



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company				Whiting Oil & Gas Corporation			
Well				Razor 271-2214B			
Field				Wild Cat			
County				Weld			
State				Colorado			
Location:				API # : 05-123-37949			
Permanent Datum				SHL: 2320' FSL 759' FEL			
Log Measured From				Lat/Long: 40.808706/-103.844417			
Drilling Measured From				SEC 27 TWP 10N RGE 58W			
Ground Level				Elevation 4756'			
Kelly Bushing (17 FT)				K.B. 4773'			
Kelly Bushing				D.F. 4772'			
Elevation				G.L. 4756'			
Date				18-Jan-2014			
Run Number				Three			
Depth Driller				13470 FT			
Depth Logger				4957 FT			
Bottom Logged Interval				4952 FT			
Top Log Interval				18 FT			
Open Hole Size				8.750"			
Type Fluid				Producing			
Density / Viscosity				Unknown			
Max. Recorded Temp.				202°F			
Estimated Cement Top				Surface			
Time Well Ready				13:15			
Time Logger on Bottom				14:00			
Equipment Number				HD-0255			
Location				Ft. Lupton, CO			
Recorded By				Sam Hopper			
Witnessed By				Bryan Olmstead			
Borehole Record				Tubing Record			
Run Number				Bit			
From				To			
Size				Weight			
From				To			
Casing Record				Size (in)			
Surface Casing				Wgt (lbs/Ft)			
Intermediate #1				Grade			
Intermediate #2				Top			
Liner				Bottom			
4-1/2"				11.6#			
SeAH-90				4995 FT			
13460 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

Casing Inspection Log/Radial Cement Bond Log is first run in hole.
FMC Wireline Depth as primary depth control.
CIL/RCBL ran with 1500 PSI surface induced pressure.
CIL/RCBL ran from just above 7" RBP at 4968 FT to 38 FT.
Estimated Cement Top recorded to surface.

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



Main Pass

Database File: 01-18-14_whiting_razor 27i-2214b_mit_rbl.db

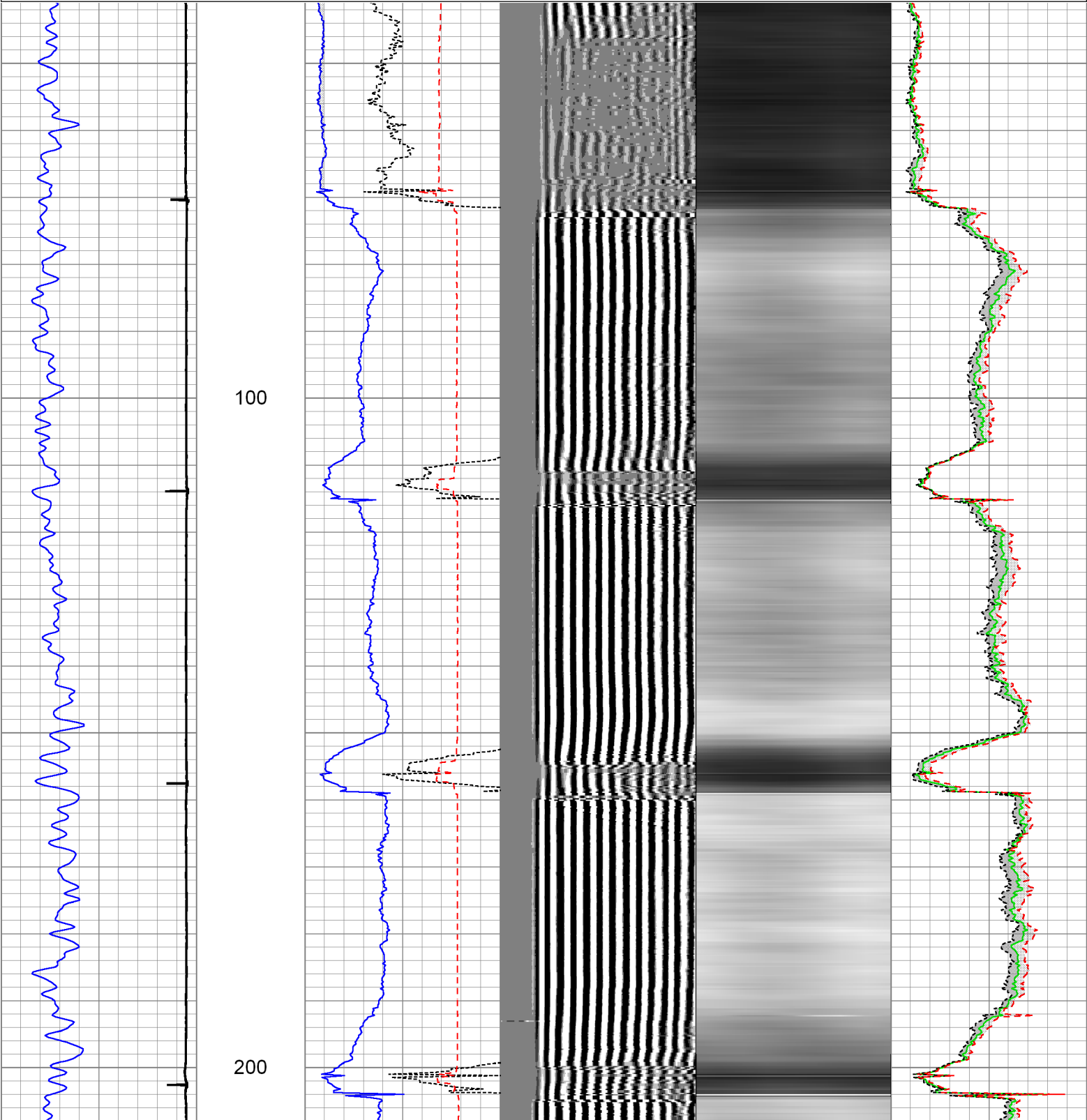
Dataset Pathname: pass4

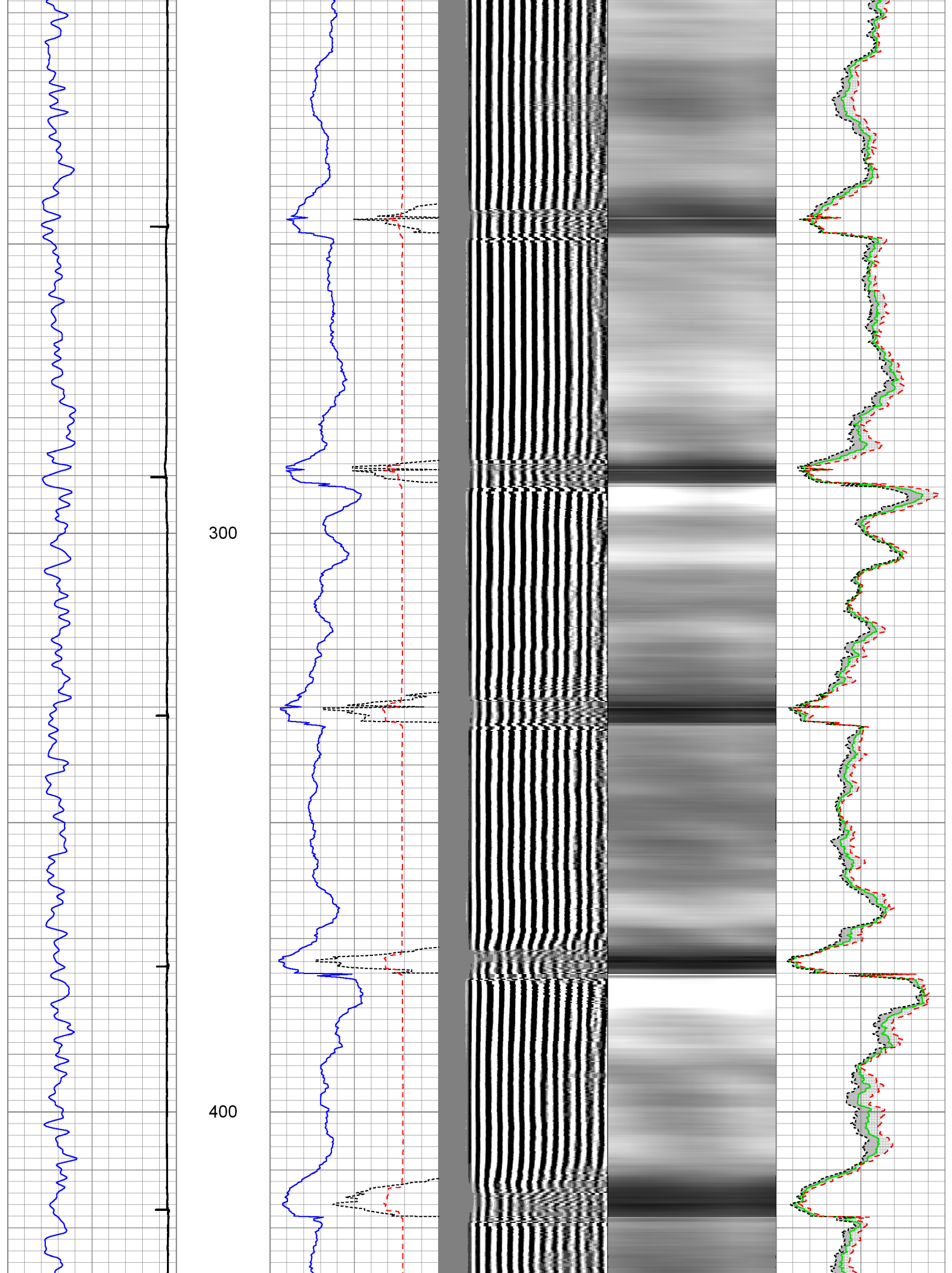
Presentation Format: rbt007

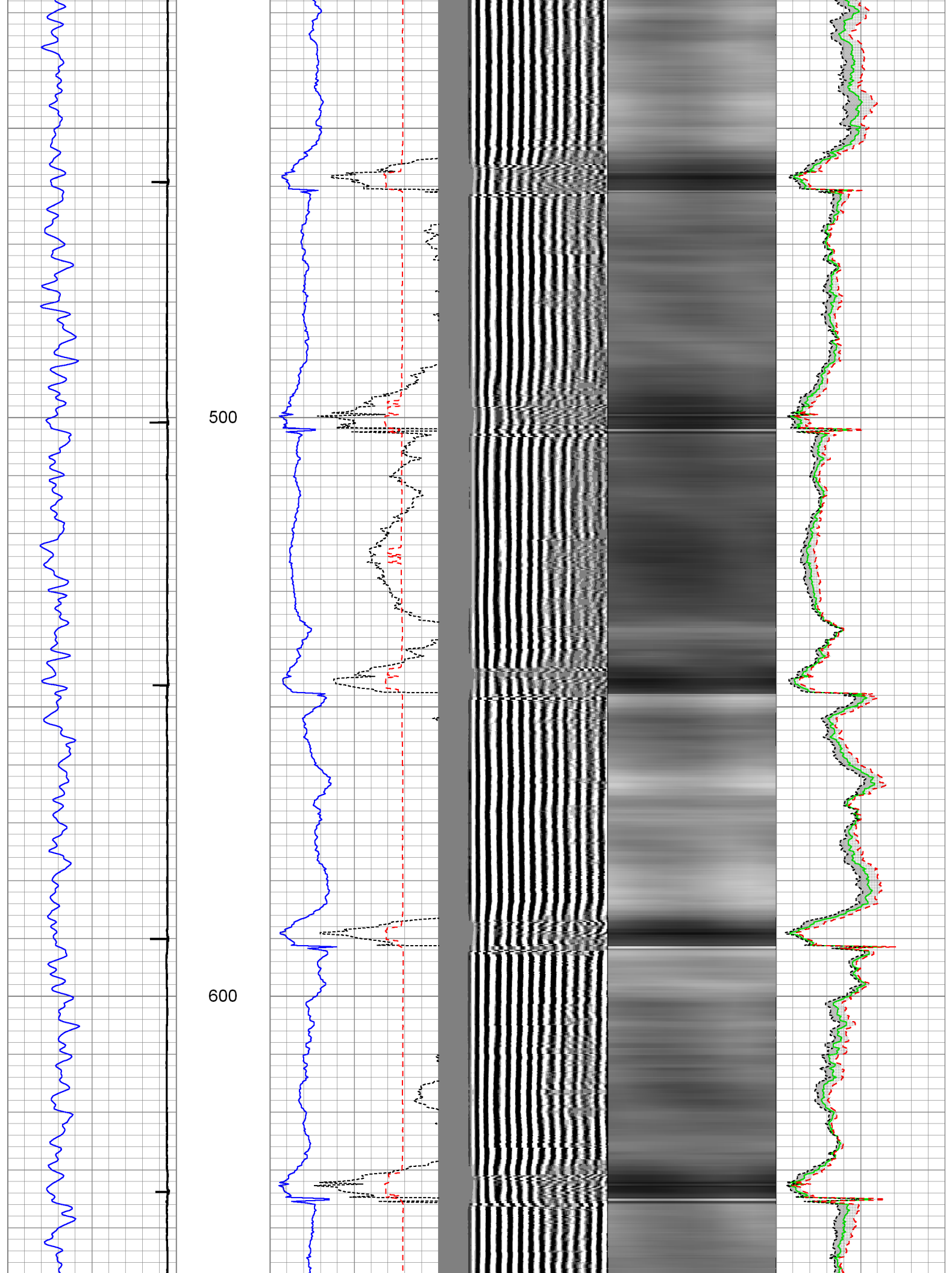
Dataset Creation: Sat Jan 18 14:47:33 2014 by Log Sondex V7.03

