



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.
Well Grenemyer 15N-3HZ
Field Wattenberg
County Weld State Colorado

Location:

API #: 05-123-38418

689' FSL, 1620' FEL,

SEC 3 TWP 1N RGE 6NW

Permanent Datum Ground Level Elevation 5052
Log Measured From Kelly Bushing 461
Drilling Measured From Kelly Bushing
Elevation
K.B. 5068
D.F. 5067
G.L. 5052

Company Kerr-McGee Oil & Gas Onshore, L.P.
Well Grenemyer 15N-3HZ
Field Wattenberg
County Weld
State Colorado

Date

2-April-2014

Run Number

One

Depth Driller

15,828 FT

Depth Logger

7183 FT

Bottom Logged Interval

7180 FT

Top Log Interval

Surface

Open Hole Size

9.625"

Type Fluid

Water

Density / Viscosity

8.34 LB/GAL

Max. Recorded Temp.

244 F

Estimated Cement Top

626'

Time Well Ready

ROA

Time Logger on Bottom

E equipment Number

HD 255

Location

Fort Lupton, CO

Recorded By

Jackson/Houim

Witnessed By

Ken Evers

Run Number

Bit From To Size Weight From To

Size Weight From To

Size Weight From To

Size Weight From To

Size Weight From To

Size Weight From To

Size Weight From To

Size Weight From To

Size Weight From To

Size Weight From To

Size Weight From To

Size Weight From To

Size Weight From To

Size Weight From To

Size Weight From To

Size Weight From To

Size Weight From To

Size Weight From To

Casing Record

Surface Casing

Intermediate #1

Intermediate #2

Liner

Size (in)

Wgt (lbs/ft)

Grade

Top

Bottom

9.5/8

36#

J-55

Surface

1095'

7

26

P-110

Surface

8014'

4 1/2

11.6

P-110

Surface

6886

15,815'

15,815'

15,815'

15,815'

15,815'

15,815'

15,815'

15,815'

15,815'

15,815'

15,815'

15,815'

15,815'

Comments

Radial Cement Bond Log - Caliper Log is the first recorded log in hole.

Depth reference to Casing Talley reported Liner Top at 6886 FT.

RCBL-CIL ran with 2800 PSI surface induced pressure.

Estimated Top of Cement @ 626'

Drilling Mud\Cement found during gauge ring run

Tagged with RCBL @ 7183' and pulled 700lbs over string weight before coming up hole.

Caliper Tool picked up trash coming out of liner top. Tool was closed and reopened to get rid of trash.

Tool Error at 870' caused us to bring the tool to surface, correct the problem then relog from 1000'

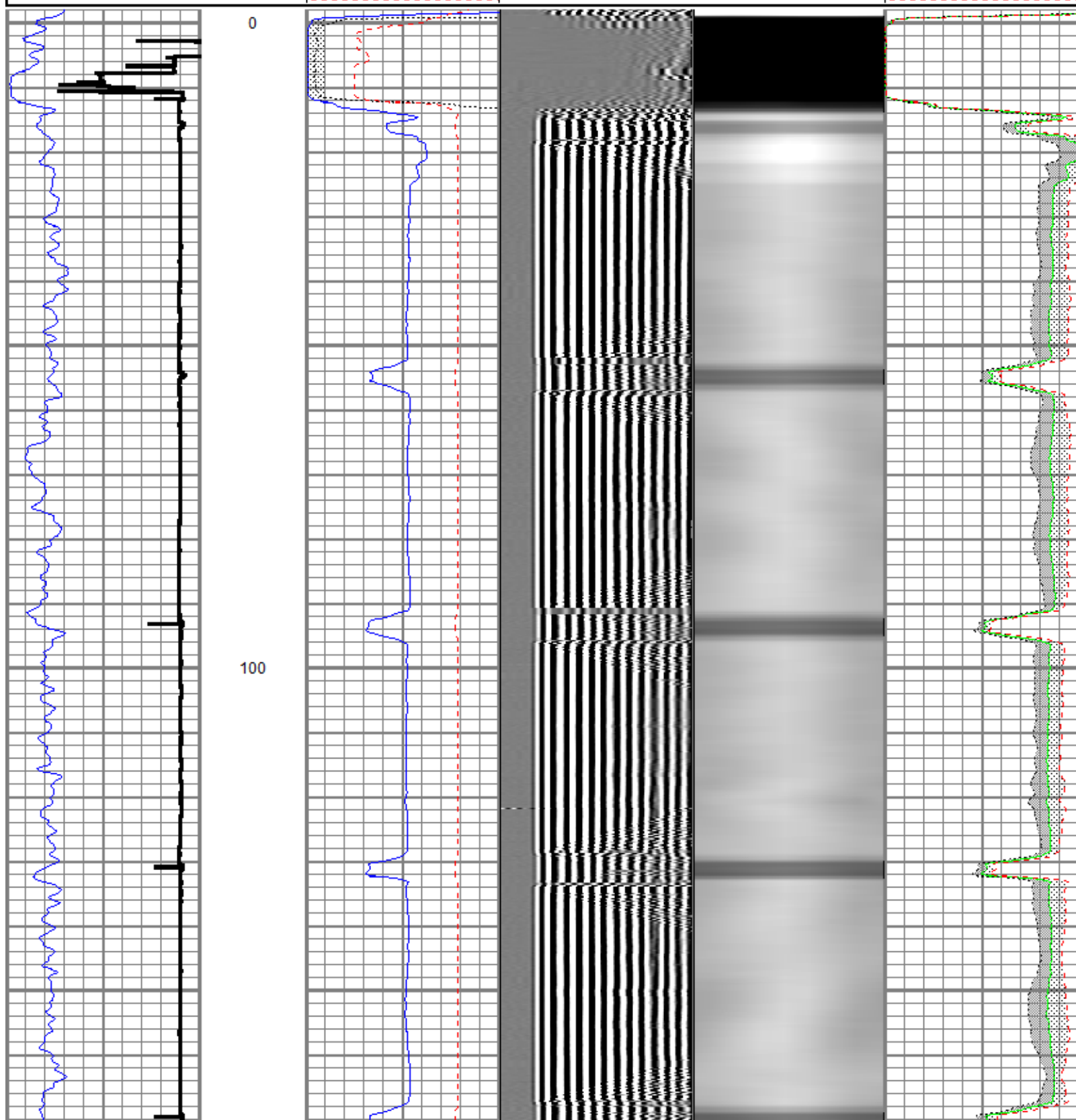
Thank you for choosing FMC Technologies Completion Services

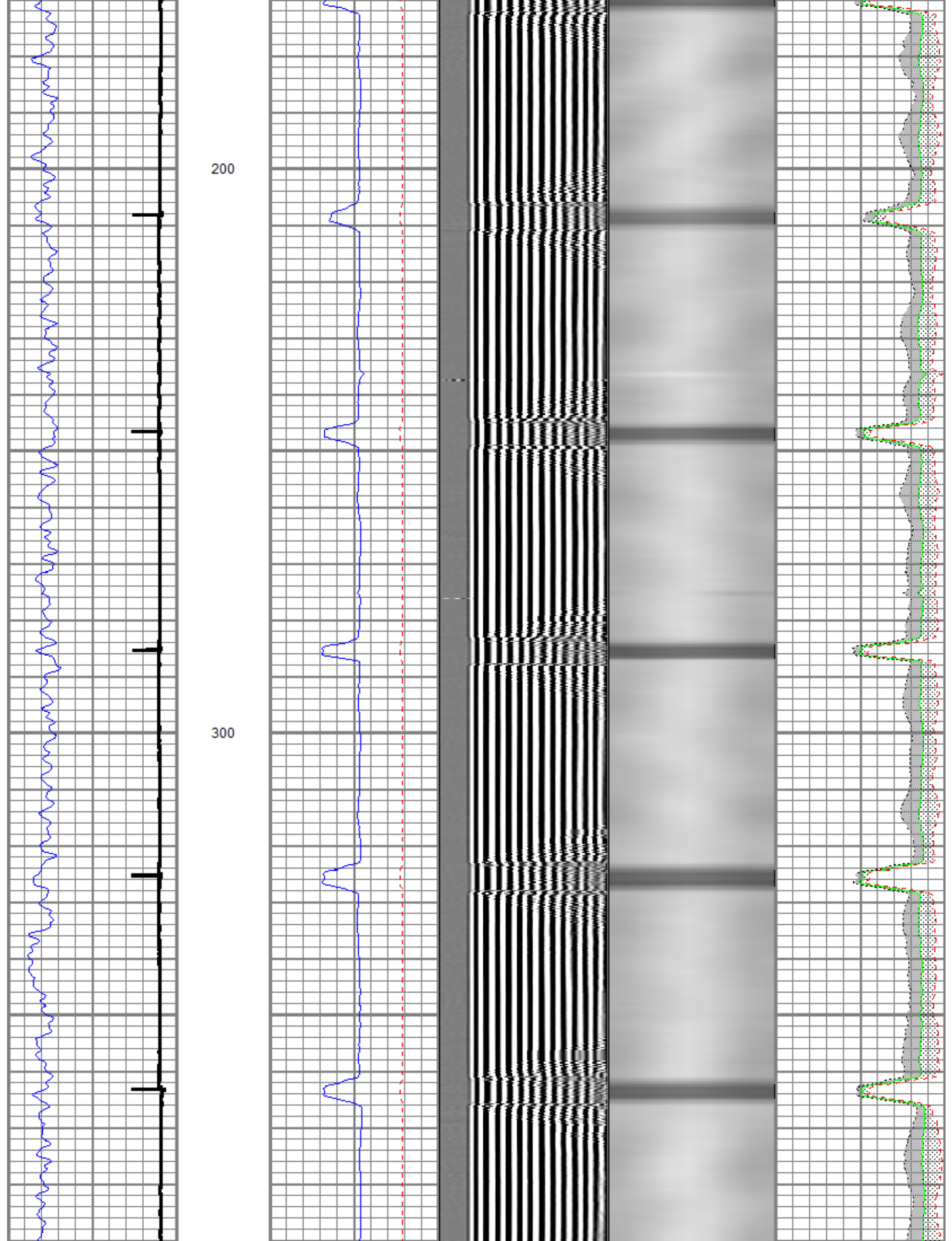
Main Pass 7"

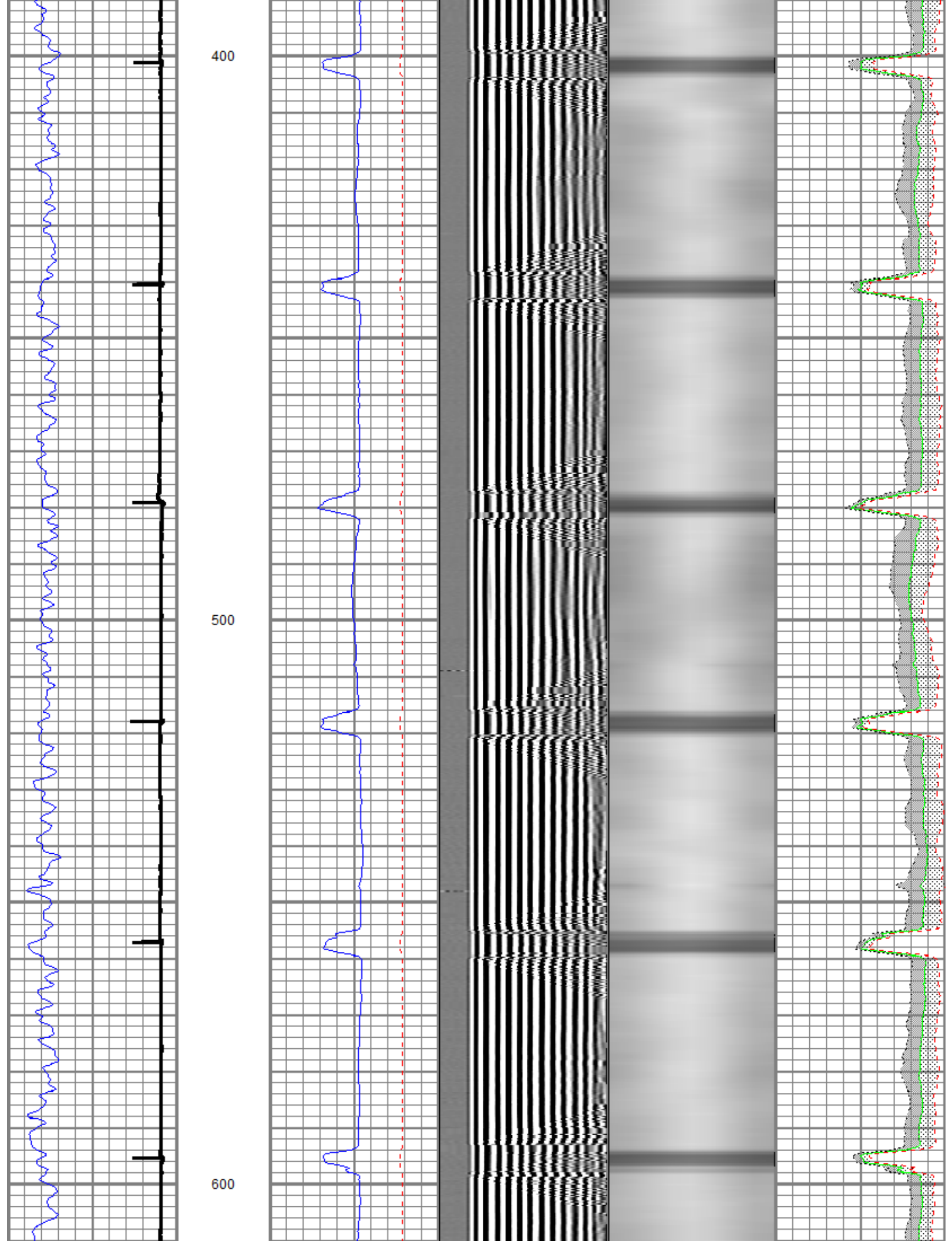


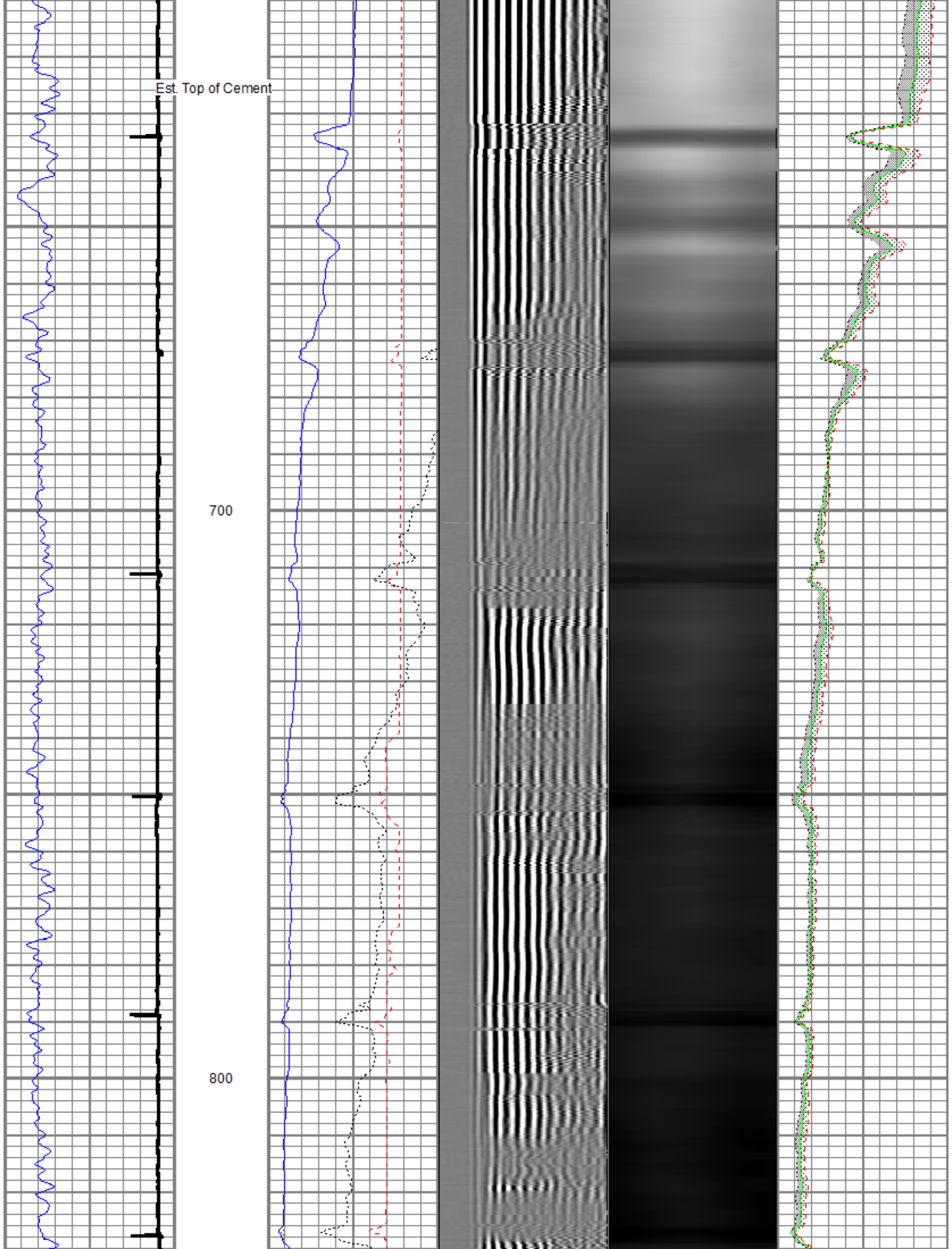
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Dataset Pathname: pass8
Presentation Format: rbt007
Dataset Creation: Wed Apr 02 17:16:15 2014 by Log Sondex V7.03
Charted by: Depth in Feet scaled 1:240

