



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.
Well Henrickson Federal 35N-18HZ
Field Wattenberg
County Weld
State Colorado

Company Kerr-McGee Oil & Gas Onshore, L.P.
Well Henrickson Federal 35N-18HZ
Field Wattenberg
County Weld State Colorado

Location:

API #:

SHL: 1825' FSL & 2078' FWL NE/SW

SEC 7 TWP 3N RGE 66W

Permanent Datum Ground Level Elevation 4794
Log Measured From Kelly Bushing (16 FT)
Drilling Measured From Kelly Bushing

Other Services
Gauge Ring

Elevation
K.B. 4810
D.F. 4809
G.L. 4794

Date 16-OCT-2013

Run Number ONE

Depth Driller 14,050'

Depth Logger 6601

Bottom Logged Interval 6598

Top Log Interval Surface

Open Hole Size 8,750"

Type Fluid Water

Density / Viscosity 8.34 lbm/gal

Max. Recorded Temp. 245 F

Estimated Cement Top 25'

Time Well Ready ROA

Time Logger on Bottom 12:15

Equipment Number HD-0301

Location Fort Lupton, CO.

Recorded By Greg Jackson

Witnessed By Rick Durnford

Borehole Record

Run Number Bit From To Size Weight

Casing Record

Surface Casing Size (in) Wgt (lbs/ft) Grade Top Bottom

Intermediate #1 9-5/8" 36 J-55 Surface 1018'

Intermediate #2 7" 26 P-110 Surface 7621'

Liner 4-1/2" 11.6 HCP-110 6555' 14,040'

<<< 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

Radial Cement Bond Log - Casing Inspection Log is first recorded log in hole.
Adjusted -28' for liner top at 6555" with 16' KB
RCBL-CIL ran at 2200 PSI surface induced pressure.
Estimated Cement Top recorded at 25'

Thank you for choosing FMC Technologies Completion Services!!

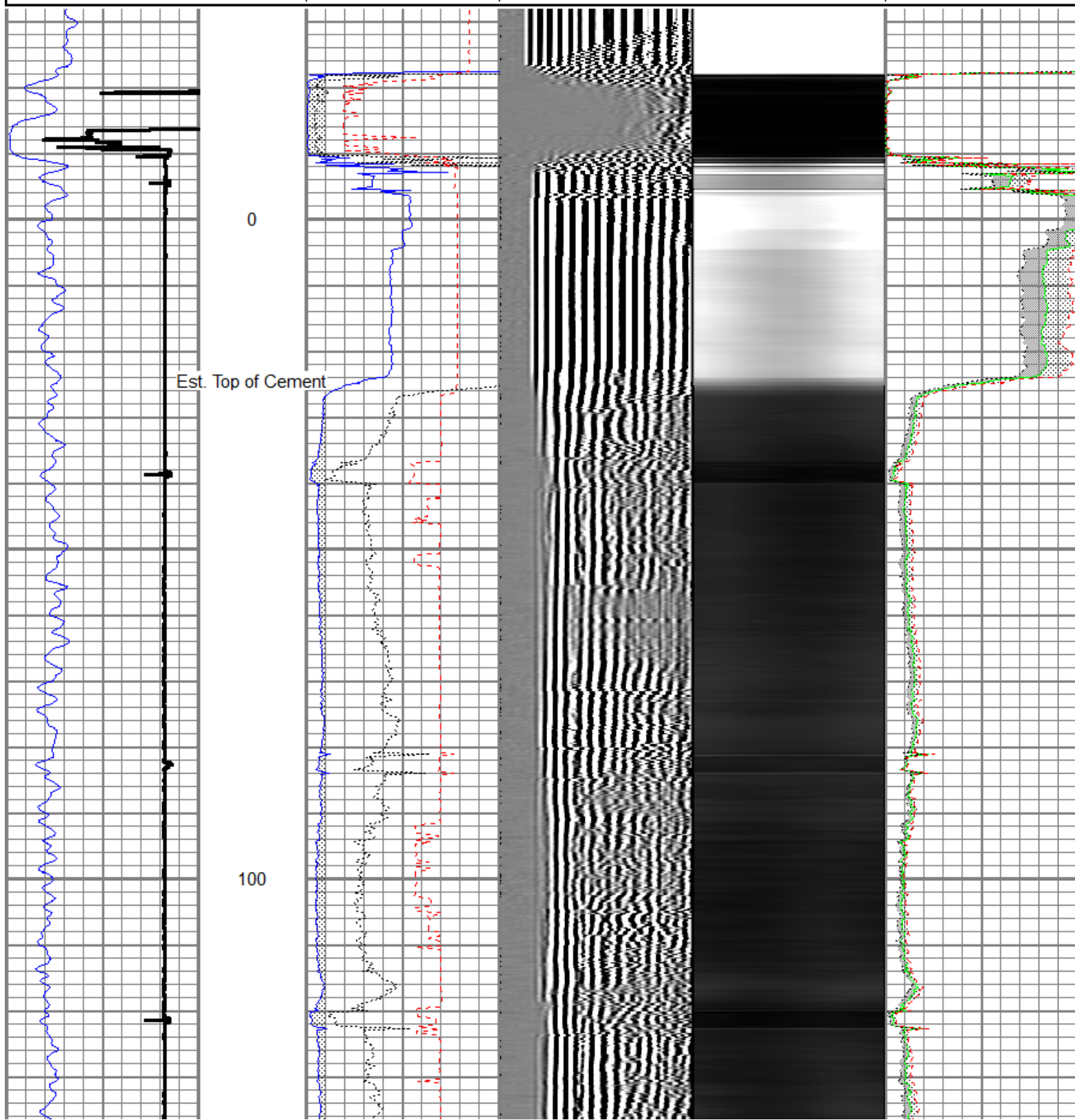


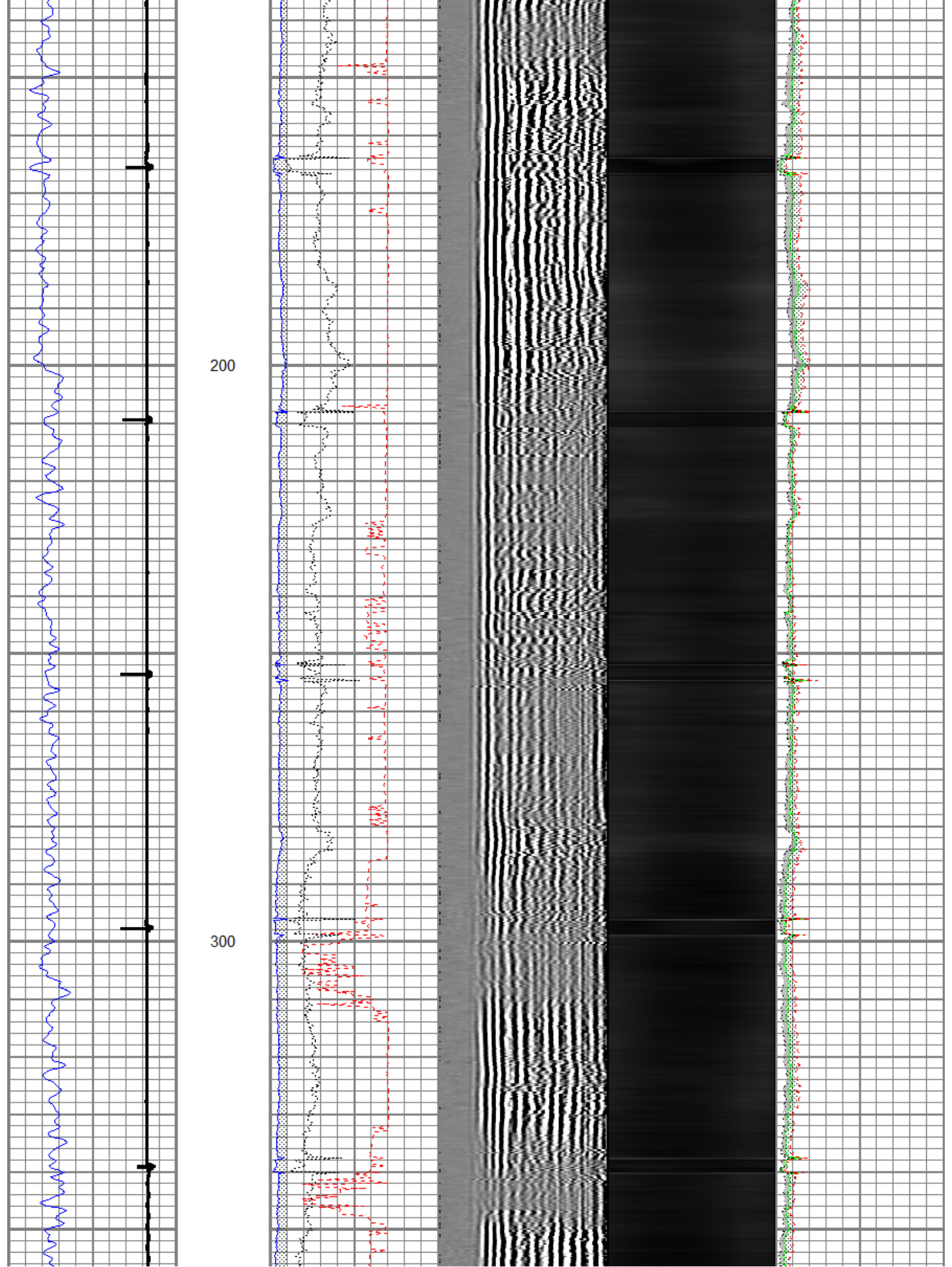
Main Pass

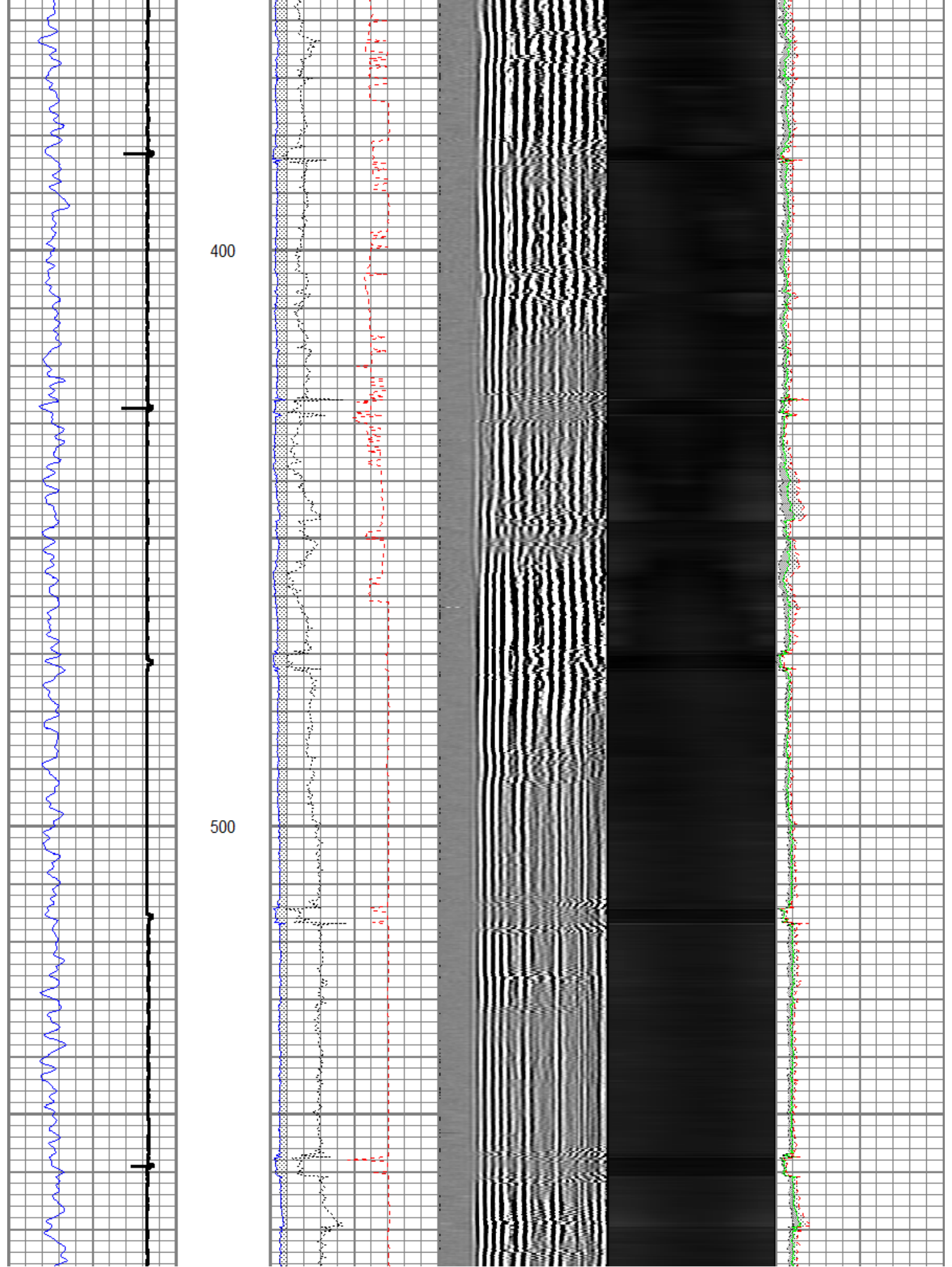
Logged with 2200 PSI Induced Surface Pressure

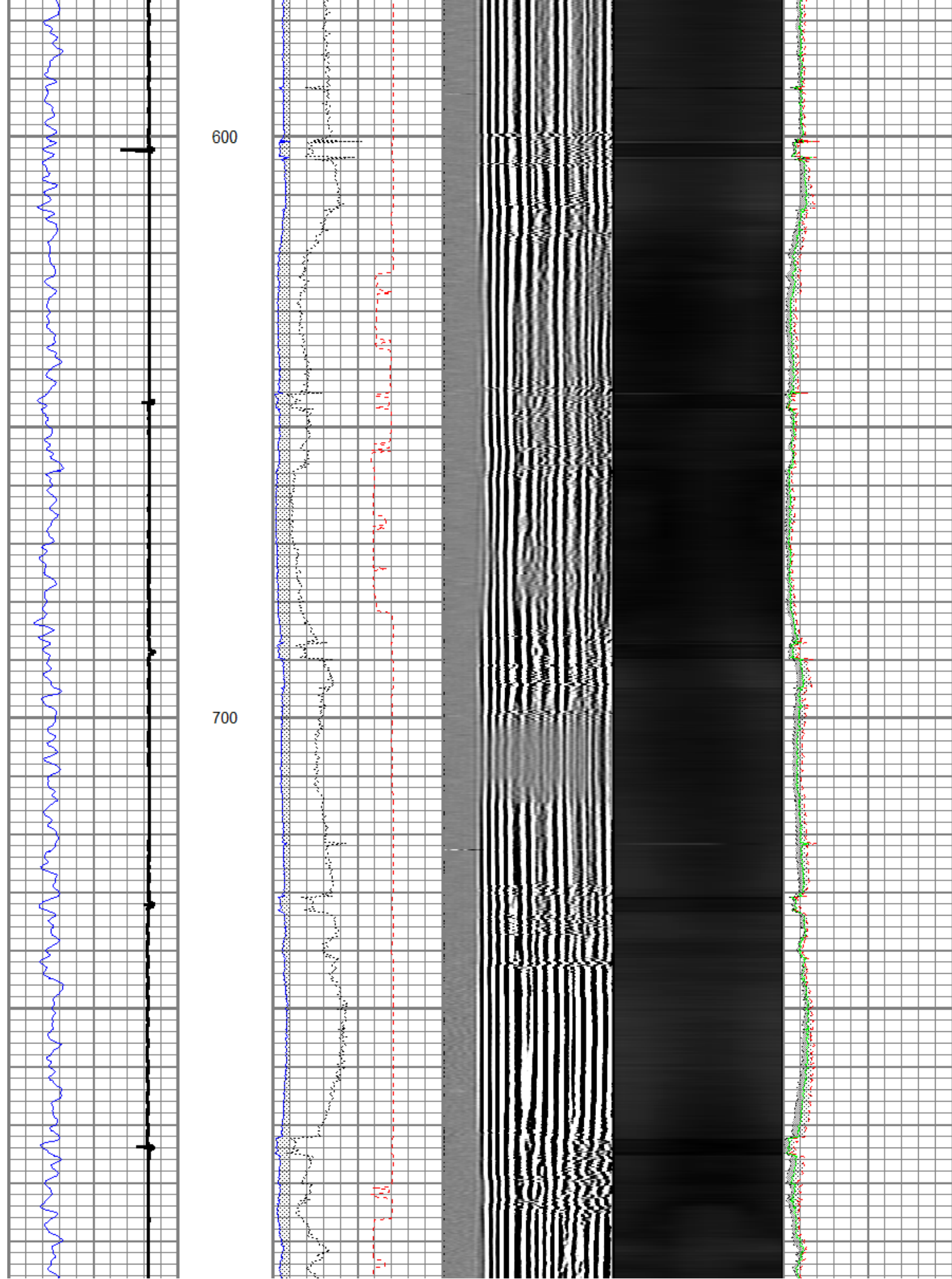
Database File: kmg_henrickson fed 35n-18hz_rbtmit.db
 Dataset Pathname: pass2
 Presentation Format: rbt007
 Dataset Creation: Wed Oct 16 12:27:22 2013 by Log Sondex V7.03
 Charted by: Depth in Feet scaled 1:240

