



Compensated Neutron
Gamma Ray
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.

Well Land 15C-32HZ

Field Wattenberg

County Weld

State Colorado

Location: API #: 05-123-42304

SEC 32 TWP 2N RGE 66W

Permanent Datum Ground Level Elevation 4913'

Log Measured From Kelly Bushing

20 FT

Drilling Measured From Kelly Bushing

Elevation

K.B. 4933'
D.F. 4932'
G.L. 4913'

Date 03-SEP-2016

Run Number Two

Depth Driller 13084 FT

Depth Logger 7853 FT

Bottom Logged Interval 7852 FT

Top Log Interval Surface

Open Hole Size 7.875"

Type Fluid Water

Density / Viscosity 8.34 lbm/gal

Max. Recorded Temp. 243°F

Estimated Cement Top 62 FT

Time Well Ready ROA

Time Logger on Bottom 09:00

Equipment Number HD-0325

Location Fort Lupton, CO

Recorded By Sam Hopper

Witnessed By Noe Pulido

Borehole Record

Run Number Bit From To

Size

Weight

From To

Size

Weight

From To

Tubing Record

Run Number Bit From To

Size

Weight

From To

Size

Weight

From To

Casing Record

Run Number Bit From To

Size

Weight

From To

Size

Weight

From To

Other Services

Run Number Bit From To

Size

Weight

From To

Size

Weight

From To

<<< Fold Here >>>

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 Top at 7015 FT
Adjusted +11 FT to correlate with Marker Joint
Gauge Ring/Junk Basket ran to 7843 FT with no debris
Log ran from as deep as possible in heel to surface
Log ran with 2800 PSI surface induced pressure
Logging tools were clean and free of any debris upon completion of operations

Thank you for choosing Reliance Oilfield Services, LLC!!

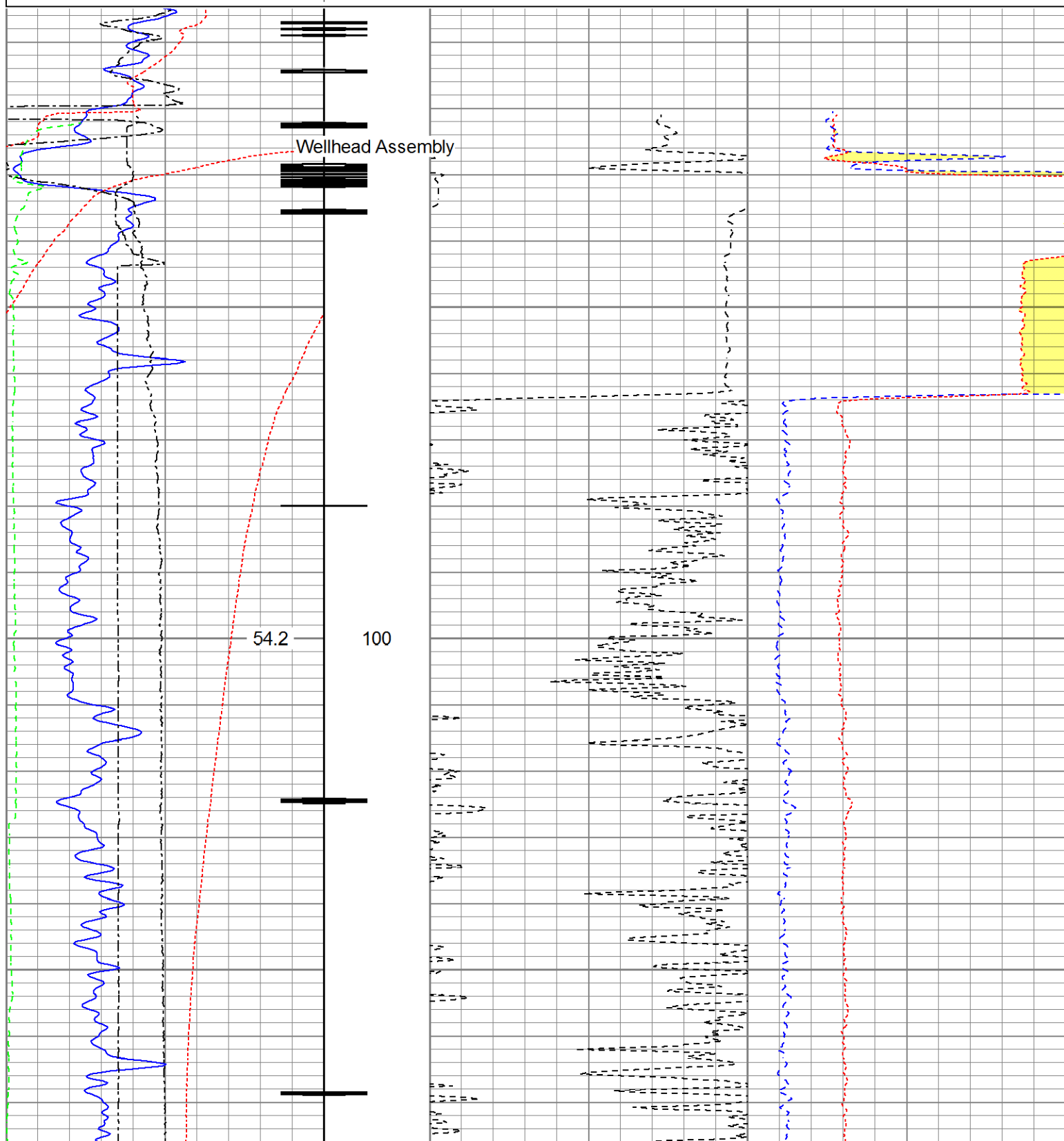


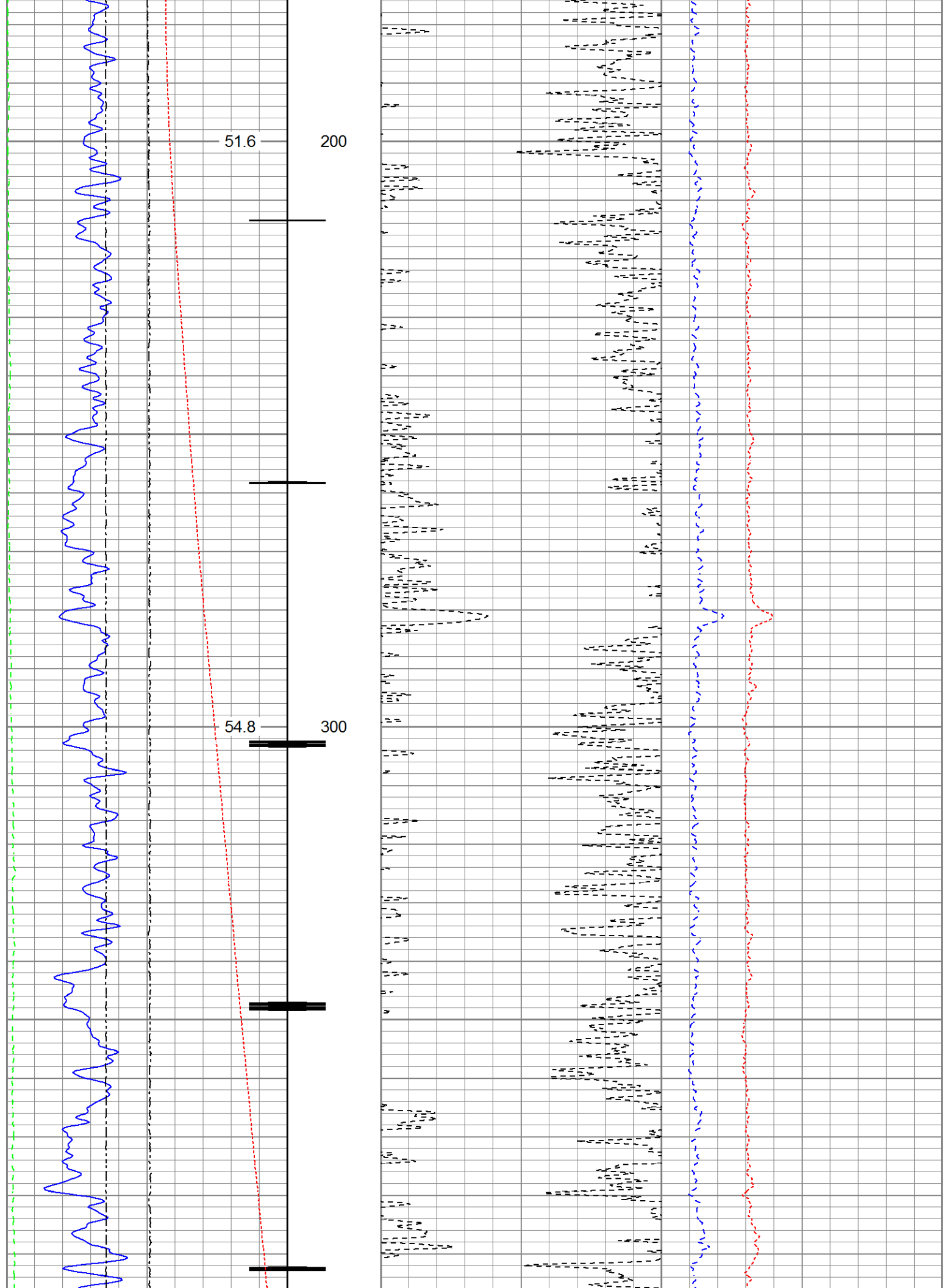
Main Pass

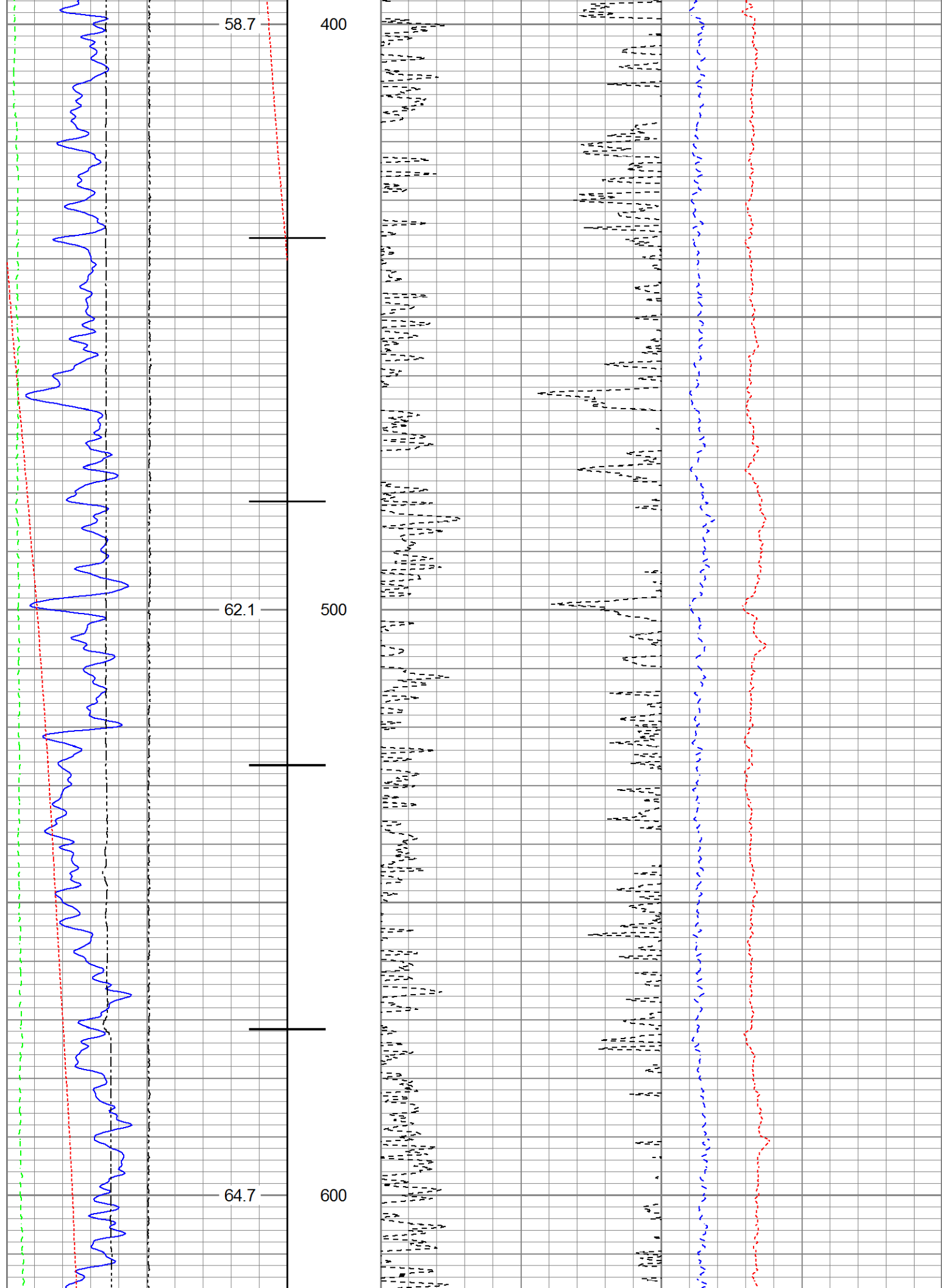
Recorded With 2800 PSI Surface Induced Pressure

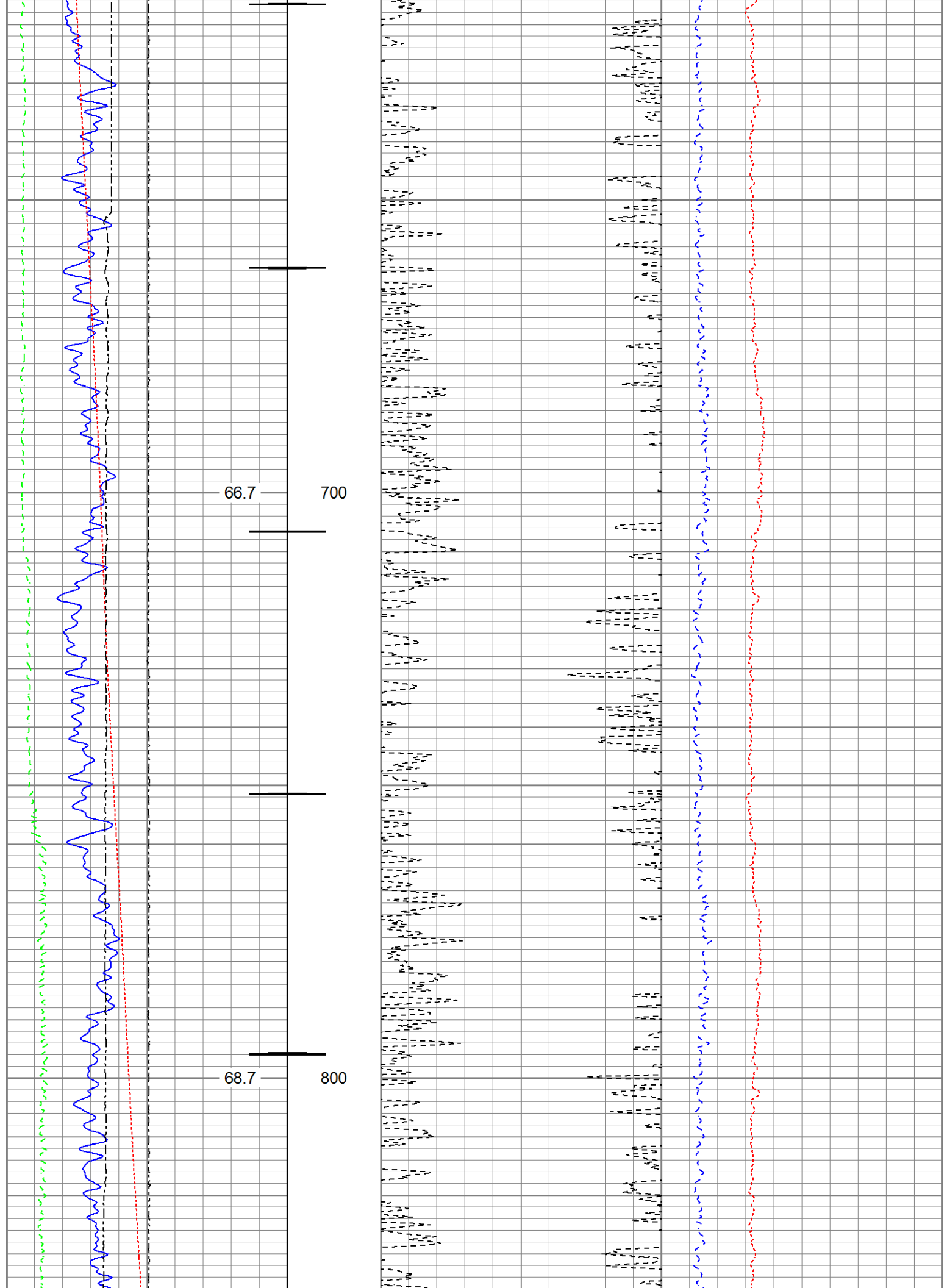
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Presentation Format ros_cnl_sx
Dataset Creation Sat Sep 03 13:24:17 2016
Charted by Depth in Feet scaled 1:240

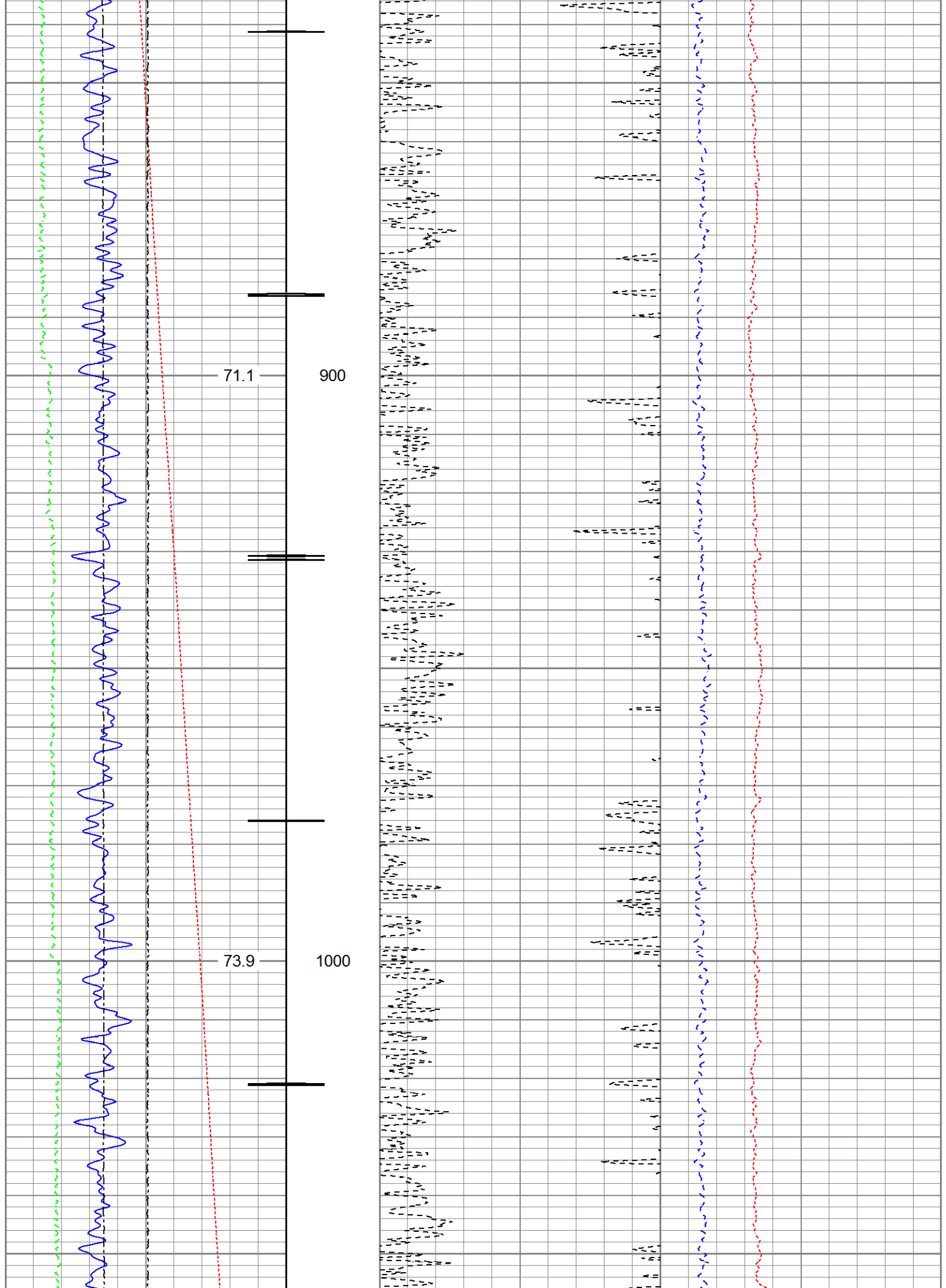
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Casing Collar Locator						0	Near Neutron (cps)	10000
0	Temperature (degF)	20						
-100	Line Speed (ft/min)	100						
0	Line Tension (lb)	2000						
-2	Differential Temperature (degF)	2						

