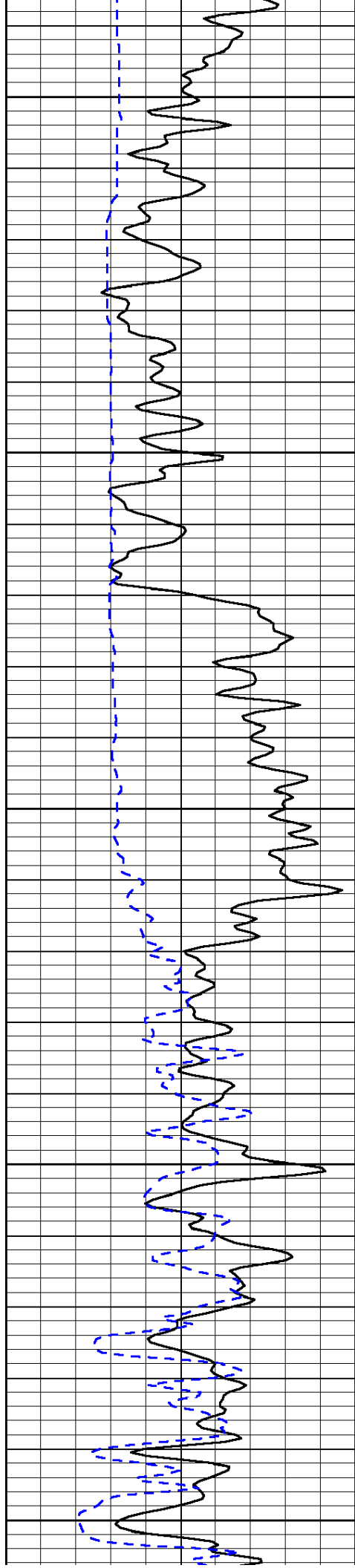
Thank you for using Log-Tech, Inc.
(785) 625-3858

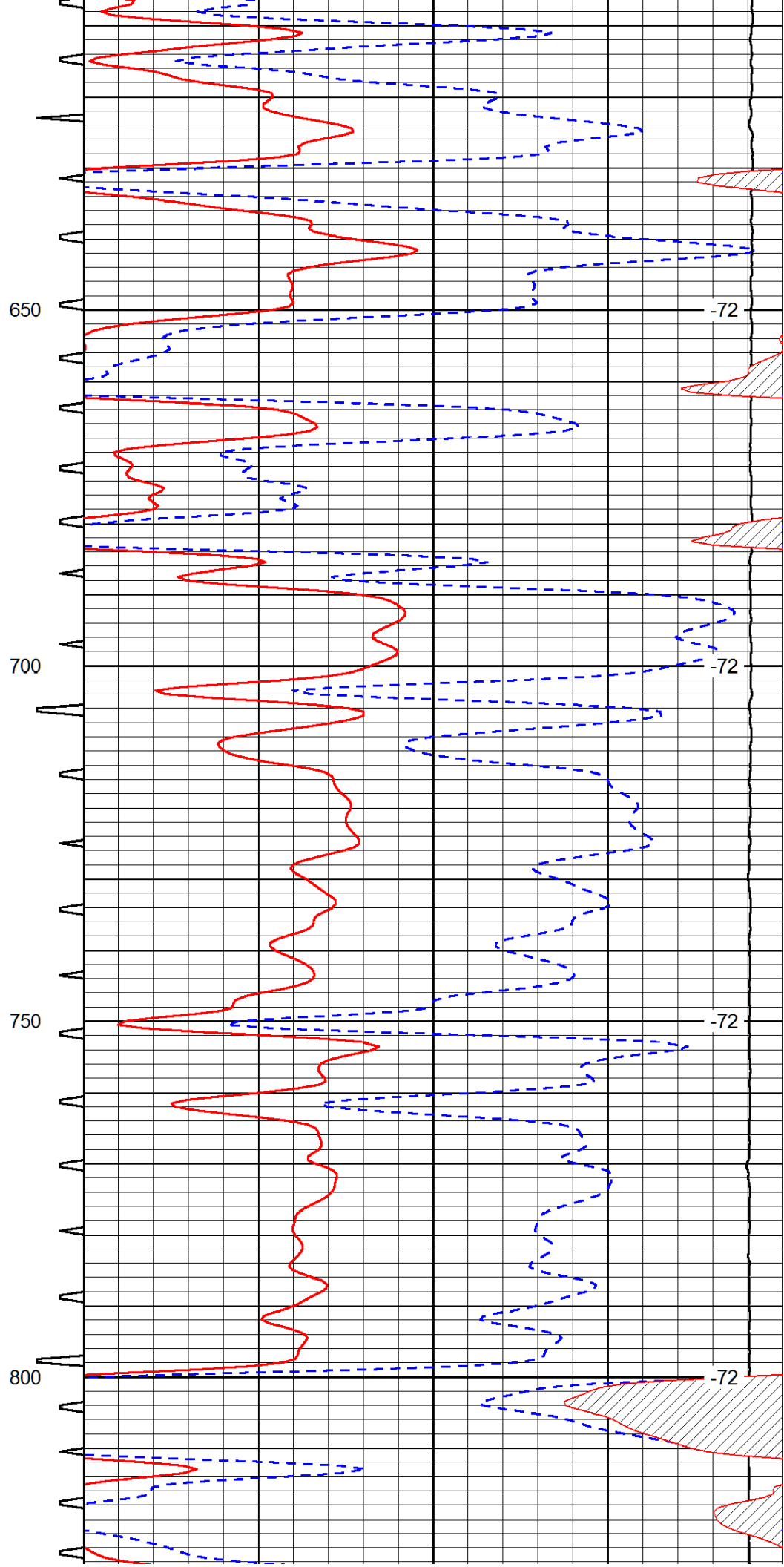
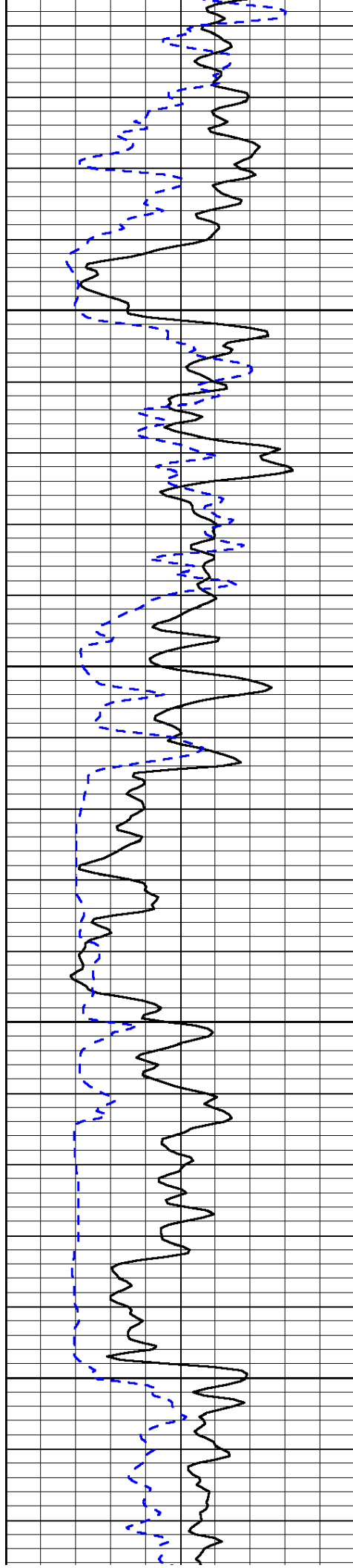
Hays, 7 West on Golf Course Road to 170 Road, 1 North, 1/2 West, North Into

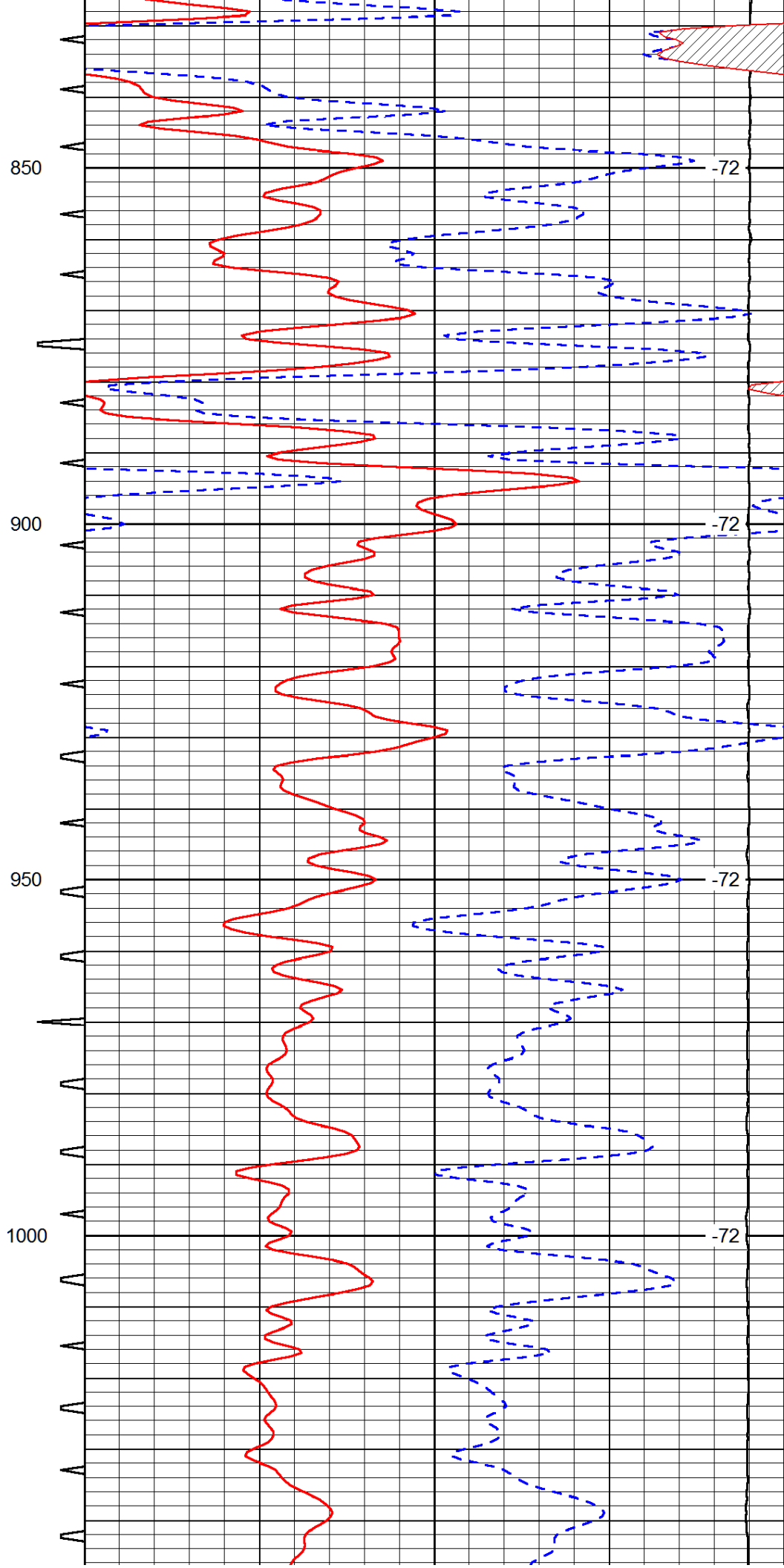
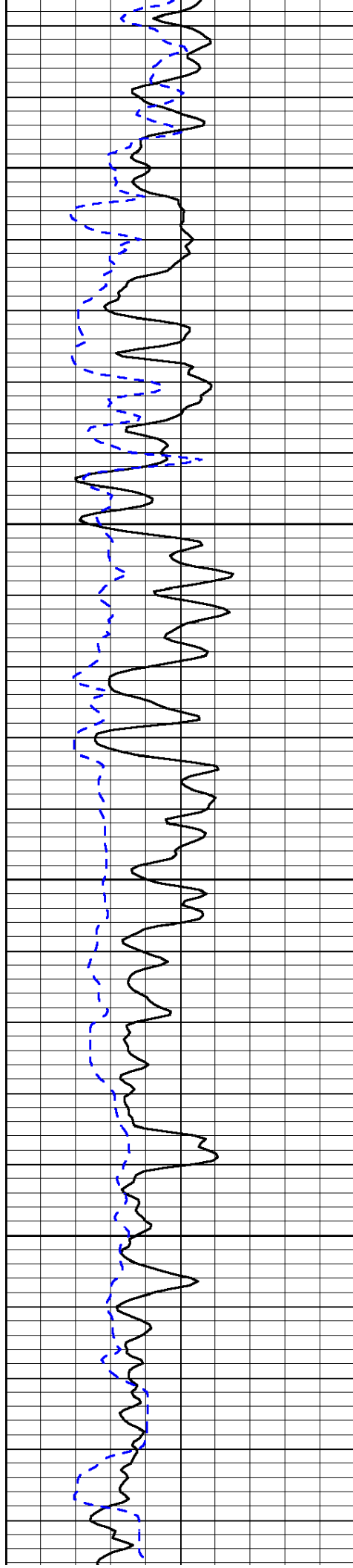
Database File: amwarrior_griedel_4-31hd.db
Dataset Pathname: dil/awstck
Presentation Format: sonic
Dataset Creation: Wed Mar 13 05:00:58 2013
Charted by: Depth in Feet scaled 1:240

