

Compensated Neutron Gamma Ray Casing Collar Log

Company	Kerr-McGee Oil & Gas Onshore, L.P.				
Well	Miracle 40N-11HZ				
Field	Wattenberg				
County	Larimer				
State	Colorado				
Company	Kerr-McGee Oil & Gas Onshore, L.P.				
Well	Miracle 40N-11HZ				
Field	Wattenberg				
County	Larimer	State	Colorado		
Location:	API # : 05-069-06470			Other Services	
SEC 12		TWP 5N	RGE 68W		
Permanent Datum	Ground Level	Elevation		Elevation	
Log Measured From	Kelly Bushing	16 FT		K.B. 4964'	
Drilling Measured From	Kelly Bushing			D.F. 4963'	
				G.L. 4948'	

Date	19-AUG-2015
Run Number	One
Depth Driller	13,558 FT
Depth Logger	7400 FT
Bottom Logged Interval	7391 FT
Top Log Interval	Surface
Open Hole Size	7.875"
Type Fluid	Water
Density / Viscosity	8.34 lbm/gal
Max. Recorded Temp.	223 °F
Estimated Cement Top	---
Time Well Ready	ROA
Time Logger on Bottom	11:45 AM
Equipment Number	HD-0119
Location	Ft. Lupton, CO
Recorded By	J. Morrison
Witnessed By	DJ Anderson
	S. Hopper

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
Casing Record	Size (in)	Wgt (lbs/ft)	Grade	Top	Bottom		
Surface Casing	9 5/8	36	J-55	Surface	1865 FT		
Intermediate #1	5 1/2	17	HCP-110	Surface	13534 FT		
Intermediate #2							
Liner			Marker Joint	6462 FT	---		

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, 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. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

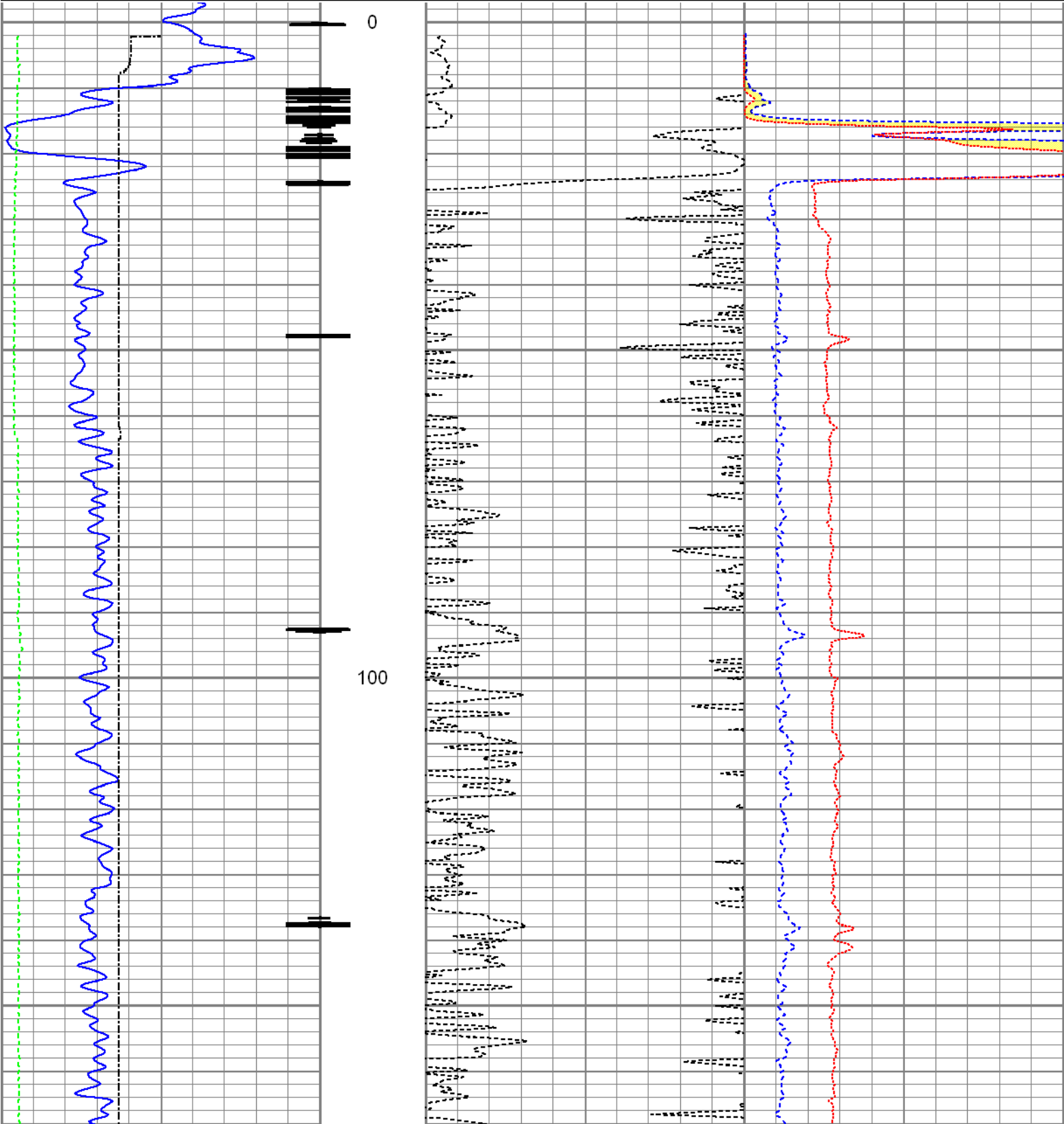
Comments

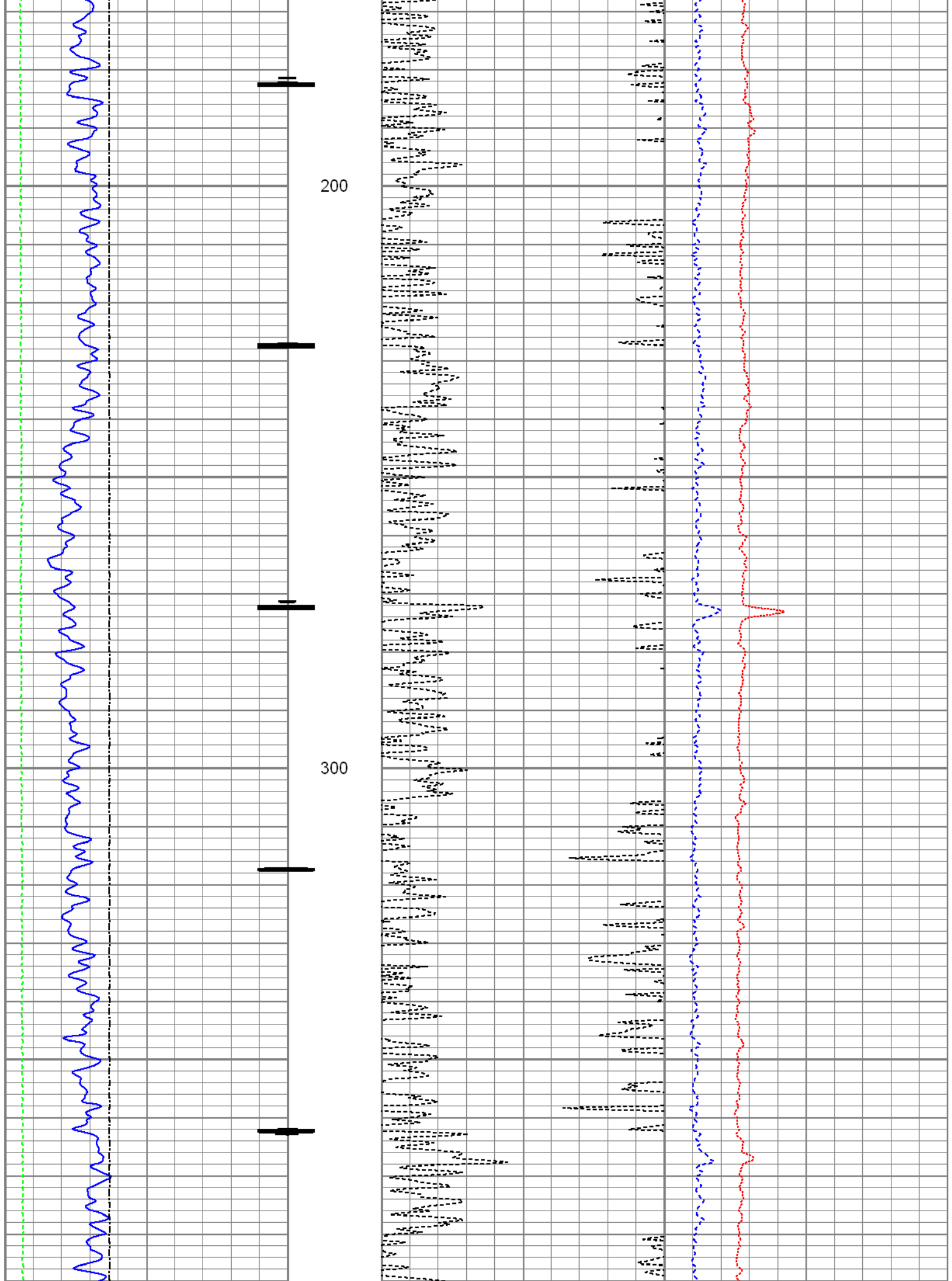
Log ran as per customer request
 Depth referenced to FMC RBL date 14-AUG-2015
 Logged ran as deep as possible to surface
 Recorded with 0 PSI surface induced pressure
 Logging tools were clean and free of debris upon completion of operations
 Thank you for choosing FMC Technologies Completion Services, Inc.!!

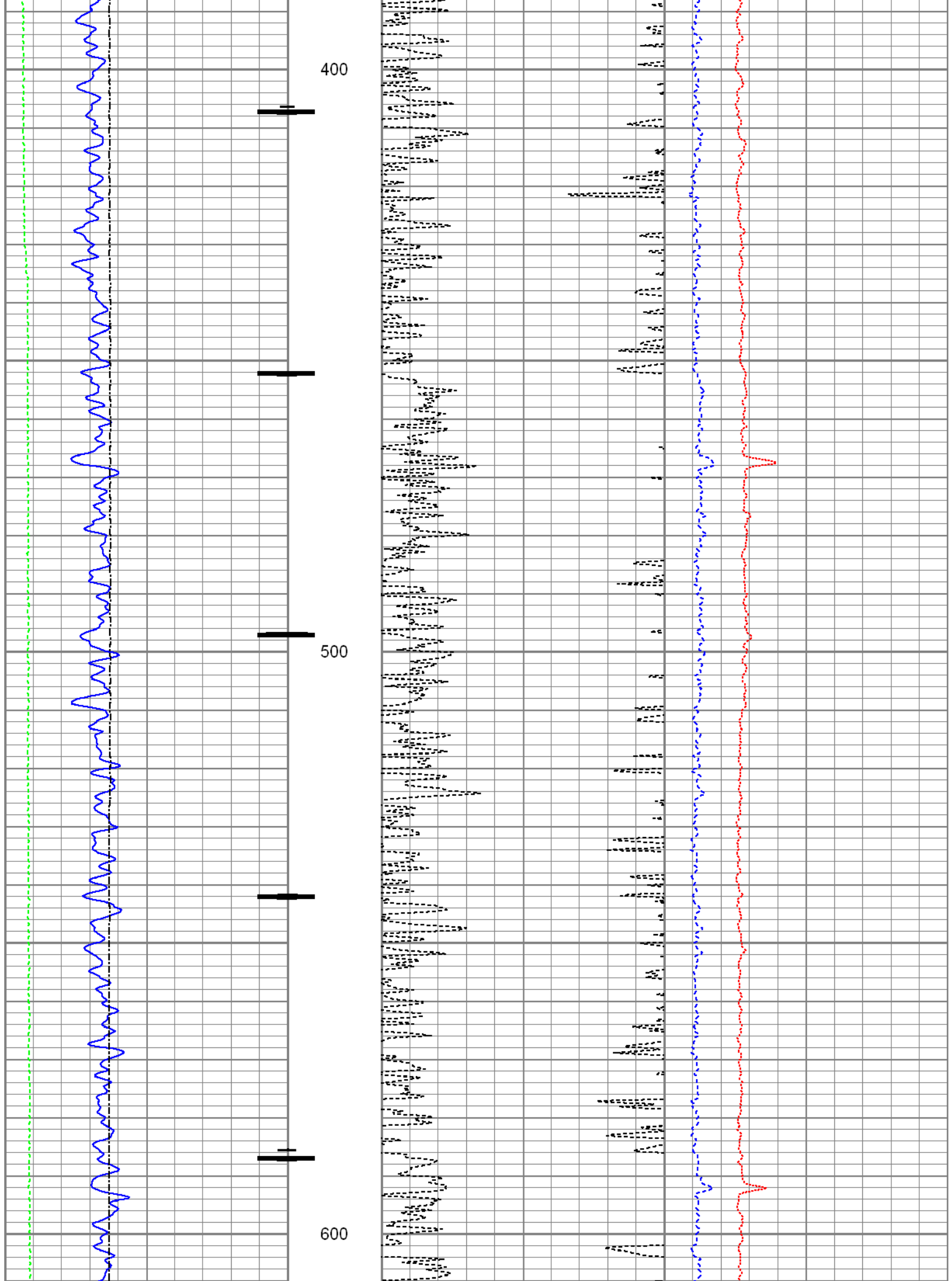
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Dataset Pathname: main.1.1
Presentation Format: cnl
Dataset Creation: Wed Aug 19 16:48:55 2015
Charted by: Depth in Feet scaled 1:240

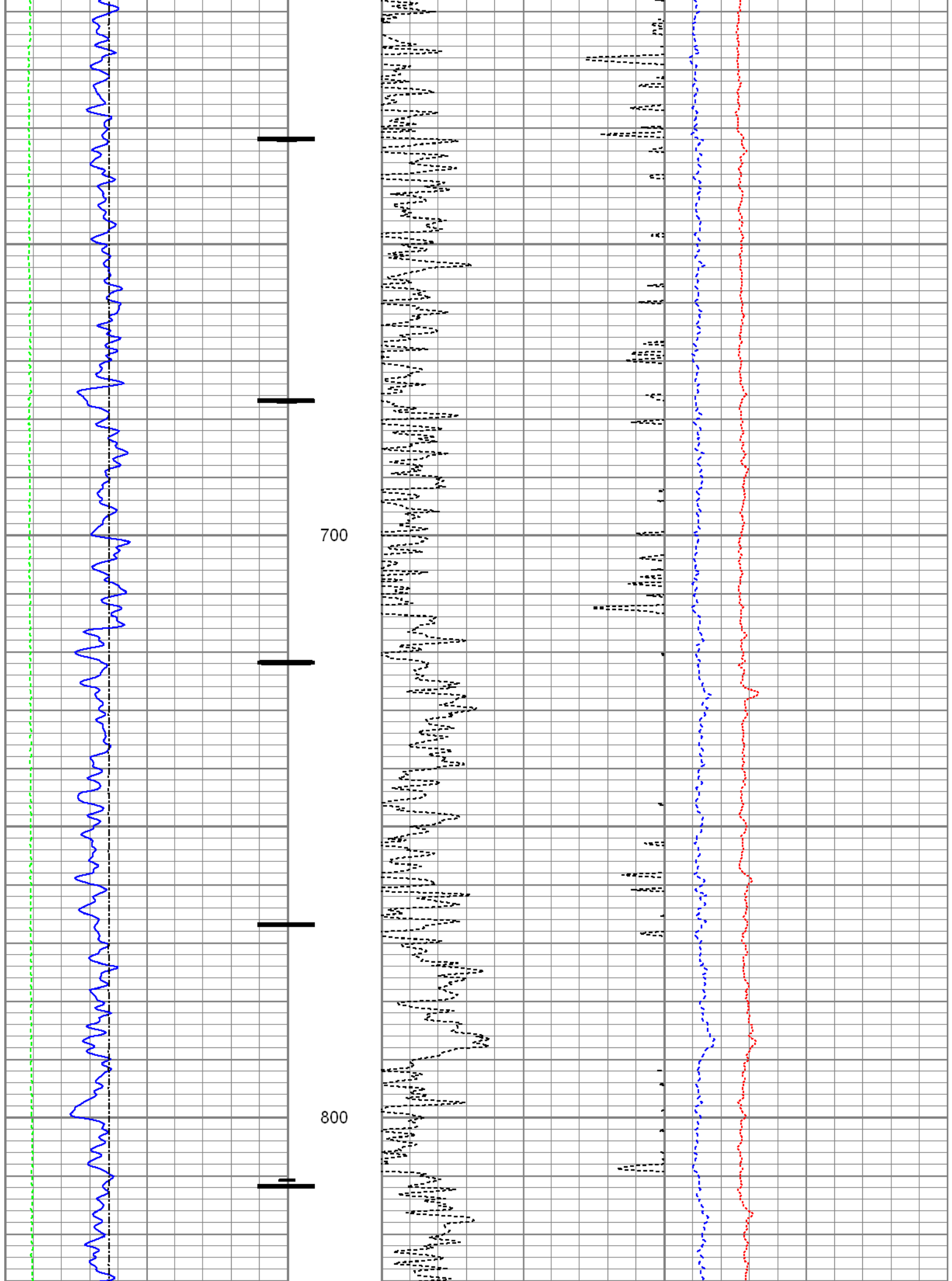
0	Gamma Ray (GAPI)	120
-100	Line Speed (ft/min)	100
0	Line Tension (lb)	2000
Casing Collar Locator		

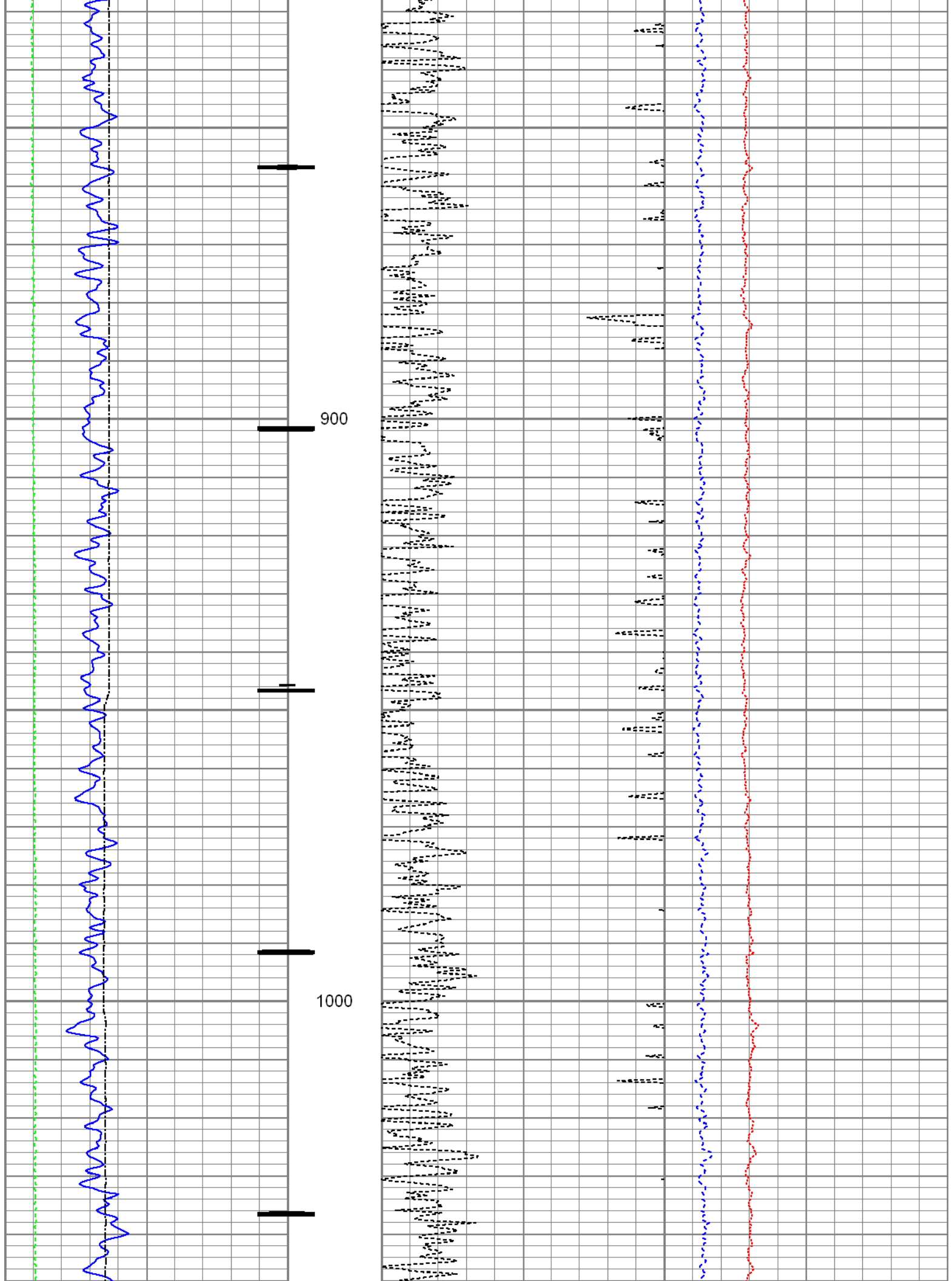
60	Neutron Porosity (pu)	0	0	Far Neutron (cps)	1000
			0	Near Neutron (cps)	10000

