

BOREHOLE COMPENSATED SONIC LOG

Company **Murfin Drilling Company, Inc.**

Well MJ Unit #1-10

Field

County **Cheyenne** State

Location: API #: 15-023-21582-00-00

830 FSL & 200 FVL

SEC 10 TWP 3S RGE 39W

Log Measured From Kelly Bushing

Drilling Measured From	Kelly Bushing	Drill G.L.	3419
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	9/29/2022
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	BHCS

	5187

300	
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009	7
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	Full
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e	6 Hours
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	D. Schmid
--	-----------

Whole Record	
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0	301
---	-----

1000

[illegible][illegible][illegible]

1

<<< Fold Here >>>

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

Wheeler,
2 East, 5 North

Log Measured From: Kelly Bushing 5 Ft. Above Permanent Datum

THANK YOU FOR USING MIDWEST WIRELINE LLC
785-625-3858

Your Midwest Wireline Crew

This Log Record Was Witnessed By

Engineer: D. Schmidt

Primary Witness: Marc Summervill

Operator:

Secondary Witness:

Operator:

Secondary Witness:

Operator:

Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\murfin_mj unit 1-10.db
Dataset field/well/stkml/pass4.1/_vars_

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in	degF	in	in	g/cc	2	g/cc
	7.875	128	5.5	0	1		2.71
NPORSEL	PERFS	SNDERR	SNDERRM	SPSHIFT	SRFTEMP	SZCOR	TDEPTH
Limestone	0	mmho/m	mmho/m	mV	degF	Off	ft
		0	0	350	90		5187

Variable Description

A : Cement Factor (a)
BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
FLUIDDEN : Fluid Density
M : Cement Exp (m)
MATRXDEN : Matrix Density

NPORSEL : Neutron Porosity Curve Select
PERFS : Perforation Flag
SNDERR : Deep Sonde Error Correction
SNDERRM : Medium Sonde Error Correction
SPSHIFT : S.P. Baseline Offset
SRFTEMP : Surface Temperature
SZCOR : CN Size Cor. ?
TDEPTH : Total Depth



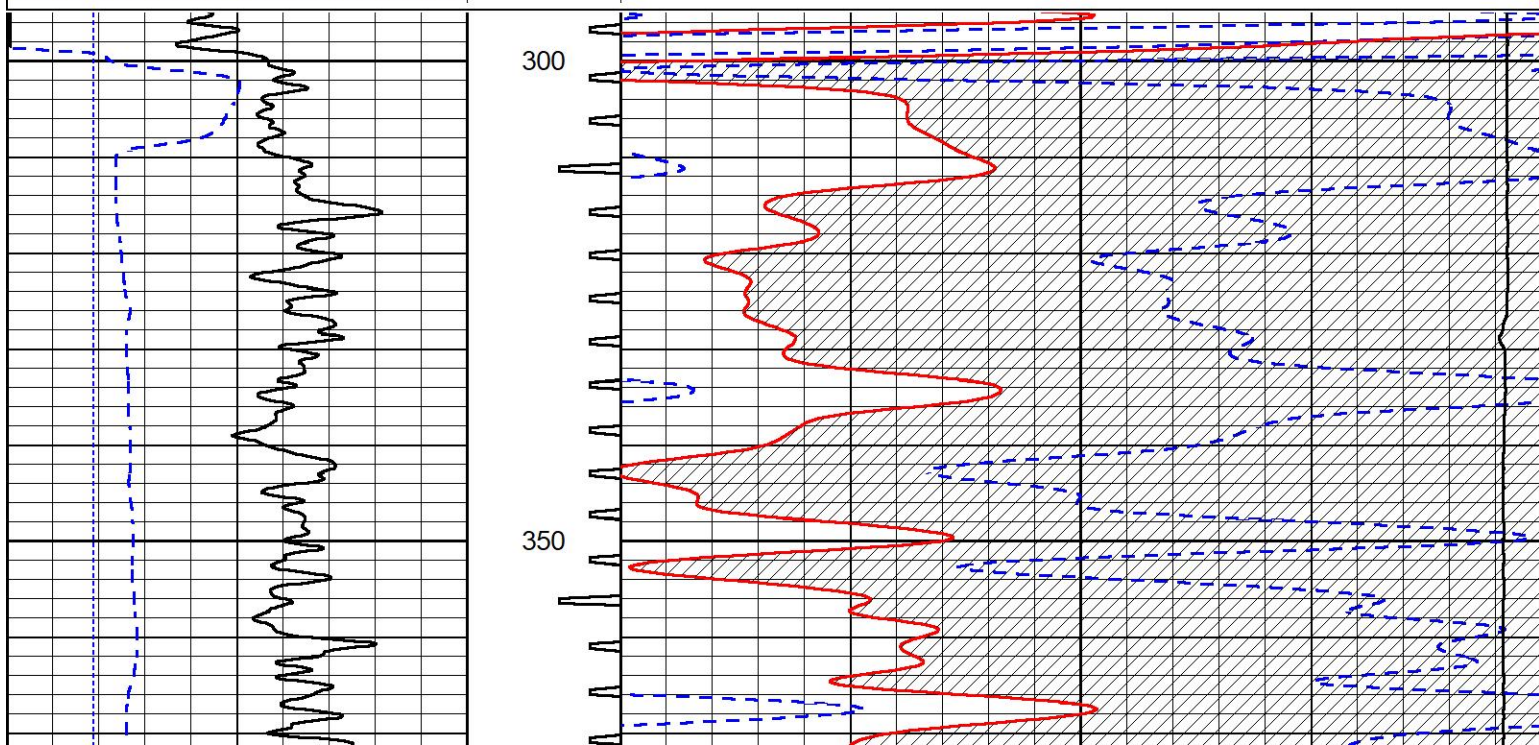
MIDWEST WIRELINE

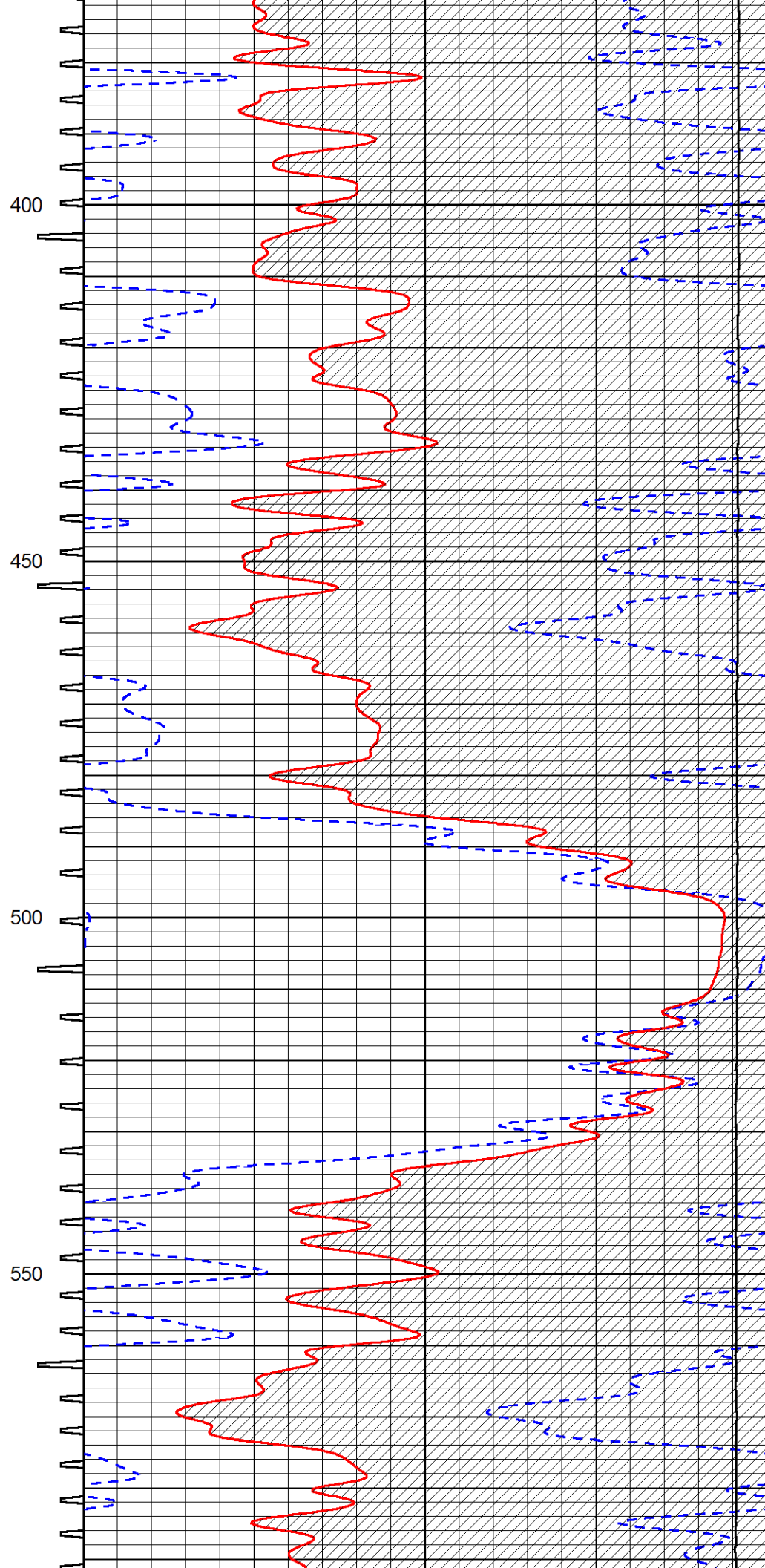
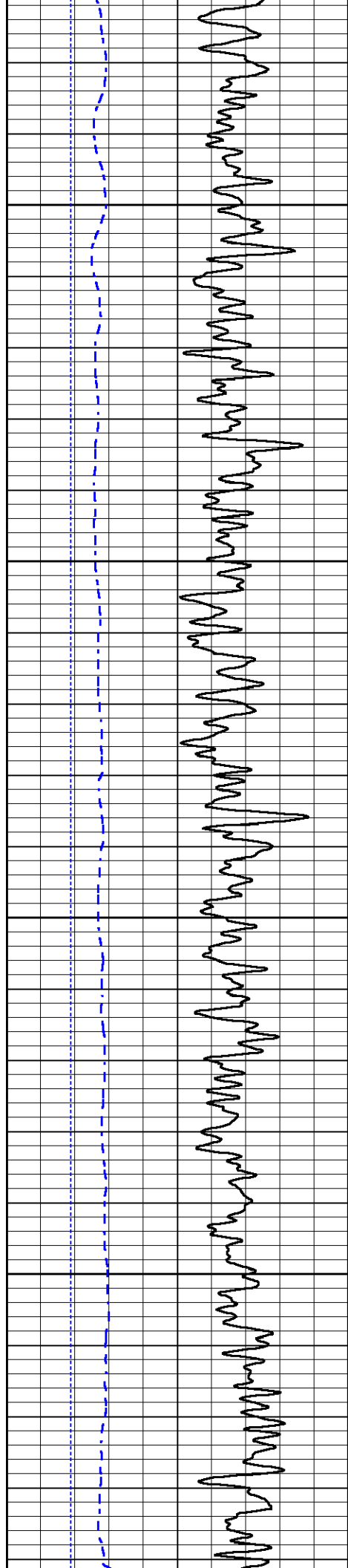
DETAIL SECTION

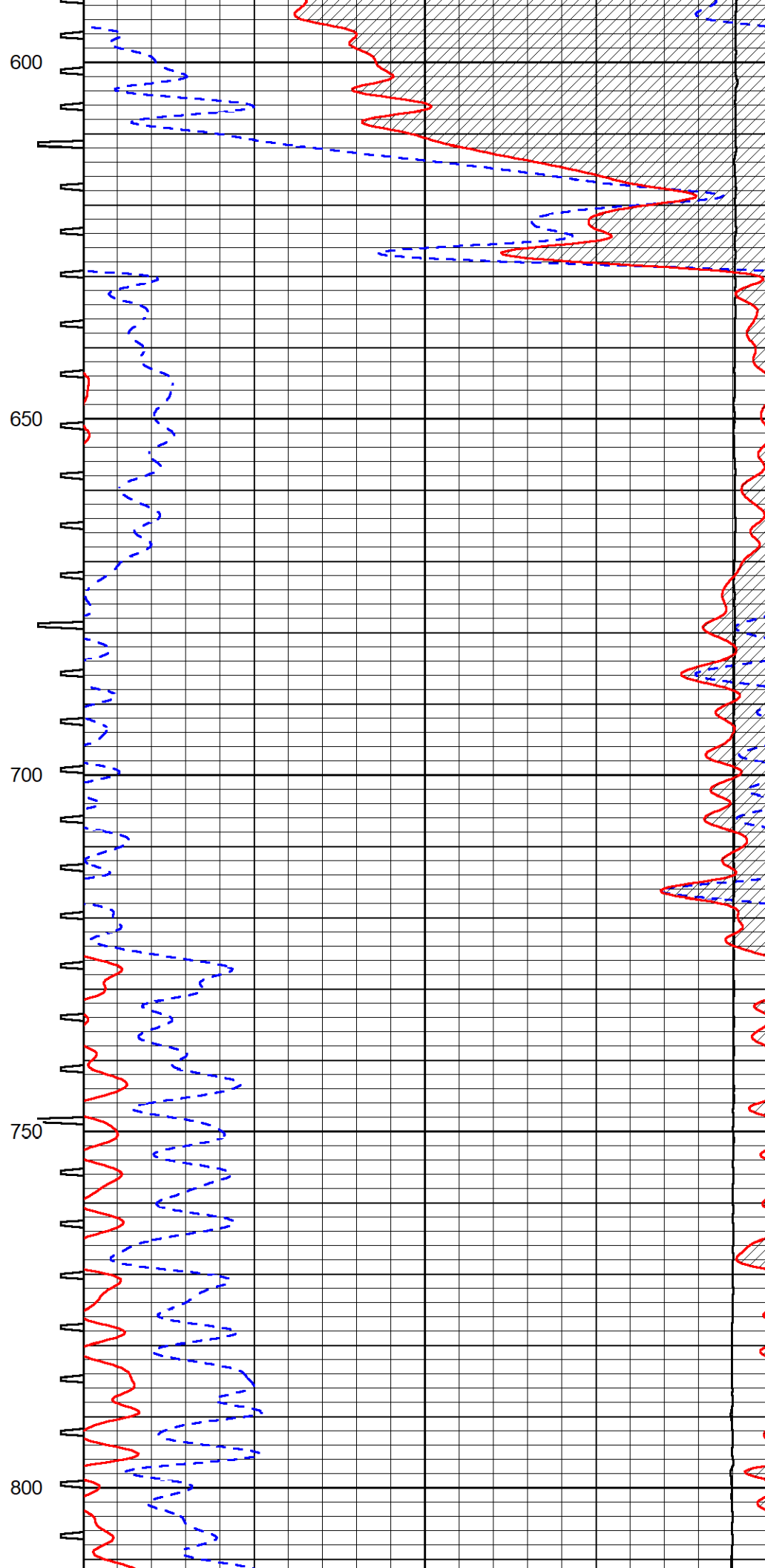
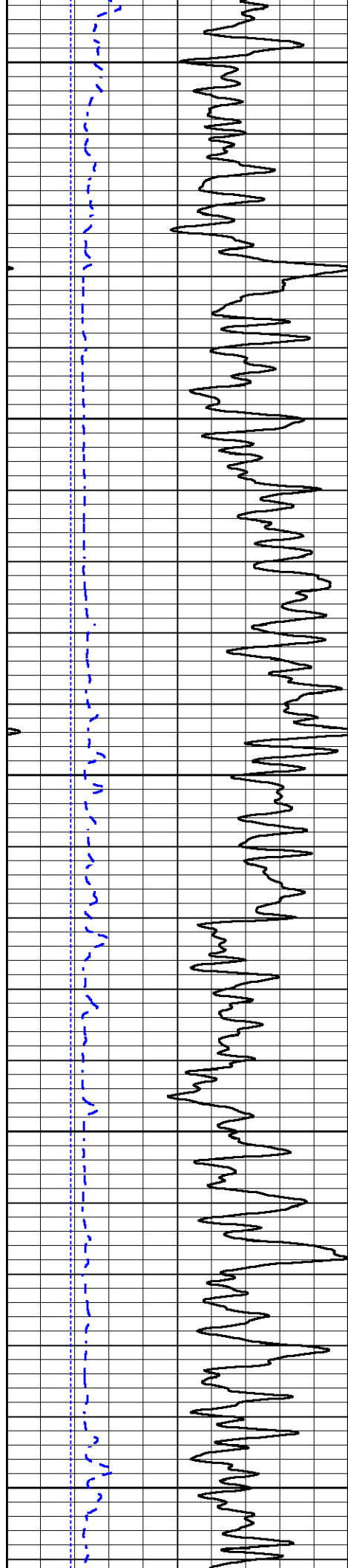
MAIN PASS

