



Pulsed Neutron
Gamma Ray
Casing Collar Log

Company TEP Rocky Mountain LLC		Well Clough NR 411-3		Field Rulison		County Garfield		State Colorado							
Location:		API # : 05-045-23900		Other Services											
SEC 3		TWP 6S		RGE 94W		RBL									
Permanent Datum		Ground Level		Elevation		6719.1'									
Log Measured From		Kelly Bushing		24 FT											
Drilling Measured From		Kelly Bushing													
Date		27-AUG-2018													
Run Number		One													
Depth Driller		10820 FT													
Depth Logger		10741 FT													
Bottom Logged Interval		10735 FT													
Top Log Interval		6396 FT													
Open Hole Size		8.750"													
Type Fluid		Fresh Water													
Density / Viscosity		8.34 lb/gal													
Max. Recorded Temp.		---													
Estimated Cement Top		---													
Time Well Ready		ROA													
Time Logger on Bottom		17.25													
Equipment Number		HD-0359													
Location		Grand Junction, CO													
Recorded By		Z. Fisher													
Witnessed By		D. Welsh													
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		H-40		Surface		1124 FT					
Intermediate #1		4 1/2		11.6		P-110		Surface		10779 F					
Intermediate #2															
Inner															

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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 Reliance Bond Log dated 27-AUG-2018
Log ran from 10735 FT to 6396 FT
Pulsed Neutron Data logged with the Hunter RAS Tool

Thank you for choosing Reliance Oilfield Services, LLC!!

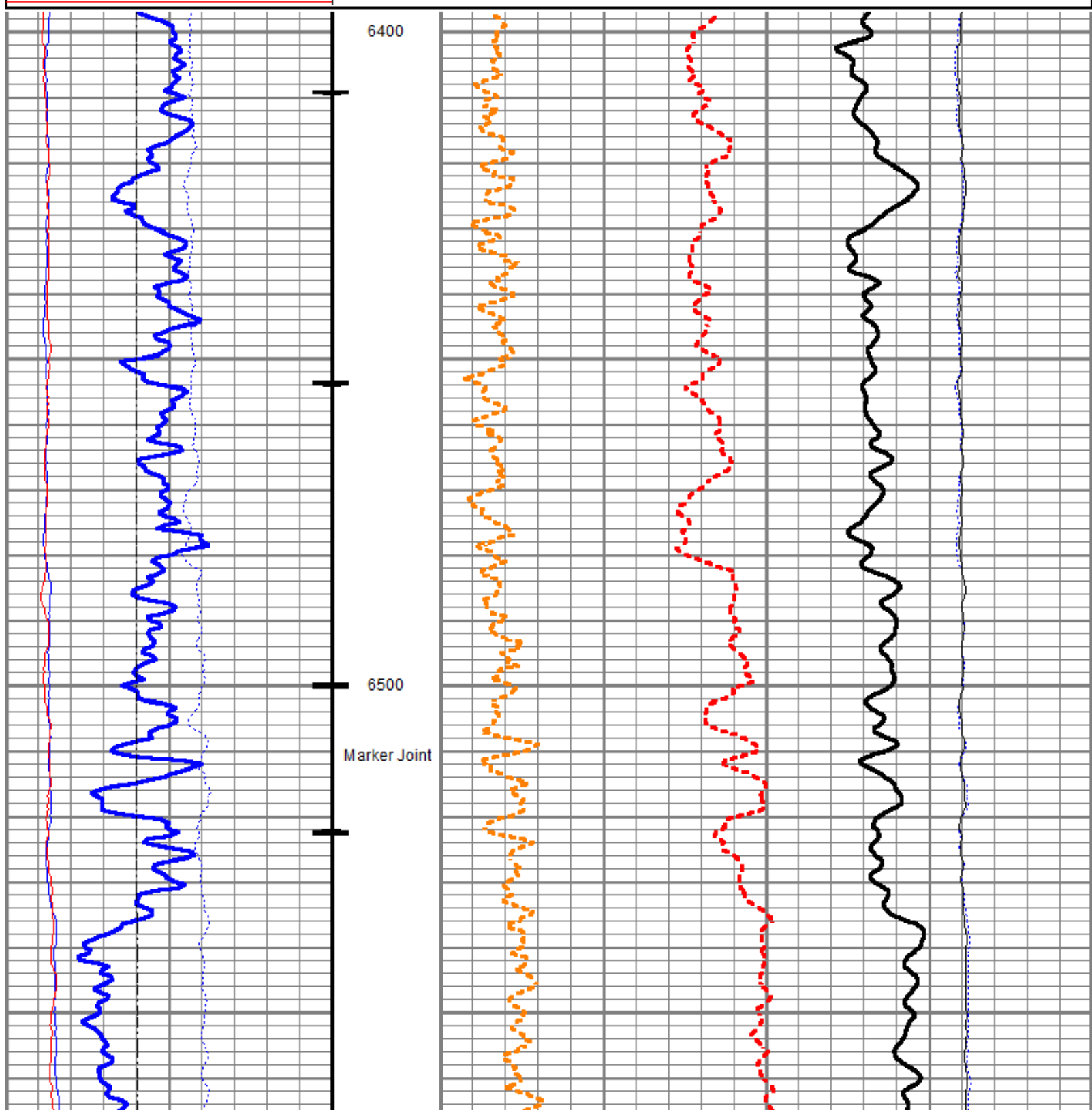


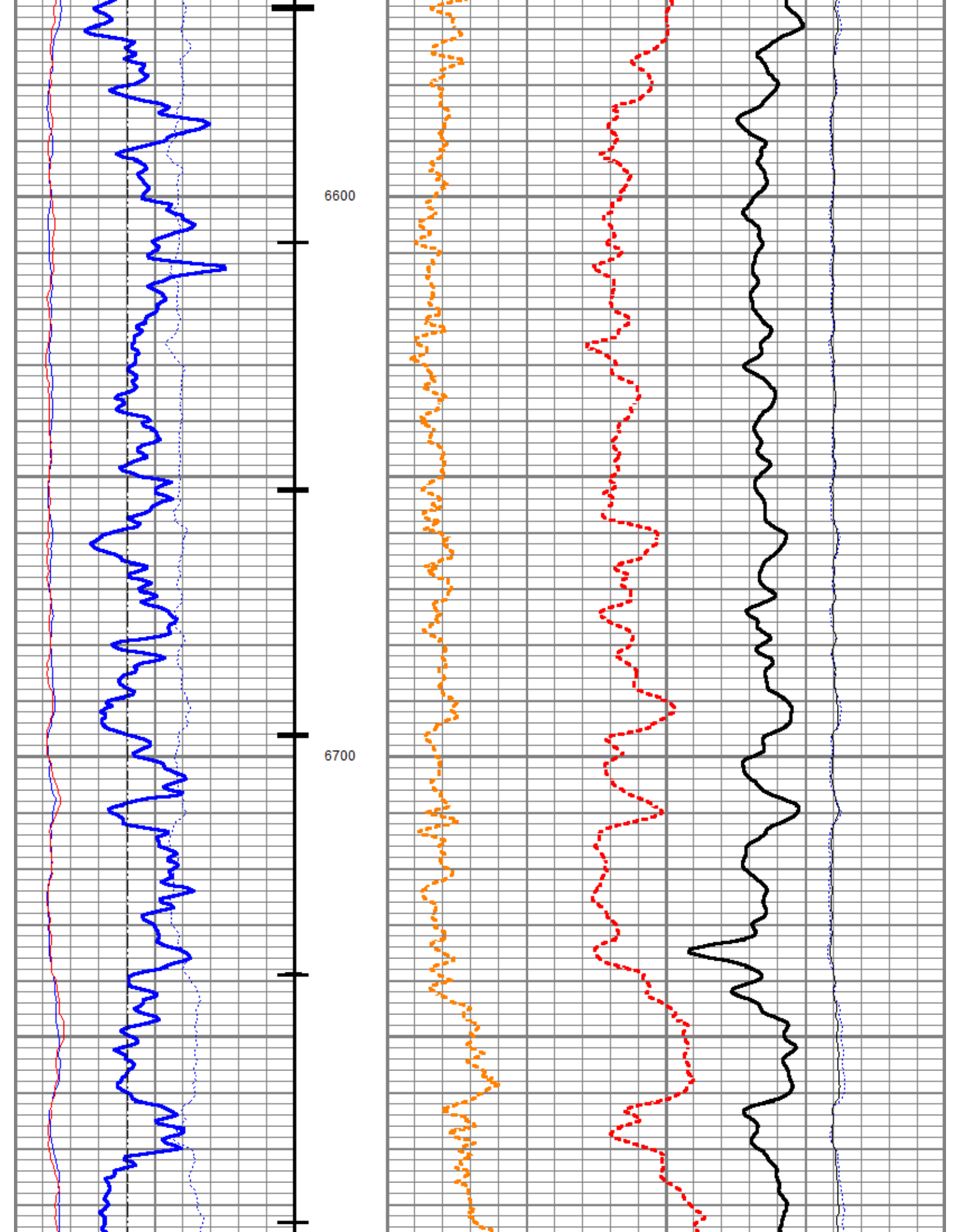
Main Pass

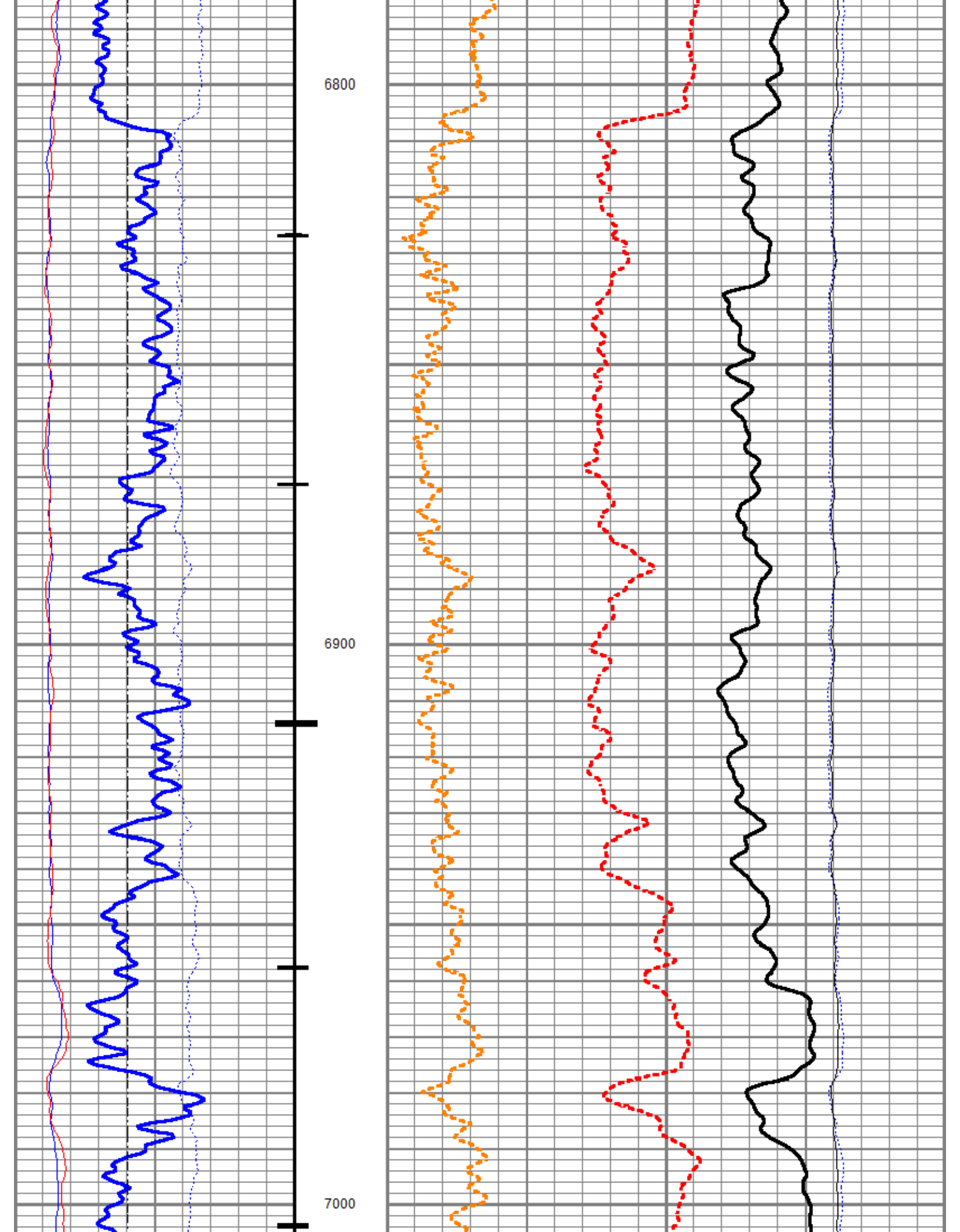
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Dataset Pathname	merge1
Presentation Format	ros_pdn_hunter
Dataset Creation	Thu Aug 30 17:58:52 2018
Charted by	Depth in Feet scaled 1:240

