



Borehole Compensated Sonic Log

Pioneer Energy Services

API No.

15-167-23,906-00-00

Company H&D Exploration, LLC

Well Staudinger No. 1

Field Driscoll West

County Russell

State Kansas

Location

W/2-SE-SE-SW
330' FSL & 2179' FWL

Other Services
CNL/CDL
MEL/DIL

Sec: 25

Twp: 15S

Rge: 12W

Elevation

Permanent Datum Ground Level Elevation 1854

Log Measured From Kelly Bushing 9 Ft. Above Perm. Datum

K.B. 1863
D.F. 1863
G.L. 1854

Date

9/29/13

Run Number

Two

Type Log

BHC Sonic

Depth Driller

3375

Depth Logger

3376

Bottom Logged Interval

3365

Top Logged Interval

750

Type Fluid In Hole

Chemical

Salinity, PPM CL

3,700

Density

9.2

Level

Full

Max. Rec. Temp. F

110

Operating Rig Time

5 Hours

Equipment -- Location

17 Hays

Recorded By

J. Henrickson

Witnessed By

Jim Musgrove

Borehole Record

Casing Record

Run No.

Bit

From

To

Size

Wgt.

From

To

One

12.25

00

760

8.625

23#

00

760

Two

7.875

760

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.

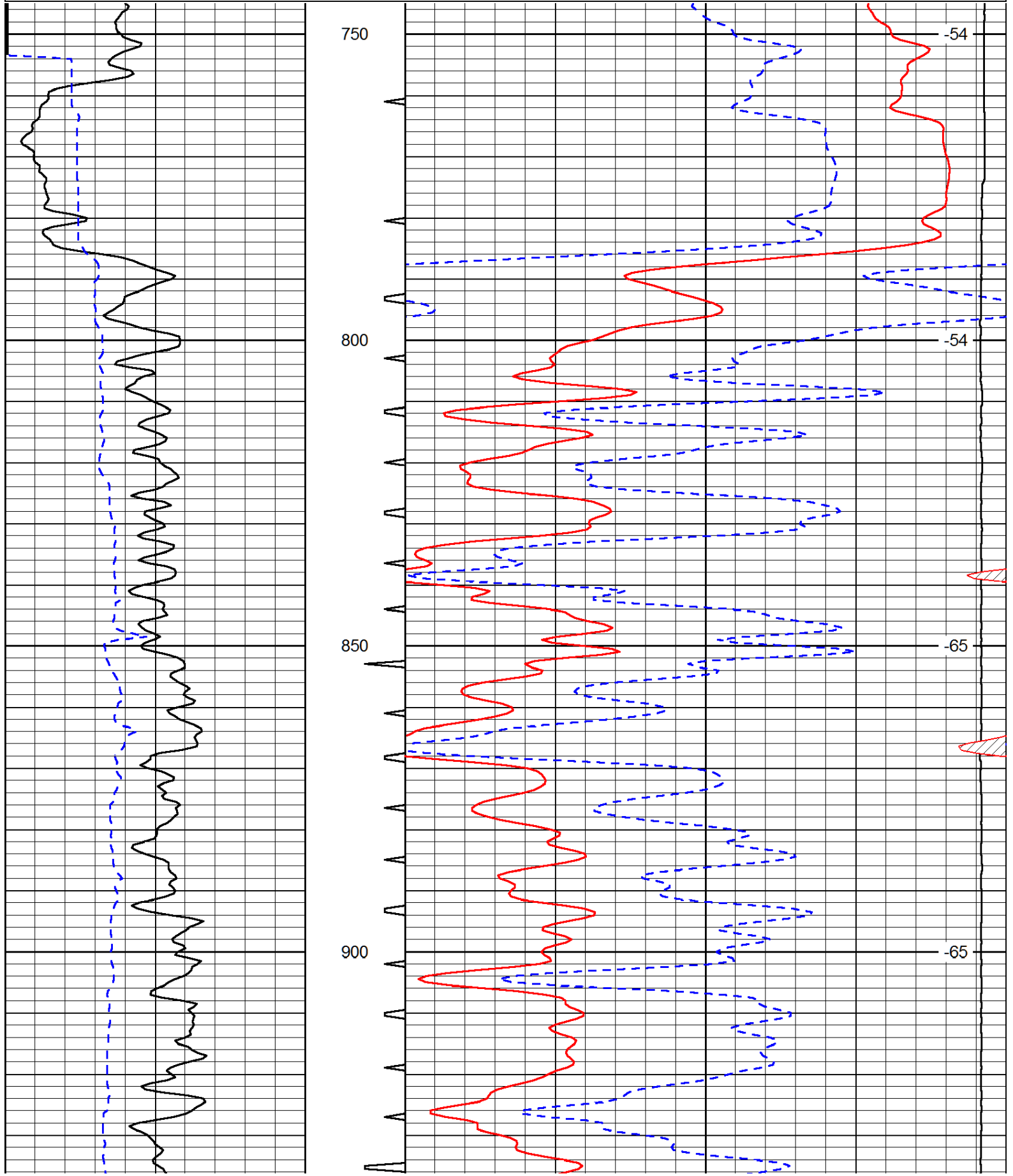
Comments

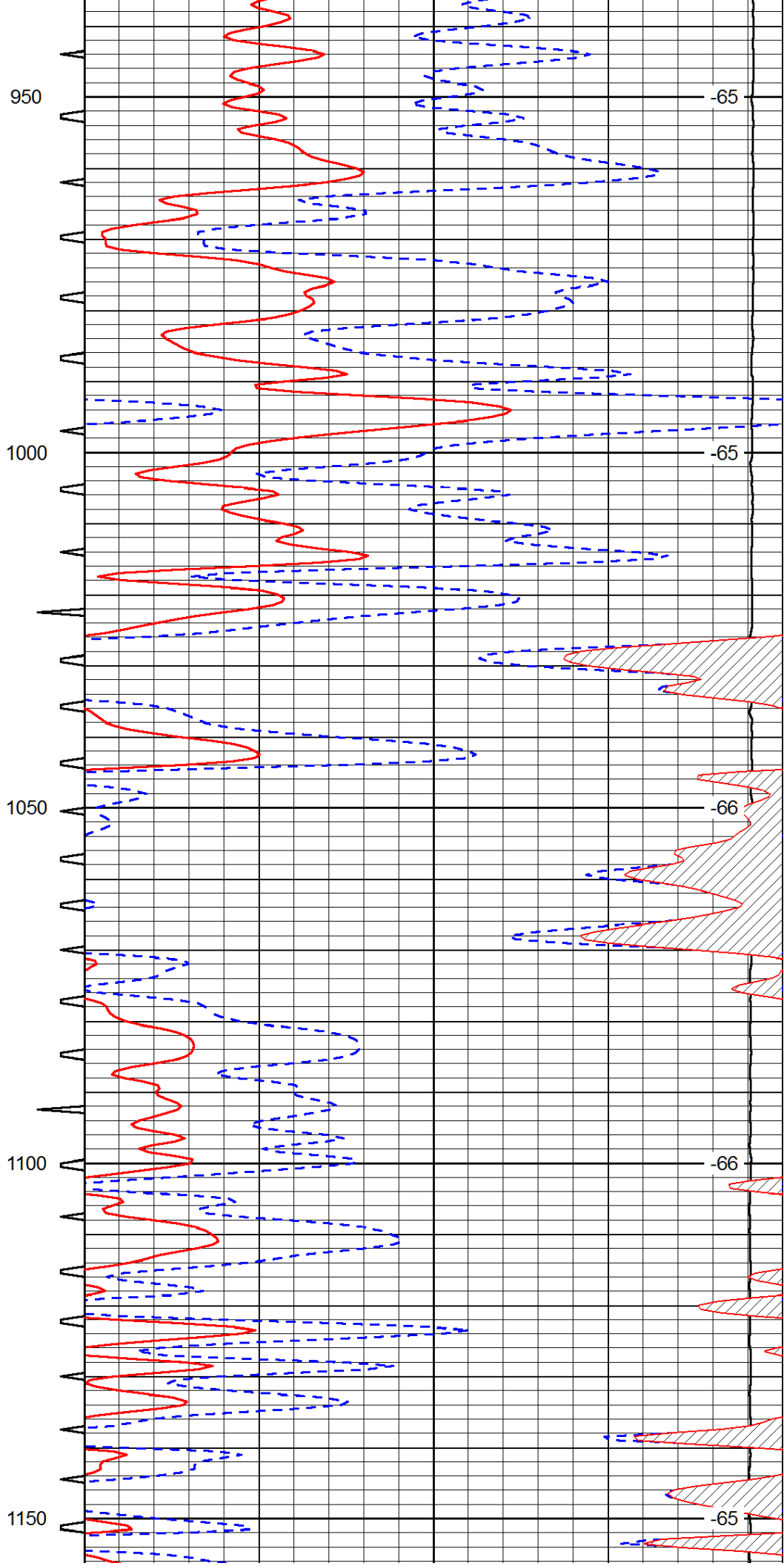
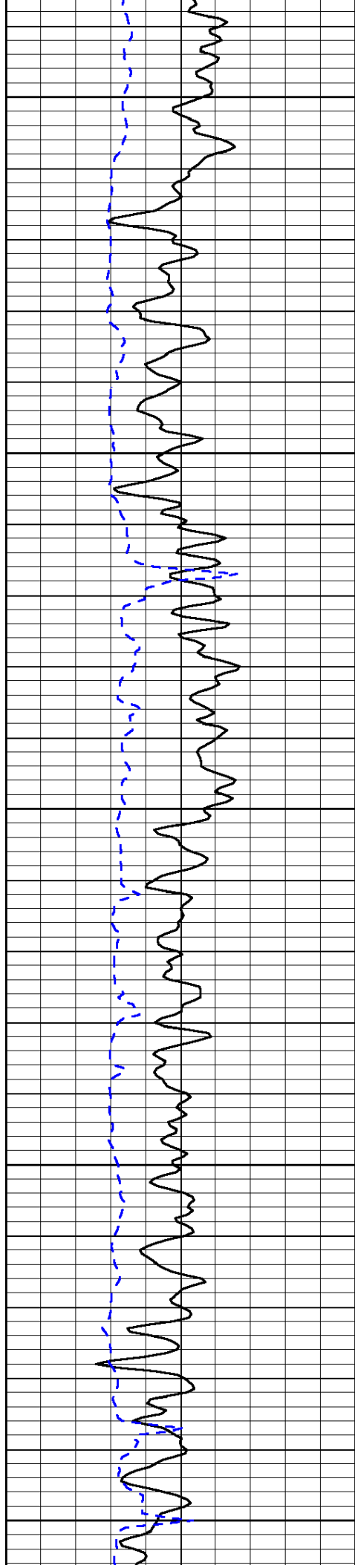
Thank you for using Log-Tech, Inc.
(785) 625-3858

