



**BOREHOLE COMPENSATED
SONIC LOG**

Company AMERICAN WARRIOR, INC.
Well DIRKS #1-22
Field WILDCAT
County LOGAN
State KANSAS

Company AMERICAN WARRIOR, INC.
Well DIRKS #1-22
Field WILDCAT
County LOGAN
State KANSAS

Location: API #: 15-109-21526-00-00
949' FSL & 1004' FWL
SEC 22 TWP 14S RGE 35W
Permanent Datum GROUND LEVEL Elevation 3121'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING
Other Services
CNL/CDL
DIL/MEL
Elevation
K.B. 3129'
D.F. N/A
G.L. 3121'

Date	10/20/2017						
Run Number	TWO						
Type Log	BHCS						
Depth Driller	4790'						
Depth Logger	4789'						
Bottom Logged Interval	4777'						
Top Logged Interval	195'						
Type Fluid In Hole	CHEMICAL						
Salinity, PPM CL	8200						
Density	9.4						
Level	FULL						
Max. Rec. Temp. F	124						
Operating Rig Time	5 HOURS						
Equipment -- Location	91 HAYS						
Recorded By	D. SCHMIDT						
Witnessed By	LUKE THOMPSON						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0'	211'	8.625"	23#	0'	
TWO	7.875"	211'					
Casing Record							

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not 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.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

RUSSELL SPRINGS,
SOUTH ON HWY 25 TO CURVE,
2 WEST TO 240 RD, 5 SOUTH TO JAYHAWK RD,
1/2 EAST, 1/2 SOUTH,
EAST INTO

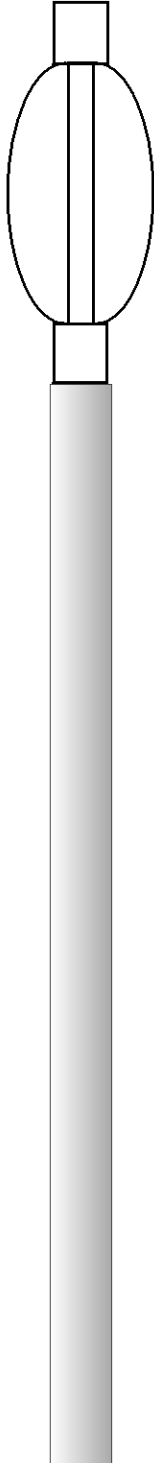


Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

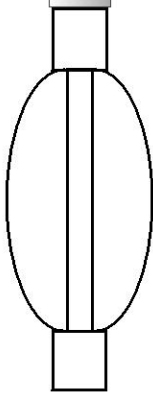
THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneerenergy.com 785-625-3858

Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: D. SCHMIDT	Primary Witness: LUKE THOMPSON
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	300	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	80	0	5.5	0	4789	124	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			CENT-PENGO (3-PENGO)	5.50	3.00	70.00
WVF4 WVF1	13.50 13.50		SLT-PENGO (0001)	16.00	3.50	300.00
WVF3 WVF2	11.50 11.50					



CENT-PENGO (4-PENGO)

5.50

3.00

70.00

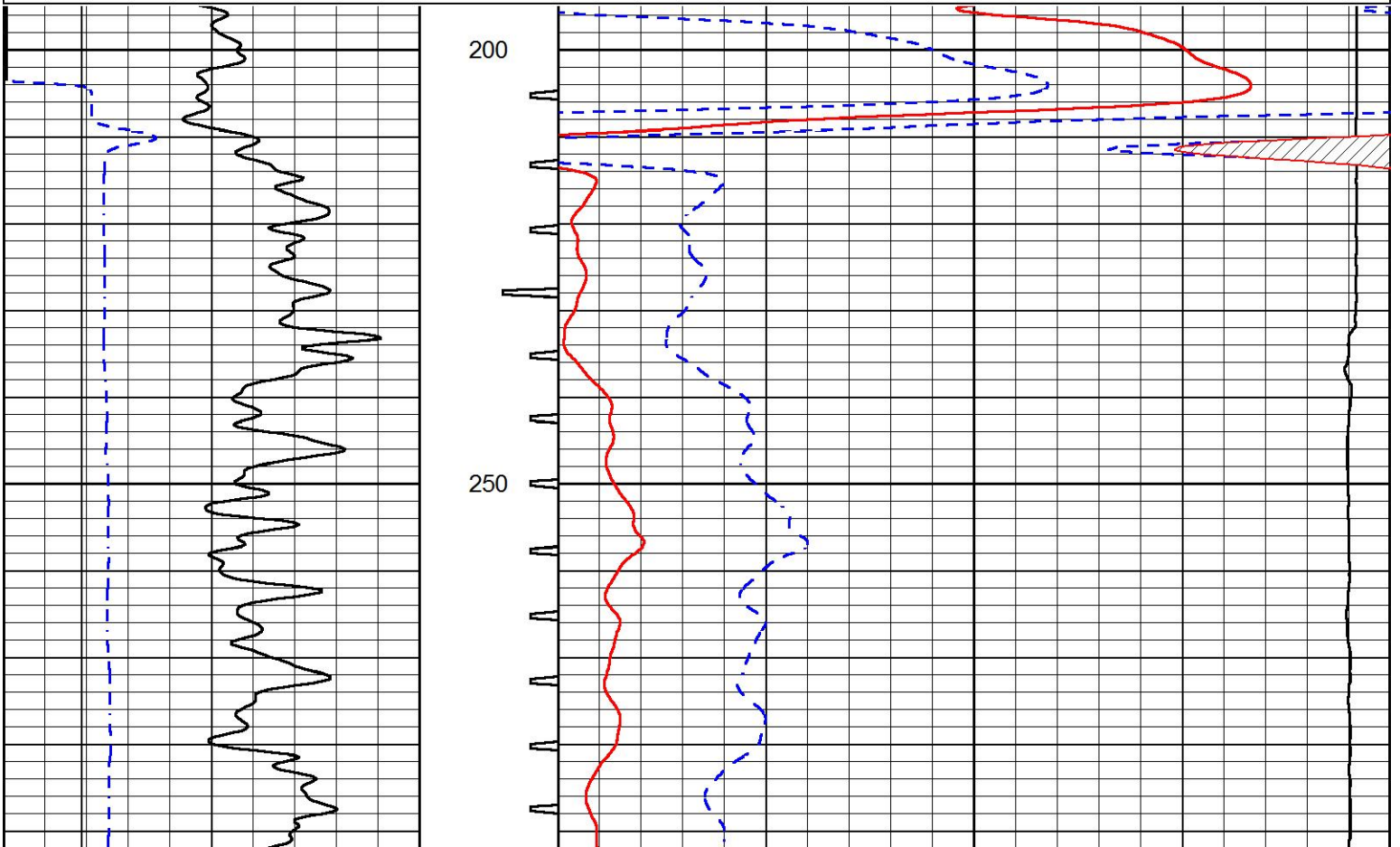
Dataset: american_warrior_dirks 1-22.db: field/well/SON/pass2
 Total length: 27.00 ft
 Total weight: 440.00 lb
 O.D.: 3.50 in

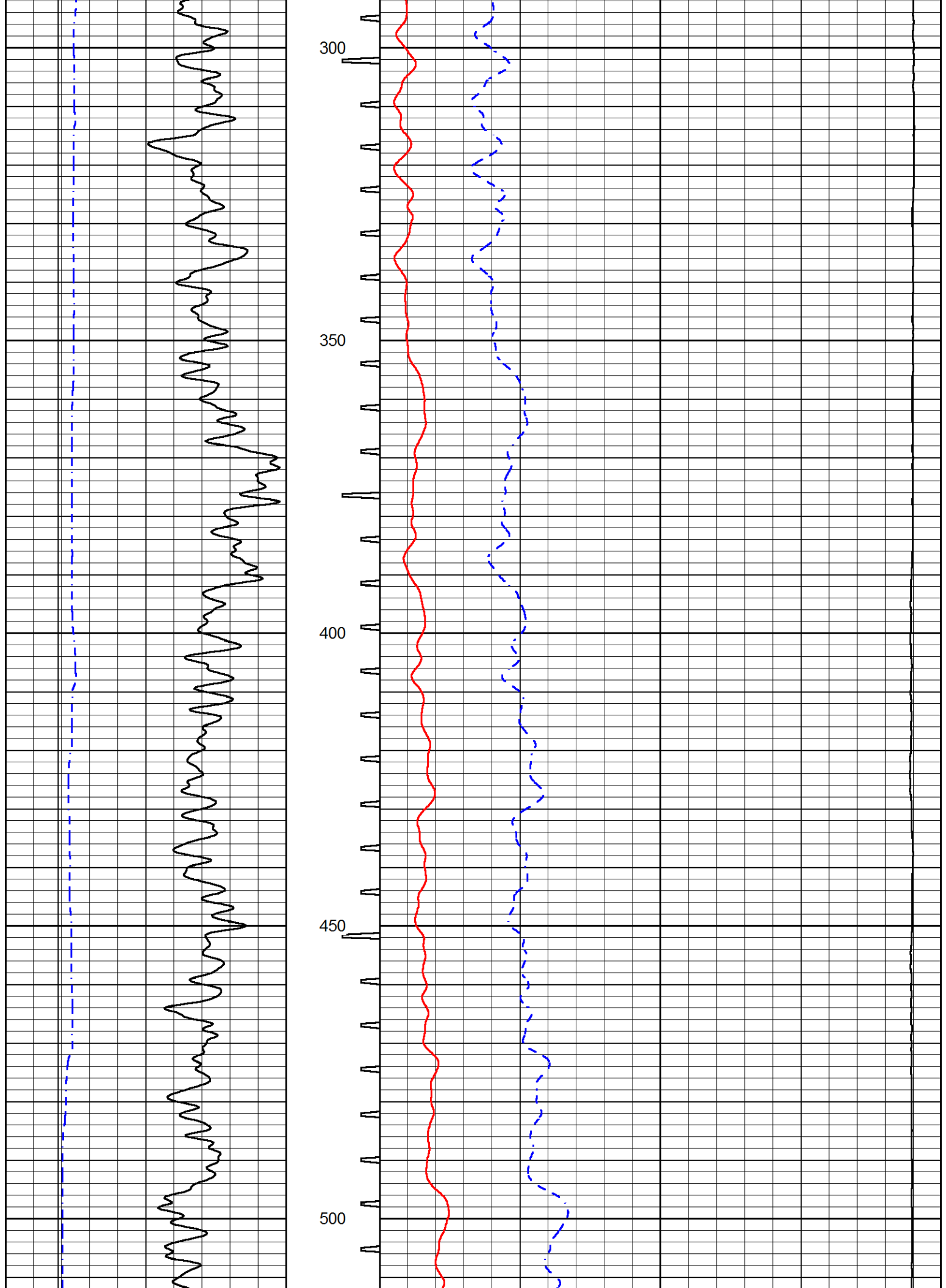


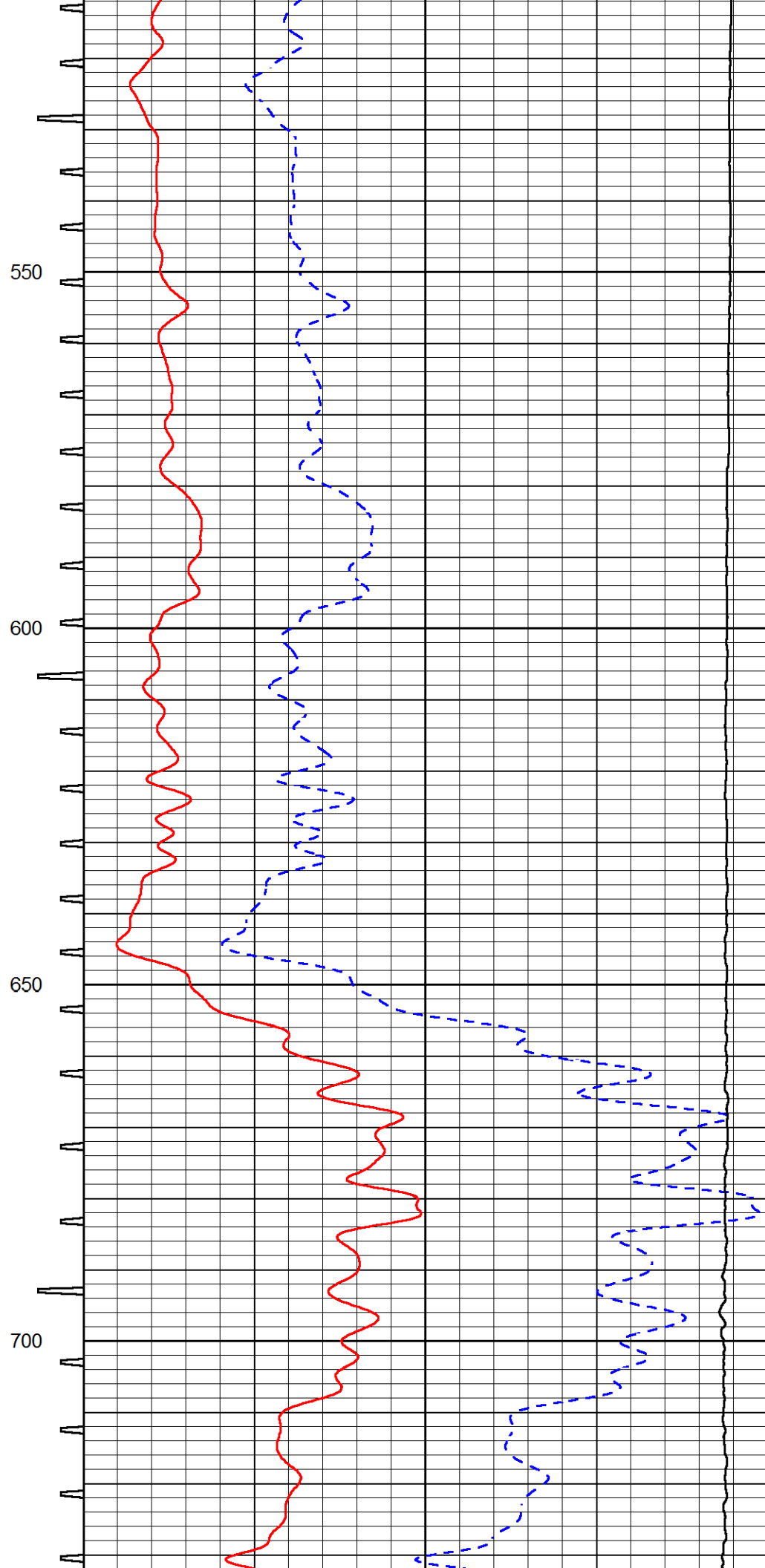
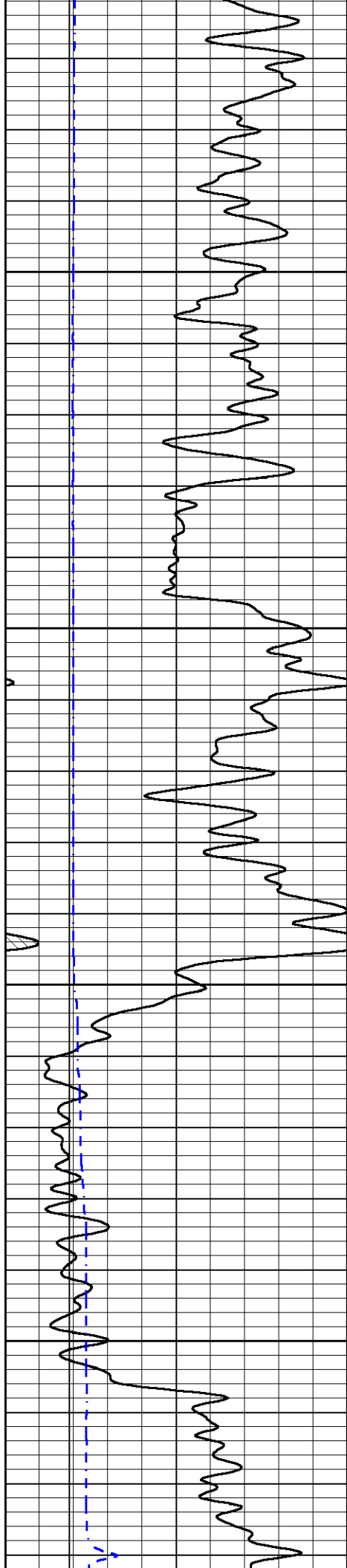
MAIN PASS