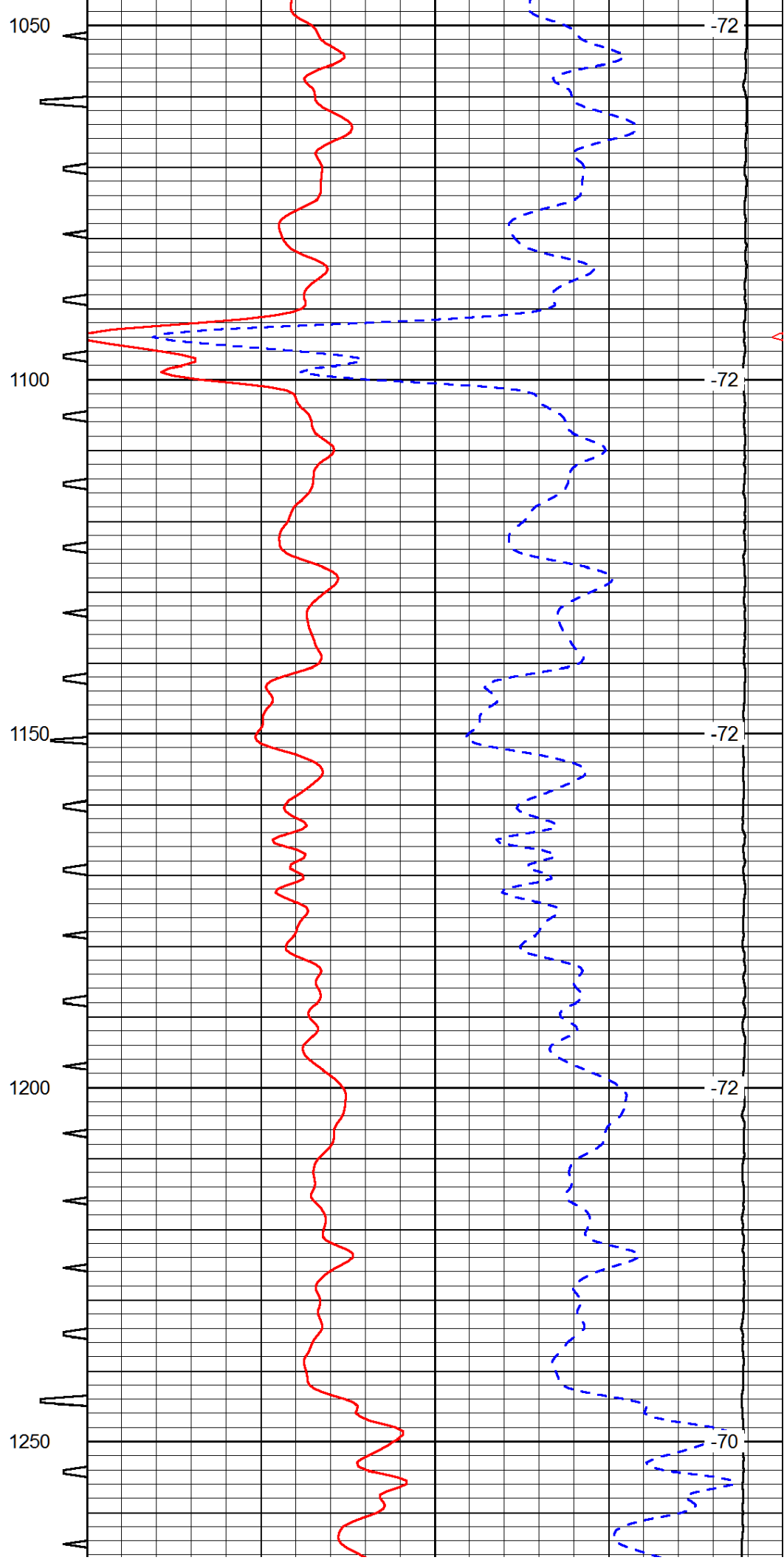
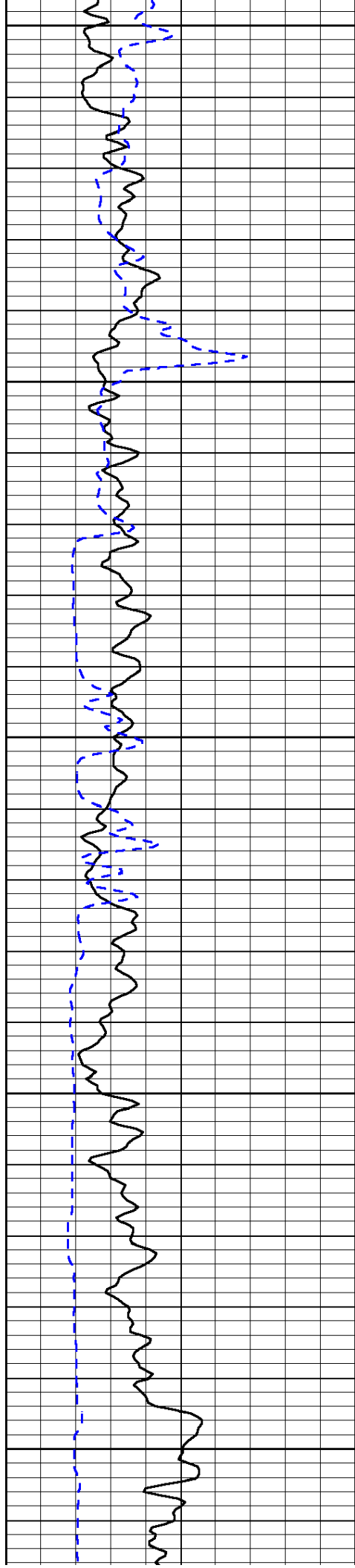
Charted by:		Depth in Feet scaled 1:2.16				
0	Gamma Ray (GAPI)	150	Sonic Int	140	Delta Time (usec/ft) (usec/ft)	40
150	Gamma Ray (GAPI)	300	5 (msec) 0	30	Sonic Porosity (pu)	-10
6	dCAL (in)	16		15000	LTEN (lb) (lb)	0
						LSPD (ft/min)

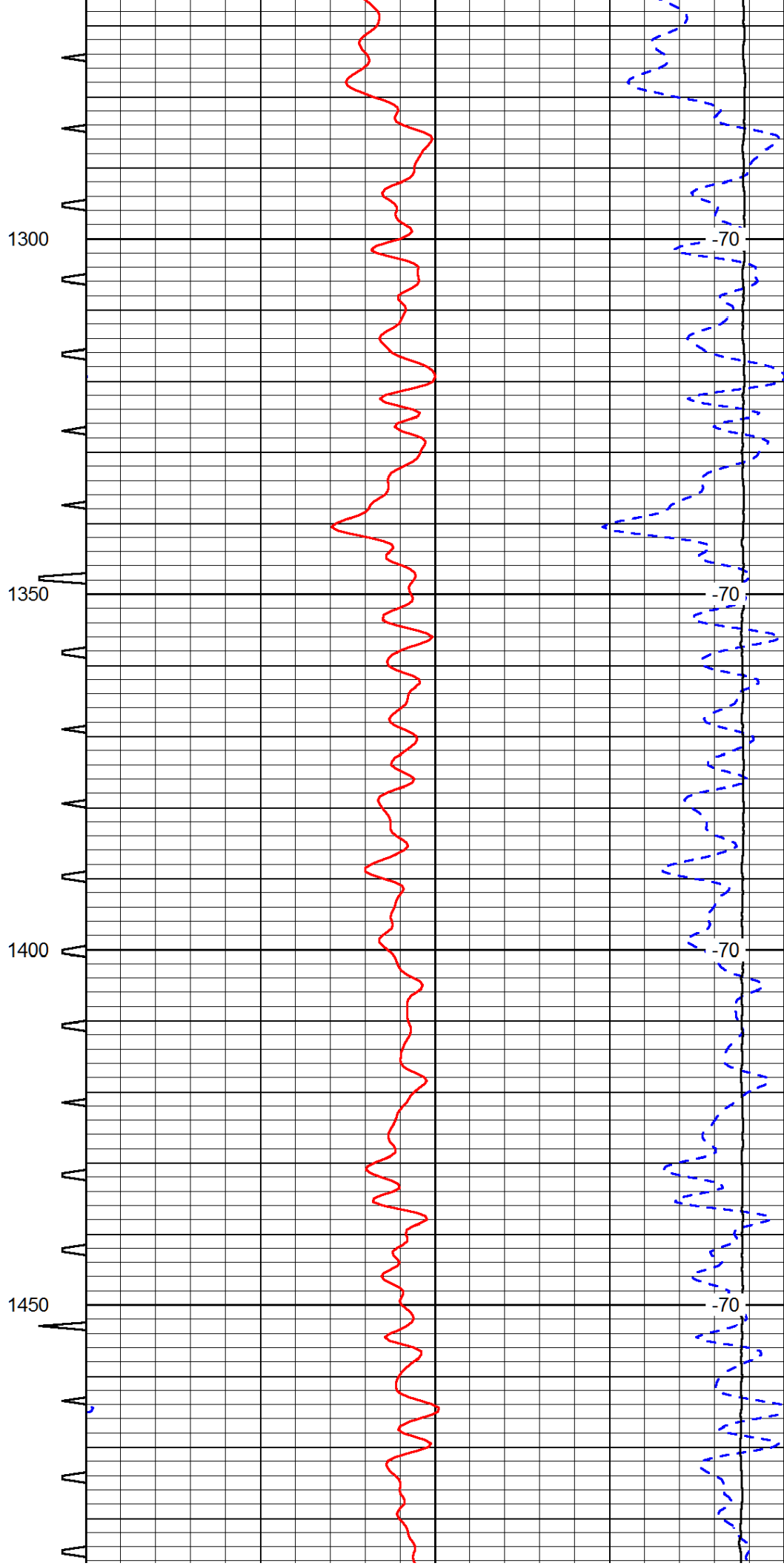
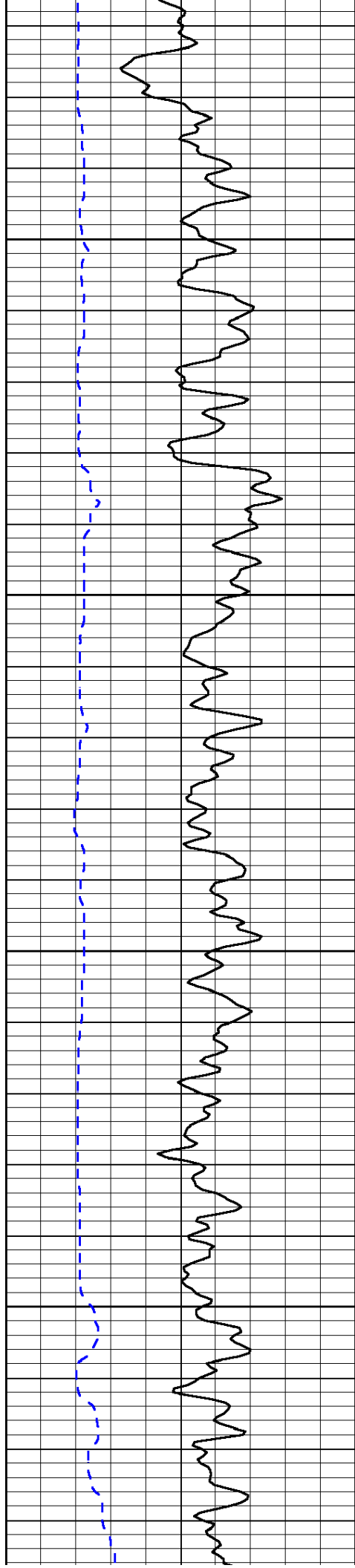


