



Date	03-MAR-2019
Run Number	Two
Depth Driller	12,599 FT
Depth Logger	6,956 FT
Bottom Logged Interval	6,953 FT
Top Log Interval	Surface
Open Hole Size	8,750"
Type Fluid	Water
Density / Viscosity	8.34 lbm/gal
Max. Recorded Temp.	216 F
Estimated Cement Top	1,230 FT
Time Well Ready	ROA
Time Logger on Bottom	07:00
Equipment Number	HD-134
Location	Fort Lupton, CO.
Recorded By	J. Raby
Witnessed By	Noe Pulido

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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

Radial Cement Bond Log - Casing Inspection Log is first recorded log in hole.
Log correlated to reported casing tally at top of liner @ 6,909 FT
RCBL-CIL ran at 2000 PSI surface induced pressure.
Estimated Cement Top recorded at 1,230 FT

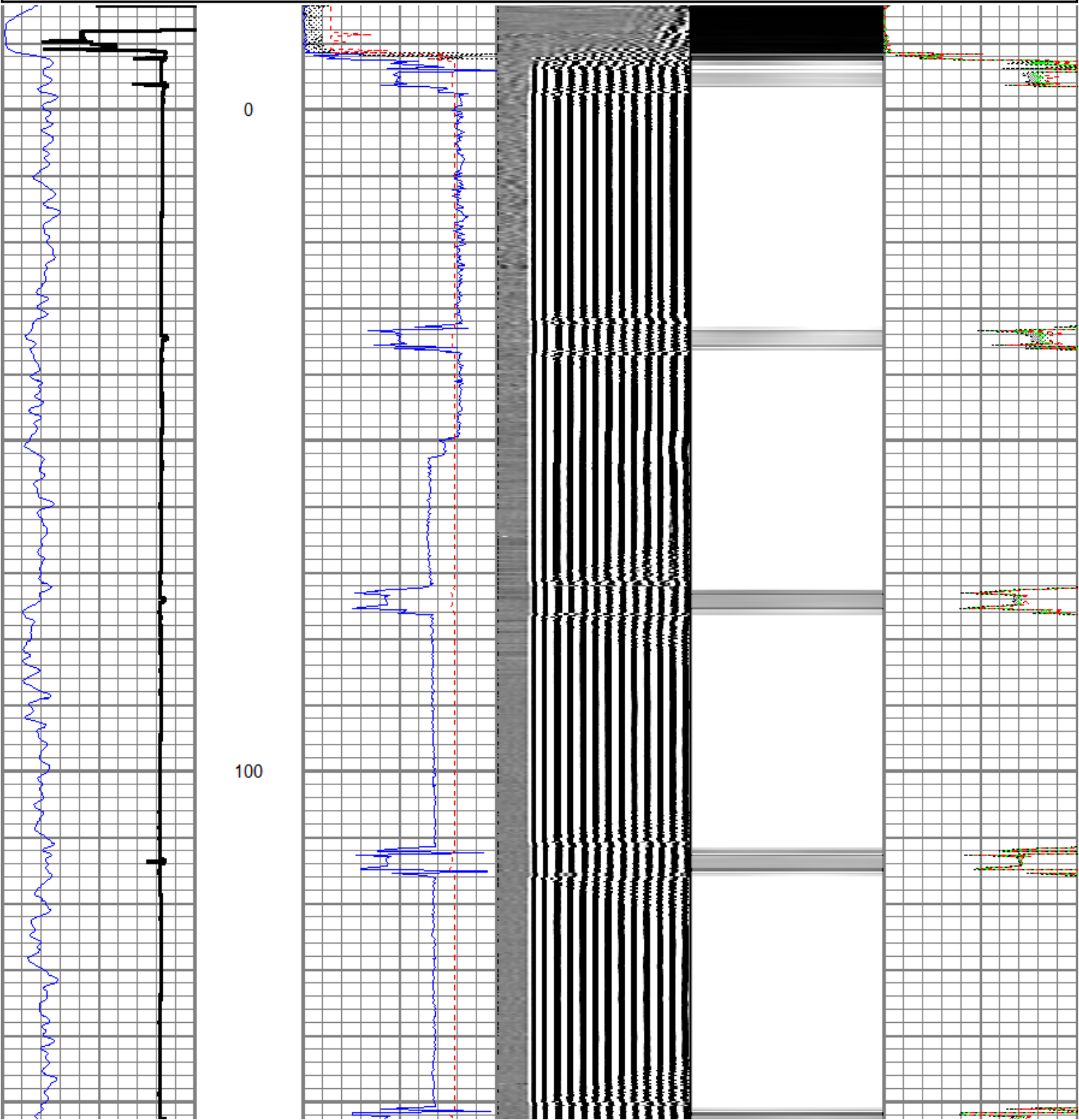
Thank you for choosing FMC Technologies Completion Services!!

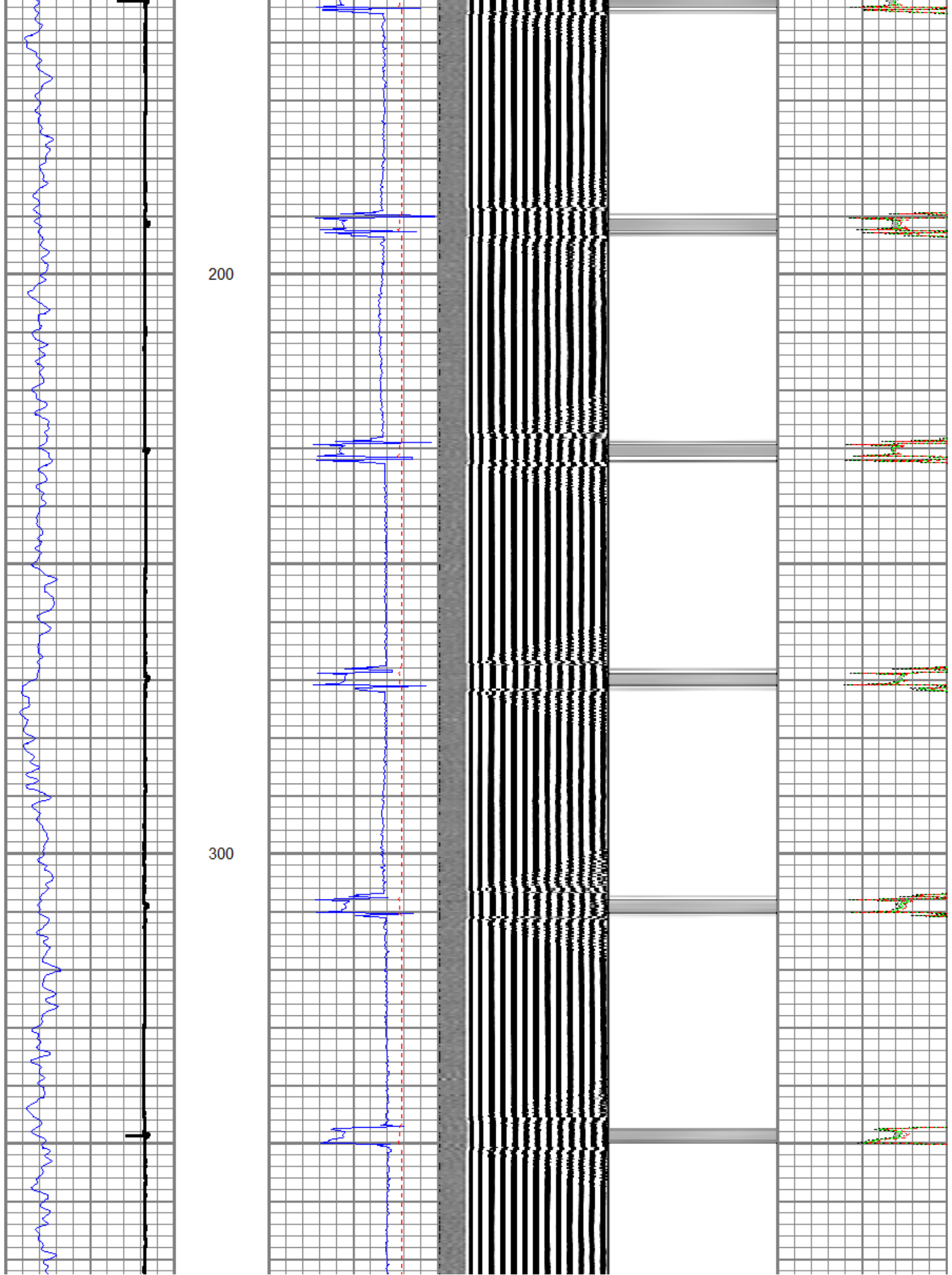


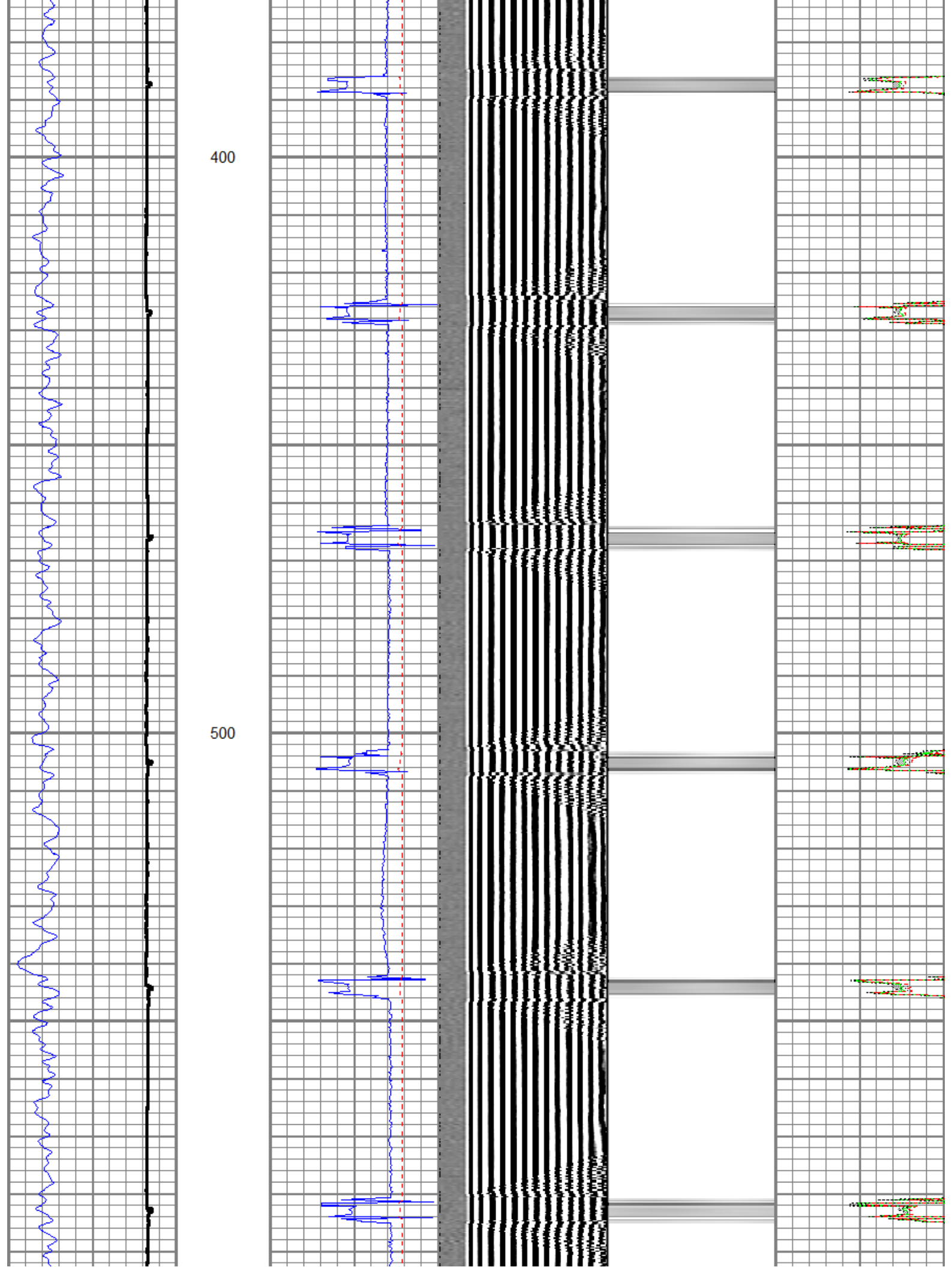
Recorded with 2000 PSI Surface Induced Pressure

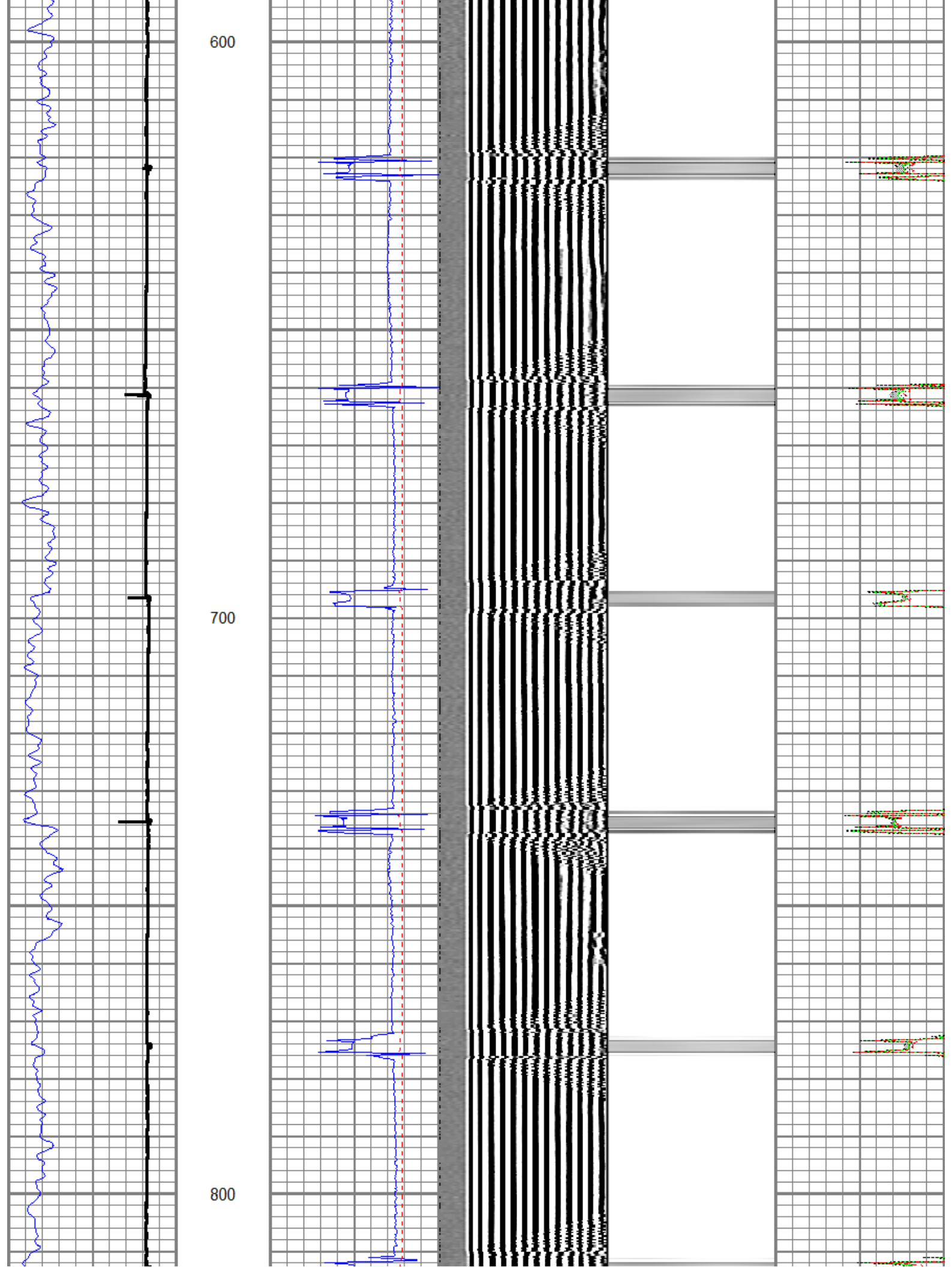
Database File: anadarko_hwy 160 38n-2hz_rcbl mit_05-mar-2014.db
Dataset Pathname: pass6
Presentation Format: rbt007
Dataset Creation: Wed Mar 05 10:03:06 2014 by Log Sondex V7.03
Charted by: Depth in Feet scaled 1:240