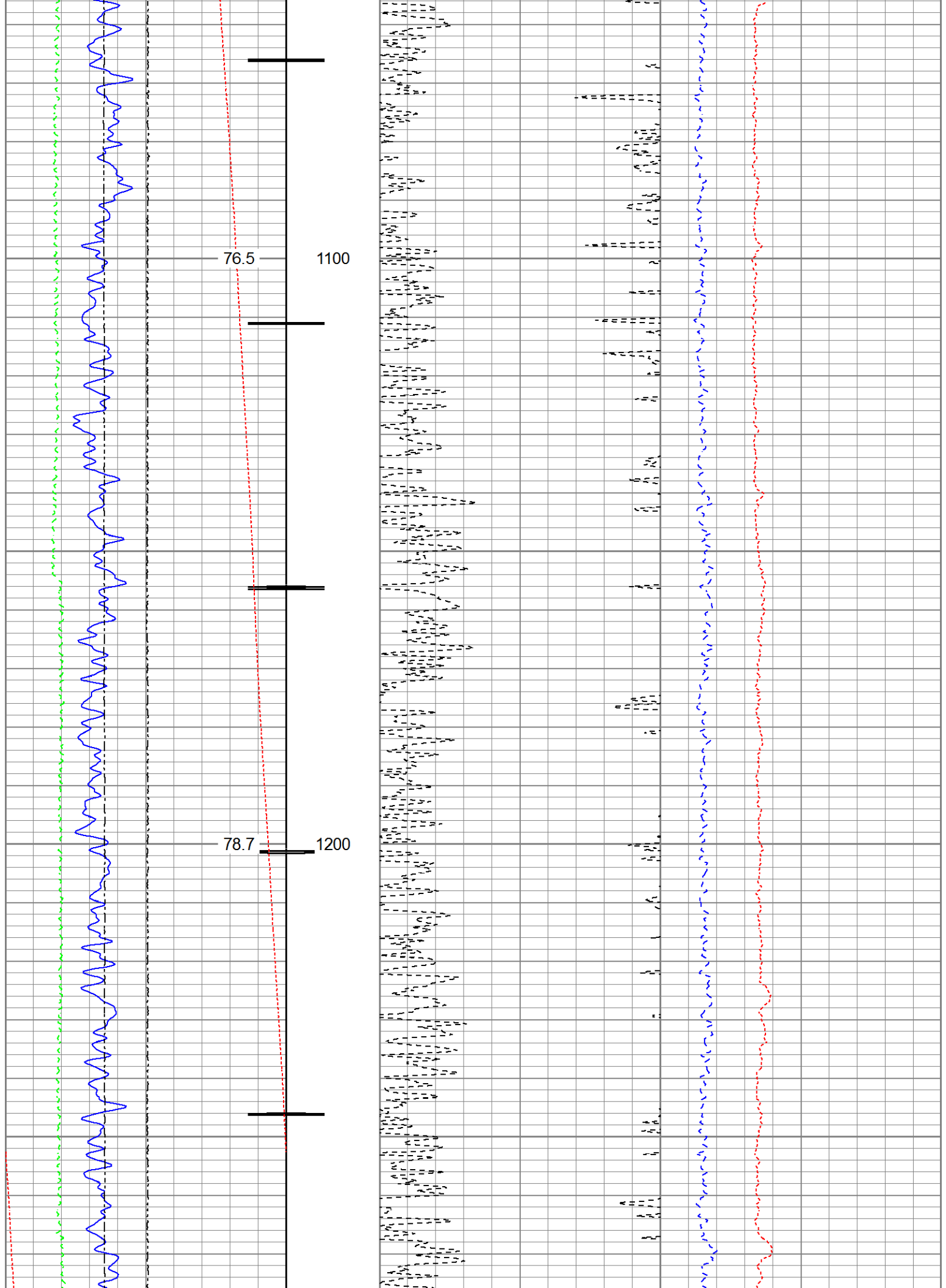


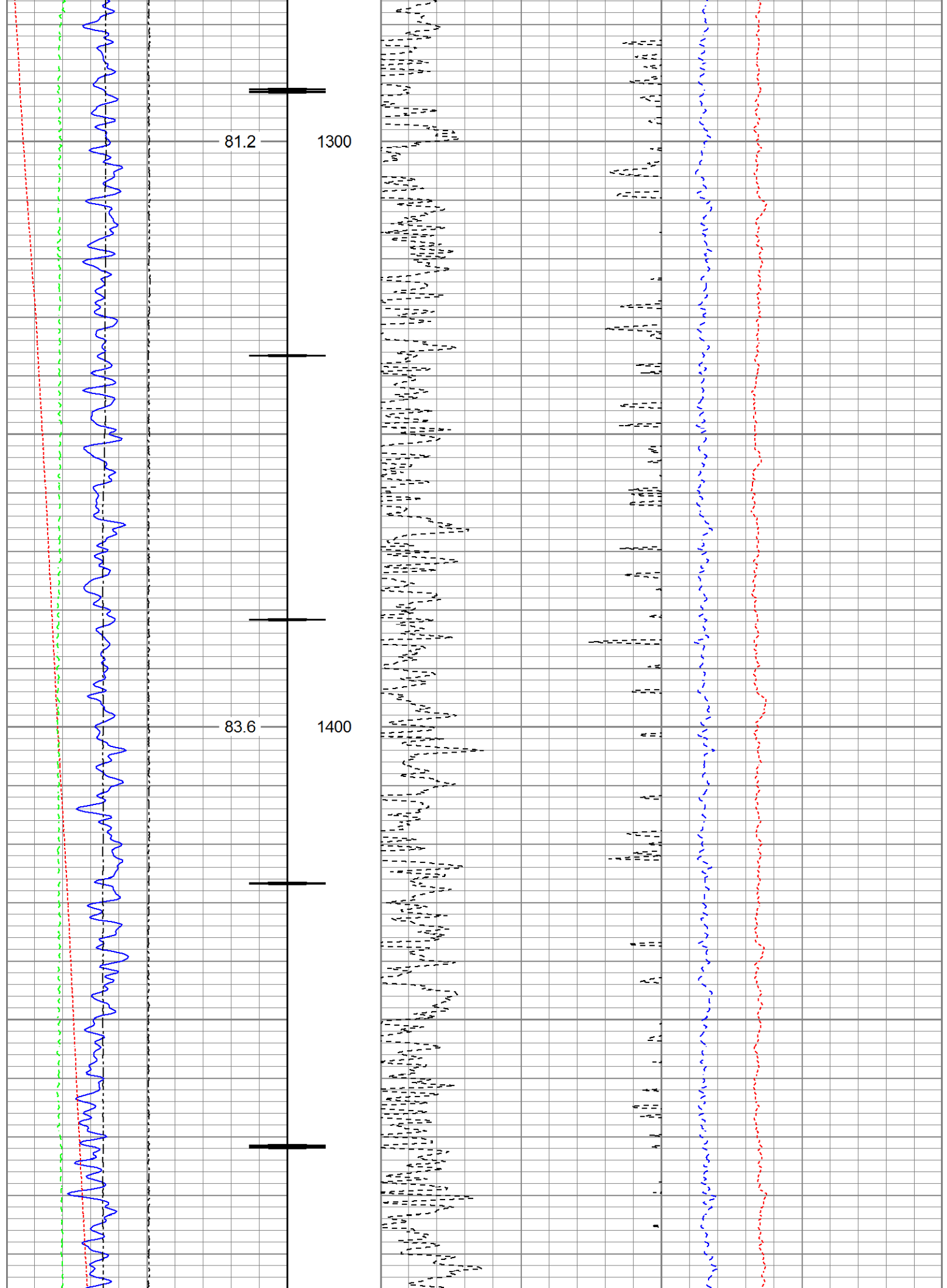


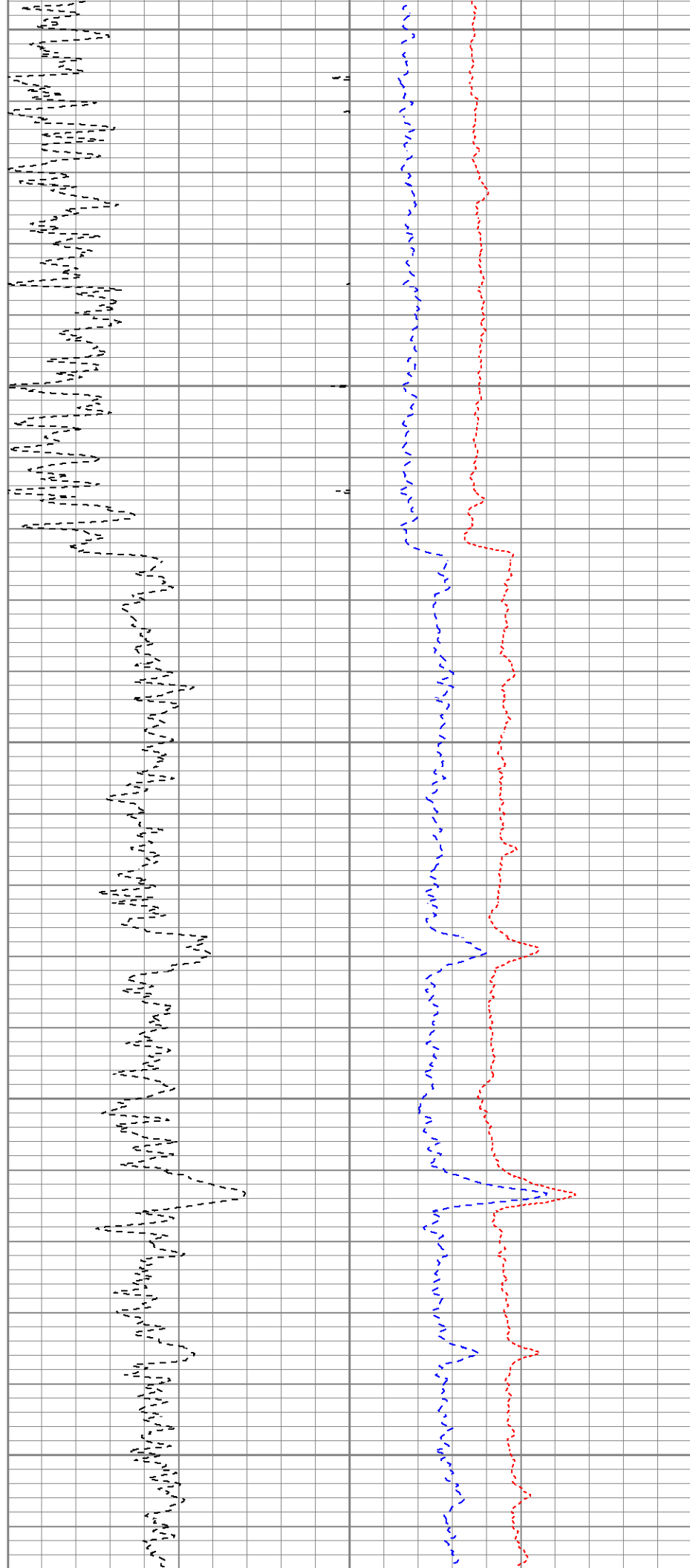
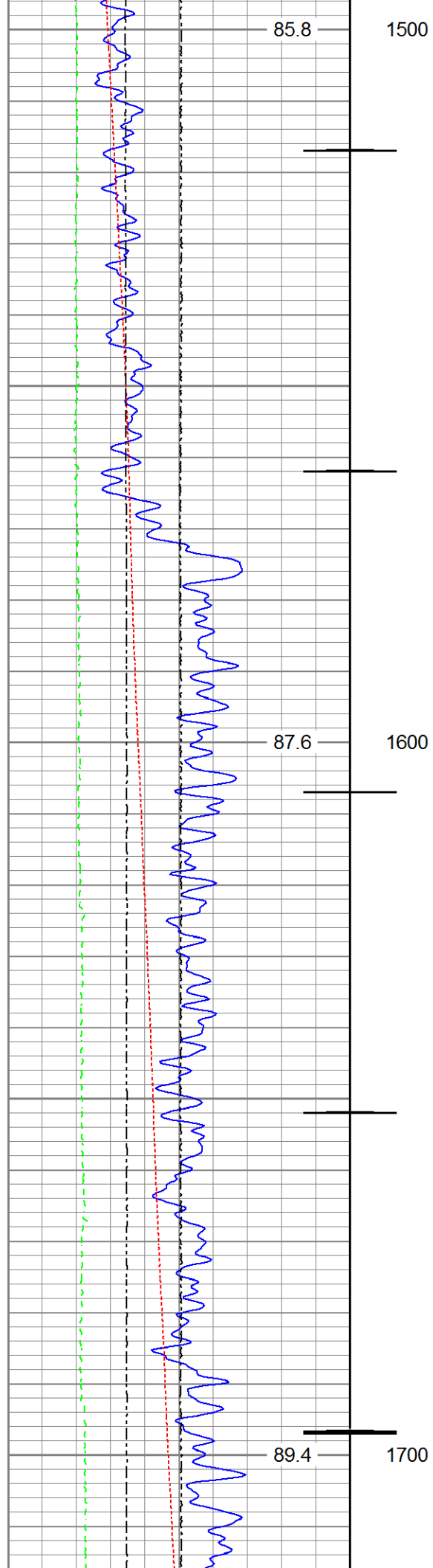


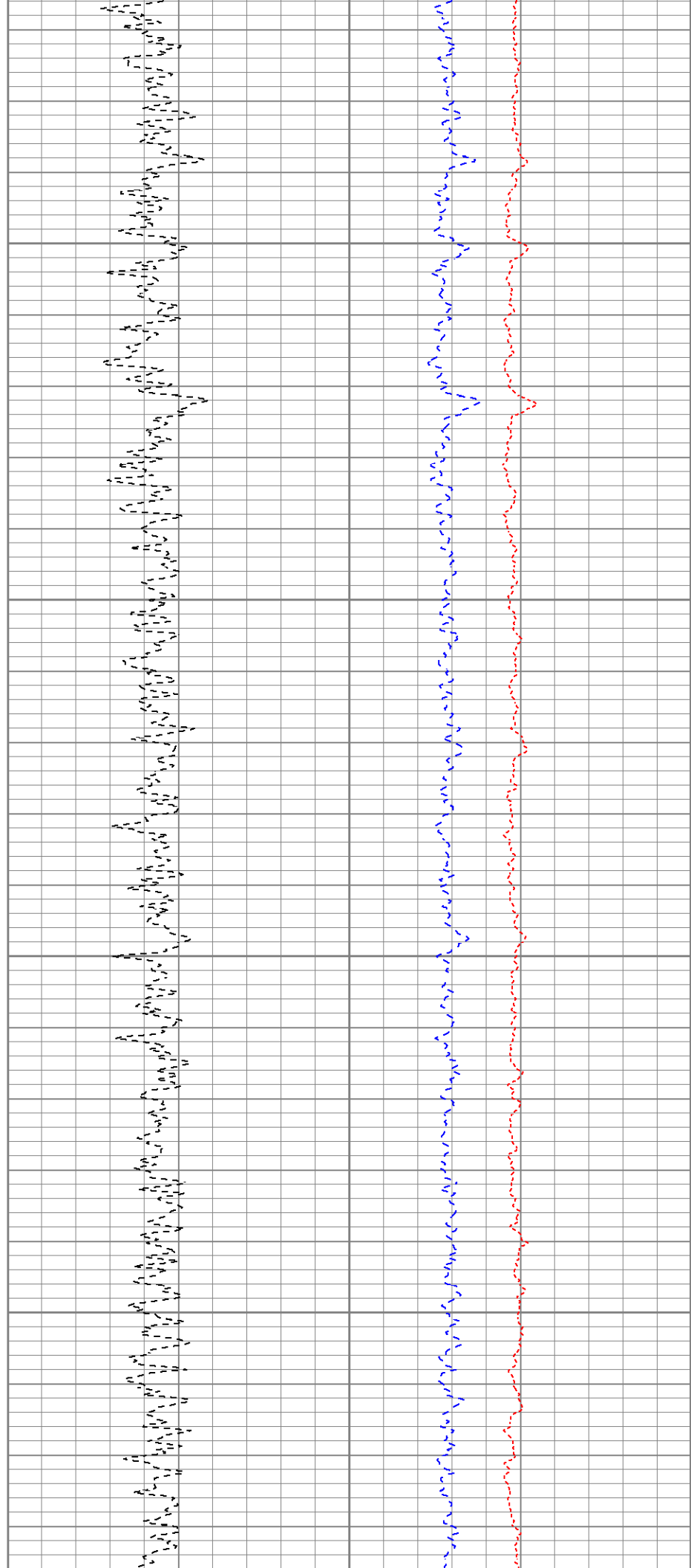
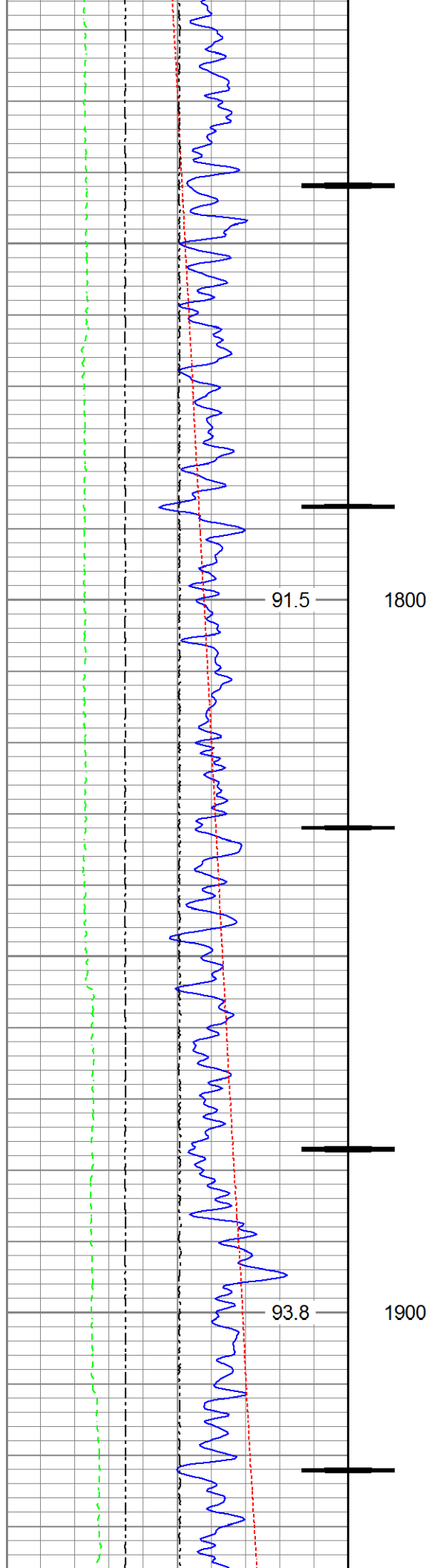


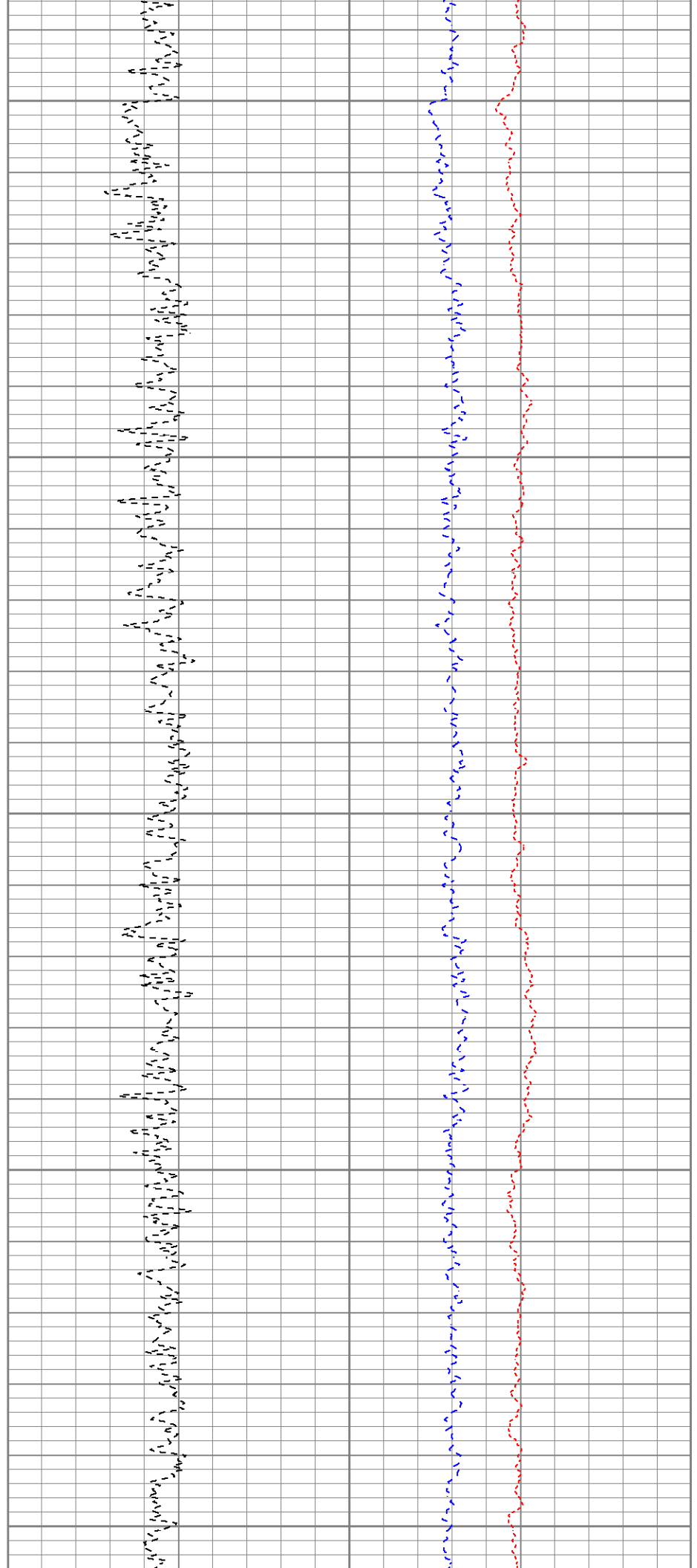
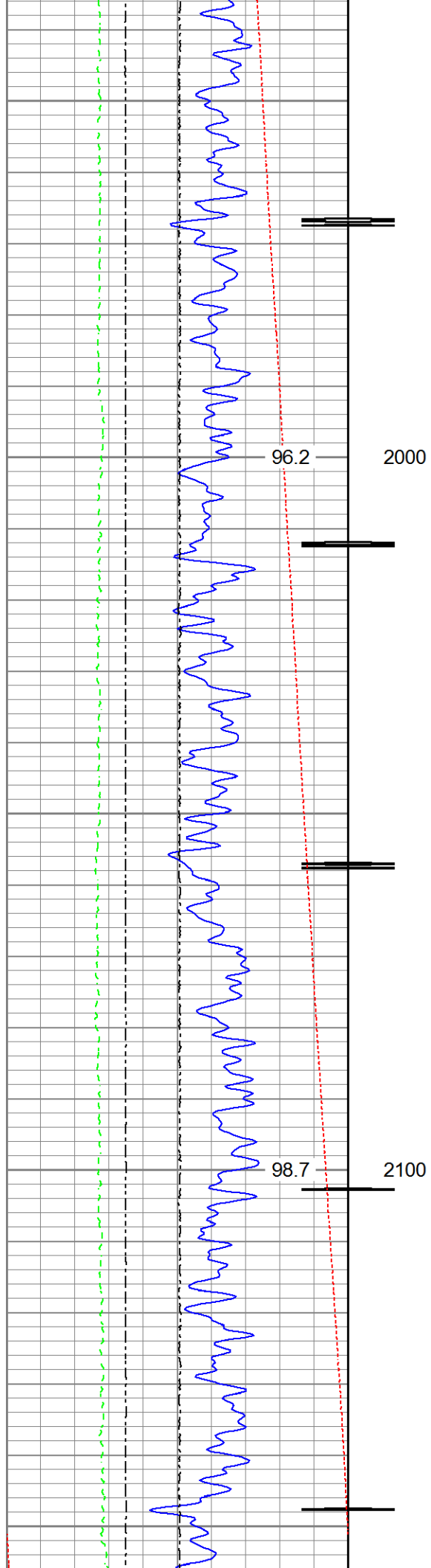


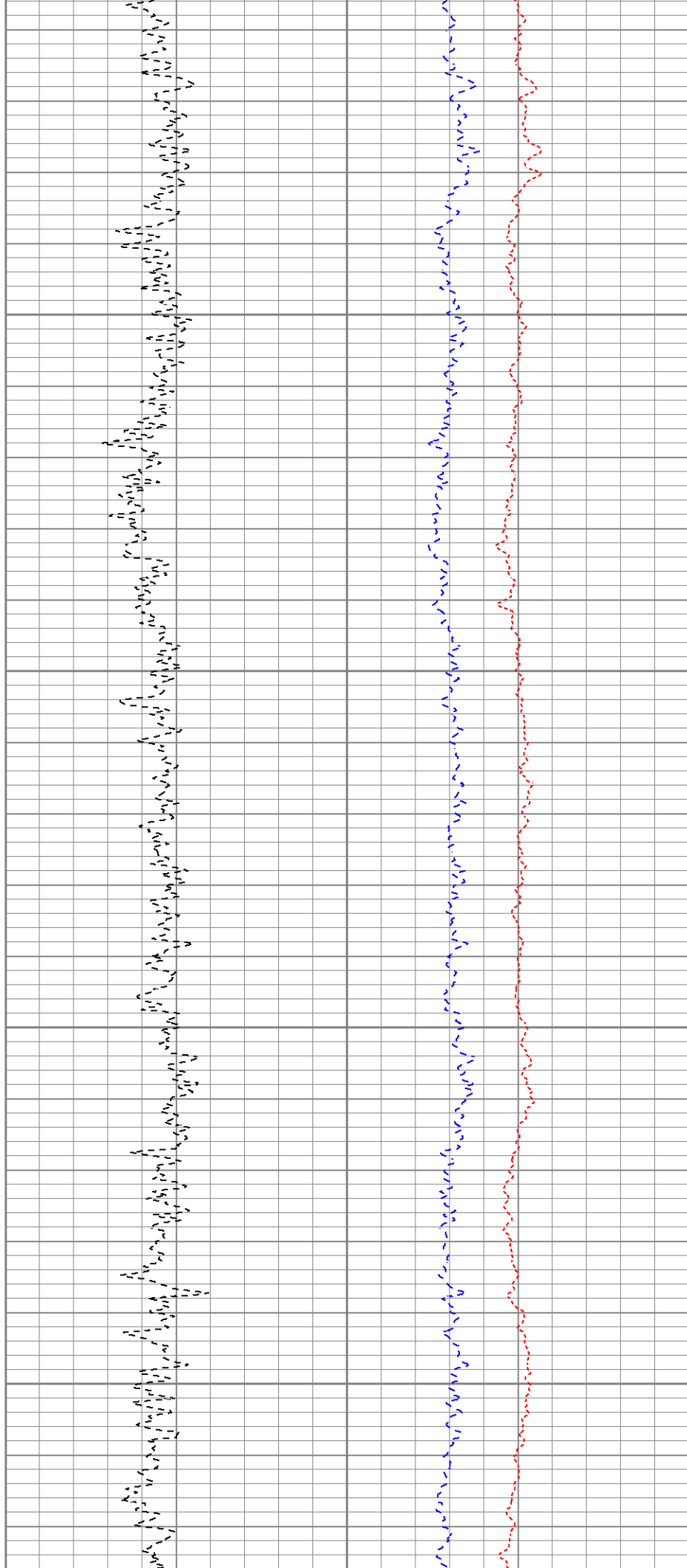
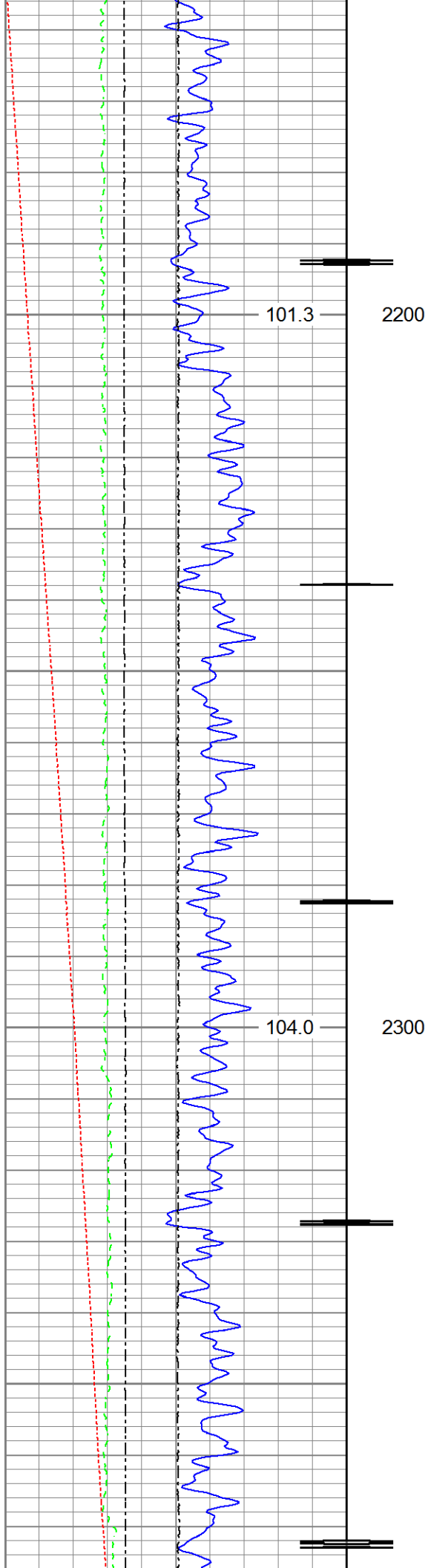


