



**BOREHOLE COMPENSATED  
SONIC LOG**

**Company VAL ENERGY, INC.**  
**Well GMK KRISS UNIT #1-18**  
**Field UNKNOWN**  
**County THOMAS**      **State KANSAS**

Company VAL ENERGY, INC.  
 Well GMK KRISS UNIT #1-18  
 Field UNKNOWN  
 County THOMAS  
 State KANSAS

**Location:**      API #: 15-193-20990-00-00  
 2618' FNL & 1660' FEL  
 SEC 8    TWP 8S    RGE 35W  
 Permanent Datum      GROUND LEVEL      Elevation 3329'  
 Log Measured From      KELLY BUSHING  
 Drilling Measured From      KELLY BUSHING

Other Services  
 CNL/CDL  
 DIL/MEL  
 Elevation  
 K.B. 3334'  
 D.F. N/A  
 G.L. 3329'

Date	3/27/2017						
Run Number	TWO						
Type Log	BHCS						
Depth Driller	4900'						
Depth Logger	4900'						
Bottom Logged Interval	4888'						
Top Logged Interval	250'						
Type Fluid In Hole	CHEMICAL						
Salinity, PPM CL	6000						
Density	9.3						
Level	FULL						
Max. Rec. Temp. F	125						
Operating Rig Time	5 HOURS						
Equipment -- Location	91 COLBY						
Recorded By	D. SCHMIDT						
Witnessed By	TIM PRIEST						
Borehole Record		Casing Record					
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0'	260'	8.625"	23#	0'	260'
TWO	7.875"	260'	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.

LEVANT,  
 WEST ON OLD 24 TO 9 RD, 1/2 NORTH,  
 WEST INTO

Log Measured From: KELLY BUSHING      5    Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES  
[www.pioneerenergy.com](http://www.pioneerenergy.com)      785-625-3858

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

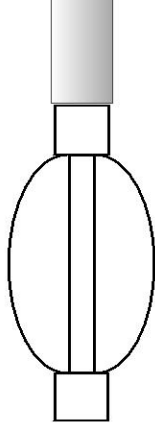
# Log Variables

Database C:\ProgramData\Warrior\Data\val\_gmk kriss\_1-18.db  
 Dataset field/well/STACK/pass3.6/\_vars\_

## Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	287	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	40	0	5.5	0	4900	125	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
MCAL MI MN	28.00 28.00 28.00		ML-Armadillo (ARM001) Pengo Mandrel & Armadillo ML Electronics (2014)	5.50	3.50	100.00
			CENT-PENGO (4-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 (3-PENGO)

5.50

3.00

70.00

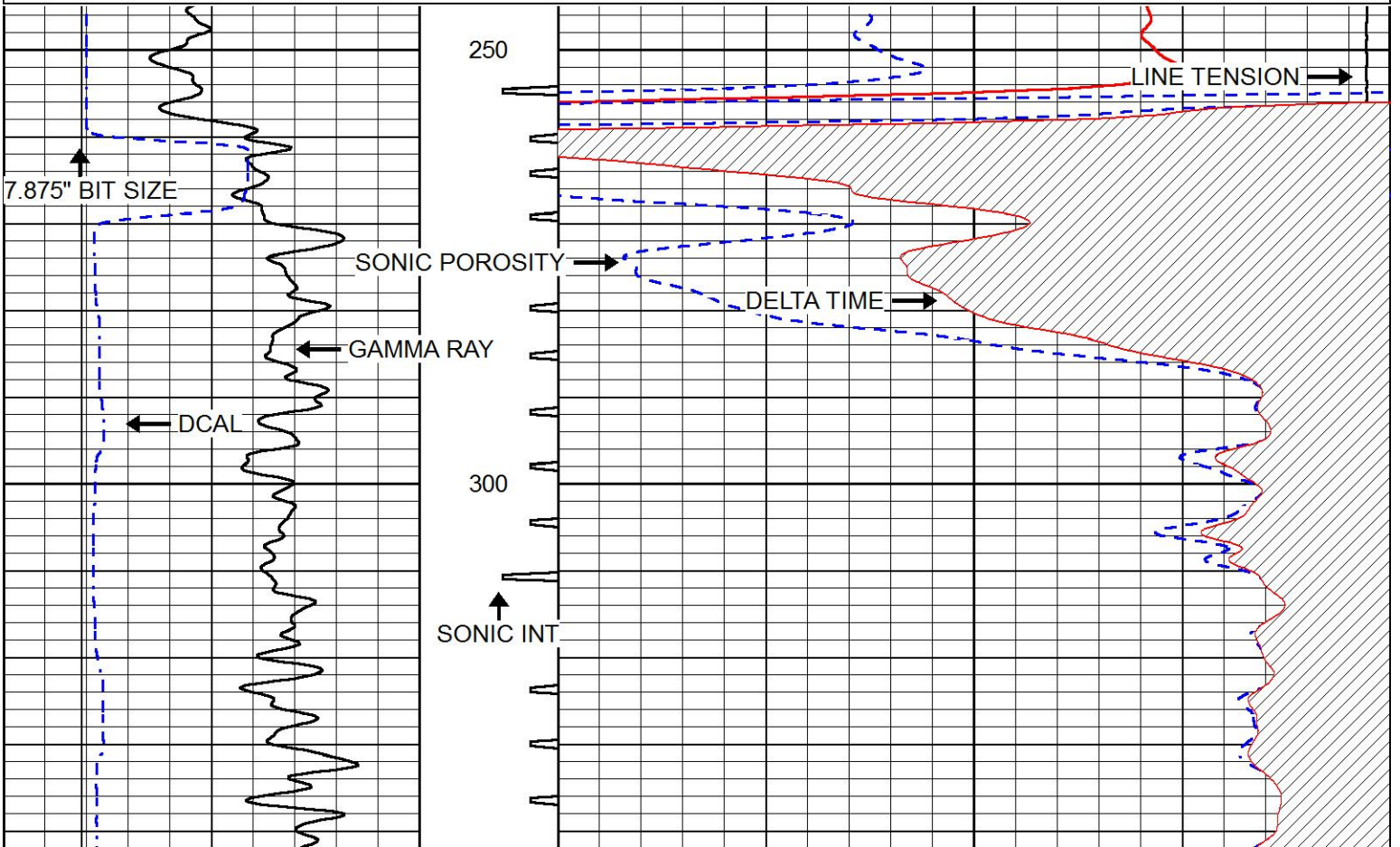
Dataset: val\_gmk kriss\_1-18.db: field/well/SONMEL/pass2  
 Total length: 32.50 ft  
 Total weight: 540.00 lb  
 O.D.: 3.50 in

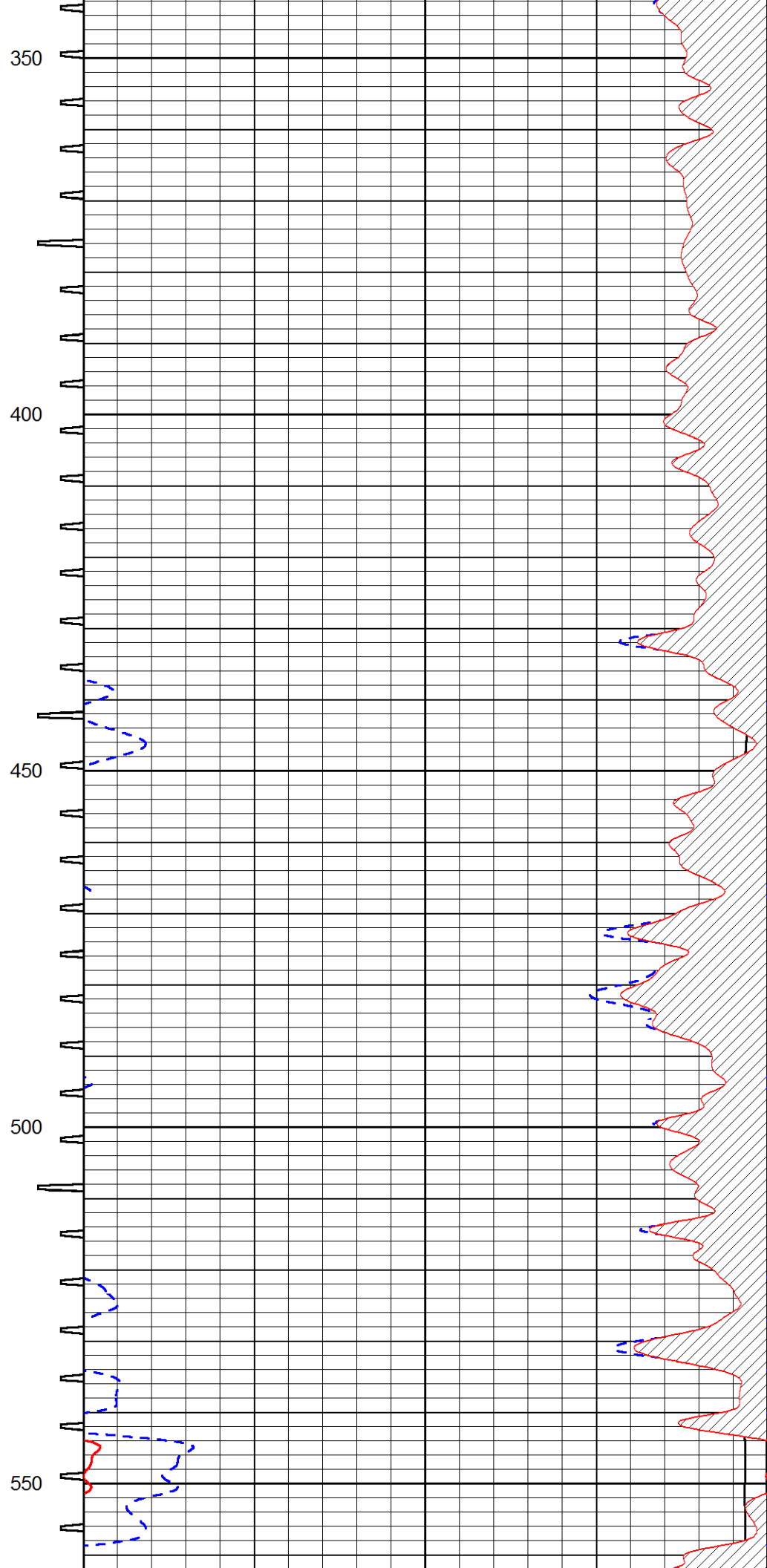
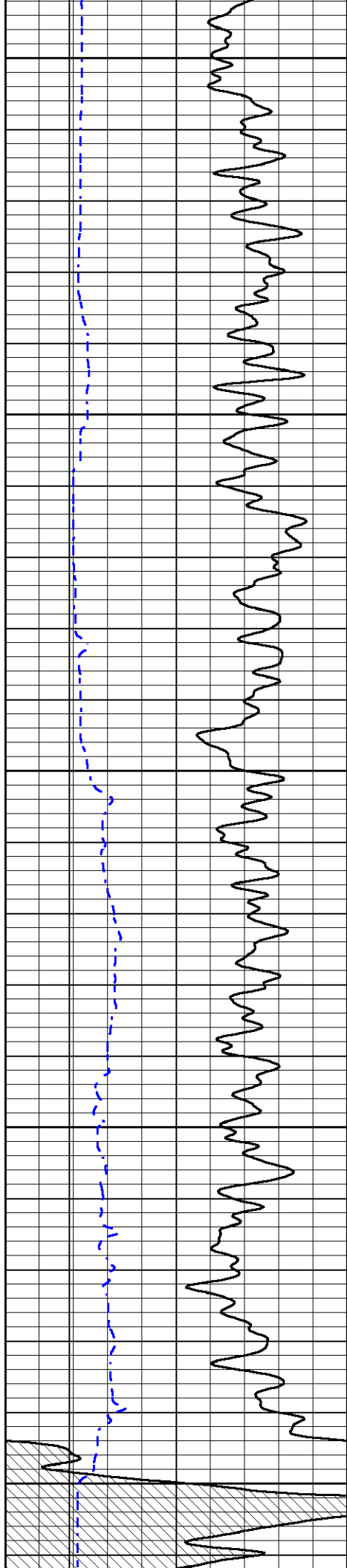


# MAIN PASS

Database File val\_gmk kriss\_1-18.db  
 Dataset Pathname STACK/pass4.1  
 Presentation Format sonic  
 Dataset Creation Mon Mar 27 11:21:43 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