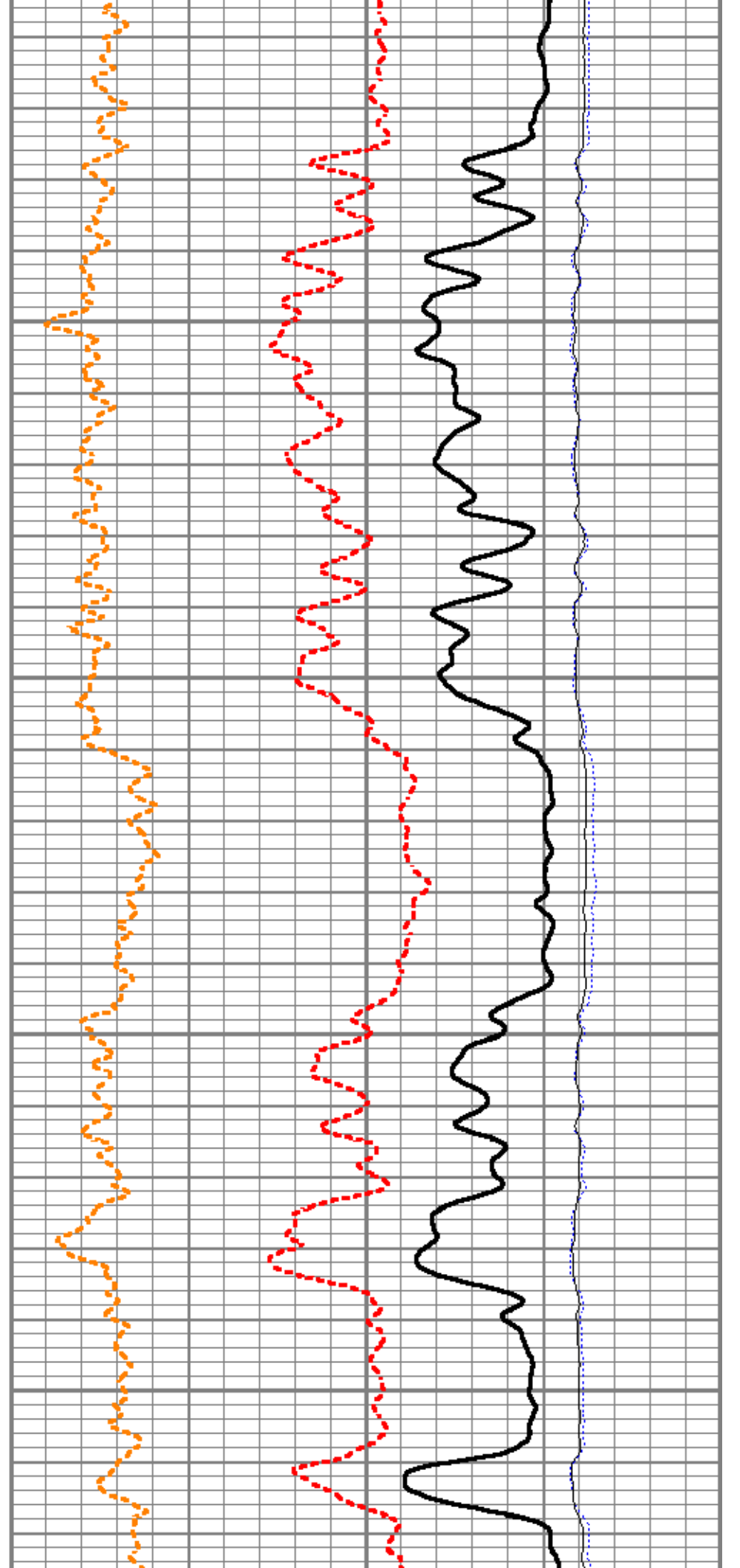
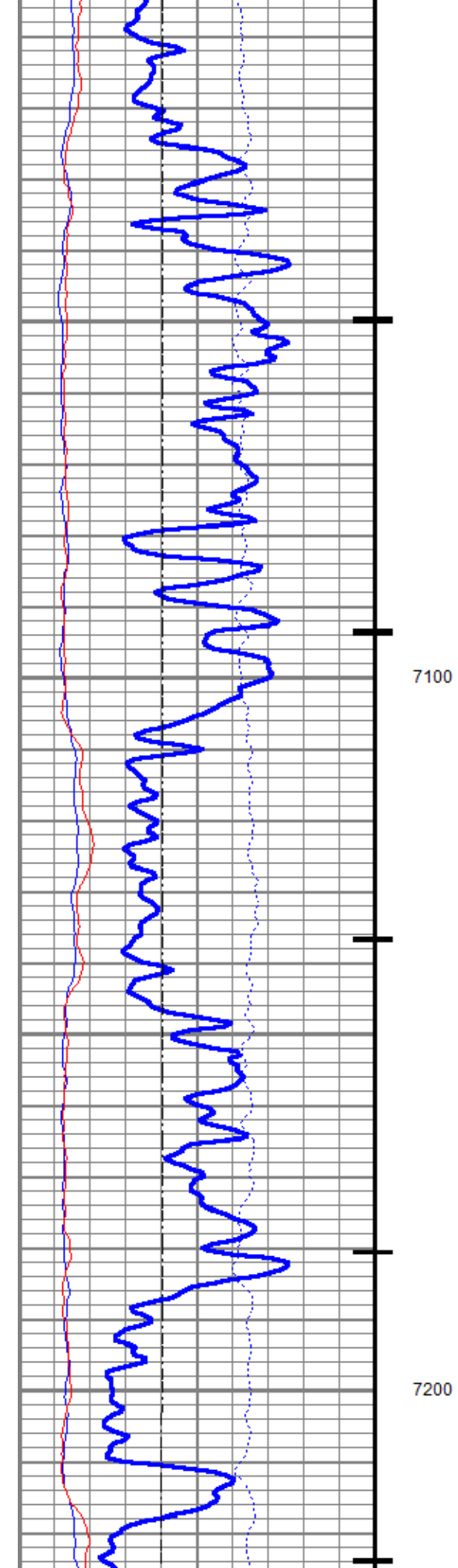
0	GR (GAPI)	150
CCL2		
-100	Line Speed (ft/min)	100
0	NIRS	400000
0	BKGN (cps)	4000
0	BKGF (cps)	2000

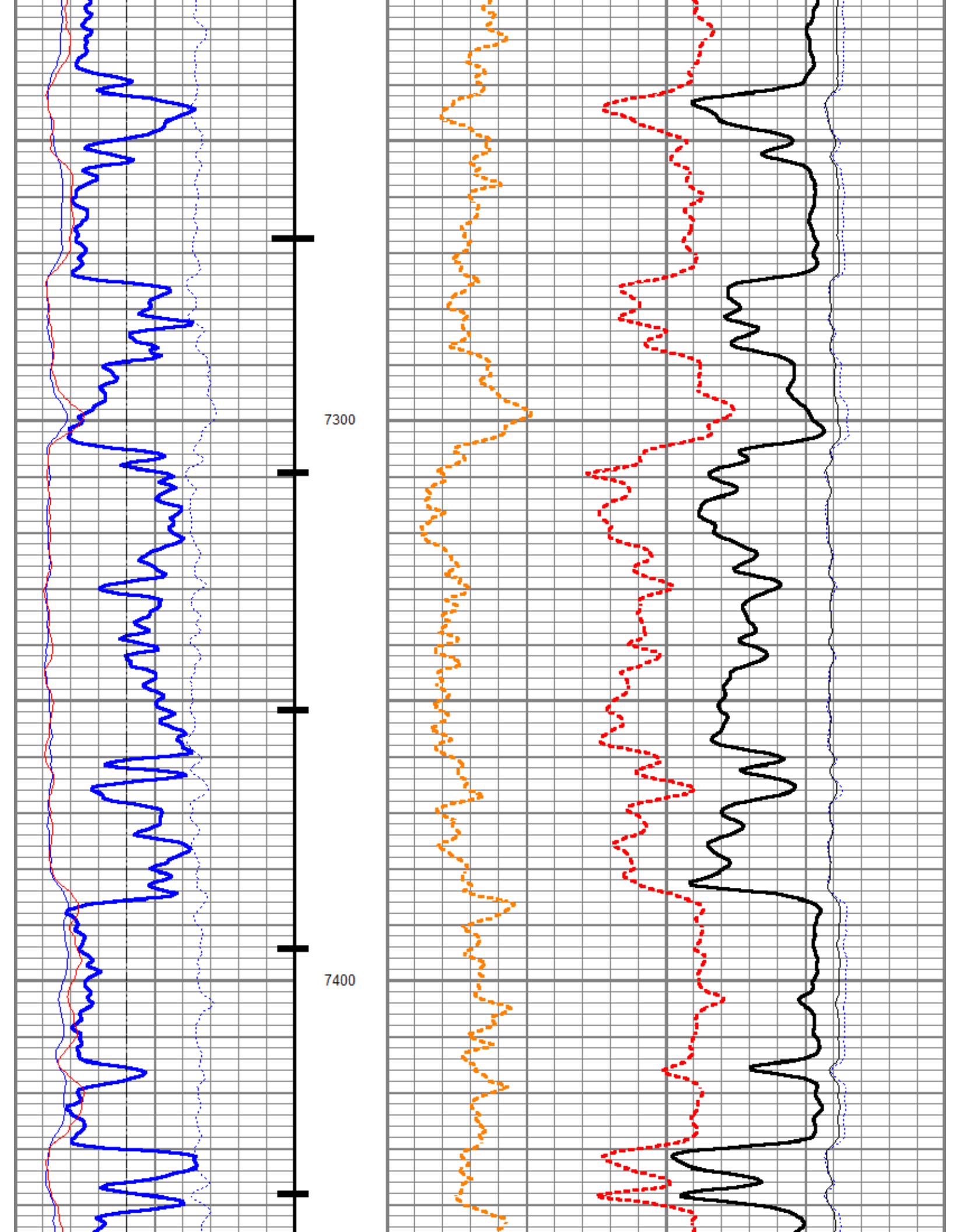
4	RNF2	0
60	SIGMA (cu)	0
4.5	RNF1	0
0	FIS2	45000
0	NIS2	100000