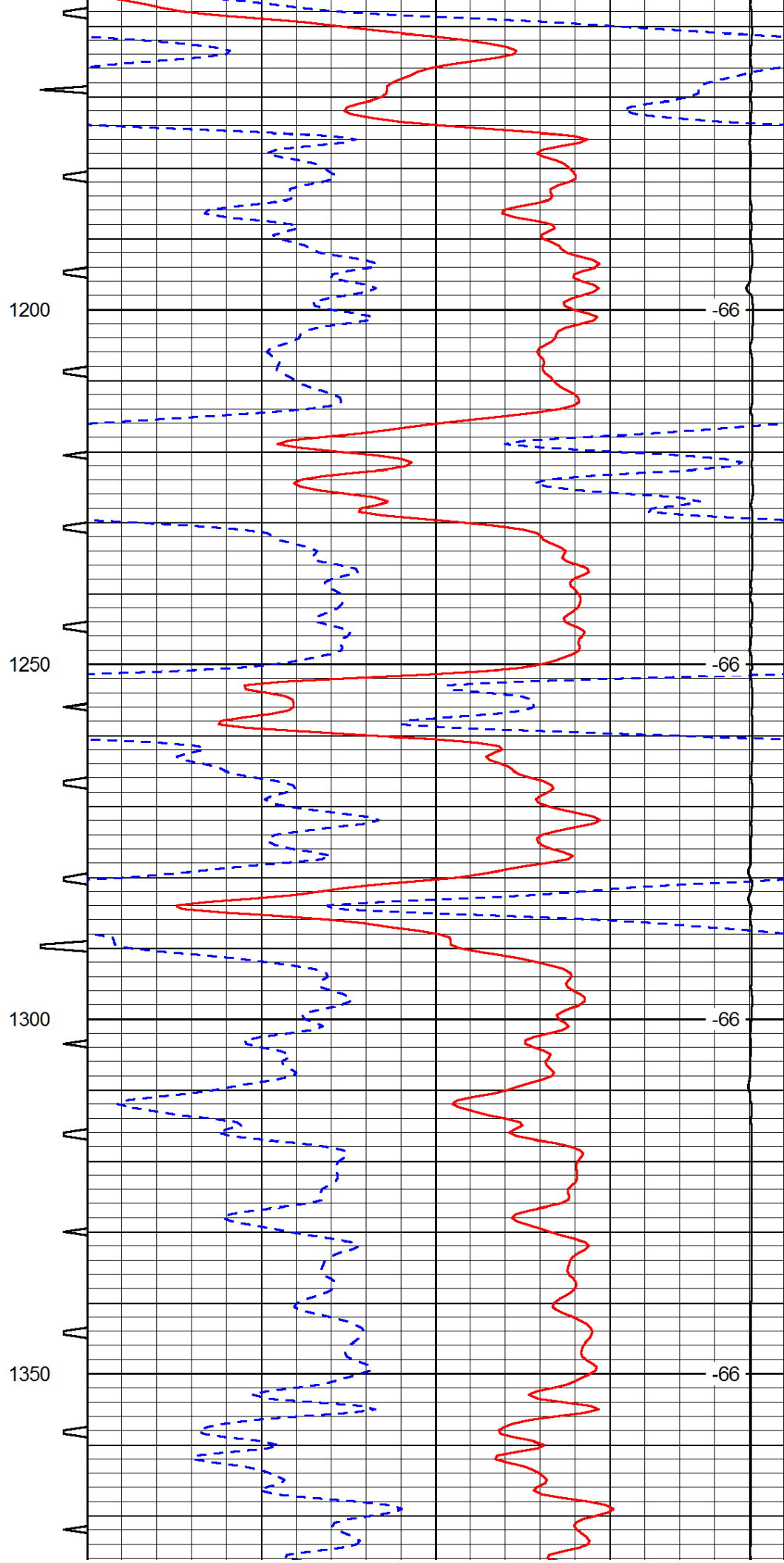
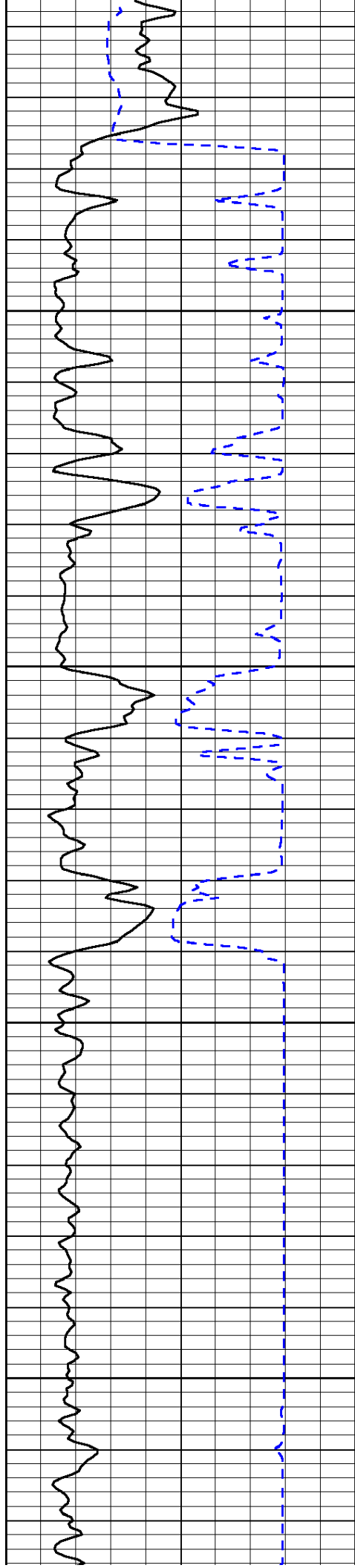
Odin Kansas
North to Church(Several Miles), 1/2 West, 1 North, 1/2 East, North Into