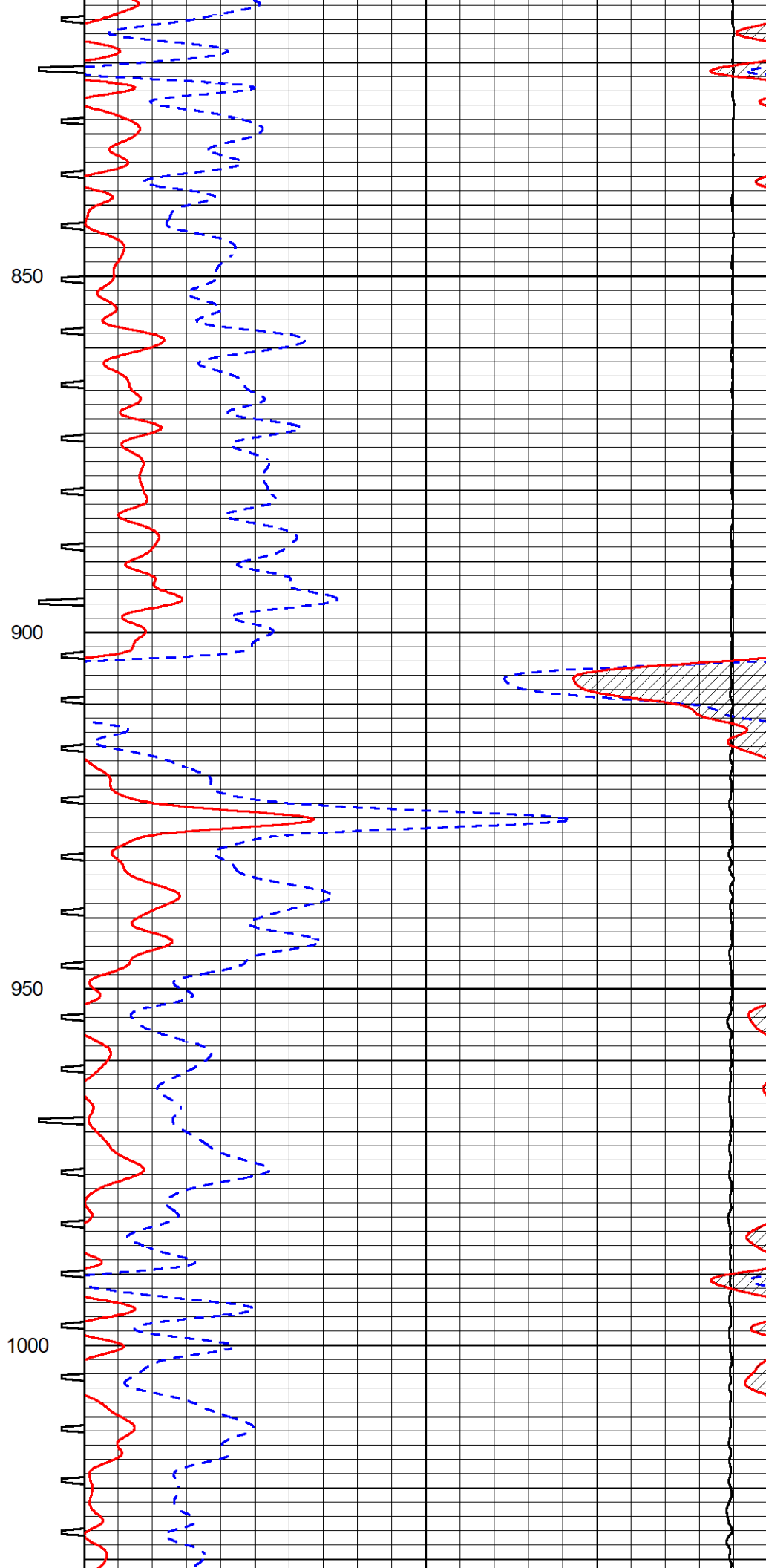
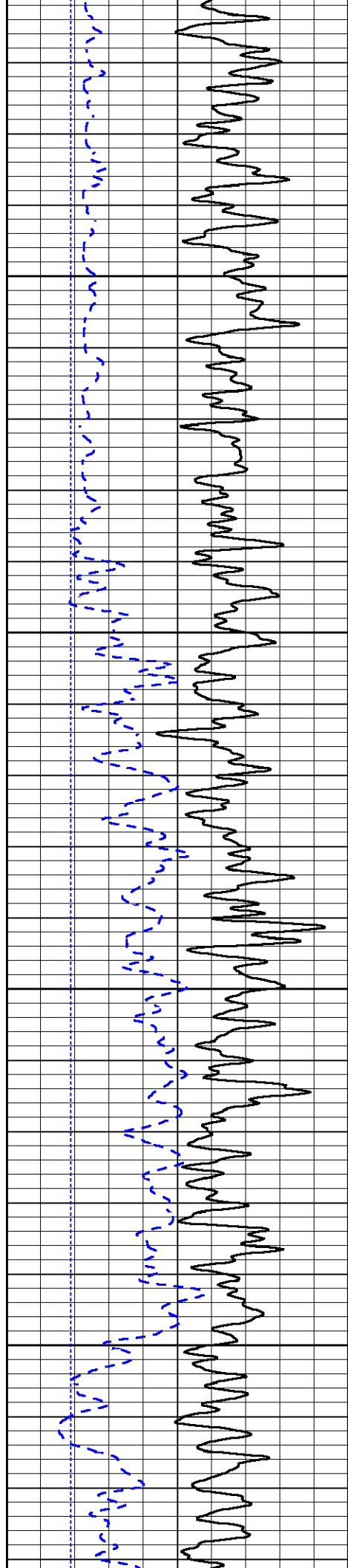
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Dataset Pathname stkml/pass4.4
Presentation Format _sonic
Dataset Creation Thu Sep 29 20:46:39 2022
Charted by Depth in Feet scaled 1:240

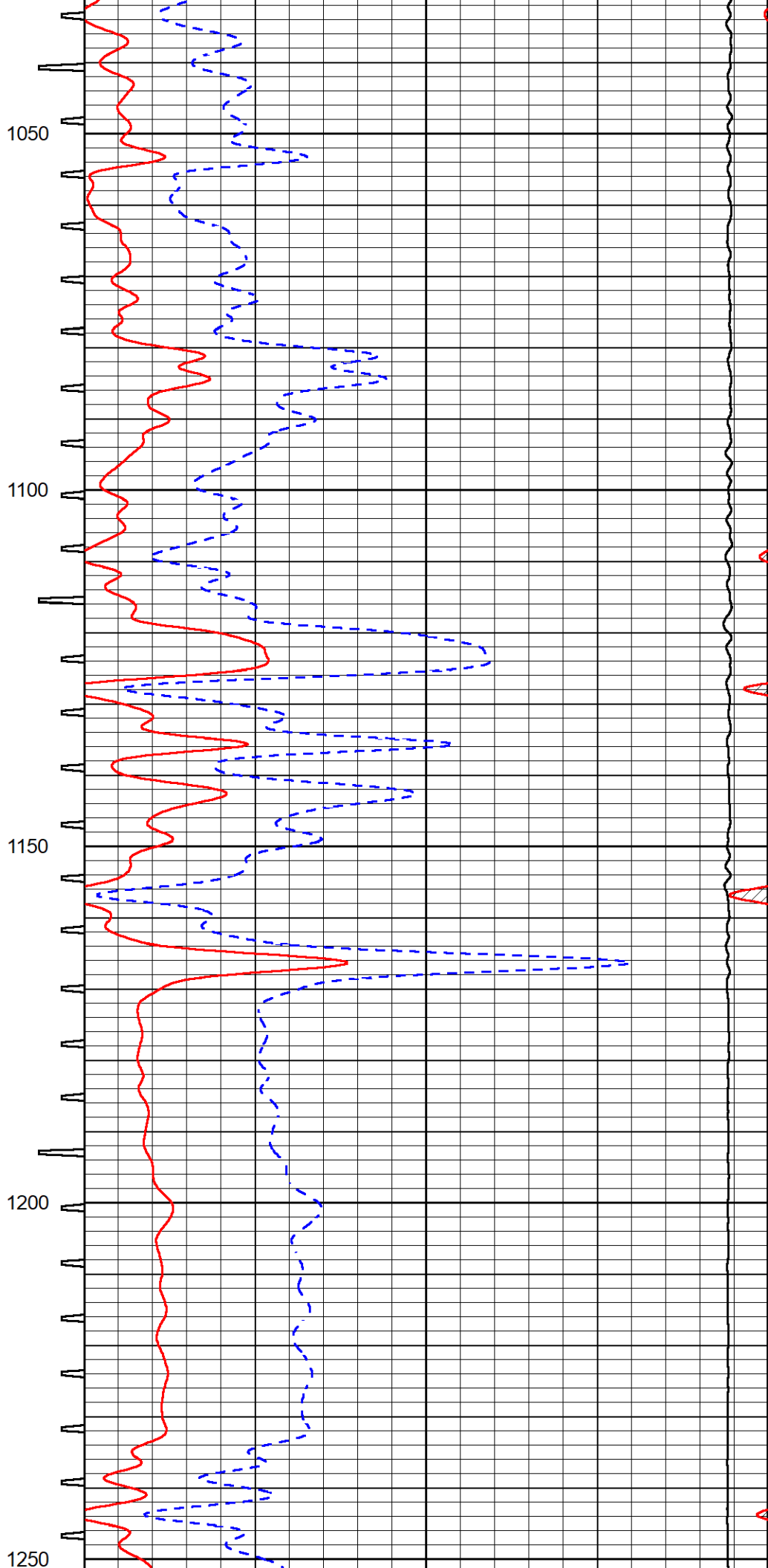
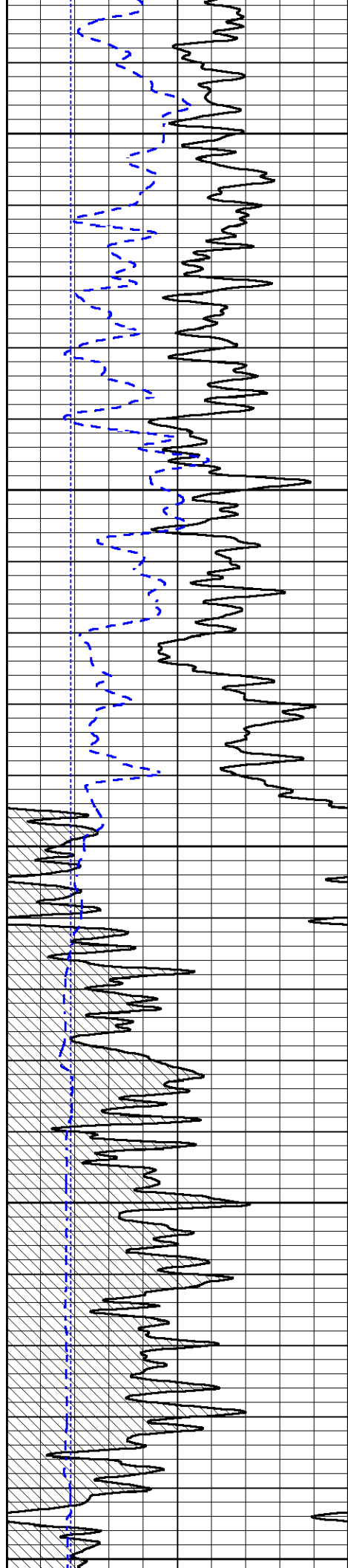
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150	GR (GAPI)	300	5 (msec) 0	30	Sonic Porosity (pu) (pu)	-10
6	Caliper (in)	16		15000	Line Tension (lb)	0

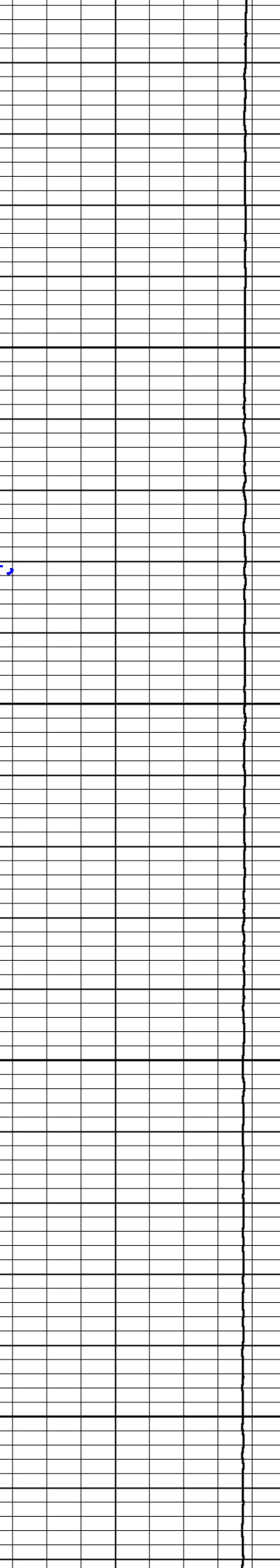
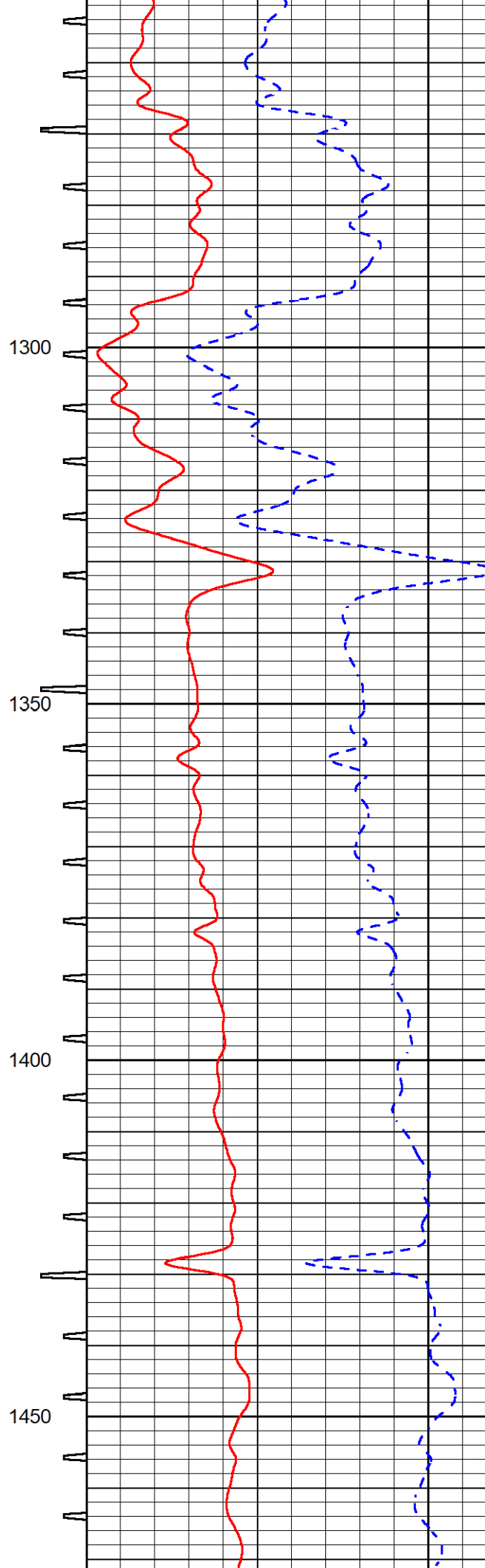
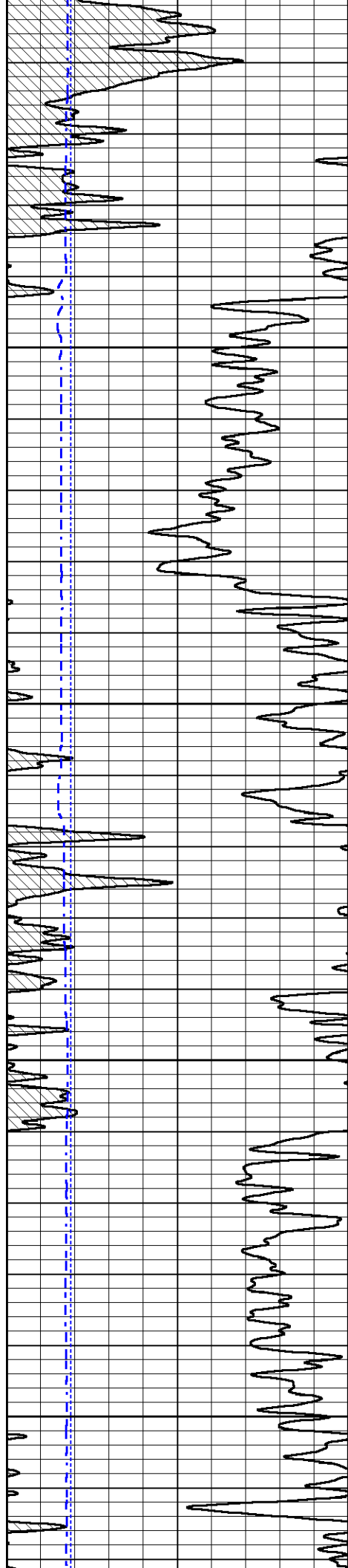


