



Radial Cement Bond  
Gamma Ray  
Casing Collar Log

Company Whiting Oil & Gas Corporation				Company Whiting Oil & Gas Corporation			
Well Razor Federal 26J-3511A				Well Razor Federal 26J-3511A			
Field Wildcat				Field Wildcat			
County Weld				County Weld			
State Colorado				State Colorado			
Location:				Location:			
SHL: 2326' FSL 1947' FEL				API # : 05-123-38346			
Lat/Long: 40.808756/-103.829622				SEC 26 TWP 10N RGE 58W			
Permanent Datum				Ground Level			
Log Measured From				Kelly Bushing			
Drilling Measured From				Kelly Bushing			
Date				June 5, 2014			
Run Number				One			
Depth Driller				12,190 FT			
Depth Logger				4,900 FT			
Bottom Logged Interval				4,900 FT			
Top Log Interval				Surface			
Open Hole Size				9.625"			
Type Fluid				Water			
Density / Viscosity				8.34 lbm/gal			
Max. Recorded Temp.				180°F			
Estimated Cement Top				484 FT			
Time Well Ready				ROA			
Time Logger on Bottom				13:00			
Equipment Number				HD-0134			
Location				Fort Lupton, CO			
Recorded By				R. Harris			
Witnessed By				Gary Chandler			
Borehole Record				Tubing Record			
Run Number				Bit			
				From			
				To			
				Size			
				Weight			
				From			
				To			
Casing Record				Size (in)			
Surface Casing				9-5/8"			
Intermediate #1				7"			
Intermediate #2				4.5			
Liner				11.6#			
				SeAH 90			
				4,859 FT			
				12,190 FT			

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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  
All wireline depths measured from KB zero at 17 FT.  
Depth reference to Casing Tally reported Liner Top at 4,859 FT.  
Adjusted 8 FT from KB zero to correlate with Liner Top  
Gauge Ring / Junk Basket was run 4 joints below liner top prior to log run.  
Log ran from 4,900 FT to surface.  
Log ran with 1500 PSI surface induced pressure.

Thank you for choosing FMC Technologies Completion Services, Inc.!!



Main Pass

Logged With 1500 PSI At Surface

Database File:06-05-14\_whiting\_razor federal 26j-3511a\_mit\_rbl.db

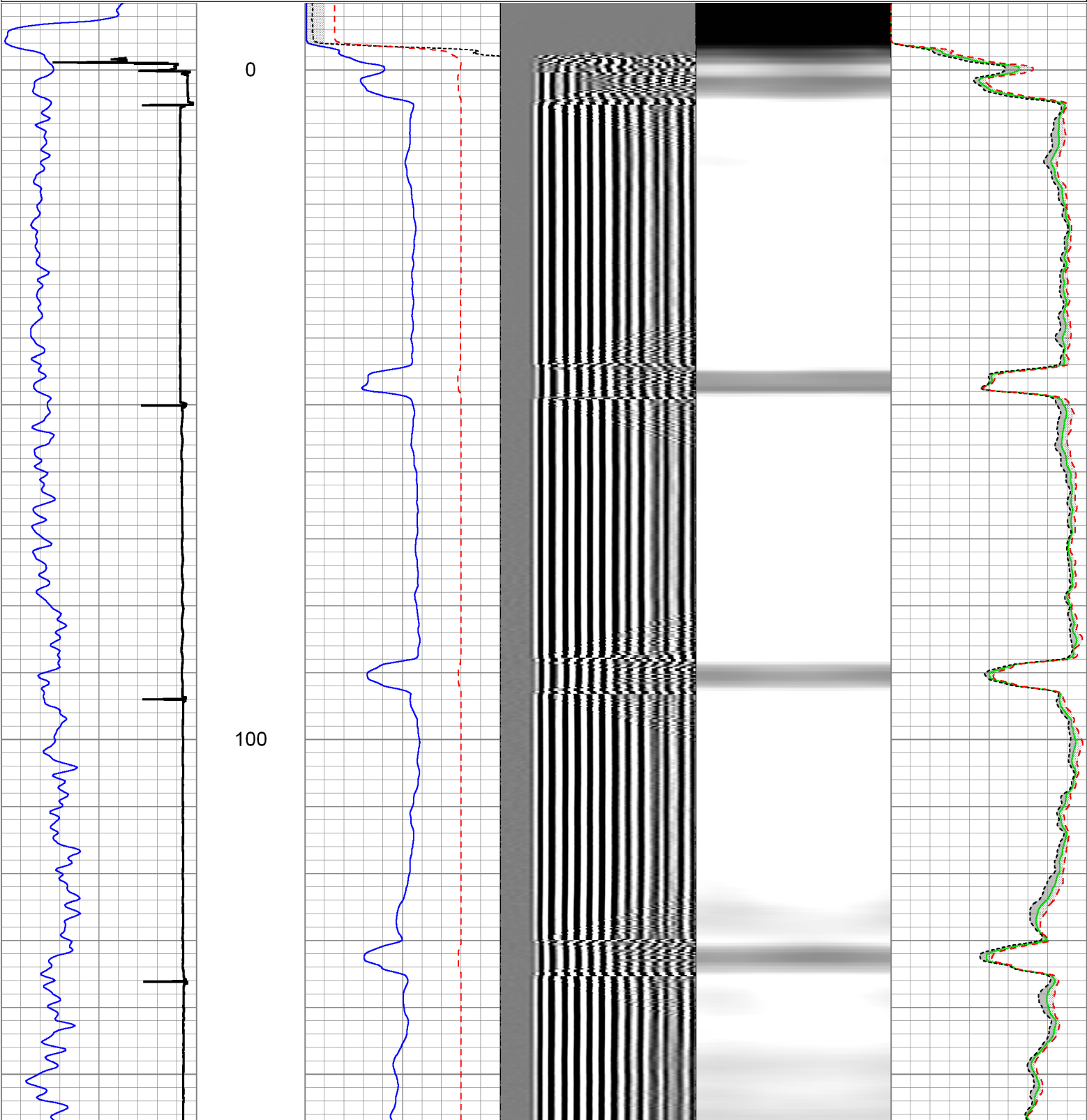
Dataset Pathname:main31

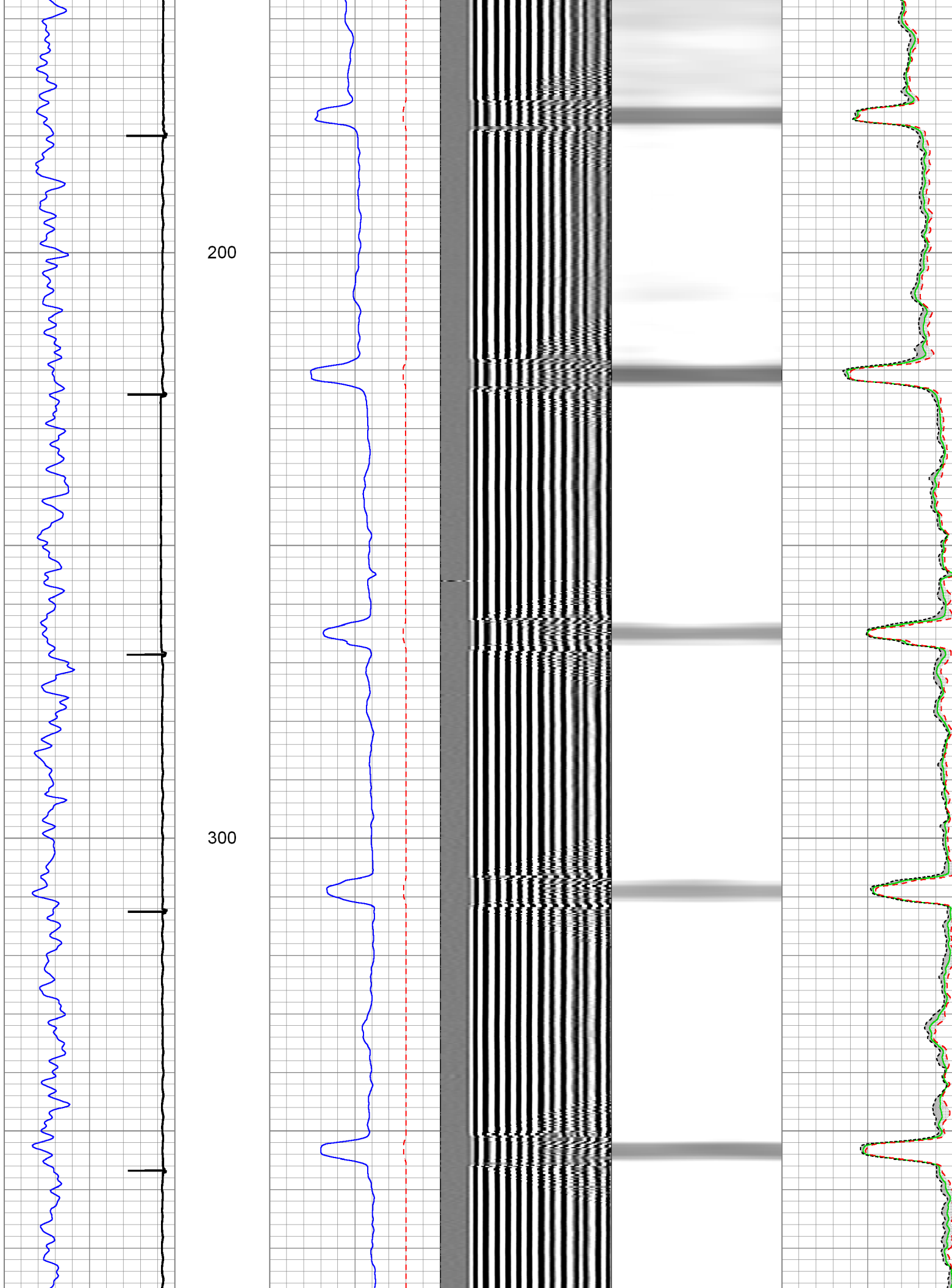
Presentation Format:rbt004

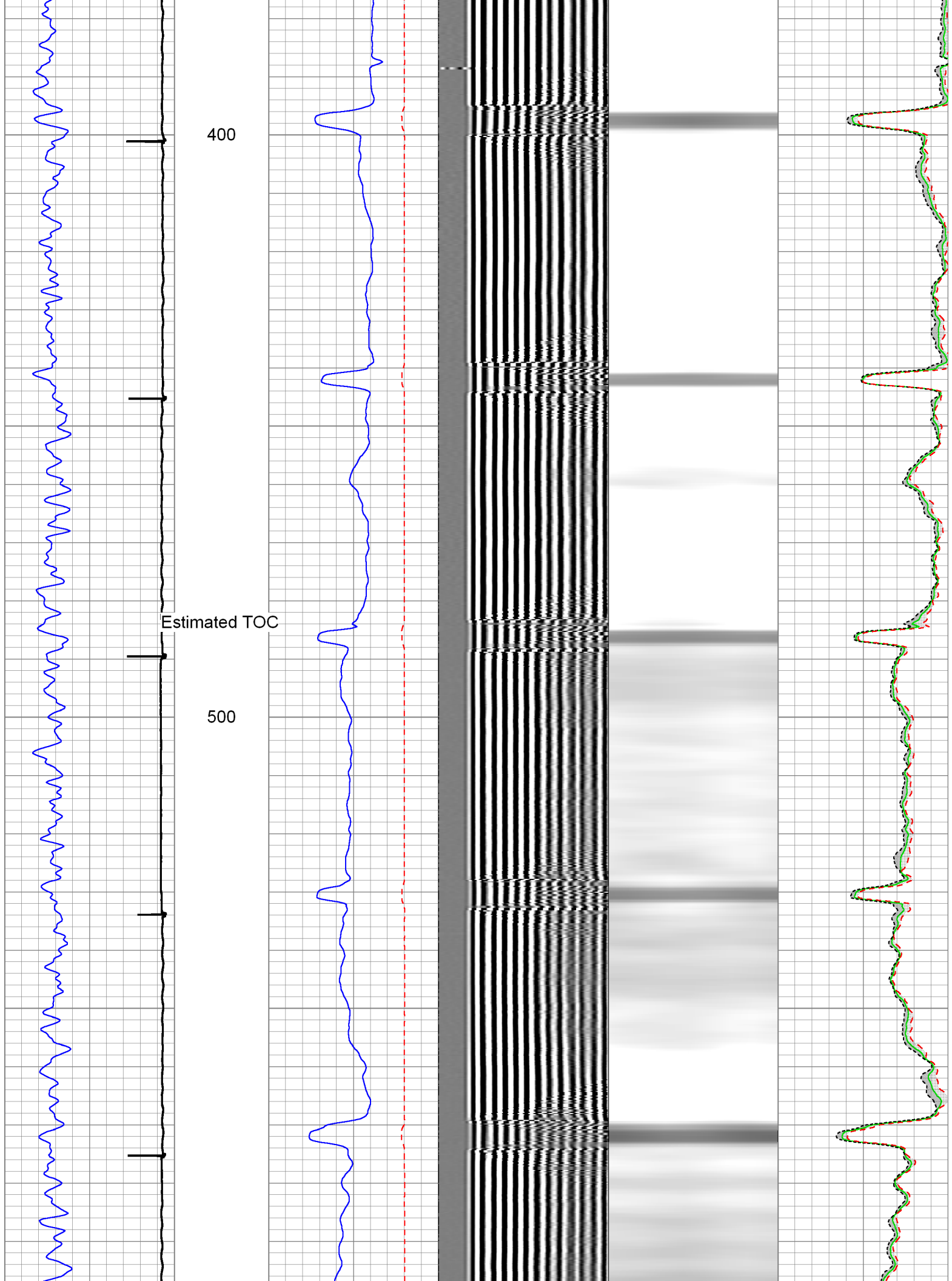
Dataset Creation:Thu Jun 05 14:21:55 2014 by Log 7.0 B1