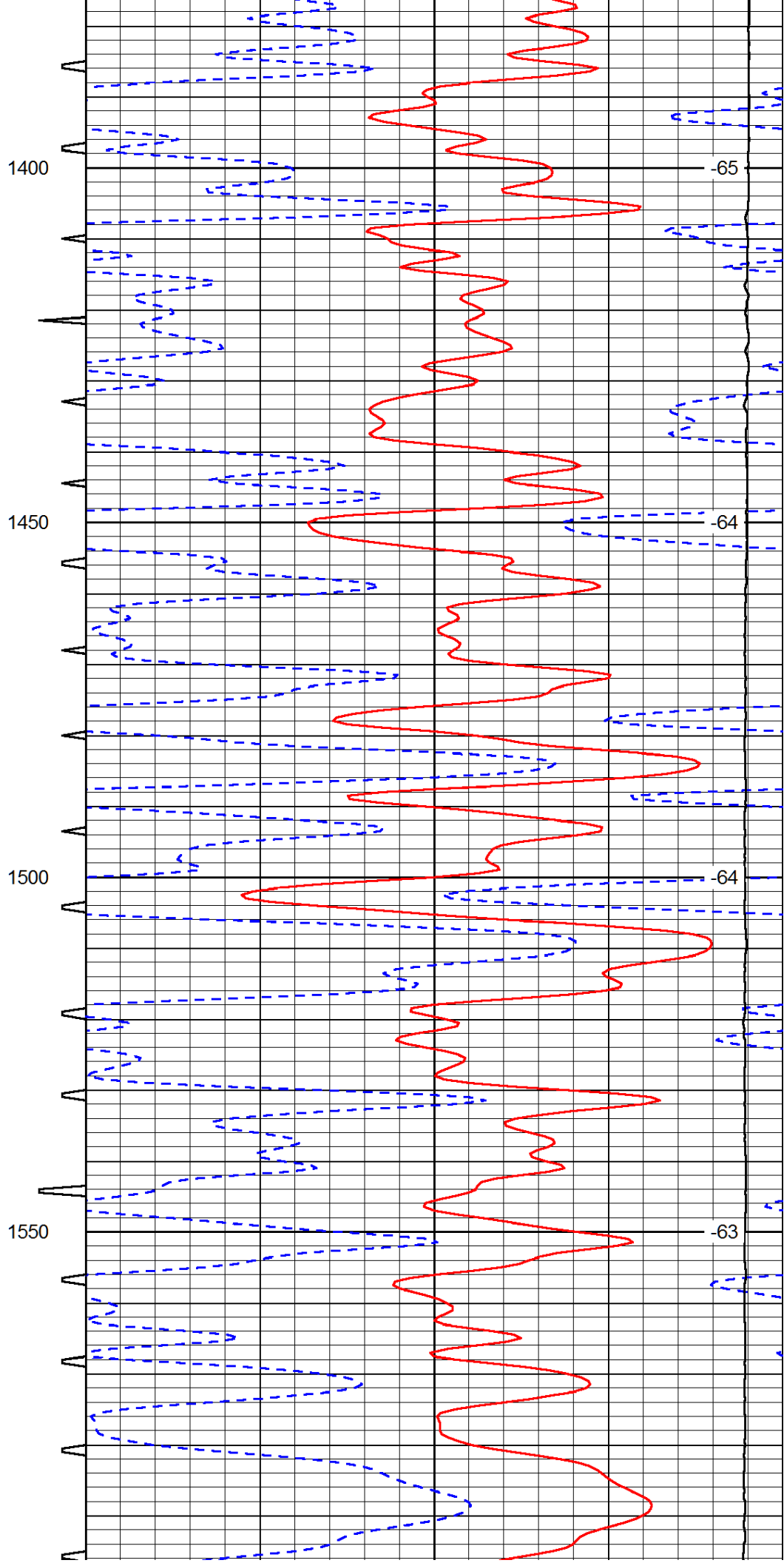
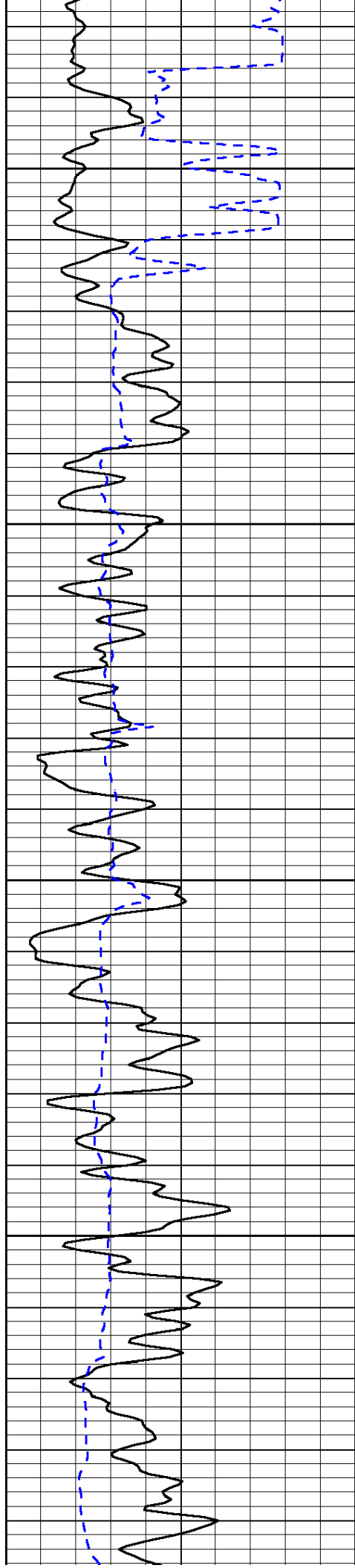
Database File: hd_staudinger_1hd.db
Dataset Pathname: DIL/hdstk
Presentation Format: sonic
Dataset Creation: Sun Sep 29 06:39:20 2013
Charted by: Depth in Feet scaled 1:240

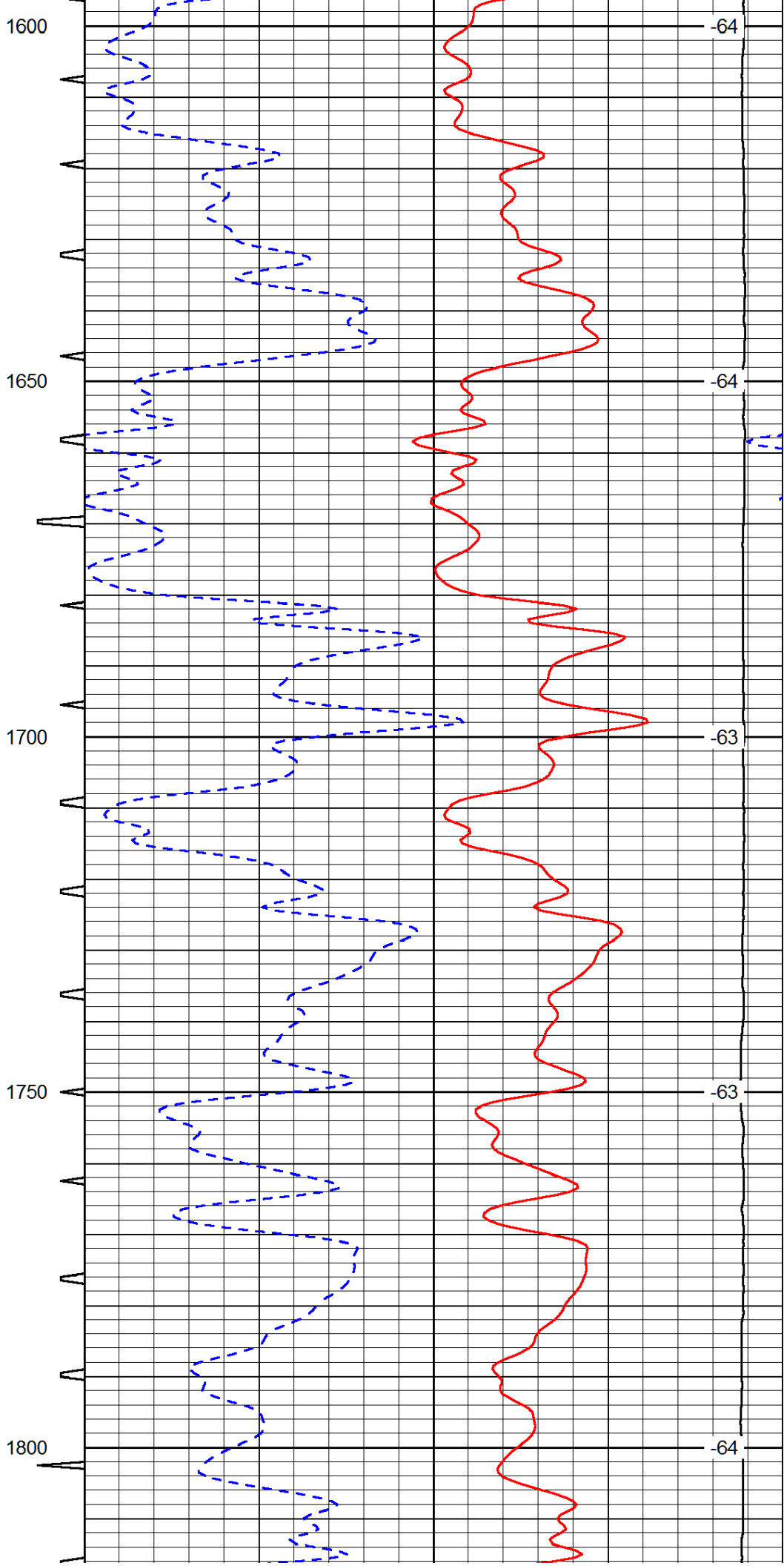
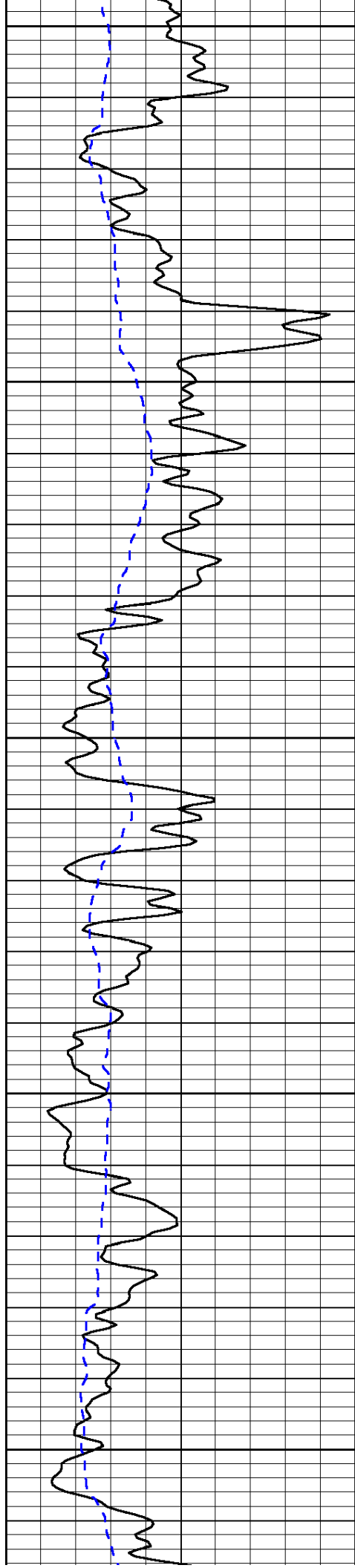
Charted by:			Depth in Feet scaled 1:2.16			
0	Gamma Ray (GAPI)	150	Sonic Int	140	Delta Time (usec/ft) (usec/ft)	40
150	Gamma Ray (GAPI)	300	5 (msec) 0	30	Sonic Porosity (pu)	-10
6	dCAL (in)	16		15000	LTEN (lb) (lb)	0
						LSPD (ft/min)