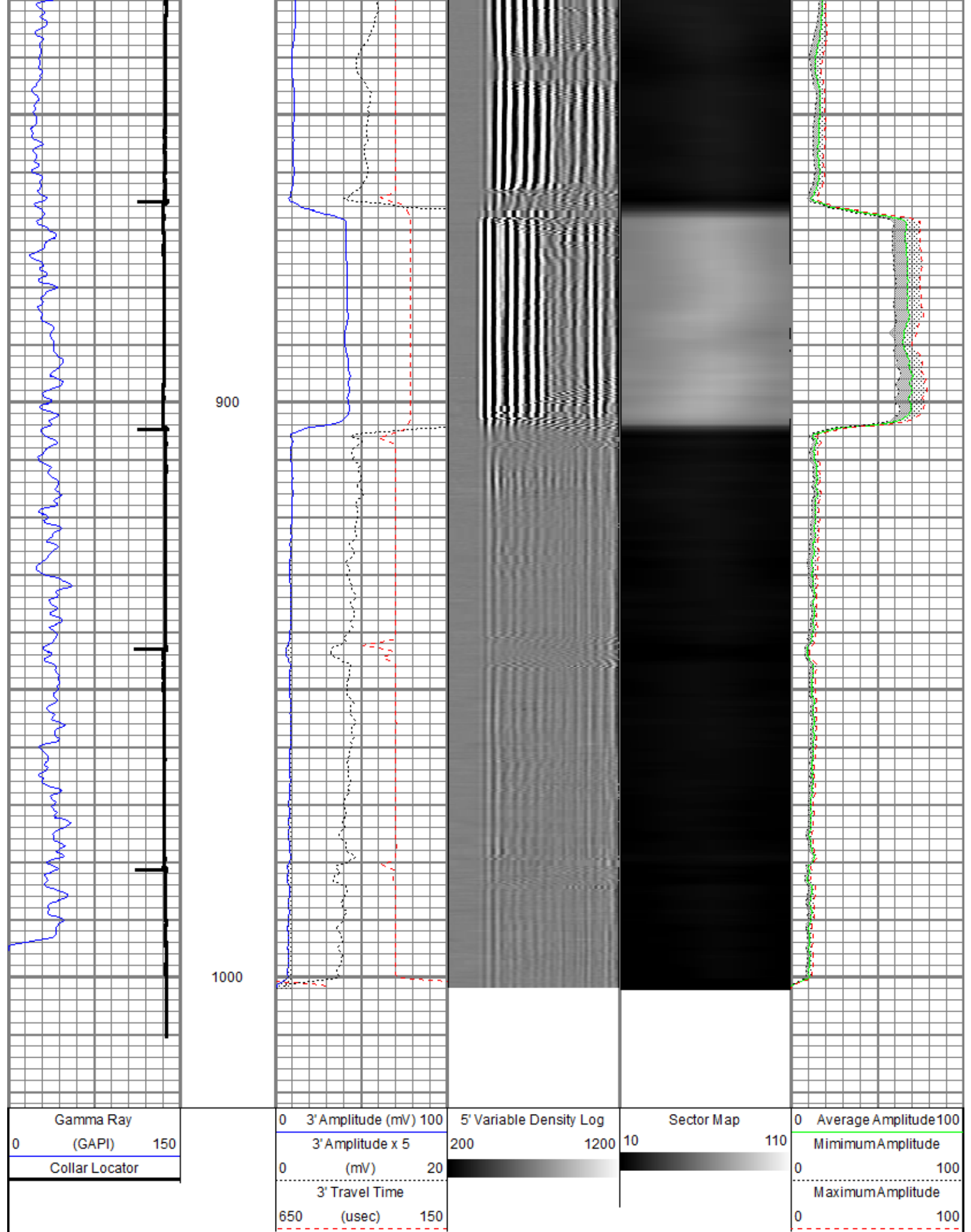
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 150		3' Amplitude x 5	200	1200	10	110
Collar Locator		0 (mV) 20			0	100
		3' Travel Time				Maximum Amplitude
		650 (usec) 150			0	100





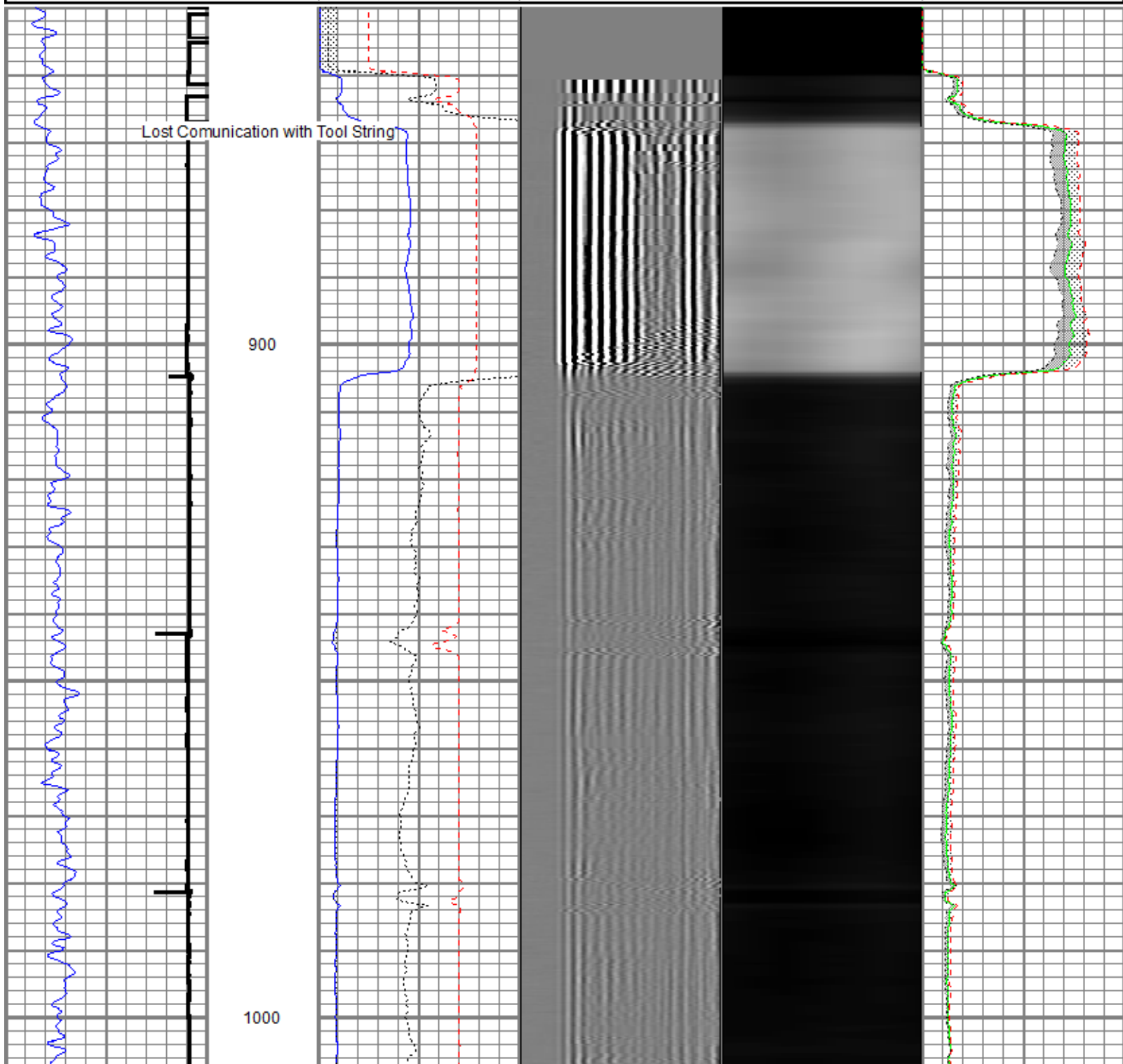


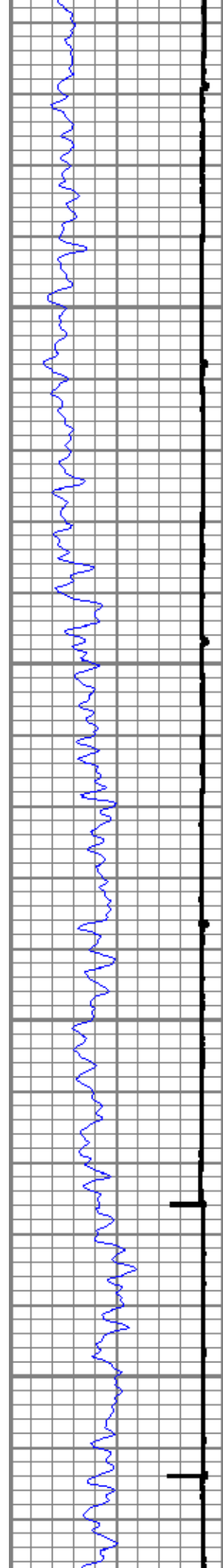




Database File: anadarko_grenemyer 15n-3hz_rbt-mit.db
 Dataset Pathname: pass7
 Presentation Format: rbt007
 Dataset Creation: Wed Apr 02 12:14:26 2014 by Log Sondex V7.03
 Charted by: Depth in Feet scaled 1:240

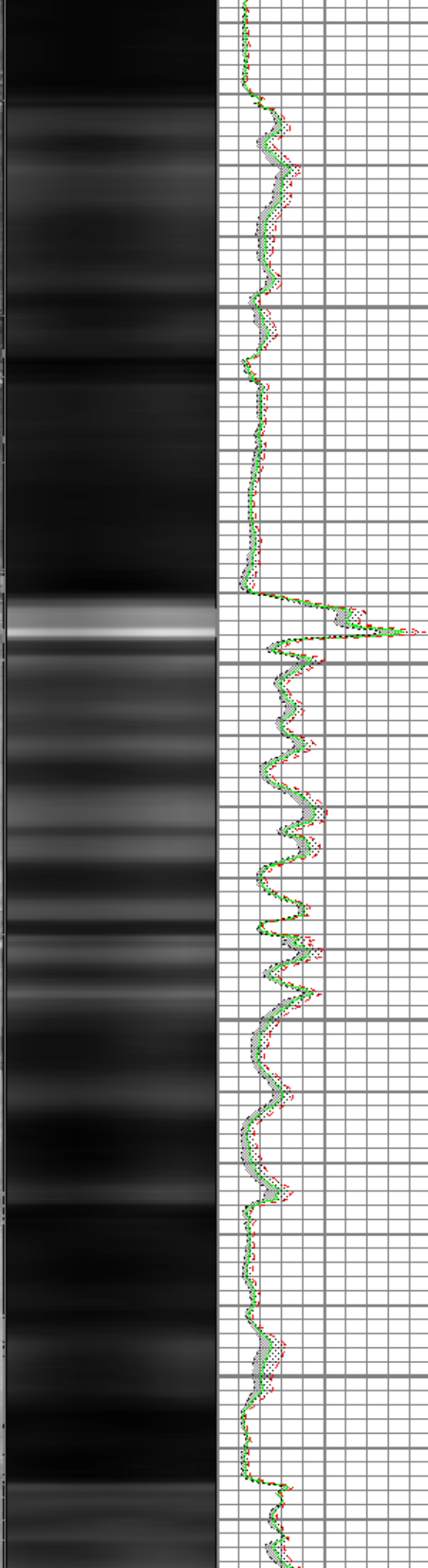
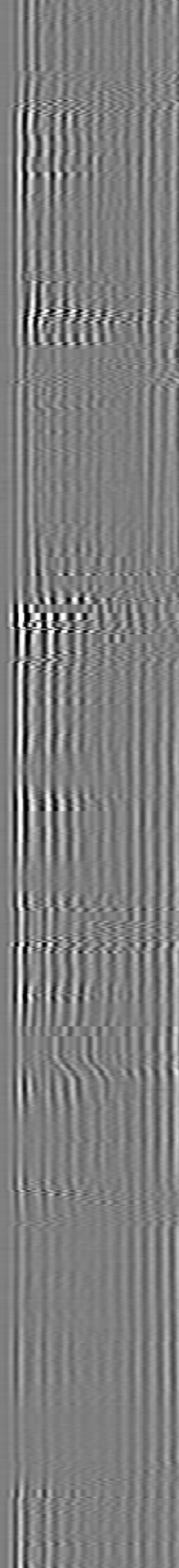
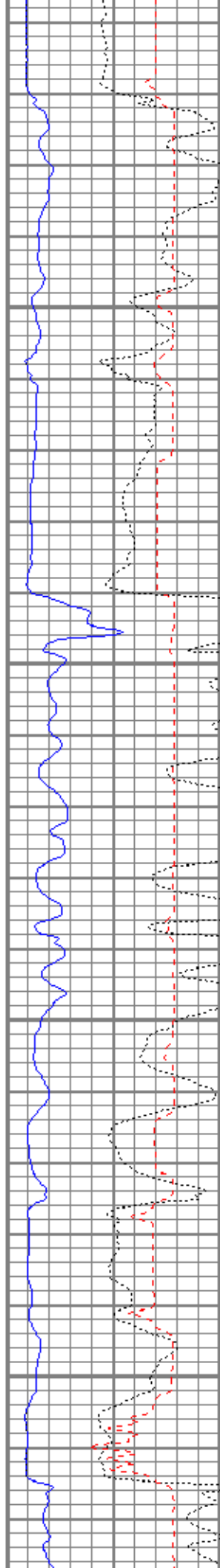
Gamma Ray (GAPI)	0	150	3' Amplitude (mV) 100	5' Variable Density Log	10	110	0	Average Amplitude 100
Collar Locator			3' Amplitude x 5 (mV) 20	200	1200			Minimum Amplitude
			3' Travel Time (usec) 150					Maximum Amplitude