Charted by:Depth in Feet scaled 1:240

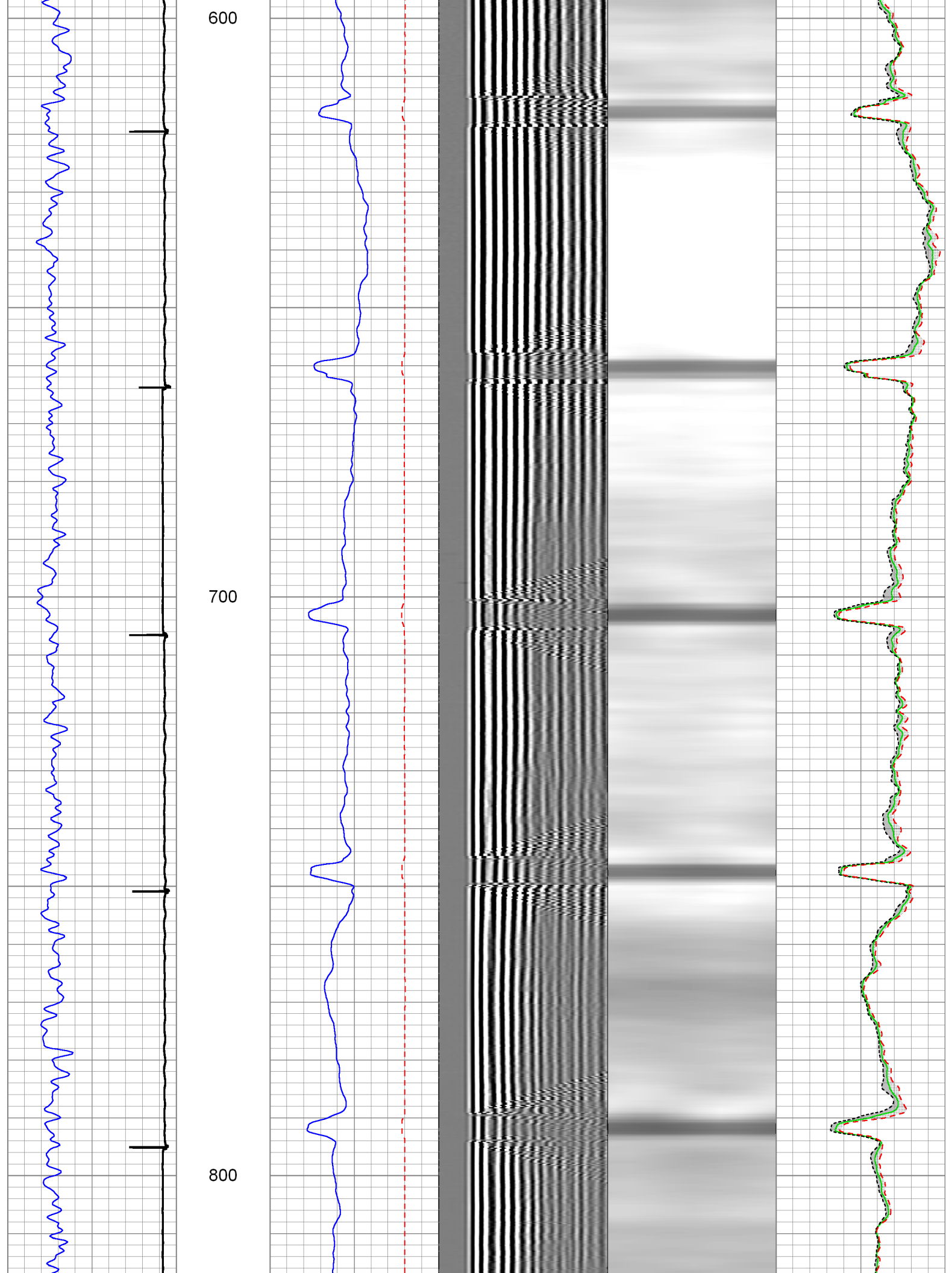
Gamma Ray		3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120		0 (mV) 100	200 1200		0 100
Casing Collar Locator		3' Amplitude x 5			Mimimum Amplitude
		0 (mV) 20			0 100
		3' Travel Time			Maximum Amplitude
		650 (usec) 150			0 100

