



PIONEER
Pioneer Energy Services

**BOREHOLE COMPENSATED
SONIC LOG**

Company **RICHLAN DRILLING**
Well **HILLERY #1**
Field **WILDCAT**
County **LOGAN** State **KANSAS**

Location: API #: 15-109-21550-00-00

Other Services

SEC 19 TWP 15S RGE 34W
2300' FSL & 2500' FEL

CNL/CDL
DIL/MEL

Permanent Datum GROUND LEVEL Elevation 3137'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 3147'
D.F. N/A
G.L. 3137'

Date 6/15/2018

Run Number TWO

Type Log BHCS

Depth Driller 4800'

Depth Logger 4796'

Bottom Logged Interval 4767'

Top Logged Interval 350'

Type Fluid In Hole CHEMICAL

Salinity, PPM CL 5500

Density 9.4

Level FULL

Max. Rec. Temp. F 124

Operating Rig Time 4 HOURS

Equipment -- Location 91 HAYS

Recorded By IAN MABB

Witnessed By JIM MUSGROVE

Borehole Record

Casing Record

Run No.	Bit	From	To	Size	Wgt.	From	To
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ONE	12.25"	0'	374'	8.625"	23#	0'	374'
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TWO	7.875"	374'	TD				
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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.

PENCE, KS.
3 MILES WEST TO COUNTY LINE
NORTH 6 MILES, WEST INTO

Log Measured From: KELLY BUSHING 10 Ft. Above Permanent Datum

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

Your Pioneer Energy Services Crew

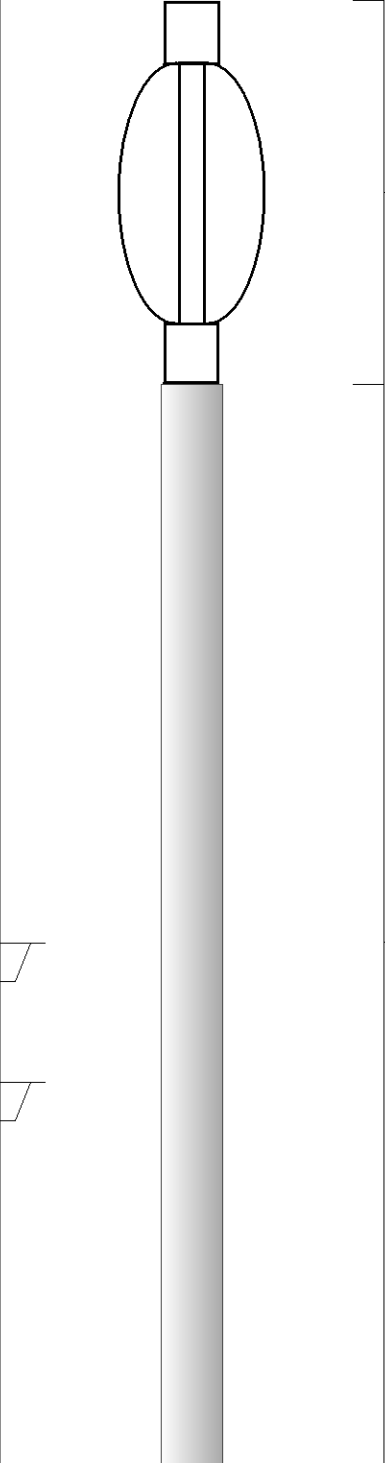
Engineer: IAN MABB
Operator:
Operator:
Operator:

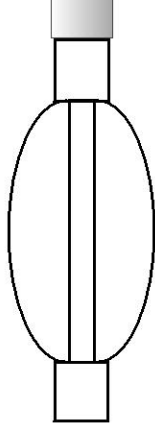
This Log Record Was Witnessed By

Primary Witness: JIM MUSGROVE
Secondary Witness:
Secondary Witness:
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 0	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

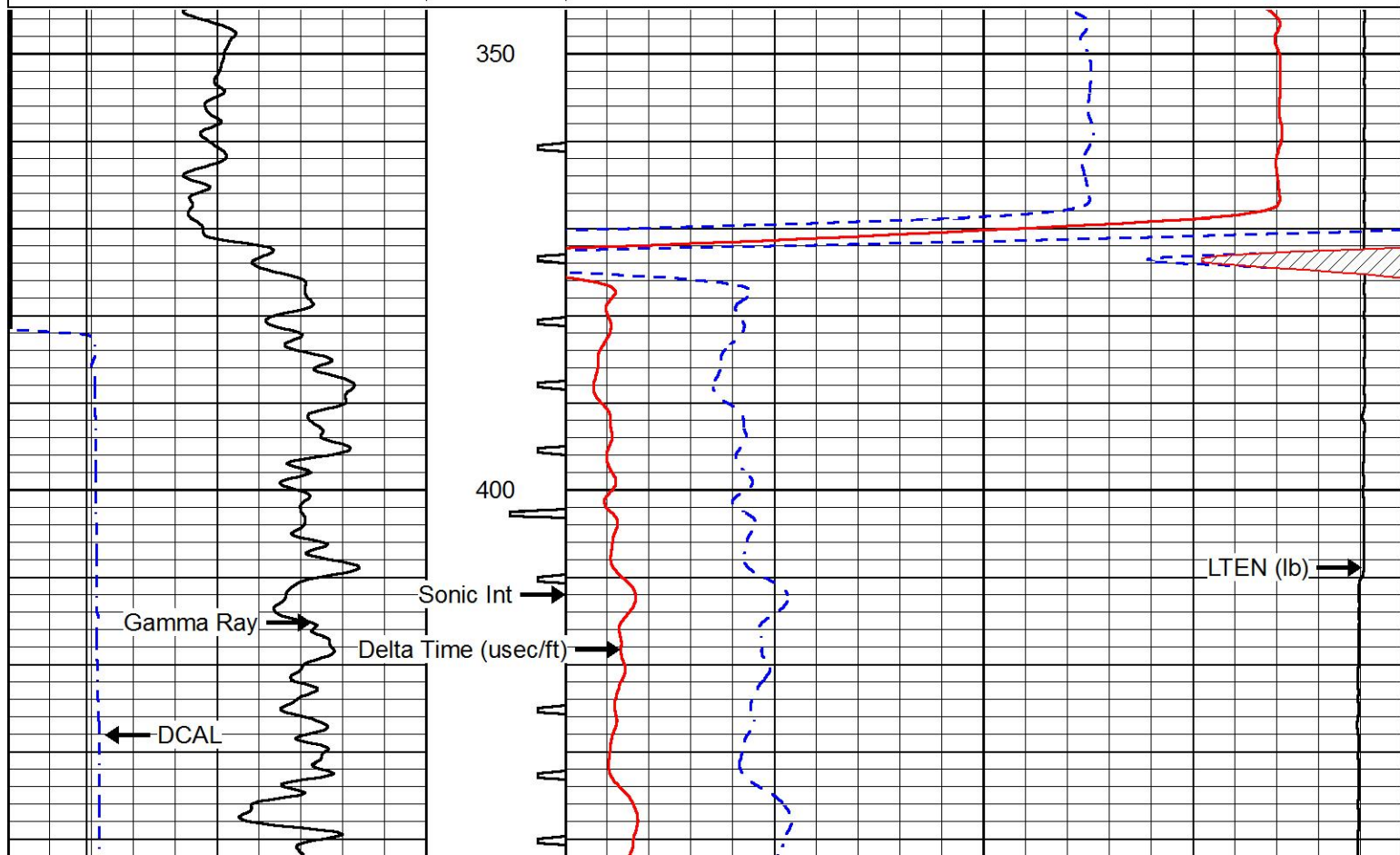
Dataset: richlan_hillery_1.db: field/well/SON/pass1.1
Total length: 27.00 ft
Total weight: 440.00 lb
O.D.: 3.50 in

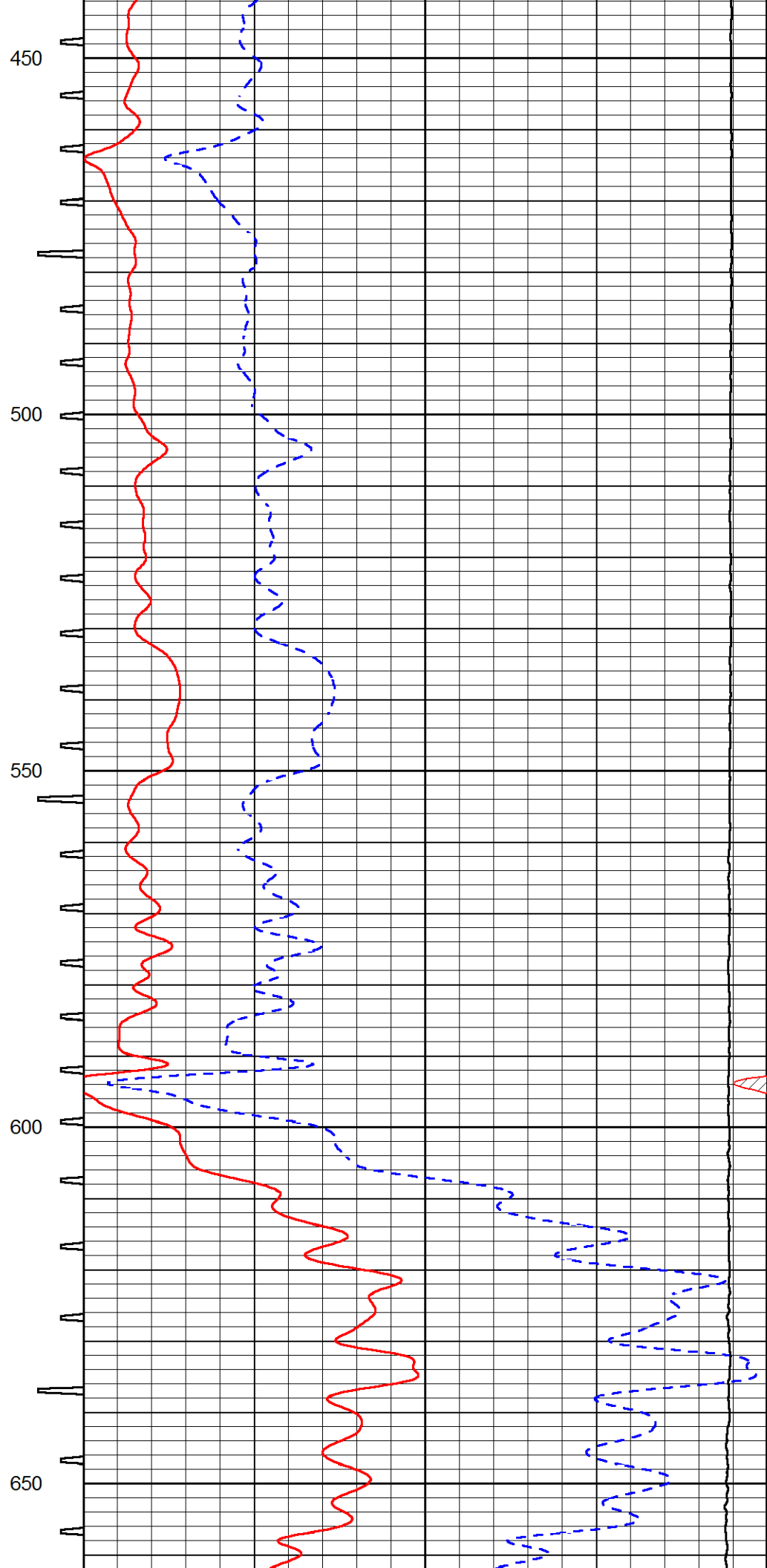
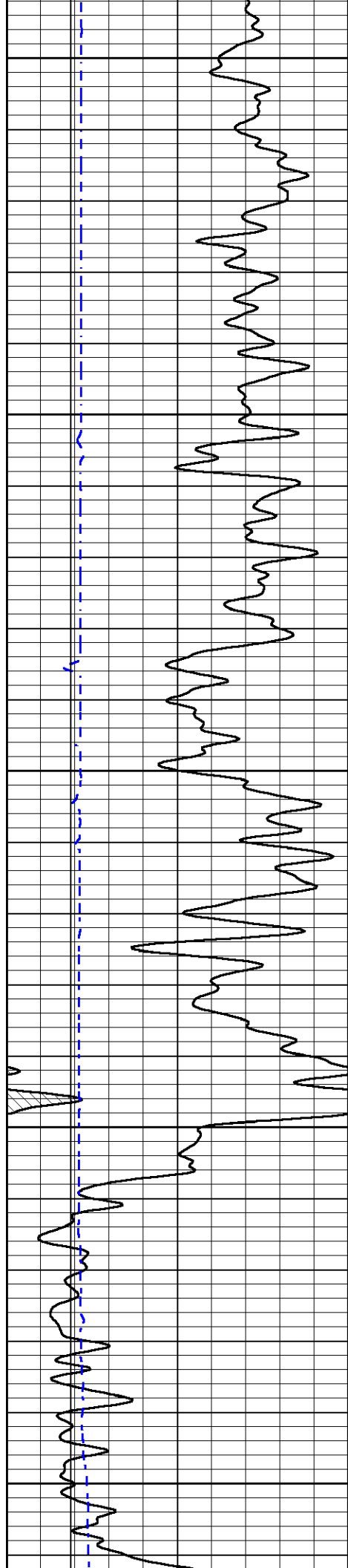


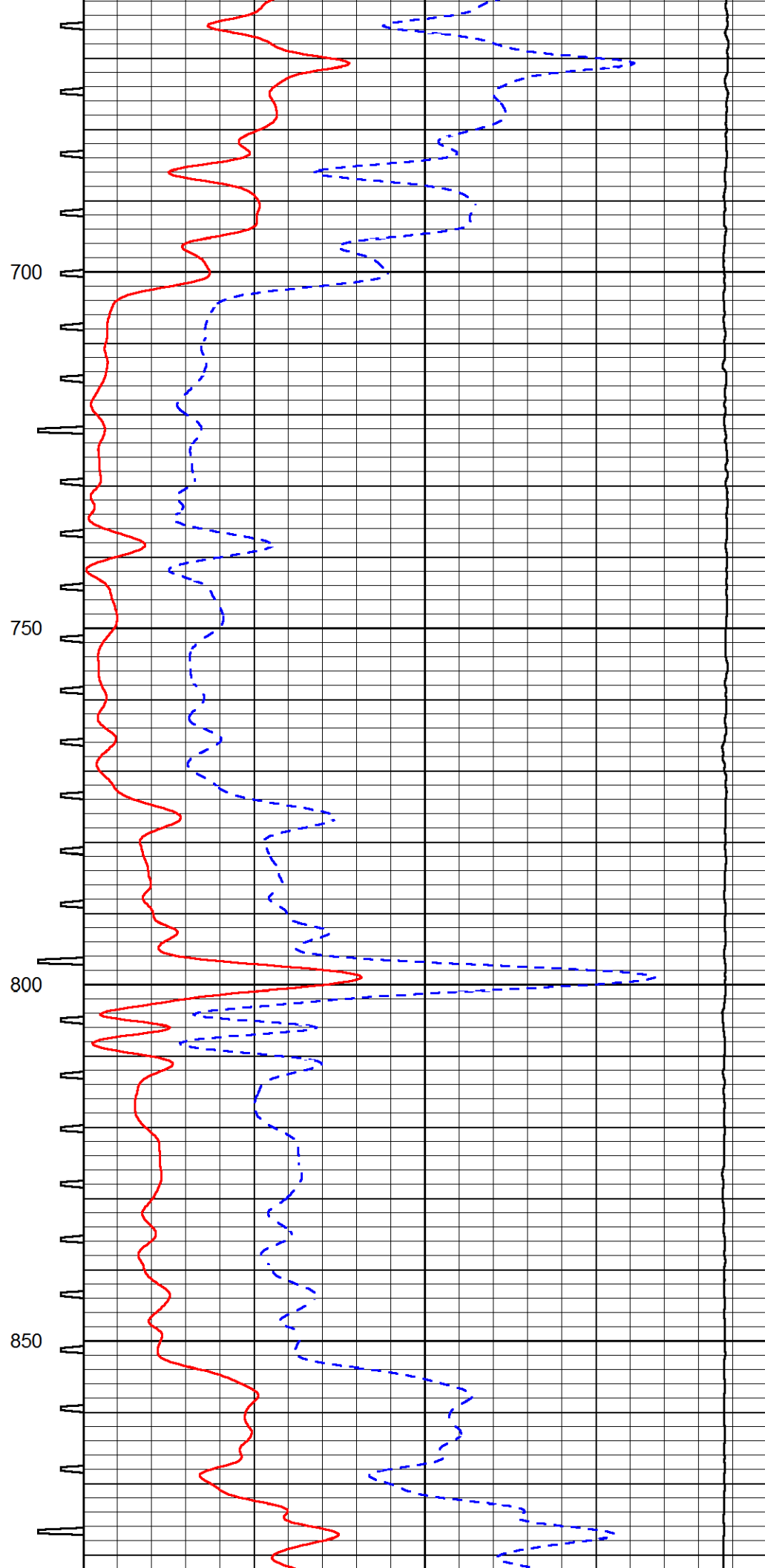
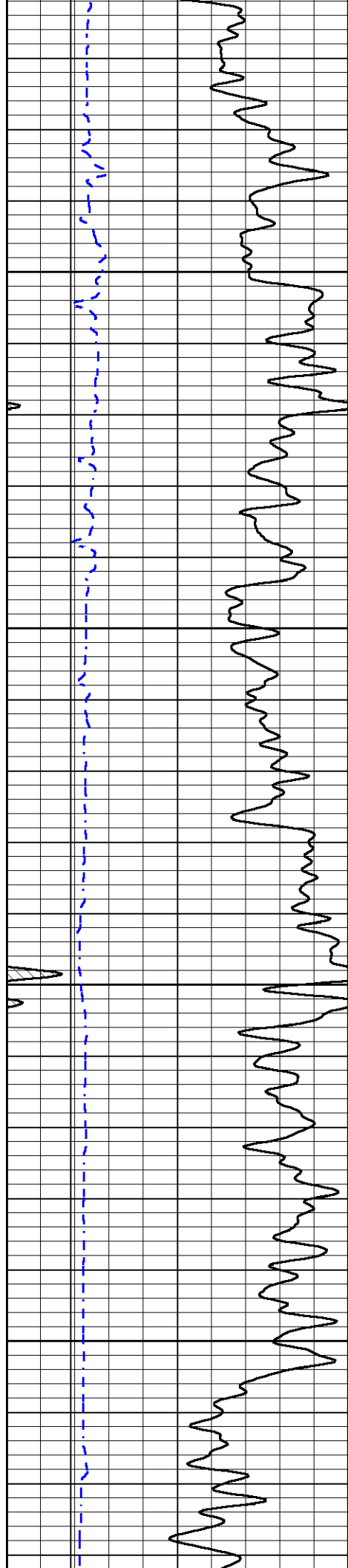
MAIN PASS

