

County Weld State Colorado

SEC 8 TWP 4N RGE 68W

Elevation

K.B.	5080"
D.F.	---
G.L.	5063"

inner	$5 \times 4 \frac{1}{2}$	---
	$4 \frac{1}{2}$	11.6

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.

Log ran as per customer request
Depth referenced to Casing Tally reported Liner Top at 5675 FT
Adjusted -26 FT to correlate with Liner Top
Desired logging depth was originally from as deep as possible to Surface
Log ran from 5919 FT to Surface due to tools stacking out repeatedly at 5916 FT
Log ran with 2800 PSI Surface Induced Pressure
Logging tools were clean and free of debris upon completion of operations

Thank you for choosing Reliance Oilfield Services, LLC!!

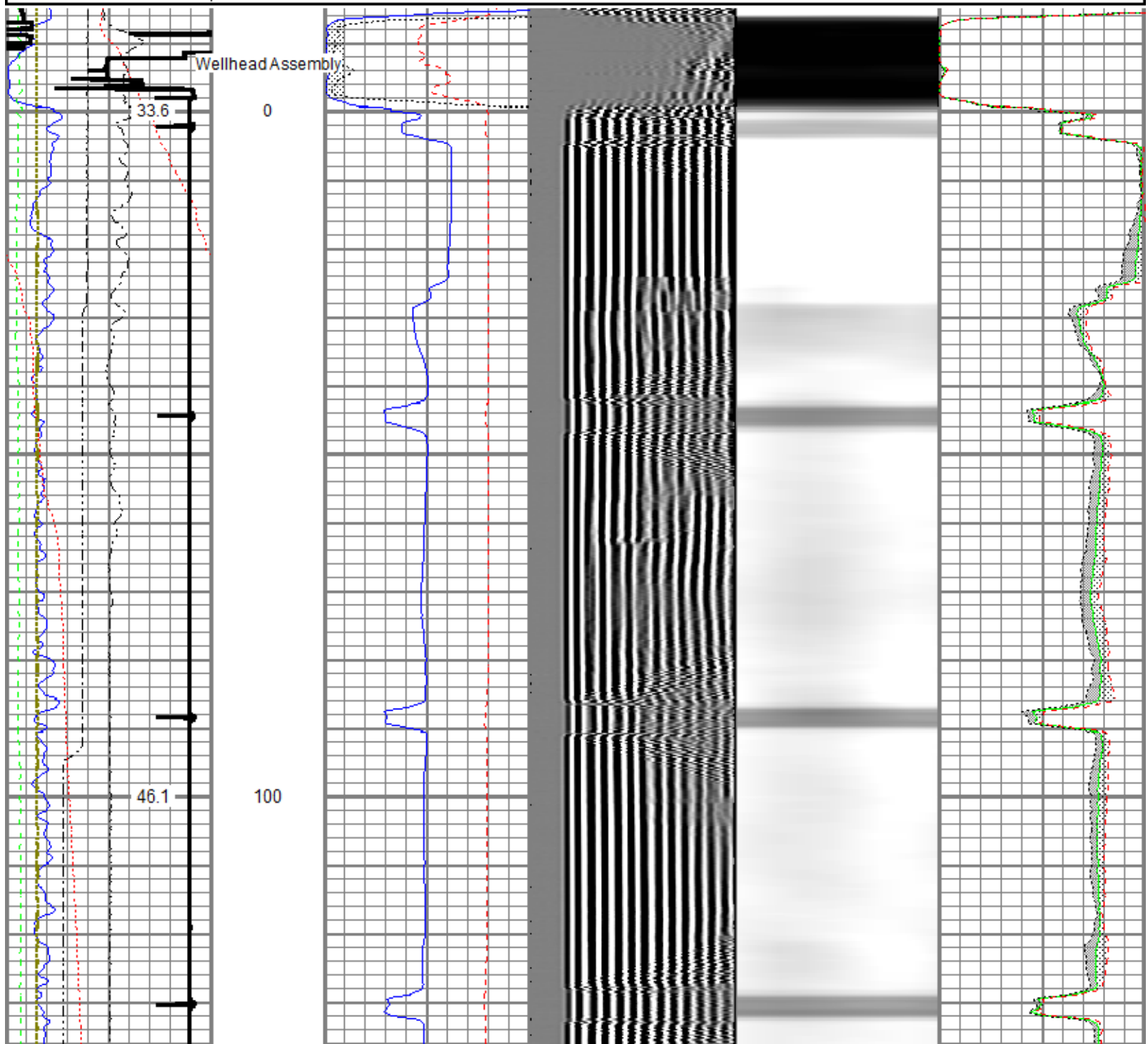
Main Pass

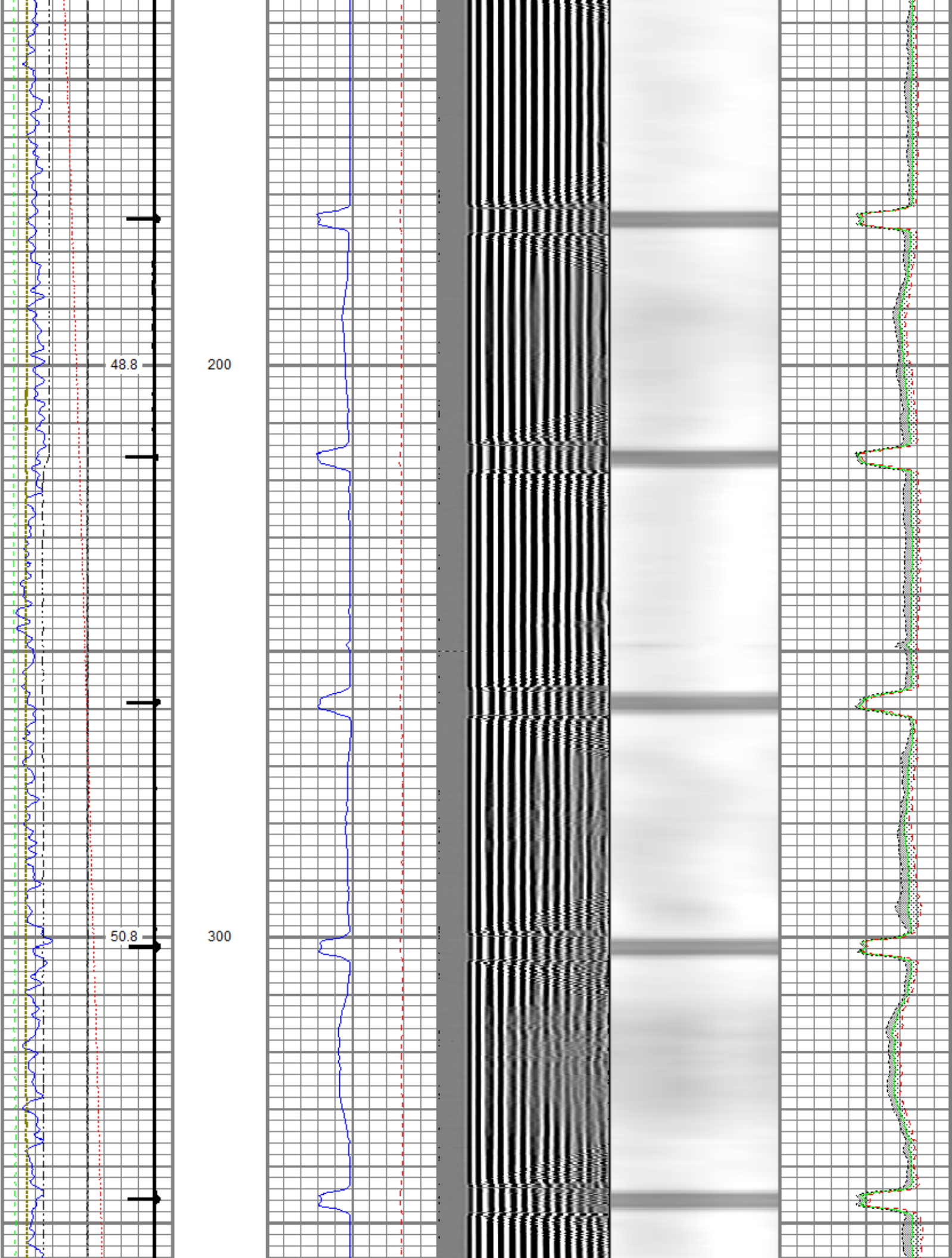


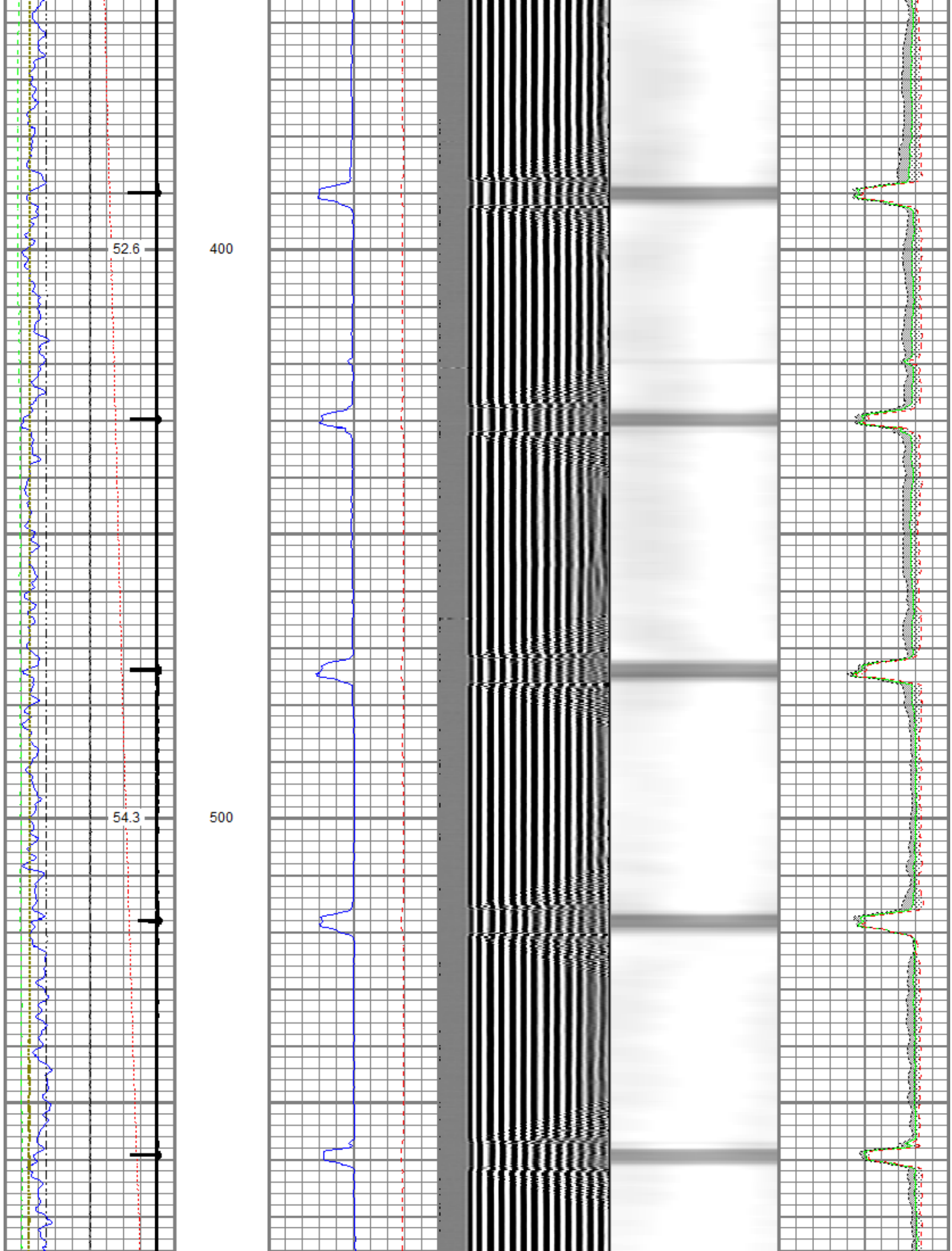
Recorded With 2000 PSI Surface Induced Pressure

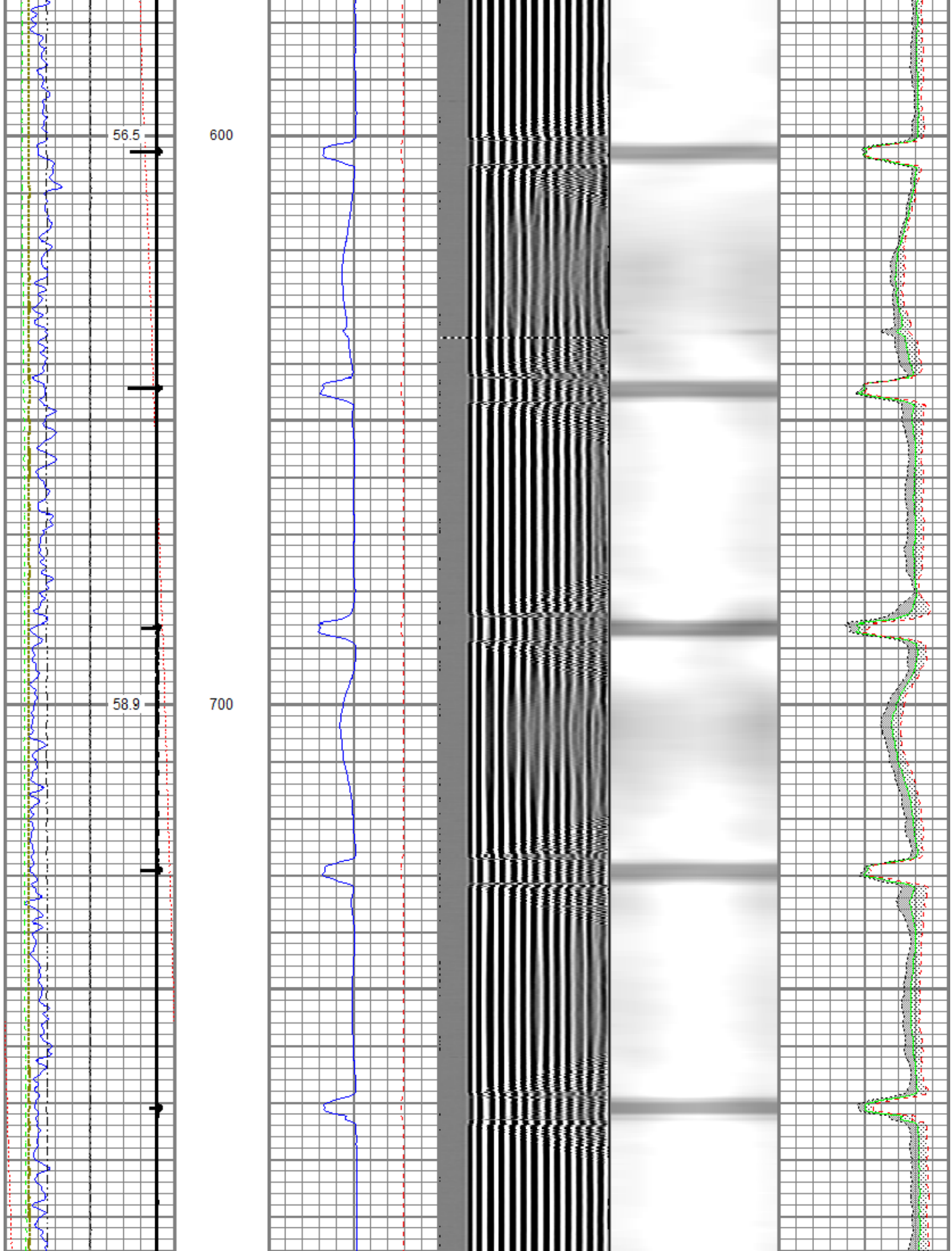
Database File	0512345495_anadarko_yellowhammer 13n-17hz_mit_rbl_02-20-18\processed_0512345495_anadarko_yellowhammer 13n-1
Dataset Pathname	main.7
Presentation Format	ros_rbt_mit_sx
Dataset Creation	Tue Feb 20 13:13:17 2018
Charted by	Depth in Feet scaled 1:240