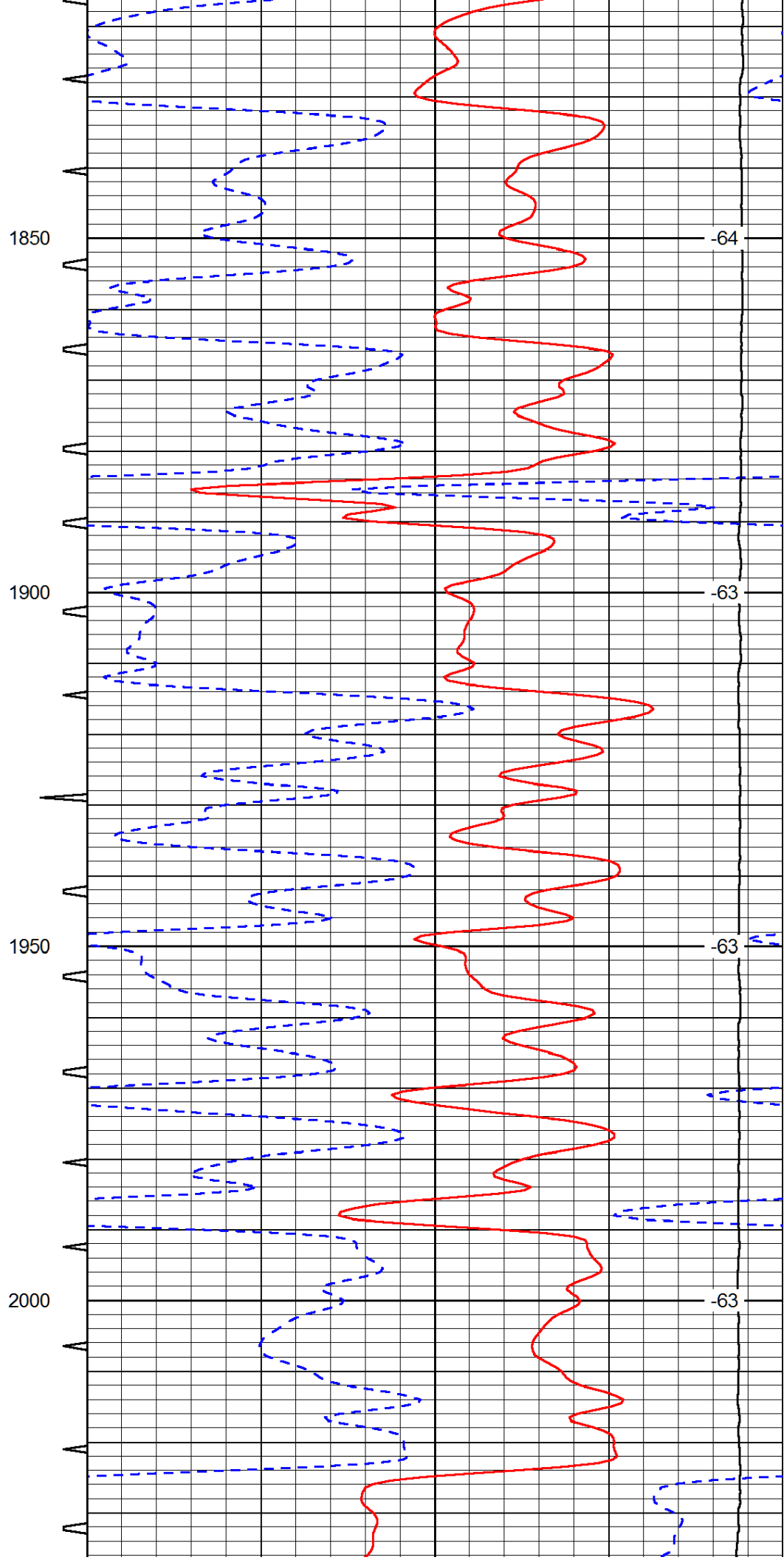
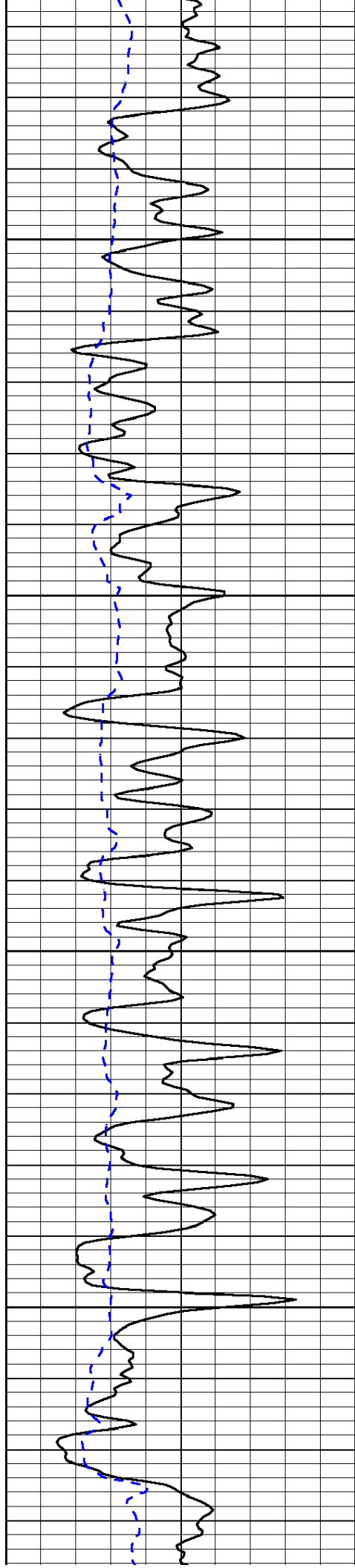