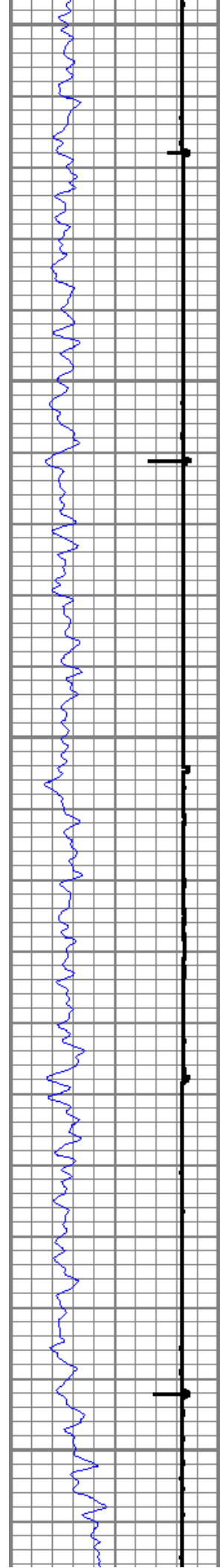
Gamma Ray			3' Amplitude		5' Variable Density Log		Sector Map		Average Amplitude	
0	(GAPI)	150	0	(mV)	100	200	1200		0	100
Collar Locator			3' Amplitude x 5						Minimum Amplitude	
			0	(mV)	20				0	100
			3' Travel Time						Maximum Amplitude	
			650	(usec)	150				0	100







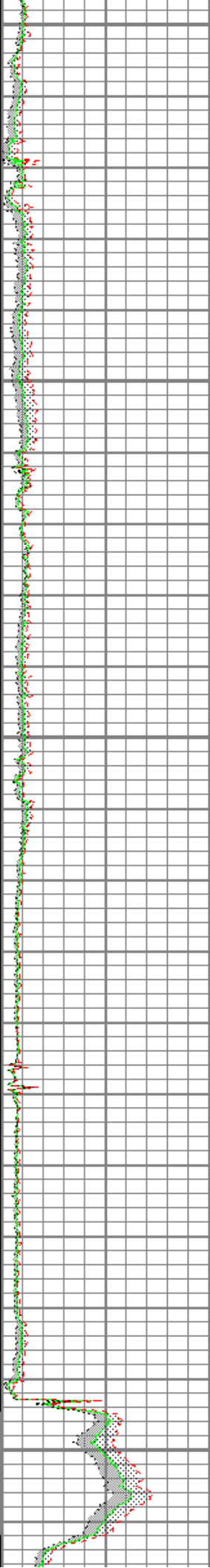
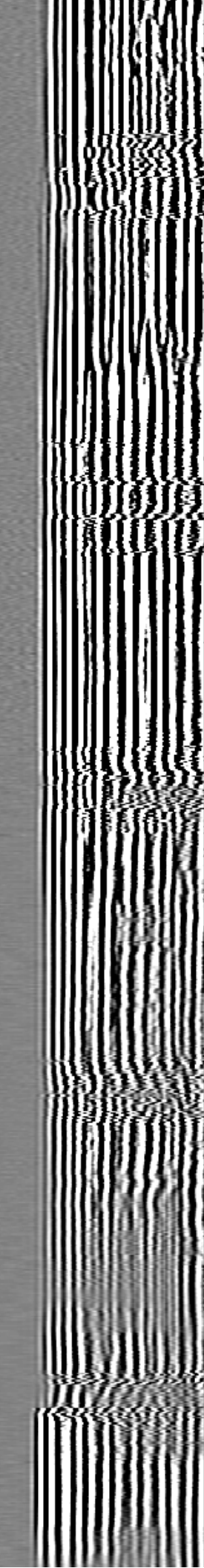
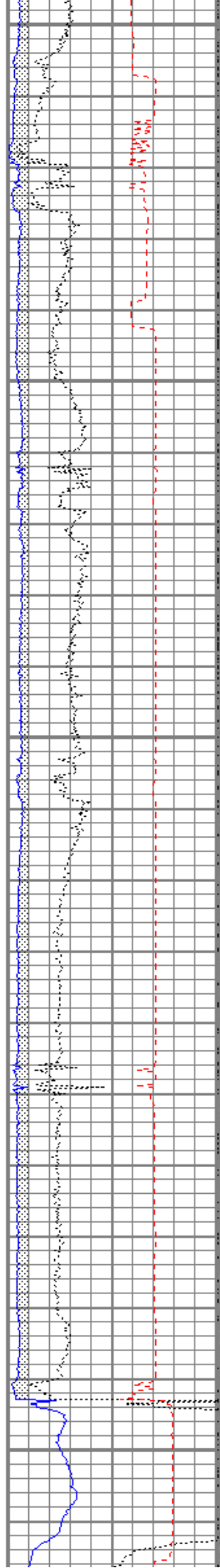


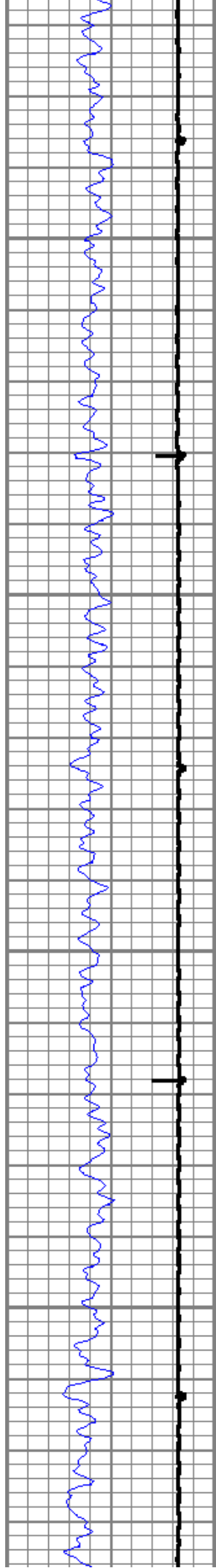


800

900

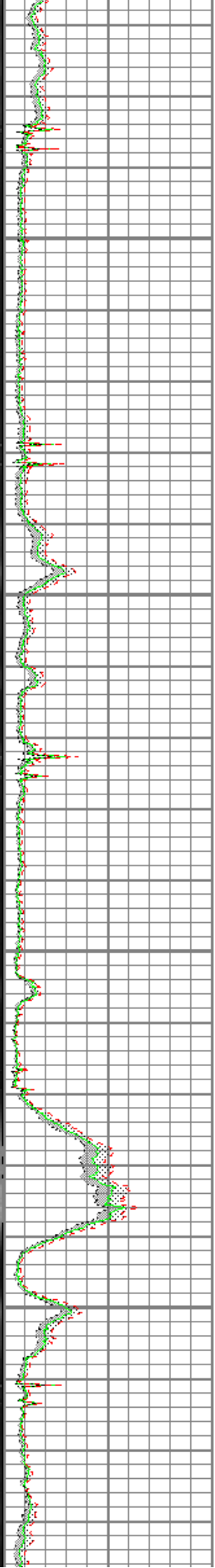
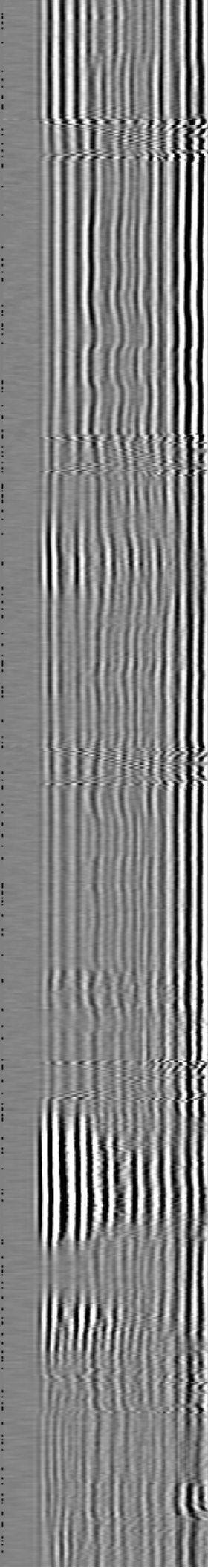
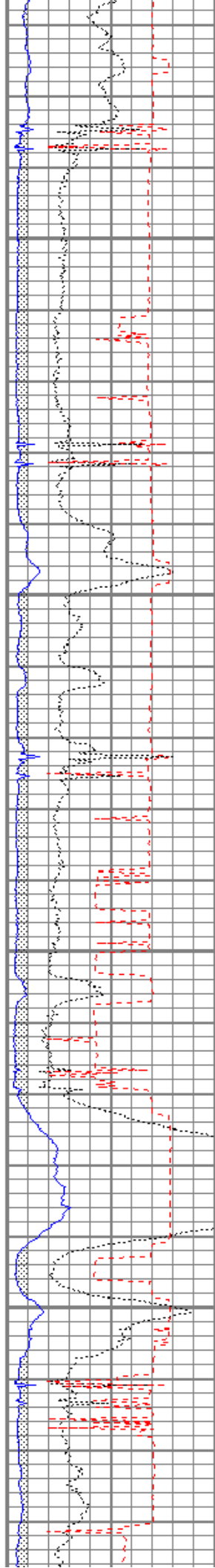
1000

