



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Kerr McGee Oil & Gas Onshore LP				Company Kerr McGee Oil & Gas Onshore LP			
Well Benson Farms 23N-19HZ				Well Benson Farms 23N-19HZ			
Field Wattenberg				Field Wattenberg			
County Weld				County Weld			
State Colorado				State Colorado			
Location:				API # : 05-123-39340			
SHL: 767' FSL 71' FEL Lat/Long: 40.206385/-104.960904 SEC 23 TWP 3N RGE 68W				MIT			
Permanent Datum				Ground Level			
Log Measured From				Kelly Bushing			
Drilling Measured From				Kelly Bushing			
Elevation 4962'				Elevation			
K.B. 4978' D.F. 4977' G.L. 4962'				K.B. 4978' D.F. 4977' G.L. 4962'			
Date				16-Sept-2014			
Run Number				One			
Depth Driller				14120 FT			
Depth Logger				7404 FT			
Bottom Logged Interval				7392 FT			
Top Log Interval				Surface			
Open Hole Size				---			
Type Fluid				Water			
Density / Viscosity				8.34 lbm/gal			
Max. Recorded Temp.				221°F			
Estimated Cement Top				Surface			
Time Well Ready				ROA			
Time Logger on Bottom				15:30			
Equipment Number				HD-0134			
Location				Ft. Lupton, CO			
Recorded By				Randy Azevedo			
Witnessed By				Trevor Daniels			
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			
P-110				6585 FT			
14108 FT							

>>> 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

Log ran as per Customer Request.
Depth reference to Casing Tally reported Liner Top at 6585 FT.
Adjusted log -23 FT to correlate with Liner Top.
Log ran from as deep as possible to surface
Log ran with 2800 PSI surface Induced pressure.
No debris found on logging tools after run.

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

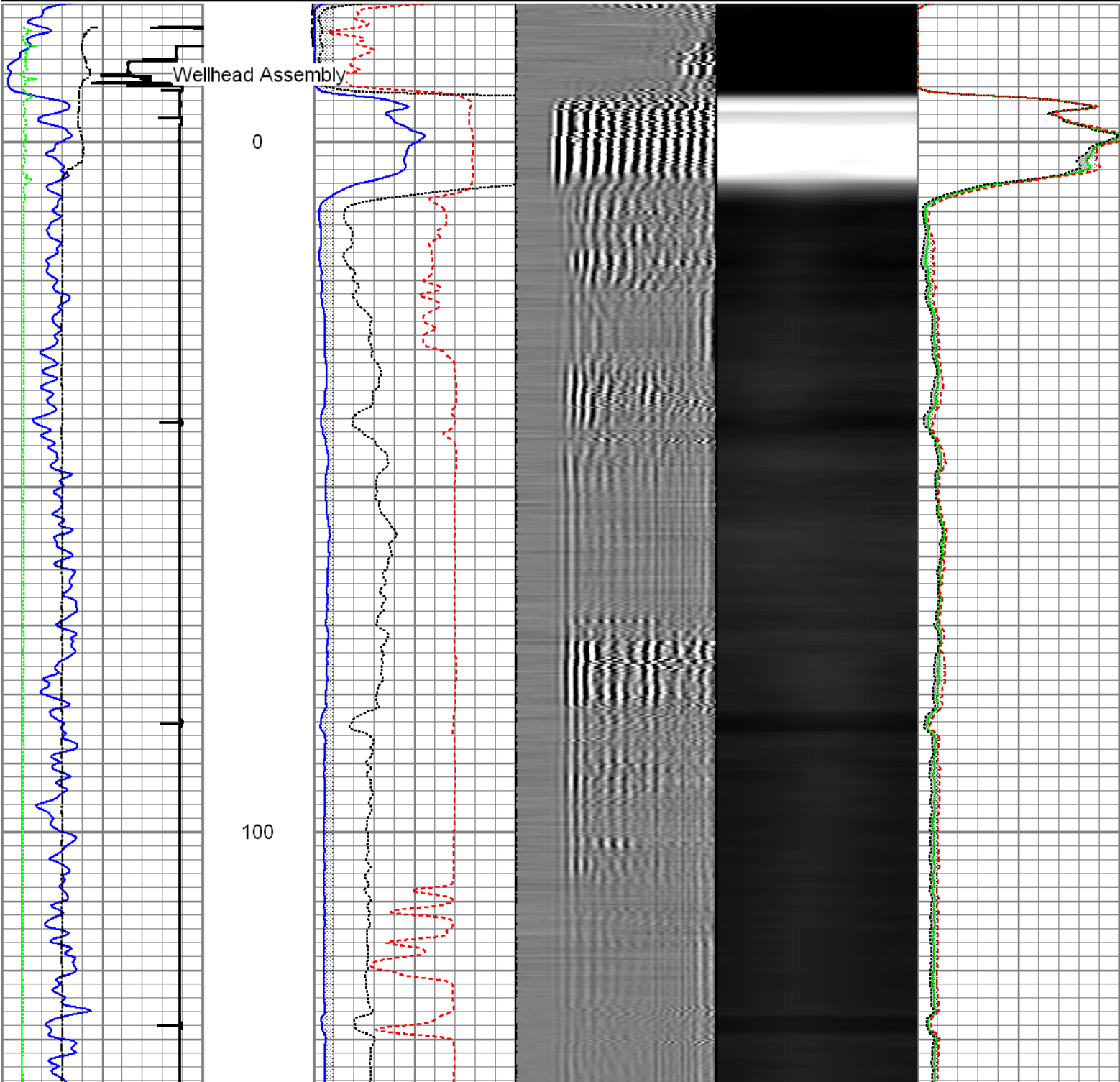


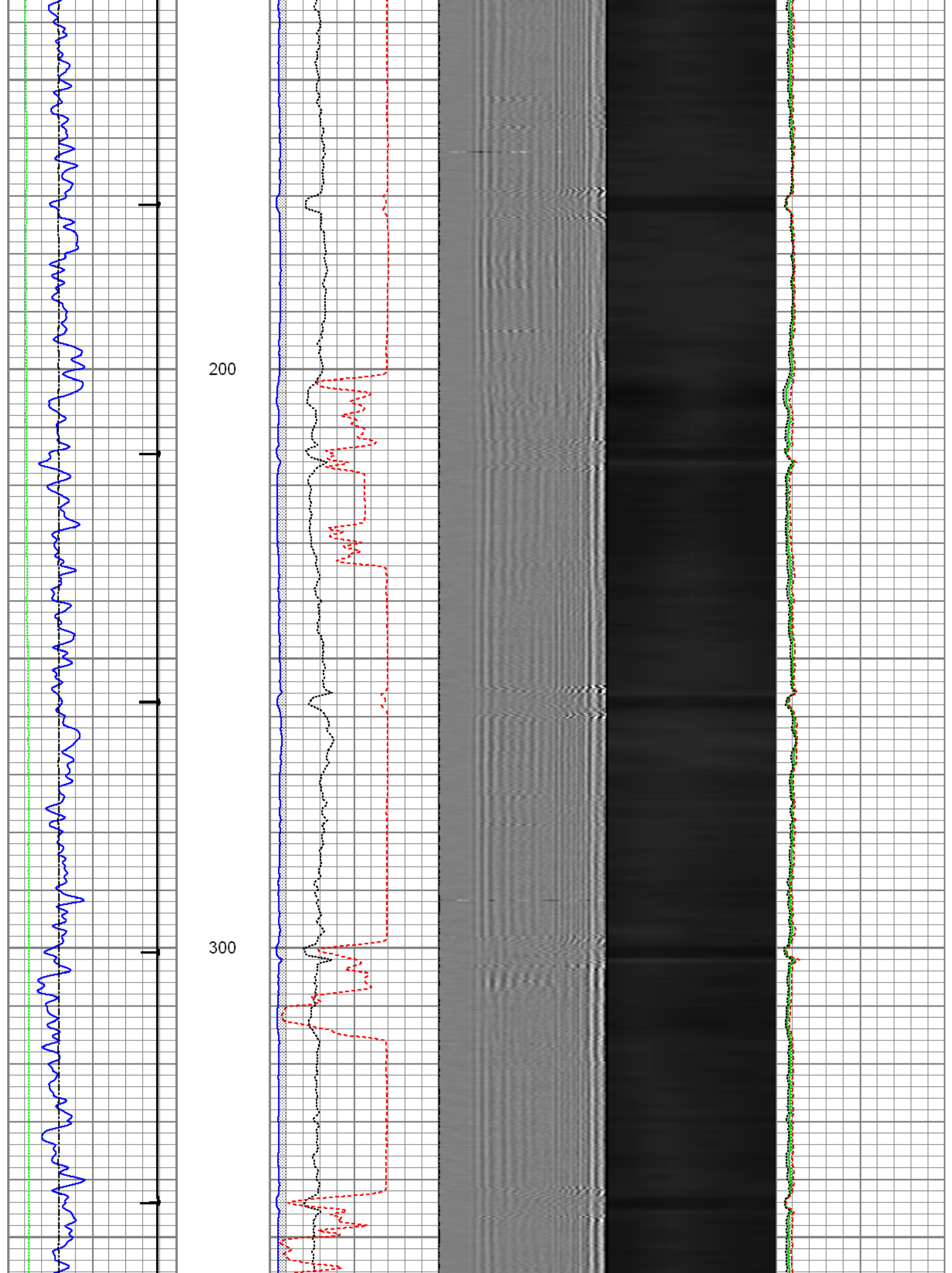
7" Main Pass

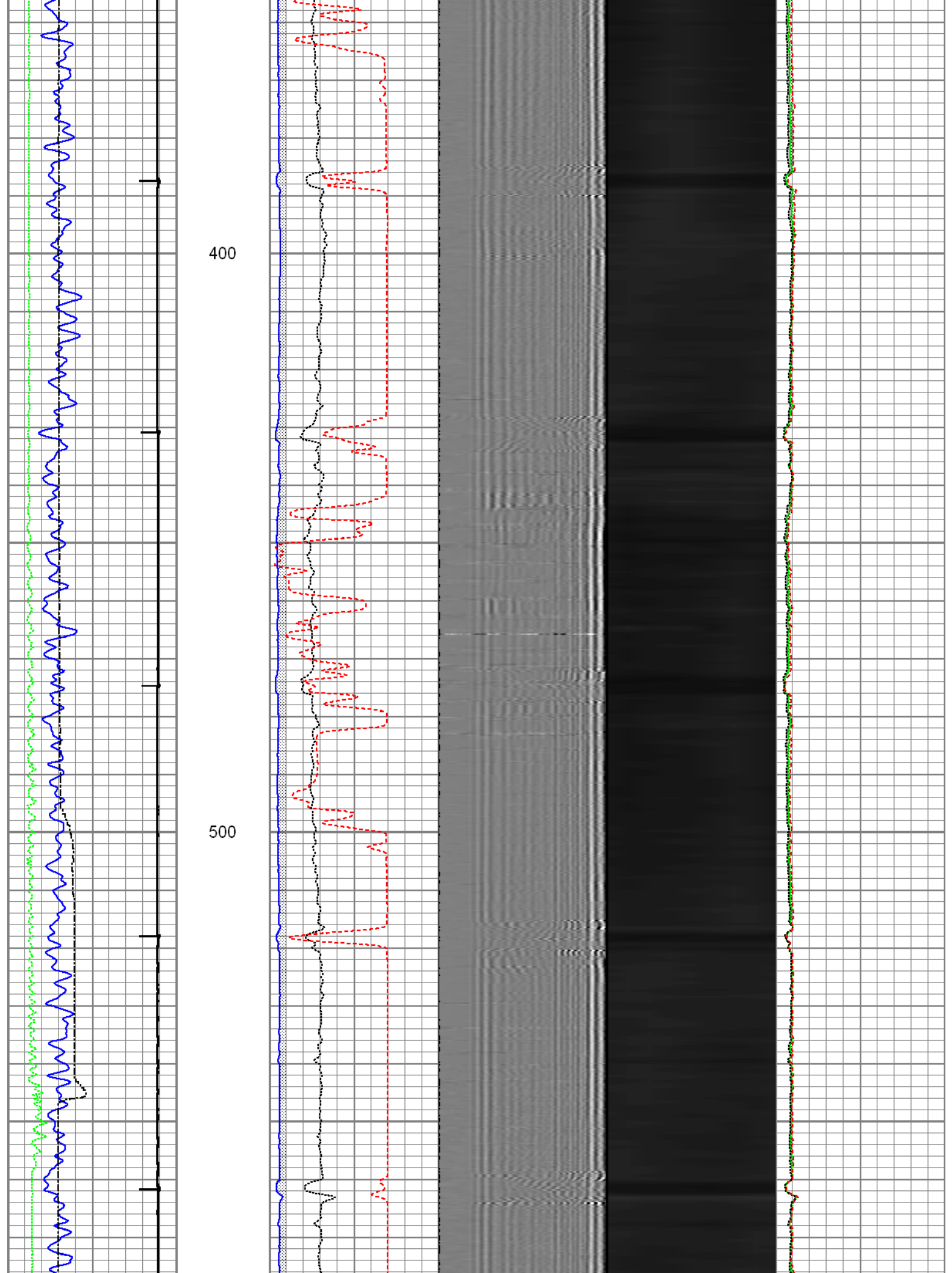
Recorded under 2800 PSI surface induced Pressure.

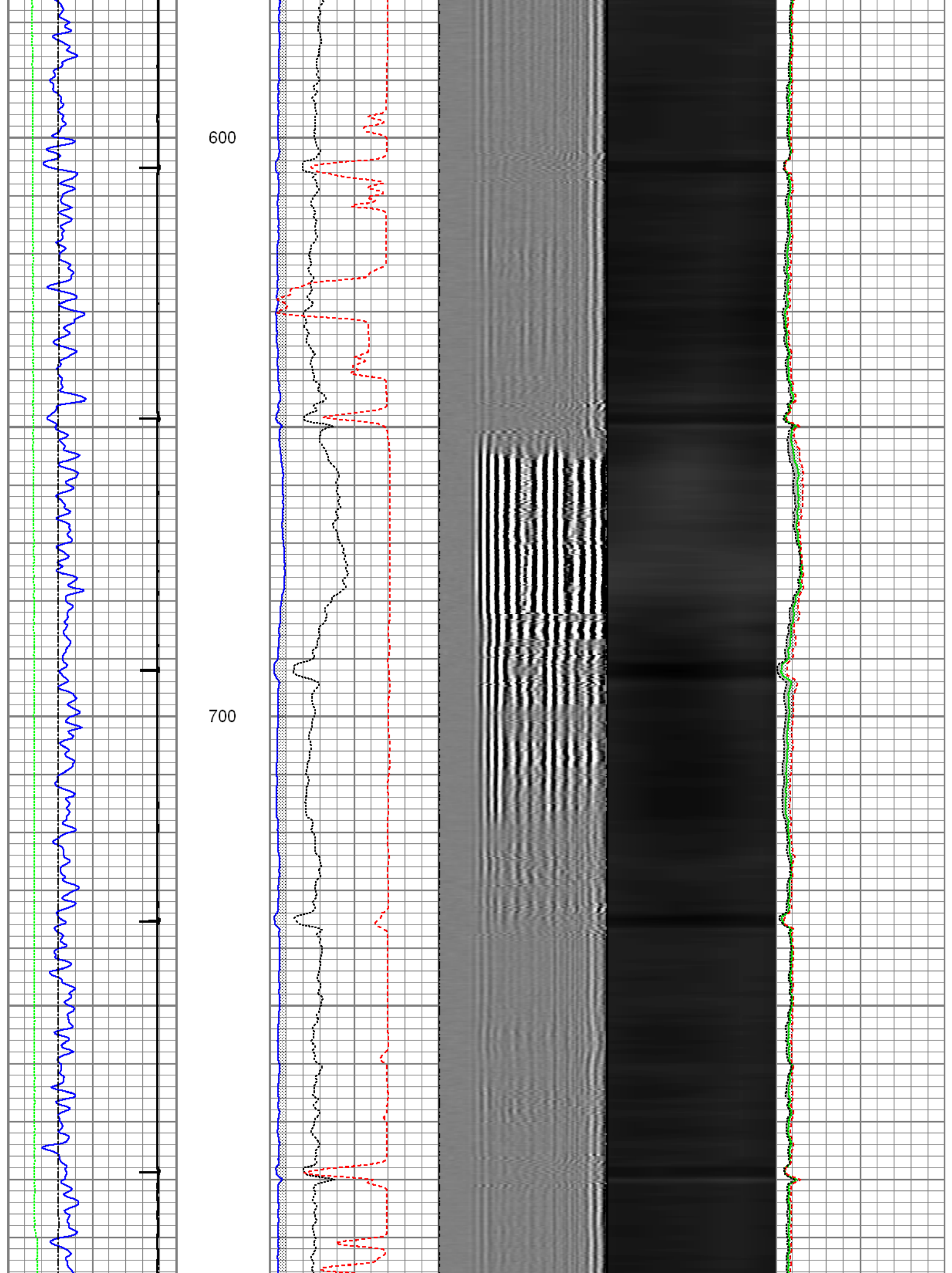
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Dataset Pathname: pass7
Presentation Format: rbt007
Dataset Creation: Tue Sep 16 16:02:07 2014 by Log 7.0 B1
Charted by: Depth in Feet scaled 1:240