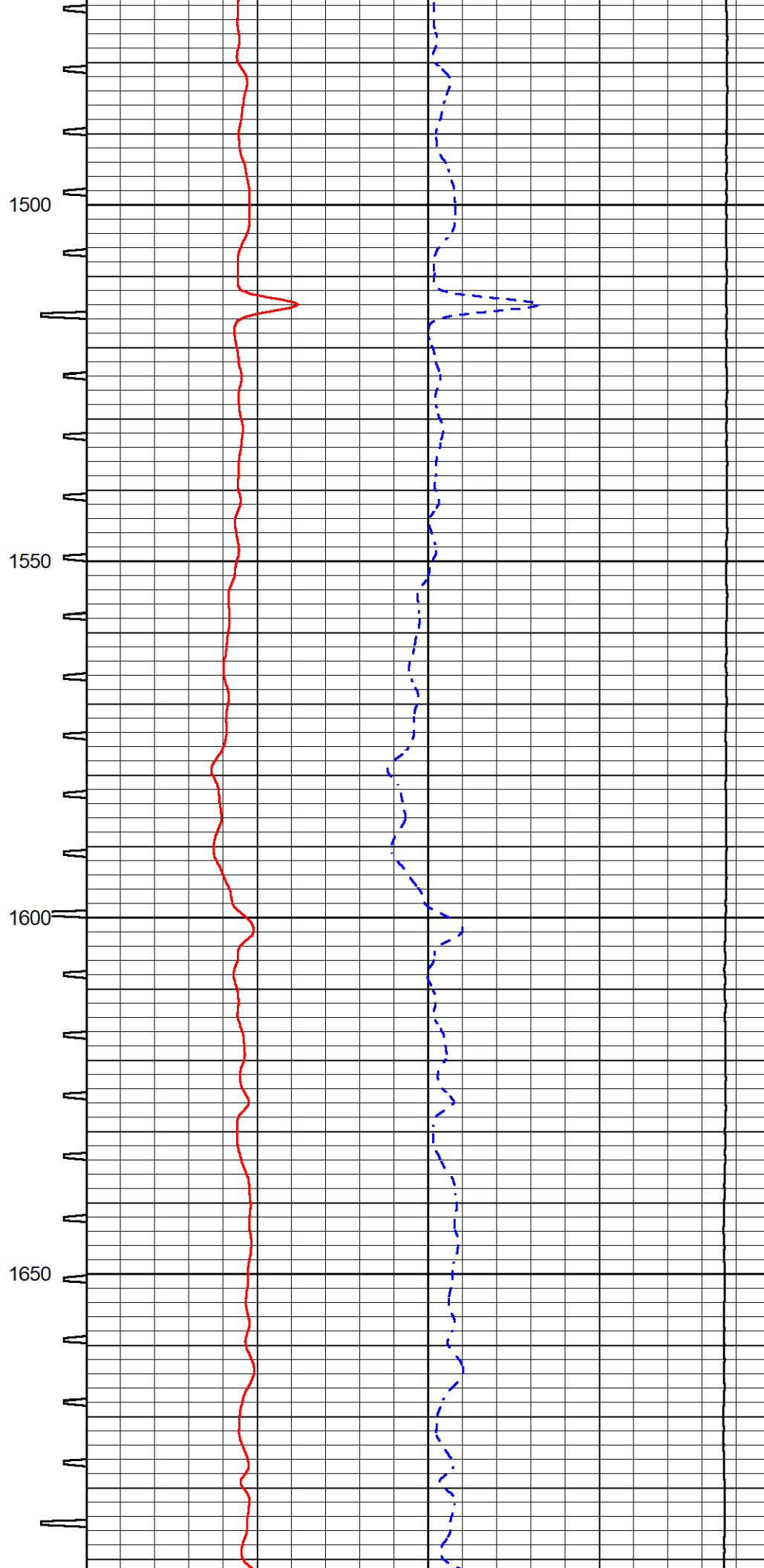
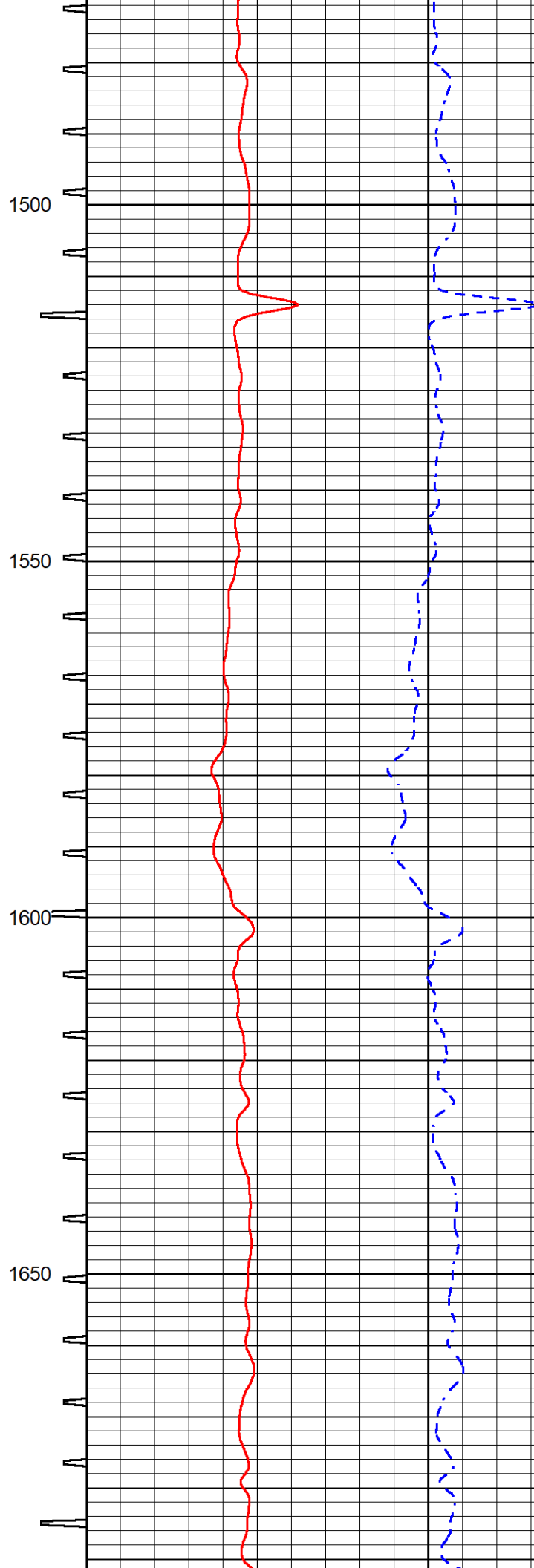
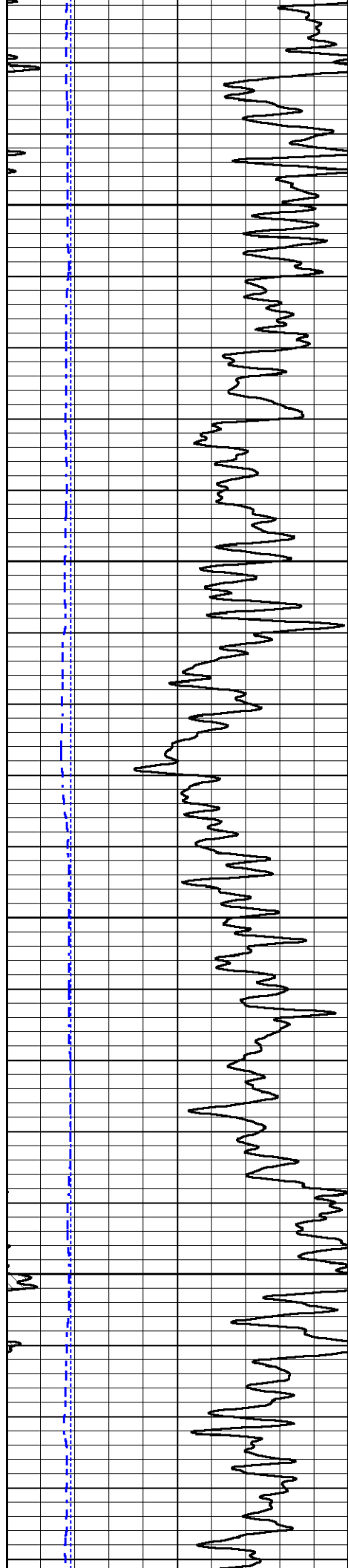


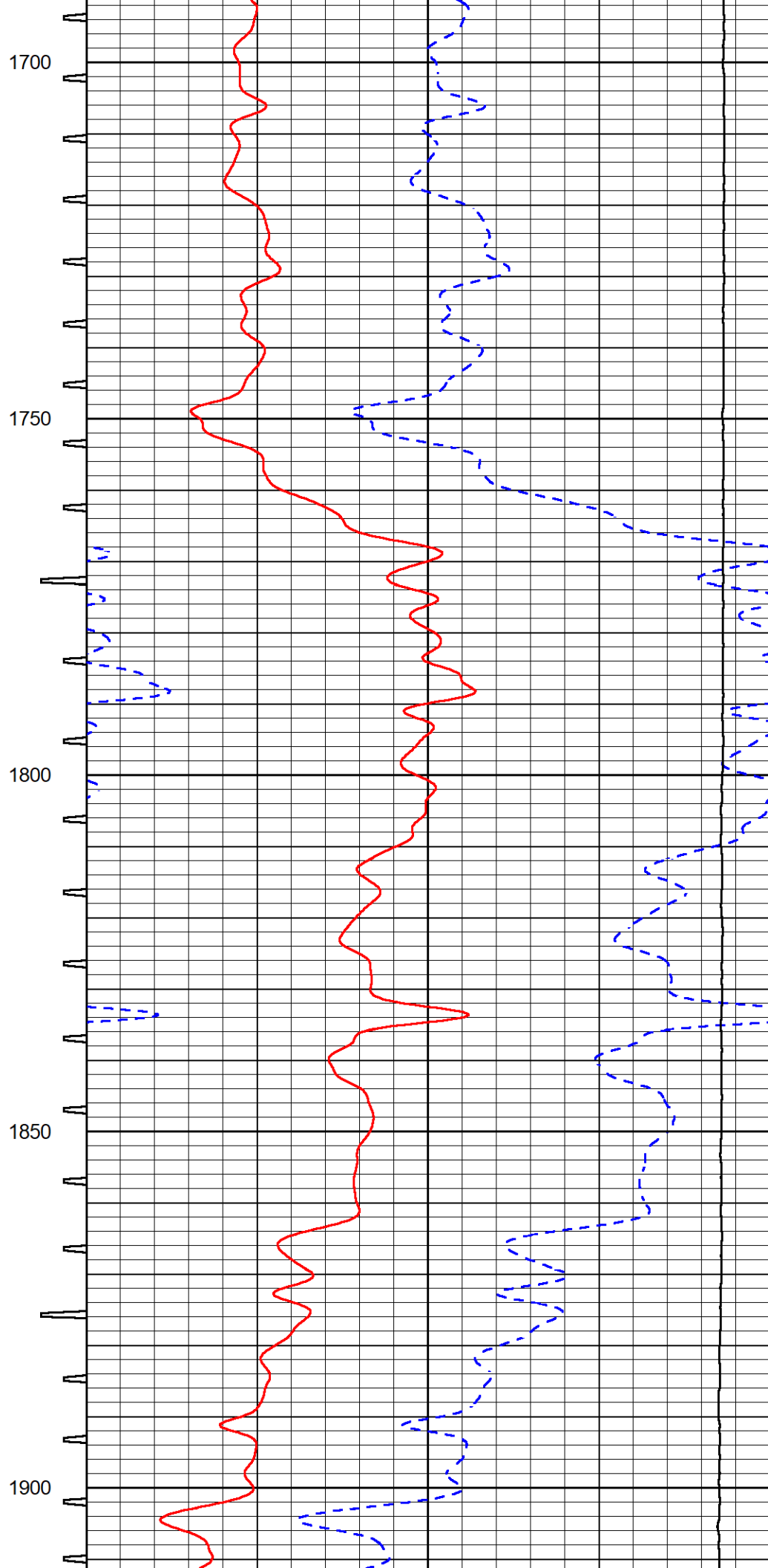
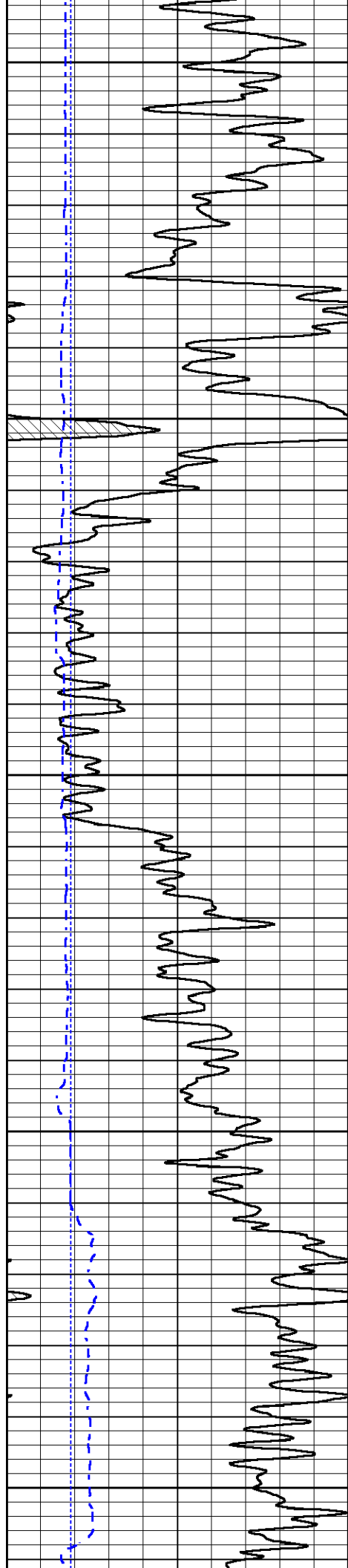


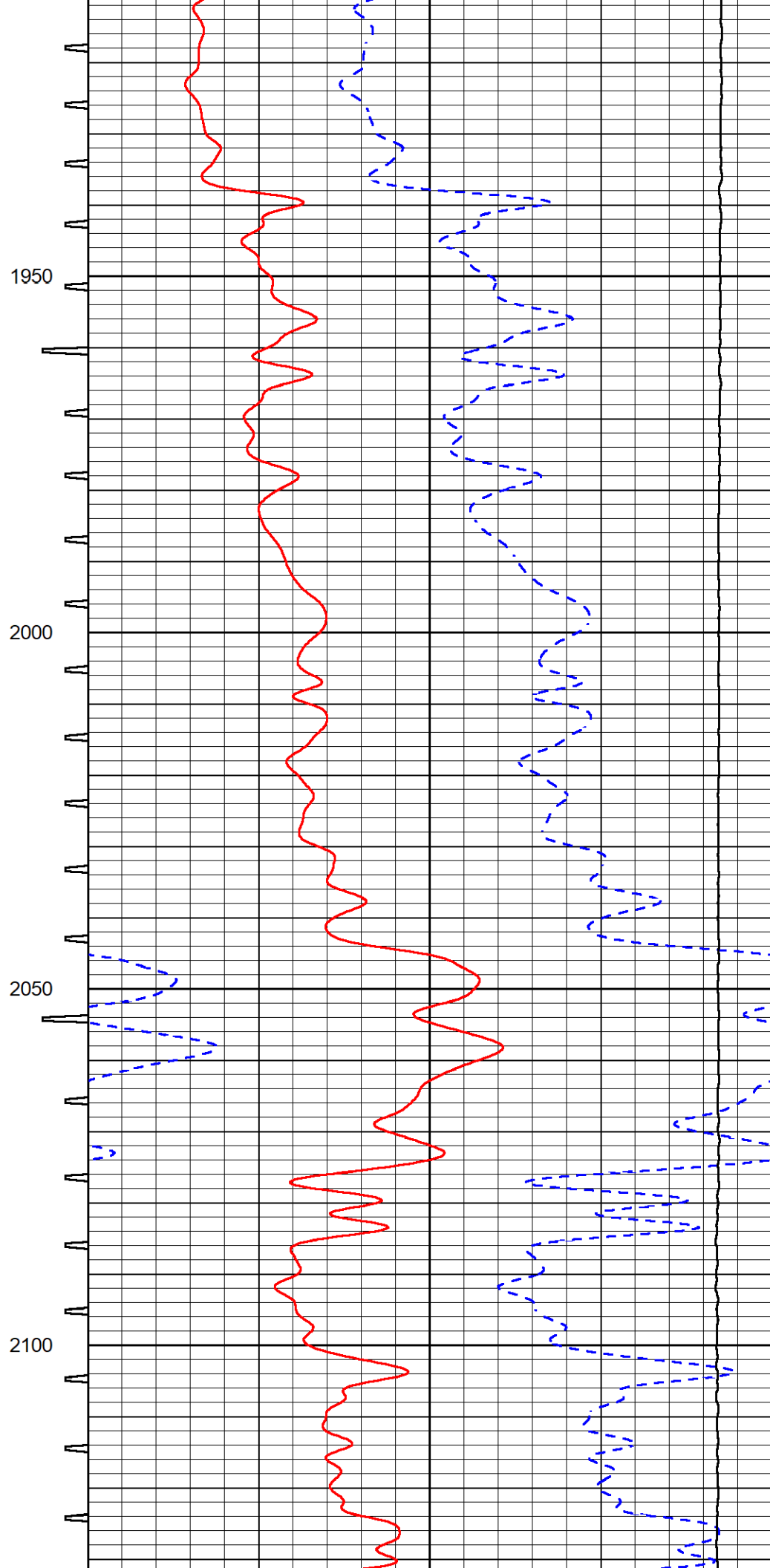
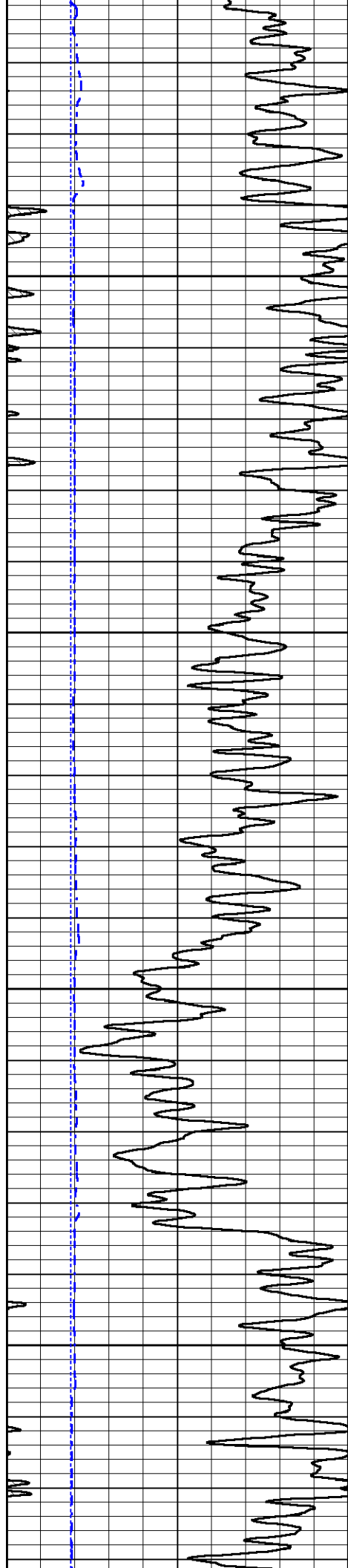