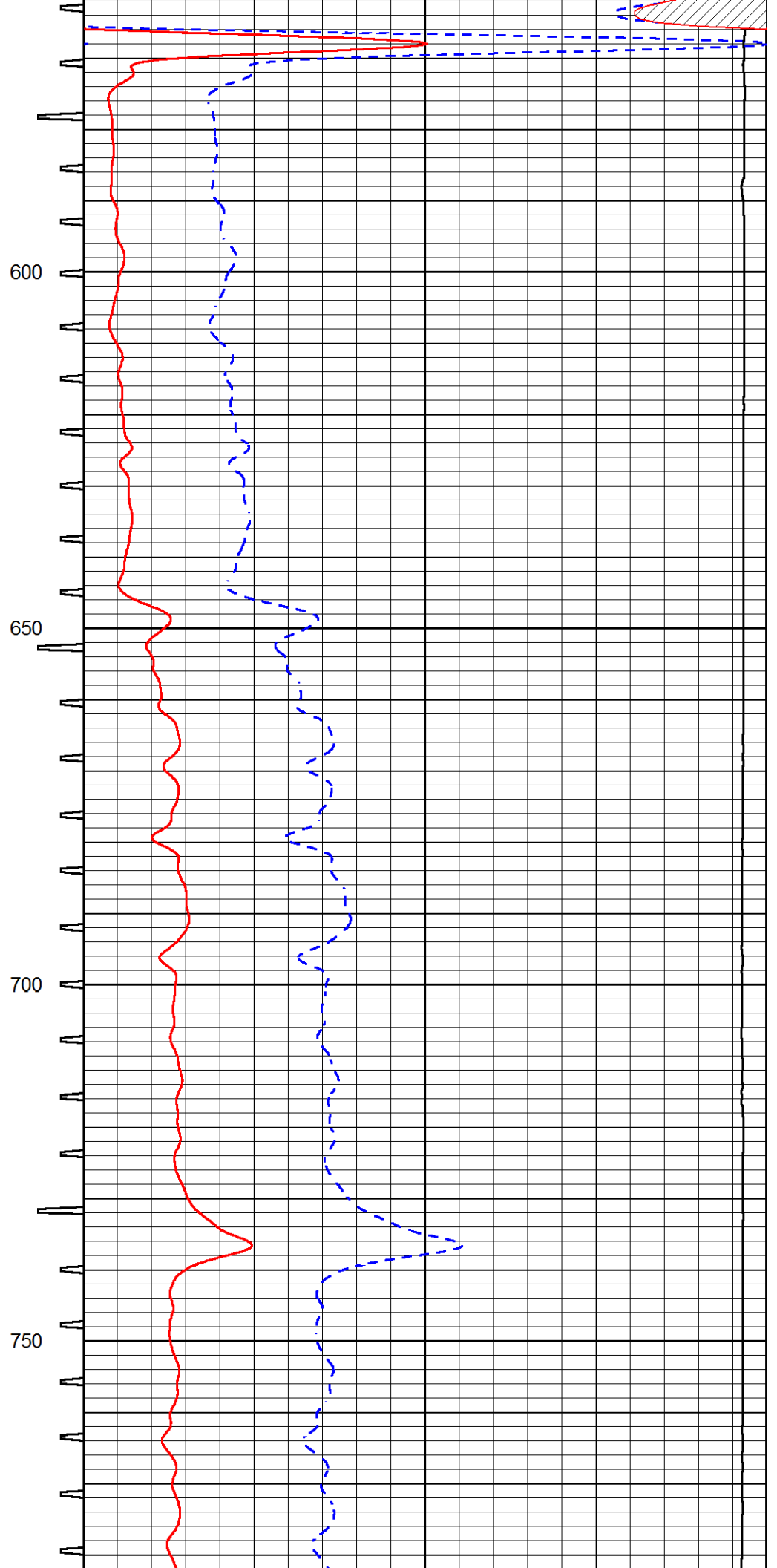
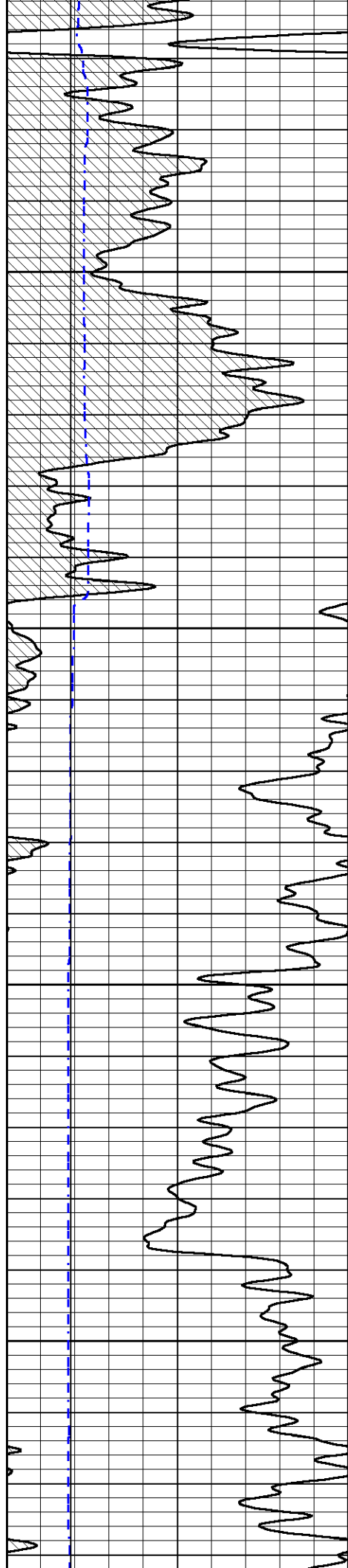
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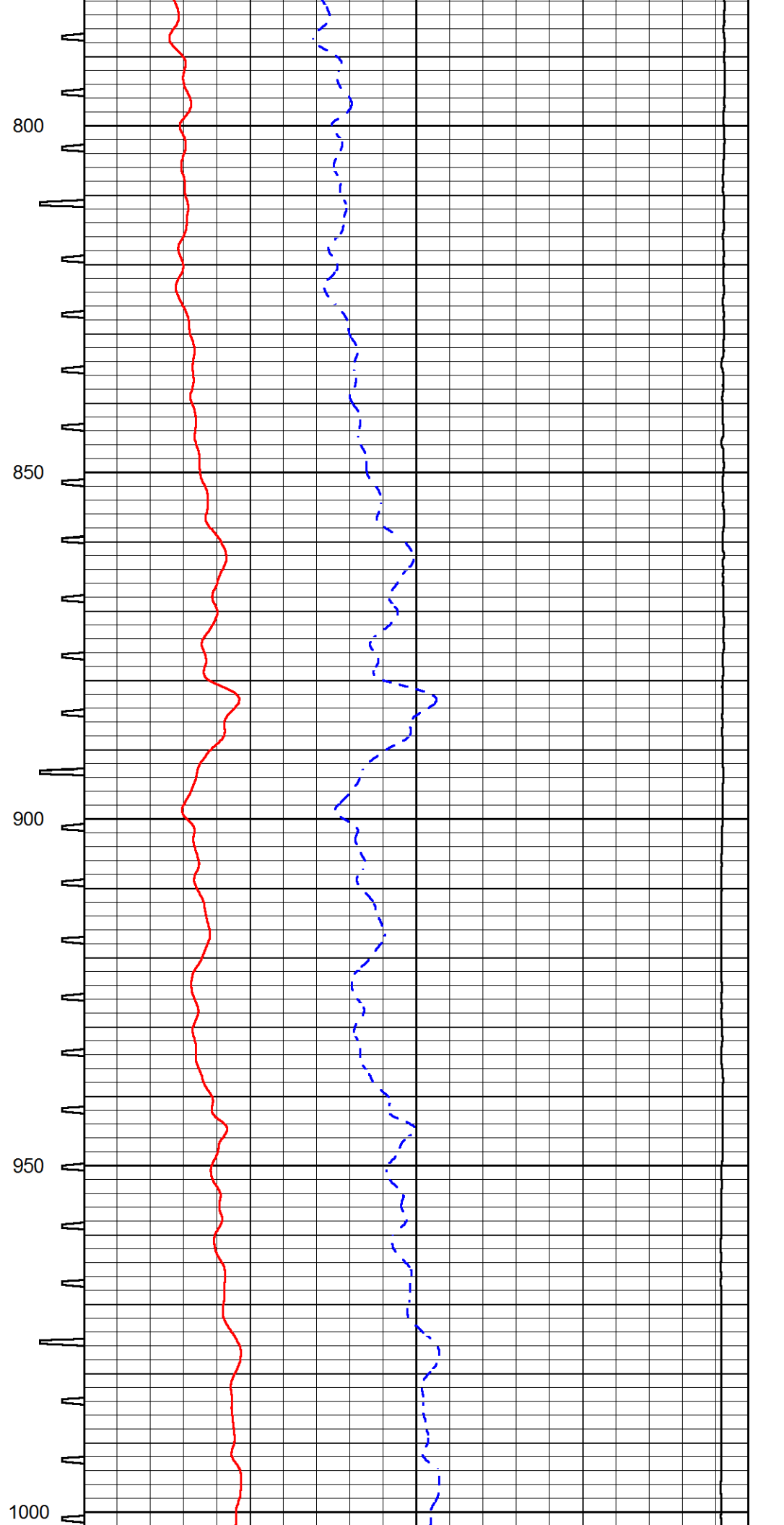
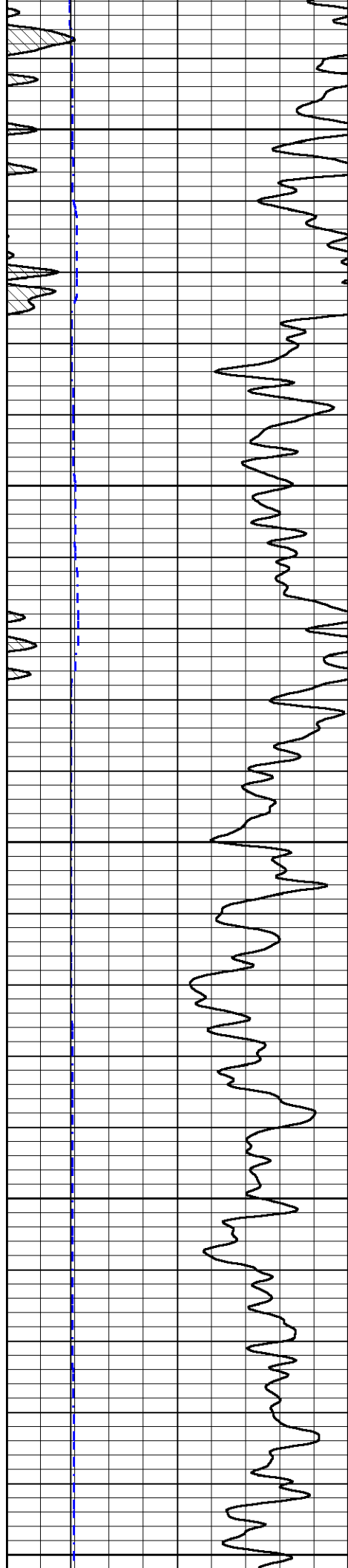
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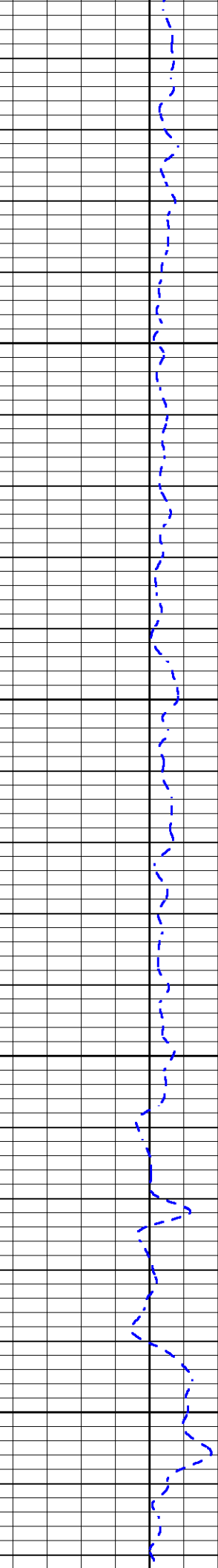
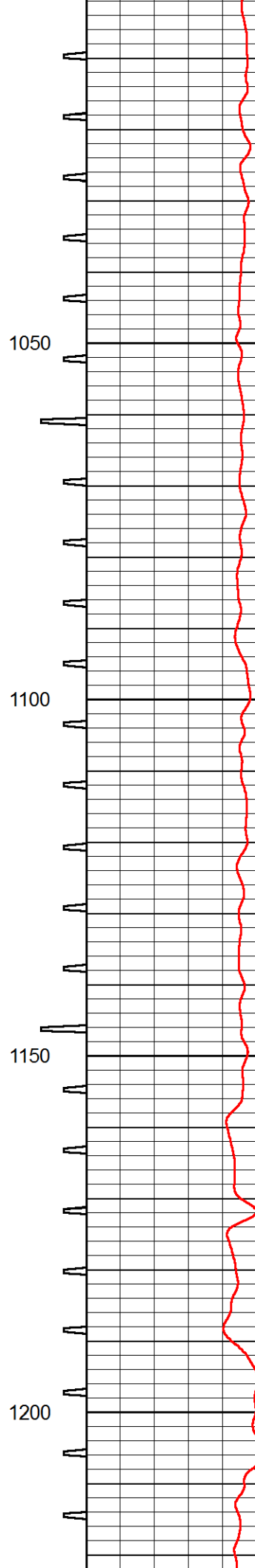
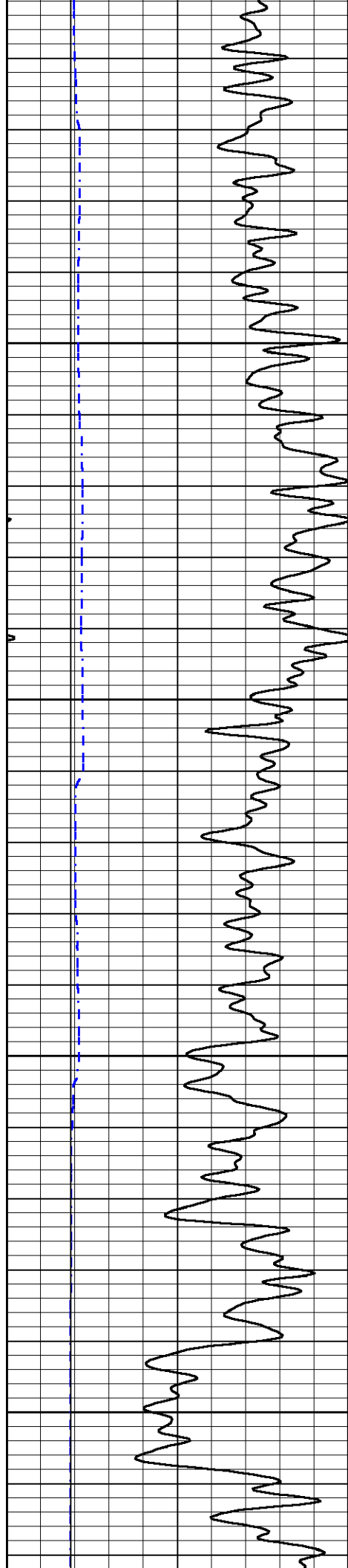
450

500

550





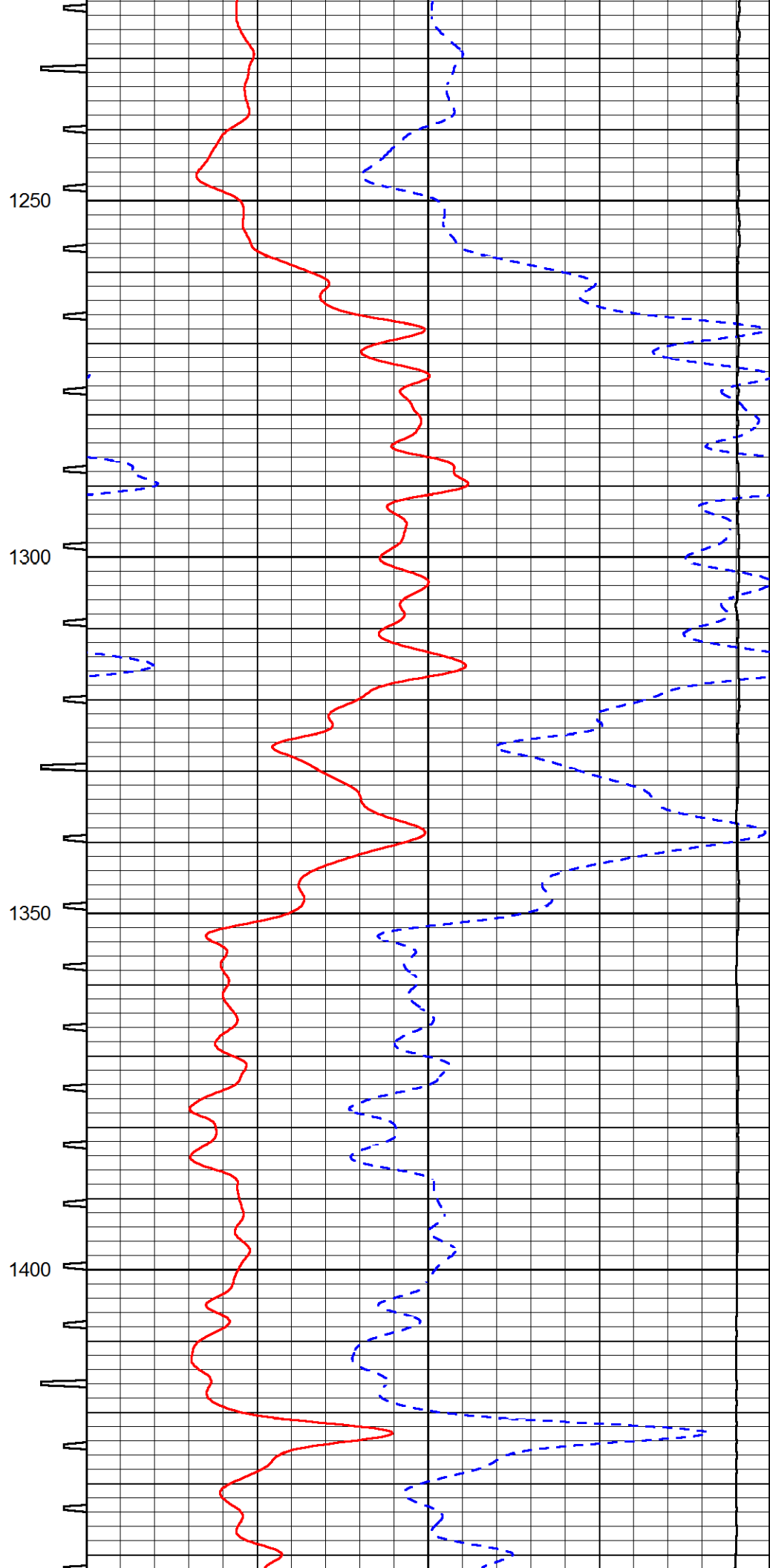
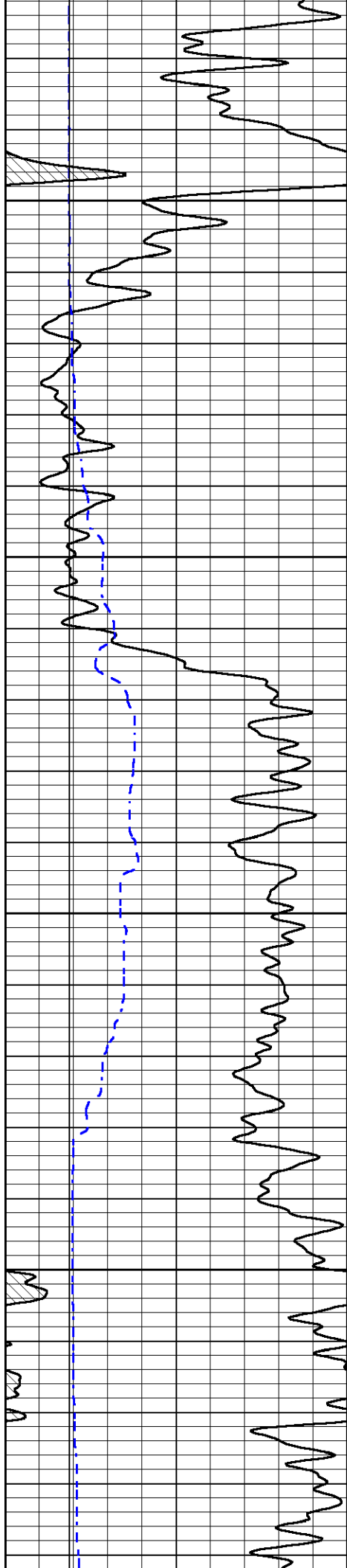


