



**BOREHOLE COMPENSATED  
SONIC LOG**

Company RITCHIE EXPLORATION INC.  
Well WHITHAM-SMITH TRUST #1  
Field WILDCAT  
County WICHITA  
State KANSAS

Company RITCHIE EXPLORATION INC.  
Well WHITHAM-SMITH TRUST #1  
Field WILDCAT  
County WICHITA State KANSAS

Location: API #: 15-203-20342-00-00  
2432' & 976' FWL  
SEC 35 TWP 16S RGE 37W  
Permanent Datum GROUND LEVEL Elevation 3344  
Log Measured From KELLY BUSHING  
Drilling Measured From KELLY BUSHING  
Other Services  
CNL/CDL  
DIL/MEL  
Elevation  
K.B. 3352'  
D.F. N/A  
G.L. 3344'

Date	9/7/2018						
Run Number	TWO						
Type Log	BHCS						
Depth Driller	4960'						
Depth Logger	4958'						
Bottom Logged Interval	4946'						
Top Logged Interval	250'						
Type Fluid In Hole	CHEMICAL						
Salinity, PPM CL	7800						
Density	9.4						
Level	FULL						
Max. Rec. Temp. F	126						
Operating Rig Time	4 HOURS						
Equipment -- Location	91 HAYS						
Recorded By	IAN MABB						
Witnessed By	JOHN GOLDSMITH						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0'	263'	8.625"	23#	0'	221'
TWO	7.875"	263'	TD				
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.  
RUSSEL SPRINGS, KS.  
SOUTH TO COUNTY LINE, AND 6 MILES SOUTH TO G RD,  
1 MILE WEST , 1/2 NORTH, & EAST INTO

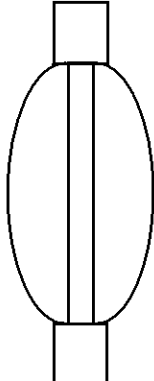


Log Measured From: KELLY BUSHING      8 Ft. Above Permanent Datum

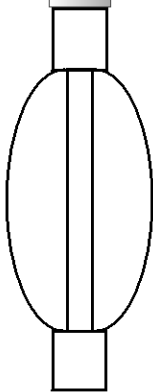
THANK YOU FOR USING PIONEER ENERGY SERVICES  
www.pioneerenergy.com      785-625-3858

Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: IAN MABB	Primary Witness: JOHN GOLDSMITH
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Top - Bottom

COMPACT 1	SVFLUID usec/ft 189	SVMATRIX usec/ft 47.6	M 2	A 1	SZCOR Off	NPORSEL Limestone	FLUIDDEN g/cc 1
MATRXDEN g/cc 2.71	SPSHIFT mV 0	SNDERRM mmho/m 0	SNDERR mmho/m 5	SRFTEMP degF 0	CASETHCK in 0	CASEOD in 5.5	PERFS 0
TDEPTH ft 0	BOTTEMP degF 100	BOREID in 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

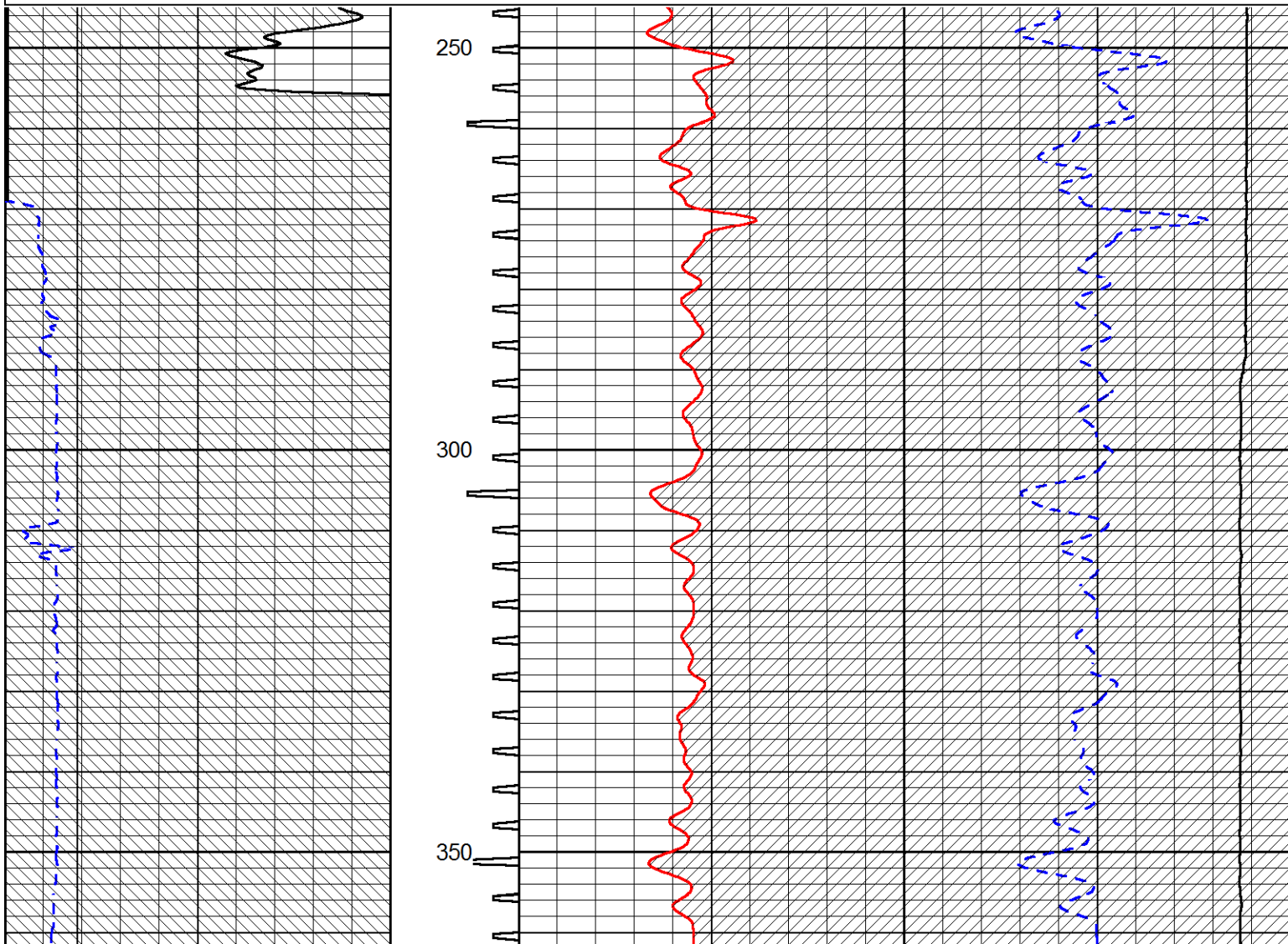
3.00

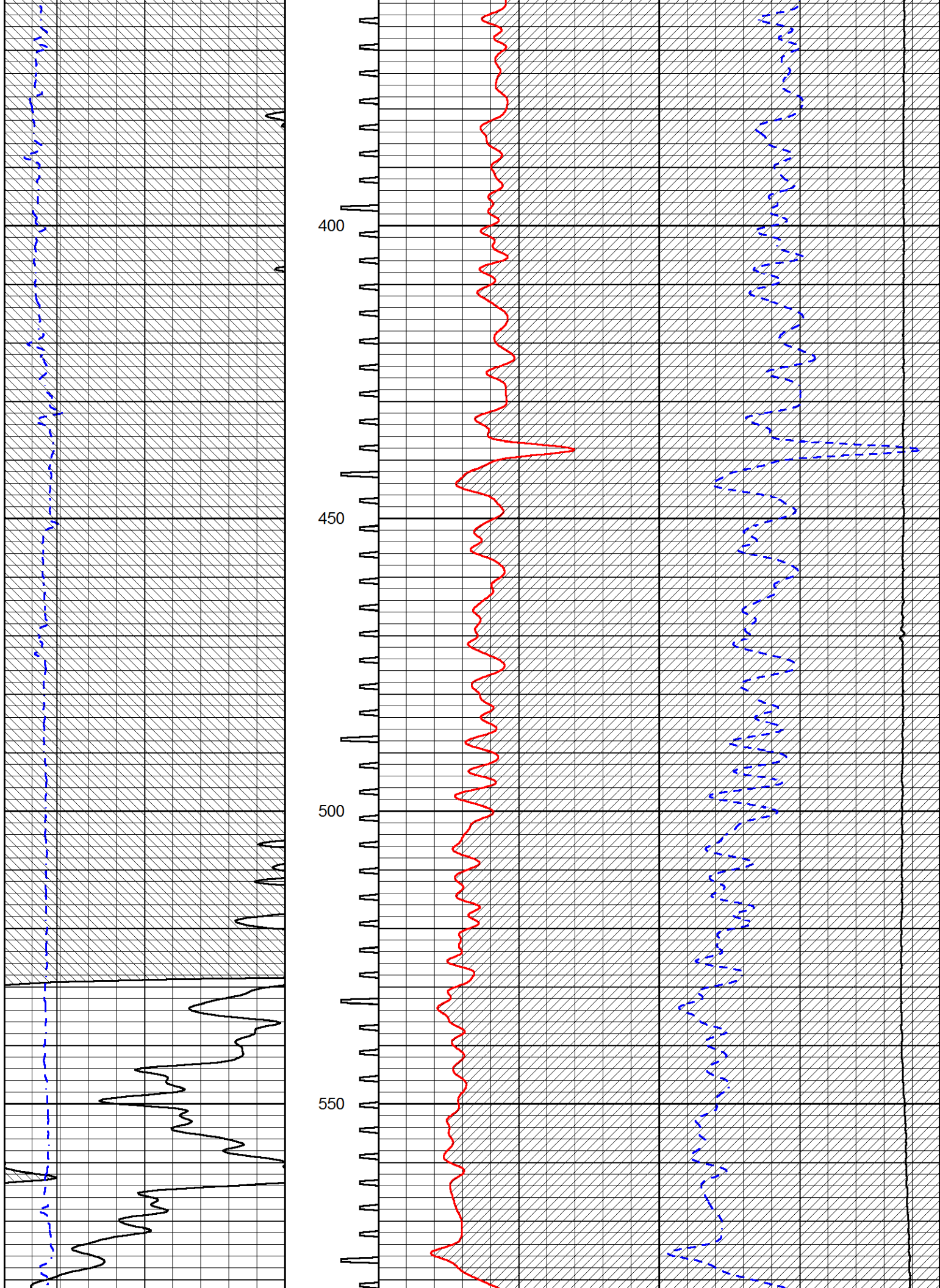
70.00

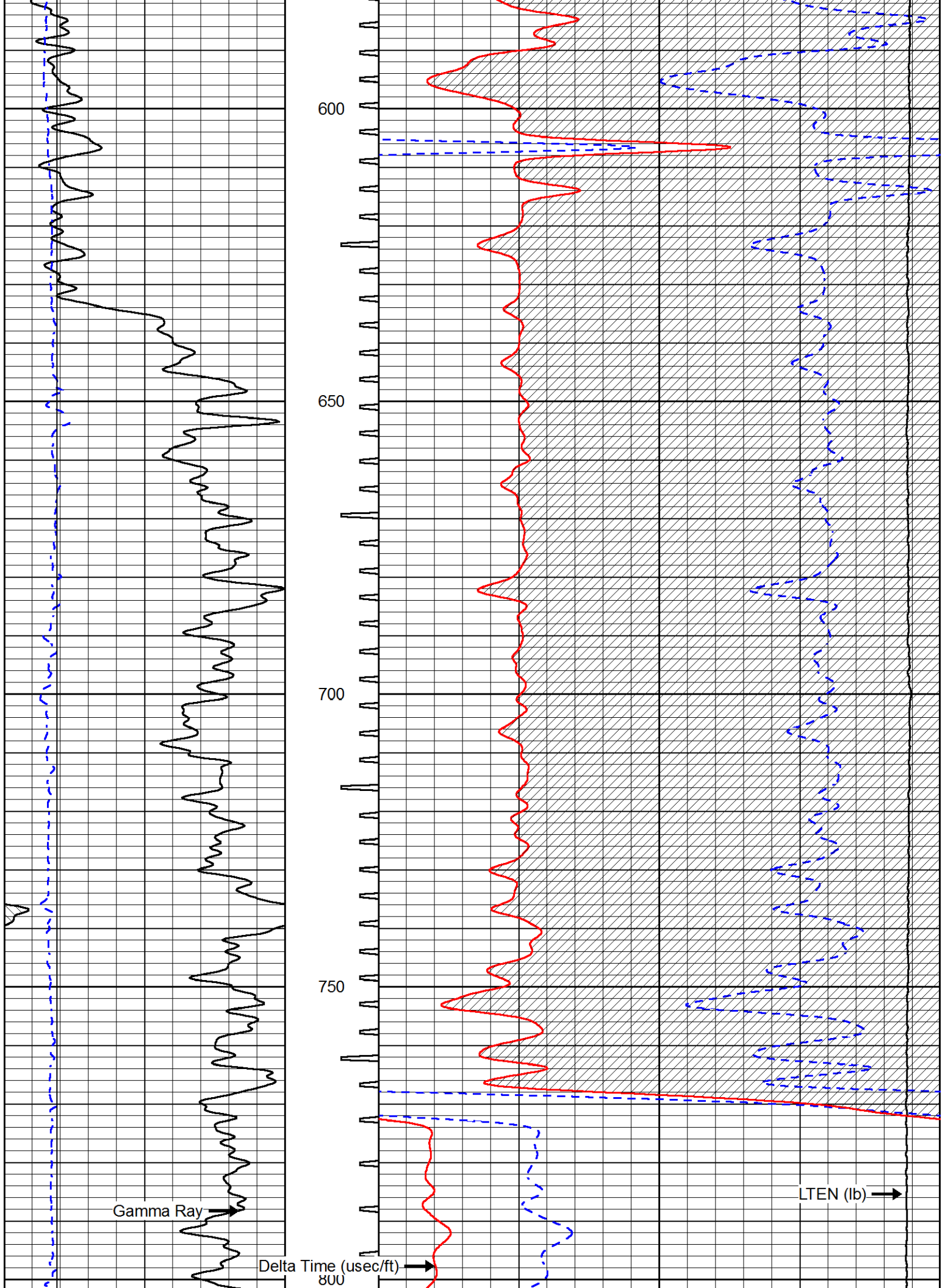
Dataset: ritchi\_exploration\_whitham-smith\_trust\_1.db: field/well/SON/pass2  
 Total length: 27.00 ft  
 Total weight: 440.00 lb  
 O.D.: 3.50 in