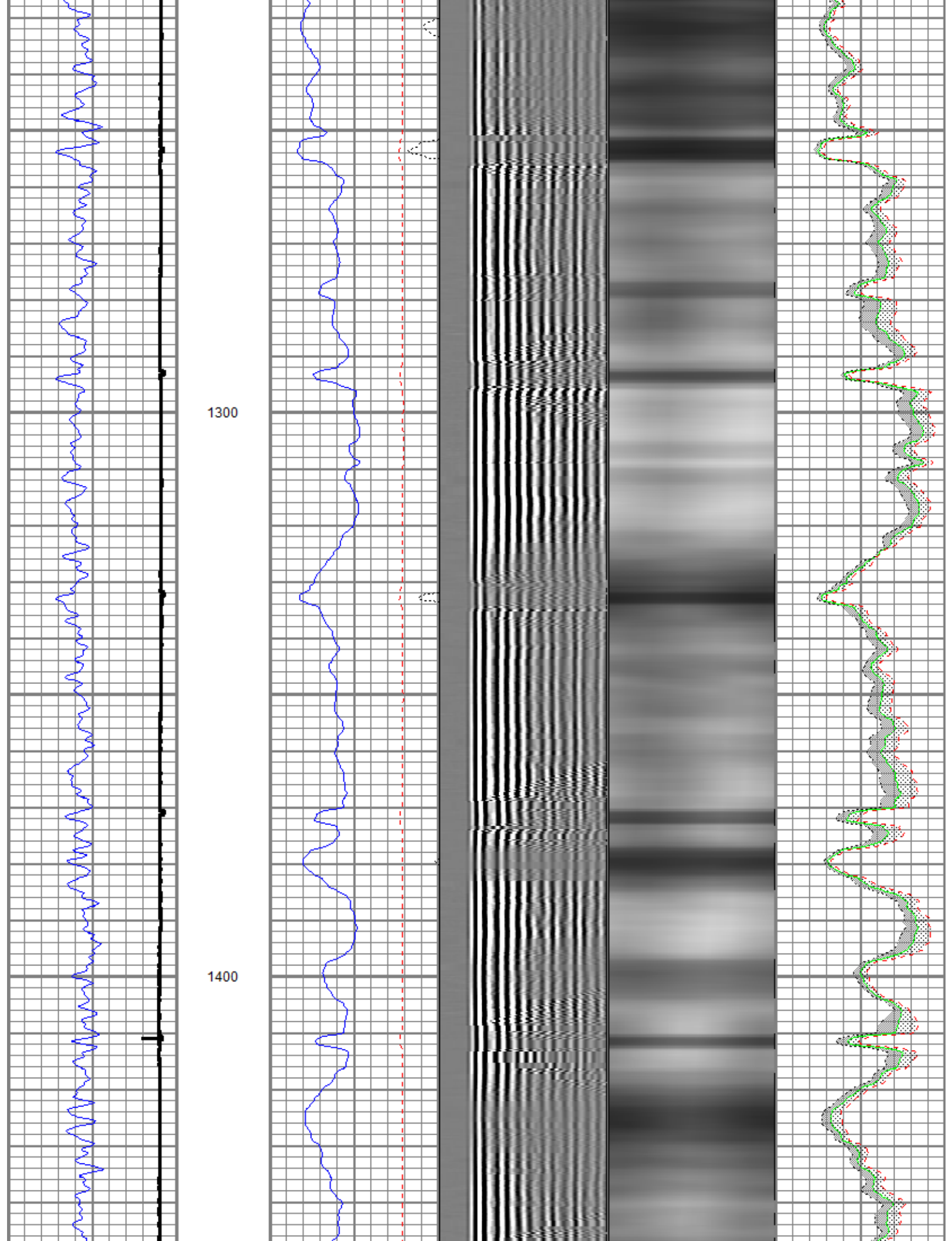


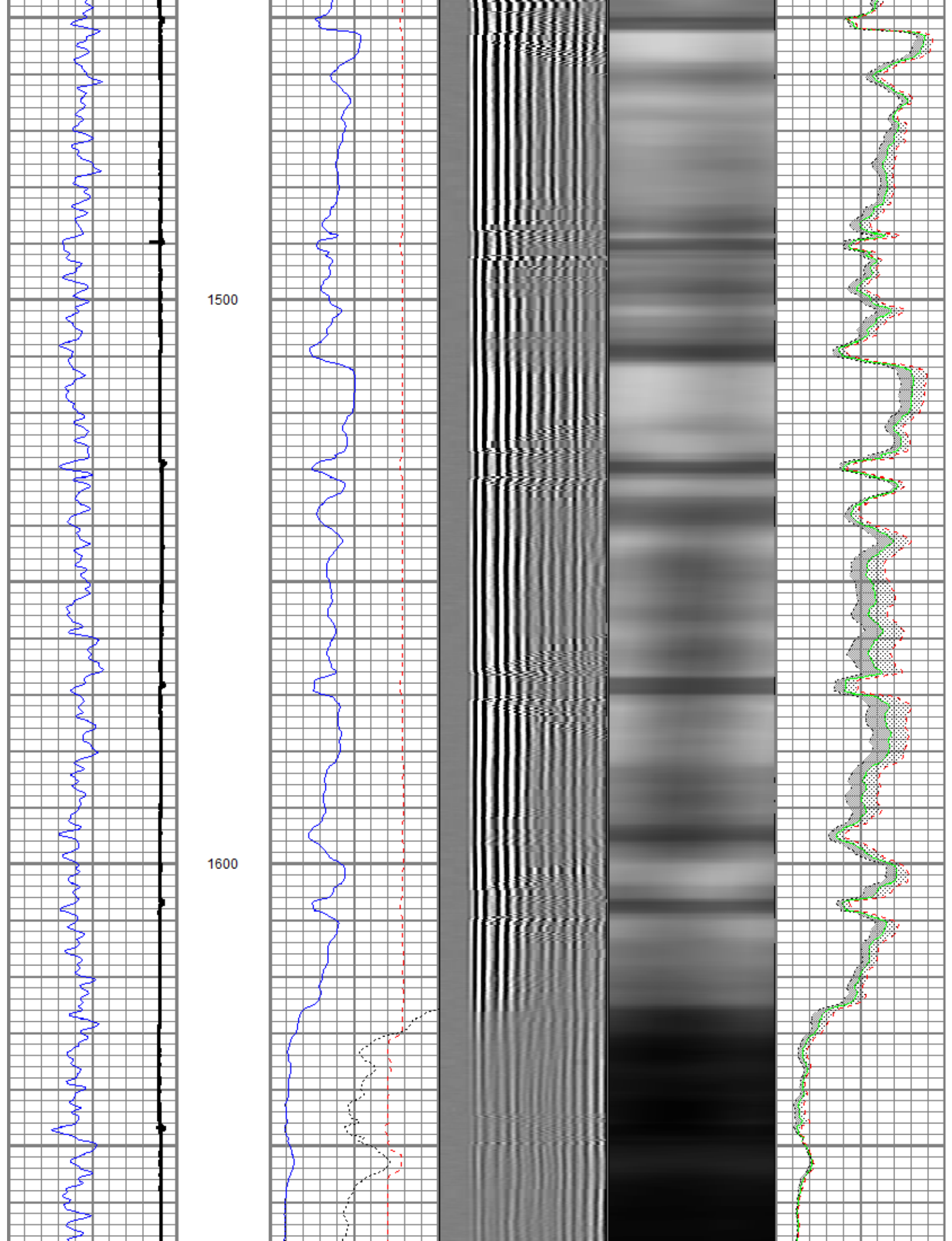


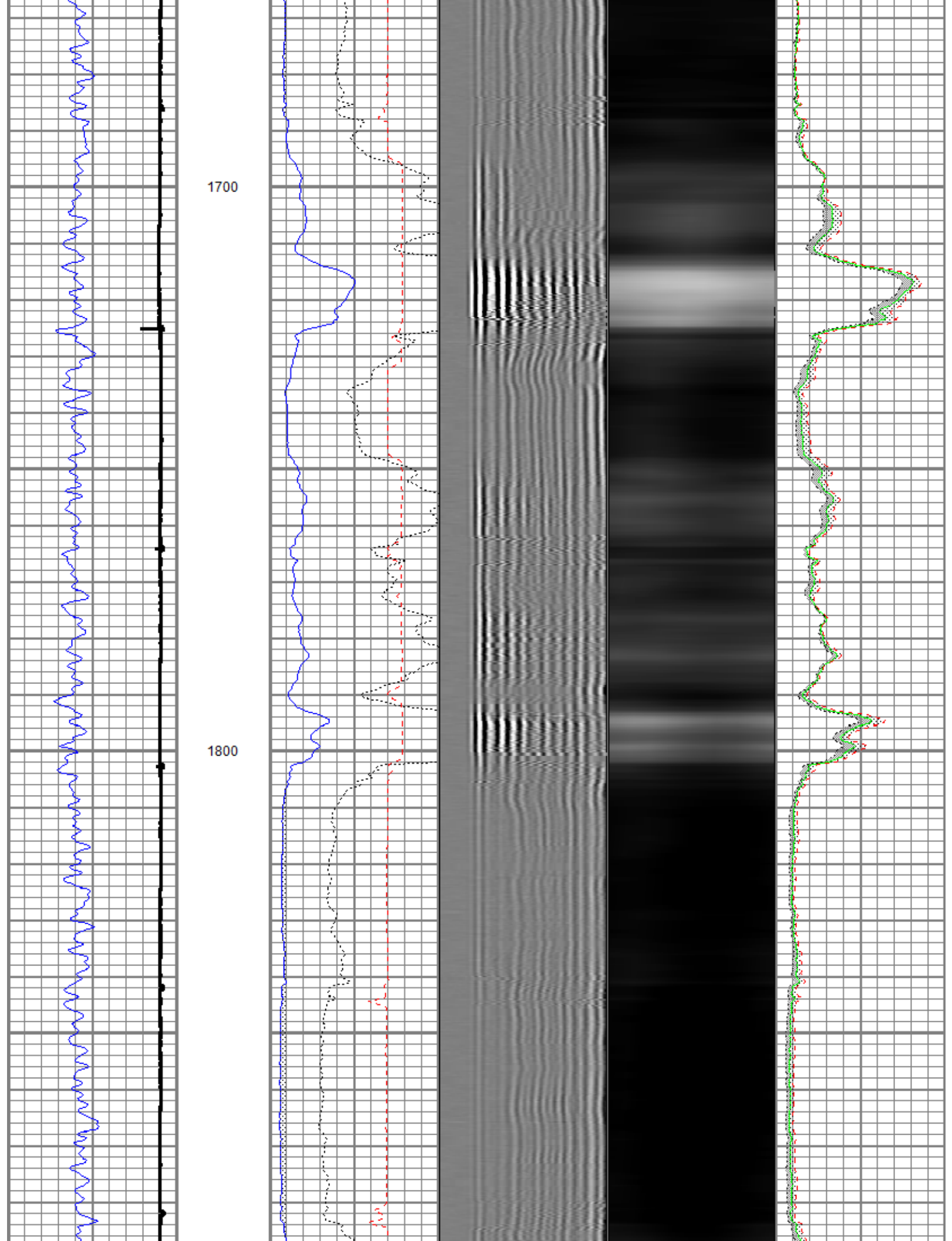
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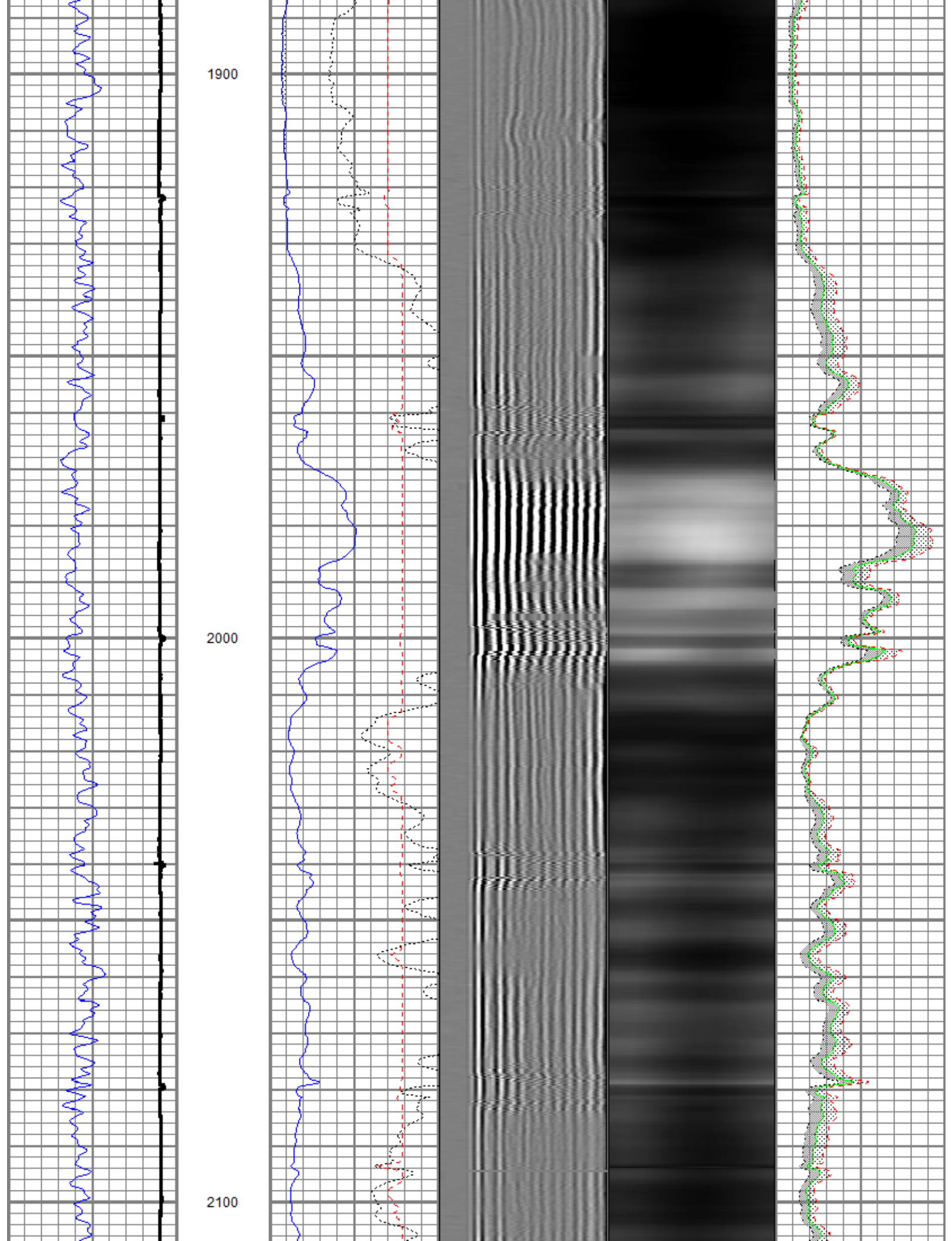
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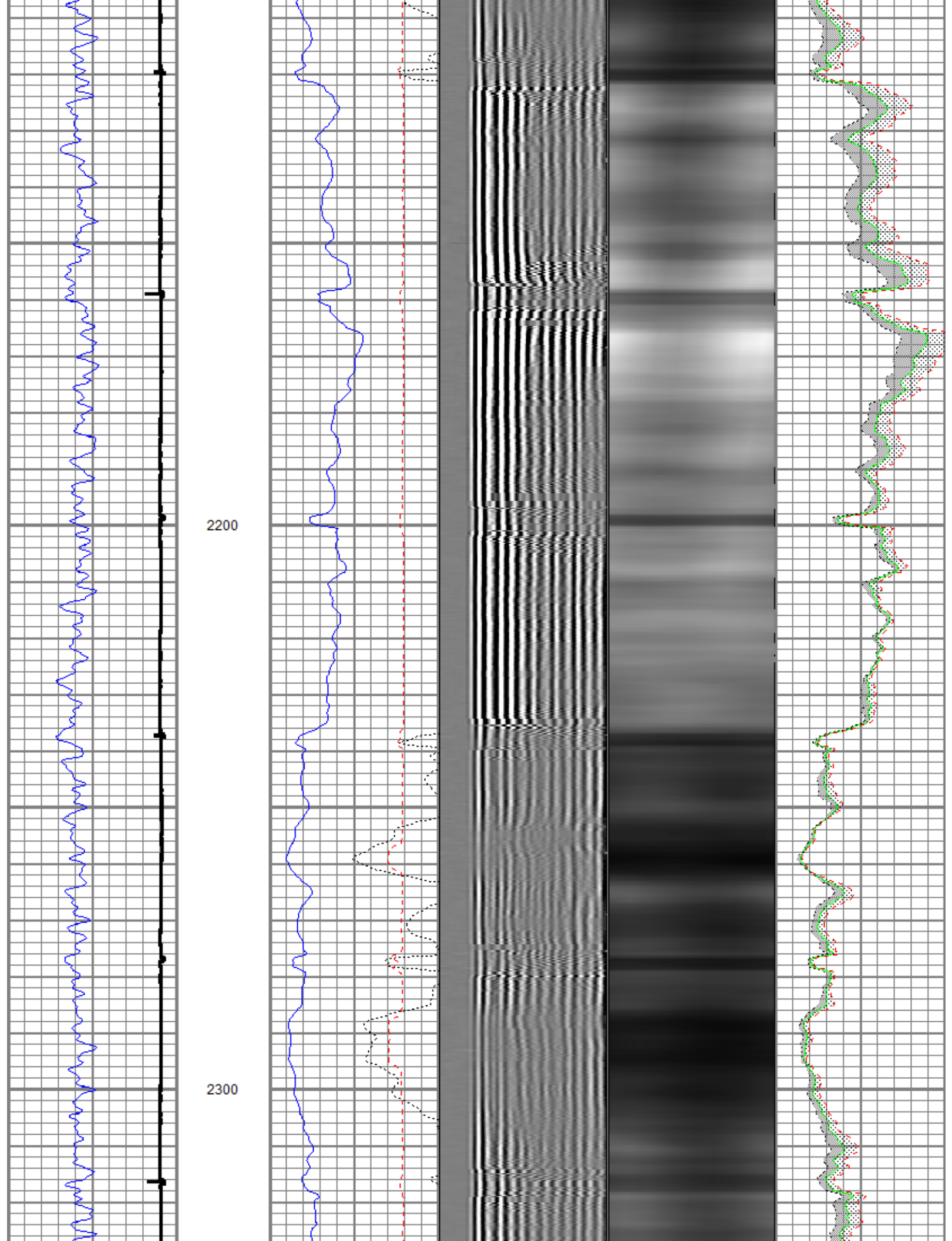