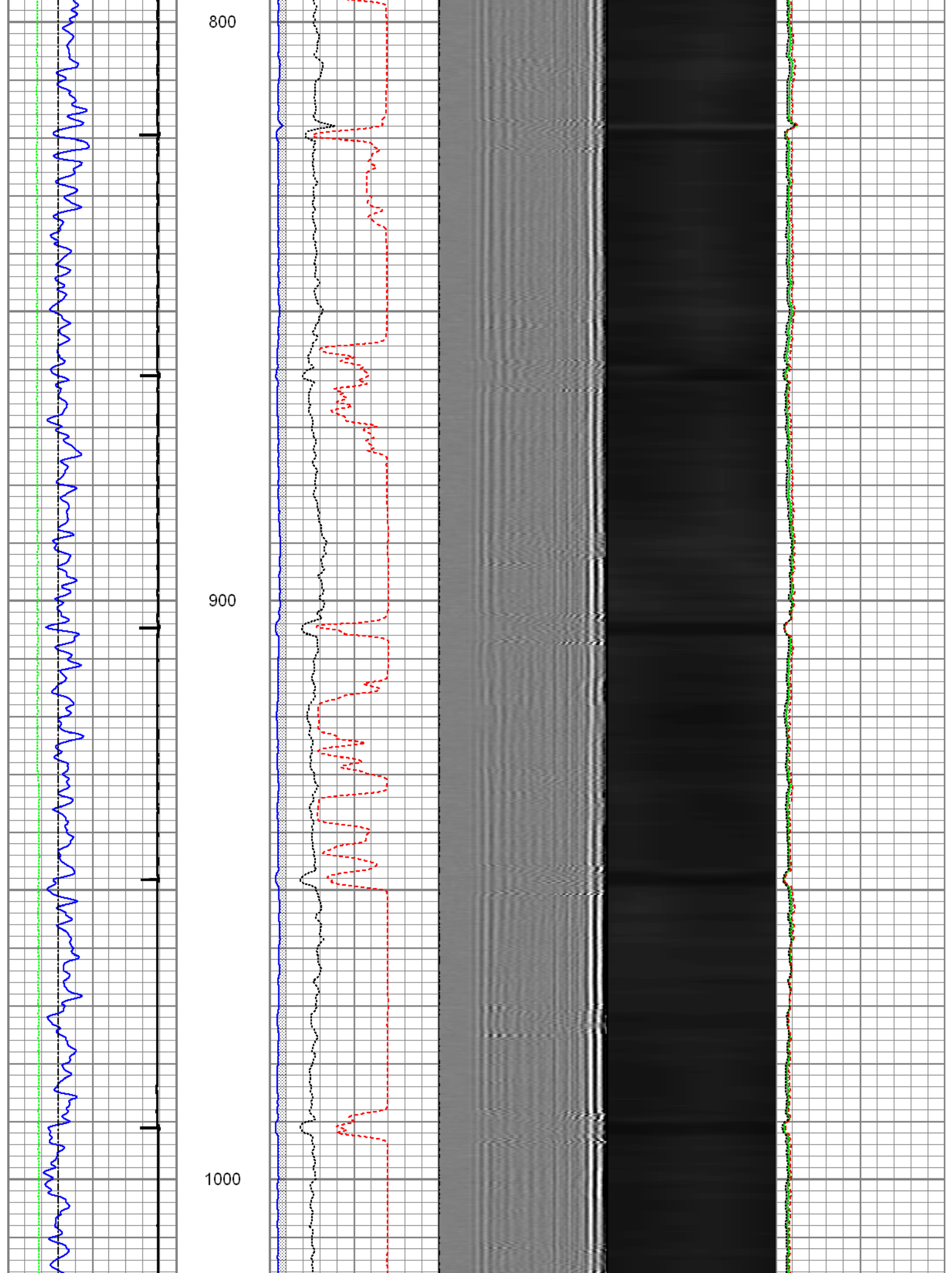
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
Line Speed	0 (mV) 20			0 100
-150 (ft/min) 150	3' Travel Time			Maximum Amplitude
Line Tension	650 (usec) 150			0 100
0 (lb) 2000				