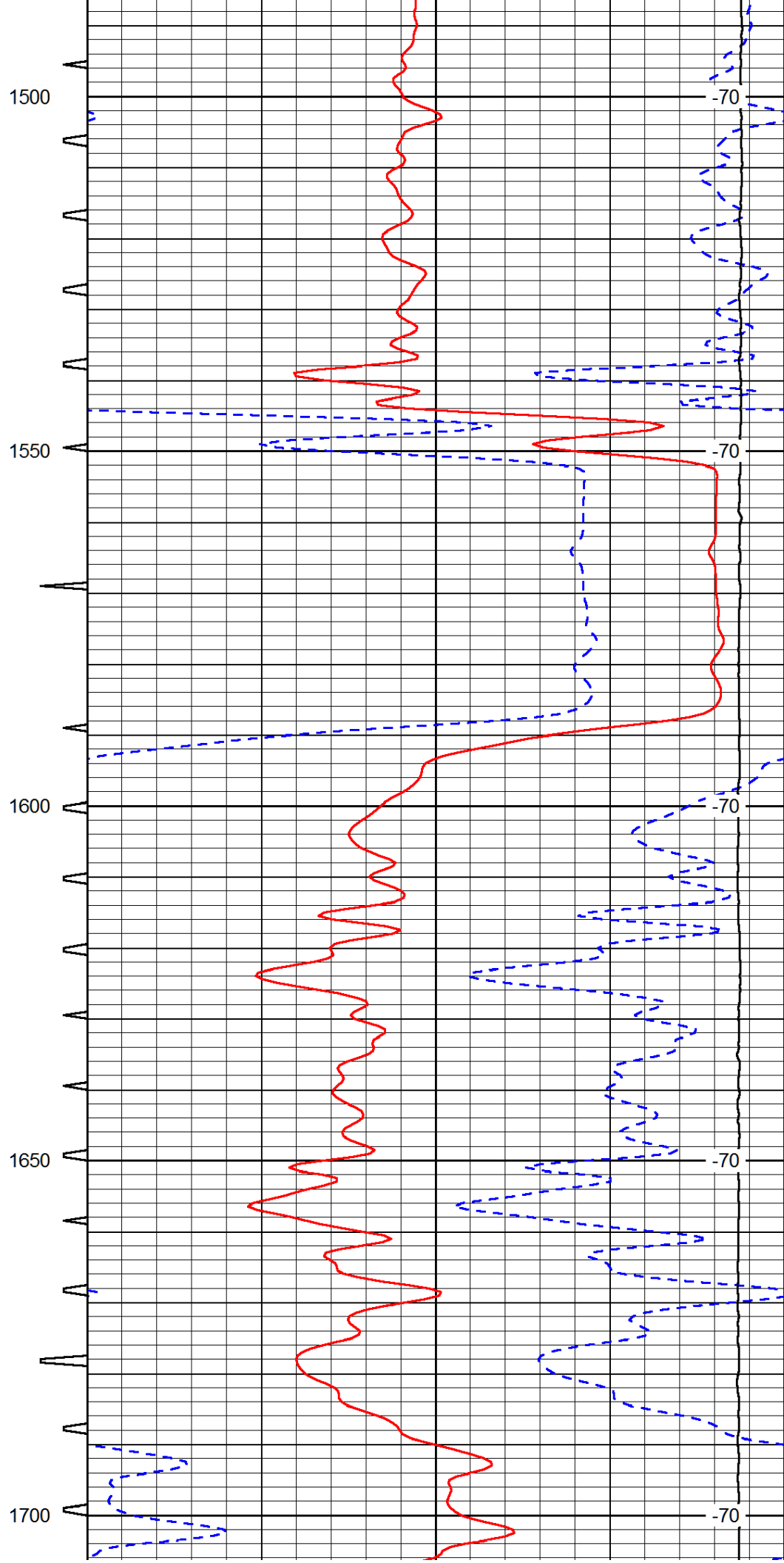
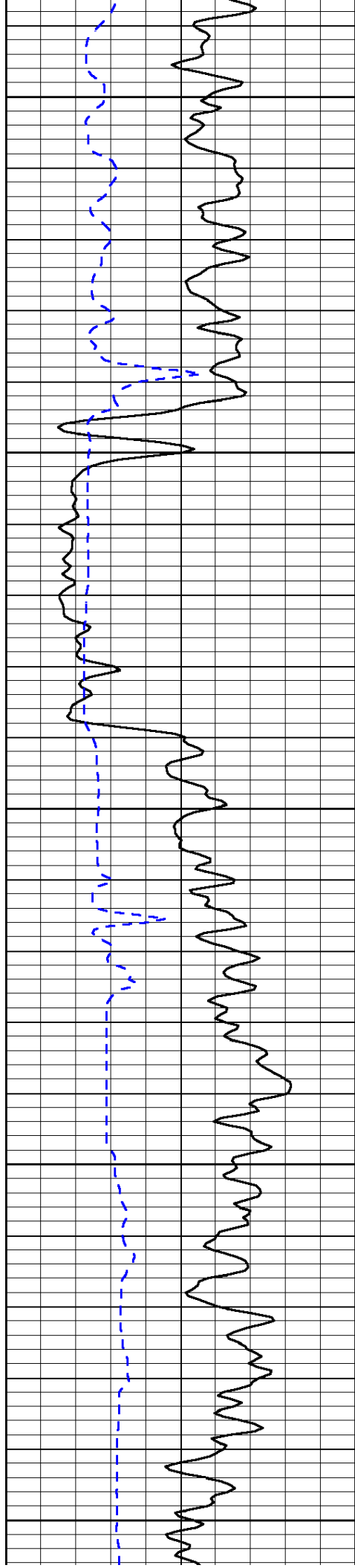


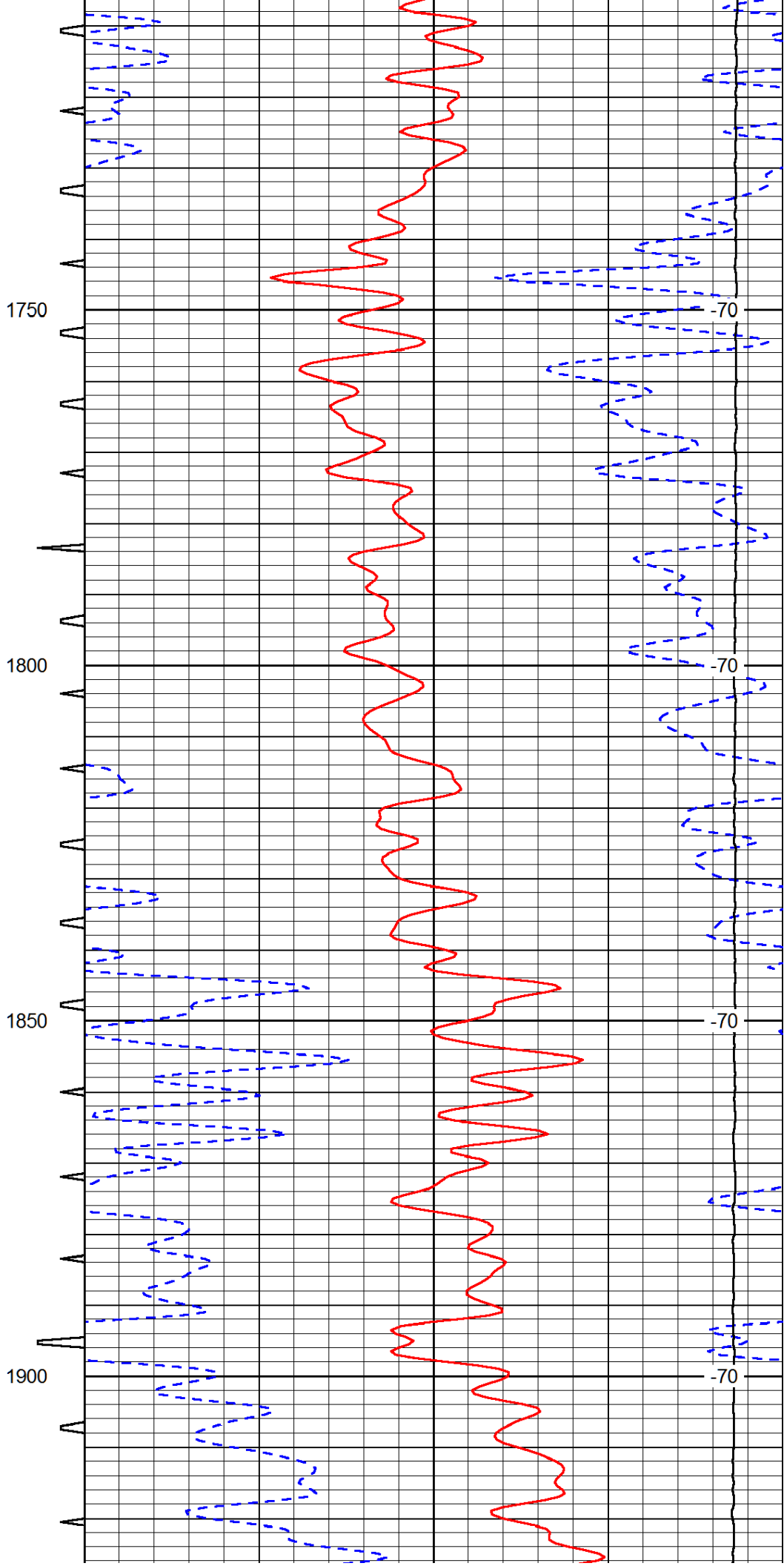
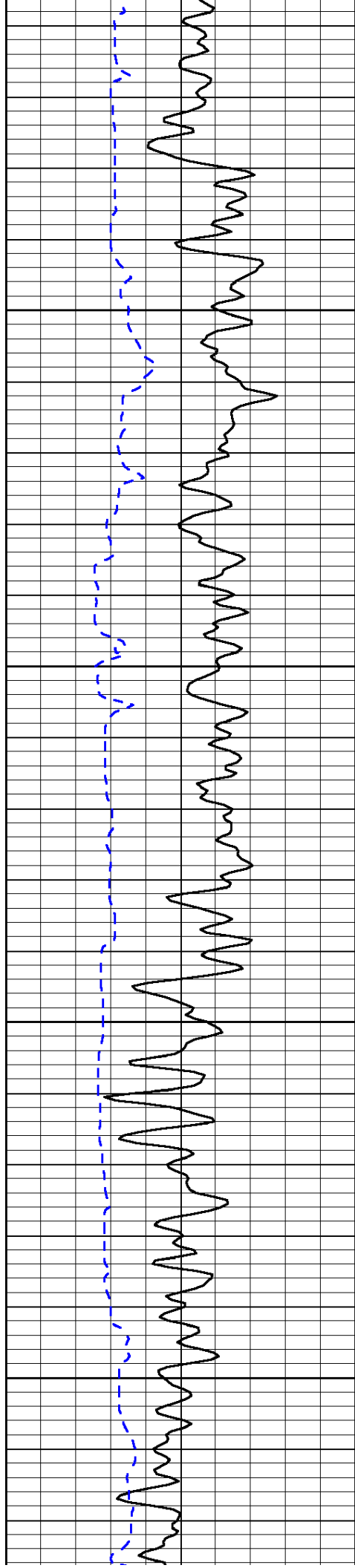