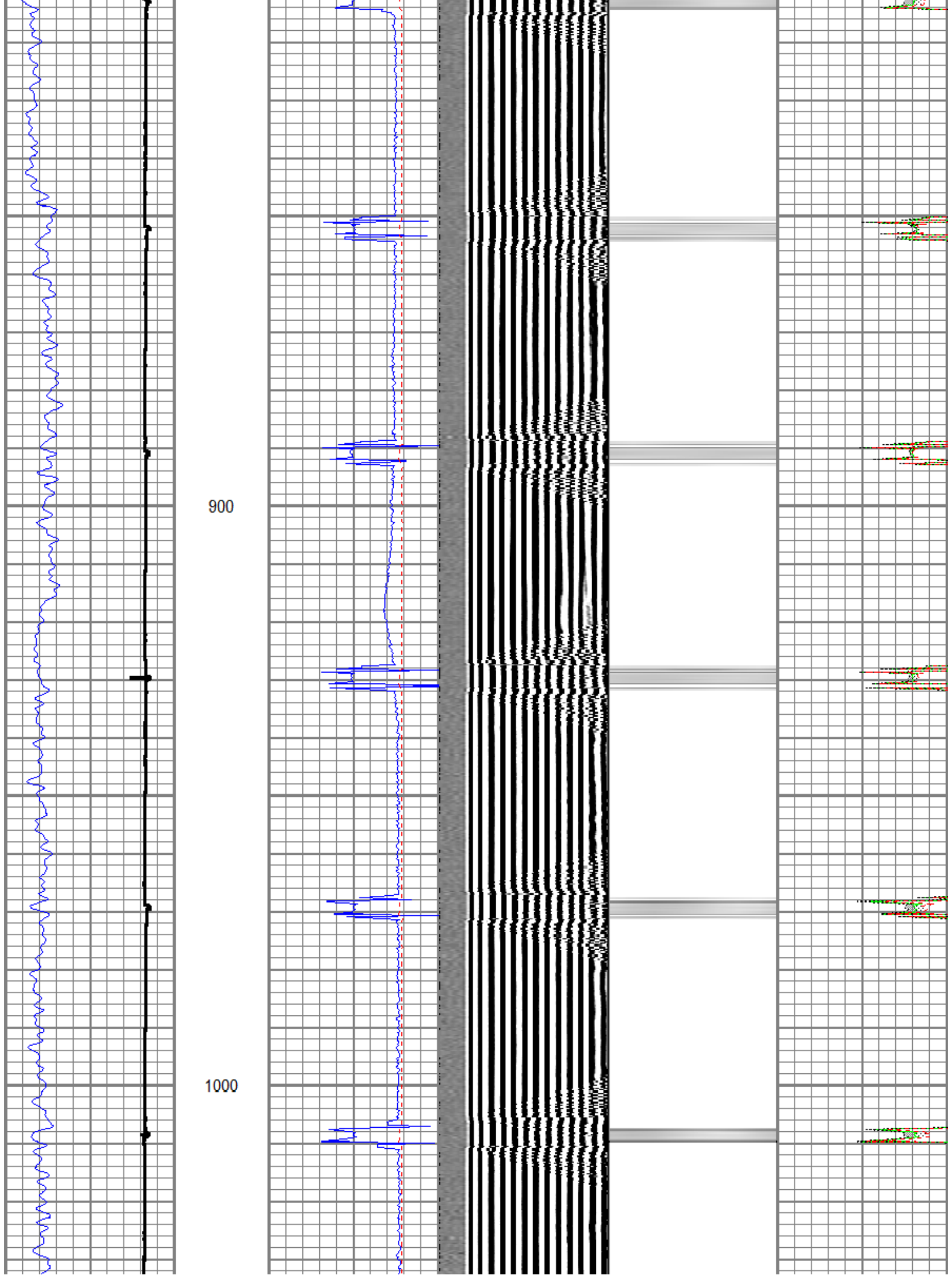
Gamma Ray			3' Amplitude		5' Variable Density Log		Sector Map	Average Amplitude		
0	(GAPI)	150	0	(mV)	100	200		1200	0	100
Collar Locator			3' Amplitude x 5					Minimum Amplitude		
			0	(mV)	20			0	100	
			3' Travel Time					Maximum Amplitude		
			650	(usec)	150			0	100	

