



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.				Company Kerr-McGee Oil & Gas Onshore, L.P.			
Well Greenleaf 4N-2HZ				Well Greenleaf 4N-2HZ			
Field Wattenberg				Field Wattenberg			
County Weld				County Weld			
State Colorado				State Colorado			
Location:				API # : 05-123-40623		Other Services	
SEC 2 TWP 2N RGE 65W				Permanent Datum Ground Level Elevation 4855'		Gauge ring	
						MIT	
Log Measured From Kelly Bushing 13 FT				K.B. 4868'		D.F. 4867'	
Drilling Measured From Kelly Bushing				G.L. 4855'			
Date		24-Feb-2015					
Run Number		Two					
Depth Driller		12764 FT					
Depth Logger		7440 FT					
Bottom Logged Interval		7435 FT					
Top Log Interval		Surface					
Open Hole Size		8.750"					
Type Fluid		Water					
Density / Viscosity		8.34 lbm/gl					
Max. Recorded Temp.		240°F					
Estimated Cement Top		8 FT					
Time Well Ready		R.O.A.					
Time Logger on Bottom		11:24					
Equipment Number		HD-0119					
Location		Ft. Lupton, CO					
Recorded By		J. Morrison					
Witnessed By		Rick Duntford					
Borehole Record				Tubing Record			
Run Number		Bit	From	To	Size	Weight	From
Casing Record		Size (in)	Wgt (lbs/Ft)	Grade	Top	Bottom	
Surface Casing		9-5/8	36	J-55	Surface	1321 FT	
Intermediate #1		7	26	HCP-110	Surface	7649 FT	
Intermediate #2							
Liner		4-1/2	11.6	HCP-110	6674 FT	12754 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.
Depth reference to Casing Tally reported Liner Top at 6674 FT.
Adjusted -19 FT to correlate to liner top.
Gauge Ring/Junk Basket ran to 7402 FT.
Log ran from as deep as possible in heel to surface/
Log ran with 2800 PSI surface induced pressure.
Logging tools were clean and free of debris upon completion of operations.

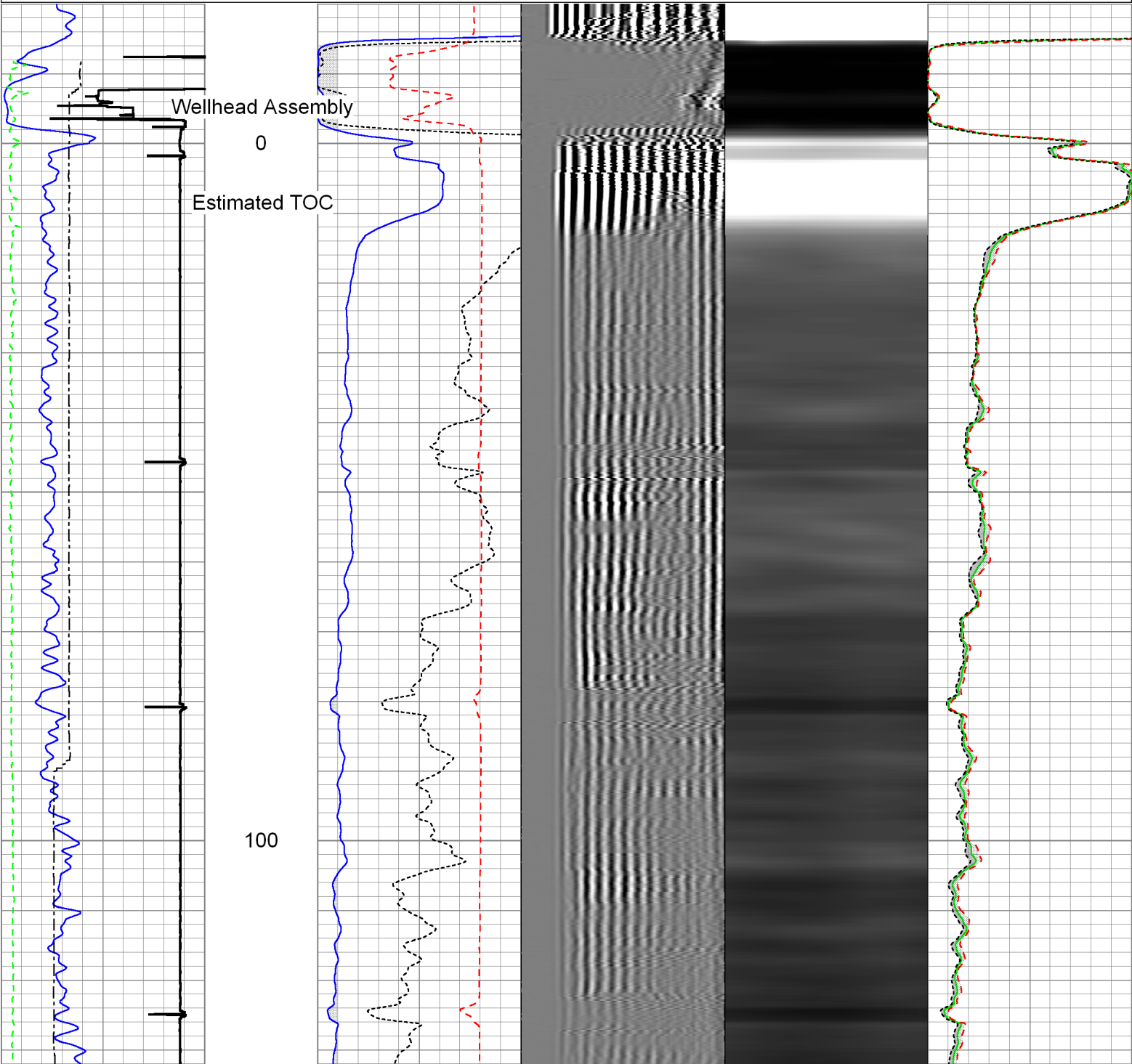
Thank you for choosing FMC Technologies Completion Services, Inc.!!

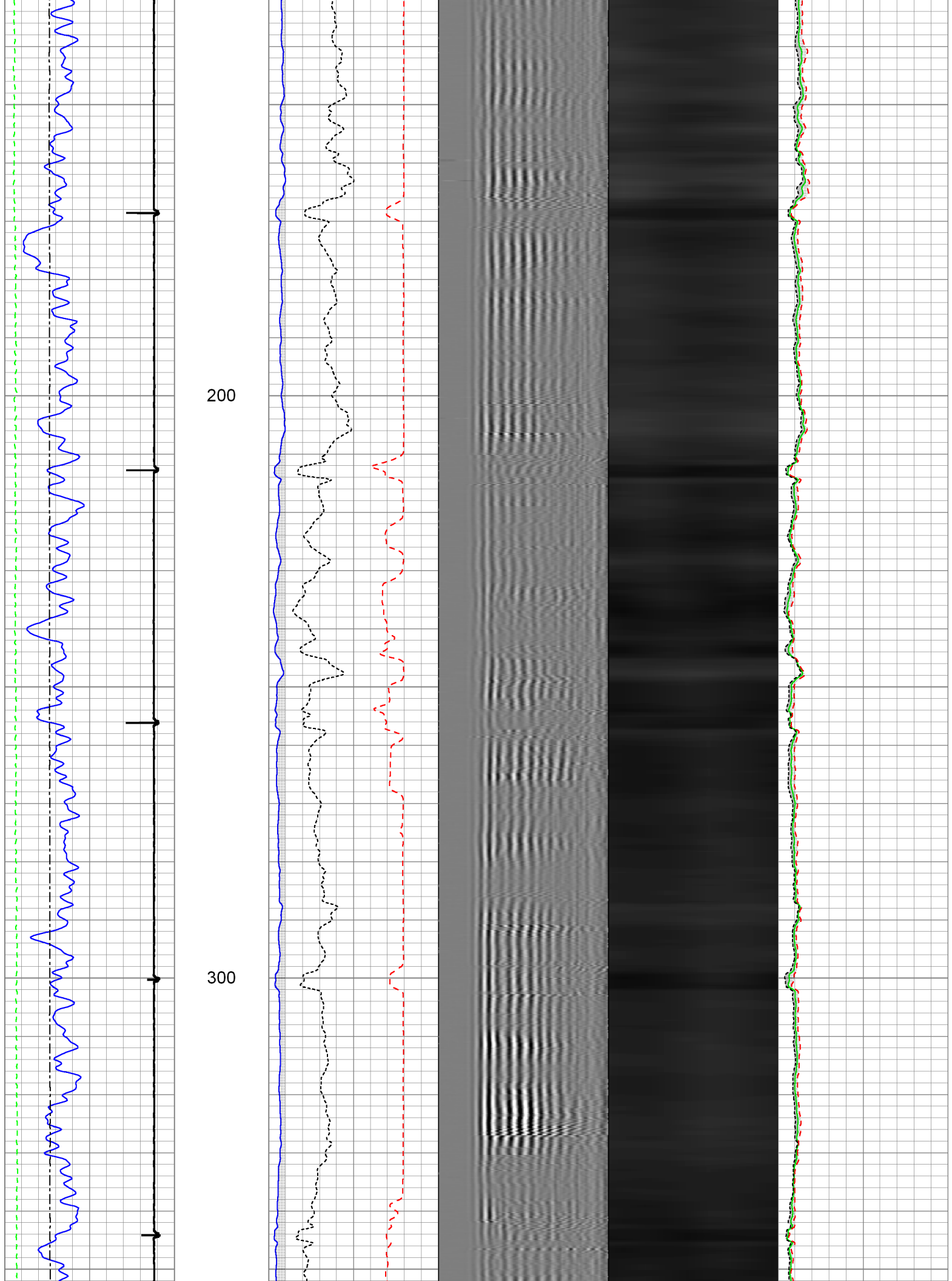


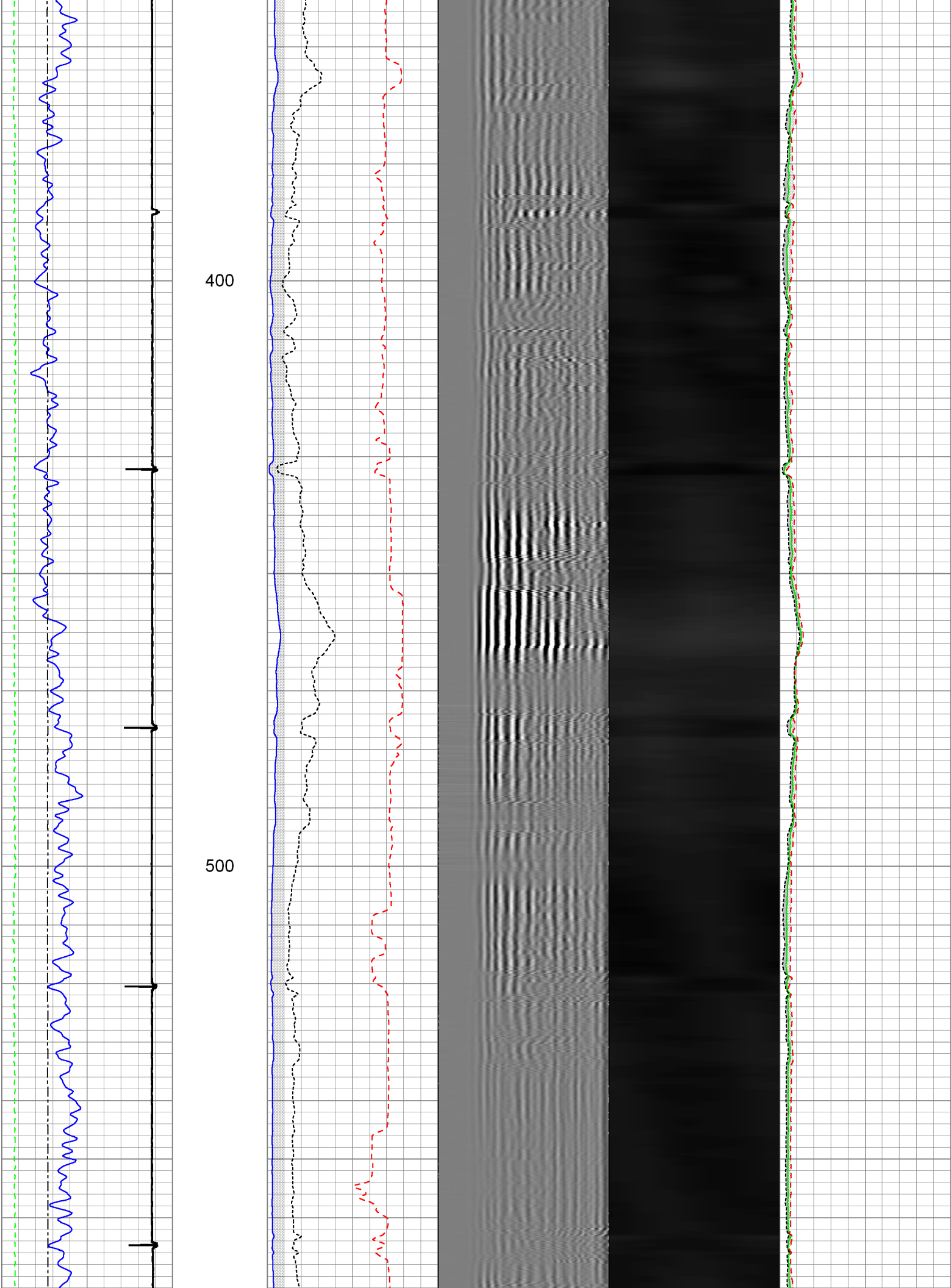
Main 7" Pass

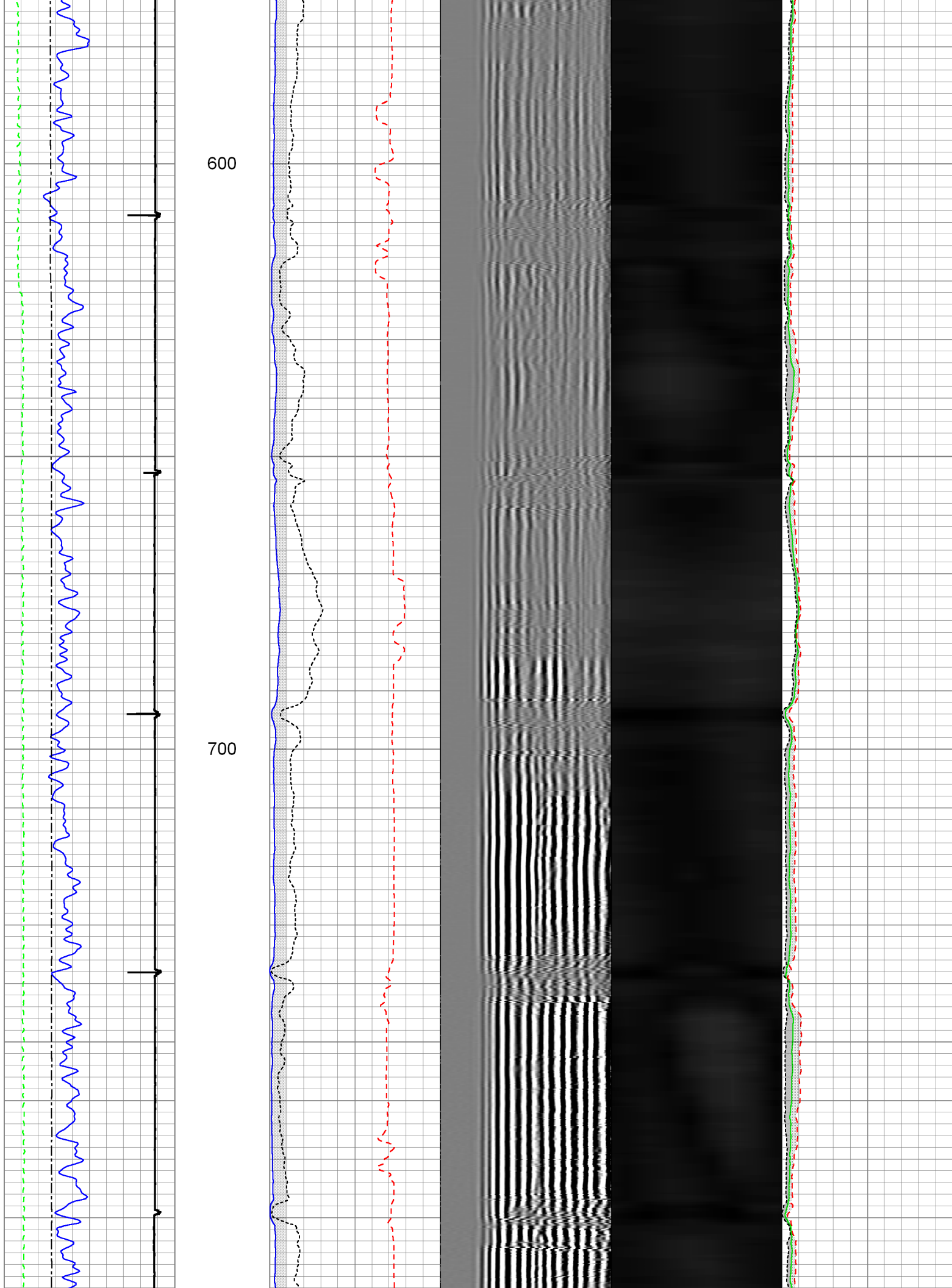
Recorded with 2800 PSI Surface Induced Pressure.

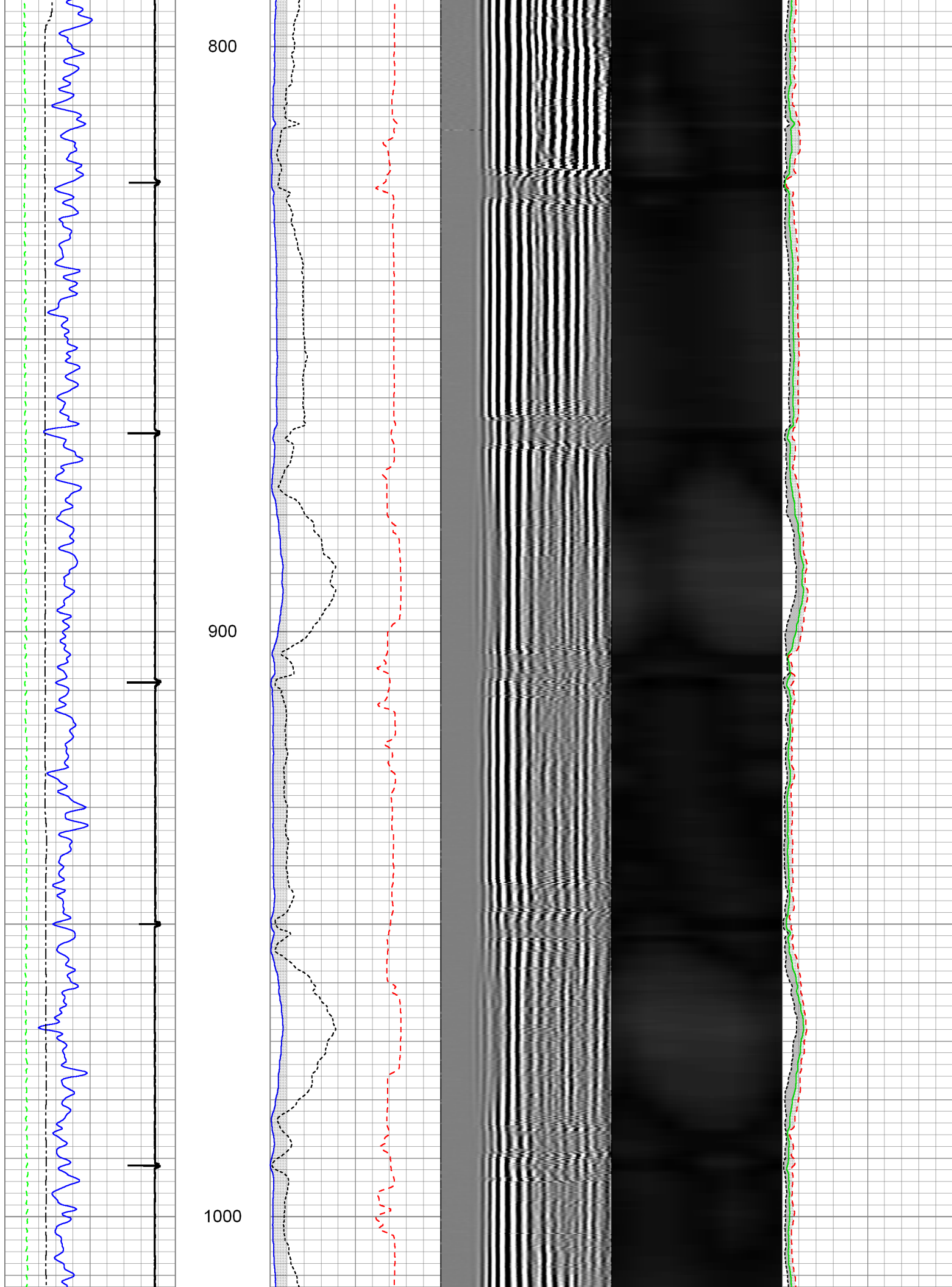
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
	0 (mV) 20			0 100
Line Speed	3' Travel Time			Maximum Amplitude
-100 (ft/min) 100	650 (usec) 150			0 100
Line Tension				
0 (lb) 2000				

