



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Ursa Operating Company LLC
Well Boies Ranch C-240 FED 31C-25-2-98
Field Sulphur Creek
County Rio Blanco State Colorado

Company Ursa Operating Company LLC
Well Boies Ranch C-240 FED 31C-25-2-98
Field Sulphur Creek
County Rio Blanco
State Colorado

Location: API #: 05-103-12339
SEC 24 TWP 2S RGE 98W
Permanent Datum Ground Level Elevation 6304.5'
Log Measured From Kelly Bushing 21 FT
Drilling Measured From Kelly Bushing
Other Services
Elevation
K.B. 6325.5'
D.F. 6324.5'
G.L. 6304.5'

Date	14-FEB-2019			
Run Number	One			
Depth Driller	---			
Depth Logger	10522 FT			
Bottom Logged Interval	10508 FT			
Top Log Interval	Surface			
Open Hole Size	8.750"			
Type Fluid	Water			
Density / Viscosity	8.34 lb/gal			
Max. Recorded Temp.	270°F			
Estimated Cement Top	See Log			
Time Well Ready	ROA			
Time Logger on Bottom	11:30			
Equipment Number	HD-0359			
Location	Grand Junction, CO			
Recorded By	A. Ellsworth			
Witnessed By	Oscar Molinar			
Borehole Record				
Run Number	Bit	From	To	Size
				Weight
				From
				To
Tubing Record				
Casing Record	Size (in)	Wgt (lbs/ft)	Grade	Top
Surface Casing	9 5/8	36	J-55	Surface
Intermediate #1	4 1/2	11.6	P-110	Surface
Intermediate #2				
Inner				

<<< 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 Kelly Bushing at 21 FT
Recorded Marker Joints at 5542-5553 FT and 9089-9090 FT
Log ran with 0 PSI Surface Induced Pressure

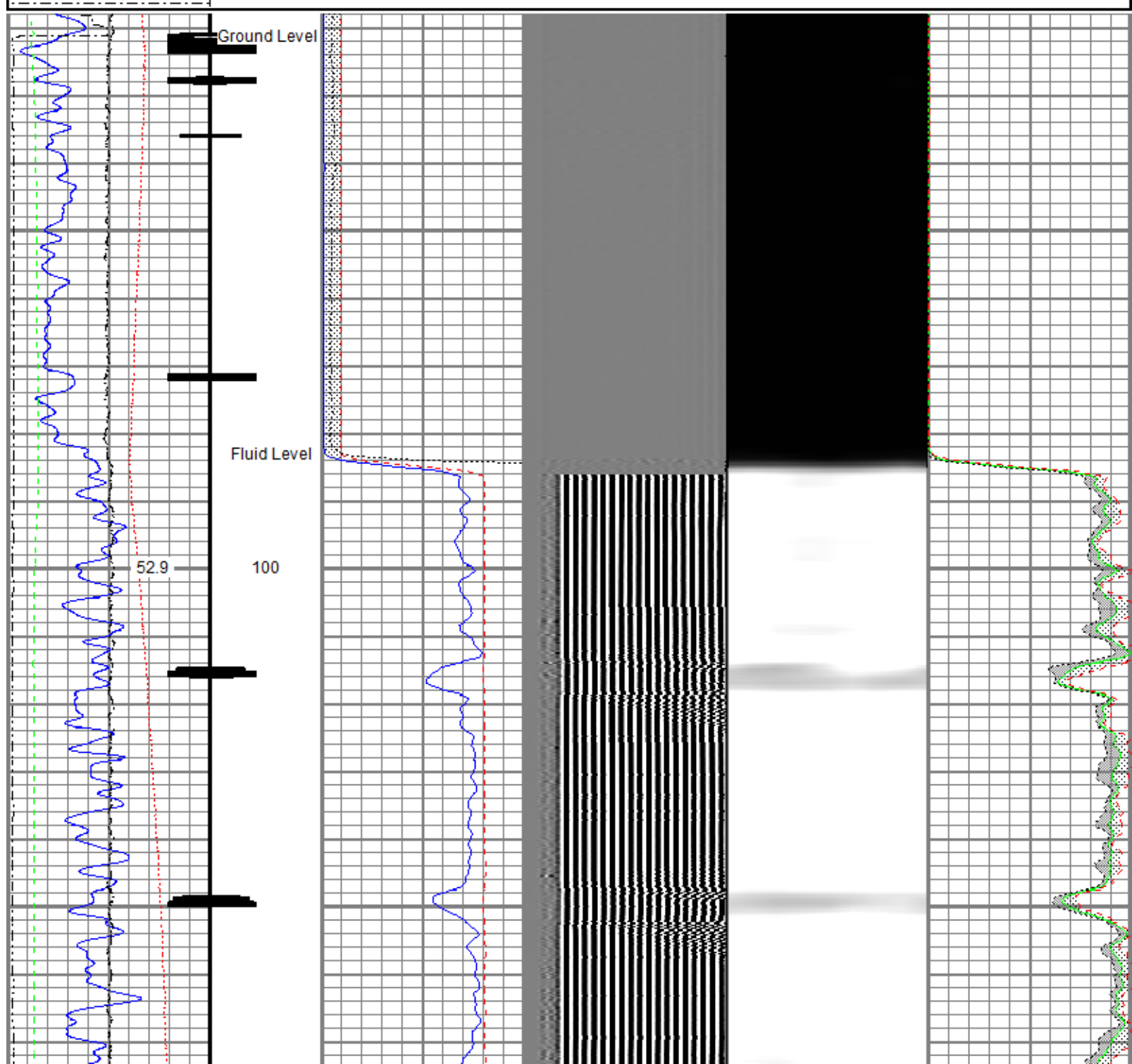
Thank you for choosing Reliance Oilfield Services, LLC!

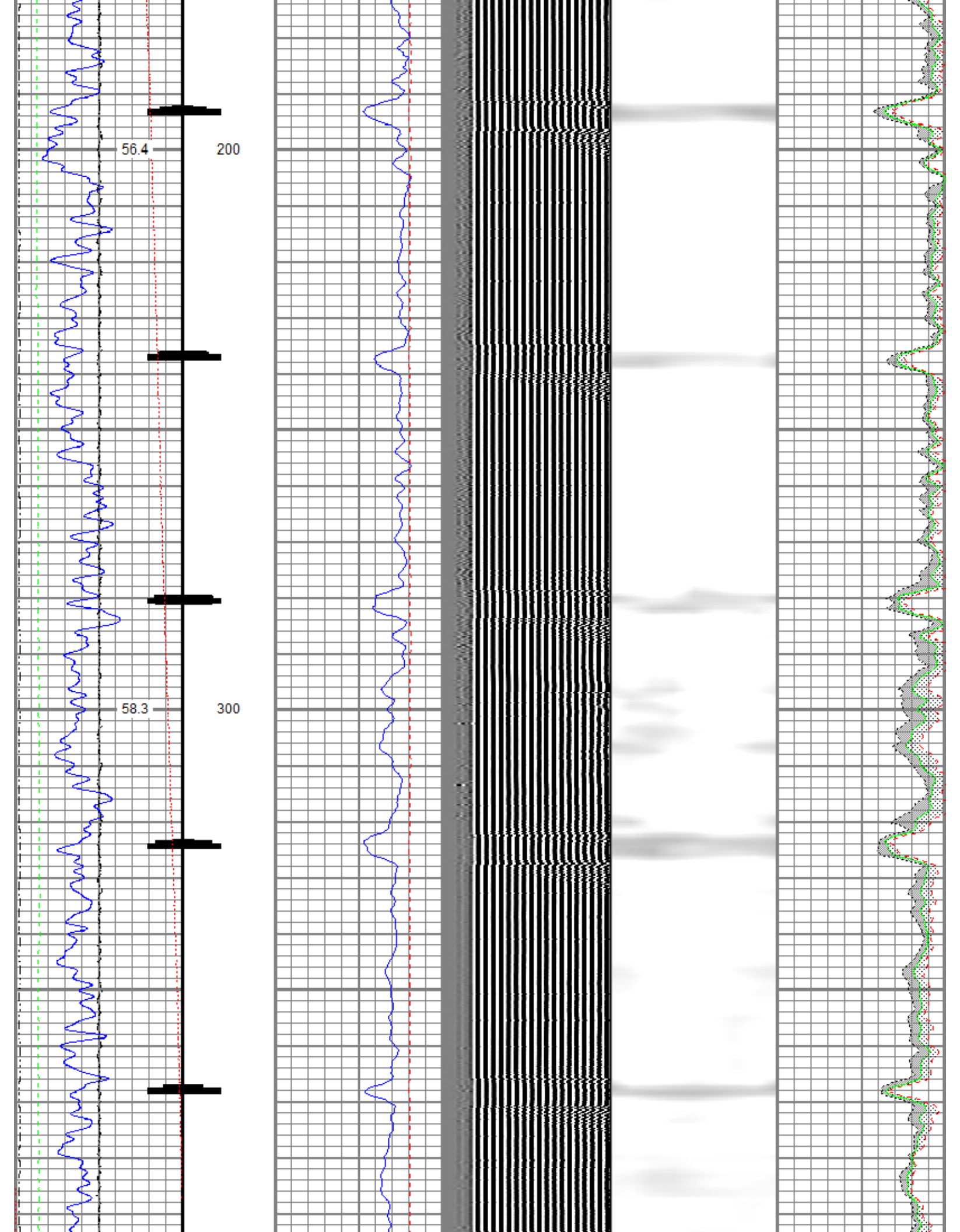
Main Pass

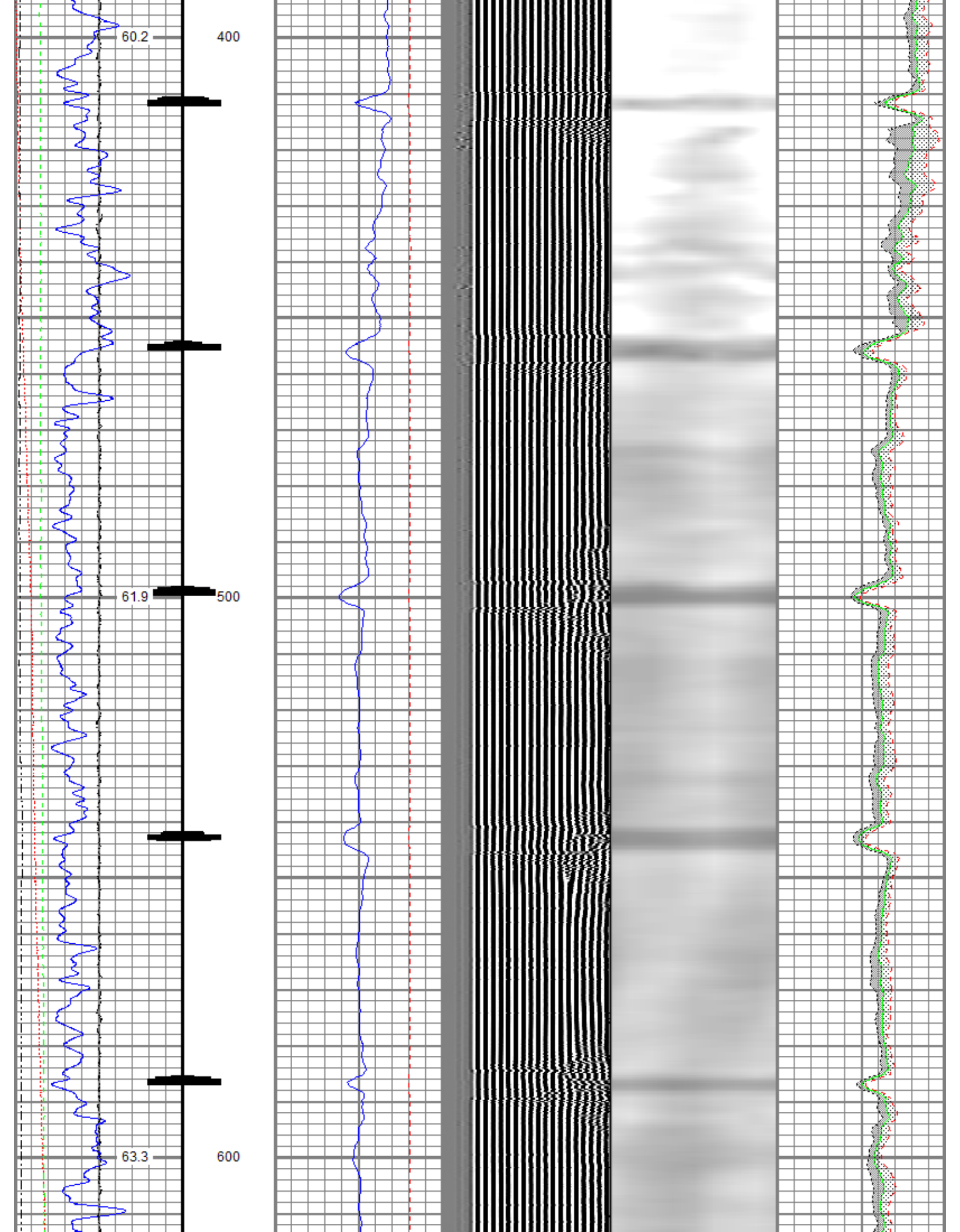


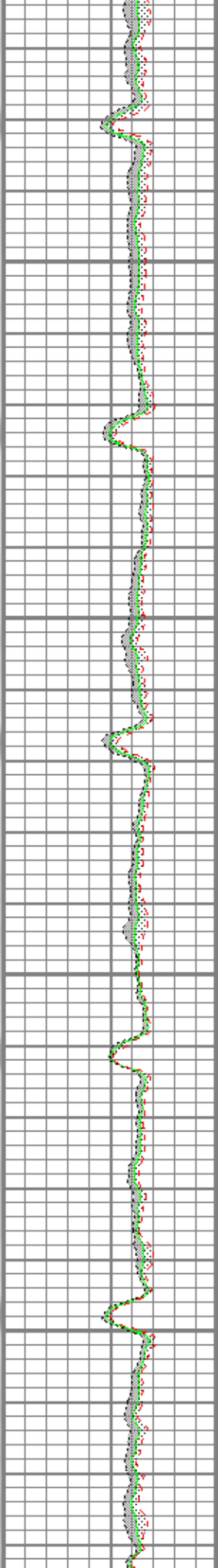
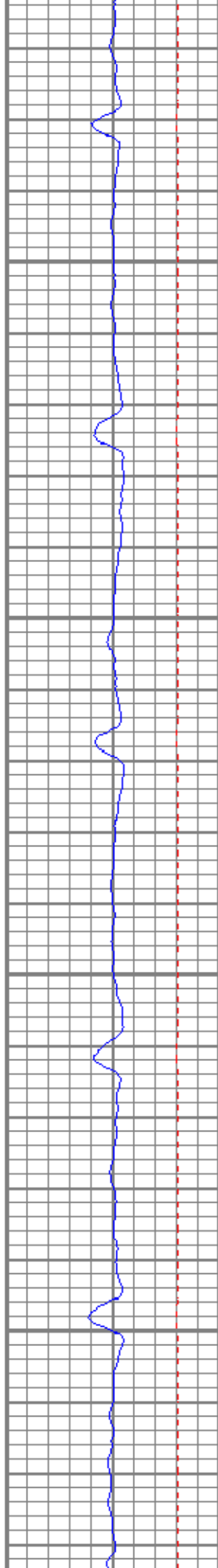
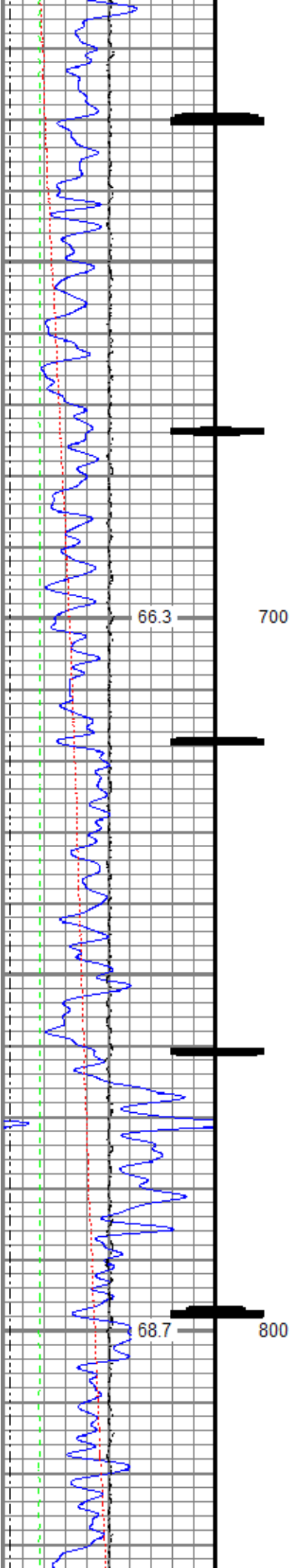
Database File ursa\ursa_boies ranch c-240 fed 31c-25-2-98_rbl_02-14-19\ursa_boies ranch c-240 fed 31c-25-2-98_rbl_02-14-19.db
 Dataset Pathname main.1
 Presentation Format ros_radri
 Dataset Creation Fri Feb 15 09:48:14 2019
 Charted by Depth in Feet scaled 1:240

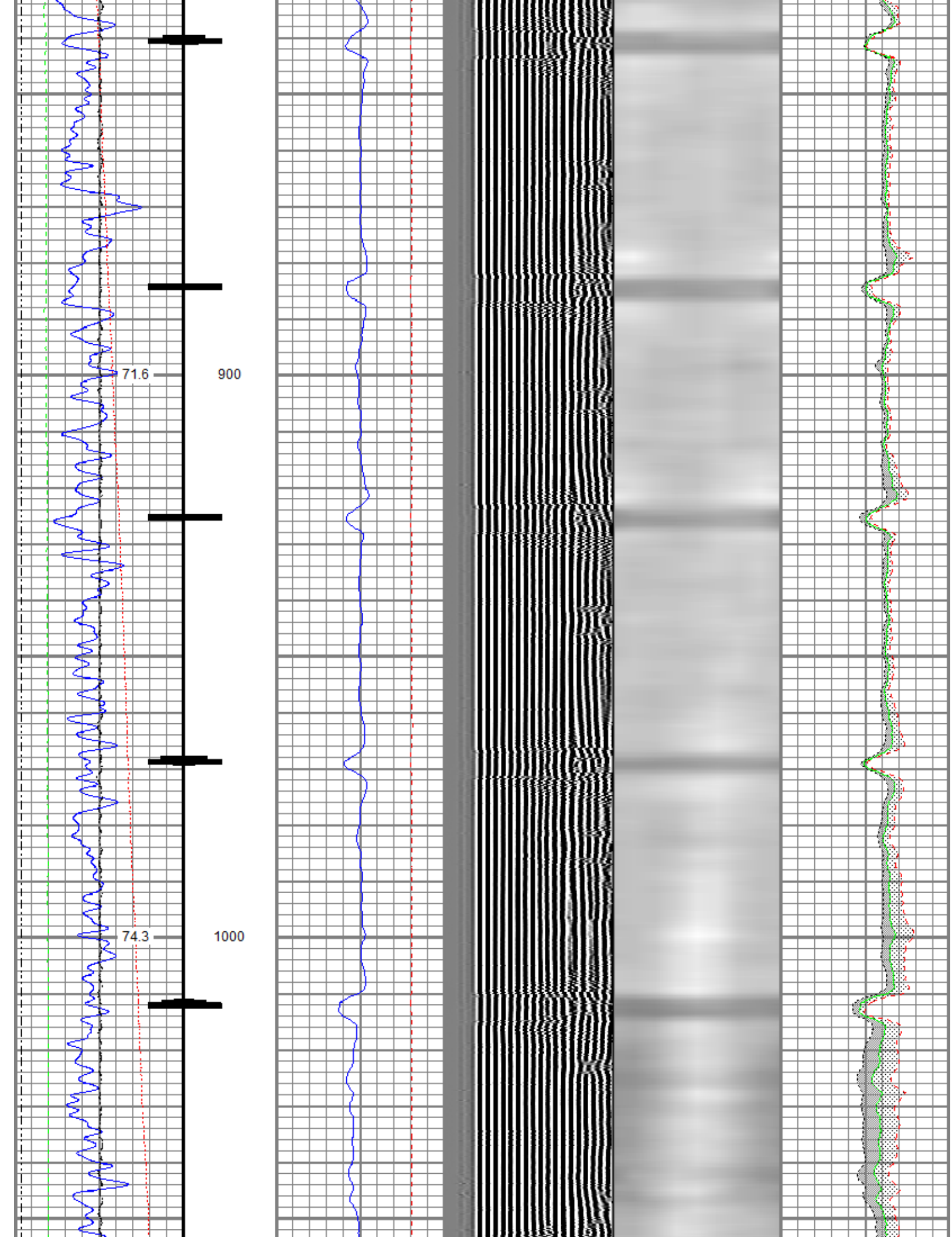
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200			Minimum Amplitude
Casing Collar Locator	0	(mV) 20			0	100
Temperature (degF) 20		3' Travel Time				Maximum Amplitude
Line Speed	650	(usec) 150			0	100
-150 (ft/min) 150						
Line Tension (lb) 2000						
Differential Temperature						
-2 (degF) 2						

