



RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: CH80983	Company Well Field County	WPX ENERGY FEDERAL RU 331-5 RULISON GARFIELD State CO
API No: 05045217890000	Location SHL: 225' FNL & 2615' FWL BHL: 509' FNL & 1974' FEL SEC 5 TWP 7S RGE 93W	
5 7S 93W RU 23-5 PAD NABORS 576	Other Services RPM KB 7628 ft DF GL 7602 ft	
Permanent Datum Log Measured From Drill Measured From	GL KB KB	Elevation 26 ft Above P. D.

Date	28/DEC/13
Run	ONE
Service Order	US625077
Depth Driller	9981 ft
Depth Logger	9982 ft
Bottom Logged Interval	9952 ft
Top Logged Interval	26 ft
Time Started	9:00
Time Finished	13:30
Operator Rig Time	4.5 HOURS
Type of Fluid In Hole	WATER
Fluid Density	NA
Salinity	NA
Fluid Level	78 ft
Logged Cement Top	NA
Wellhead Pressure	0 psi
Maximum Hole Deviation	NA
Nominal Logging Speed	65 fpm
Maximum Recorded Temperature	240 degF
Reference Log	NA
Reference Log Date	NA
Equipment No.	4271
Location	GRAND JCT.
Recorded By	NEWELL
Witnessed By	JEFF DUCY

- FOLD HERE

In making interpretations of logs, our employees will give the customer the benefit of their best judgement. But since all interpretations are opinions based on inferences from electrical or other measurements, we cannot, and we do not guarantee the accuracy or correctness of any interpretation. We shall not be liable or responsible for any loss, cost, damages, or expenses whatsoever incurred or sustained by the customer resulting from any interpretation made by any of our employees.

Borehole Record		
Bit Size	From	To
13.5 In	0 ft	1105 ft
8.75 In	1105 ft	10052 ft

Casing Record				
Size	Weight	Grade	From	To
9.825 In			0 ft	1105 ft
4.5 In	11.6 lbm/ft		0 ft	10052 ft

Remarks
All data on this log is shifted using the CCL curve to put the wellhead (top CCL mark) on depth with ground level elevation at the client's request.
The amount of linear shift is 7 feet.
Logged with zero PSI at wellhead.

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	CBL	1426XA	10218495	CENTRALIZED
1	1	GR/CCL	1355XA	10580208	CENTRALIZED

PRIMARY PRESENTATION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	29.447	9980.750
RAL	Amp Gate Start Near	195.000	usec	29.447	9980.750
RAL	Amp Gate Start Radial	195.000	usec	29.447	9980.750
RAL	Amp Gate Width Far	25.000	usec	29.447	9980.750
RAL	Amp Gate Width Near	25.000	usec	29.447	9980.750
RAL	Amp Gate Width Radial	25.000	usec	29.447	9980.750
RAL	casing od	4.500	inches	29.447	9980.750
RAL	casing wt	11.600	lbm/ft	29.447	9980.750
RAL	FB Start Far	291.900	usec	29.447	9980.750
RAL	FB Start Near	175.391	usec	29.447	9980.750
RAL	FB Start Radial	175.391	usec	29.447	9980.750
RAL	FB Thresh Far	10.000	mv	29.447	9980.750
RAL	FB Thresh Near	4.000	mv	29.447	9980.750
RAL	FB Thresh Radial	4.000	mv	29.447	9980.750
RAL	Fluid Travel Time	200.000	usec/ft	29.447	9980.750

DEPTH OFFSETS
(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES						
1426XA	-11.000	ACAL	ANR	AR1	AR2	AR3	AR4	
		AR5	AR6	AR7	AR8	CHV	FPR2	

1426XA -10.040
1355XA -5.620
1355XA -1.500
1355XA 0.000

FPR3	FPR5	TT3	TTR1	TTR2	TTR3
TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
AFAR	SIG	TT5			
CCL					
GR					
TEMP					

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

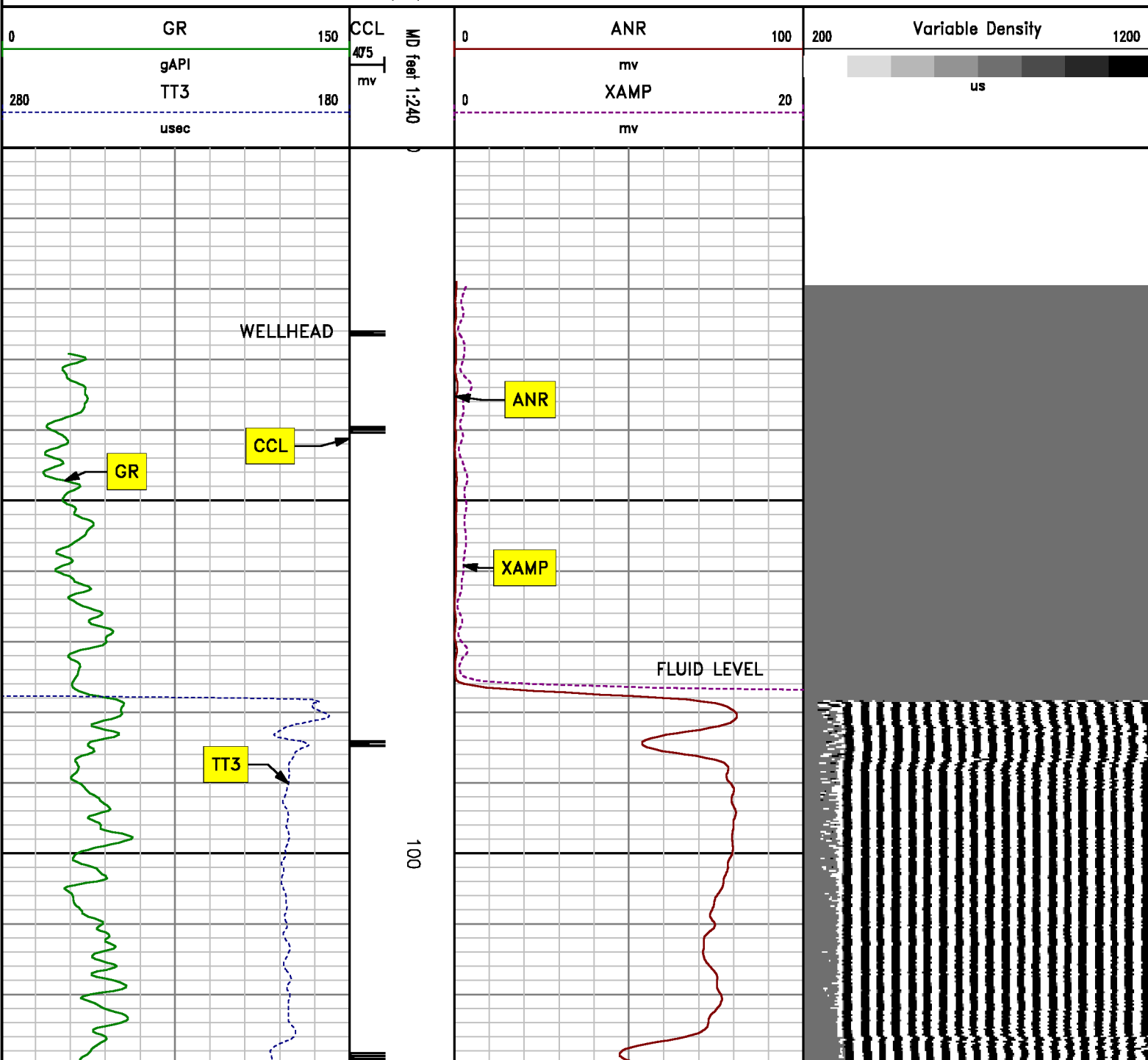
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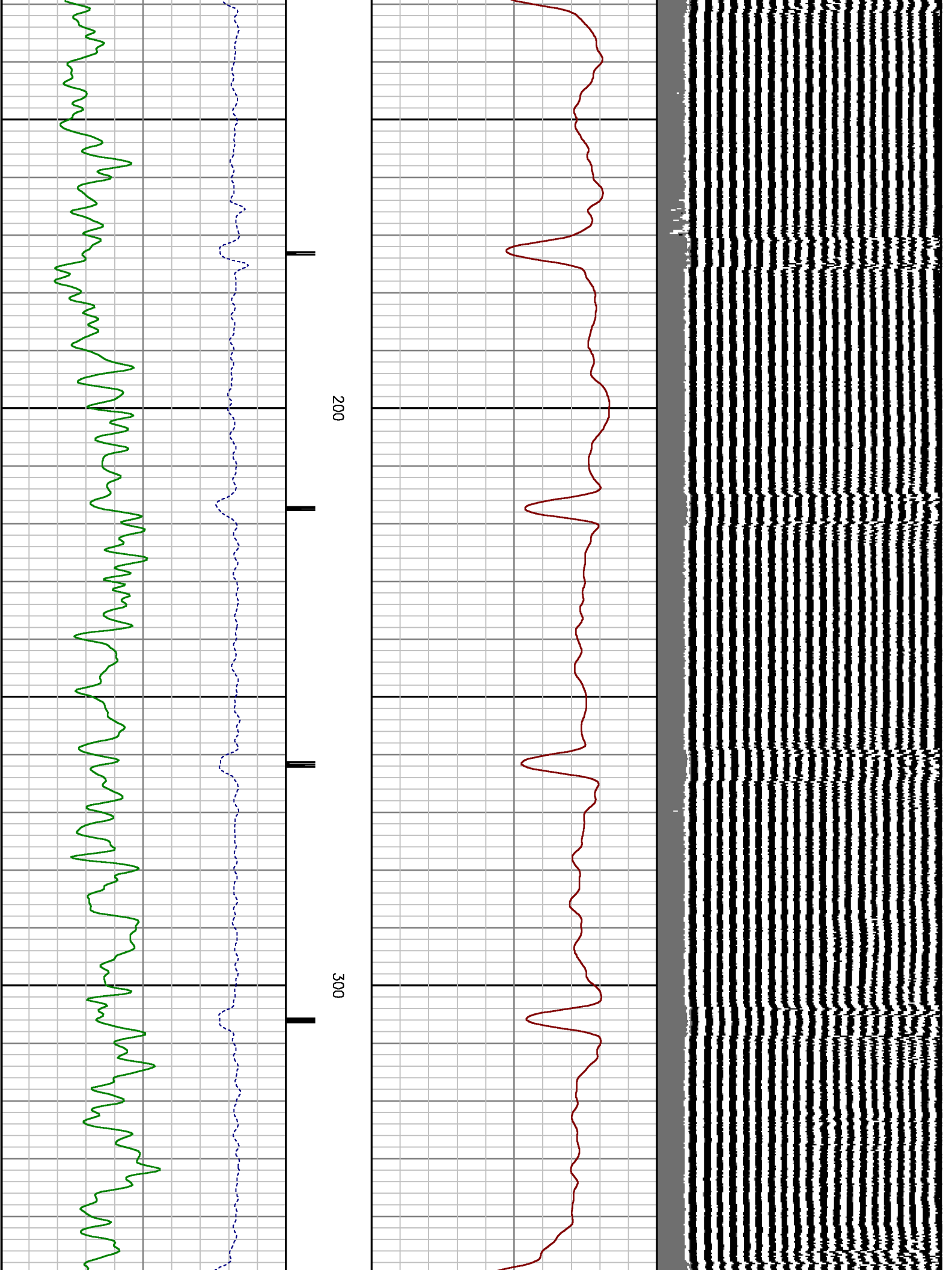
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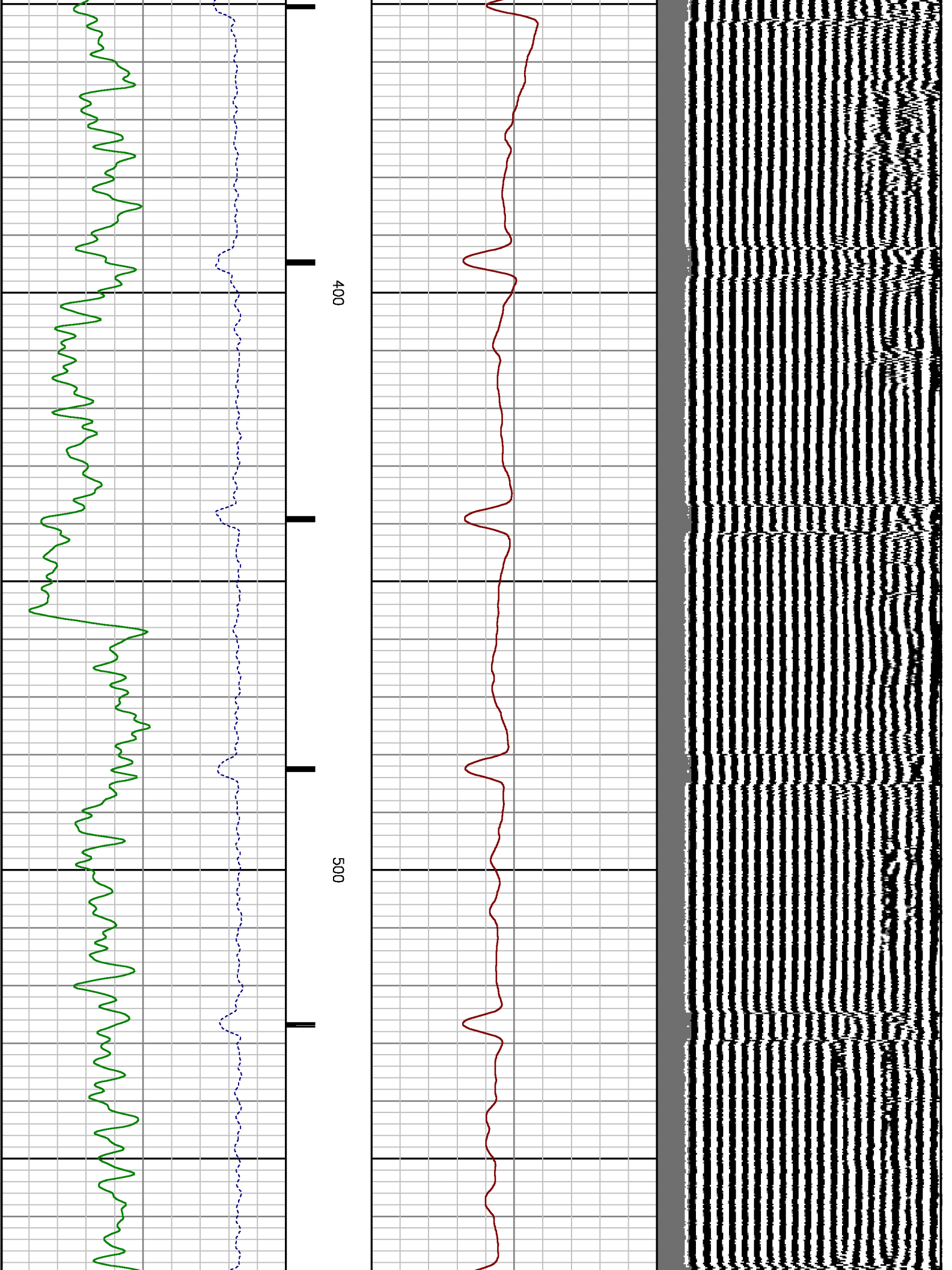
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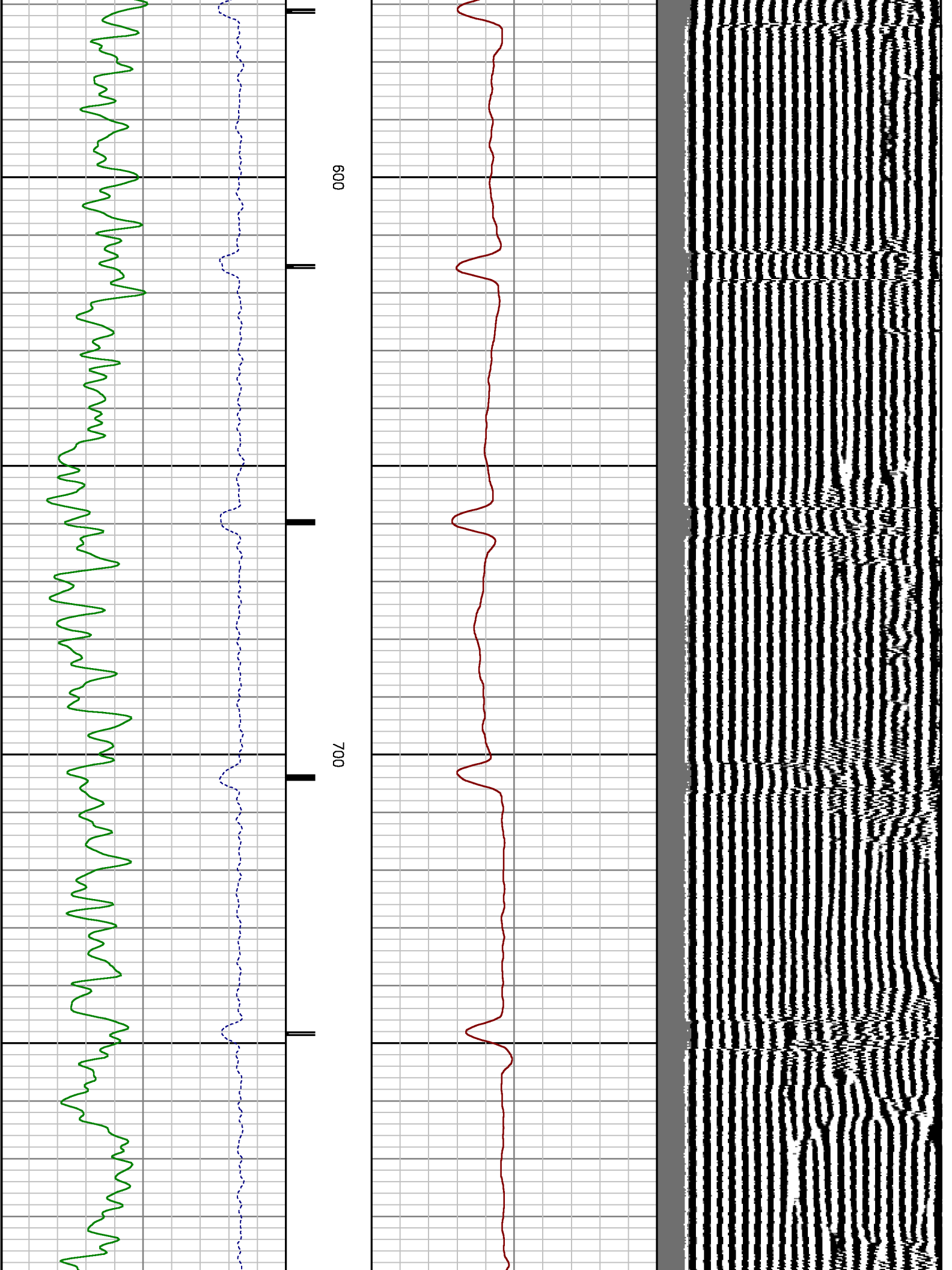
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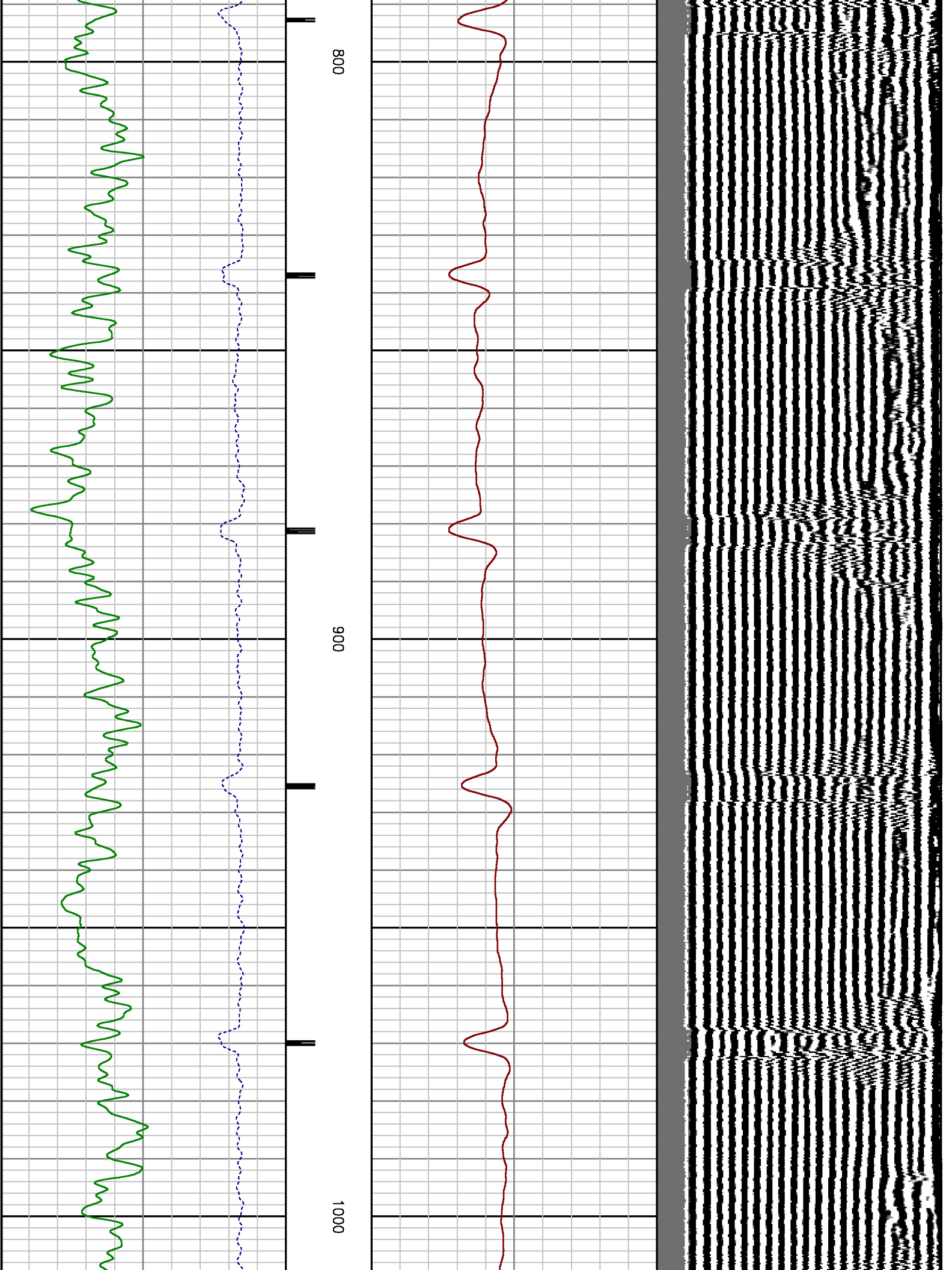
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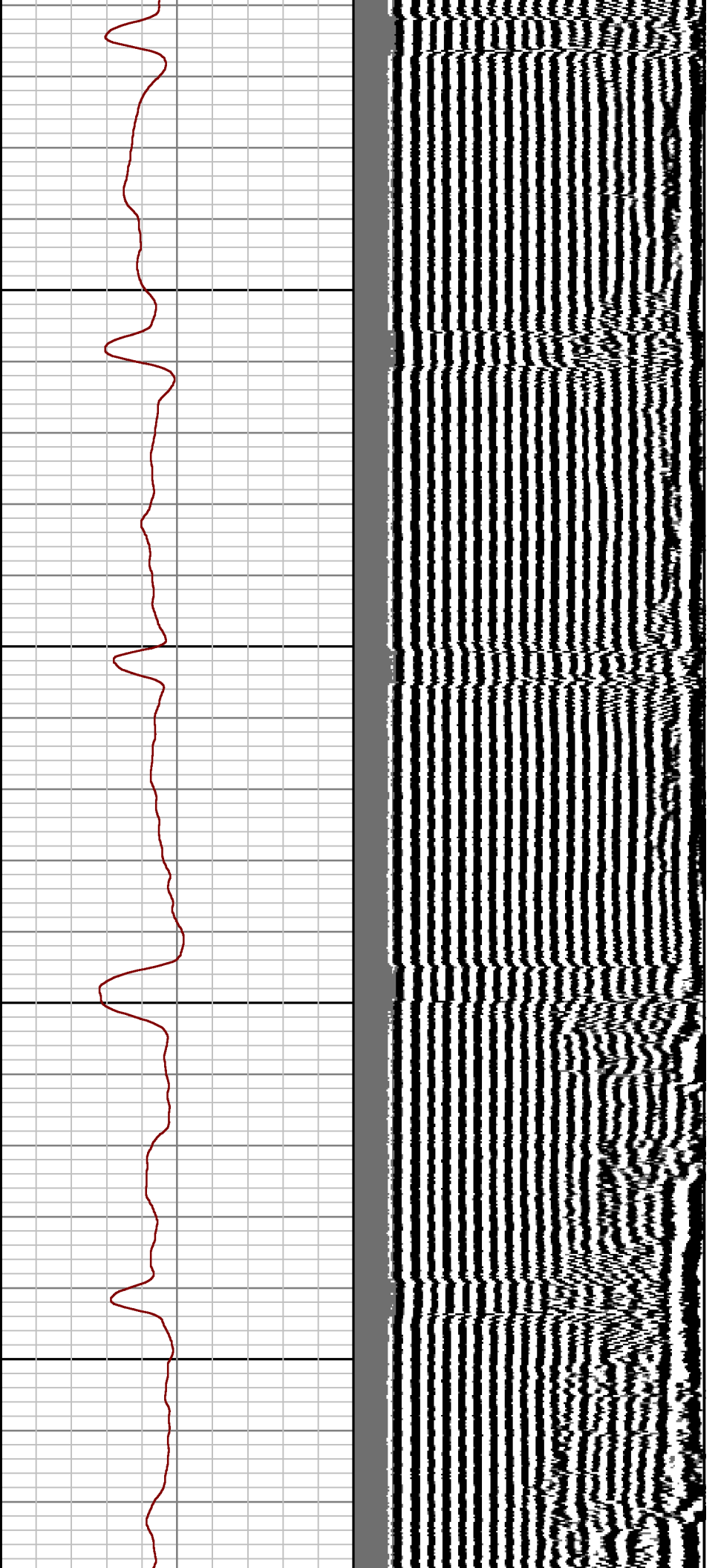






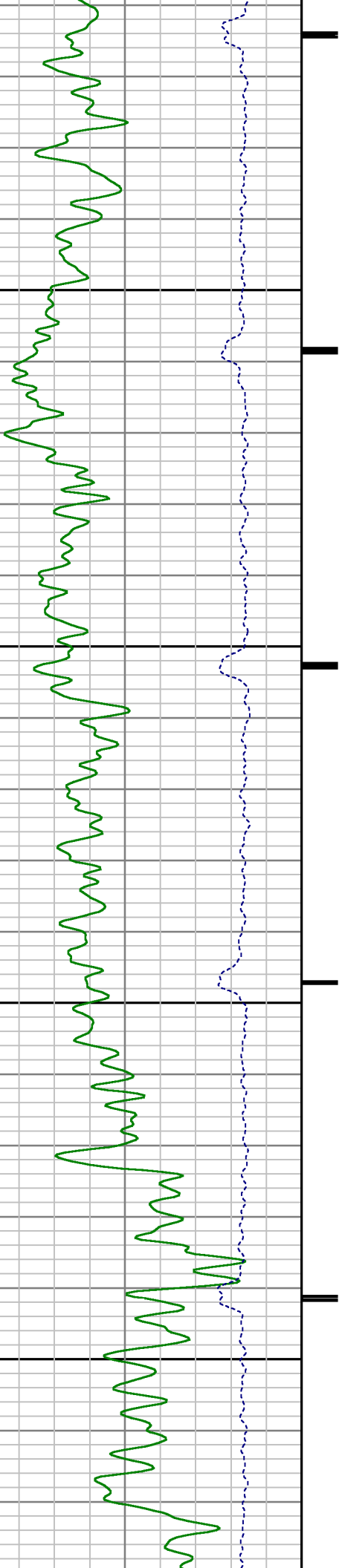


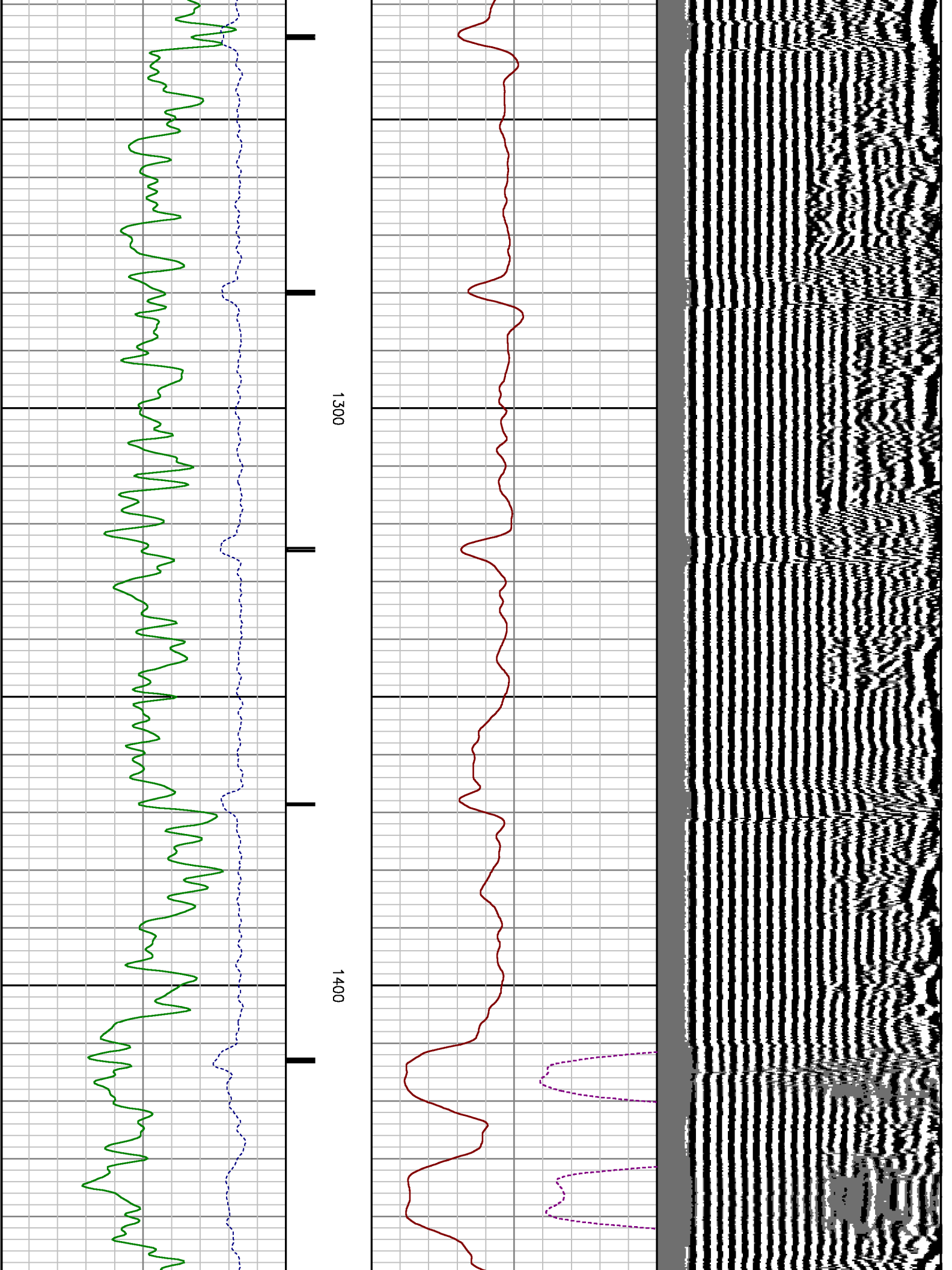


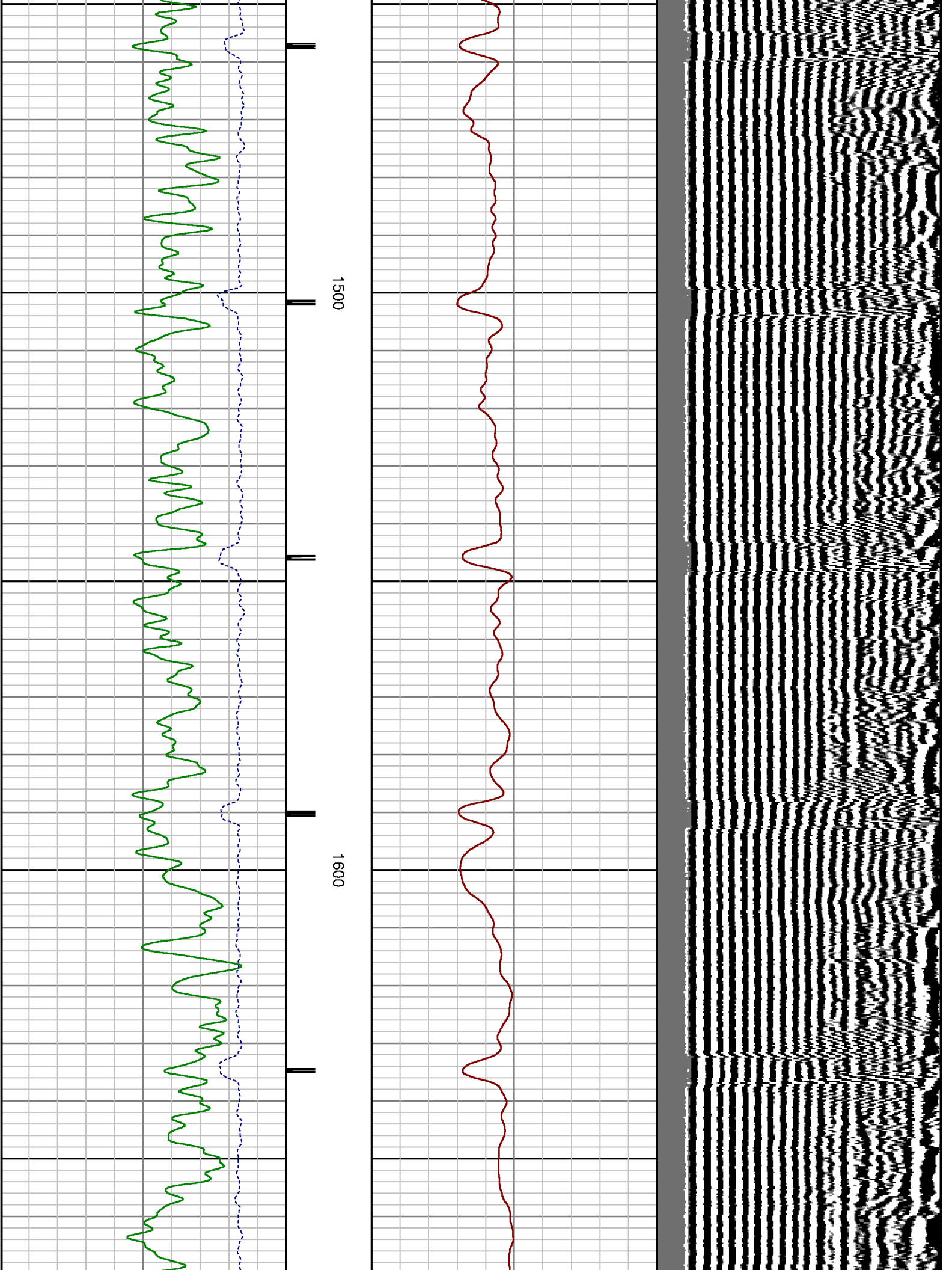


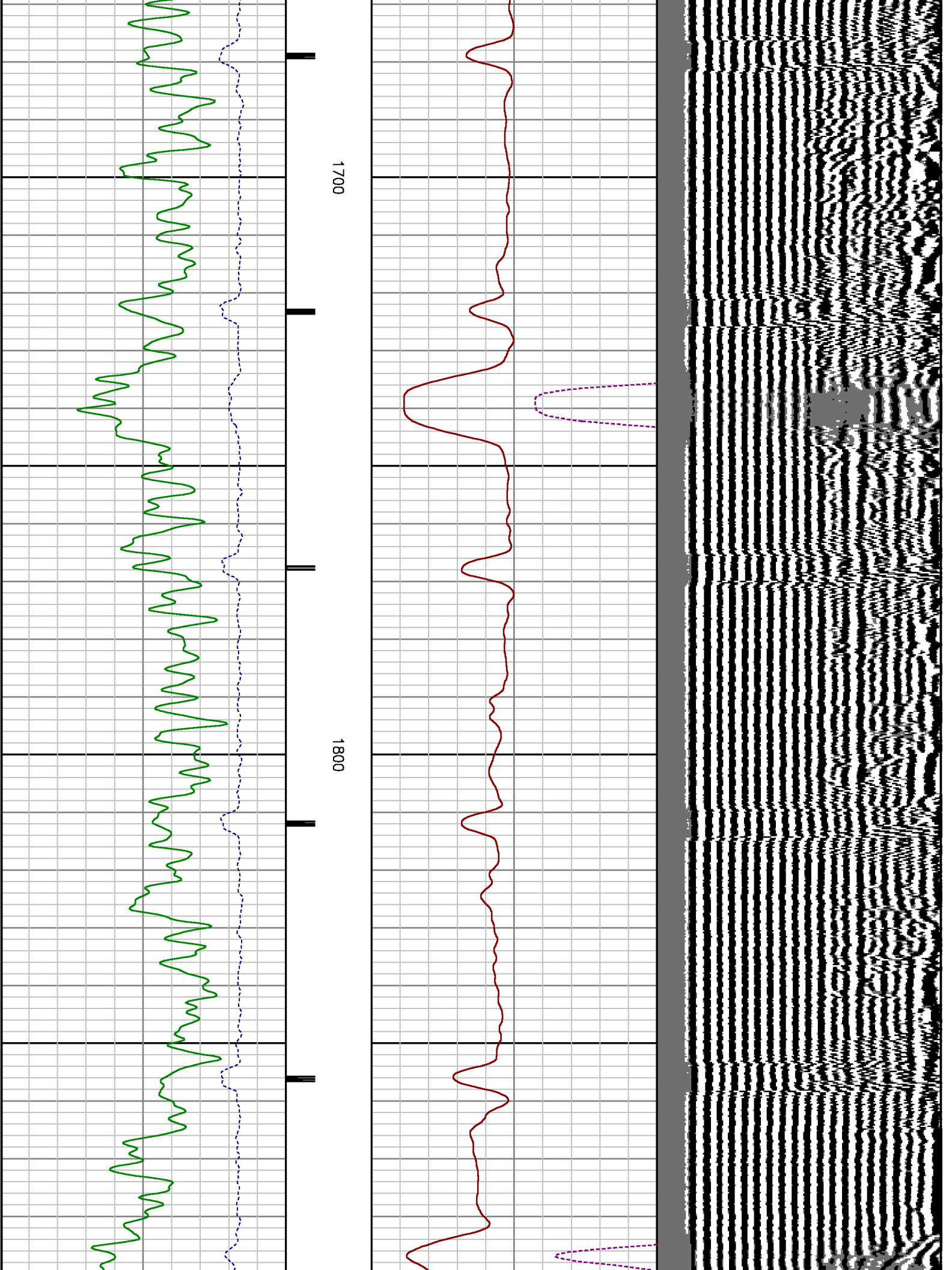
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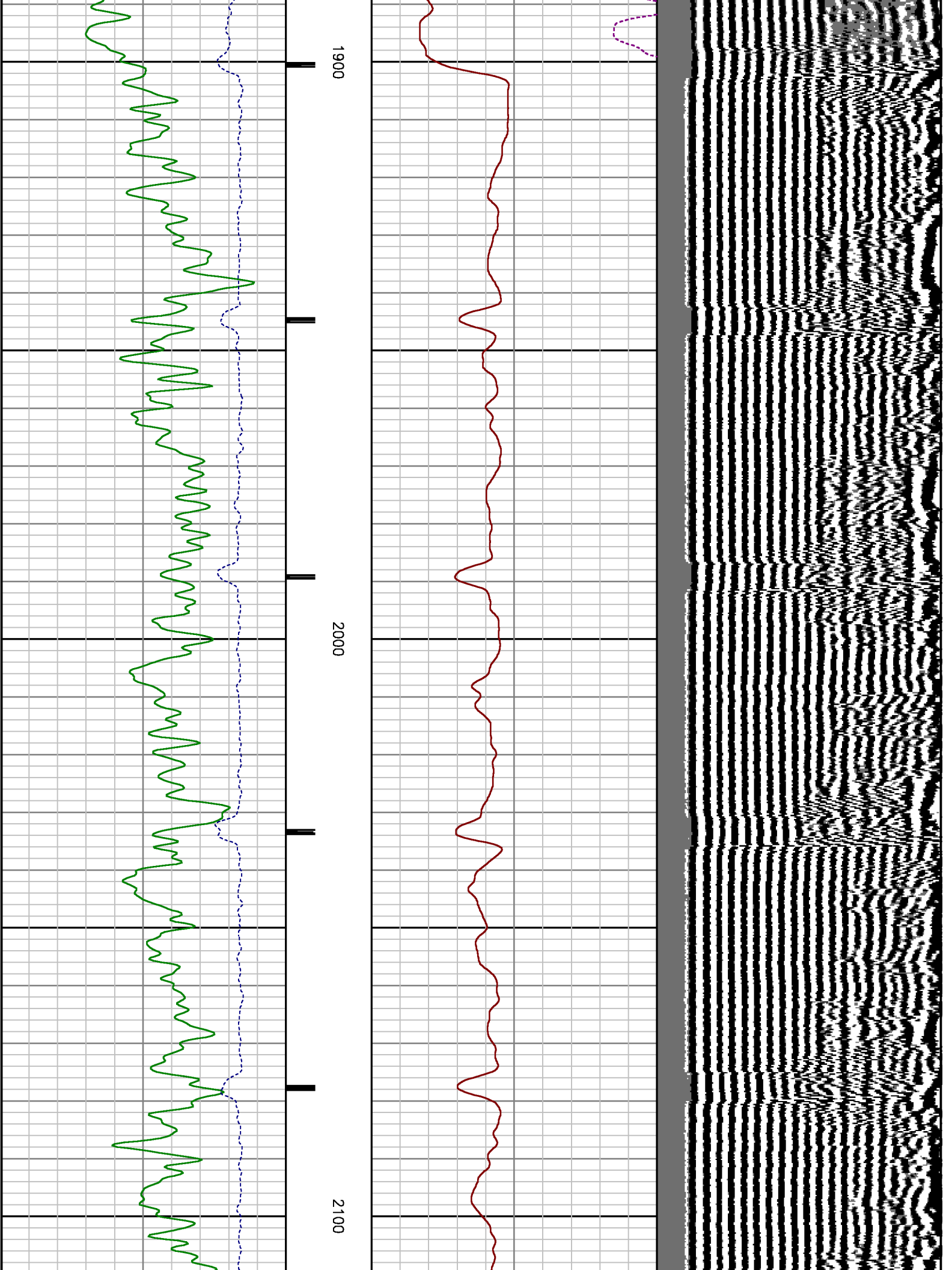
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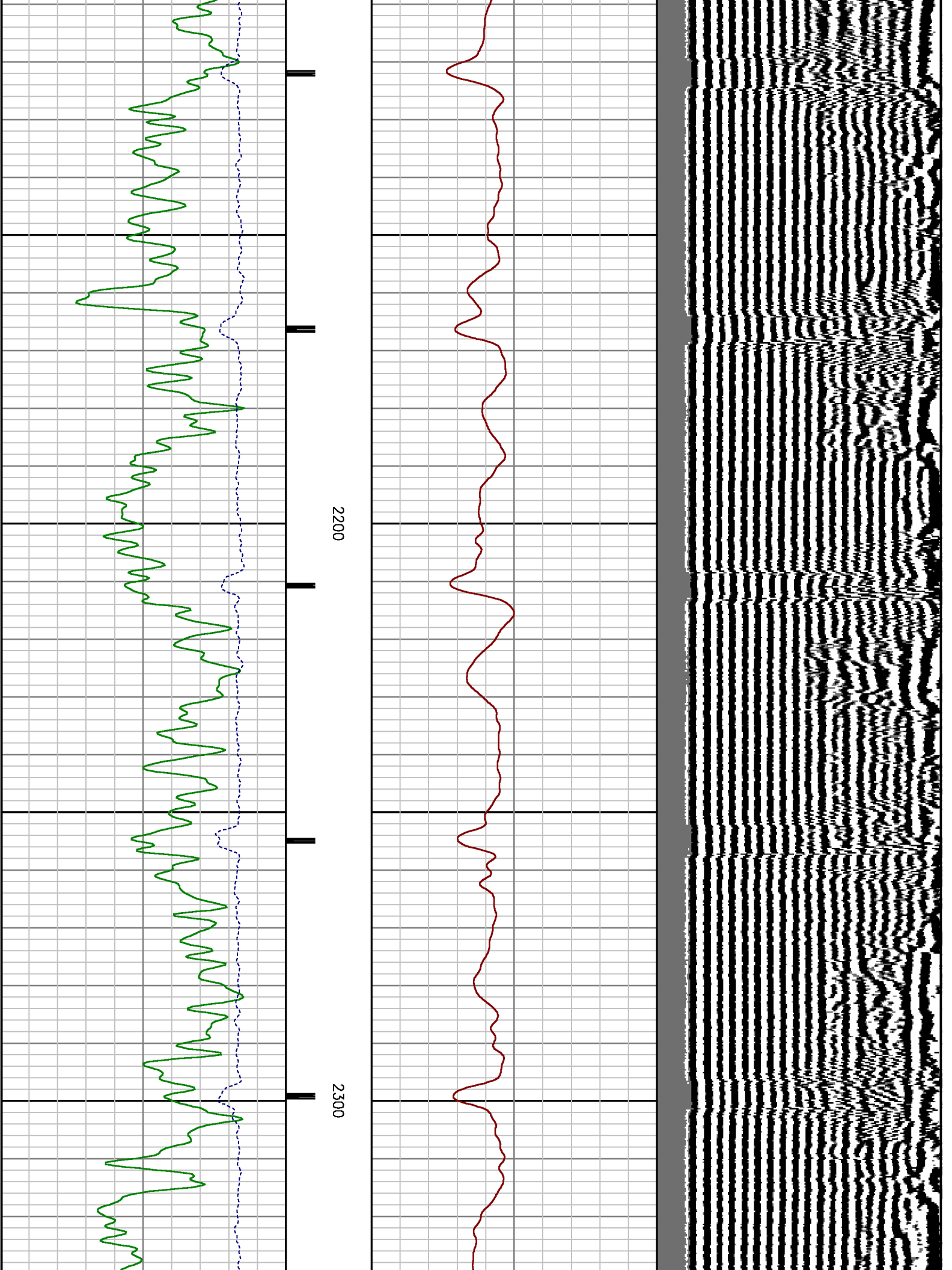


