



Radial Cement Bond Log

Company				Kerr-McGee Oil & Gas Onshore, L.P.			
Well				Grenemyer 14C-3HZ			
Field				Wattenberg			
County				Weld			
State				Colorado			
Location:				API # : 05-123-38416			
Permanent Datum				SHL: 636' FNL 2605' FEL			
Log Measured From				Lat/Long: 40.0131/-104.876509			
Drilling Measured From				SEC 34 TWP 1N RGE 67W			
Ground Level				Elevation 5049'			
Kelly Bushing				16 FT			
Kelly Bushing				Elevation 5049'			
Date				03 Feb. 2014			
Run Number				One			
Depth Driller				16697 FT			
Depth Logger				7746 FT			
Bottom Logged Interval				7746 FT			
Top Log Interval				Surface			
Open Hole Size				8.750"			
Type Fluid				Water			
Density / Viscosity				8.34 lbm/gal			
Max. Recorded Temp.				215 degF			
Estimated Cement Top				68 FT			
Time Well Ready				11:00			
Time Logger on Bottom				---			
Equipment Number				HD-134			
Location				Fort Lupton, CO			
Recorded By				Wayne Wacker			
Witnessed By				Trevor Daniel			
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				4-1/2"			
Liner				11.6#			
Wgt (lbs/Ft)				Grade			
Top				Bottom			
Surface				1107 FT			
Surface				8174 FT			
7056 FT				16687 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 was correlated to liner top at 7056'
Logged With 2500 PSI at Surface

Thank you for choosing FMC Technologies Completion Services, Inc.



Main Pass

Logged with 2500 PSI at surface

Database File: 0512338416_anadarko_grenemyer 14c-3hz_02-03-14_mit_rbl.db

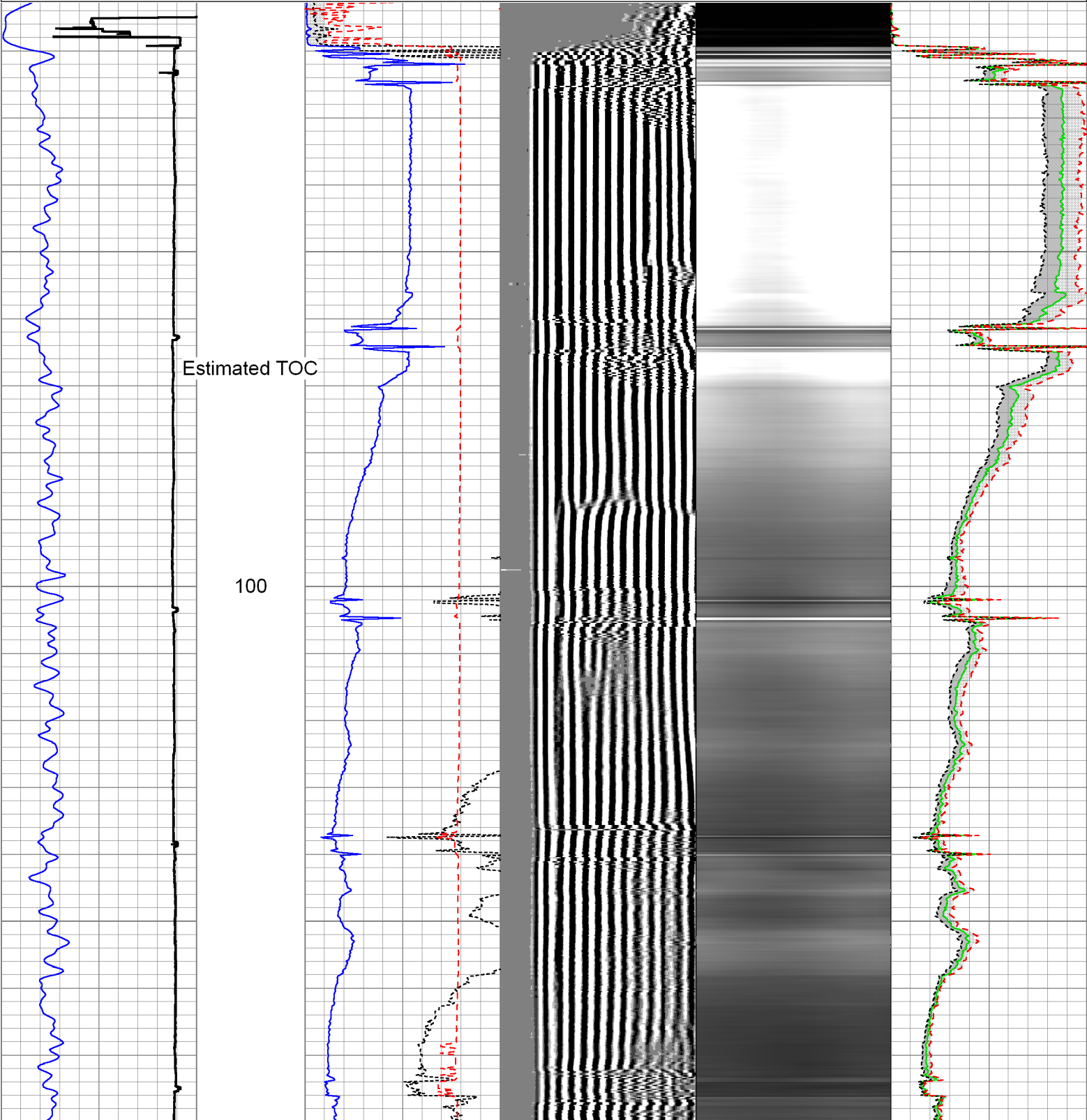
Dataset Pathname: main2

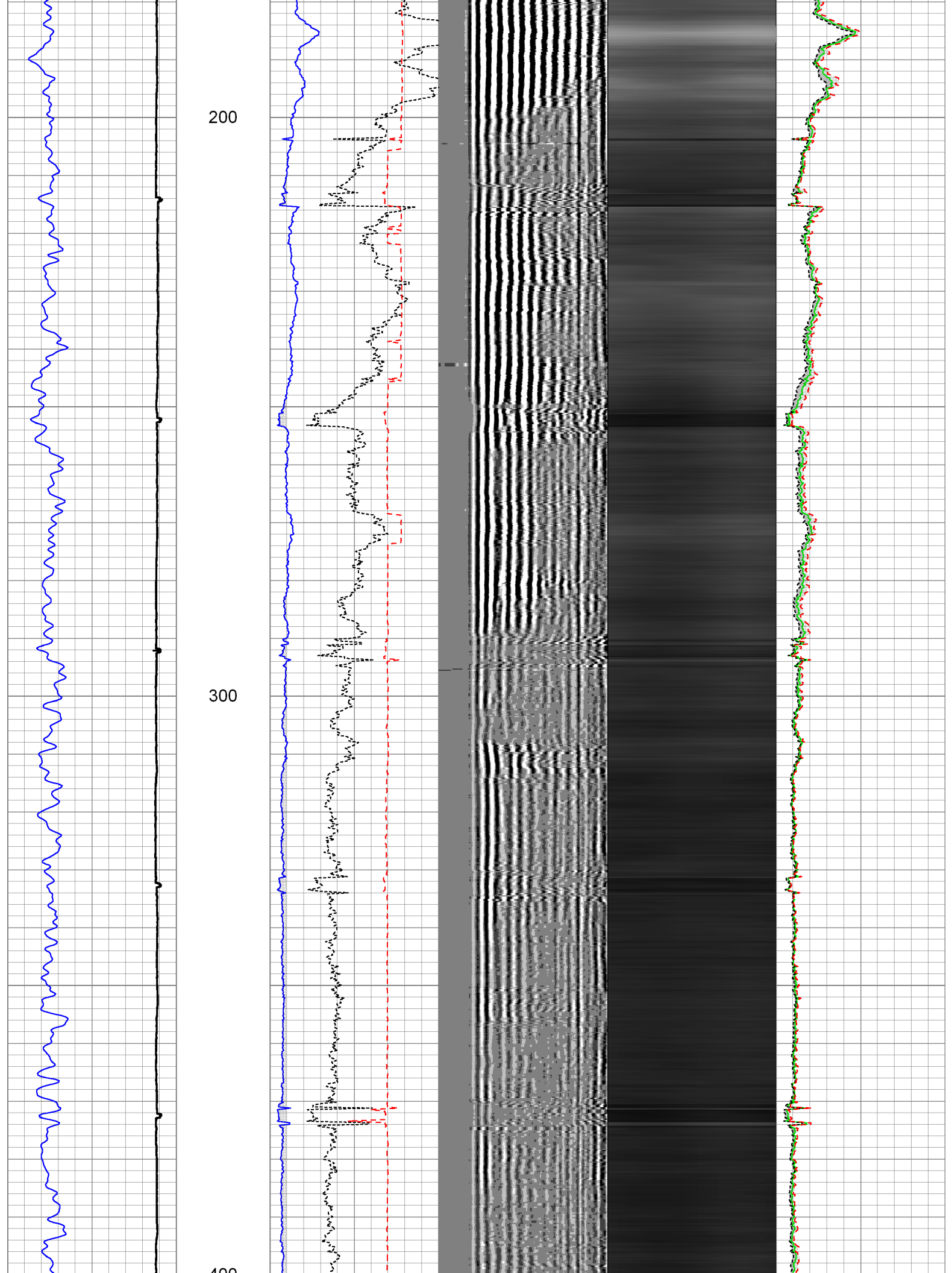
Presentation Format: rbt007

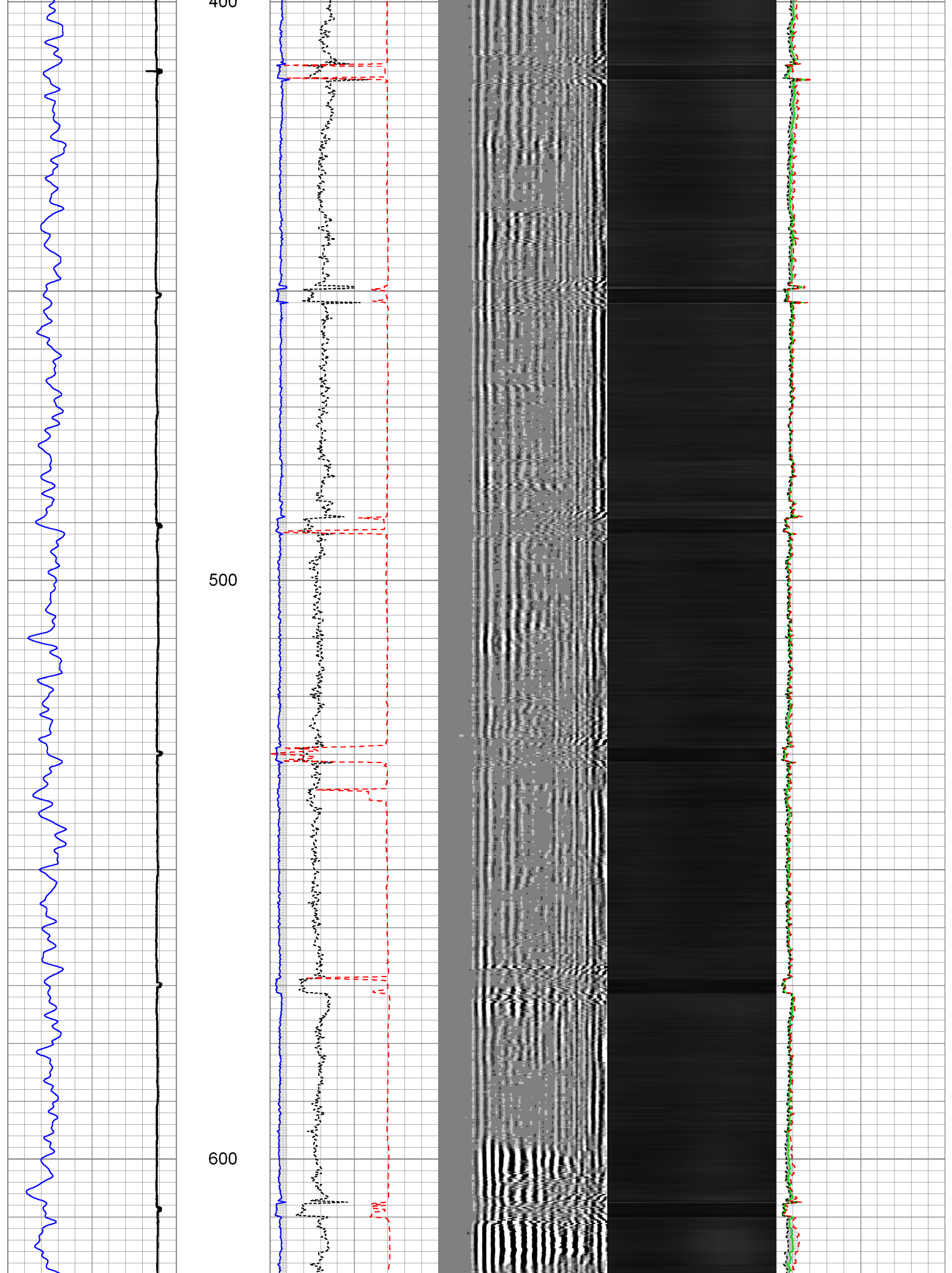
Dataset Creation: Mon Feb 03 18:33:10 2014 by Log Sondex V7.03

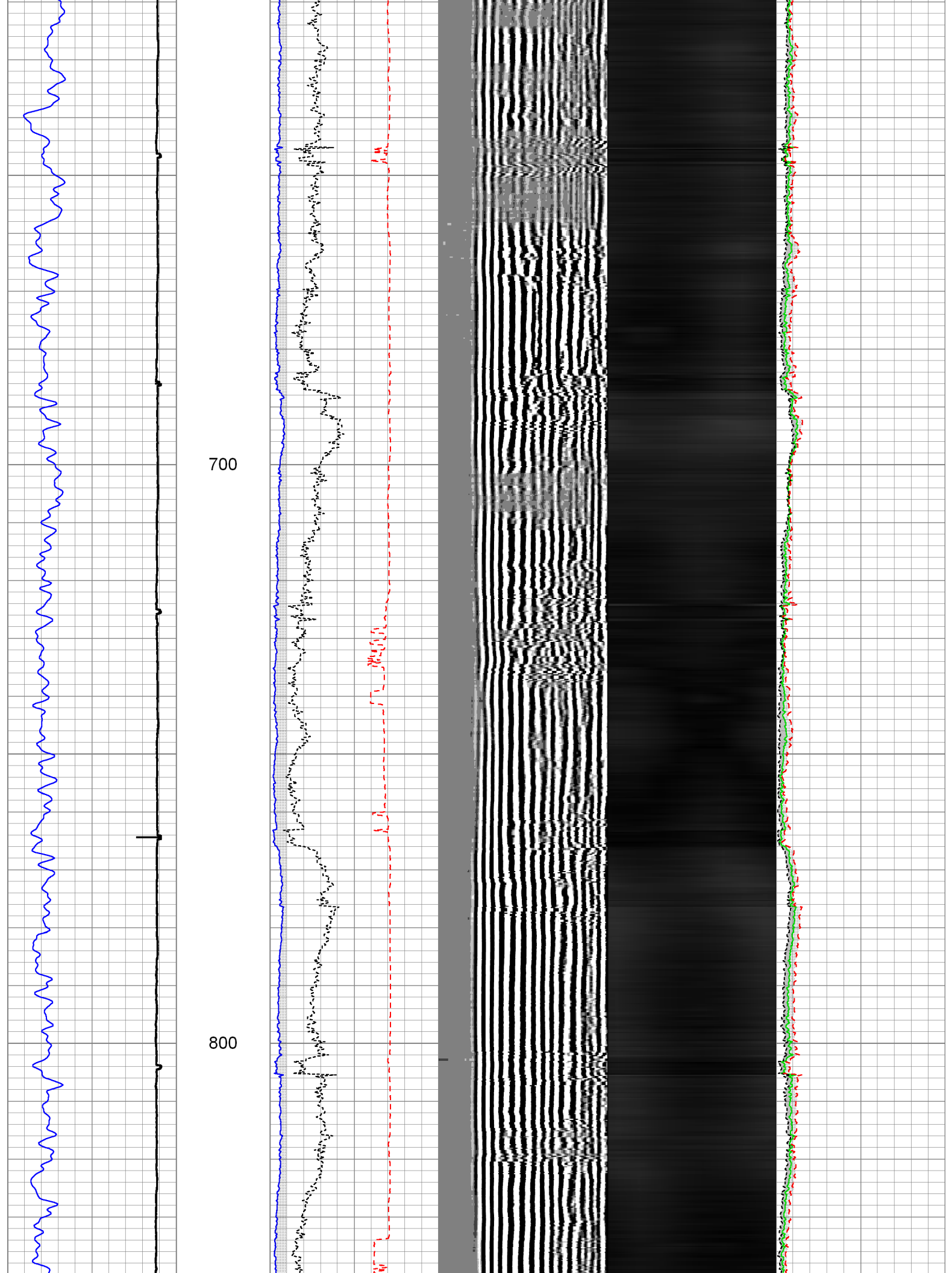
Charted by: Depth in Feet scaled 1:240

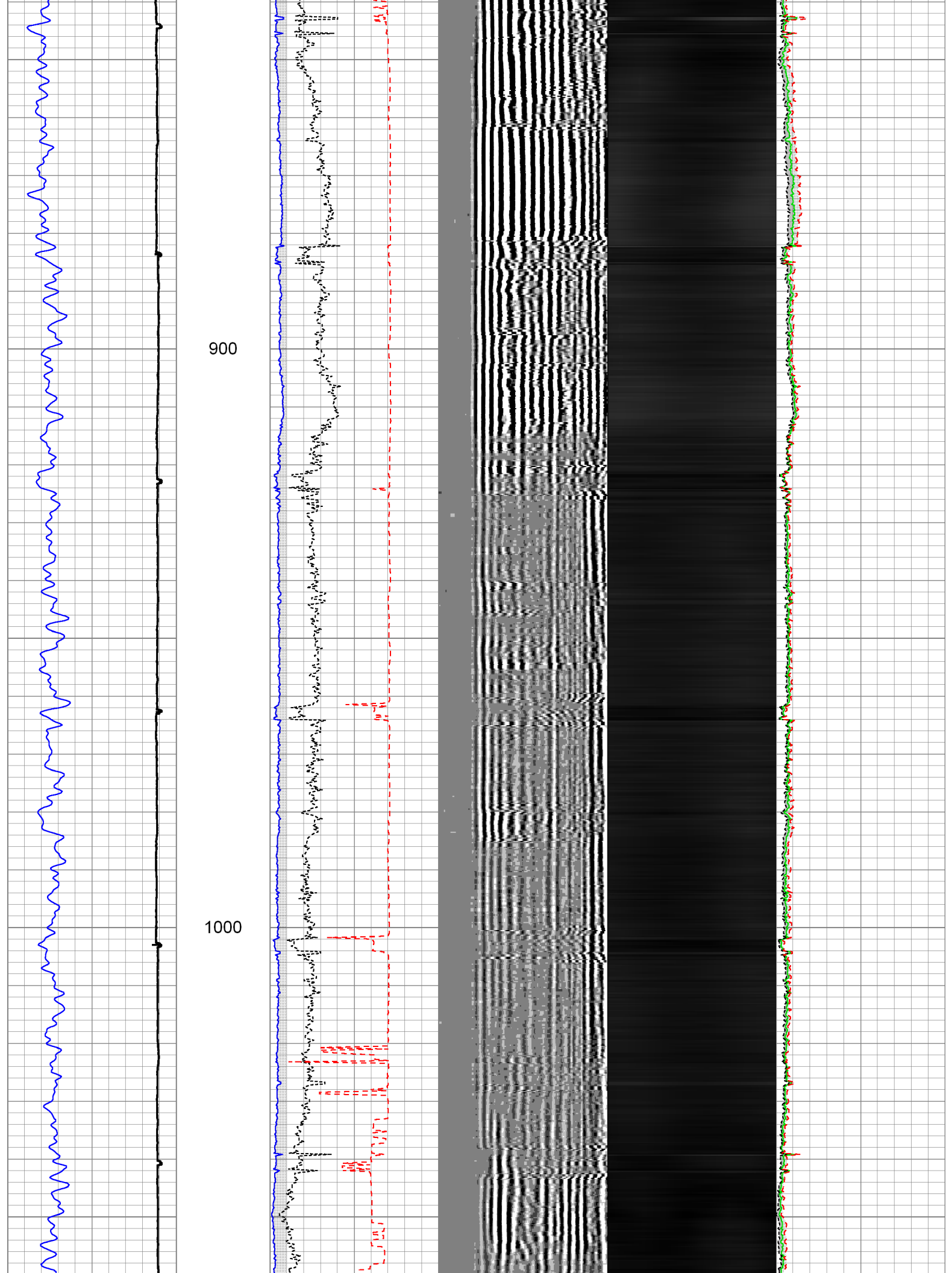
Gamma Ray		3' Amplitude		5' Variable Density Log		Sector Map		Average Amplitude	
0	(GAPI) 150	0	(mV) 100	200	1200			0	100
Collar Locator		3' Amplitude x 5						Minimum Amplitude	
		0	(mV) 20					0	100
		3' Travel Time						Maximum Amplitude	
		650	(usec) 150					0	100