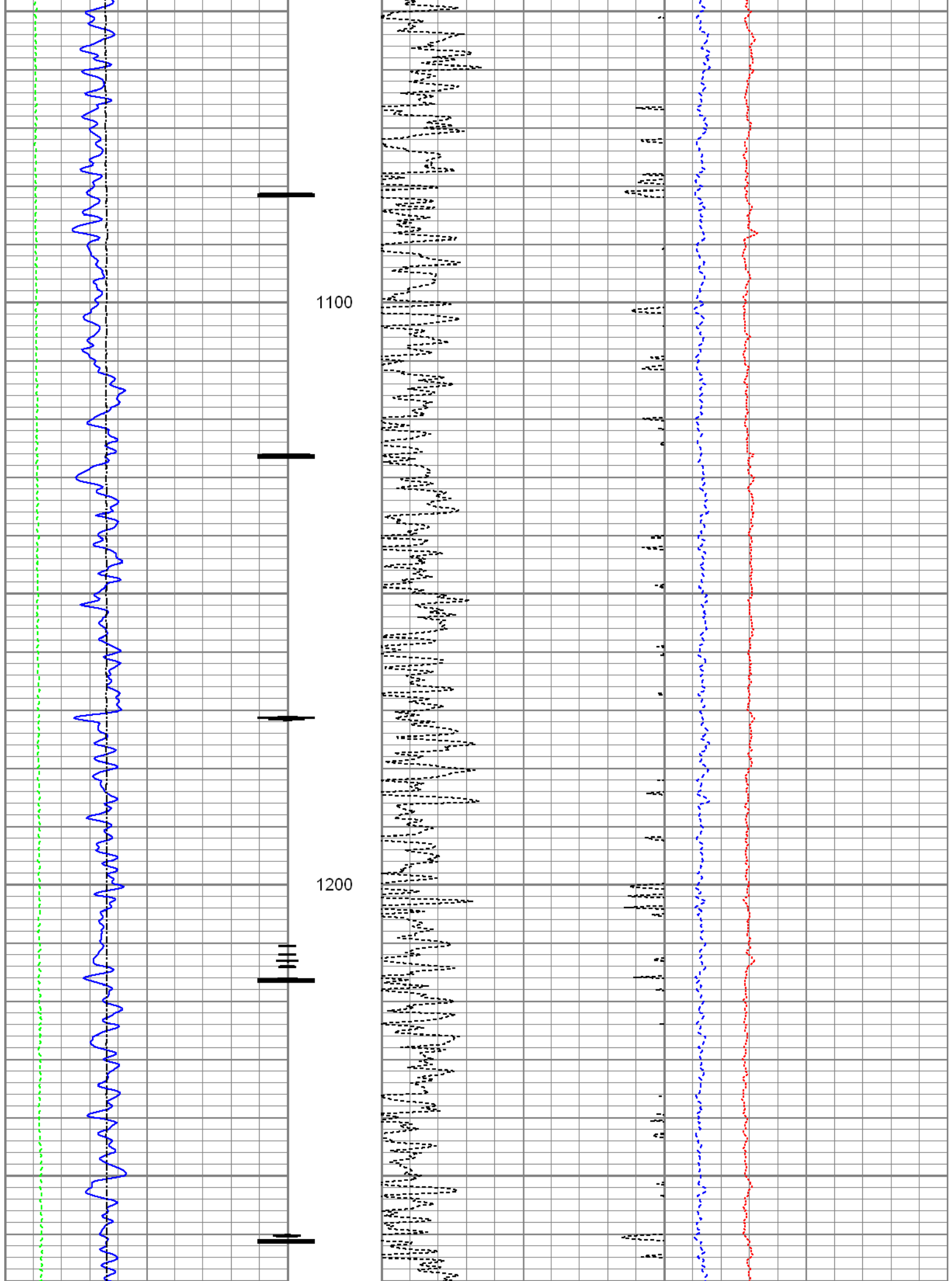


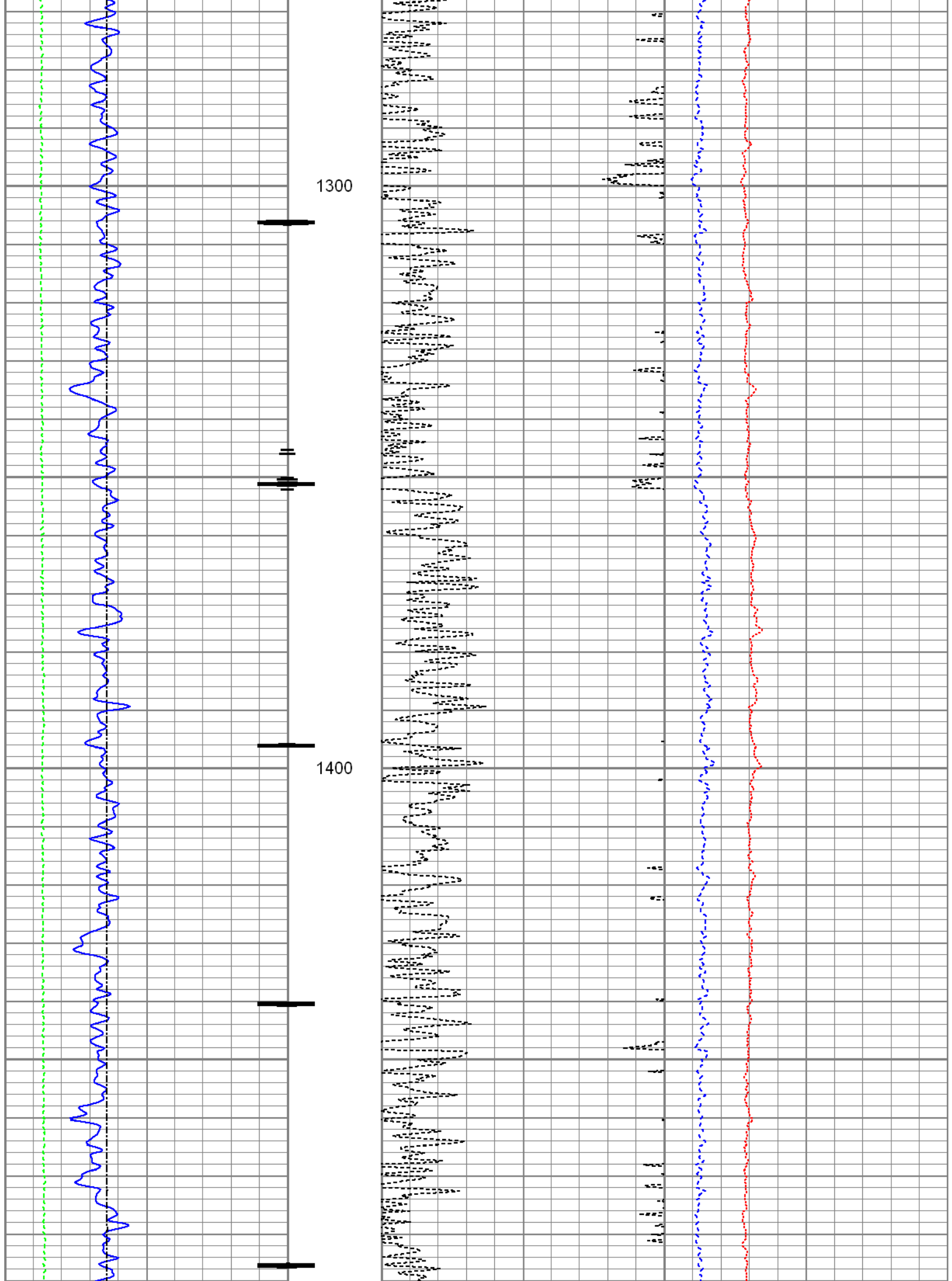


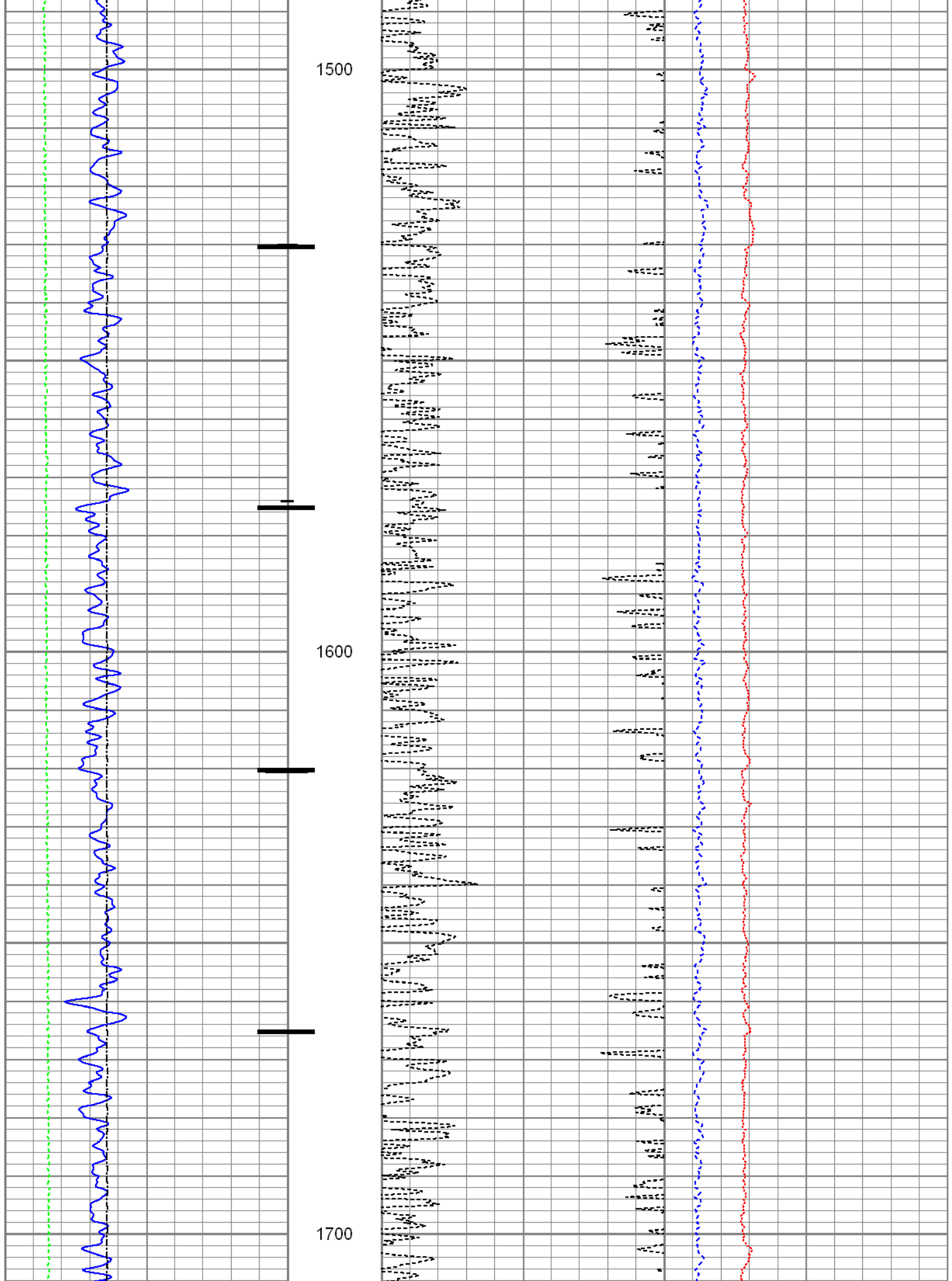


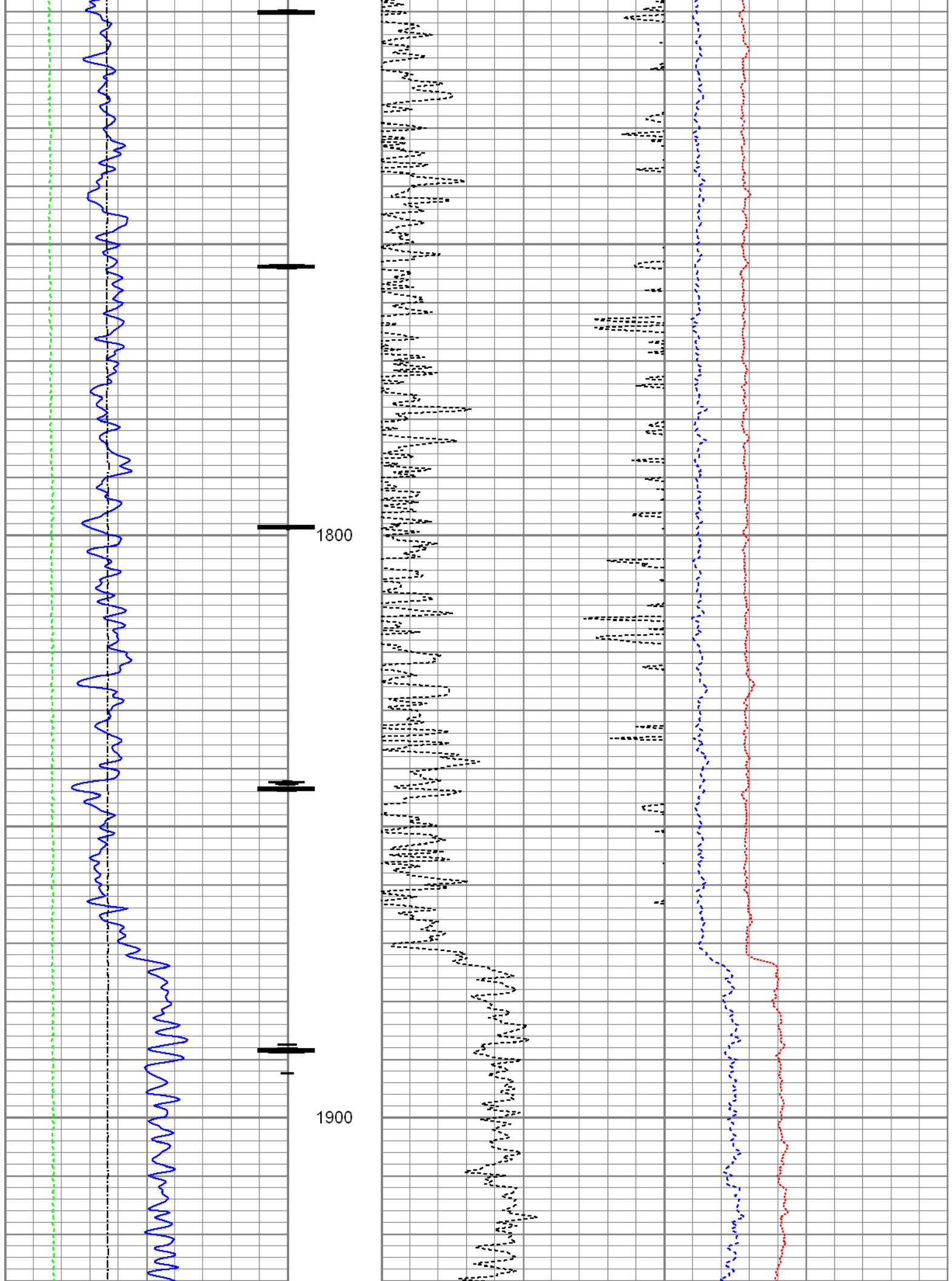


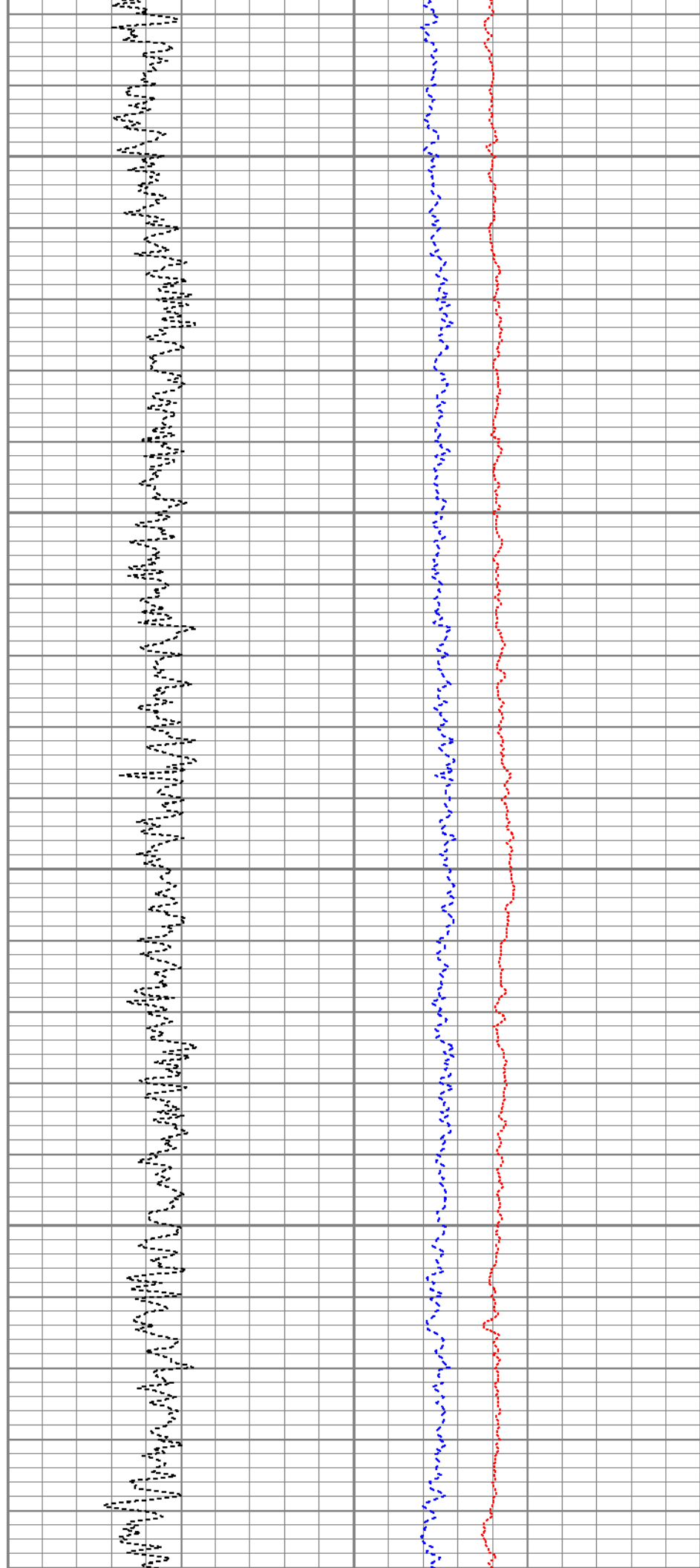
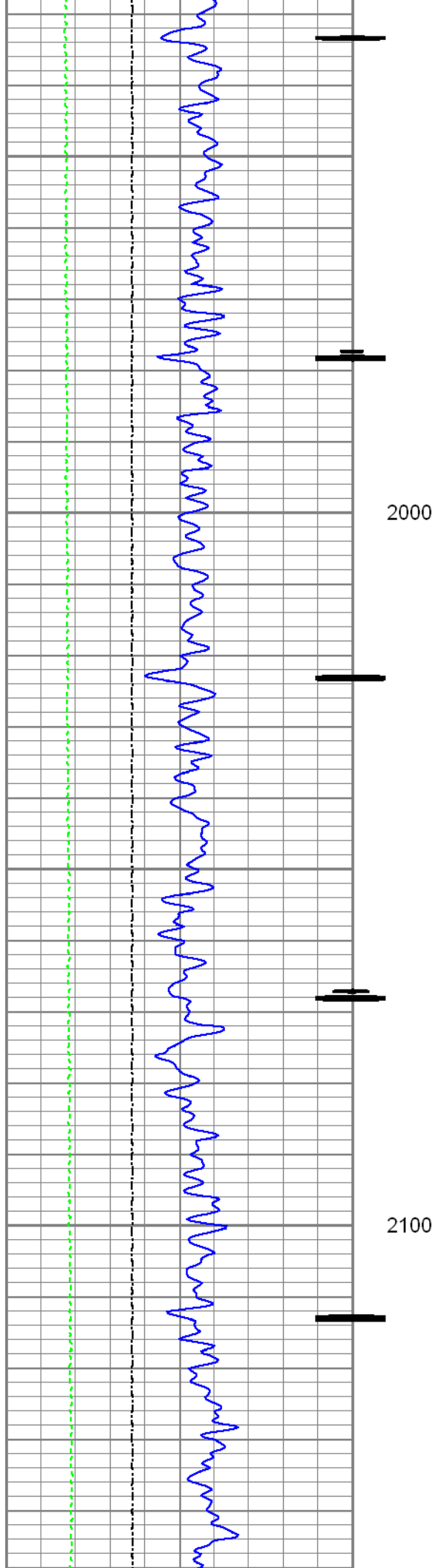


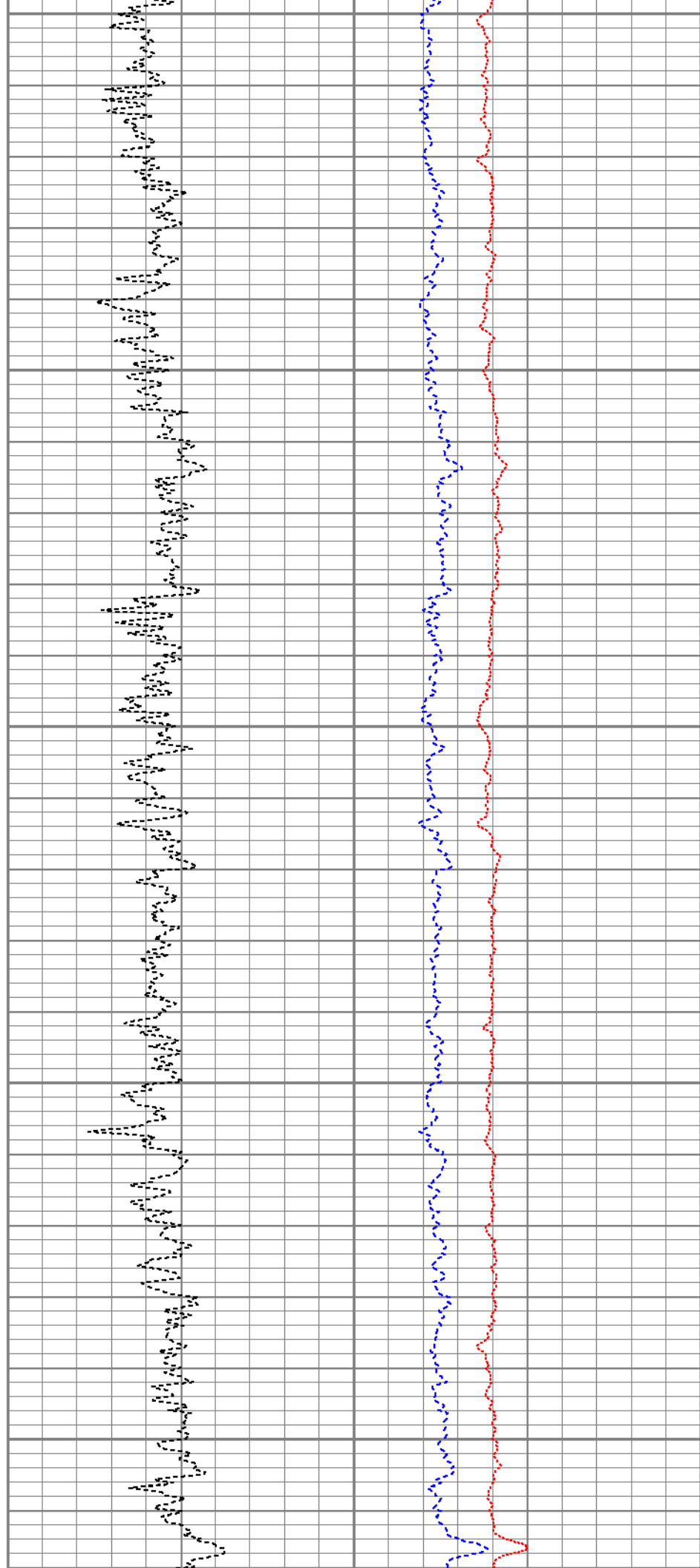
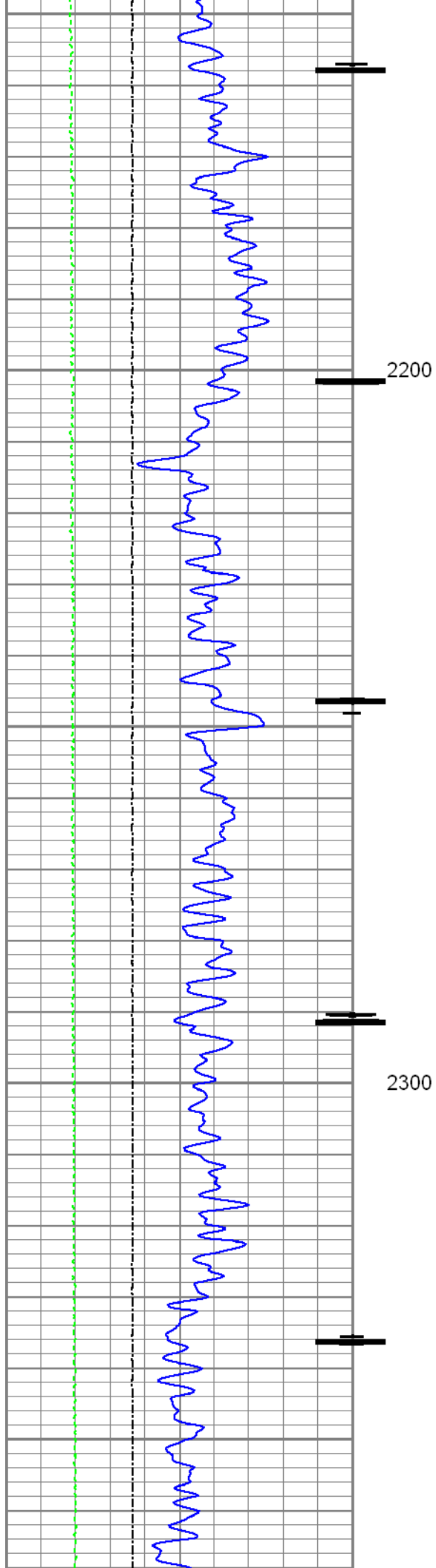