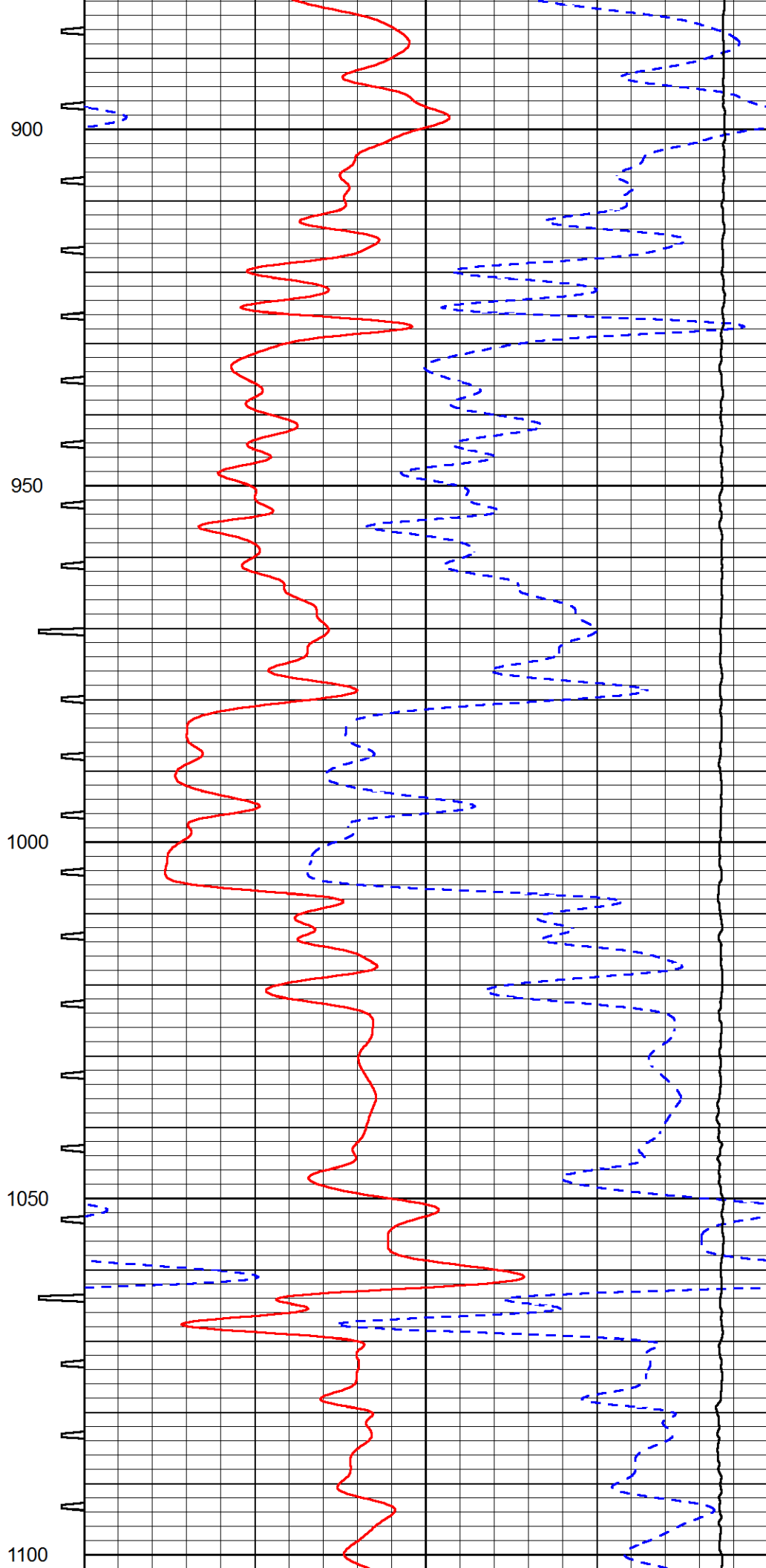
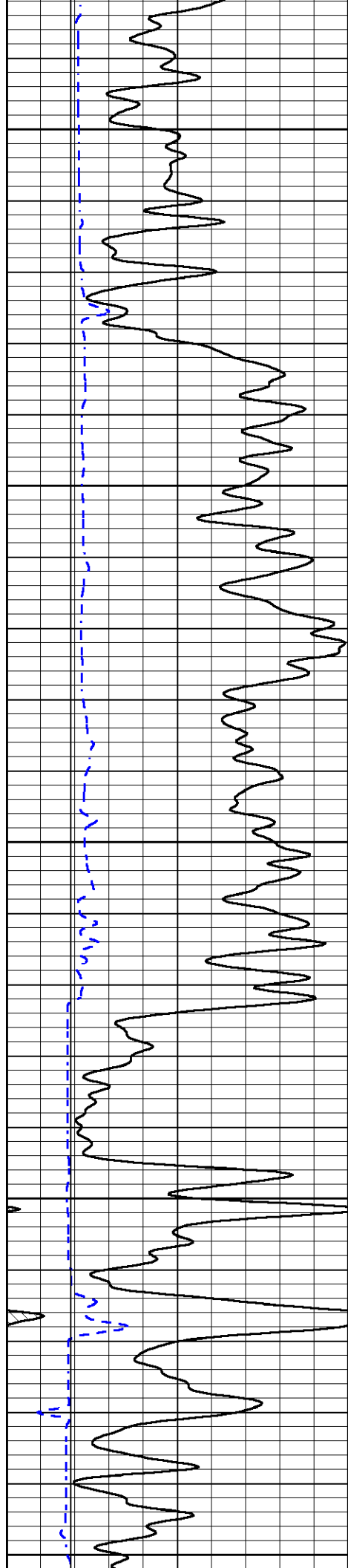
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Dataset Pathname stkmel/pass3.1
Presentation Format sonic
Dataset Creation Fri Jun 15 14:04:20 2018
Charted by Depth in Feet scaled 1:240

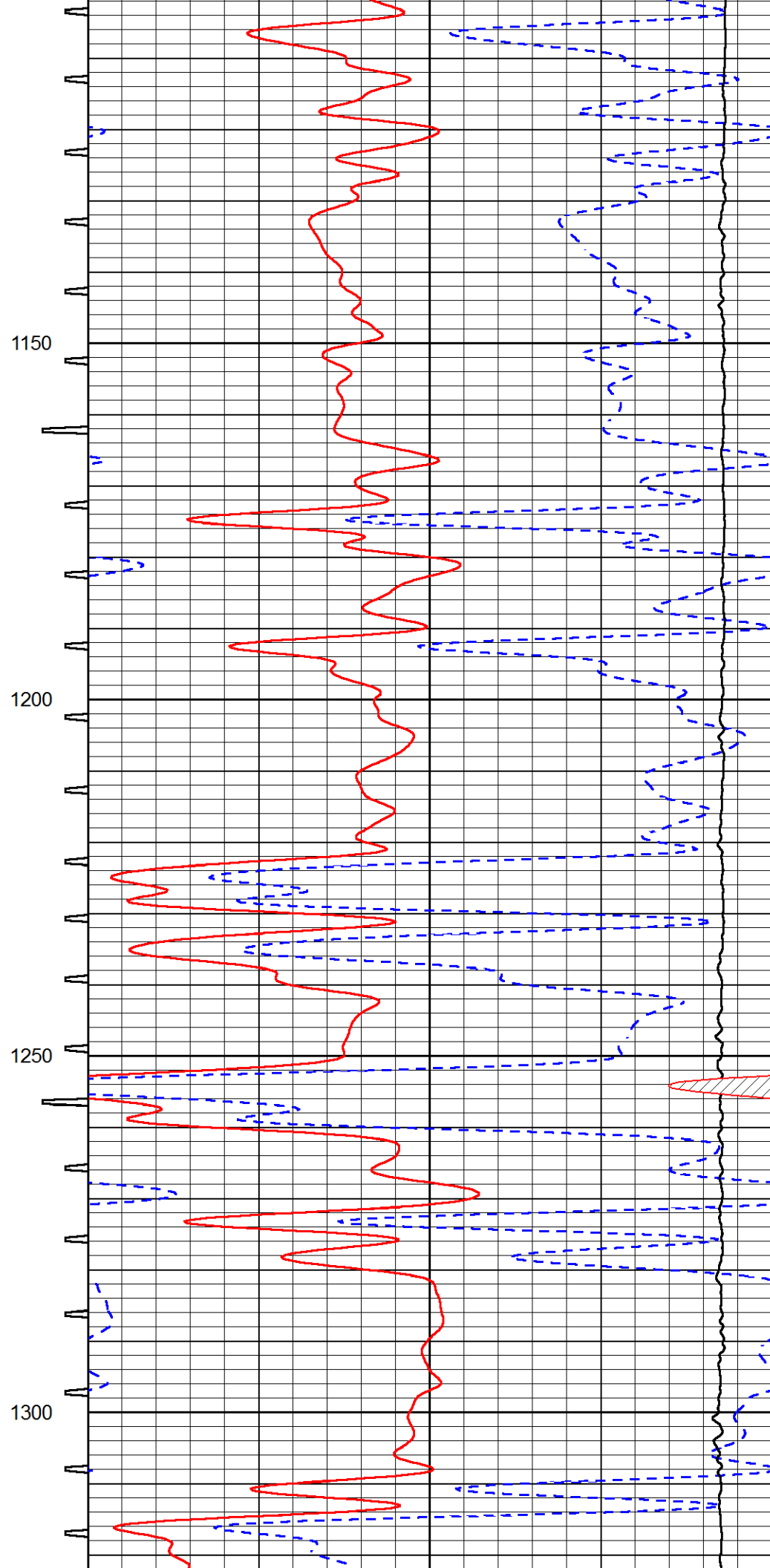
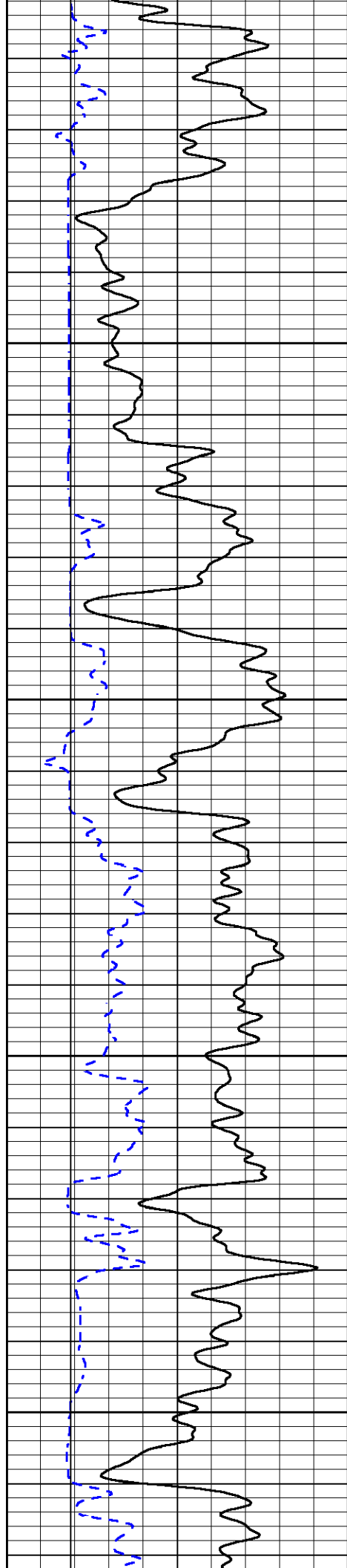
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150	GR (GAPI)	300	5 (msec) 0	30	Sonic Porosity (pu)	-10
6	DCAL (in)	16		15000	LTEN (lb) (lb)	0