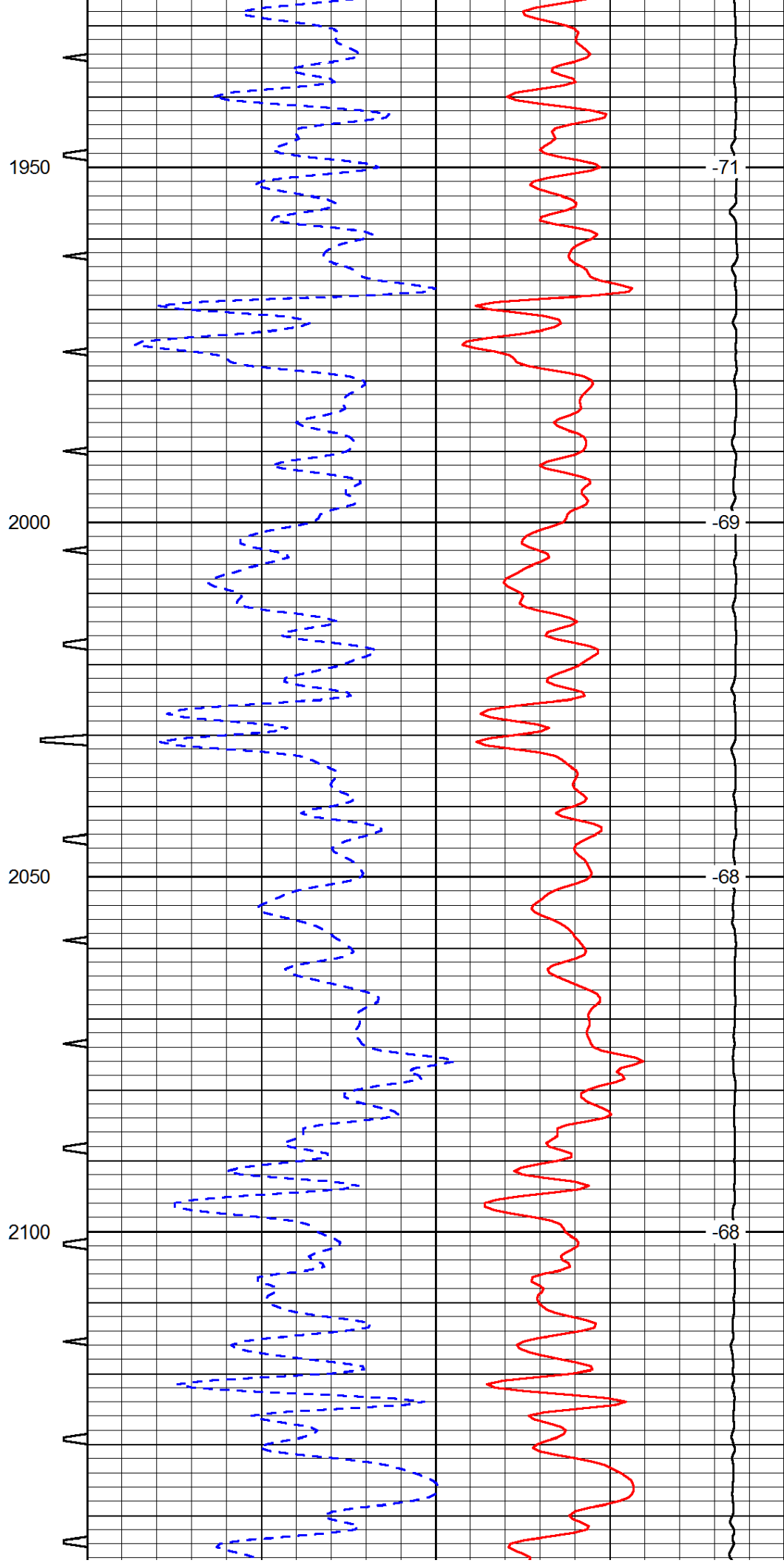
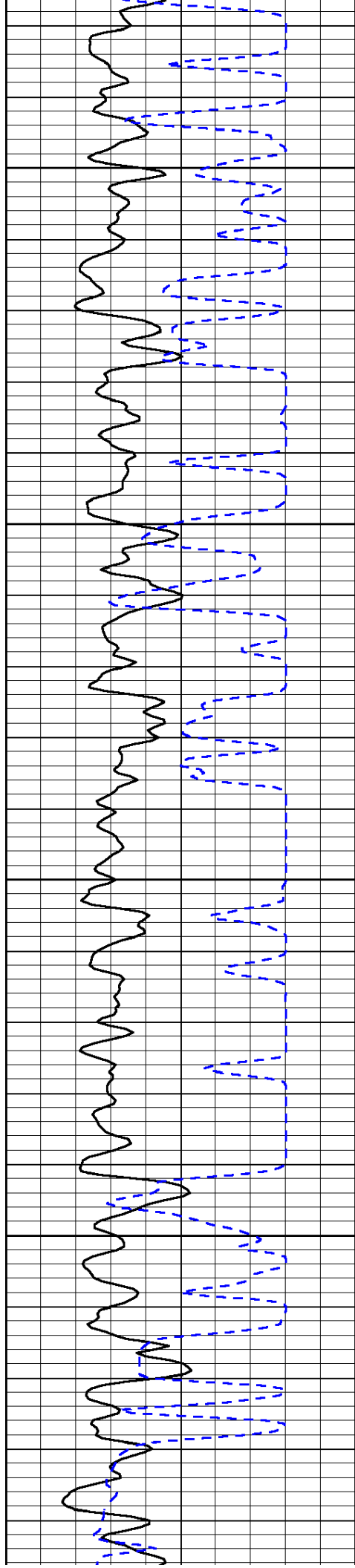


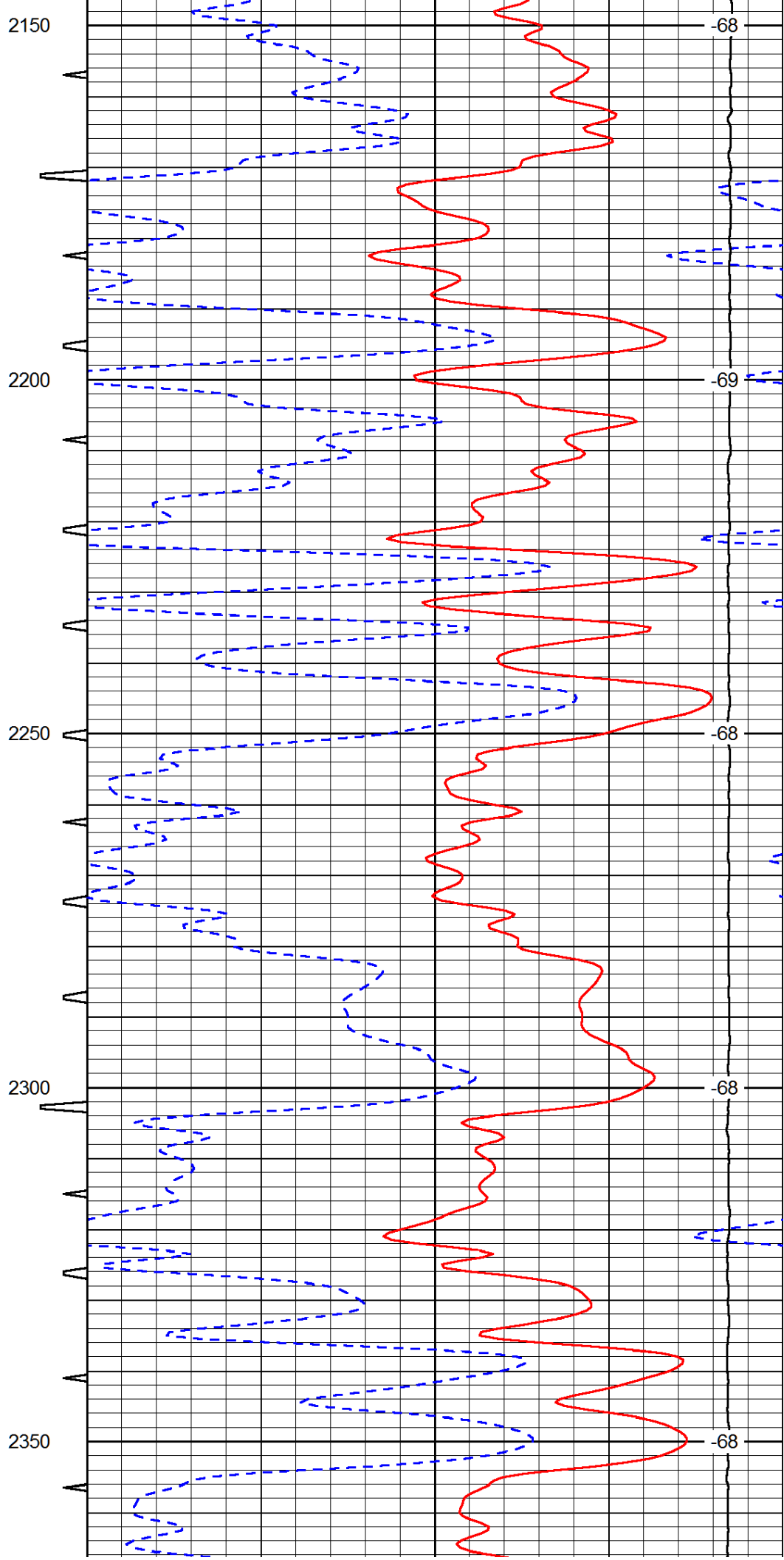
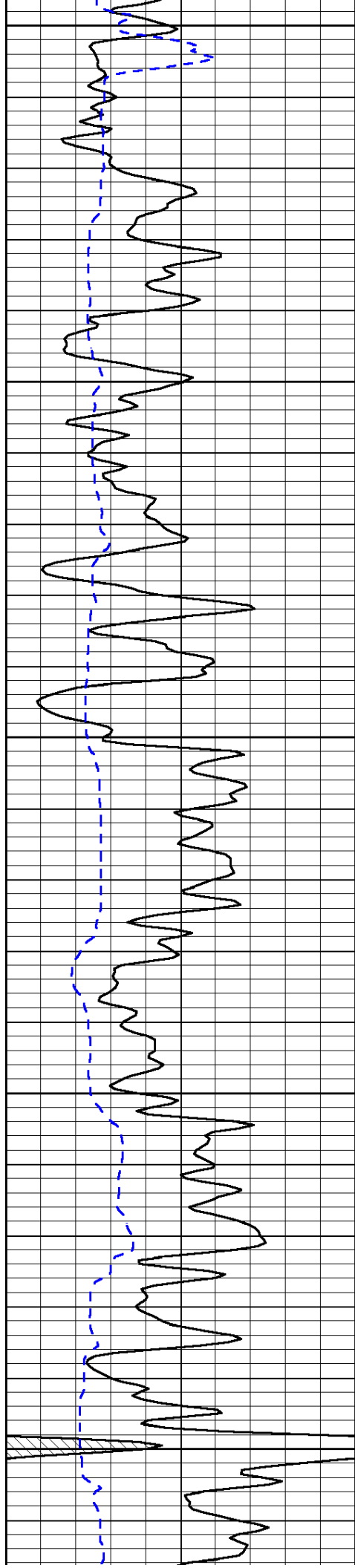


