



Compensated Neutron
Gamma Ray
Casing Collar Log

Company	Kerr-McGee Oil & Gas OnShore L.P.		
Well	Powers 28C-34HZ		
Field	Wattenberg		
County	Weld		
State	Colorado		
Location:		API # : 05-123-42019	Other Services Gauge Ring Junk Basket RCBL
SEC 27 TWP 2N RGE 65W		Elevation	
Permanent Datum	Ground Level	Elevation	4926'
Log Measured From	Kelly Bushing	20 FT	K.B. 4946' D.F. 4945' G.L. 4926'
Drilling Measured From	Kelly Bushing		

Date	18-NOV-2015		
Run Number	Two		
Depth Driller	12,965 FT		
Depth Logger	7475 FT		
Bottom Logged Interval	7480 FT		
Top Log Interval	Surface		
Open Hole Size	7.875"		
Type Fluid	Water		
Density / Viscosity	8.34 lbm/gal		
Max. Recorded Temp.	244.5°F		
Estimated Cement Top	Surface		
Time Well Ready	ROA		
Time Logger on Bottom	10:20		
Equipment Number	HD-0340		
Location	Fort Lupton, CO		
Recorded By	W.Wacker	B.Kalkwarf	
Witnessed By	Josh Gustafson		

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	1,862 FT		
Intermediate #1	5 1/2	17	HCP - 110 LTC	Surface	12,965 FT		
Intermediate #2							
Liner							

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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 Casing Tally reported Marker Joint at 6674FT
Adjusted +10 FT to correlate with the Marker Joint
Log ran from 7480 FT to Surface
Log recorded with 2800 PSI Surface Induced Pressure
Logging tools were clean and free of debris upon completion of operations

Thank you for choosing FMC Technologies Surface Integrated Services.

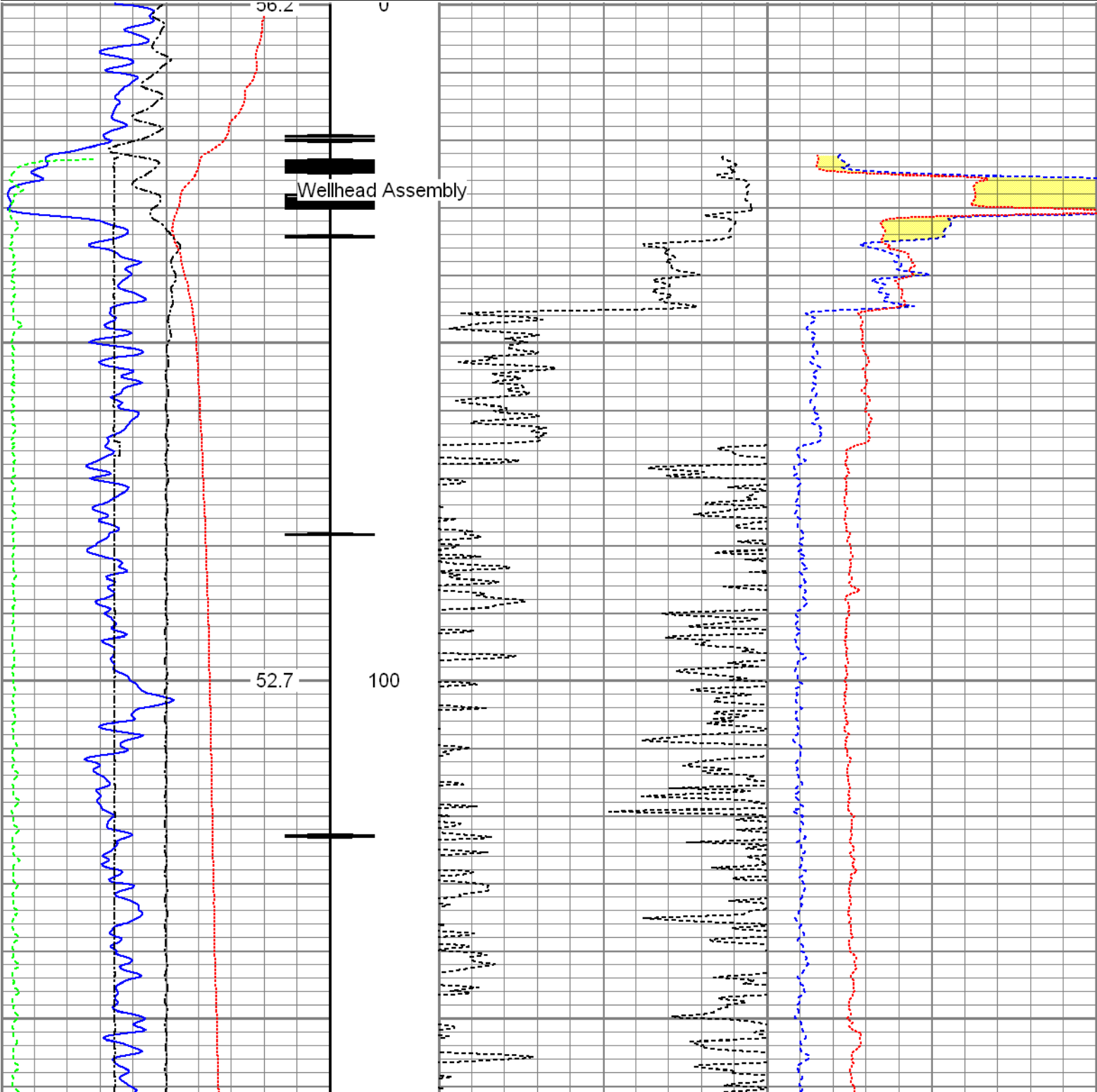


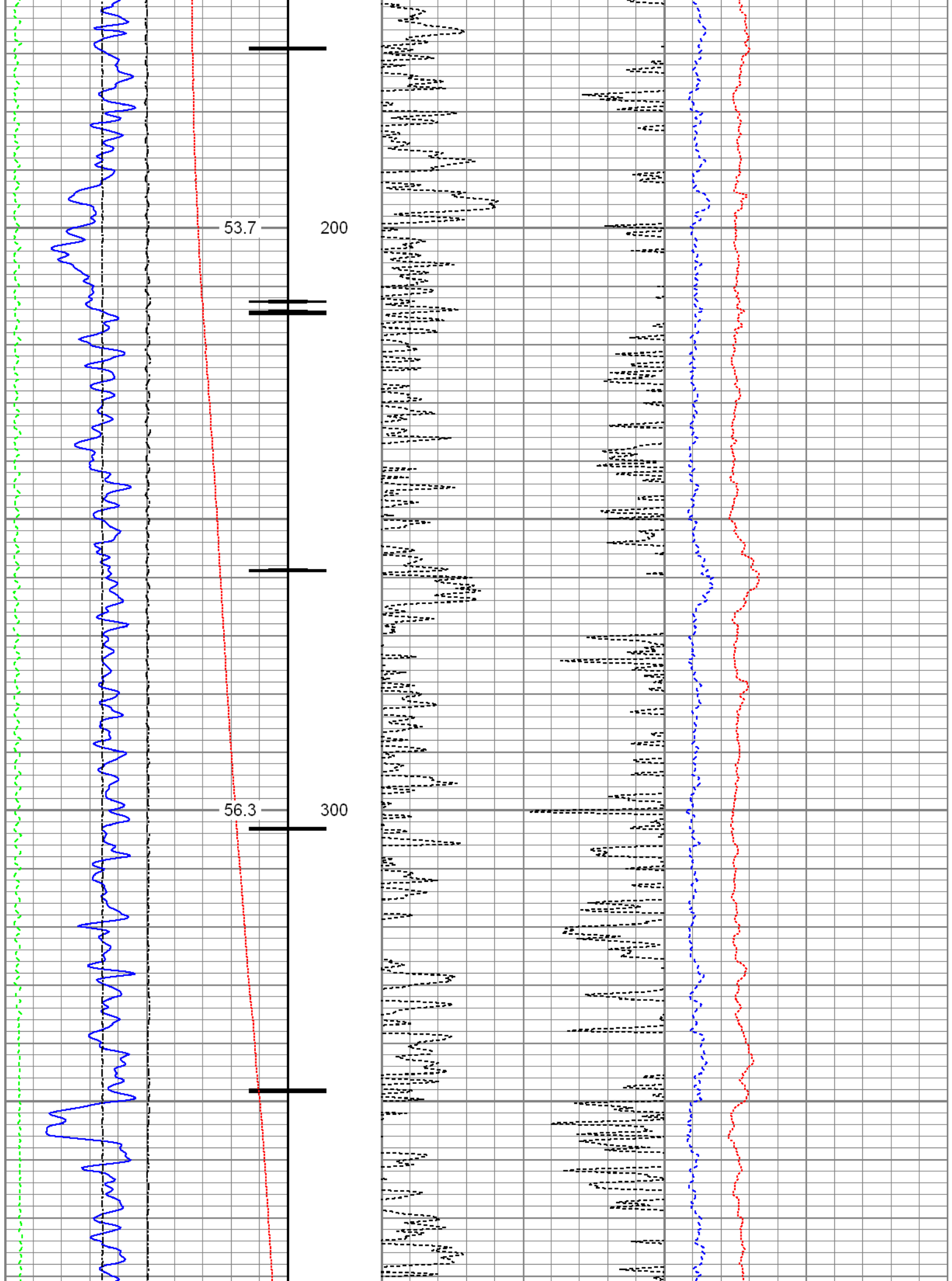
Main Pass

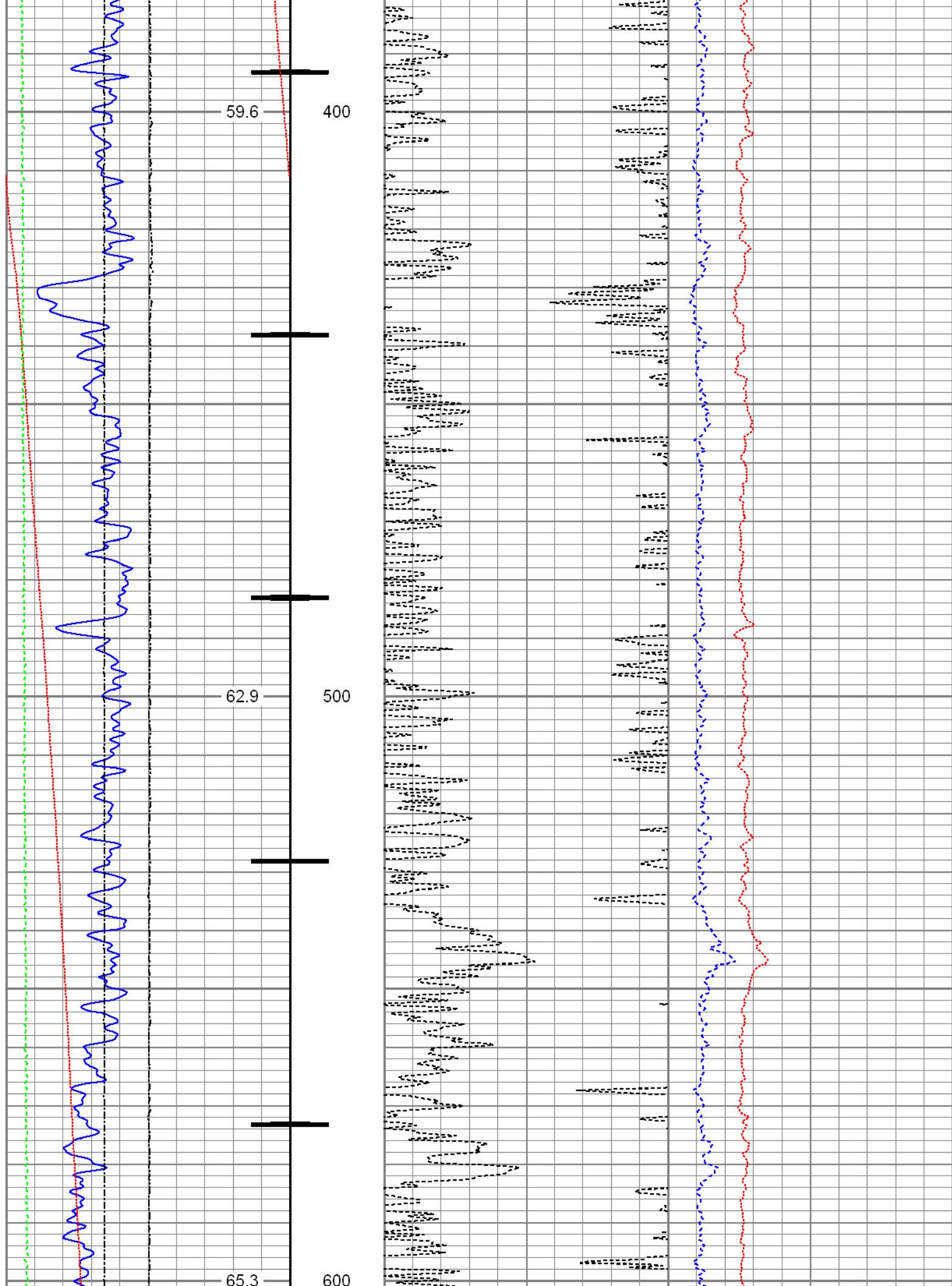
Recorded With 2800 PSI Surface Induced Pressure

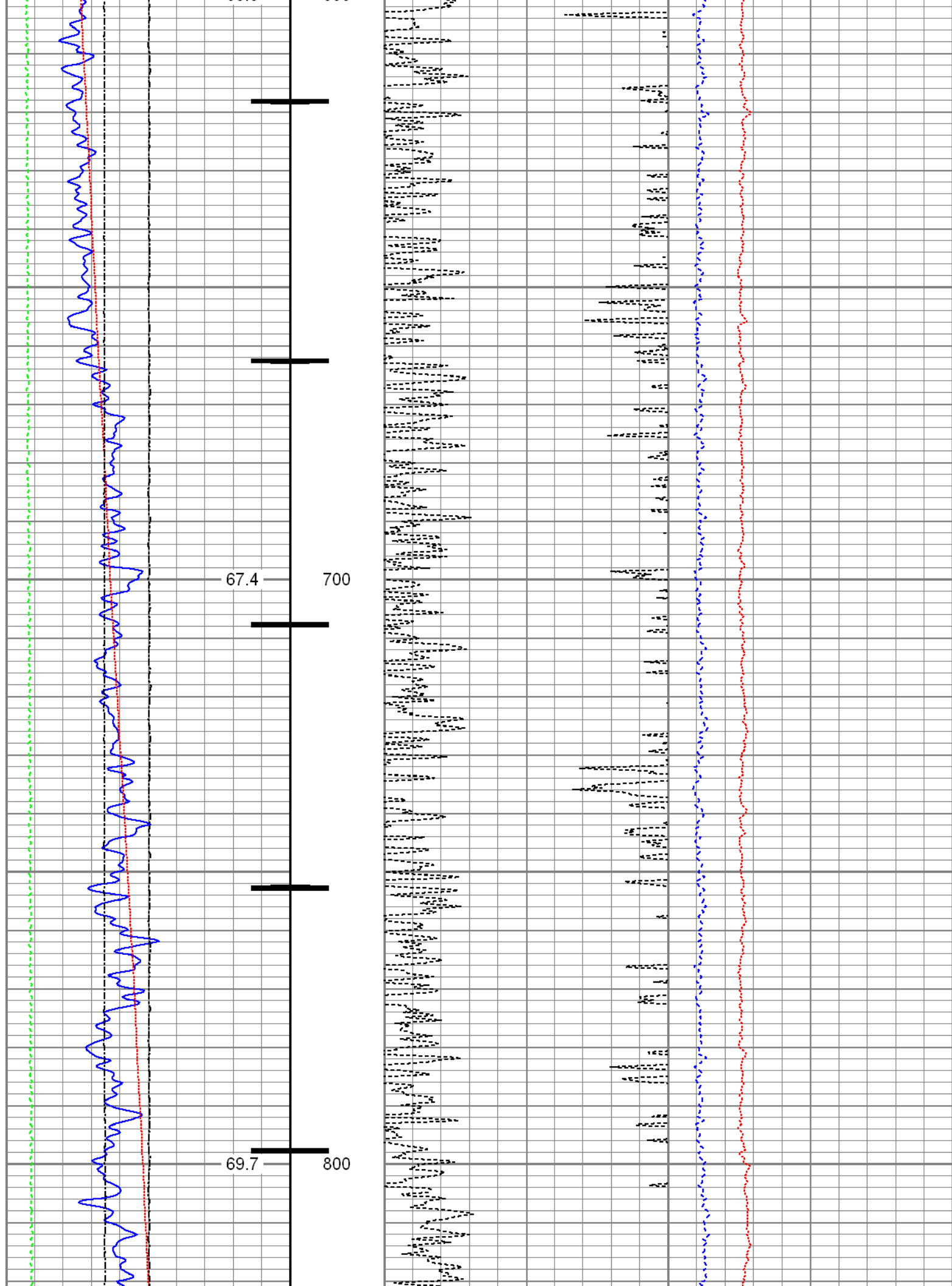
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Presentation Format: cnl
Dataset Creation: Wed Nov 18 14:51:43 2015
Charted by: Depth in Feet scaled 1:240

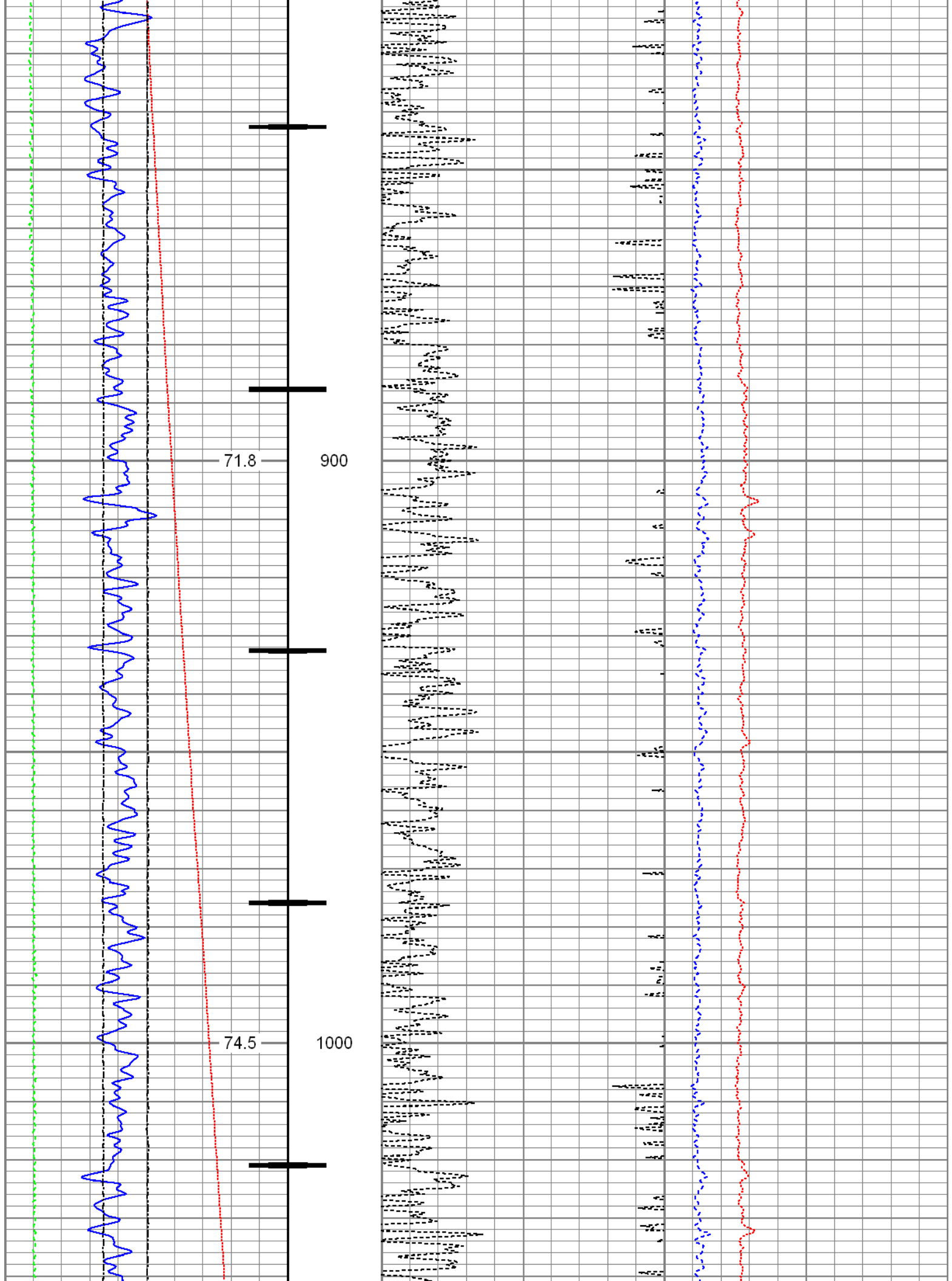
0	Gamma Ray (GAPI)	120	60	Neutron Porosity (pu)	0	0	Far Neutron (cps)	1000
Casing Collar Locator						0	Near Neutron (cps)	10000
0	Temperature (degF)	20						
-100	Line Speed (ft/min)	100						
0	Line Tension (lb)	2000						
-2	Differential Temperature (degF)	2						