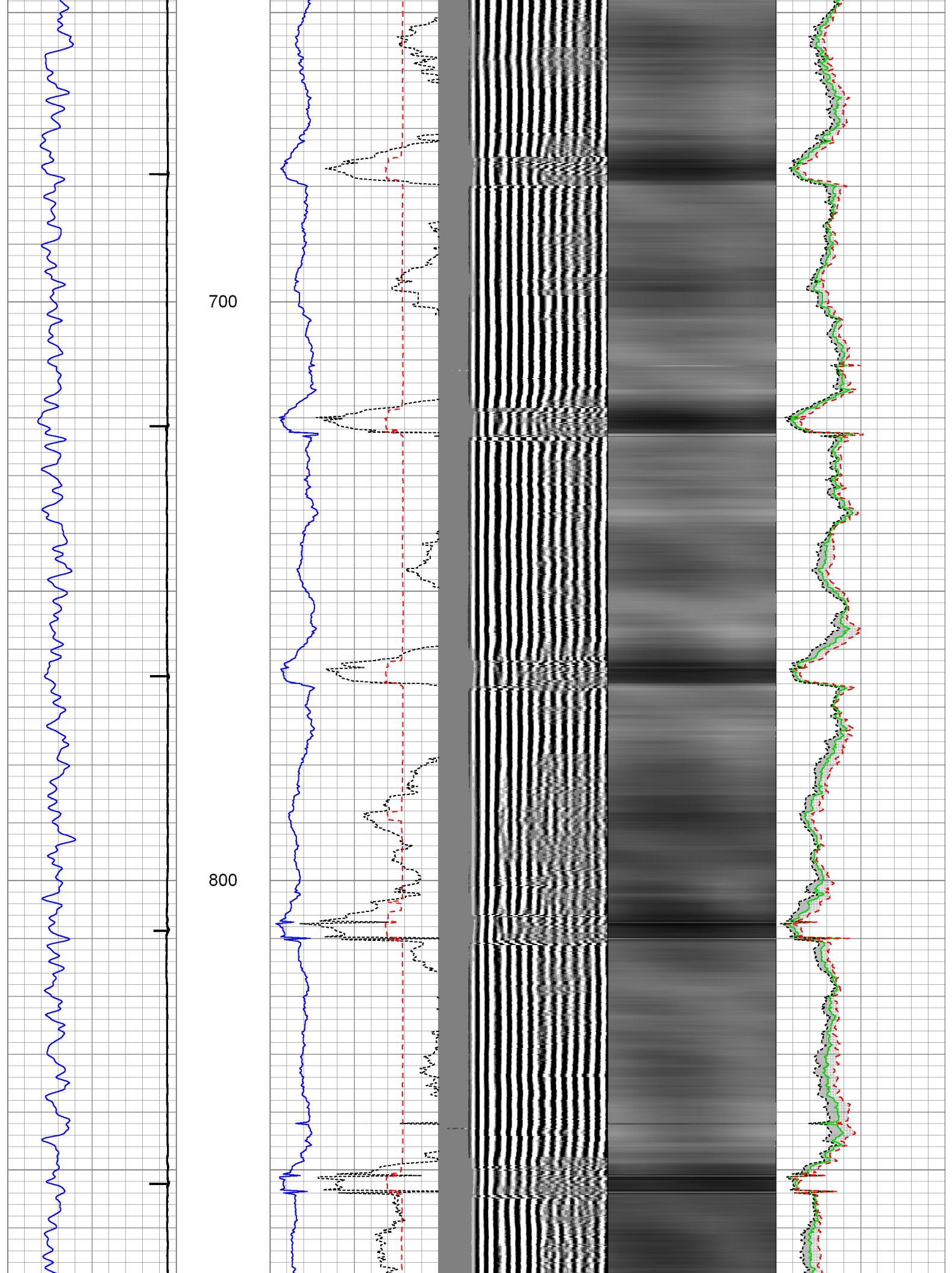
Charted by: Depth in Feet scaled 1:240

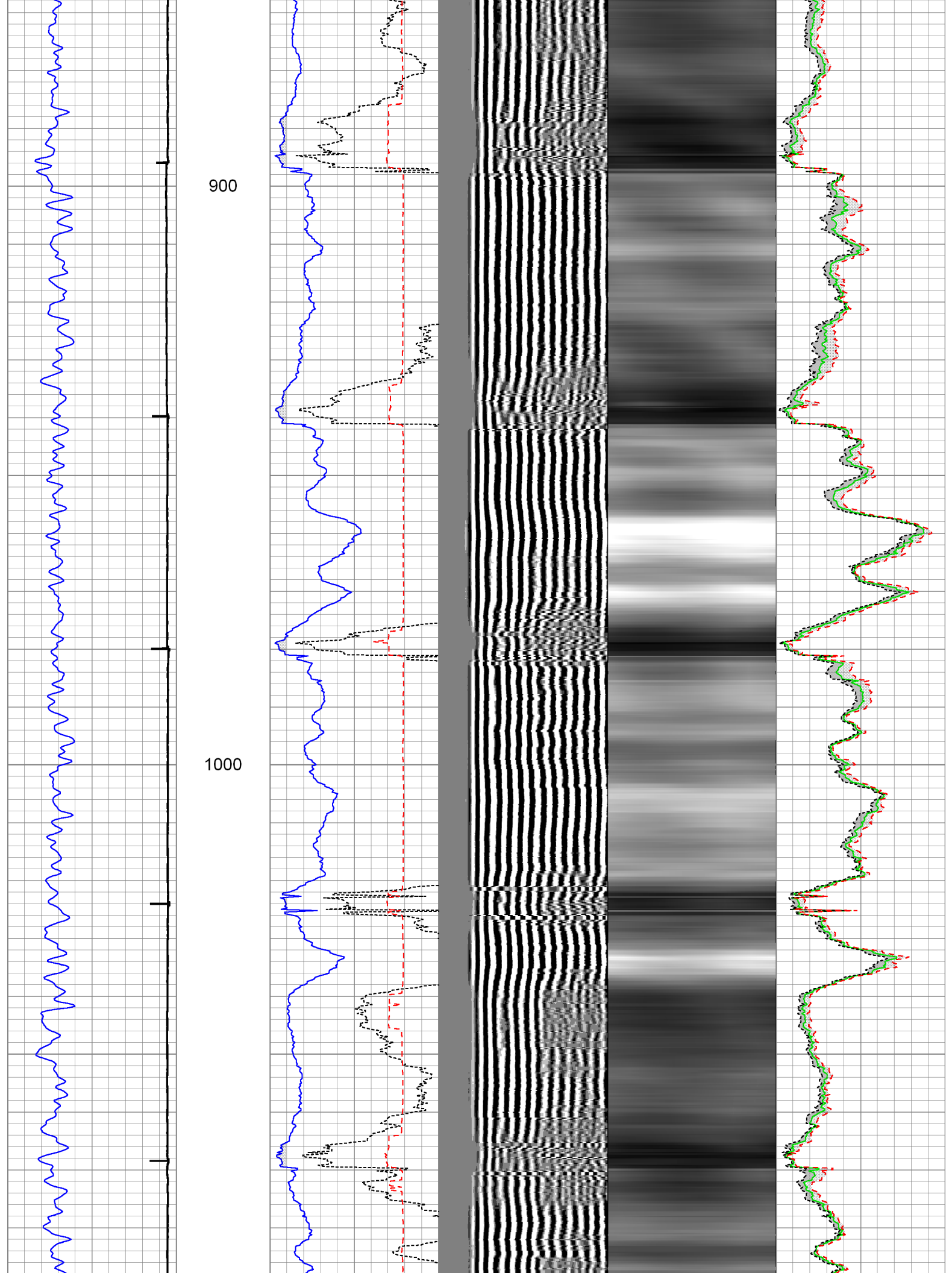
Gamma Ray		3' Amplitude		5' Variable Density Log		Sector Map		Average Amplitude	
0	(GAPI) 120	0	(mV) 100	200	1200			0	100
Collar Locator		3' Amplitude x 5						Minimum Amplitude	
		0	(mV) 20					0	100
		3' Travel Time						Maximum Amplitude	
		650	(usec) 150					0	100

