PIONEER

Pioneer Energy Services

Borehole Compensated Sonic Log

API No. 15-023-21408-00-00

Company Murfin Drilling Company, Inc.

Well Delay #1-21

Field Wildcat

County Cheyenne State Kansas

Location 1510' FSL & 330' FEL

Sec: 21 Twp: 1S Rge: 38W

Other Services
CNL/CDL
MEL/DIL

Permanent Datum	Ground Level	Elevation 3194	Elevation
Log Measured From	Kelly Bushing	5 Ft. Above Perm. Datum	K.B. 3199
Drilling Measured From	Kelly Bushing		D.F.
			G.L. 3194

Date	9/3/2014
Run Number	Two
Type Log	BHC Sonic
Depth Driller	4750
Depth Logger	4753
Bottom Logged Interval	4742
Top Logged Interval	200
Type Fluid In Hole	Chemical
Salinity, PPM CL	600
Density	9.2
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

Run No.	Bit	From	To
1	12.25	00	218
2	7.875	218	4750

Casing Record

Size	Wgt.	From	To
8.625	24#	00	218

<<< 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

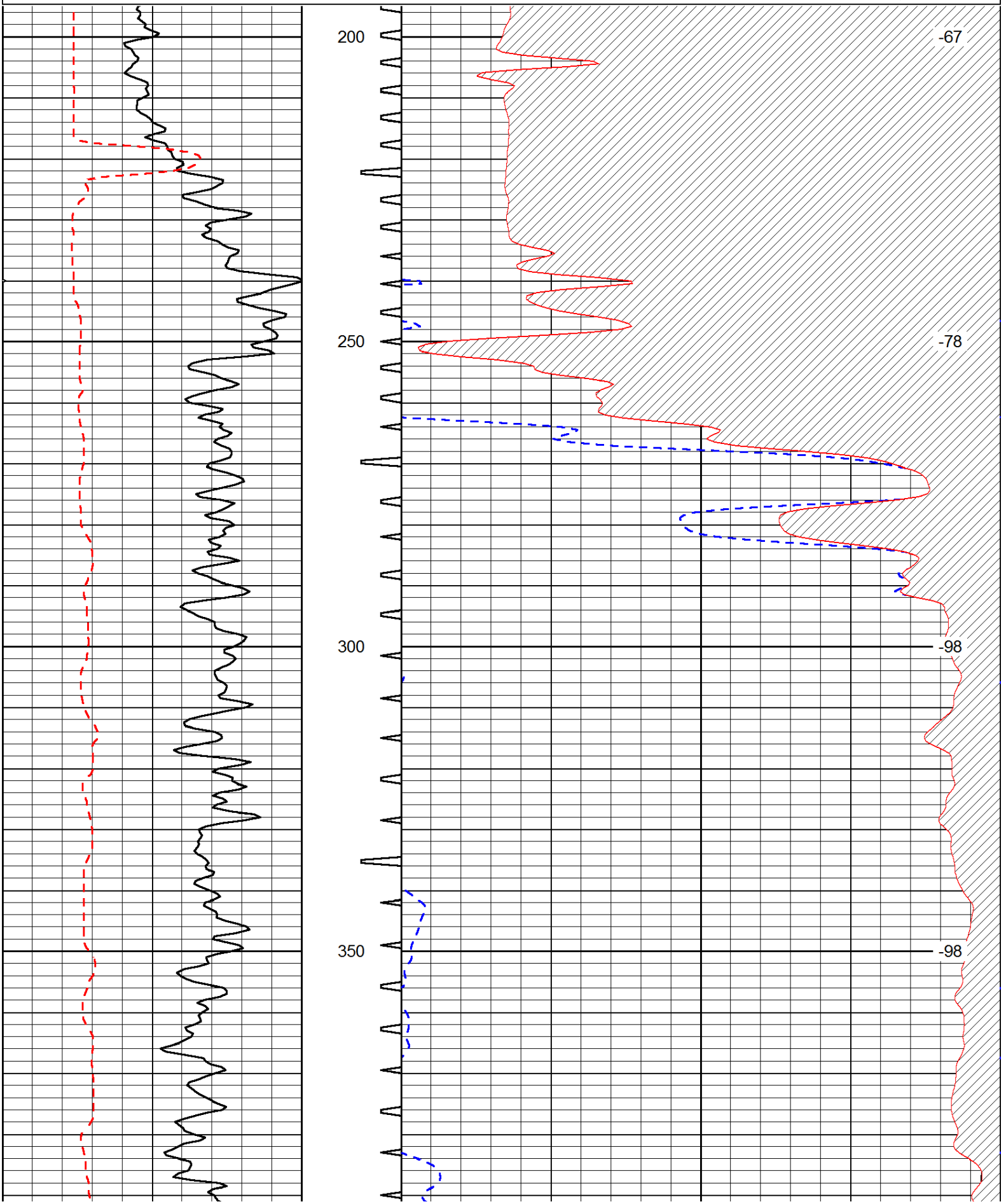
Thank you for using Pioneer Energy Services
www.pioneeres.com
785 625 3858

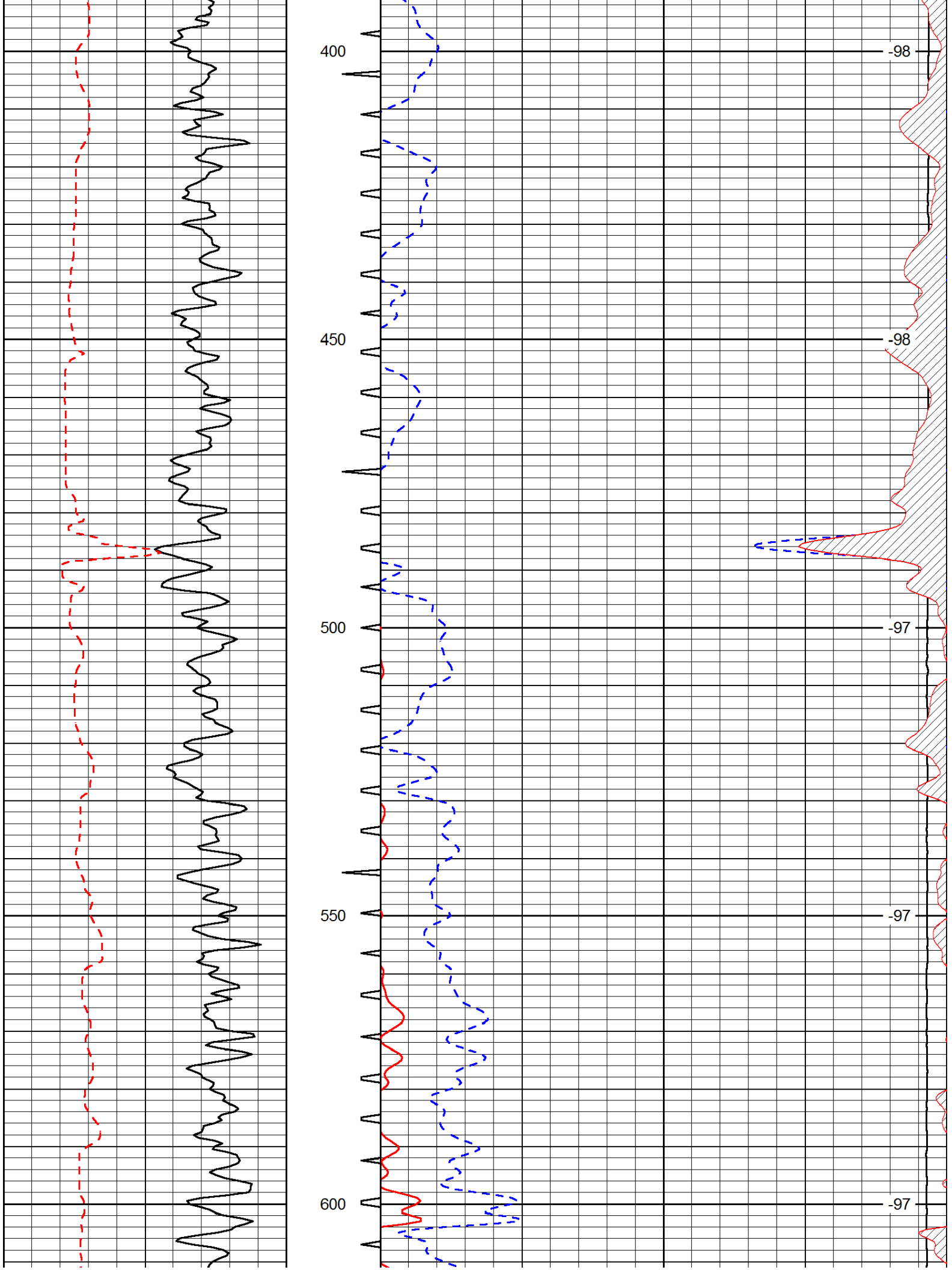
Bird City,
North on Hwy 161 to BB Rd, 2 West to 26 Rd,
1/2 South into