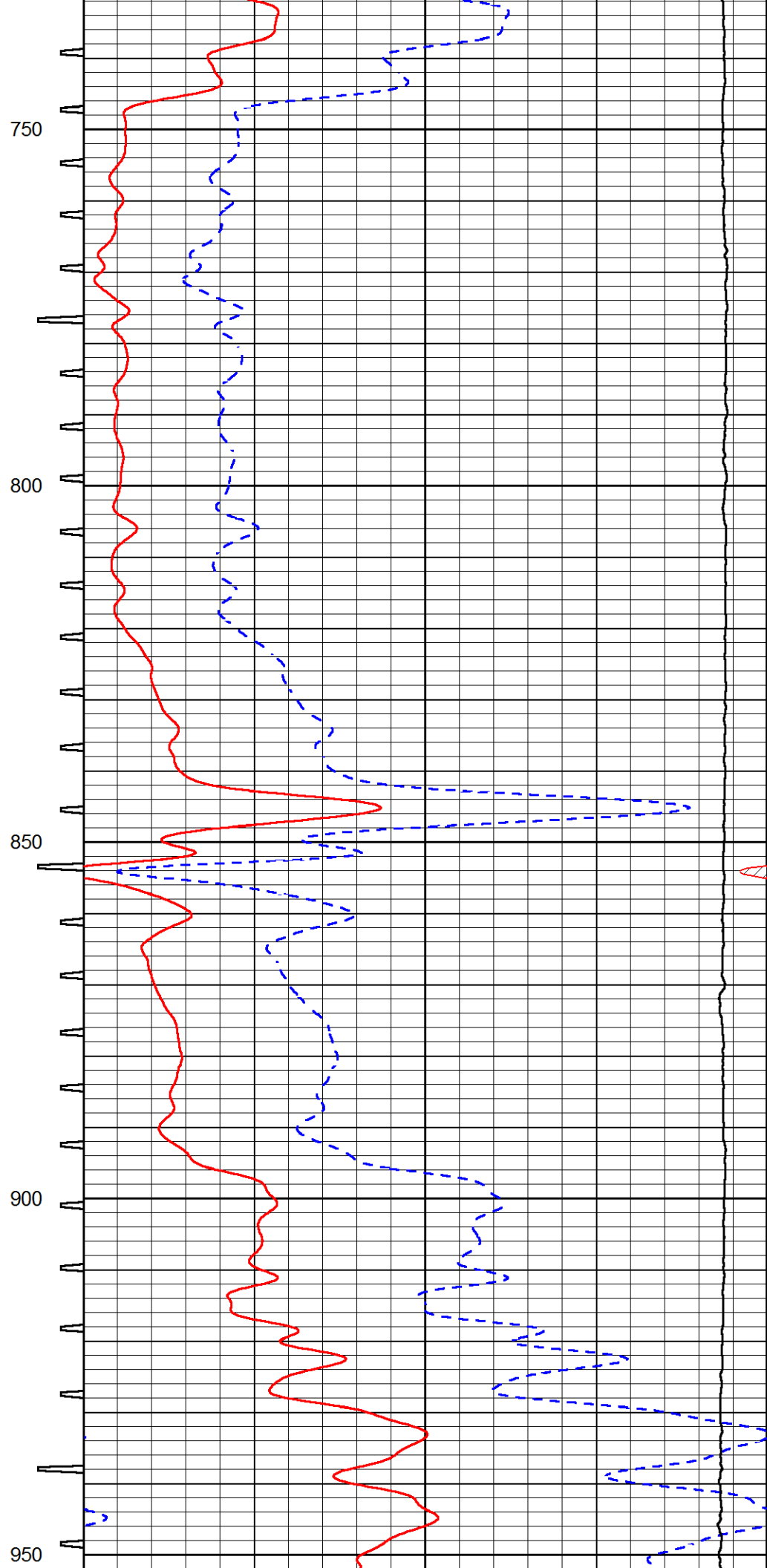
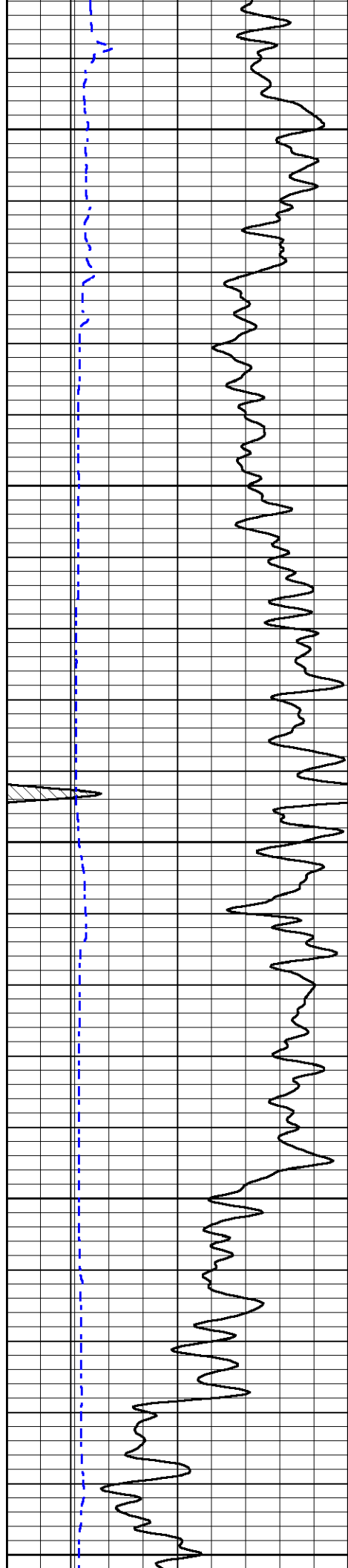
Database File: american_warrior_dirks 1-22.db
 Dataset Pathname: STKML/pass5.1
 Presentation Format: sonic
 Dataset Creation: Fri Oct 20 19:20:36 2017
 Charted by: Depth in Feet scaled 1:240

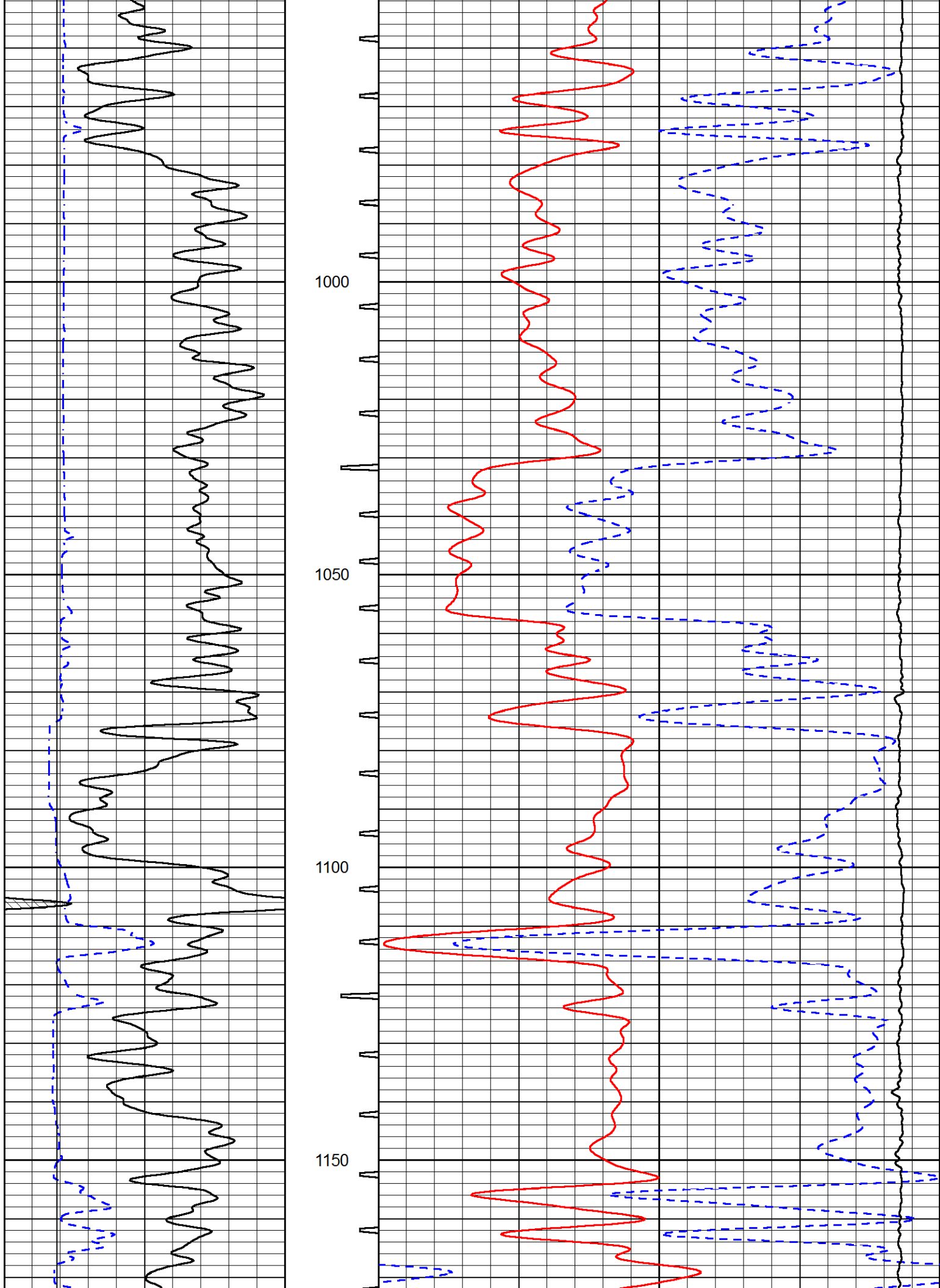
0	Gamma Ray (GAPI)	150	Sonic Int	140	Delta Time (usec/ft) (usec/ft)	40
150	GR (GAPI)	300	5 (msec) 0	30	Sonic Porosity (pu)	-10
6	DCAL (in)	16		15000	LTEN (lb) (lb)	0