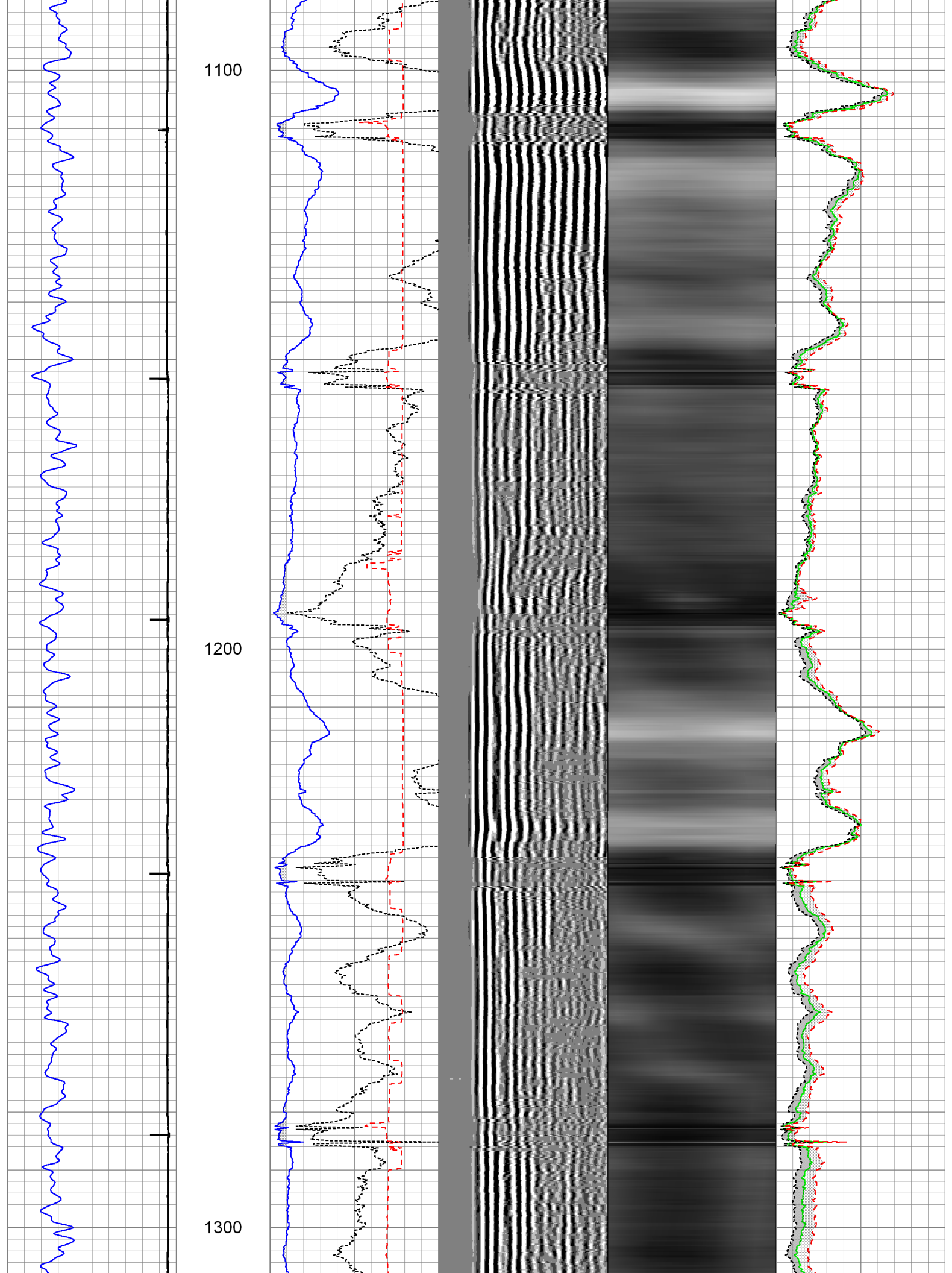


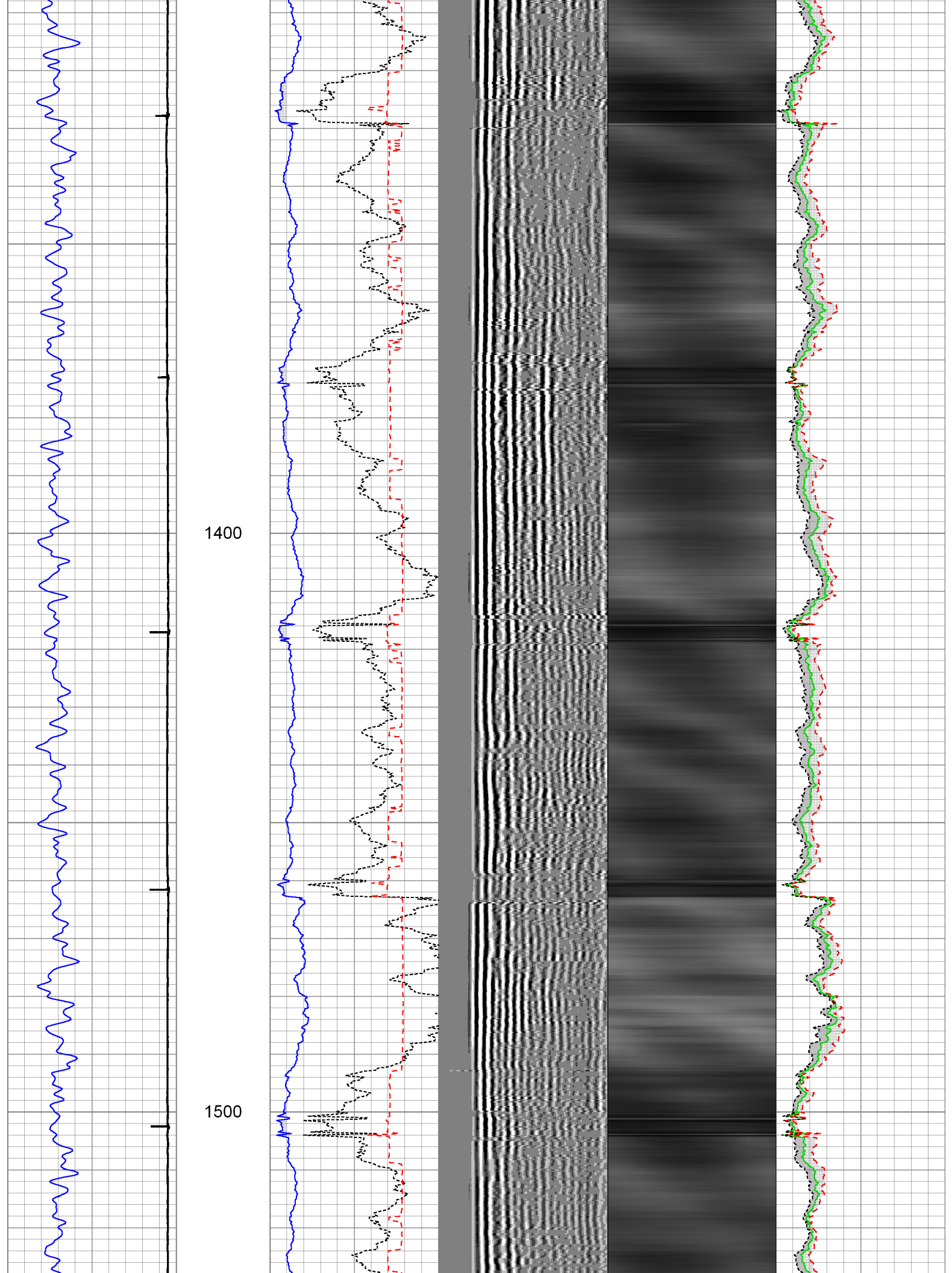


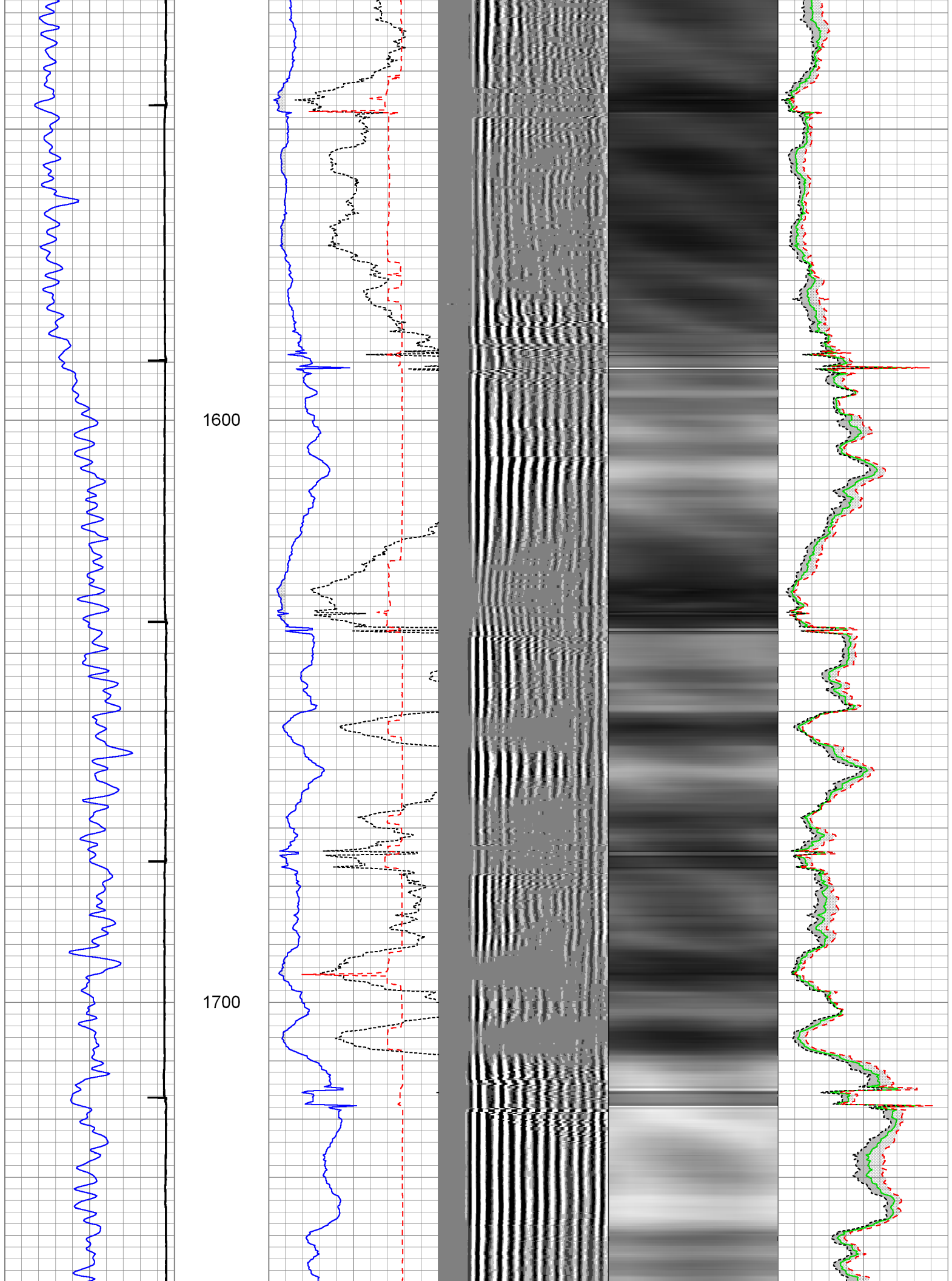


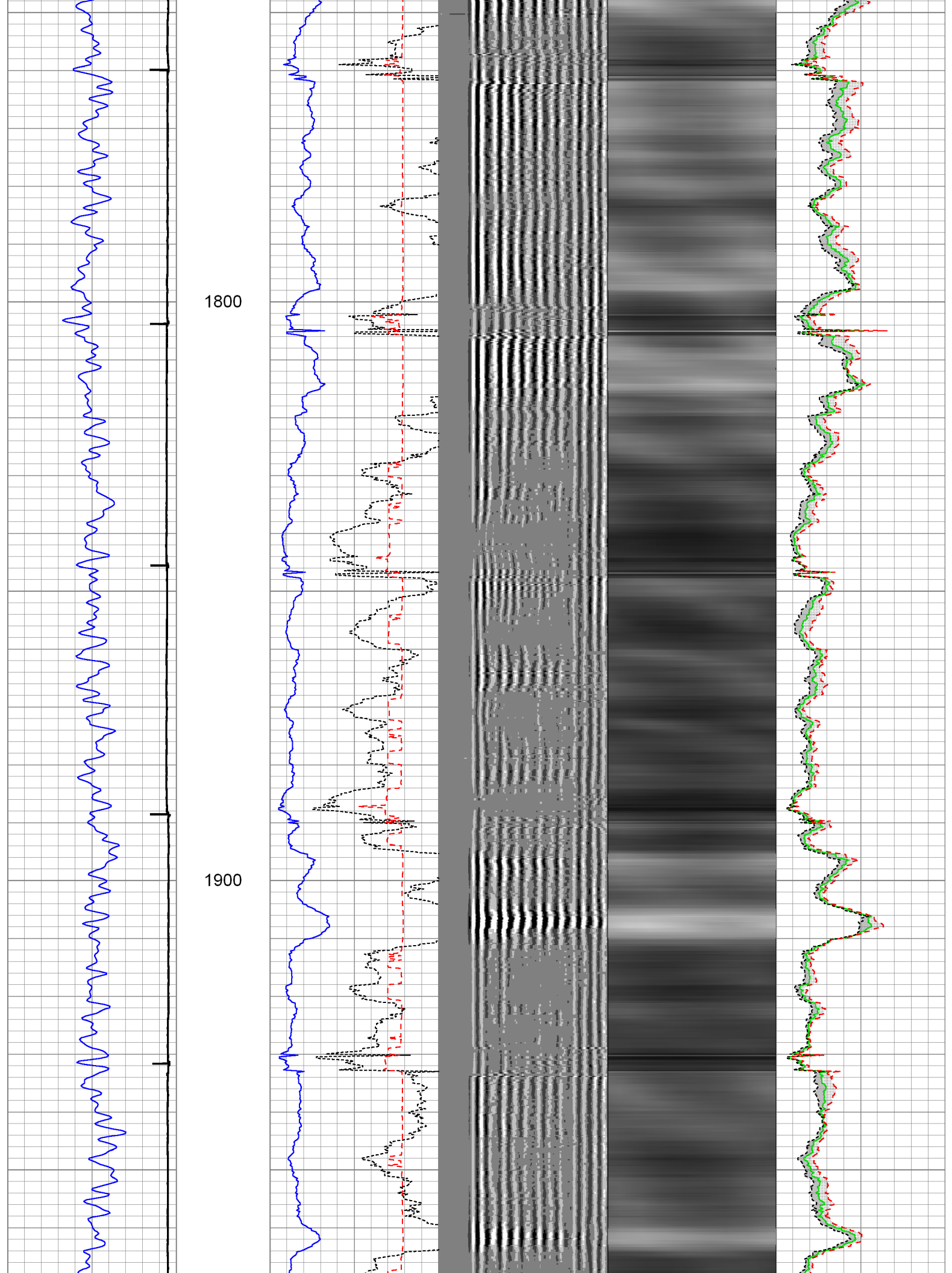