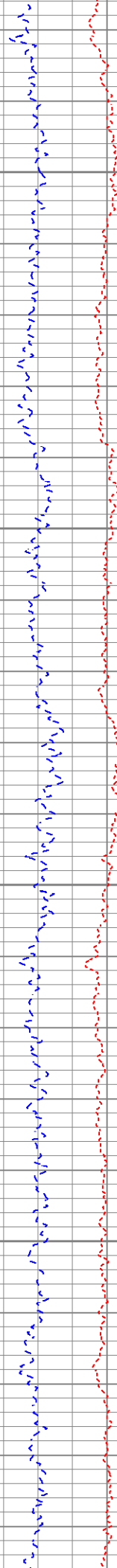
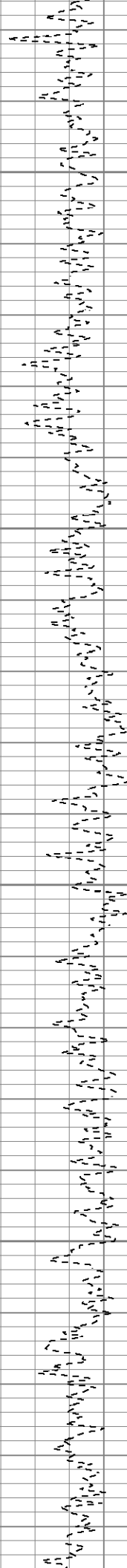
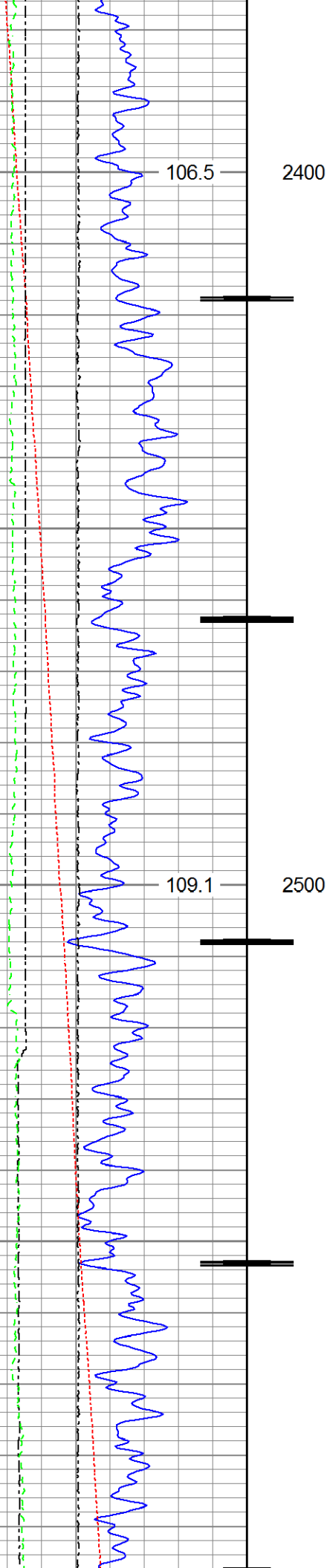


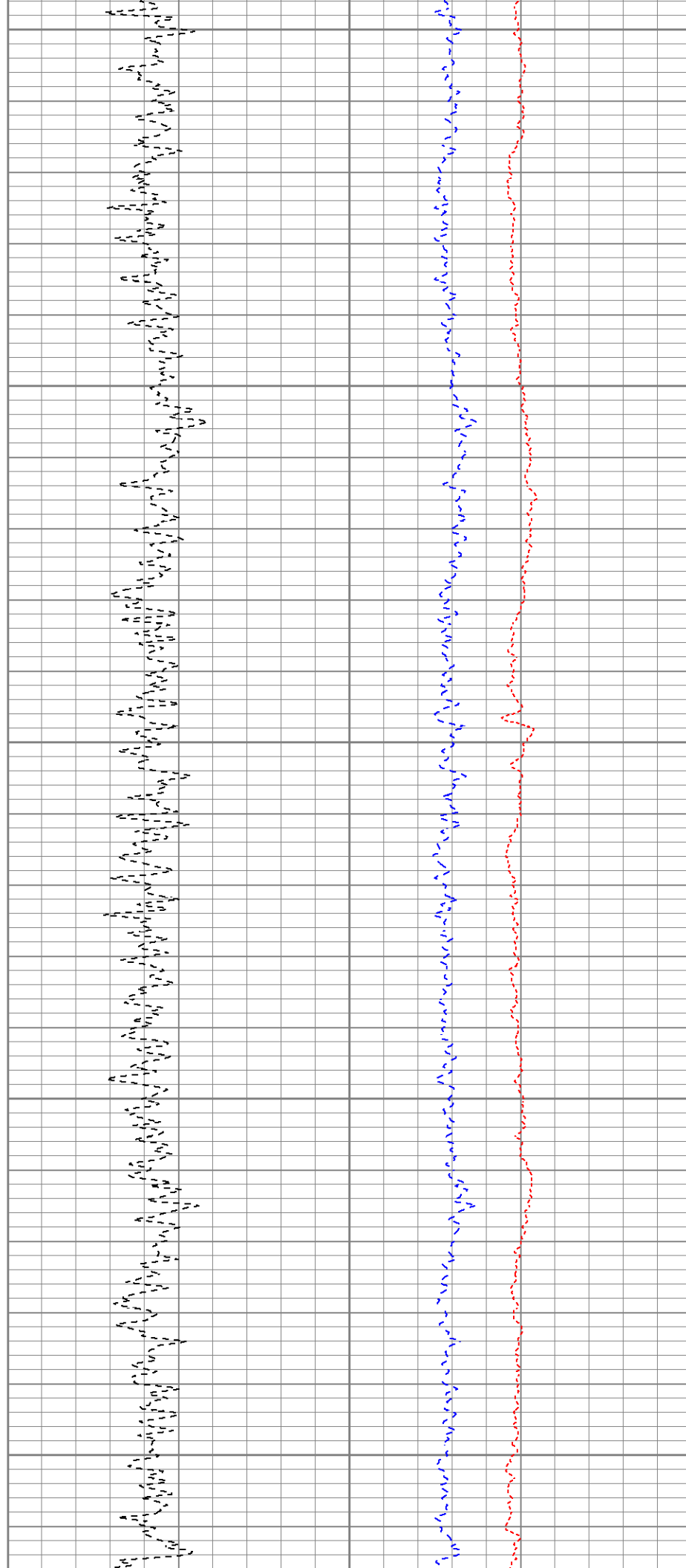
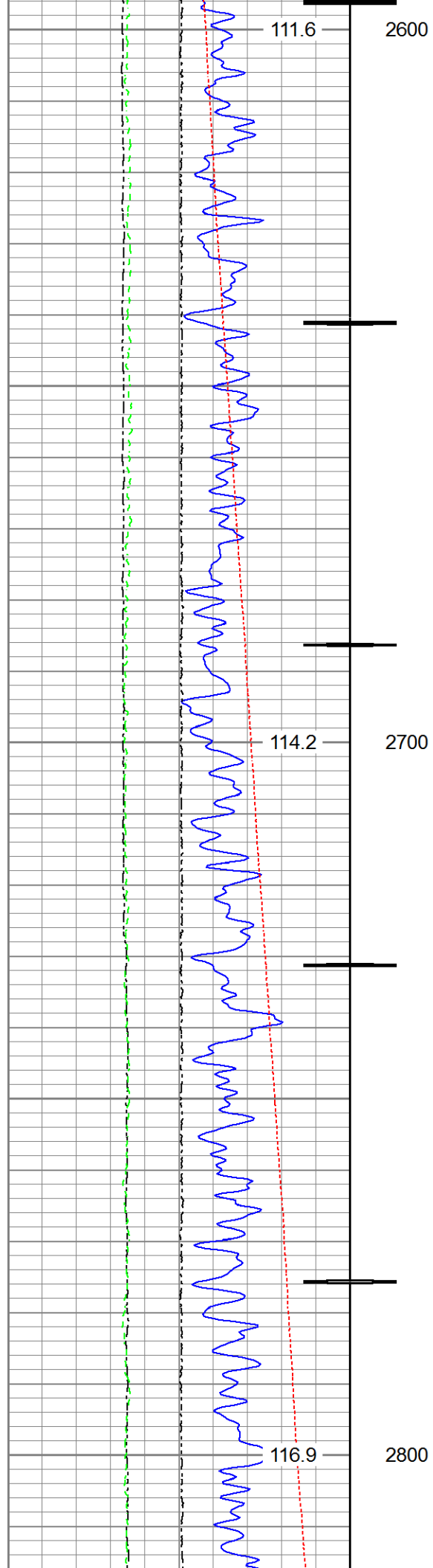


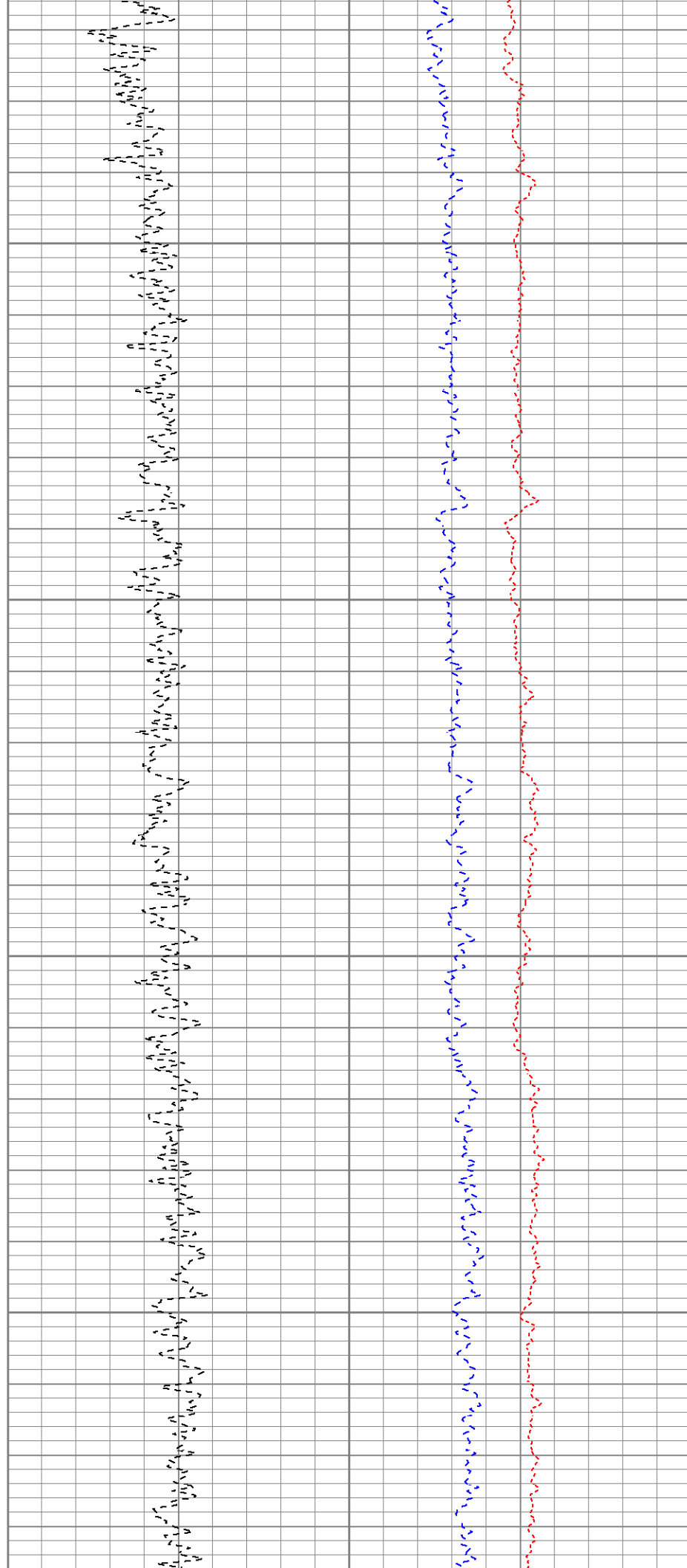
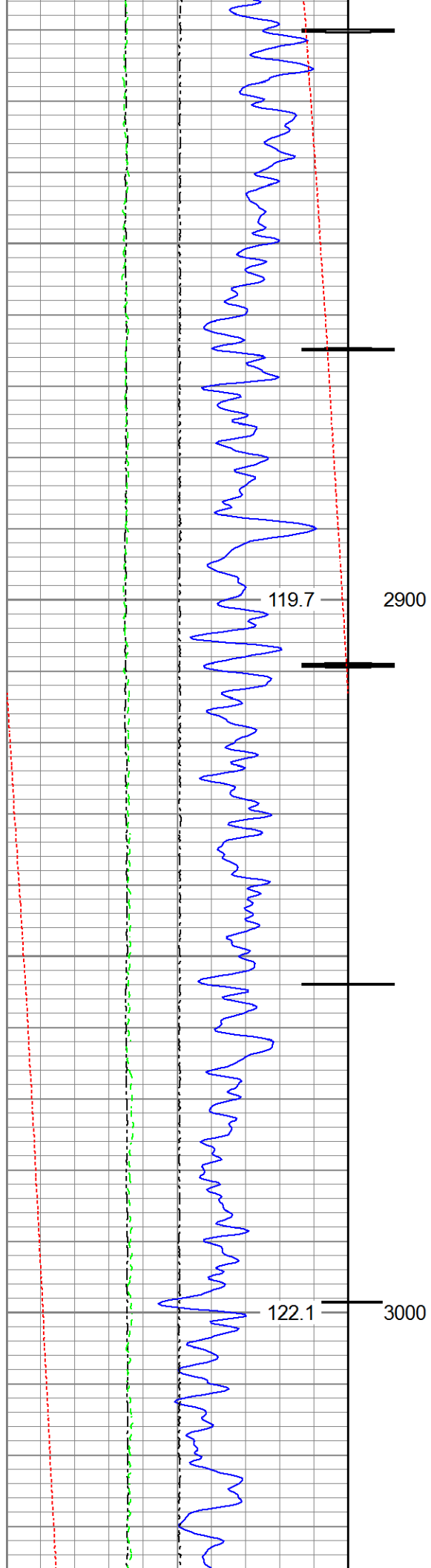


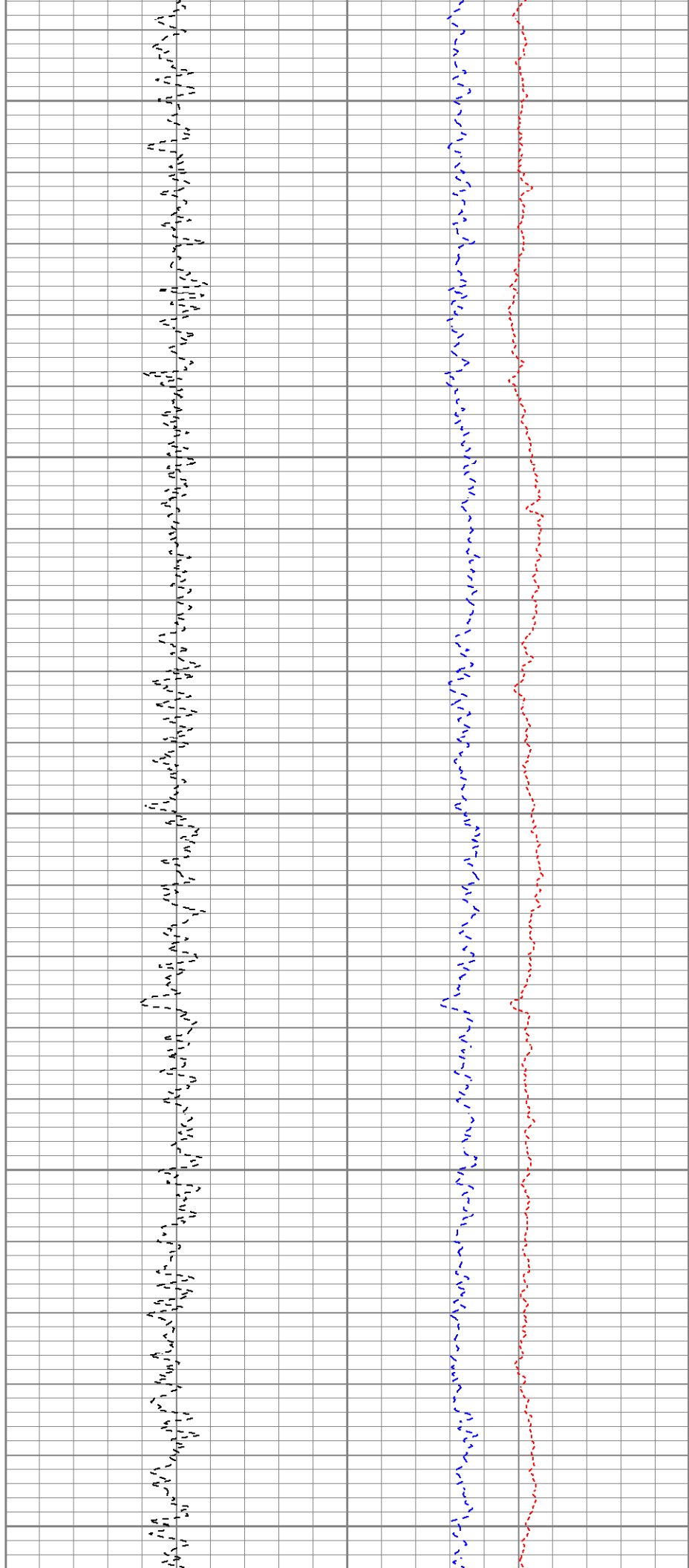
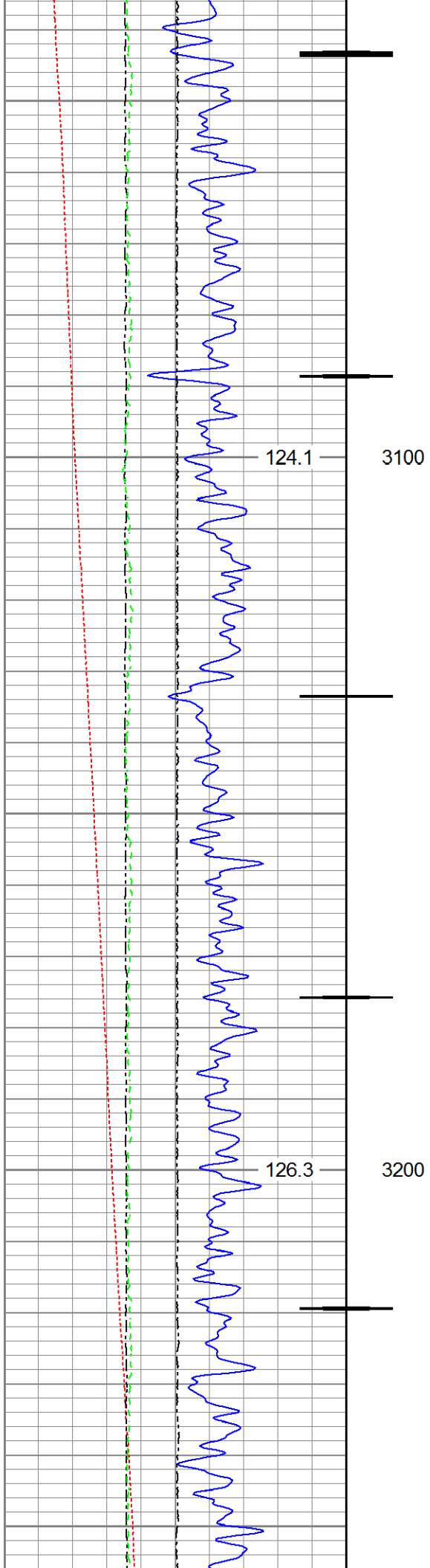