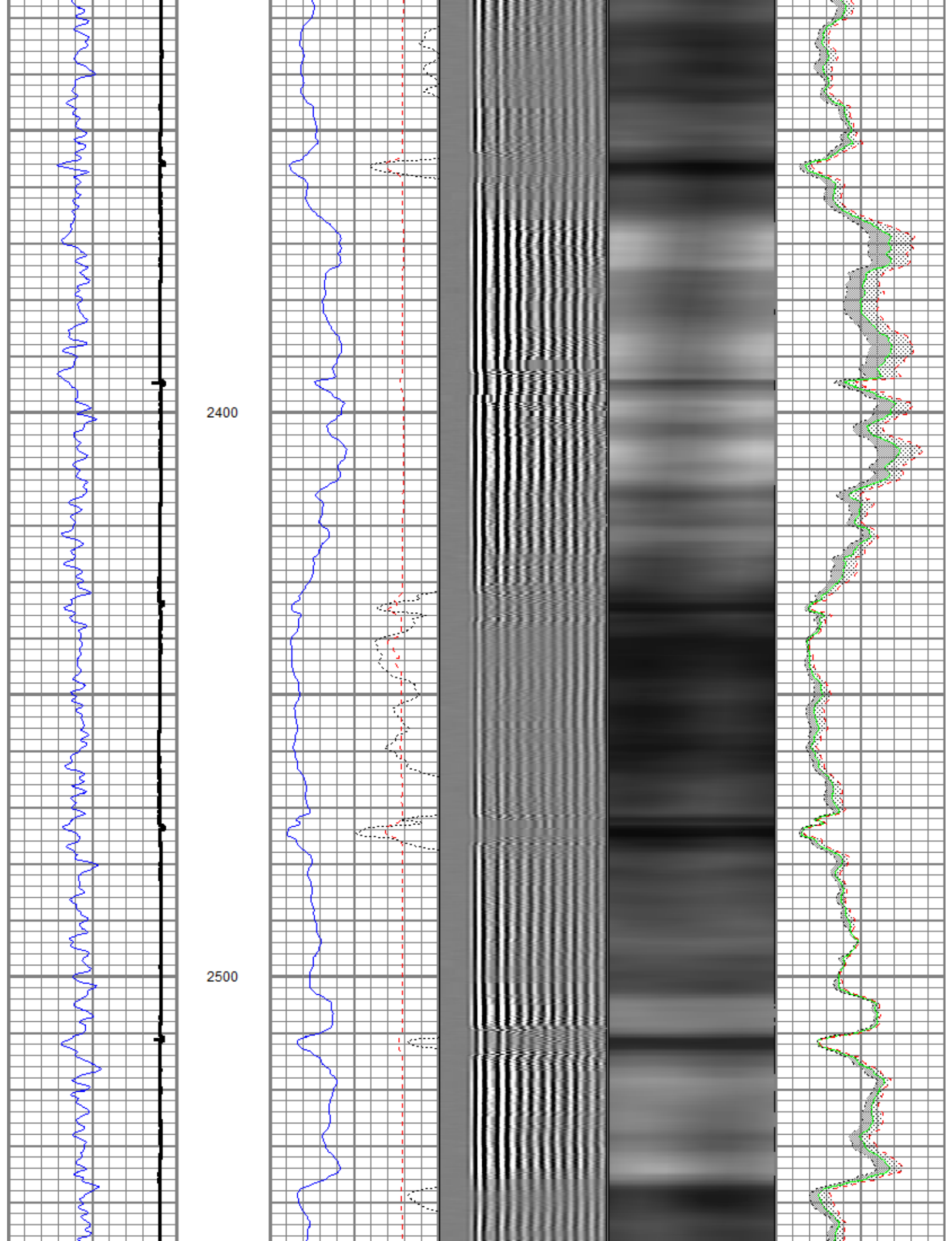


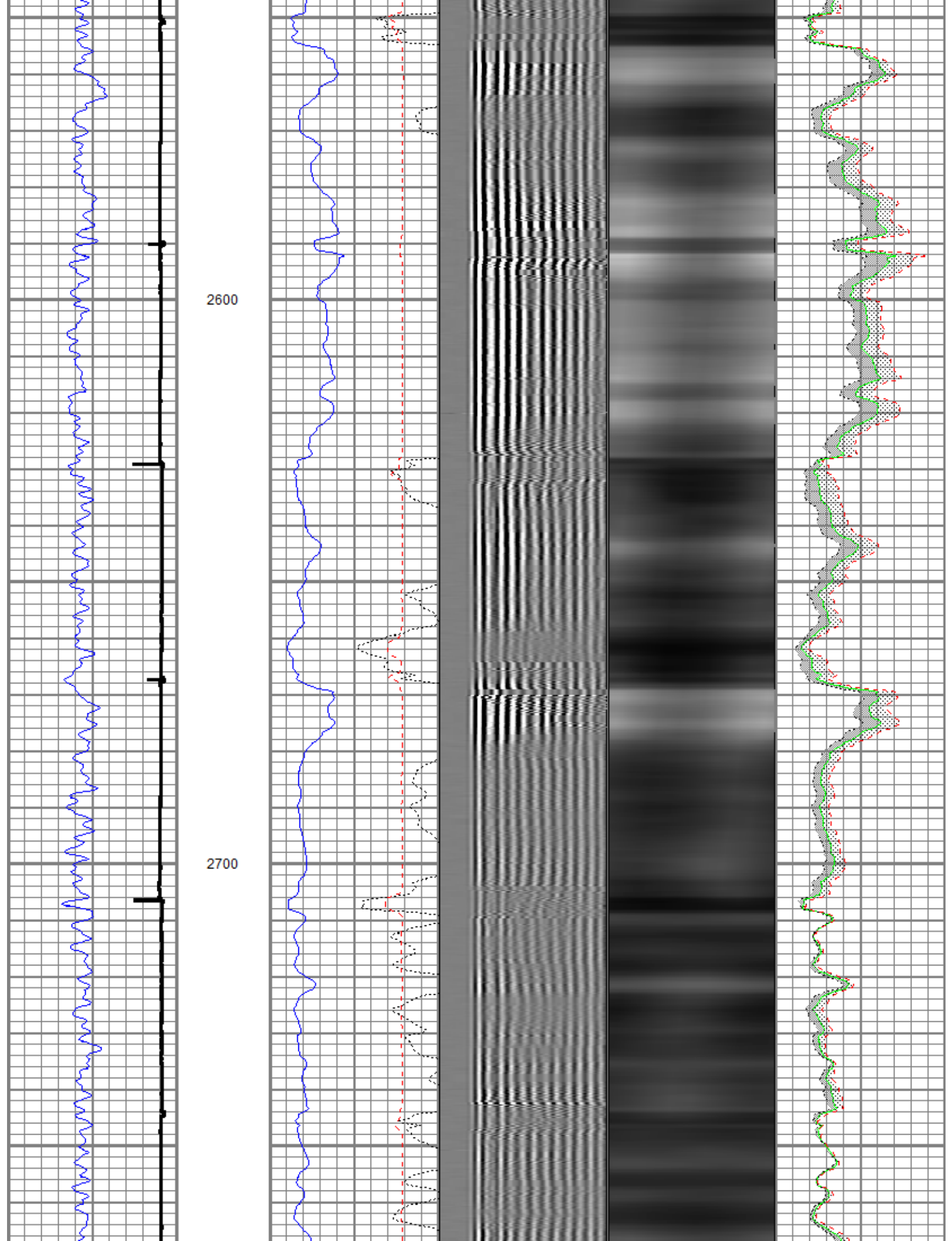


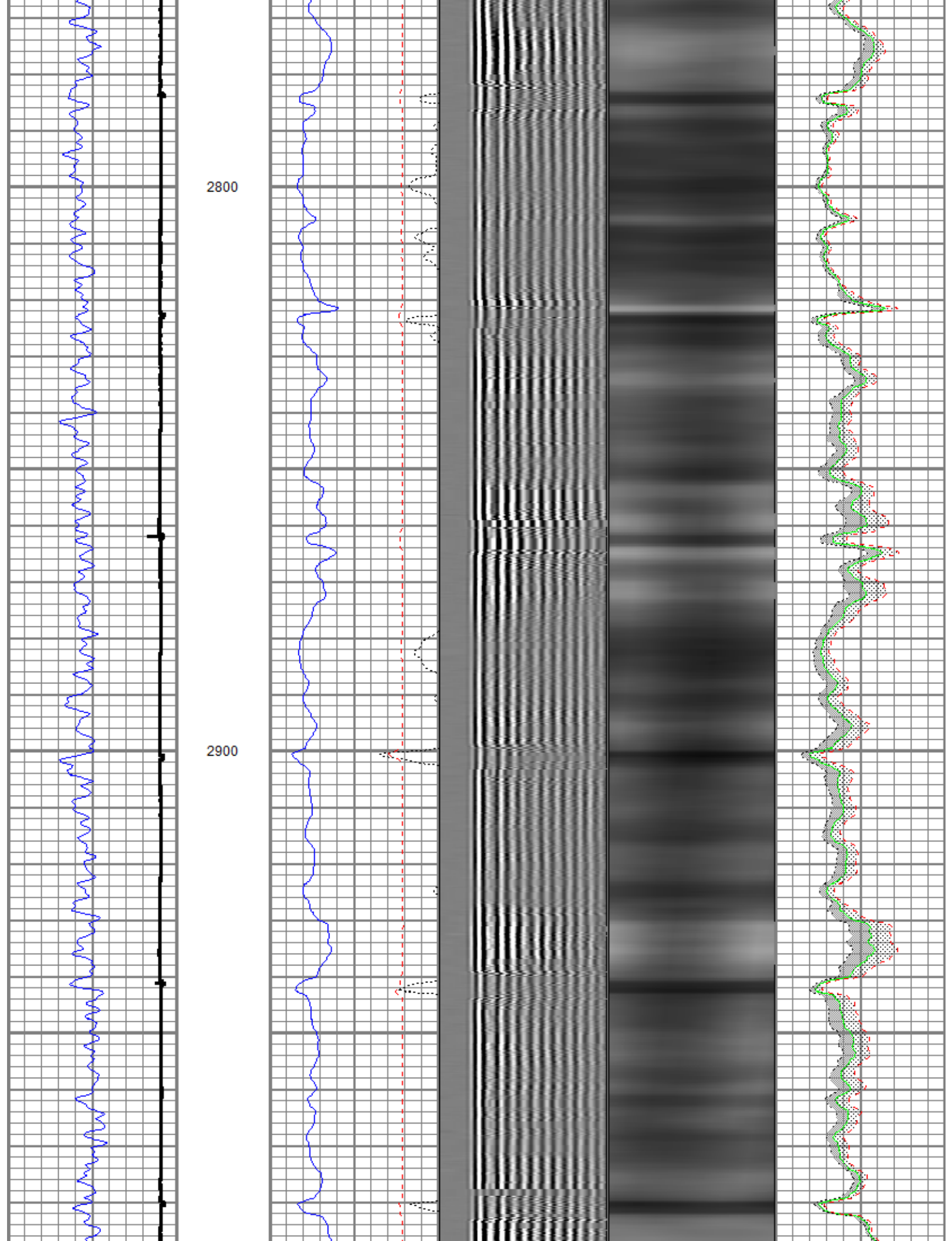


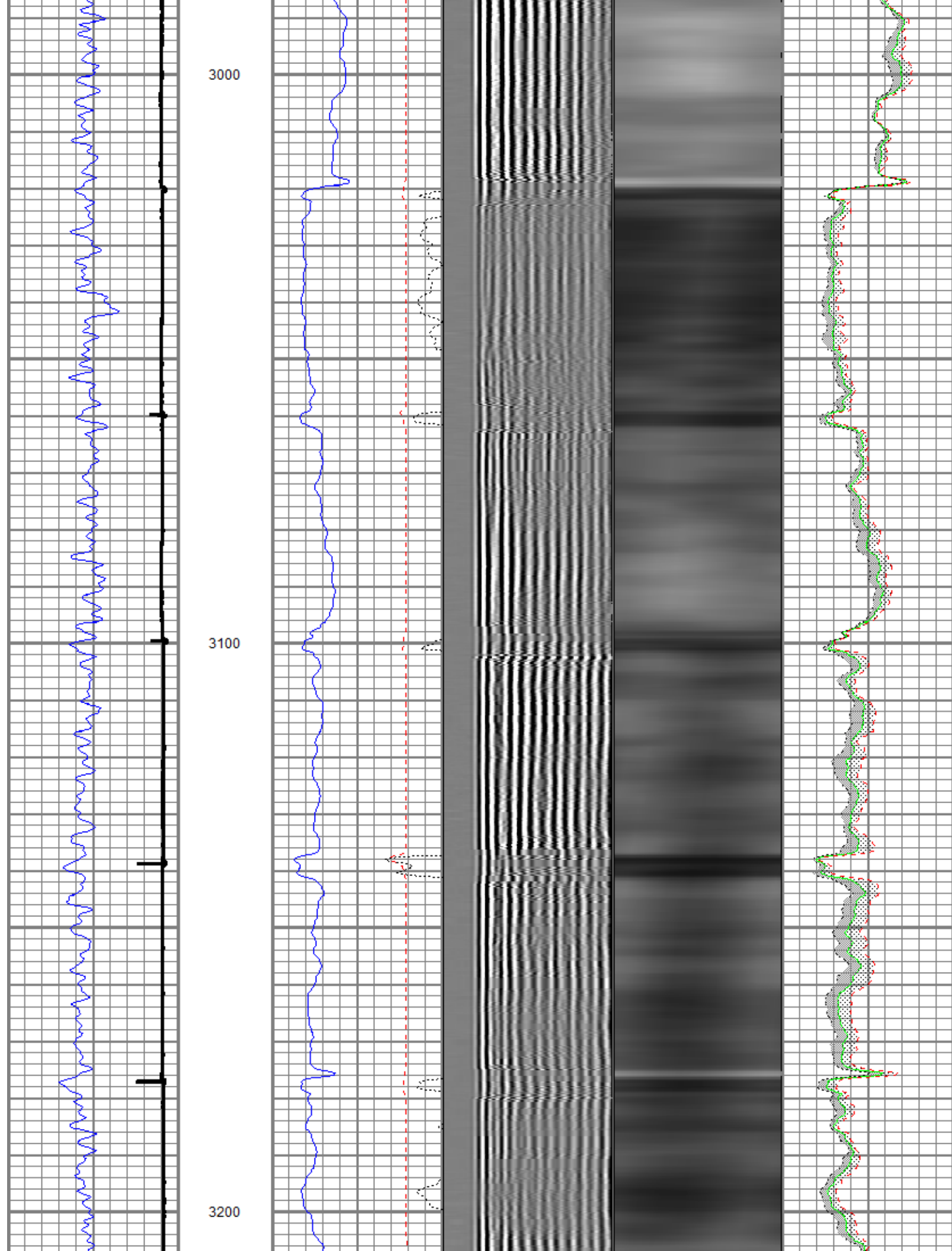


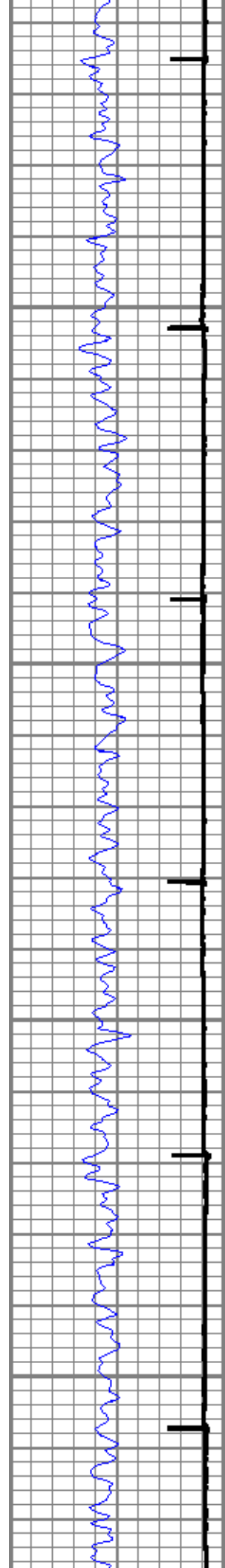






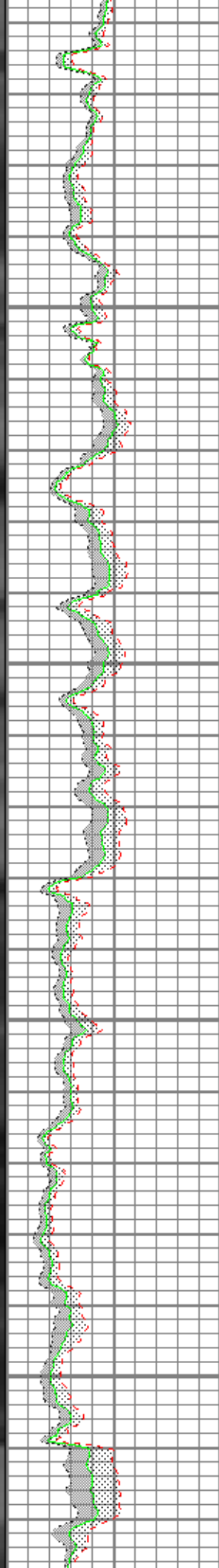
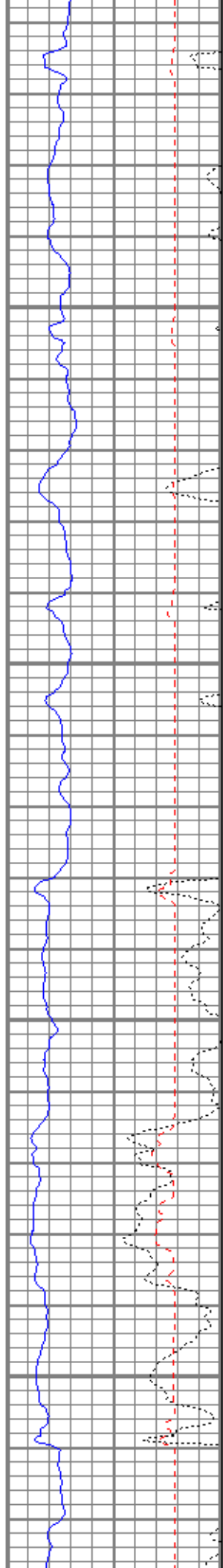