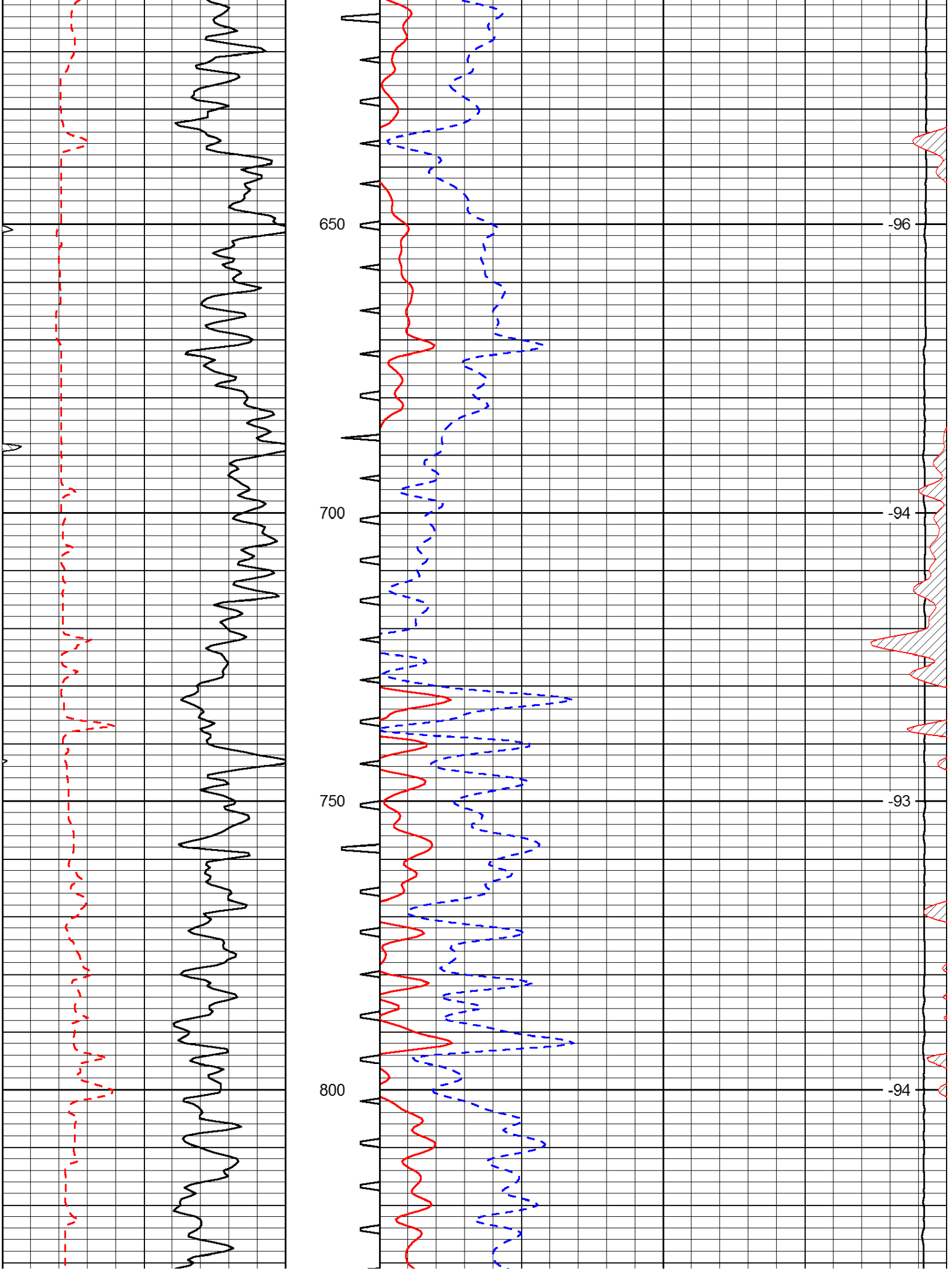
Database File:	c:\warrior\data\murfin_delay #1-21\murfin_delay_1-21hd.db
Dataset Pathname:	dil/mrfstck
Presentation Format:	sonic
Dataset Creation:	Wed Sep 03 08:28:39 2014
Charted by:	Depth in Feet scaled 1:240

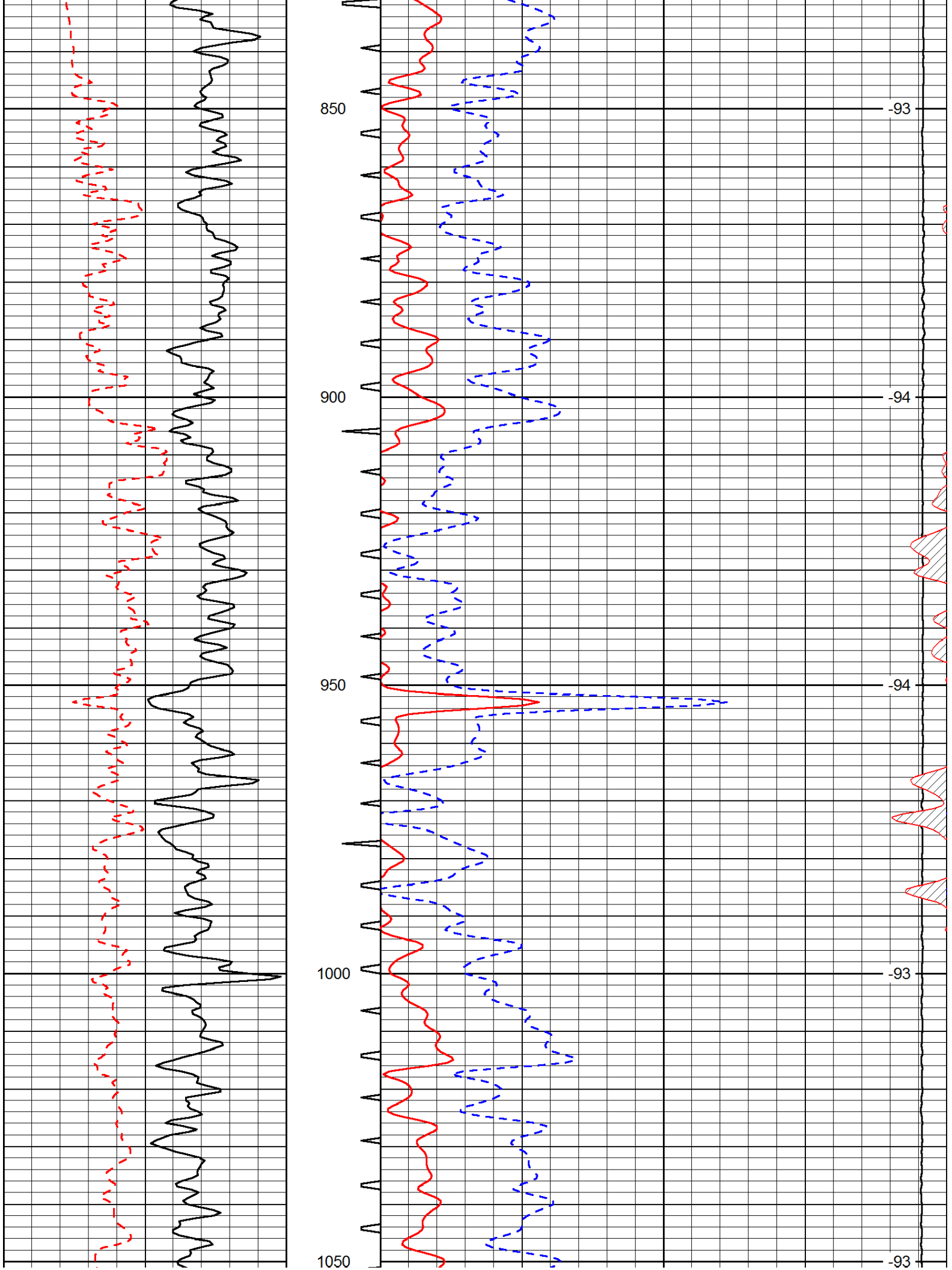
Charted by: Depth in Feet scaled 1:240

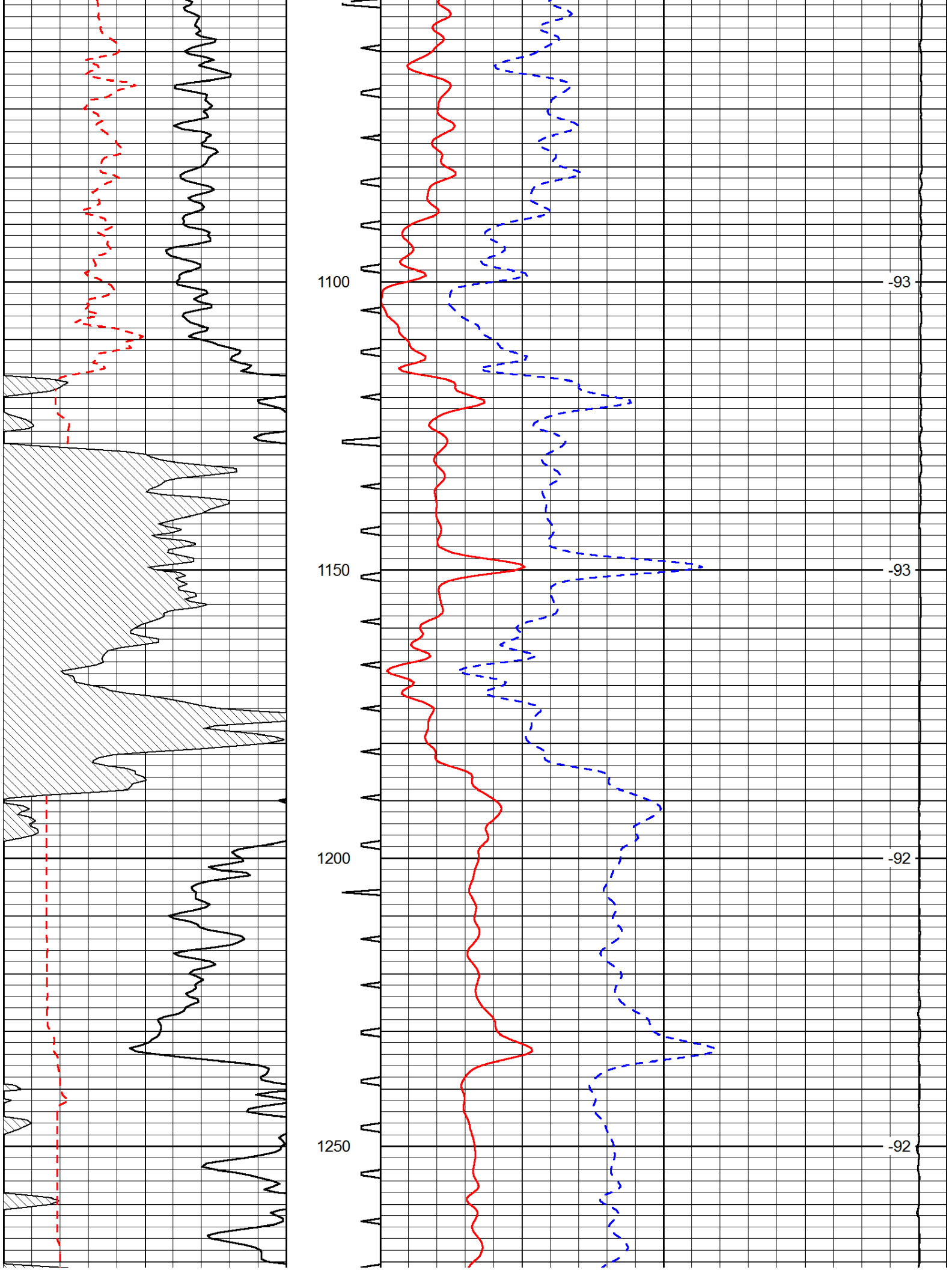
0	Gamma Ray	150	Sonic Int	140	Delta Time (usec/ft)	40	
150	Gamma Ray	300	5 0	30	SPOR	-10	
6	Caliper (GAPI)	16		15000	LTEN (lb)	0	
							LSPD