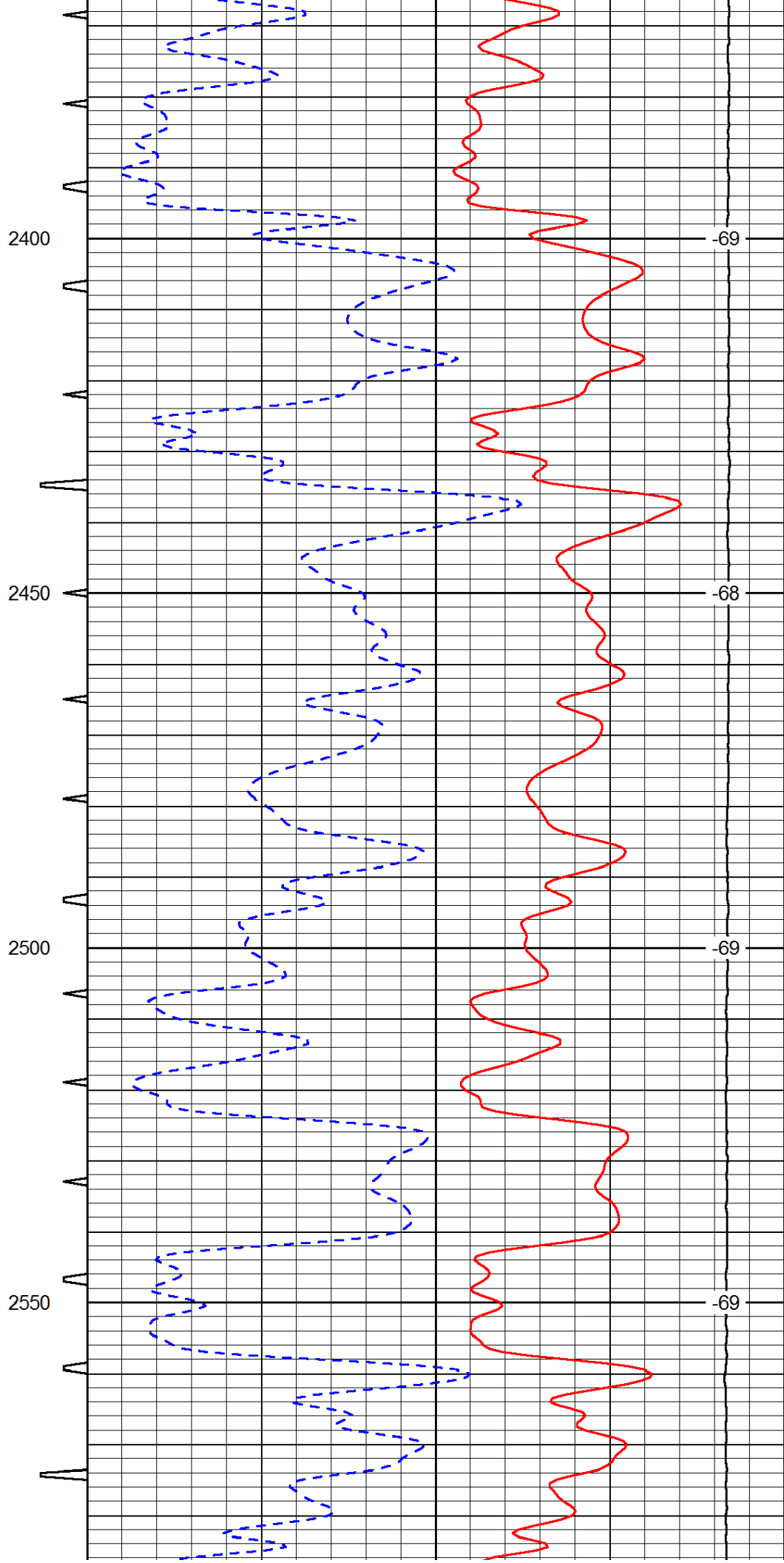
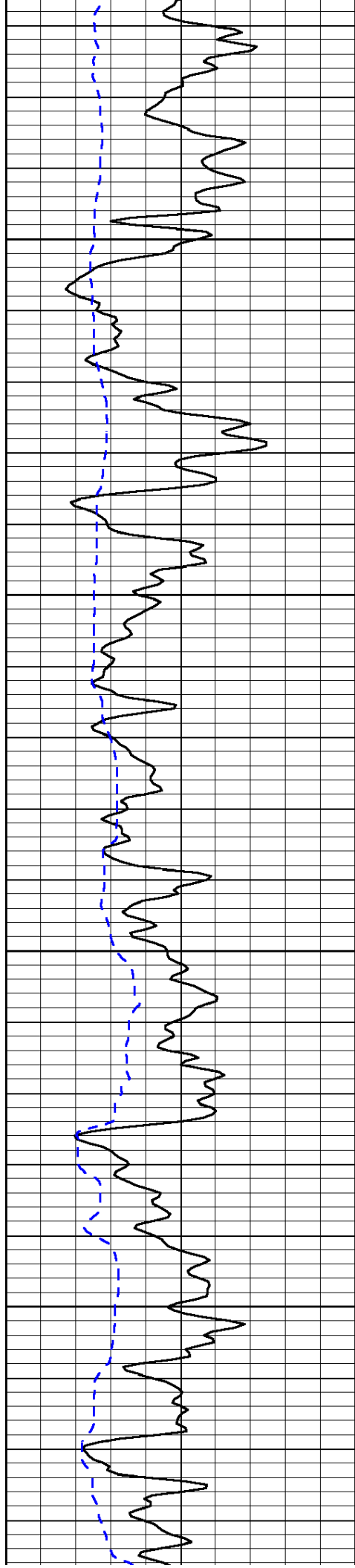


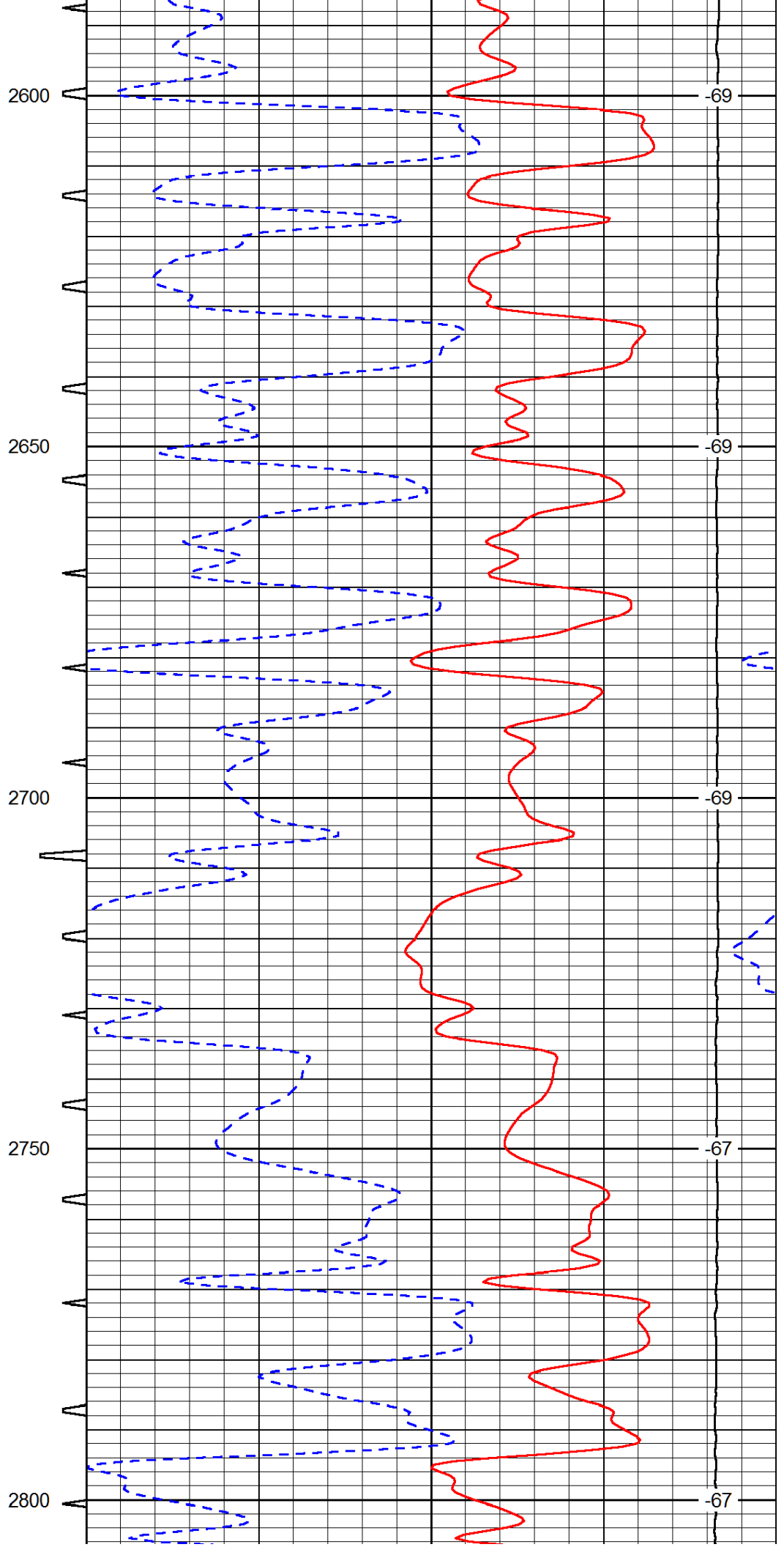
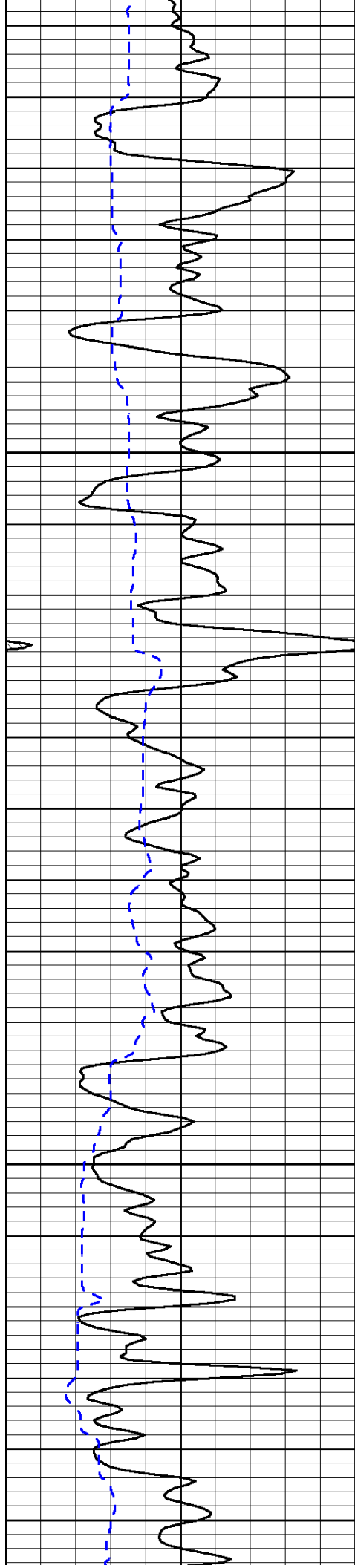