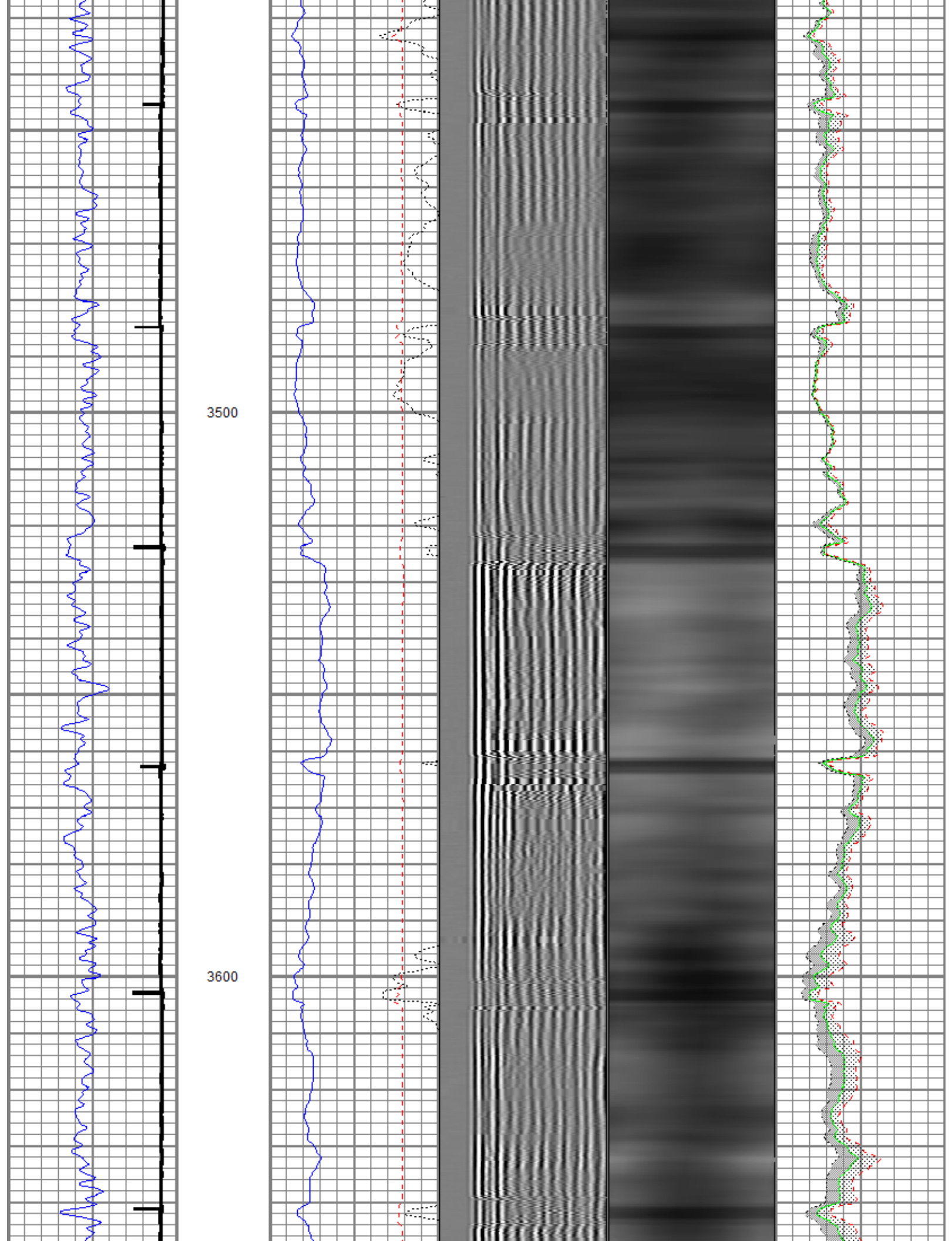


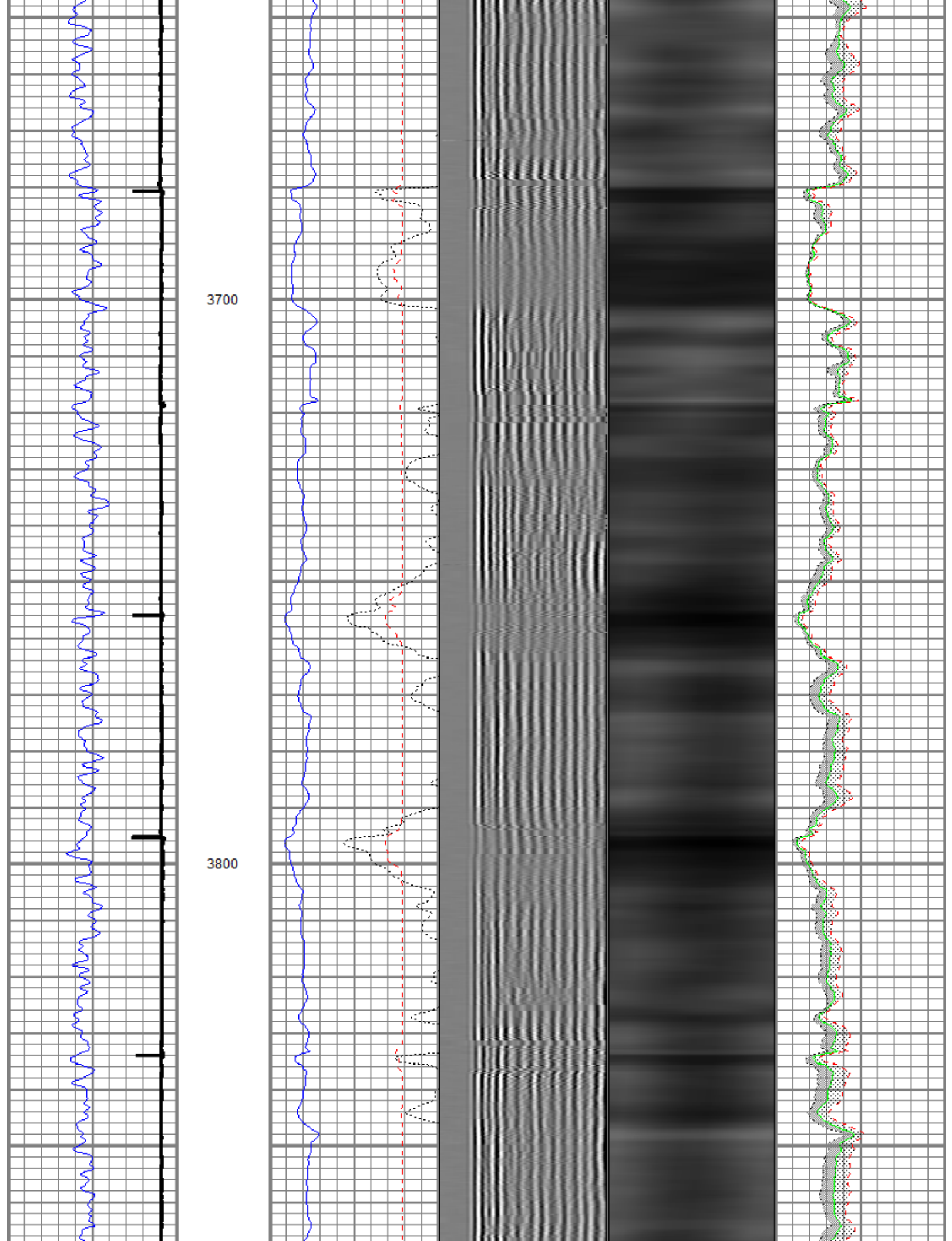


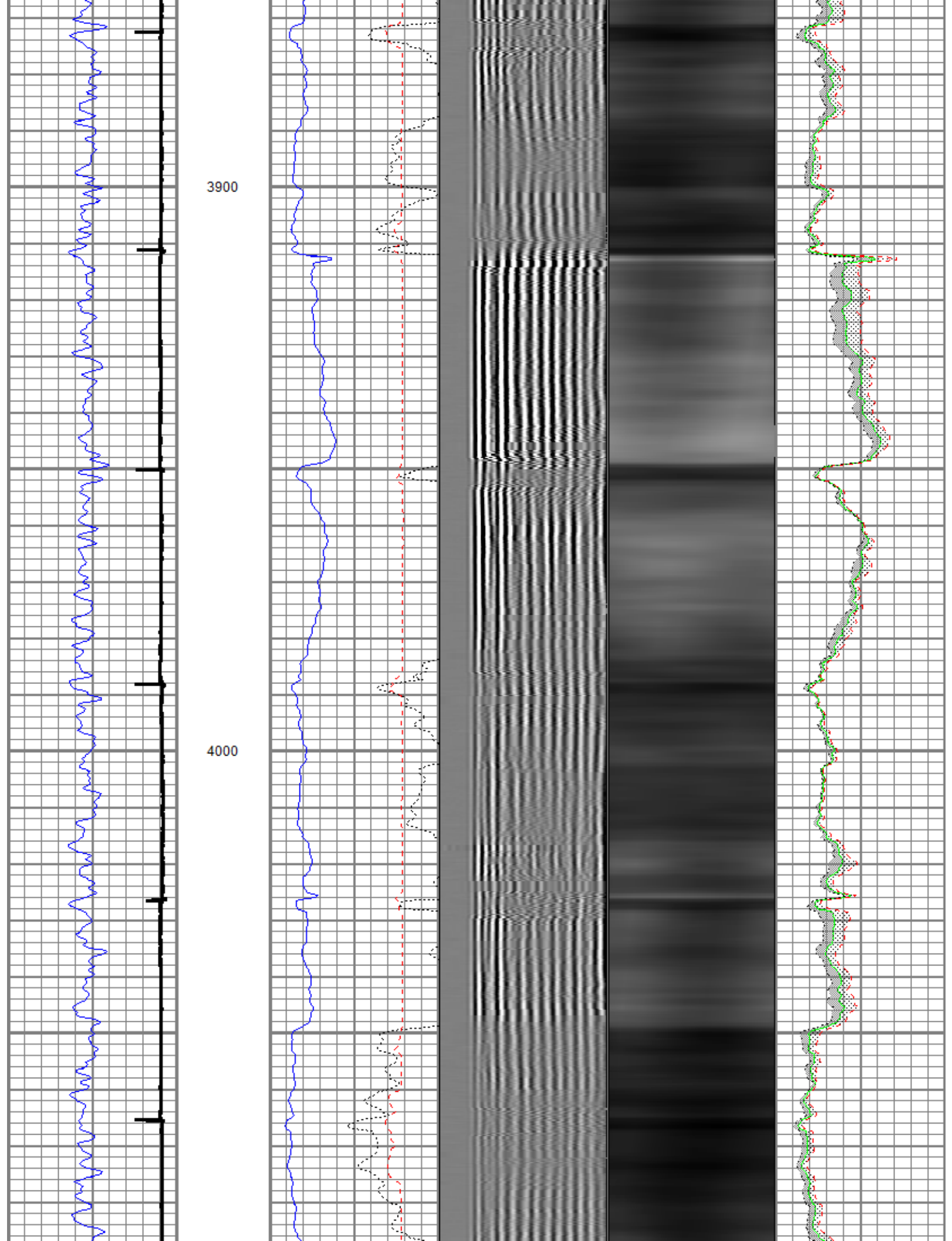
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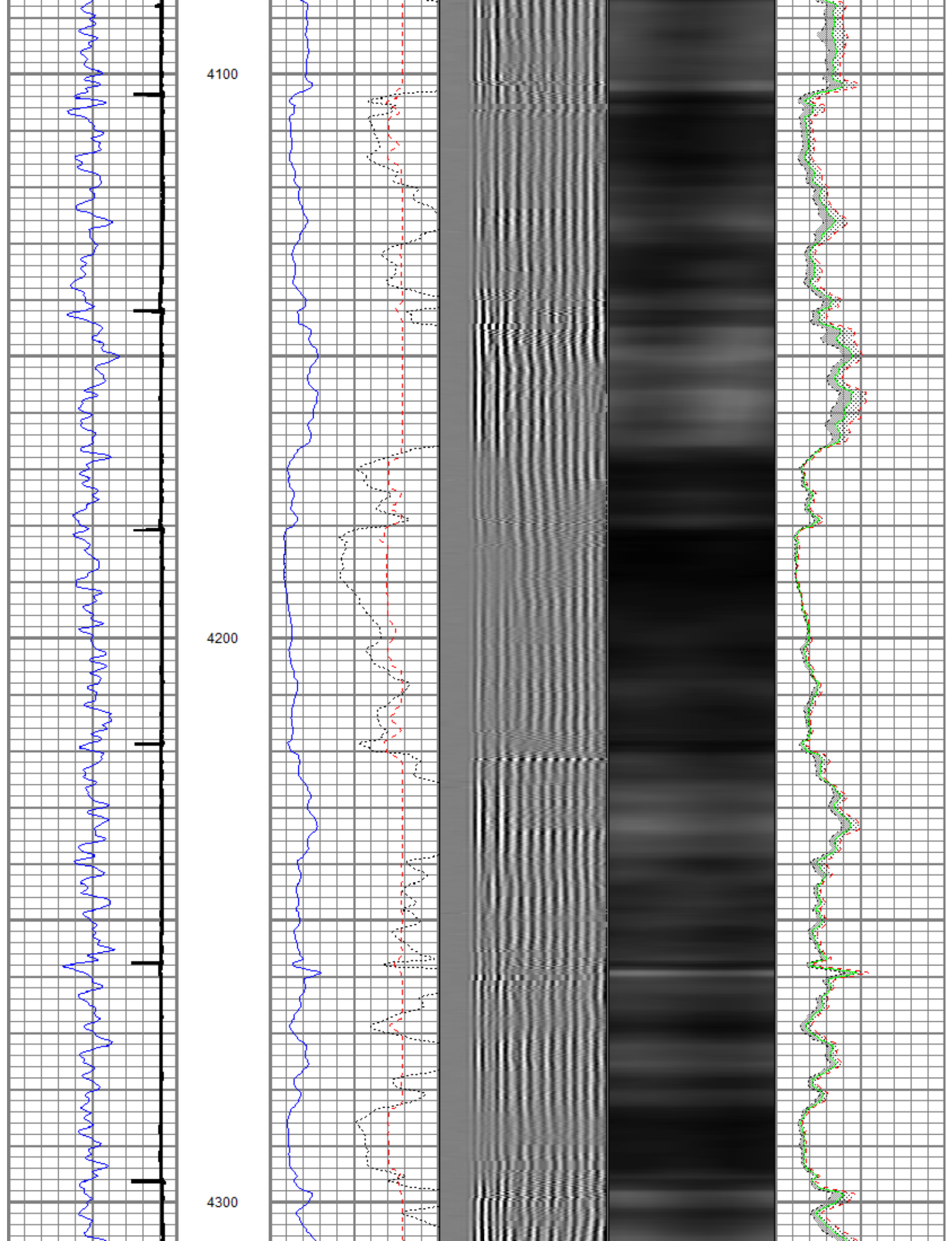
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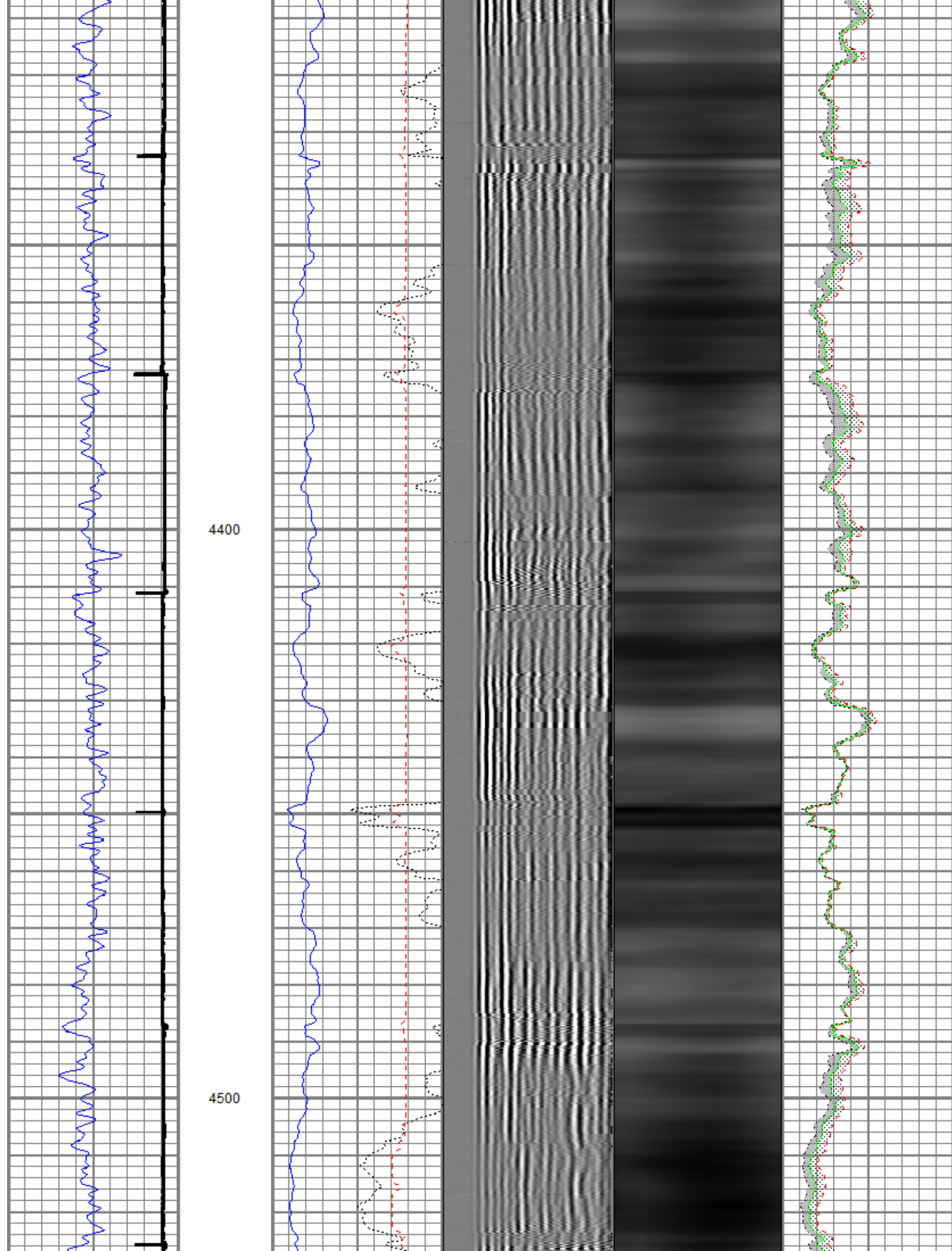