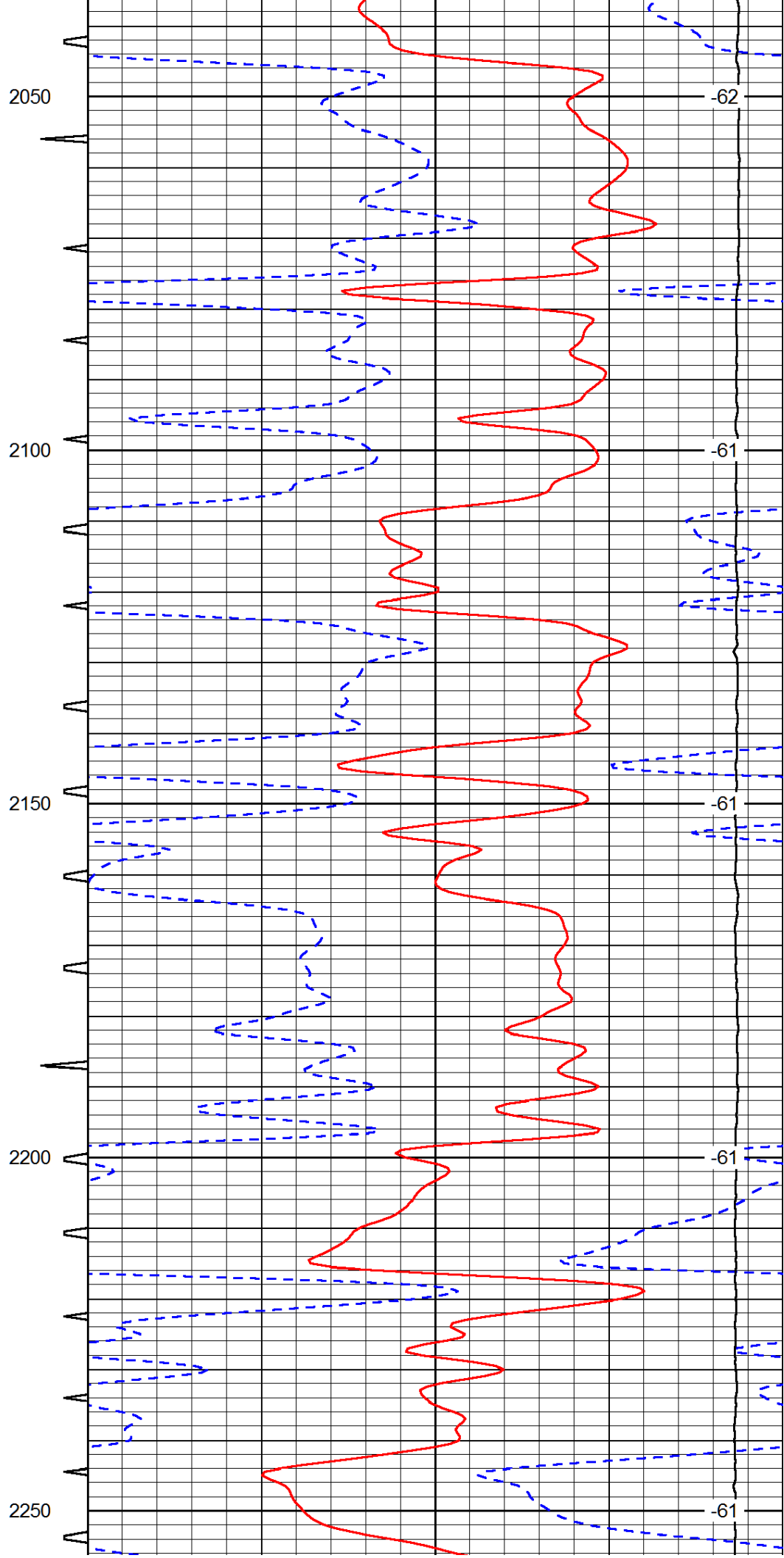
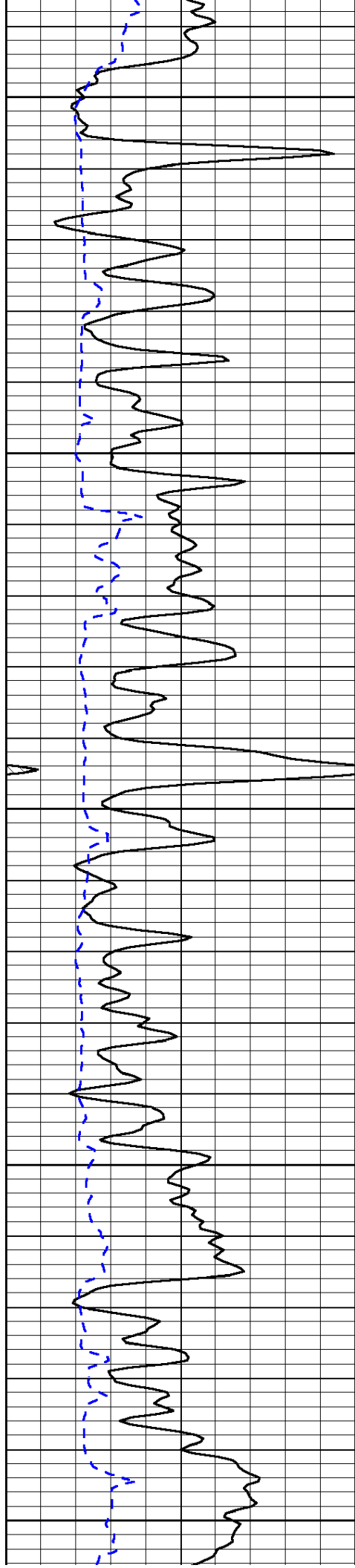


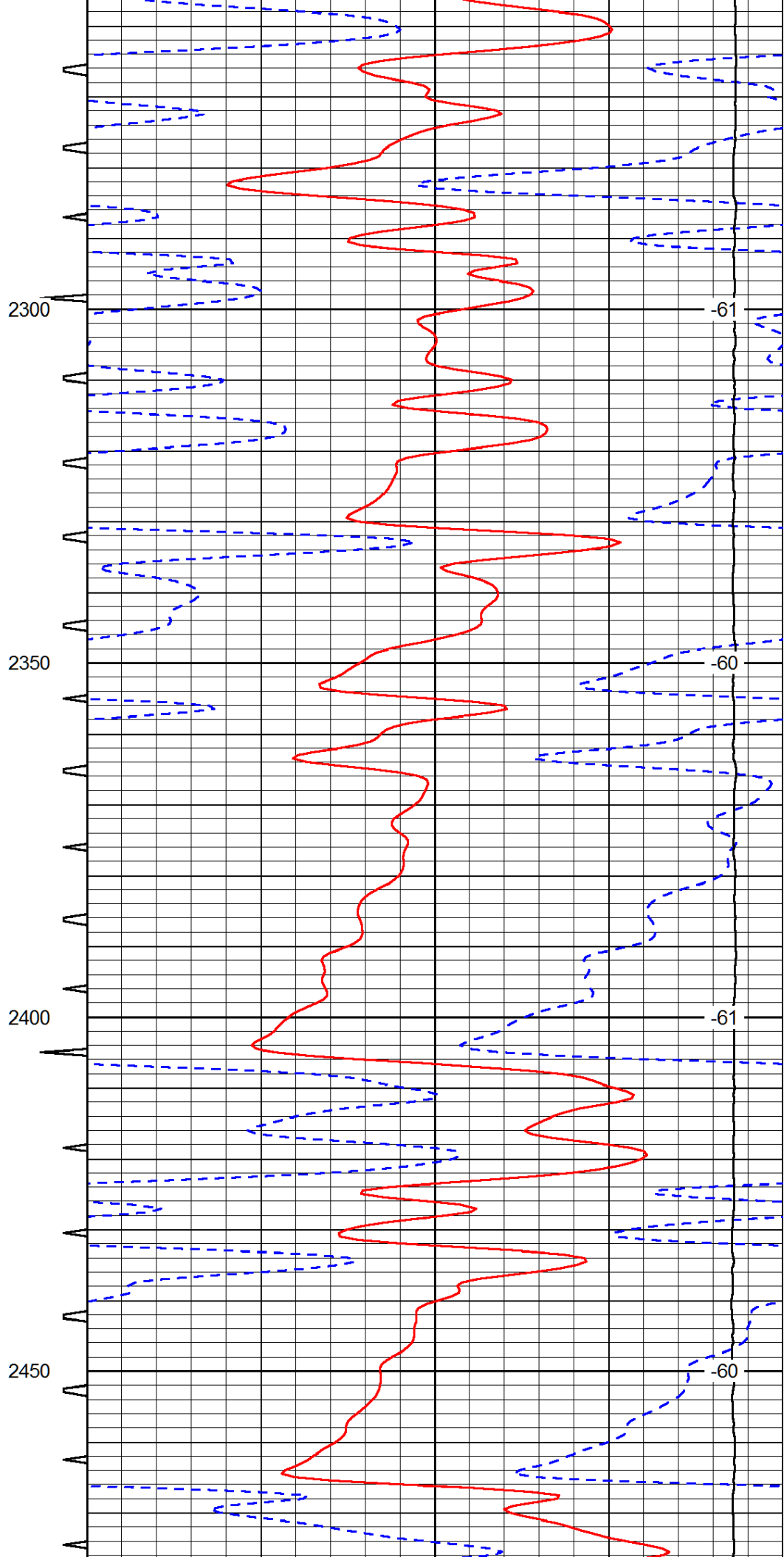
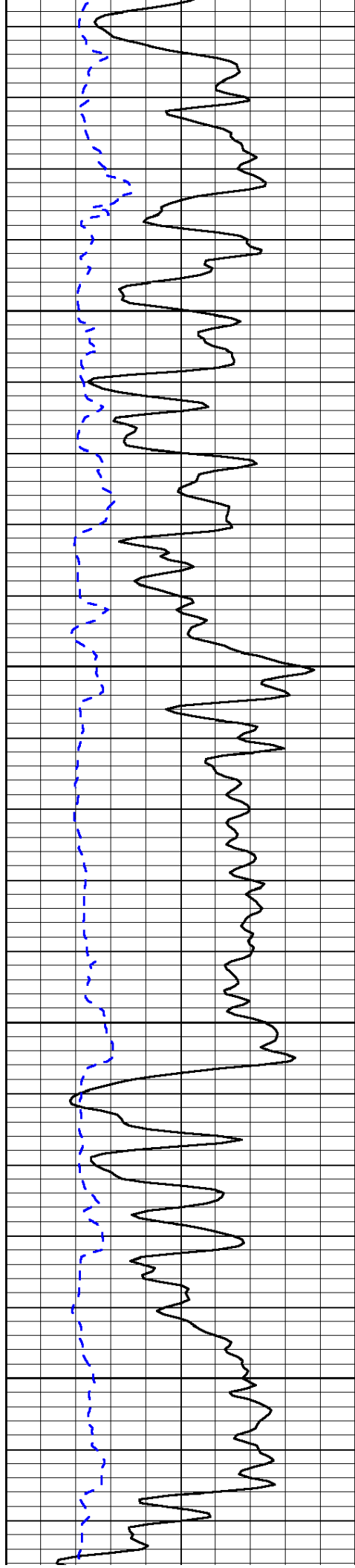