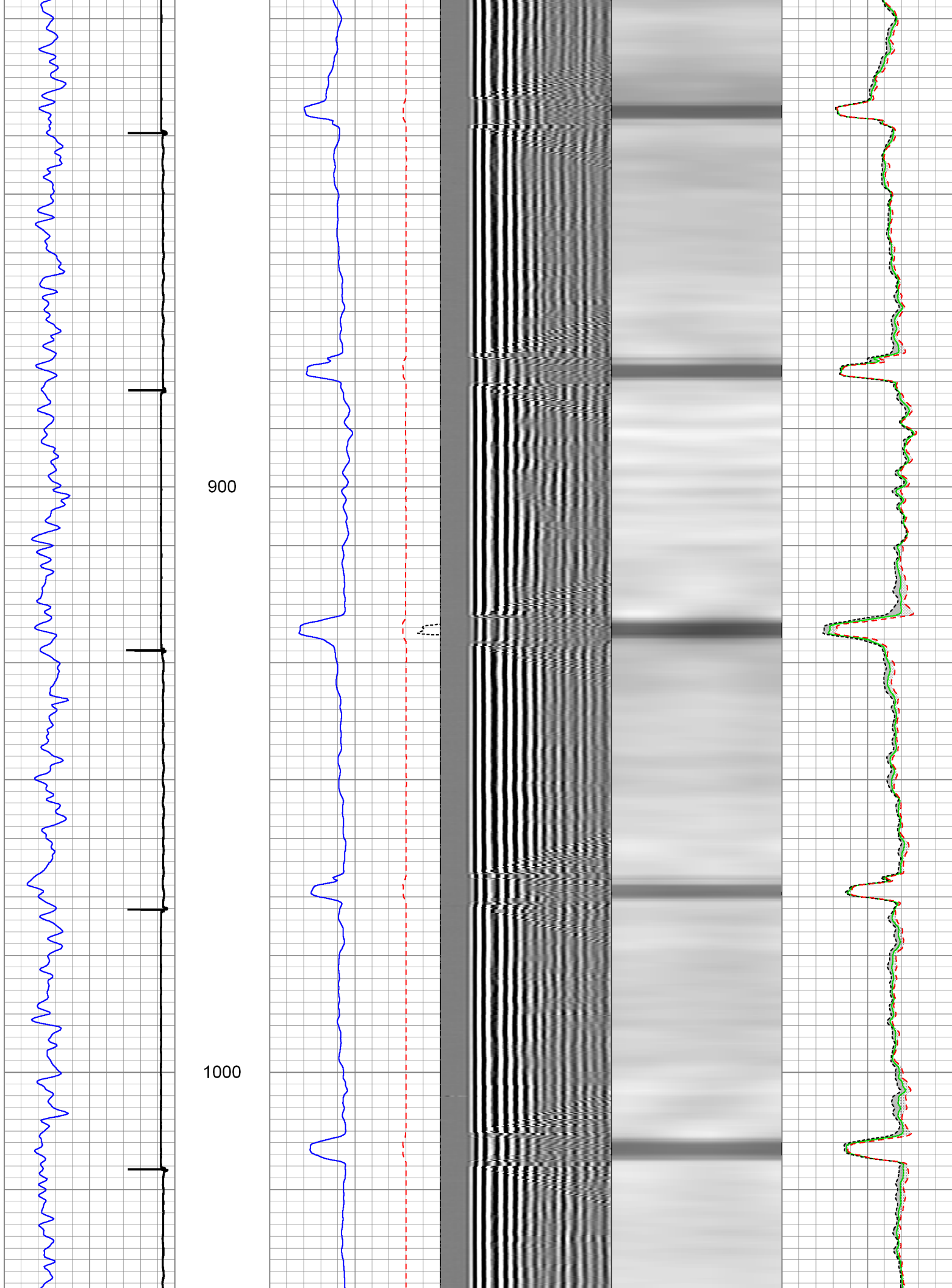


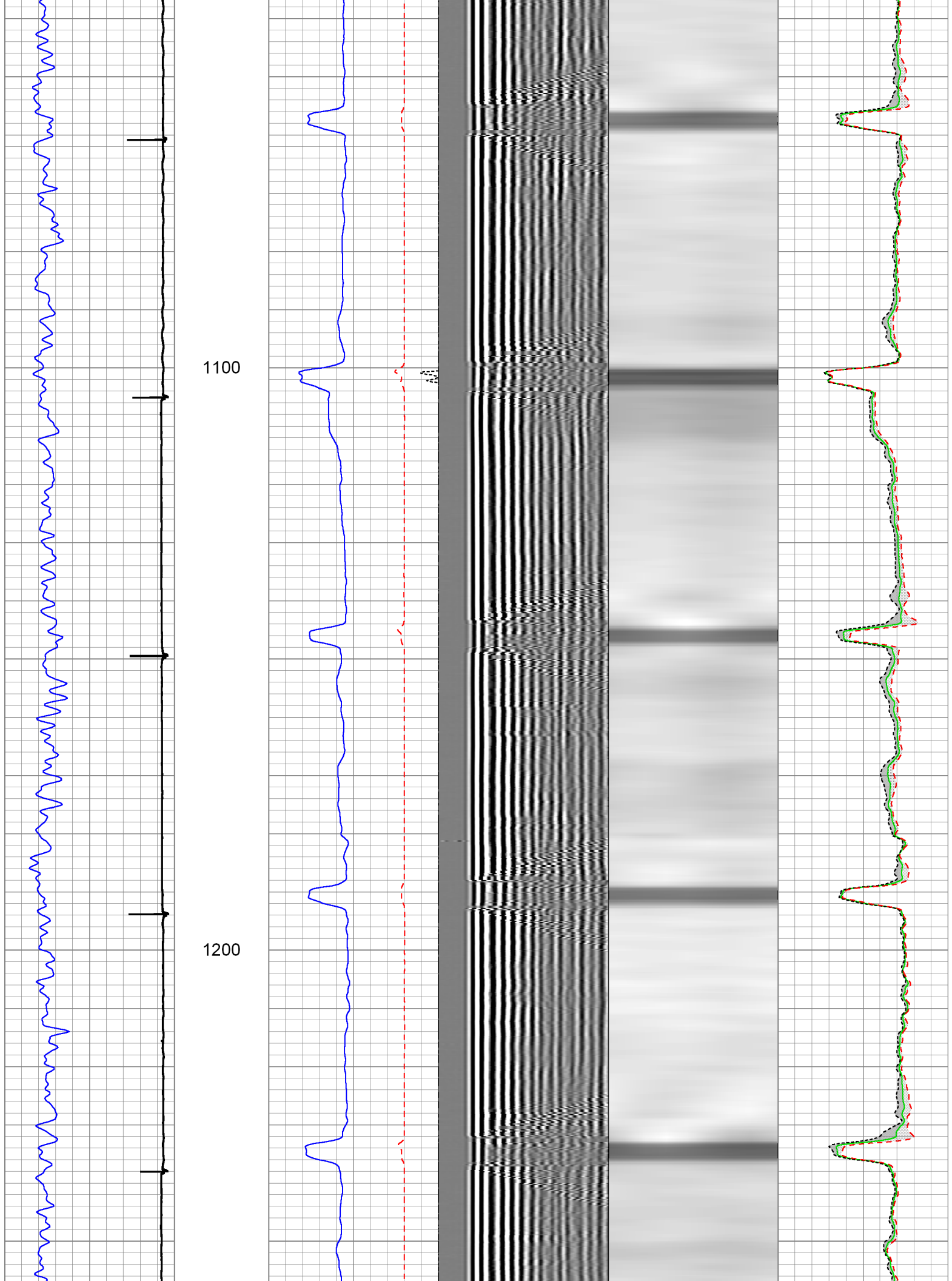


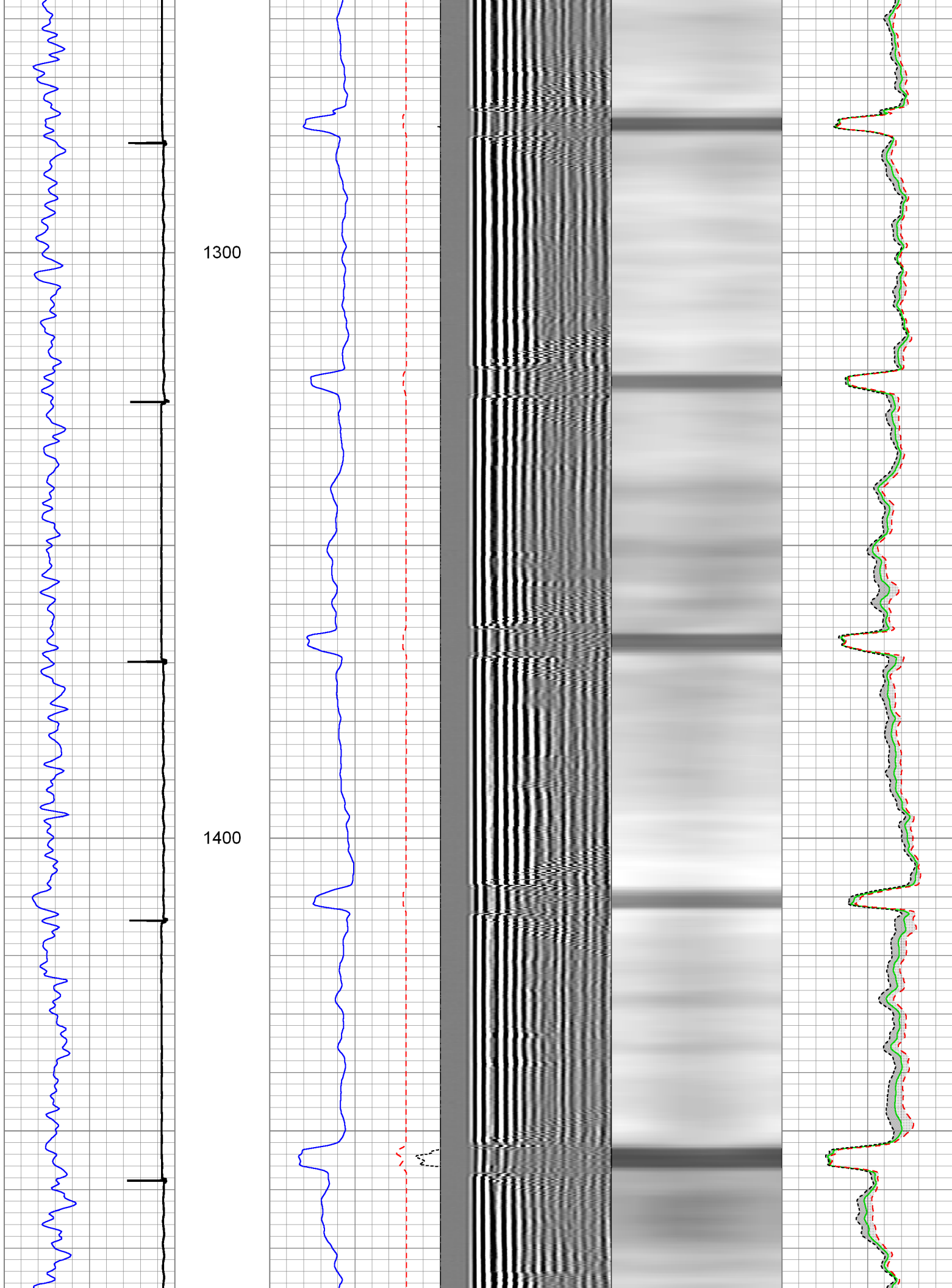


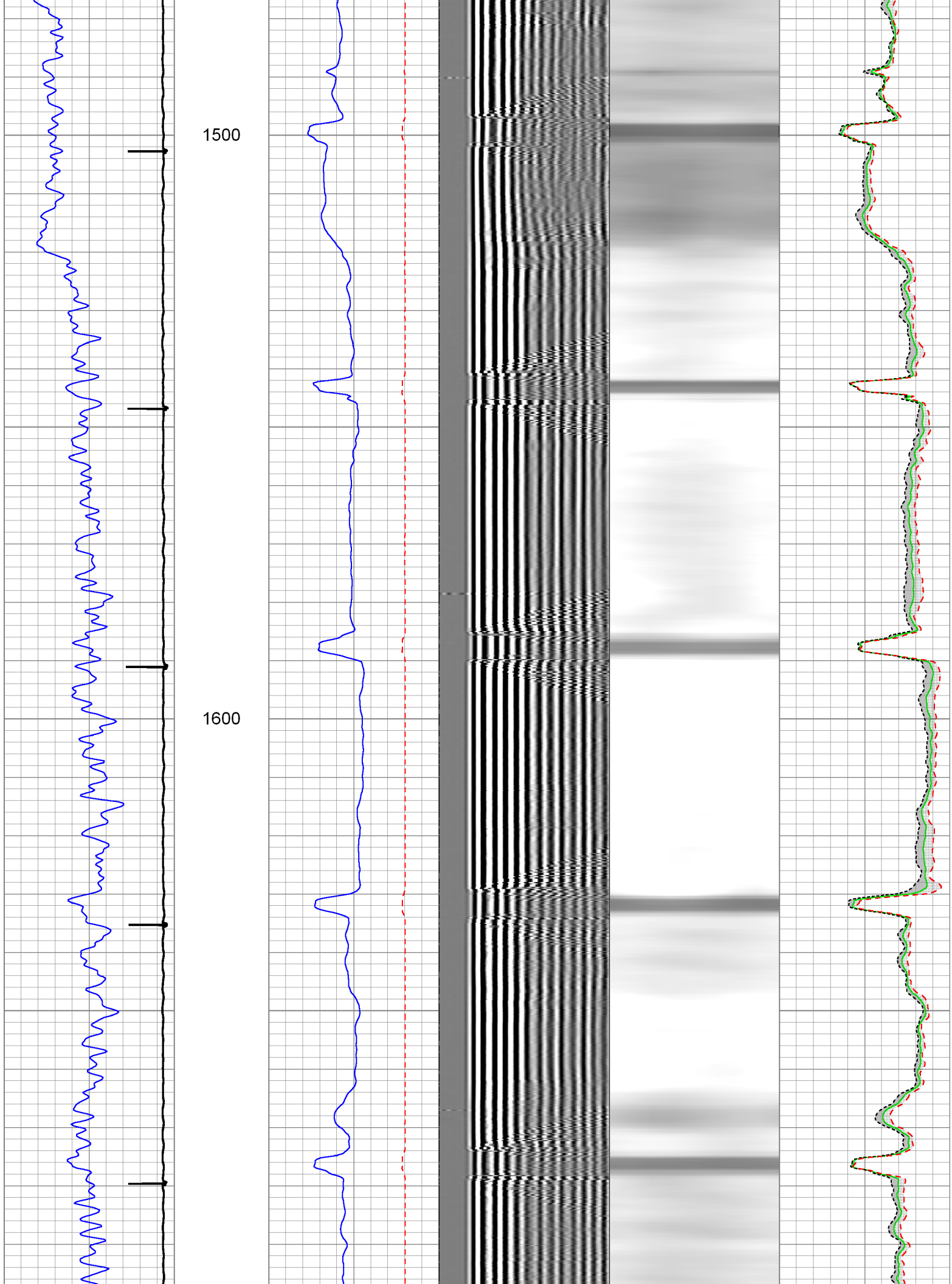




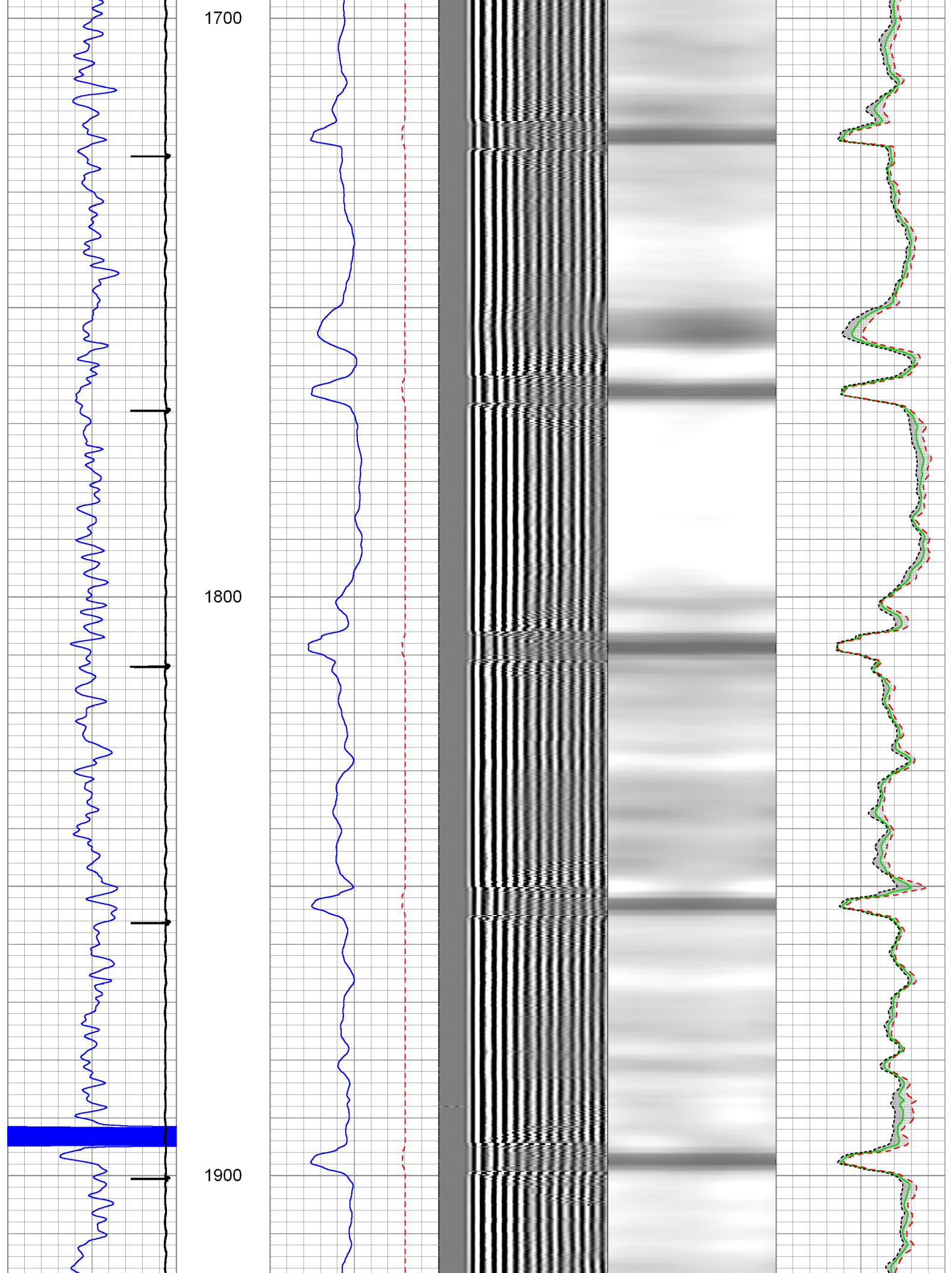


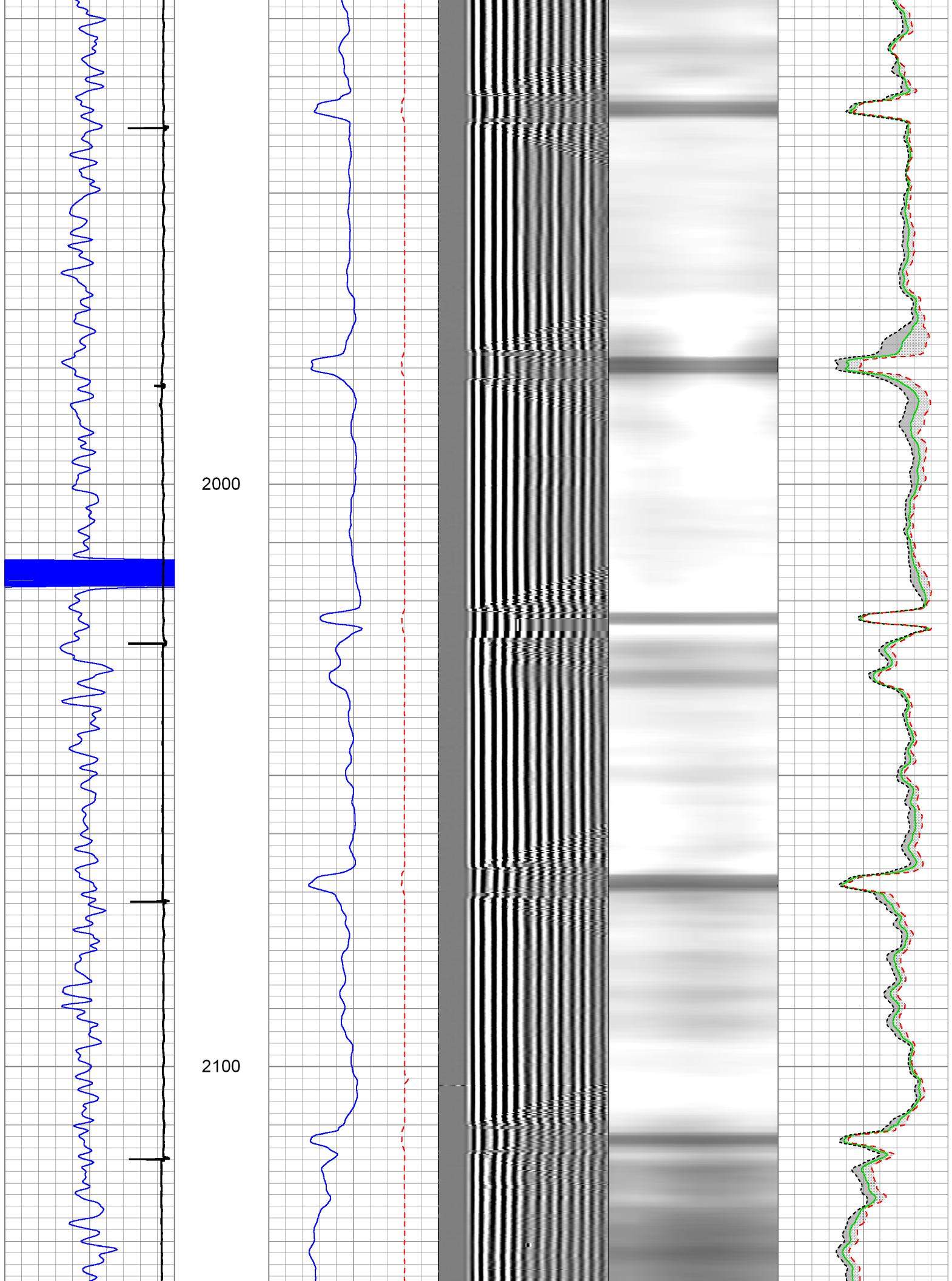