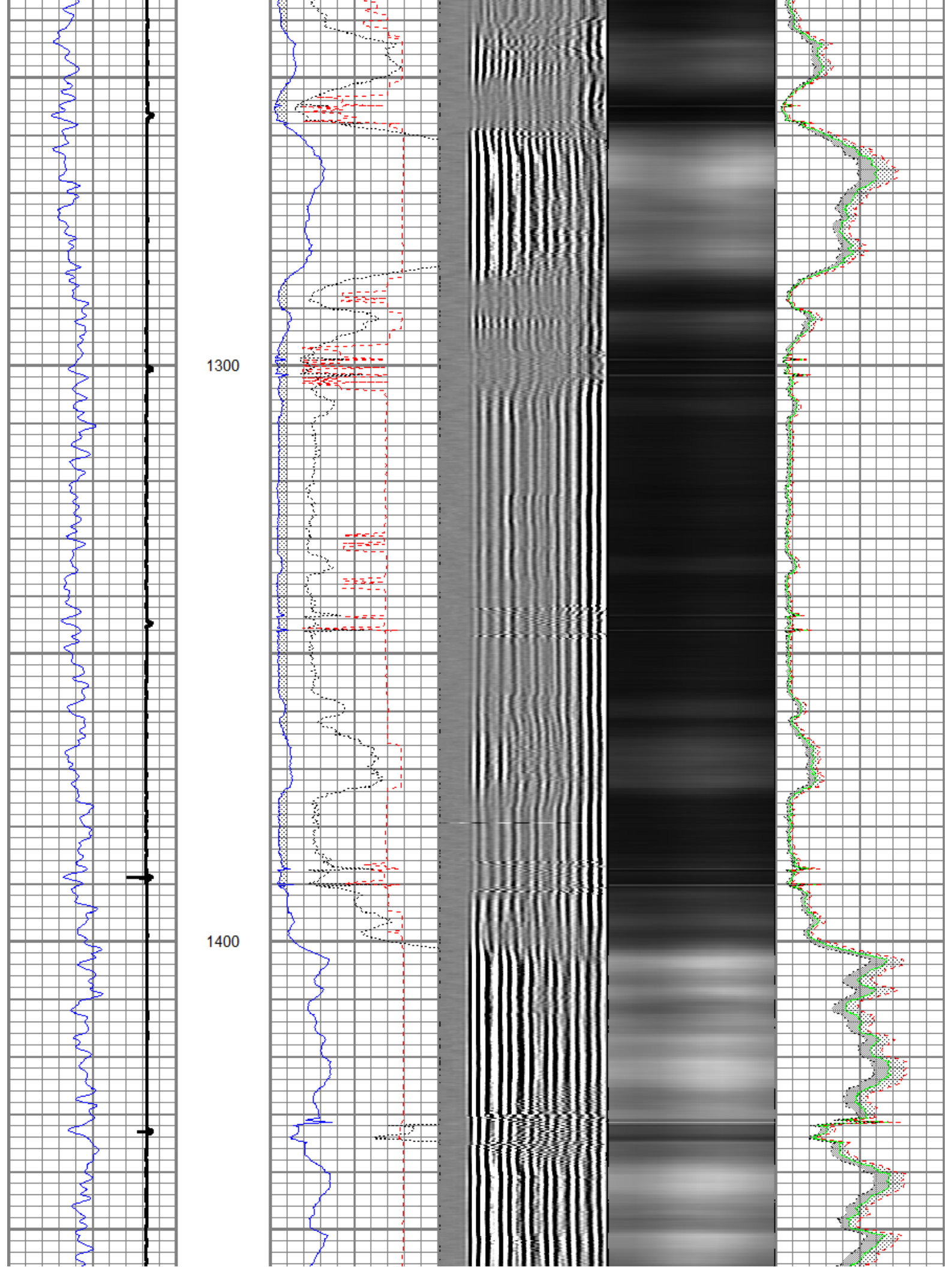


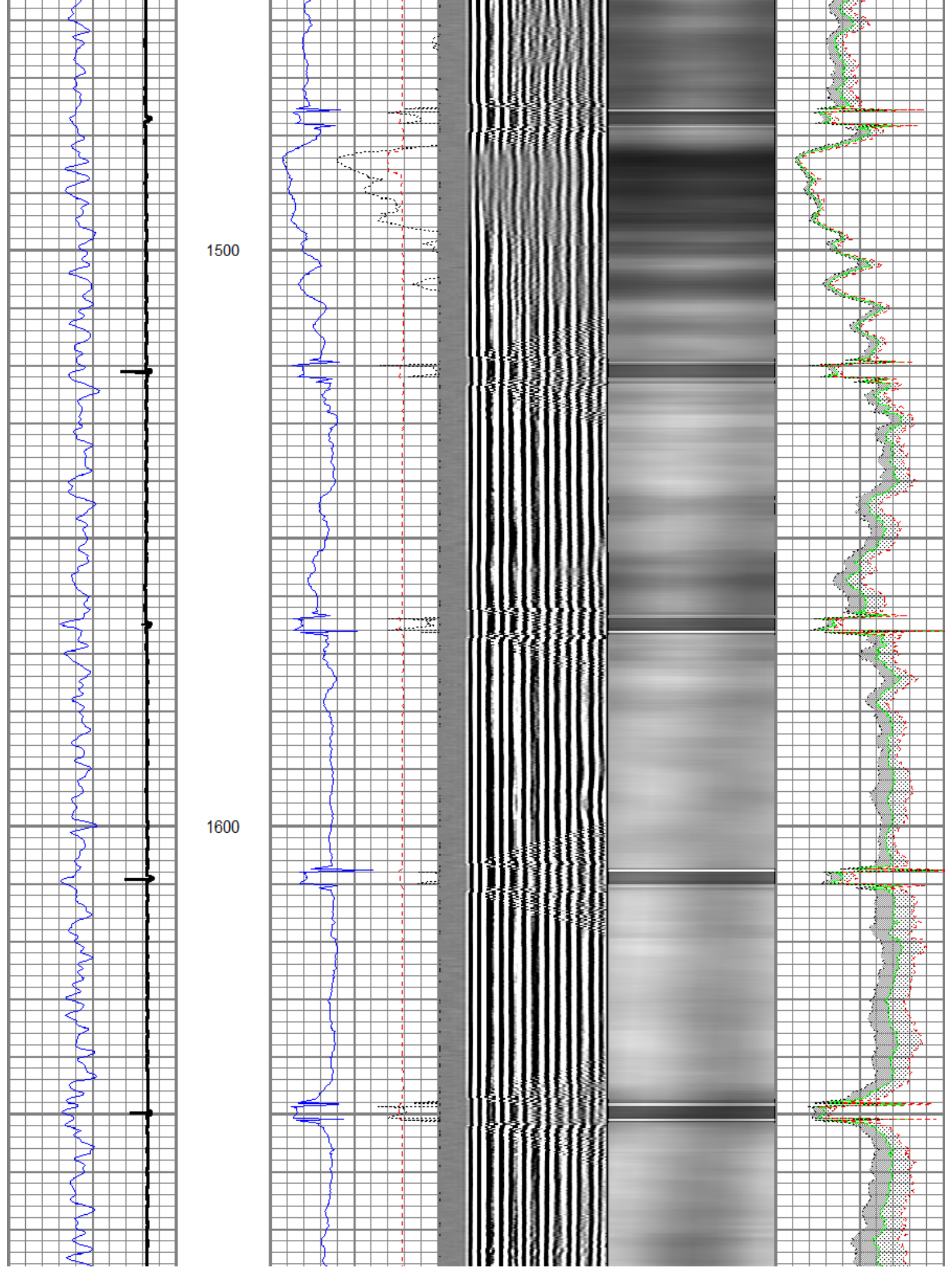


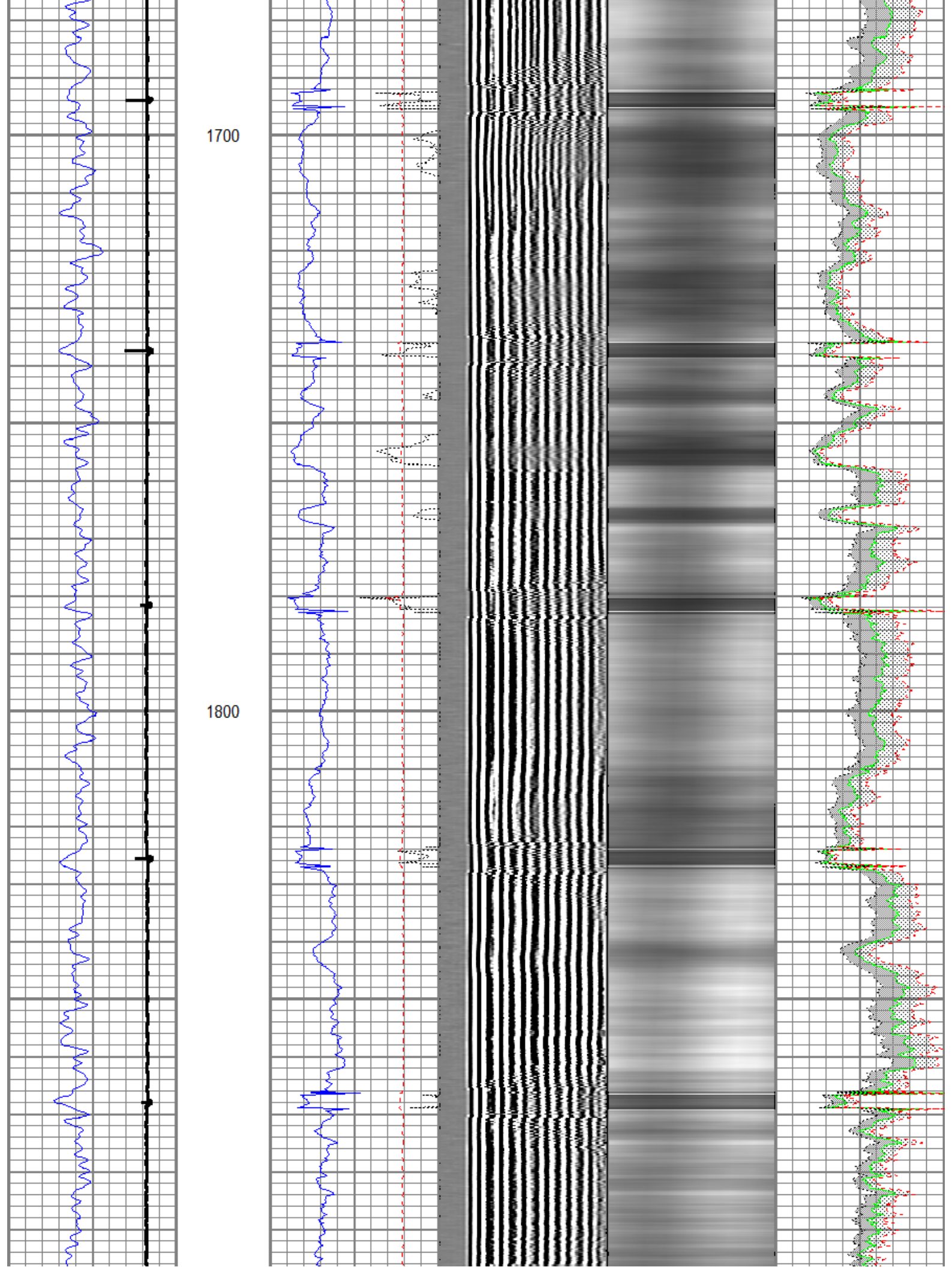
1100

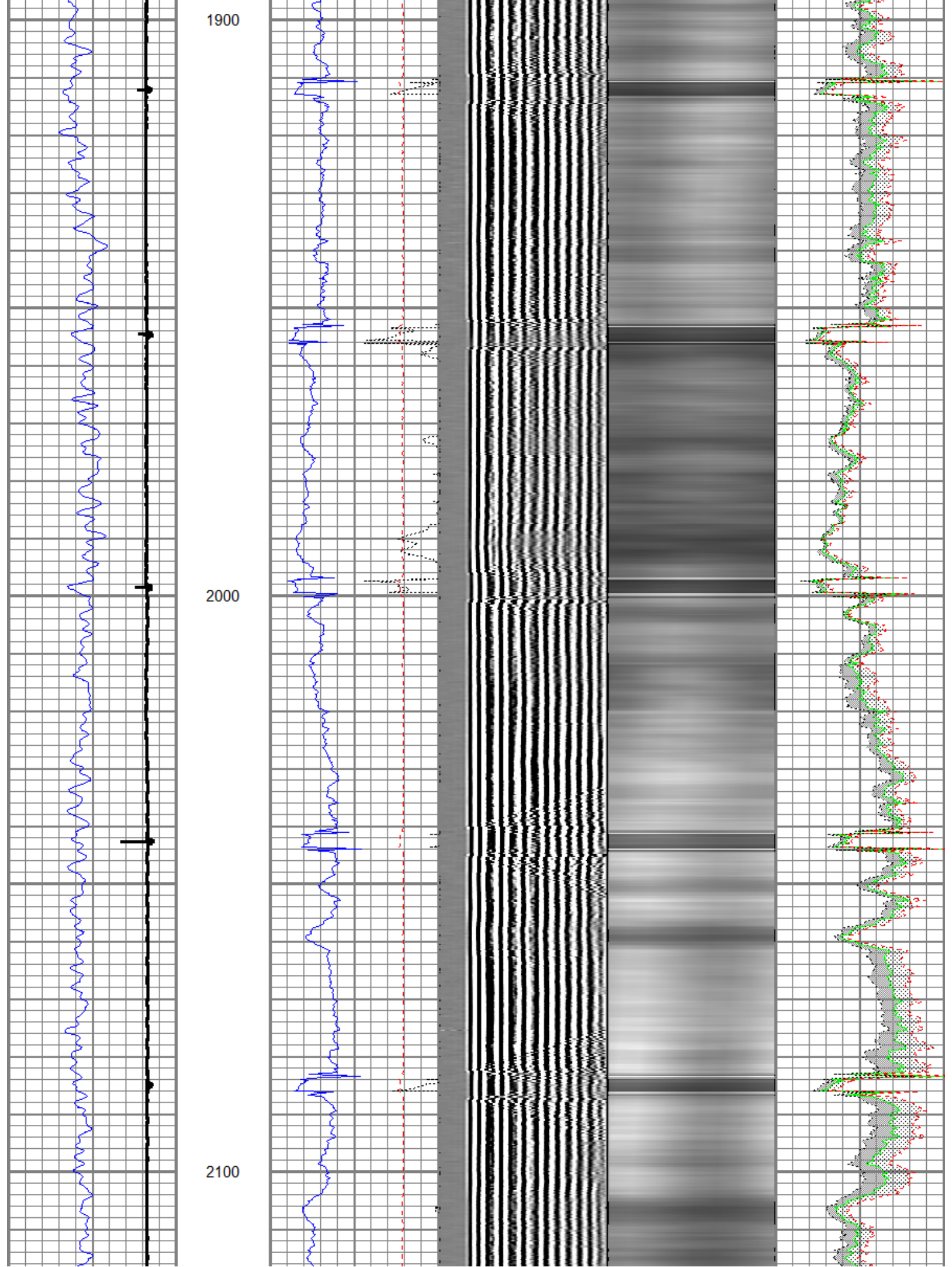
1200

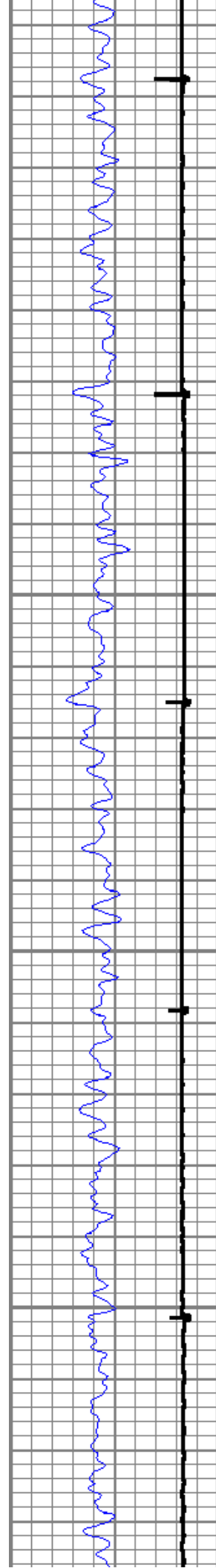




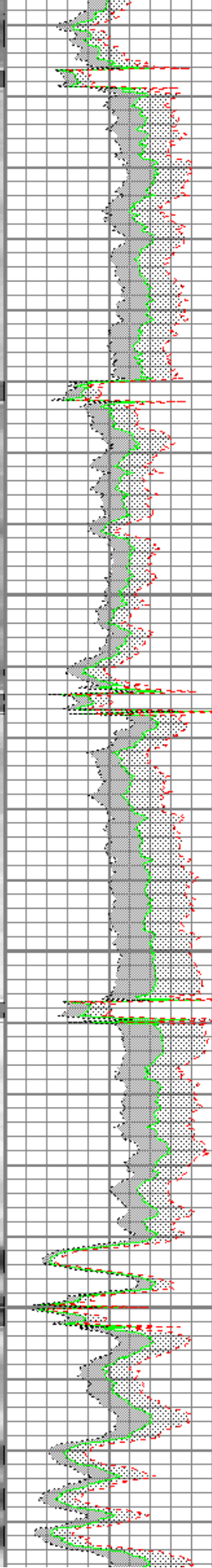
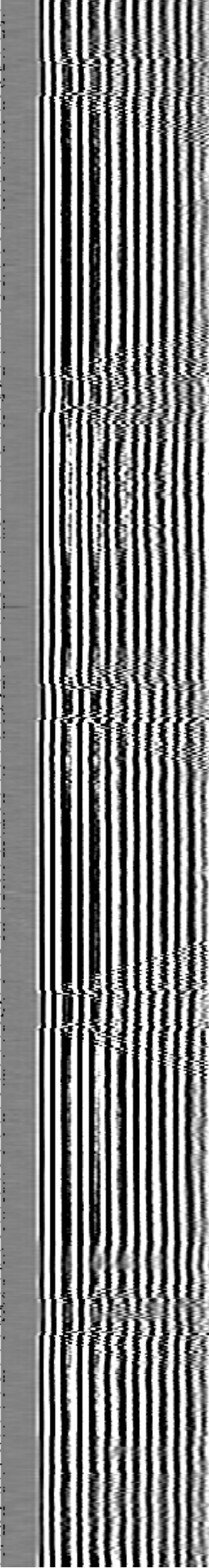
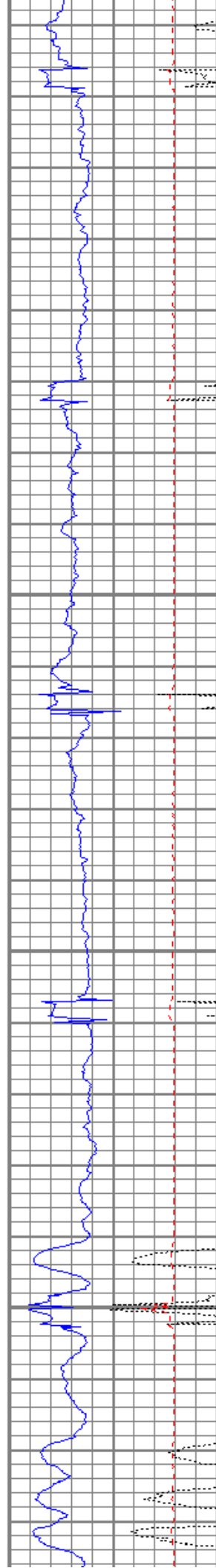