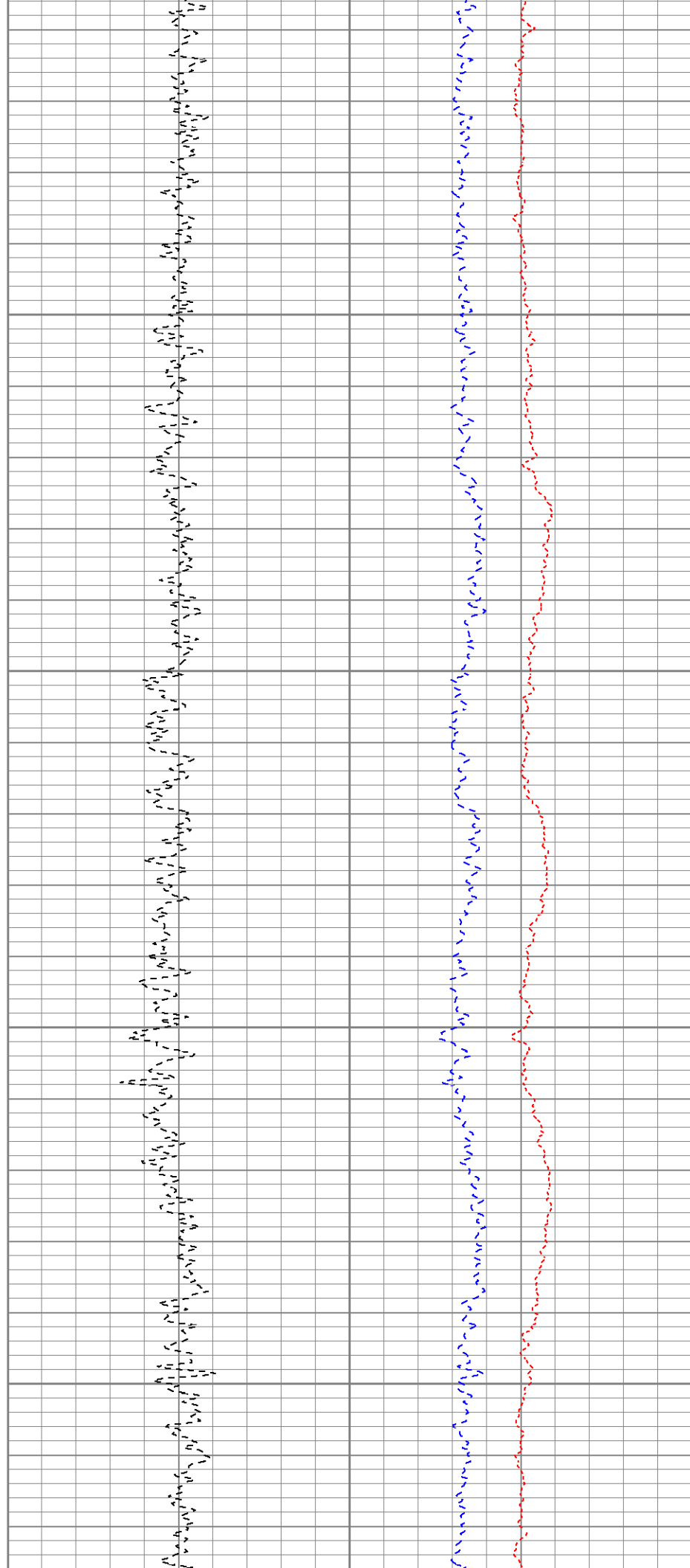
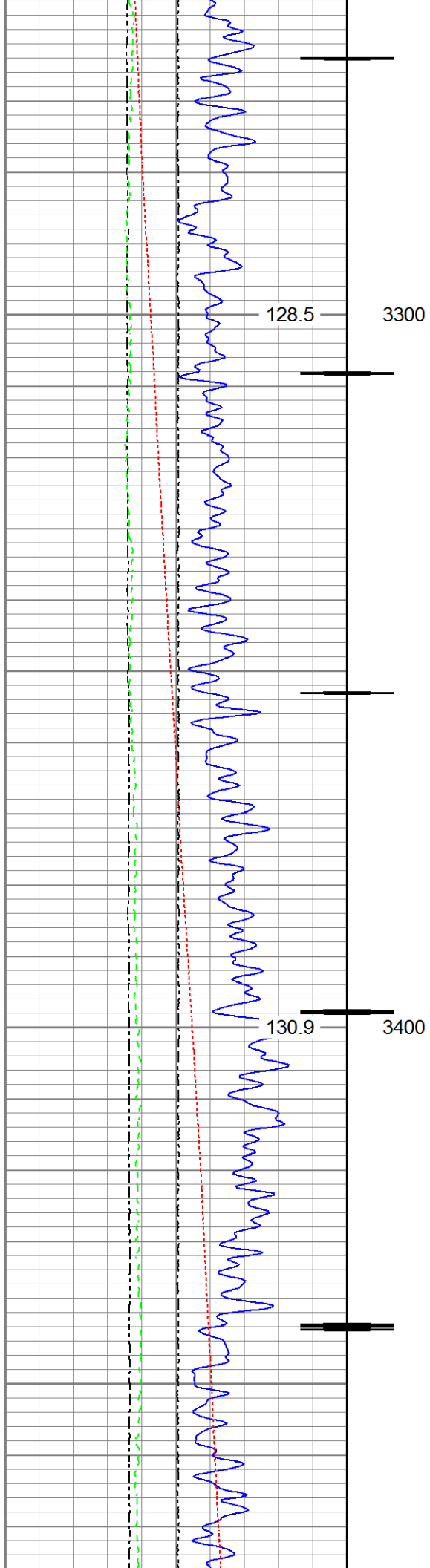


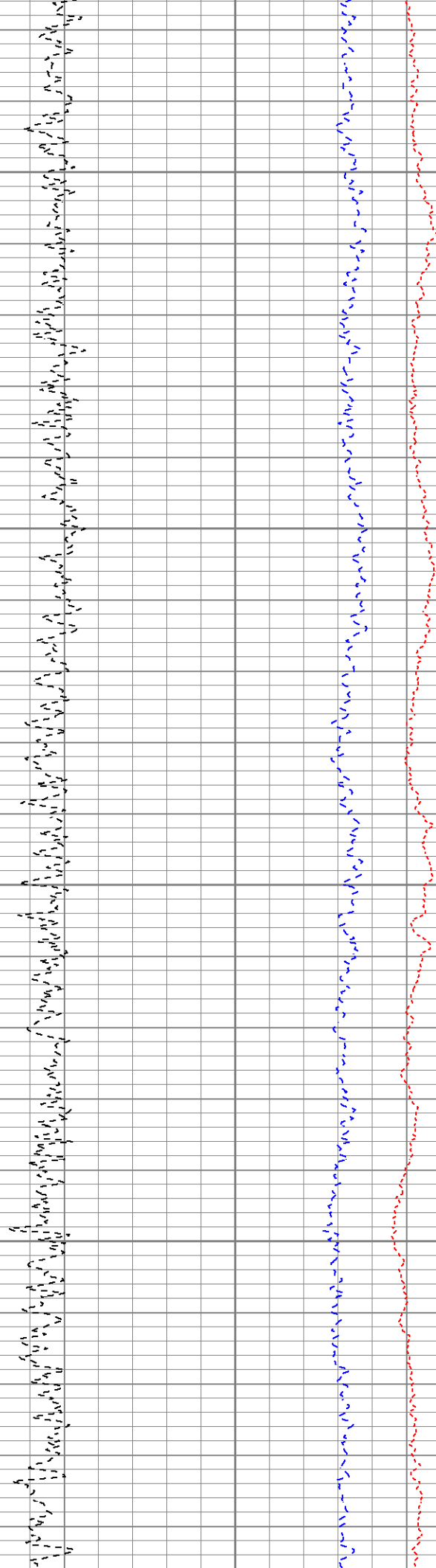
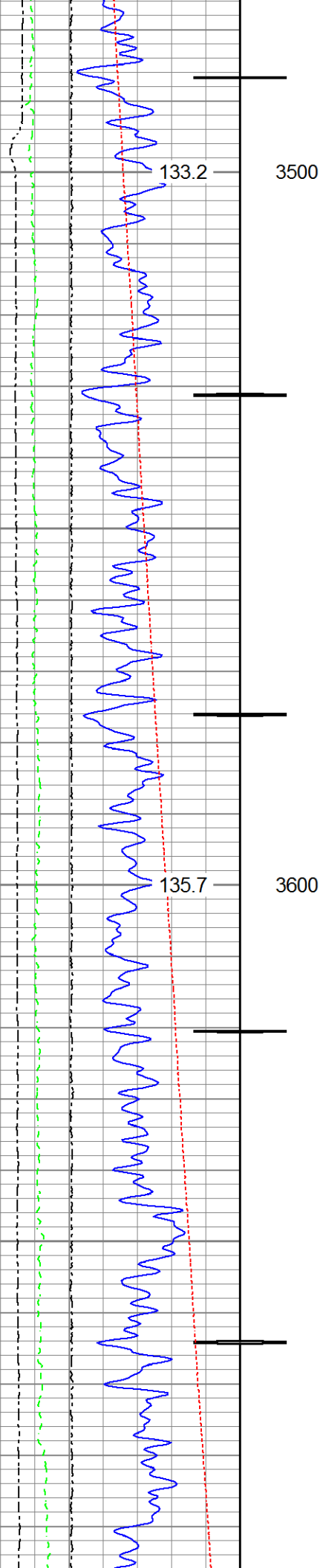


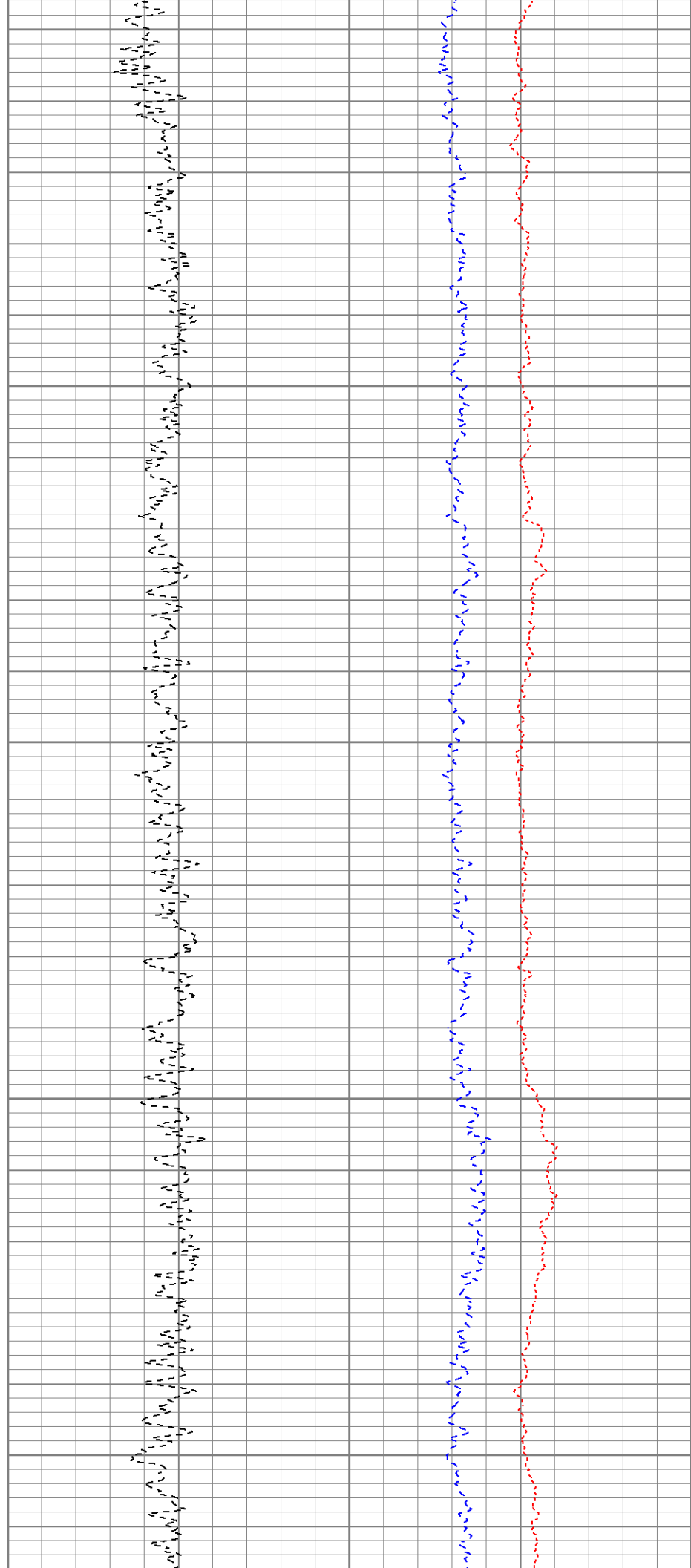
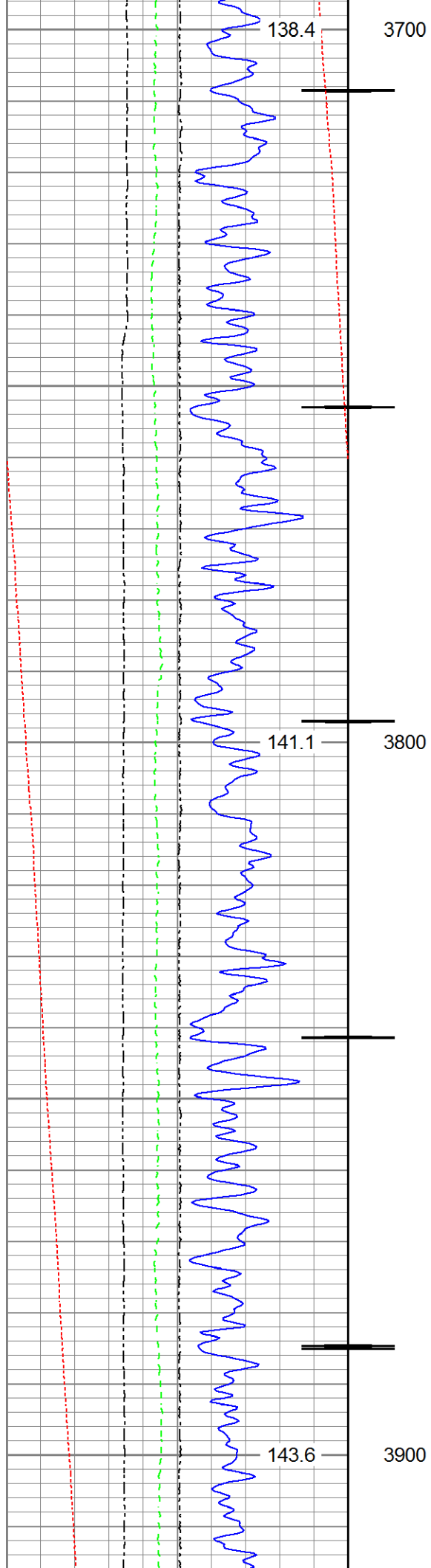


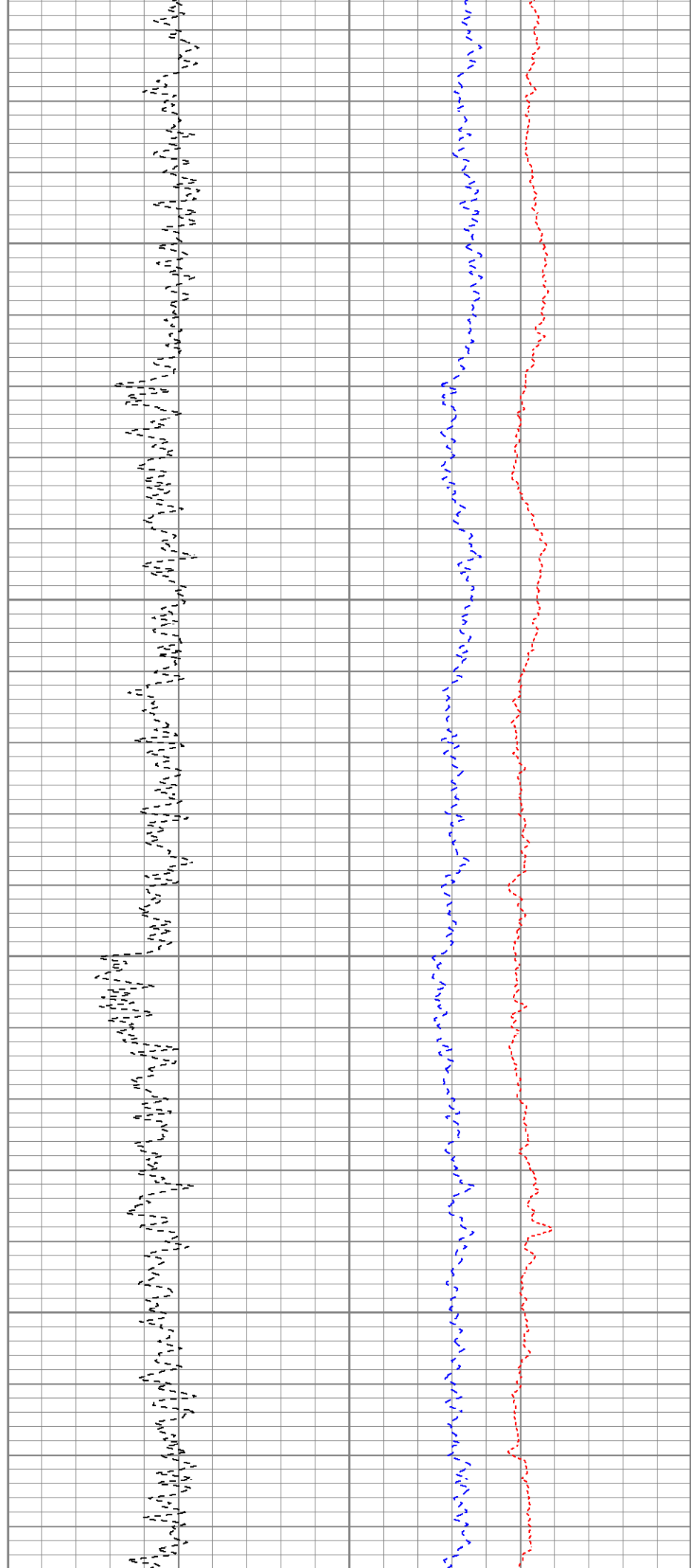
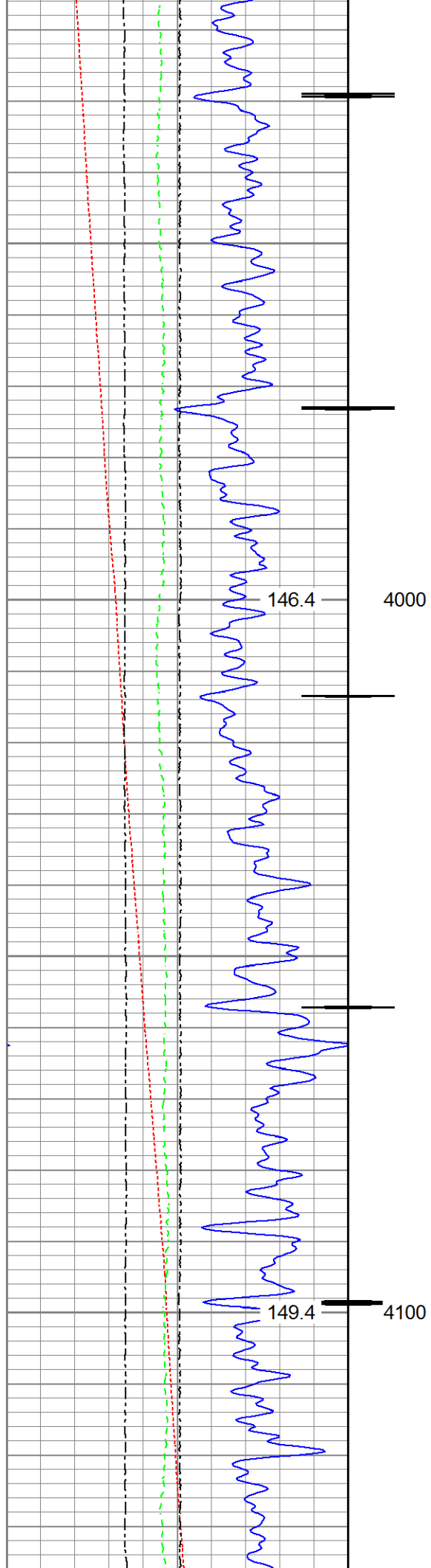


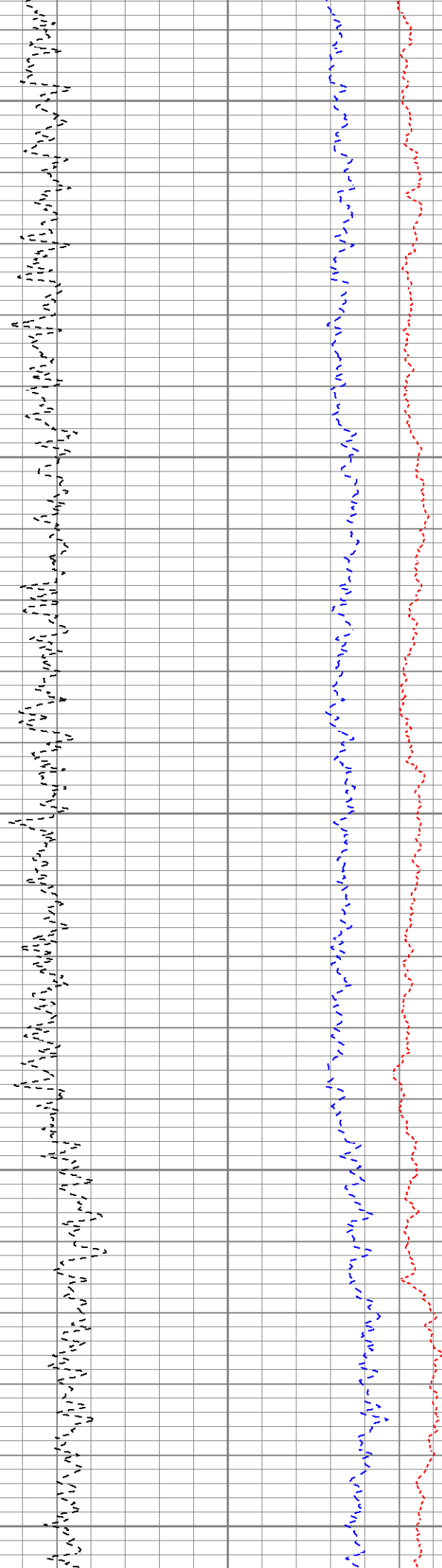
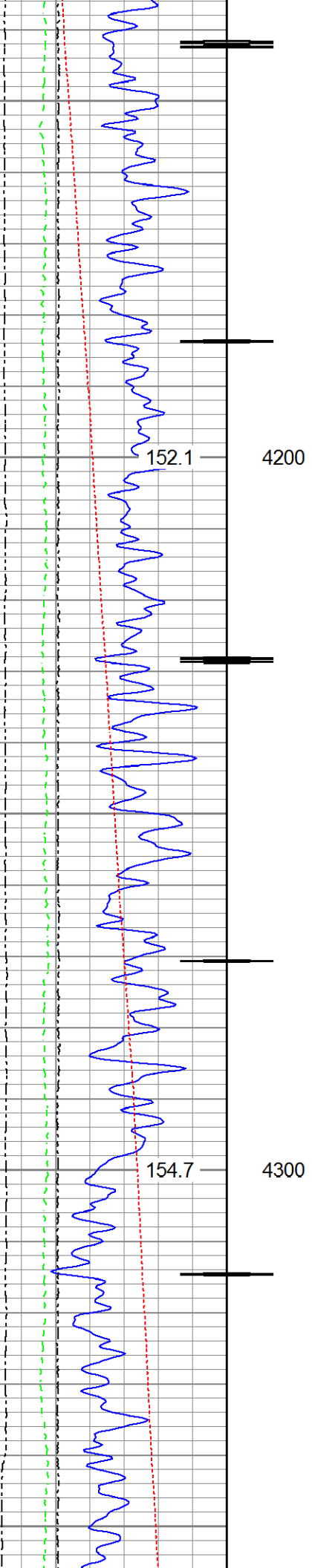