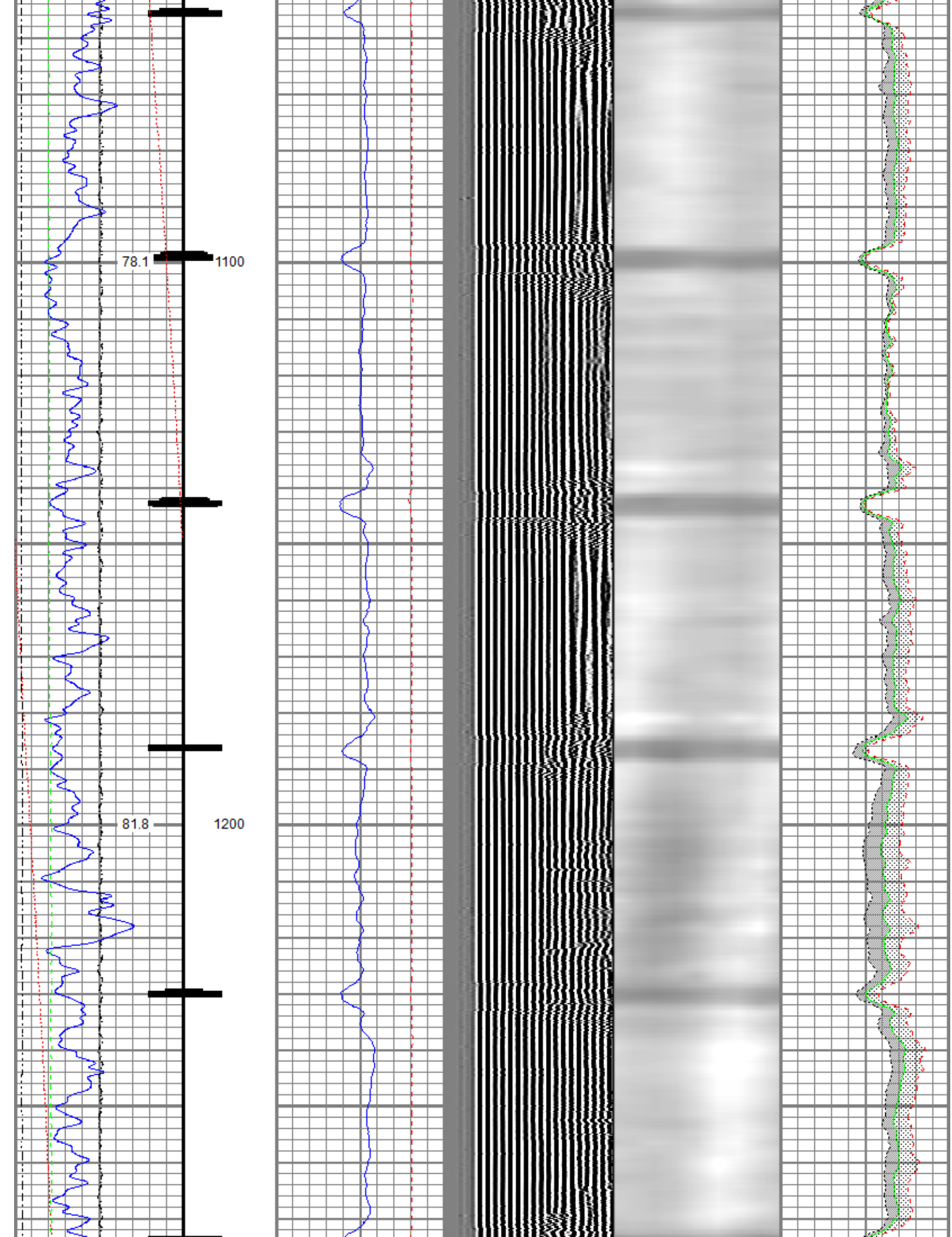


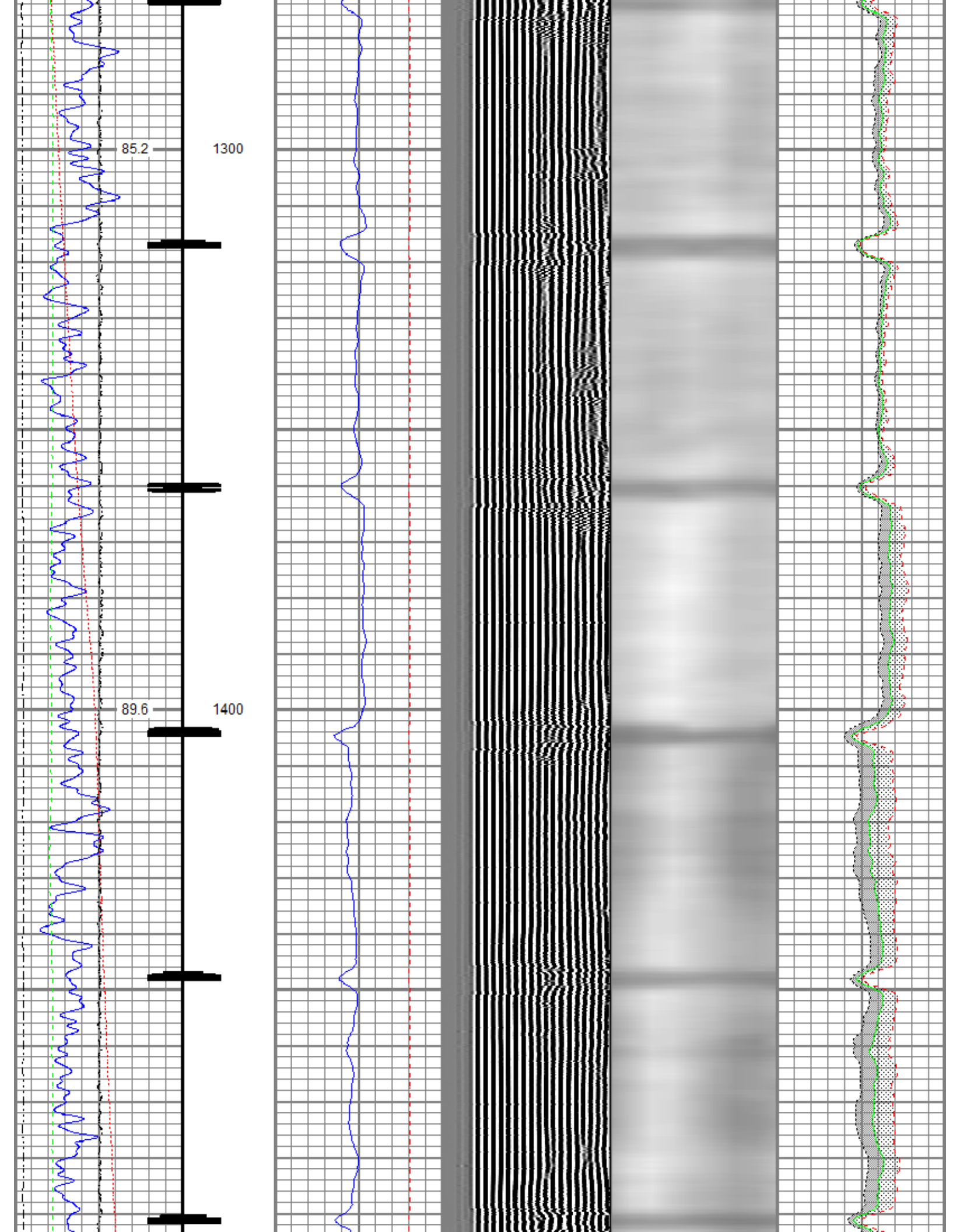


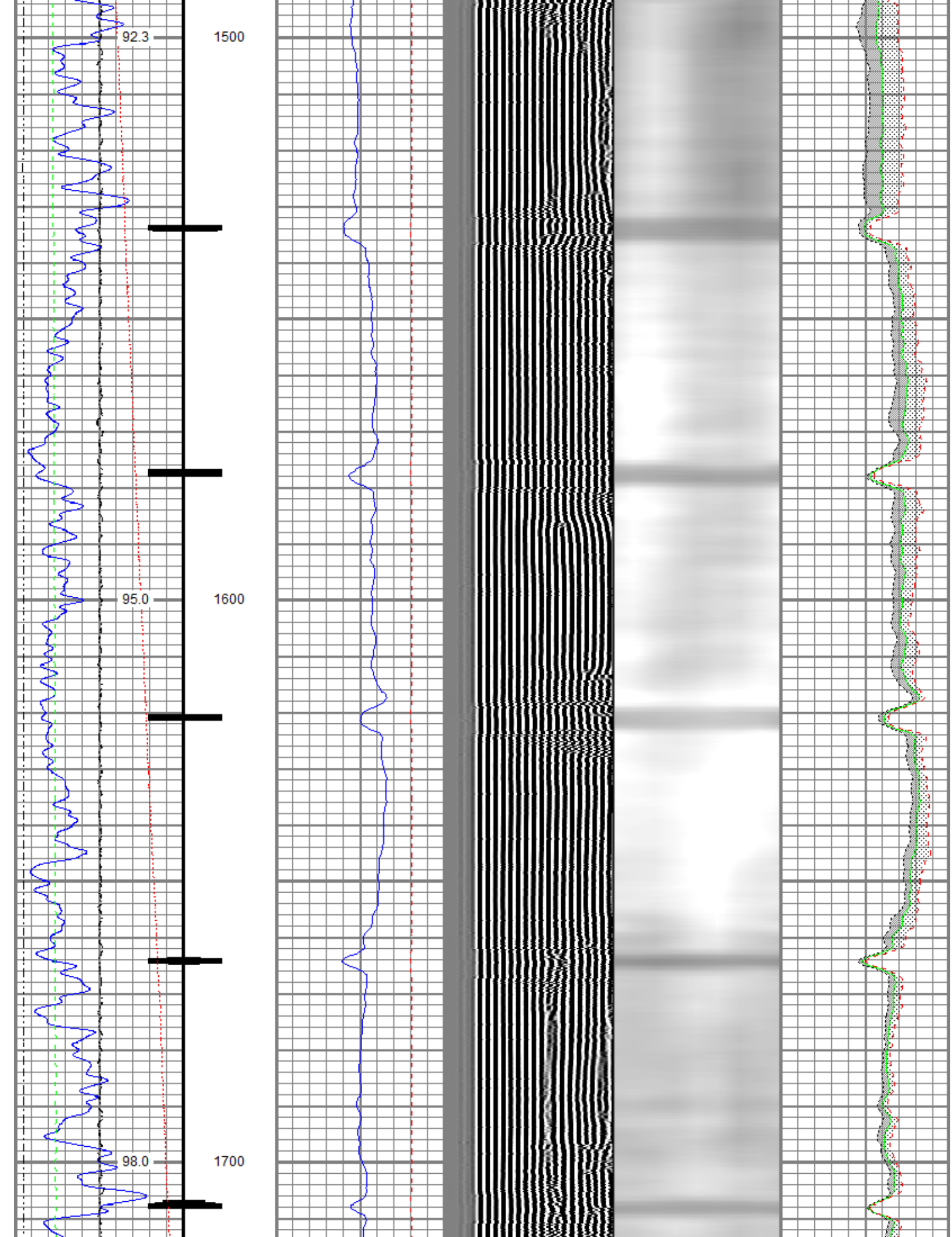


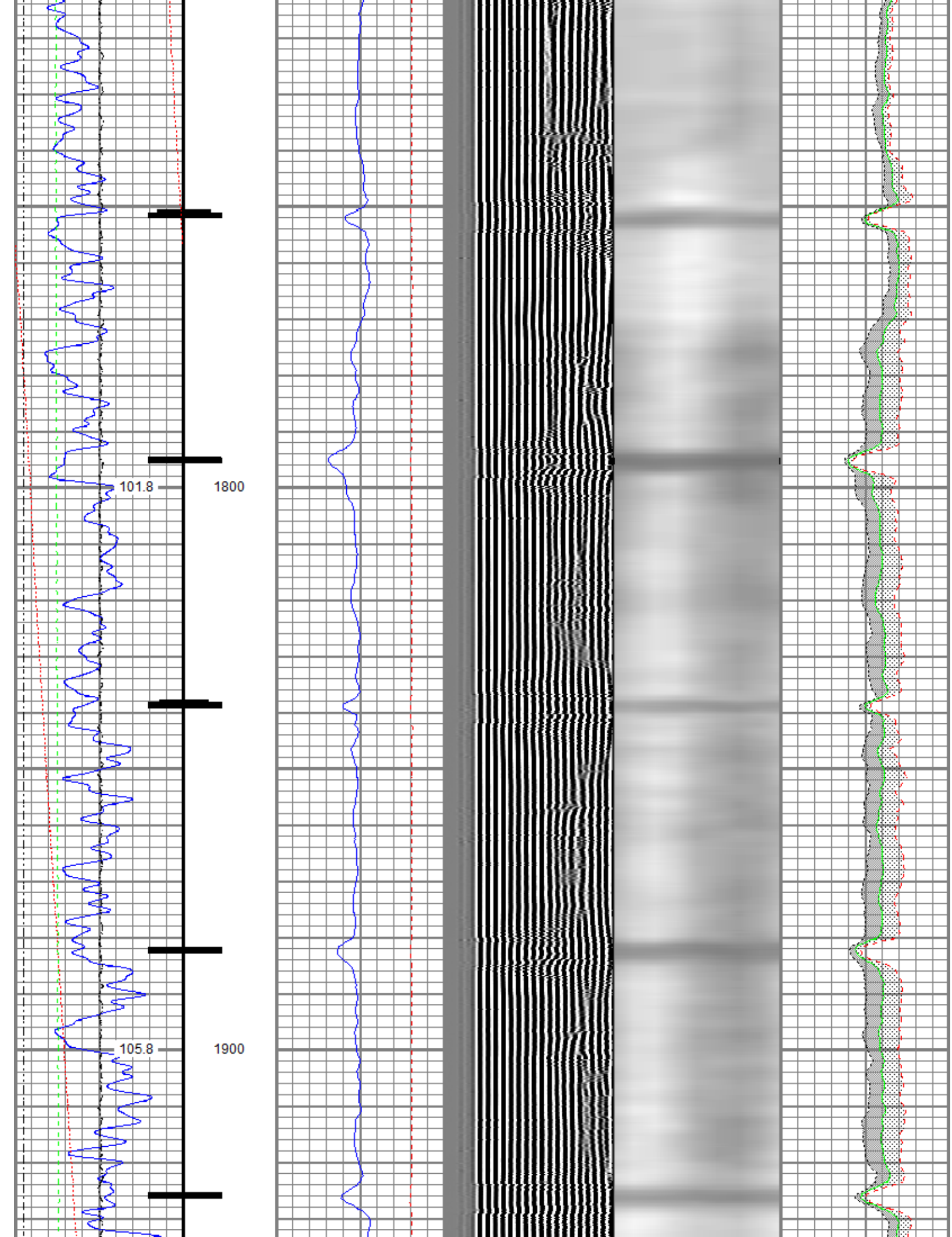


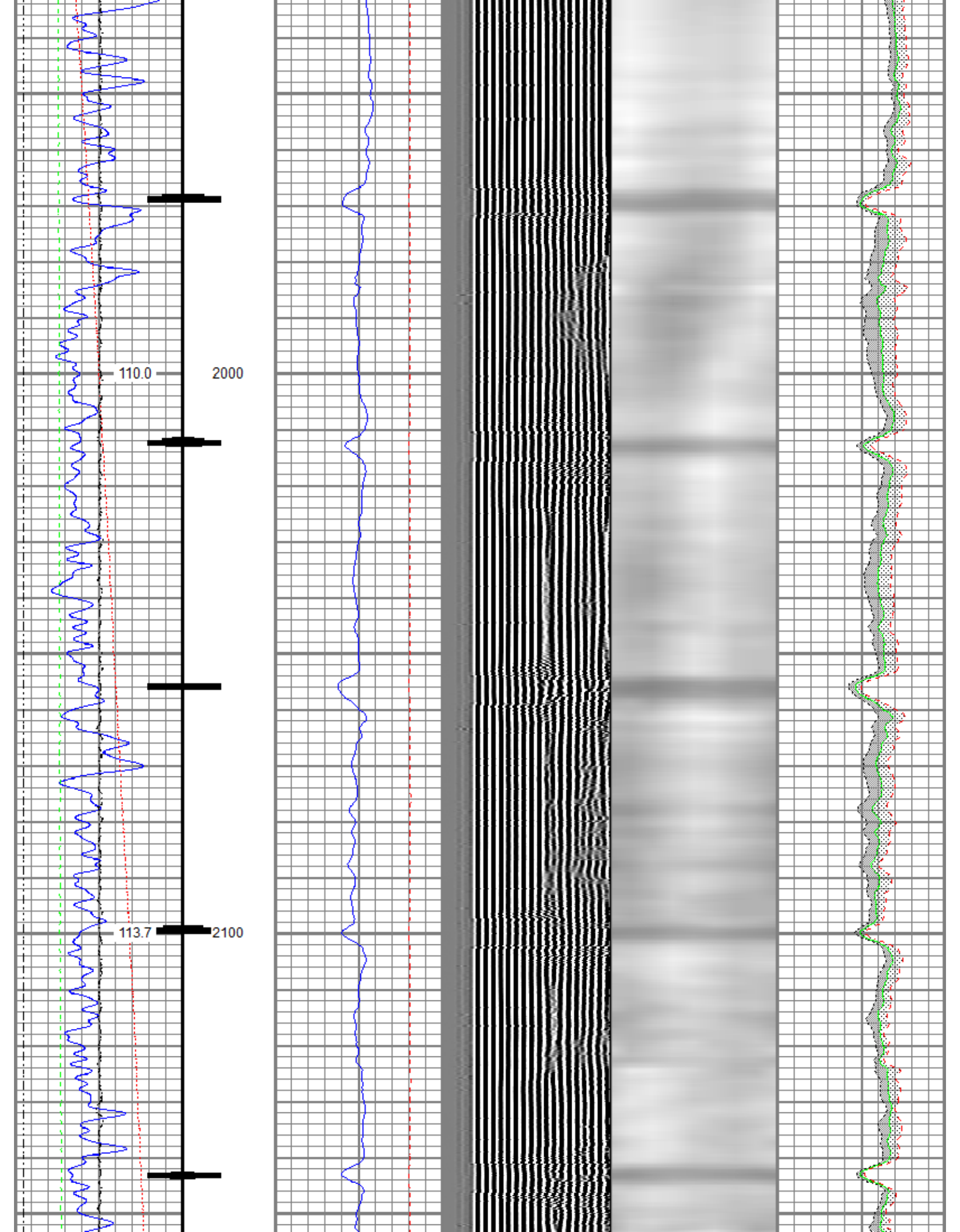


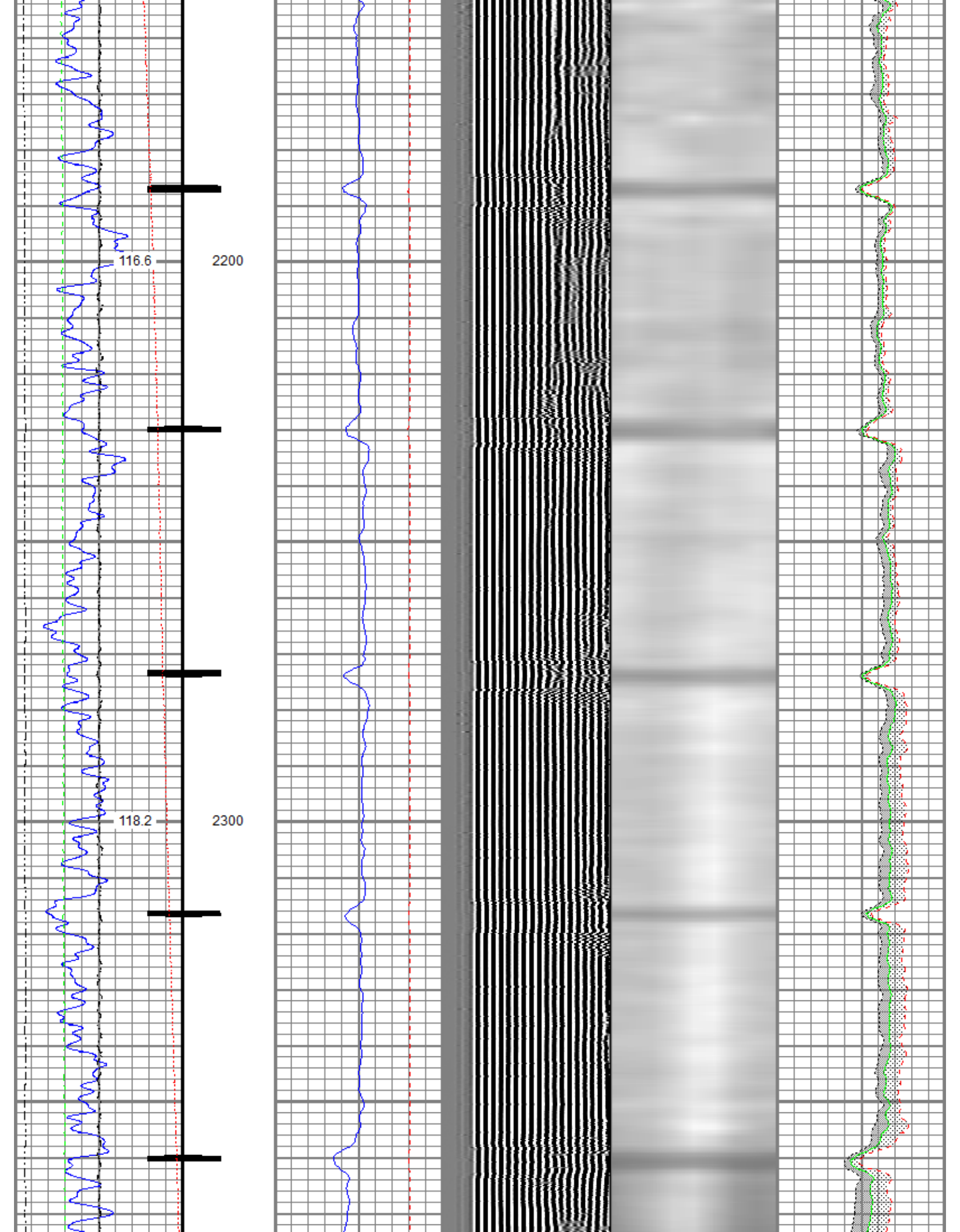


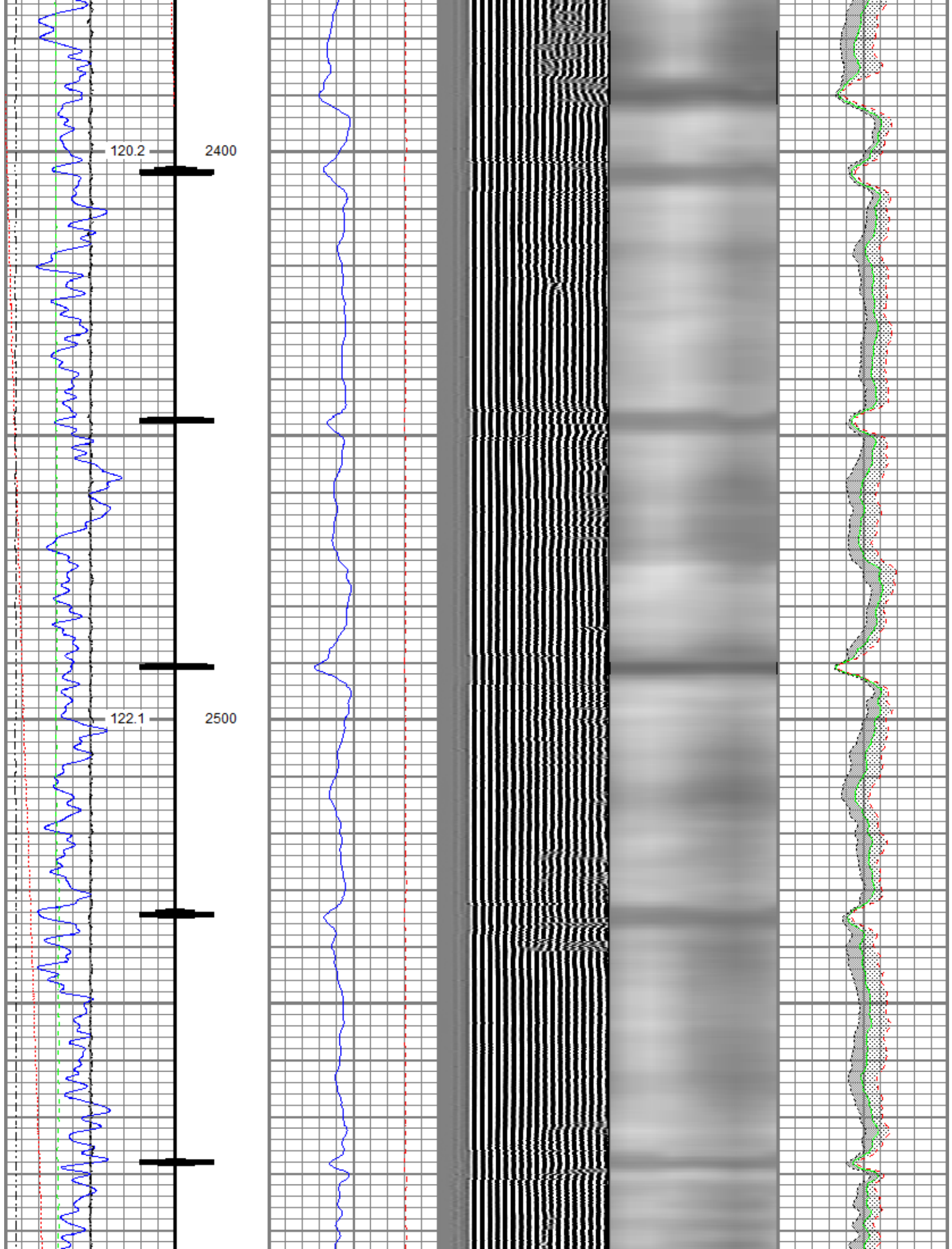