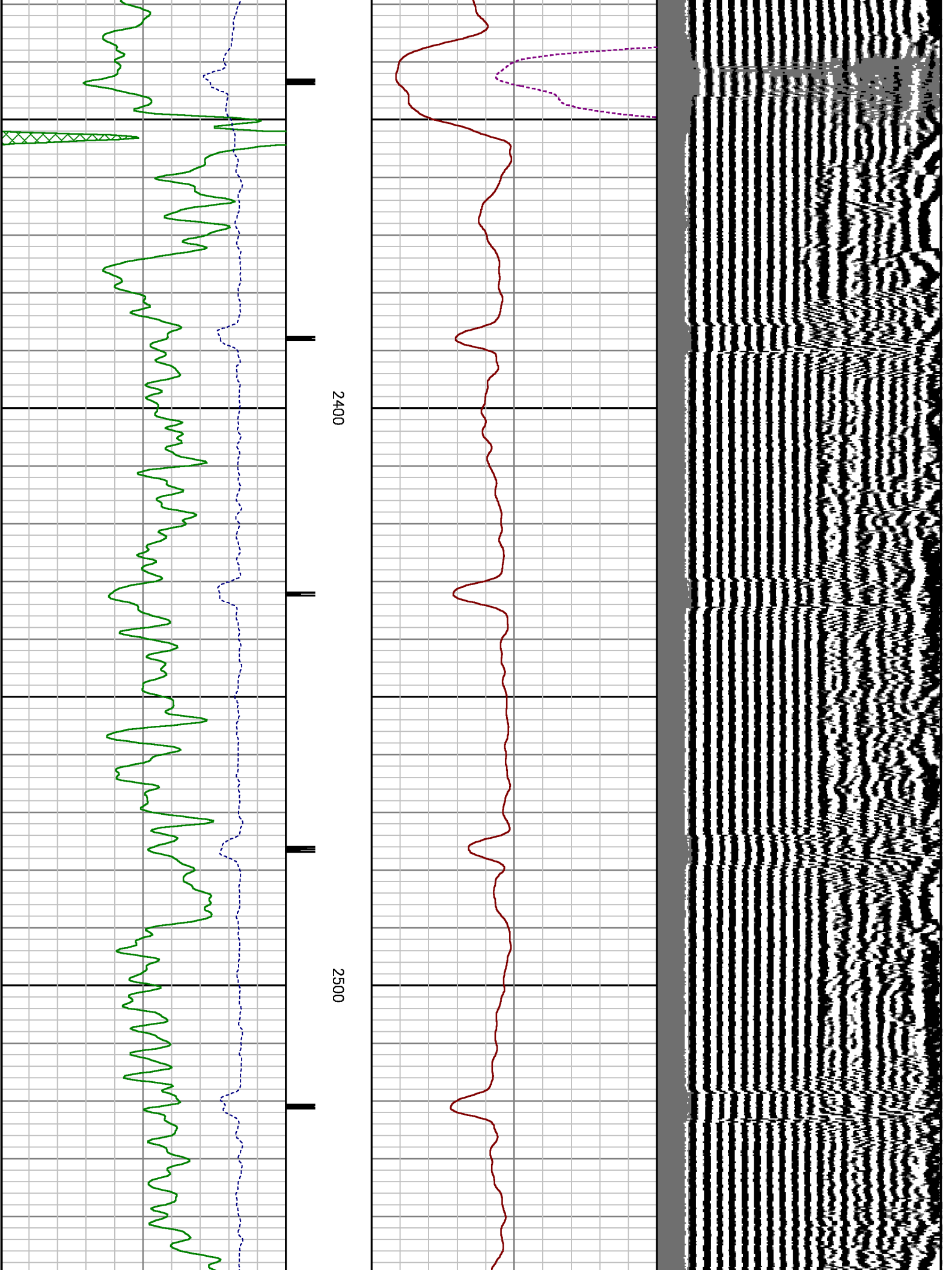


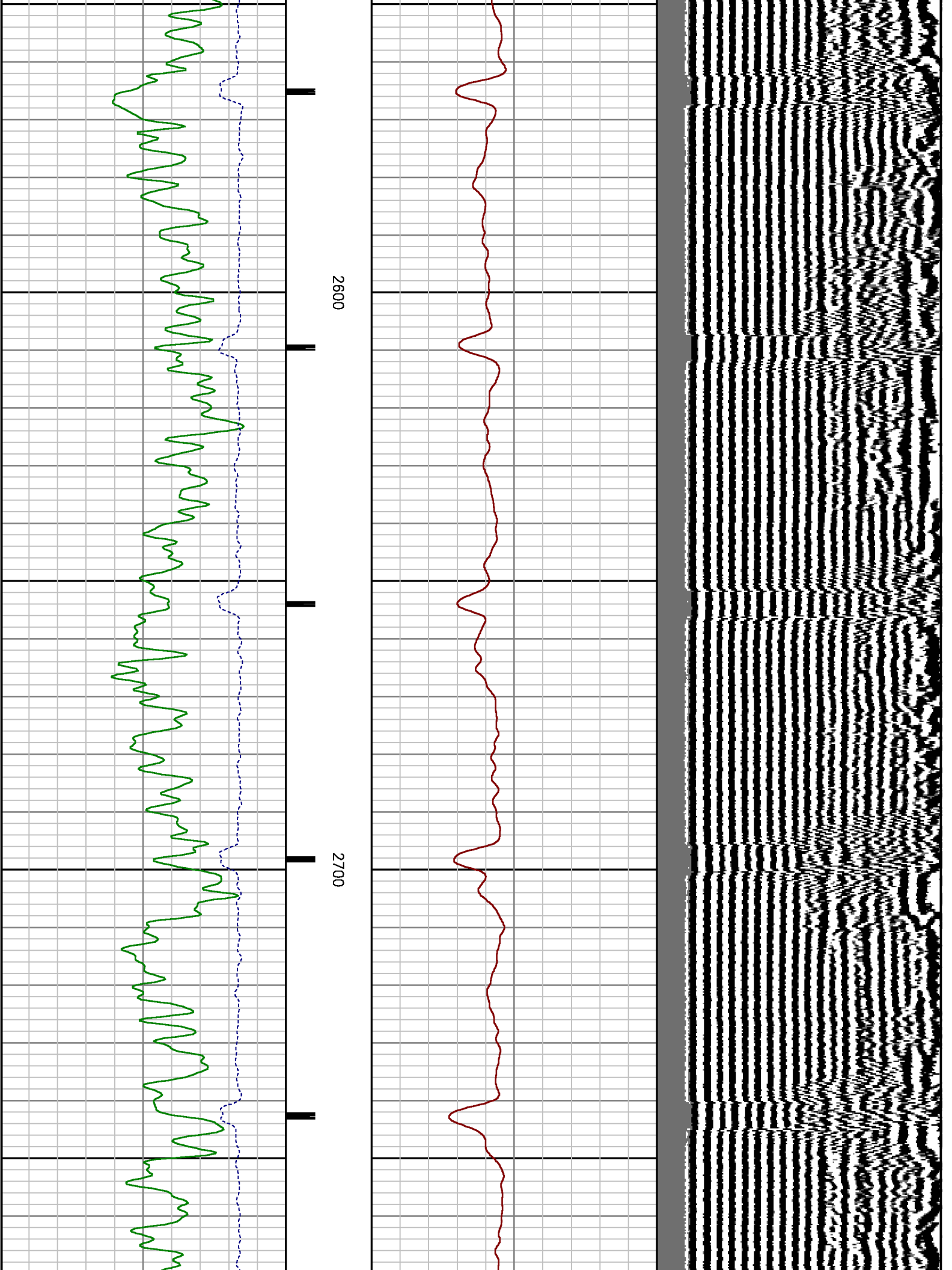


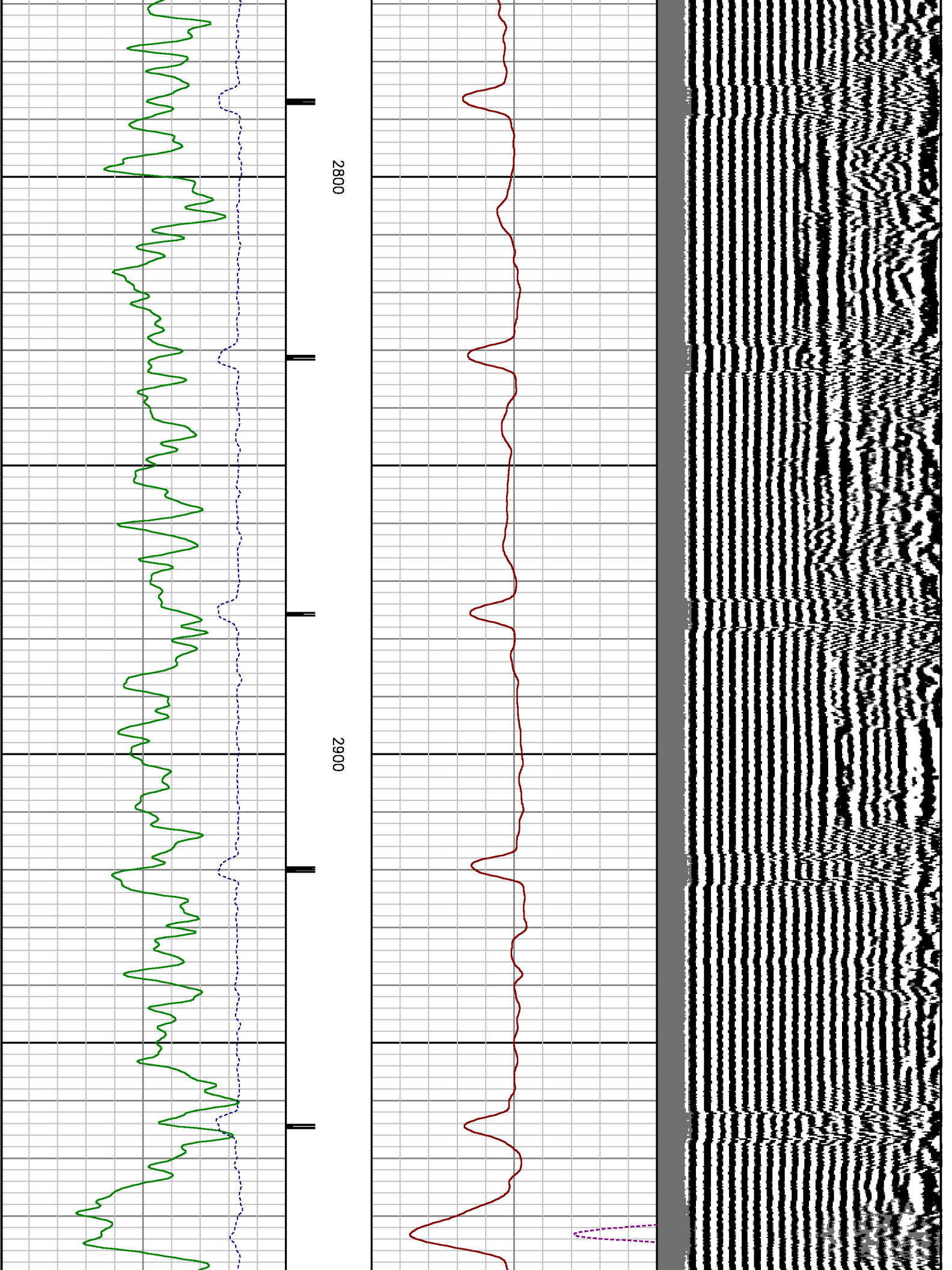


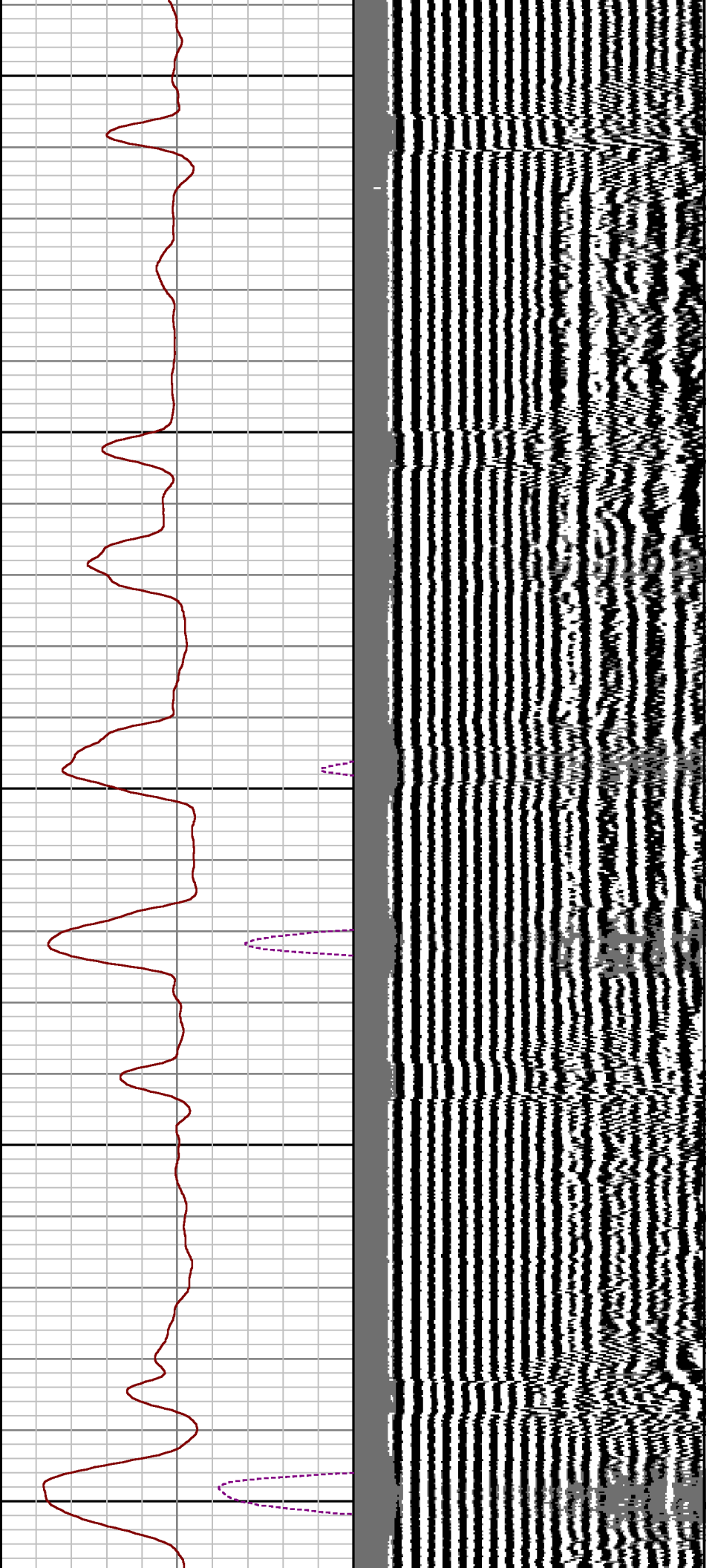








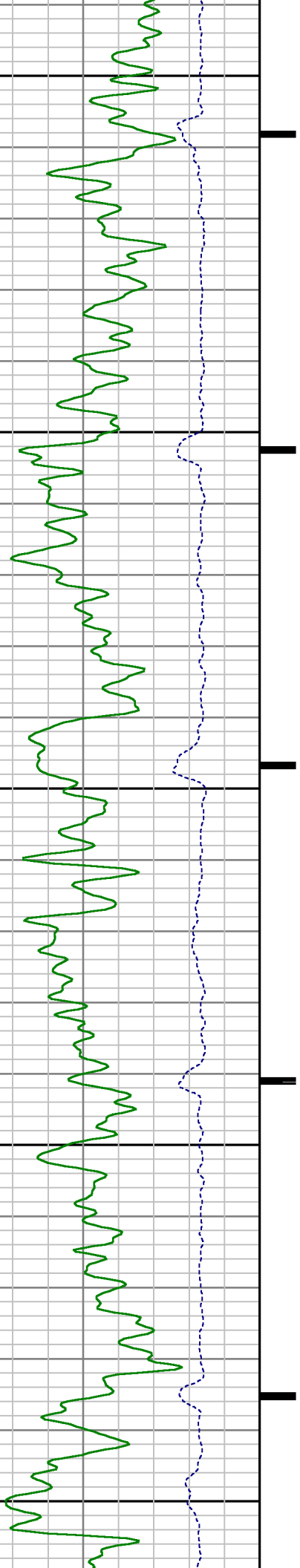


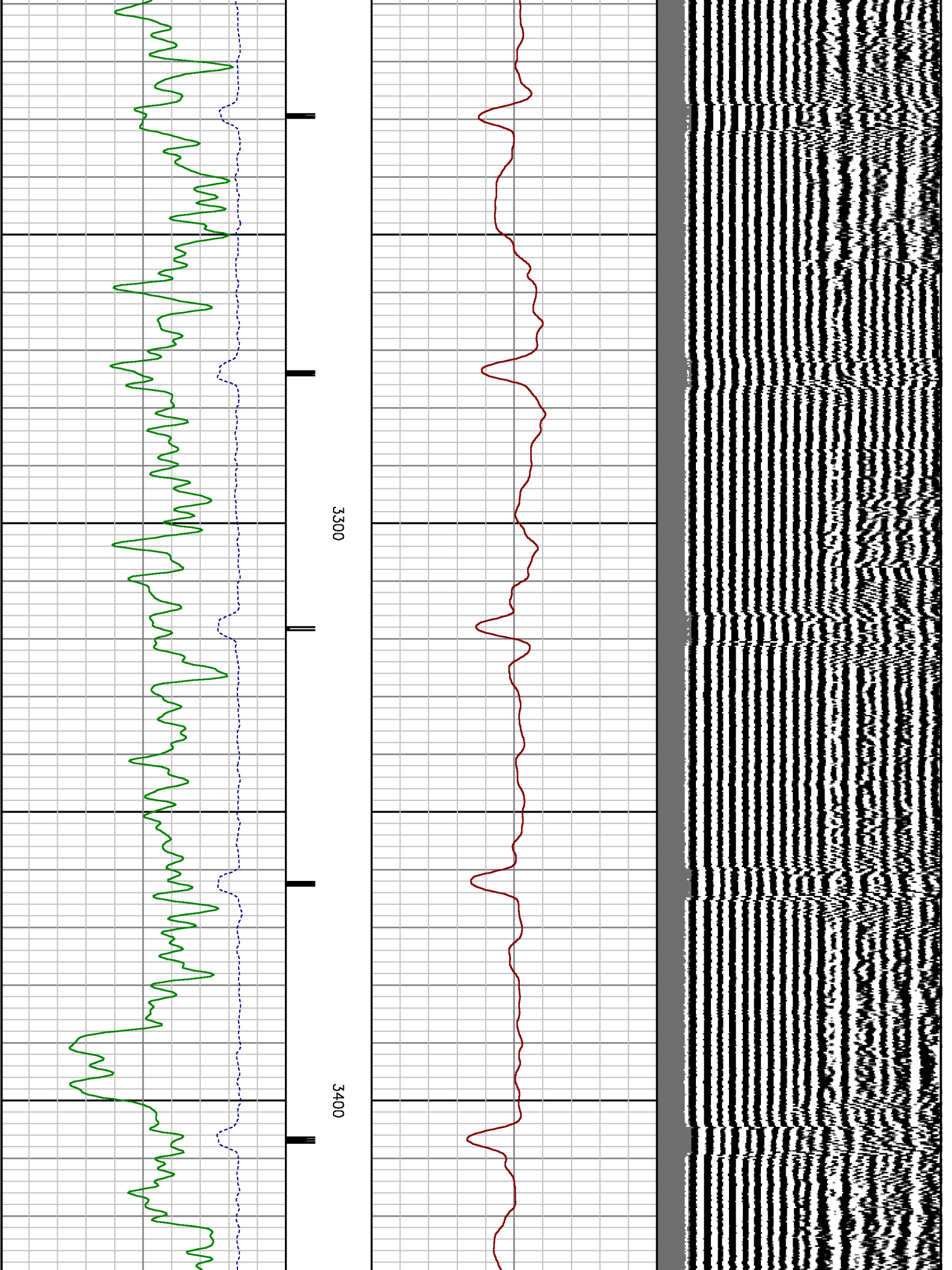


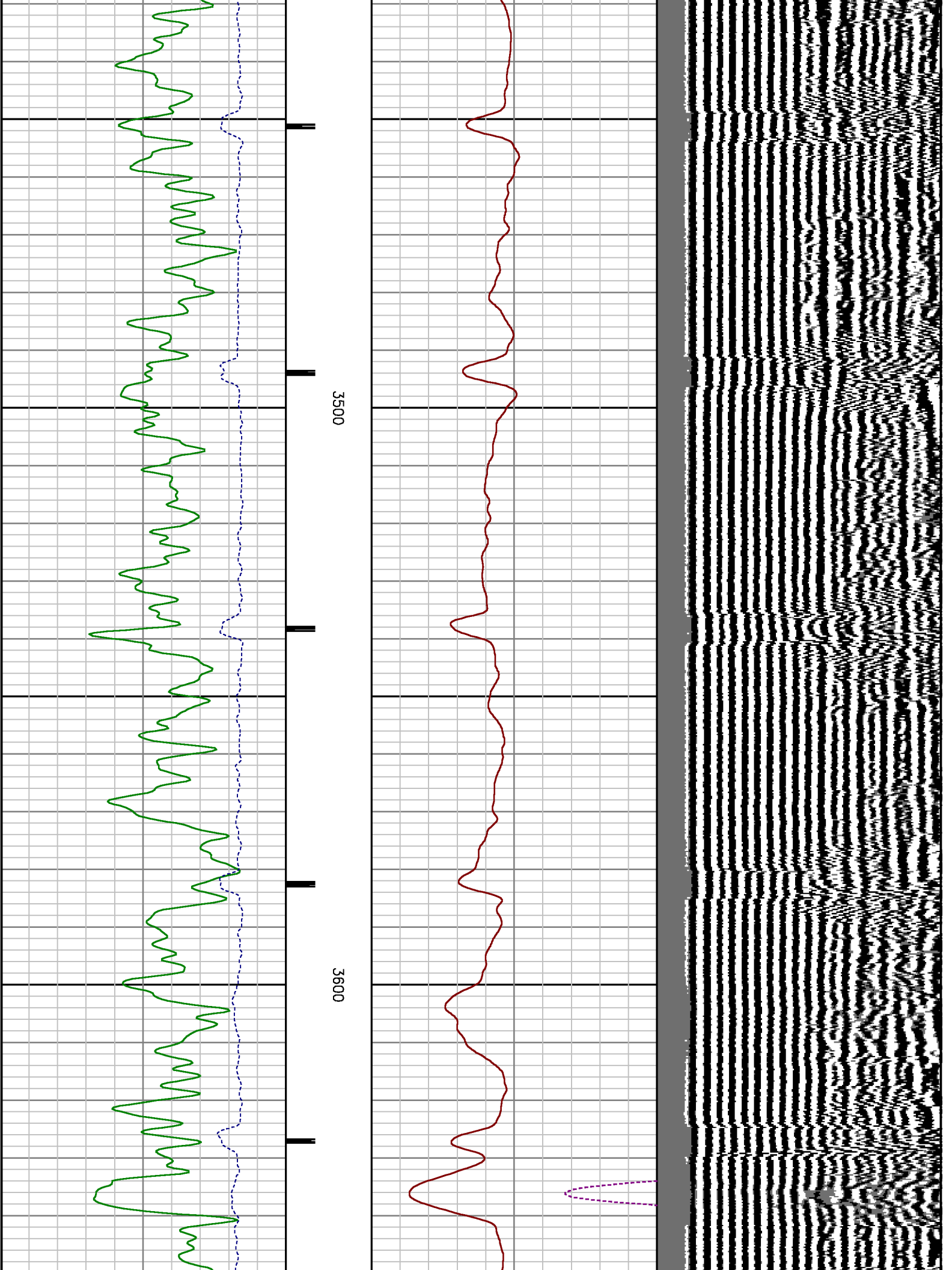
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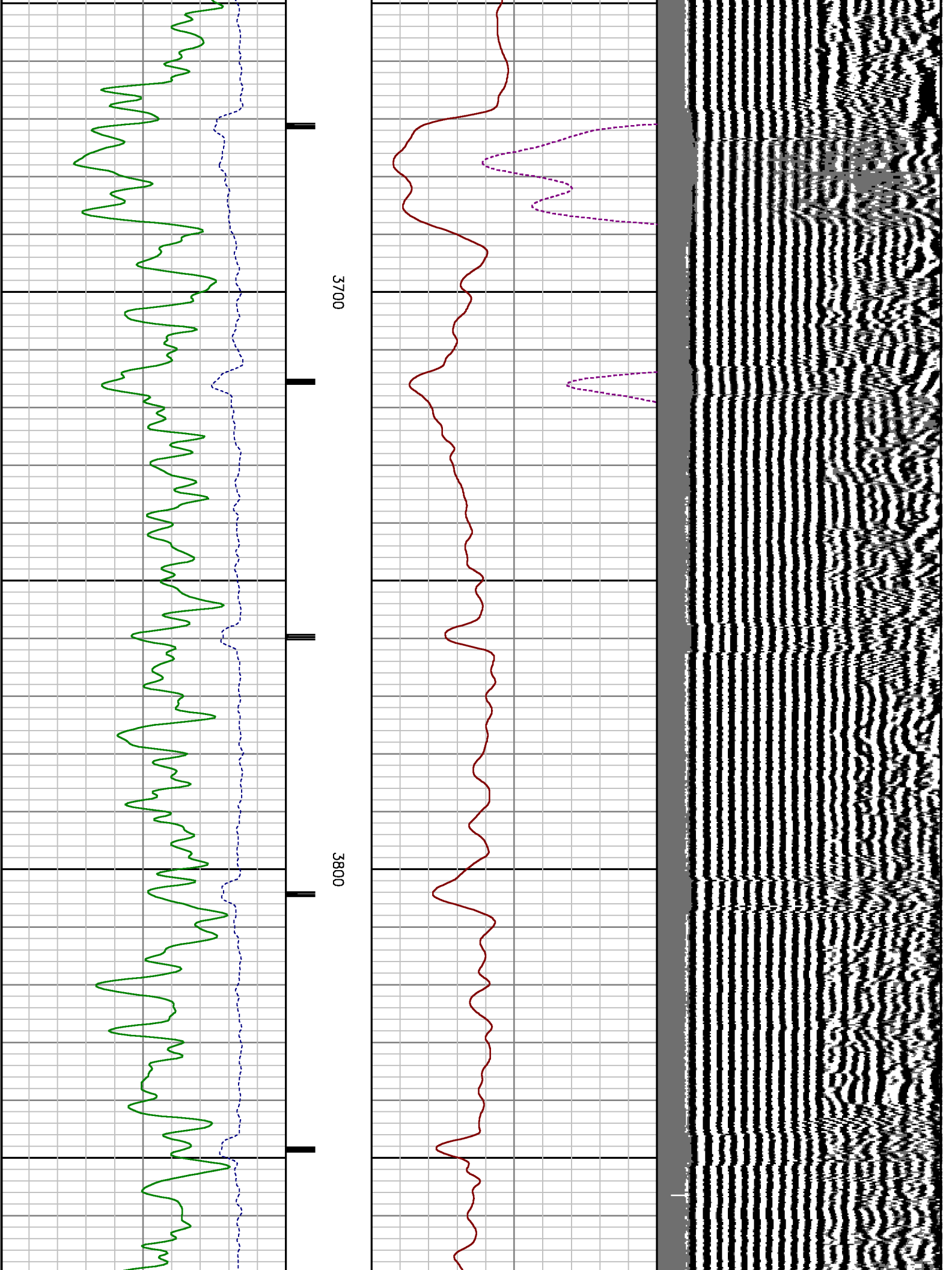
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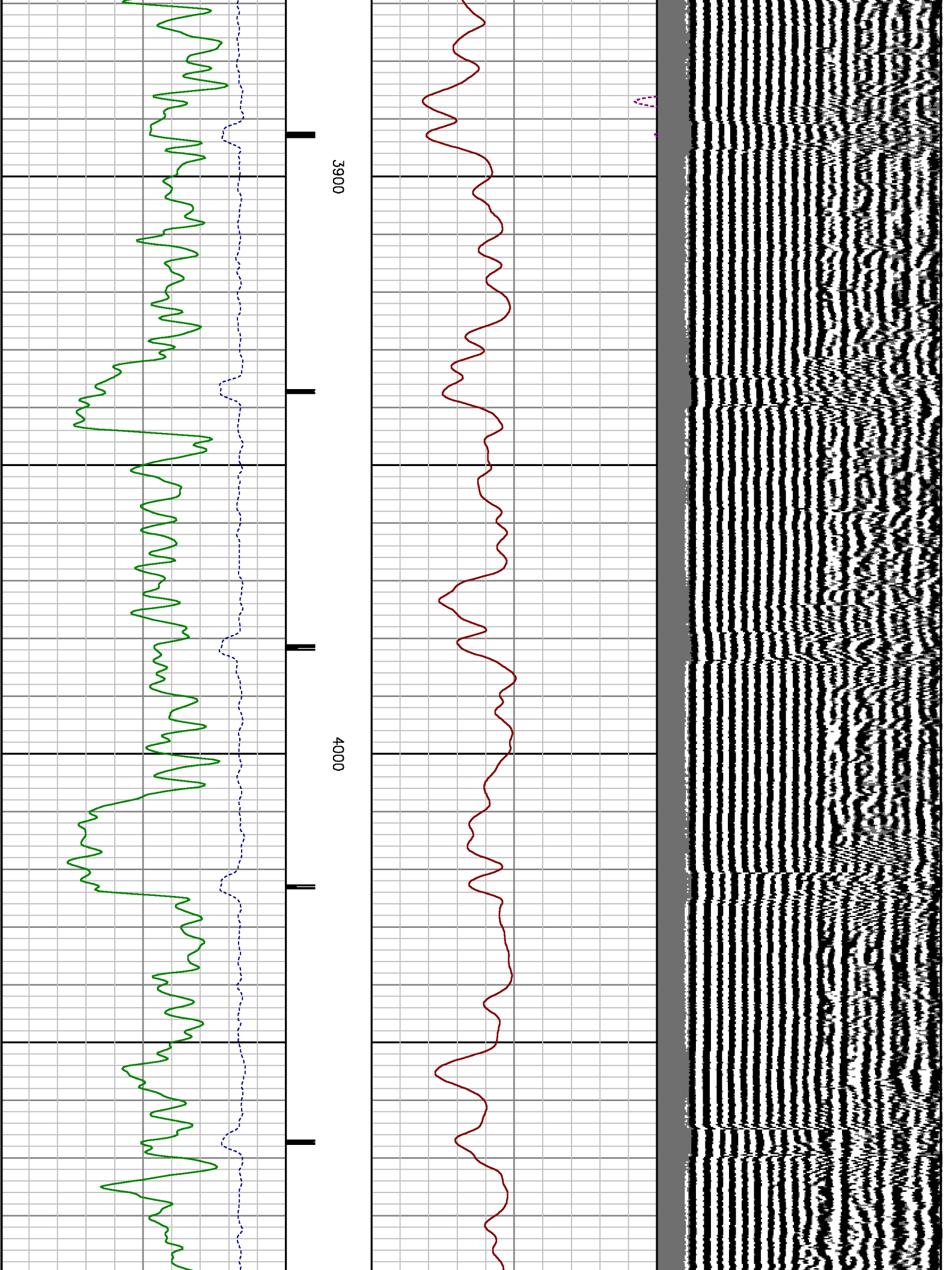
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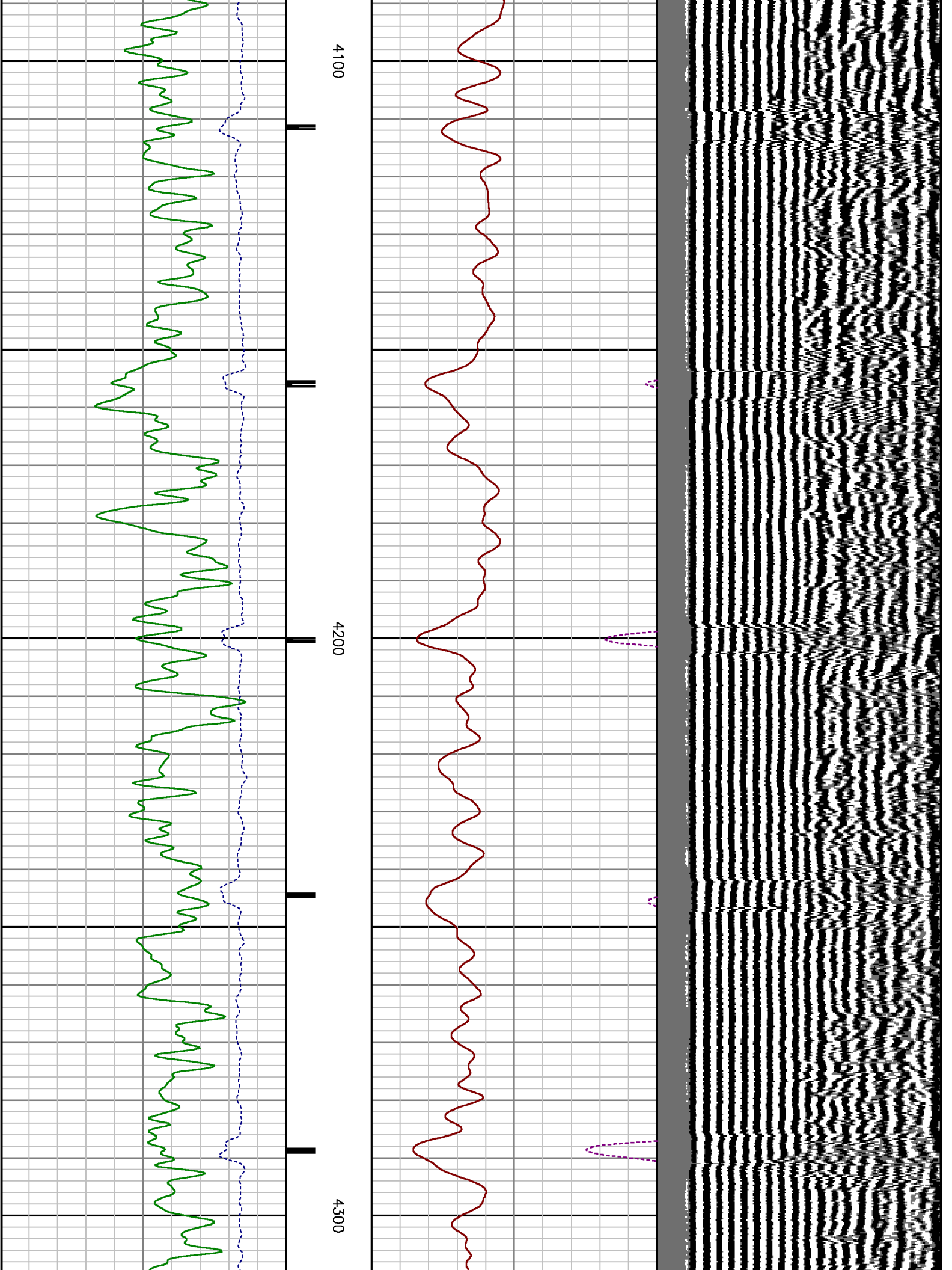