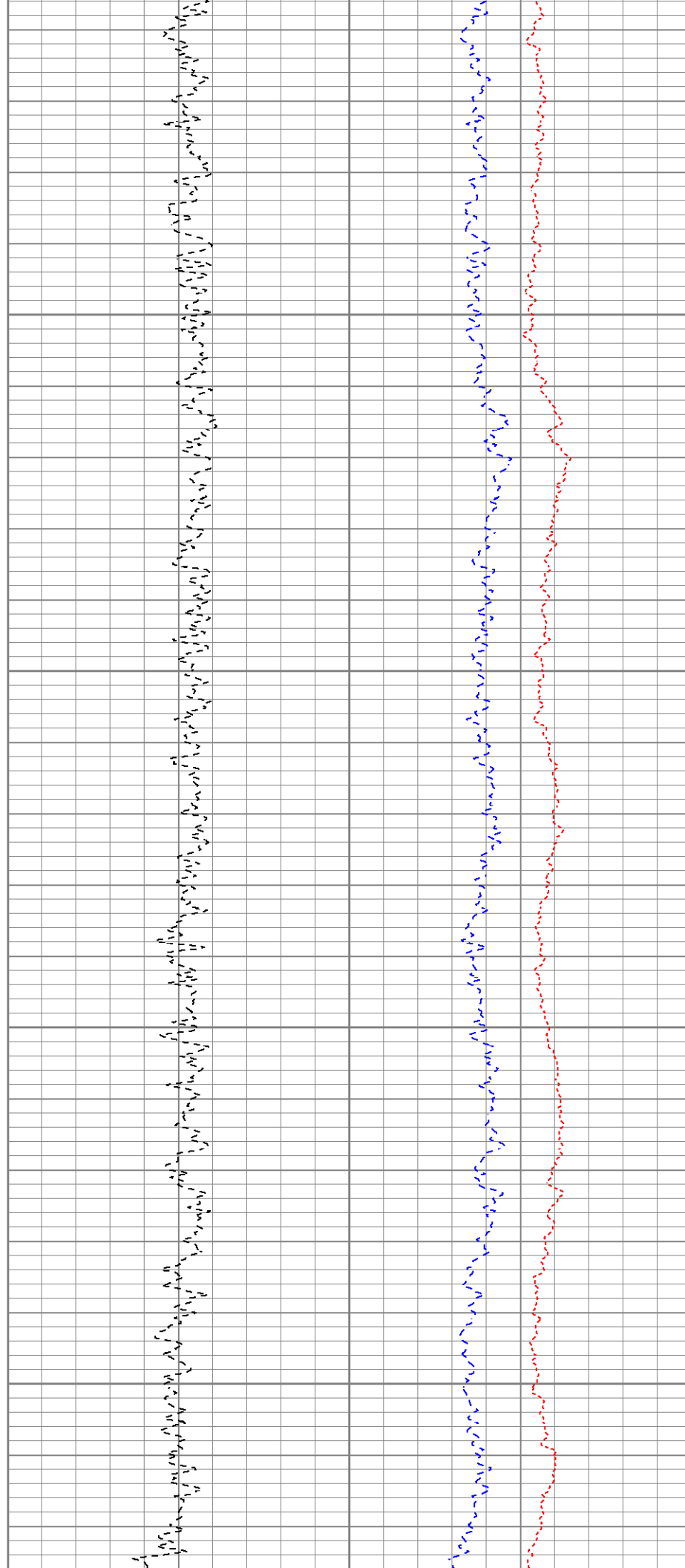
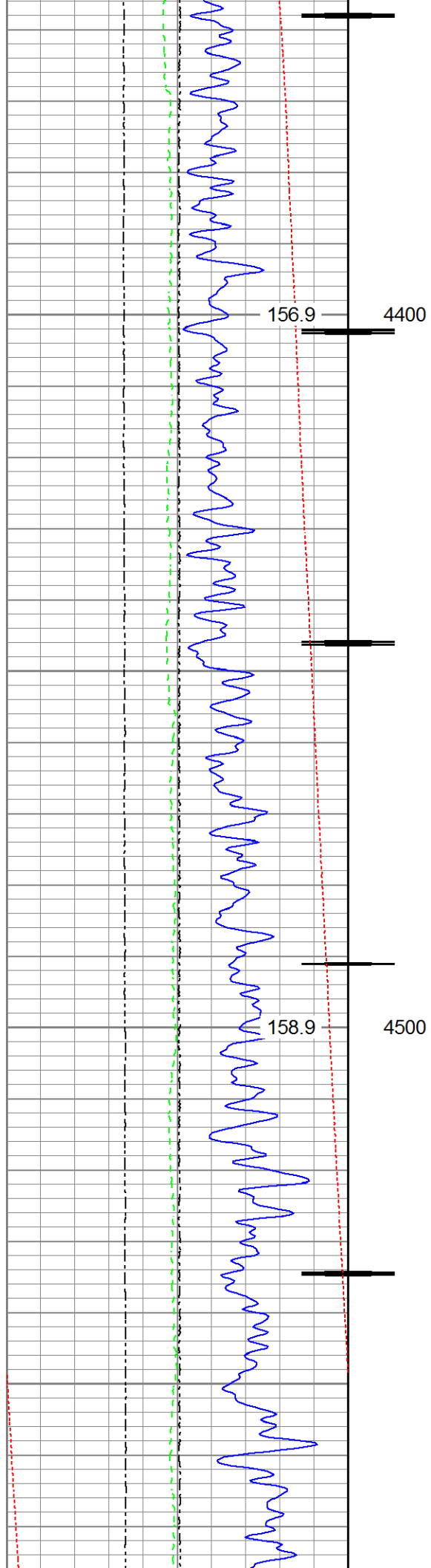


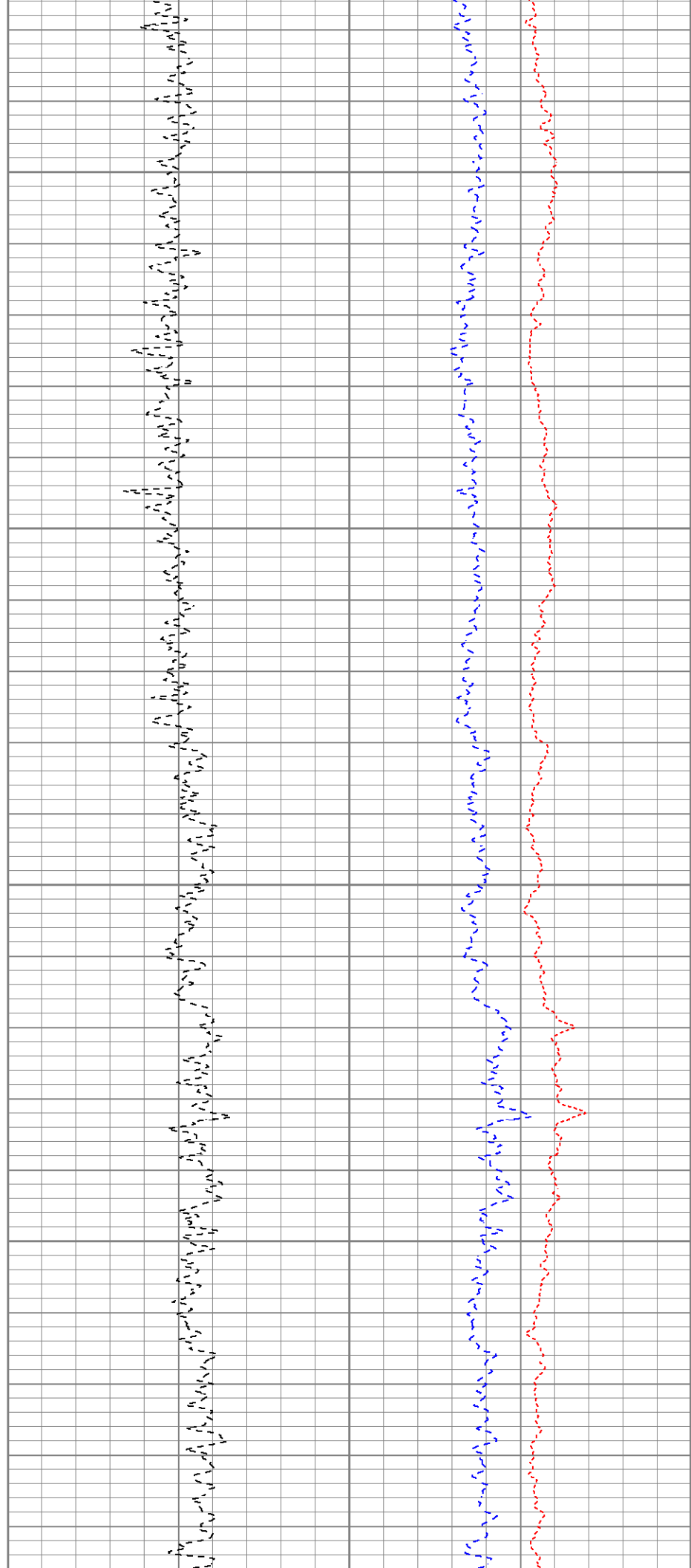
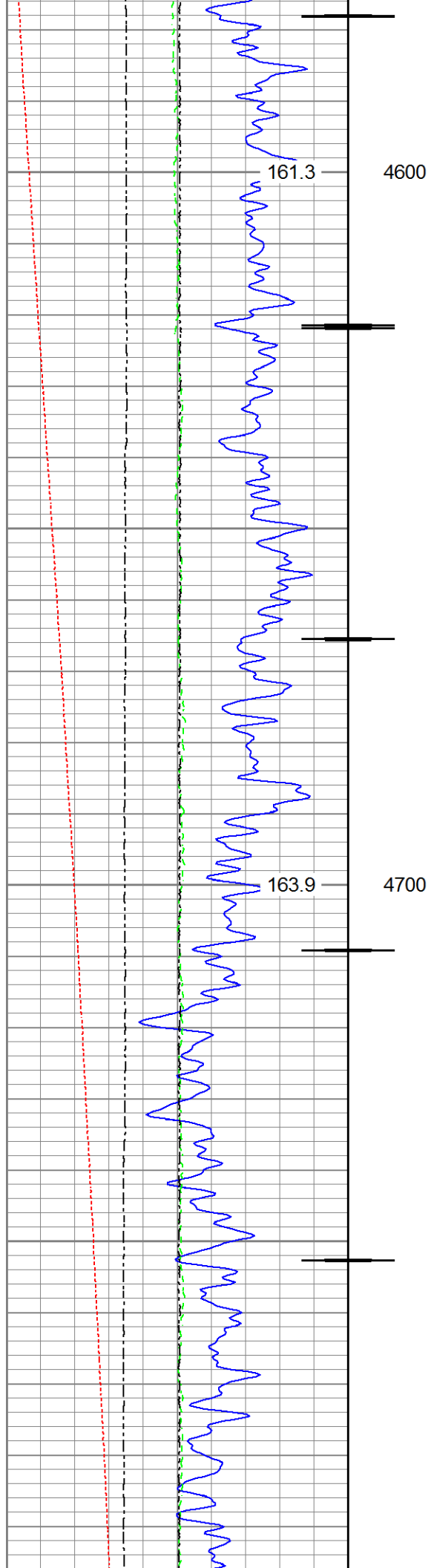


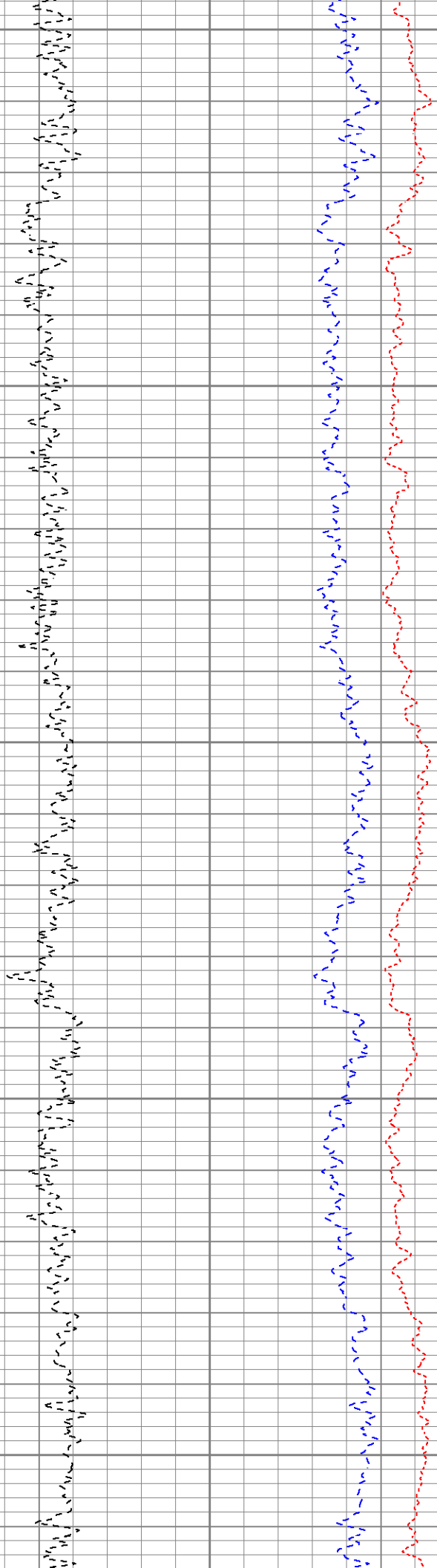
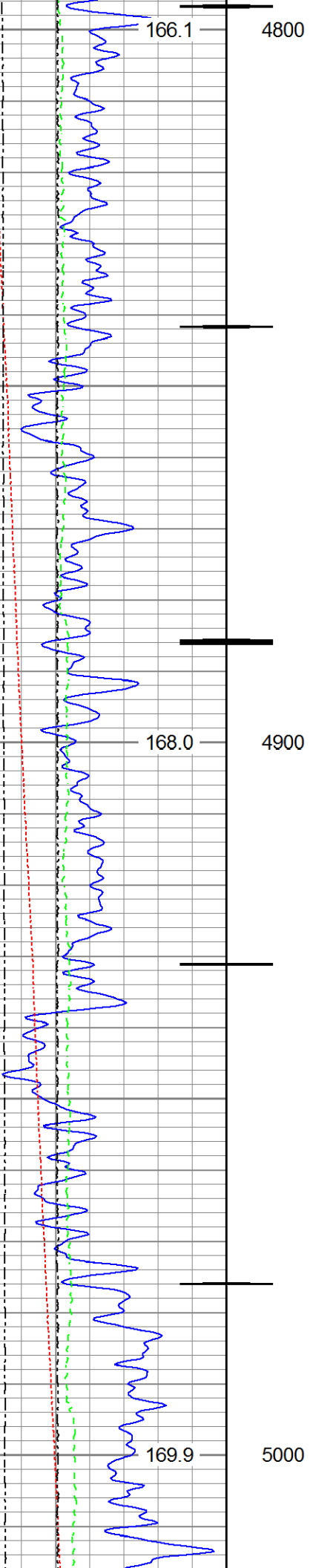


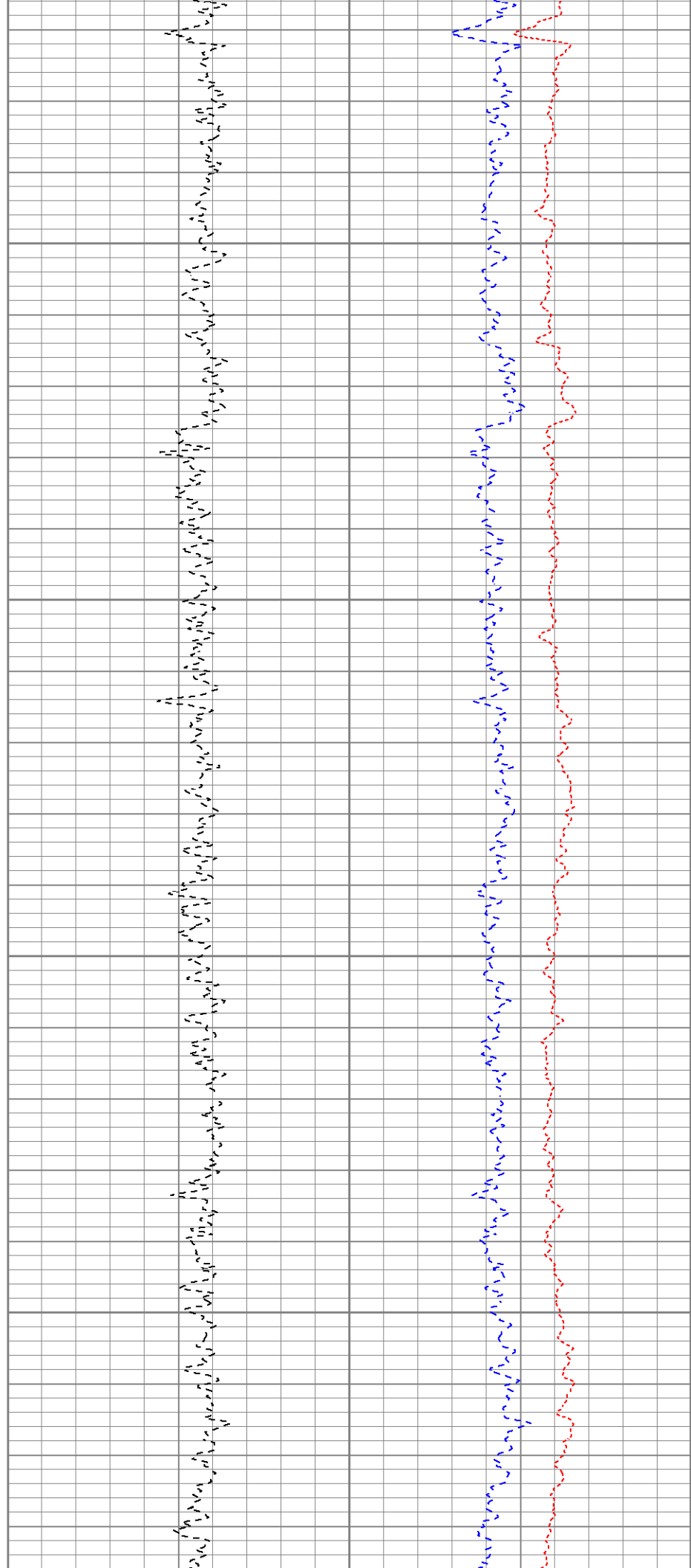
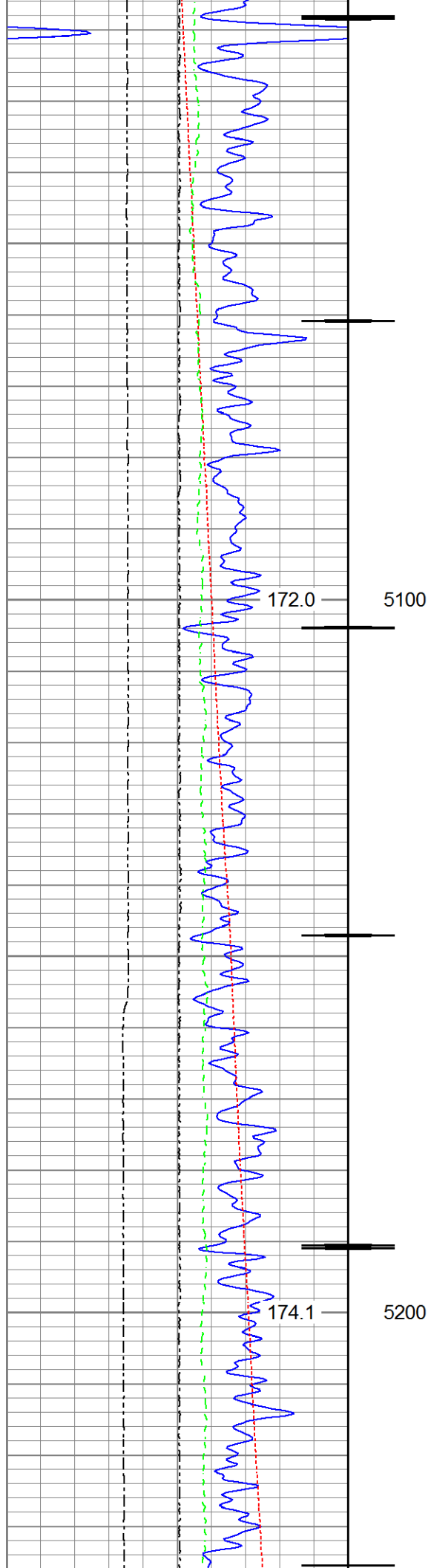


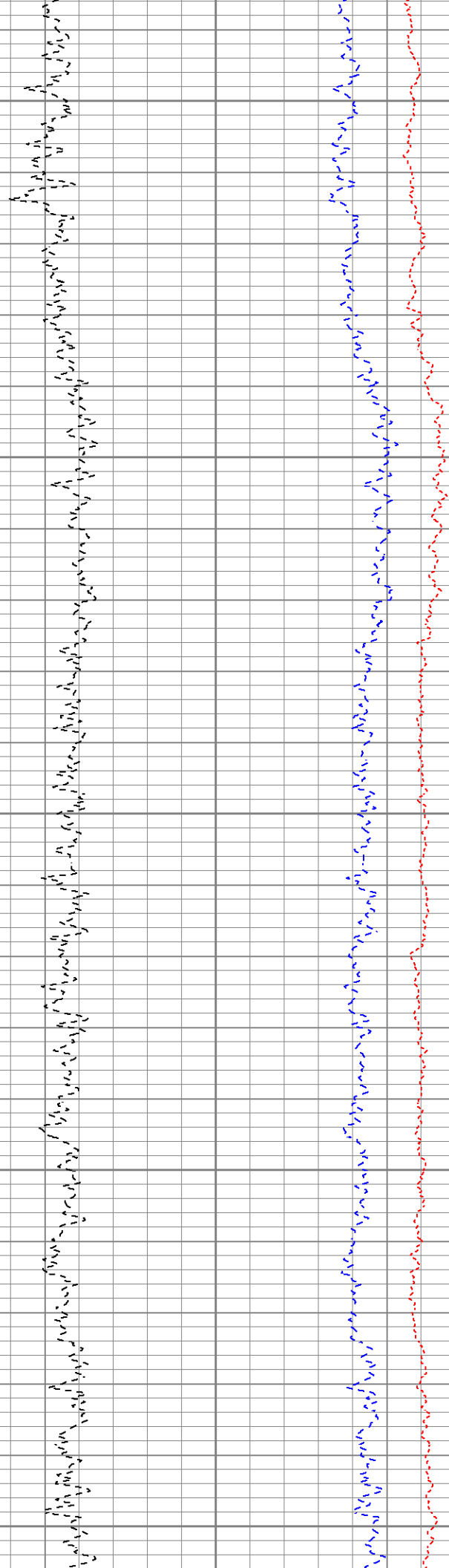
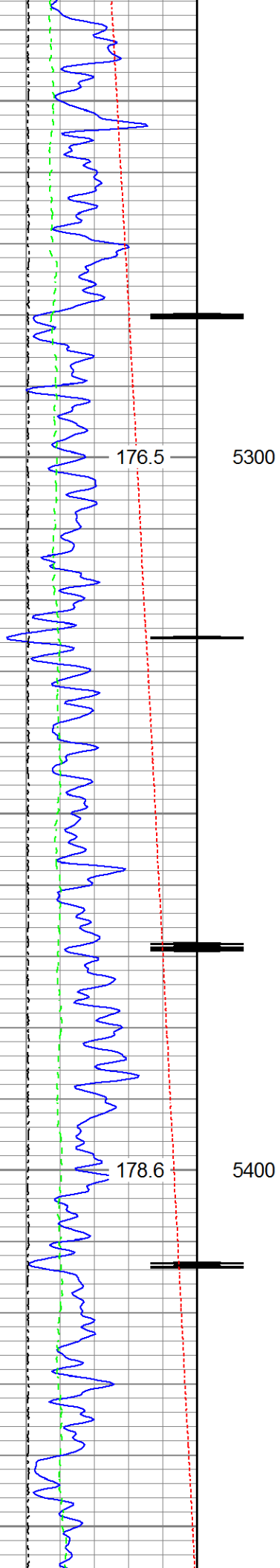