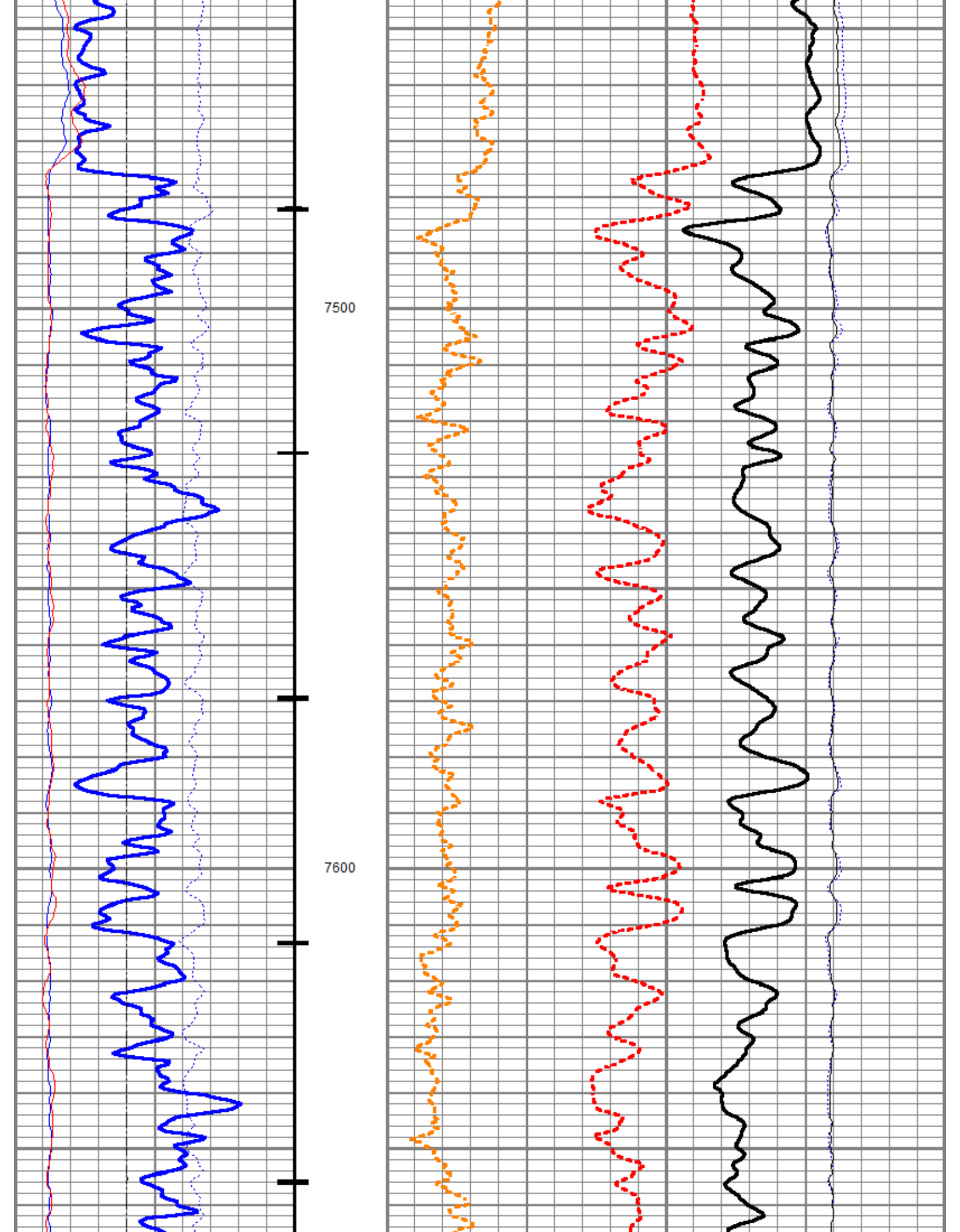


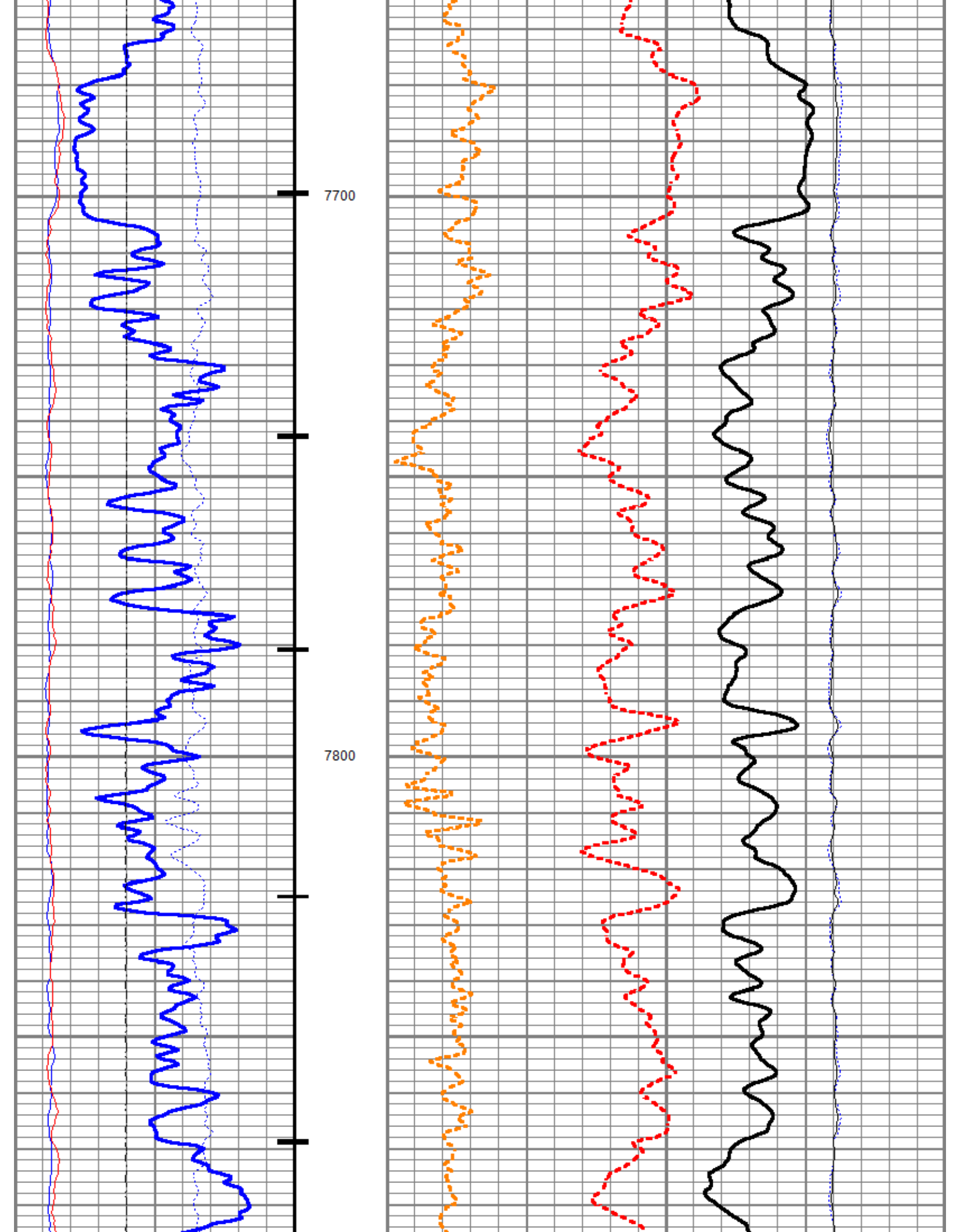


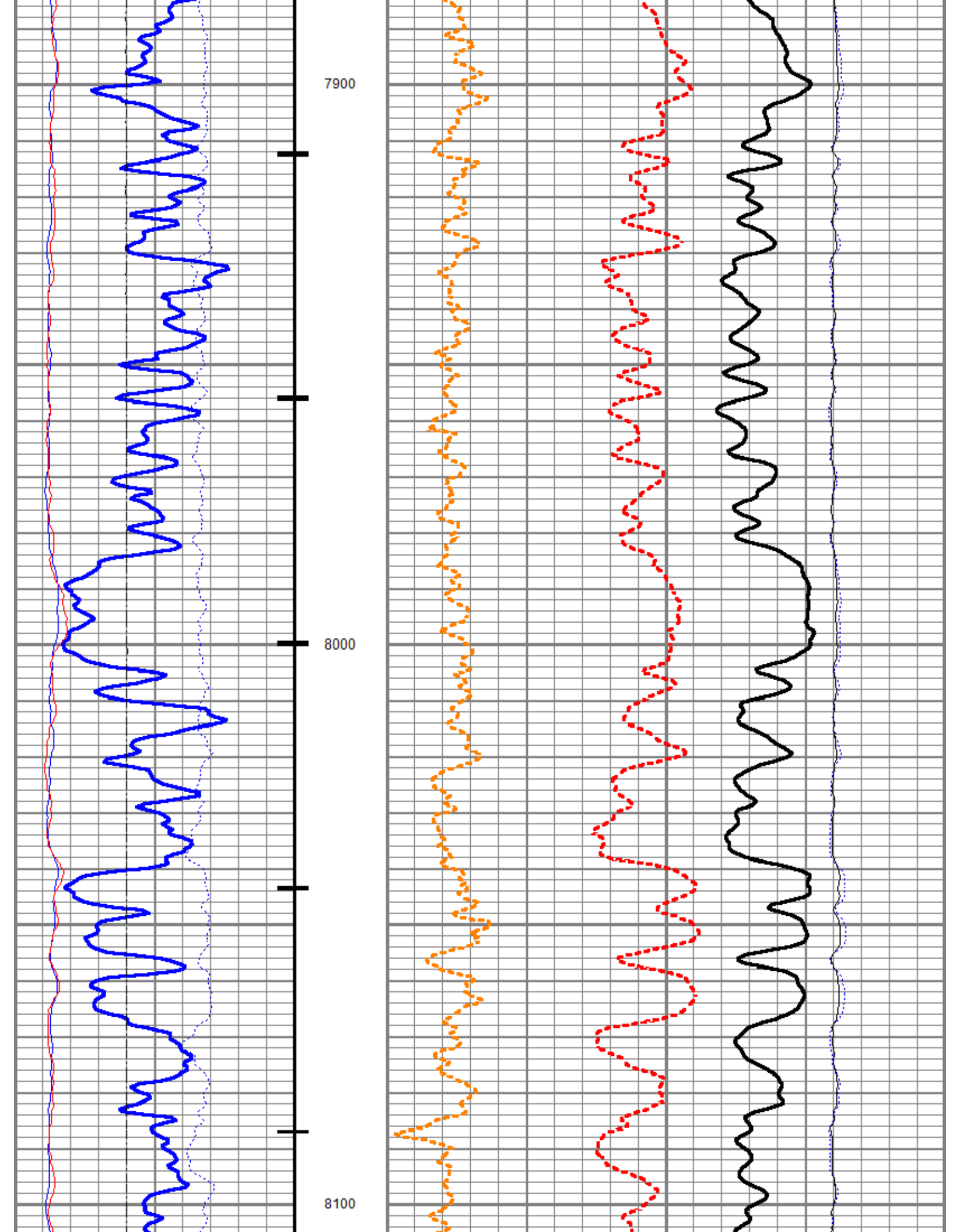


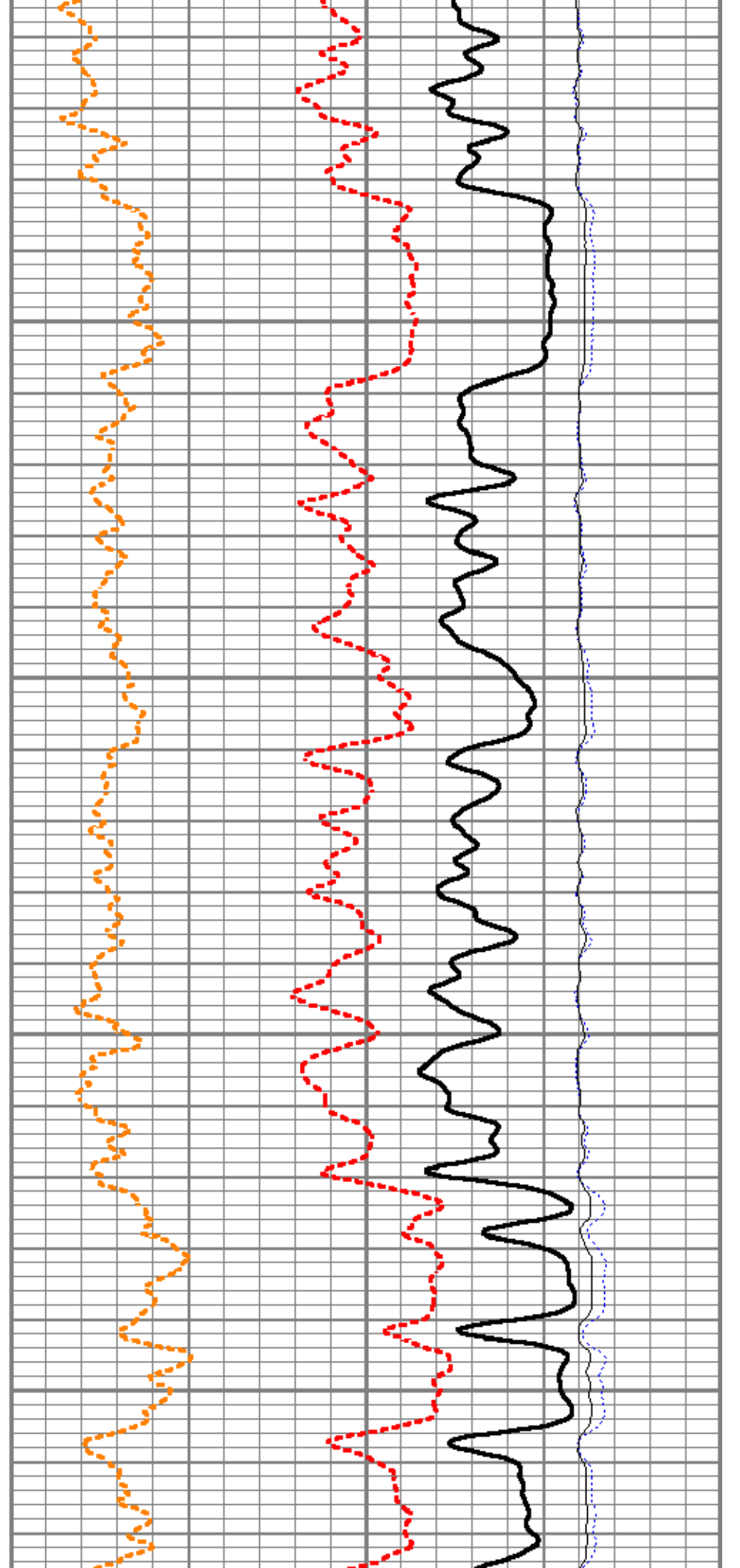
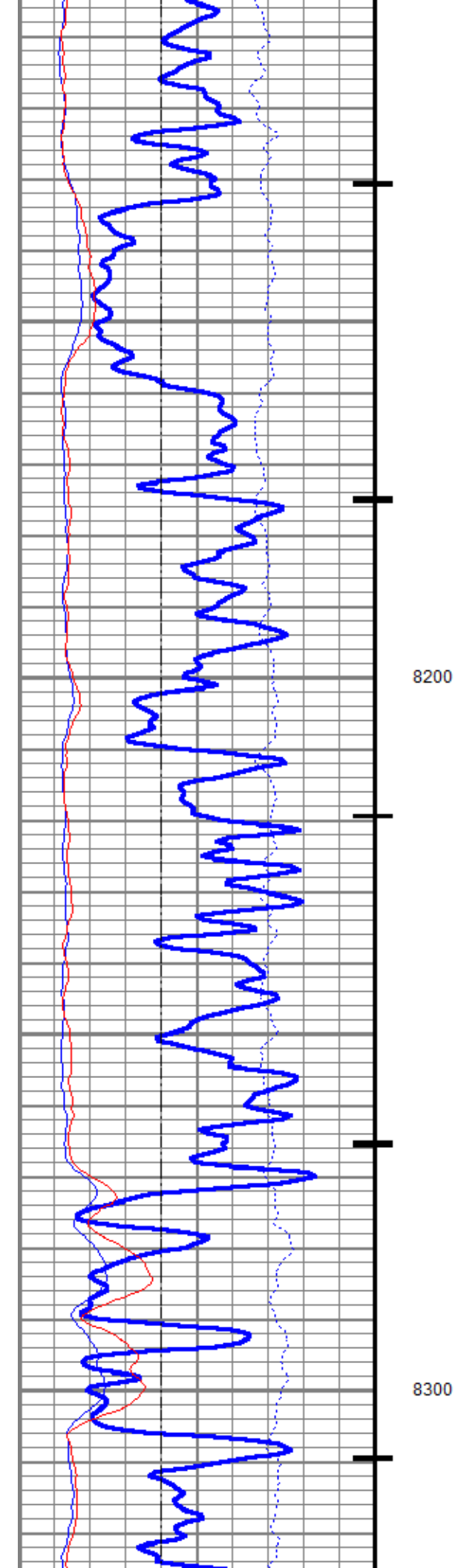