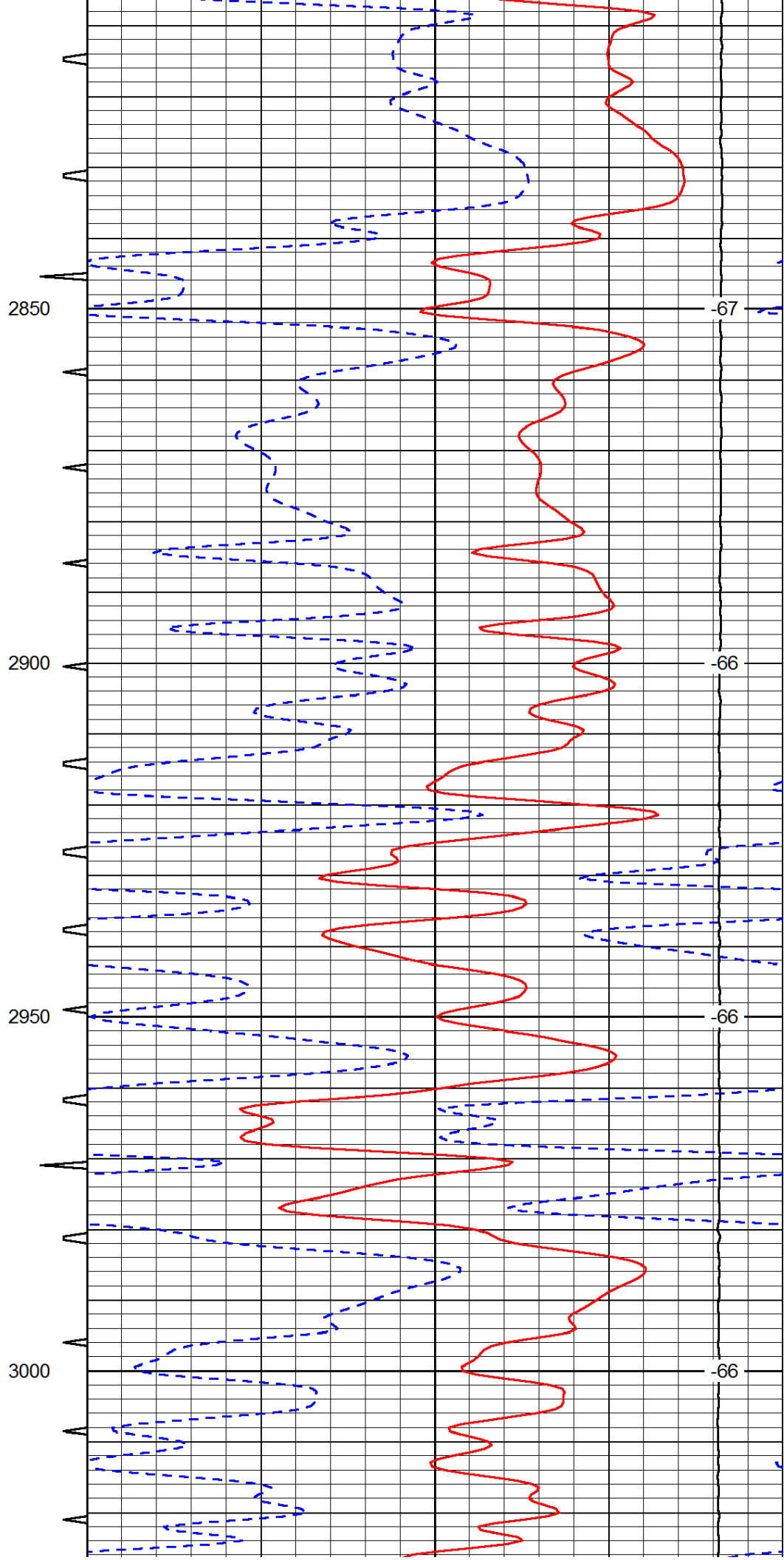
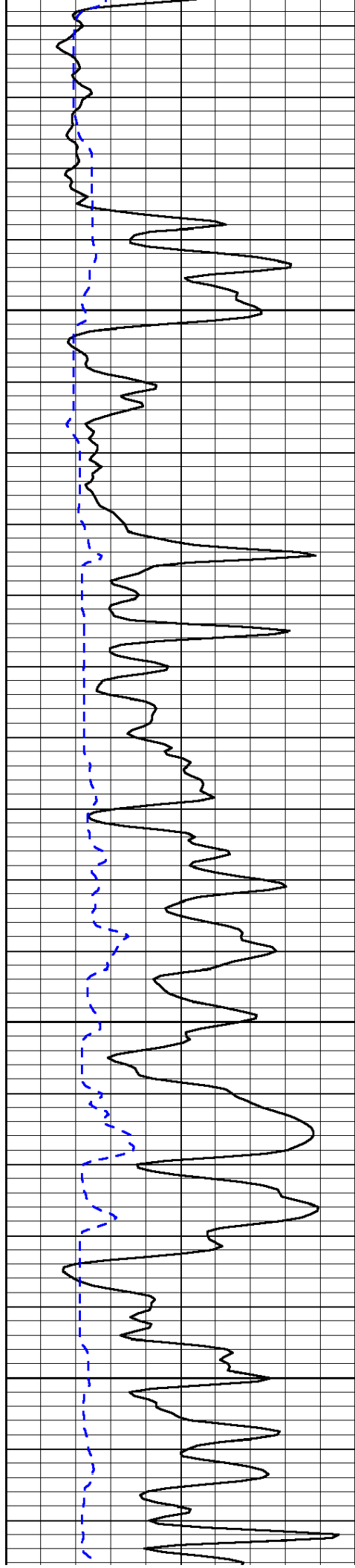


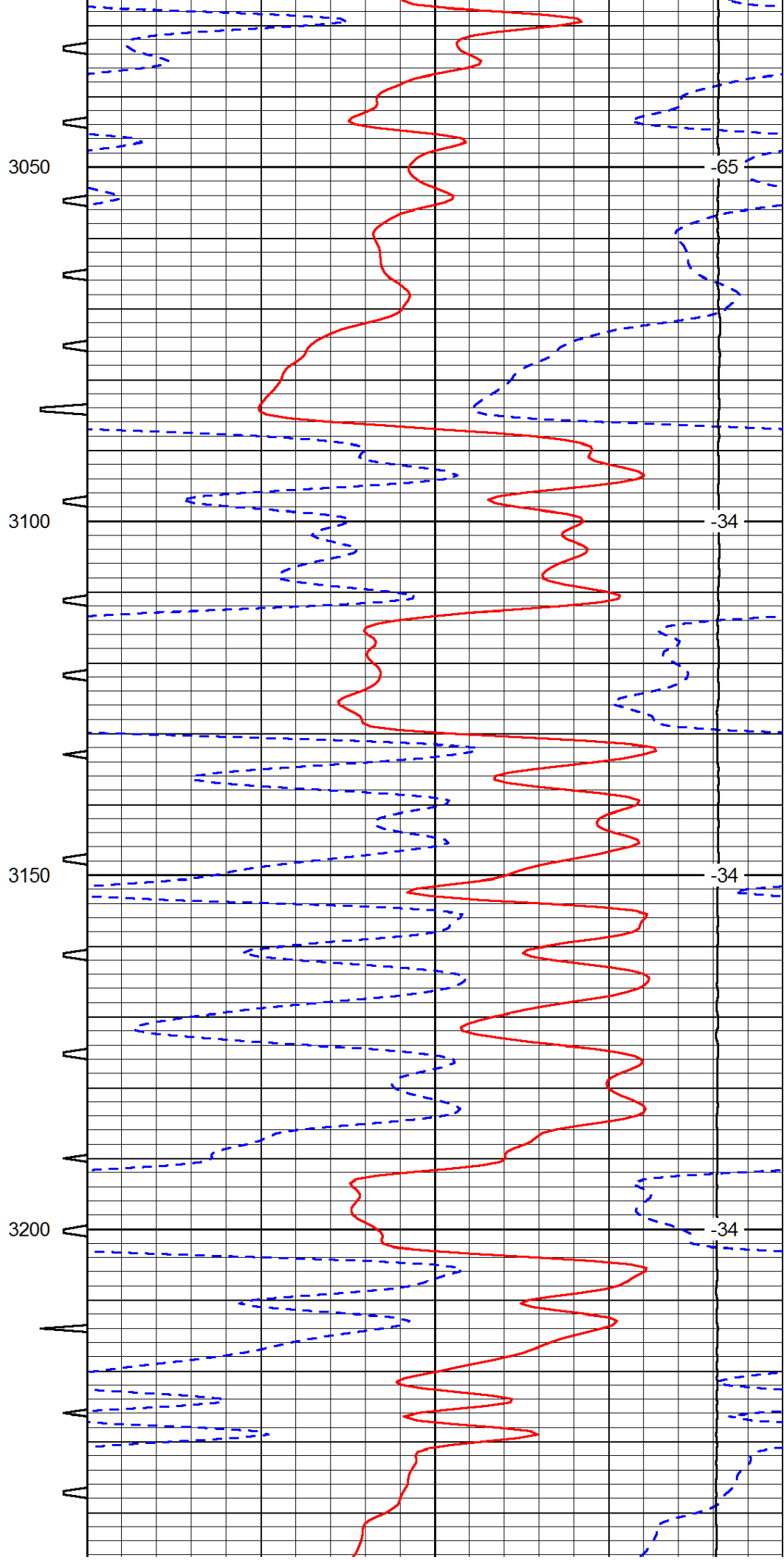
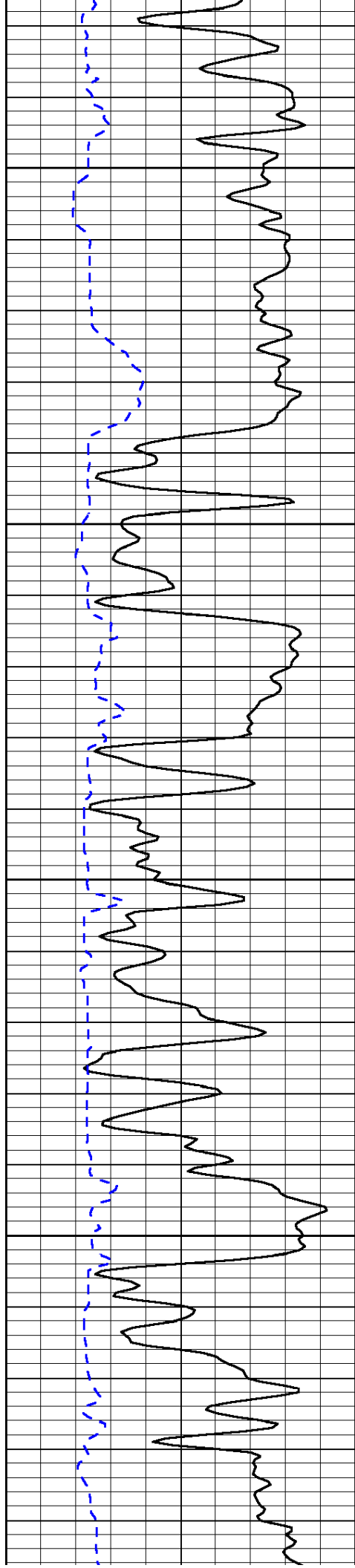