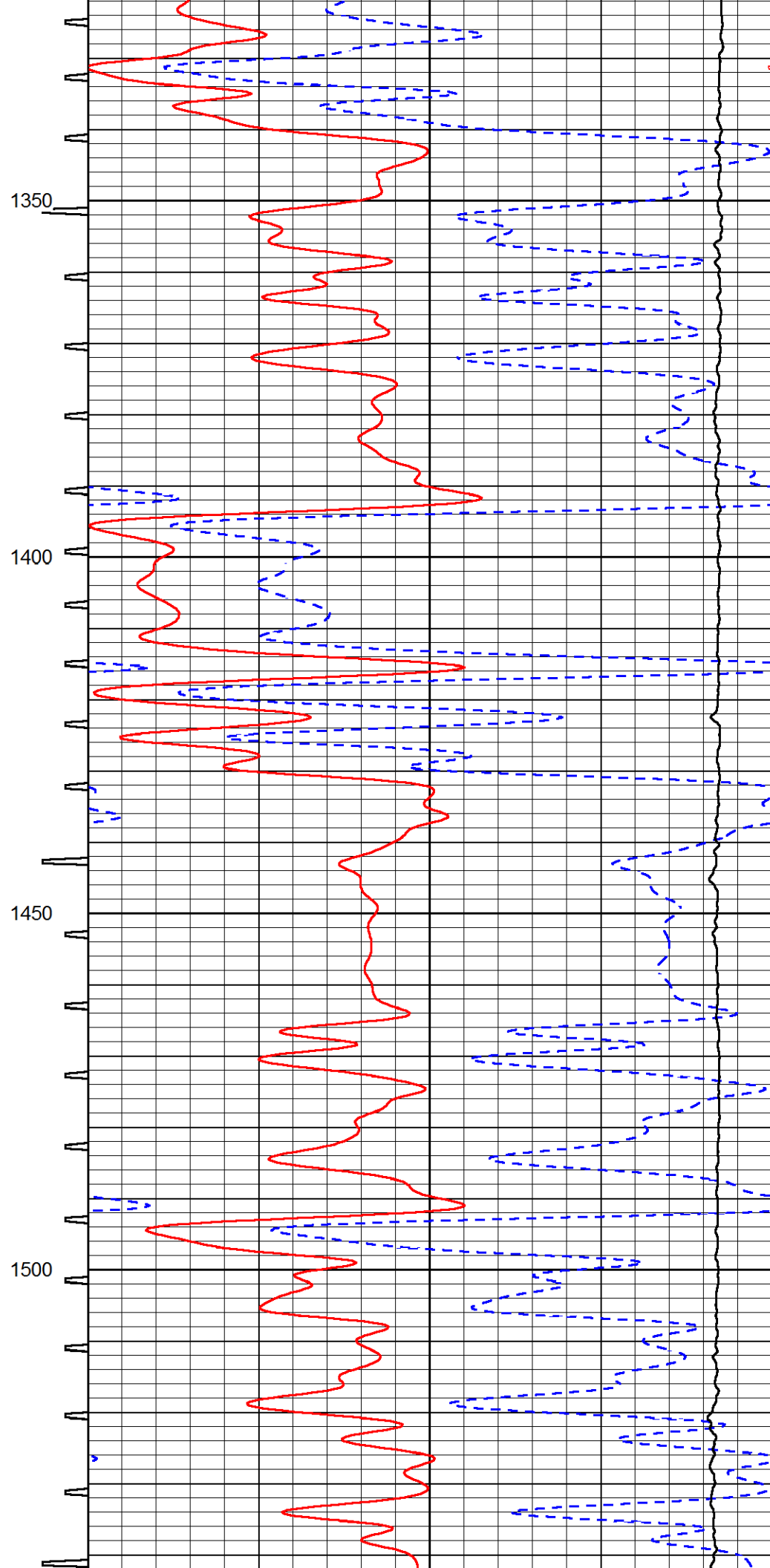
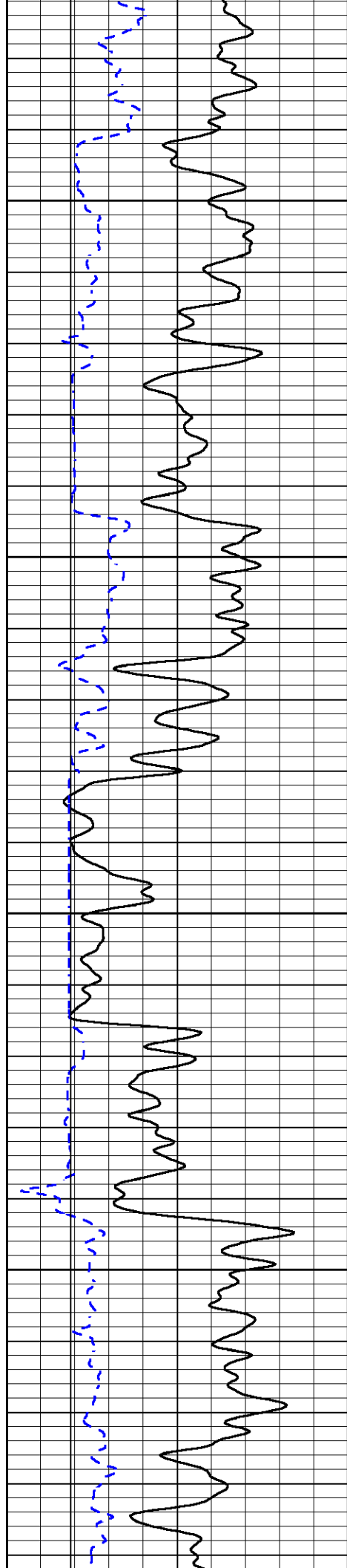


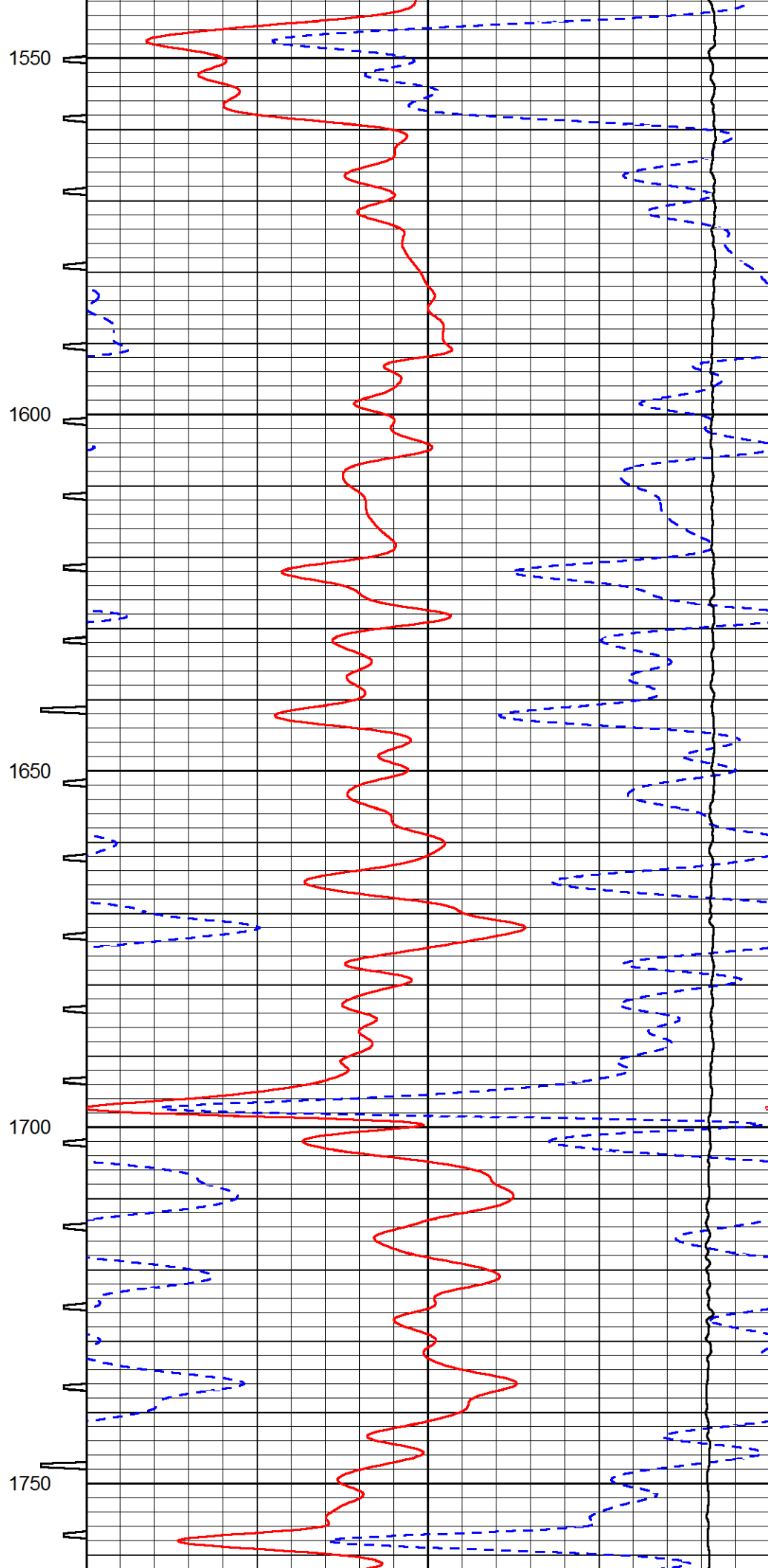
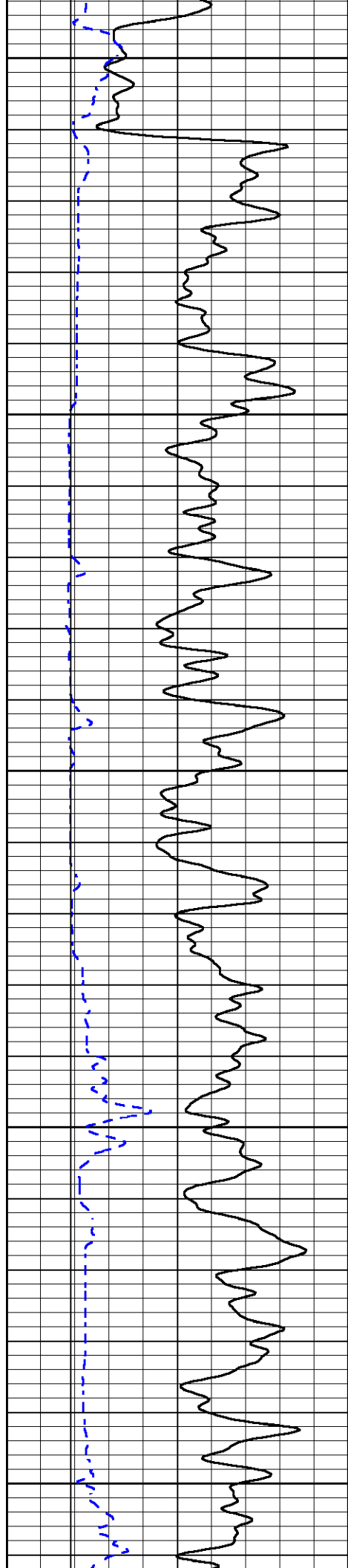


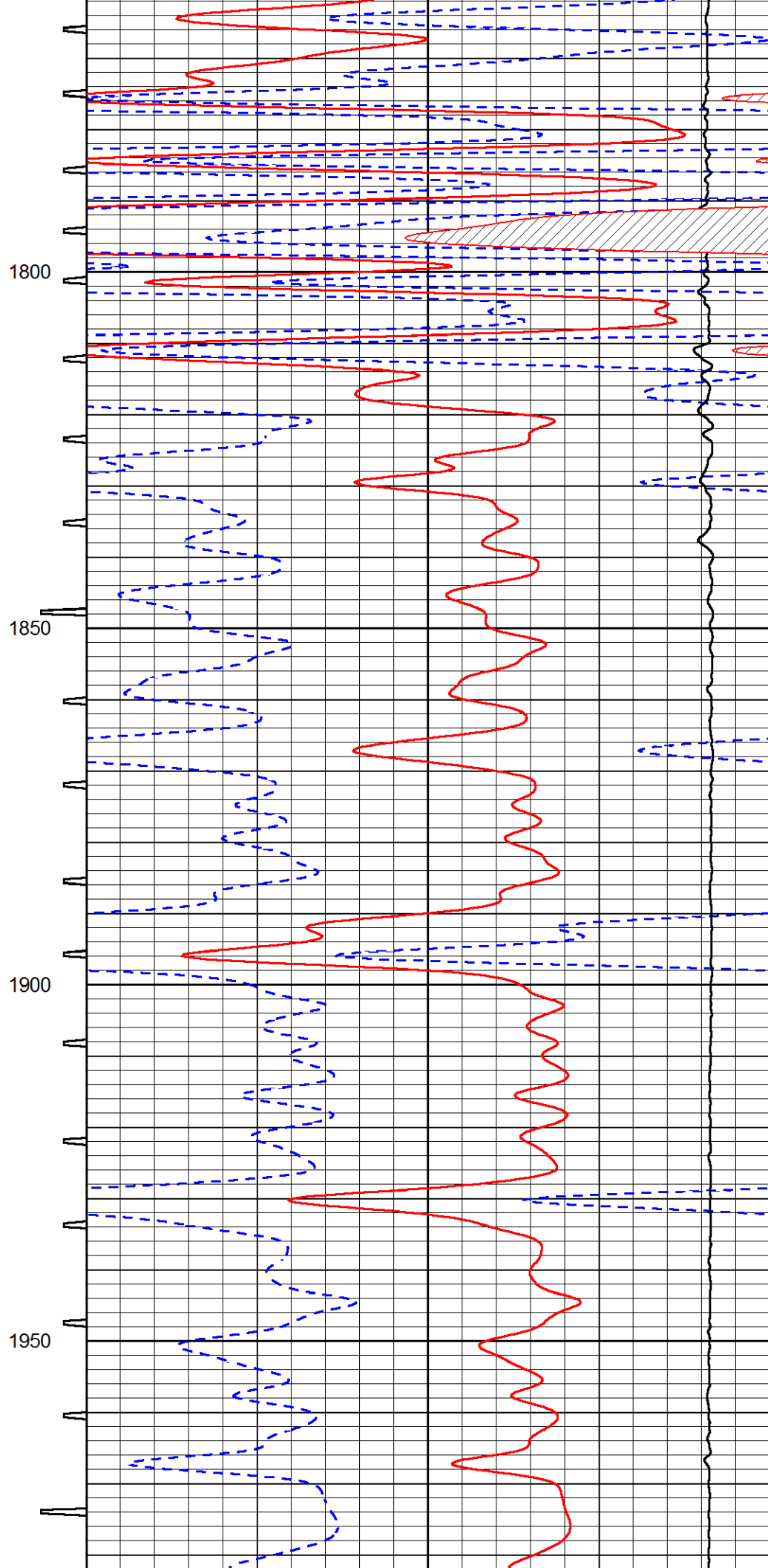
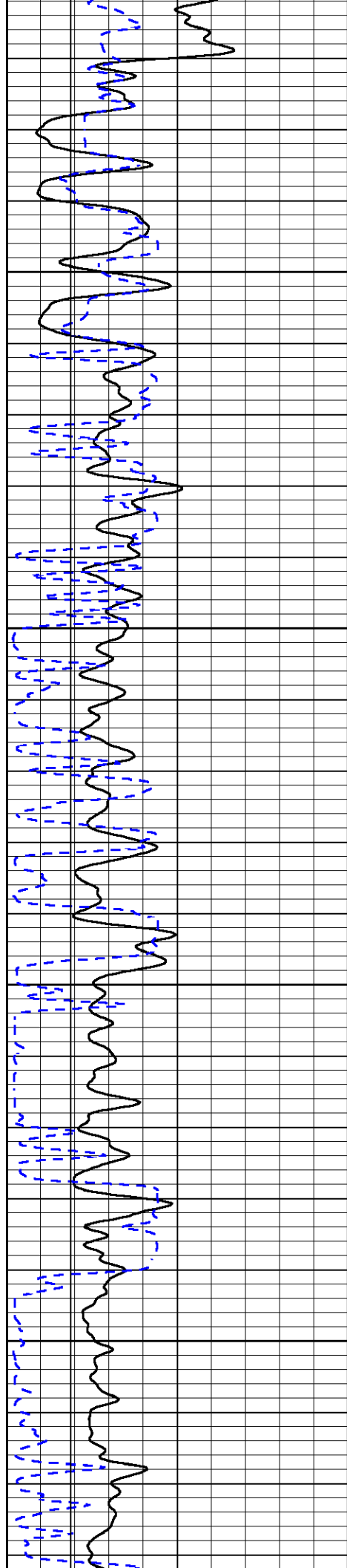