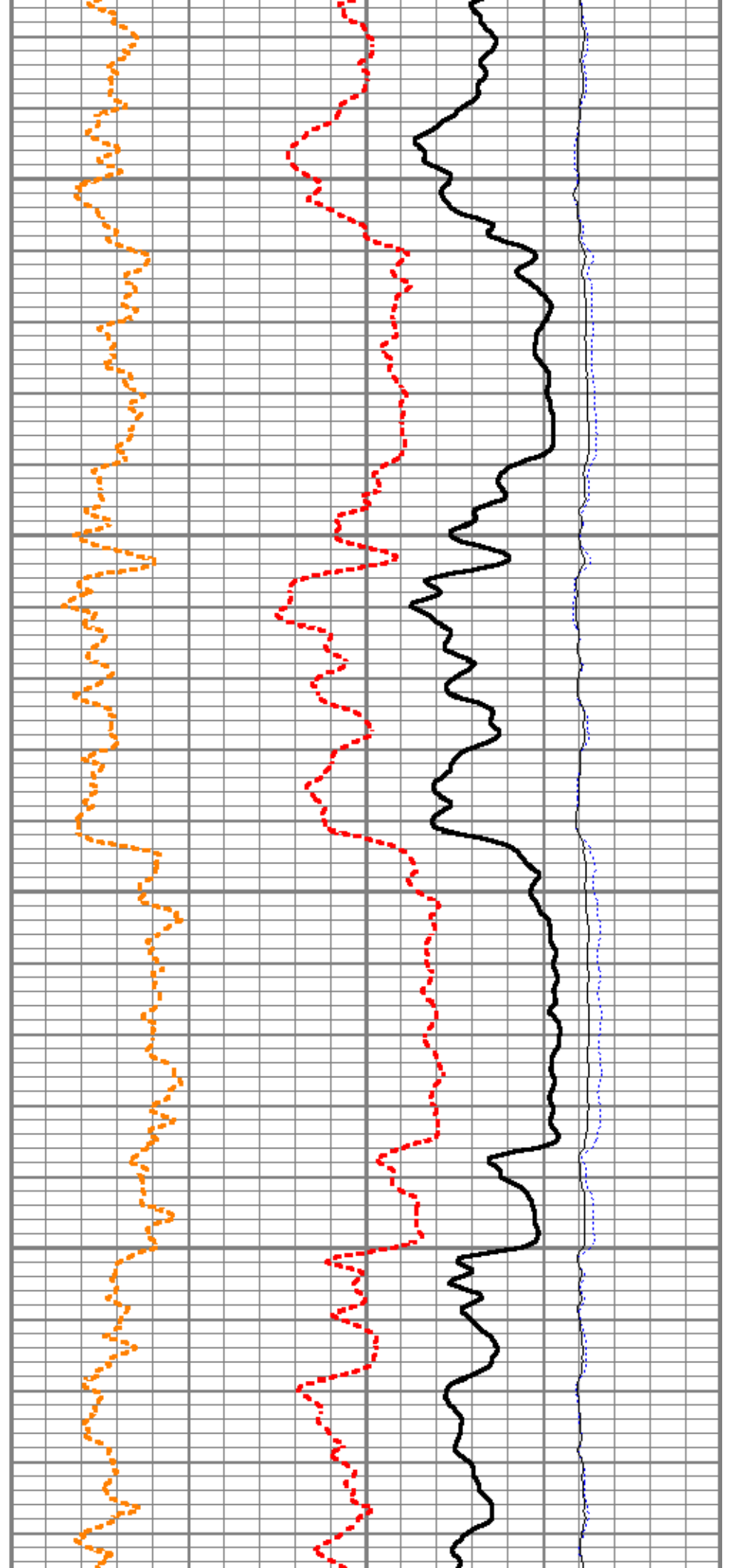
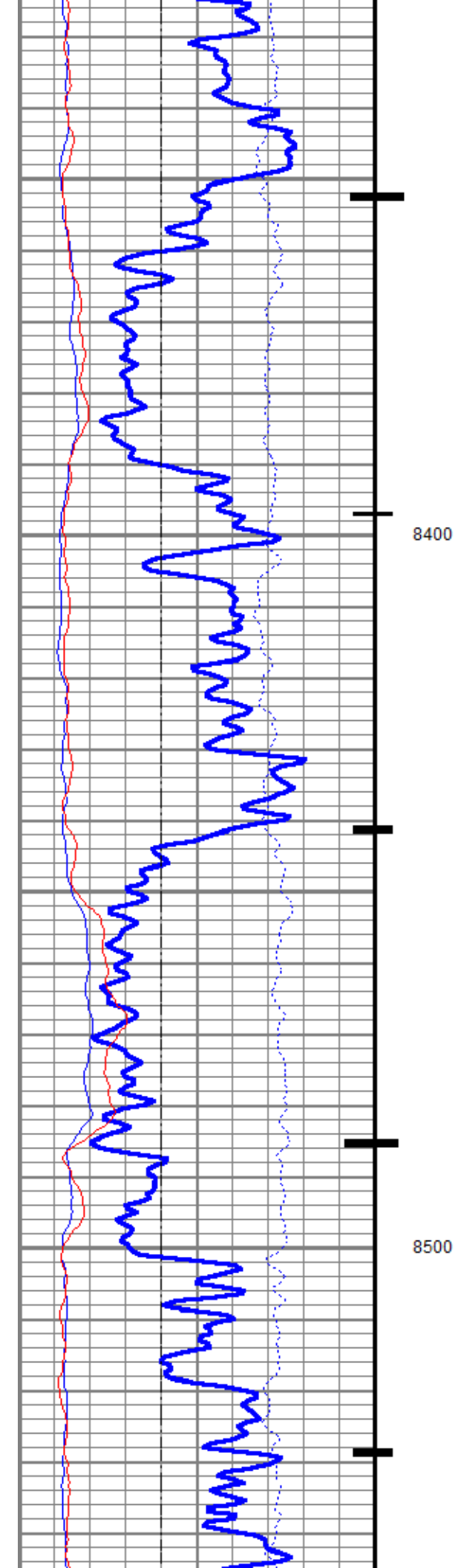


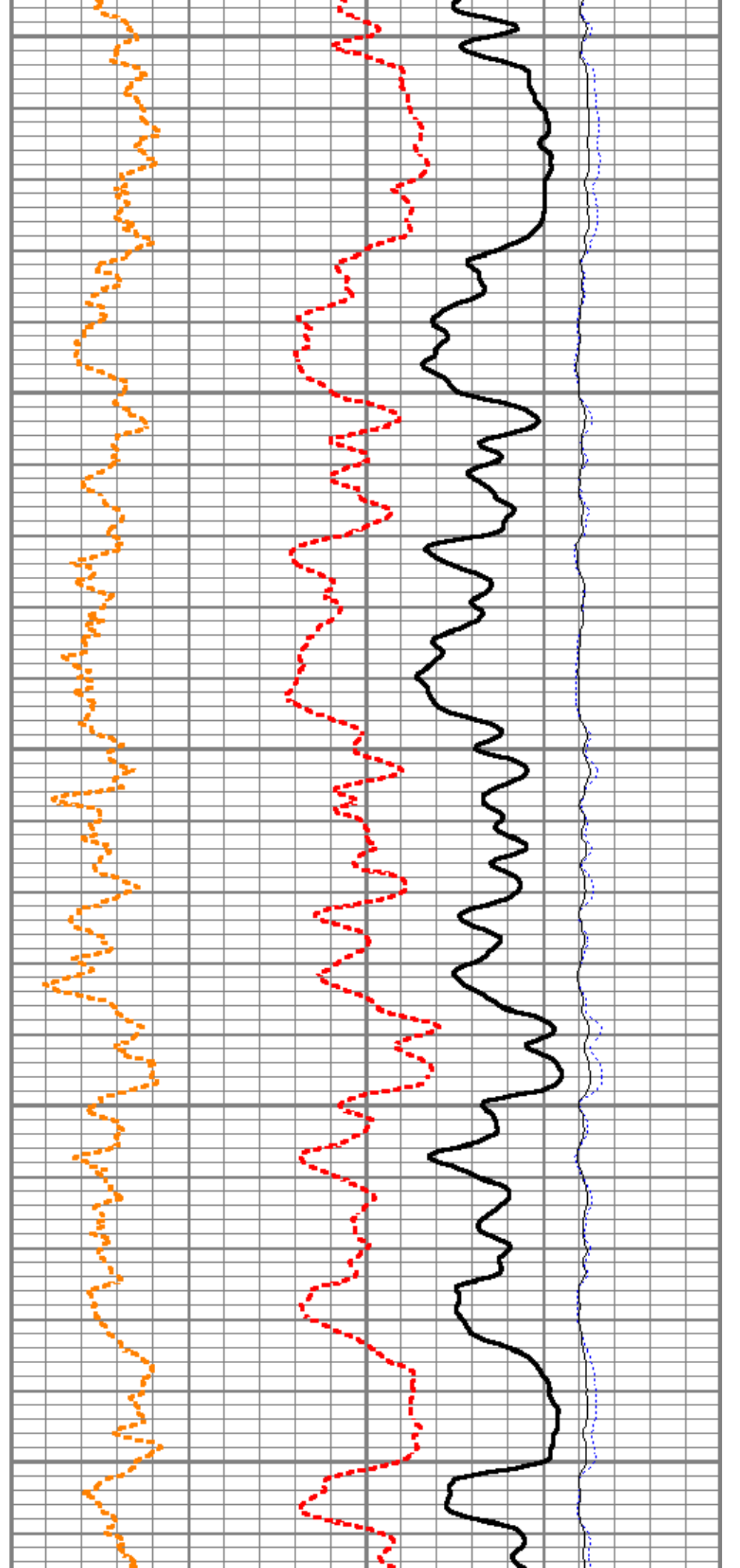
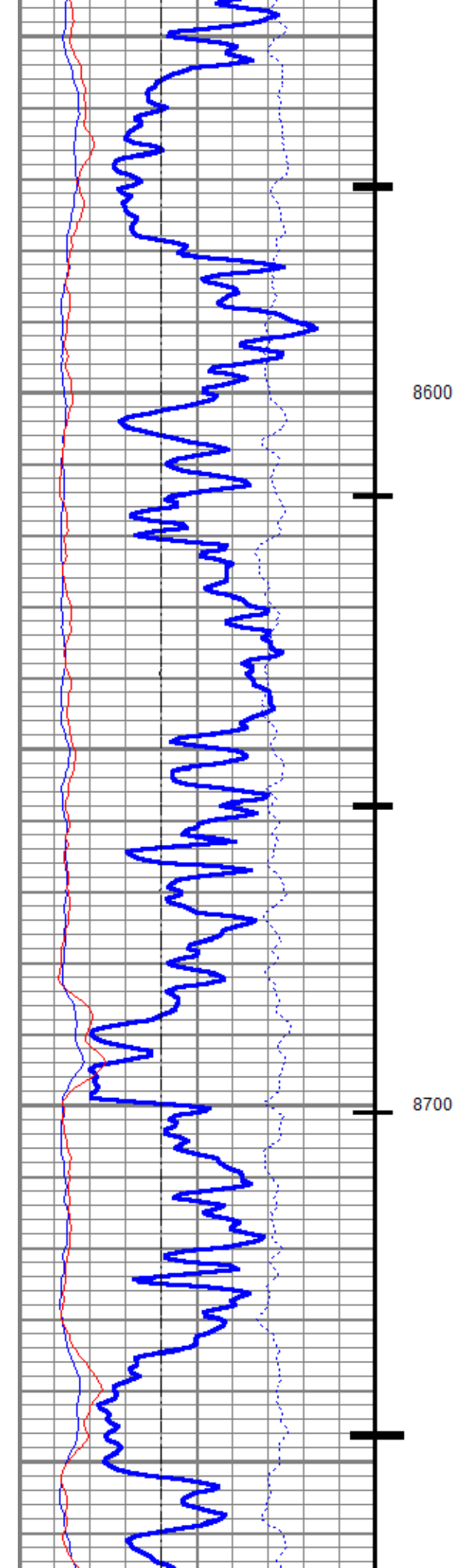