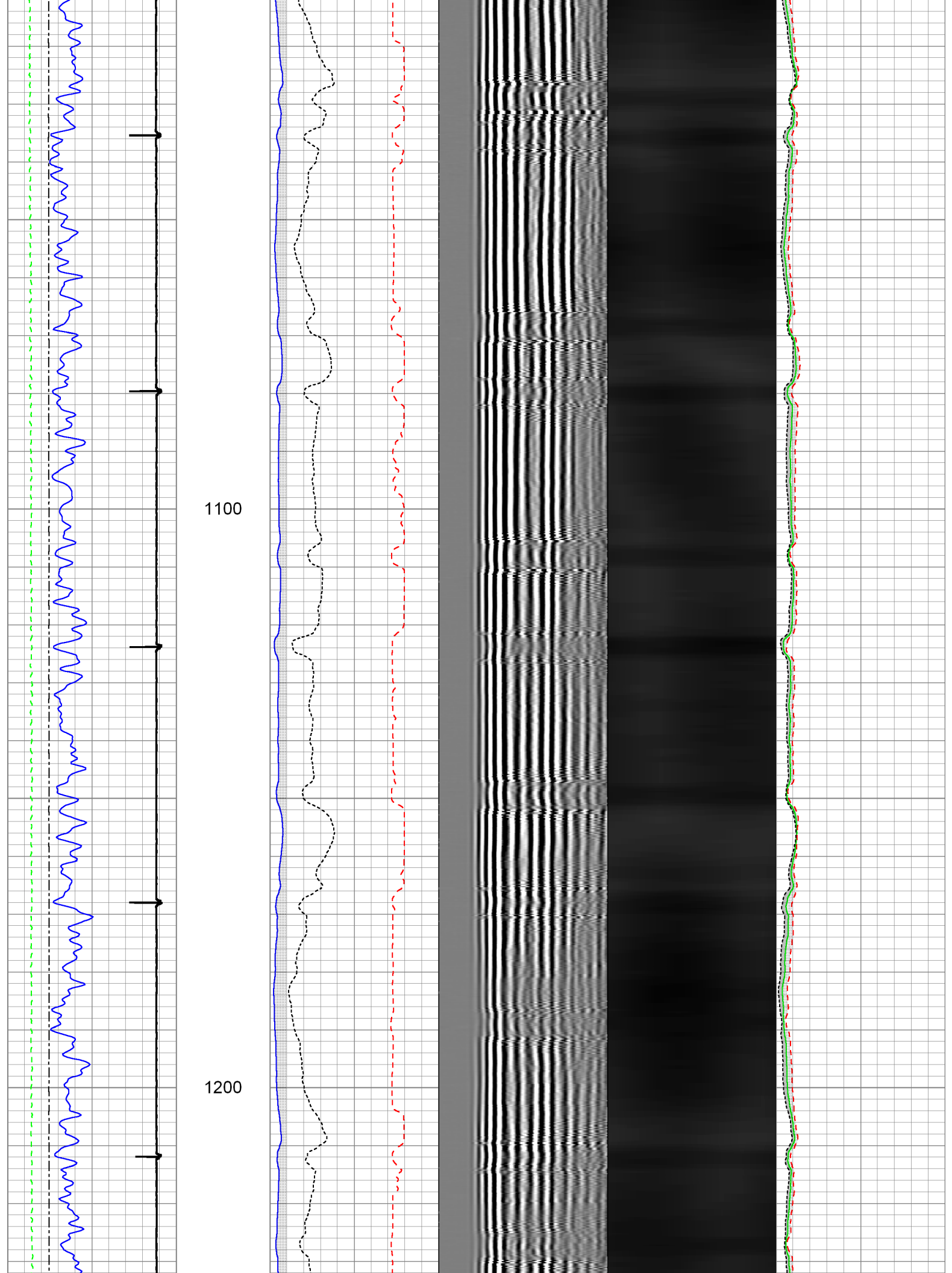


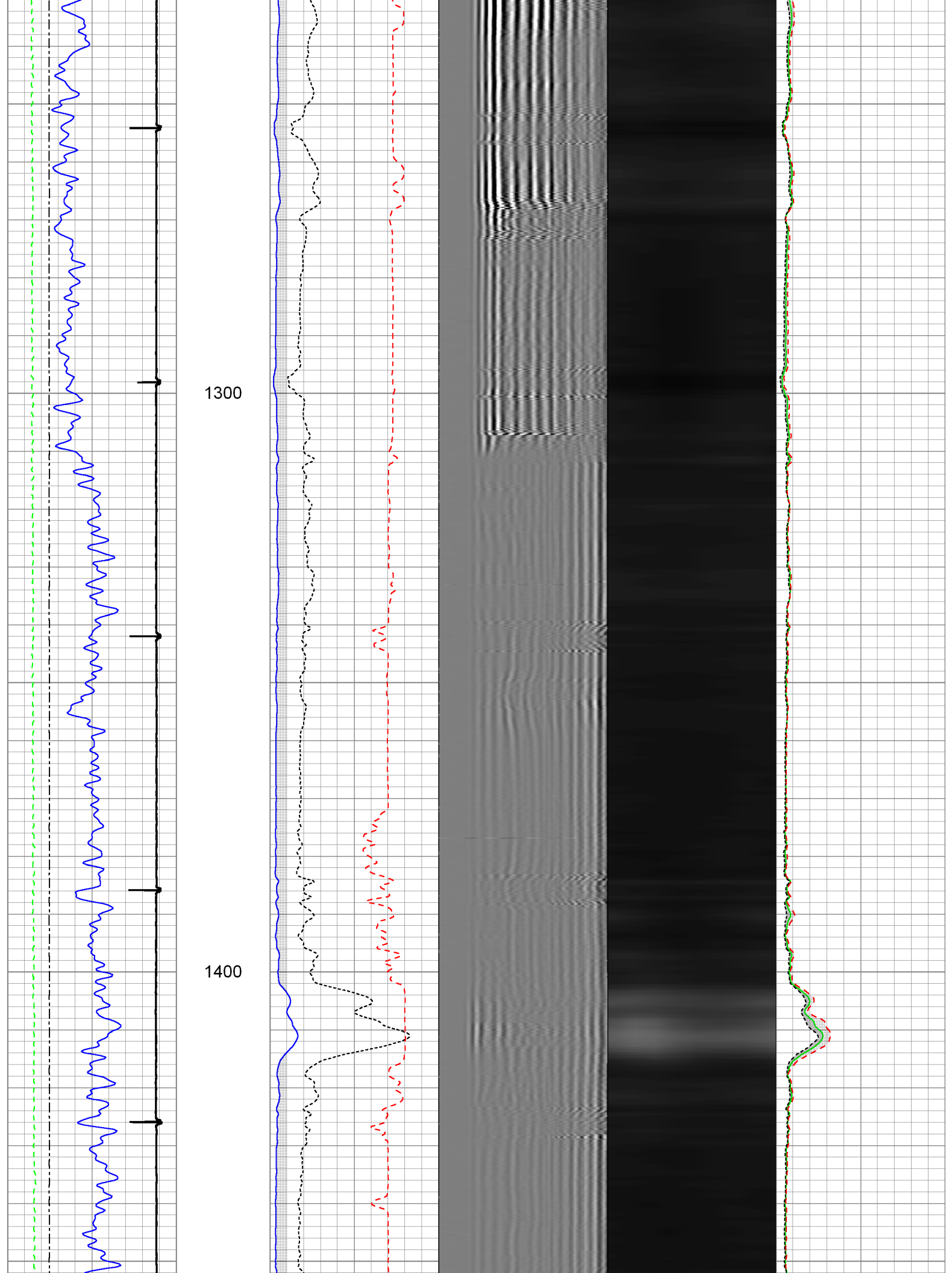


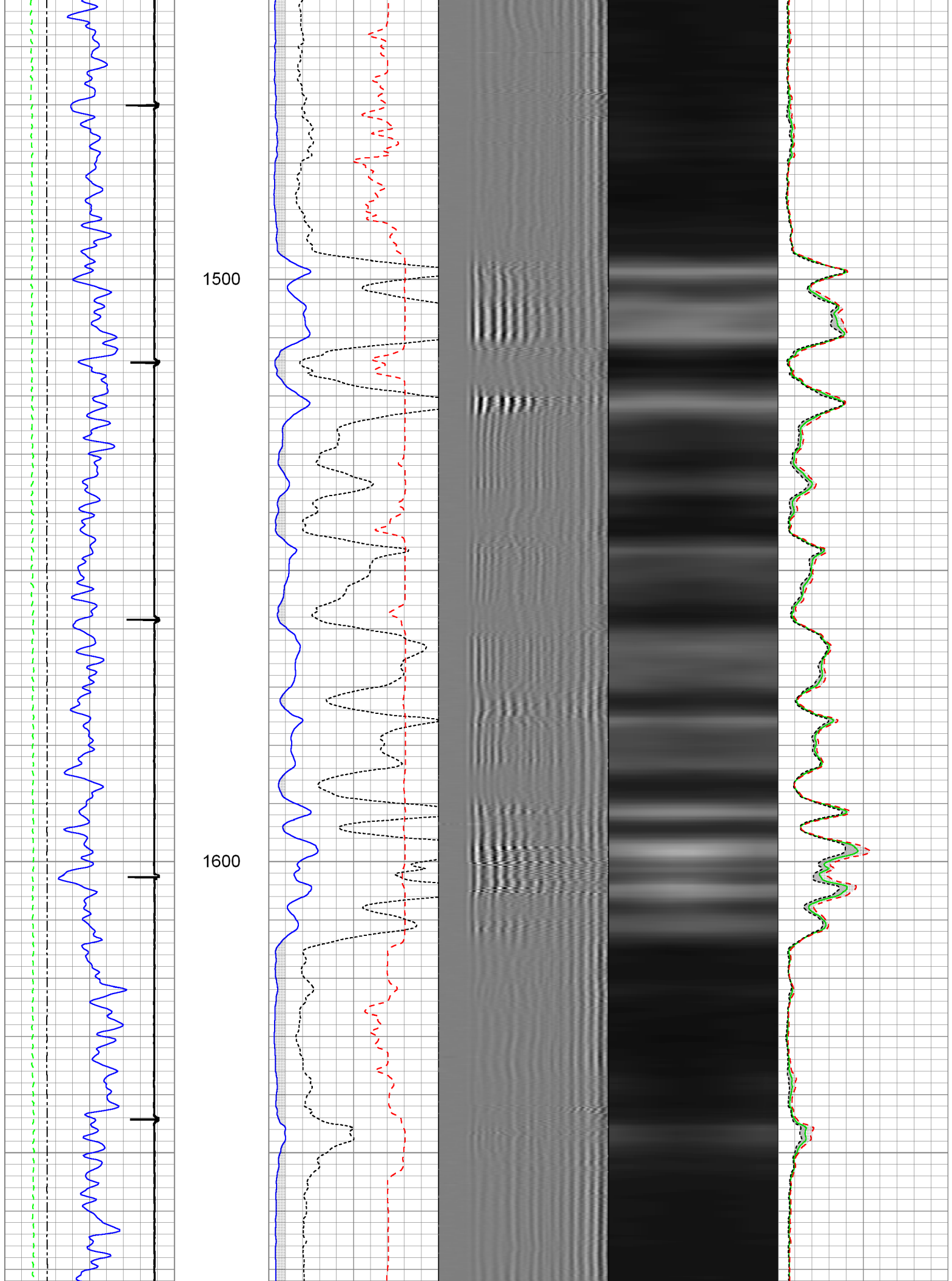


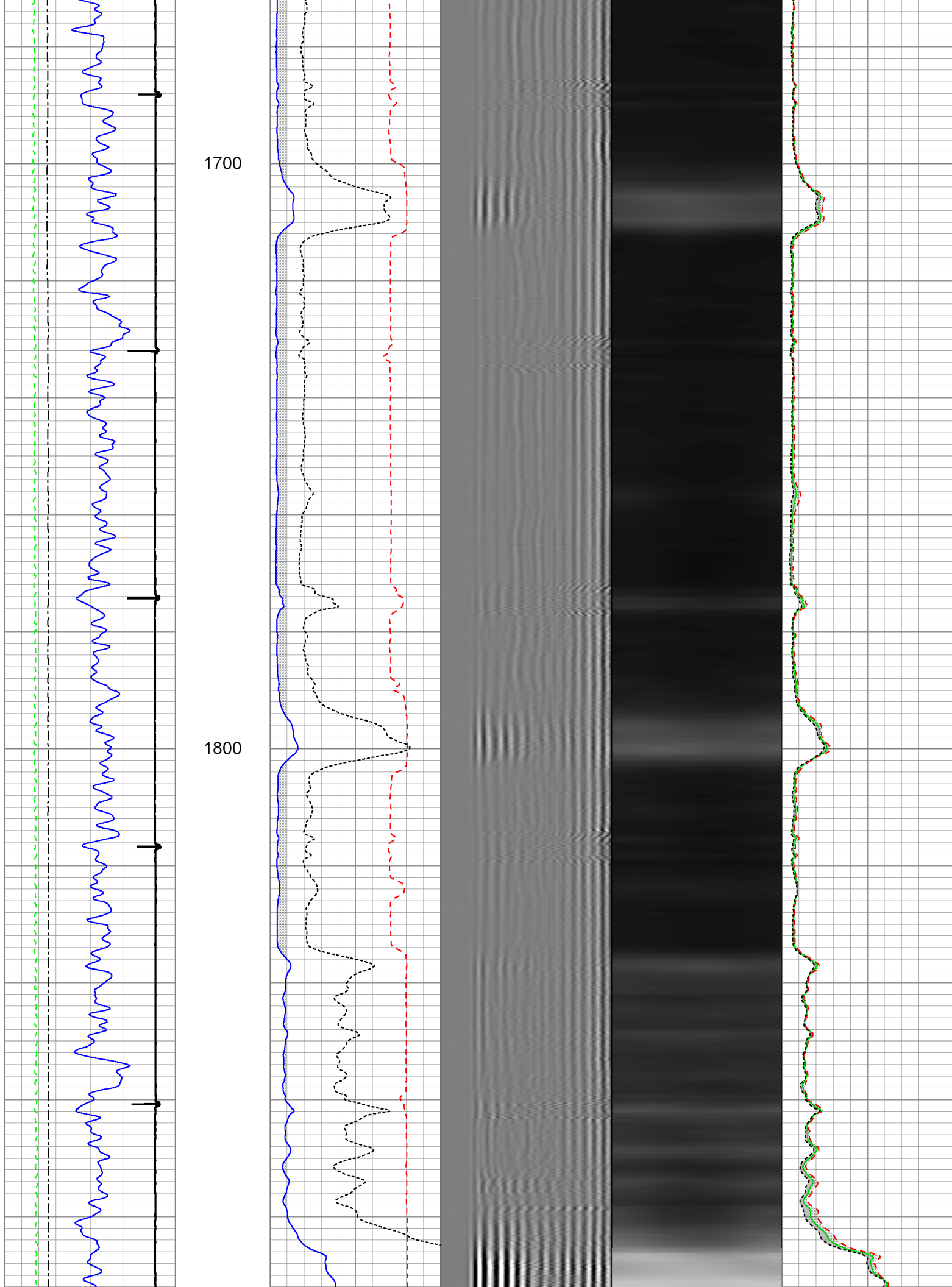


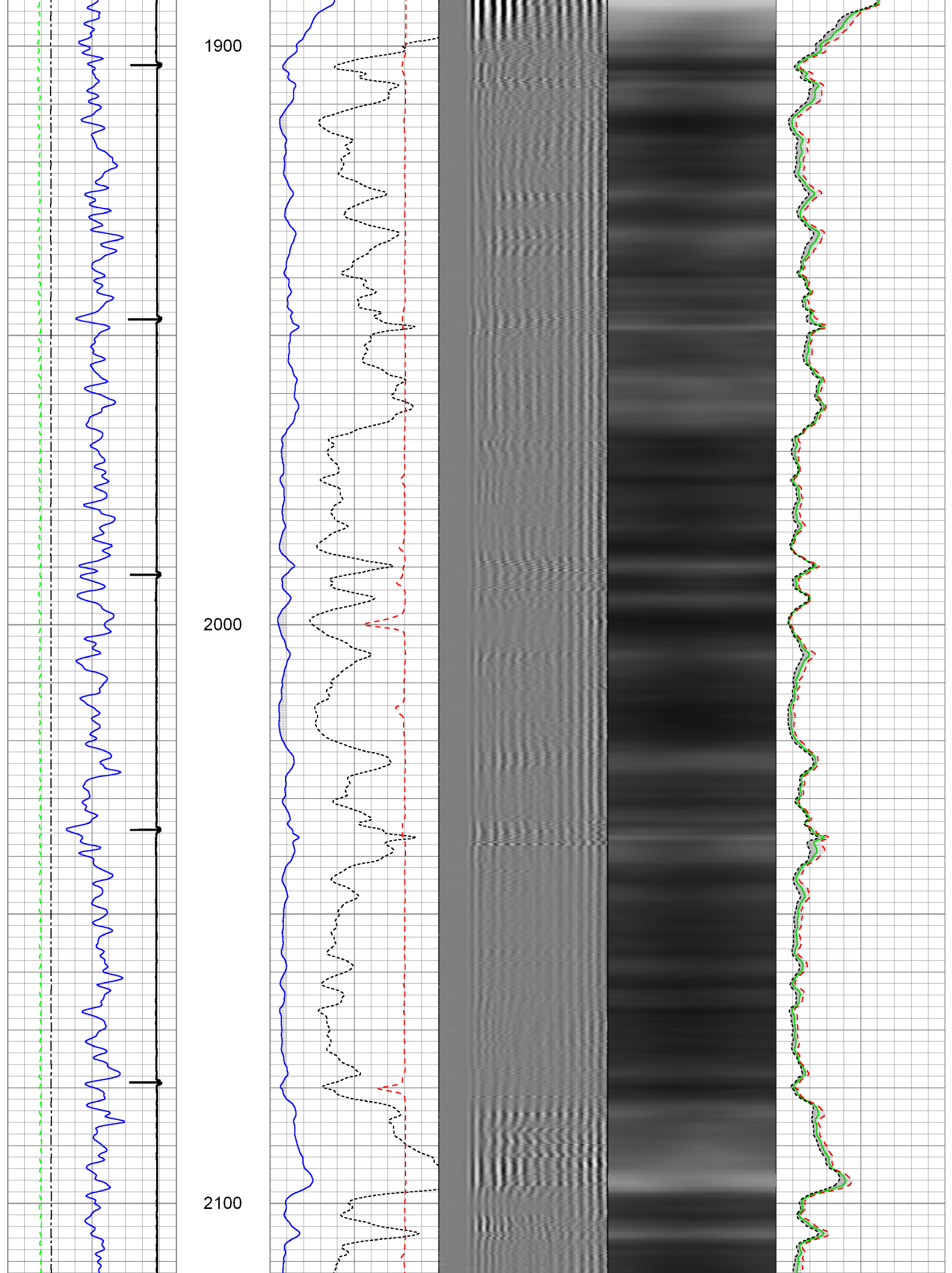






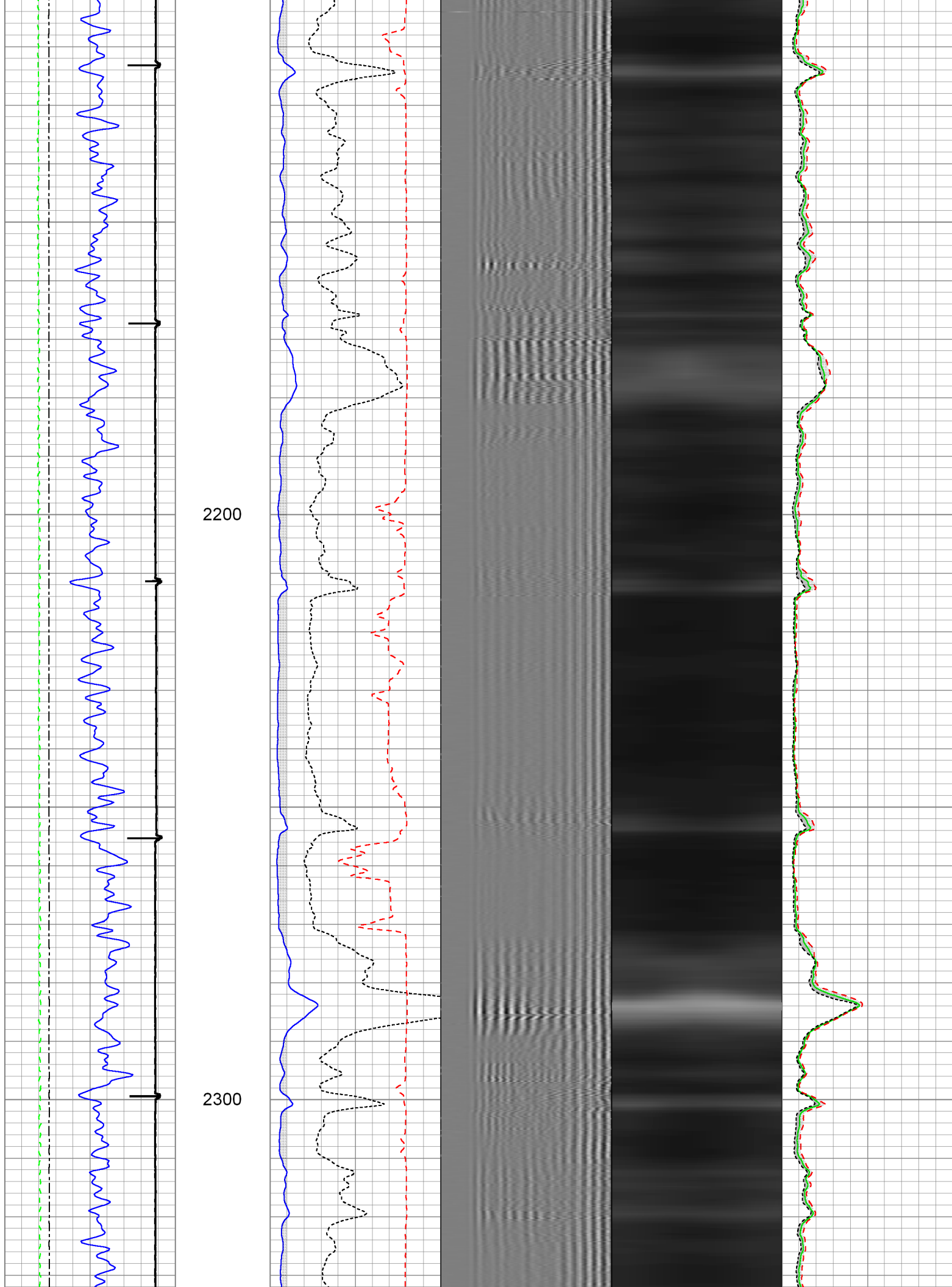


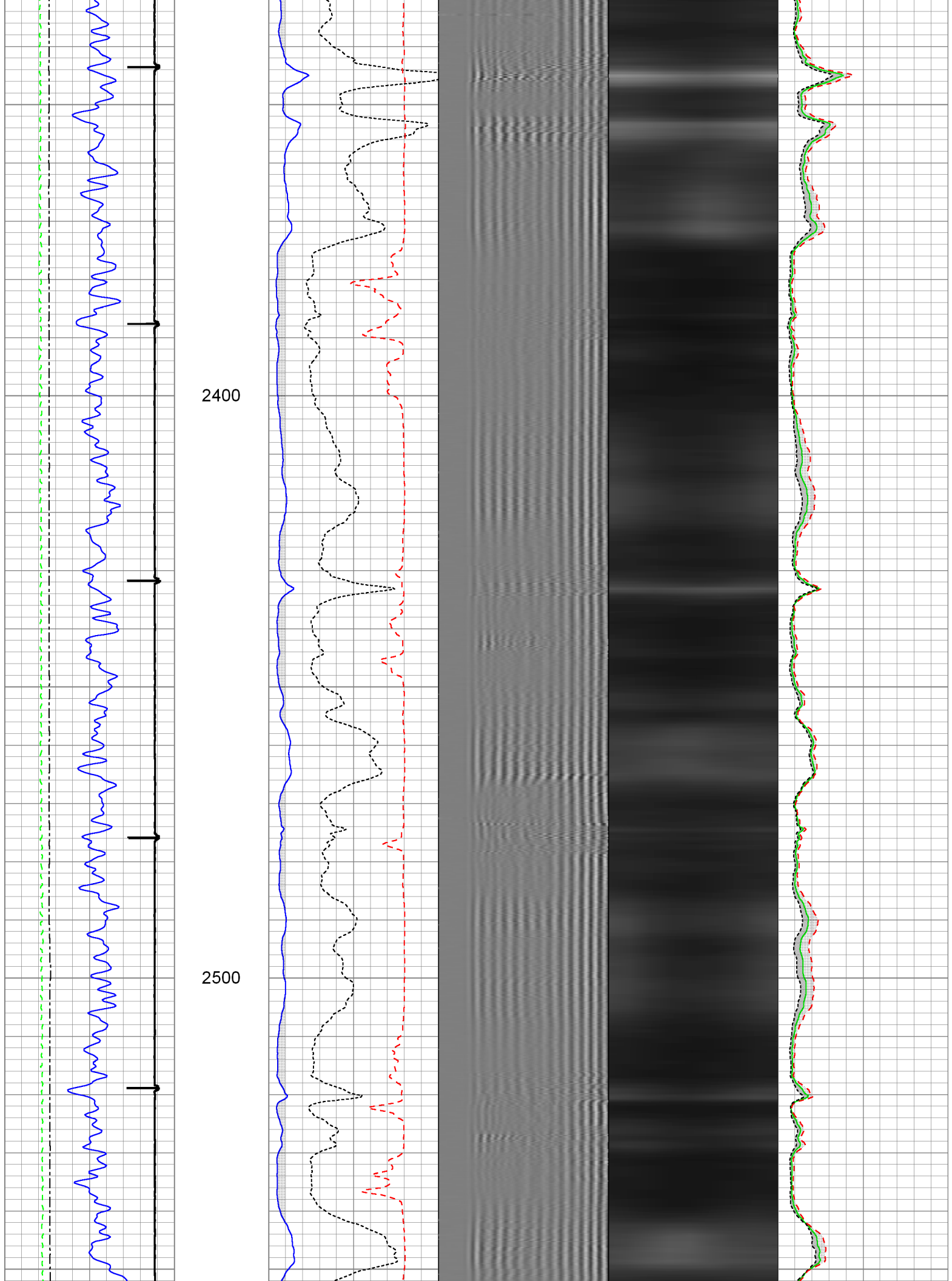