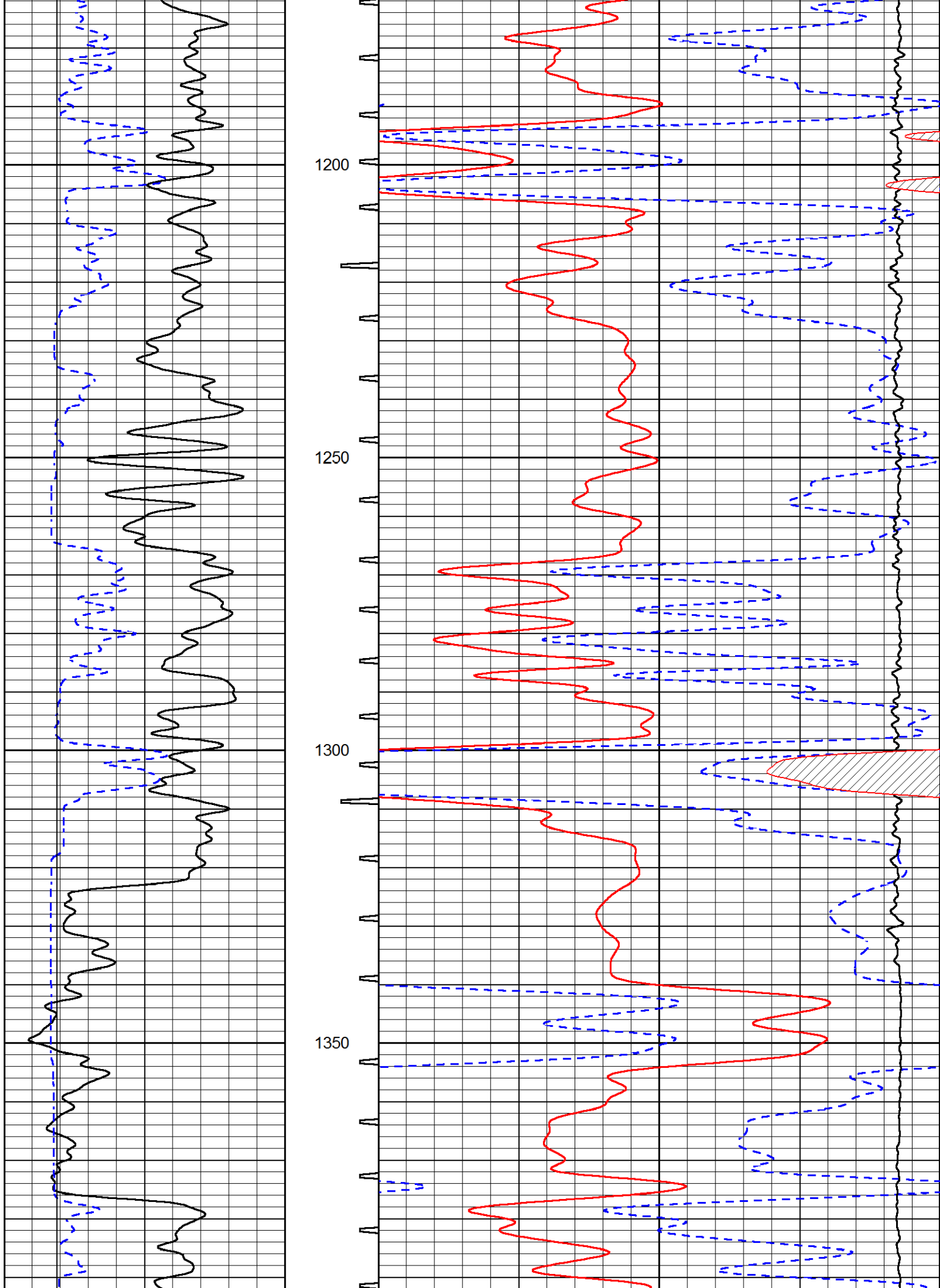


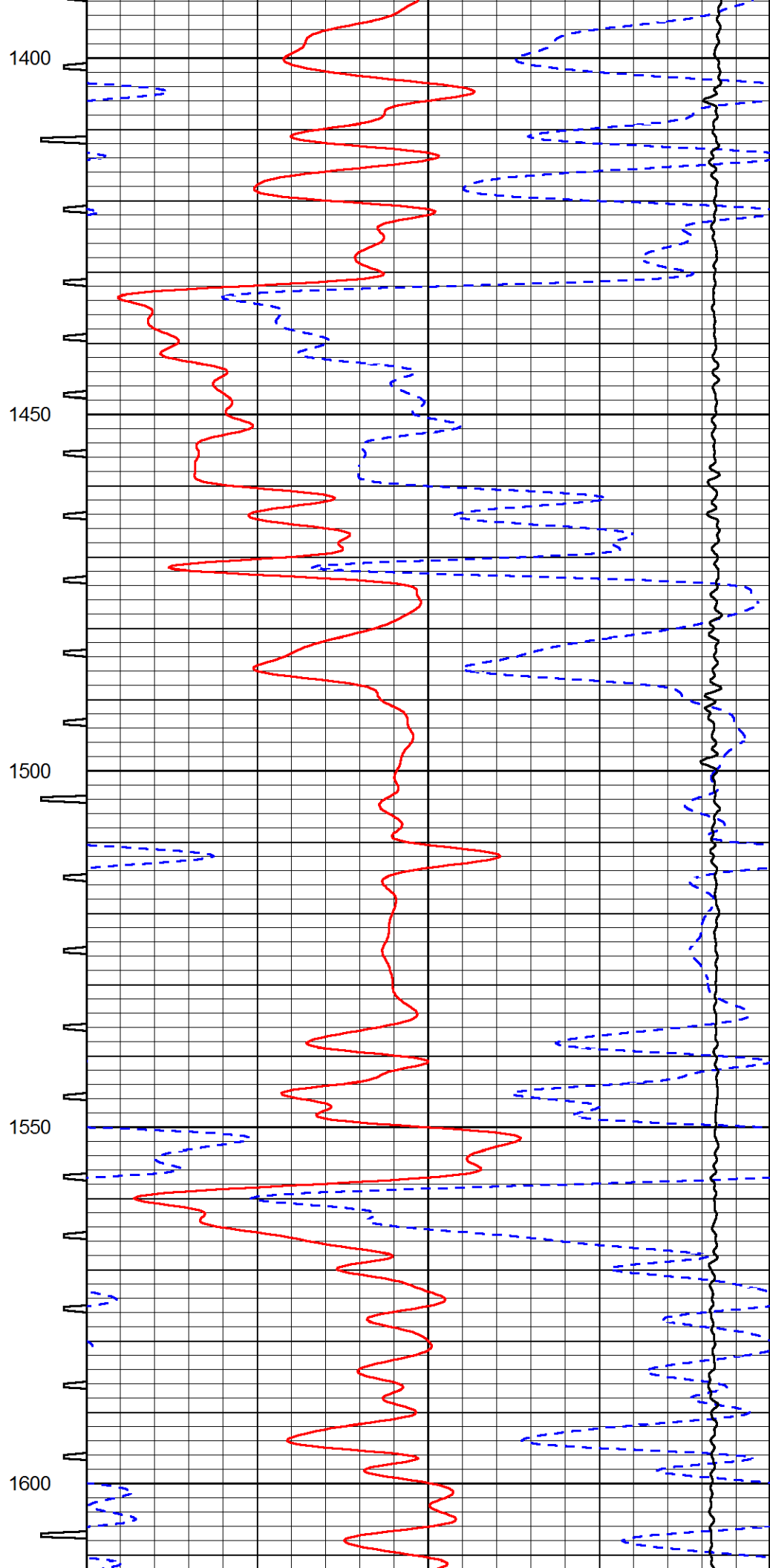
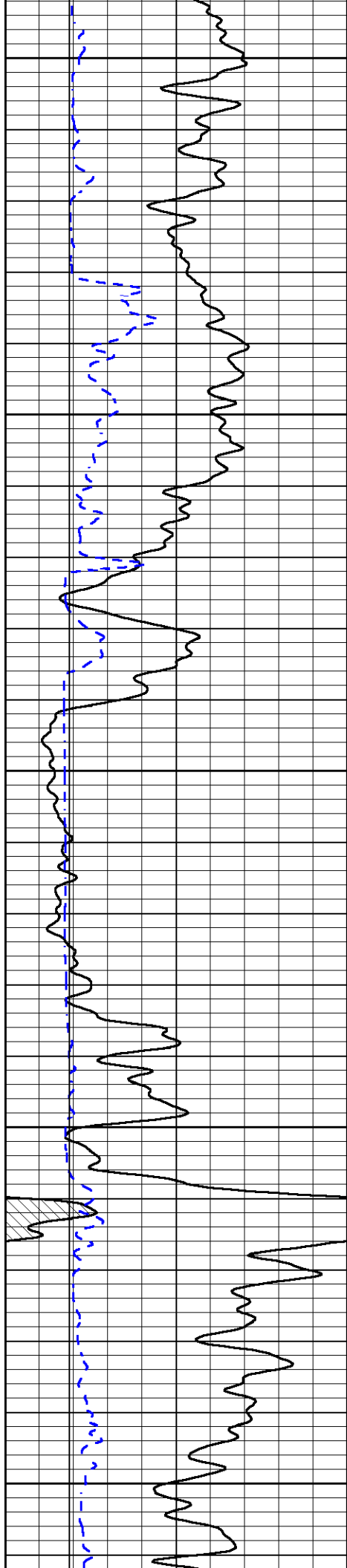