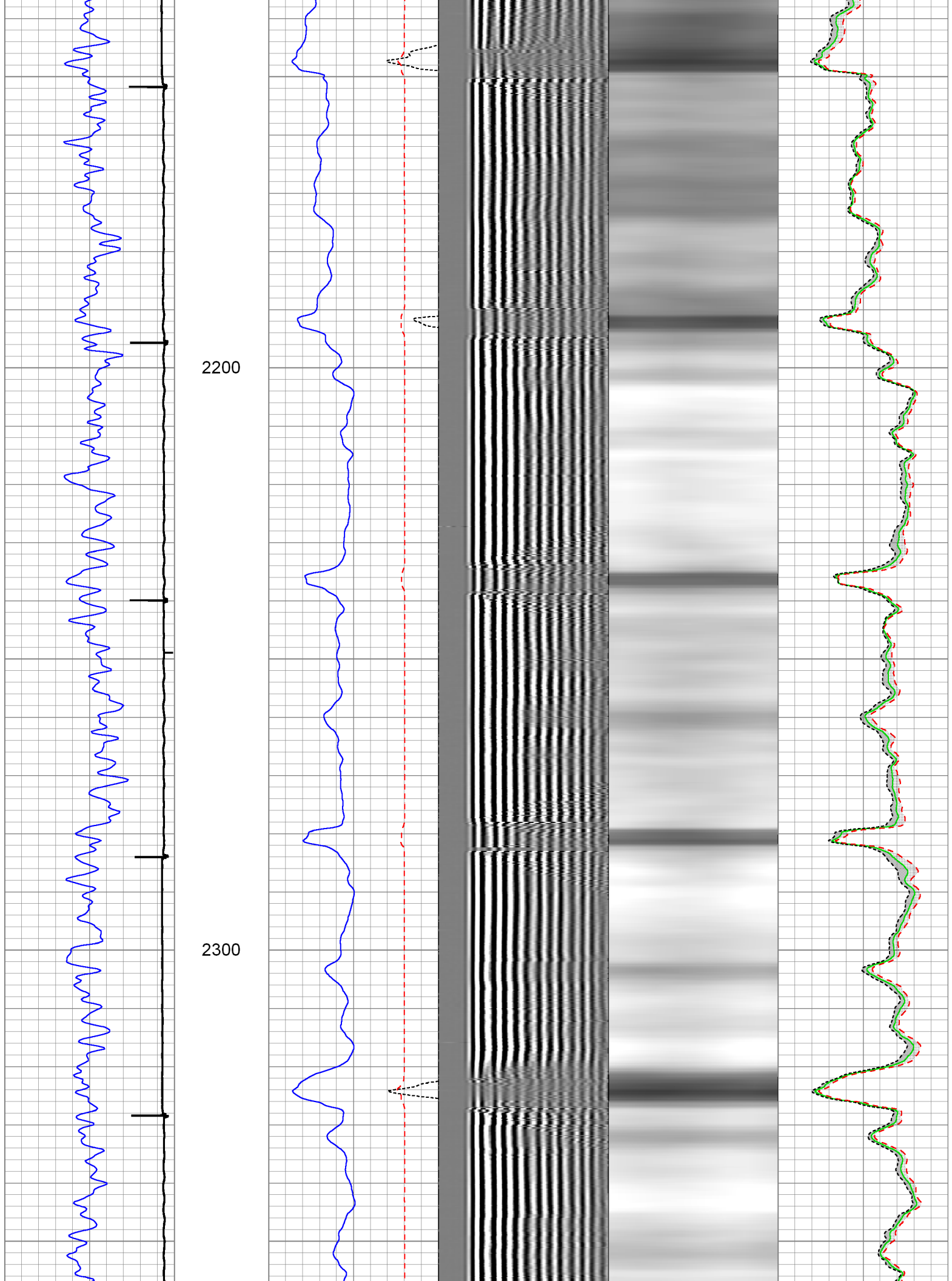


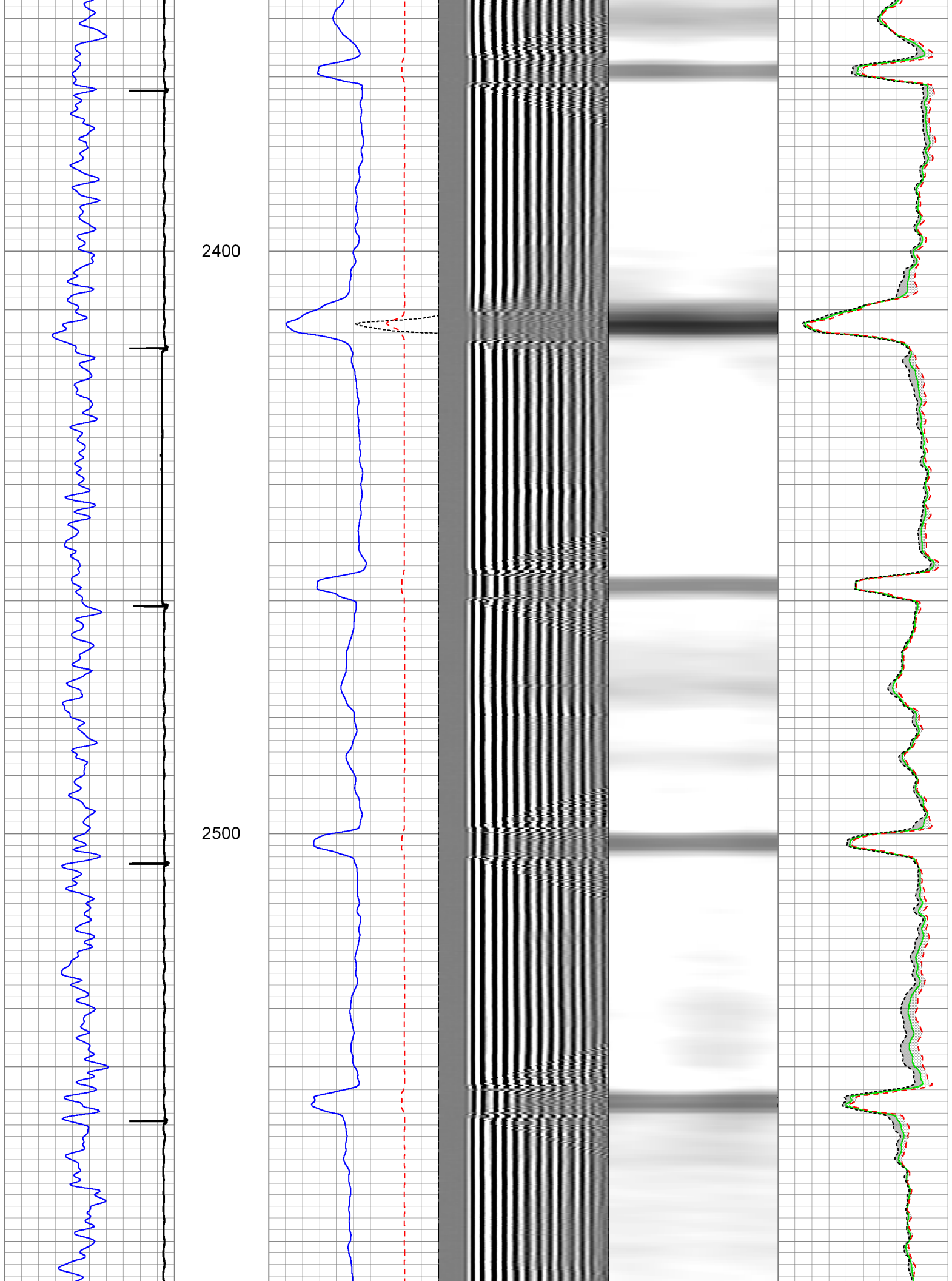






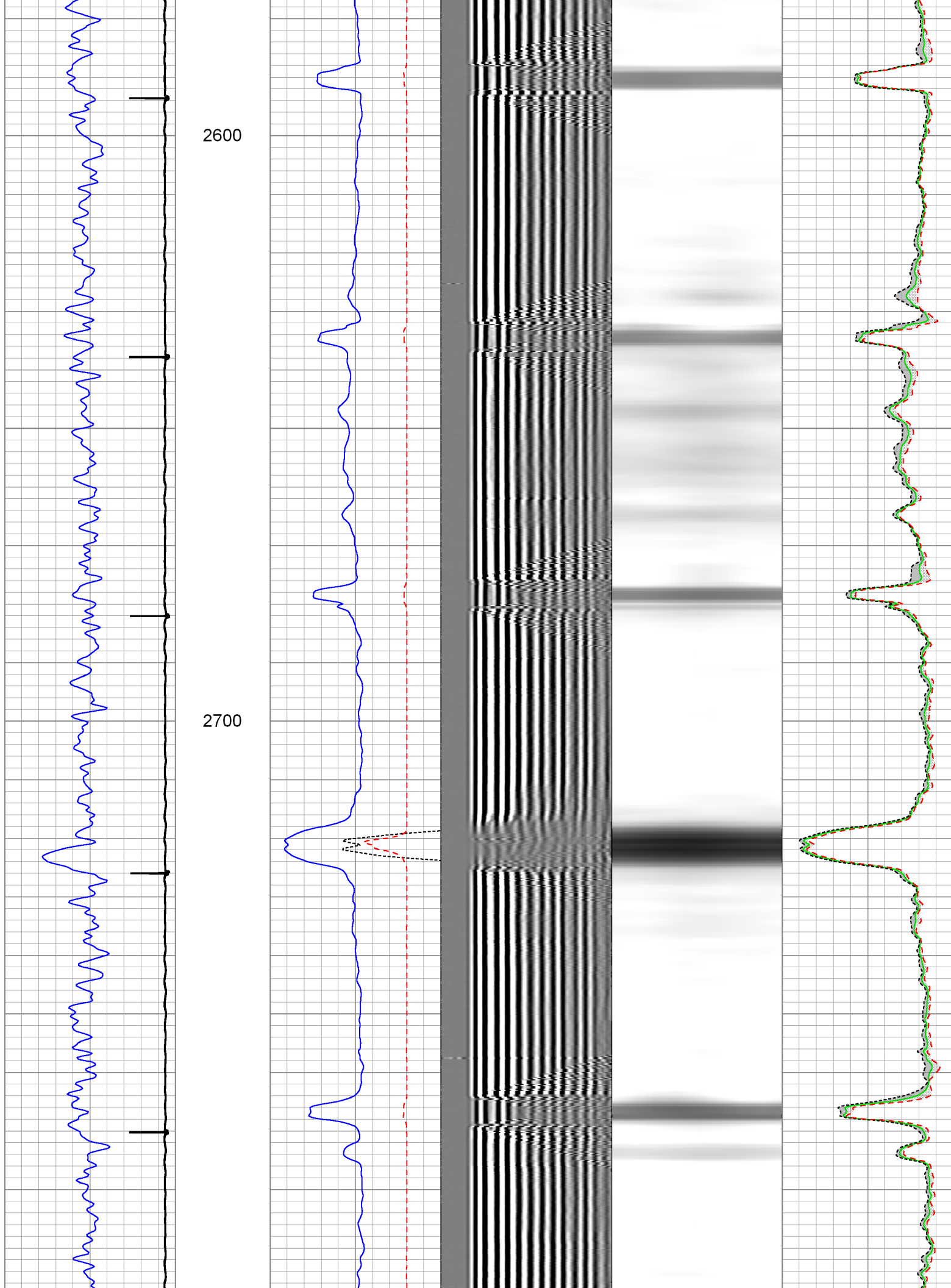






2600

2700

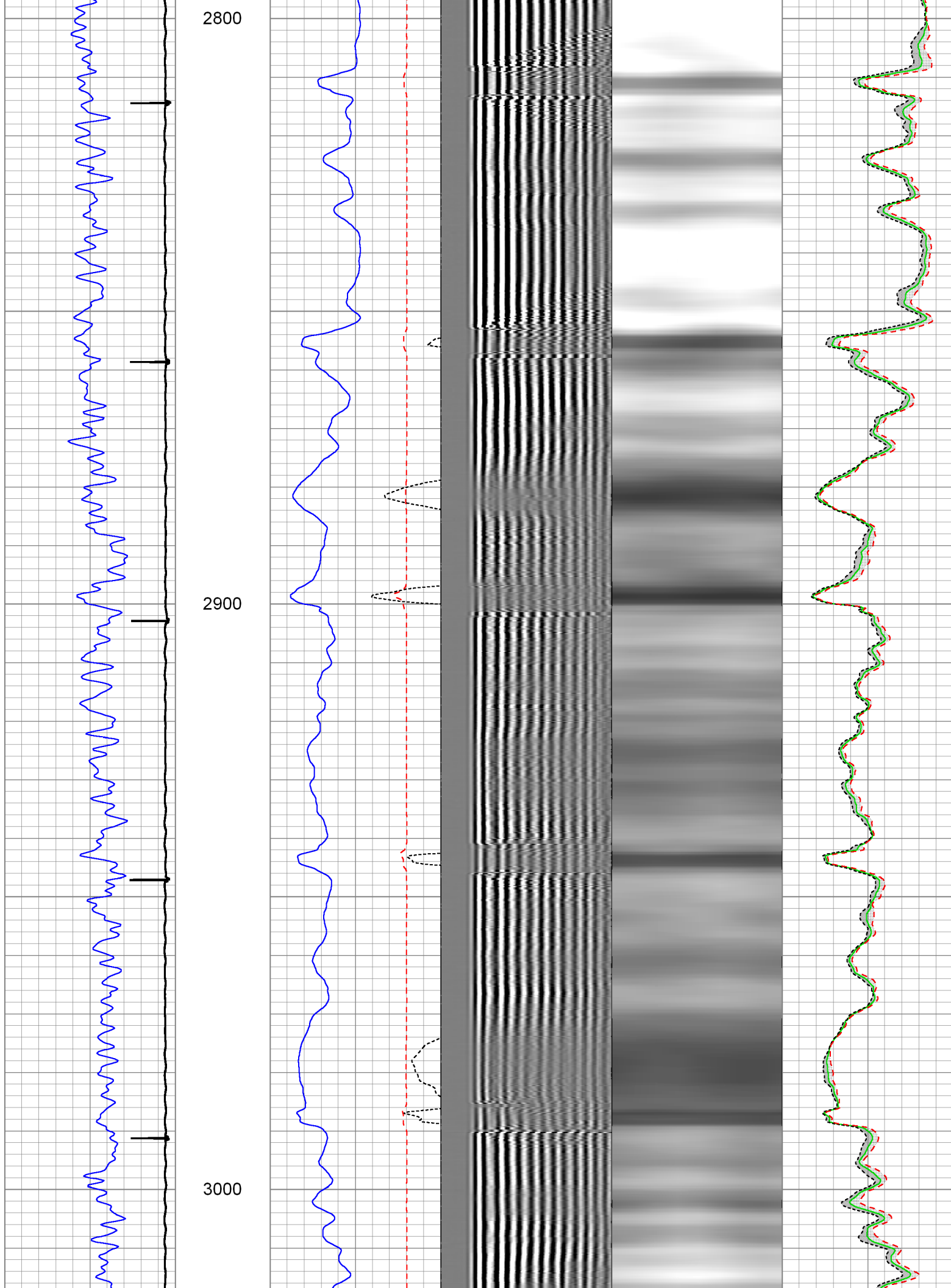


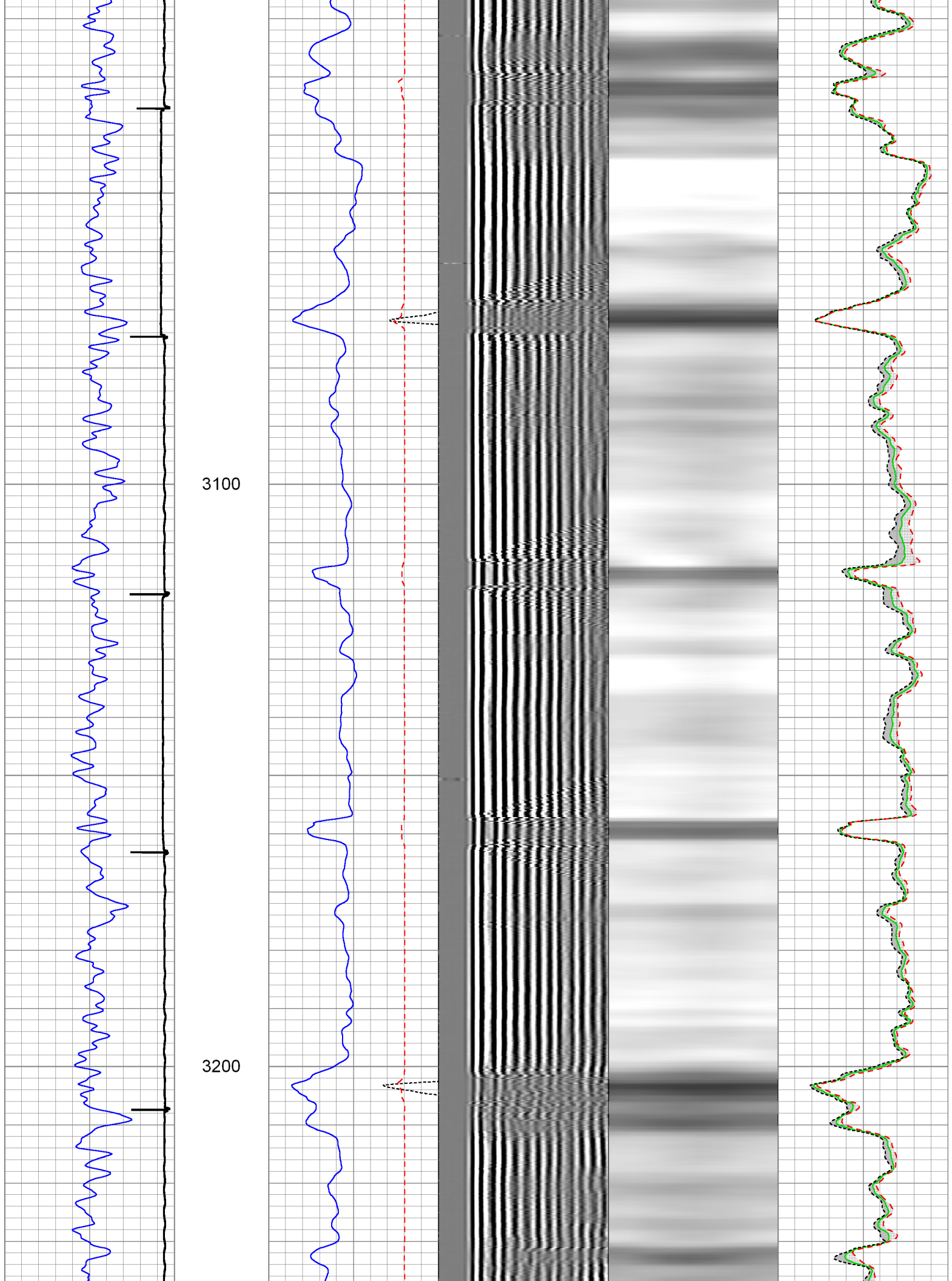


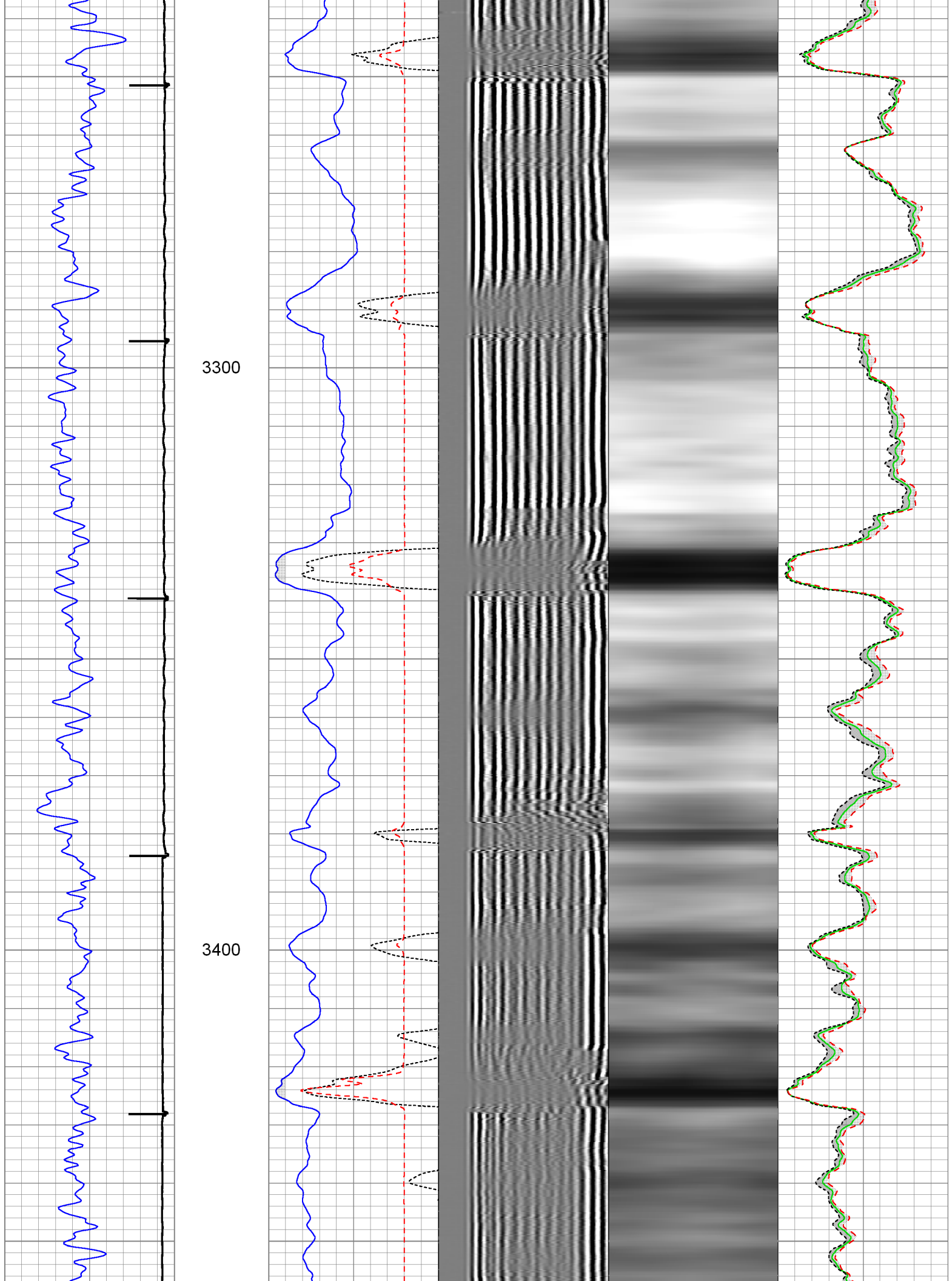
2800