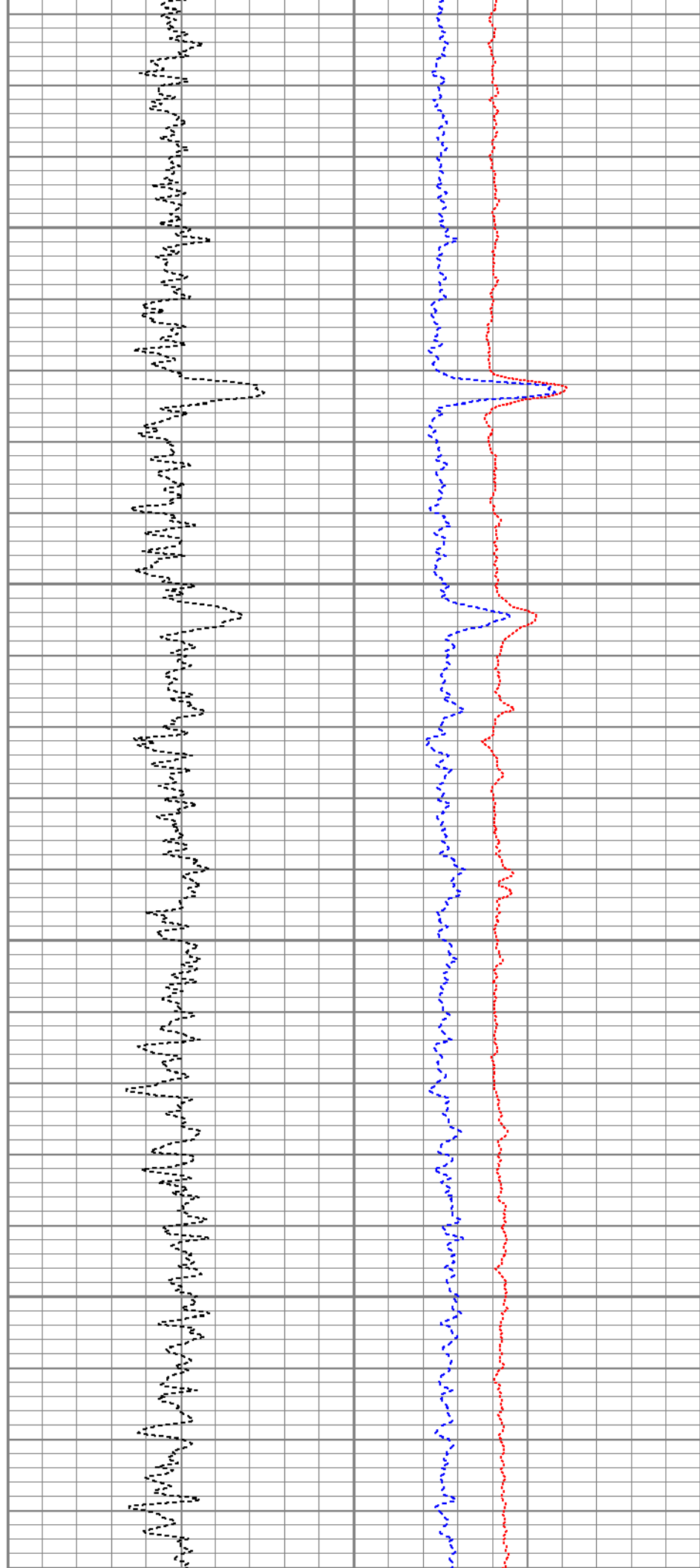
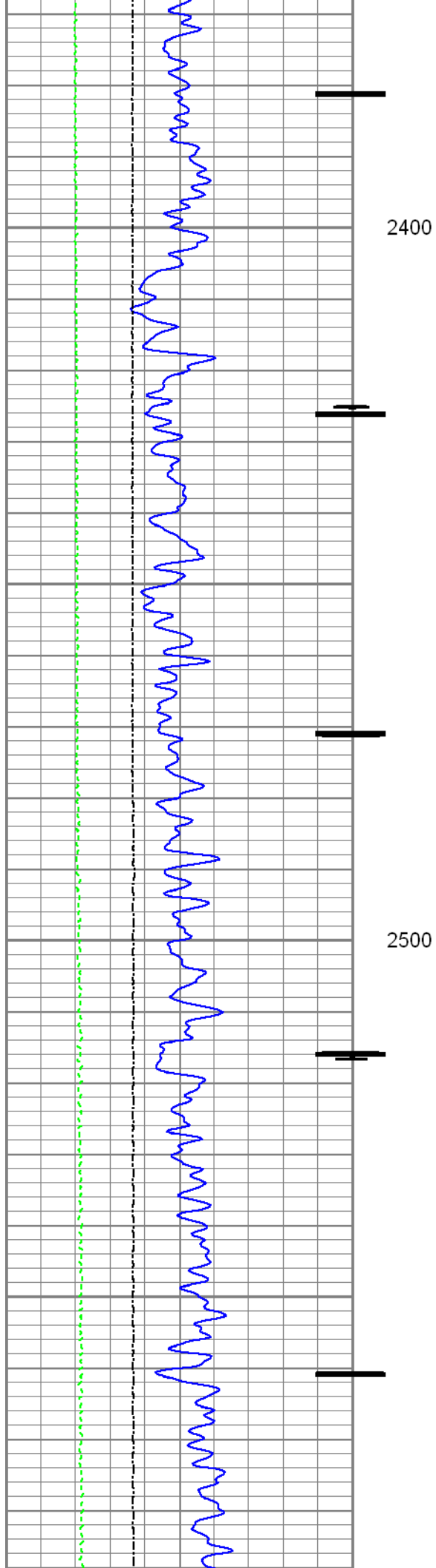


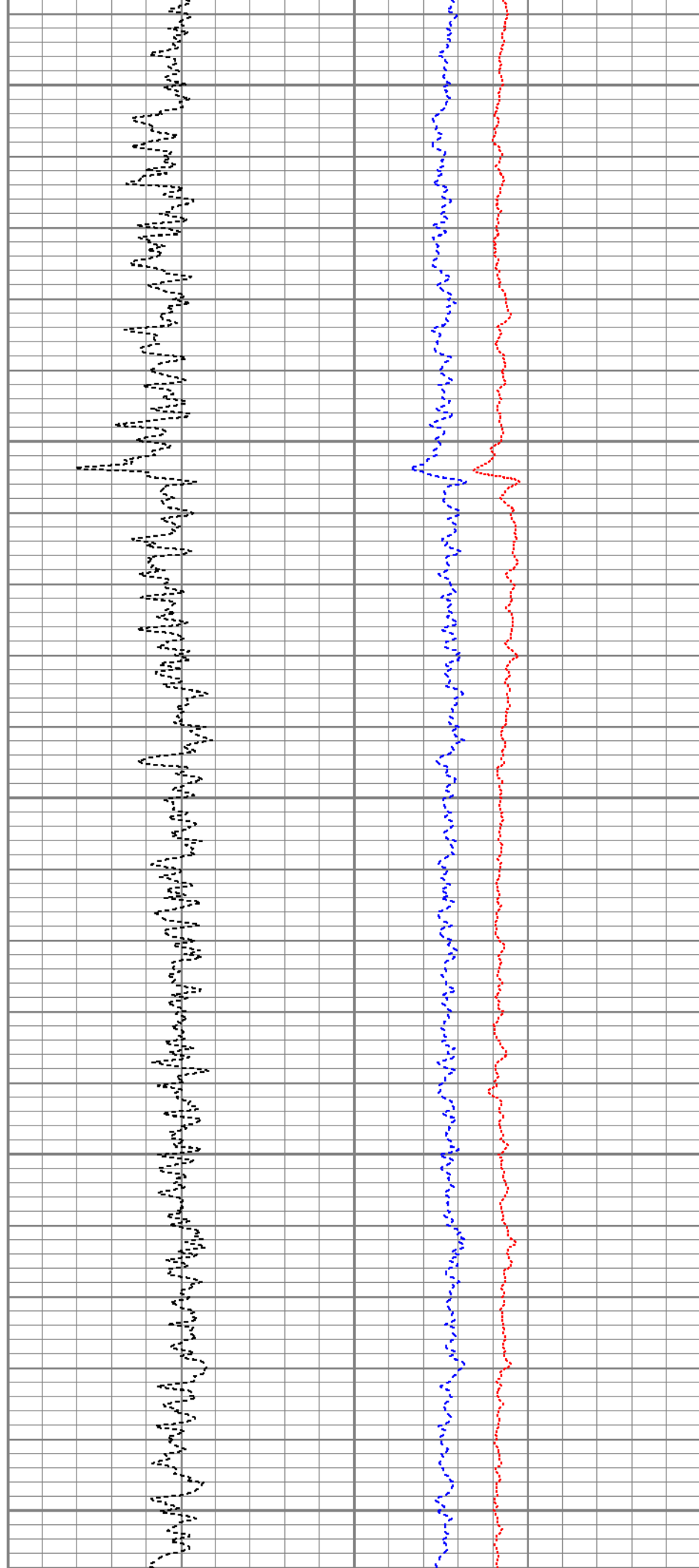
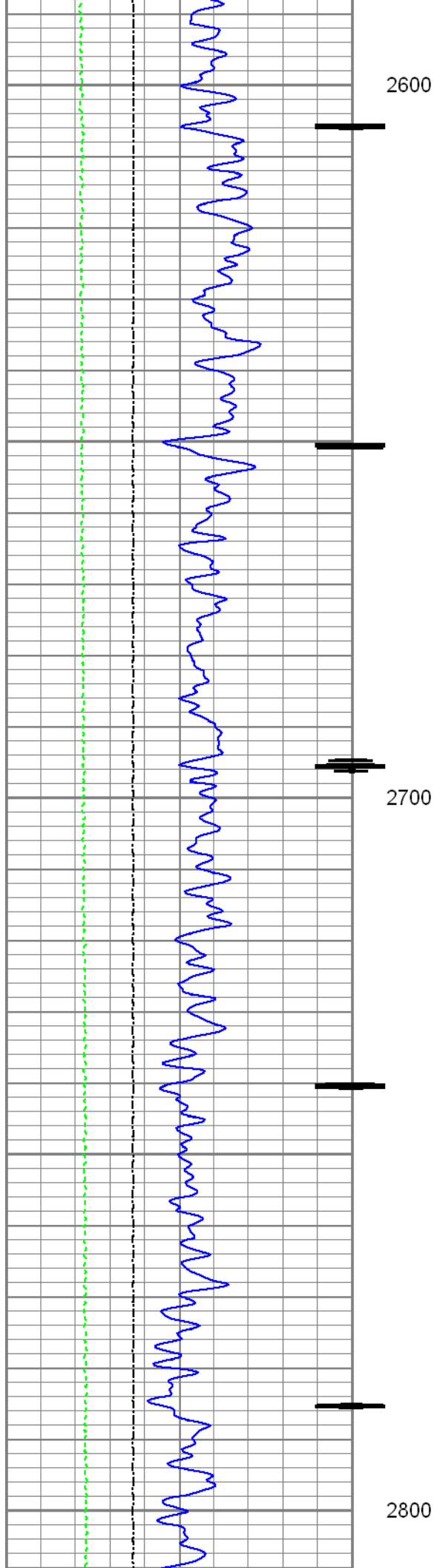


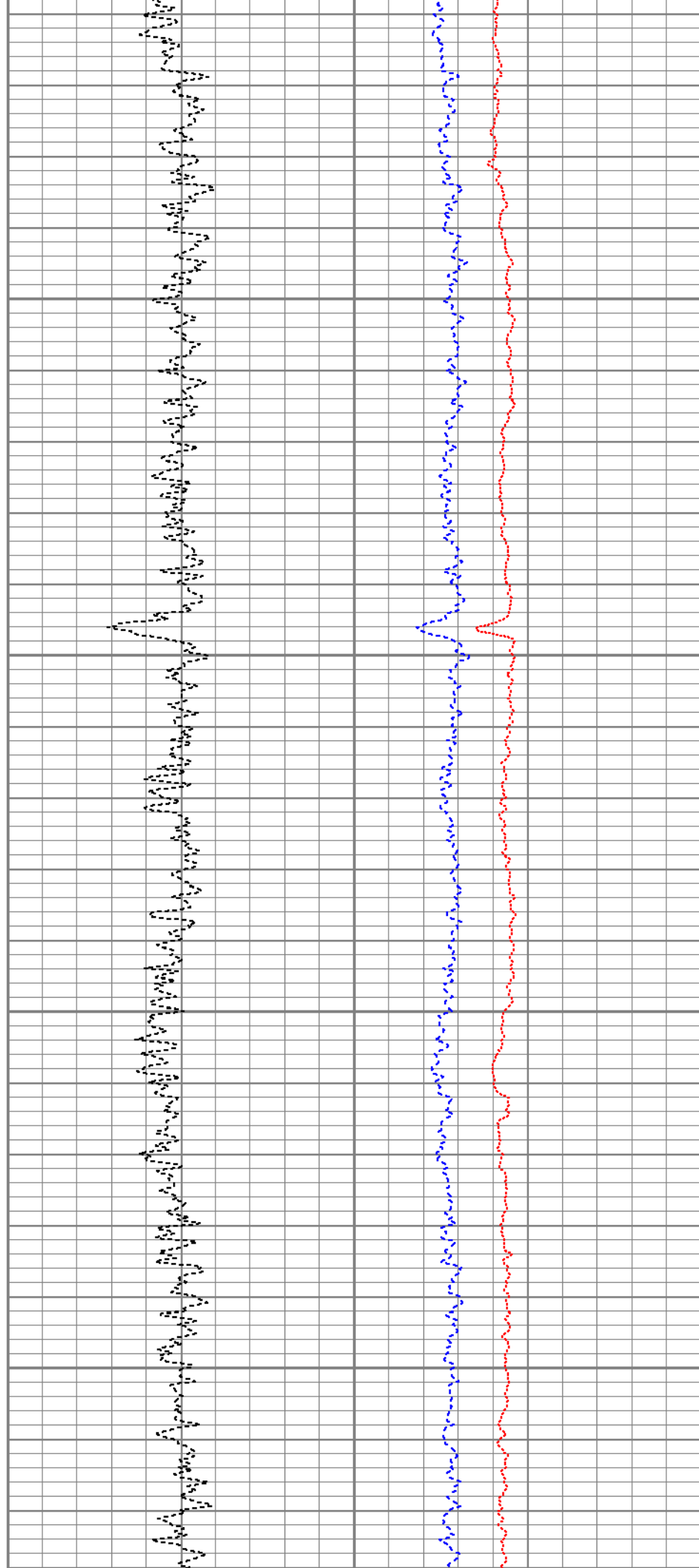
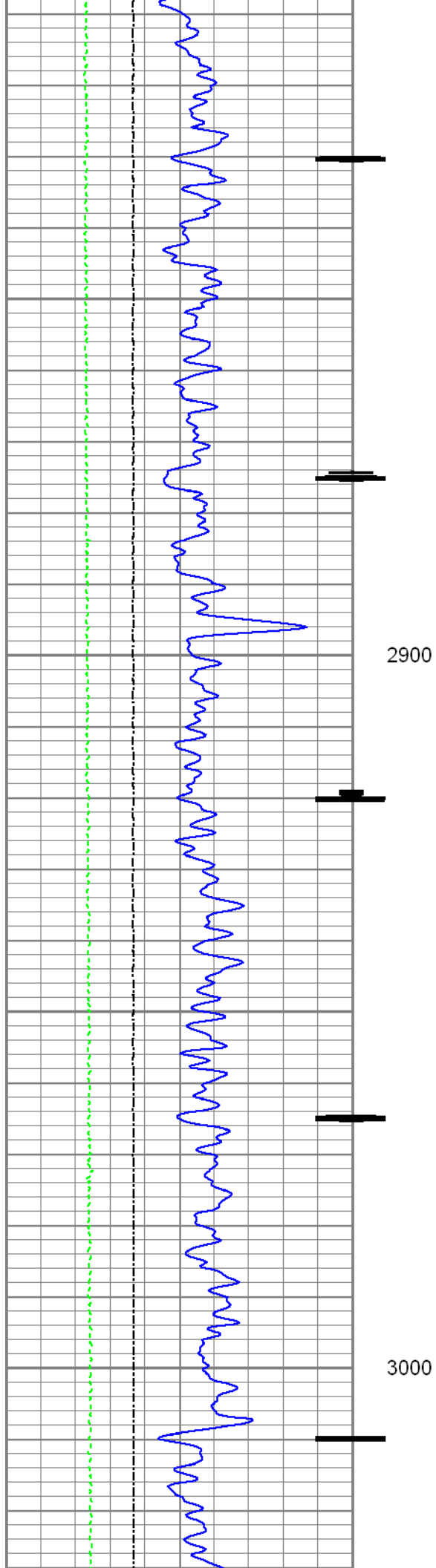


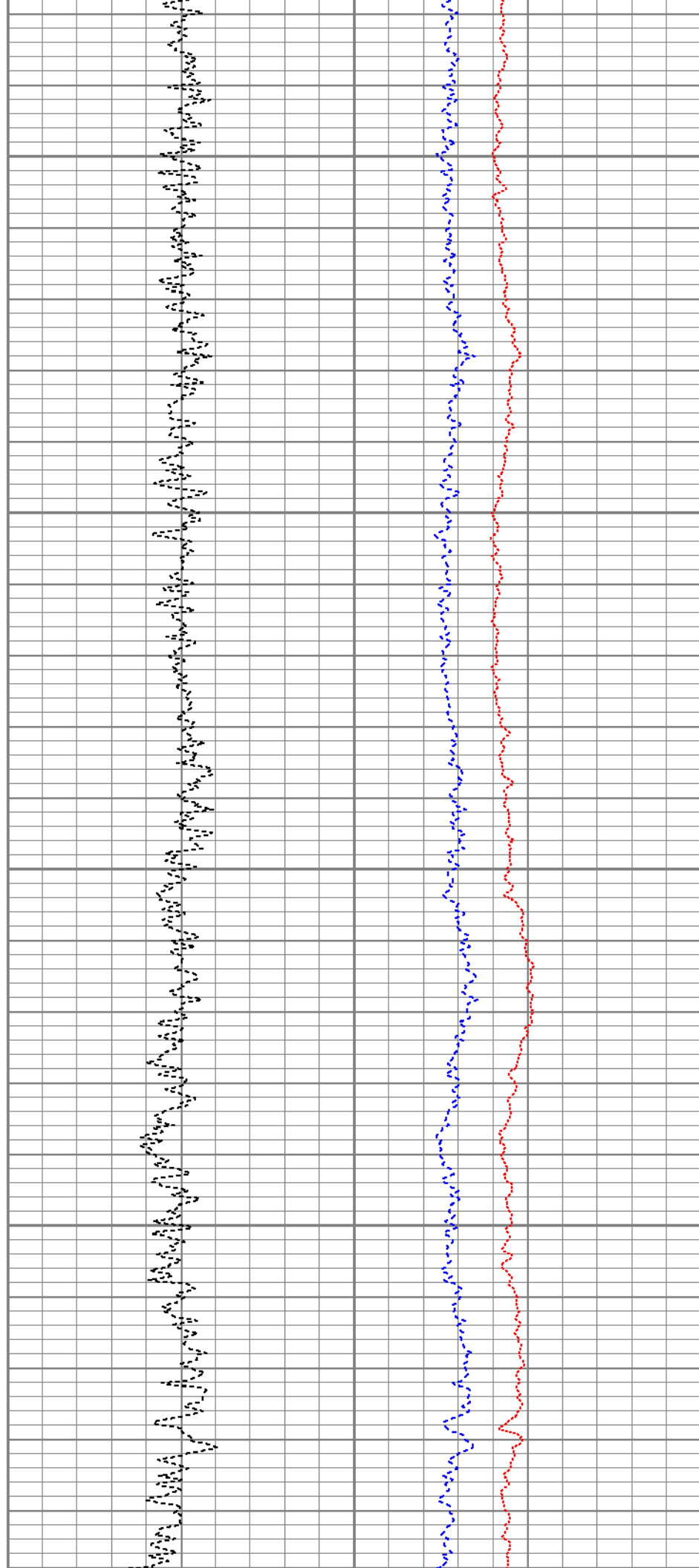
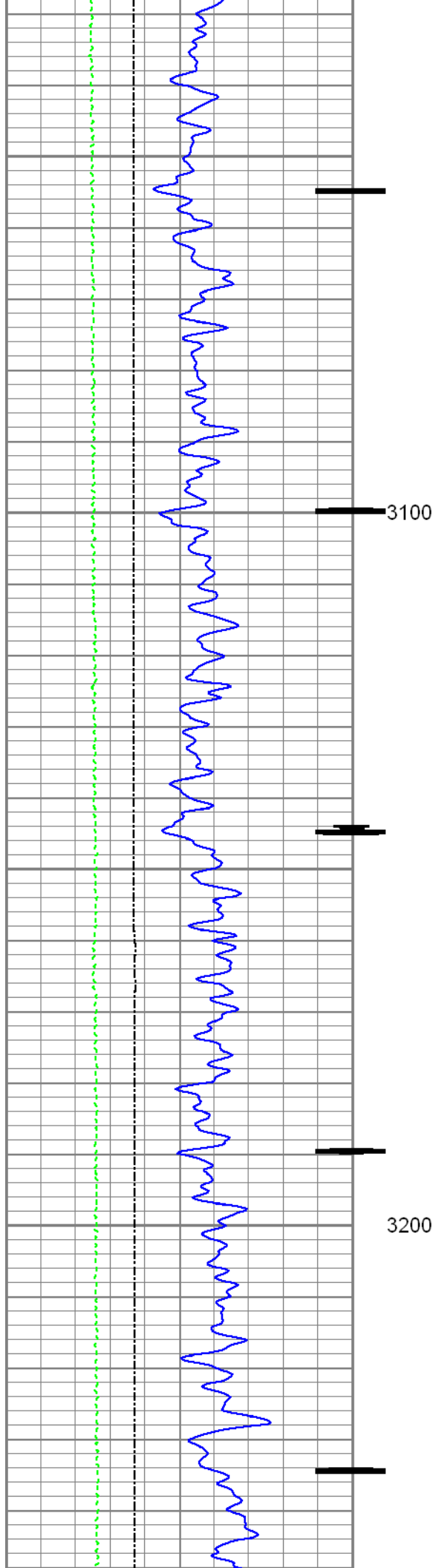