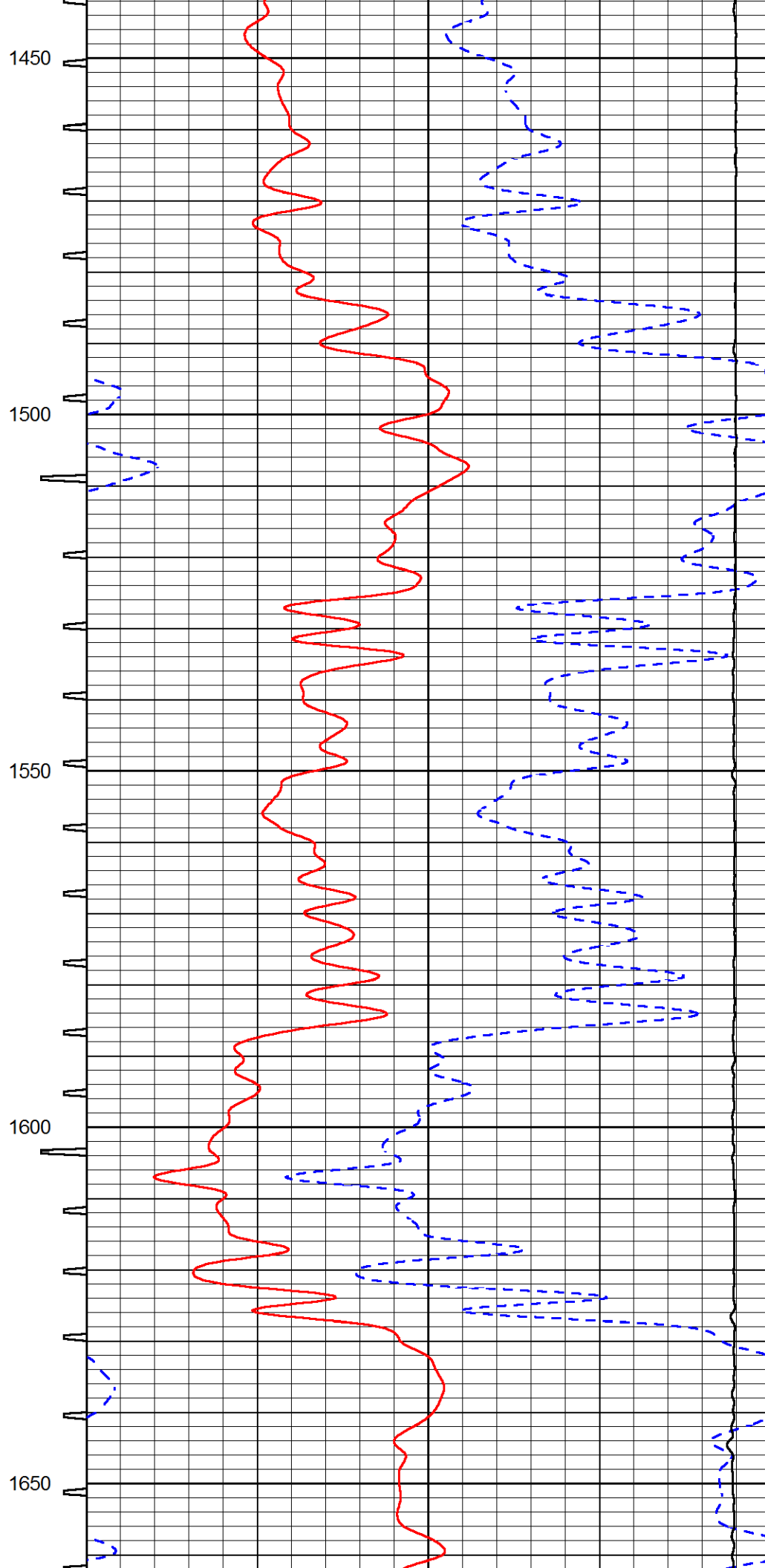
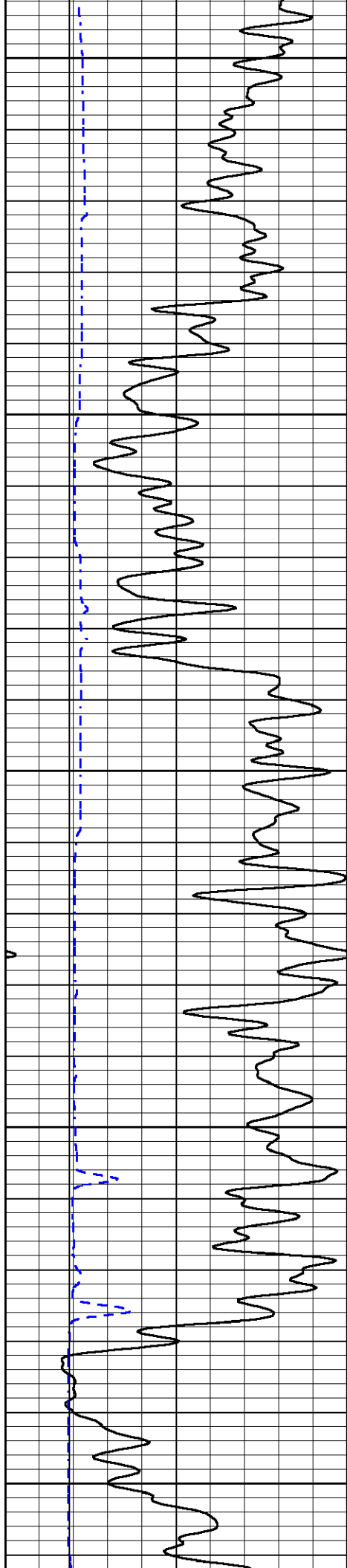
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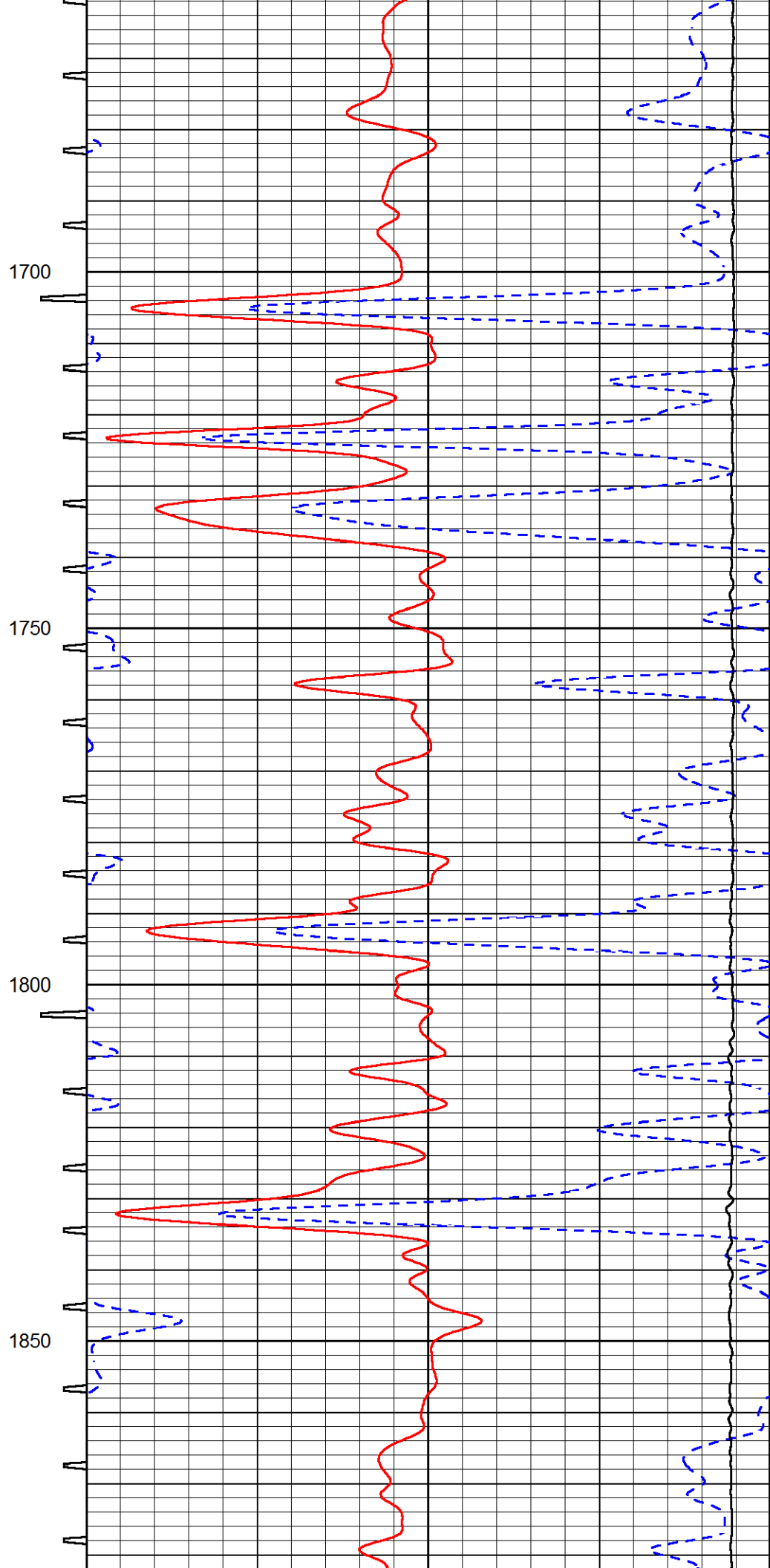
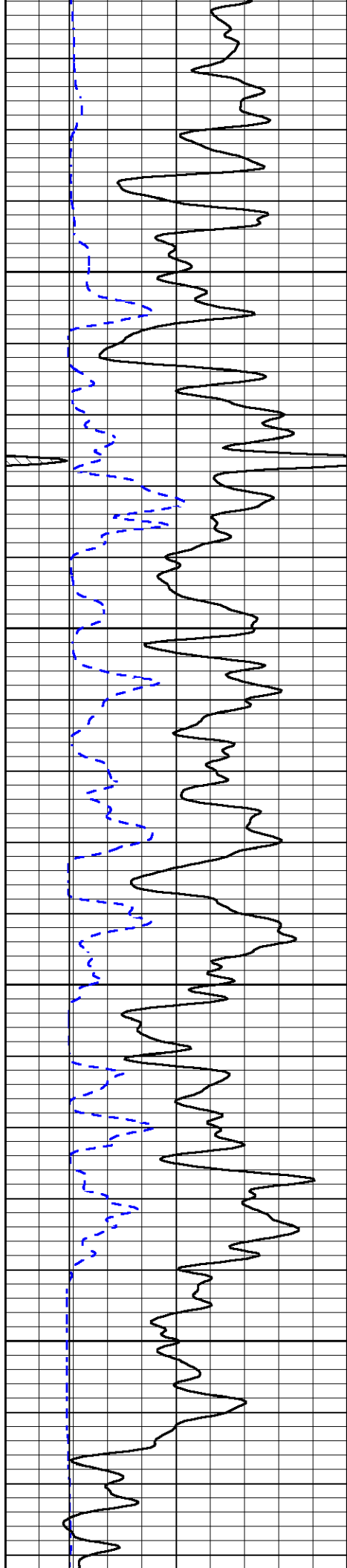
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1150