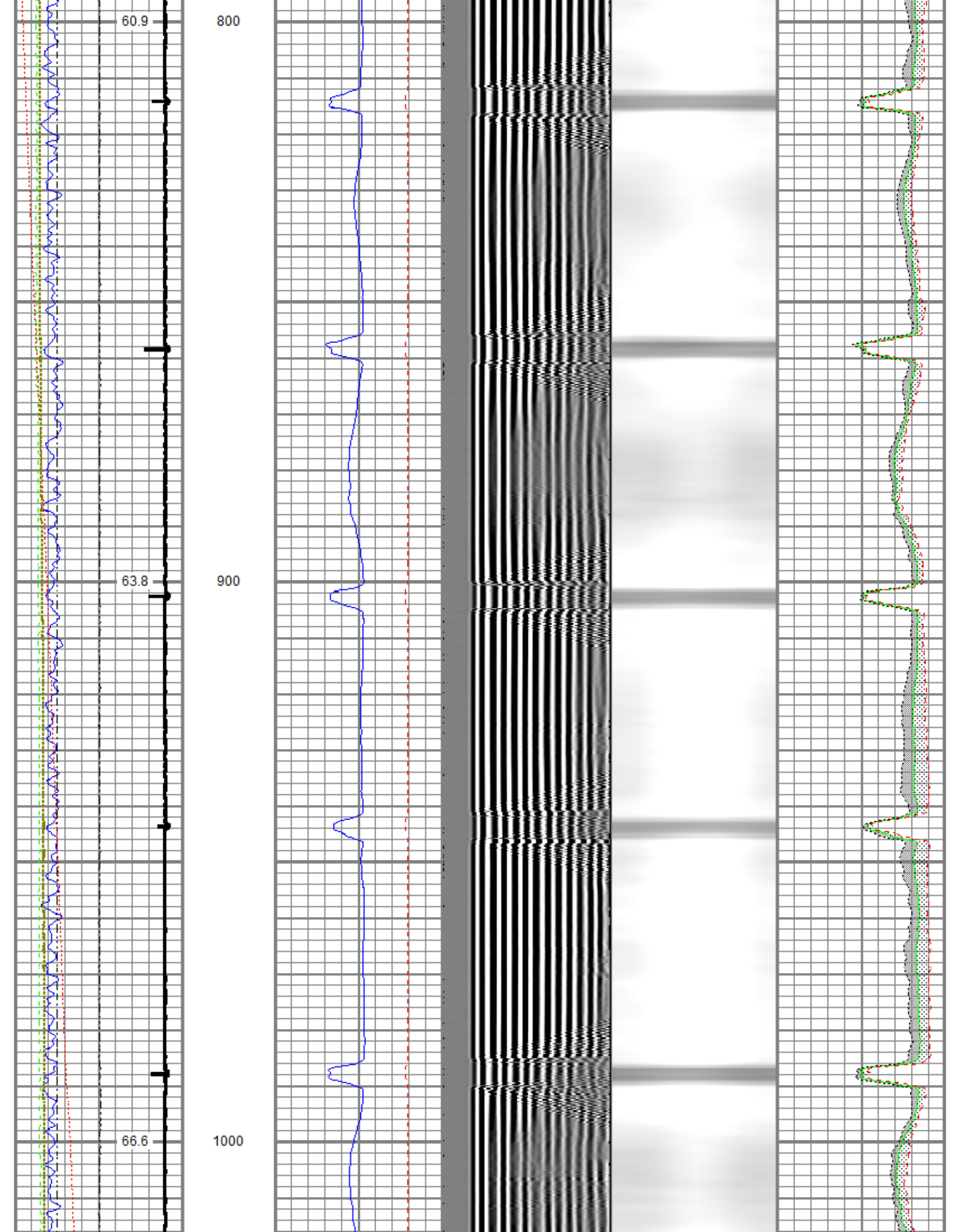
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200 (usec) 1200			Minimum Amplitude
Line Speed	0	(mV) 20			0	100
(ft/min) 100		3' Travel Time				Maximum Amplitude
Line Tension (lb) 2000	0	650 (usec) 150			0	100
Differential Temperature						
(degF) 2						
Temperature (degF) 20						
Casing Collar Locator						
Deviation (deg) 90						