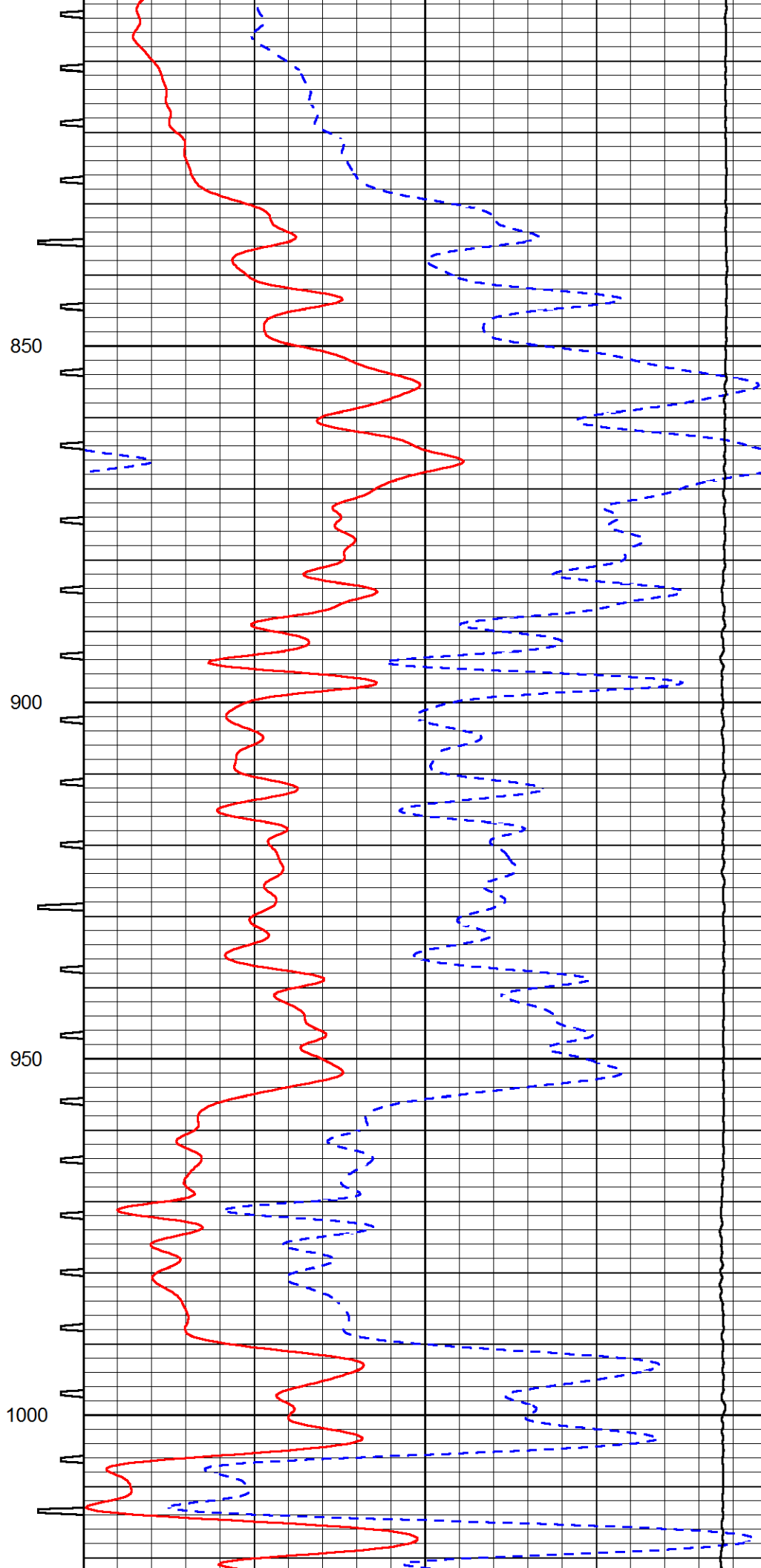
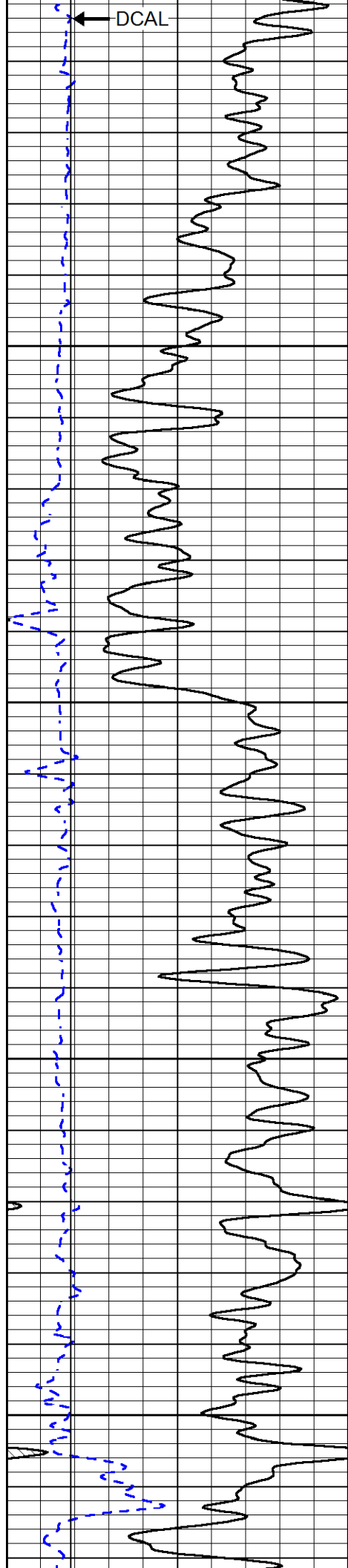
Database File ritchi\_exploration\_whitham-smith\_trust\_1.db  
 Dataset Pathname stackmel/pass4.1  
 Presentation Format sonic  
 Dataset Creation Fri Sep 07 22:01:45 2018  
 Charted by Depth in Feet scaled 1:240

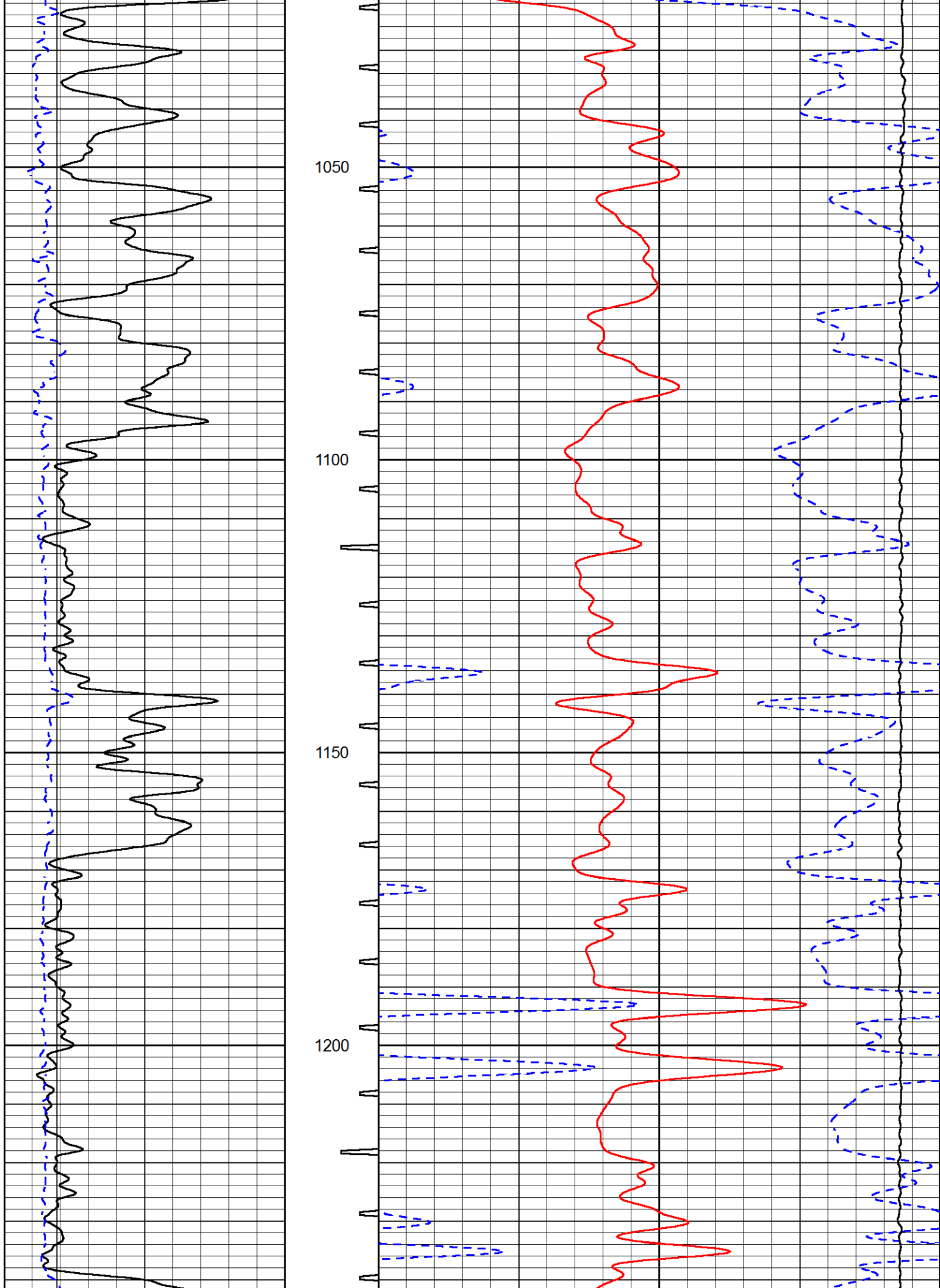
0	Gamma Ray (GAPI)	150	Sonic Int	140	Delta Time (usec/ft) (usec/ft)	40
150	GR (GAPI)	300	5 (msec) 0	30	Sonic Porosity (pu)	-10
6	DCAL (in)	16		15000	LTEN (lb) (lb)	0