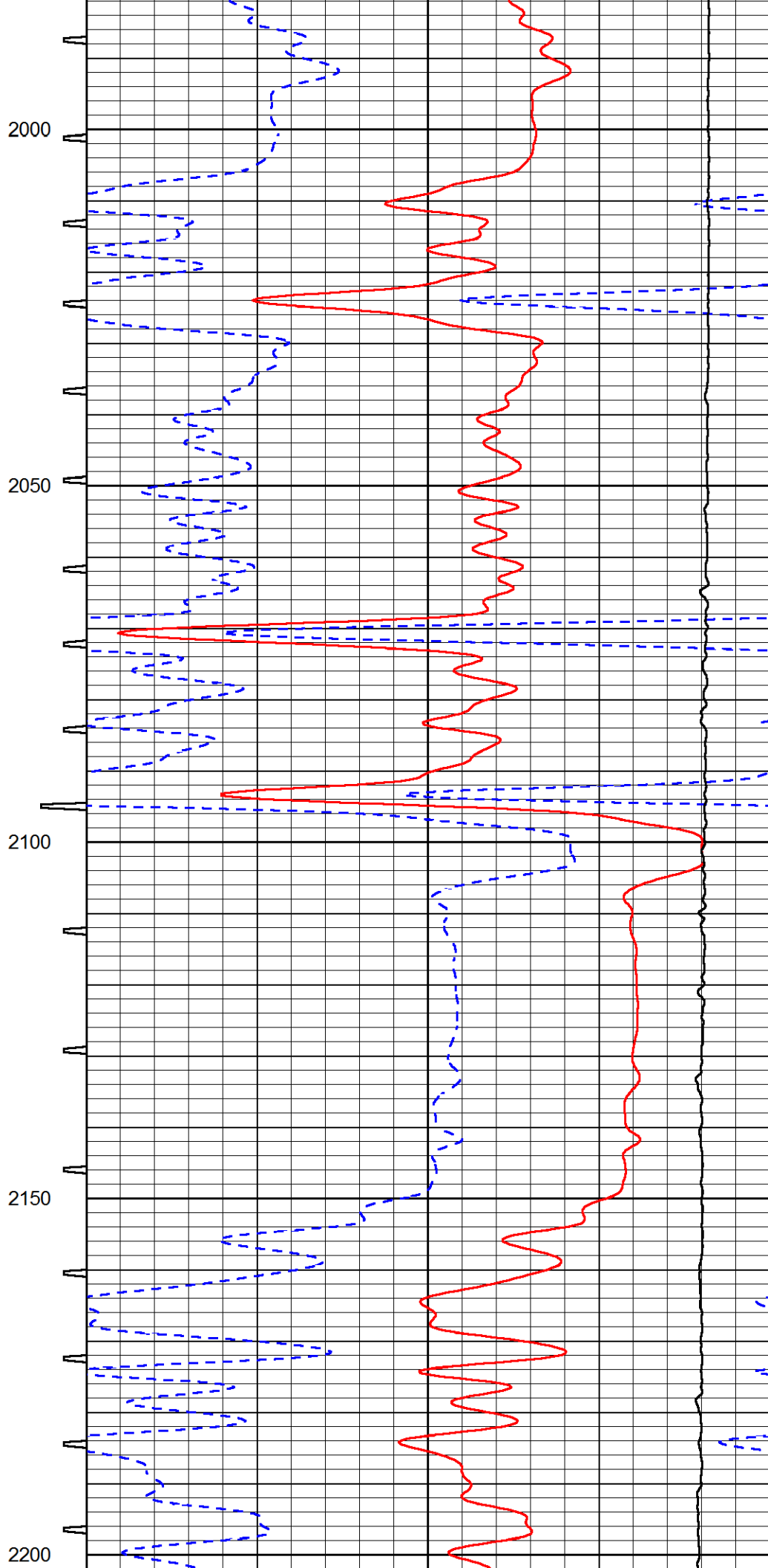
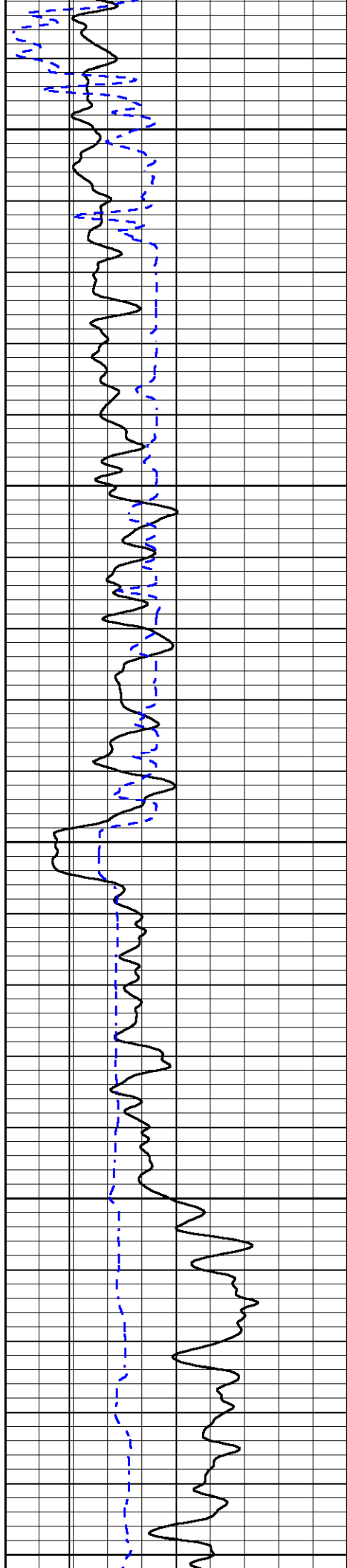


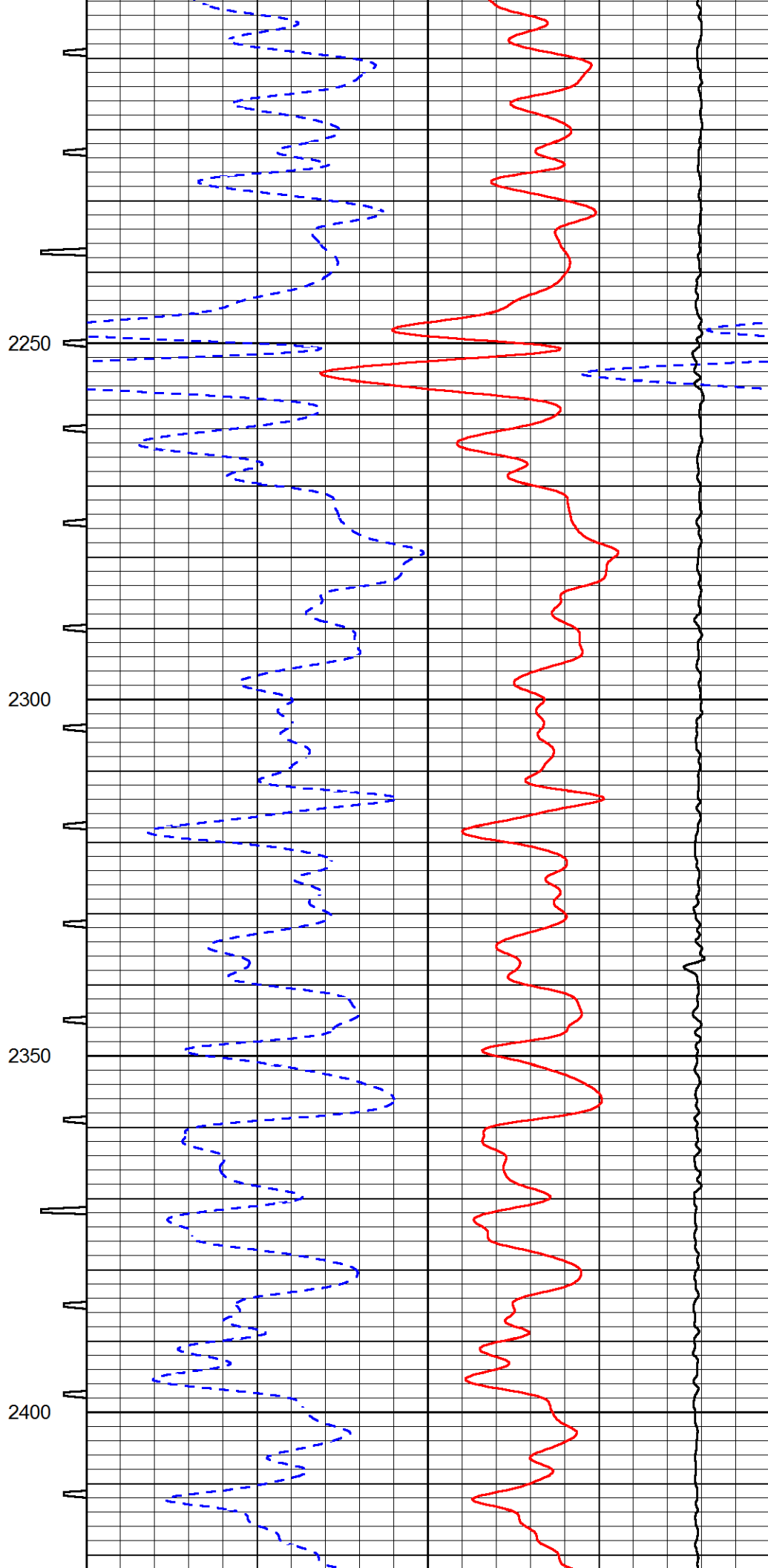
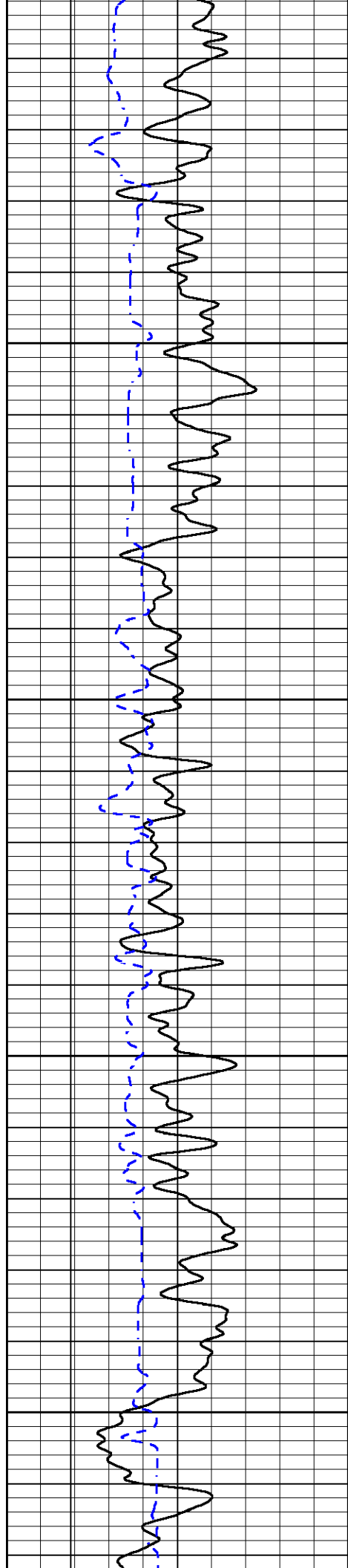


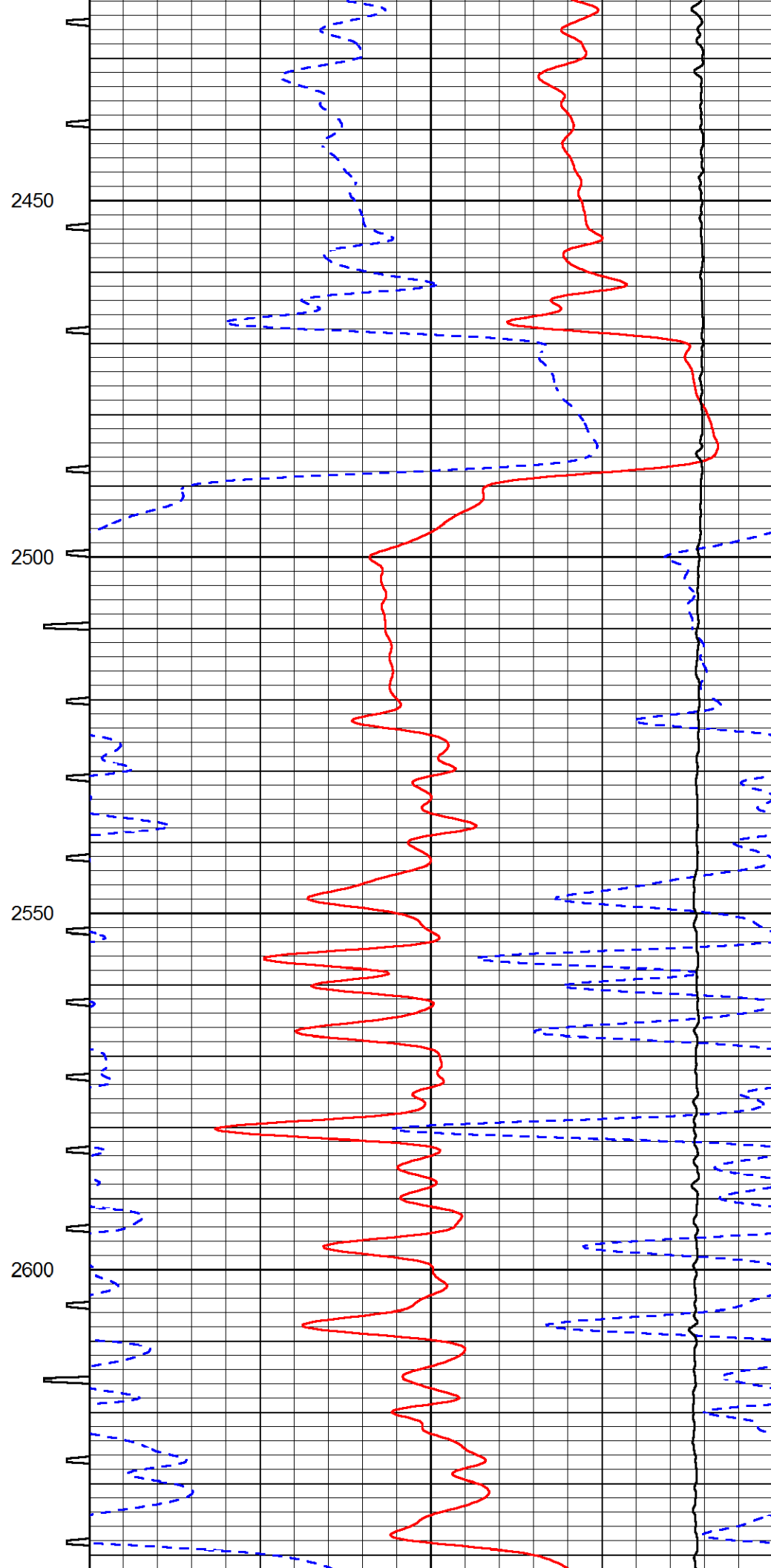
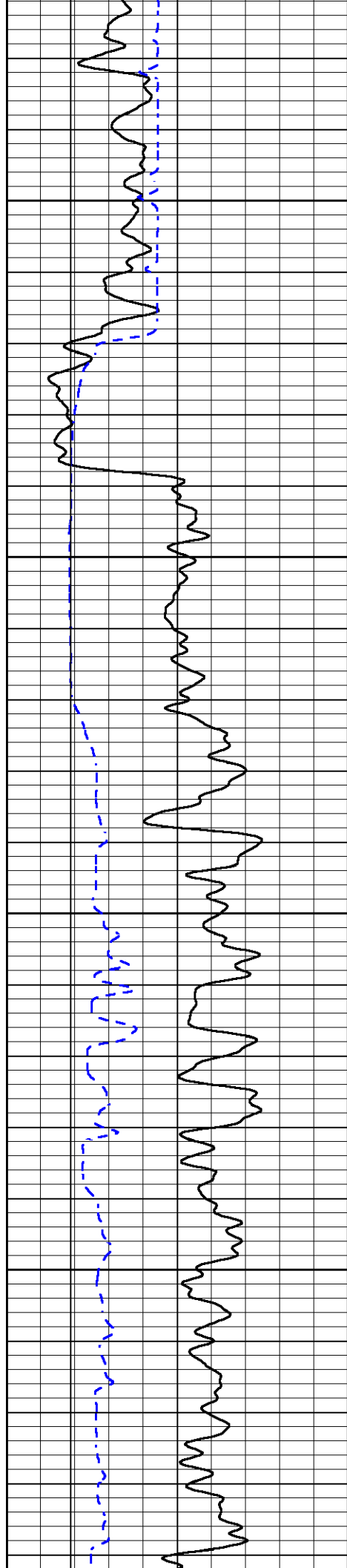