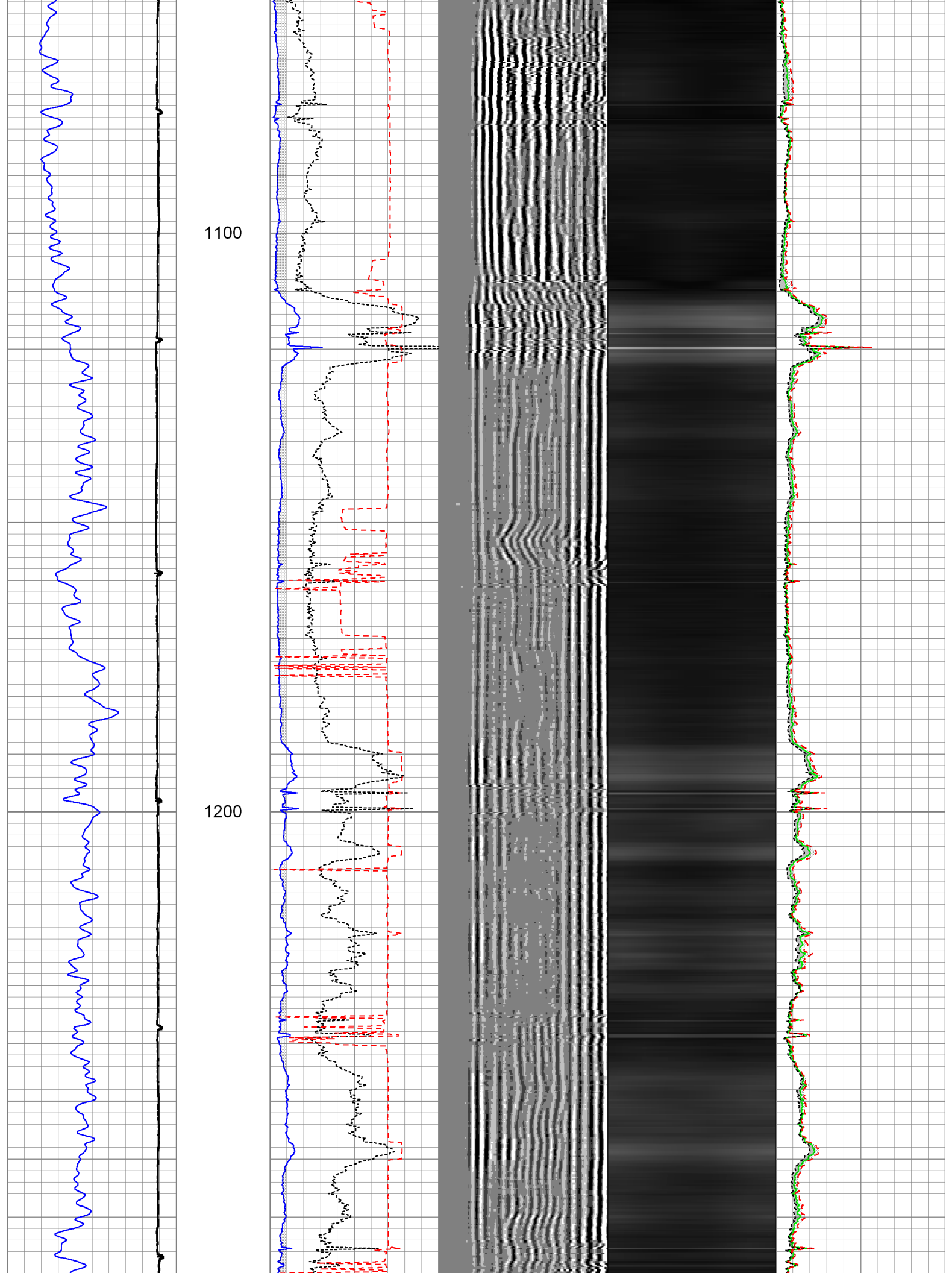


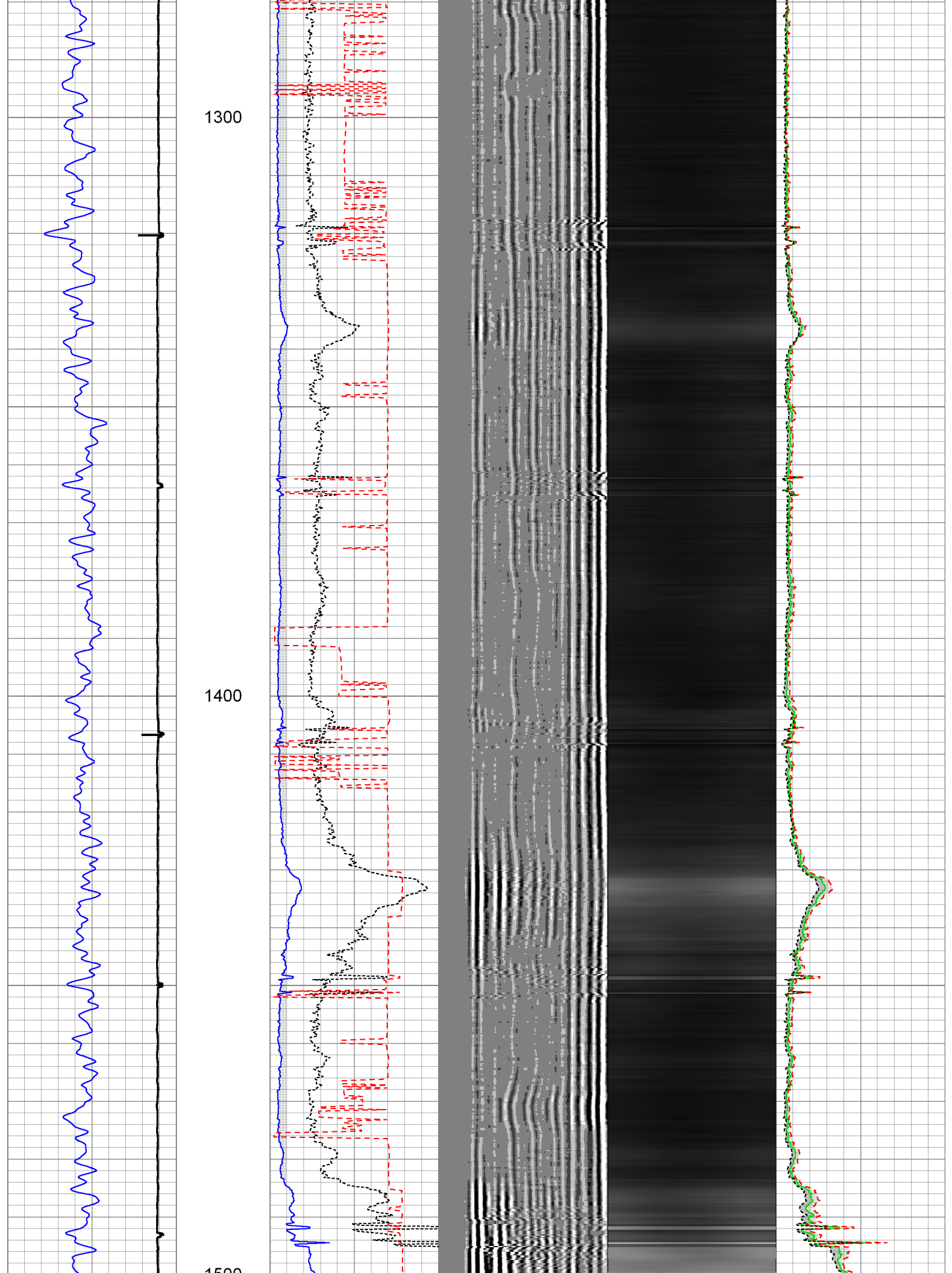


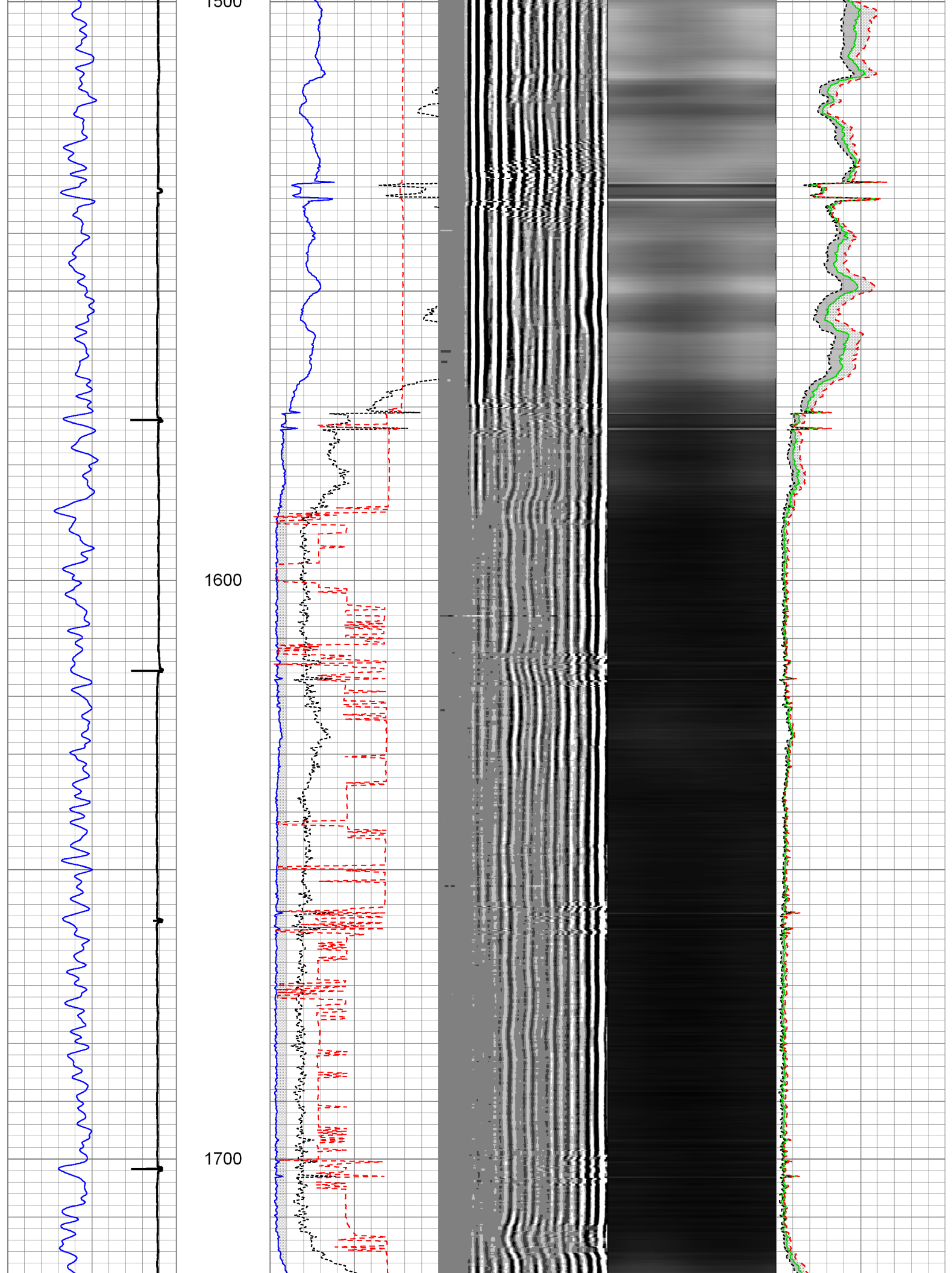


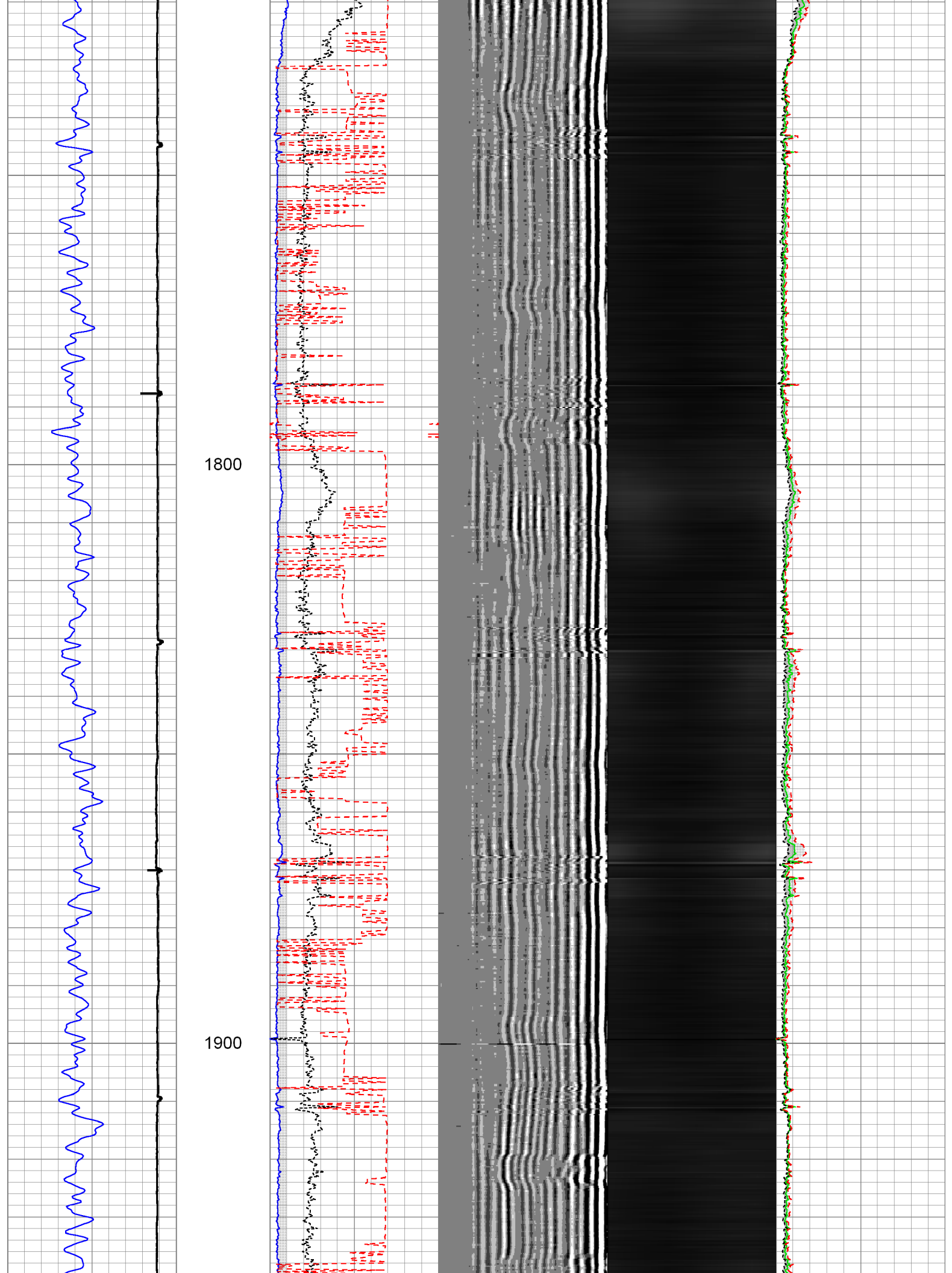






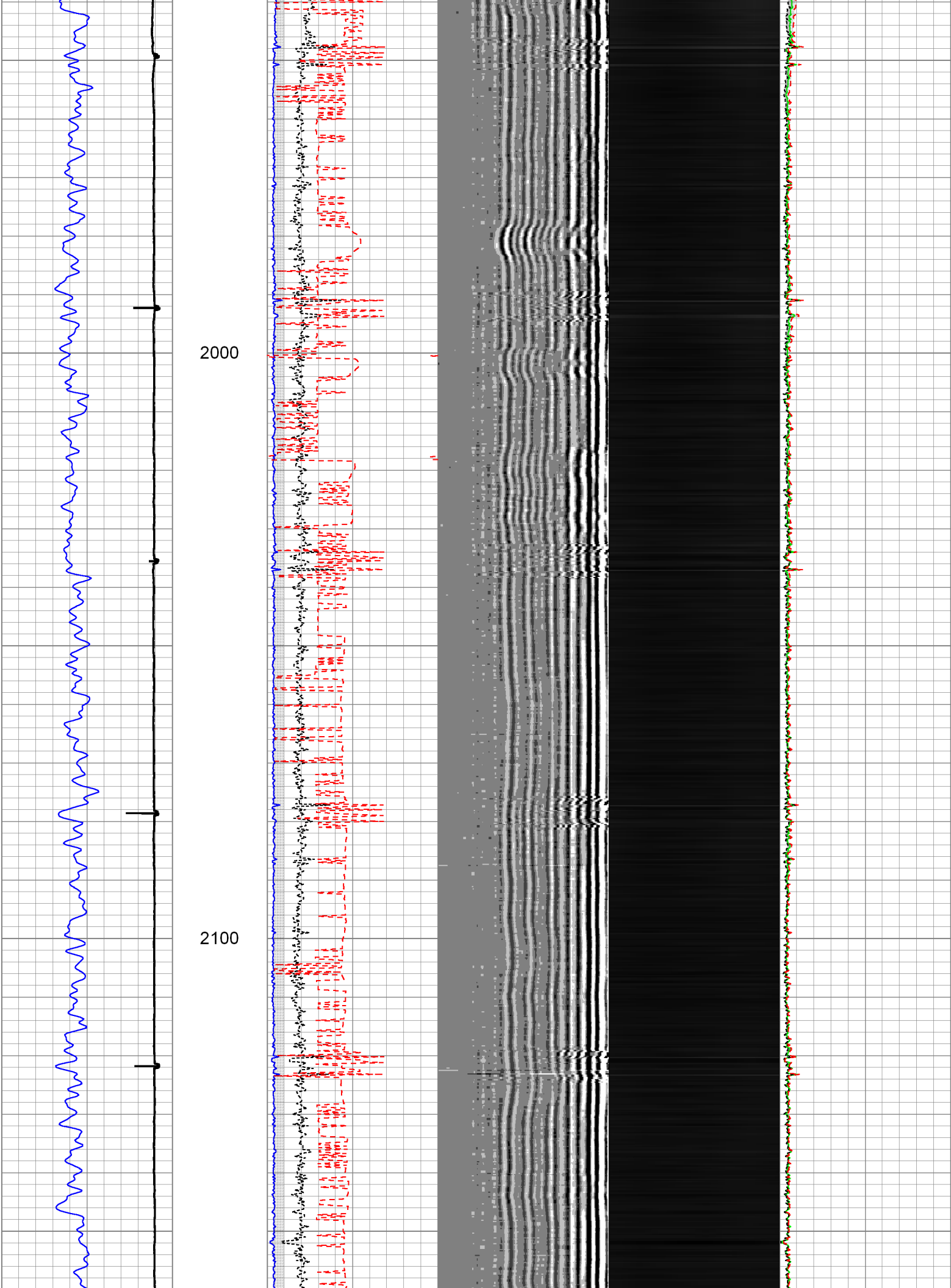






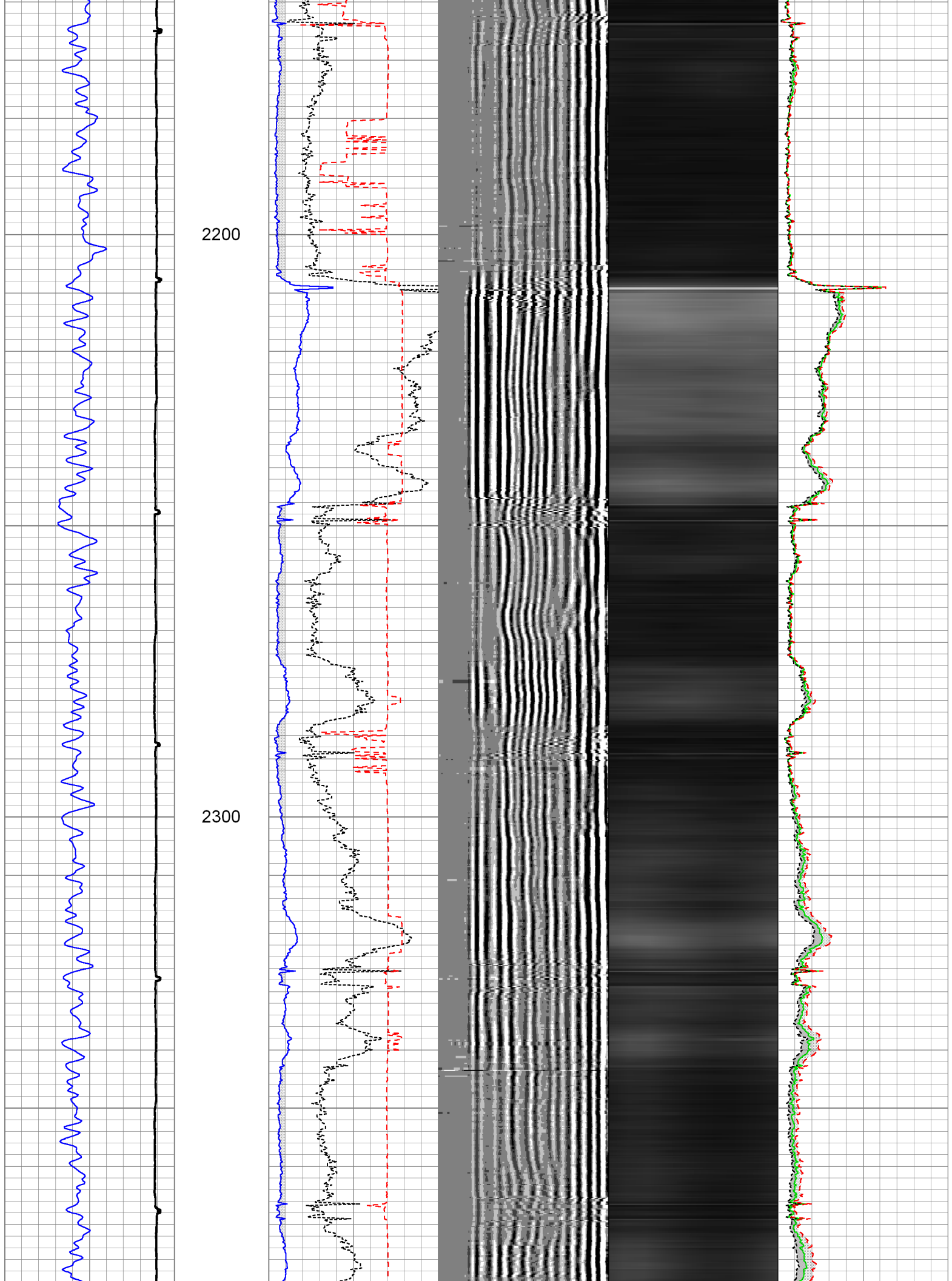
2000

2100



2200