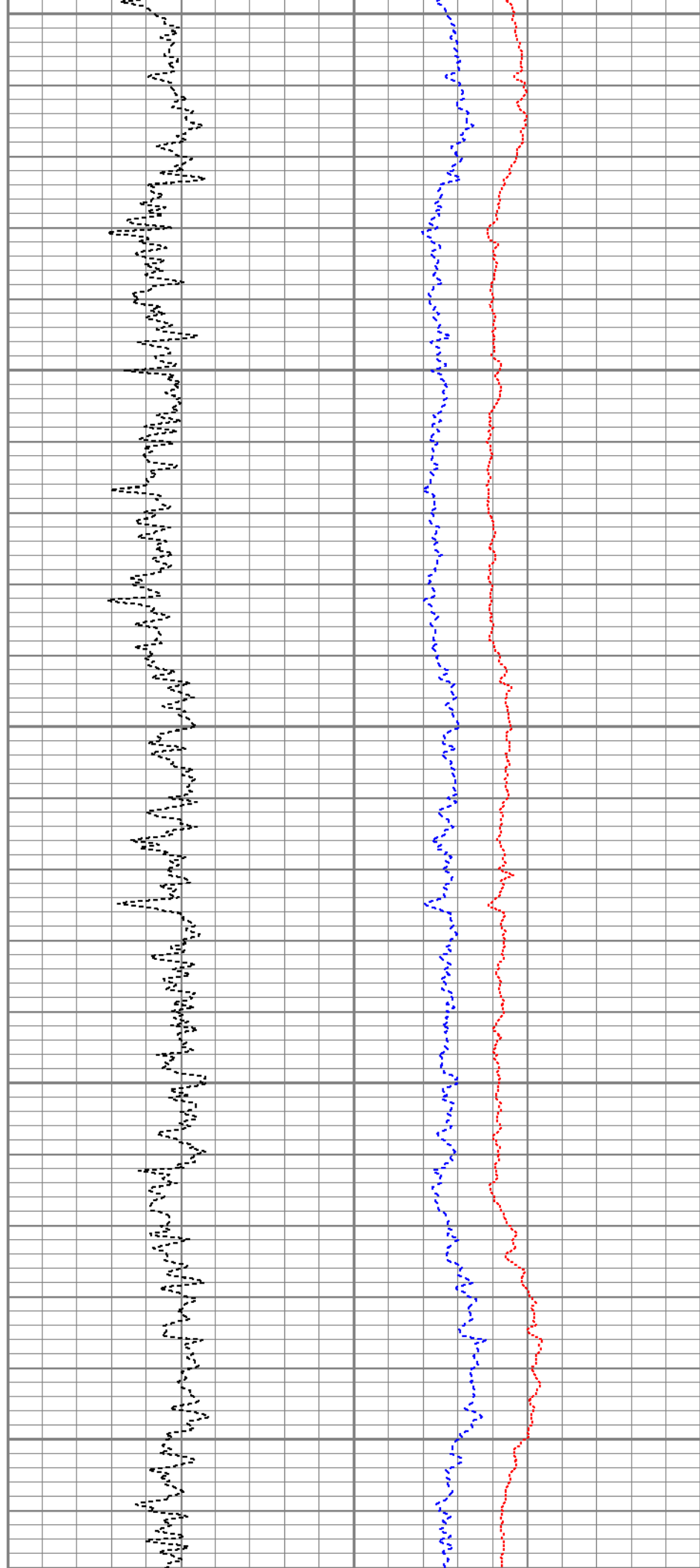
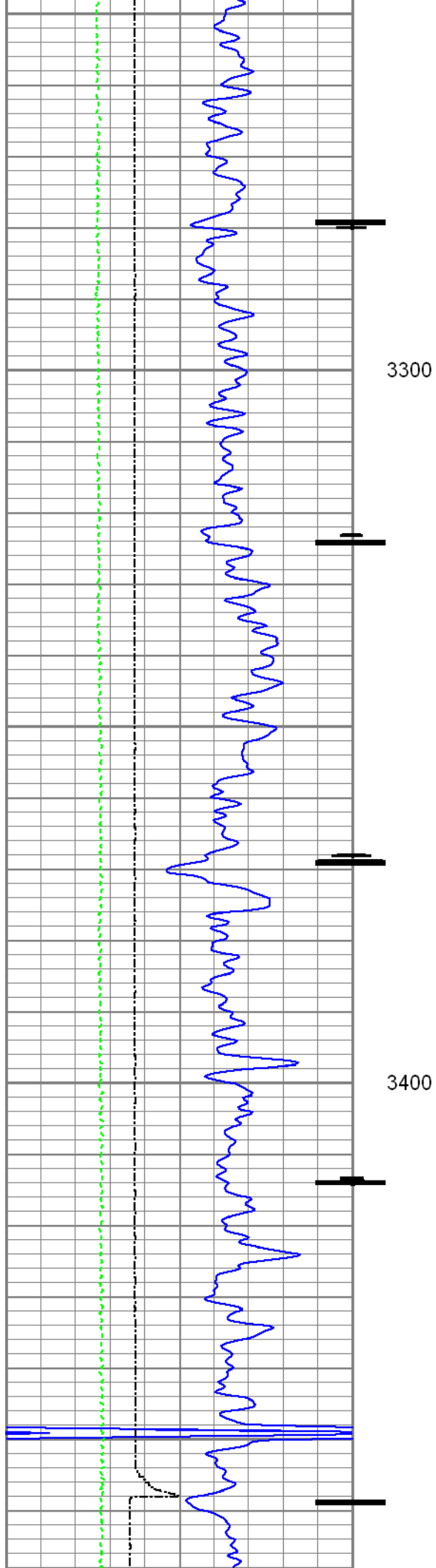


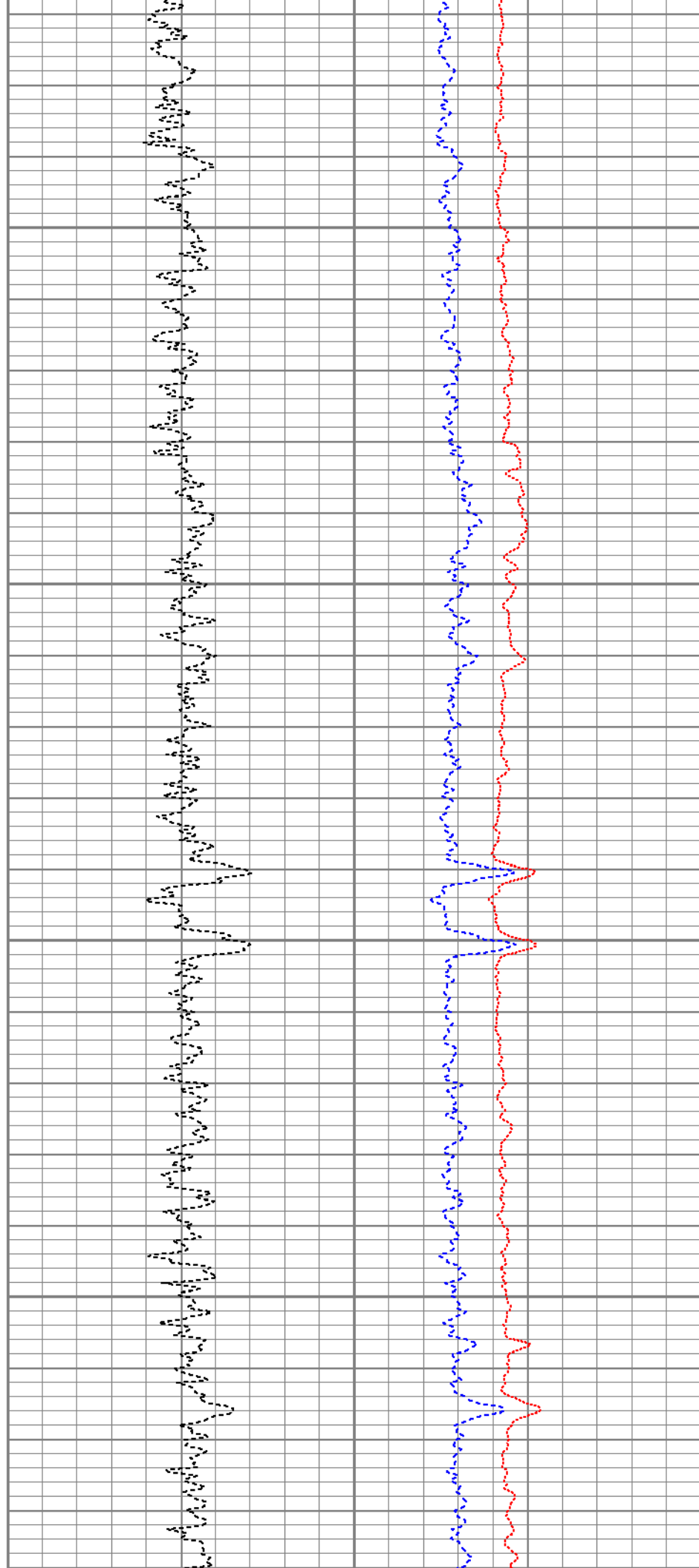
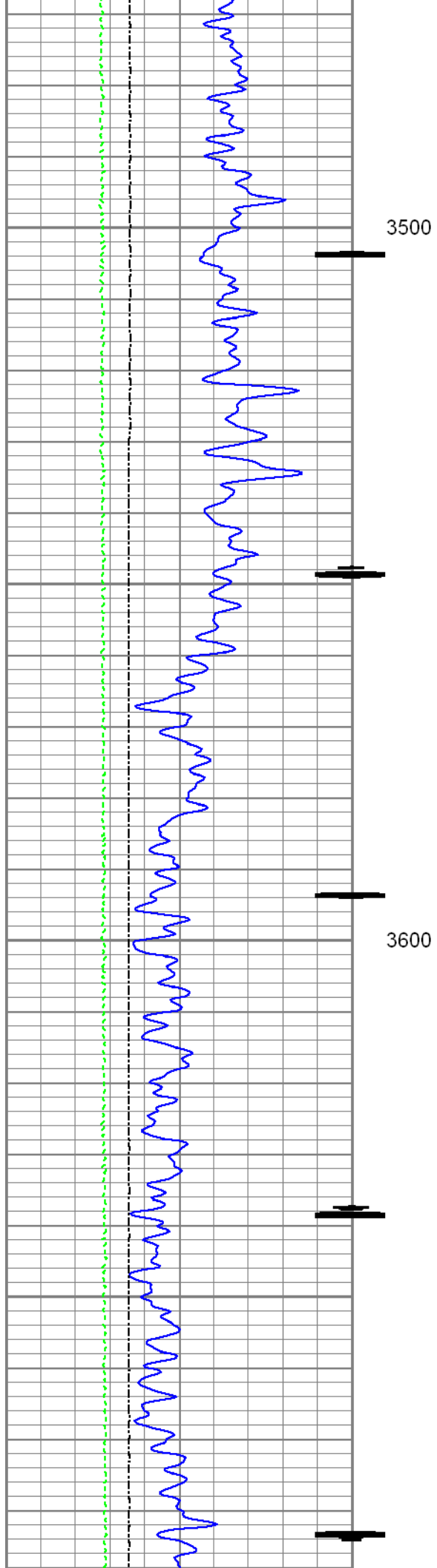


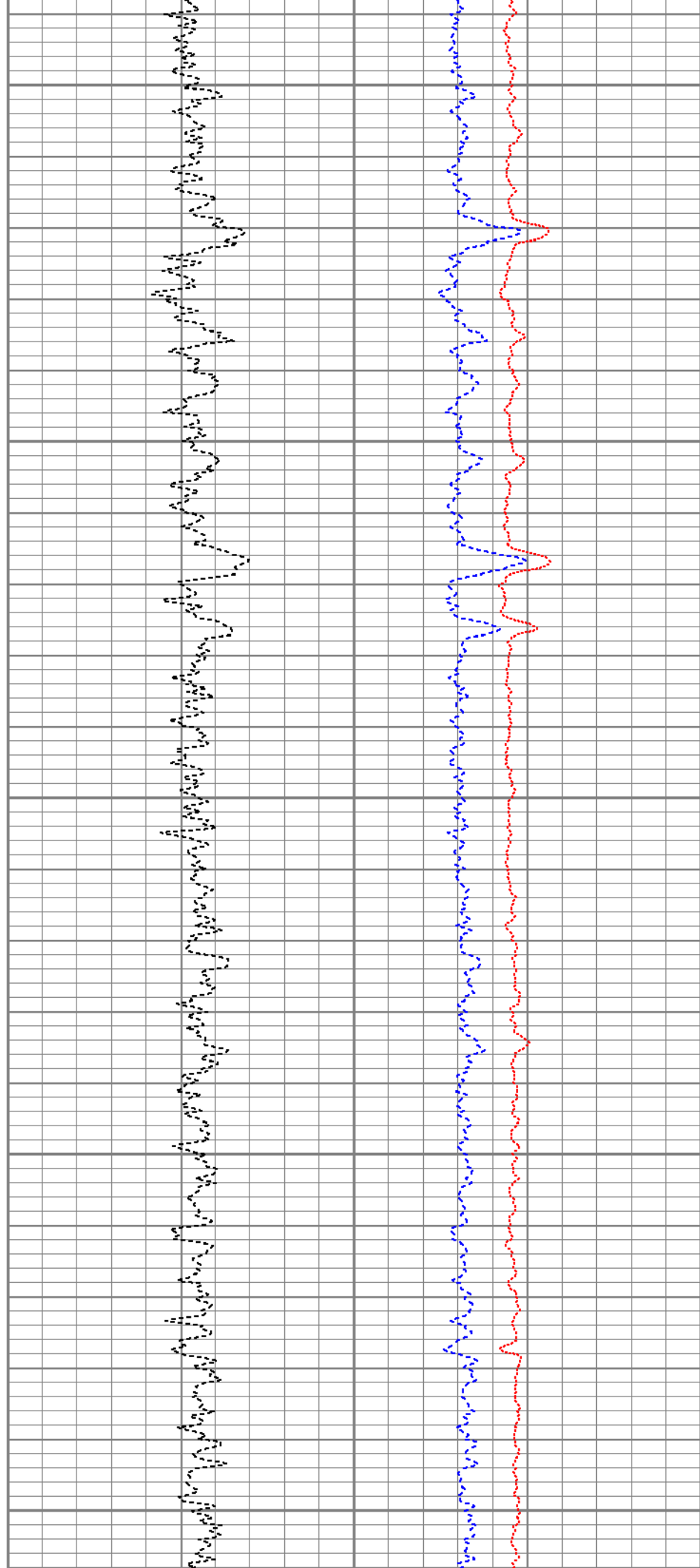
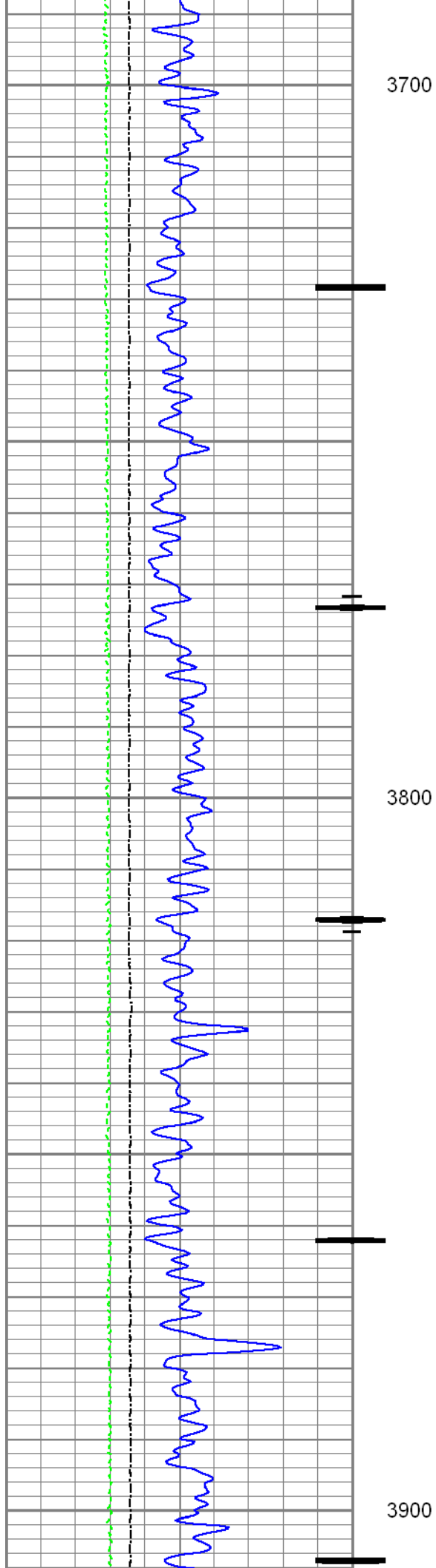


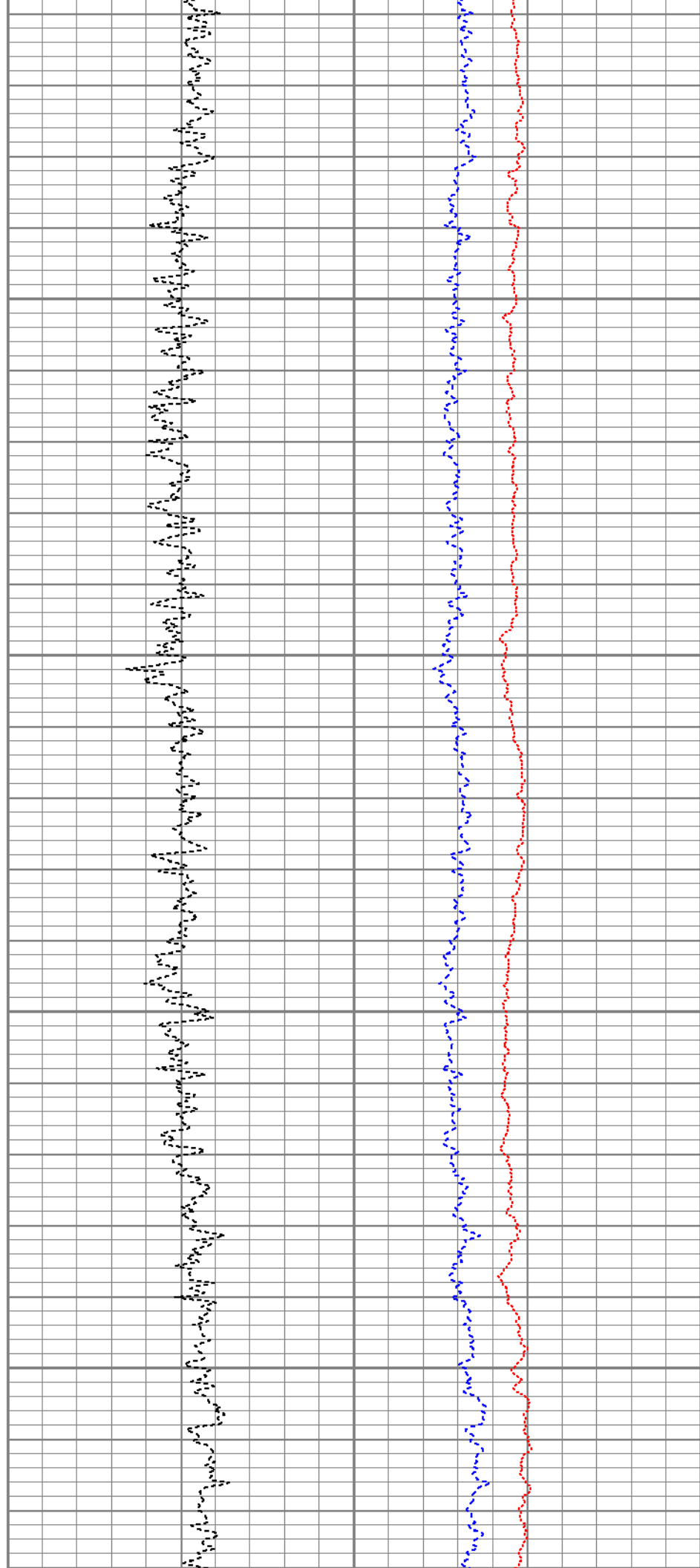
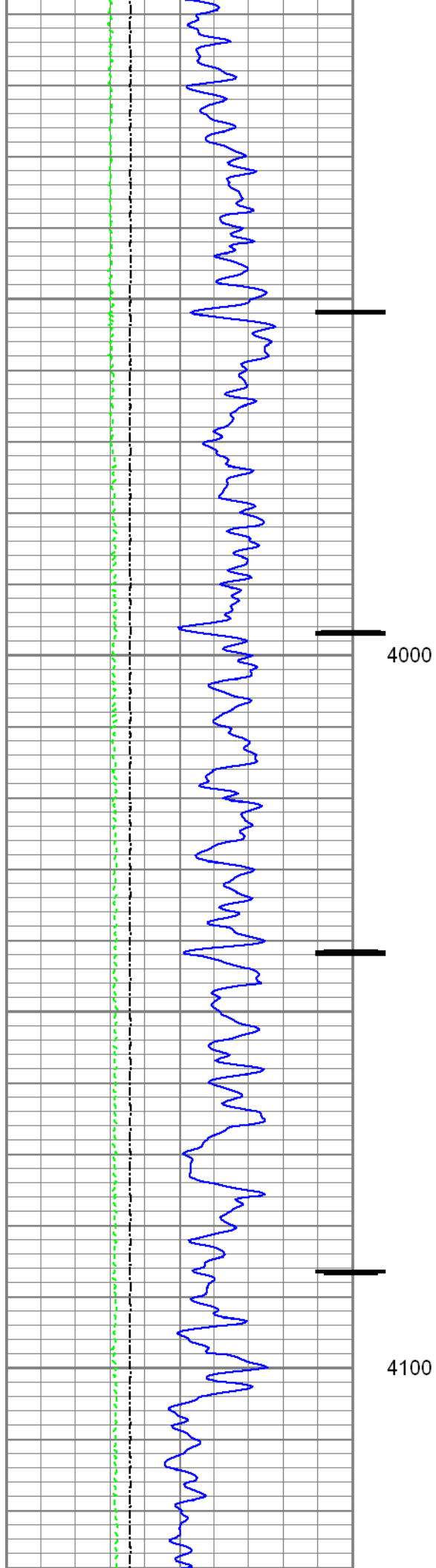