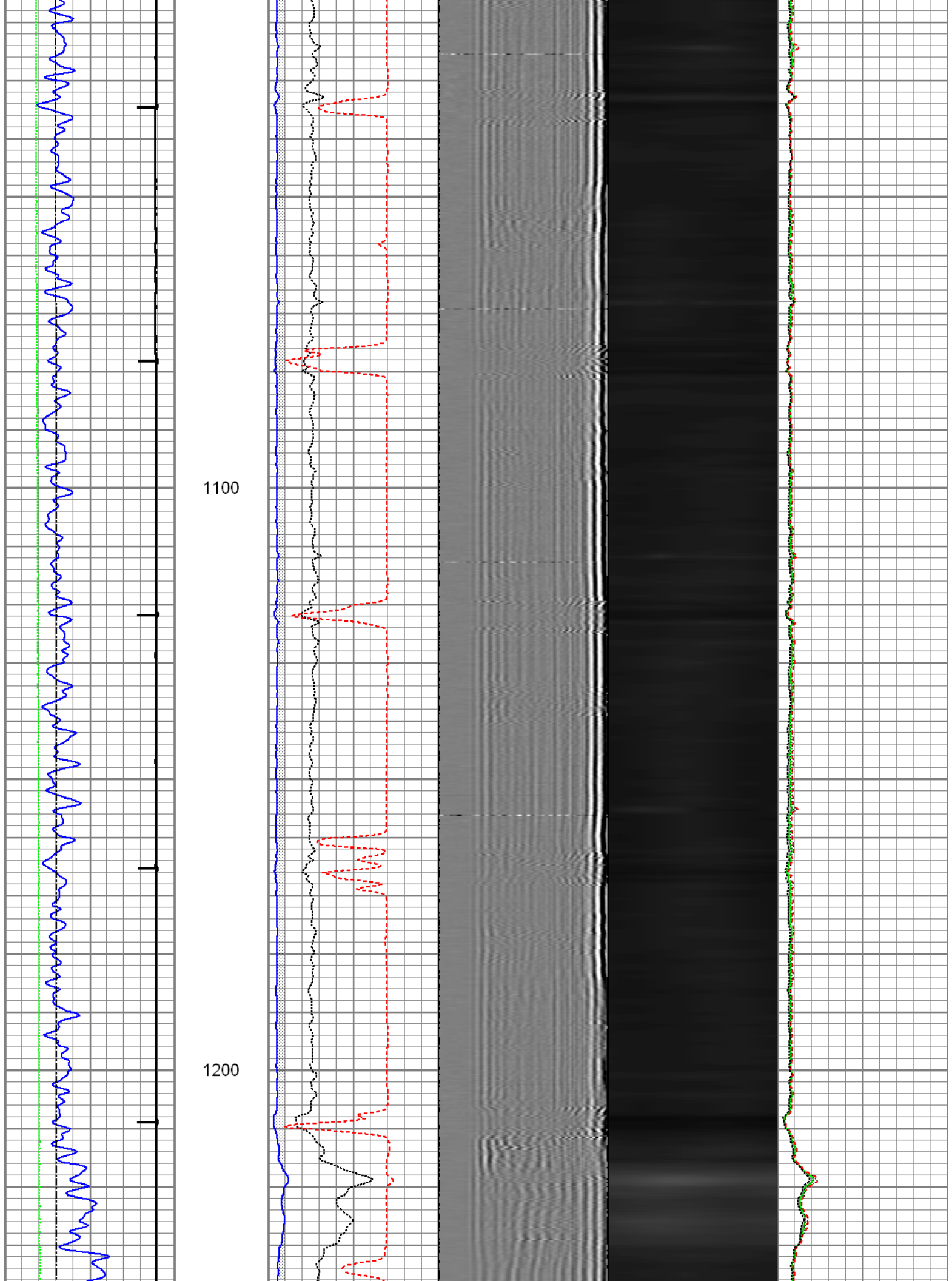


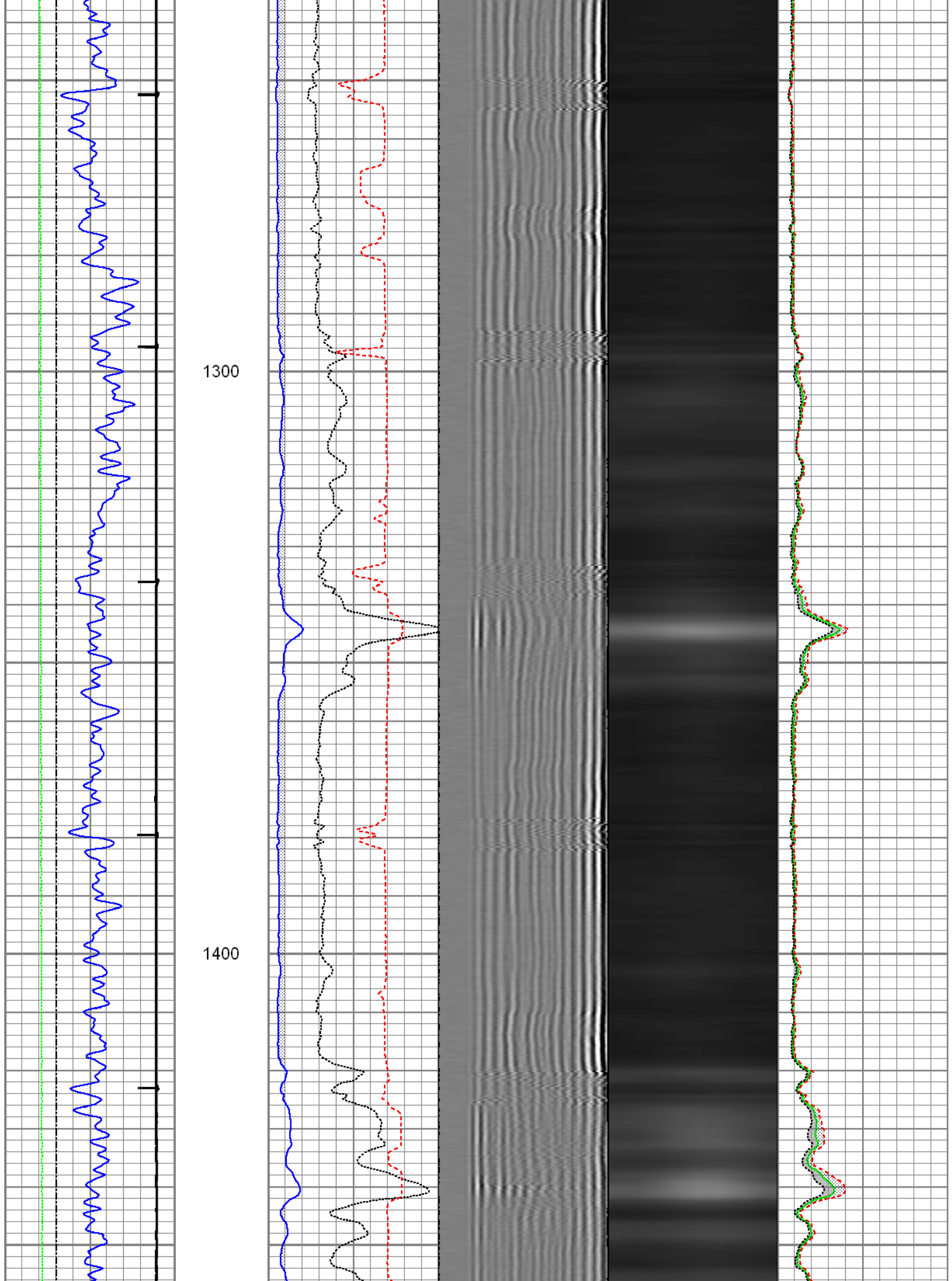


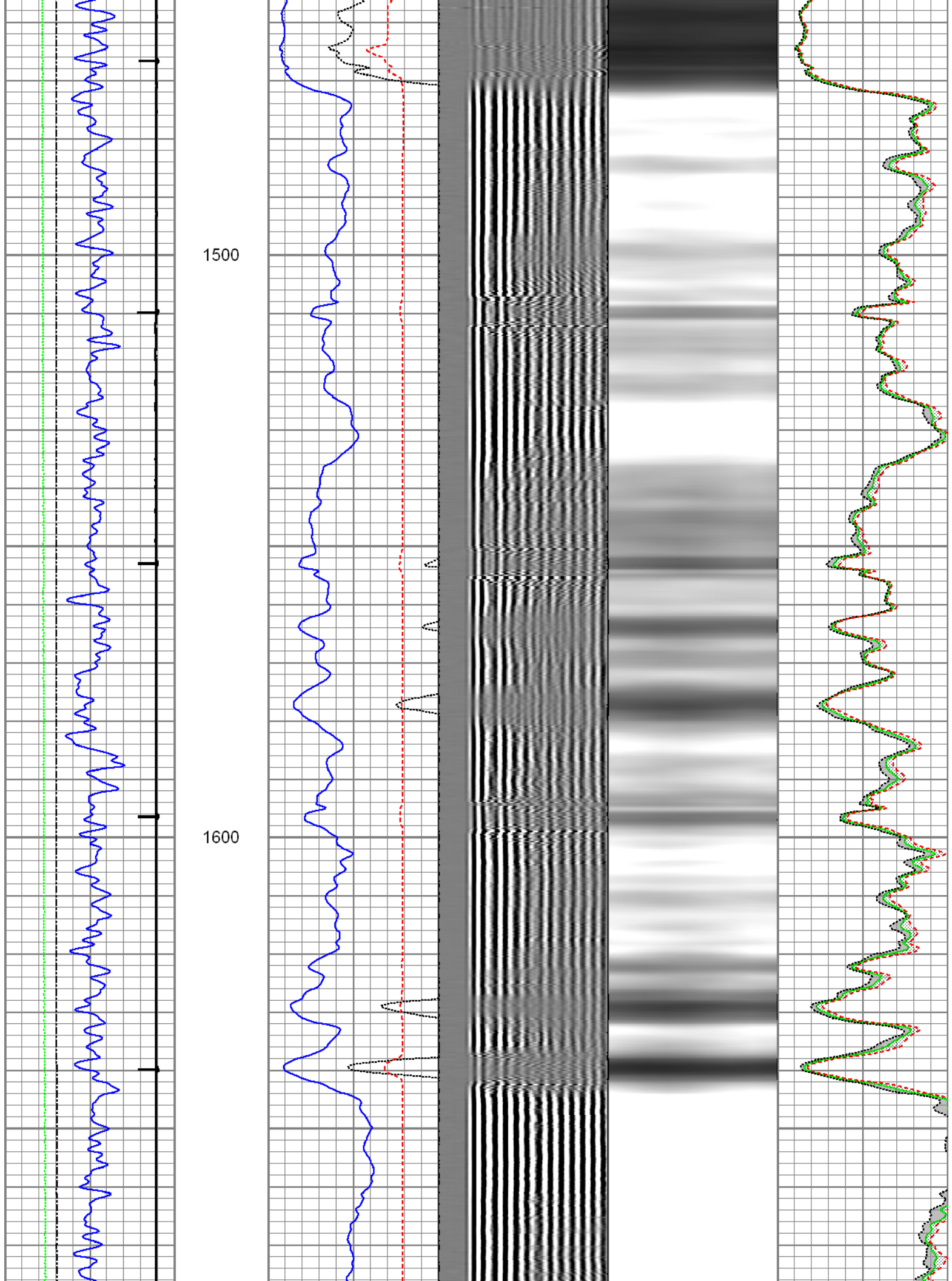


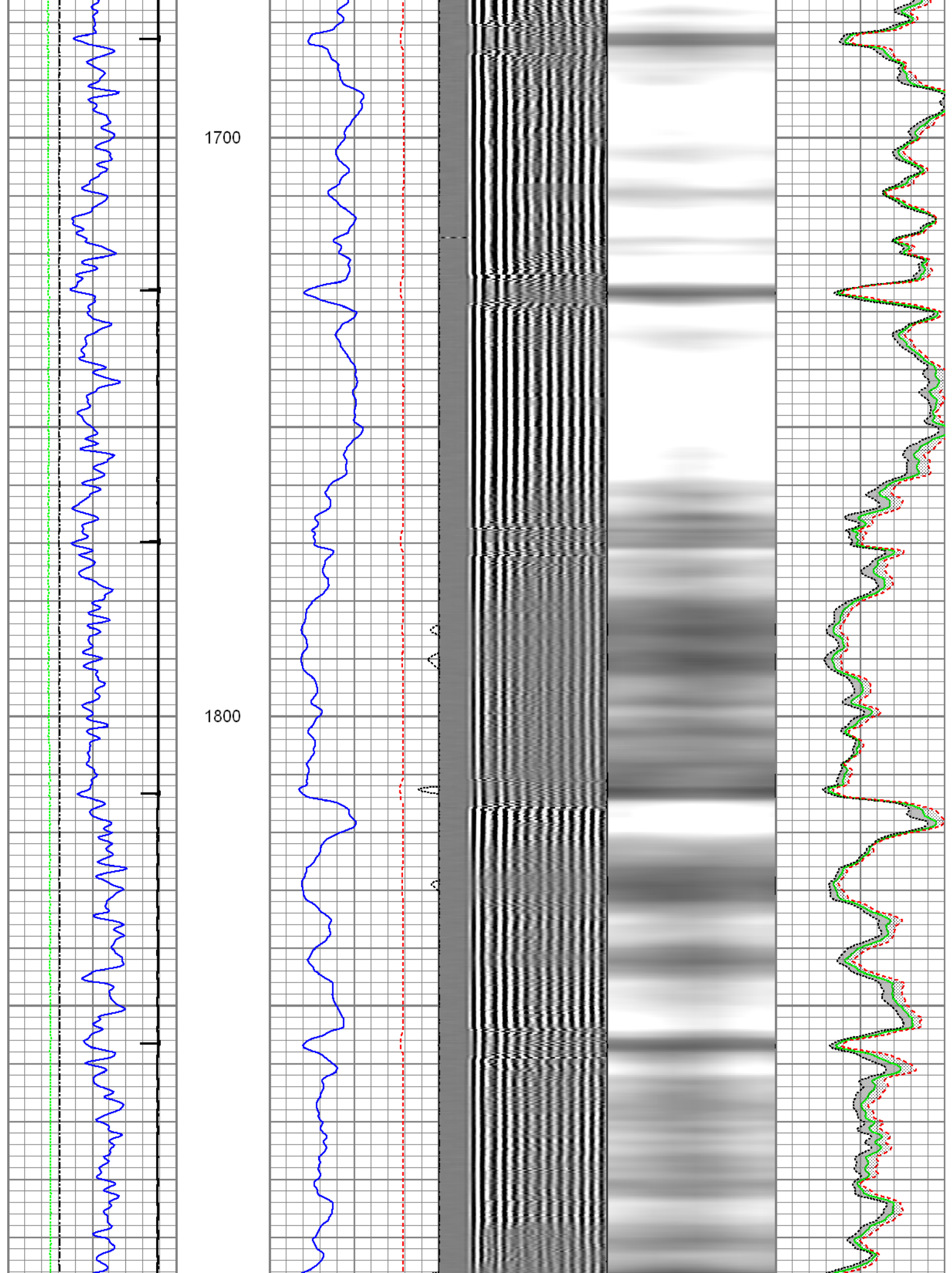


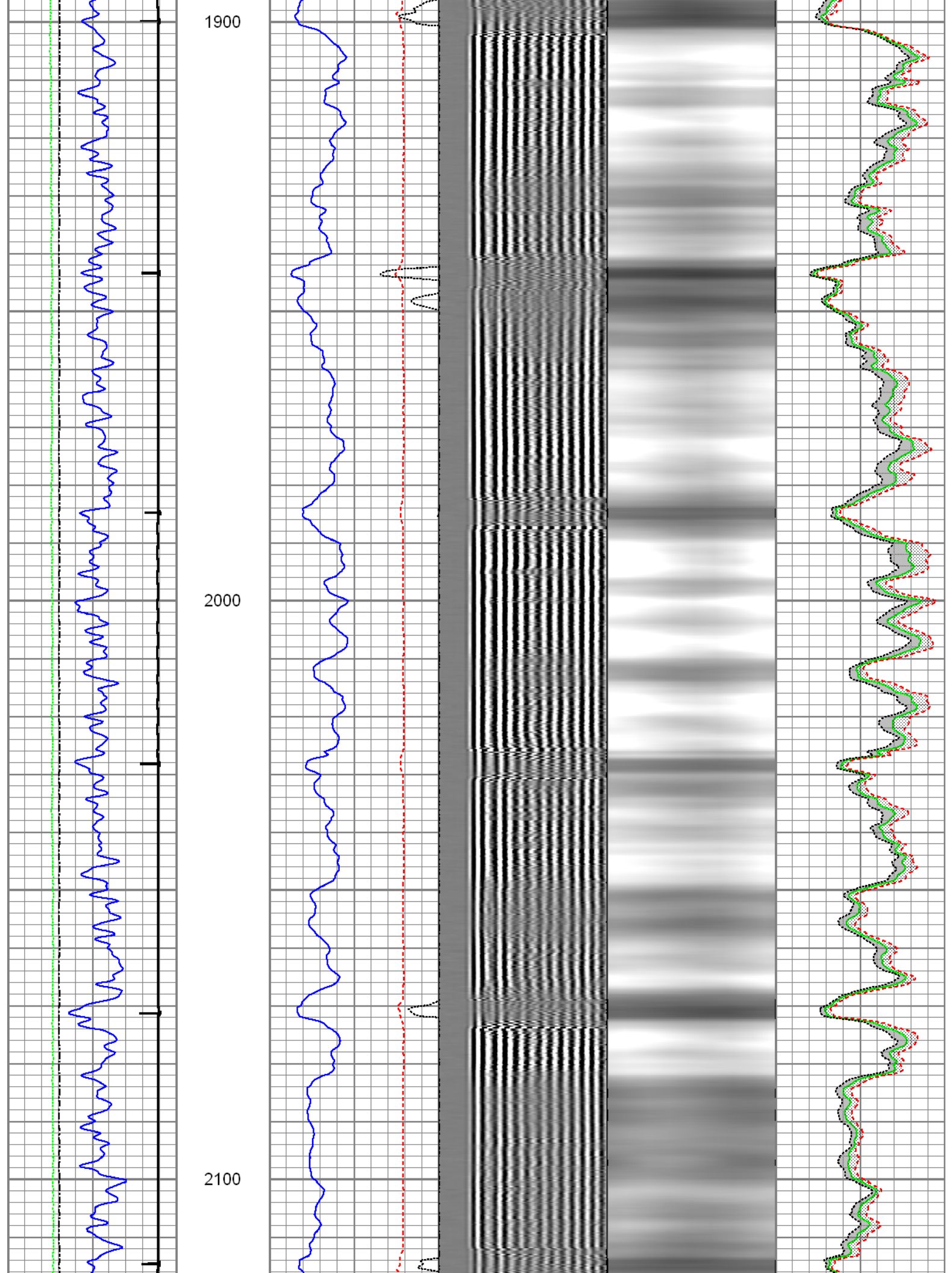






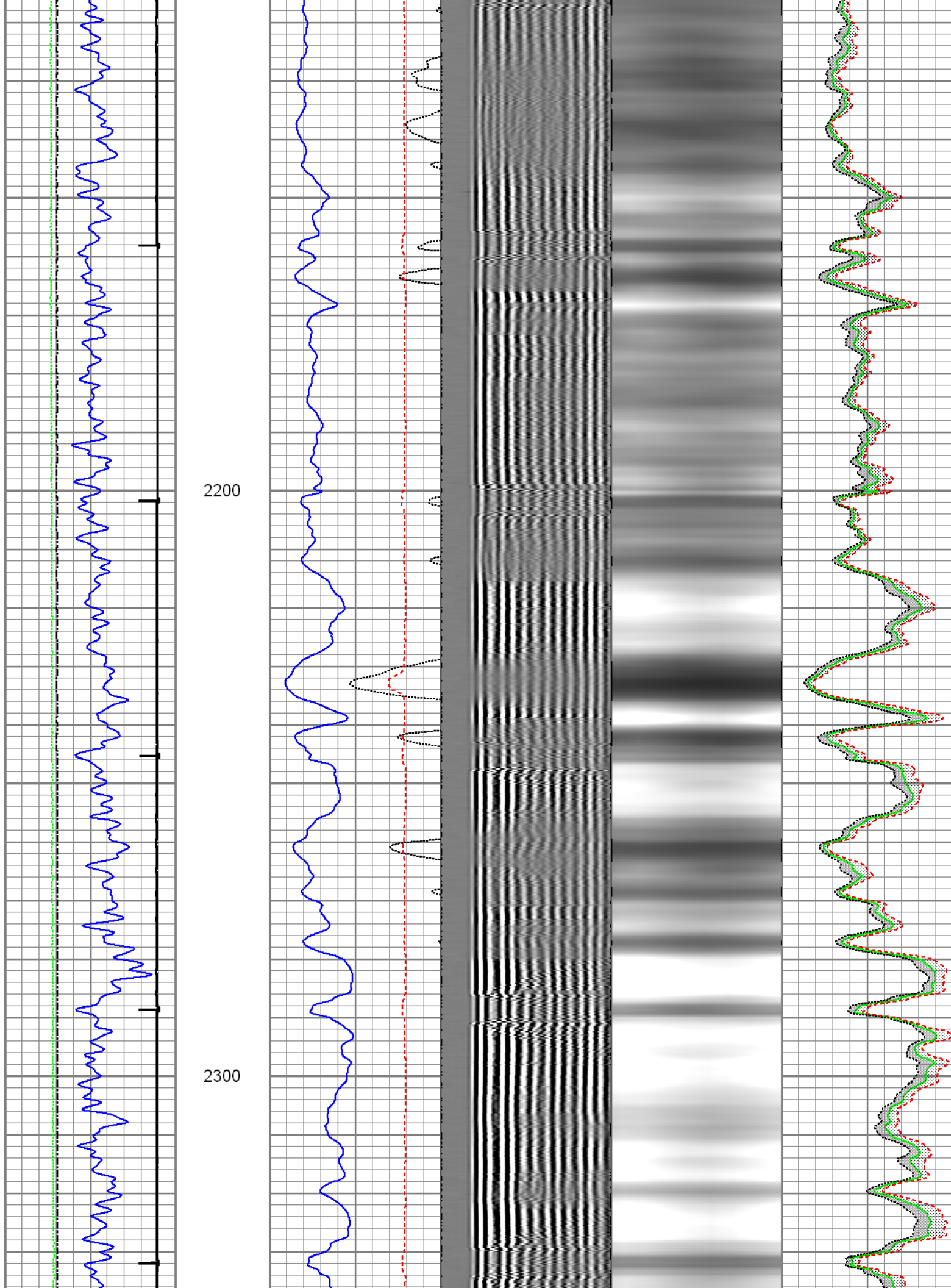






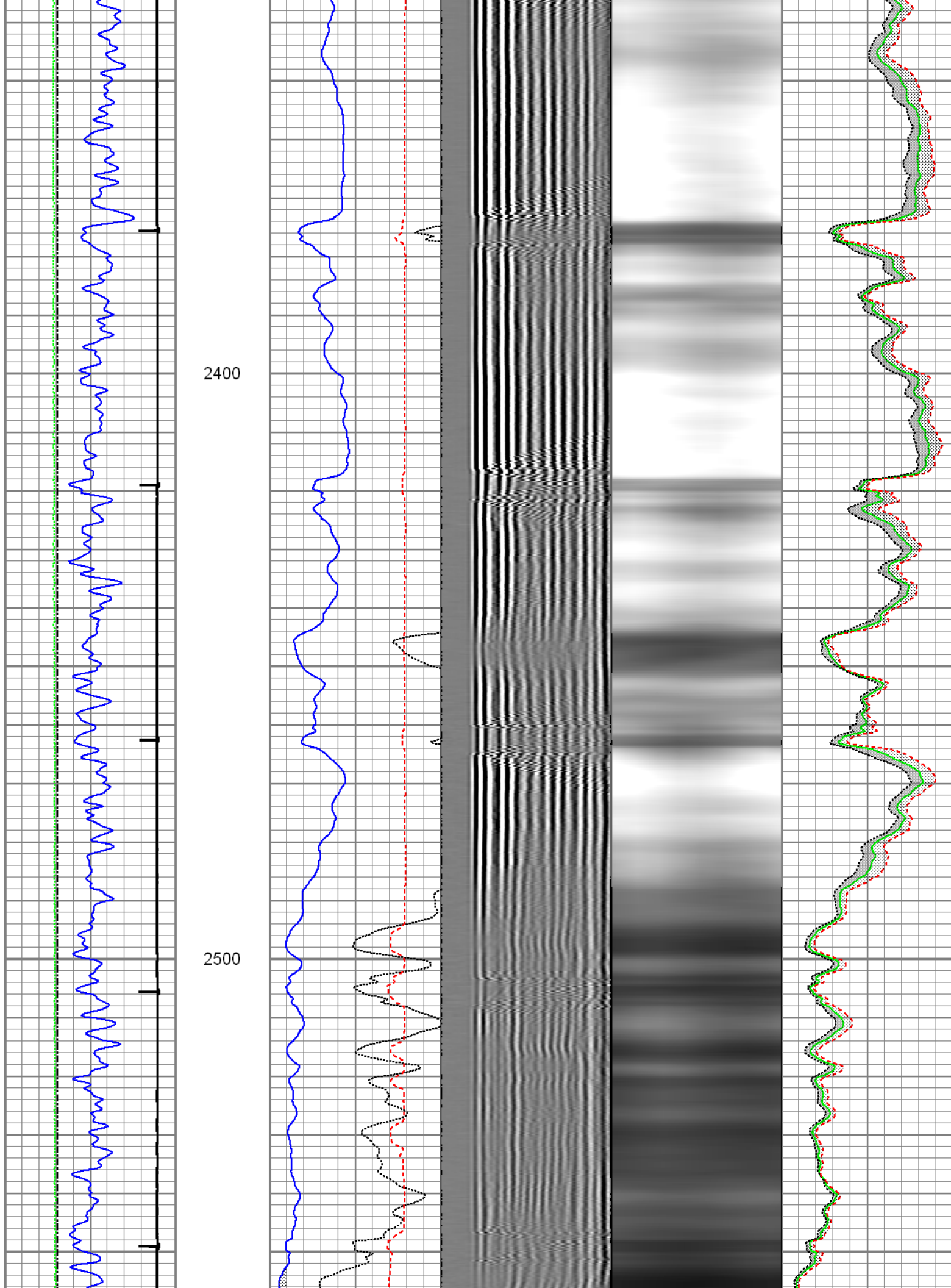
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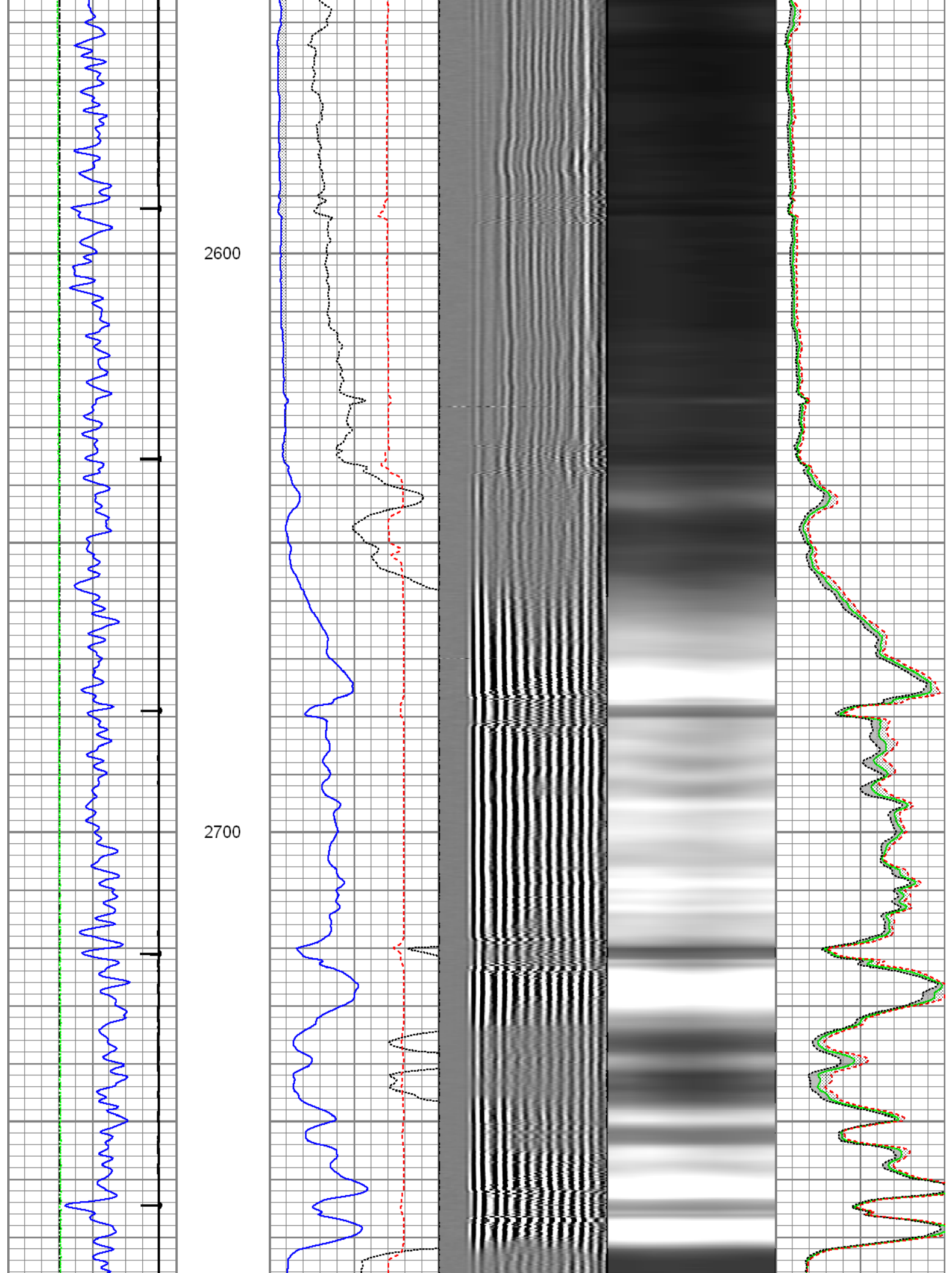
2300



