



RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: CH028307	Company Well Field County	WILLIAMS PRODUCTION COMPANY GM 414-32 GRAND VALLEY GARFIELD State COLORADO
API No: 05045194430000		
32 6S 96W GM 333-31 PAD MAP 278	Location SHL: 2245' FSL & 1625' FEL; S31 6S 96W BHL: 606' FSL & 182' FEL; S32 6S 96W SEC 32 TWP 6S RGE 96W	Other Services RPM
Permanent Datum Log Measured From Drill Measured From	GROUND LEVEL KELLY BUSHING KELLY BUSHING Elevation 24 ft Above P. D.	Elevations KB 6124 ft DF 6123 ft GL 6100 ft

Date	13 FEBRUARY 2011	
Run	ONE	
Service Order	575624	
Depth Driller	7487 ft	
Depth Logger	7464 ft	
Bottom Logged Interval	7460 ft	
Top Logged Interval	24 ft	
Time Started	1130	
Time Finished	1430	
Operator Rig Time	3	
Type of Fluid in Hole	WATER	
Fluid Density	8.4 lbm/gal	
Salinity	NA	
Fluid Level	NA	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	33 deg	
Nominal Logging Speed	45 fpm	
Maximum Recorded Temperature	218 degF	
Reference Log	NONE	
Reference Log Date	NA	
Equipment No.	4214	G.J. COLORADO
Recorded By	FLOYD RENEAU	
Witnessed By	MR. MIKE SNOW	

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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	1222 ft
7.875 In	0 ft	7486 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 In			0 ft	1222 ft
4.5 In	11.6 lbm/ft	P-110	0 ft	7486 ft

Remarks
LOG IS FIRST LOG OF WELL
LOGGED WITH ZERO PSI AT WELLHEAD
BHT = 218°F
SHORT JOINT = 4194'-4215'

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	VDL	1426XA	10163028	CENT
1	1	GR/CCL	2459XA	10218503	CENT

PRIMARY PRESENTATION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	316.900	usec	22.910	7500.000
RAL	Amp Gate Start Near	200.391	usec	22.910	7500.000
RAL	Amp Gate Start Radial	200.391	usec	22.910	7500.000
RAL	Amp Gate Width Far	25.000	usec	22.910	7500.000
RAL	Amp Gate Width Near	25.000	usec	22.910	7500.000
RAL	Amp Gate Width Radial	25.000	usec	22.910	7500.000
RAL	casing od	4.500	inches	22.910	7500.000
RAL	casing wt	11.600	lbm/ft	22.910	7500.000
RAL	FB Start Far	291.900	usec	22.910	7500.000
RAL	FB Start Near	180.000	usec	22.910	7500.000
RAL	FB Start Radial	180.000	usec	22.910	7500.000
RAL	FB Thresh Far	10.000	mv	22.910	7500.000
RAL	FB Thresh Near	4.000	mv	22.910	7500.000
RAL	FB Thresh Radial	4.000	mv	22.910	7500.000
RAL	Fluid Travel Time	200.000	usec/ft	22.910	7500.000

DEPTH OFFSETS
(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-16.750	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2

1426XA -15.750
2459XA -11.340
2459XA -9.490
2459XA -4.090

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

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WILLIAMS PRODUCTION COMPANY

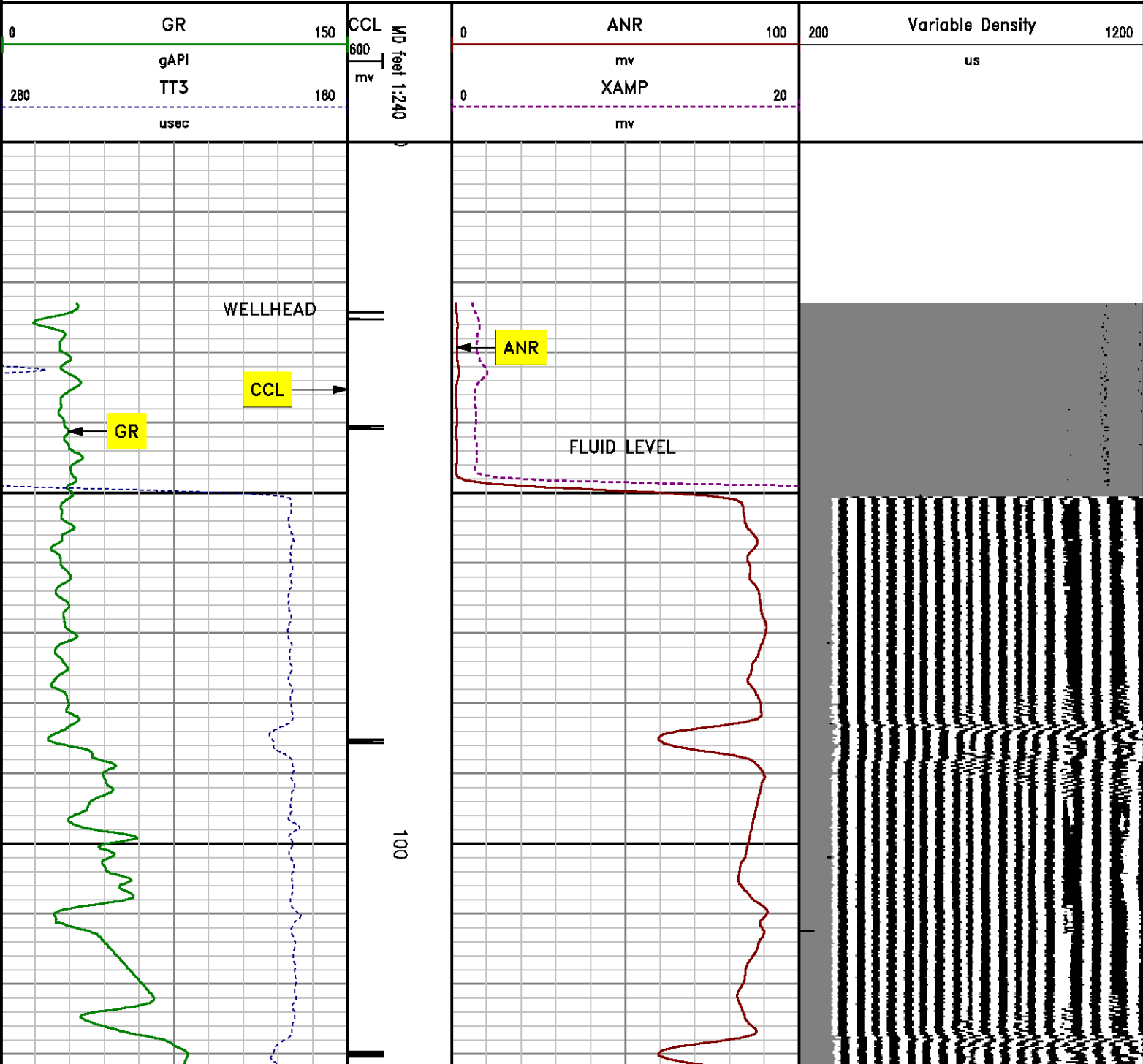
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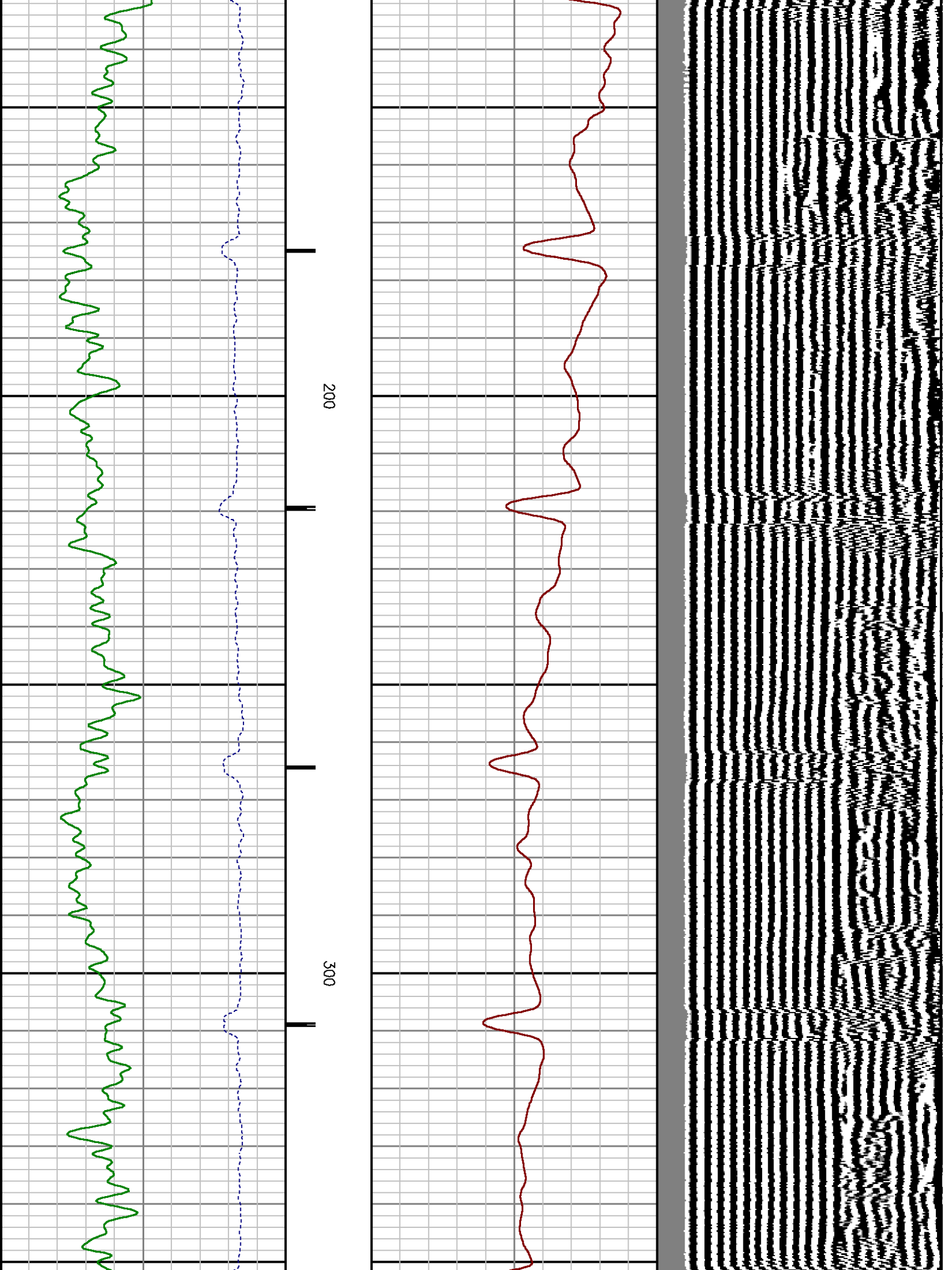
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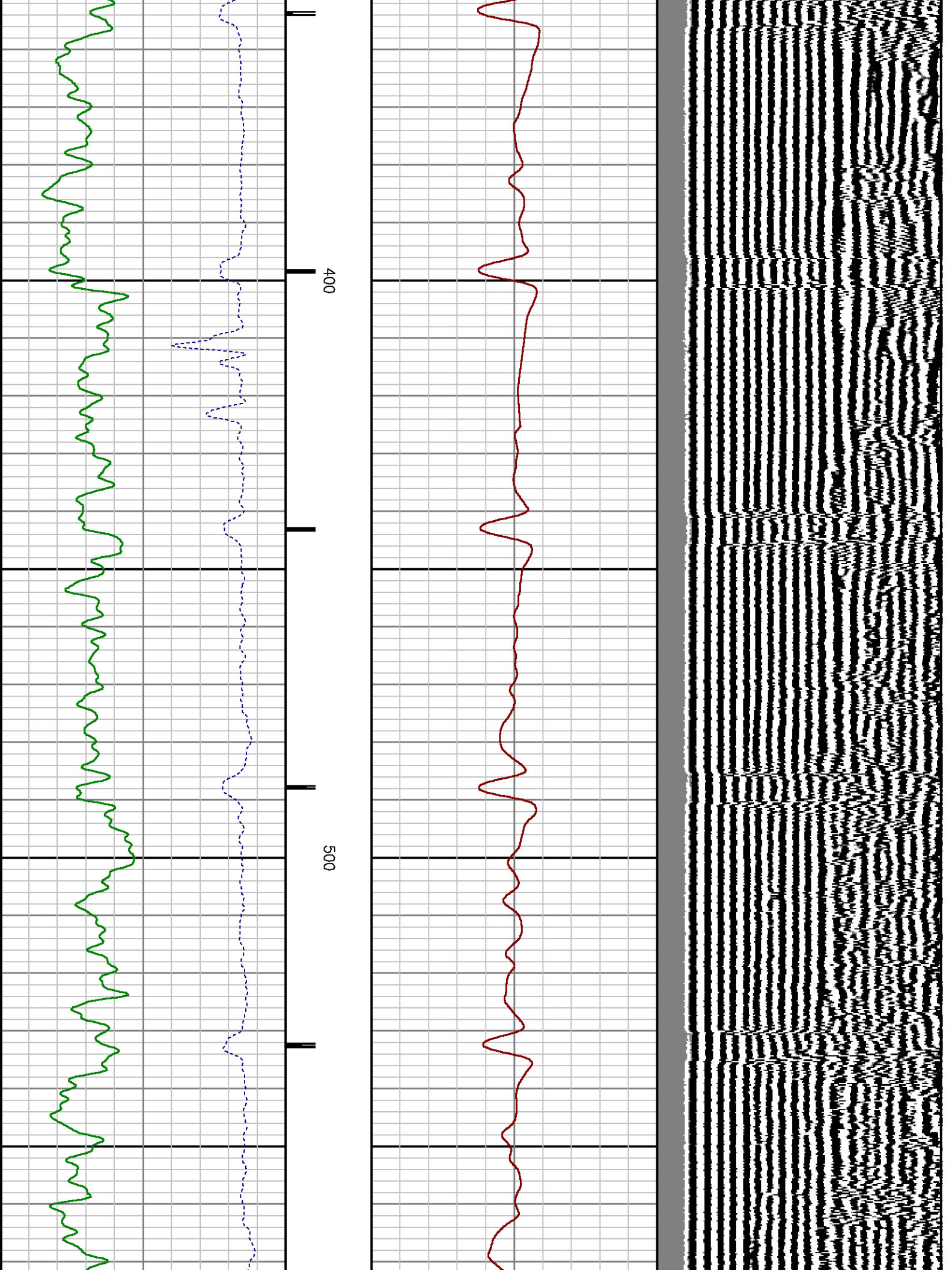
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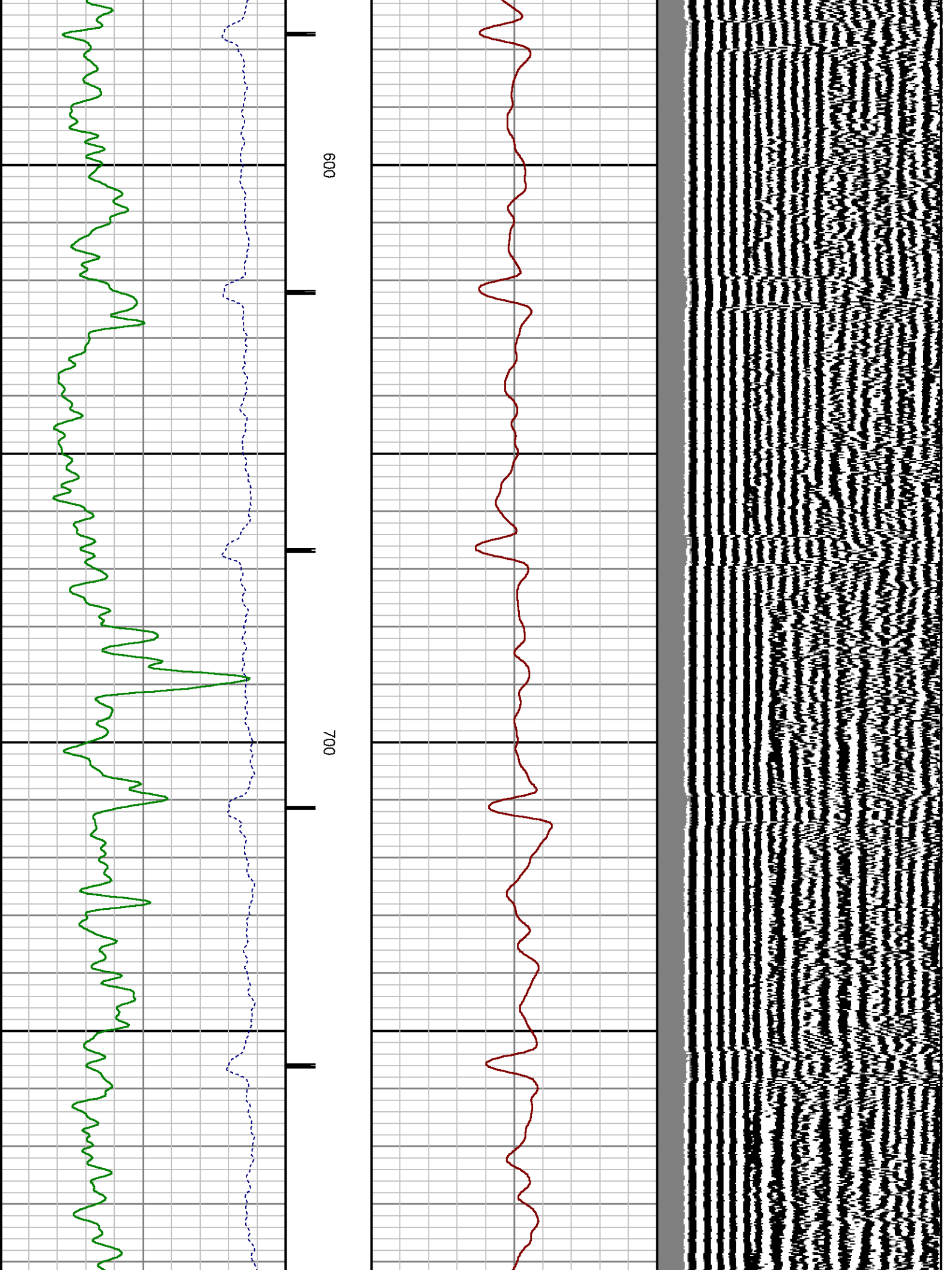
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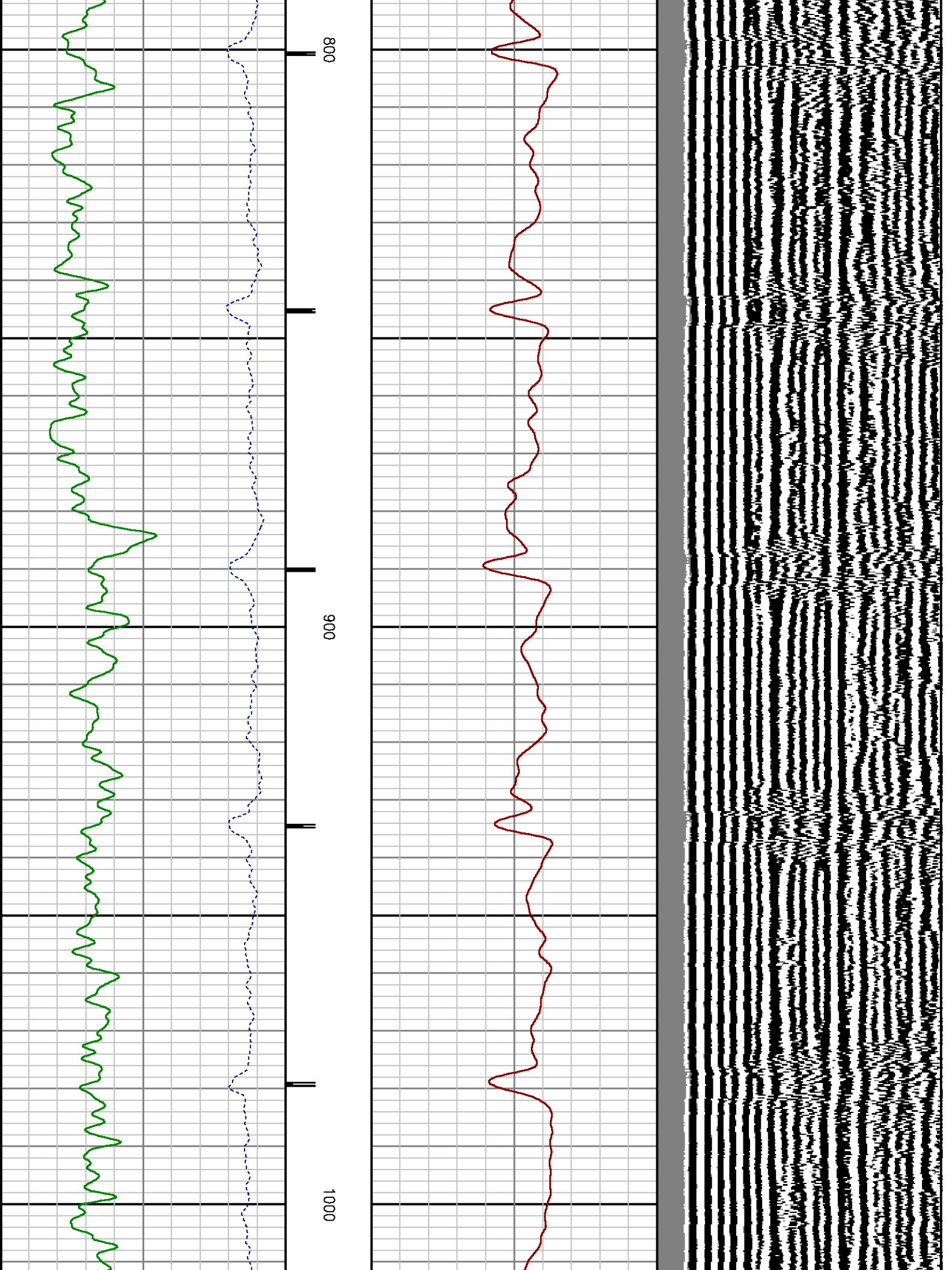
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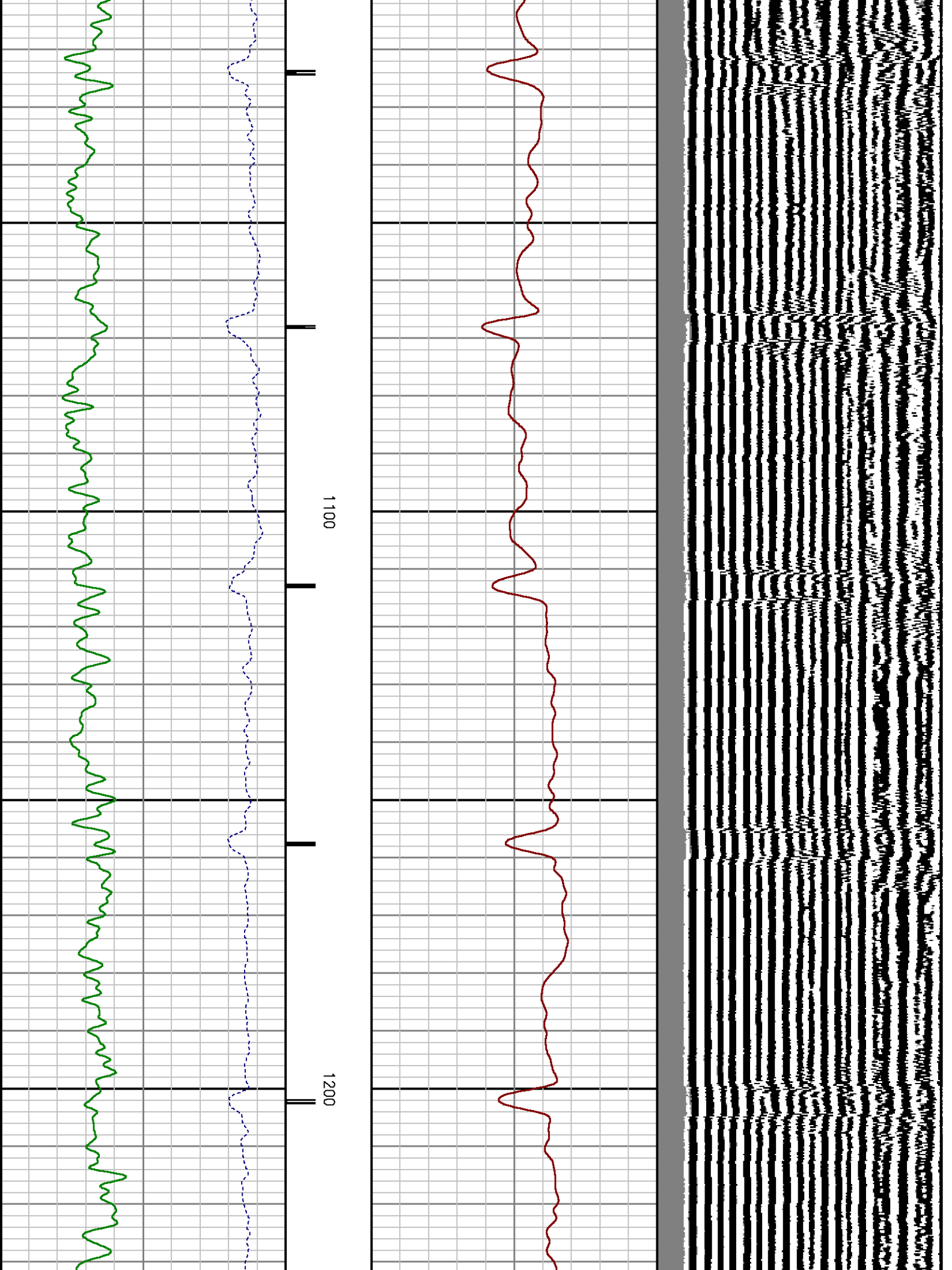