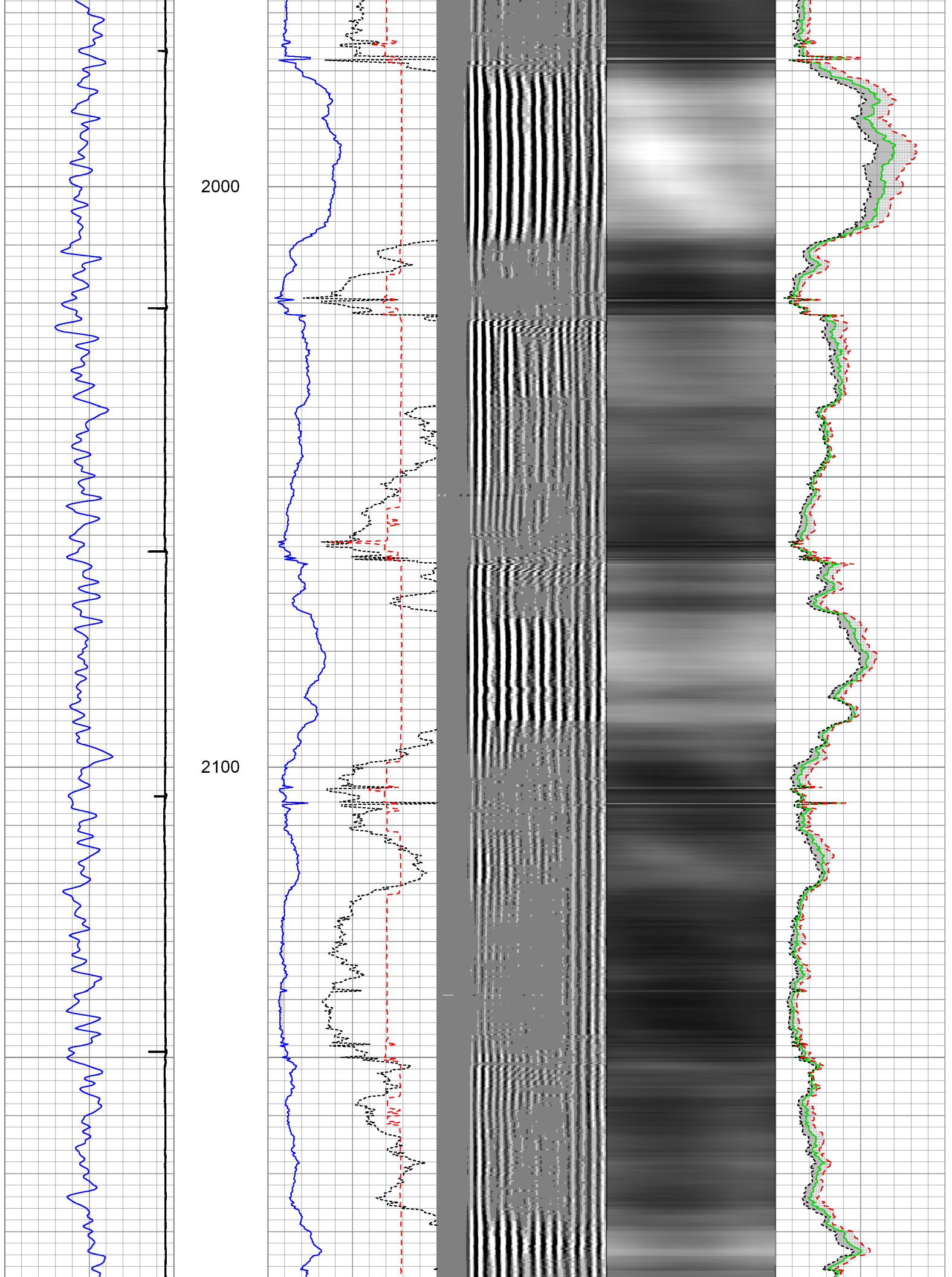








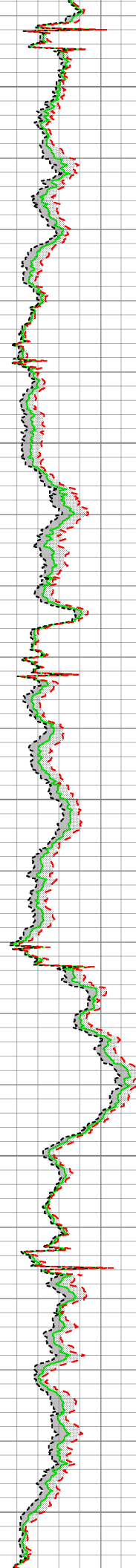
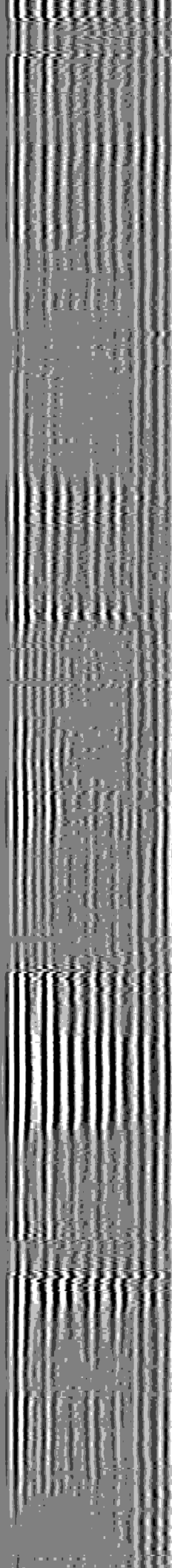
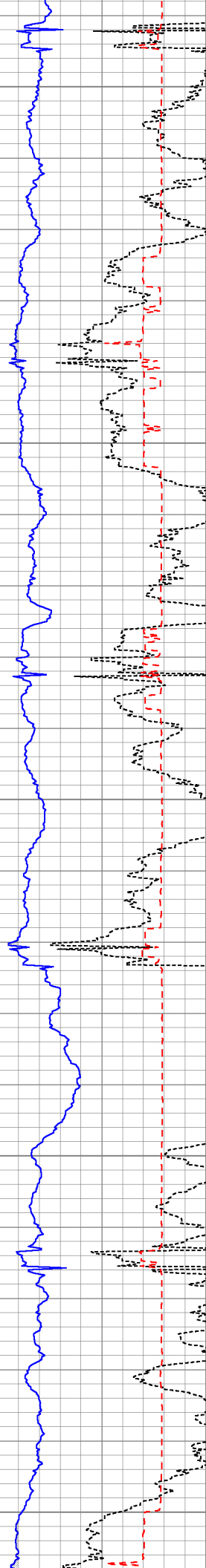