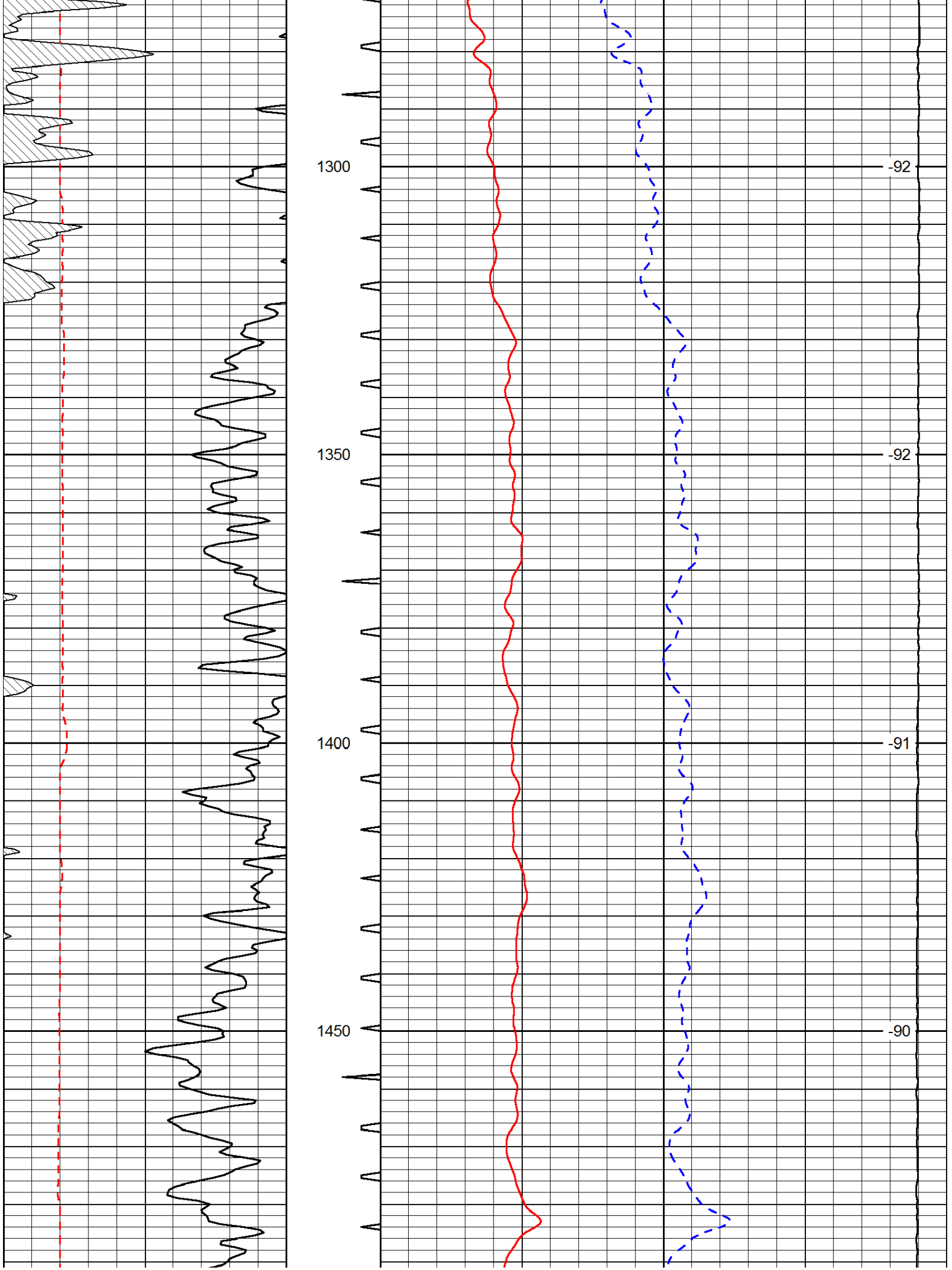


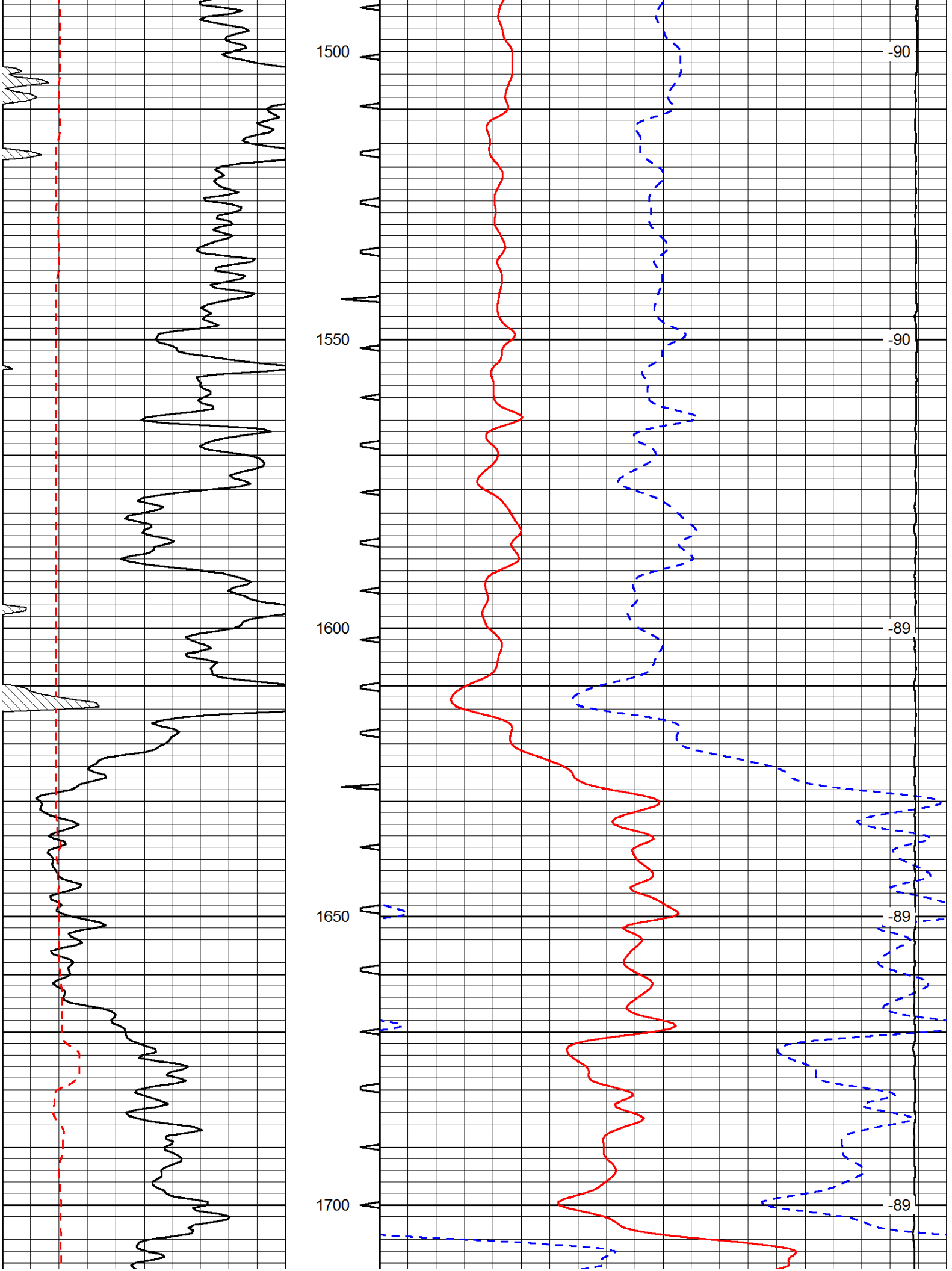

400
450
500
550
600
-98
-98
-97
-97
-97

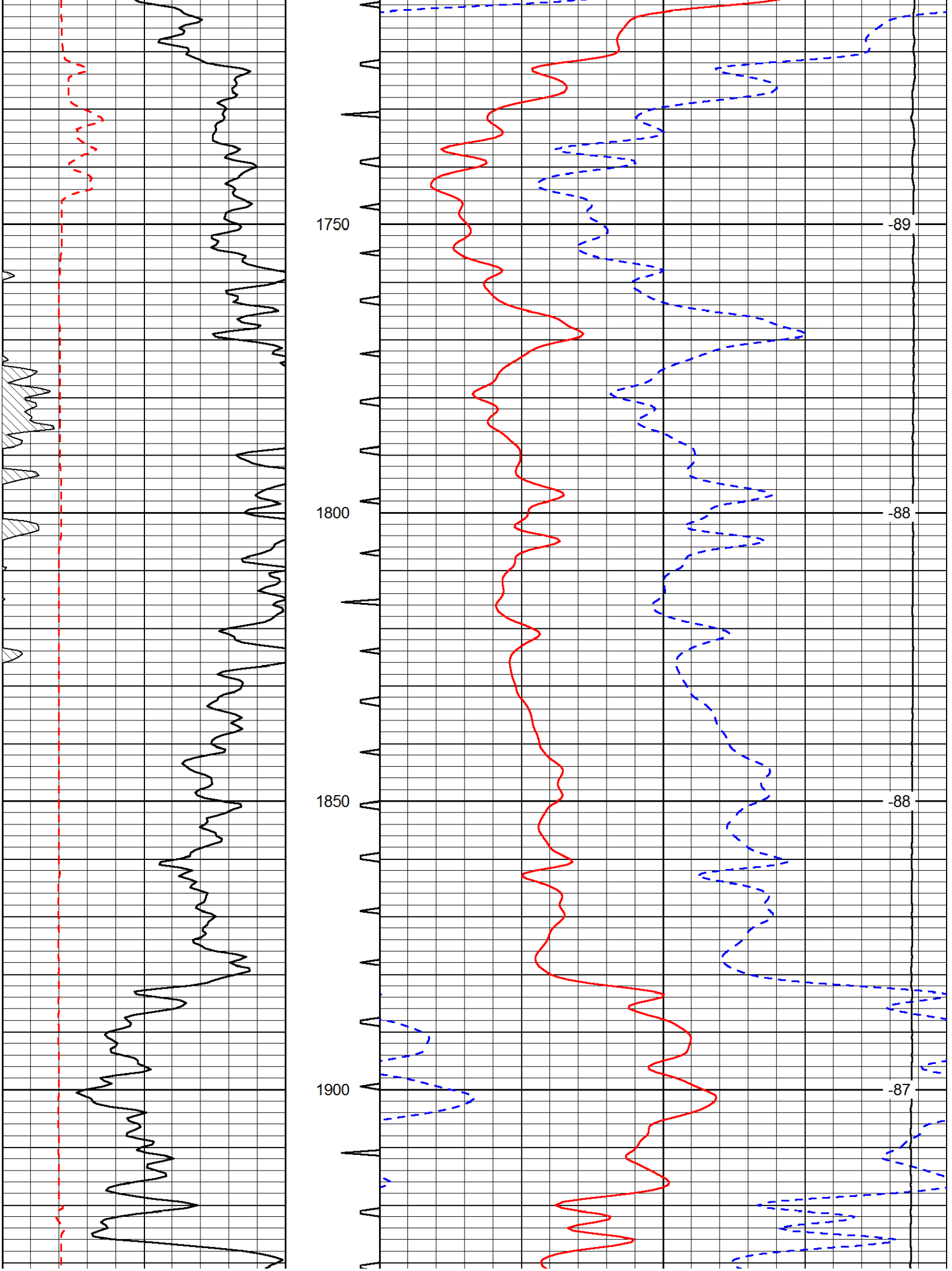

650
700
750
800
-96
-94
-93
-94

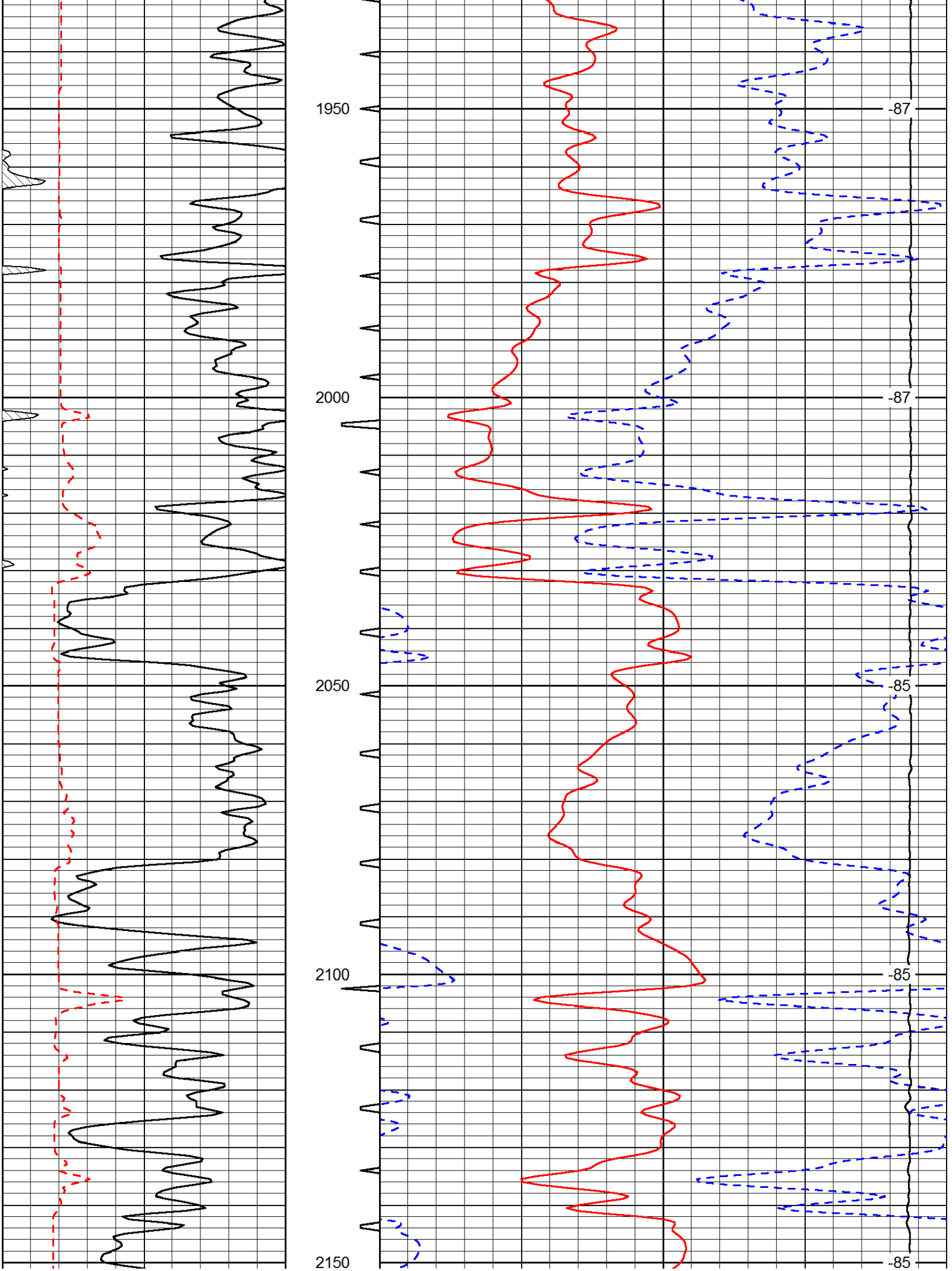

850
900
950
1000