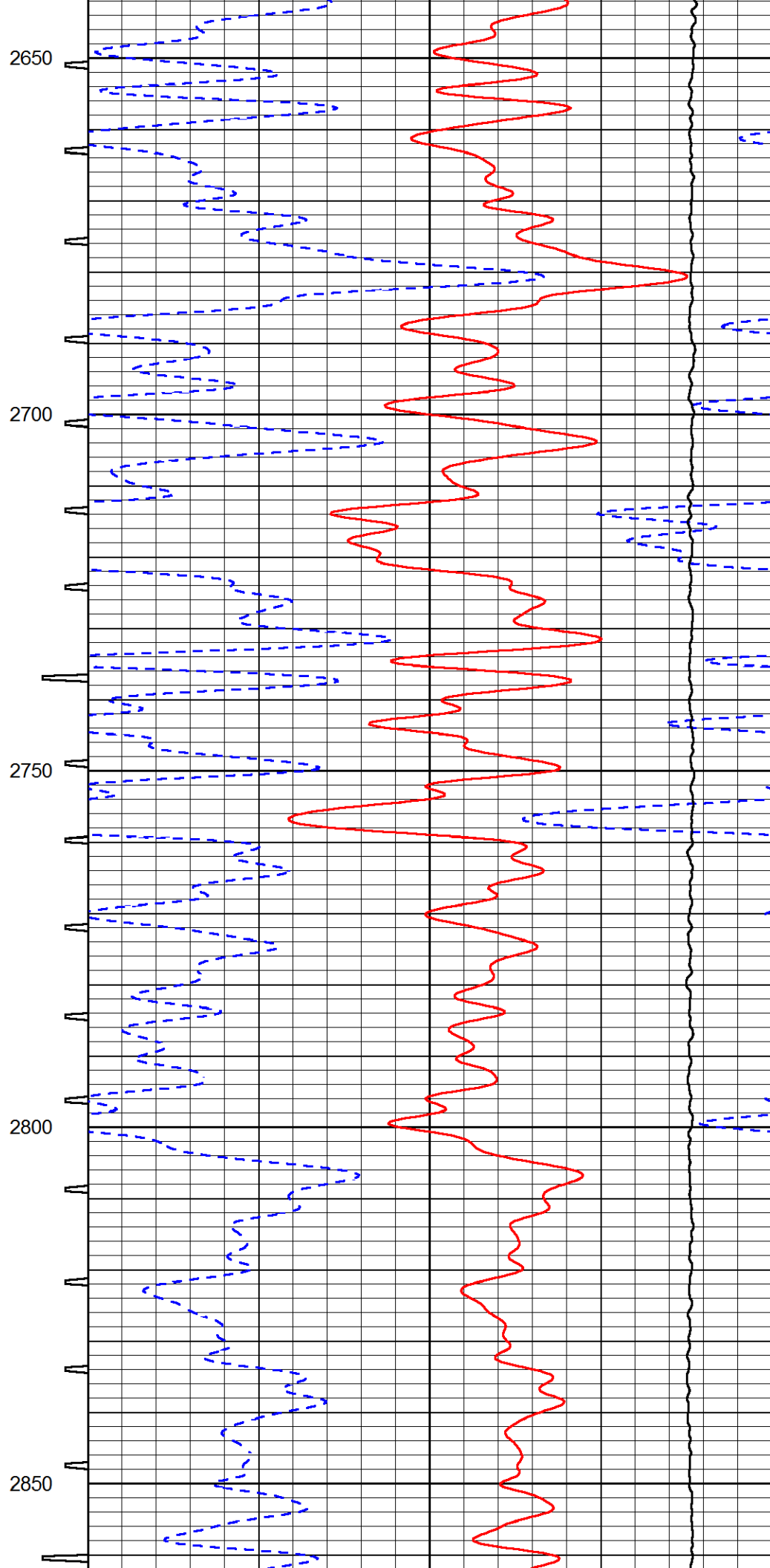
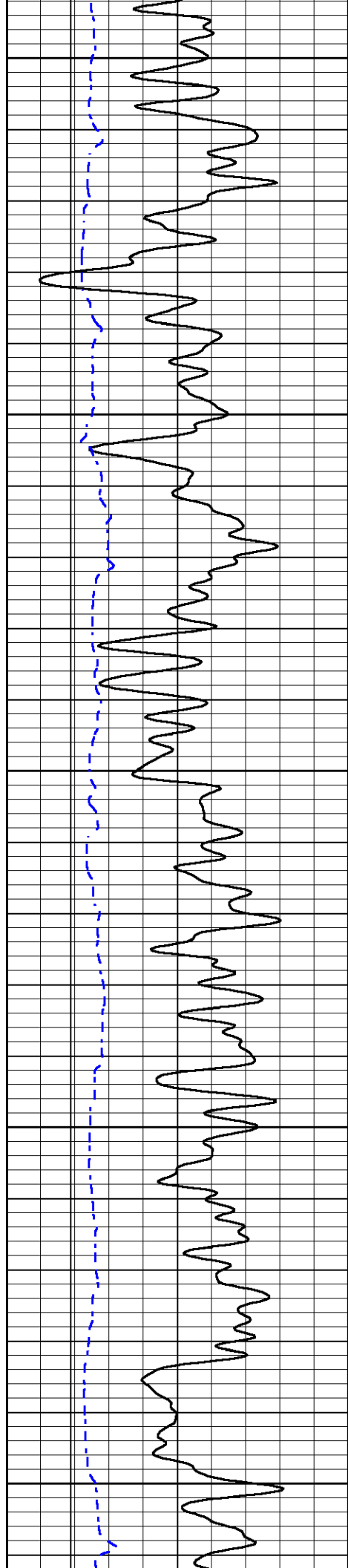


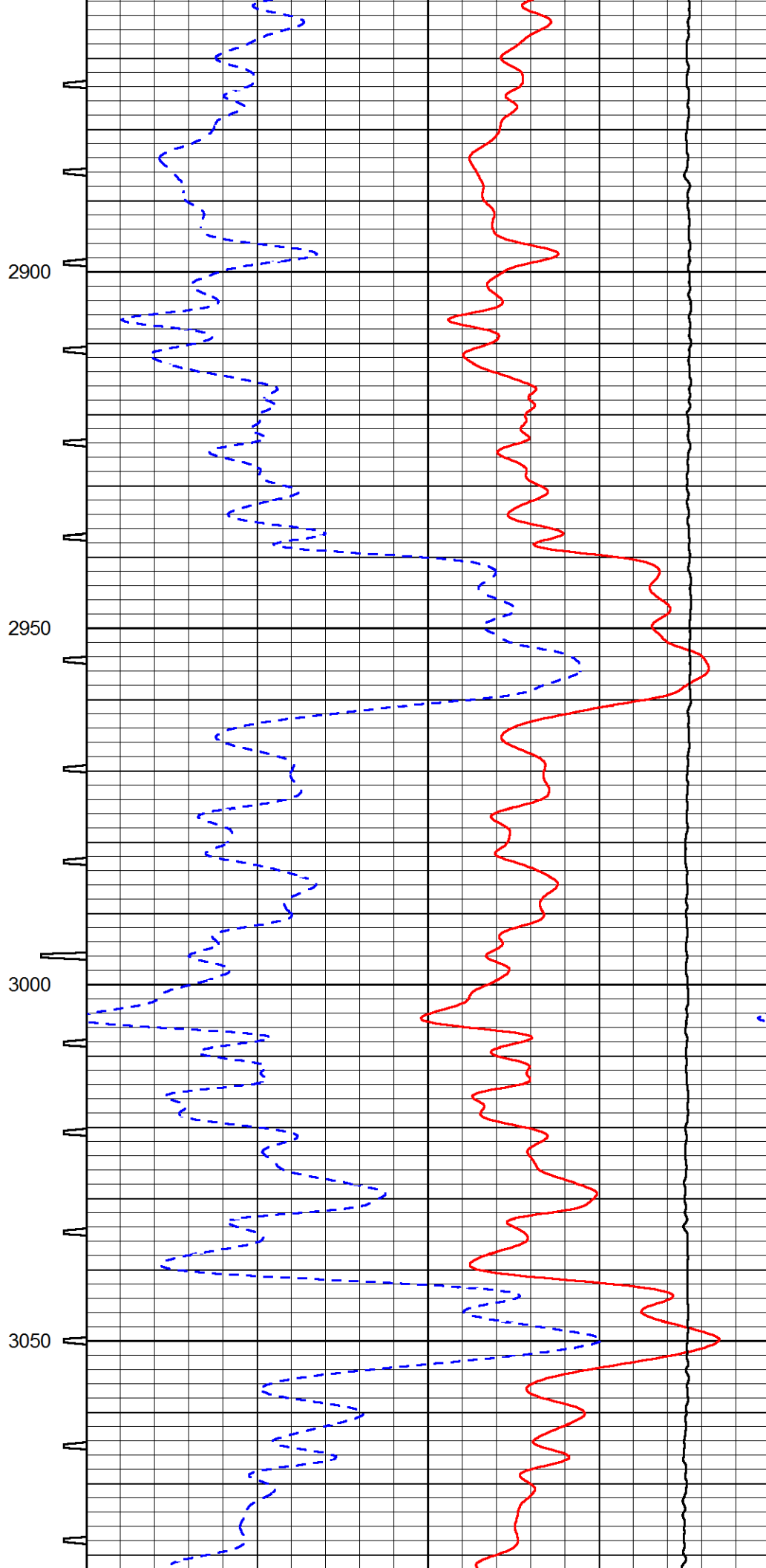
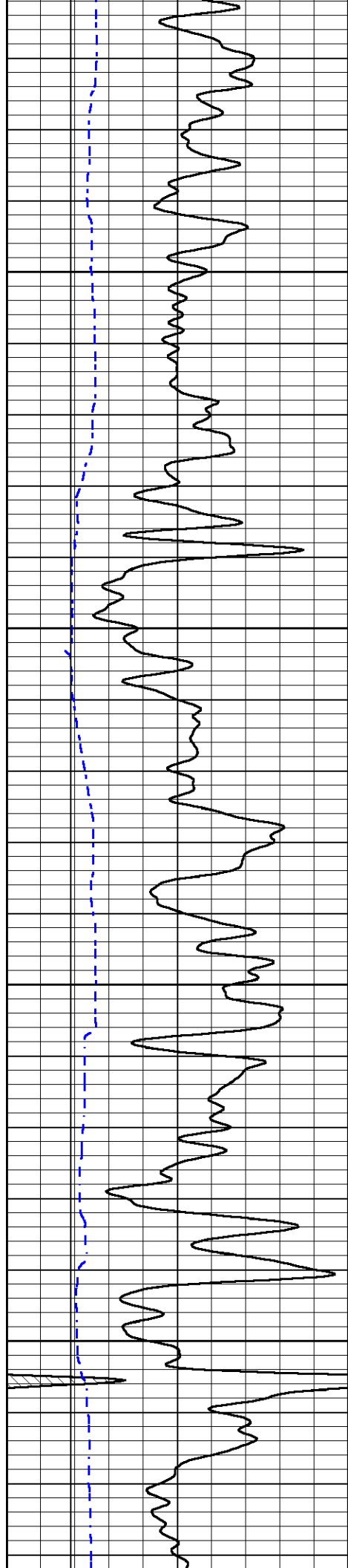


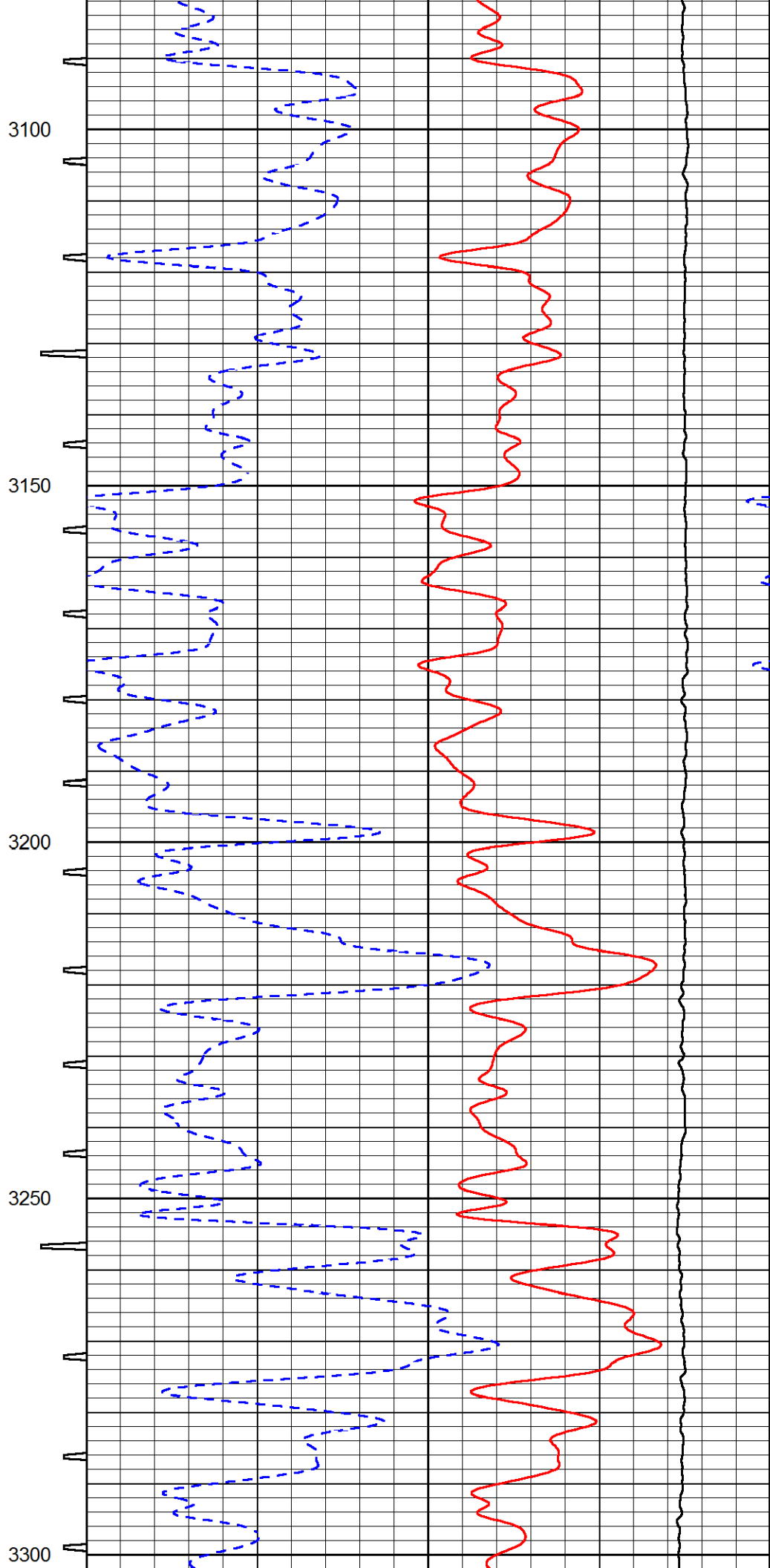
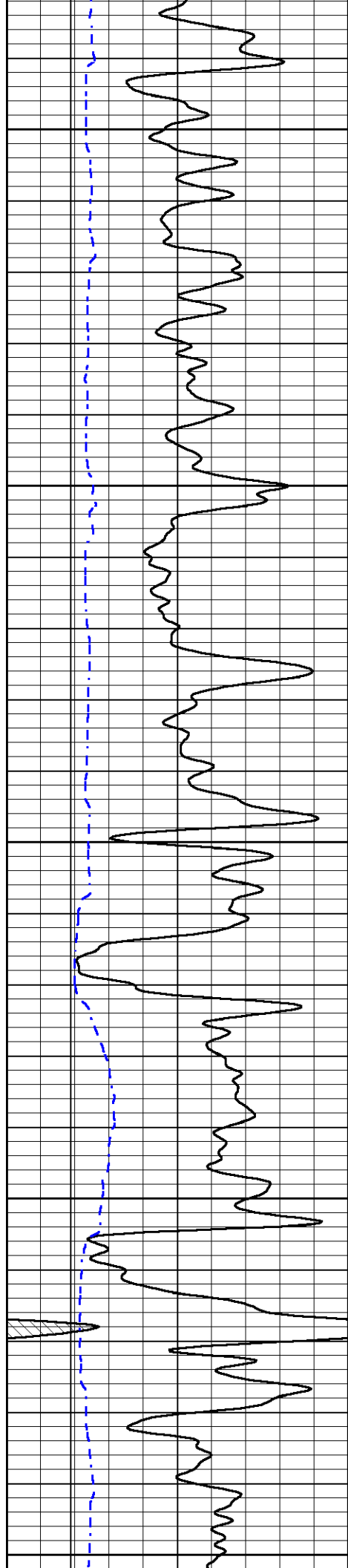