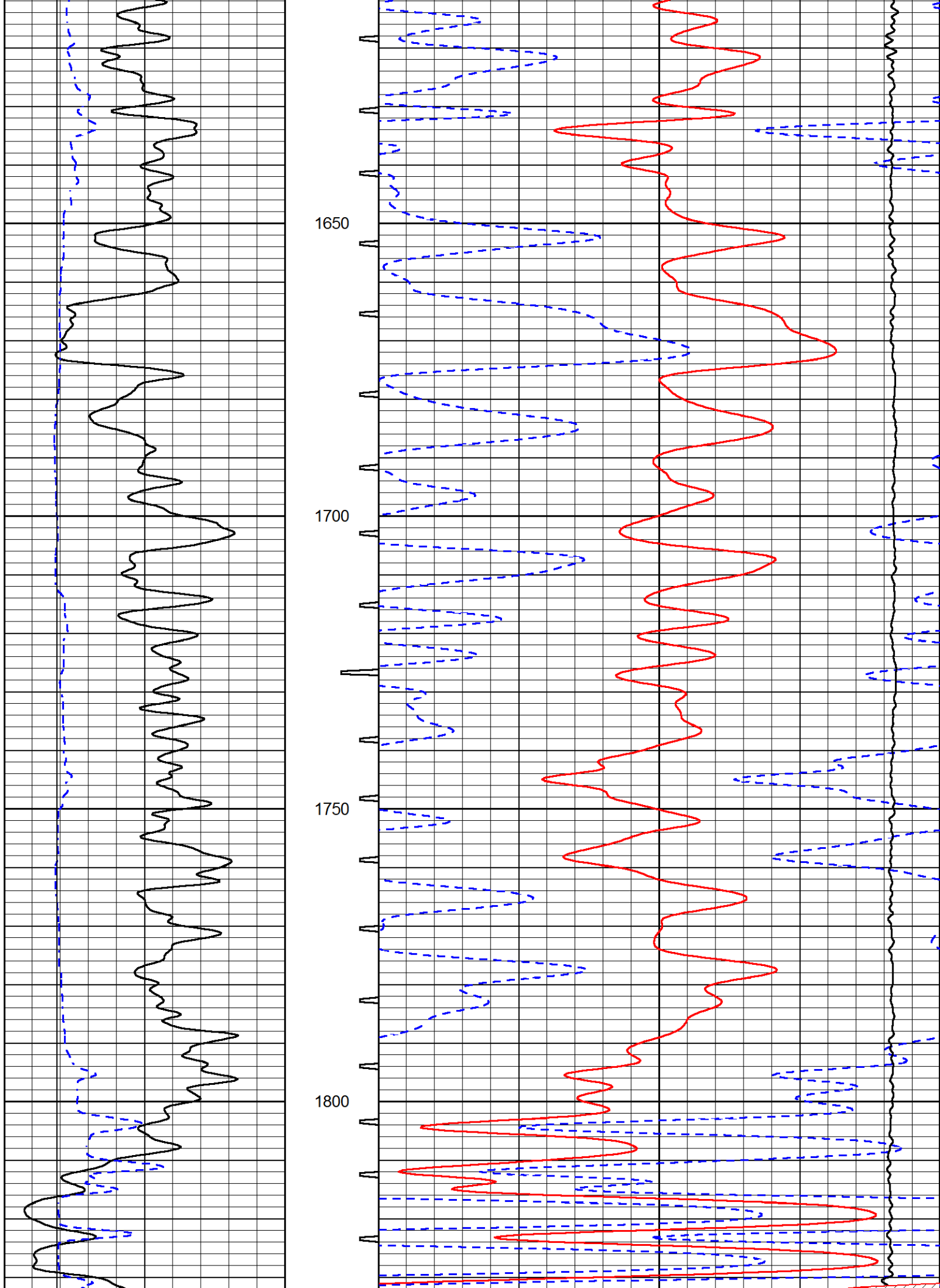


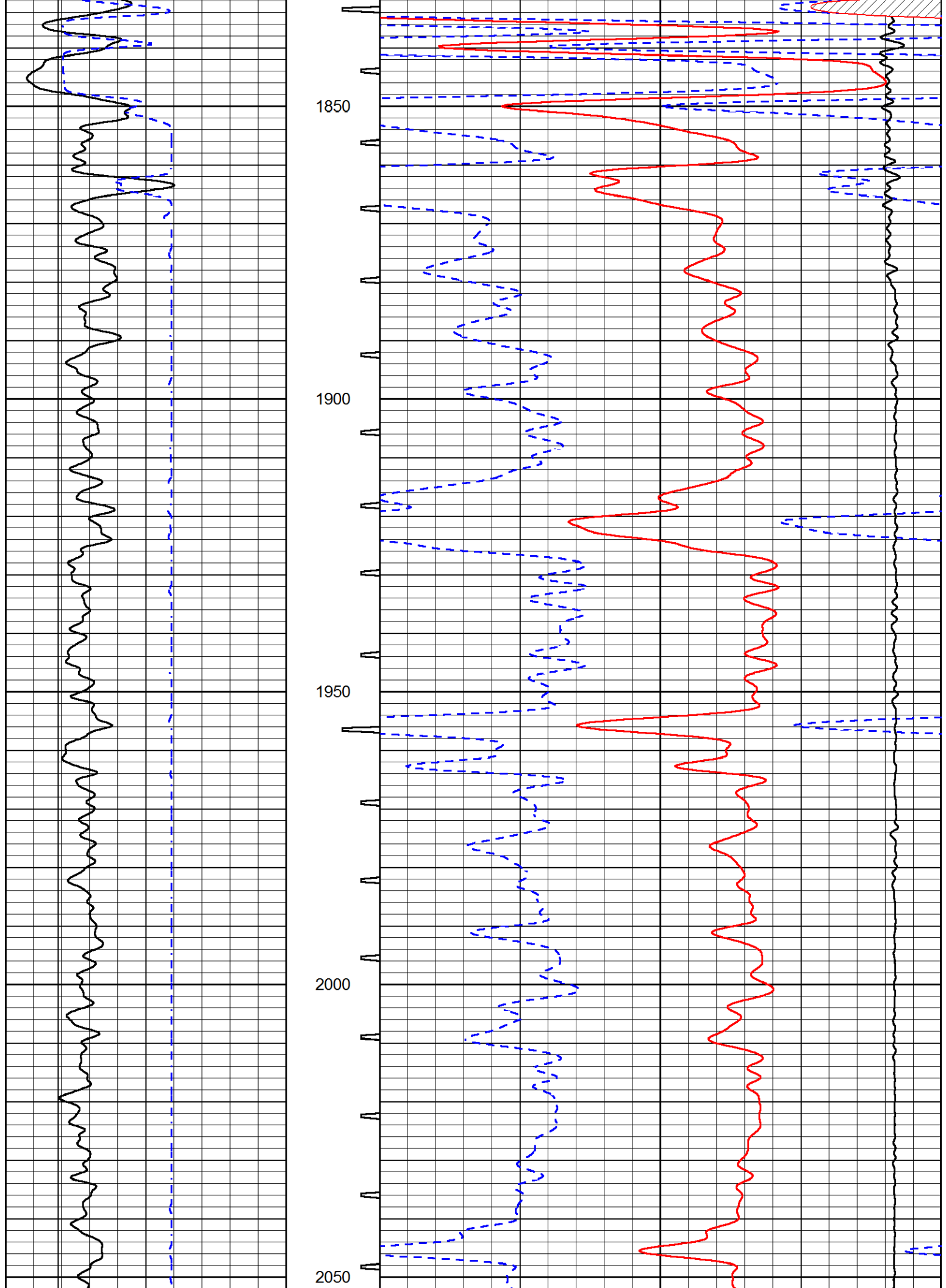


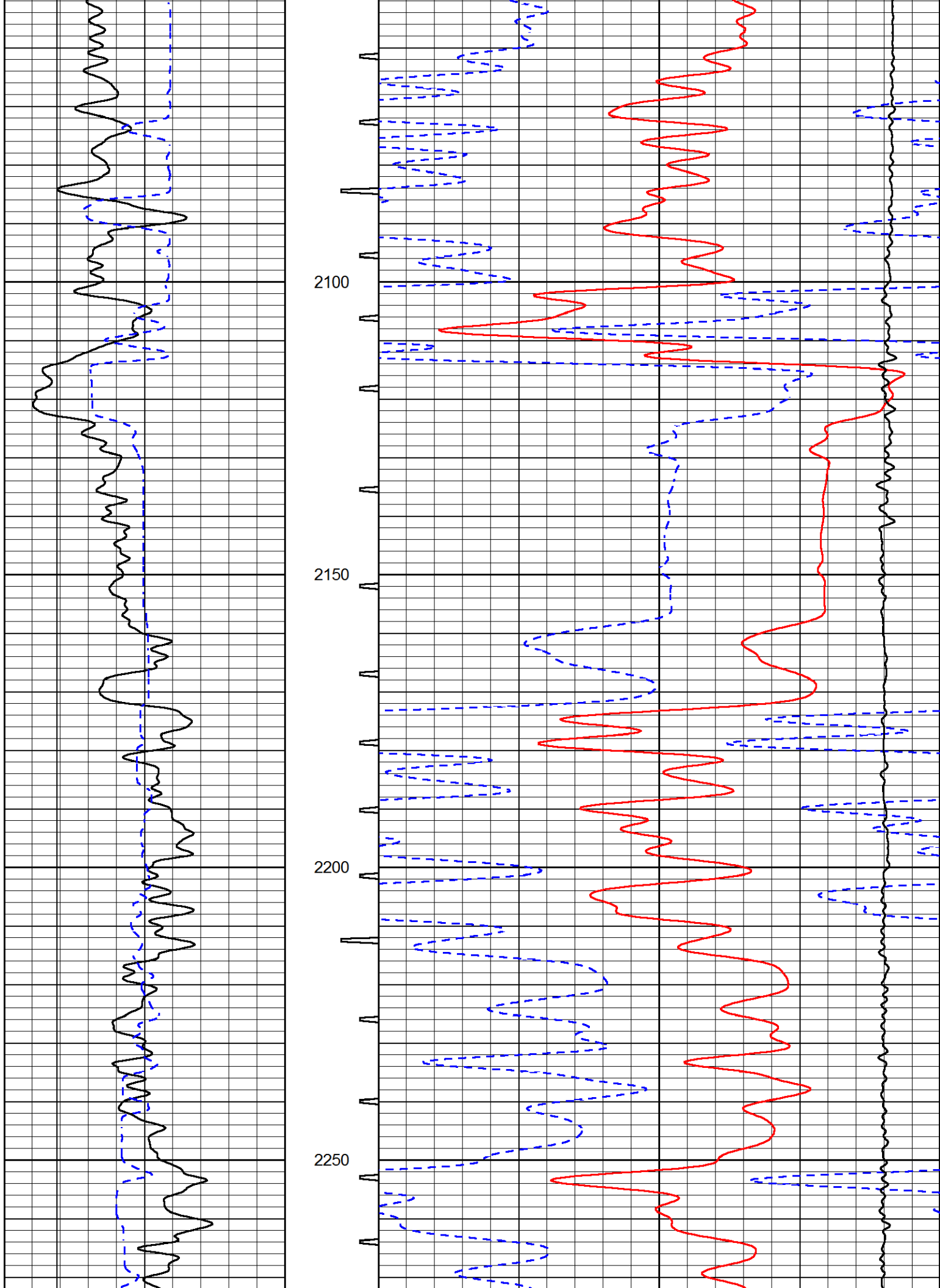


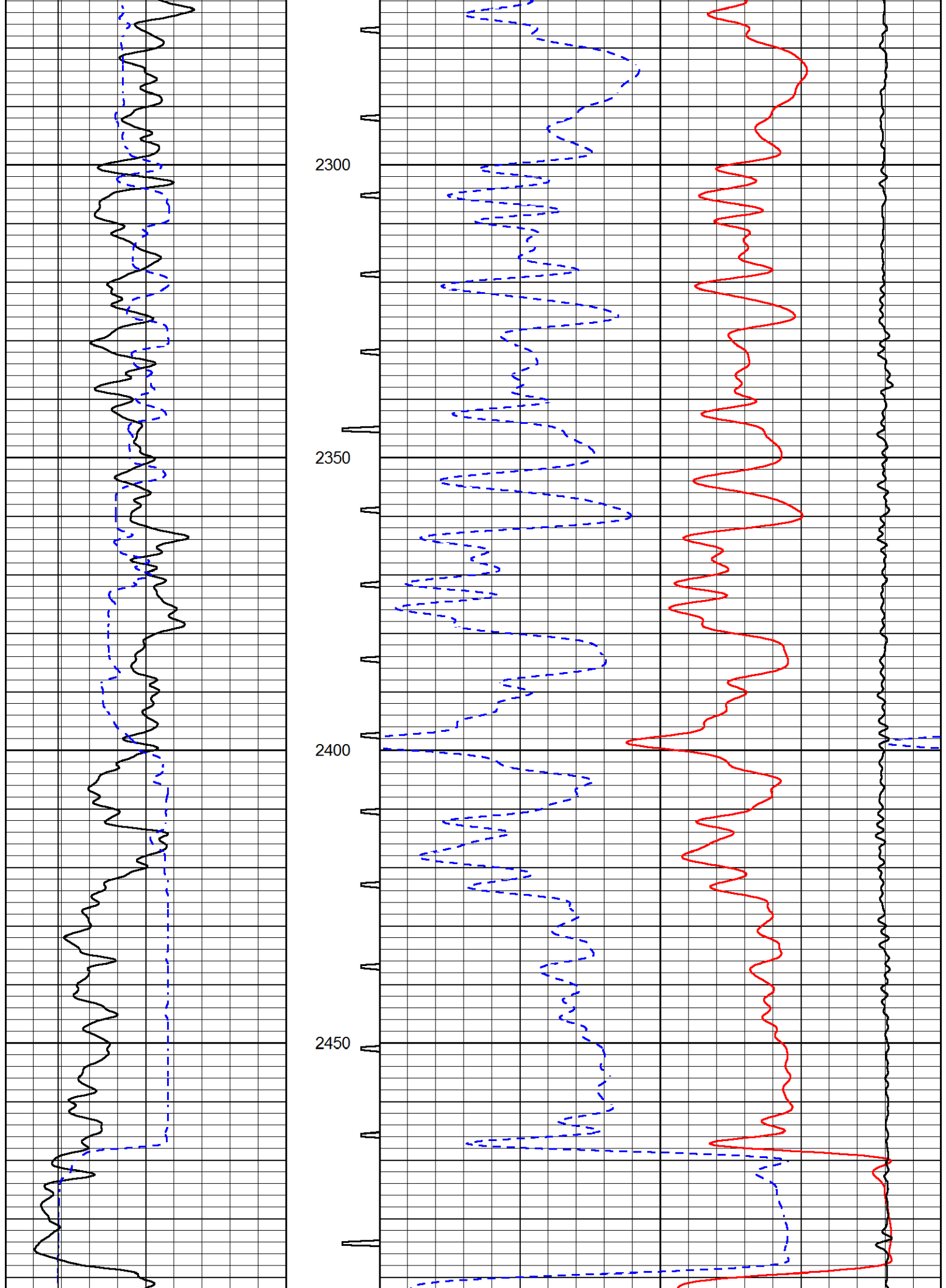


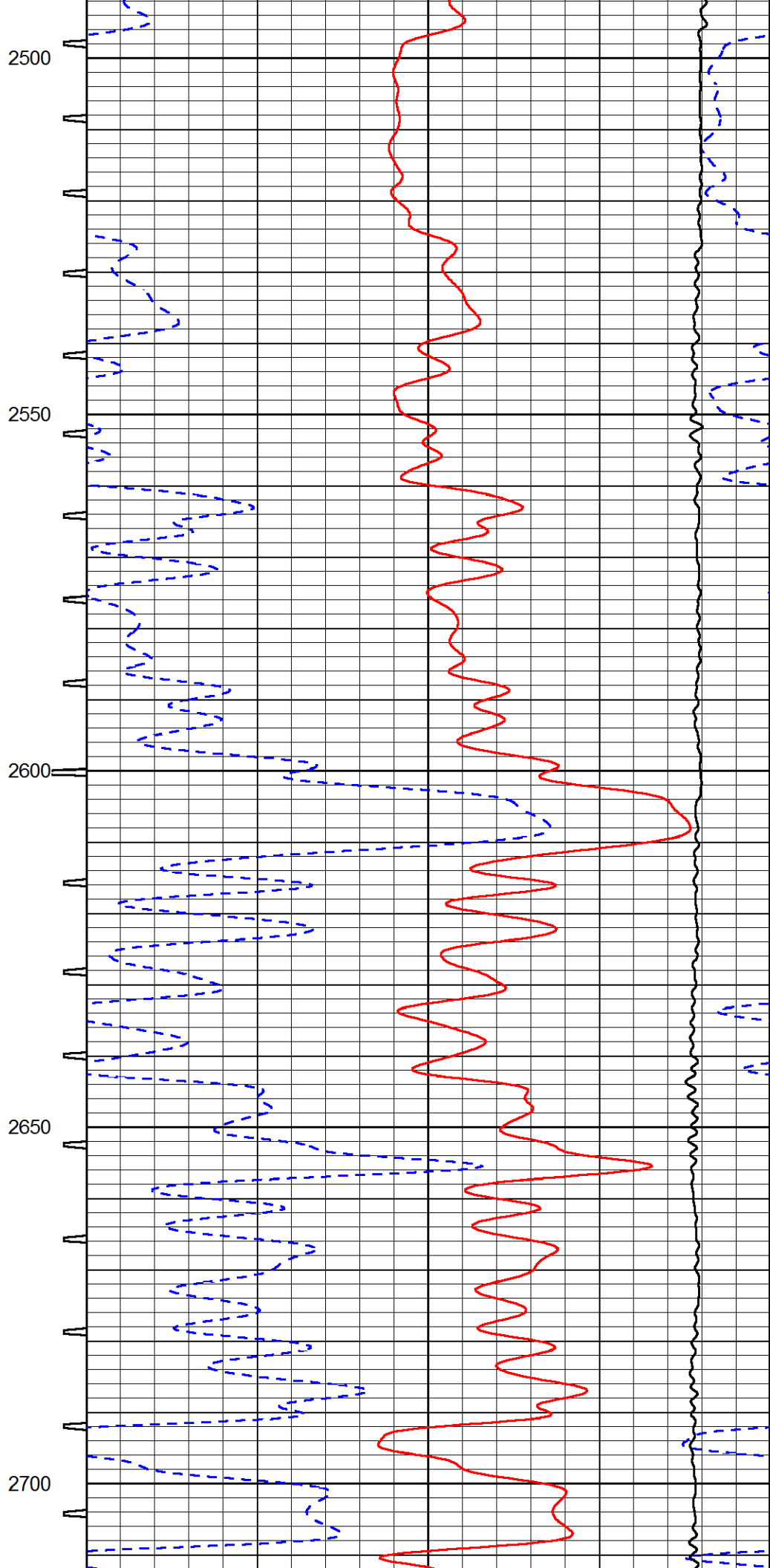
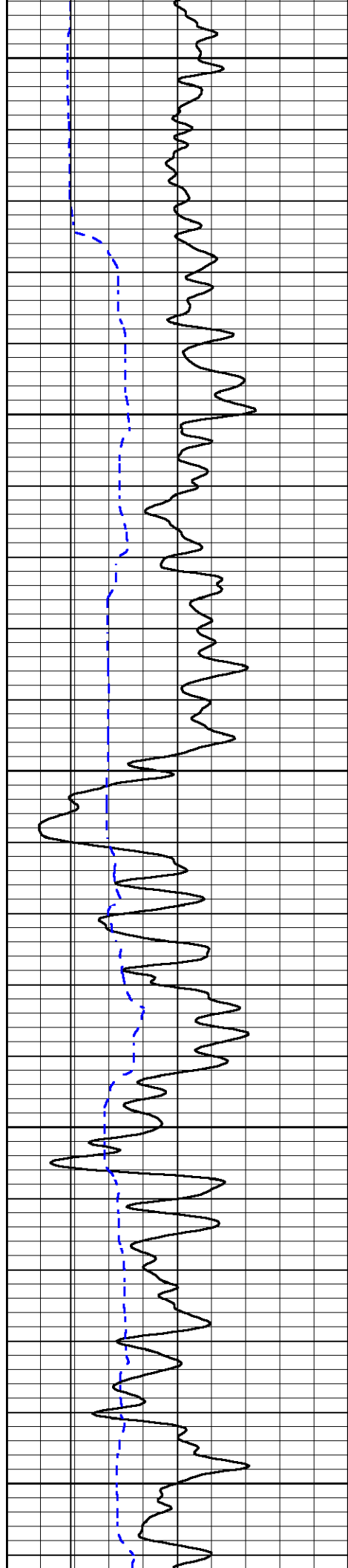