1050
-93
-94
-94
-93
-93

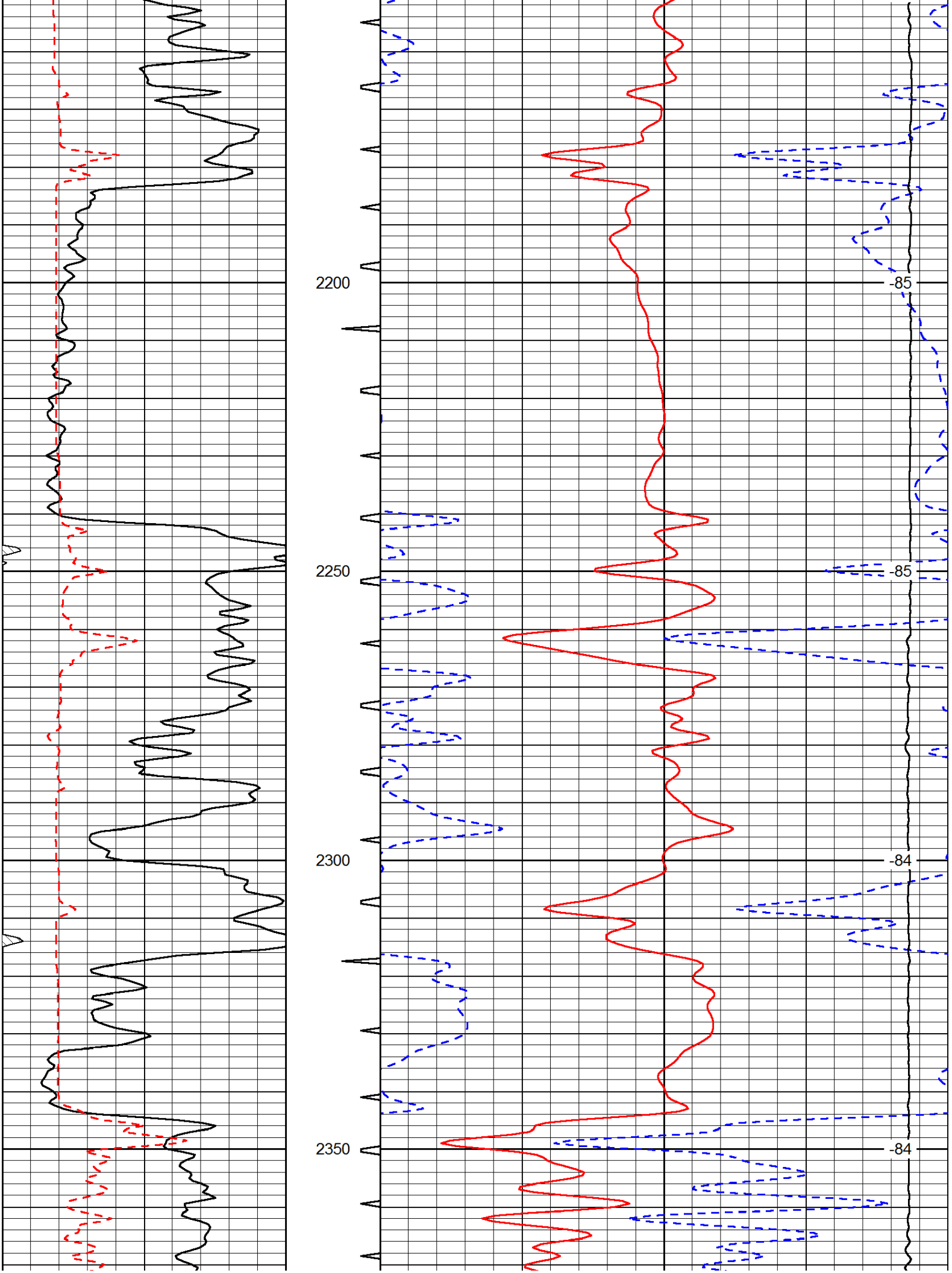

1100
1150
1200
1250
-93
-93
-92
-92

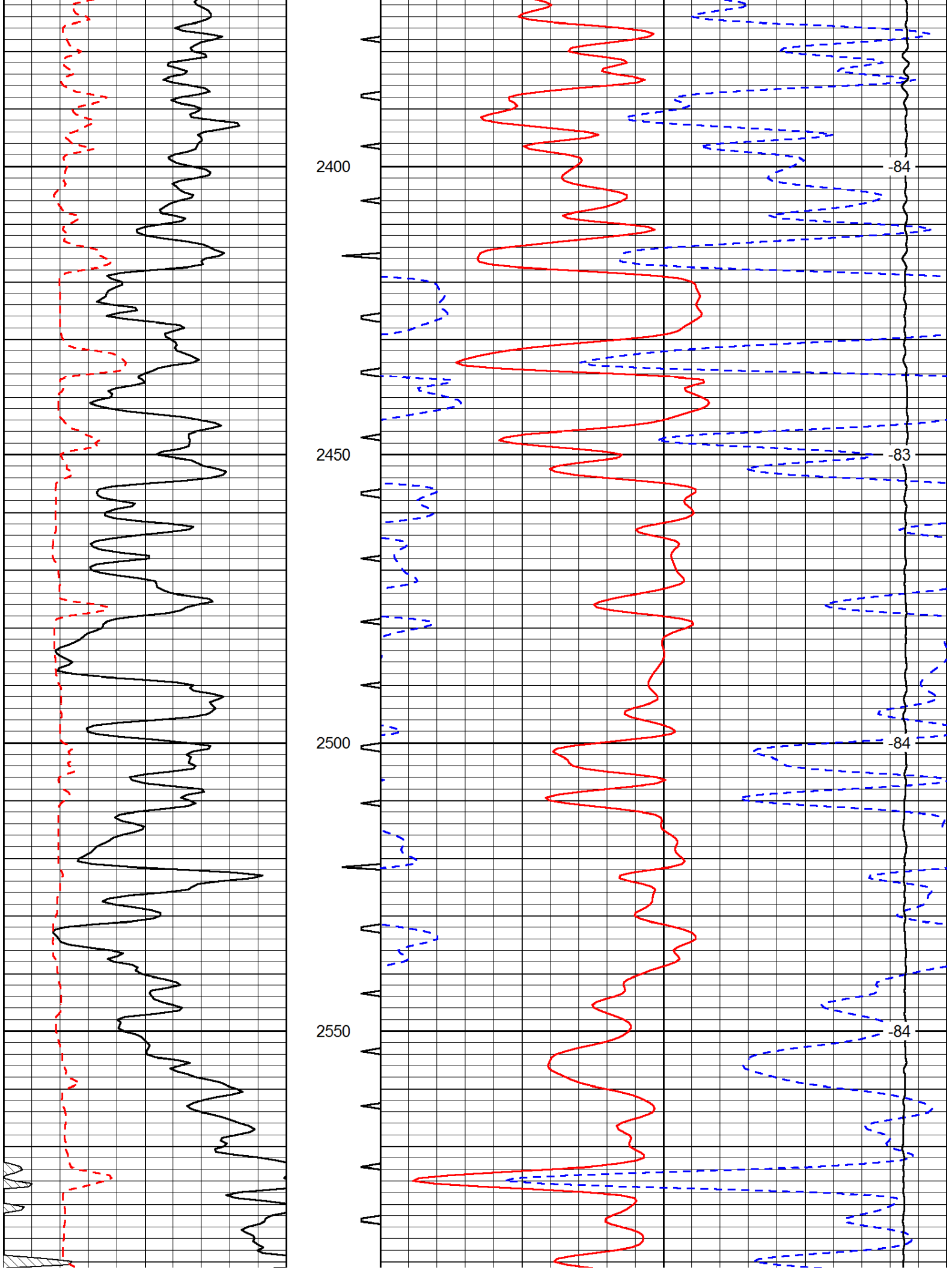

1300
1350
1400
1450
-92
-92
-91
-90

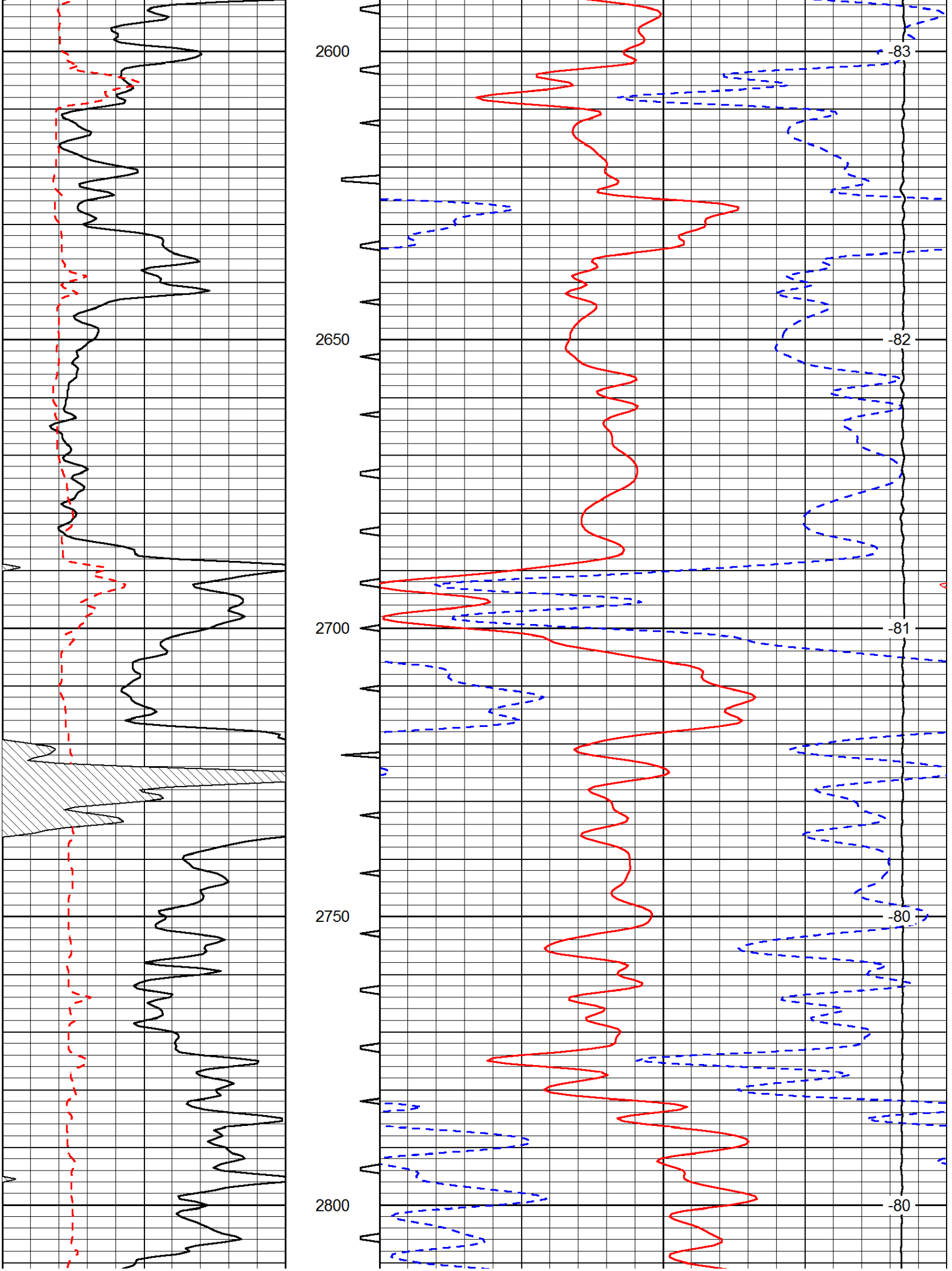

1500
1550
1600
1650
1700
-90
-90
-89