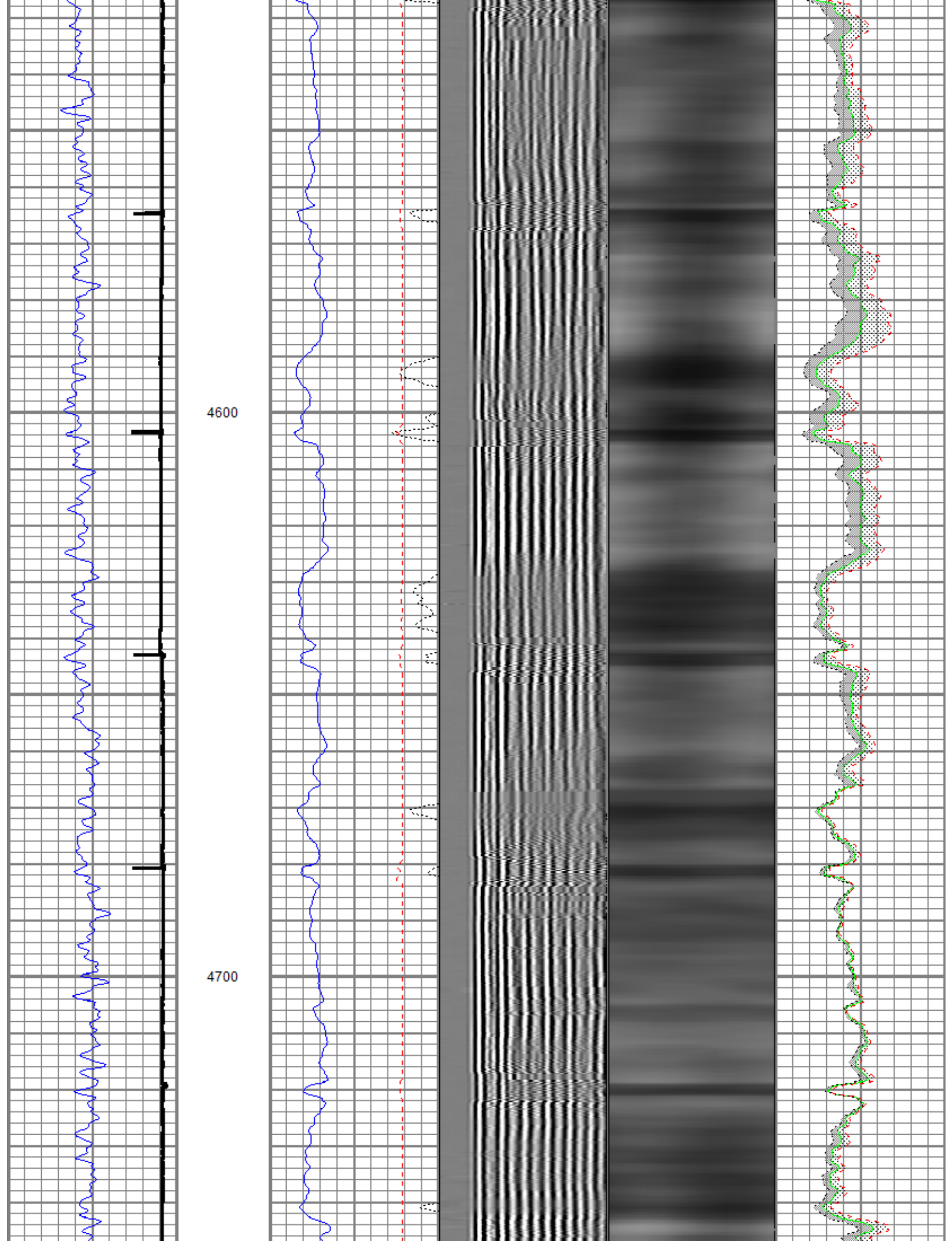


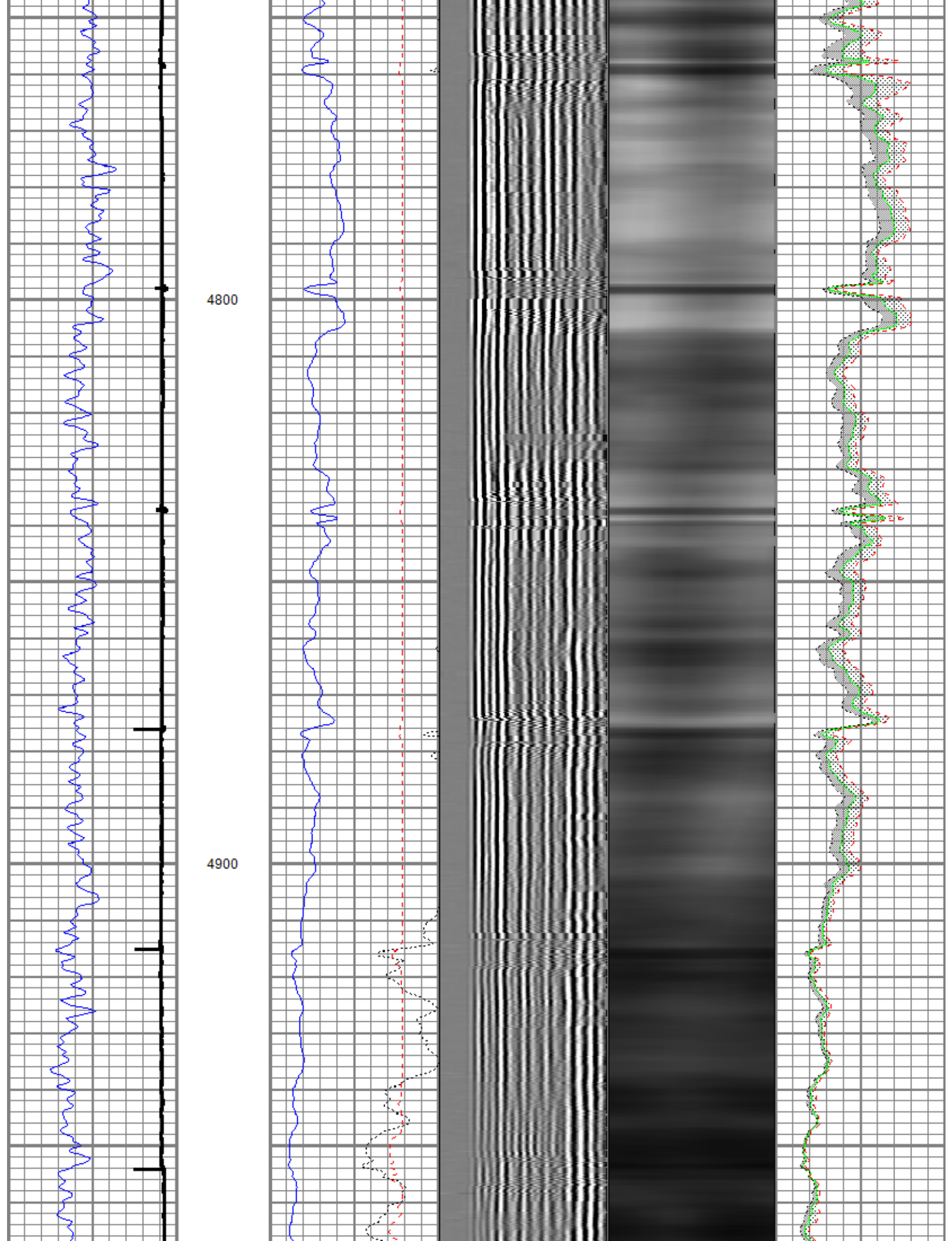


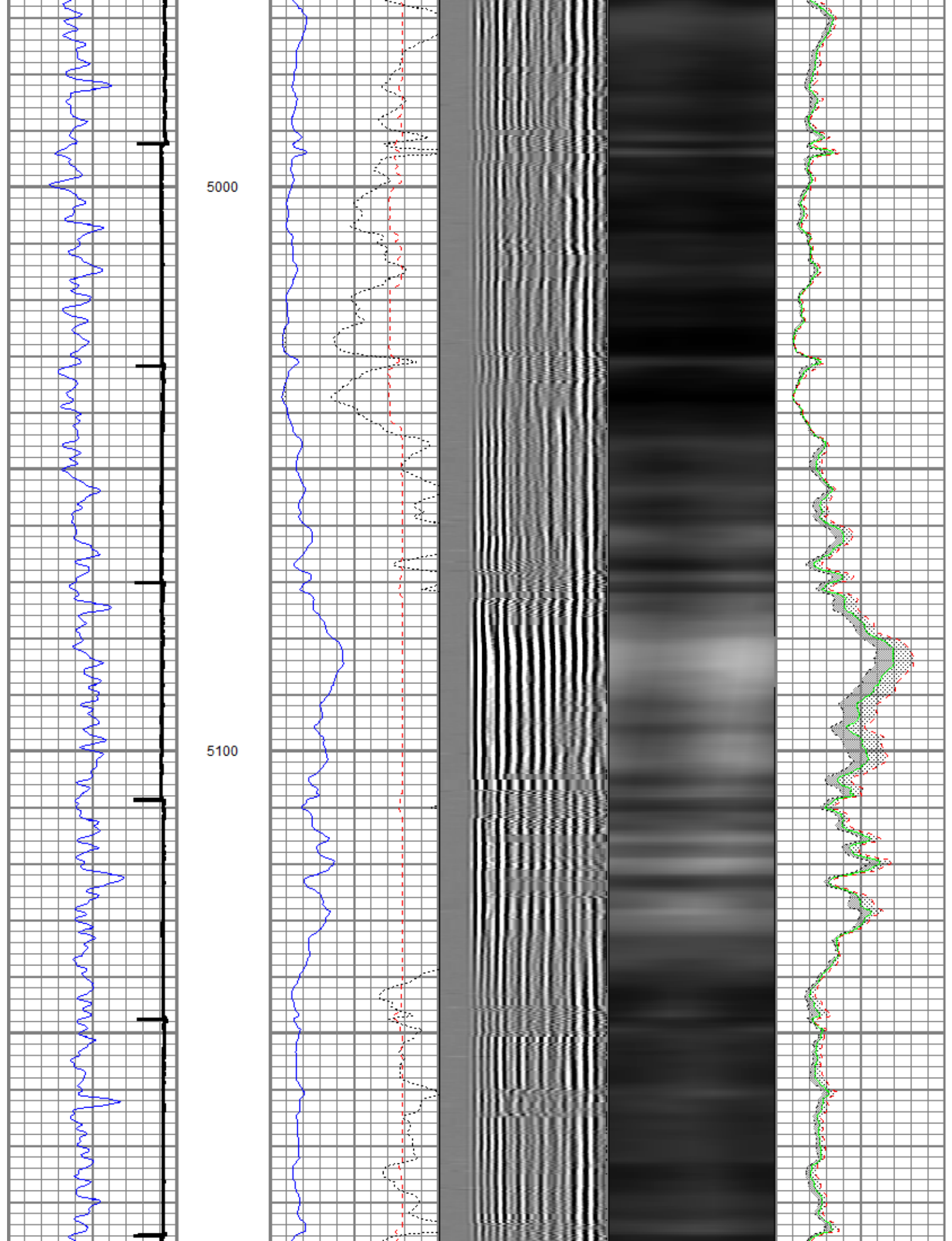


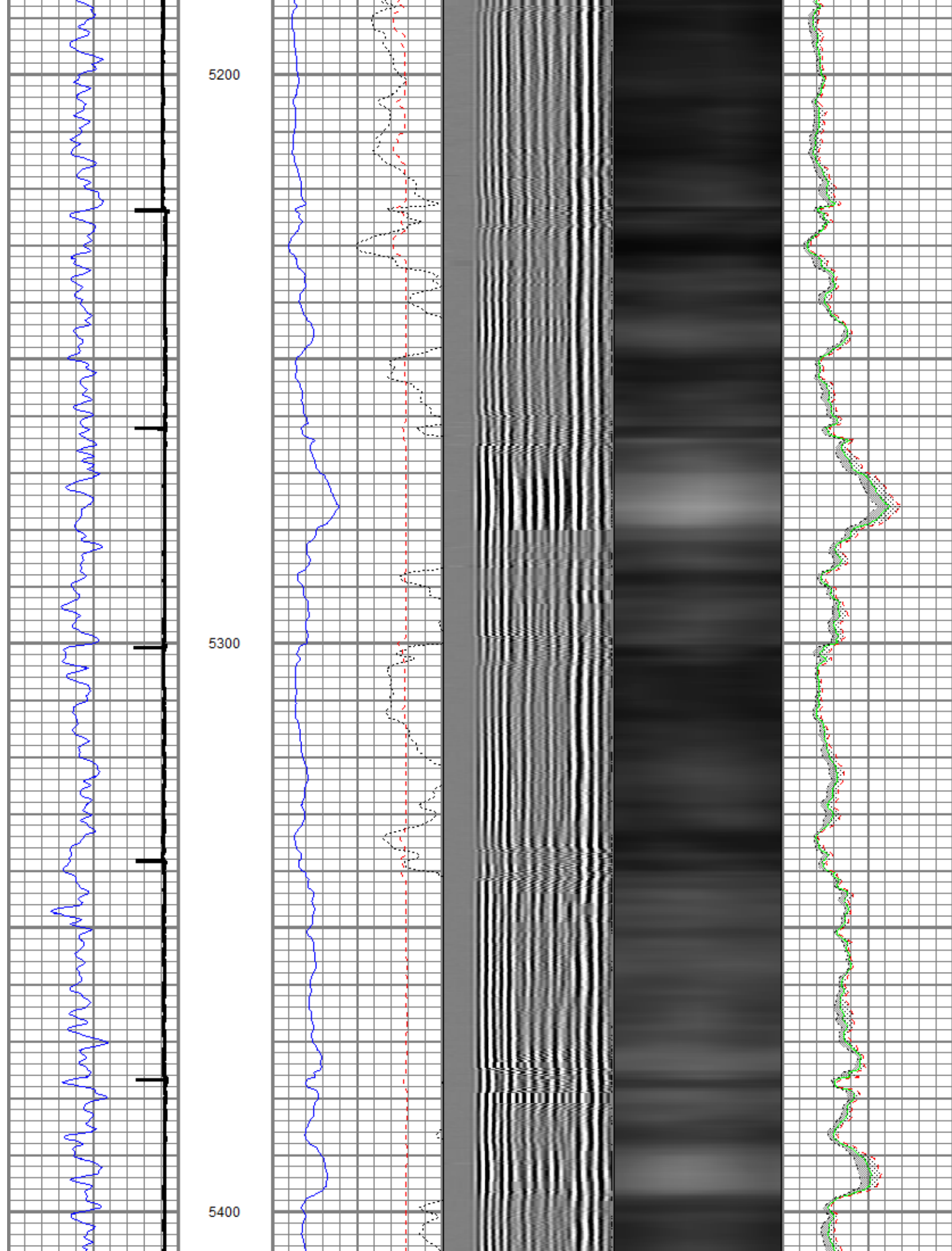


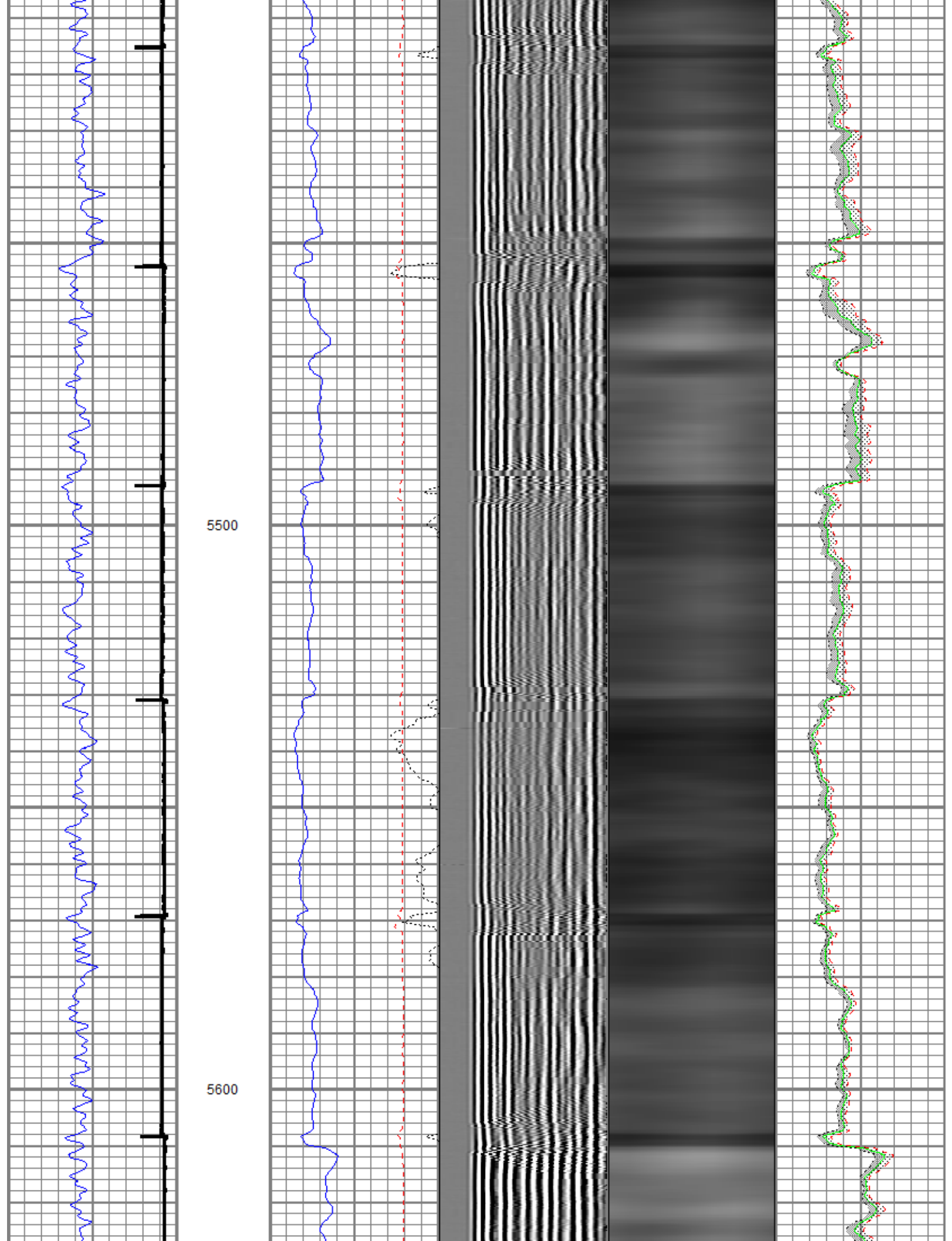


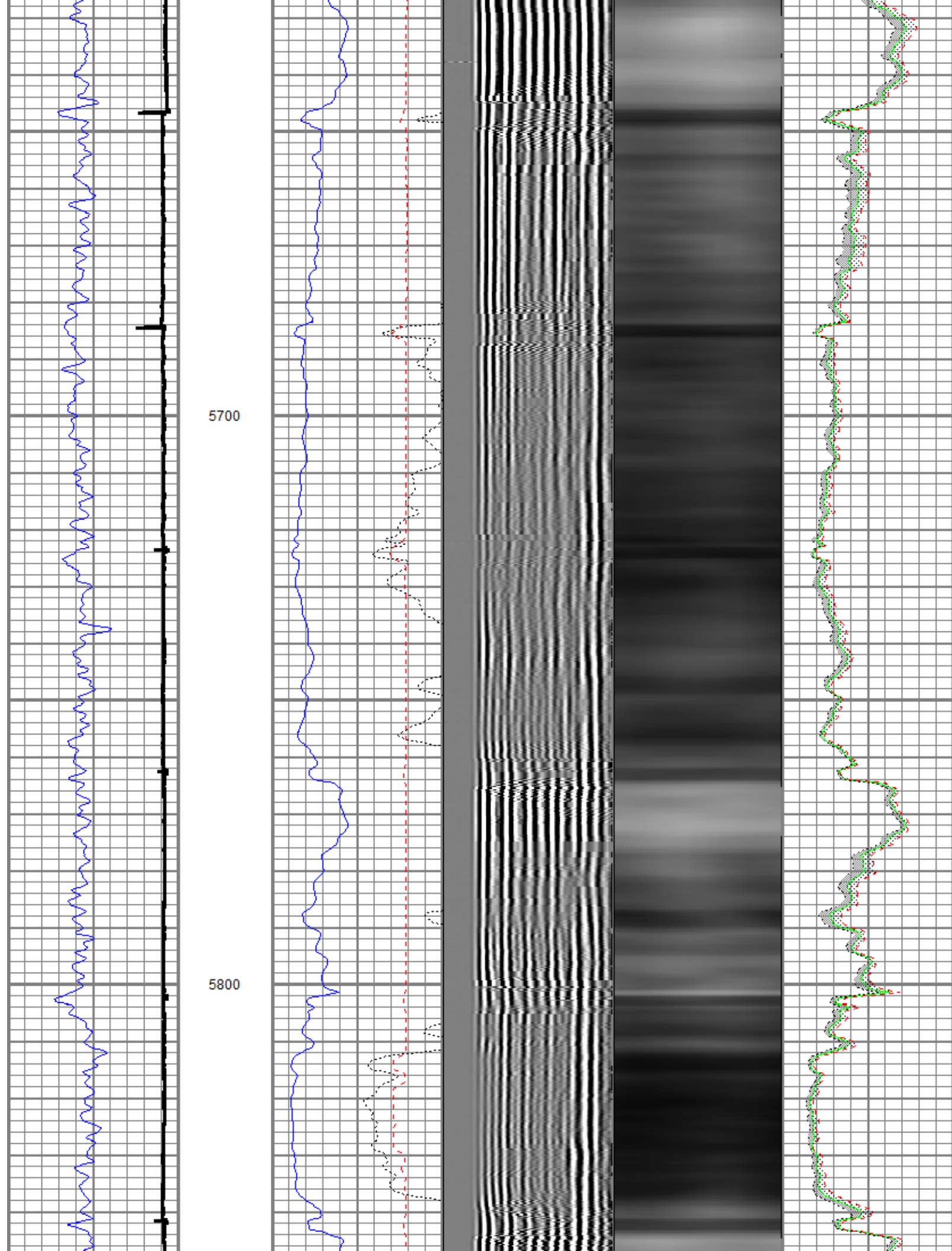


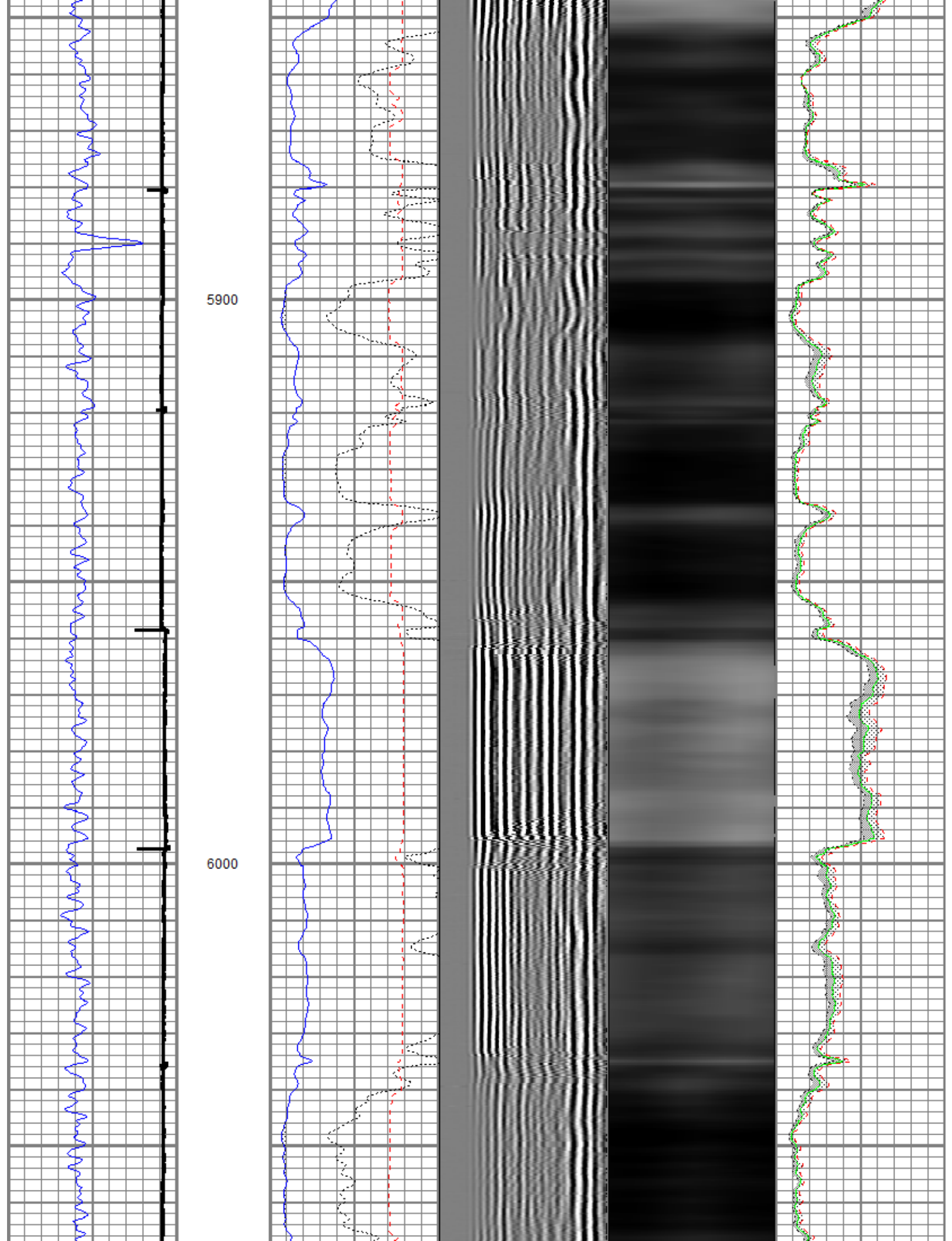