2400

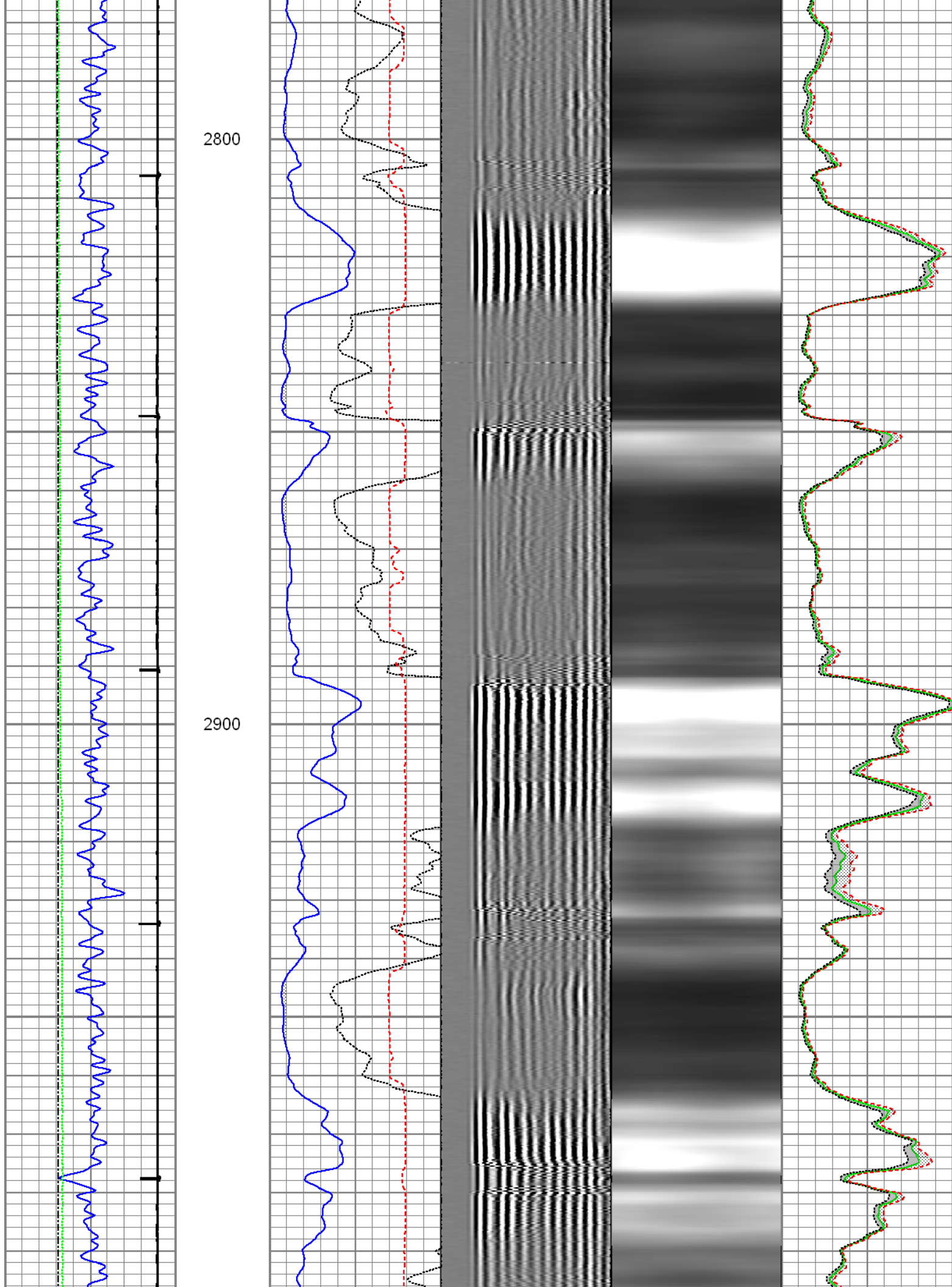
2500





2800

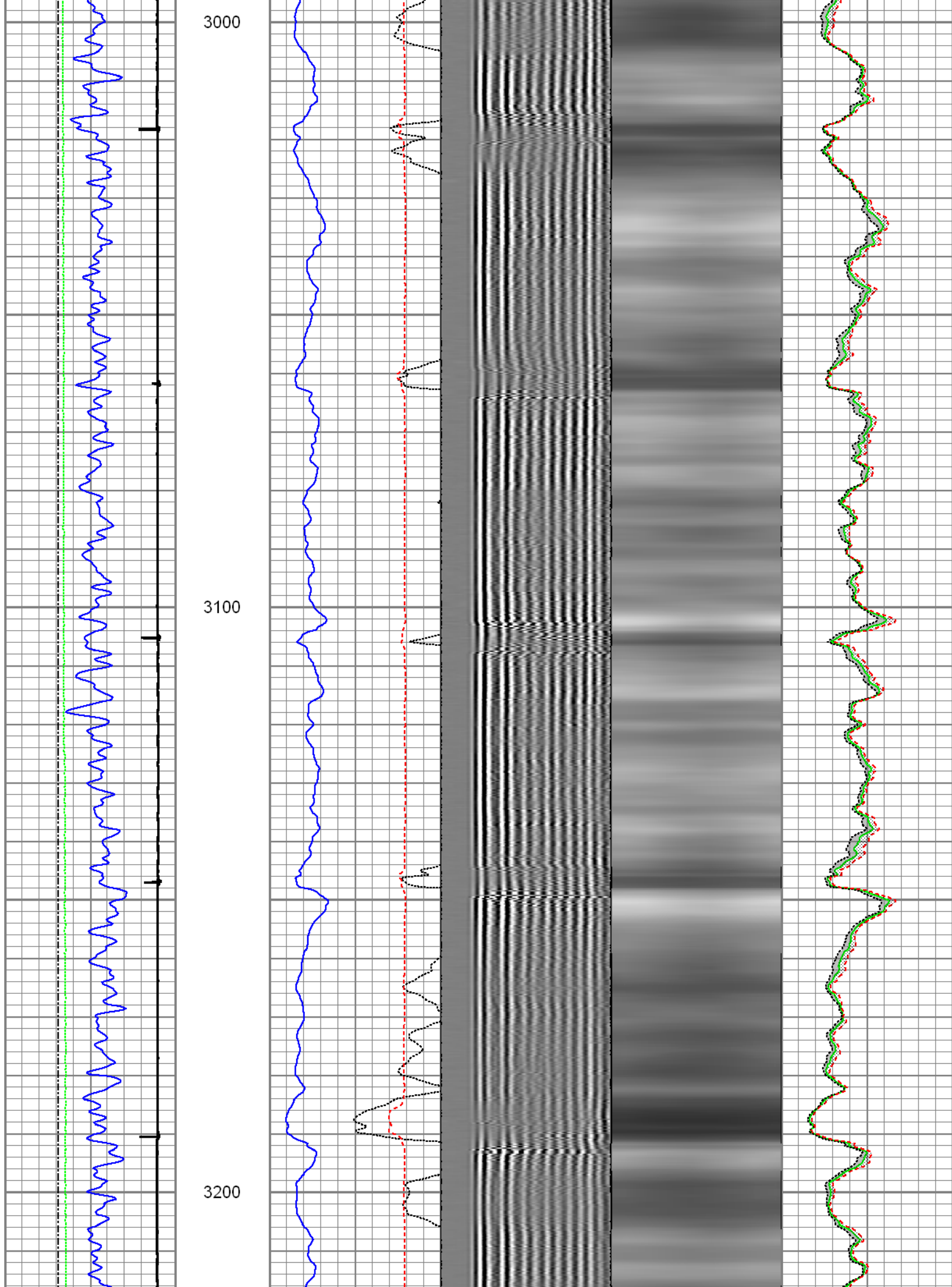
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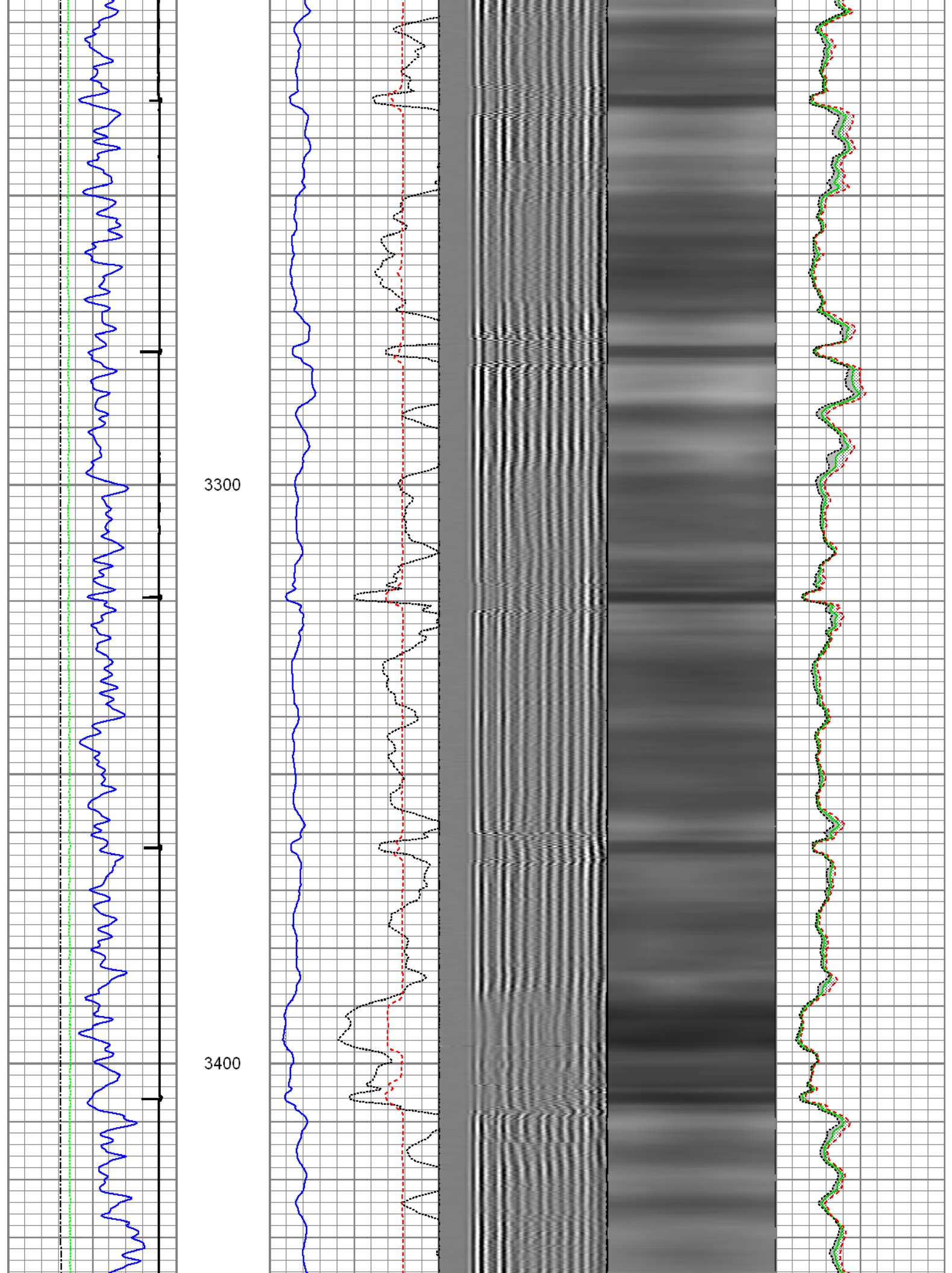


3000

3100

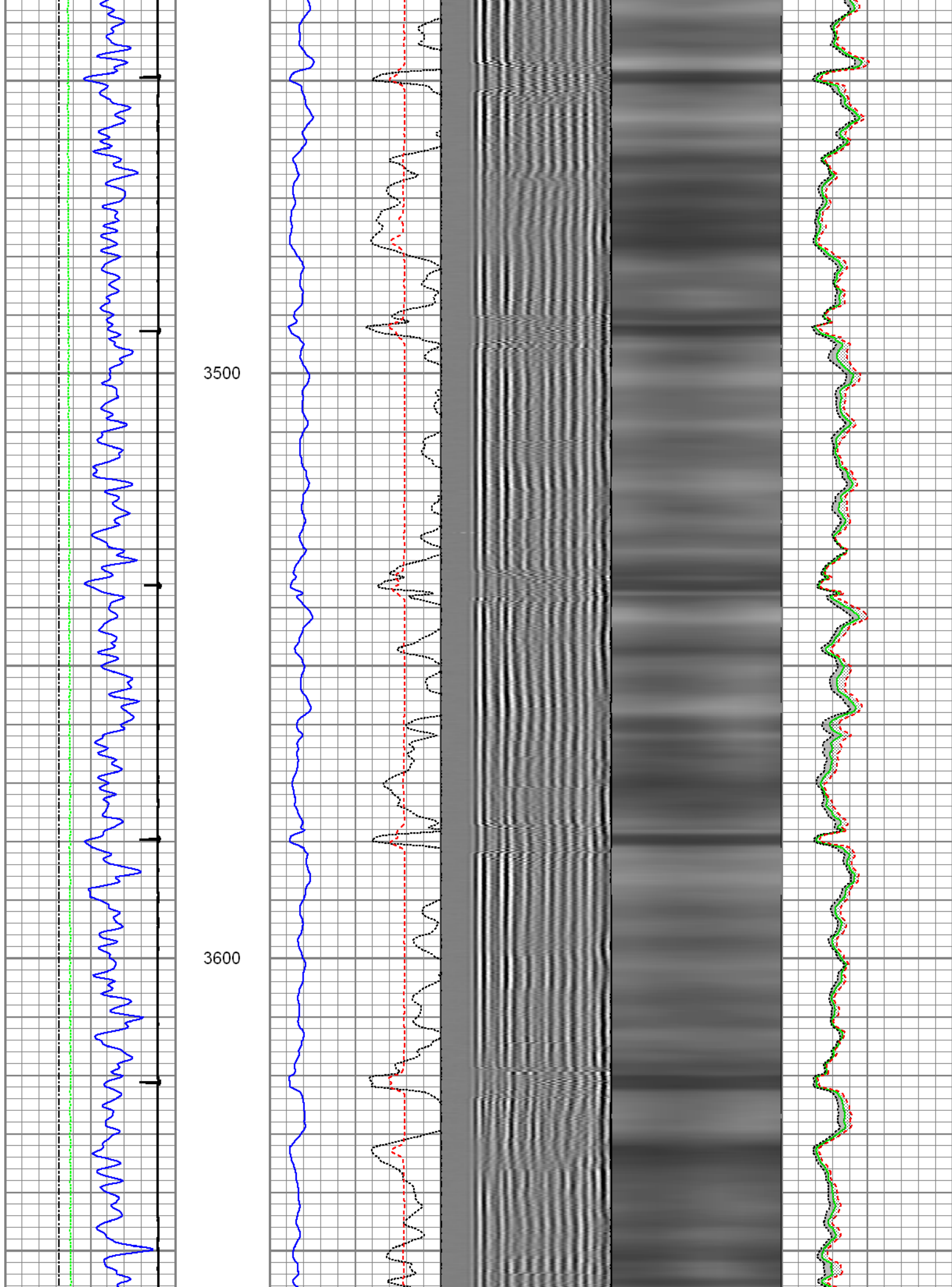
3200





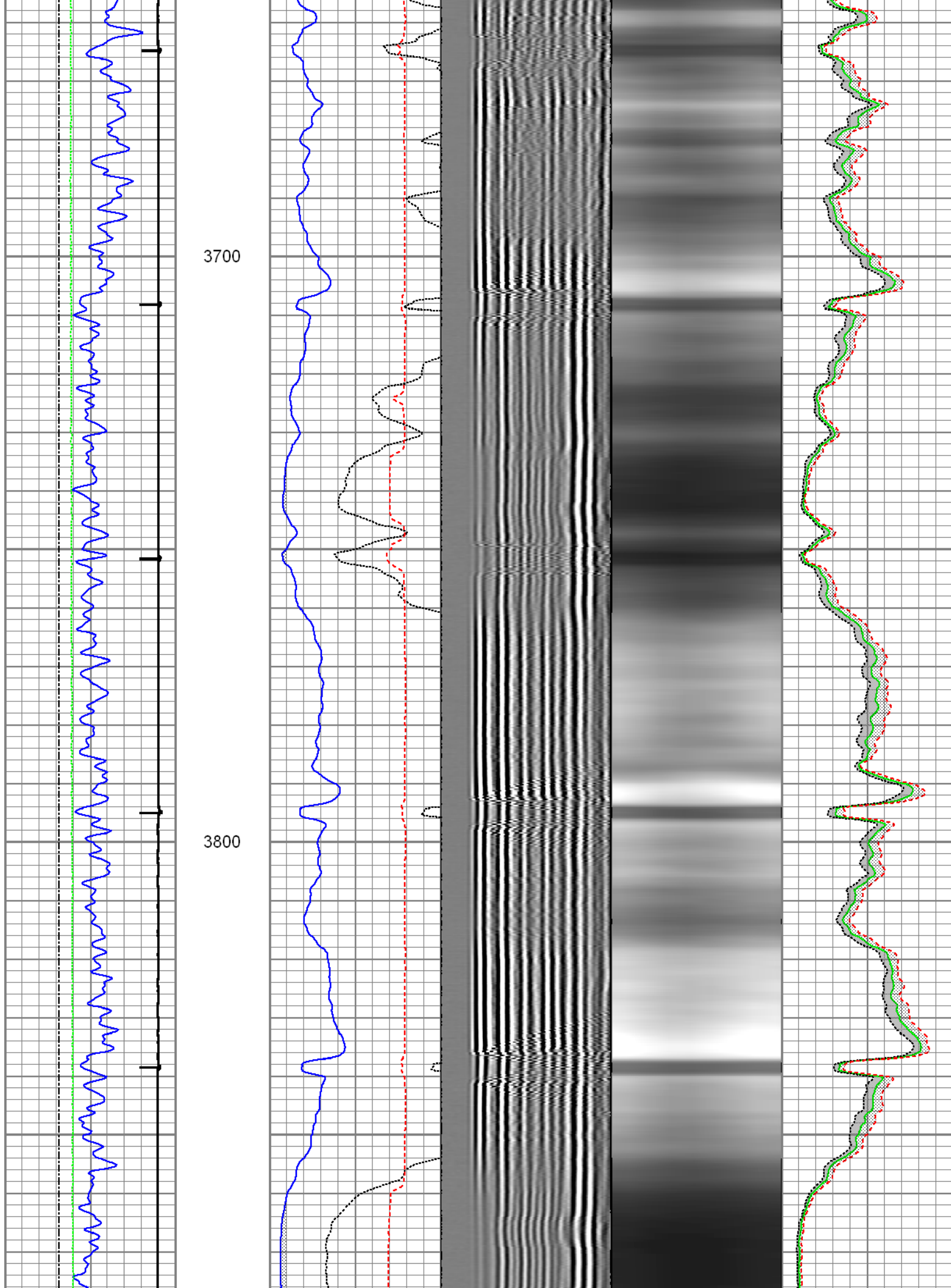
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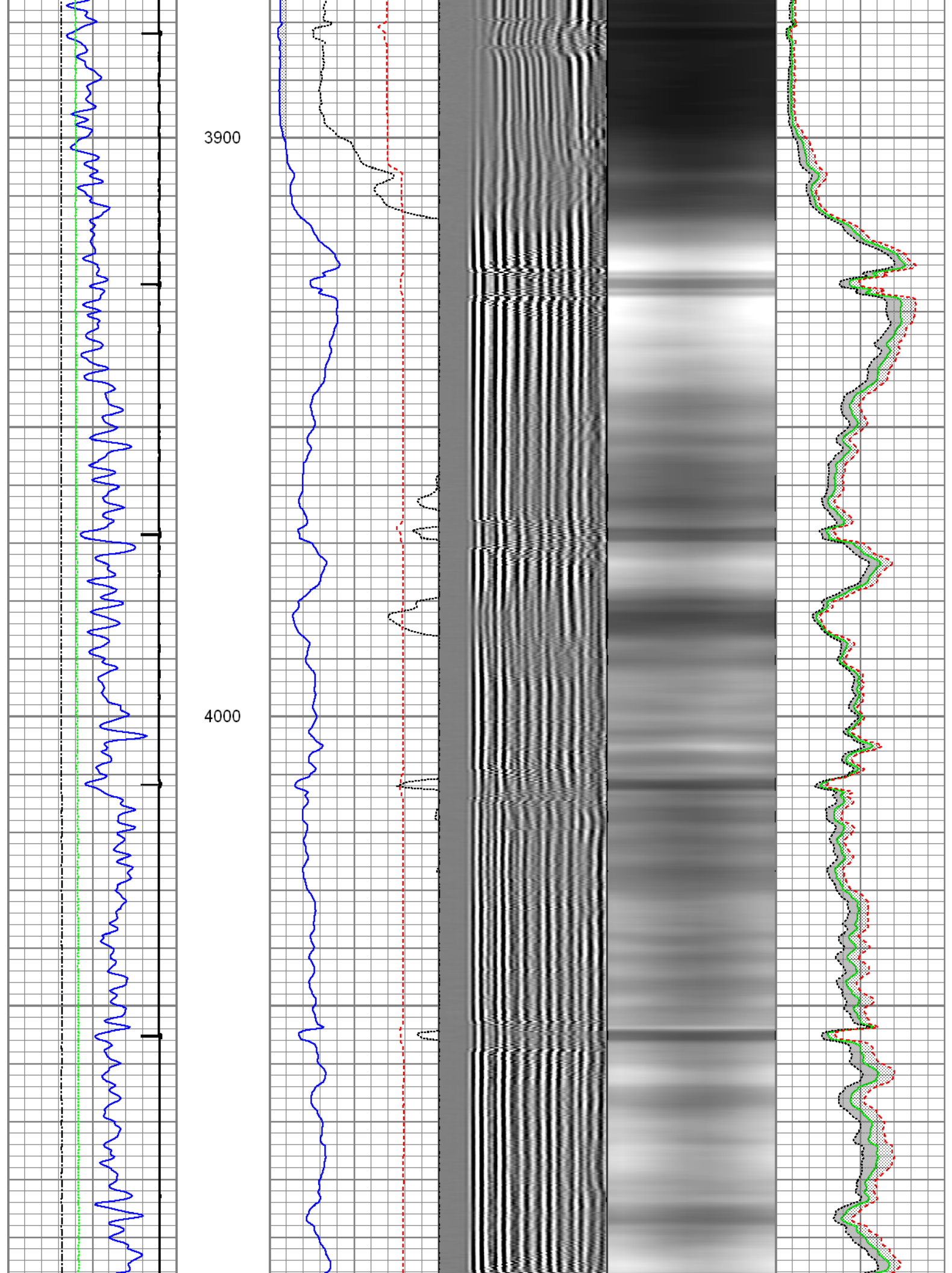
3600