1200





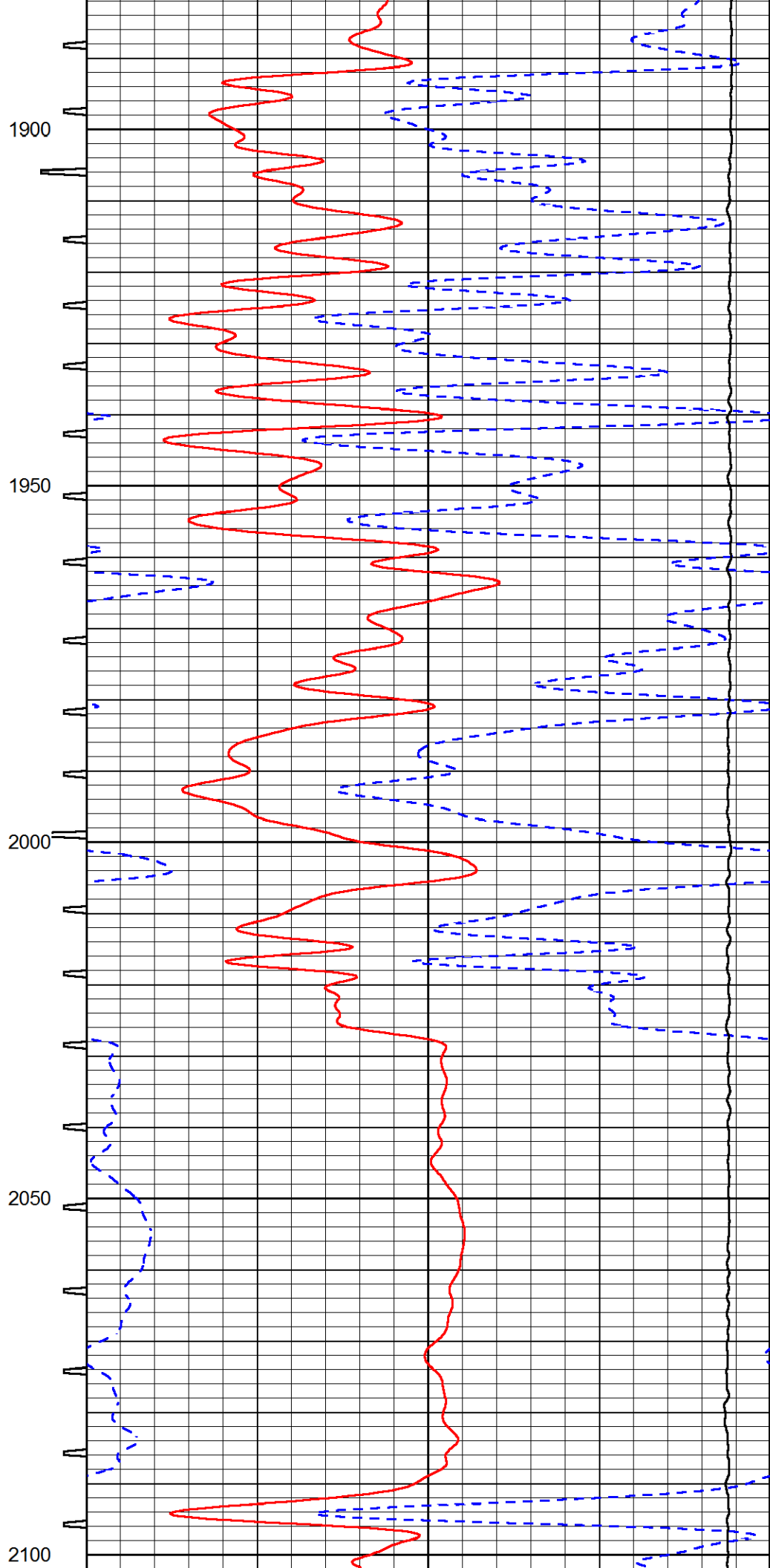
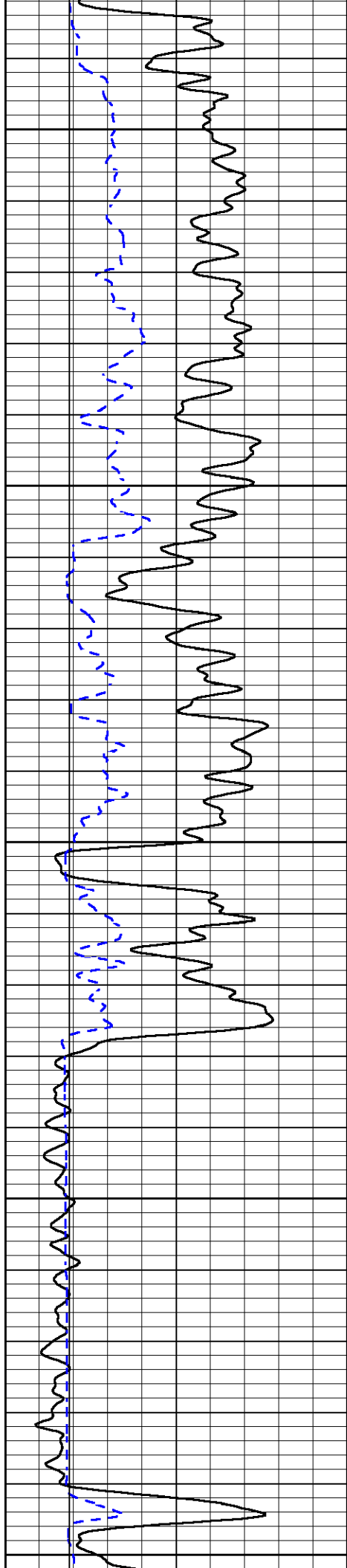