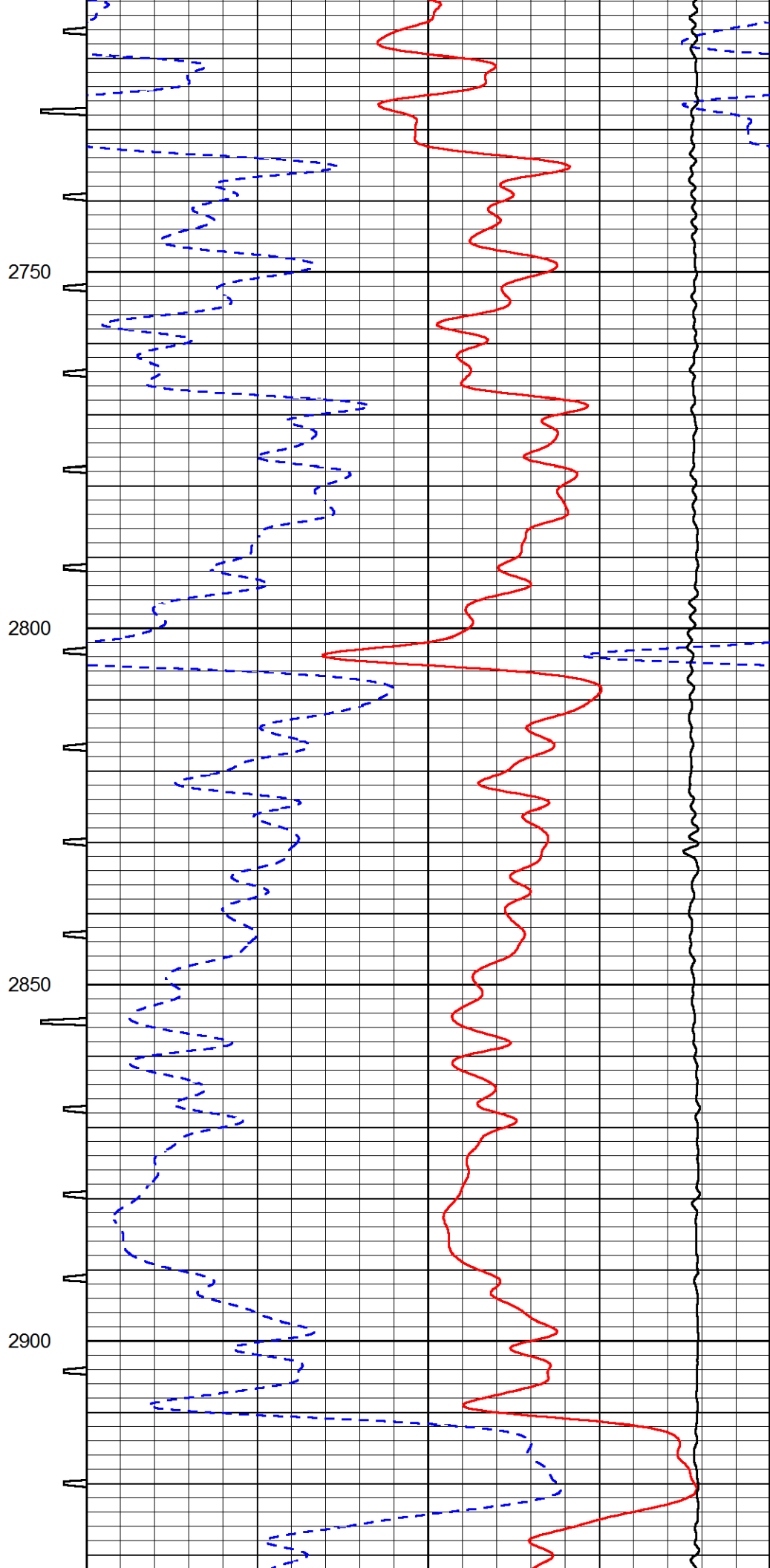
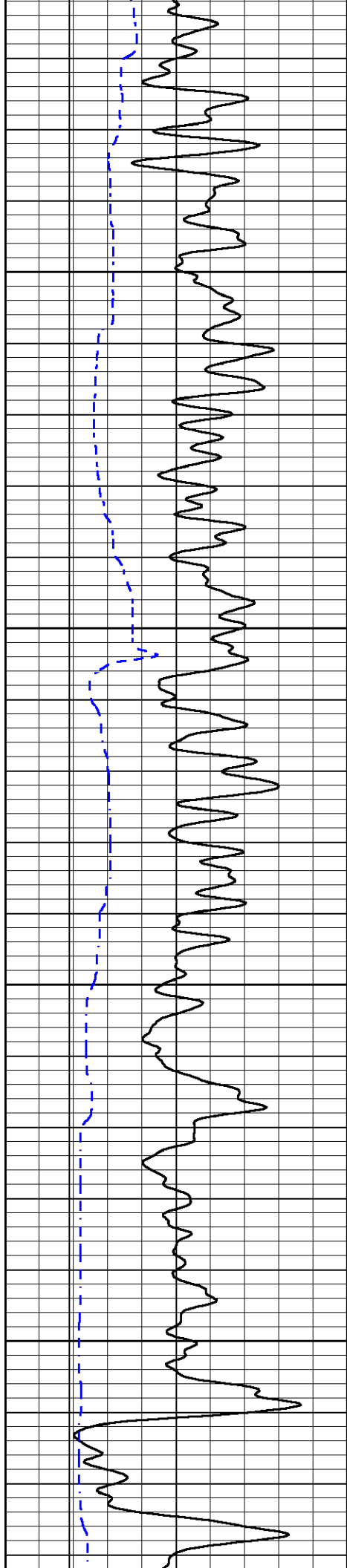