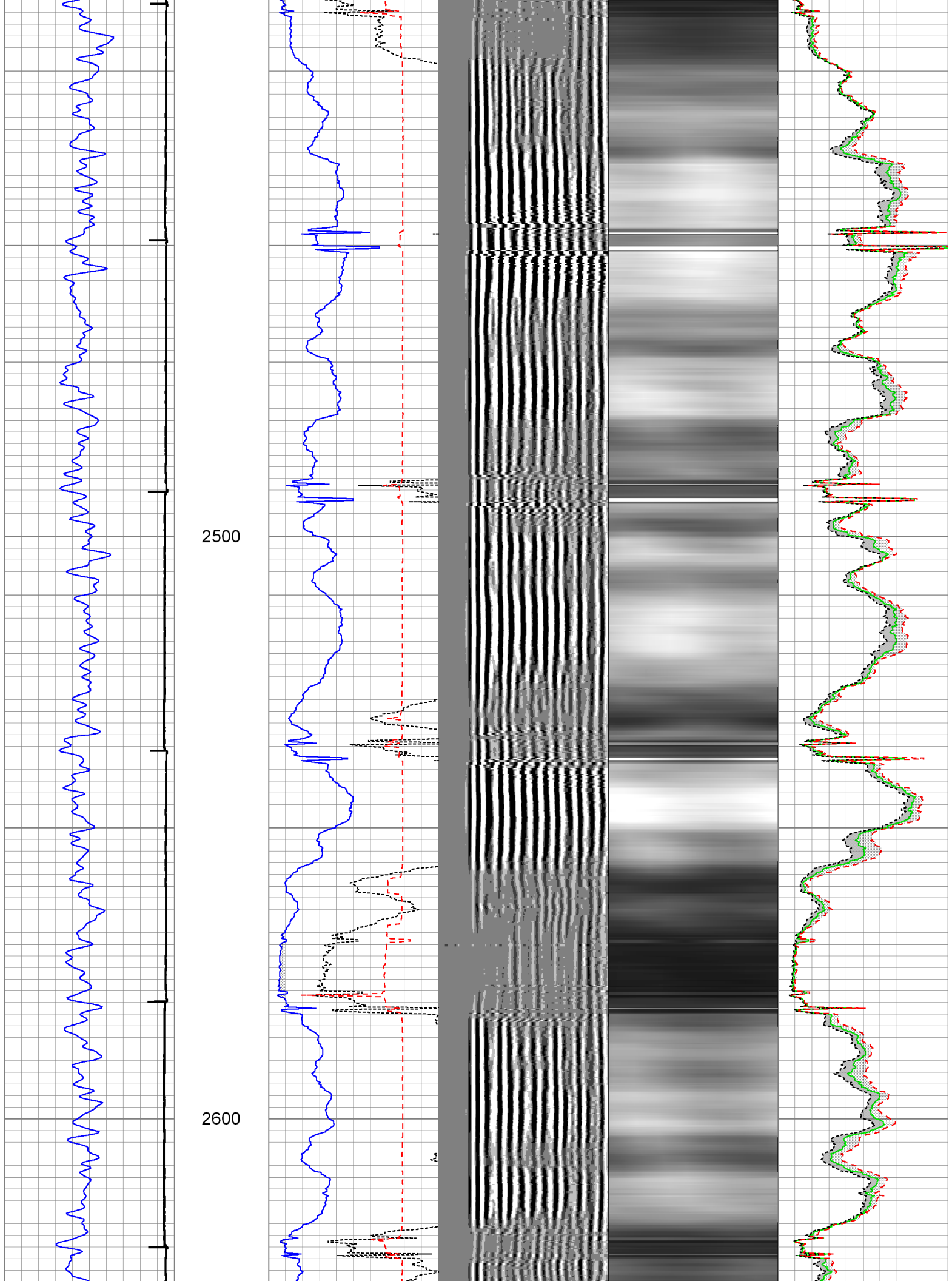


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2300

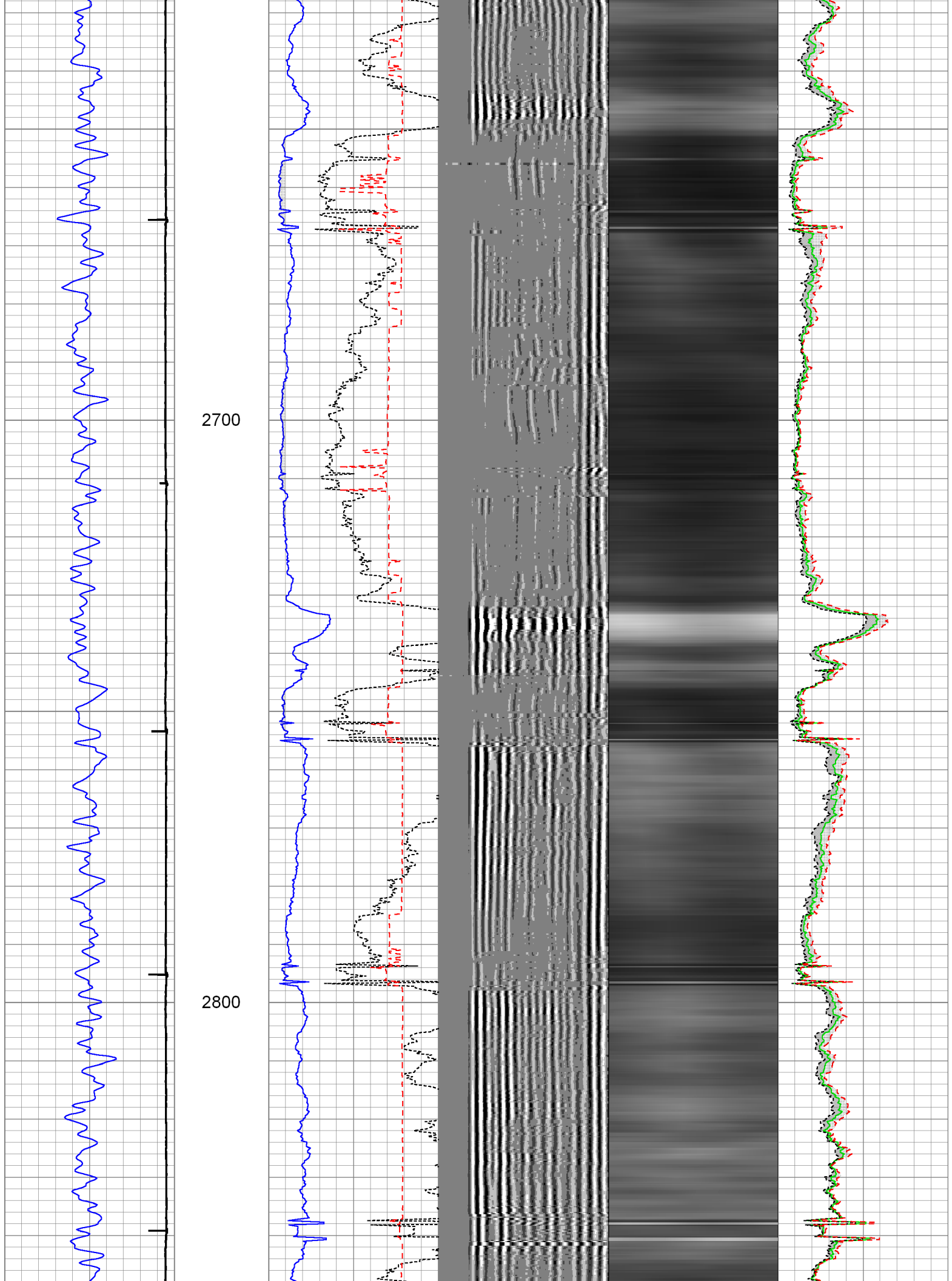
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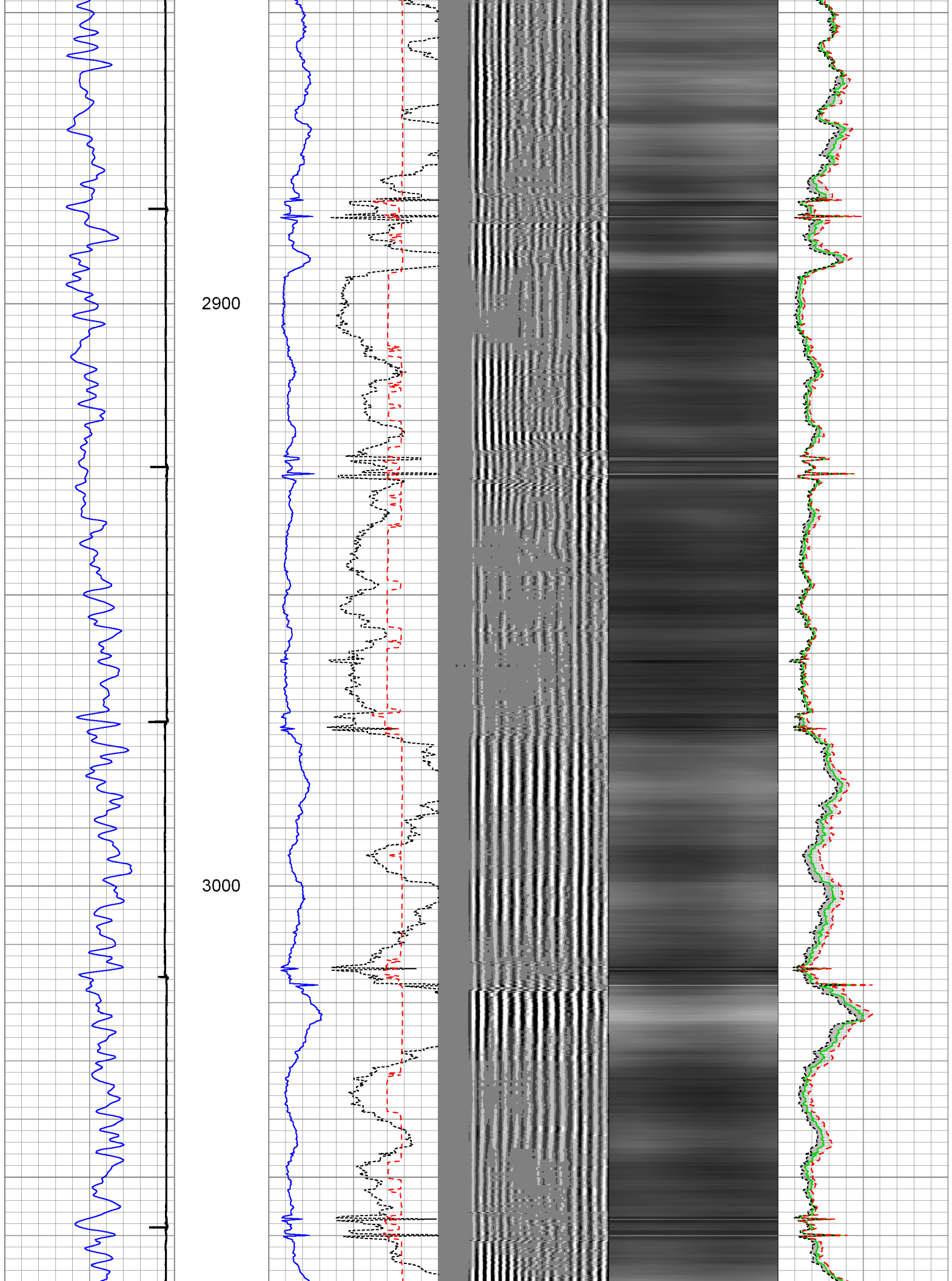
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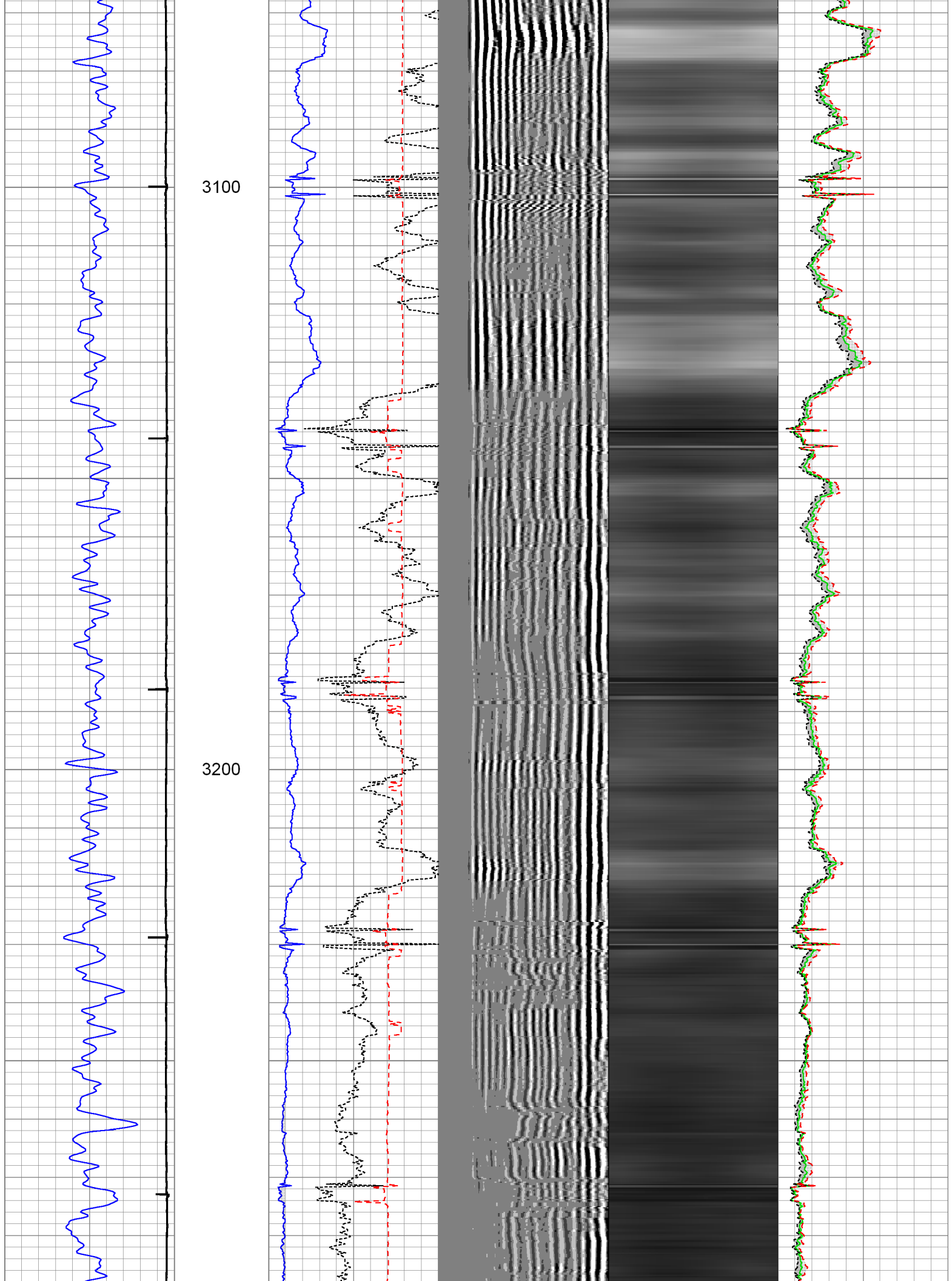
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2900