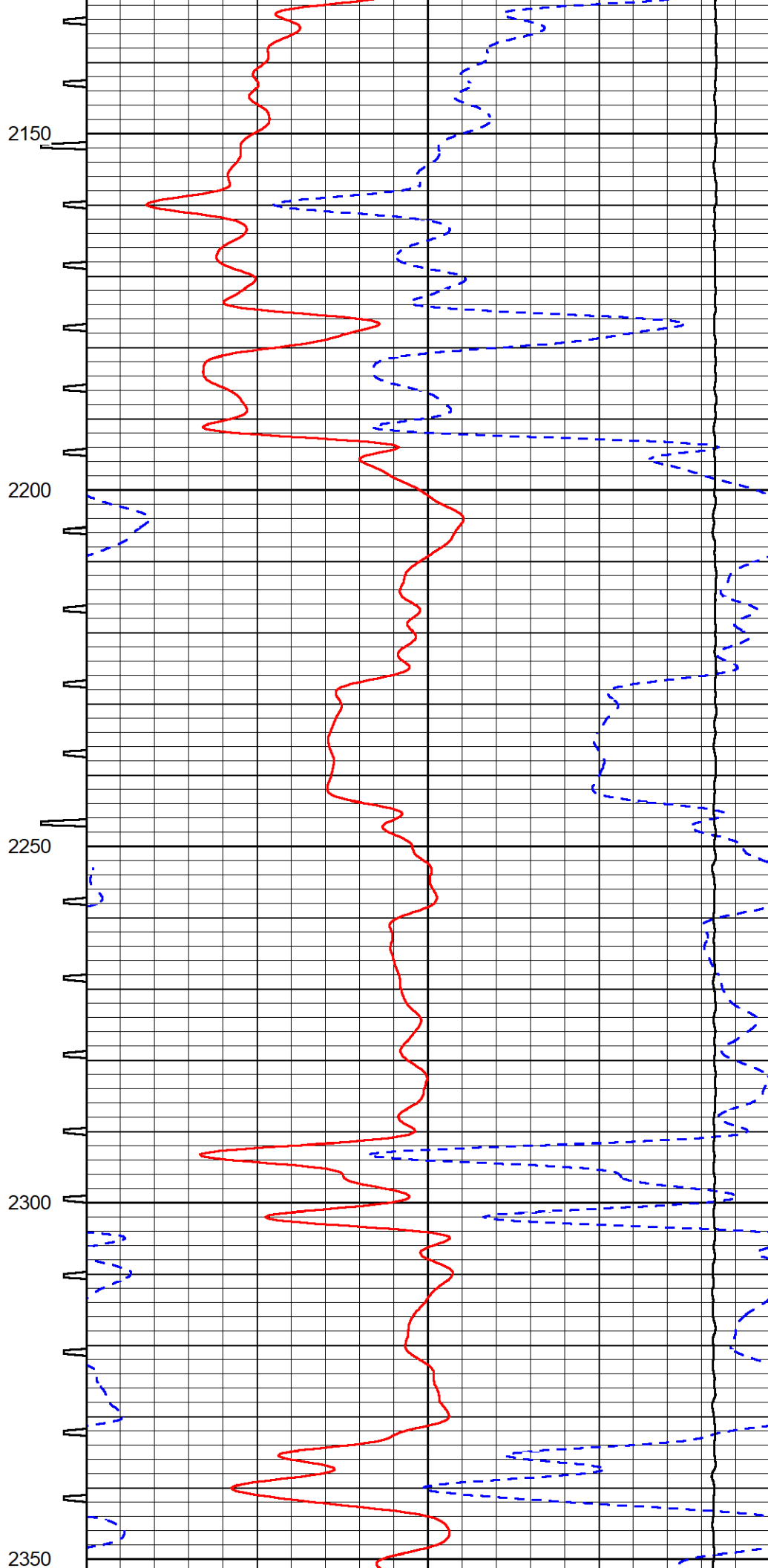
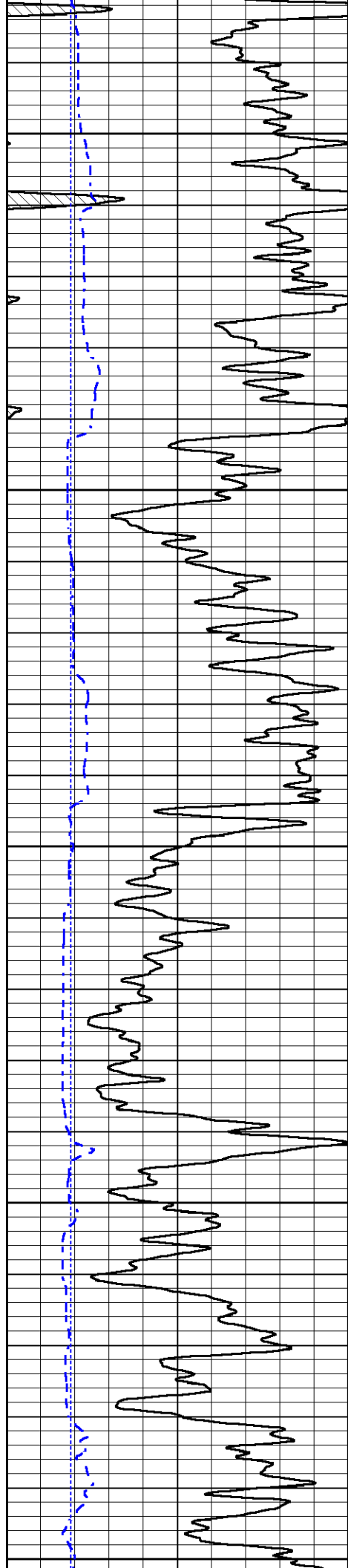


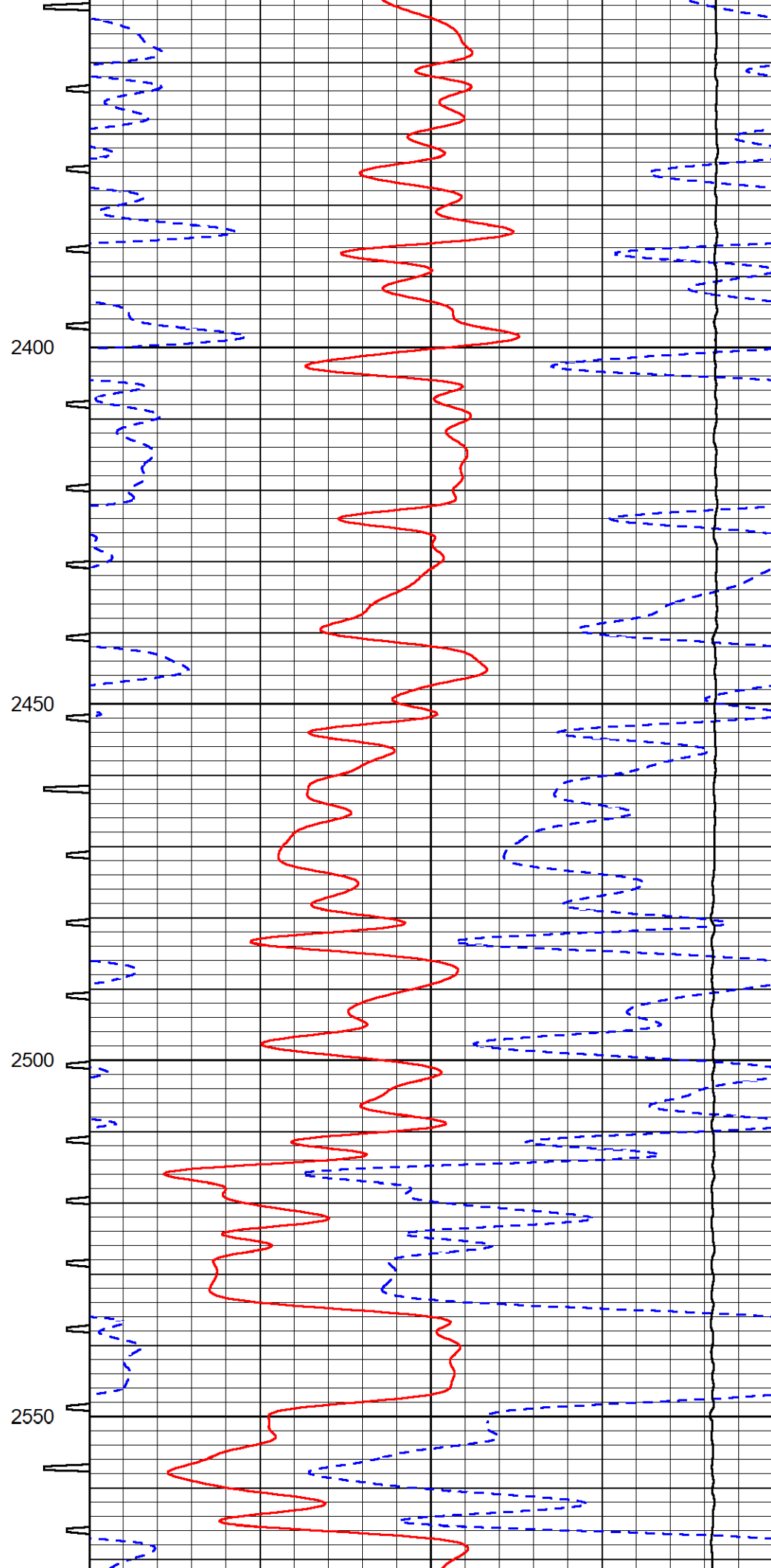
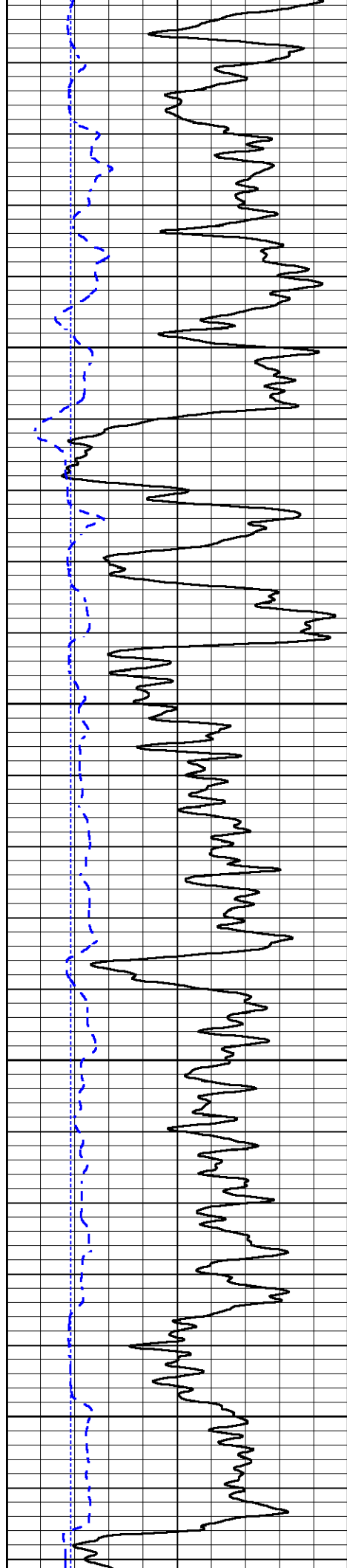


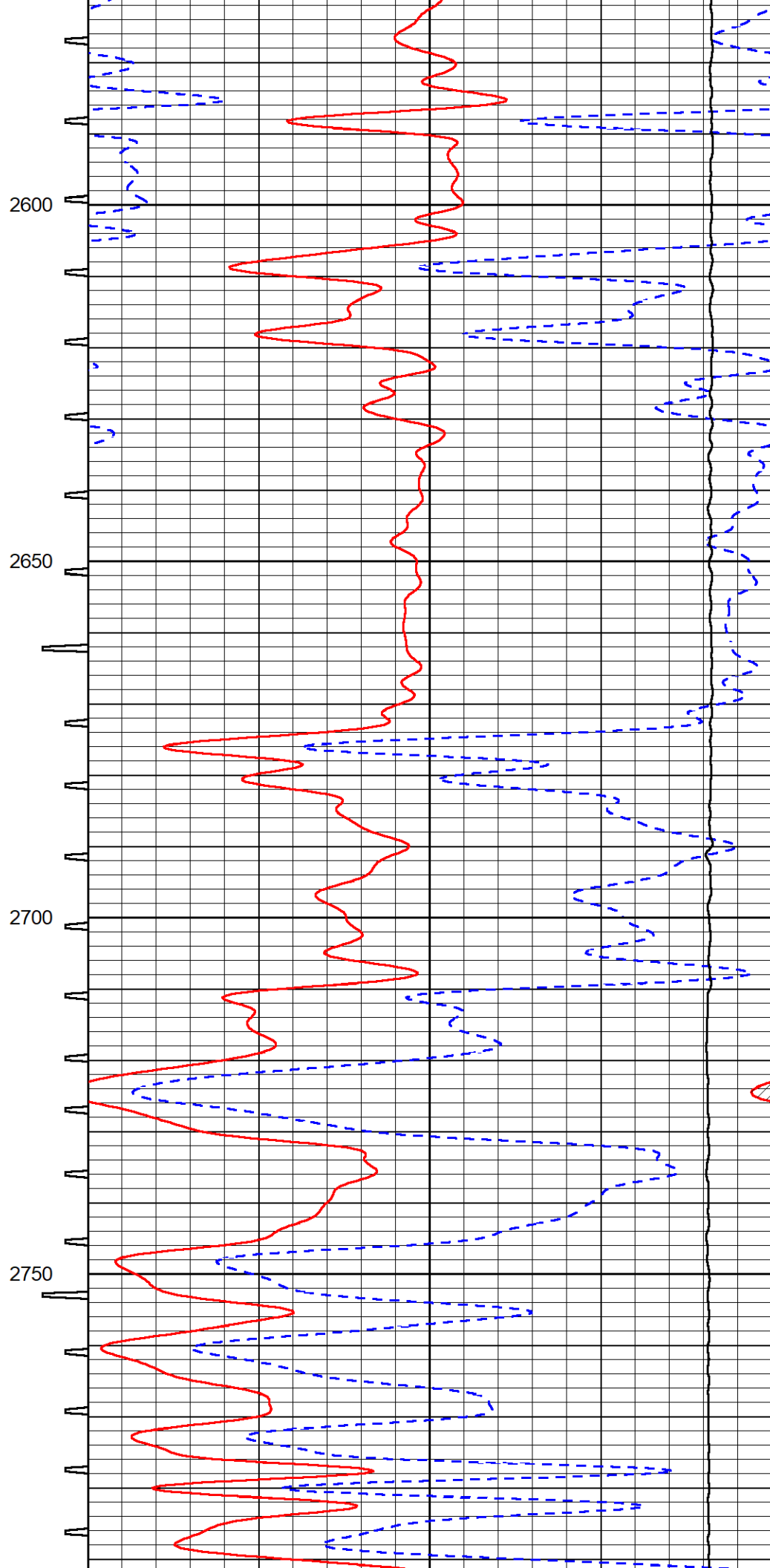
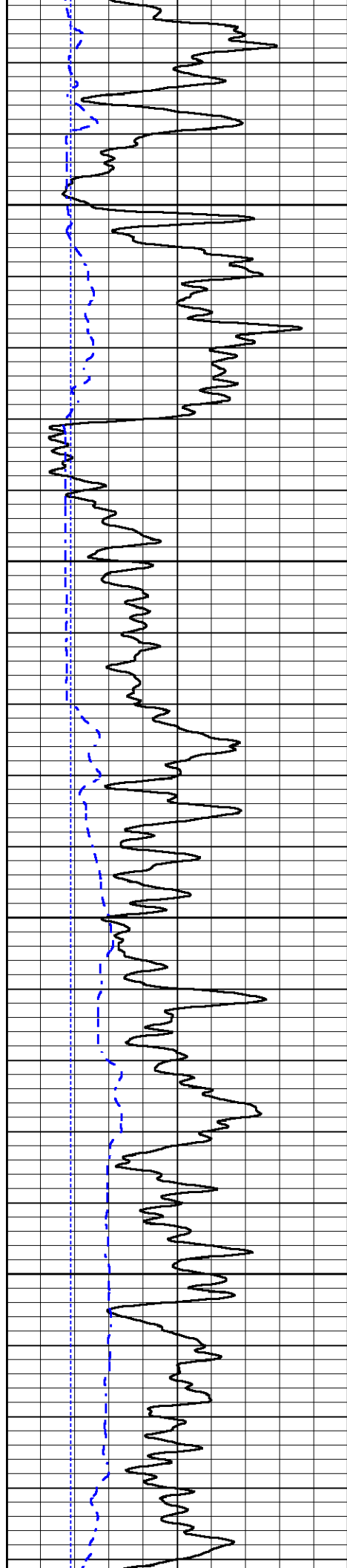