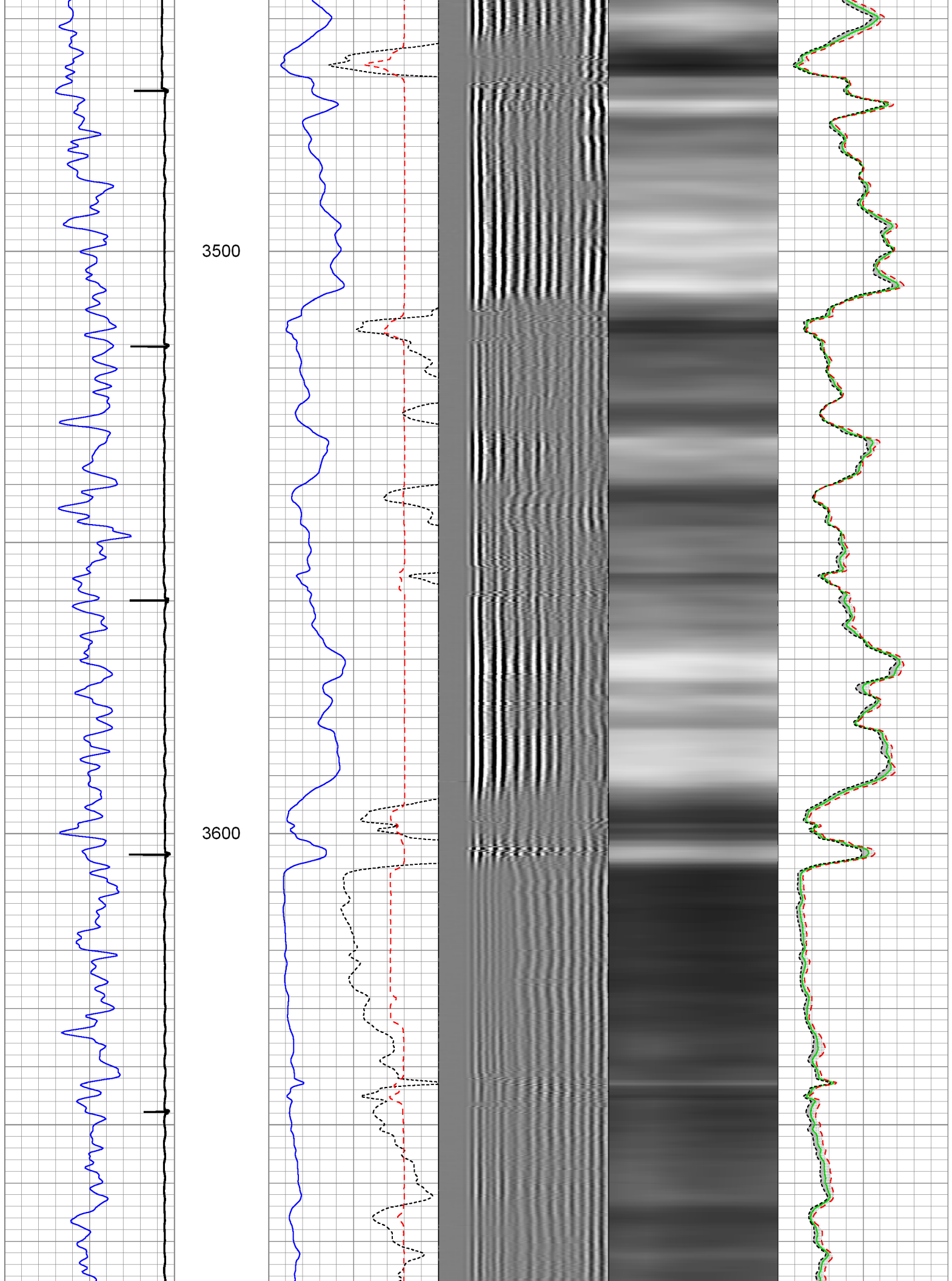
2900

3000





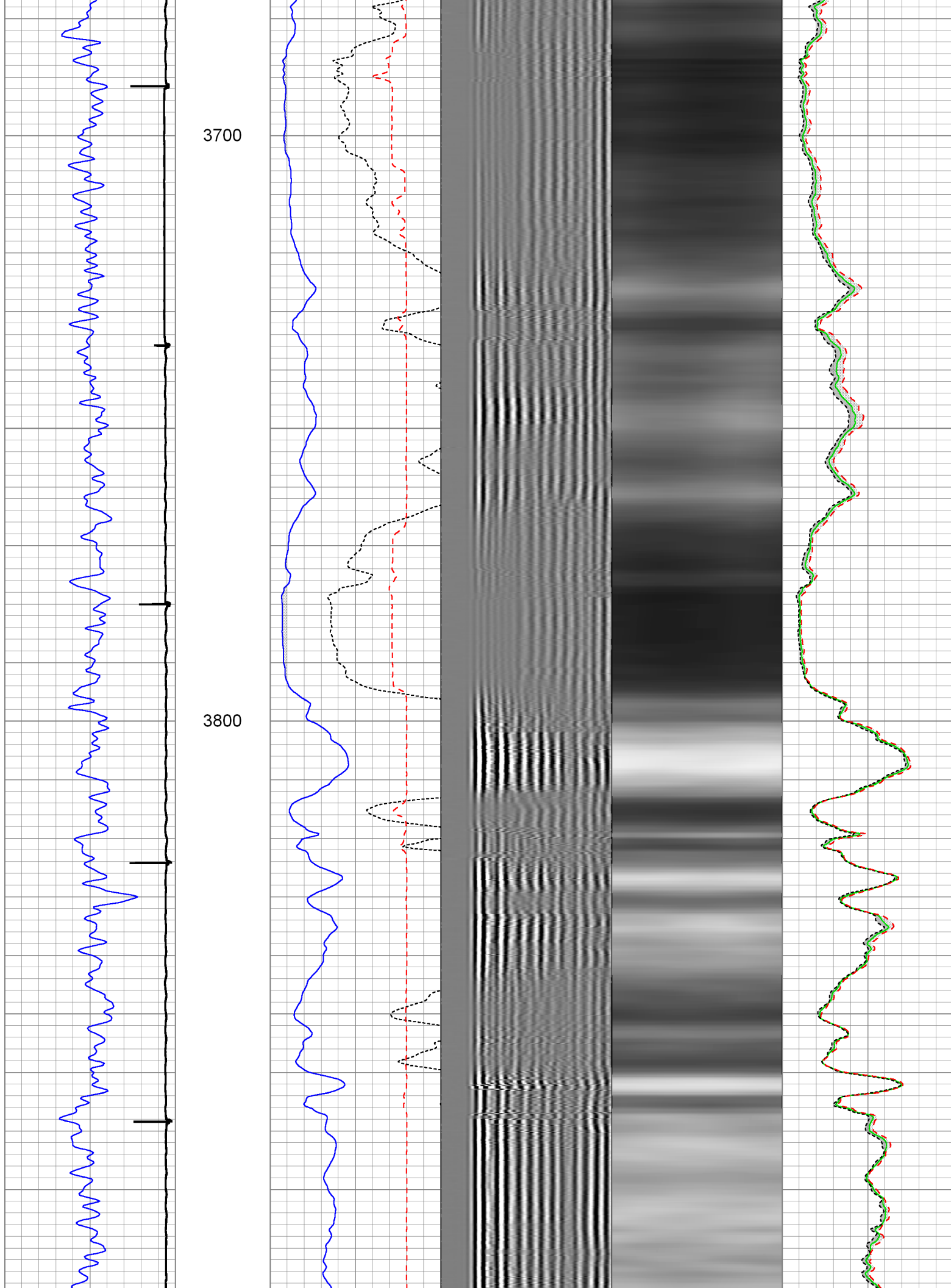




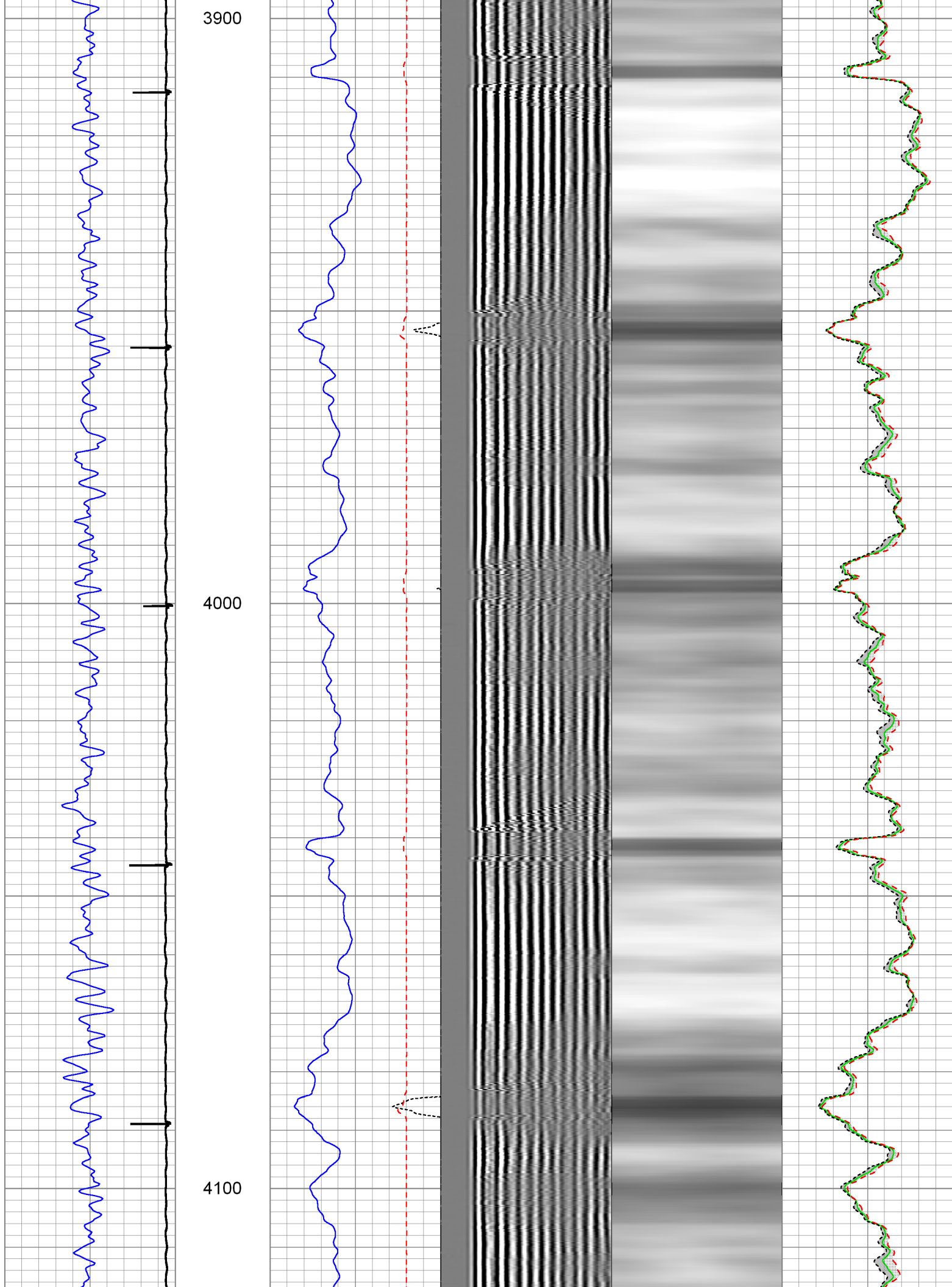


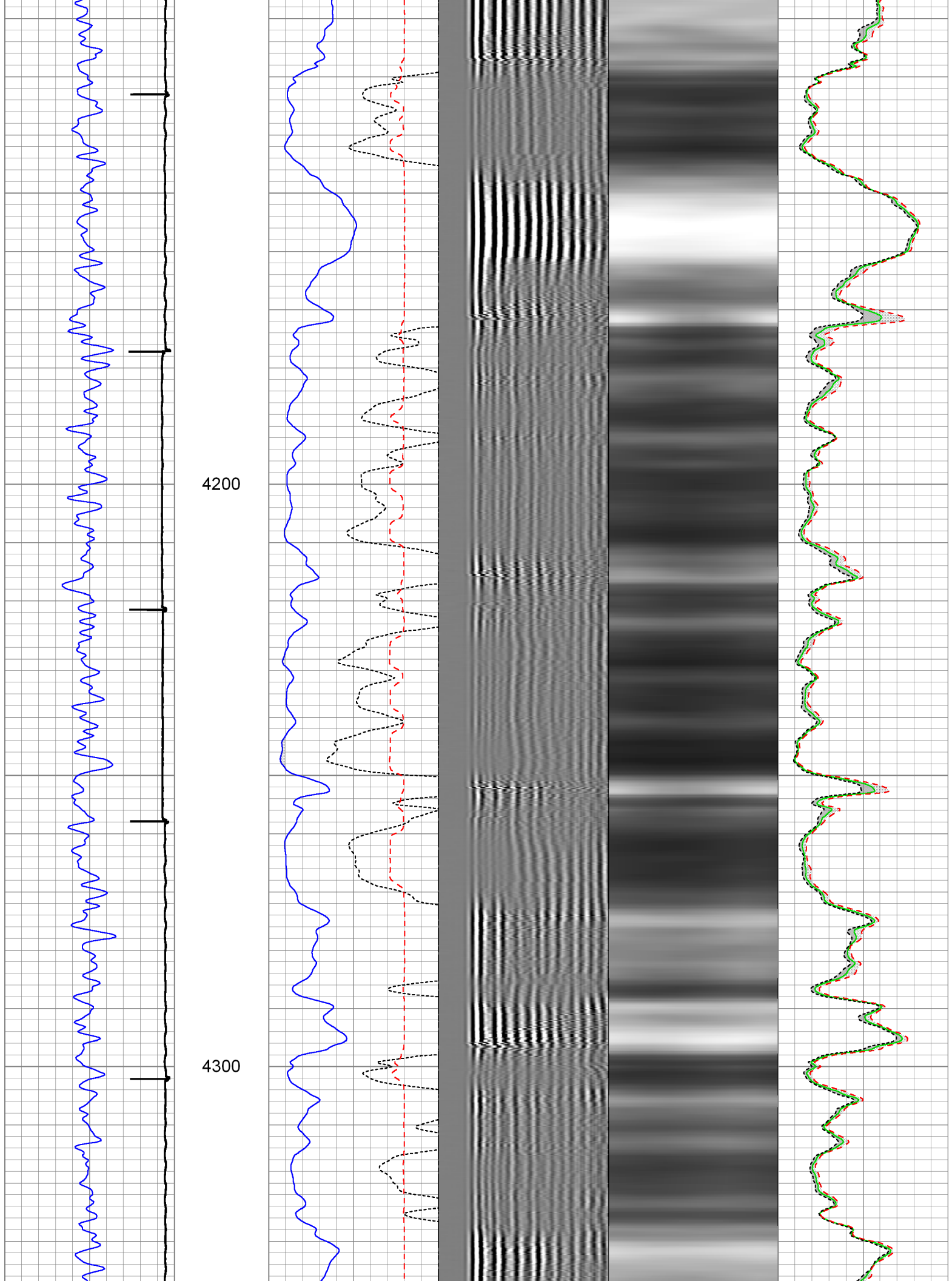
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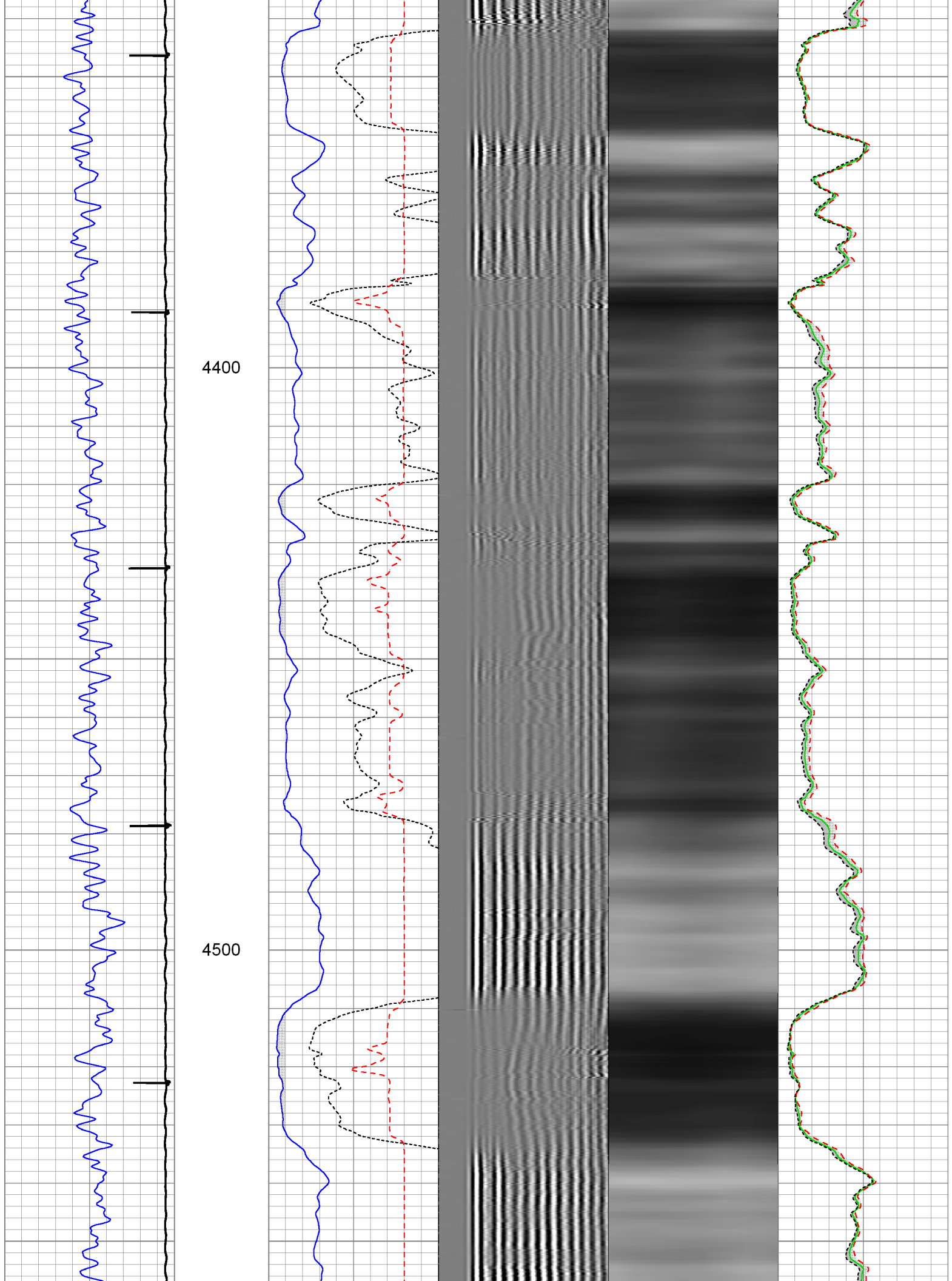
3800