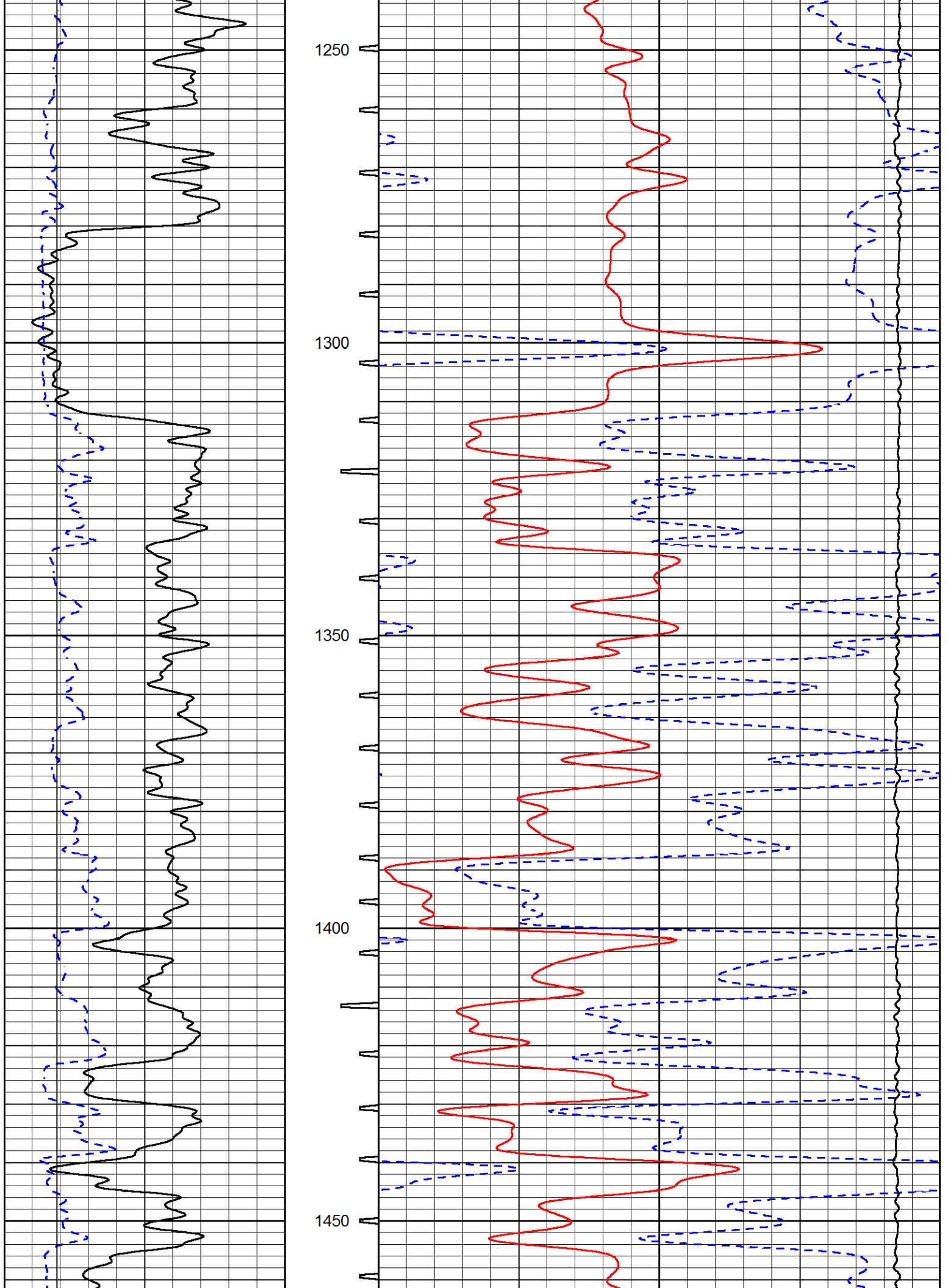




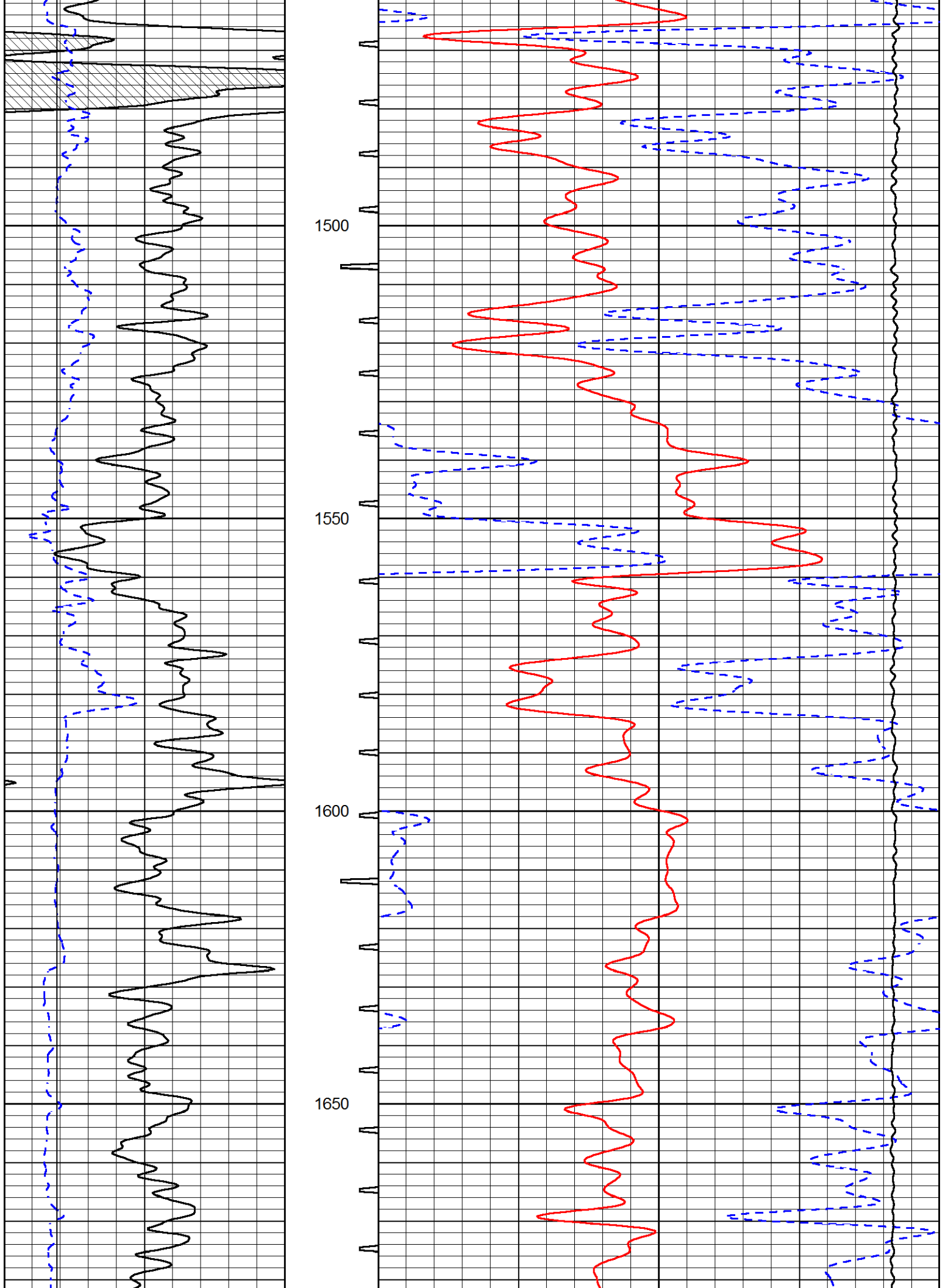


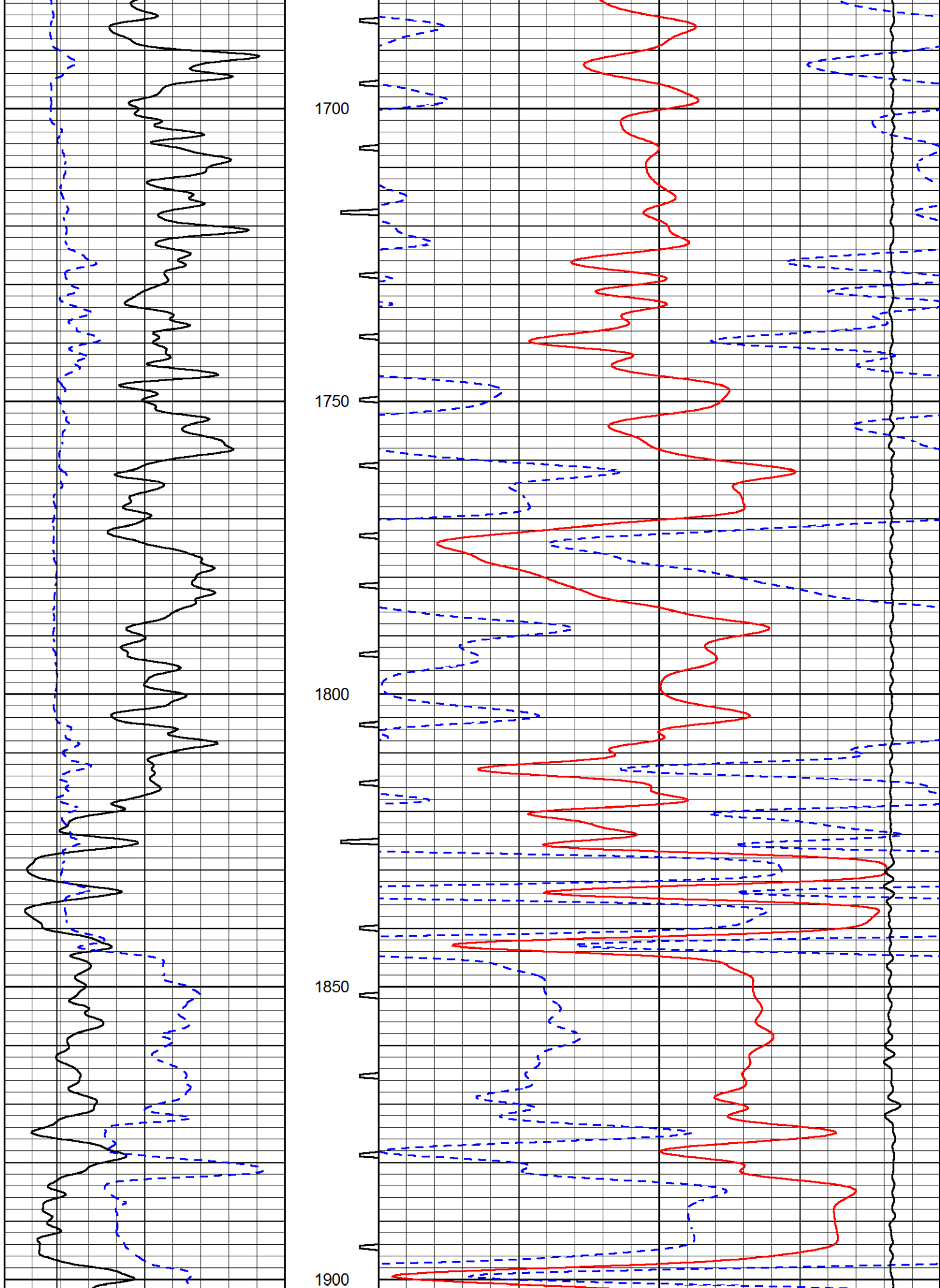


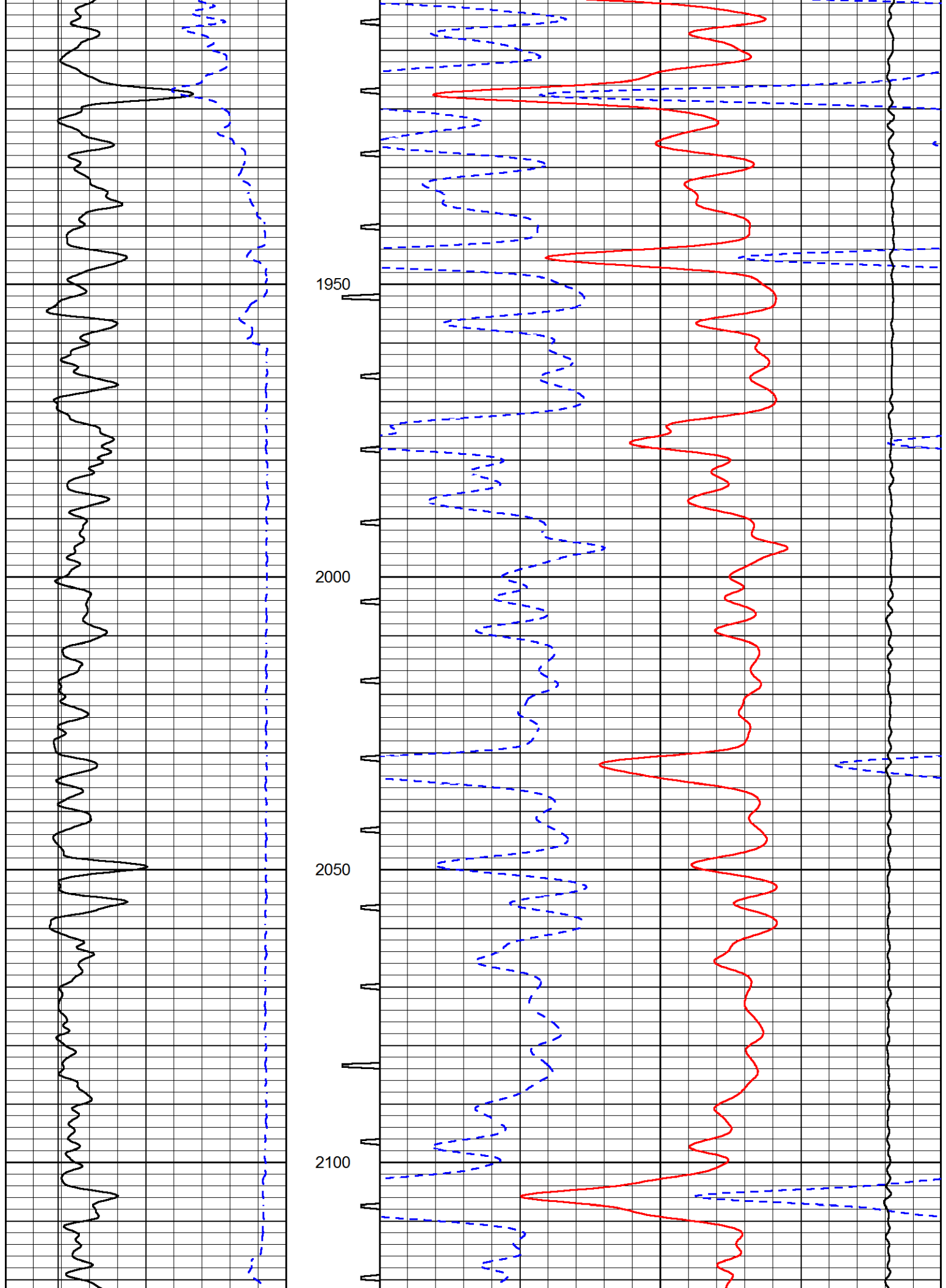


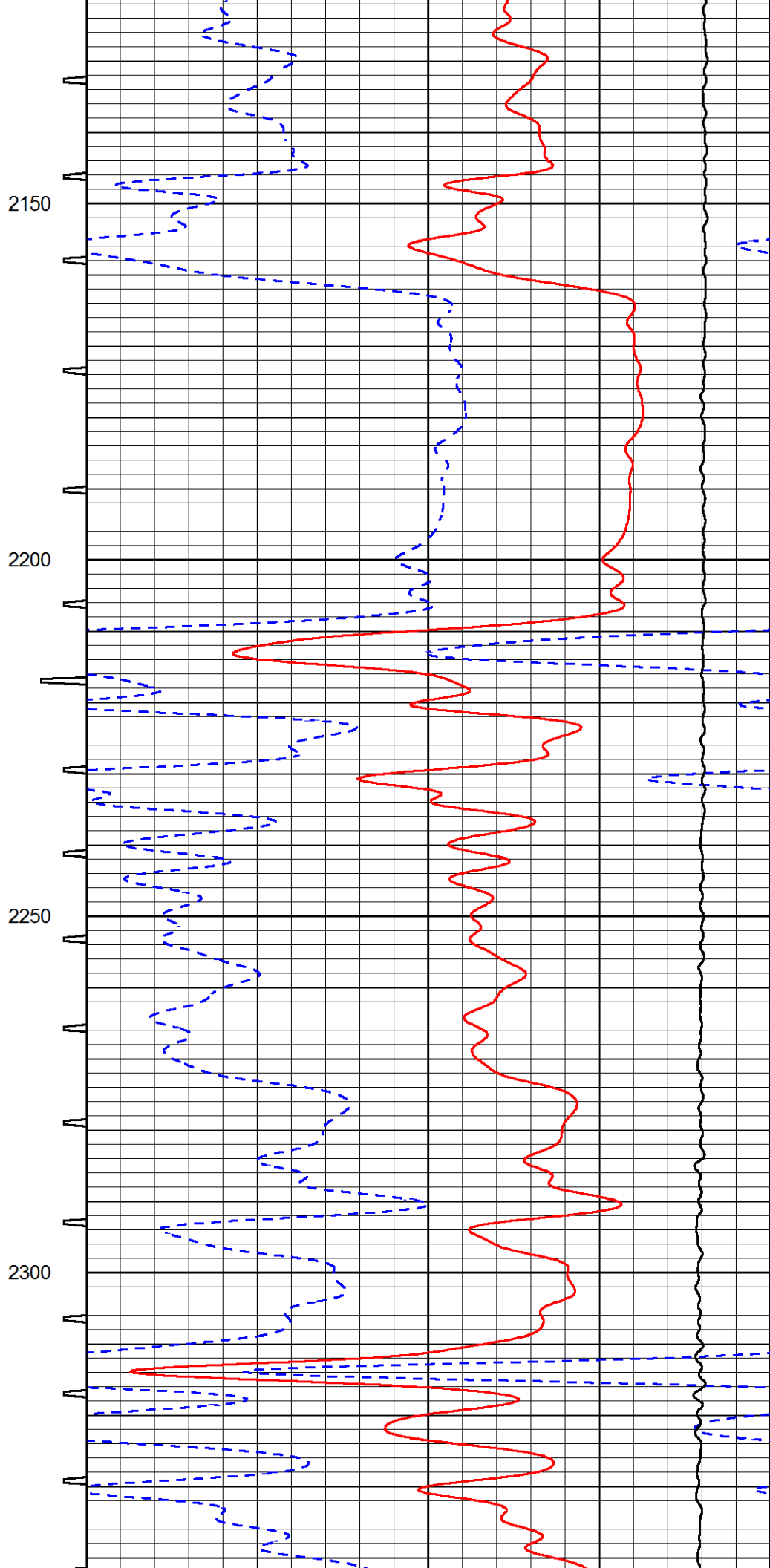
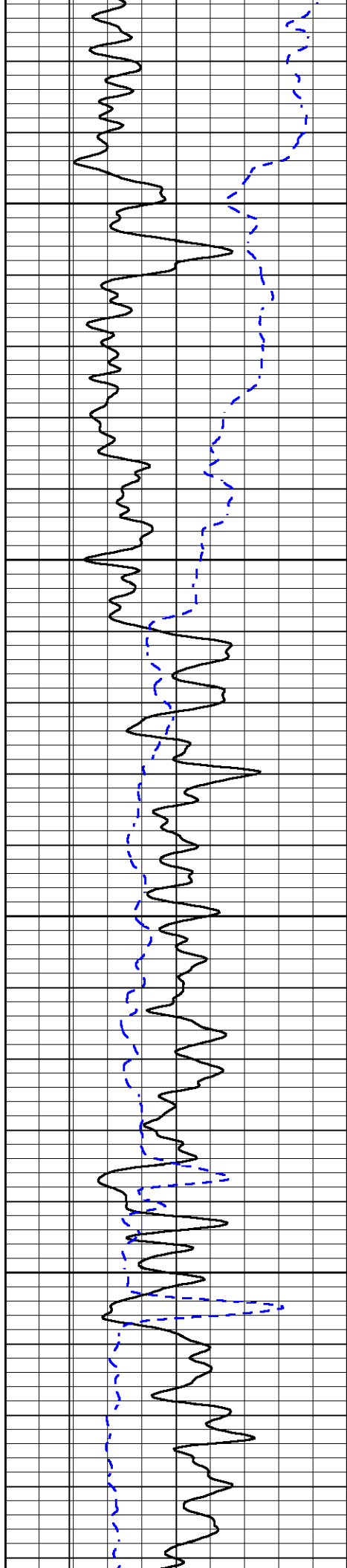