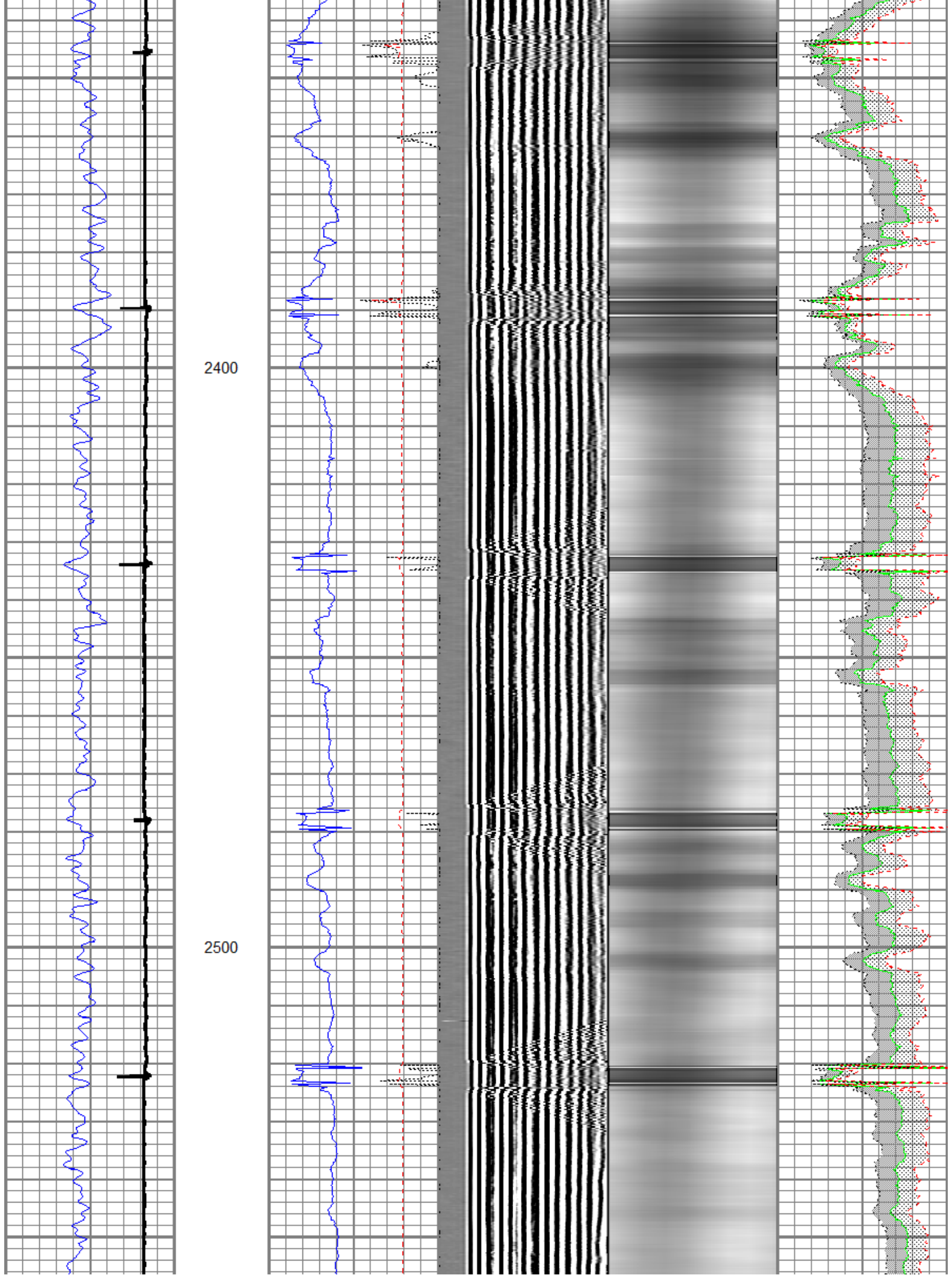


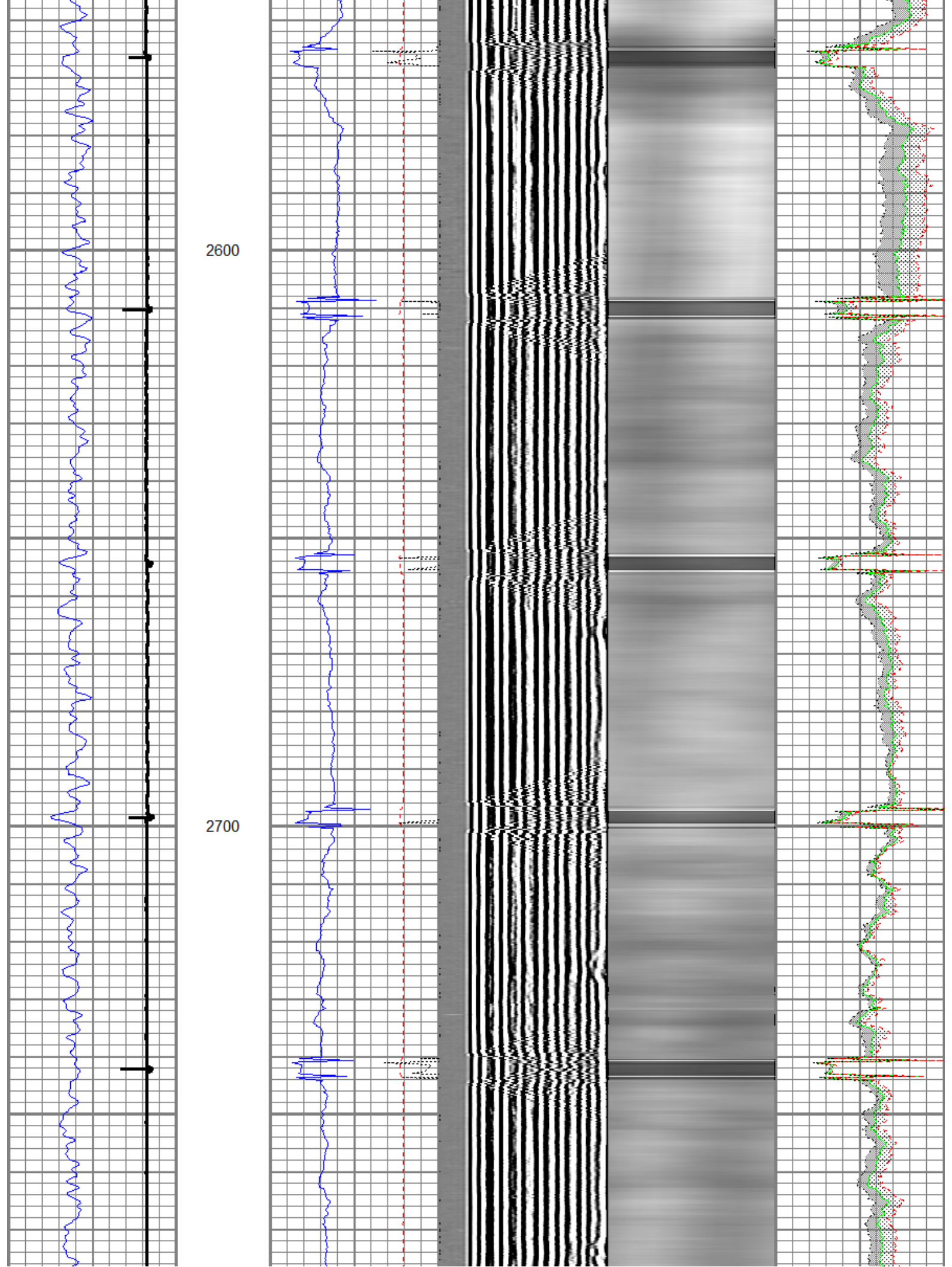


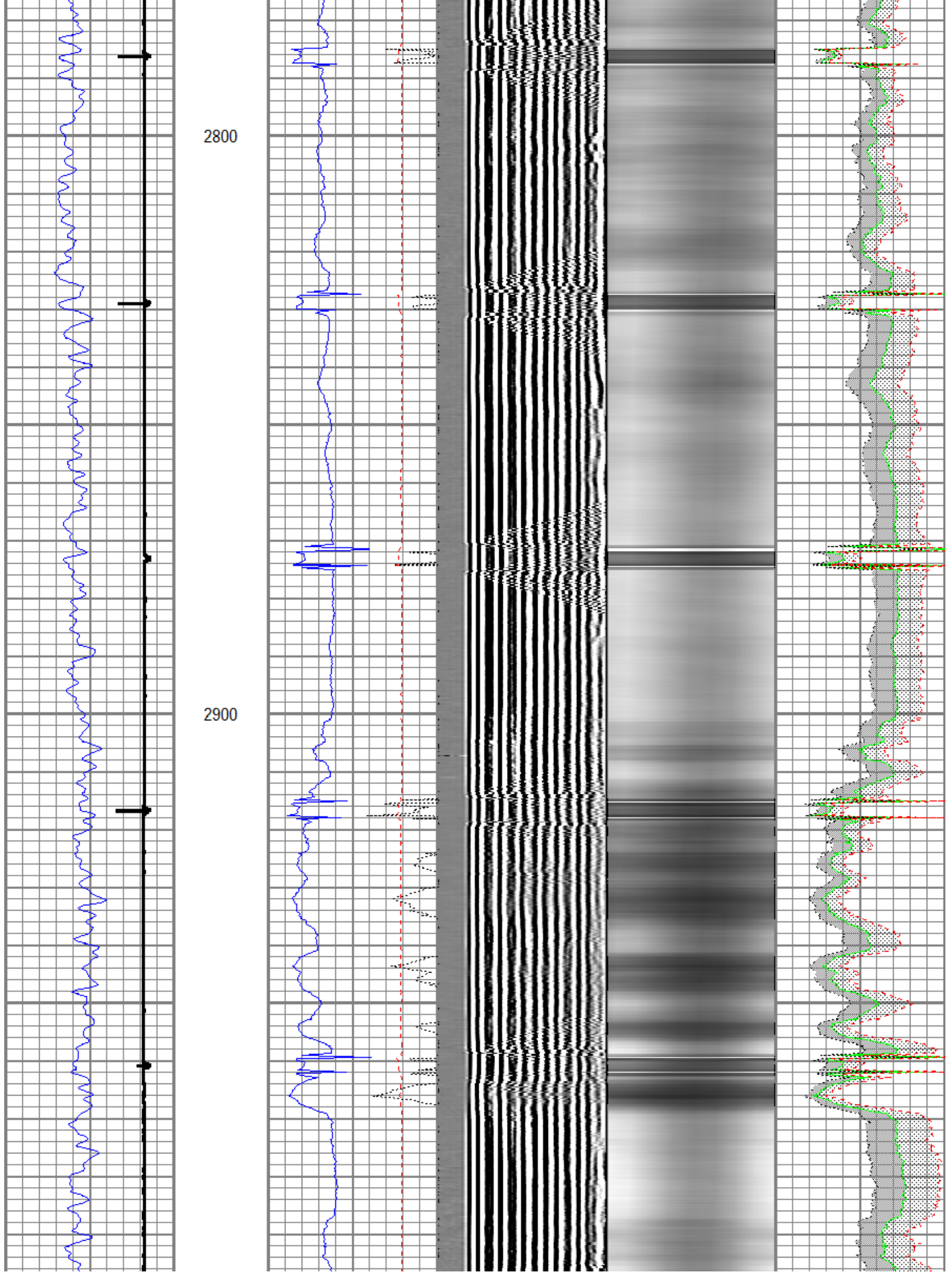
2200

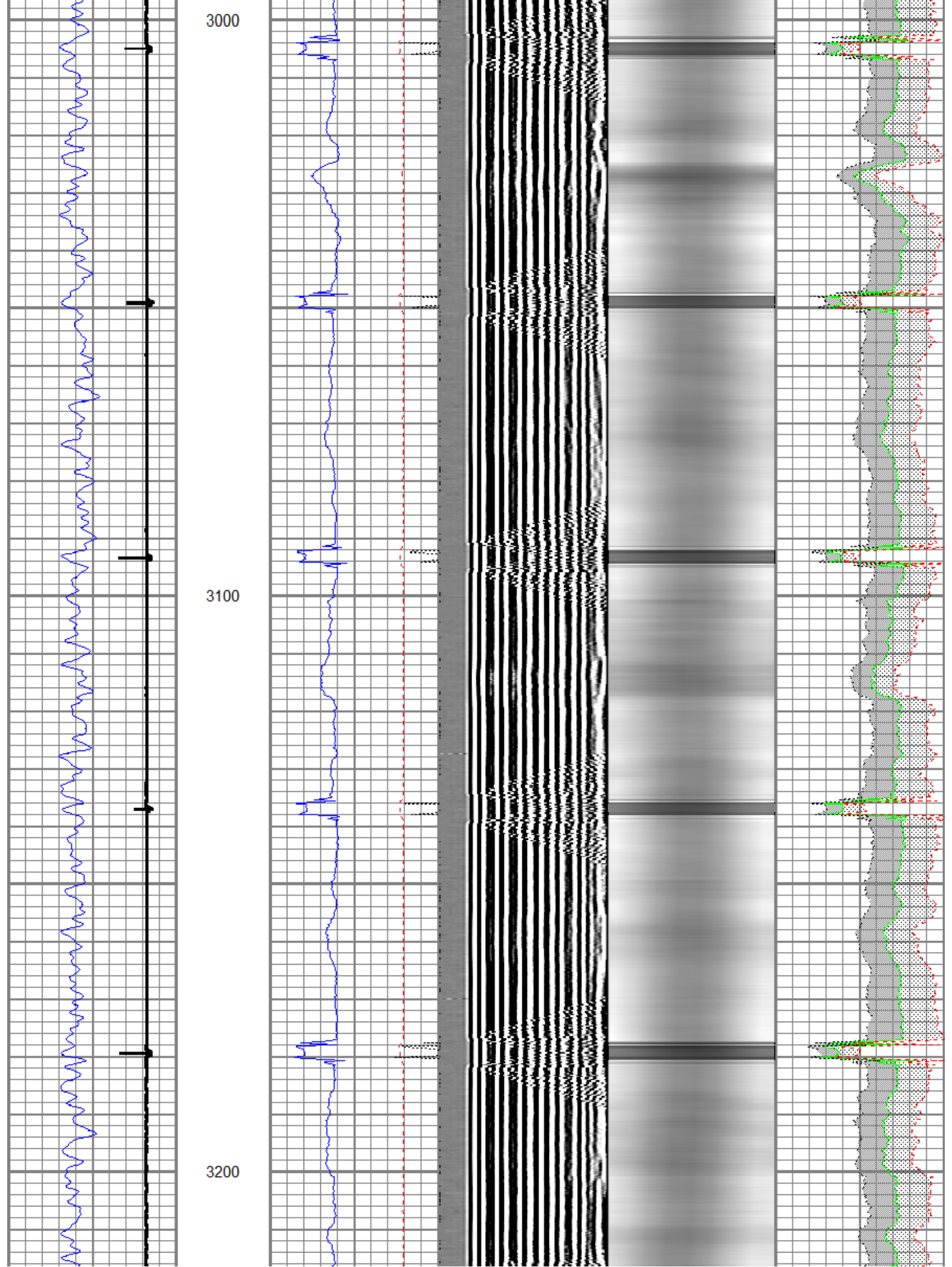


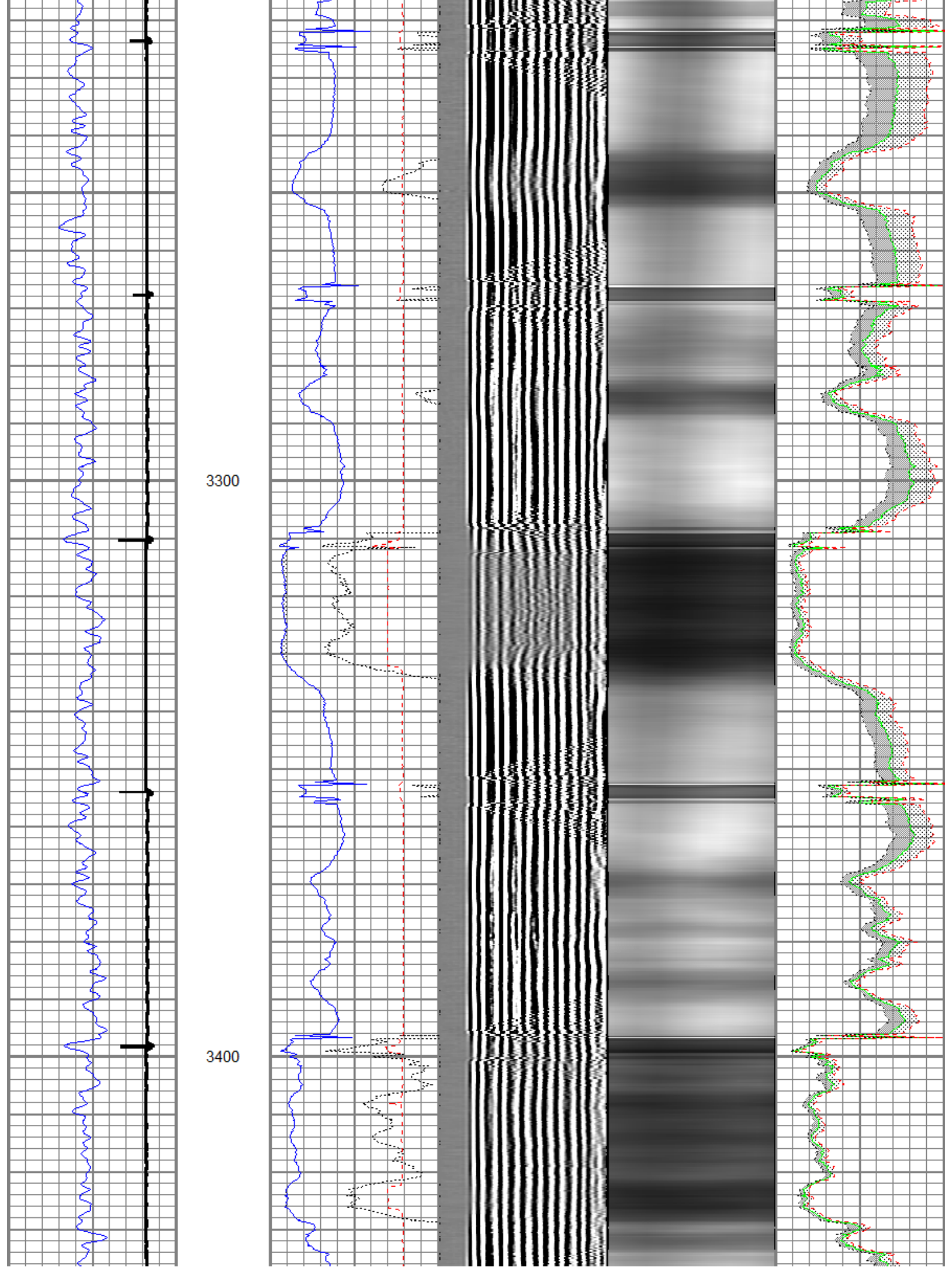
2300

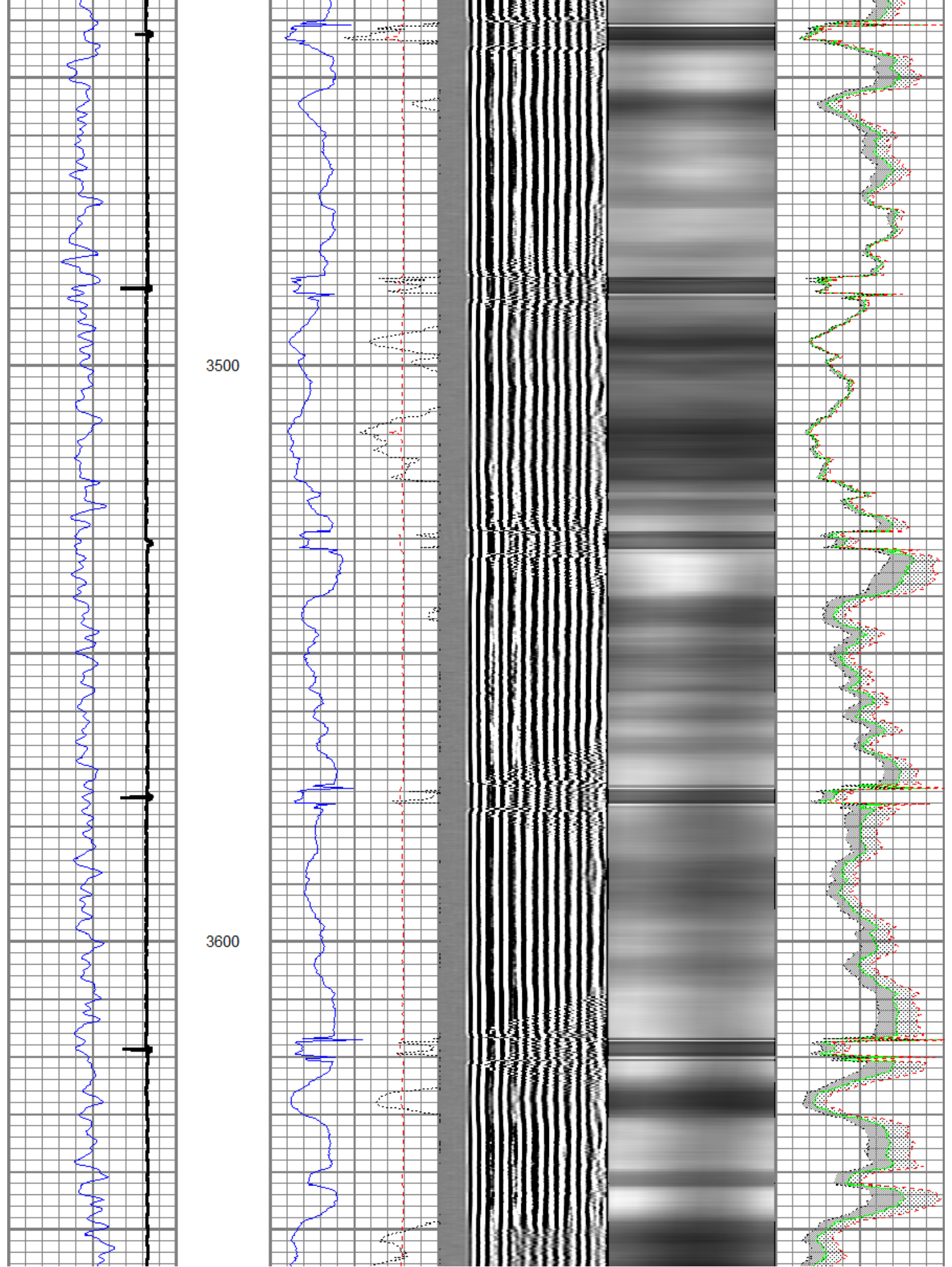