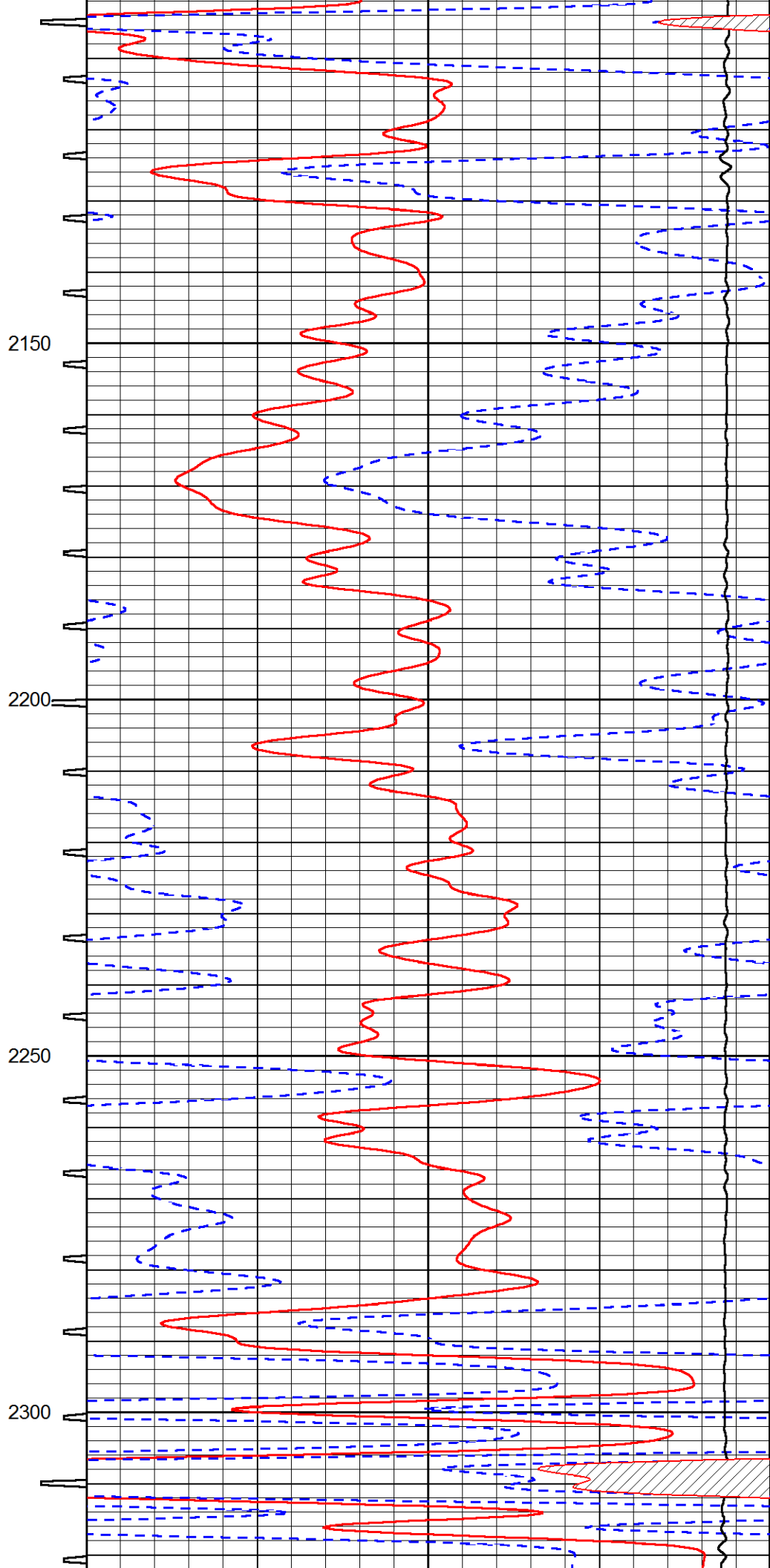
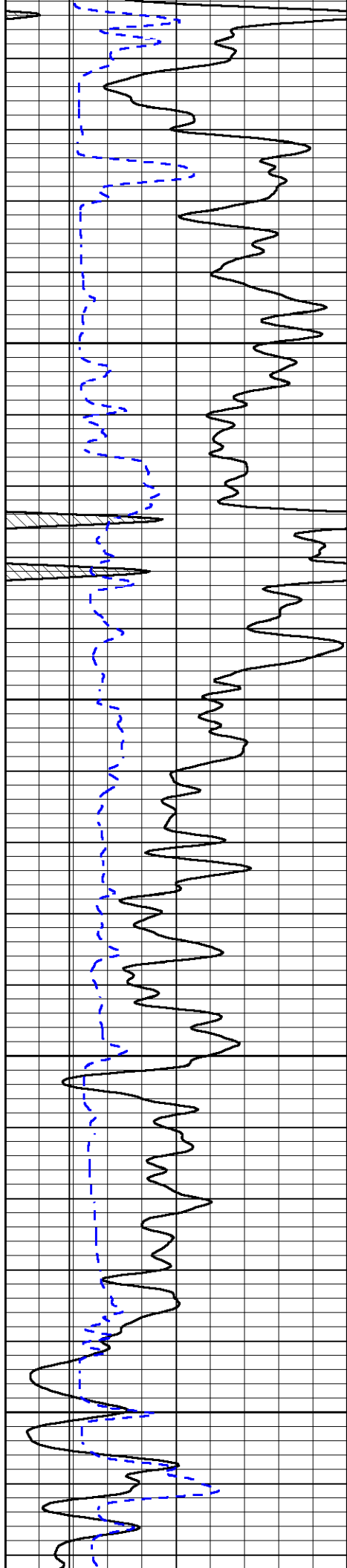
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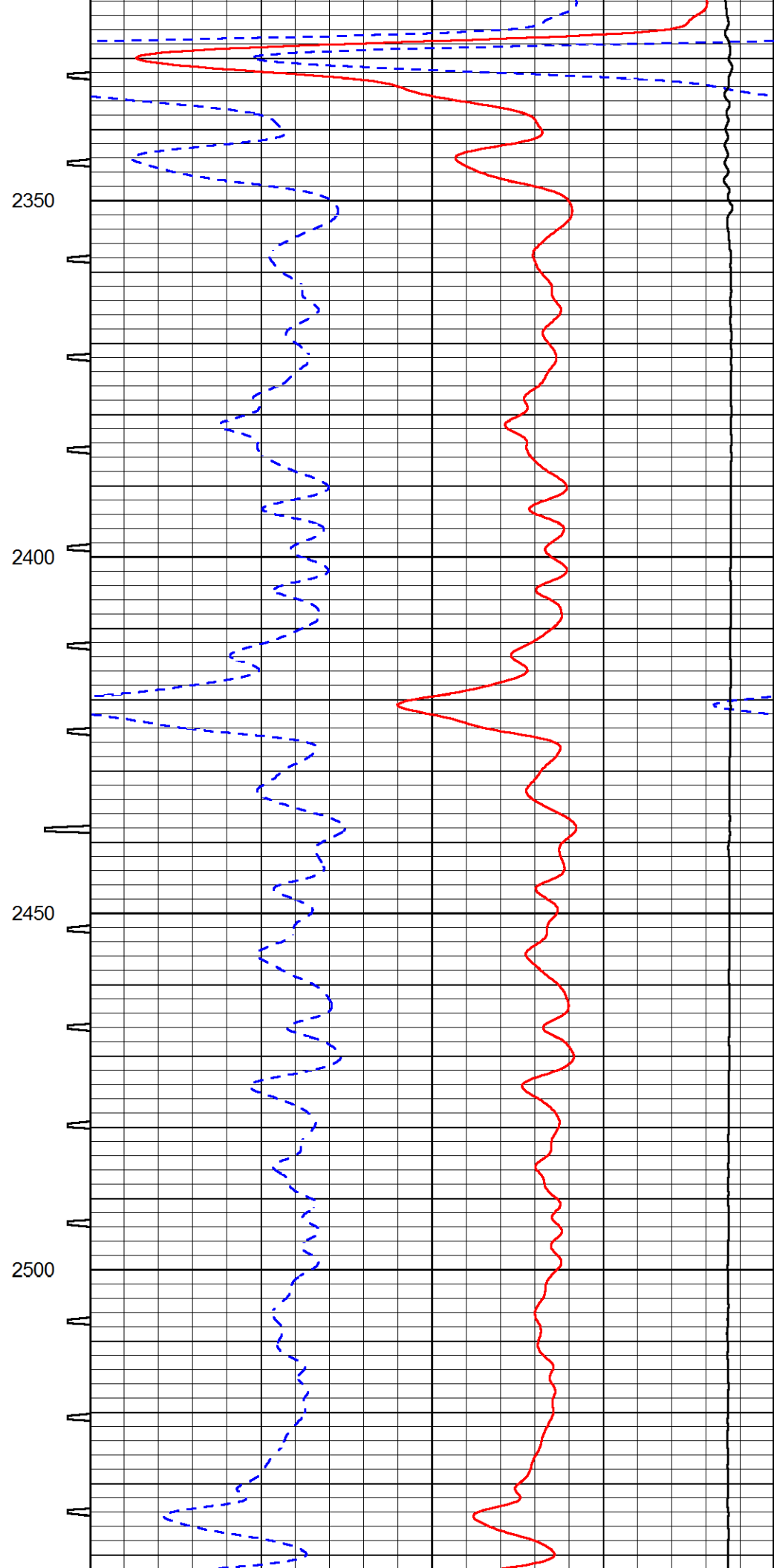
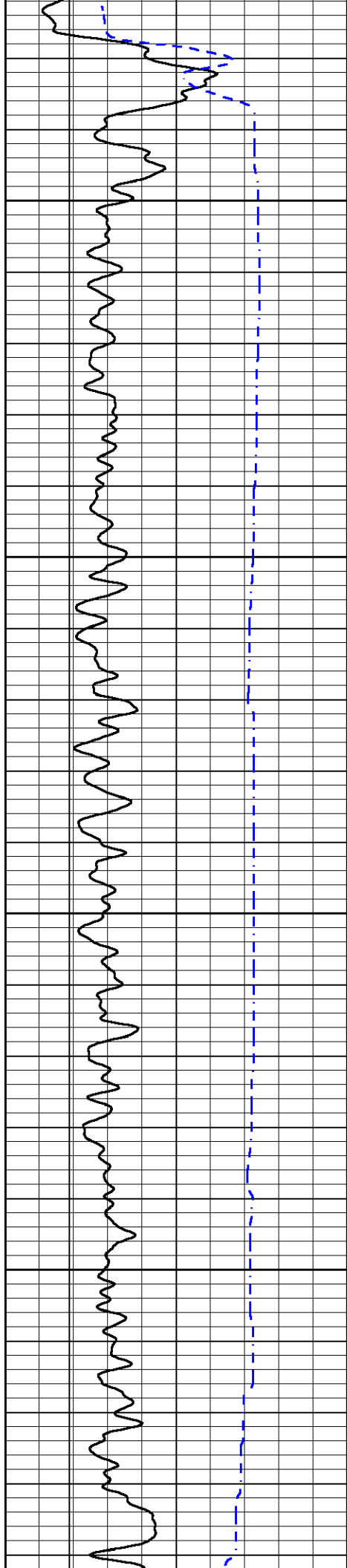
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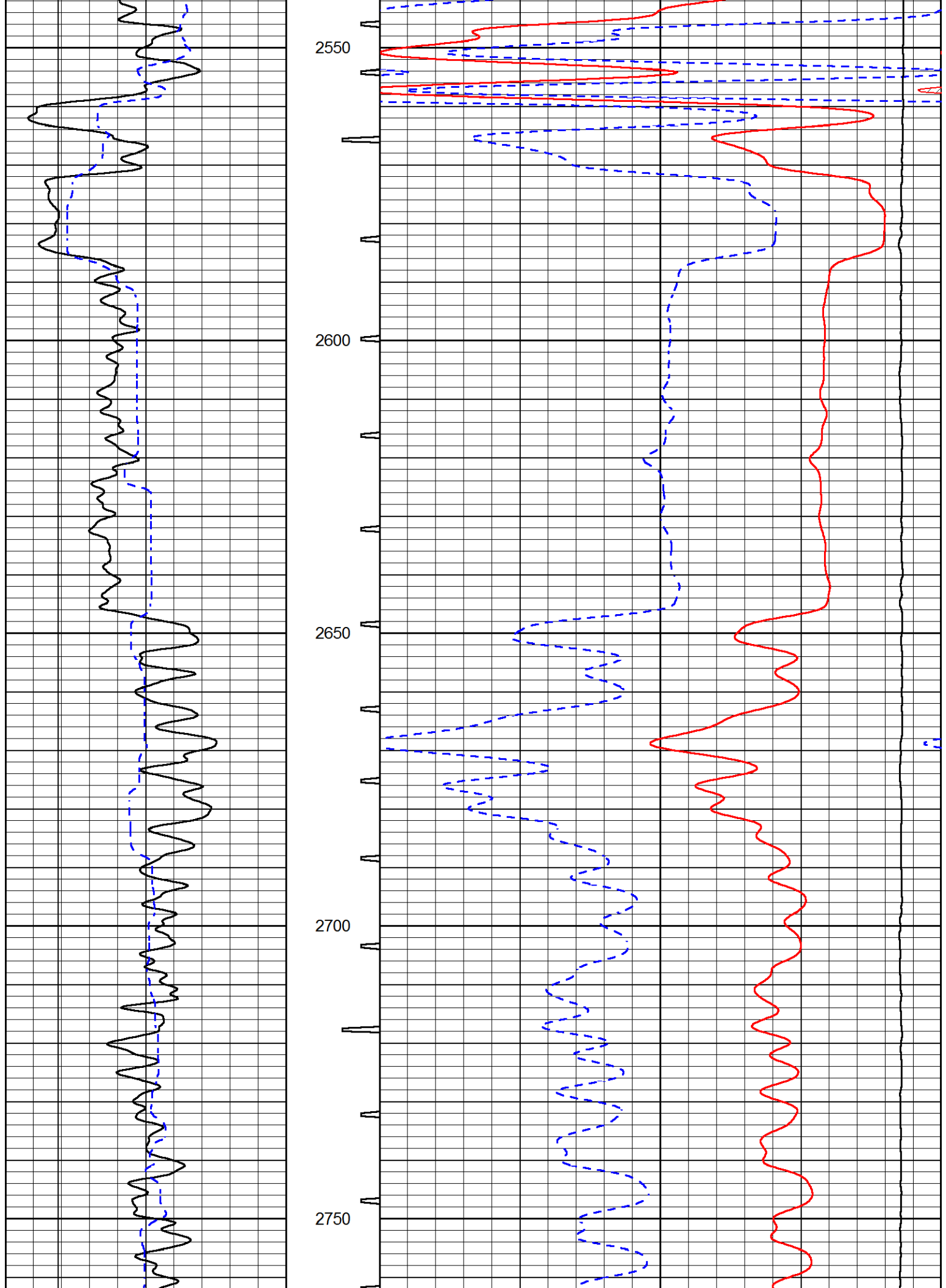
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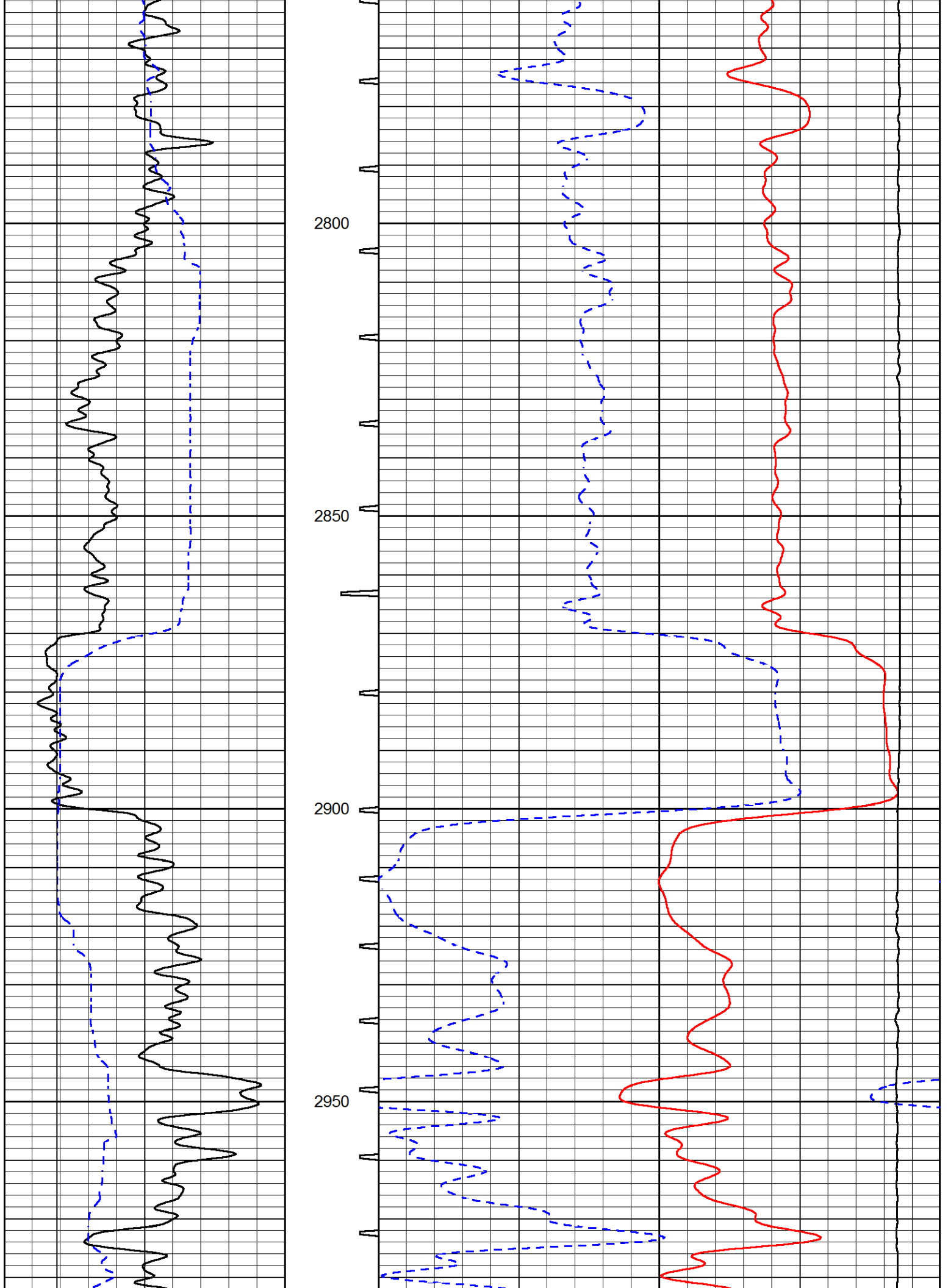
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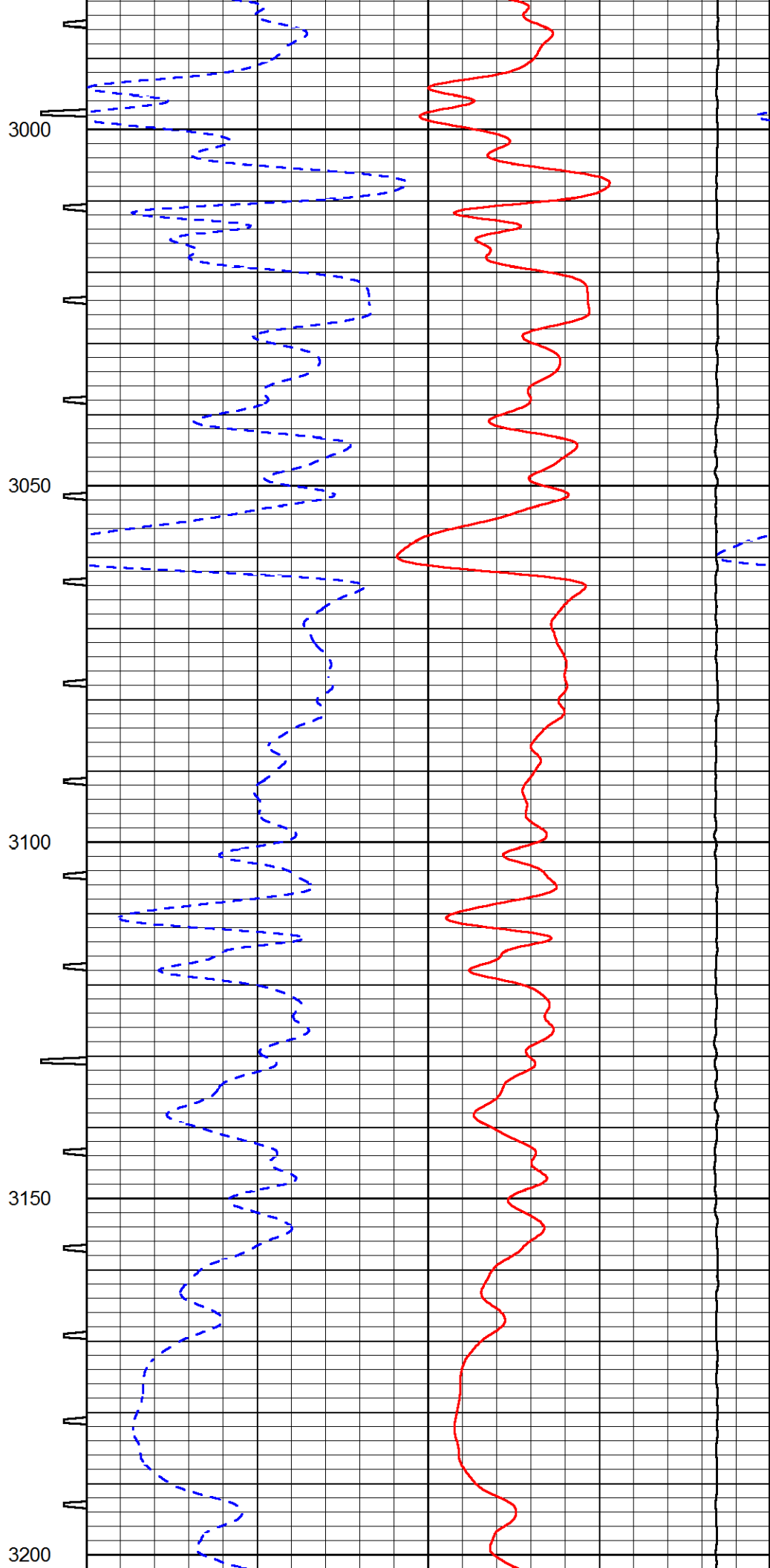
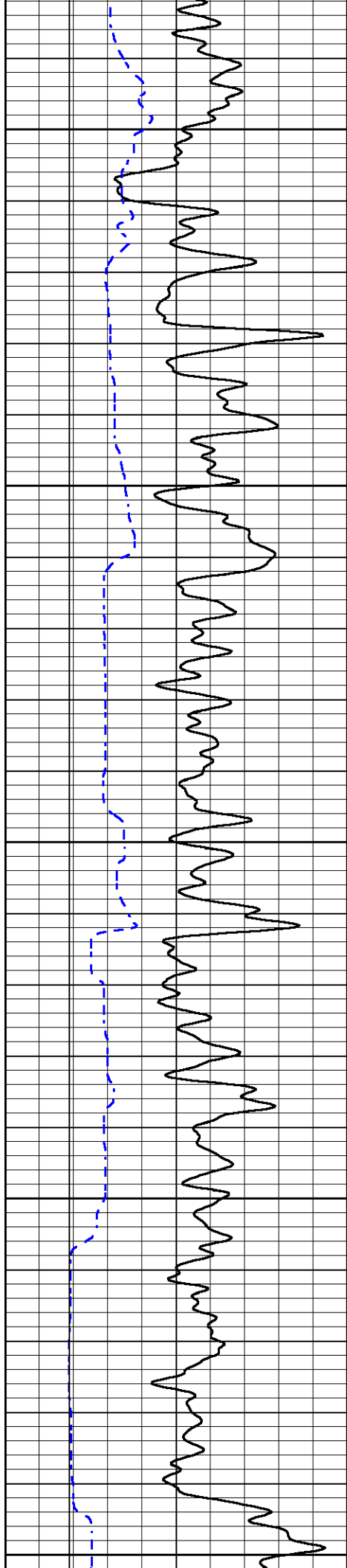