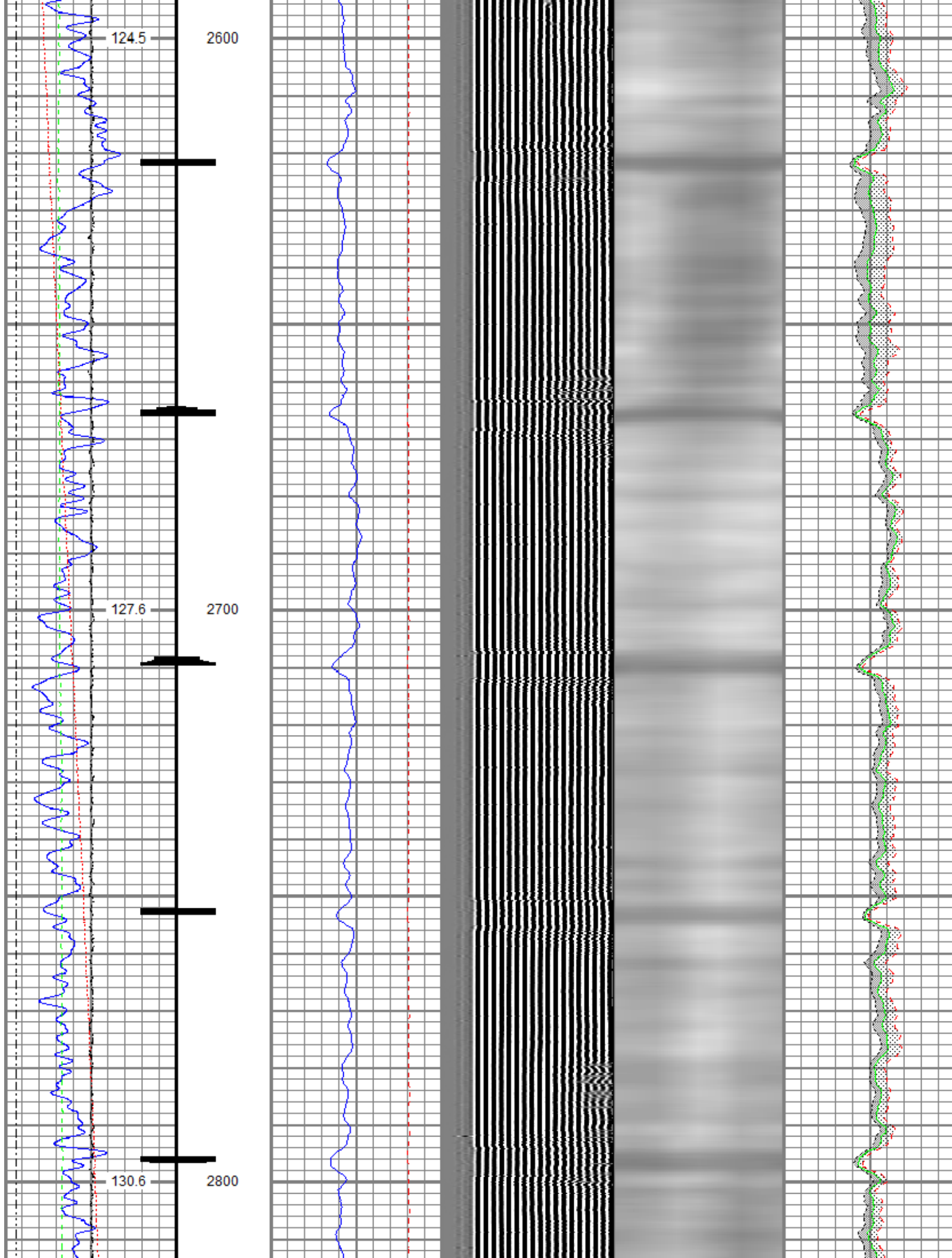


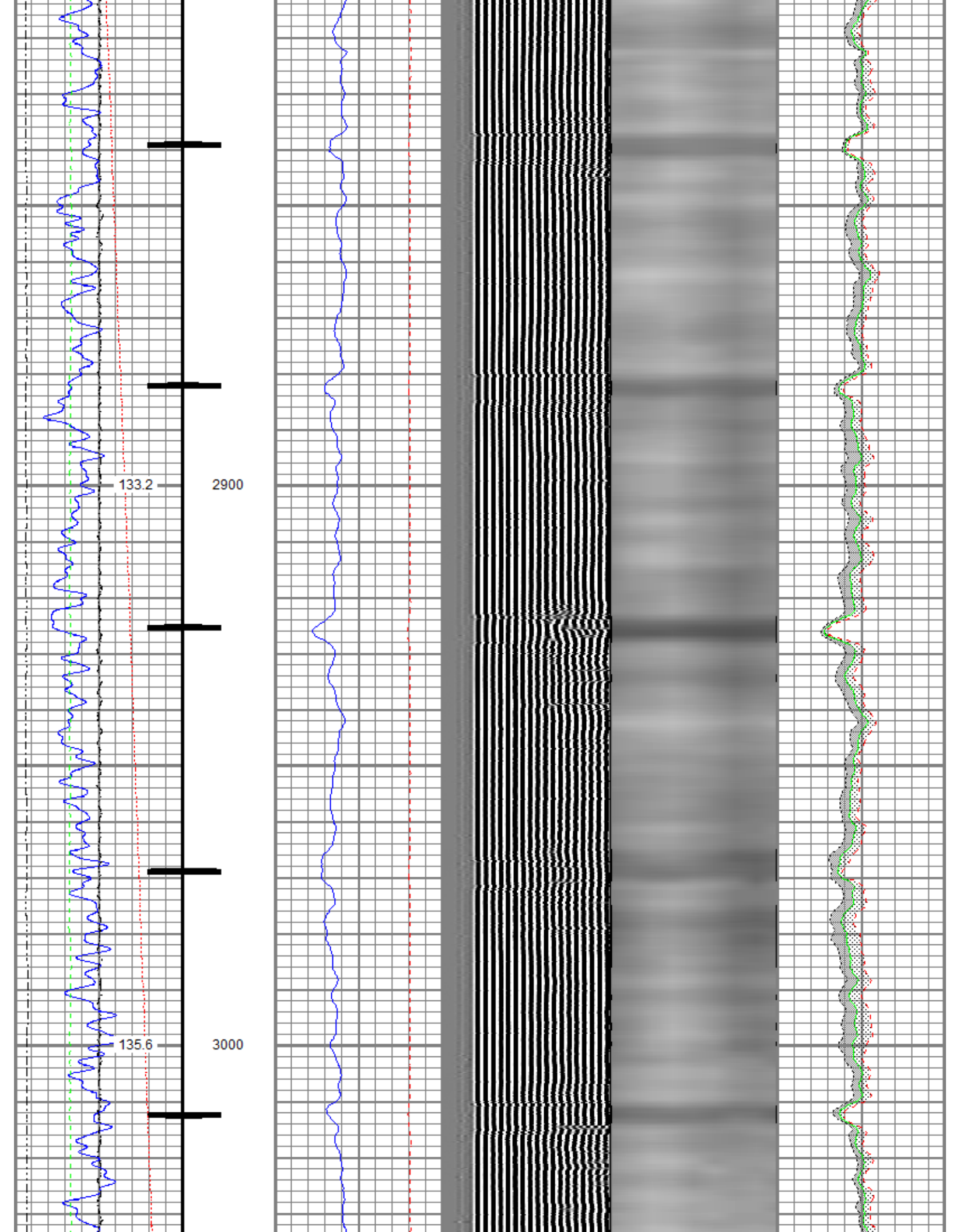


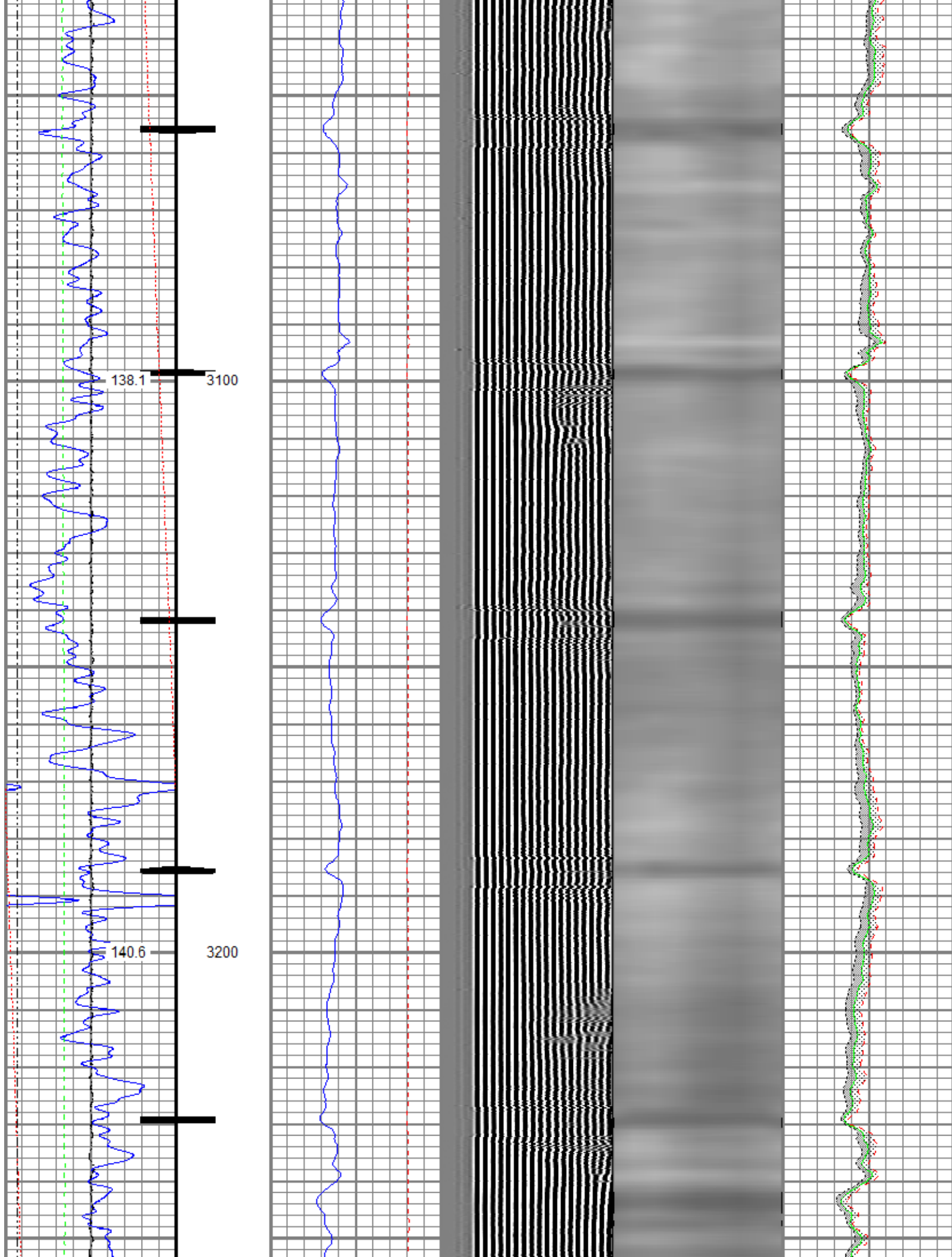


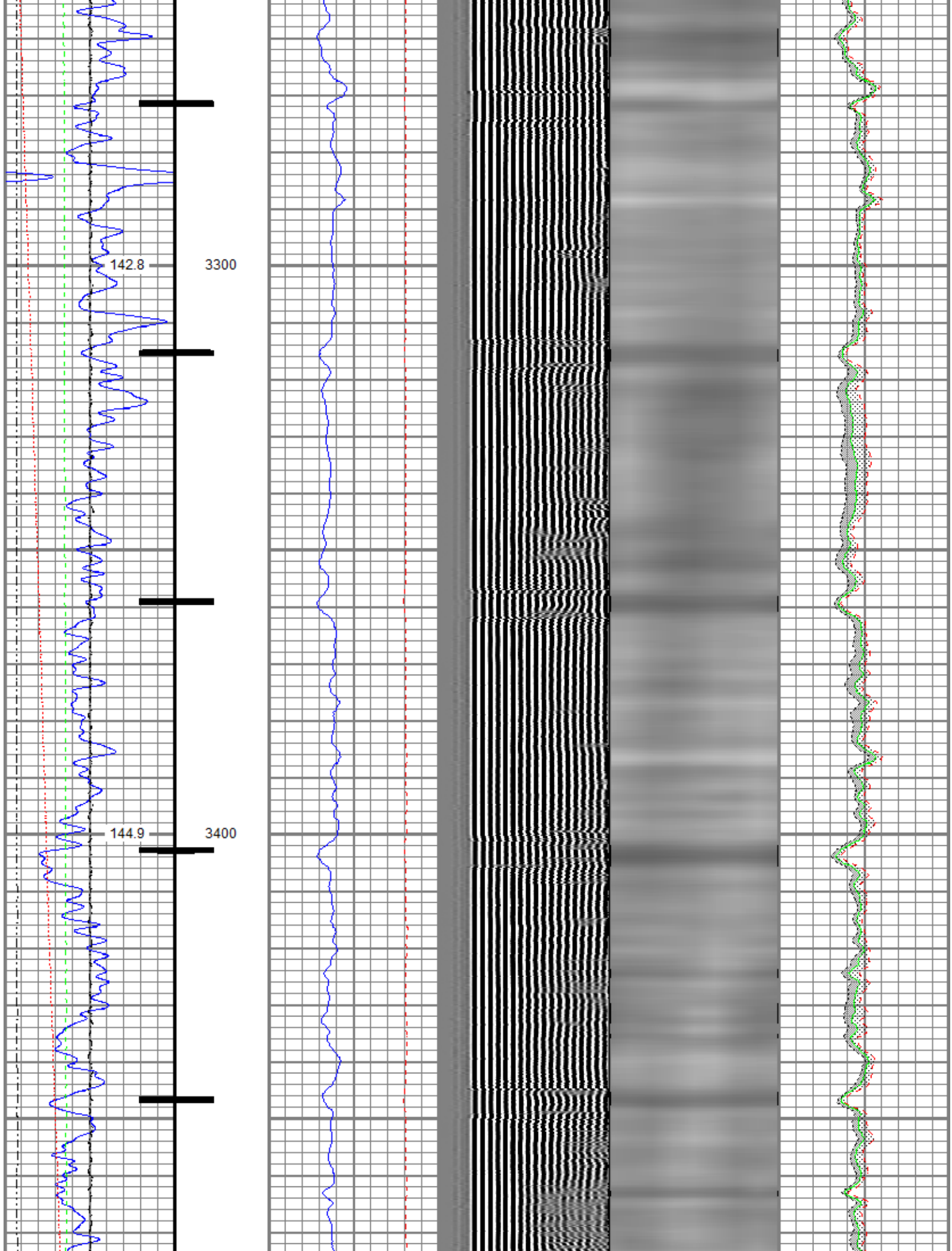


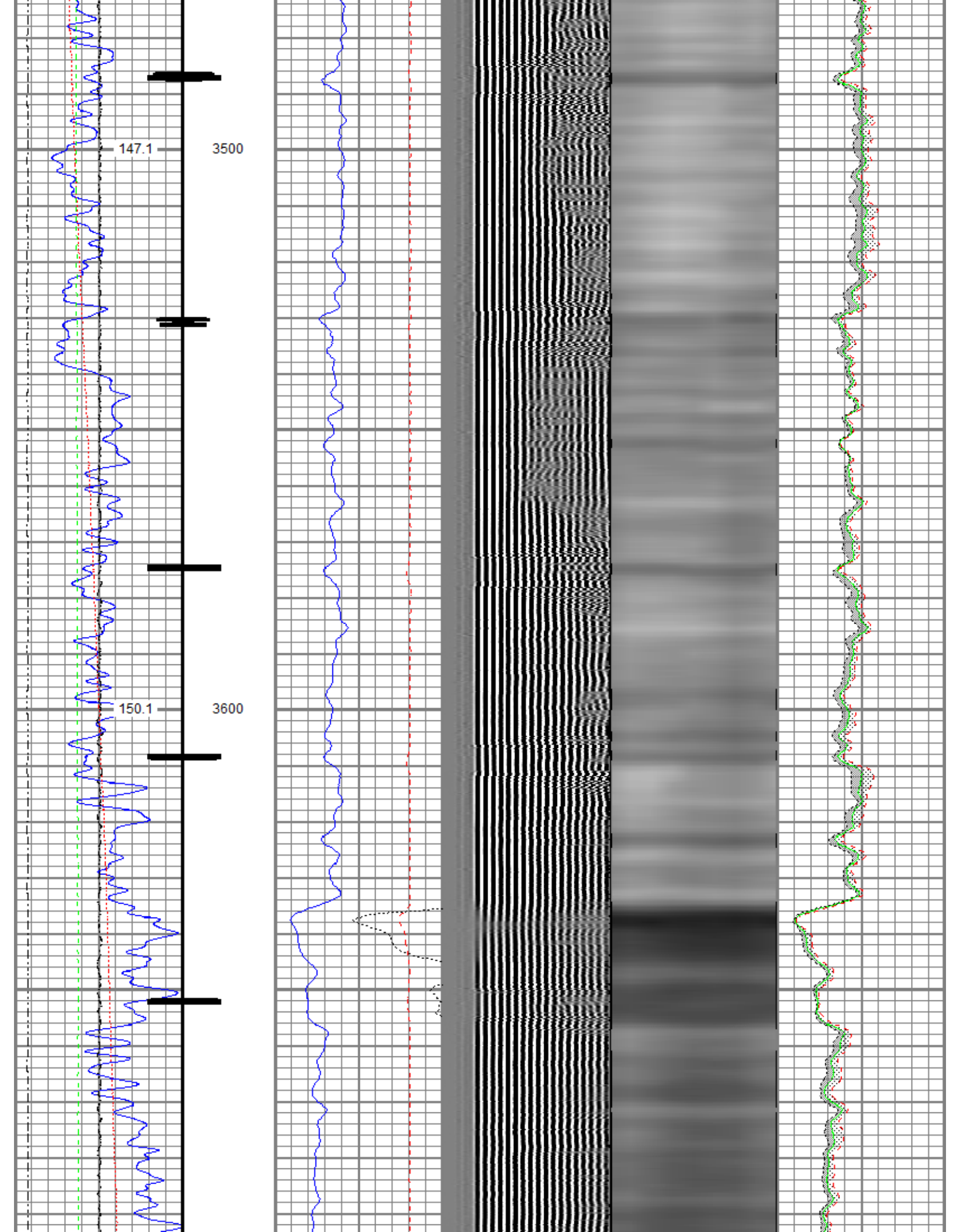


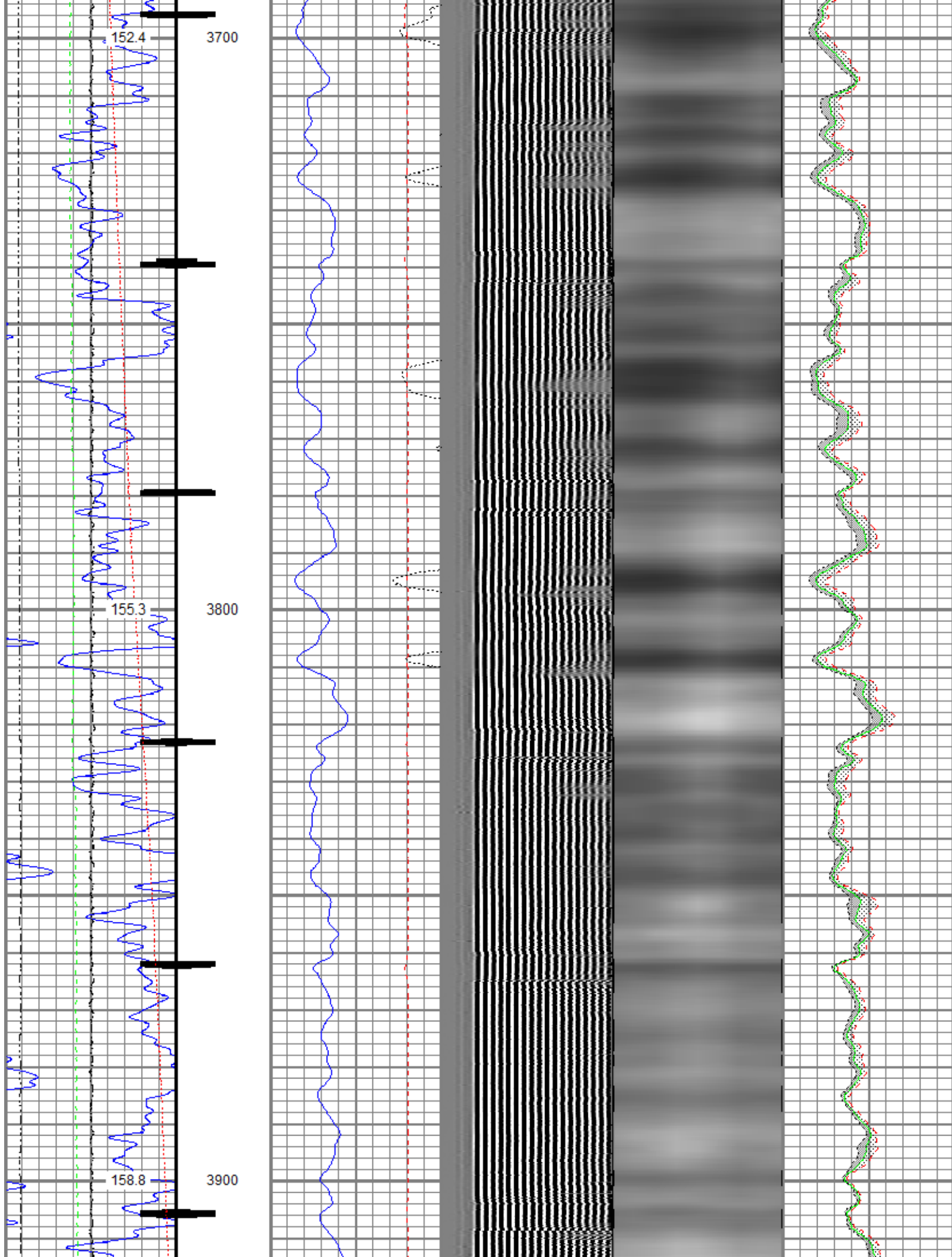