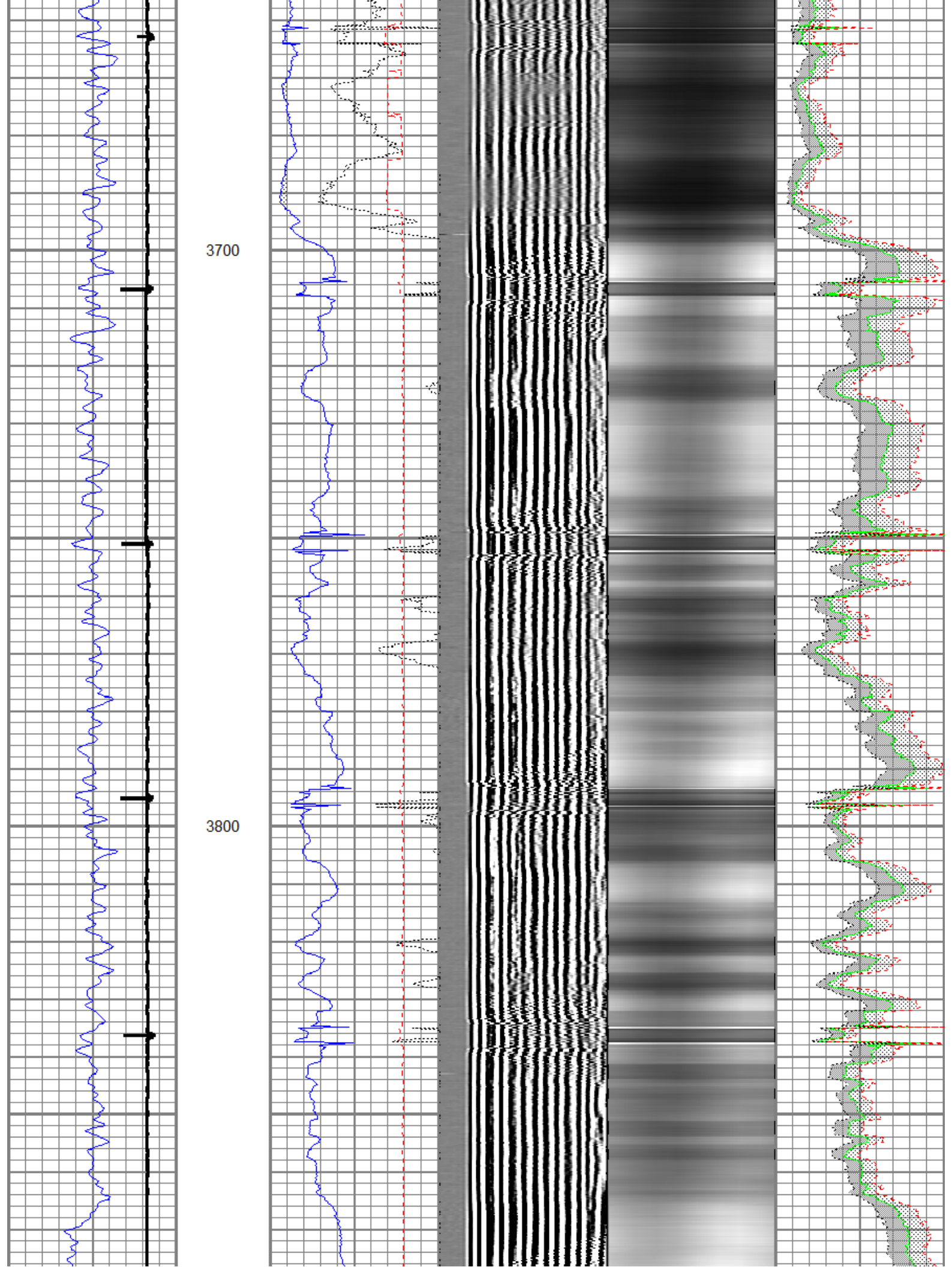


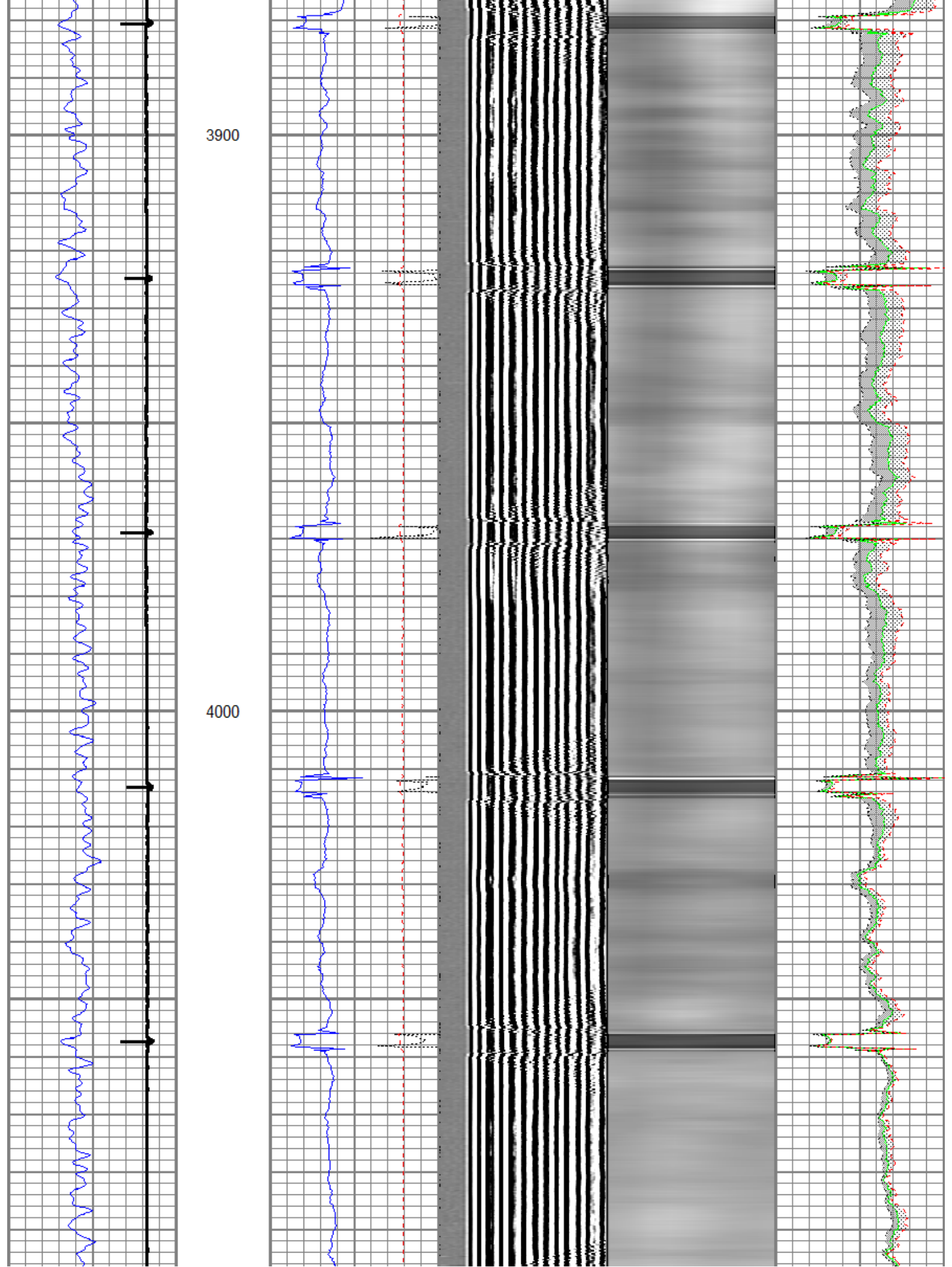


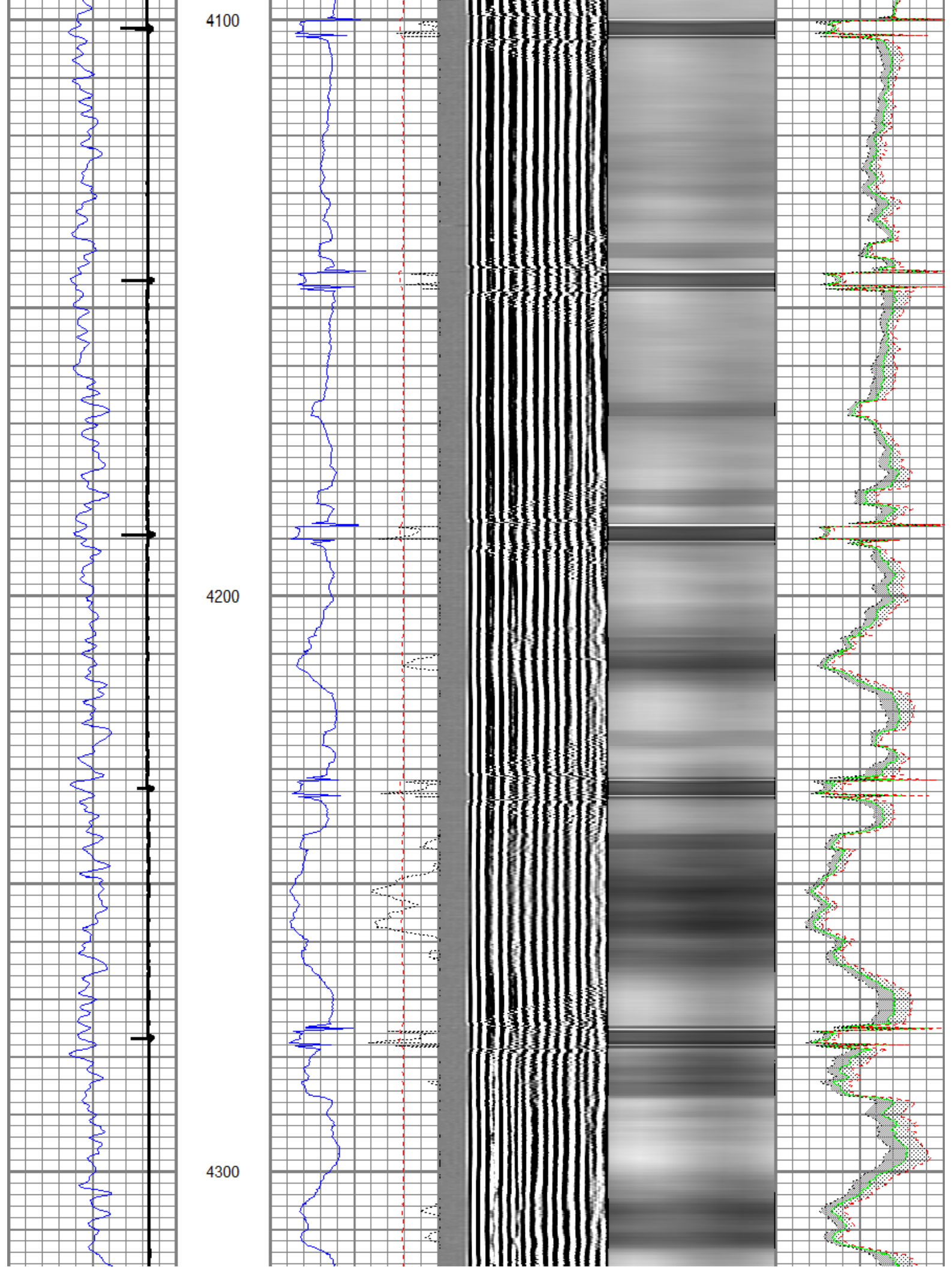


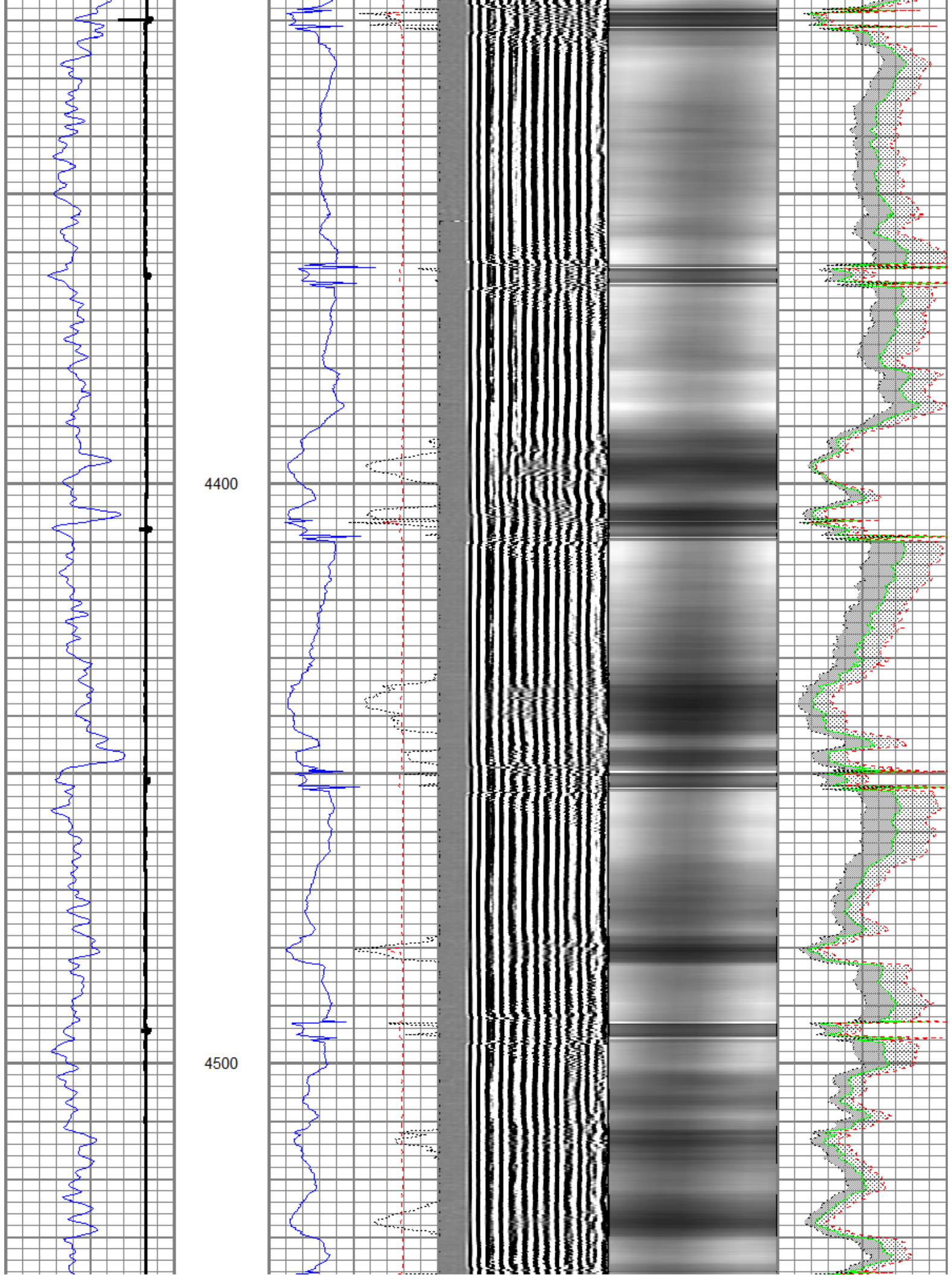


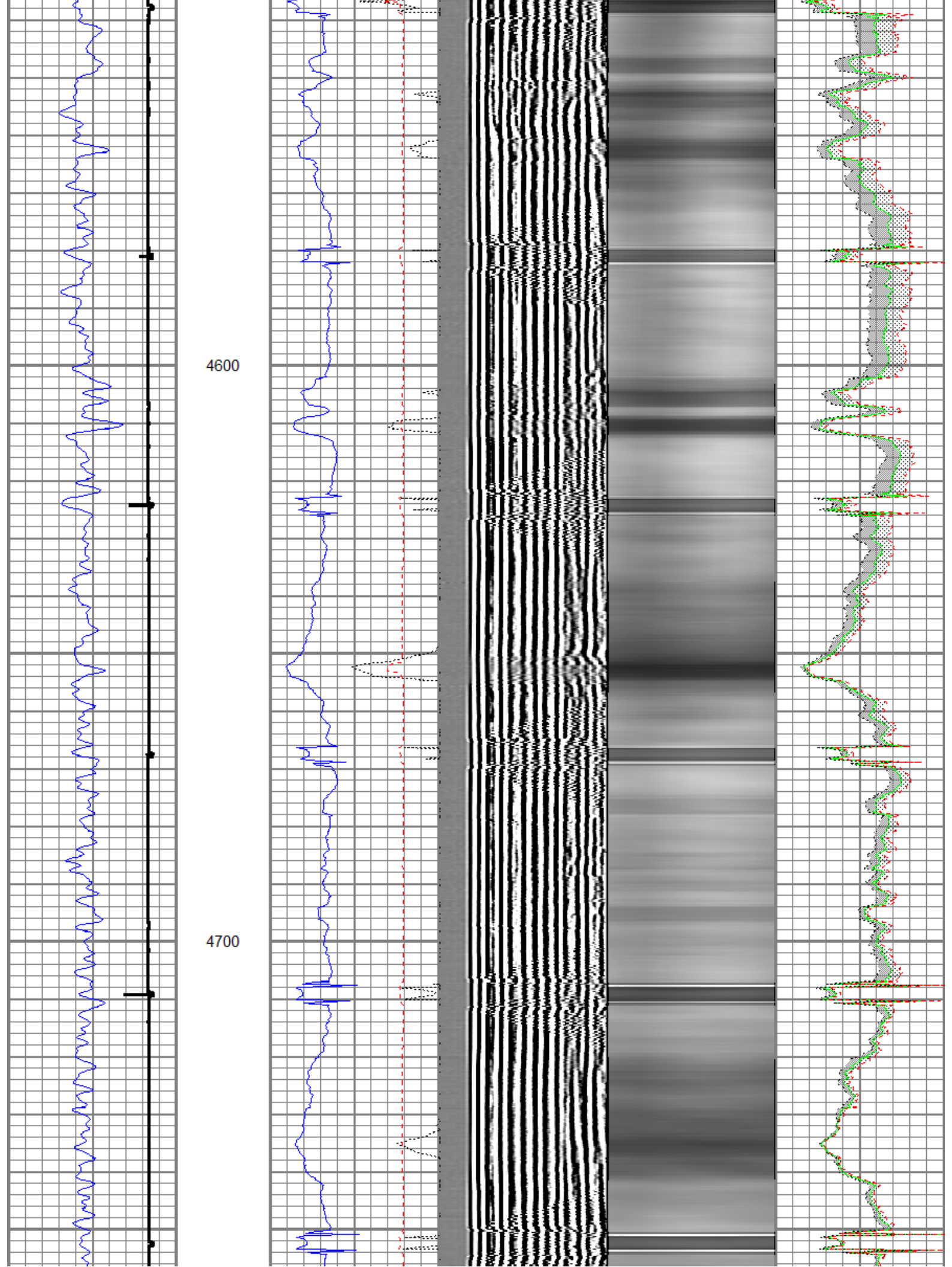


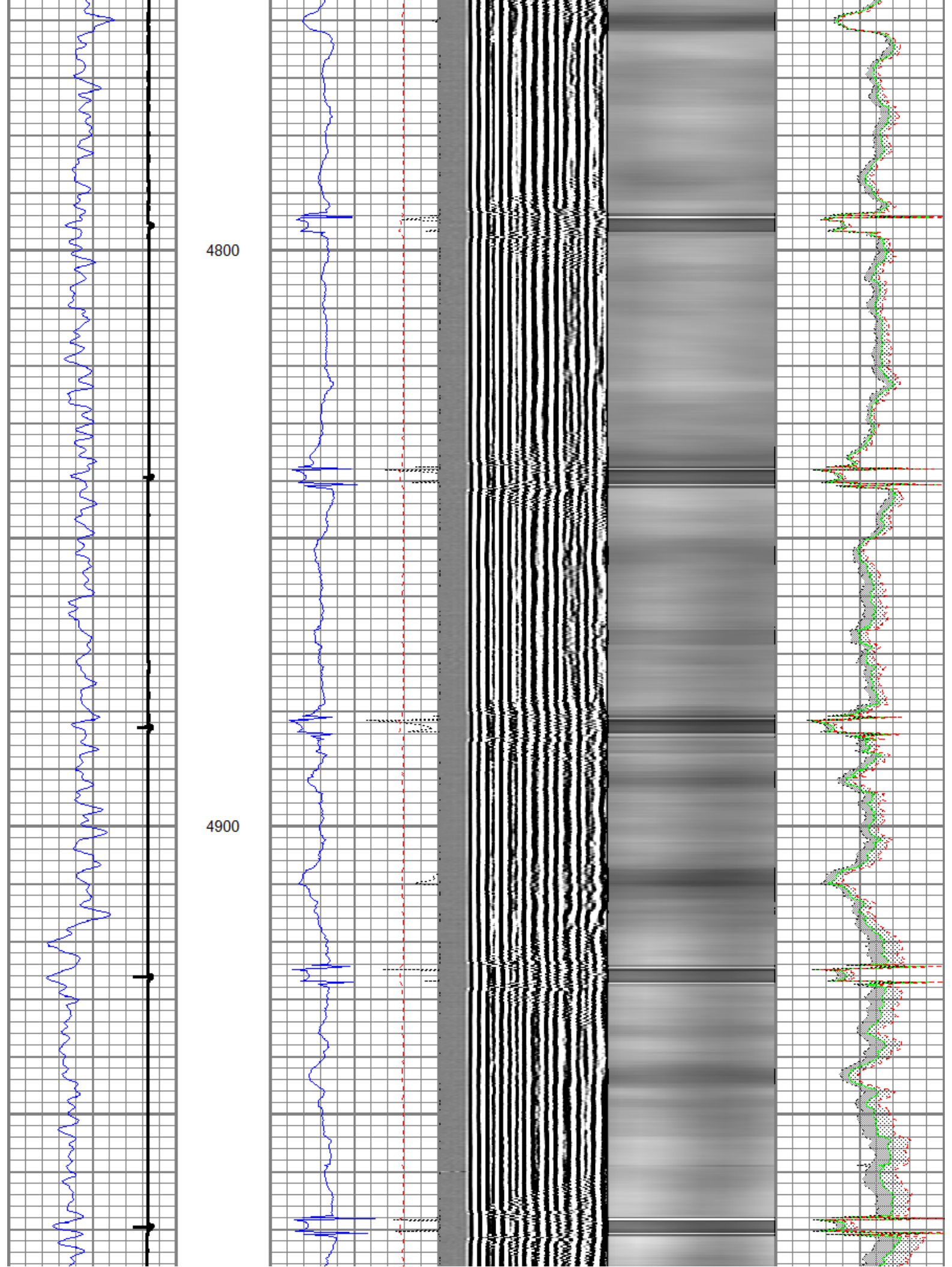