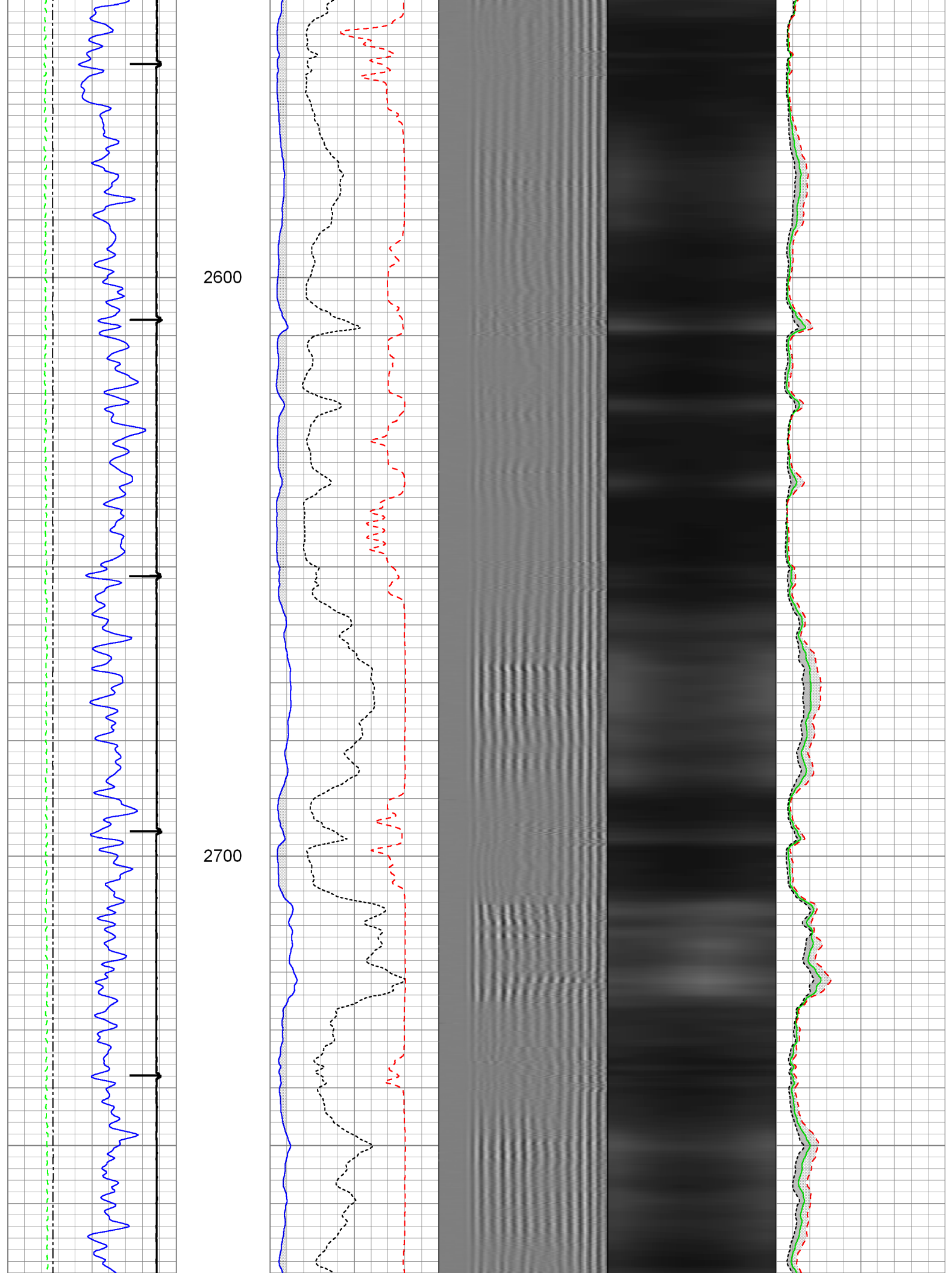


2200

2300

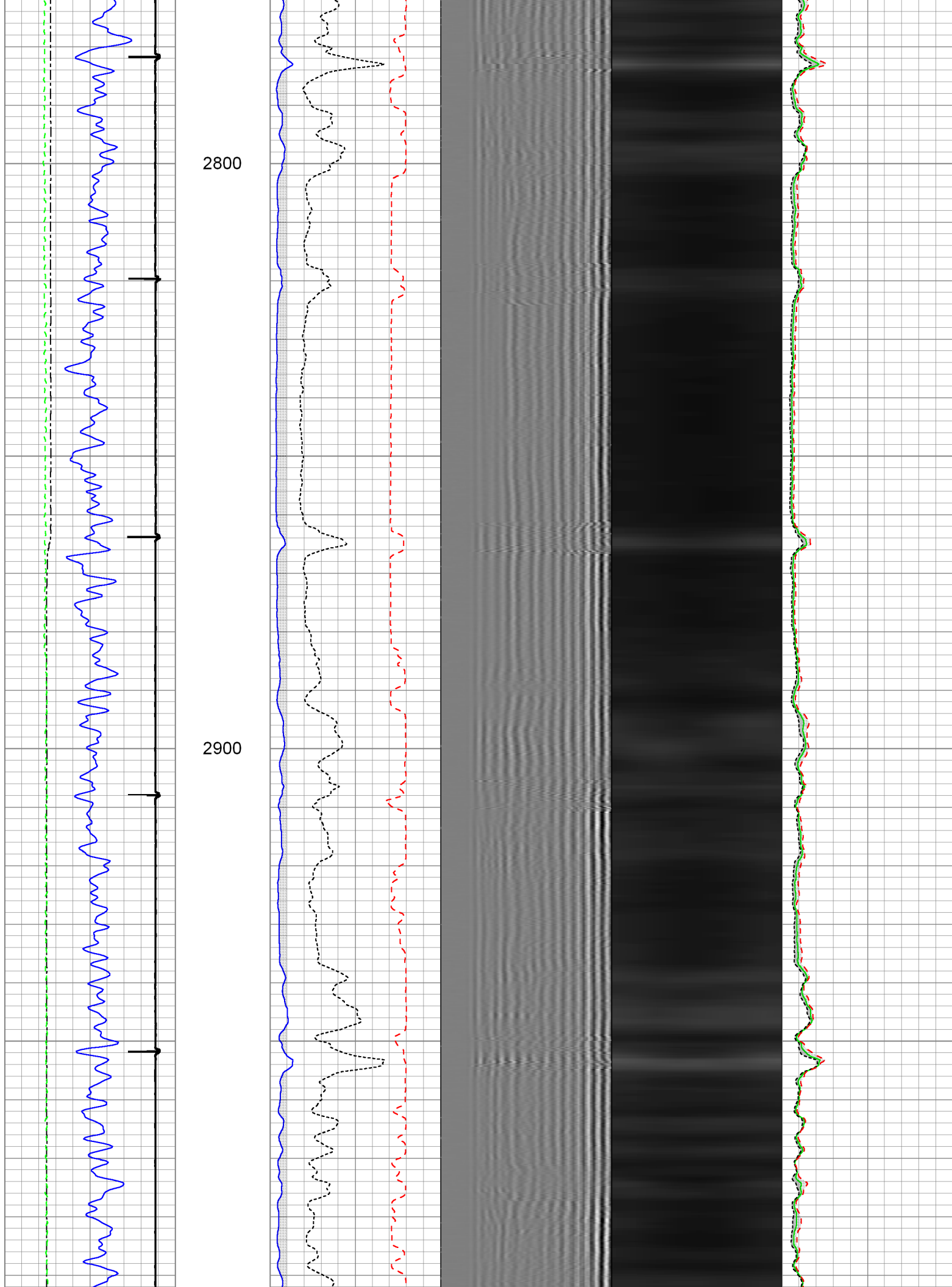


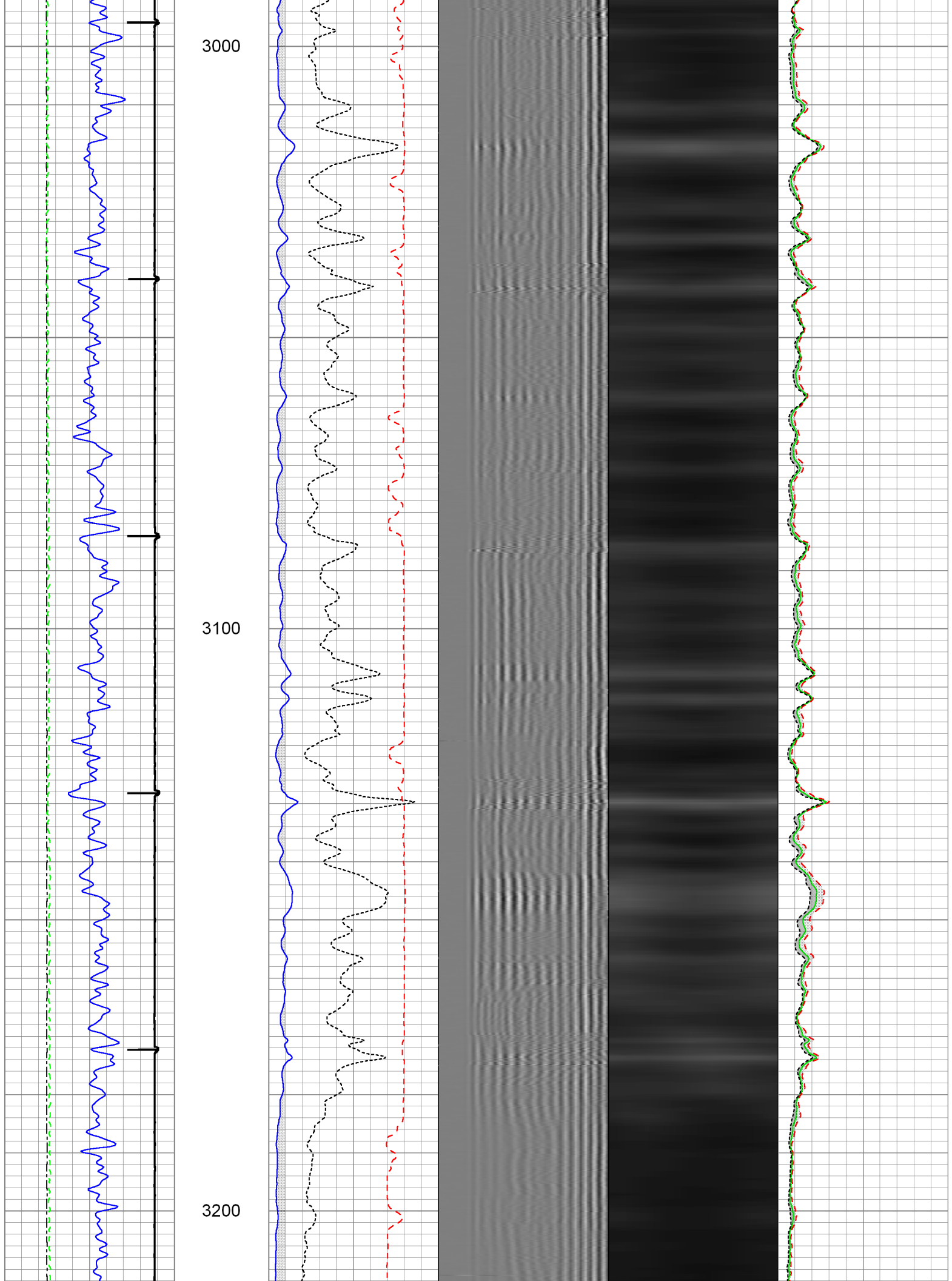


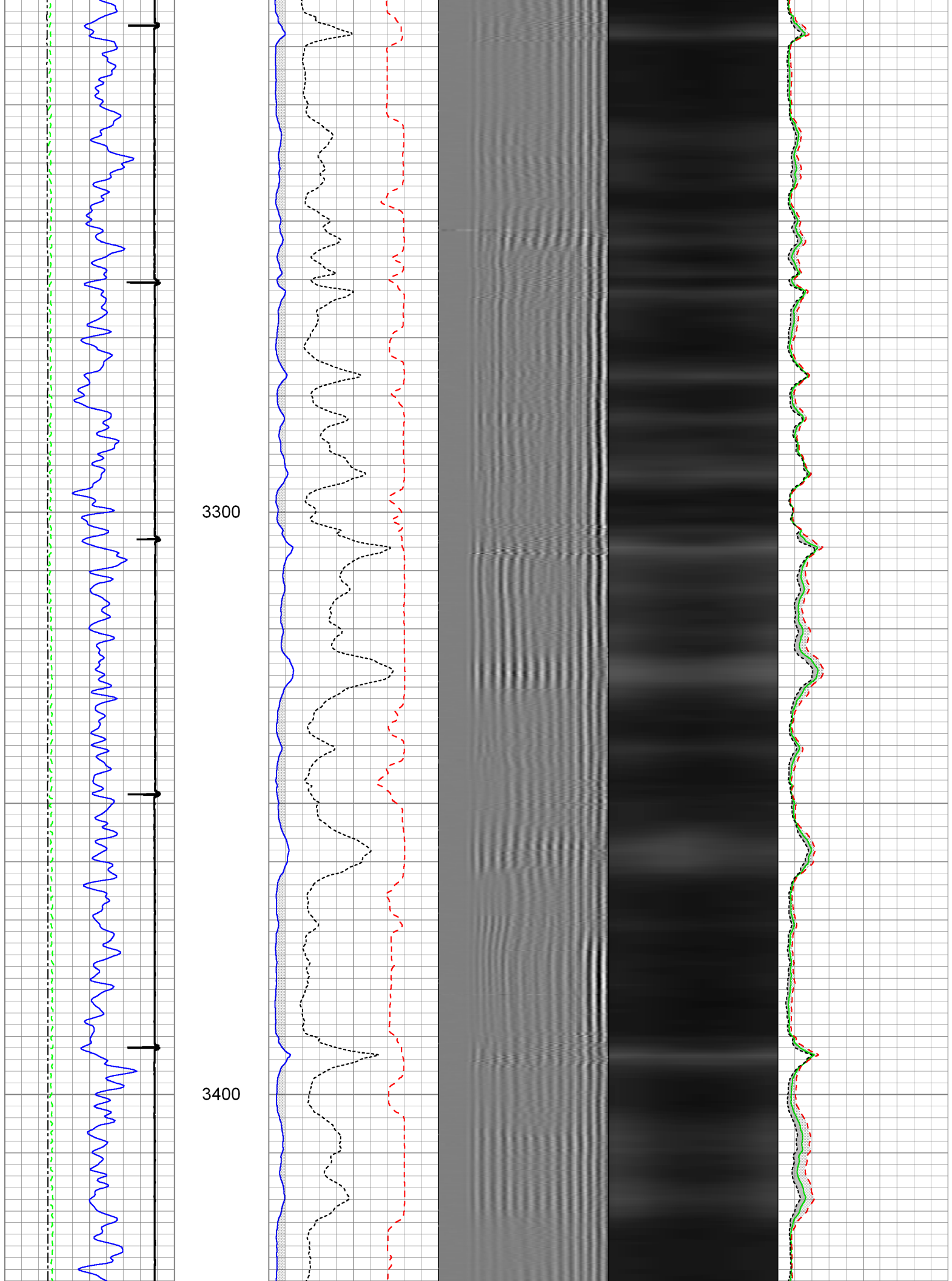


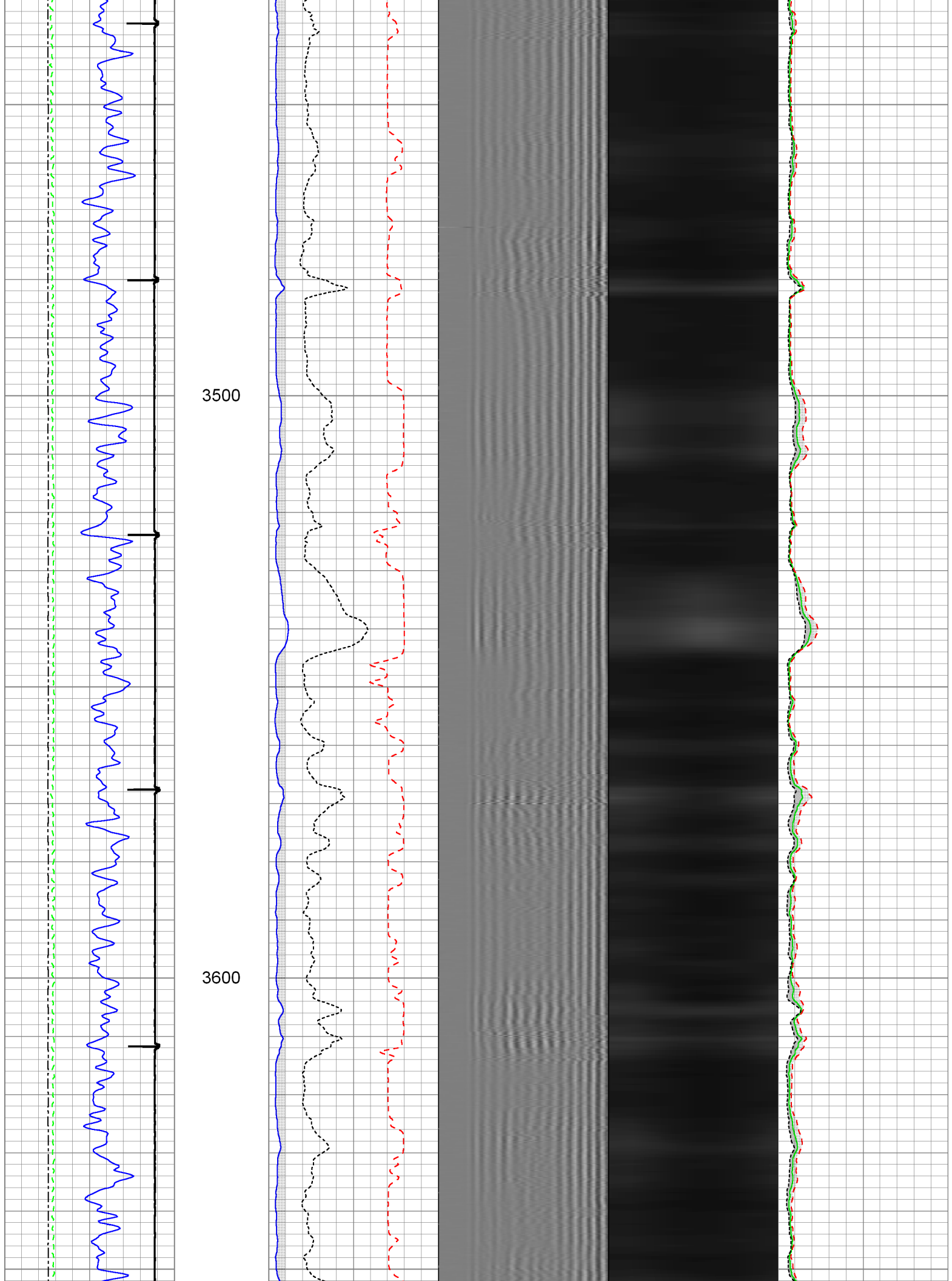
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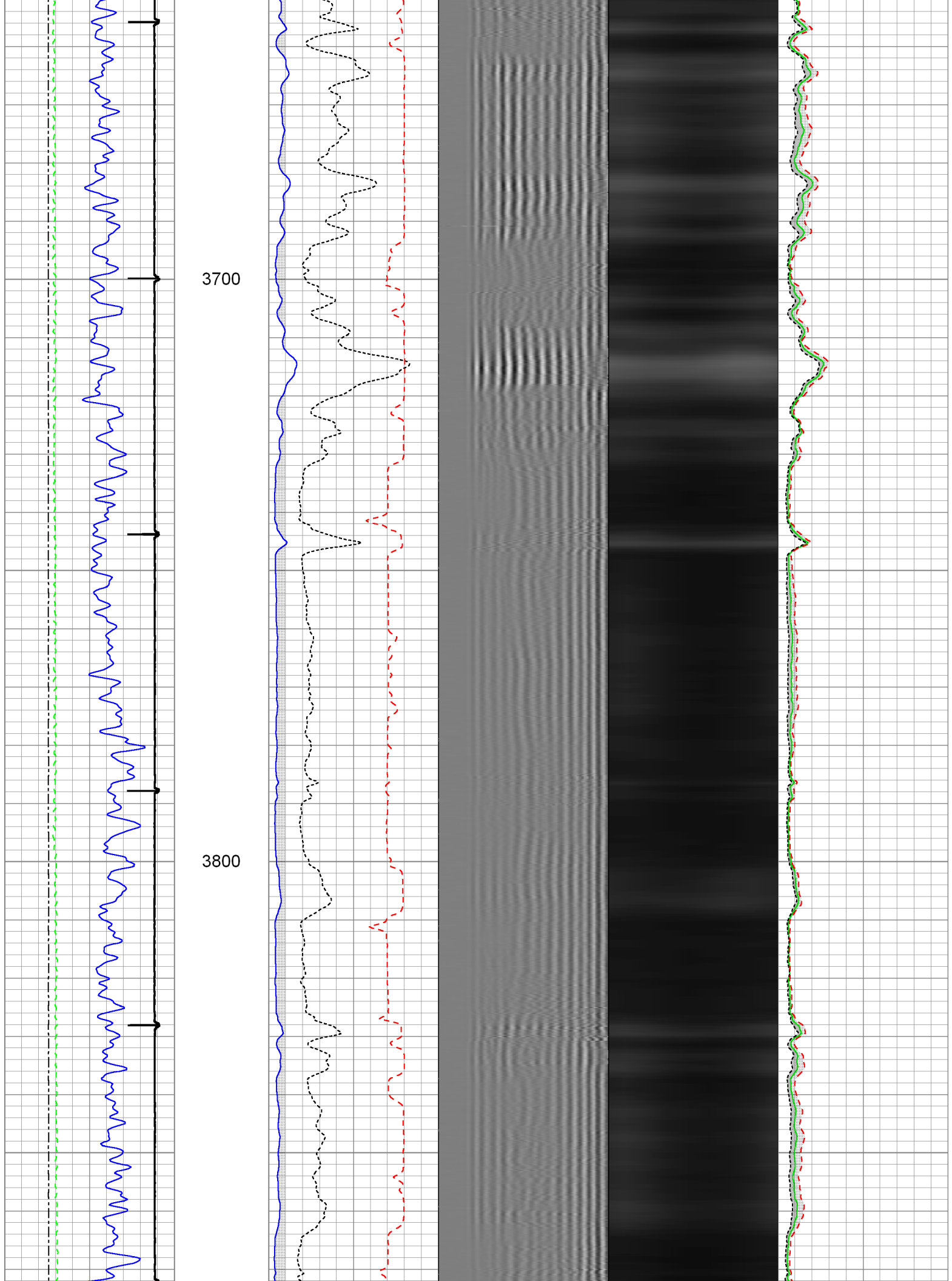