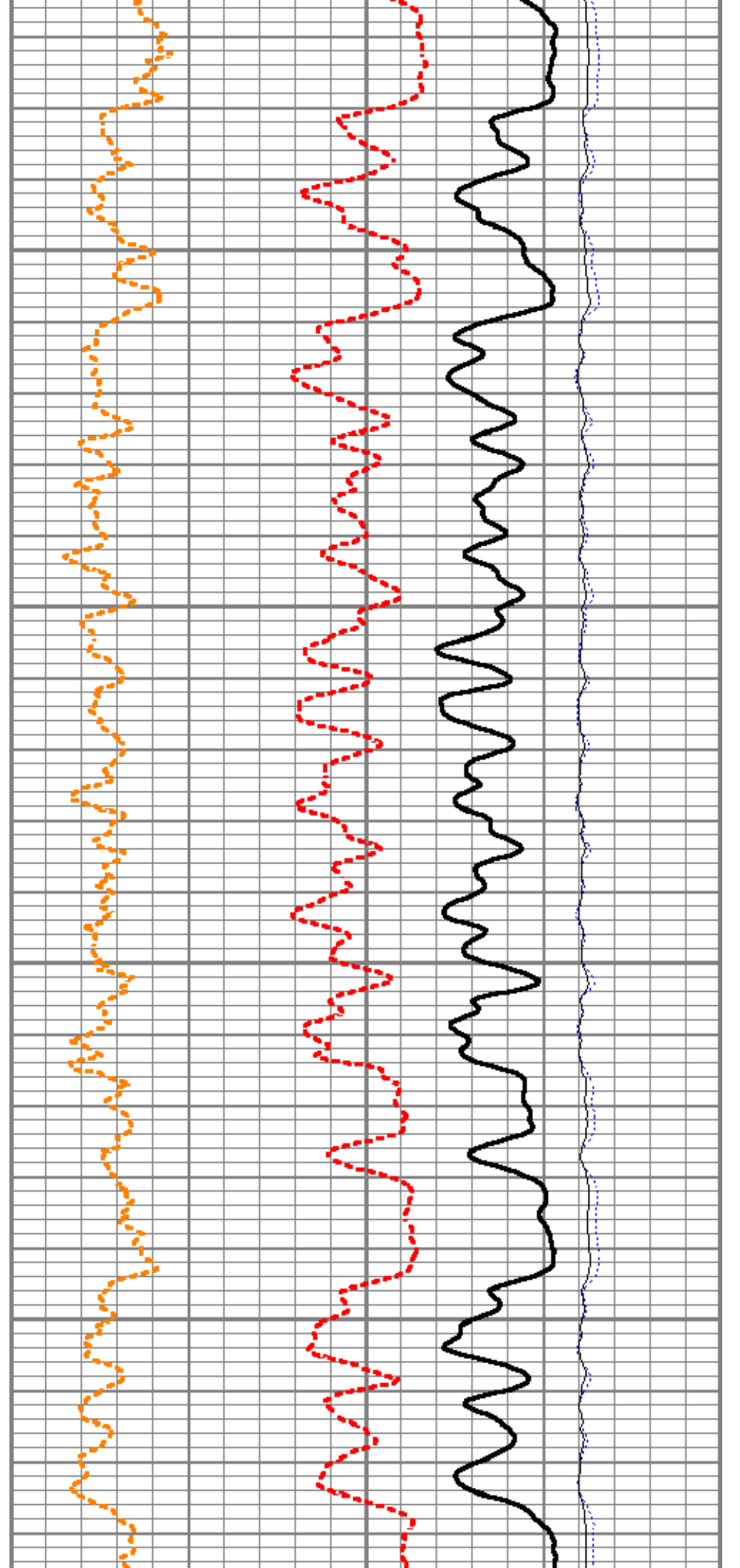
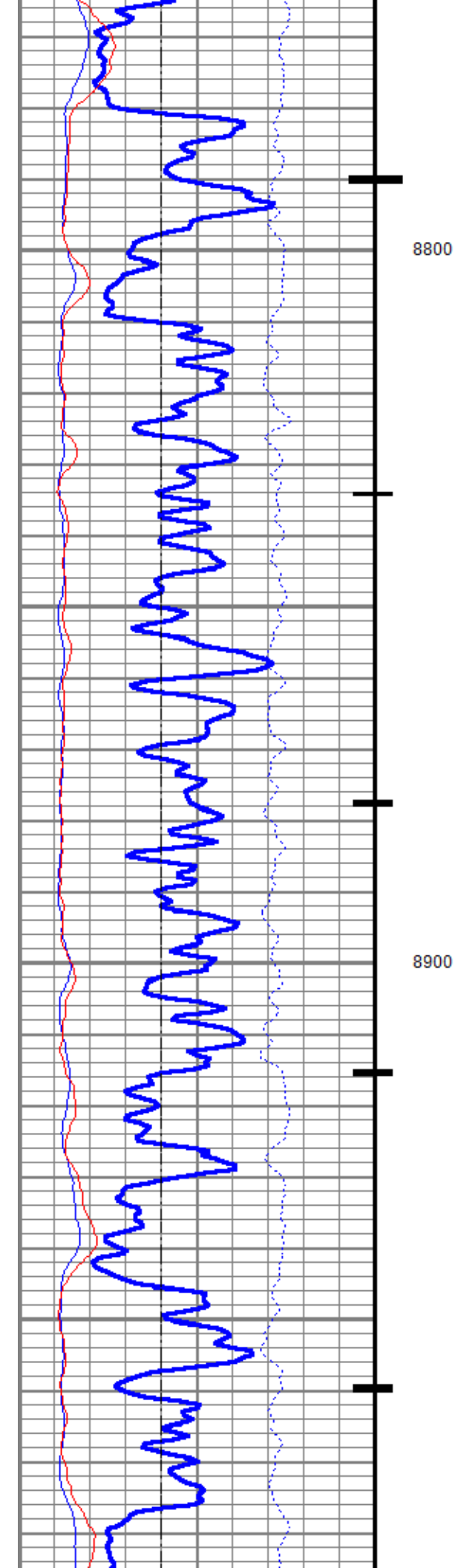


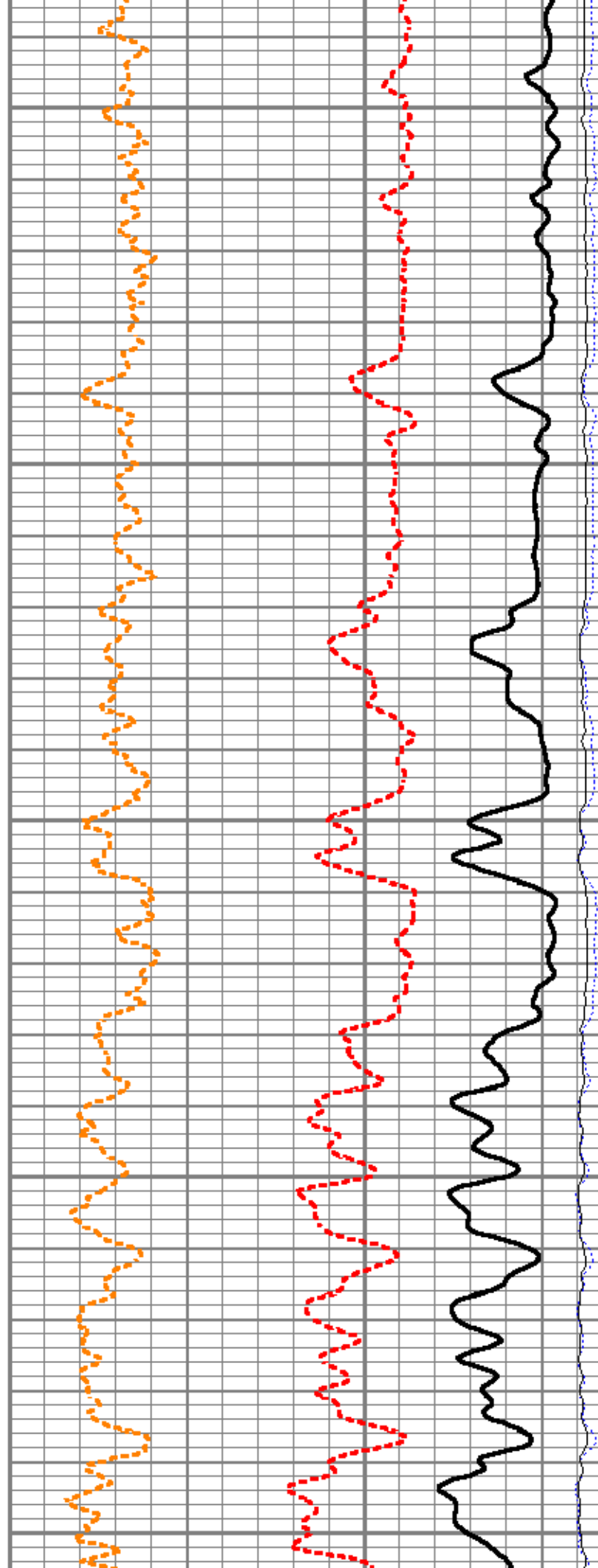
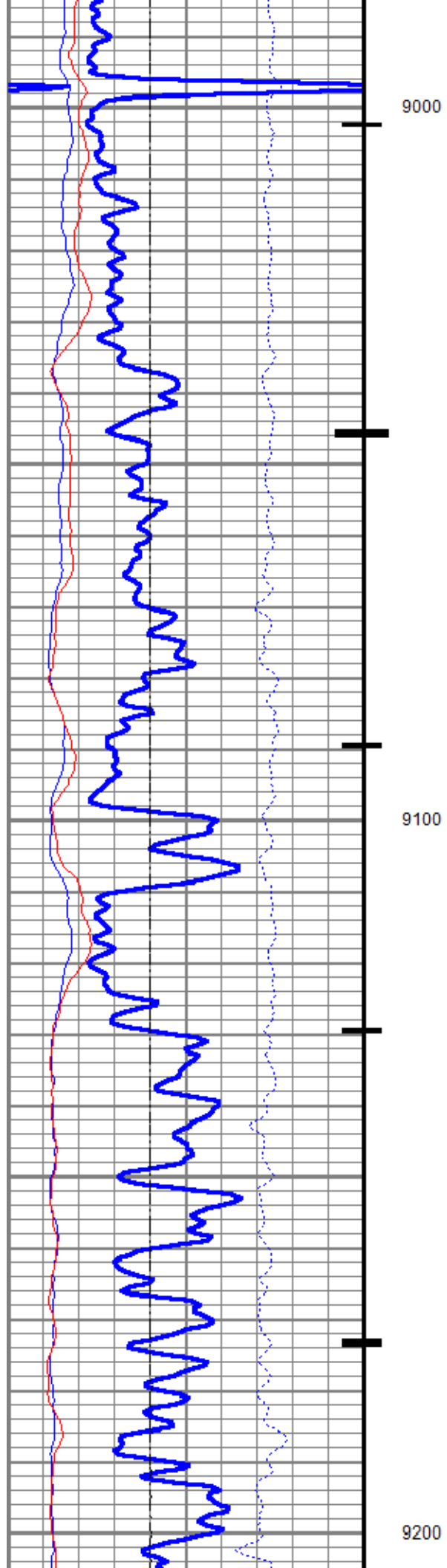


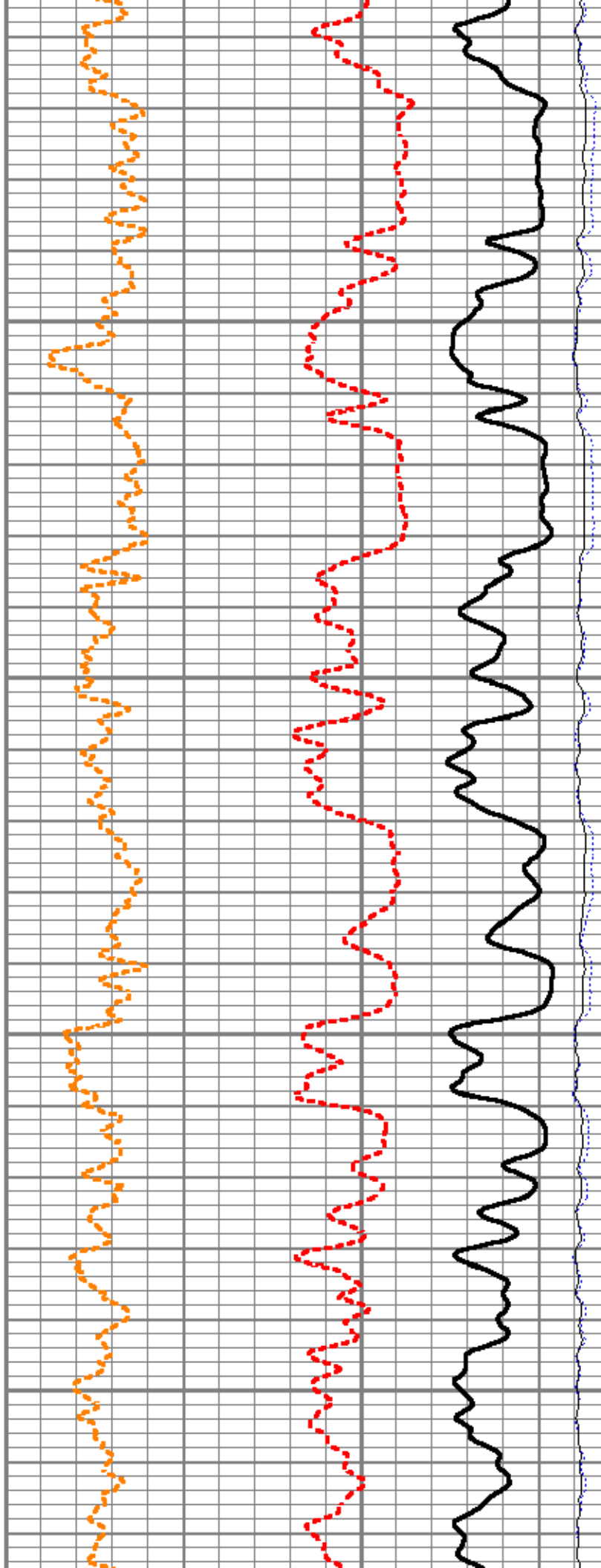
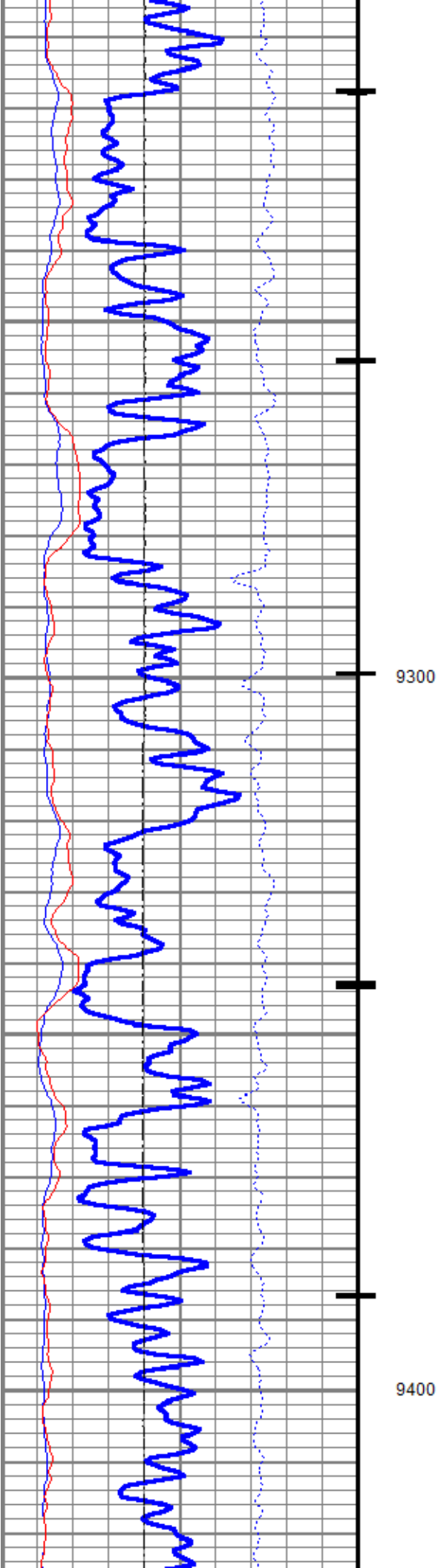