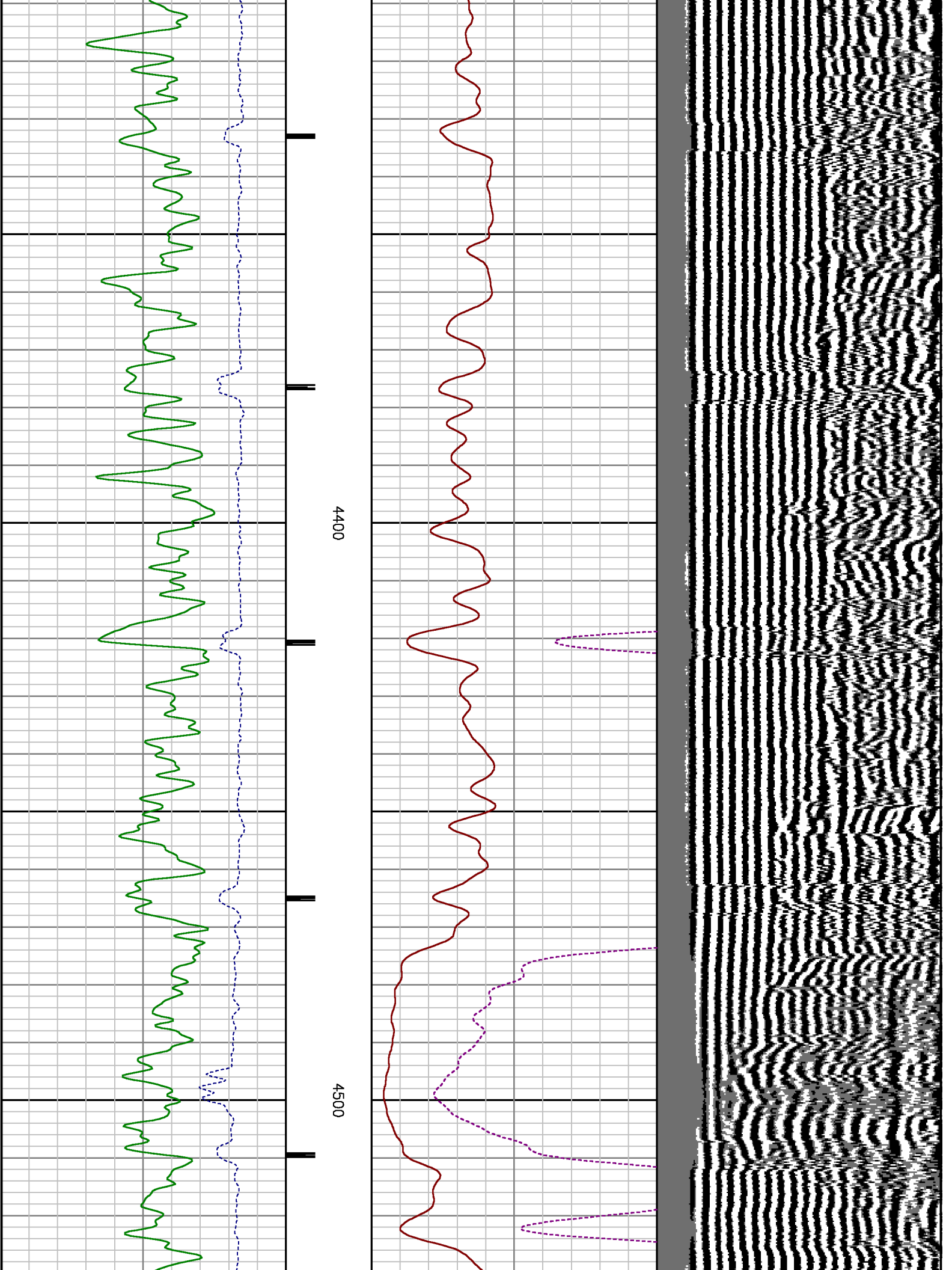


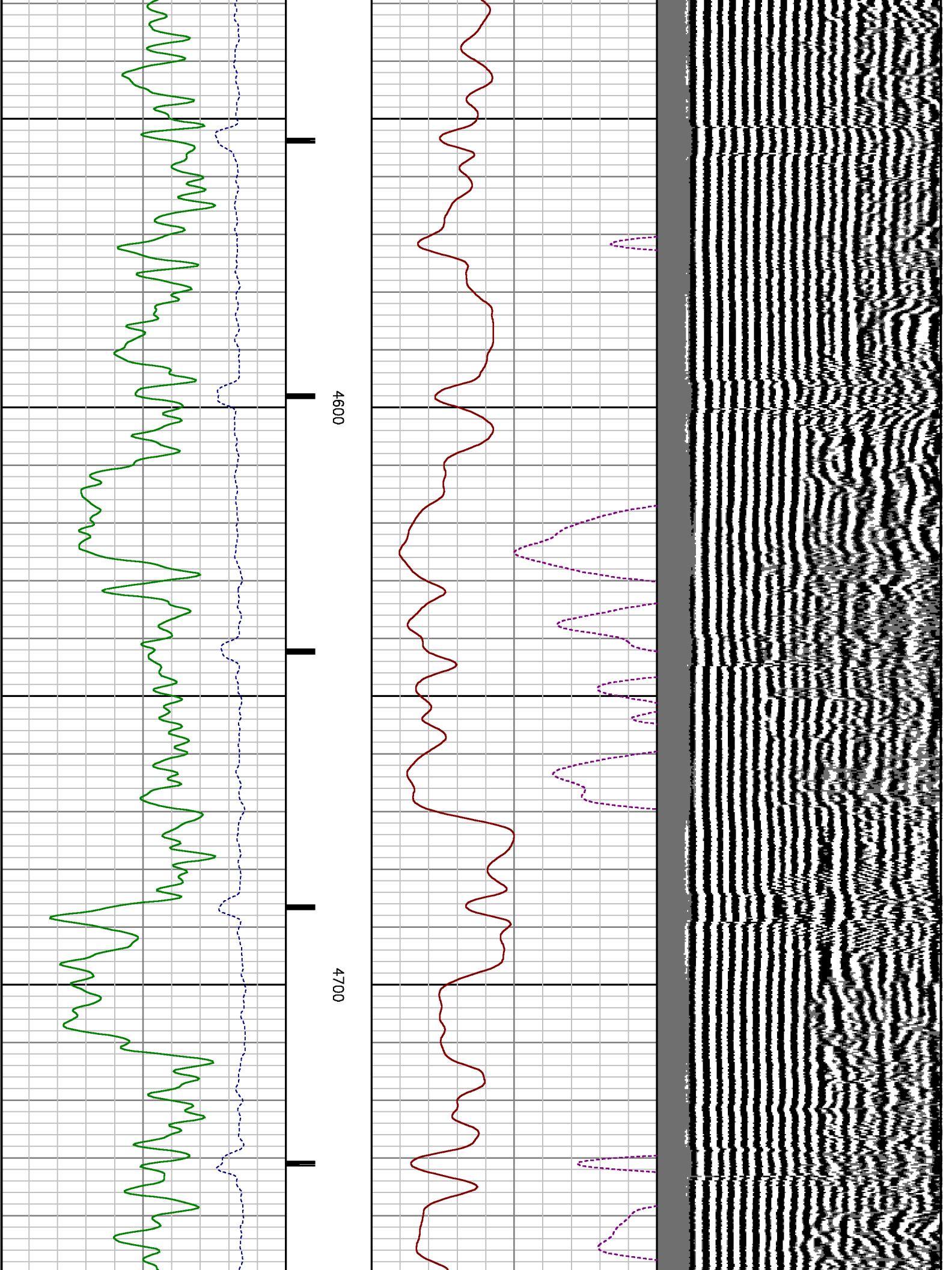


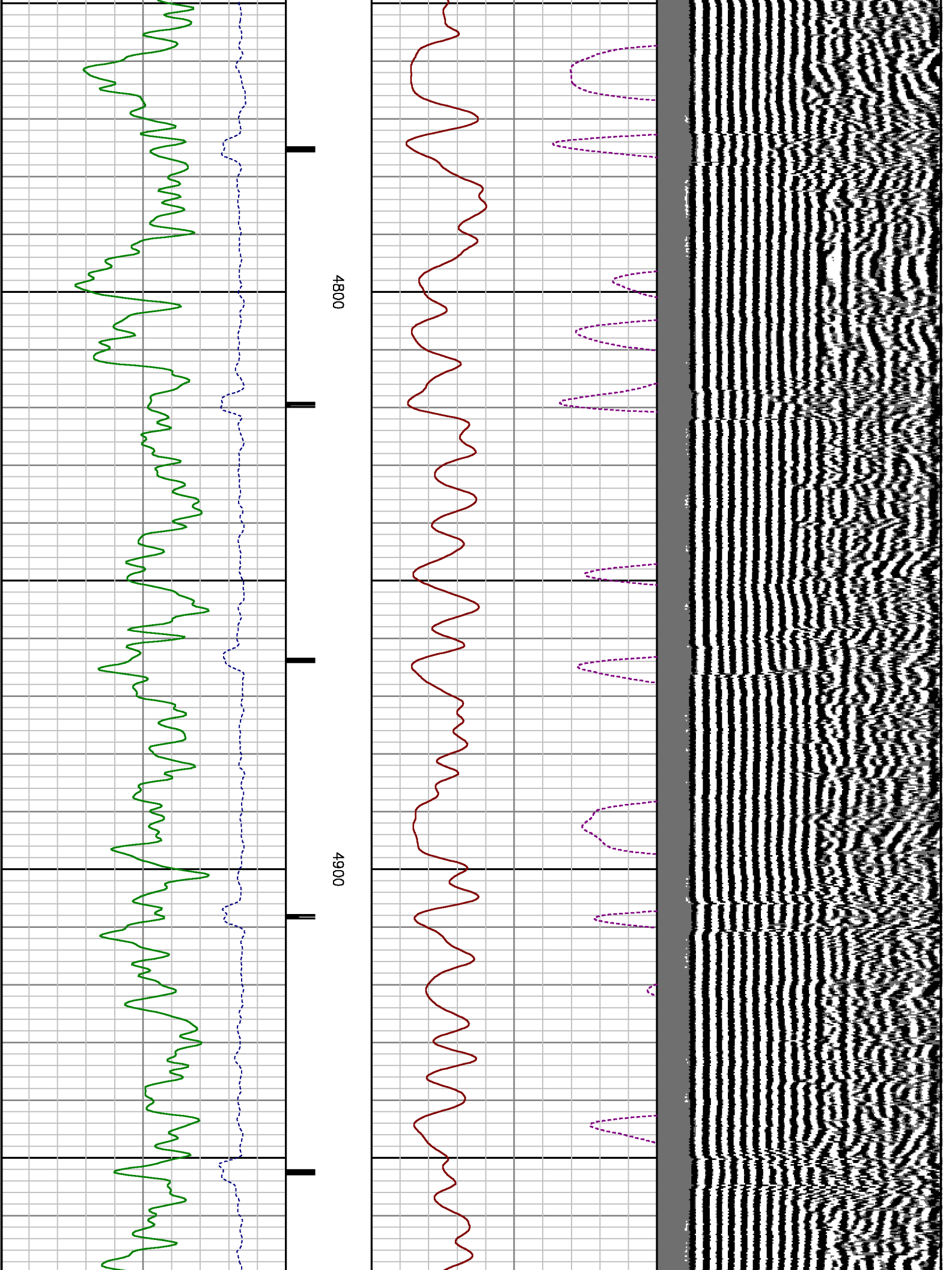


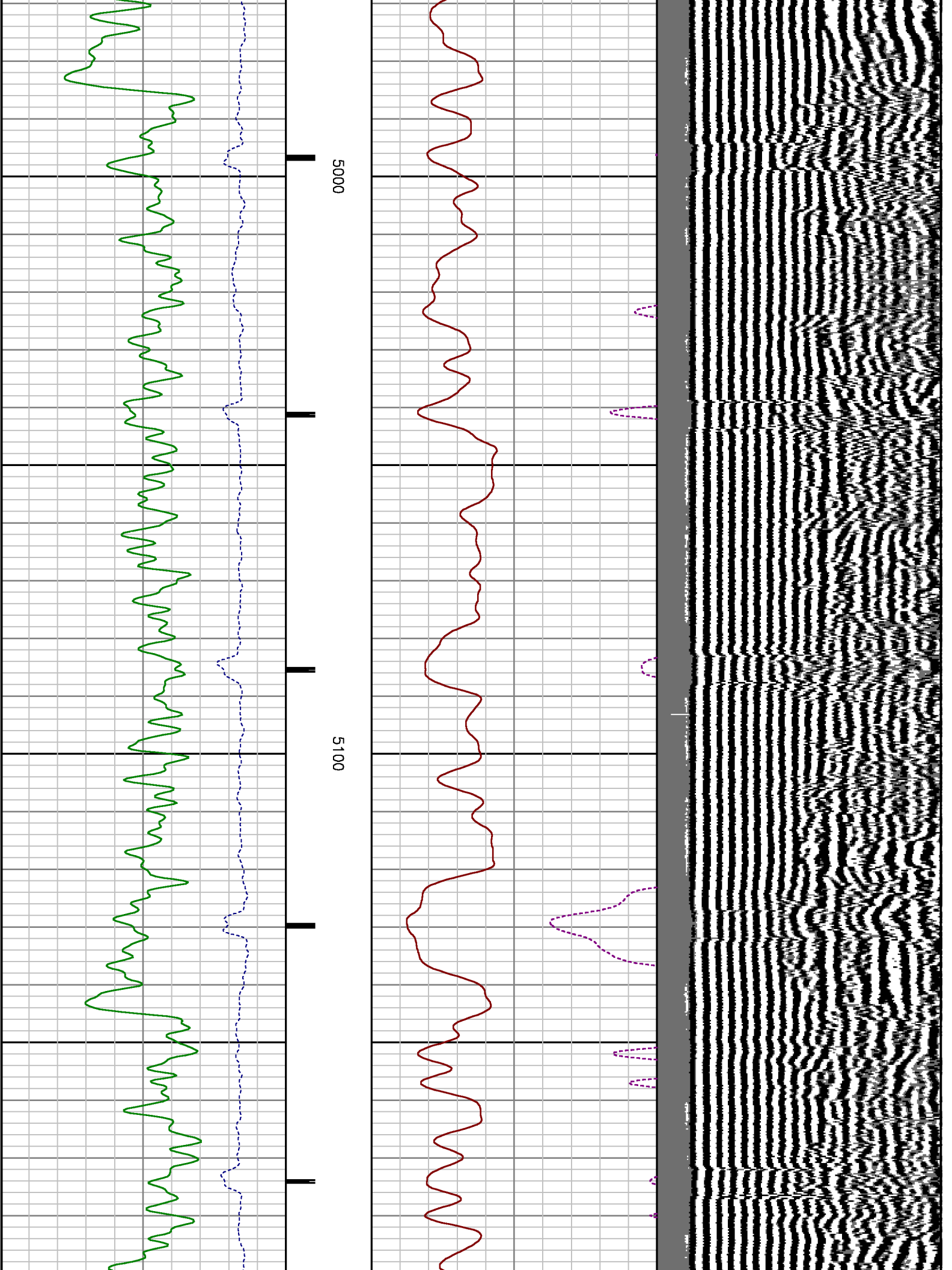


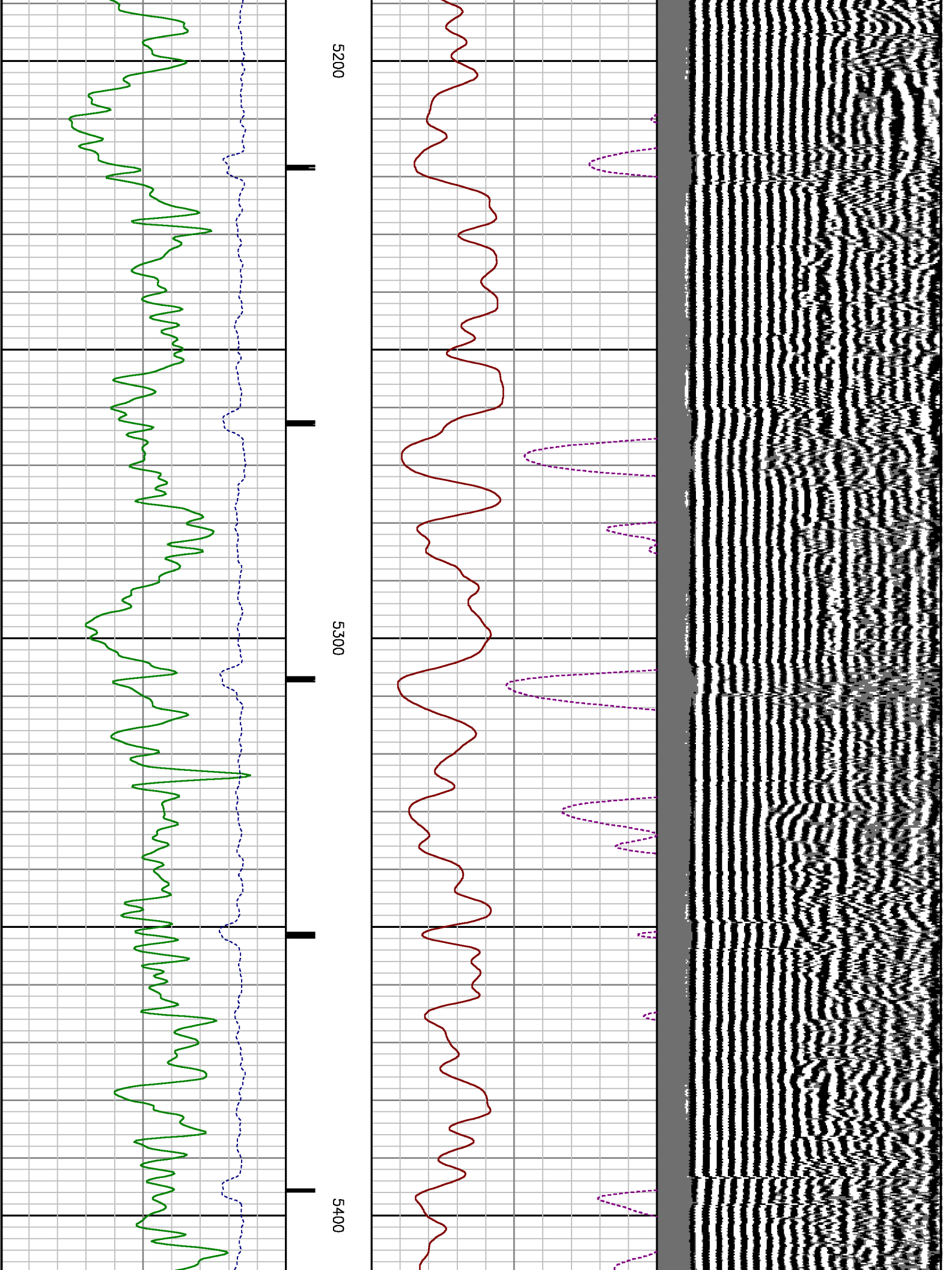


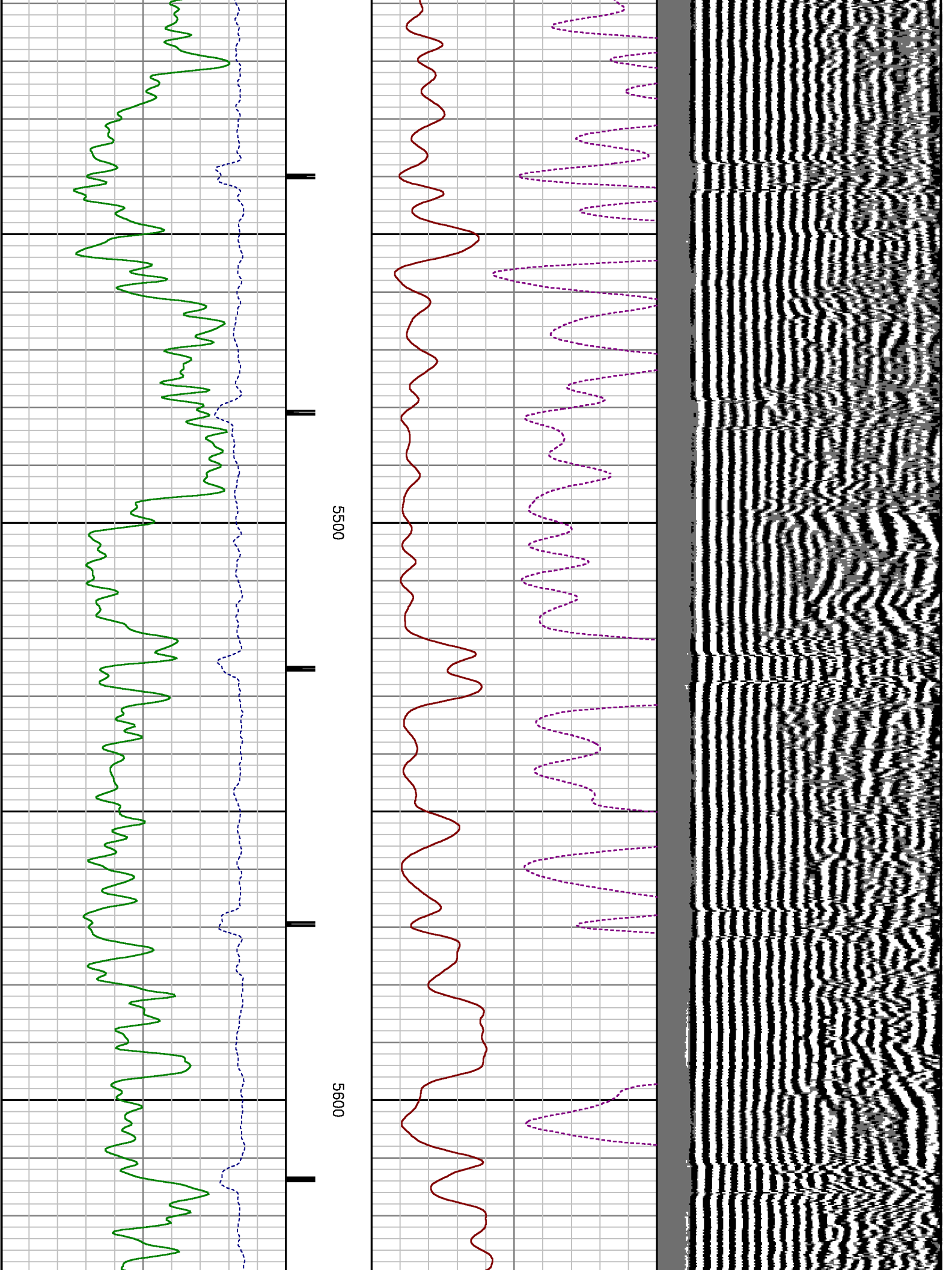


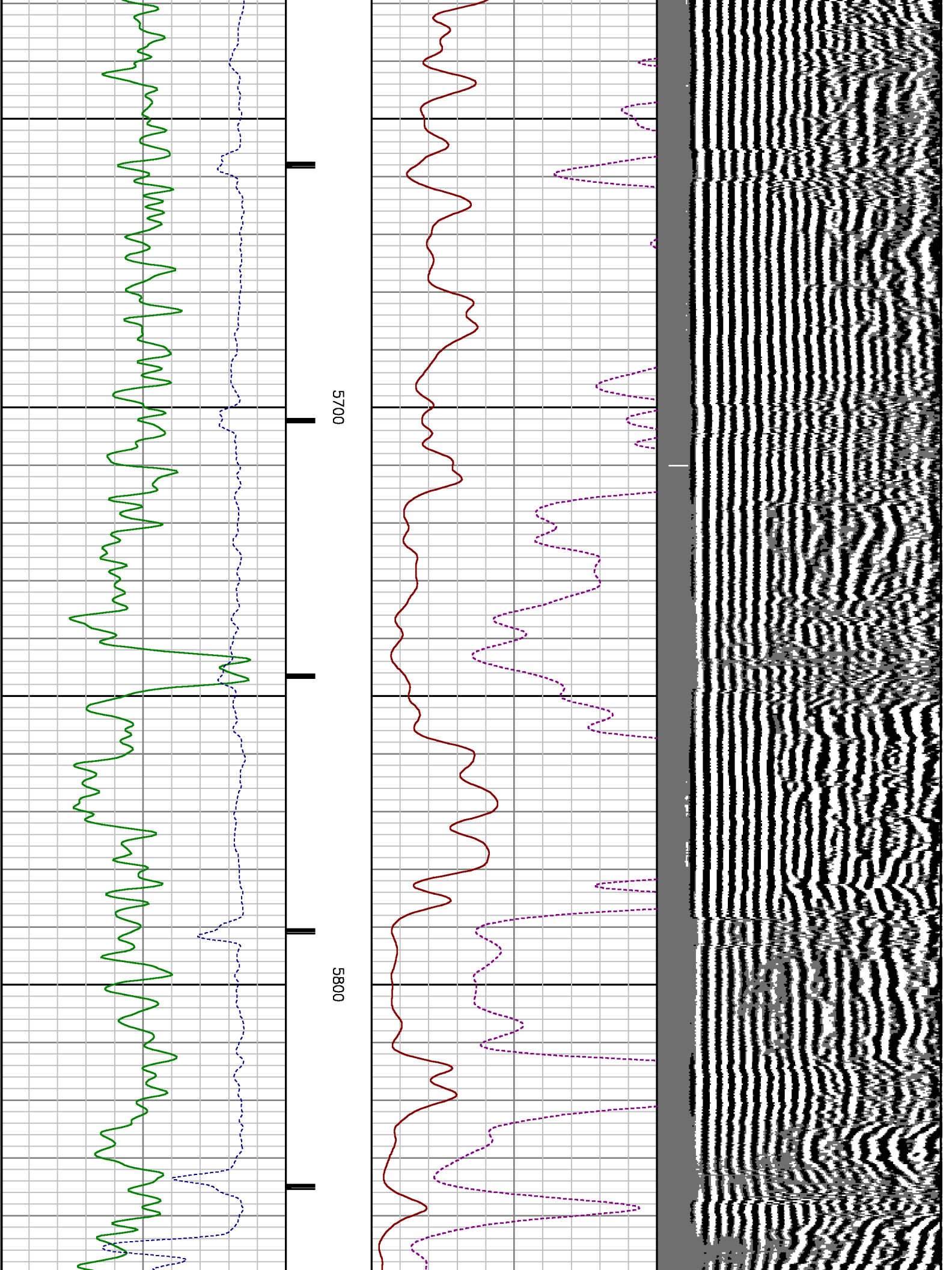


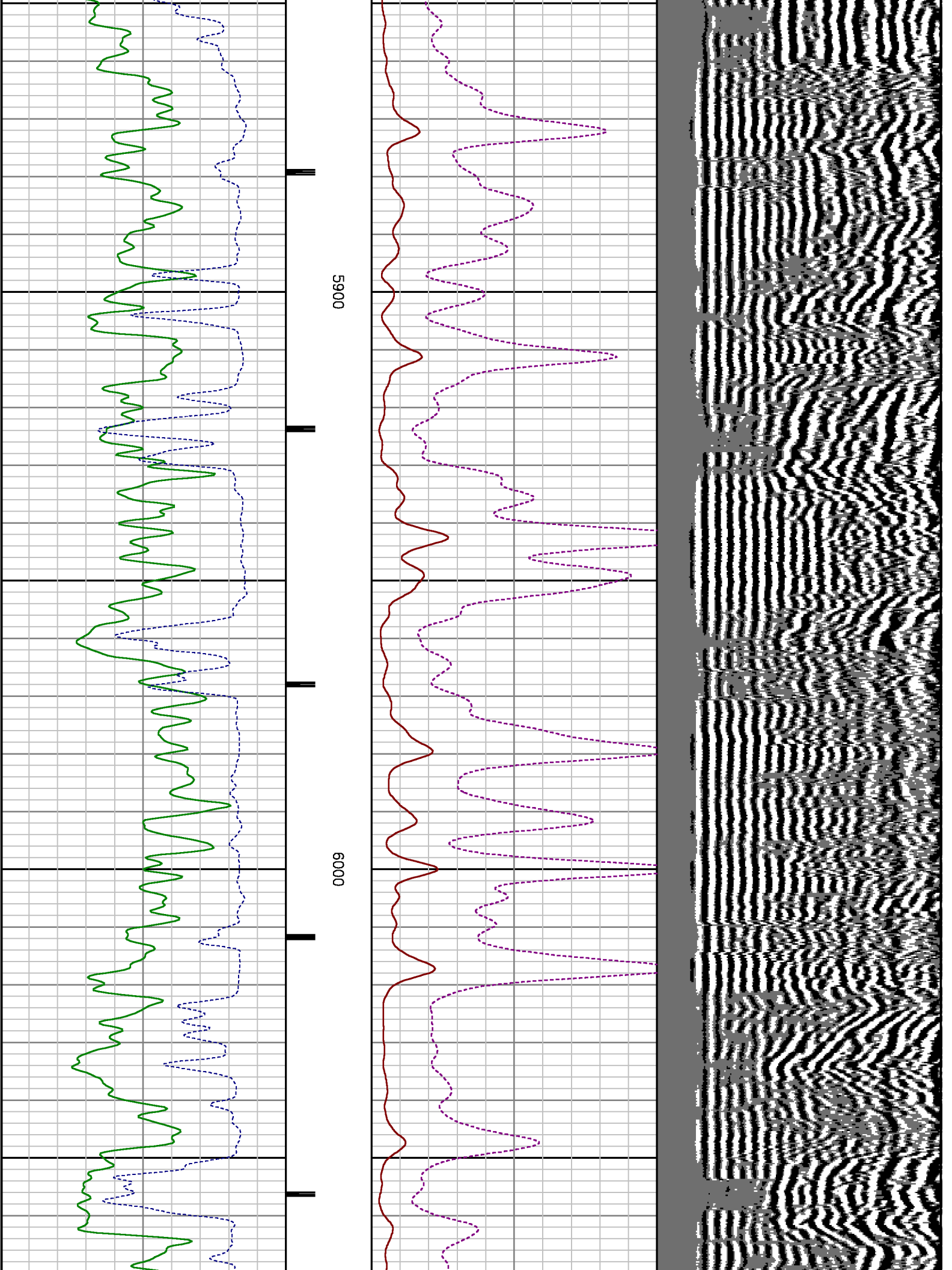


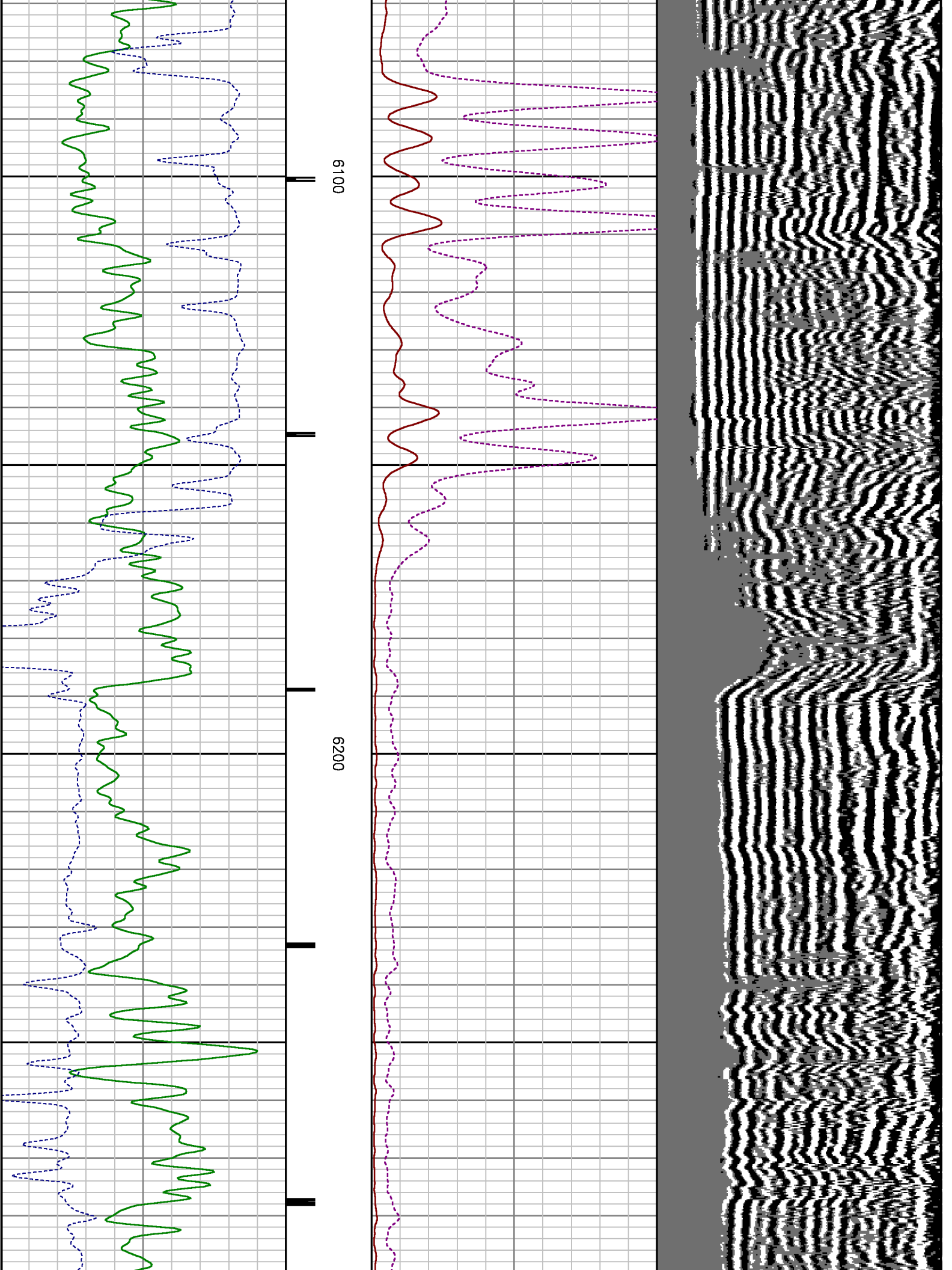


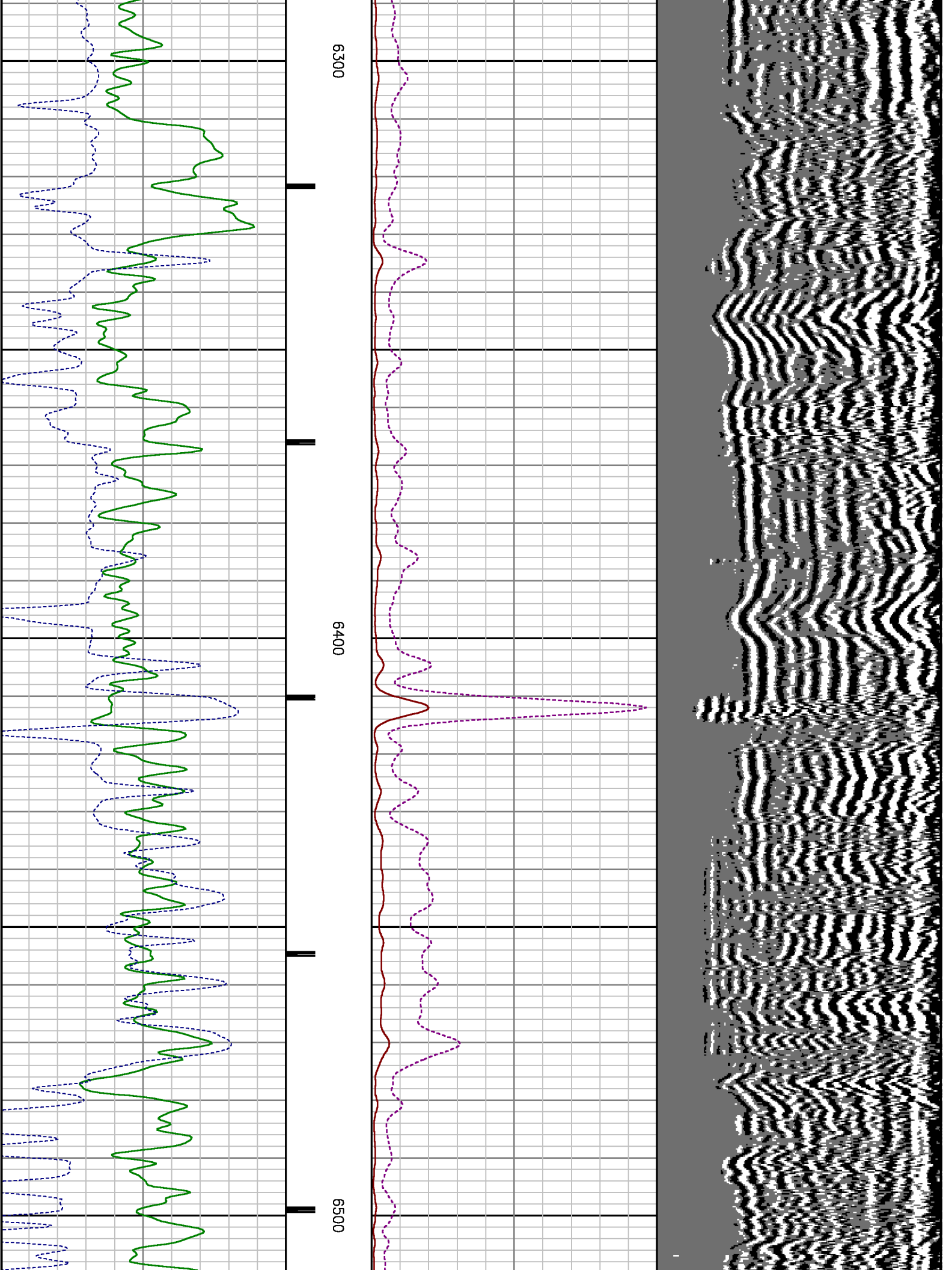


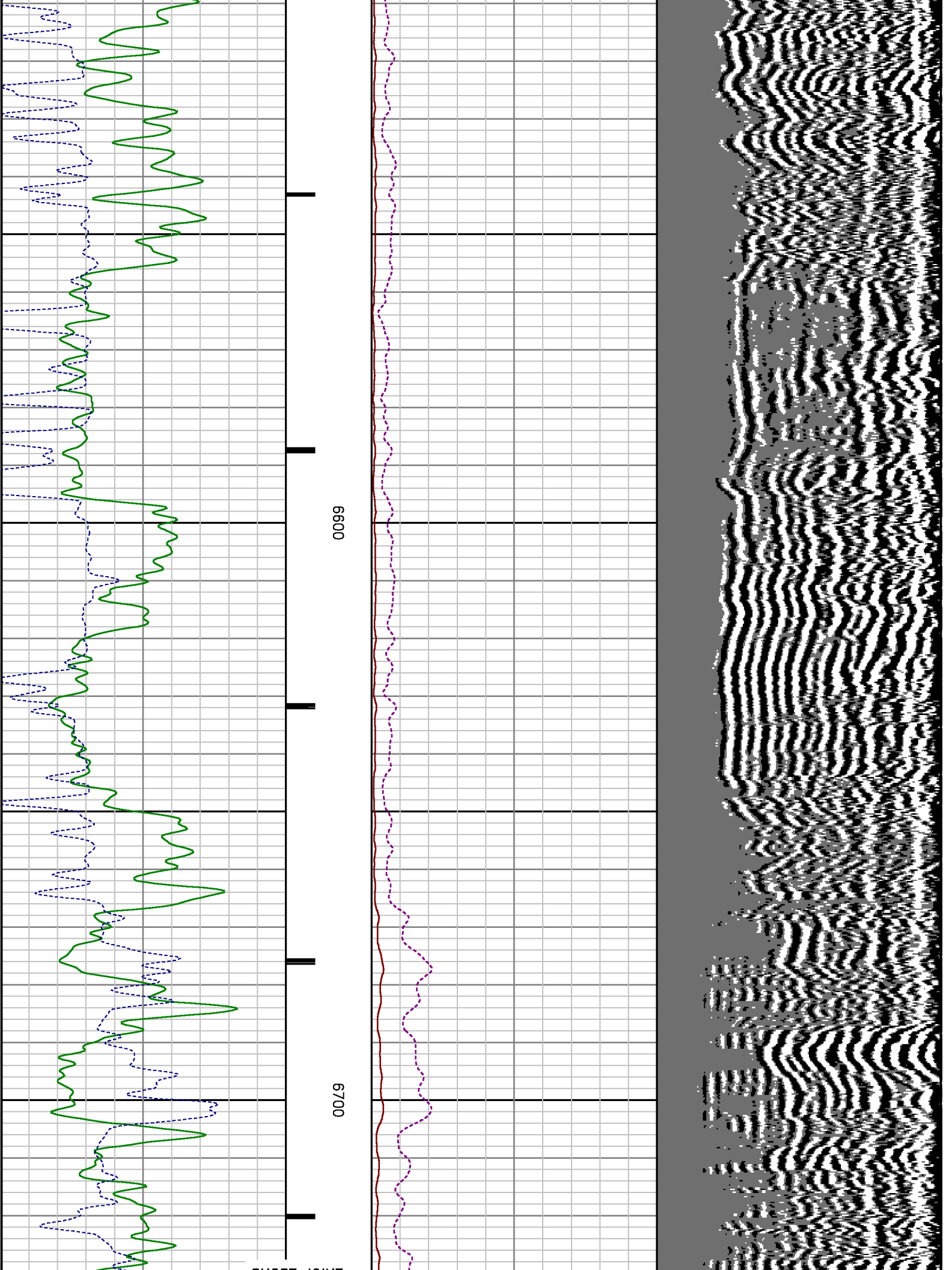


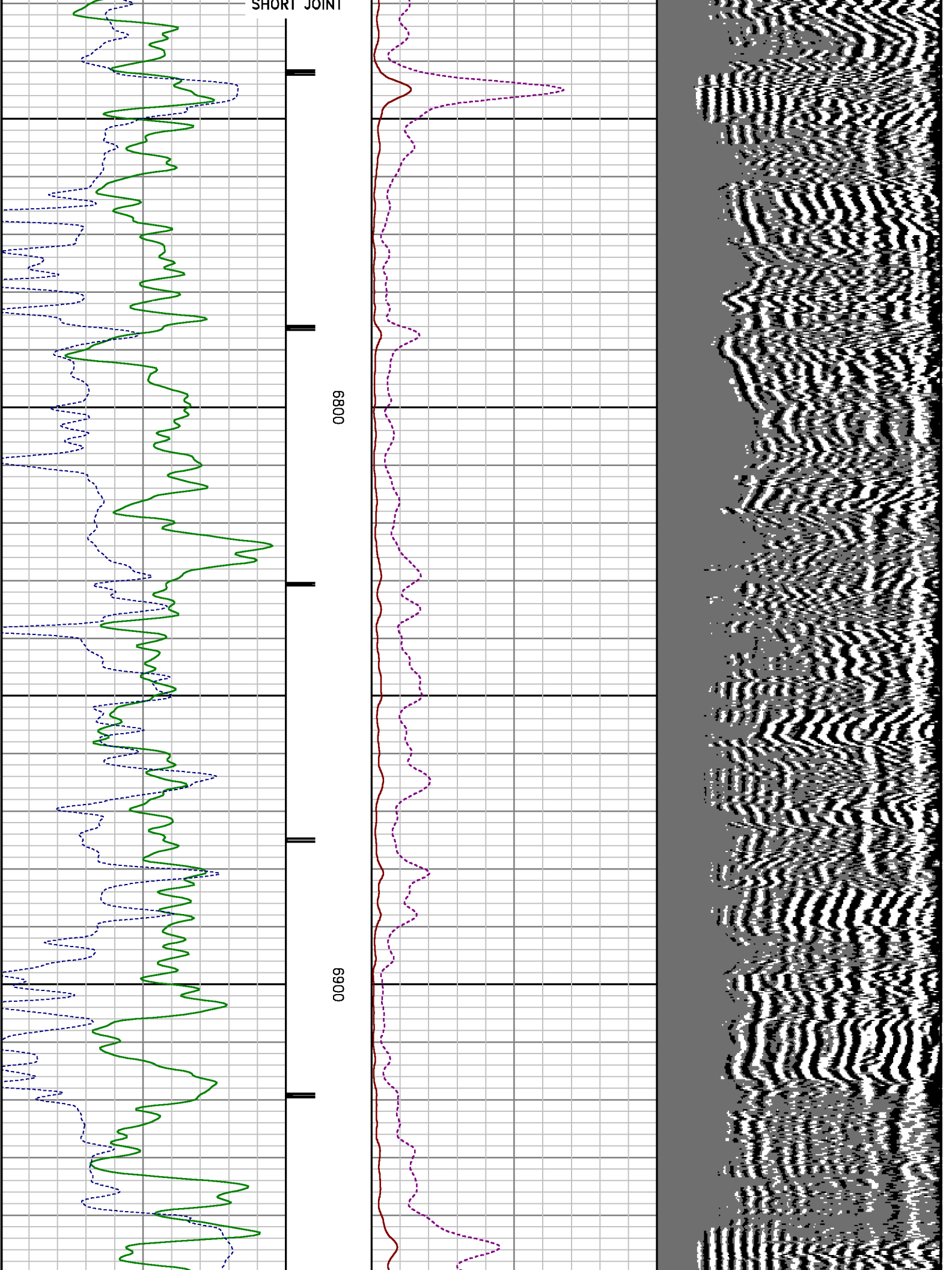


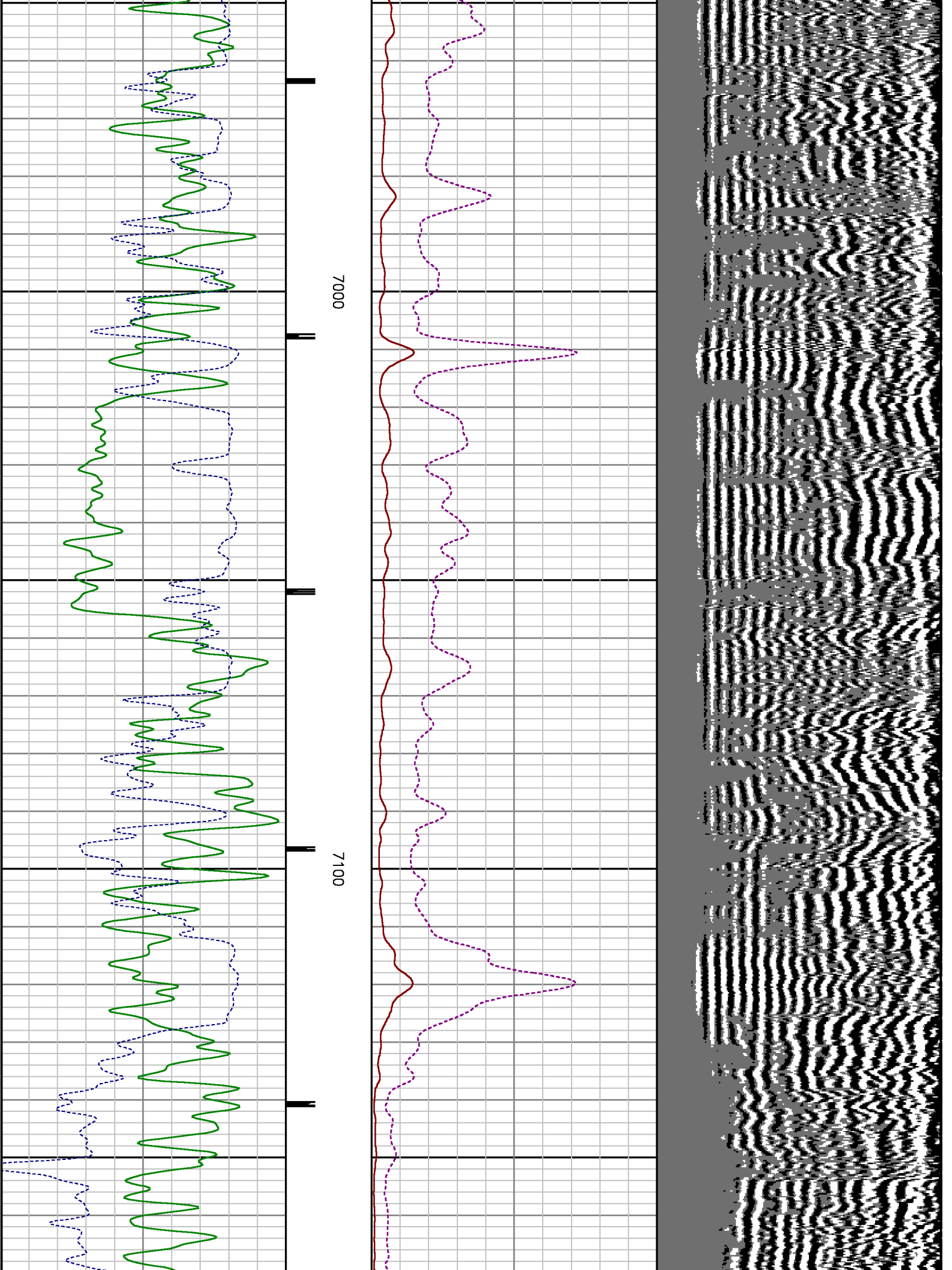


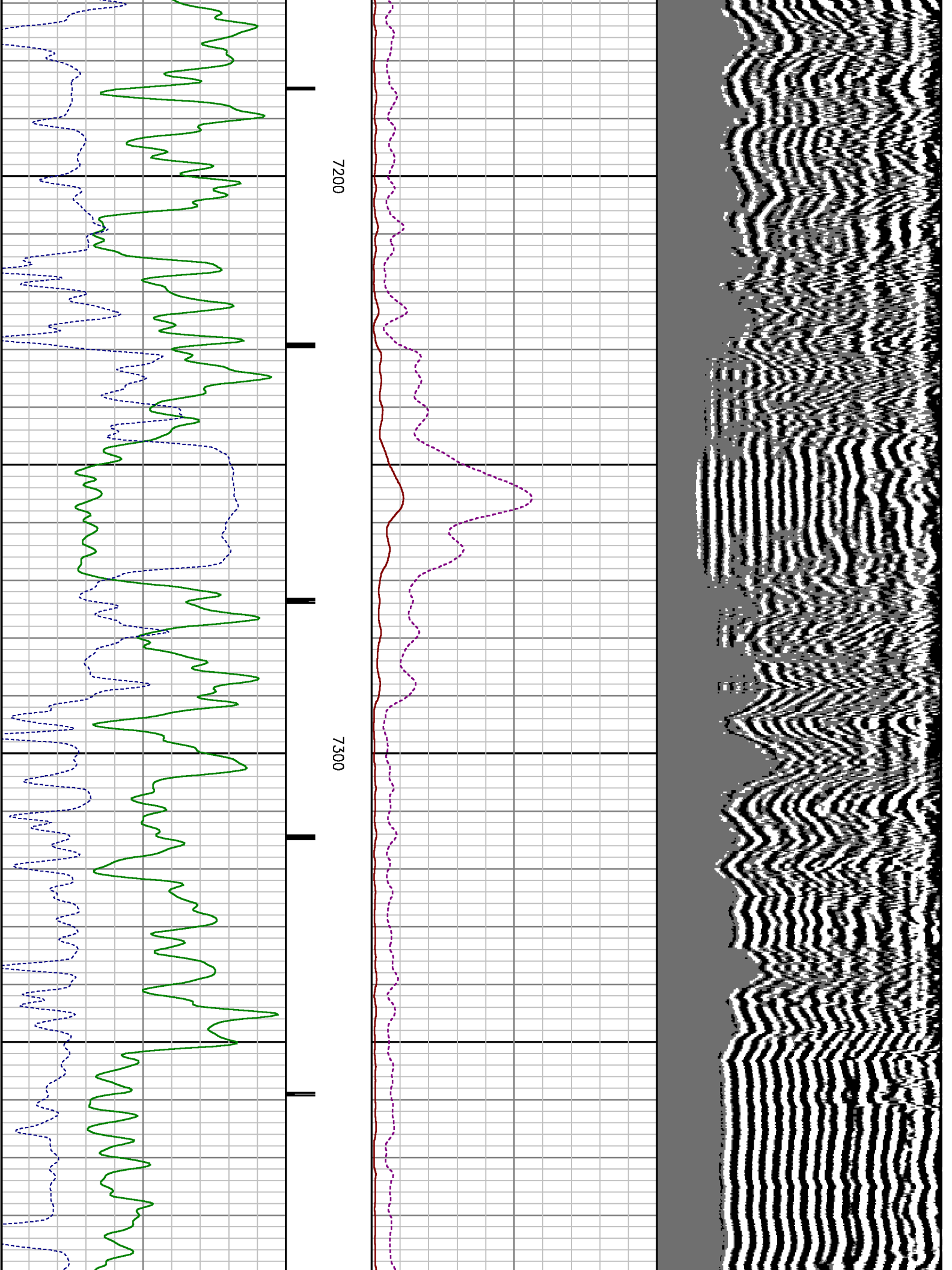


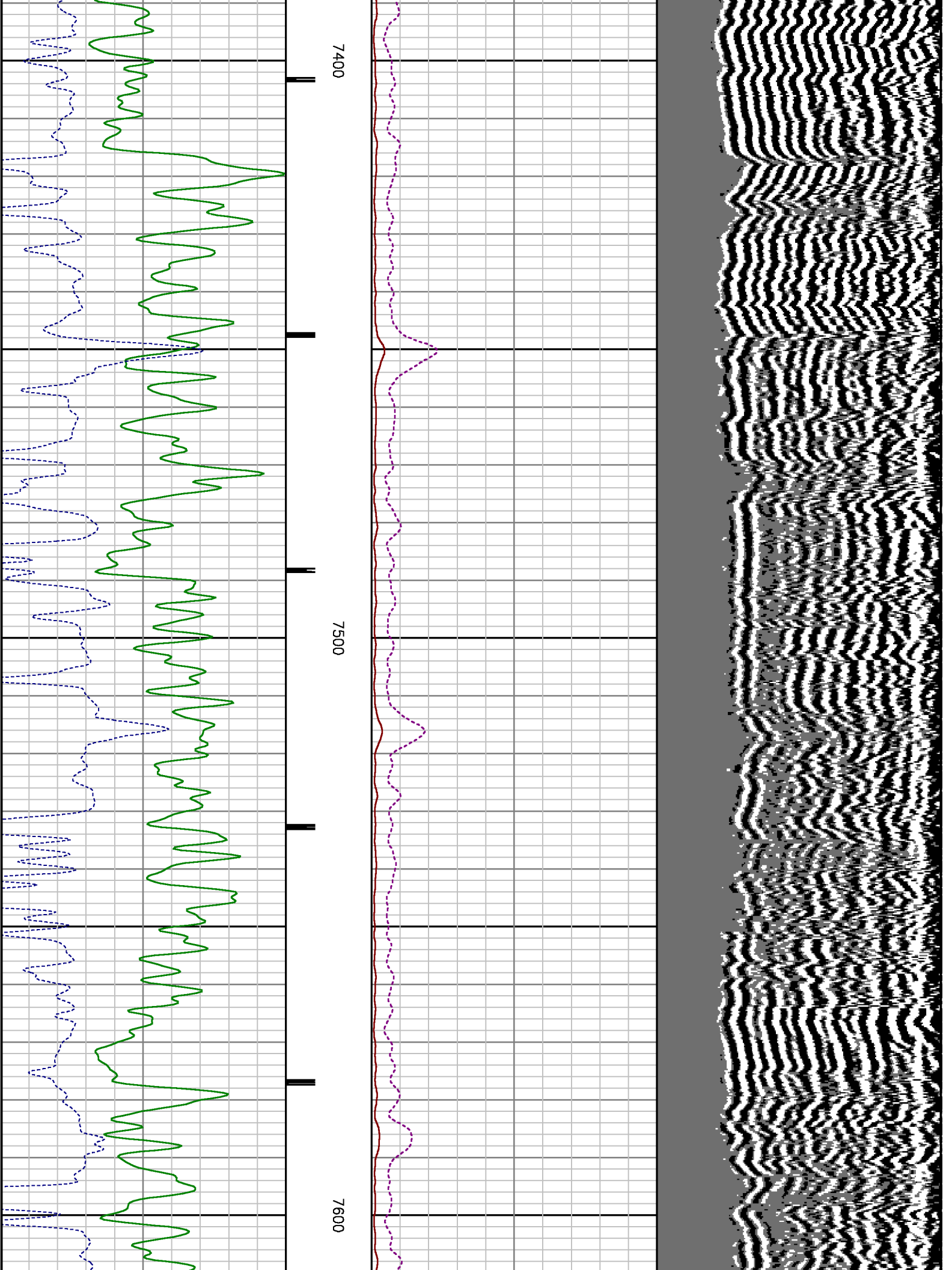


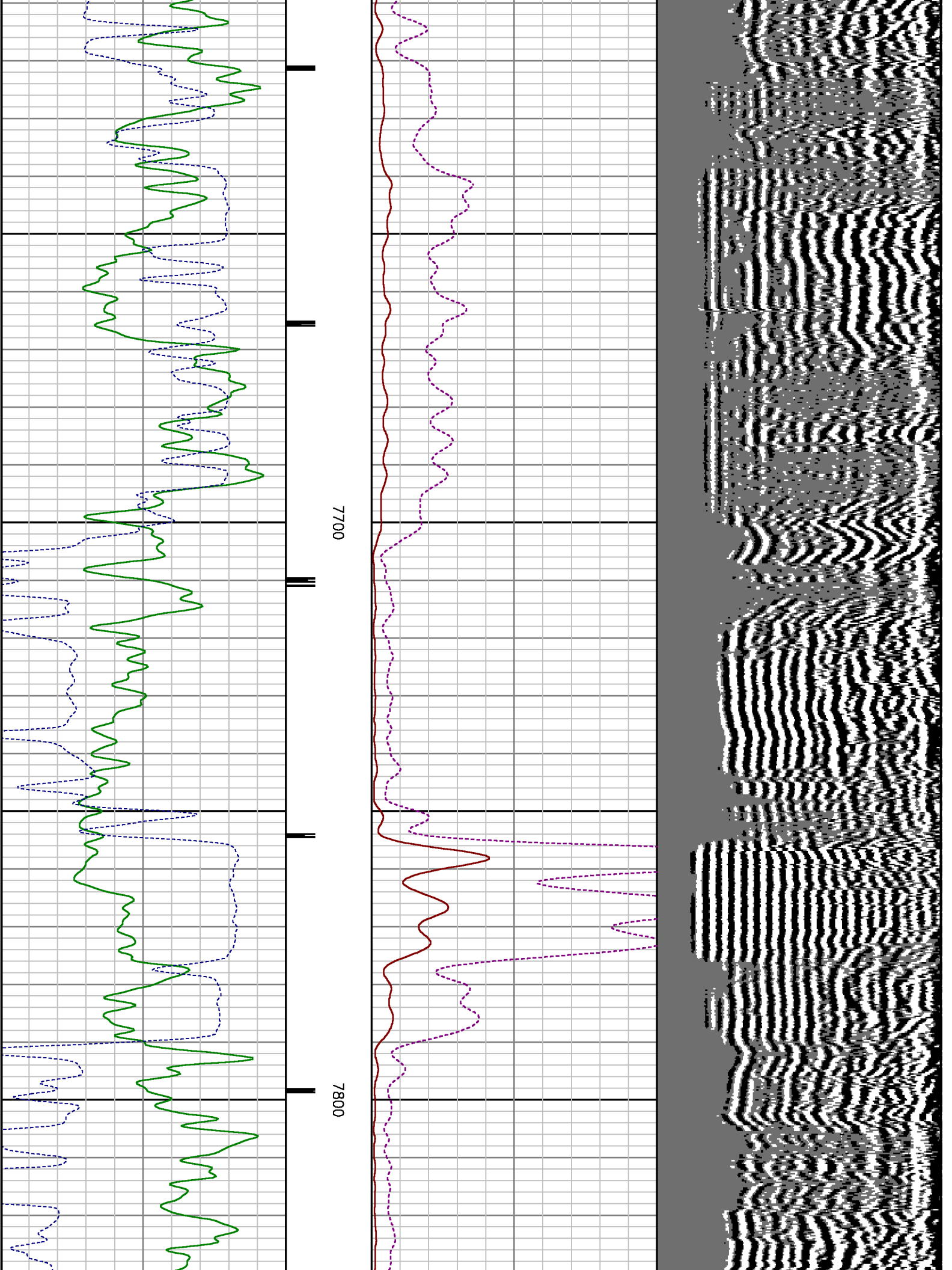


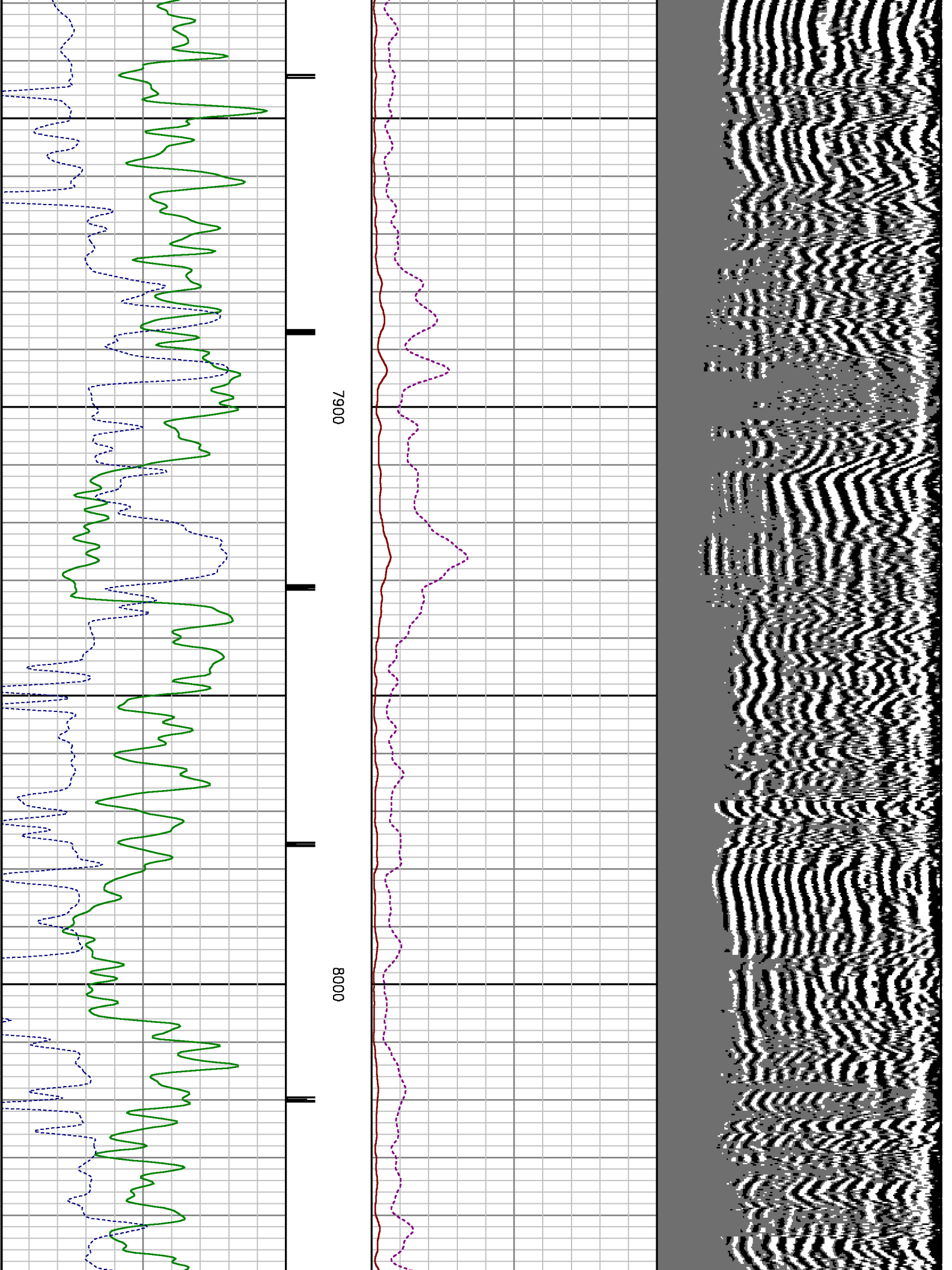


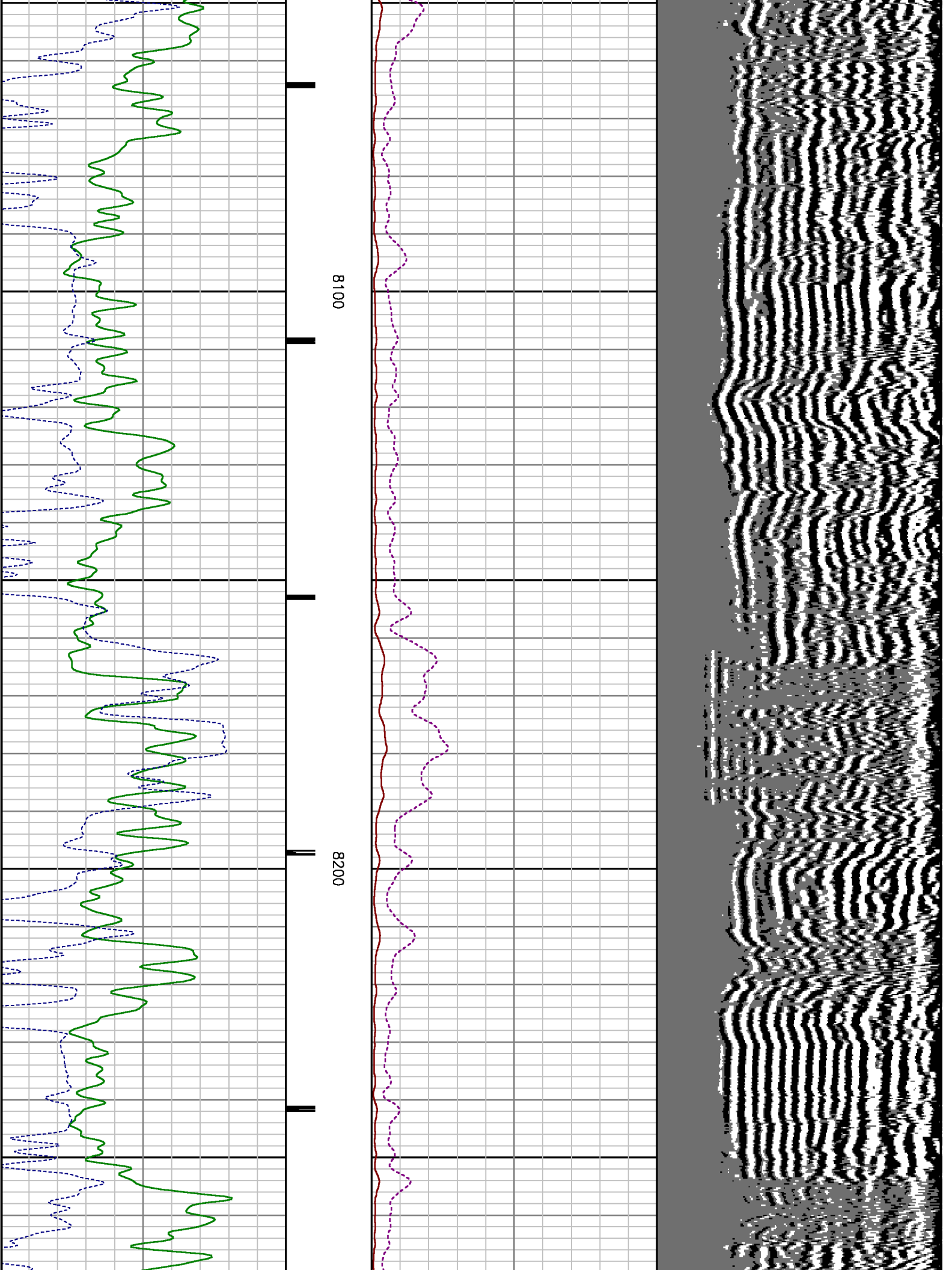


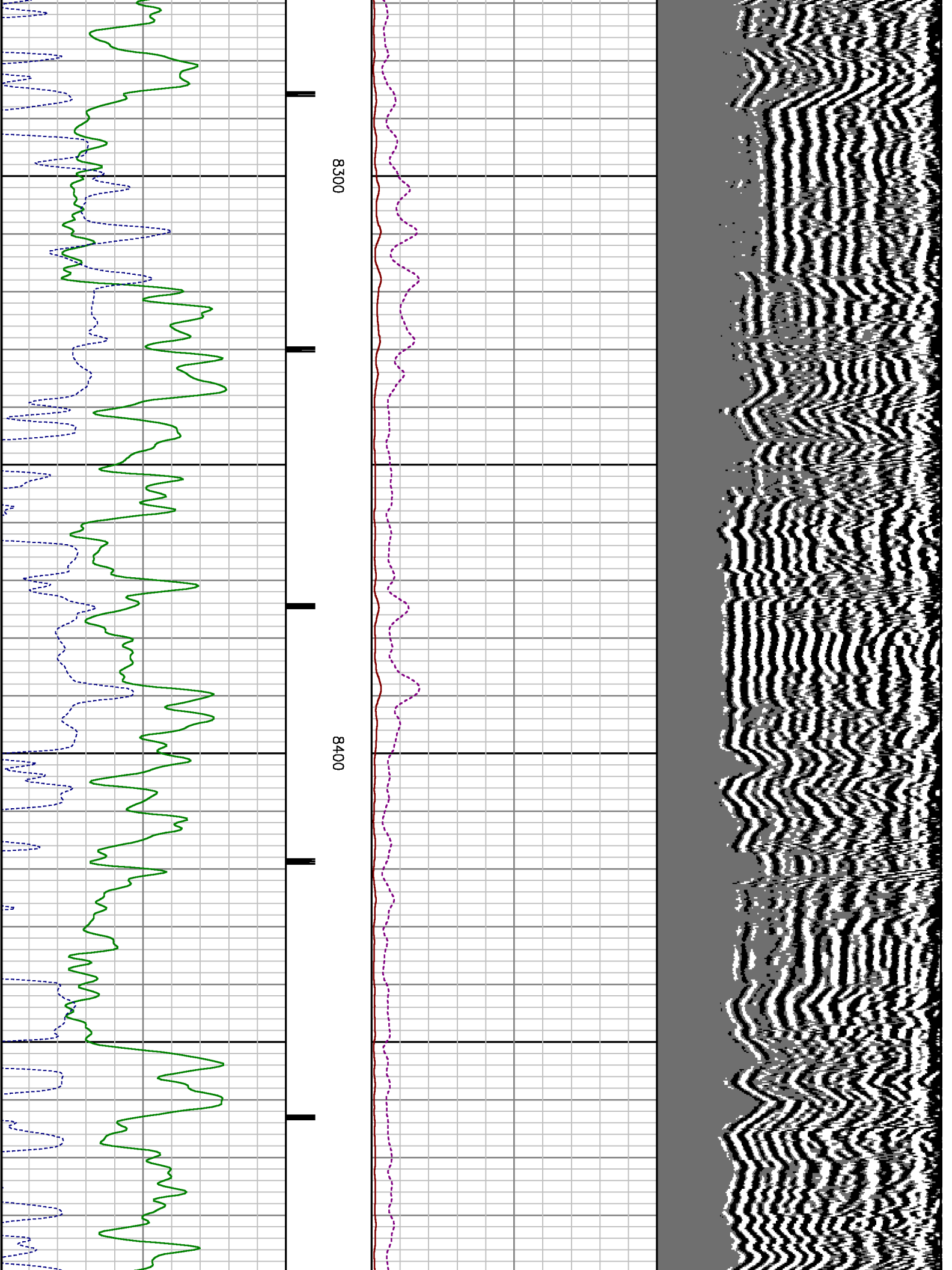