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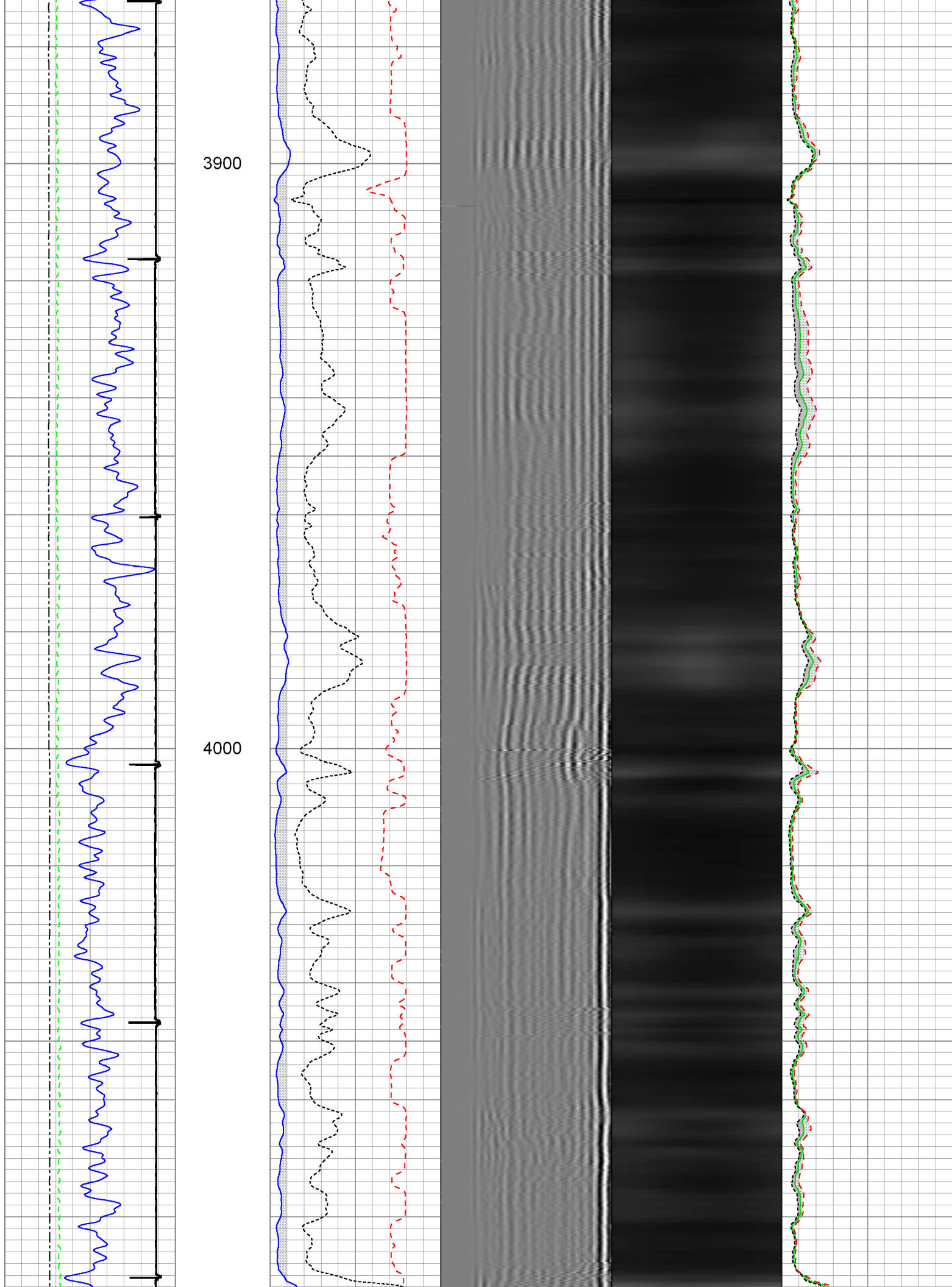






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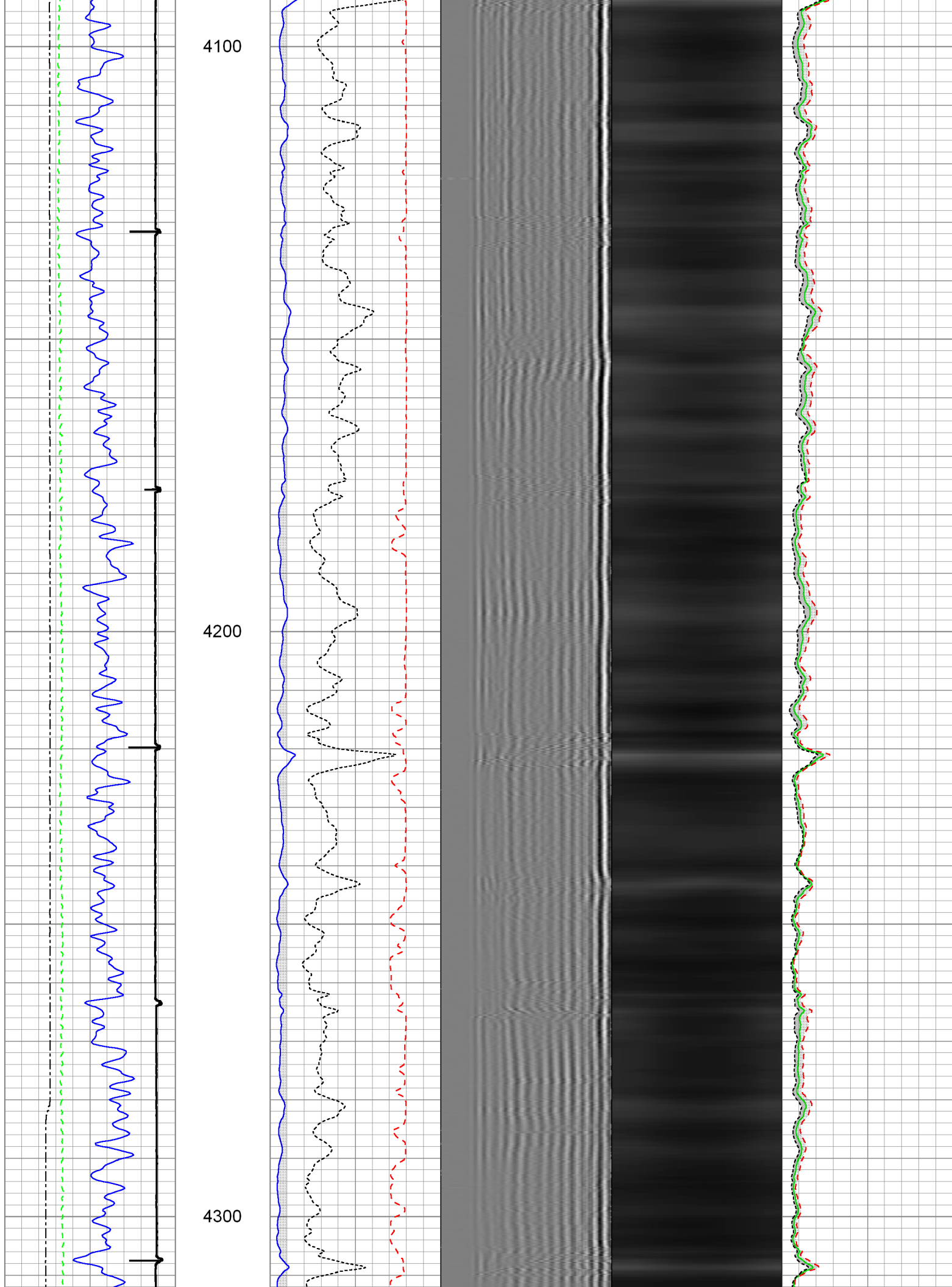
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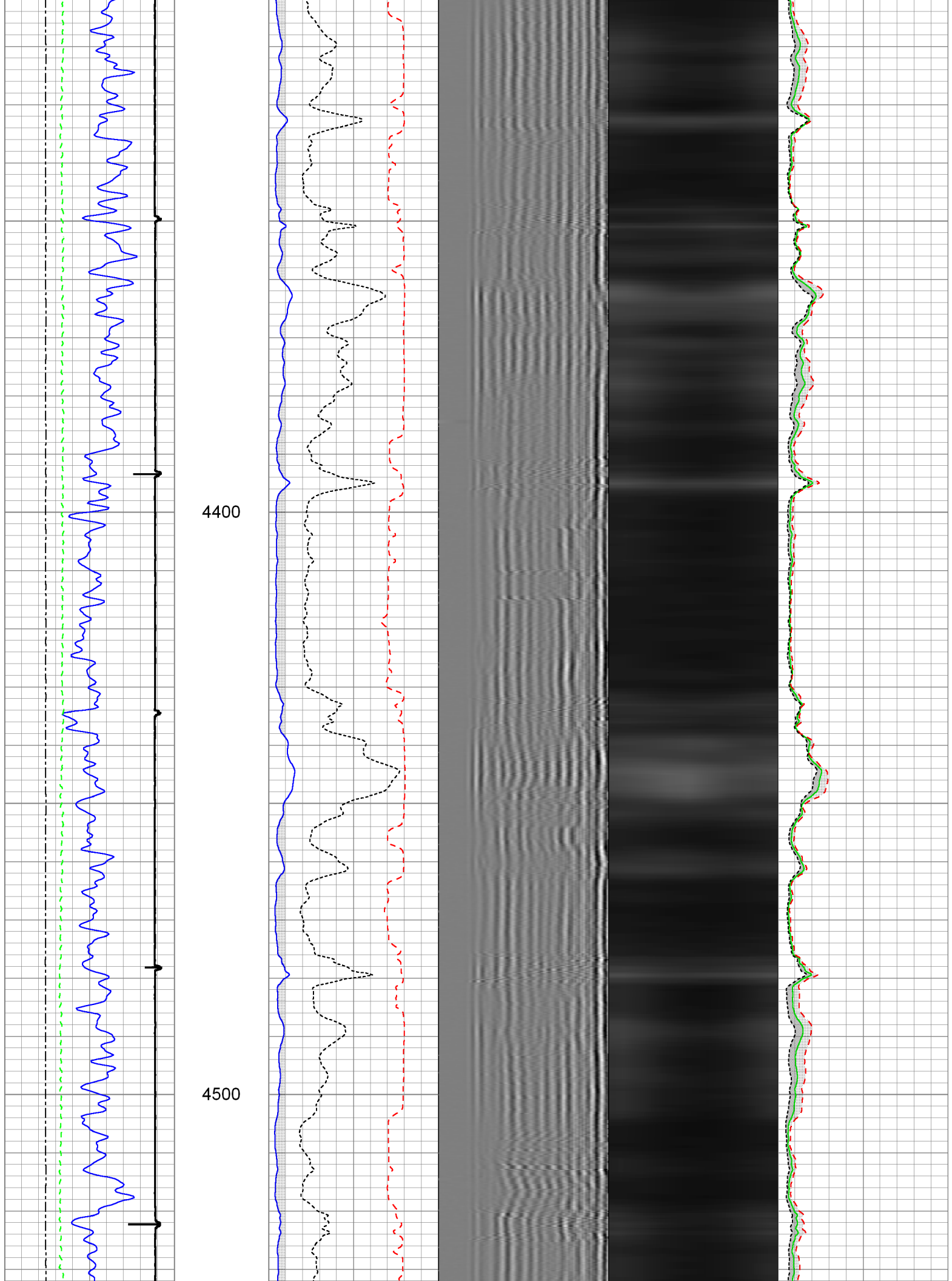