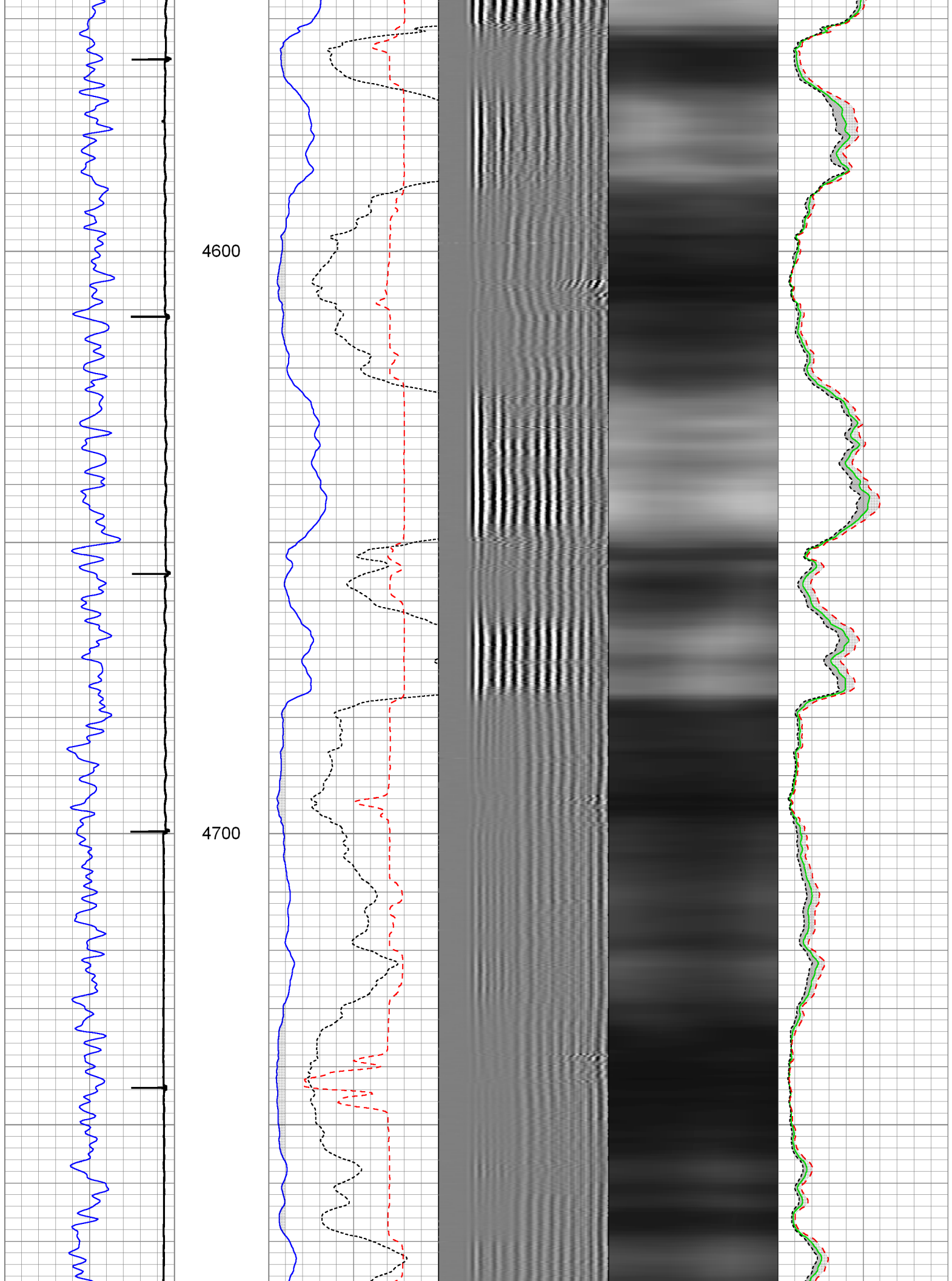


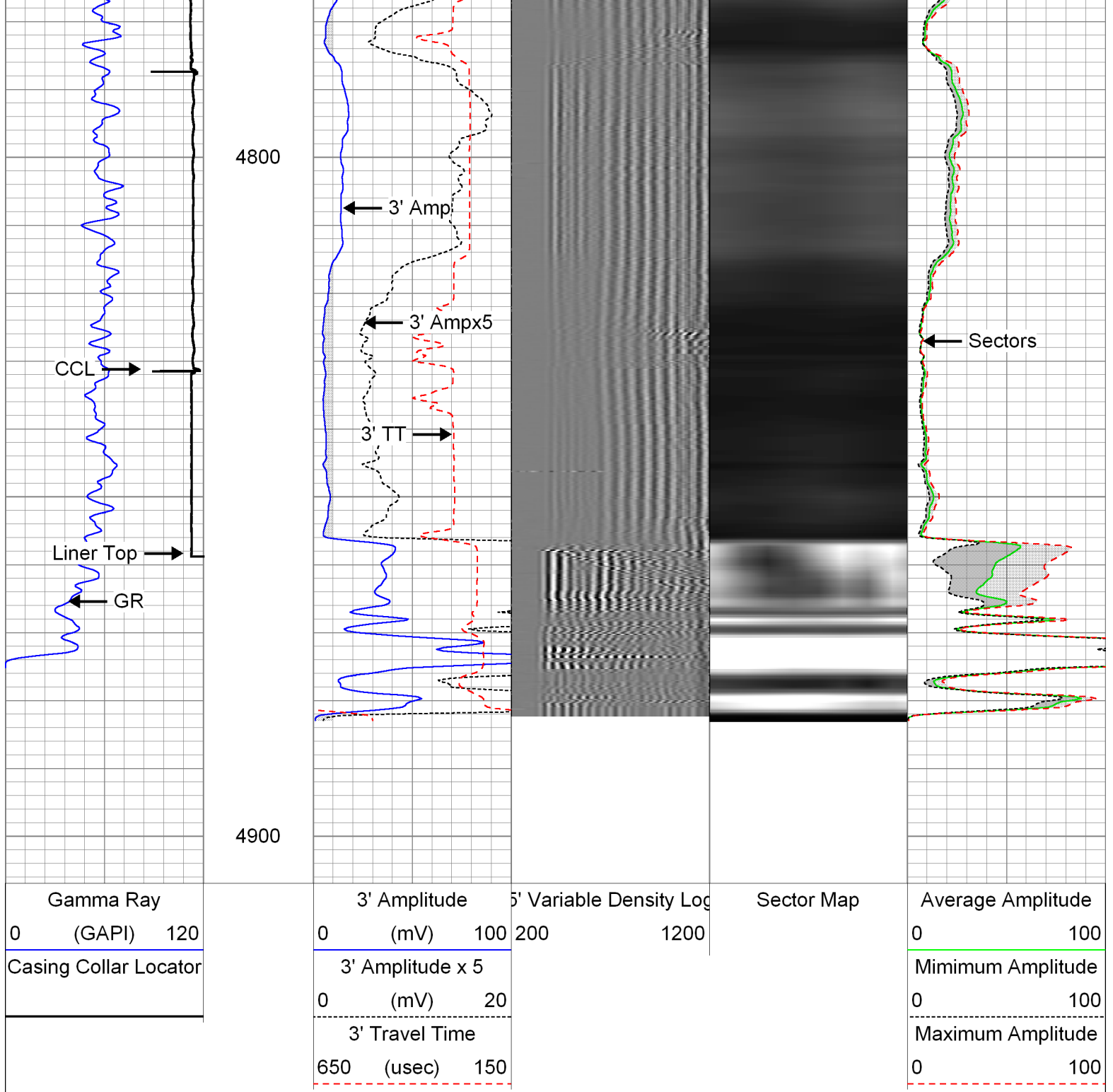












<b>FMC Technologies</b>		Repeat Pass			
		Logged With 1500 PSI At Surface			
Database File:		06-05-14_whiting_razor federal 26j-3511a_mit_rbl.db			
Dataset Pathname:		repeat			
Presentation Format:		rbt004			
Dataset Creation:		Thu Jun 05 10:29:15 2014 by Log 7.0 B1			
Charted by:		Depth in Feet scaled 1:240			
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude	
0 (GAPI) 120	0 (mV) 100	200 1200		0 100	
	3' Amplitude x 5			Minimum Amplitude	