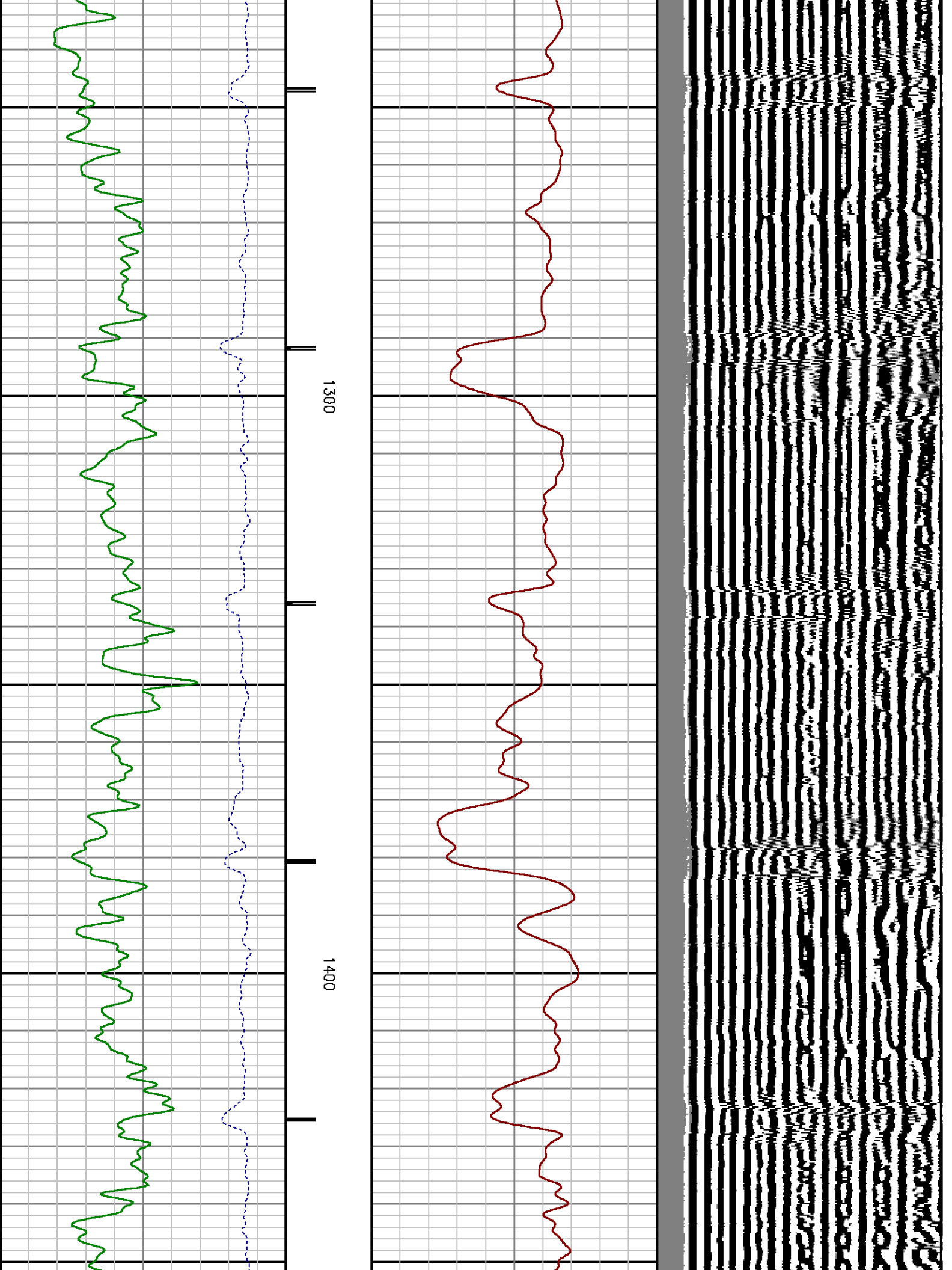


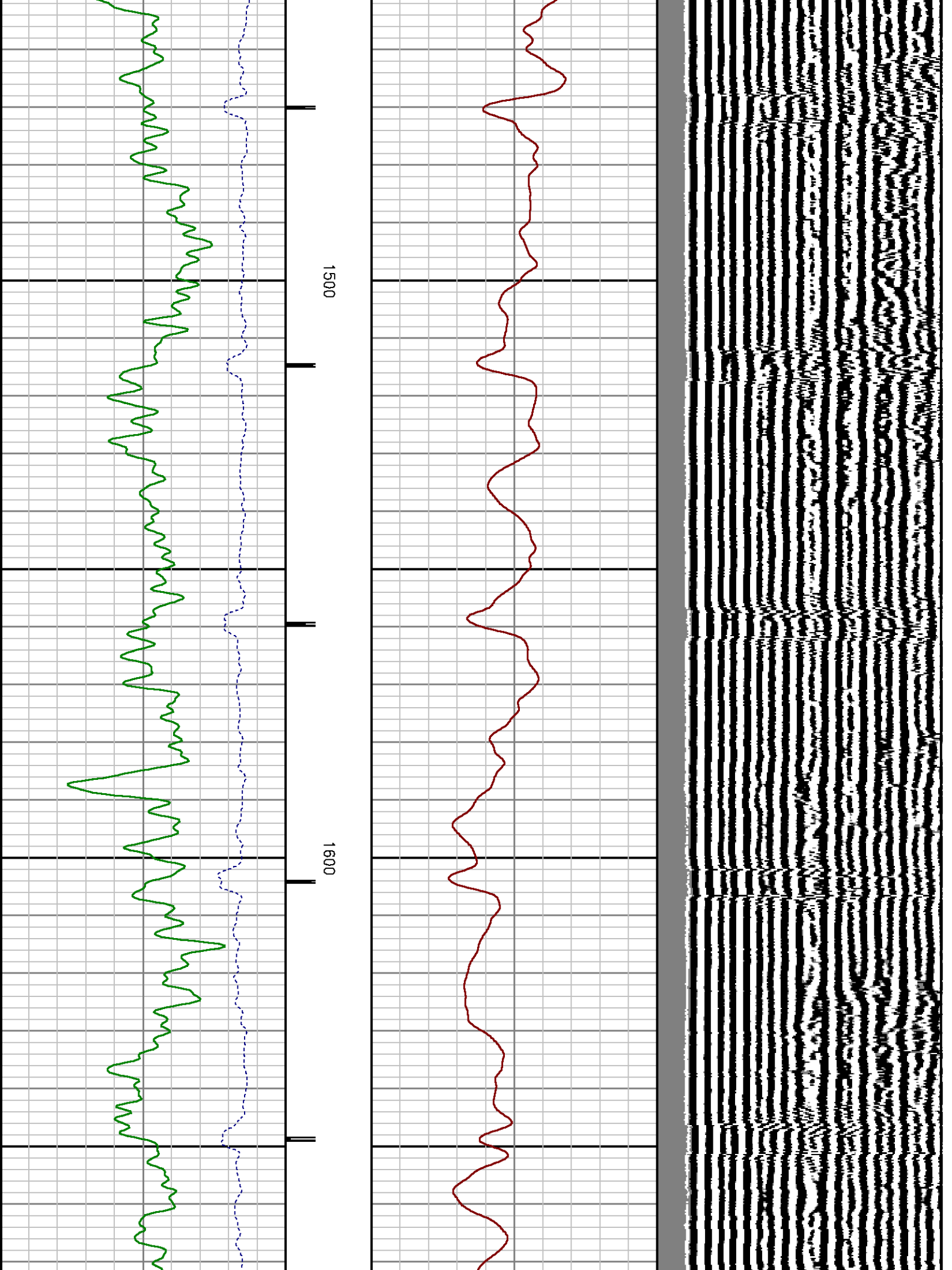


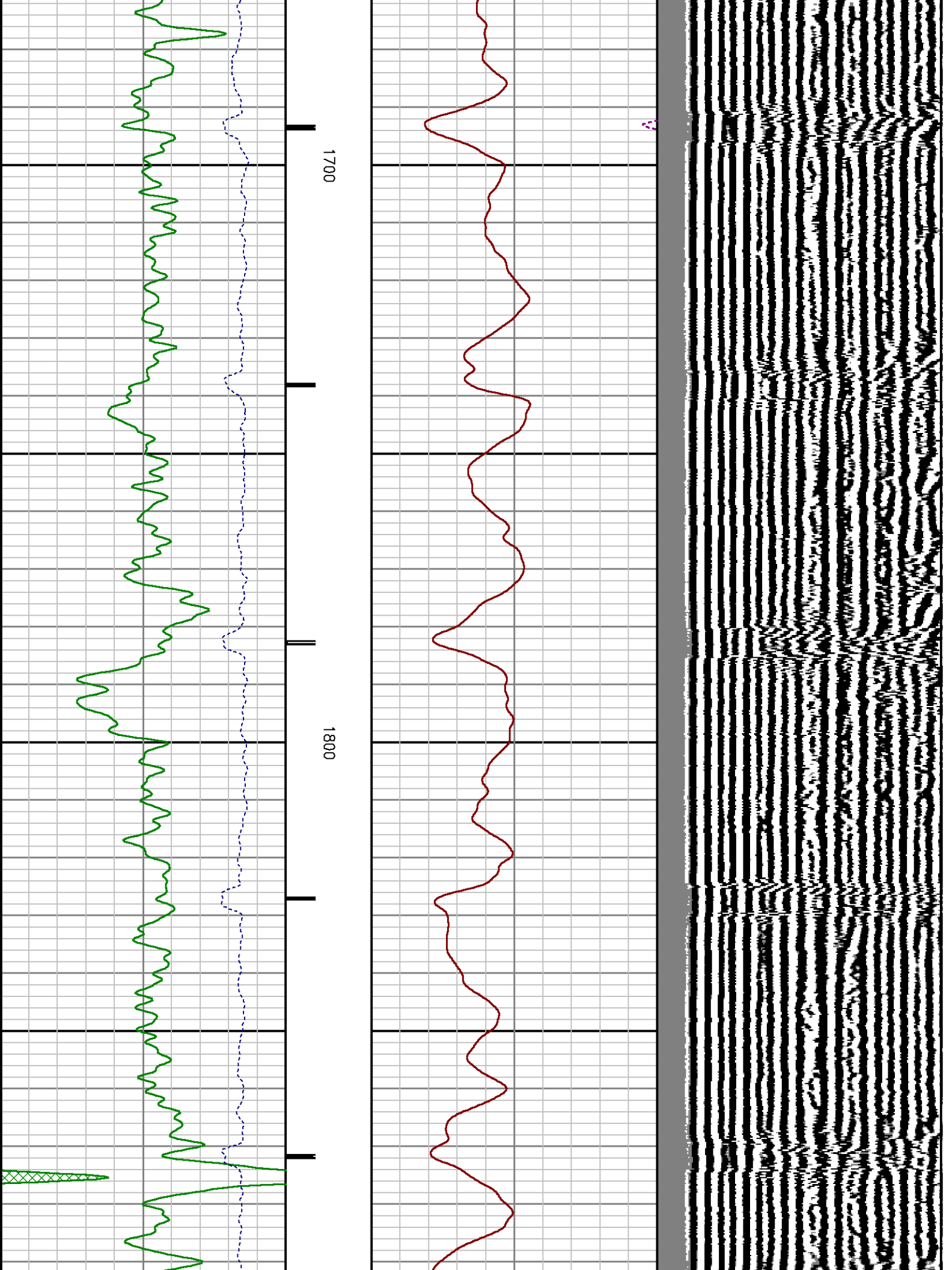


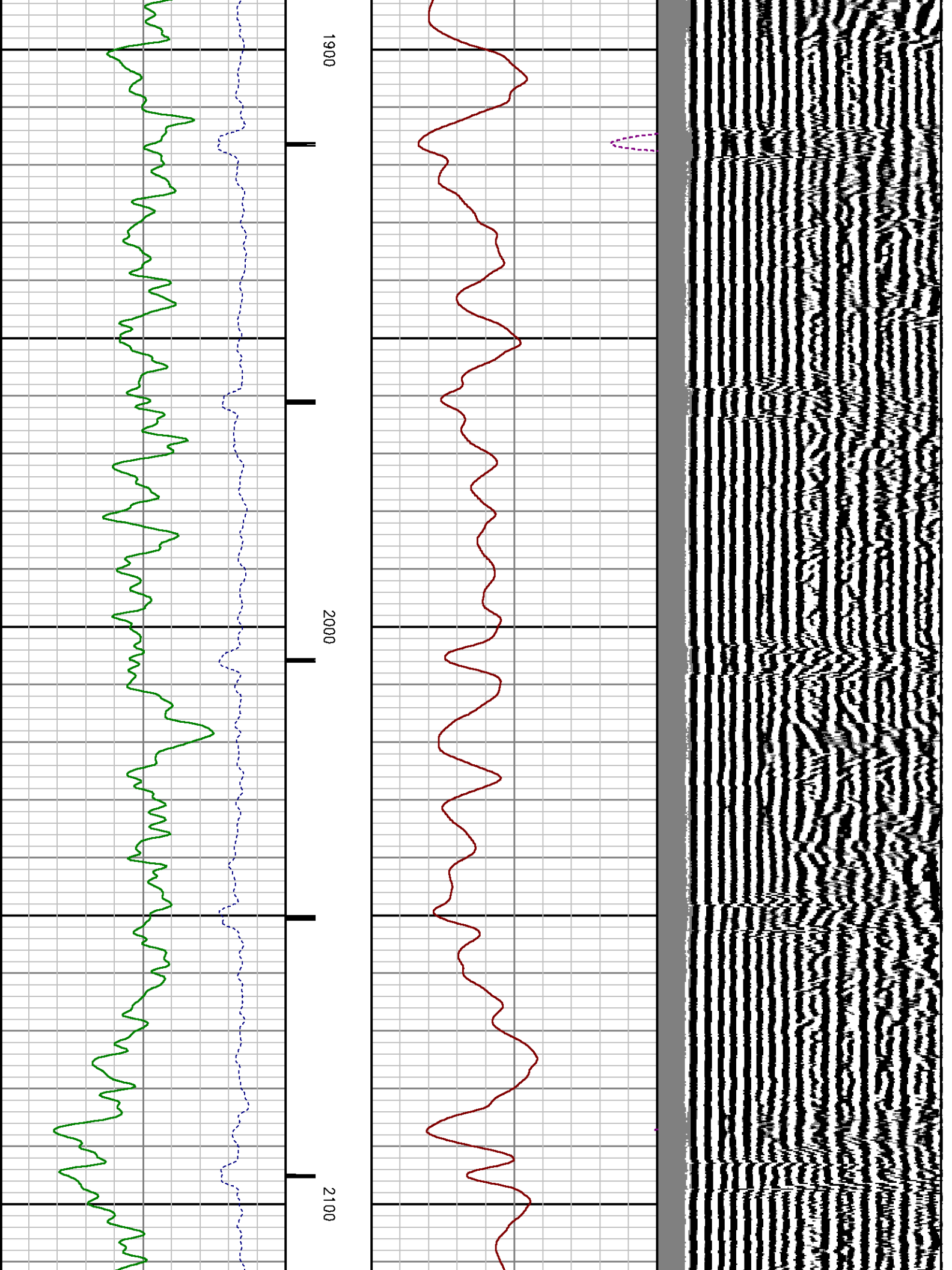


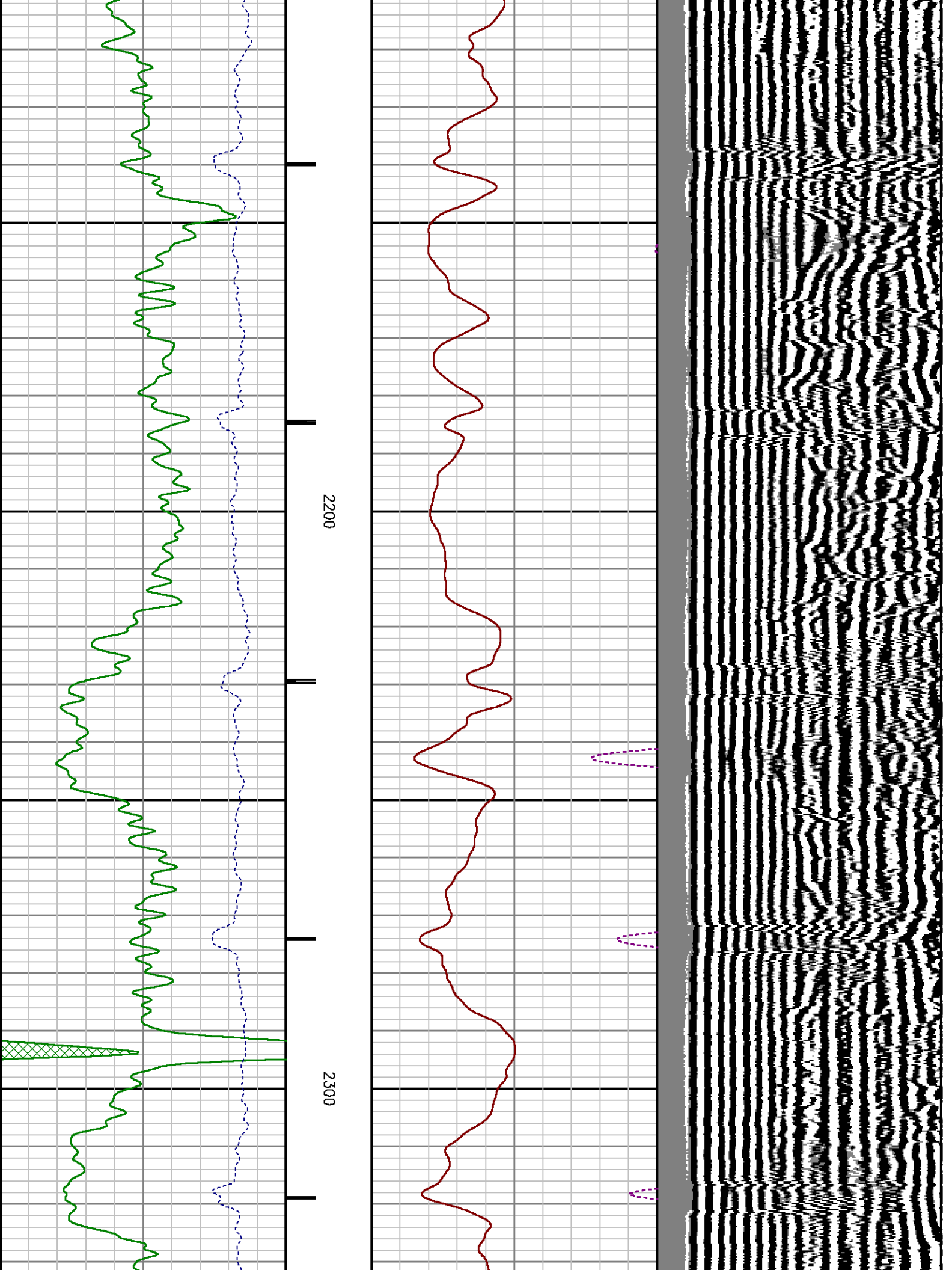


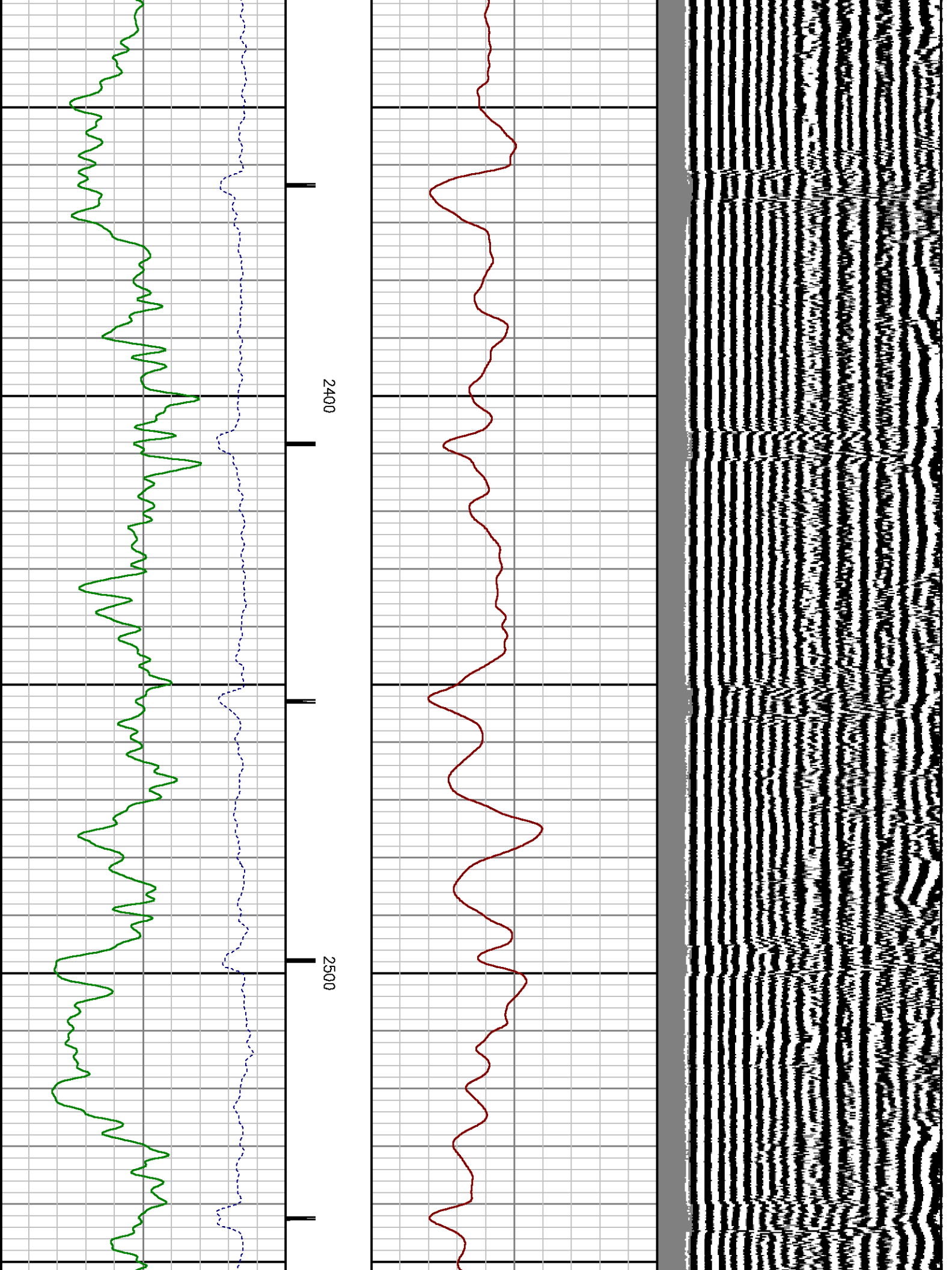


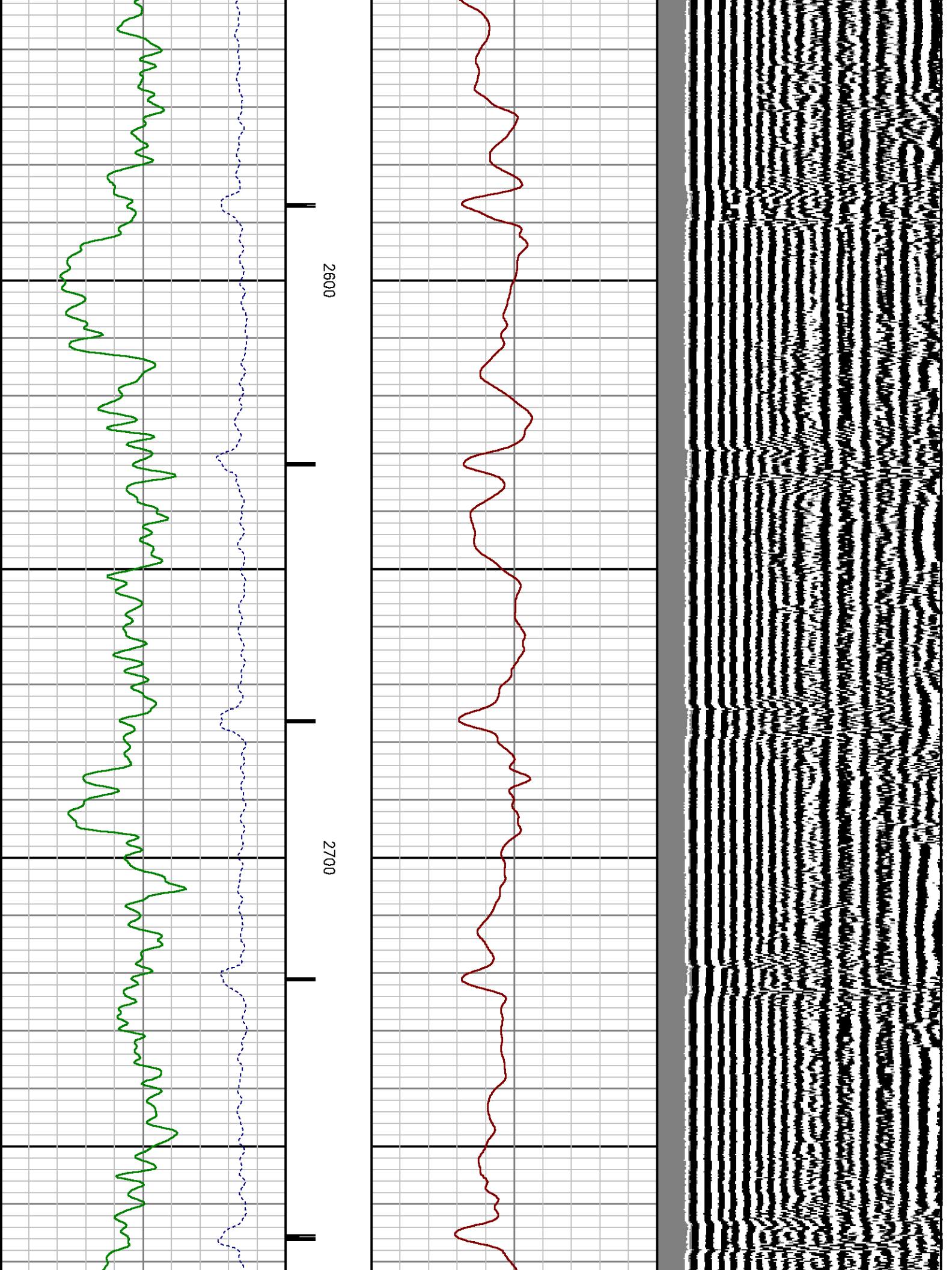