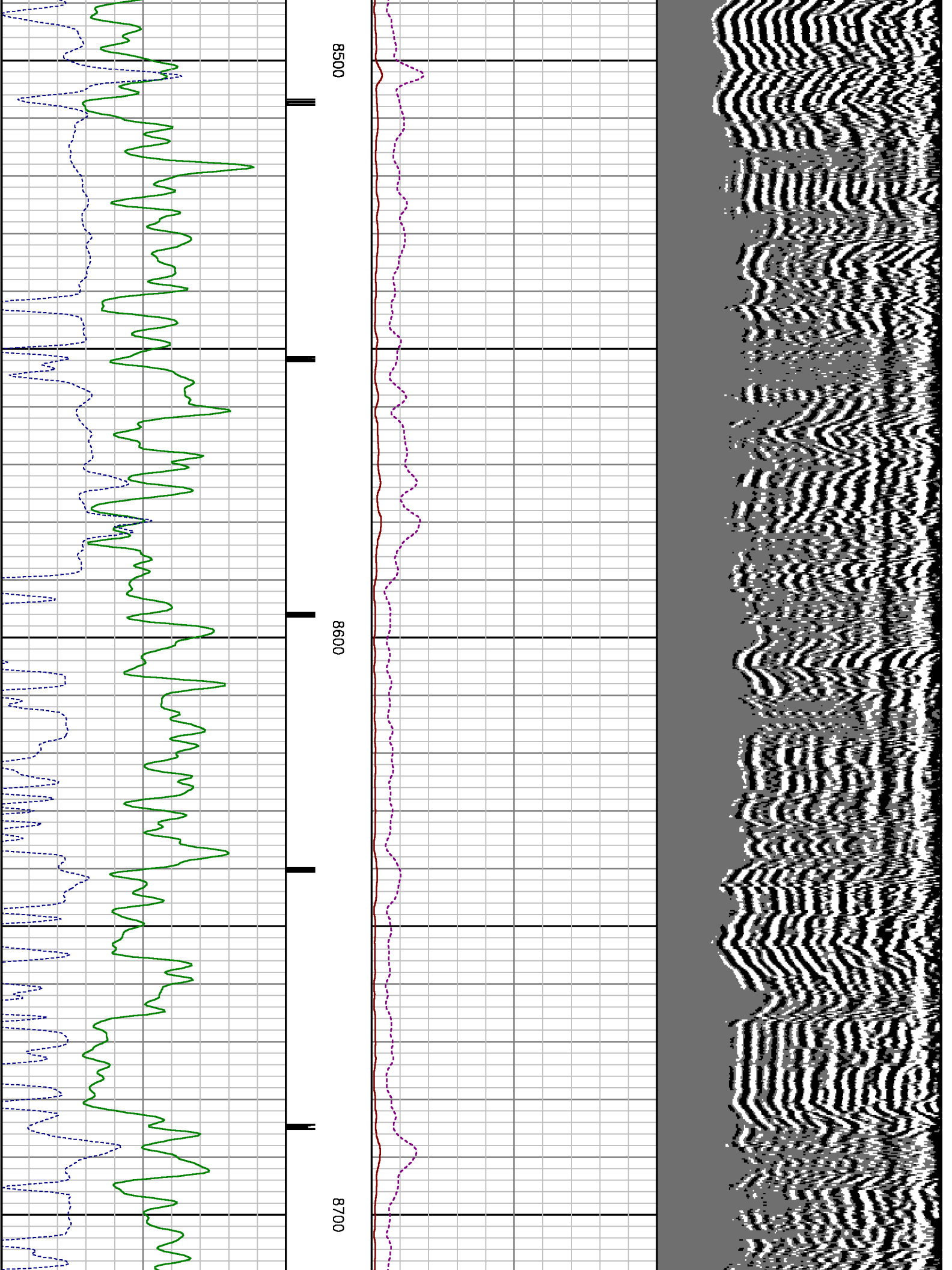


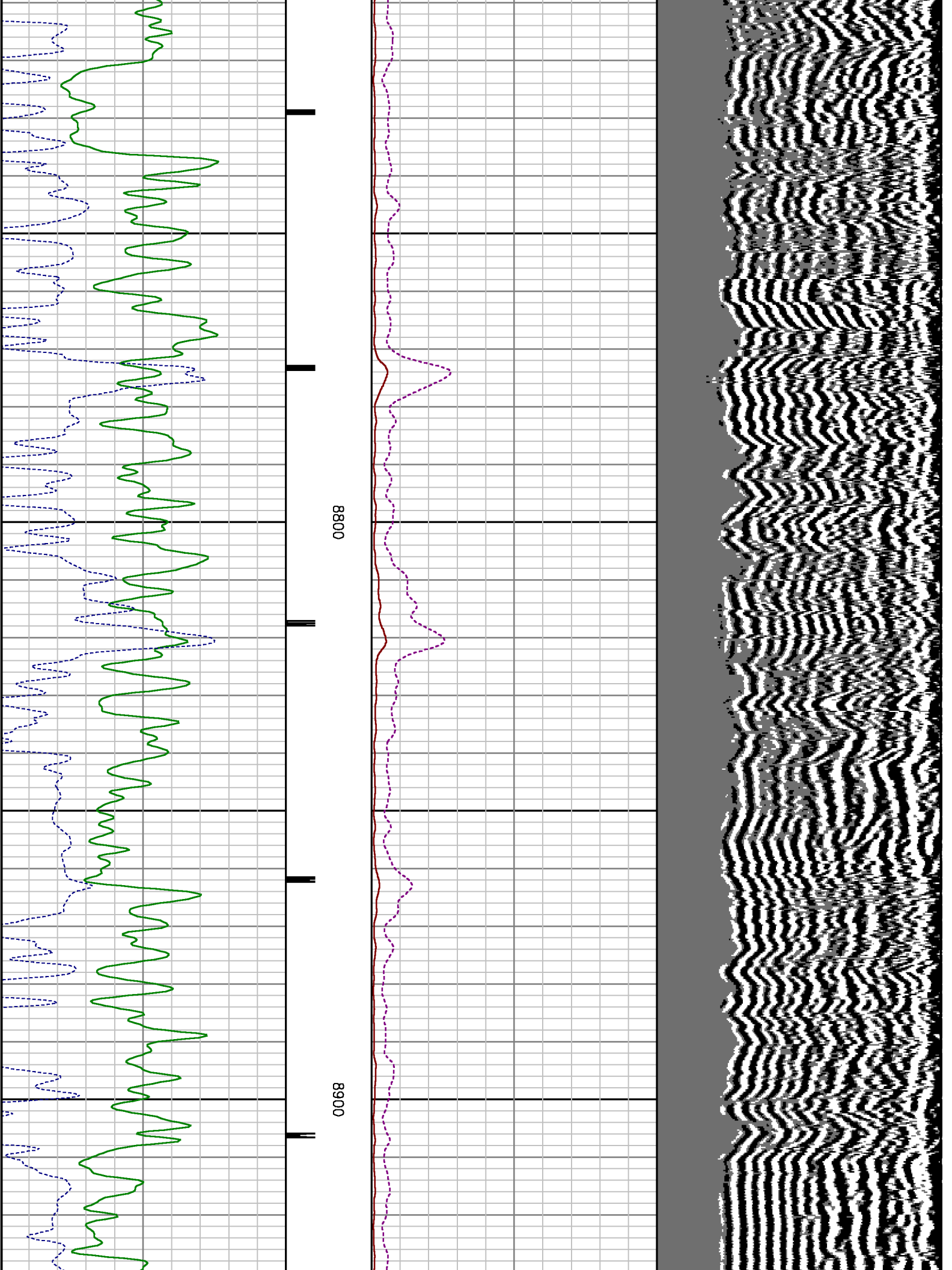


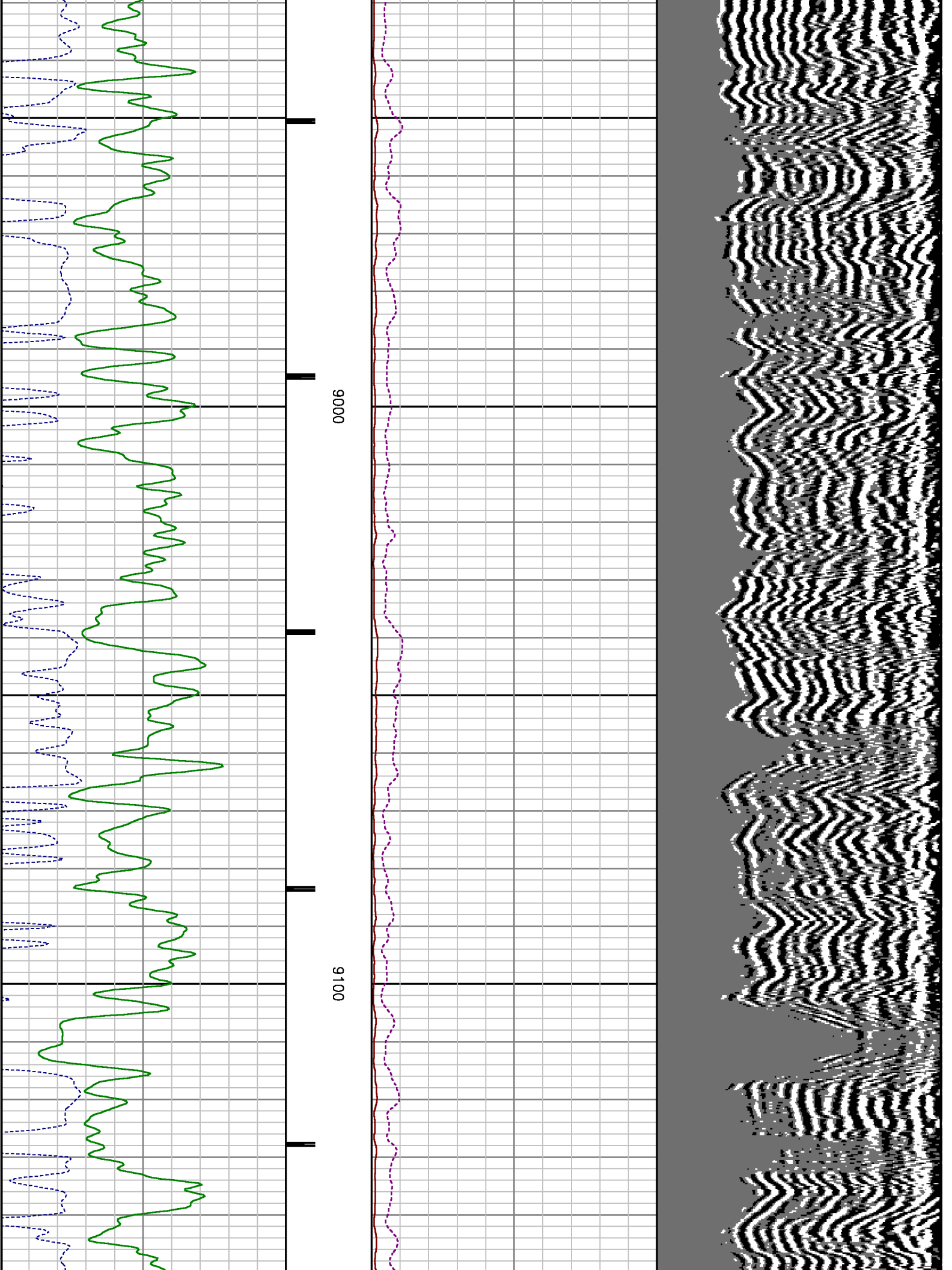


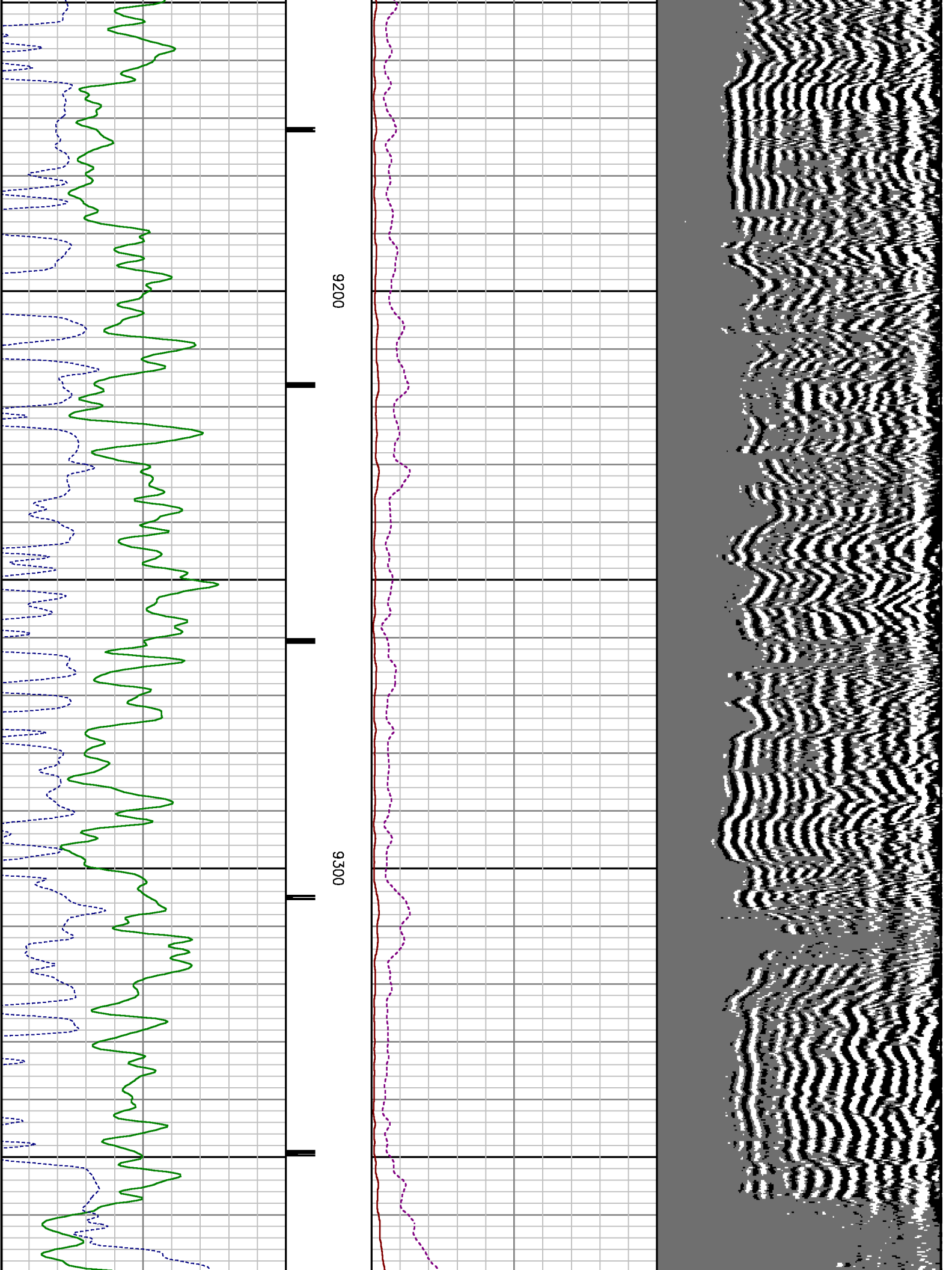


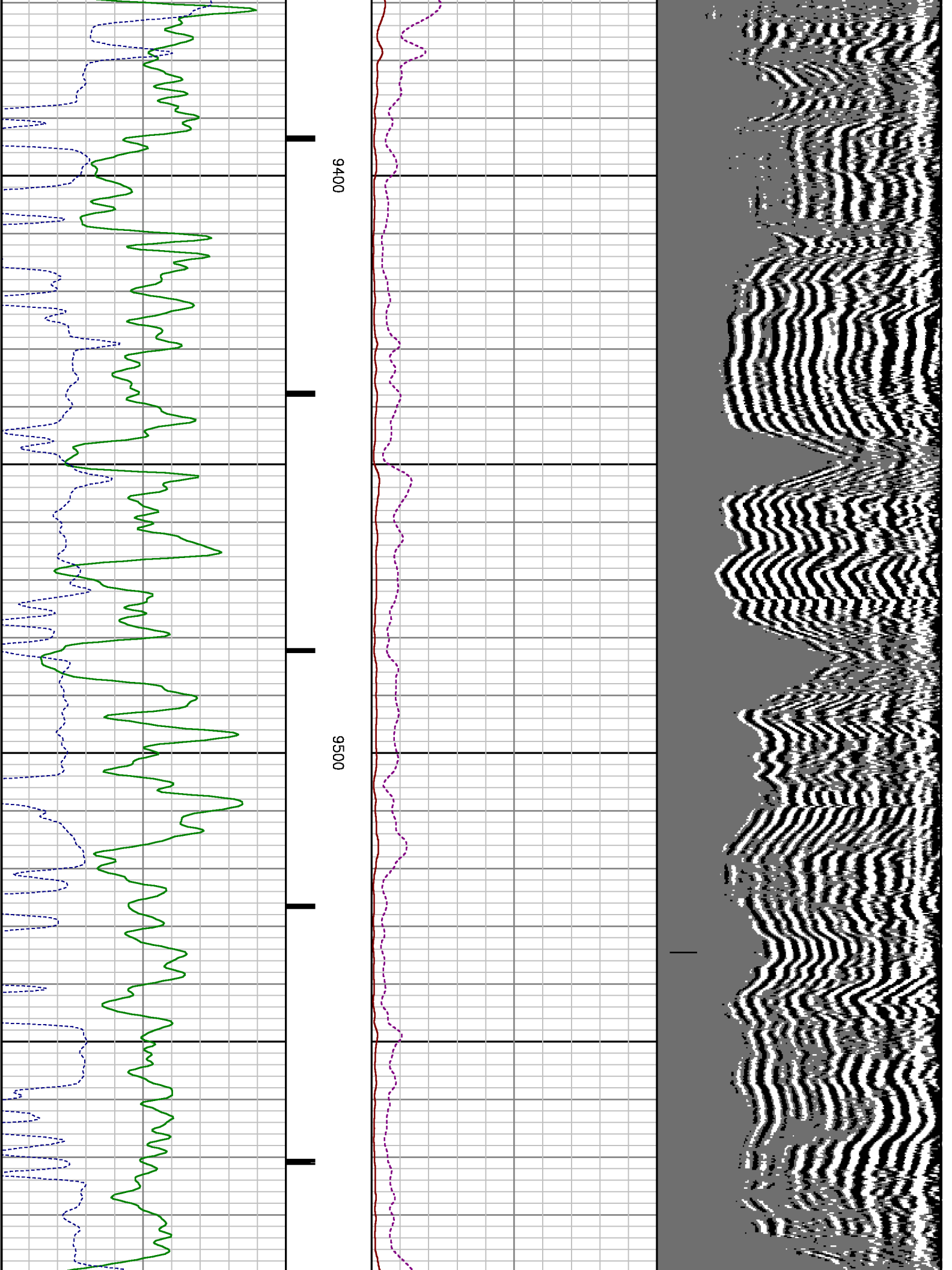


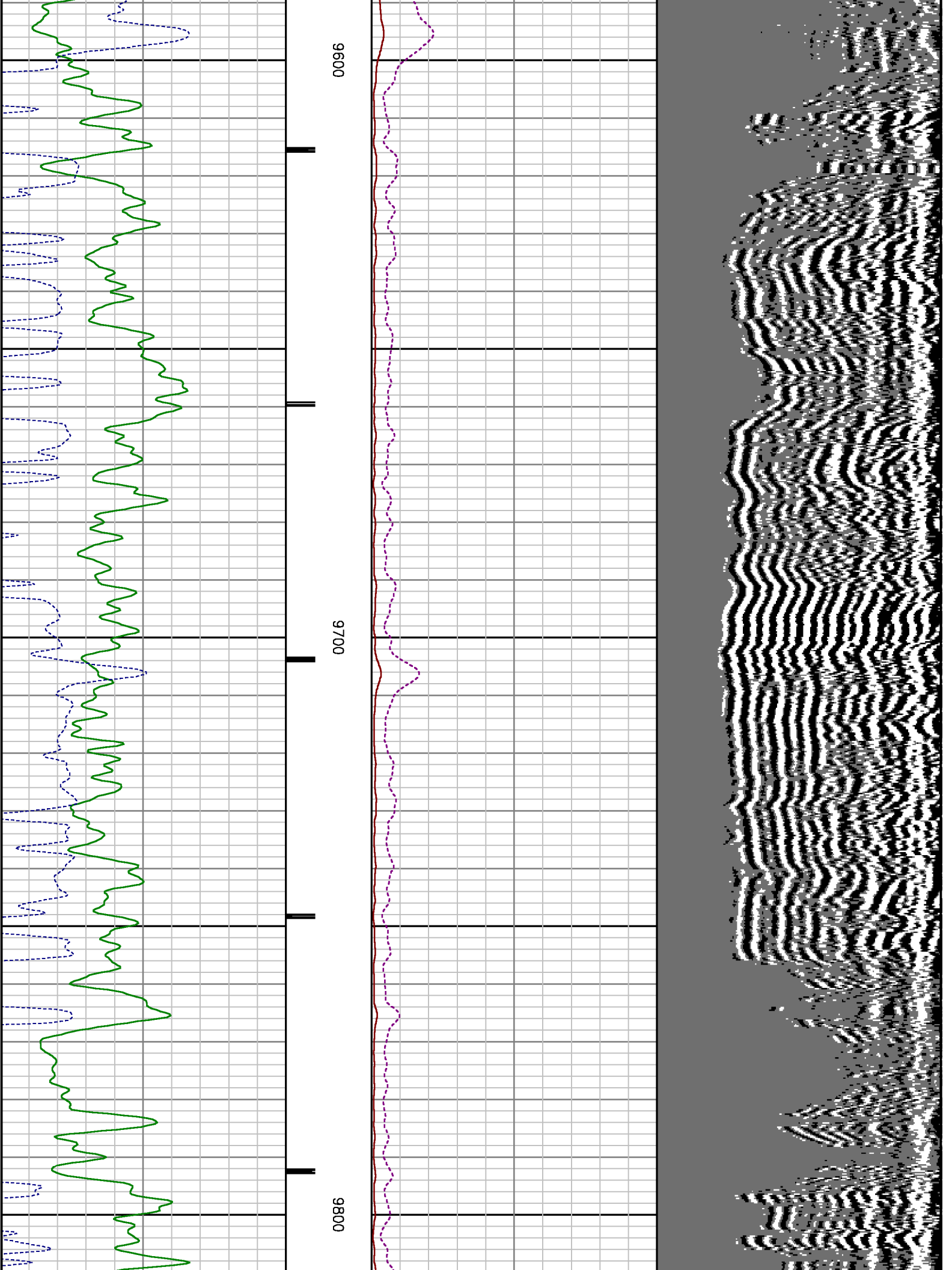


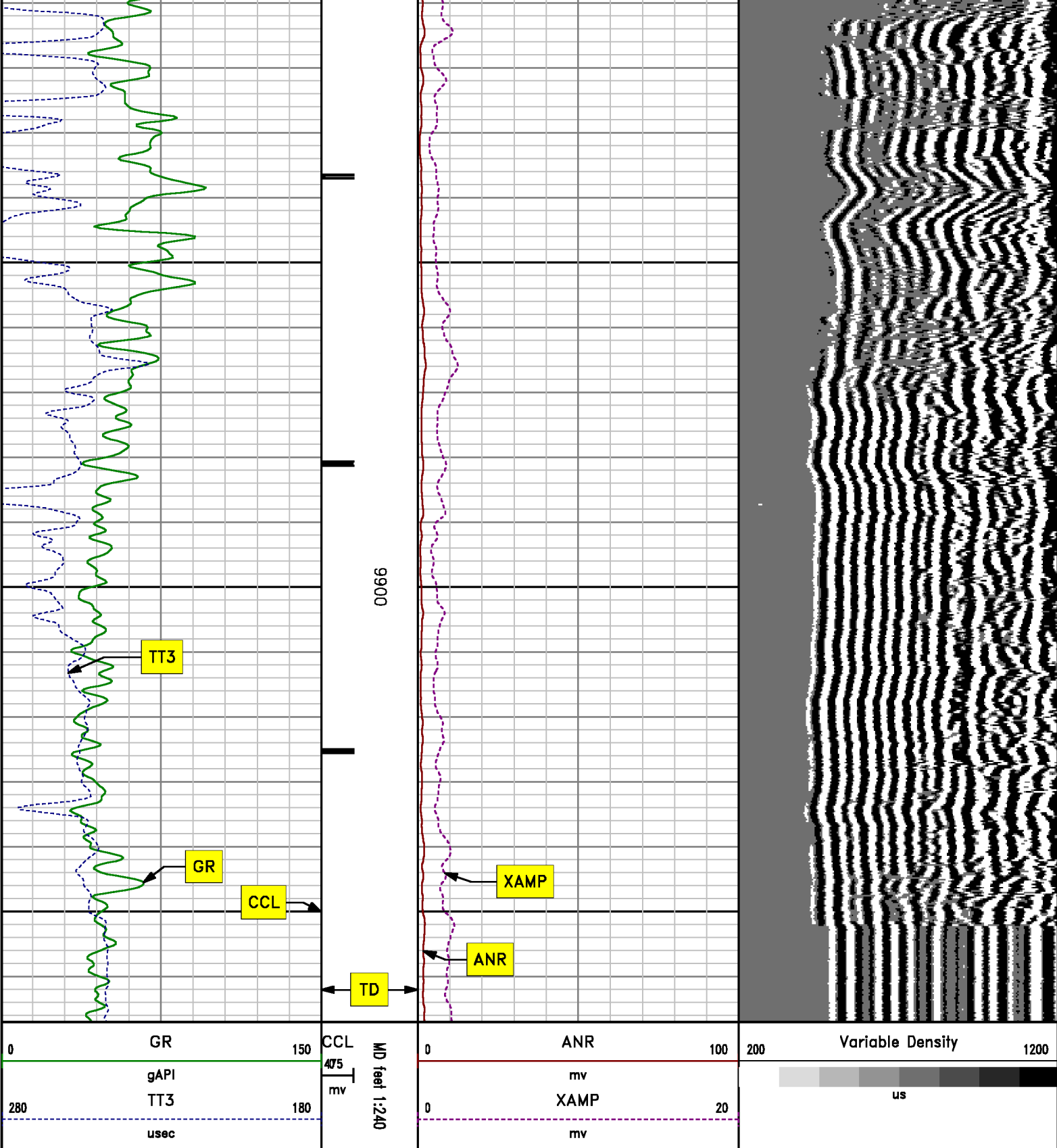












SECONDARY PRESENTATION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	29.447	9980.750
RAL	Amp Gate Start Near	195.000	usec	29.447	9980.750
RAL	Amp Gate Start Radial	195.000	usec	29.447	9980.750
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RAL	Fluid Travel Time	200.000	usec/ft	29.447	9980.750

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-11.000	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-10.040	AFAR	SIG	TT5			
1355XA	-5.620	CCL					
1355XA	-1.500	GR					
1355XA	0.000	TEMP					