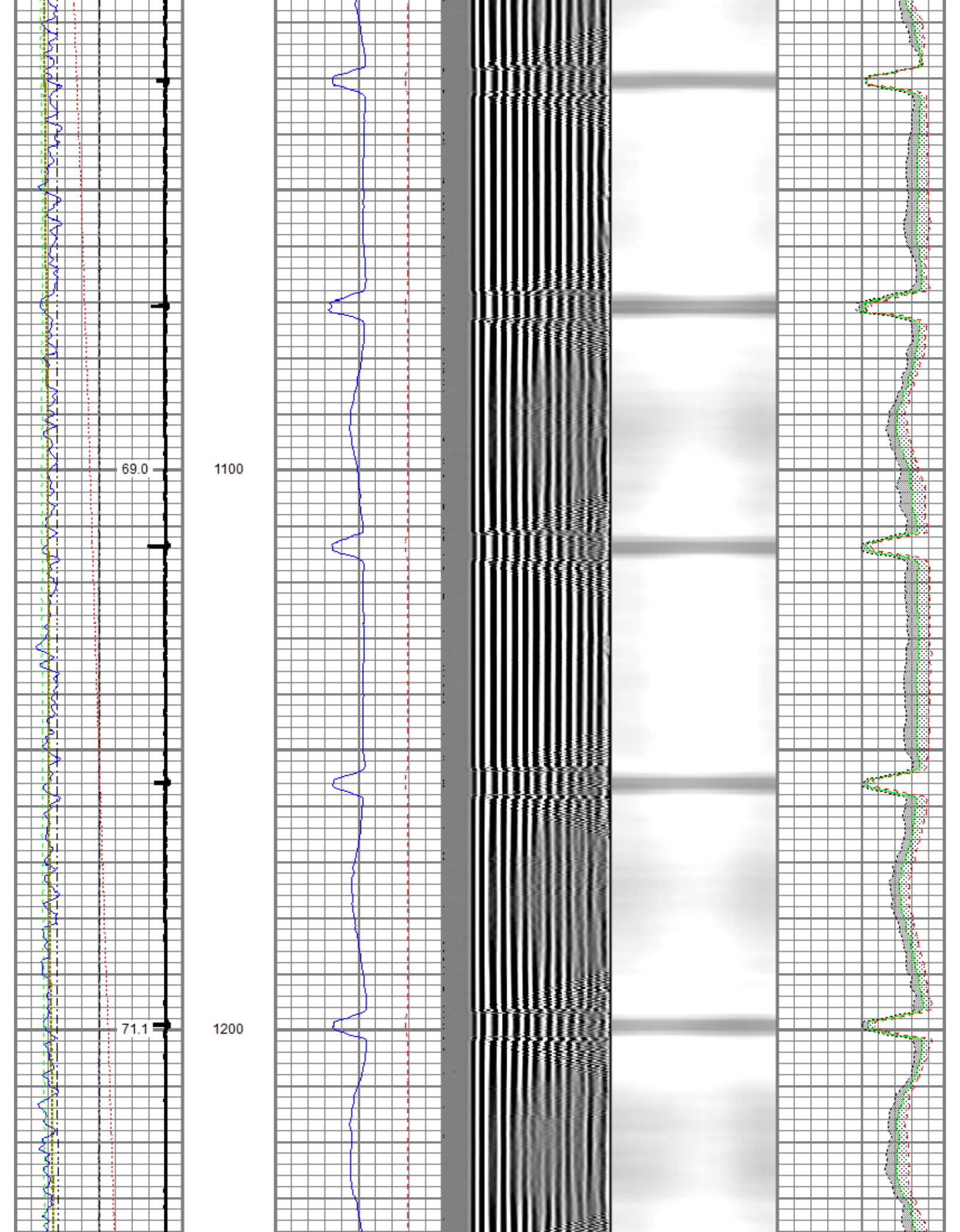


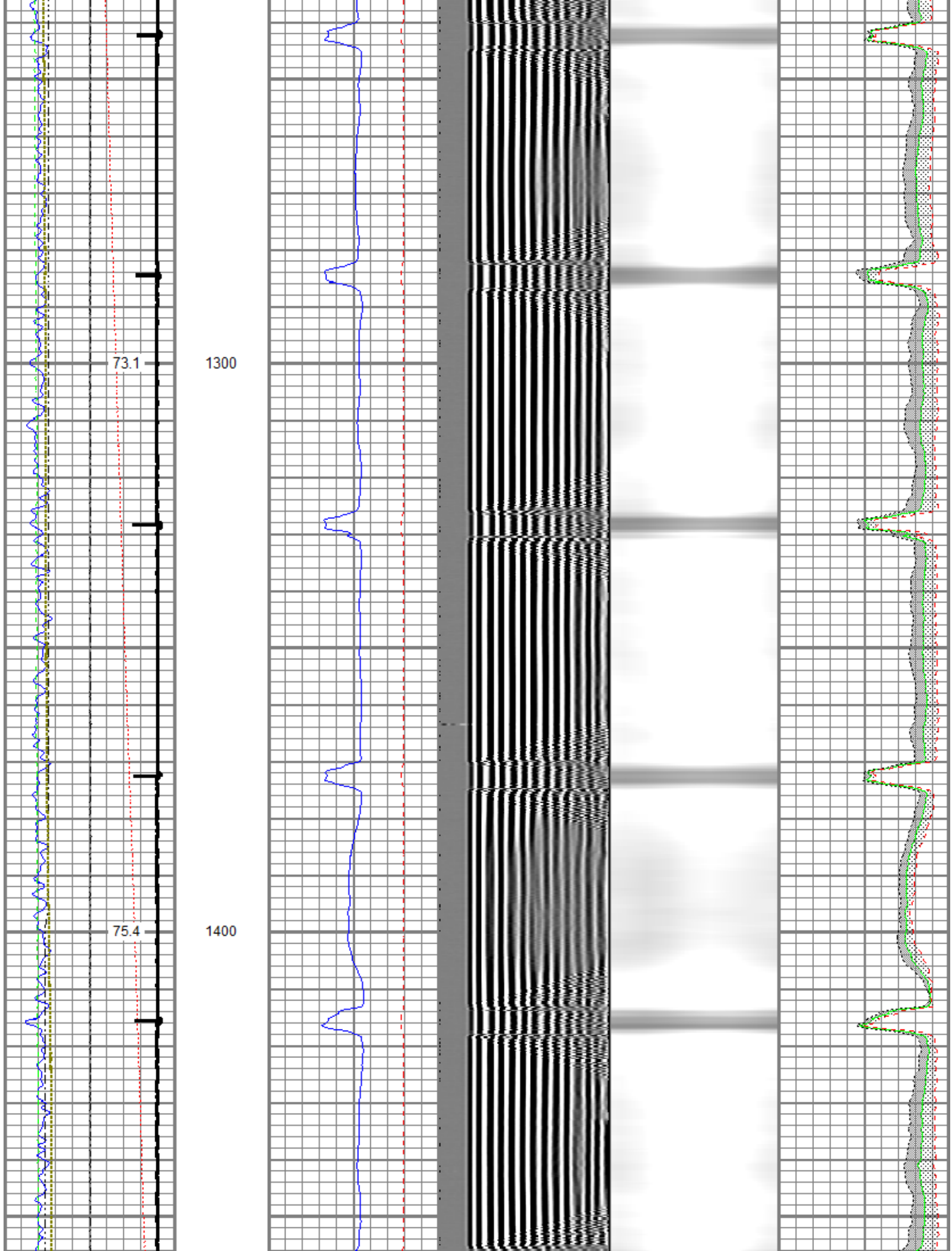


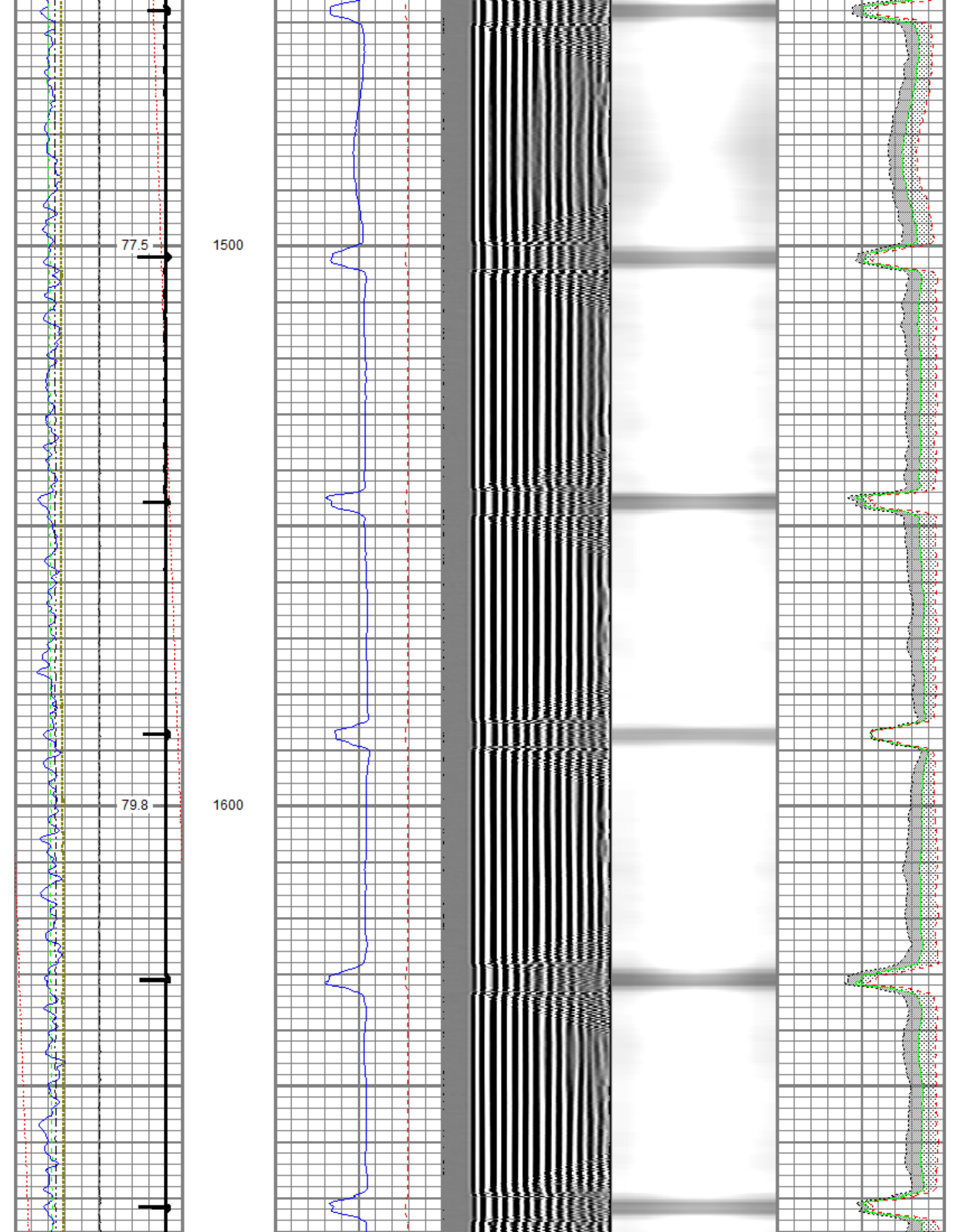


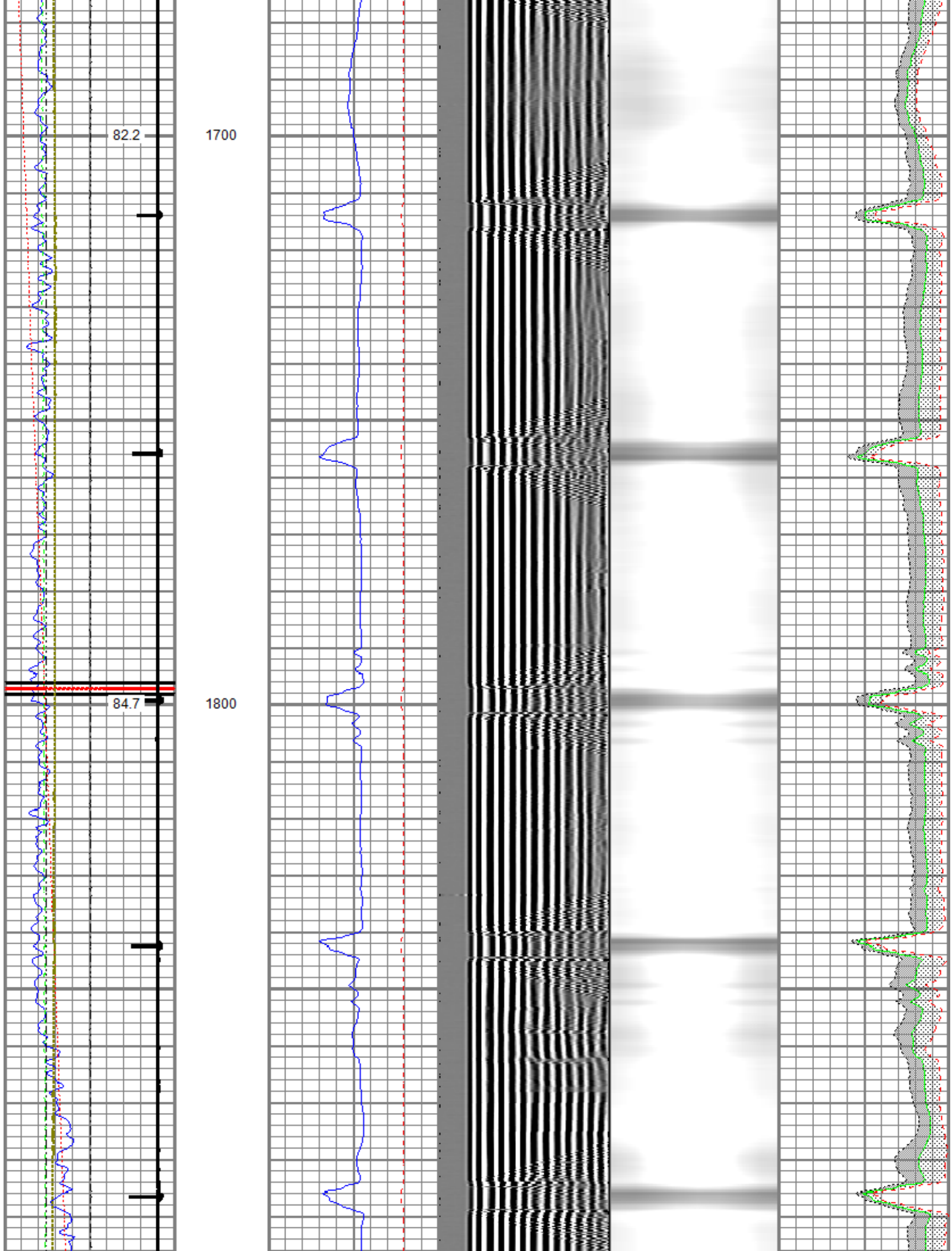


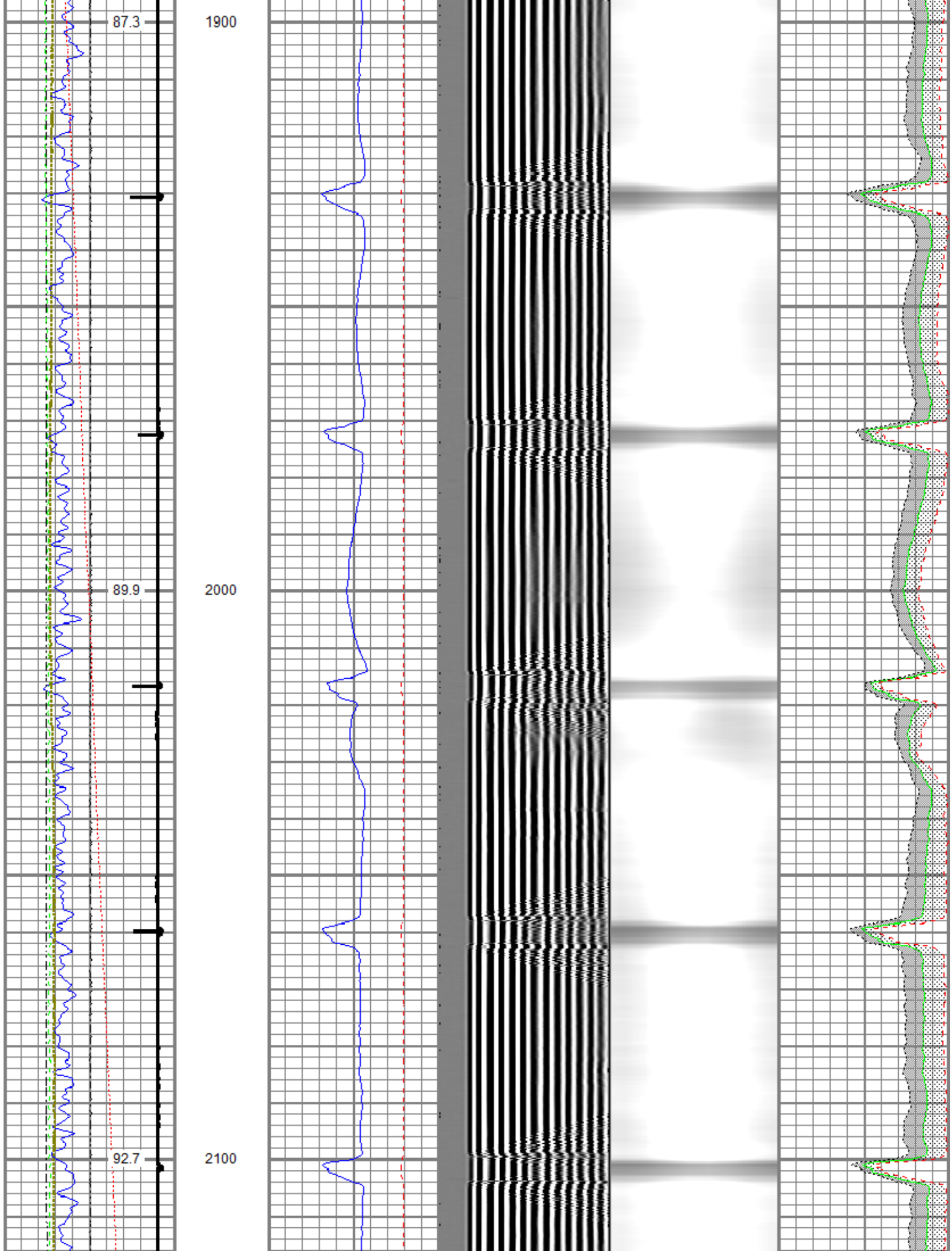


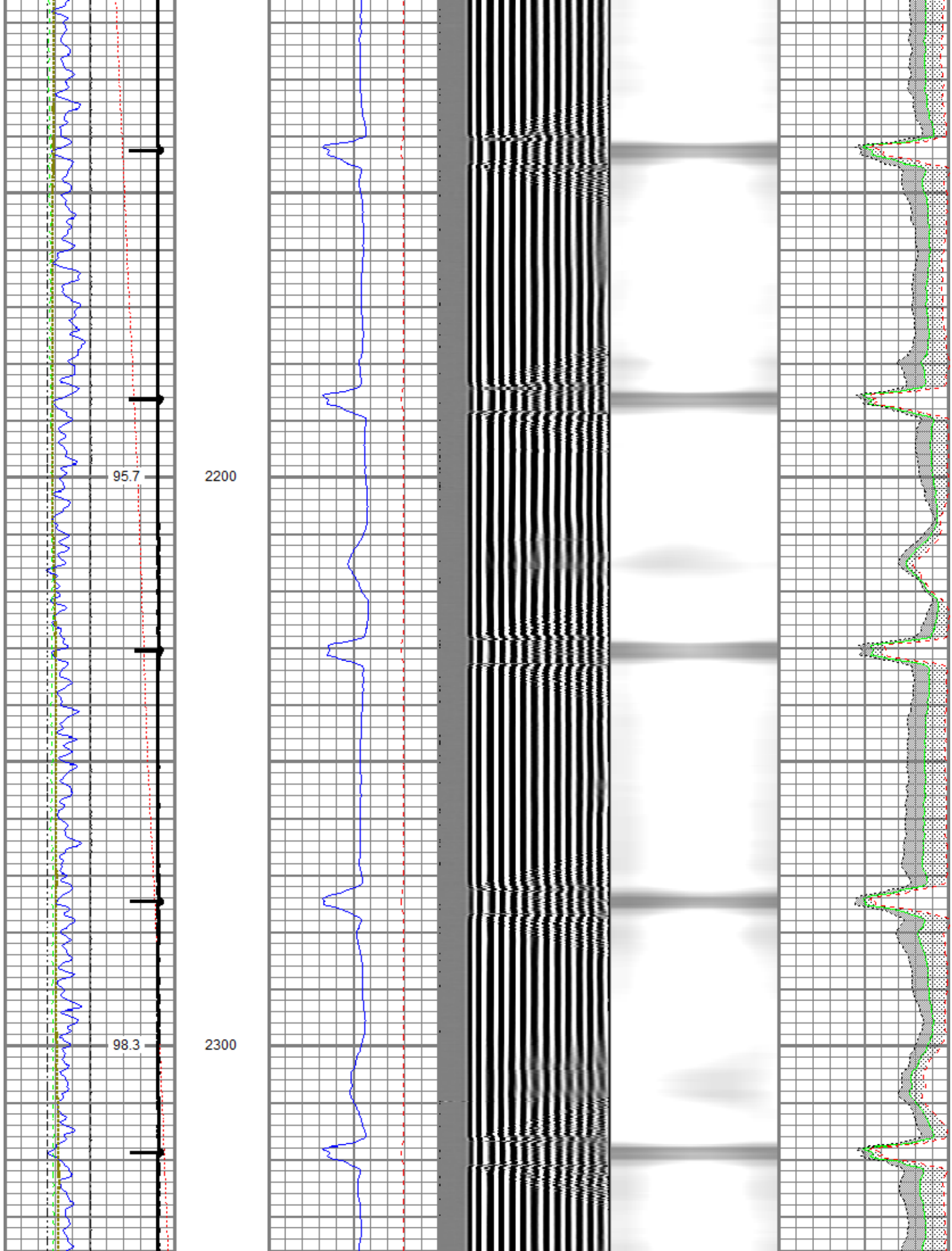


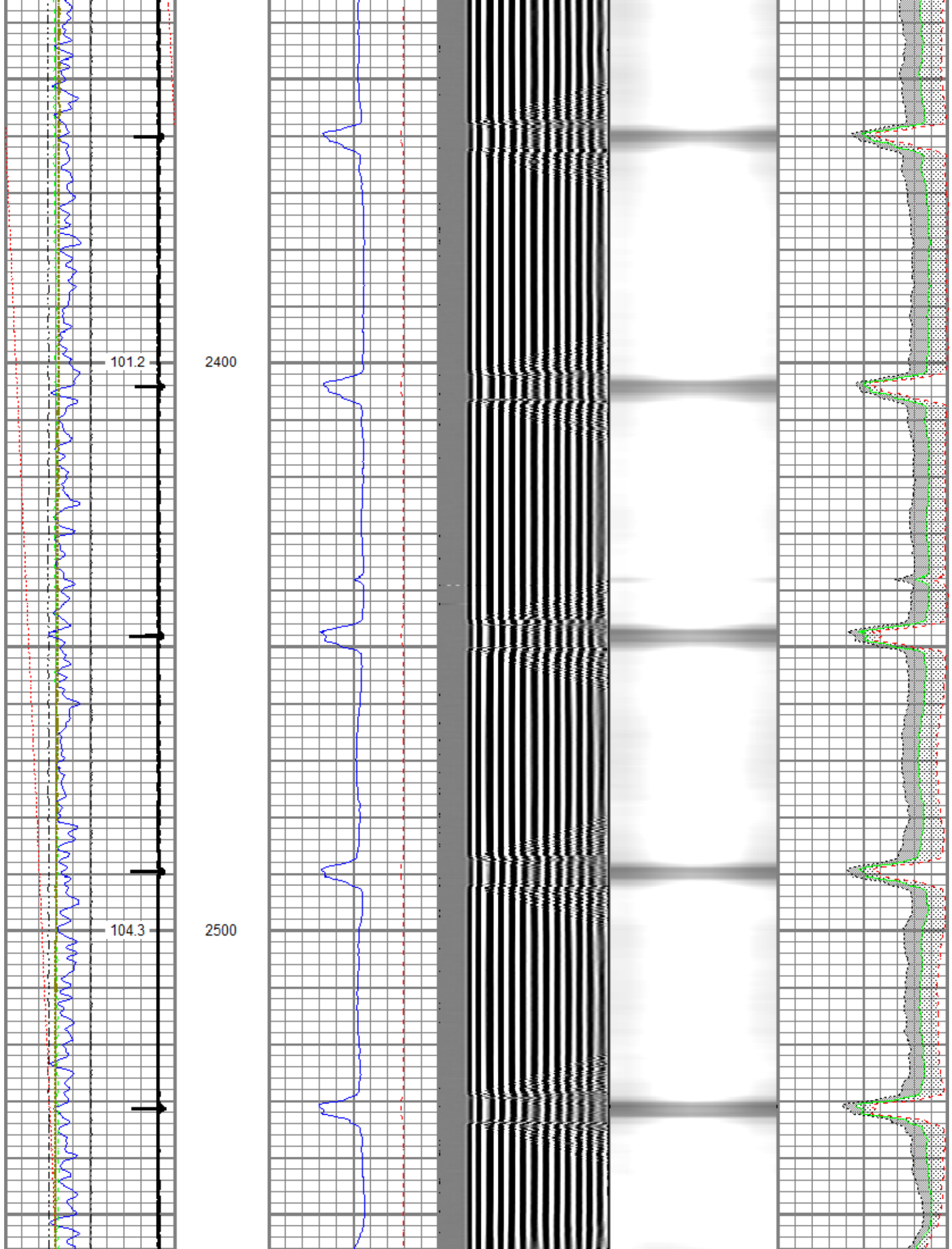


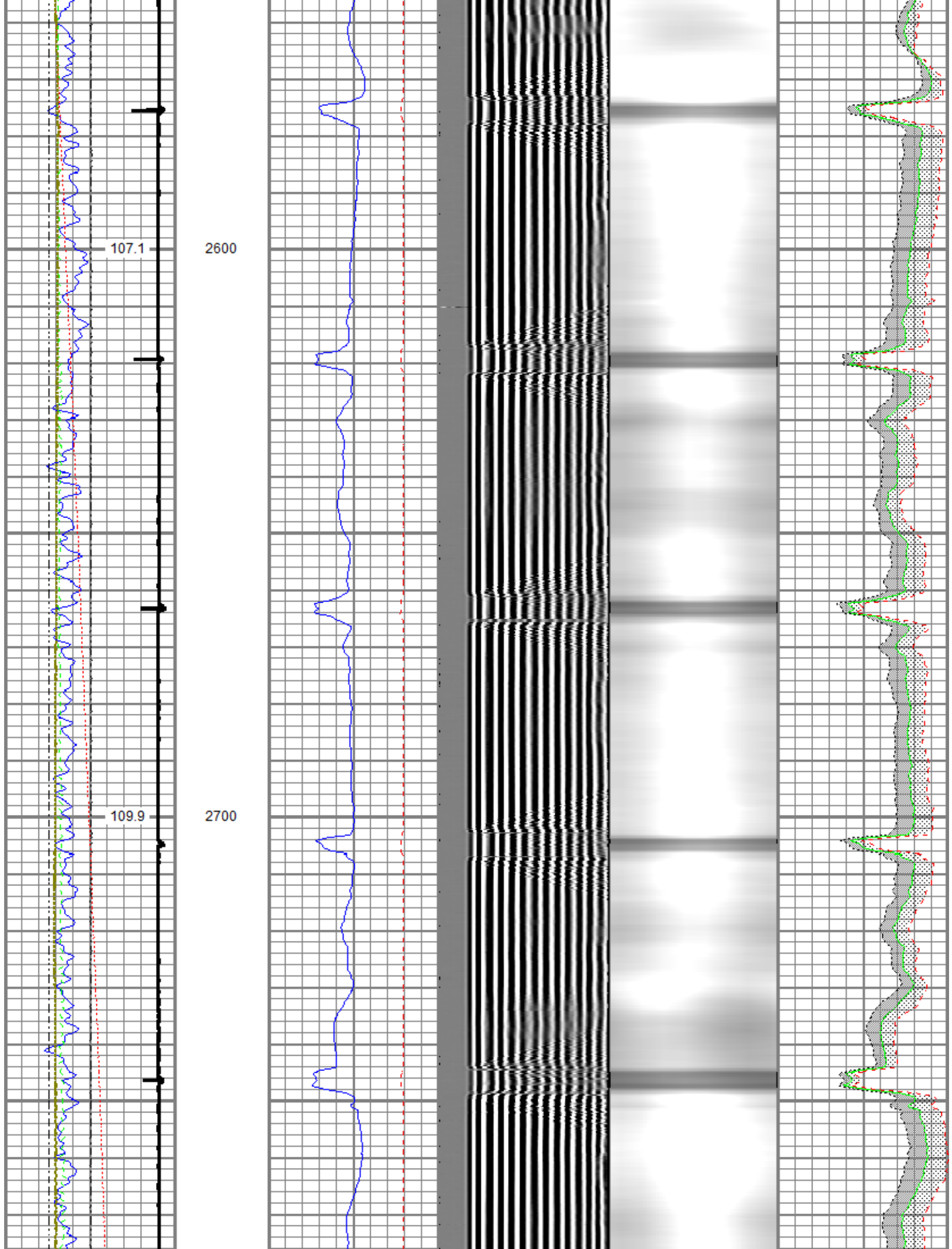


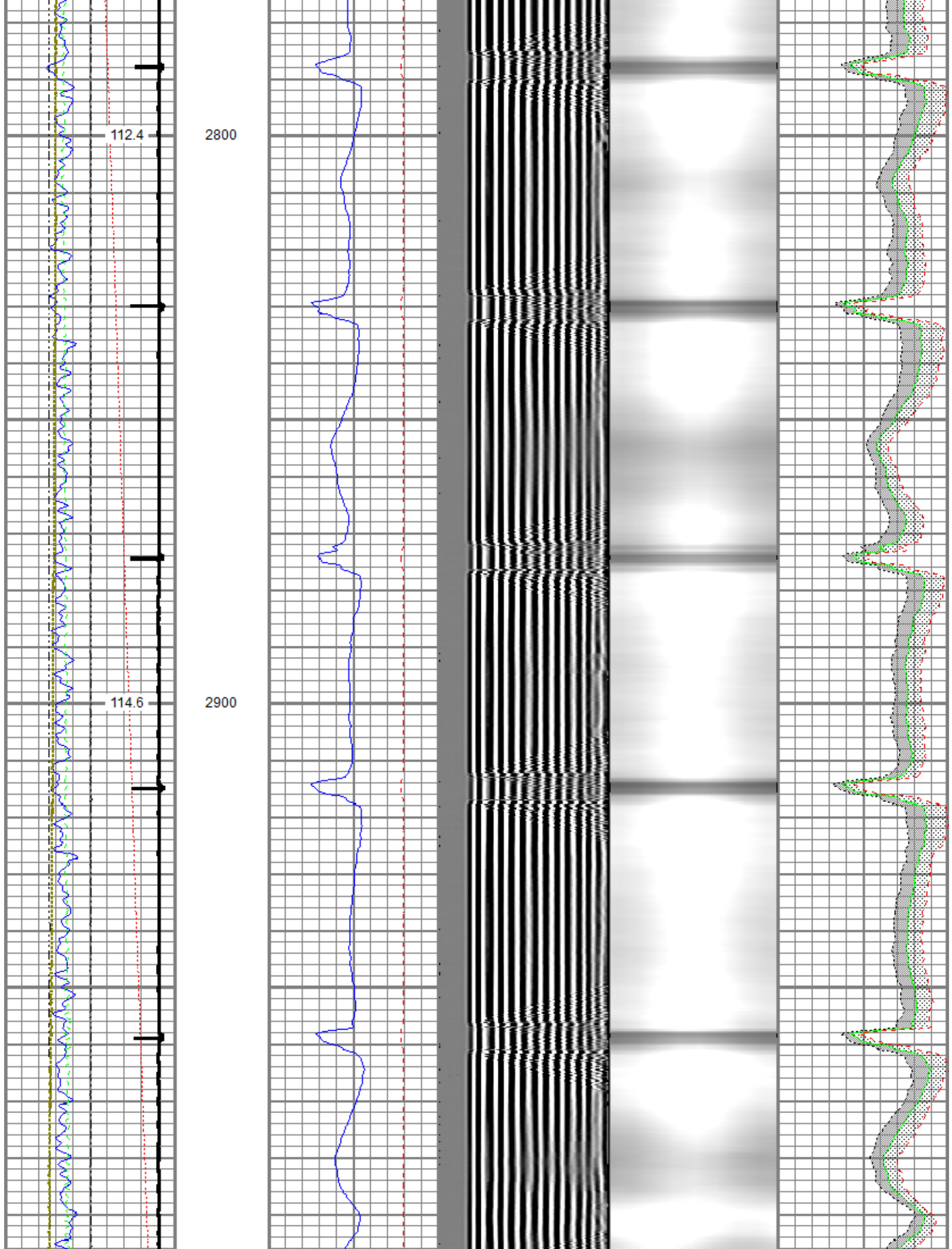


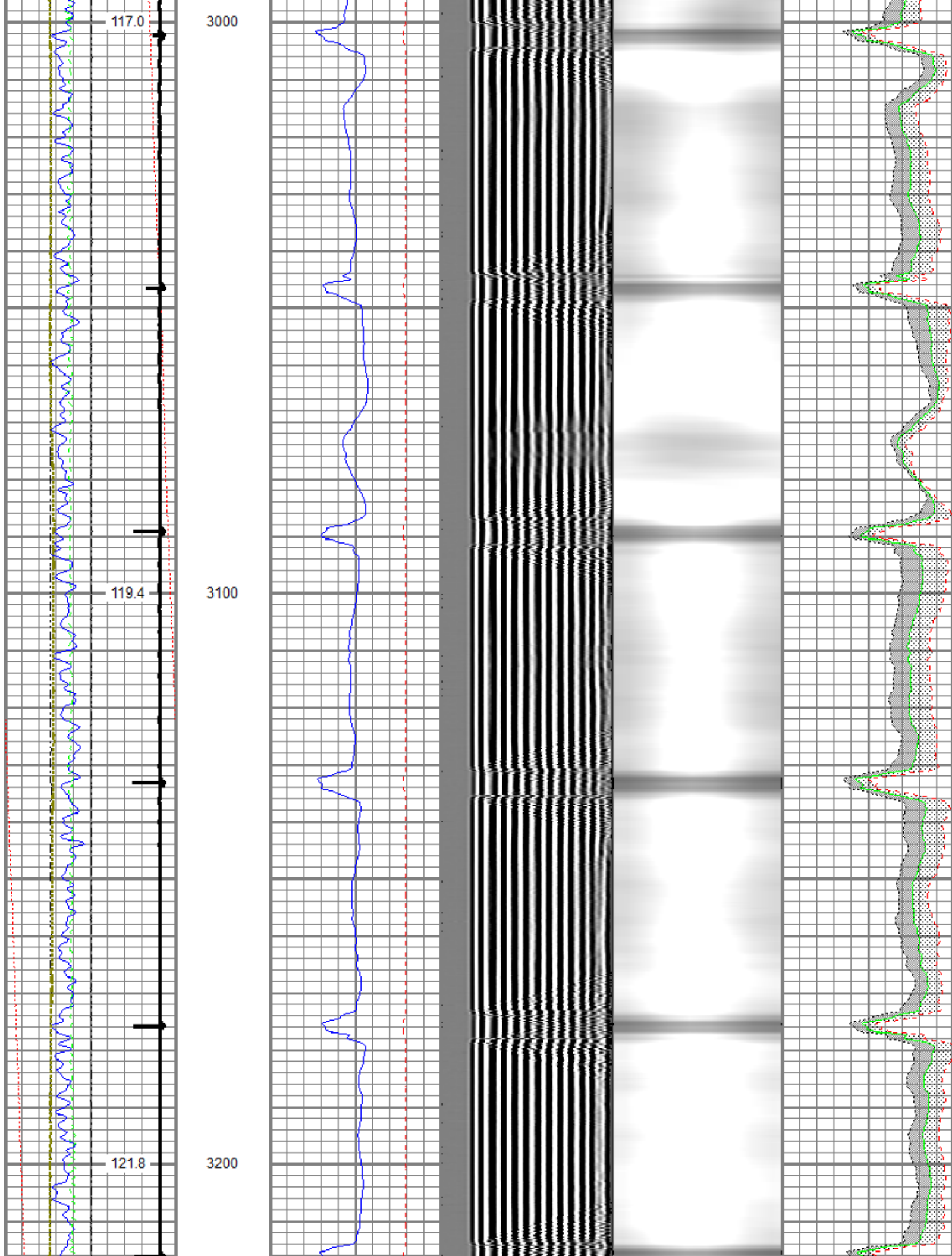


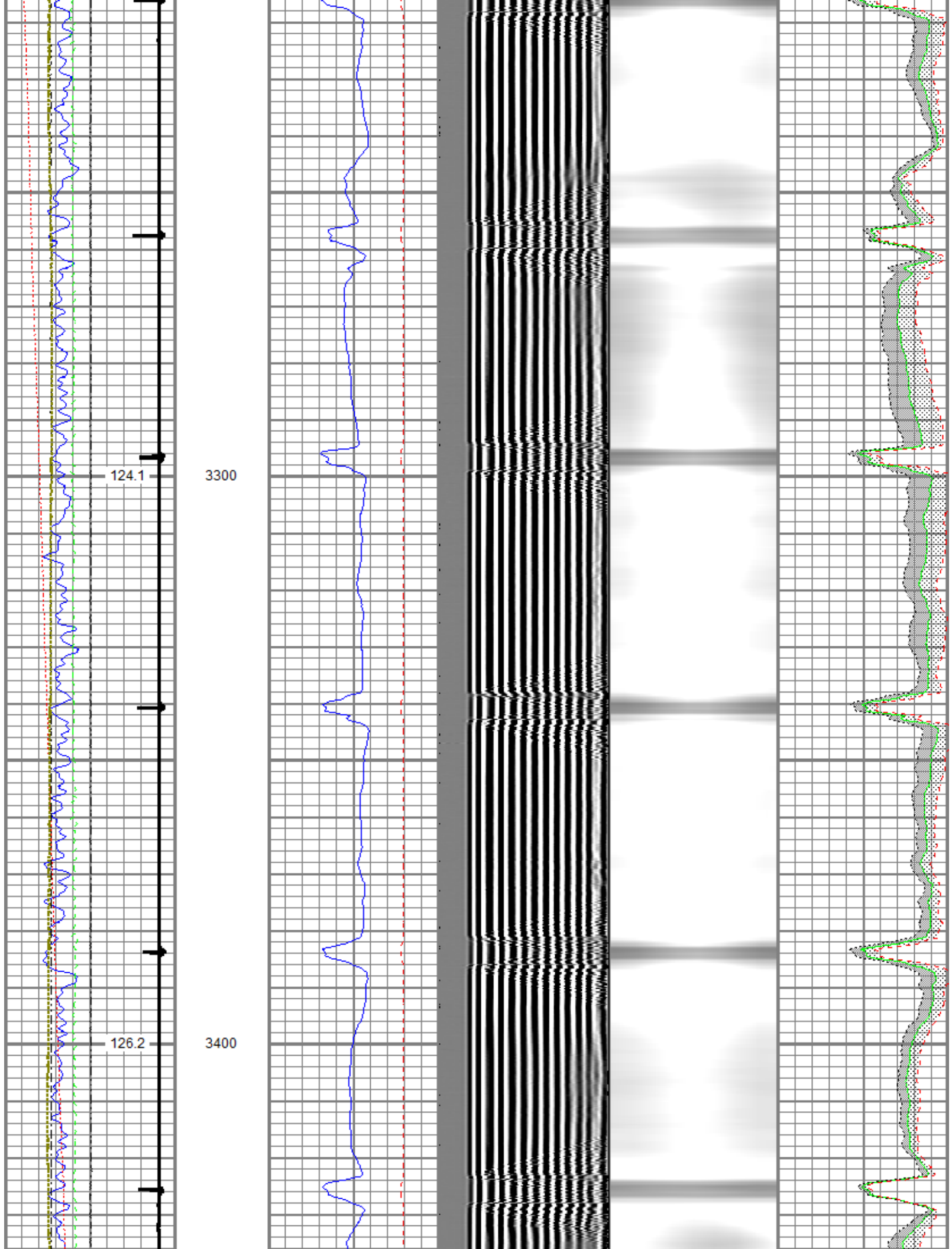


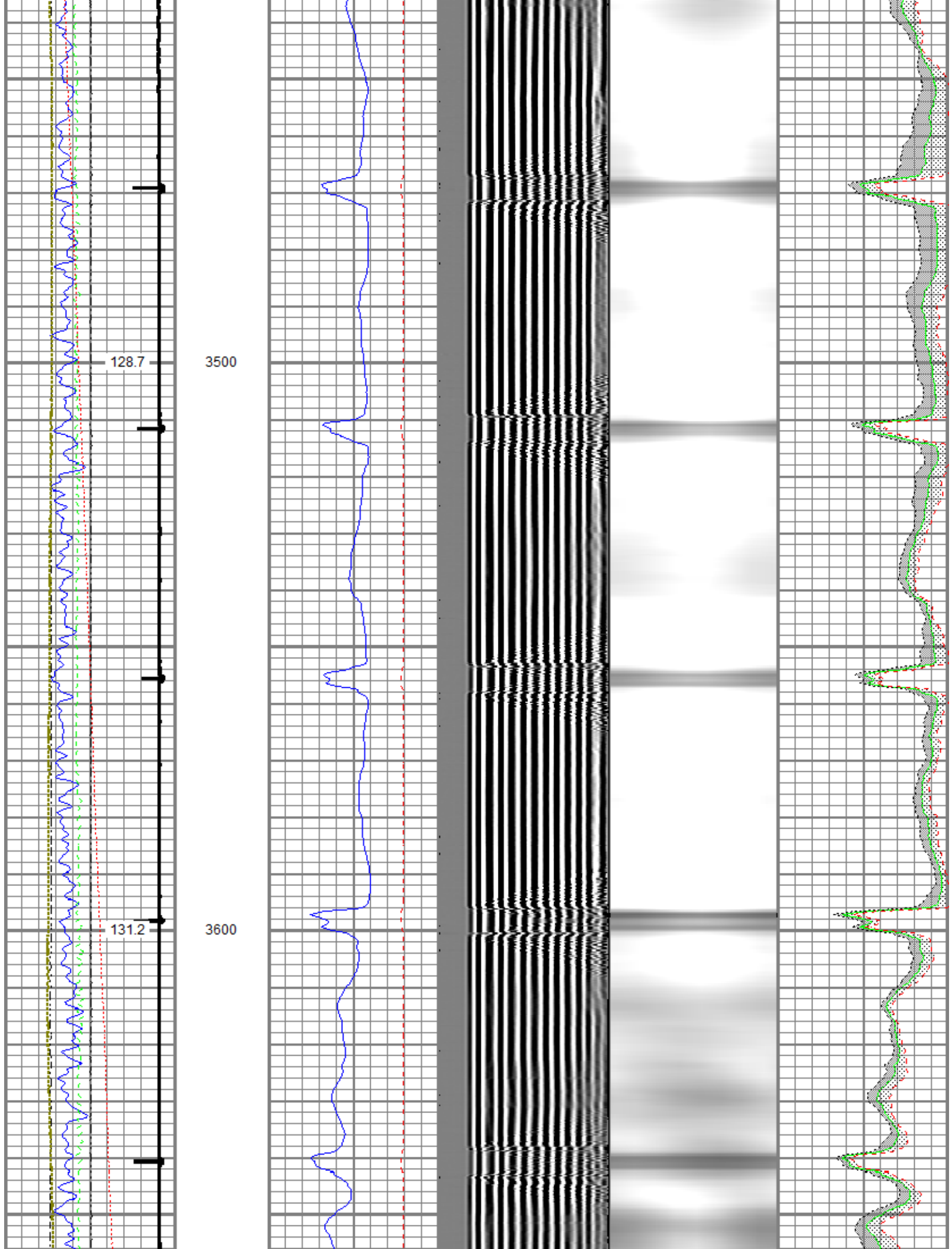


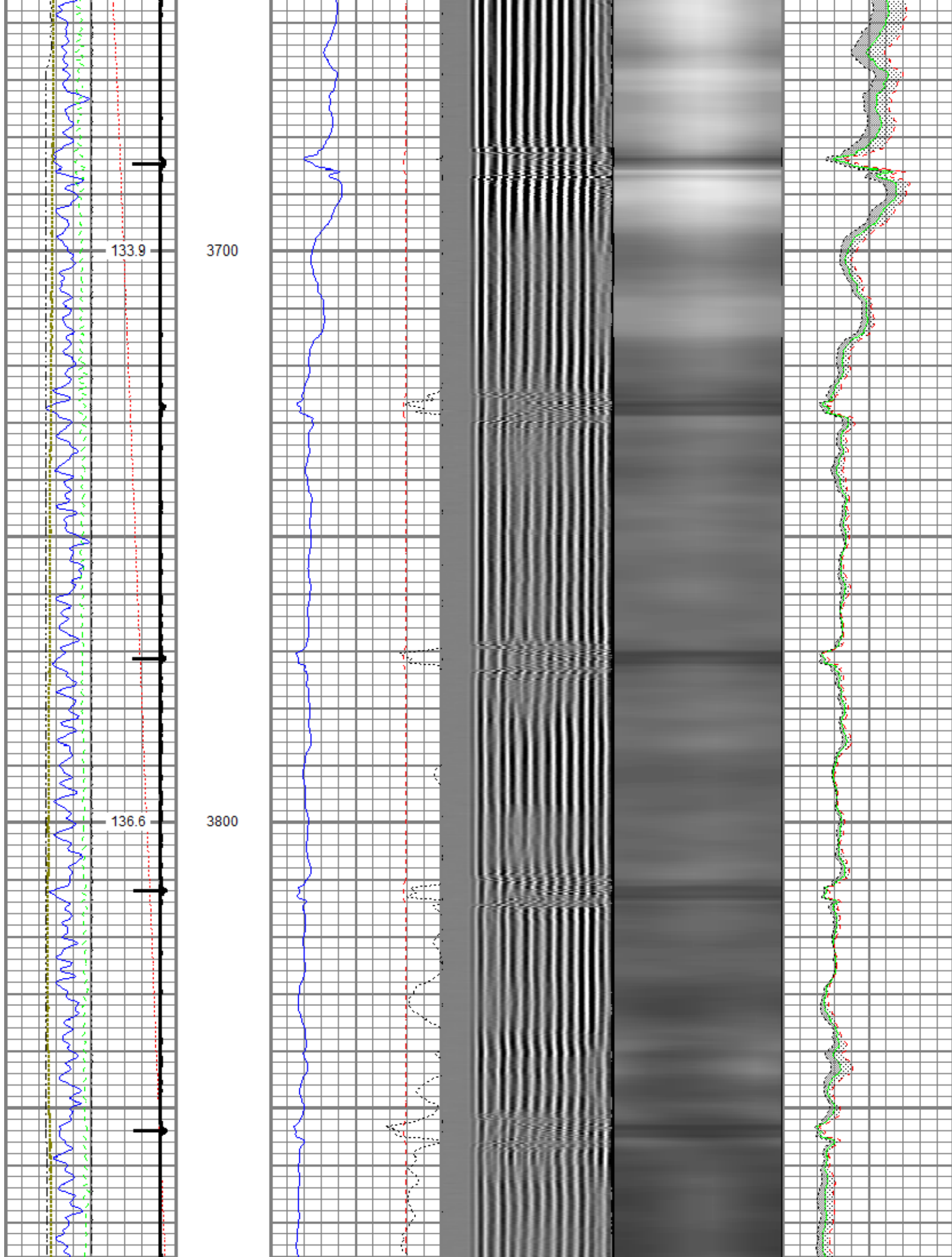


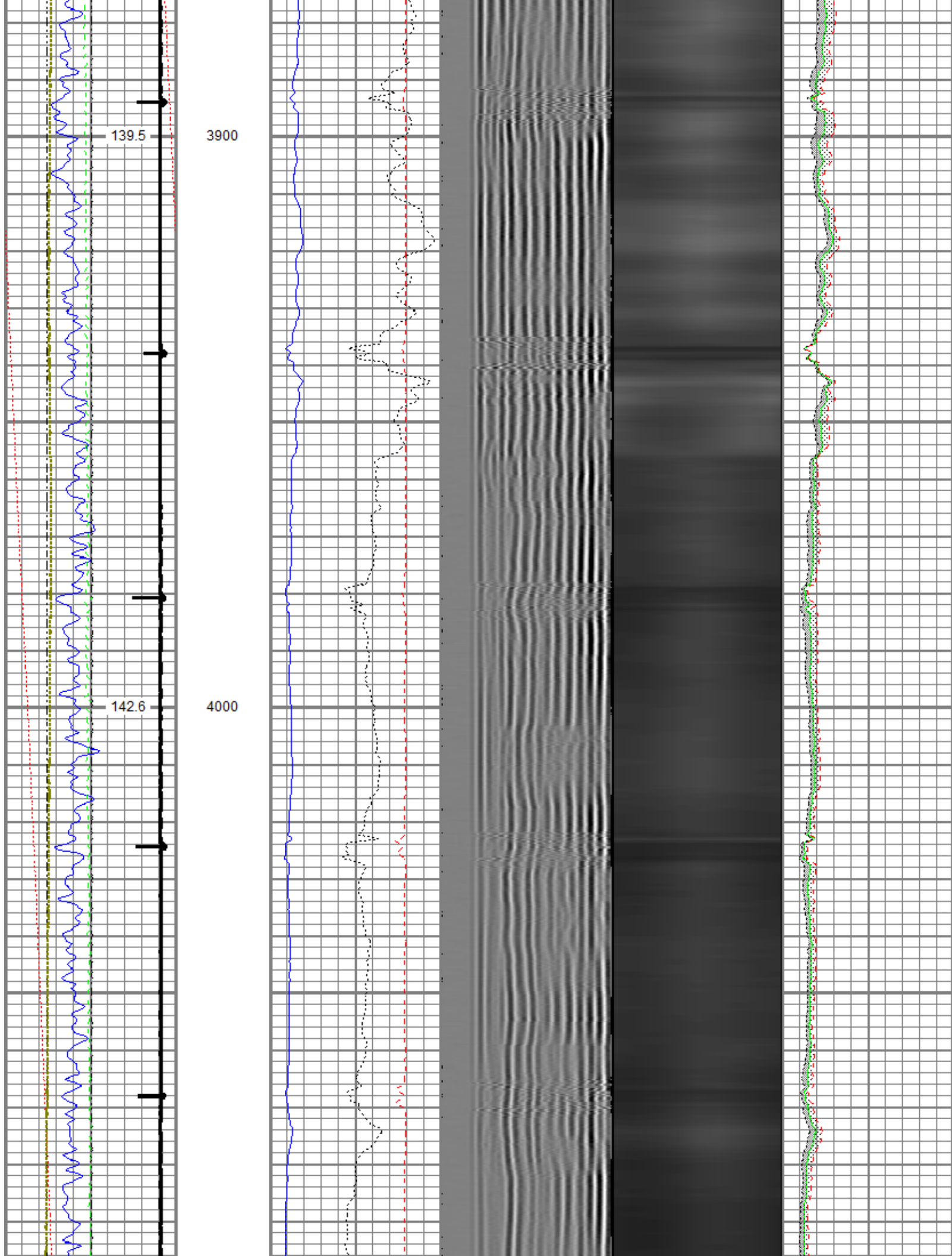


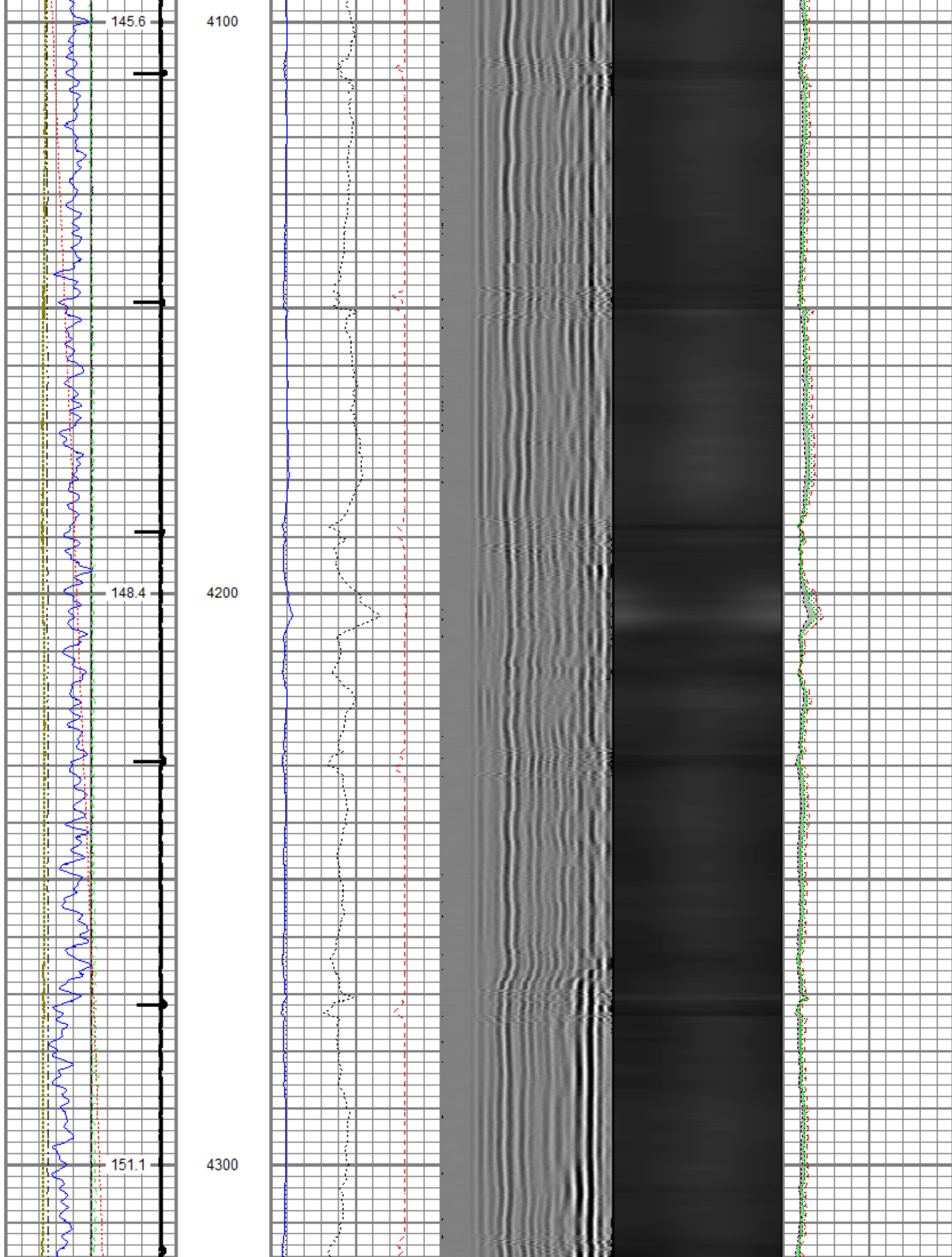


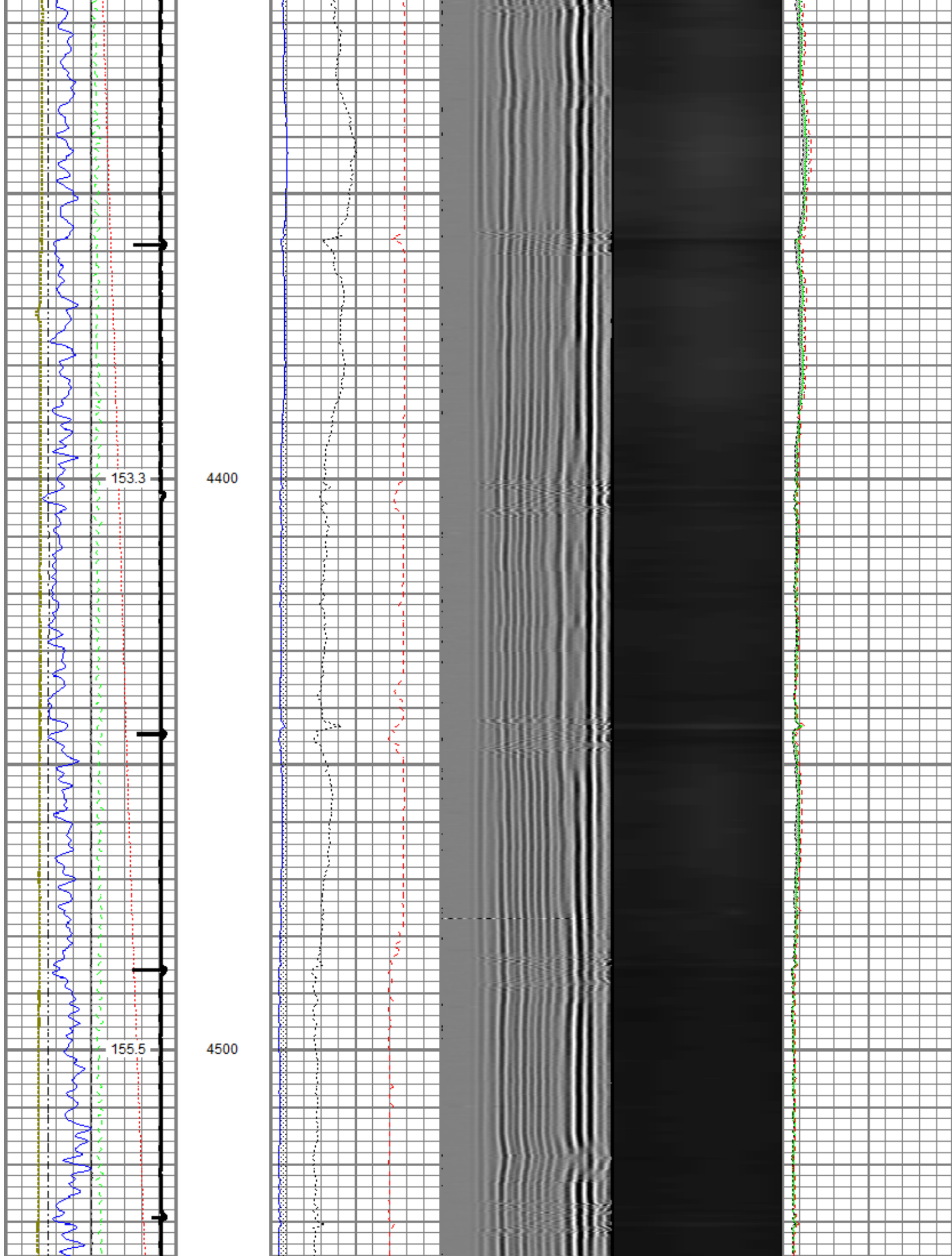


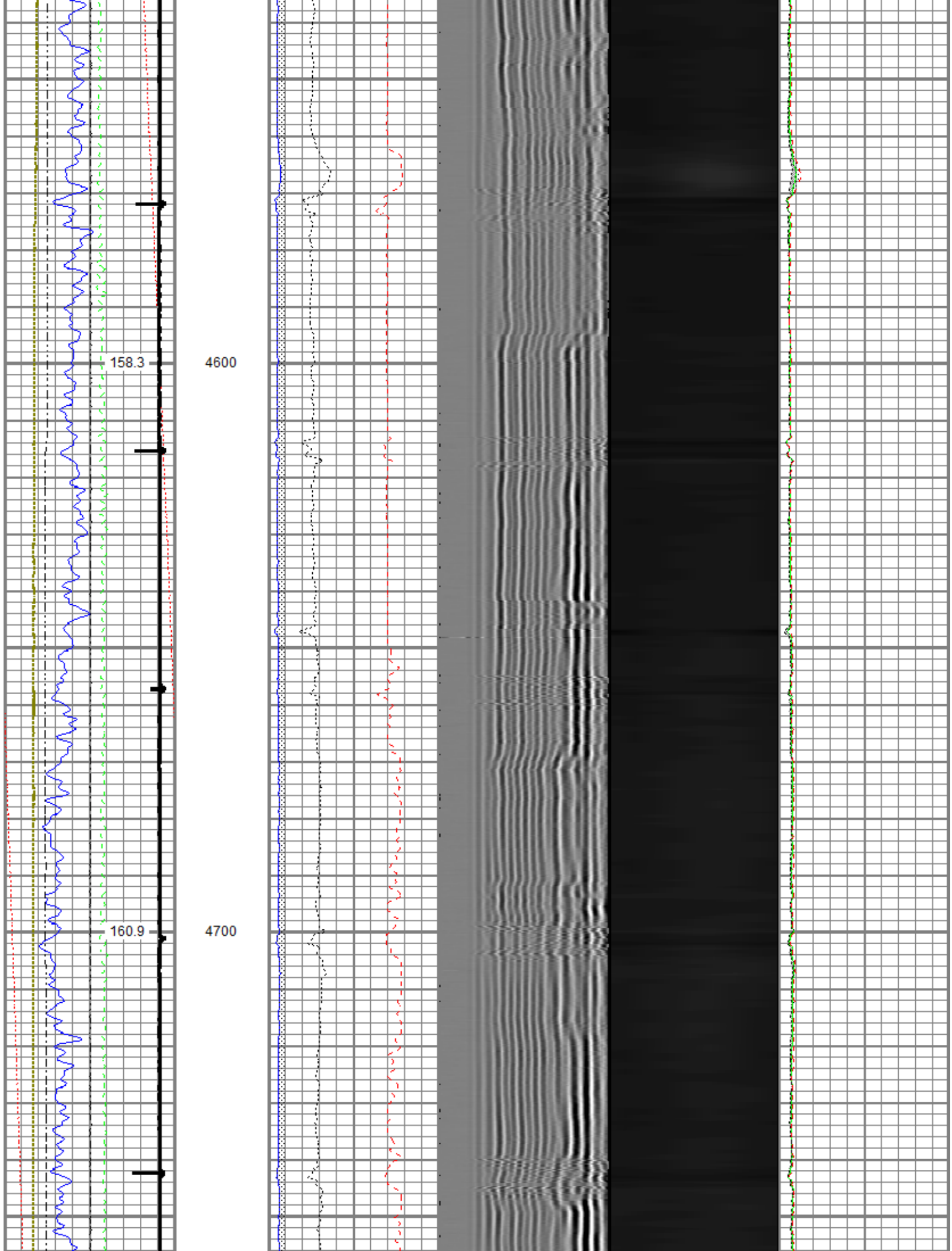


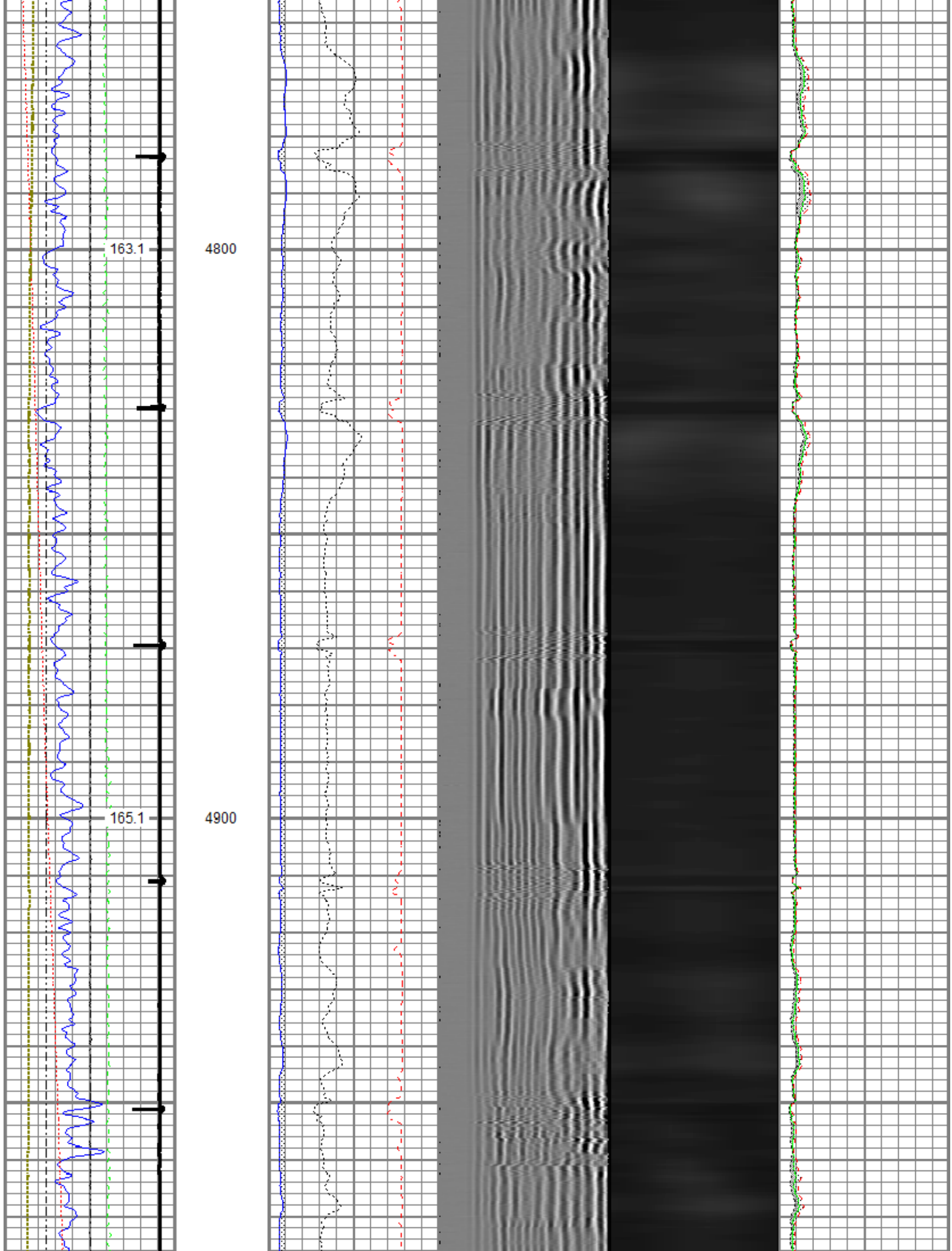


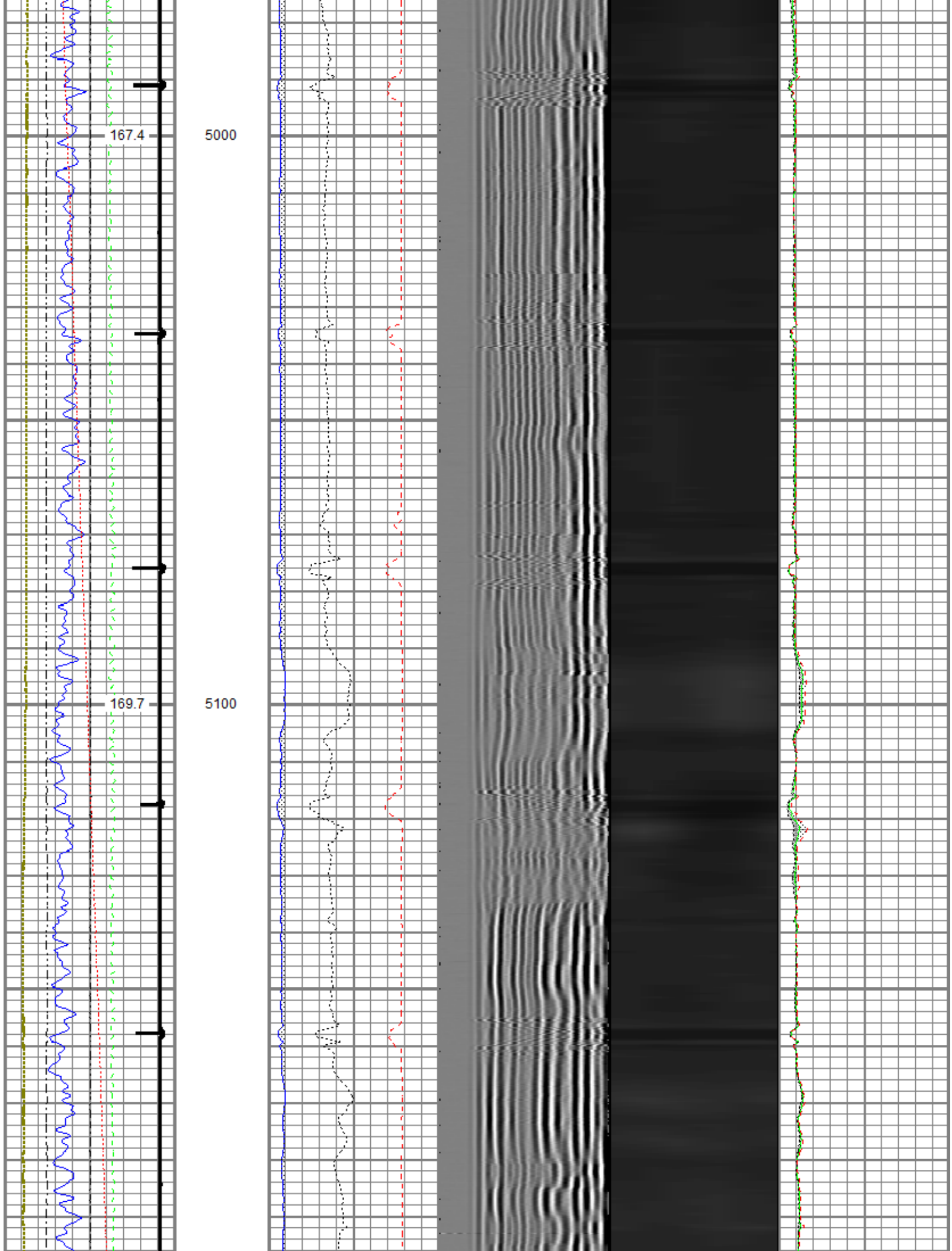


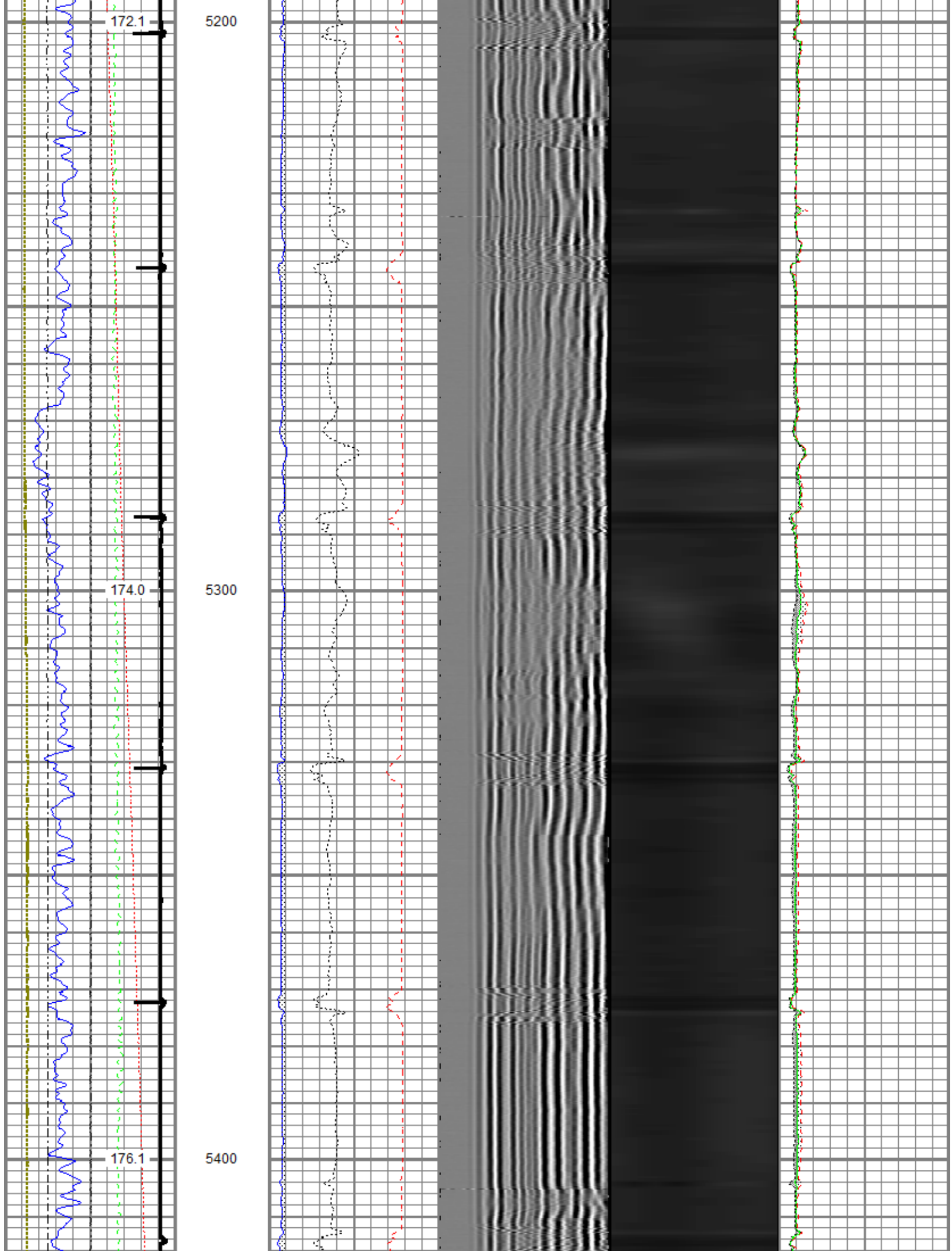


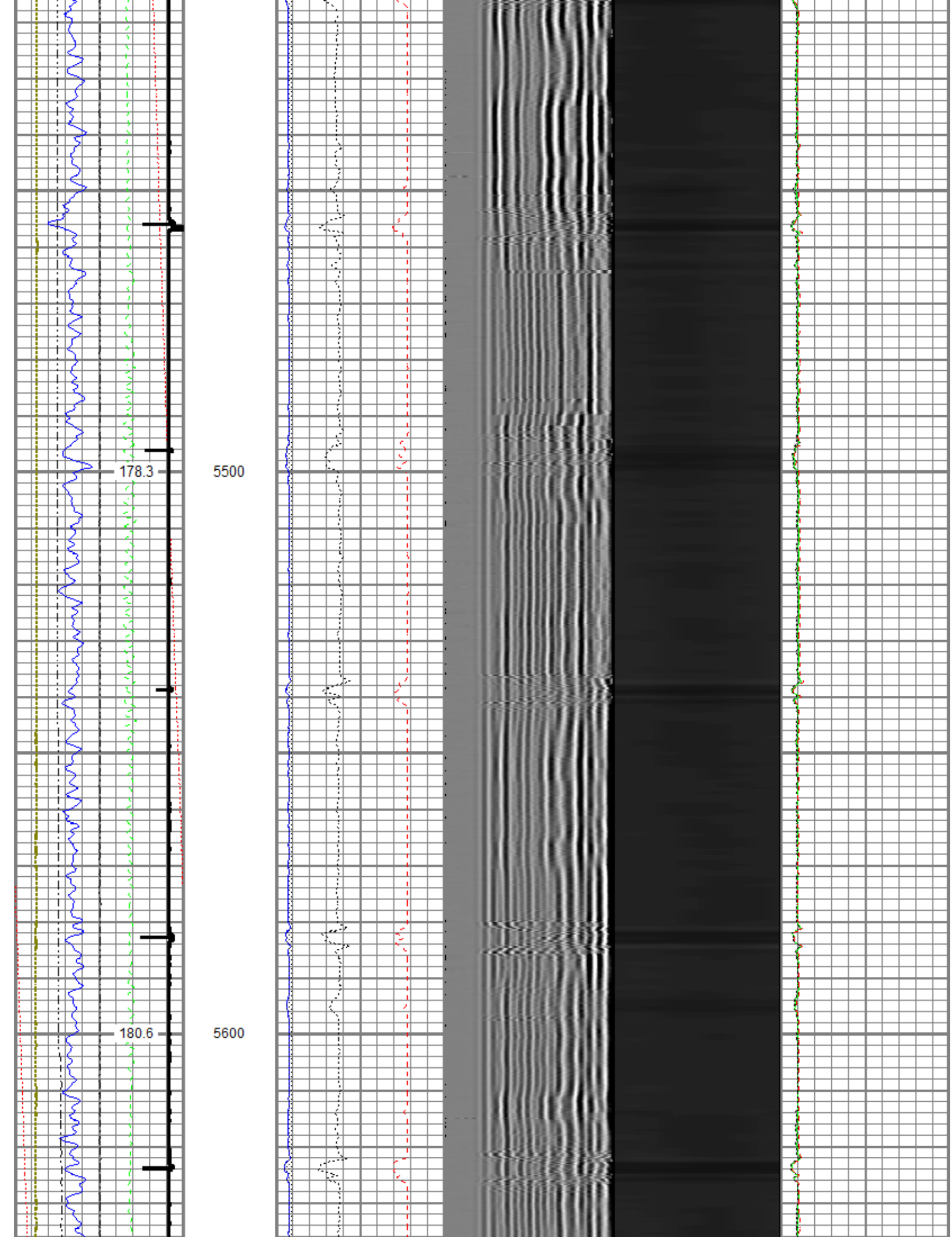


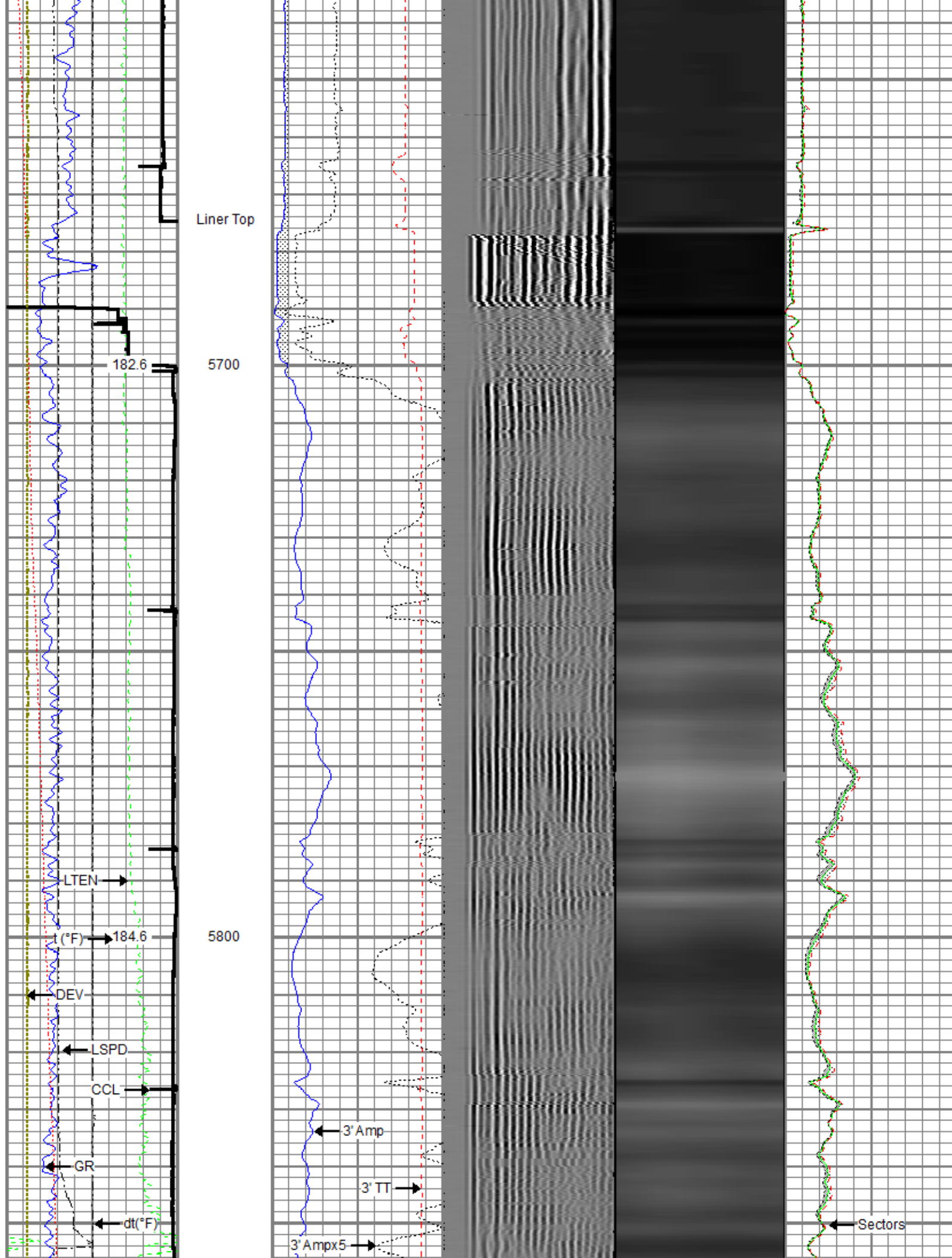


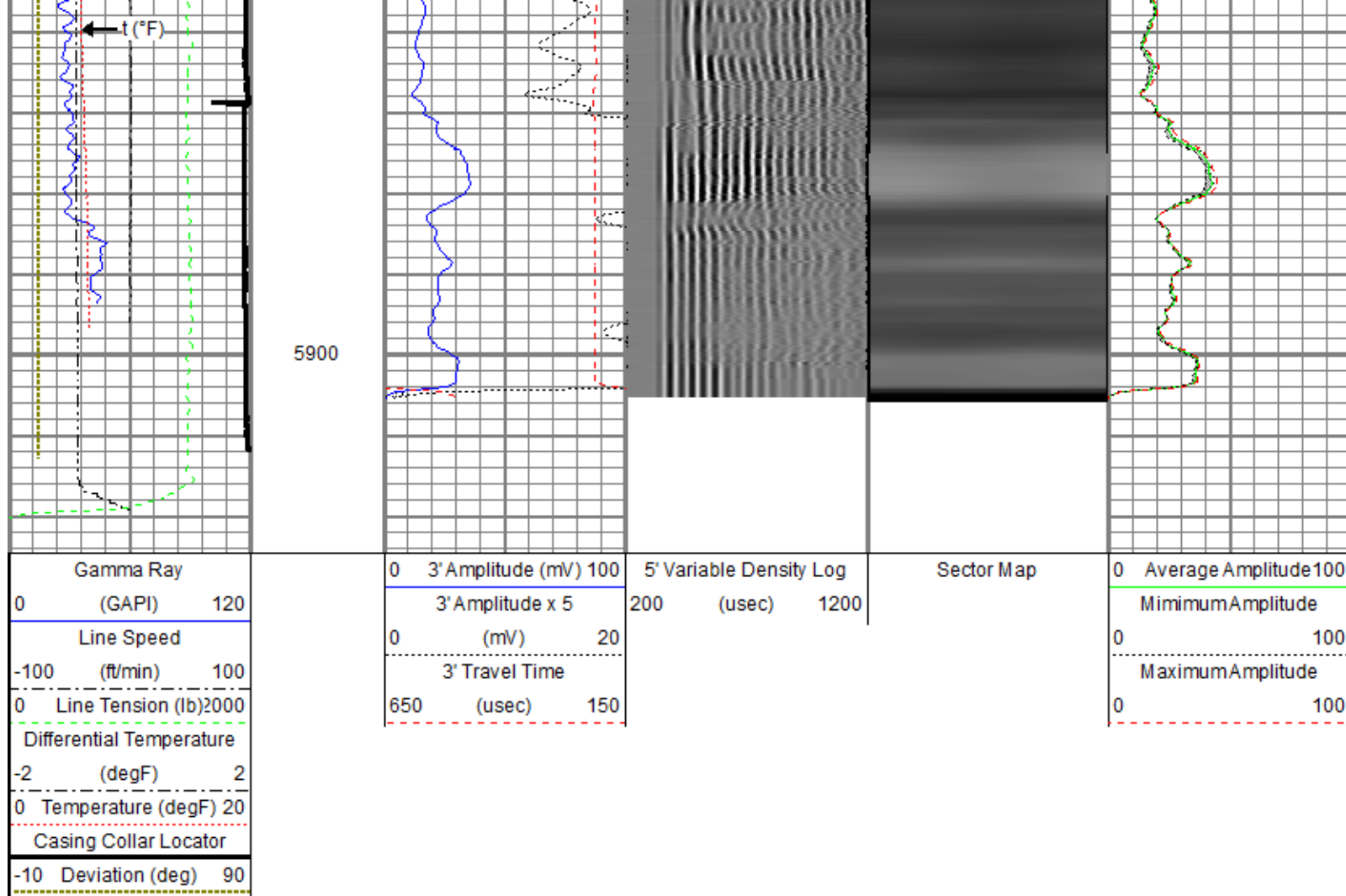








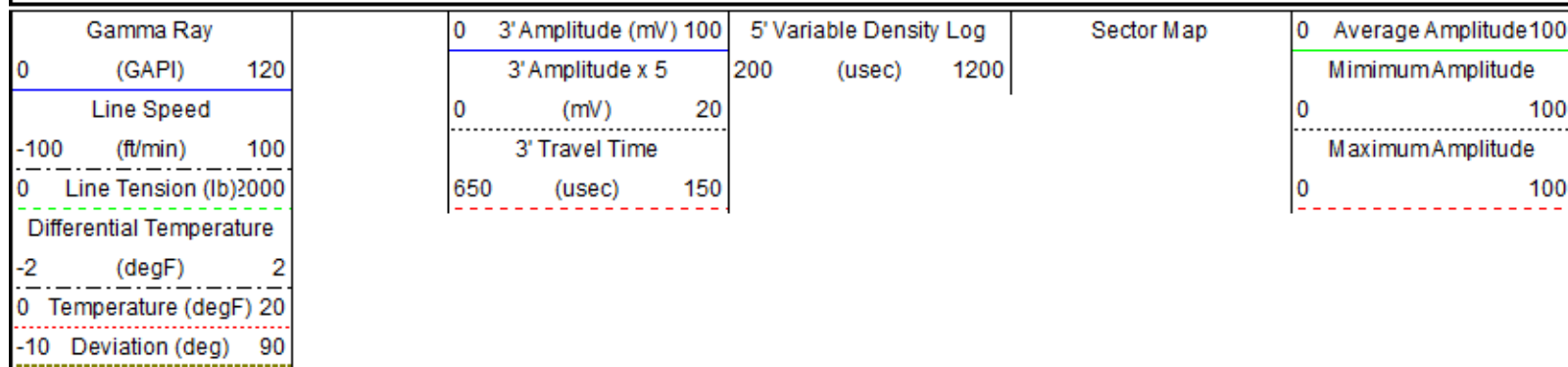




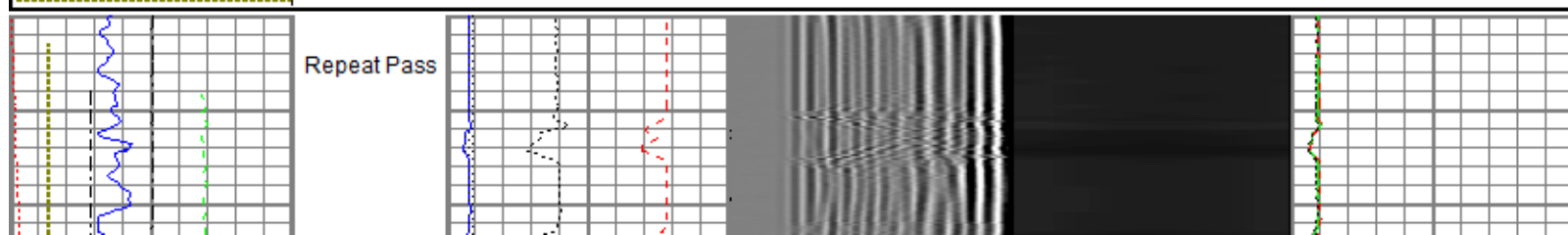
Repeat Pass

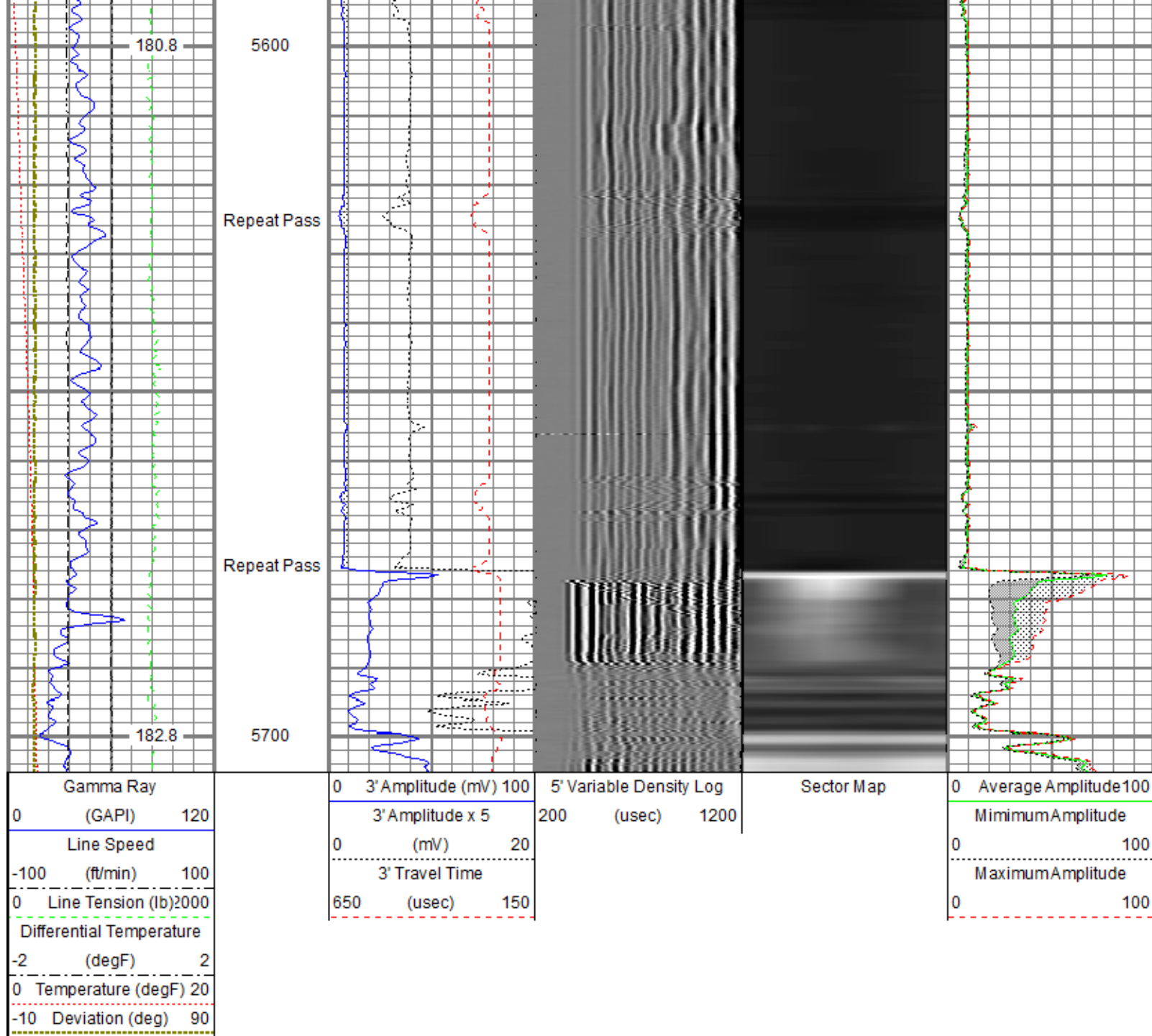
Recorded With 2800 PSI Surface Induced Pressure

Database File 0512345495_anadarko_yellowhammer 13n-17hz_mit_rbl_02-20-18\processed_0512345495_anadarko_yellowhammer 13n-1
 Dataset Pathname repeat
 Presentation Format ros_rbt_mit_sx
 Dataset Creation Tue Feb 20 08:41:05 2018
 Charted by Depth in Feet scaled 1:240