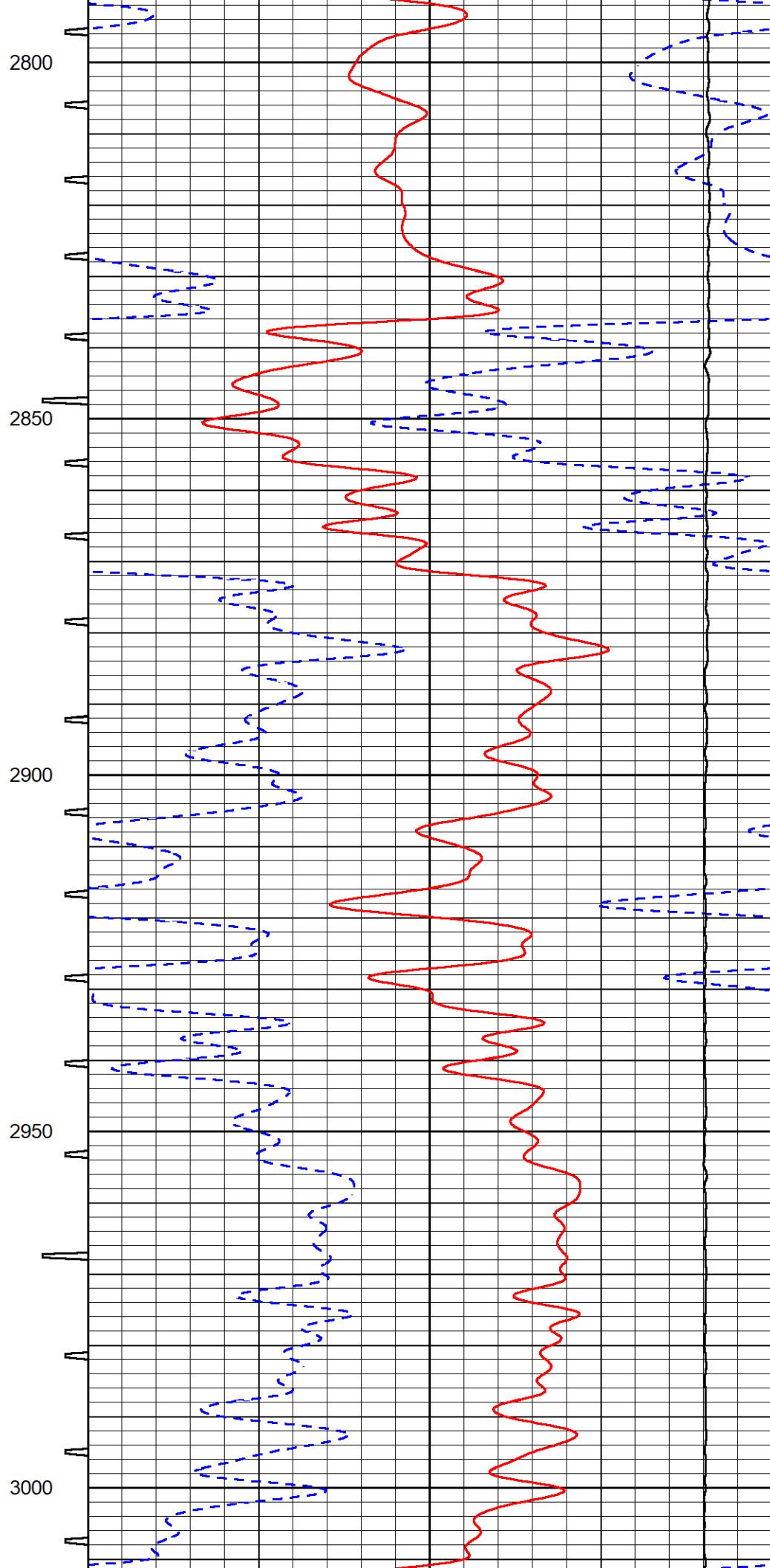
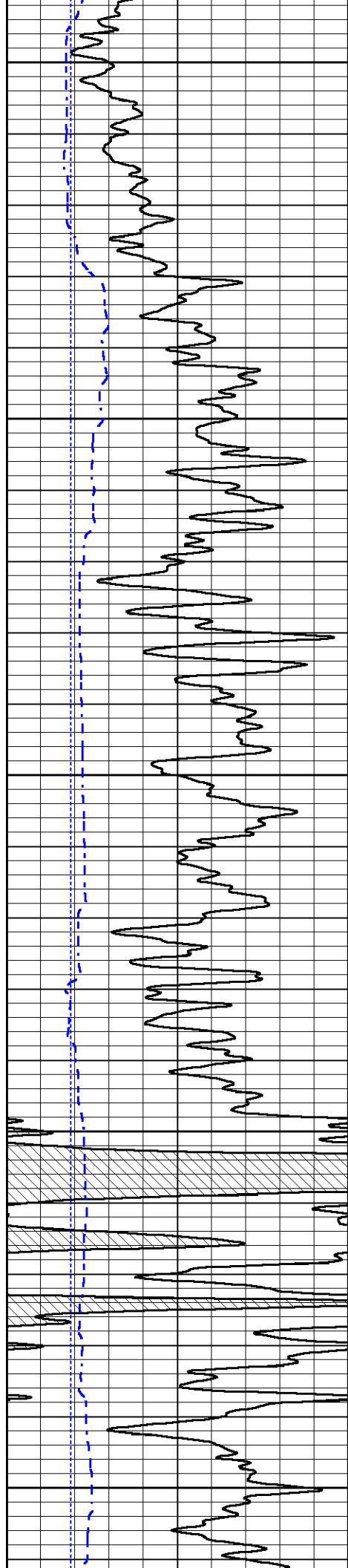


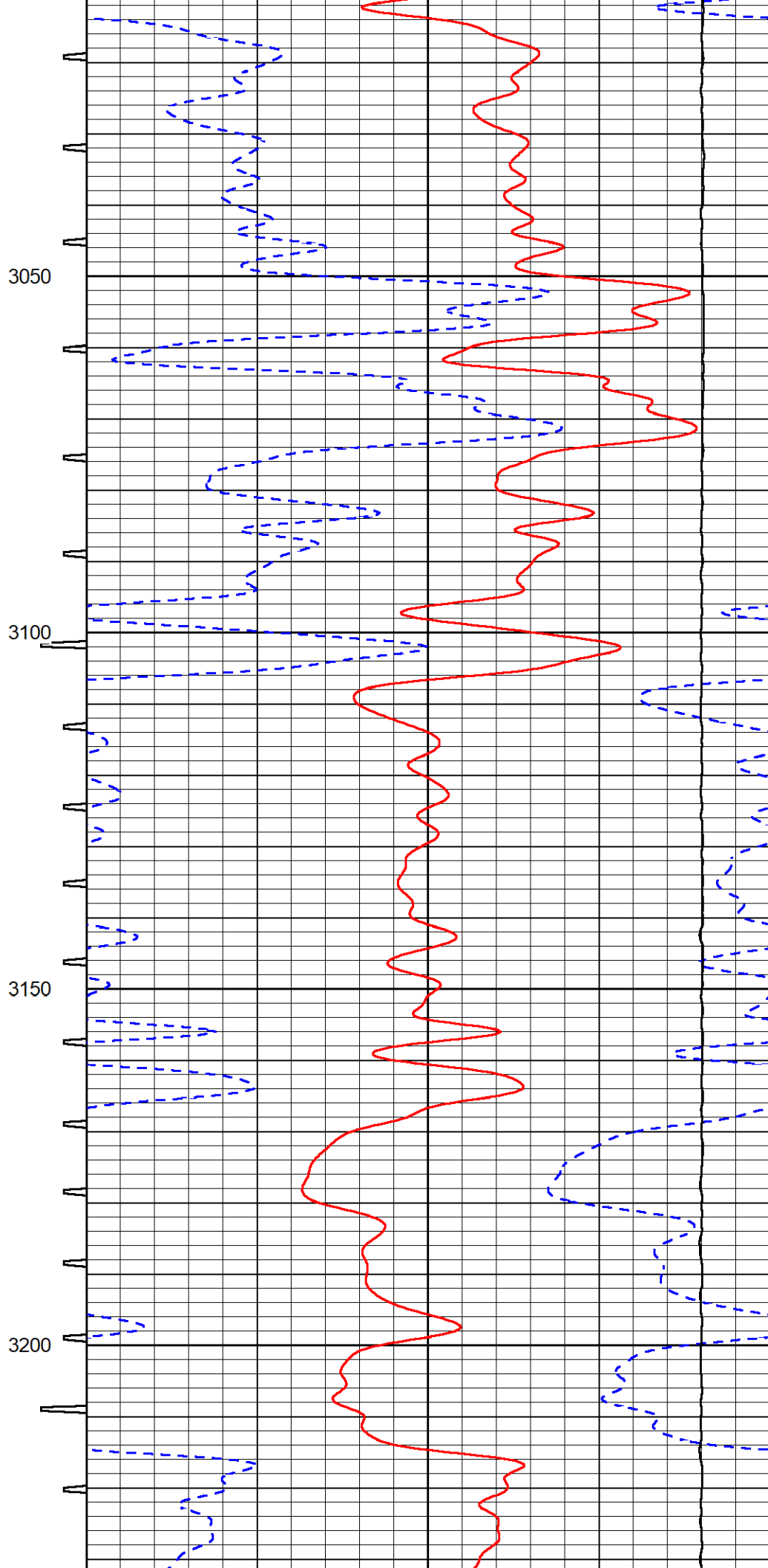
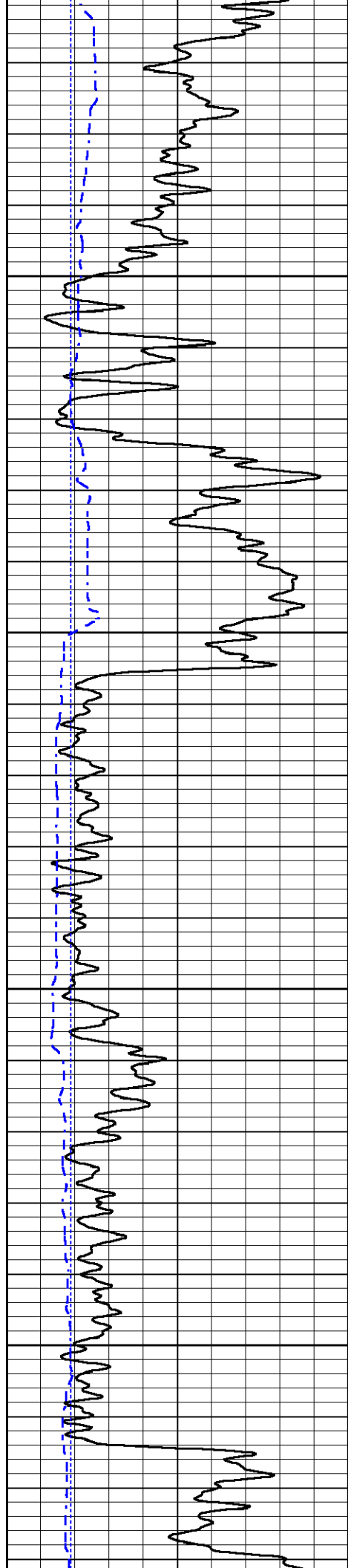


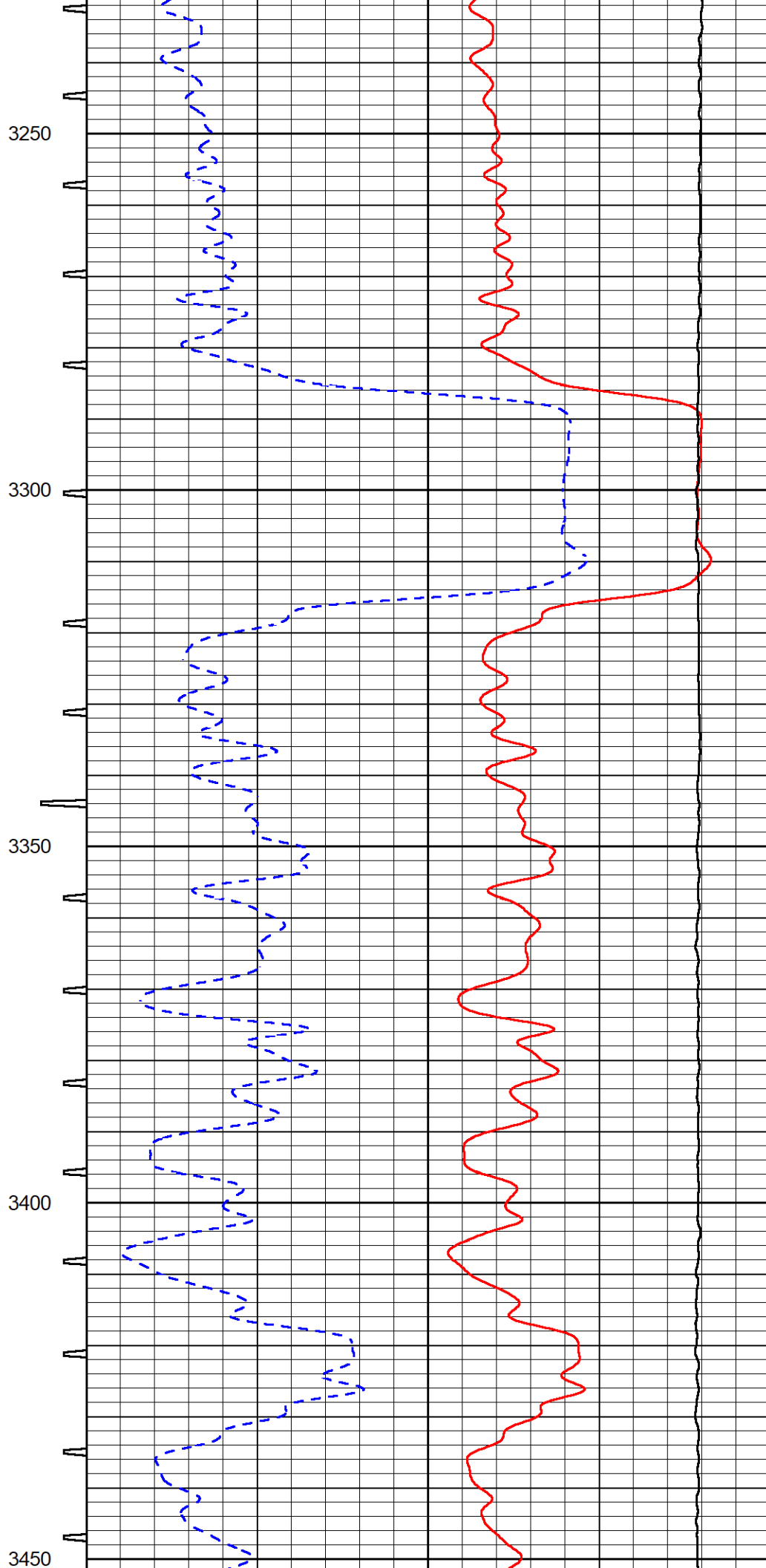
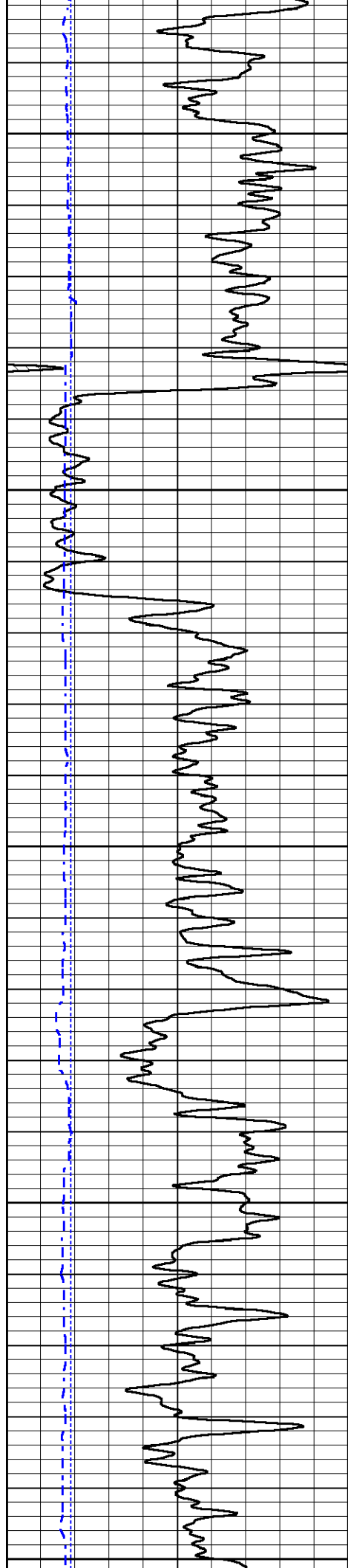


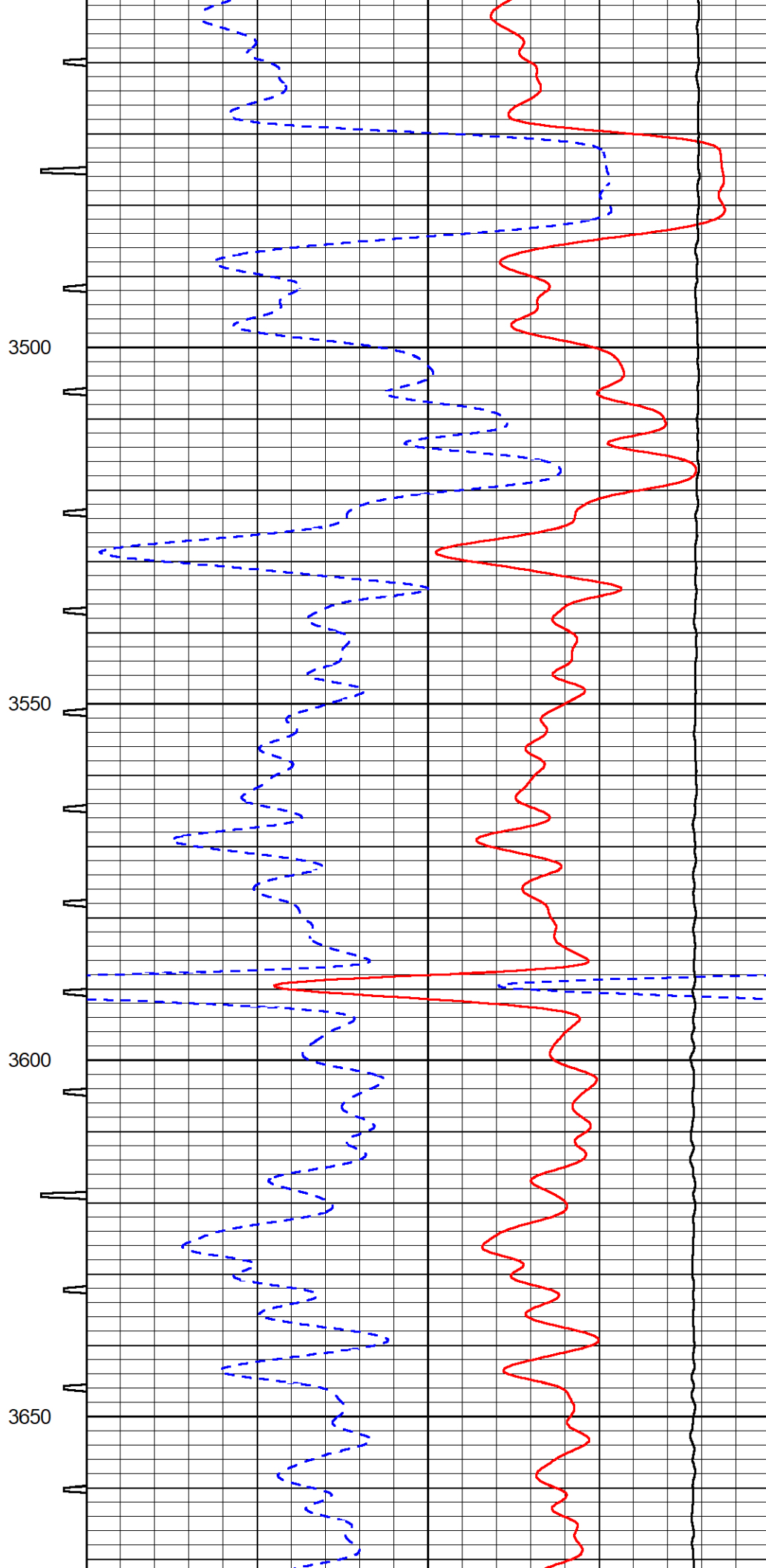
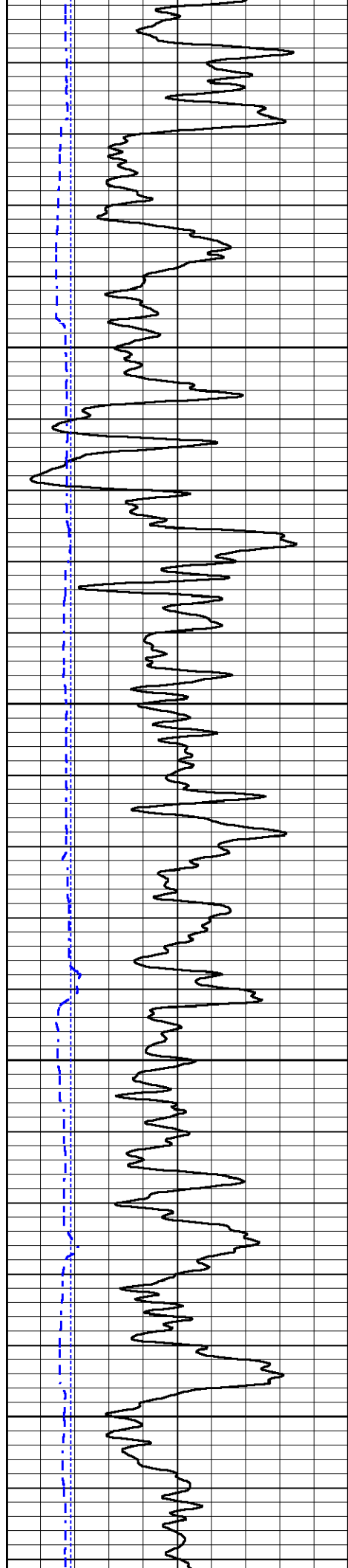