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

Well : FEDERAL RU 331-5

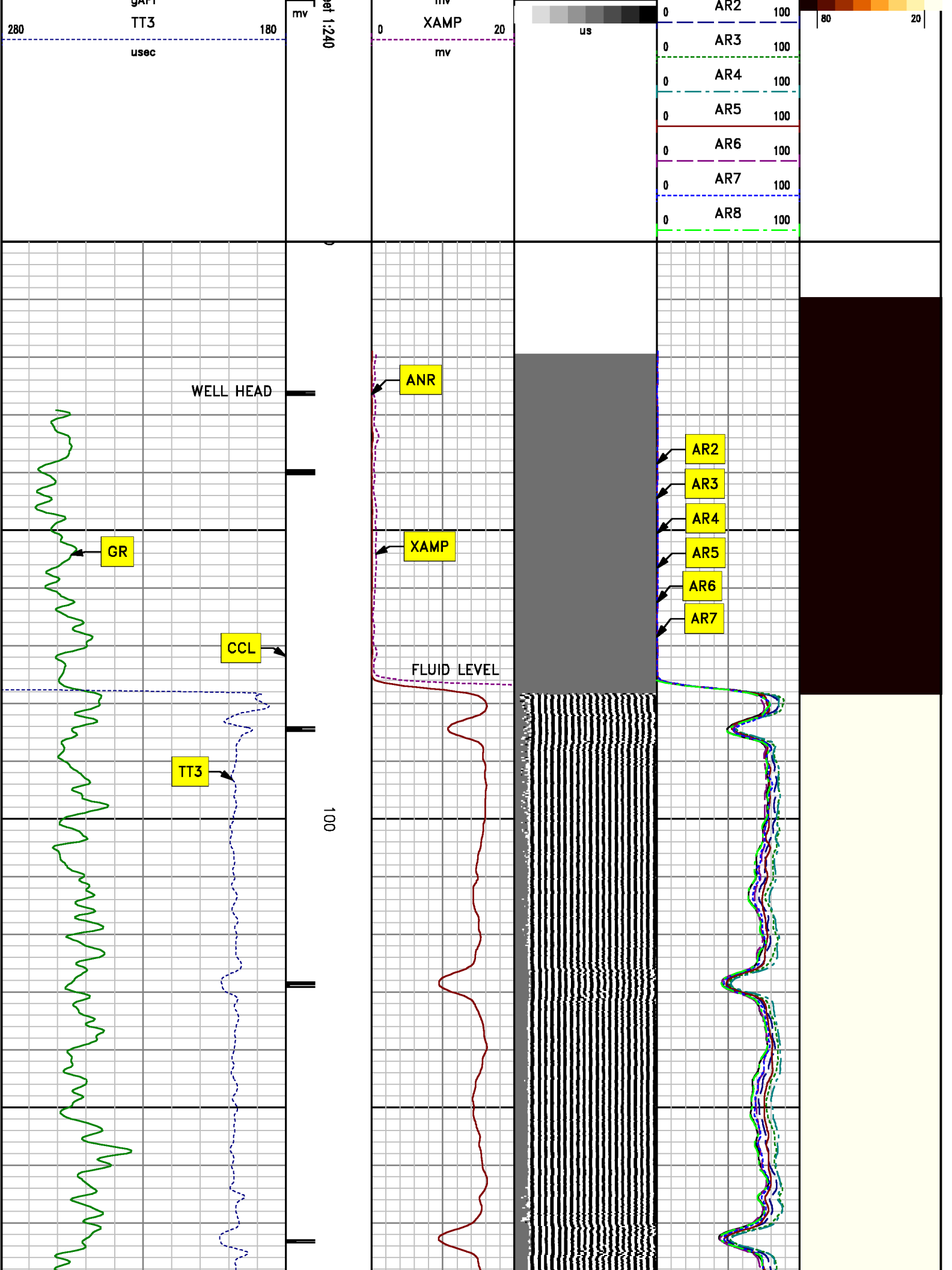
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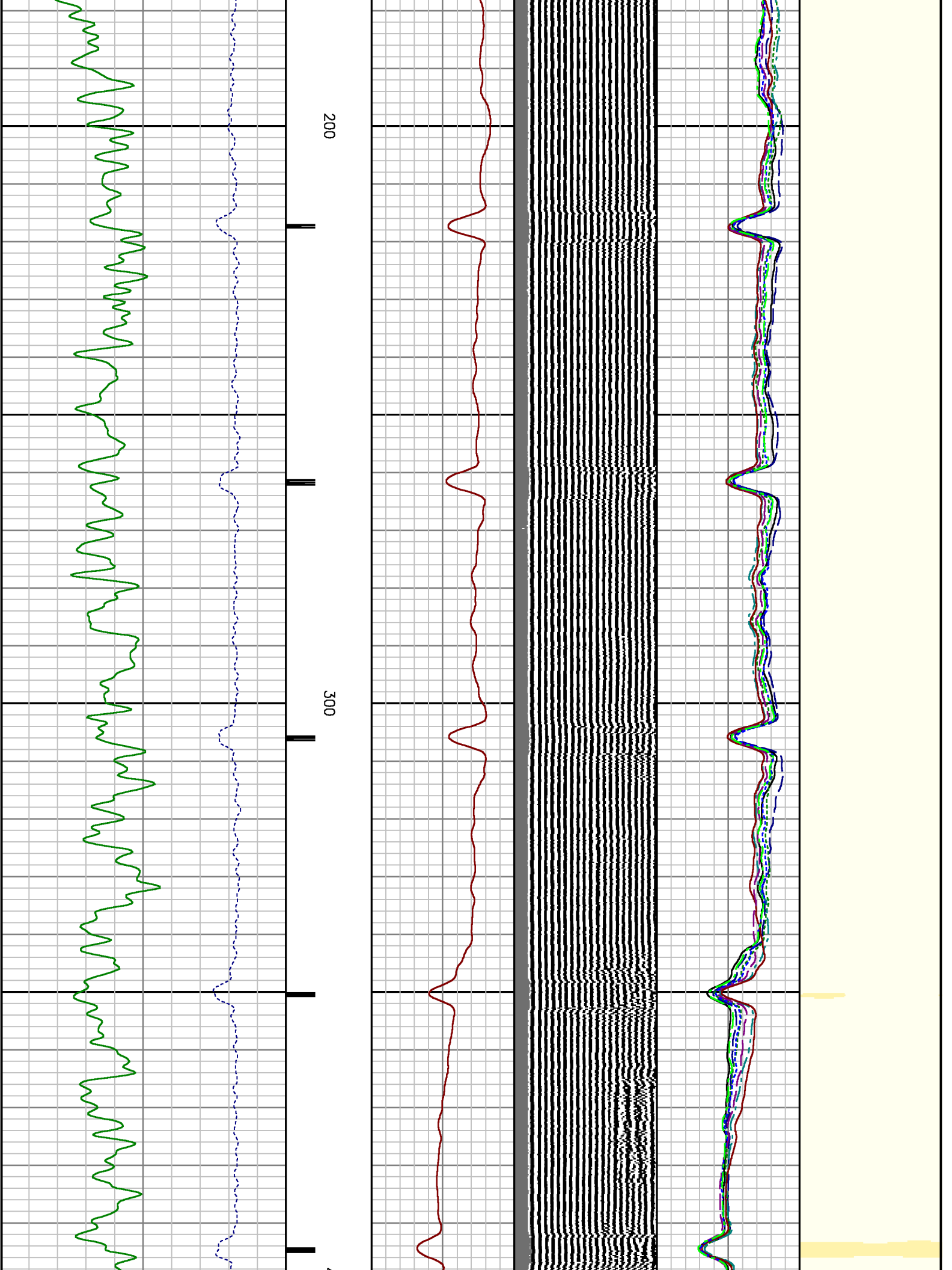
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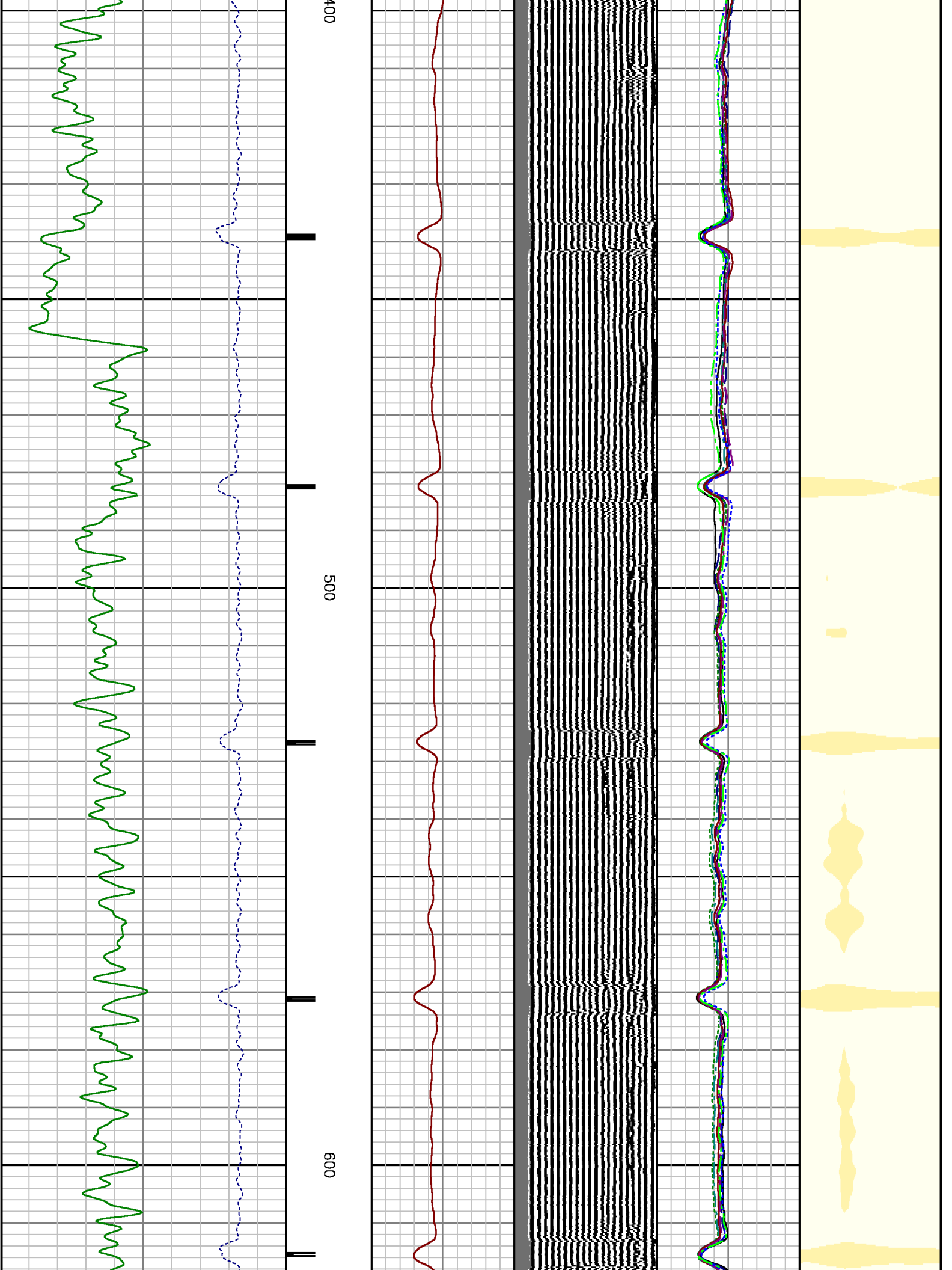
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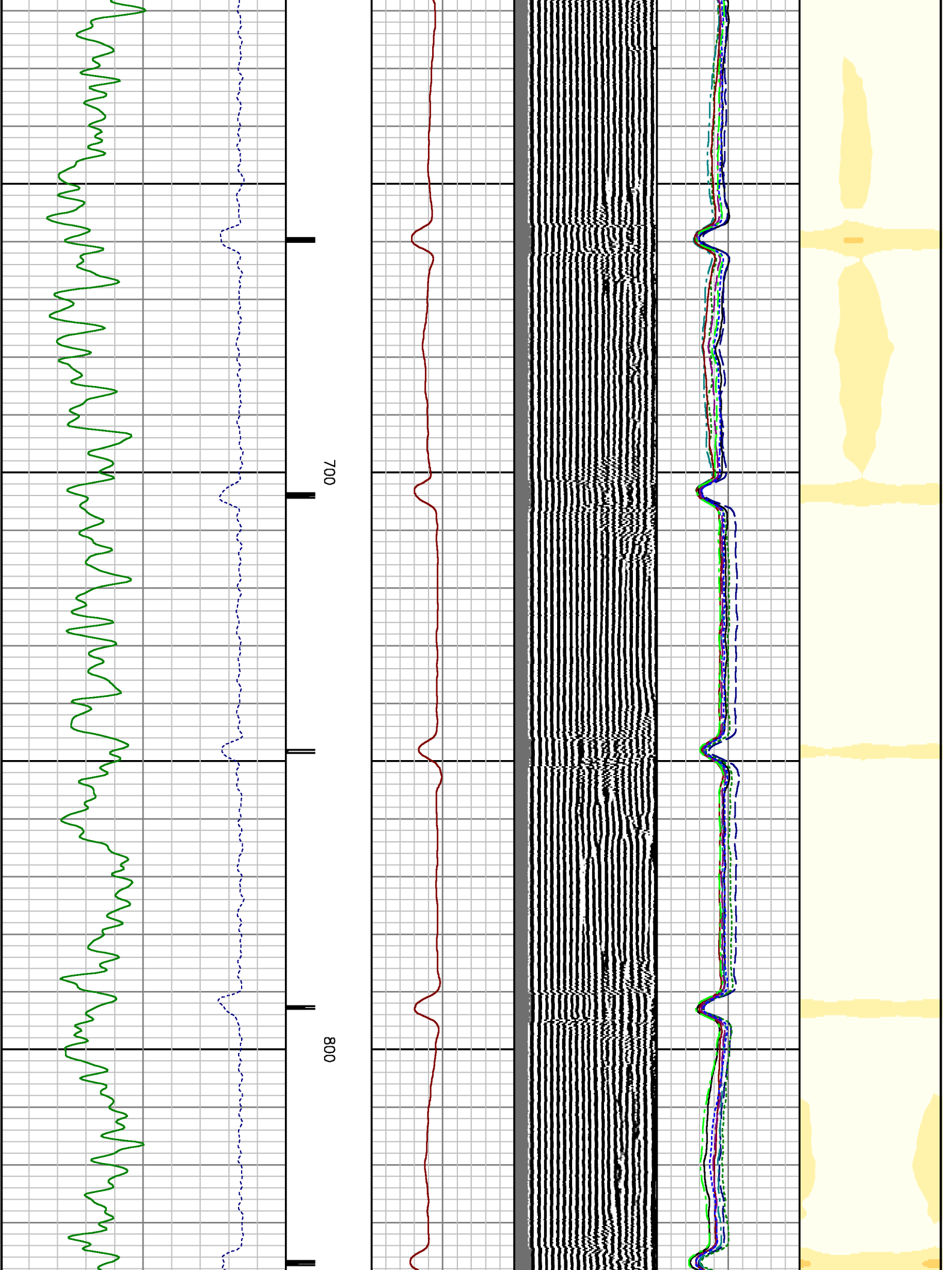
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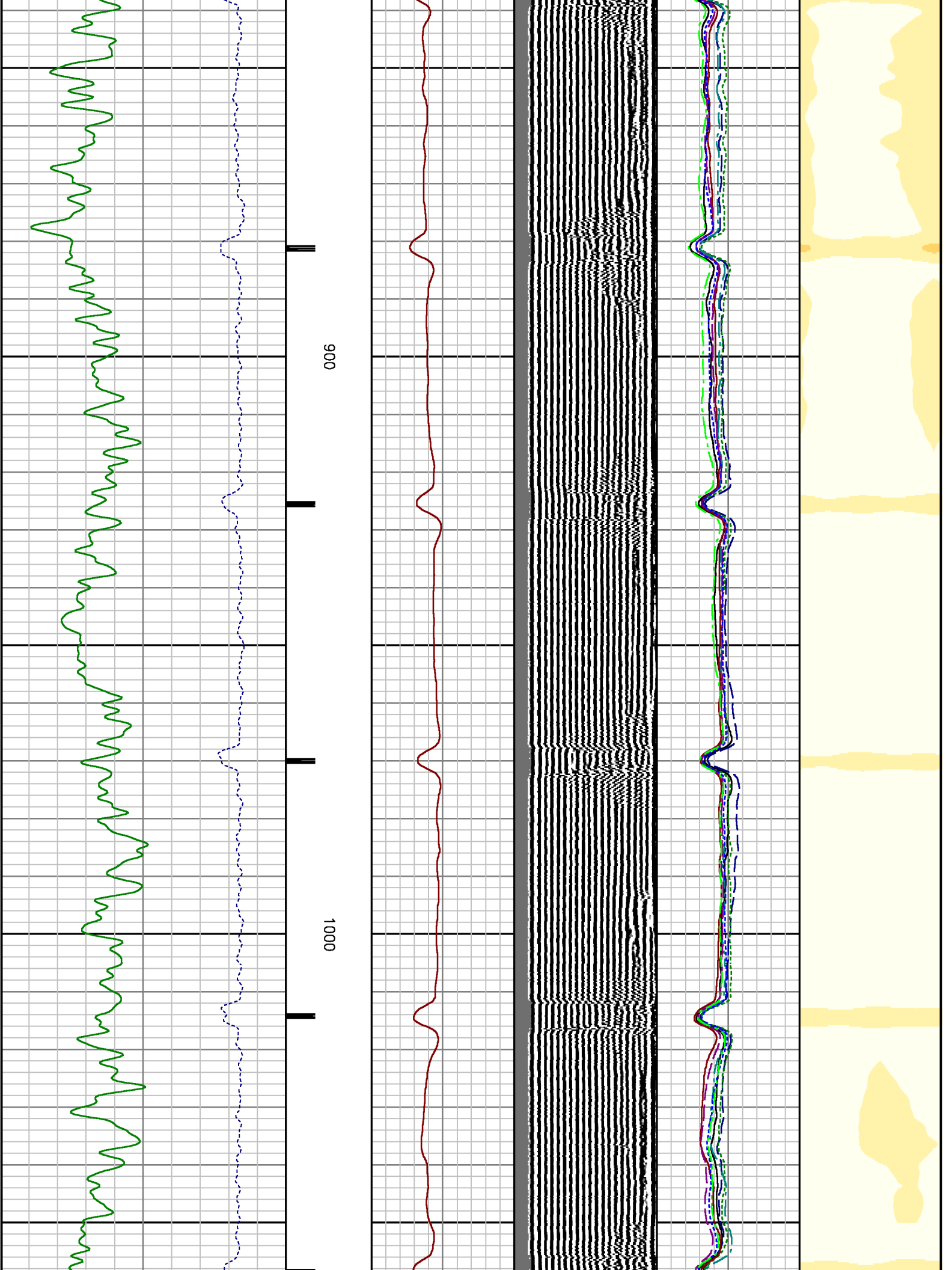
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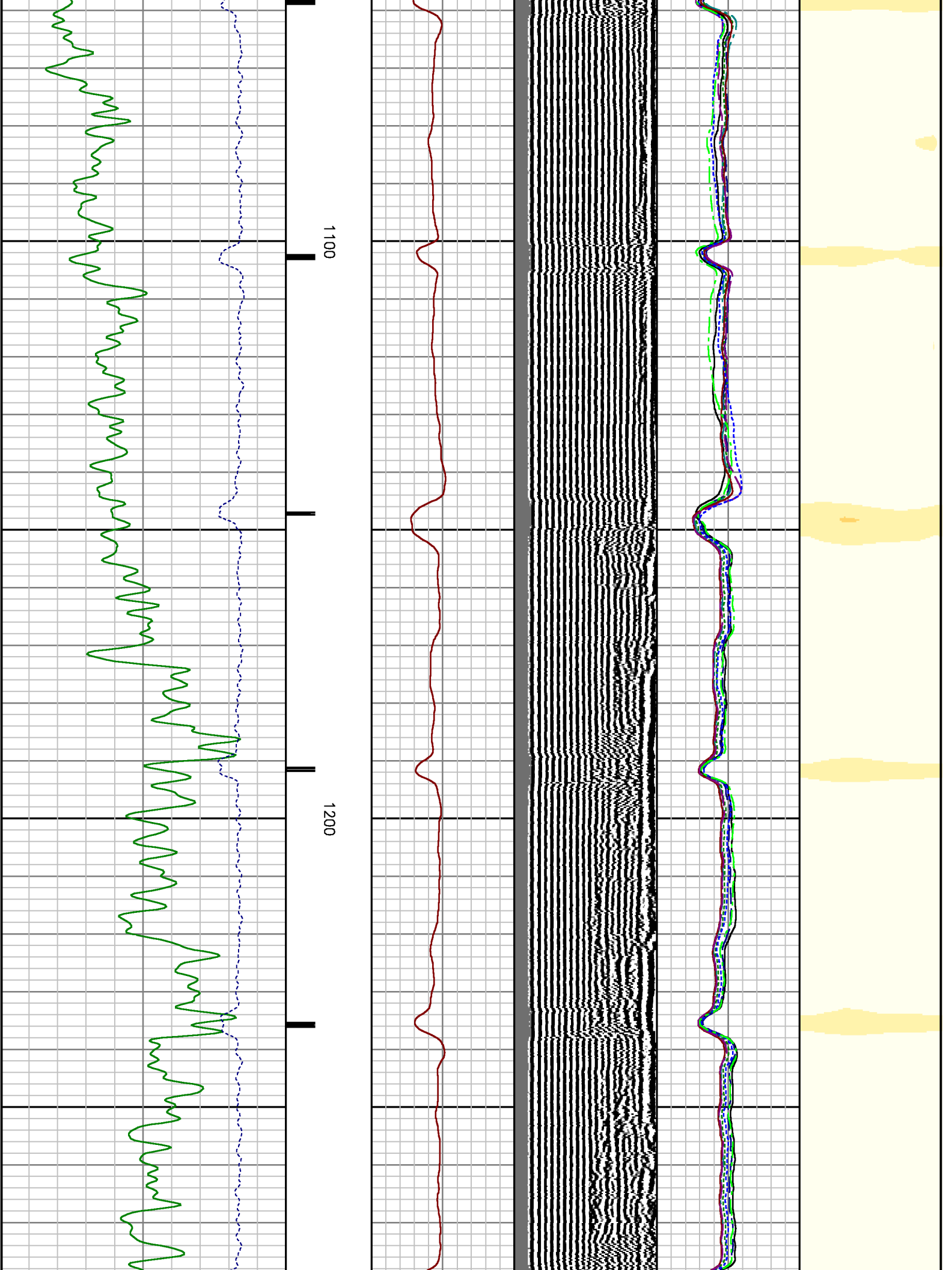