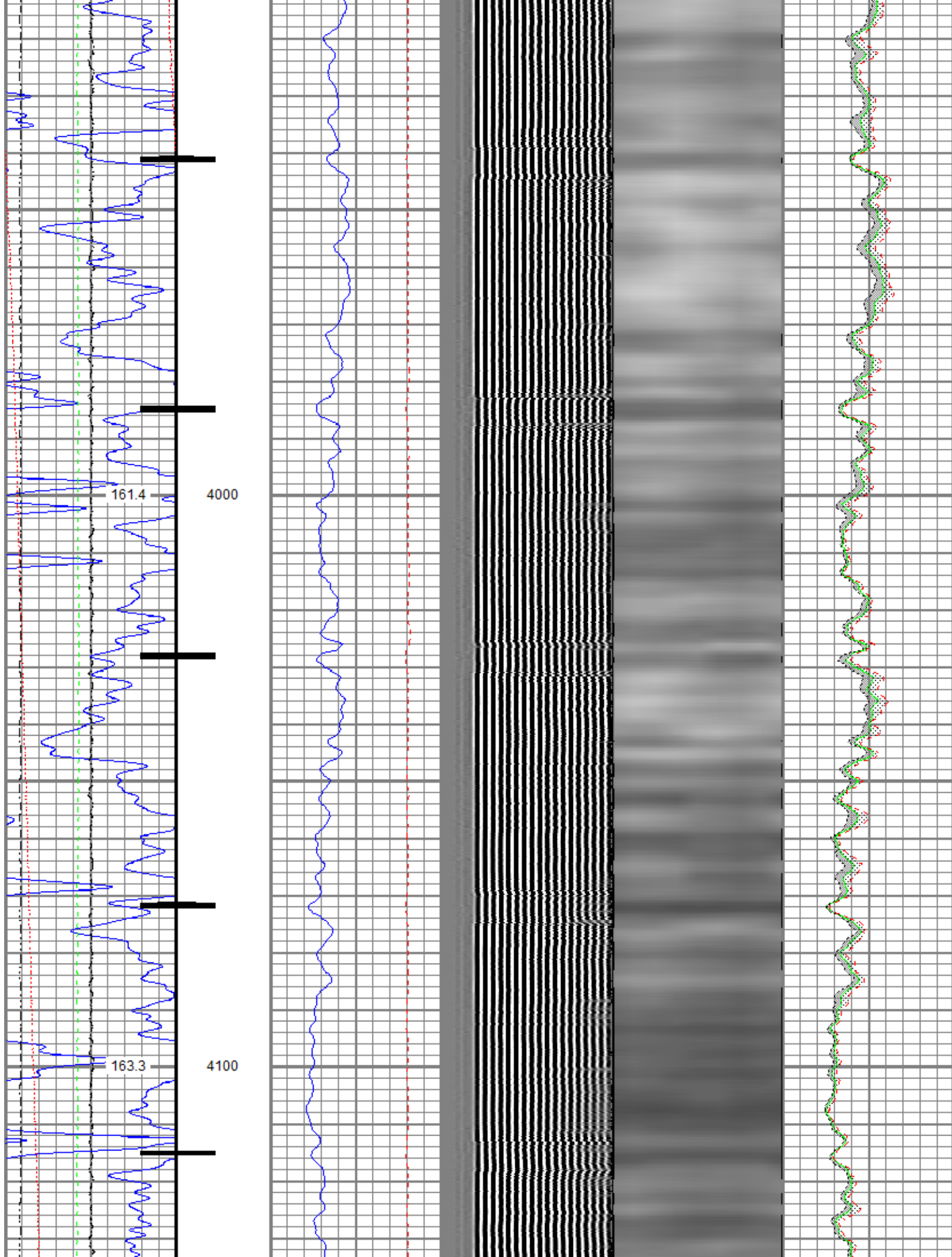


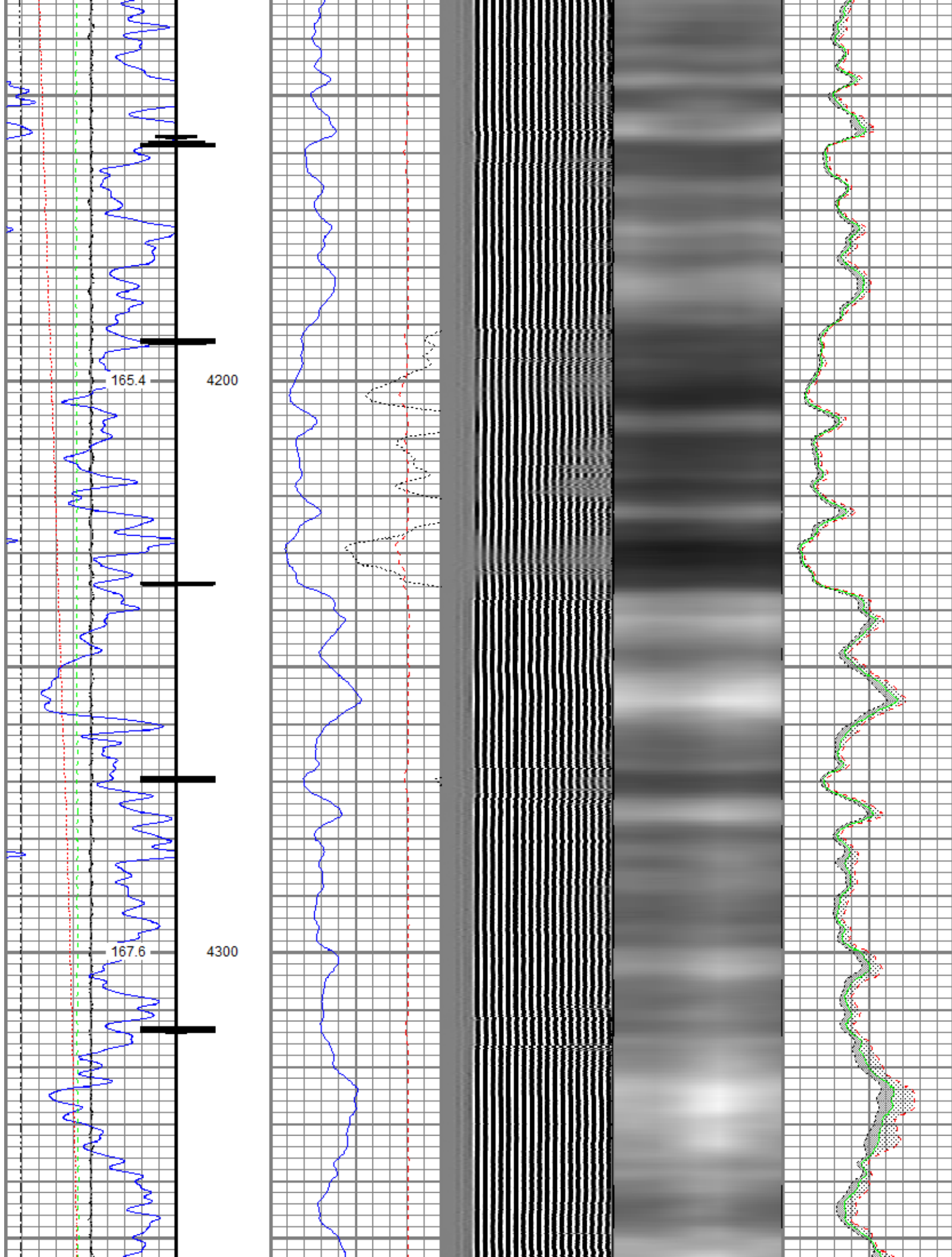


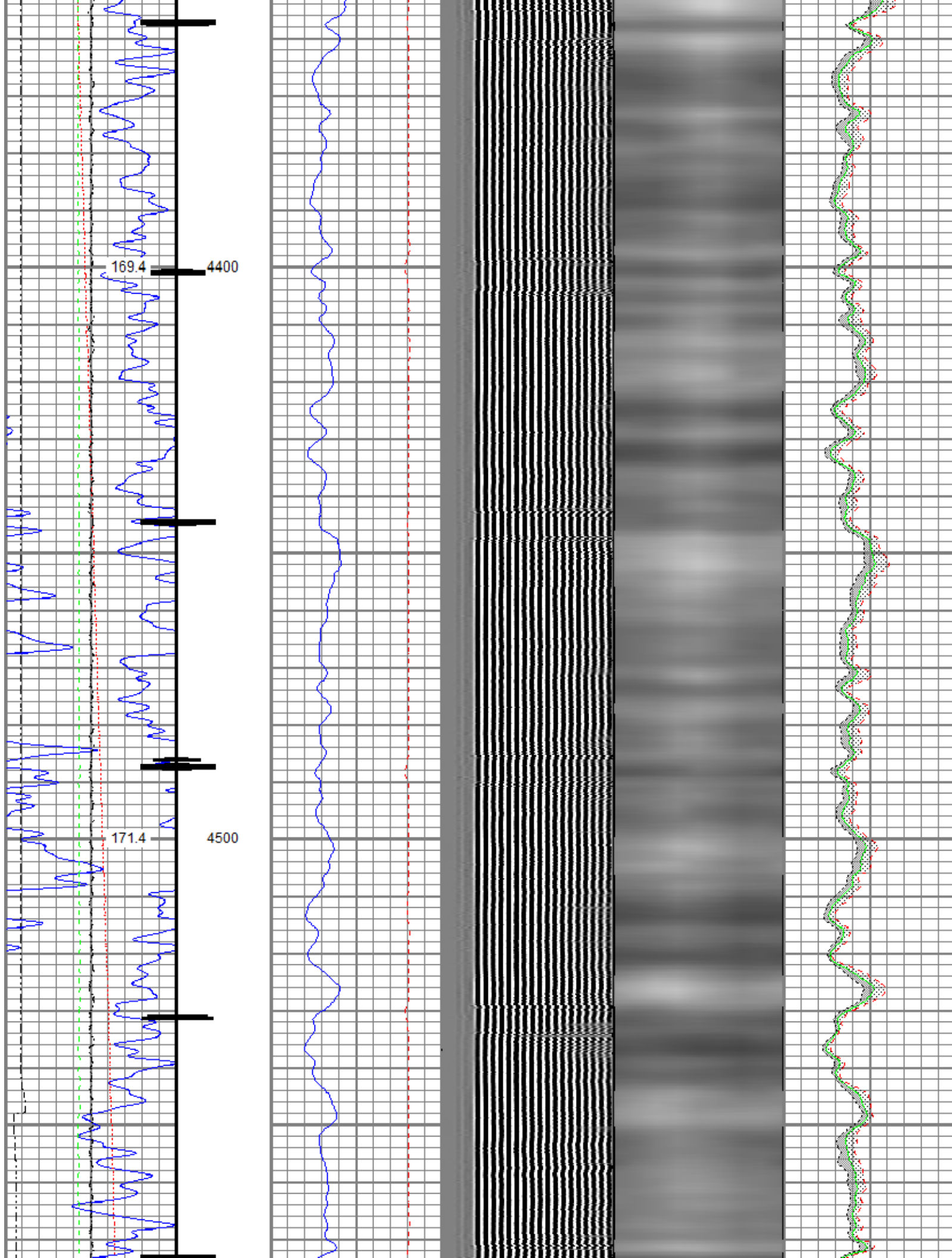


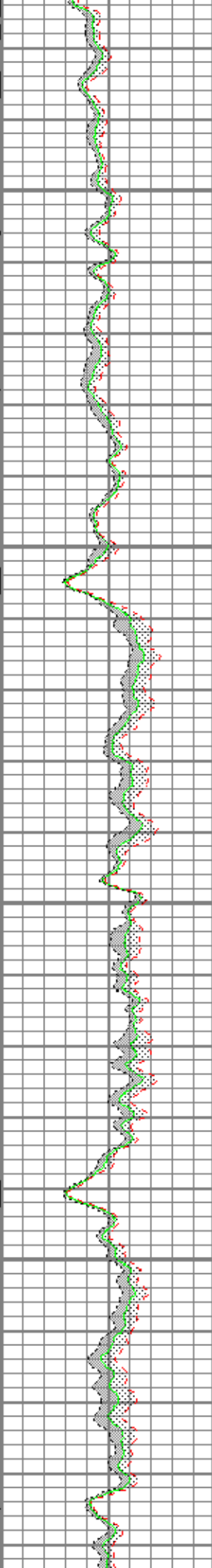
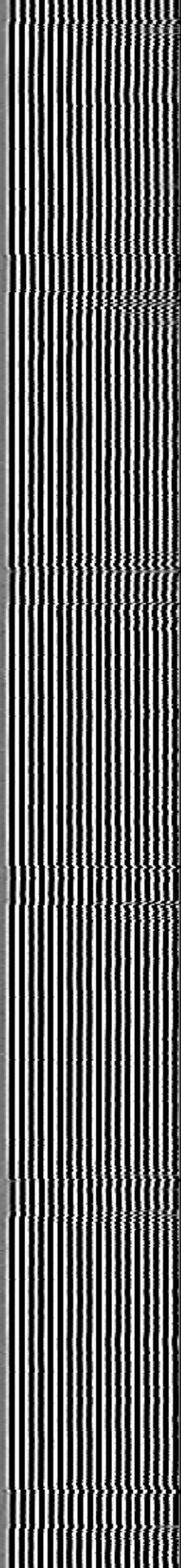
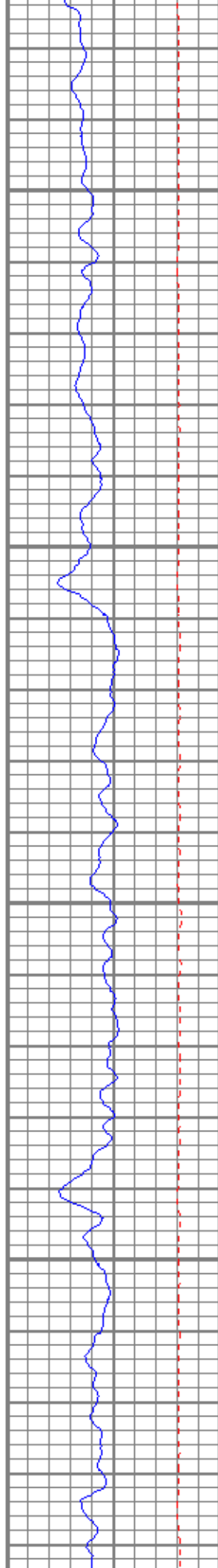
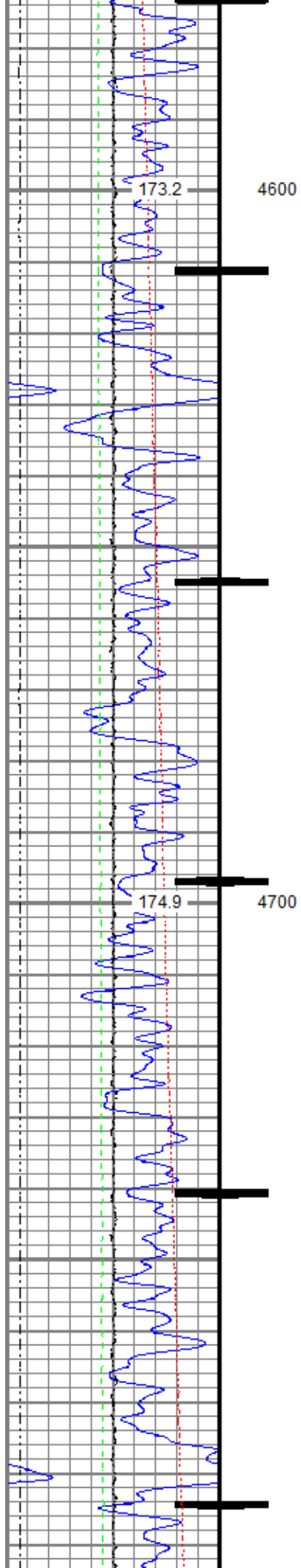