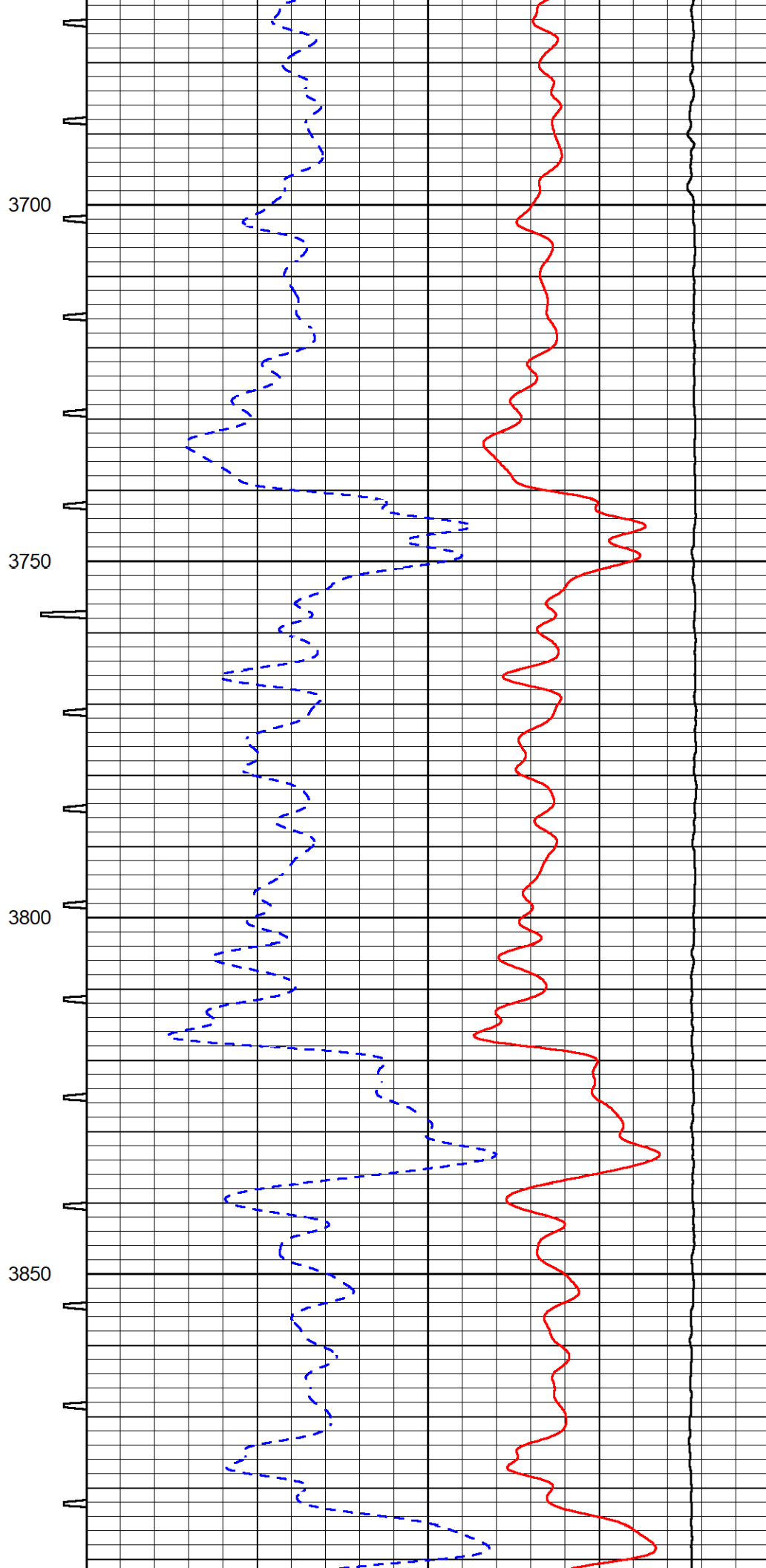
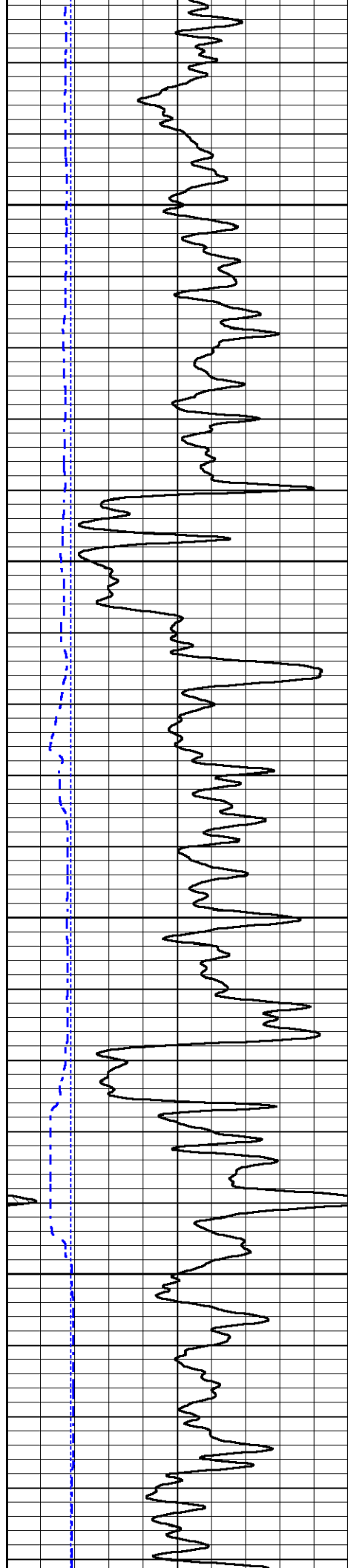


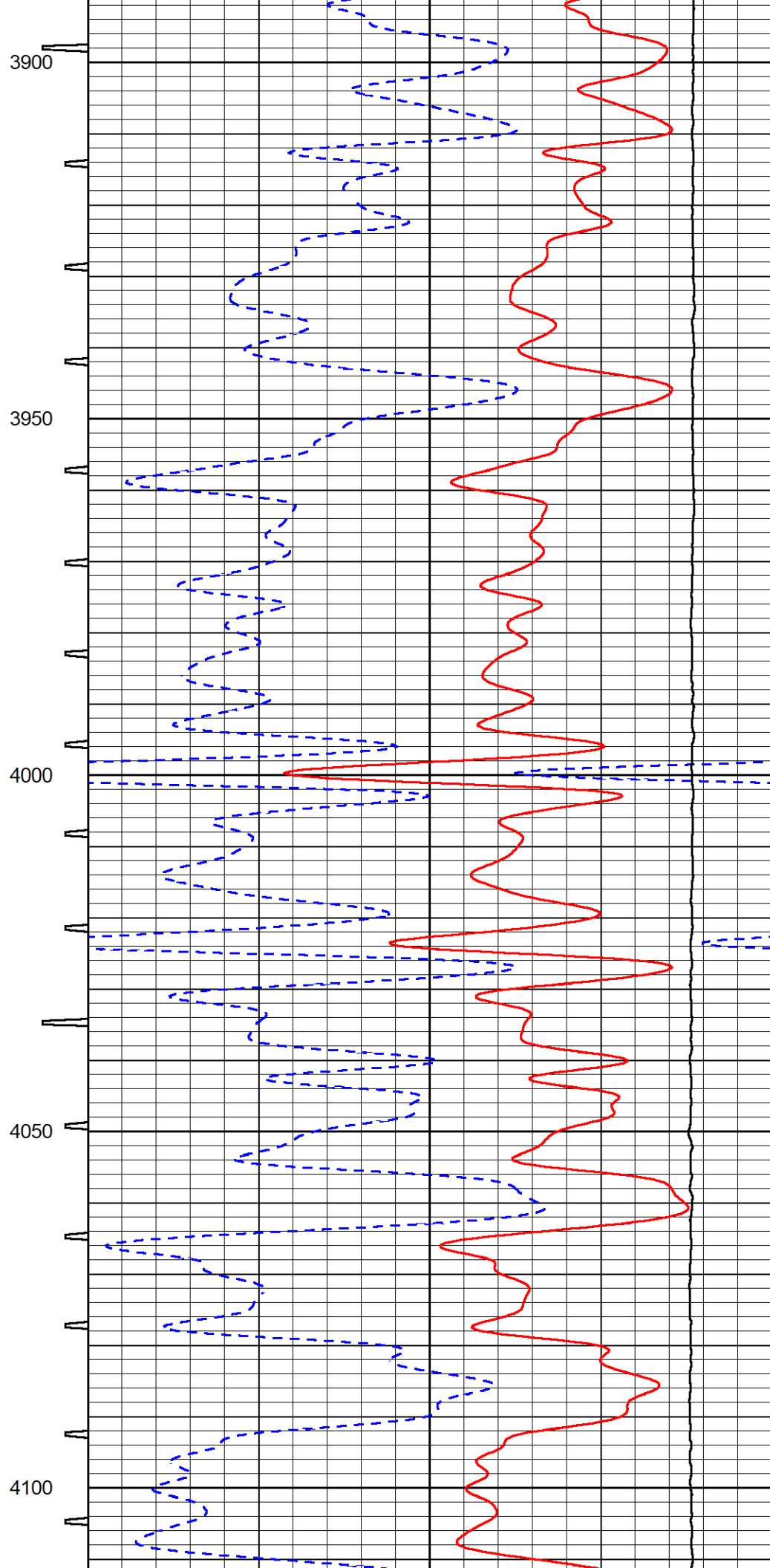
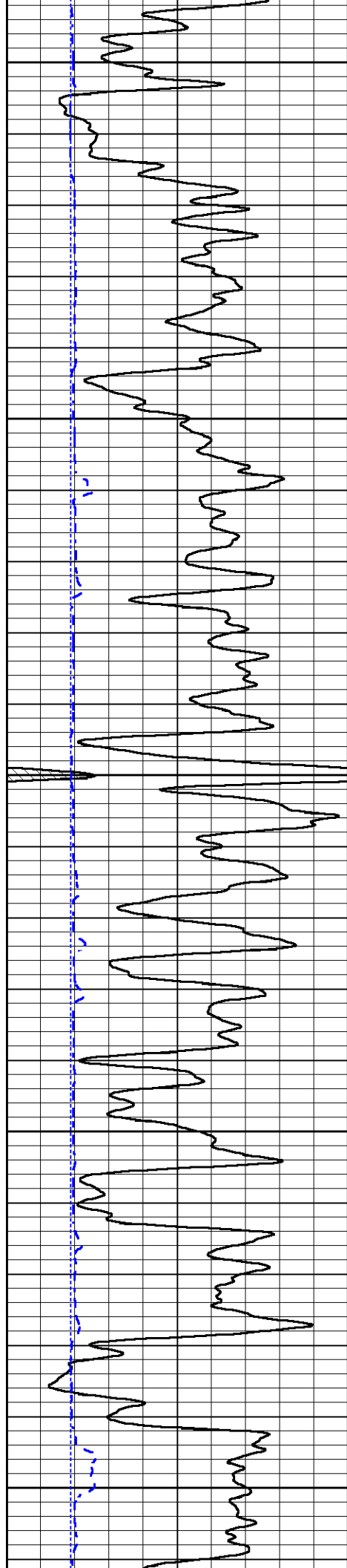


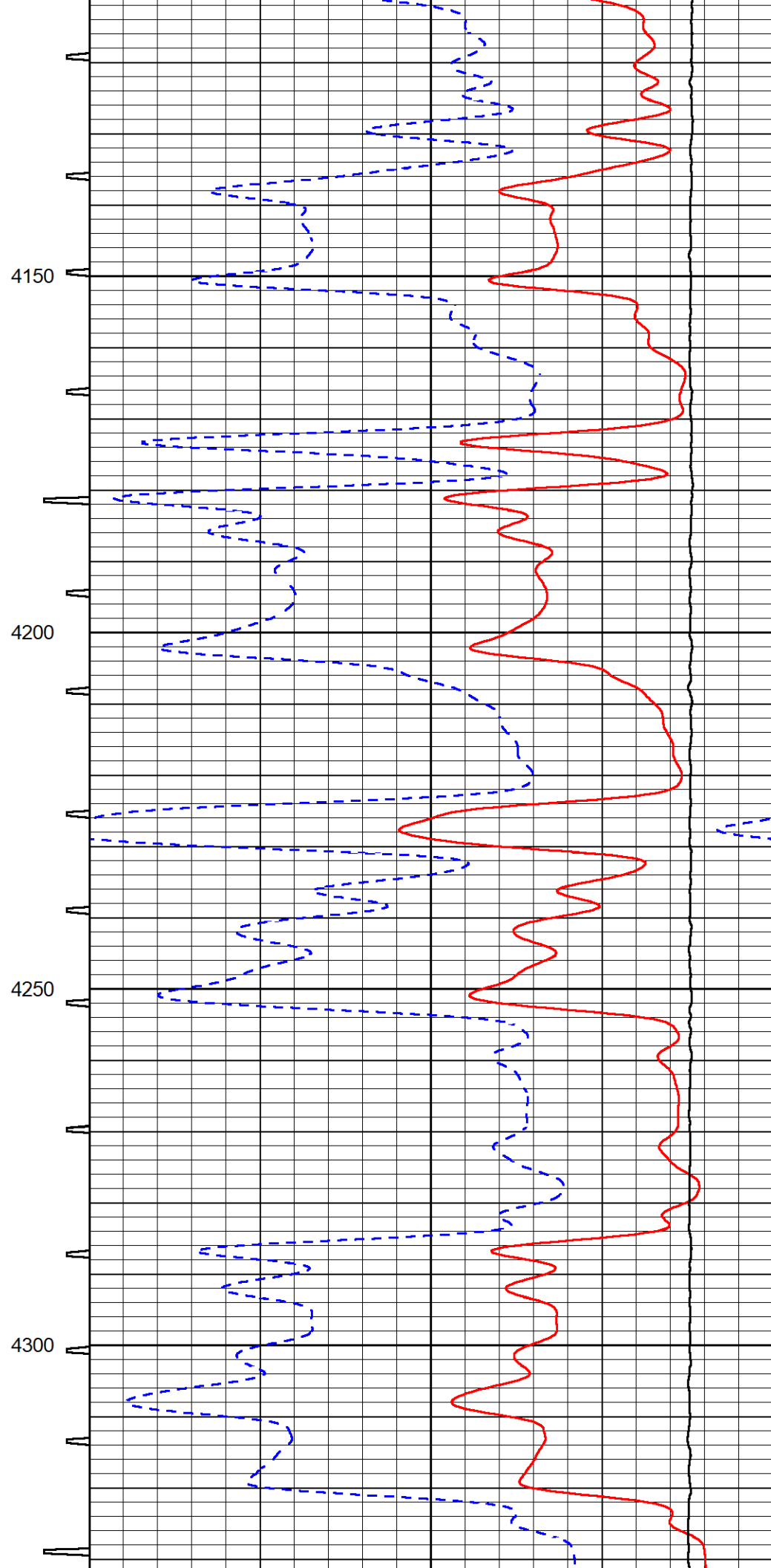
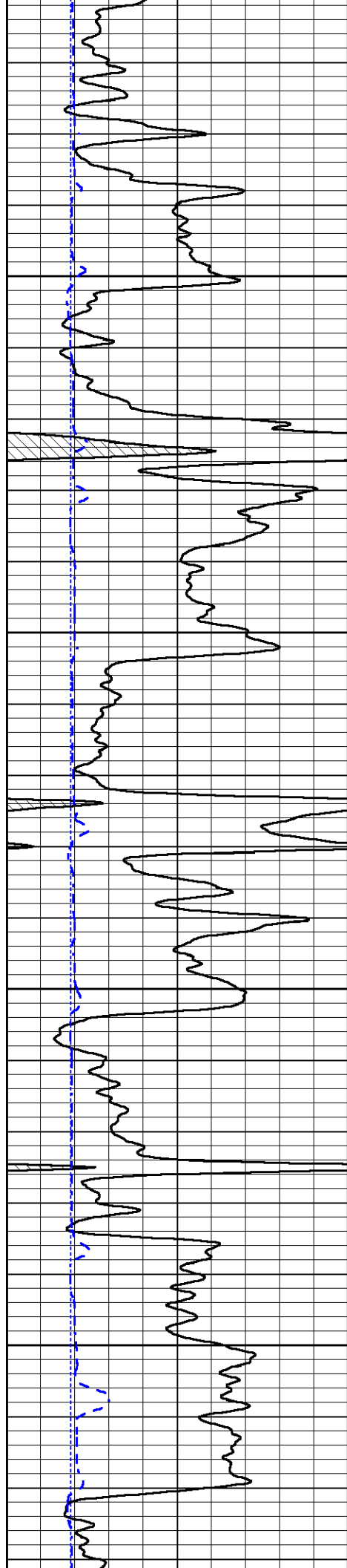