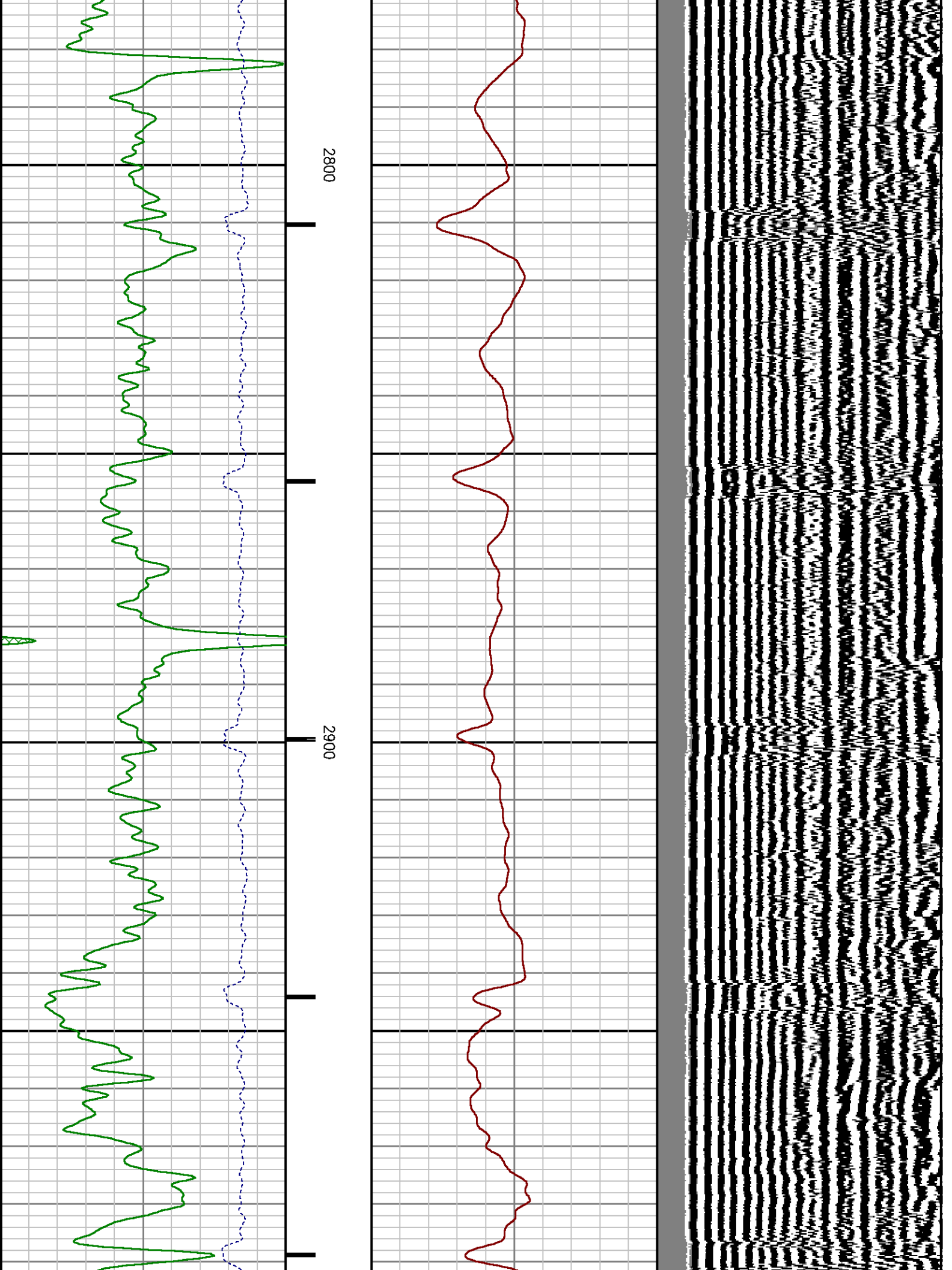


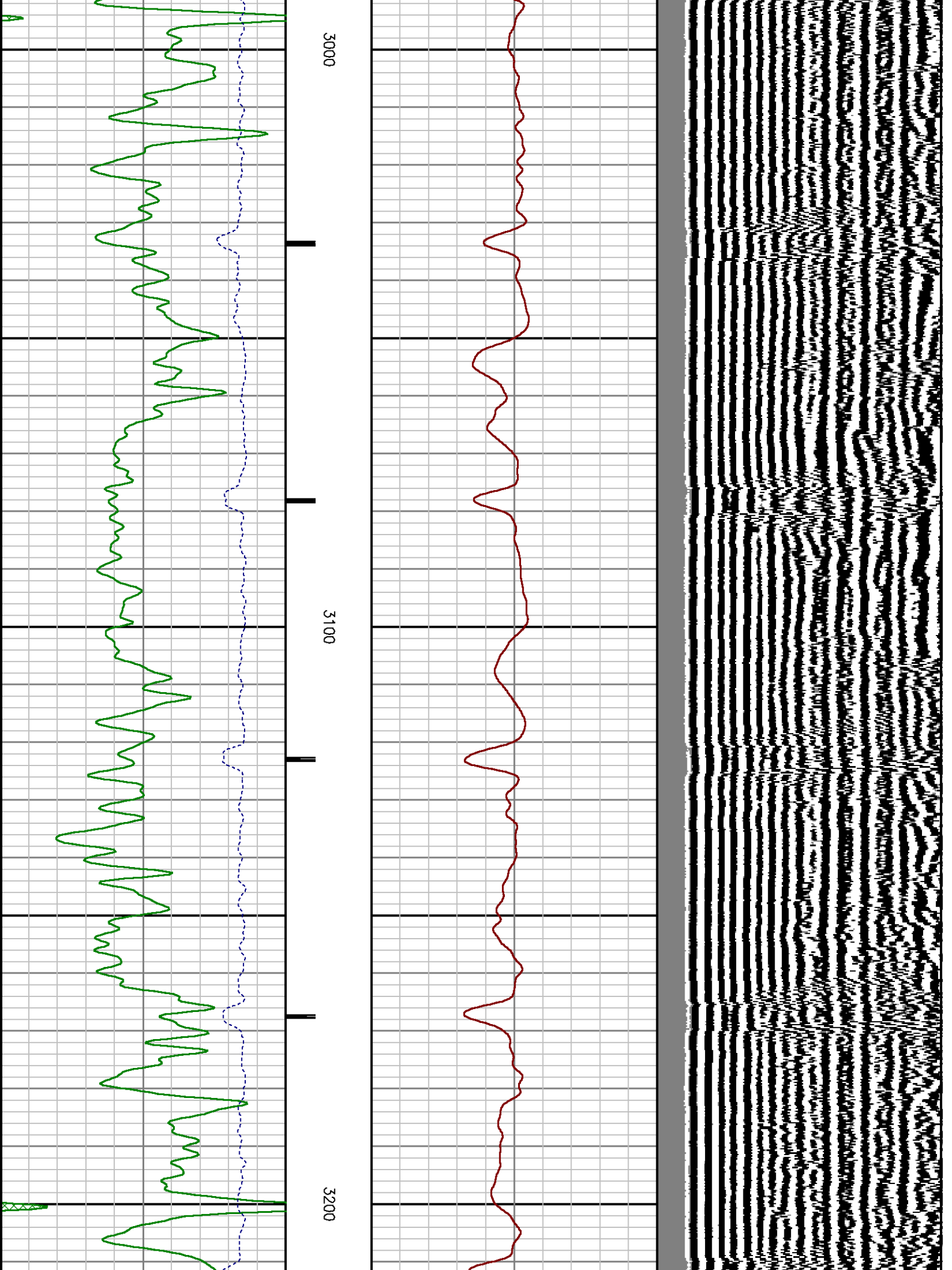


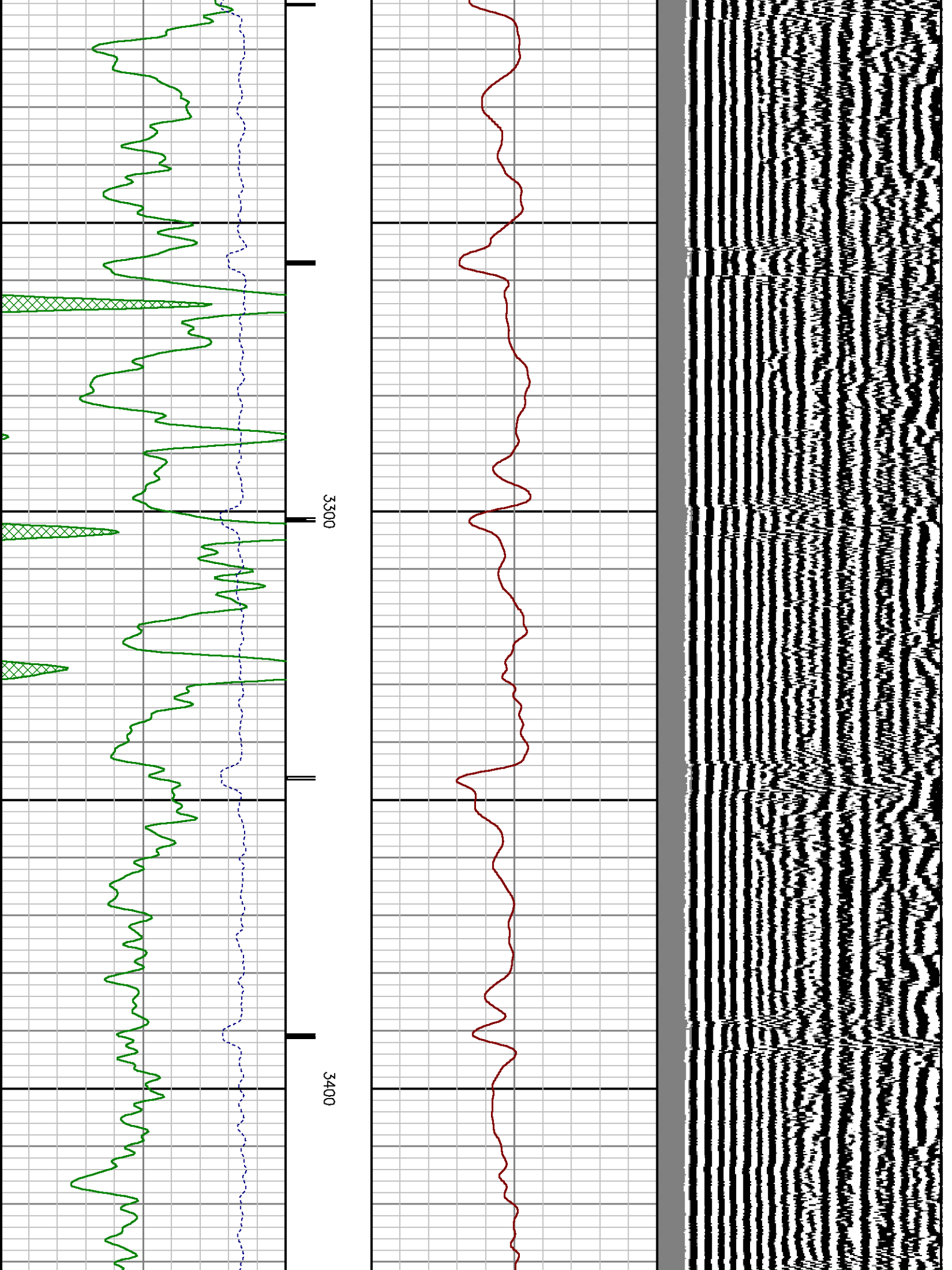


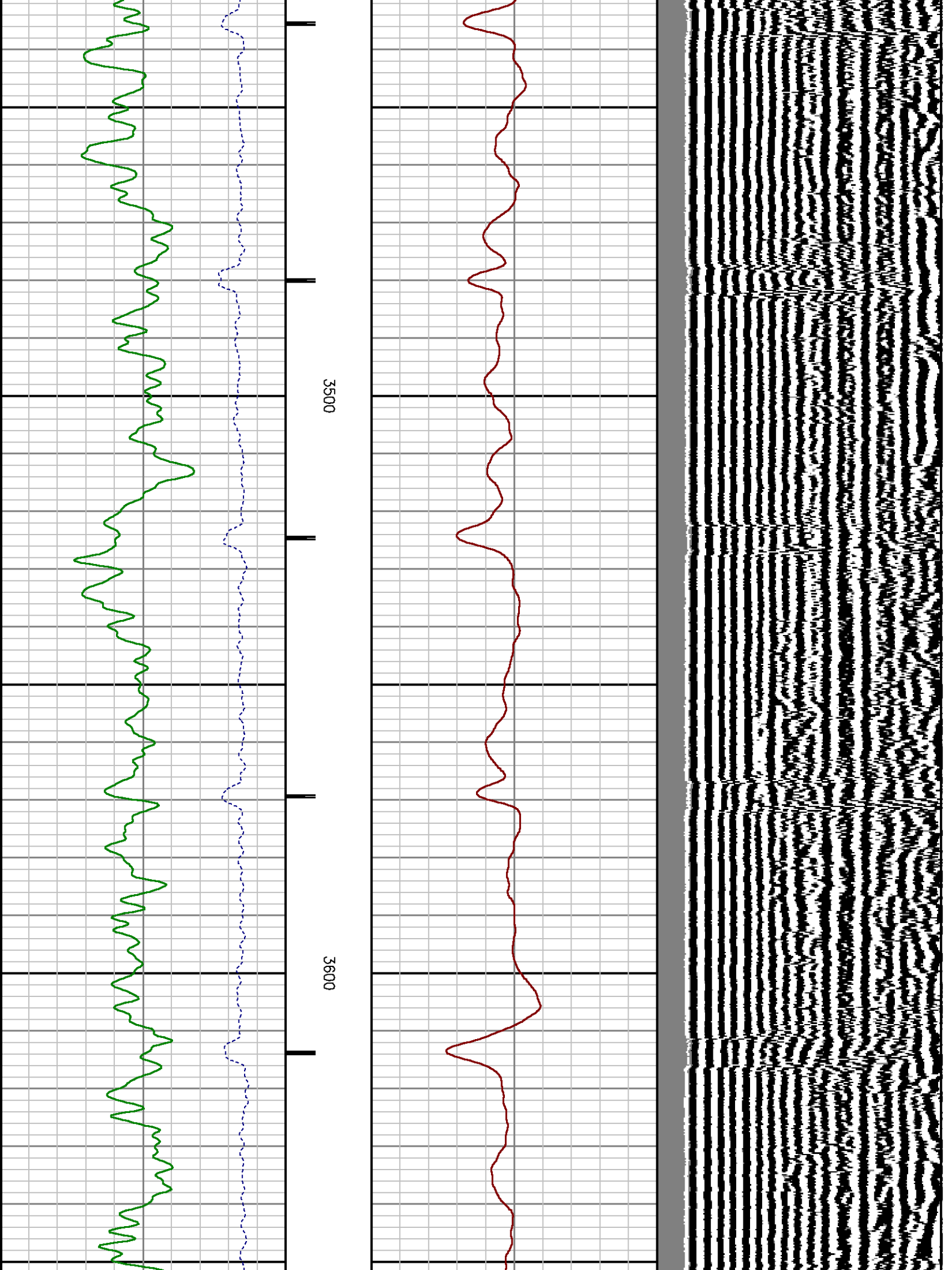


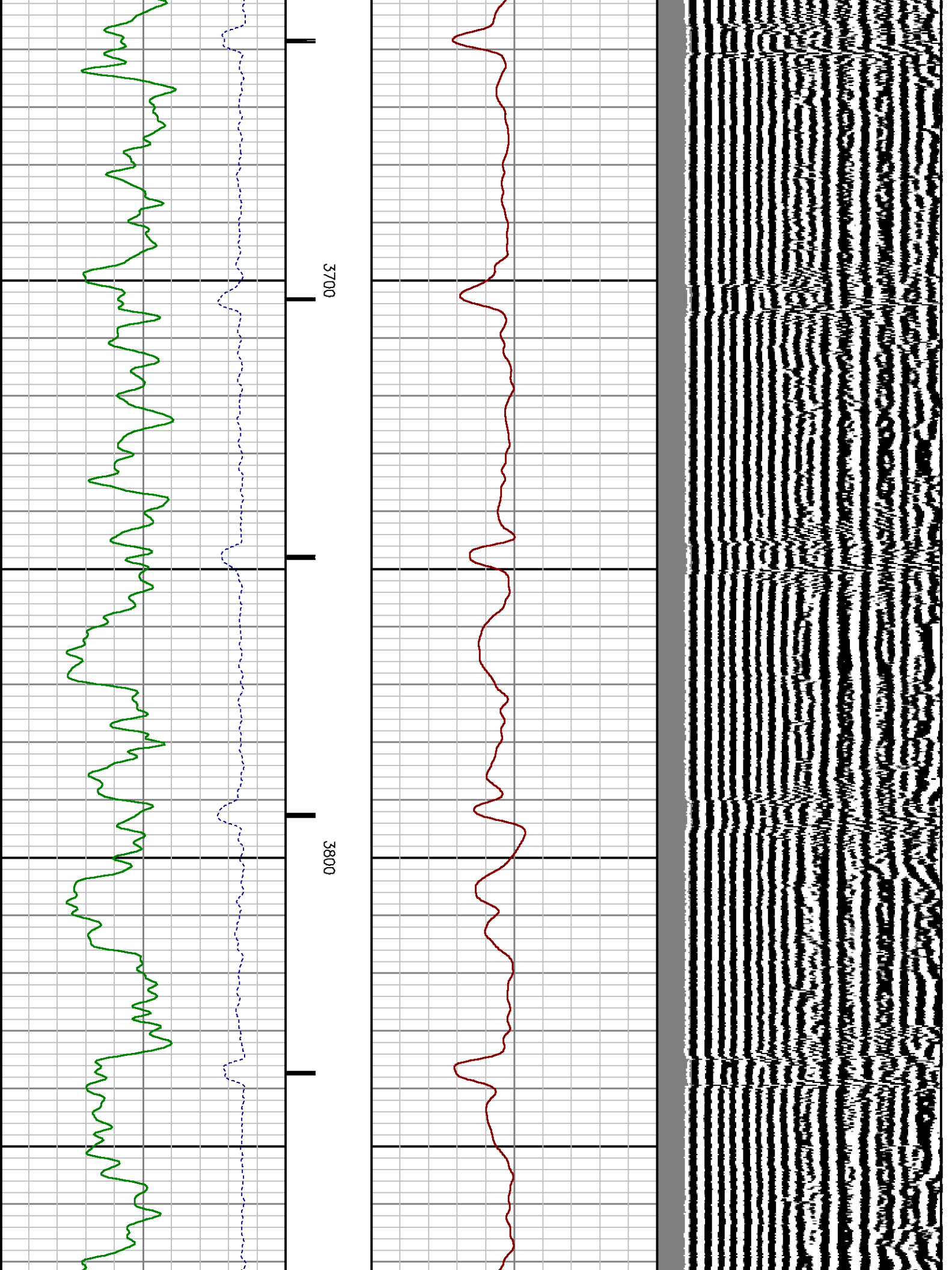


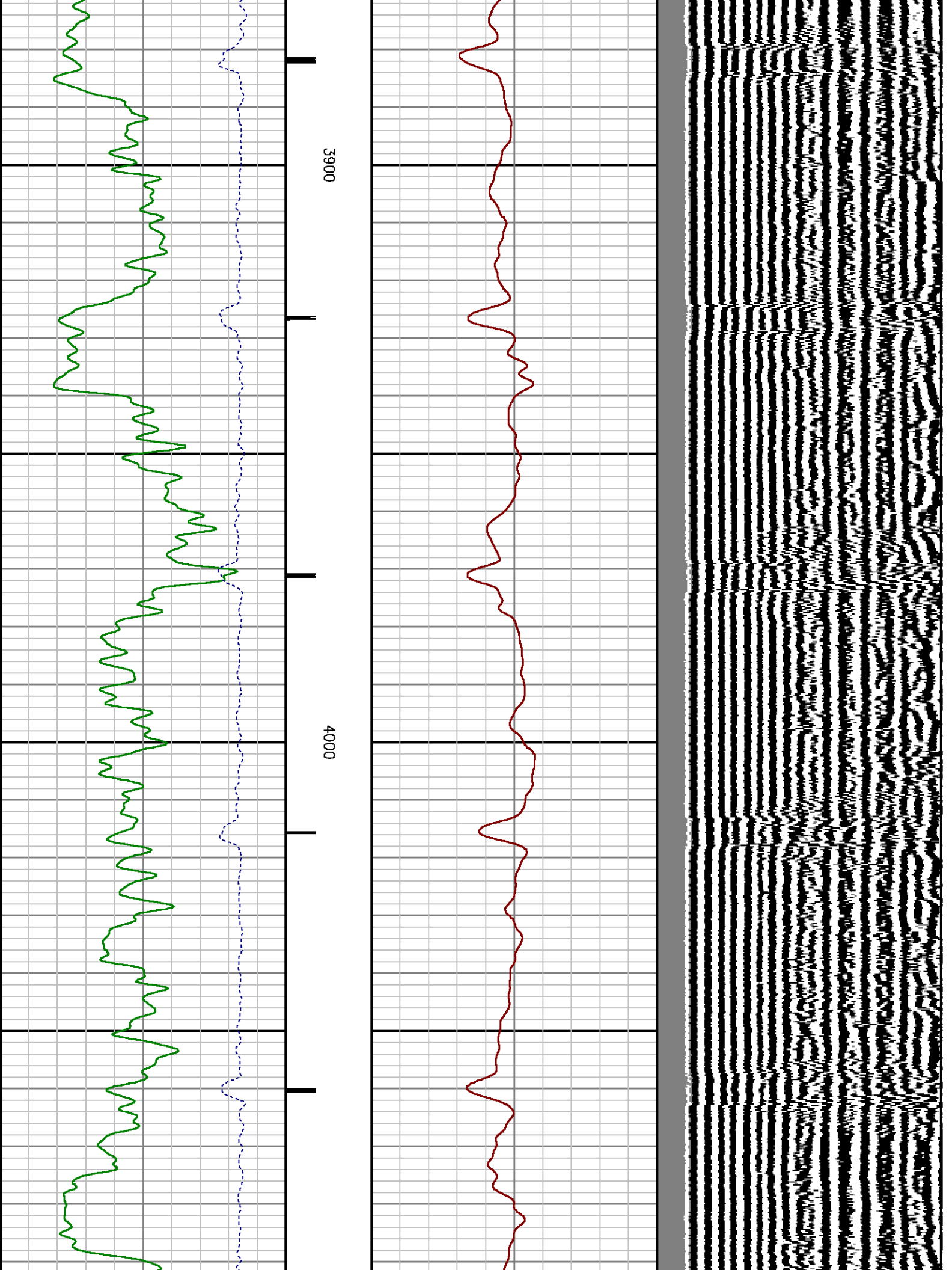