3000

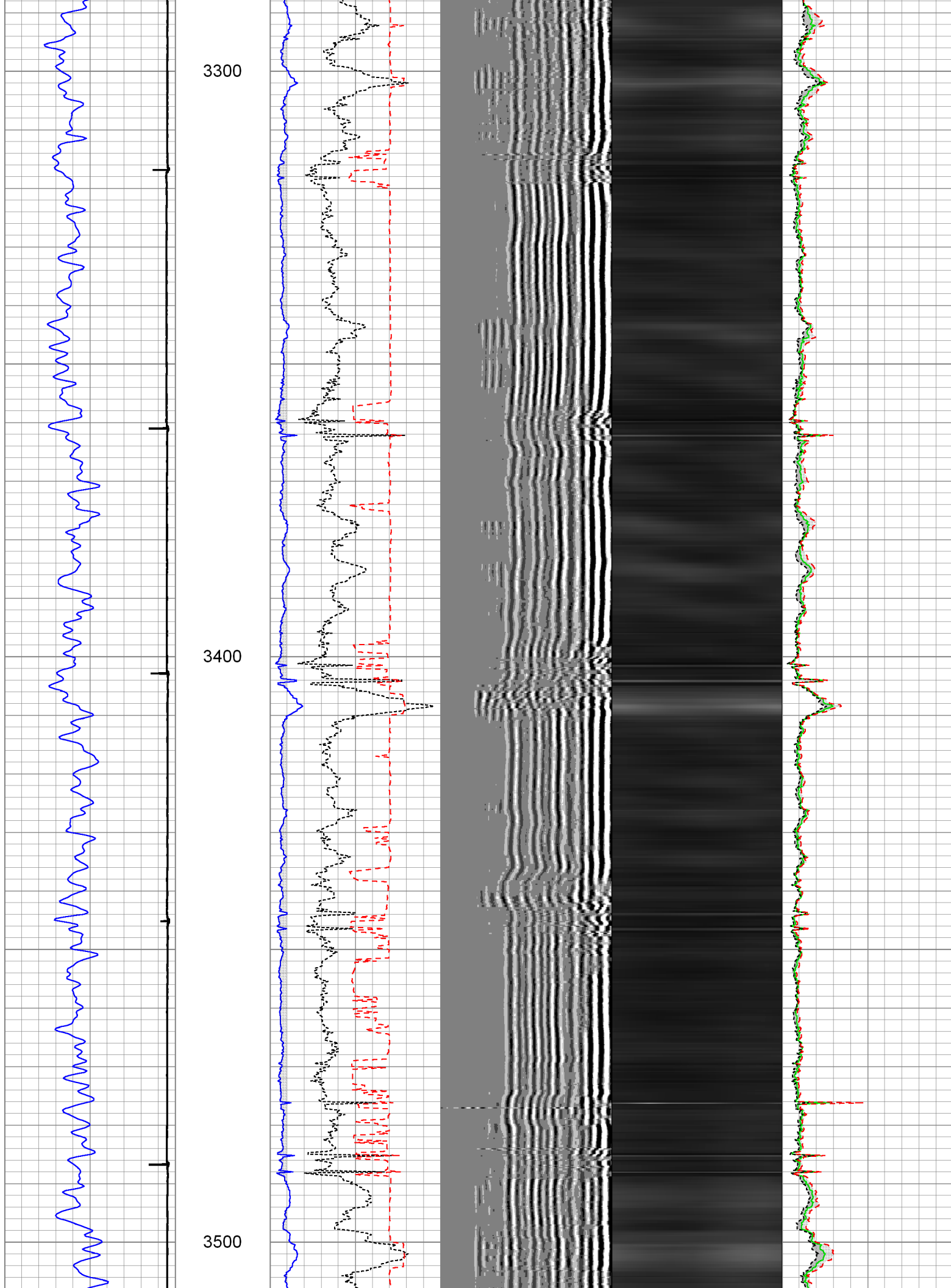


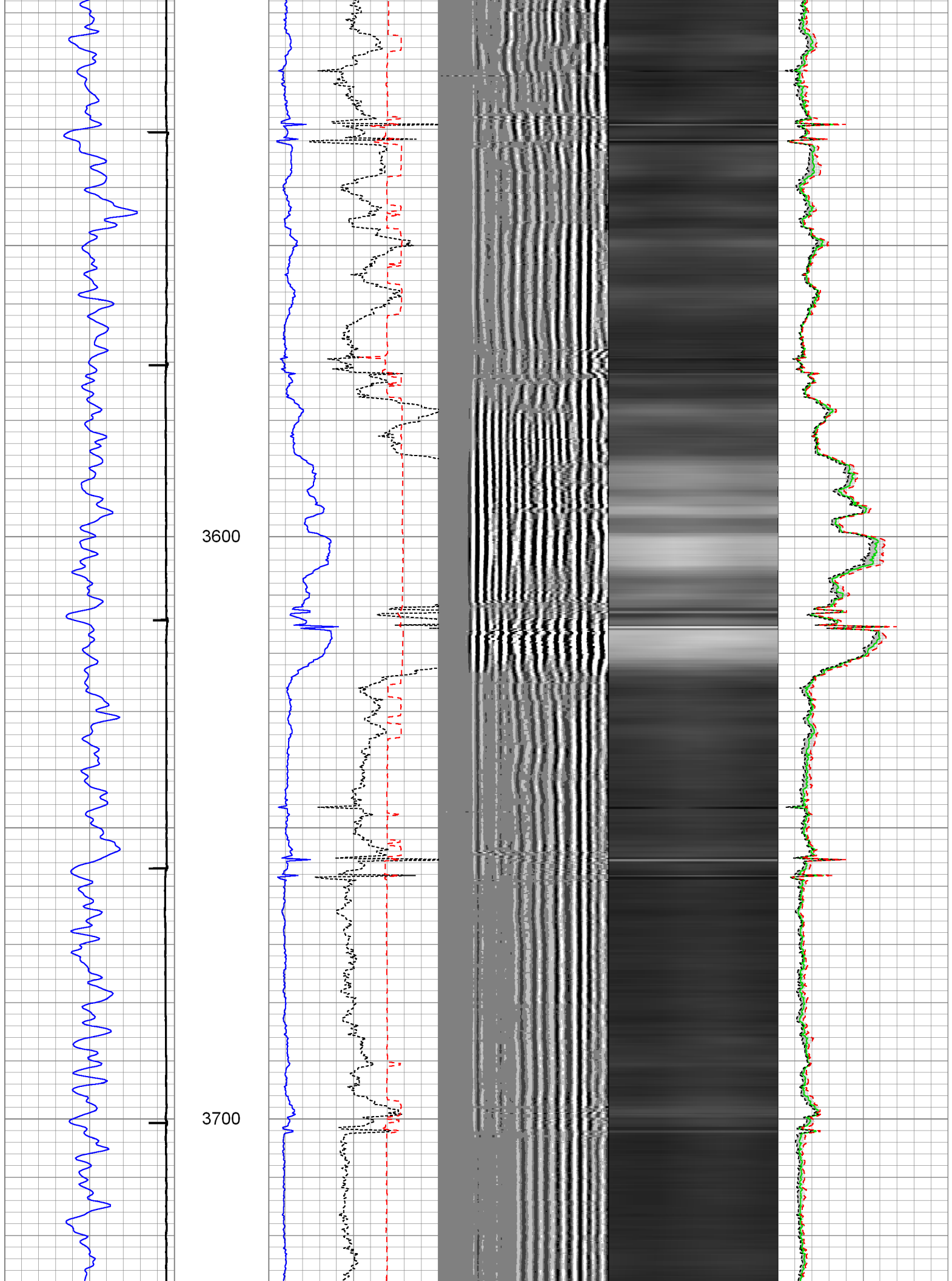


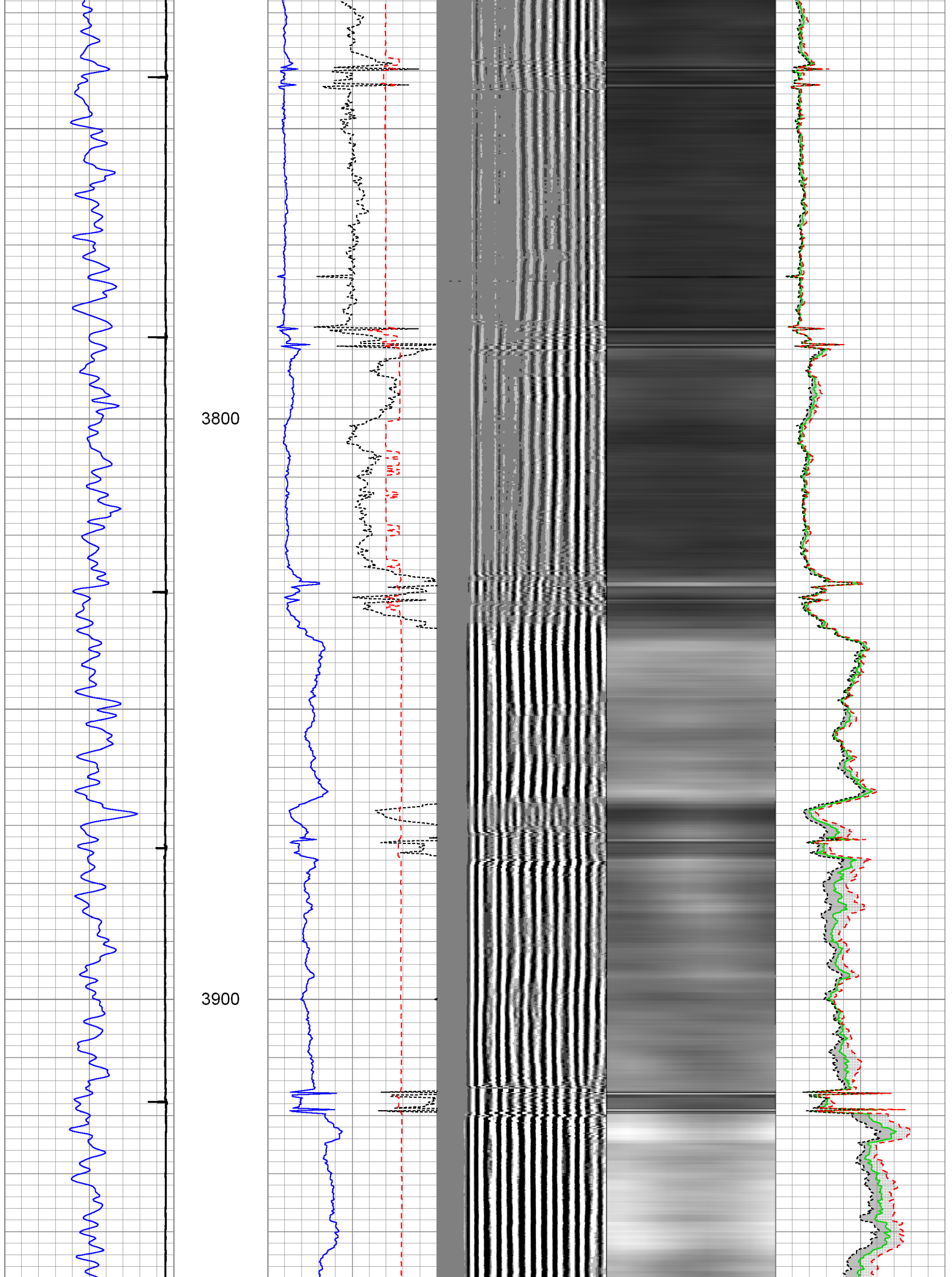
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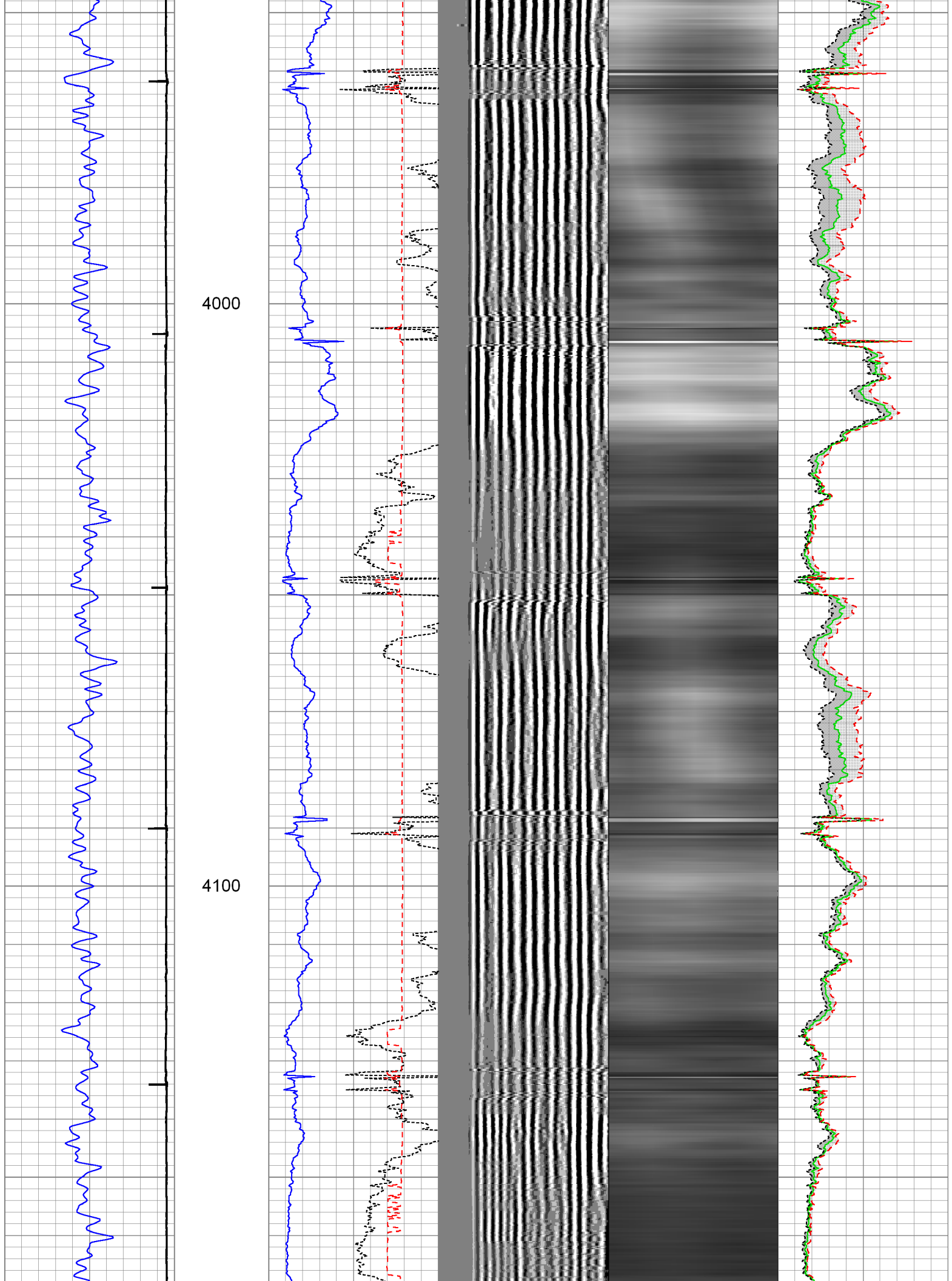