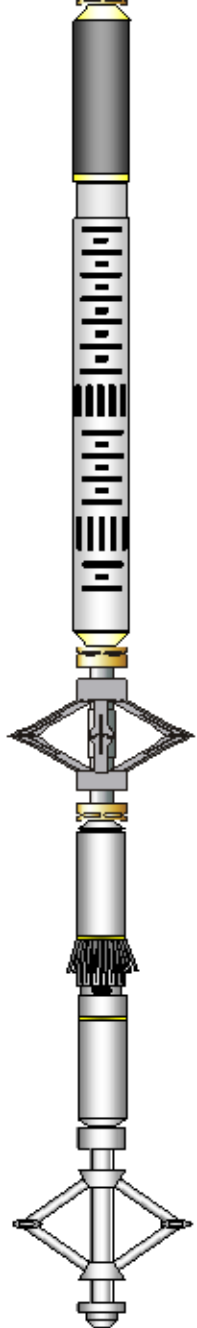


Repeat Pass





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	23.58		Titan CHD-14375 GO	1.03	1.44	3.60
			Titan 1-7/16" Assembled Electric Cable Head w/ 1" Fishing Neck			
			UW AGS-001 (211461) Sondex Adapter - GO Box to Sondex Pin	0.21	1.69	1.00
			UW XTU-002 (10010522) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			UW PGR-020 (211727) Production Gamma Ray	1.92	1.69	9.50
			UW PRT-016 (10025100) Platinum Resistance Thermometer	1.04	1.69	5.20
TEMP	22.18		UW CENT-DSS RAC 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00

CBLROT	15.15		UW RBT-004 (10013454) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.48	3.13	140.00
WVFS8	15.15					
WVFS7	15.15					
WVFS6	15.15					
WVFS5	15.15					
WVFS4	15.15					
WVFS3	15.15					
WVFS2	15.15					
WVFS1	15.15					
WVF3FT	15.15					
WVF5FT	14.15					
CBLTEMP	10.02					
			UW CENT-DSS RAC 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
MIT	5.27		UW MIT-40 042 E (10012912) 40 Multifinger Imaging Tool Ext.	4.54	2.75	65.00
			UW CENT-PRC 057 4 Arm 2-3/4" Production Roller Centralizer	2.71	2.75	32.00
TSTAMP	0.00		UW BUL-006 (031422) Sondex Ultrawire Bullnose Terminator Sub	0.22	1.69	1.20
Dataset: PROCESSED_0512345495_Anadarko_Yellowhammer 13N-17HZ_MIT_RBL_02-20-18.db: field/well/run1/main.7 Total length: 27.83 ft Total weight: 328.00 lb O.D.: 3.13 in						

Calibration Report		