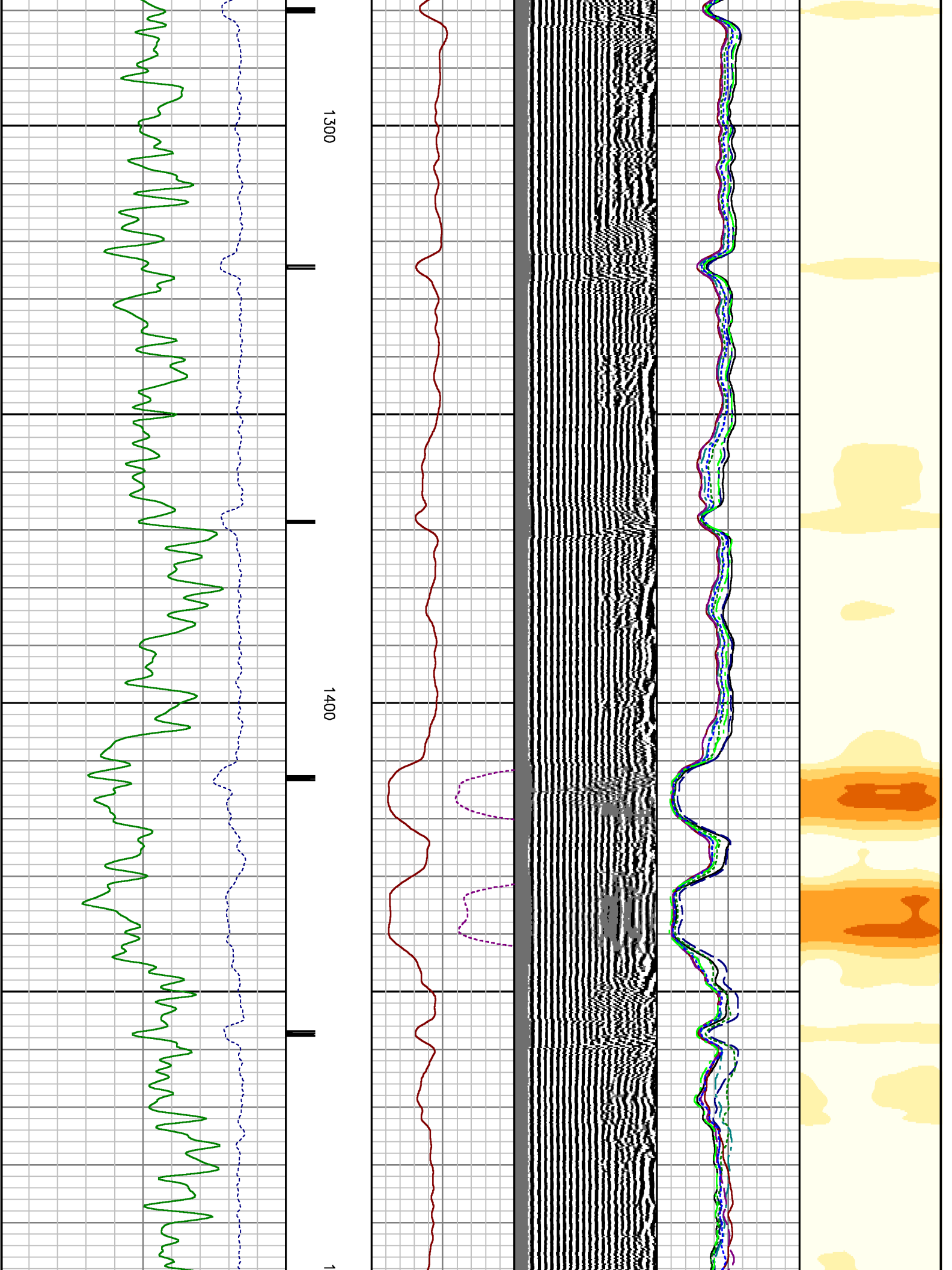


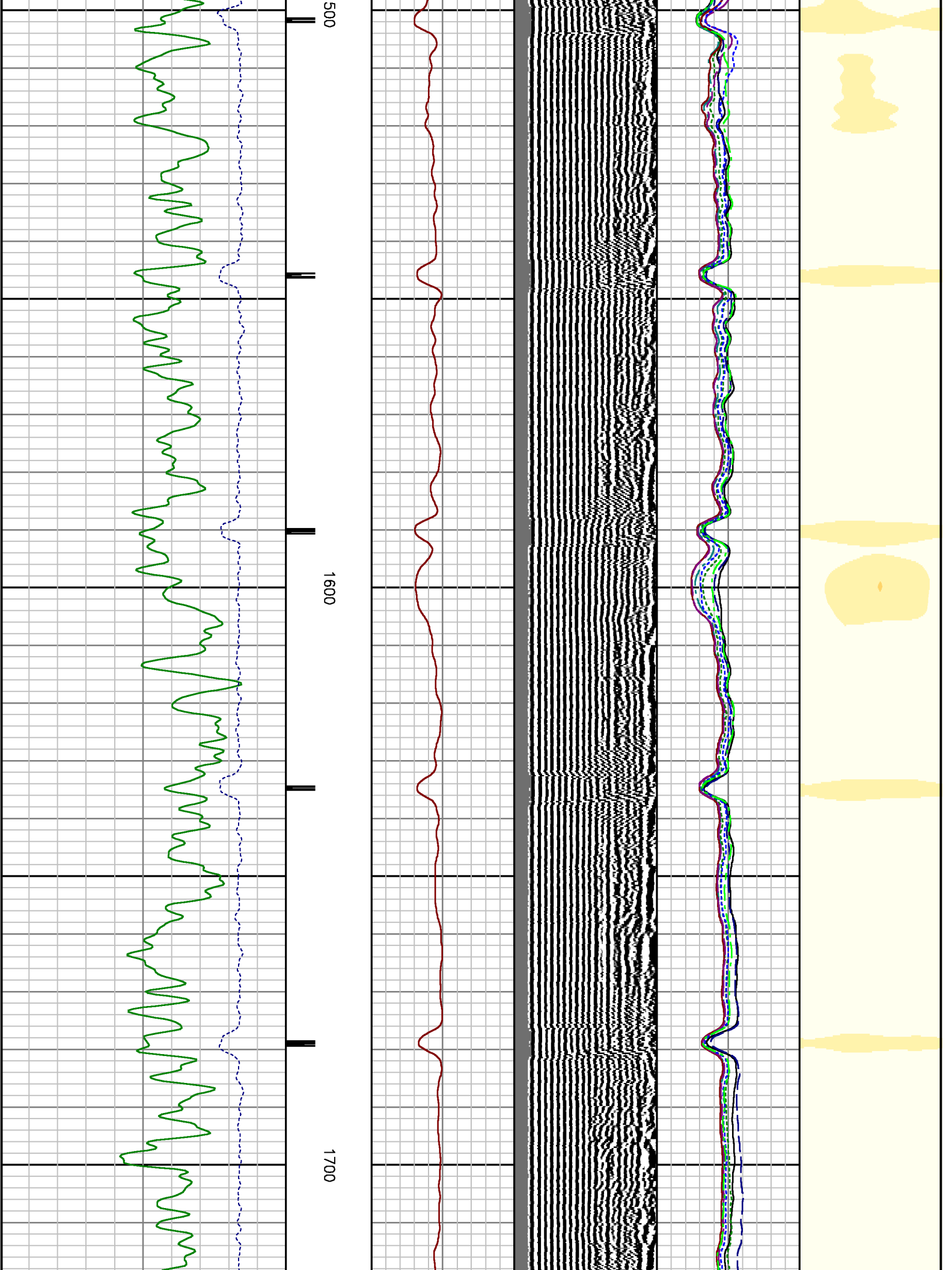


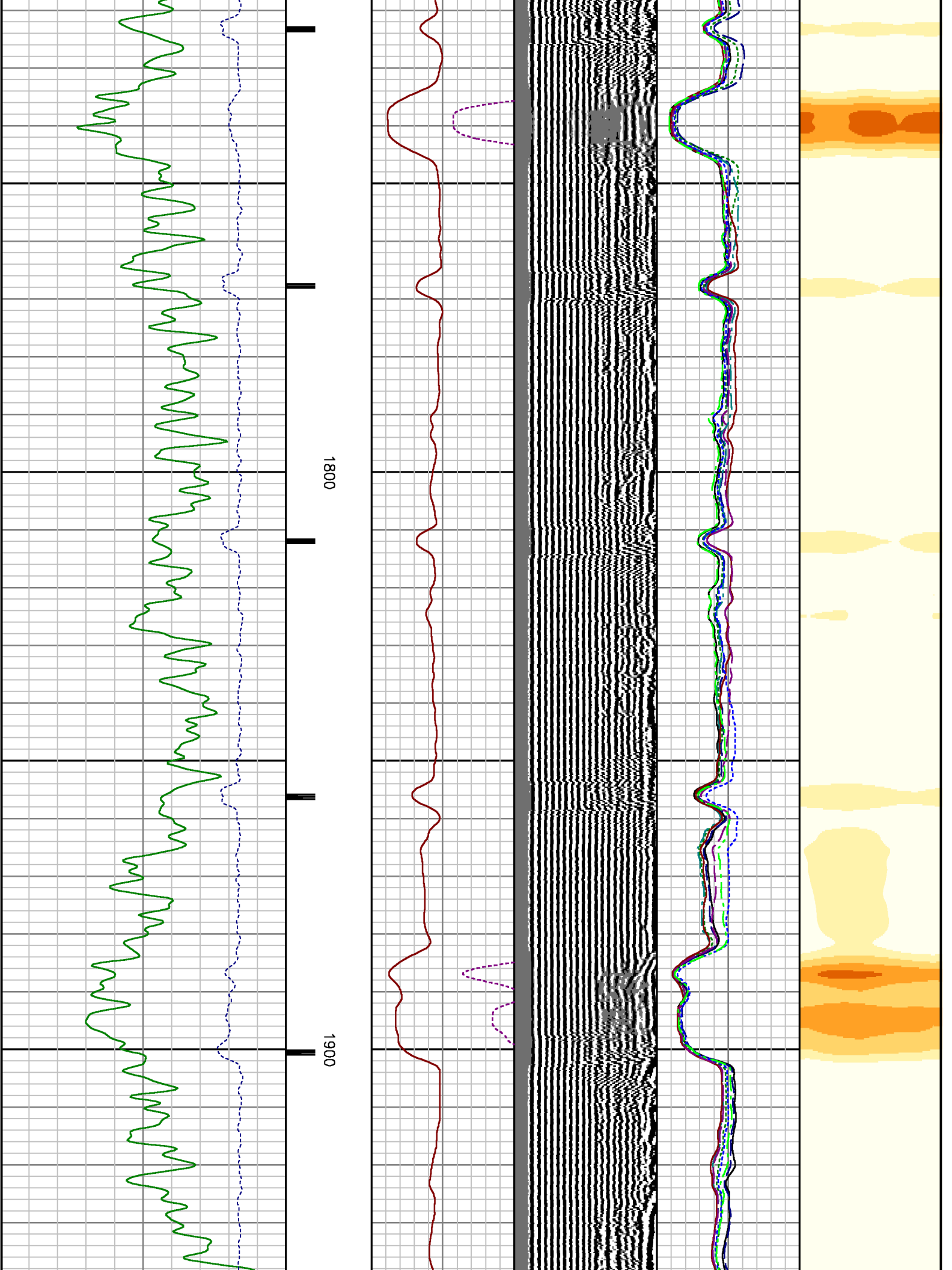


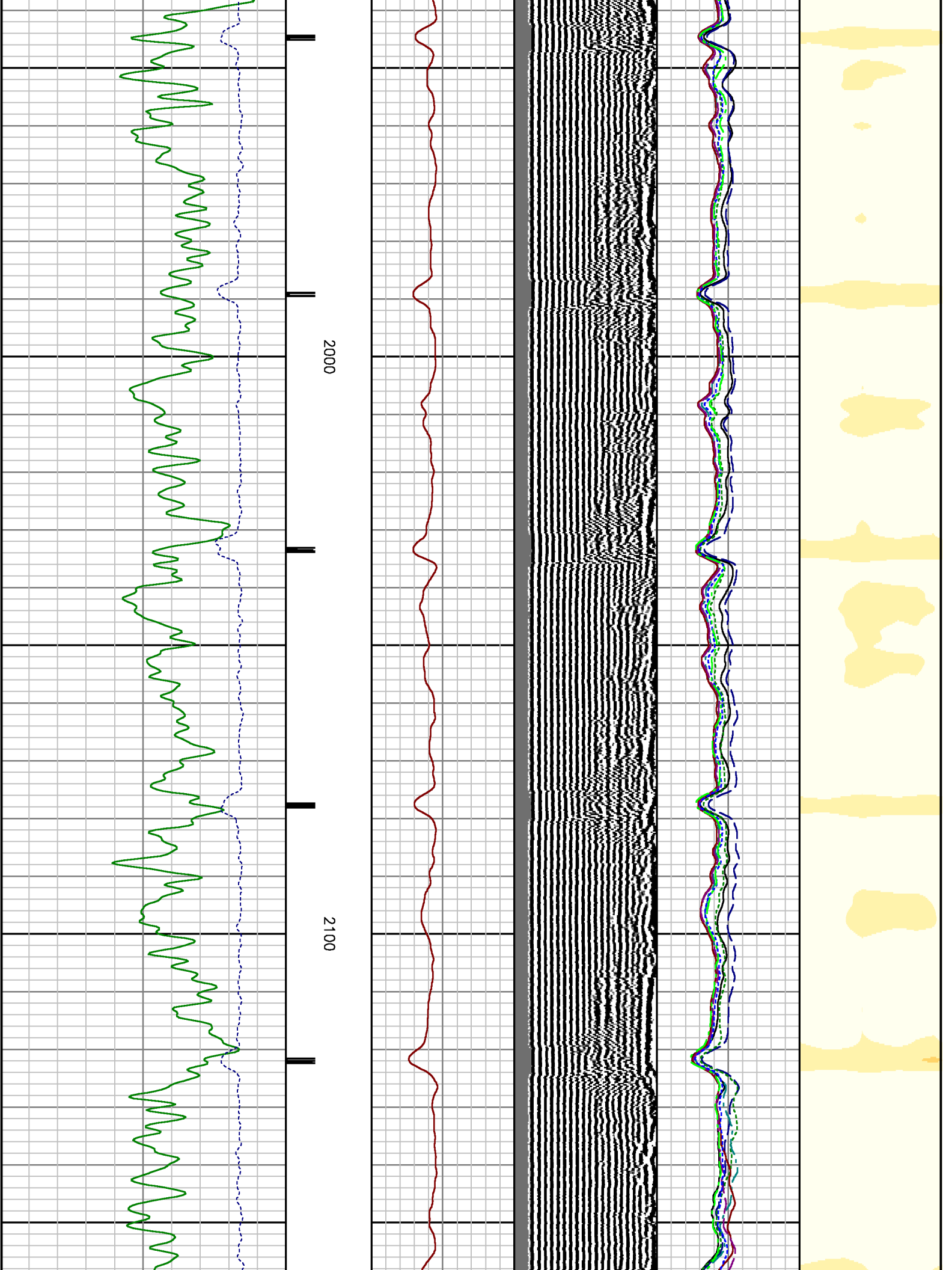


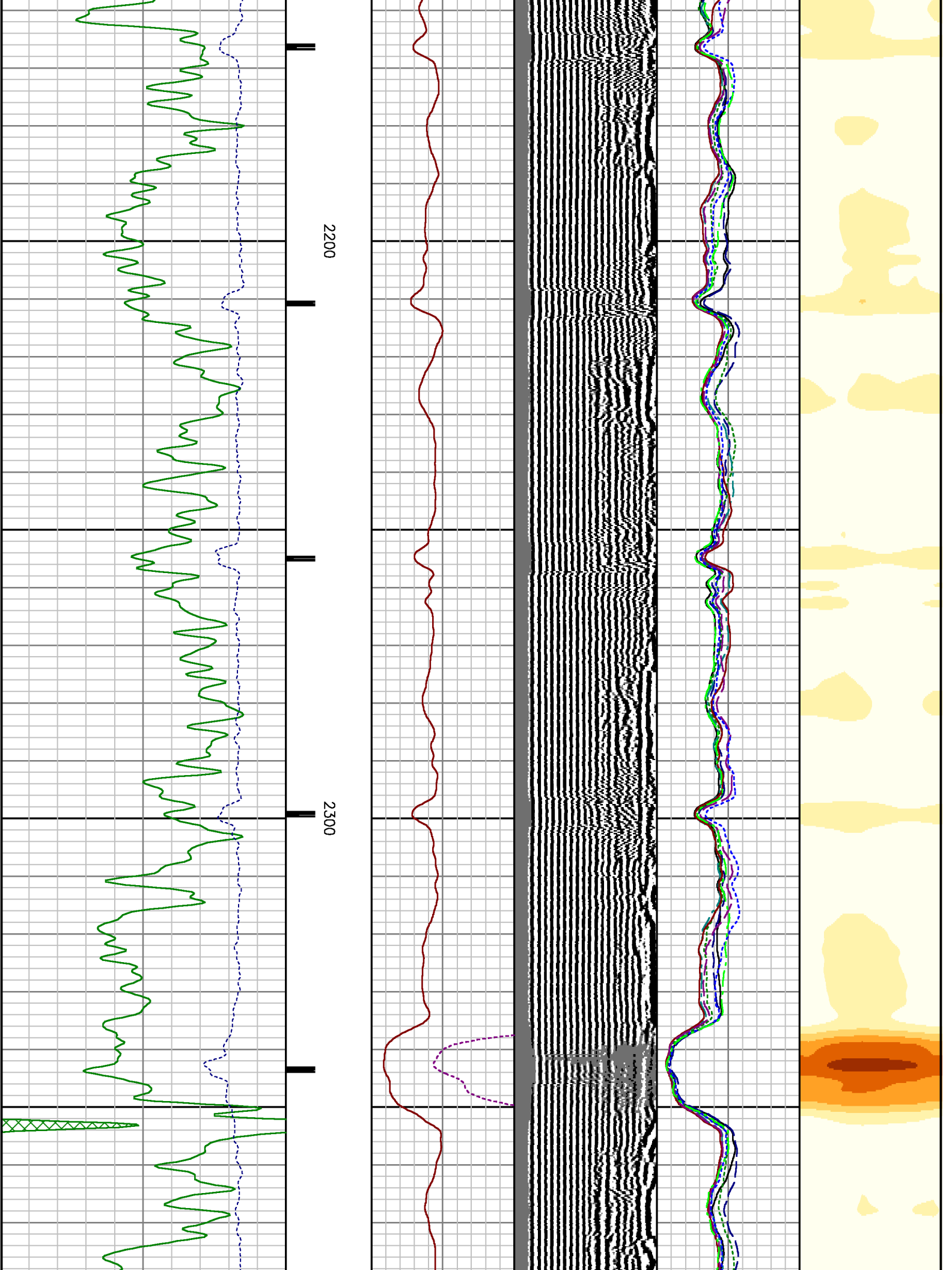


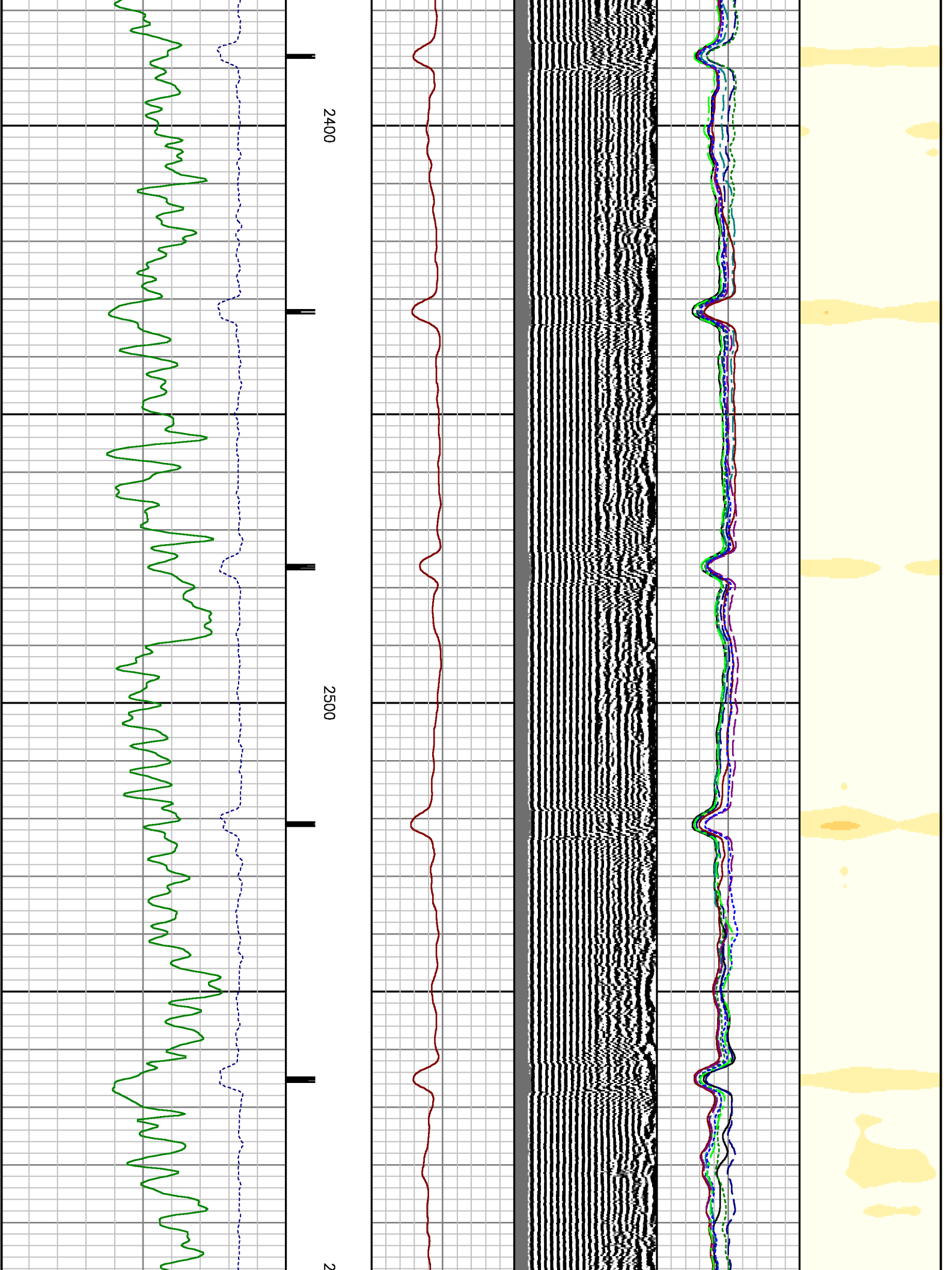


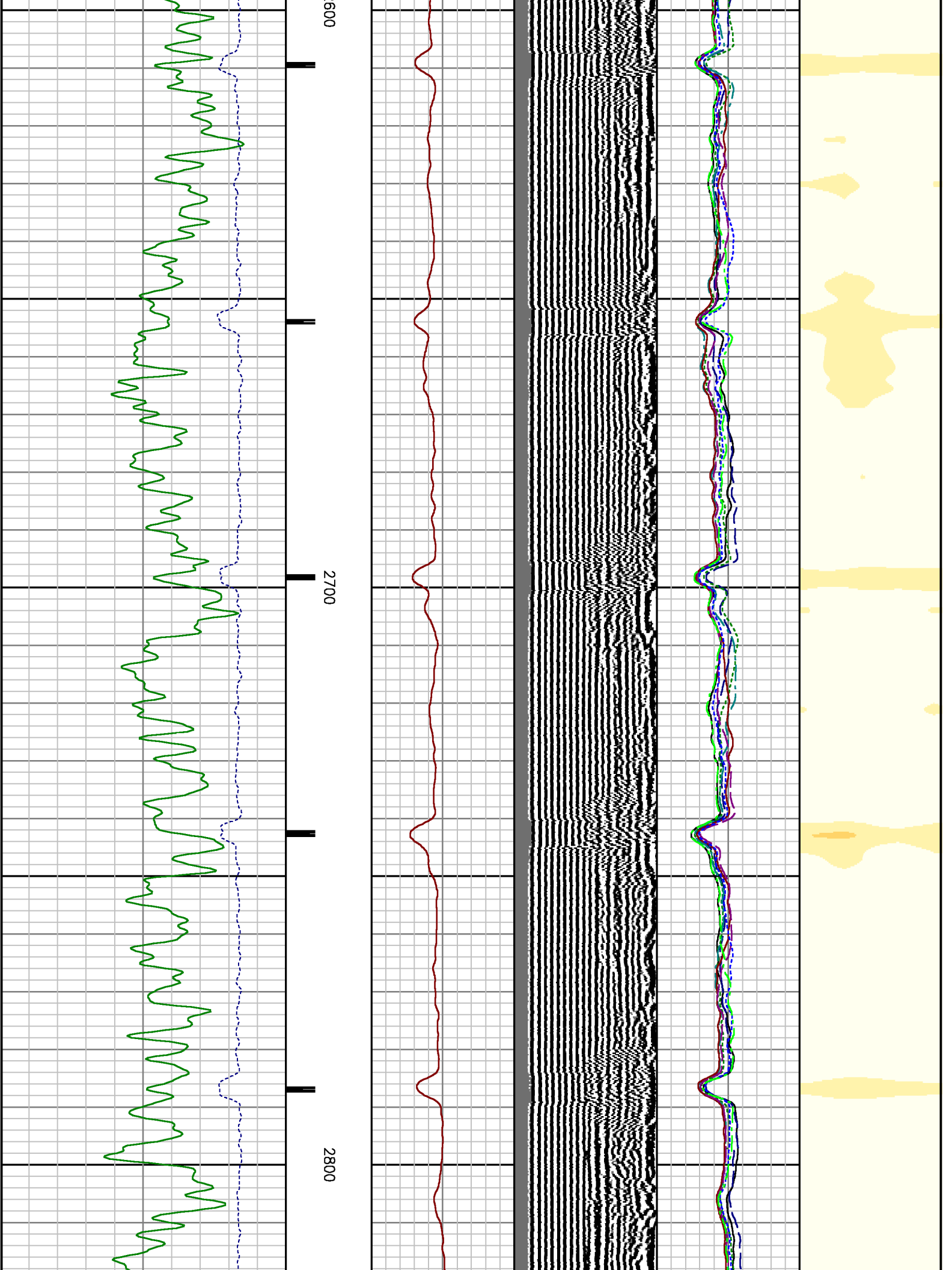


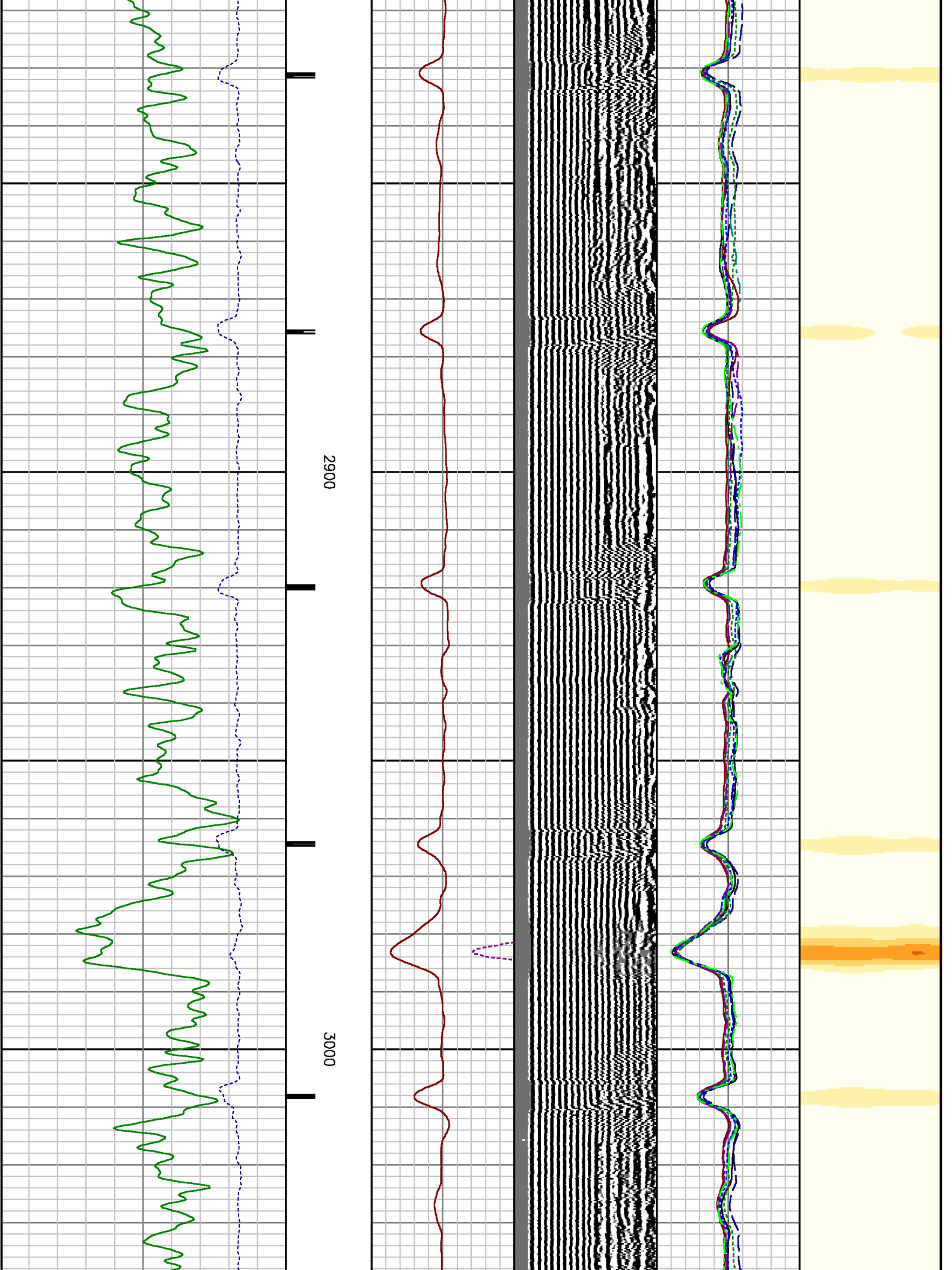


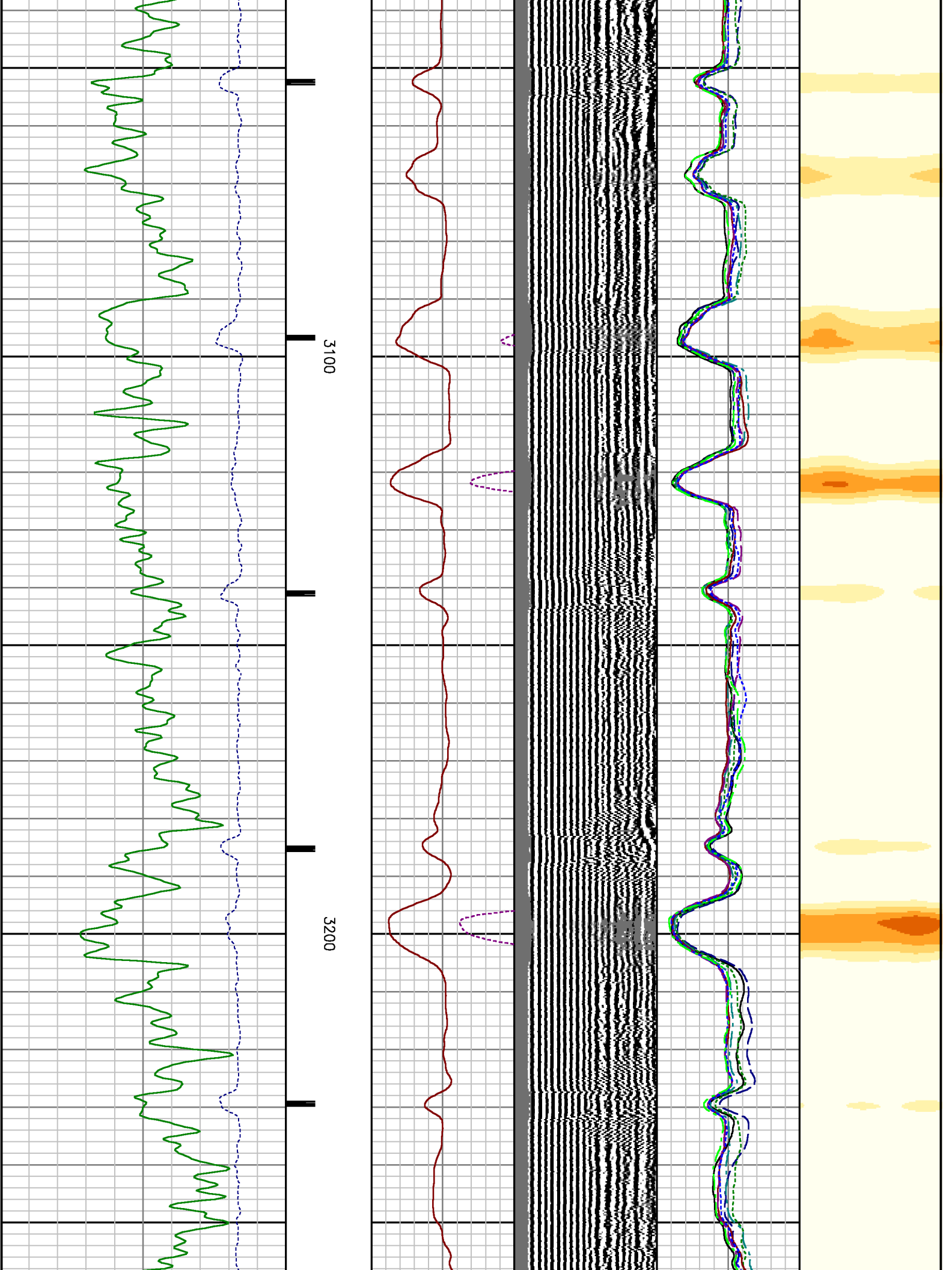


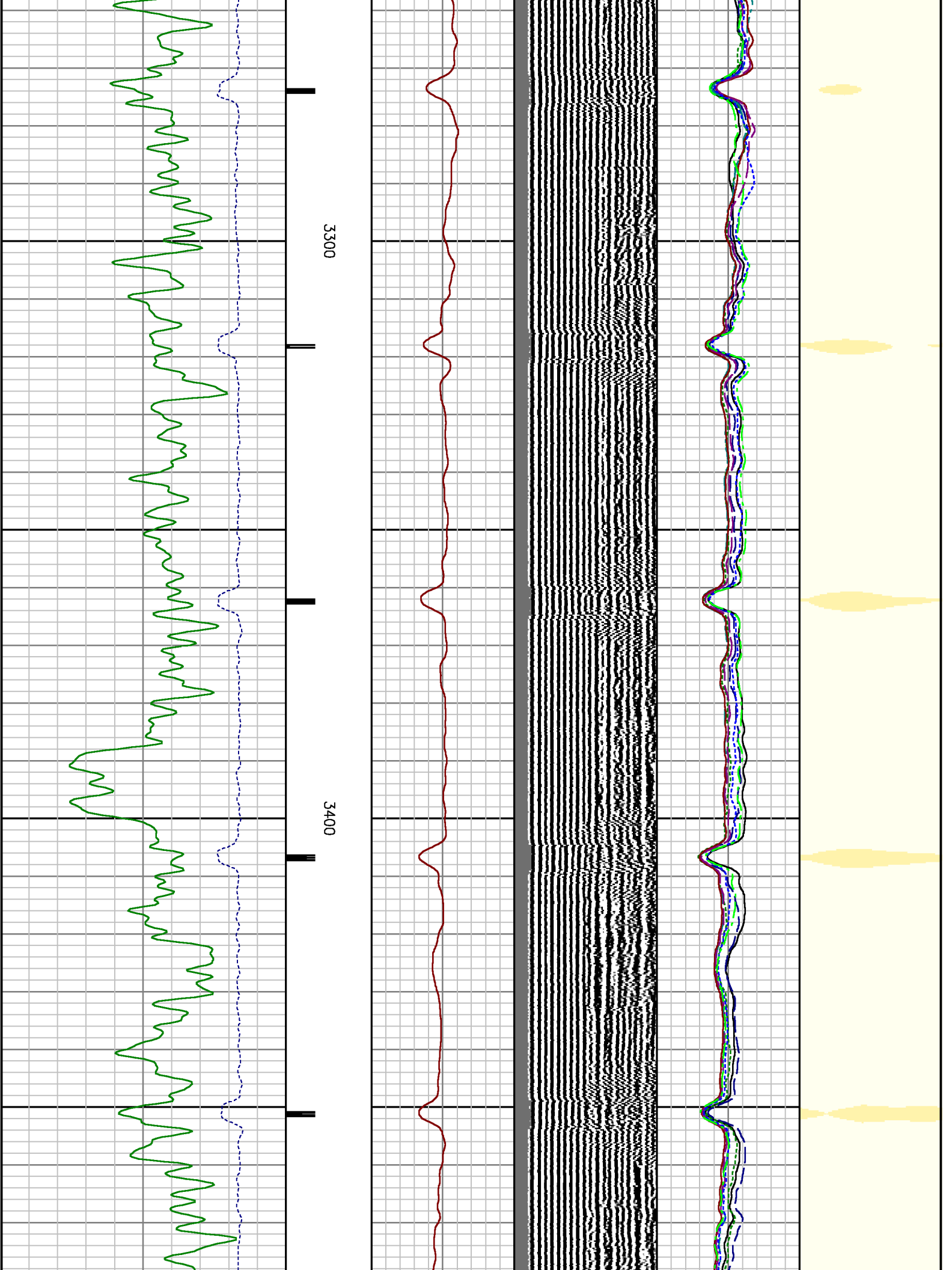


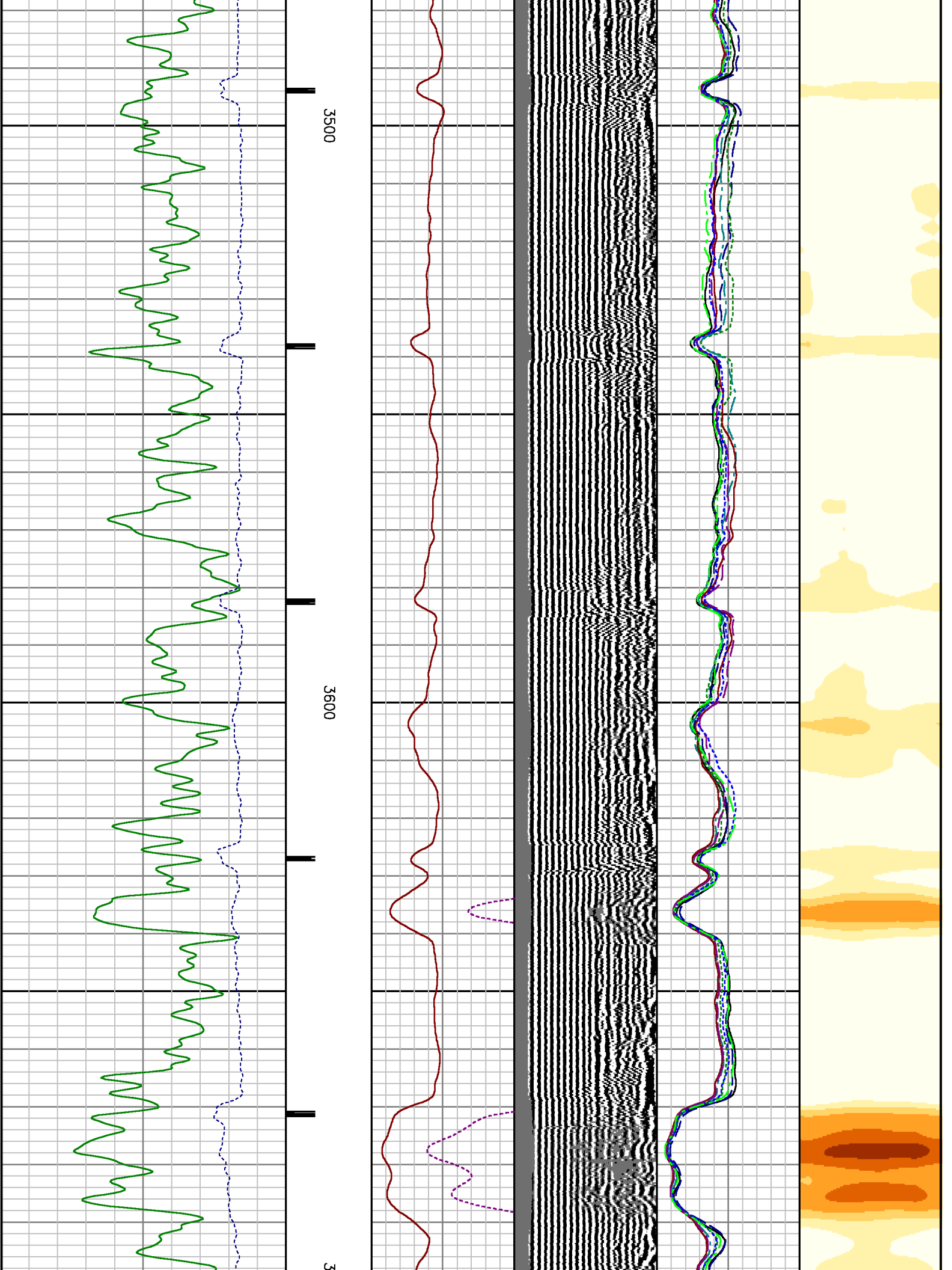


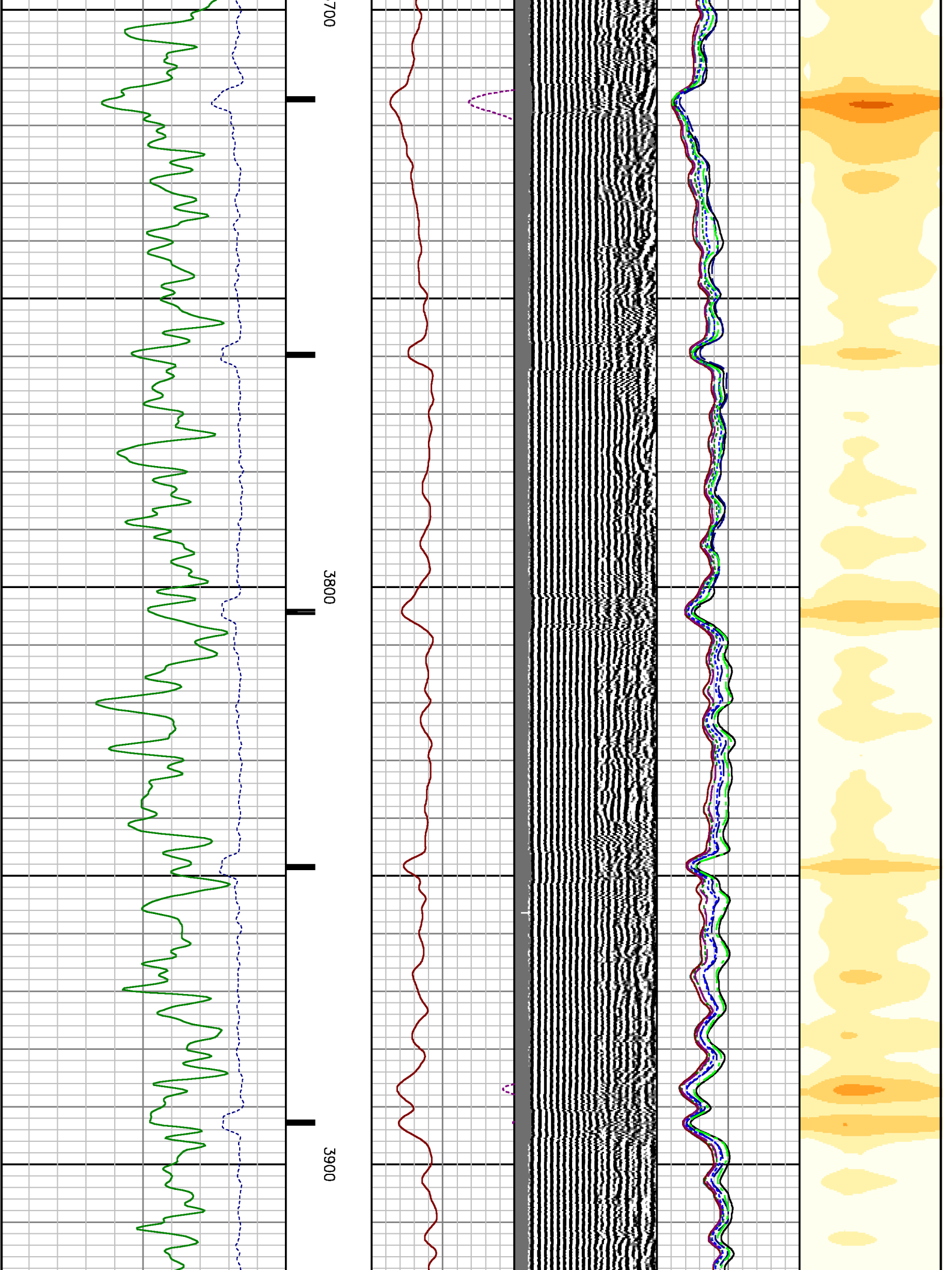


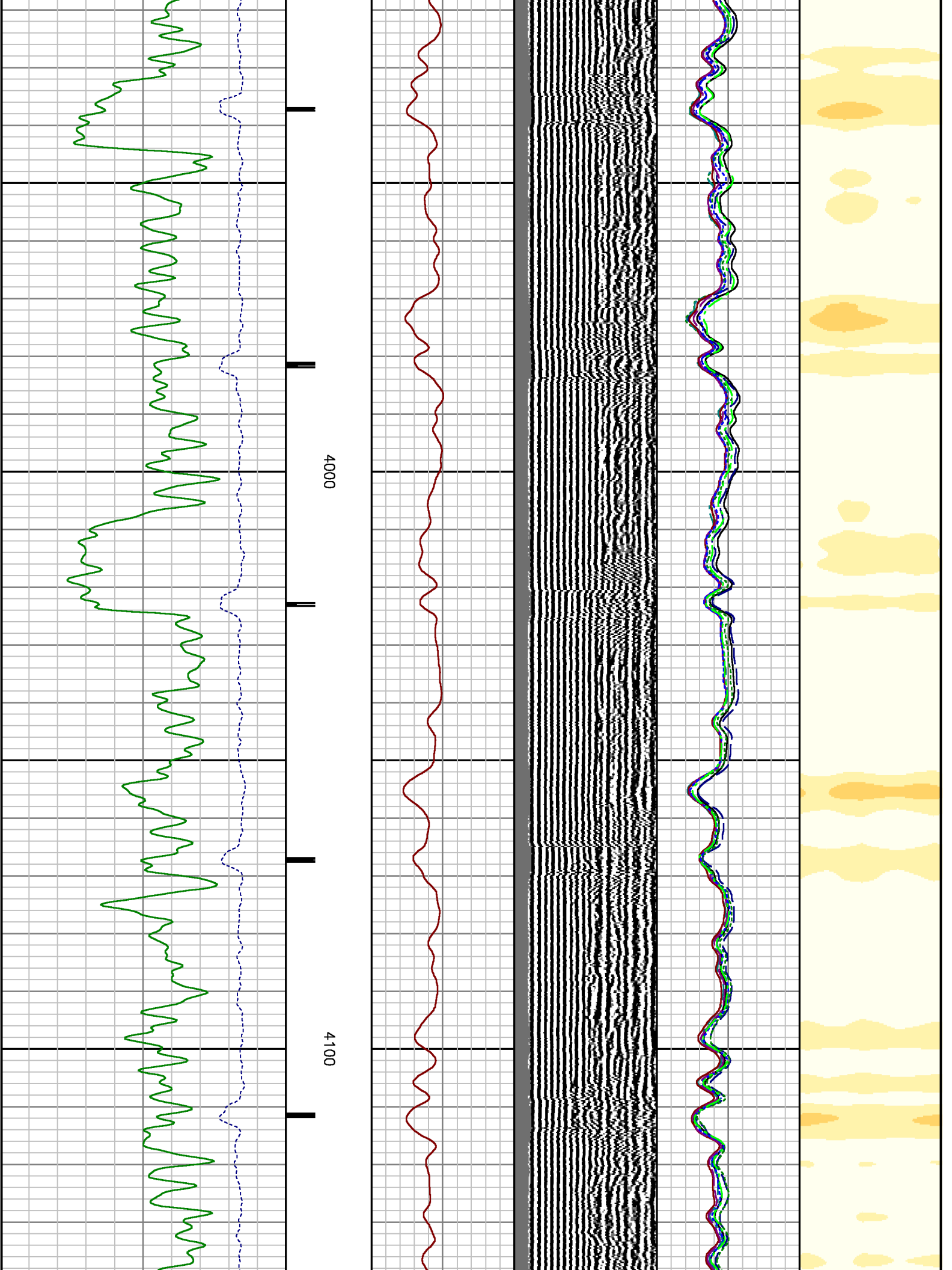


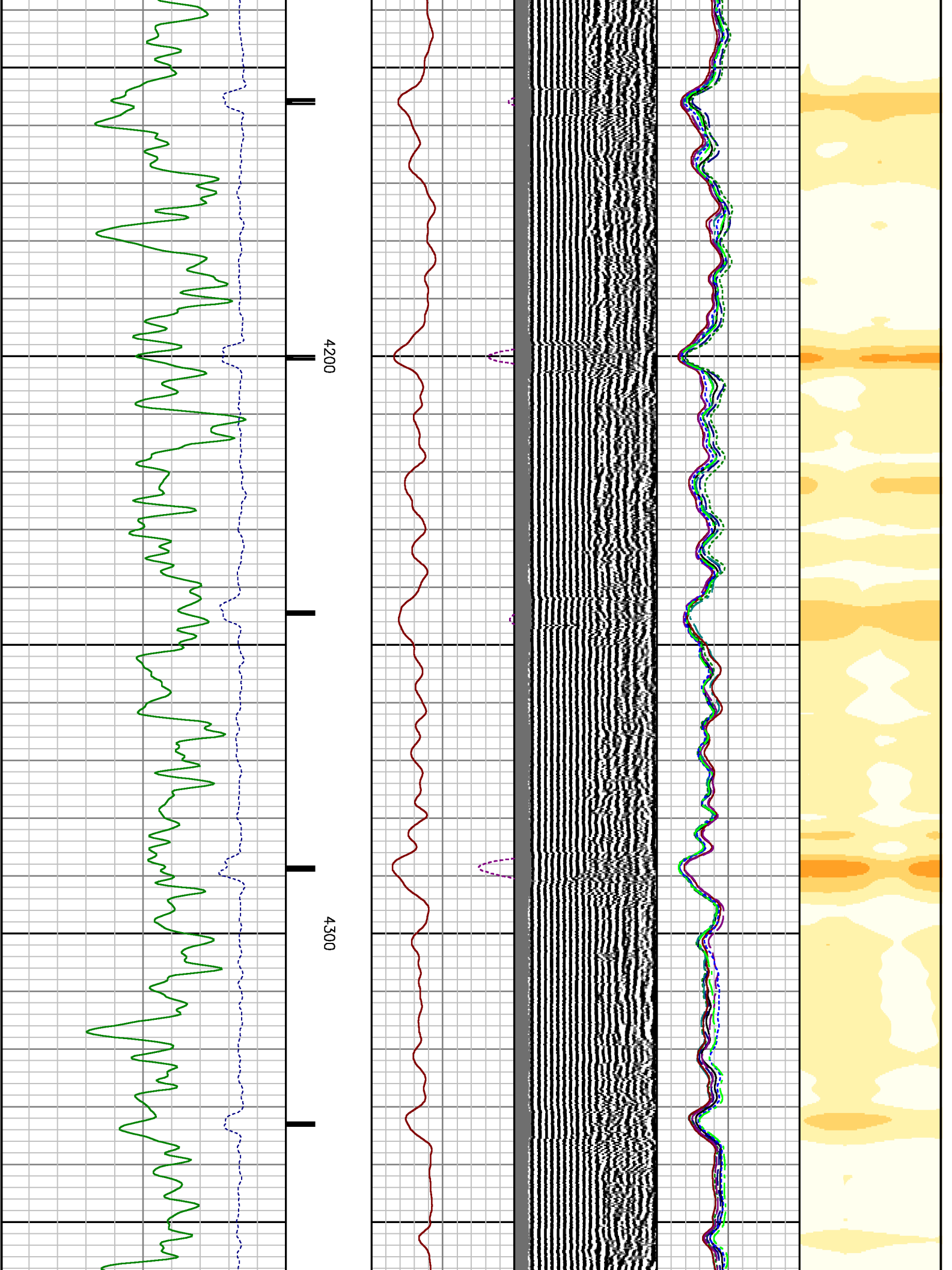


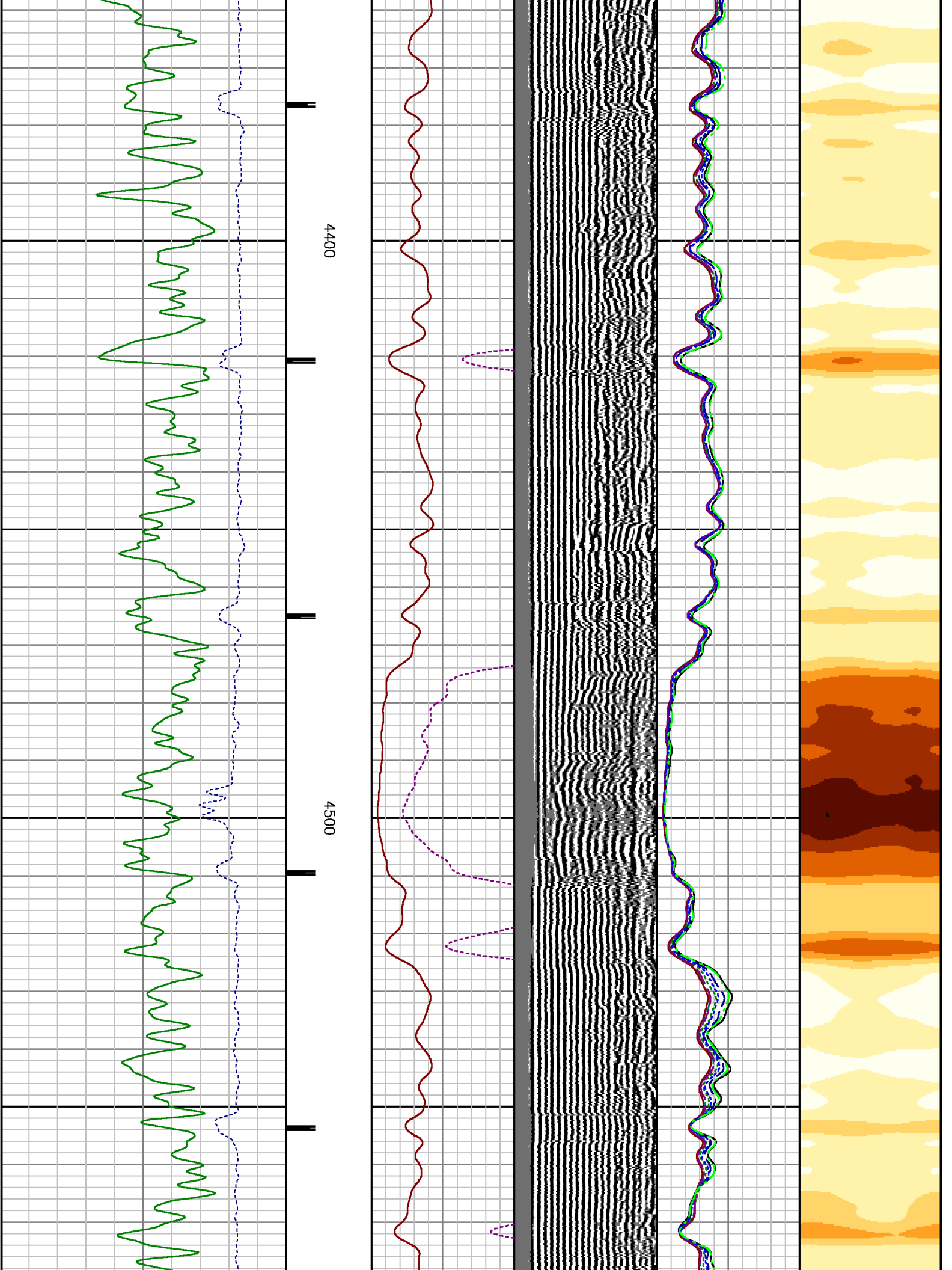


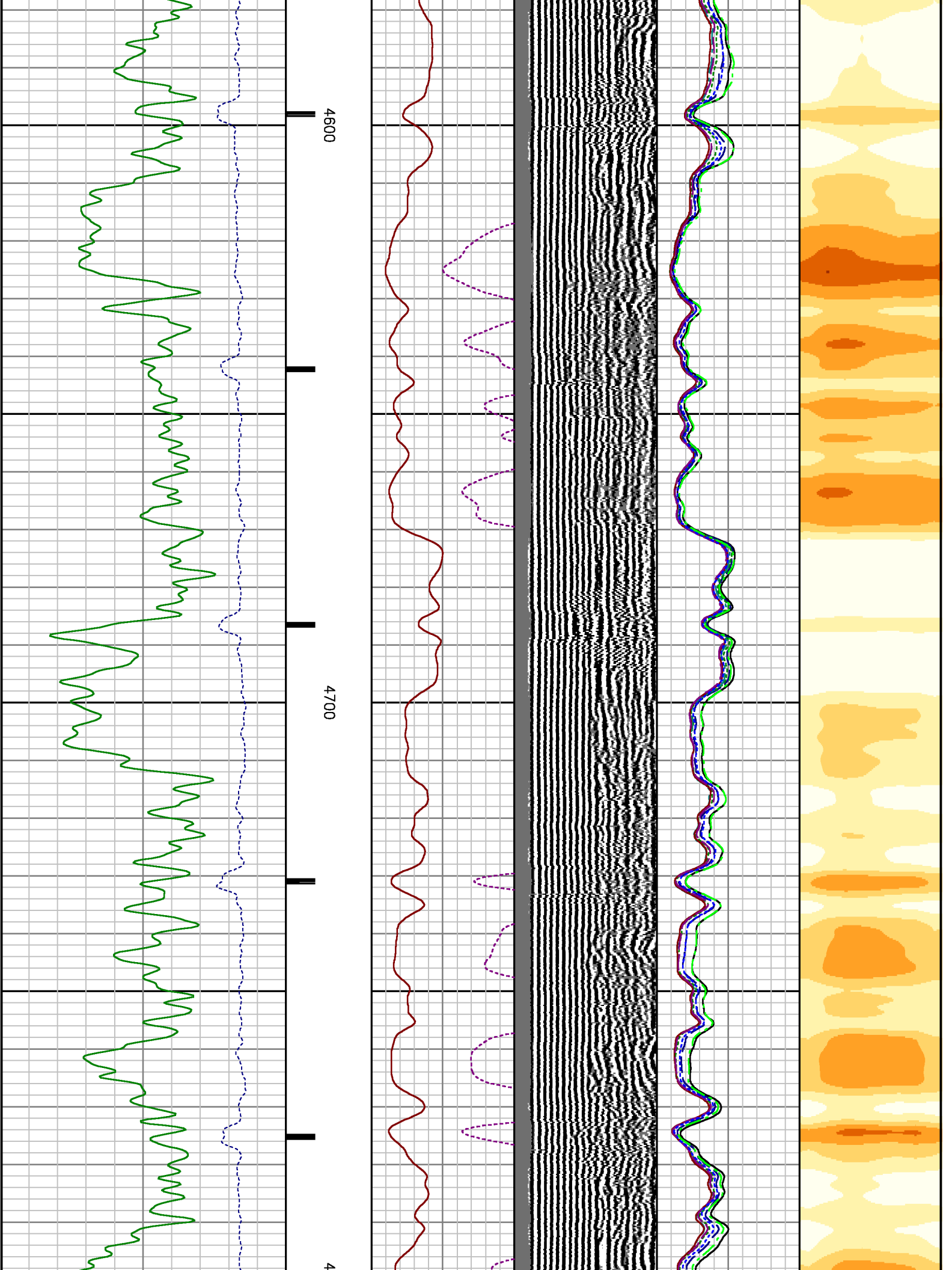


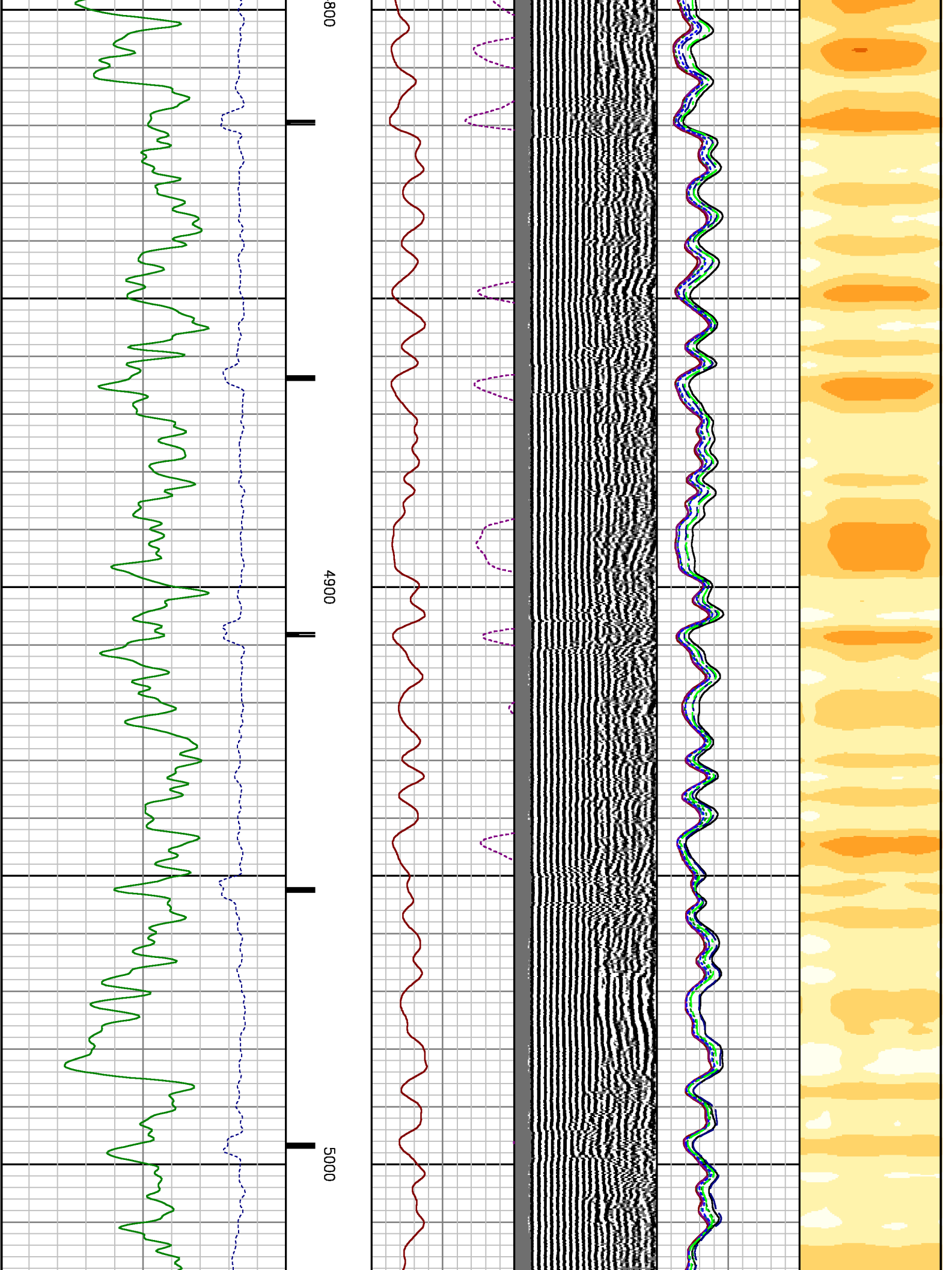


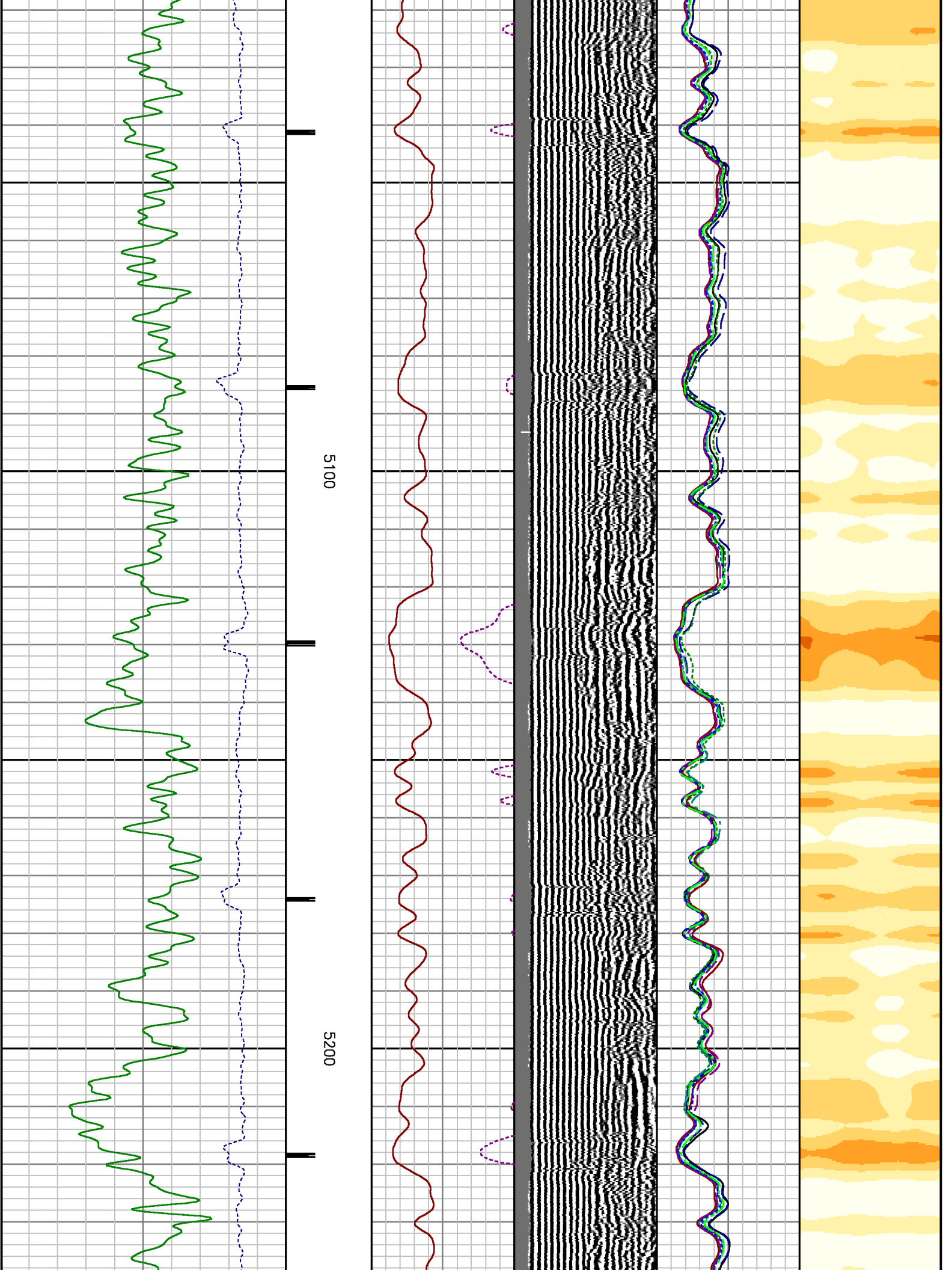


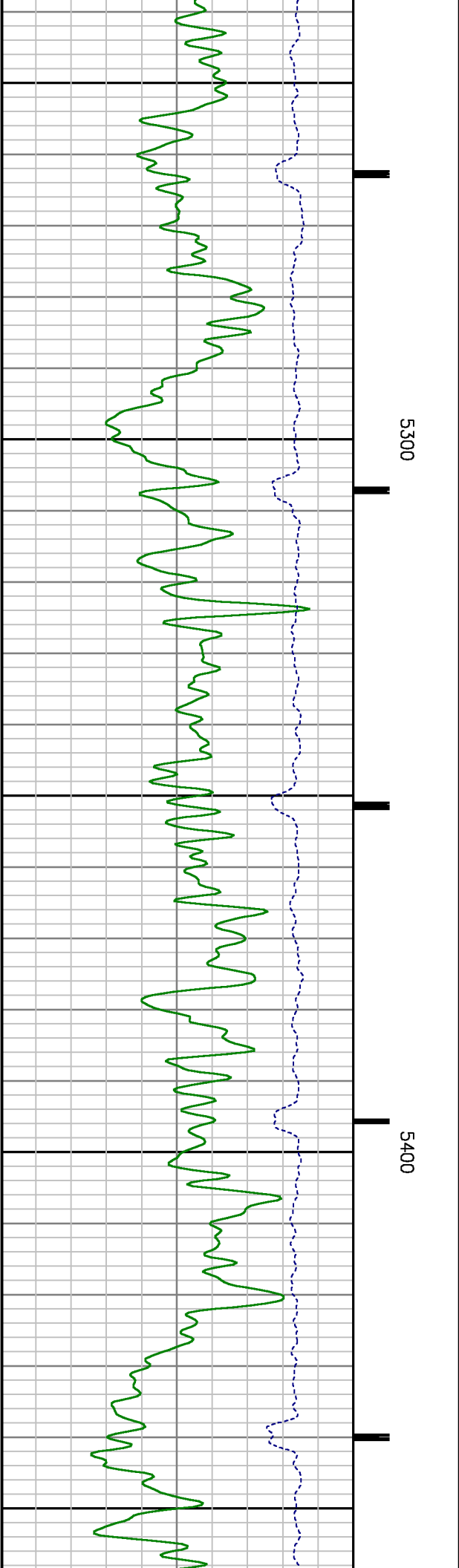
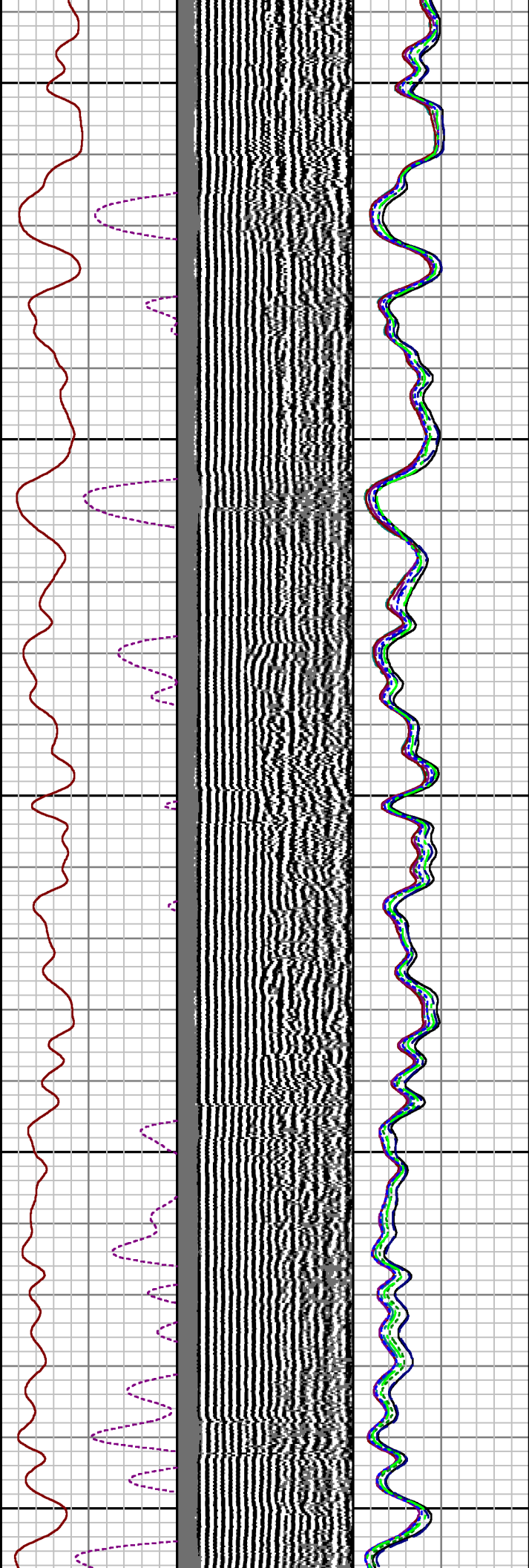
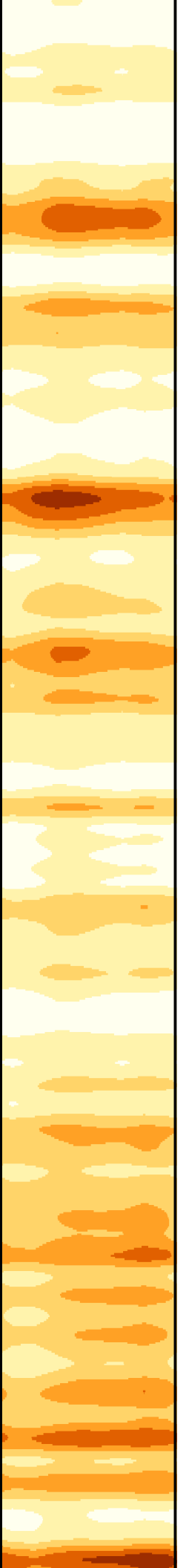