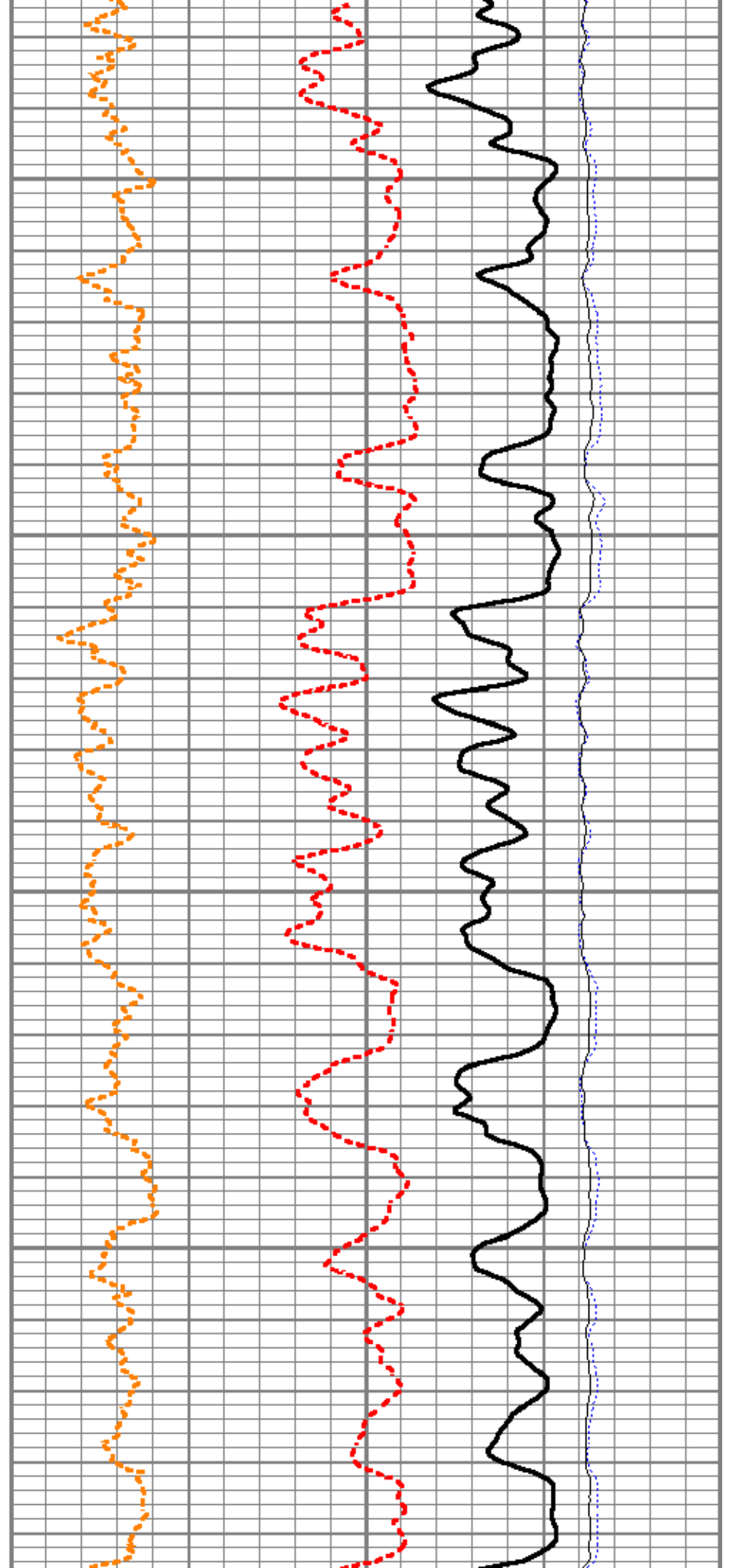
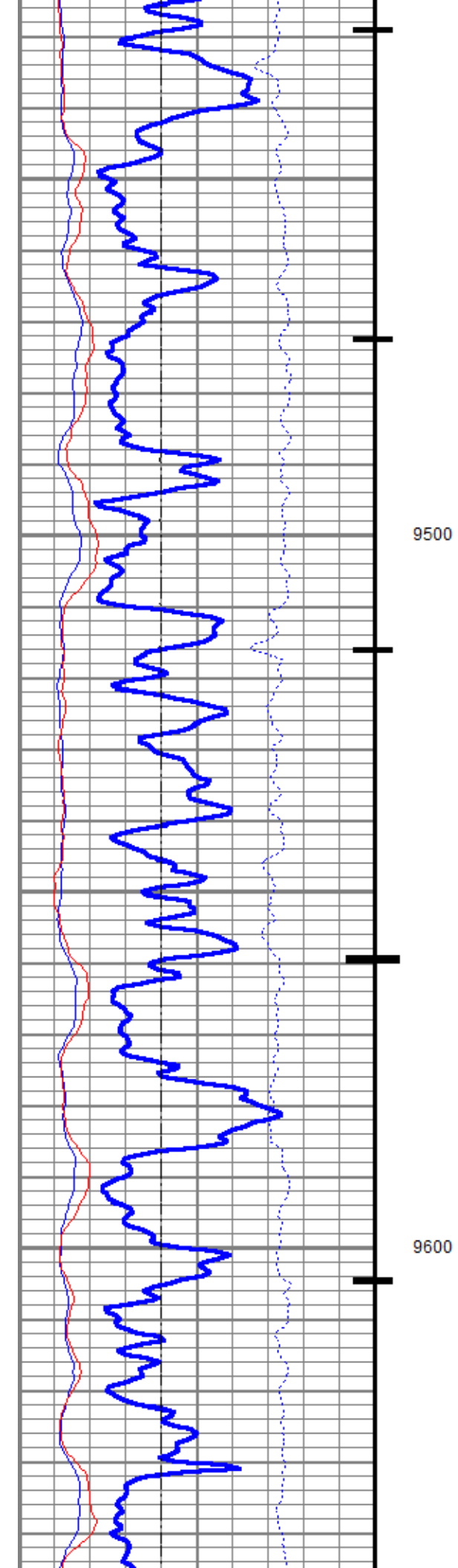