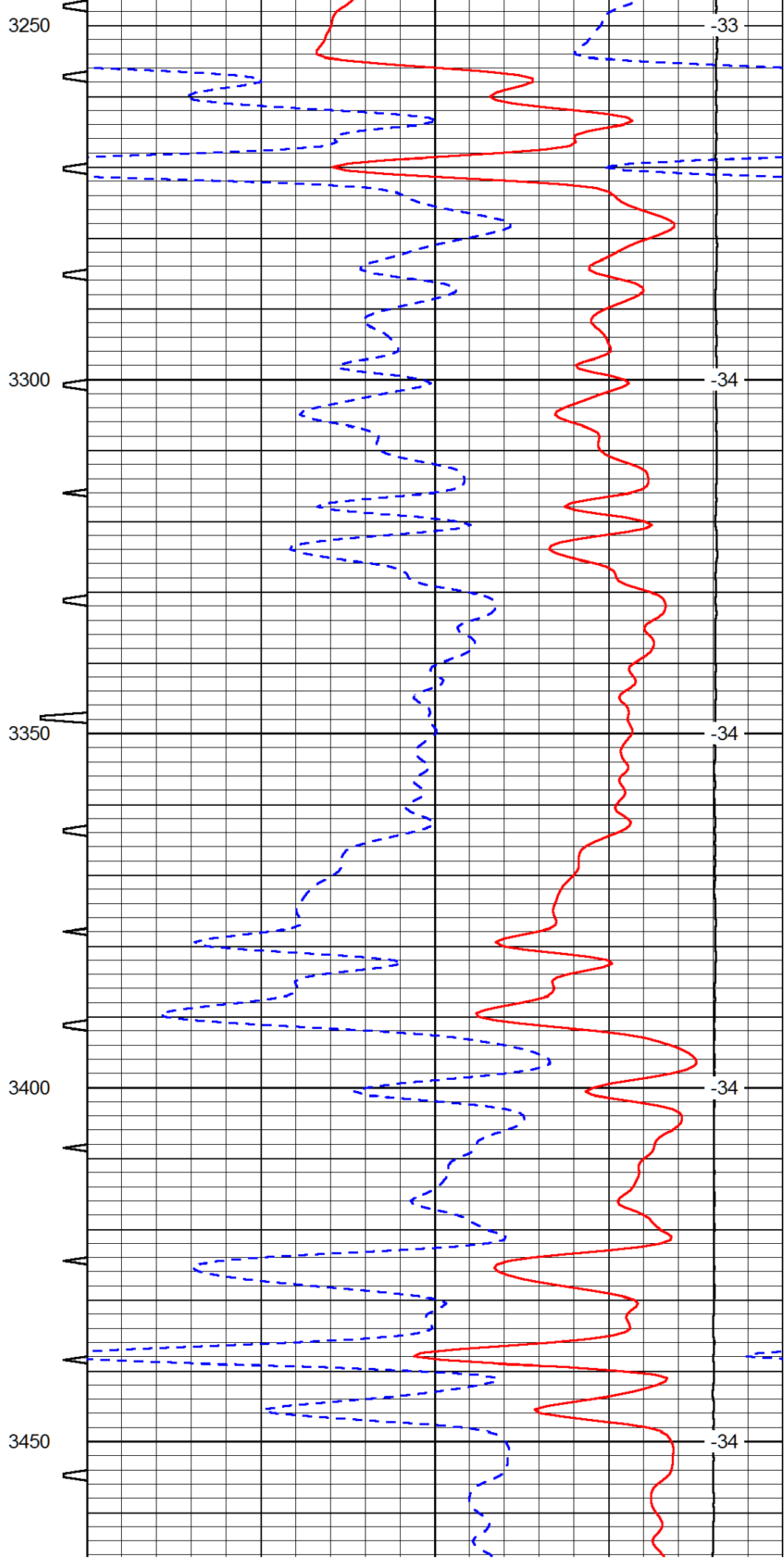
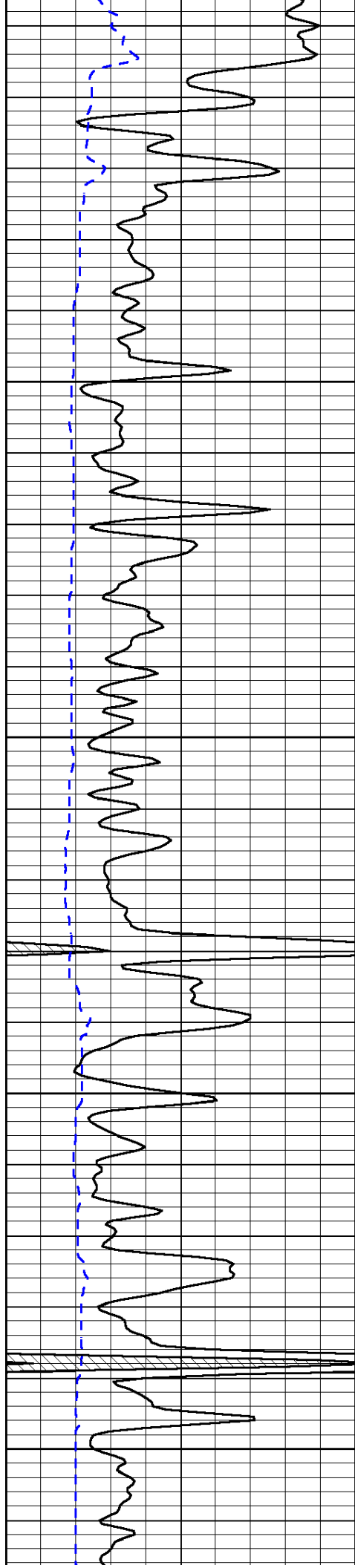


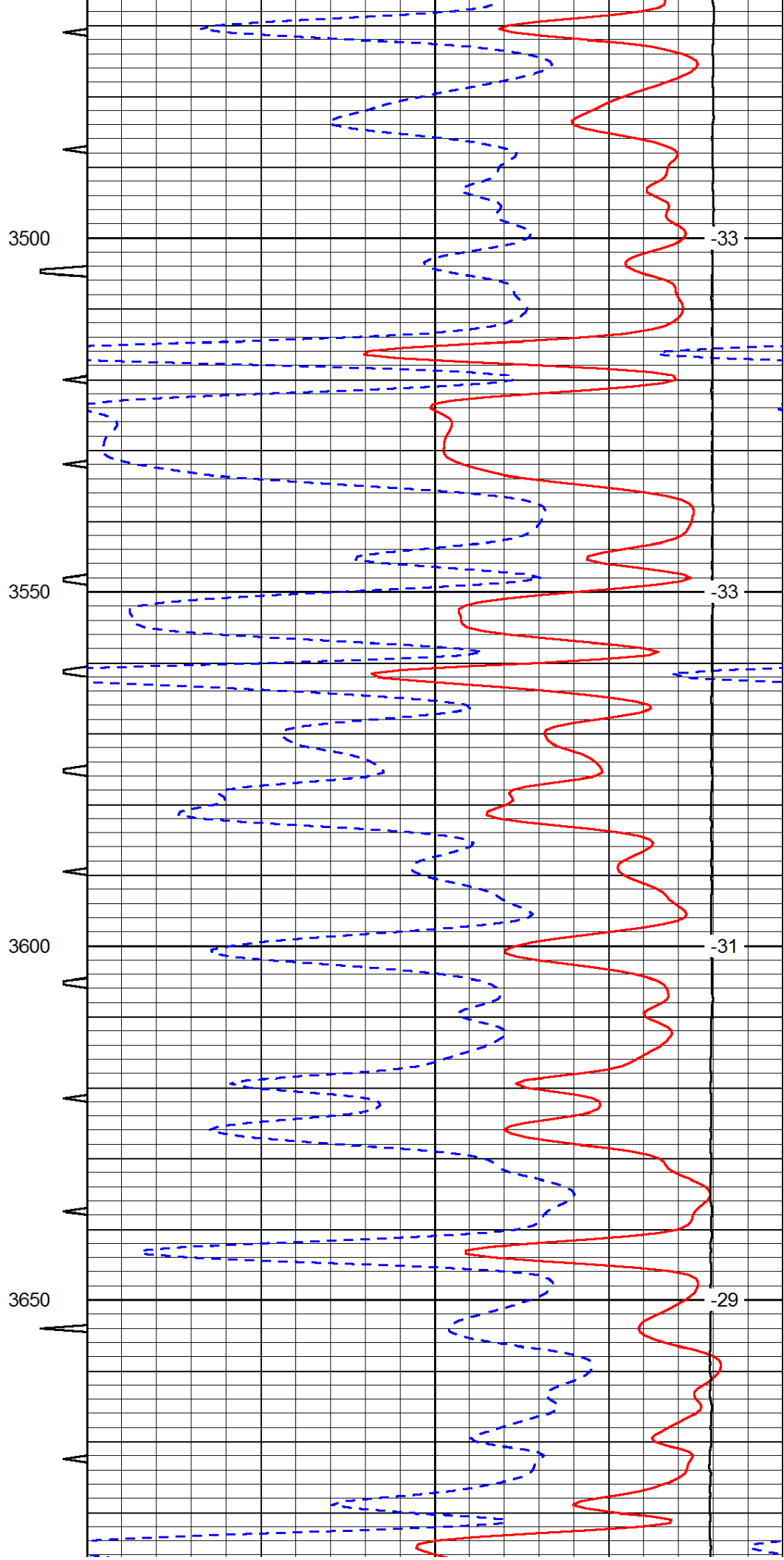
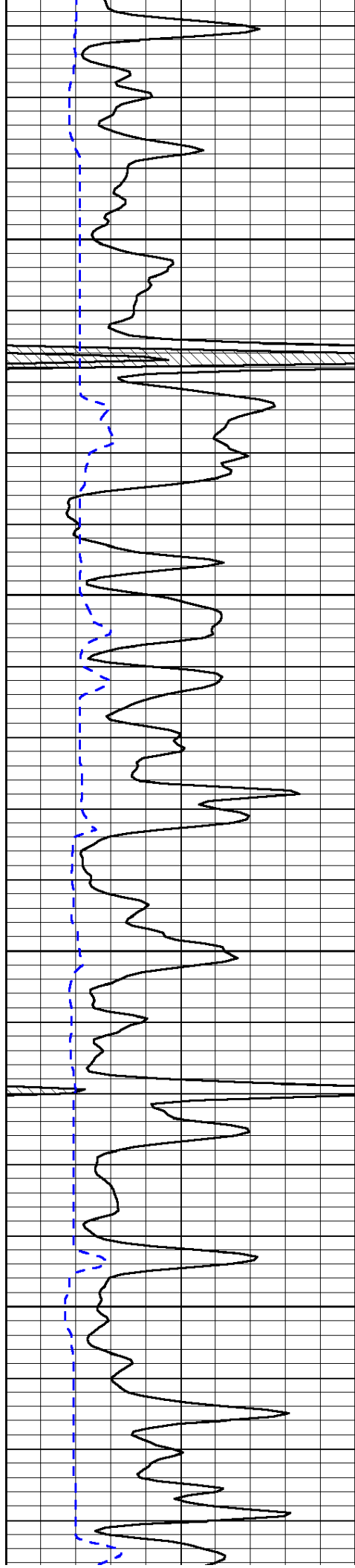