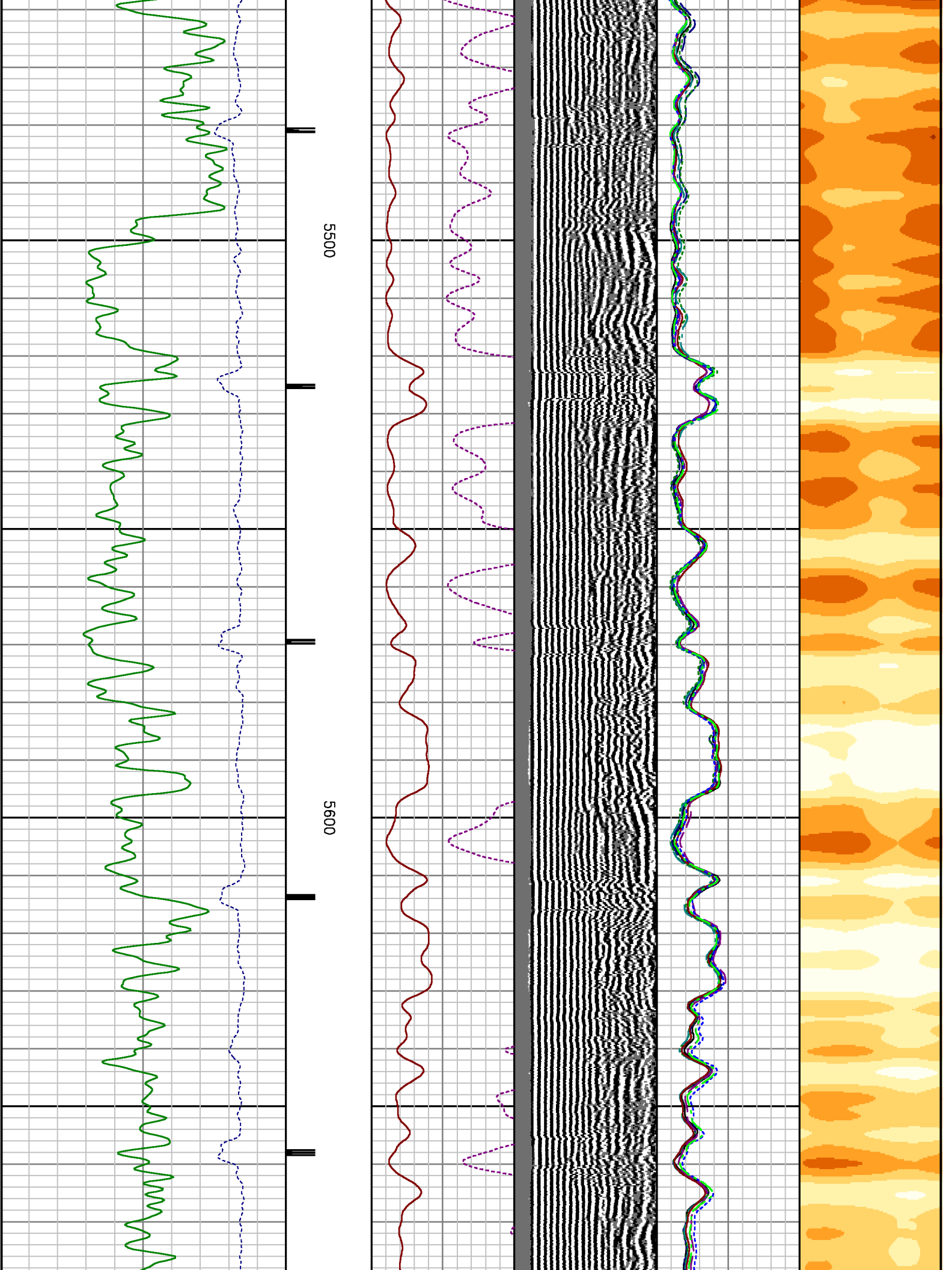


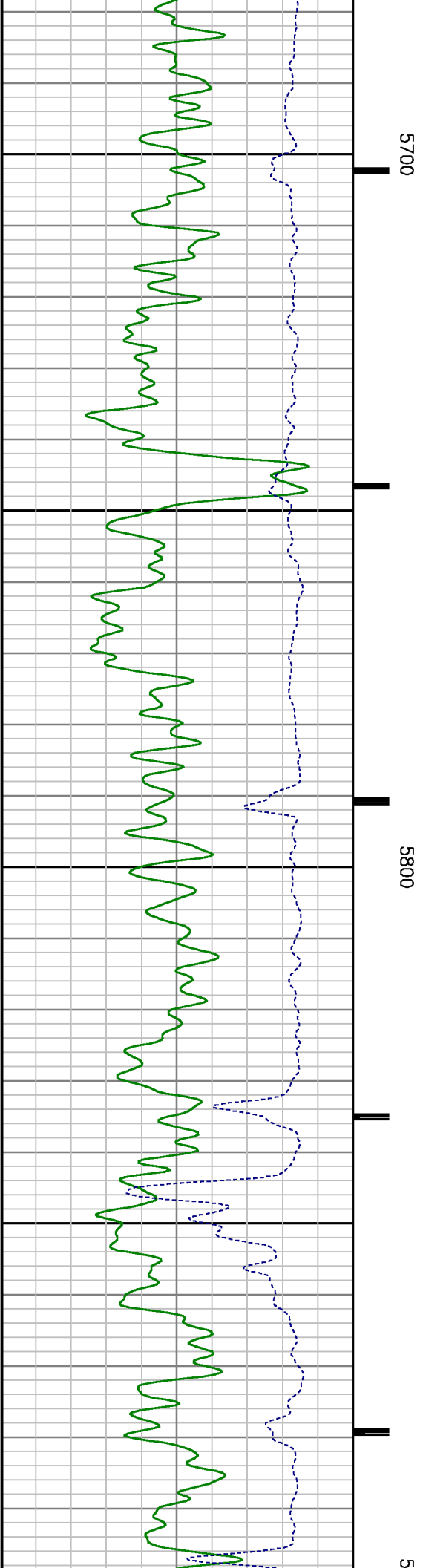
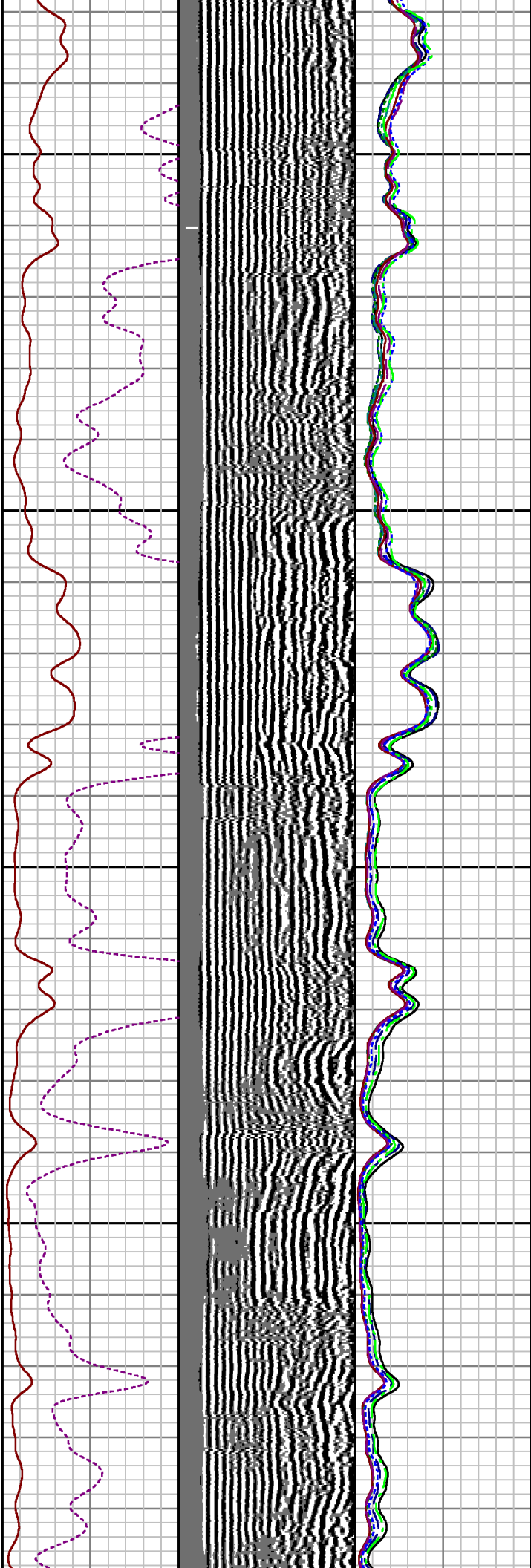