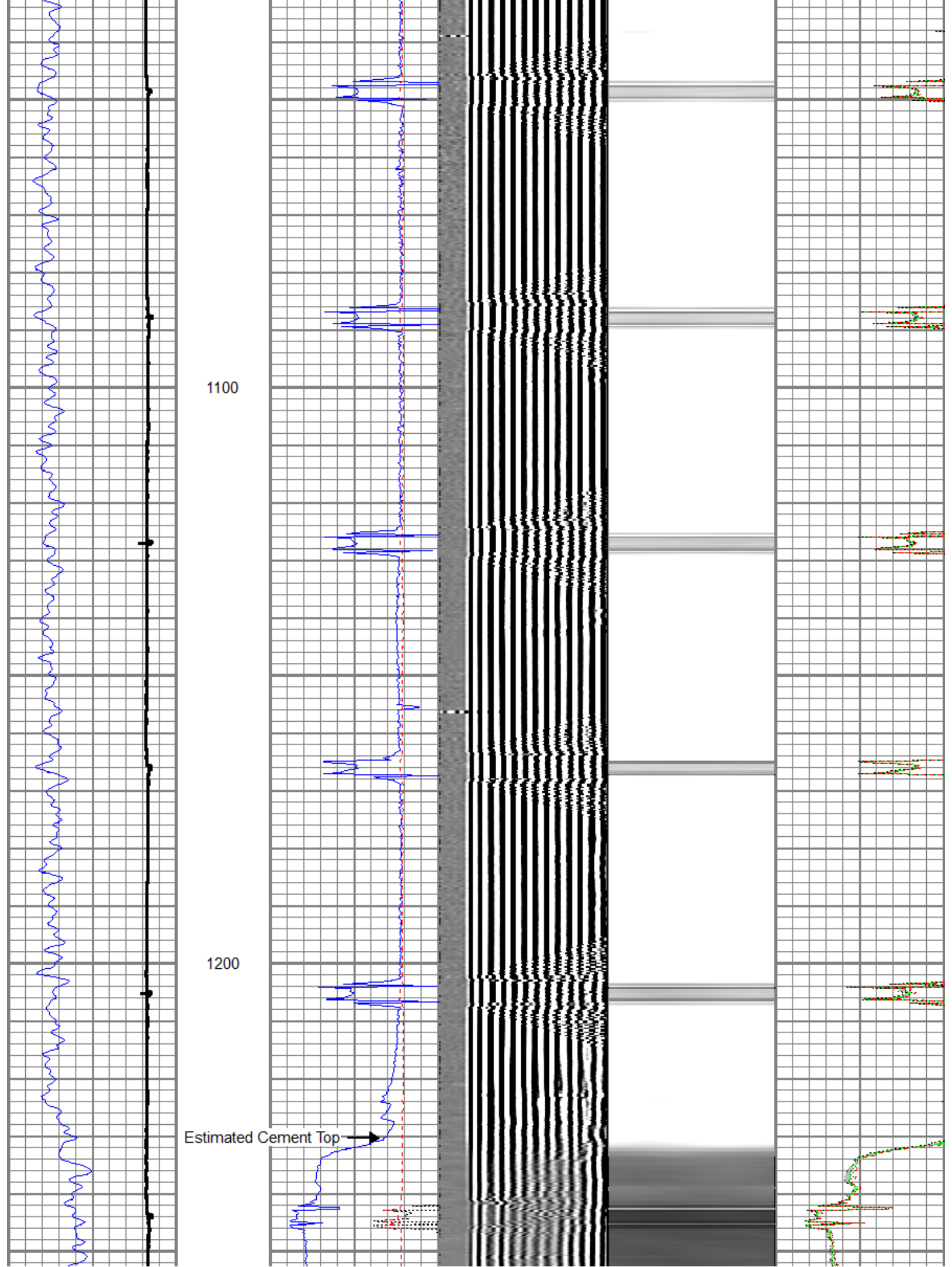


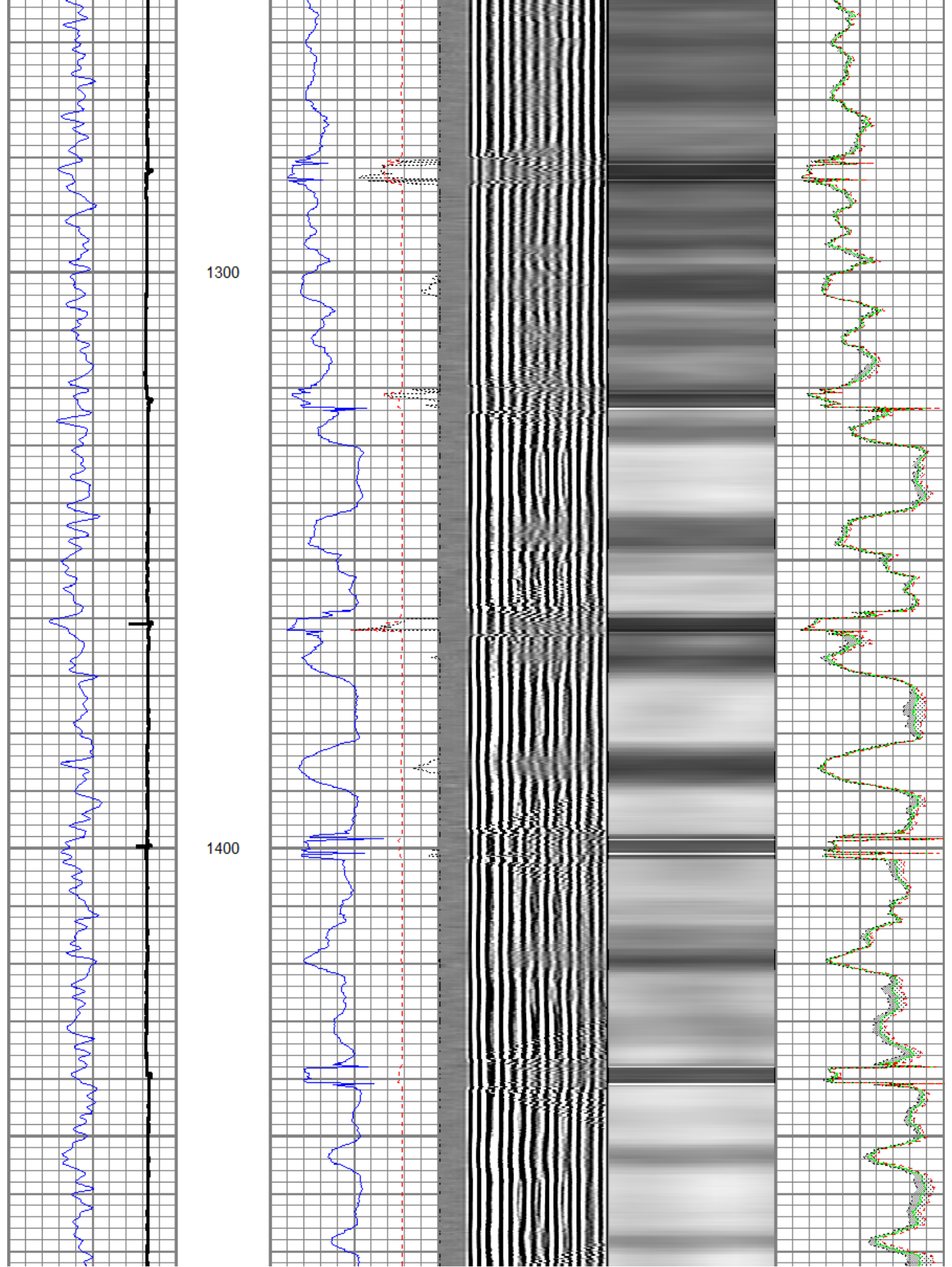


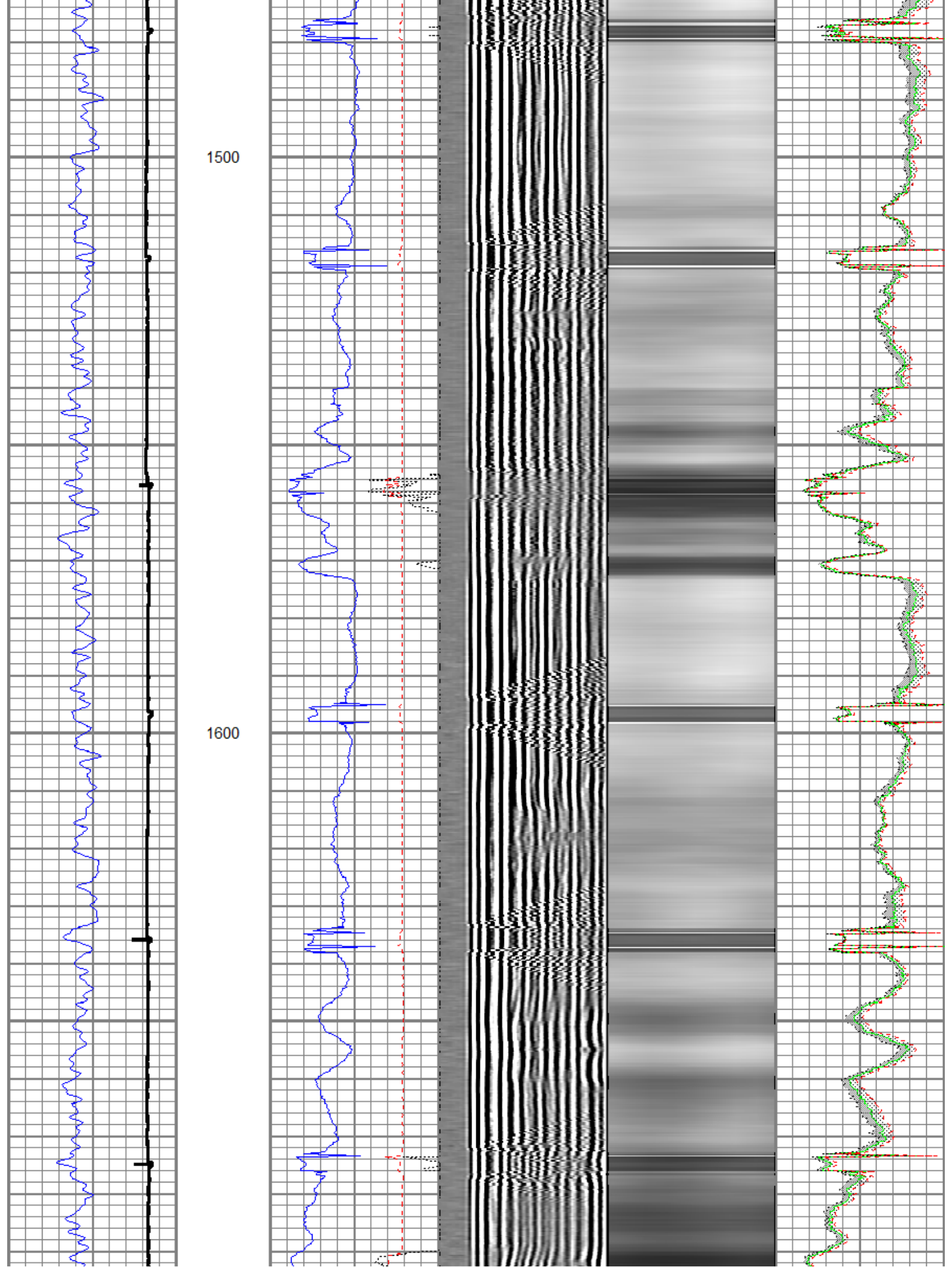


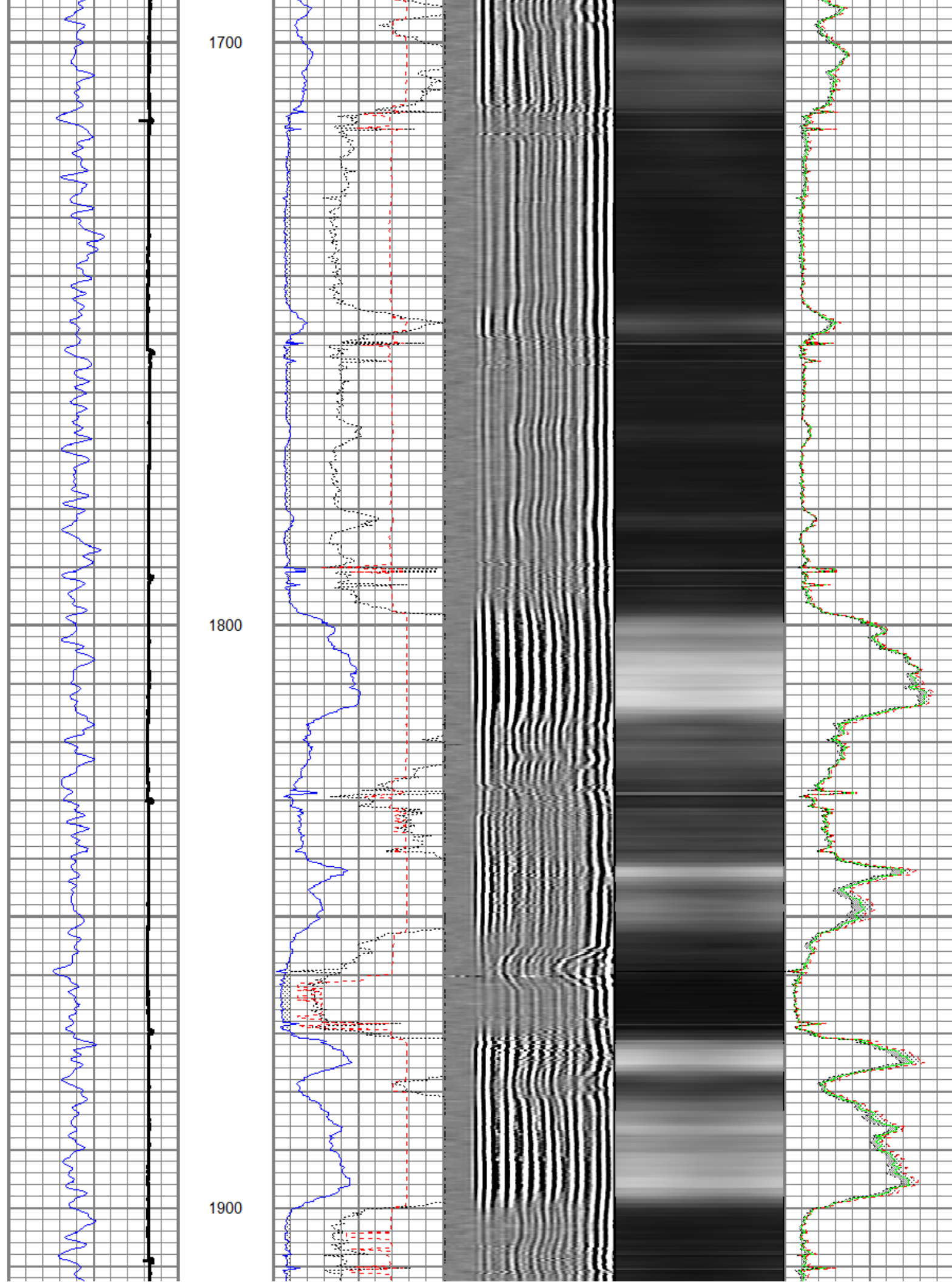


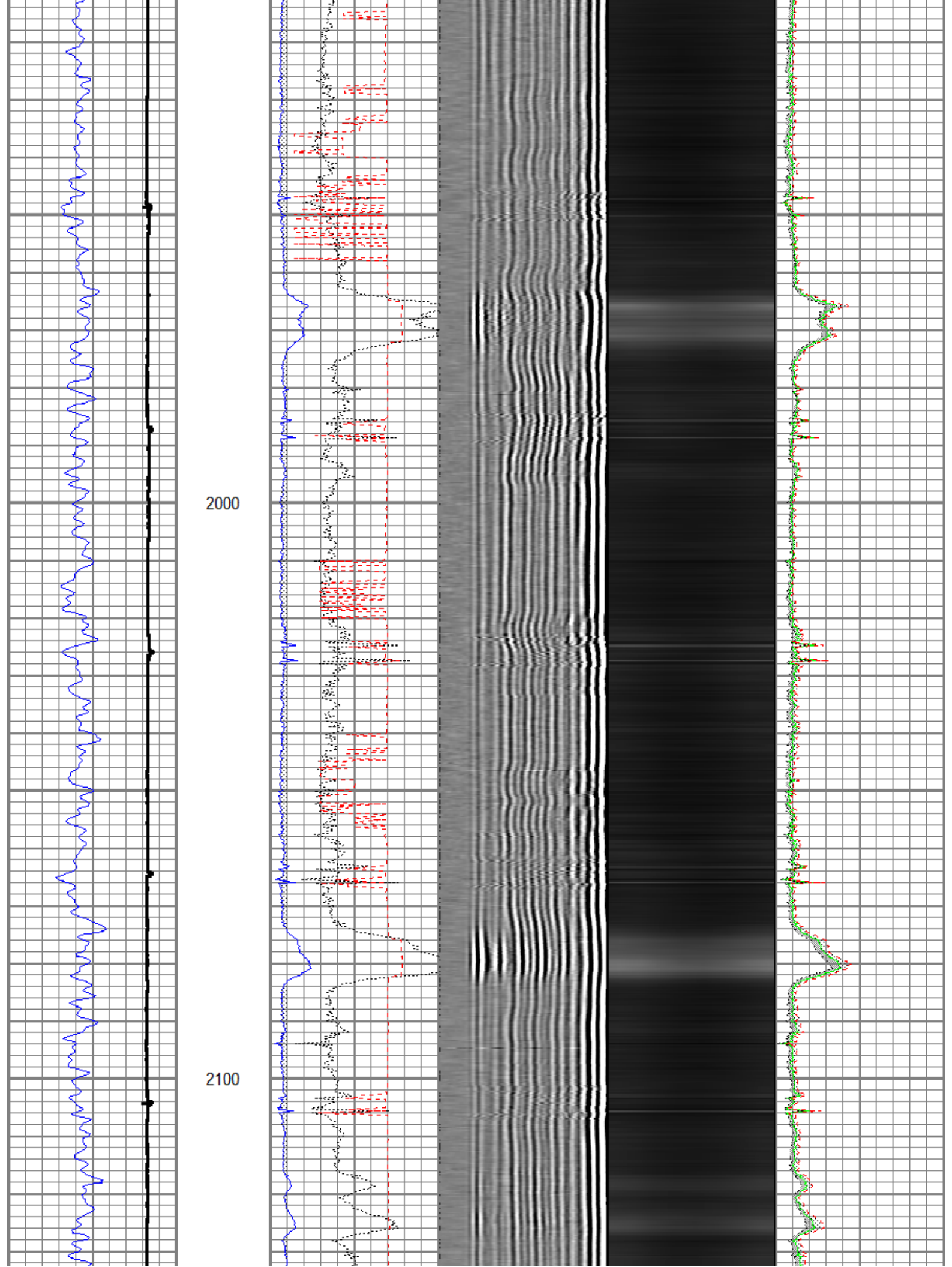


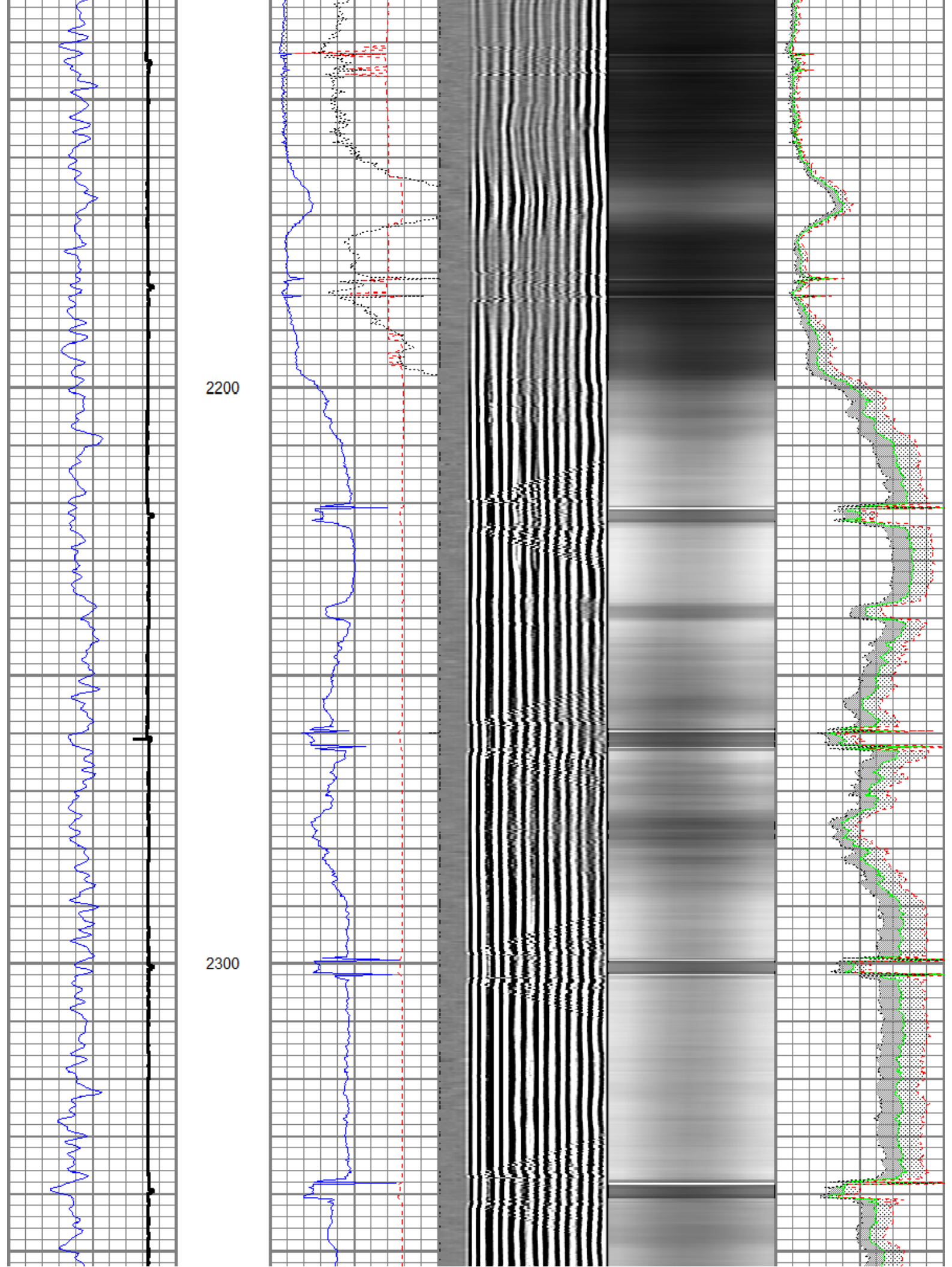