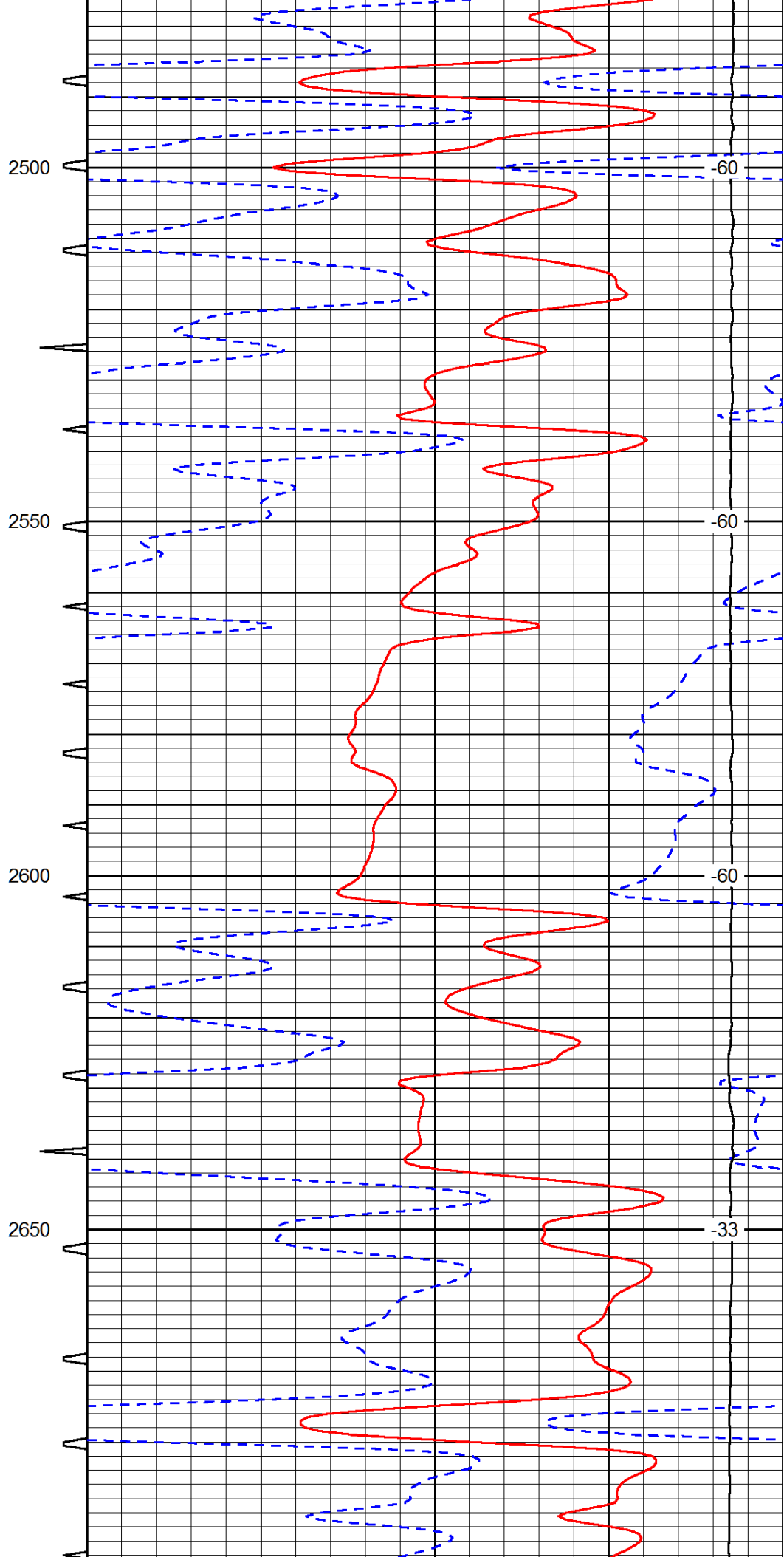
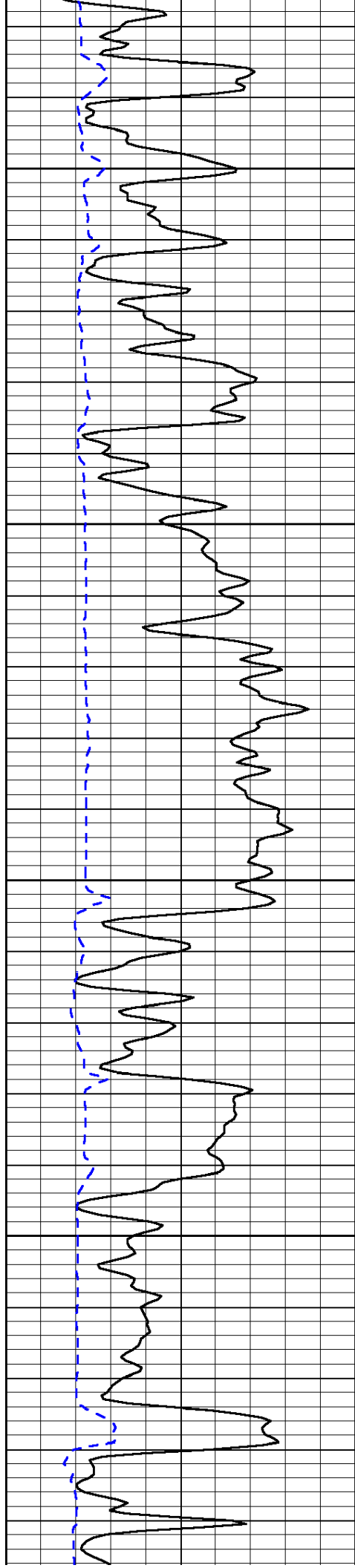