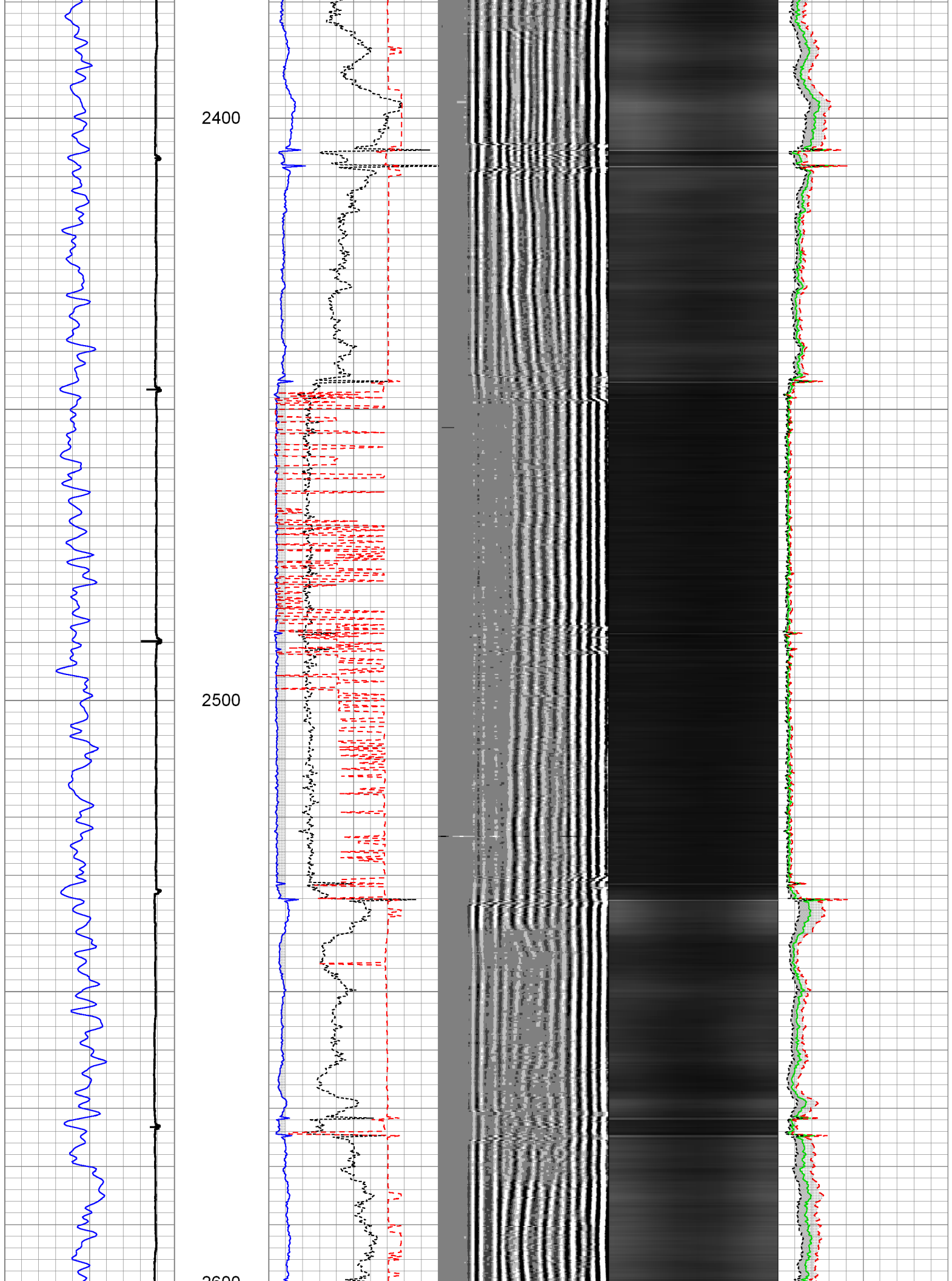
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2400

2500

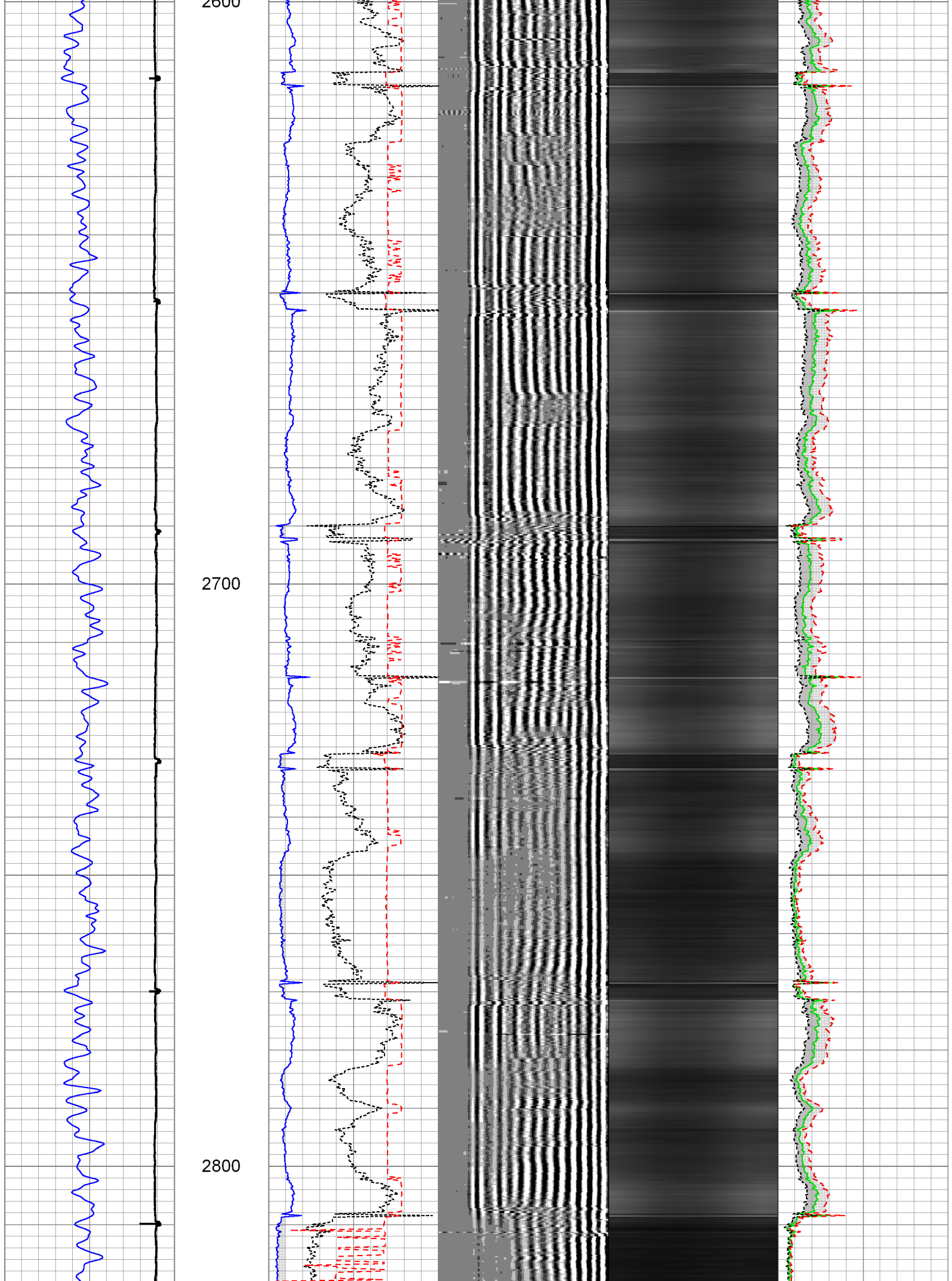
2600



2600

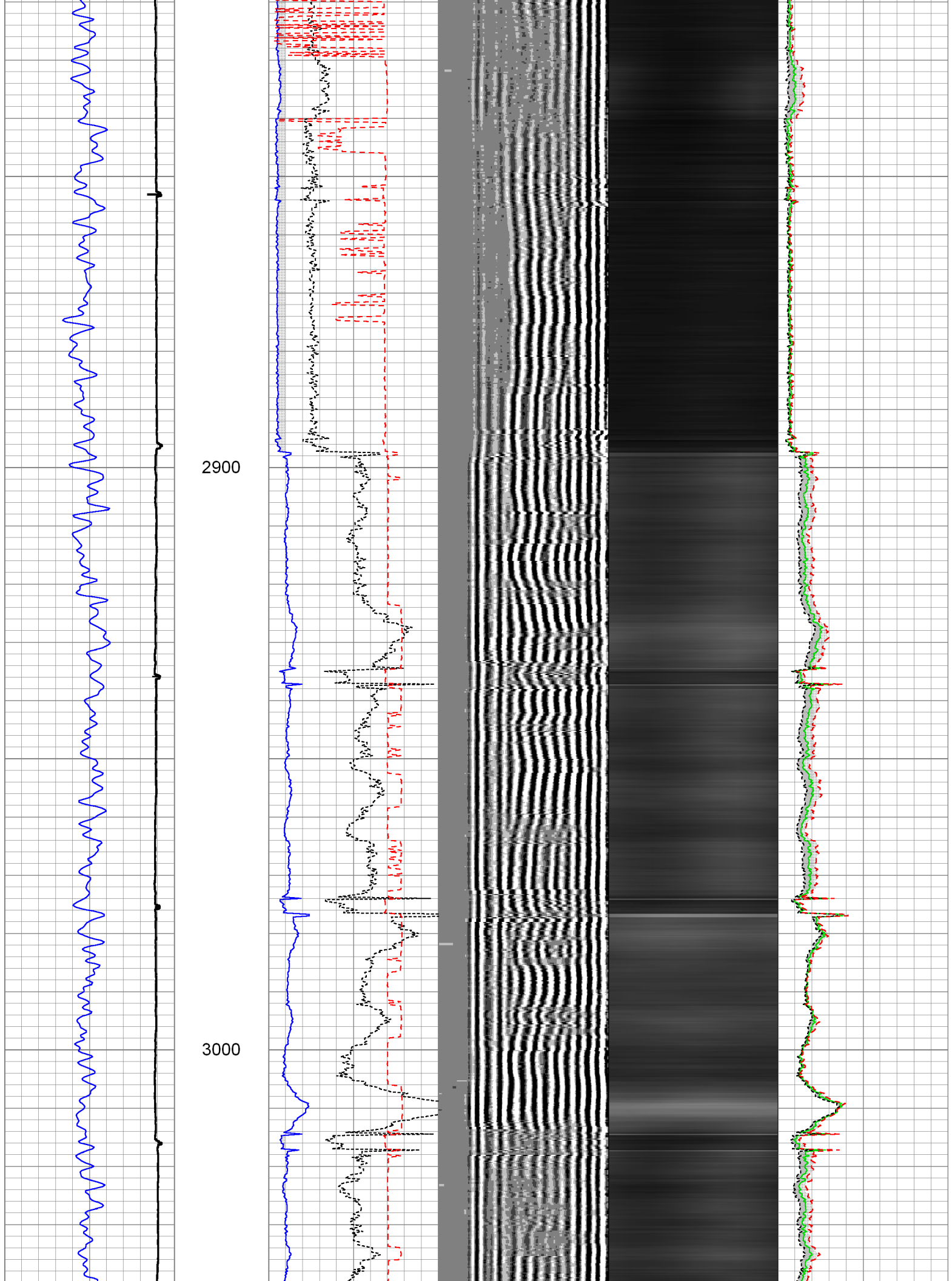
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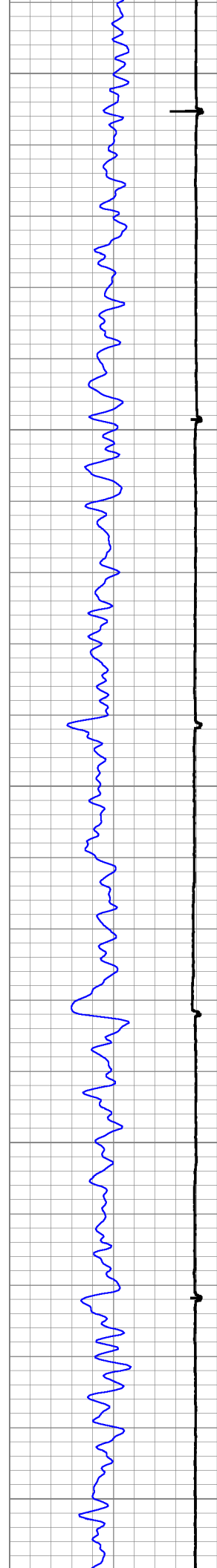
2800