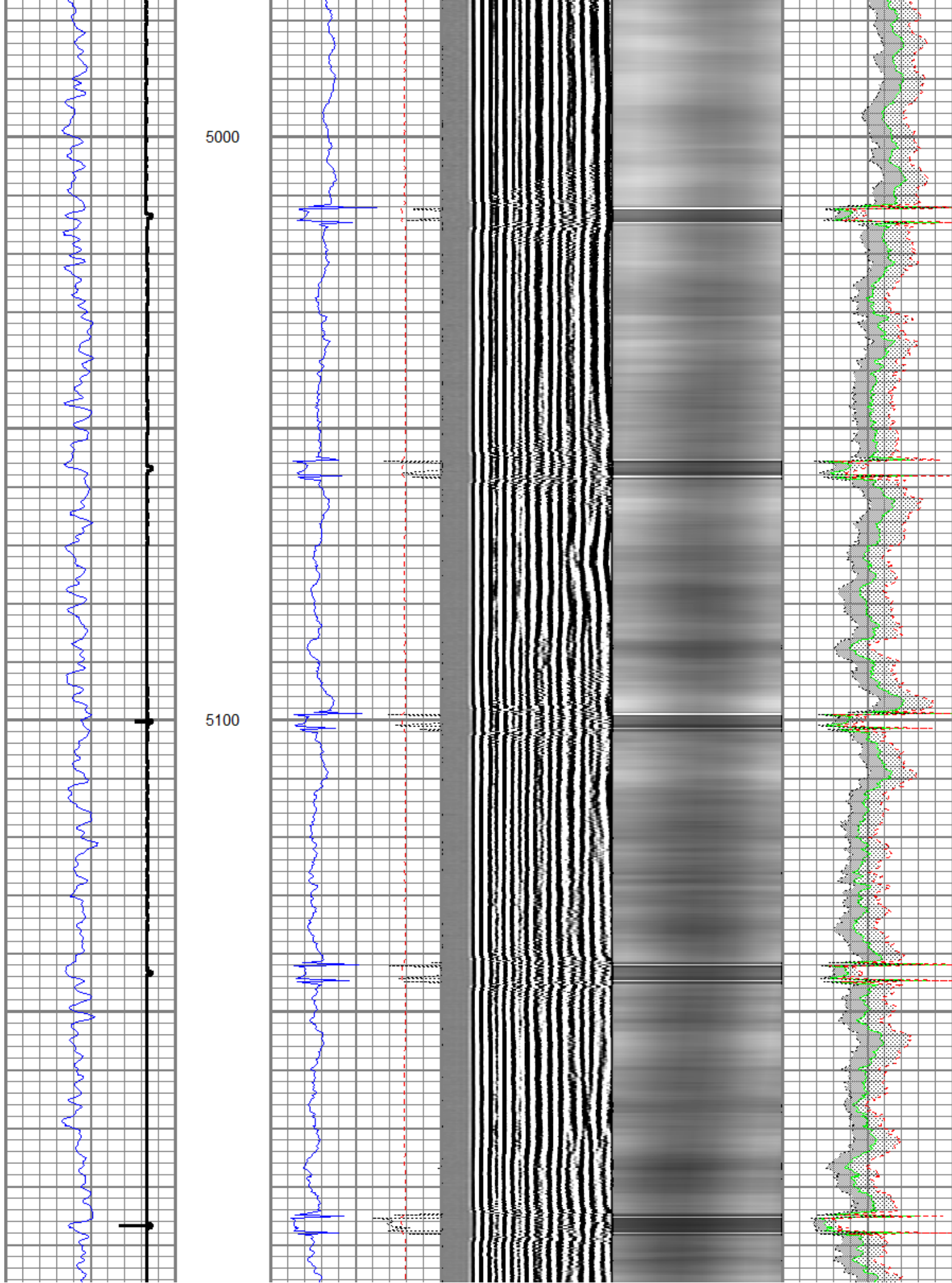


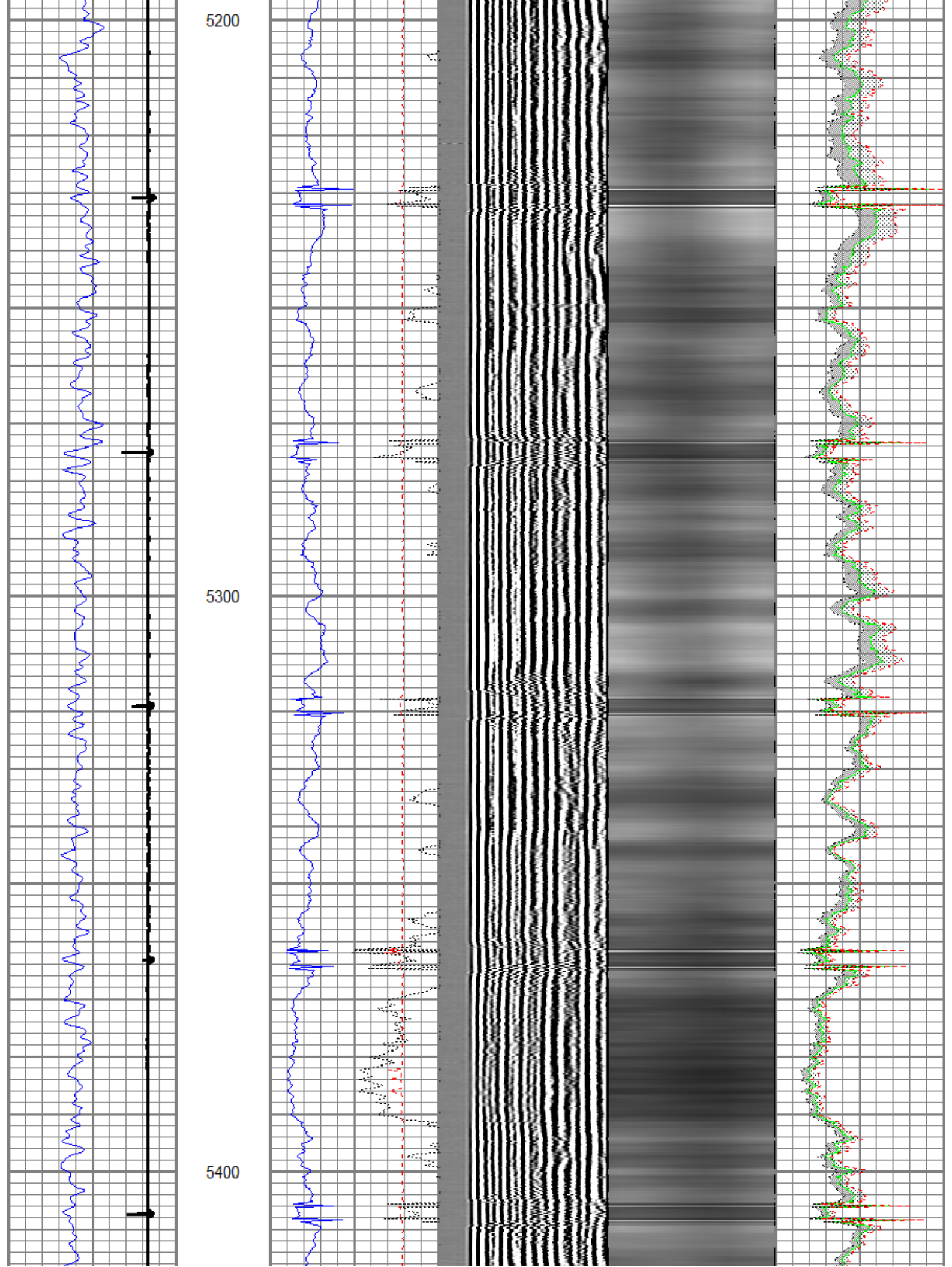


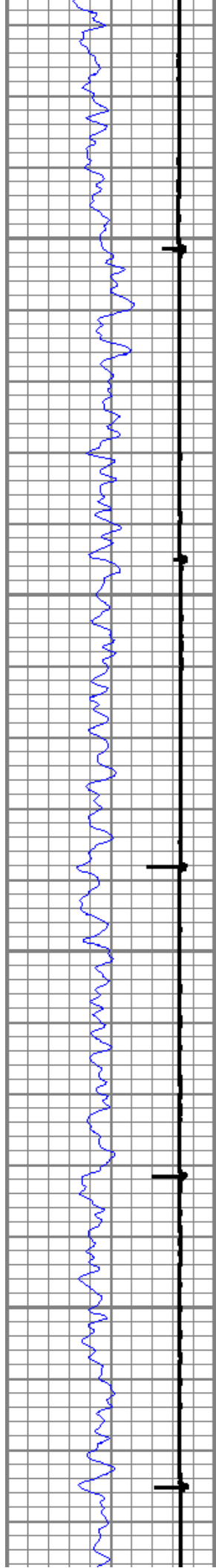






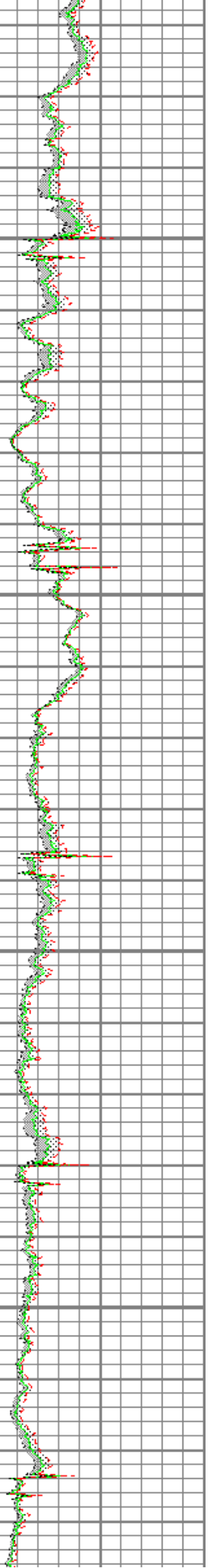
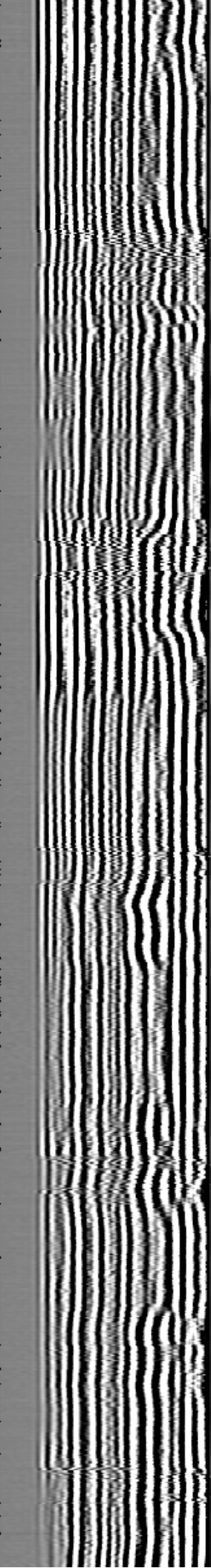
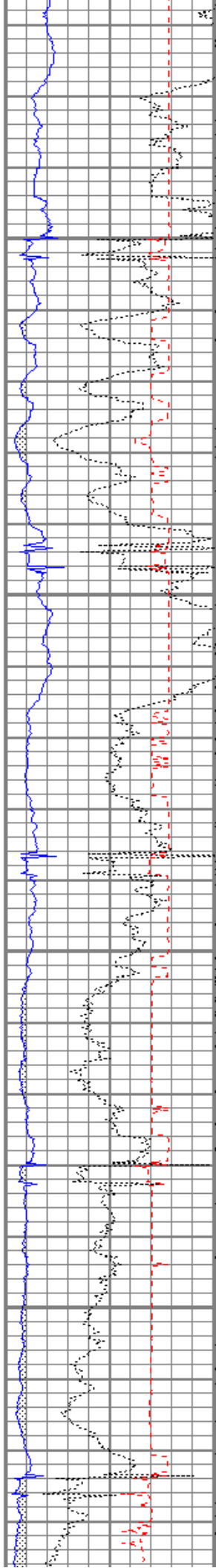