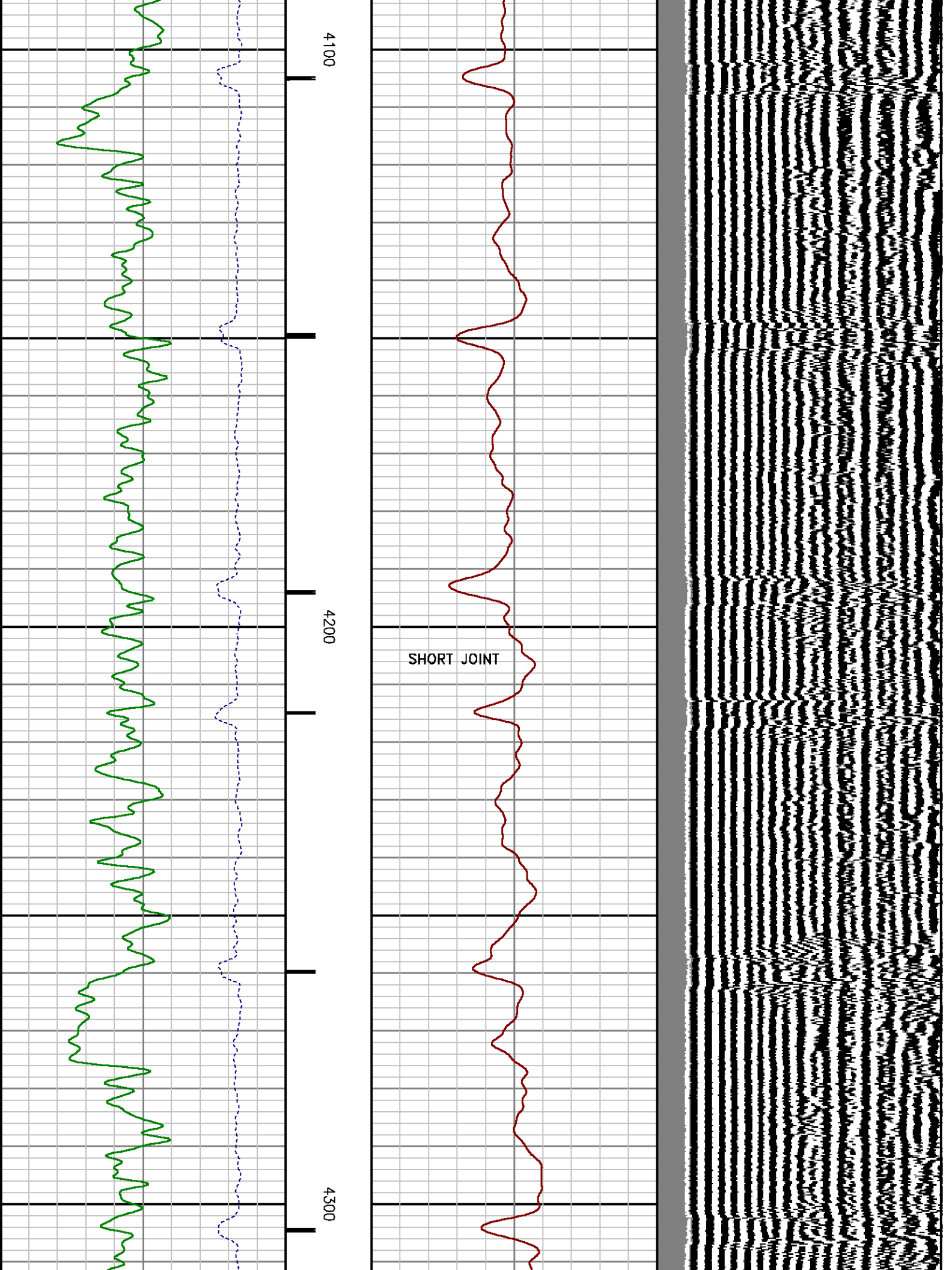


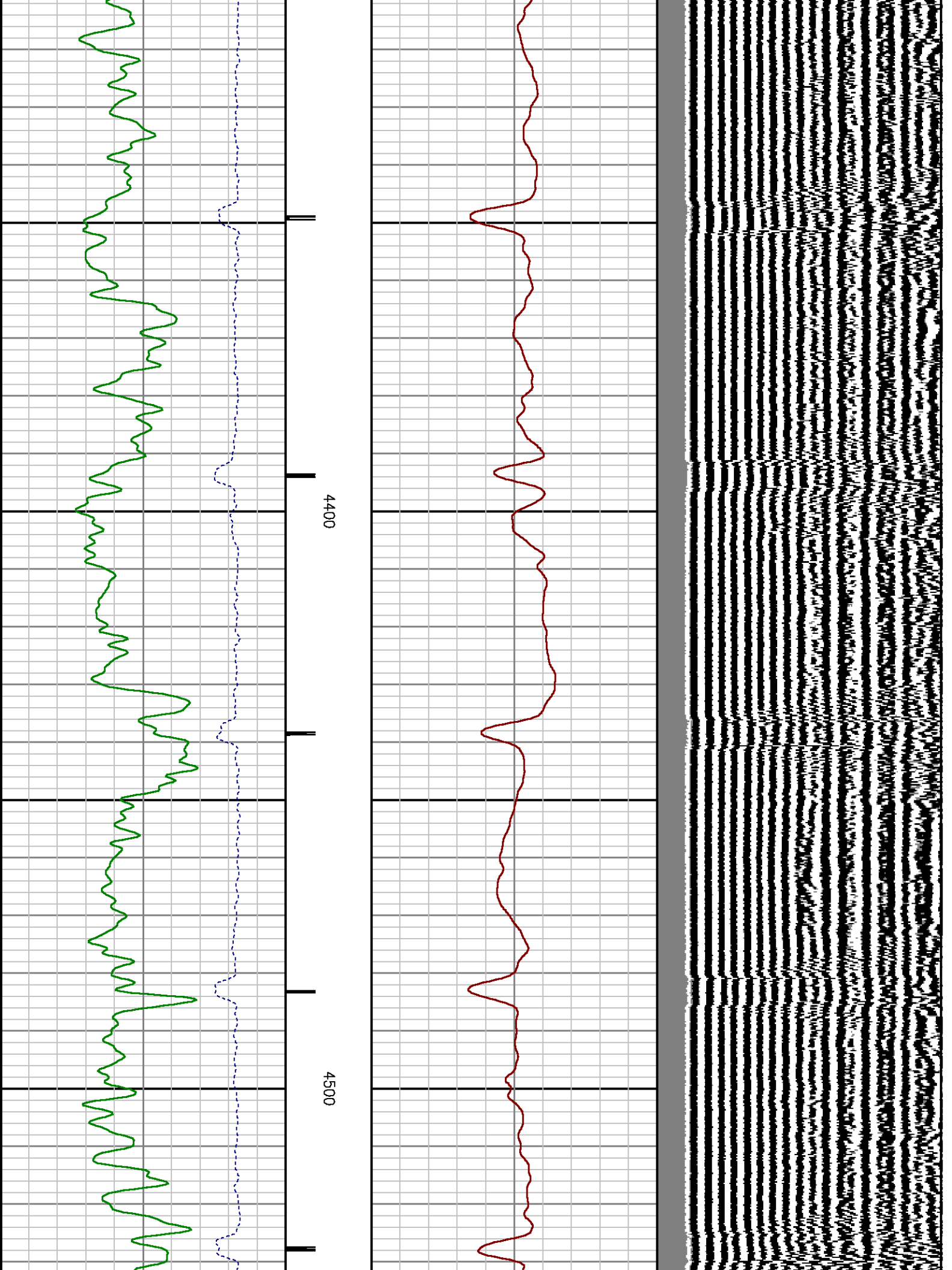


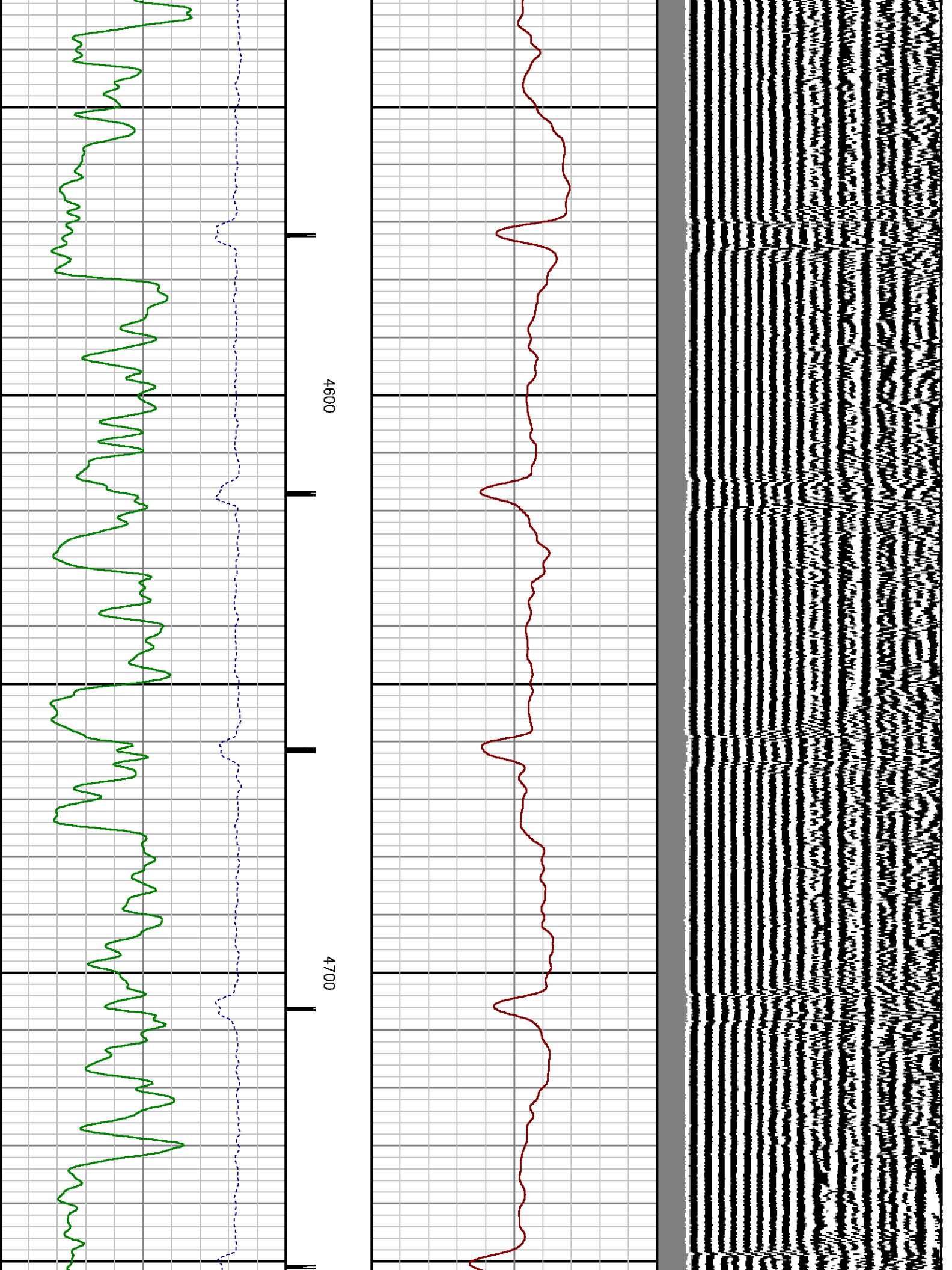


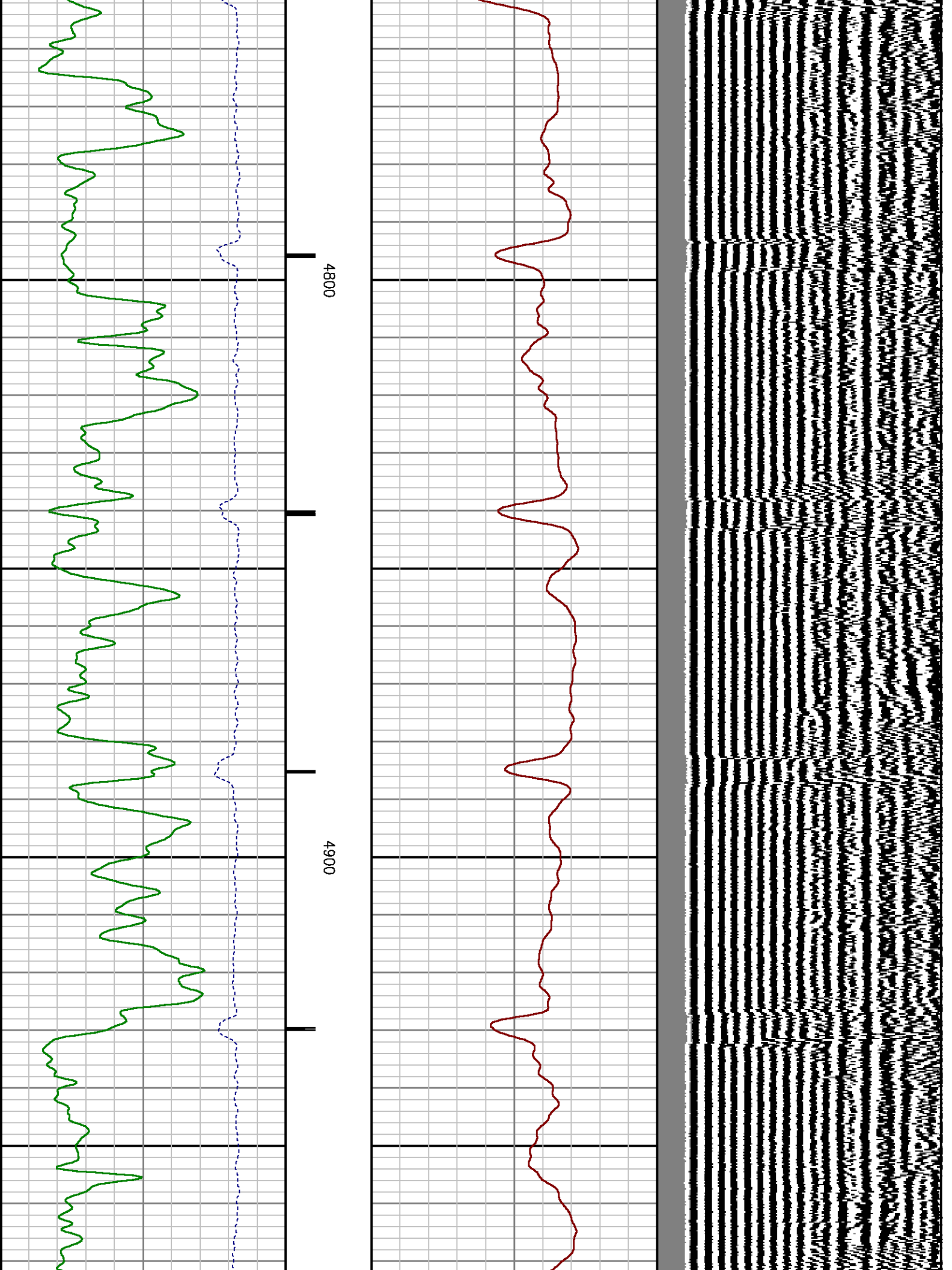


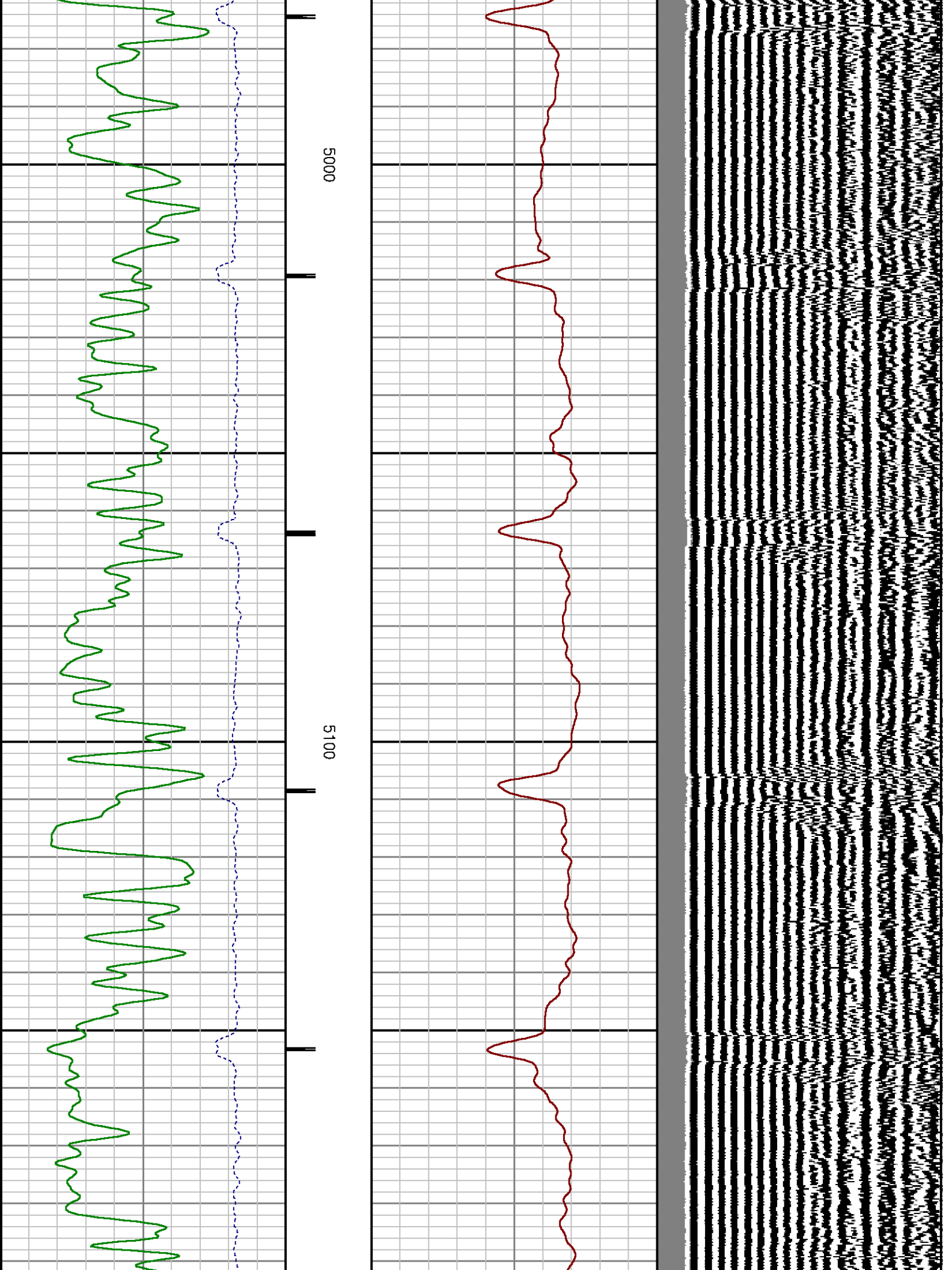


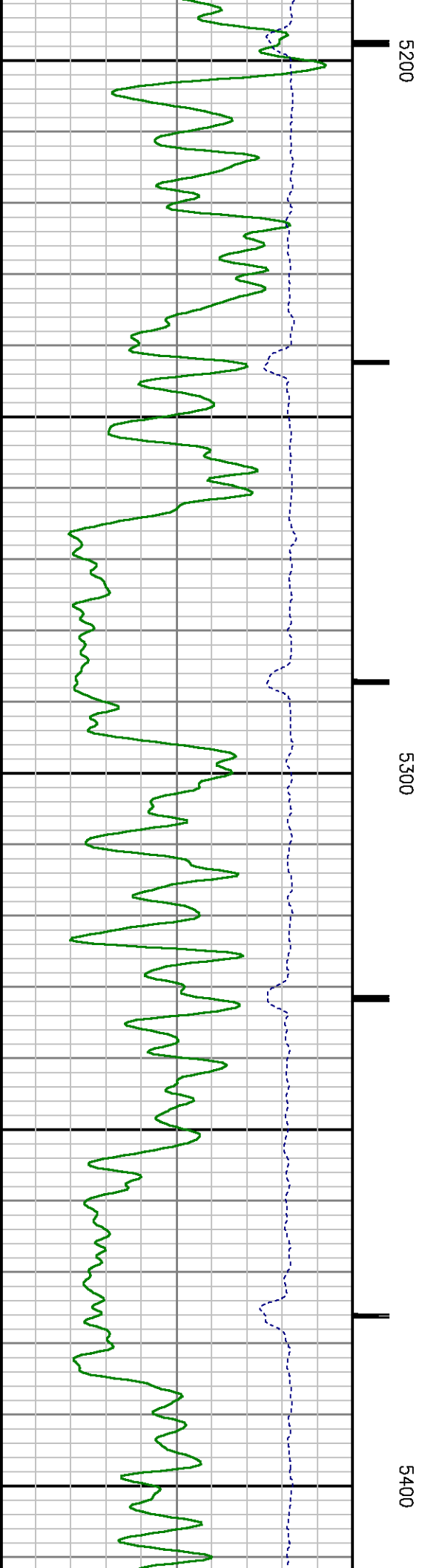
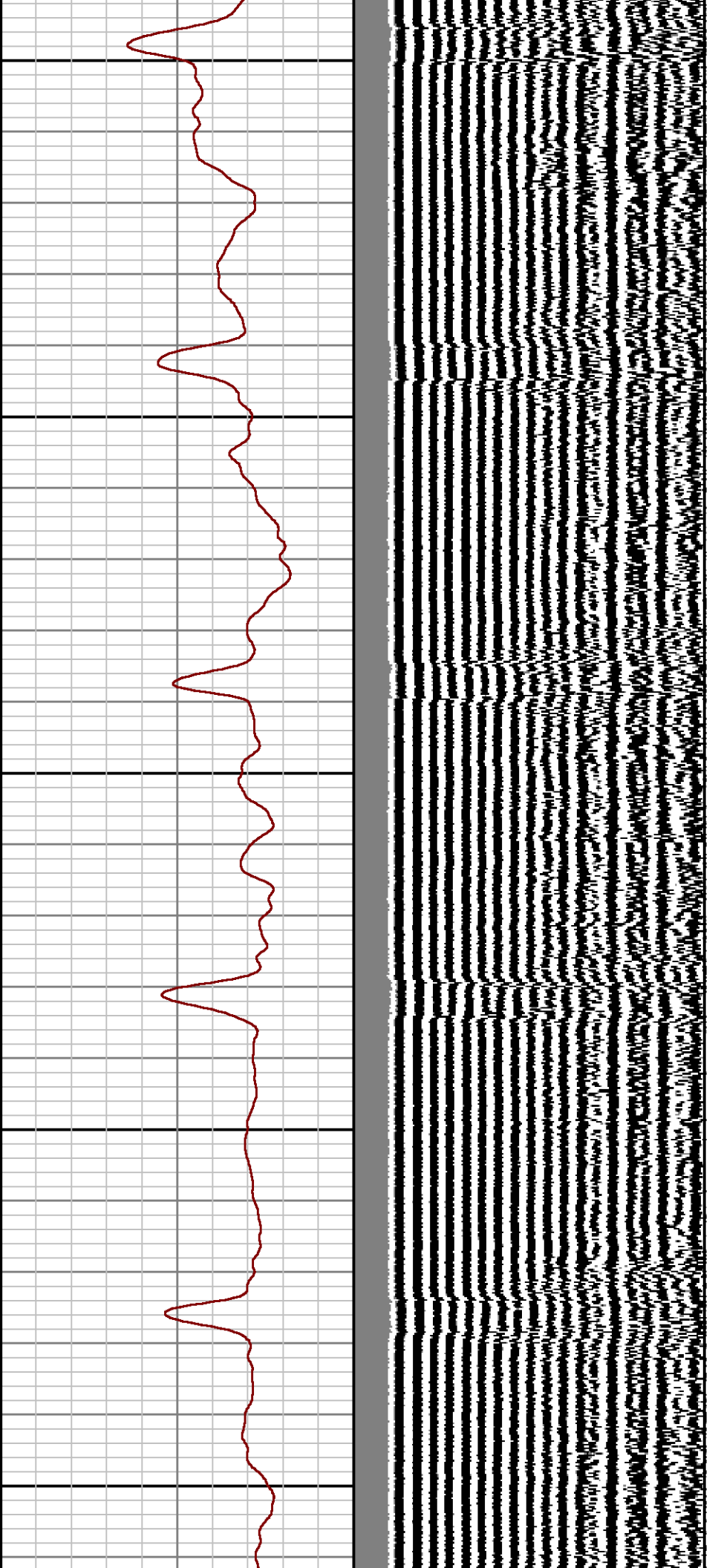