2900

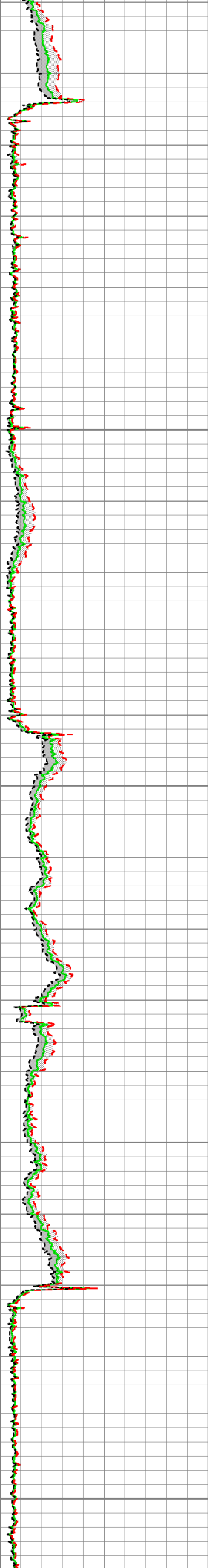
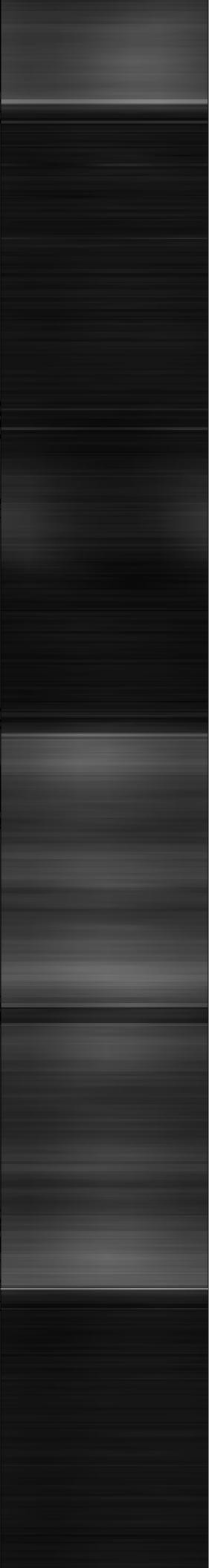
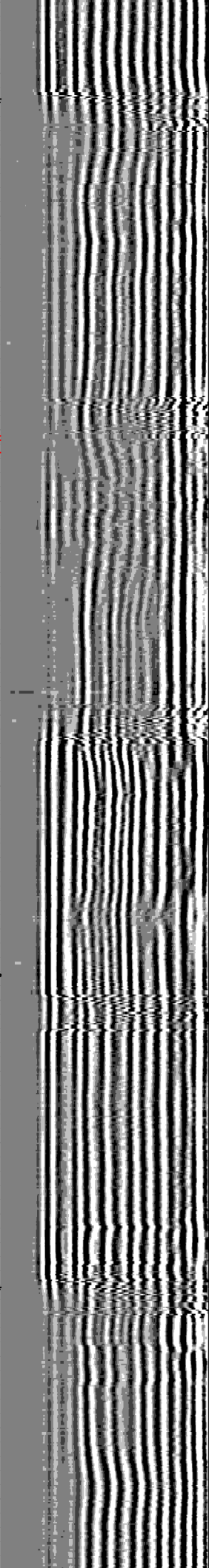
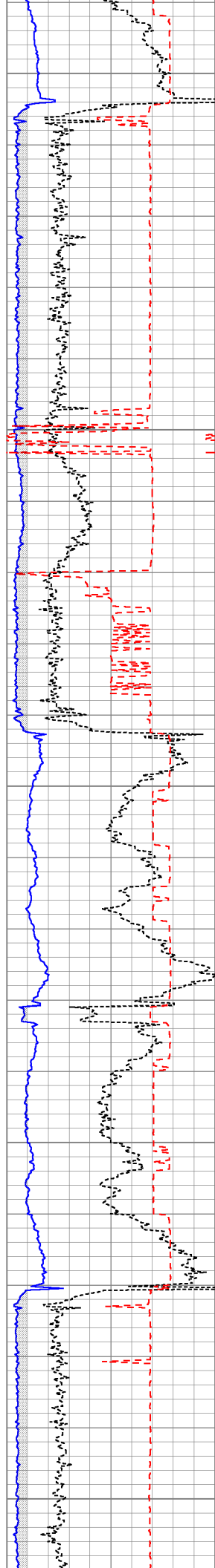
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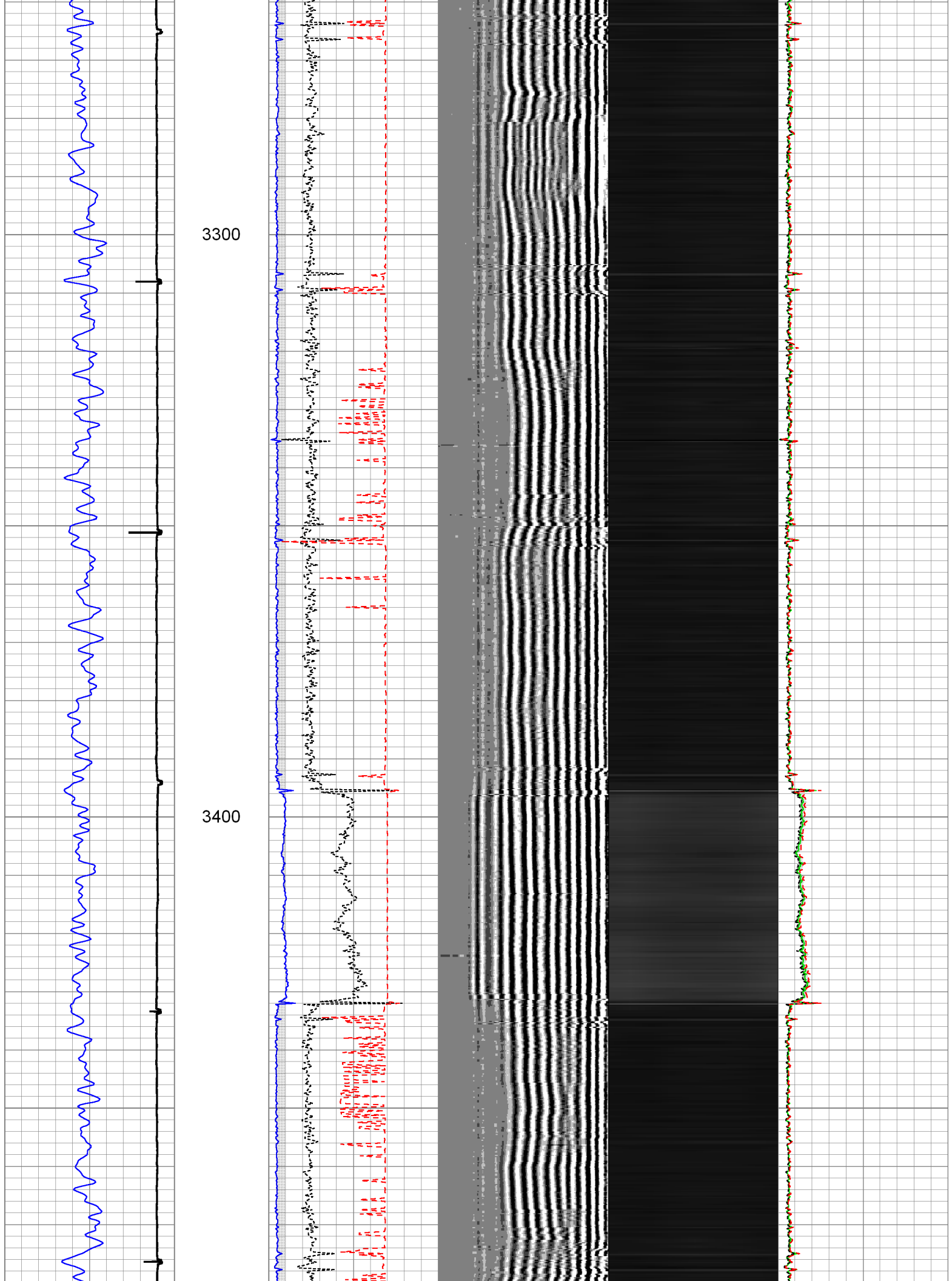
3100

3200



3300

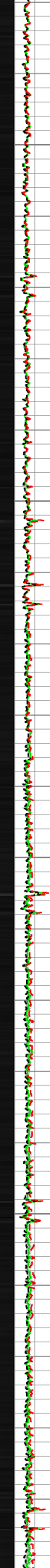
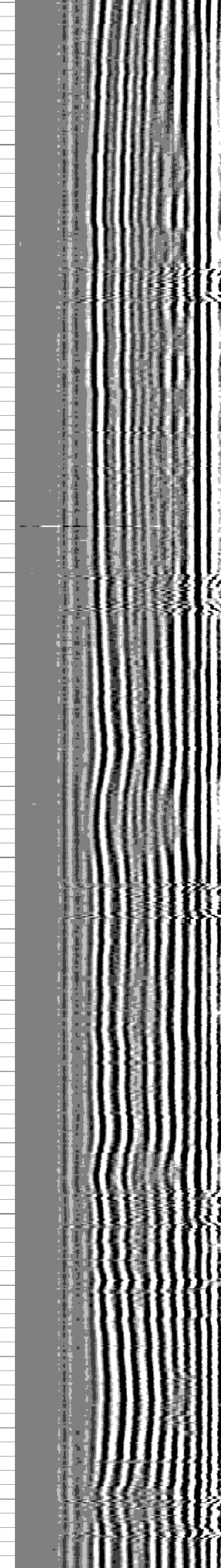
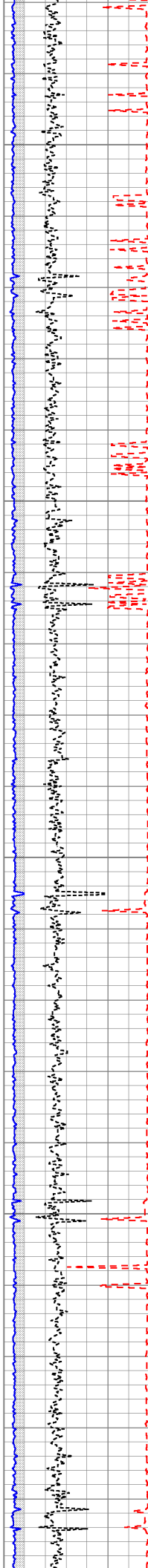
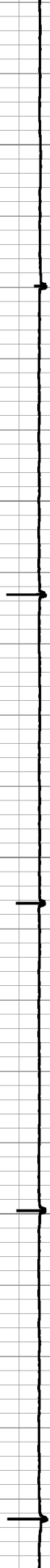
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3500

3600

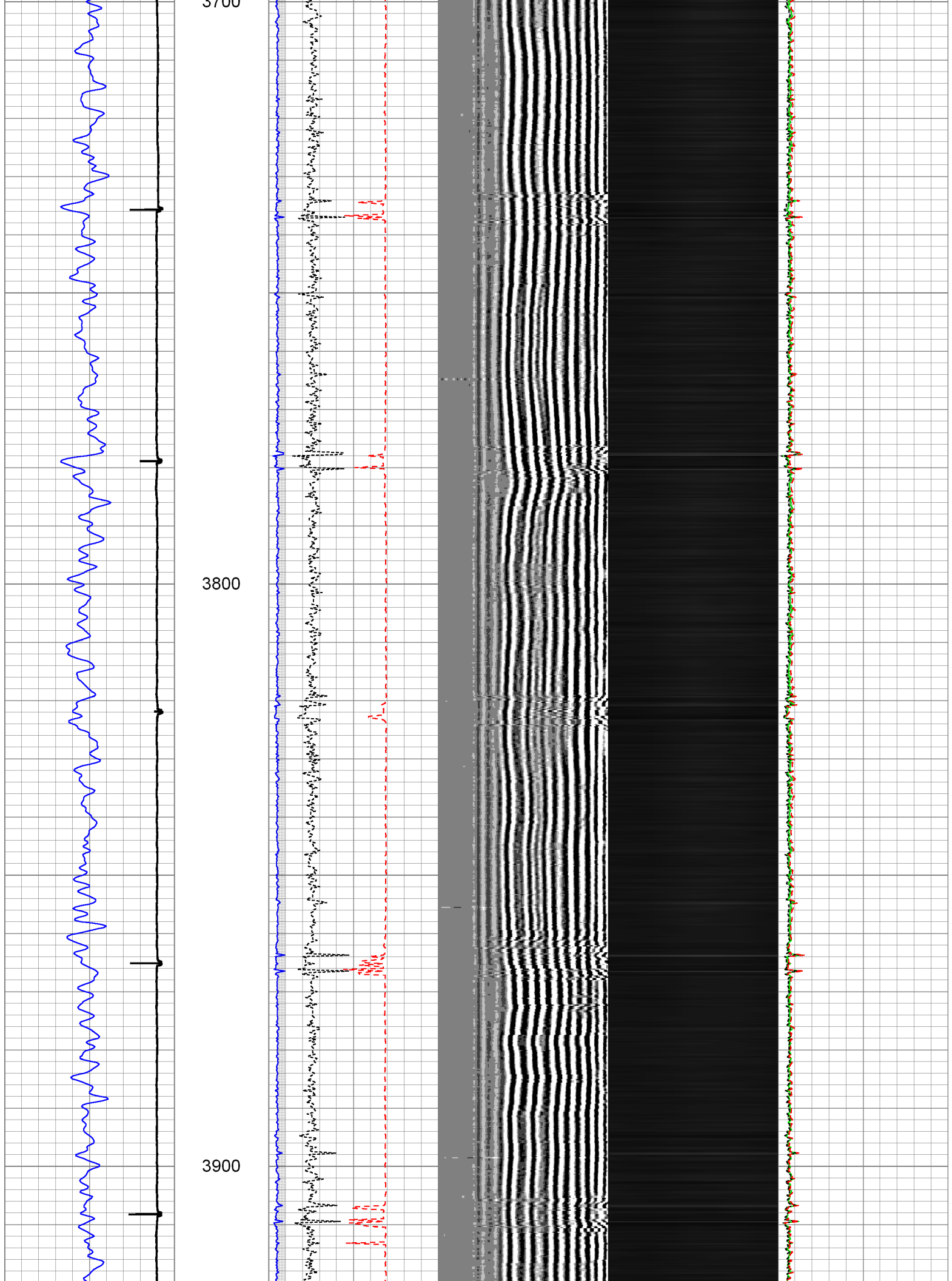
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3700

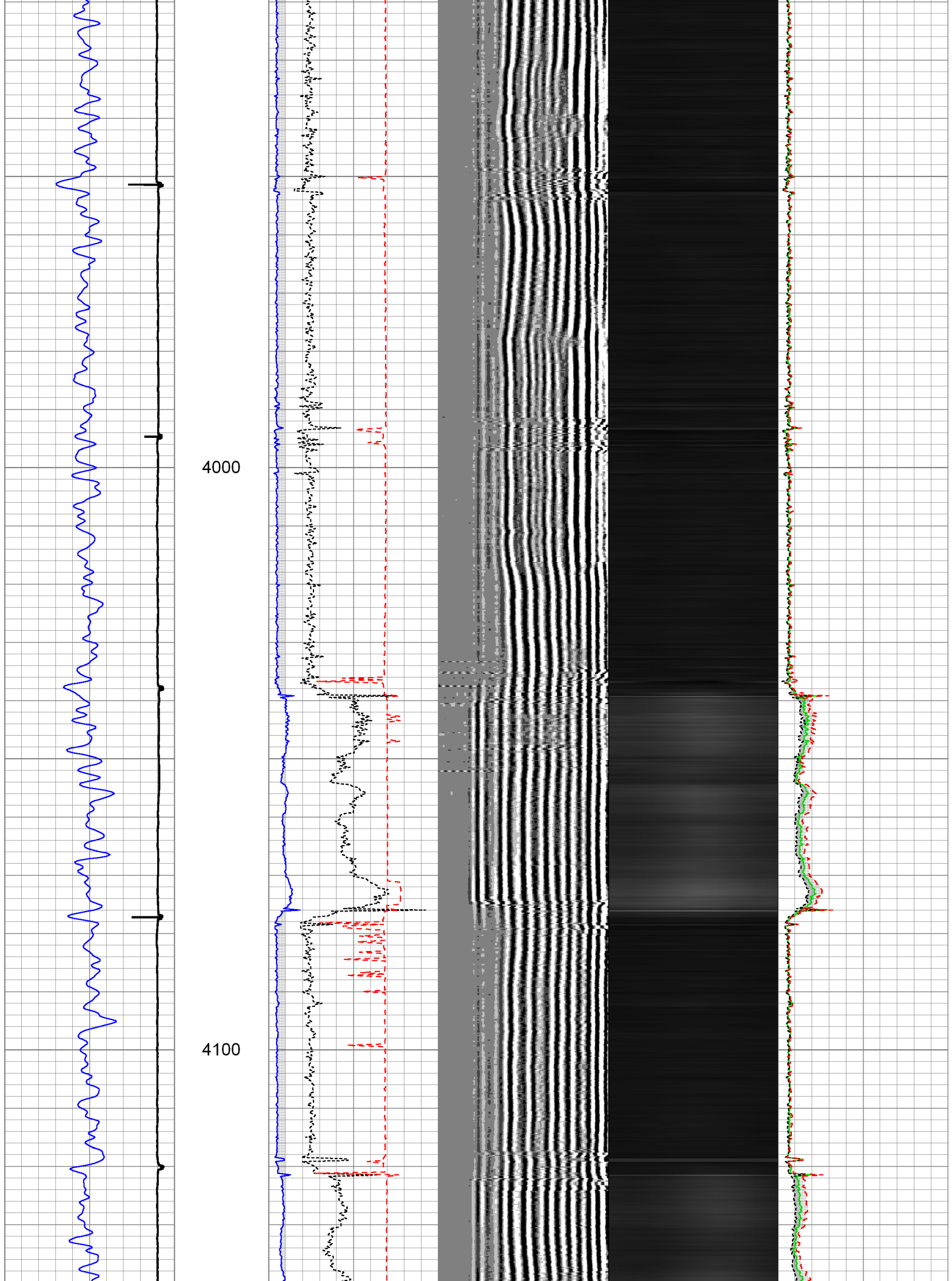
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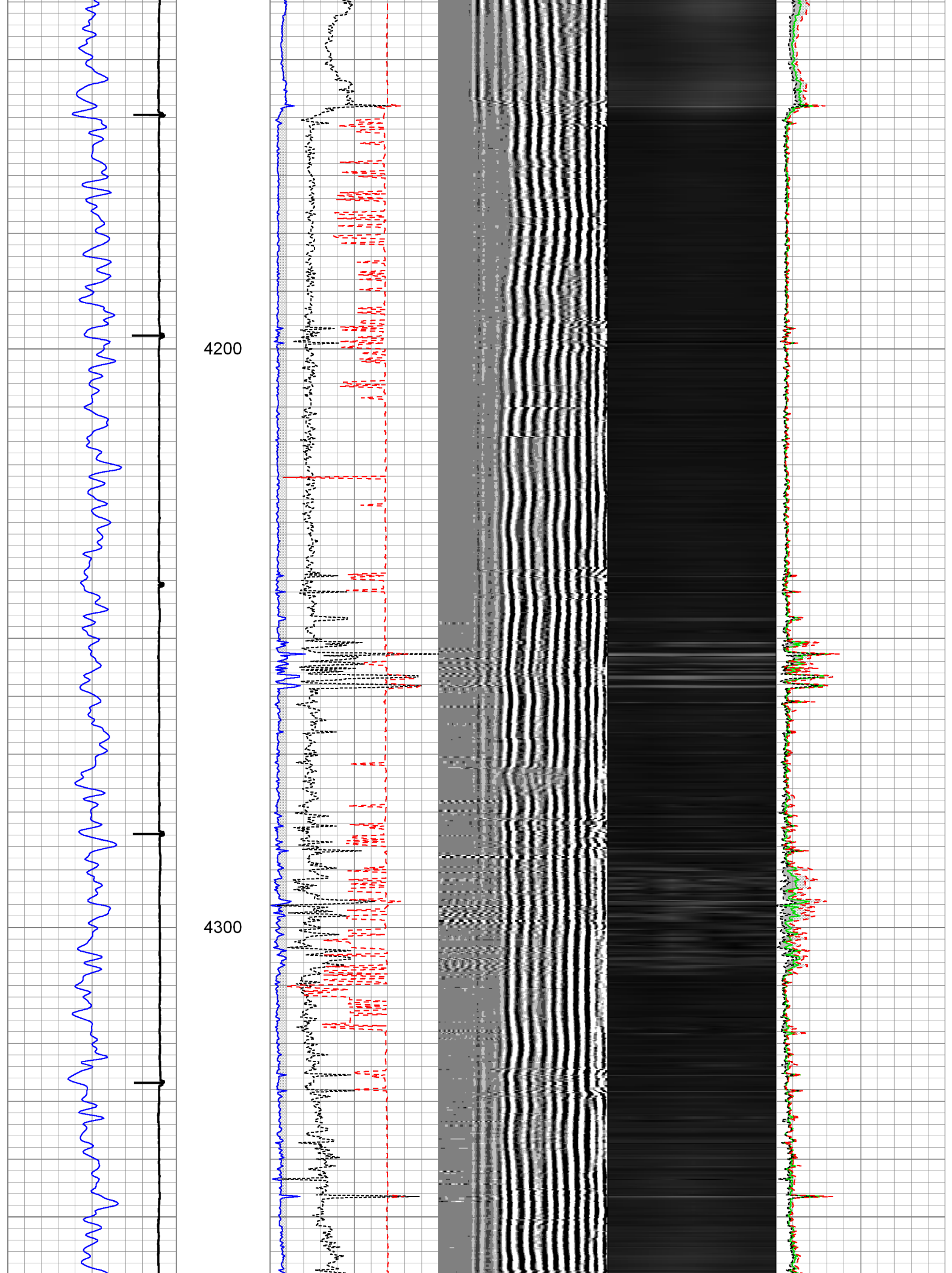
3900