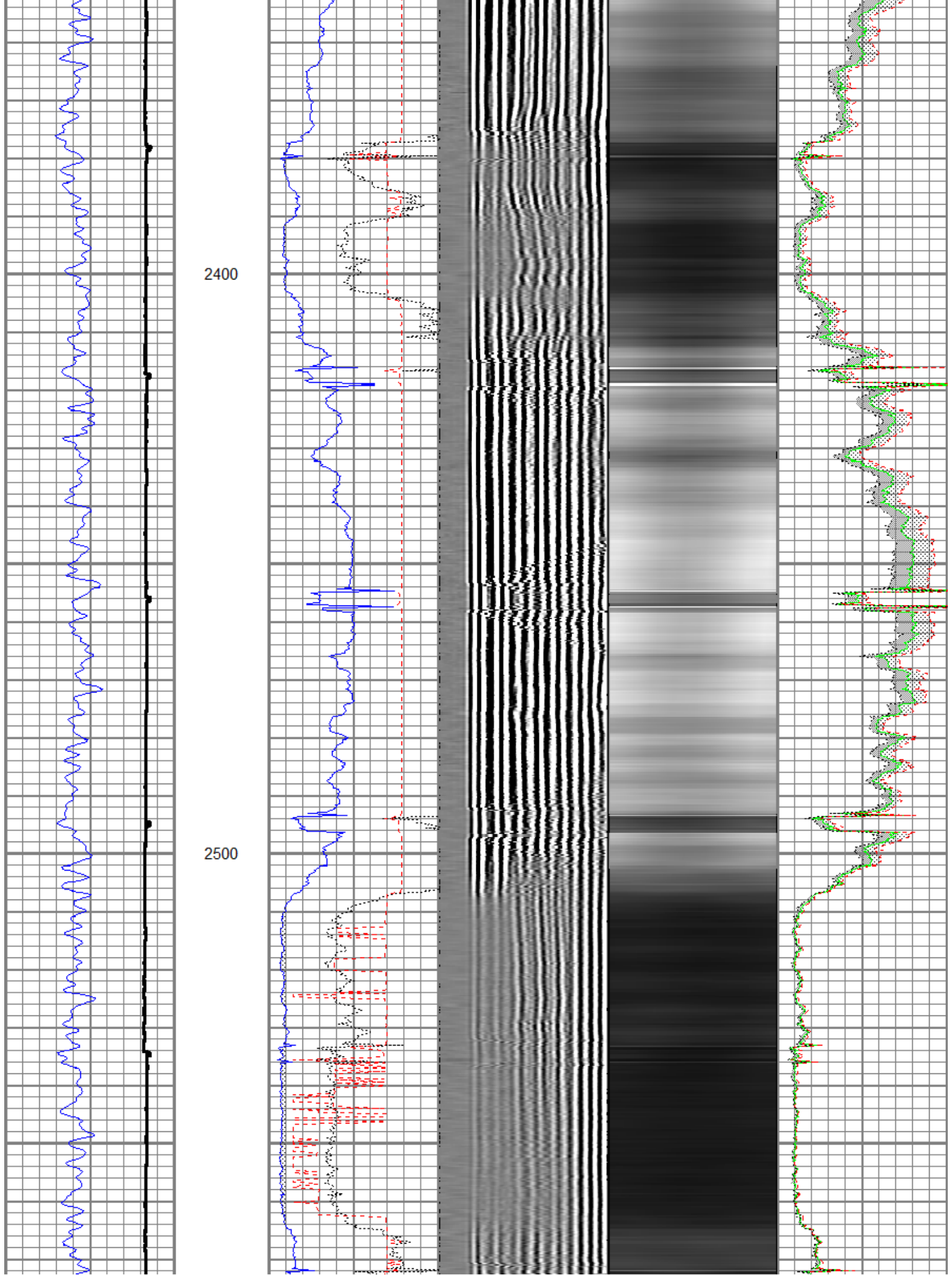


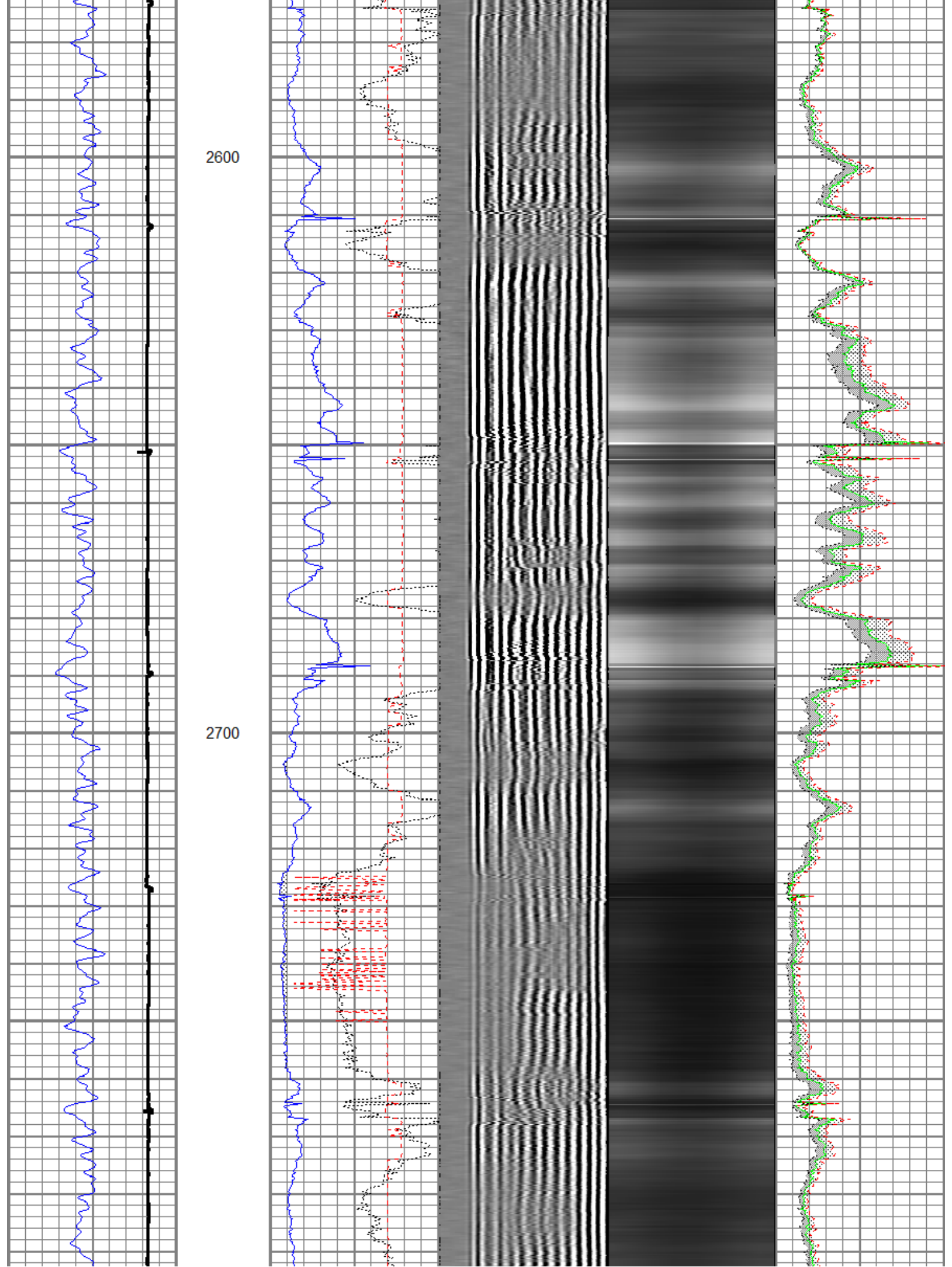


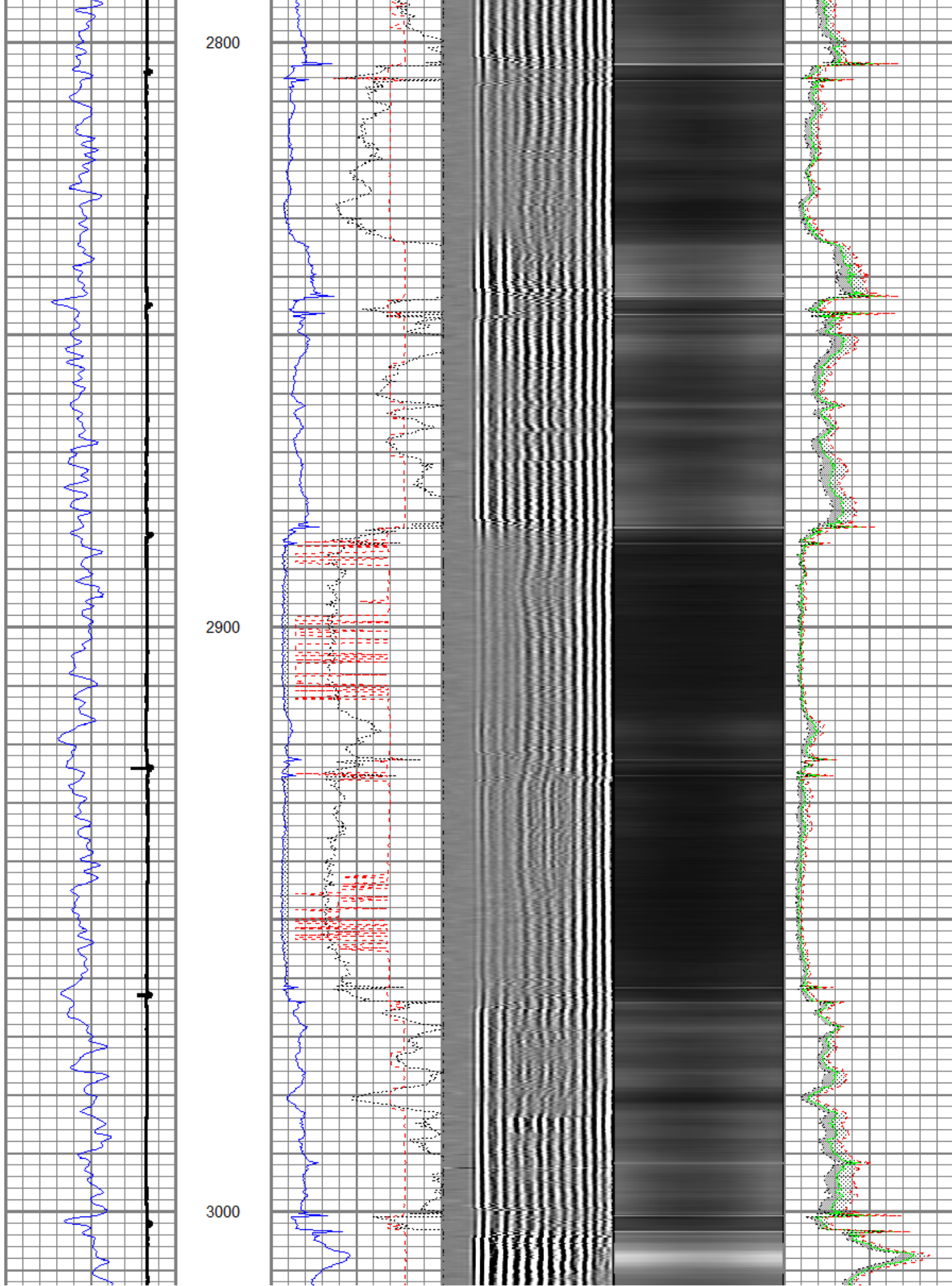


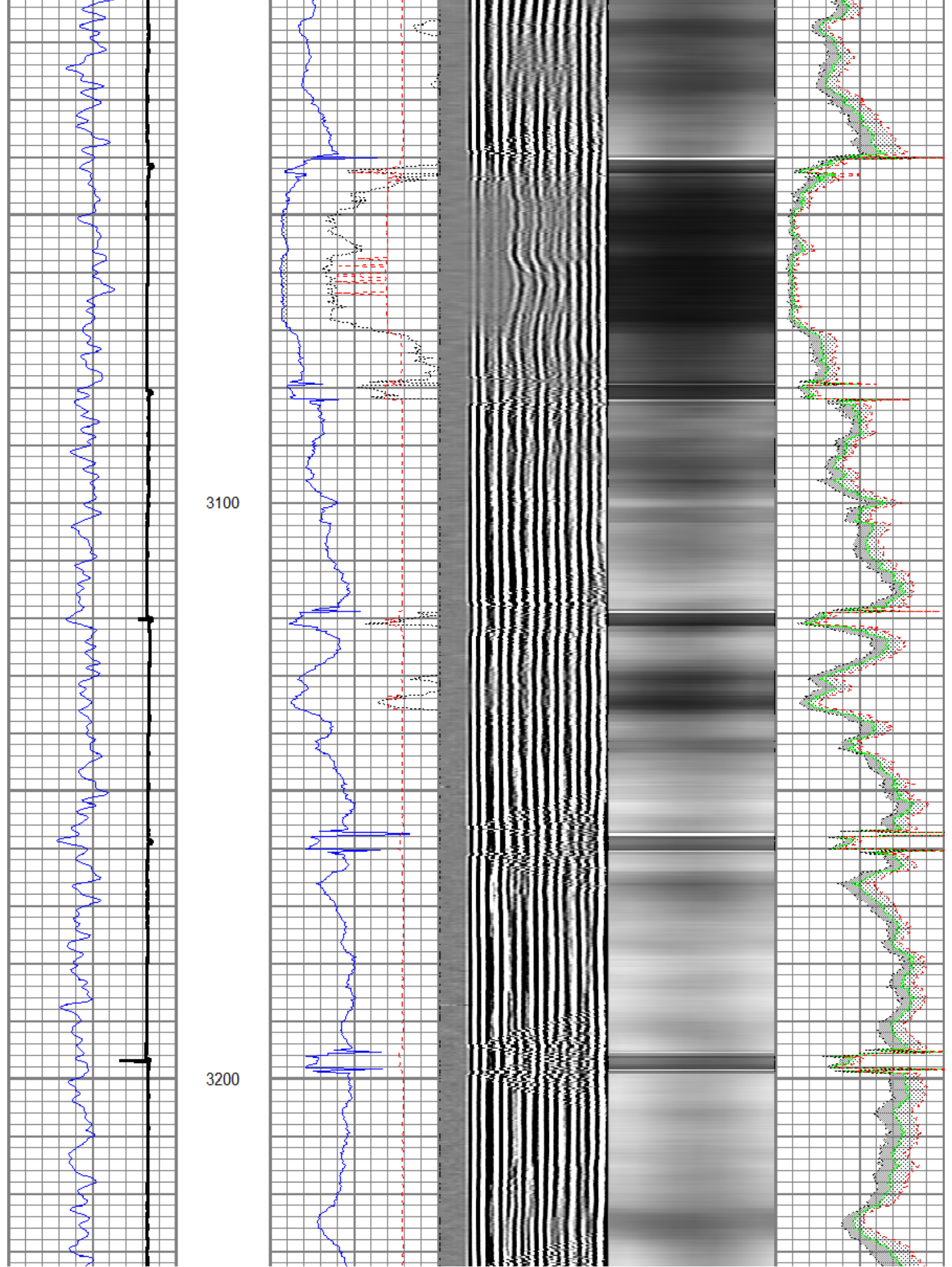


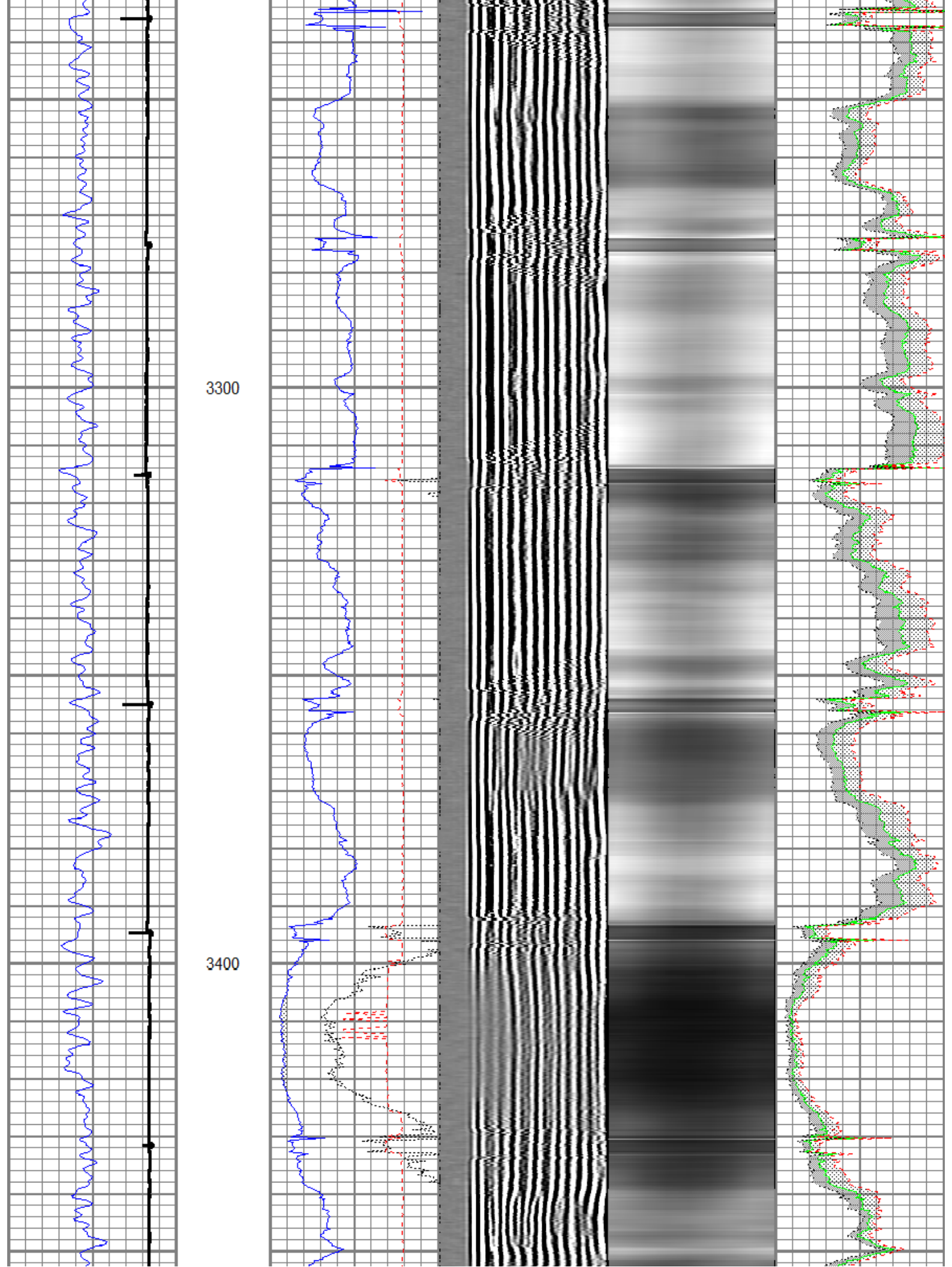