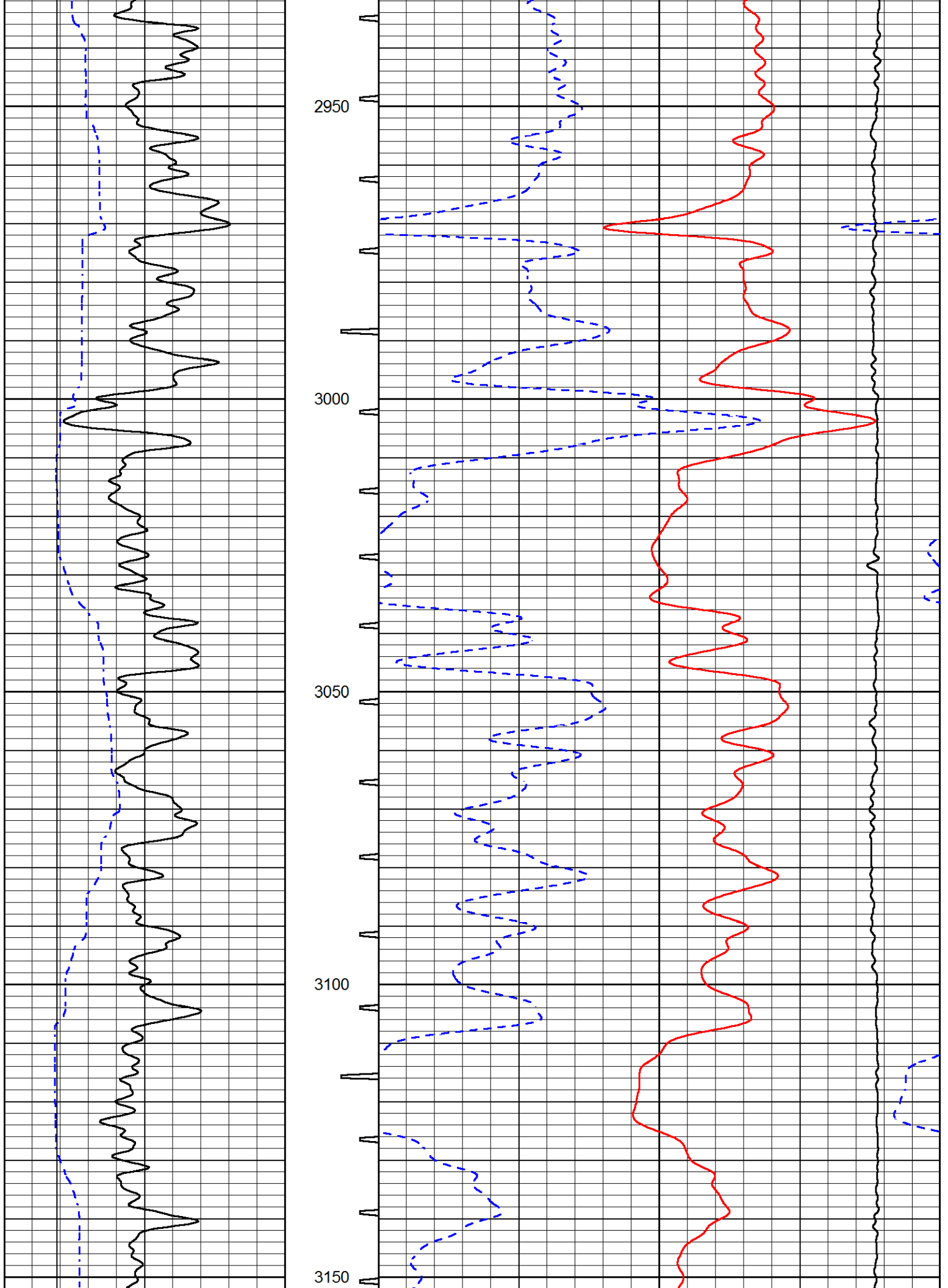


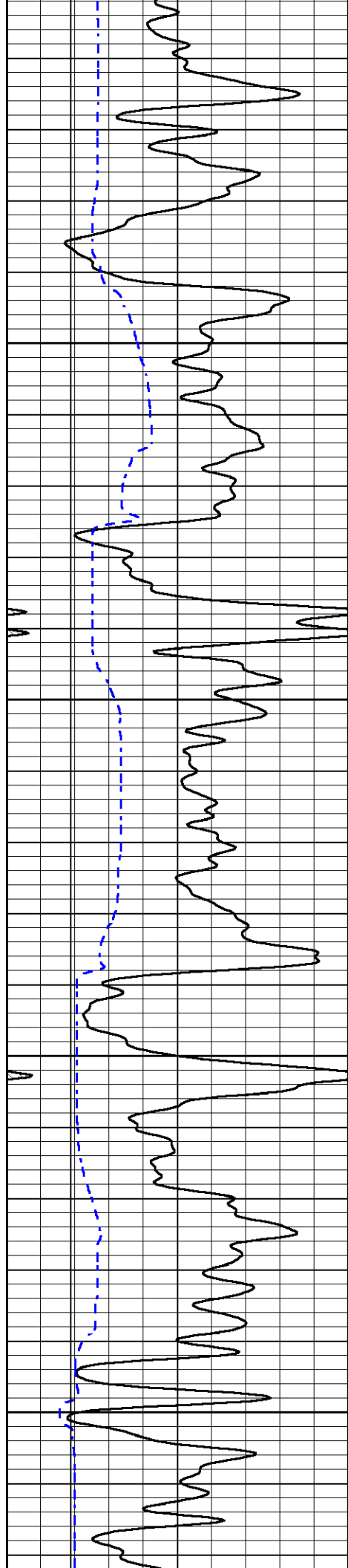










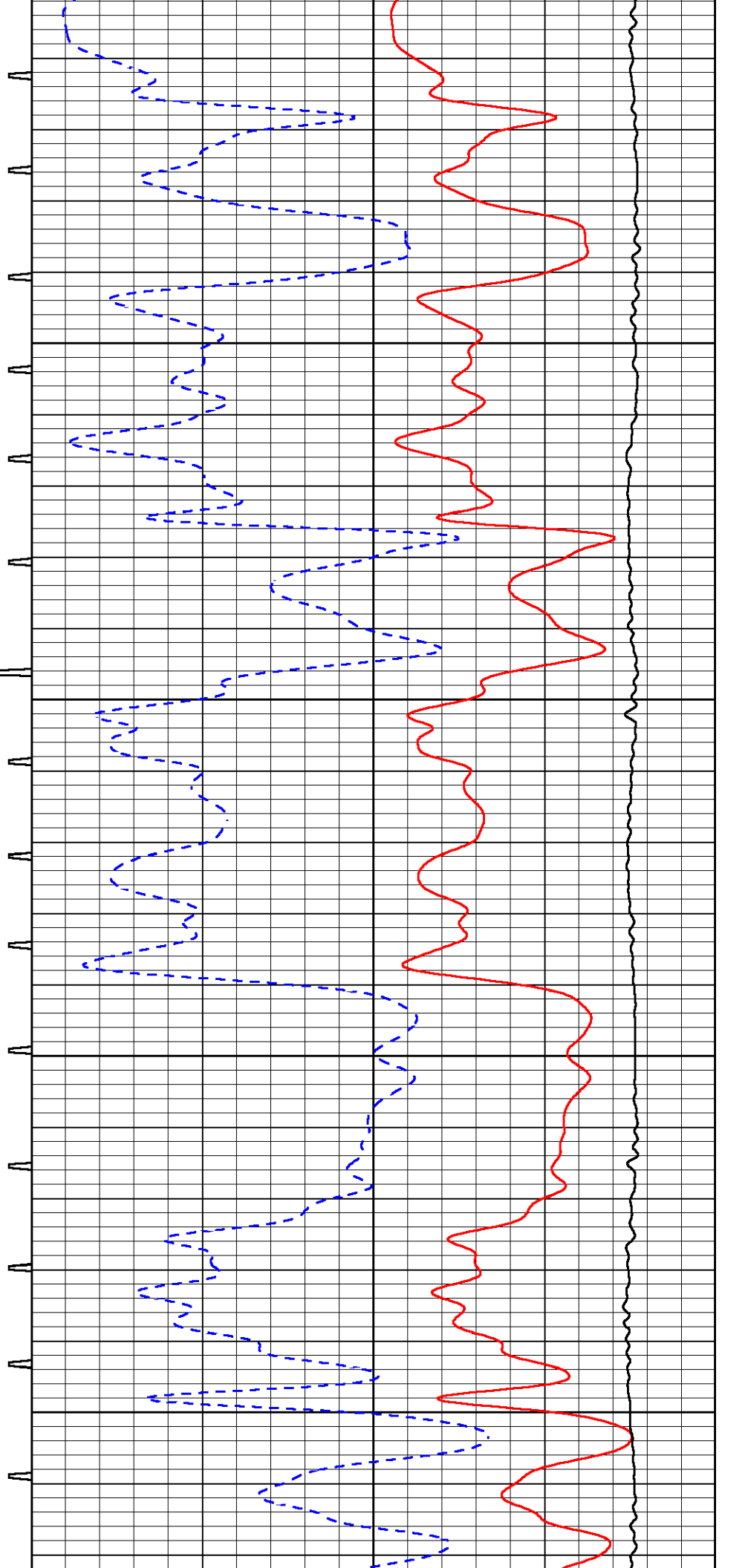


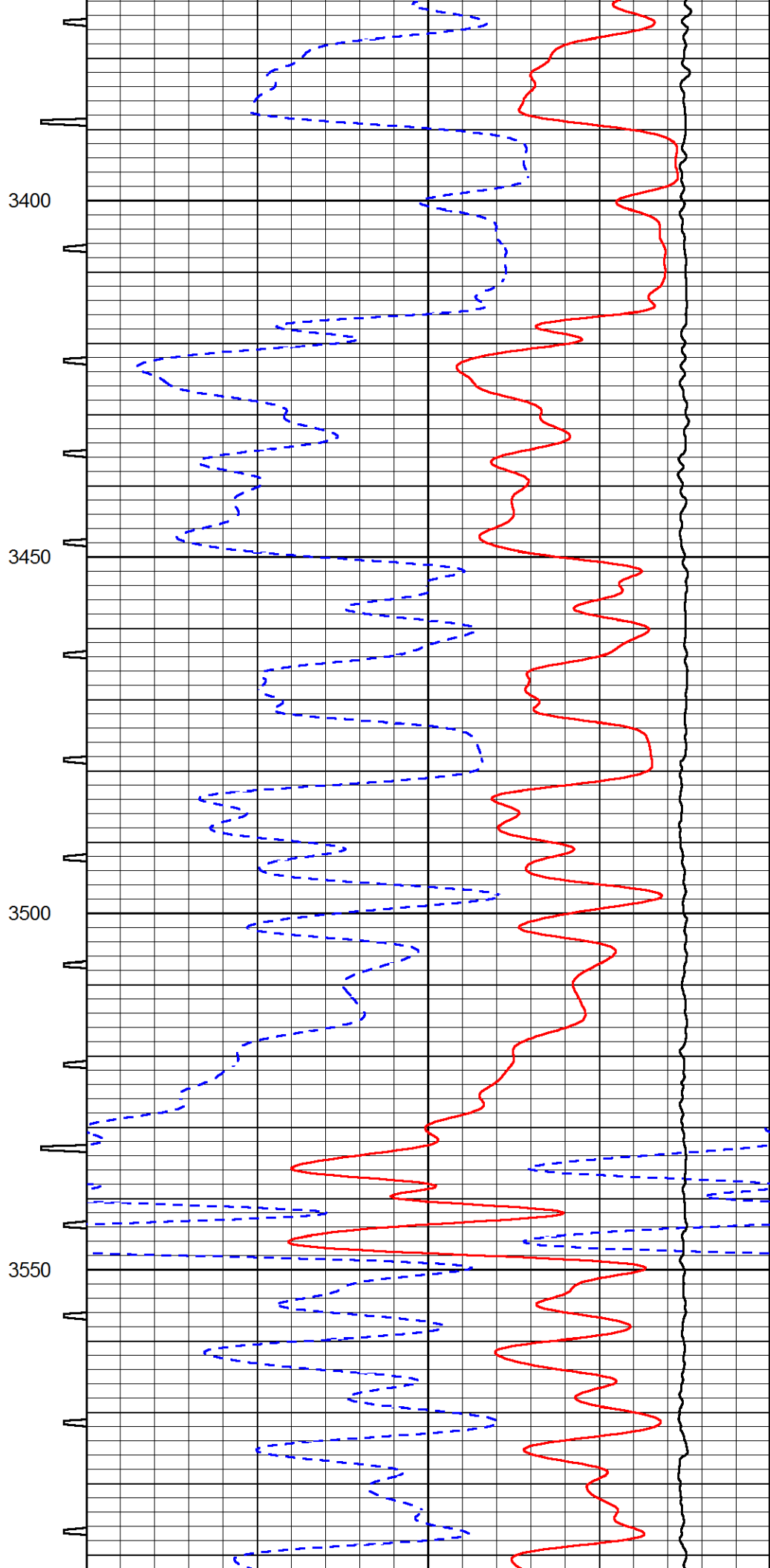
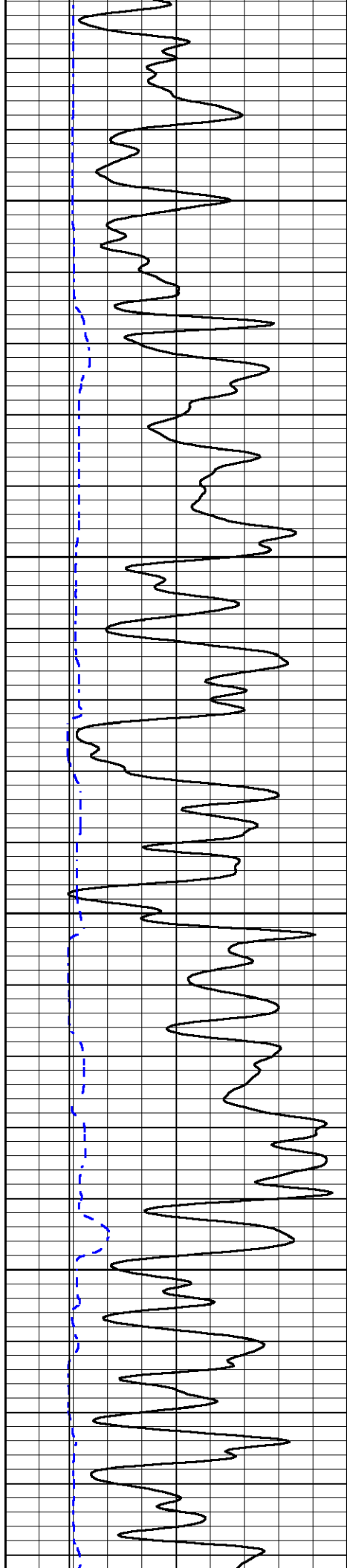
3200

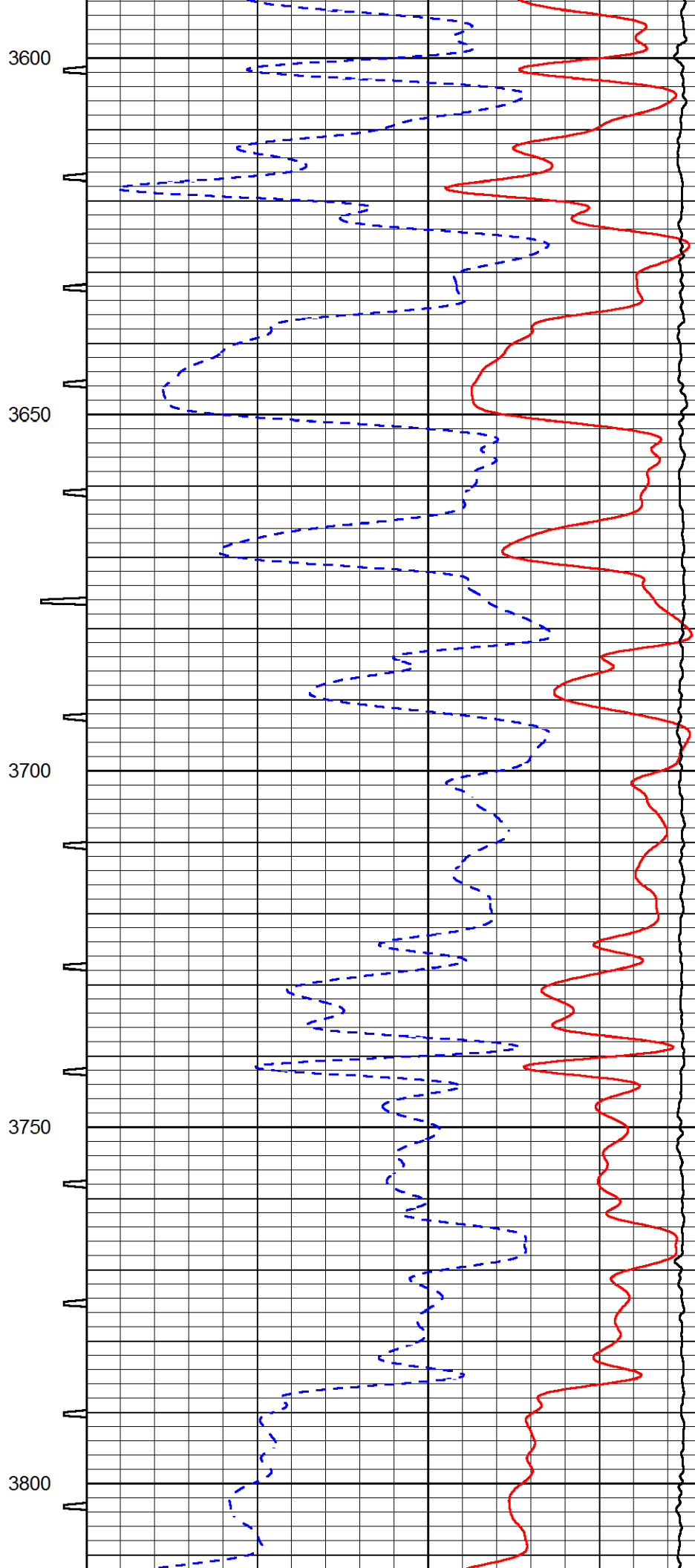
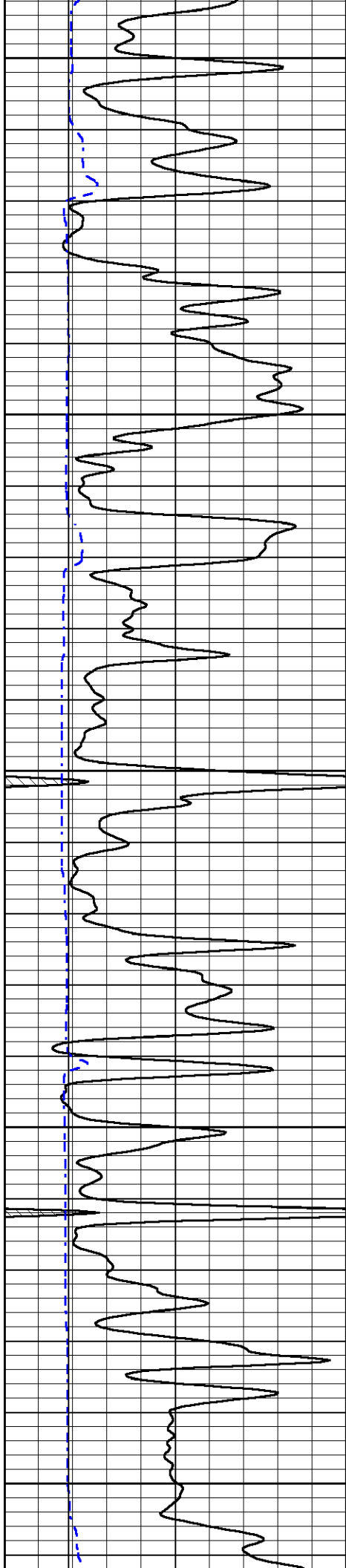
3250

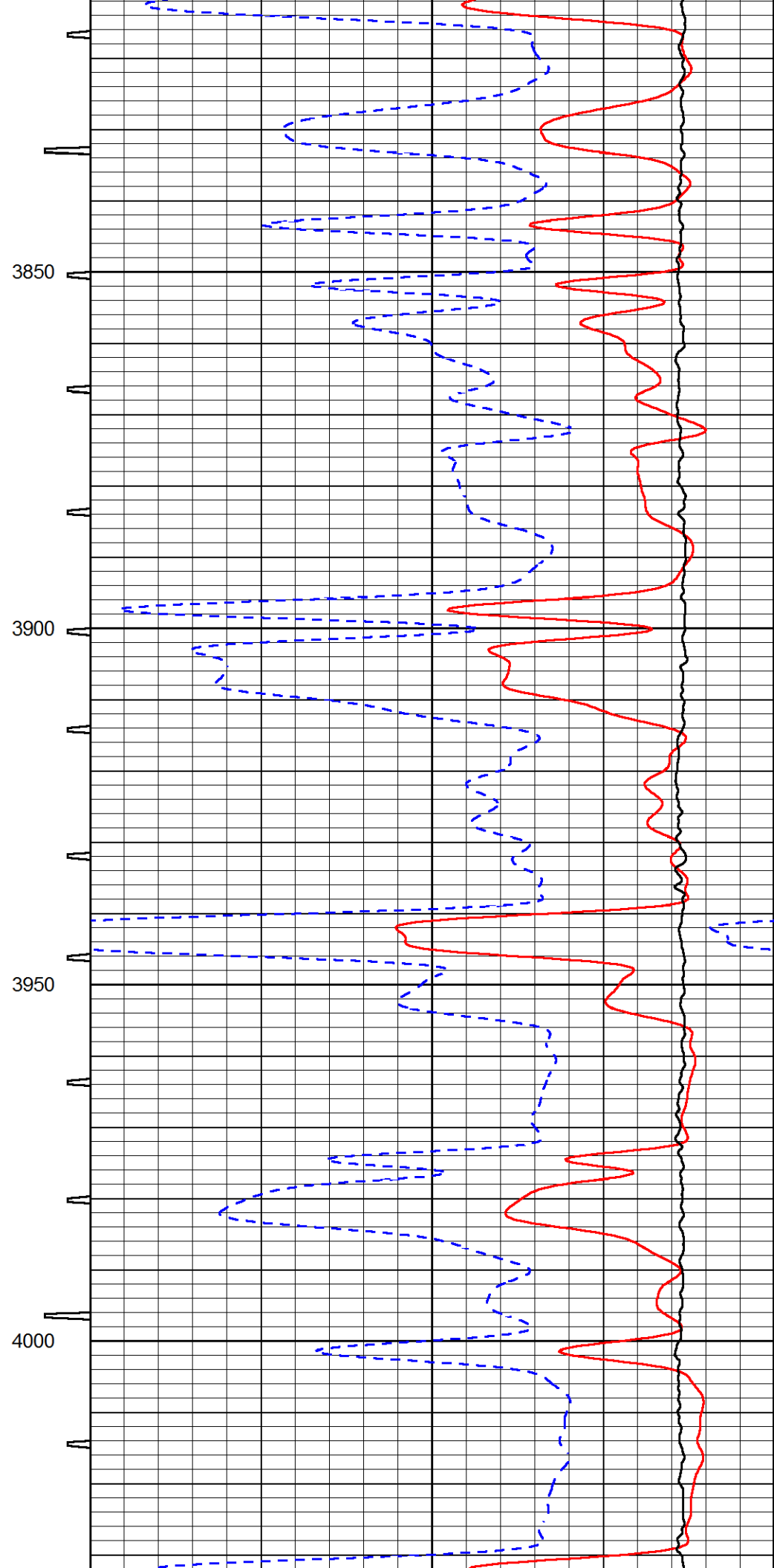
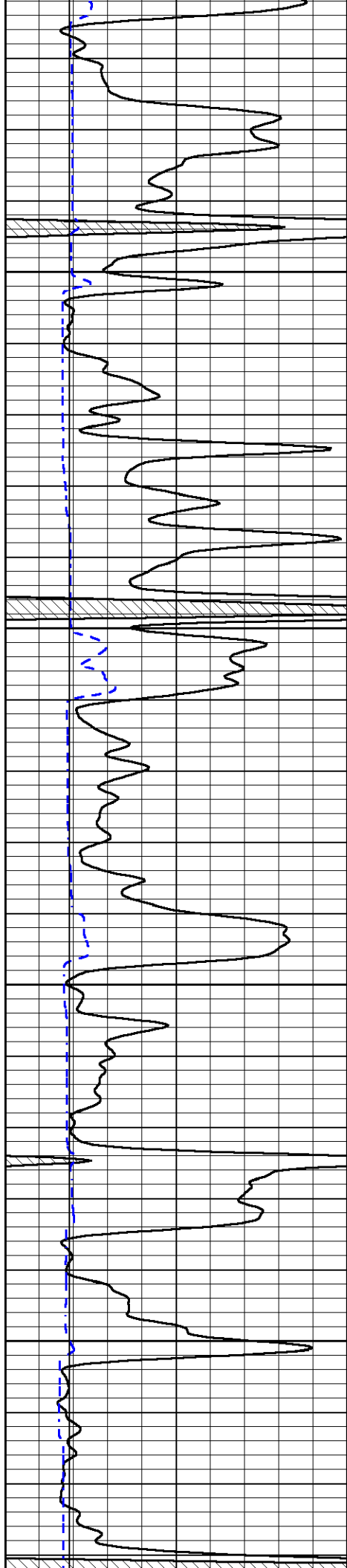
3300