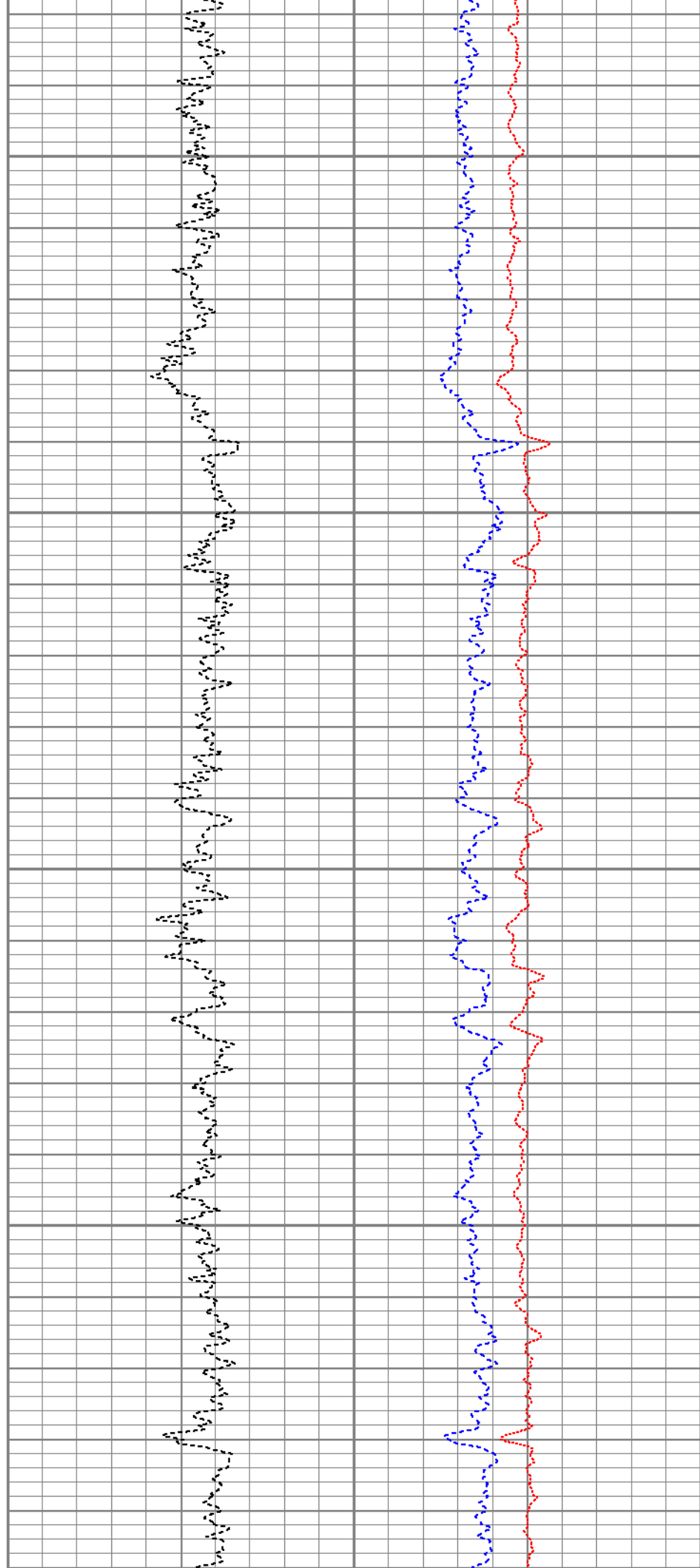
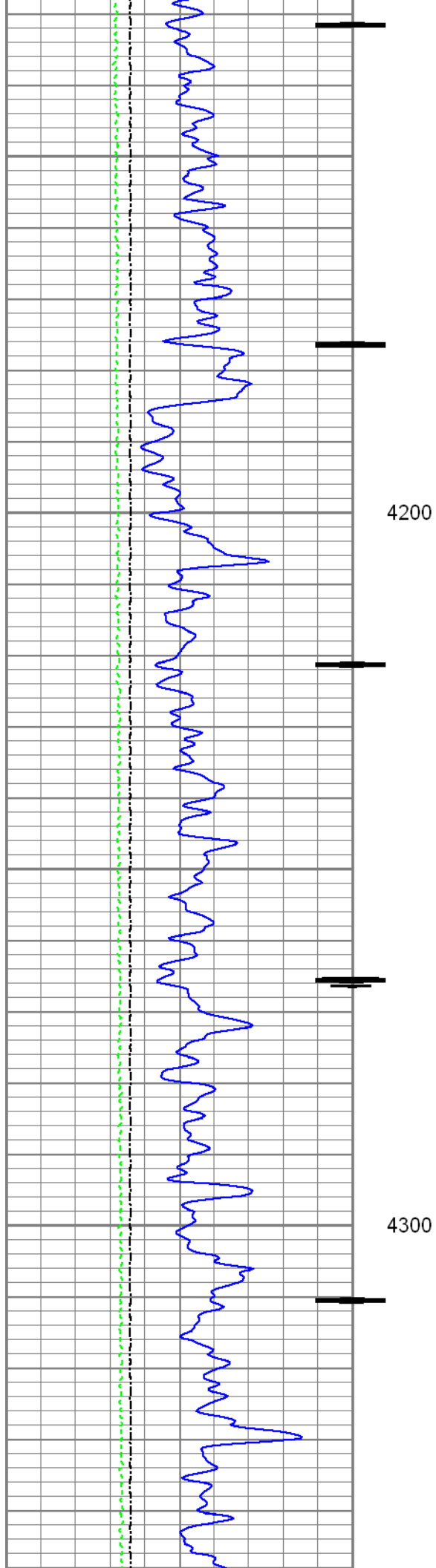


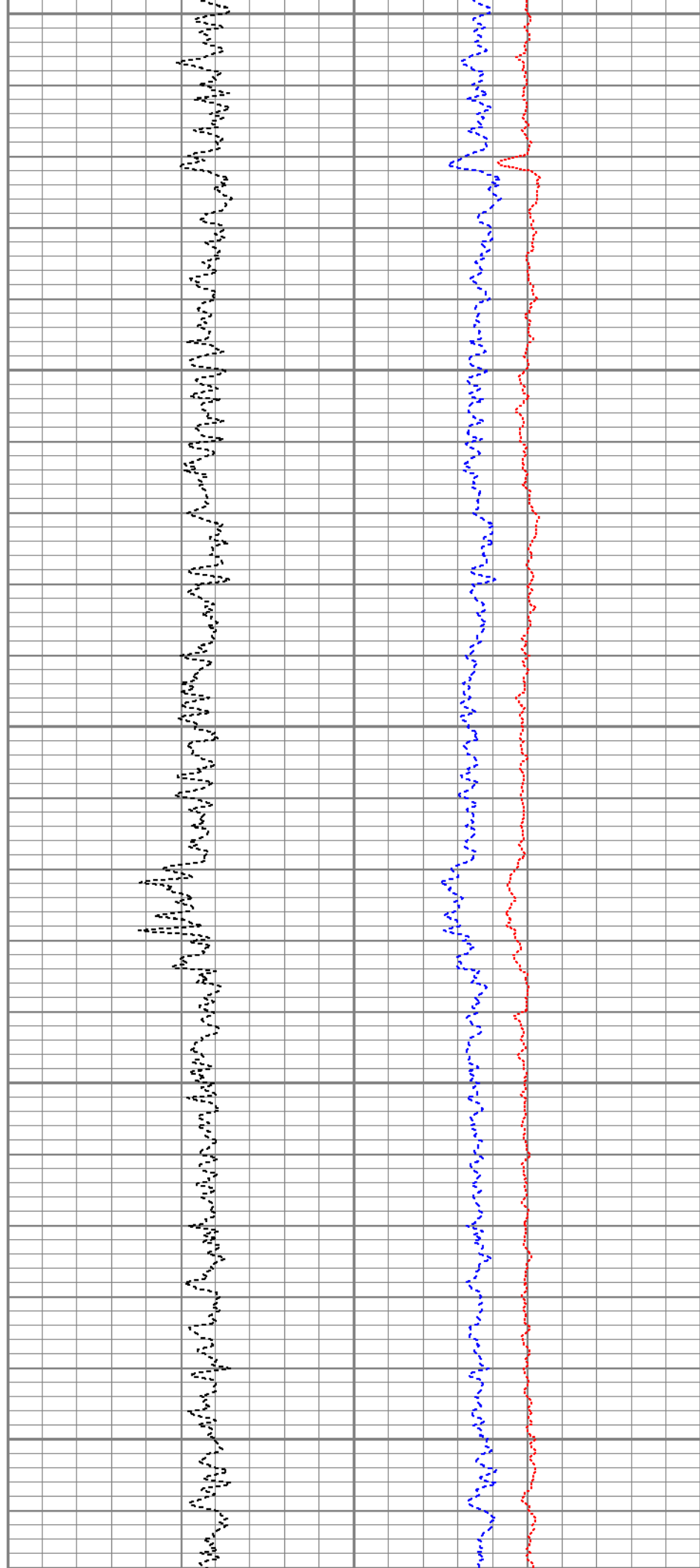
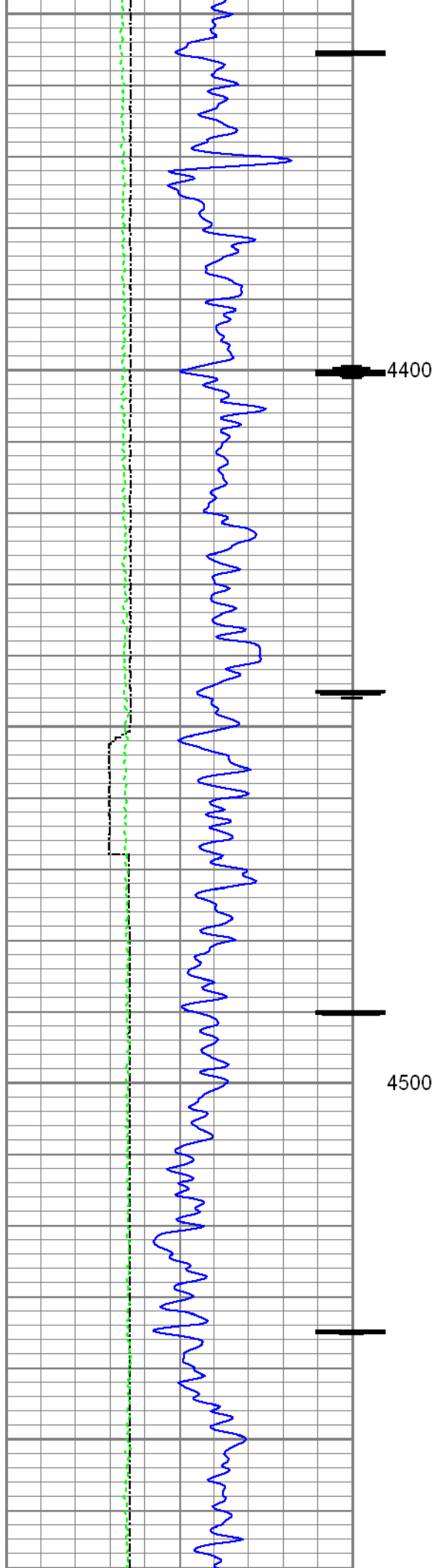


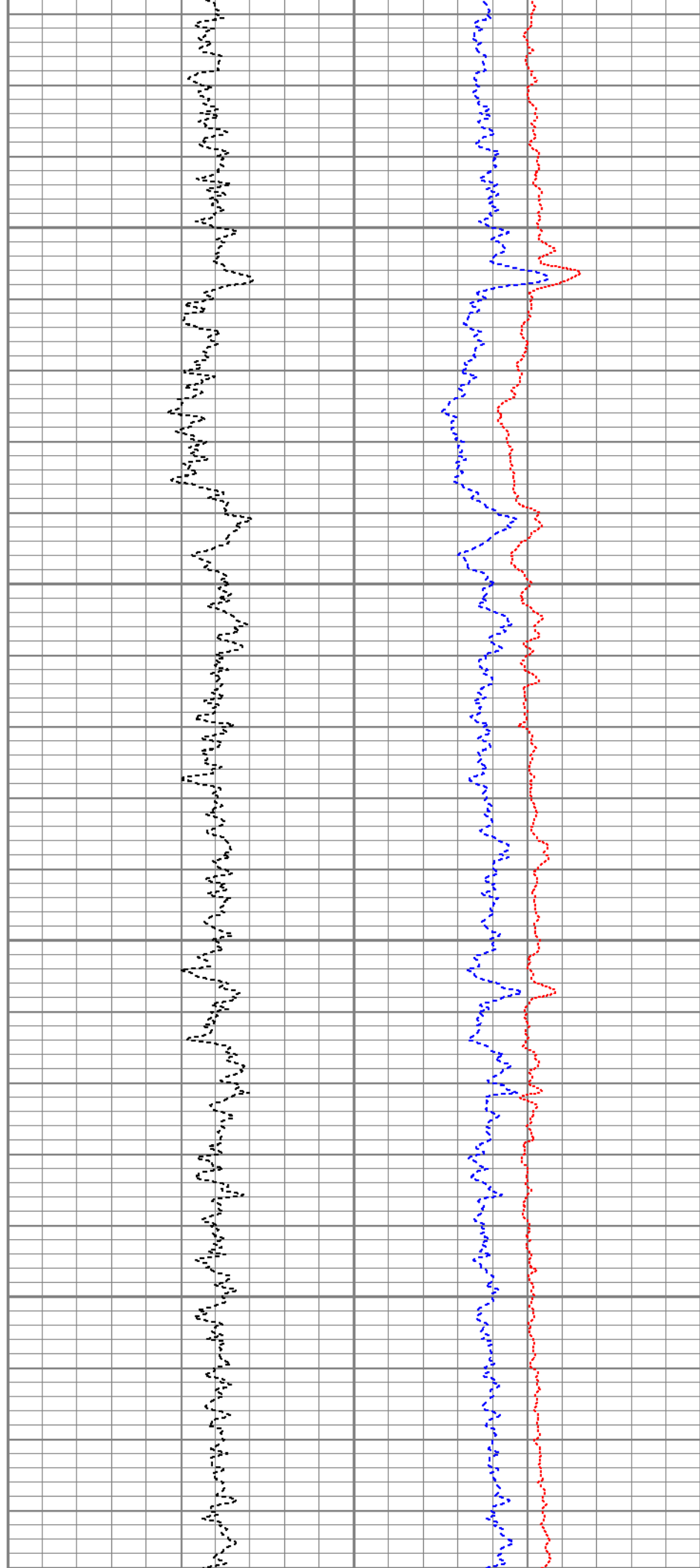
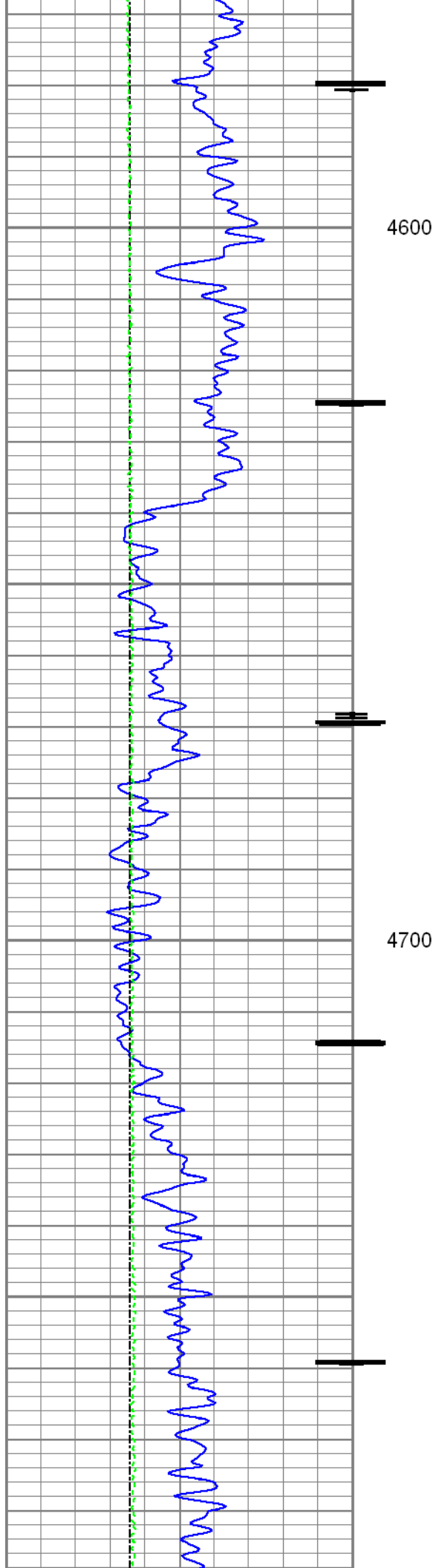


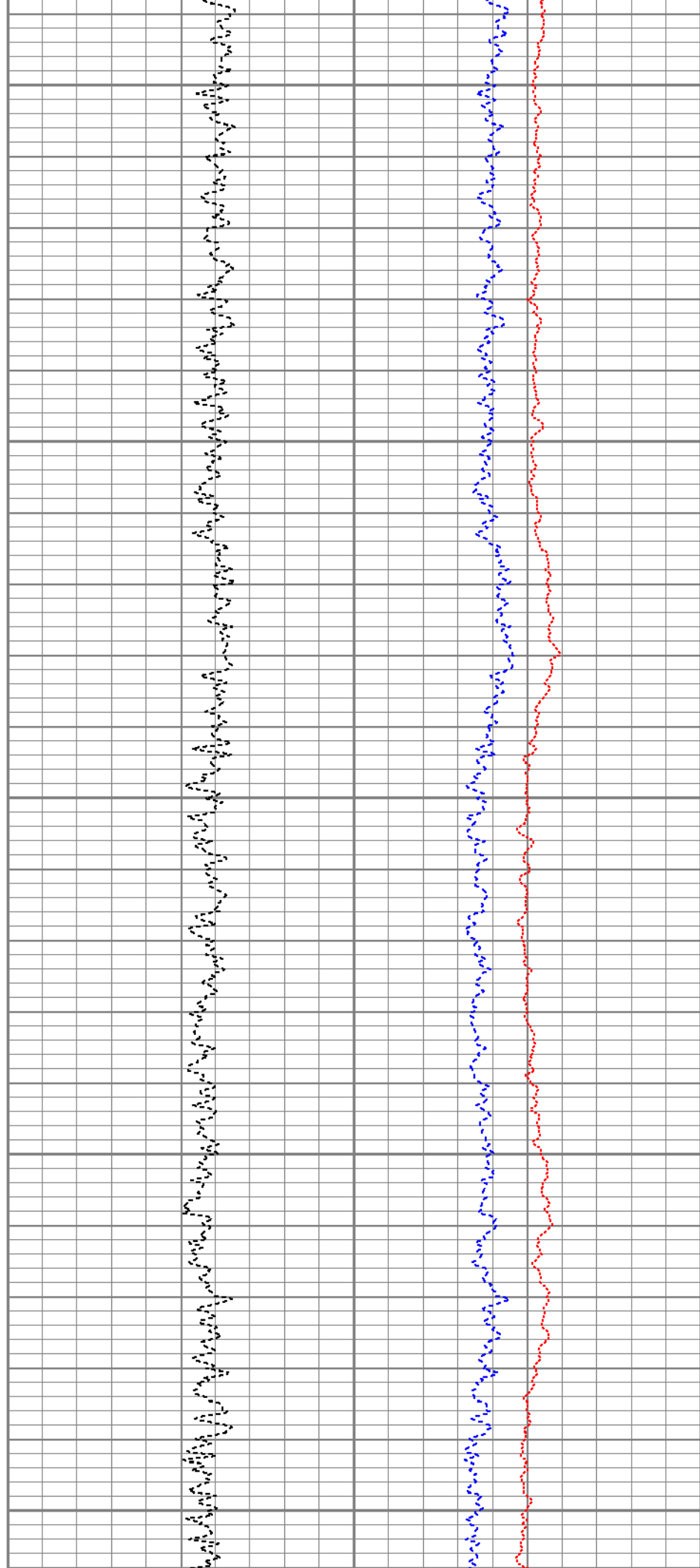
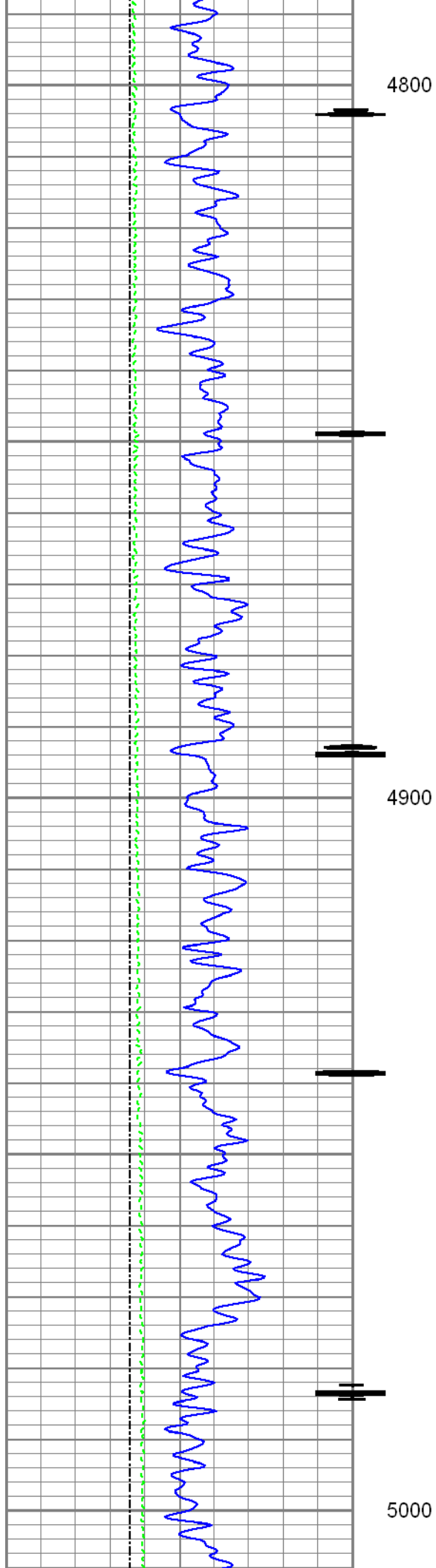