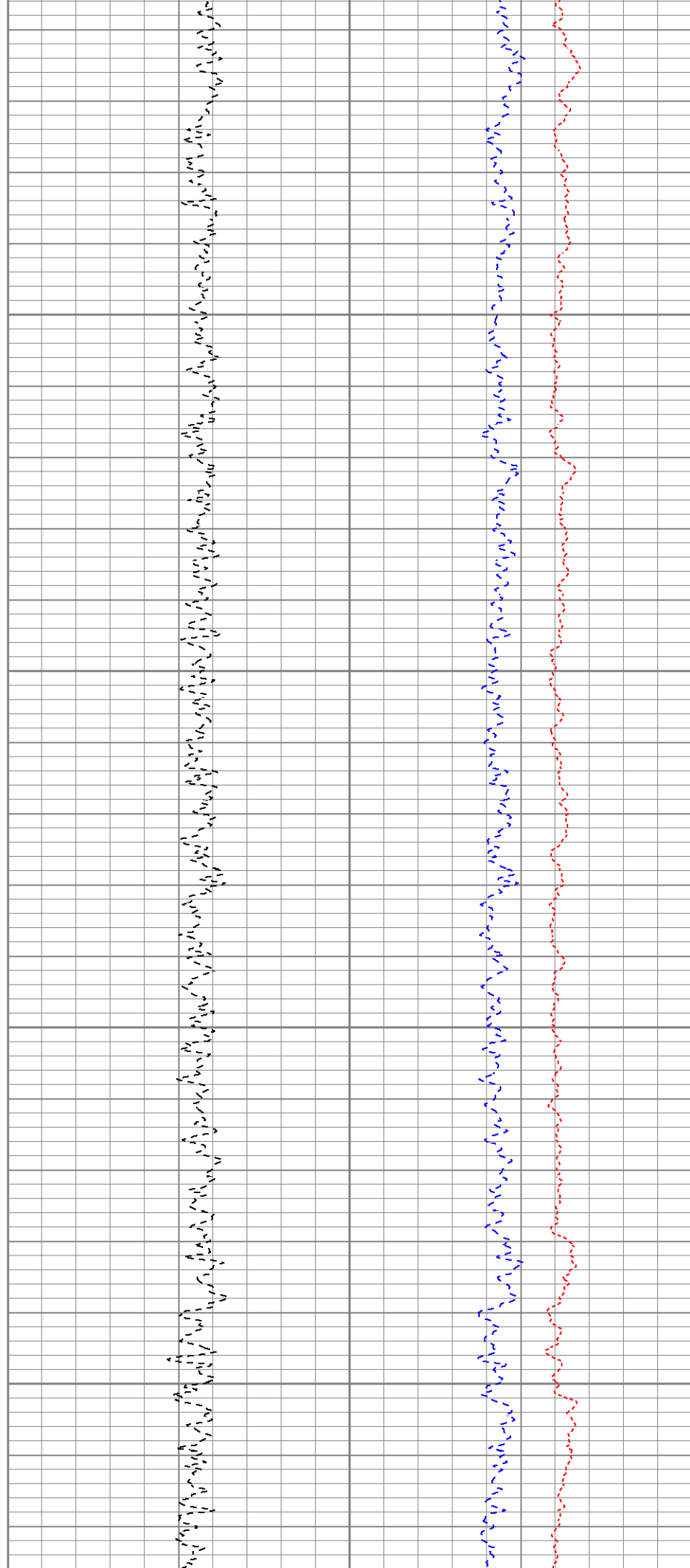
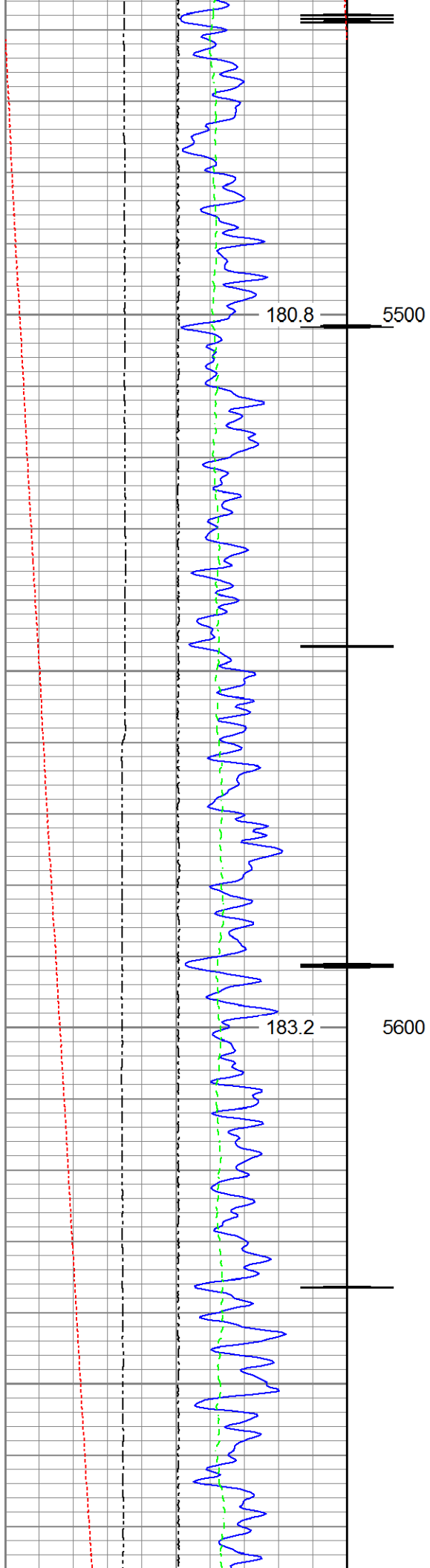


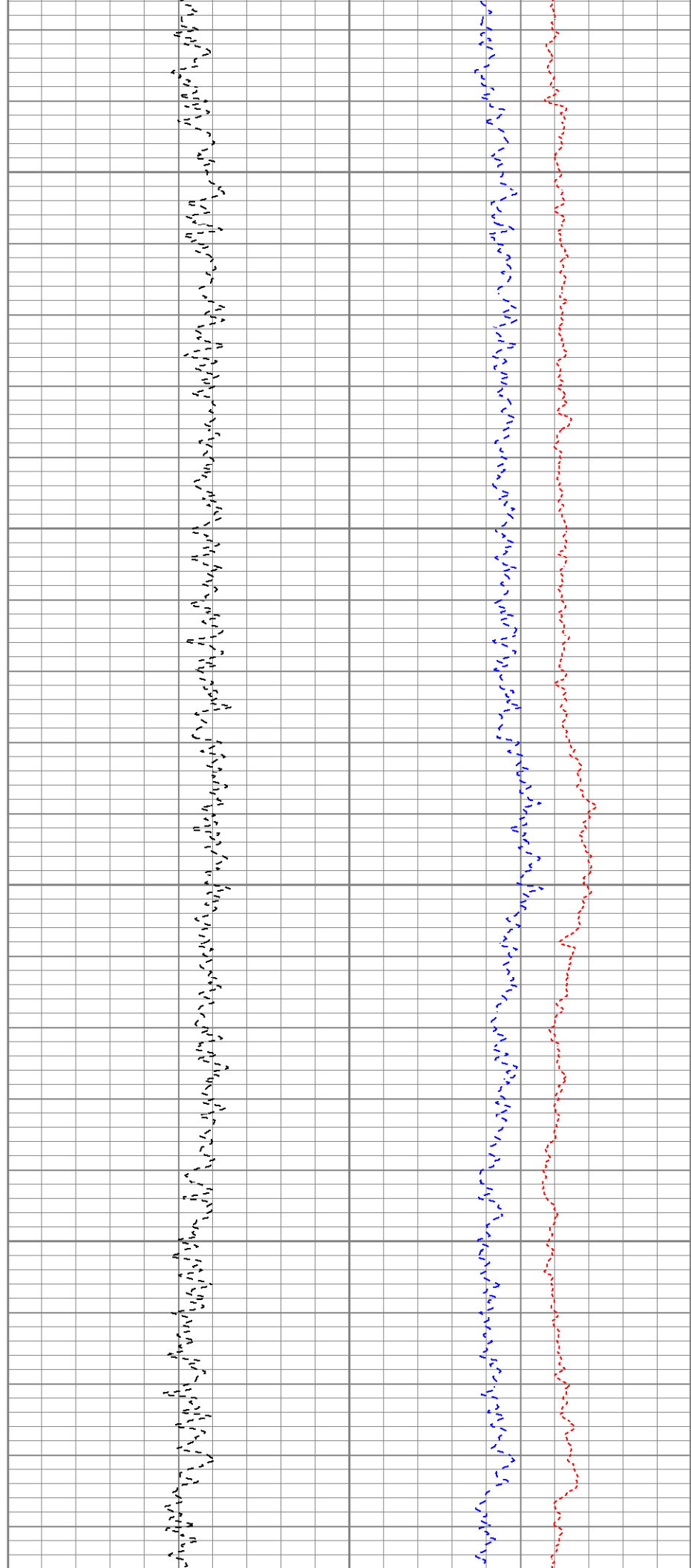
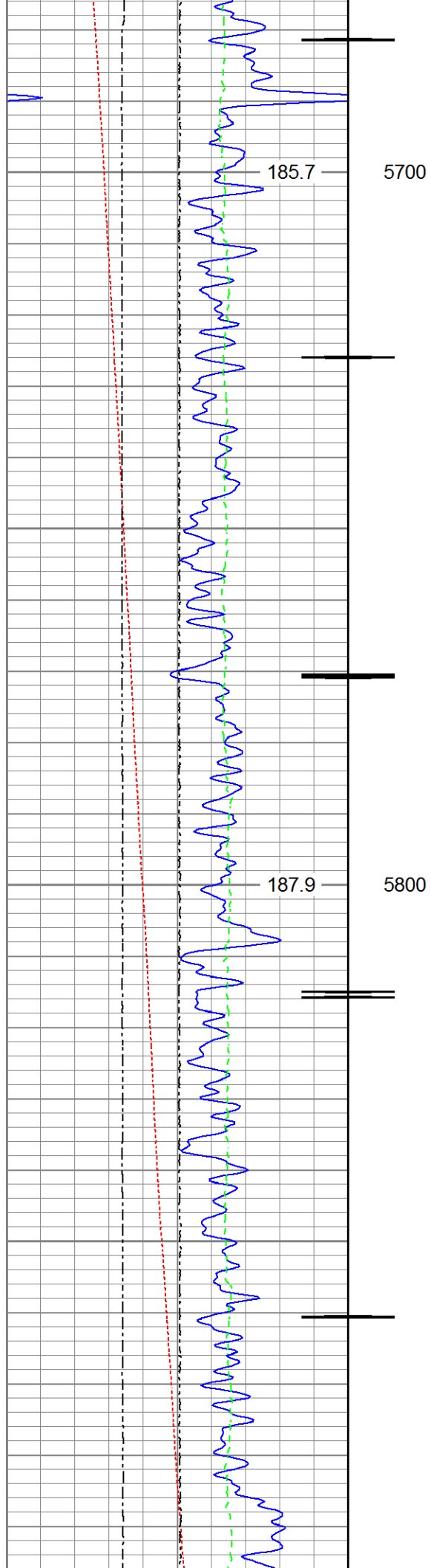


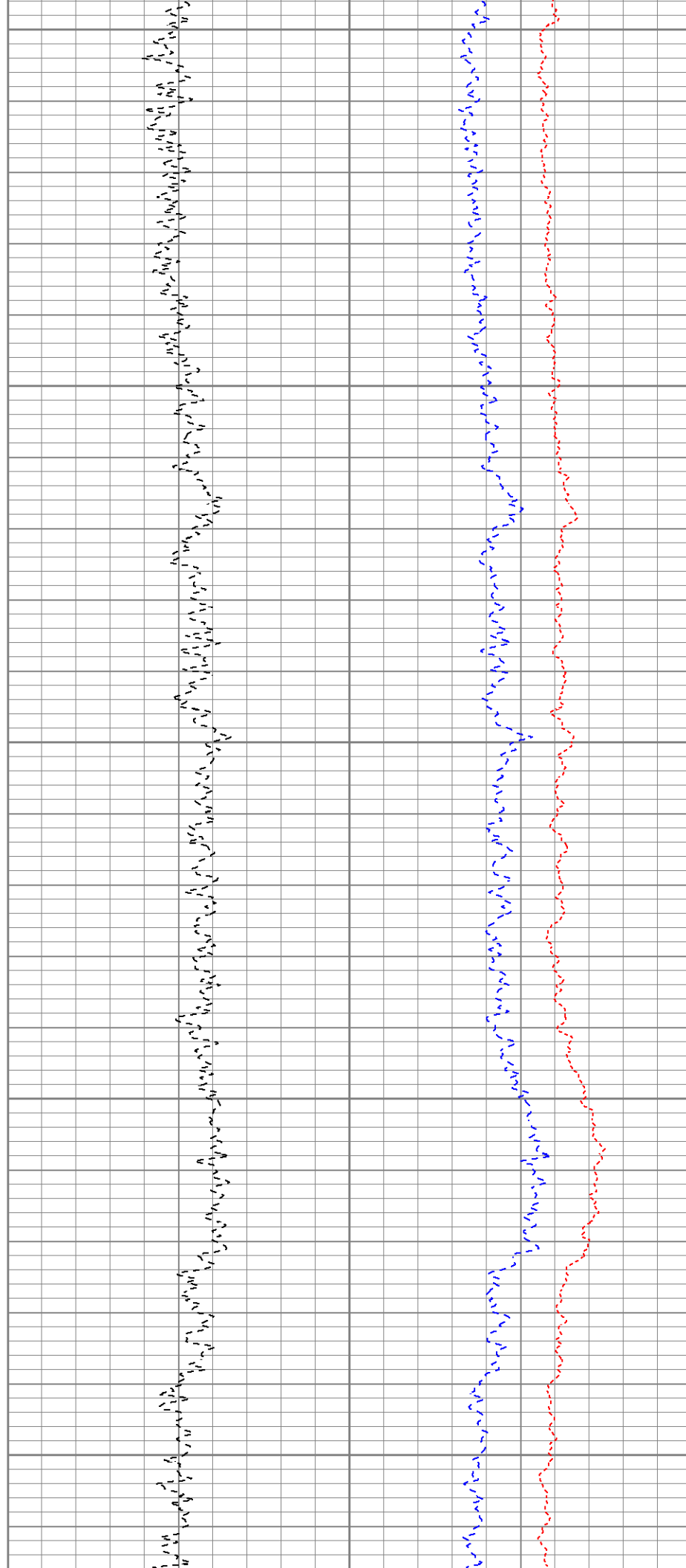
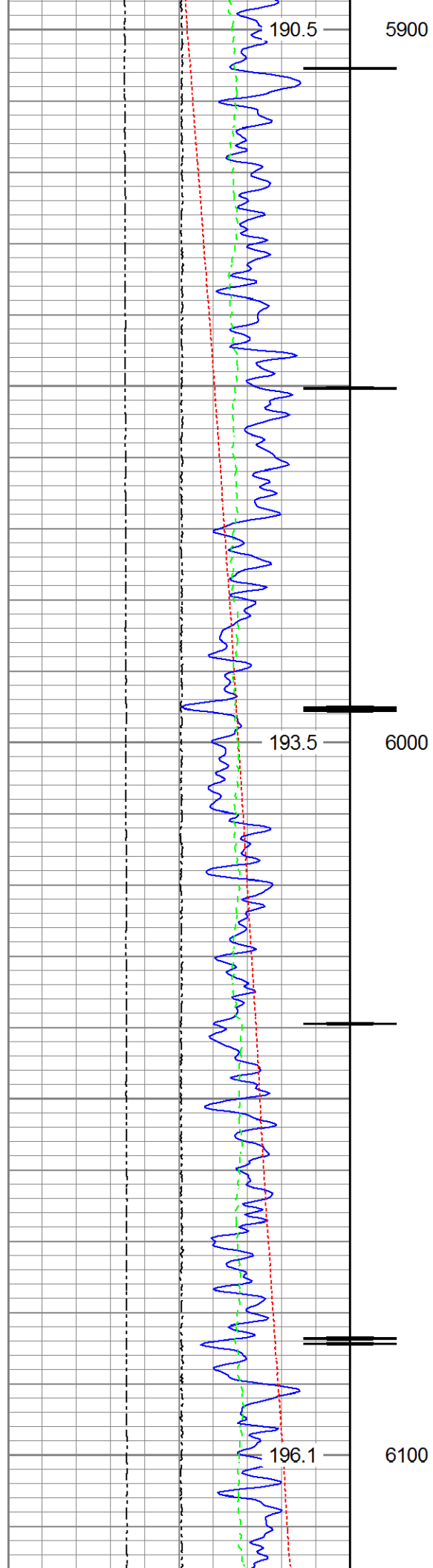


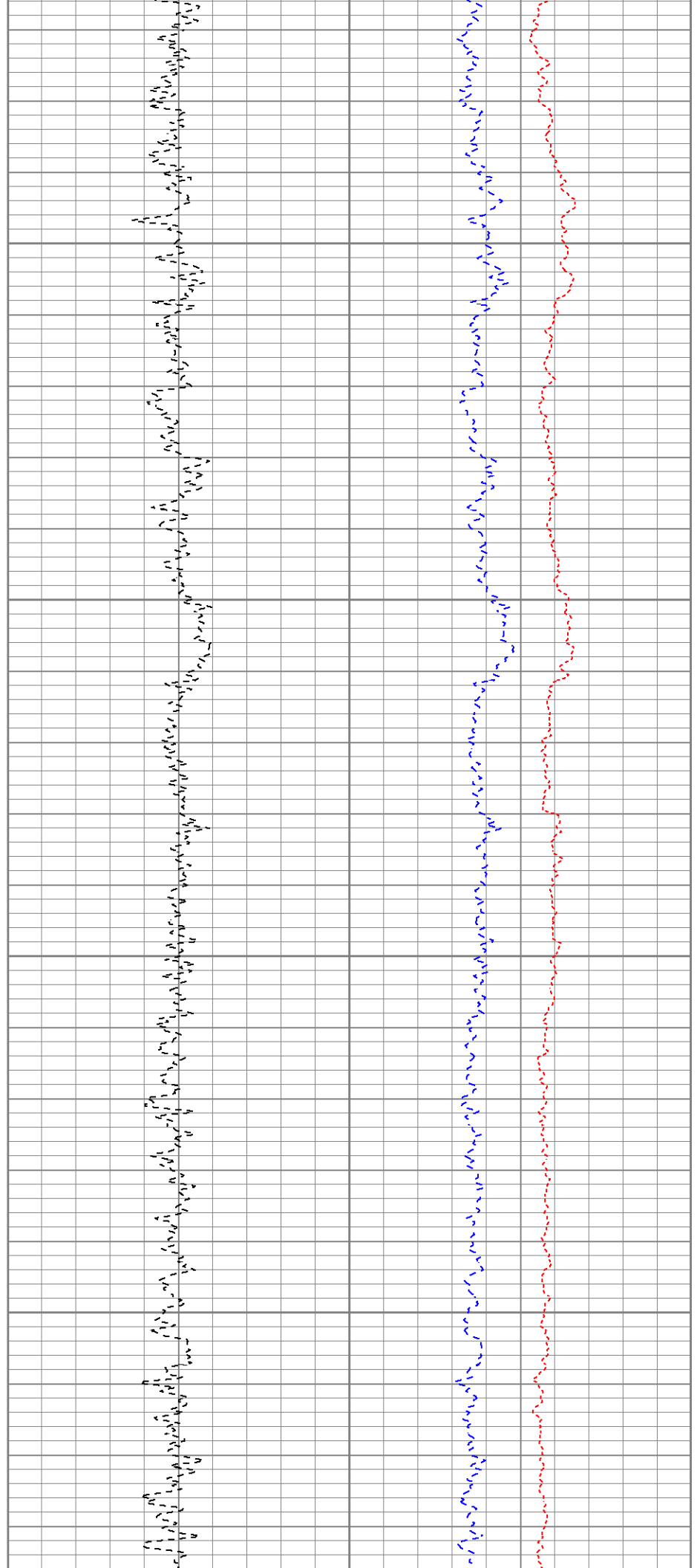
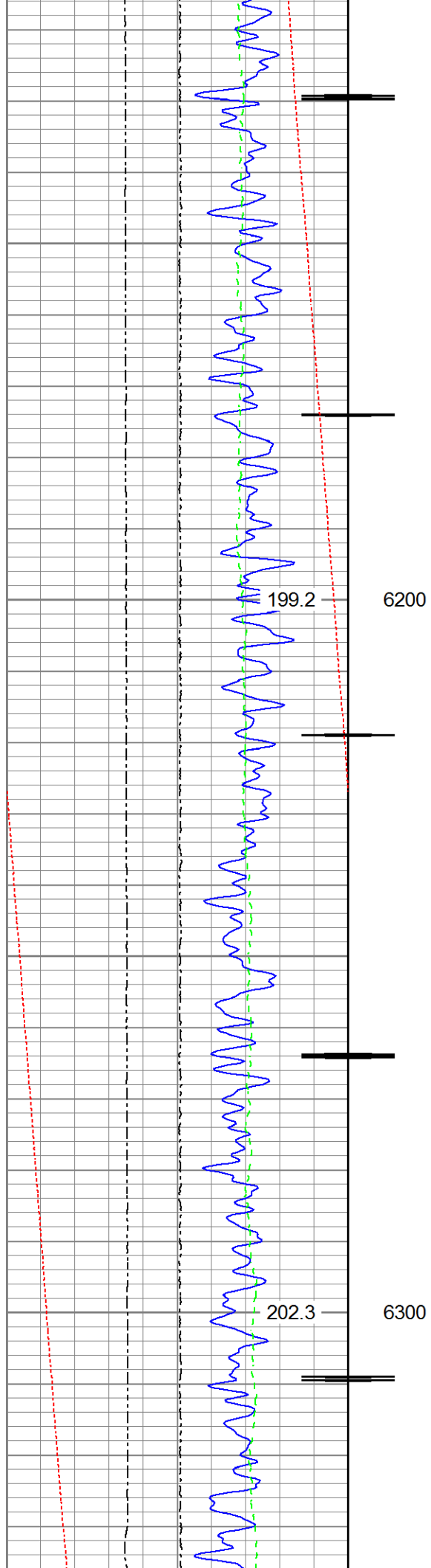


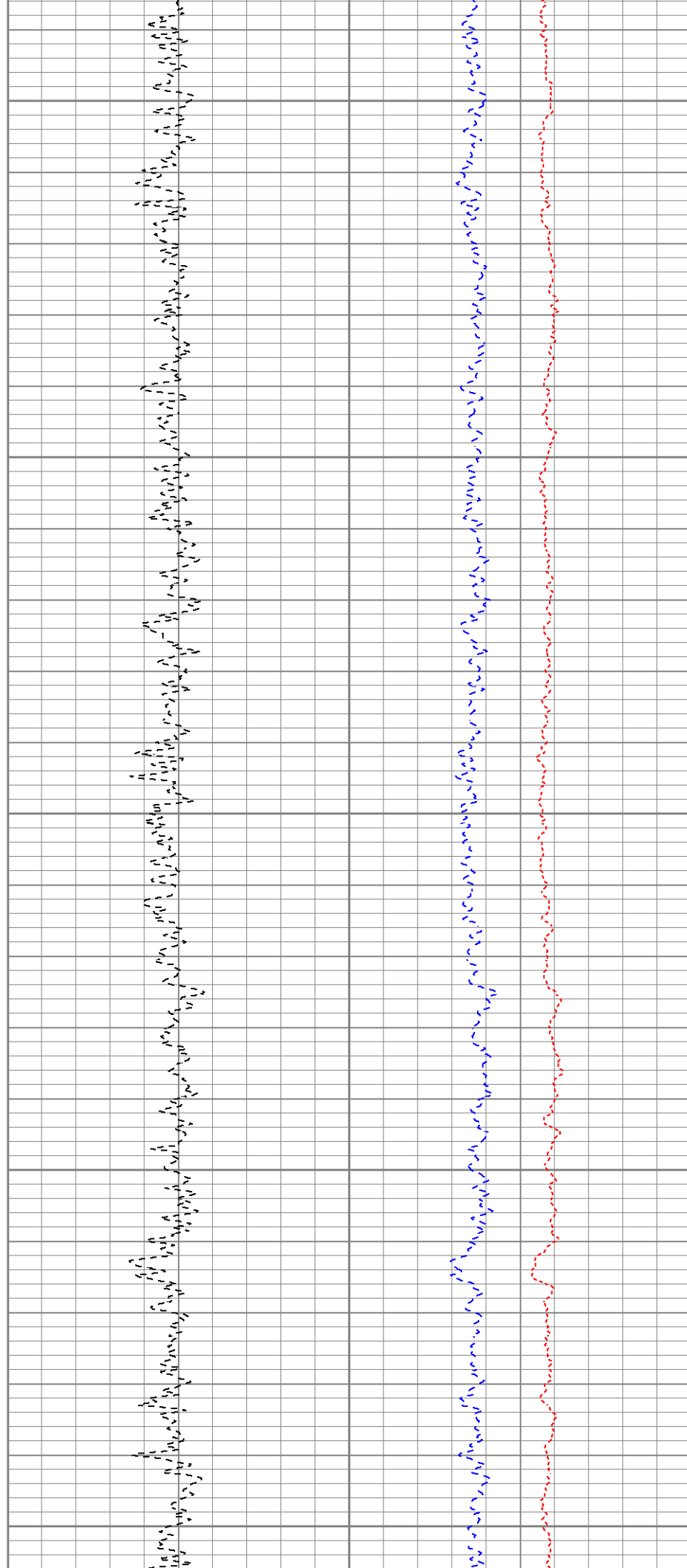
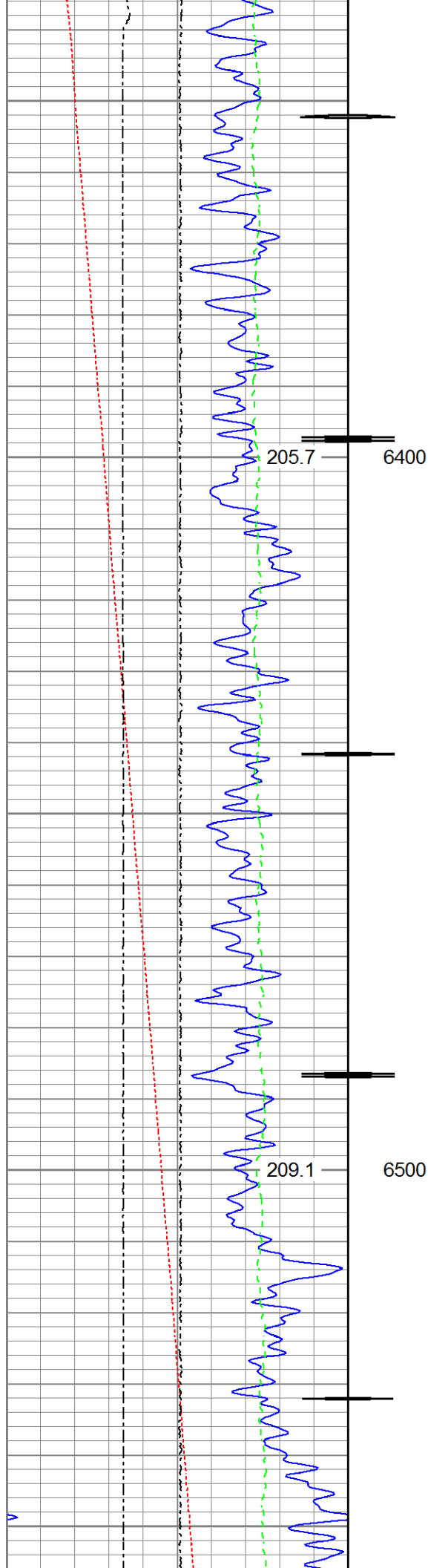