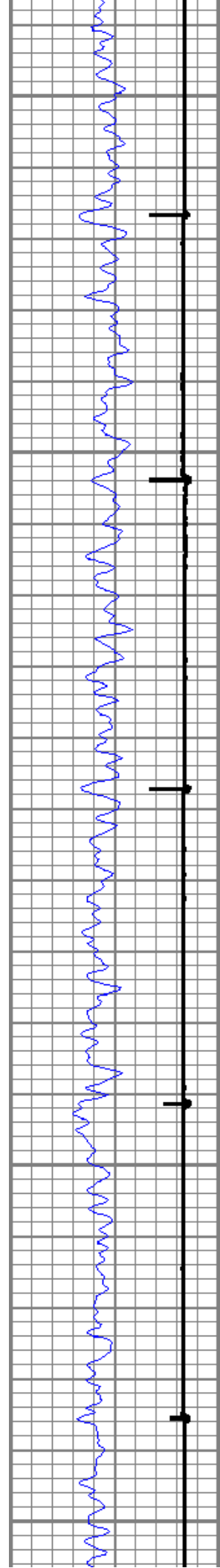




5500

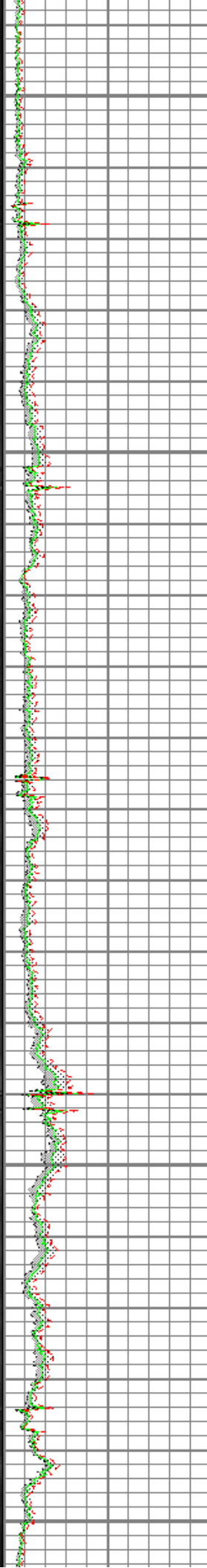
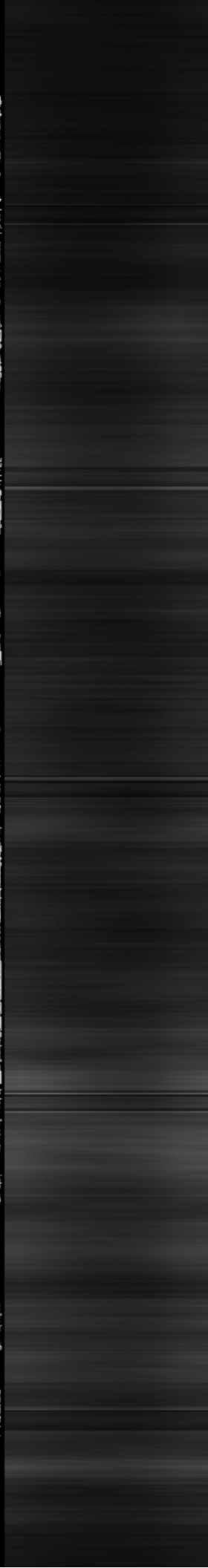
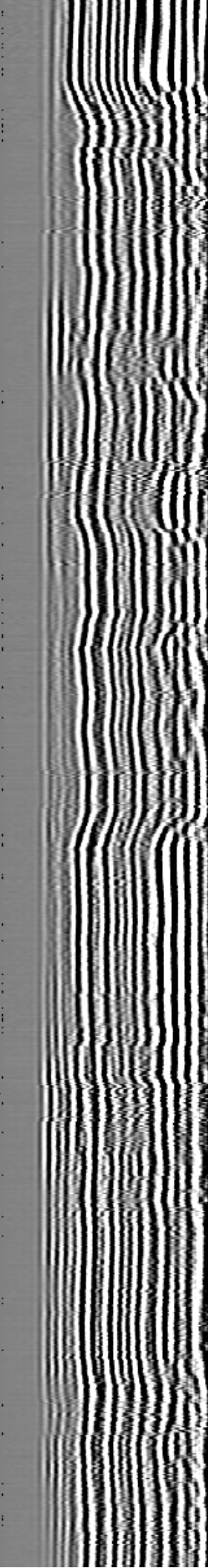
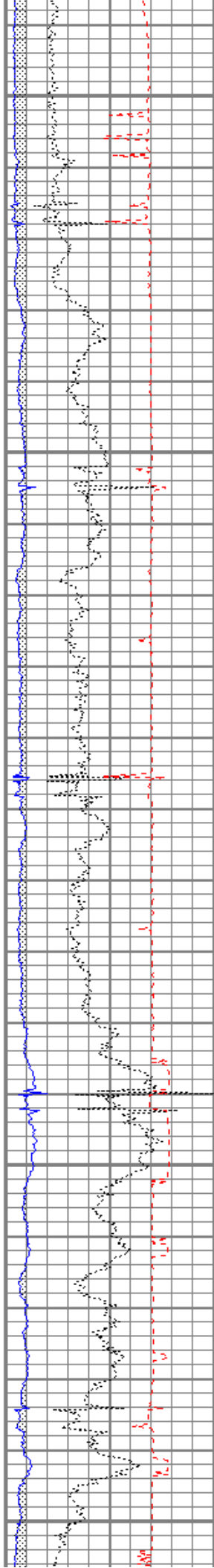
5600