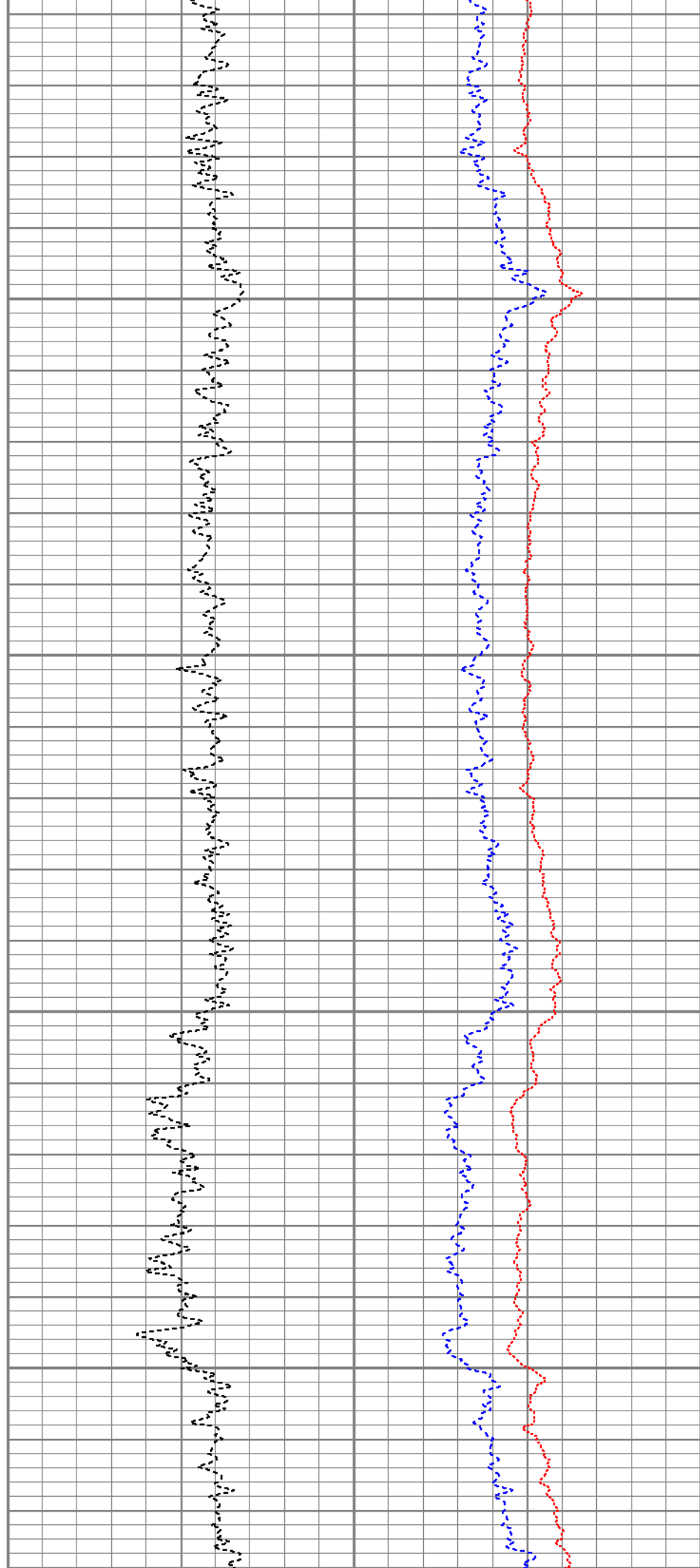
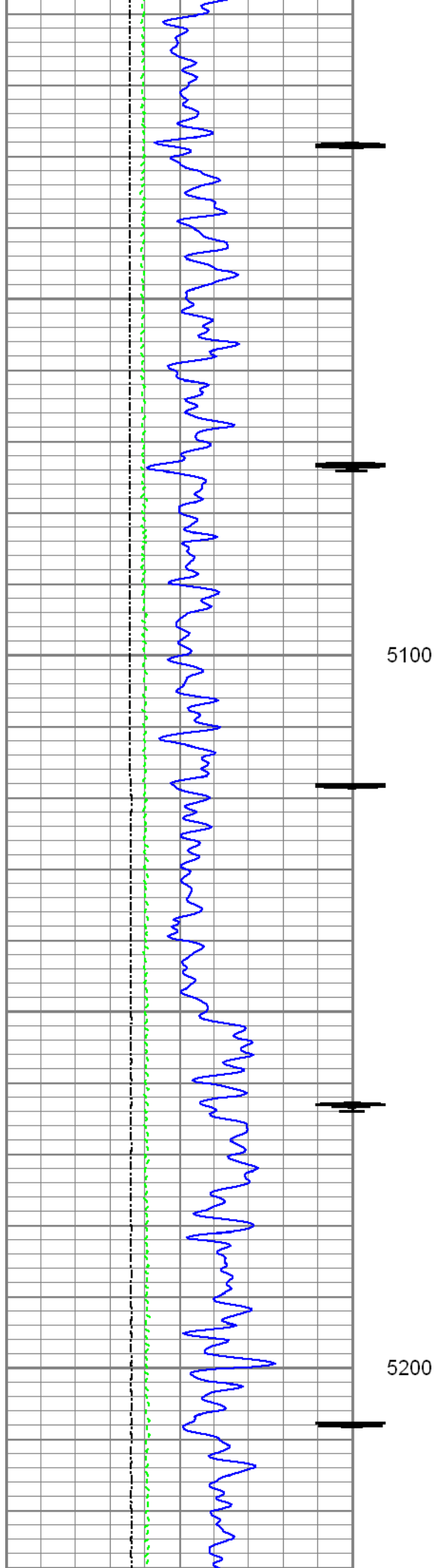


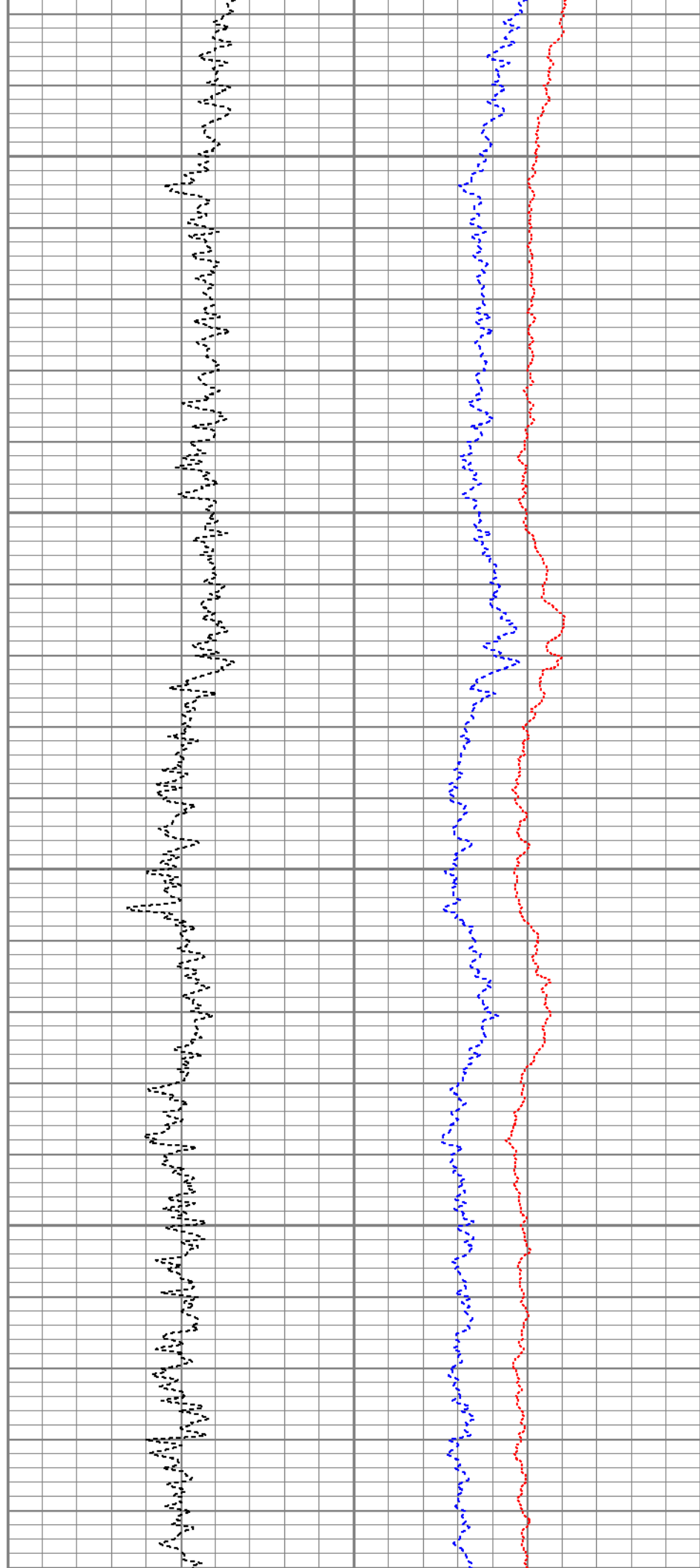
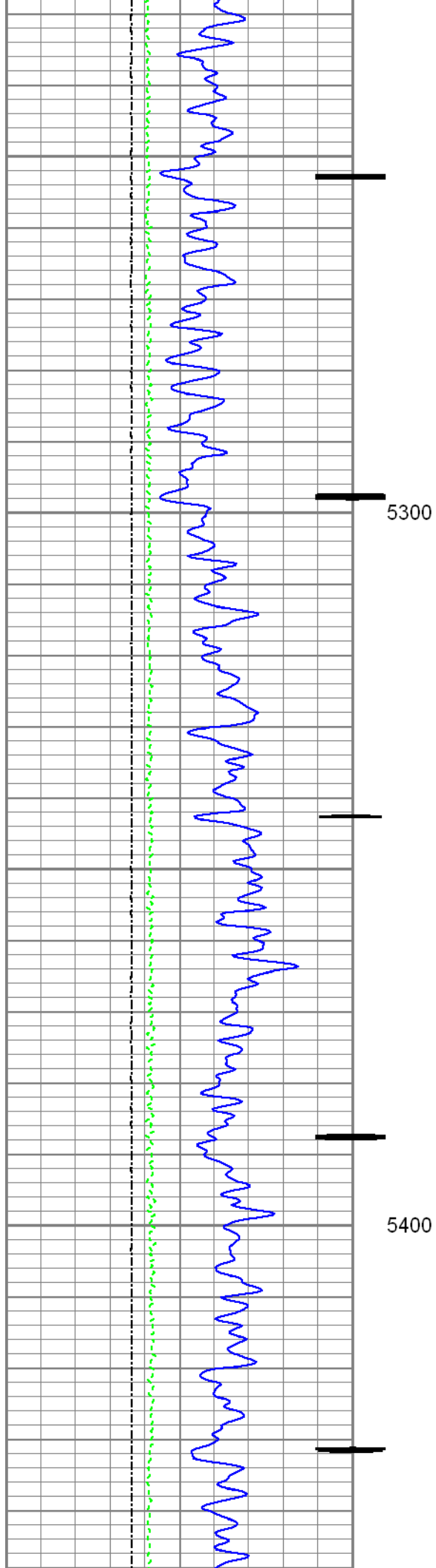


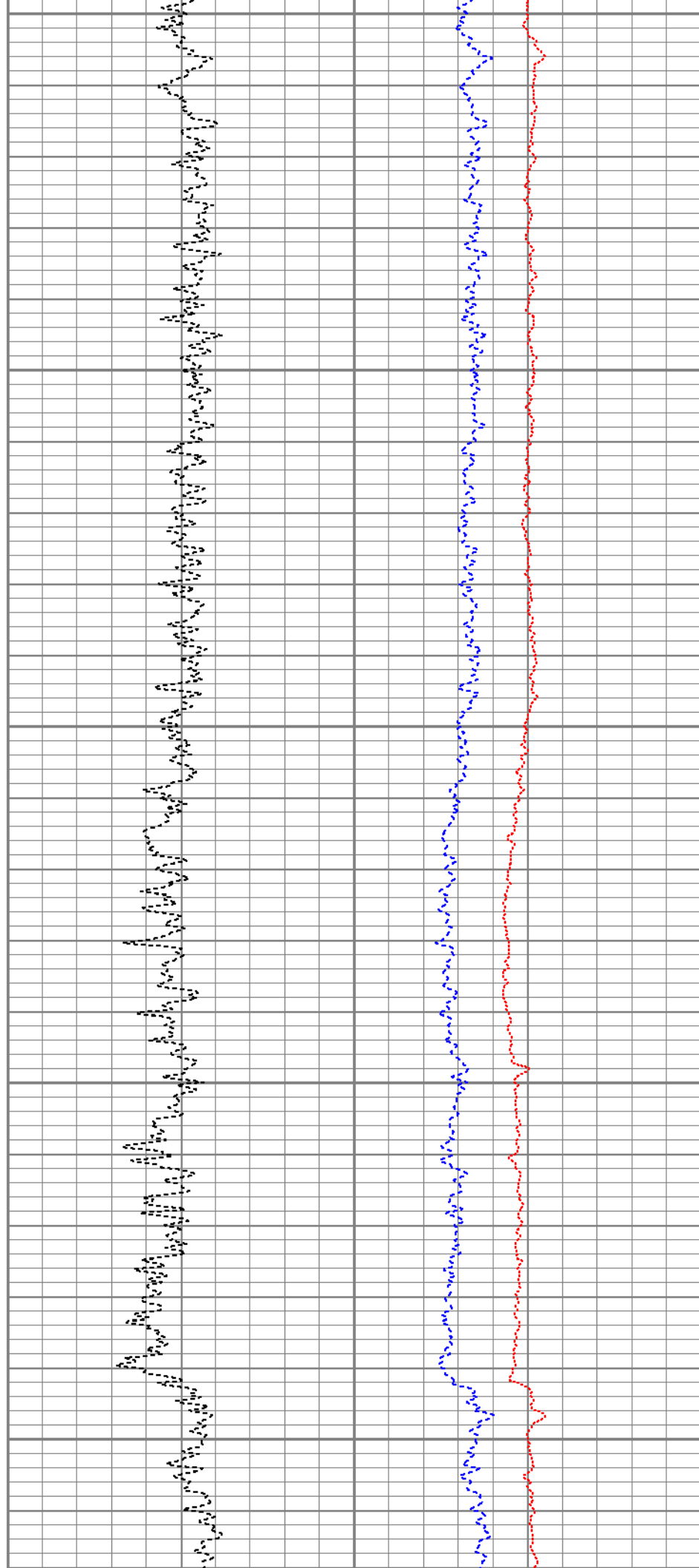
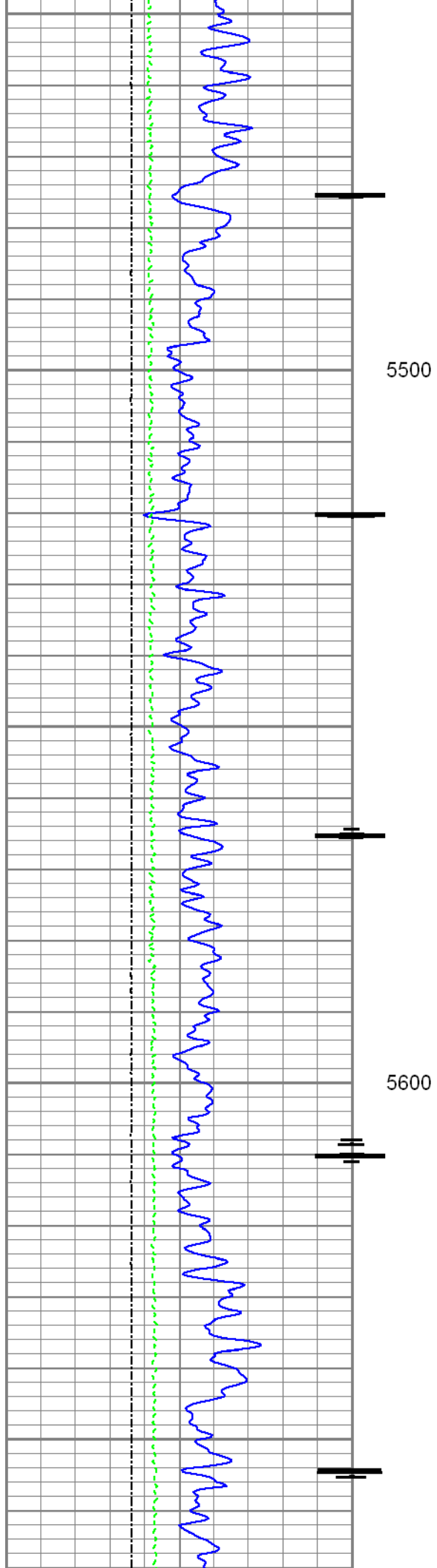


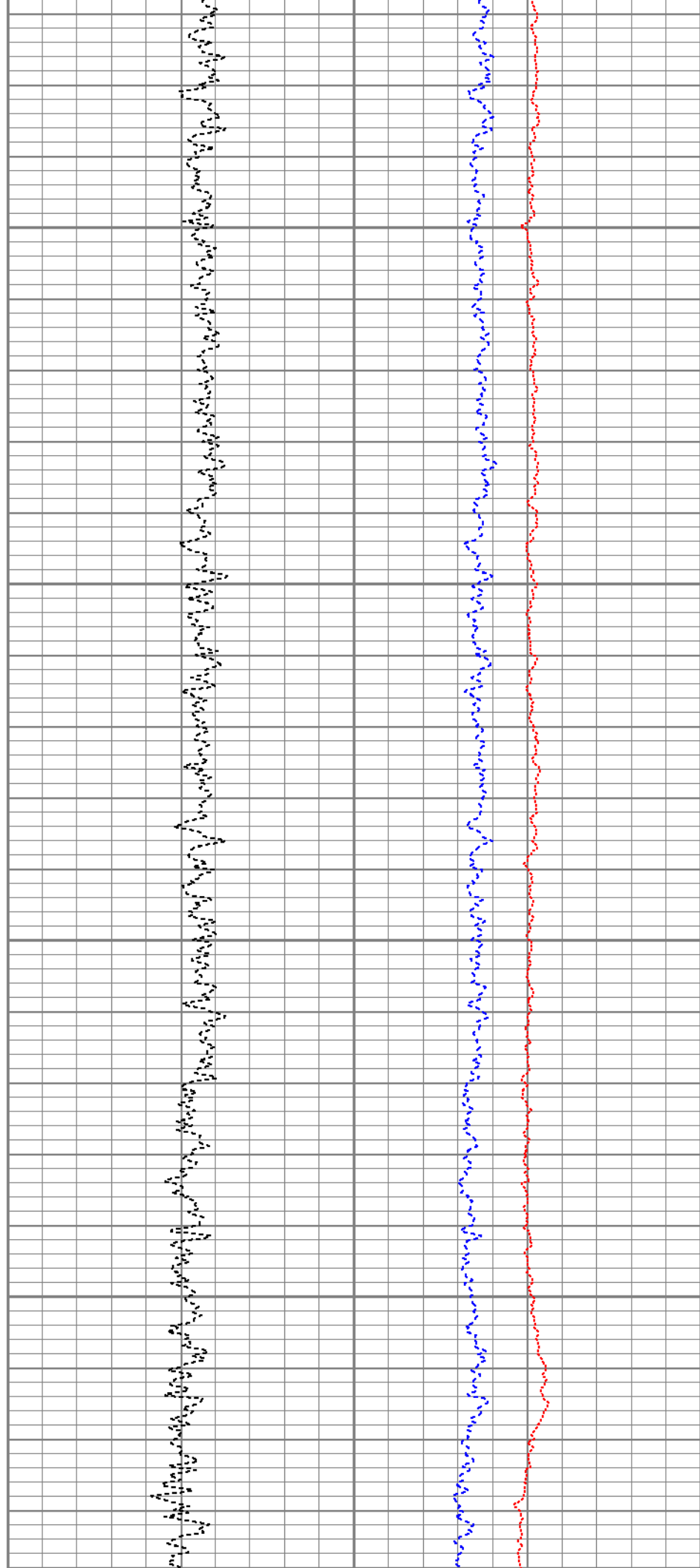
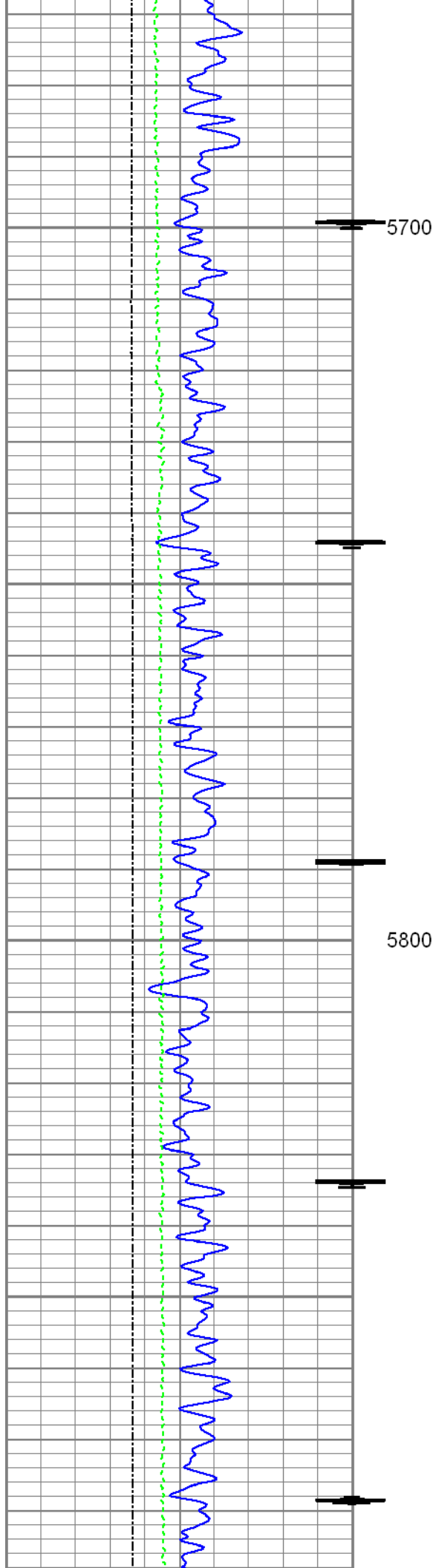