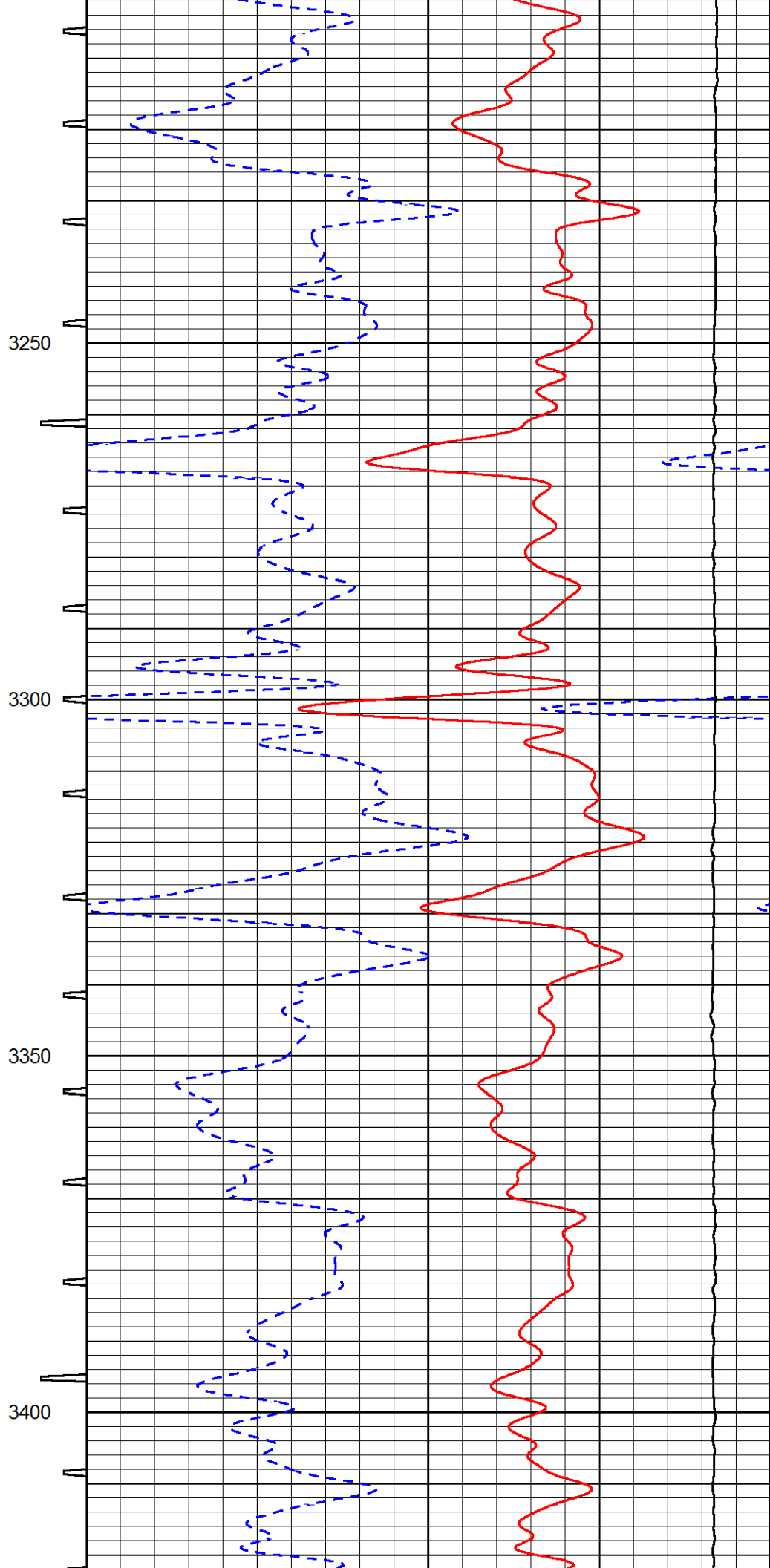
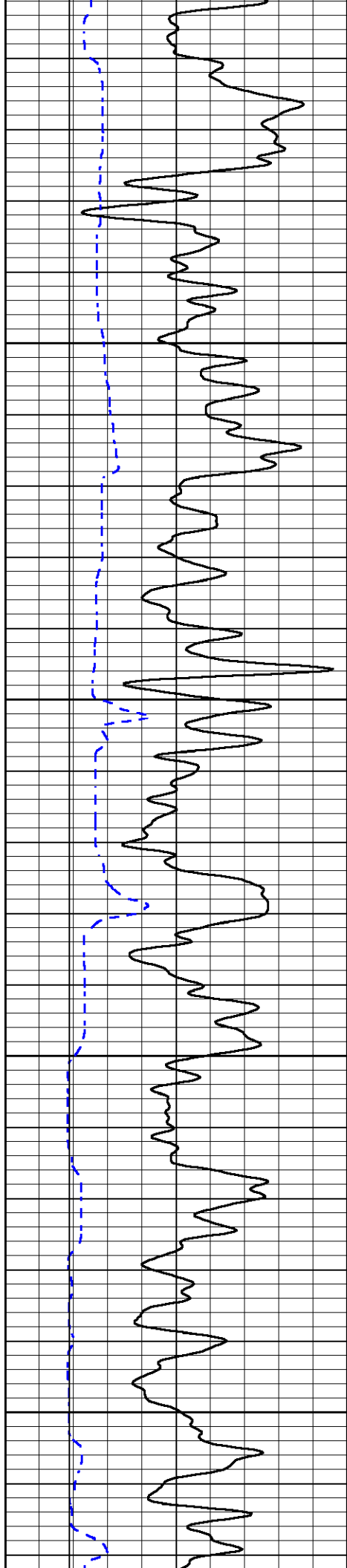


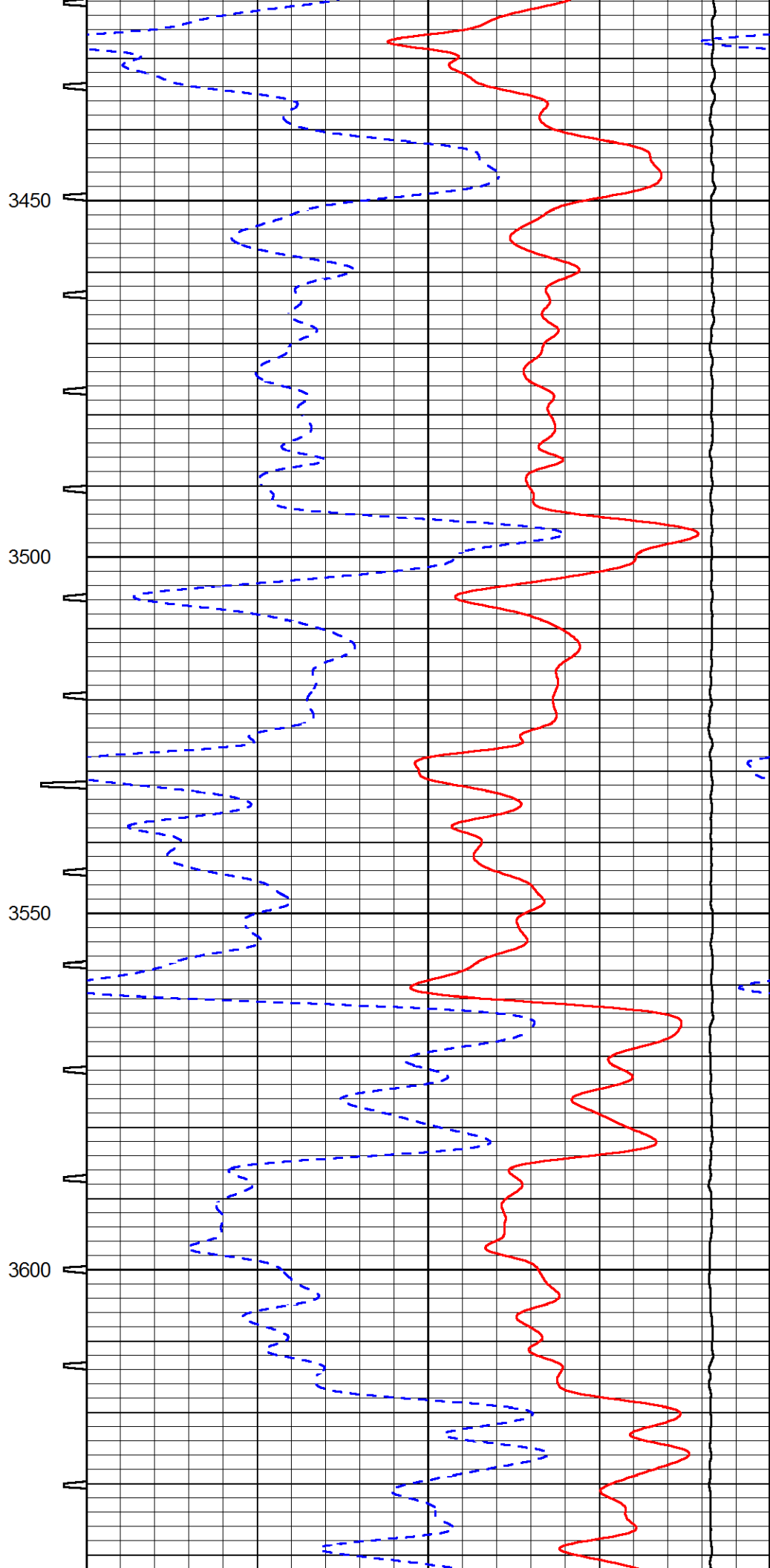
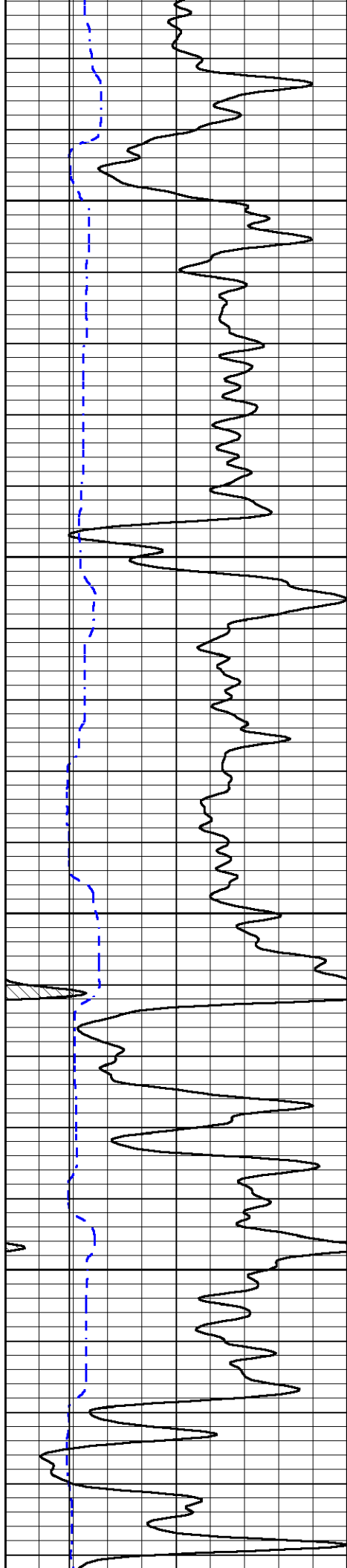


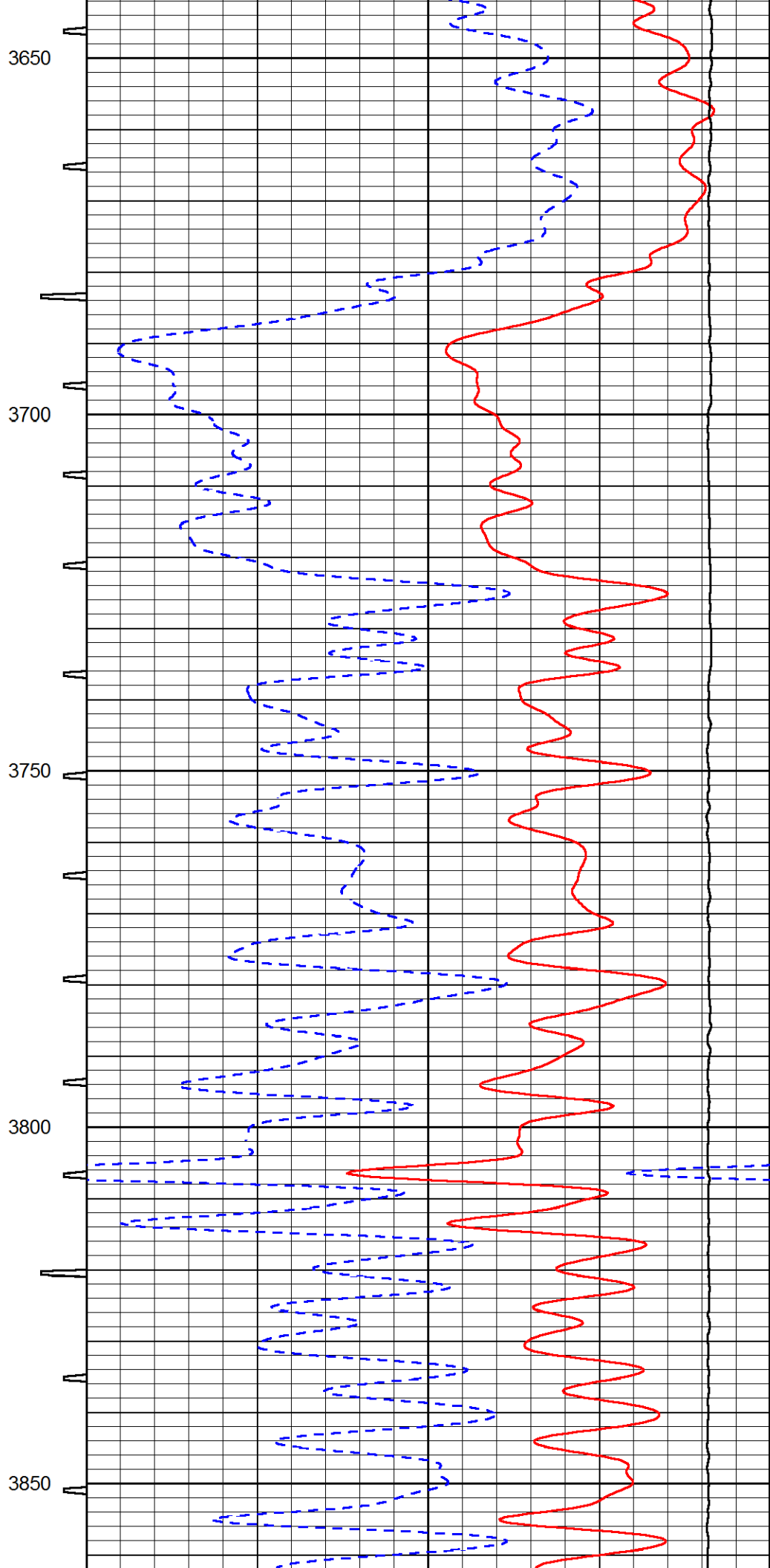
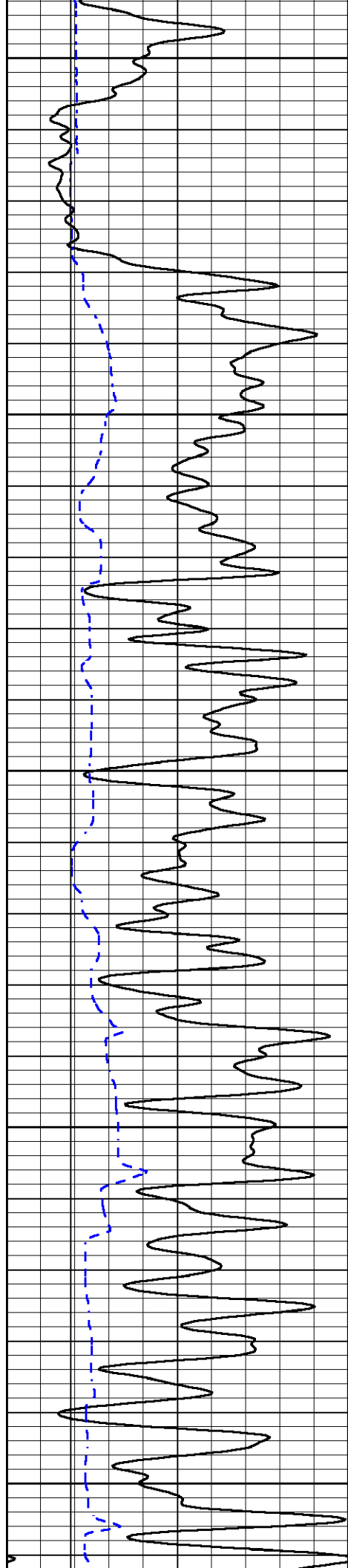