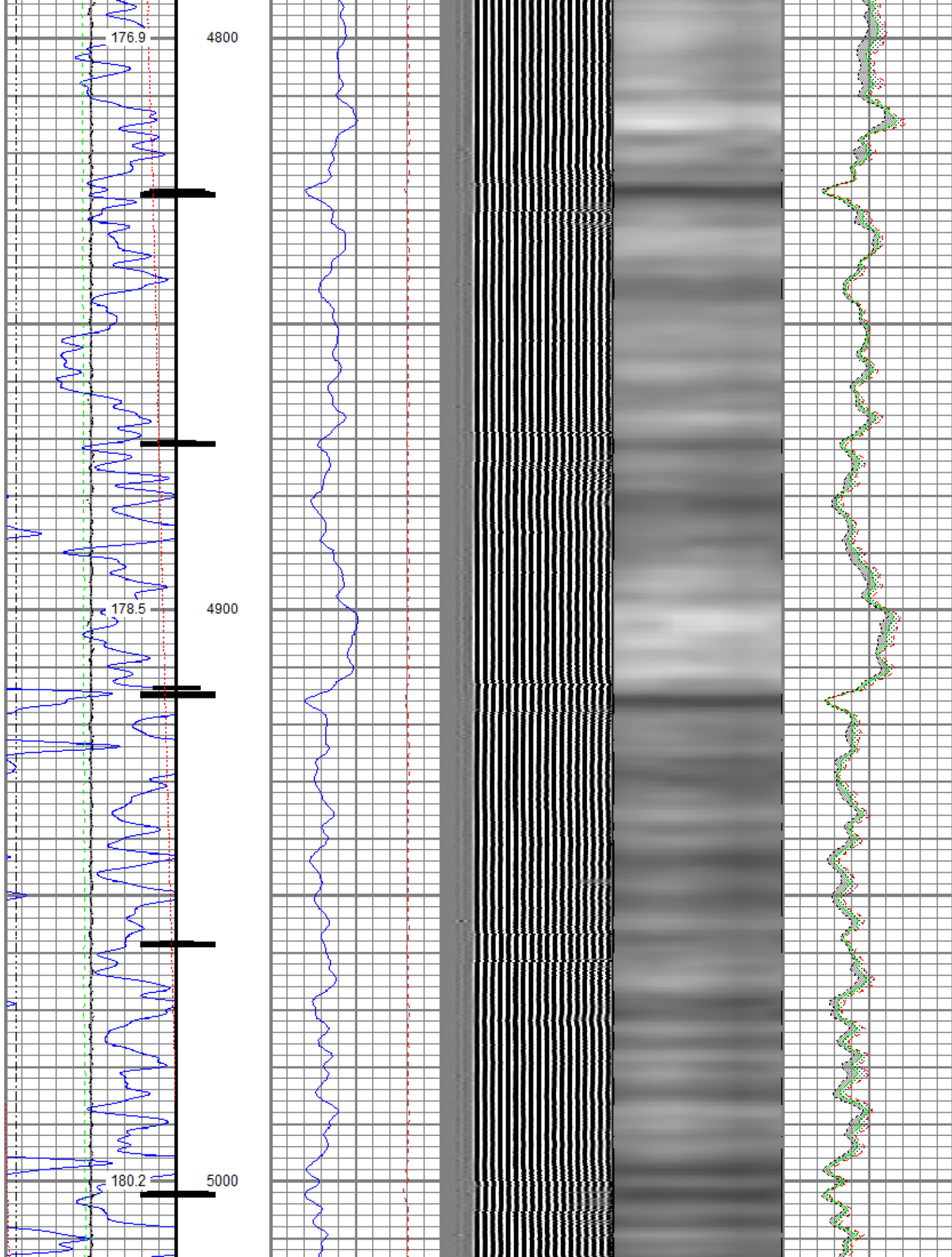


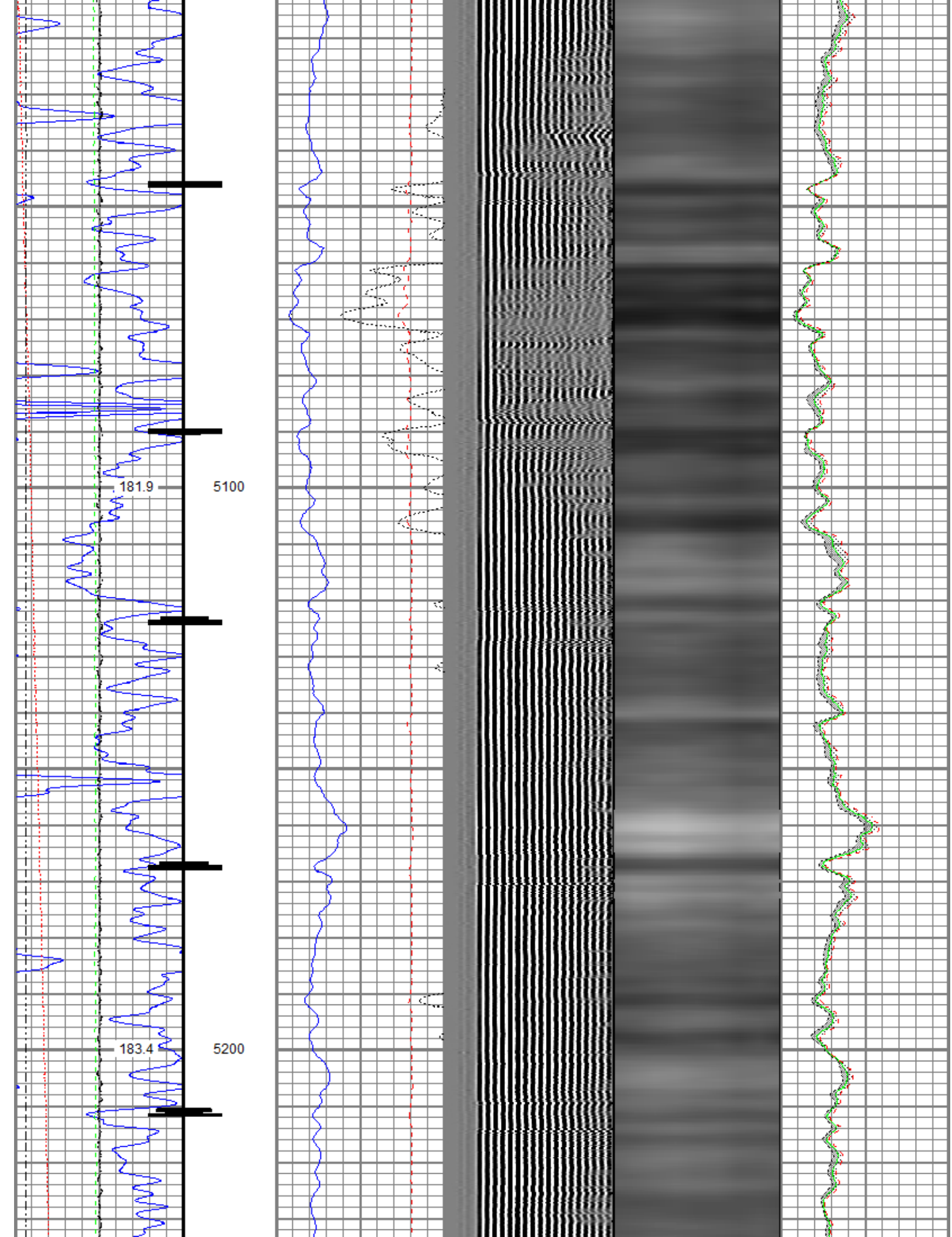


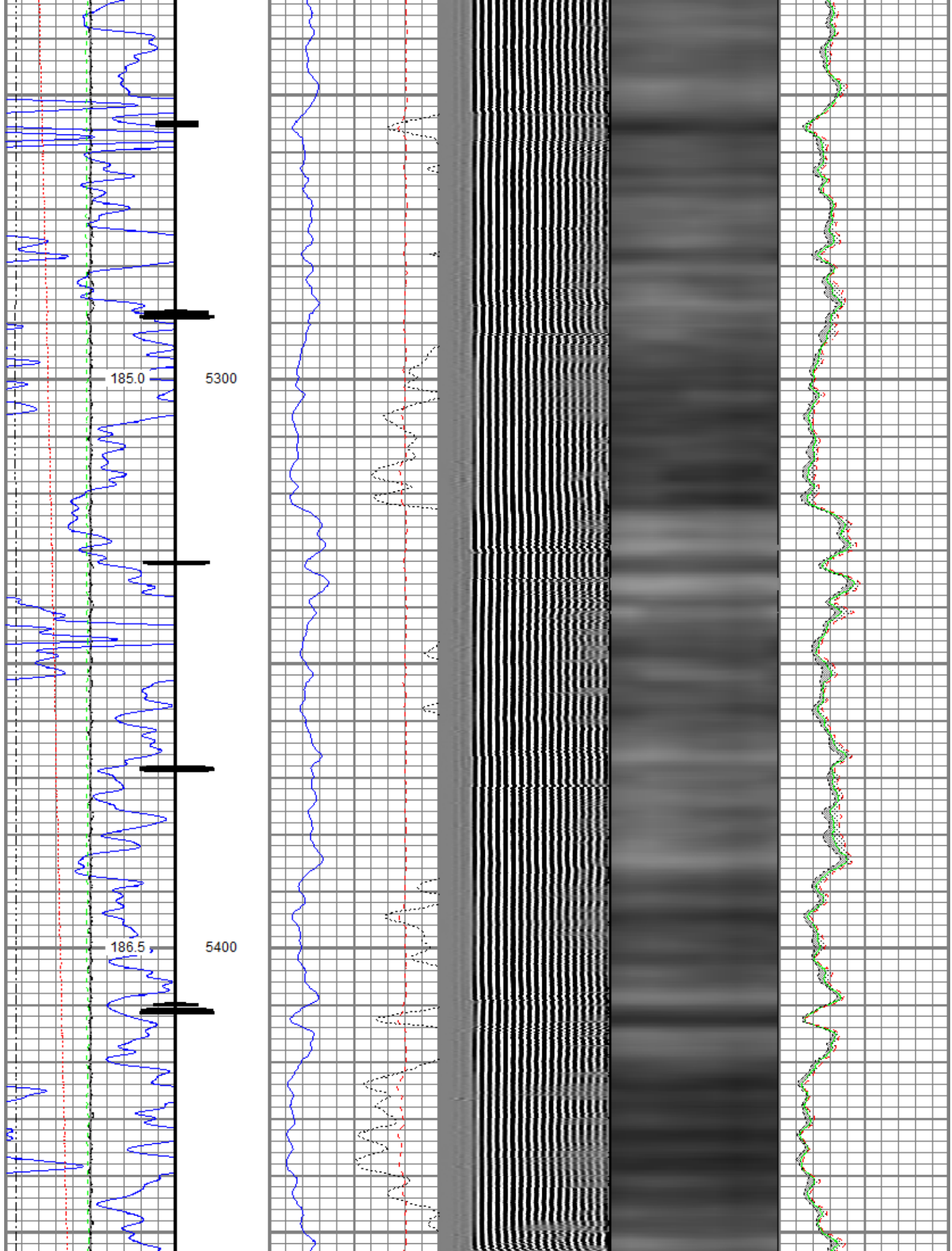


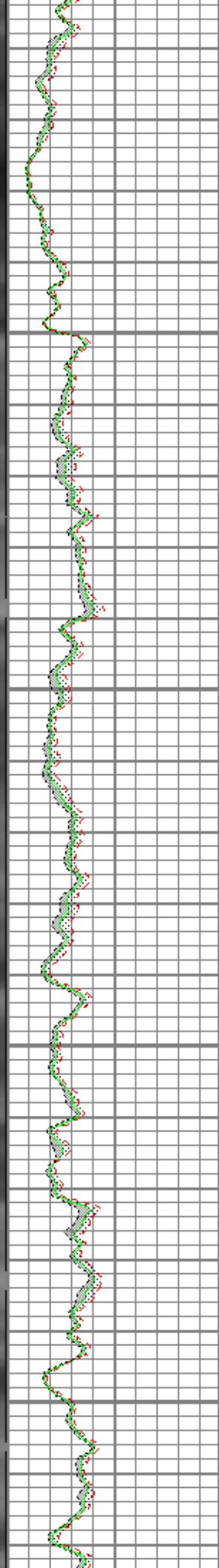
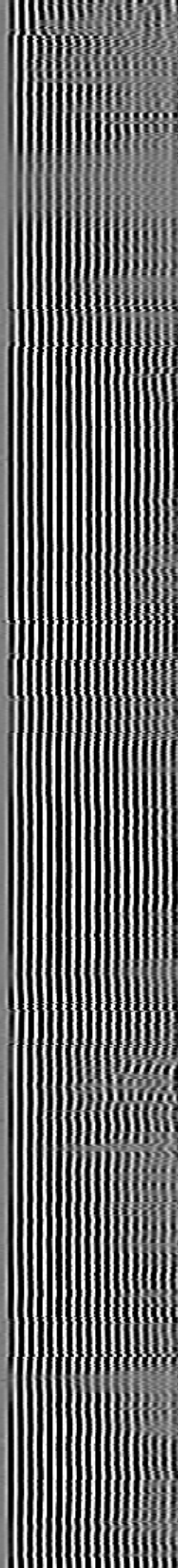
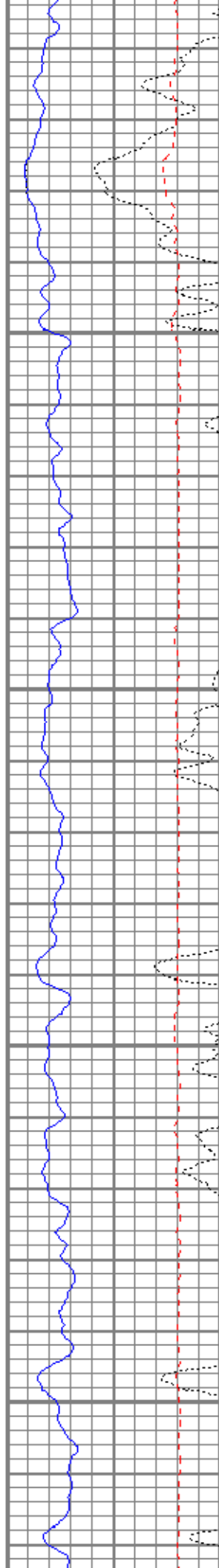
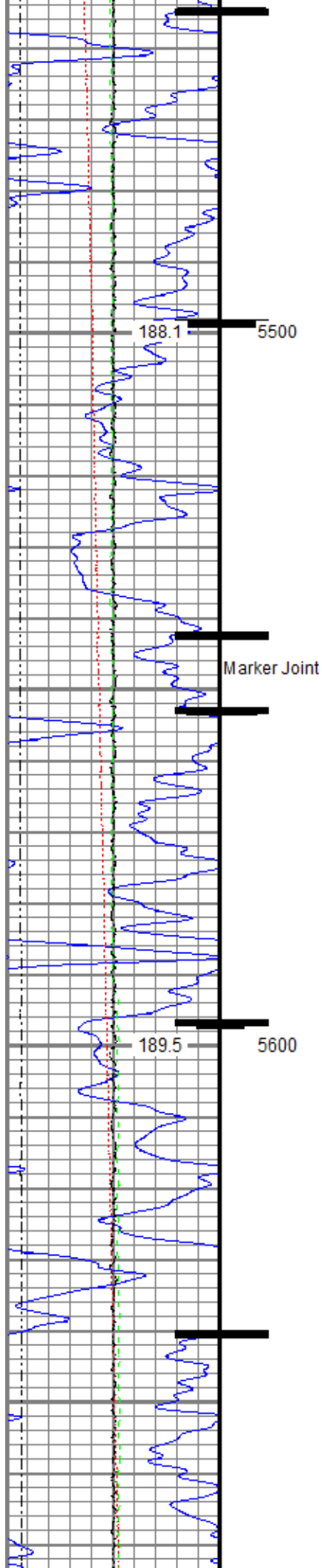


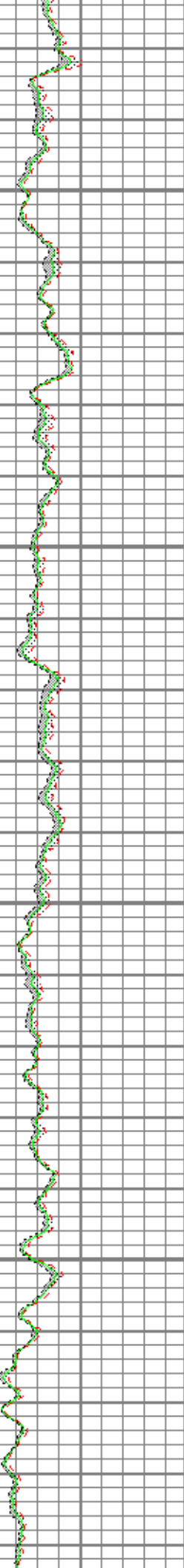
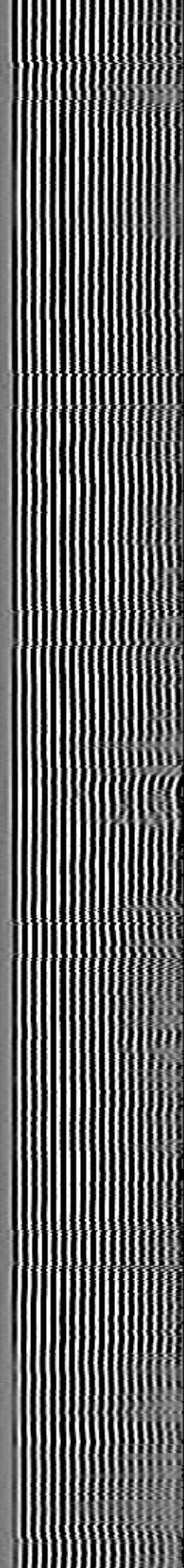
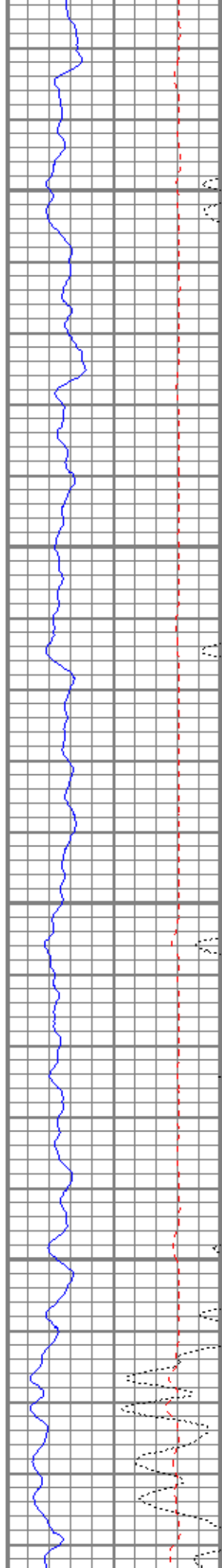
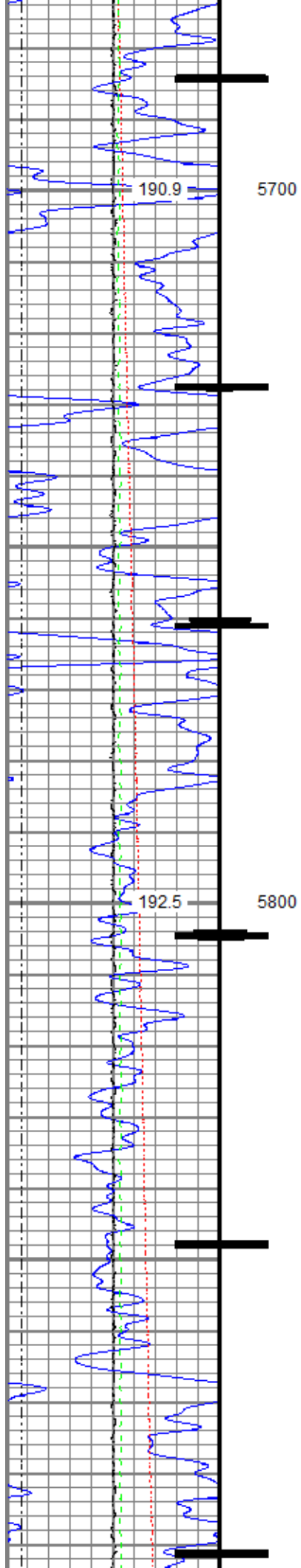


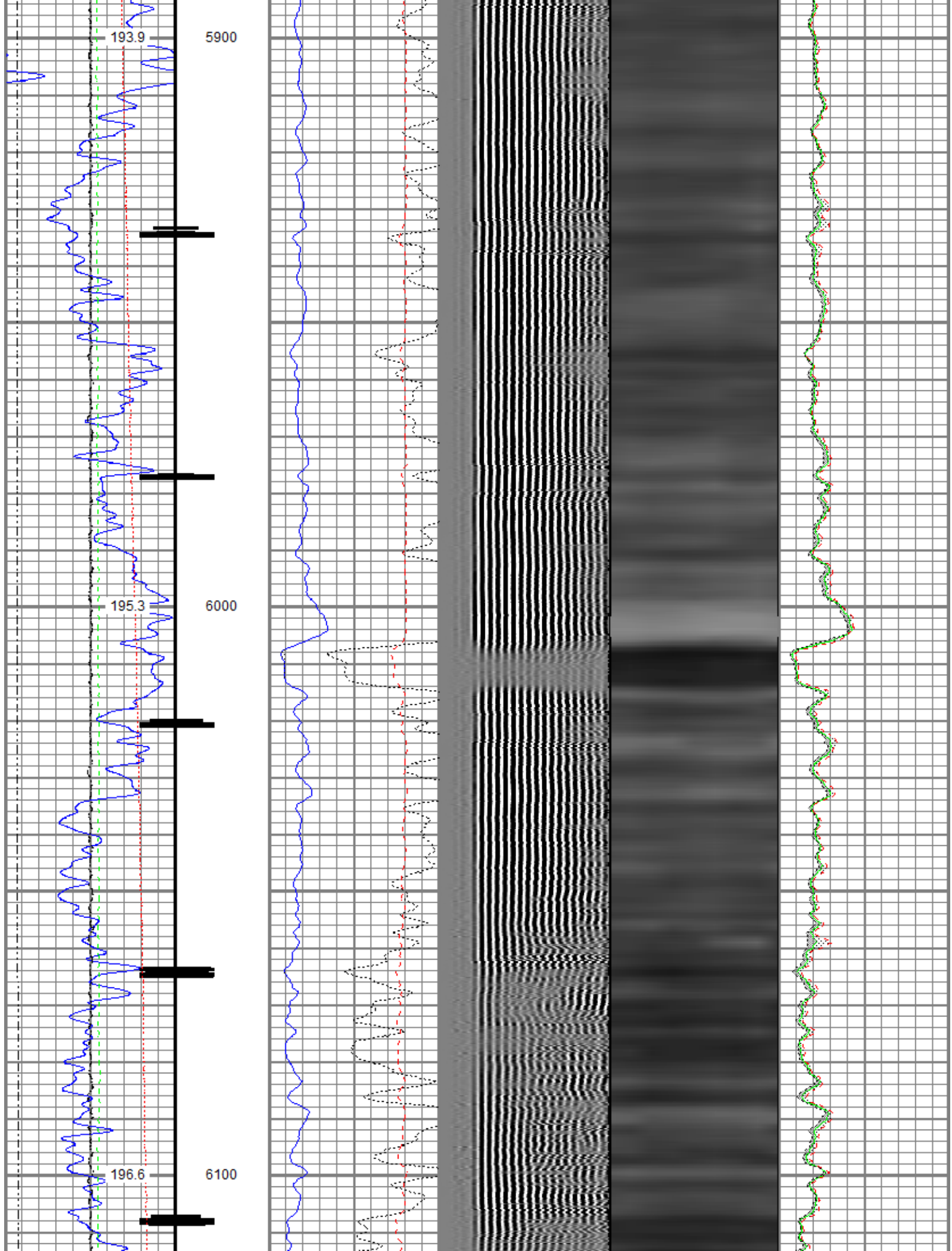


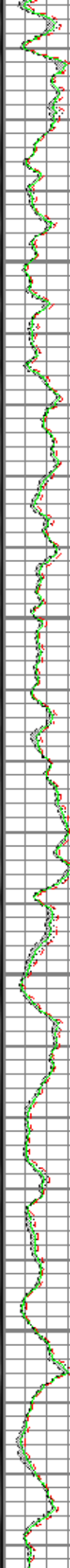
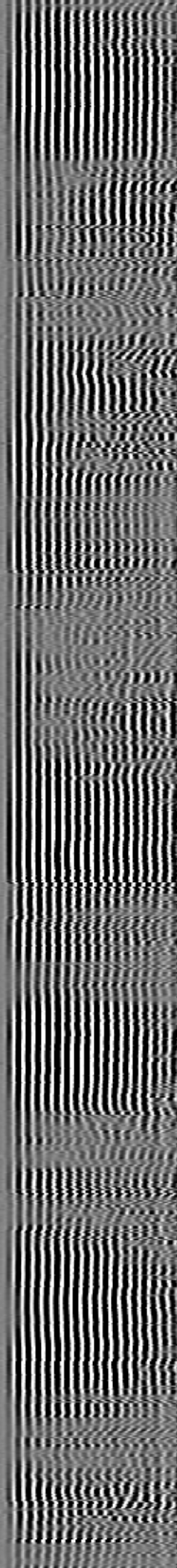
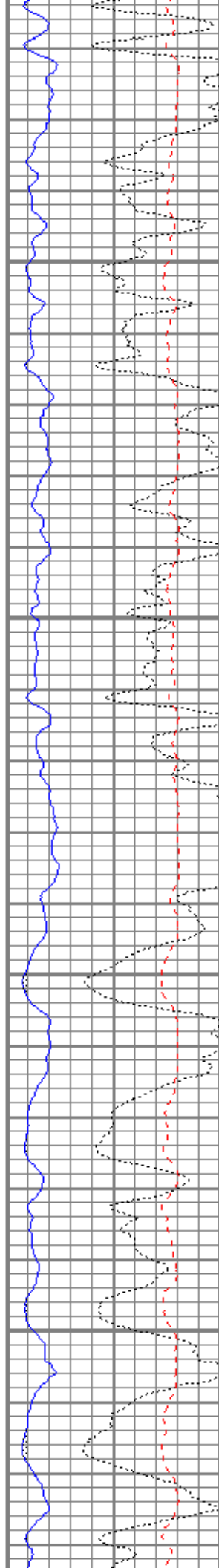
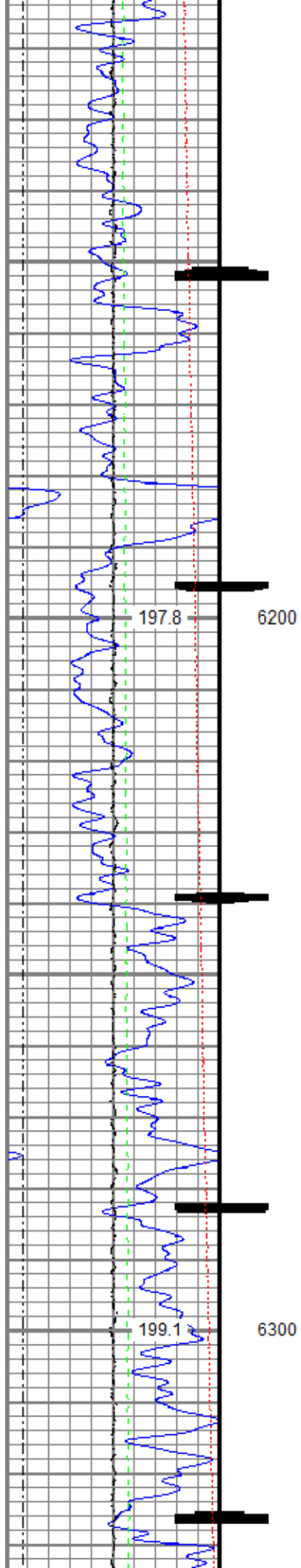