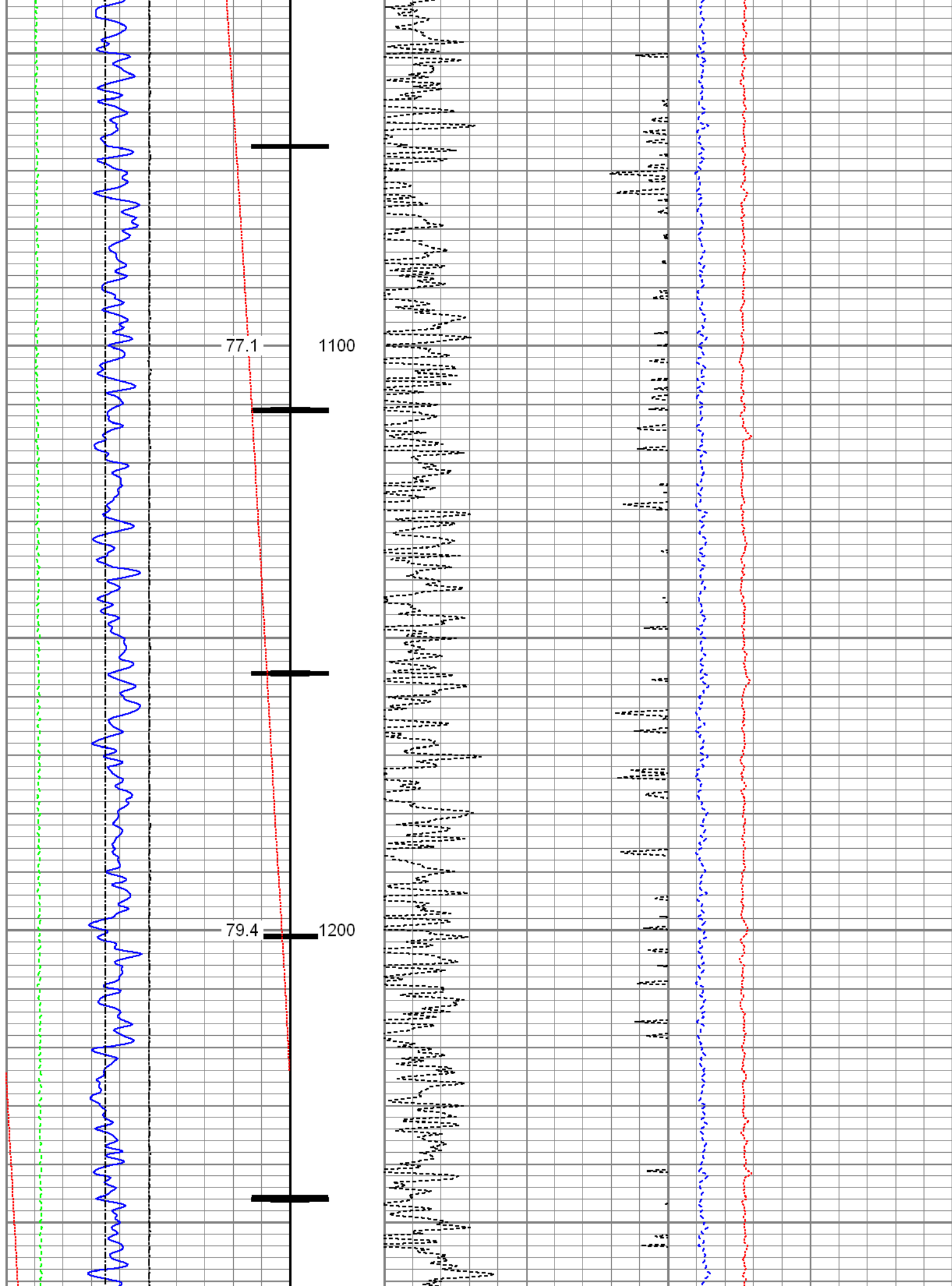


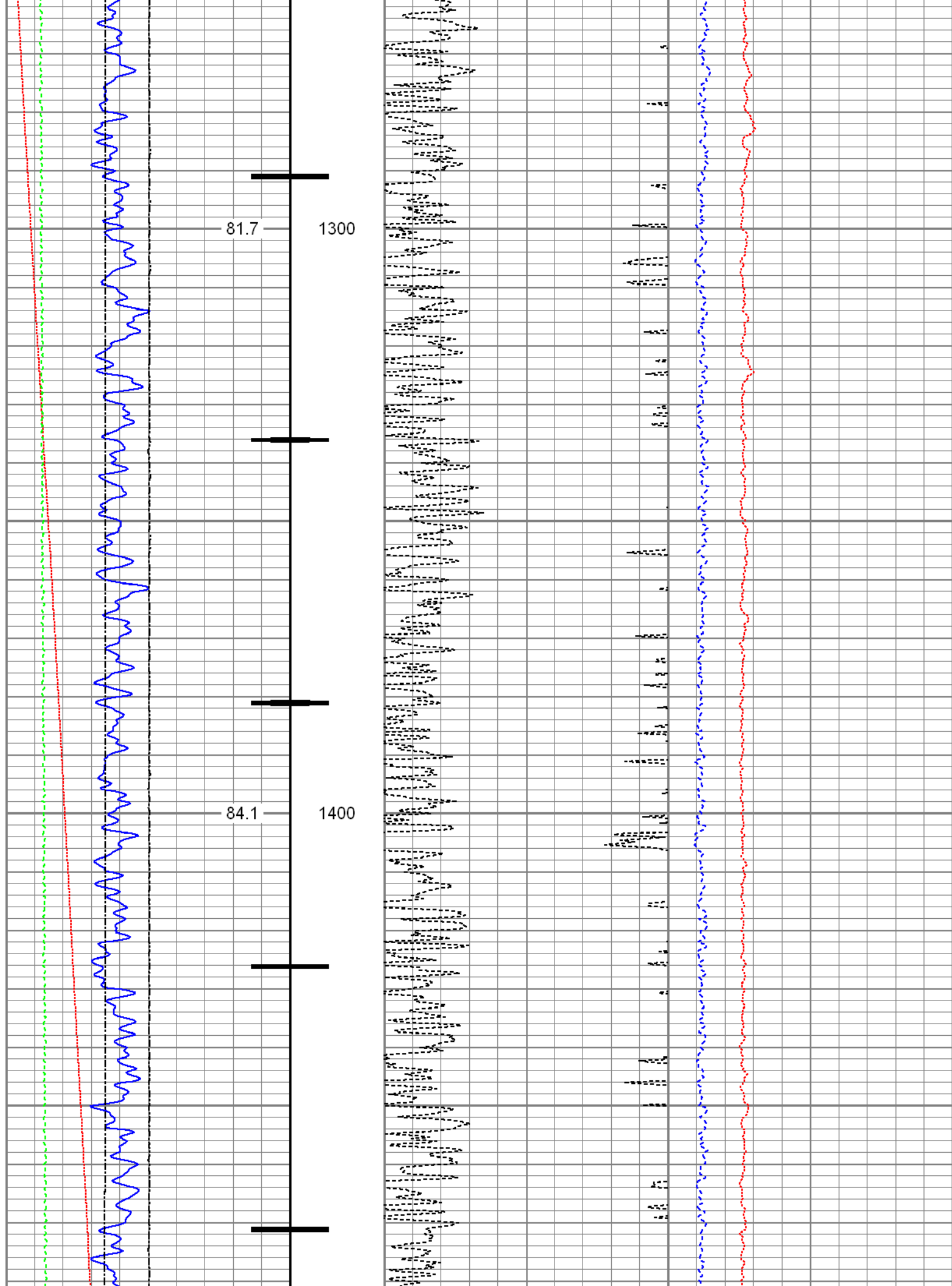


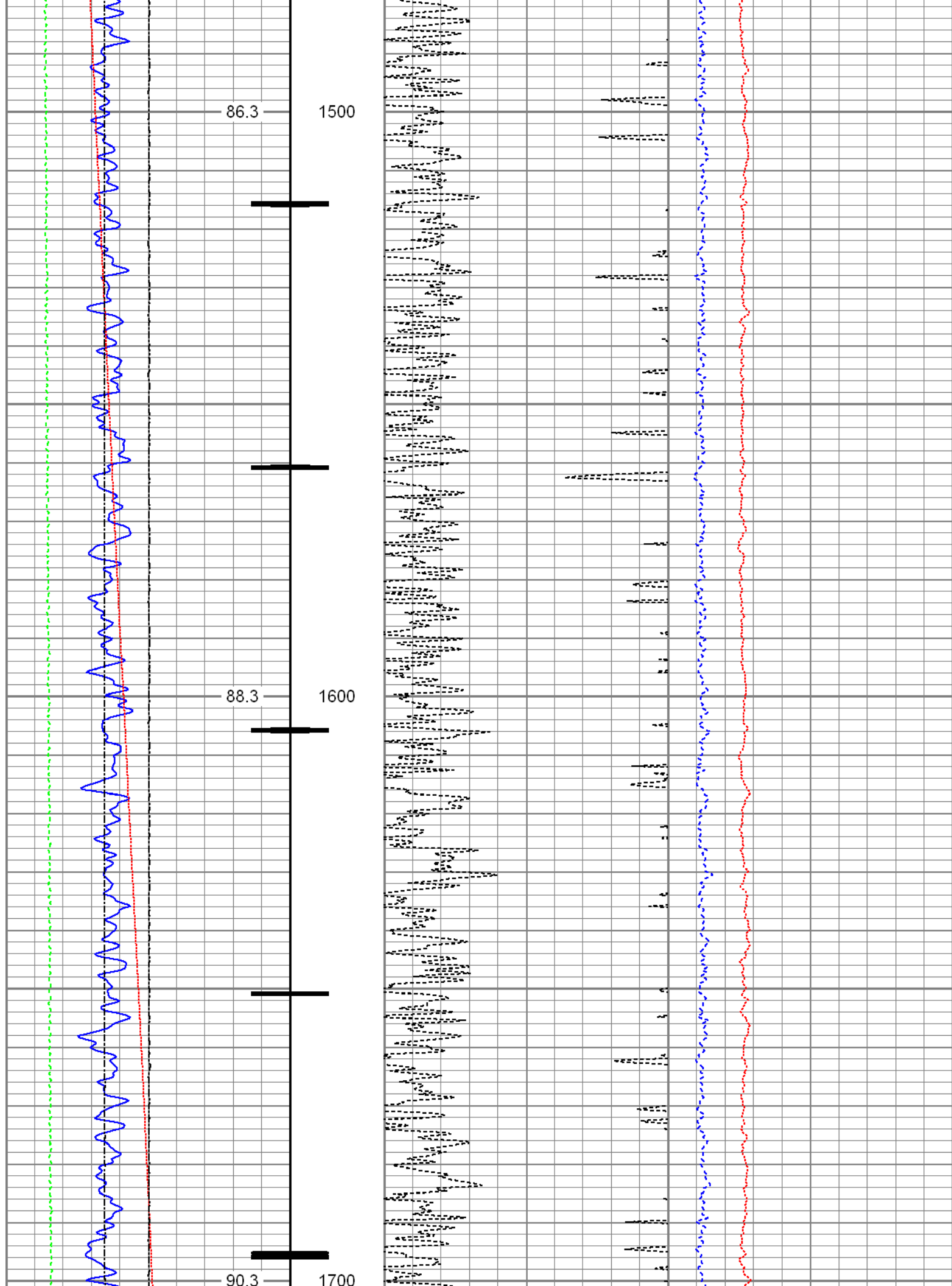


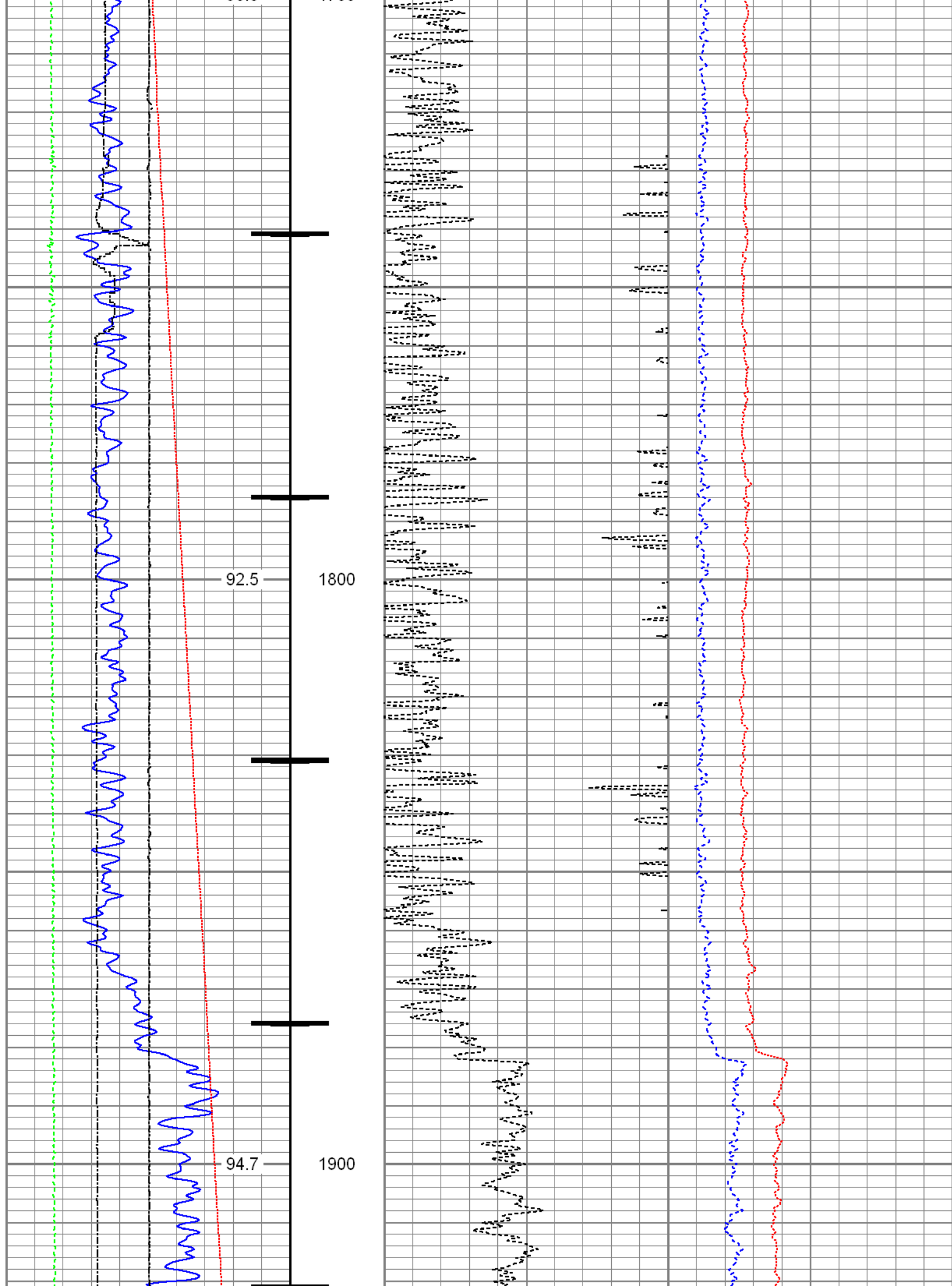


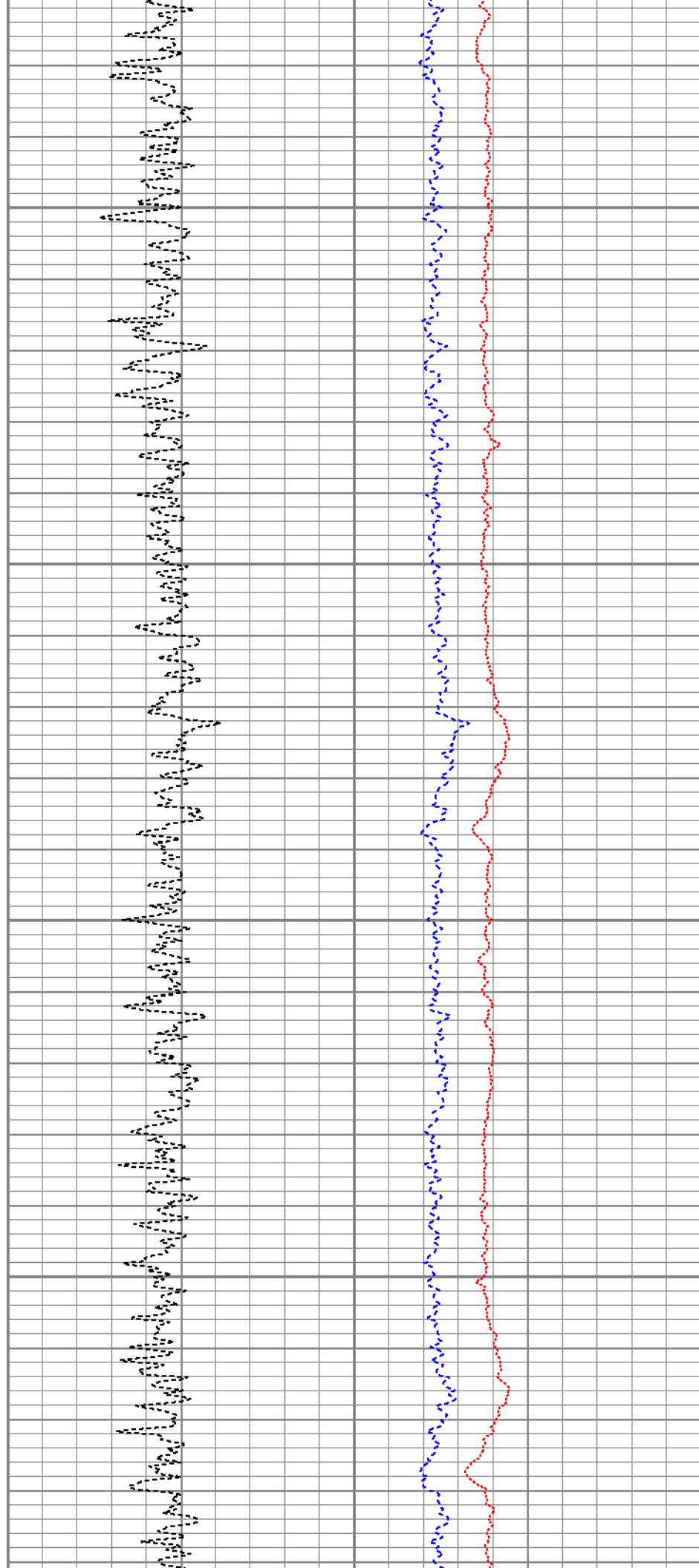
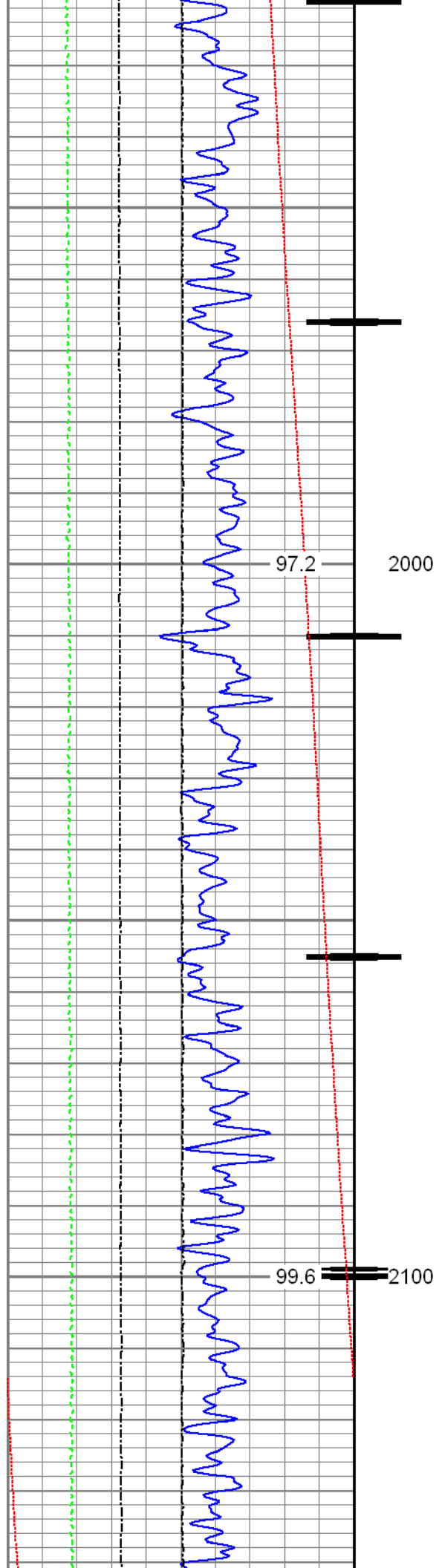


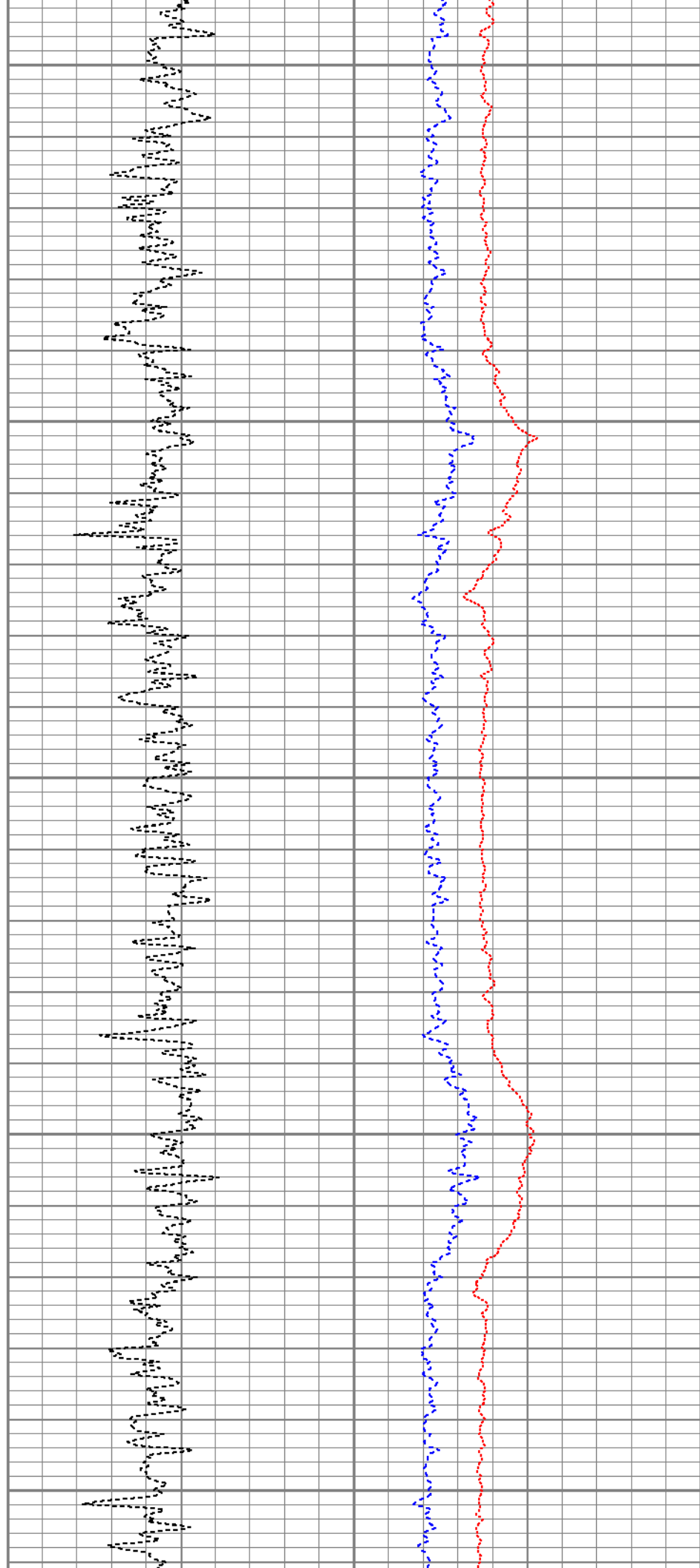
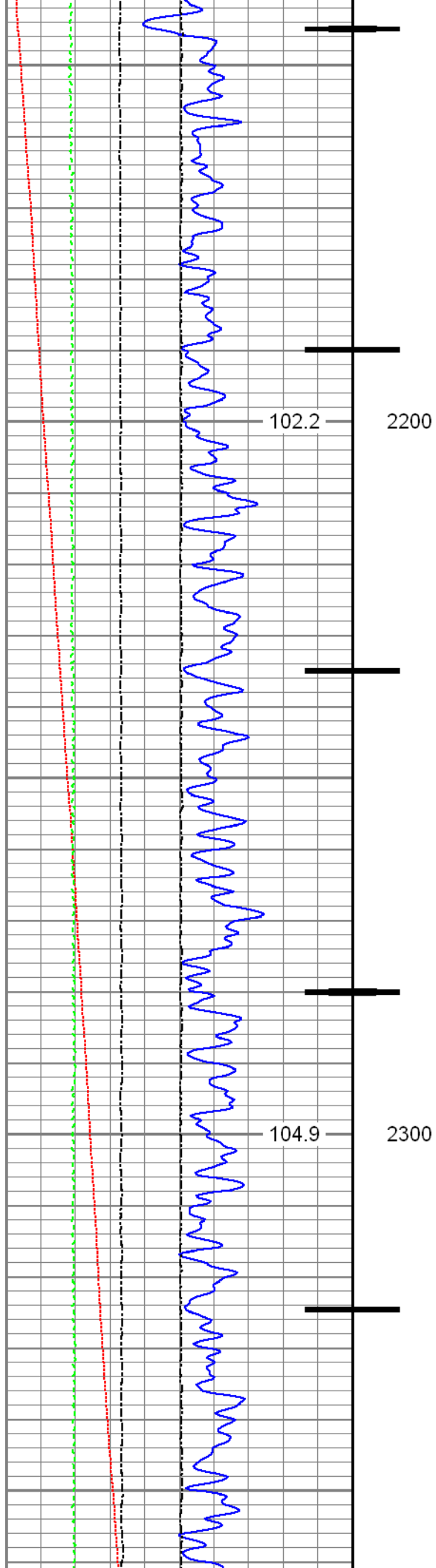