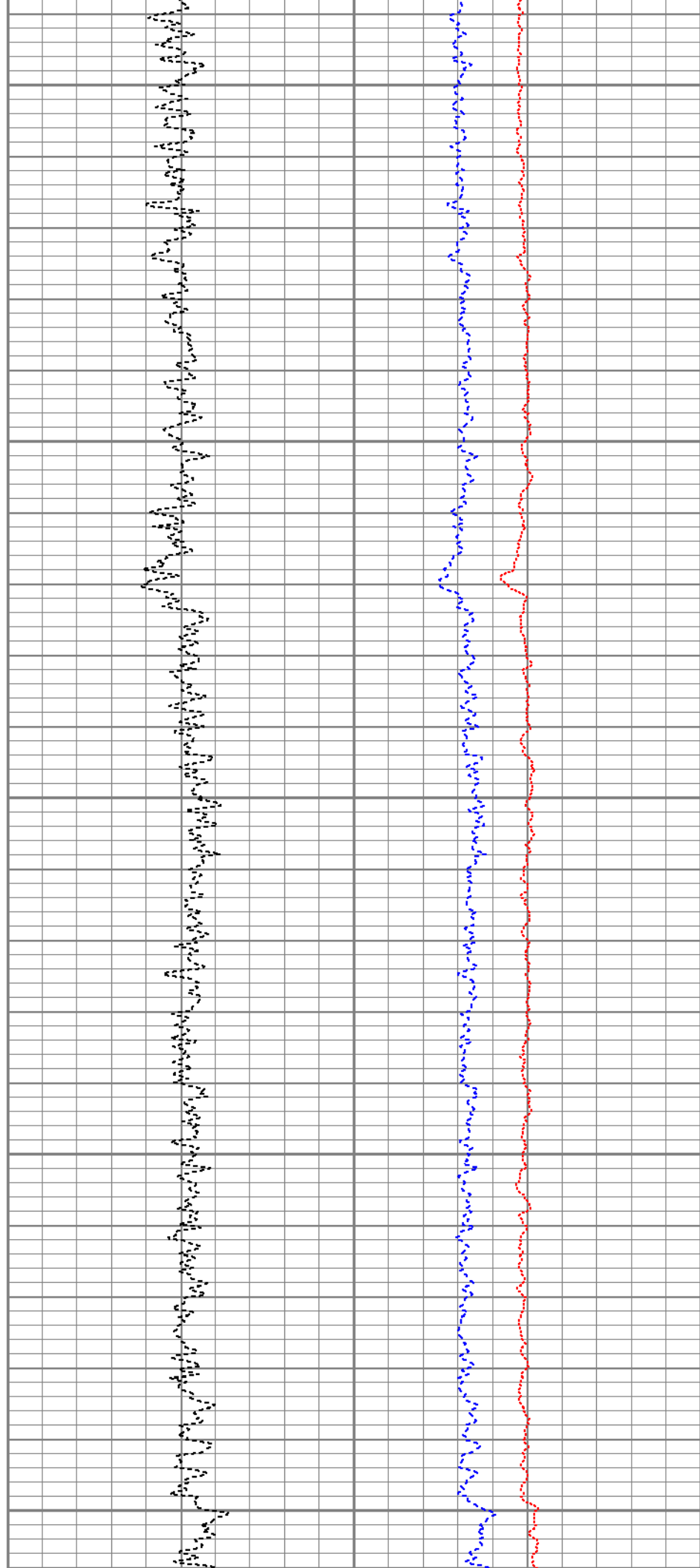
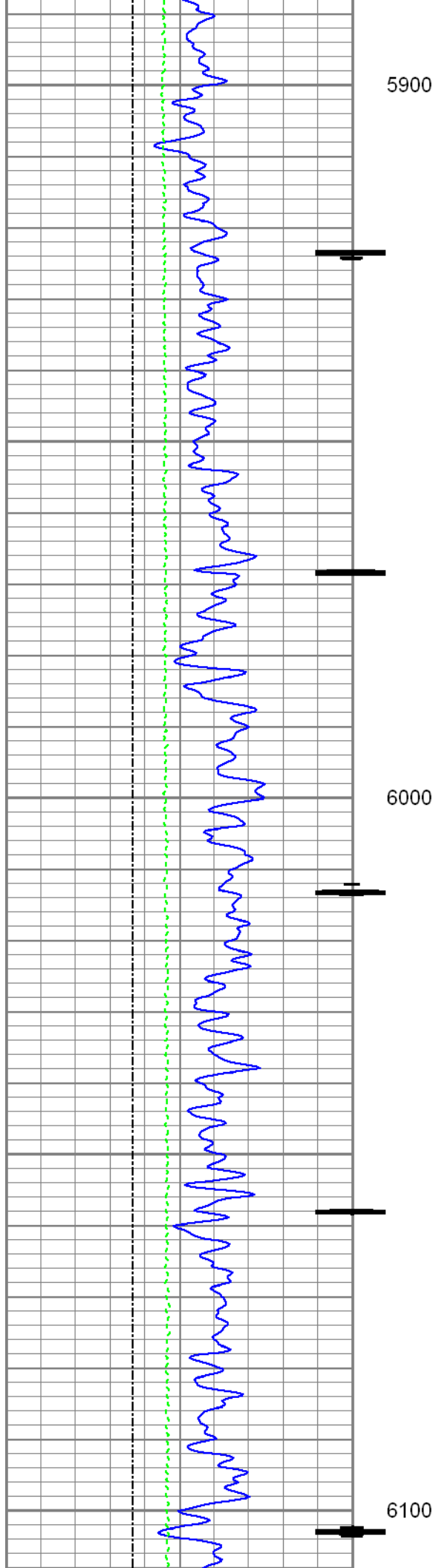


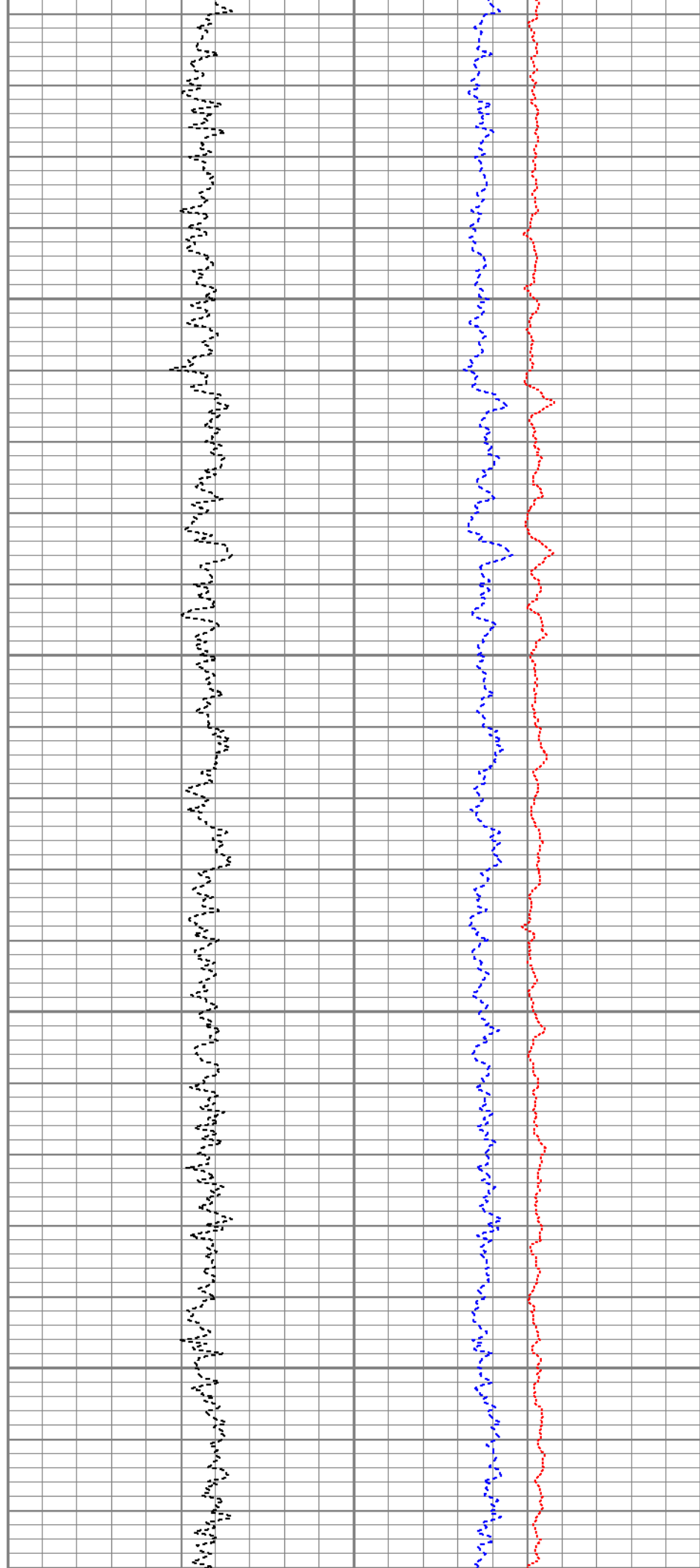
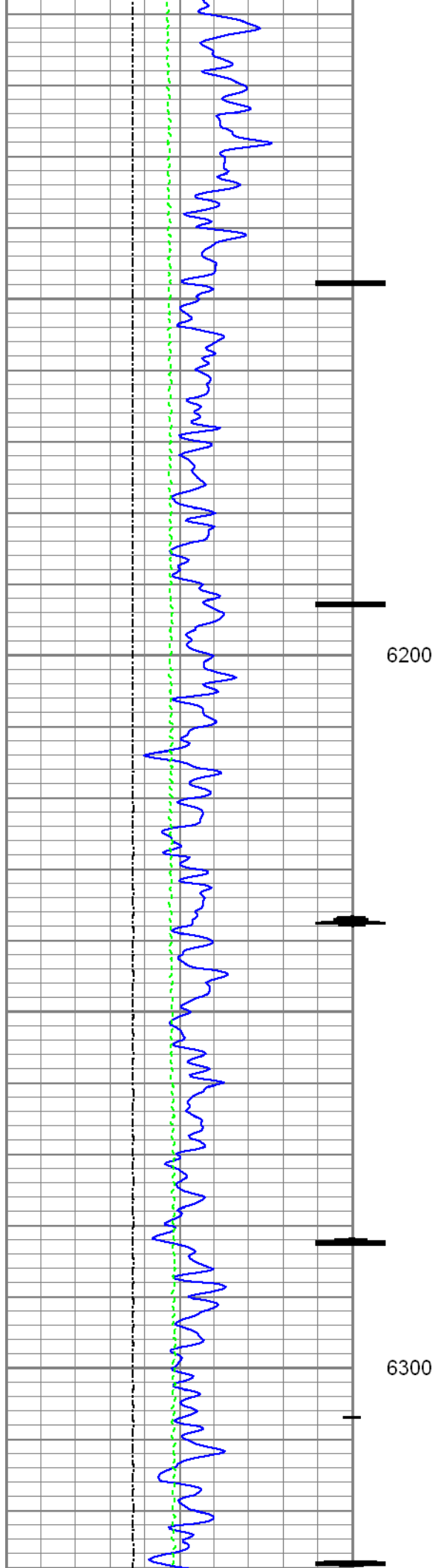


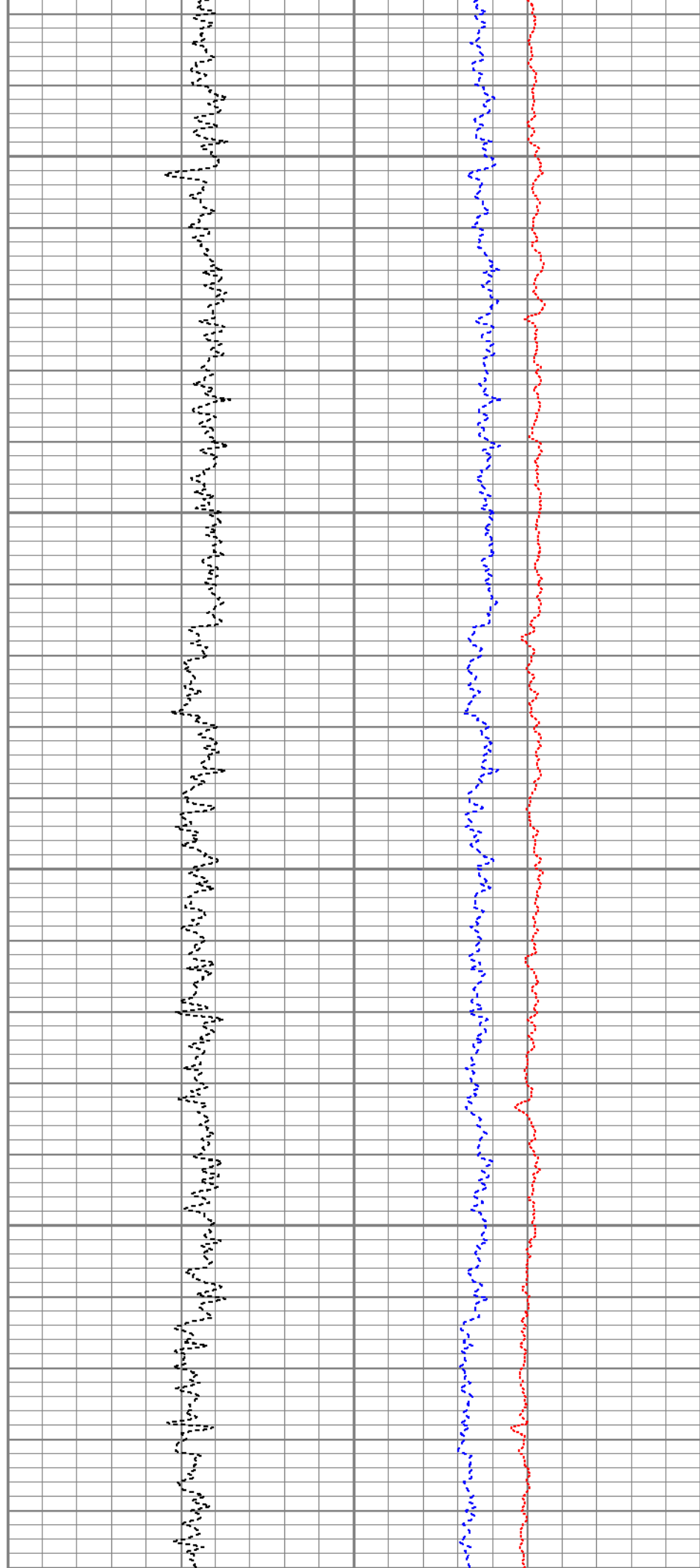
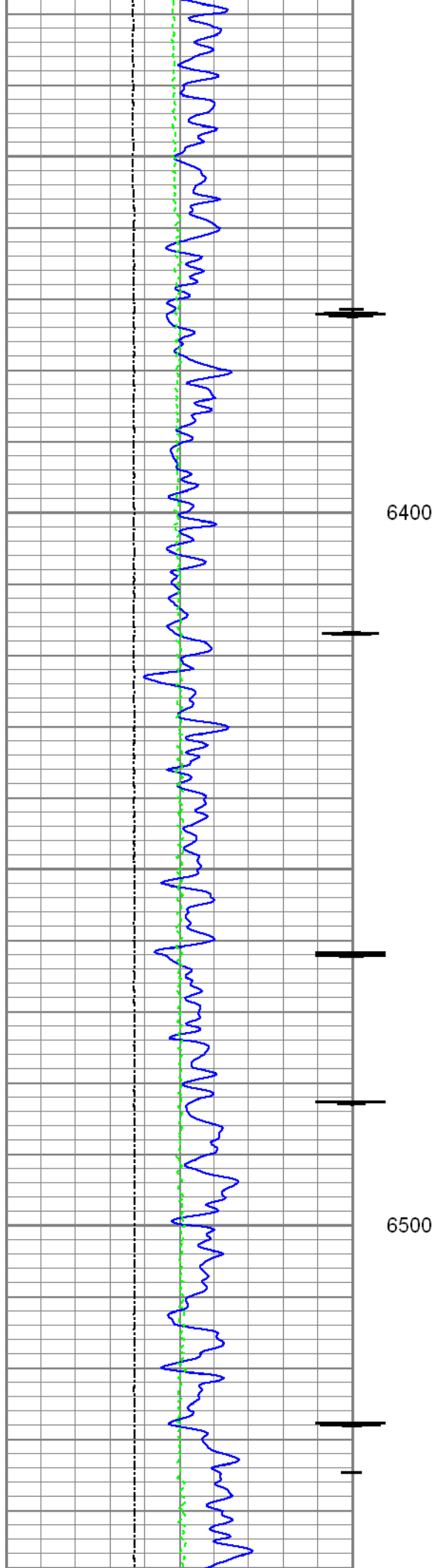


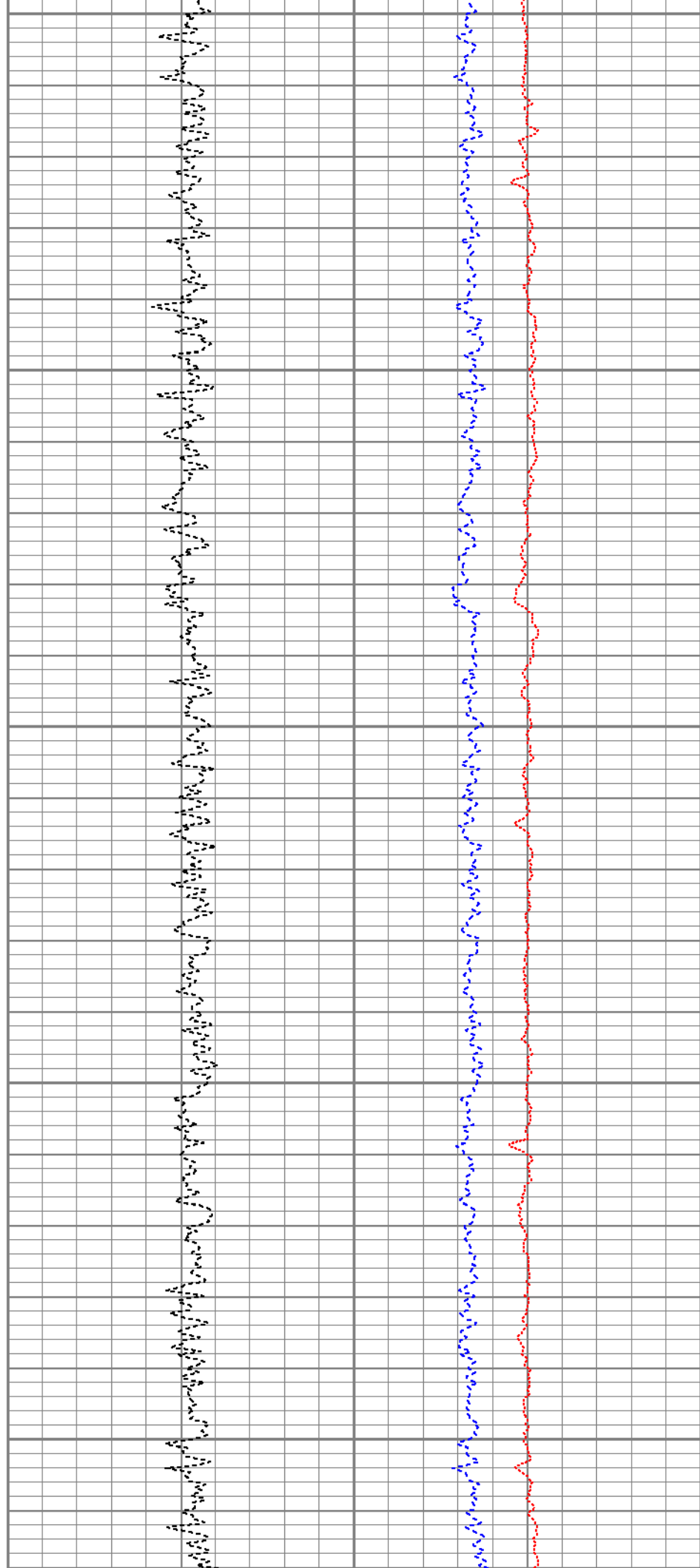
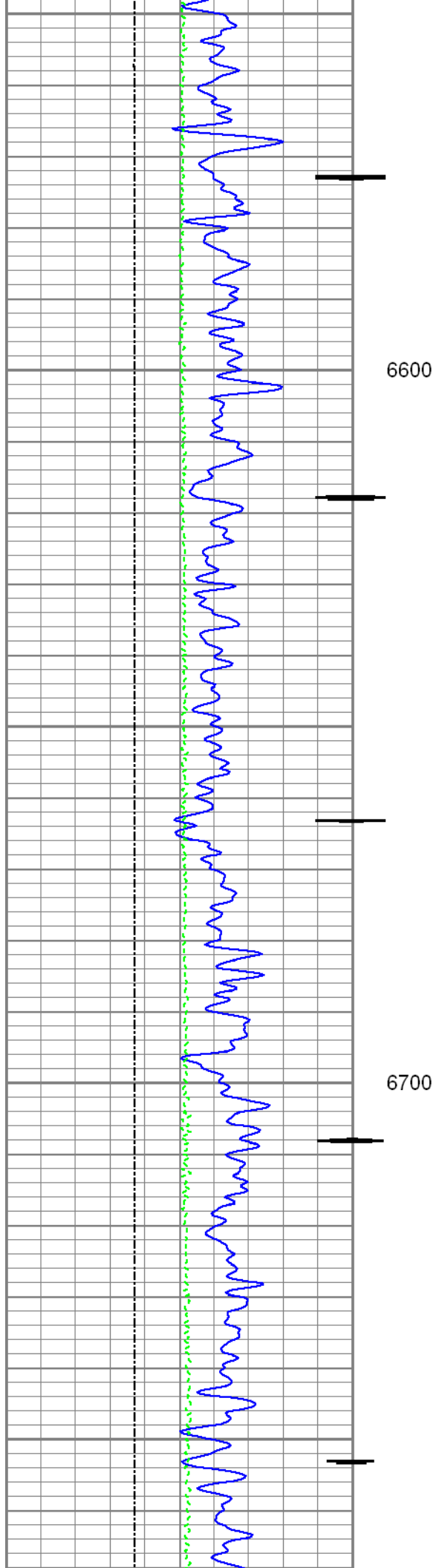