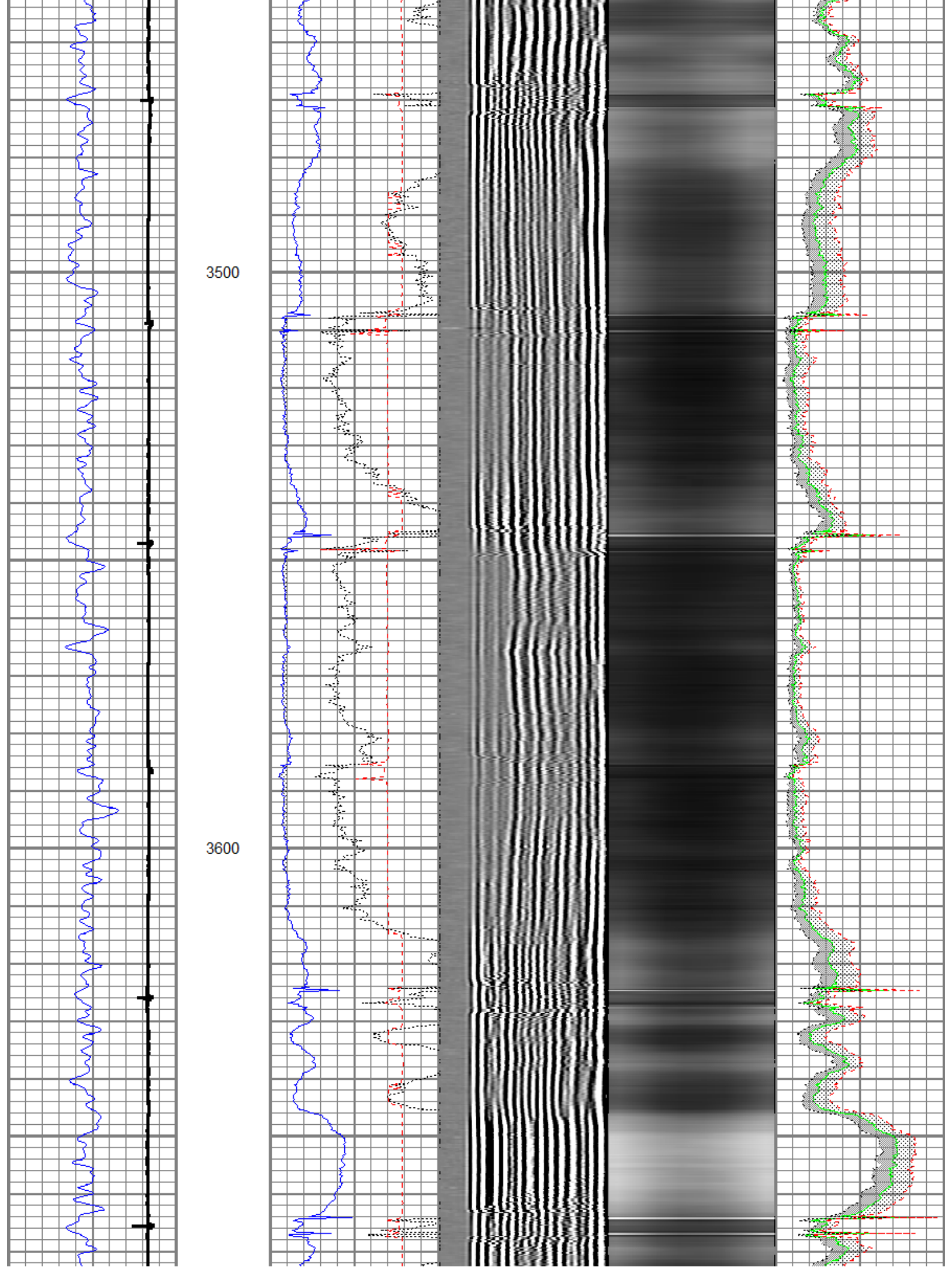


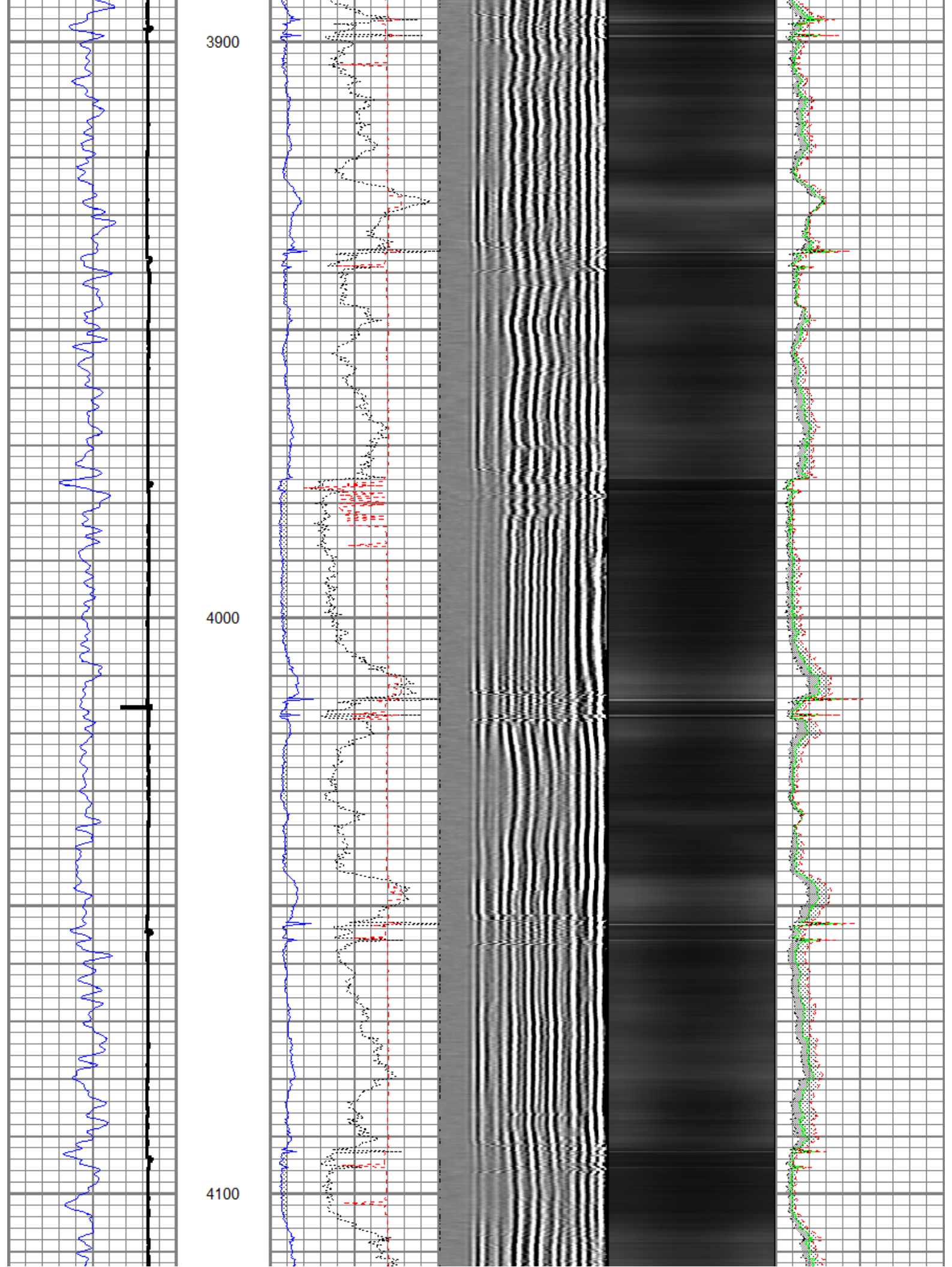


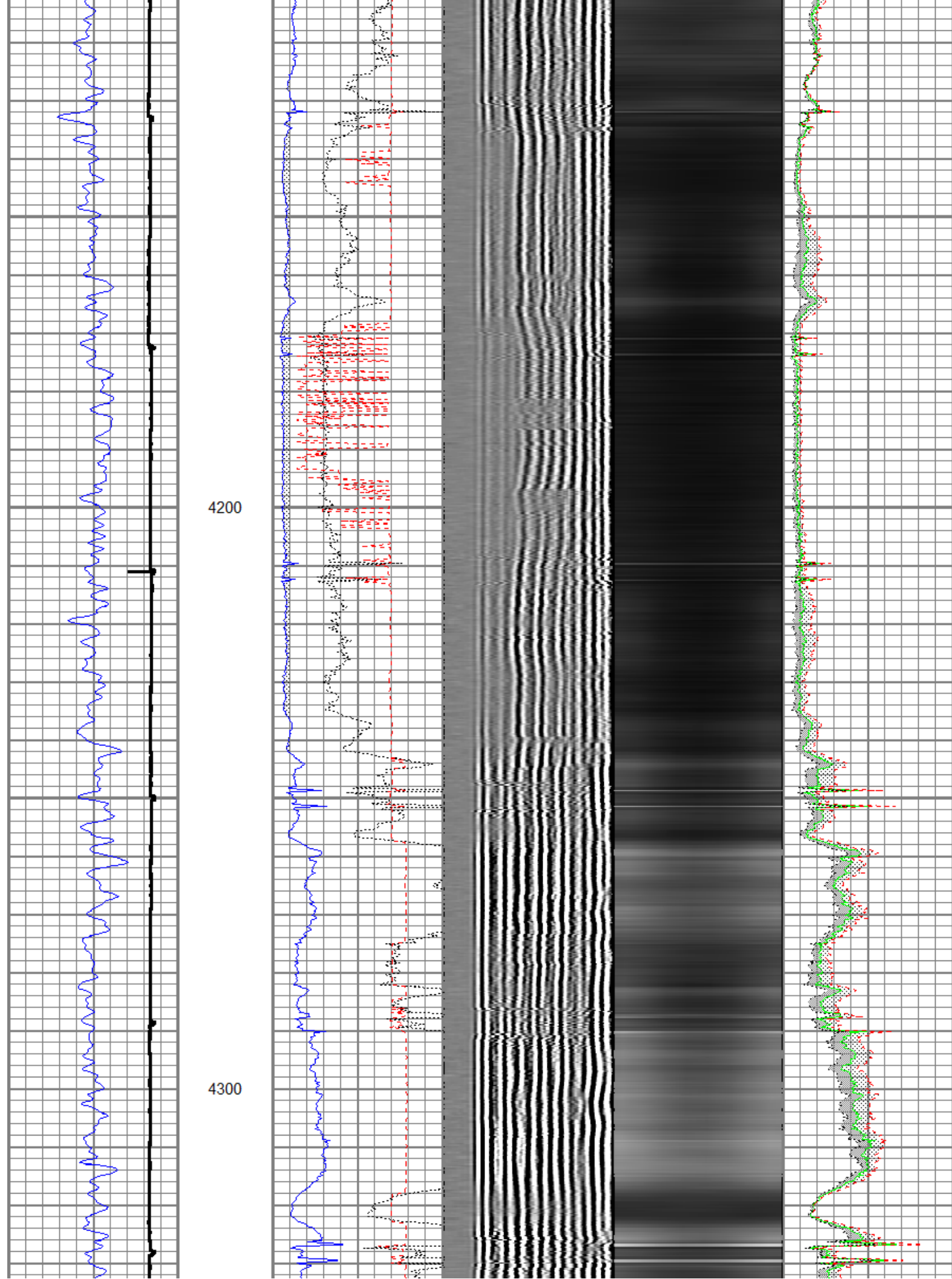


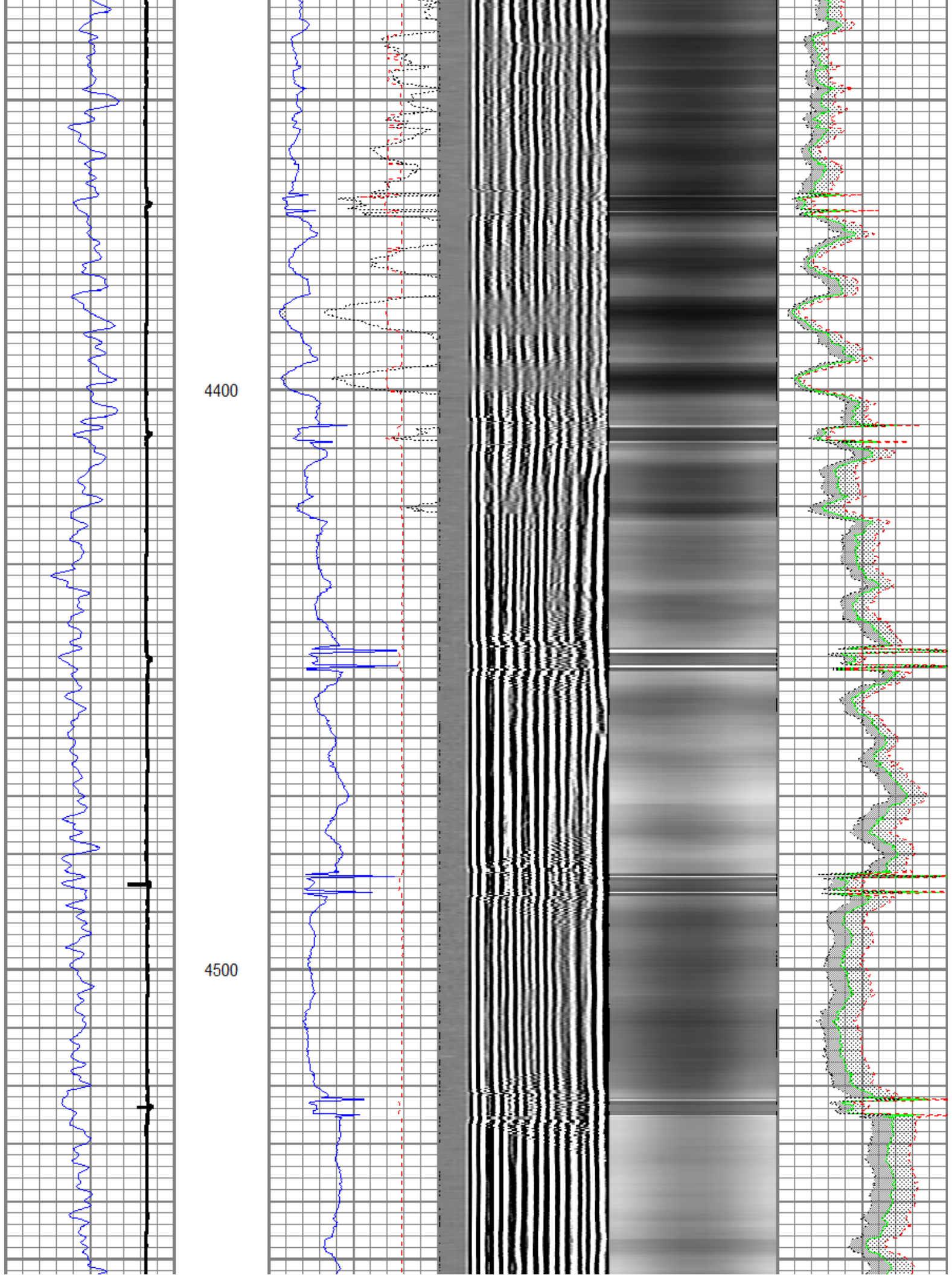


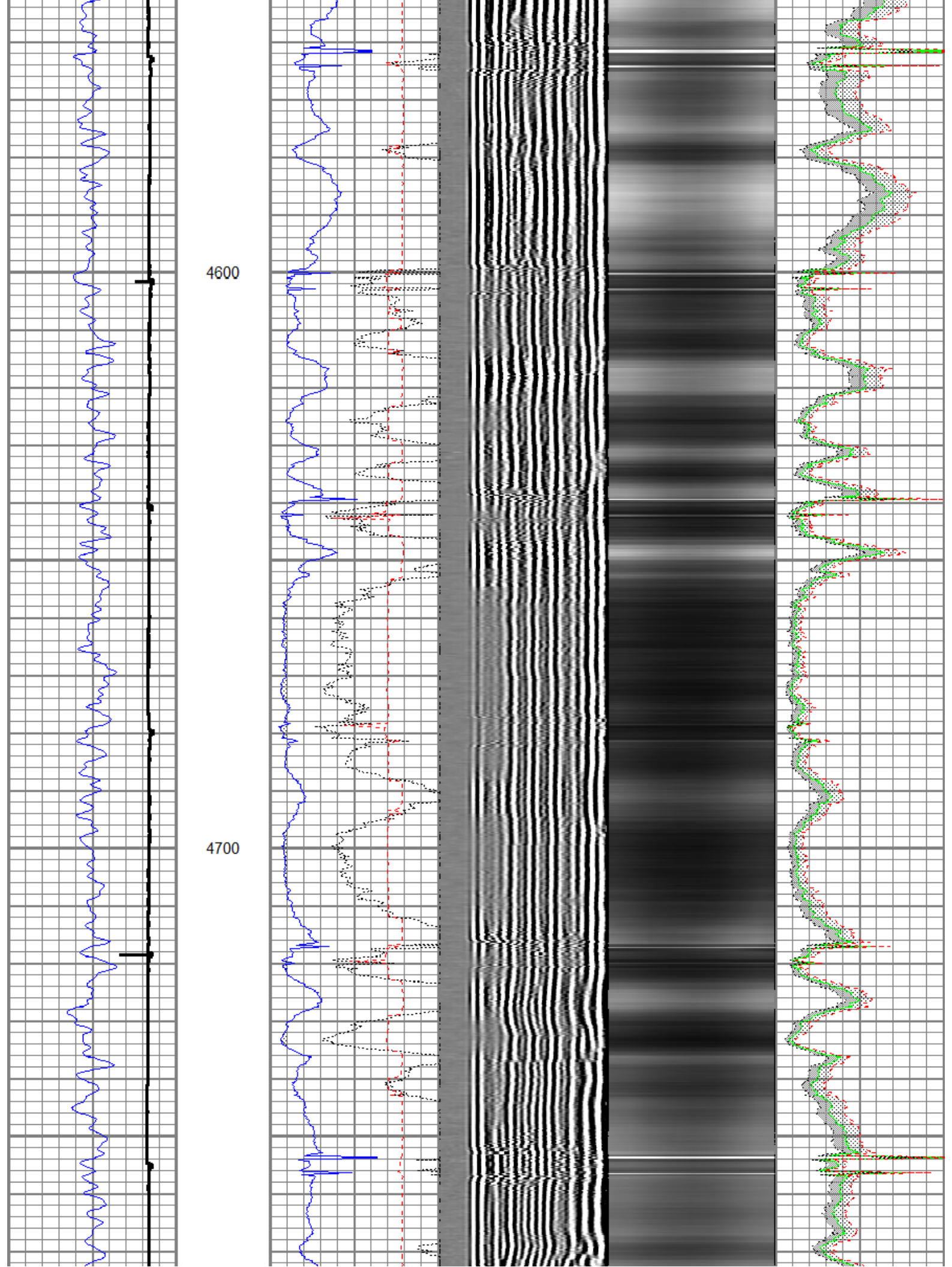


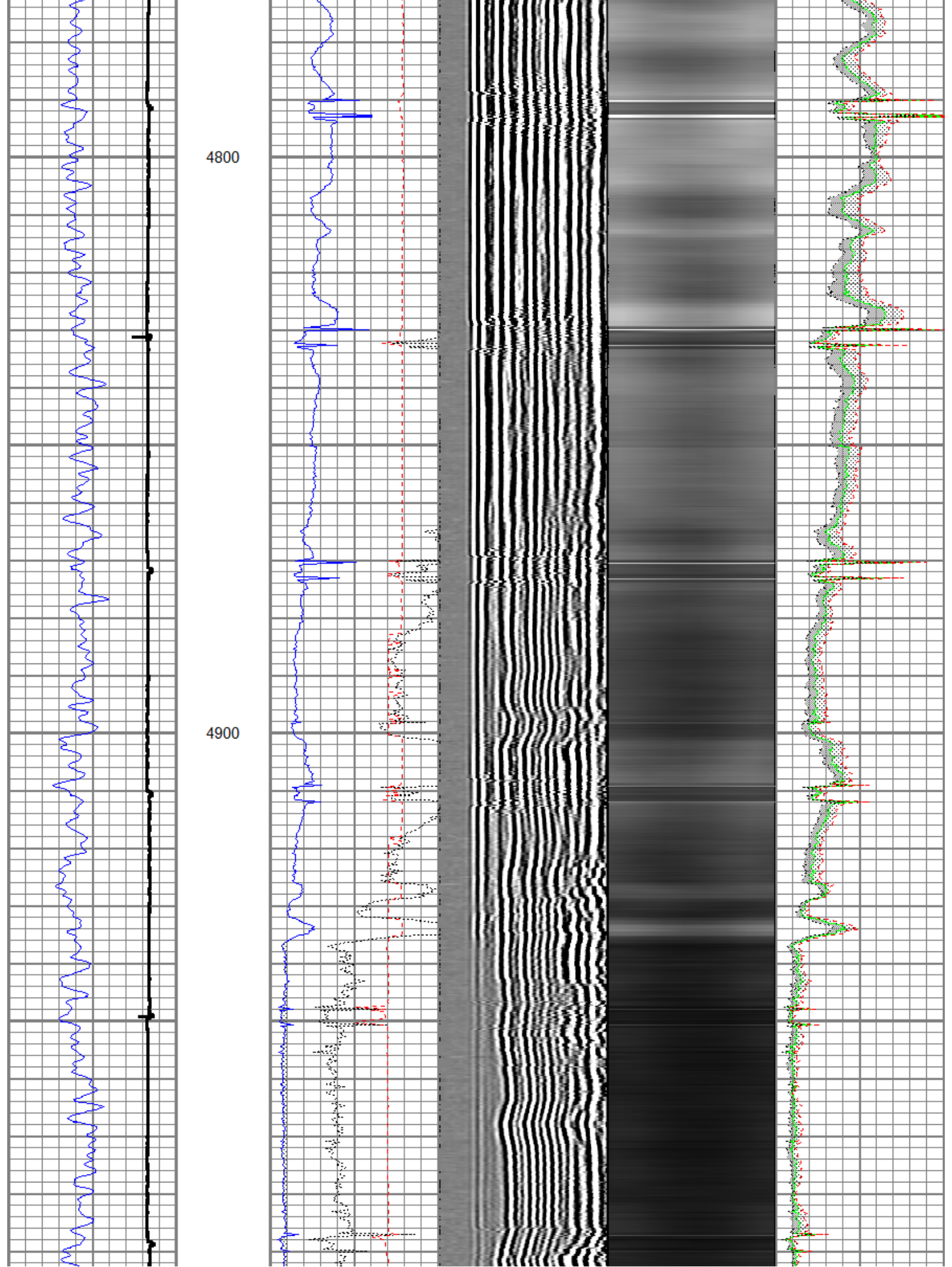