Database File	C:\ProgramData\Warrior\Data\0512345495_Anadarko_Yellowhammer 13N-17HZ_MIT_RBL_02-20-18\PROCESSED_05123454	
Dataset Pathname	calreports	
Dataset Creation	Tue Feb 20 11:33:17 2018	
Multifinger Imaging Tool Calibration Report		
Serial Number:	10012912	
Number of Fingers:	40	
Tool Model:	40 042 E	
Inclinometer Calibration Report		
Performed:	Mon Jul 15 09:39:36 2013	
Calibration Angle:	45	
Vertical:	Inc X	Inc Y
Finger 1 up:	1968	1974
Finger 31 up:	1740	1744
	2215	1741

Finger 21 up:	2205	2224
Finger 11 up:	1731	2217
Sensitivity ratio:	0.992868	
X-axis angle:	134.307	
Deviation const.:	335.589	

Finger Calibration Report

Performed:

Tue Feb 20 07:32:45 2018

Ring size:	4	5	6	7
(in)	Sens	Sens	Sens	
Finger 01:	1067	1434	1822	2230
Finger 02:	1209	1585	1972	2374
Finger 03:	1093	1472	1878	2307
Finger 04:	1124	1495	1889	2308
Finger 05:	1131	1504	1901	2313
Finger 06:	1129	1506	1906	2322
Finger 07:	1123	1499	1902	2320
Finger 08:	1154	1525	1921	2339
Finger 09:	1140	1509	1906	2319
Finger 10:	1149	1516	1912	2326
Finger 11:	1149	1516	1904	2314
Finger 12:	1149	1508	1902	2311
Finger 13:	1165	1522	1906	2309
Finger 14:	1150	1517	1915	2329
Finger 15:	1104	1470	1877	2304
Finger 16:	1110	1473	1877	2305
Finger 17:	1024	1359	1750	2181
Finger 18:	1149	1501	1892	2300
Finger 19:	1125	1475	1869	2283
Finger 20:	1103	1452	1853	2280
Finger 21:	1107	1458	1855	2265
Finger 22:	1082	1432	1835	2264
Finger 23:	1026	1372	1780	2221
Finger 24:	1111	1455	1841	2240