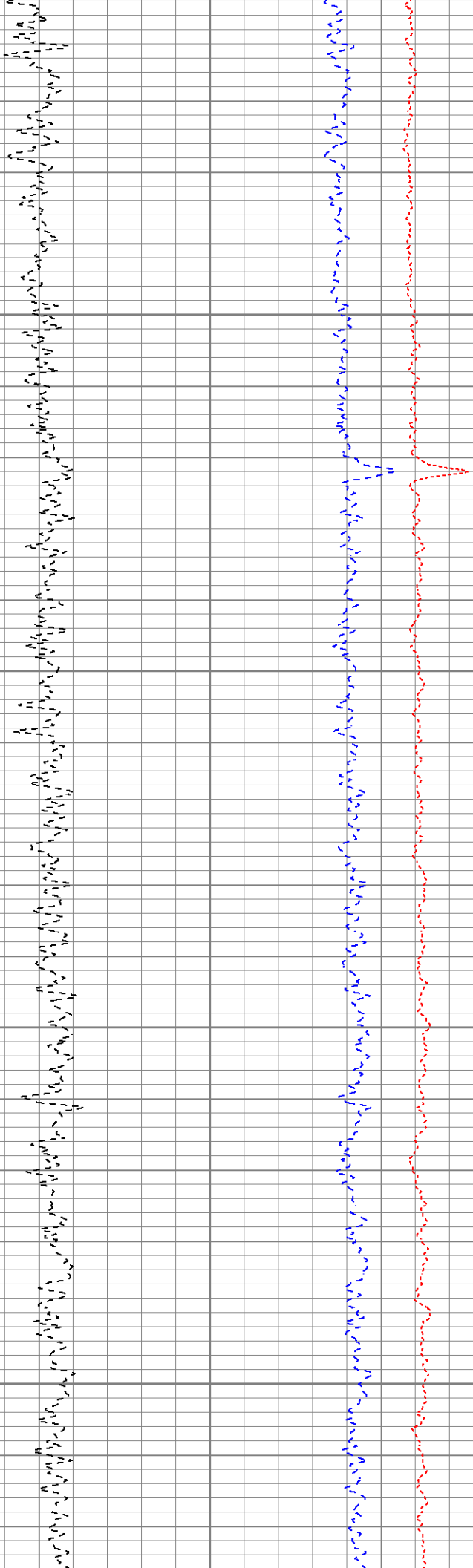
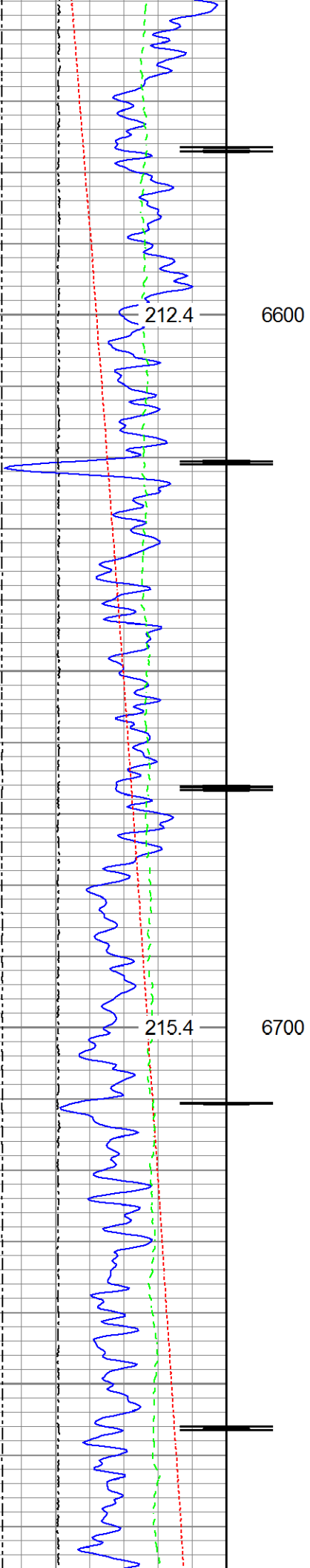


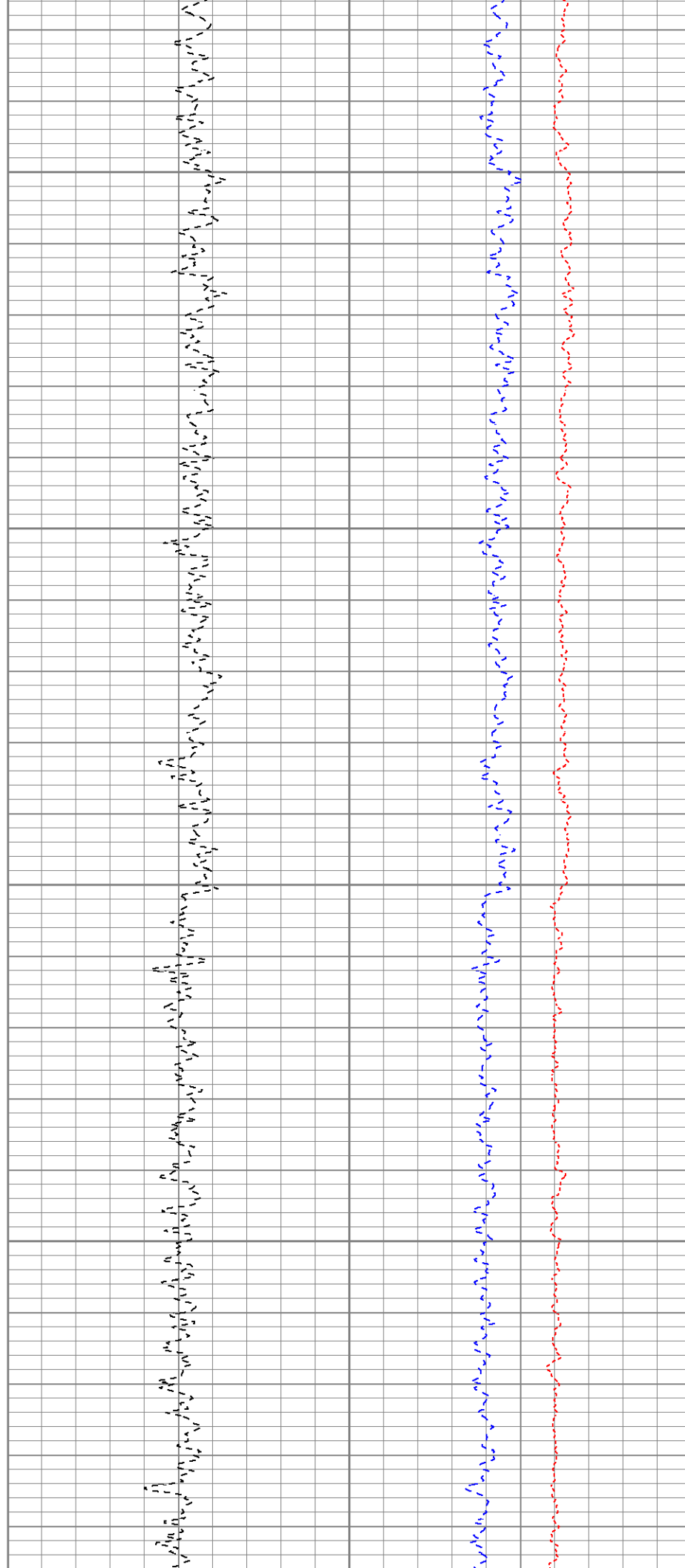
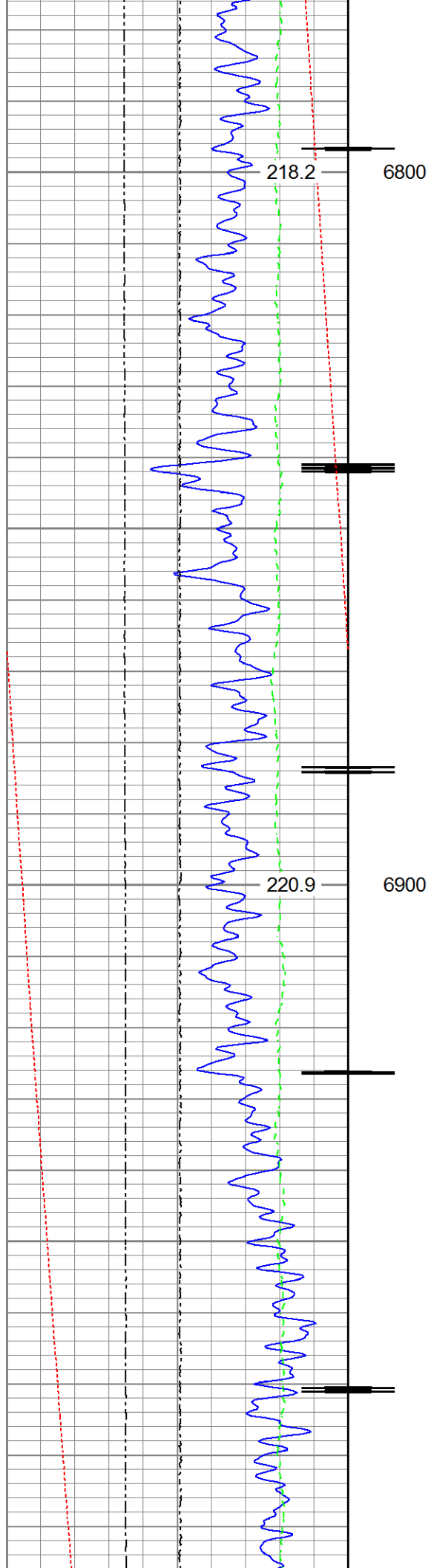


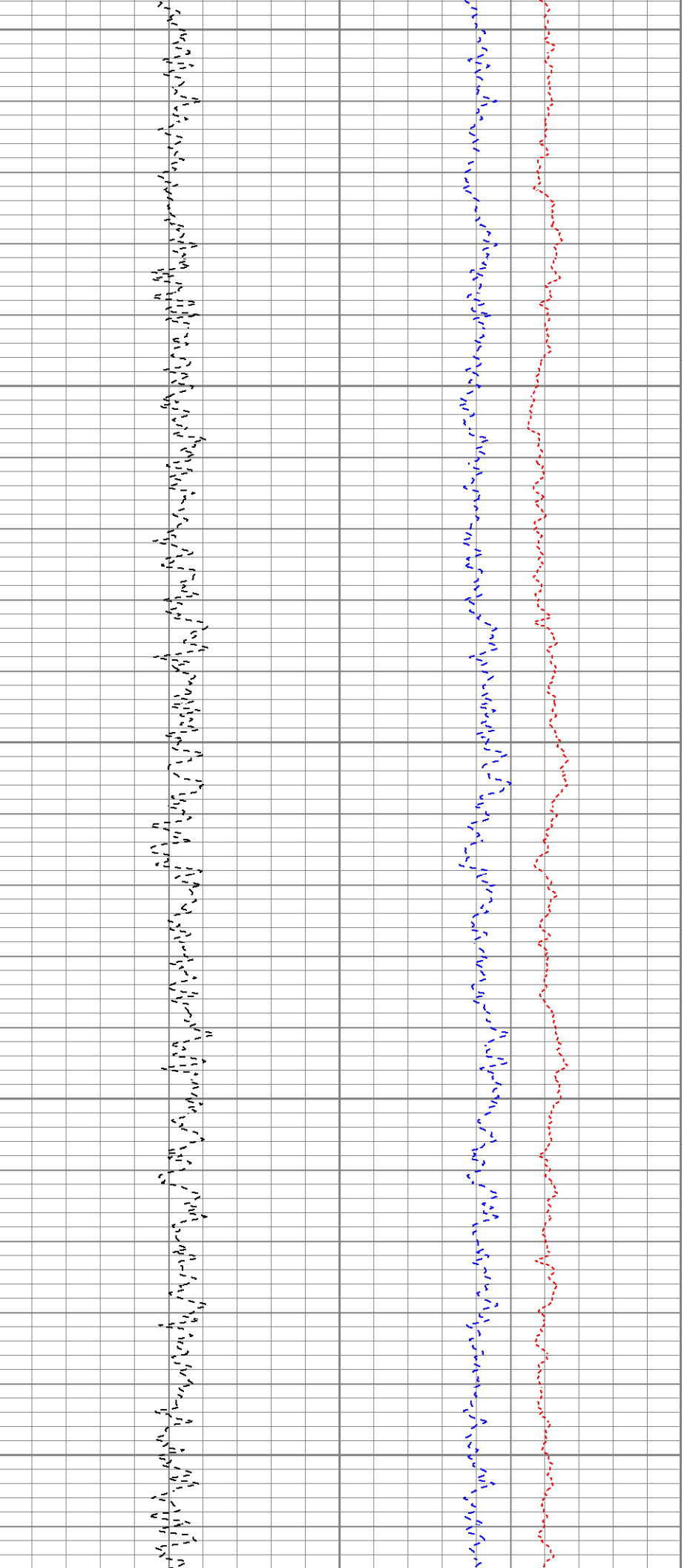
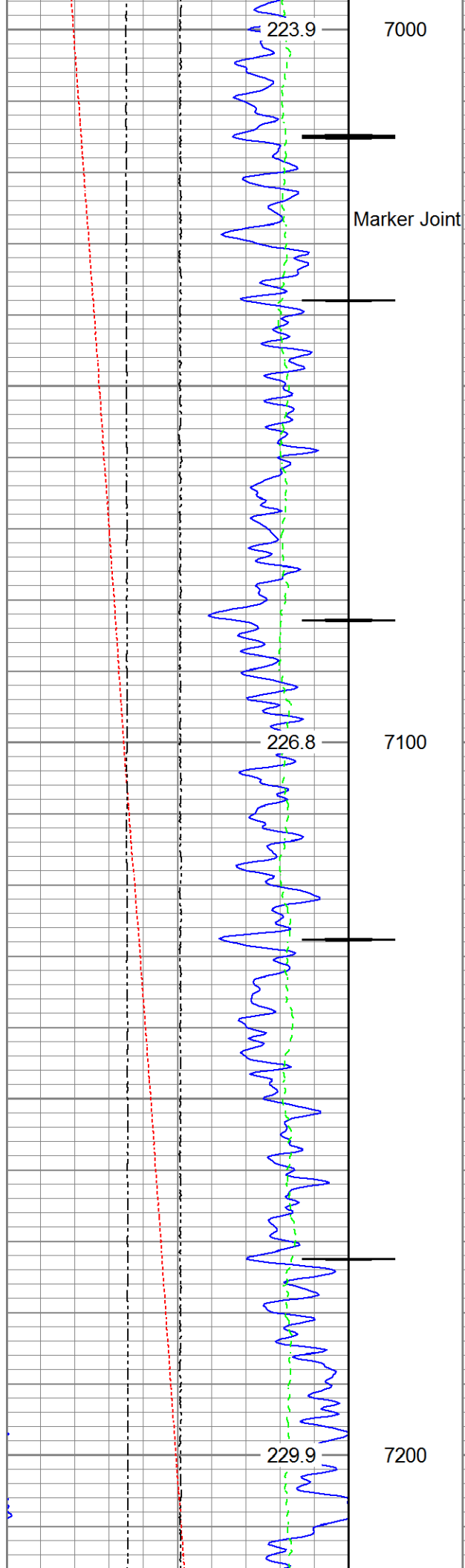


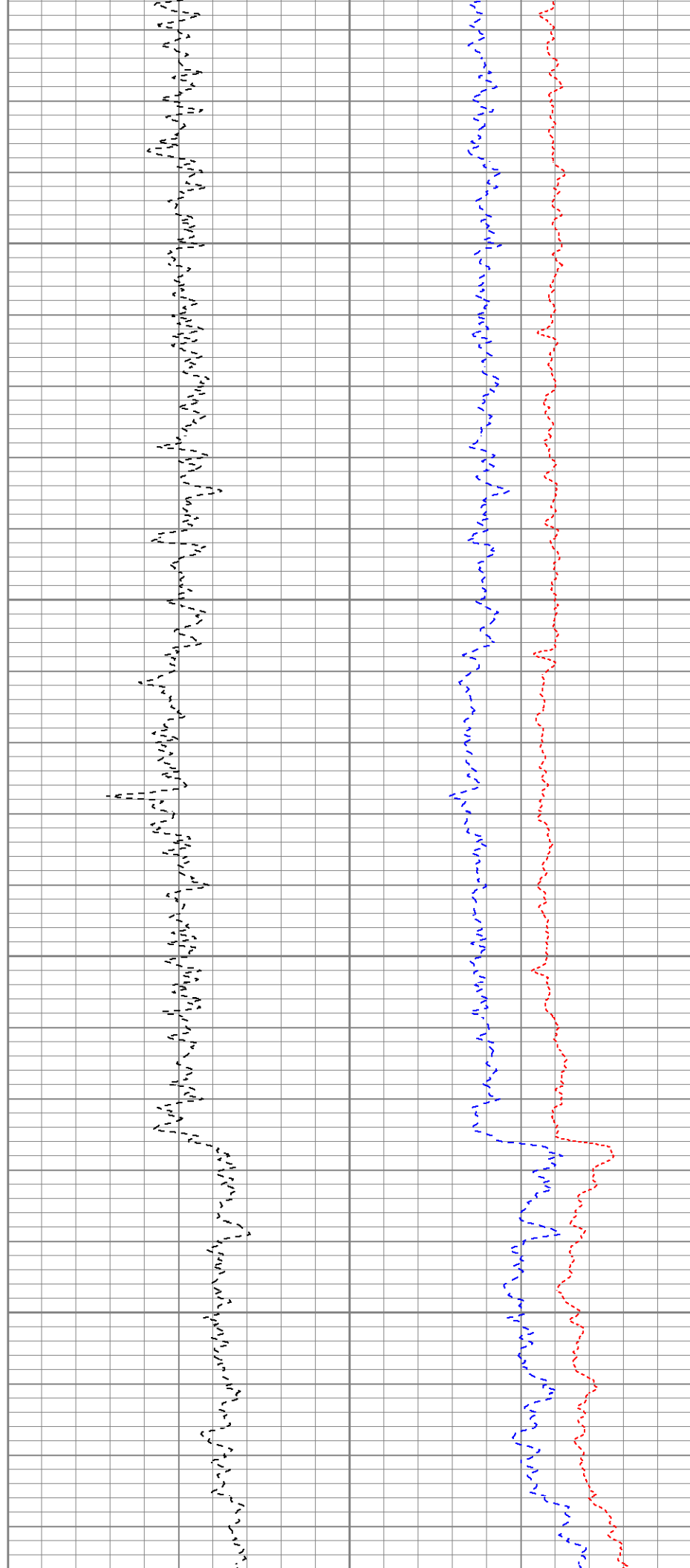
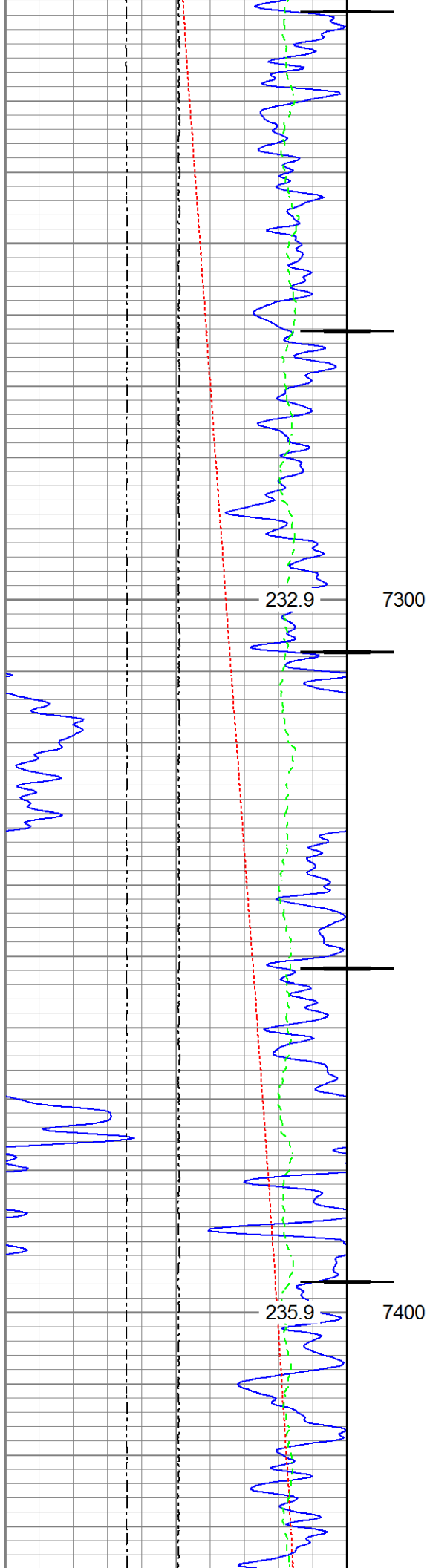