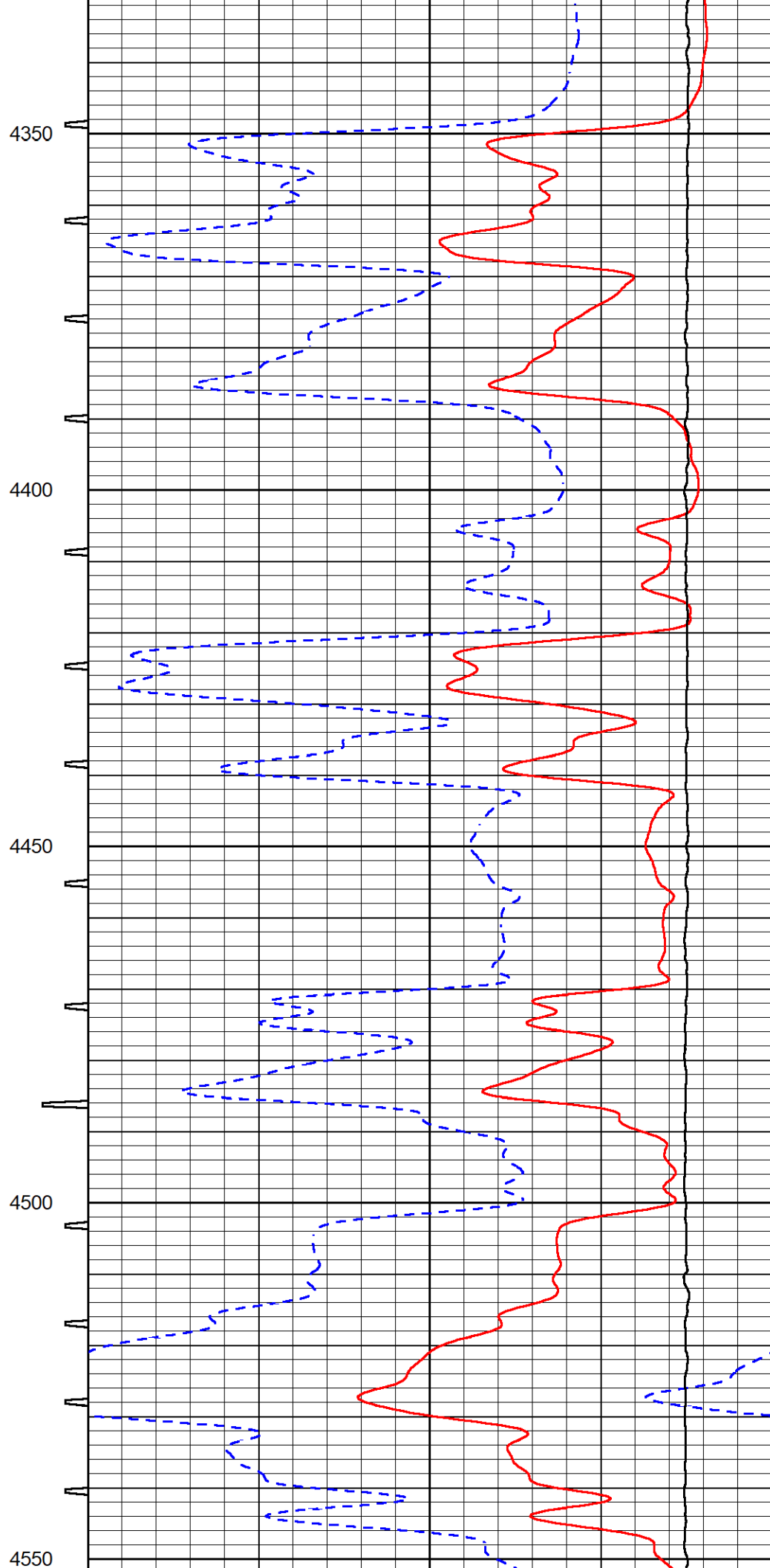
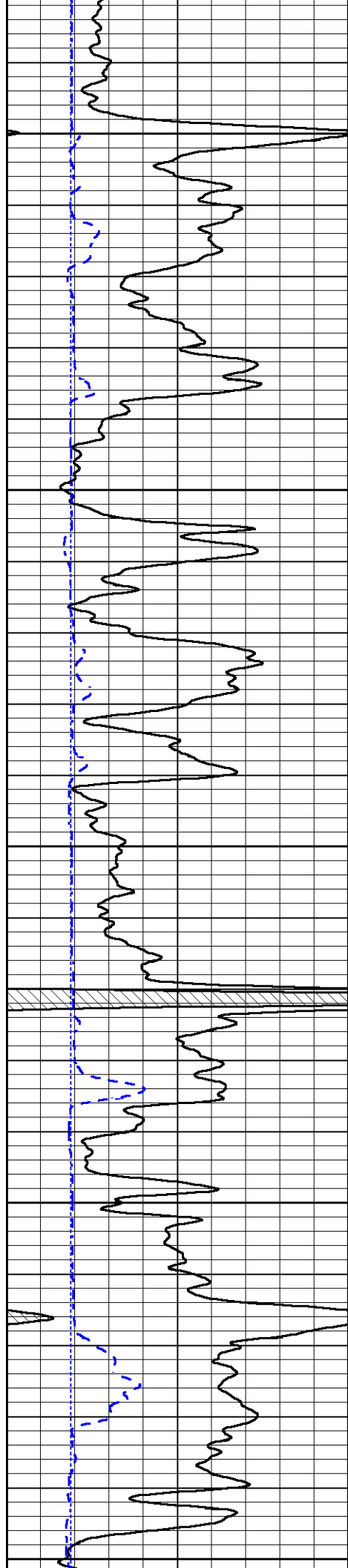


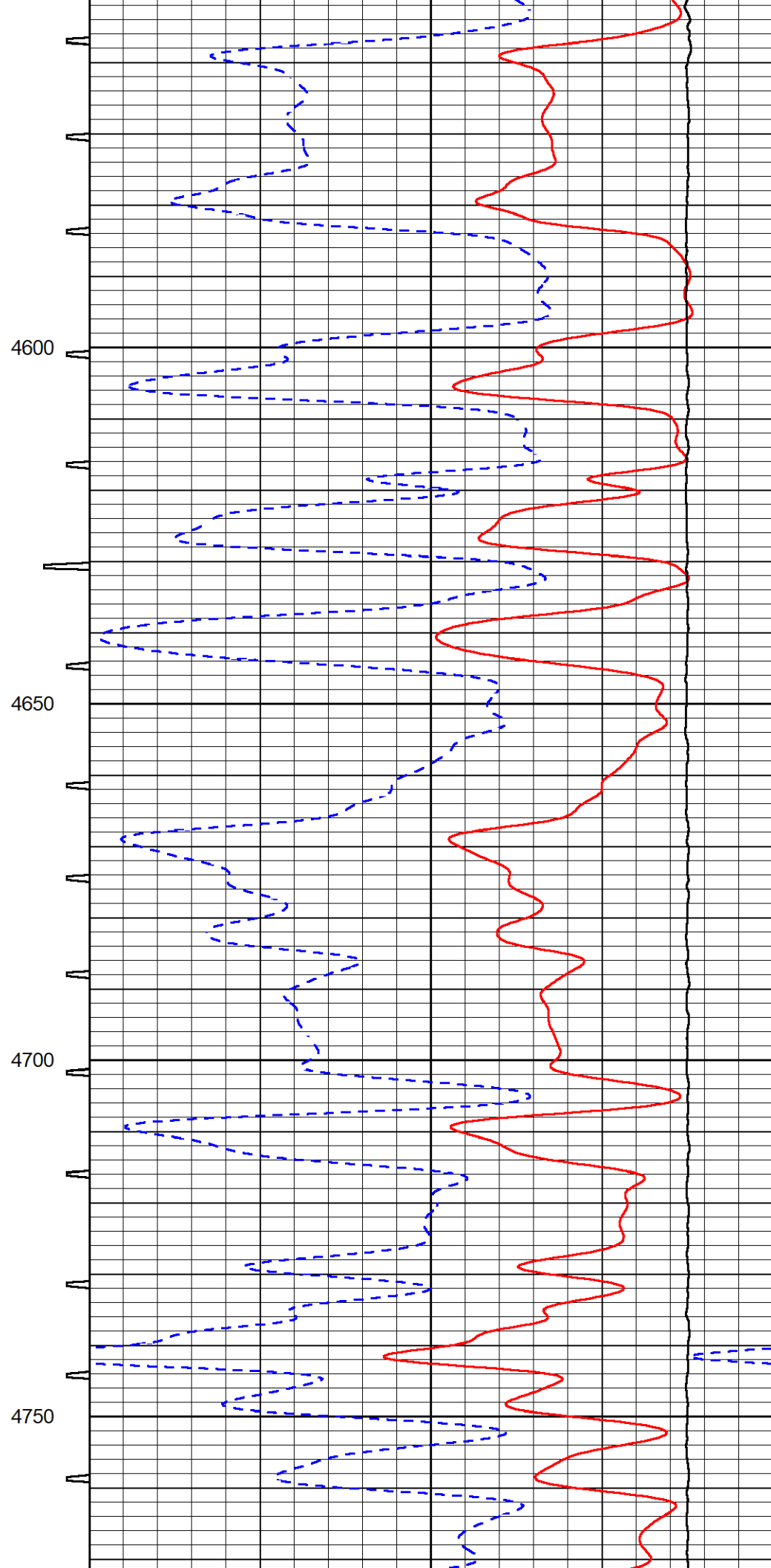
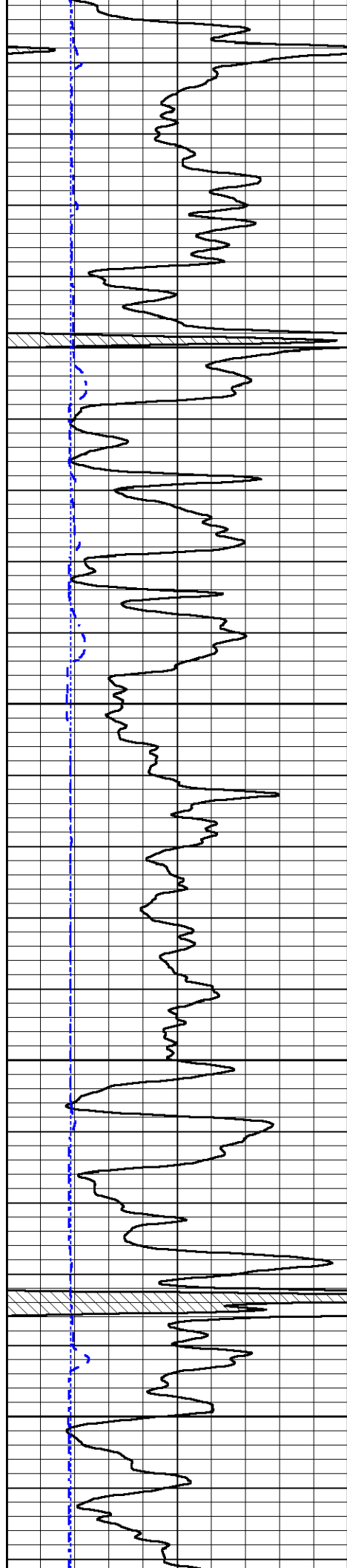


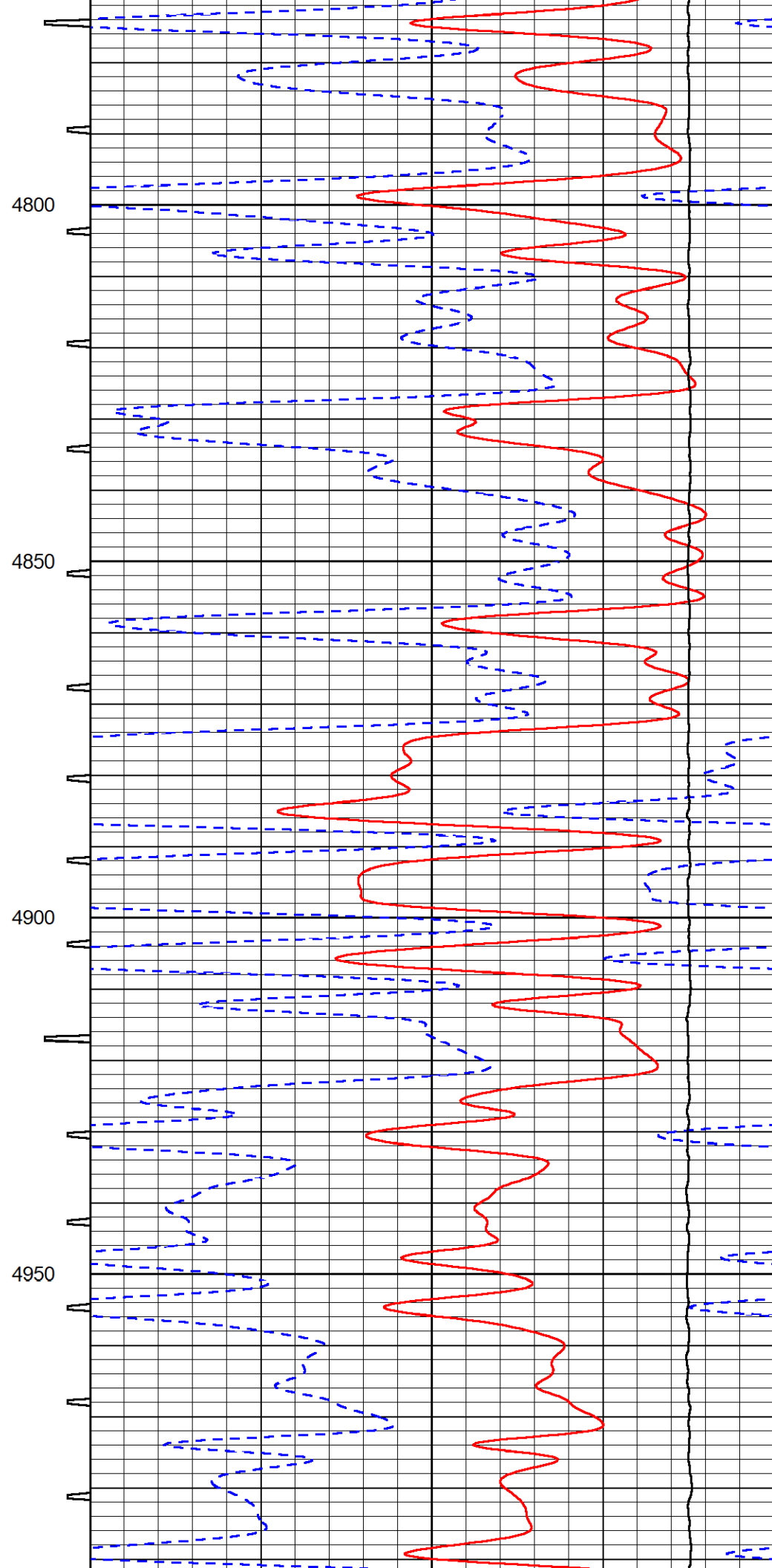
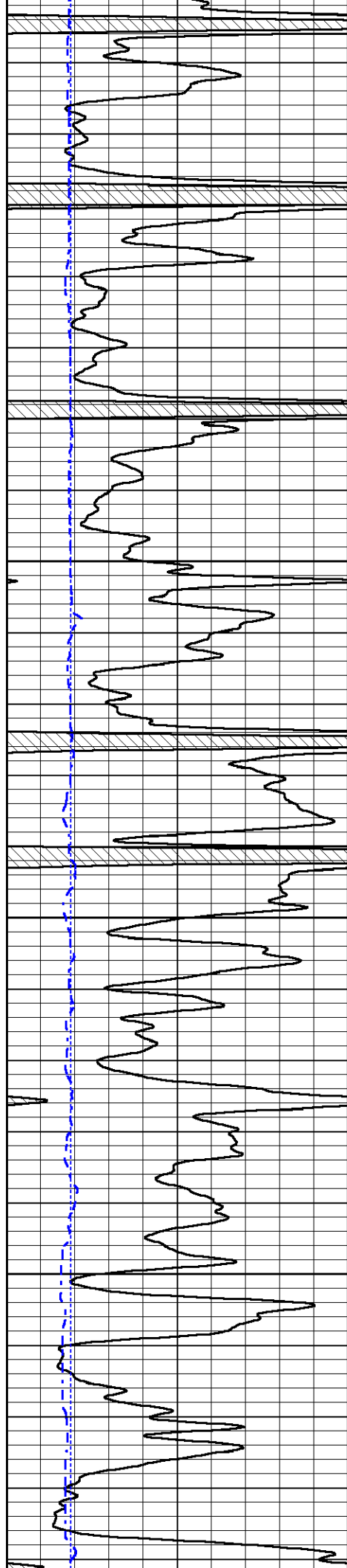