Finger 25:	1047	1394	1801	2237
Finger 26:	1166	1500	1875	2267
Finger 27:	1093	1440	1836	2254
Finger 28:	1124	1470	1852	2257
Finger 29:	1051	1403	1806	2233
Finger 30:	1082	1433	1827	2246
Finger 31:	1116	1467	1853	2261
Finger 32:	1174	1554	1976	2411
Finger 33:	1170	1527	1904	2291
Finger 34:	1107	1470	1871	2291
Finger 35:	983	1318	1697	2103
Finger 36:	1081	1443	1843	2265
Finger 37:	1125	1492	1884	2294
Finger 38:	1156	1518	1903	2299
Finger 39:	1168	1531	1915	2312
Finger 40:	1113	1487	1885	2298

Post Survey Calibration Check

Performed:

Tue Feb 20 11:15:50 2018

Ring size:	4	5	6	7
(in)	Nom. wear	Nom. wear	Nom. wear	Nom. wear
Finger 01:	3.984	4.984	5.988	6.984
Finger 02:	3.979	4.976	6.140	6.985
Finger 03:	3.978	4.978	5.982	6.973
Finger 04:	3.988	4.985	5.997	6.999
Finger 05:	3.982	4.984	5.994	7.014
Finger 06:	3.990	4.981	5.986	6.988
Finger 07:	3.979	4.979	5.981	6.980
Finger 08:	3.984	4.980	5.983	6.985
Finger 09:	3.982	4.986	5.990	6.989
Finger 10:	3.986	4.985	5.990	6.985
Finger 11:	3.984	4.983	5.993	6.986
Finger 12:	3.996	4.997	5.994	6.996
Finger 13:	3.980	4.981	5.987	6.984
Finger 14:	4.011	4.987	5.993	6.985
Finger 15:	3.975	4.985	5.987	6.995
Finger 16:	4.012	4.979	5.984	6.995

Finger 17:	3.970	-0.015	4.977	-0.011	5.982	-0.009	6.980	-0.010
Finger 18:	3.999	-0.001	4.982	-0.009	5.984	-0.008	6.990	-0.005
Finger 19:	3.968	-0.016	4.968	-0.016	5.970	-0.015	6.977	-0.012
Finger 20:	3.984	-0.008	4.982	-0.009	5.987	-0.007	6.987	-0.007