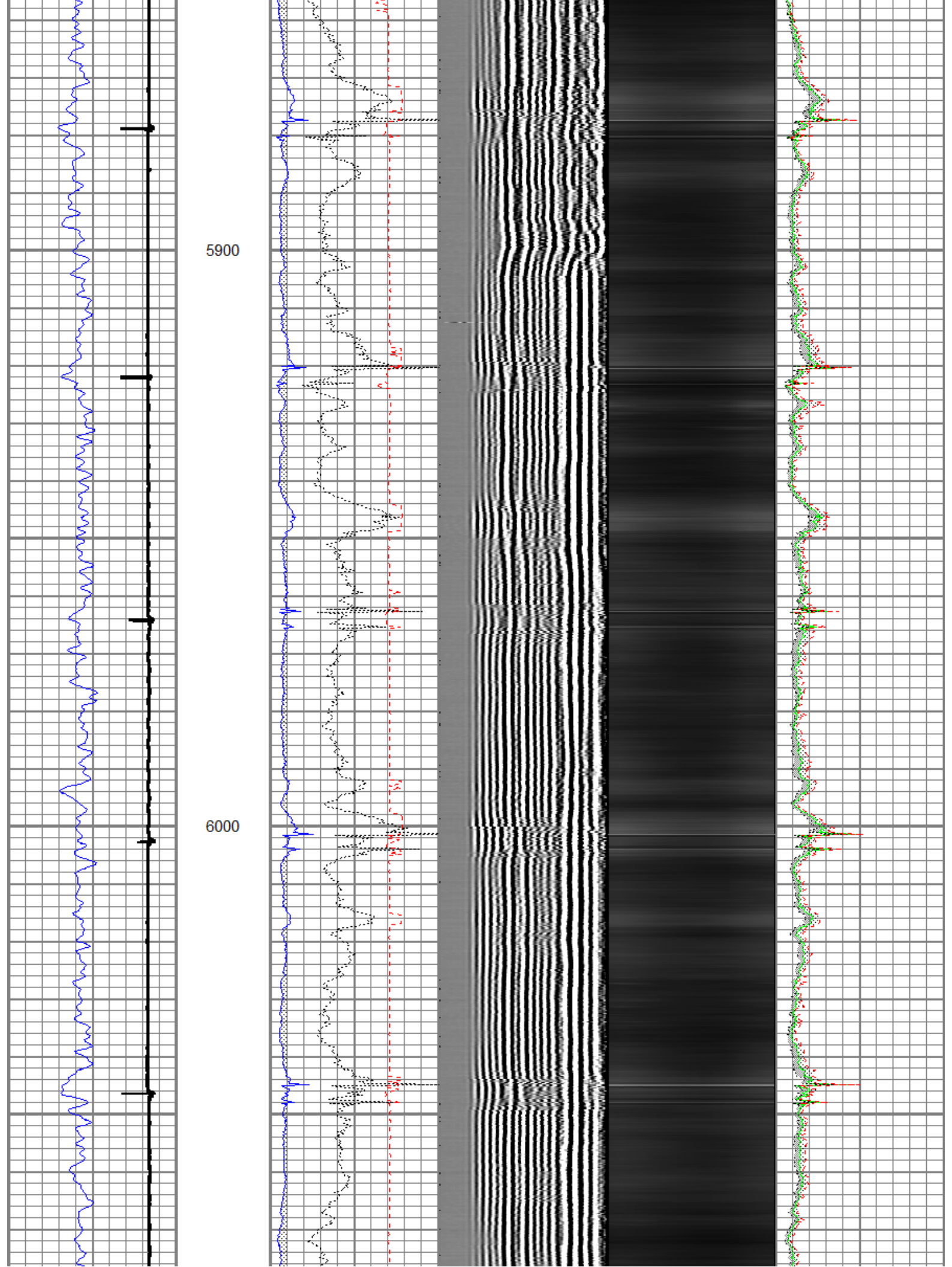


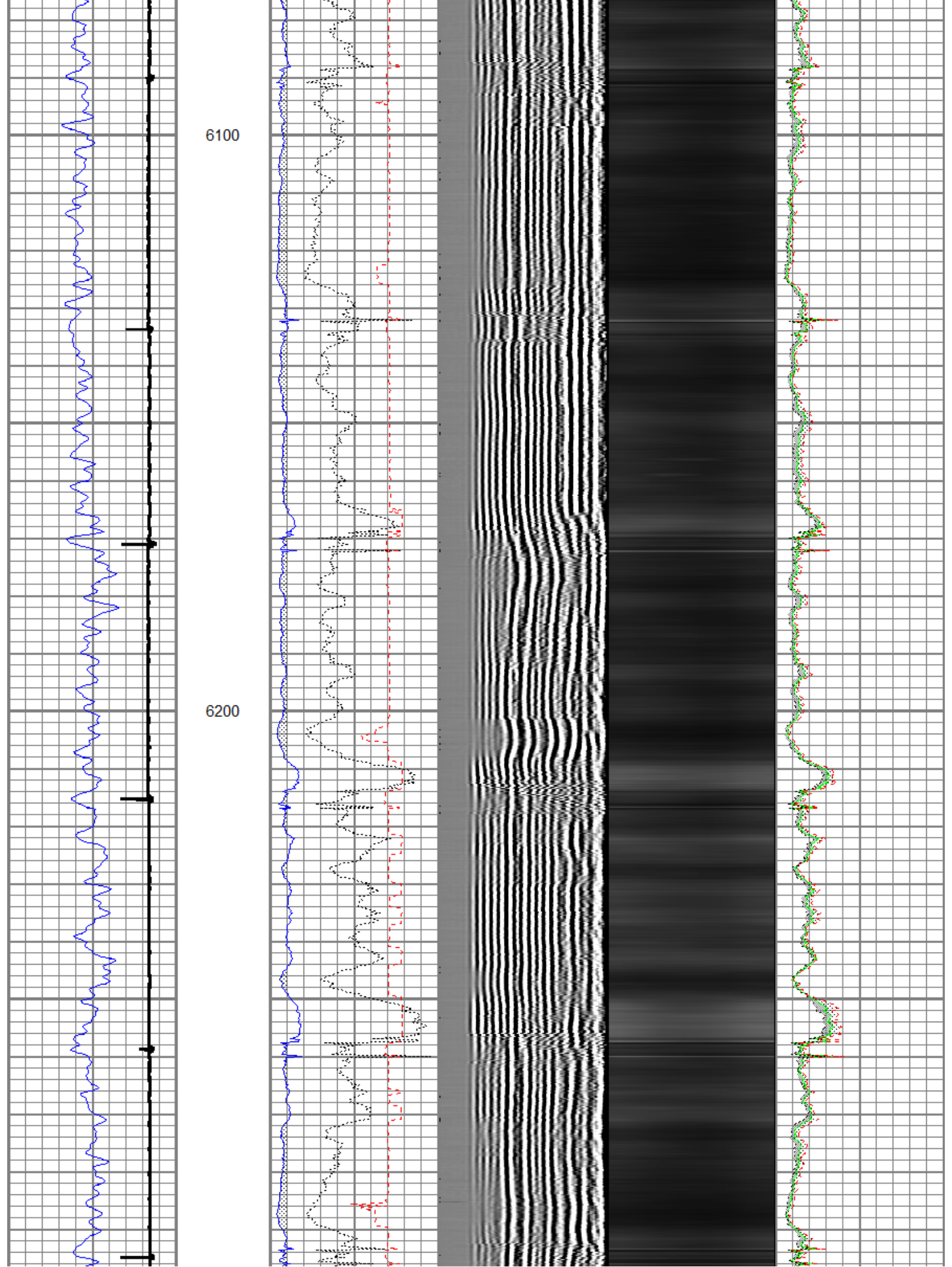


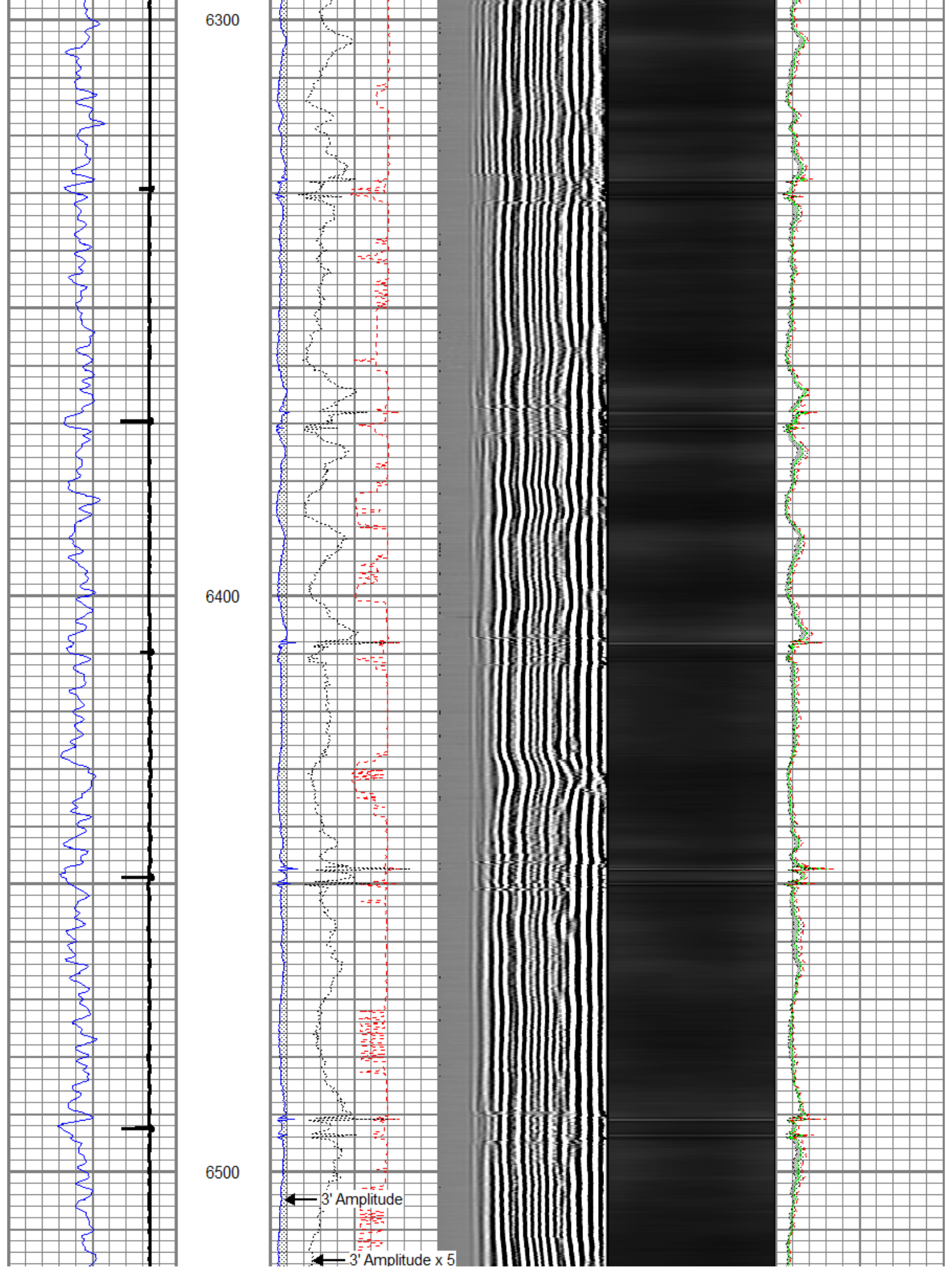
5700

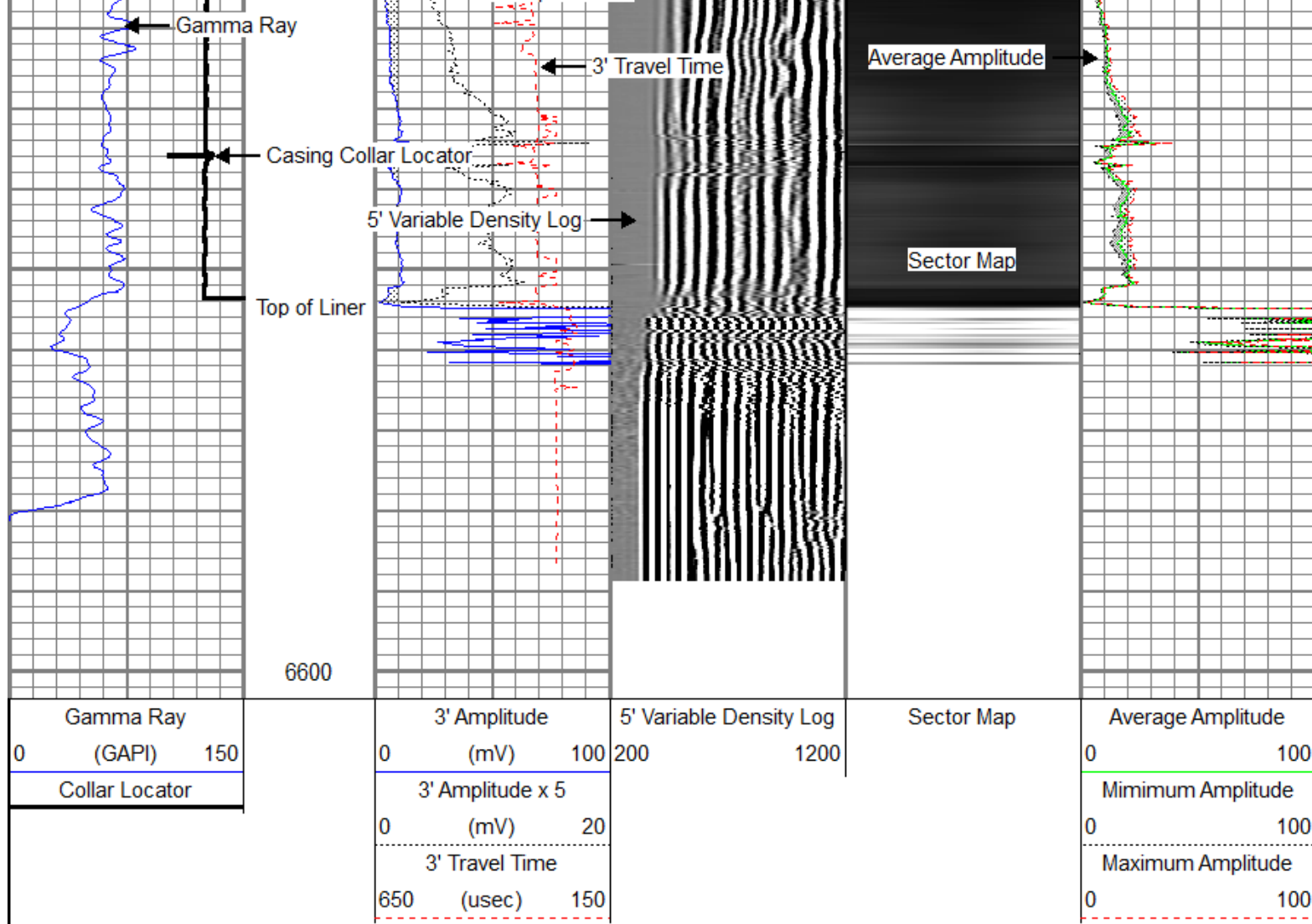
5800





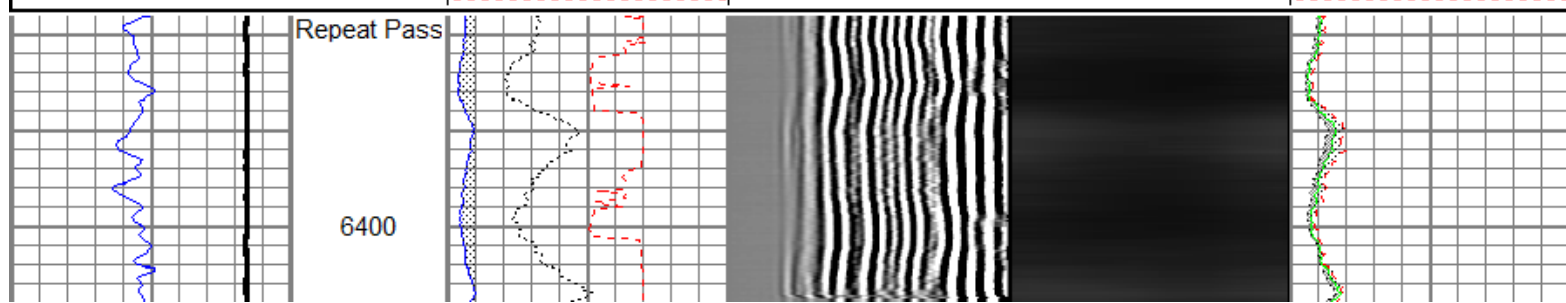
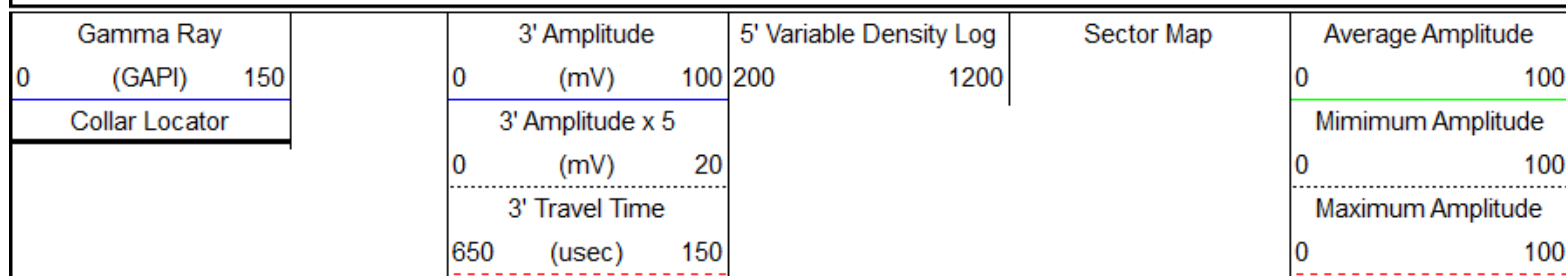


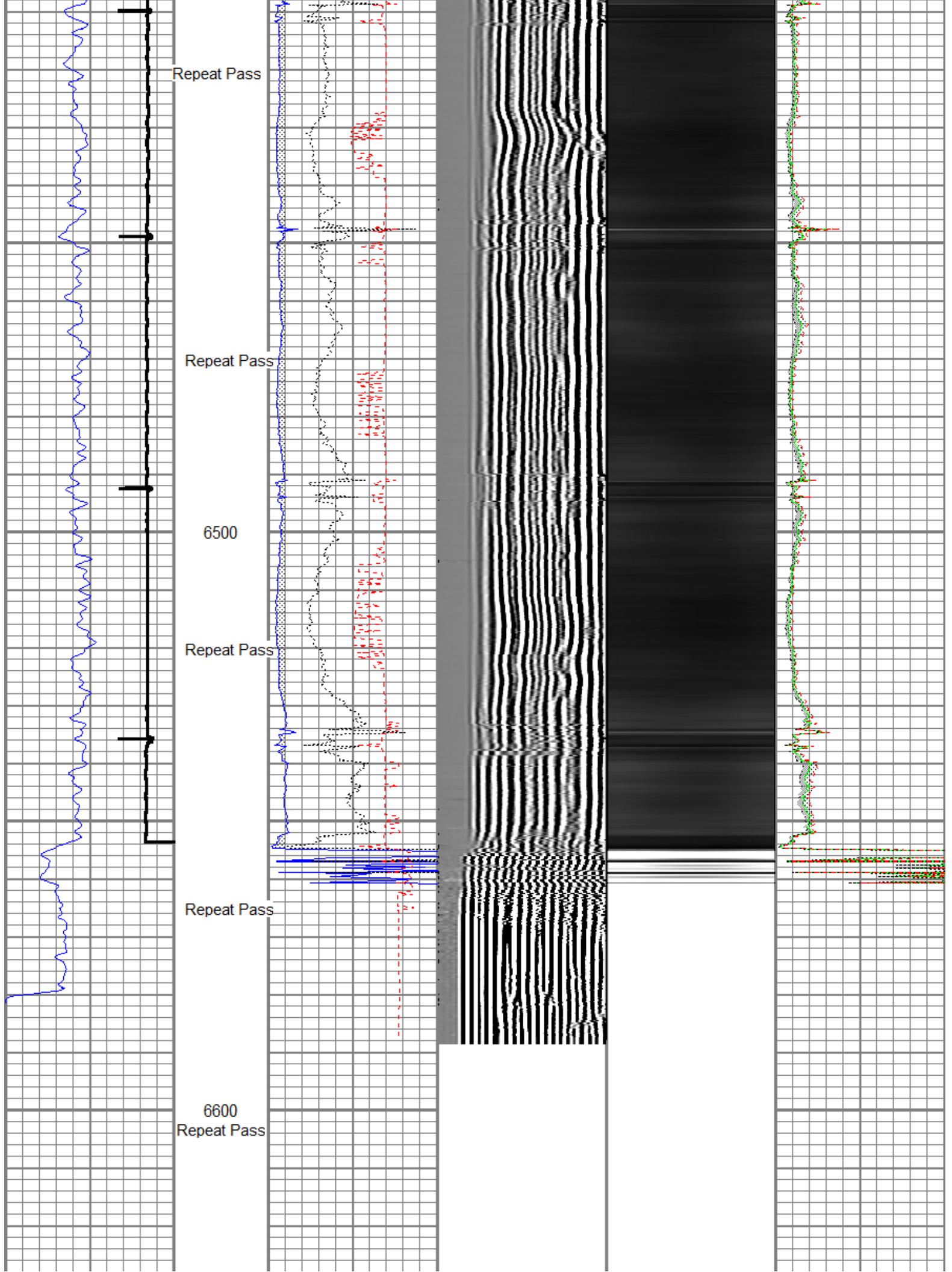




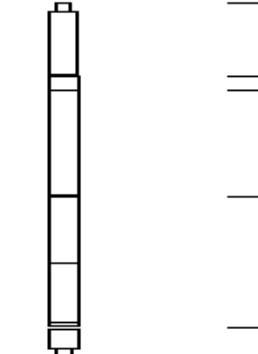
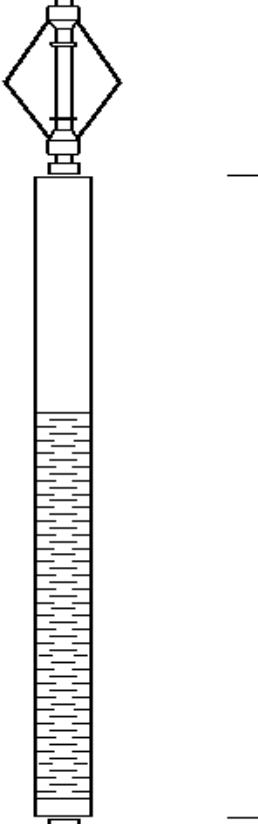
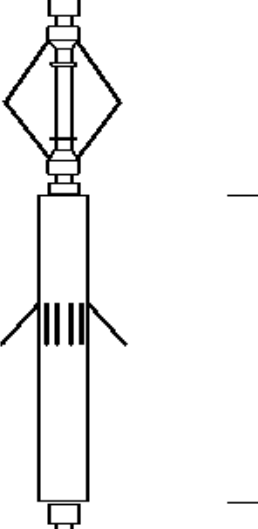
FMC Technologies Repeat Pass

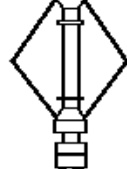
Database File: kmg_henrickson fed 35n-18hz_rbtmit.db
 Dataset Pathname: pass1
 Presentation Format: rbt007
 Dataset Creation: Wed Oct 16 12:13:26 2013 by Log Sondex V7.03
 Charted by: Depth in Feet scaled 1:240





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

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 (211727) Production Gamma Ray	1.93	1.69	9.50
WVFS3FT WVFS1 WVFS2 WVFS3 WVFS4 WVFS5 WVFS6 WVFS7 WVFS8 CBLTEMP CBLROT WVFS5FT	15.85 15.85 15.85 15.85 15.85 15.85 15.85 15.85 15.85 15.85 14.85		PRC-057 (1037) 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
			RBT-004 (10013454in7) Radial Bond Tool (UW 3 1/8)	9.47	3.13	140.00
			PRC-057 (1101) 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
			MIT-027 (218949) 40 Multifinger Imaging Tool	4.54	2.75	61.10
MIT	5.41					



PRC-057 (1102)
2-3/4" 4-Arm Production Roller Centraliser

2.98

2.75

32.00

BUL-006 (218707)
Bullnose Terminator

0.22

1.69

1.20

Dataset: kmg_henrickson fed 35n-18hz_rbtmit.db: field/well/run1/pass2
Total Length: 27.97 ft
Total Weight: 316.30 lb
O.D.: 3.13 in

Calibration Report

Database File: kmg_henrickson fed 35n-18hz_rbtmit.db
Dataset Pathname: pass2
Dataset Creation: Wed Oct 16 12:27:22 2013 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 Oct 16 11:26:07 2013

Ring size:	4		5		6		7
(in)		Sens		Sens		Sens	
Finger 01:	1419	282.0	1701	272.0	1973	273.0	2246
Finger 02:	1408	290.0	1698	277.0	1975	275.0	2250
Finger 03:	1394	288.0	1682	281.0	1963	284.0	2247
Finger 04:	1379	292.0	1671	287.0	1958	290.0	2248
Finger 05:	1396	292.0	1688	285.0	1973	288.0	2261
Finger 06:	1387	285.0	1672	283.0	1955	285.0	2240
Finger 07:	1439	273.0	1712	271.0	1983	272.0	2255
Finger 08:	1410	286.0	1696	284.0	1980	290.0	2270
Finger 09:	1468	268.0	1736	271.0	2007	273.0	2280
Finger 10:	1450	272.0	1722	280.0	2002	278.0	2280
Finger 11:	1448	270.0	1718	278.0	1996	283.0	2279
Finger 12:	1440	266.0	1706	276.0	1982	278.0	2260
Finger 13:	1491	252.0	1743	264.0	2007	269.0	2276
Finger 14:	1420	267.0	1687	288.0	1975	292.0	2267
Finger 15:	1458	268.0	1726	285.0	2011	289.0	2300
Finger 16:	1436	269.0	1705	293.0	1998	299.0	2297
Finger 17:	1485	249.0	1734	272.0	2006	276.0	2282
Finger 18:	1484	256.0	1740	280.0	2020	288.0	2308
Finger 19:	1464	264.0	1728	286.0	2014	292.0	2306
Finger 20:	1503	255.0	1758	274.0	2032	279.0	2311
Finger 21:	1458	271.0	1729	292.0	2021	301.0	2322
Finger 22:	1460	256.0	1716	281.0	1997	291.0	2288
Finger 23:	1526	241.0	1767	260.0	2027	268.0	2295
Finger 24:	1456	269.0	1725	293.0	2018	303.0	2321
Finger 25:	1472	259.0	1731	279.0	2010	290.0	2300
Finger 26:	1412	278.0	1690	296.0	1986	308.0	2294
Finger 27:	1489	265.0	1754	278.0	2032	288.0	2320
Finger 28:	1472	257.0	1722	269.0	1997	279.0	2276

Finger 28:	1472	257.0	1729	268.0	1997	279.0	2276
Finger 29:	1456	276.0	1732	284.0	2016	292.0	2308
Finger 30:	1190	285.0	1475	300.0	1775	322.0	2097
Finger 31:	1402	260.0	1662	264.0	1926	272.0	2198
Finger 32:	1409	295.0	1704	298.0	2002	303.0	2305
Finger 33:	1324	306.0	1630	316.0	1946	328.0	2274
Finger 34:	1472	272.0	1744	260.0	2004	262.0	2266
Finger 35:	1433	281.0	1714	277.0	1991	282.0	2273
Finger 36:	1430	288.0	1718	283.0	2001	288.0	2289
Finger 37:	1538	299.0	1837	291.0	2128	295.0	2423
Finger 38:	1296	271.0	1567	266.0	1833	276.0	2109
Finger 39:	1381	292.0	1673	286.0	1959	291.0	2250
Finger 40:	1425	283.0	1708	273.0	1981	274.0	2255

Segmented Cement Bond Log Calibration Report

Serial Number: 10013454in7
Tool Model: 004

Calibration Casing Diameter: 5.500 in
Calibration Depth: 33.435 ft

Master Calibration, performed Wed Oct 16 07:07:05 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.003	0.773	0.800	62.200	79.199	1.013
5FT	-0.005	0.785	0.800	62.200	77.764	1.180
S1	-0.003	0.874	0.000	100.000	114.059	0.290
S2	-0.004	0.796	0.000	100.000	124.979	0.499
S3	-0.004	0.702	0.000	100.000	141.652	0.519
S4	-0.005	0.659	0.000	100.000	150.445	0.821
S5	-0.003	0.675	0.000	100.000	147.283	0.512
S6	-0.003	0.740	0.000	100.000	134.571	0.371
S7	-0.002	0.826	0.000	100.000	120.643	0.299
S8	-0.004	0.887	0.000	100.000	112.263	0.452

Gamma Ray Calibration Report

Serial Number: 211727
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 Henrickson Federal 35N-18HZ
Field Wattenberg
County Weld
State Colorado