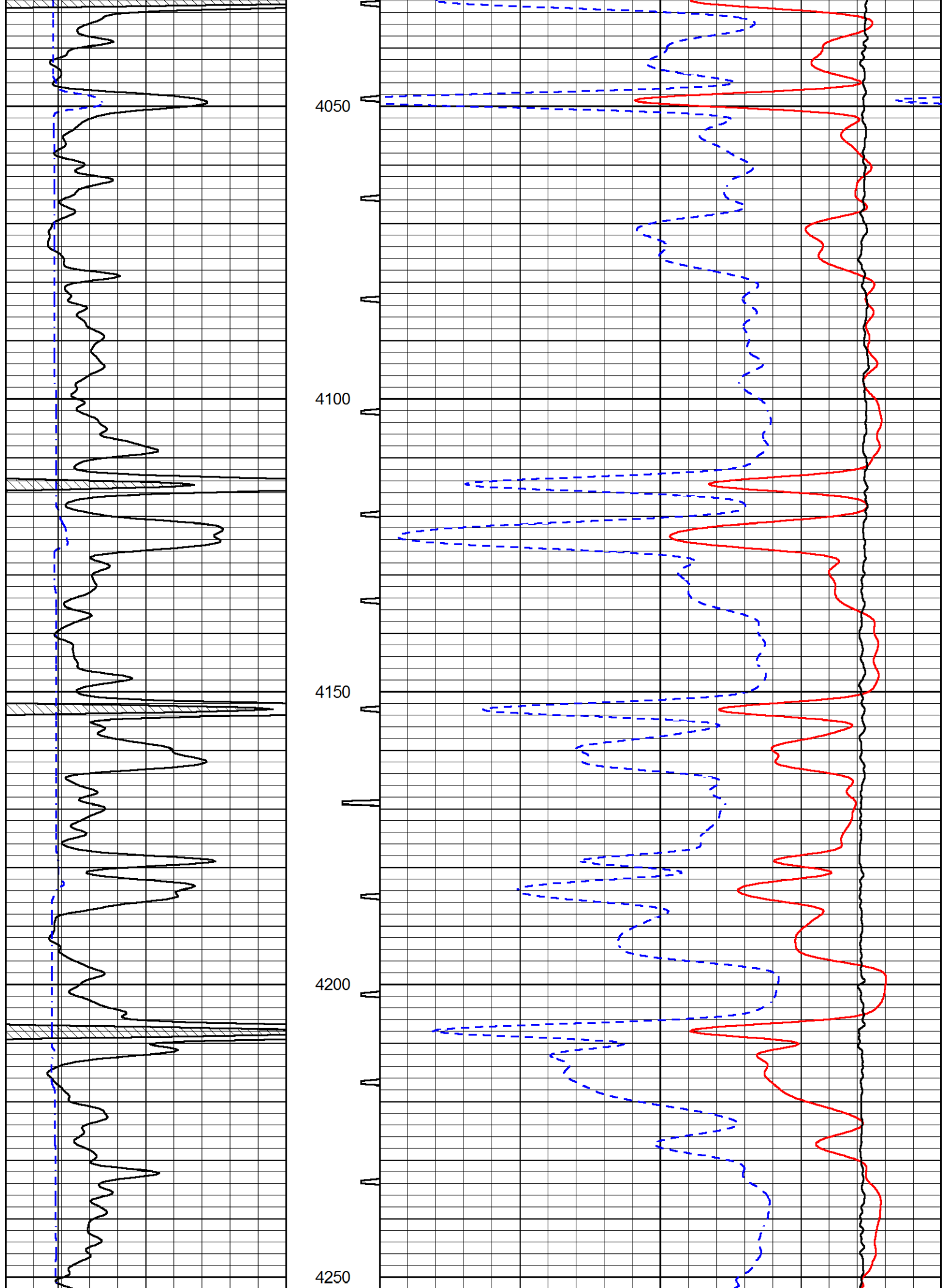
3350

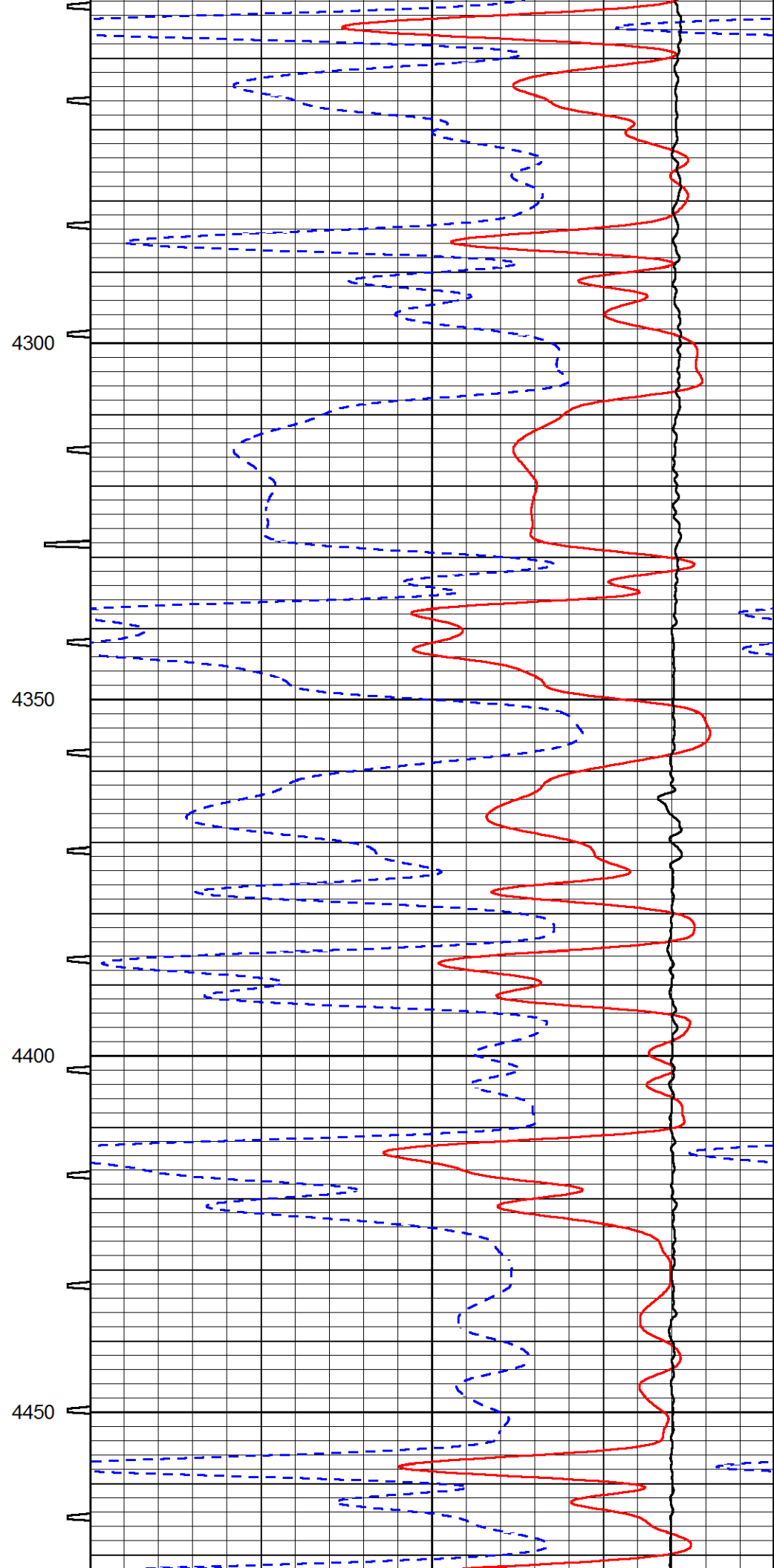
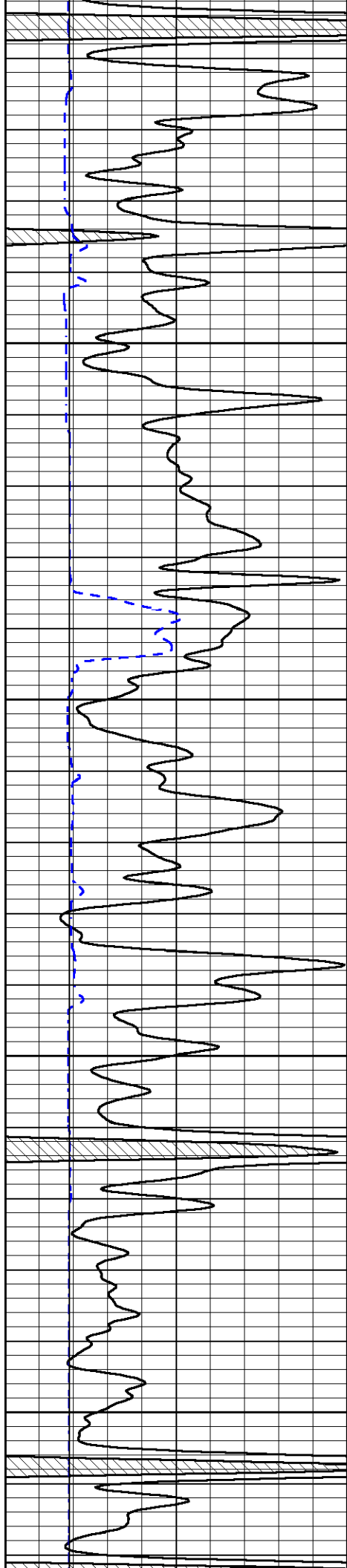


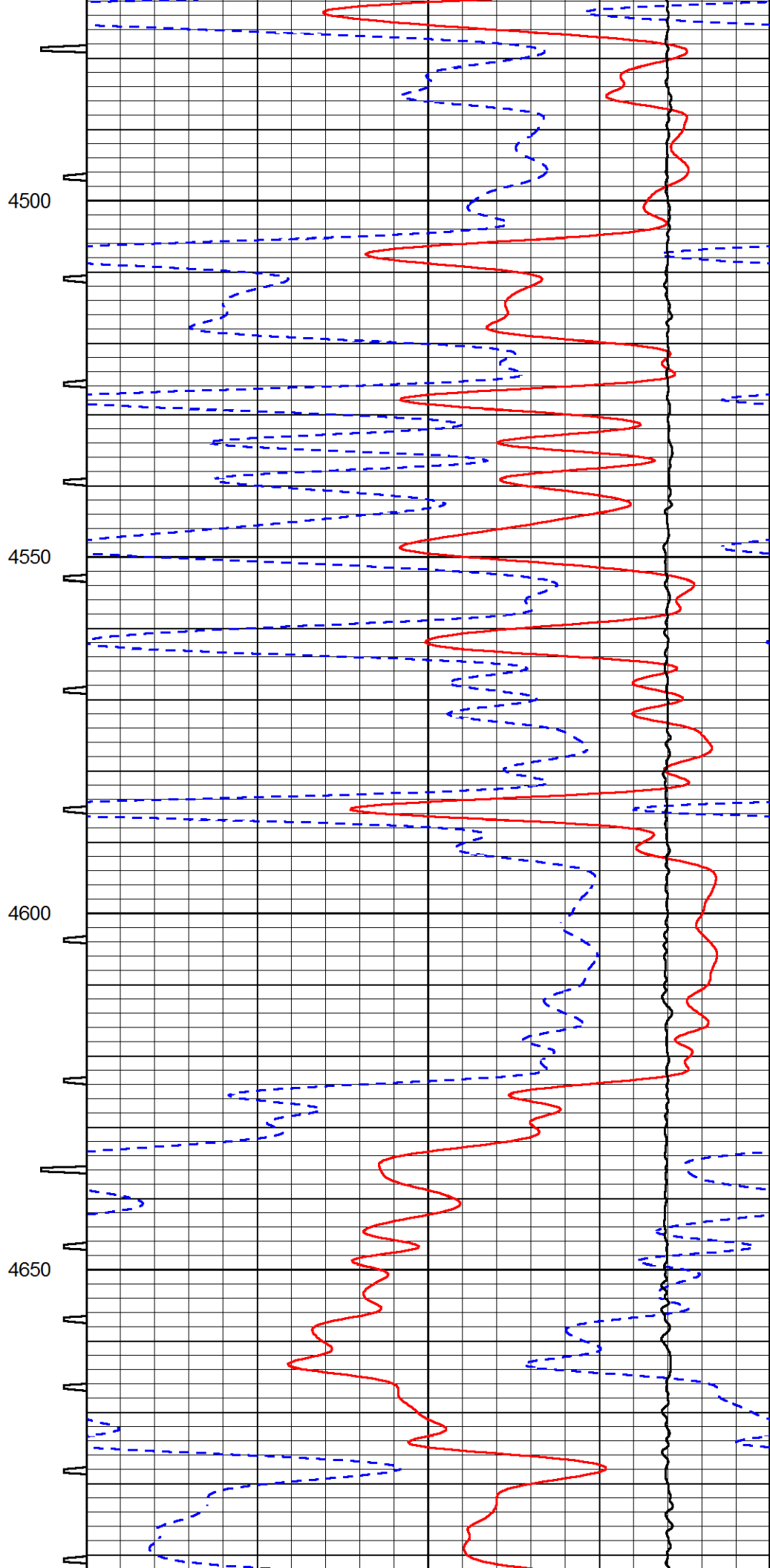
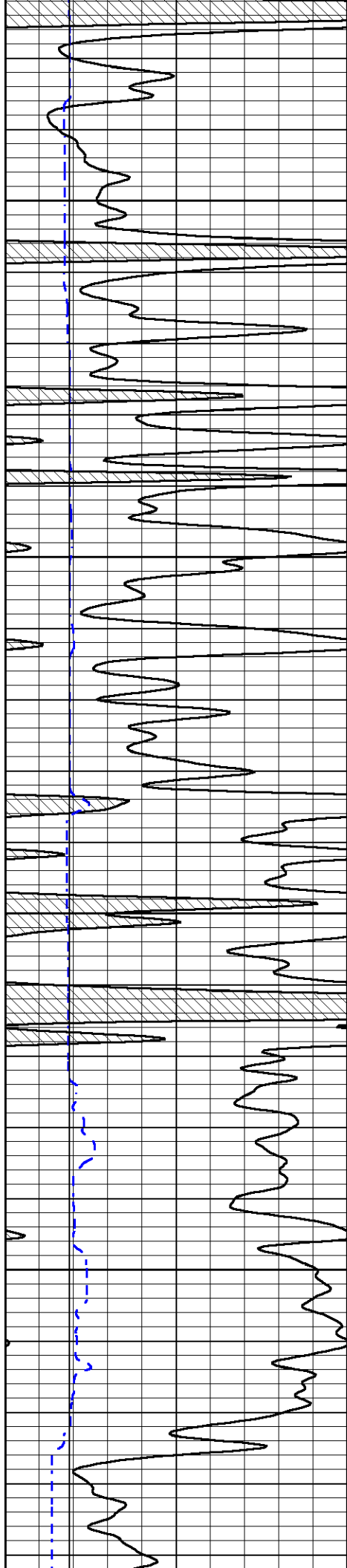