Finger 21:	3.974	-0.013	4.973	-0.013	5.978	-0.011	6.987	-0.007
Finger 22:	3.973	-0.014	4.975	-0.013	5.980	-0.010	6.985	-0.008
Finger 23:	4.001	0.001	5.000	0.000	5.998	-0.001	6.990	-0.005
Finger 24:	3.974	-0.013	4.979	-0.011	5.987	-0.006	6.990	-0.005
Finger 25:	3.976	-0.012	4.985	-0.008	5.985	-0.007	6.983	-0.009
Finger 26:	3.976	-0.012	4.982	-0.009	5.994	-0.003	6.997	-0.002
Finger 27:	3.983	-0.008	4.988	-0.006	5.995	-0.003	6.989	-0.005
Finger 28:	3.992	-0.004	4.981	-0.009	5.993	-0.004	6.988	-0.006
Finger 29:	3.993	-0.004	4.984	-0.008	5.988	-0.006	6.985	-0.007
Finger 30:	3.992	-0.004	4.985	-0.007	5.991	-0.004	6.989	-0.006
Finger 31:	3.992	-0.004	4.979	-0.011	5.985	-0.008	6.995	-0.003
Finger 32:	3.988	-0.006	4.983	-0.008	5.988	-0.006	6.989	-0.005
Finger 33:	3.988	-0.006	4.980	-0.010	5.978	-0.011	6.989	-0.006
Finger 34:	3.990	-0.005	4.985	-0.008	5.985	-0.008	6.986	-0.007
Finger 35:	3.989	-0.005	4.981	-0.009	5.983	-0.008	6.989	-0.006
Finger 36:	3.986	-0.007	4.987	-0.007	5.991	-0.004	6.994	-0.003
Finger 37:	3.990	-0.005	4.987	-0.007	5.986	-0.007	6.988	-0.006
Finger 38:	3.978	-0.011	4.977	-0.011	5.979	-0.010	6.975	-0.012
Finger 39:	3.980	-0.010	4.974	-0.013	5.977	-0.011	6.978	-0.011
Finger 40:	3.982	-0.009	4.986	-0.007	5.991	-0.005	6.995	-0.003
Average:	3.985	-0.007	4.982	-0.009	5.991	-0.005	6.988	-0.006

Segmented Cement Bond Log Calibration Report						
Serial Number:			10013454			
Tool Model:			004			
Calibration Casing Diameter:			7.000	in		