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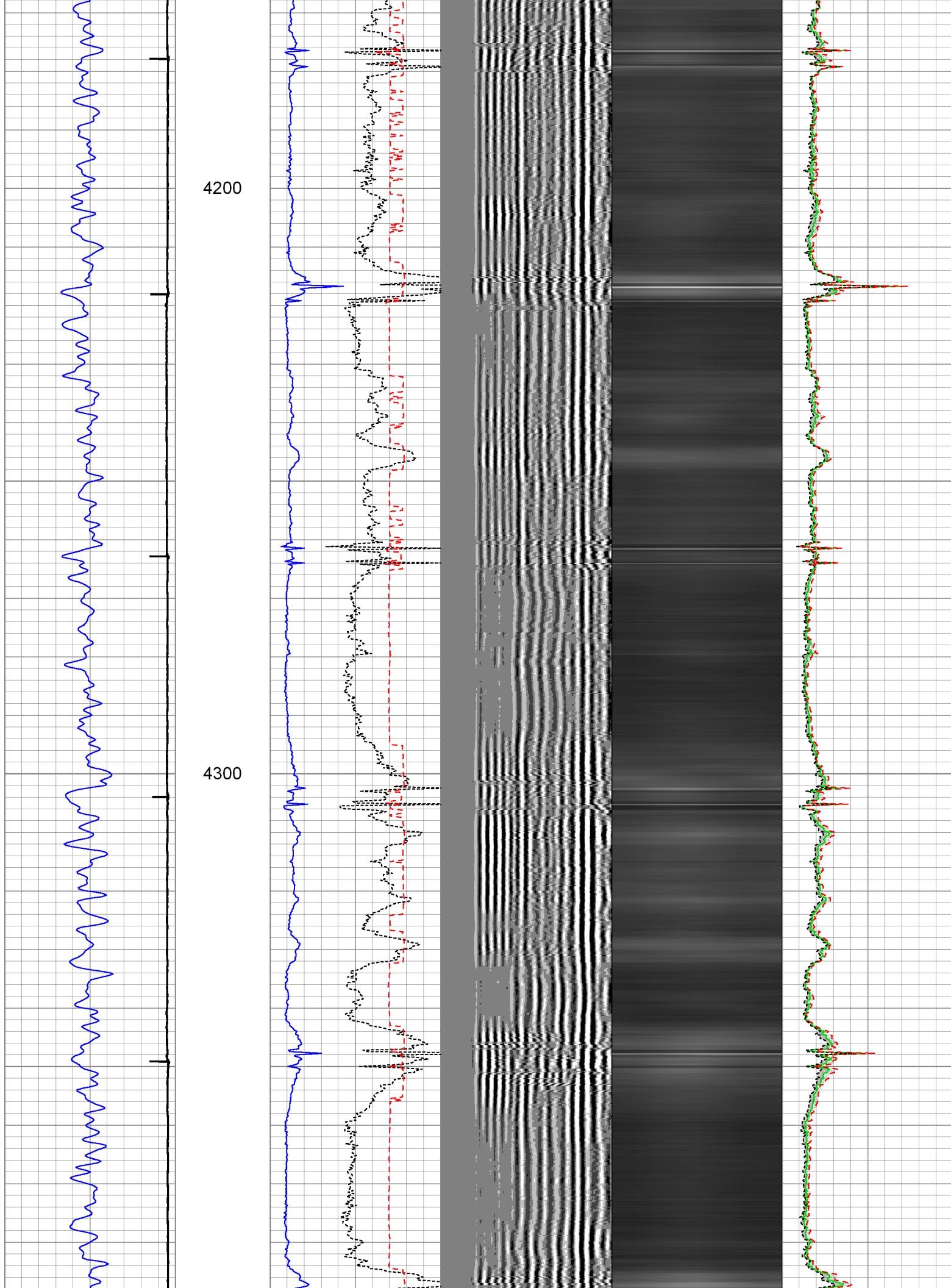






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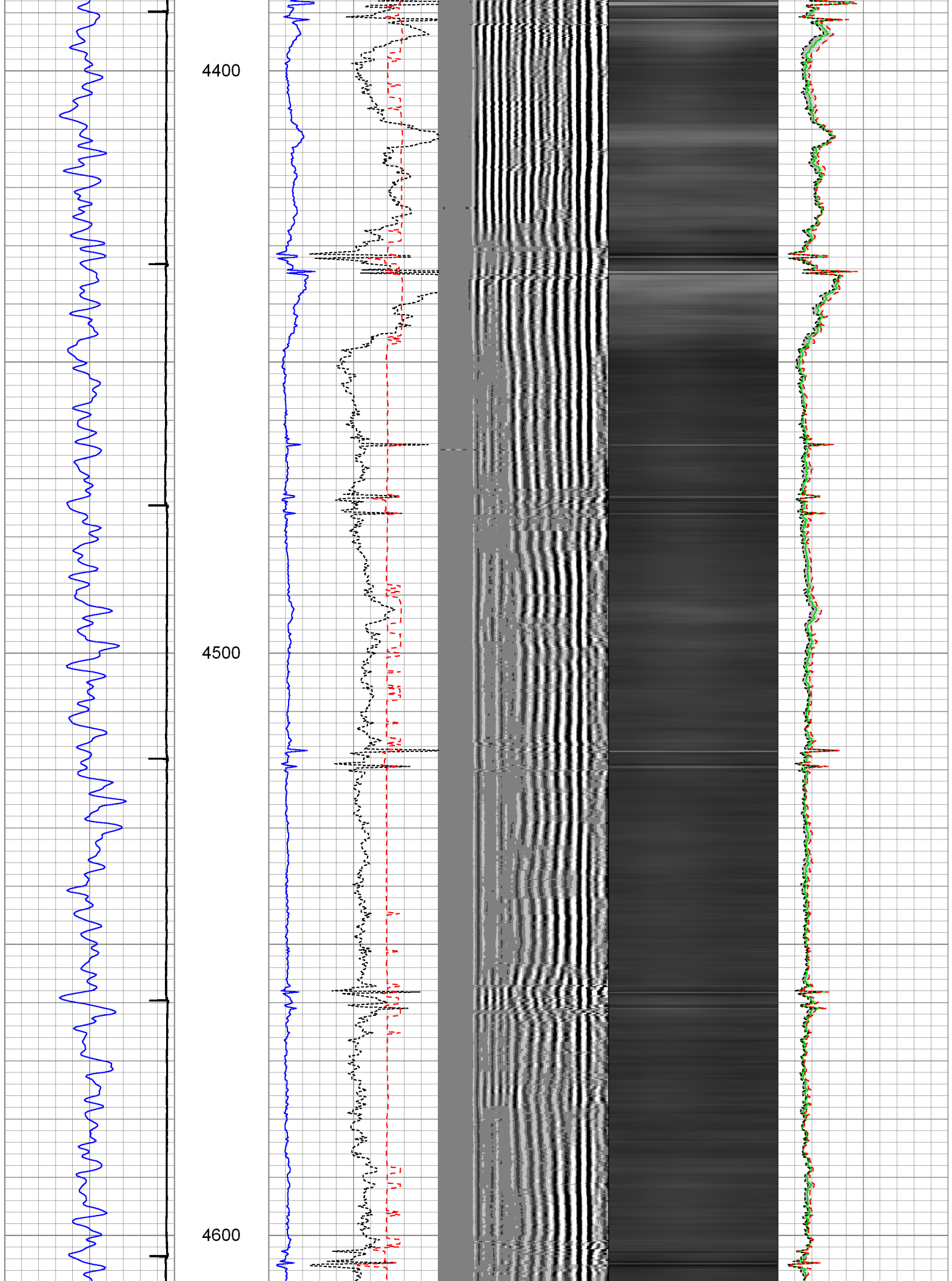
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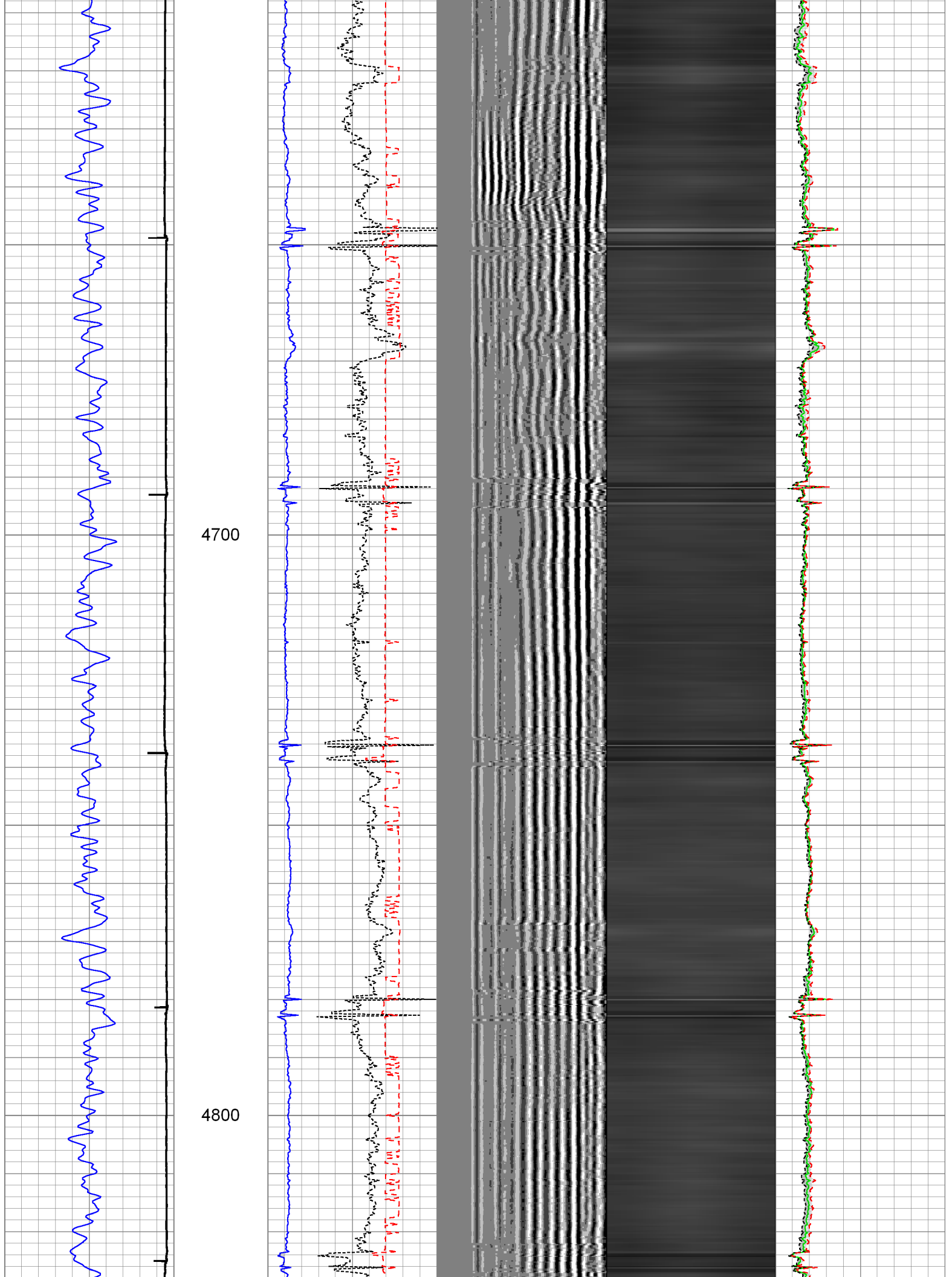