4000

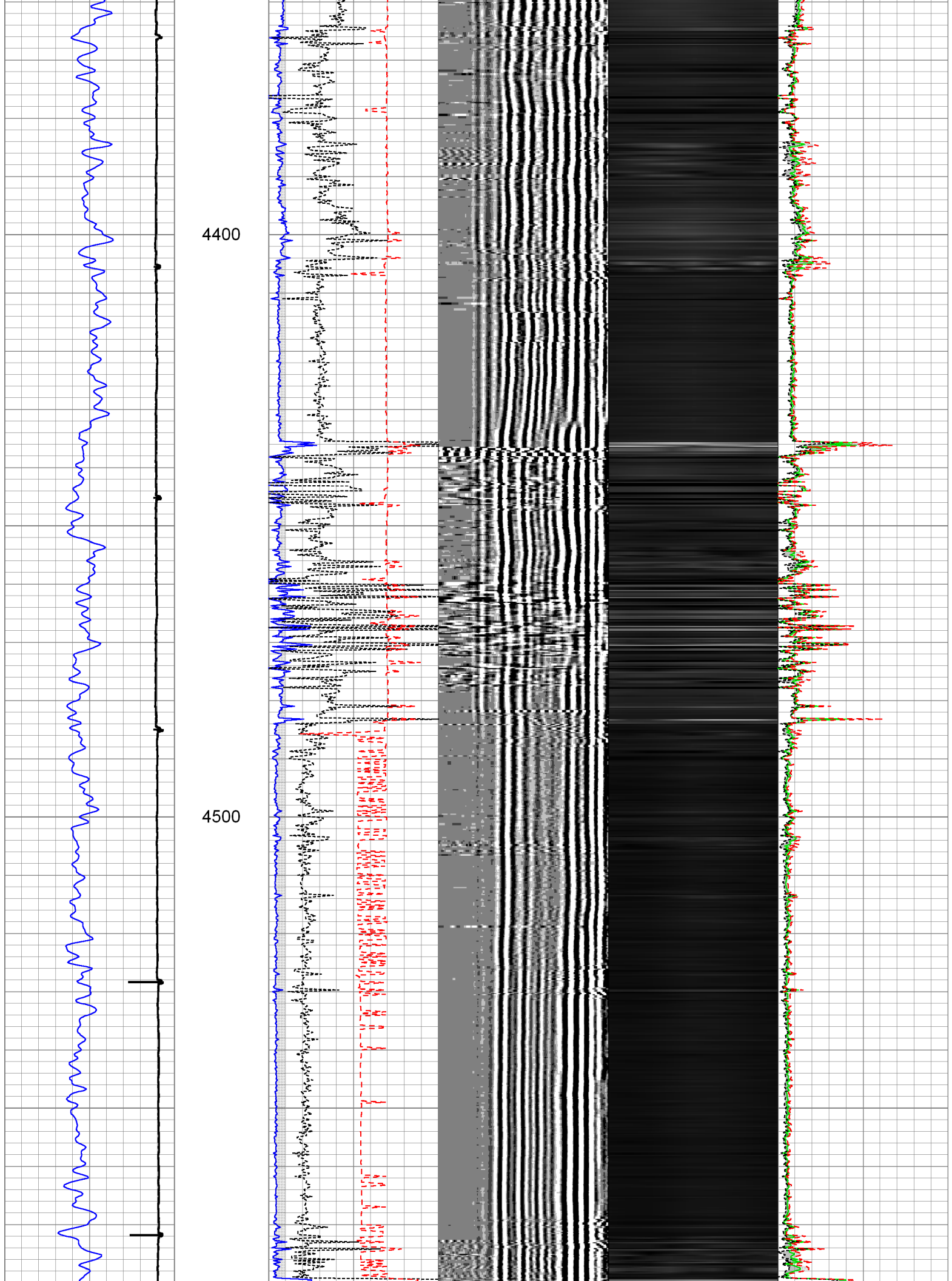
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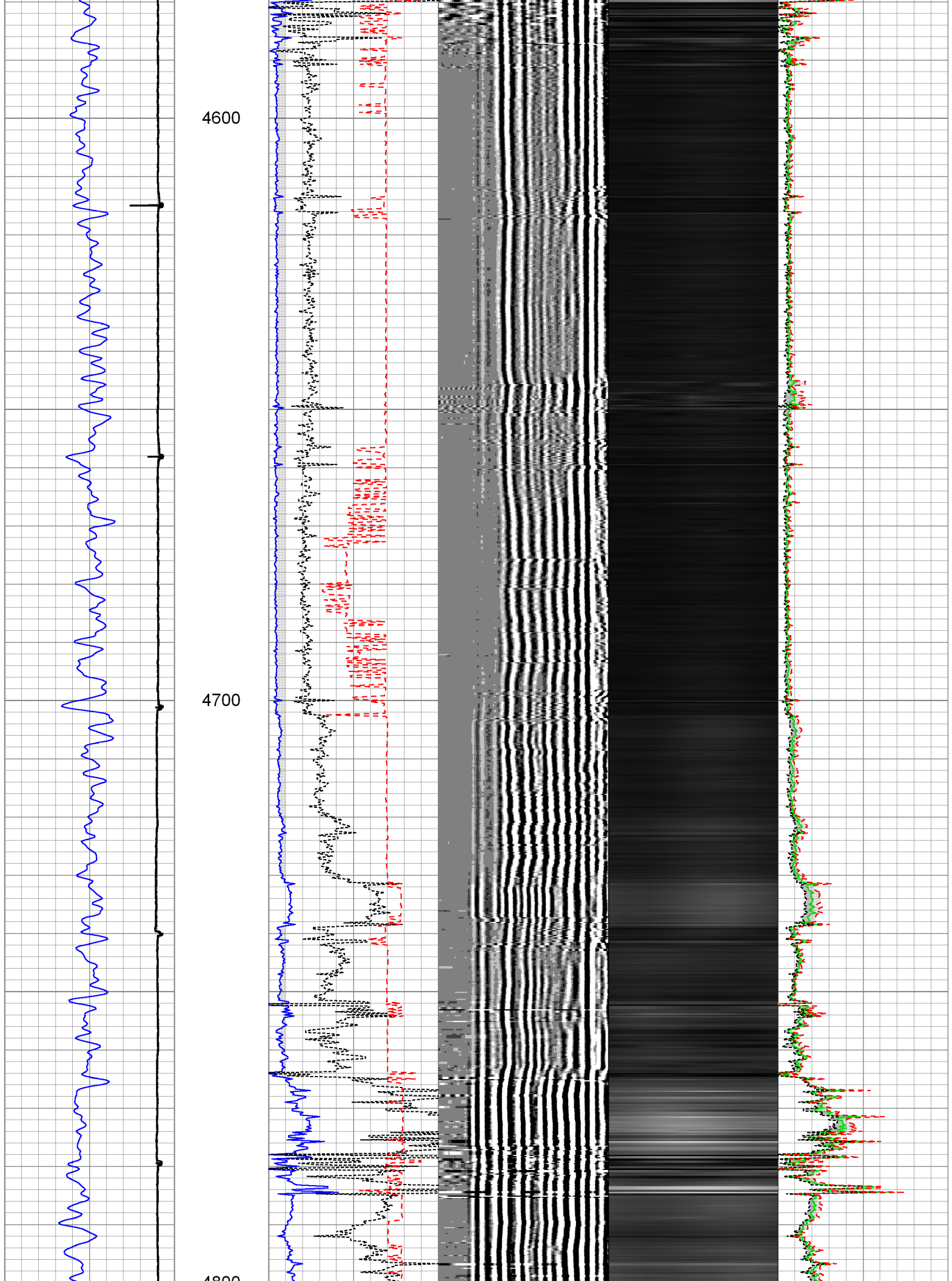