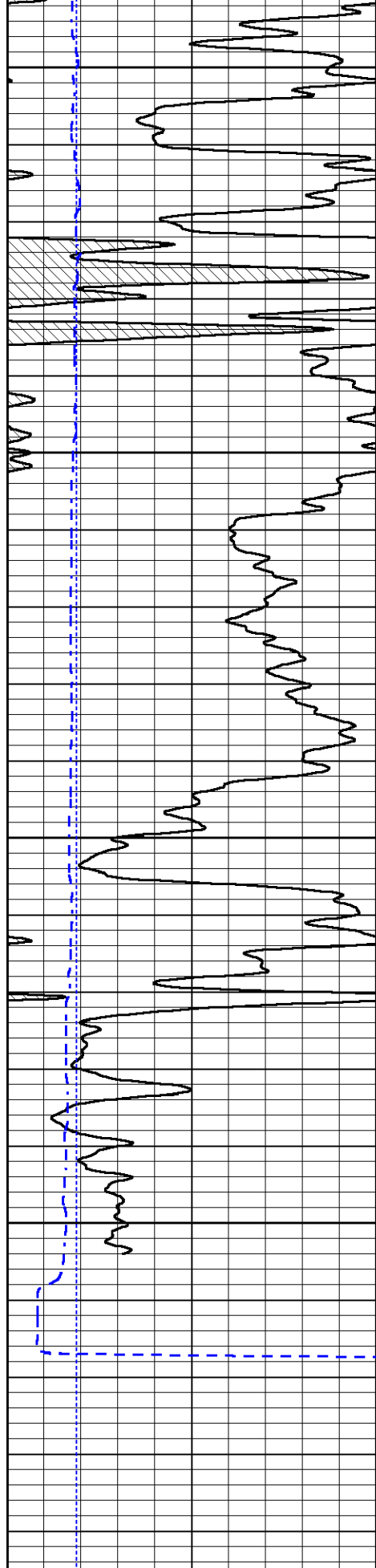




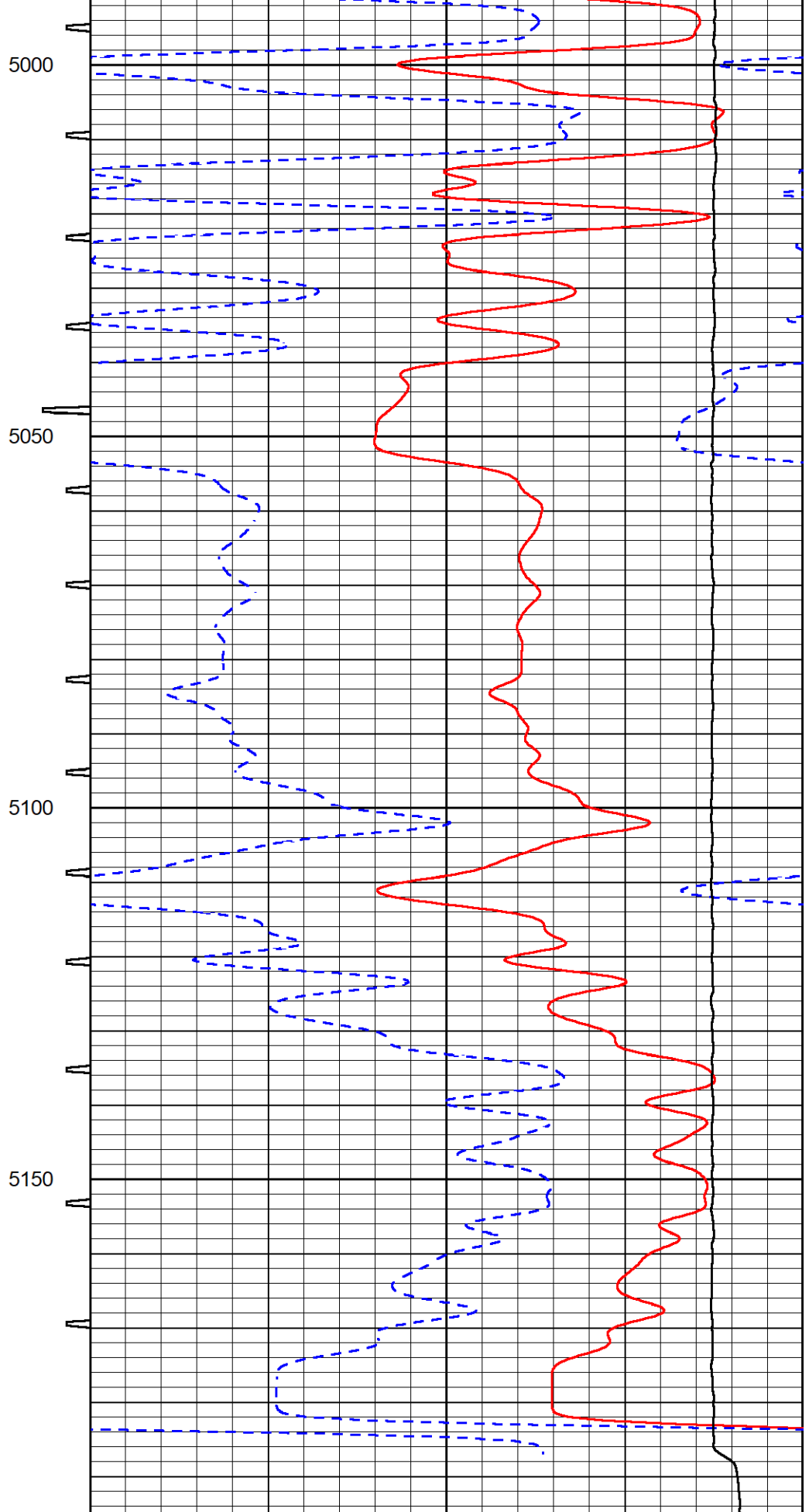








0	Gamma Ray (GAPI)	150
150	GR (GAPI)	300
6	Caliper (in)	16



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



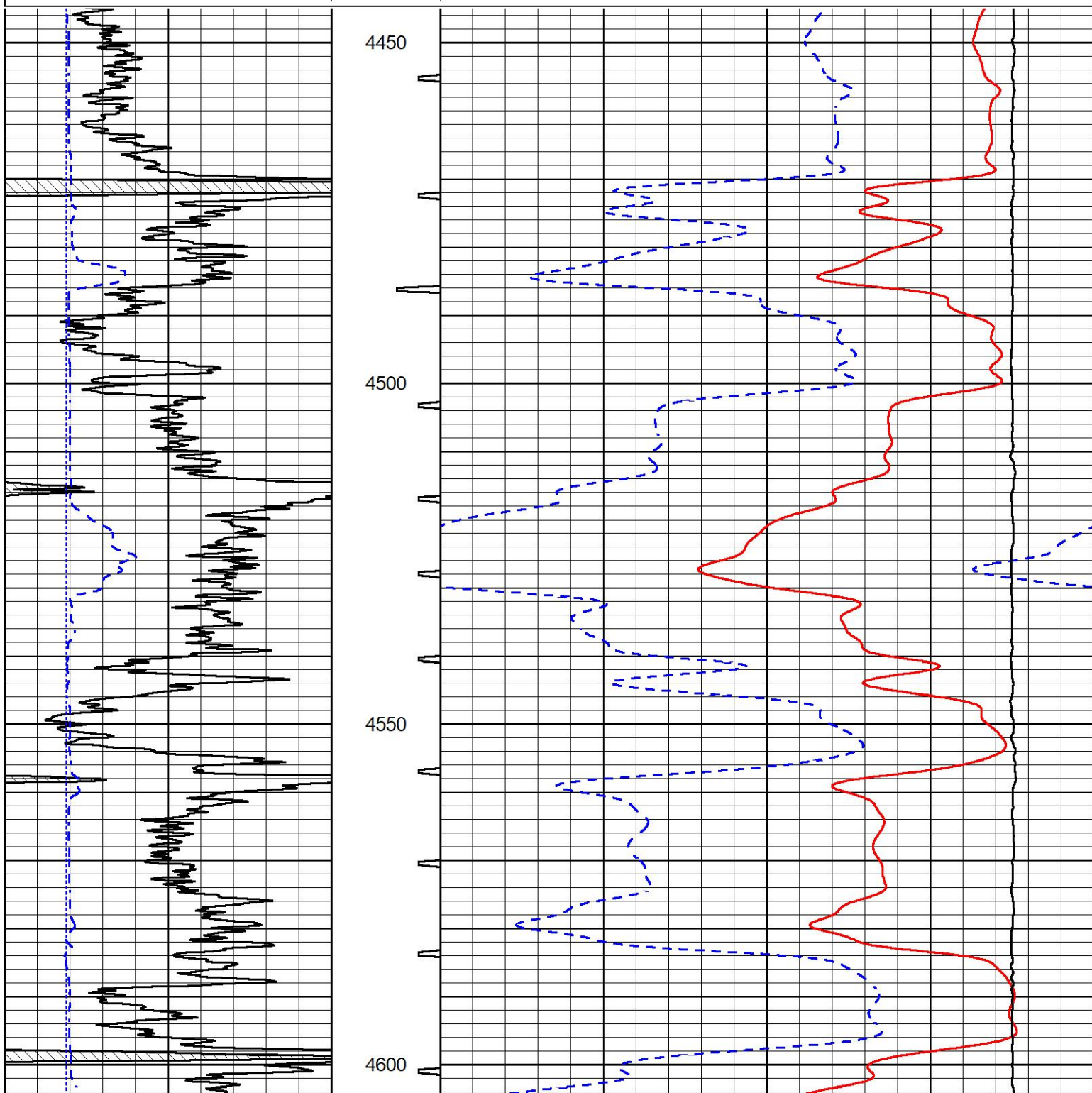
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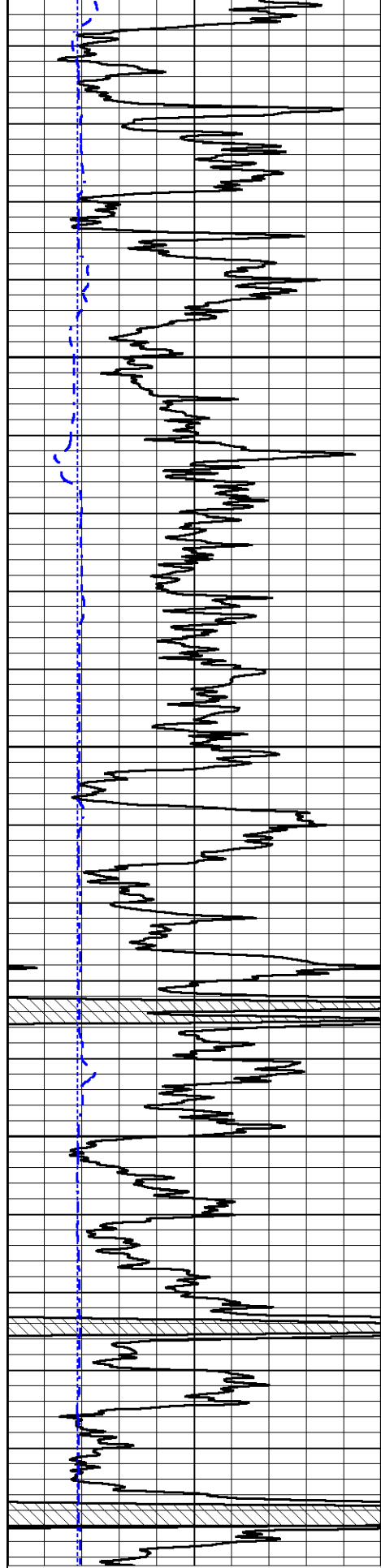
REPEAT SECTION

REPEAT PASS

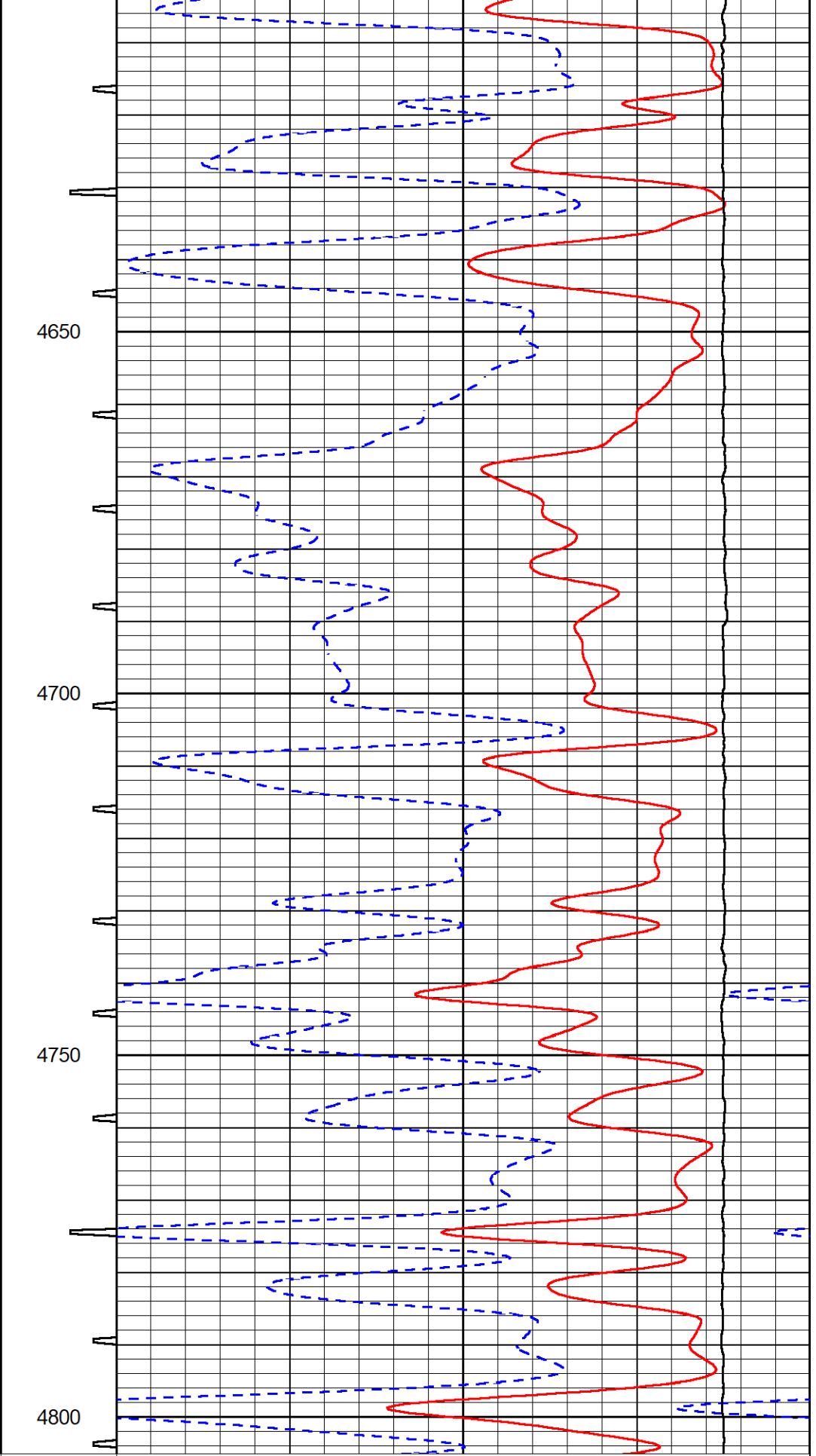
Database File murfin_mj unit 1-10.db
Dataset Pathname stkml/pass2.1
Presentation Format _sonic
Dataset Creation Thu Sep 29 19:22:20 2022
Charted by Depth in Feet scaled 1:240

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) (pu)	-10
6	Caliper (in)	16		15000	Line Tension (lb)	0





0	Gamma Ray (GAPI)	150
150	GR (GAPI)	300
6	Caliper (in)	16



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

Calibration Report							
Database File	murfin_mj unit 1-10.db						
Dataset Pathname	stkml/pass4.1						
Dataset Creation	Thu Sep 29 19:53:04 2022						
Dual Induction Calibration Report							
Serial-Model:				501 HT-M&W			
Surface Cal Performed:				Thu Sep 22 17:20:27 2022			
		Readings		References		Results	
Loop:	Air	Loop		Air	Loop	m	b
Deep	83.639	487.104		0.000	183.000	mmho/m	0.455
Medium	113.335	1585.690		0.000	442.000	mmho/m	-37.000
							-35.000
Microlog Calibration Report							
Serial-Model:				402-PSIML			
Performed:				Thu Sep 22 17:20:33 2022			
		Readings		References		Results	
	Zero	Cal		Zero	Cal	m	b
Normal	0.0000	1.0000		0.0000	1.0000	Ohm-m	24500.0000
Inverse	0.0000	1.0000		0.0000	1.0000	Ohm-m	-1.2500
Caliper	1.0052	1.0858		5.0000	16.5000	in	28000.0000
							-1.0000
							120.0000
							-117.2750
Compensated Density Calibration Report							
Serial-Model:				307-11-M&W			
Source #:				20762B			
Master Calibration Performed:				Sat Aug 27 10:20:16 2022			
Master Calibration							
		Density		Far Detector		Near Detector	
Magnesium	1.755	g/cc		3600.52	4768.22	cps	
Aluminum	2.670	g/cc		693.98	3106.20	cps	
Spine Angle = 75.41				Density/Spine Ratio = 0.538			
		Size		Reading			
Small Ring	6.00	in		1.16			
Large Ring	18.00	in		1.01			
Compensated Neutron Calibration Report							
Serial Number:				207-MW			
Tool Model:				M&W			
CALIBRATION							
Detector		Readings		Target		Normalization	
Short Space	6240.00	cps		1000.00	cps	1.6025	
Long Space	460.00	cps		1000.00	cps	1.9500	

PRE-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space Long Space	cps cps	pu	pu
2)	Short Space Long Space	cps cps	pu	
3)	Short Space Long Space	cps cps	pu	

POST-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space Long Space	cps cps	pu	pu
2)	Short Space Long Space	cps cps	pu	pu
3)	Short Space Long Space	cps cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	106	
Tool Model:	M&W	
Performed:	Fri Dec 3 15:10:46 2021	
Calibrator Value:	500.0	GAPI
Background Reading:	24.0	cps
Calibrator Reading:	637.0	cps
Sensitivity:	0.5500	GAPI/cps



MIDWEST WIRELINE

Company	Murfin Drilling Company, Inc.
Well	MJ Unit #1-10
Field	
County	Cheyenne
State	Kansas