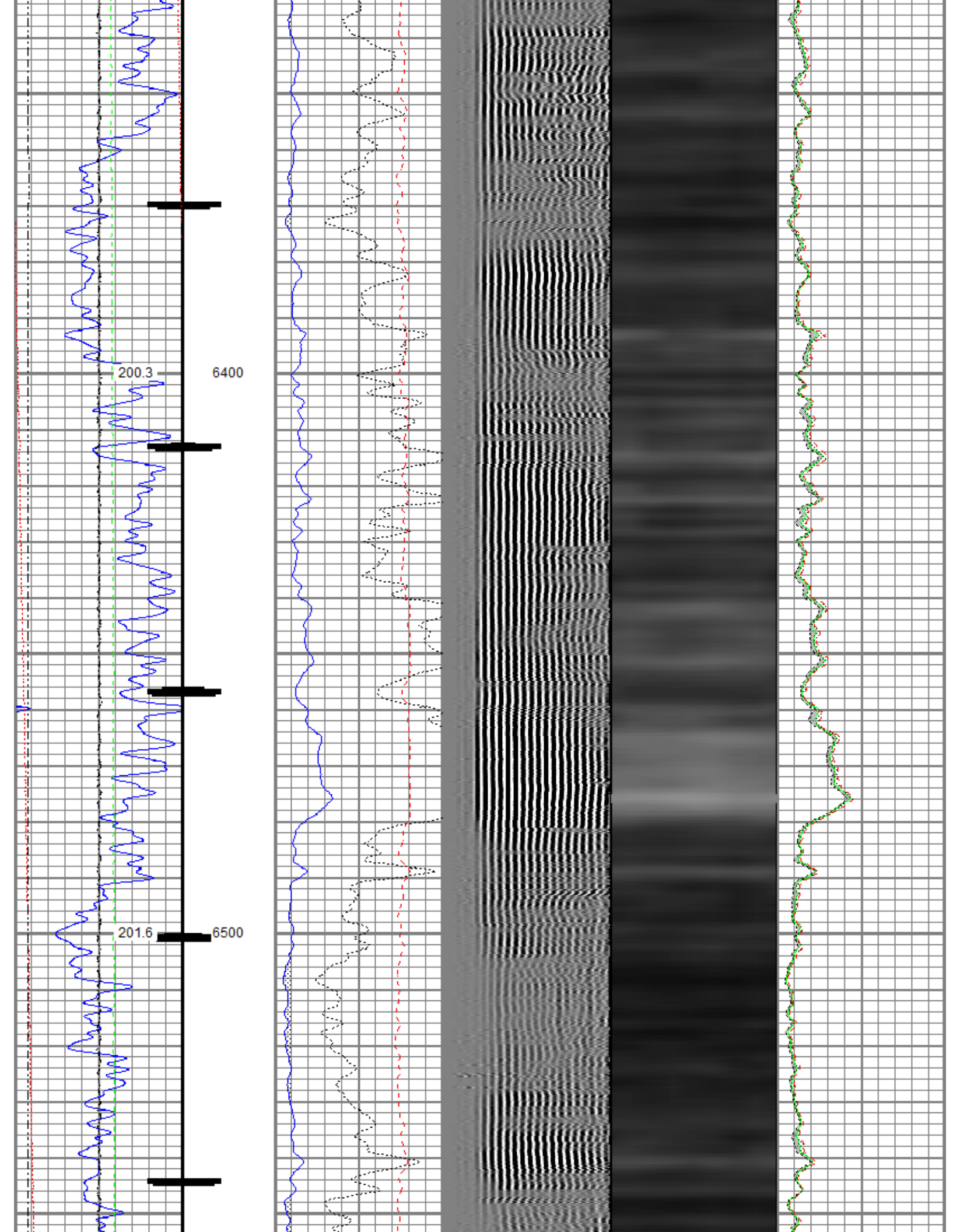


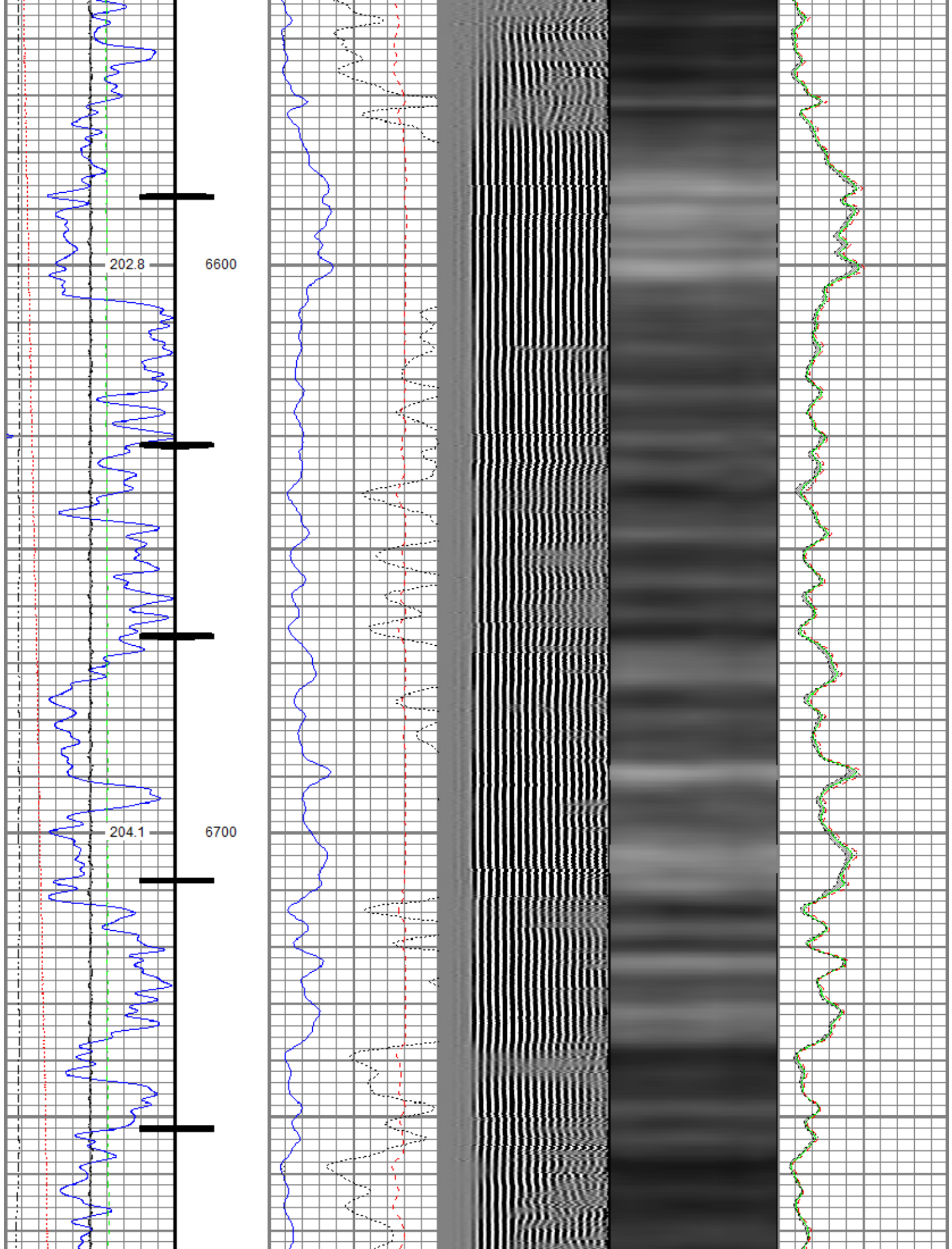


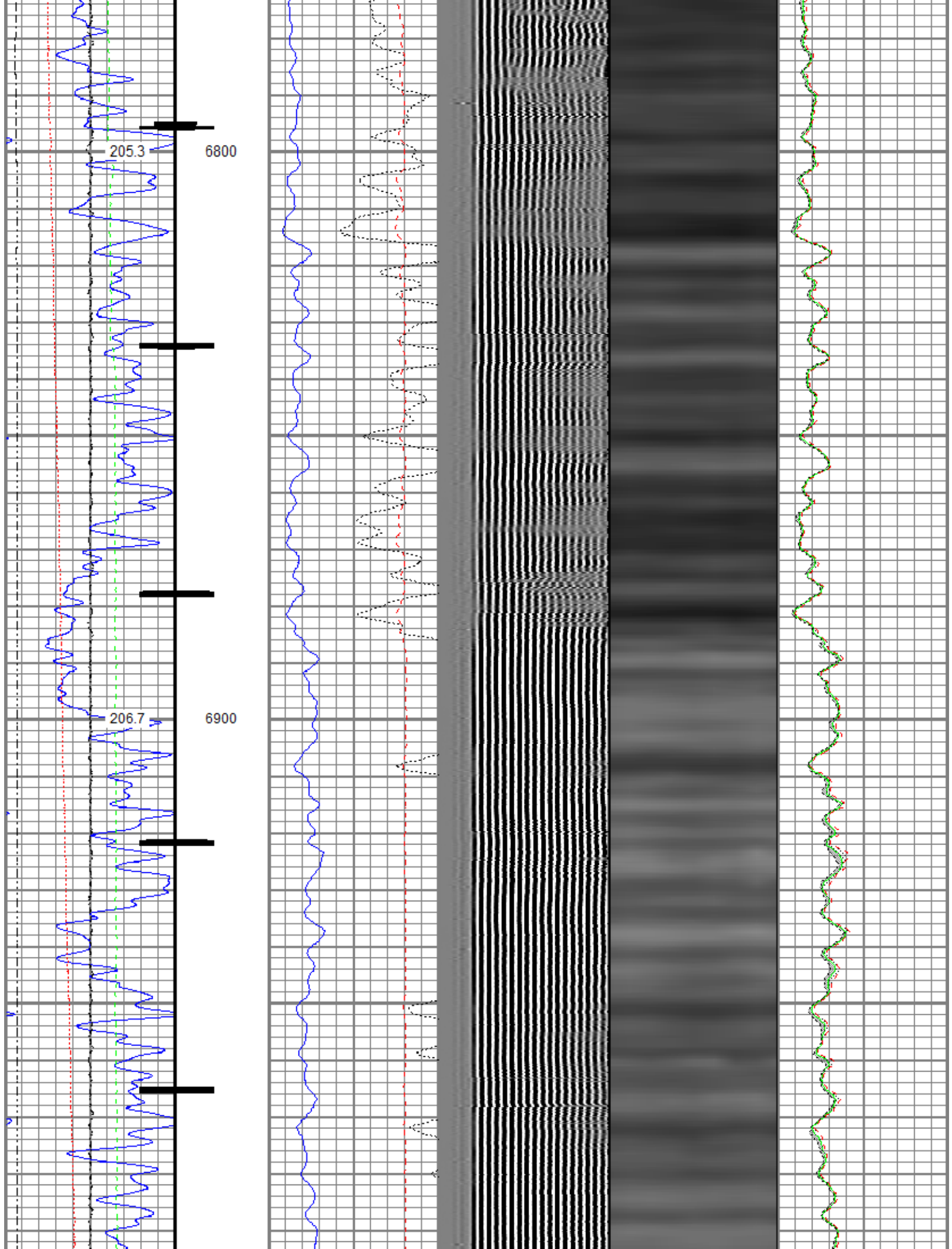


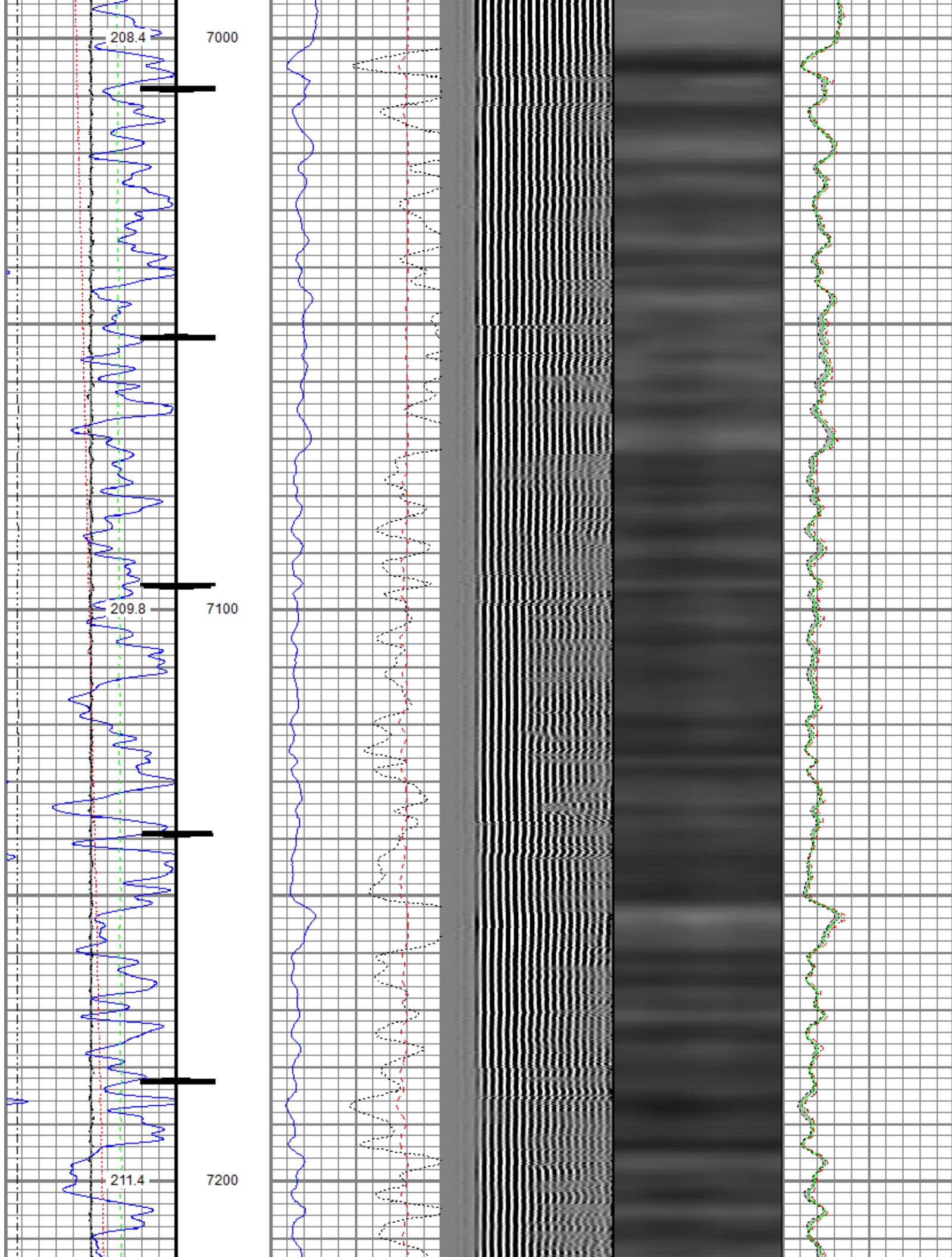


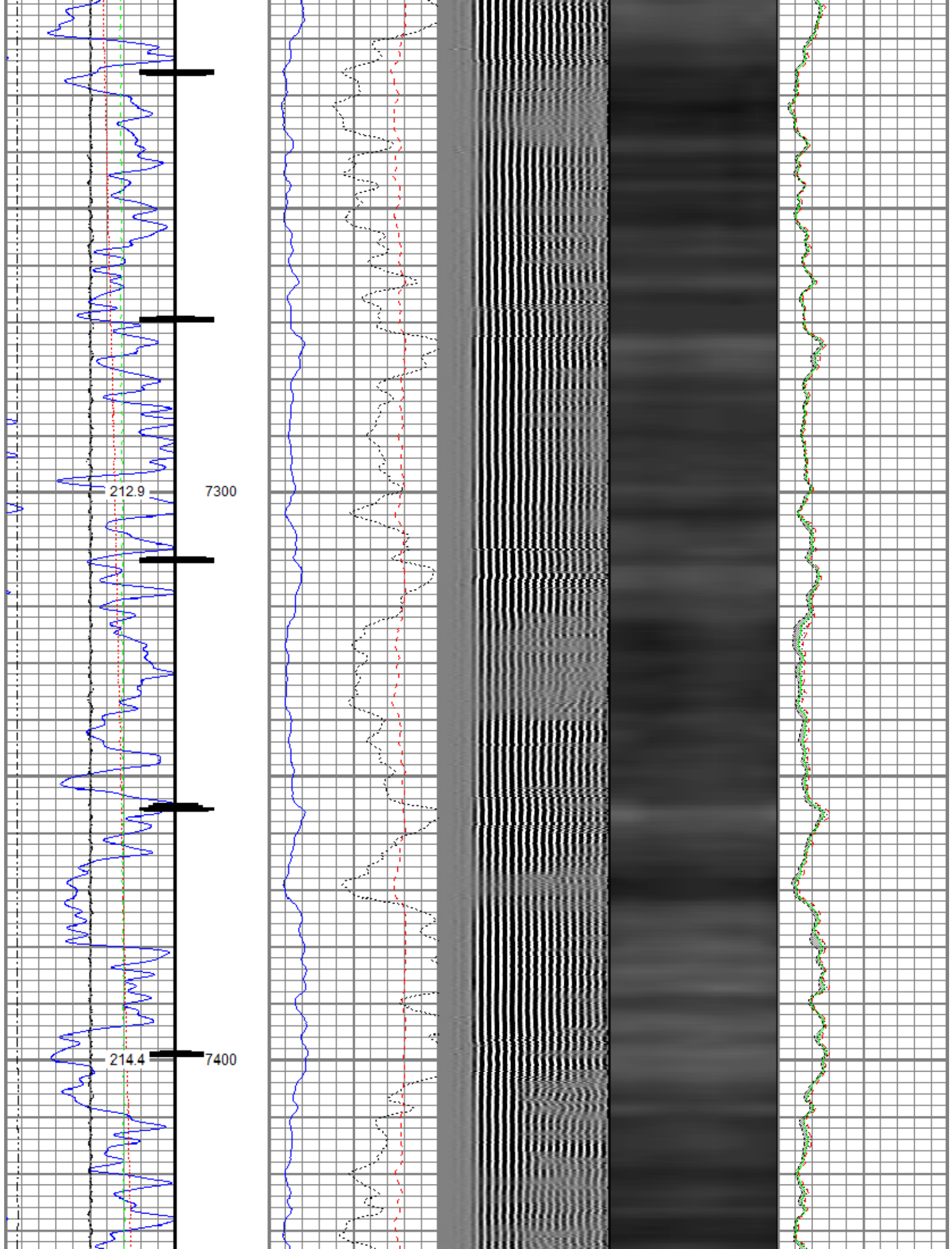


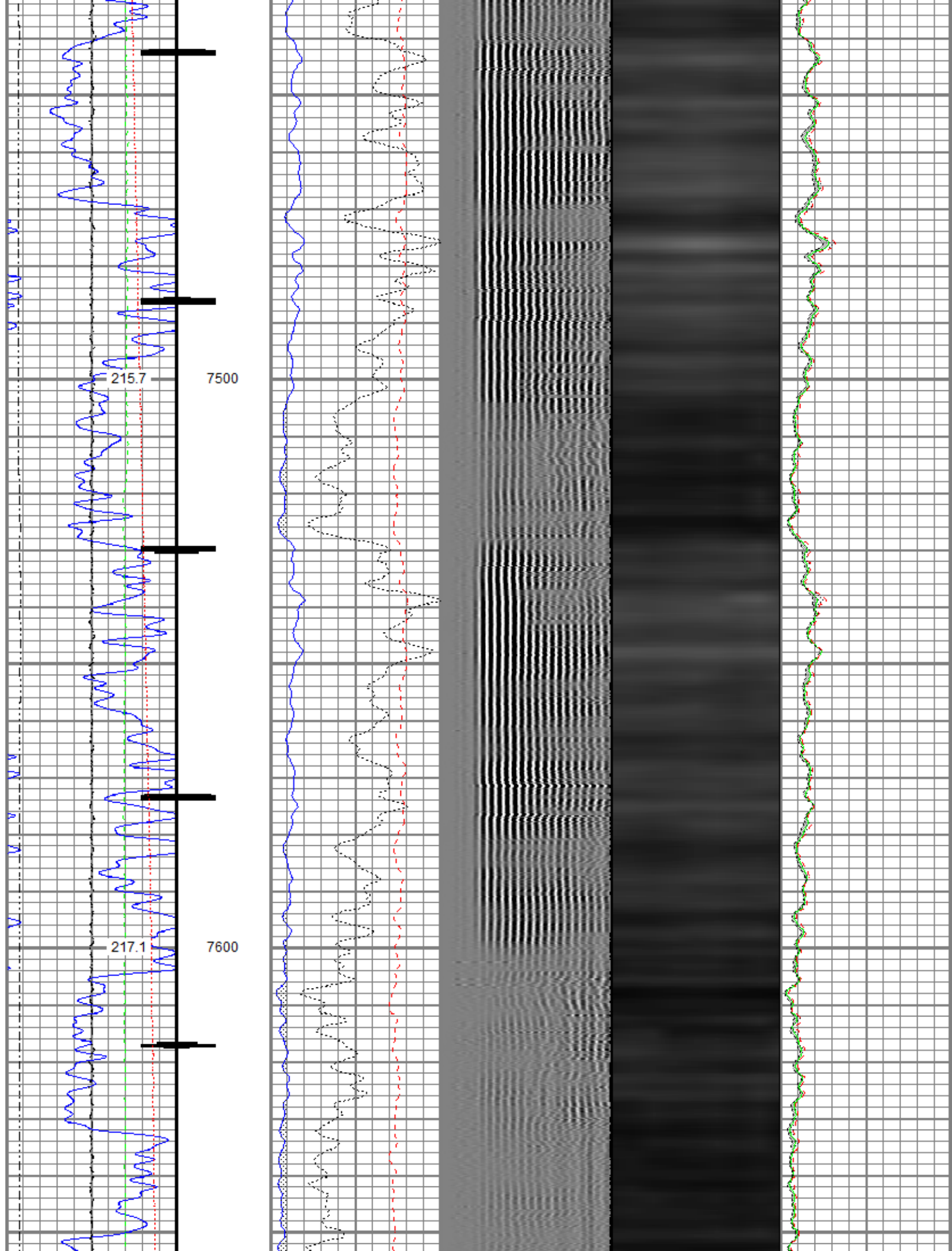


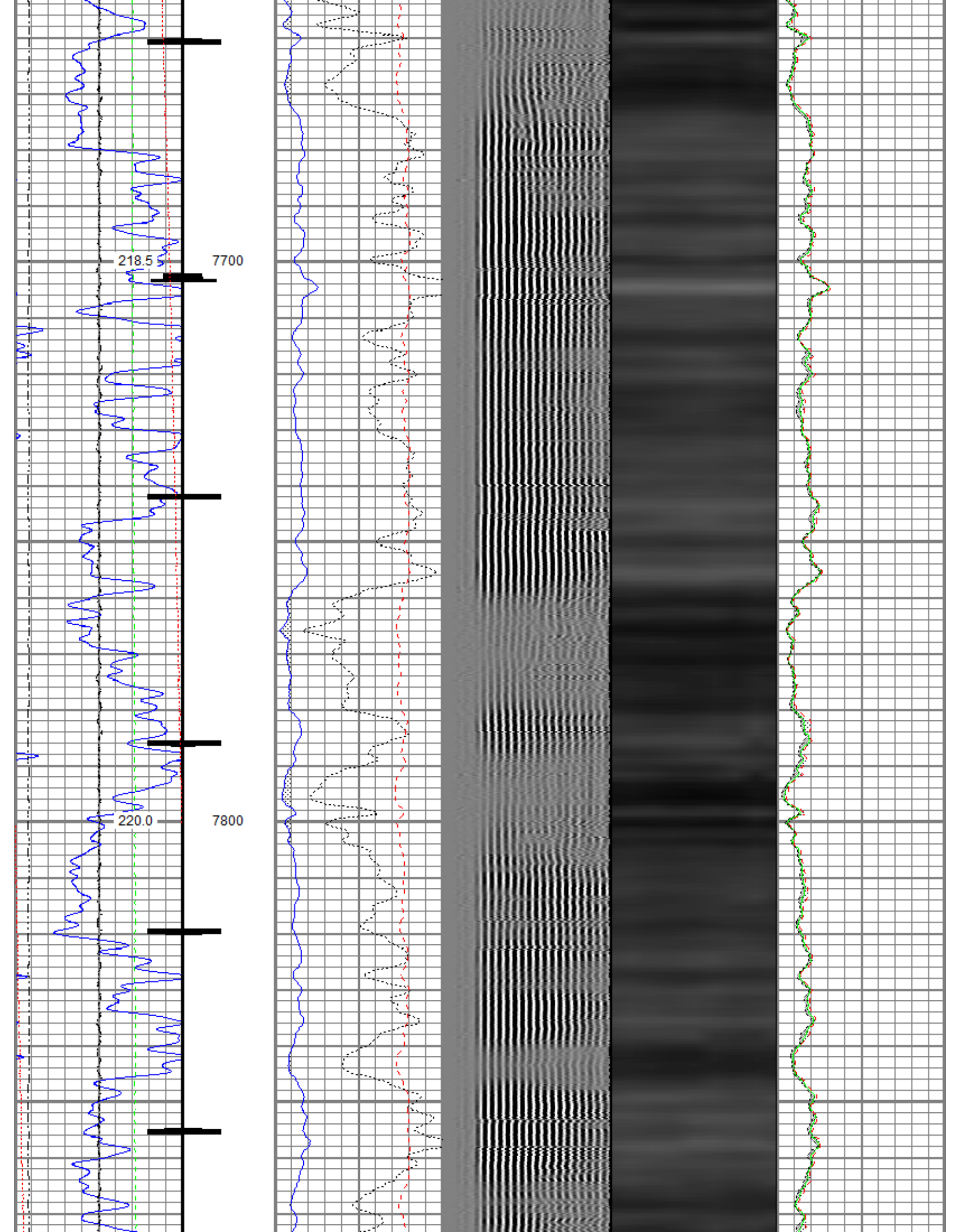


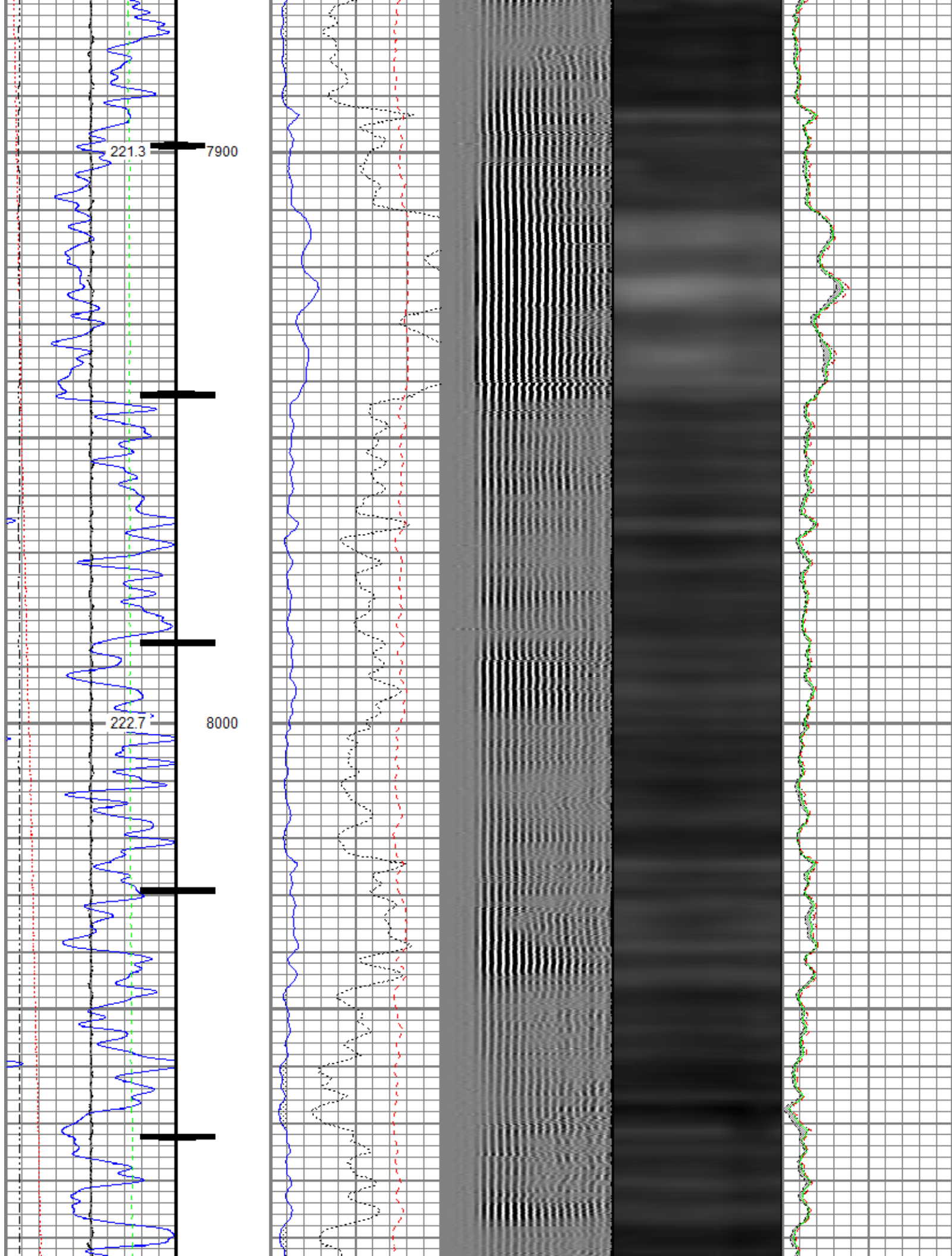


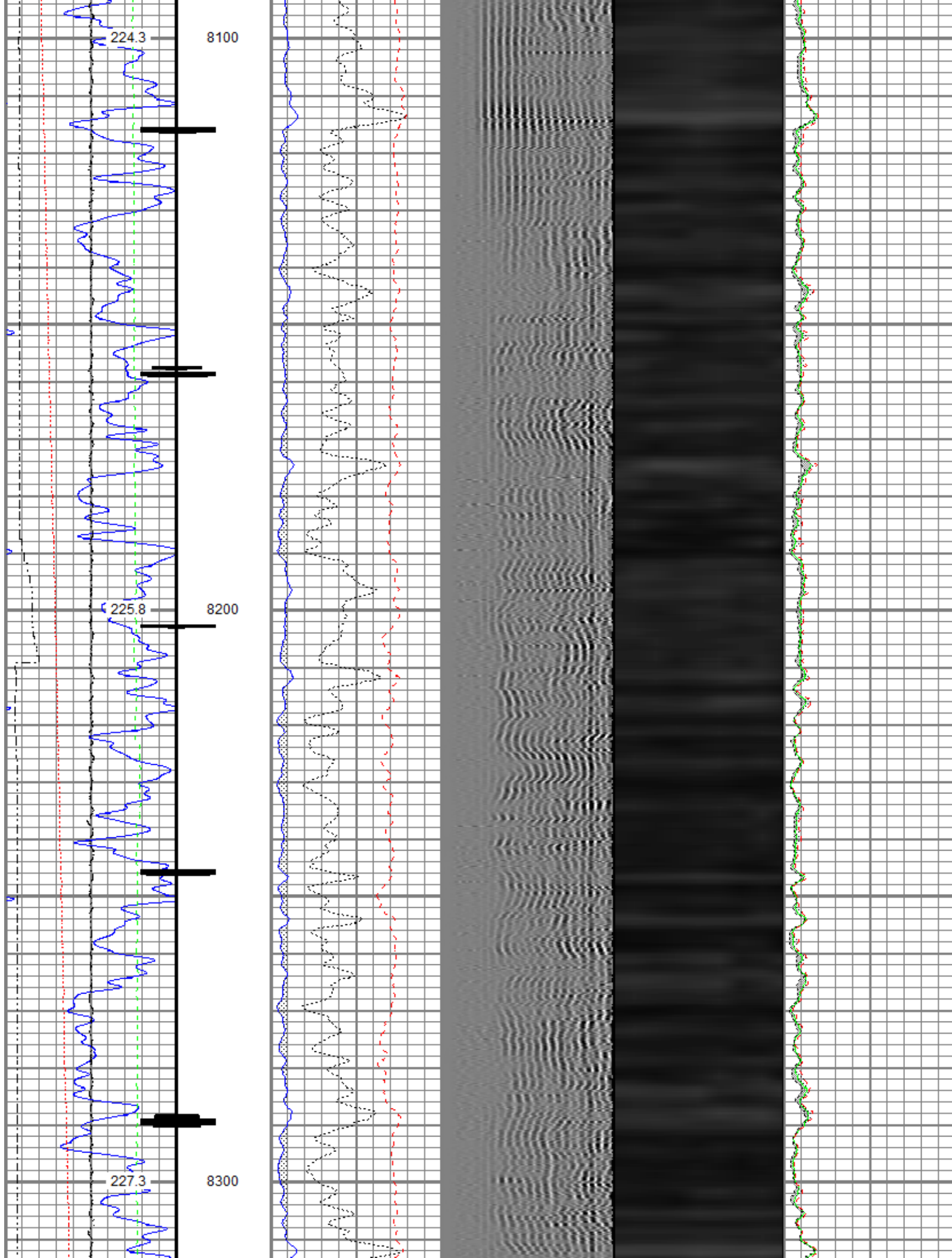


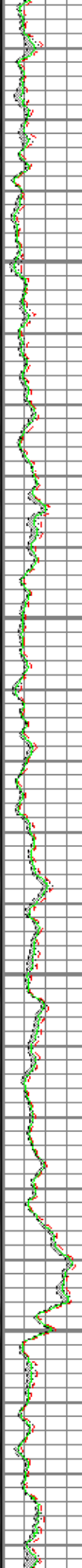
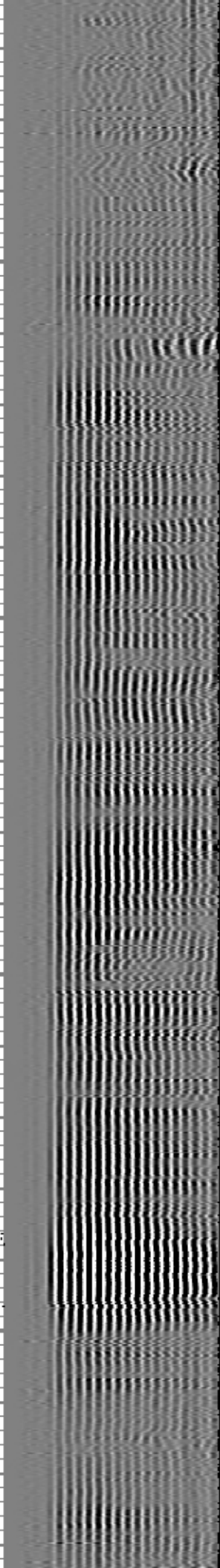
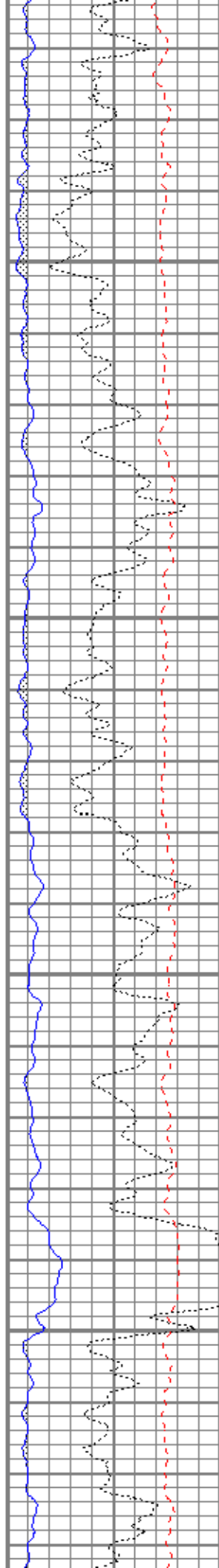
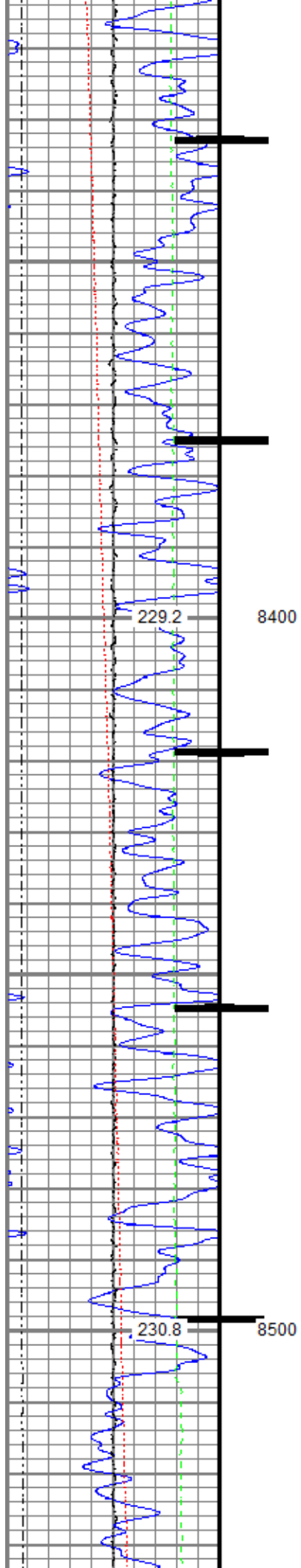