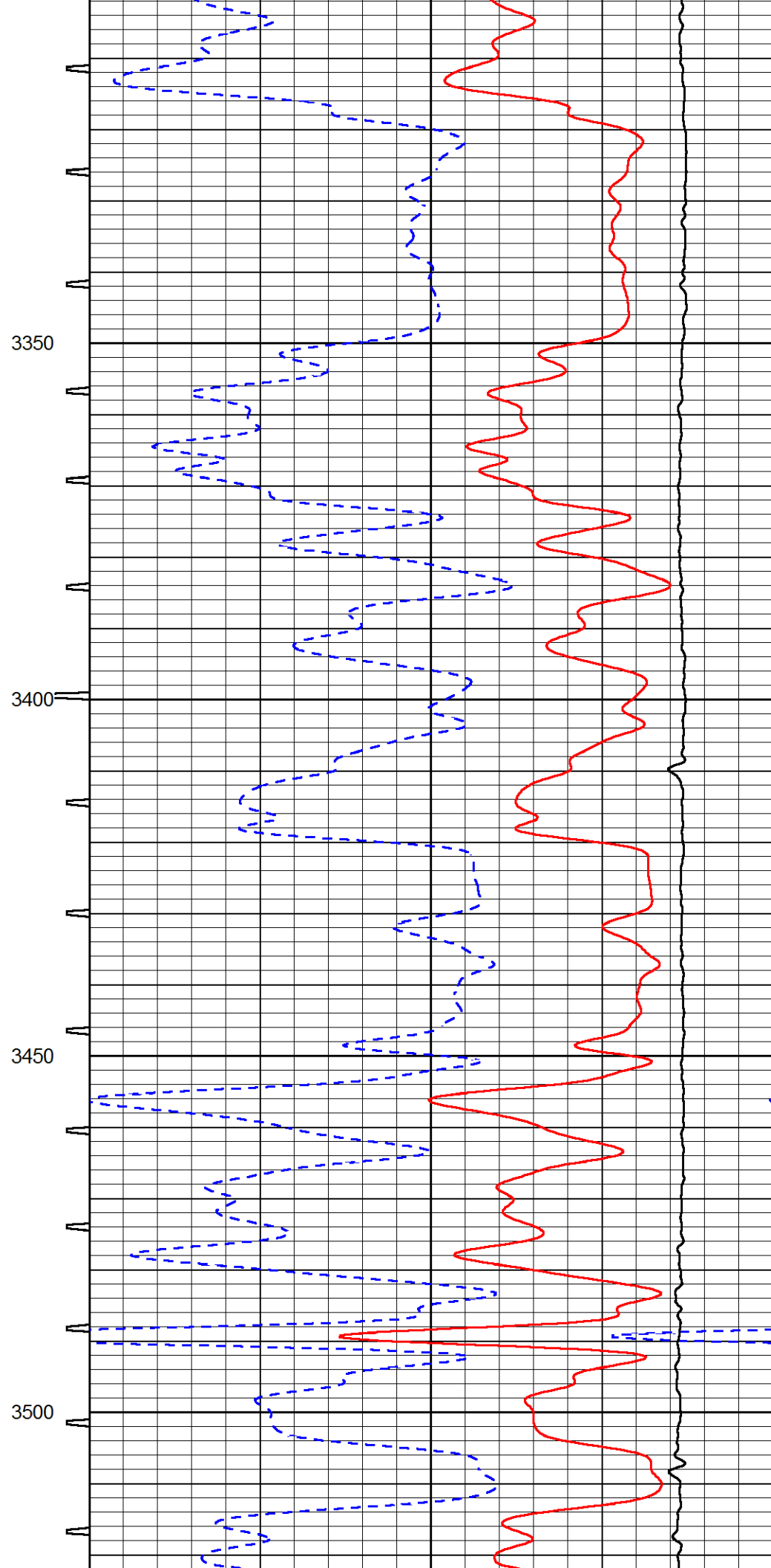
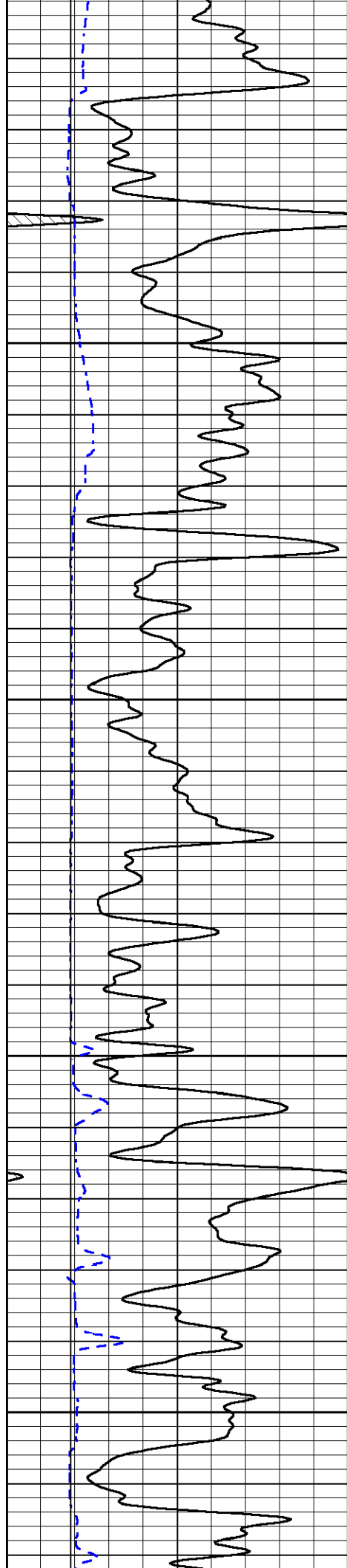


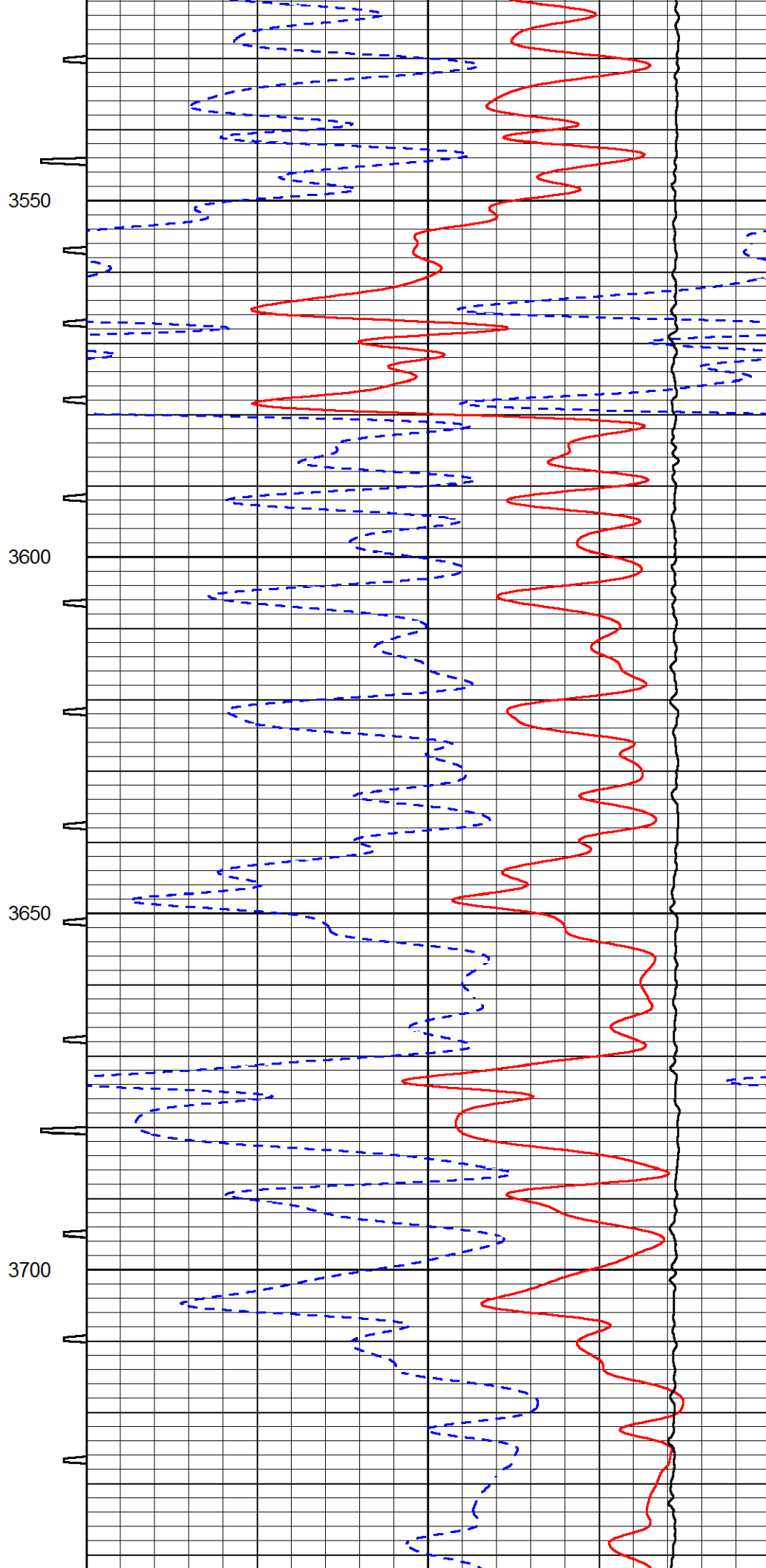
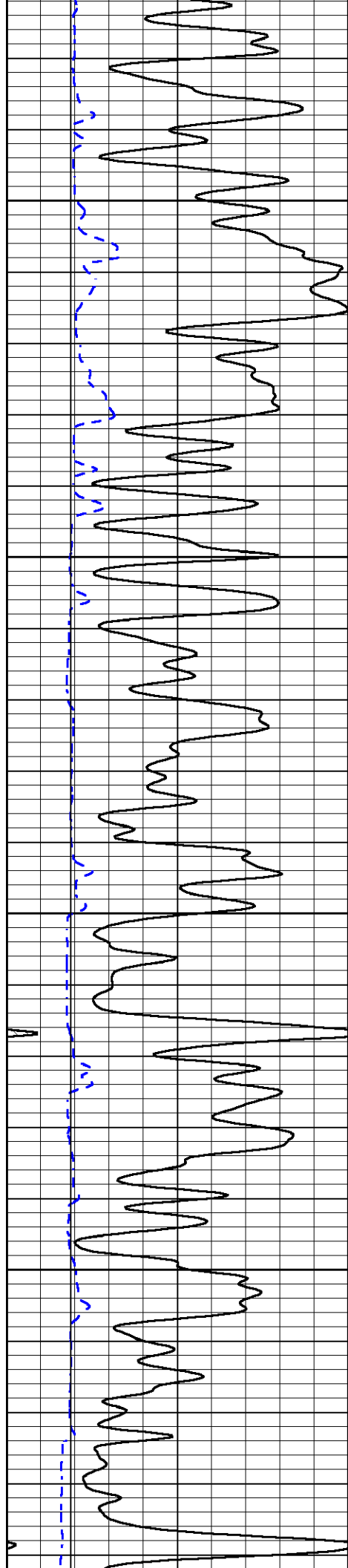


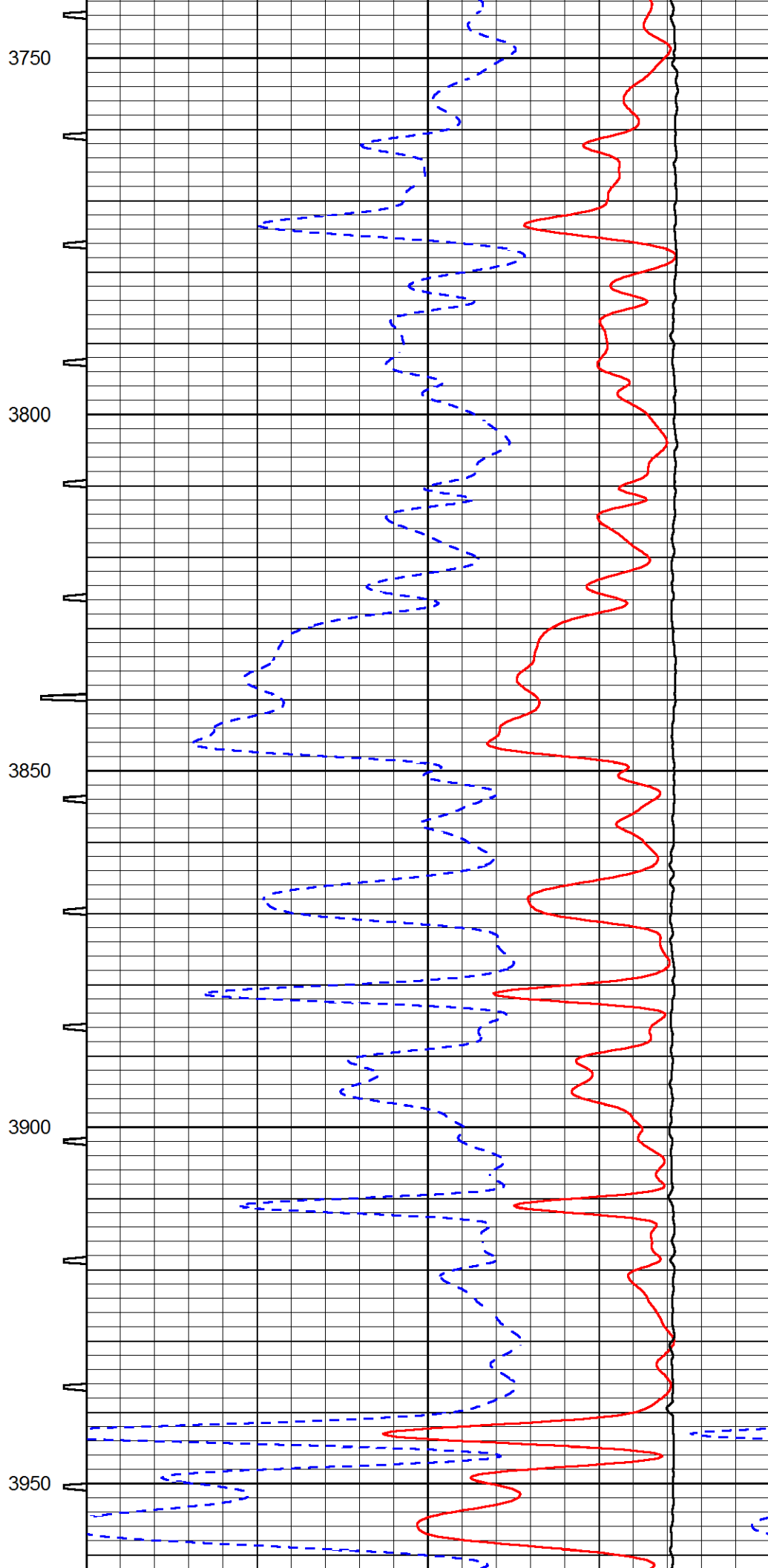
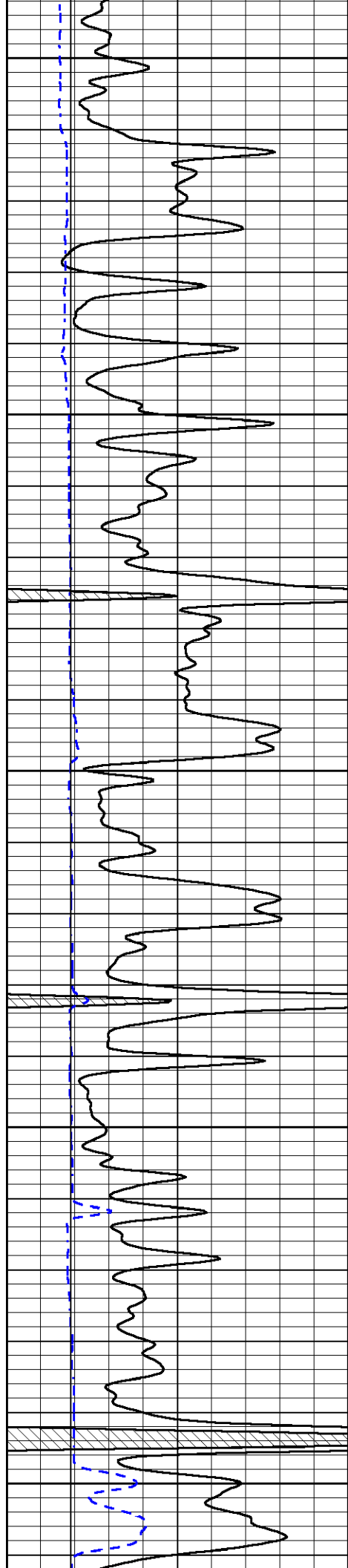