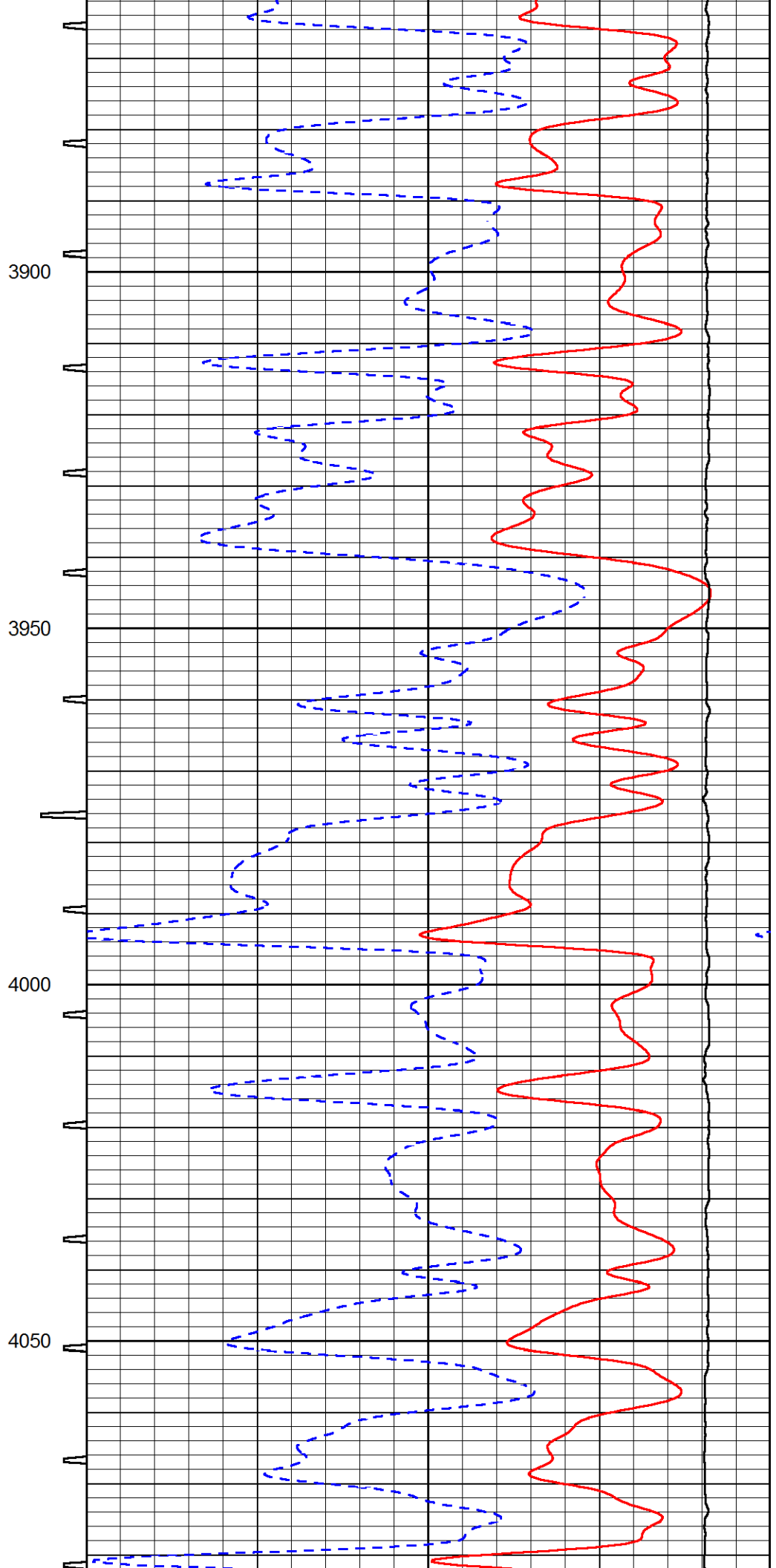
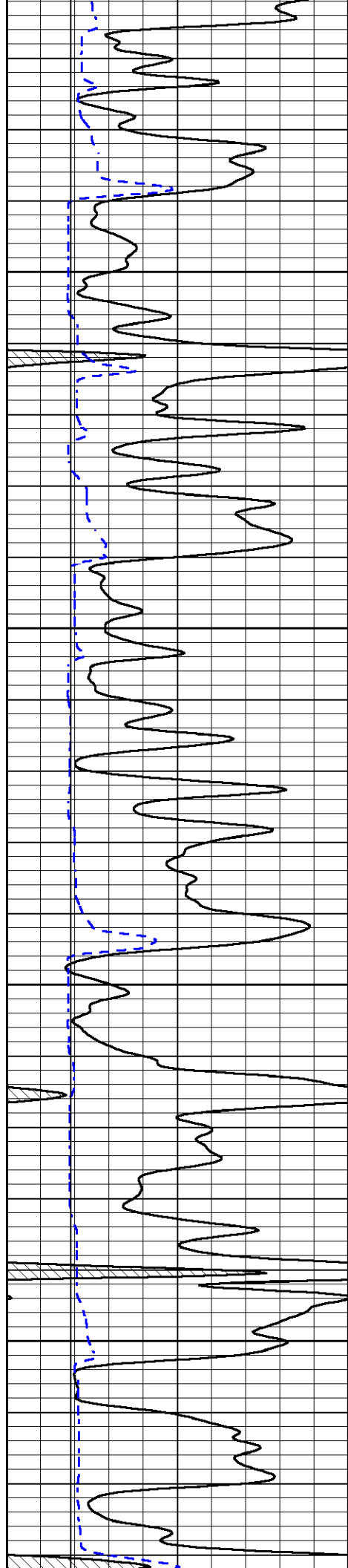


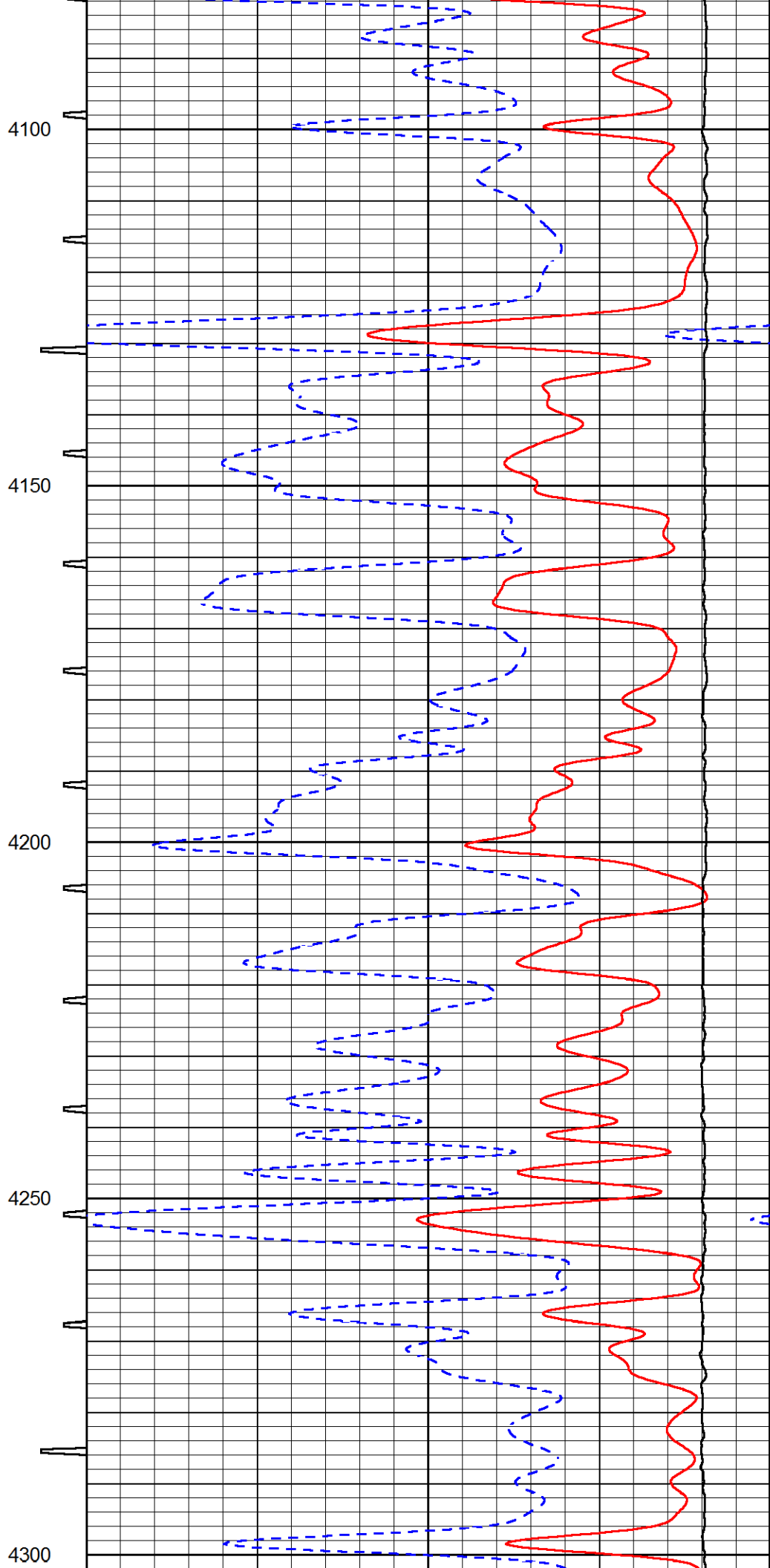
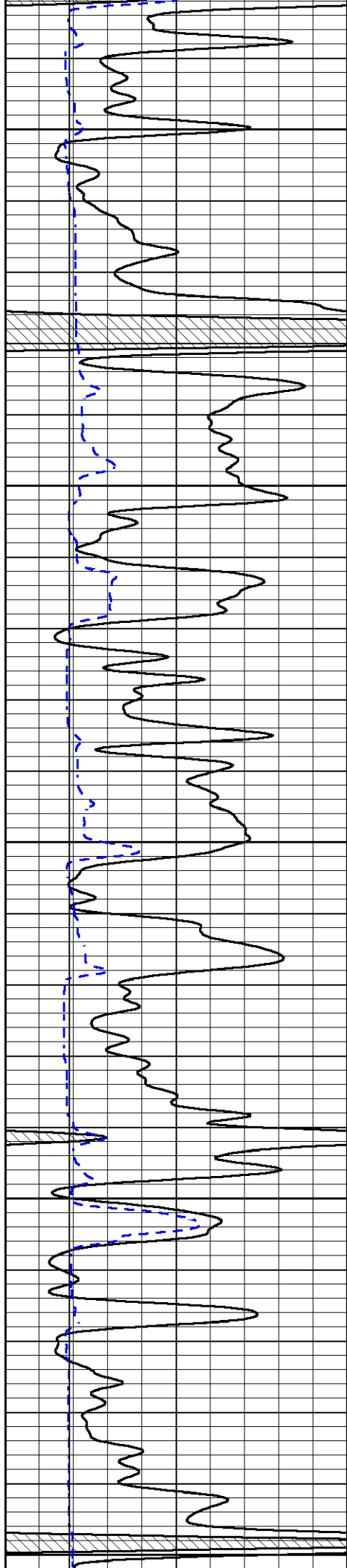


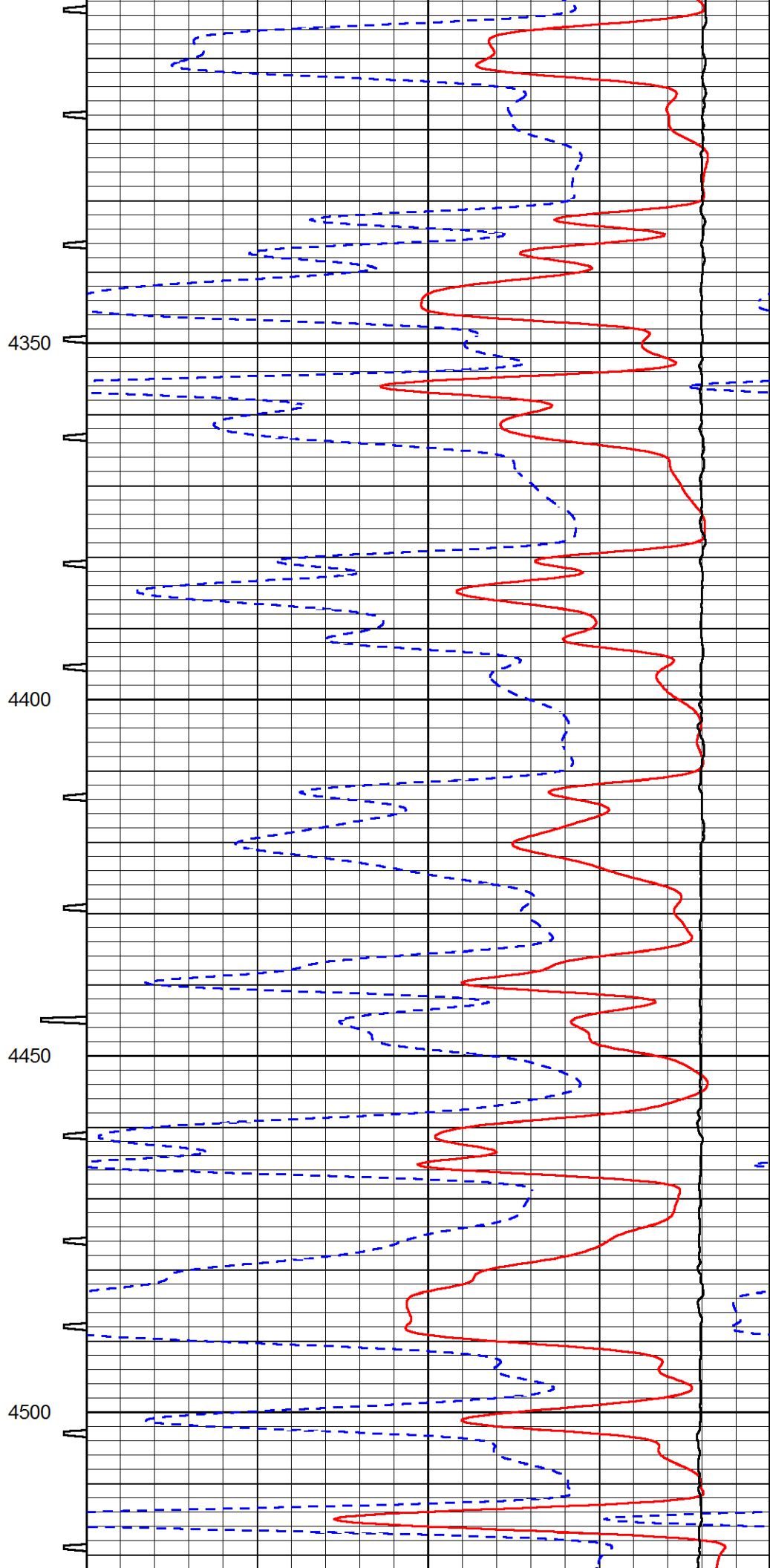
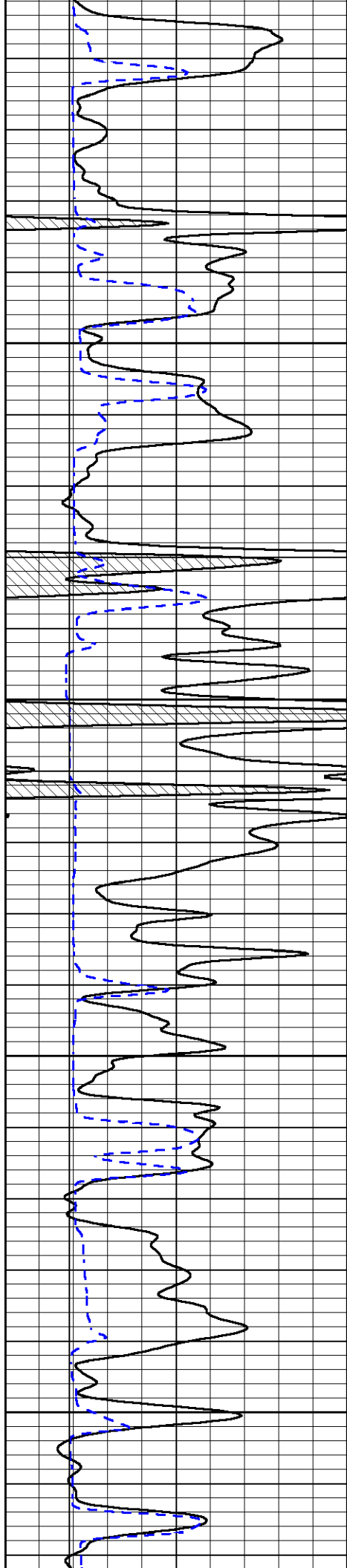