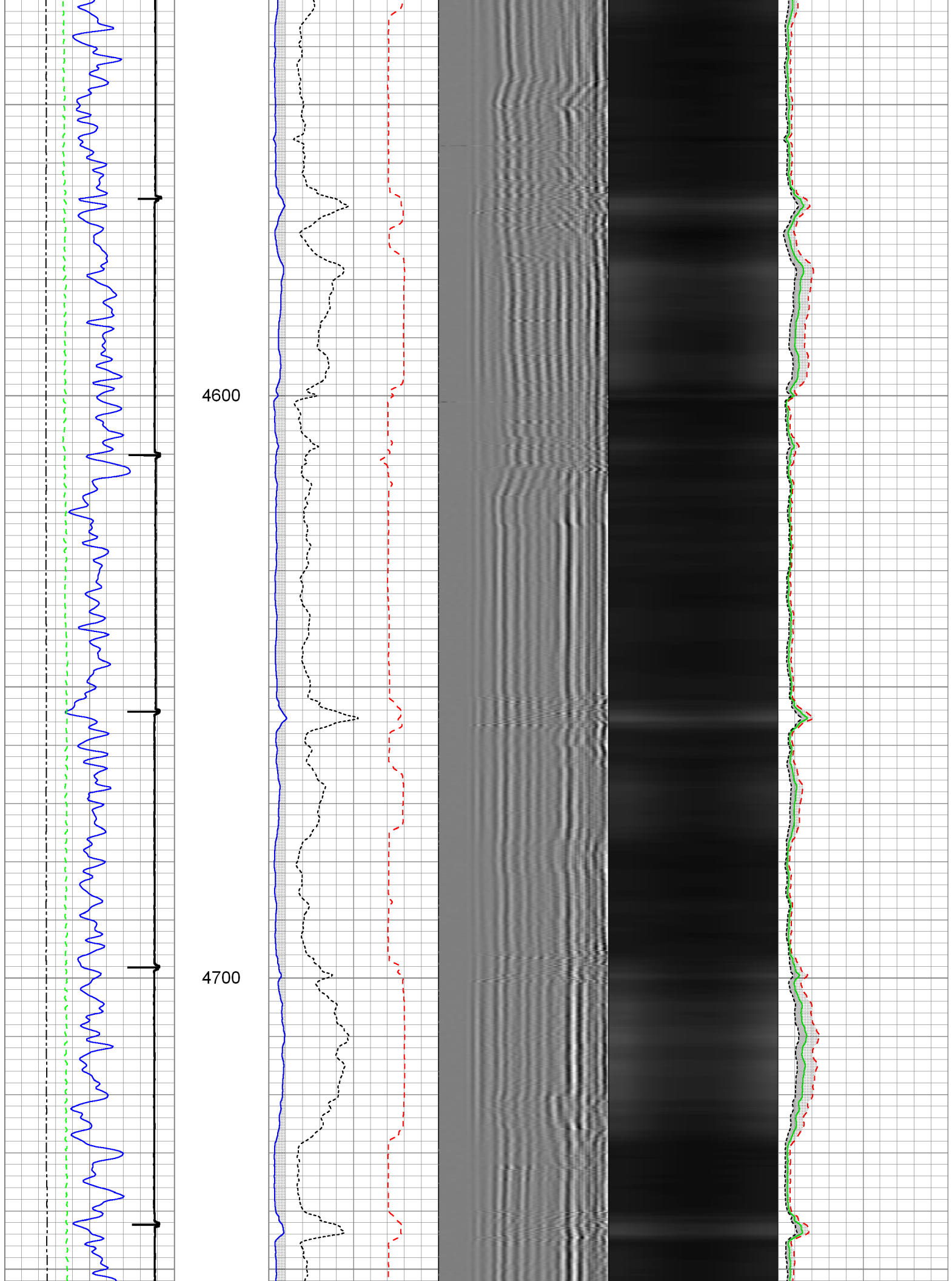
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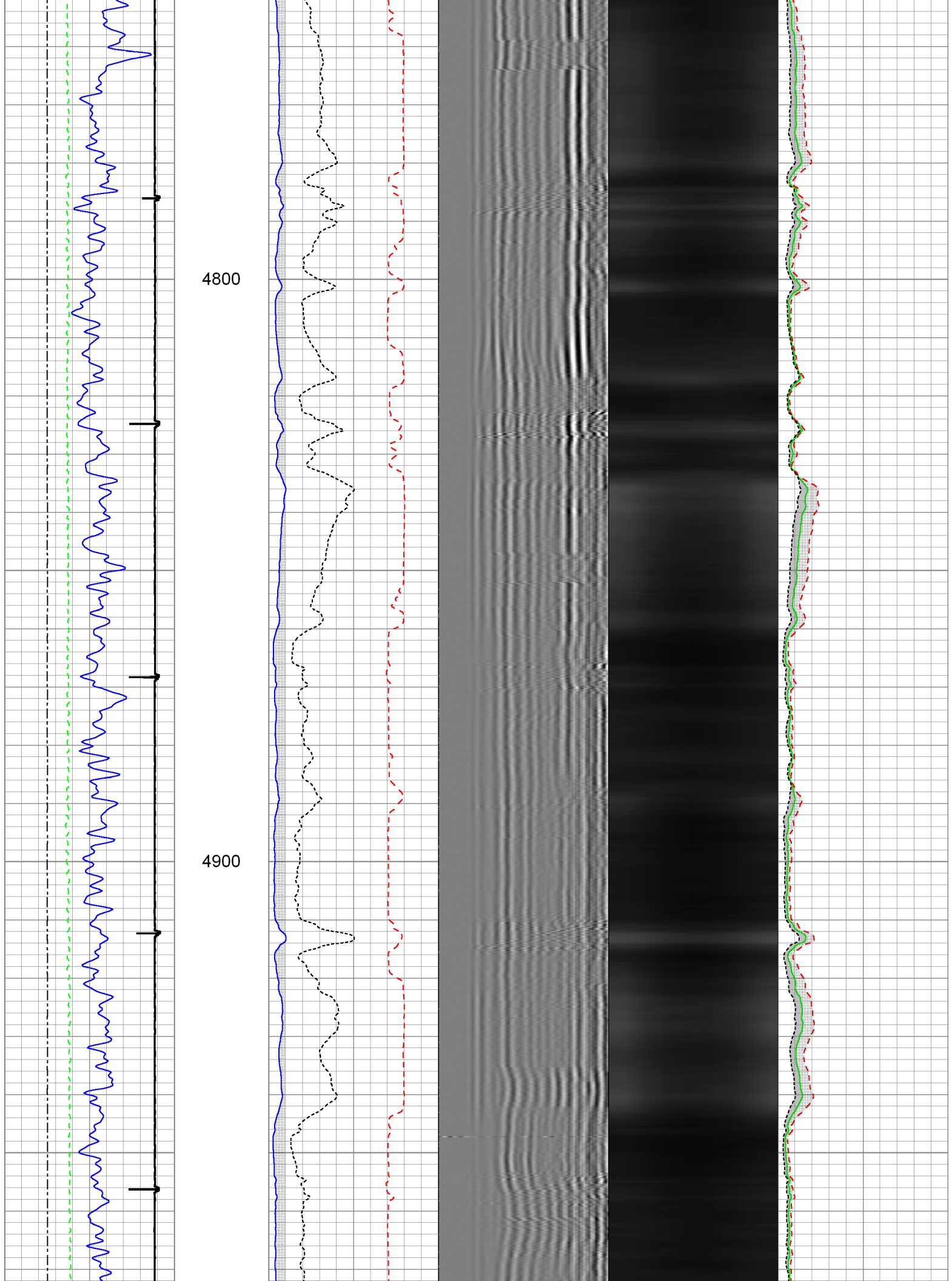
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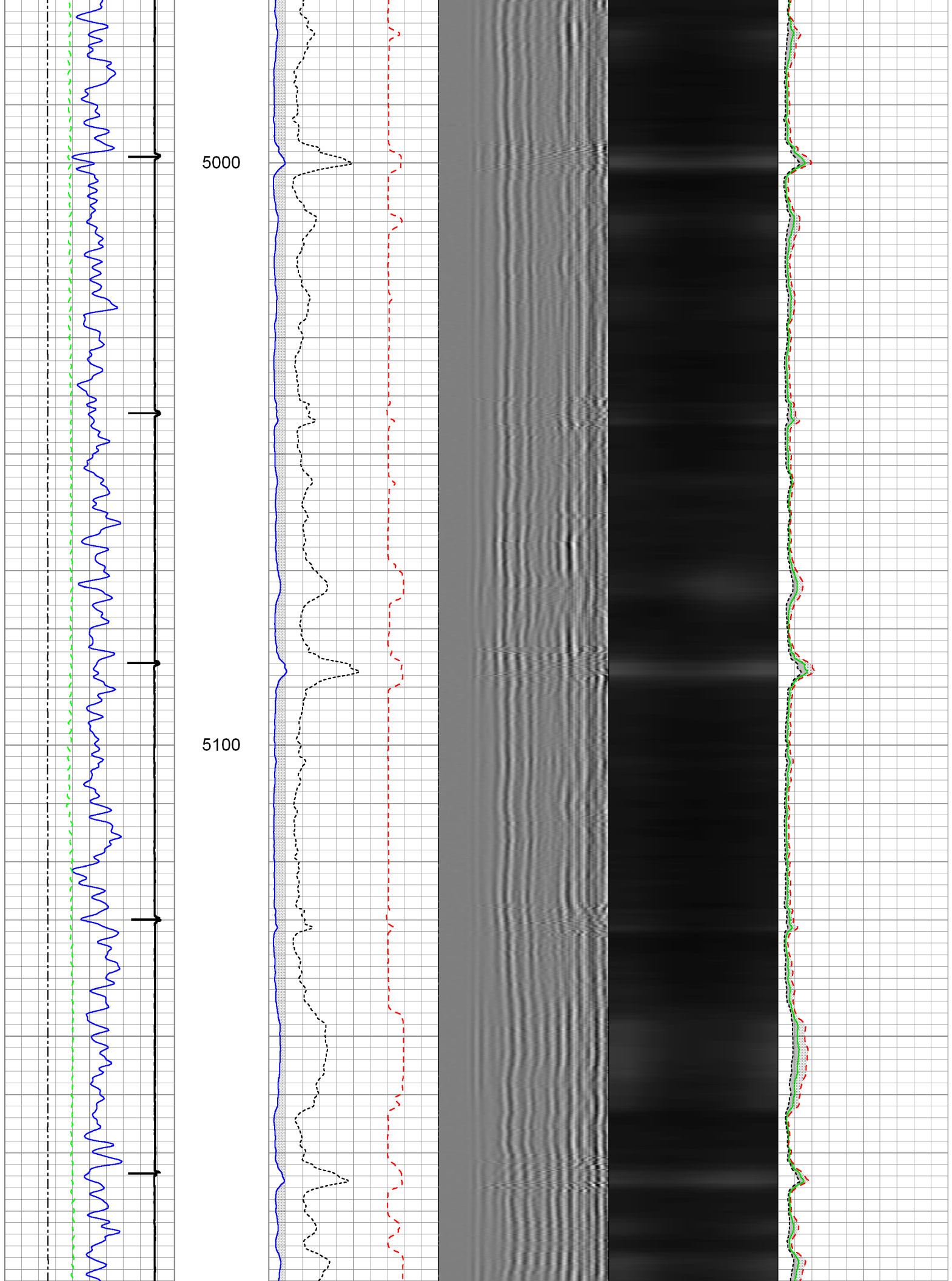
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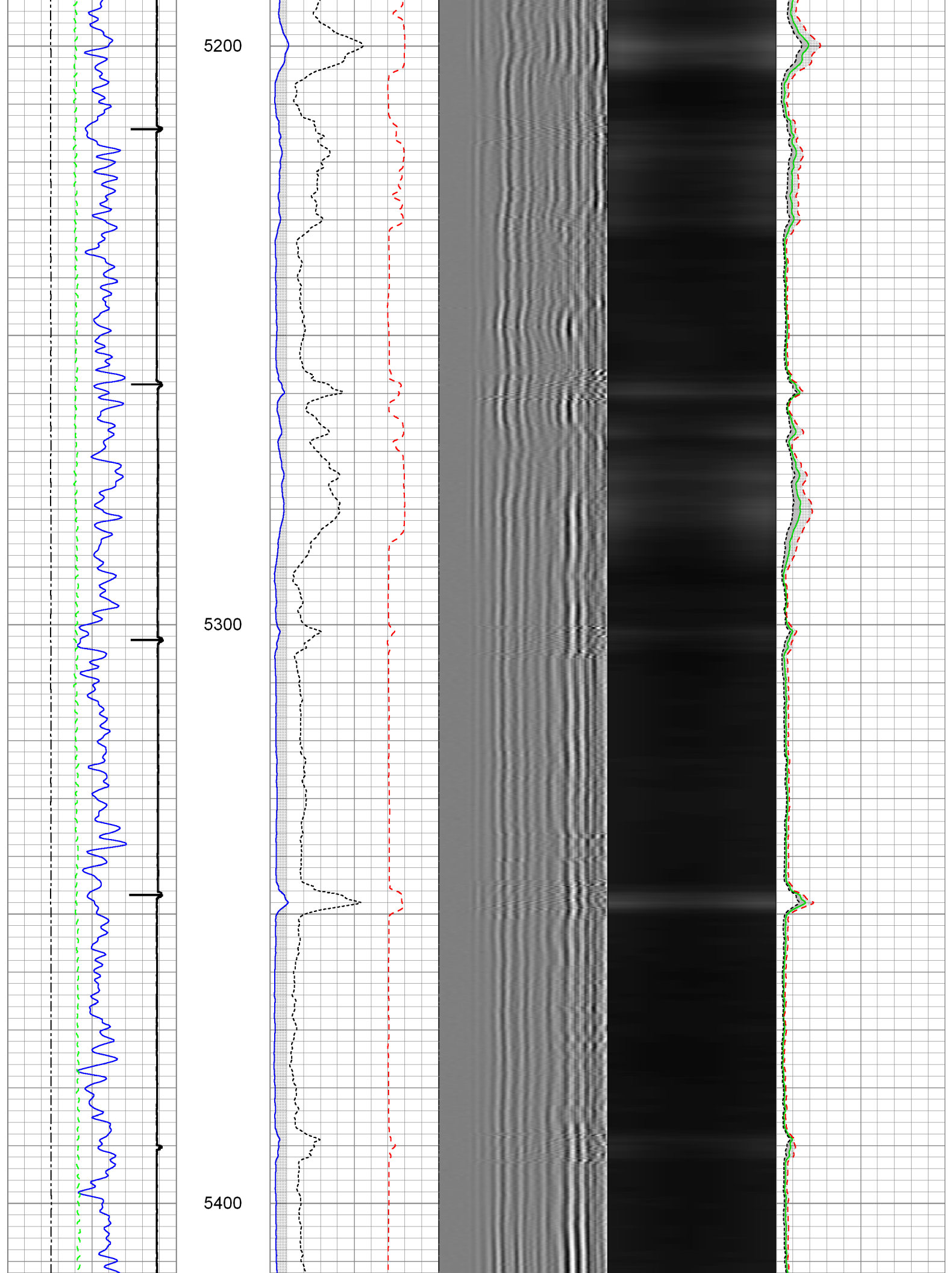