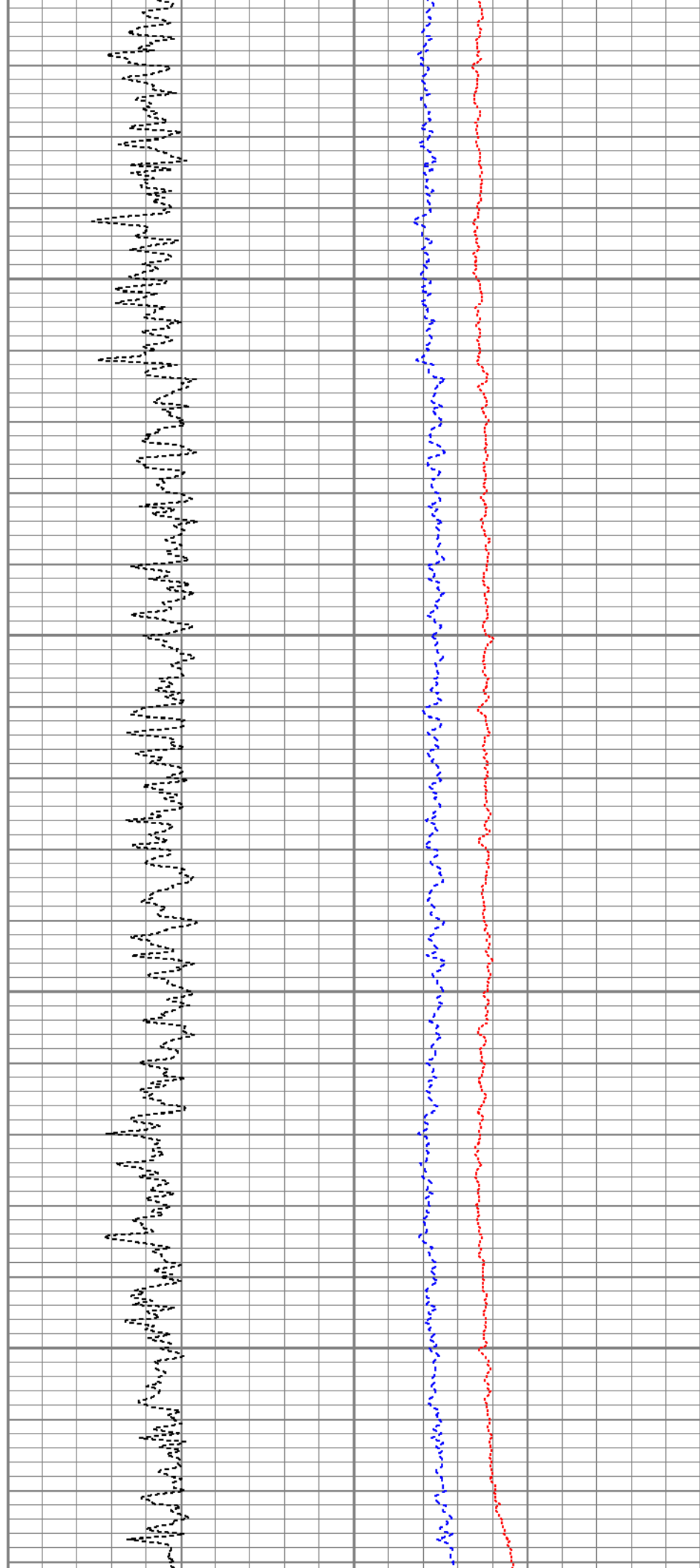
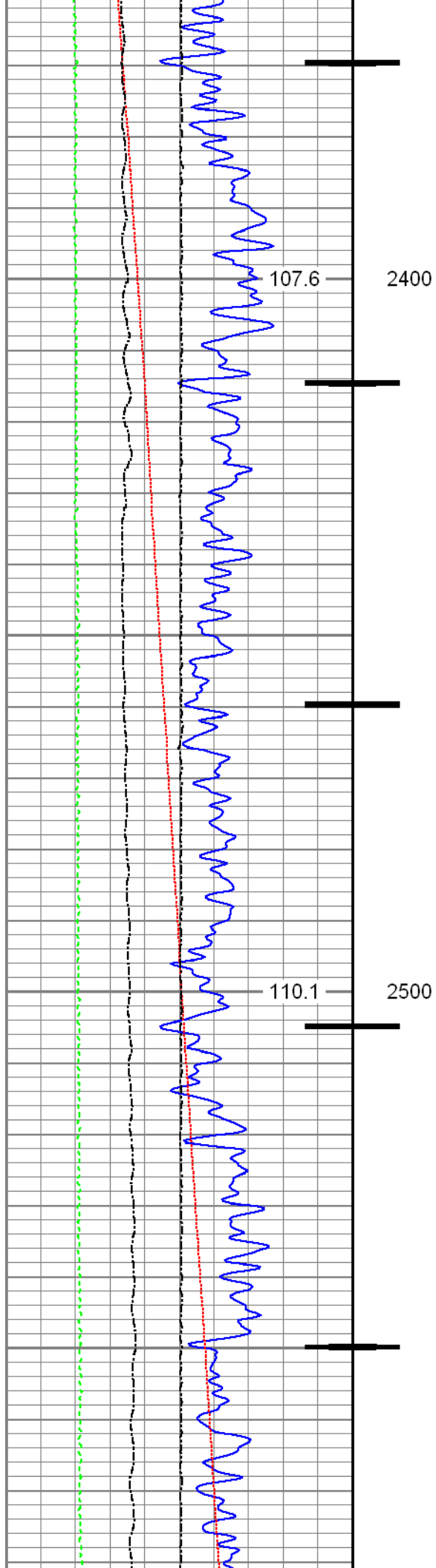


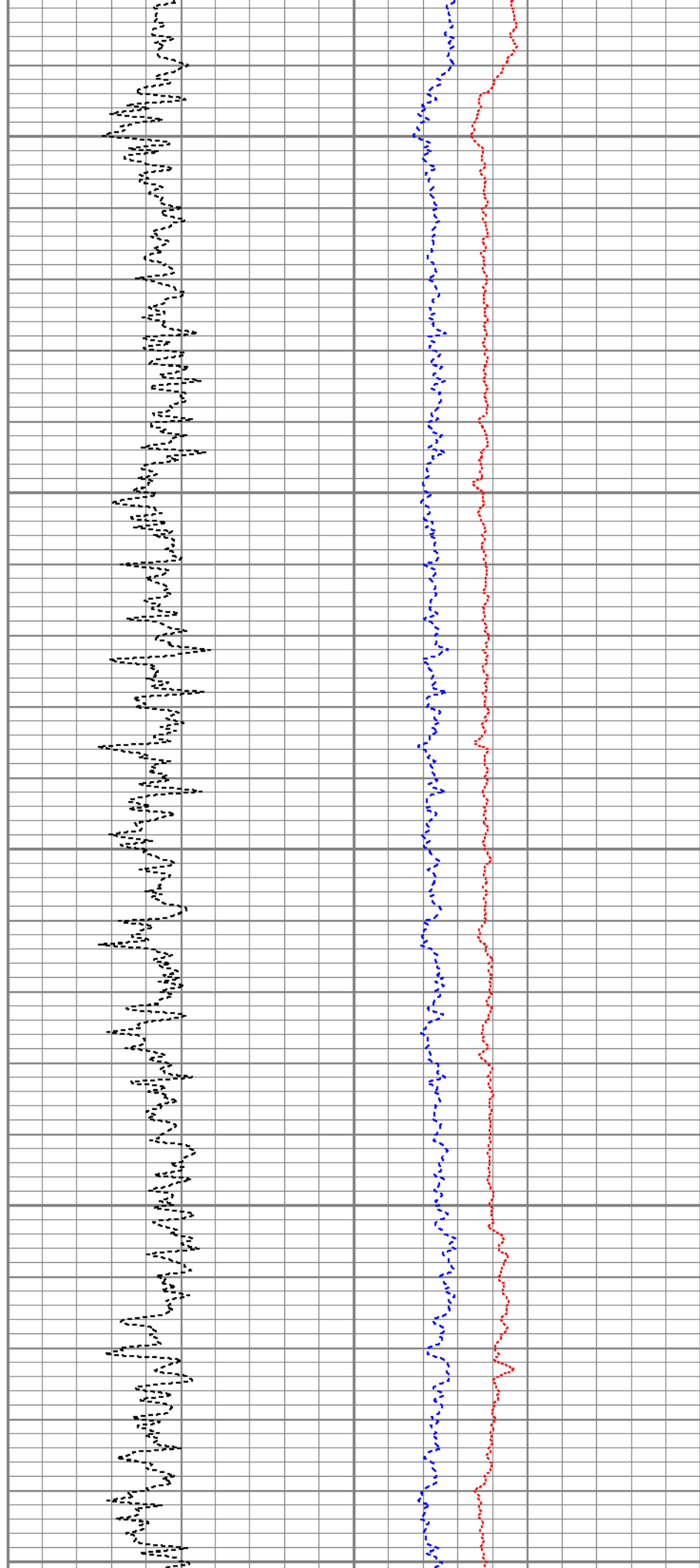
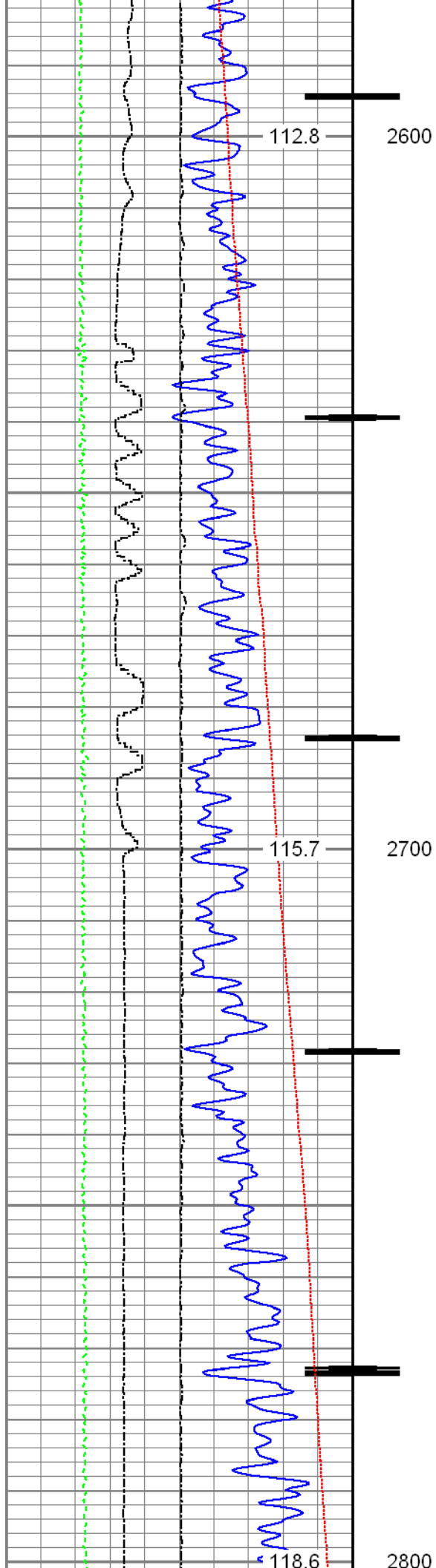


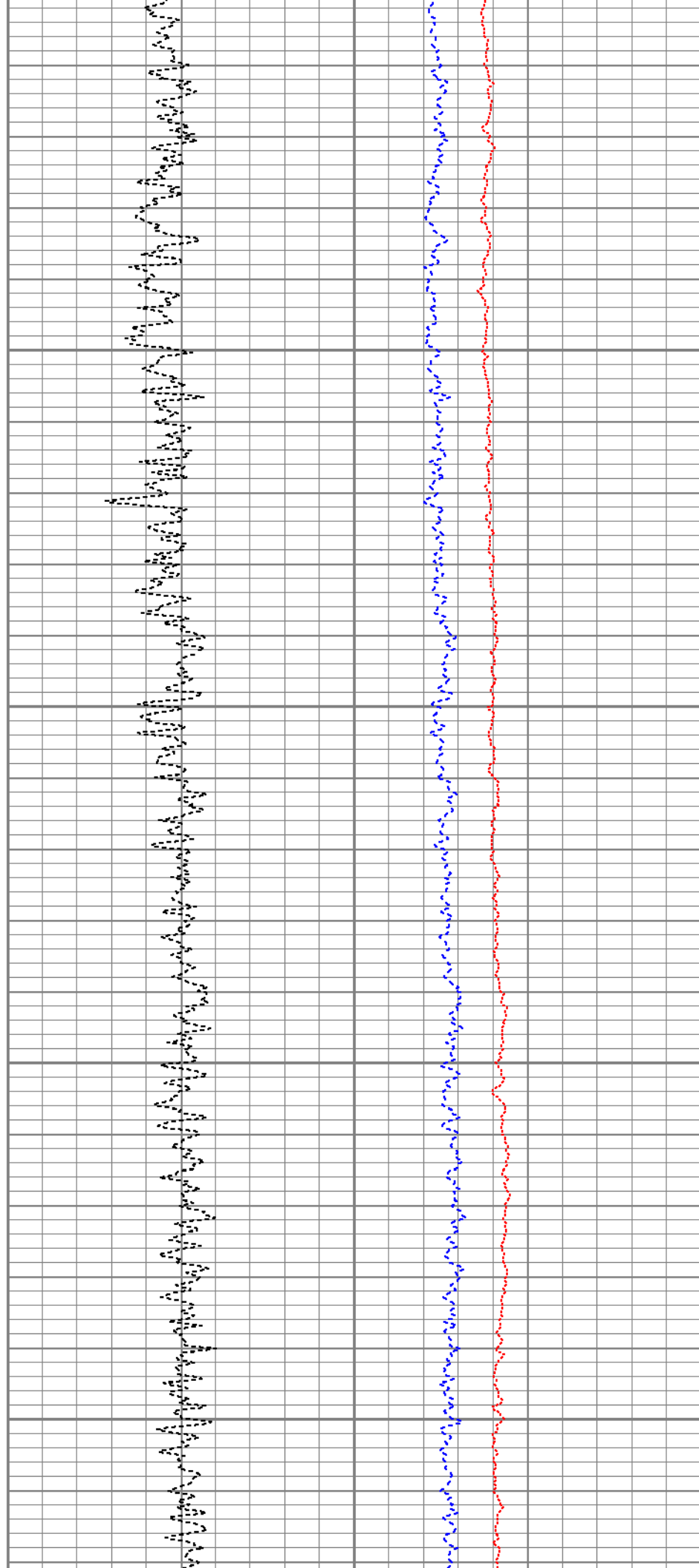
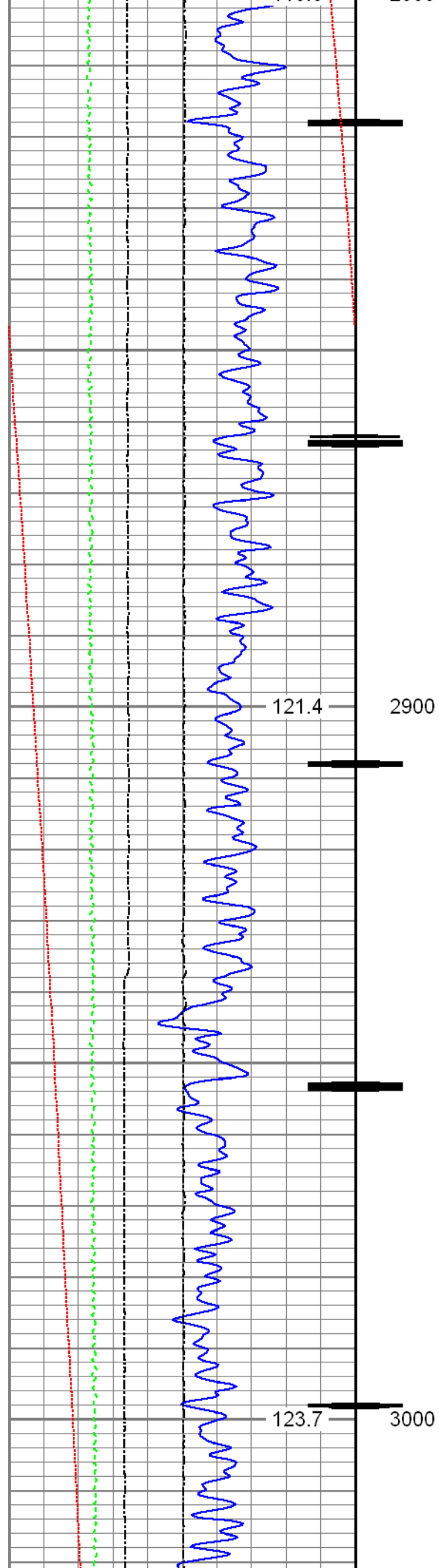


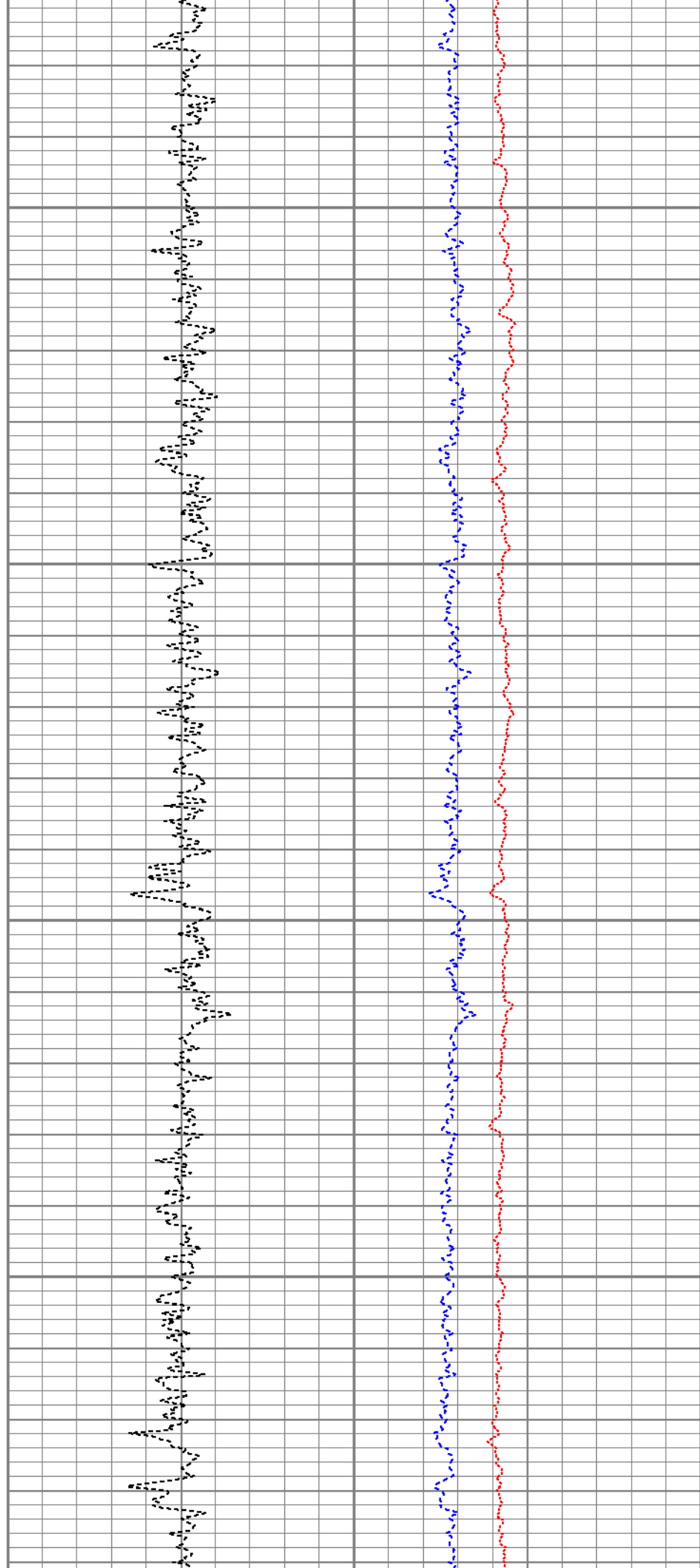
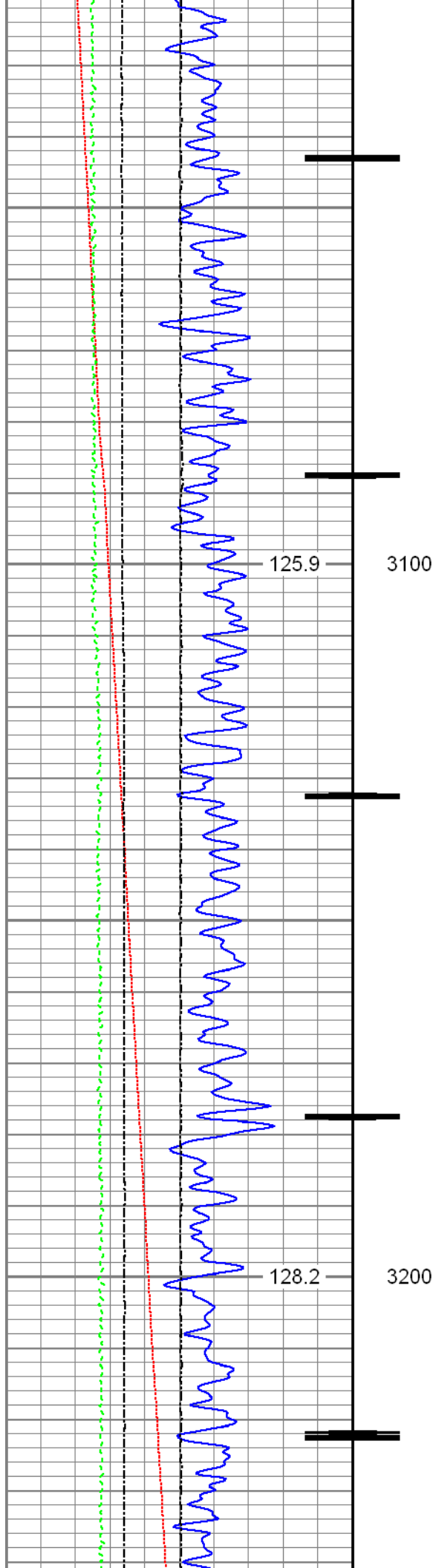