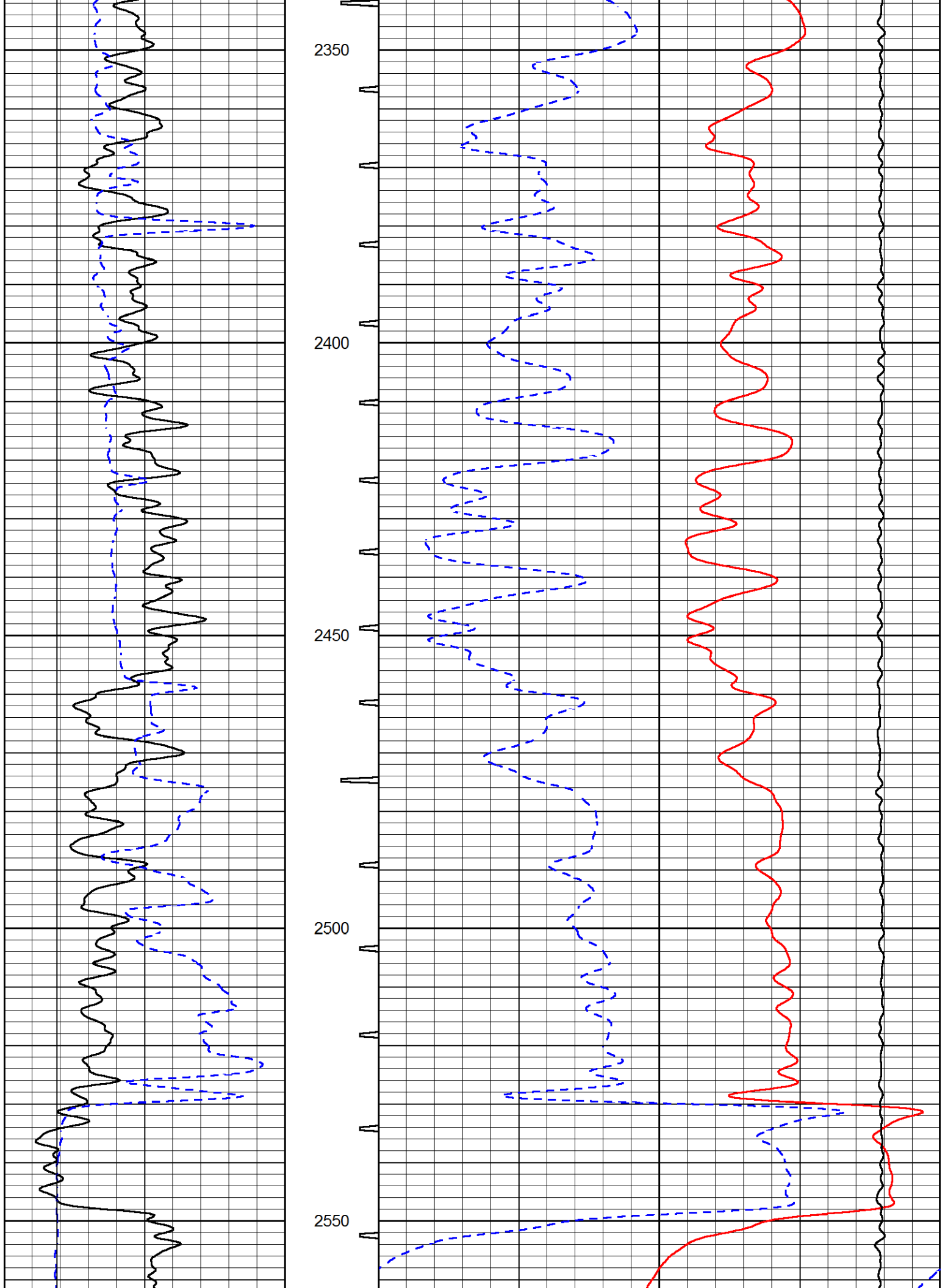


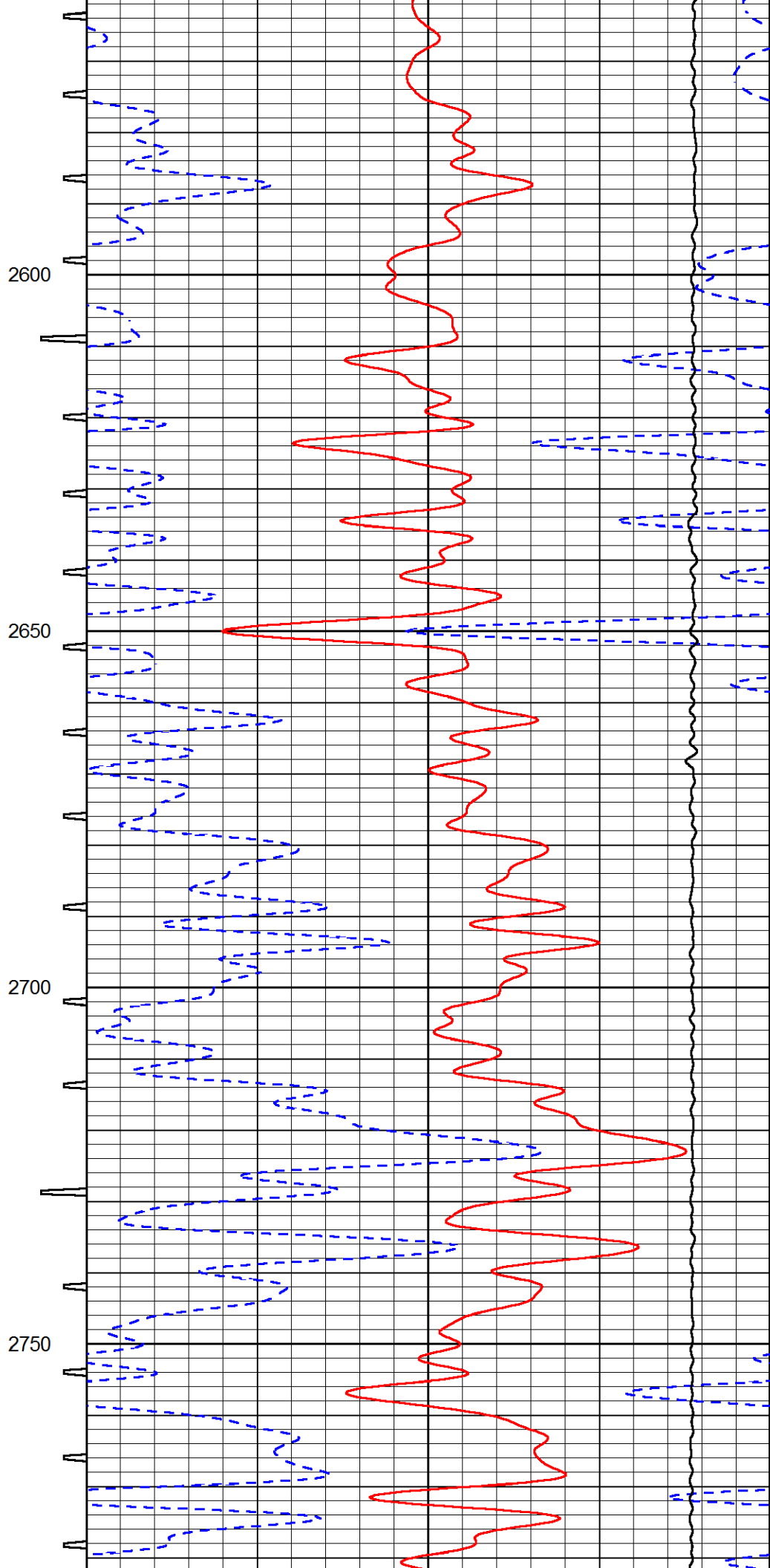
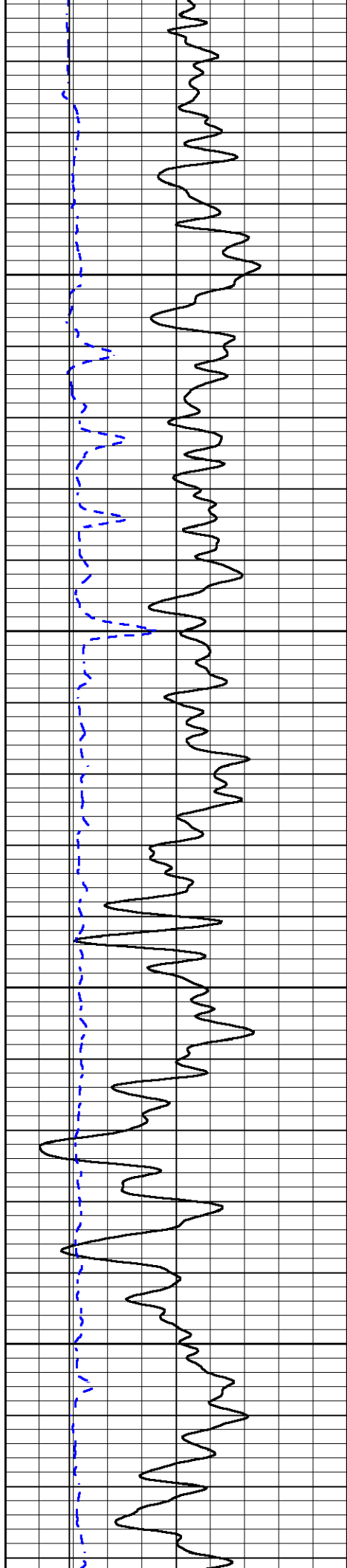