3700

3800

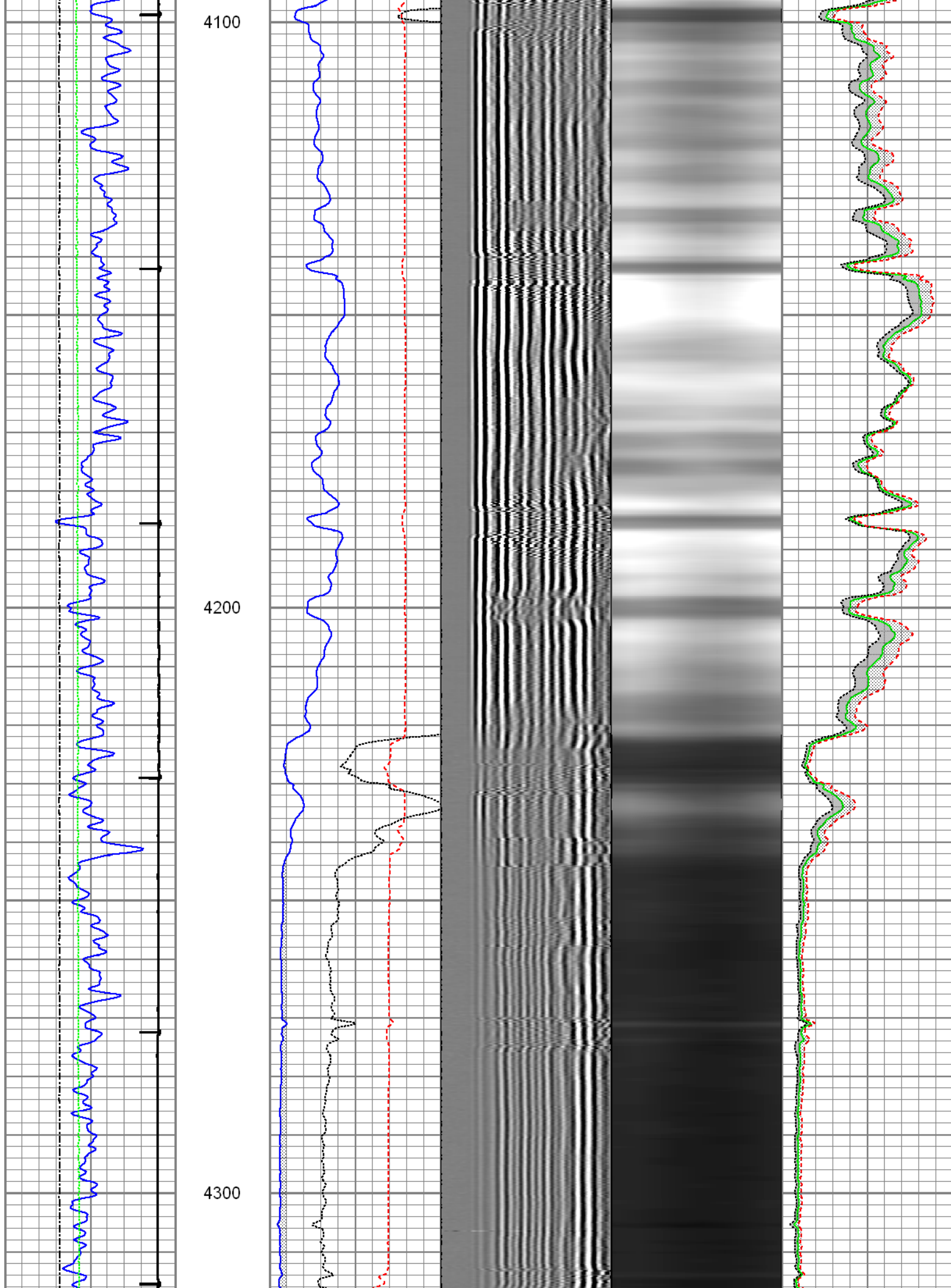


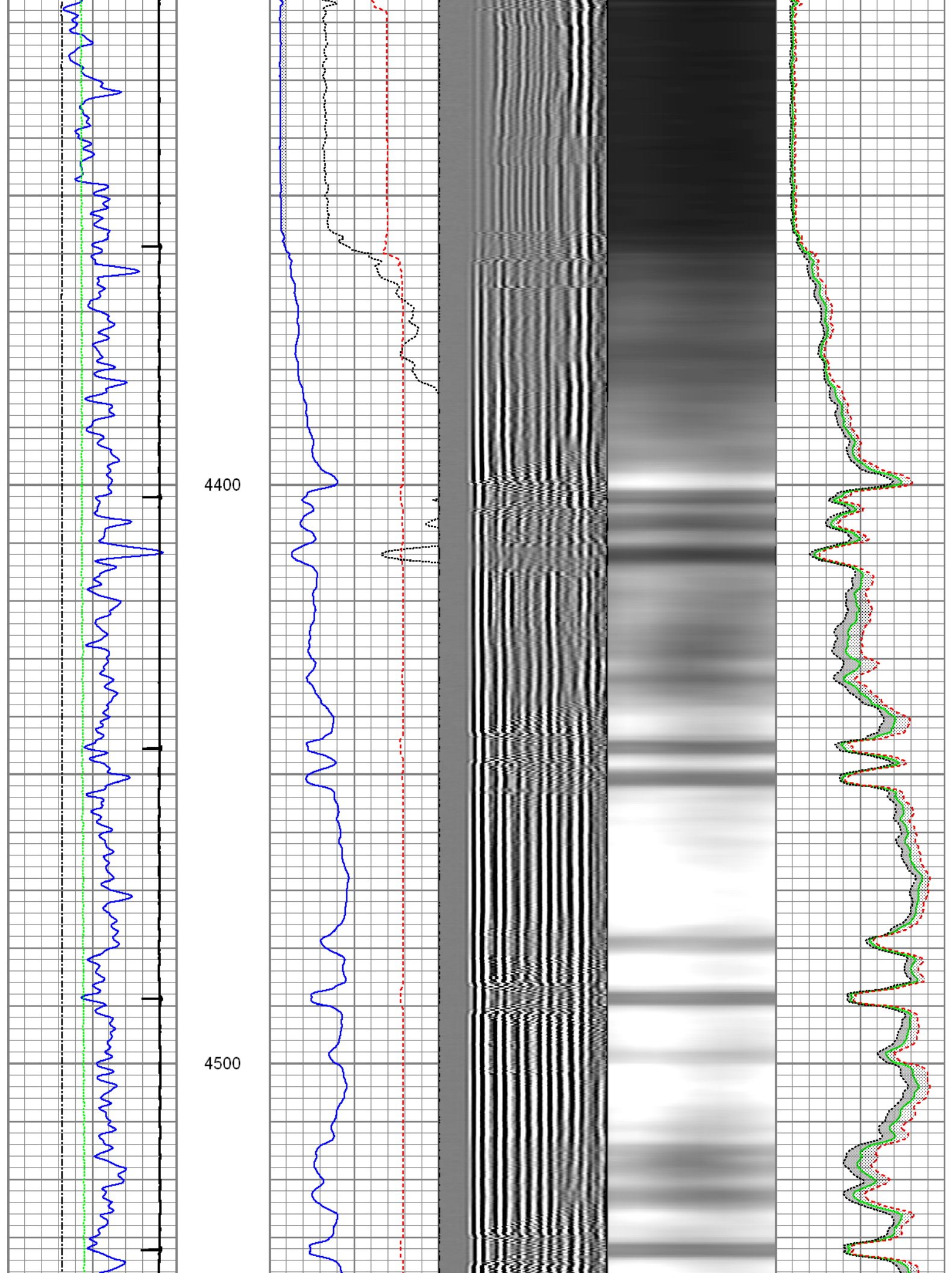


4100

4200

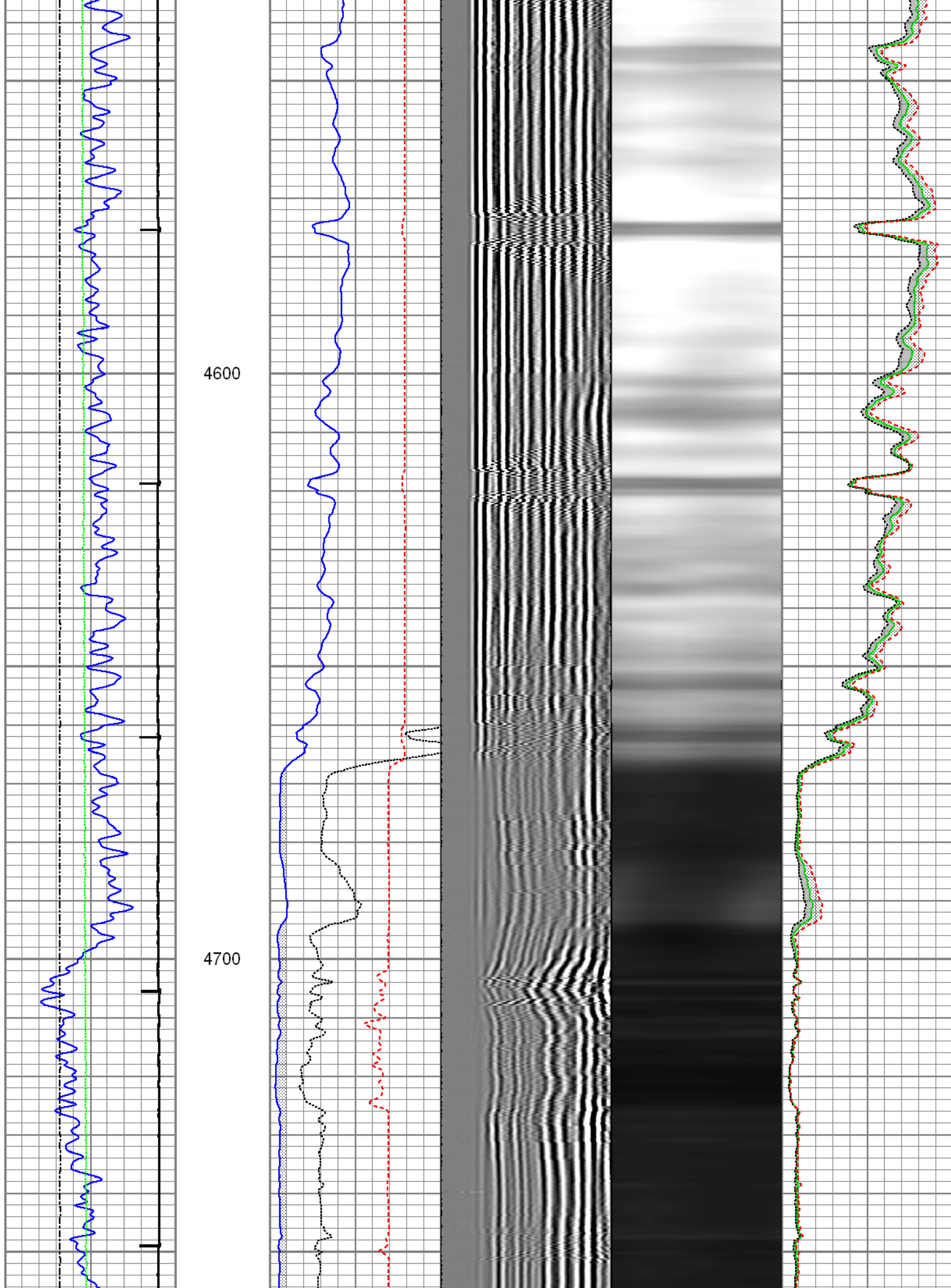
4300





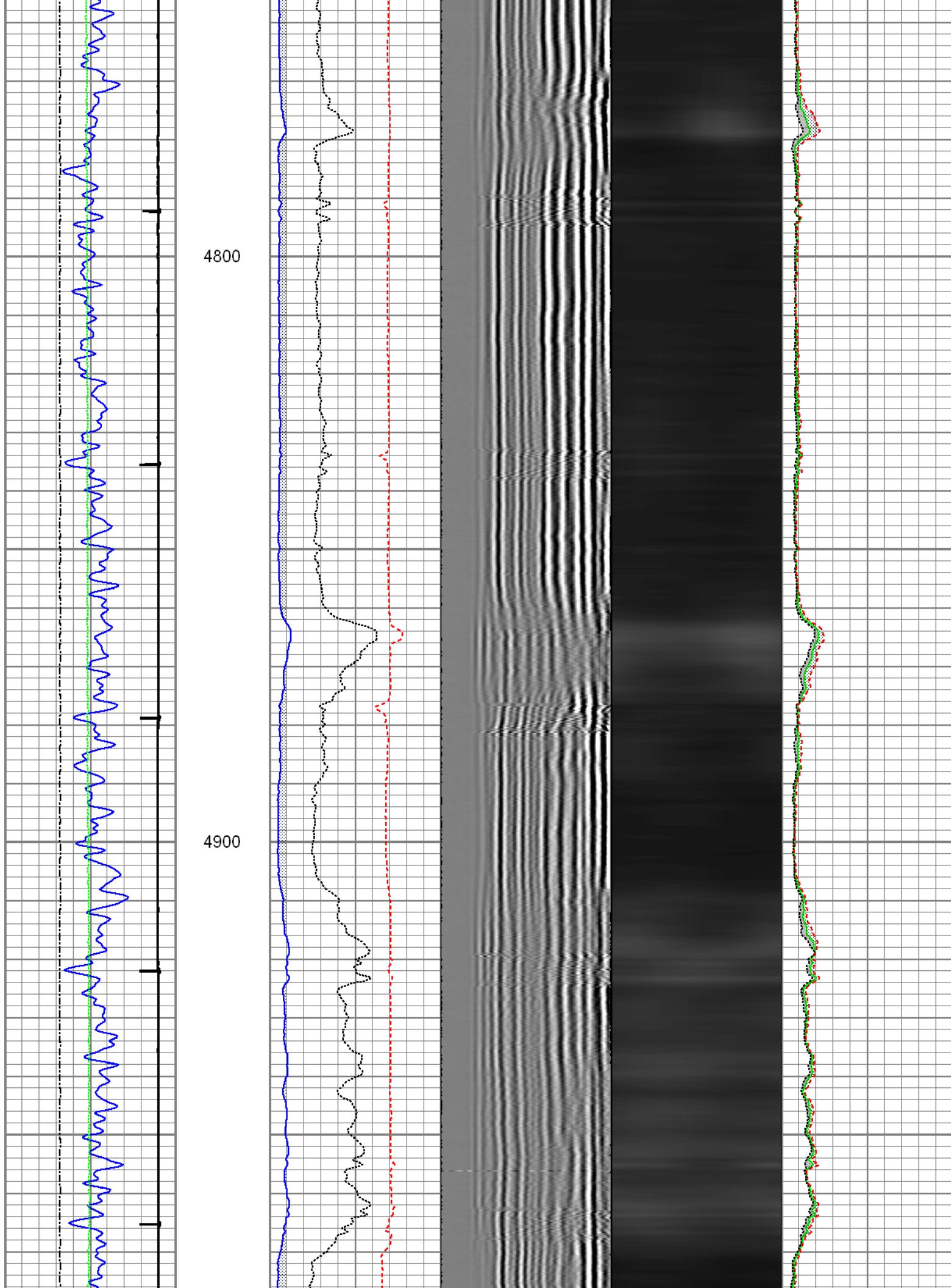
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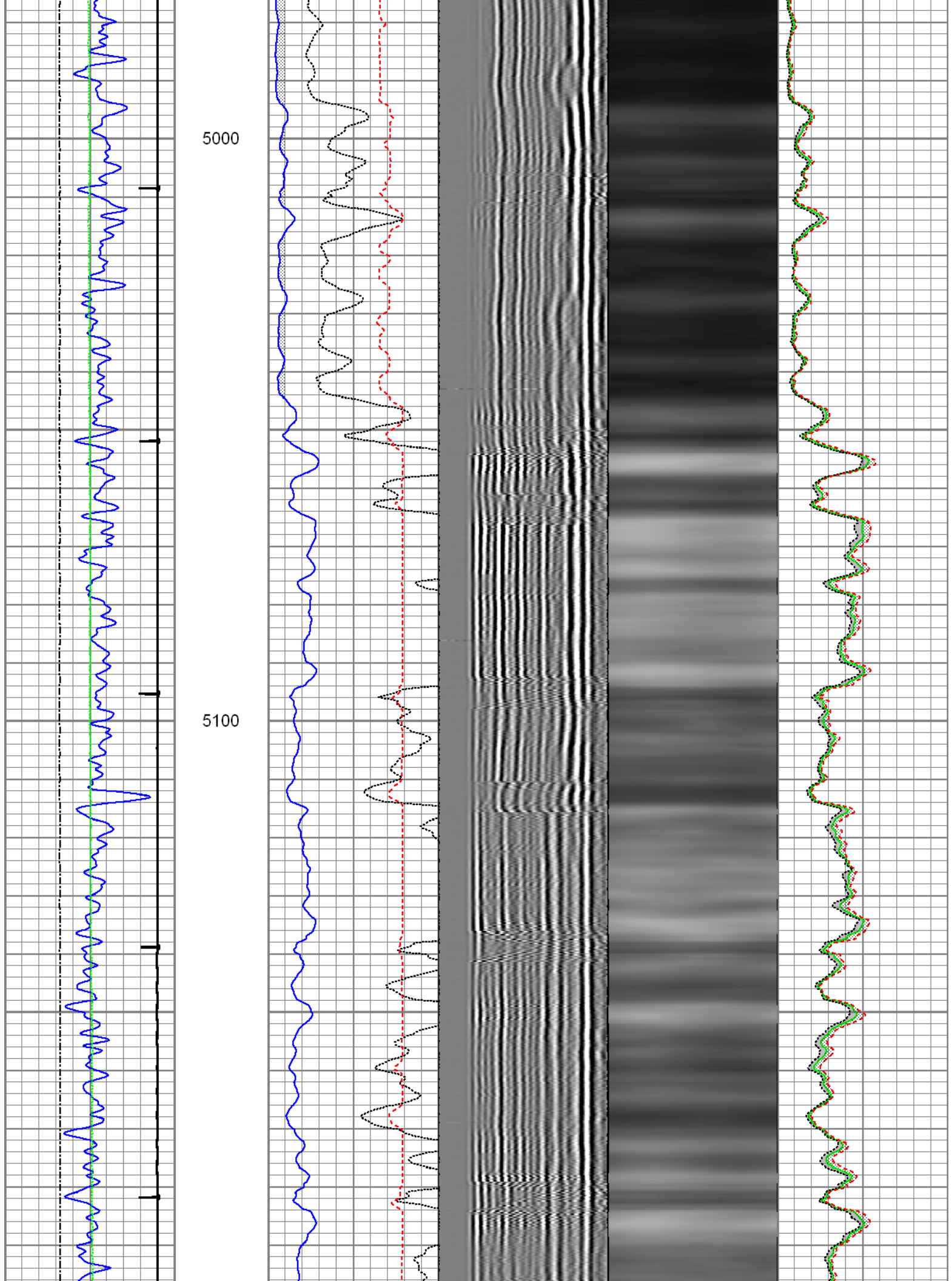
4700