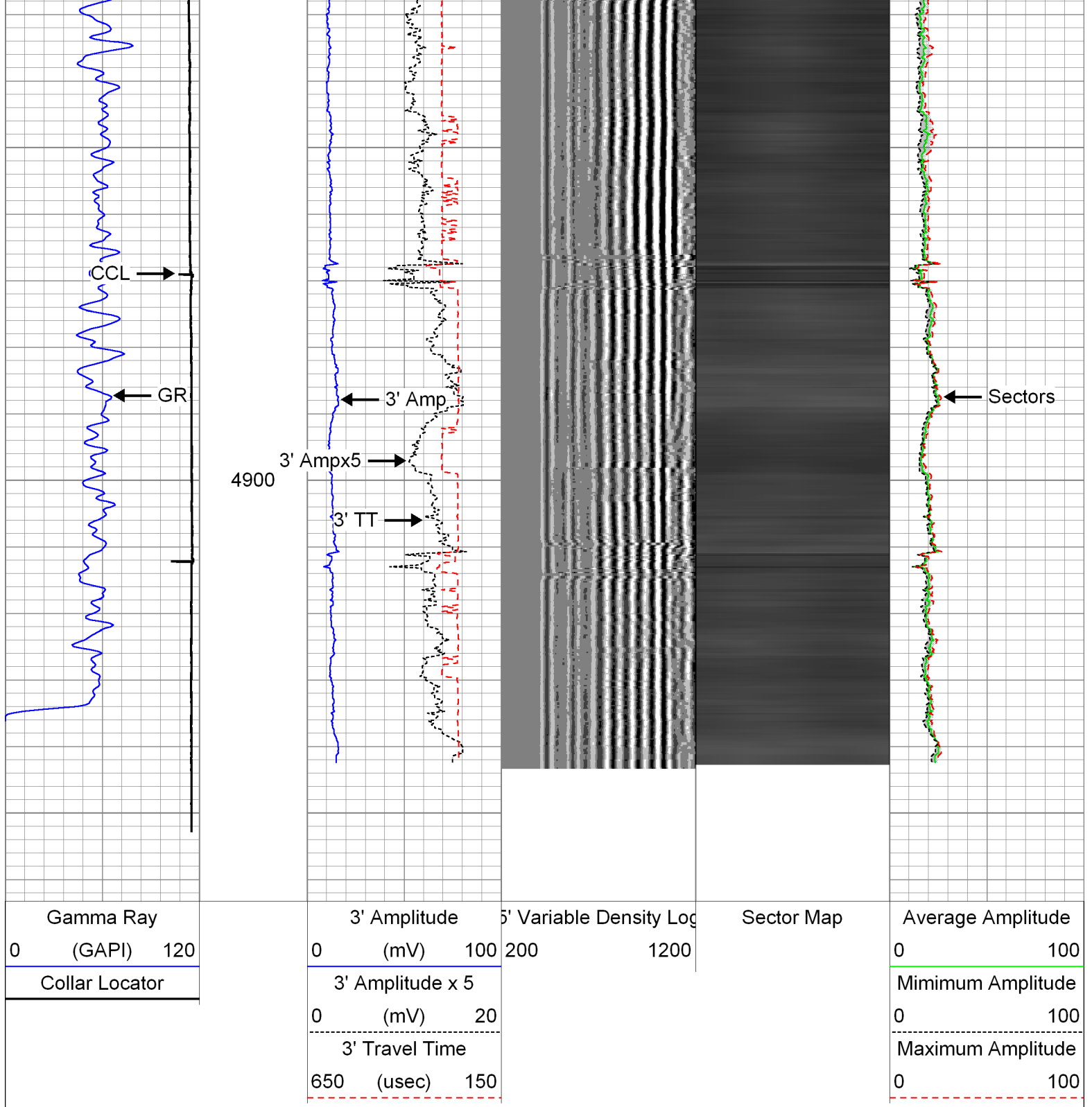
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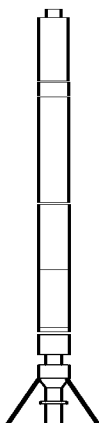
4500

4600







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 (051219) 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 (1101) 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
WV3FT	15.85		RBT-004 (10012639in7) Radial Bond Tool (UW 3 1/8)	9.47	3.13	140.00
WVFS1	15.85					
WVFS2	15.85					
WVFS3	15.85					
WVFS4	15.85					
WVFS5	15.85					
WVFS6	15.85					
WVFS7	15.85					
WVFS8	15.85					
CBLTEMP	15.85	PRC-057 (1102) 2-3/4" 4-Arm Production Roller Centraliser		2.98	2.75	32.00
CBLROT	15.85					
WV5FT	14.85					
MIT	5.41	MIT-027 (218950) 40 Multifinger Imaging Tool		4.54	2.75	61.10
TSTAMP	0.00	PRC-057 (1038) 2-3/4" 4-Arm Production Roller Centraliser		2.98	2.75	32.00
		BUL-006 (219228) Bullnose Terminator		0.22	1.69	1.20
Dataset: 01-18-14_whiting_razor 27i-2214b_mit_rbl.db: field/well/run1/pass4 Total Length: 27.97 ft Total Weight: 316.30 lb O.D. 3.13 in						

Calibration Report	
Database File:	01-18-14_whiting_razor 27i-2214b_mit_rbl.db
Dataset Pathname:	pass4
Dataset Creation:	Sat Jan 18 14:47:33 2014 by Log Sondex V7.03
Multi-finger Imaging Tool Calibration Report	
Serial Number:	218950
Number of Fingers:	40
Tool Model:	027

Inclinometer Calibration Report	
Performed:	Fri Oct 10 10:41:51 2008

Vertical:		Inc X	Inc Y
Finger 1 up:		1996	1975
Finger 31 up:		2238	2226
Finger 21 up:		1760	2216
Finger 11 up:		1769	1745
		2250	1738
Sensitivity ratio:	1.00023		
X-axis angle:	314.283		
Deviation const.:	339.139		

Finger Calibration Report

Performed: Sat Jan 18 13:17:12 2014

Ring size:	4		5		6		7
(in)		Sens		Sens		Sens	
Finger 01:	1394	265.0	1659	286.0	1945	304.0	2249
Finger 02:	1579	249.0	1828	263.0	2091	275.0	2366
Finger 03:	1516	272.0	1788	298.0	2086	310.0	2396
Finger 04:	1547	257.0	1804	282.0	2086	296.0	2382
Finger 05:	1585	244.0	1829	265.0	2094	280.0	2374
Finger 06:	1578	252.0	1830	276.0	2106	295.0	2401
Finger 07:	1567	259.0	1826	284.0	2110	300.0	2410
Finger 08:	1621	236.0	1857	256.0	2113	273.0	2386
Finger 09:	1556	270.0	1826	294.0	2120	310.0	2430
Finger 10:	1603	257.0	1860	276.0	2136	284.0	2420
Finger 11:	1576	259.0	1835	282.0	2117	294.0	2411
Finger 12:	1558	271.0	1829	297.0	2126	312.0	2438
Finger 13:	1571	265.0	1836	284.0	2120	293.0	2413
Finger 14:	1563	270.0	1833	290.0	2123	299.0	2422
Finger 15:	1548	272.0	1820	290.0	2110	301.0	2411
Finger 16:	1550	274.0	1824	292.0	2116	299.0	2415
Finger 17:	1543	275.0	1818	293.0	2111	298.0	2409
Finger 18:	1589	265.0	1854	276.0	2130	276.0	2406
Finger 19:	1607	259.0	1866	266.0	2132	267.0	2399
Finger 20:	1479	284.0	1763	296.0	2059	300.0	2359
Finger 21:	1441	291.0	1732	304.0	2036	307.0	2343
Finger 22:	1486	296.0	1782	295.0	2077	297.0	2374
Finger 23:	1541	273.0	1814	272.0	2086	271.0	2357
Finger 24:	1526	274.0	1800	281.0	2081	281.0	2362
Finger 25:	1506	286.0	1792	290.0	2082	286.0	2368
Finger 26:	1442	292.0	1734	300.0	2034	291.0	2325
Finger 27:	1442	288.0	1730	291.0	2021	289.0	2310
Finger 28:	1477	296.0	1773	289.0	2062	290.0	2352
Finger 29:	1461	288.0	1749	288.0	2037	285.0	2322
Finger 30:	1469	291.0	1760	295.0	2055	292.0	2347
Finger 31:	1526	259.0	1785	255.0	2040	254.0	2294
Finger 32:	1490	285.0	1775	287.0	2062	285.0	2347
Finger 33:	1467	284.0	1751	286.0	2037	278.0	2315
Finger 34:	1472	287.0	1759	292.0	2051	294.0	2345
Finger 35:	1459	287.0	1746	288.0	2034	291.0	2325
Finger 36:	1670	272.0	1942	267.0	2209	265.0	2474
Finger 37:	1305	268.0	1573	279.0	1852	295.0	2147
Finger 38:	1475	277.0	1752	287.0	2039	296.0	2335
Finger 39:	1443	272.0	1715	289.0	2004	301.0	2305
Finger 40:	1560	273.0	1833	287.0	2120	294.0	2414

Segmented Cement Bond Log Calibration Report

Serial Number:	10012639in7
Tool Model:	004
Calibration Casing Diameter:	7.000 in
Calibration Depth:	3.453 ft

Master Calibration, performed Fri Dec 06 12:38:08 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.001	0.694	0.800	62.165	88.277	0.891
5FT	-0.005	0.774	0.800	62.165	78.823	1.185
S1	-0.001	0.687	0.000	100.000	145.419	0.114
S2	-0.002	0.654	0.000	100.000	152.566	0.250
S3	-0.001	0.647	0.000	100.000	154.241	0.188
S4	-0.002	0.664	0.000	100.000	149.990	0.372
S5	-0.001	0.696	0.000	100.000	143.501	0.110
S6	-0.000	0.727	0.000	100.000	137.406	0.062
S7	-0.001	0.736	0.000	100.000	135.636	0.172
S8	-0.001	0.721	0.000	100.000	138.416	0.162

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 Whiting Oil & Gas Corporation
 Well Razor 27I-2214B
 Field Wild Cat
 County Weld
 State Colorado