4400

4500

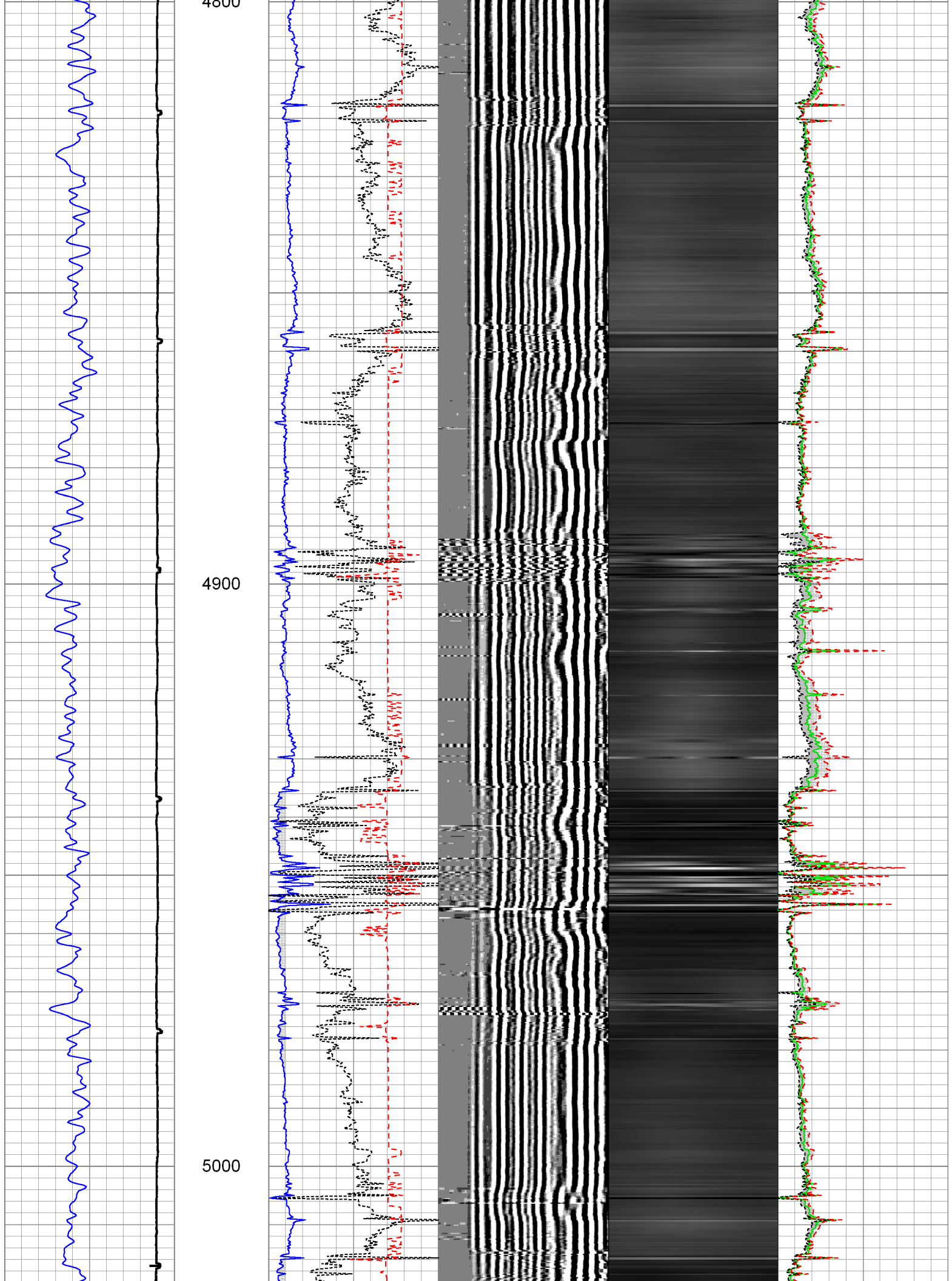


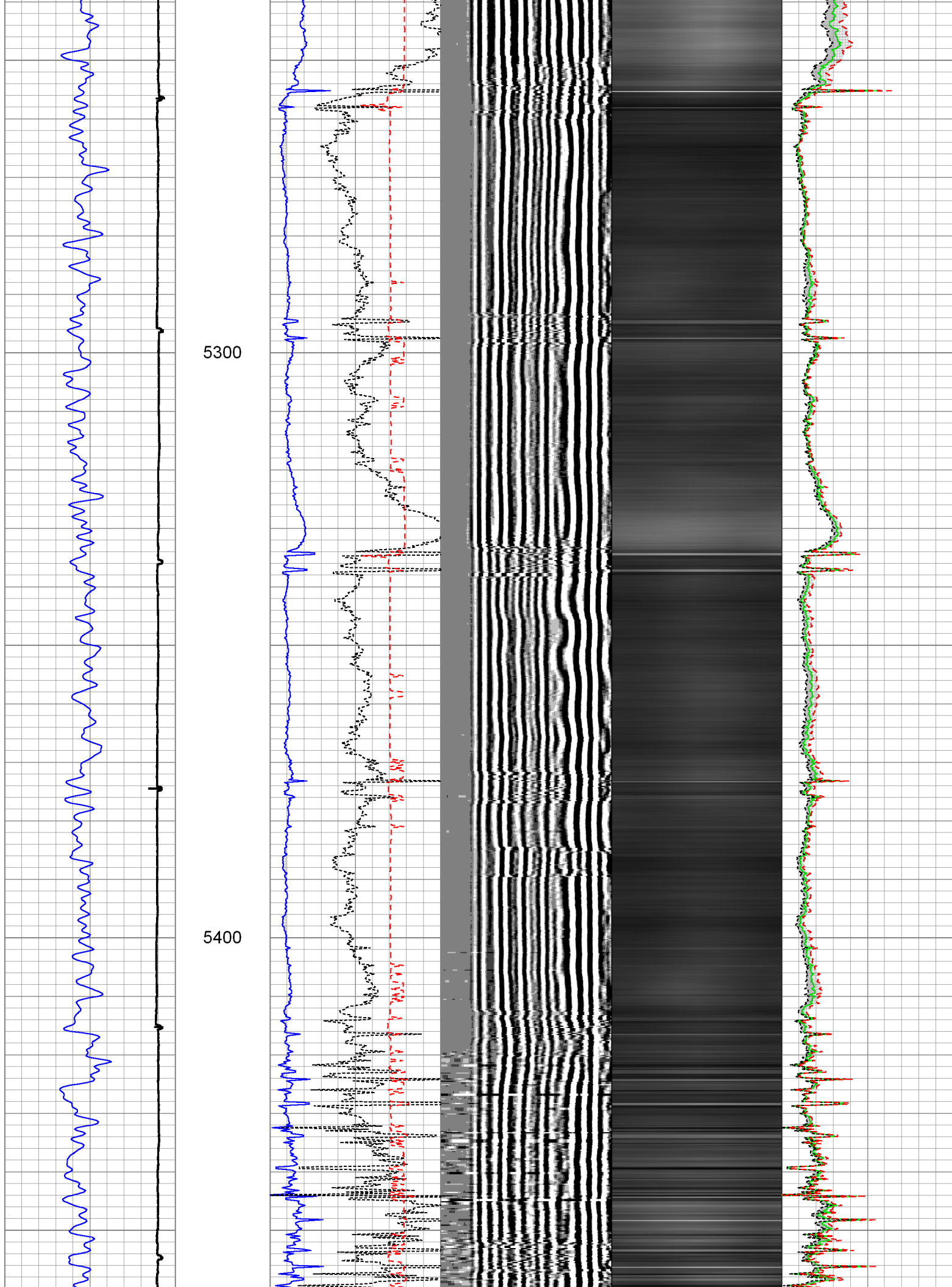


4800

4900

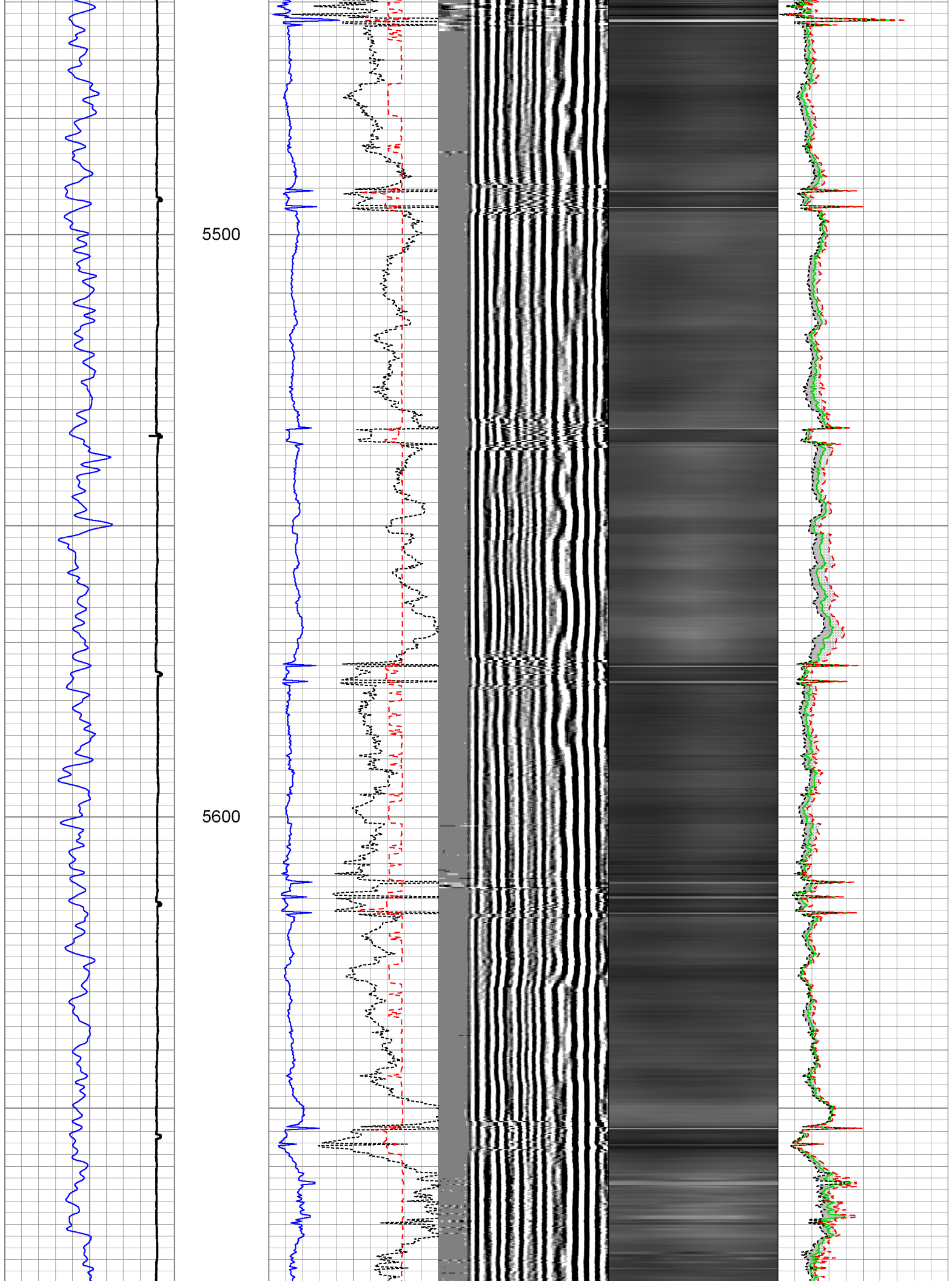
5000





5500

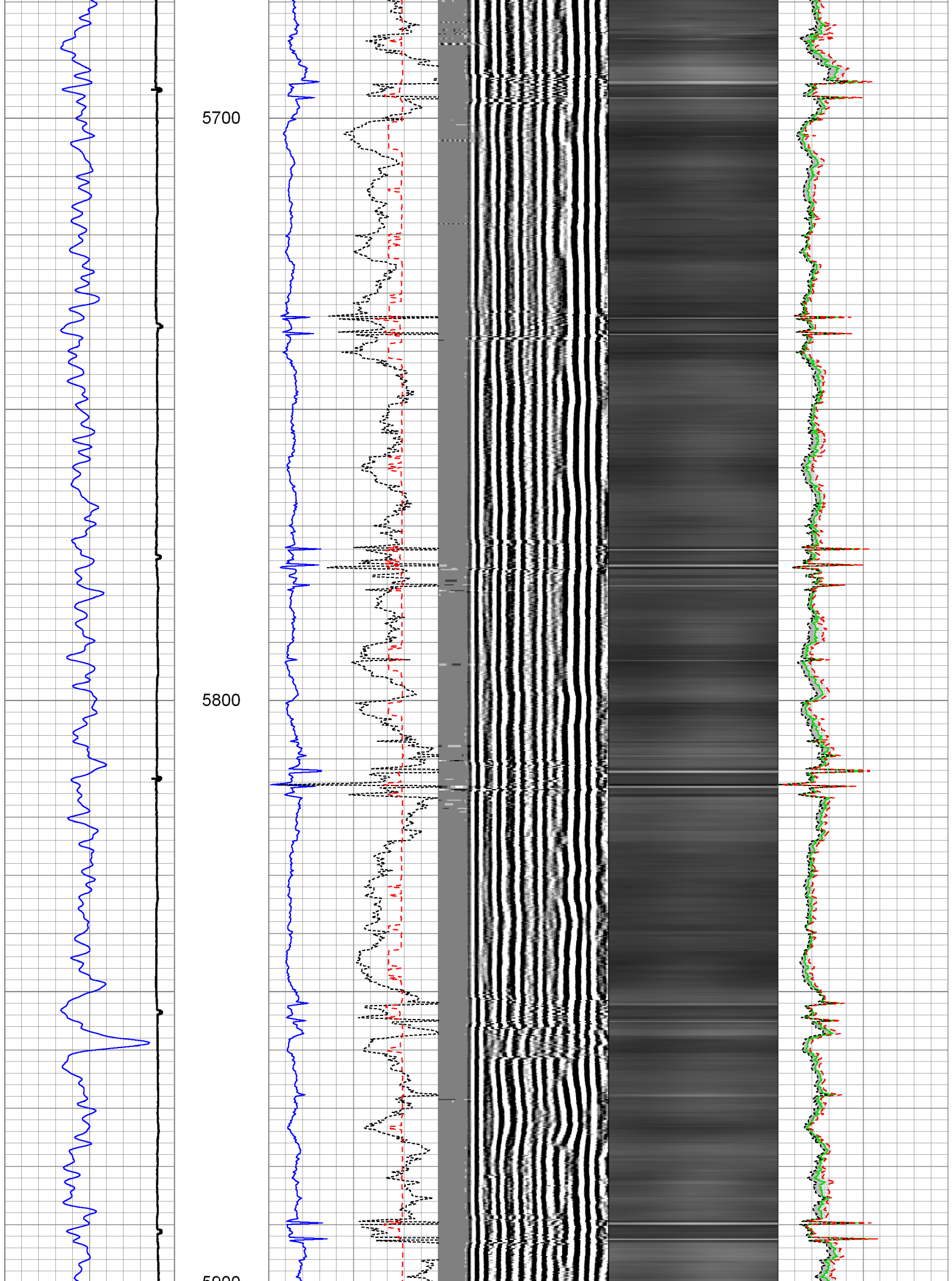
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5700

5800

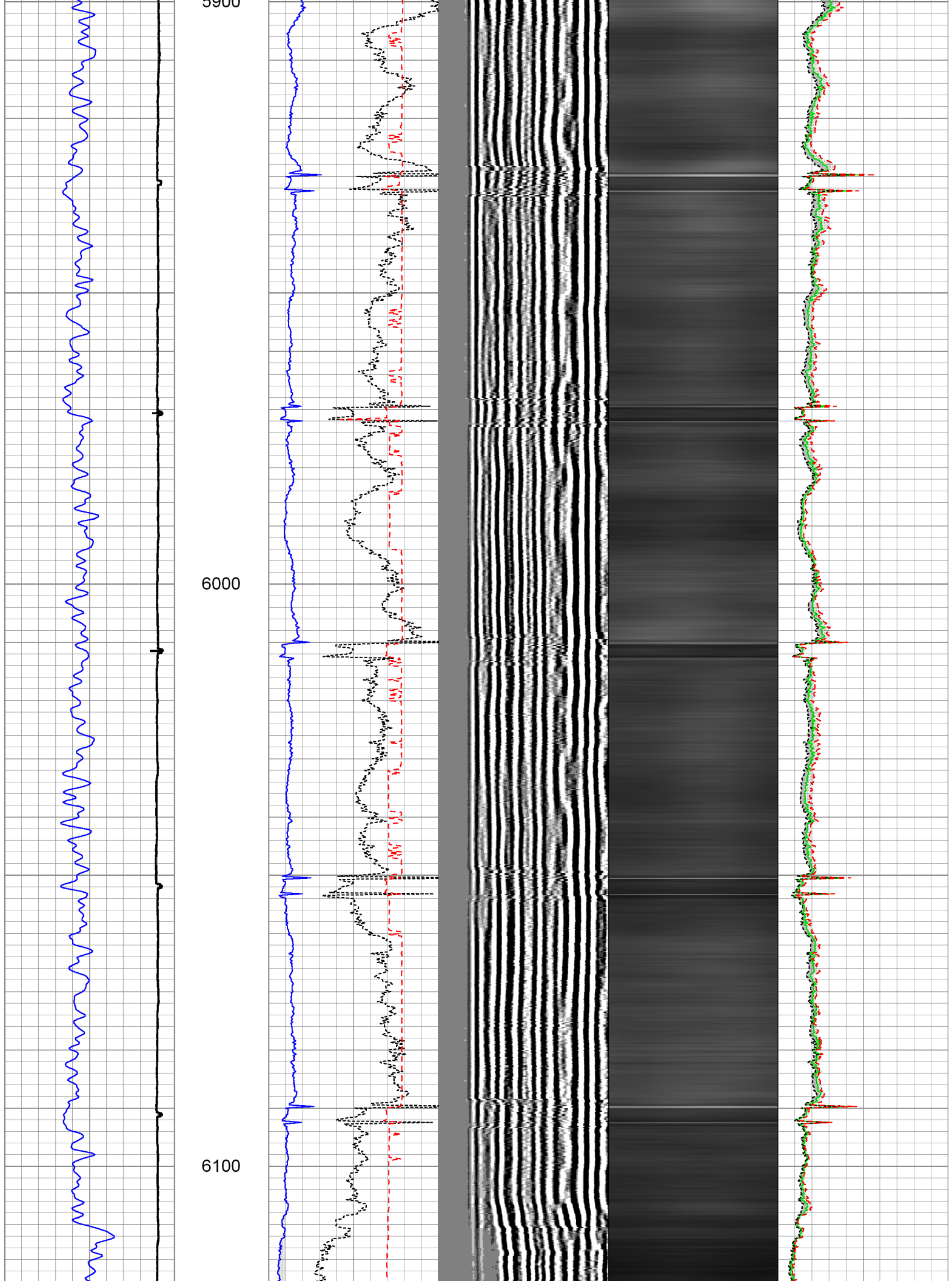
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5900

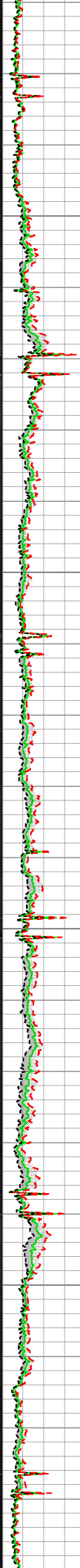
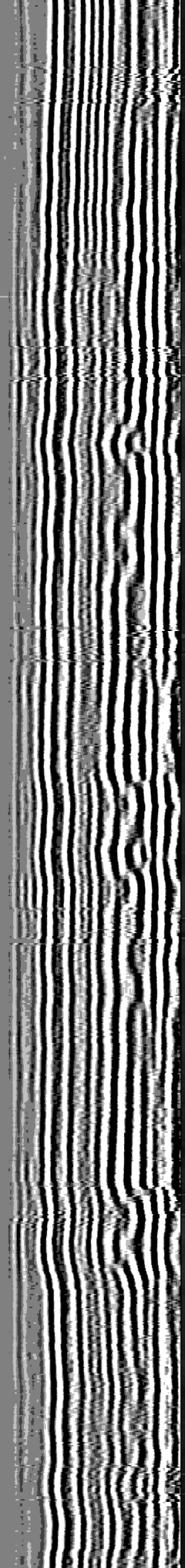
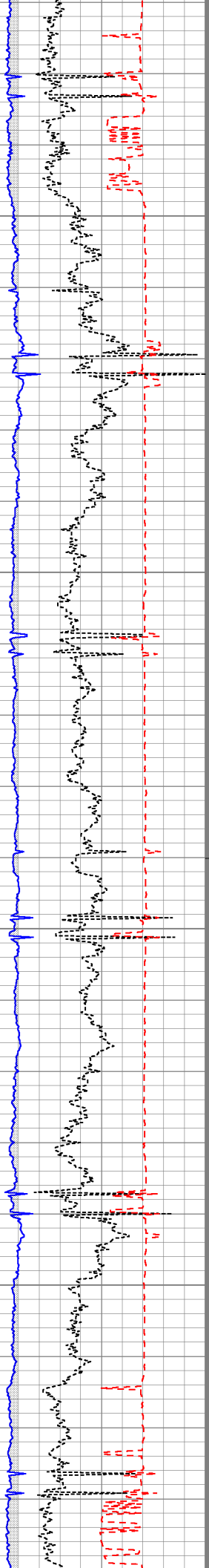
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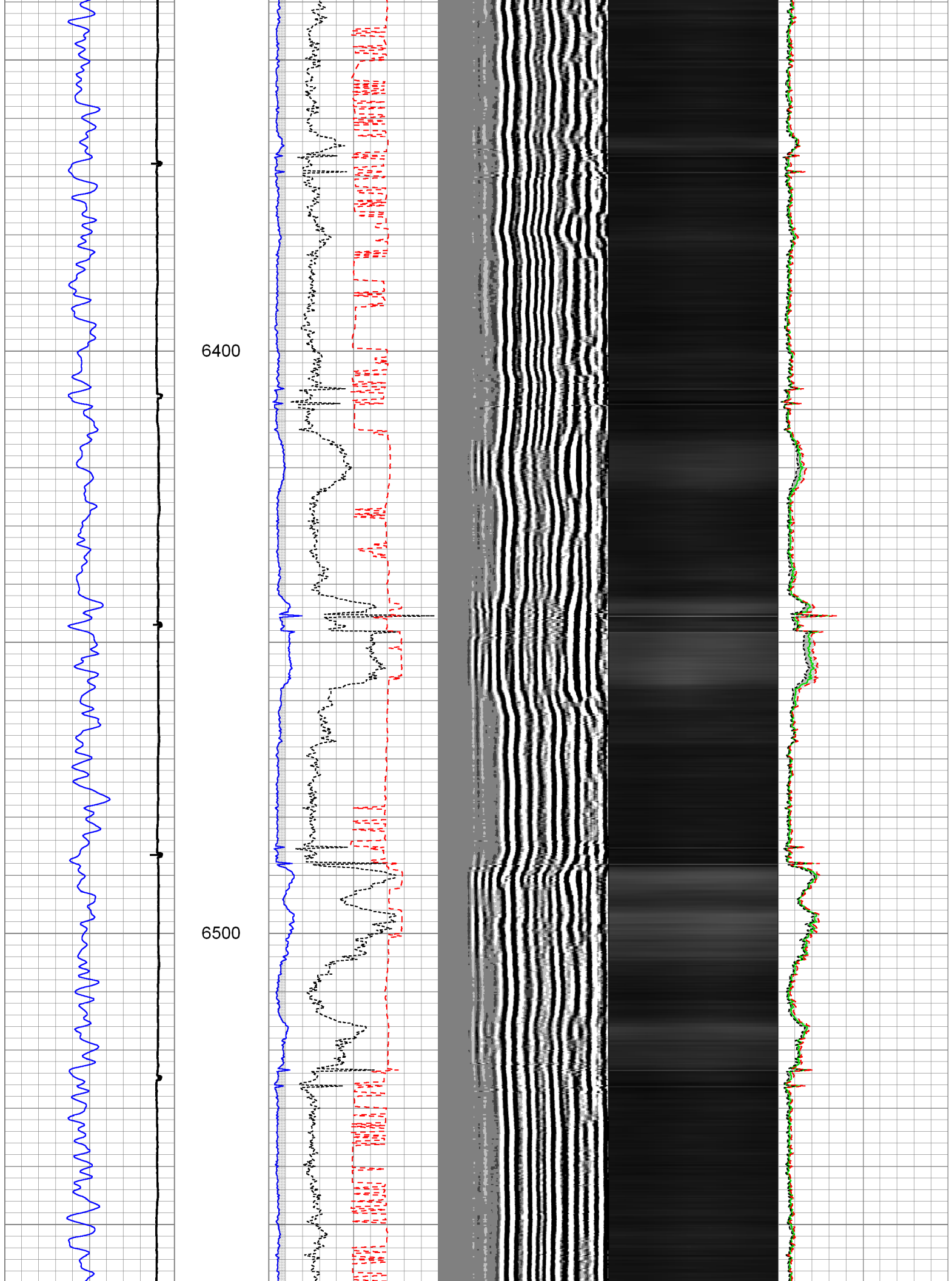
6100



6200

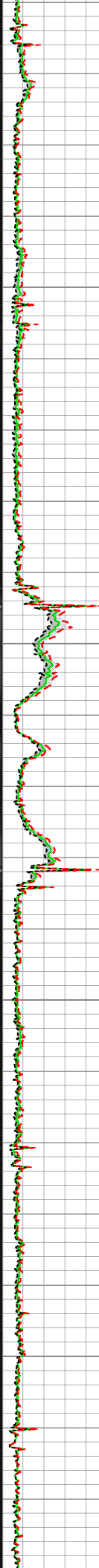
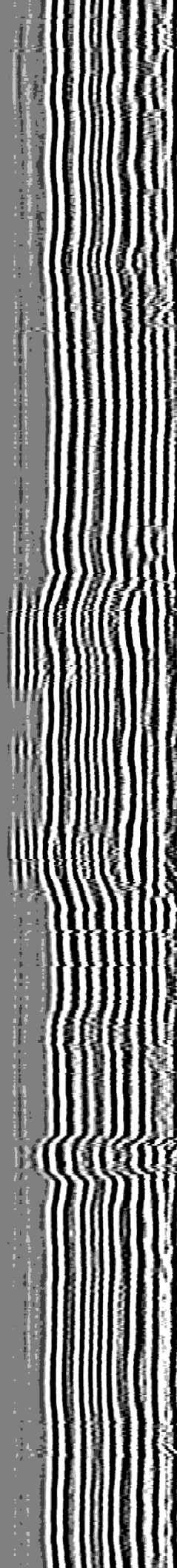
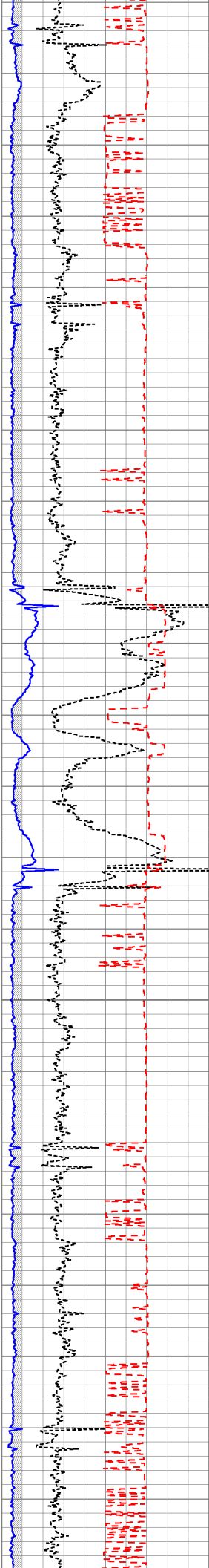
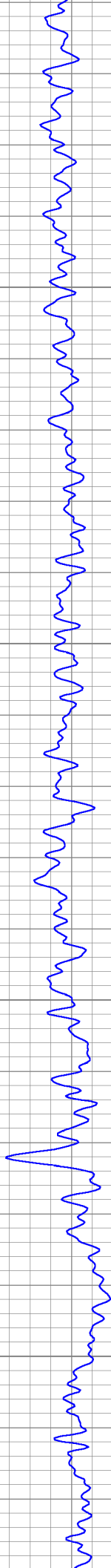
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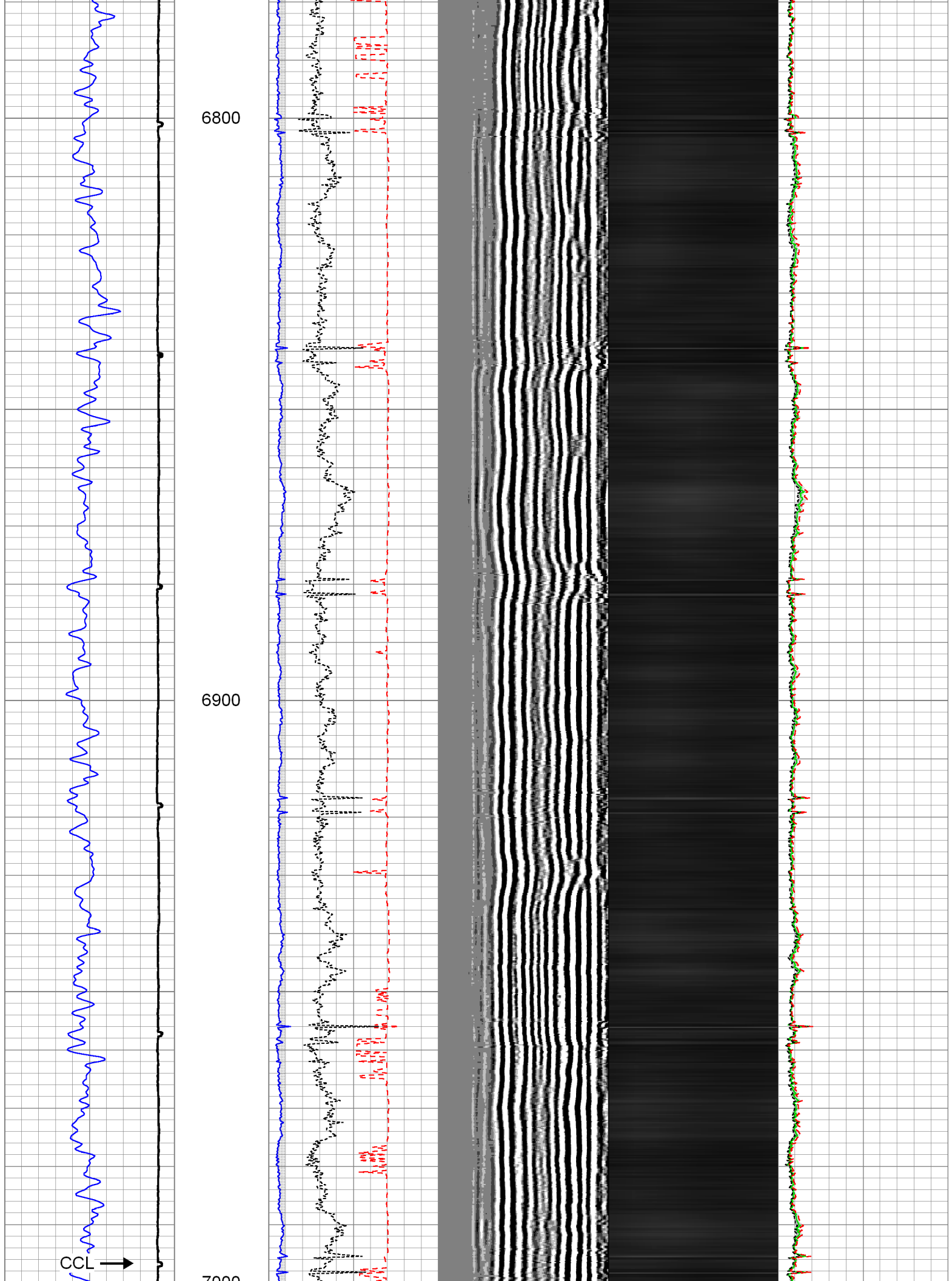