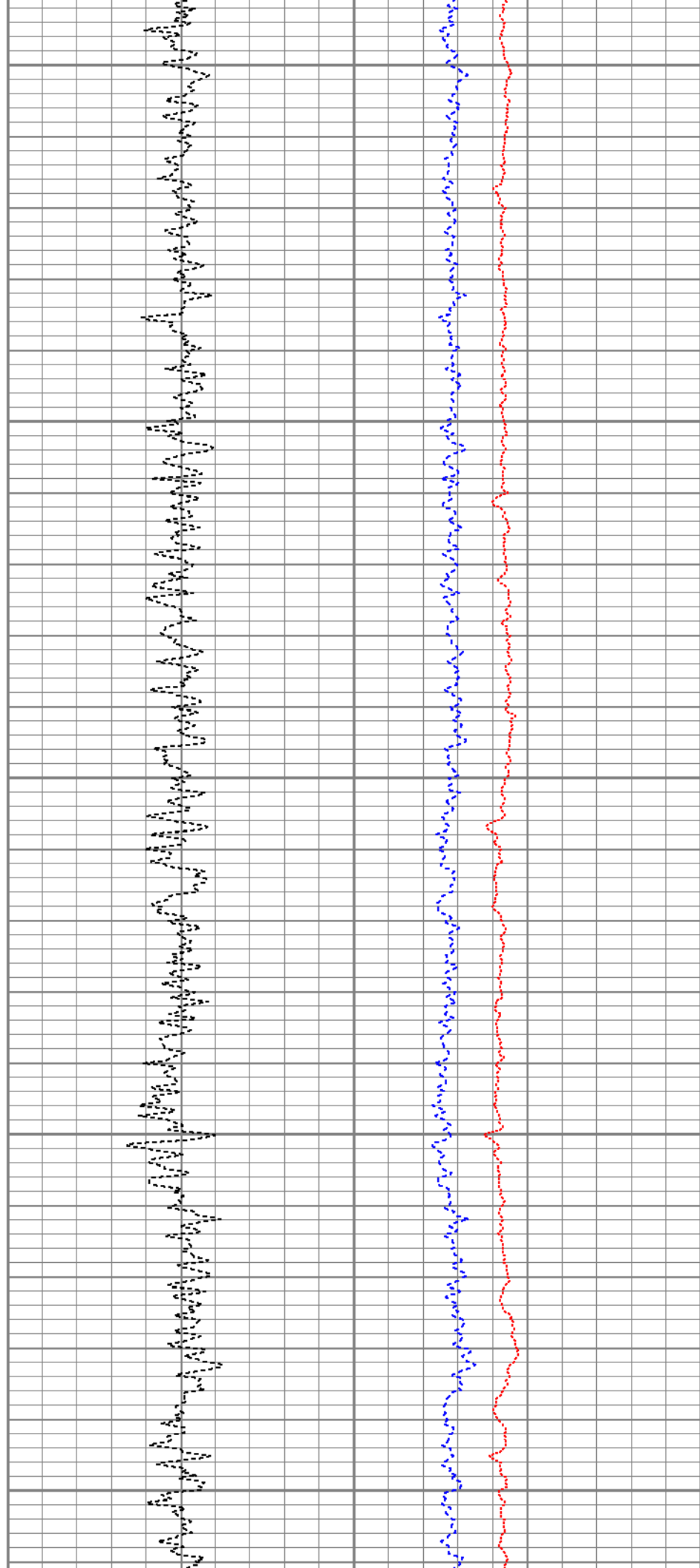
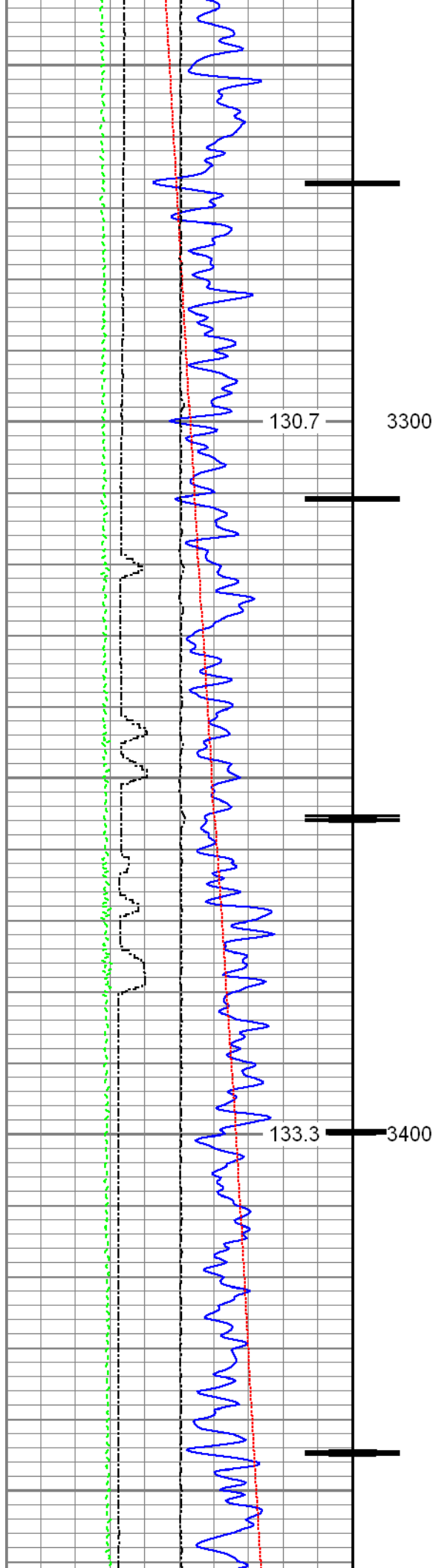


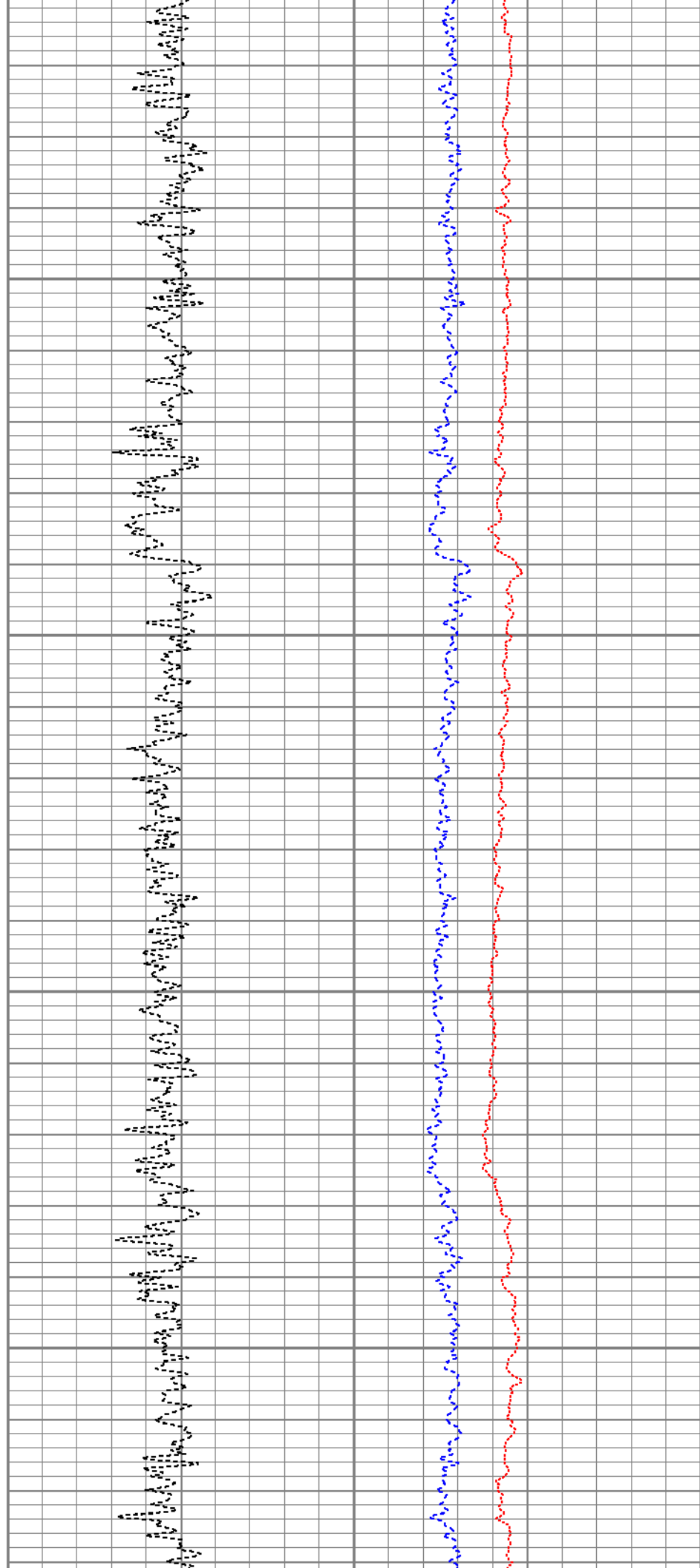
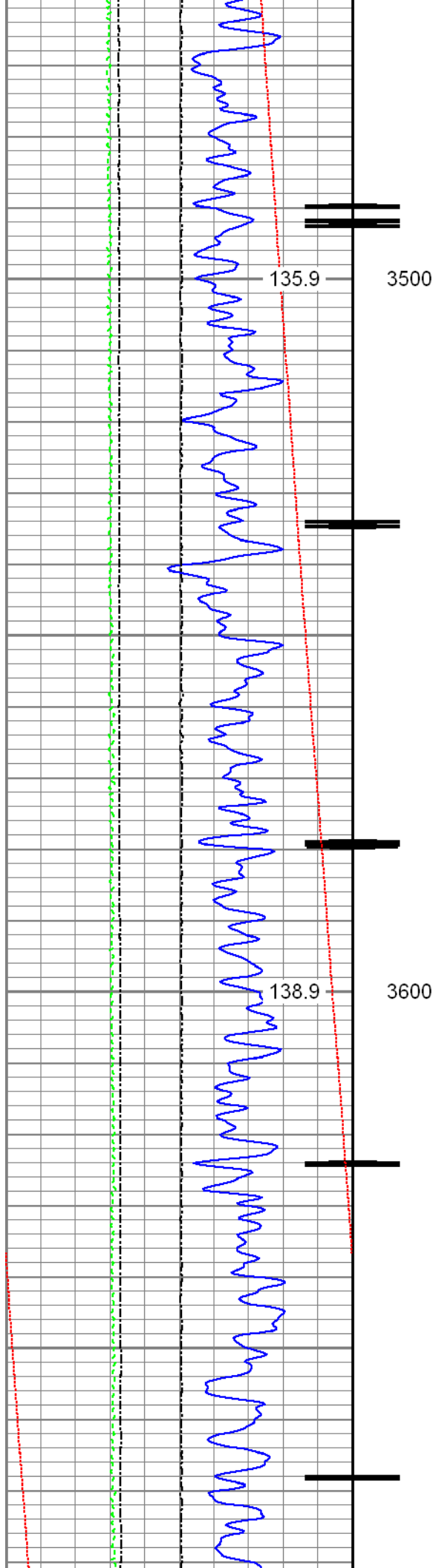


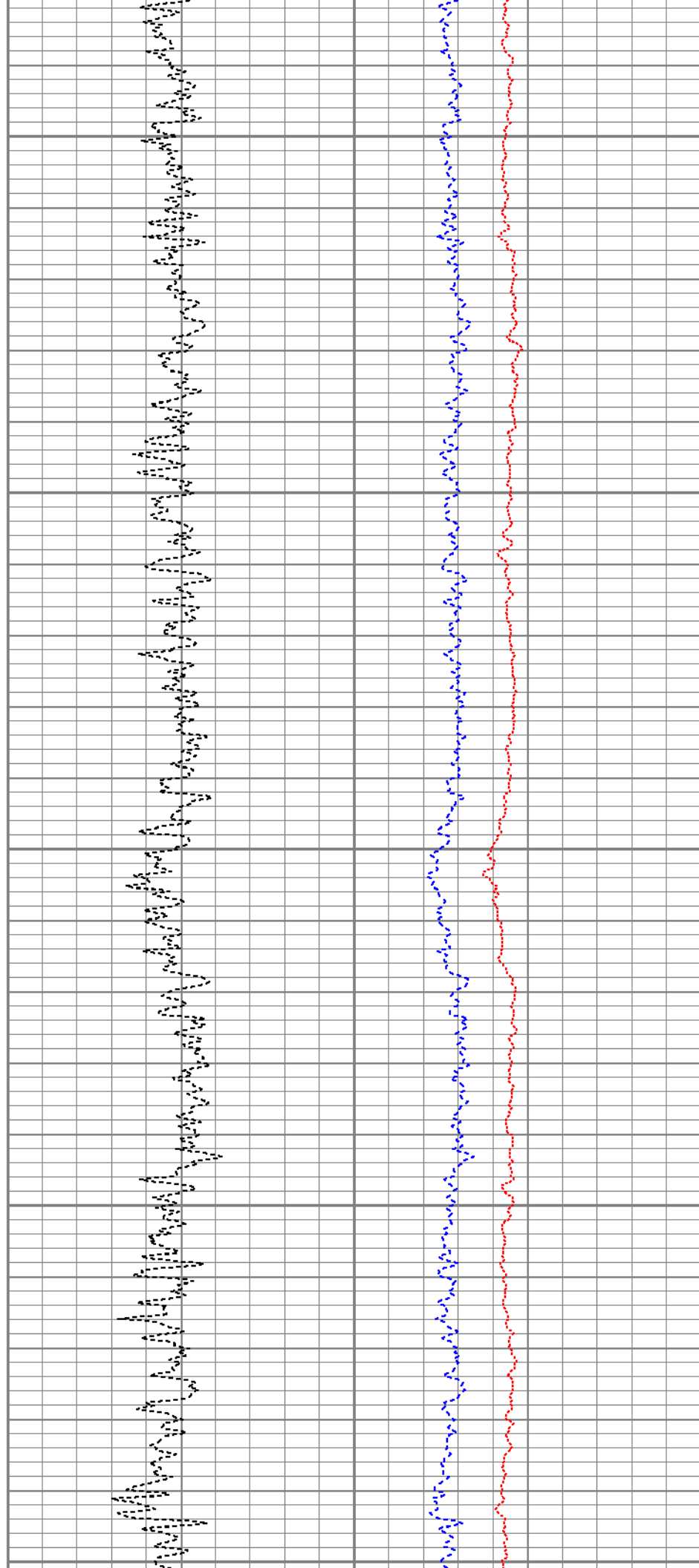
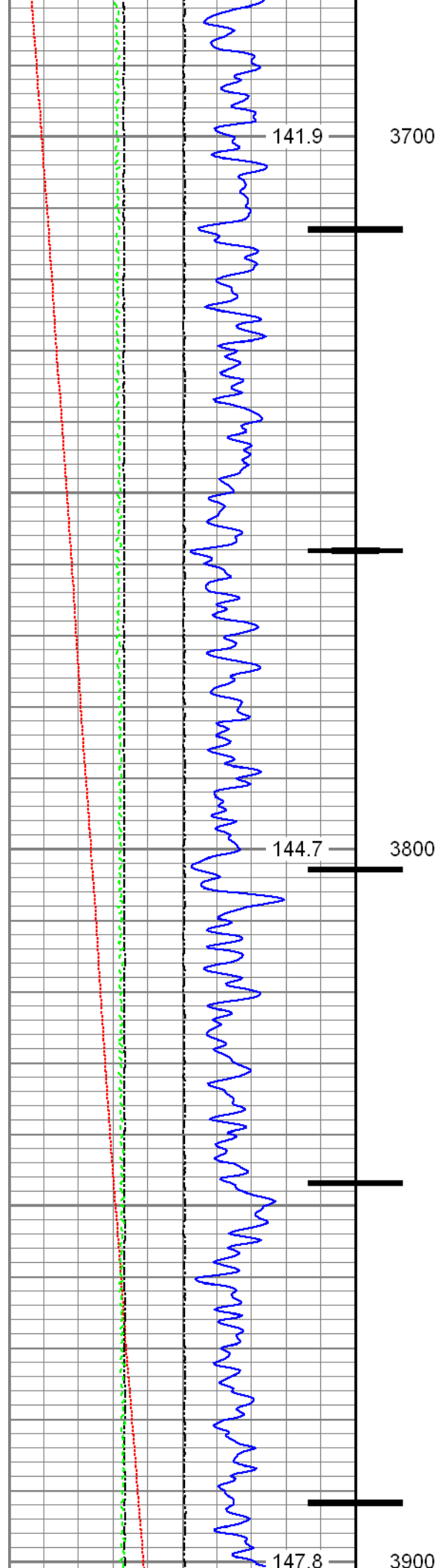


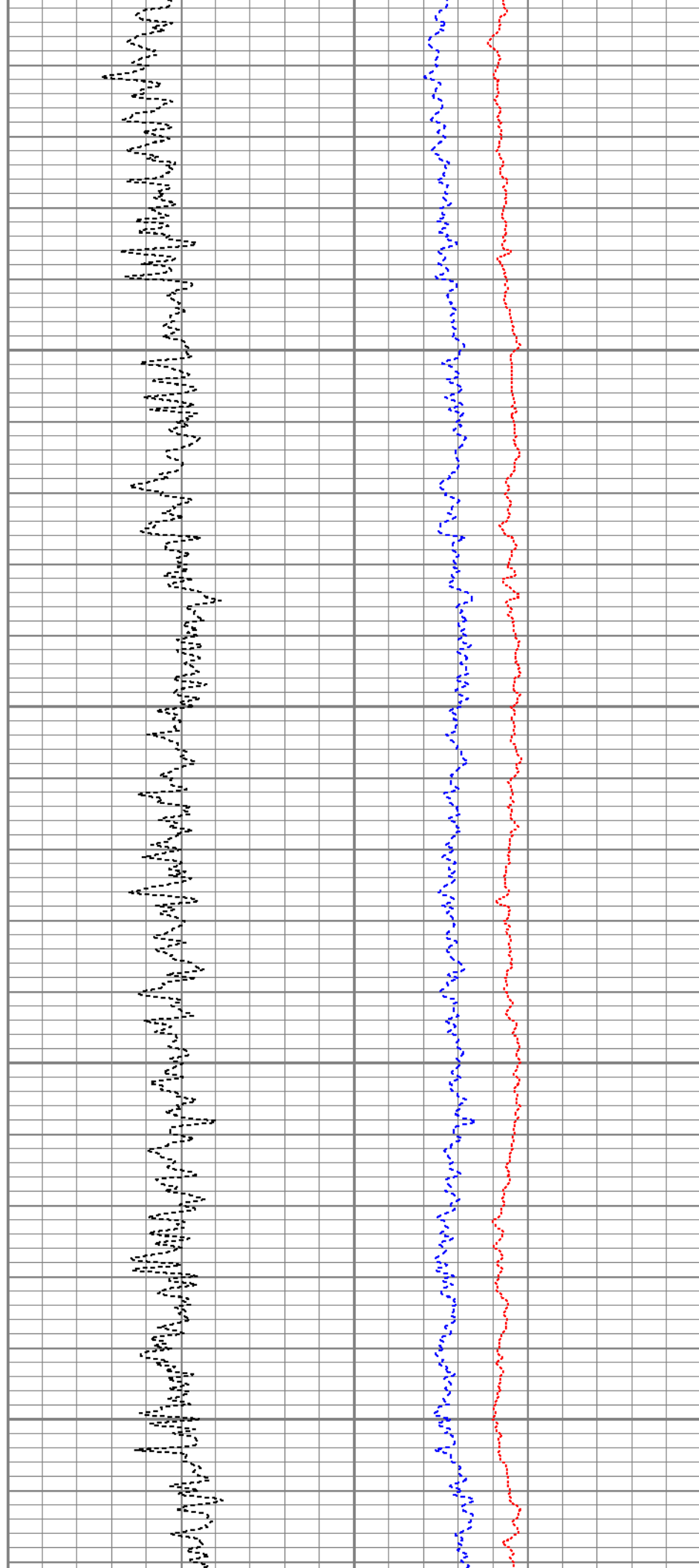
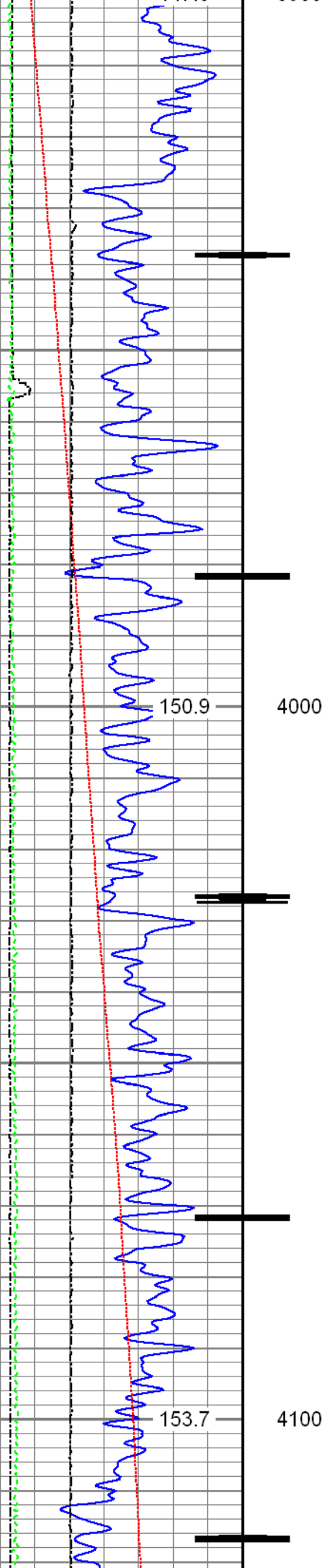


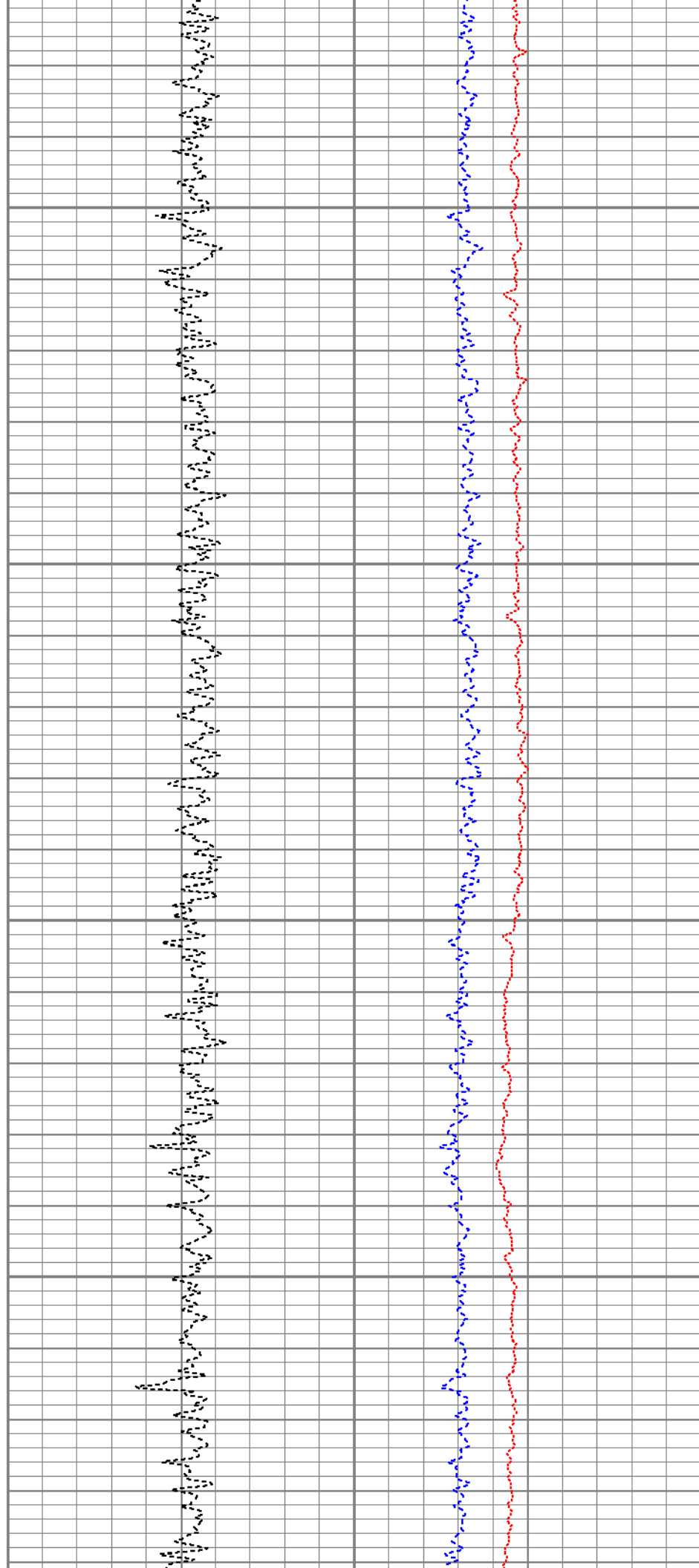
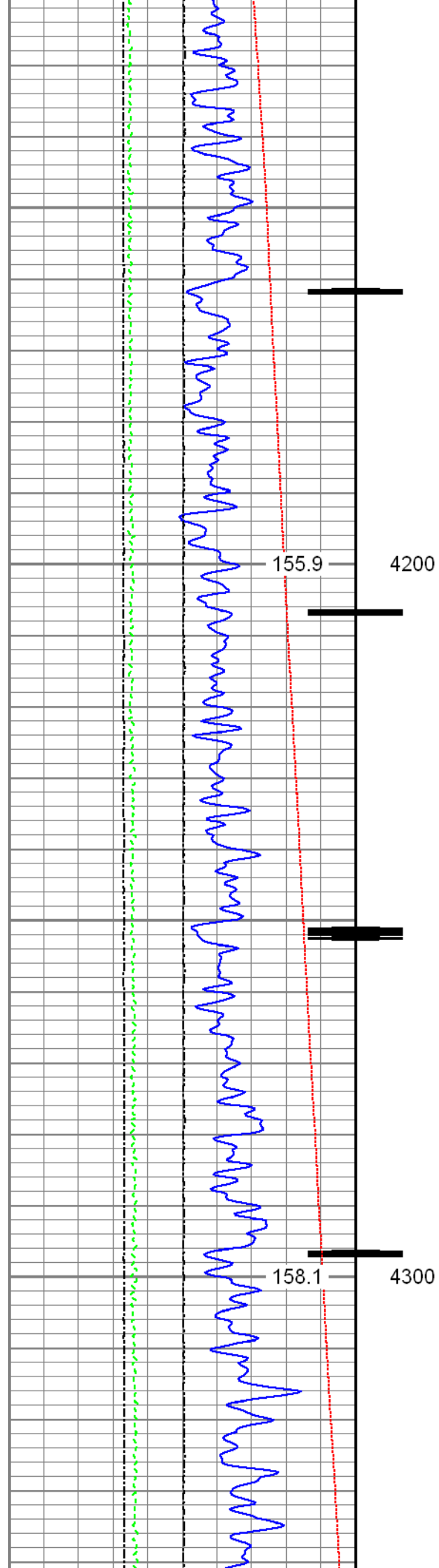