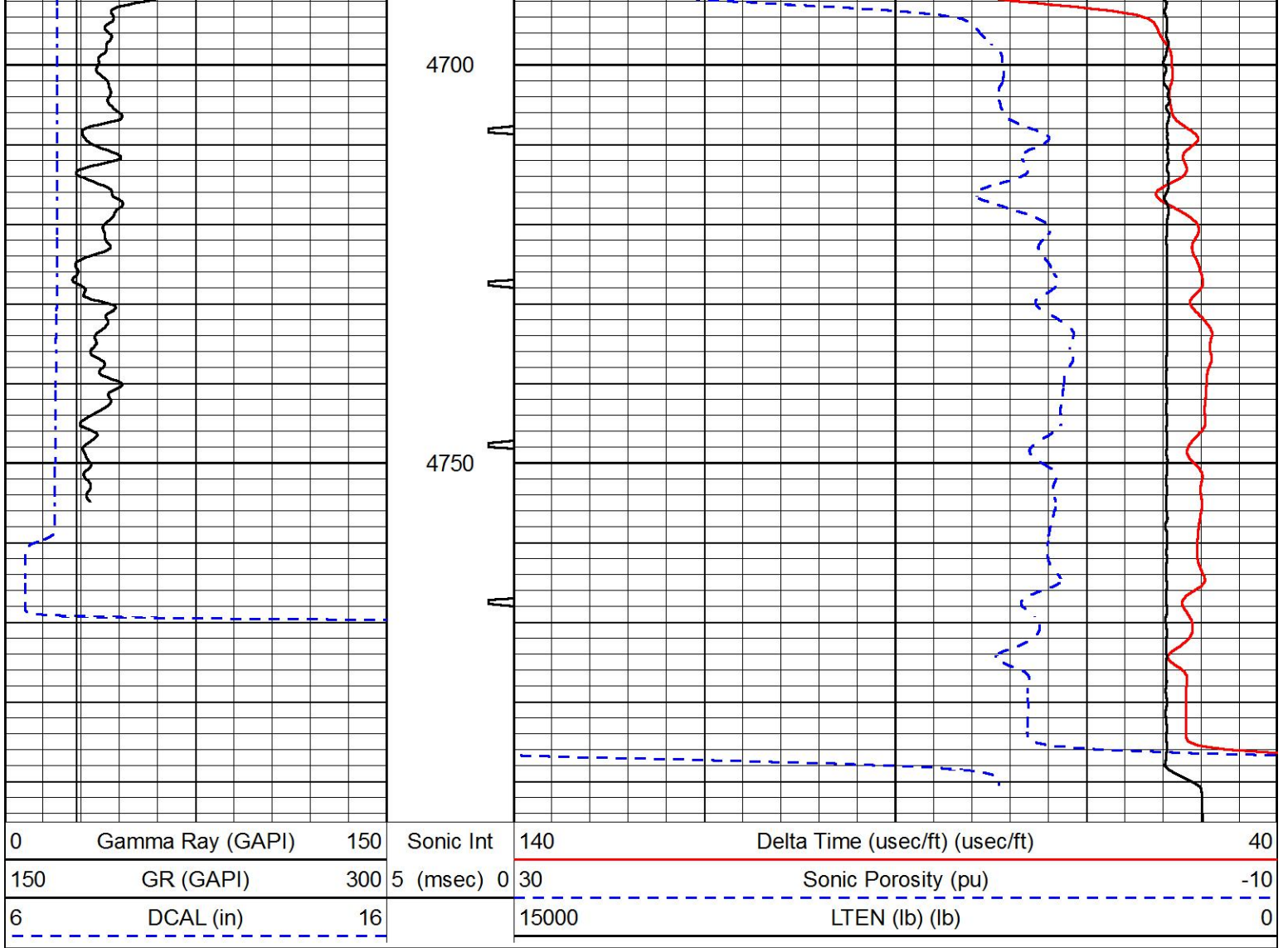








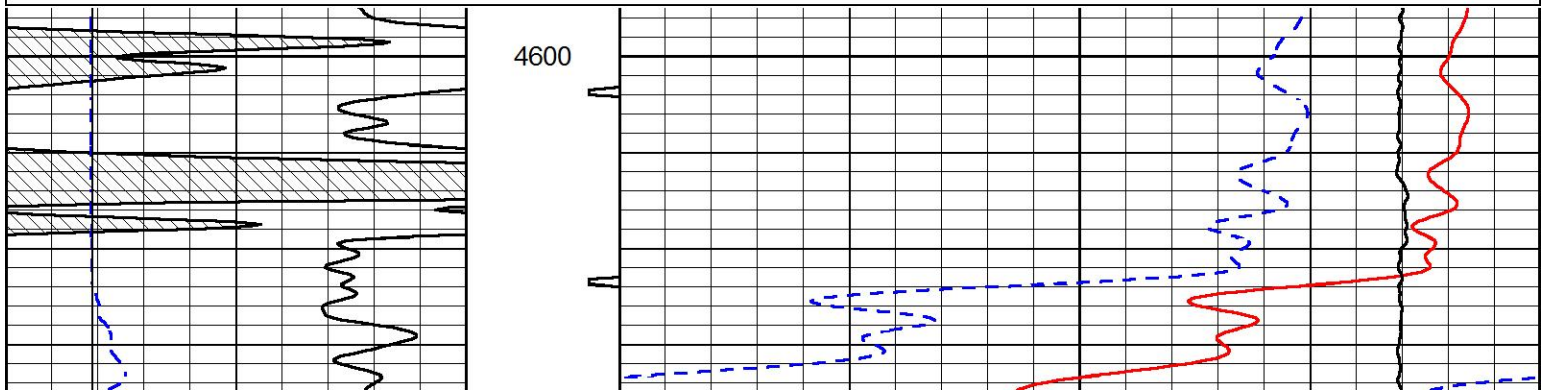


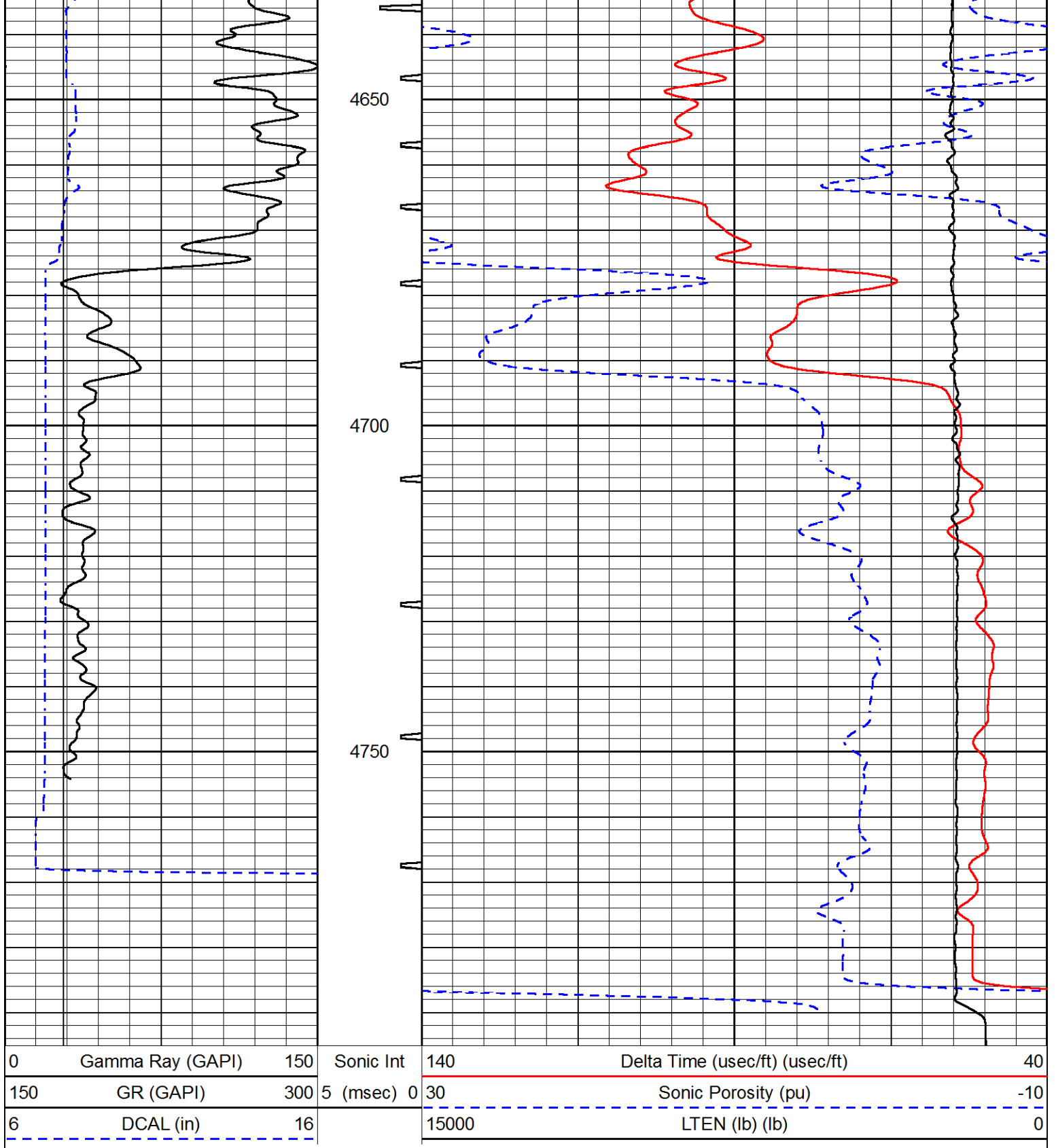


REPEAT SECTION

Database File american_warrior_dirks_1-22.db
 Dataset Pathname STKML/pass3.1
 Presentation Format sonic
 Dataset Creation Fri Oct 20 19:56:14 2017
 Charted by Depth in Feet scaled 1:240

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





Calibration Report

Database File american warrior_dirks 1-22.db
 Dataset Pathname STKML/pass5.1
 Dataset Creation Fri Oct 20 19:20:36 2017

Dual Induction Calibration Report

Serial-Model: PSI 91-M&W
 Calibration Performed: Wed Sep 13 22:23:16 2017

Readings

References

Results

Readings

References

Results

Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	166.796	835.089	0.000	255.800	mmho/m	0.520	-10.000
Medium	142.009	1348.560	0.000	255.800	mmho/m	0.360	-32.250

Microlog Calibration Report

Serial-Model: PSI-01-PSIML
 Performed: Wed Sep 06 19:50:56 2017

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	71000.0000	-2.7000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	104000.0000	-3.1000
Caliper	1.0001	1.1397	6.5000	18.5000	in	100.0000	-97.1250

Compensated Density Calibration Report

Serial-Model: 90-1031-M&W
 Source / Verifier: 16955B / 2ci
 Master Calibration Performed: Wed Sep 06 19:51:03 2017

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4903.44	6153.79	cps
Aluminum	2.640	g/cc	934.50	4021.31	cps
Spine Angle = 75.61		Density/Spine Ratio = 0.517			
	Size		Reading		
Small Ring	8.00	in	1.84		
Large Ring	22.00	in	1.46		

Compensated Neutron Calibration Report

Serial Number: 207-MW
 Tool Model: M&W
 Calibration Performed: WED SEP 6 10:30:30 2017

Detector	Readings	Target	Normalization
Short Space	6240.00 cps	1000.00 cps	1.6025
Long Space	460.00 cps	1000.00 cps	1.9500

Gamma Ray Calibration Report

Serial Number: 89
 Tool Model: M&W
 Calibration Performed: Wed Sep 06 19:51:14 2017

Calibrator Value: 1.0 GAPI
 Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



Company	AMERICAN WARRIOR, INC.
Well	DIRKS #1-22
Field	WILDCAT
County	LOGAN
State	KANSAS