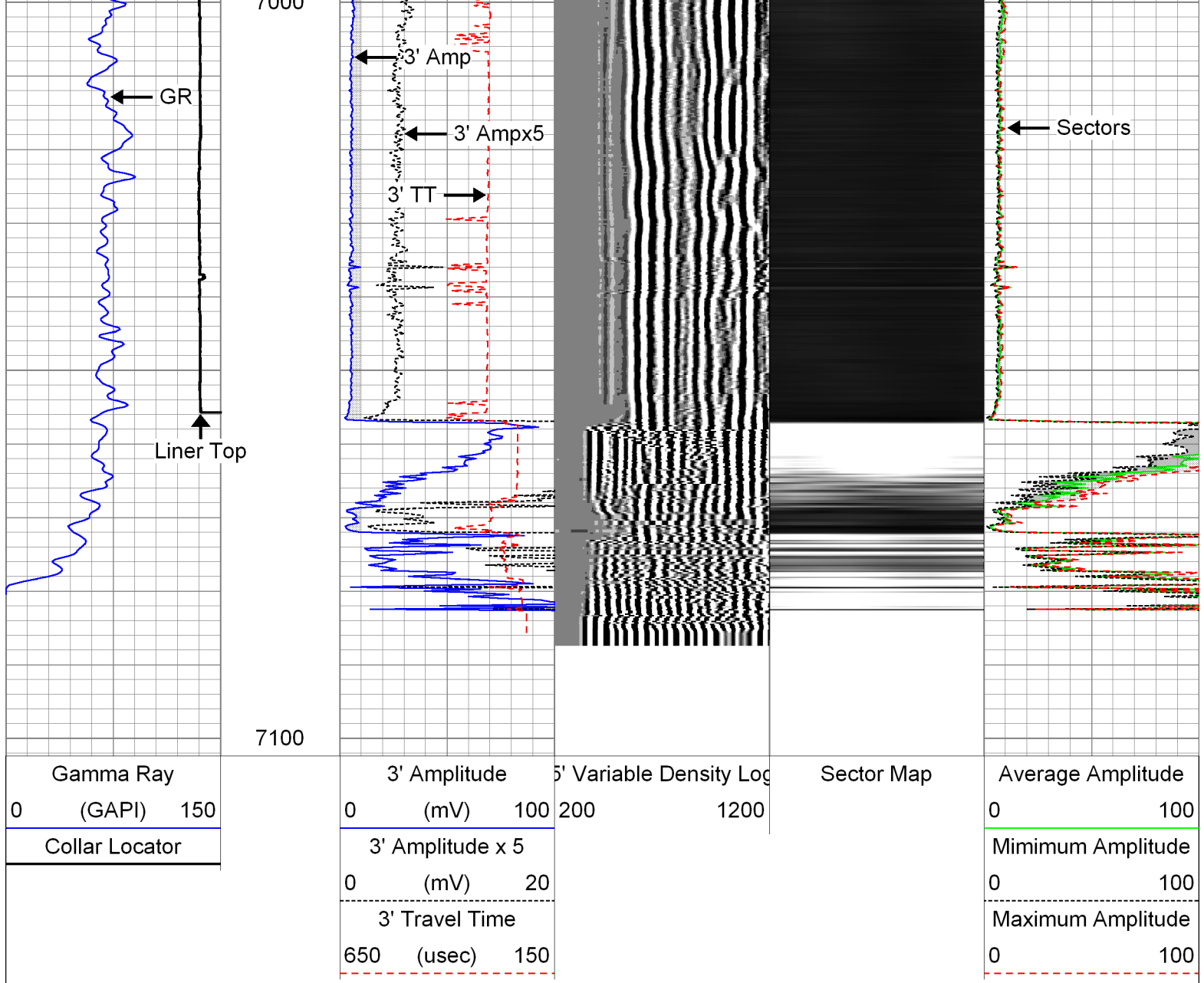


6600

6700



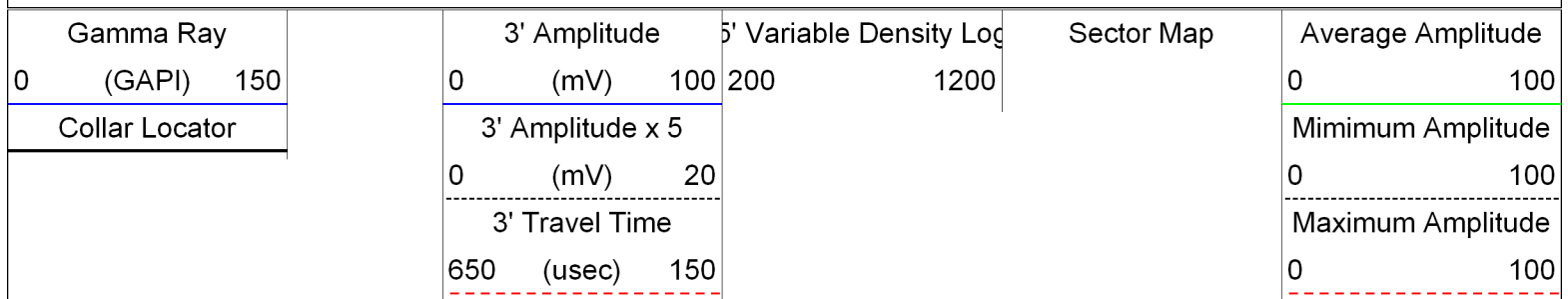


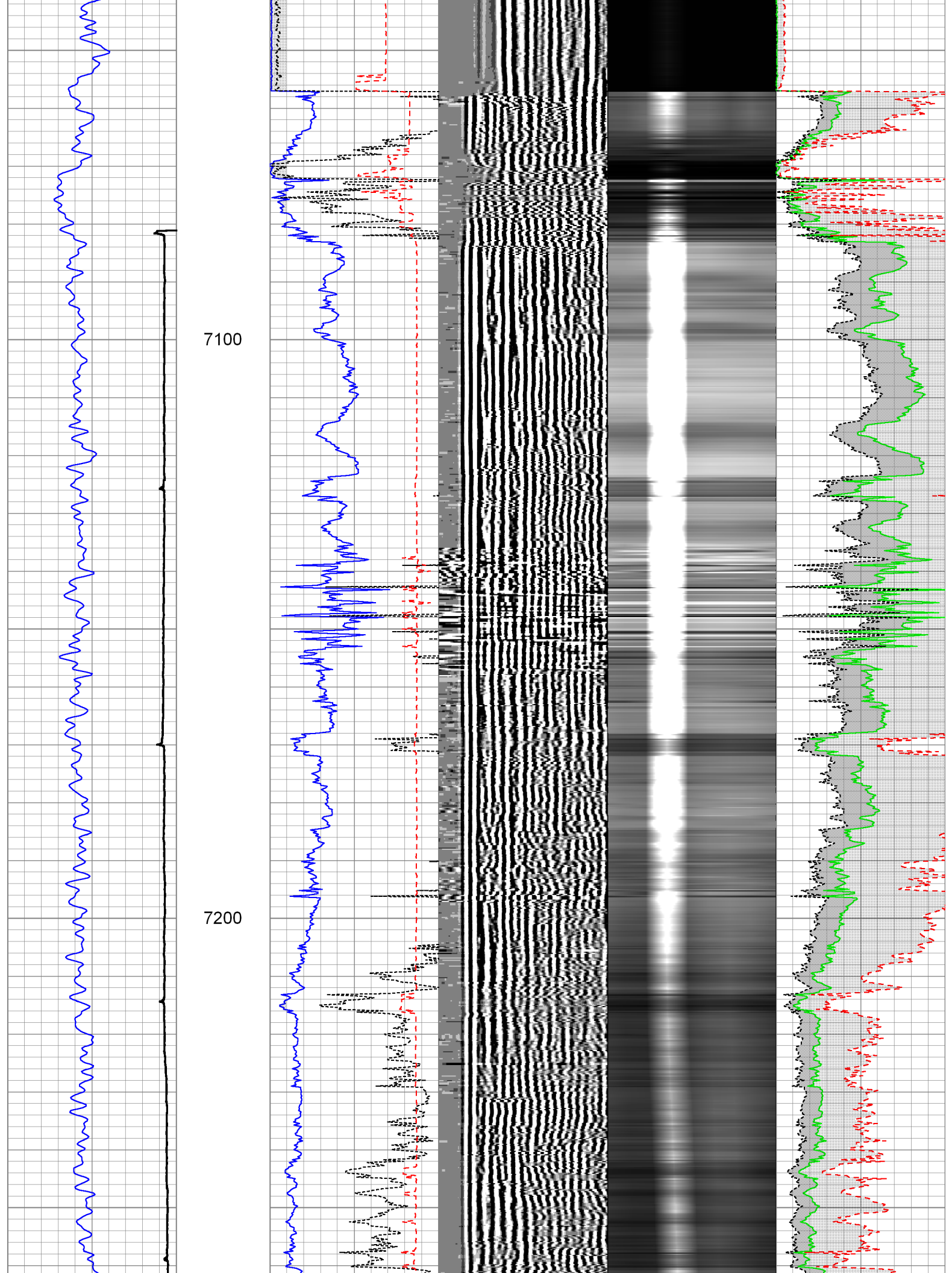


4.5 Main Pass

Logged with 2500 PSI at surface

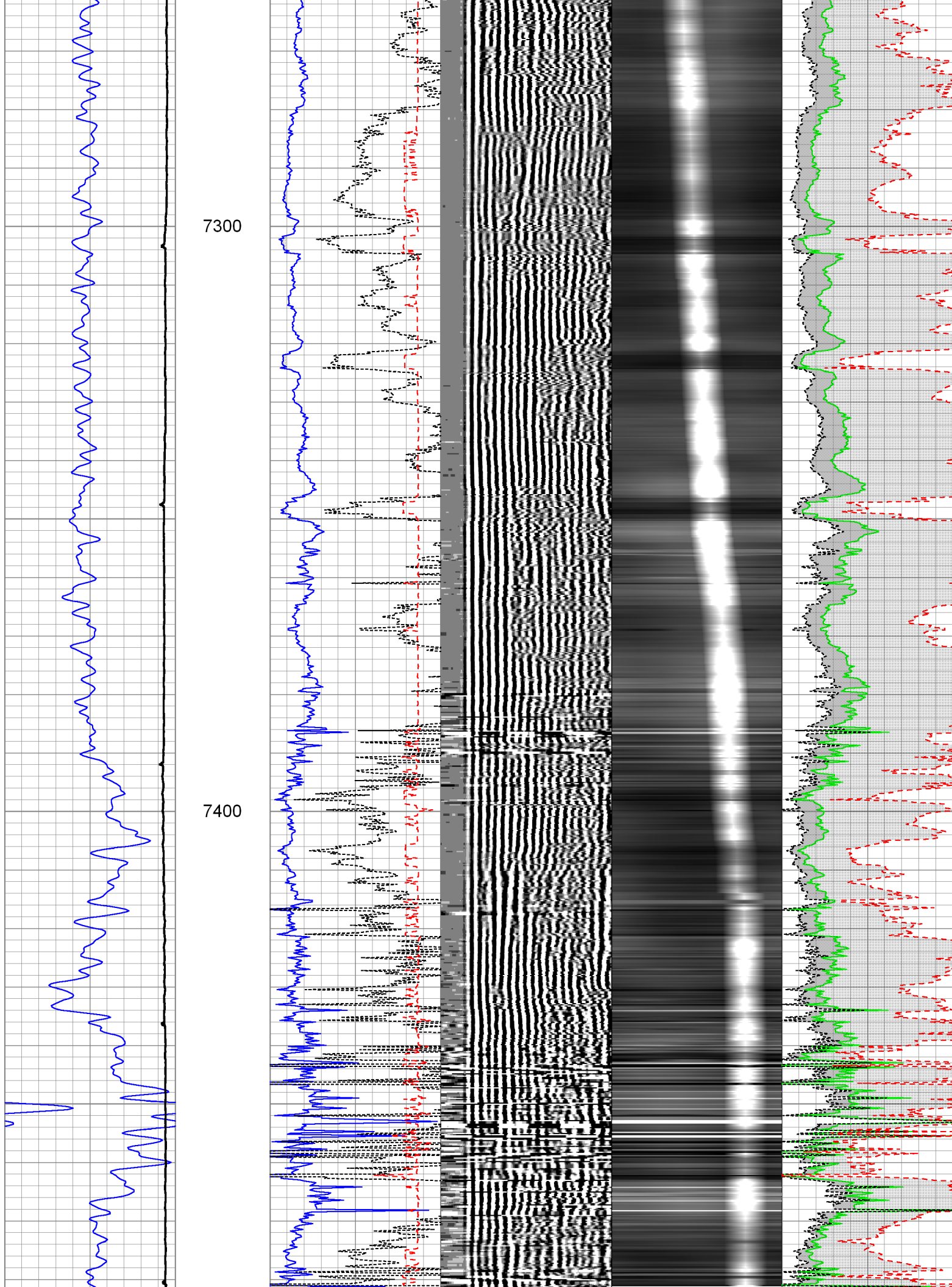
Database File: 0512338416_anadarko_grenemyer 14c-3hz_02-03-14_mit_rbl.db
 Dataset Pathname: main
 Presentation Format: rbt007
 Dataset Creation: Mon Feb 03 18:07:48 2014 by Log Sondex V7.03
 Charted by: Depth in Feet scaled 1:240