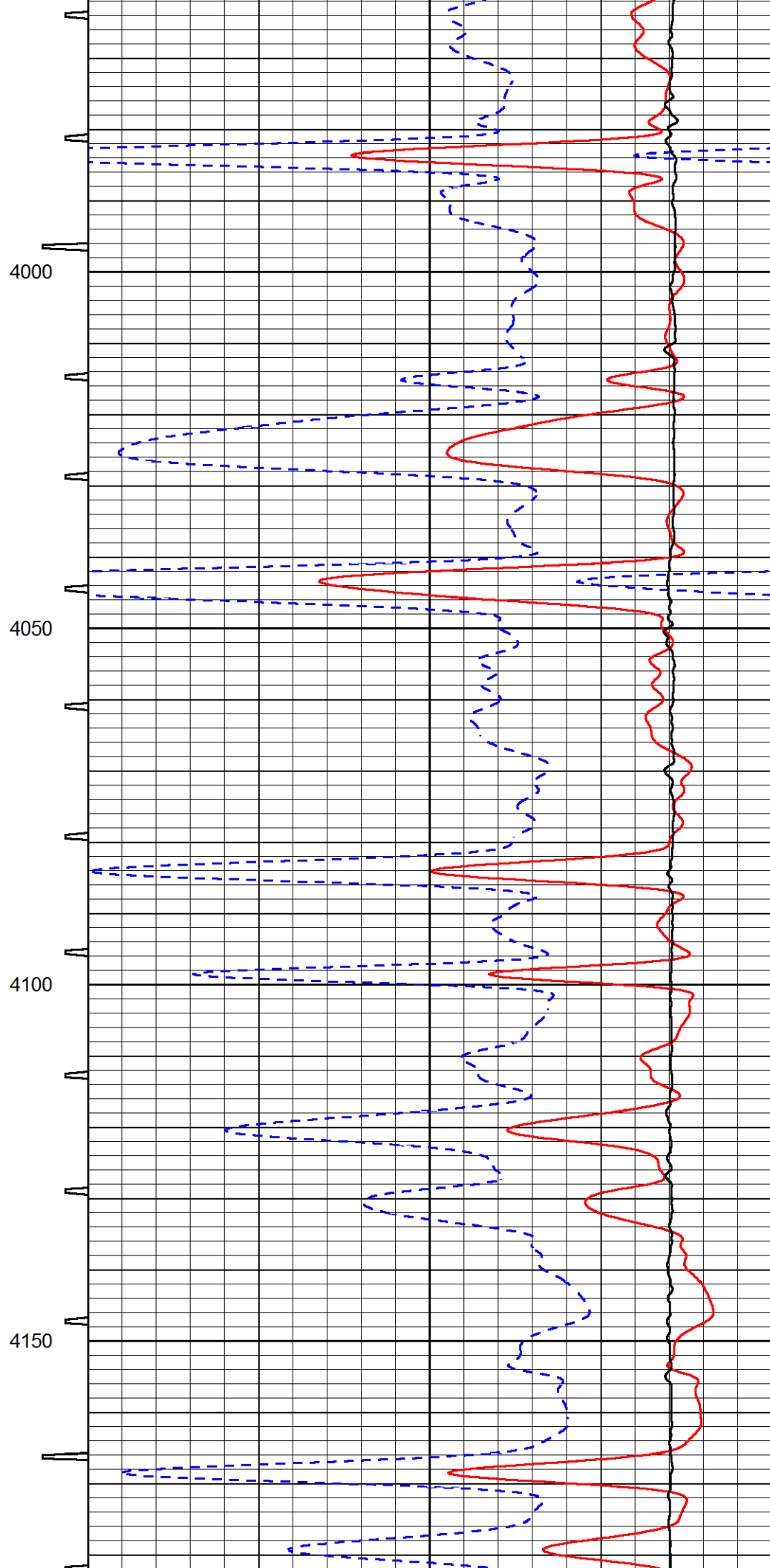
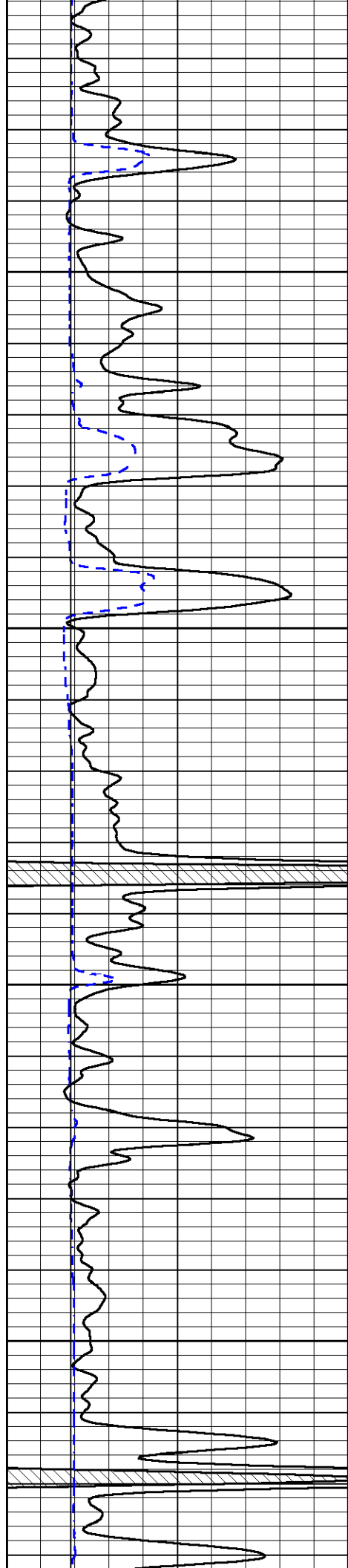


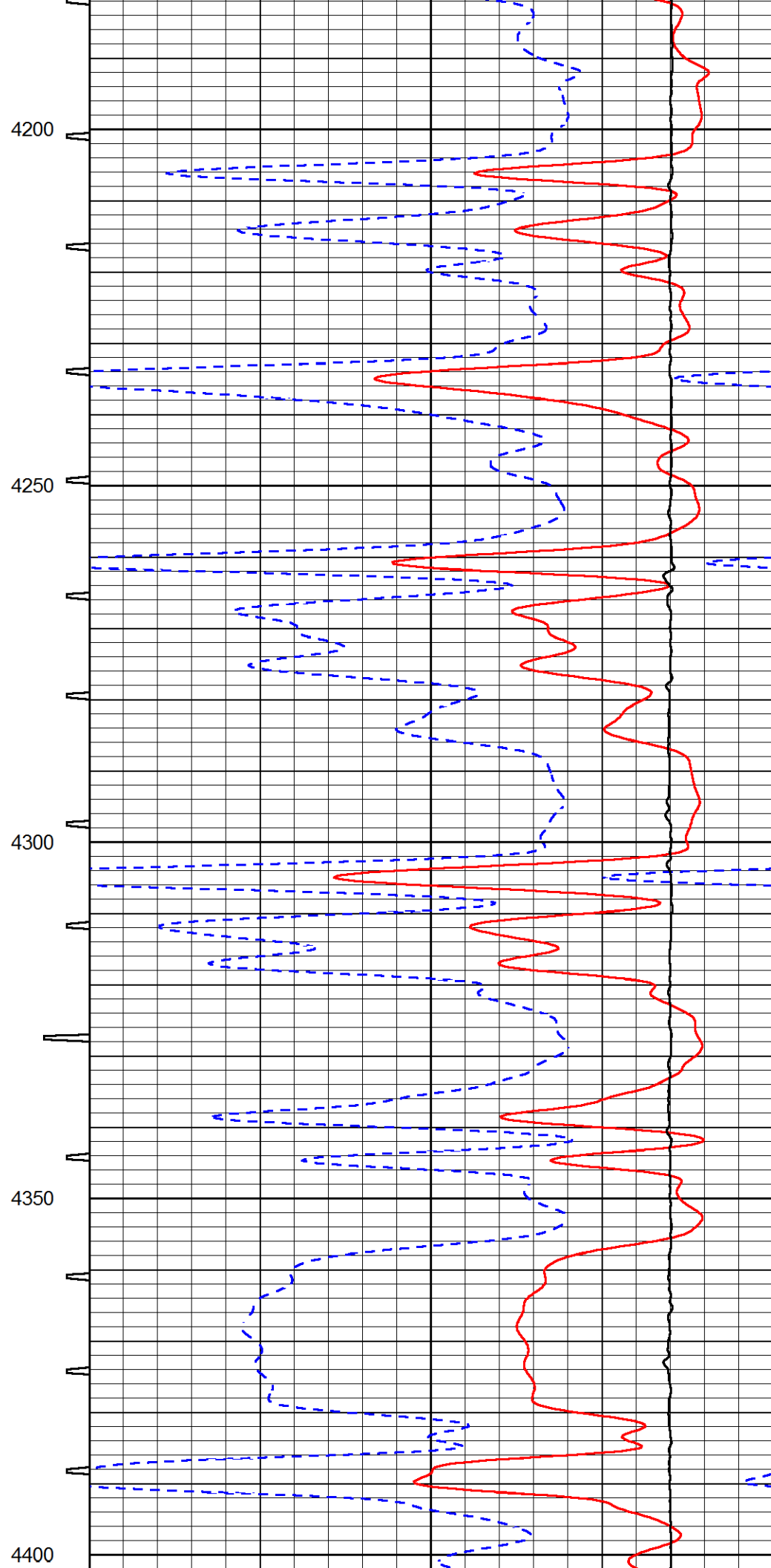
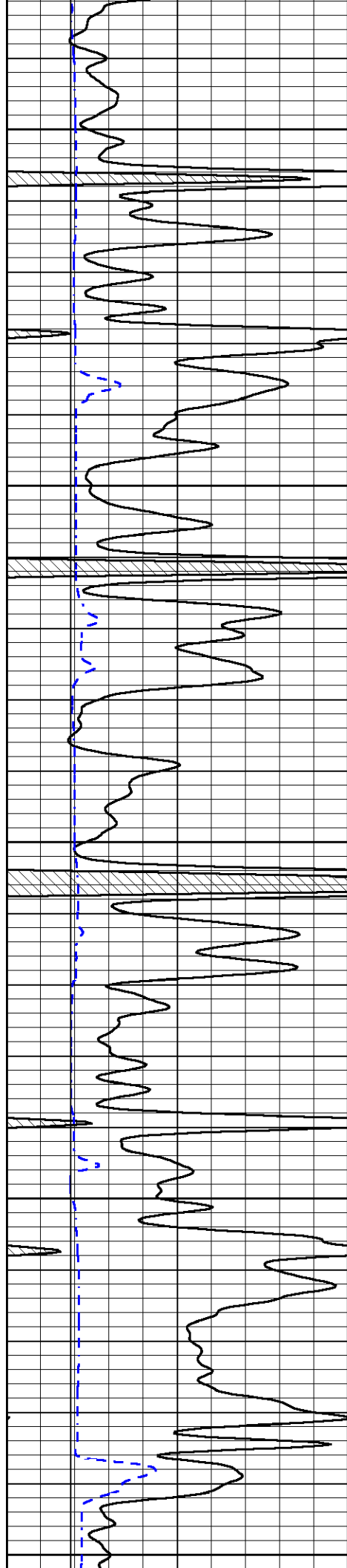


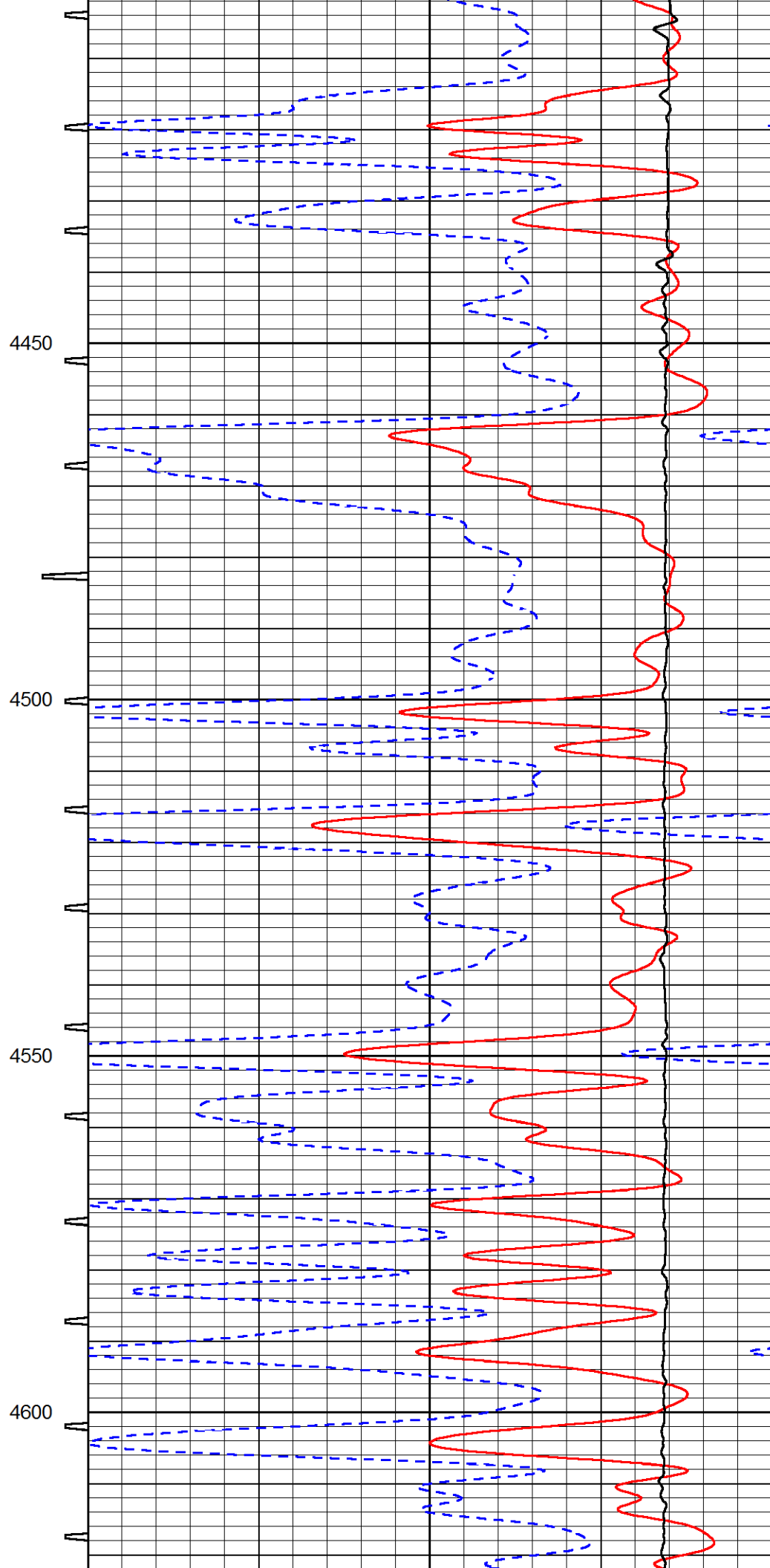
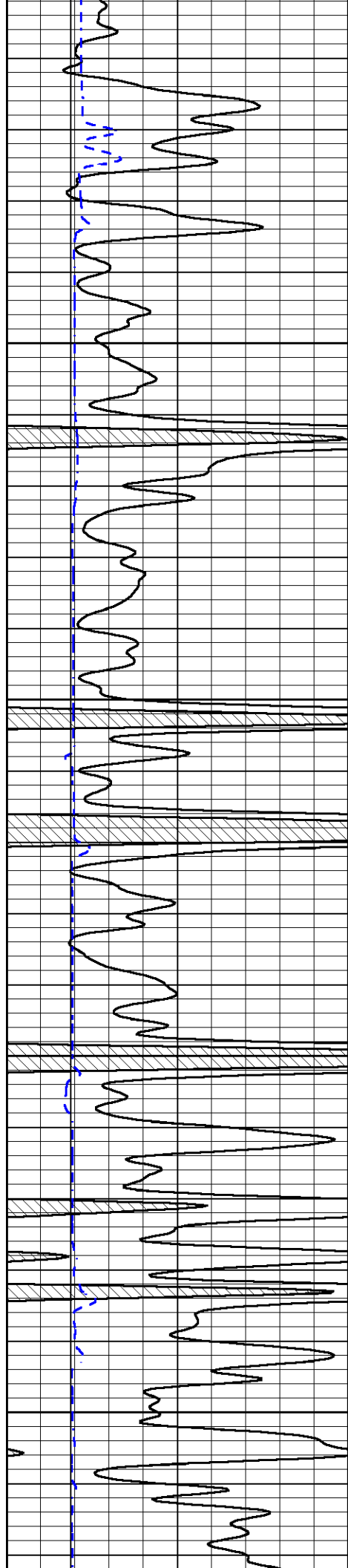