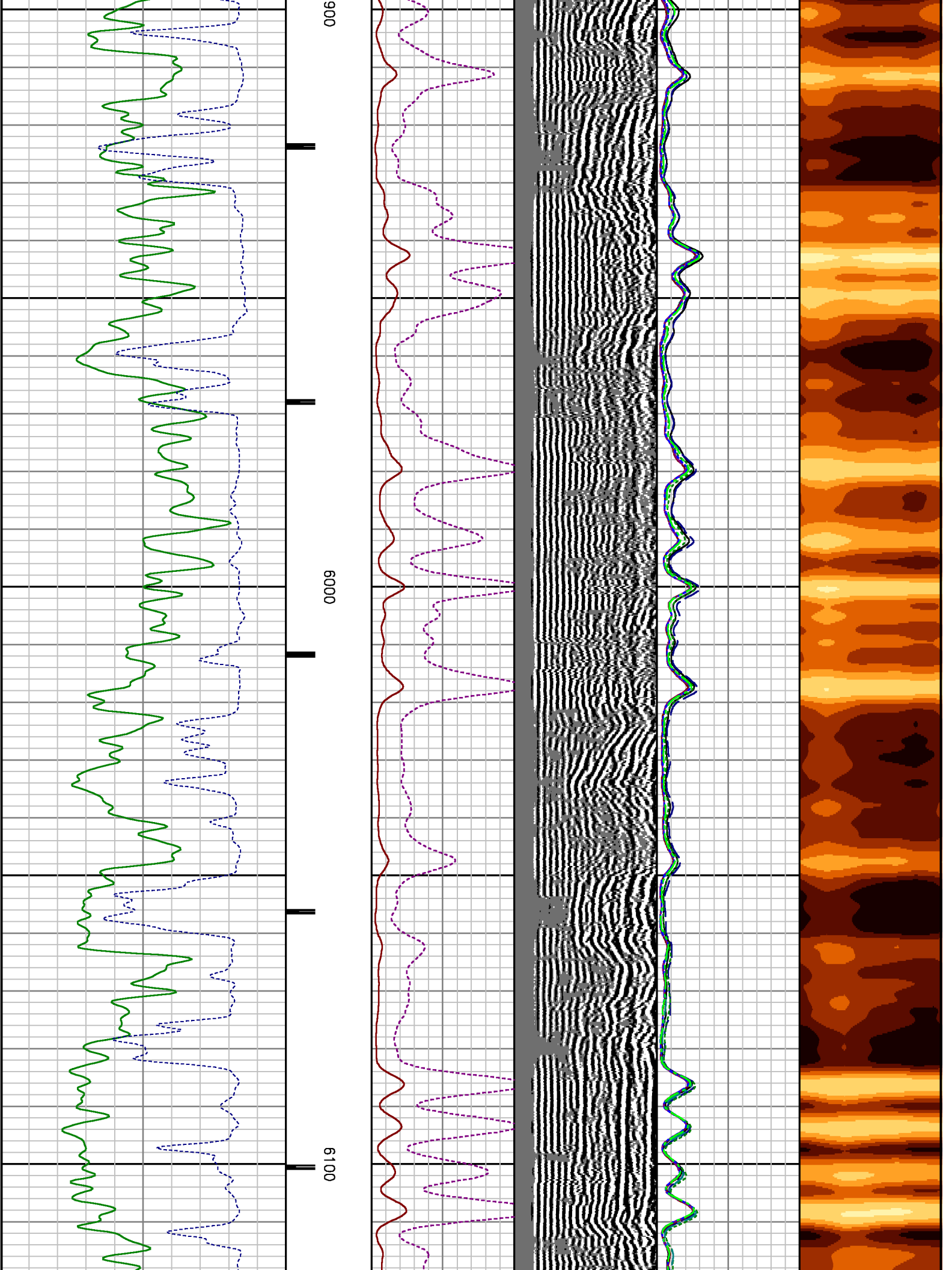


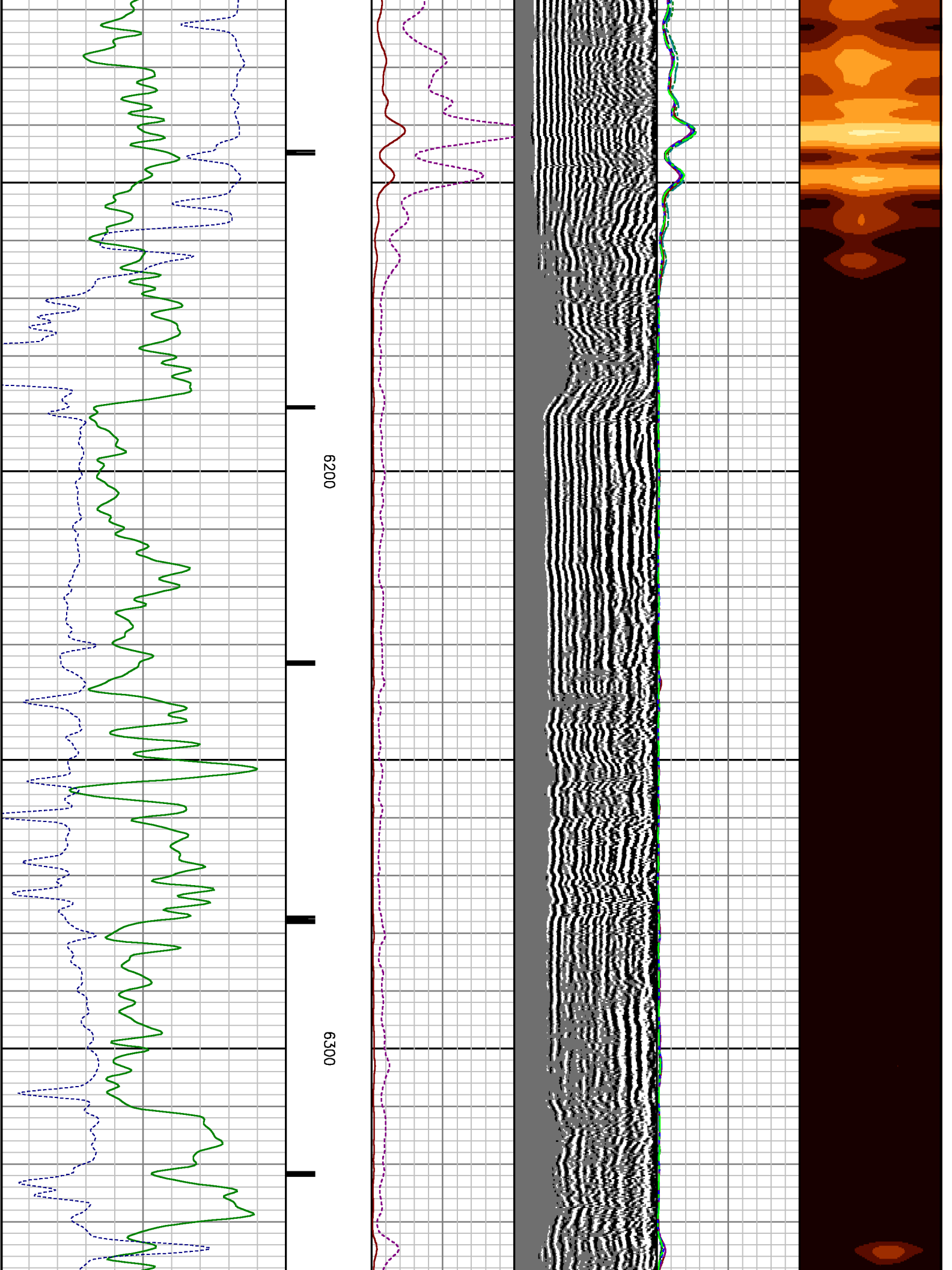


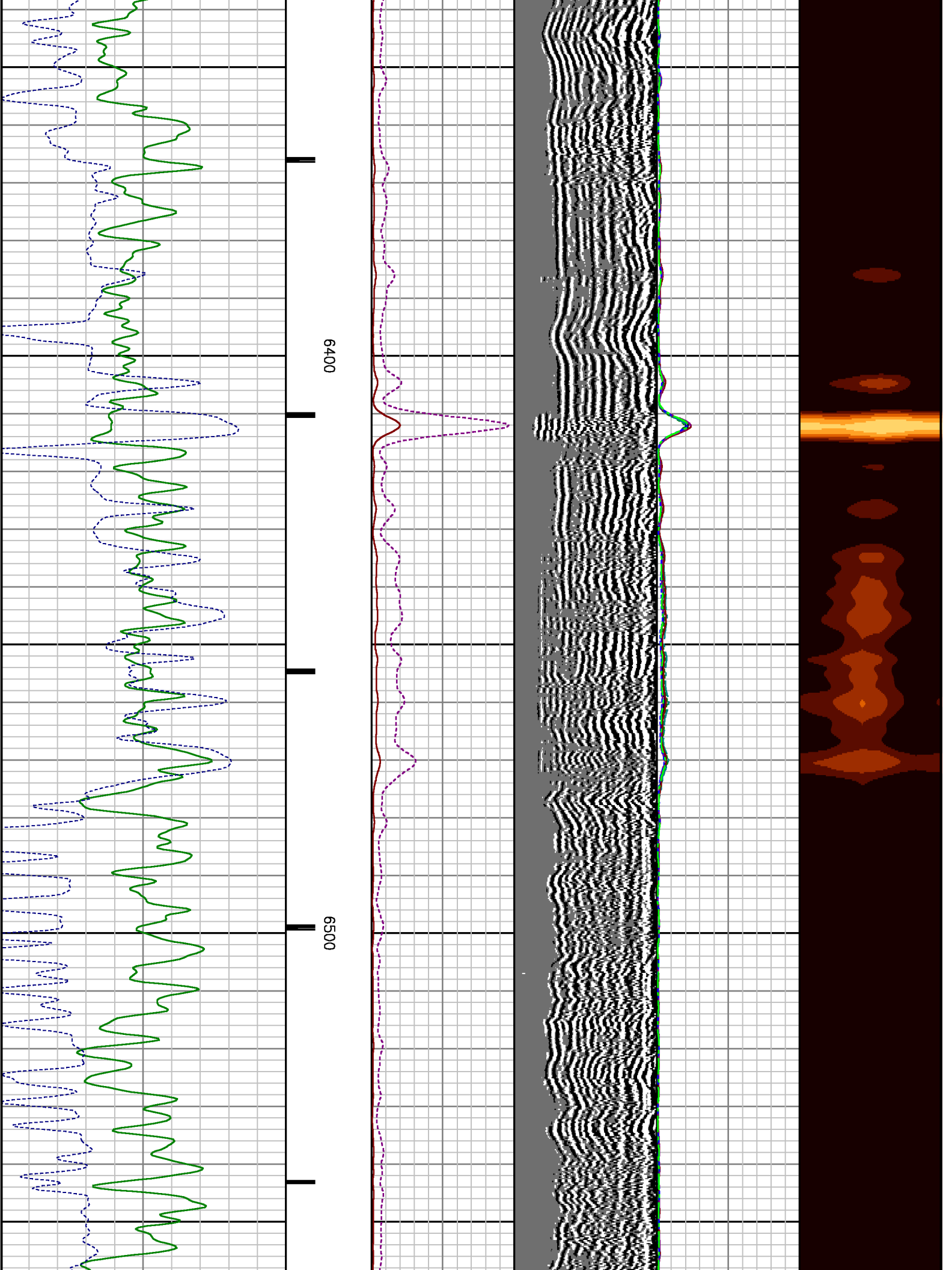


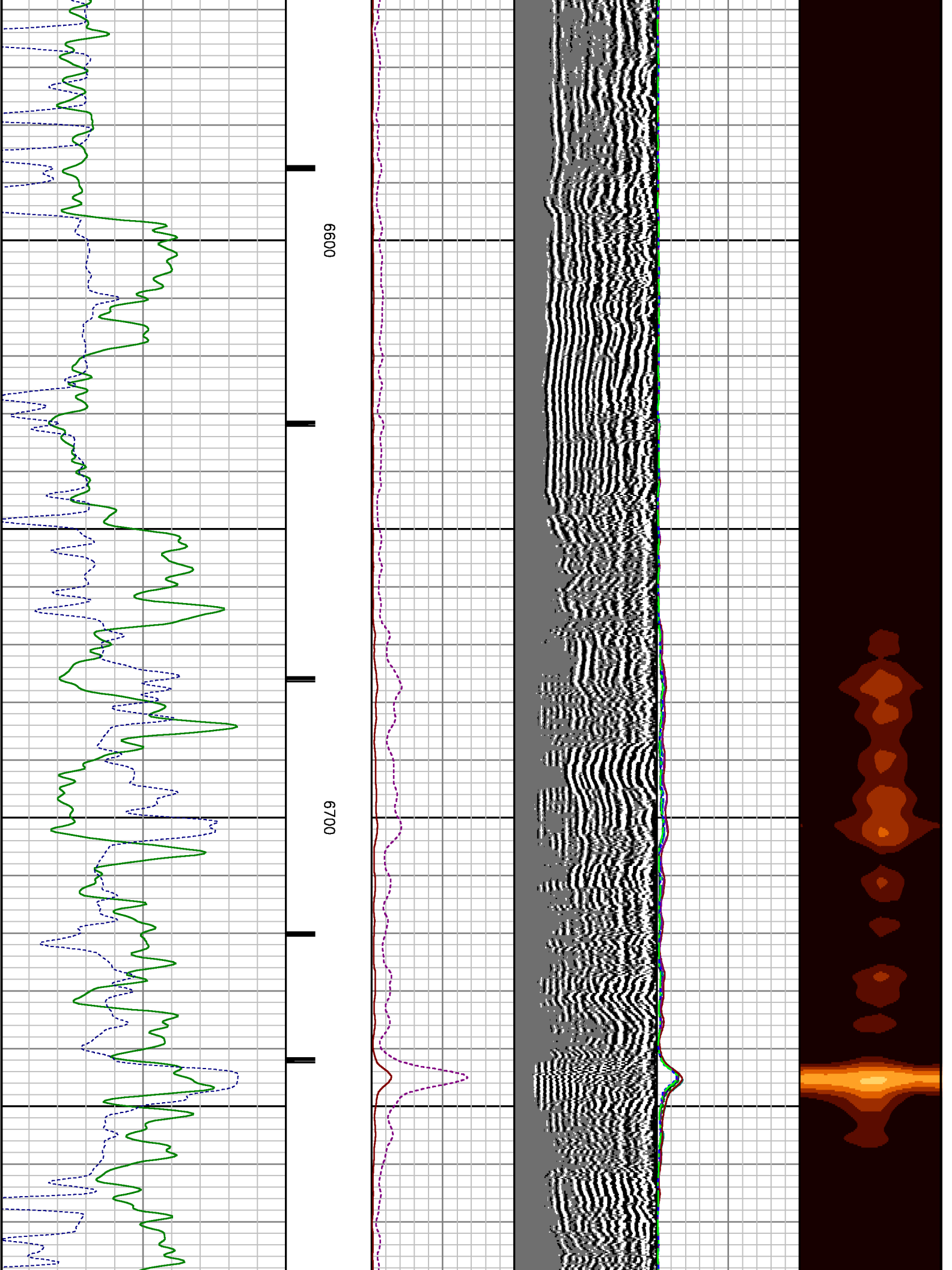


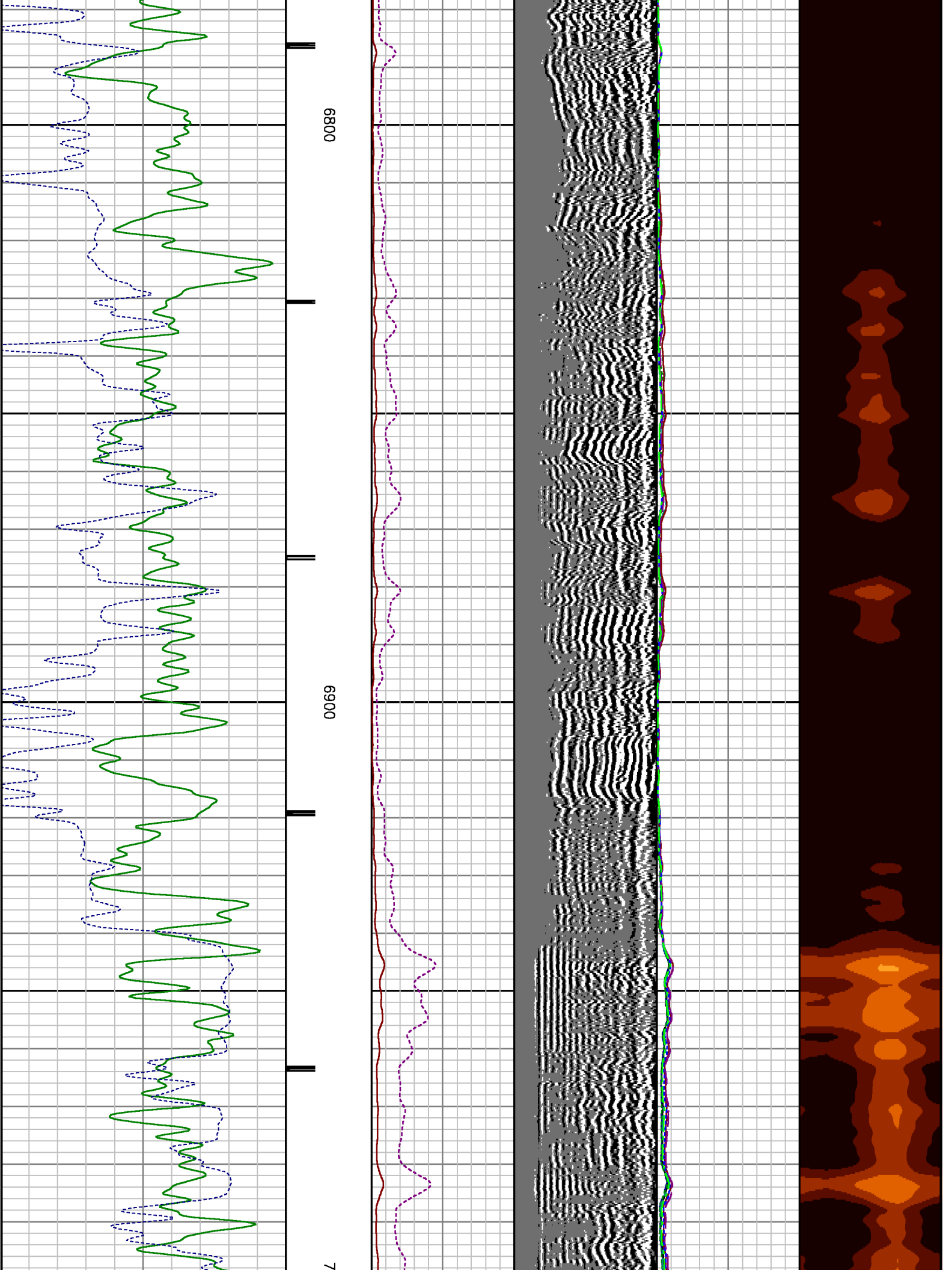


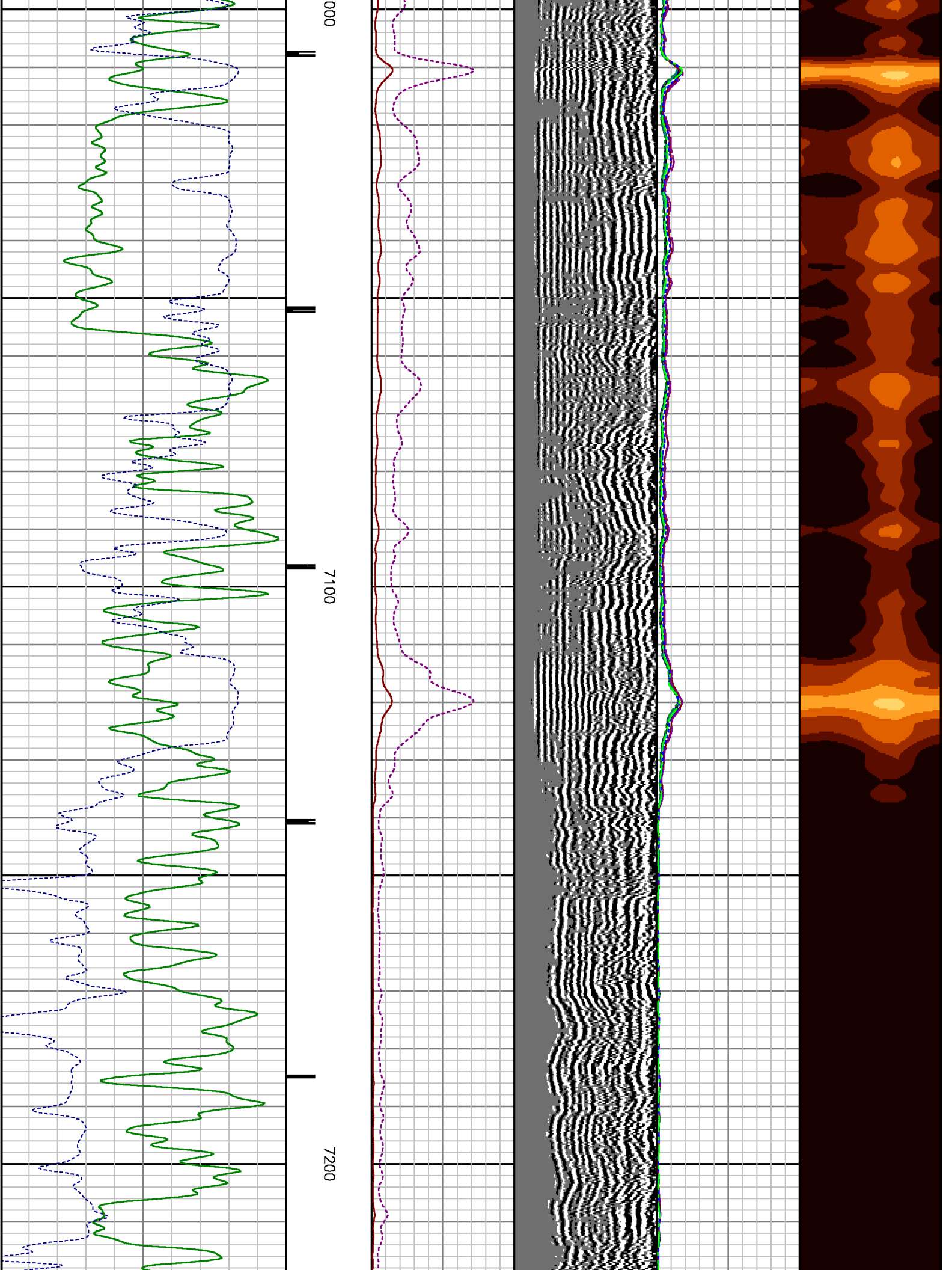


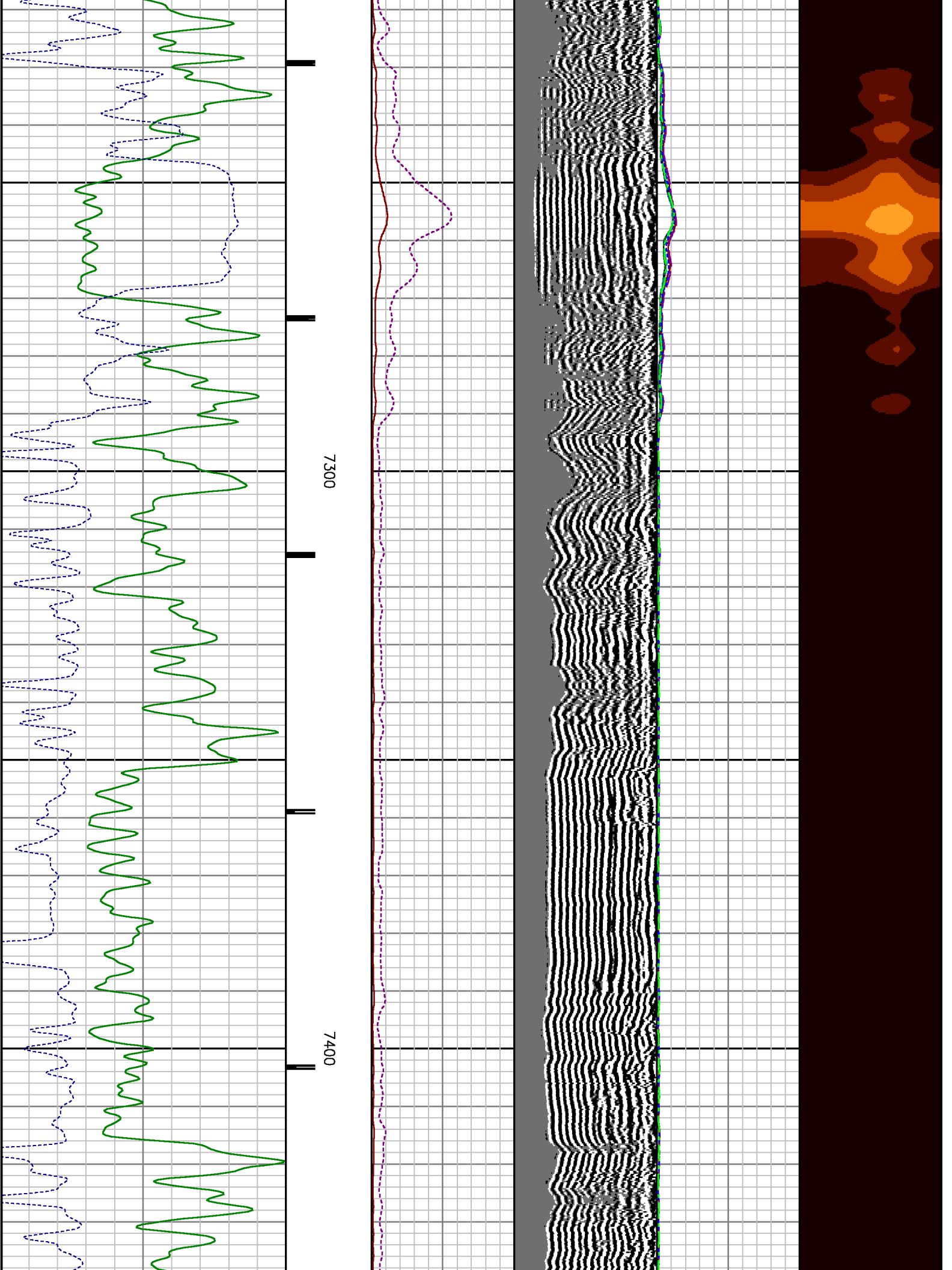


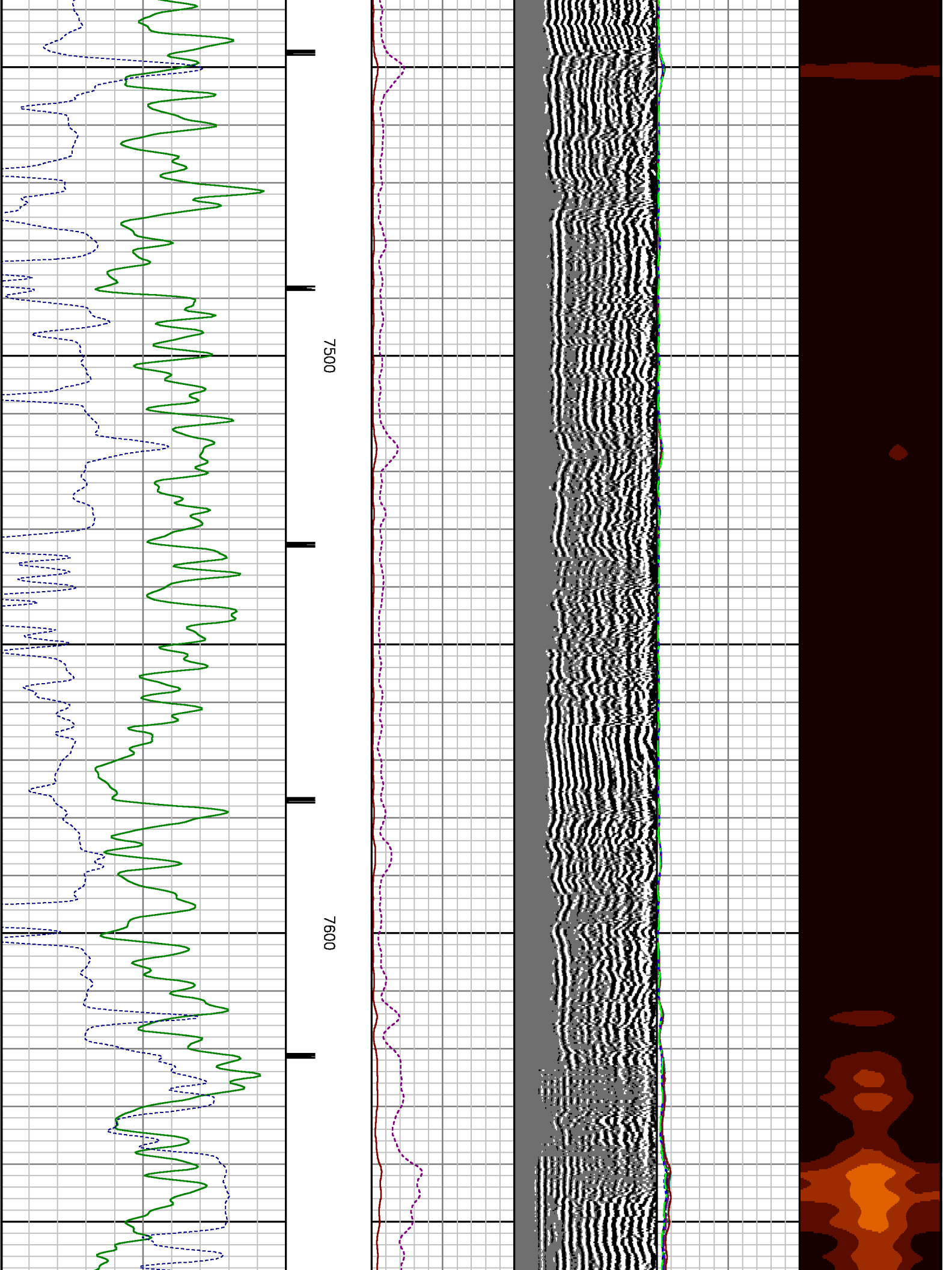


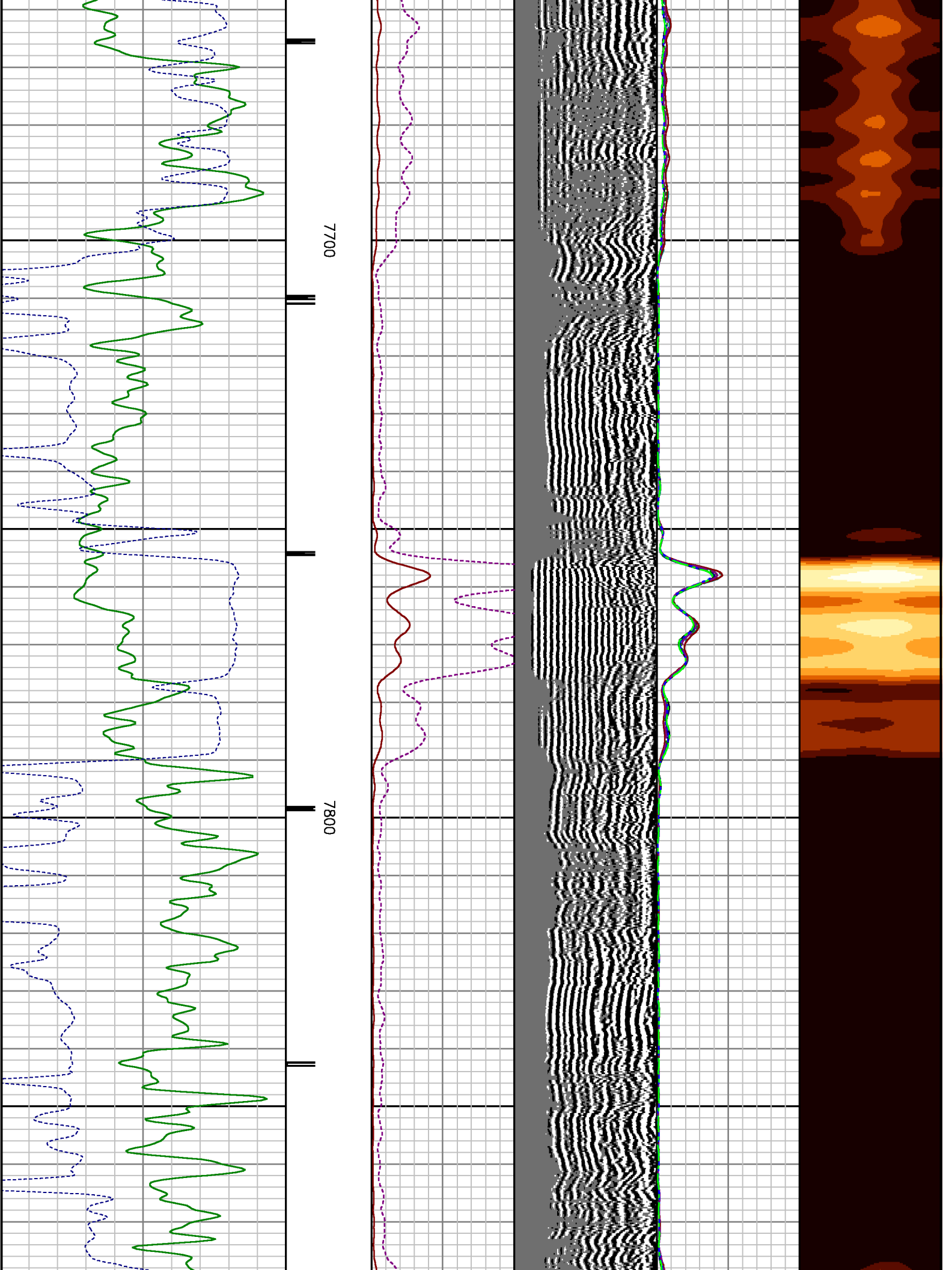


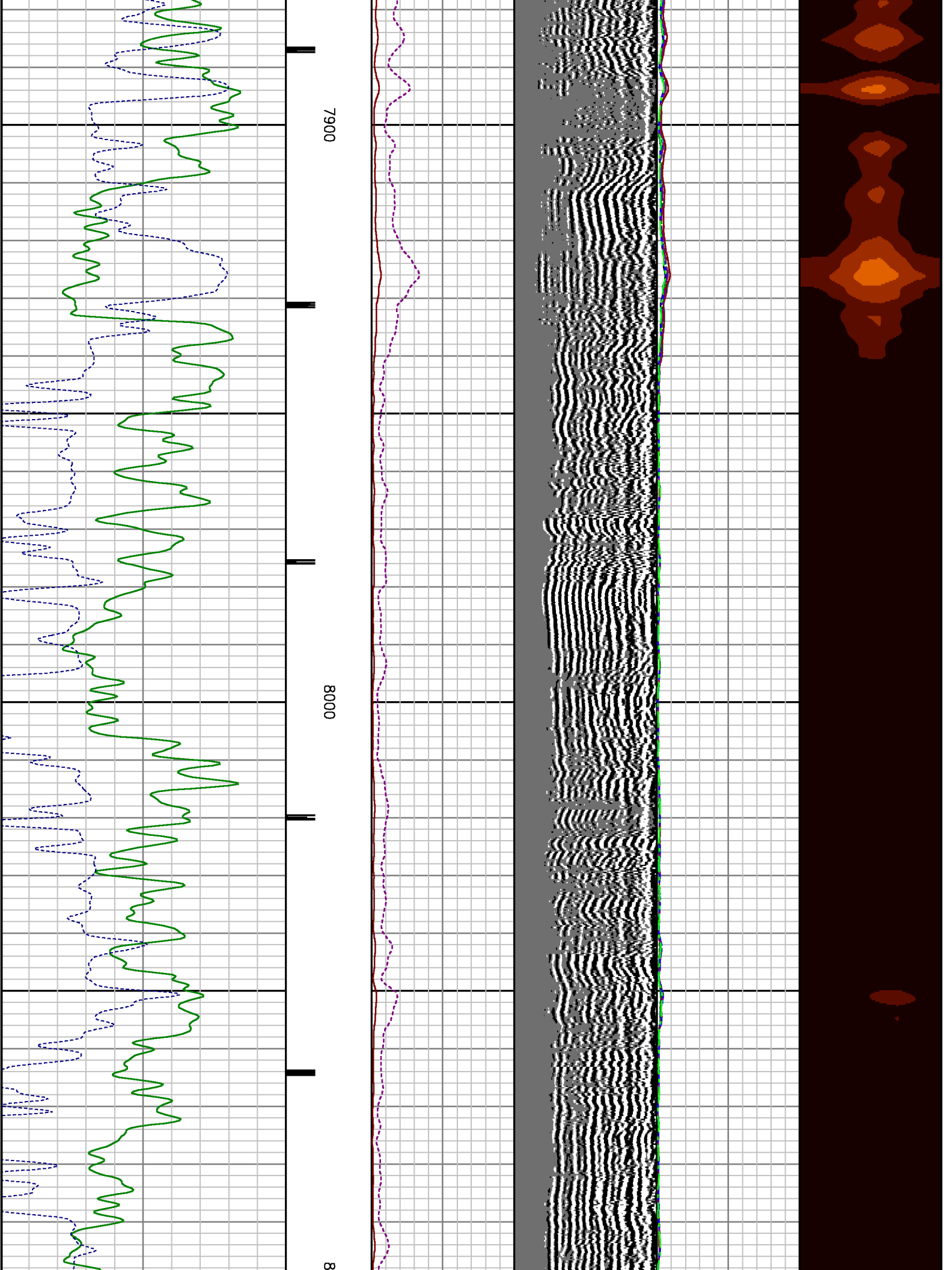


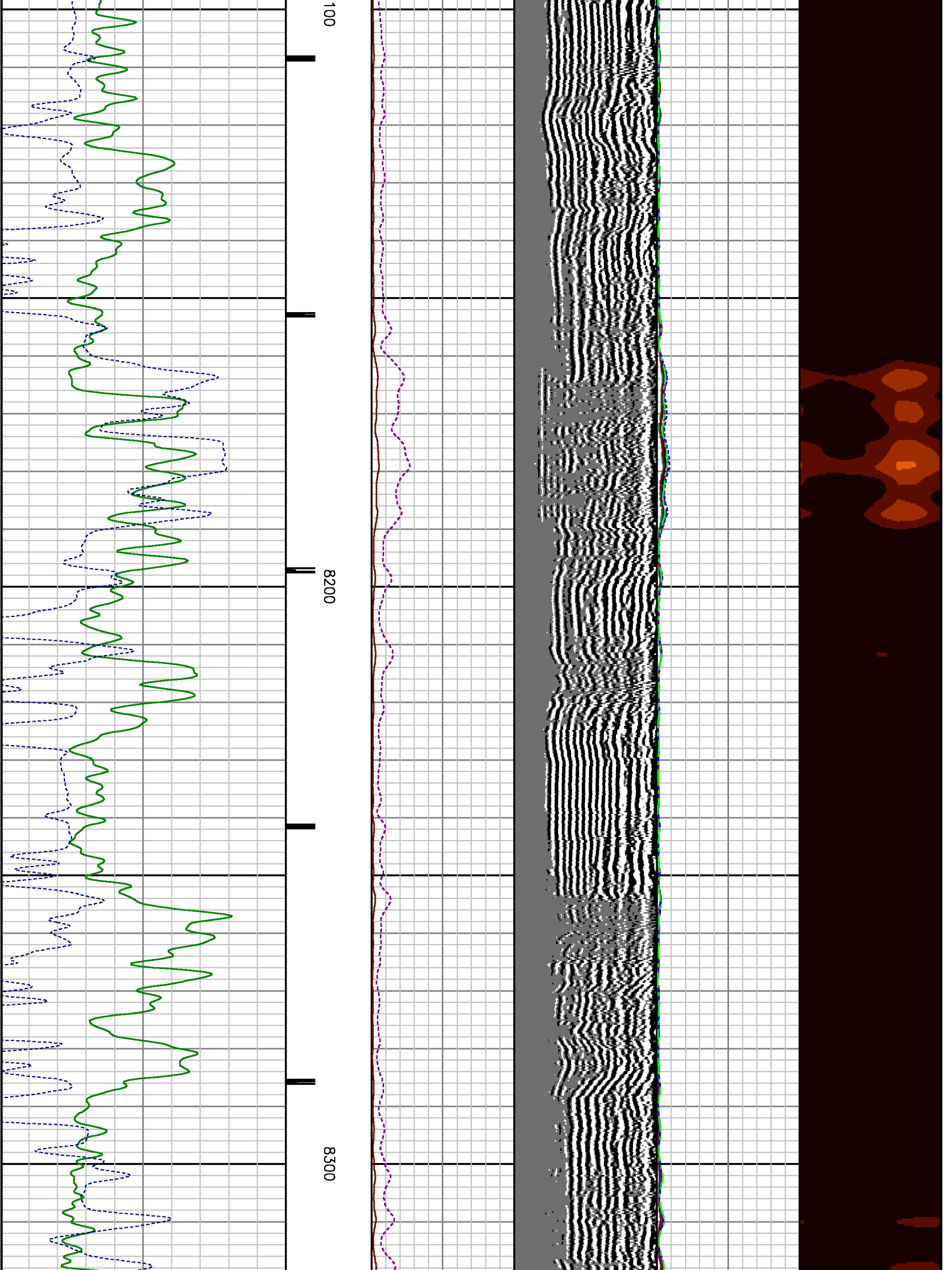


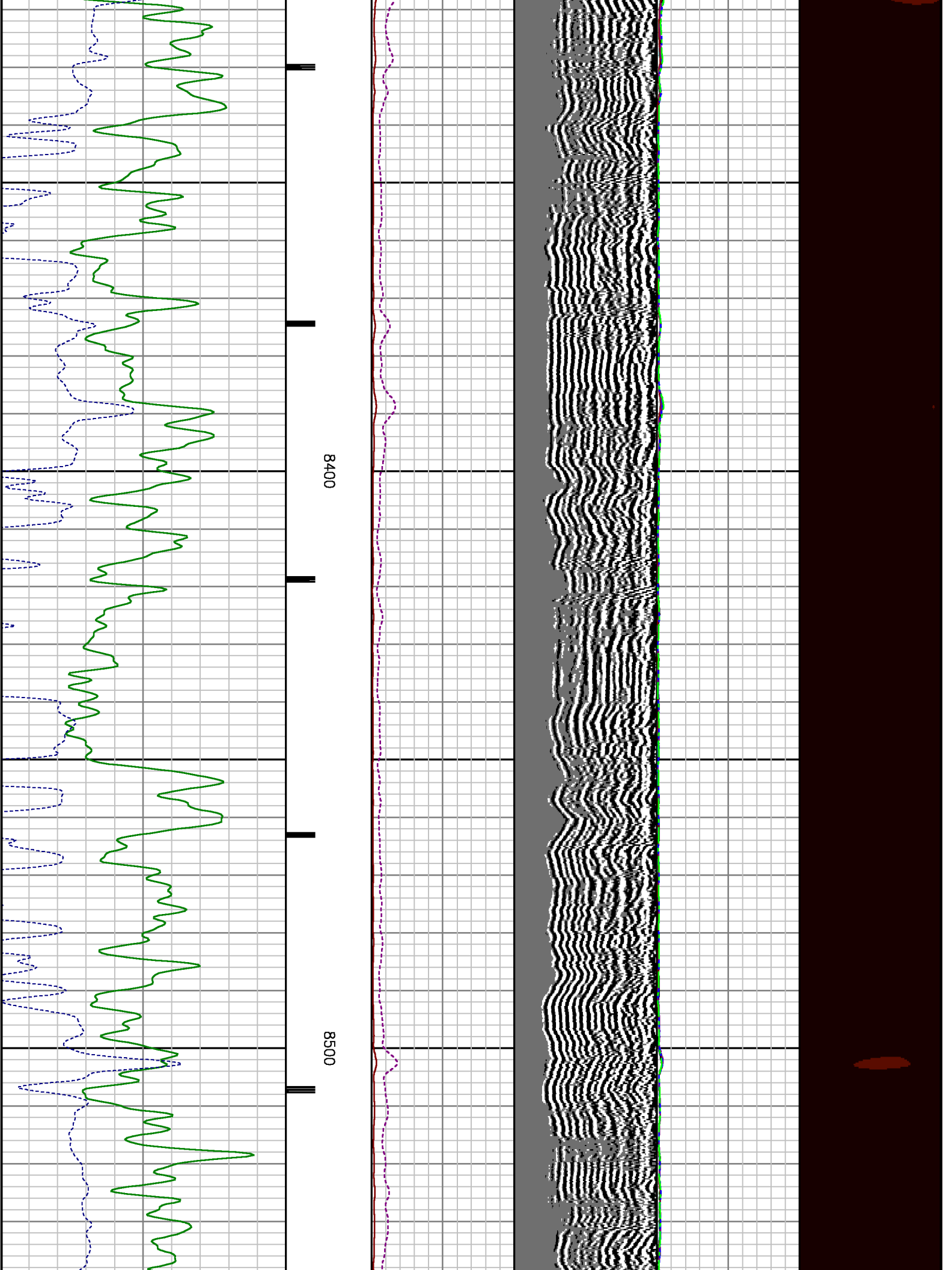


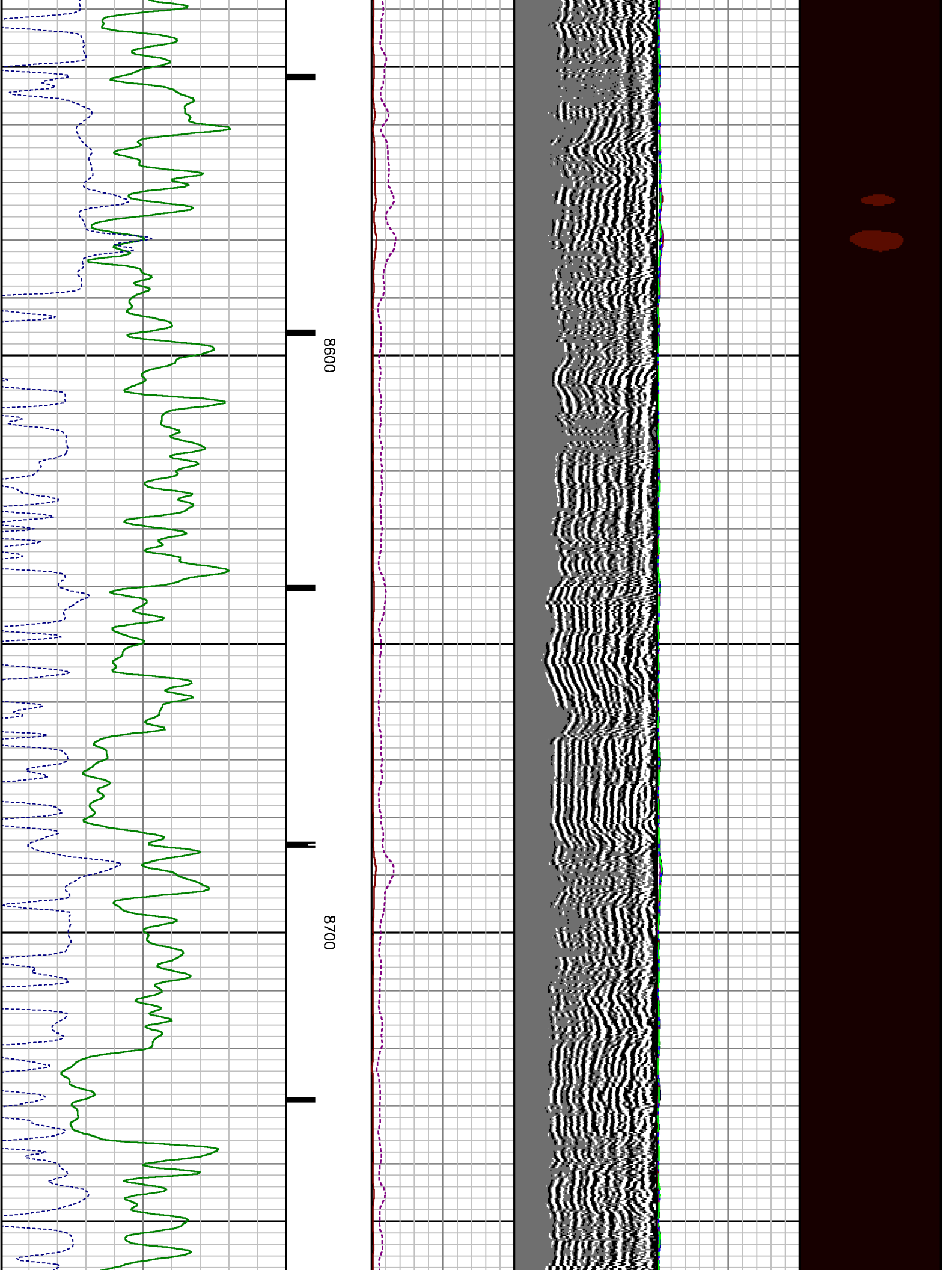


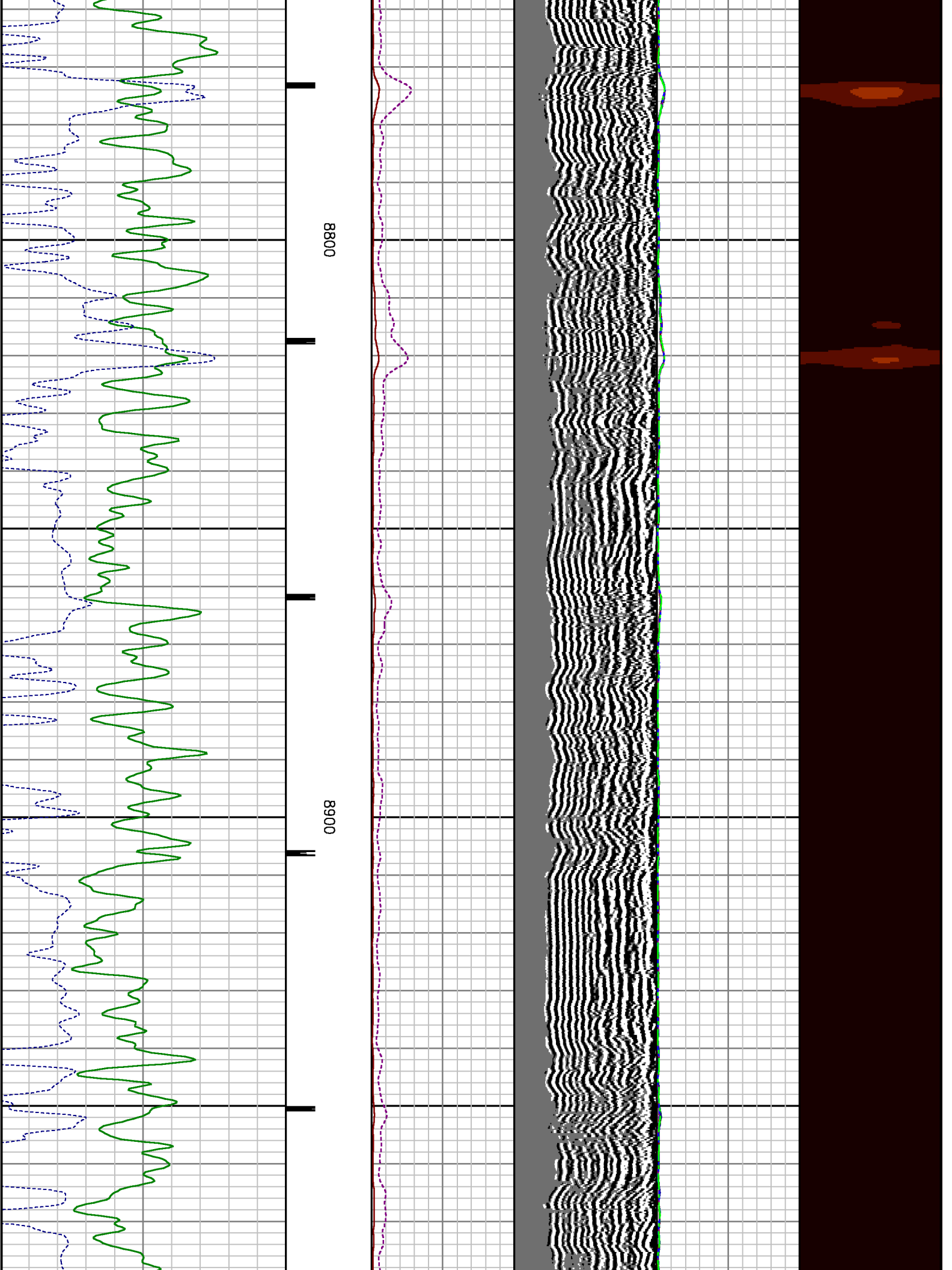


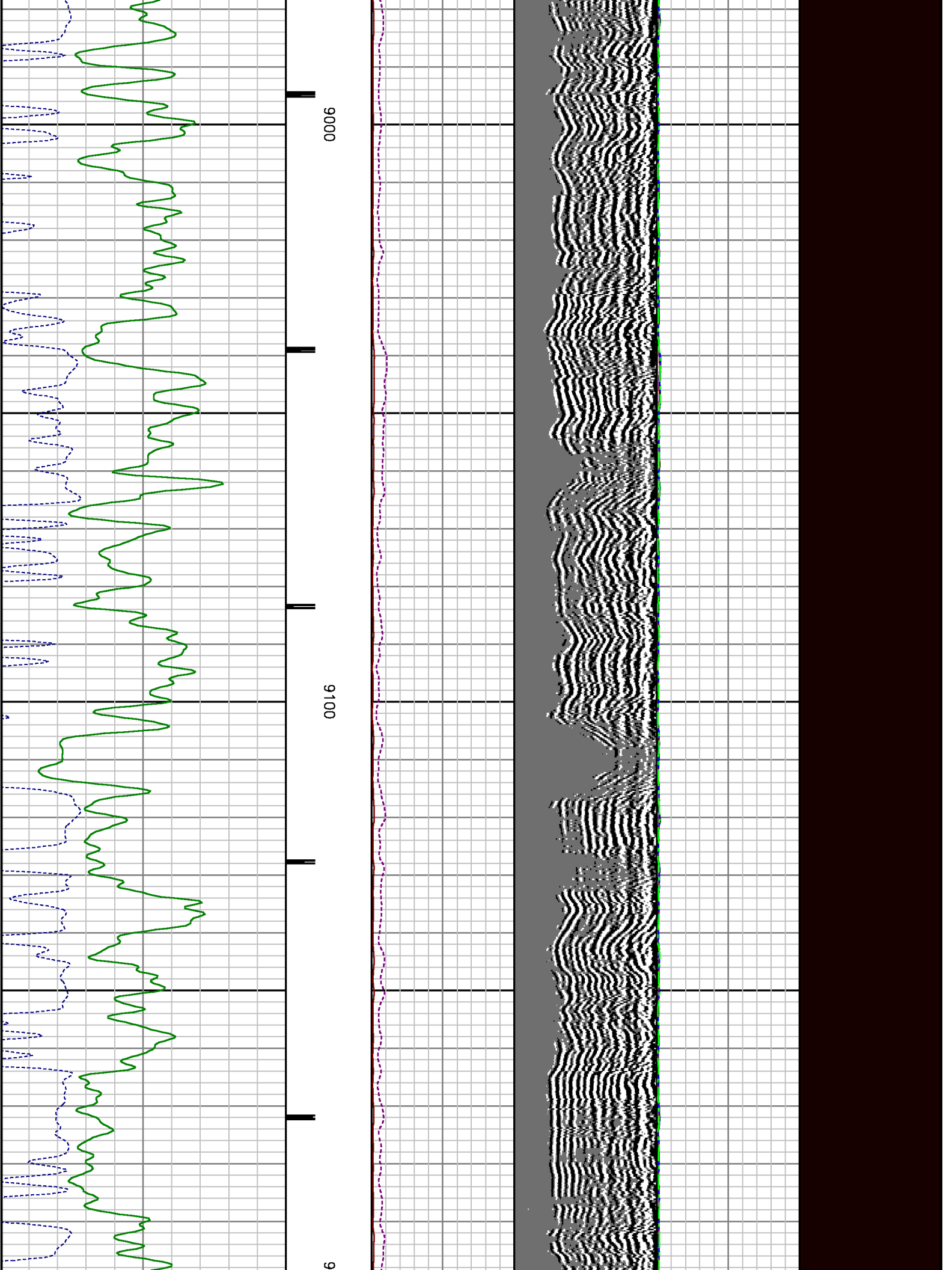


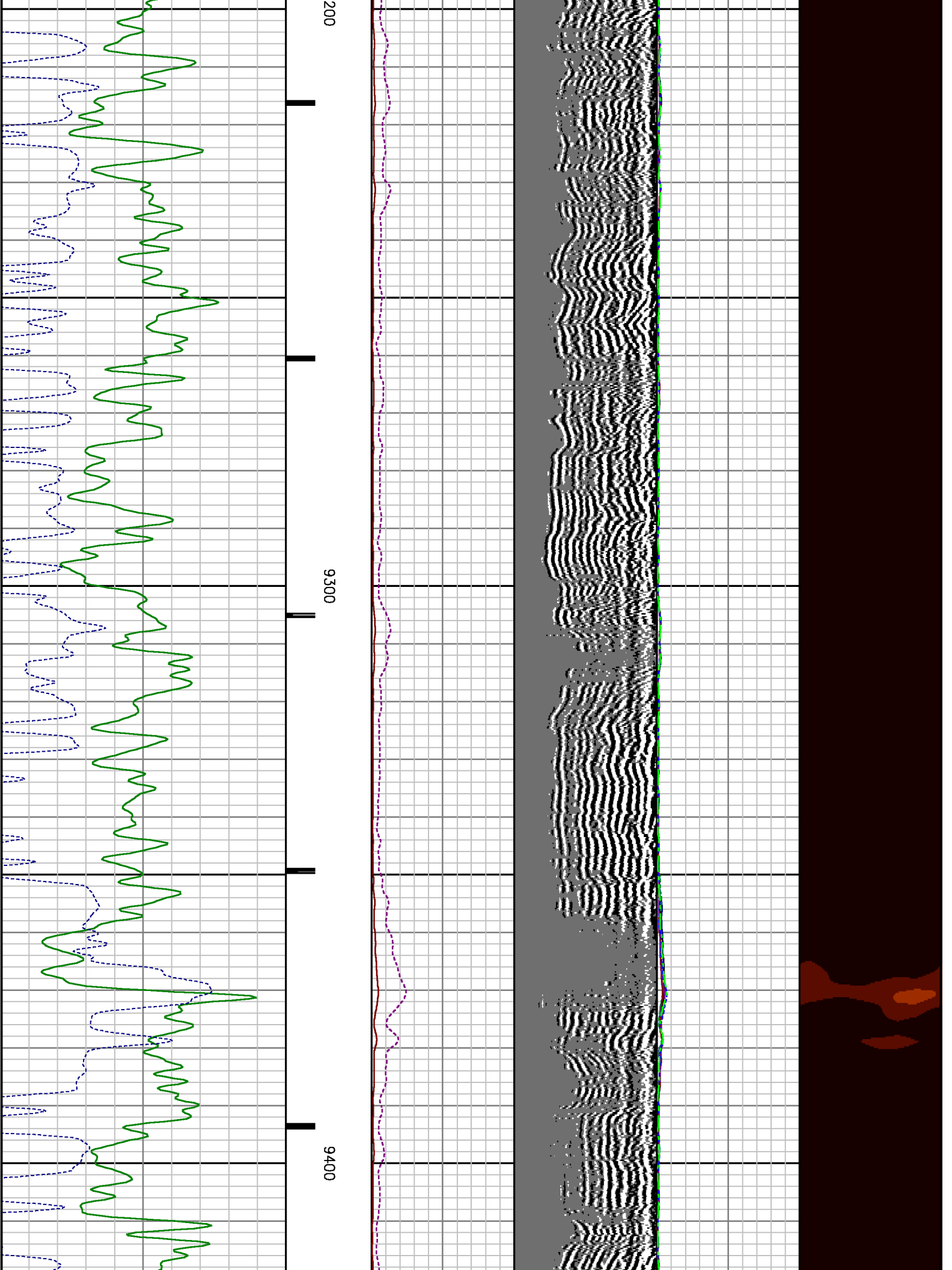


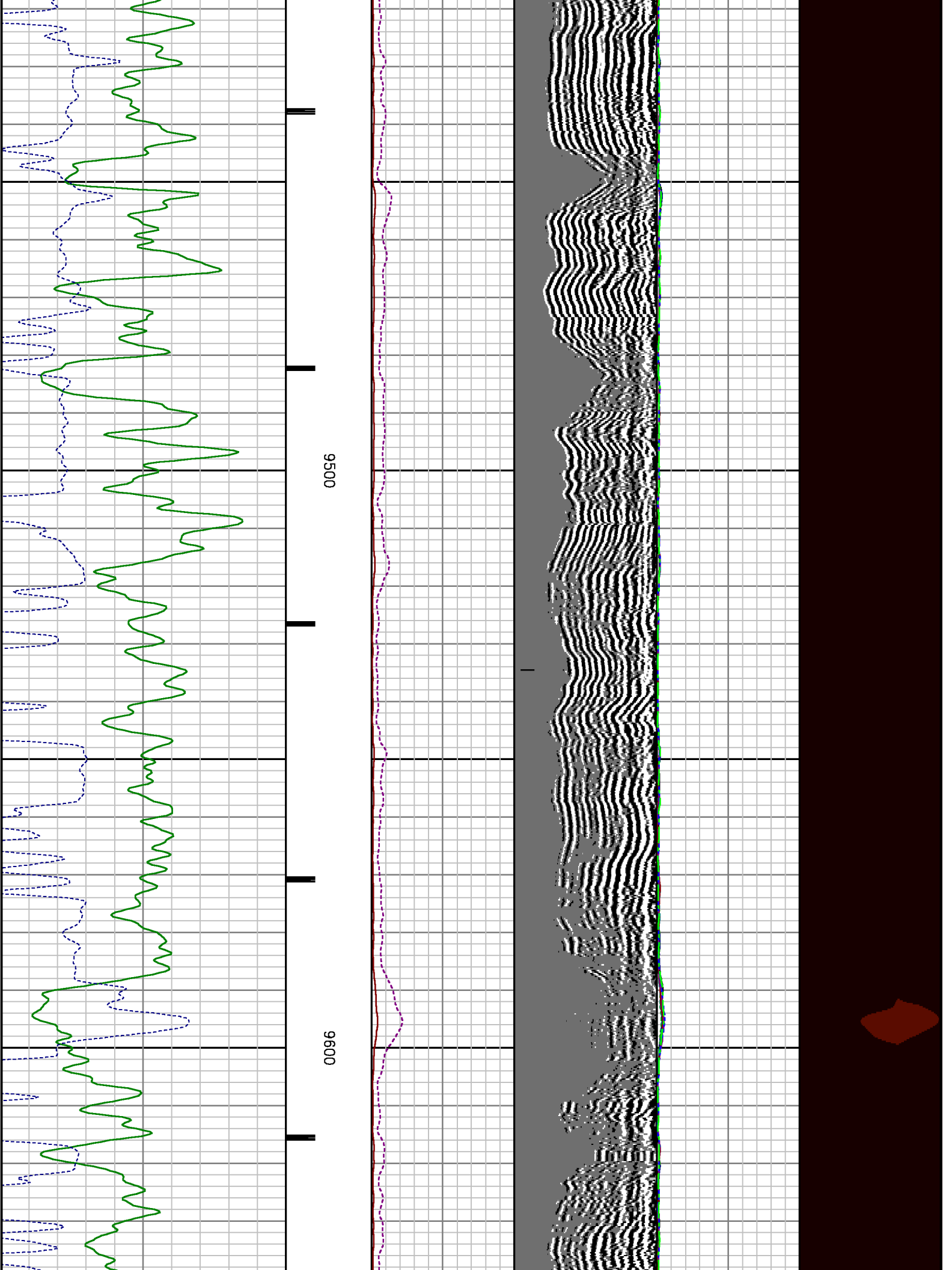


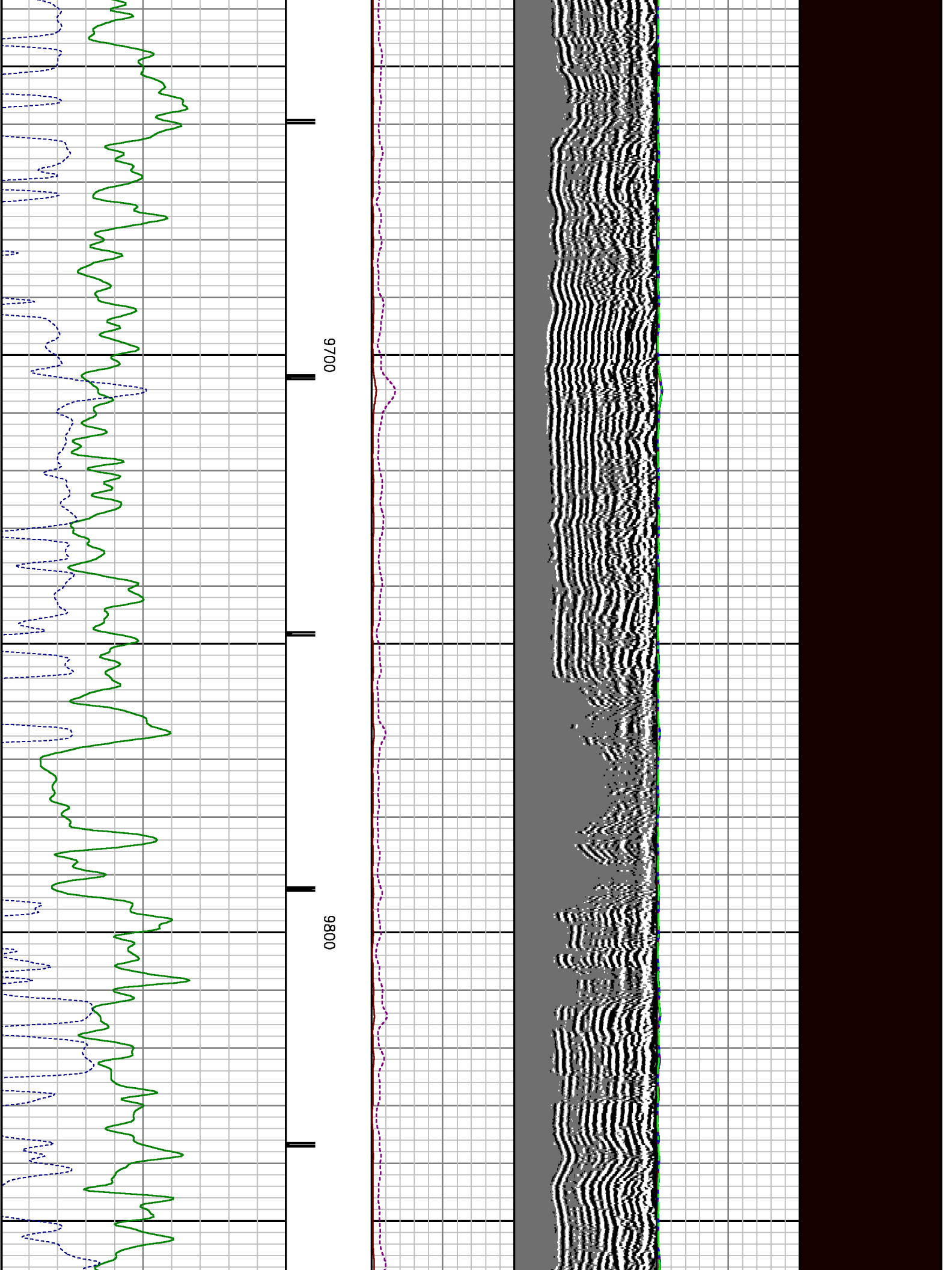


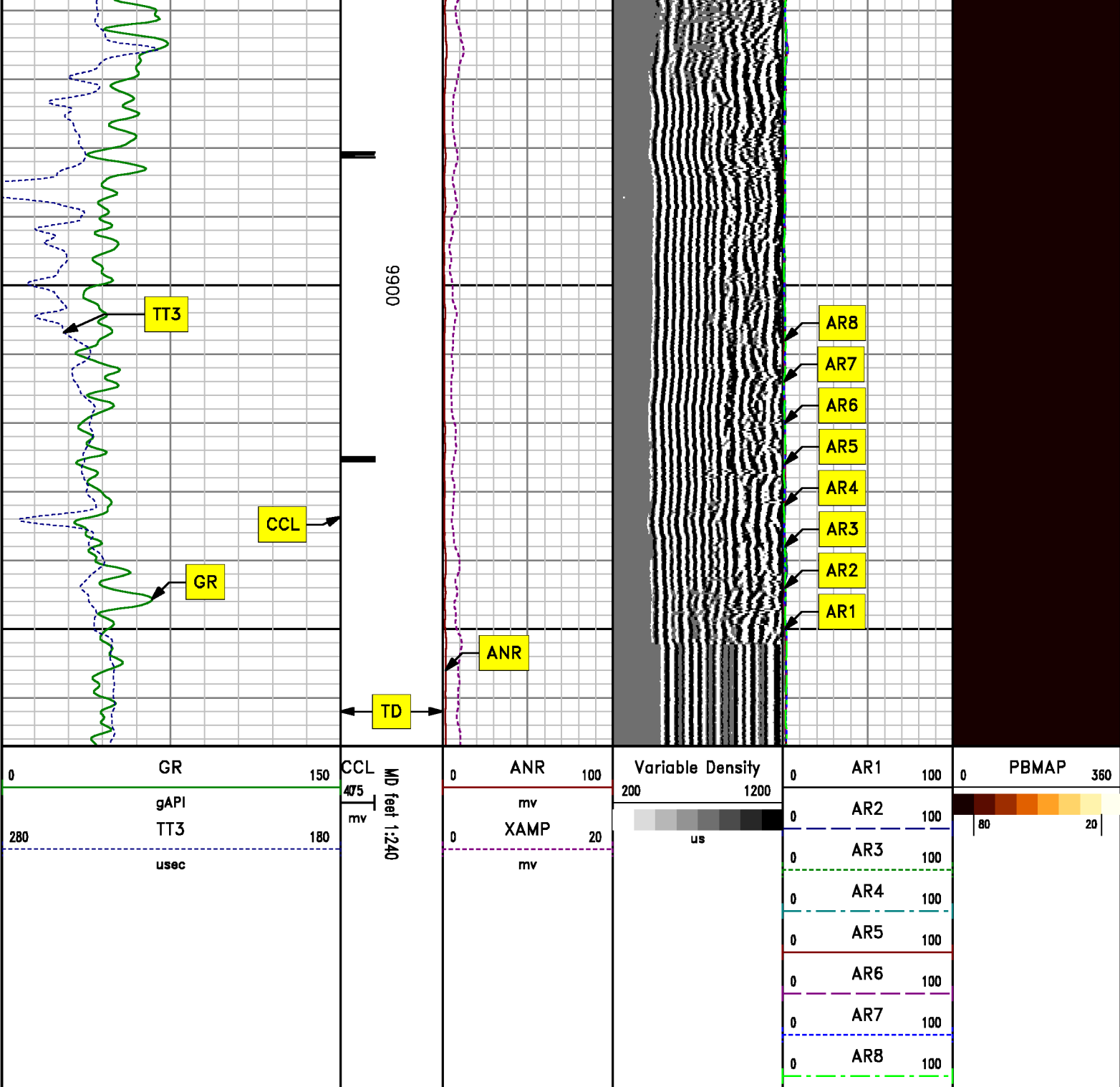












REPEAT SECTION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	9639.410	9981.410
RAL	Amp Gate Start Near	195.000	usec	9639.410	9981.410
RAL	Amp Gate Start Radial	195.000	usec	9639.410	9981.410
RAL	Amp Gate Width Far	25.000	usec	9639.410	9981.410
RAL	Amp Gate Width Near	25.000	usec	9639.410	9981.410
RAL	Amp Gate Width Radial	25.000	usec	9639.410	9981.410
RAL	casing od	4.500	inches	9639.410	9981.410
RAL	casing wt	11.600	lbm/ft	9639.410	9981.410
RAL	FB Start Far	291.900	usec	9639.410	9981.410
RAL	FB Start Near	175.391	usec	9639.410	9981.410
RAL	FB Start Radial	175.391	usec	9639.410	9981.410
RAL	FB Thresh Far	10.000	mv	9639.410	9981.410
RAL	FB Thresh Near	4.000	mv	9639.410	9981.410
RAL	FB Thresh Radial	4.000	mv	9639.410	9981.410
RAL	Fluid Travel Time	200.000	usec/ft	9639.410	9982.010

DEPTH OFFSETS (for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-11.000	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-10.040	AFAR	SIG	TT5			
1355XA	-5.620	CCL					
1355XA	-1.500	GR					
1355XA	0.000	TEMP					

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

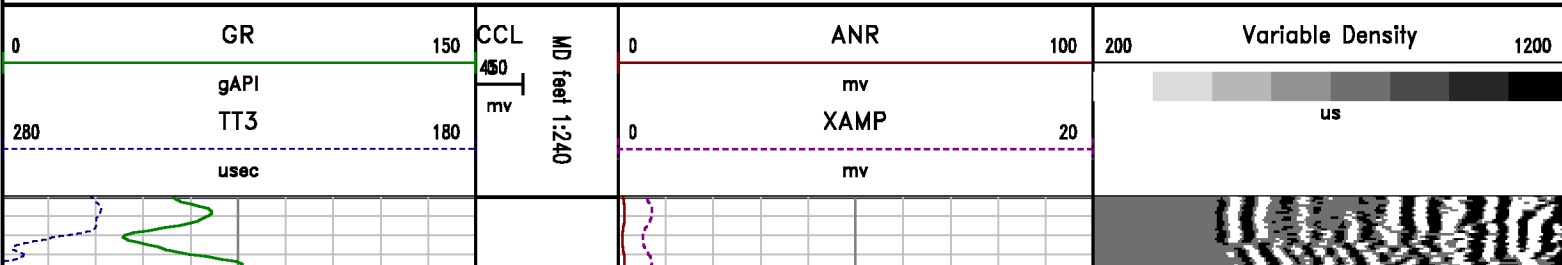
Well : FEDERAL RU 331-5

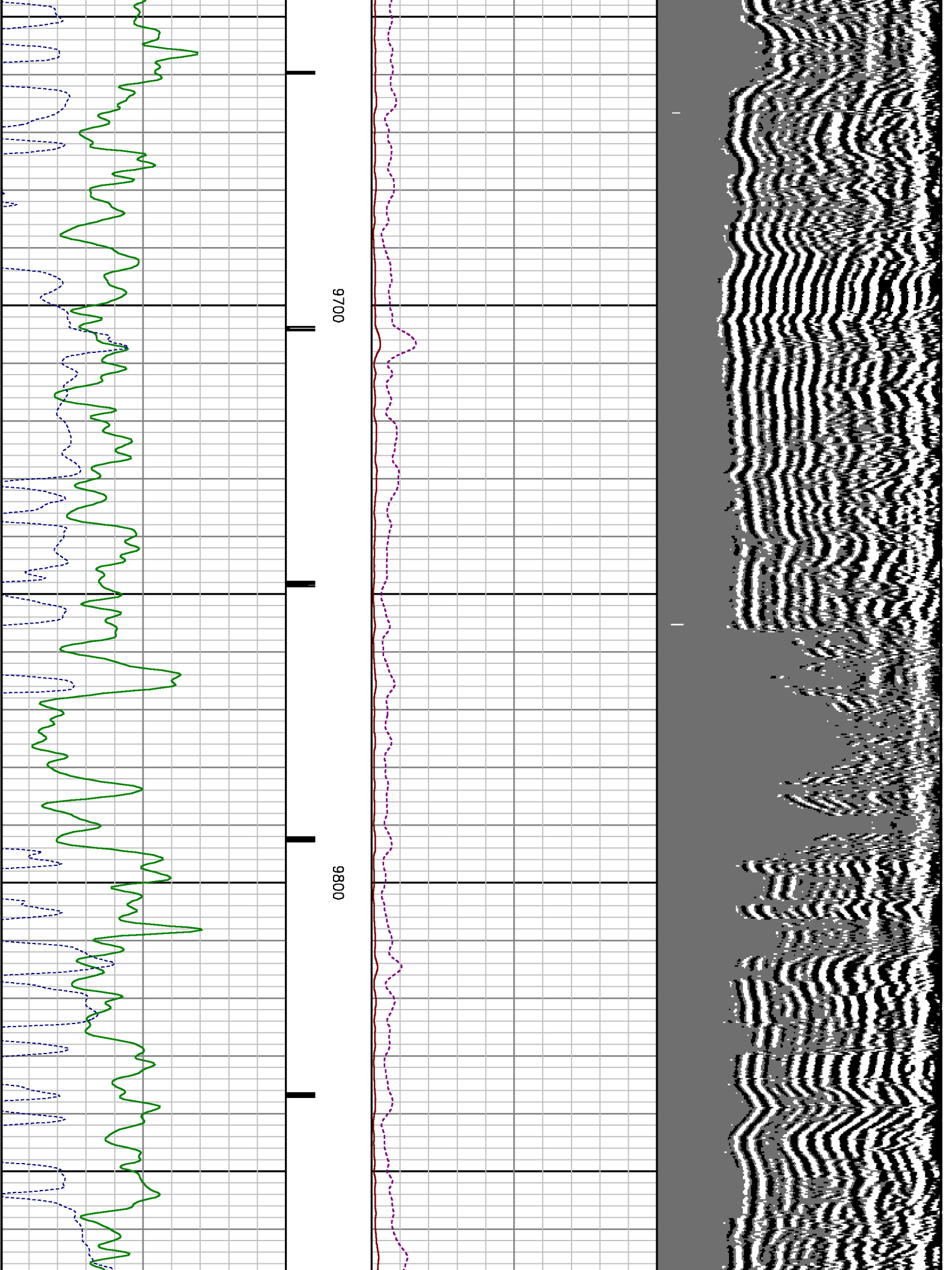
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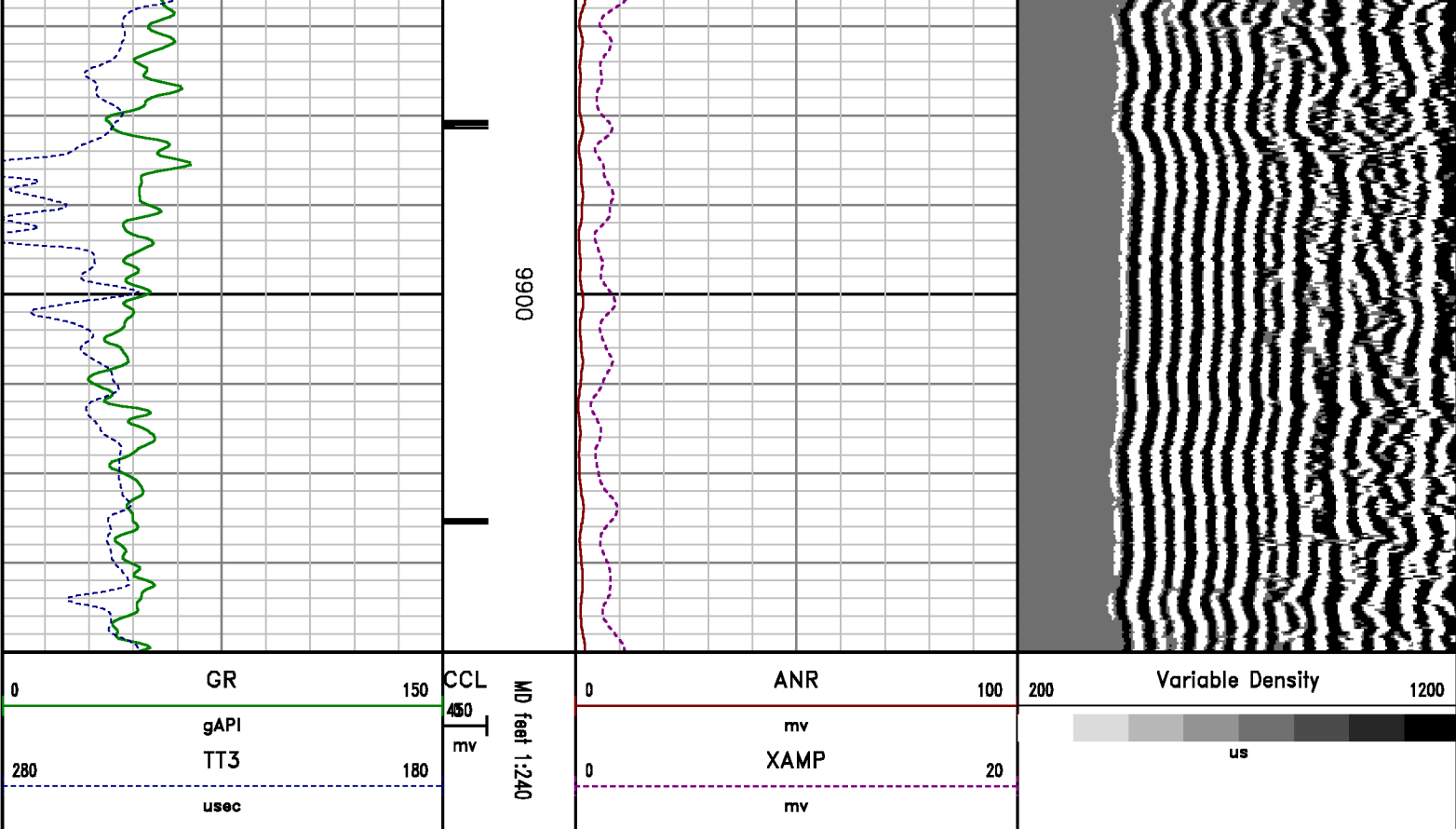
Mode : PlotMgr 5.4.504

Interval : 9640.00 - 9940.00 feet UP

Created : 12/28/2013 2:02:22 PM







CALIBRATION SUMMARY

RALSHP

Shop Calibration: C:\case\calver\RALSHP\49528_shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sat Dec 28 13:20:57 2013 TOOL SERIES: 1426XA ASSET: 495 SEQ: 28

Tool Delay [usec] -57.00 Tank OD in 5.50 Tank Wt lbm/ft 15.50 Tank ID in 4.95

RECEIVER	Travel Time [usec]	Amp. Gate Start [usec]	Amp. Gate Width [usec]	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Amp Ref. [mV]	Shop Factor
CAL Pulse	218	216	30	166	25	0.096	100.00	0.14
3 Ft. Receiver	218	216	30	184	5	-2.571	100.00	0.13
5 Ft. Receiver	328	325	30	287	12	-0.497	150.00	0.15
Radial #1	217	216	30	178	6	-6.150	100.00	0.13
Radial #2	218	216	30	178	6	-4.746	100.00	0.13
Radial #3	218	216	30	178	6	-6.154	100.00	0.13
Radial #4	219	216	30	178	6	-5.029	100.00	0.13
Radial #5	219	216	30	178	6	-3.700	100.00	0.13

Radial #6	218	216	30	178	6	-4.012	100.00	0.13
Radial #7	217	216	30	178	6	-2.783	100.00	0.13
Radial #8	218	216	30	178	6	-2.037	100.00	0.13

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\49528 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sat Dec 28 13:22:27 2013 TOOL SERIES: 1426XA ASSET: 495 SEQ: 28

Tool Delay [usec] -57.00 Casing OD In 4.50 Casing Wt lbm/ft 11.60 Casing ID In 4.00

RECEIVER	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Full Amp. [mV]	Wellsite Factor	Amp. Ref [mV]
CAL Pulse	166	25	-0.095	0.000	1.00	100.000
3 Ft. Receiver	200	30	-0.348			
5 Ft. Receiver	317	30	-0.201			
Radial #1	200	30	-0.339			
Radial #2	200	30	-0.323			
Radial #3	200	30	-0.249			
Radial #4	200	30	-0.294			
Radial #5	200	30	-0.291			
Radial #6	200	30	-0.364			
Radial #7	200	30	-0.303			
Radial #8	200	30	-0.330			

GAMMA RAY

Calibration File: C:\case\calver\GR\208D2.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Dec 24 11:12:54 2013 TOOL SERIES: 1355XA ASSET: 208 SEQ: D2

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	74.84	313.56	0.775	58.00	243.00	185.00

Verification File: C:\case\calver\GR\208D2.VP

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Tue Dec 24 11:14:10 2013 TOOL SERIES: 1355XA ASSET: 208 SEQ: D2

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	74.76	317.24	0.775	57.94	245.86	187.93

TOOL DIAGRAM

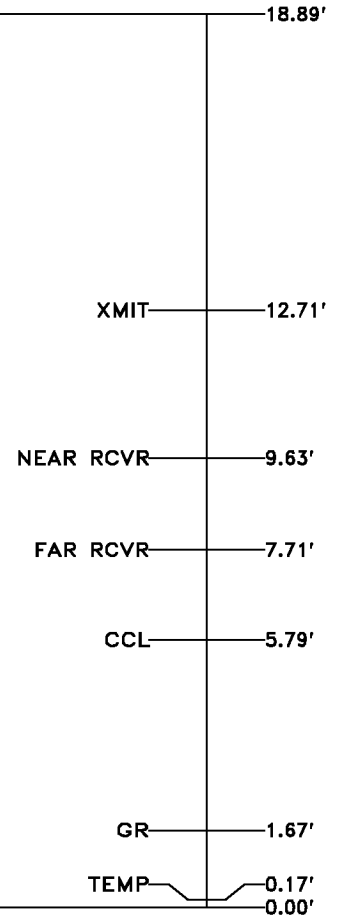
OTA SHORT CABLE HEAD

PROBE 2 3/4 DUAL RECEIVER RADII

Series 1426XA
 Mnemonic PROB
 Diameter 2.75"
 Length 11.17'
 Measure Point 0.75' FAR RCVR
 Measure Point 2.67' NEAR RCVR
 Measure Point 5.75' XMIT
 Temp Rating 350.00 °F
 Press Rating 18000.00 PSI

RAL GR/TEMP/CCL/CHV DETECTOR

Series 1355XA
 Mnemonic RAL
 Diameter 2.75"
 Weight 85.00 lb
 Length 6.96'
 Measure Point 0.17' TEMP
 Measure Point 1.67' GR
 Measure Point 5.79' CCL
 Temp Rating 400.00 °F
 Press Rating 20000.00 PSI



Total Length: 18.89'
 Total Weight: Not Available
 Max Diameter: 0' 2.75"



Company
 Well
 Field
 County

WPX ENERGY
 FEDERAL RU 331-5
 RULISON
 GARFIELD

State CO

File No:
 CH80983
 API No:
 05045217880000

Location

SHL: 225' FNL & 2615' FWL
 BHL: 509' FNL & 1974' FEL

Elevations

KB 7628 ft
 DF
 GL 7602 ft

5 7S 93W
 RU 23-5 PAD
 NABORS 576

SEC 5 TWP 7S RGE 93W

Baker Atlas

CASE