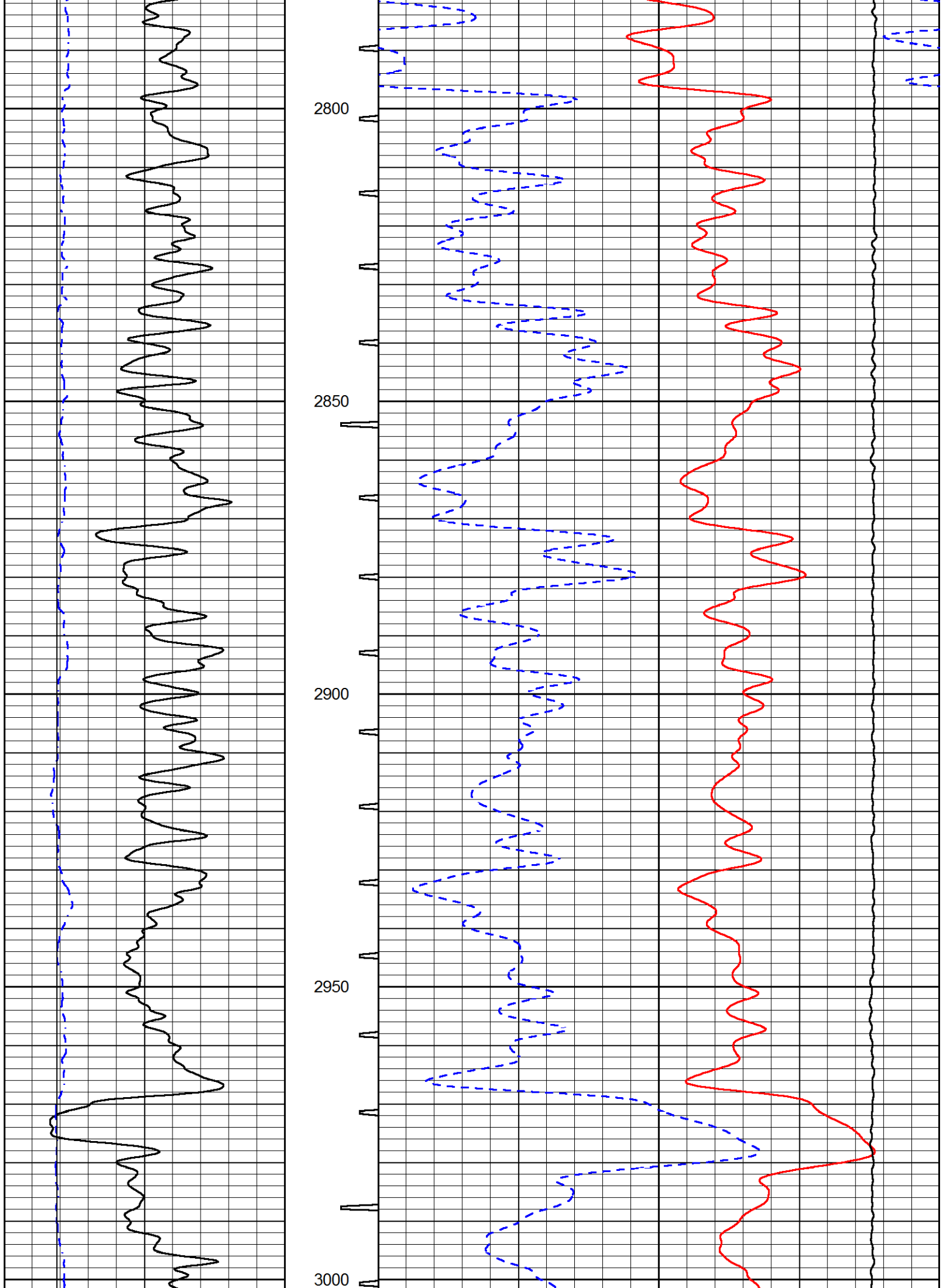


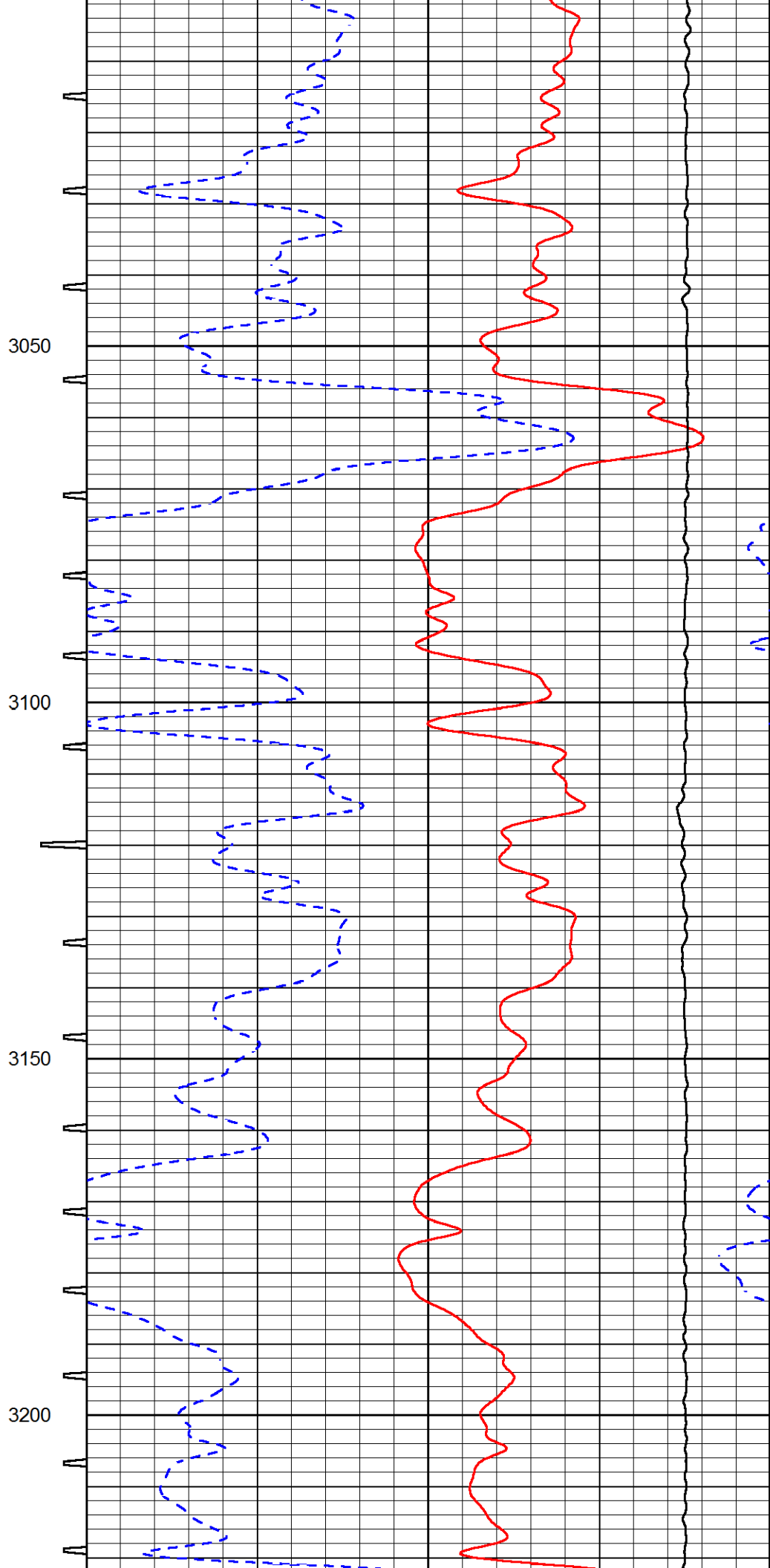
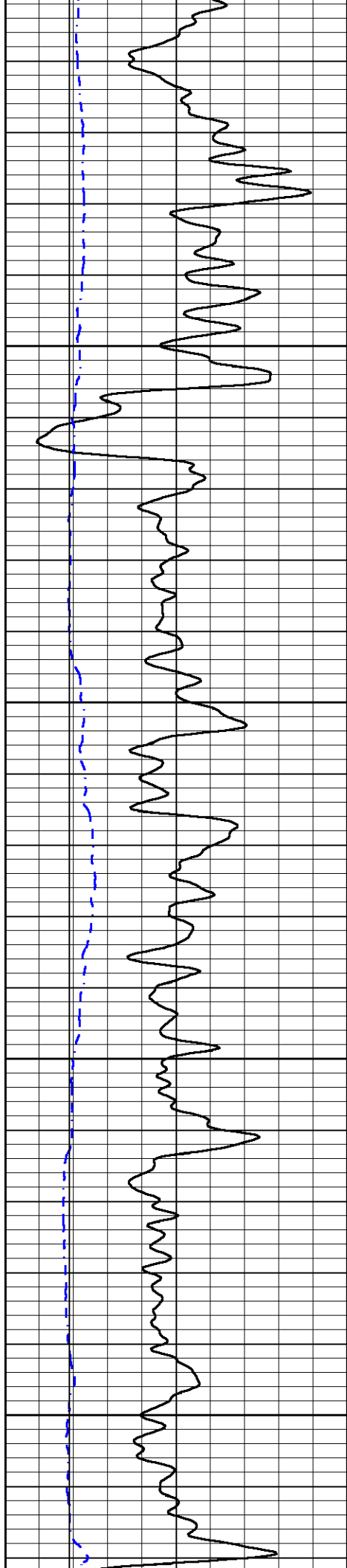




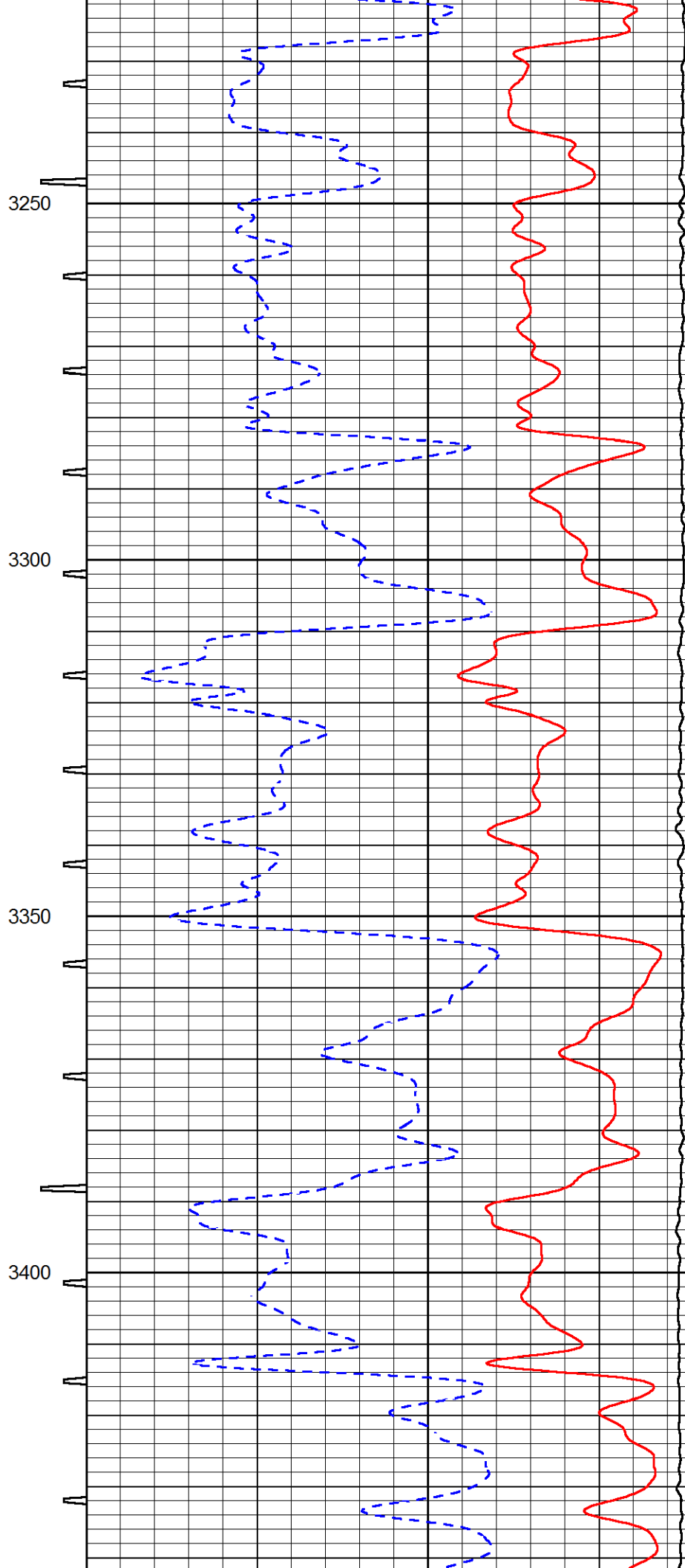
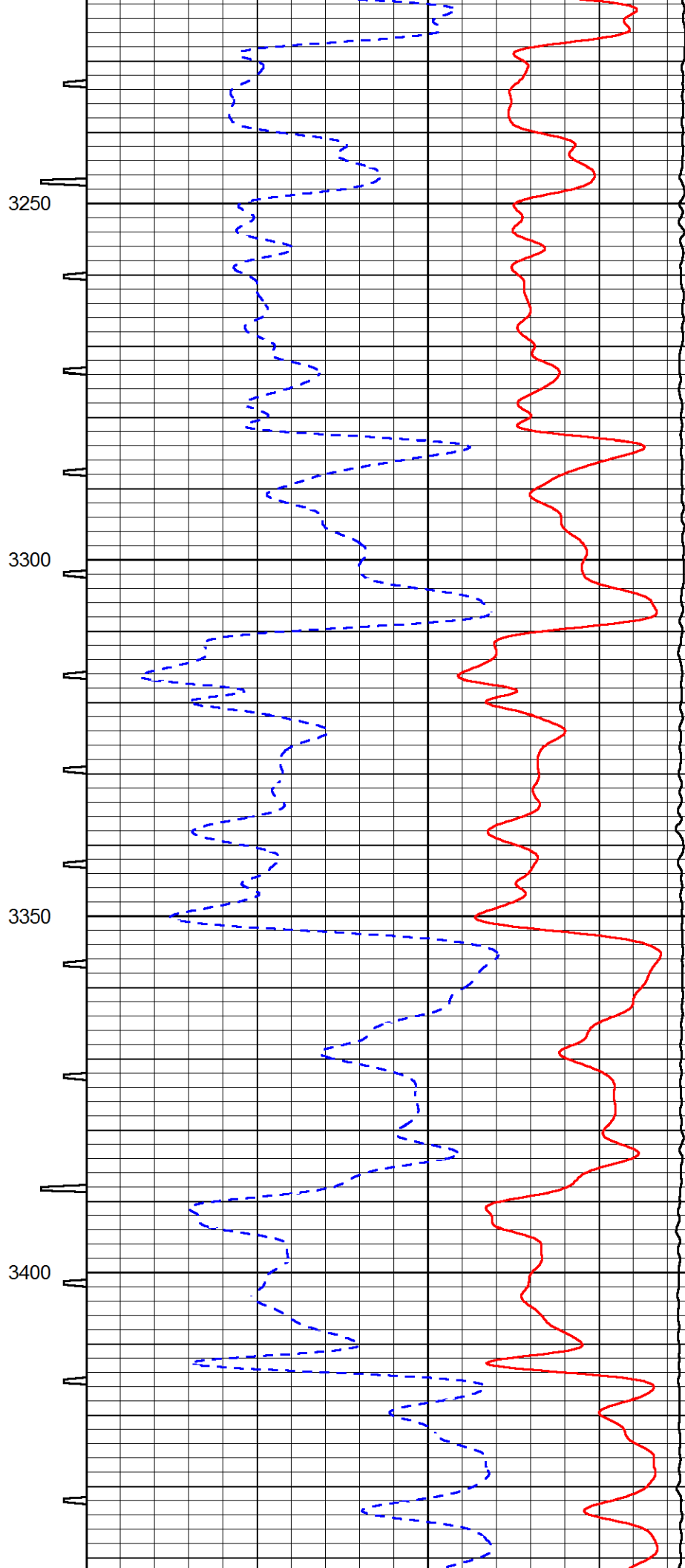
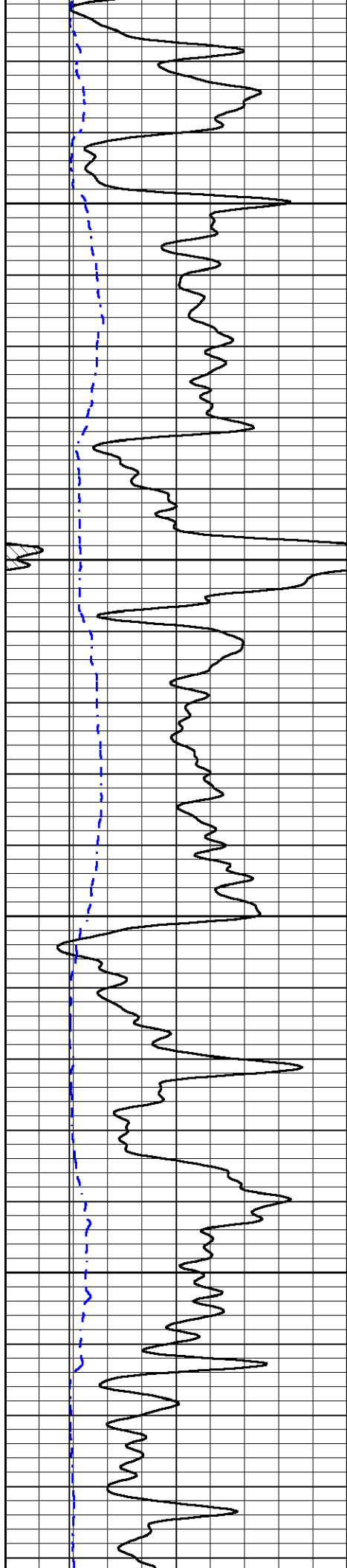