7300

7400



7500

7600

7700

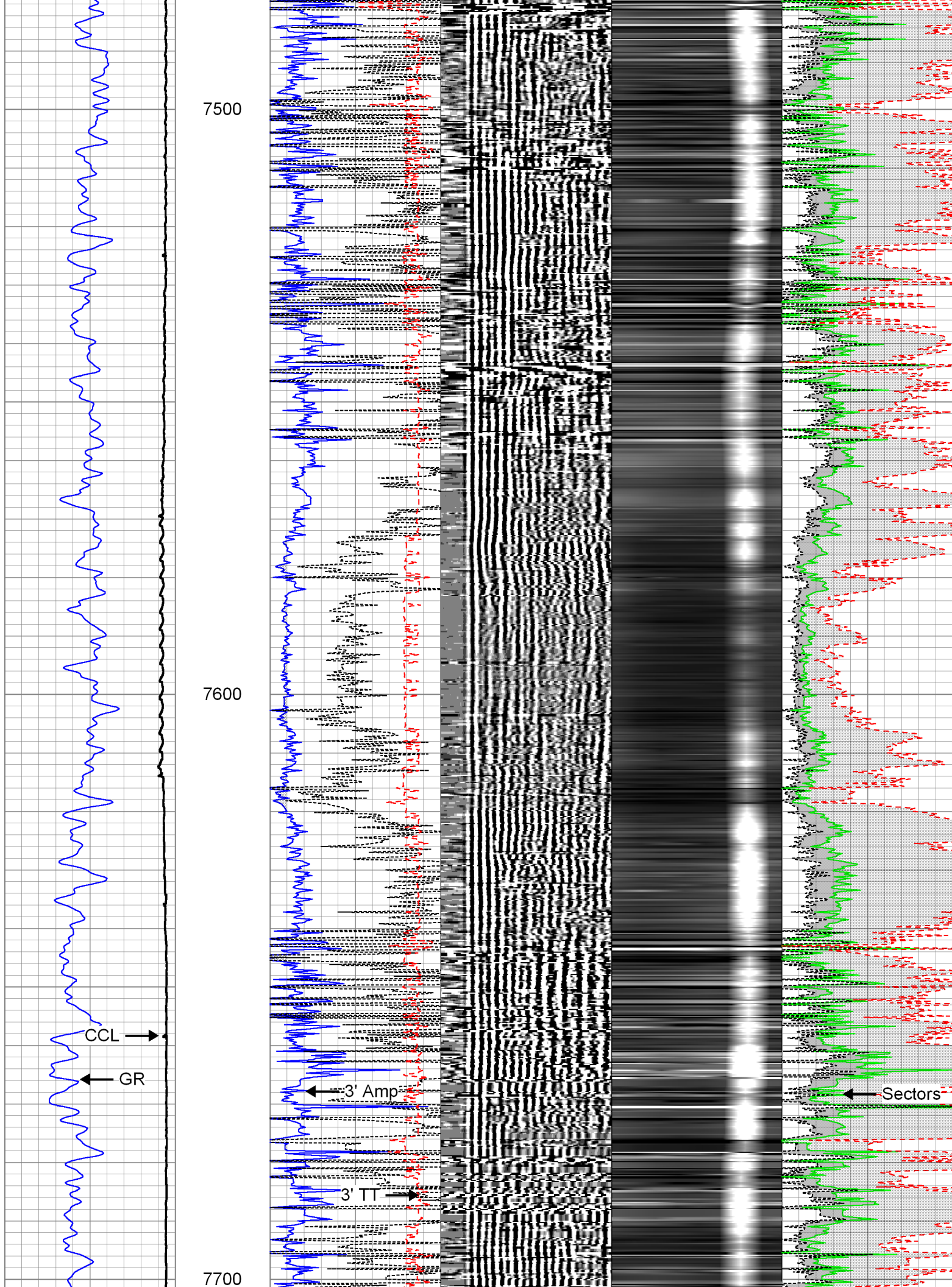
CCL →

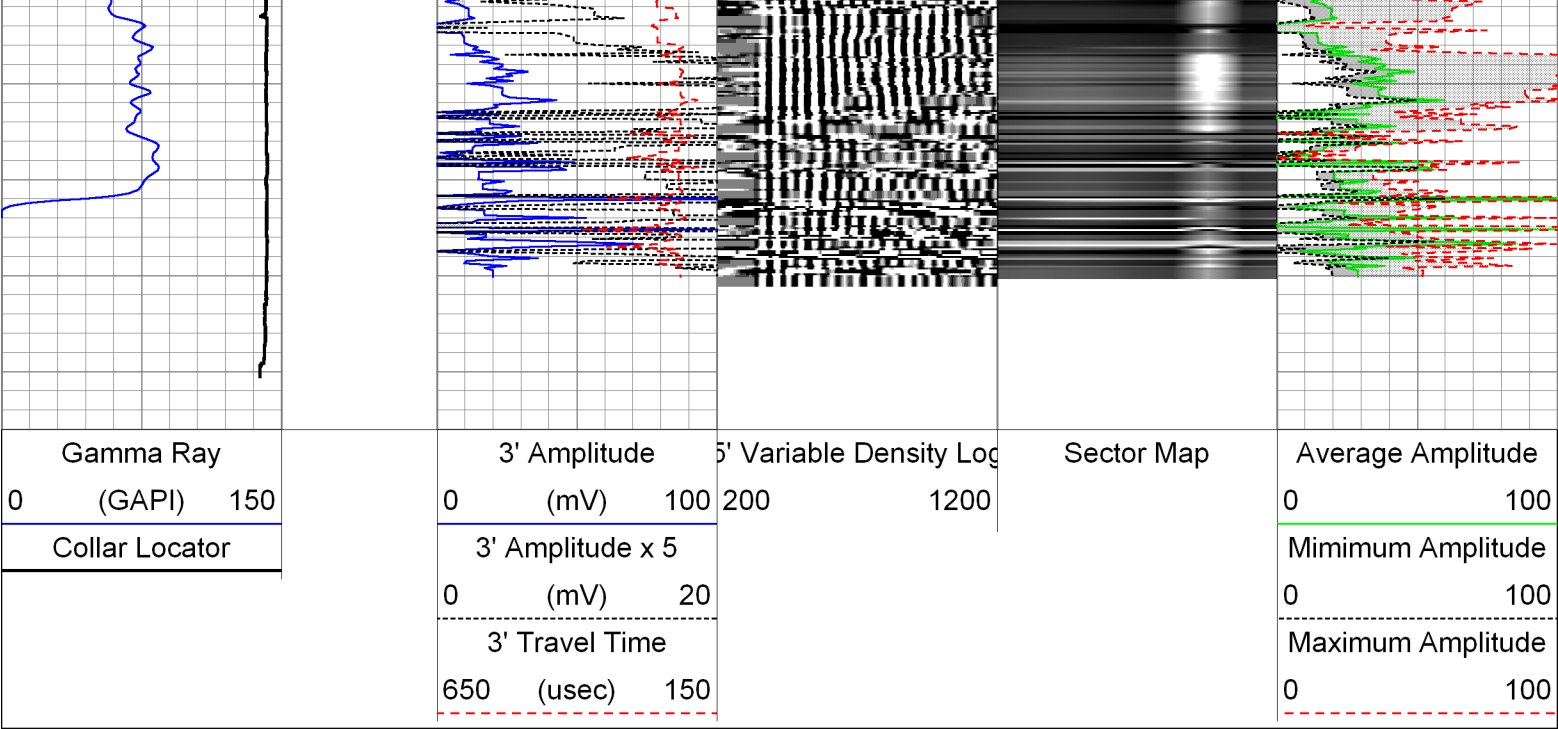
← GR

← 3' Amp

3' TT →

← Sectors

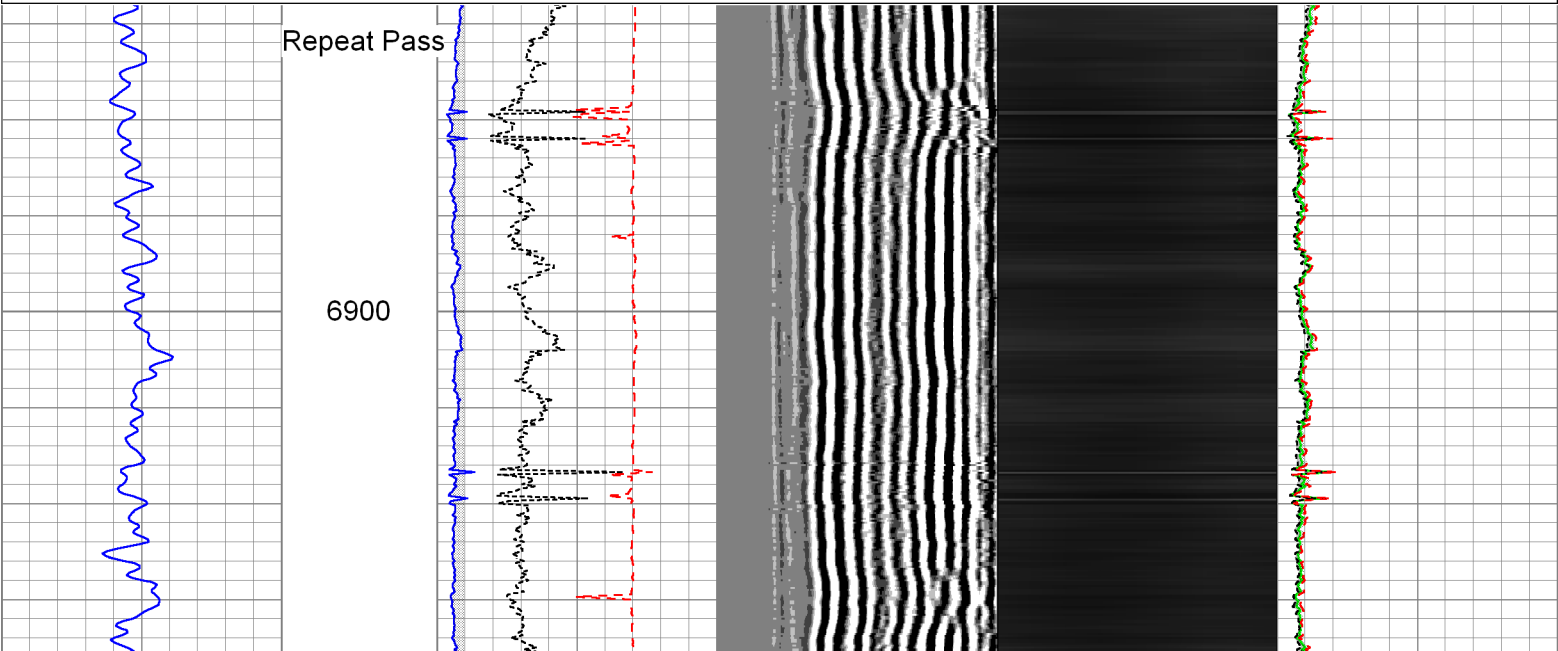
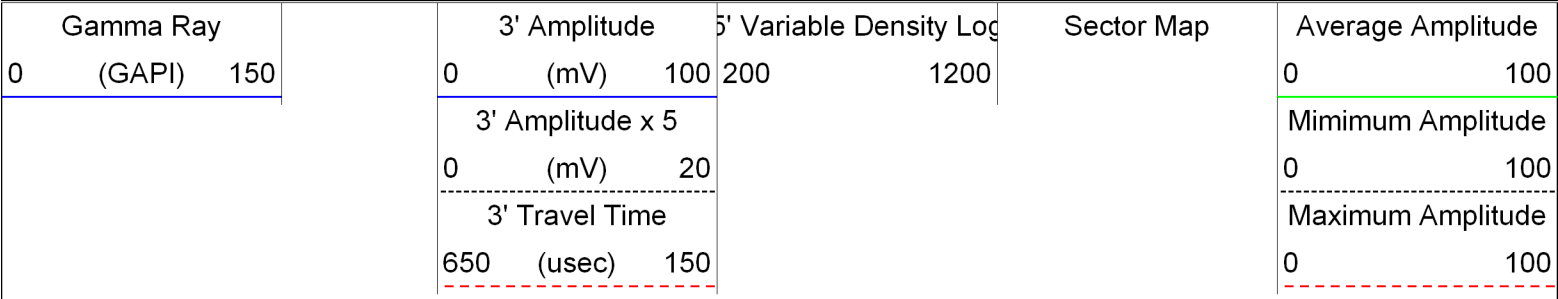


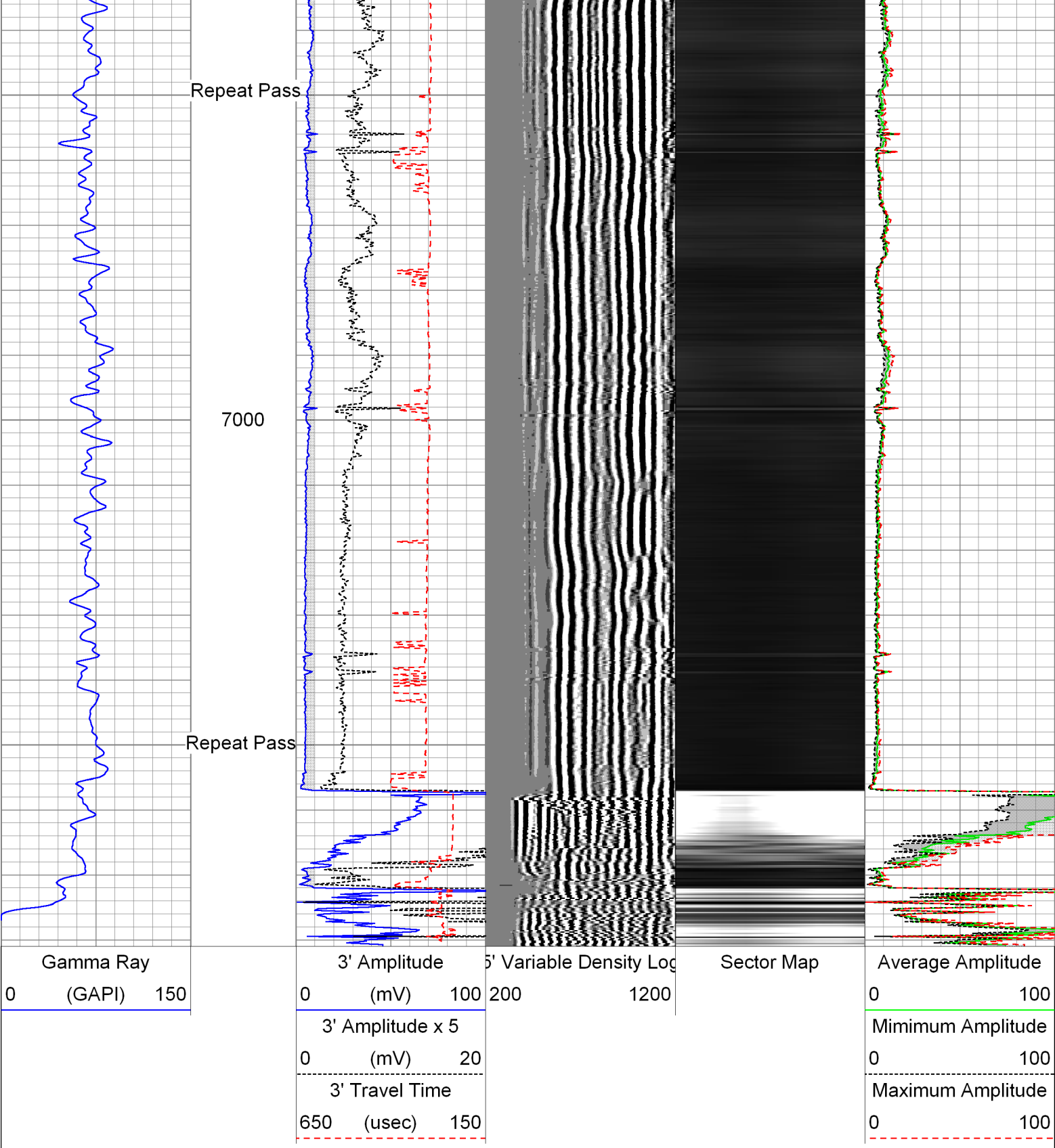


Repeat Pass

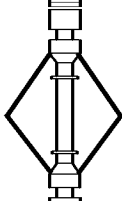

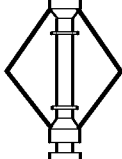
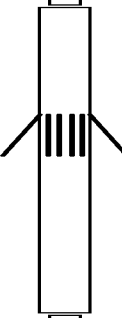
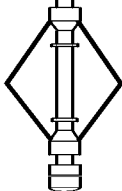
Logged with 2500 PSI at surface

Database File: 0512338416_anadarko_grenemyer 14c-3hz_02-03-14_mit_rbl.db
Dataset Pathname: Repeat
Presentation Format: rbt007
Dataset Creation: Mon Feb 03 17:27:06 2014 by Log Sondex V7.03
Charted by: Depth in Feet scaled 1:240





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
WVF3FT	15.85			RBT-004 (10013454in7) 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						
CBLROT	15.85						
WVF5FT	14.85						
				PRC-057 (1102) 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
MIT	5.41			MIT-027 (218950) 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
TSTAMP	0.00			BUL-006 (219228) Bullnose Terminator	0.22	1.69	1.20
Dataset: 0512338416_Anadarko_Grenemyer 14C-3HZ_02-03-14_MIT_RBL.db: field/well/run1/main2 Total Length: 27.97 ft Total Weight: 316.30 lb O.D. 3.13 in							

Calibration Report	
Database File:	0512338416_Anadarko_Grenemyer 14C-3HZ_02-03-14_MIT_RBL.db
Dataset Pathname:	main2
Dataset Creation:	Mon Feb 03 18:33:10 2014 by Log Sondex V7.03
Multi-finger Imaging Tool Calibration Report	

Serial Number:	218950
Number of Fingers:	40
Tool Model:	007

Inclinometer Calibration Report

Performed: Fri, Oct, 10 10:41:51 2008
Calibration Angle: 45

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

Finger Calibration Report

Performed: Mon Feb 03 16:42:22 2014

Ring size:	4		5		6		7
(in)		Sens		Sens		Sens	
Finger 01:	1397	279.0	1676	289.0	1965	318.0	2283
Finger 02:	1591	261.0	1852	262.0	2114	287.0	2401
Finger 03:	1539	288.0	1827	297.0	2124	325.0	2449
Finger 04:	1569	274.0	1843	282.0	2125	312.0	2437
Finger 05:	1610	258.0	1868	265.0	2133	293.0	2426
Finger 06:	1610	268.0	1878	273.0	2151	310.0	2461
Finger 07:	1603	272.0	1875	281.0	2156	312.0	2468
Finger 08:	1654	251.0	1905	251.0	2156	284.0	2440
Finger 09:	1595	286.0	1881	292.0	2173	327.0	2500
Finger 10:	1646	266.0	1912	269.0	2181	296.0	2477
Finger 11:	1620	271.0	1891	274.0	2165	307.0	2472
Finger 12:	1597	284.0	1881	290.0	2171	326.0	2497
Finger 13:	1609	274.0	1883	273.0	2156	300.0	2456
Finger 14:	1596	281.0	1877	280.0	2157	308.0	2465
Finger 15:	1583	283.0	1866	279.0	2145	303.0	2448
Finger 16:	1580	282.0	1862	283.0	2145	304.0	2449
Finger 17:	1567	280.0	1847	286.0	2133	299.0	2432
Finger 18:	1611	267.0	1878	269.0	2147	273.0	2420
Finger 19:	1622	256.0	1878	257.0	2135	261.0	2396
Finger 20:	1489	281.0	1770	289.0	2059	291.0	2350
Finger 21:	1443	289.0	1732	297.0	2029	296.0	2325
Finger 22:	1492	283.0	1775	292.0	2067	283.0	2350
Finger 23:	1532	263.0	1795	269.0	2064	255.0	2319
Finger 24:	1518	262.0	1780	276.0	2056	270.0	2326
Finger 25:	1498	273.0	1771	287.0	2058	270.0	2328
Finger 26:	1422	280.0	1702	296.0	1998	279.0	2277
Finger 27:	1417	273.0	1690	293.0	1983	275.0	2258
Finger 28:	1443	279.0	1722	298.0	2020	273.0	2293
Finger 29:	1432	274.0	1706	293.0	1999	271.0	2270
Finger 30:	1436	277.0	1713	298.0	2011	277.0	2288
Finger 31:	1497	245.0	1742	264.0	2006	237.0	2243
Finger 32:	1464	271.0	1735	294.0	2029	273.0	2302
Finger 33:	1436	276.0	1712	293.0	2005	271.0	2276
Finger 34:	1439	281.0	1720	300.0	2020	289.0	2309
Finger 35:	1435	277.0	1712	300.0	2012	285.0	2297
Finger 36:	1651	265.0	1916	275.0	2191	264.0	2455
Finger 37:	1288	268.0	1556	291.0	1847	295.0	2142
Finger 38:	1465	282.0	1747	293.0	2040	302.0	2342
Finger 39:	1437	278.0	1715	295.0	2010	307.0	2317
Finger 40:	1557	283.0	1840	289.0	2129	303.0	2432

Segmented Cement Bond Log Calibration Report

Serial Number: 10013454in7
Tool Model: 004

Calibration Casing Diameter: 7.000 in
Calibration Depth: 7.009 ft

Master Calibration, performed Mon Feb 03 16:45:27 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.002	0.732	0.800	62.165	83.607	1.004
5FT	-0.003	0.767	0.800	62.165	79.720	1.031
S1	-0.001	0.701	0.000	100.000	142.448	0.174
S2	-0.004	0.770	0.000	100.000	129.289	0.473
S3	-0.002	0.819	0.000	100.000	121.691	0.297
S4	-0.004	0.816	0.000	100.000	122.052	0.438
S5	-0.001	0.759	0.000	100.000	131.472	0.160
S6	-0.003	0.695	0.000	100.000	143.295	0.448
S7	-0.002	0.646	0.000	100.000	154.275	0.362
S8	-0.002	0.653	0.000	100.000	152.571	0.341

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 Grenemyer 14C-3HZ
Field Wattenberg
County Weld
State Colorado