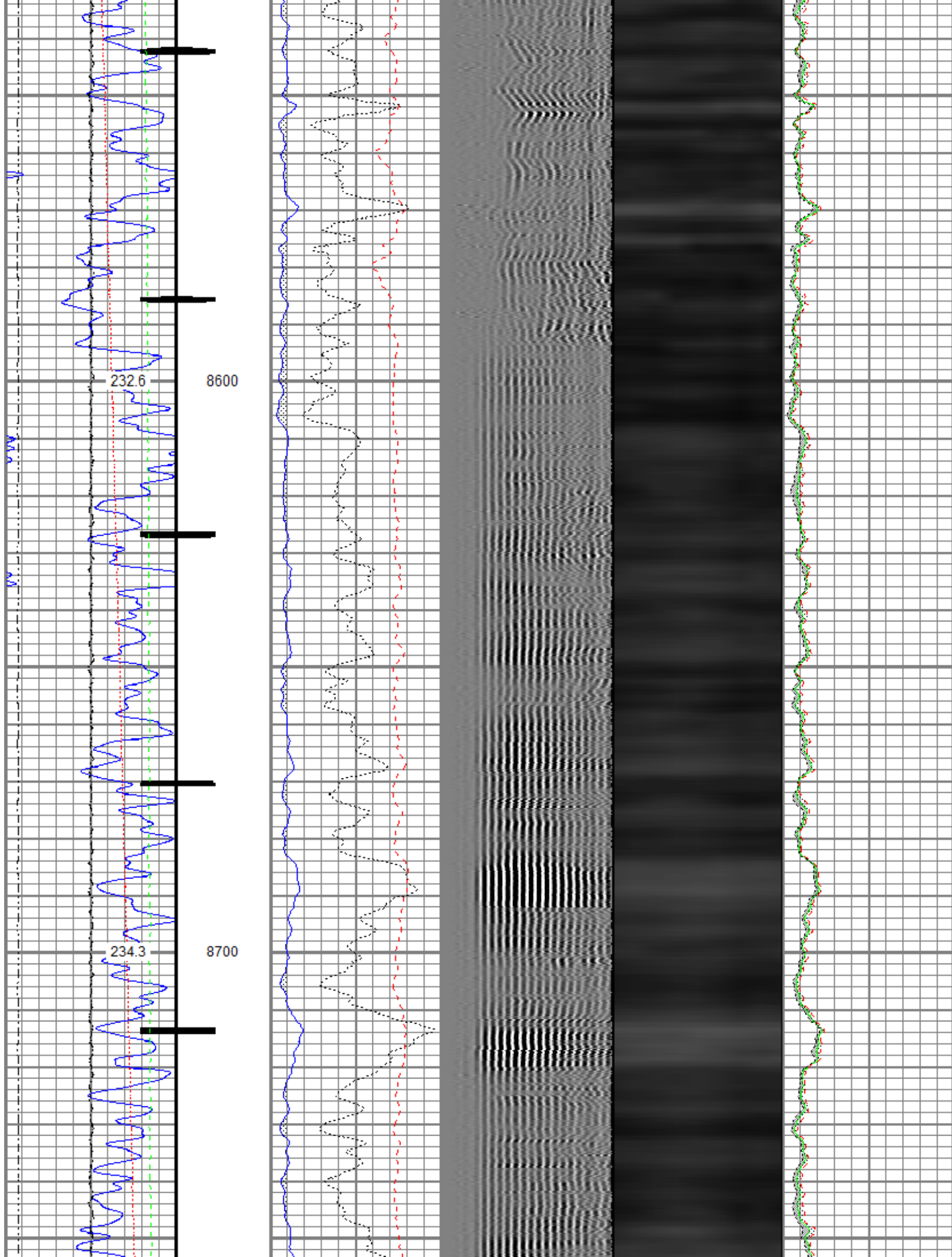


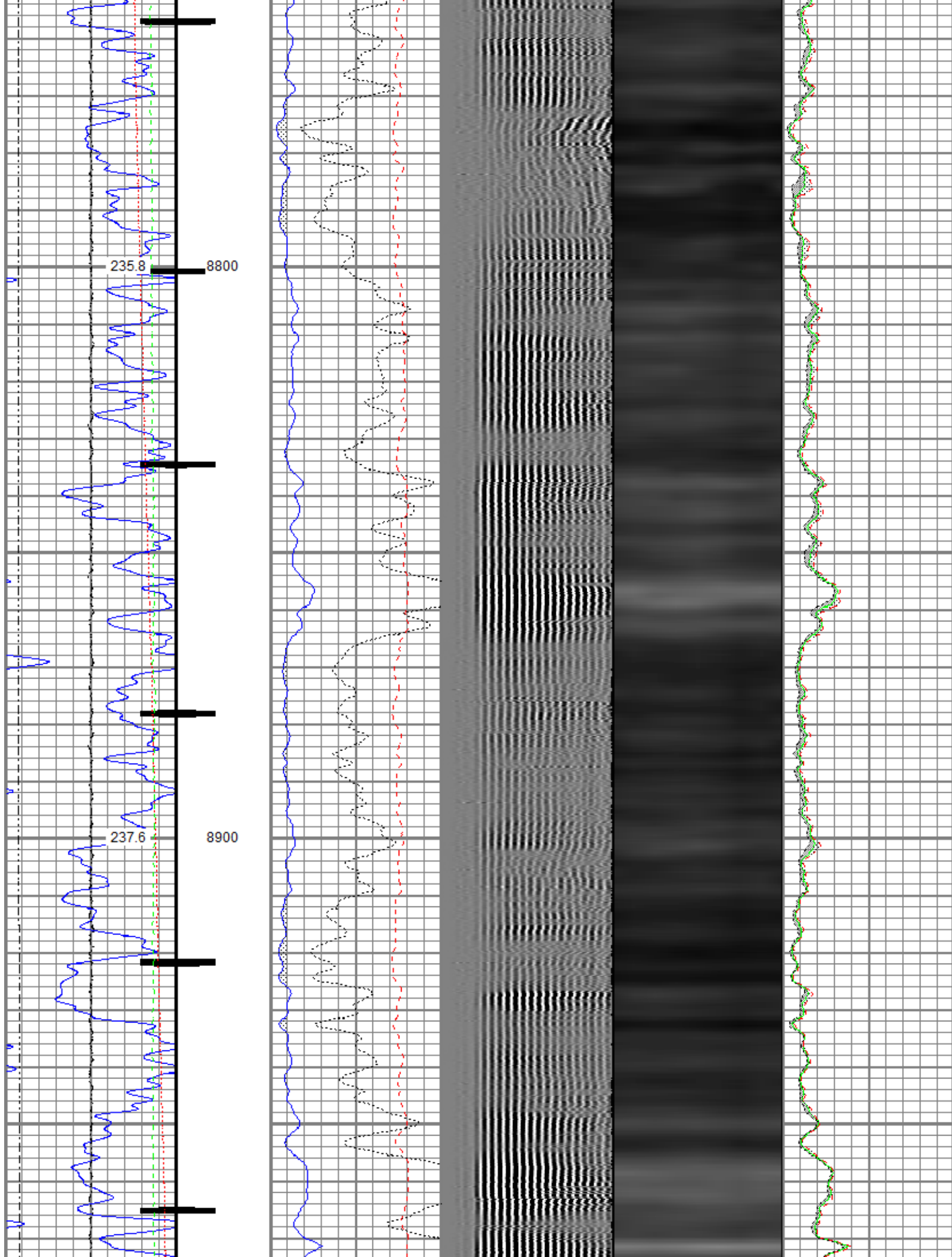


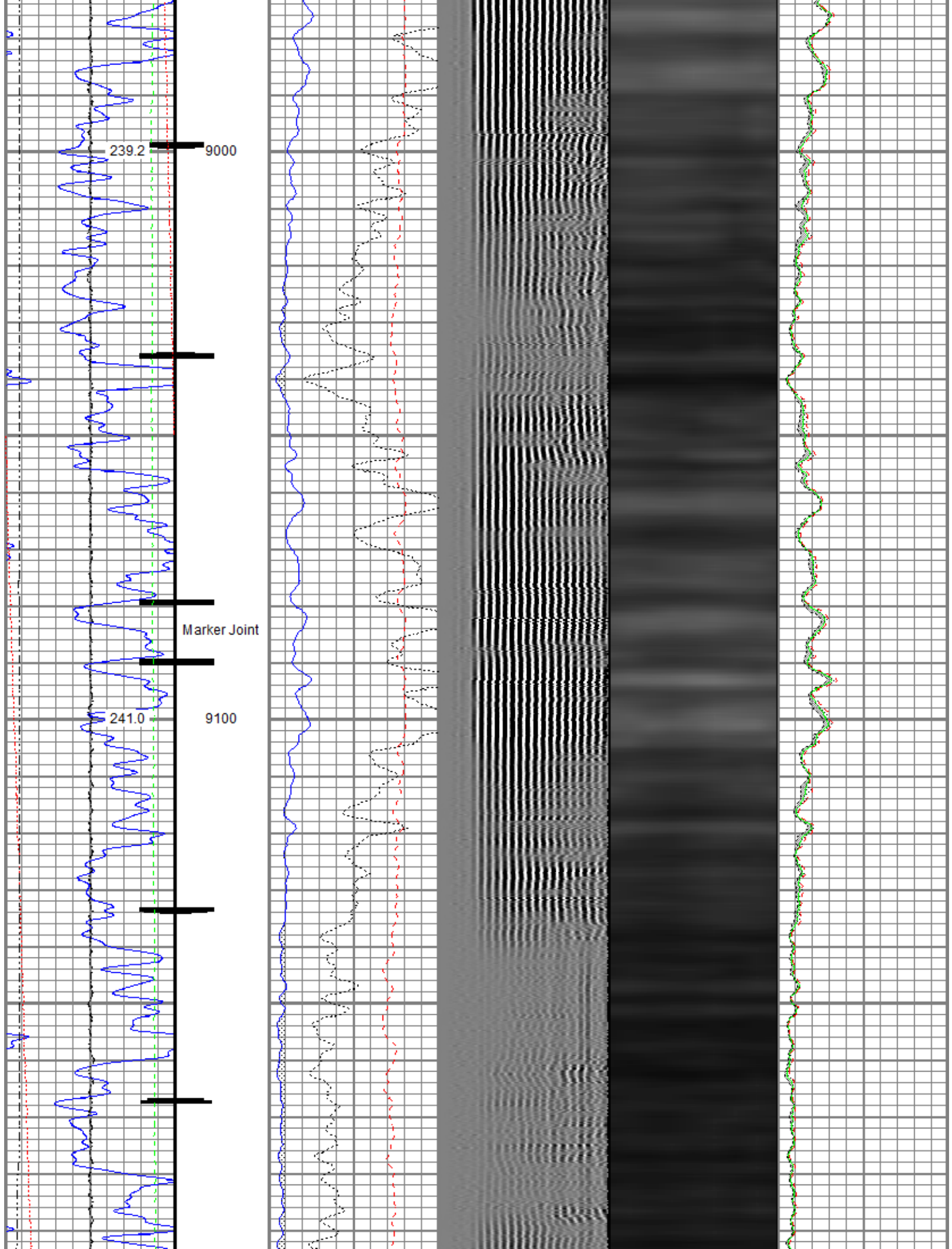


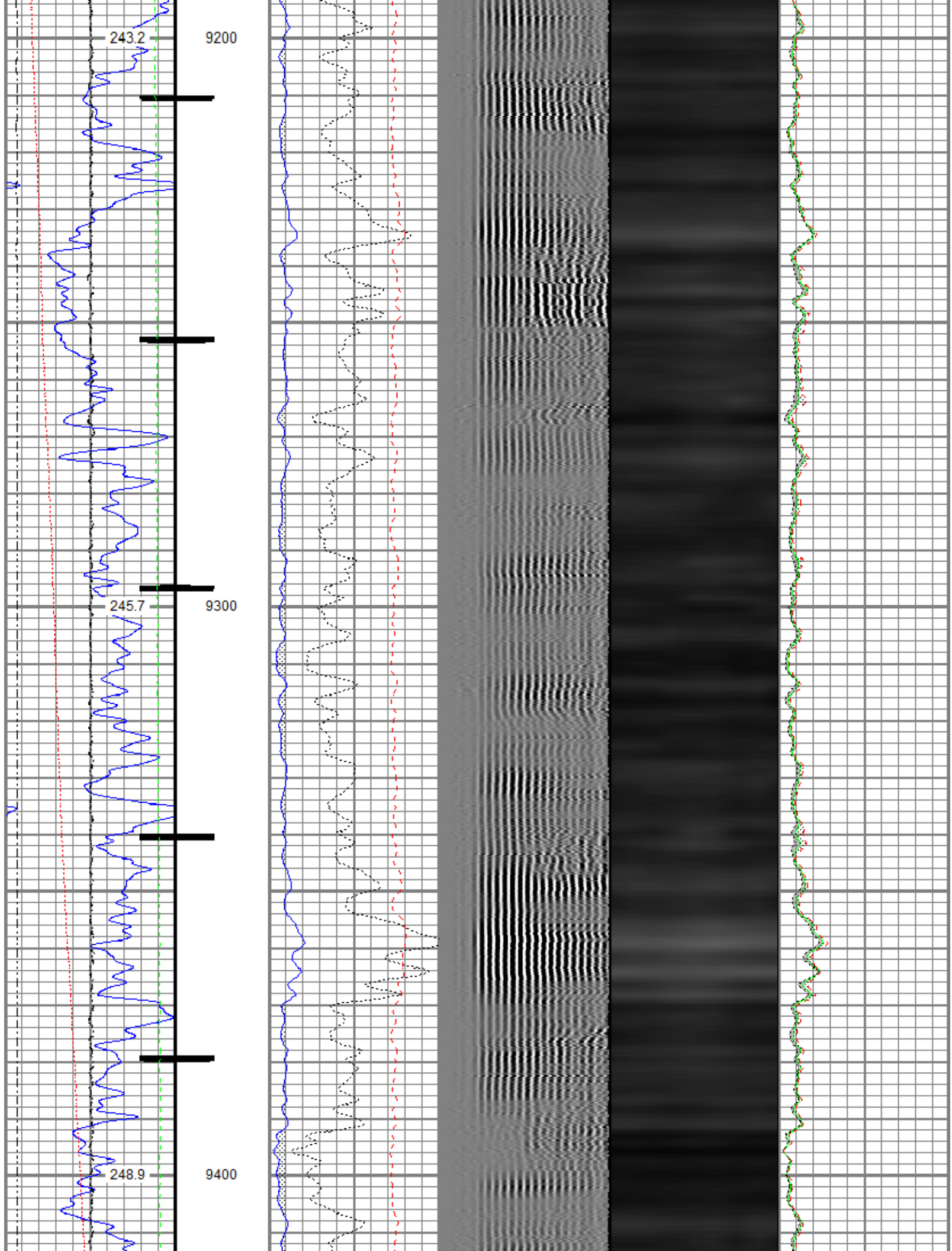


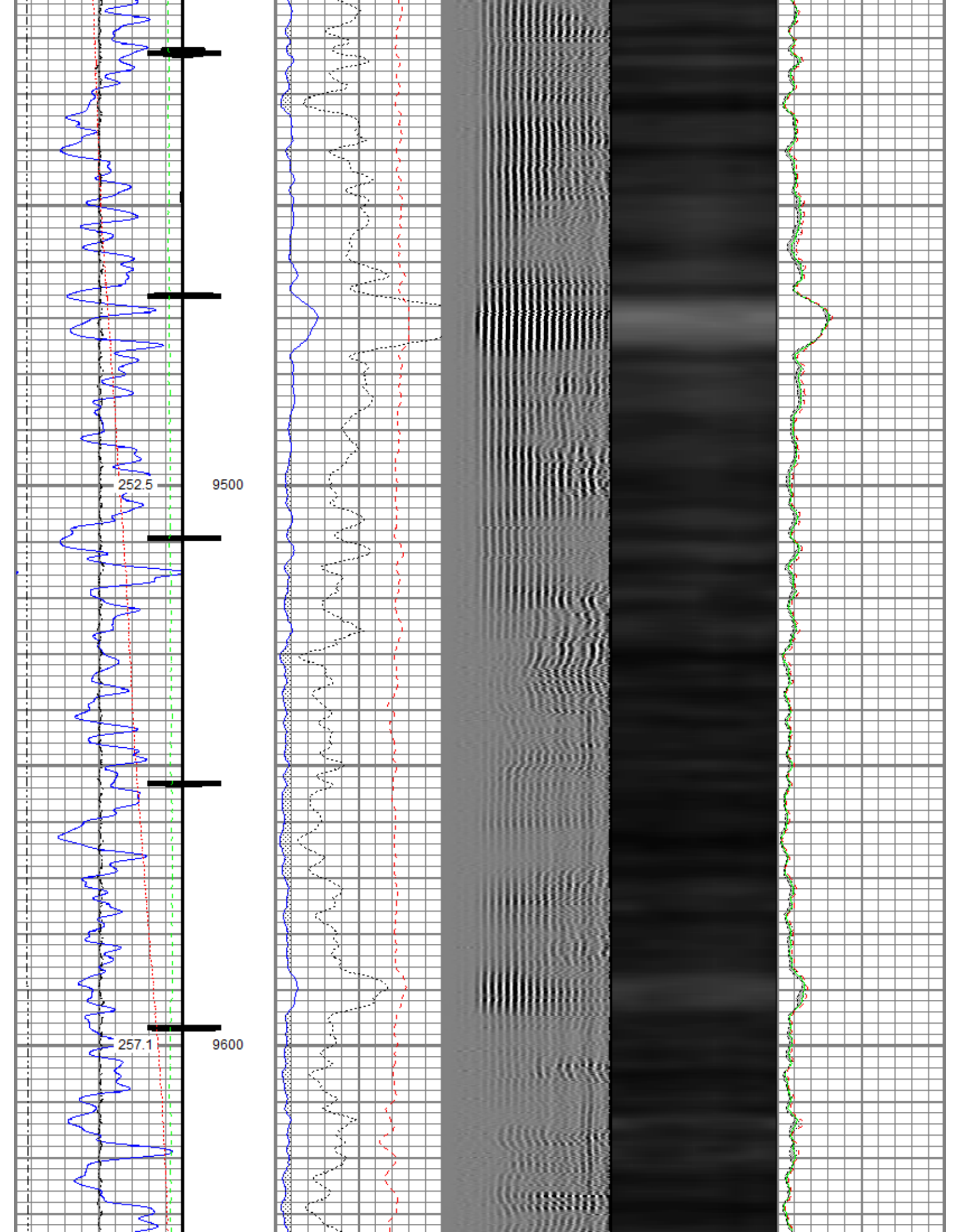


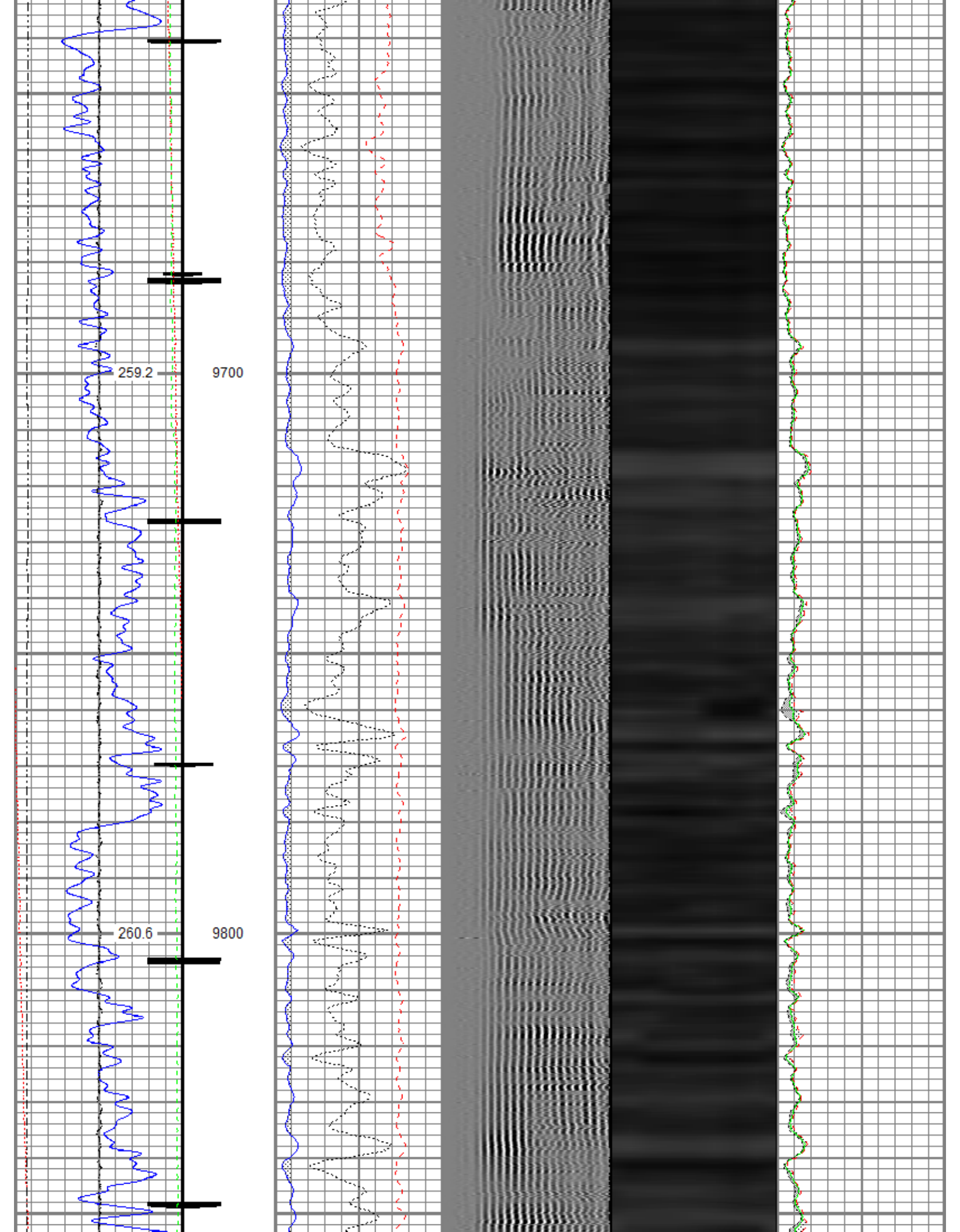


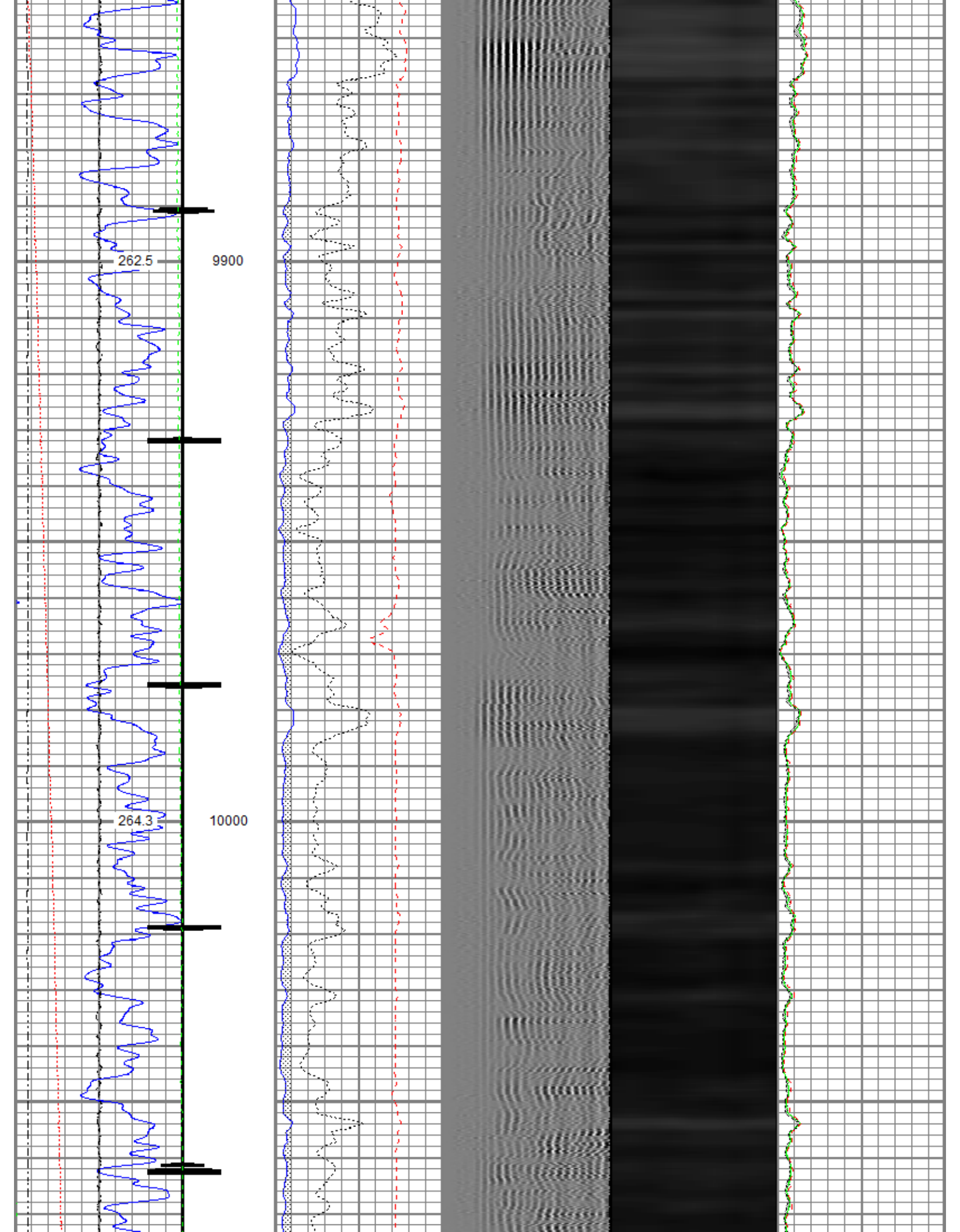


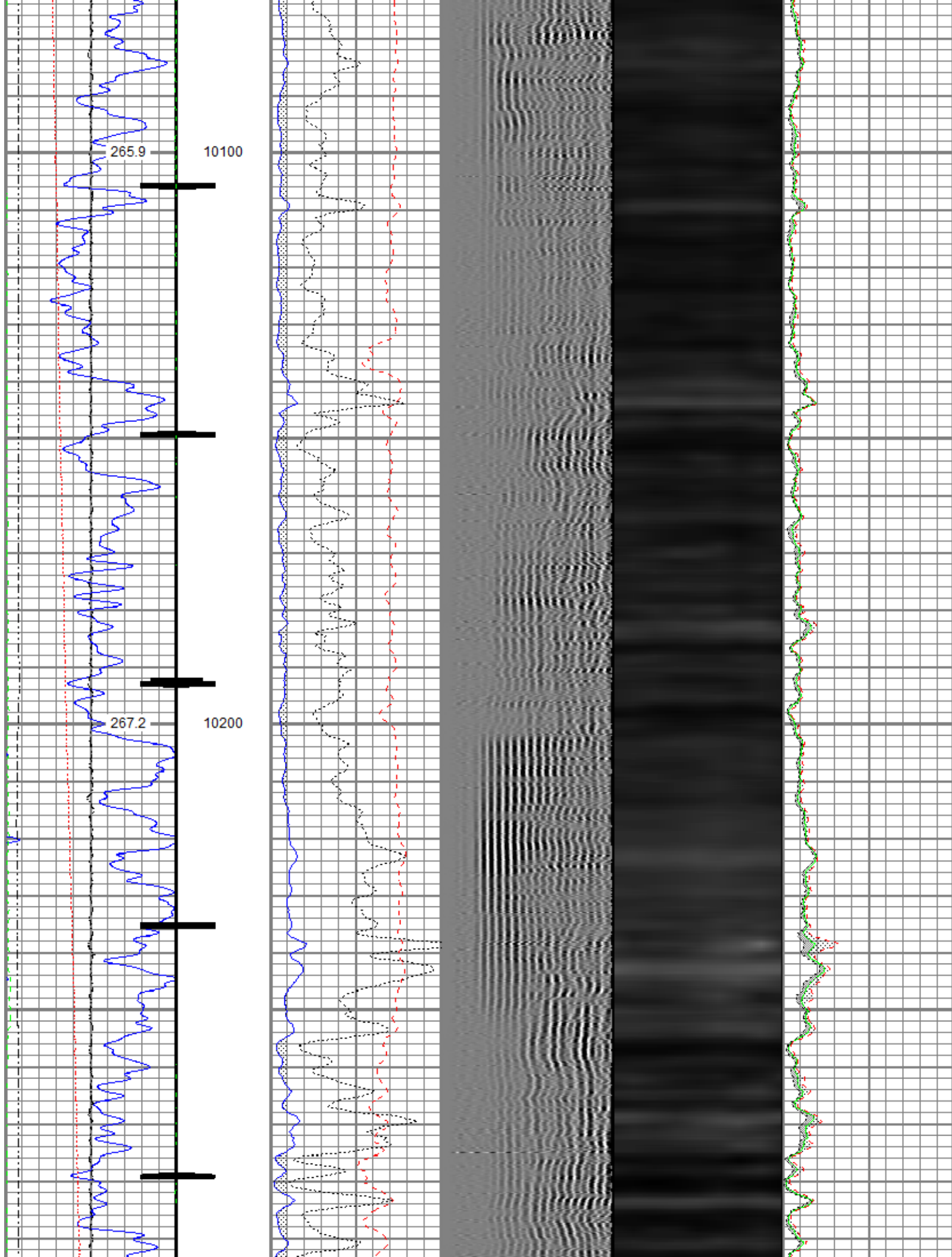


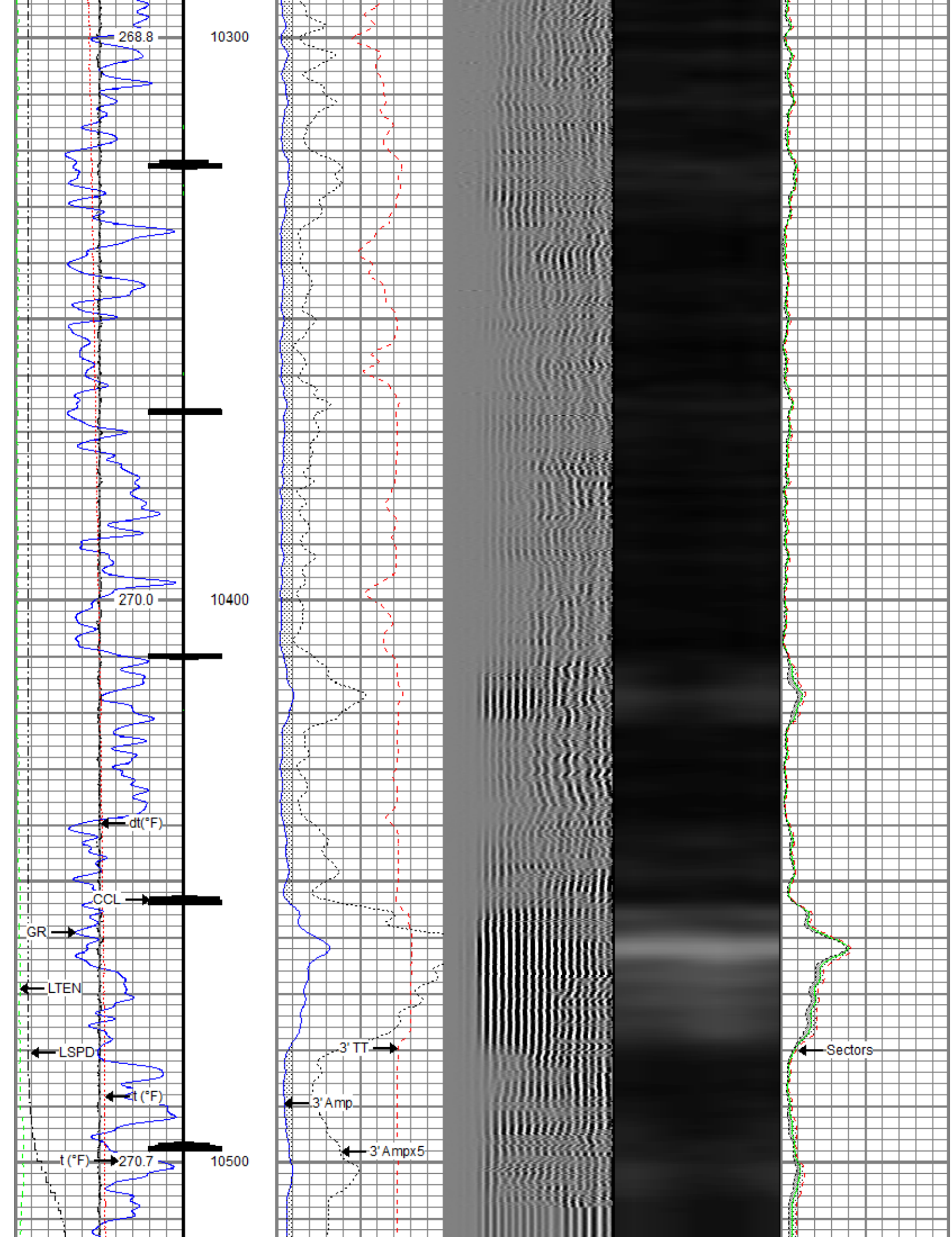


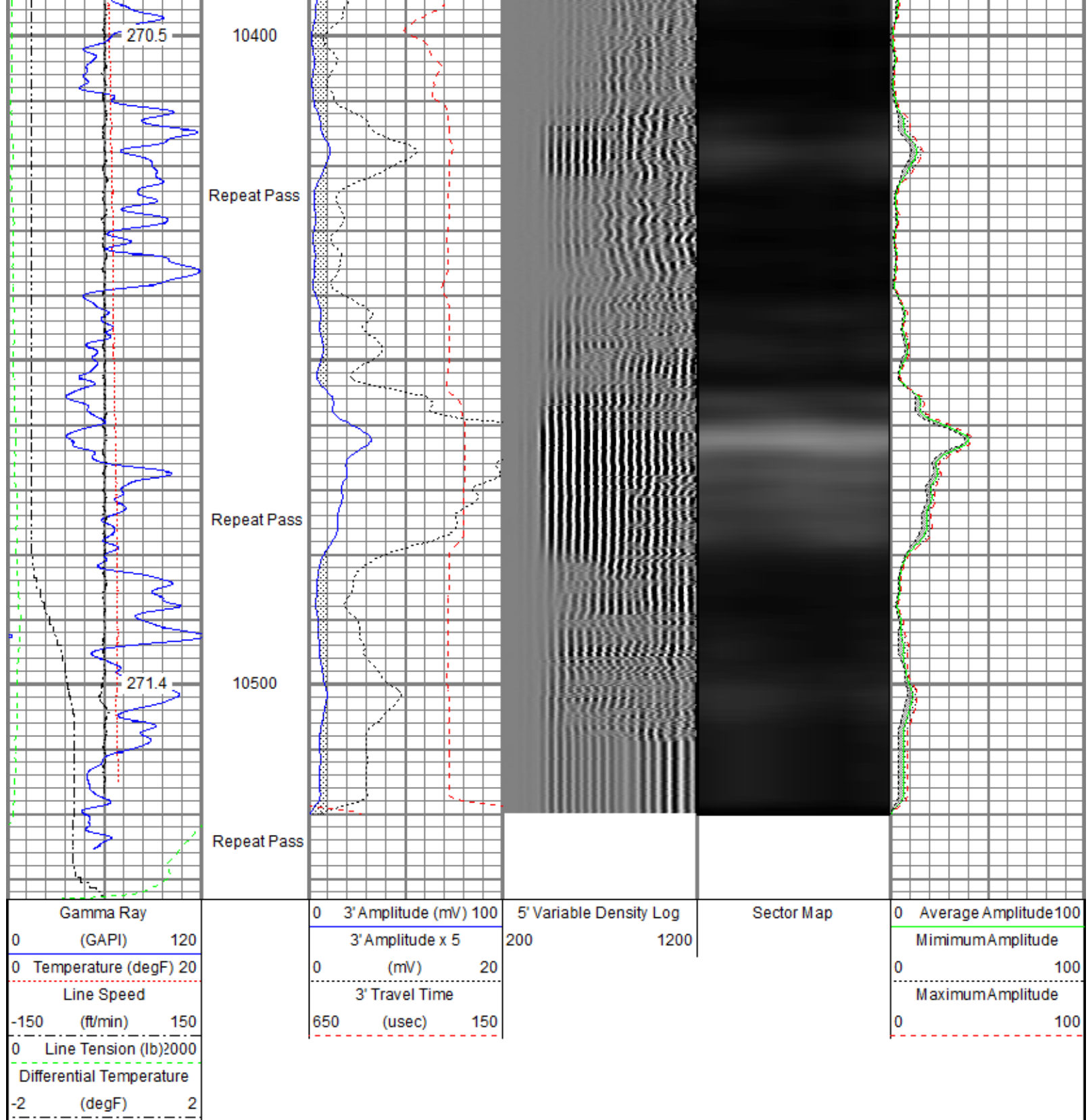




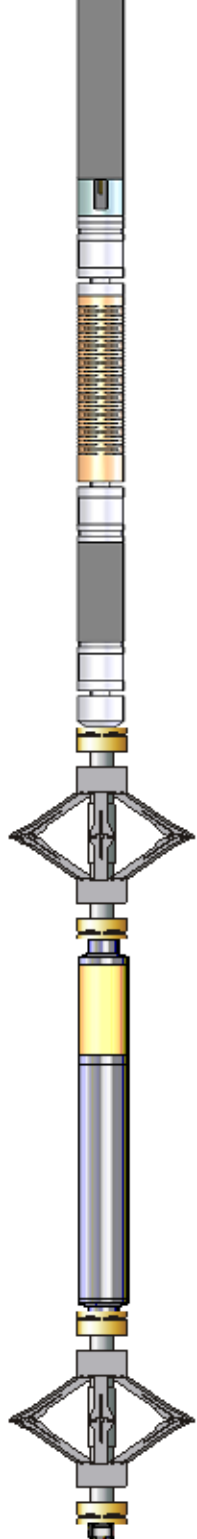








Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan CHD-14375 GO Titan 1-7/16" Assembled Electric Cable Head w/ 1" Fishing Neck	1.03	1.44	3.60
			DSS RAC-2750 5A GO DSS 2-3/4" Roller 5 Arm Centralizer w/ GO Ends	2.55	2.75	32.00

TEMP	16.33							
WVFS8	14.10			Probe Radii-2750 RBT (101013) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub	9.39	2.75	105.00	
WVFS7	14.10							
WVFS6	14.10							
WVFS5	14.10							
WVFS4	14.10							
WVFS3	14.10							
WVFS2	14.10							
WVFS1	14.10							
WVFCAL	14.10							
WVF3FT	14.10							
WVF5FT	13.10							
				DSS RAC-2750 5A GO DSS 2-3/4" Roller 5 Arm Centralizer w/ GO Ends	2.55	2.75	32.00	
CCL\$2	6.42							
CCL\$1	6.42							
GR	5.18			Probe GR-CCL-2750 GOB (FW1211-081) Probe 2-3/4" rev.2 Digital Scintillation Gamma Ray/CCL Combined	4.51	2.75	55.00	
				DSS RAC-2750 5A GO DSS 2-3/4" Roller 5 Arm Centralizer w/ GO Ends	2.55	2.75	32.00	
				GO BN-14375 GO 1-7/16" Bull Nose with Go Box Top	0.25	1.44	1.00	
Dataset: ursa_boies ranch c-240 fed 31c-25-2-98_rbl_02-14-19.db: field/well/run1/main.1 Total length: 22.82 ft Total weight: 260.60 lb O.D.: 2.75 in								

Calibration Report	
Database File	c:\programdata\warrior\data\ursa\ursa_boies ranch c-240 fed 31c-25-2-98_rbl_02-14-19\ursa_boies ranch c-240 fed 31c-25-2-98
Dataset Pathname	main.1