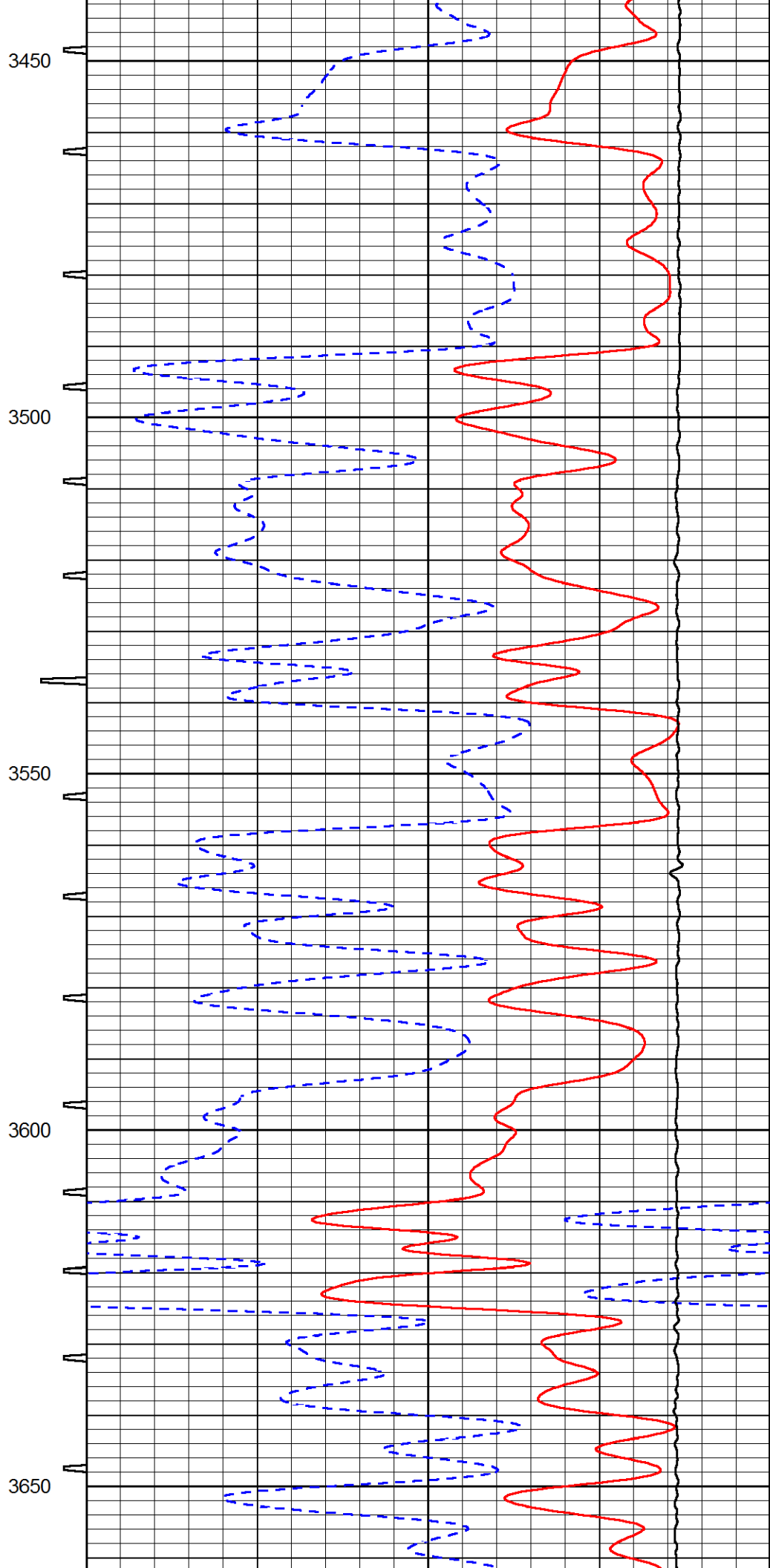
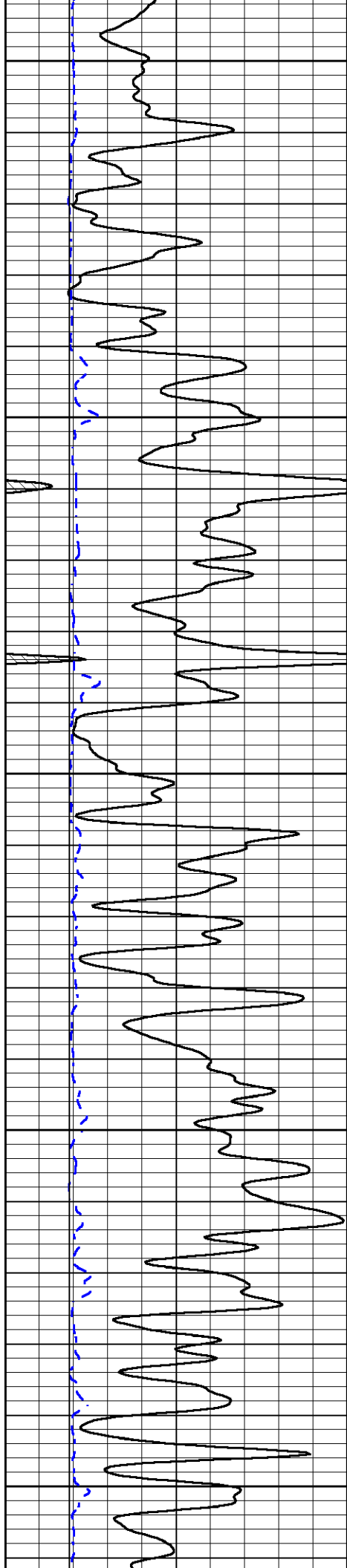


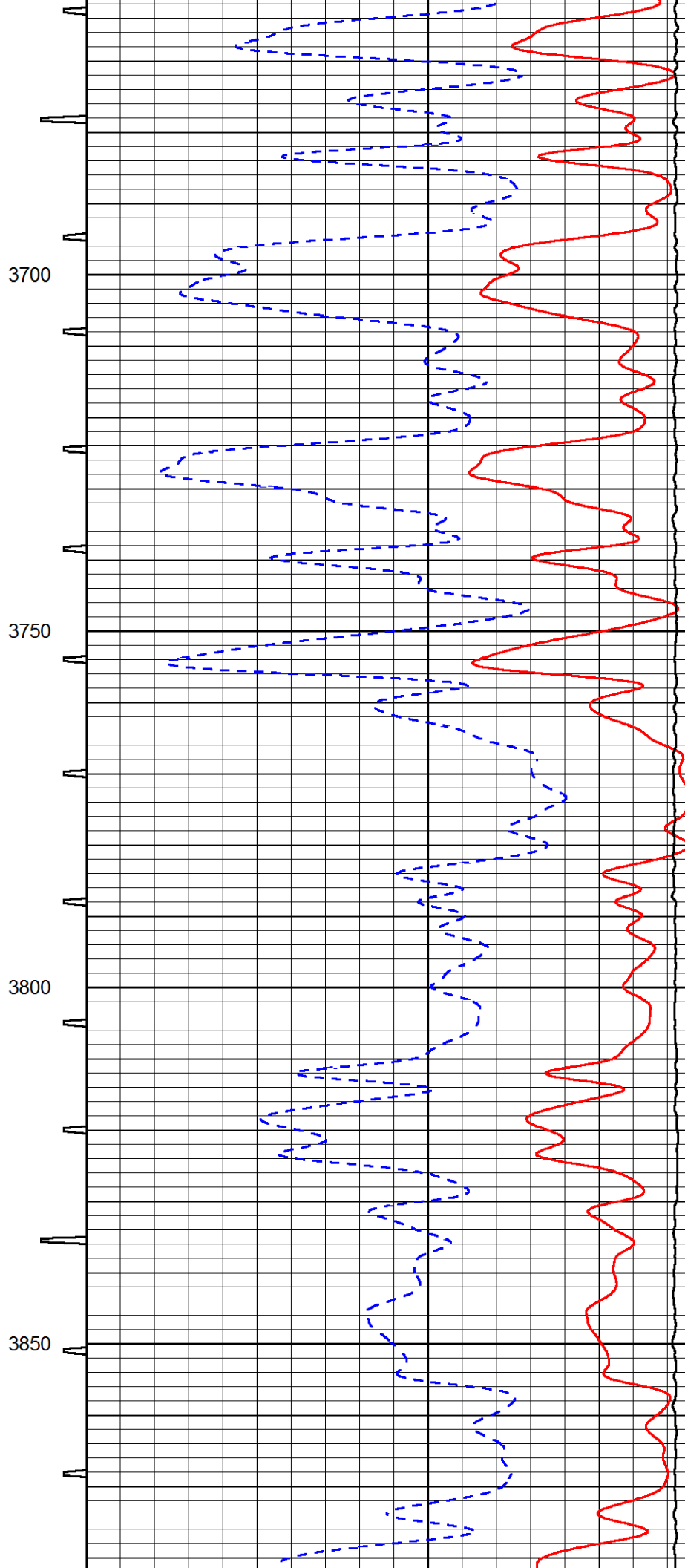
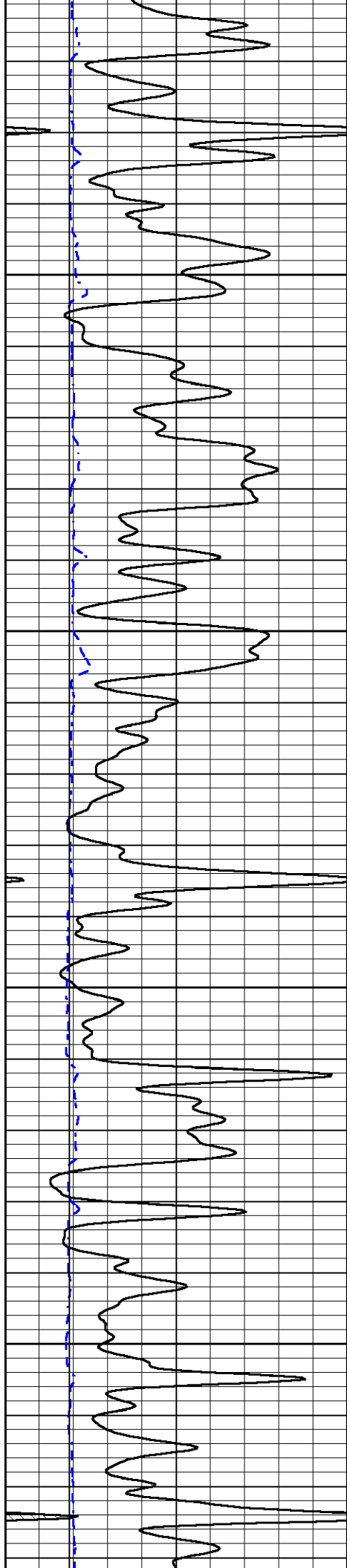


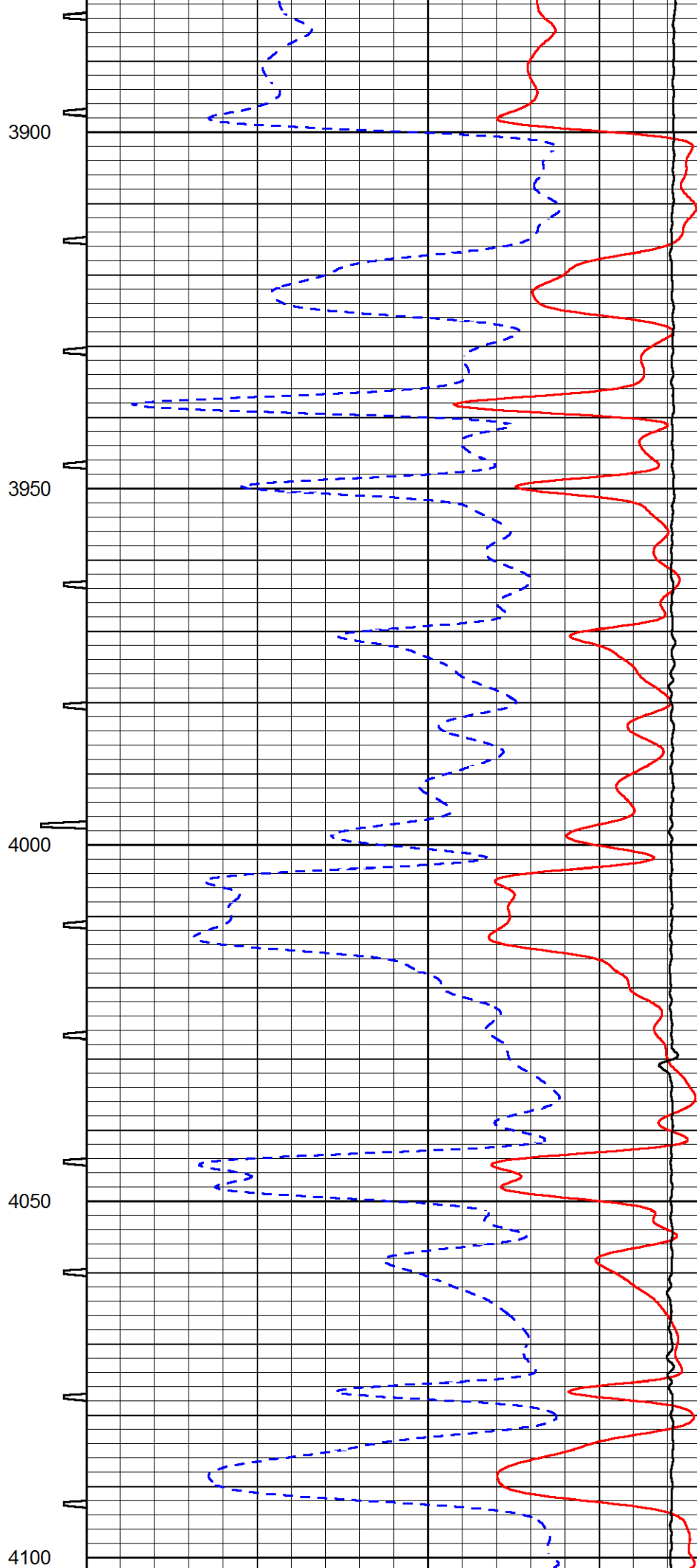
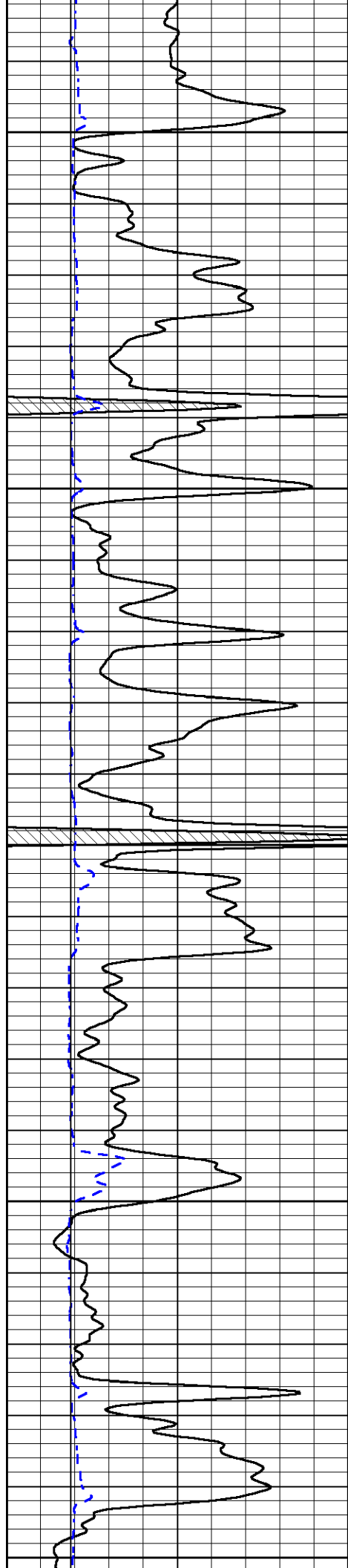