-89
-89

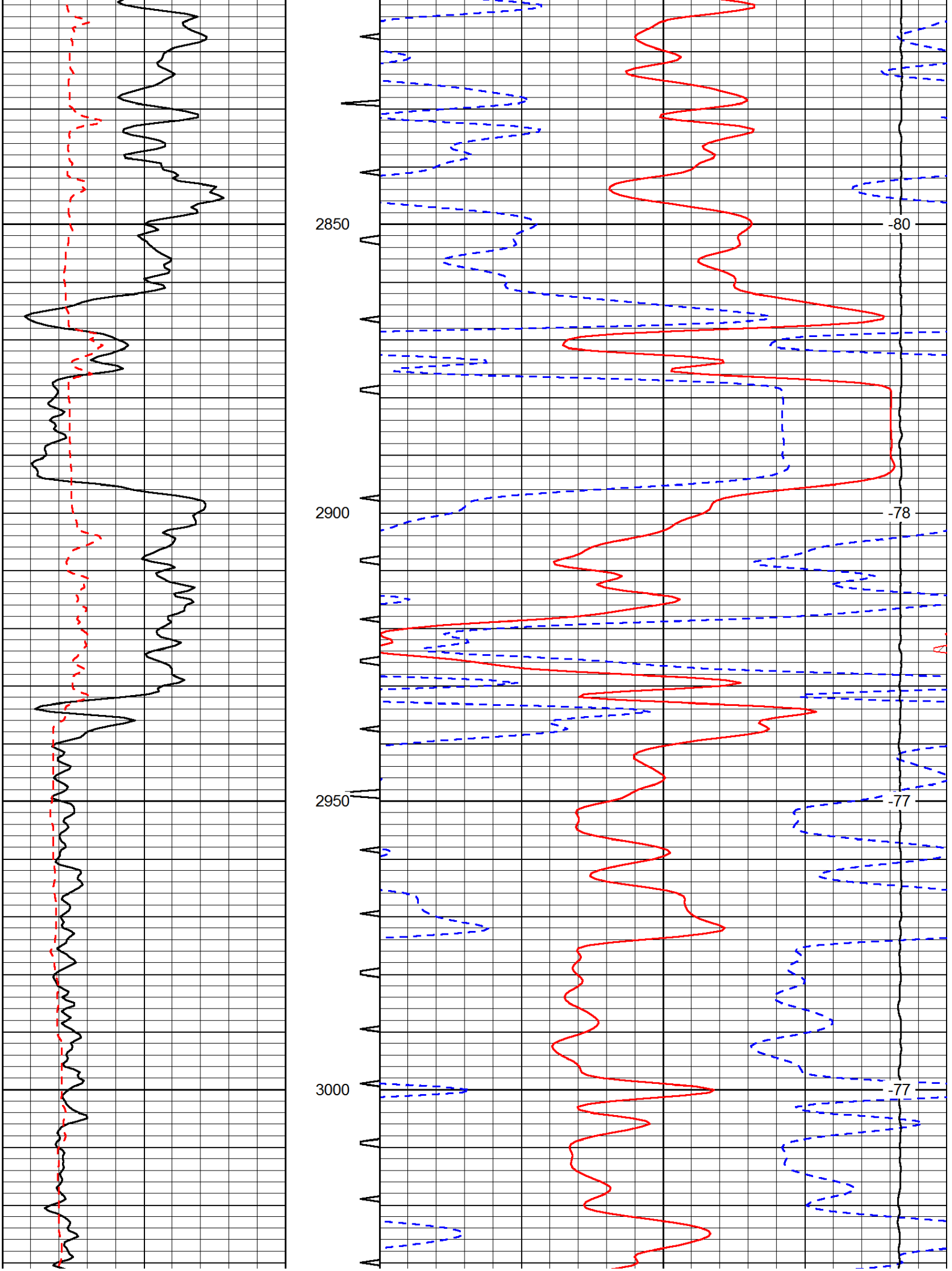

1750
1800
1850
1900
-89
-88
-88
-87

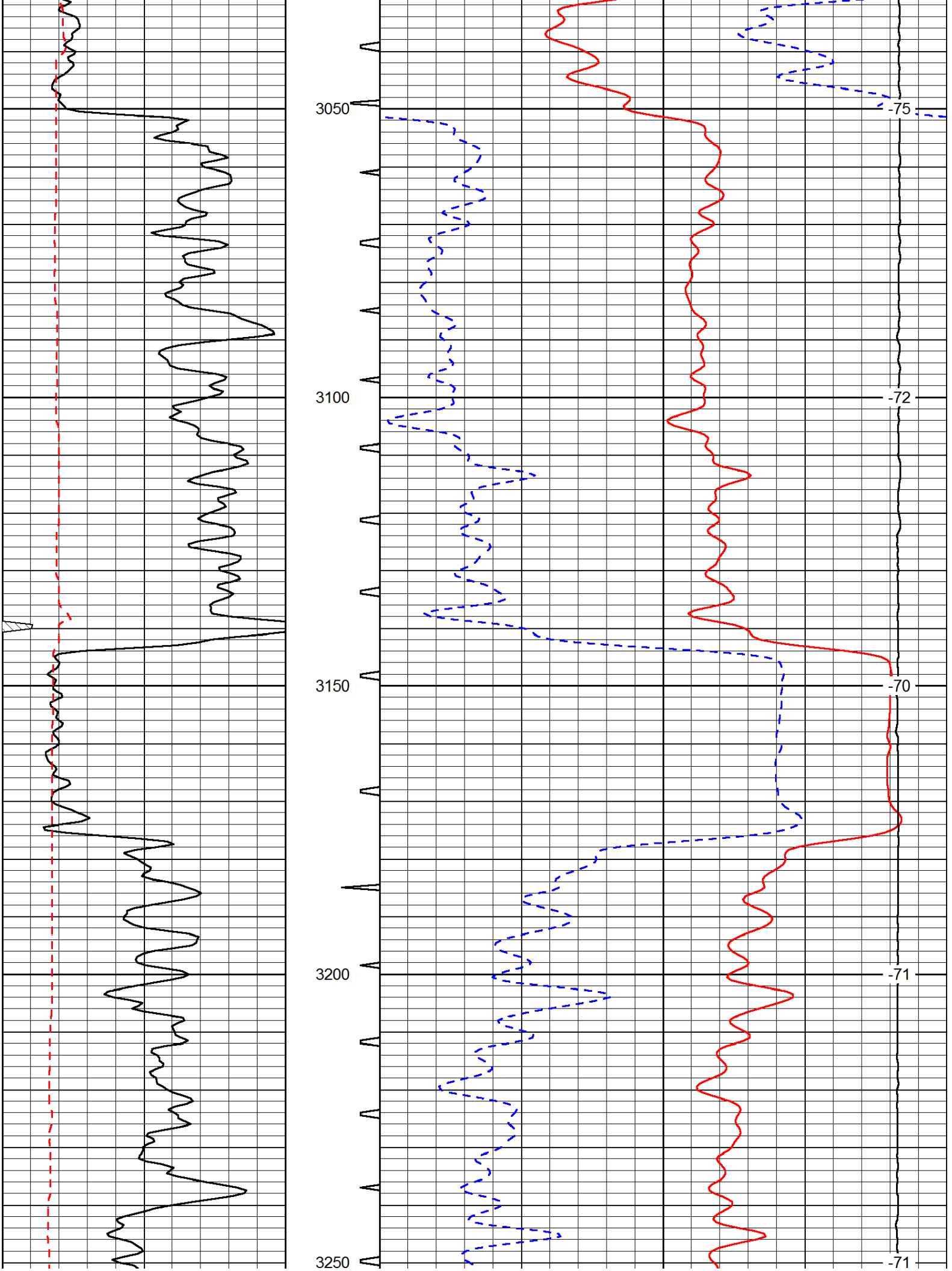

1950
2000
2050
2100
2150
-87
-87
-85
-85
-85

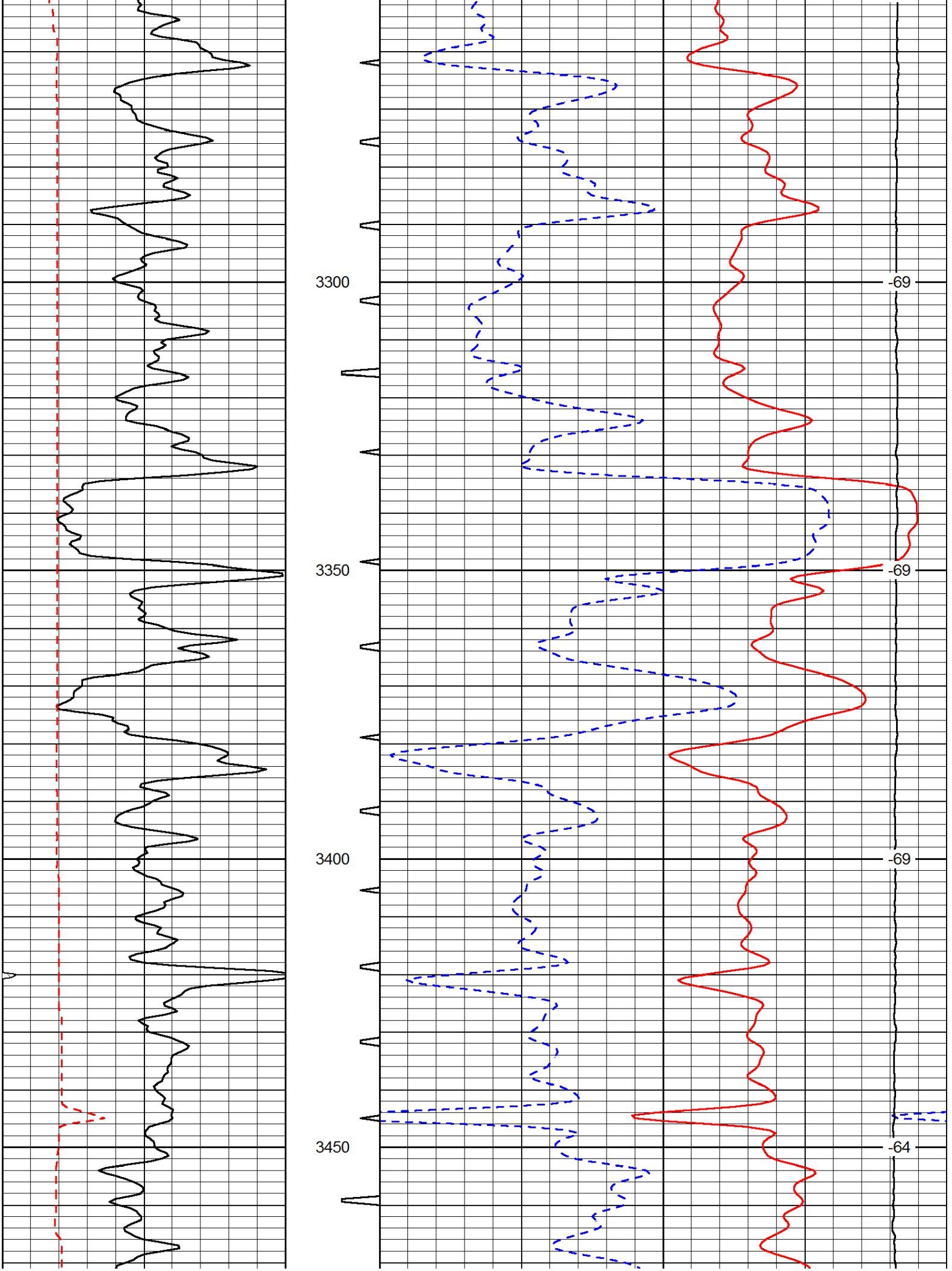

2200
2250
2300
2350
-85
-85
-84
-84