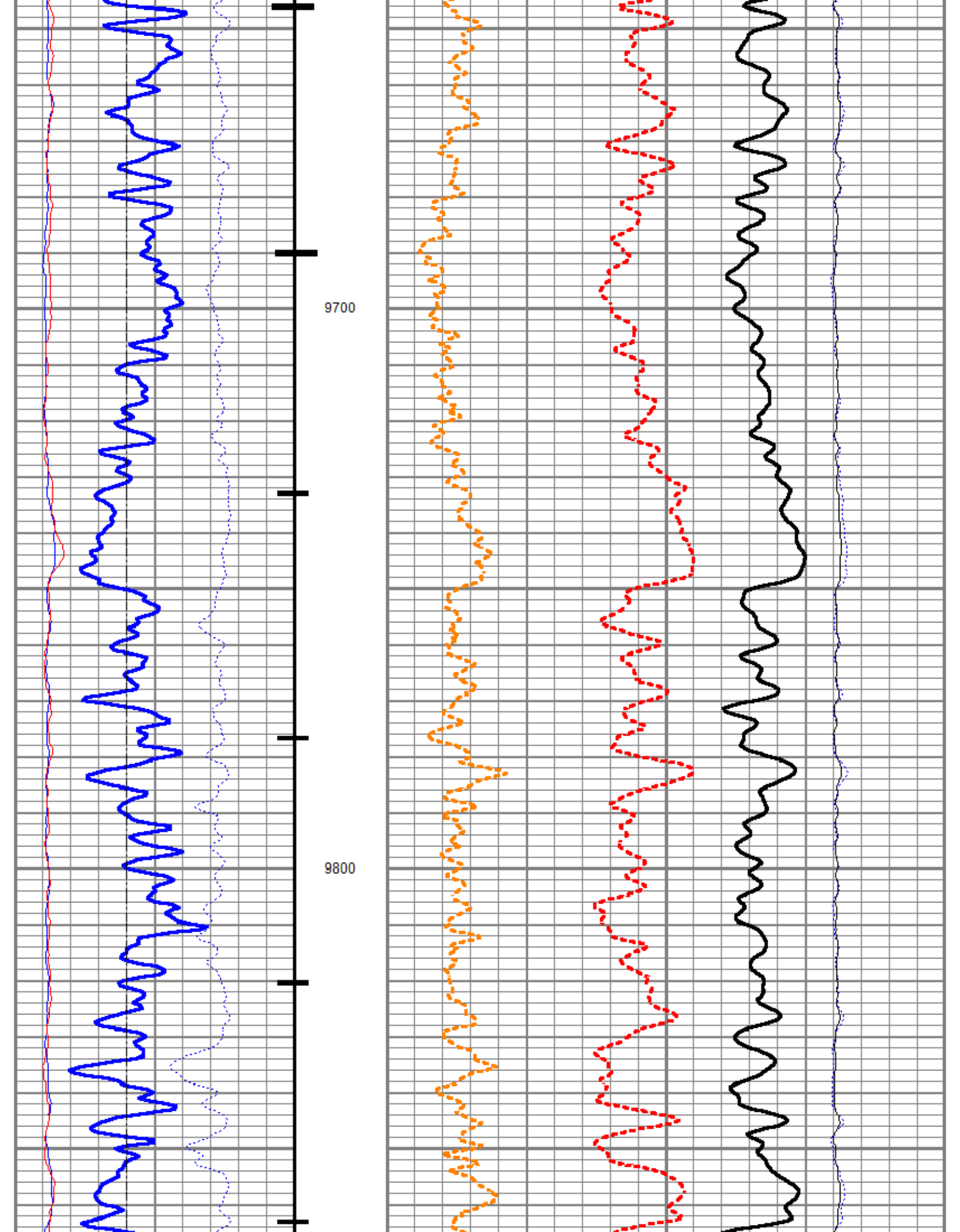


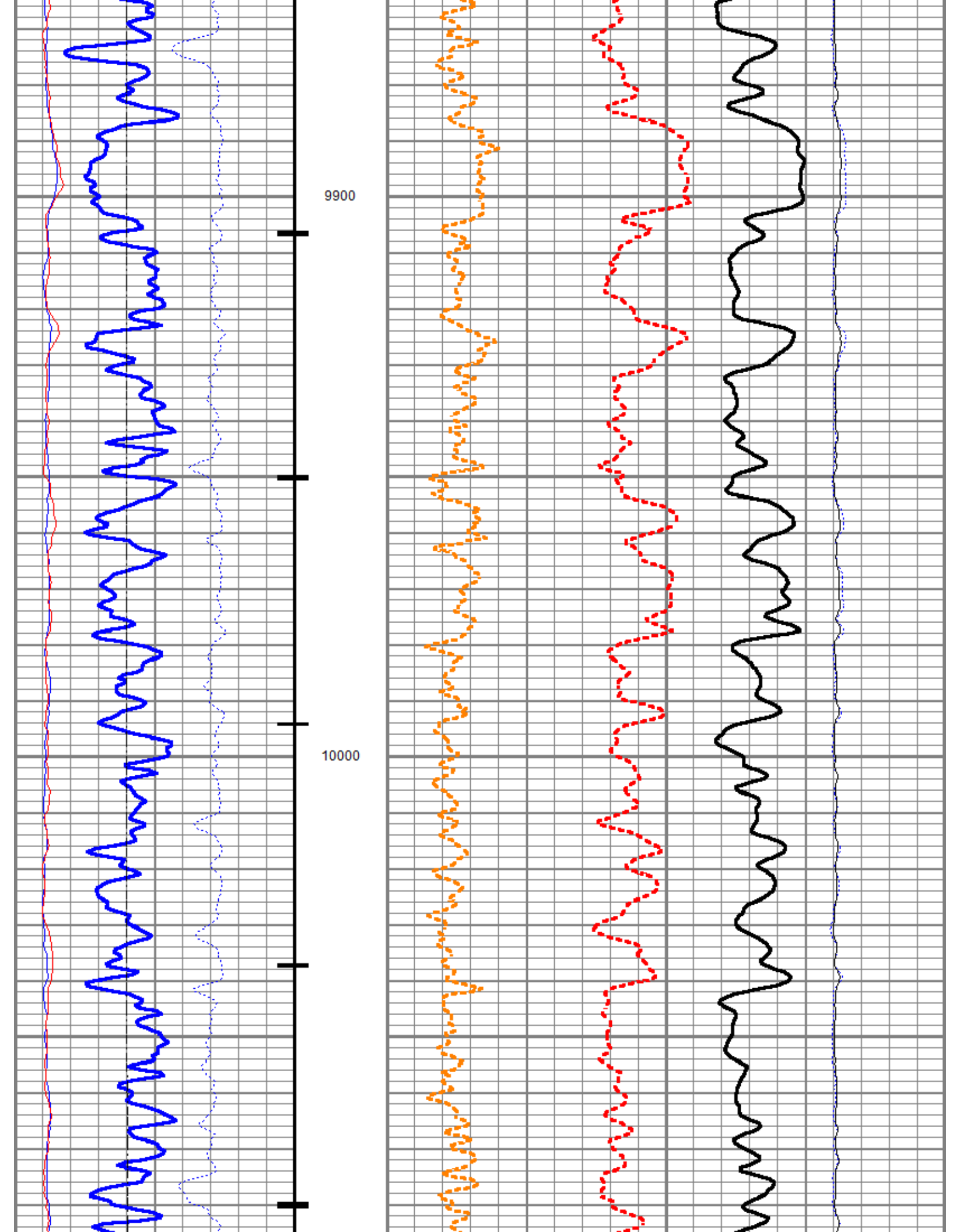


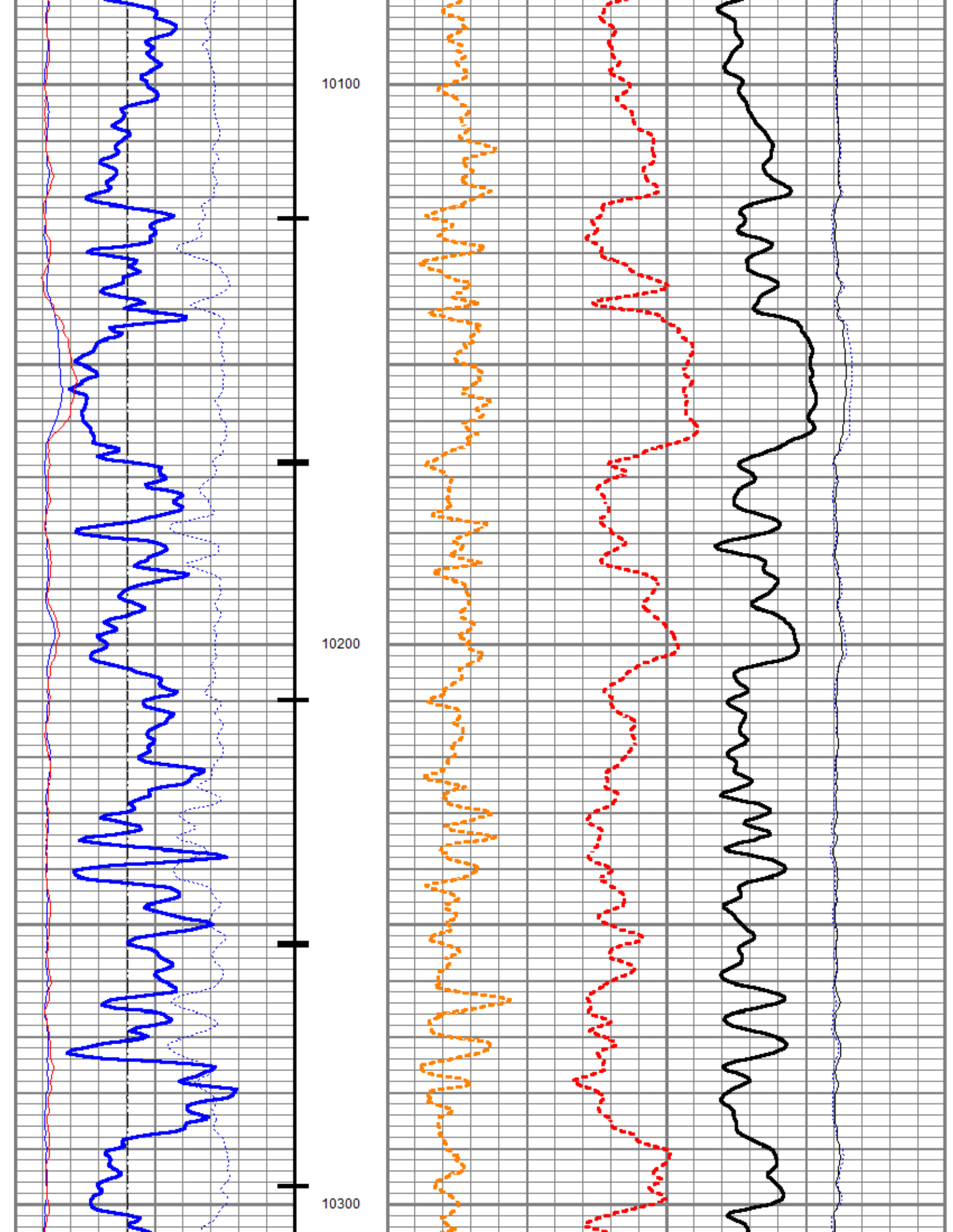


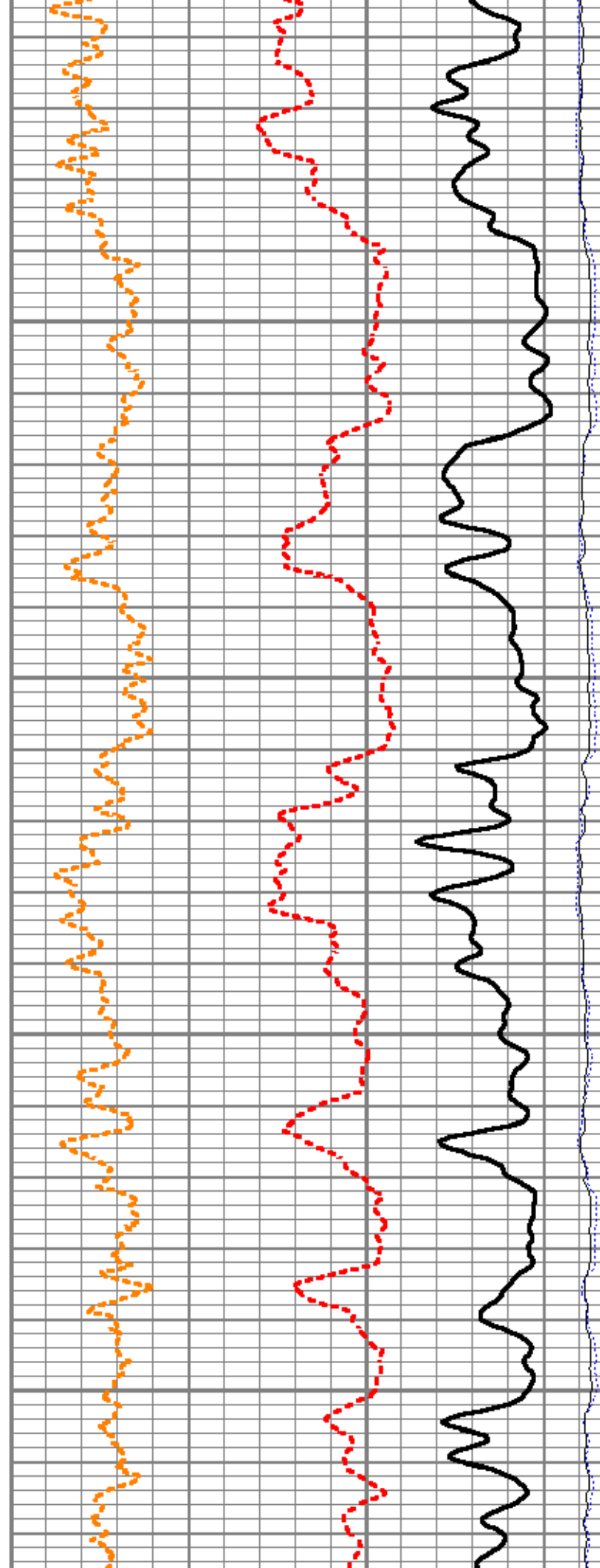
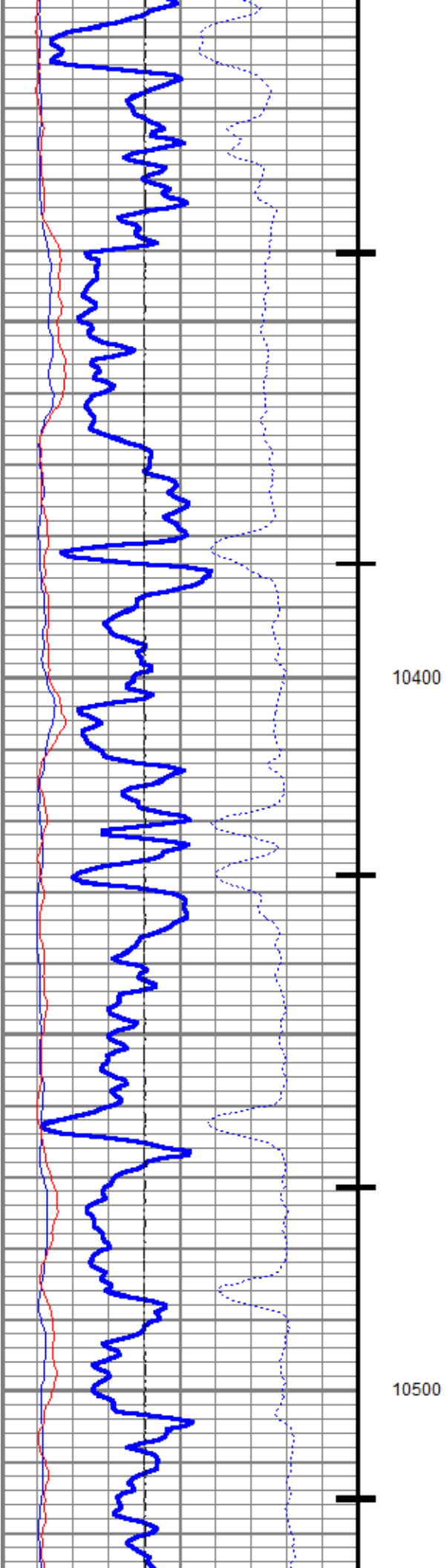


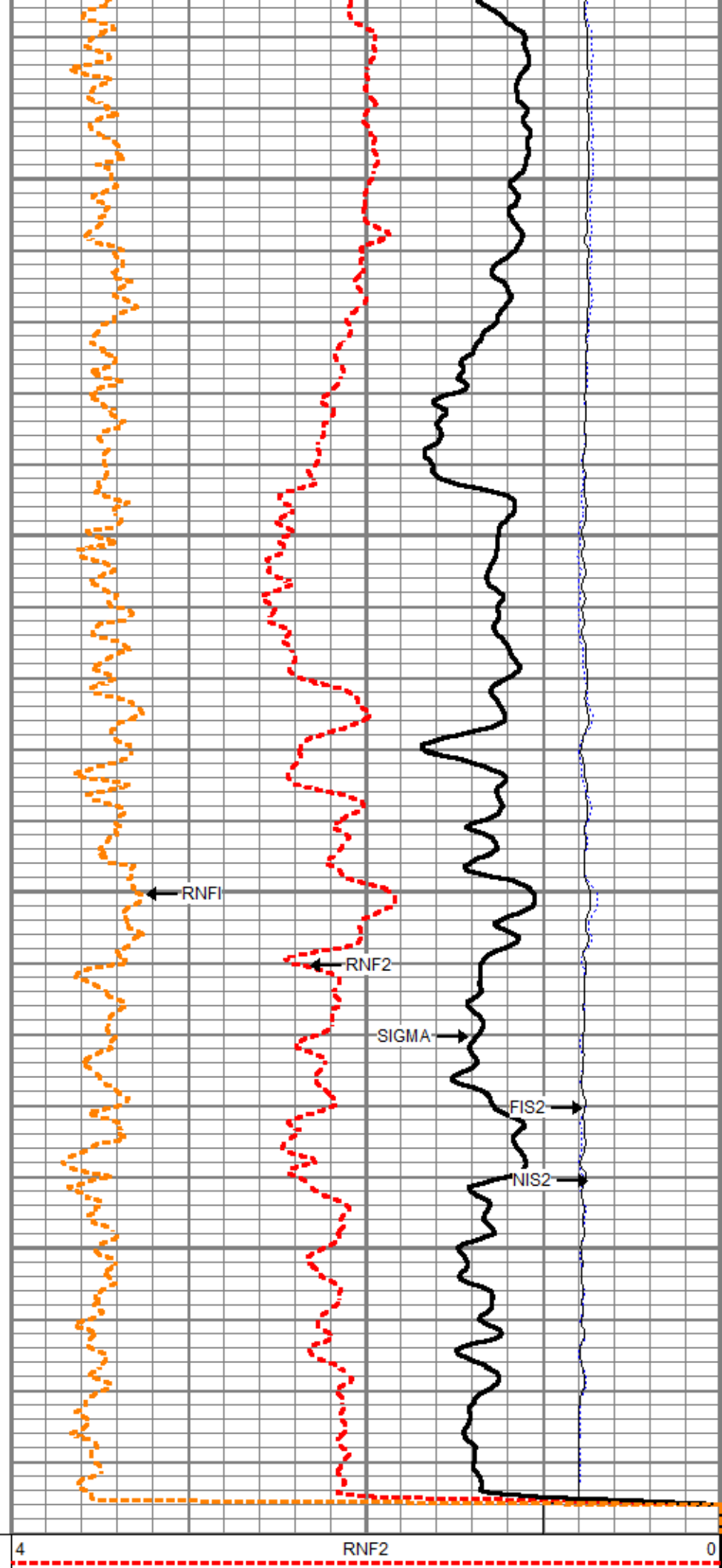
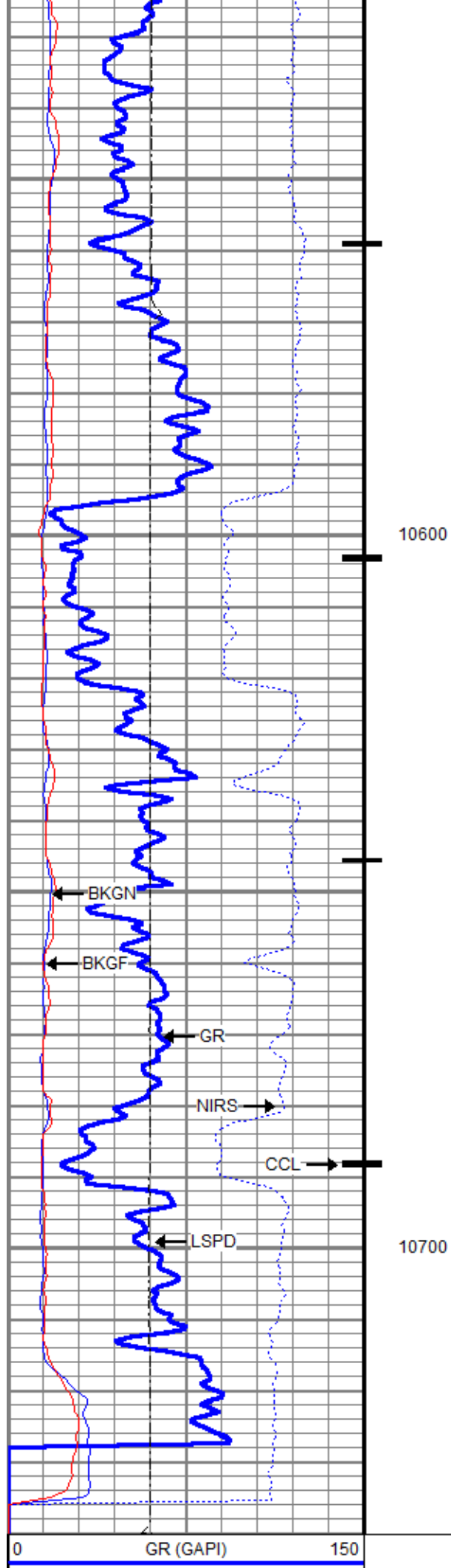