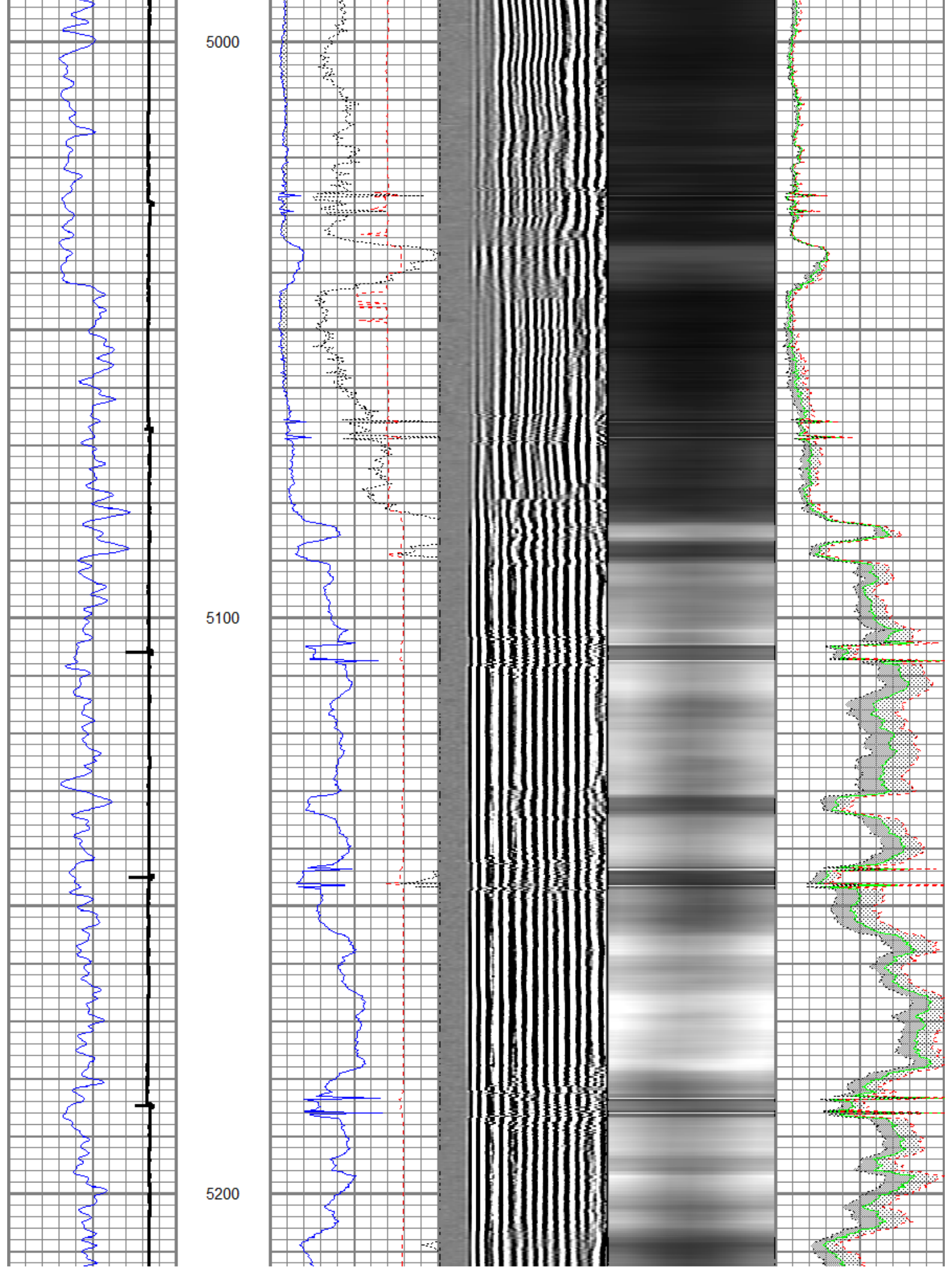


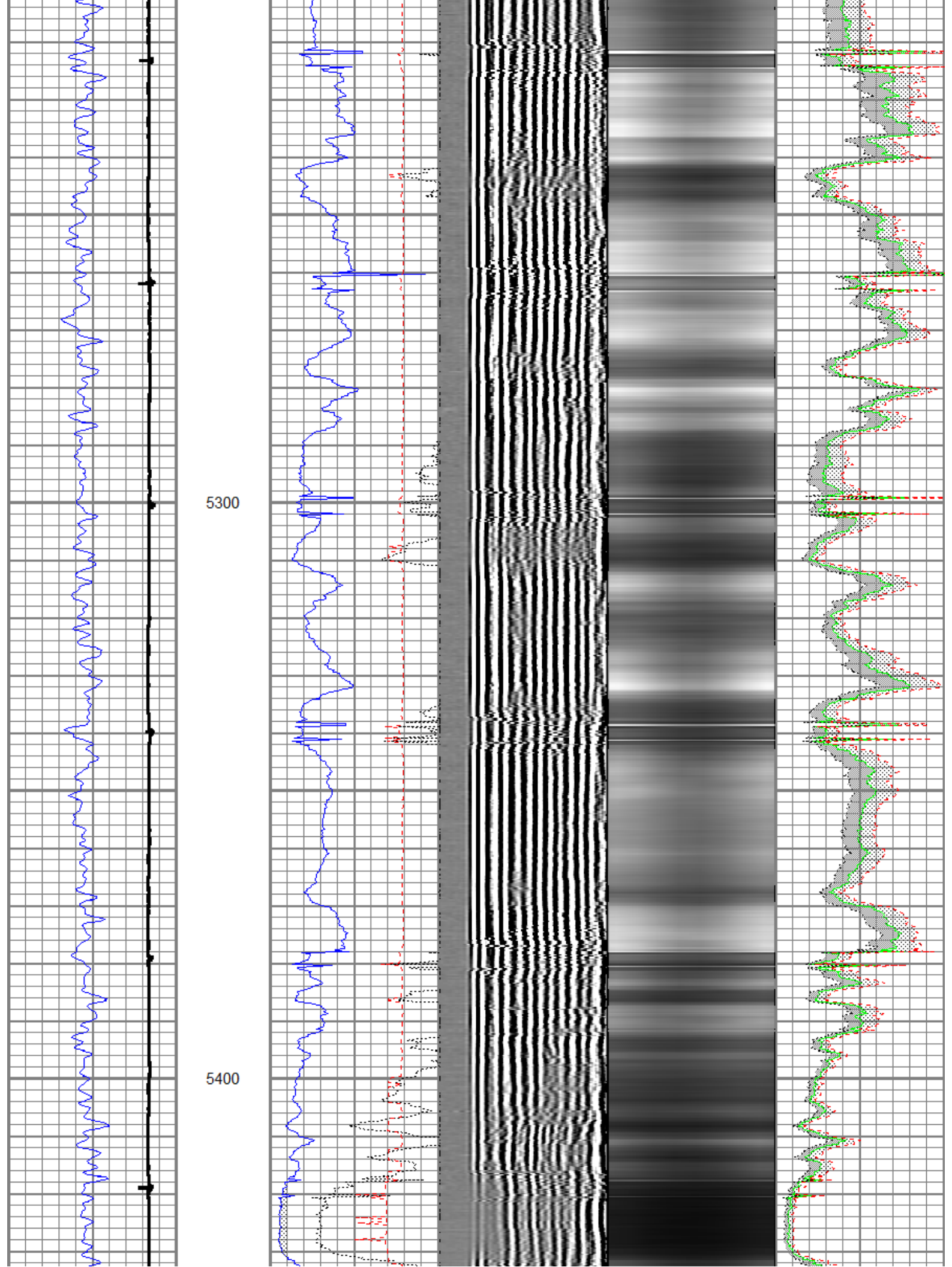


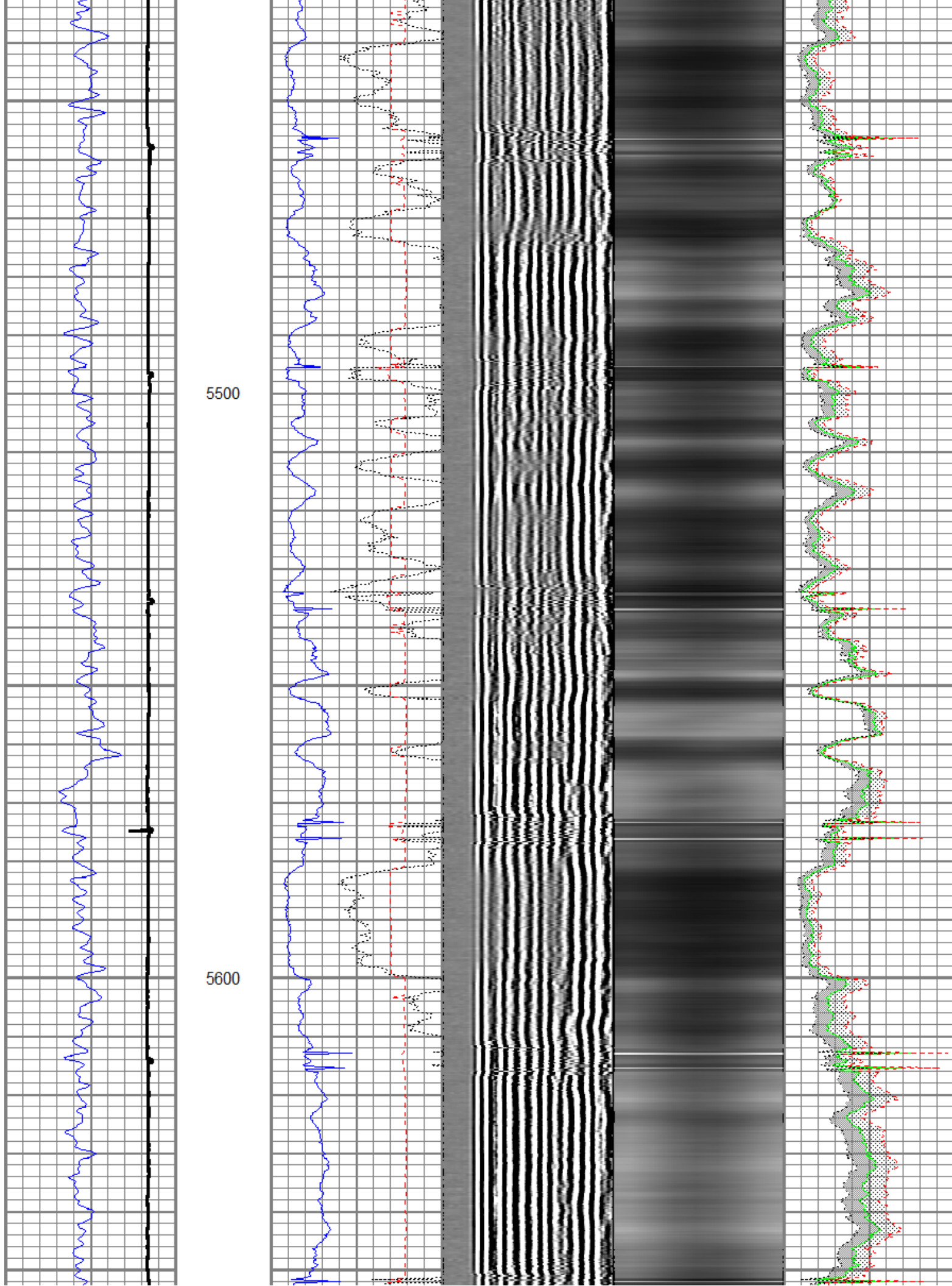


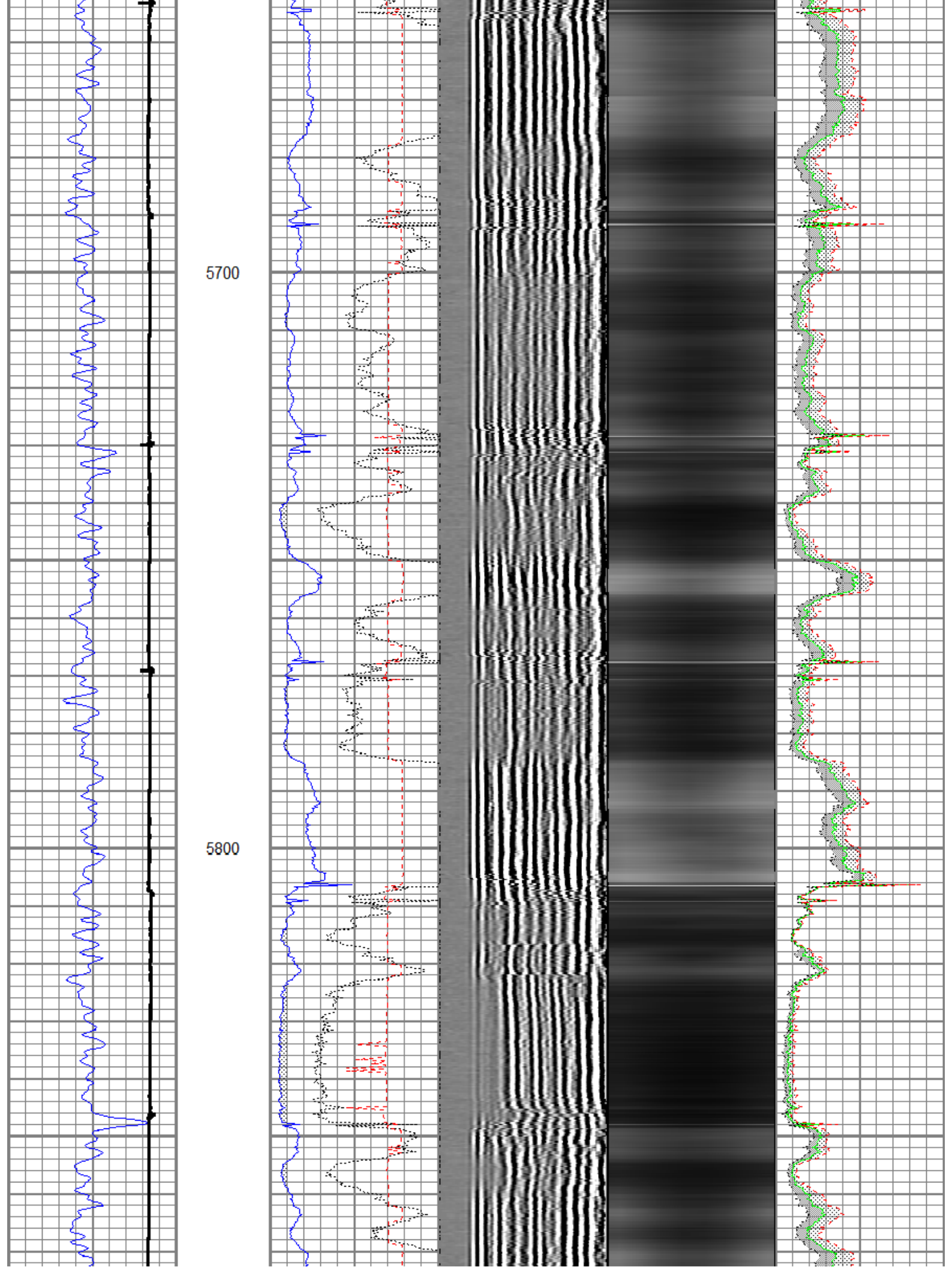


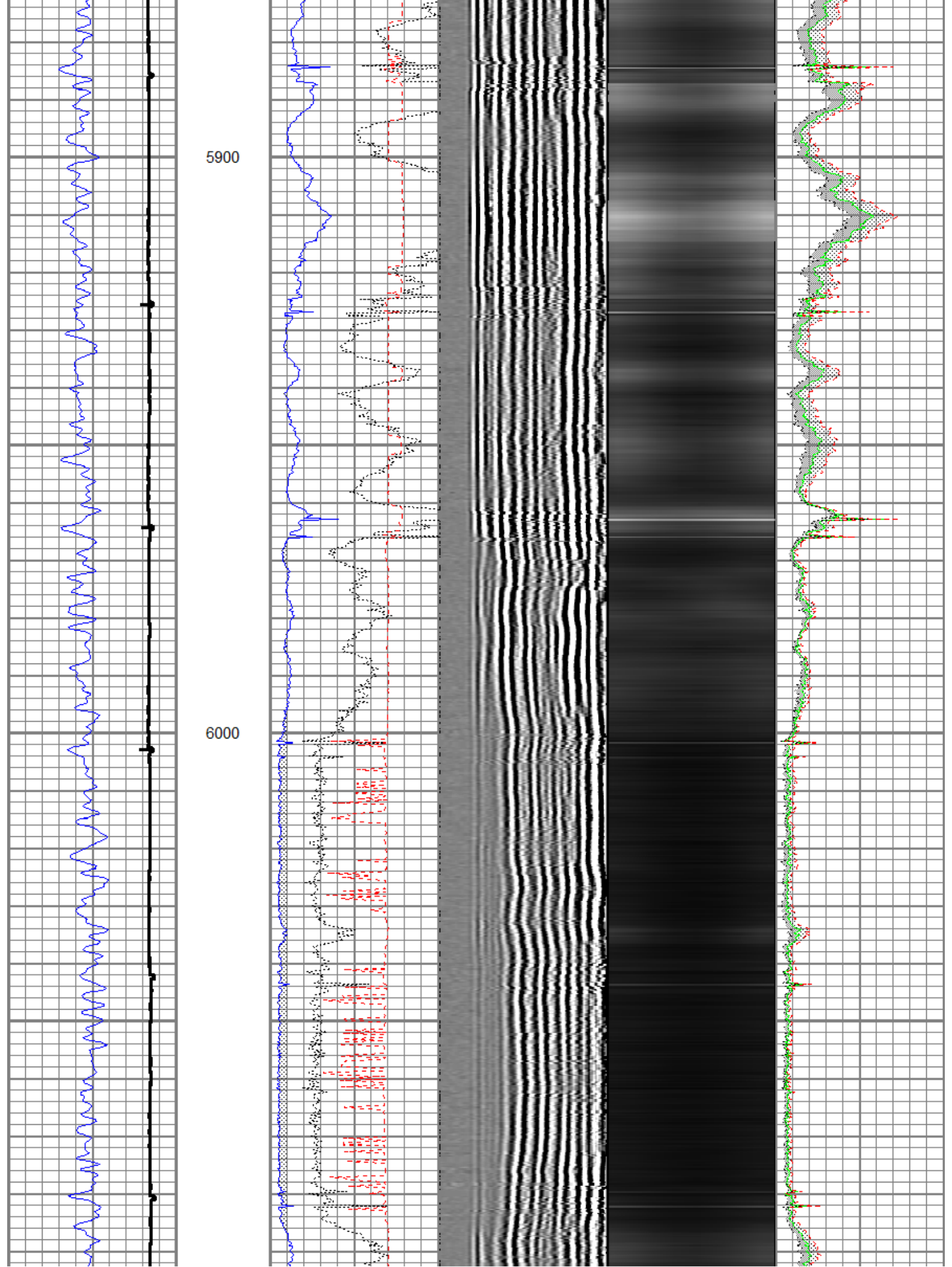