Calibration Depth:			7.942	ft		

Master Calibration, performed Tue Feb 20 11:32:17 2018:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.000	0.739	0.800	62.165	82.998	0.800
5FT	0.000	0.834	0.800	62.165	73.588	0.800
S1	0.000	0.780	0.000	100.000	128.225	0.000
S2	0.000	0.798	0.000	100.000	125.280	0.000
S3	0.000	0.788	0.000	100.000	126.883	0.000
S4	0.000	0.801	0.000	100.000	124.816	0.000
S5	0.000	0.788	0.000	100.000	126.906	0.000
S6	0.000	0.758	0.000	100.000	131.886	0.000
S7	0.000	0.723	0.000	100.000	138.343	0.000
S8	0.000	0.730	0.000	100.000	137.028	0.000

Temperature Calibration Report					
Serial Number:			10025100		
Tool Model:			016		
Performed:			Sun Nov 12 14:30:03 2017		
Point #	Reading		Reference		
1	13249.00	cps	68.00	degF	
2	18454.00	cps	104.00	degF	
3	29735.00	cps	176.00	degF	
4	41457.00	cps	248.00	degF	
5	52851.00	cps	320.00	degF	
6	59128.00	cps	356.00	degF	
7		cps		degF	
8		cps		degF	
9		cps		degF	
10		cps		degF	

Gamma Ray Calibration Report					
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Serial Number:	211727
Tool Model:	020
Performed:	Sun Nov 12 06:37:04 2017

Calibrator Value:	637.0	GAPI
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Background Reading:	78.8	cps
Calibrator Reading:	1069.9	cps

Sensitivity:	0.6427	GAPI/cps
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Company	Kerr-McGee Oil & Gas Onshore, L.P.
Well	Yellowhammer 13N-17HZ
Field	Wattenberg
County	Weld
State	Colorado