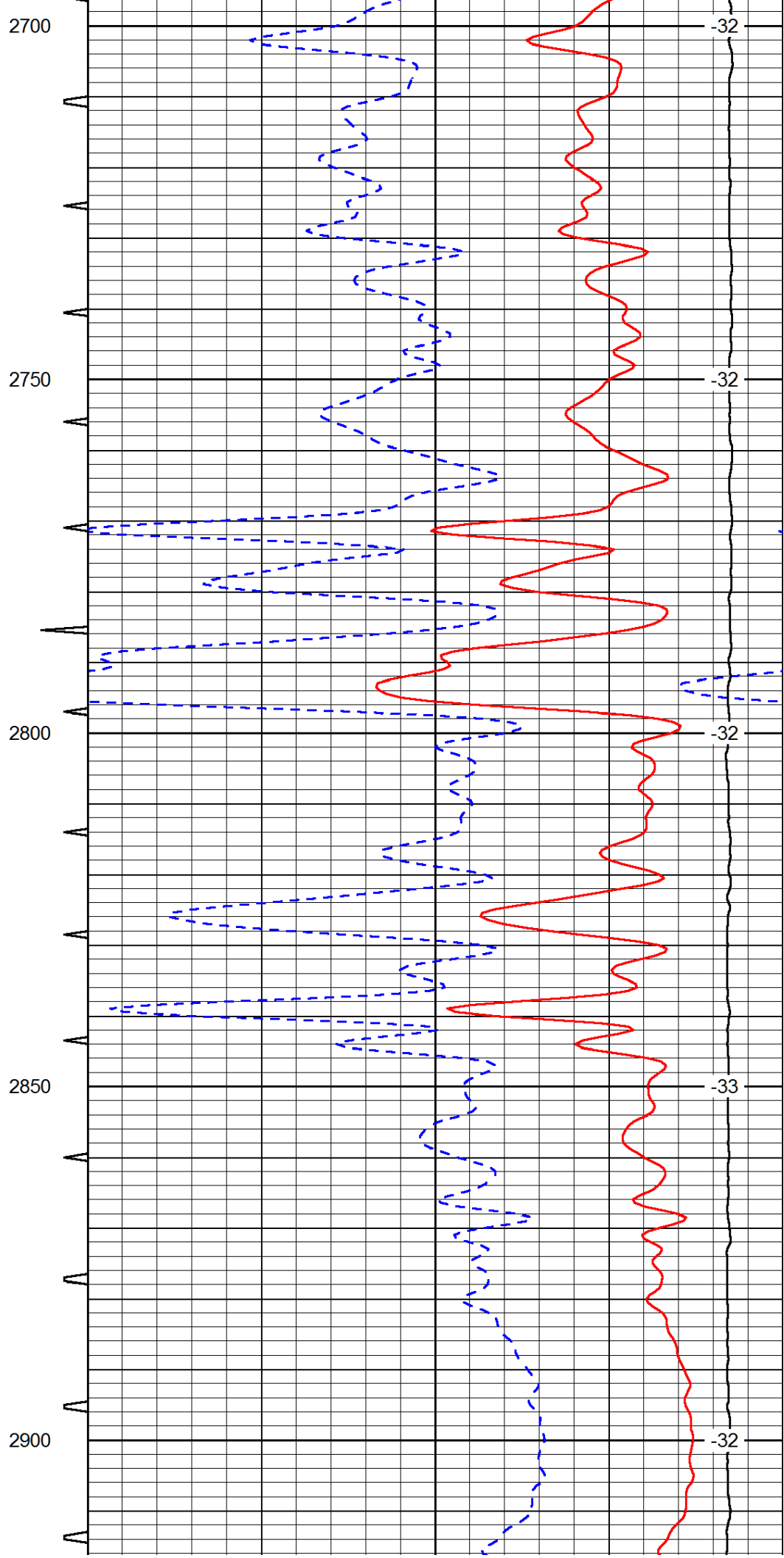
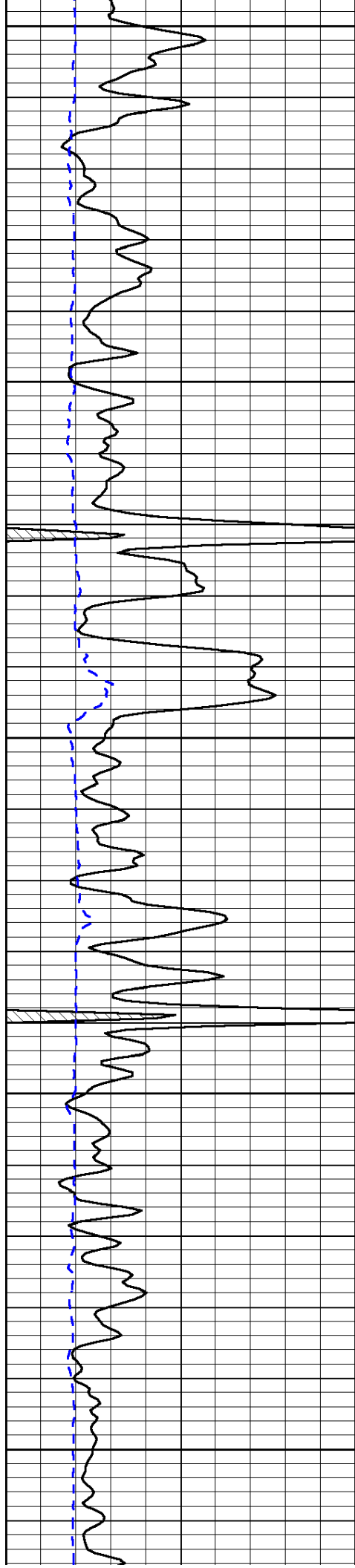


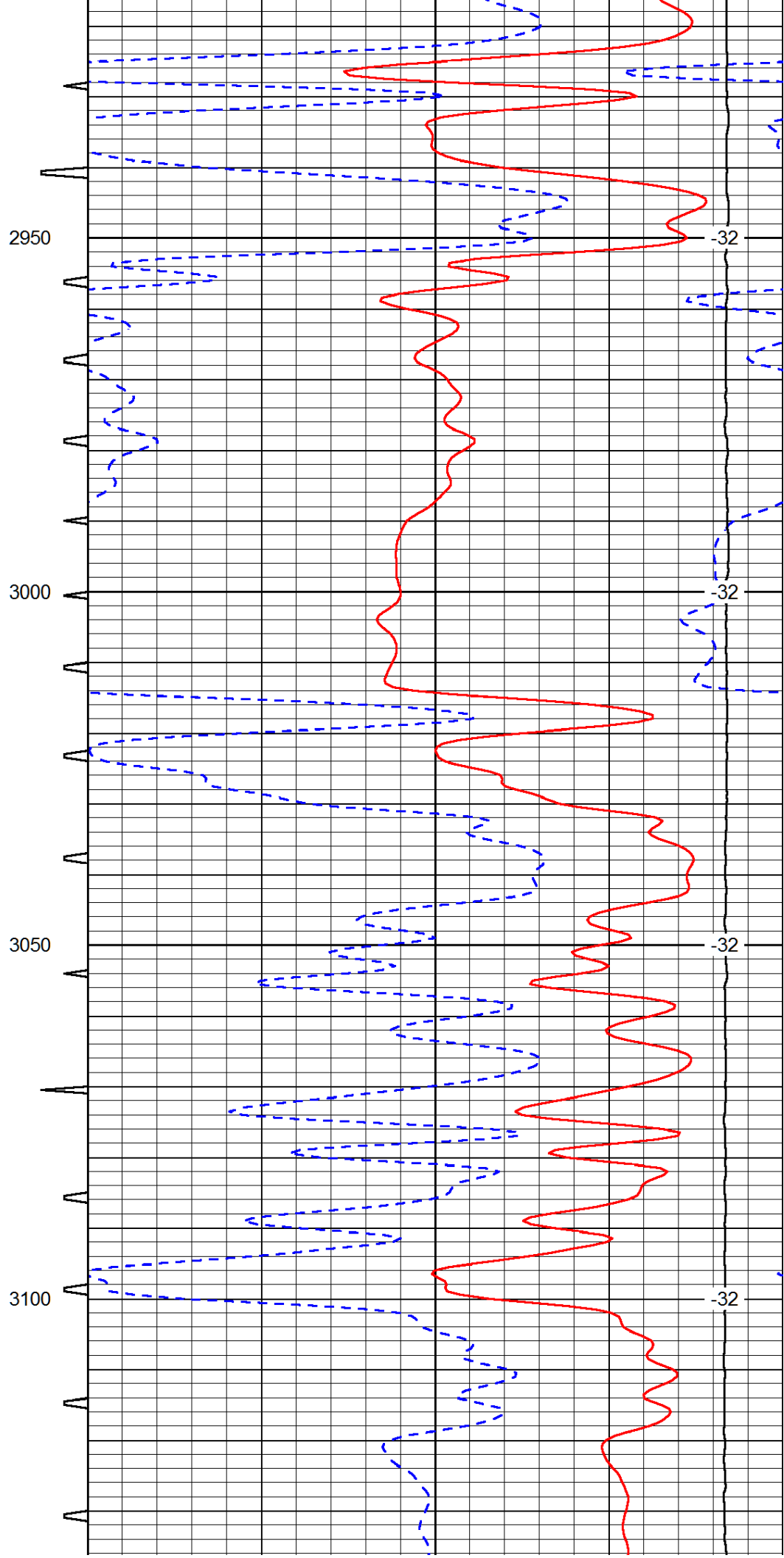
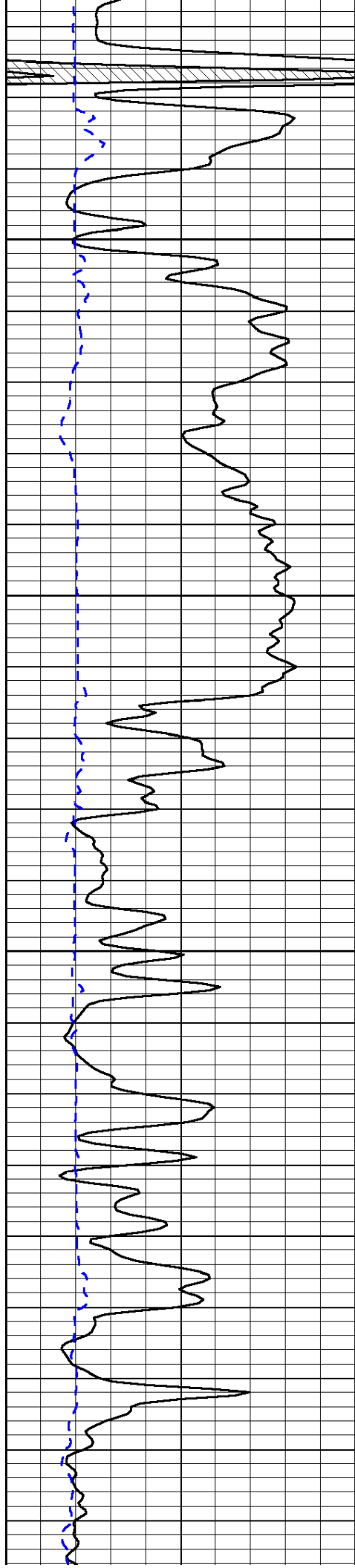