4800

4900

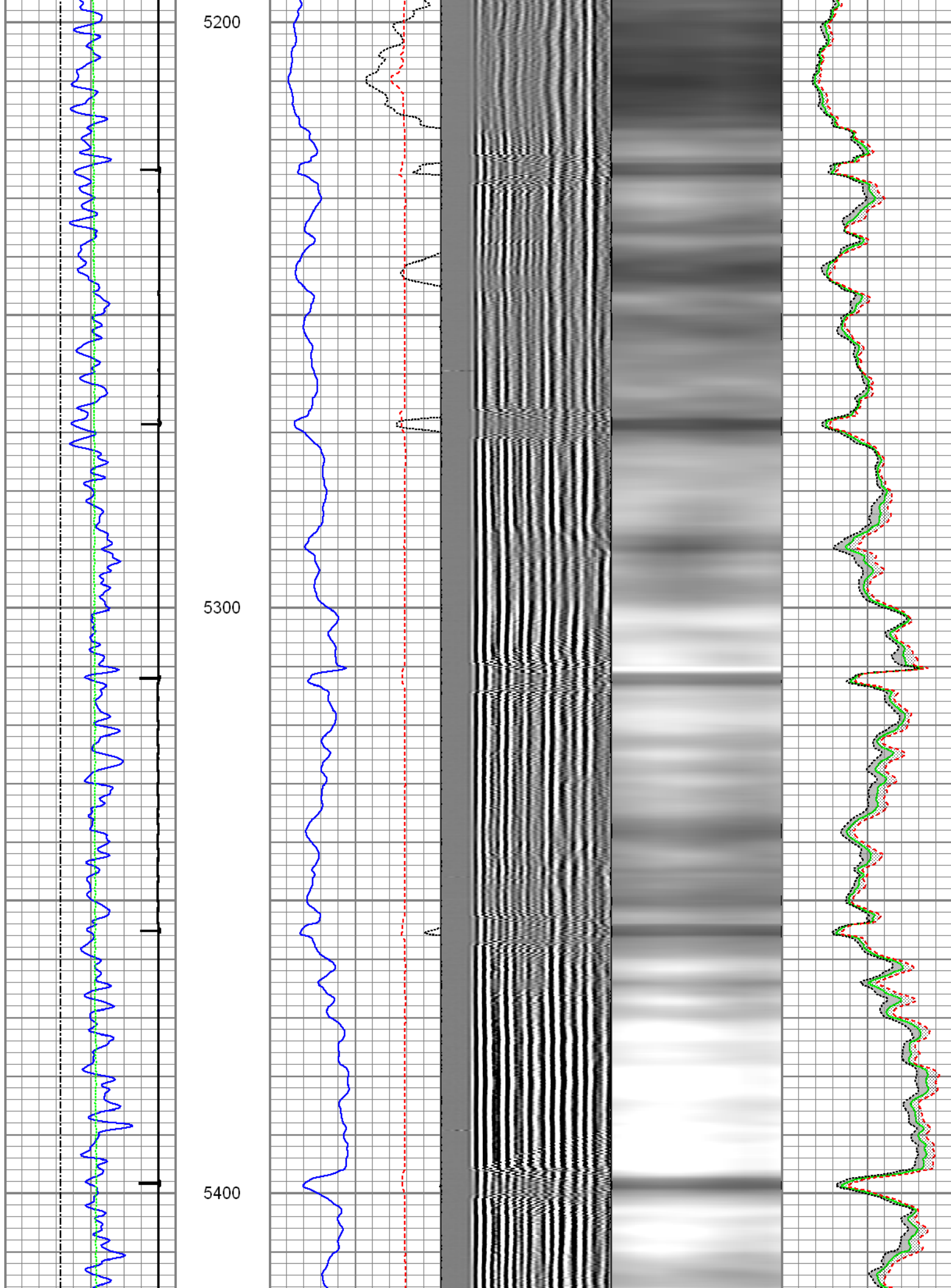


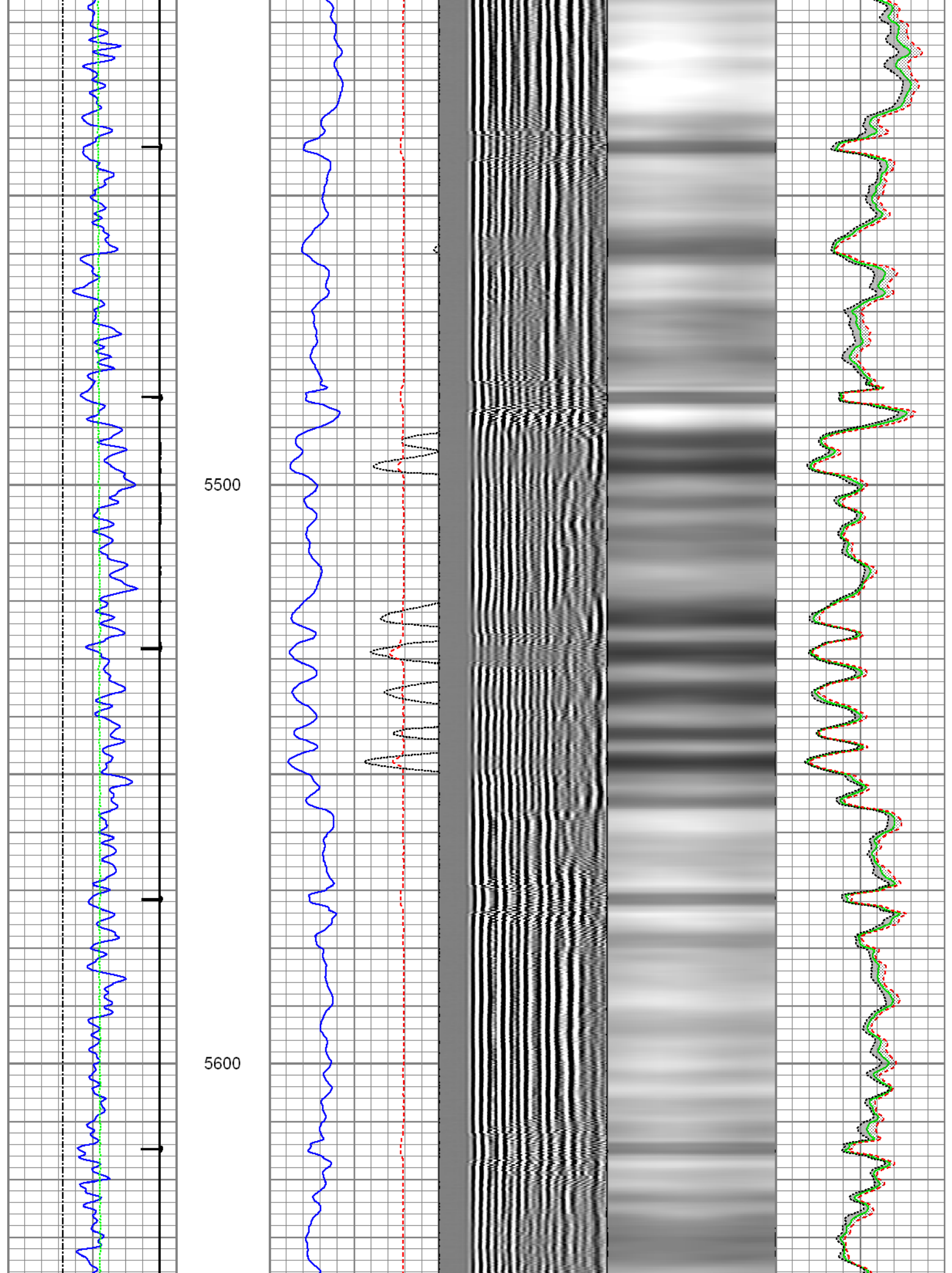


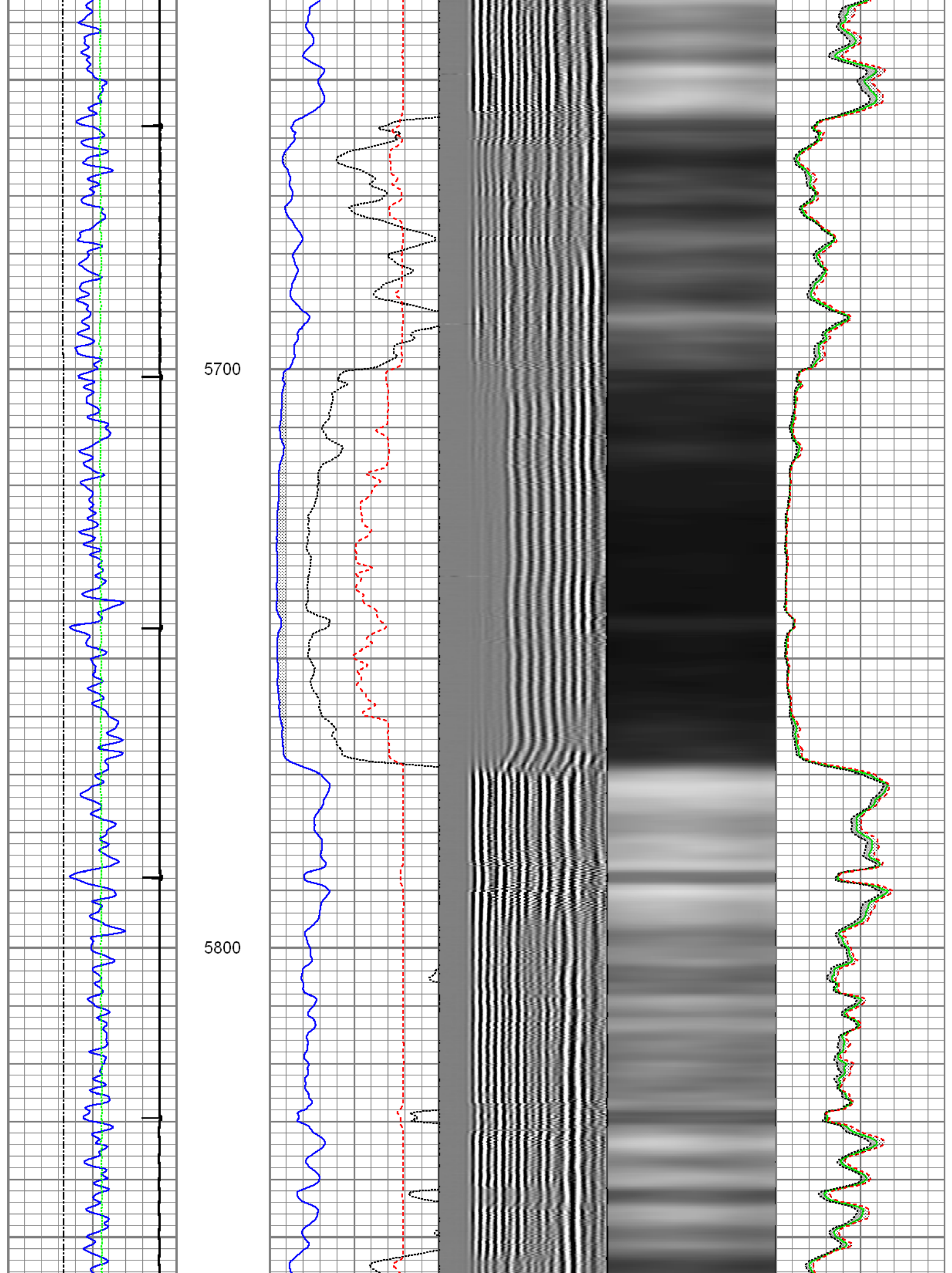
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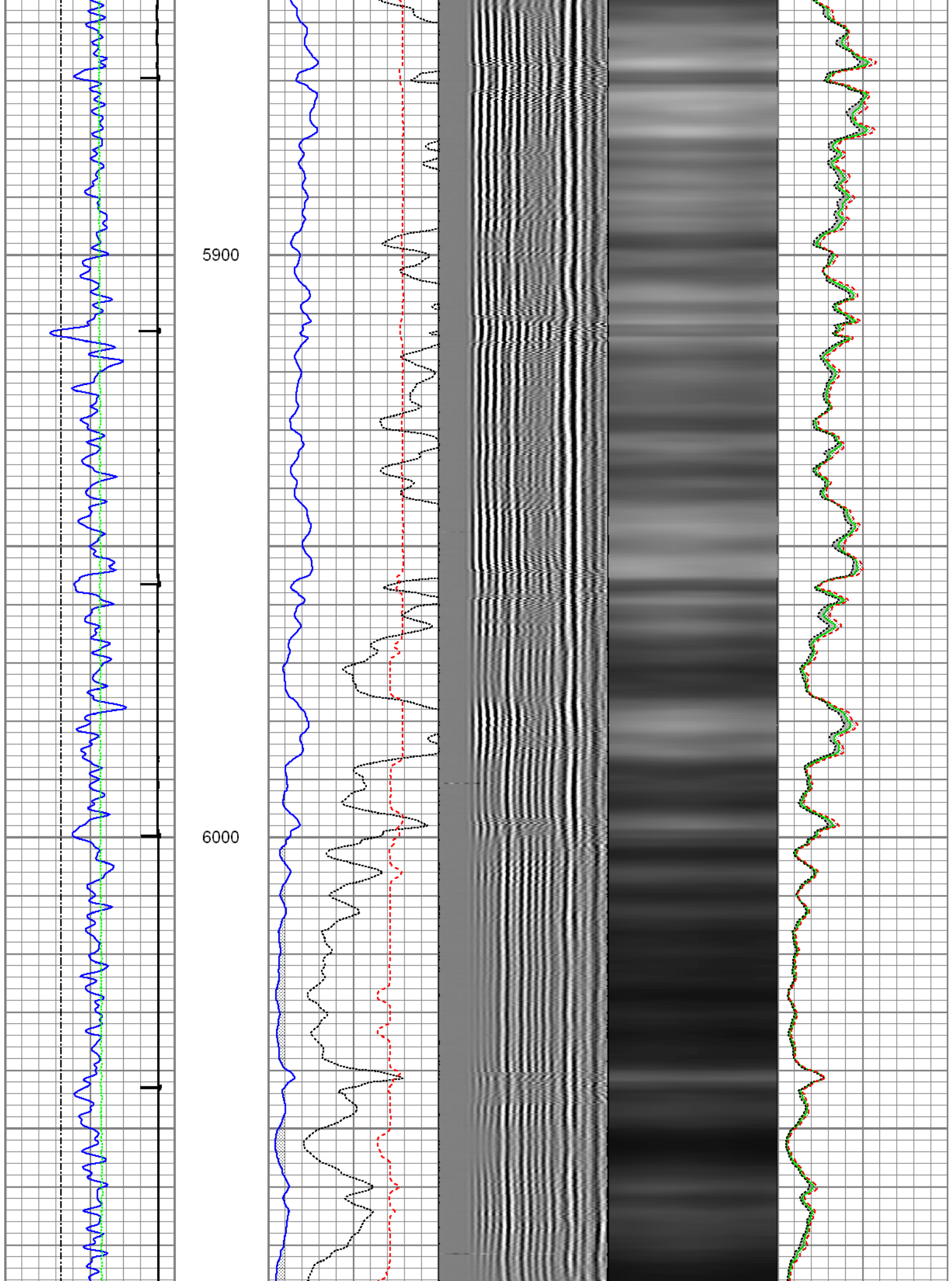
5300

5400



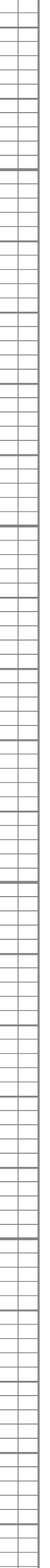
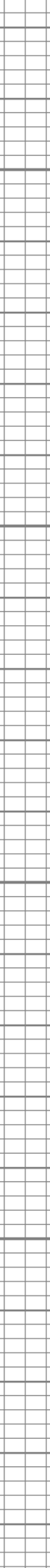
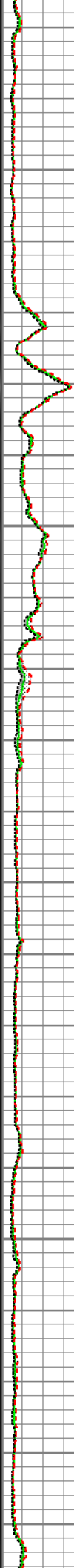
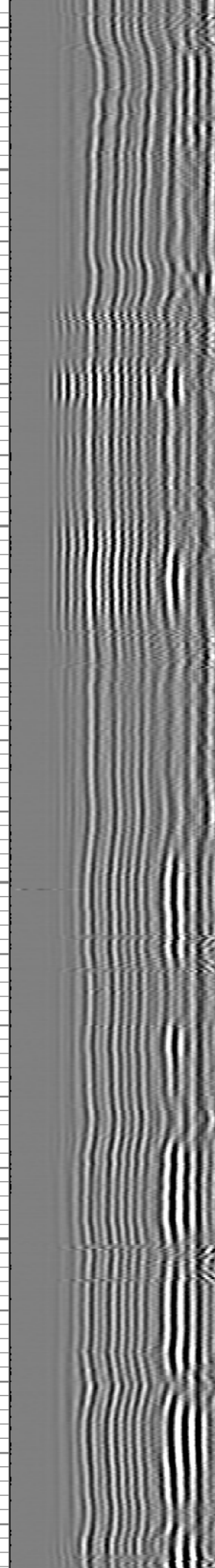
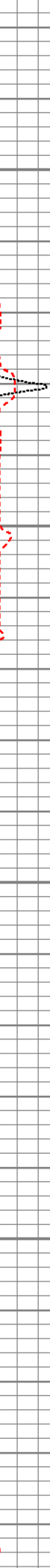
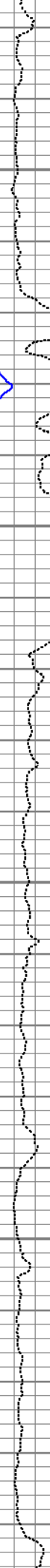
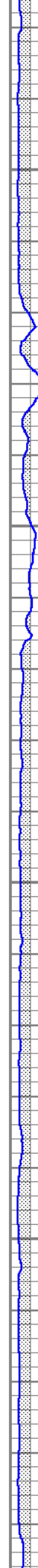
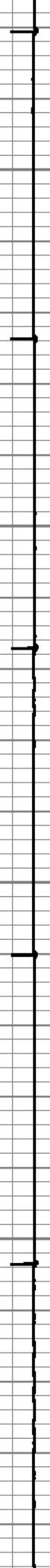
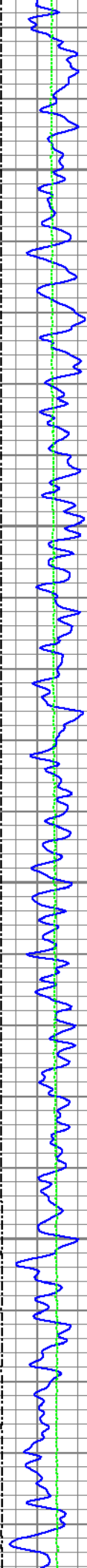