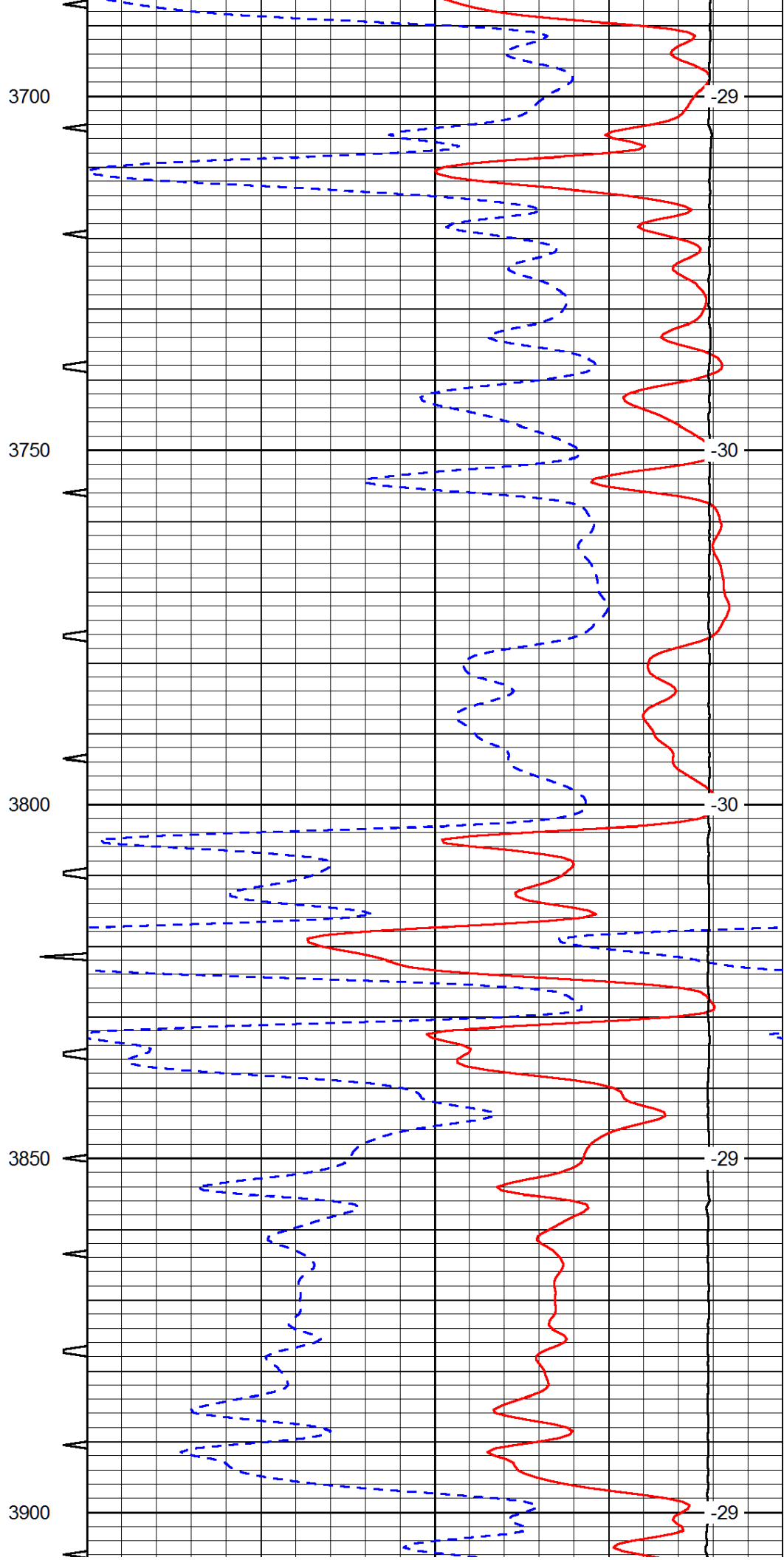
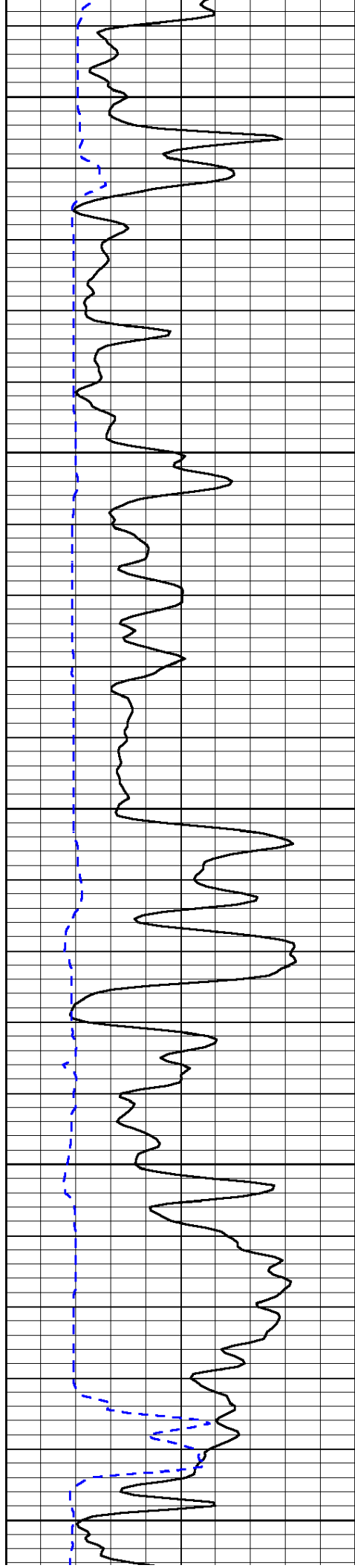


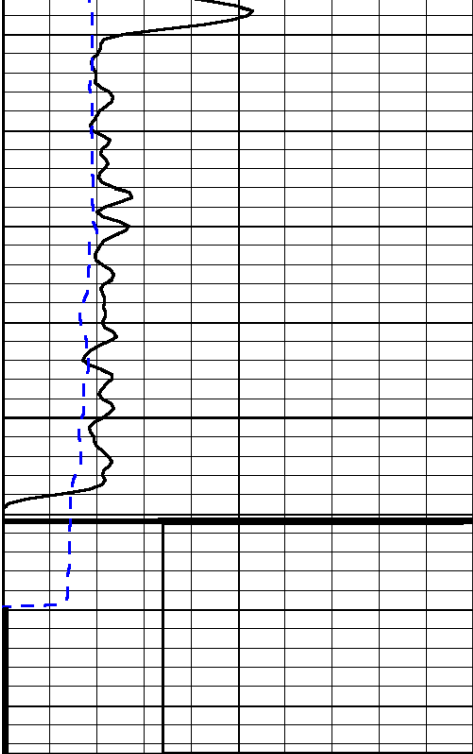






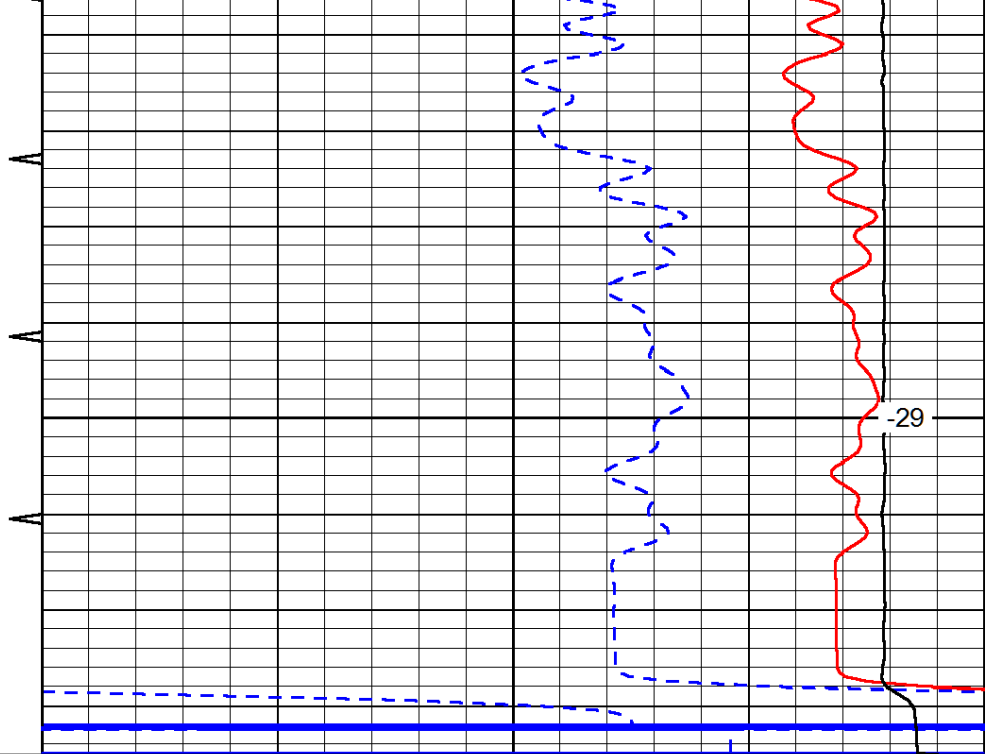






0	Gamma Ray (GAPI)	150
150	Gamma Ray (GAPI)	300
6	dCAL (in)	16

3950



Sonic Int	140	Delta Time (usec/ft) (usec/ft)	40
5 (msec) 0	30	Sonic Porosity (pu)	-10
	15000	LTEN (lb) (lb)	0

LSPD
(ft/min)