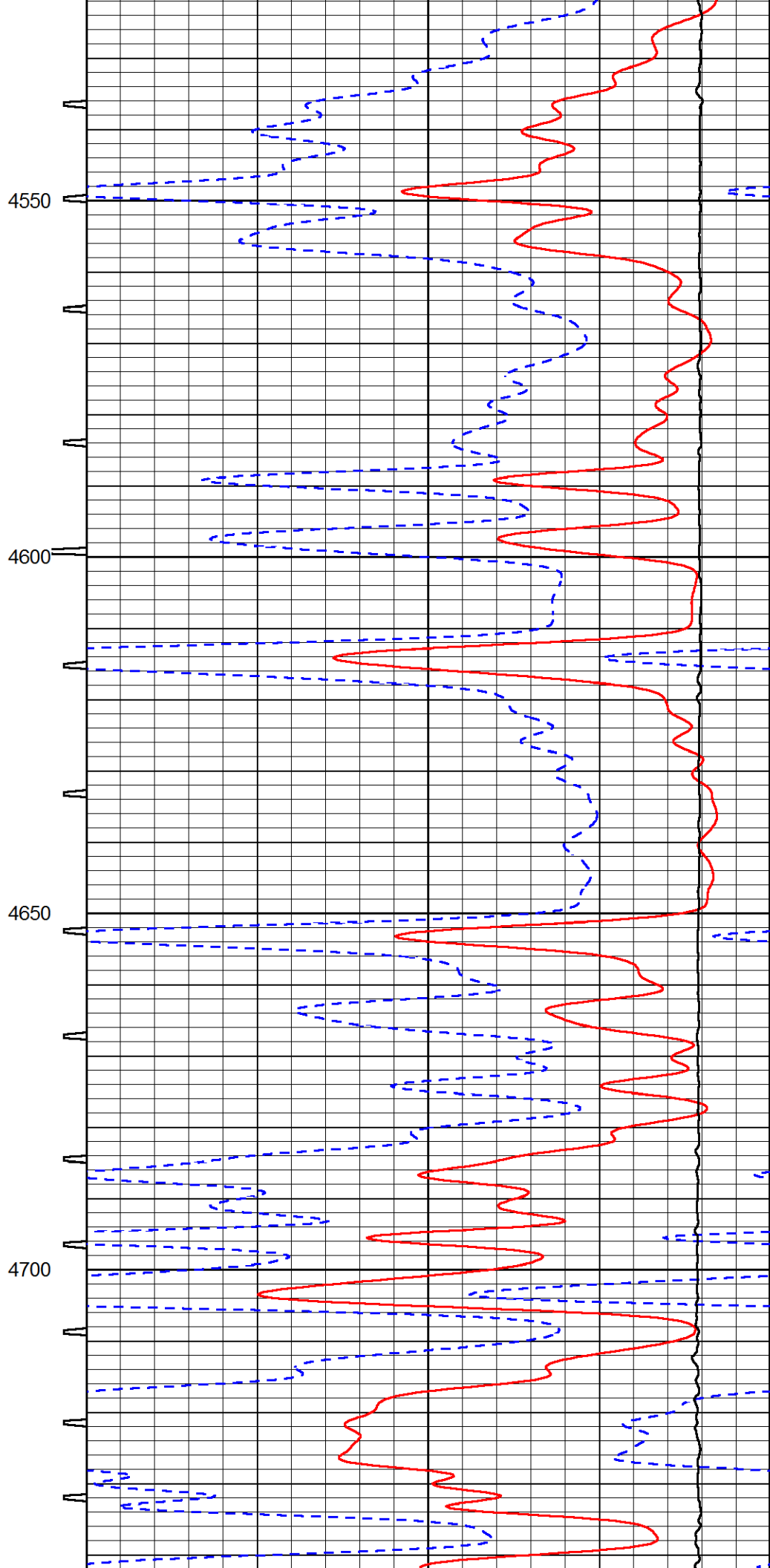
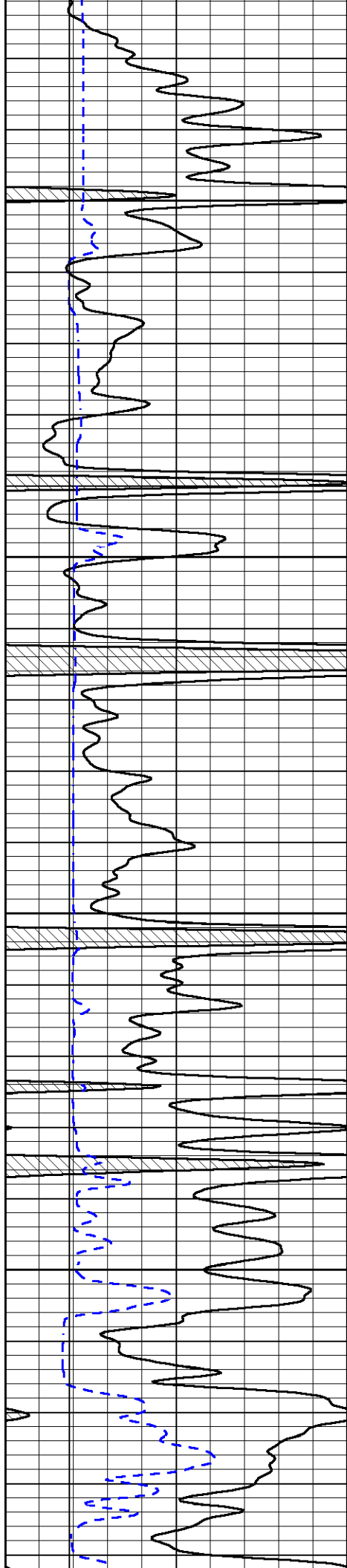


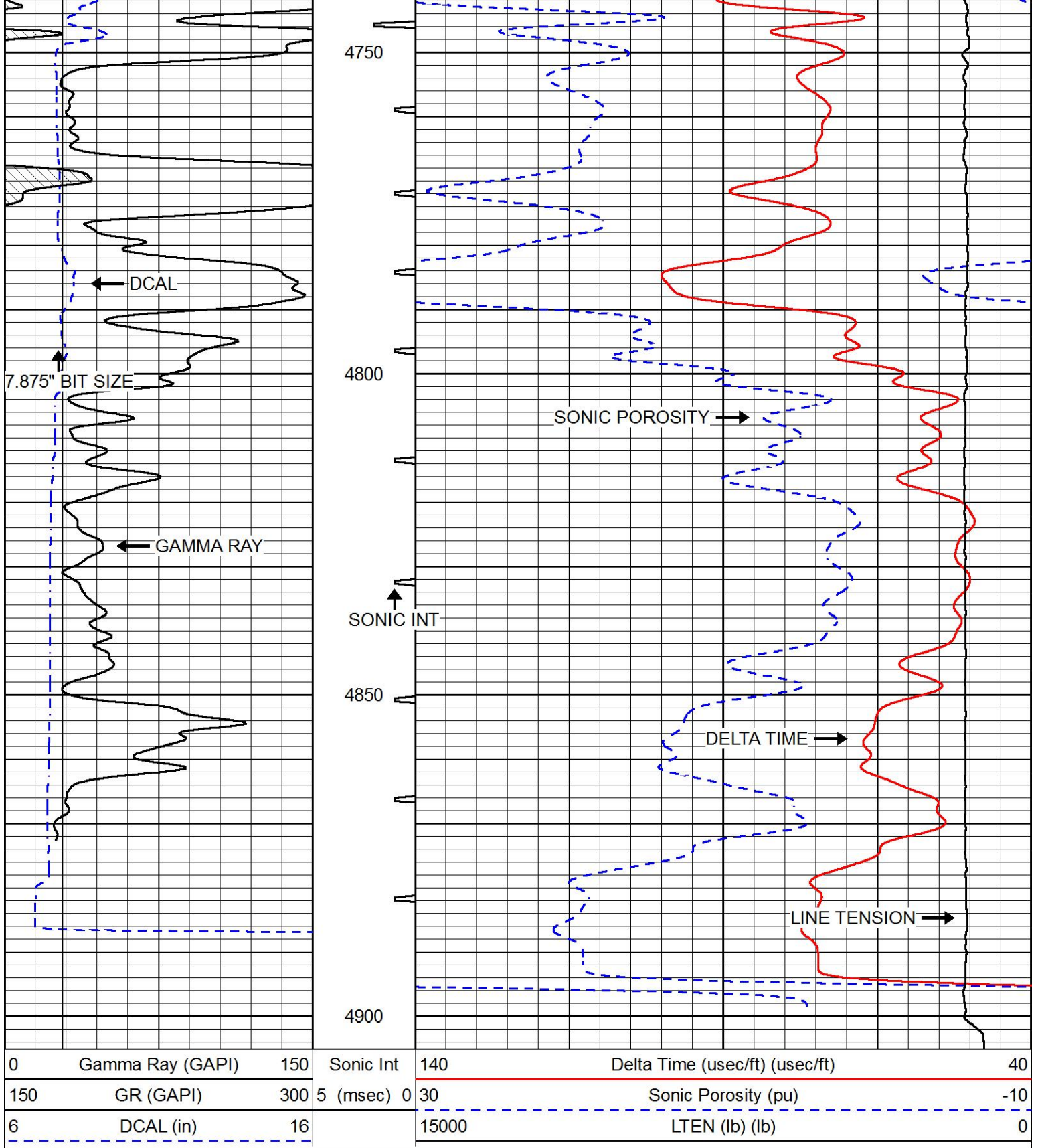








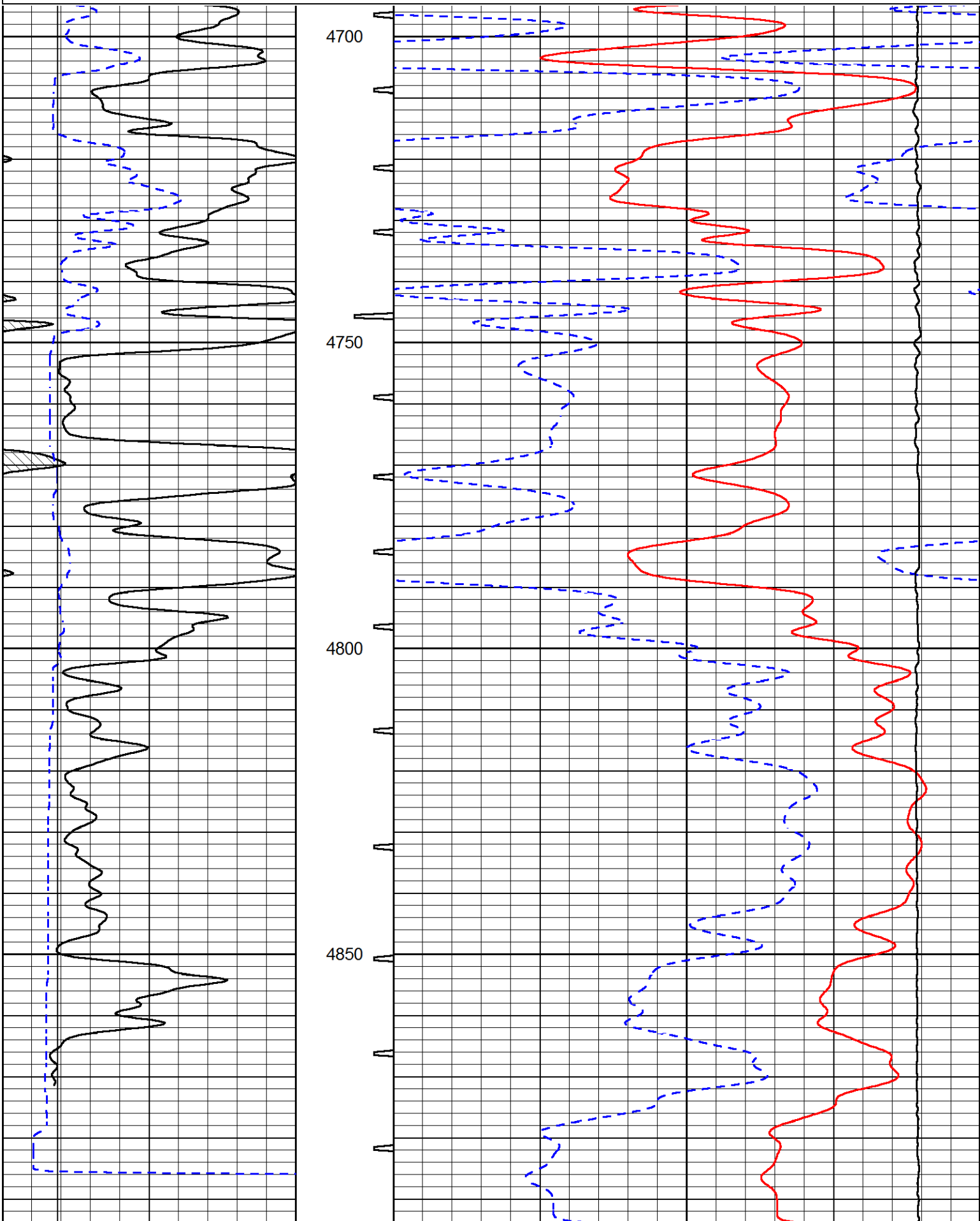




# REPEAT SECTION

Database File val\_gmk kriss\_1-18.db  
 Dataset Pathname STACK/pass2.1  
 Presentation Format sonic  
 Dataset Creation Mon Mar 27 10:37:25 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



				4900					
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 val\_gmk kriss\_1-18.db  
Dataset Pathname STACK/pass3.6  
Dataset Creation Mon Mar 27 10:35:01 2017

### Dual Induction Calibration Report

Serial-Model: PSI 13-M&W  
Calibration Performed: Mon Mar 27 09:51:30 2017

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	166.796	835.089	0.000	255.800	mmho/m	0.950	-33.000
Medium	142.009	1348.560	0.000	255.800	mmho/m	0.800	-30.000

### Compensated Density Calibration Report

Serial-Model: 90-1031-M&W  
Source / Verifier: 16955B / 2ci  
Master Calibration Performed: Mon Mar 27 09:51:50 2017

### Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	5174.18	6425.27	cps
Aluminum	2.665	g/cc	963.17	4037.42	cps
Spine Angle = 74.55			Density/Spine Ratio = 0.522		
	Size		Reading		
Small Ring	6.00	in	1.83		
Large Ring	16.00	in	1.48		

### Compensated Neutron Calibration Report

Serial Number: 207-MW  
Tool Model: M&W  
Calibration Performed: Thu Mar 2 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:	Thu Mar 02 20:45:00 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6000	GAPI/cps



**PIONEER**

Pioneer Energy Services

Company	VAL ENERGY, INC.
Well	GMK KRISS UNIT #1-18
Field	UNKNOWN
County	THOMAS
State	KANSAS