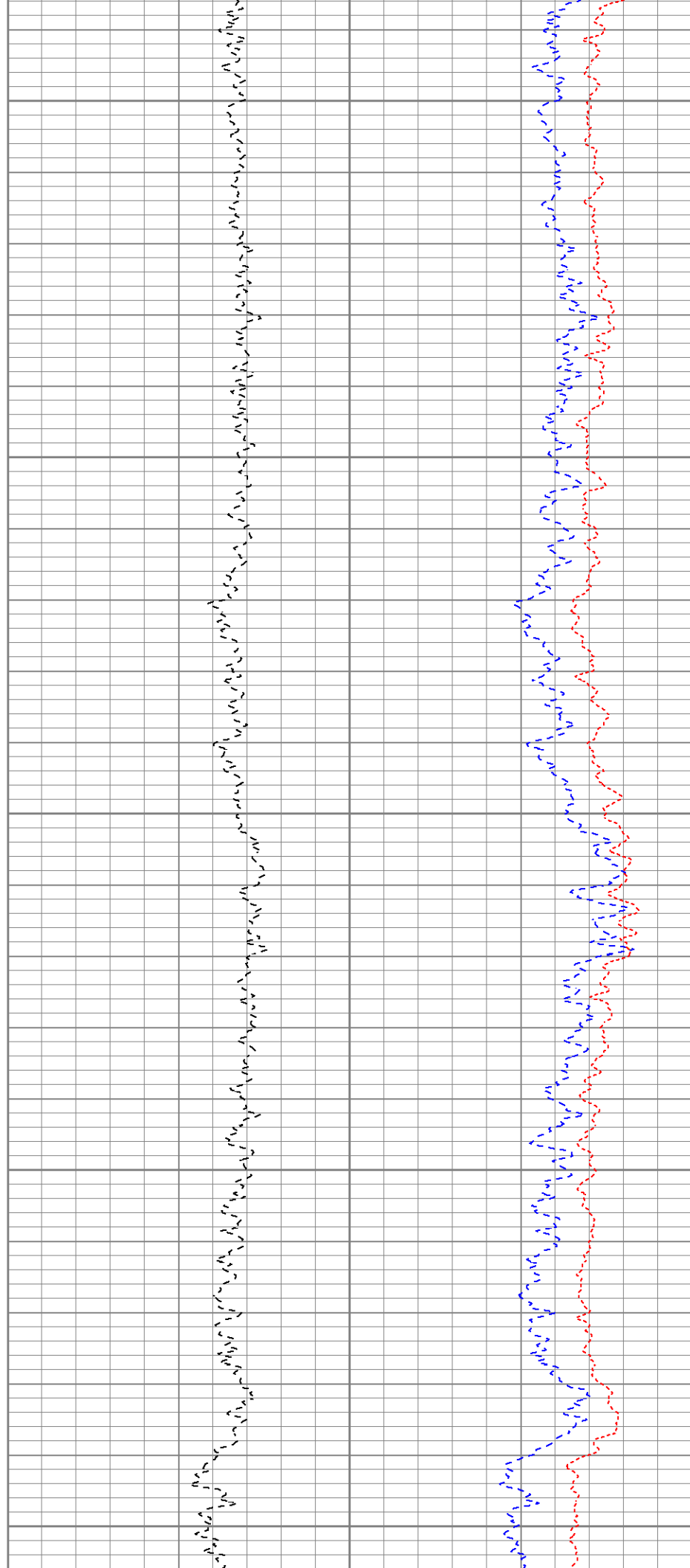
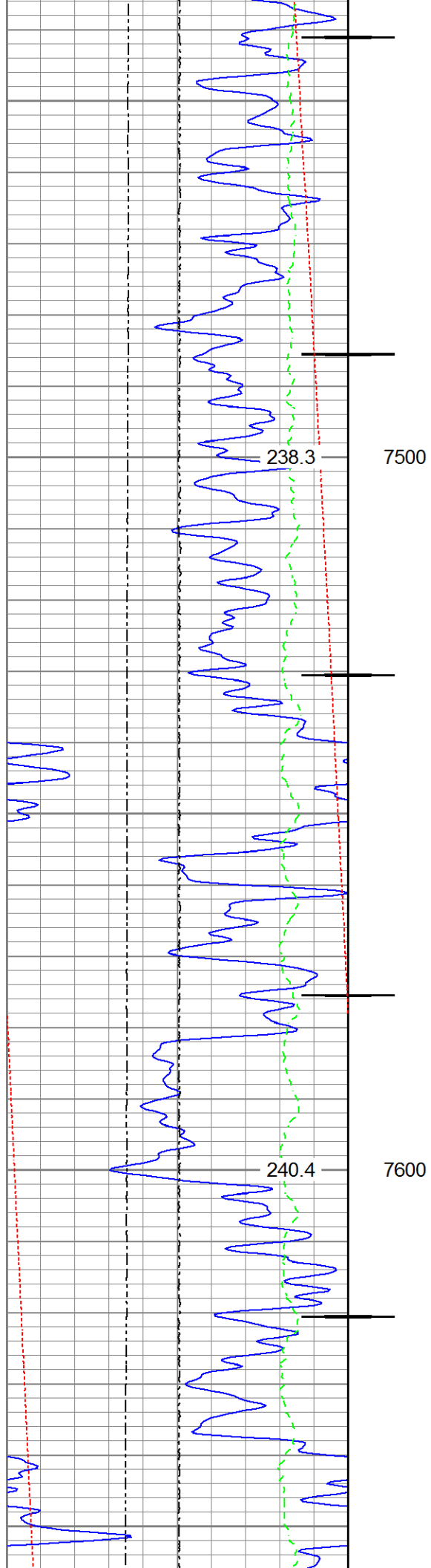


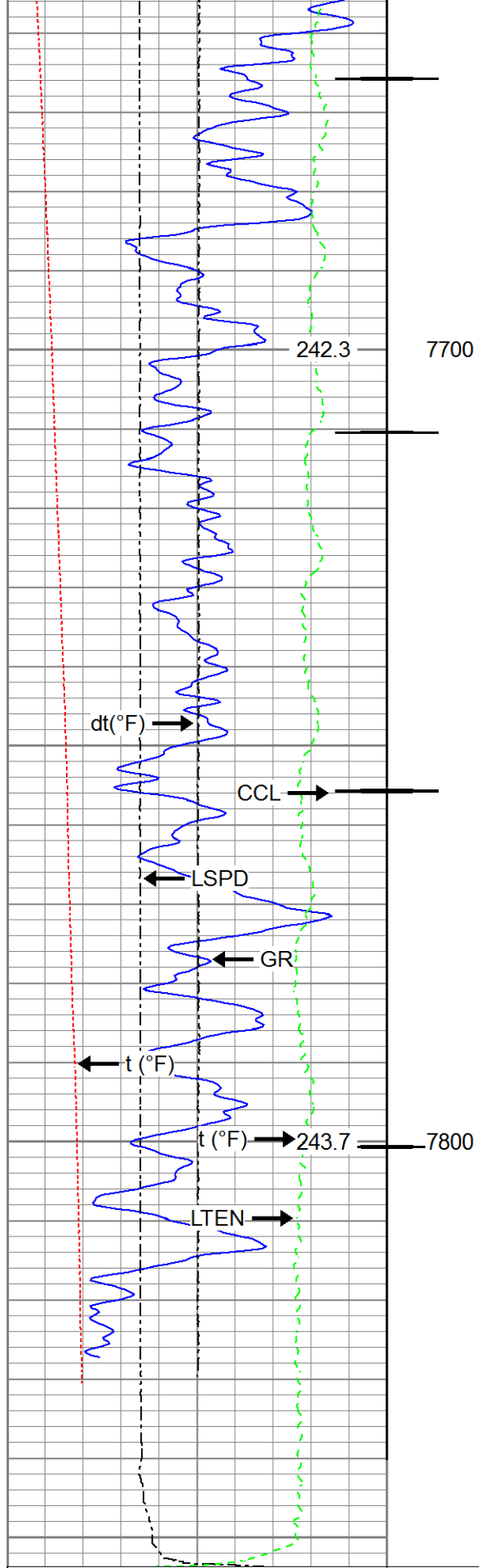




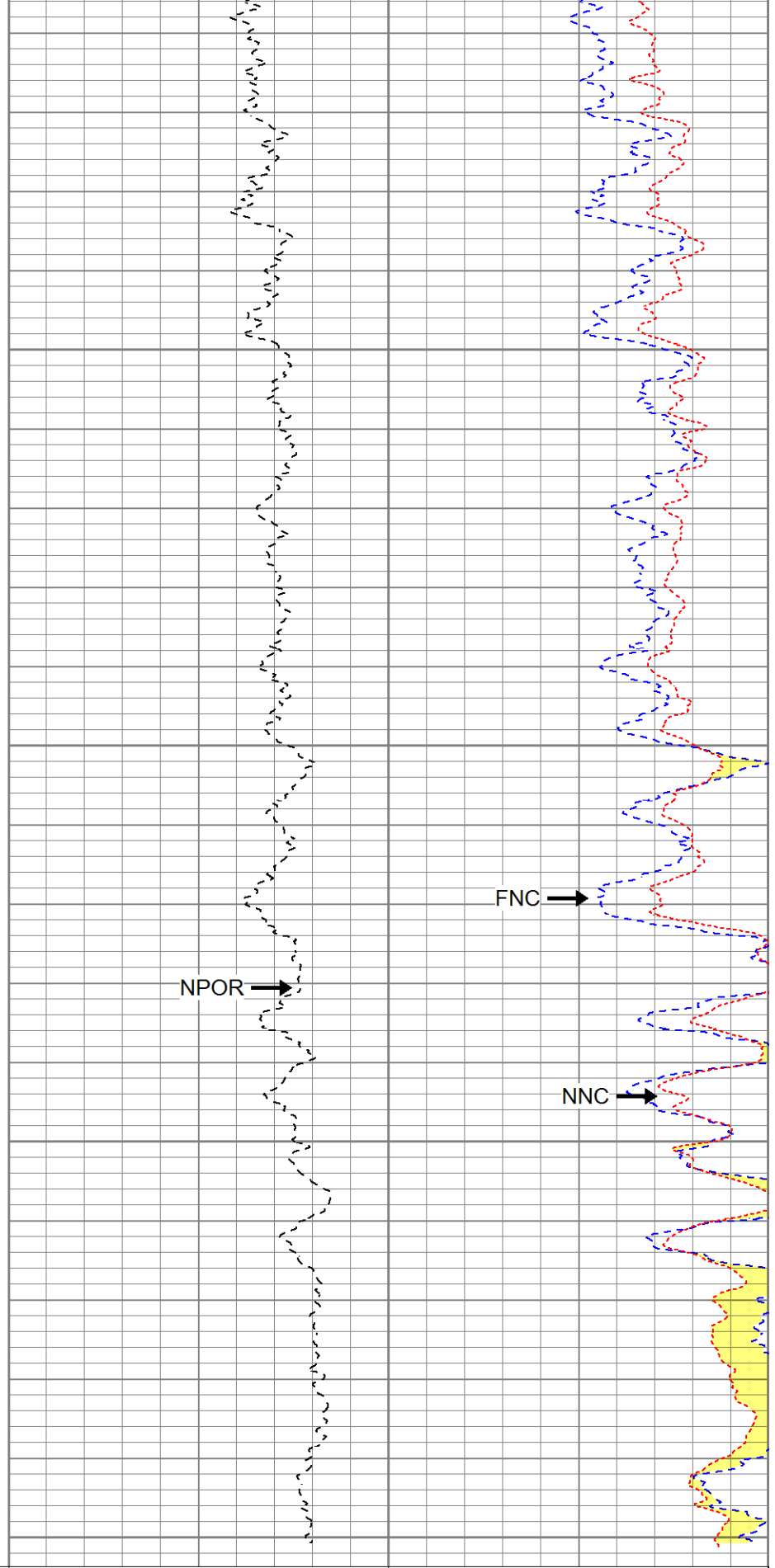








0	Gamma Ray (GAPI)	120
Casing Collar Locator		
0	Temperature (degF)	20
-100	Line Speed (ft/min)	100
0	Line Tension (lb)	2000



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

Line Tension (lb) 2000
-2 Differential Temperature (degF) 2



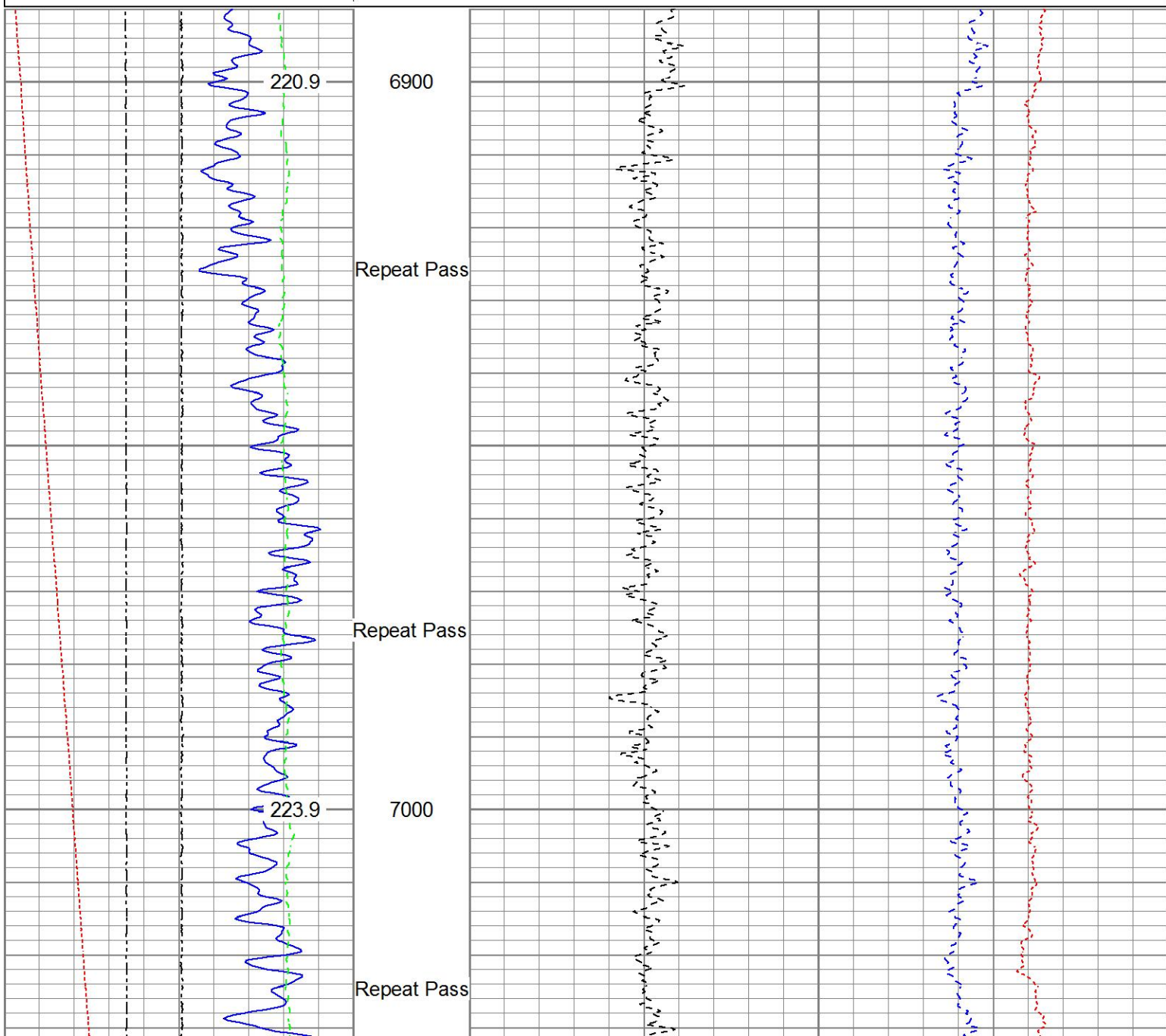
Repeat Pass

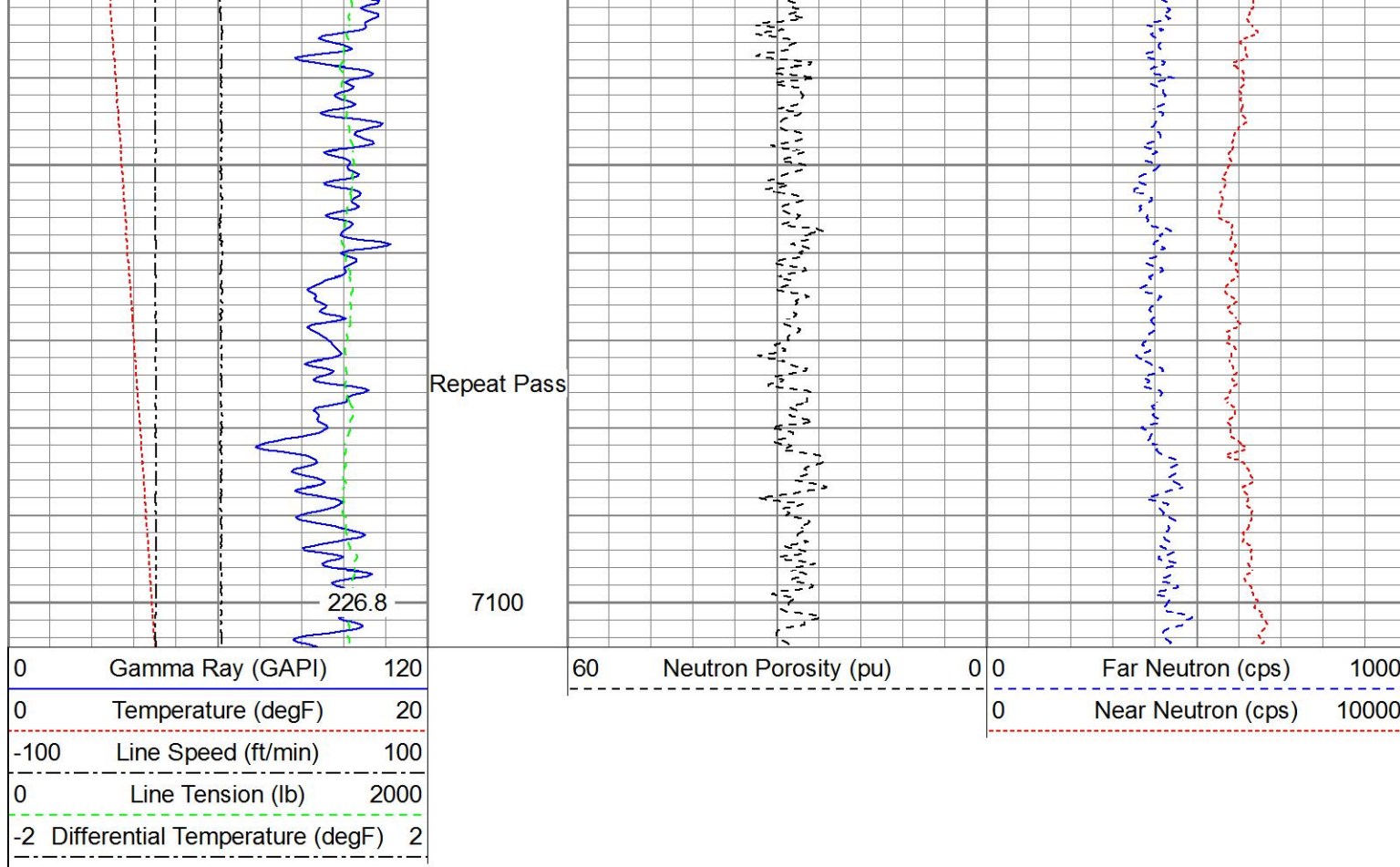
Recorded With 2800 PSI Surface Induced Pressure

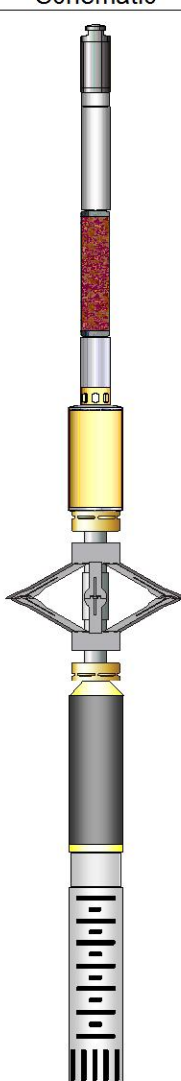
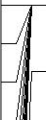
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Dataset Creation Sat Sep 03 13:29:06 2016
Charted by Depth in Feet scaled 1:240

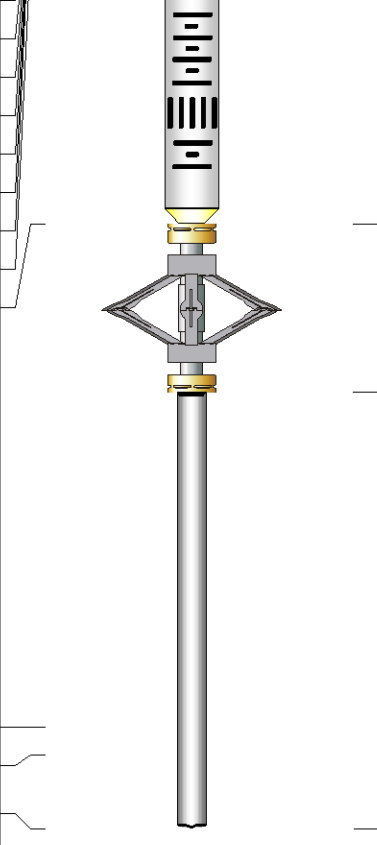
0 Gamma Ray (GAPI) 120
0 Temperature (degF) 20
-100 Line Speed (ft/min) 100
0 Line Tension (lb) 2000
-2 Differential Temperature (degF) 2

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





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)			
GR	24.33		Titan_Electric_Cable_Heads-Titan_1-11/16	161.03	1.69	5.40			
			Electric Cable Head with 1" Fishing Neck						
			UW_AGS-UW_AGS_001 (219135)	0.21	1.69	1.00			
			Sondex Adapter - GO Box to Sondex Pin						
TEMP	22.93		UW_XTU-UW_XTU_002 (219135)	1.58	1.69	6.50			
			Crossover Ultrawire Toolbus to Ultralink						
CCL	21.69		UW_PGR-UW_PGR_020 (10013899)	1.92	1.69	9.50			
			Production Gamma Ray						
			UW_PRT-PRT_016 (10025097)	1.04	1.69	5.20			
			Platinum Resistance Thermometer						
			UW_CCL-UW_CCL_028 (10024819)	1.61	3.13	36.00			
			3-1/8" Ultrawire Casing Collar Locator						
			UW_PRC-DSS_RAC	2.55	2.75	32.00			
			5 Arm 2-3/4" Roller Centralizer						
CBLROT	14.29			UW_RBT-UW_RBT_004 (10013454)	9.48	3.13	140.00		
WVFS8	14.29			Sondex Ultrawire 3-1/8" Radial Bond Tool					
WVFS7	14.29								
WVFS6	14.29								

WVFS6	14.29		2.55	2.75	32.00
WVFS5	14.29				
WVFS4	14.29				
WVFS3	14.29				
WVFS2	14.29				
WVFS1	14.29				
WVF3FT	14.29				
WVF5FT	13.29				
CBLTEMP	9.16				
CNLSC	1.53				
CNSSC	1.12				
TSTAMP	0.00				
Dataset: 0512342304_Anadarko_Land 15C-32HZ_09-03-16_CNL_RBL_w8.db: field/well/run1/pass6.1 Total length: 28.58 ft Total weight: 297.60 lb O.D.: 3.13 in					

Calibration Report			
Database File	0512342304_Anadarko_Land 15C-32HZ_09-03-16_CNL_RBL_w8.db		
Dataset Pathname	pass6.1		
Dataset Creation	Sat Sep 03 13:24:17 2016		
Compensated Neutron Calibration Report			
Serial Number:	1007		
Tool Model:	UW_CNL_007		
Master Calibration	Sun Feb 07 11:32:29 2016		
Detector	Readings		
Short Space	240.97	cps	
Long Space	302.45	cps	
Ratio	Measured	Reference	
	0.8150	Sleeve: 1.0000	
CNRAT Gain K	1.0211		
Before Survey			
Detector	Readings		
Short Space		cps	
Long Space		cps	
	Measured	Reference	
Ratio			
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:	7.000 in
Calibration Depth:	305.118 ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.001	0.861	0.800	71.921	82.444	0.901
5FT	-0.035	0.814	0.800	71.921	83.733	3.756
S1	-0.001	0.729	0.000	100.000	136.897	0.180
S2	-0.003	0.736	0.000	100.000	135.486	0.344
S3	-0.003	0.748	0.000	100.000	133.156	0.343
S4	-0.003	0.770	0.000	100.000	129.383	0.333
S5	-0.001	0.787	0.000	100.000	126.785	0.168
S6	-0.003	0.779	0.000	100.000	127.980	0.326
S7	-0.002	0.748	0.000	100.000	133.380	0.257
S8	-0.002	0.745	0.000	100.000	133.960	0.258

Temperature Calibration Report

Serial Number:	10025097
Tool Model:	PRT_016
Performed:	Sun Oct 11 12:34:58 2015

Point #	Reading		Reference	
1	13053.00	cps	68.00	degF
2	18014.00	cps	104.00	degF
3	29668.00	cps	176.00	degF
4	41181.00	cps	248.00	degF
5	52983.00	cps	320.00	degF
6	58931.00	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:	(Not Performed)	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps



Well	Land 15C-32HZ
Field	Wattenberg
County	Weld
State	Colorado