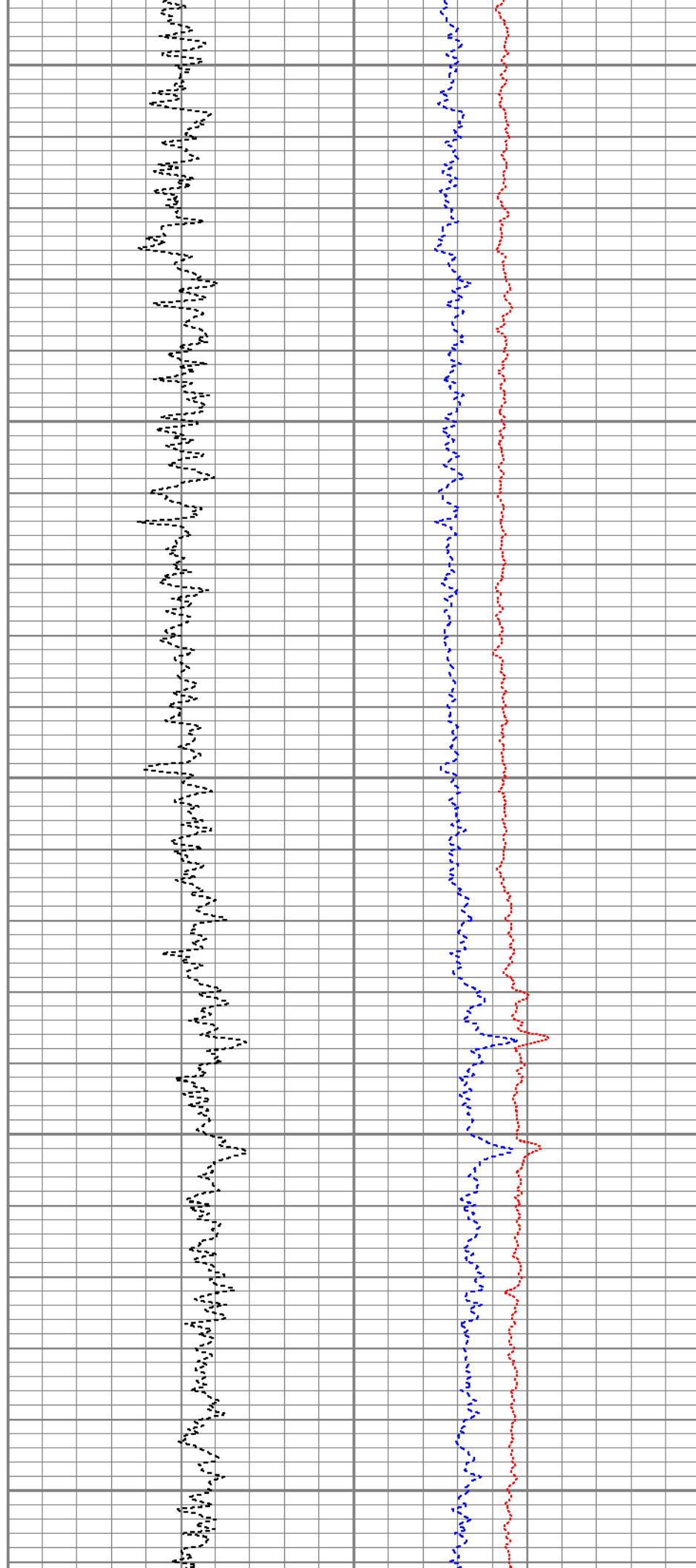
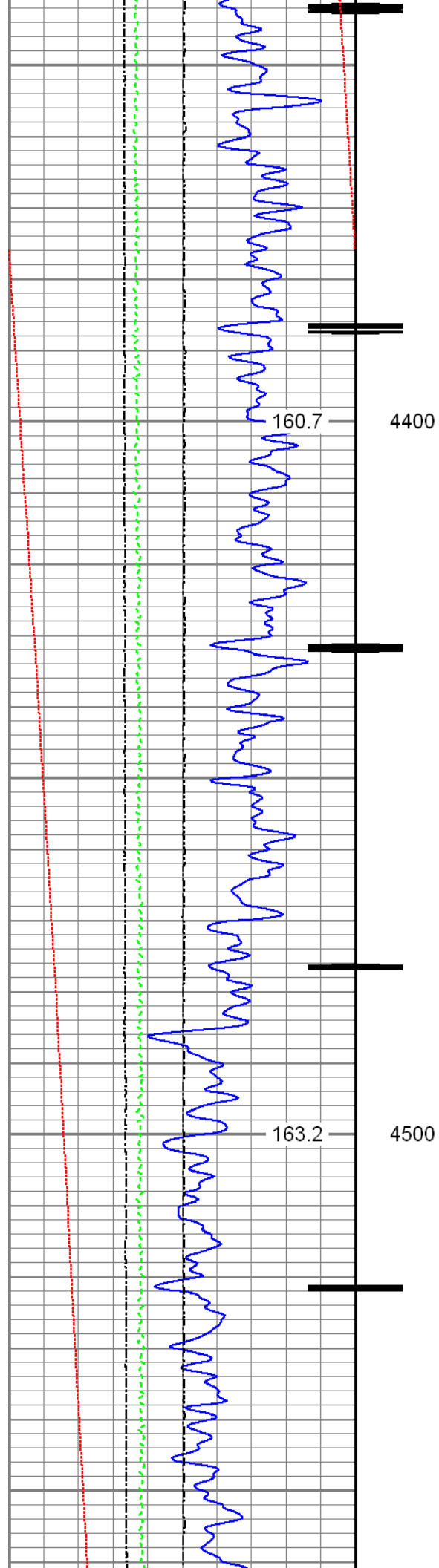


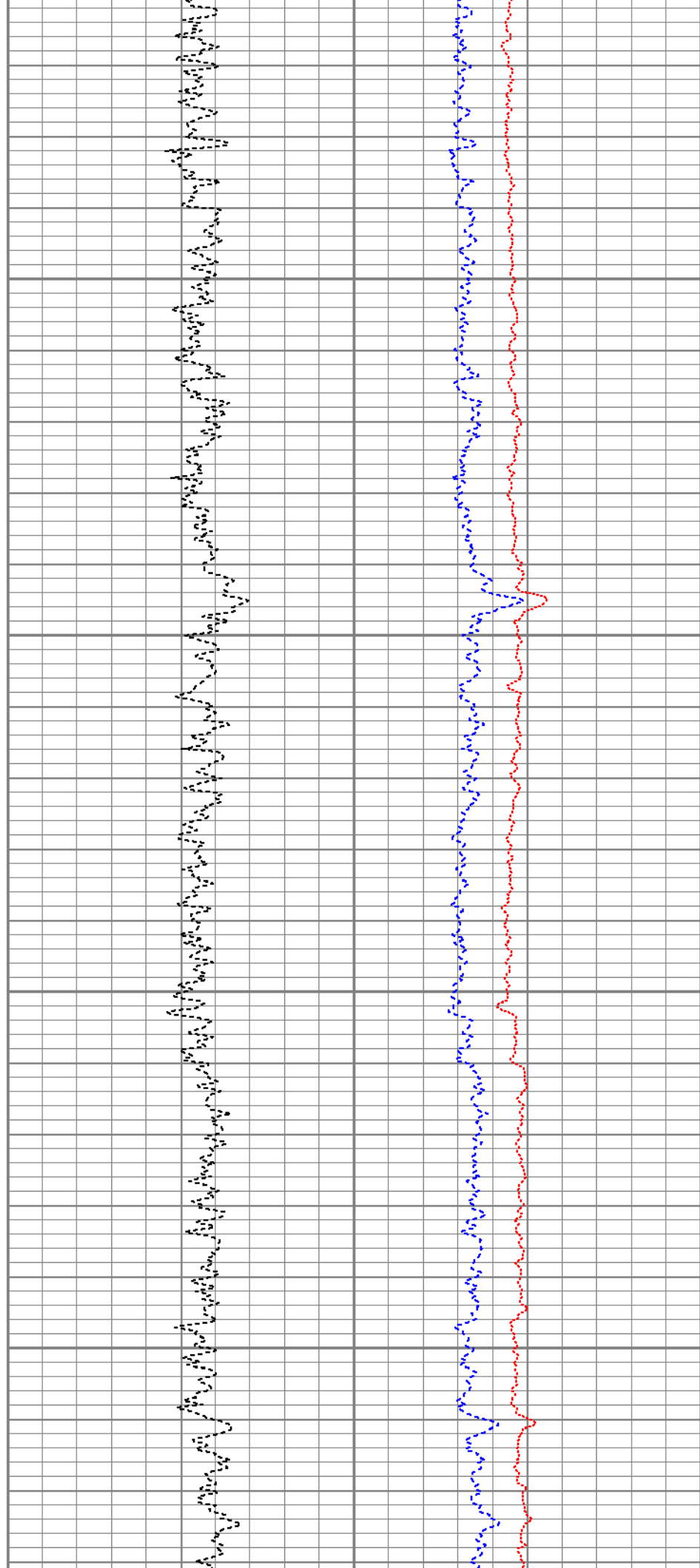
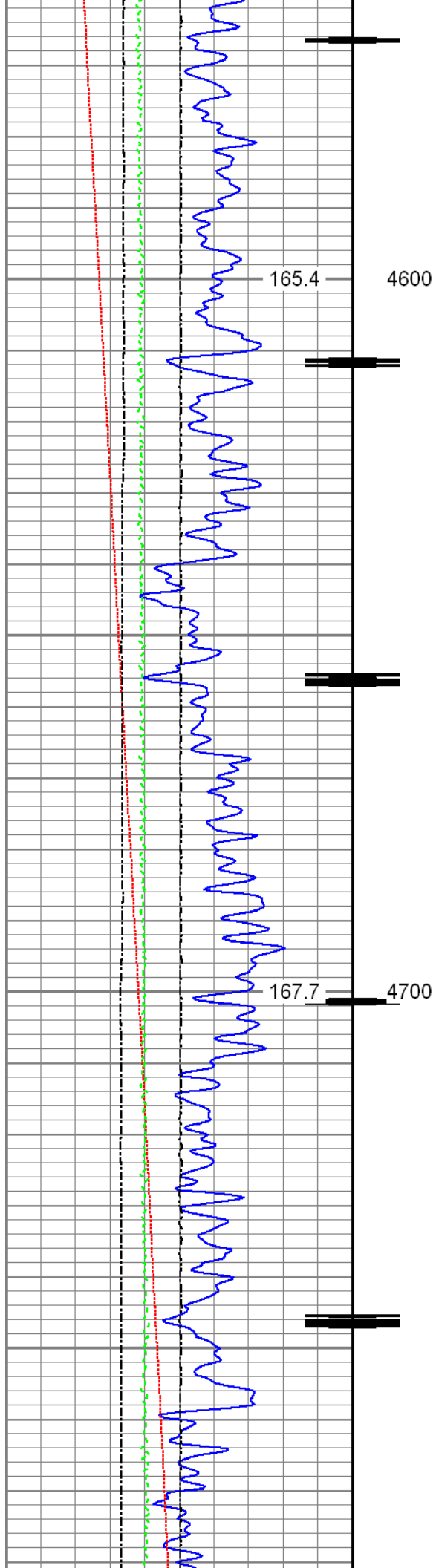


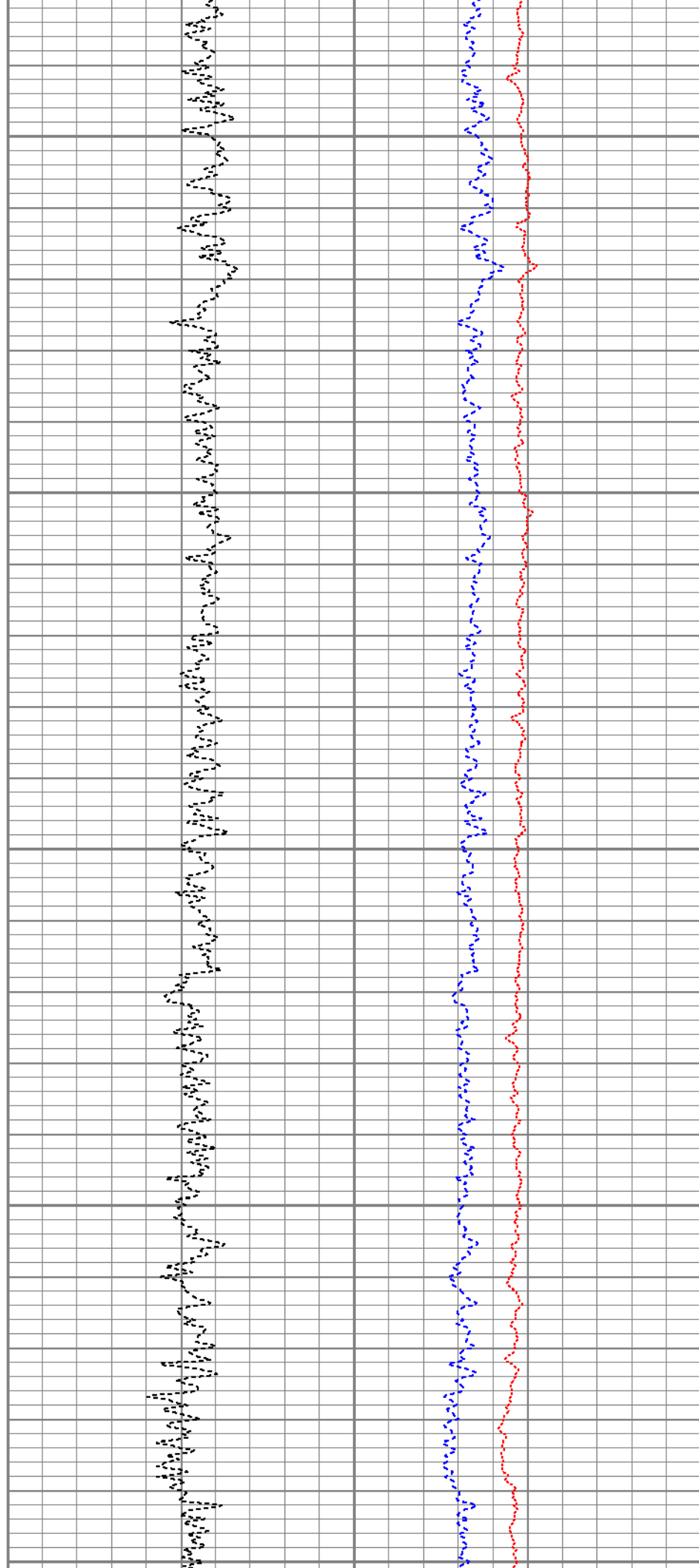
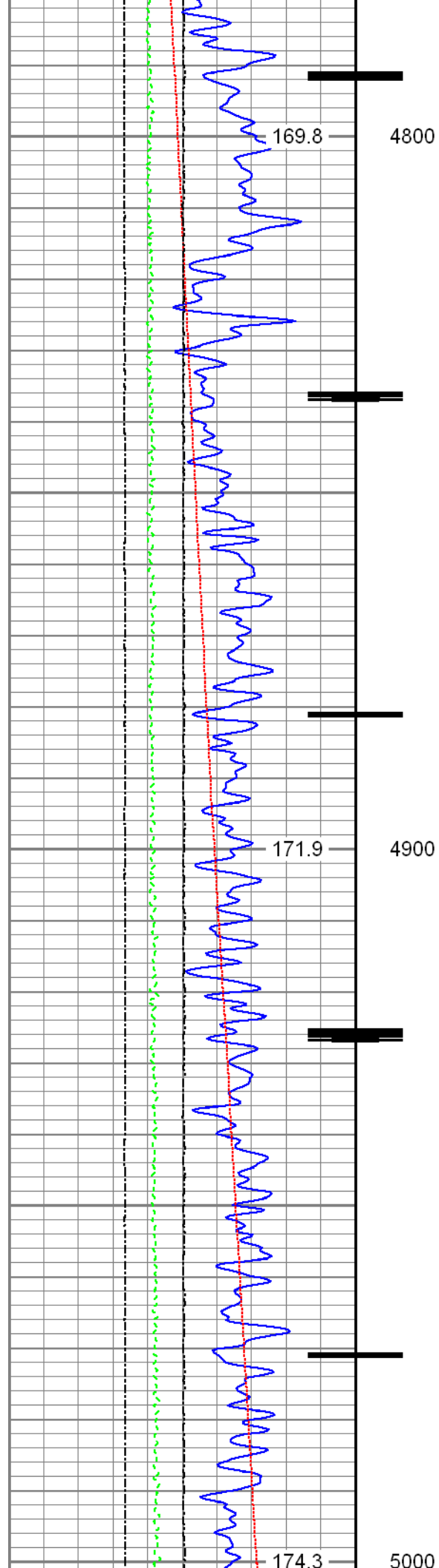


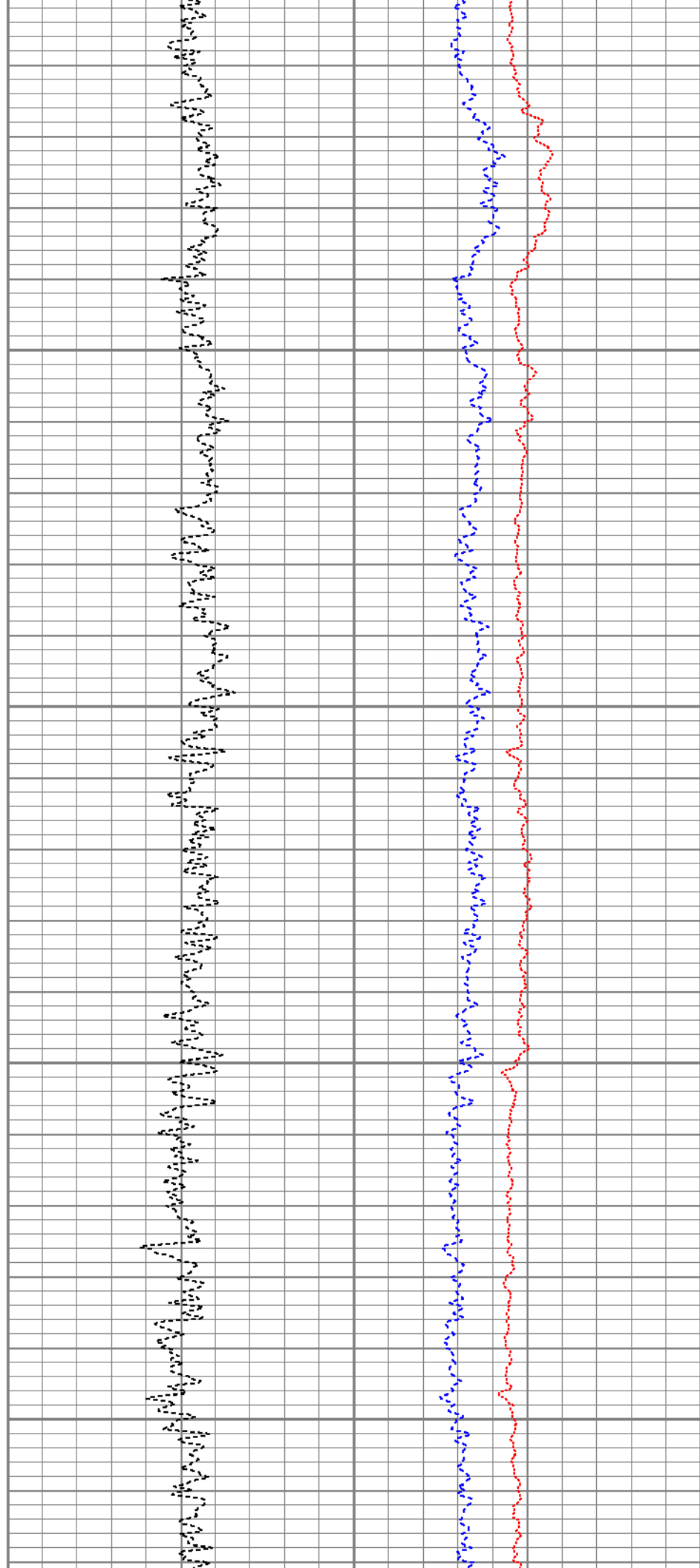
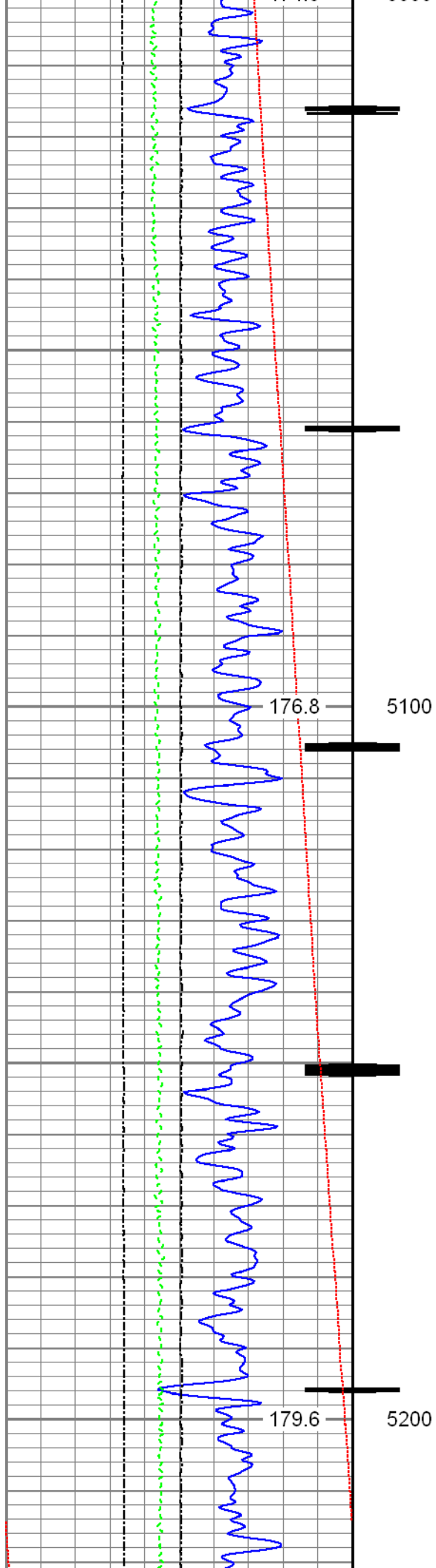