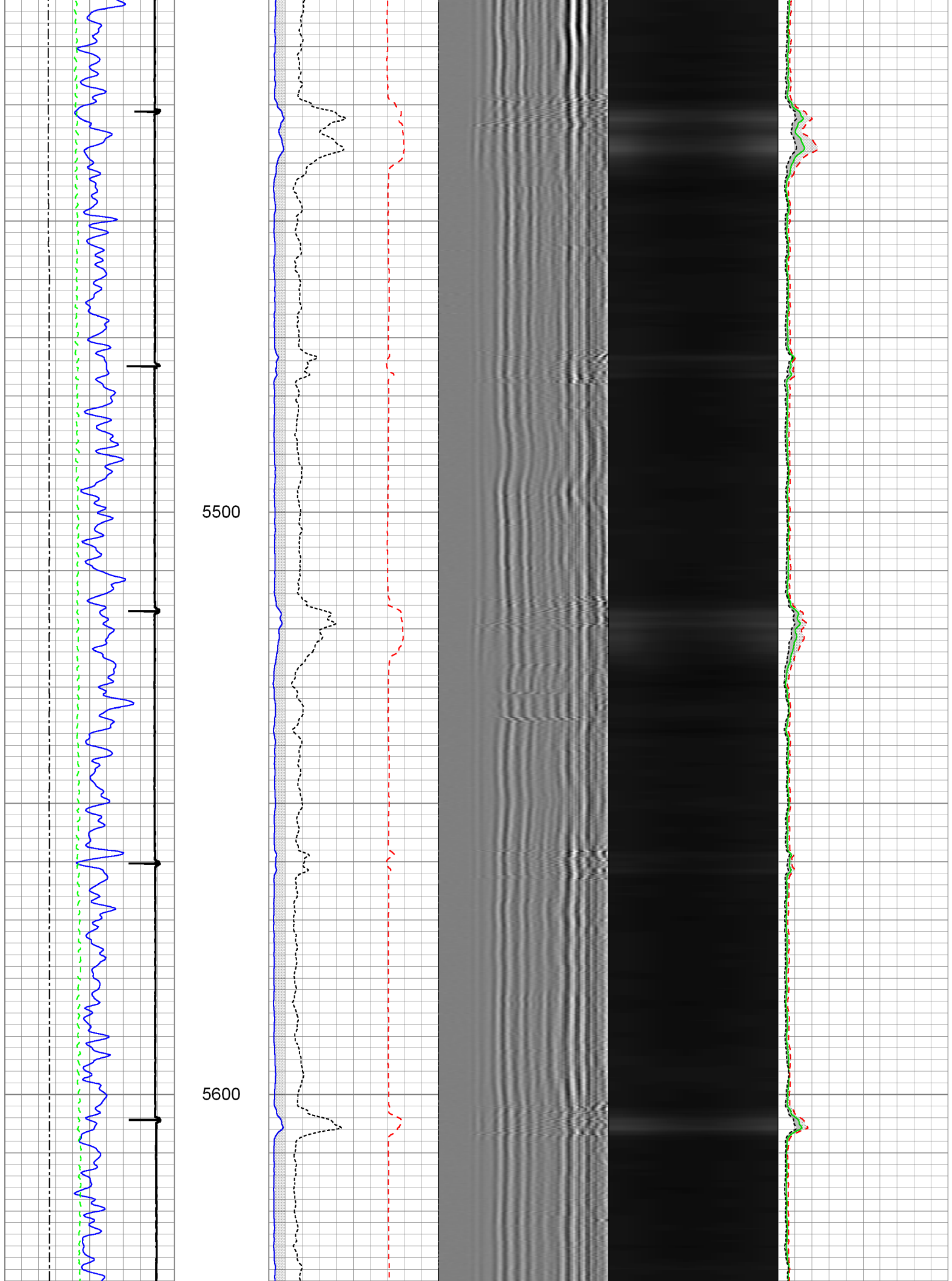


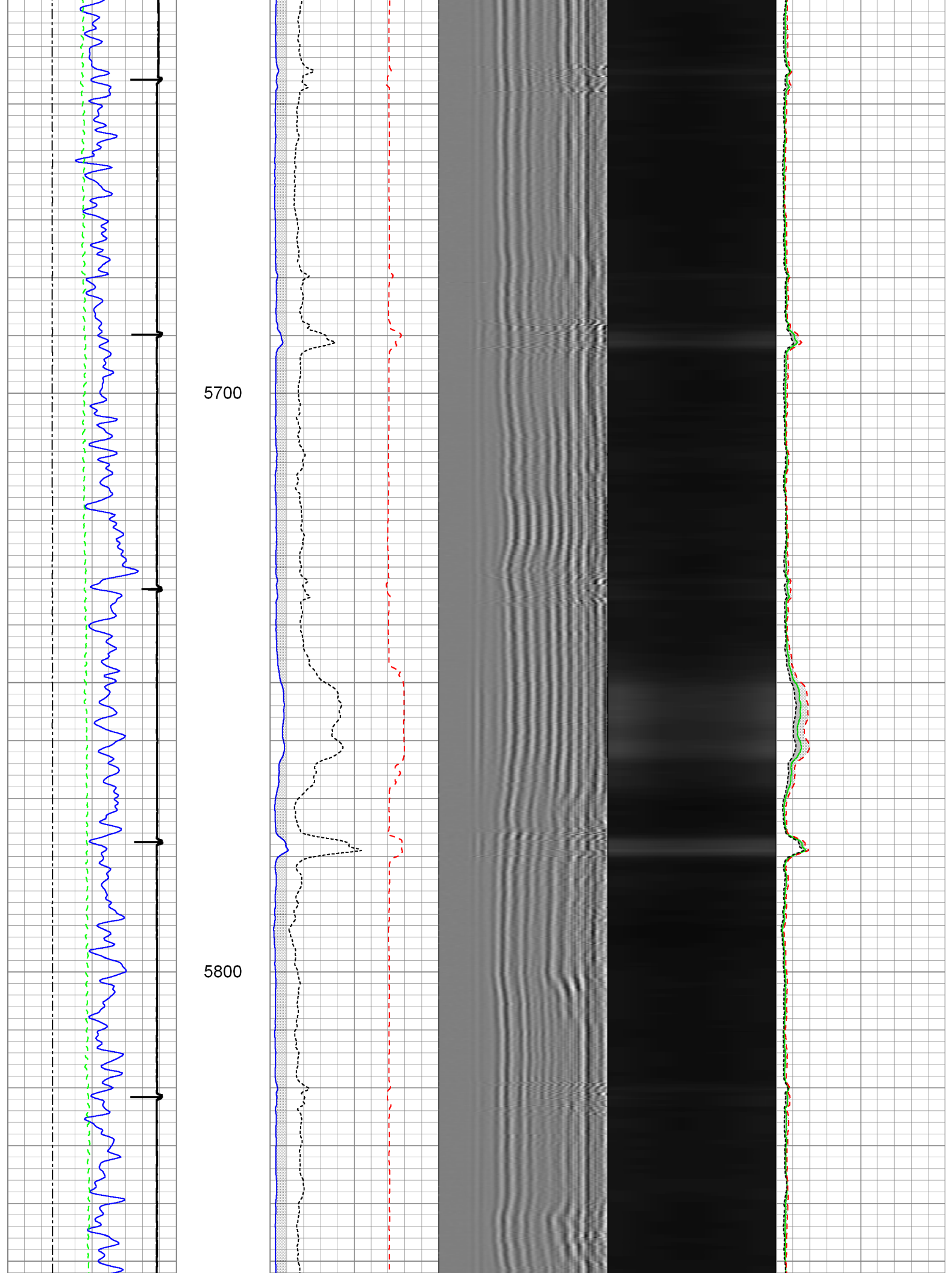


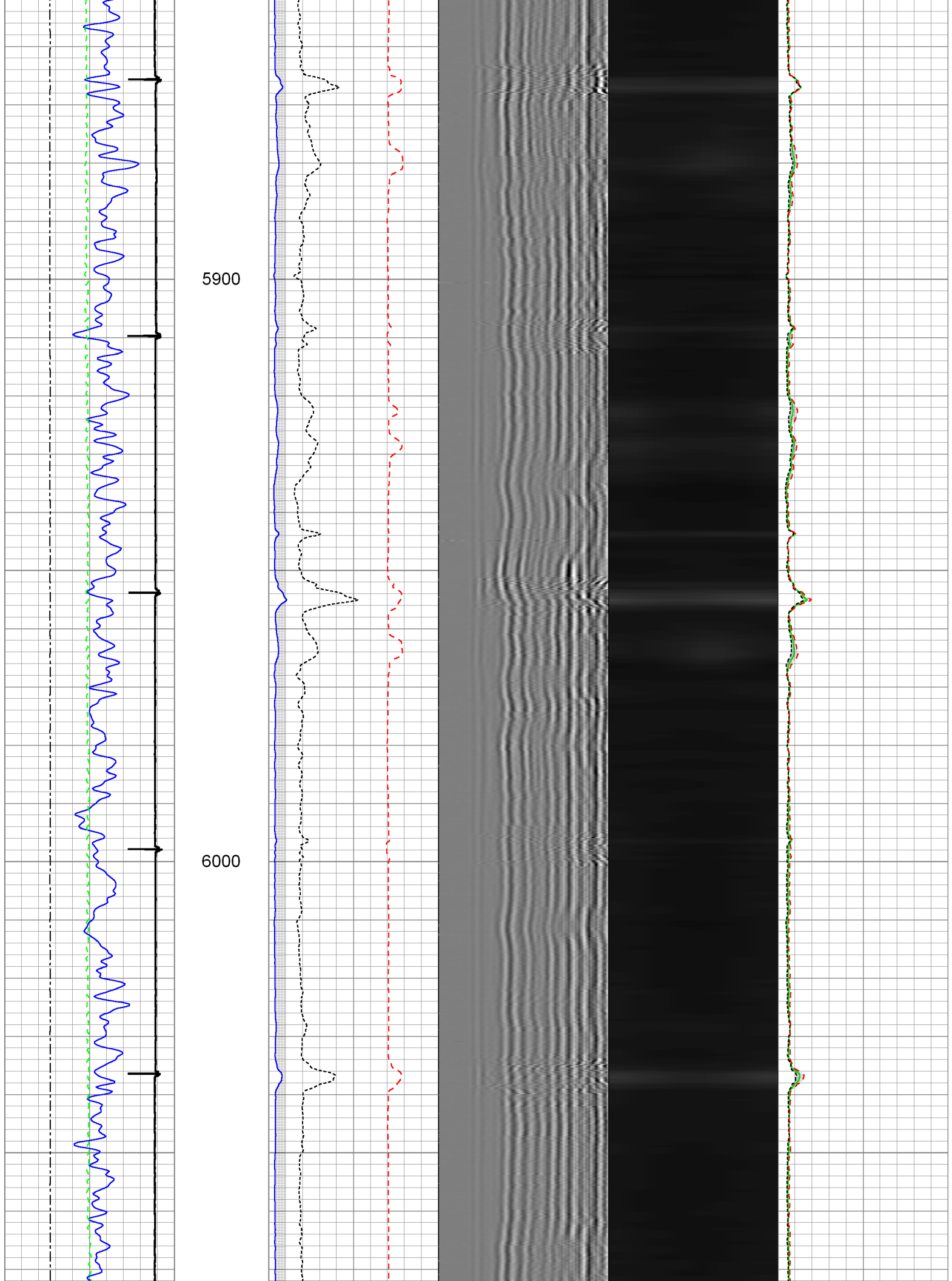






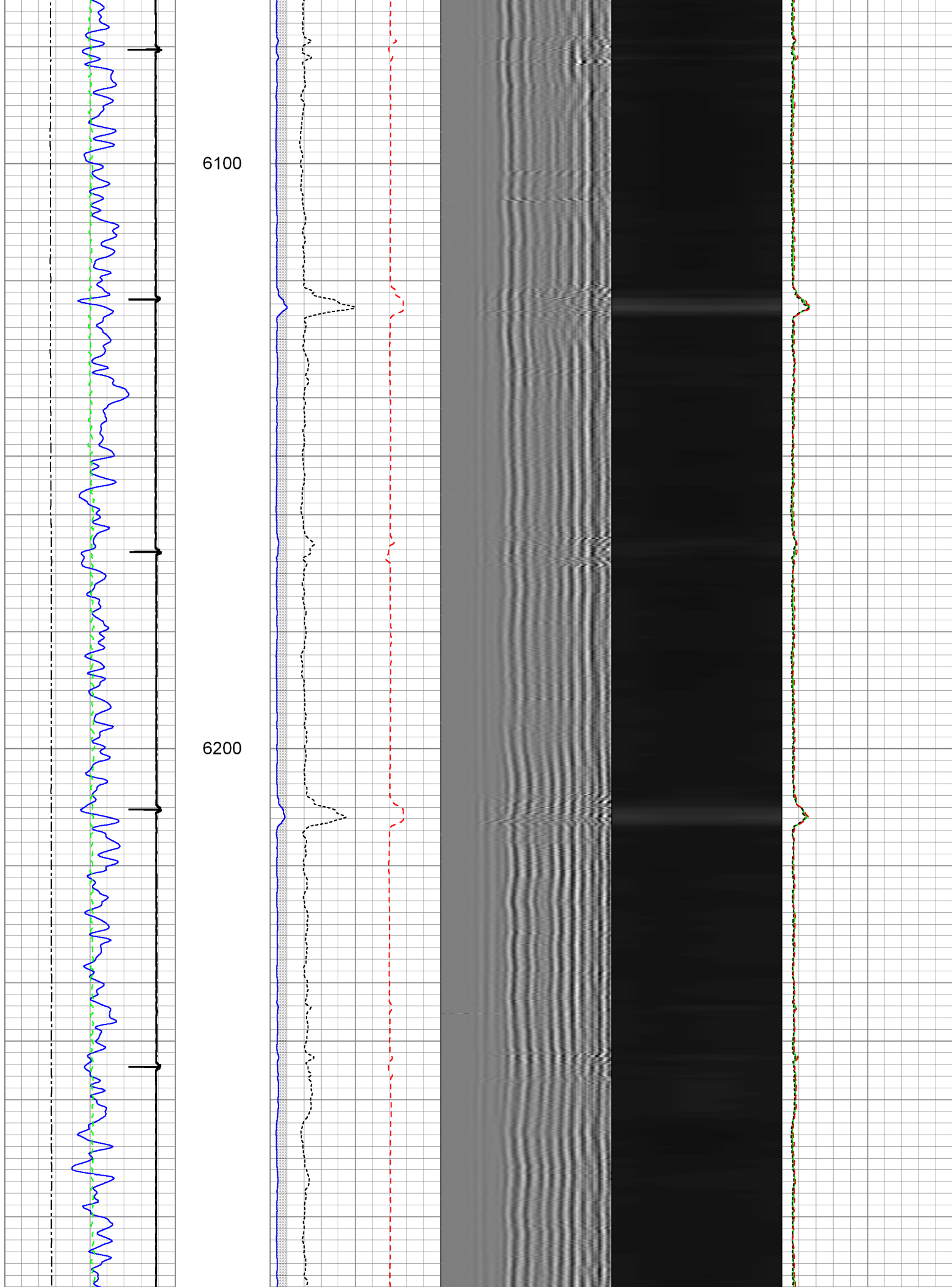






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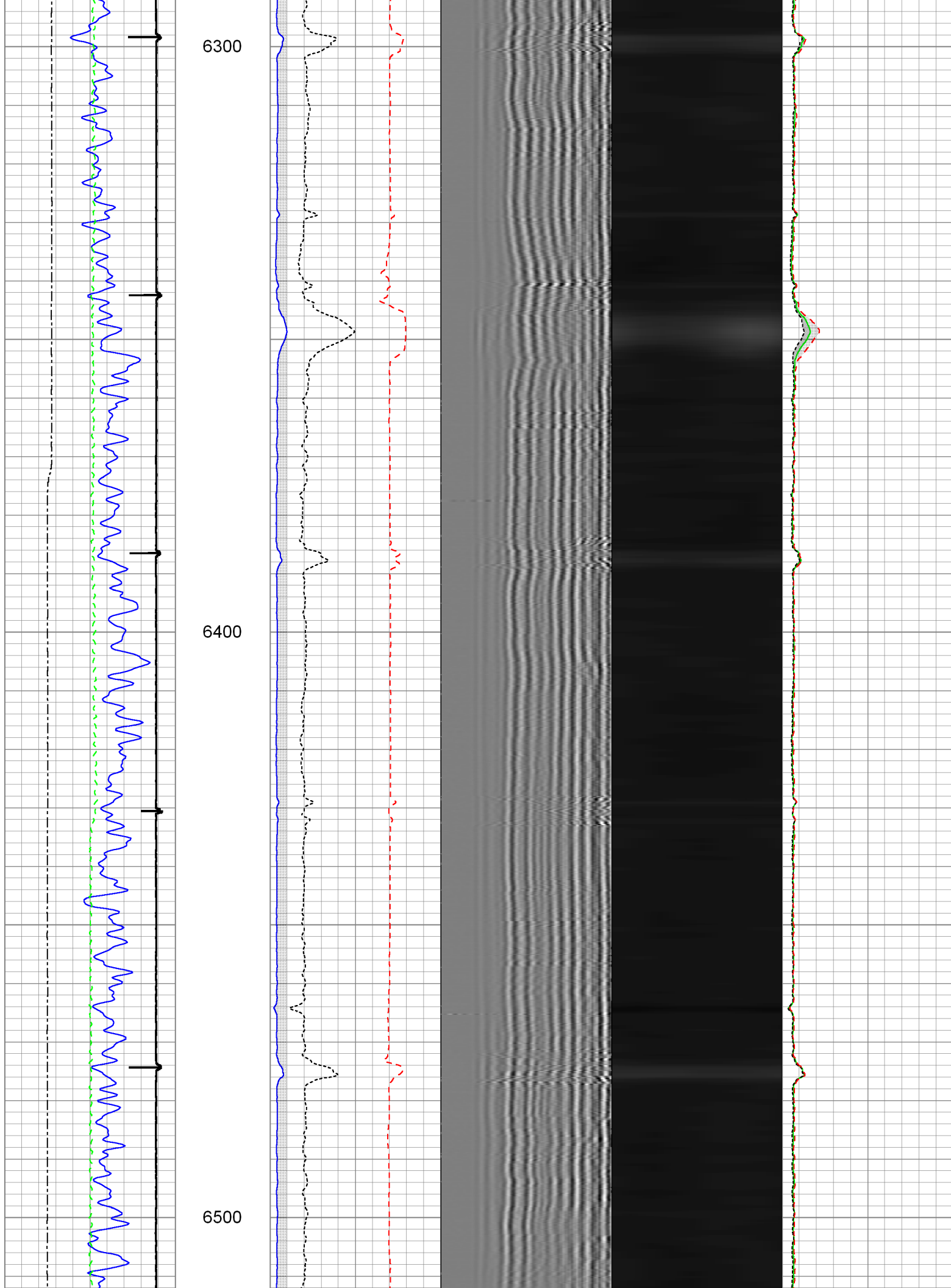
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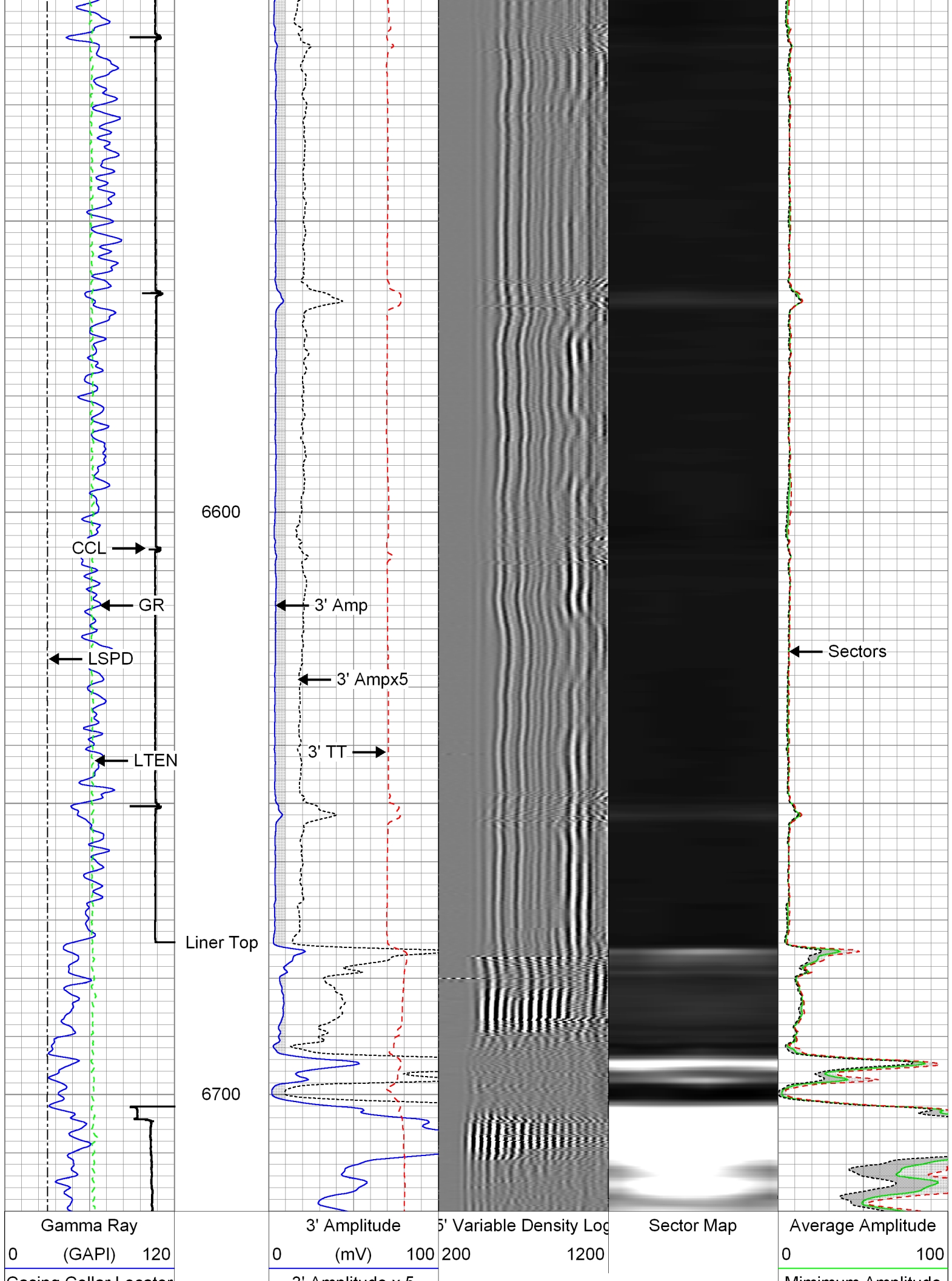