0 (mV) 20  
3' Travel Time  
650 (usec) 150

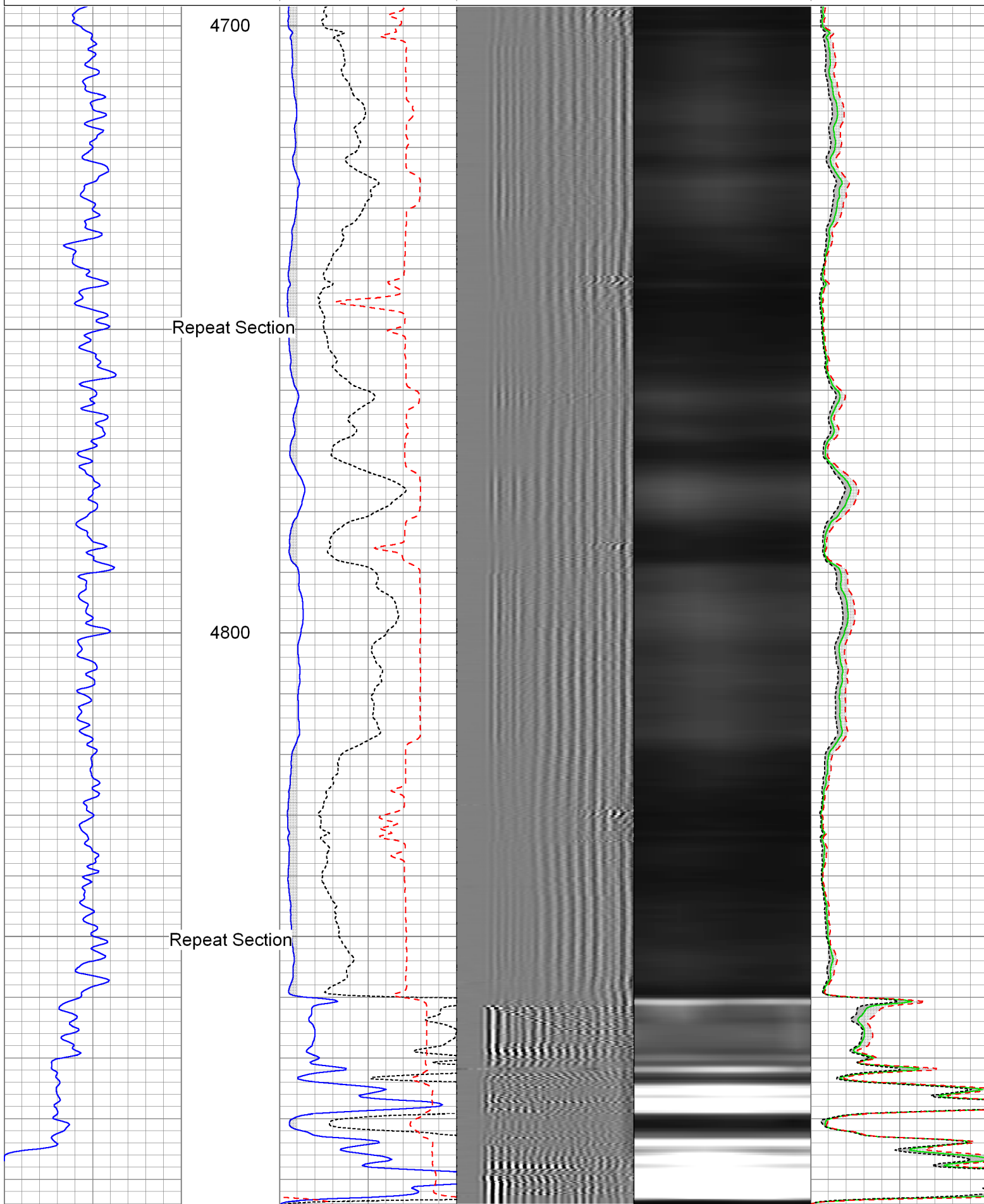
0 100  
Maximum Amplitude  
0 100

4700

Repeat Section

4800

Repeat Section







Finger 20:	1463	270.0	1733	290.0	2023	300.0	2323
Finger 21:	1437	288.0	1725	301.0	2026	313.0	2339
Finger 22:	1479	267.0	1746	282.0	2028	291.0	2319
Finger 23:	1470	272.0	1742	286.0	2028	296.0	2324
Finger 24:	1473	276.0	1749	284.0	2033	288.0	2321
Finger 25:	1463	278.0	1741	288.0	2029	296.0	2325
Finger 26:	1451	283.0	1734	291.0	2025	297.0	2322
Finger 27:	1491	267.0	1758	281.0	2039	289.0	2328
Finger 28:	1479	282.0	1761	286.0	2047	291.0	2338
Finger 29:	1532	266.0	1798	272.0	2070	276.0	2346
Finger 30:	1441	274.0	1715	290.0	2005	300.0	2305
Finger 31:	1453	282.0	1735	294.0	2029	300.0	2329
Finger 32:	1517	268.0	1785	273.0	2058	275.0	2333
Finger 33:	1458	281.0	1739	295.0	2034	300.0	2334
Finger 34:	1442	282.0	1724	289.0	2013	300.0	2313
Finger 35:	1506	264.0	1770	264.0	2034	271.0	2305
Finger 36:	1494	271.0	1765	277.0	2042	286.0	2328
Finger 37:	1461	278.0	1739	295.0	2034	299.0	2333
Finger 38:	1547	254.0	1801	257.0	2058	268.0	2326
Finger 39:	1490	274.0	1764	278.0	2042	286.0	2328
Finger 40:	1429	286.0	1715	299.0	2014	306.0	2320

Post Survey Calibration Check								
Performed:					Thu Jun 05 16:07:33 2014			
Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	3.997	-0.001	5.003	0.002	6.000	0.000	6.990	-0.005
Finger 02:	4.029	0.014	5.011	0.005	5.989	-0.006	7.006	0.003
Finger 03:	3.993	-0.003	4.993	-0.004	5.996	-0.002	6.996	-0.002
Finger 04:	3.997	-0.002	4.992	-0.004	6.002	0.001	6.997	-0.001
Finger 05:	3.991	-0.004	5.001	0.001	5.993	-0.003	6.998	-0.001
Finger 06:	3.995	-0.003	5.001	0.001	5.997	-0.002	7.003	0.002
Finger 07:	3.996	-0.002	4.999	-0.001	6.008	0.004	7.004	0.002
Finger 08:	4.000	-0.000	4.999	-0.000	6.005	0.003	7.010	0.005
Finger 09:	3.998	-0.001	5.006	0.003	6.016	0.008	7.004	0.002
Finger 10:	4.004	0.002	4.990	-0.005	5.998	-0.001	6.999	-0.000
Finger 11:	3.995	-0.002	4.999	-0.000	6.004	0.002	7.005	0.002
Finger 12:	3.997	-0.002	4.997	-0.001	6.003	0.001	6.997	-0.002
Finger 13:	4.003	0.001	4.992	-0.004	5.992	-0.004	6.994	-0.003
Finger 14:	4.013	0.006	5.013	0.007	6.014	0.007	7.006	0.003
Finger 15:	4.011	0.006	4.994	-0.003	6.007	0.003	7.003	0.001
Finger 16:	4.006	0.003	4.999	-0.000	6.010	0.005	7.000	0.000
Finger 17:	4.008	0.004	4.992	-0.004	6.004	0.002	6.995	-0.002
Finger 18:	3.998	-0.001	4.992	-0.004	5.991	-0.004	7.077	0.038
Finger 19:	3.999	-0.000	5.001	0.000	5.997	-0.001	6.998	-0.001
Finger 20:	3.996	-0.002	4.997	-0.001	5.995	-0.002	6.994	-0.003
Finger 21:	3.996	-0.002	4.981	-0.009	5.984	-0.008	6.994	-0.003
Finger 22:	4.000	-0.000	5.008	0.004	6.007	0.004	6.992	-0.004
Finger 23:	4.004	0.002	5.004	0.002	6.004	0.002	6.997	-0.001
Finger 24:	3.993	-0.004	4.987	-0.006	5.992	-0.004	6.996	-0.002
Finger 25:	4.001	0.000	4.998	-0.001	5.999	-0.000	6.998	-0.001
Finger 26:	4.005	0.002	4.999	-0.000	6.004	0.002	7.004	0.002
Finger 27:	3.998	-0.001	5.017	0.008	6.014	0.007	7.000	0.000
Finger 28:	3.992	-0.004	4.984	-0.008	5.988	-0.006	6.986	-0.007
Finger 29:	4.006	0.003	5.003	0.002	6.011	0.005	7.013	0.006
Finger 30:	4.002	0.001	5.016	0.008	6.011	0.006	7.007	0.004
Finger 31:	3.993	-0.004	5.000	0.000	6.003	0.001	7.002	0.001
Finger 32:	4.002	0.001	5.000	-0.000	6.002	0.001	7.007	0.004
Finger 33:	4.005	0.002	5.001	0.000	6.005	0.002	7.004	0.002
Finger 34:	4.007	0.004	4.987	-0.007	5.999	-0.000	7.010	0.005
Finger 35:	4.003	0.001	4.985	-0.008	6.001	0.001	7.008	0.004
Finger 36:	3.998	-0.001	4.984	-0.008	5.998	-0.001	7.005	0.002
Finger 37:	4.014	0.007	5.015	0.007	6.014	0.007	7.009	0.004
Finger 38:	4.000	0.000	4.984	-0.008	5.997	-0.002	7.008	0.004
Finger 39:	3.994	-0.003	4.993	-0.003	5.997	-0.002	7.003	0.001

Finger 40:	3.997	-0.001	5.003	0.001	6.004	0.002	7.009	0.004
Average:	4.001	0.000	4.998	-0.001	6.001	0.001	7.003	0.002

Segmented Cement Bond Log Calibration Report

Serial Number:	1066
Tool Model:	UW_RBT_004
Calibration Casing Diameter:	7.000 in
Calibration Depth:	240.430 ft

Master Calibration, performed Thu Jun 05 13:58:24 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.002	0.665	0.800	62.165	91.870	1.028
5FT	-0.005	0.659	0.800	62.165	92.470	1.262
S1	-0.004	0.638	0.000	100.000	155.935	0.571
S2	-0.005	0.596	0.000	100.000	166.461	0.813
S3	-0.002	0.585	0.000	100.000	170.355	0.410
S4	-0.004	0.629	0.000	100.000	158.013	0.629
S5	-0.002	0.688	0.000	100.000	144.909	0.354
S6	-0.003	0.736	0.000	100.000	135.361	0.375
S7	-0.002	0.751	0.000	100.000	132.677	0.324
S8	-0.002	0.701	0.000	100.000	142.094	0.340

Gamma Ray Calibration Report

Serial Number:	211727
Tool Model:	UW_PGR_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	Whiting Oil & Gas Corporation
Well	Razor Federal 26J-3511A
Field	Wildcat
County	Weld
State	Colorado