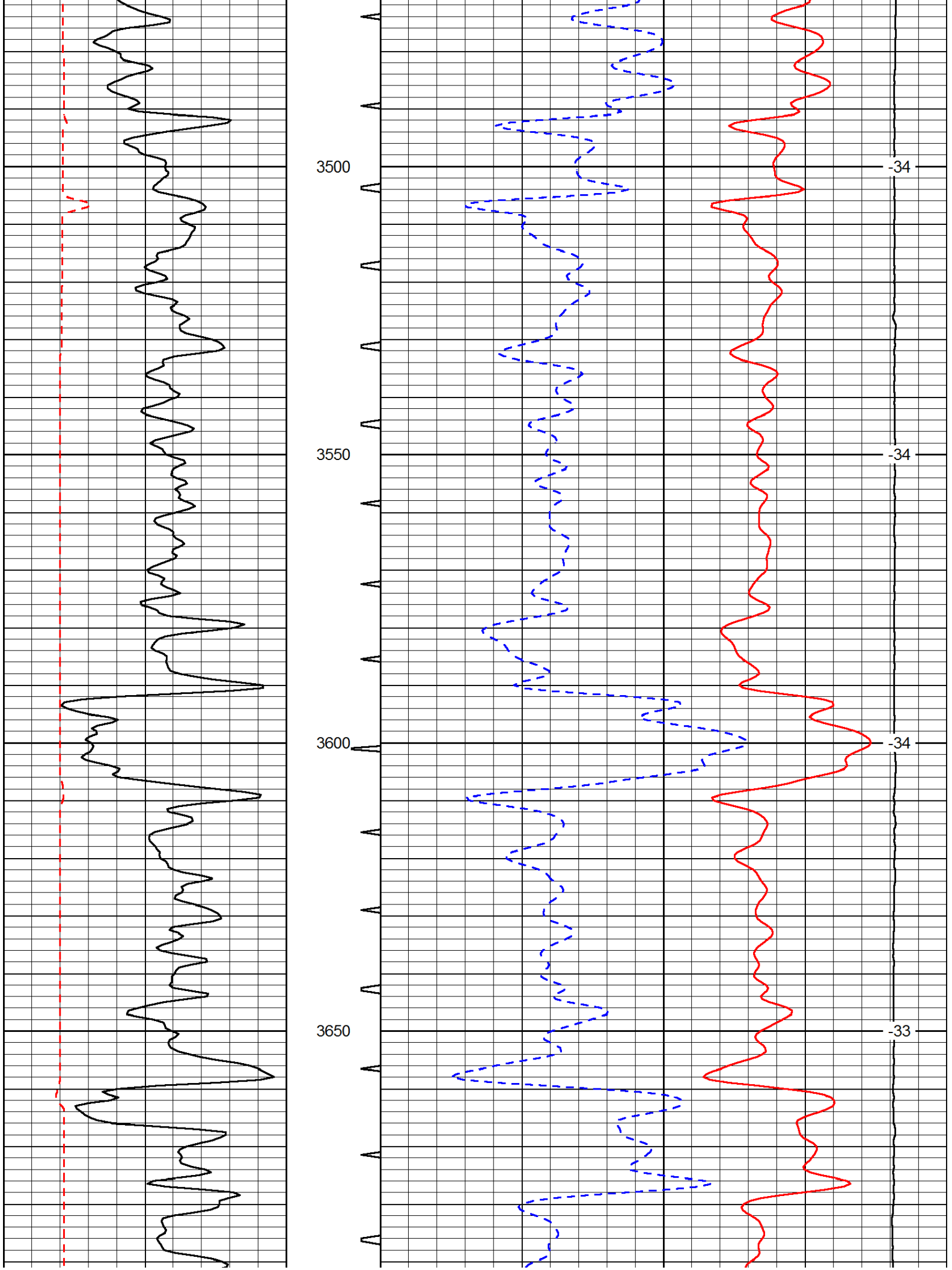

2400
-84
2450
-83
2500
-84
2550
-84

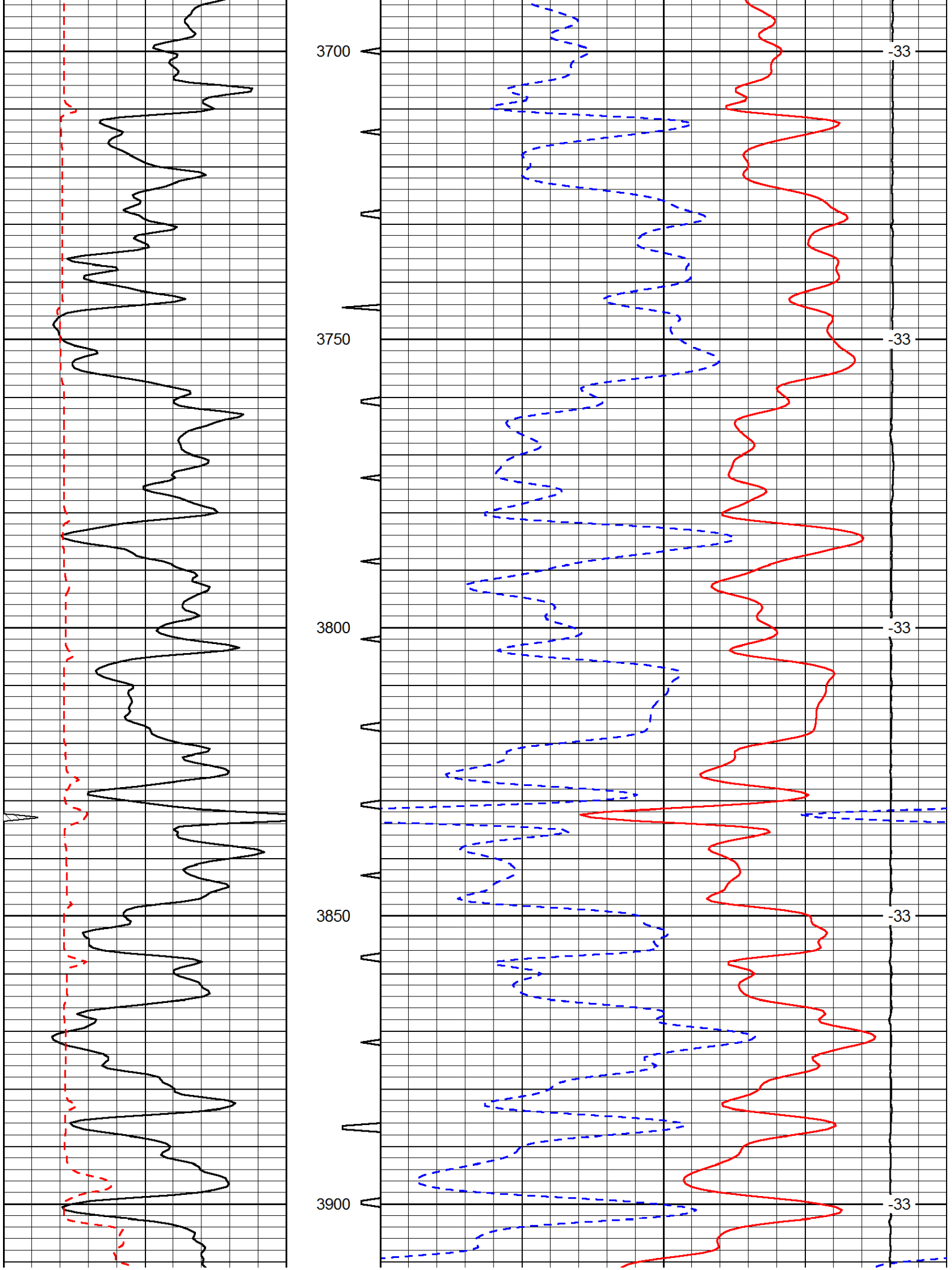

2600
2650
2700
2750
2800
-83
-82
-81
-80
-80

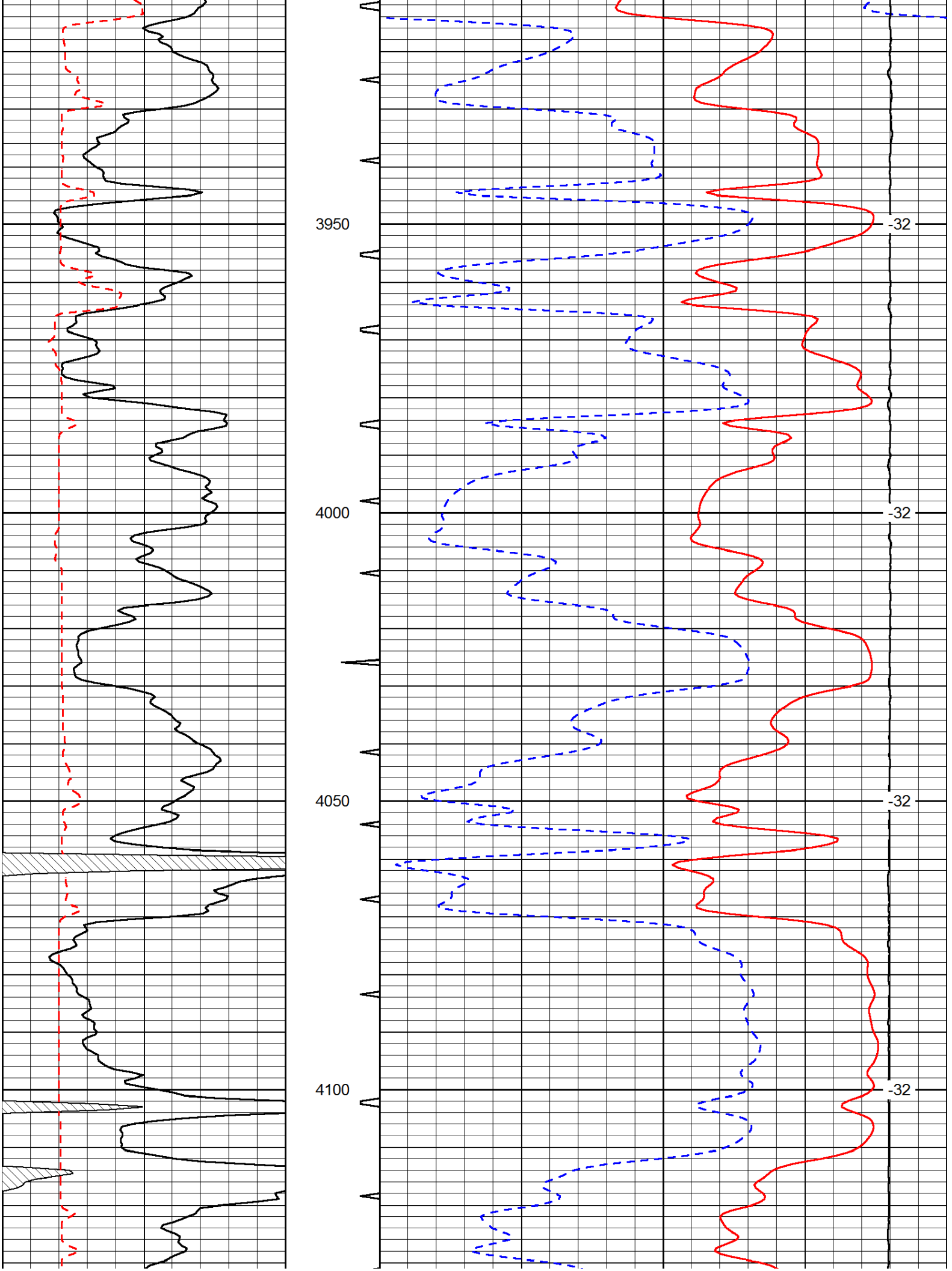

2850
2900
2950
3000
-80
-78
-77
-77

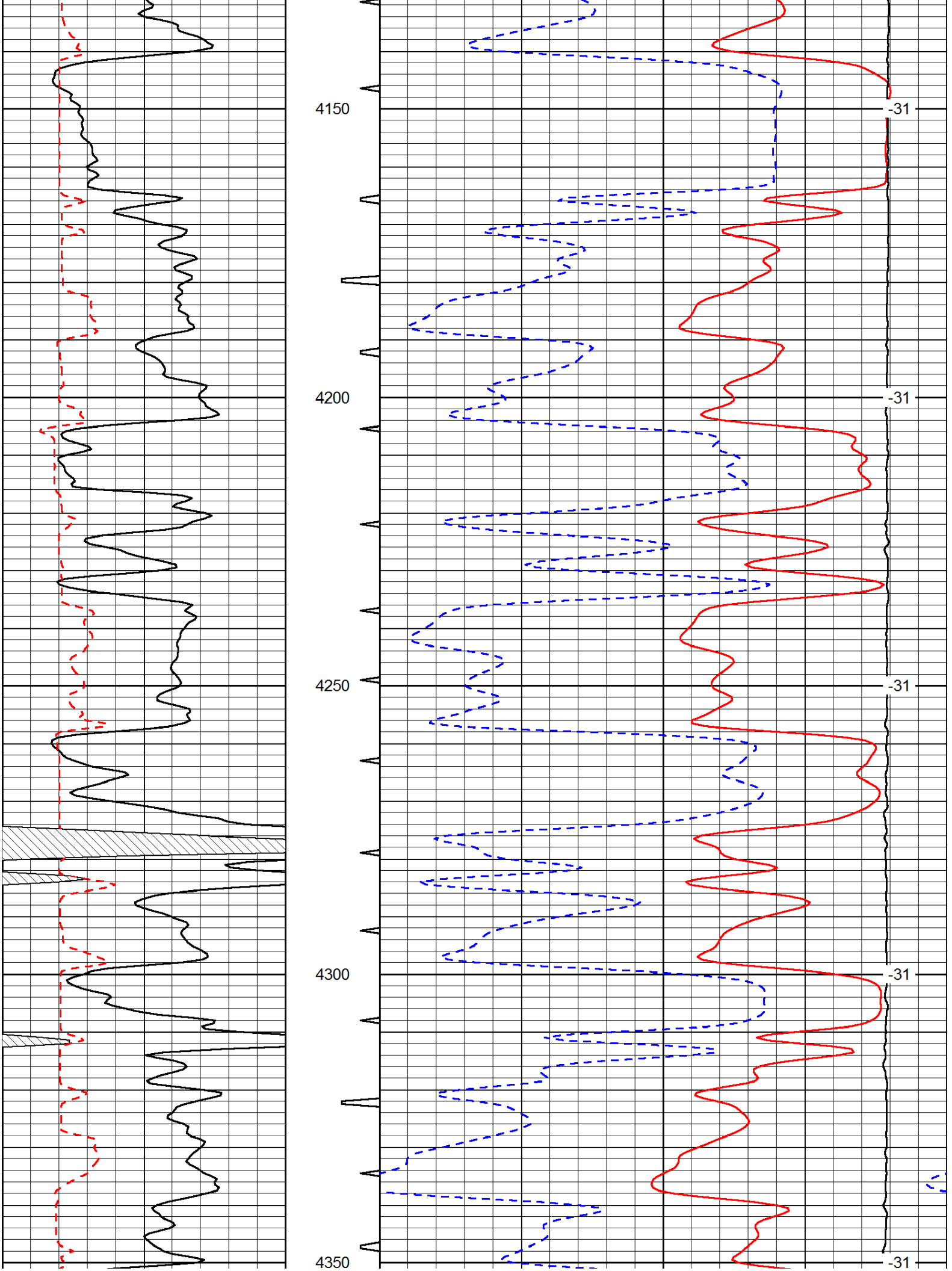