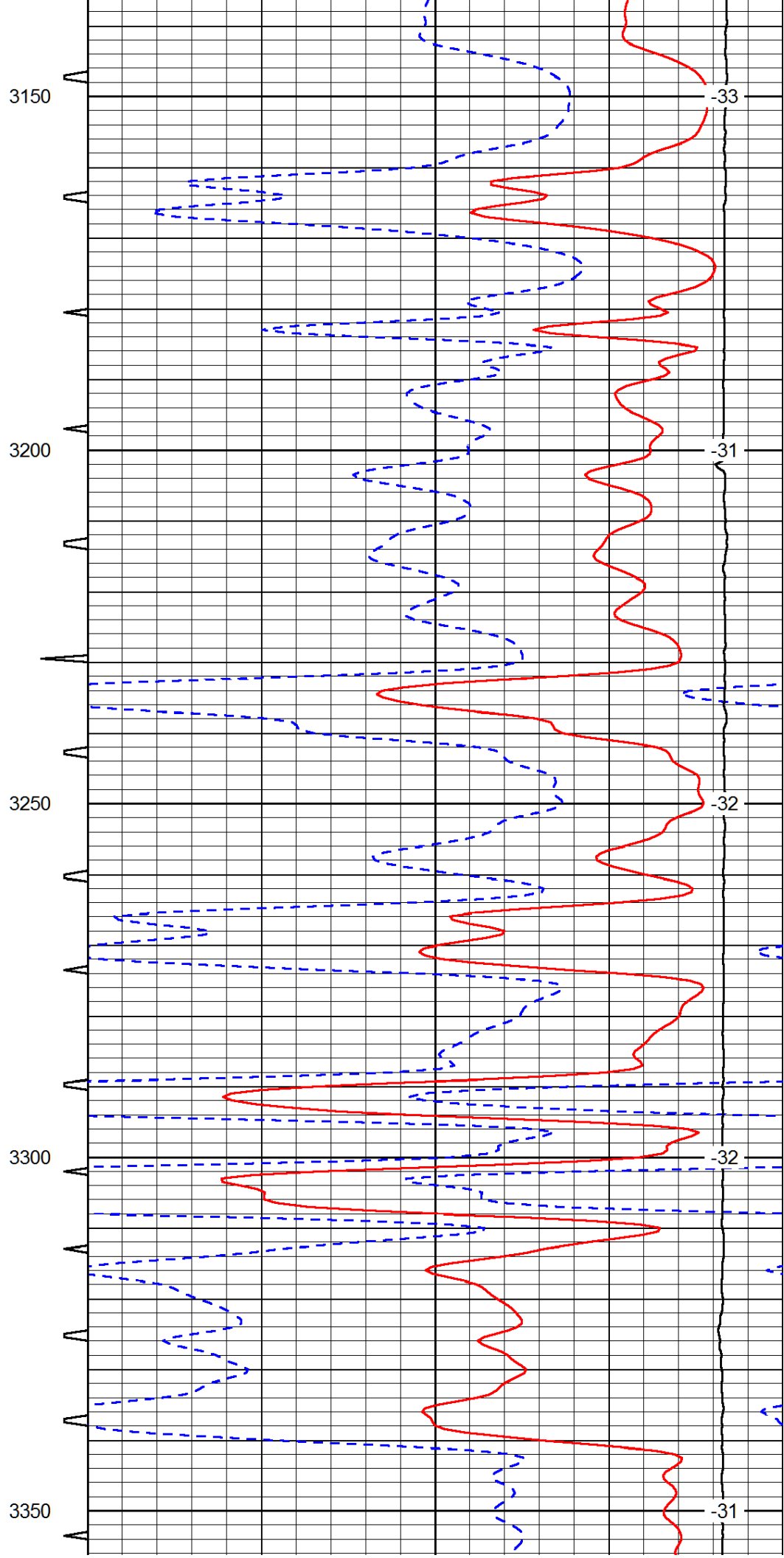
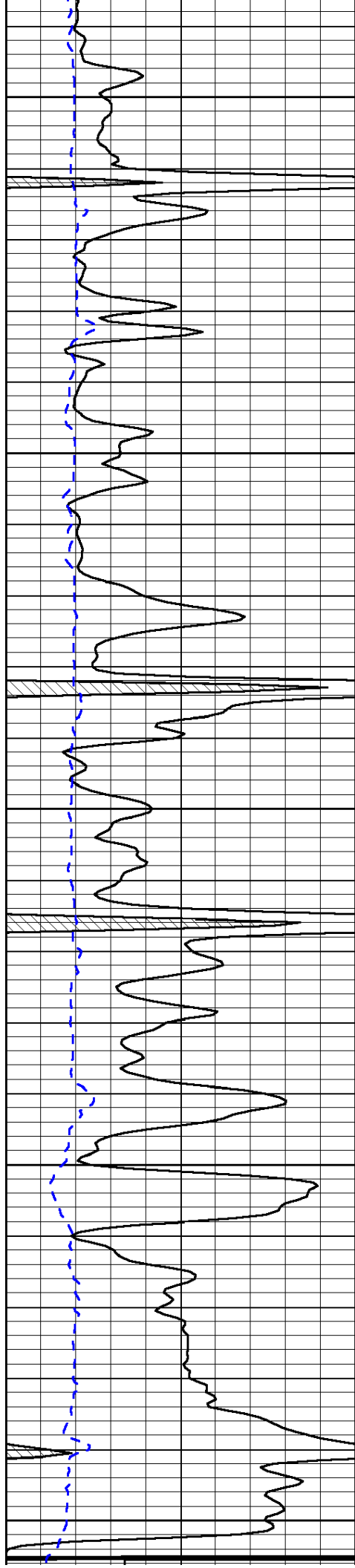


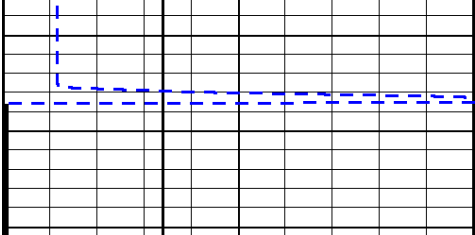






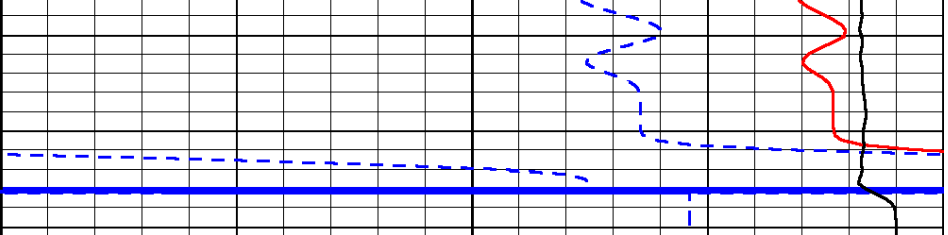






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Sonic Int
5 (msec) 0



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LSPD
(ft/min)