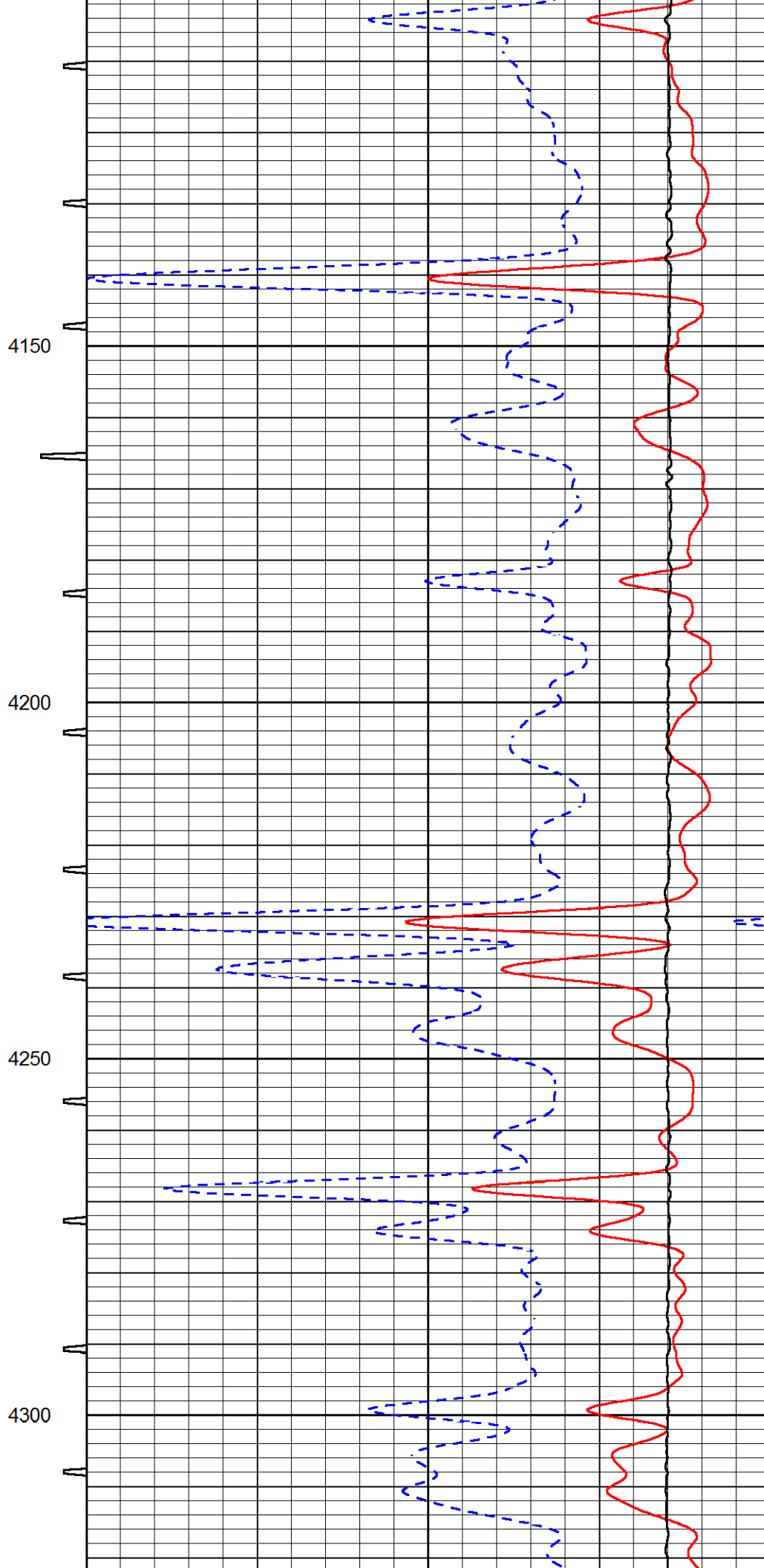
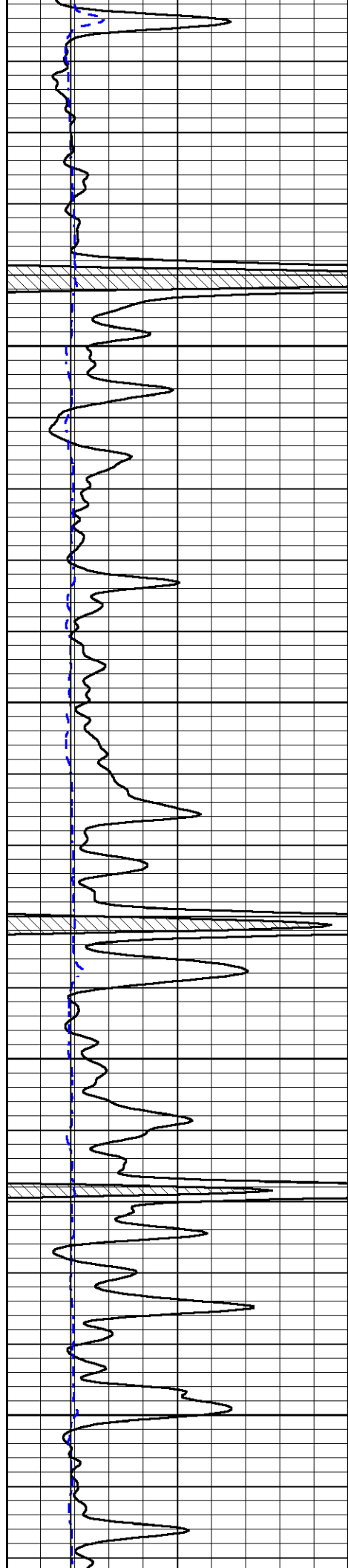