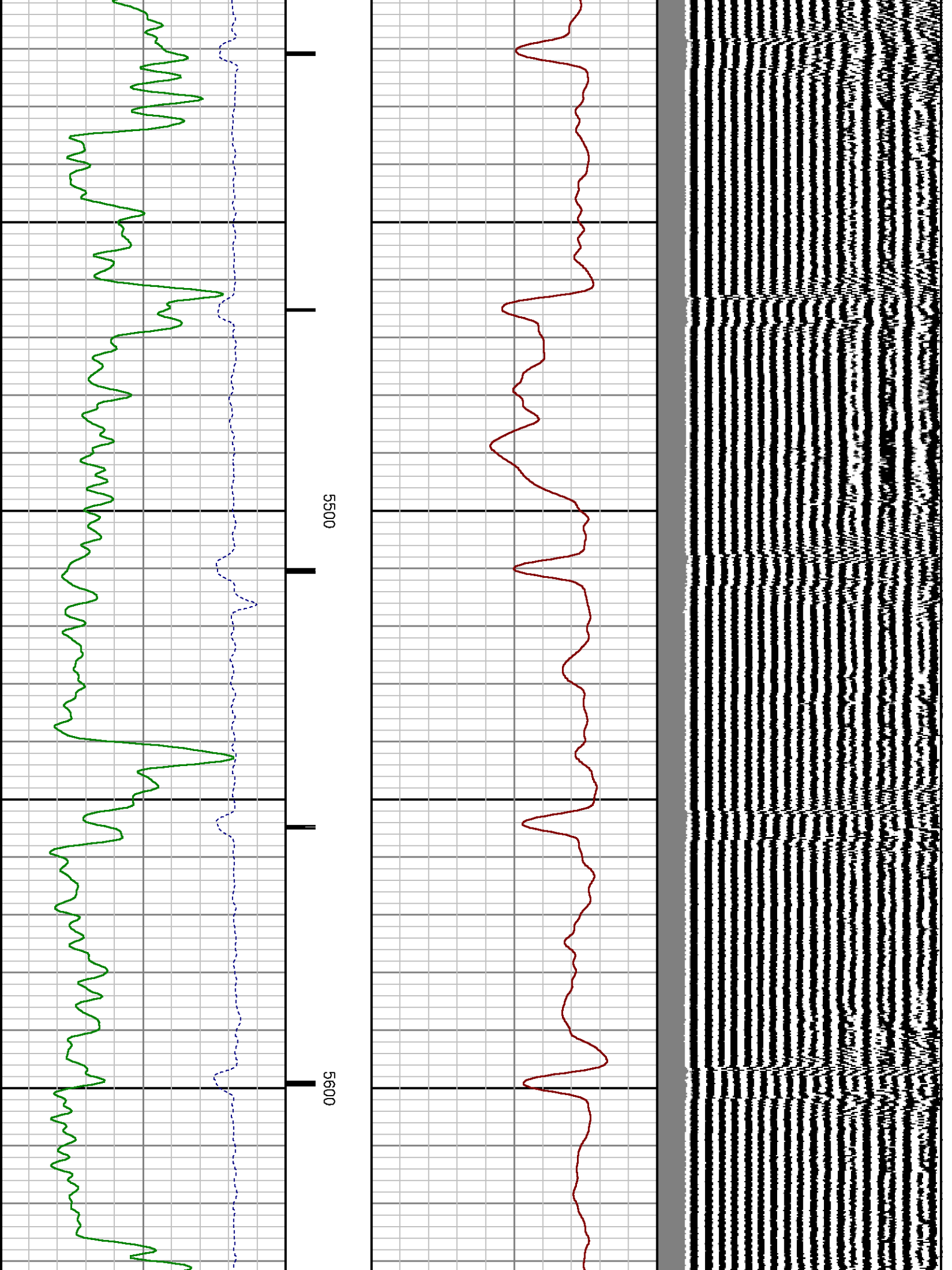


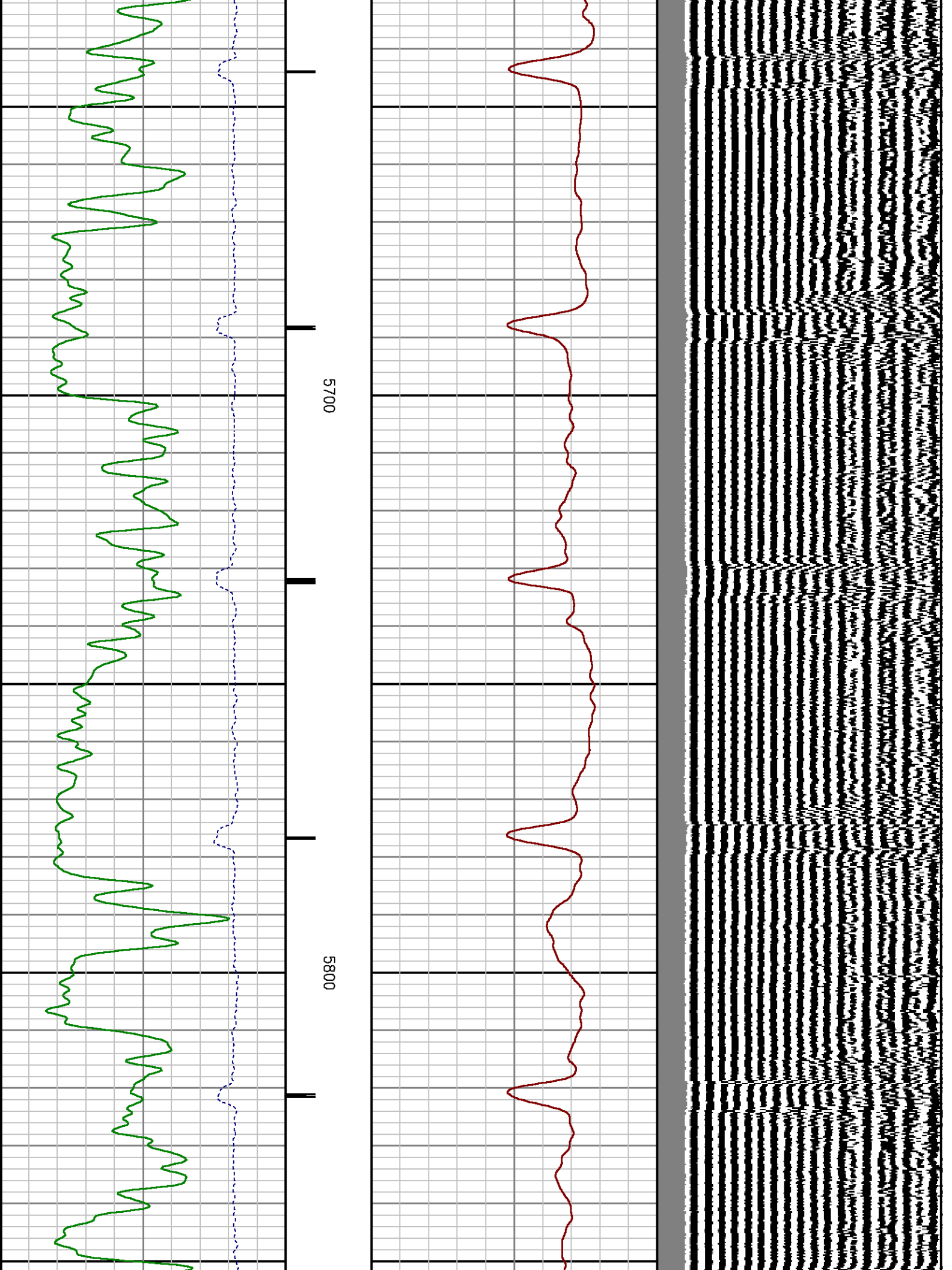


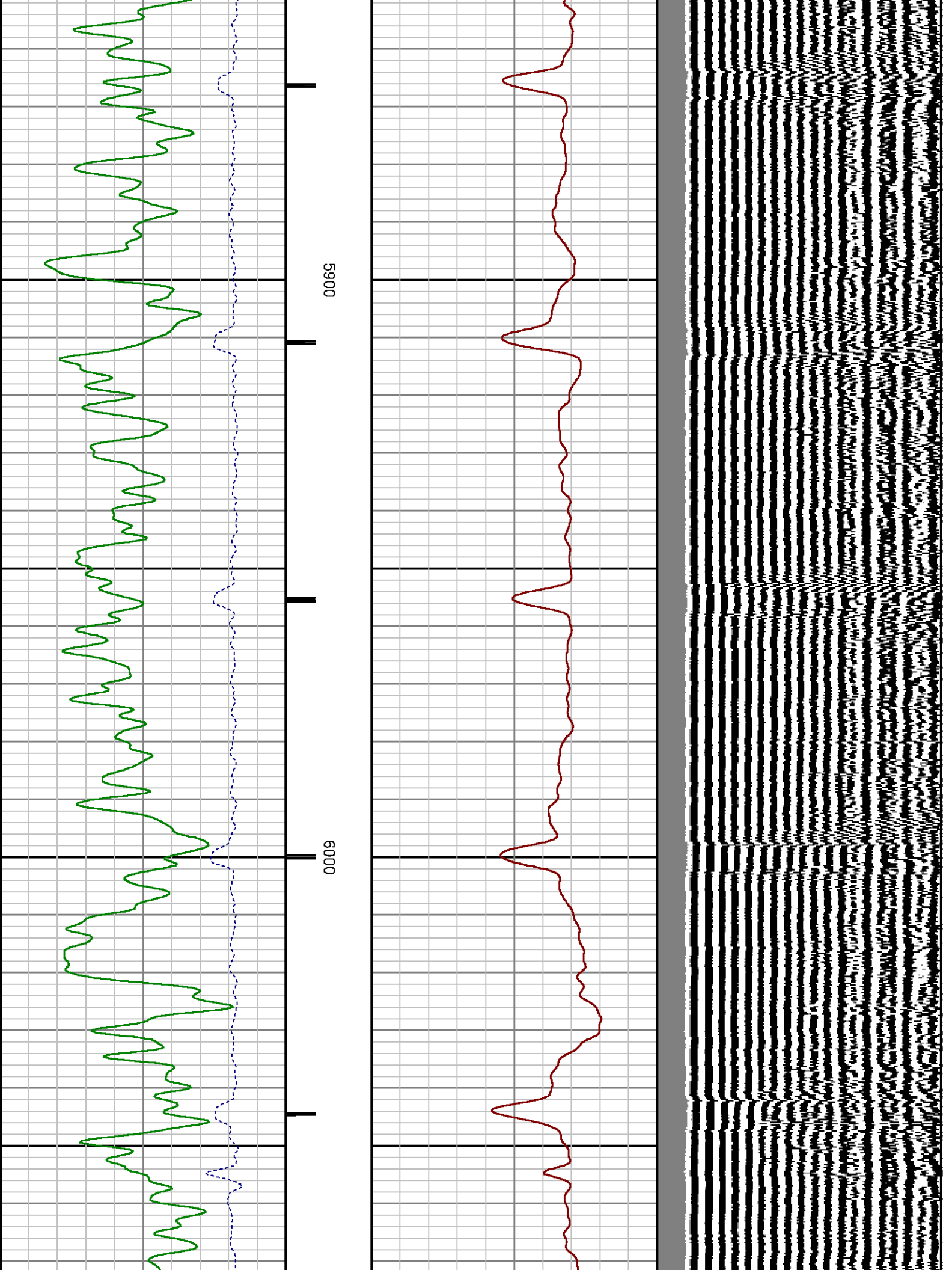


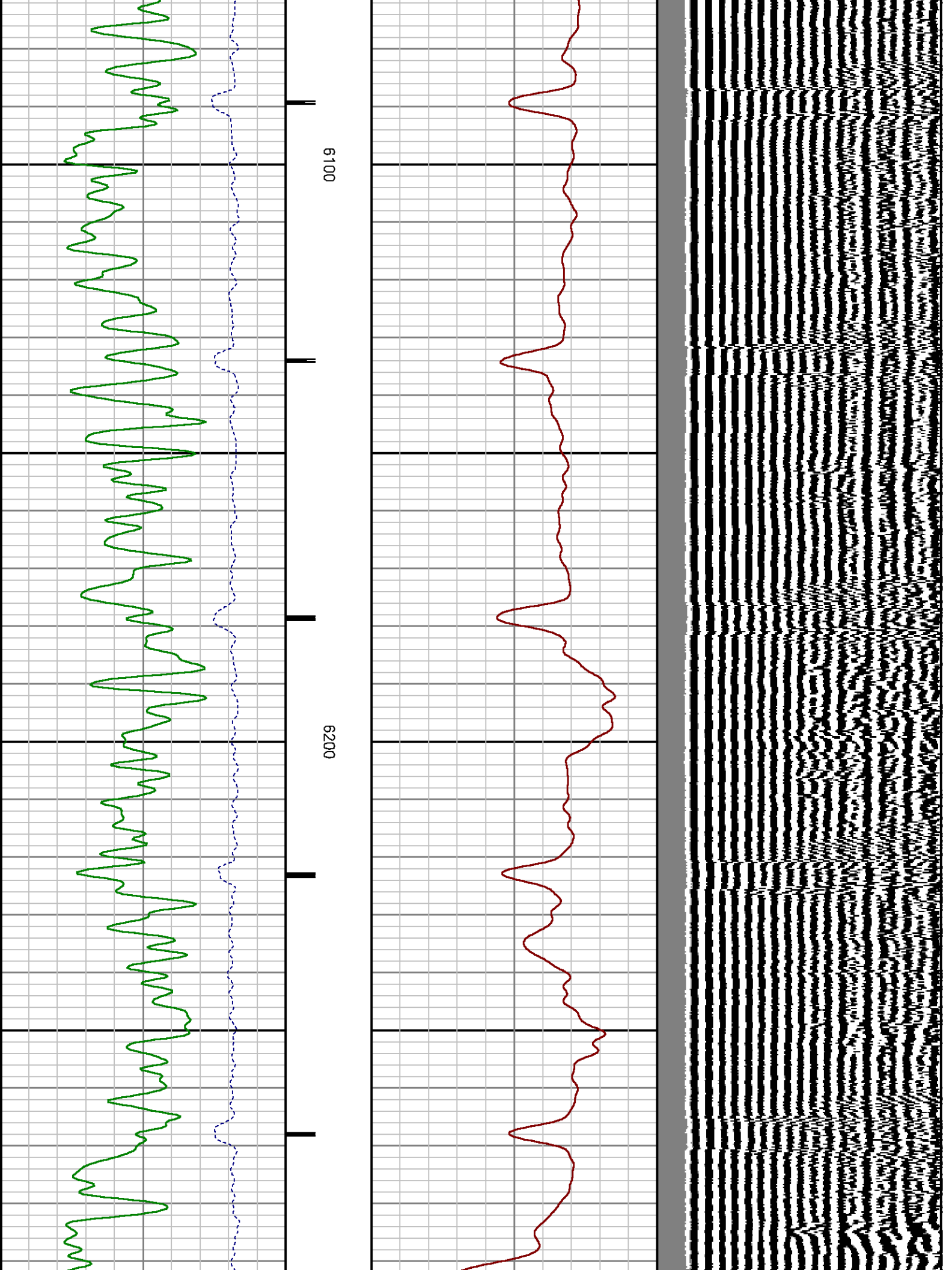


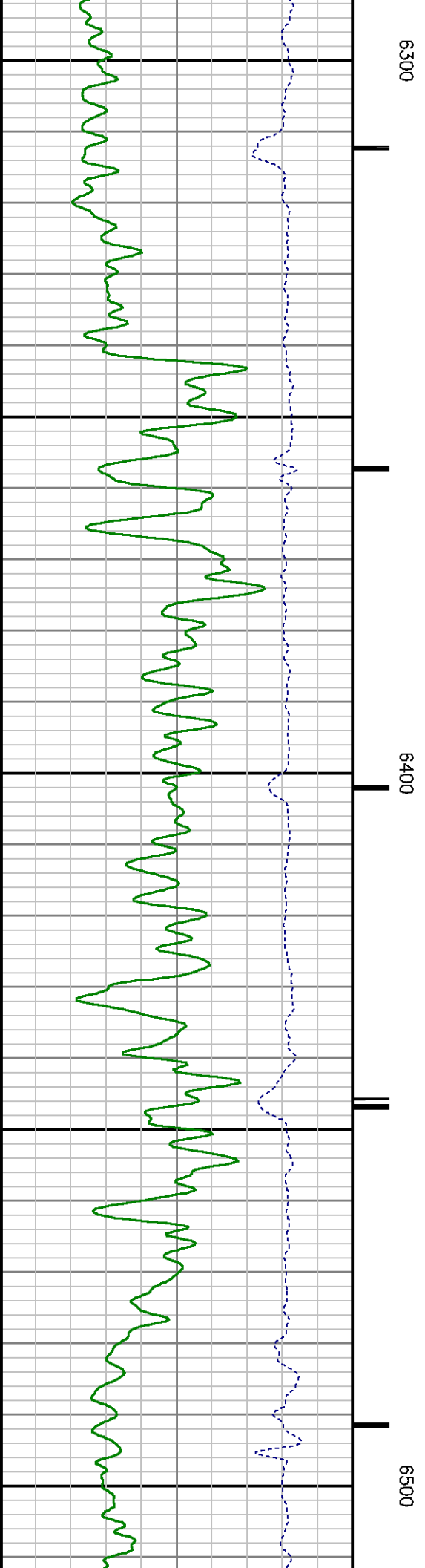
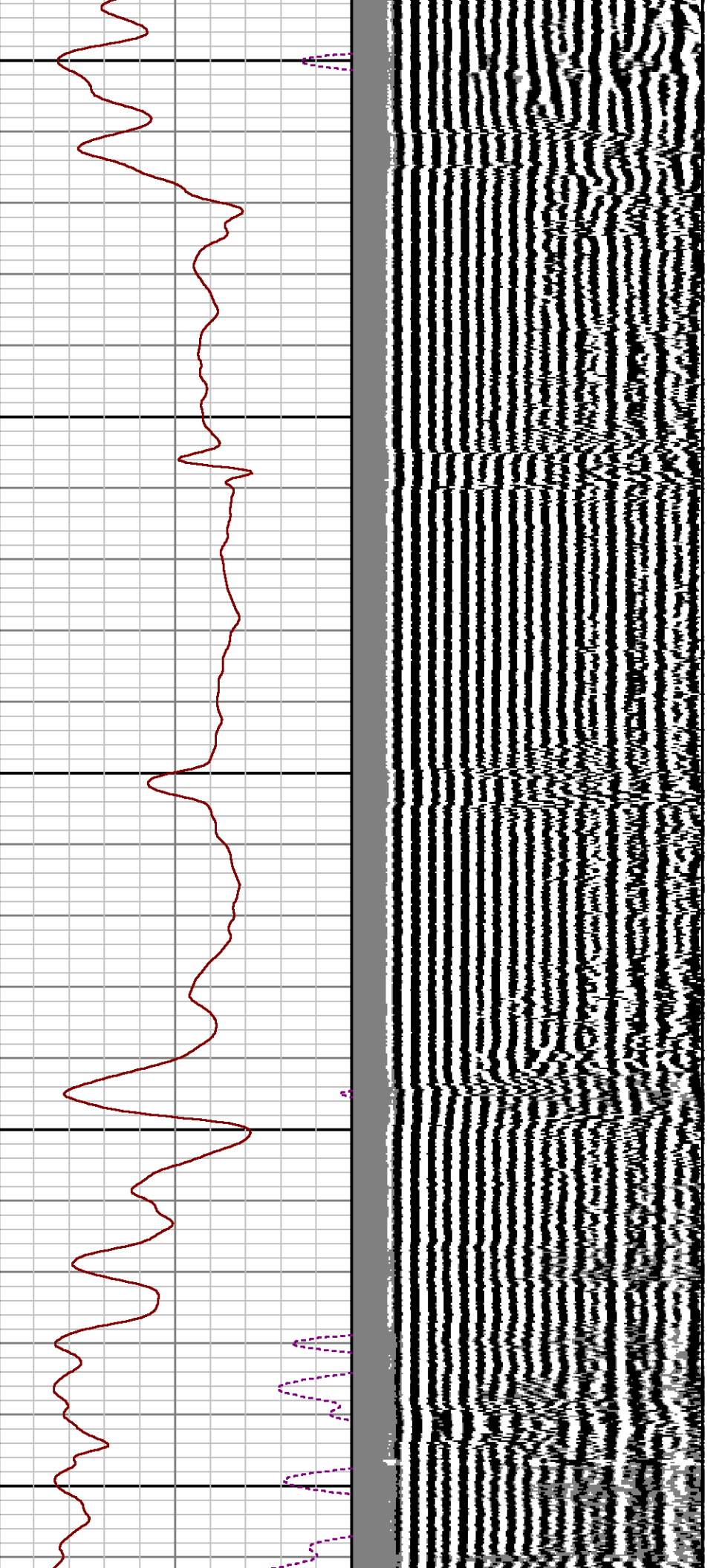


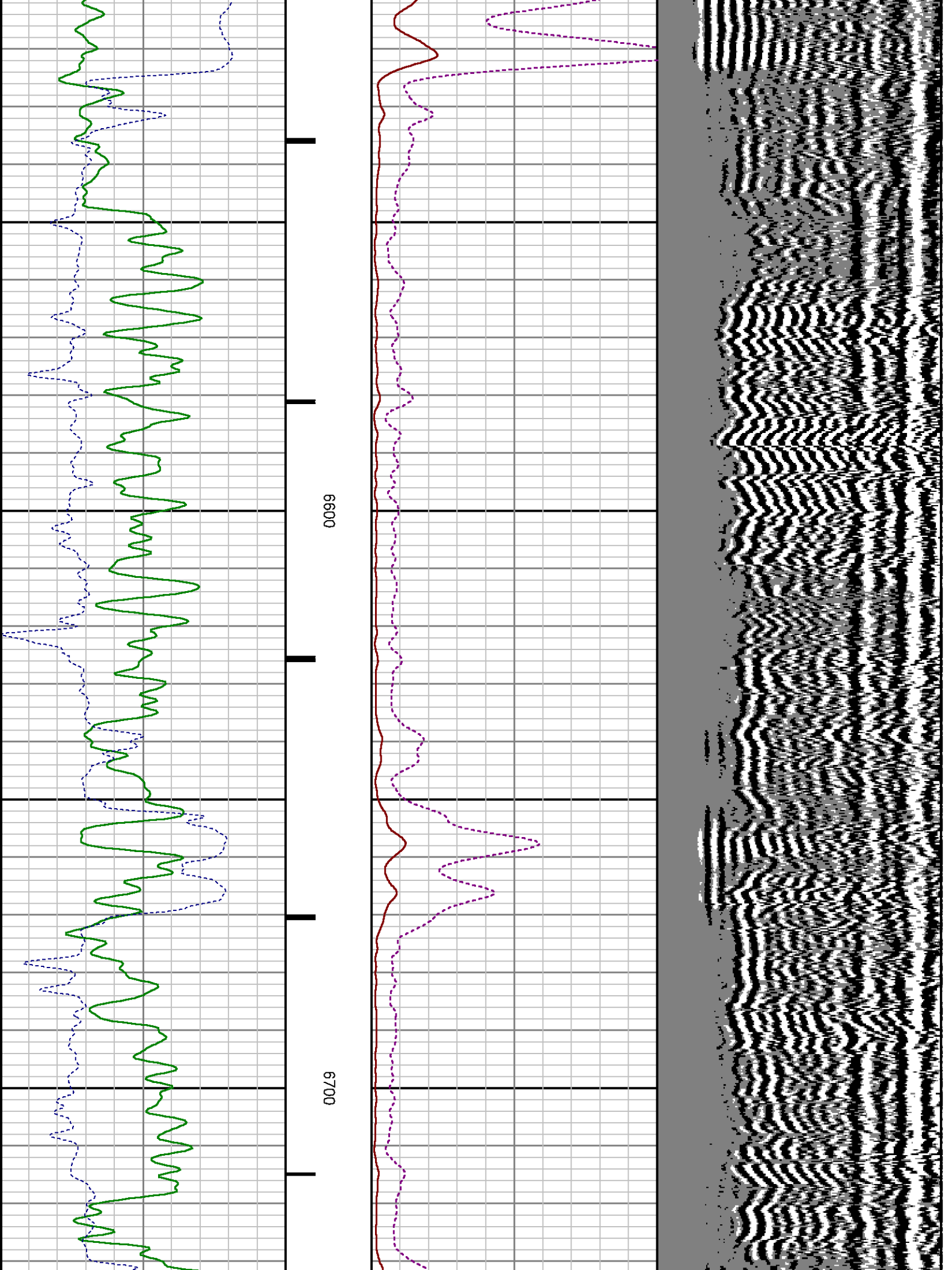


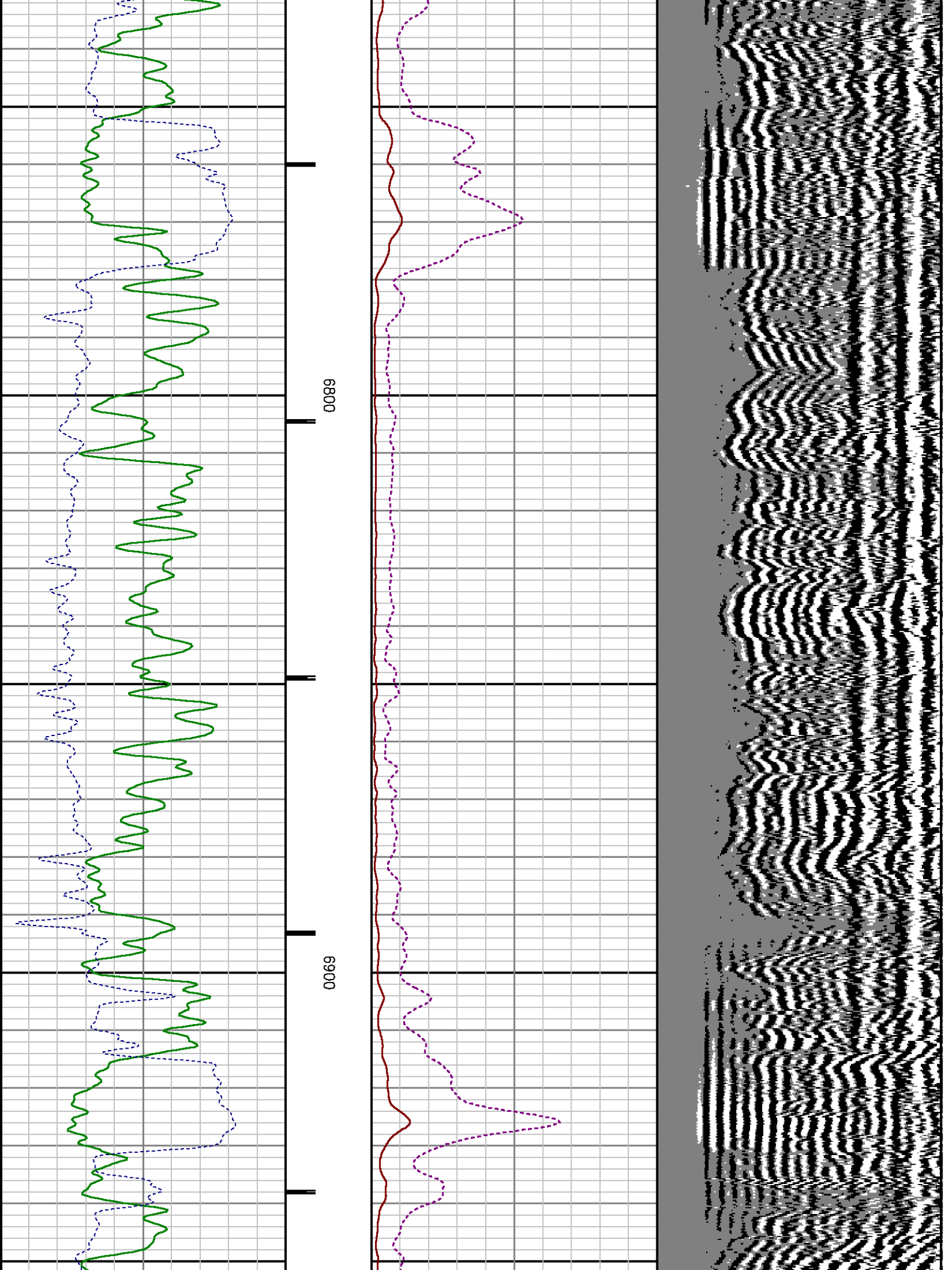


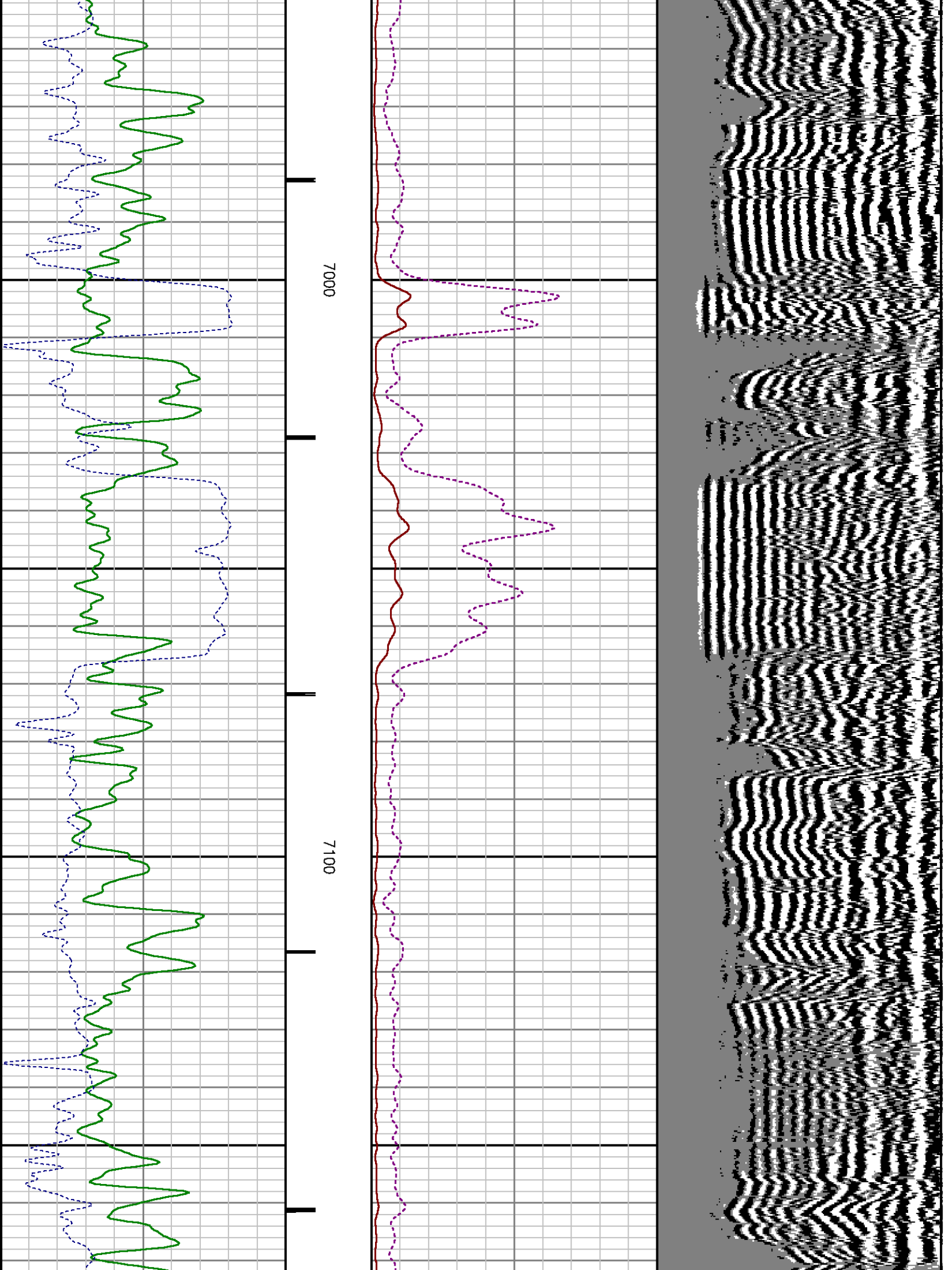


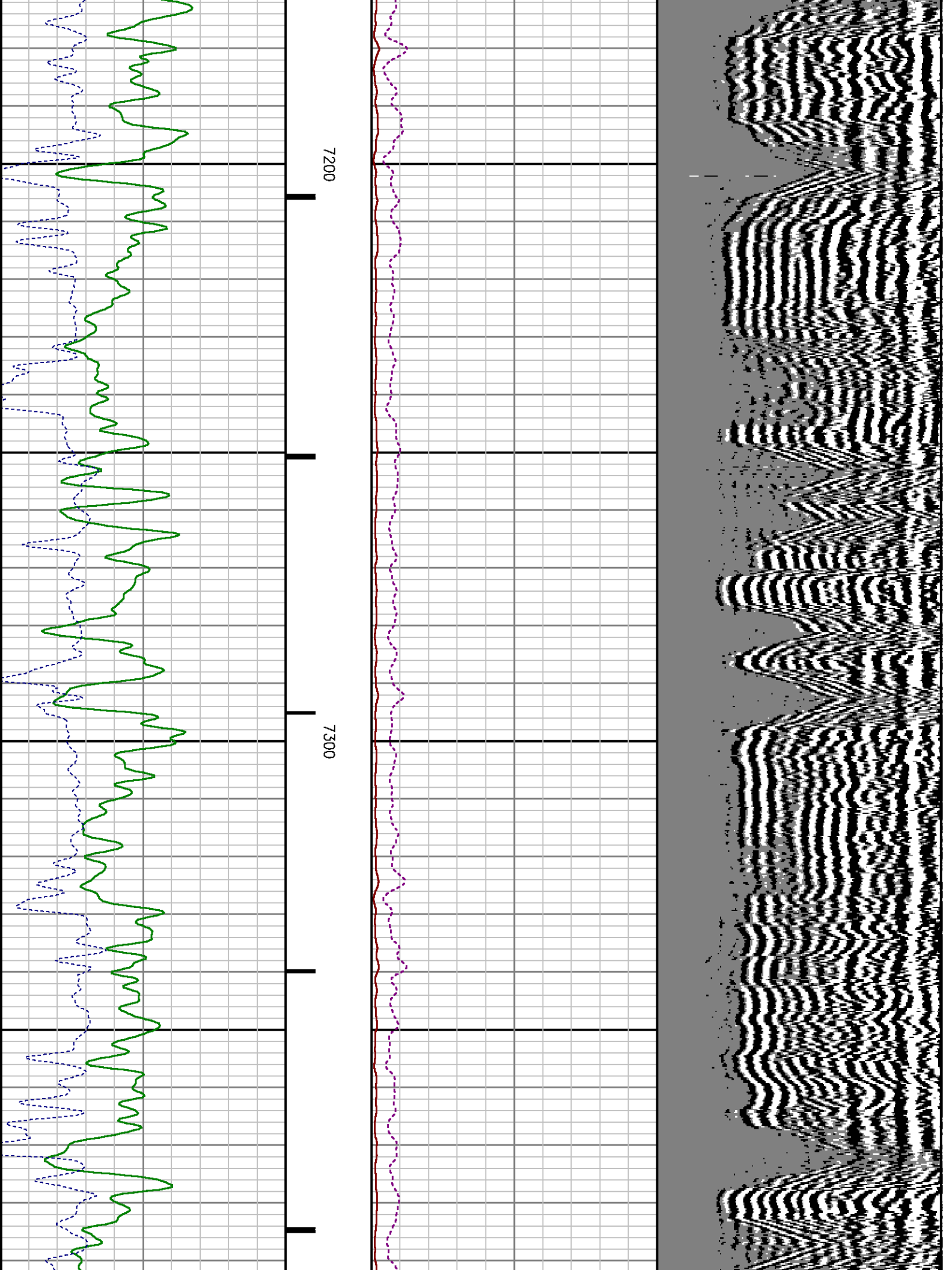


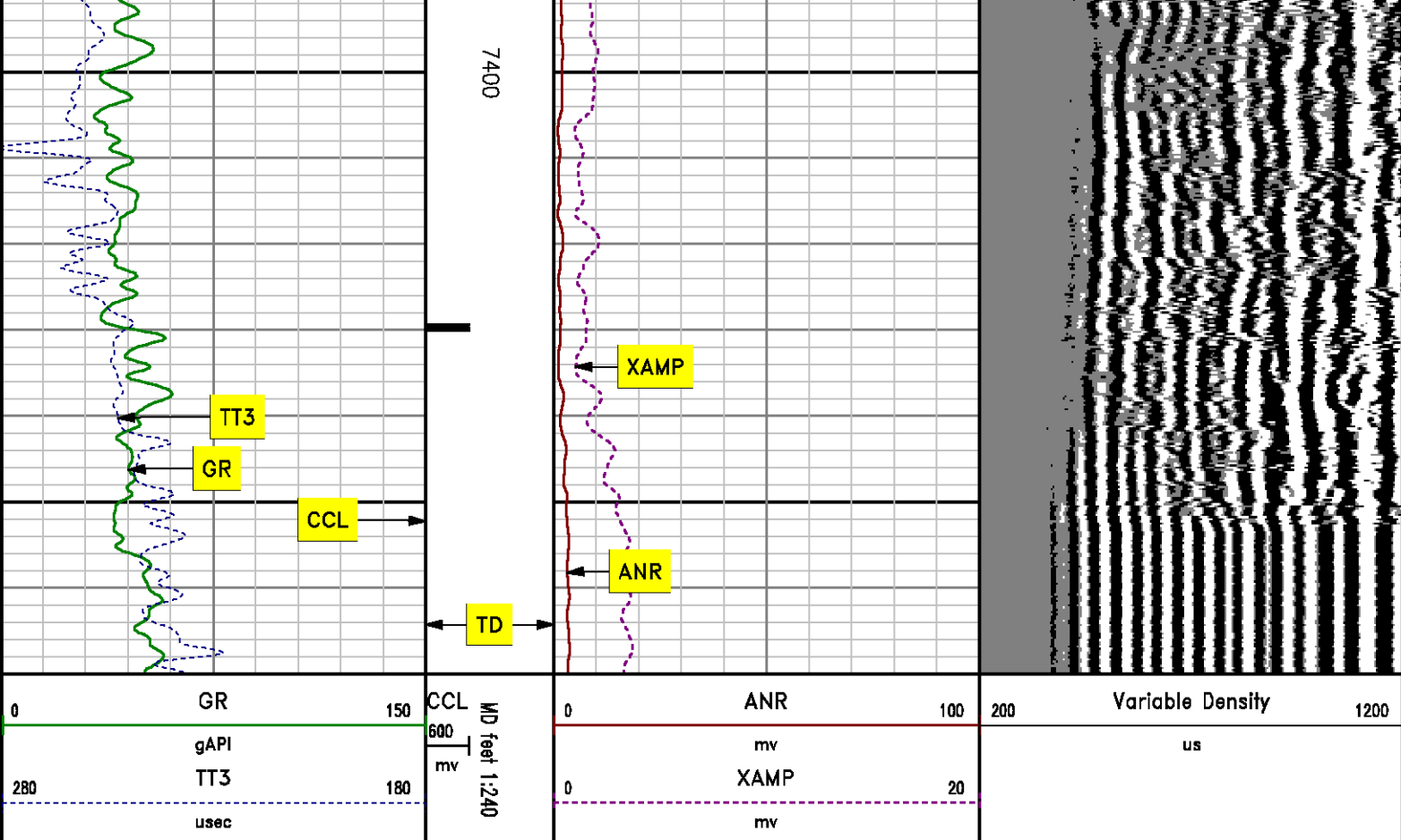












SECONDARY PRESENTATION

0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	316.900	u sec	22.910	7500.000
RAL	Amp Gate Start Near	200.391	u sec	22.910	7500.000
RAL	Amp Gate Start Radial	200.391	u sec	22.910	7500.000
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RAL	Fluid Travel Time	200.000	usec/ft	22.910	7500.000

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-16.750	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	-15.750	AFAR	SIG	TT5			
2459XA	-11.340	CCL					
2459XA	-9.490	GR					
2459XA	-4.090	NEU					

Created by : RAL, v4.8.008

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Company : WILLIAMS PRODUCTION COMPANY