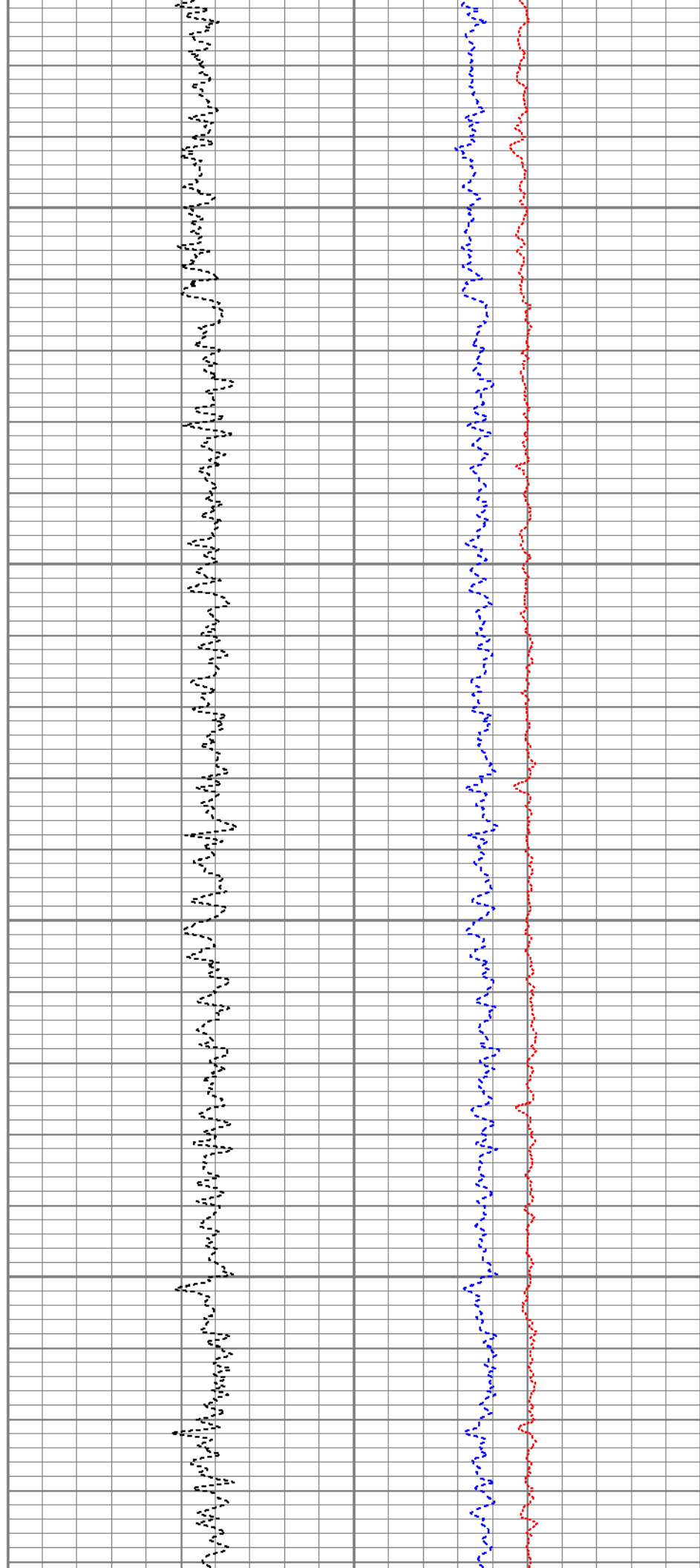
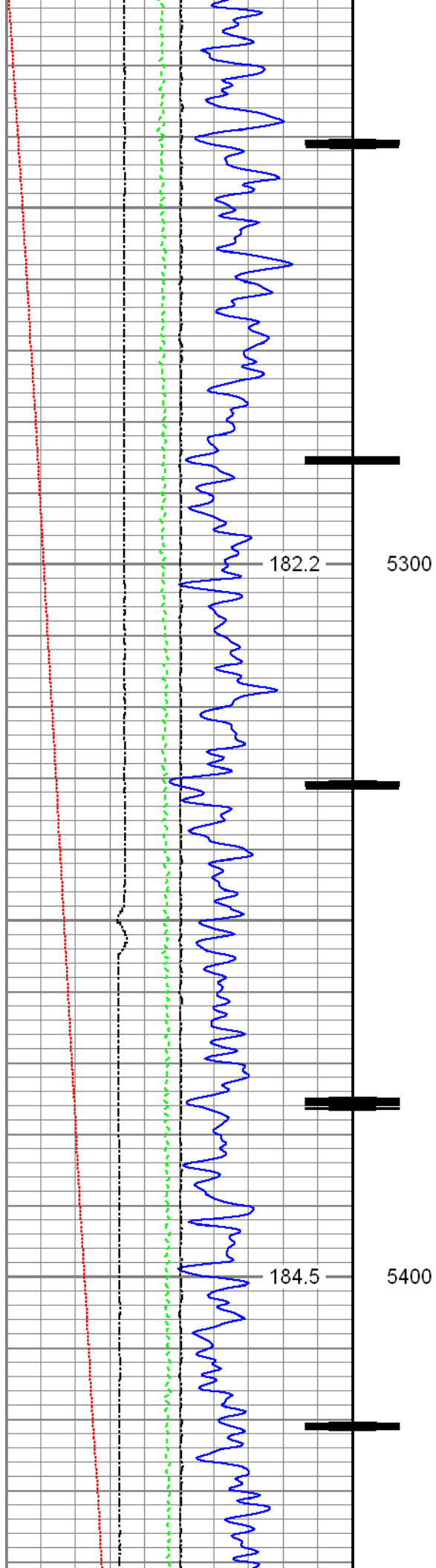


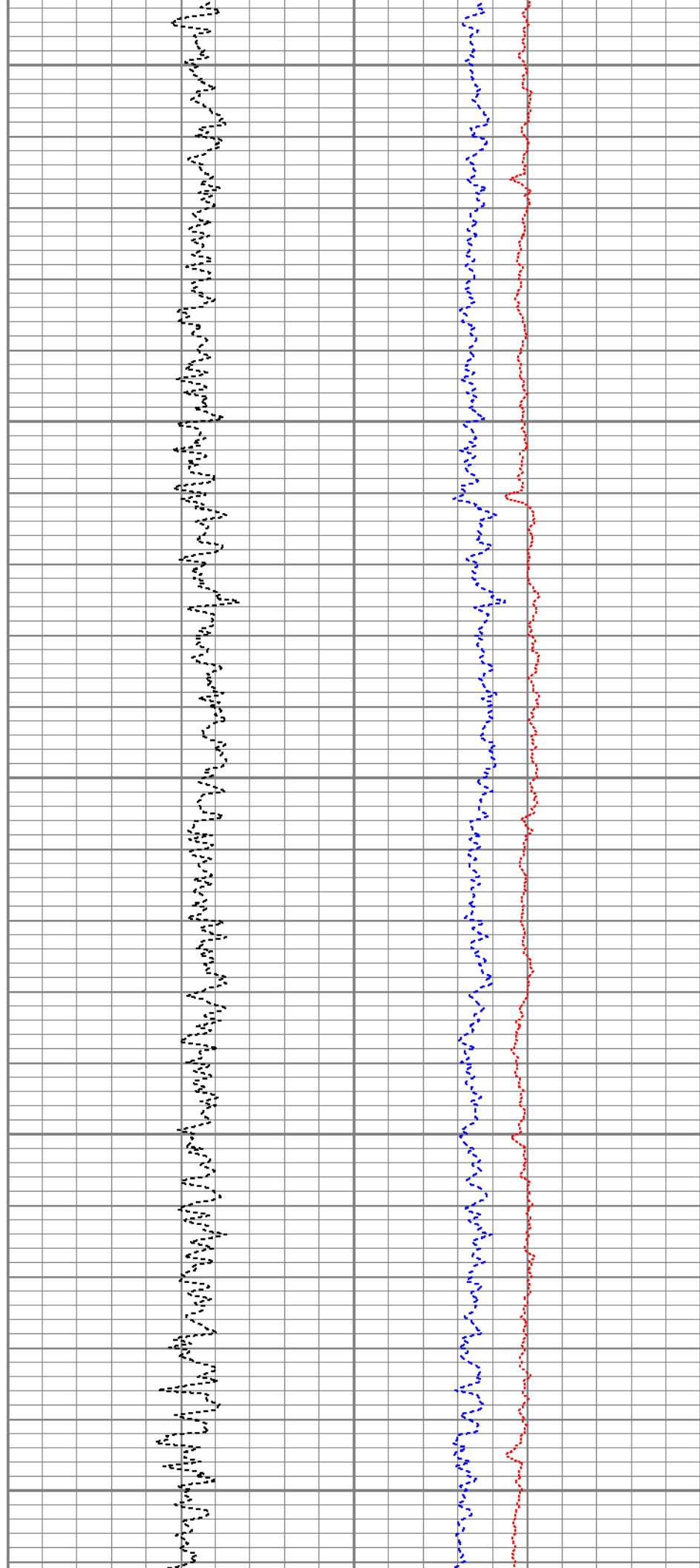
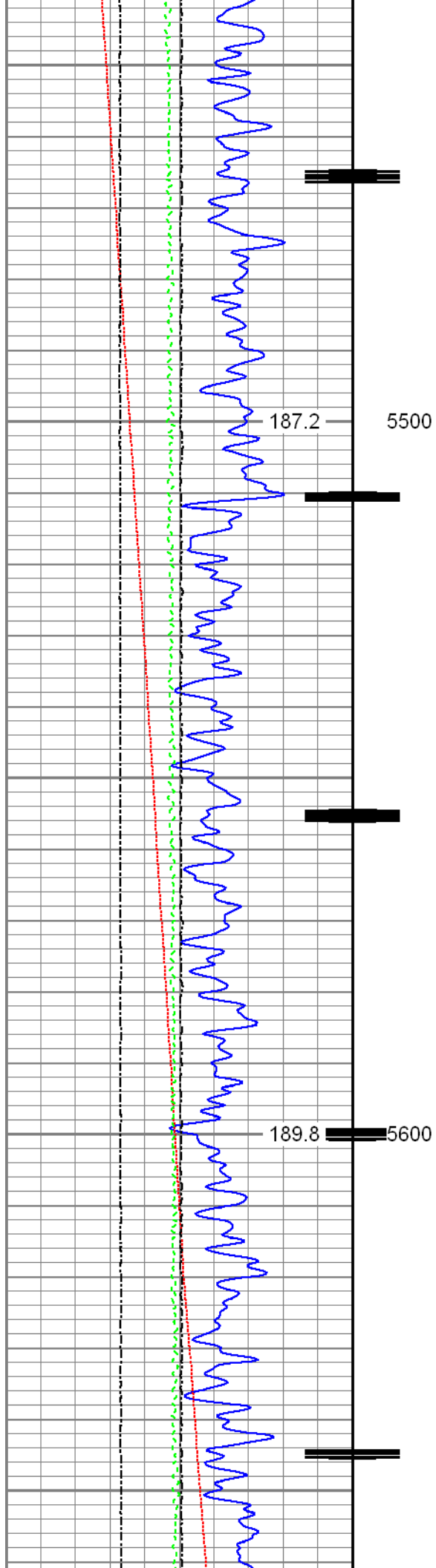


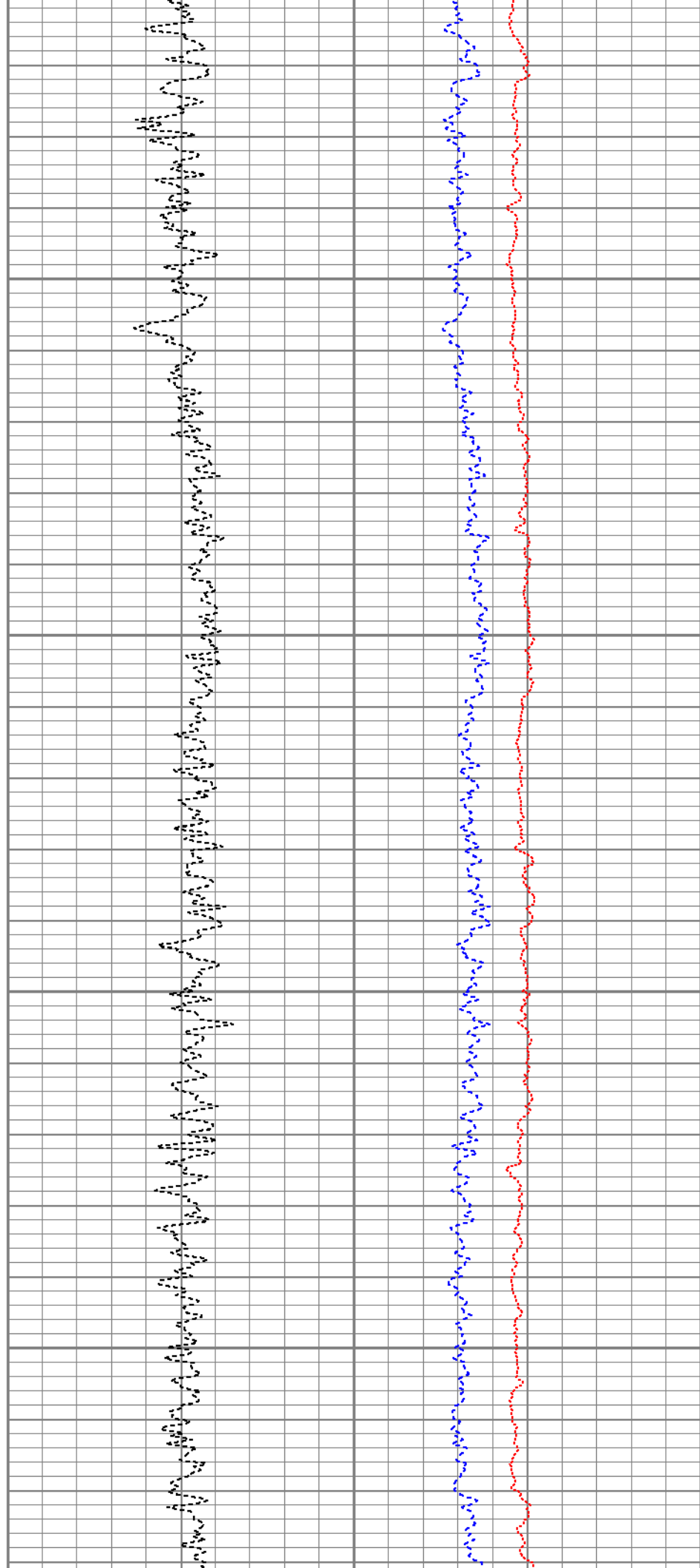
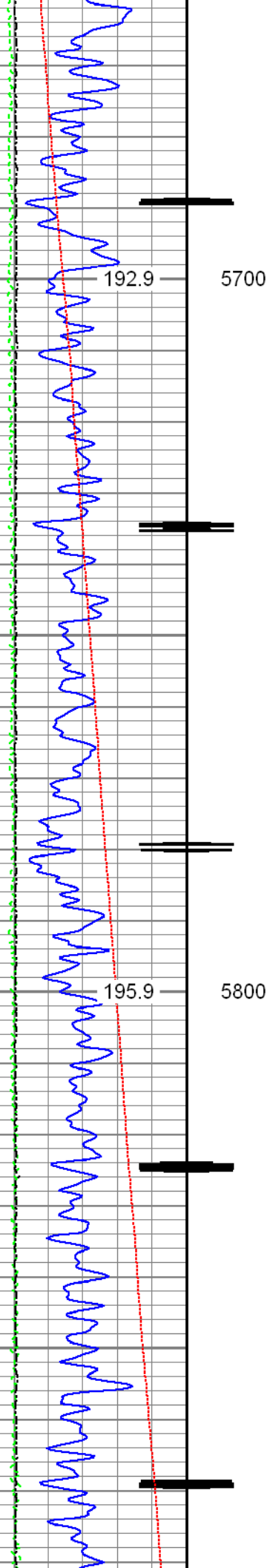


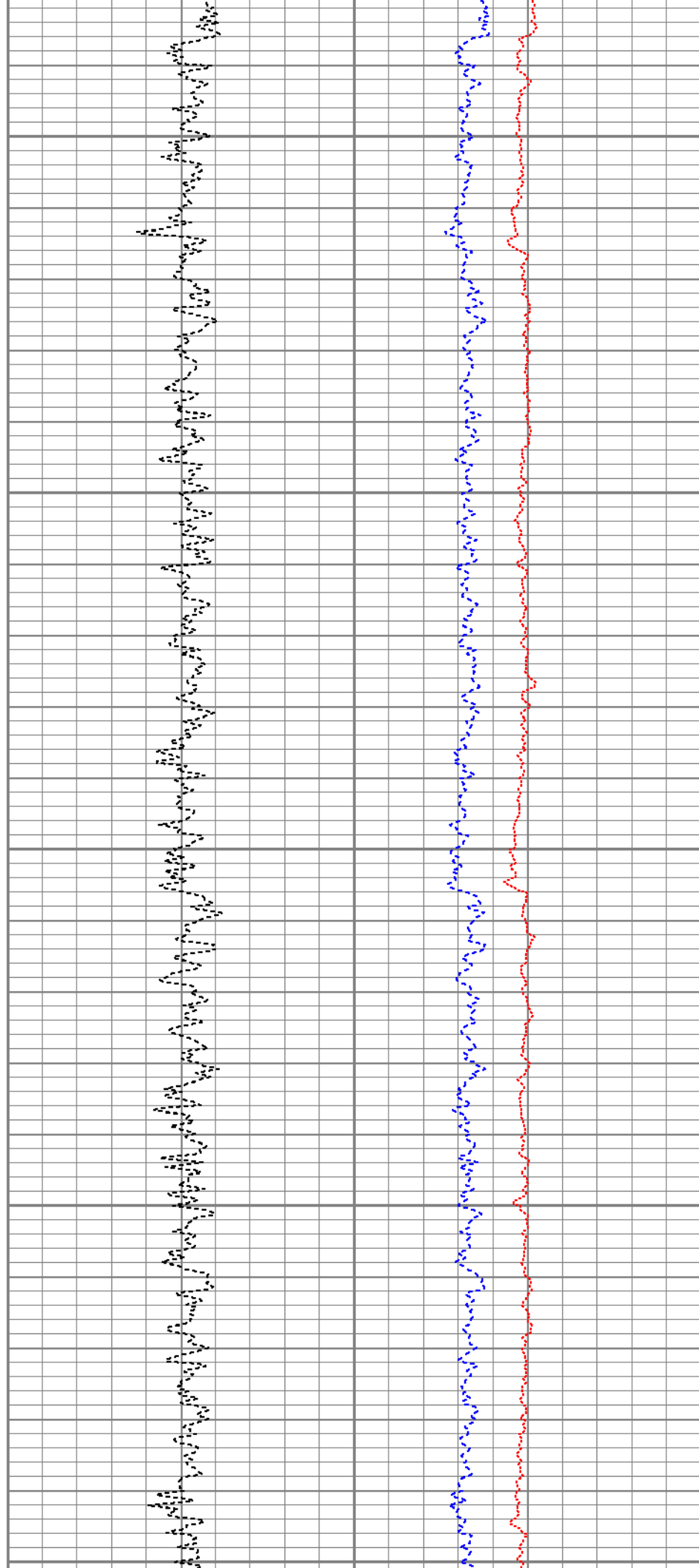
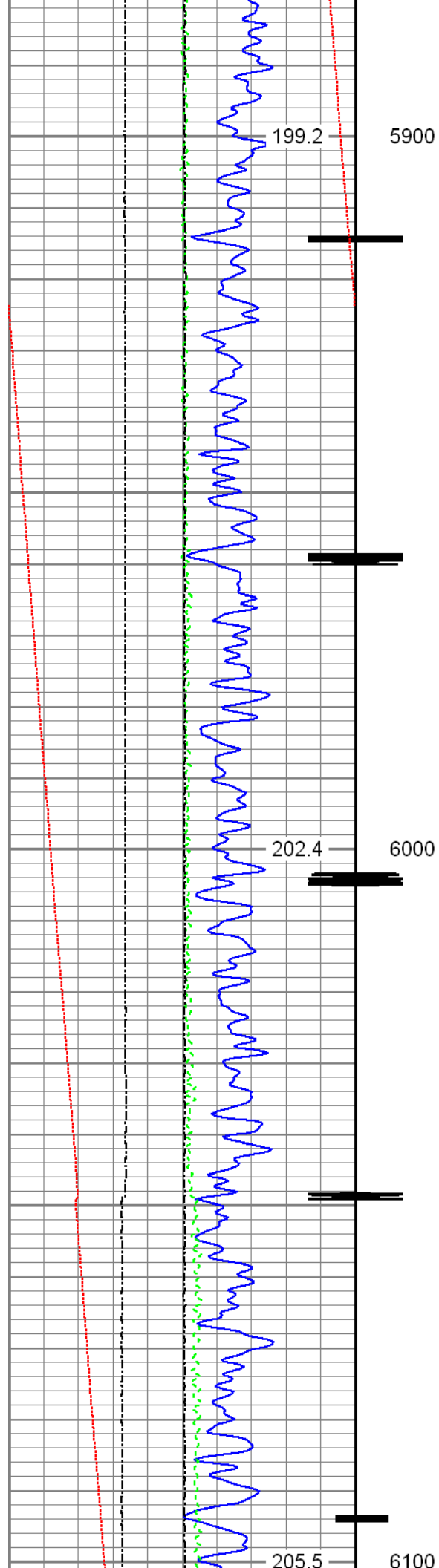