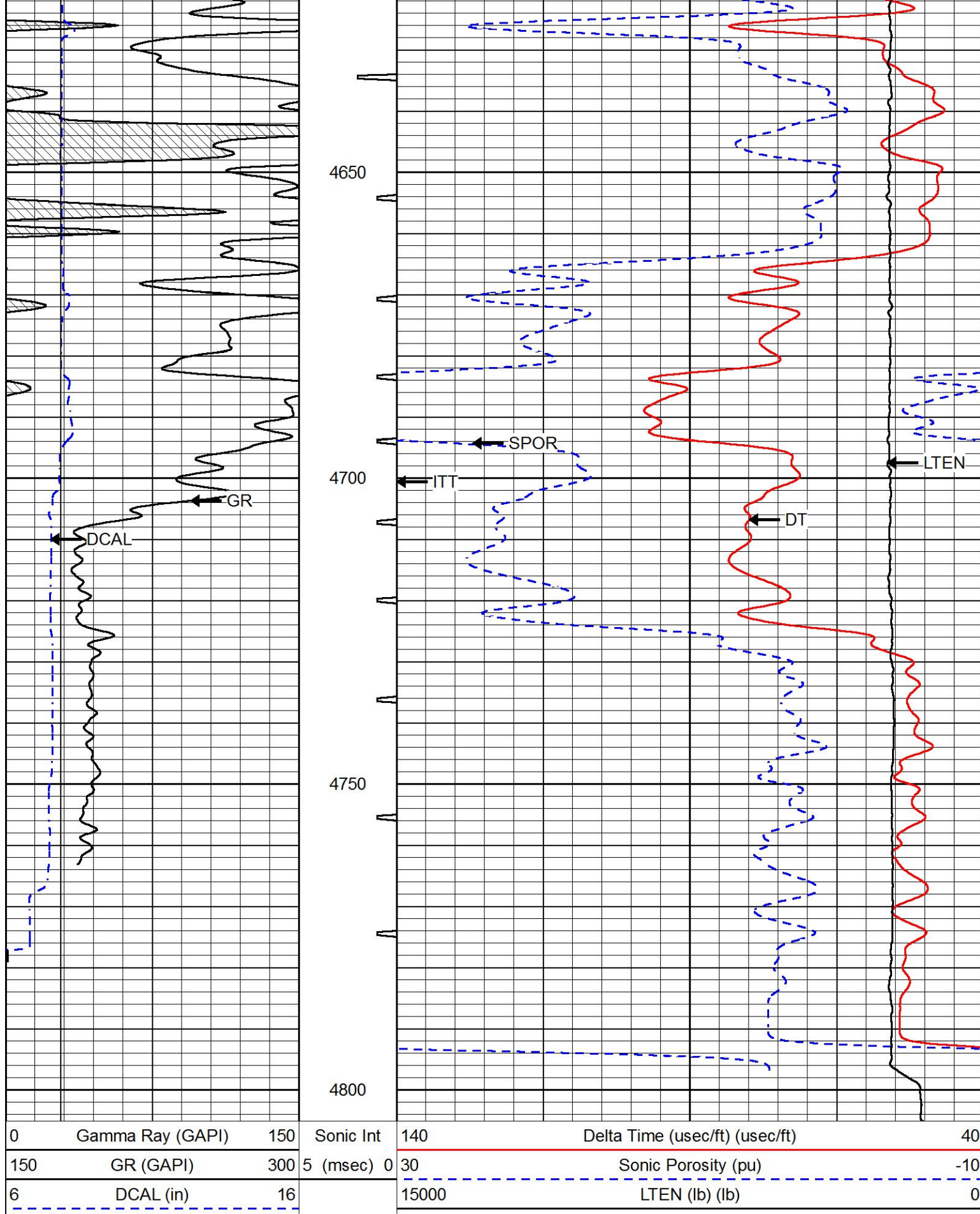






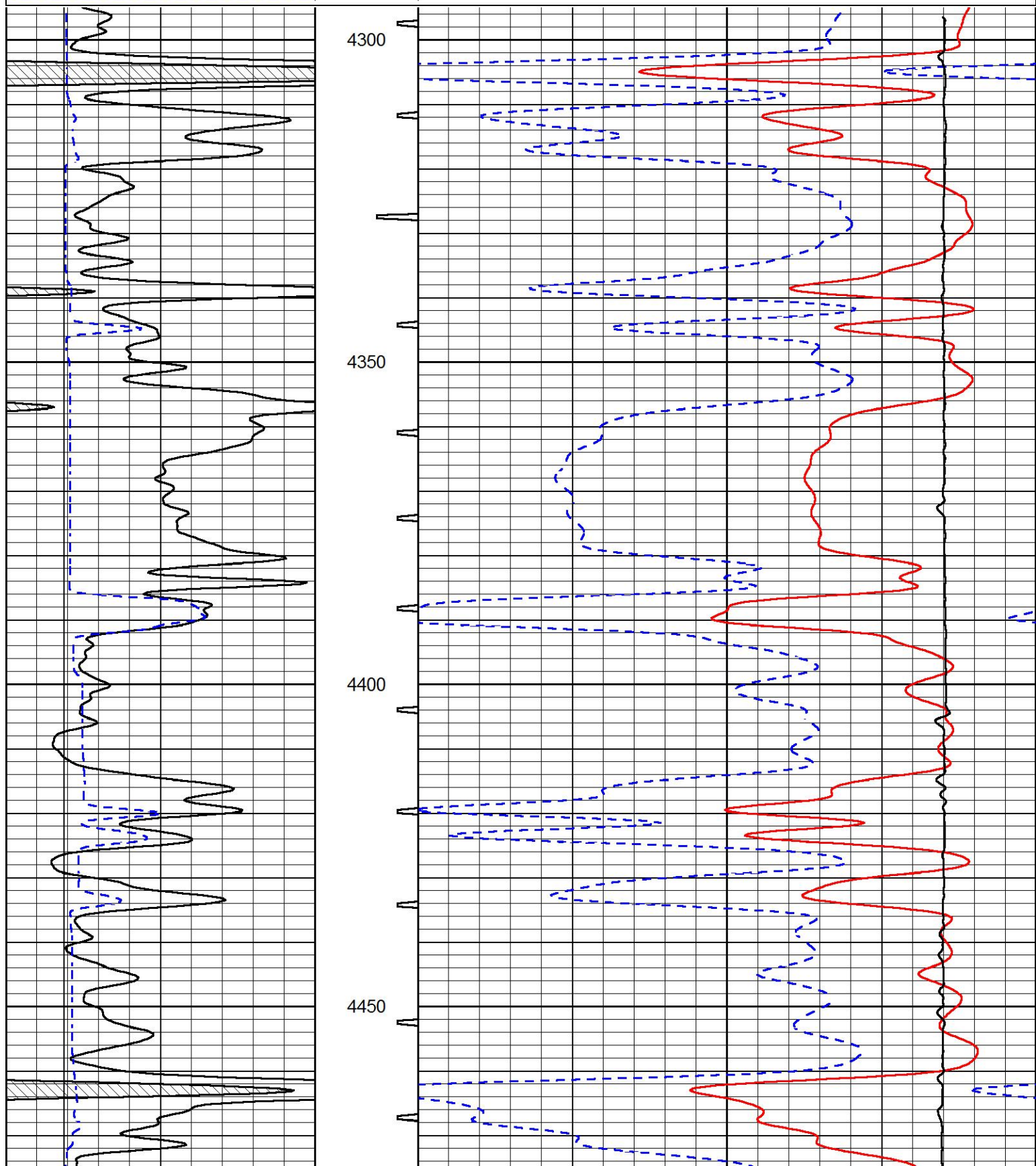


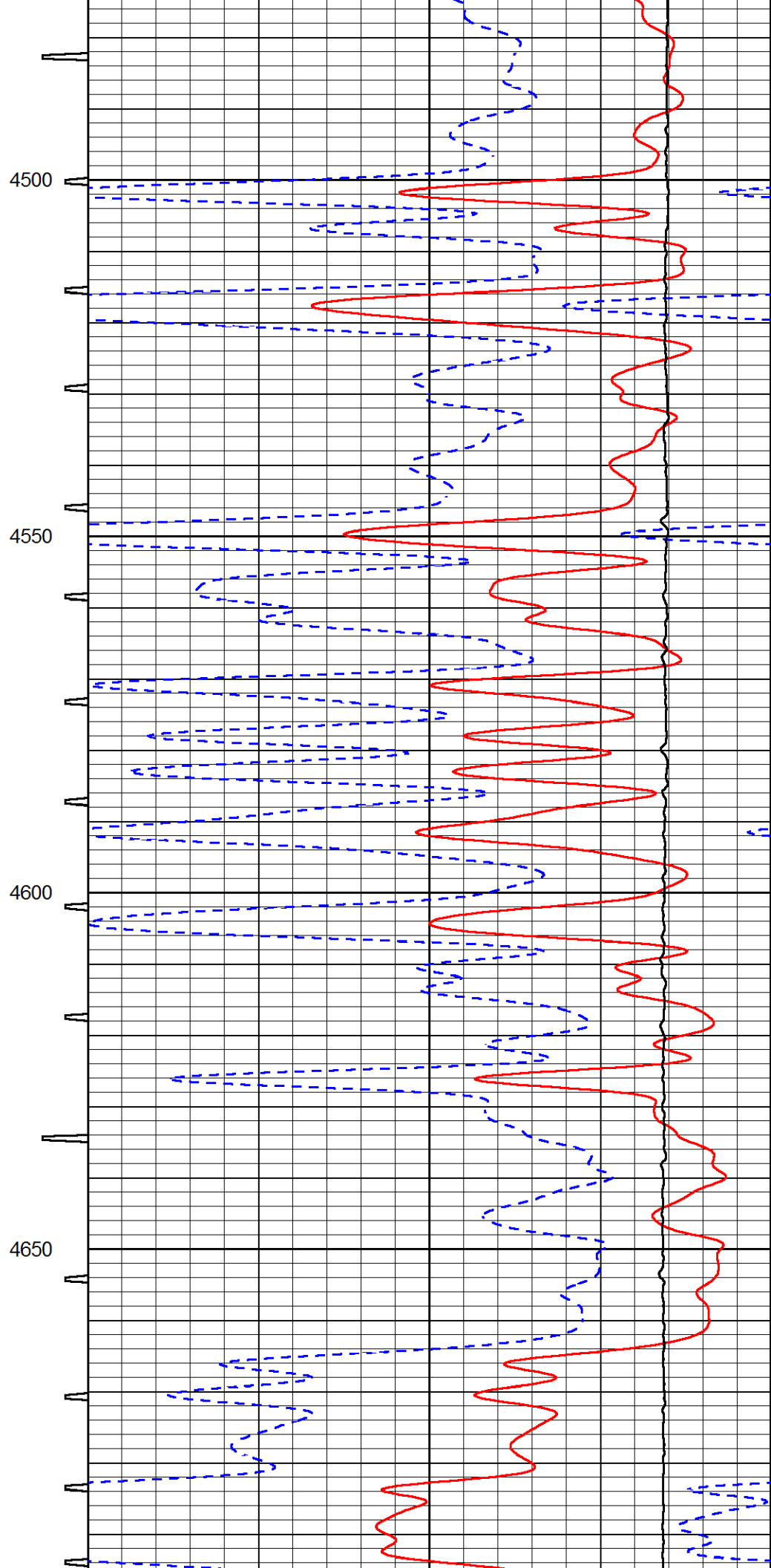
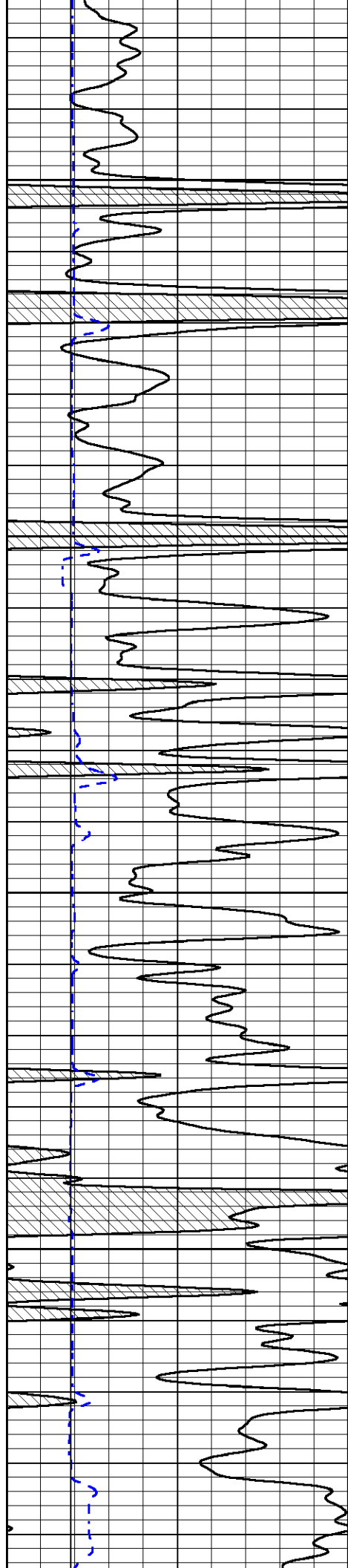


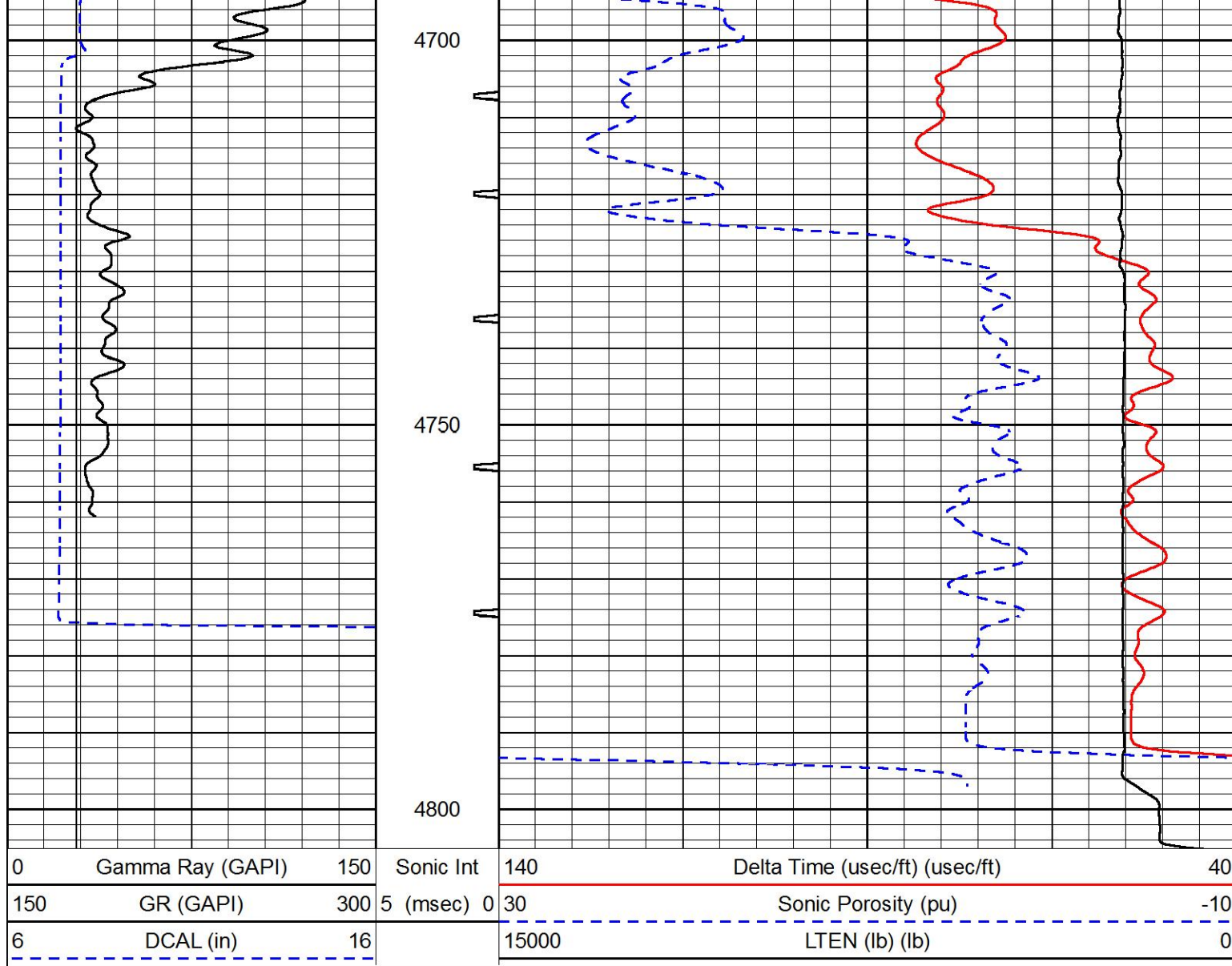


Database File richlan_hillery_1.db
 Dataset Pathname stkmel/pass2.1
 Presentation Format sonic
 Dataset Creation Fri Jun 15 13:05:15 2018
 Charted by Depth in Feet scaled 1:240

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









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Company	RICHLAN DRILLING
Well	HILLERY #1
Field	WILDCAT
County	LOGAN
State	KANSAS