6300

6400

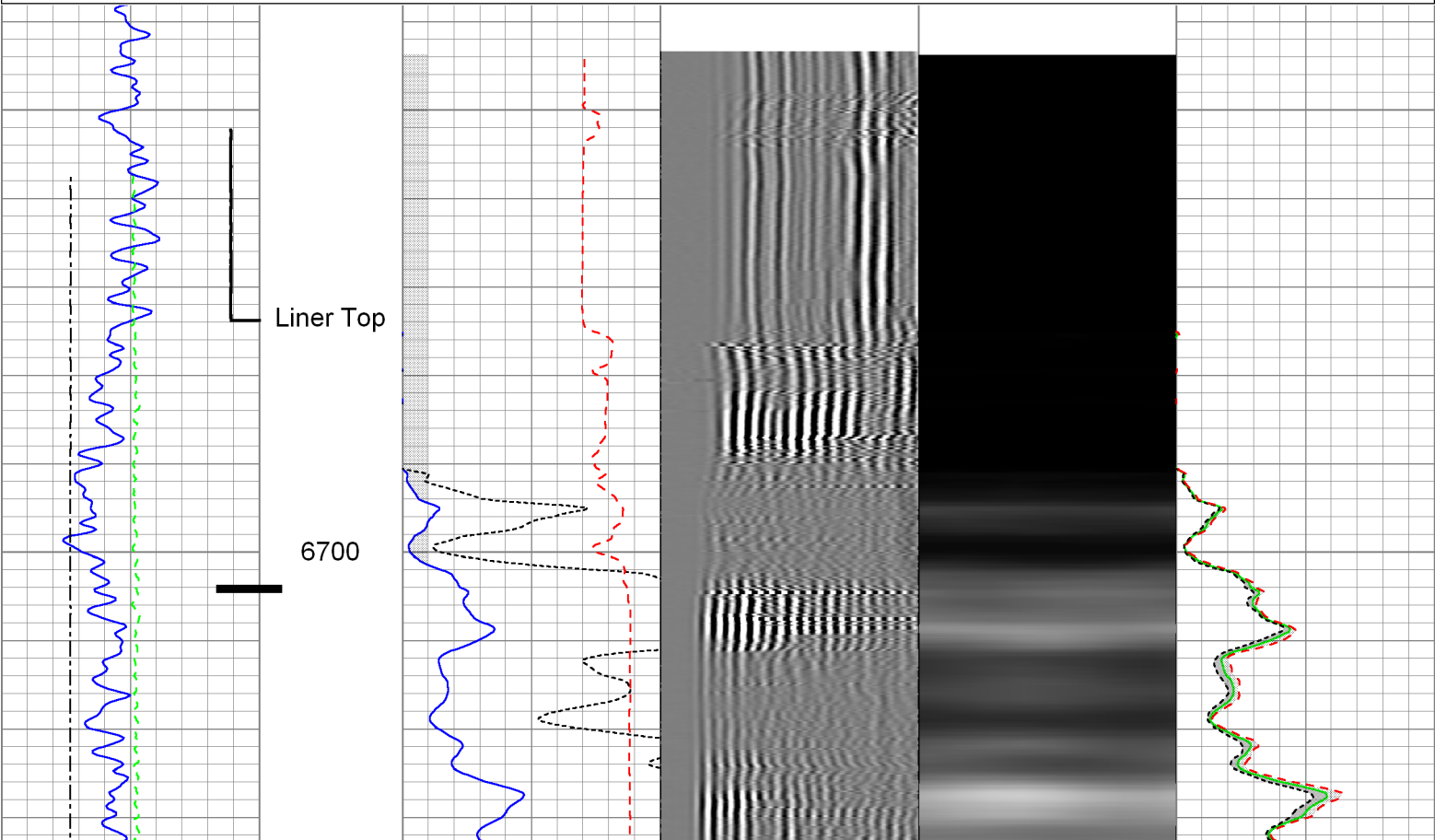
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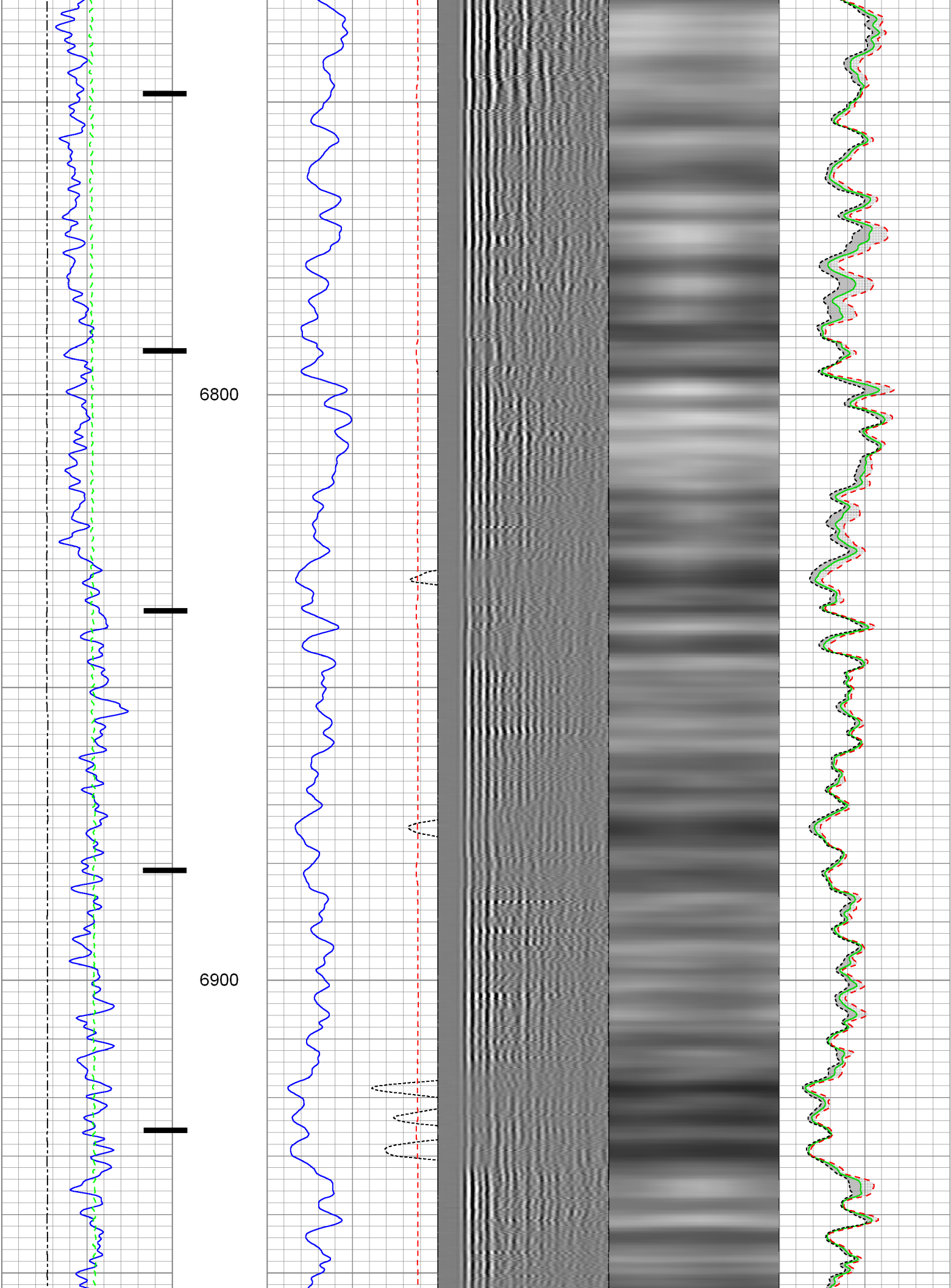


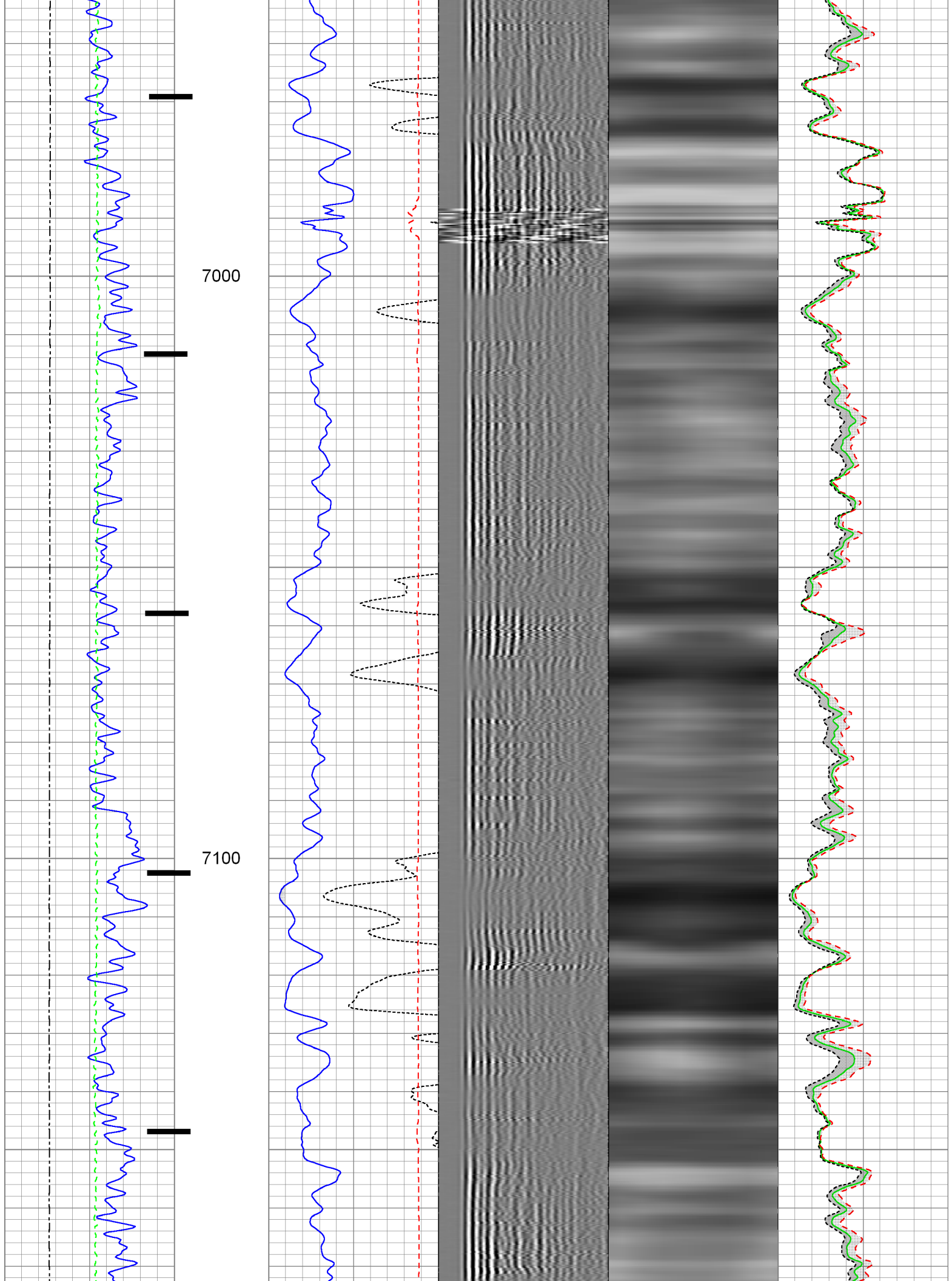


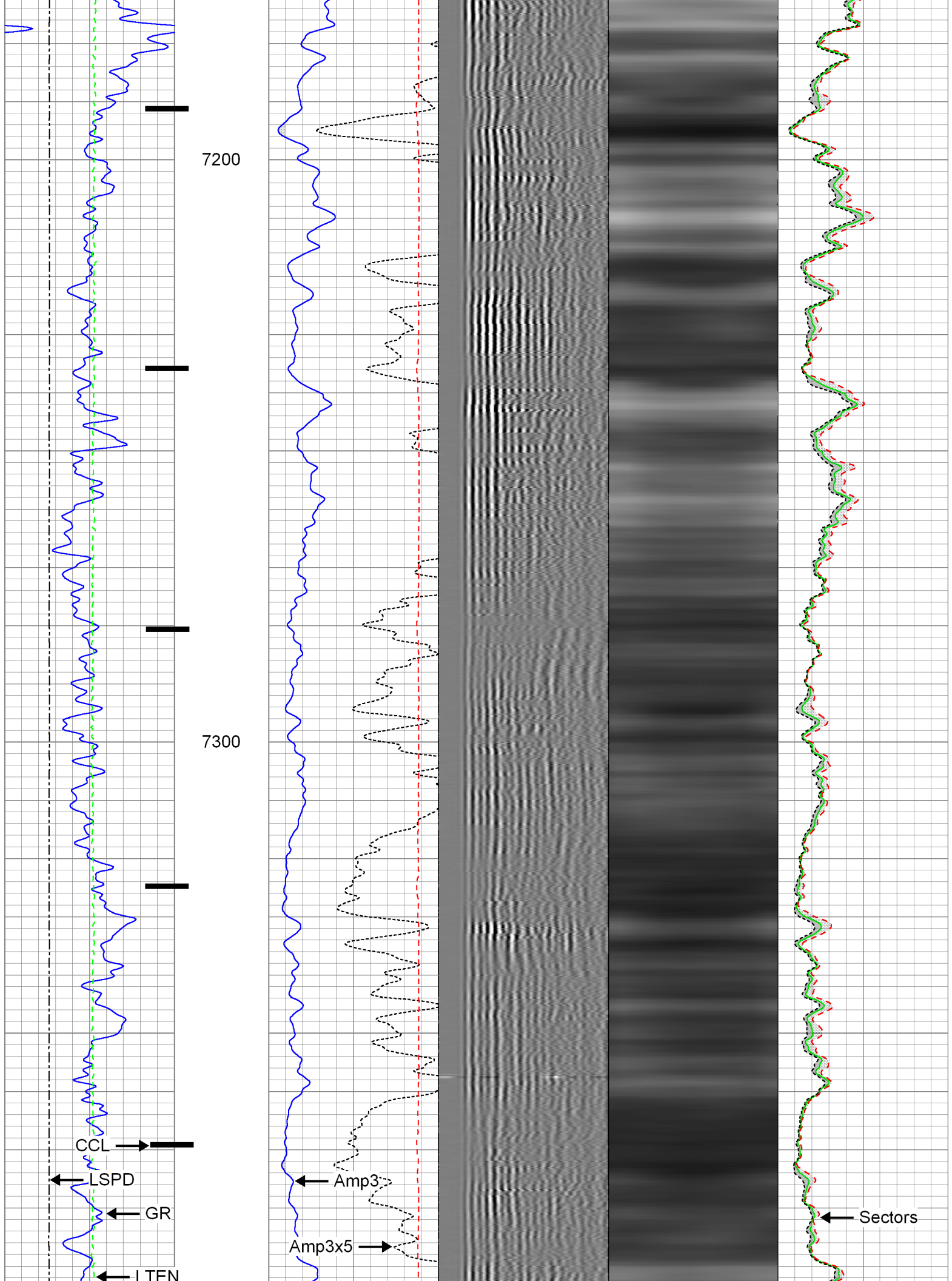
Casing Collar Locator	3' Amplitude x 5 0 (mV) 20	Minimum Amplitude 0 100
Line Speed -100 (ft/min) 100	3' Travel Time 650 (usec) 150	Maximum Amplitude 0 100
Line Tension 0 (lb) 2000		

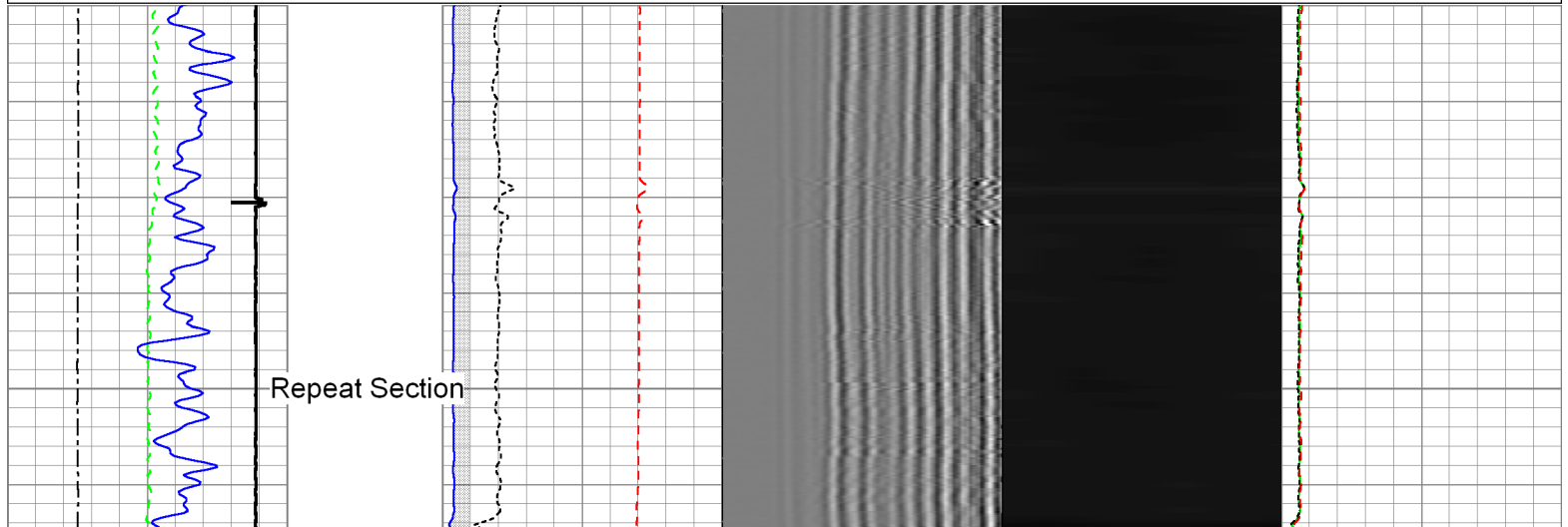
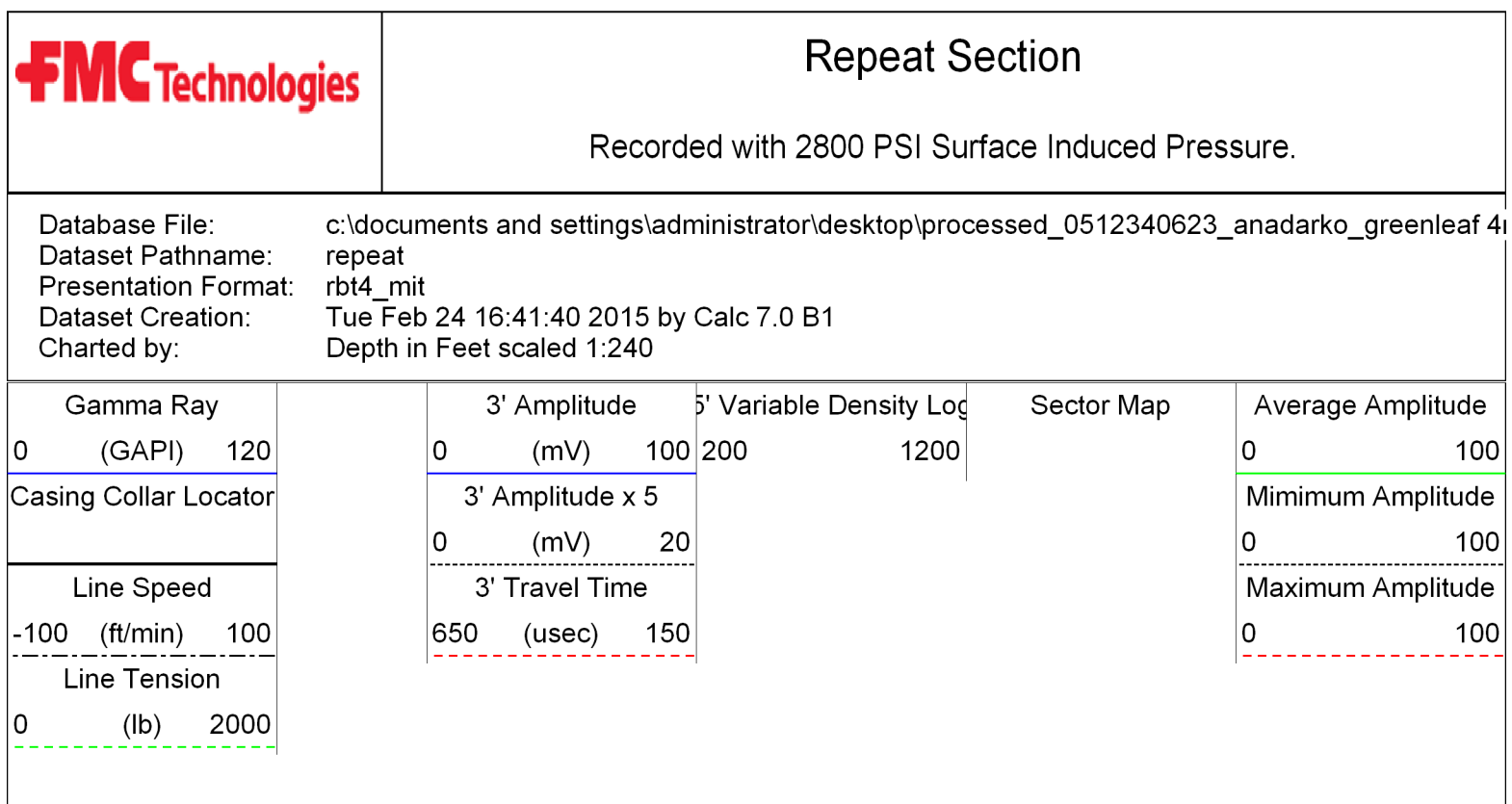
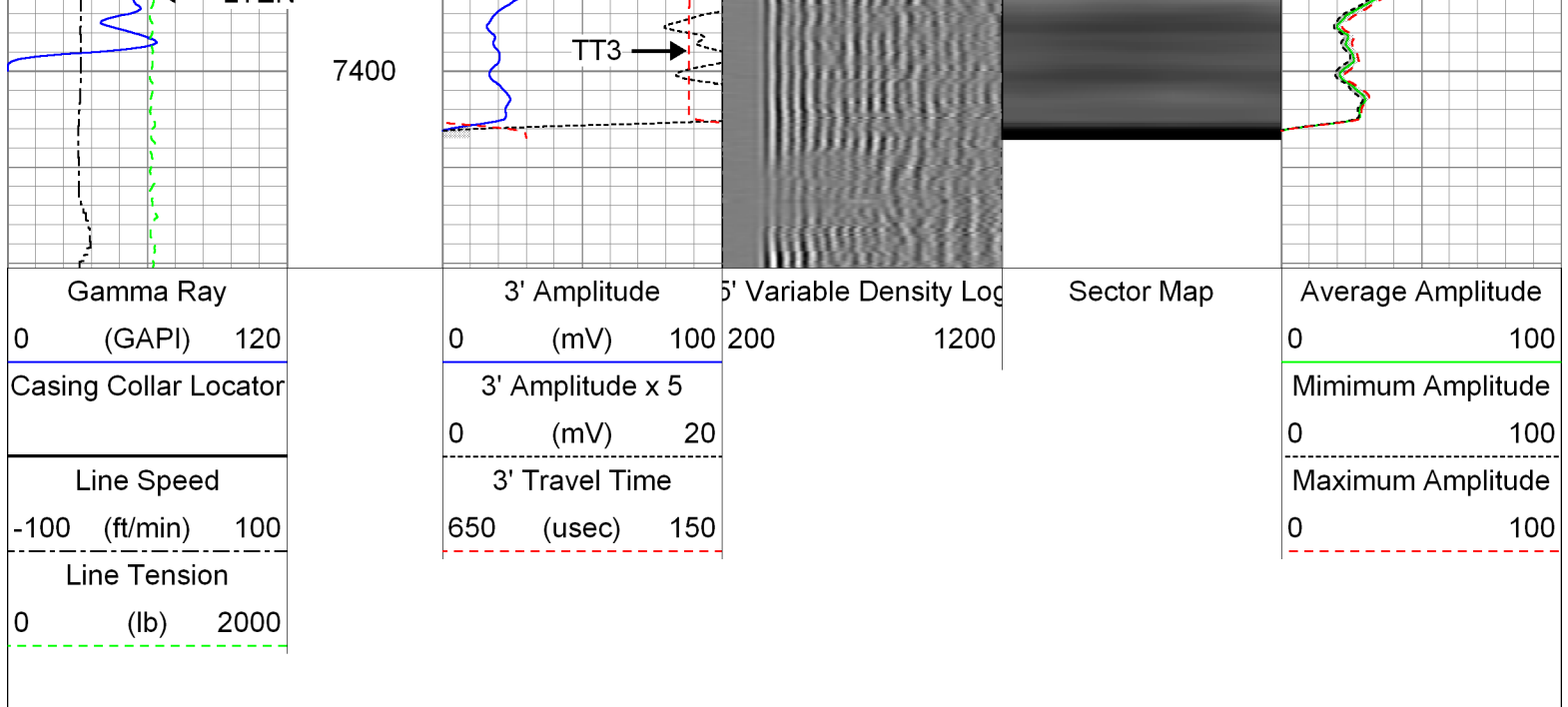
<div>FMC Technologies</div>		Main Pass: 4.5" Liner			
		Recorded with 2800 Psi Surface Induced Pressure			
Database File: c:\documents and settings\administrator\desktop\processed_0512340623_anadarko_greenleaf 4 Dataset Pathname: main45.9 Presentation Format: rbt4_mit Dataset Creation: Tue Mar 03 14:15:53 2015 Charted by: Depth in Feet scaled 1:240					
Gamma Ray 0 (GAPI) 120		3' Amplitude 0 (mV) 100	5' Variable Density Log 200 1200	Sector Map	Average Amplitude 0 100
Casing Collar Locator		3' Amplitude x 5 0 (mV) 20			Minimum Amplitude 0 100
Line Speed -100 (ft/min) 100		3' Travel Time 650 (usec) 150			Maximum Amplitude 0 100
Line Tension 0 (lb) 2000					