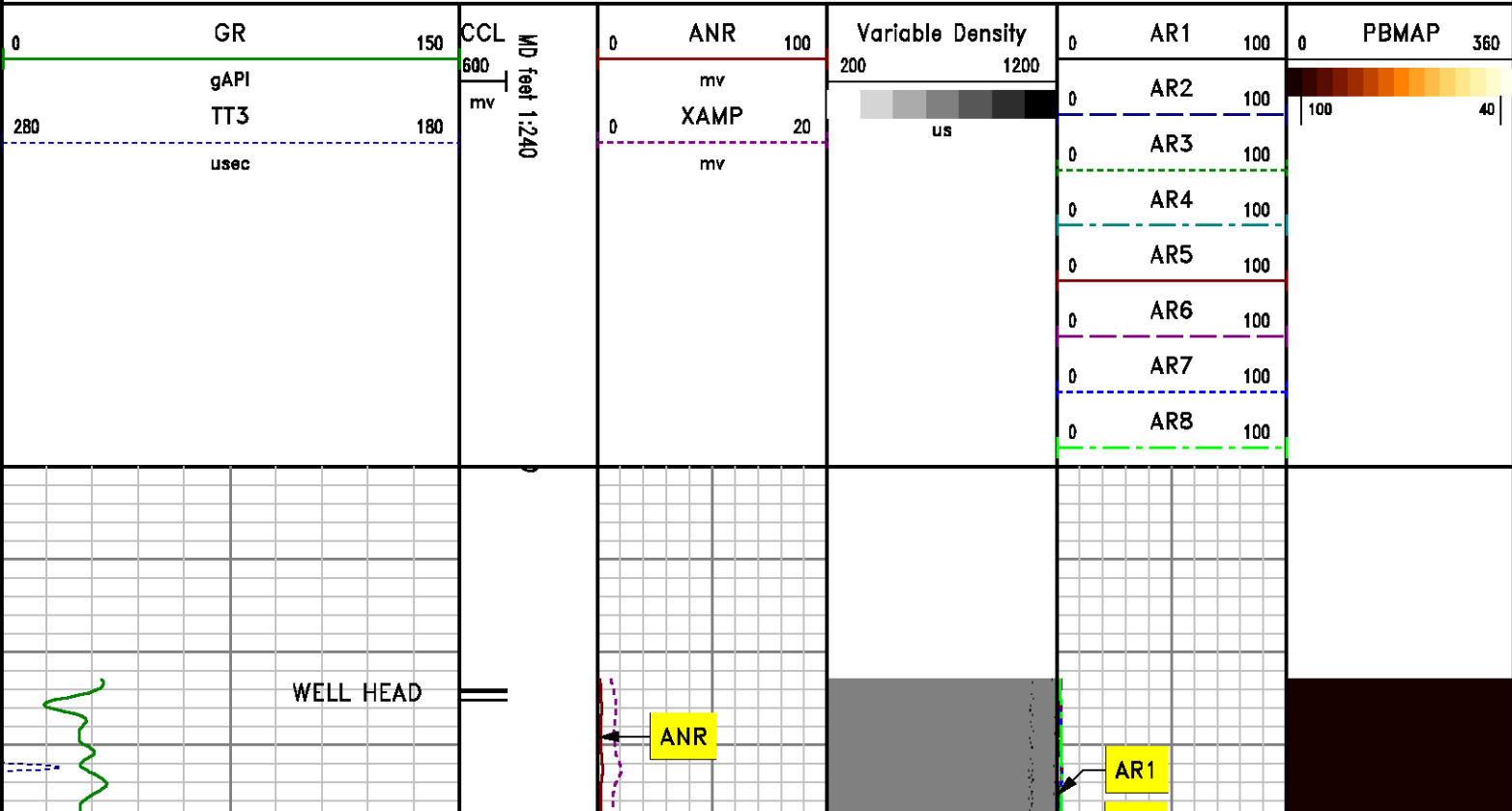
Well : GM 414-32

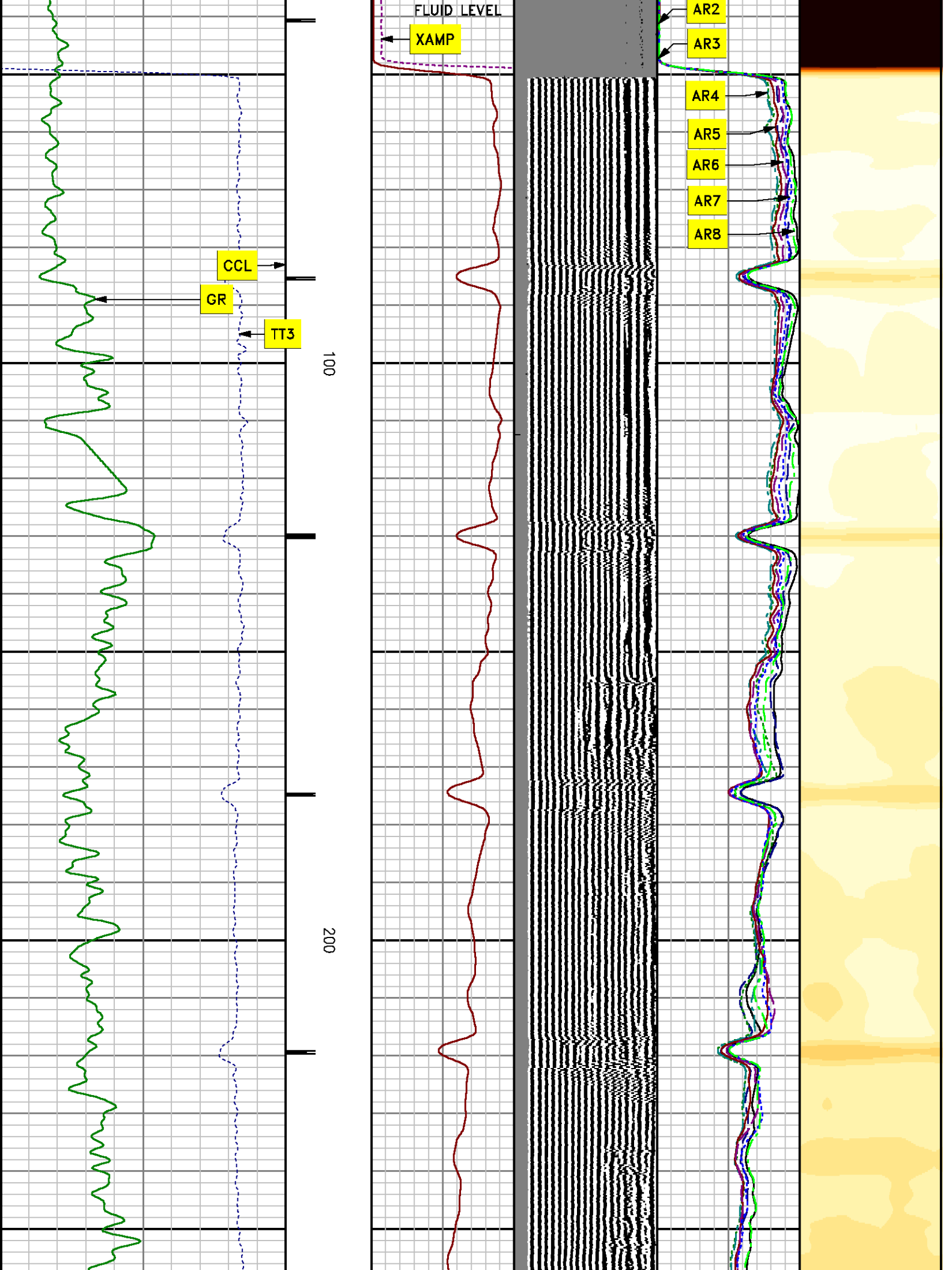
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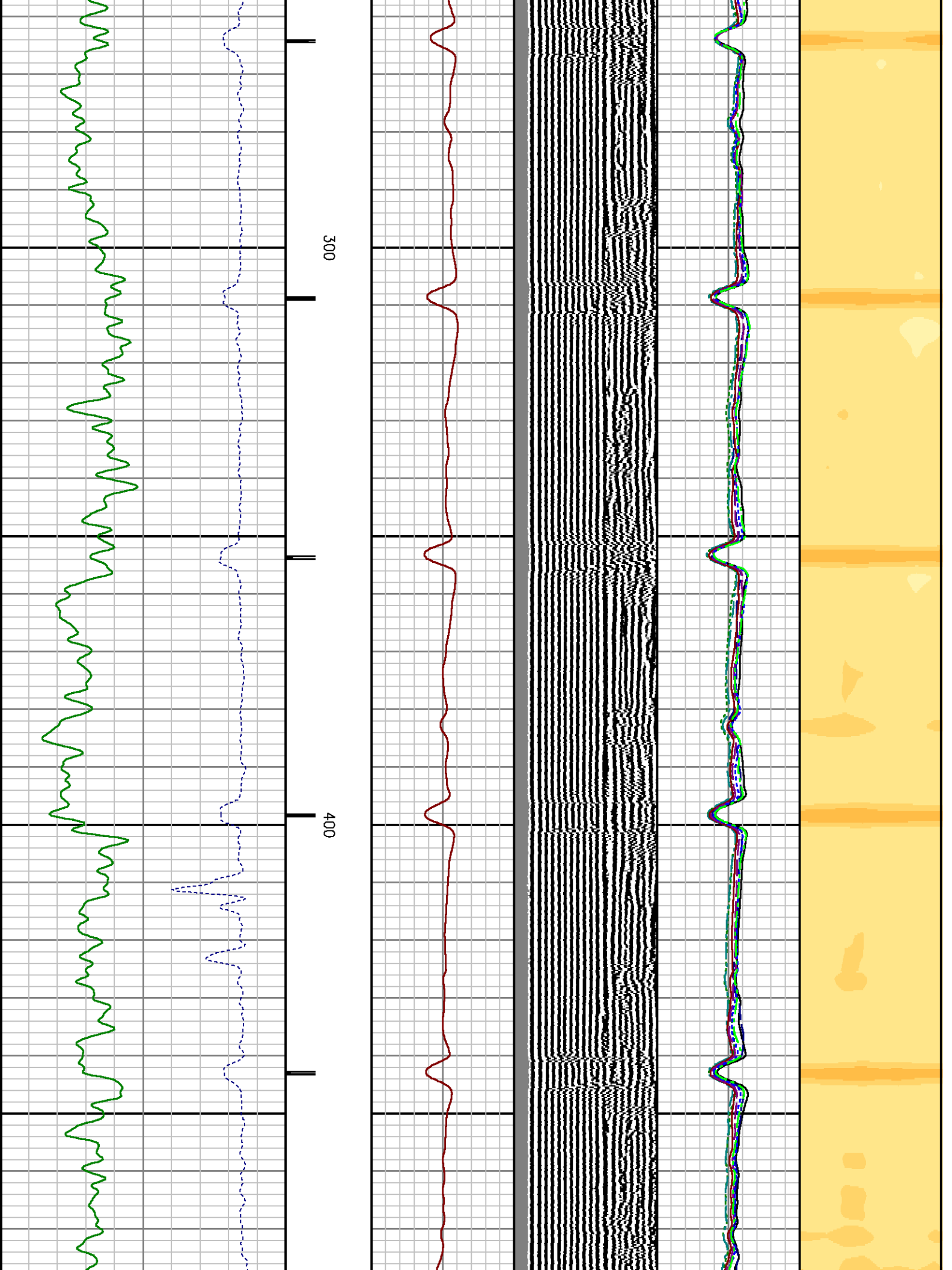
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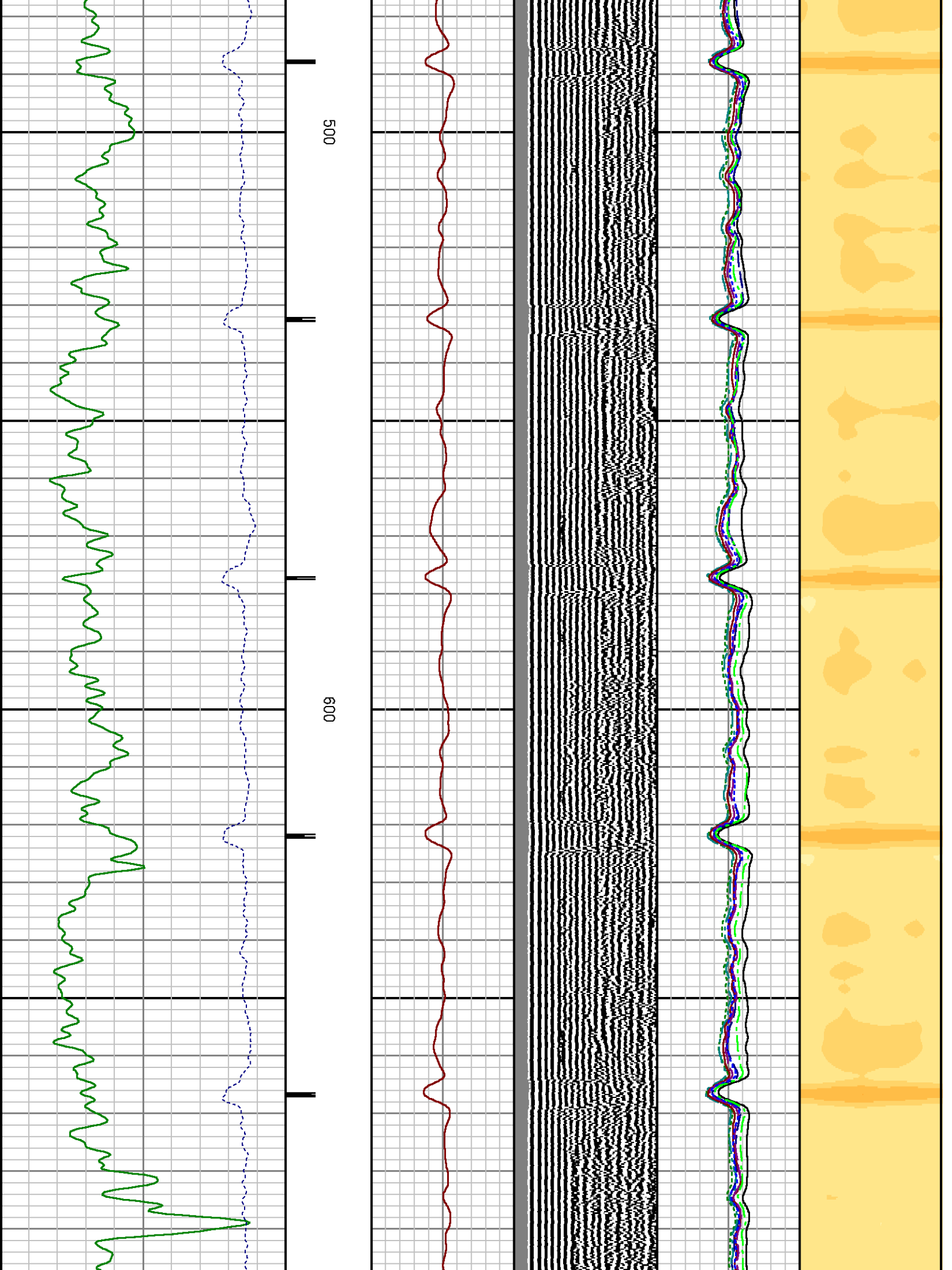
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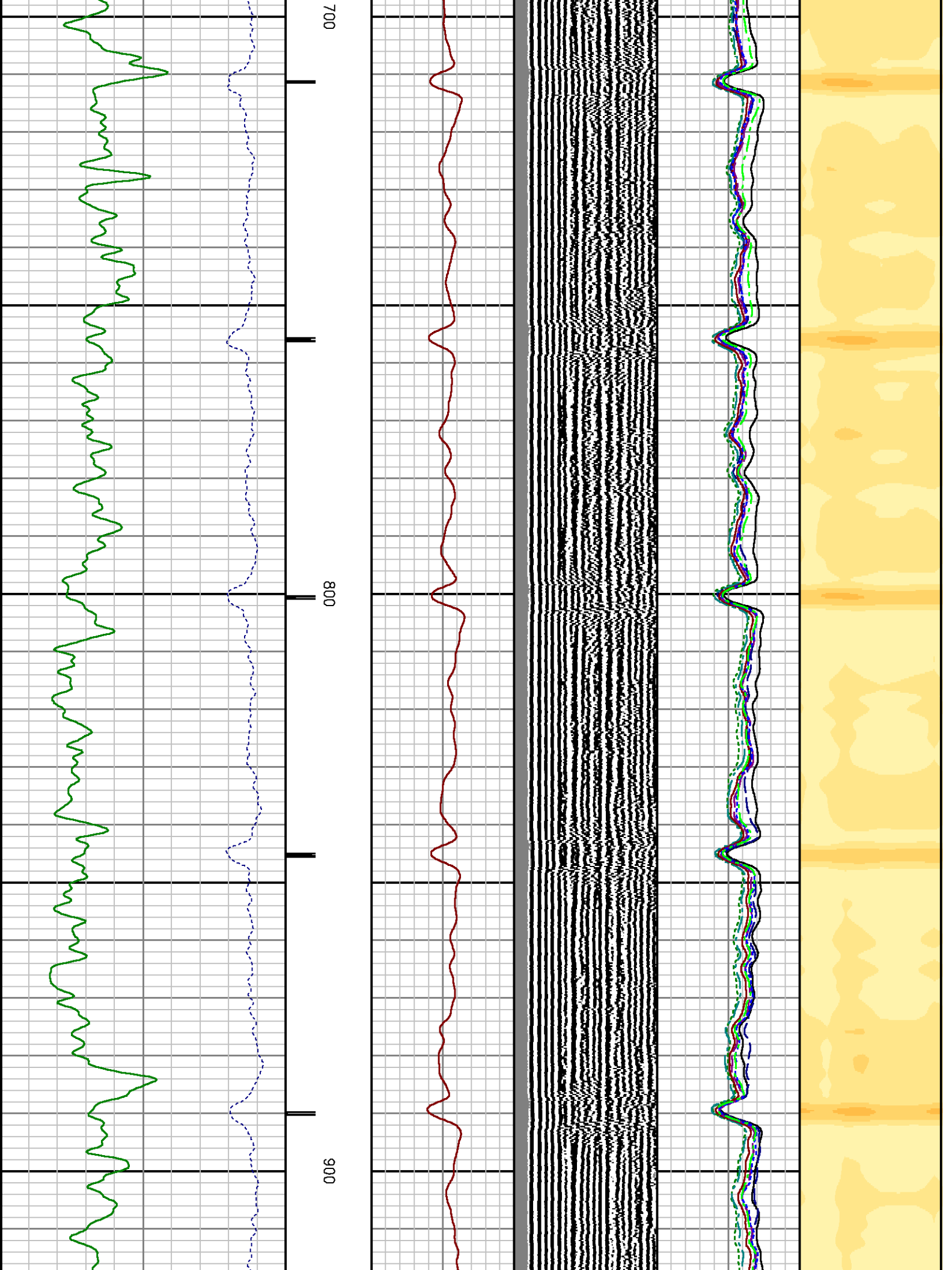
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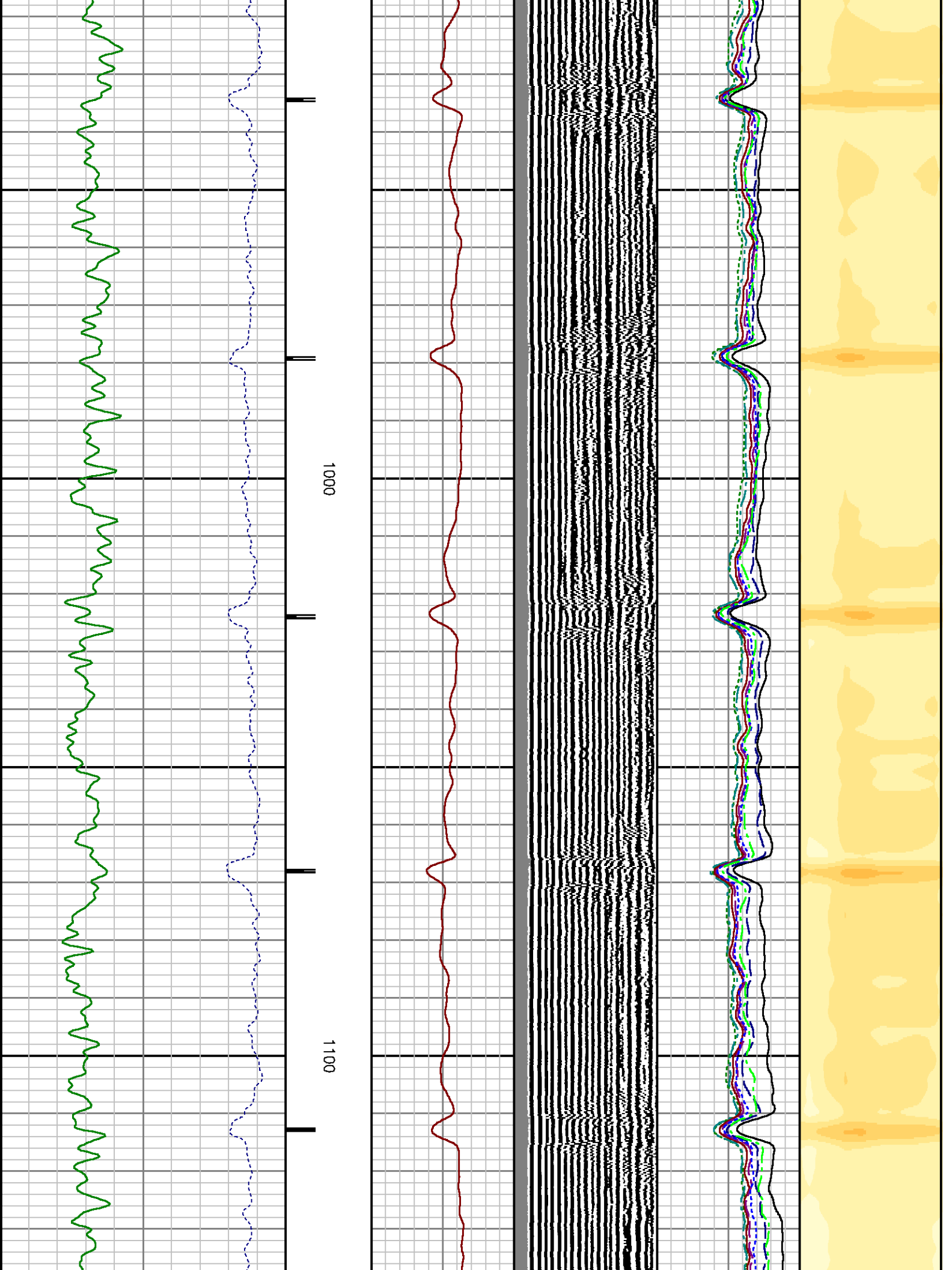