CCL2		
-100	Line Speed (ft/min)	100
0	NIRS	400000
0	BKGN (cps)	4000
0	BKGF (cps)	2000

60	SIGMA (cu)	0
4.5	RNFI	0
0	FIS2	45000
0	NIS2	100000

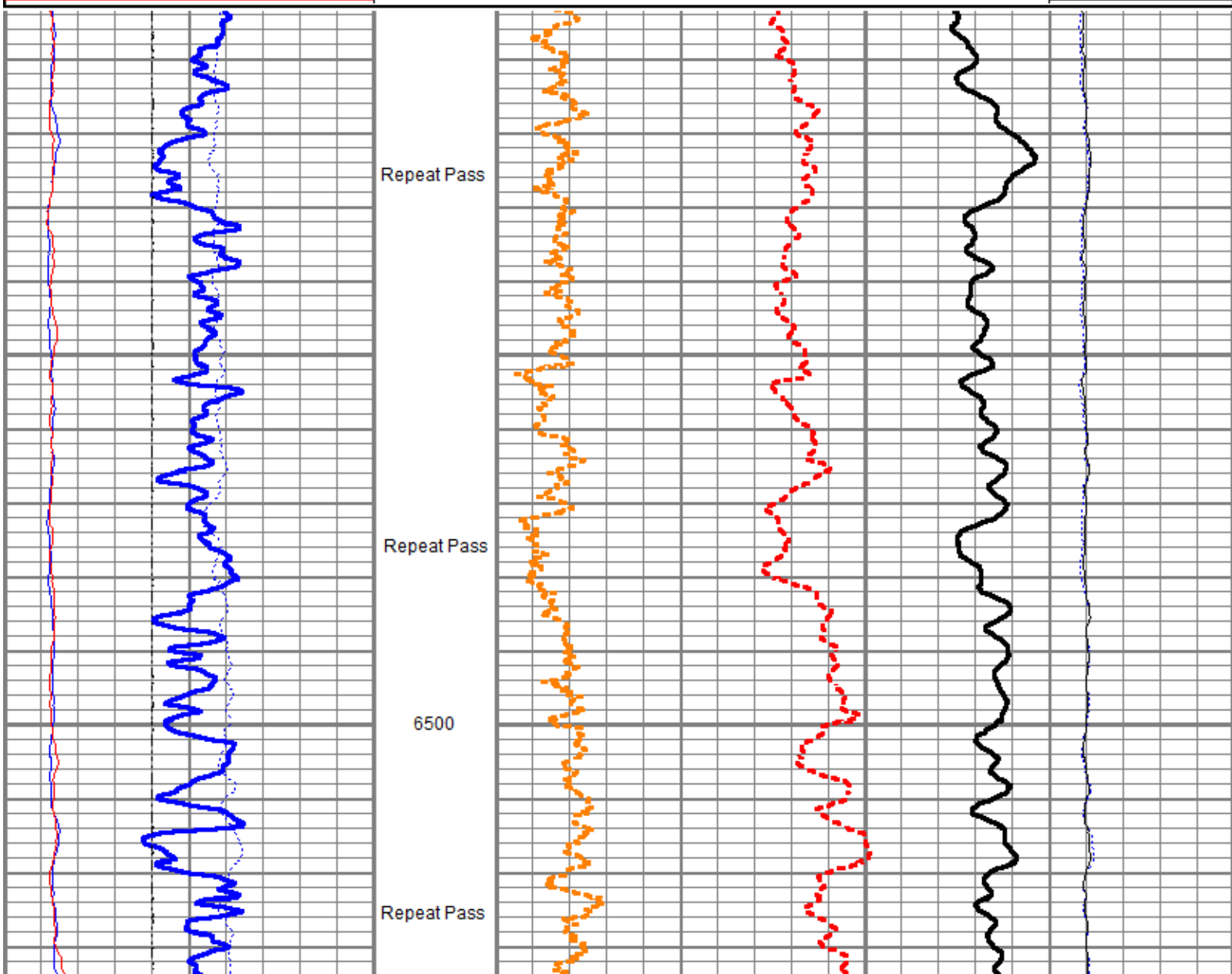


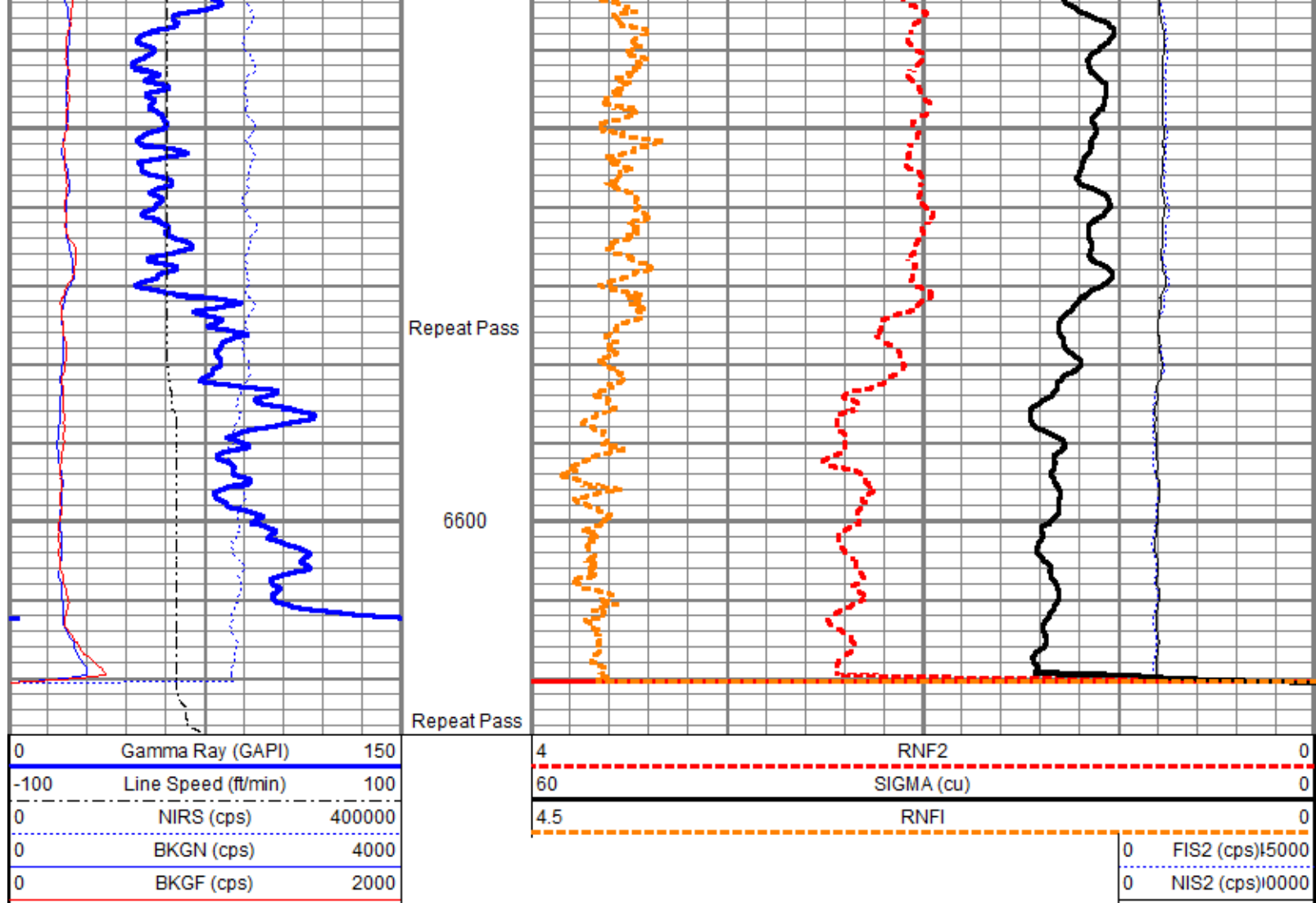
Repeat Pass

Database File tep_clough nr 411-3_pn_08-27-18\tep_clough_nr_411-3_pn_8-27-2018.db
 Dataset Pathname repeat.2
 Presentation Format ros_pdn_hunter
 Dataset Creation Mon Aug 27 21:27:14 2018
 Charted by Depth in Feet scaled 1:240

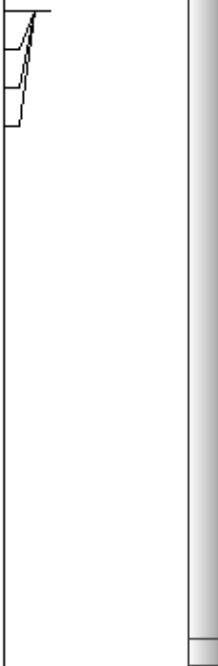
0	Gamma Ray (GAPI)	150
-100	Line Speed (ft/min)	100
0	NIRS (cps)	400000
0	BKGN (cps)	4000
0	BKGF (cps)	2000

4	RNF2	0
60	SIGMA (cu)	0
4.5	RNFI	0
0	FIS2 (cps)	15000
0	NIS2 (cps)	10000






Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
TCUTEMP TCUVOLT GCL_CCL	14.69 14.69 13.97		Titan CHD-16875 GO	1.03	1.69	5.40
			Titan 1-11/16" Assembled Electric Cable Head w/ 1" Fishing Neck			
			HWS_TCU-002 (001704) HWS Telemetry Control Unit (TCU002)	2.30	1.69	10.87
			HWS_GCL-001 (001475) HWS Gamma Ray Collar Locator (1.6875")	2.69	1.69	13.40
GCL_GR GCL_GR	12.50 12.50					

Long	6.25		HWS_RAS-RAS002 (003040) Hunter Well Science Pulsed Neutron Tool	11.75	1.69	55.82
Far	6.25					
Near	6.25					
Anci	6.25					
			HWS_TBN-001 (001725) HWS Terminator Bull Nose (1.6875")	0.25	1.69	0.99
Dataset: tep_clough_nr_411-3_pn_8-27-2018.db: field/well/run1/main1.2 Total length: 18.02 ft Total weight: 86.48 lb O.D.: 1.69 in						

Calibration Report	
Database File	c:\programdata\warrior\data\tep_clough nr 411-3_pn_08-27-18\tep_clough_nr_411-3_pn_8-27-2018.db
Dataset Pathname	repeat.1
Dataset Creation	Mon Aug 27 21:26:19 2018

Gamma Ray Calibration Report		
Serial Number:	001475	
Tool Model:	001	
Performed:	(Not Performed)	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	
Calibrator Reading:	1.0	
Sensitivity:	1.0000	GAPI/

	Company	TEP Rocky Mountain LLC
	Well	Clough NR 411-3
	Field	Rulison
	County	Garfield
	State	Colorado