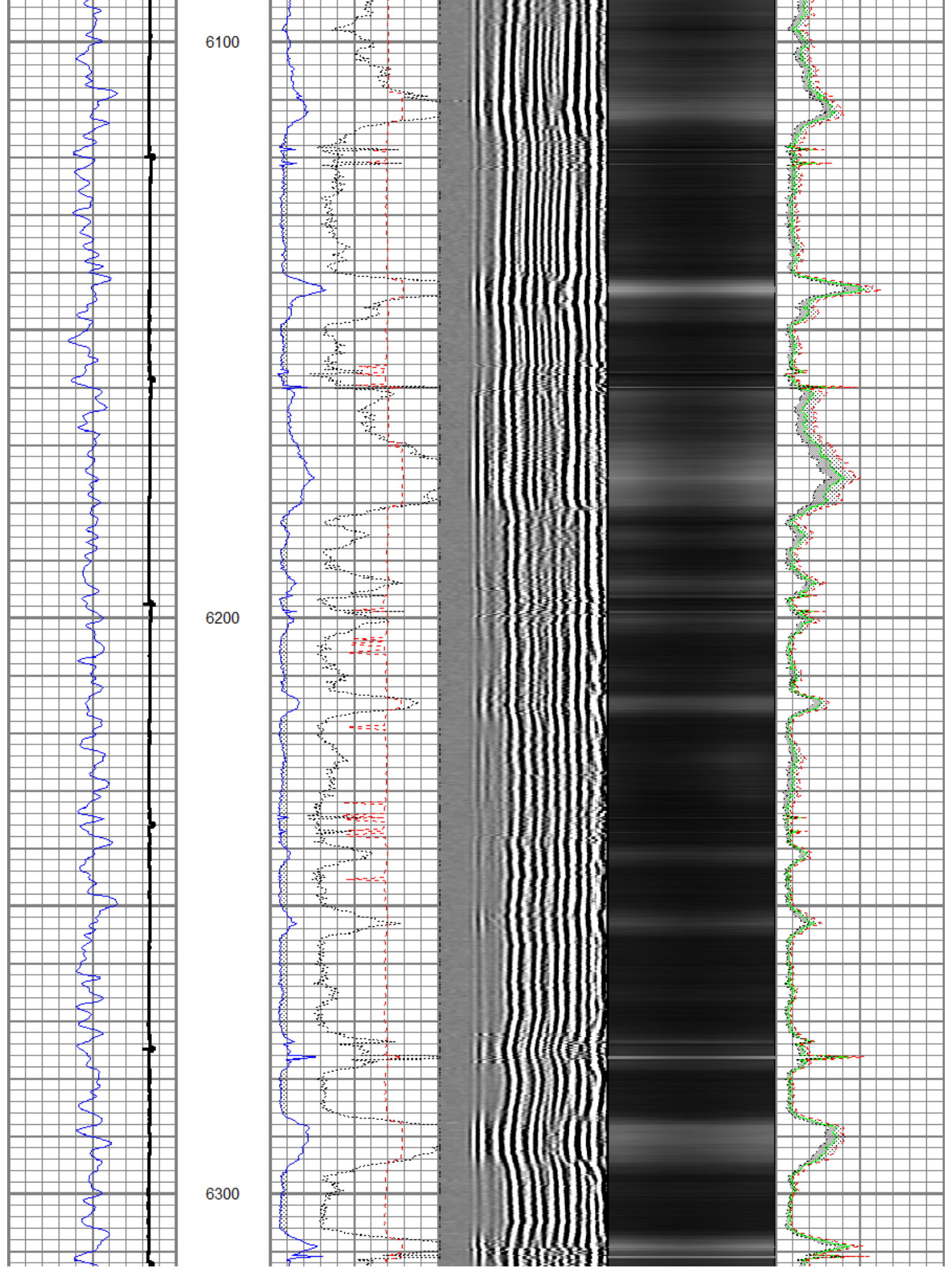


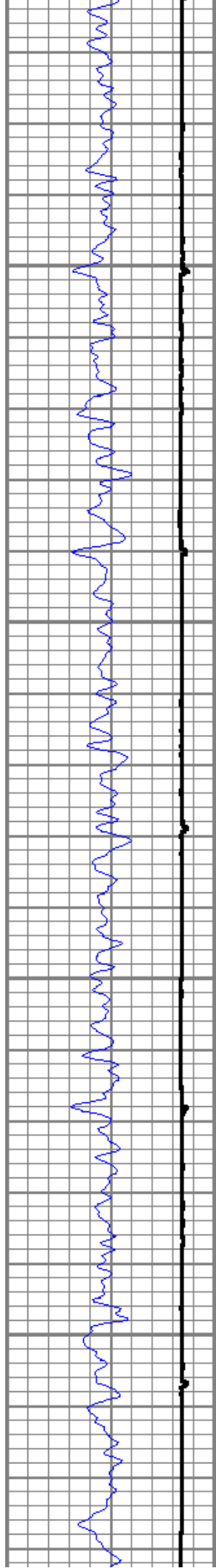






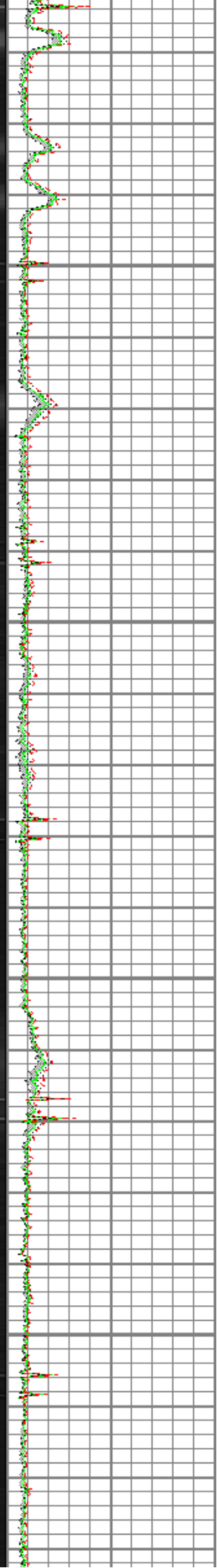
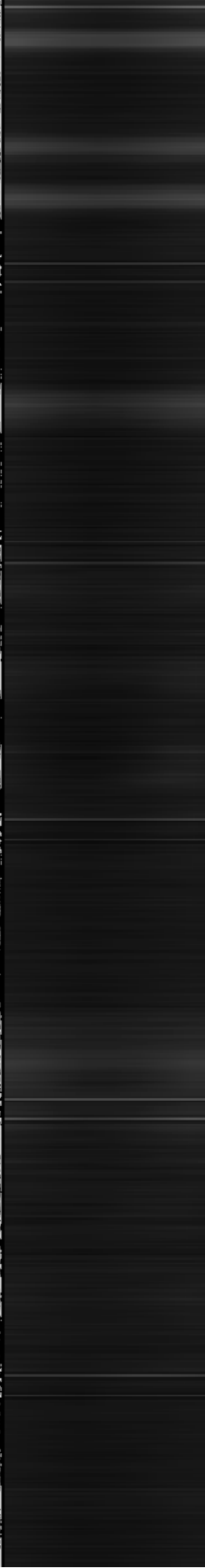
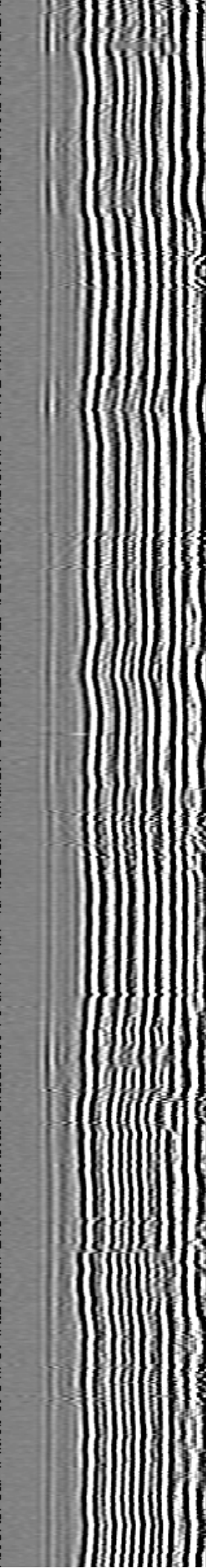
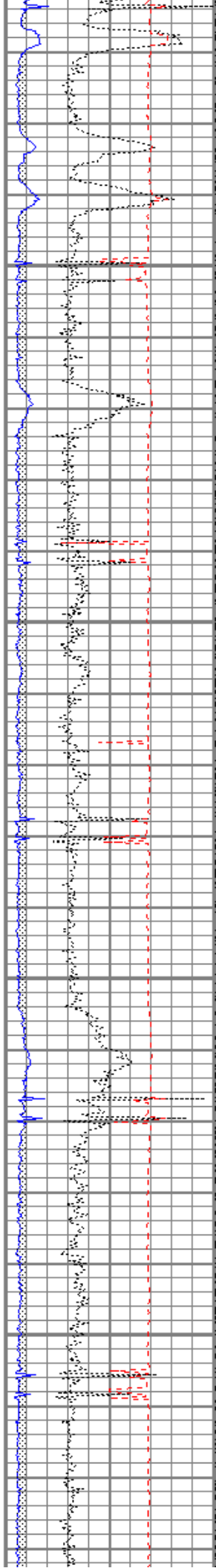