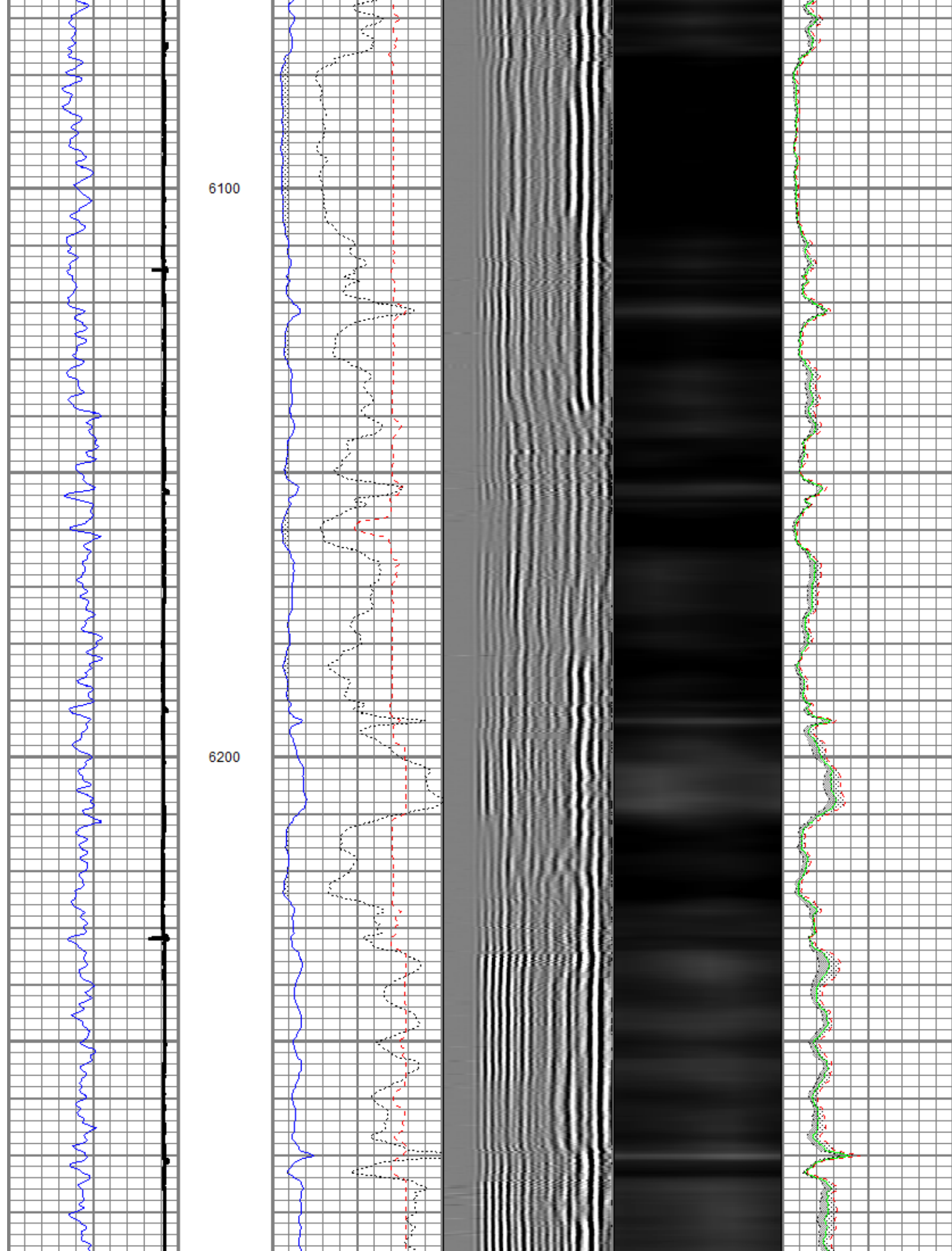


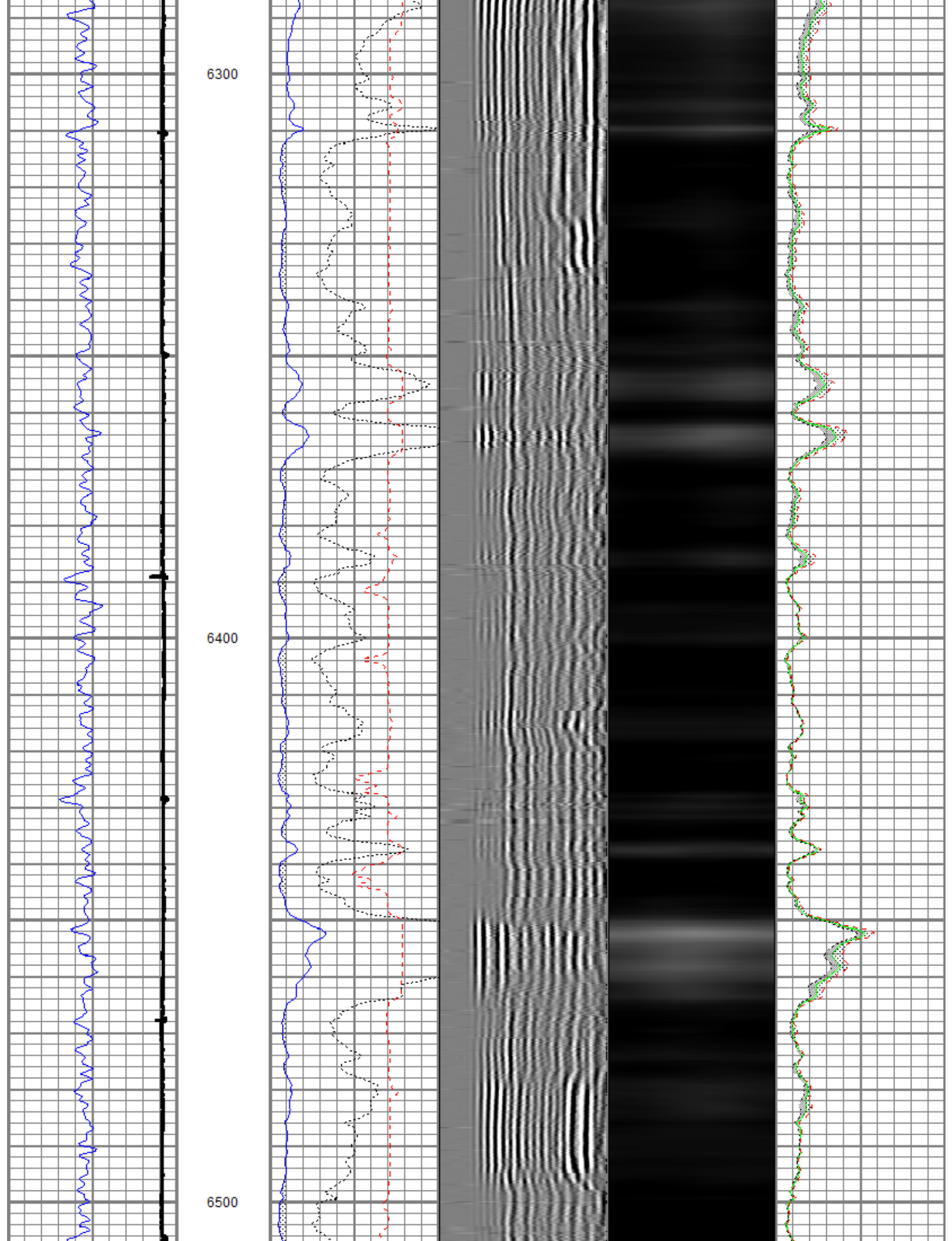


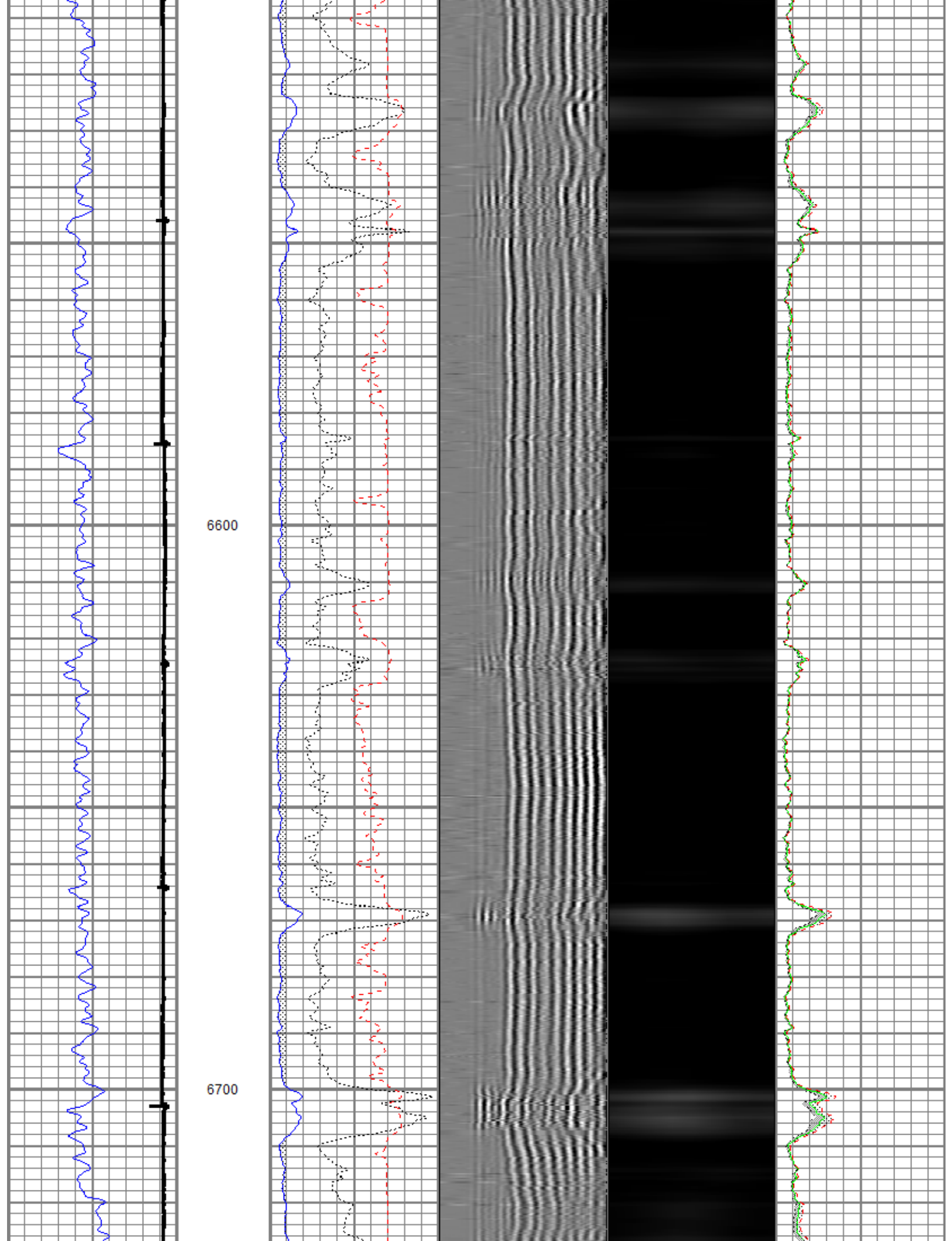


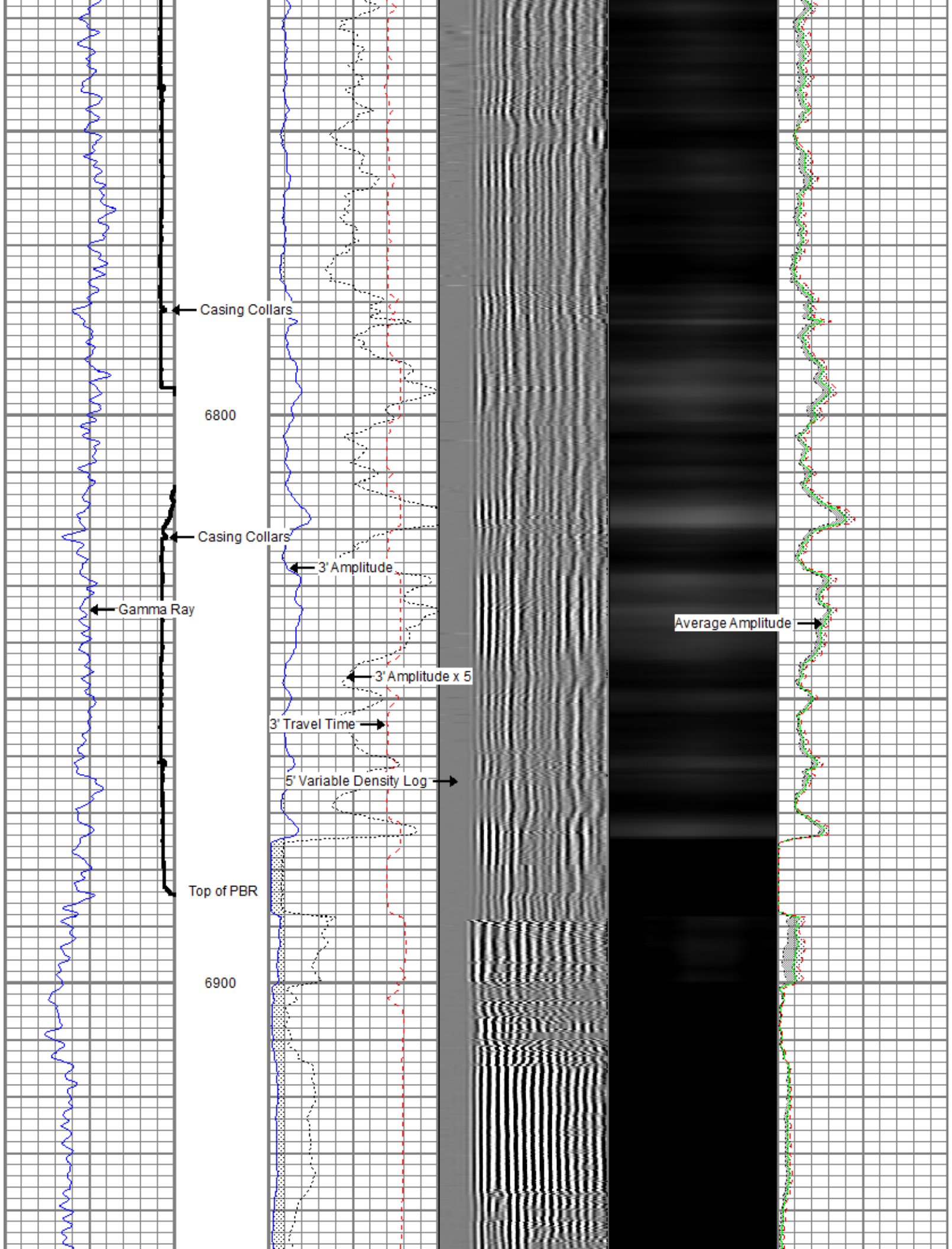


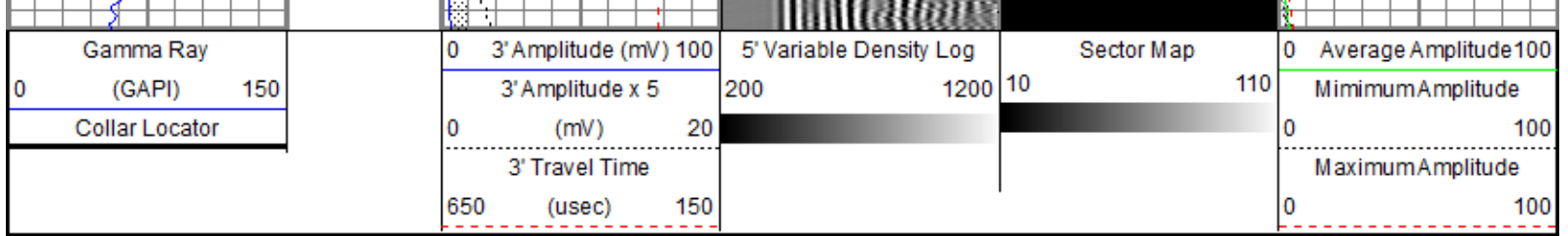








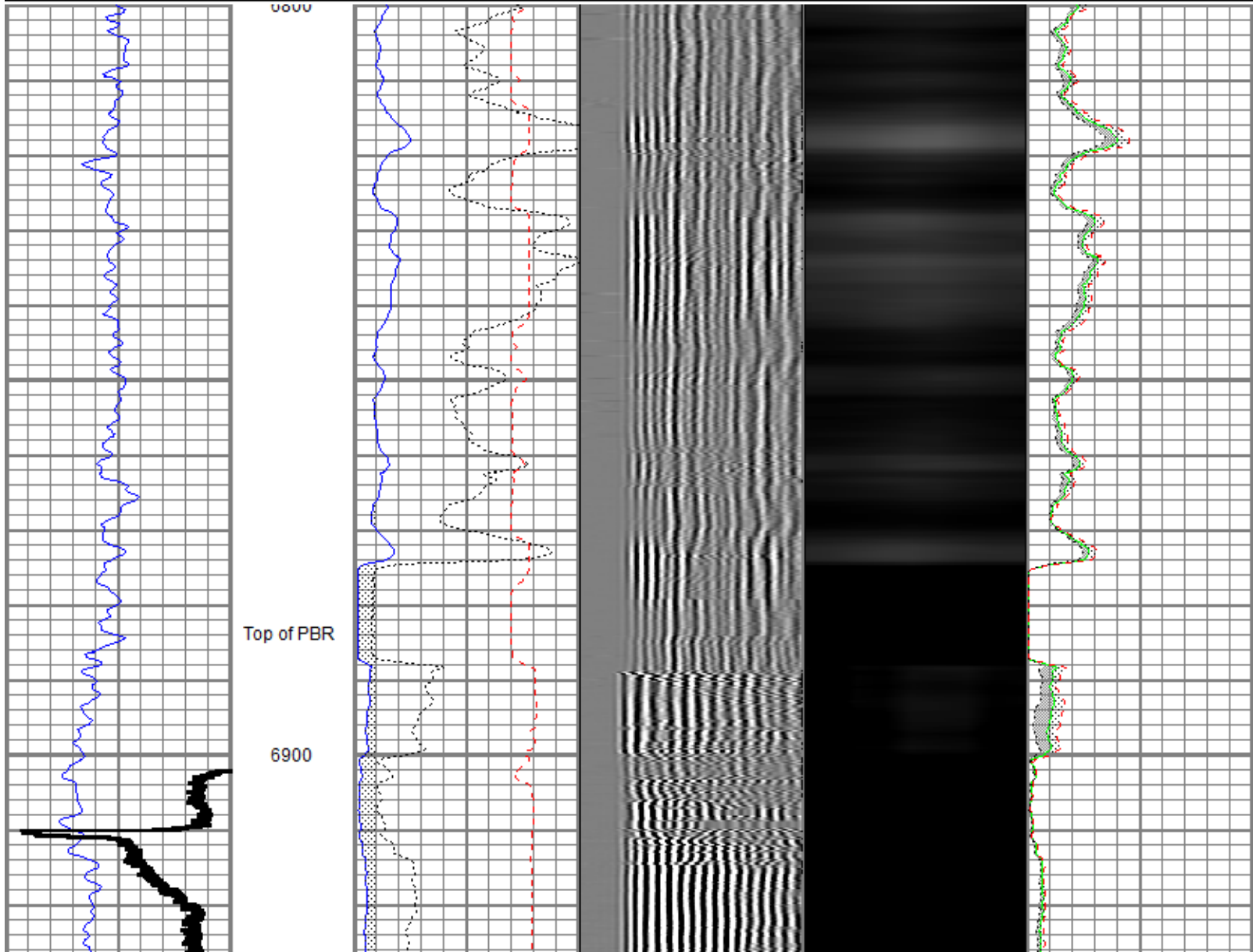
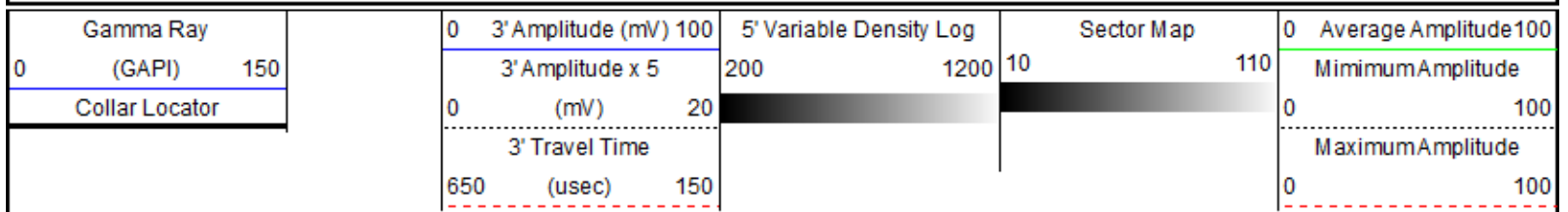