3050
3100
3150
3200
3250
-75
-72
-70
-71
-71

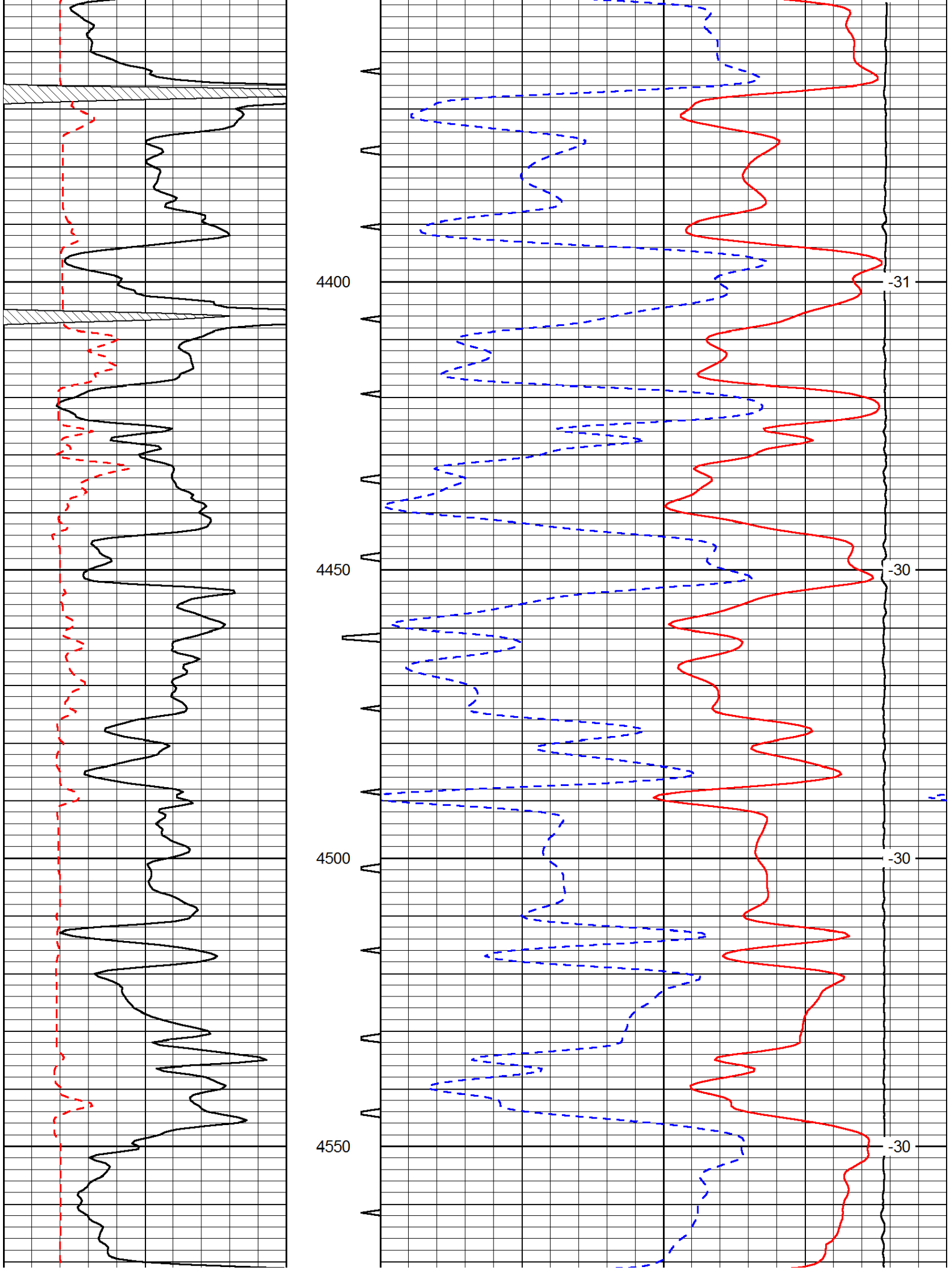

3300
3350
3400
3450
-69
-69
-69
-64

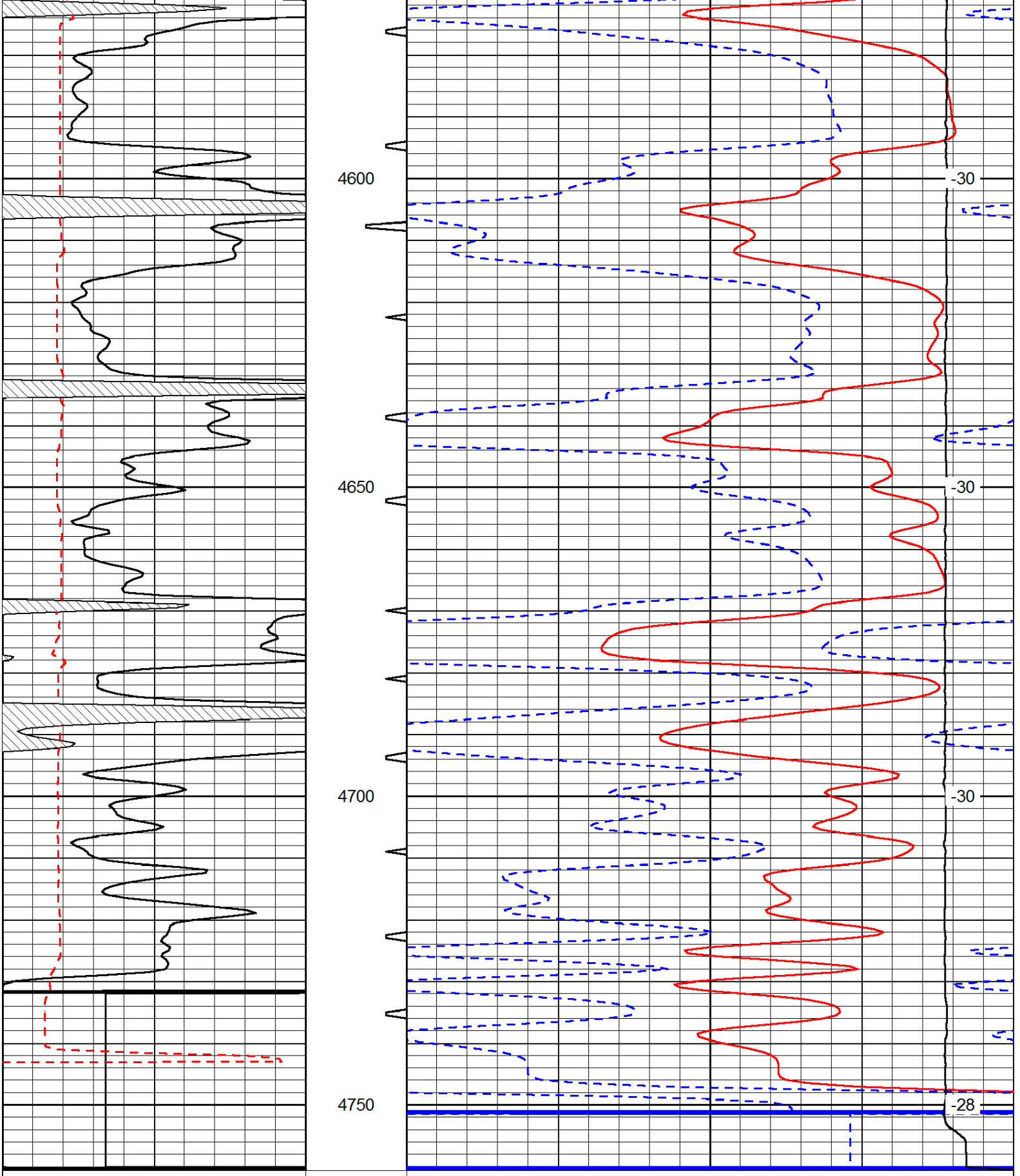

3500
3550
3600
3650
-34
-34
-34
-33


3700
3750
3800
3850
3900
-33
-33
-33
-33
-33


3950
4000
4050
4100
-32
-32
-32
-32


4150
4200
4250
4300
4350
-31
-31
-31
-31
-31


4400
4450
4500
4550
-31
-30
-30
-30



0	Gamma Ray	150	Sonic Int	140	Delta Time (usec/ft)	40
150	Gamma Ray	300	5 0	30	SPOR	-10
6	Caliper (GAPI)	16		15000	LTEN (lb)	0

LSPD