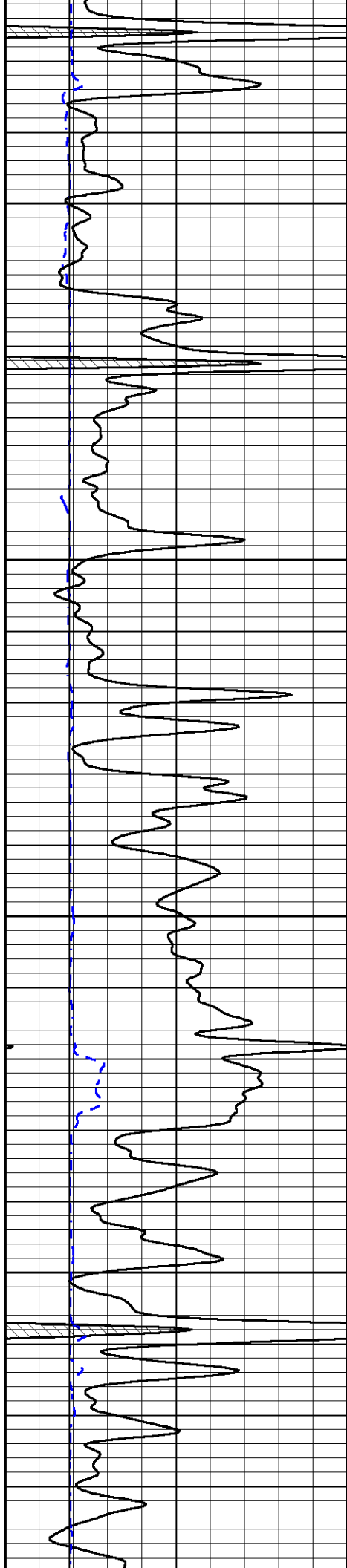










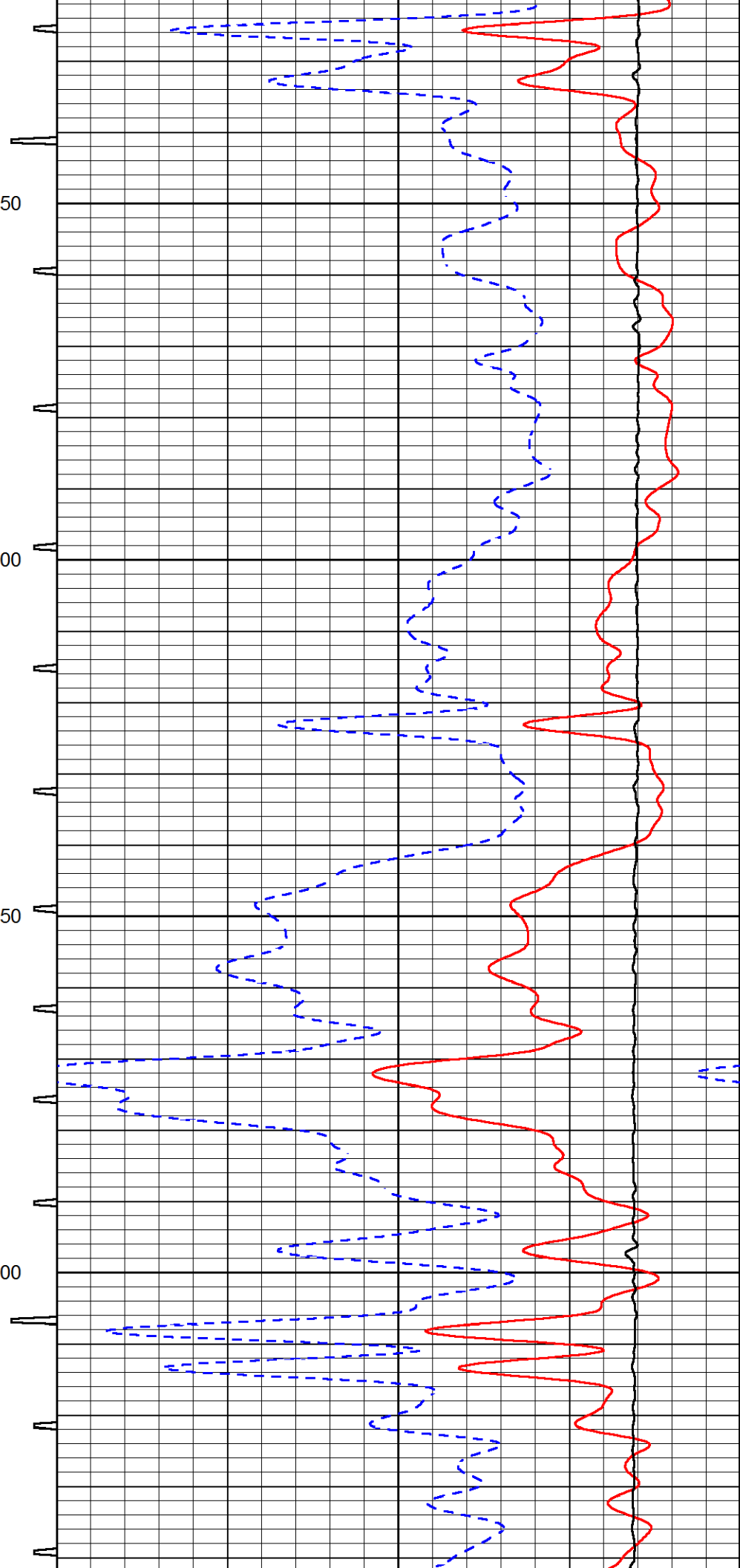


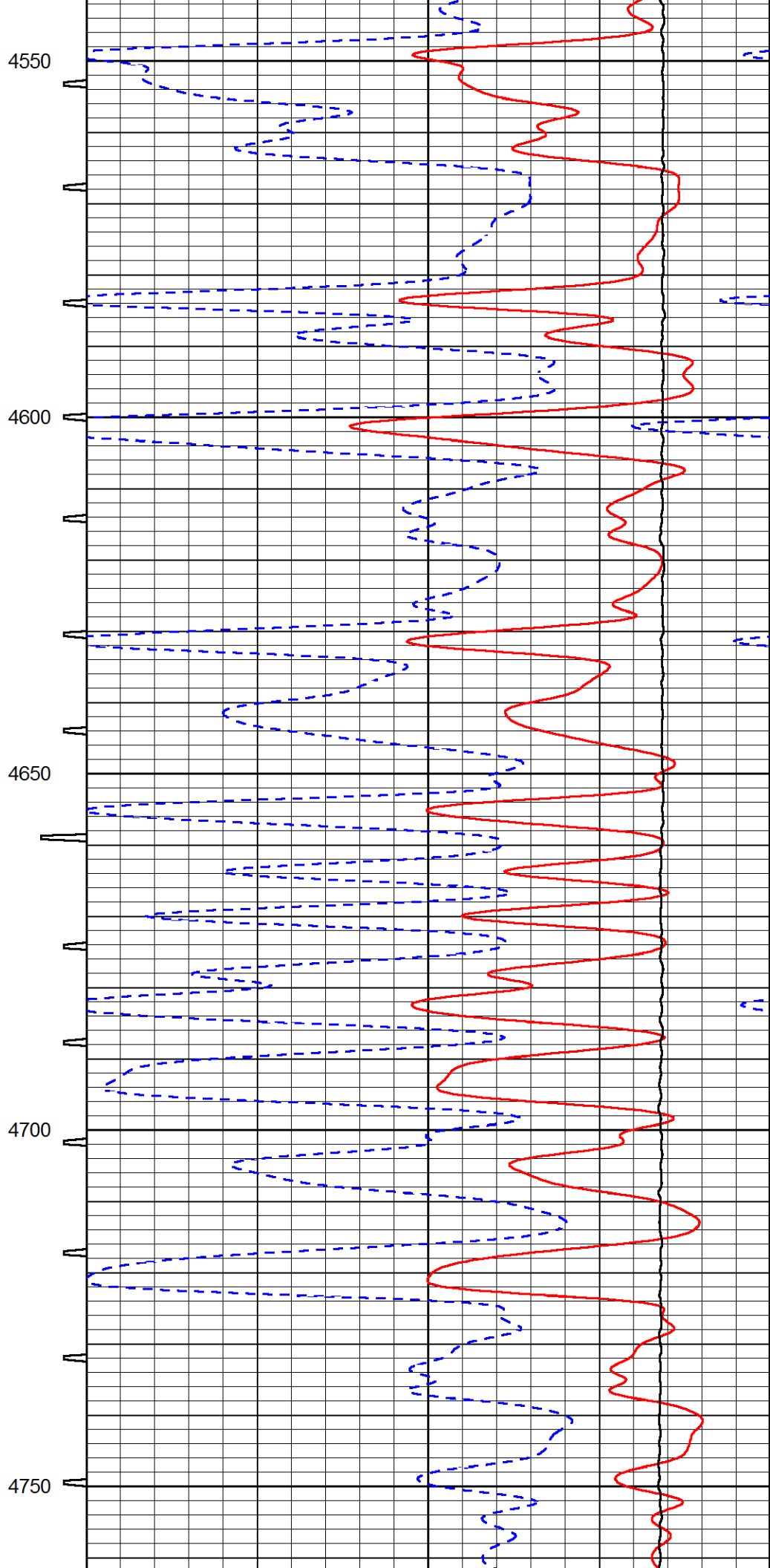
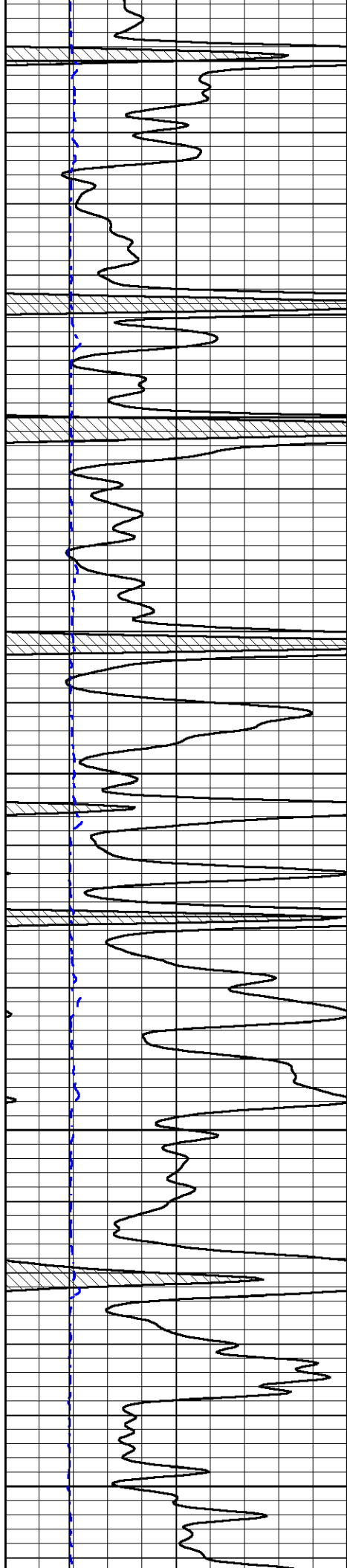
4350

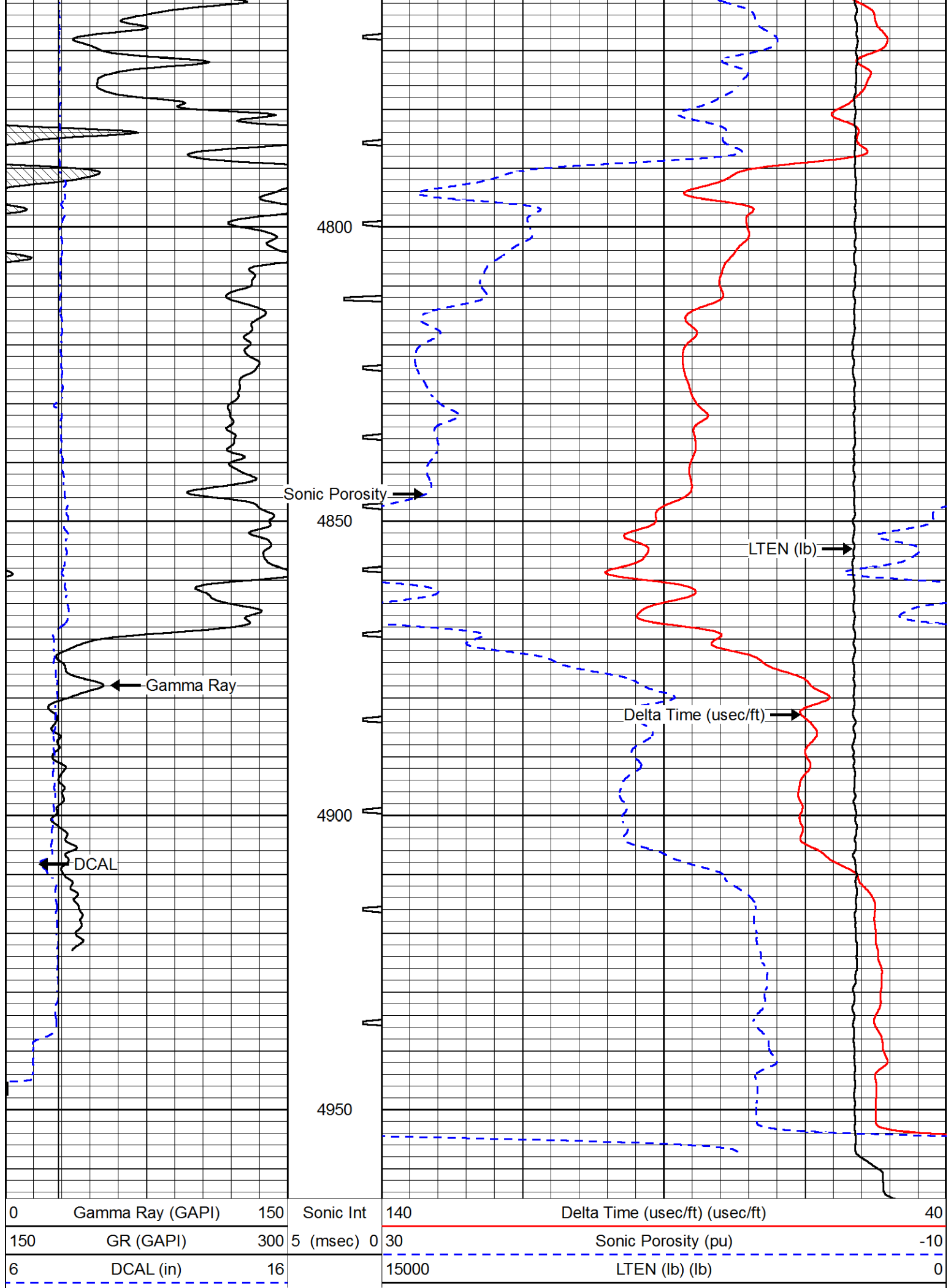
4400

4450

4500







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

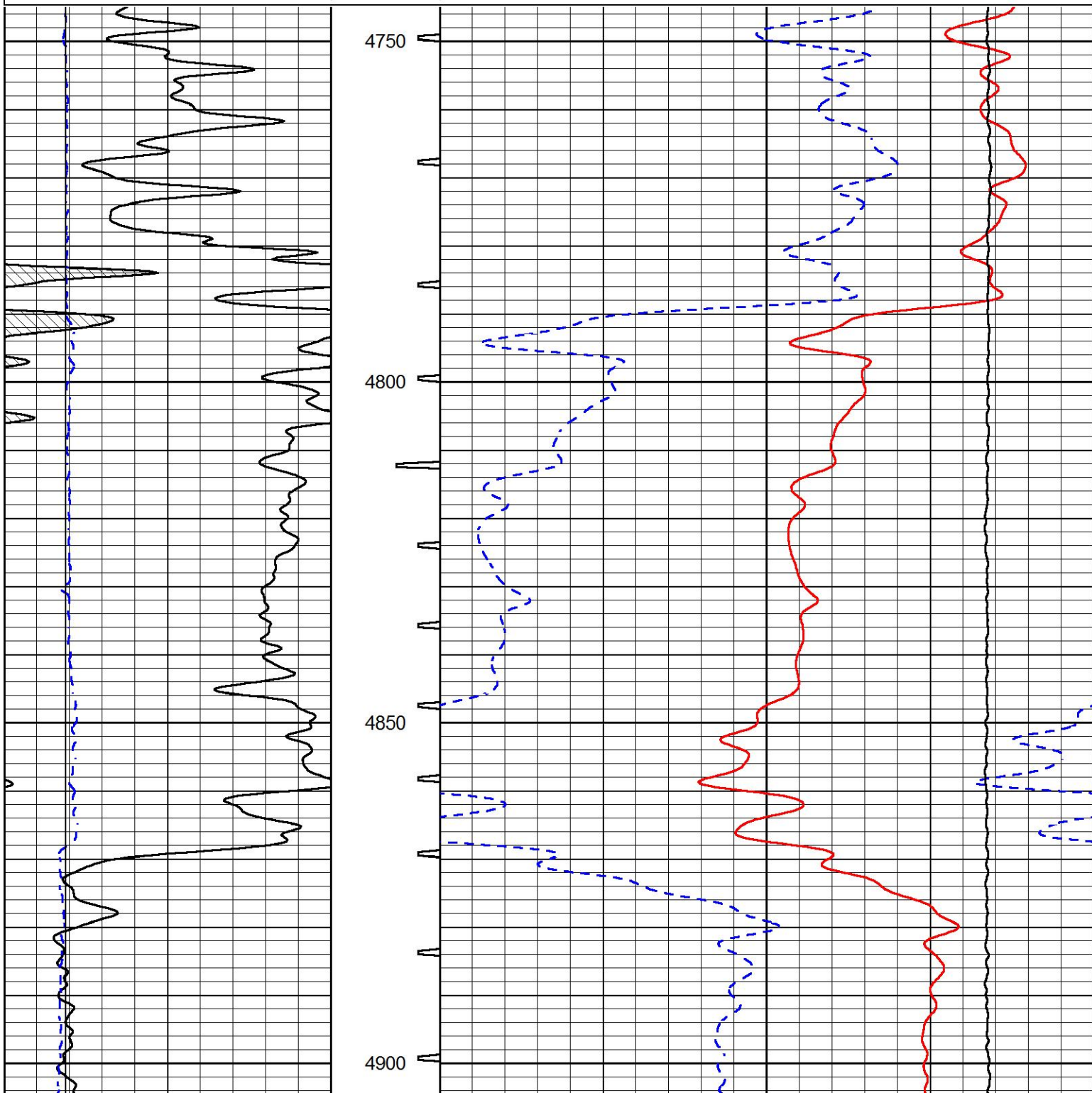


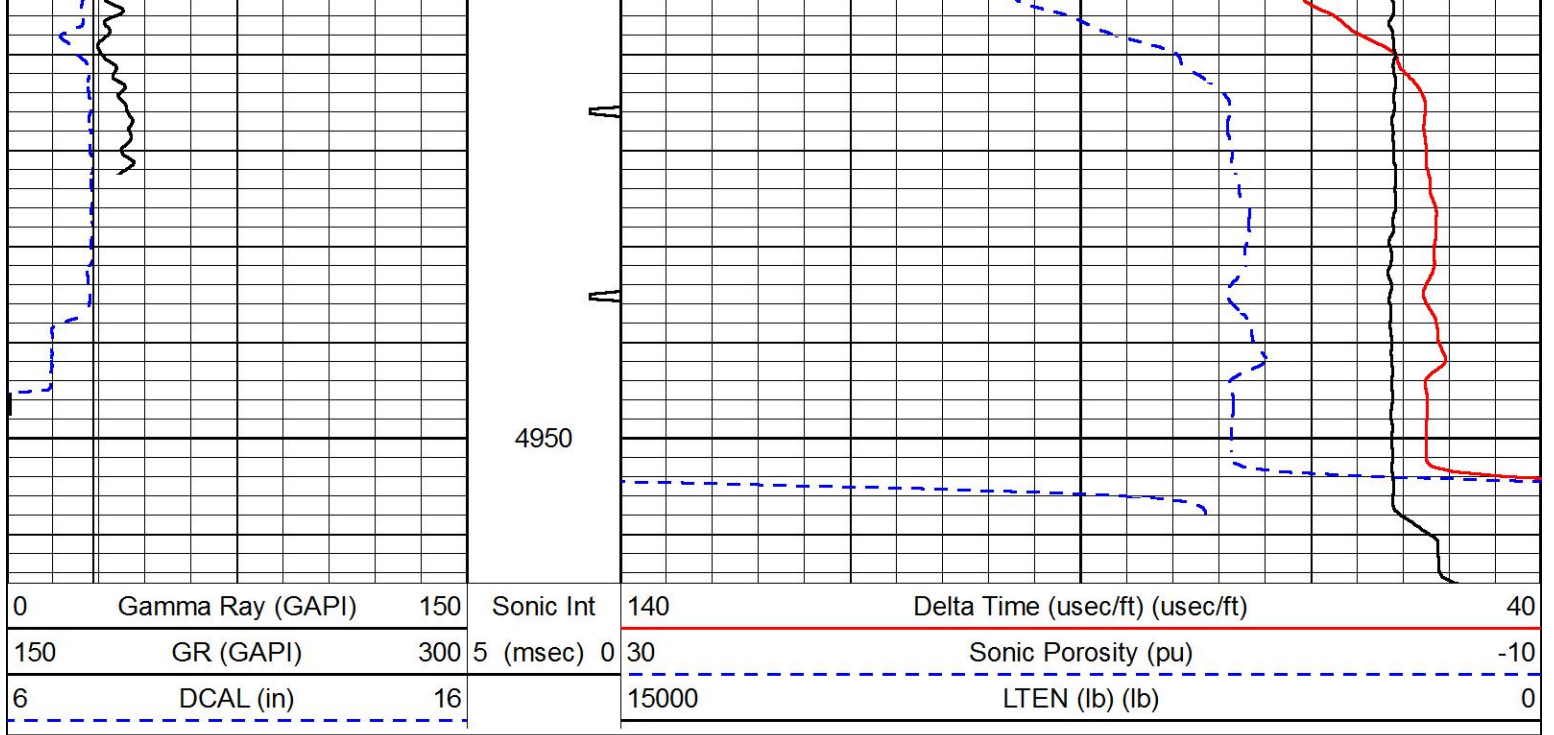


# REPEAT SECTION

Database File      ritchi\_exploration\_whitham-smith\_trust\_1.db  
 Dataset Pathname    stackmel/pass2.1  
 Presentation Format    sonic  
 Dataset Creation      Fri Sep 07 21:25:38 2018  
 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





 <p><b>PIONEER</b> Pioneer Energy Services</p>	Company	RITCHIE EXPLORATION INC.
	Well	WHITHAM-SMITH TRUST #1
	Field	WILDCAT
	County	WICHITA
	State	KANSAS