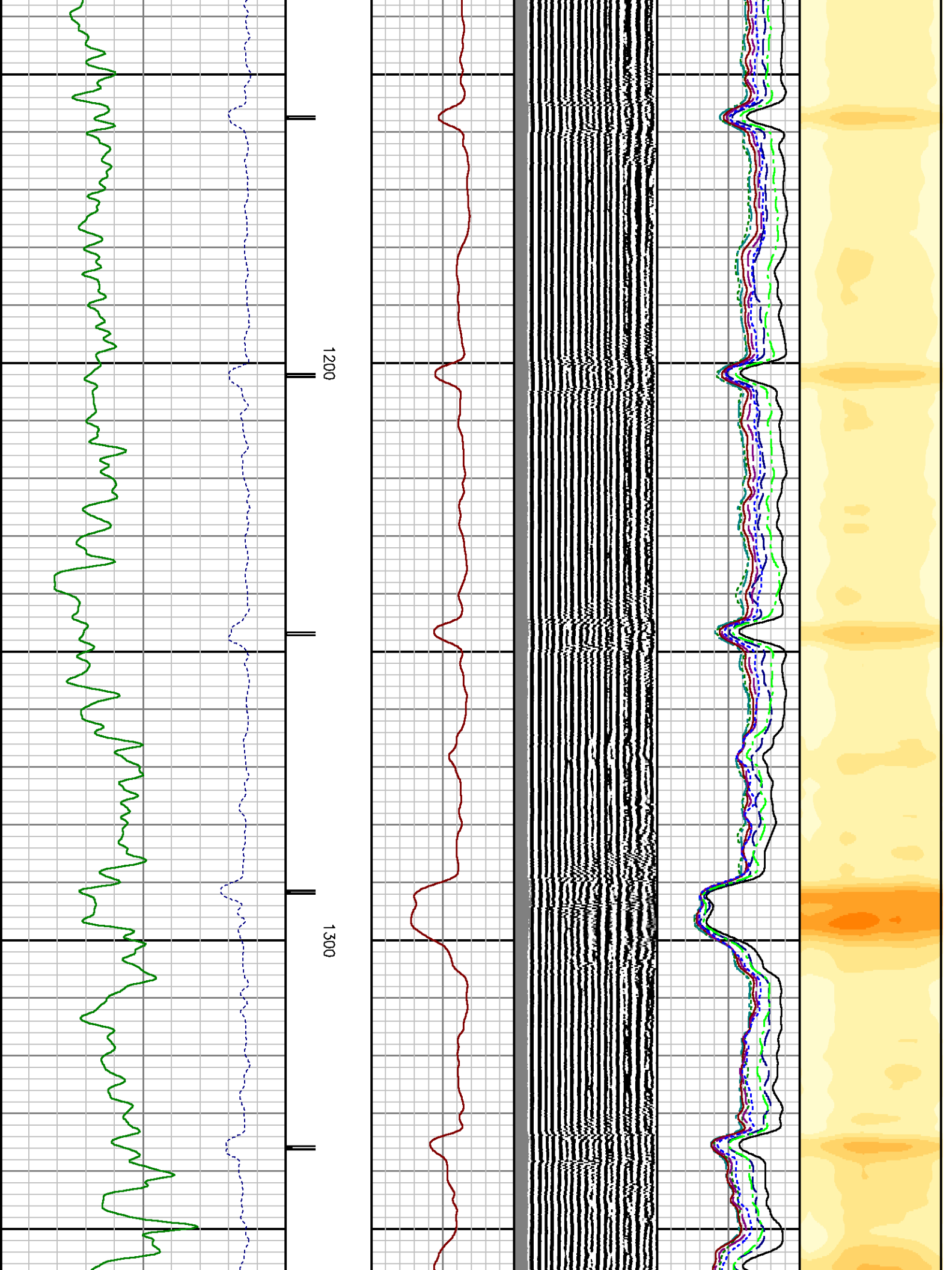


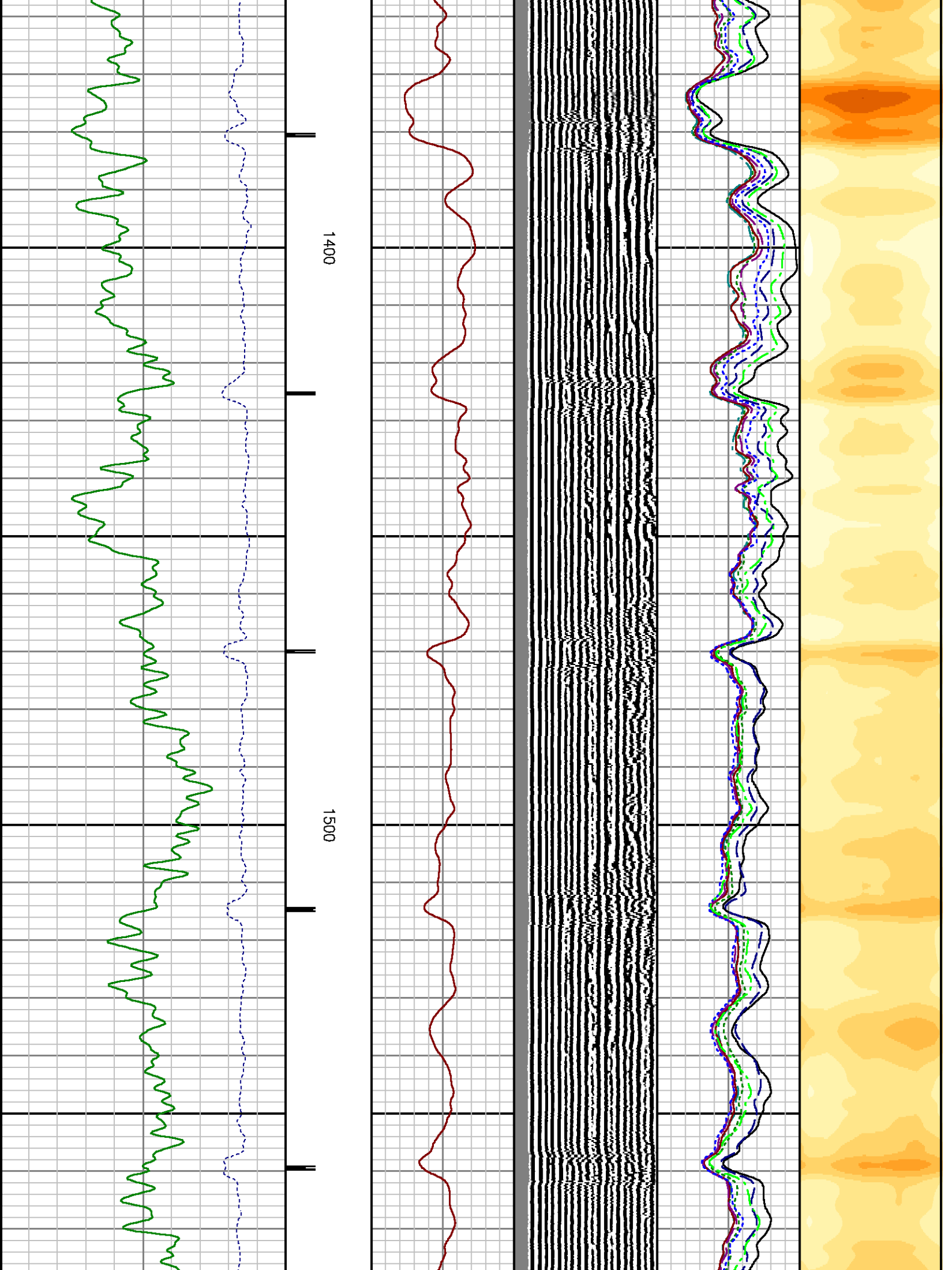


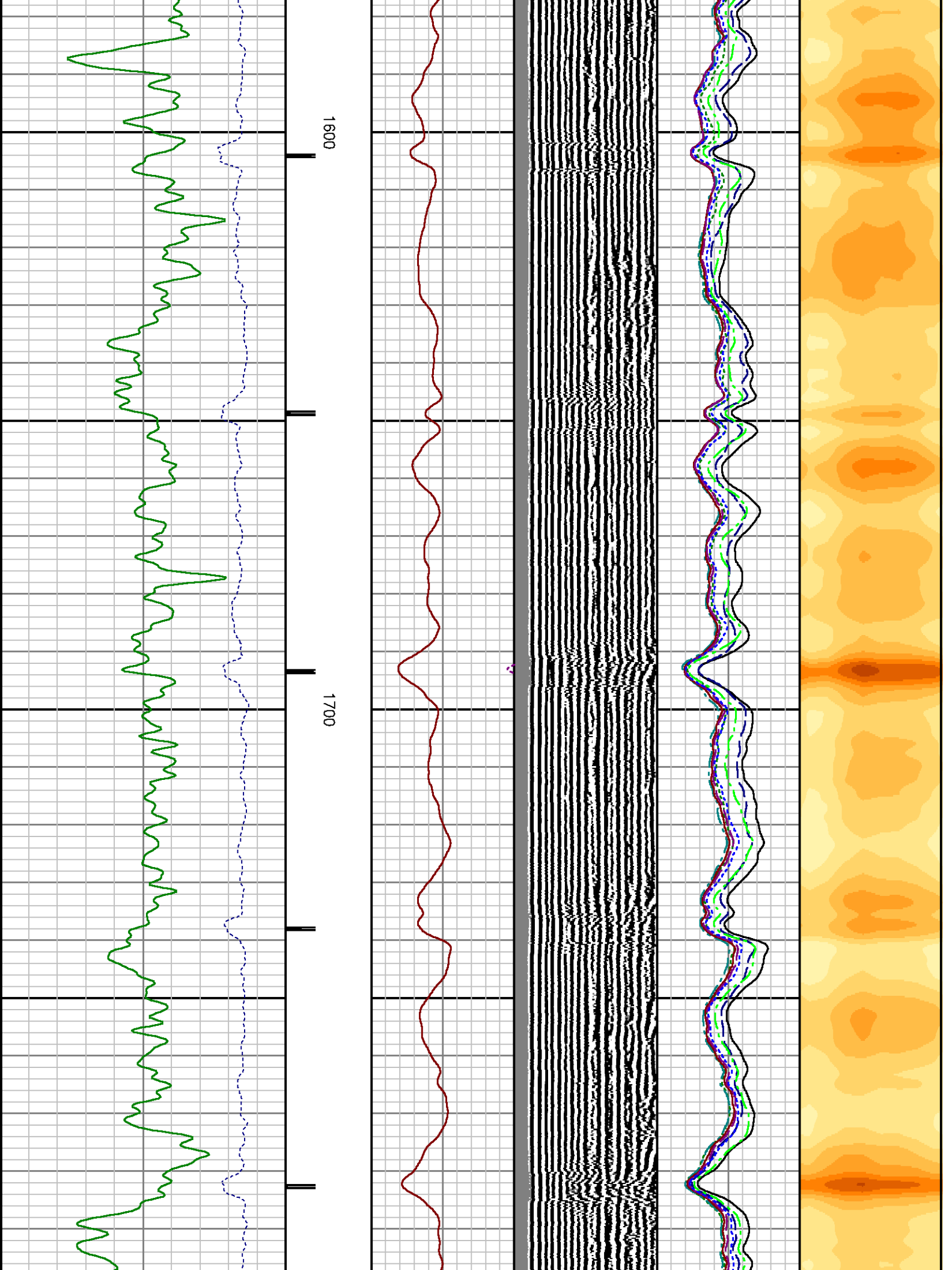


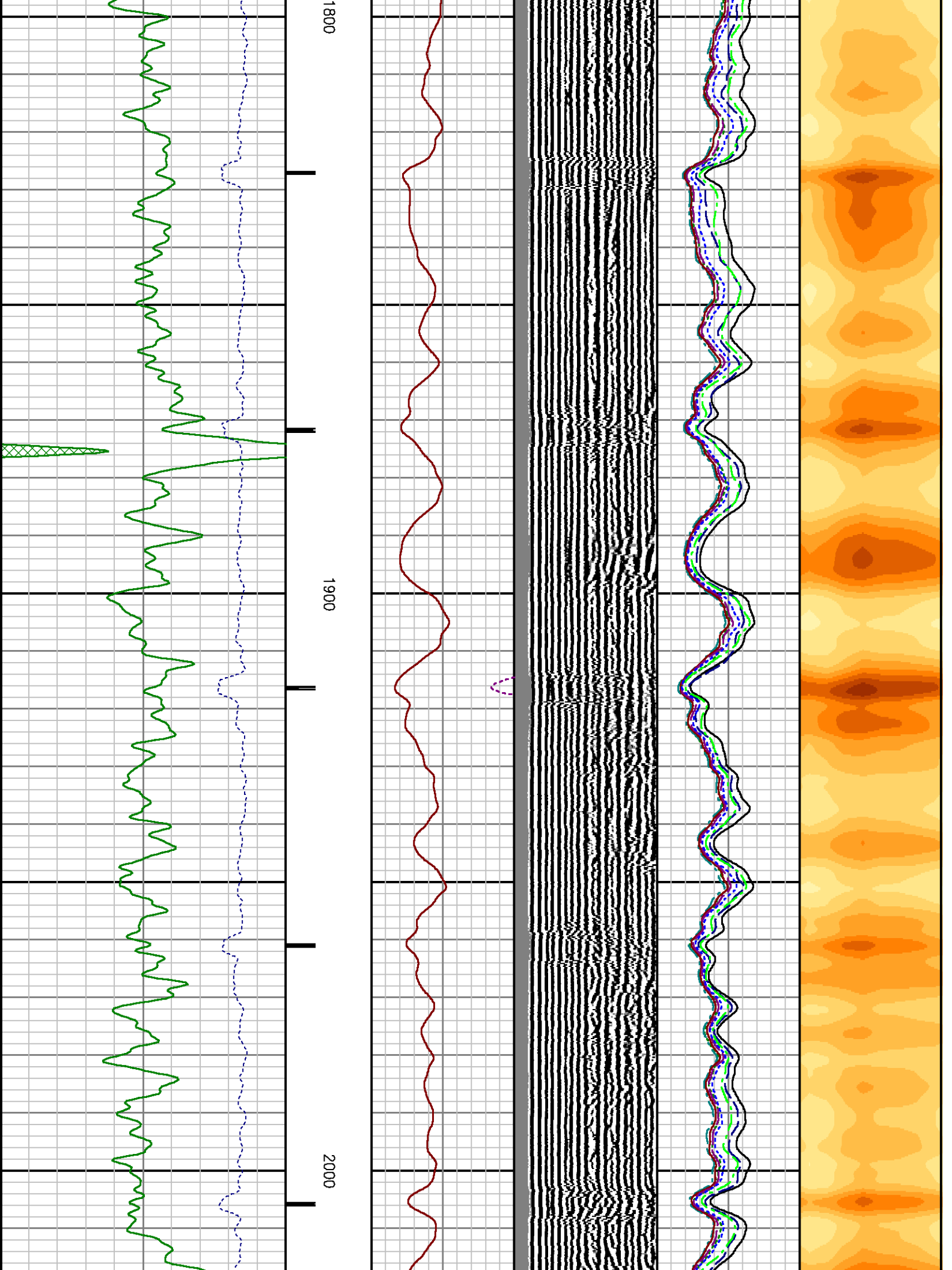


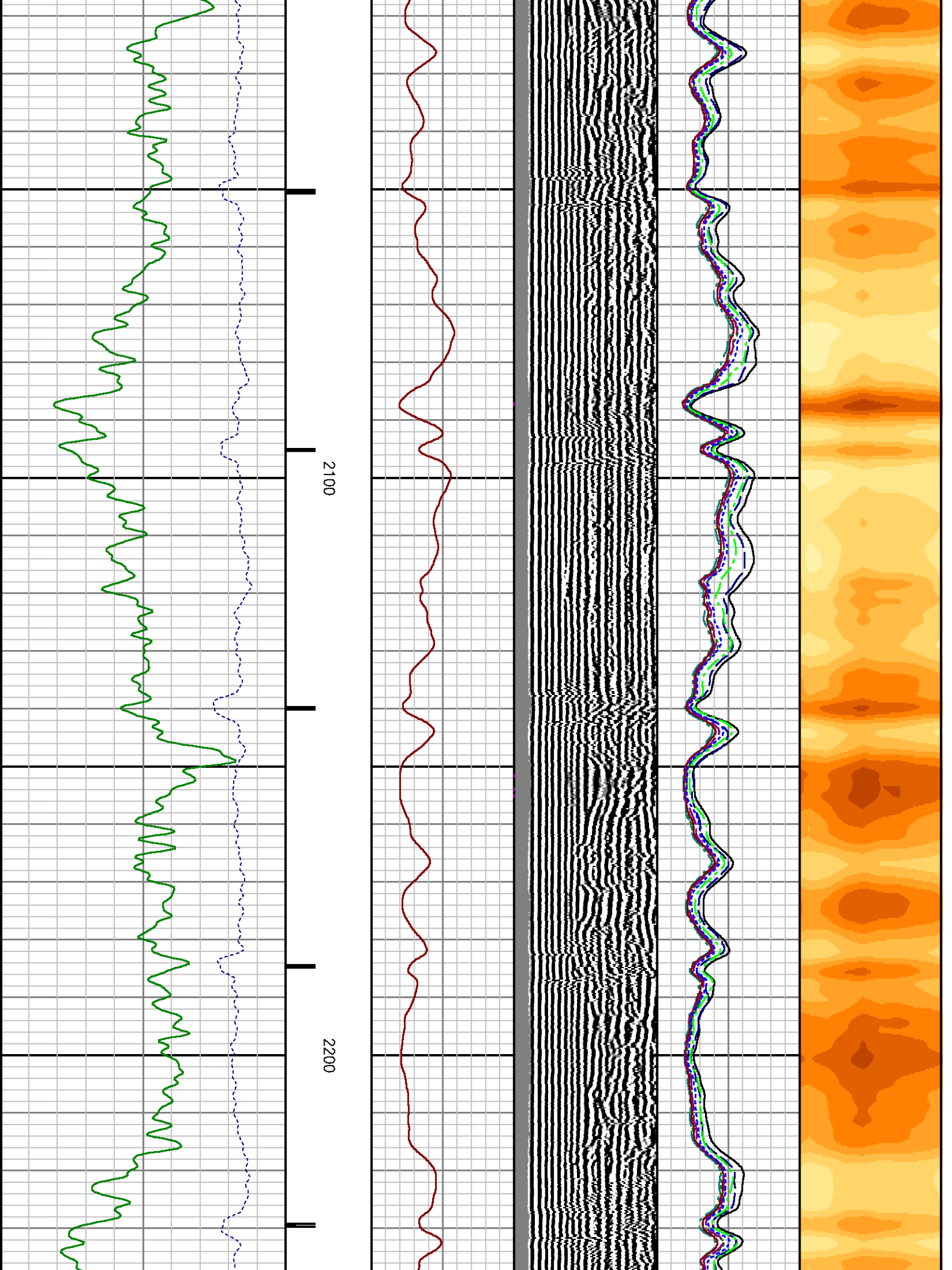


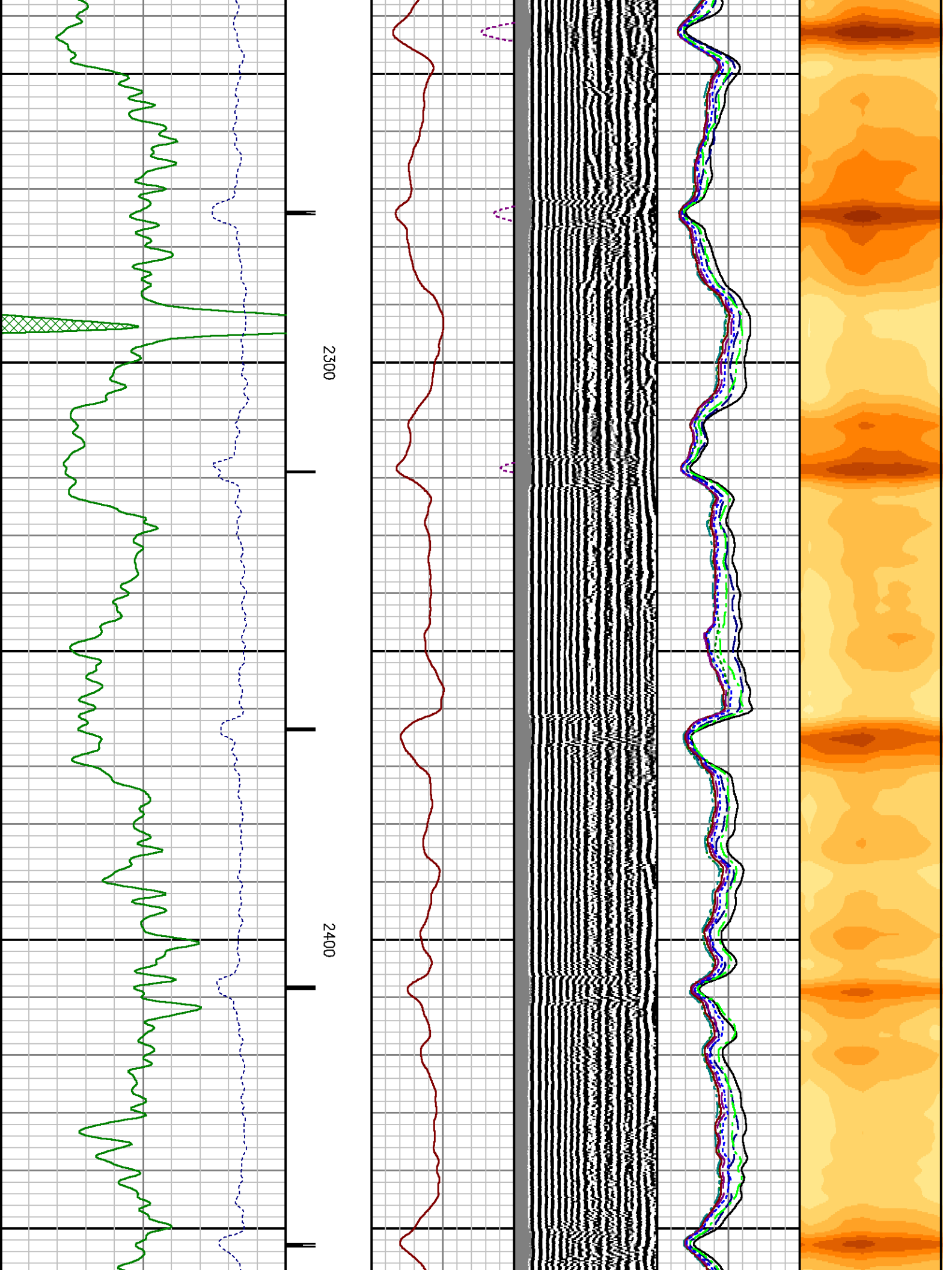


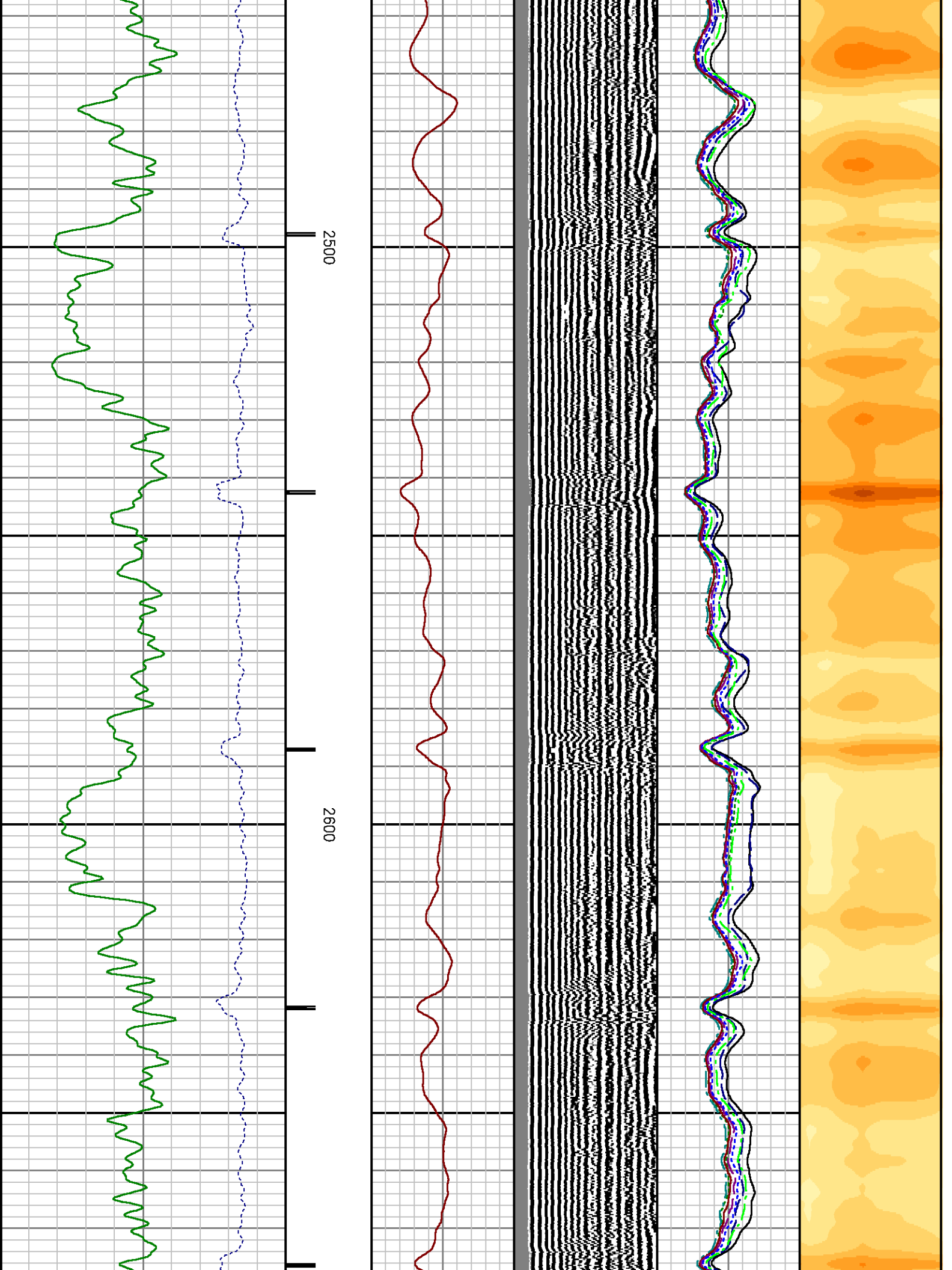


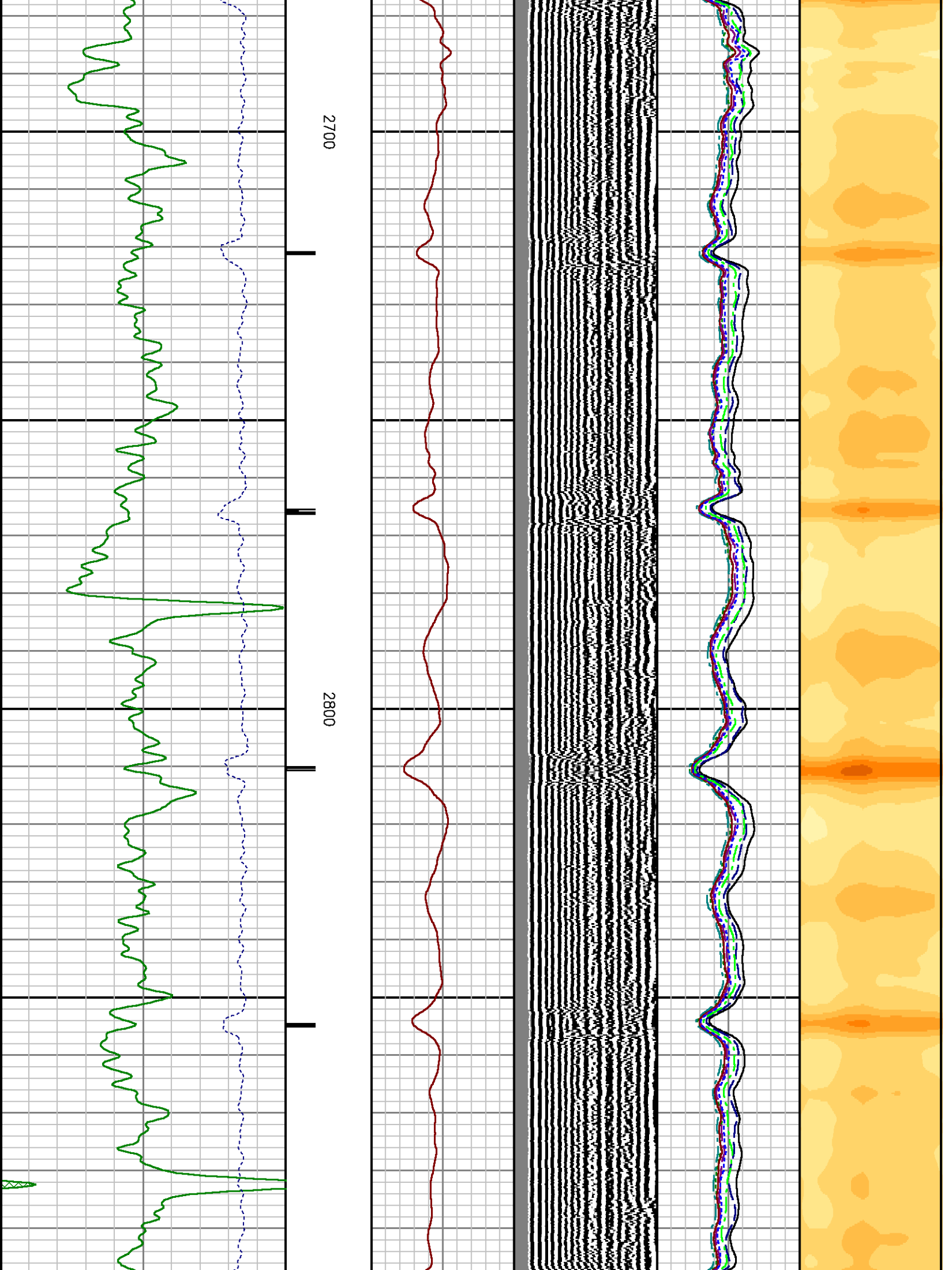


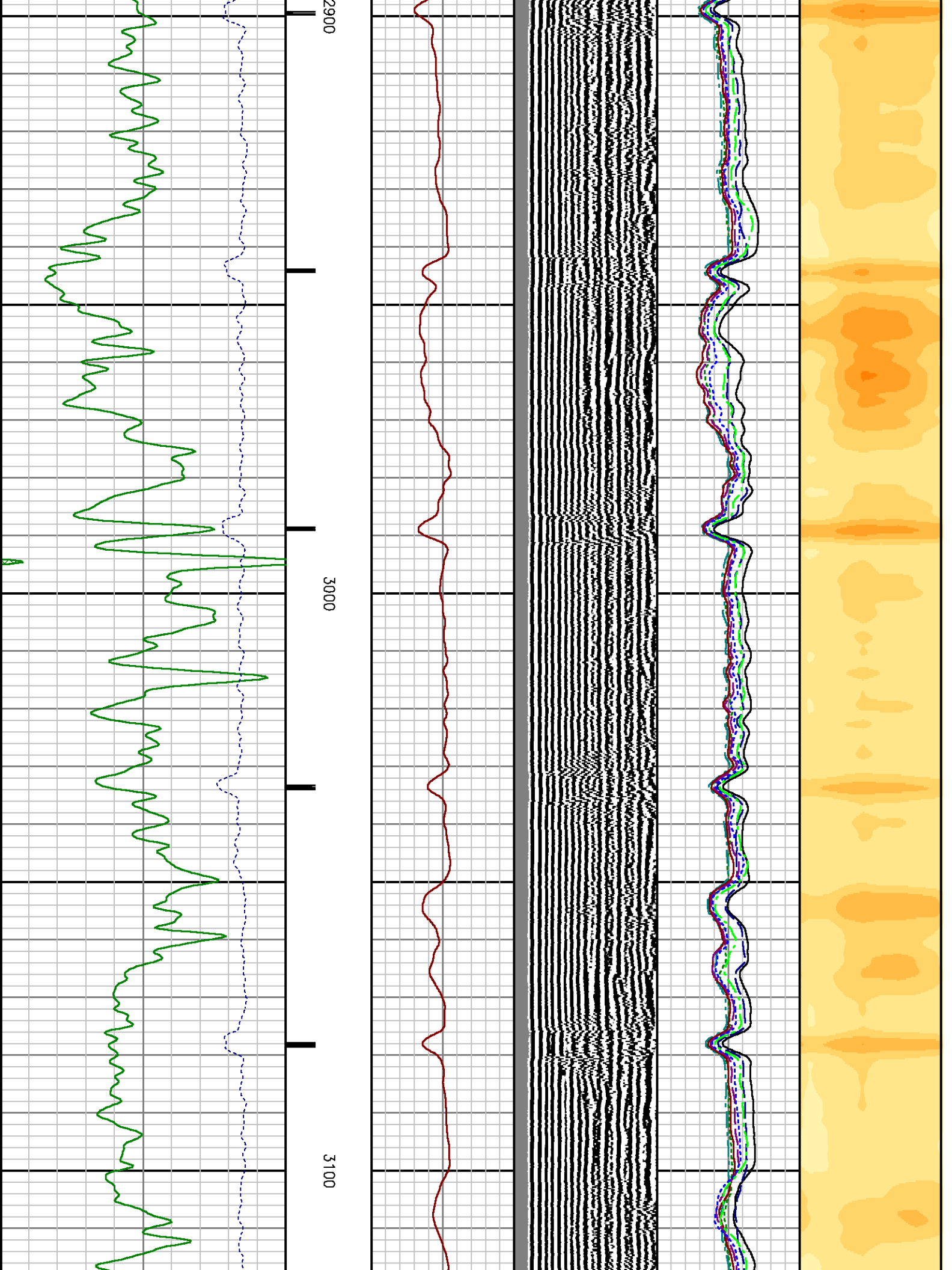