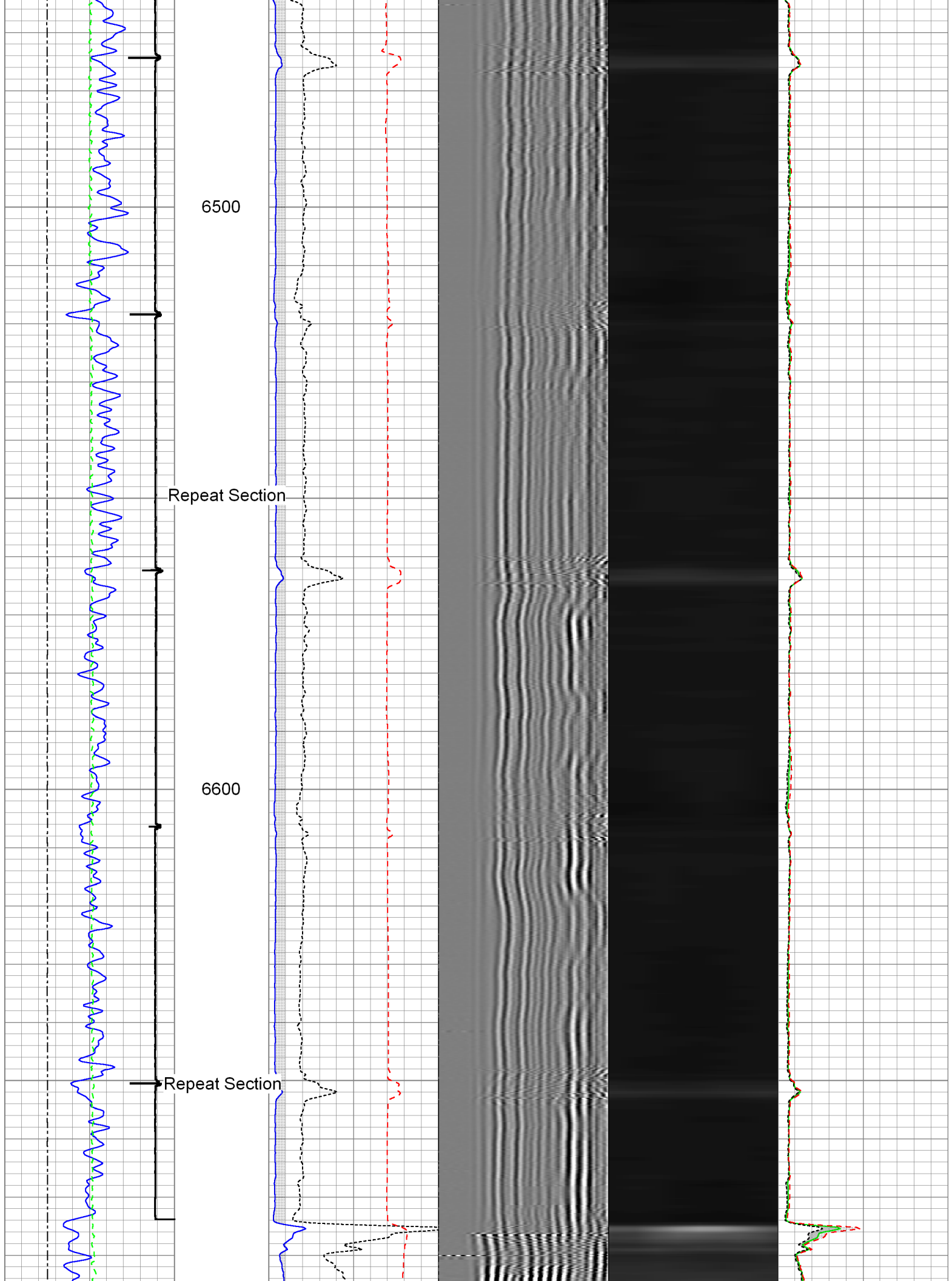


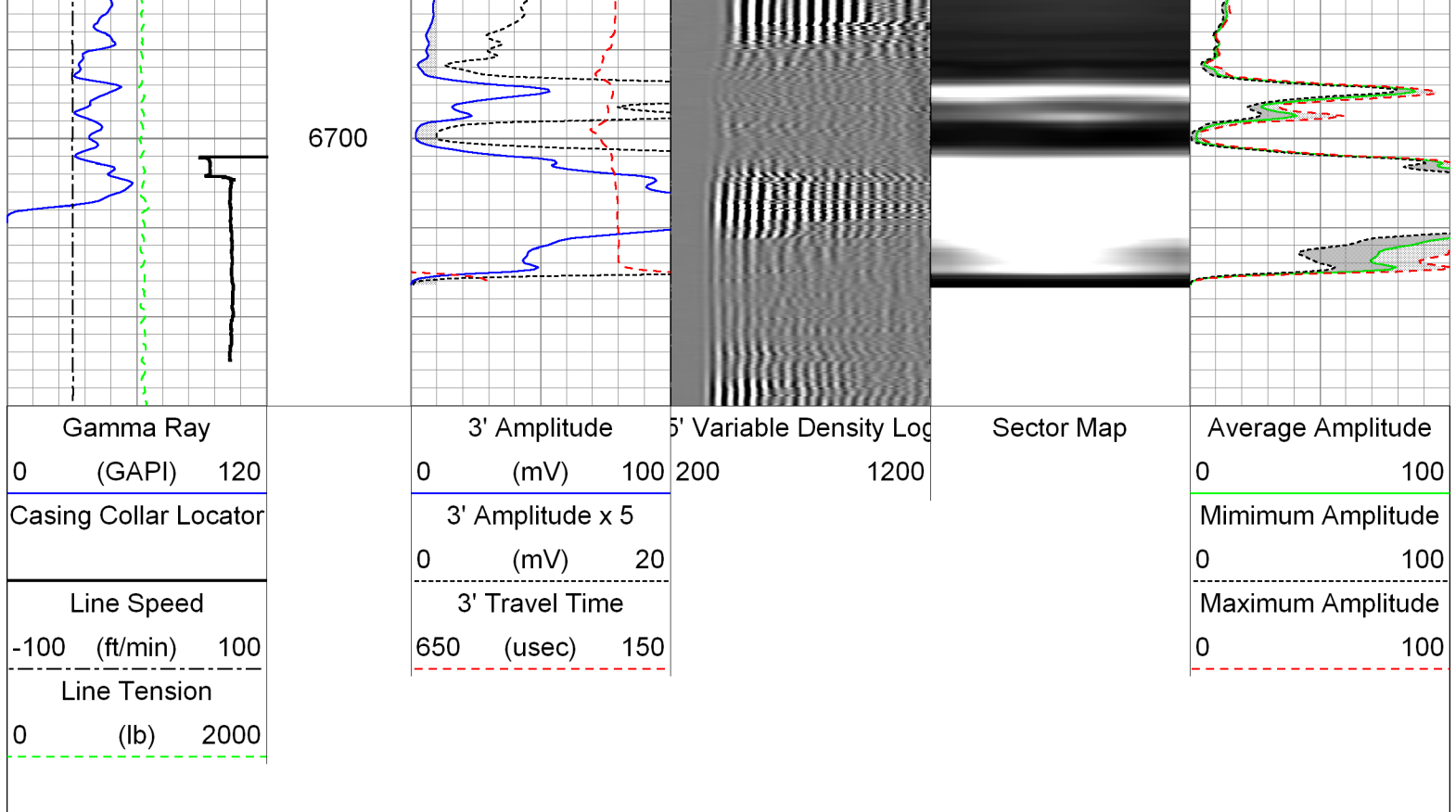




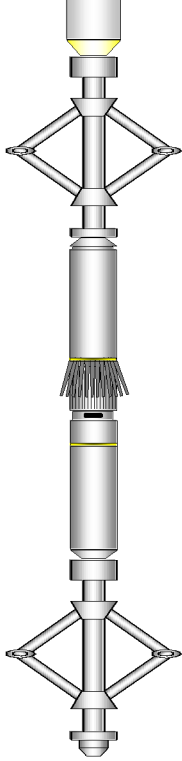








Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	22.37		T_CH14375_1_GO Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.44	4.00
			UW_AGS-UW_AGS_001 (215017) Sondex Adapter - GO Box to Sondex Pin	0.21	1.69	1.00
			UW_XTU-UW_XTU_002 (10010519) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			UW_PGR-UW_PGR_020 (211727) Production Gamma Ray	1.93	1.69	9.50
			UW_PRC #4 -DSSRAC (081) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
WVFS1	14.99		UW_RBT-UW_RBT_004 (1063) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.47	3.13	140.00
WVFS2	14.99					
WVFS3	14.99					
WVFS4	14.99					
WVFS5	14.99					
WVFS6	14.99					
WVFS7	14.99					
WVFS8	14.99					

CBLTEMP	14.99		UW_PRC-DSSRAC (080) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
CBLROT	14.99					
WVF5FT	13.99					
MIT	4.97					
			UW_MIT-UW_MIT40_042 (10014703) 40 Multifinger Imaging Tool	4.54	2.75	61.10
			UW_PRC #3 -DSSRAC (084) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
TSTAMP	0.00		UW_BUL-UW_BUL_006 (218707) Sondex Ultrawire Bullnose Terminator	0.22	1.69	1.20
Dataset: PROCESSED_0512340623_Anadarko_Greenleaf 4N-2HZ_02-24-15_MIT_RBL.db: field/well/run1/main7 Total Length: 26.62 ft Total Weight: 319.30 lb O.D. 3.13 in						

Calibration Report							
Database File:		C:\Documents and Settings\Administrator\Desktop\PROCESSED_0512340623_Anadarko_Greenleaf					
Dataset Pathname:		calrpt					
Dataset Creation:		Tue Feb 24 14:30:02 2015 by Log 7.0 B1					
Multi-finger Imaging Tool Calibration Report							
Serial Number:		10014703					
Number of Fingers:		40					
Tool Model:		UW_MIT40_042					
Inclinometer Calibration Report							
Performed:		Fri Sep 20 11:47:48 2013					
Calibration Angle:		45					
Vertical:		Inc X		Inc Y			
Finger 1 up:		1963		1960			
Finger 31 up:		1748		1727			
Finger 21 up:		2195		1742			
Finger 11 up:		2178		2188			
Sensitivity ratio:		1.00706		1727			
X-axis angle:		132.825		2173			
Deviation const.:		317.775					
Finger Calibration Report							
Performed:		Tue Feb 24 09:49:38 2015					
Ring size:	4	5	6	7			
(in)							
	Sens	Sens	Sens				
Finger 01:	1076	388.0	1464	386.0	1850	398.0	2248
Finger 02:	1030	391.0	1421	405.0	1826	421.0	2247
Finger 03:	1032	383.0	1415	392.0	1807	412.0	2219
Finger 04:	1002	396.0	1398	413.0	1811	433.0	2244
Finger 05:	1009	375.0	1384	385.0	1769	402.0	2171

Finger 06:	1017	392.0	1409	399.0	1808	420.0	2228
Finger 07:	1025	386.0	1411	391.0	1802	411.0	2213
Finger 08:	995	385.0	1380	401.0	1781	428.0	2209
Finger 09:	1069	393.0	1462	390.0	1852	401.0	2253
Finger 10:	1059	391.0	1450	395.0	1845	414.0	2259
Finger 11:	1000	386.0	1386	395.0	1781	418.0	2199
Finger 12:	1107	385.0	1492	371.0	1863	381.0	2244
Finger 13:	1054	381.0	1435	389.0	1824	415.0	2239
Finger 14:	1023	395.0	1418	404.0	1822	431.0	2253
Finger 15:	993	389.0	1382	405.0	1787	434.0	2221
Finger 16:	1031	384.0	1415	393.0	1808	422.0	2230
Finger 17:	1077	378.0	1455	381.0	1836	403.0	2239
Finger 18:	1119	382.0	1501	384.0	1885	410.0	2295
Finger 19:	1067	385.0	1452	392.0	1844	417.0	2261
Finger 20:	995	382.0	1377	400.0	1777	430.0	2207
Finger 21:	1054	374.0	1428	383.0	1811	417.0	2228
Finger 22:	1045	379.0	1424	389.0	1813	420.0	2233
Finger 23:	1098	382.0	1480	390.0	1870	418.0	2288
Finger 24:	1065	350.0	1415	363.0	1778	391.0	2169
Finger 25:	1085	387.0	1472	399.0	1871	420.0	2291
Finger 26:	1034	370.0	1404	386.0	1790	417.0	2207
Finger 27:	1205	395.0	1600	396.0	1996	415.0	2411
Finger 28:	1078	366.0	1444	380.0	1824	411.0	2235
Finger 29:	1021	376.0	1397	394.0	1791	424.0	2215
Finger 30:	992	371.0	1363	396.0	1759	431.0	2190
Finger 31:	1216	403.0	1619	408.0	2027	422.0	2449
Finger 32:	1004	374.0	1378	385.0	1763	408.0	2171
Finger 33:	1186	418.0	1604	420.0	2024	439.0	2463
Finger 34:	971	375.0	1346	391.0	1737	419.0	2156
Finger 35:	1121	403.0	1524	410.0	1934	427.0	2361
Finger 36:	1019	361.0	1380	373.0	1753	395.0	2148
Finger 37:	1069	394.0	1463	429.0	1892	418.0	2310
Finger 38:	1076	376.0	1452	384.0	1836	402.0	2238
Finger 39:	1057	365.0	1422	373.0	1795	391.0	2186
Finger 40:	977	397.0	1374	417.0	1791	441.0	2232

Post Survey Calibration Check								
Performed: Tue Feb 24 14:29:27 2015								
Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	3.989	-0.006	5.005	0.002	6.013	0.007	7.011	0.005
Finger 02:	3.989	-0.006	5.008	0.004	6.008	0.004	7.008	0.004
Finger 03:	3.991	-0.004	5.005	0.002	6.003	0.001	7.009	0.004
Finger 04:	3.989	-0.005	5.003	0.002	6.005	0.003	7.006	0.003
Finger 05:	3.989	-0.005	5.006	0.003	6.006	0.003	7.007	0.004
Finger 06:	3.993	-0.004	5.007	0.004	6.005	0.003	7.000	0.000
Finger 07:	3.991	-0.004	5.007	0.004	6.006	0.003	7.006	0.003
Finger 08:	3.990	-0.005	5.007	0.004	6.009	0.004	7.011	0.005
Finger 09:	3.988	-0.006	5.006	0.003	6.003	0.002	6.999	-0.000
Finger 10:	3.989	-0.005	5.010	0.005	6.006	0.003	6.997	-0.001
Finger 11:	3.991	-0.005	5.006	0.003	6.005	0.003	7.003	0.001
Finger 12:	3.997	-0.001	5.005	0.002	6.006	0.003	7.006	0.003
Finger 13:	3.988	-0.006	5.008	0.004	6.005	0.003	7.006	0.003
Finger 14:	3.985	-0.008	4.997	-0.001	5.997	-0.002	6.987	-0.007
Finger 15:	3.988	-0.006	5.008	0.004	6.004	0.002	7.001	0.000
Finger 16:	3.989	-0.005	5.003	0.002	6.002	0.001	7.003	0.002
Finger 17:	3.990	-0.005	5.006	0.003	6.001	0.001	6.998	-0.001
Finger 18:	3.989	-0.006	5.003	0.001	5.999	-0.000	6.996	-0.002
Finger 19:	3.987	-0.006	5.005	0.002	6.001	0.001	7.003	0.001
Finger 20:	3.987	-0.006	5.009	0.005	6.006	0.003	7.002	0.001
Finger 21:	3.990	-0.005	5.006	0.003	6.004	0.002	7.004	0.002
Finger 22:	3.988	-0.006	5.004	0.002	6.006	0.003	7.002	0.001
Finger 23:	3.993	-0.003	5.008	0.004	6.007	0.003	7.003	0.002
Finger 24:	3.988	-0.006	5.020	0.010	6.003	0.002	7.006	0.003
Finger 25:	3.992	-0.004	5.009	0.004	6.003	0.002	7.000	0.000

Finger 26:	3.991	-0.004	5.001	0.001	6.005	0.002	7.000	-0.000
Finger 27:	3.986	-0.007	5.008	0.004	6.006	0.003	7.004	0.002
Finger 28:	3.989	-0.006	5.007	0.003	6.008	0.004	7.008	0.004
Finger 29:	3.994	-0.003	5.004	0.002	6.005	0.003	7.008	0.004
Finger 30:	3.992	-0.004	5.005	0.003	6.008	0.004	7.002	0.001
Finger 31:	3.984	-0.008	5.001	0.001	6.002	0.001	7.004	0.002
Finger 32:	3.992	-0.004	5.005	0.002	6.008	0.004	7.007	0.003
Finger 33:	3.992	-0.004	5.003	0.001	6.010	0.005	7.004	0.002
Finger 34:	3.992	-0.004	5.001	0.000	6.009	0.004	7.009	0.004
Finger 35:	3.994	-0.003	5.006	0.003	6.015	0.007	7.011	0.005
Finger 36:	3.987	-0.007	5.006	0.003	6.011	0.006	7.012	0.006
Finger 37:	3.984	-0.008	5.012	0.006	5.931	-0.034	6.927	-0.036
Finger 38:	3.988	-0.006	5.010	0.005	6.013	0.007	7.010	0.005
Finger 39:	3.987	-0.007	5.009	0.004	6.009	0.004	7.000	-0.000
Finger 40:	3.992	-0.004	5.005	0.003	6.010	0.005	7.004	0.002
Average:	3.990	-0.005	5.006	0.003	6.004	0.002	7.002	0.001

Segmented Cement Bond Log Calibration Report

Serial Number:	1063
Tool Model:	UW_RBT_004
Calibration Casing Diameter:	4.500 in
Calibration Depth:	6842.752 ft

Master Calibration, performed Tue Feb 24 10:57:27 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.000	0.424	0.000	81.196	191.661	0.000
5FT	0.000	0.174	0.000	81.196	466.910	0.000
S1	0.000	0.443	0.000	100.000	225.881	0.000
S2	0.000	0.466	0.000	100.000	214.687	0.000
S3	0.000	0.458	0.000	100.000	218.576	0.000
S4	0.000	0.435	0.000	100.000	230.113	0.000
S5	0.000	0.394	0.000	100.000	253.945	0.000
S6	0.000	0.374	0.000	100.000	267.617	0.000
S7	0.000	0.386	0.000	100.000	259.356	0.000
S8	0.000	0.412	0.000	100.000	242.979	0.000

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	Kerr-McGee Oil & Gas Onshore, L.P.
Well	Greenleaf 4N-2HZ
Field	Wattenberg
County	Weld
State	Colorado

State	Colorado
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