6100

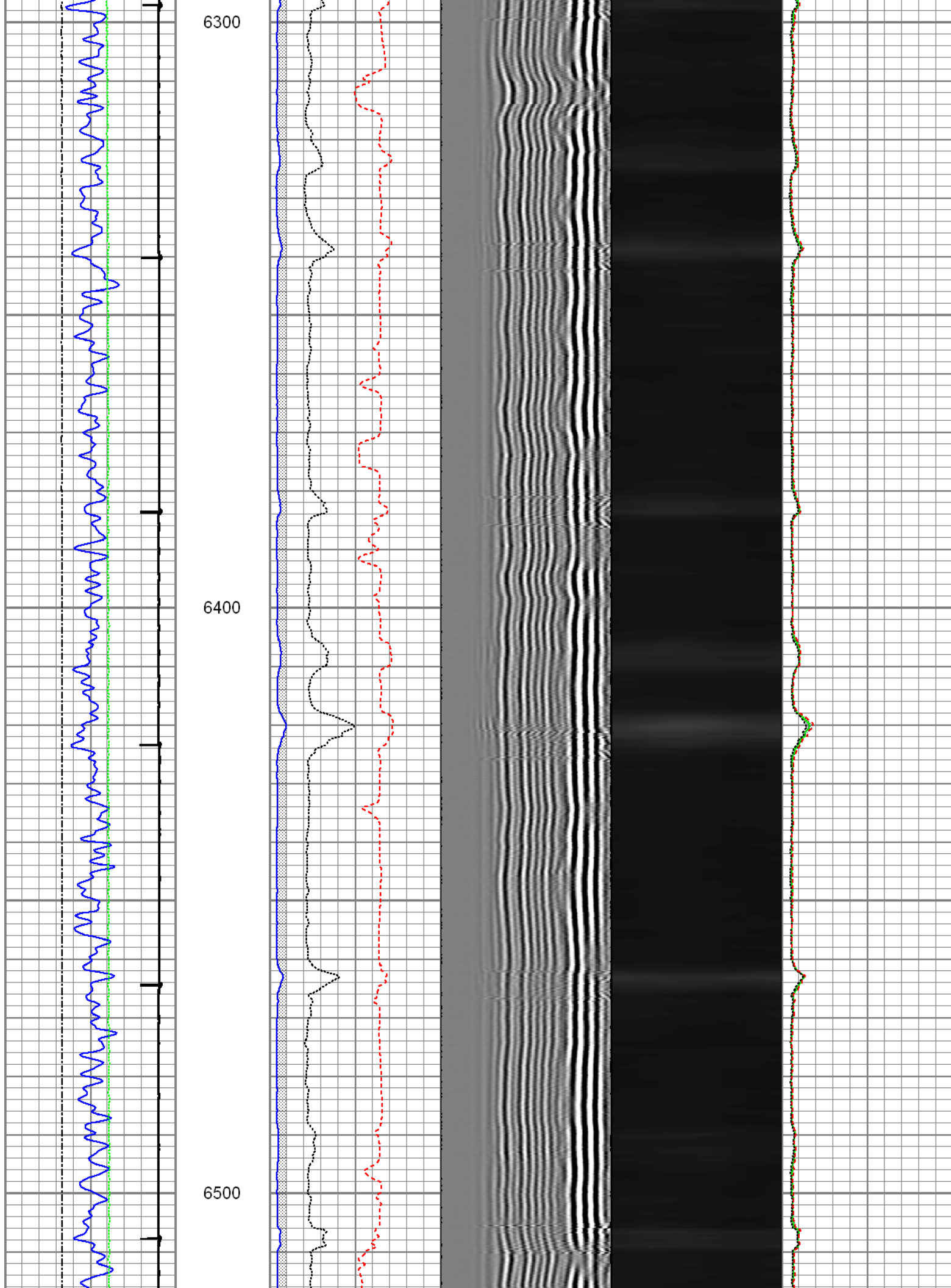
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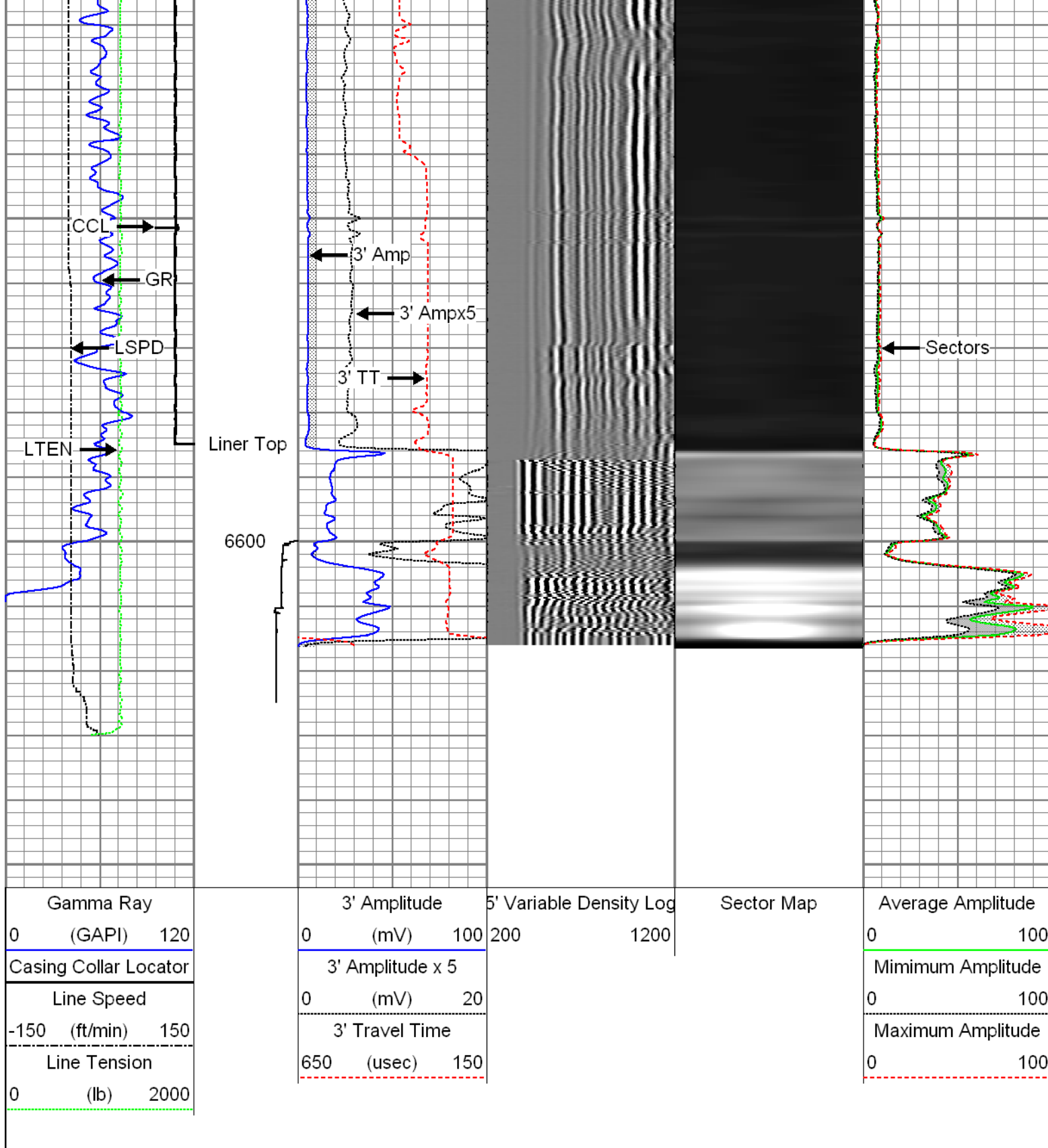


6300

6400

6500



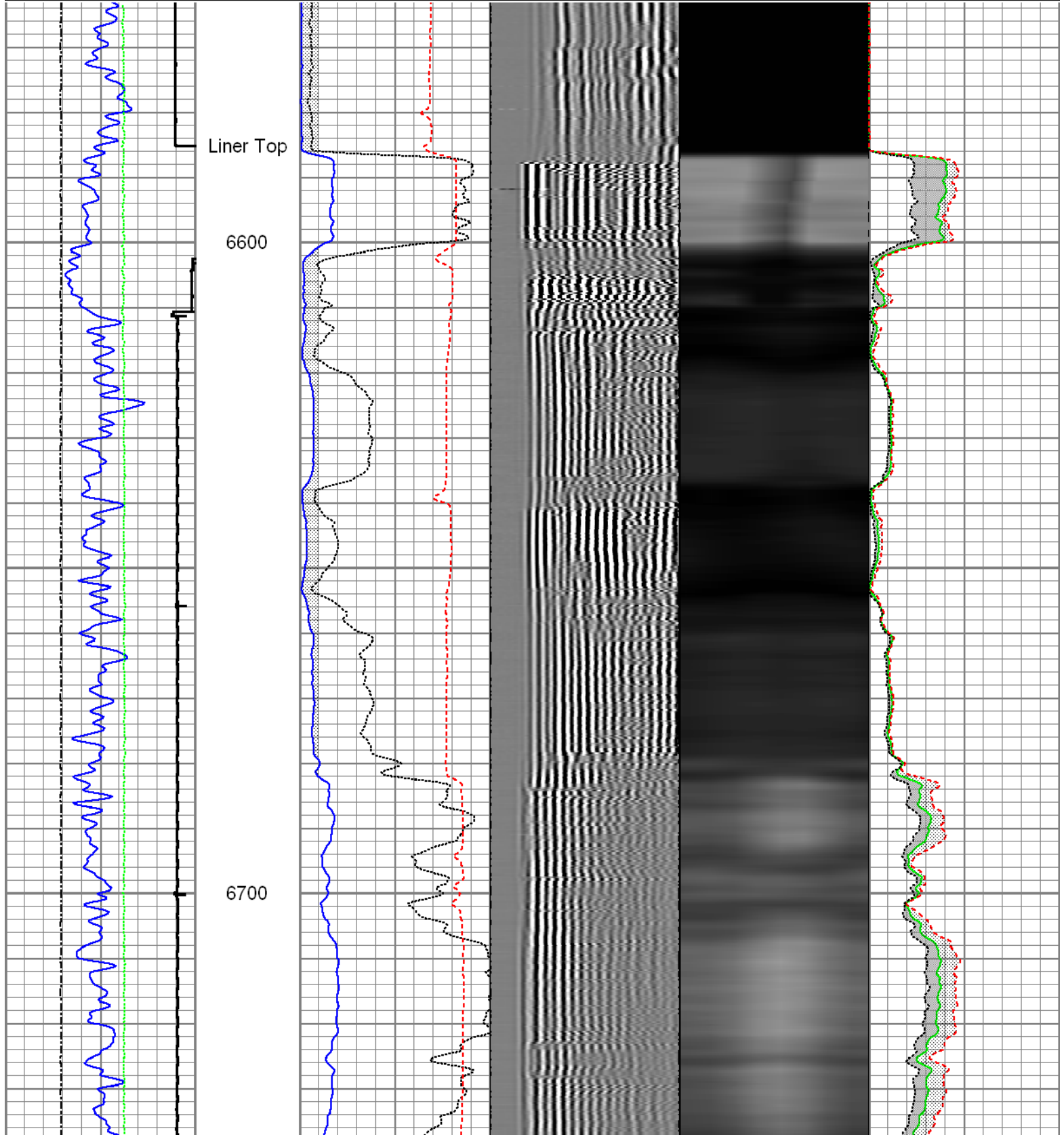


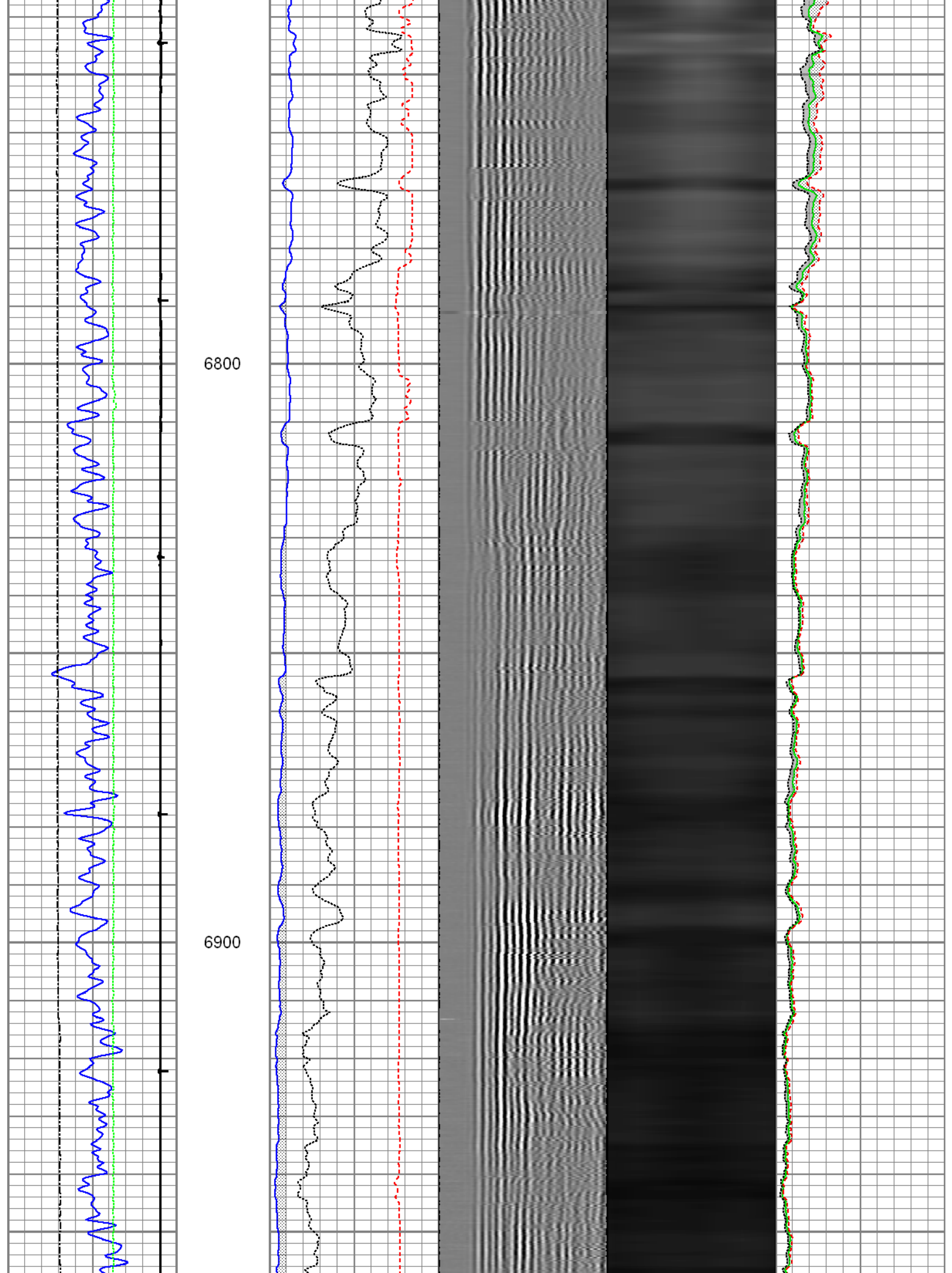
4.5" Main Pass

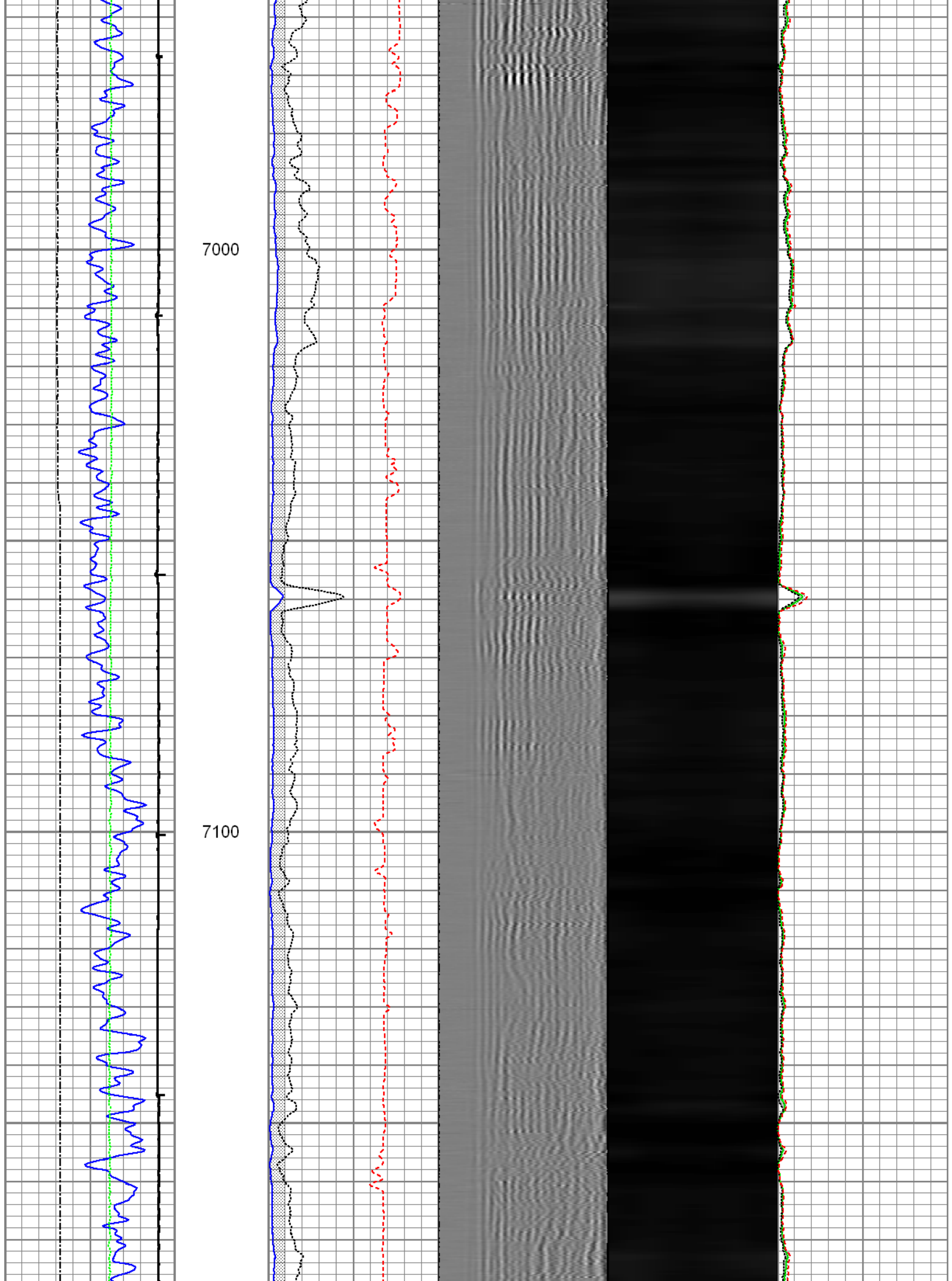
Recorded under 2800 PSI surface induced pressure