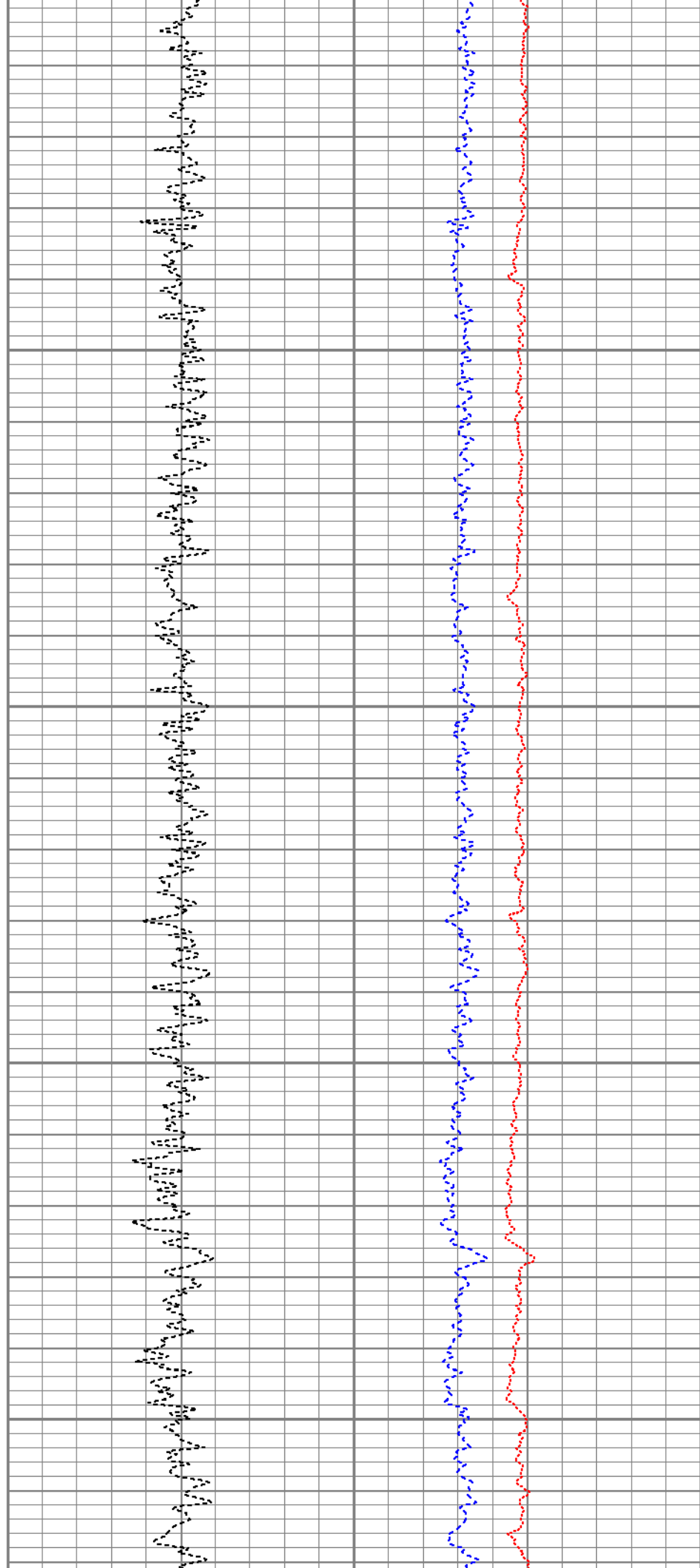
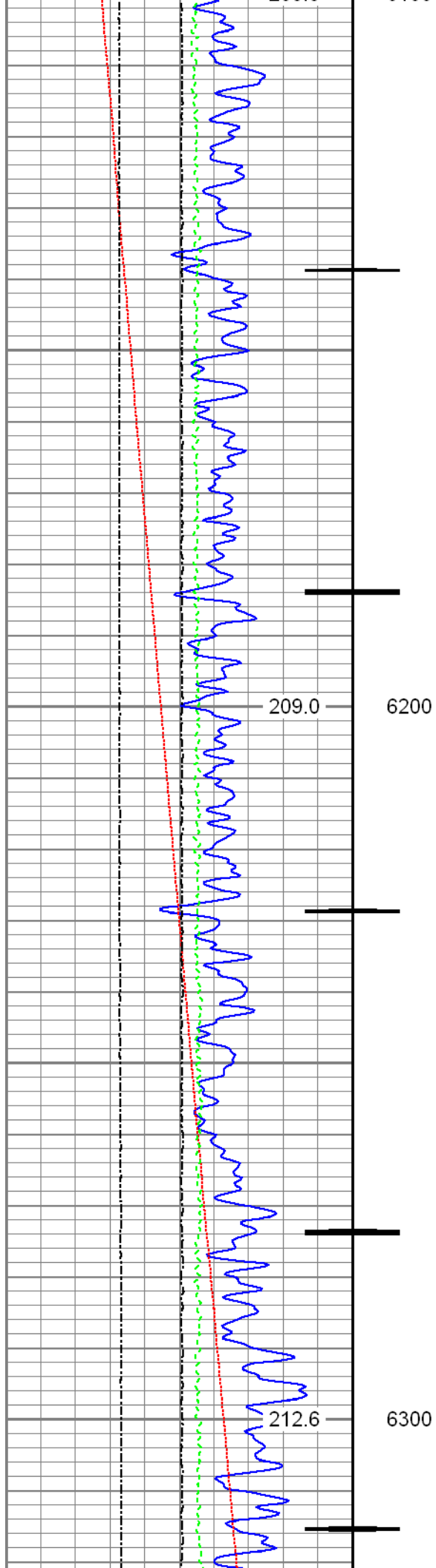


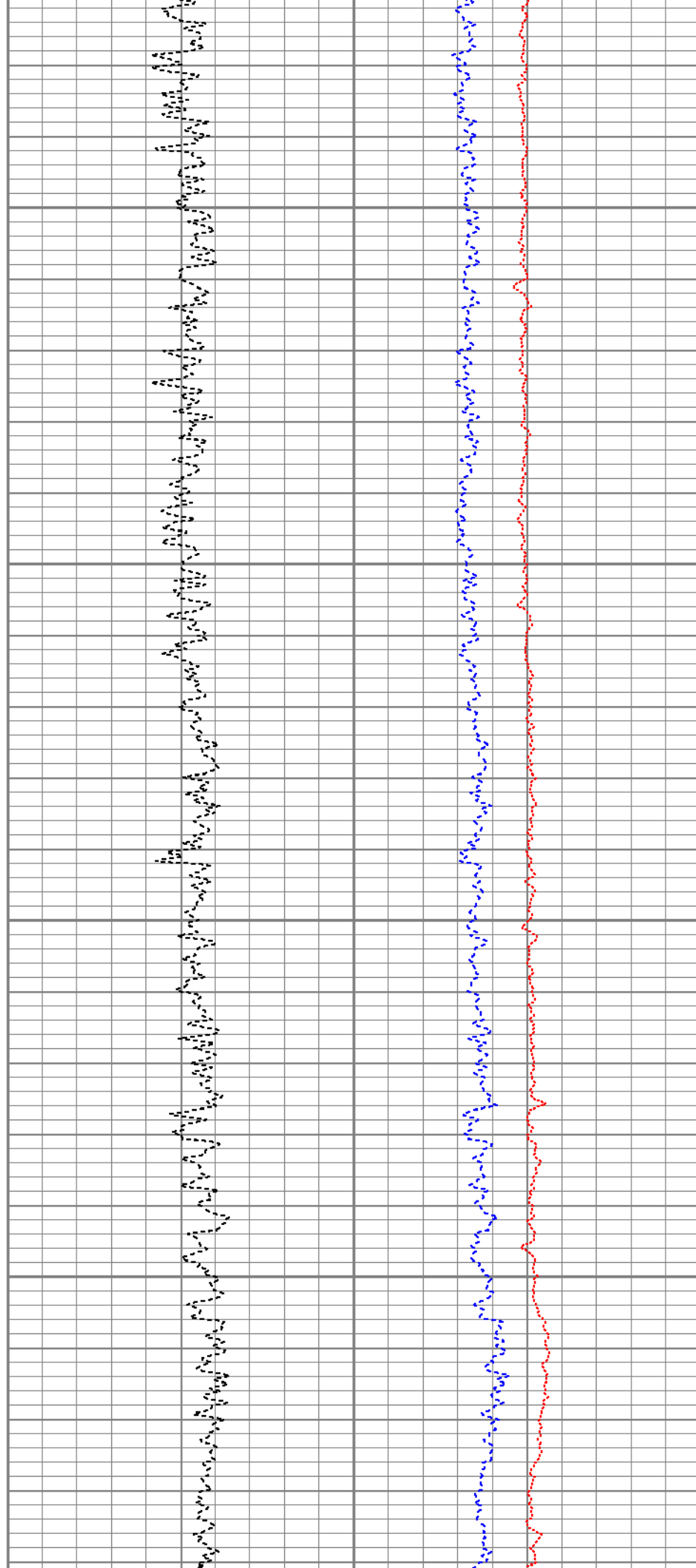
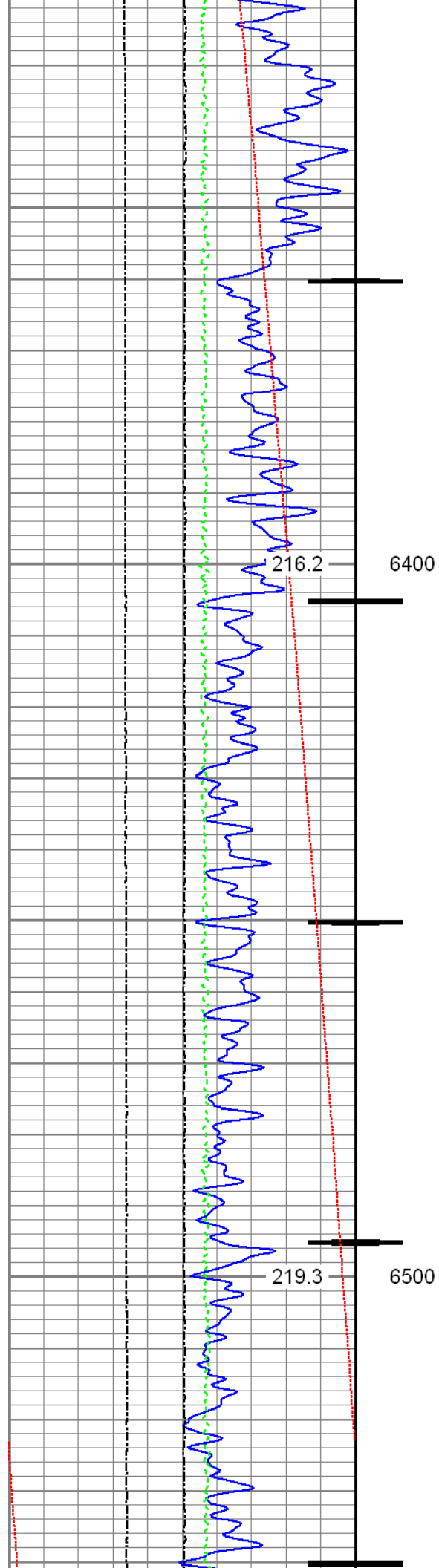


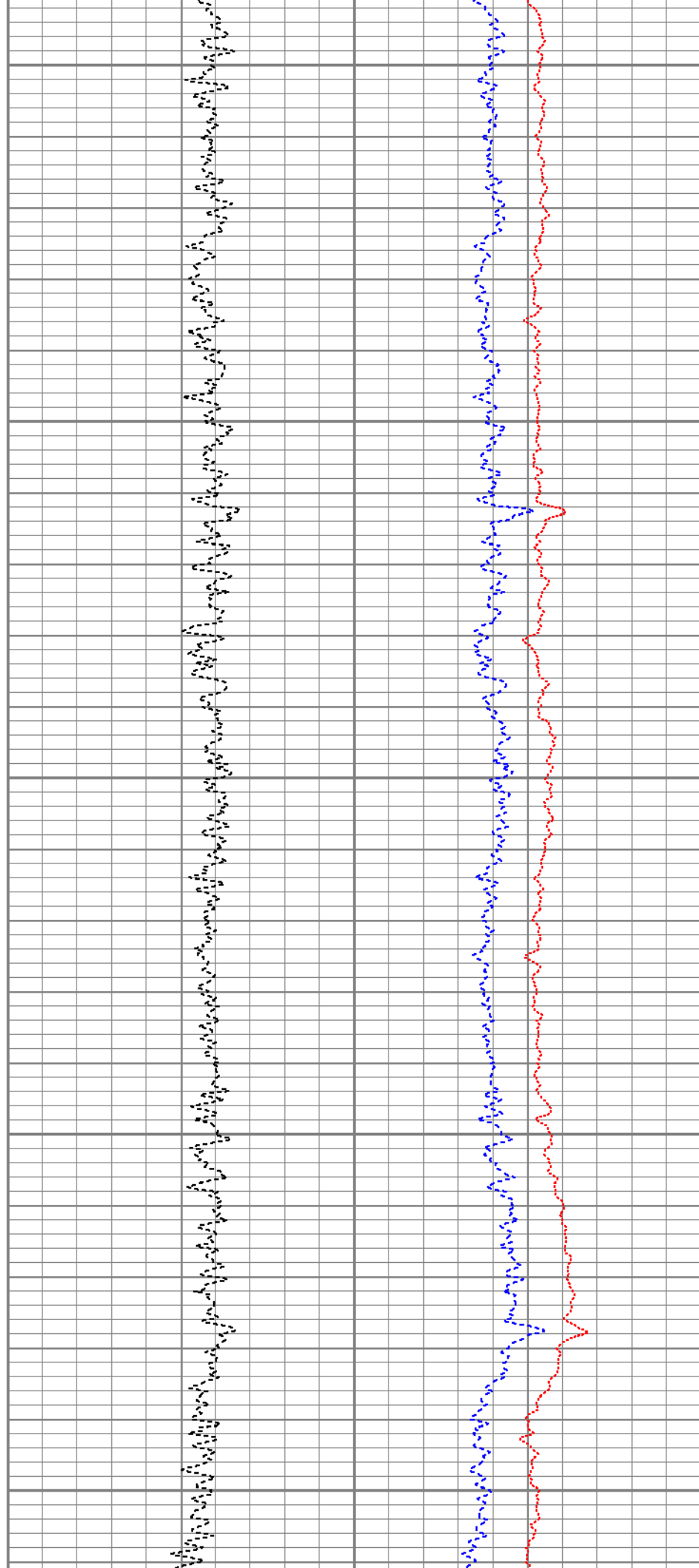
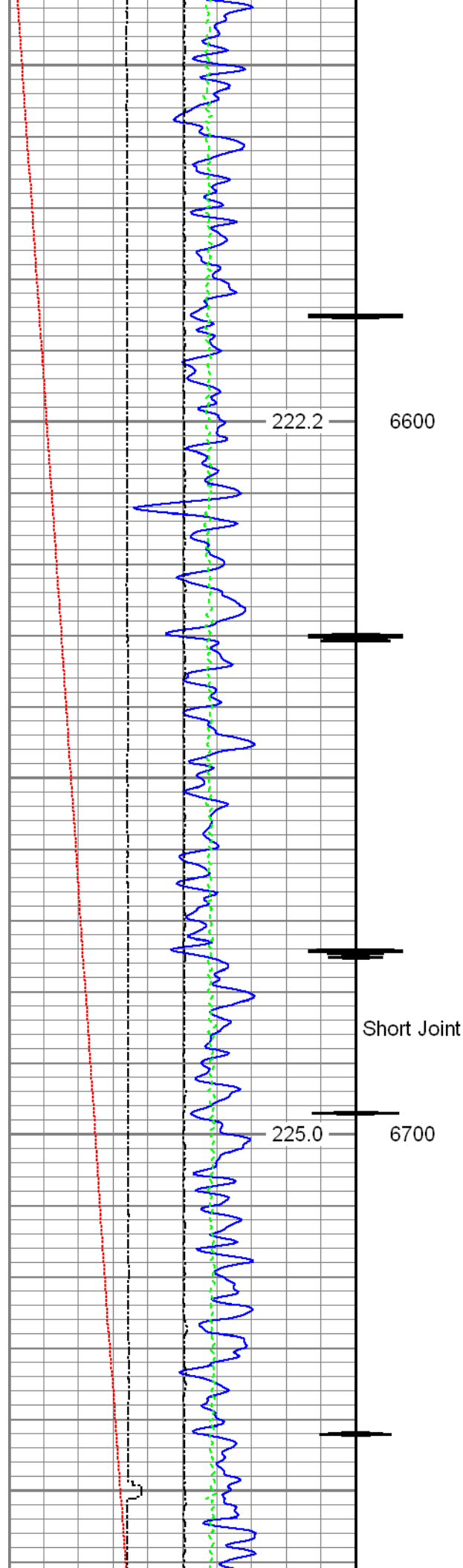


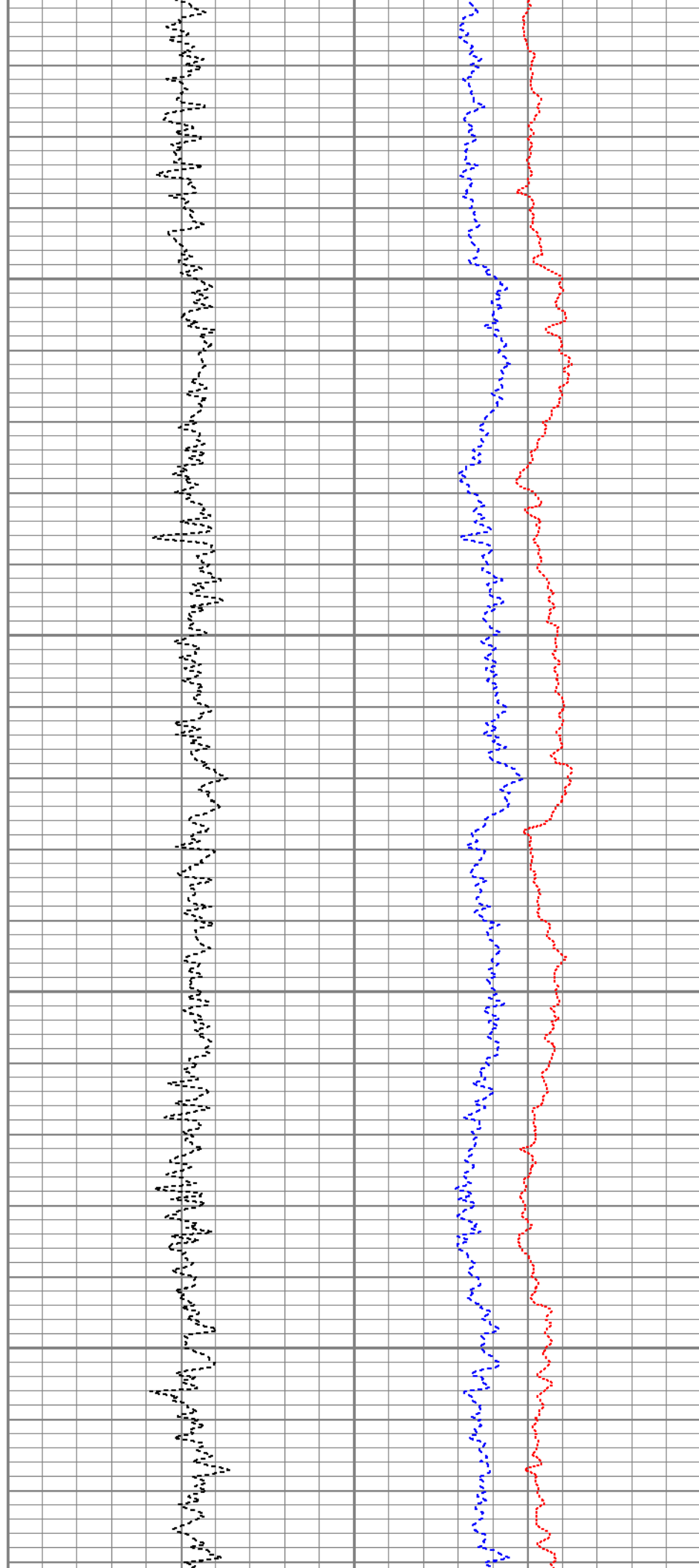
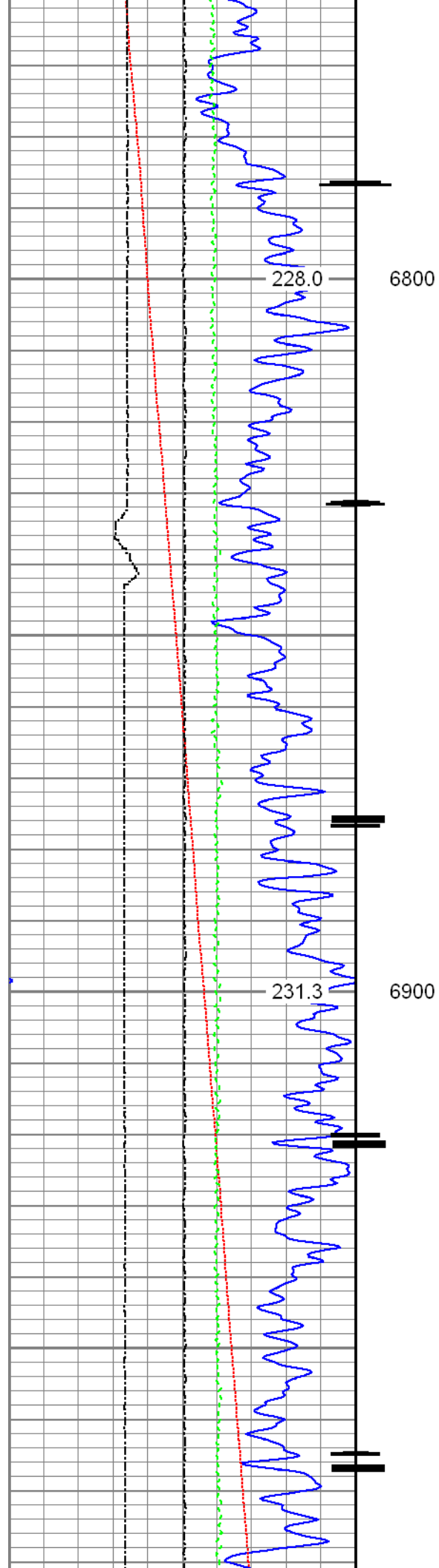