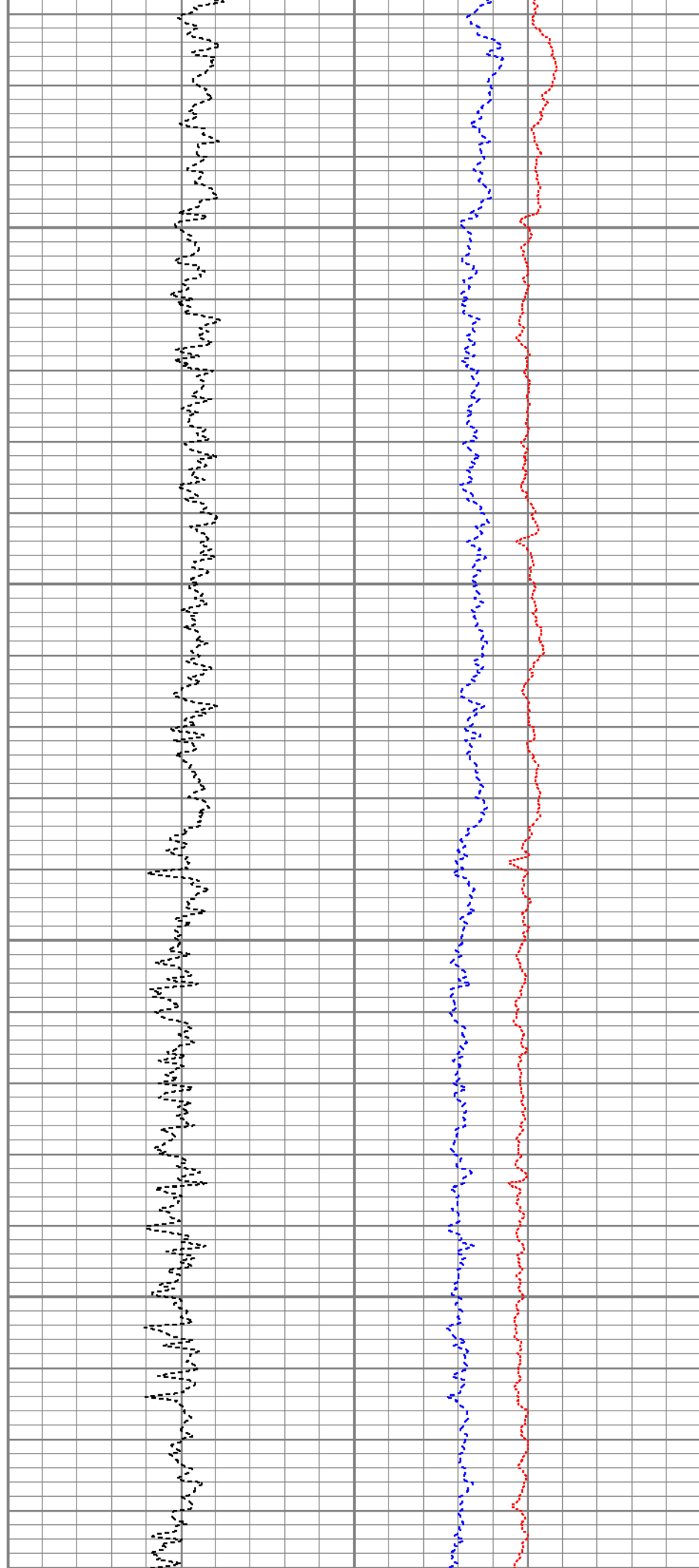
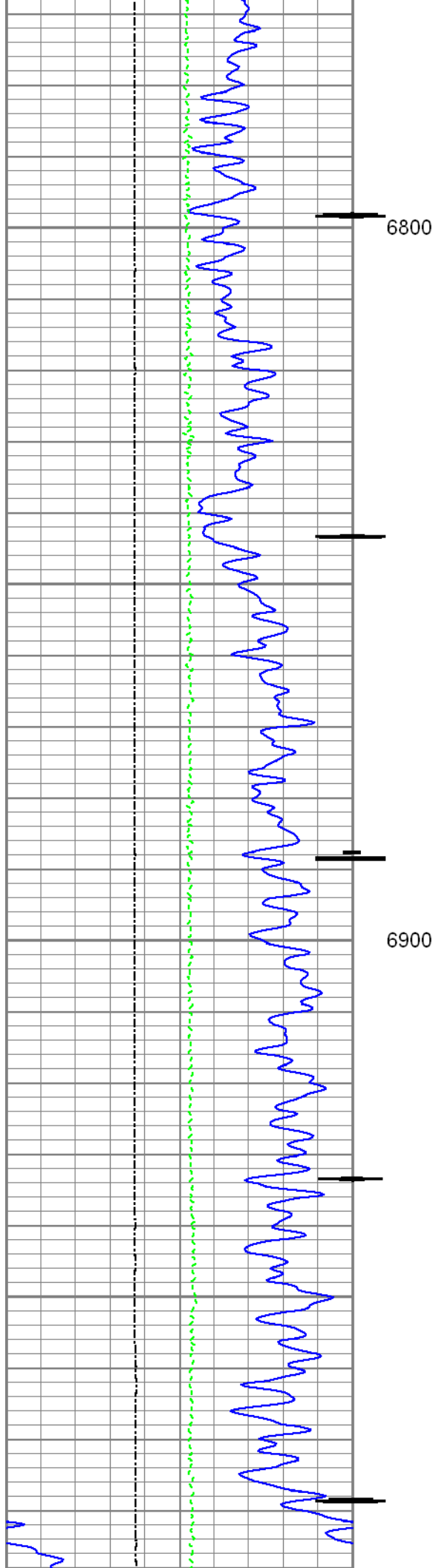


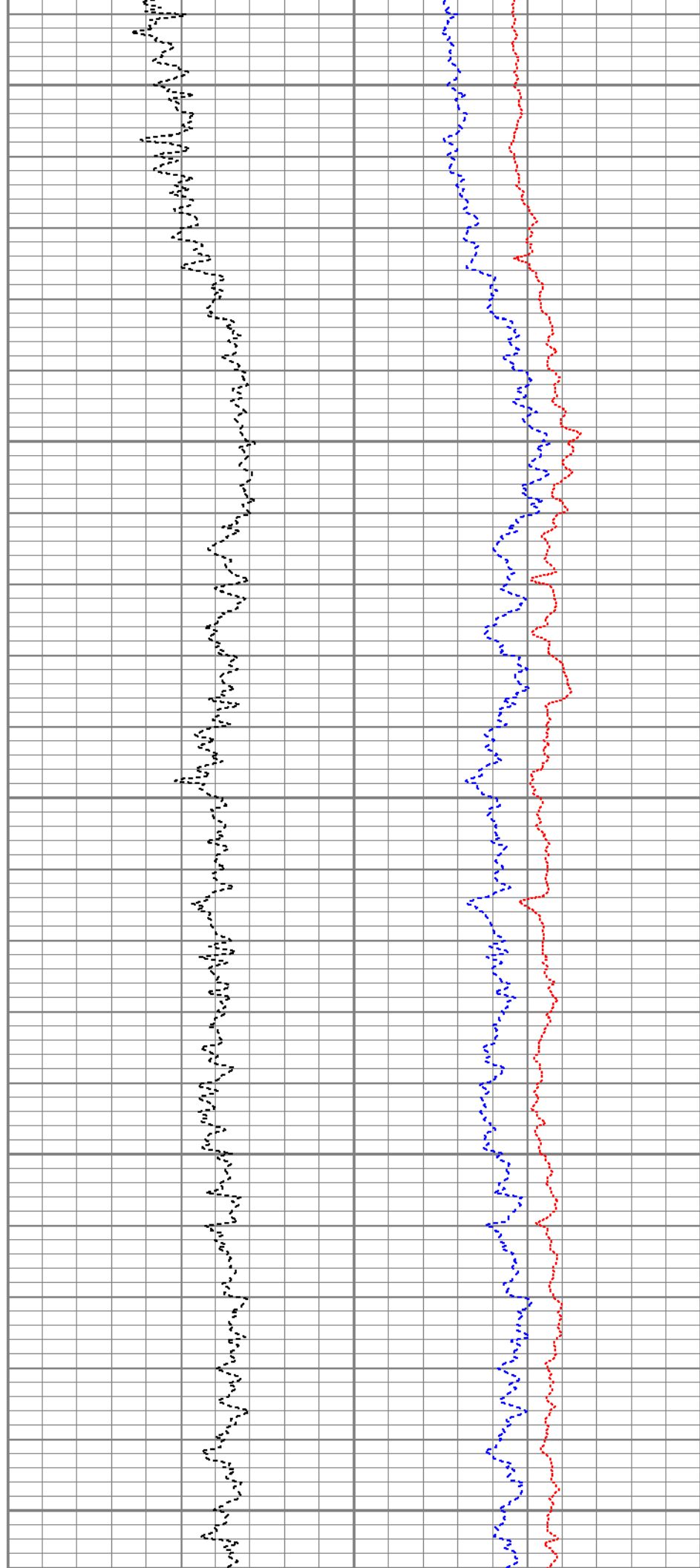
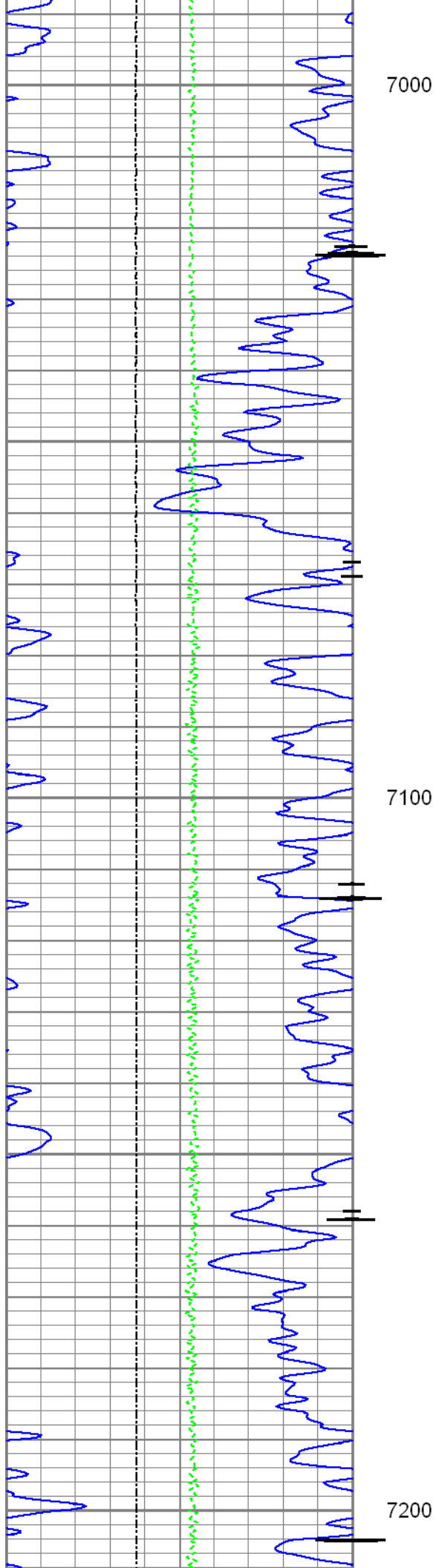


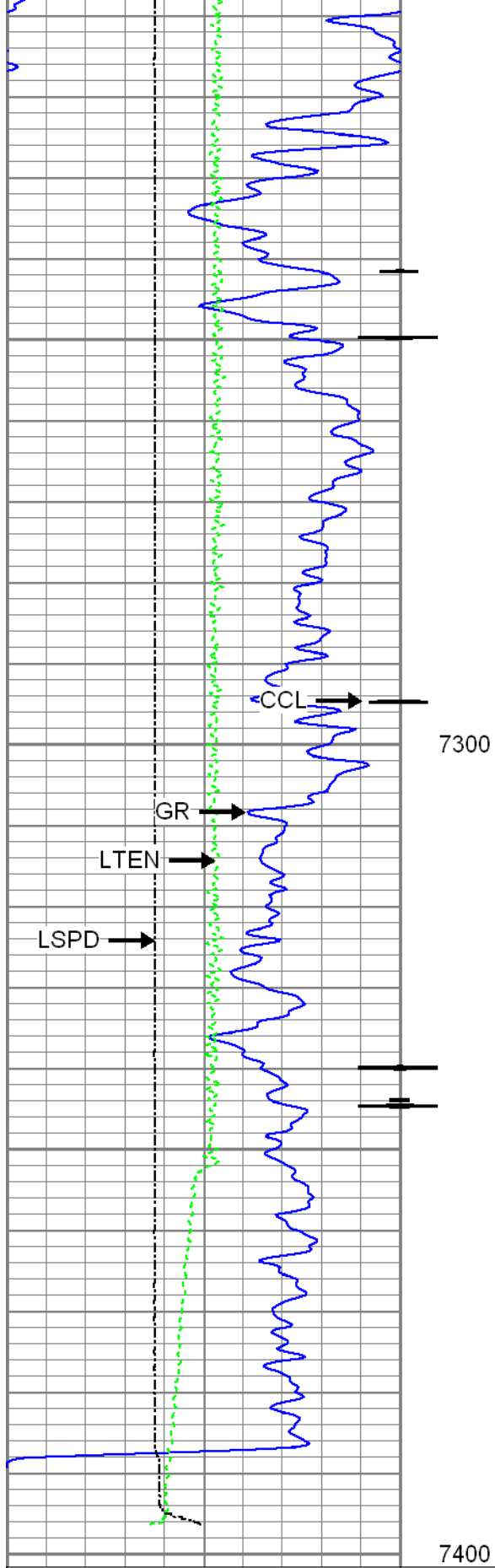




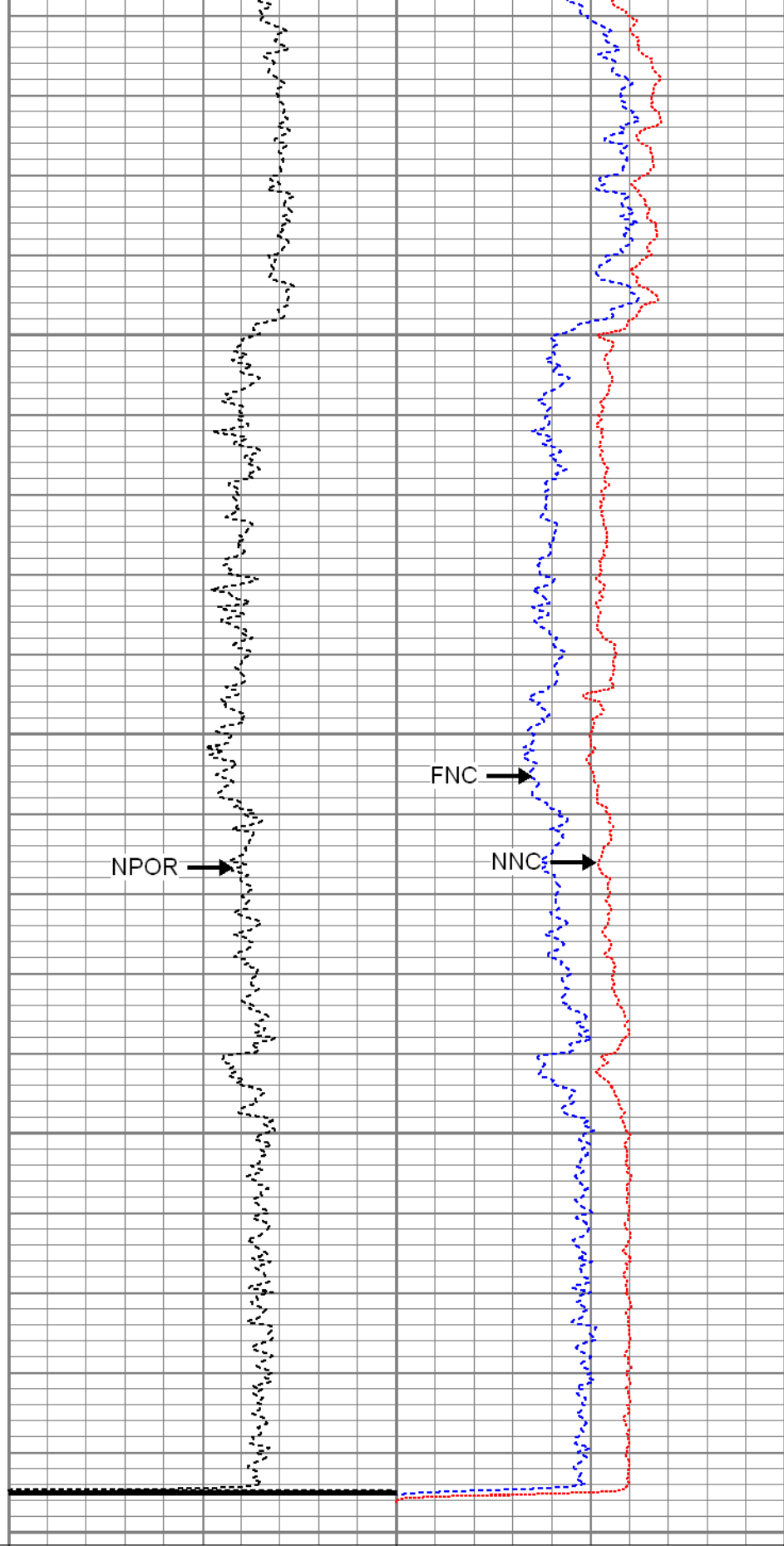








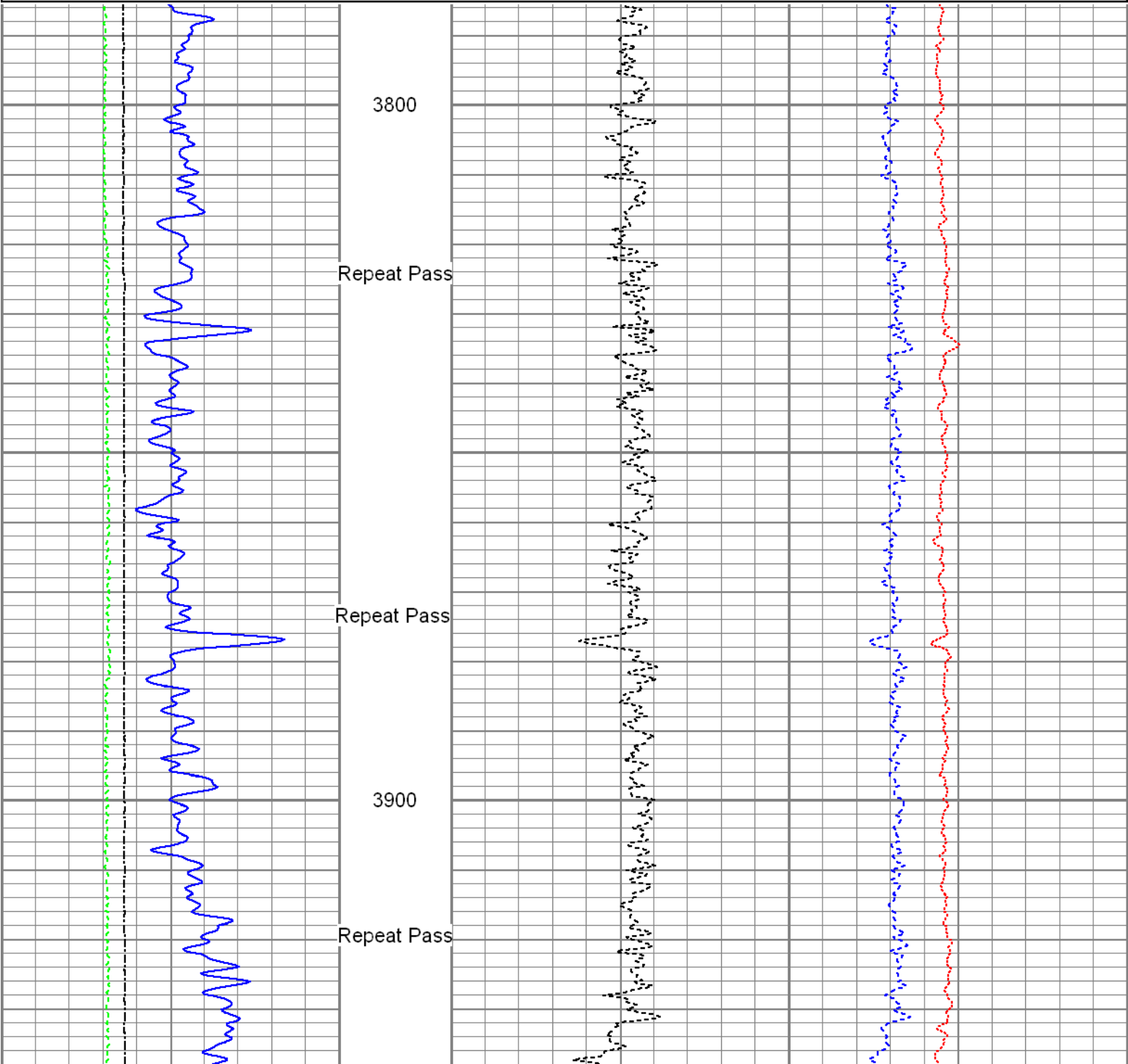
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-100	Line Speed (ft/min)	100
0	Line Tension (lb)	2000
Casing Collar Locator		

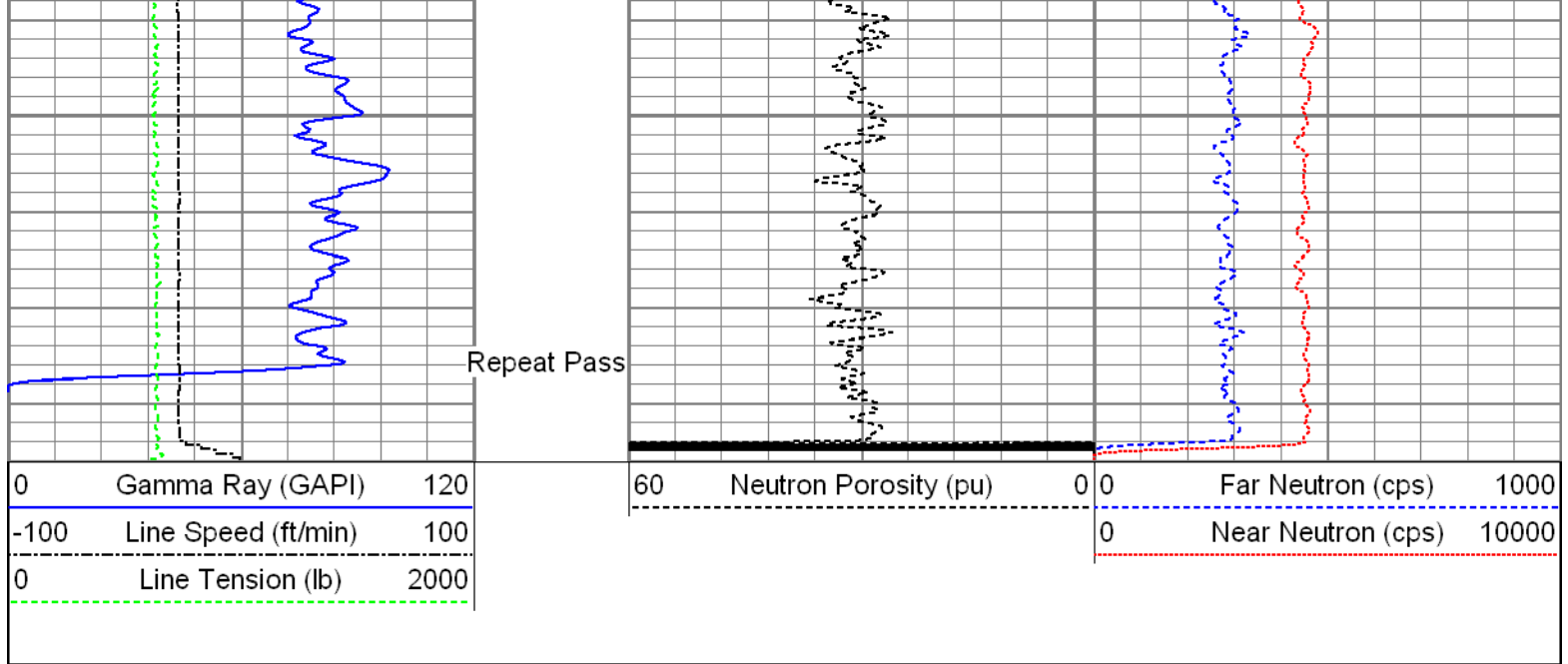


60	Neutron Porosity (pu)	0	0	Far Neutron (cps)	1000
			0	Near Neutron (cps)	10000

Database File: 0506906470_anadarko_miracle 40n-11hz_08-19-15_cnl.db
 Dataset Pathname: repeat
 Presentation Format: cnl
 Dataset Creation: Wed Aug 19 11:07:23 2015 by Log 7.0 B1
 Charted by: Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	120	60	Neutron Porosity (pu)	0	0	Far Neutron (cps)	1000
-100	Line Speed (ft/min)	100				0	Near Neutron (cps)	10000
0	Line Tension (lb)	2000						





			CNL-007 (1004) Compensated Neutron Logging Tool	6.61	1.69	30.00
CNLS CNSSC	1.53 1.12					
TSTAMP	0.00					
Dataset: 0506906470_Anadarko_Miracle 40N-11HZ_08-19-15_CNL.db: field/well/run1/main.1.1 Total Length: 19.97 ft Total Weight: 169.00 lb O.D.: 3.13 in						

Gamma Ray Calibration Report

Serial Number:	211727	
Tool Model:	UW_PGR_020	
Performed:	Sun Jun 13 13:33:21 1993	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps



Company	Kerr-McGee Oil & Gas Onshore, L.P.
Well	Miracle 40N-11HZ
Field	Wattenberg
County	Larimer
State	Colorado