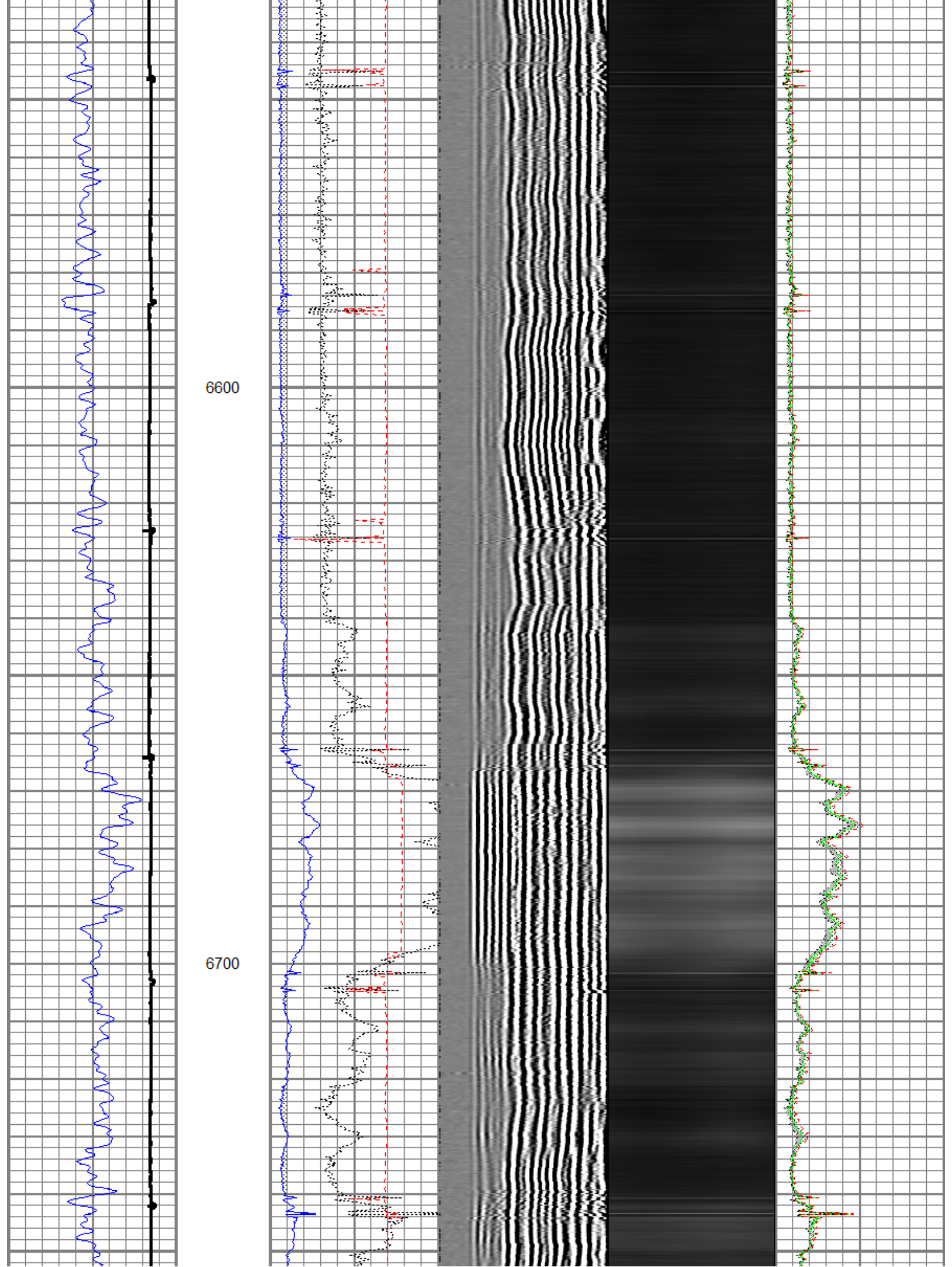


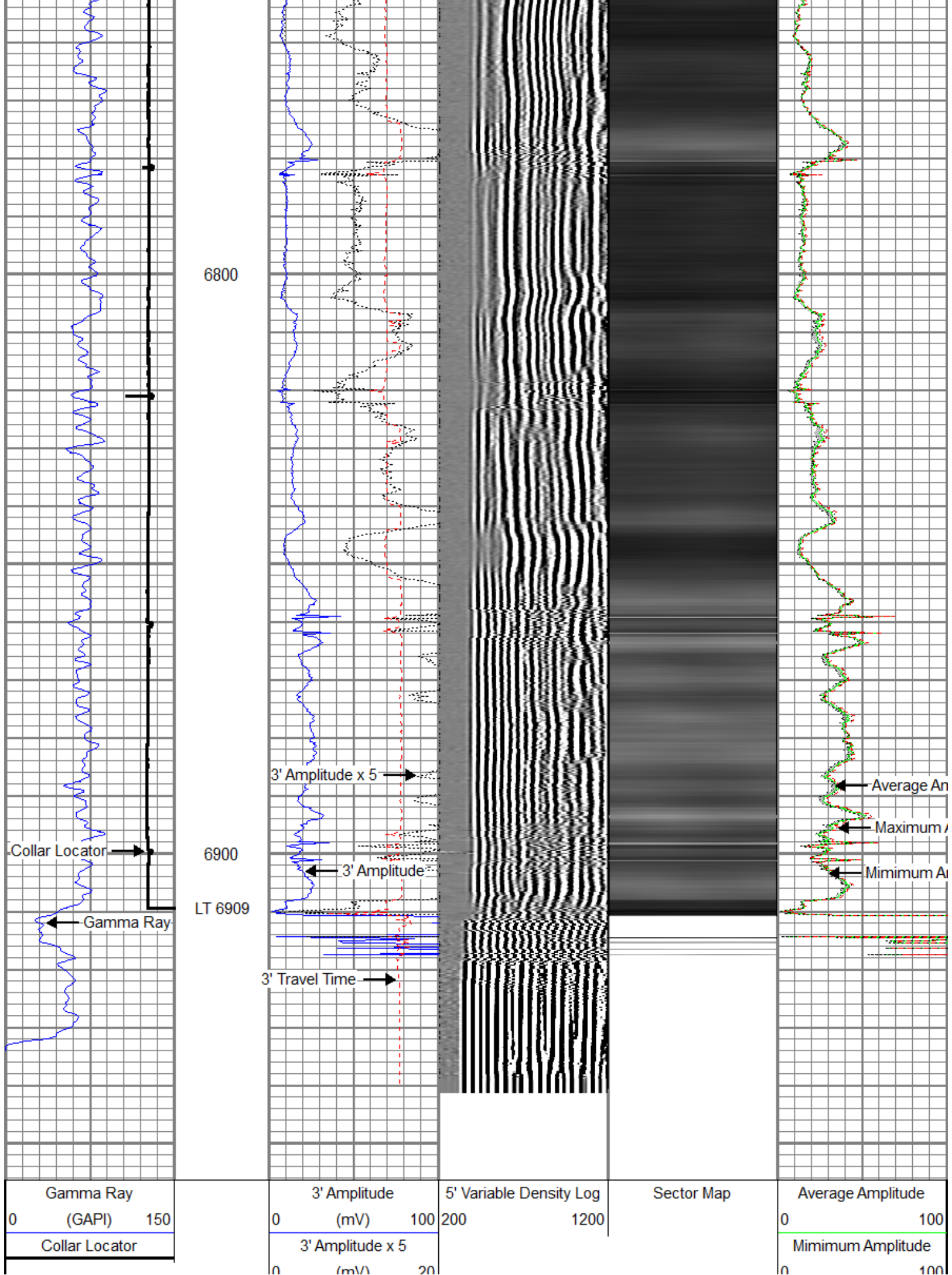


6400

6500







(mV)		
3' Travel Time		
650	(usec)	150

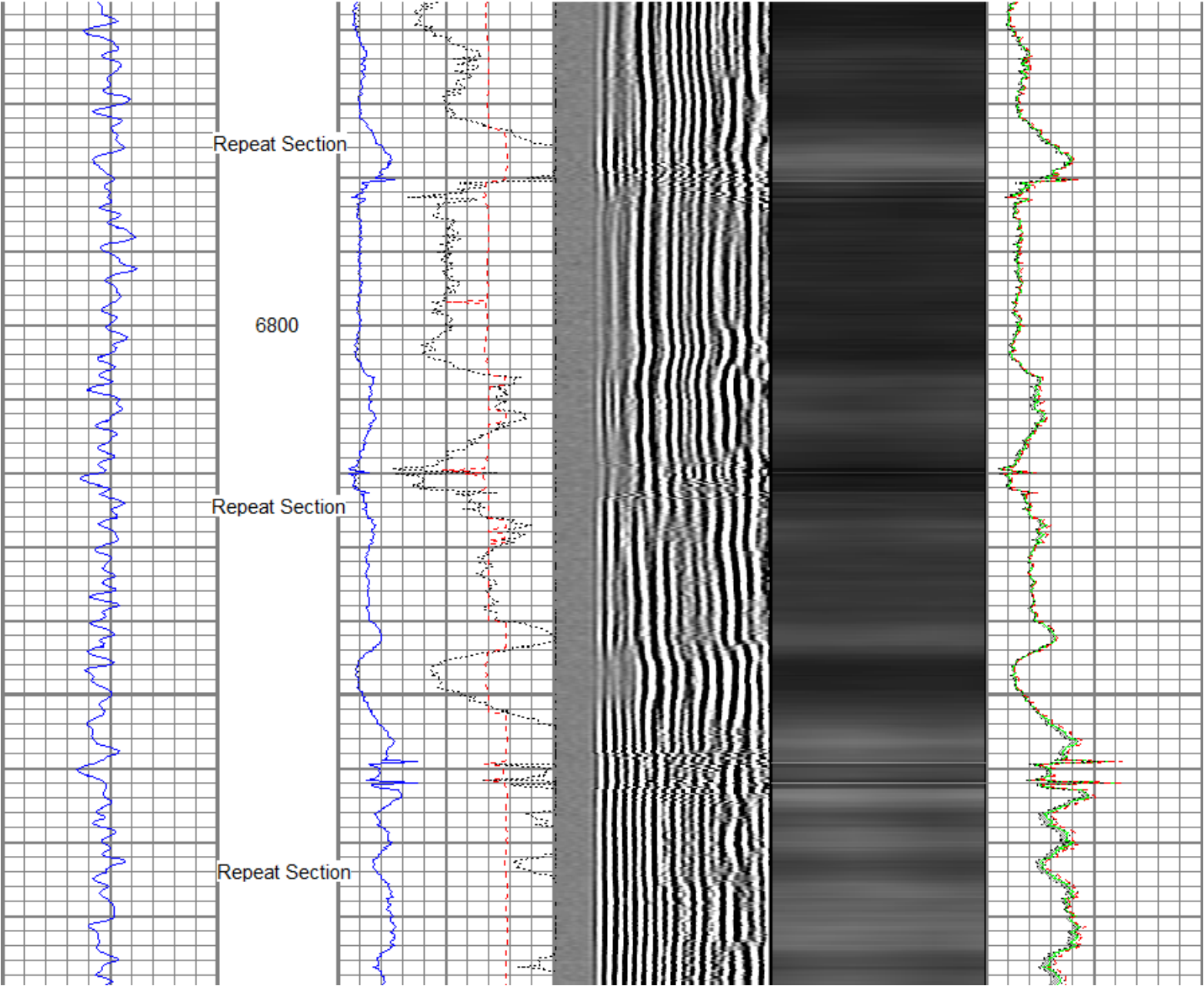
Maximum Amplitude	
0	100

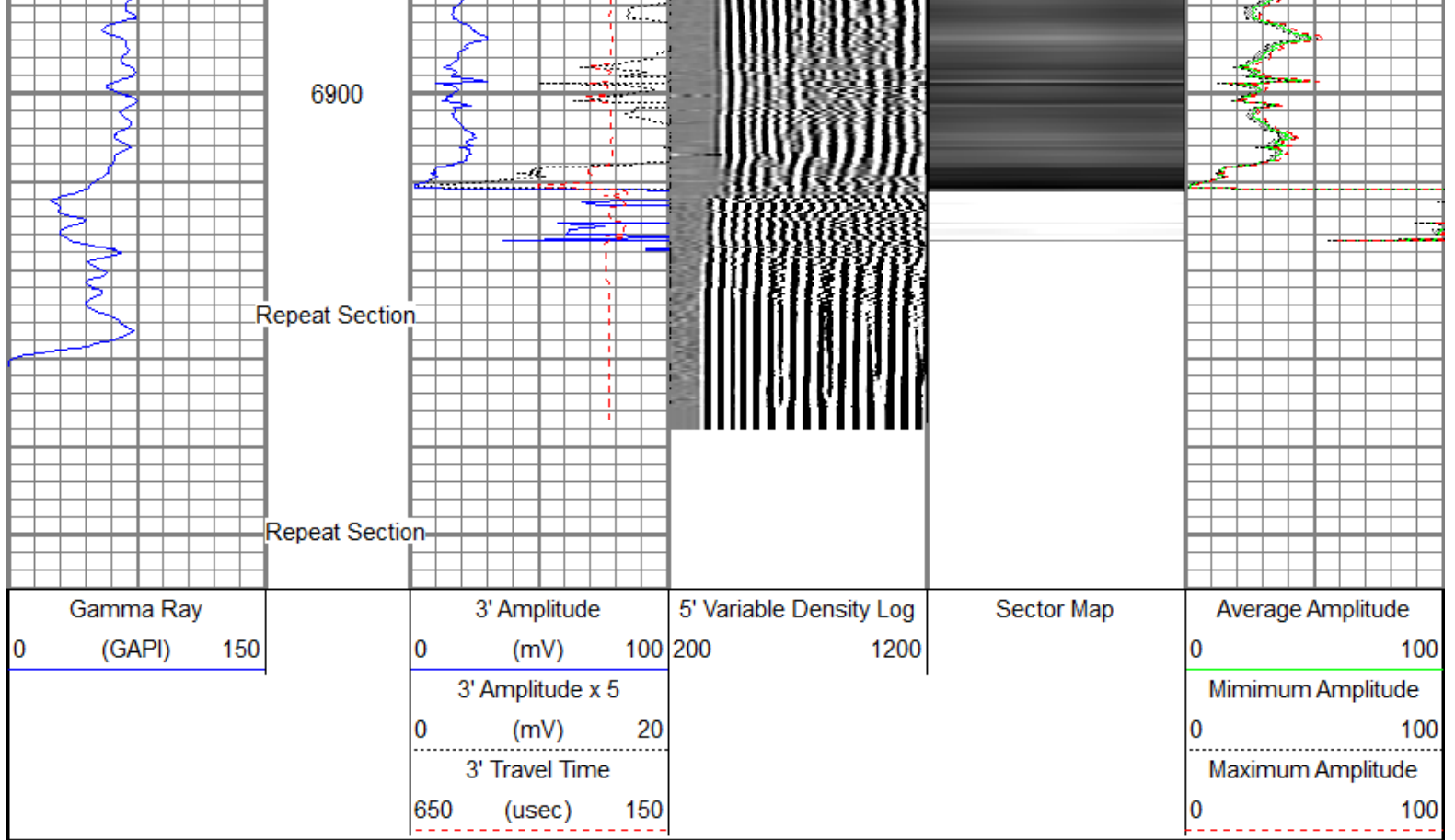


Repeat Pass

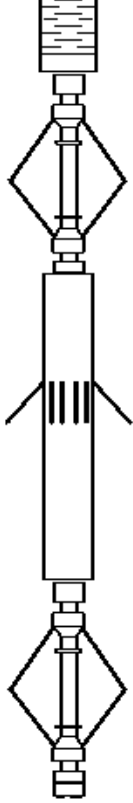
Database File: anadarko_hwy 160 38n-2hz_rcbl mit_05-mar-2014.db
 Dataset Pathname: pass5
 Presentation Format: rbt007
 Dataset Creation: Wed Mar 05 09:54:44 2014 by Log Sondex V7.03
 Charted by: Depth in Feet scaled 1:240

Gamma Ray			3' Amplitude		5' Variable Density Log		Sector Map		Average Amplitude	
0	(GAPI)	150	0	(mV)	100	200		1200	0	100
			3' Amplitude x 5						Minimum Amplitude	
			0	(mV)	20				0	100
			3' Travel Time						Maximum Amplitude	
			650	(usec)	150				0	100





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	23.67		AES 1-7/16" Cablehead	1.08	1.44	1.00
			AGS-001 (219135) Adaptor GO to Sondex	0.21	1.69	1.00
			XTU-002 (219135) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			PGR-020 (10013899) Production Gamma Ray	1.93	1.69	9.50
			PRC-057 (1037) 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
WVFS1	15.85		RBT-004 (10013454in7) Radial Bond Tool (UW 3 1/8)	9.47	3.13	140.00
WVFS2	15.85					
WVFS3	15.85					
WVFS4	15.85					
WVFS5	15.85					
WVFS6	15.85					
WVFS7	15.85					

WVFS8	15.85		PRC-057 (1102) 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
CBLTEMP	15.85					
CBLROT	15.85					
WVF5FT	14.85					
MIT	5.41		MIT-027 (218949) 40 Multifinger Imaging Tool	4.54	2.75	61.10
			PRC-057 (1038) 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
			BUL-006 (219229) Bullnose Terminator	0.22	1.69	1.20
Dataset: anadarko_hwy 160 38n-2hz_rcbl mit_05-mar-2014.db: field/well/run1/pass6 Total Length: 27.97 ft Total Weight: 316.30 lb O.D. 3.13 in						

Calibration Report			
Database File:	anadarko_hwy 160 38n-2hz_rcbl mit_05-mar-2014.db		
Dataset Pathname:	cal		
Dataset Creation:	Wed Mar 05 12:17:02 2014 by Log Sondex V7.03		
Multi-finger Imaging Tool Calibration Report			
Serial Number:		218949	
Number of Fingers:		40	
Tool Model:		027	
Inclinometer Calibration Report			
Performed:		Mon, Oct, 06 14:03:04 2008	
Calibration Angle:		45	
		Inc X	Inc Y
Vertical:		1996	1984
Finger 1 up:		1780	1738
Finger 31 up:		2235	1756
Finger 21 up:		2216	2228
Finger 11 up:		1736	2196
Sensitivity ratio:	1.0062		
X-axis angle:	131.534		
Deviation const.:	331.322		

Finger Calibration Report							
Performed:				Wed Mar 05 09:11:44 2014			
Ring size:	4	5	6	7			
(in)							
	Sens	Sens	Sens				
Finger 01:	1413	280.0	1693	246.0	1939	289.0	2228
Finger 02:	1391	291.0	1682	252.0	1934	293.0	2227
Finger 03:	1371	296.0	1667	258.0	1925	305.0	2230
Finger 04:	1346	300.0	1646	265.0	1911	312.0	2223
Finger 05:	1362	306.0	1668	268.0	1936	313.0	2249
Finger 06:	1361	304.0	1665	270.0	1935	307.0	2242

Finger 07:	1412	290.0	1702	261.0	1963	297.0	2260
Finger 08:	1374	311.0	1685	281.0	1966	314.0	2280
Finger 09:	1440	291.0	1731	268.0	1999	294.0	2293
Finger 10:	1408	298.0	1706	280.0	1986	296.0	2282
Finger 11:	1425	299.0	1724	285.0	2009	299.0	2308
Finger 12:	1439	298.0	1737	290.0	2027	296.0	2323
Finger 13:	1447	279.0	1726	279.0	2005	281.0	2286
Finger 14:	1391	303.0	1694	308.0	2002	301.0	2303
Finger 15:	1387	300.0	1687	311.0	1998	297.0	2295
Finger 16:	1352	301.0	1653	322.0	1975	303.0	2278
Finger 17:	1407	276.0	1683	298.0	1981	274.0	2255
Finger 18:	1415	282.0	1697	313.0	2010	287.0	2297
Finger 19:	1373	291.0	1664	321.0	1985	289.0	2274
Finger 20:	1391	274.0	1665	310.0	1975	273.0	2248
Finger 21:	1349	284.0	1633	328.0	1961	291.0	2252
Finger 22:	1370	267.0	1637	311.0	1948	277.0	2225
Finger 23:	1424	252.0	1676	286.0	1962	253.0	2215
Finger 24:	1340	273.0	1613	317.0	1930	287.0	2217
Finger 25:	1374	258.0	1632	302.0	1934	275.0	2209
Finger 26:	1326	276.0	1602	316.0	1918	290.0	2208
Finger 27:	1379	258.0	1637	292.0	1929	272.0	2201
Finger 28:	1389	251.0	1640	283.0	1923	266.0	2189
Finger 29:	1369	264.0	1633	291.0	1924	279.0	2203
Finger 30:	1086	262.0	1348	301.0	1649	308.0	1957
Finger 31:	1322	244.0	1566	261.0	1827	263.0	2090
Finger 32:	1321	273.0	1594	287.0	1881	297.0	2178
Finger 33:	1262	288.0	1550	304.0	1854	321.0	2175
Finger 34:	1405	259.0	1664	250.0	1914	261.0	2175
Finger 35:	1385	267.0	1652	259.0	1911	280.0	2191
Finger 36:	1379	274.0	1653	260.0	1913	288.0	2201
Finger 37:	1388	269.0	1657	252.0	1909	287.0	2196
Finger 38:	1355	277.0	1632	257.0	1889	296.0	2185
Finger 39:	1355	284.0	1639	257.0	1896	303.0	2199
Finger 40:	1395	280.0	1675	249.0	1924	291.0	2215

Post Survey Calibration Check

Performed:

Wed Mar 05 12:16:46 2014

Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	4.046	0.023	5.016	0.008	6.001	0.000	7.003	0.002
Finger 02:	4.045	0.023	5.001	0.001	6.004	0.002	7.004	0.002
Finger 03:	4.051	0.026	4.997	-0.001	6.008	0.004	7.004	0.002
Finger 04:	4.054	0.027	5.000	0.000	6.006	0.003	7.001	0.000
Finger 05:	4.055	0.027	4.997	-0.001	6.005	0.002	7.005	0.003
Finger 06:	4.063	0.032	5.001	0.001	6.005	0.003	7.007	0.003
Finger 07:	4.048	0.024	5.003	0.001	6.004	0.002	7.002	0.001
Finger 08:	4.050	0.025	4.996	-0.002	6.013	0.006	7.004	0.002
Finger 09:	4.050	0.025	5.002	0.001	6.005	0.003	6.995	-0.003
Finger 10:	4.045	0.023	5.012	0.006	6.008	0.004	7.007	0.004
Finger 11:	4.056	0.028	5.015	0.007	6.006	0.003	6.999	-0.000
Finger 12:	4.053	0.027	5.012	0.006	5.999	-0.001	7.018	0.009
Finger 13:	4.044	0.022	5.015	0.007	6.005	0.002	6.993	-0.003
Finger 14:	4.046	0.023	5.018	0.009	6.015	0.007	6.993	-0.004
Finger 15:	4.045	0.023	5.022	0.011	6.003	0.001	6.994	-0.003
Finger 16:	4.047	0.023	5.027	0.014	5.998	-0.001	6.997	-0.002
Finger 17:	4.058	0.029	5.023	0.011	6.002	0.001	6.996	-0.002
Finger 18:	4.052	0.026	5.020	0.010	6.005	0.002	7.001	0.000
Finger 19:	4.053	0.026	5.017	0.008	6.001	0.000	7.005	0.003
Finger 20:	4.044	0.022	5.015	0.007	6.001	0.000	7.004	0.002
Finger 21:	4.047	0.024	5.014	0.007	6.002	0.001	7.004	0.002
Finger 22:	4.045	0.022	5.002	0.001	6.007	0.004	7.014	0.007
Finger 23:	4.062	0.031	5.006	0.003	6.020	0.010	7.015	0.008
Finger 24:	4.049	0.025	4.997	-0.002	6.003	0.001	7.002	0.001
Finger 25:	4.046	0.023	4.995	-0.003	5.998	-0.001	7.000	0.000
Finger 26:	4.061	0.030	5.010	0.005	6.017	0.009	7.010	0.005
Finger 27:	4.048	0.024	5.000	-0.000	6.007	0.003	7.003	0.001
Finger 28:	4.058	0.029	4.999	-0.001	6.007	0.004	7.000	-0.000
Finger 29:	4.049	0.025	4.997	-0.001	6.005	0.003	6.993	-0.003
Finger 30:	4.046	0.023	5.003	0.002	6.007	0.004	7.003	0.001
Finger 31:	4.056	0.028	5.012	0.006	6.006	0.003	6.997	-0.002
Finger 32:	4.046	0.023	5.016	0.005	6.006	0.003	6.999	-0.001

Finger 32:	4.048	0.024	5.010	0.005	6.002	0.001	6.993	-0.004
Finger 33:	4.046	0.023	5.011	0.006	5.996	-0.002	6.999	-0.000
Finger 34:	4.048	0.024	5.032	0.016	6.009	0.004	7.002	0.001
Finger 35:	4.047	0.024	5.030	0.015	6.002	0.001	7.008	0.004
Finger 36:	4.049	0.025	5.022	0.011	6.003	0.001	7.000	0.000
Finger 37:	4.053	0.027	5.023	0.011	6.005	0.003	7.001	0.001
Finger 38:	4.052	0.026	5.024	0.012	6.001	0.001	7.002	0.001
Finger 39:	4.047	0.023	5.013	0.006	6.006	0.003	7.005	0.003
Finger 40:	4.051	0.025	5.015	0.008	6.011	0.006	7.005	0.002
Average:	4.050	0.025	5.011	0.005	6.005	0.003	7.002	0.001

Segmented Cement Bond Log Calibration Report

Serial Number: 10013454in7
Tool Model: 004

Calibration Casing Diameter: 5.500 in
Calibration Depth: 318.224 ft

Master Calibration, performed Wed Mar 05 09:22:54 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.002	0.547	0.800	62.200	111.790	1.073
5FT	-0.004	0.632	0.800	62.200	96.565	1.147
S1	-0.002	0.549	0.000	100.000	181.452	0.350
S2	-0.004	0.564	0.000	100.000	176.017	0.649
S3	-0.003	0.564	0.000	100.000	176.503	0.491
S4	-0.004	0.552	0.000	100.000	180.068	0.659
S5	-0.002	0.533	0.000	100.000	186.798	0.383
S6	-0.004	0.523	0.000	100.000	189.986	0.696
S7	-0.002	0.517	0.000	100.000	192.477	0.470
S8	-0.003	0.530	0.000	100.000	187.546	0.517

Gamma Ray Calibration Report

Serial Number: 10013899
Tool Model: 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 Highway 160 38N-2HZ
Field Wattenberg
County Weld
State Colorado