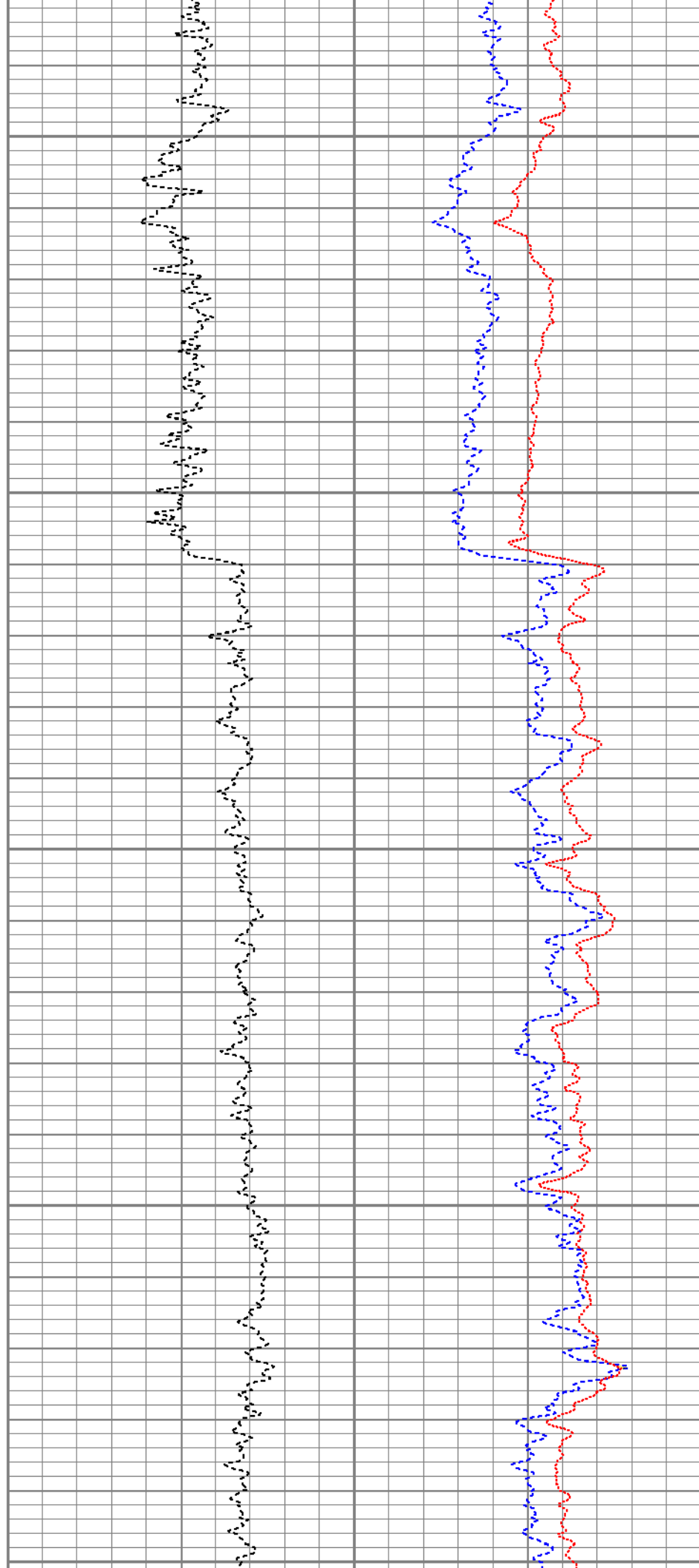
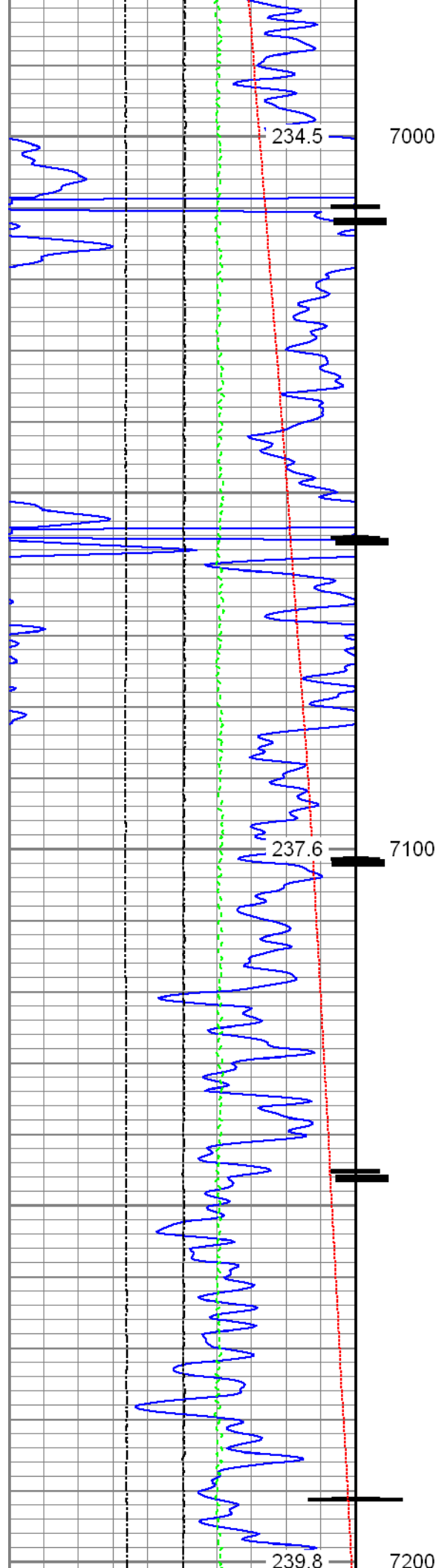


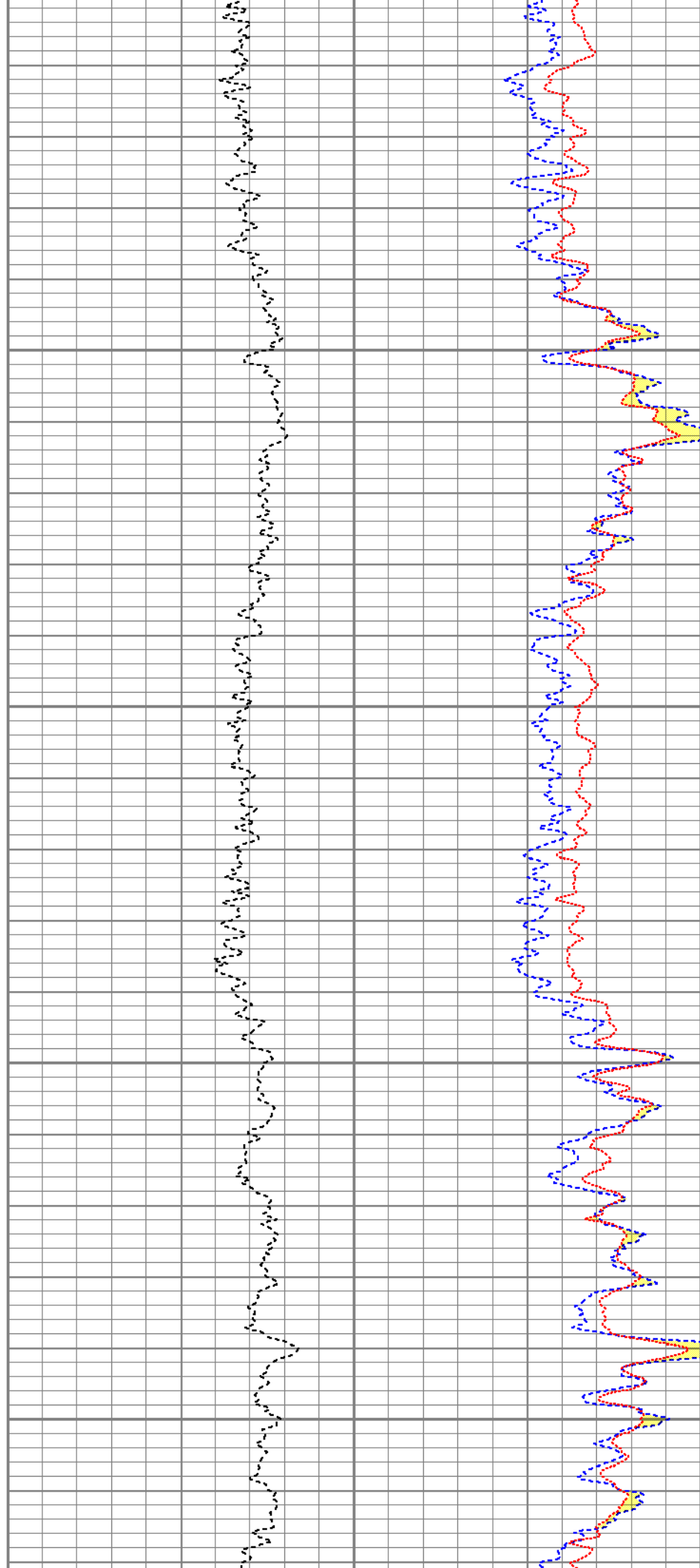
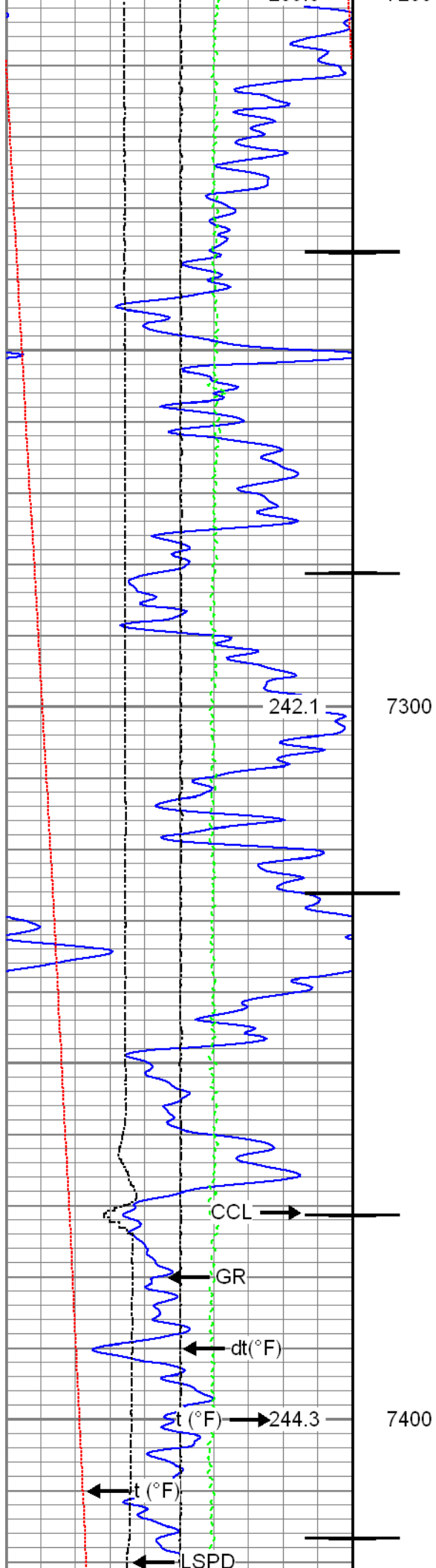


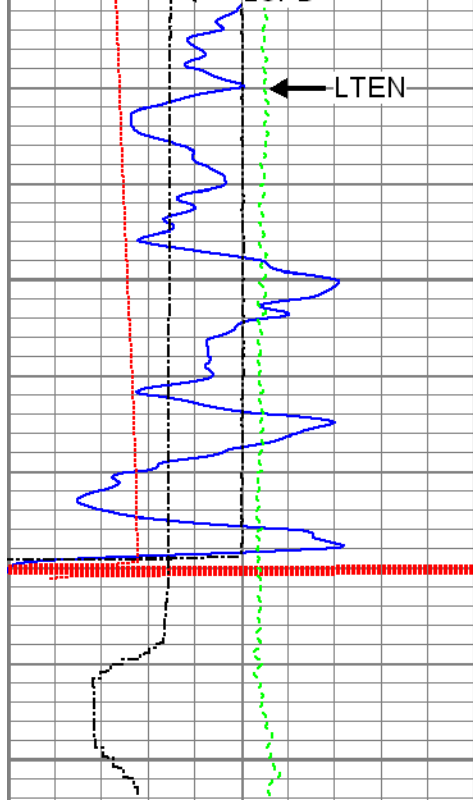






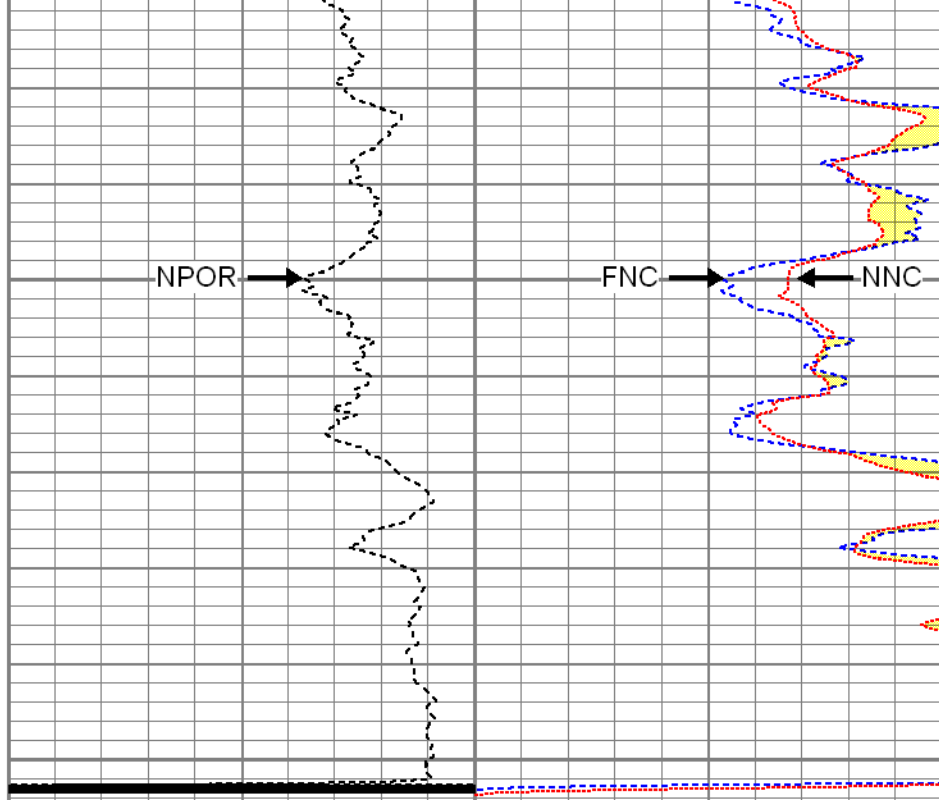






0	Gamma Ray (GAPI)	120
Casing Collar Locator		
0	Temperature (degF)	20
-100	Line Speed (ft/min)	100
0	Line Tension (lb)	2000
-2	Differential Temperature (degF)	2

7500



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



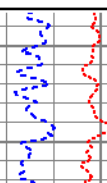
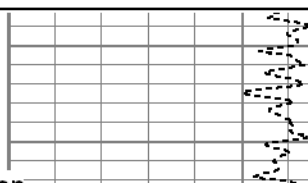
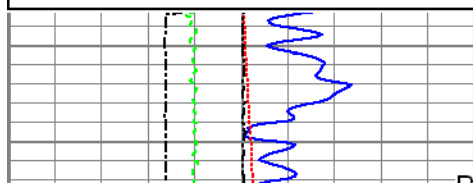
Repeat Section

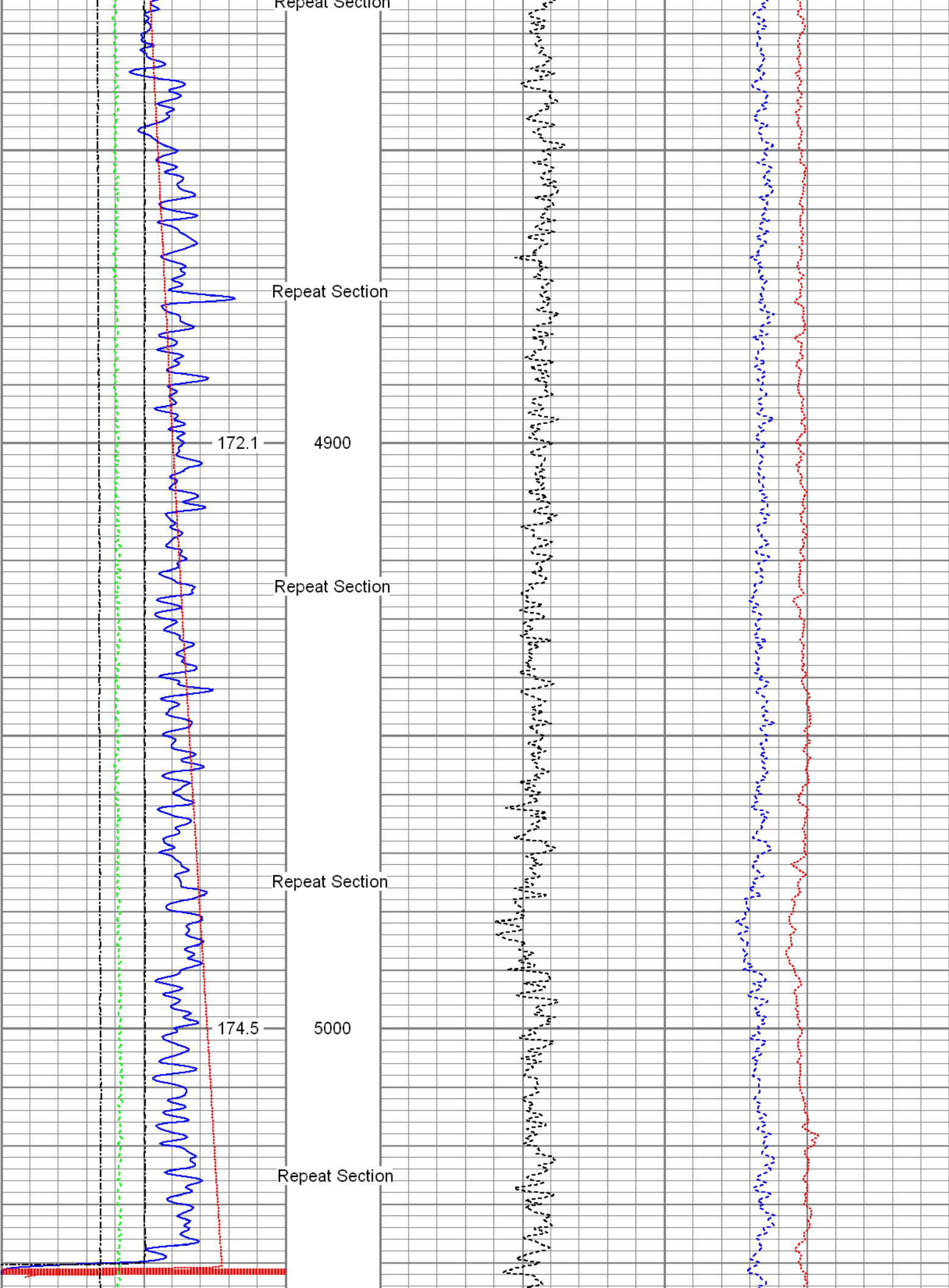
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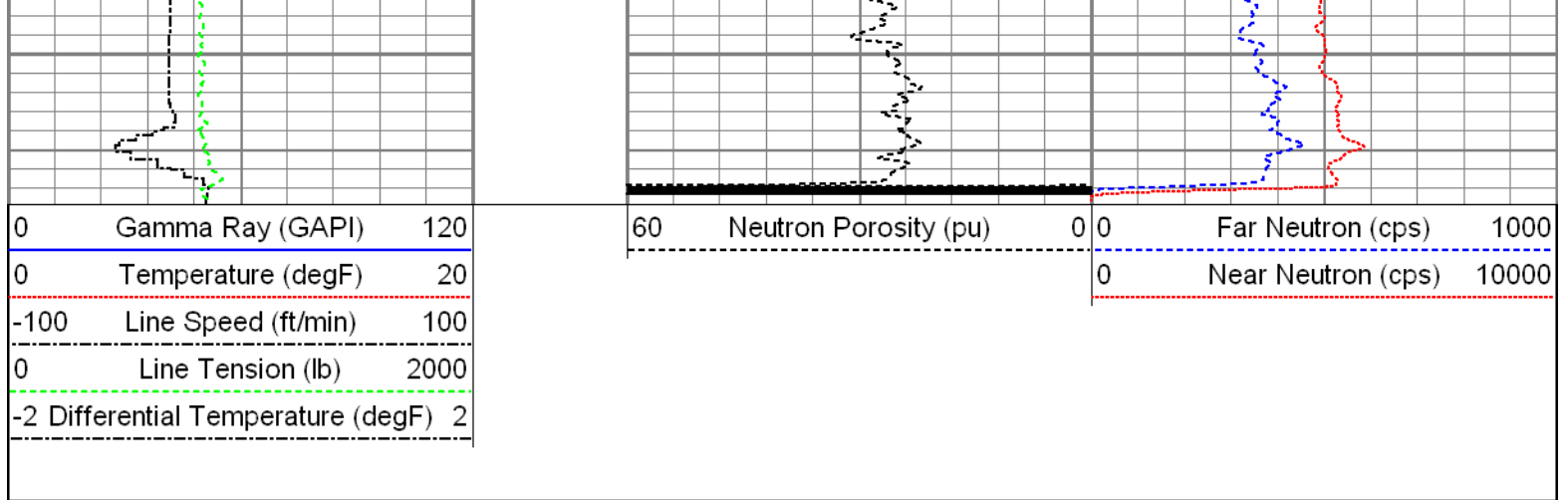
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 Presentation Format: cnl
 Dataset Creation: Wed Nov 18 09:54:04 2015 by Log 7.0 B1
 Charted by: Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	120
0	Temperature (degF)	20
-100	Line Speed (ft/min)	100
0	Line Tension (lb)	2000
-2	Differential Temperature (degF)	2

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







Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	25.20		T_CH14375_1_GO Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.44	4.00
TEMP	23.80		UW_AGS-UW_AGS_001 (215017) Sondex Adapter - GO Box to Sondex Pin	0.21	1.69	1.00
CCL	22.56		UW_XTU-UW_XTU_002 (218874) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			UW_PGR-UW_PGR_020 (10013899) Production Gamma Ray	1.93	1.69	9.50
			UW_PRT-UW_PRT_016 (10025095) Platinum Resistance Thermometer	1.04	1.69	5.20
			UW_CCL-UW_CCL_028 (10009470) Ultrawire 3-1/8" CCL	1.61	3.13	36.00
			UW_PRC-UW_PRC_057 (1037) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
WVF3FT	14.72					
WVFS1	14.72		UW_RBT-UW_RBT_004 (10013454) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.47	3.13	140.00
WVFS2	14.72					
WVFS3	14.72					
WVFS4	14.72					
WVFS5	14.72					
WVFS6	14.72					
WVFS7	14.72					
WVFS8	14.72					
CBLTEMP	14.72					
CBLROT	14.72					
WVF5FT	13.72		UW_PRC-UW_PRC_057 (1101) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00

	</					

Calibration Report Database File: C:\Warrior\Data\0512342019_Anadarko_Powers 28C-34HZ_11-18-15_RBL_CNL\0512342019_Anada Dataset Pathname: merge1 Dataset Creation: Wed Nov 18 14:51:43 2015			
Compensated Neutron Calibration Report			
Serial Number: 1005 Tool Model: 007			
Master Calibration		Tue Jun 03 09:29:29 2014	
Detector		Readings	
Short Space		240.87	cps
Long Space		303.55	cps
Ratio		Measured 0.8150	Reference Sleeve: 1.0000
CNRAT Gain K		1.0271	
Before Survey			
Detector		Readings	
Short Space			cps
Long Space			cps
Ratio		Measured	Reference
After Survey			
Detector		Readings	
Short Space			cps
Long Space			cps
Ratio		Measured	Reference

Segmented Cement Bond Log Calibration Report			
Serial Number: 10013454 Tool Model: UW_RBT_004			
Calibration Casing Diameter:		9.625	in

Calibration Casing Diameter: 9.025 in
Calibration Depth: 814.297 ft

Master Calibration, performed Wed Nov 18 09:39:55 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.001	0.577	0.800	51.280	87.604	0.693
5FT	-0.002	0.641	0.800	51.280	78.445	0.966
S1	0.002	0.590	0.000	100.000	170.235	-0.424
S2	0.001	0.595	0.000	100.000	168.539	-0.222
S3	0.001	0.577	0.000	100.000	173.615	-0.212
S4	-0.001	0.575	0.000	100.000	173.556	0.176
S5	-0.000	0.570	0.000	100.000	175.489	0.004
S6	0.000	0.567	0.000	100.000	176.411	-0.015
S7	0.002	0.565	0.000	100.000	177.670	-0.297
S8	0.000	0.578	0.000	100.000	173.167	-0.057

Temperature Calibration Report

Serial Number: 10025095
Tool Model: UW_PRT_016
Performed: Wed Feb 11 13:43:20 2015

Point #	Reading	Reference
1	12798.00 cps	68.00 degF
2	18136.00 cps	104.00 degF
3	29513.00 cps	176.00 degF
4	40905.00 cps	248.00 degF
5	52487.00 cps	320.00 degF
6	58362.00 cps	356.00 degF
7	cps	degF
8	cps	degF
9	cps	degF
10	cps	degF

Gamma Ray Calibration Report

Serial Number: 10013899
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 Powers 28C-34HZ
Field Wattenberg
County Weld
State Colorado