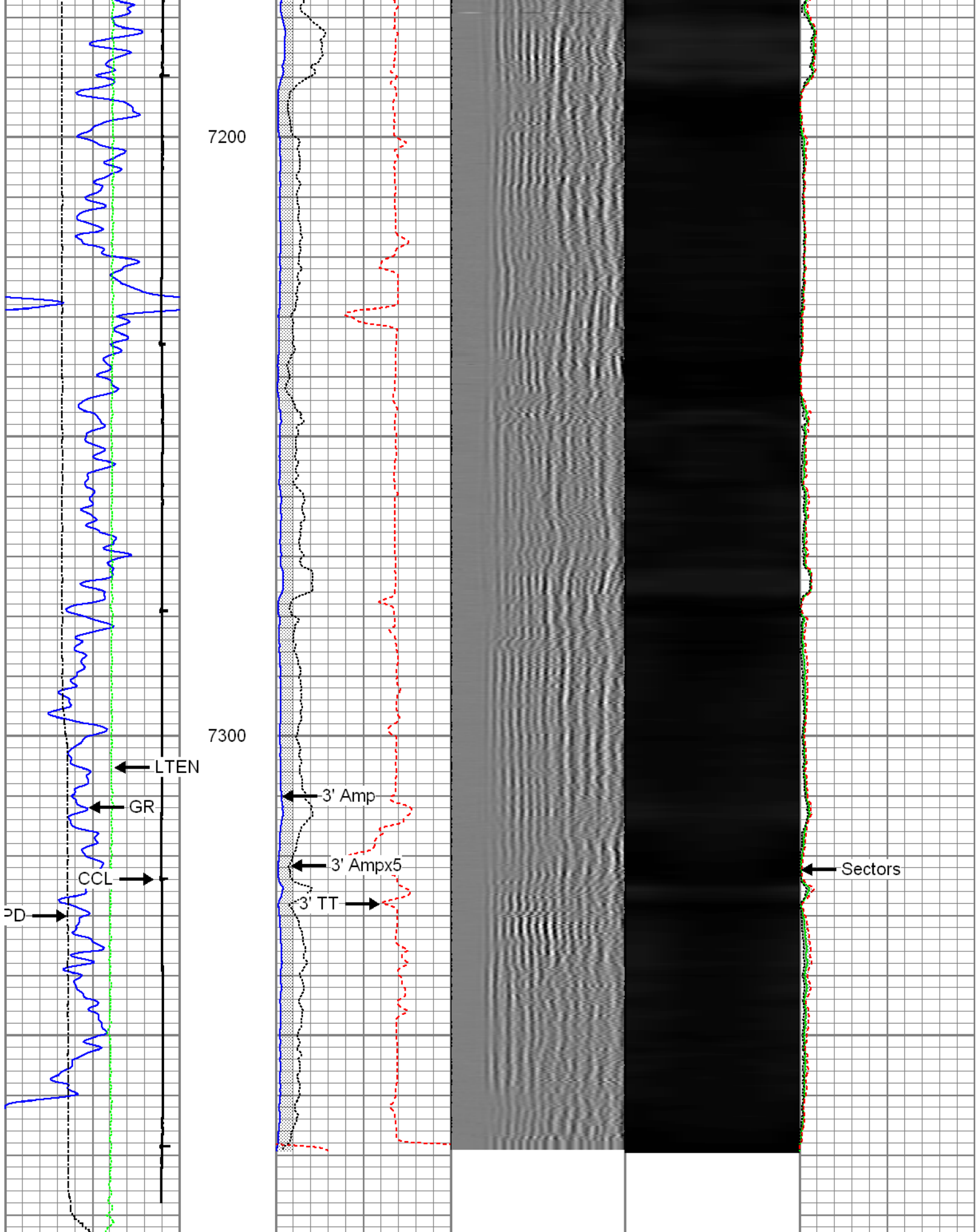
Database File: 0512339340_anadarko_benson farms 23n-19hz_09-16-14_mit_rbl.db
 Dataset Pathname: pass5
 Presentation Format: rbt007
 Dataset Creation: Tue Sep 16 15:31:12 2014 by Log 7.0 B1
 Charted by: Don't in East scaled 1:240

Charted by:		Depth in Feet scaled 1:240			
Gamma Ray		3' Amplitude		5' Variable Density Log	
0	(GAPI) 120	0	(mV) 100	200	1200
Casing Collar Locator		3' Amplitude x 5		Sector Map	
Line Speed		0		Average Amplitude	
-150	(ft/min) 150	0		Minimum Amplitude	
Line Tension		3' Travel Time		0	
0	(lb) 2000	650		Maximum Amplitude	
				0	










Gamma Ray (GAPI)	3' Amplitude (mV)	5' Variable Density Log	Sector Map	Average Amplitude
0 120	0 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude

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

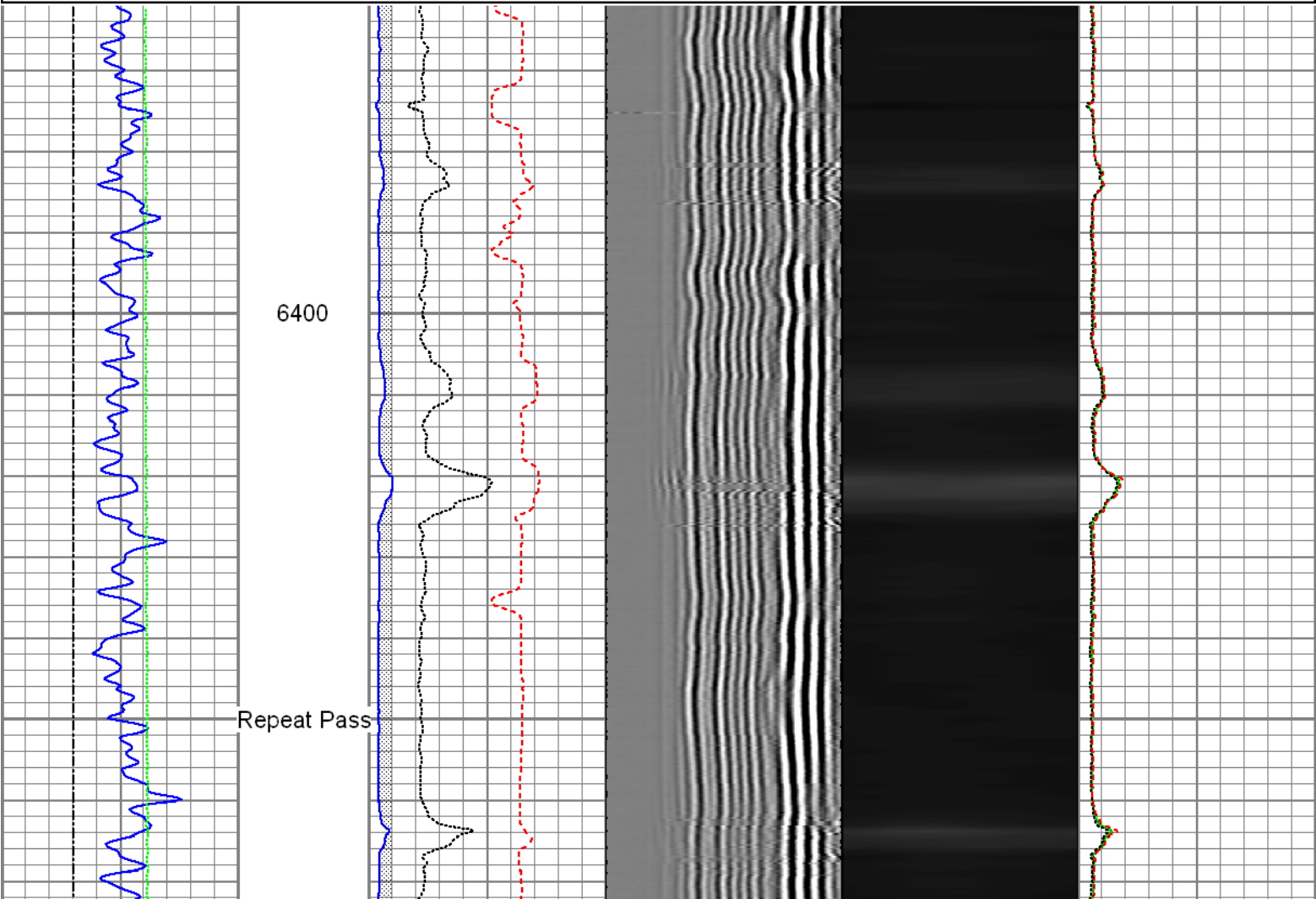


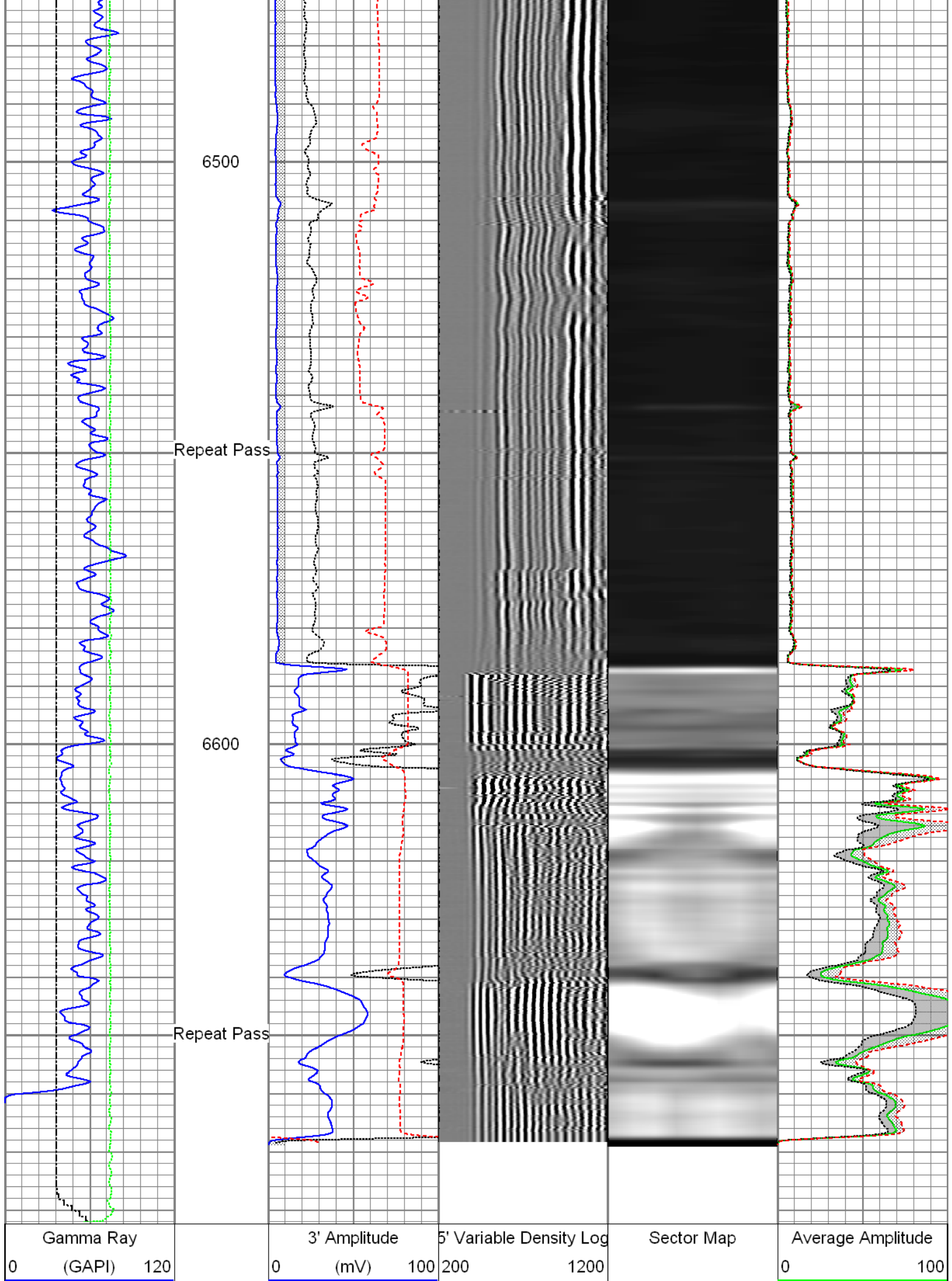
Repeat Section

Recorded Under 2800 PSI surface induced pressure.

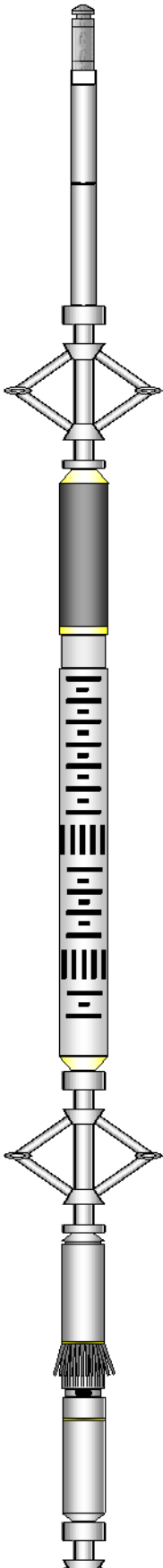

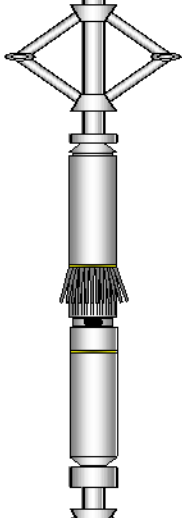
Database File:	0512339340_anadarko_benson farms 23n-19hz_09-16-14_mit_rbl.db
Dataset Pathname:	pass6
Presentation Format:	rbt007
Dataset Creation:	Tue Sep 16 15:50:53 2014 by Log 7.0 B1
Charted by:	Depth in Feet scaled 1:240

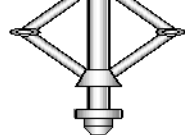
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Line Speed	3' Amplitude x 5			Minimum Amplitude
-150 (ft/min) 150	0 (mV) 20			0 100
Line Tension	3' Travel Time			Maximum Amplitude
0 (lb) 2000	650 (usec) 150			0 100





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

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 (211461) 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-DSSRAC (082) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
WVFS3FT	14.99		UW_RBT-UW_RBT_004 (10013454) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.47	3.13	140.00
WVFS1	14.99					
WVFS2	14.99					
WVFS3	14.99					
WVFS4	14.99					
WVFS5	14.99					
WVFS6	14.99					
WVFS7	14.99					
WVFS8	14.99					
CBLTEMP	14.99					
CBLROT	14.99					
WVF5FT	13.99					
MIT	4.97		UW_PRC-DSSRAC (080) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
			UW_MIT-UW_MIT40_027 (211111) 40 Multifinger Imaging Tool	4.54	2.75	61.10

TSTAMP	0.00		UW_PRC #3 -DSSRAC (083) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
			UW_BUL-UW_BUL_006 (218707) Sondex Ultrawire Bullnose Terminator	0.22	1.69	1.20
Dataset: 0512339340_anadarko_benson farms 23n-19hz_09-16-14_mit_rbl.db: field/well/run1/pass7 Total Length: 26.62 ft Total Weight: 319.30 lb O.D. 3.13 in						

Calibration Report			
Database File:	0512339340_anadarko_benson farms 23n-19hz_09-16-14_mit_rbl.db		
Dataset Pathname:	pass7		
Dataset Creation:	Tue Sep 16 16:02:07 2014 by Log 7.0 B1		
Multi-finger Imaging Tool Calibration Report			
Serial Number:	211111		
Number of Fingers:	40		
Tool Model:	UW_MIT40_027		
Inclinometer Calibration Report			
Performed:	Mon Nov 18 15:31:59 2013		
Calibration Angle:	46		
	Inc X	Inc Y	
Vertical:	1931	1952	
Finger 1 up:	1959	2266	
Finger 31 up:	1608	1962	
Finger 21 up:	1927	1623	
Finger 11 up:	2253	1930	
Sensitivity ratio:	1.0031		
X-axis angle:	272.845		
Deviation const.:	311.818		

Finger Calibration Report						
Performed:			Tue Sep 16 11:50:13 2014			
Ring size:	4		5		6	7
(in)		Sens		Sens		Sens
Finger 01:	999	354.0	1353	409.0	1762	430.0
Finger 02:	1034	351.0	1385	404.0	1789	421.0
Finger 03:	1032	349.0	1381	405.0	1786	418.0
Finger 04:	989	350.0	1339	408.0	1747	419.0
Finger 05:	1020	348.0	1368	402.0	1770	410.0
Finger 06:	1005	354.0	1359	411.0	1770	416.0
Finger 07:	1125	324.0	1449	372.0	1821	381.0
Finger 08:	1039	343.0	1382	402.0	1784	407.0
Finger 09:	1028	352.0	1380	409.0	1789	405.0
Finger 10:	1067	310.0	1377	355.0	1732	351.0
Finger 11:	1032	352.0	1384	404.0	1788	398.0
Finger 12:	1181	376.0	1557	410.0	1967	396.0
Finger 13:	1120	347.0	1467	388.0	1855	388.0
Finger 14:	1214	332.0	1546	358.0	1904	354.0
Finger 15:	1038	371.0	1409	411.0	1820	415.0
Finger 16:	1067	344.0	1411	379.0	1790	383.0
Finger 17:	1059	368.0	1427	406.0	1833	412.0
Finger 18:	1033	376.0	1409	410.0	1819	416.0
Finger 19:	1034	373.0	1407	414.0	1821	428.0
Finger 20:	1096	365.0	1461	390.0	1851	401.0
Finger 21:	1081	373.0	1454	403.0	1857	419.0
Finger 22:	1088	374.0	1462	399.0	1861	418.0
Finger 23:	1057	372.0	1429	410.0	1839	437.0
Finger 24:	1225	342.0	1567	361.0	1928	388.0
Finger 25:	1103	364.0	1557	383.0	1940	403.0

Finger 25:	1193	364.0	1537	383.0	1940	403.0	2343
Finger 26:	1211	349.0	1560	355.0	1915	377.0	2292
Finger 27:	1170	349.0	1519	367.0	1886	394.0	2280
Finger 28:	1215	352.0	1567	360.0	1927	387.0	2314
Finger 29:	1198	347.0	1545	359.0	1904	388.0	2292
Finger 30:	1179	335.0	1514	359.0	1873	393.0	2266
Finger 31:	1194	347.0	1541	365.0	1906	394.0	2300
Finger 32:	1214	333.0	1547	349.0	1896	377.0	2273
Finger 33:	1046	359.0	1405	405.0	1810	449.0	2259
Finger 34:	1082	355.0	1437	391.0	1828	430.0	2258
Finger 35:	1184	331.0	1515	364.0	1879	392.0	2271
Finger 36:	1124	337.0	1461	370.0	1831	397.0	2228
Finger 37:	1060	356.0	1416	395.0	1811	421.0	2232
Finger 38:	1064	350.0	1414	381.0	1795	411.0	2206
Finger 39:	1049	368.0	1417	406.0	1823	433.0	2256
Finger 40:	988	353.0	1341	400.0	1741	426.0	2167

Segmented Cement Bond Log Calibration Report

Serial Number:
Tool Model:

10013454
UW_RBT_004

Calibration Casing Diameter:
Calibration Depth:

5.500
847.698

in
ft

Master Calibration, performed Thu Aug 21 13:16:26 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.002	0.657	1.000	62.000	92.991	0.860
5FT	-0.001	0.737	1.000	62.000	82.626	1.104
S1	0.002	0.658	0.000	100.000	152.586	-0.373
S2	0.000	0.656	0.000	100.000	152.387	0.000
S3	0.001	0.653	0.000	100.000	153.417	-0.187
S4	0.000	0.658	0.000	100.000	151.960	0.000
S5	0.001	0.664	0.000	100.000	150.966	-0.184
S6	0.000	0.667	0.000	100.000	149.927	0.000
S7	0.000	0.659	0.000	100.000	151.833	-0.069
S8	0.001	0.658	0.000	100.000	152.319	-0.158

Gamma Ray Calibration Report

Serial Number:
Tool Model:
Performed:

211727
UW_PGR_020
Sun Jun 13 13:33:21 1993

Calibrator Value:

1.0

GAPI

Background Reading:
Calibrator Reading:

0.0
1.0

cps
cps

Sensitivity:

1.0000

GAPI/cps



Company

Well

Field

County

State

Kerr McGee Oil & Gas Onshore LP

Benson Farms 23N-19HZ

Wattenberg

Weld

Colorado