Dataset Creation	Fri Feb 15 09:48:14 2019
Gamma Ray Calibration Report	
Serial Number:	FW1211-081
Tool Model:	2750 GOB
Performed:	Sun Nov 12 12:22:44 2017
Calibration Values:	627.0
Gamma Ray:	0.00

Calibrator Value:	637.0	GAPI
Background Reading:	112.4	cps
Calibrator Reading:	1008.7	cps
Sensitivity:	0.7107	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	101013
Tool Model:	2750 RBT
Calibration Casing Diameter:	4.500 in
Calibration Depth:	28.773 ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.003	0.945	0.800	81.196	84.856	1.019
CAL	-0.006	0.746				
5'	0.000	0.761	0.800	81.196	105.663	0.749
SUM						
S1	-0.004	0.911	0.000	100.000	109.239	0.489
S2	-0.004	0.907	0.000	100.000	109.680	0.491
S3	-0.003	0.972	0.000	100.000	102.551	0.331
S4	-0.002	1.049	0.000	100.000	95.084	0.235
S5	-0.004	1.069	0.000	100.000	93.167	0.364
S6	-0.003	1.012	0.000	100.000	98.462	0.331
S7	-0.002	0.966	0.000	100.000	103.259	0.241
S8	-0.003	0.925	0.000	100.000	107.726	0.315

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.006	0.746	1.000	0.000

Air Zero Calibration, performed Thu Feb 14 11:27:57 2019:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	-0.006		0.000		-0.000	
5'	-0.002		0.000		0.000	
SUM						
S1	-0.007		0.000		0.001	
S2	-0.005		0.000		0.000	
S3	-0.005		0.000		-0.000	
S4	-0.005		0.000		0.000	
S5	-0.004		0.000		-0.000	
S6	-0.005		0.000		0.001	
S7	-0.004		0.000		-0.000	
S8	-0.005		0.000		-0.000	

Temperature Calibration Report

Serial Number:	101013
Tool Model:	2750 RBT
Performed:	Sun Nov 12 13:21:13 2017

	Reference	Reading
Low Reference:	100.00 degF	112.30 degF
High Reference:	350.00 degF	394.75 degF

Gain:	0.89
Offset:	0.60
Delta Spacing	1



Company	Ursa Operating Company LLC
Well	Boies Ranch C-240 FED 31C-25-2-98
Field	Sulphur Creek
County	Rio Blanco
State	Colorado