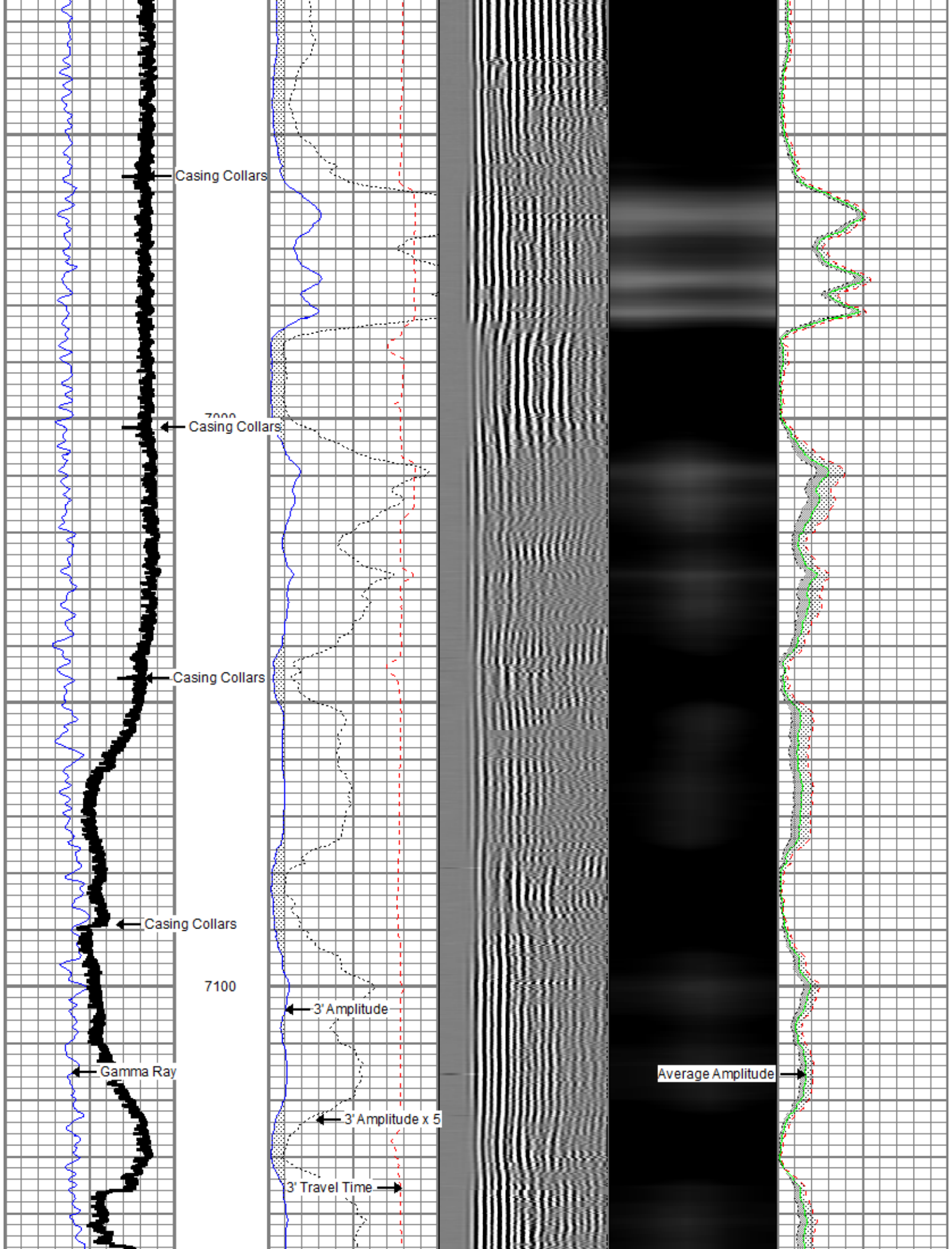


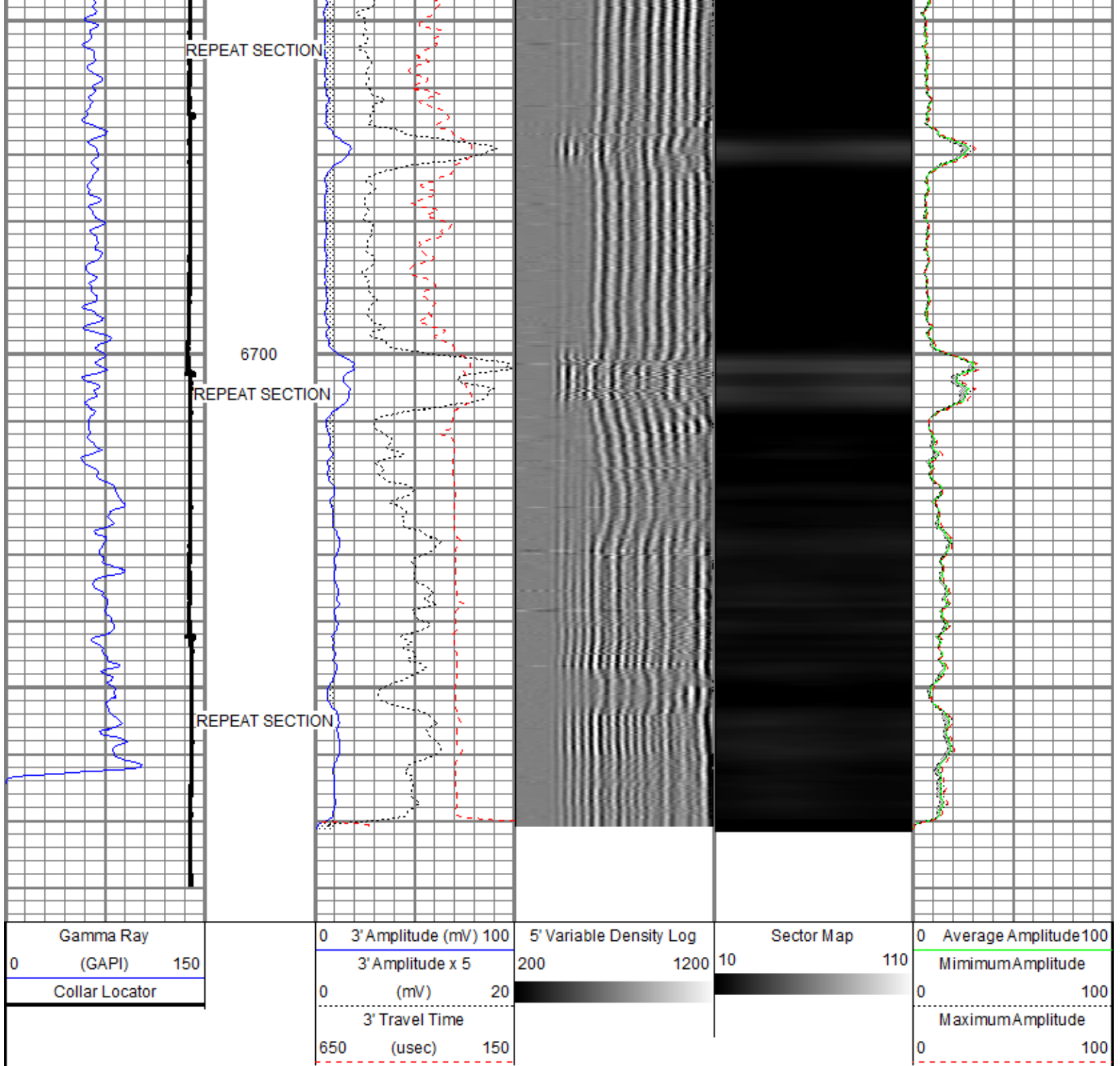
Main Pass 4.5"

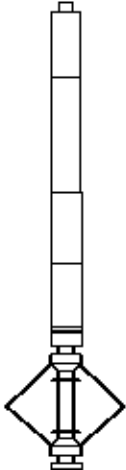
Logged with 2800 PSI Induced Surface Pressure

Database File: anadarko_grenemyer 15n-3hz_rbt-mit.db
 Dataset Pathname: 4.5main
 Presentation Format: rbt007
 Dataset Creation: Wed Apr 02 20:46:50 2014 by Calc Sondex V7.03
 Charted by: Depth in Feet scaled 1:240







Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	21.92		CHD-AES (000001) Cable Head	1.04	1.69	2.00
			XTU-001 (000001) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			PGR-020 (000001) Production Gamma Ray	1.93	1.69	9.50
			PRC-001 (000001) Production Roller Centraliser (3 Arm)	1.92	1.69	7.00

WVF3FT	15.16		9.47	3.13	140.00
WVFS1	15.16				
WVFS2	15.16				
WVFS3	15.16				
WVFS4	15.16				
WVFS5	15.16				
WVFS6	15.16				
WVFS7	15.16				
WVFS8	15.16				
CBLTEMP	15.16				
CBLROT	15.16				
WVF5FT	14.16				
		PRC-034 (000007 4 arm spring activated PRC) 2.52 Production Roller Centraliser (4 Arm)		3.00	13.00
MIT	5.30	MIT-027 (211111) Multifinger Imaging Tool (UW 40F)	4.54	2.75	61.10
		PRC-057 (000007) Production Roller Centraliser (4 Arm)	2.74	2.75	32.00
		BUL-006 (000002) Bullnose Terminator	0.22	1.69	1.20
Dataset: anadarko_grenemyer 15n-3hz_rbt-mit.db: field/well/run1/pass8 Total Length: 25.96 ft Total Weight: 272.30 lb O.D.: 3.13 in					

Calibration Report			
Database File:	anadarko_grenemyer 15n-3hz_rbt-mit.db		
Dataset Pathname:	pass9		
Dataset Creation:	Wed Apr 02 18:13:07 2014 by Log Sondex V7.03		
Multi-finger Imaging Tool Calibration Report			
Serial Number:	211111		
Number of Fingers:	40		
Tool Model:	027		
Inclinometer Calibration Report			
Performed:	Wed Nov 30 15:23:46 2005		
Calibration Angle:	45		
	Inc X	Inc Y	

Vertical:		1934	1950
Finger 1 up:		1958	2277
Finger 31 up:		1593	1959
Finger 21 up:		1908	1606
Finger 11 up:		2263	1911
Sensitivity ratio:	0.998734		
X-axis angle:	274.18		
Deviation const.:	335.932		

Finger Calibration Report

Performed:

Wed Apr 02 07:38:43 2014

Ring size: (in)	4	Sens	5	Sens	6	Sens	7
Finger 01:	992	360.0	1352	413.0	1765	433.0	2198
Finger 02:	1021	354.0	1375	410.0	1785	430.0	2215
Finger 03:	1021	344.0	1365	402.0	1767	420.0	2187
Finger 04:	993	353.0	1346	410.0	1756	433.0	2189
Finger 05:	1012	353.0	1365	403.0	1768	421.0	2189
Finger 06:	986	360.0	1346	409.0	1755	433.0	2188
Finger 07:	1124	322.0	1446	365.0	1811	391.0	2202
Finger 08:	1044	343.0	1387	397.0	1784	422.0	2206
Finger 09:	1010	356.0	1366	406.0	1772	430.0	2202
Finger 10:	1009	359.0	1368	403.0	1771	427.0	2198
Finger 11:	997	358.0	1355	400.0	1755	422.0	2177
Finger 12:	1198	326.0	1524	347.0	1871	361.0	2232
Finger 13:	1107	346.0	1453	378.0	1831	406.0	2237
Finger 14:	1187	335.0	1522	354.0	1876	376.0	2252
Finger 15:	1030	376.0	1406	412.0	1818	440.0	2258
Finger 16:	1135	362.0	1497	386.0	1883	406.0	2289
Finger 17:	1039	373.0	1412	400.0	1812	428.0	2240
Finger 18:	1016	386.0	1402	408.0	1810	432.0	2242
Finger 19:	1035	382.0	1417	411.0	1828	445.0	2273
Finger 20:	1112	374.0	1486	389.0	1875	414.0	2289
Finger 21:	1084	390.0	1474	408.0	1882	436.0	2318
Finger 22:	1094	389.0	1483	402.0	1885	430.0	2315
Finger 23:	1066	378.0	1444	410.0	1854	445.0	2299
Finger 24:	1241	354.0	1595	360.0	1955	387.0	2342
Finger 25:	1195	368.0	1563	381.0	1944	400.0	2344
Finger 26:	1211	358.0	1569	360.0	1929	376.0	2305
Finger 27:	1189	355.0	1544	371.0	1915	391.0	2306
Finger 28:	1256	356.0	1612	362.0	1974	384.0	2358
Finger 29:	1227	348.0	1575	361.0	1936	377.0	2313
Finger 30:	1240	342.0	1582	361.0	1943	385.0	2328
Finger 31:	1242	352.0	1594	370.0	1964	383.0	2347
Finger 32:	1229	336.0	1565	359.0	1924	367.0	2291
Finger 33:	1071	365.0	1436	410.0	1846	439.0	2285
Finger 34:	1101	350.0	1451	394.0	1845	425.0	2270
Finger 35:	1191	329.0	1520	367.0	1887	385.0	2272
Finger 36:	1148	336.0	1484	372.0	1856	387.0	2243
Finger 37:	1066	357.0	1423	403.0	1826	427.0	2253
Finger 38:	1045	351.0	1396	391.0	1787	409.0	2196
Finger 39:	1025	361.0	1386	413.0	1799	432.0	2231
Finger 40:	1000	350.0	1350	407.0	1757	427.0	2184

Post Survey Calibration Check

Performed:

Wed Apr 02 18:12:59 2014

Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	4.004	0.002	4.997	-0.002	5.995	-0.003	7.000	0.000
Finger 02:	3.978	-0.011	4.996	-0.002	5.996	-0.002	6.992	-0.004
Finger 03:	3.980	-0.010	4.989	-0.006	5.999	-0.001	7.003	0.002
Finger 04:	4.009	0.005	5.006	0.003	6.000	-0.000	7.016	0.008
Finger 05:	4.009	0.005	5.002	0.001	5.996	-0.002	7.017	0.009
Finger 06:	4.028	0.014	4.988	-0.006	5.999	-0.001	7.014	0.007
Finger 07:	3.991	-0.005	4.989	-0.006	5.989	-0.005	7.034	0.017
Finger 08:	3.971	-0.015	4.980	-0.010	5.986	-0.007	7.013	0.006
Finger 09:	3.994	-0.003	5.000	-0.000	5.994	-0.003	6.996	-0.002
Finger 10:	3.991	-0.004	4.993	-0.003	5.988	-0.006	7.026	0.013
Finger 11:	4.008	0.004	4.997	-0.001	5.999	-0.001	7.031	0.016
Finger 12:	3.990	-0.005	4.990	-0.005	5.996	-0.002	7.035	0.018
Finger 13:	3.971	-0.015	4.987	-0.007	5.998	-0.001	7.021	0.010

Finger 14:	3.981	-0.009	4.990	-0.005	6.011	0.006	7.023	0.012
Finger 15:	3.989	-0.006	5.000	-0.000	6.001	0.001	7.020	0.010
Finger 16:	3.980	-0.010	5.003	0.002	6.005	0.002	7.034	0.017
Finger 17:	3.994	-0.003	4.989	-0.005	5.997	-0.001	7.010	0.005
Finger 18:	4.002	0.001	4.998	-0.001	5.991	-0.005	7.001	0.000
Finger 19:	4.002	0.001	5.006	0.003	5.994	-0.003	7.017	0.008
Finger 20:	3.996	-0.002	4.981	-0.009	5.973	-0.013	6.988	-0.006
Finger 21:	3.999	-0.000	5.003	0.002	5.996	-0.002	7.023	0.011
Finger 22:	3.999	-0.000	5.001	0.000	5.995	-0.002	7.006	0.003
Finger 23:	3.999	-0.000	4.997	-0.002	5.999	-0.001	7.005	0.002
Finger 24:	3.997	-0.002	4.996	-0.002	5.998	-0.001	7.003	0.002
Finger 25:	3.994	-0.003	4.986	-0.007	5.995	-0.003	7.026	0.013
Finger 26:	4.011	0.005	4.999	-0.000	6.004	0.002	7.018	0.009
Finger 27:	3.997	-0.002	4.993	-0.004	6.000	0.000	7.030	0.015
Finger 28:	3.986	-0.007	4.987	-0.007	5.997	-0.002	7.008	0.004
Finger 29:	3.989	-0.006	4.989	-0.005	5.998	-0.001	7.019	0.010
Finger 30:	4.000	0.000	4.994	-0.003	5.994	-0.003	7.030	0.015
Finger 31:	3.989	-0.006	4.996	-0.002	5.995	-0.002	7.022	0.011
Finger 32:	3.986	-0.007	4.993	-0.003	5.982	-0.009	7.015	0.007
Finger 33:	3.992	-0.004	4.989	-0.005	5.994	-0.003	7.027	0.013
Finger 34:	3.978	-0.011	4.990	-0.005	5.996	-0.002	7.006	0.003
Finger 35:	3.989	-0.006	5.002	0.001	5.995	-0.003	7.040	0.020
Finger 36:	3.977	-0.011	4.999	-0.001	6.013	0.006	7.021	0.010
Finger 37:	4.001	0.000	4.994	-0.003	5.994	-0.003	7.016	0.008
Finger 38:	4.004	0.002	4.997	-0.001	5.995	-0.003	7.005	0.002
Finger 39:	4.004	0.002	4.994	-0.003	5.997	-0.002	7.015	0.008
Finger 40:	3.992	-0.004	4.995	-0.002	5.993	-0.003	7.028	0.014
Average:	3.994	-0.003	4.994	-0.003	5.996	-0.002	7.016	0.008

Segmented Cement Bond Log Calibration Report

Serial Number: 10013454 7in
Tool Model: 004

Calibration Casing Diameter: 7.000 in
Calibration Depth: 1158.972 ft

Master Calibration, performed Wed Apr 02 09:07:32 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.002	0.672	0.800	62.165	90.959	1.022
5FT	-0.004	0.736	0.800	62.165	82.979	1.101
S1	-0.002	0.693	0.000	100.000	143.833	0.351
S2	-0.004	0.681	0.000	100.000	146.031	0.556
S3	-0.003	0.661	0.000	100.000	150.666	0.449
S4	-0.004	0.652	0.000	100.000	152.515	0.559
S5	-0.002	0.656	0.000	100.000	152.076	0.273
S6	-0.004	0.666	0.000	100.000	149.446	0.536
S7	-0.002	0.676	0.000	100.000	147.426	0.355
S8	-0.003	0.691	0.000	100.000	144.198	0.396

Gamma Ray Calibration Report

Serial Number: 000001
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



Well	Grenemyer 15N-3HZ
Field	Wattenberg
County	Weld
State	Colorado