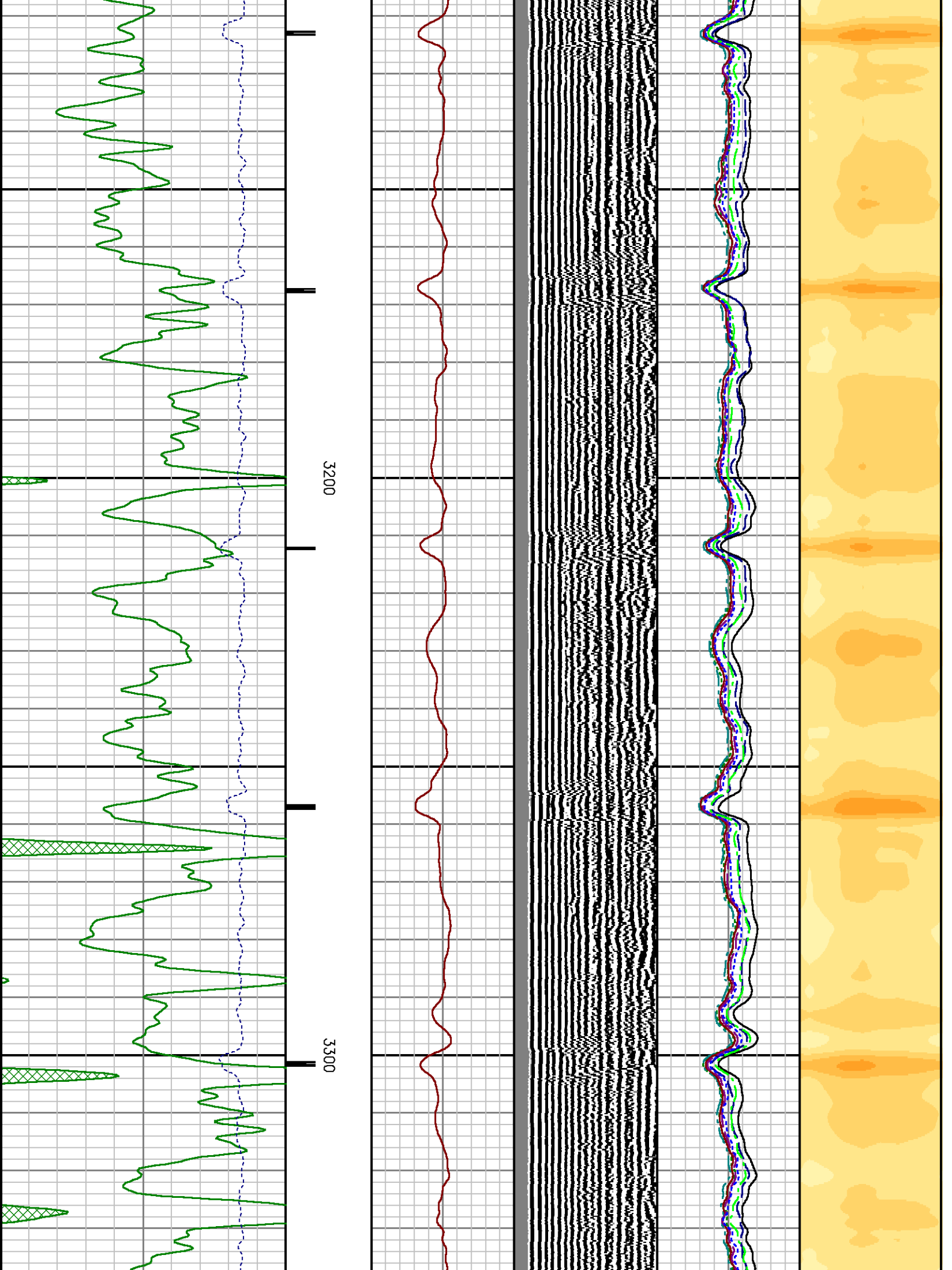


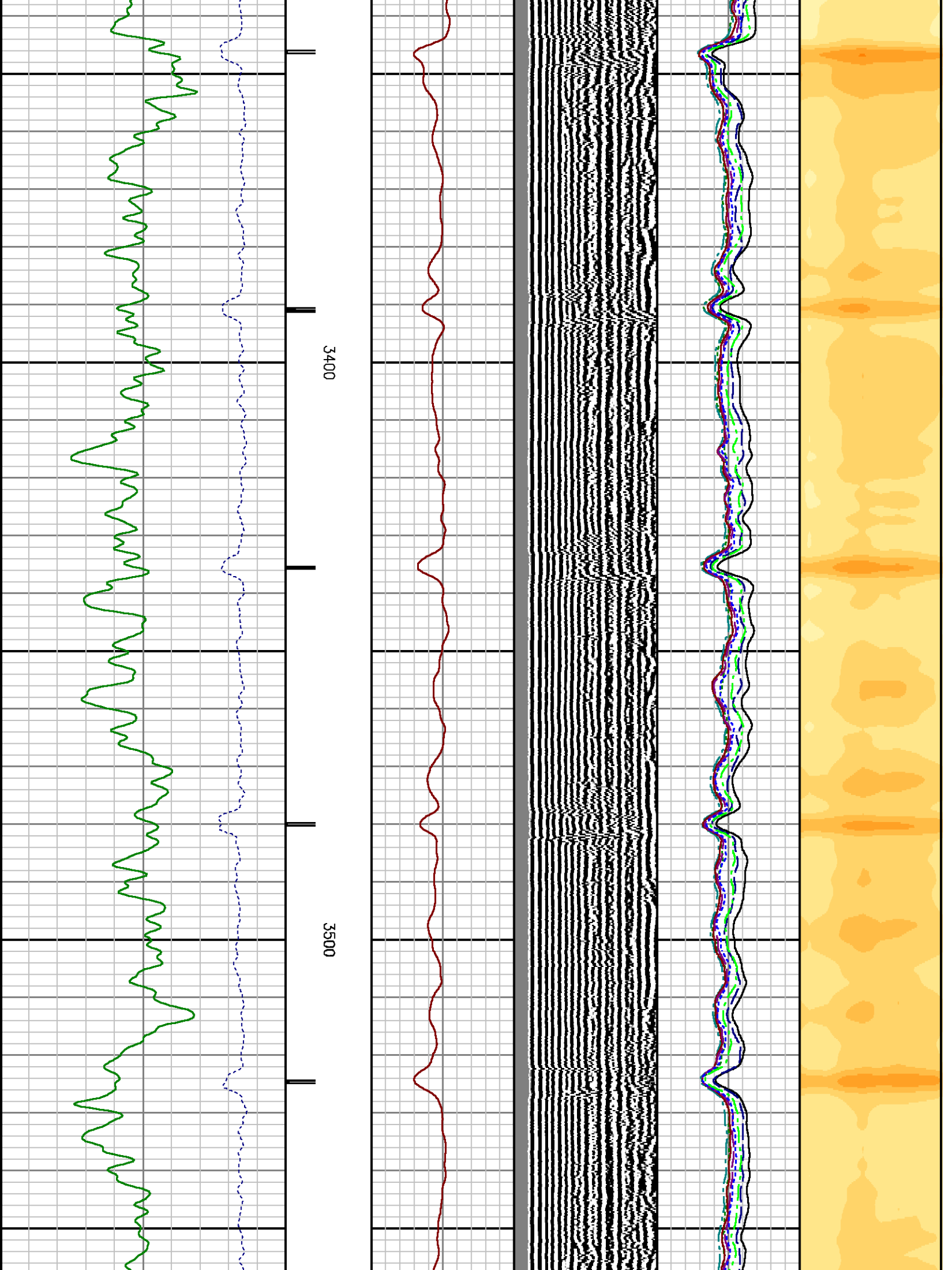


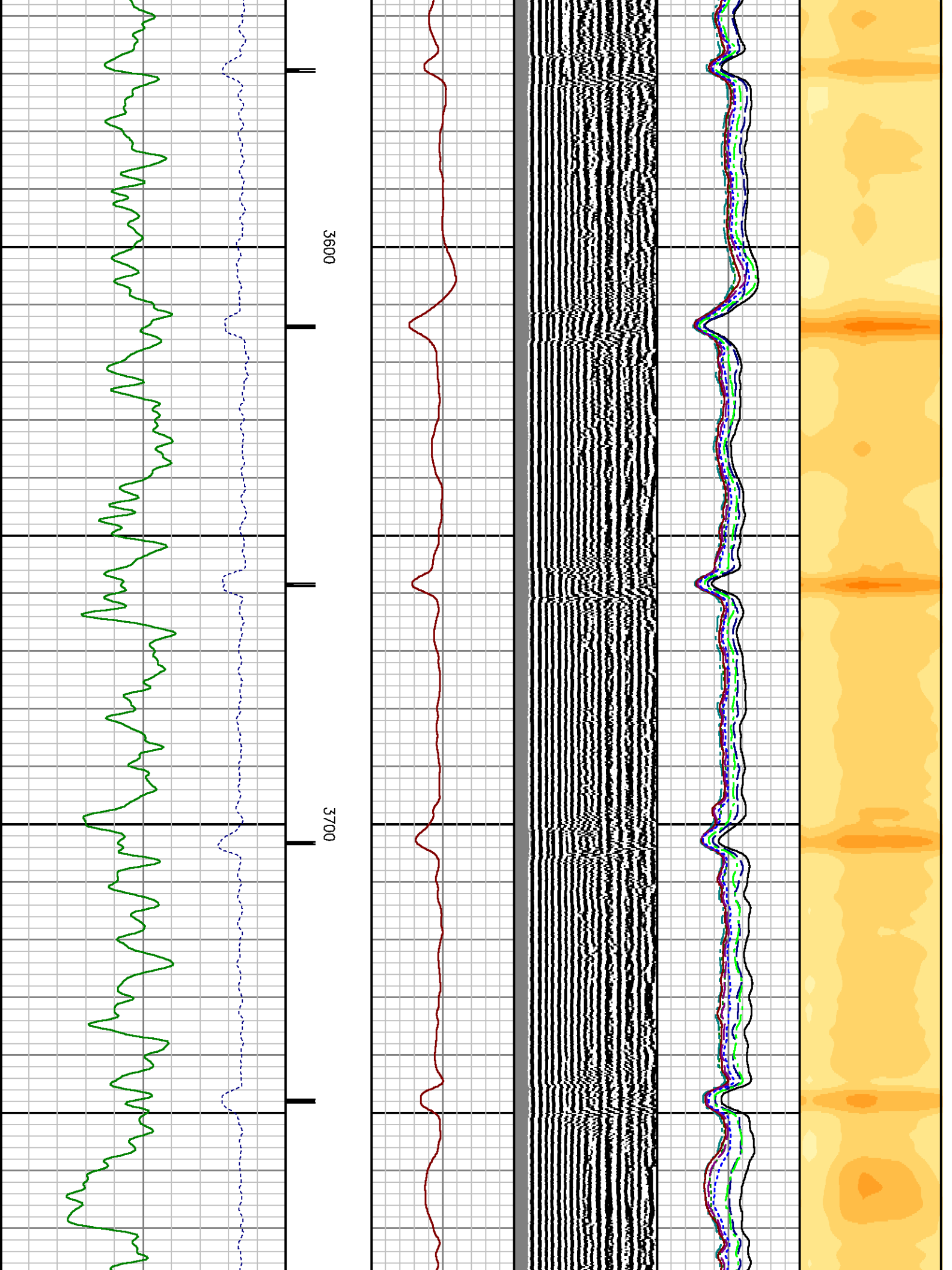


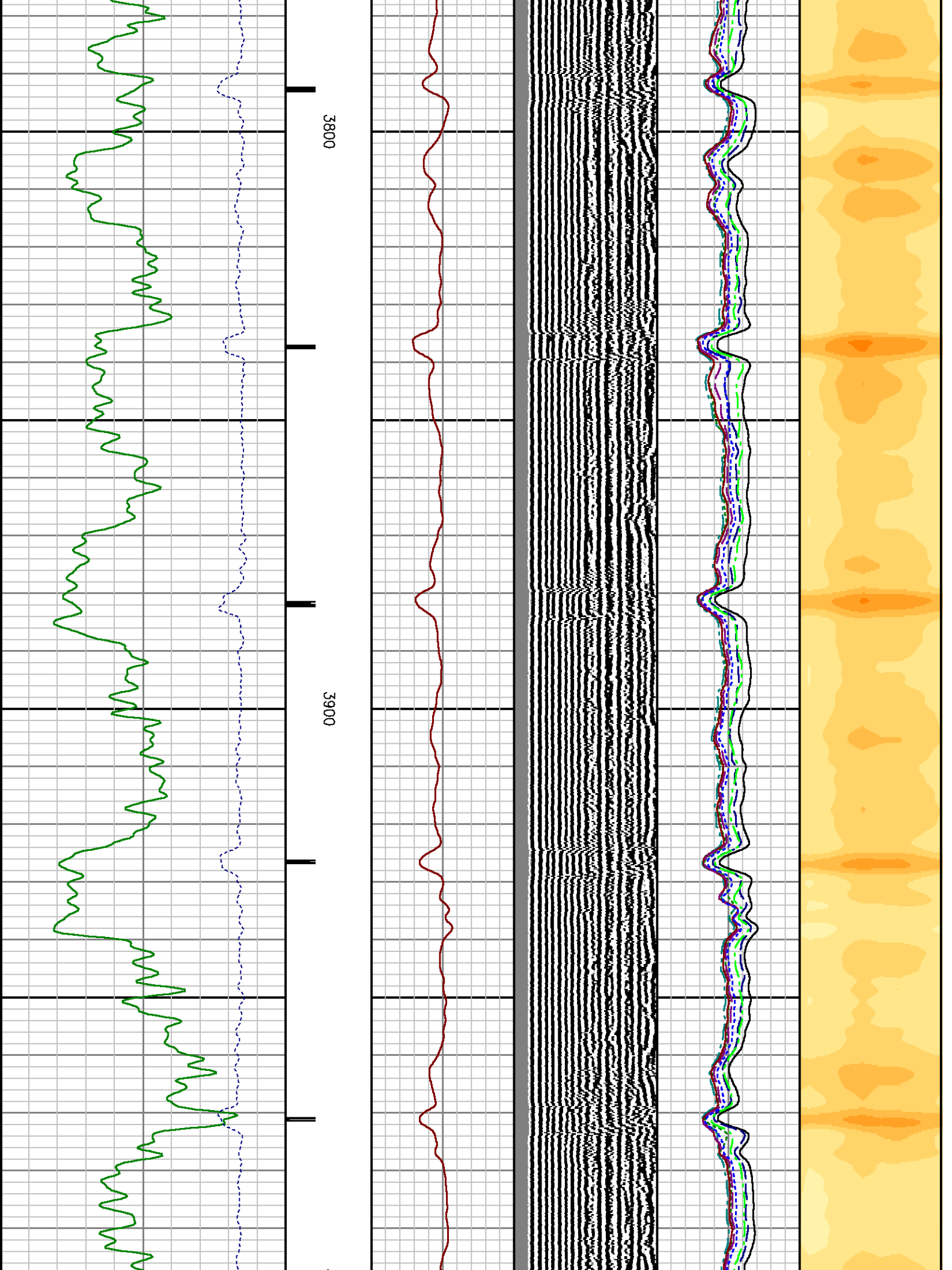


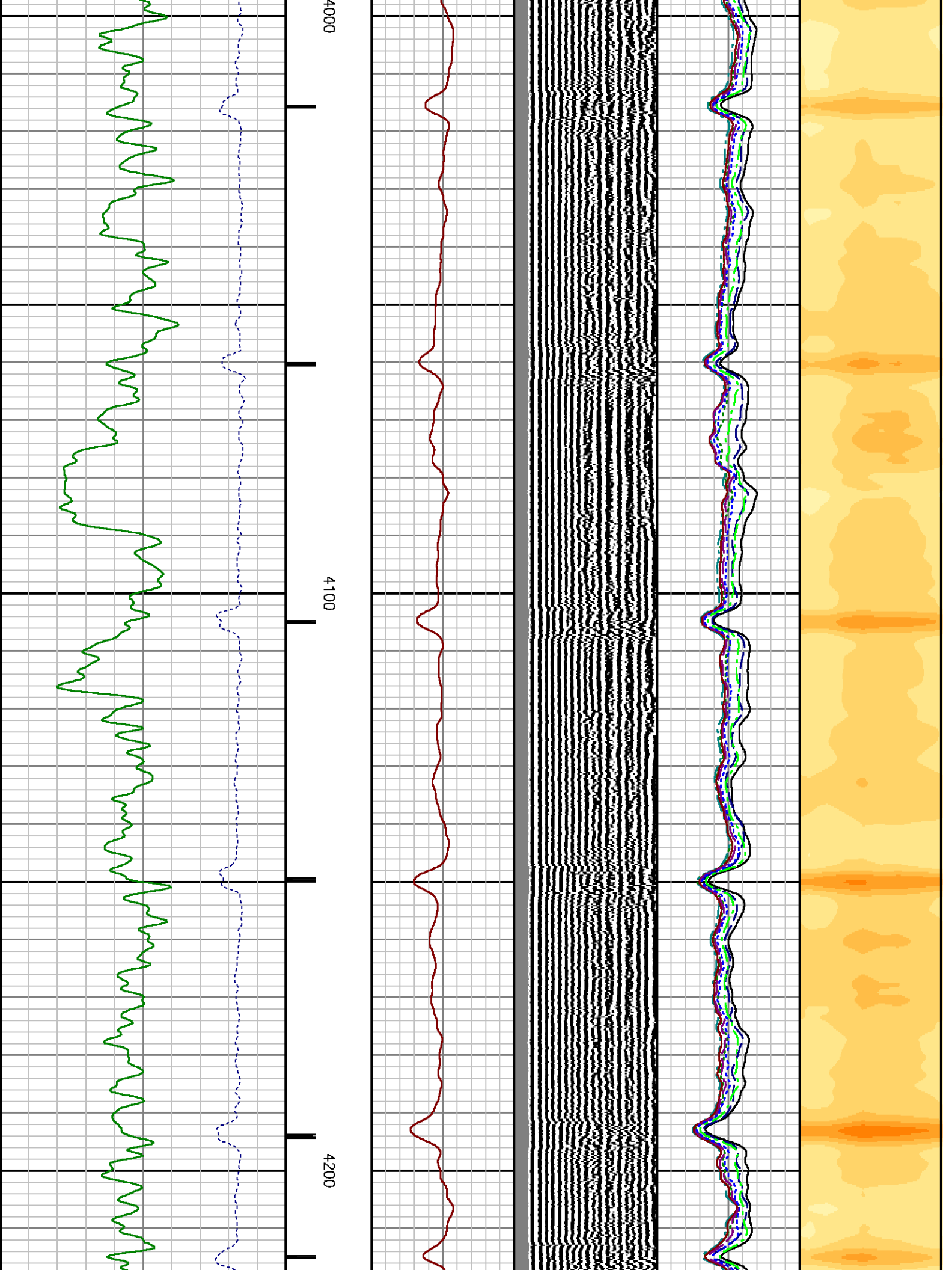


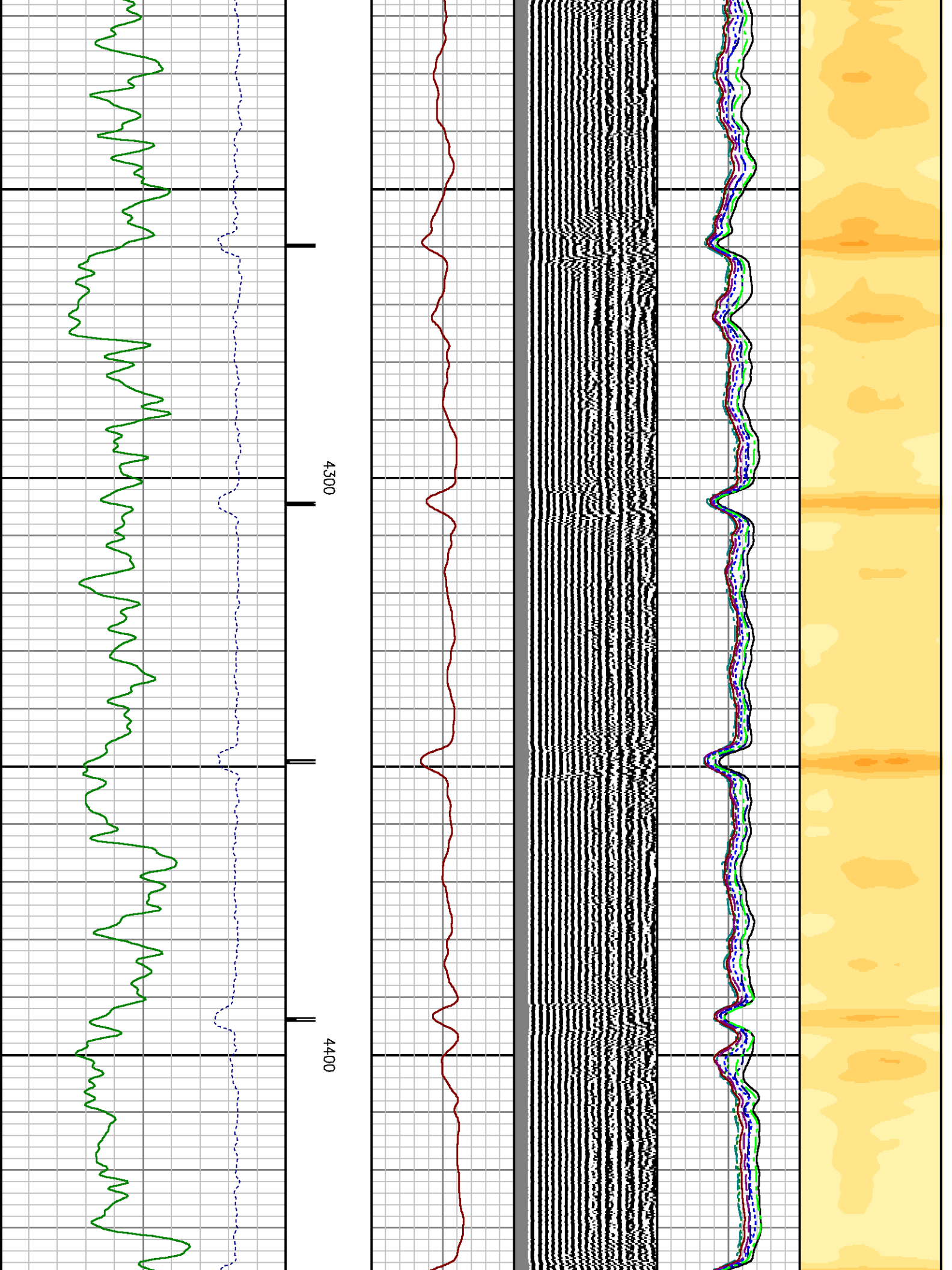


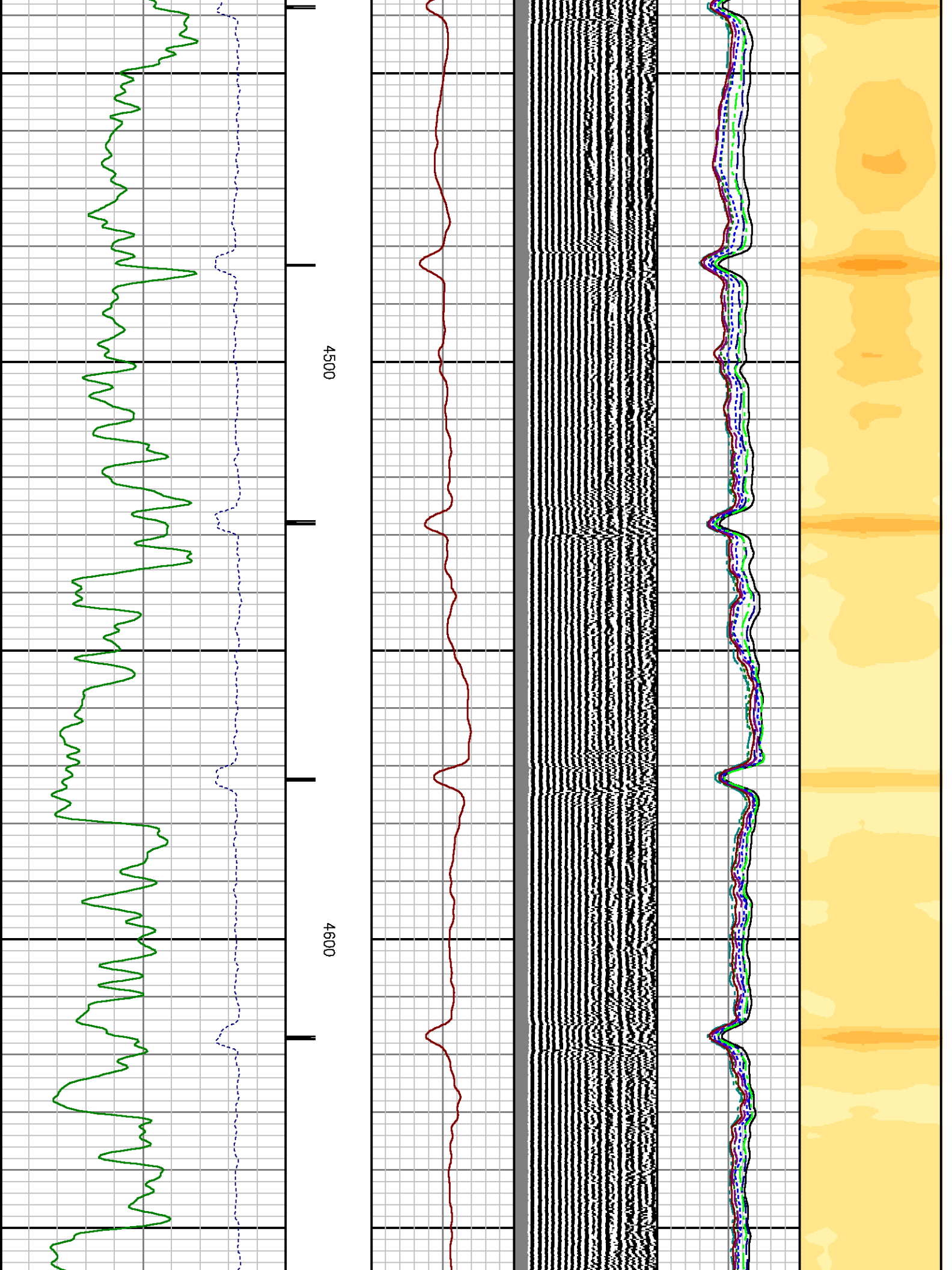


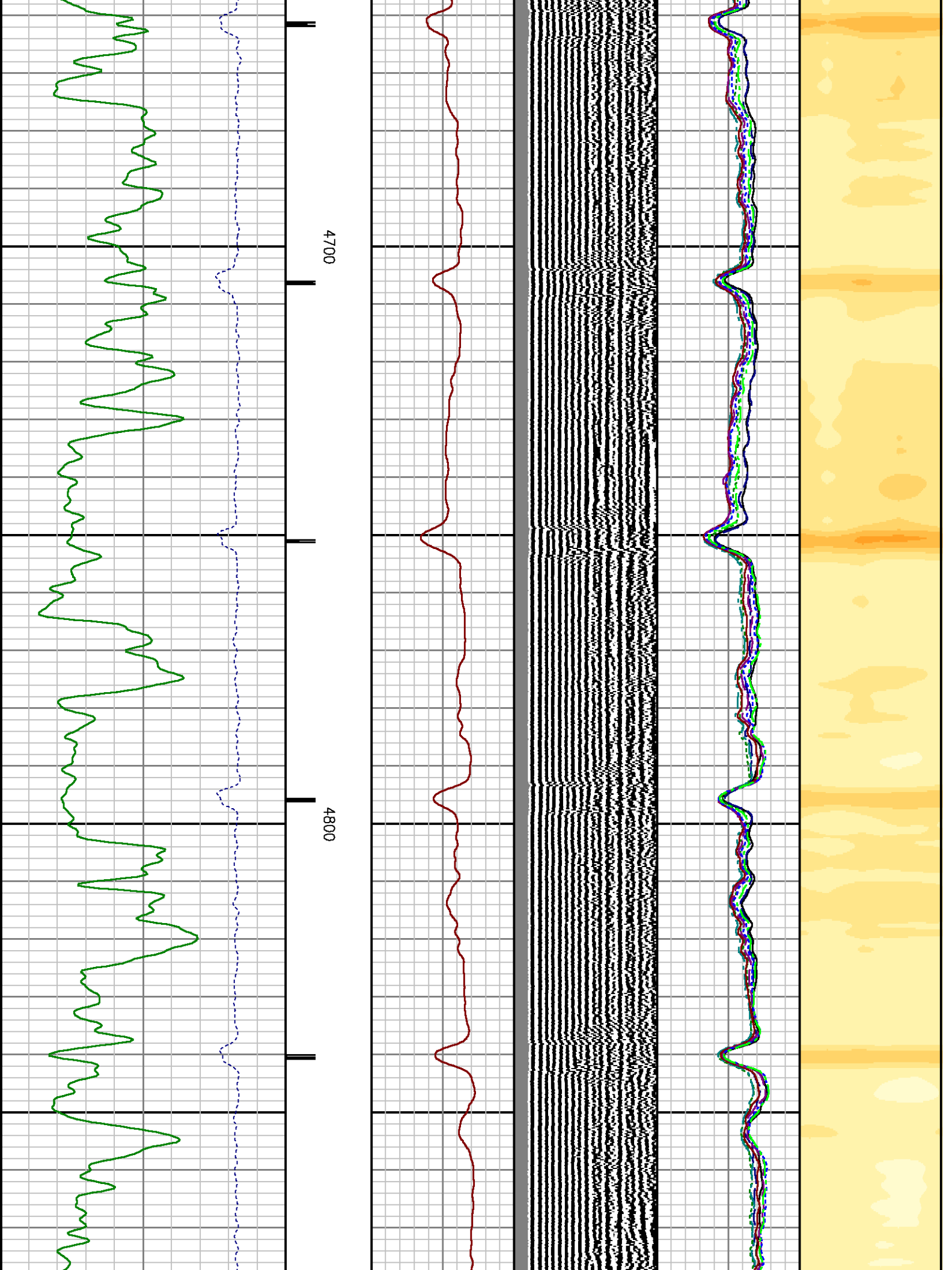


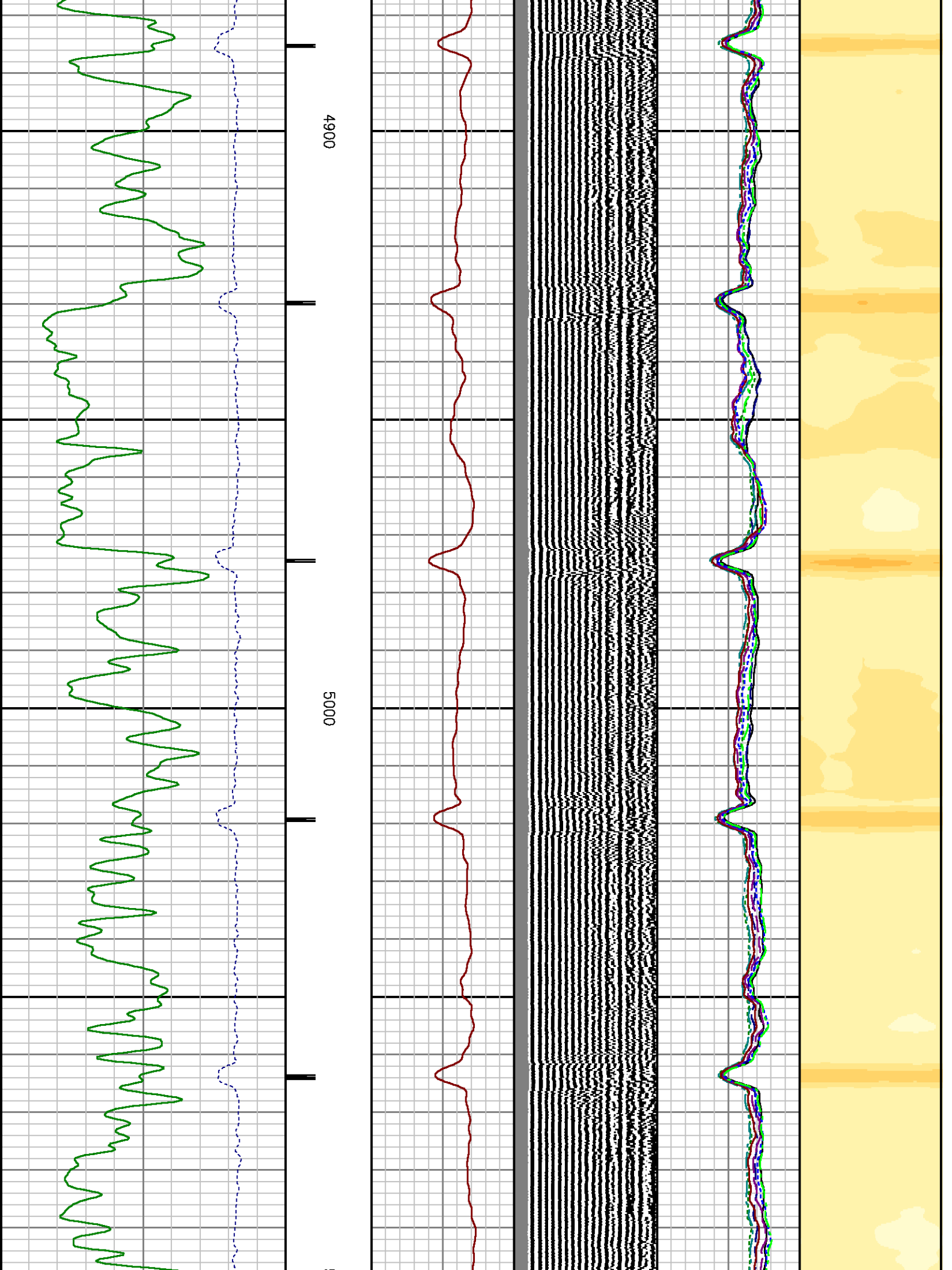


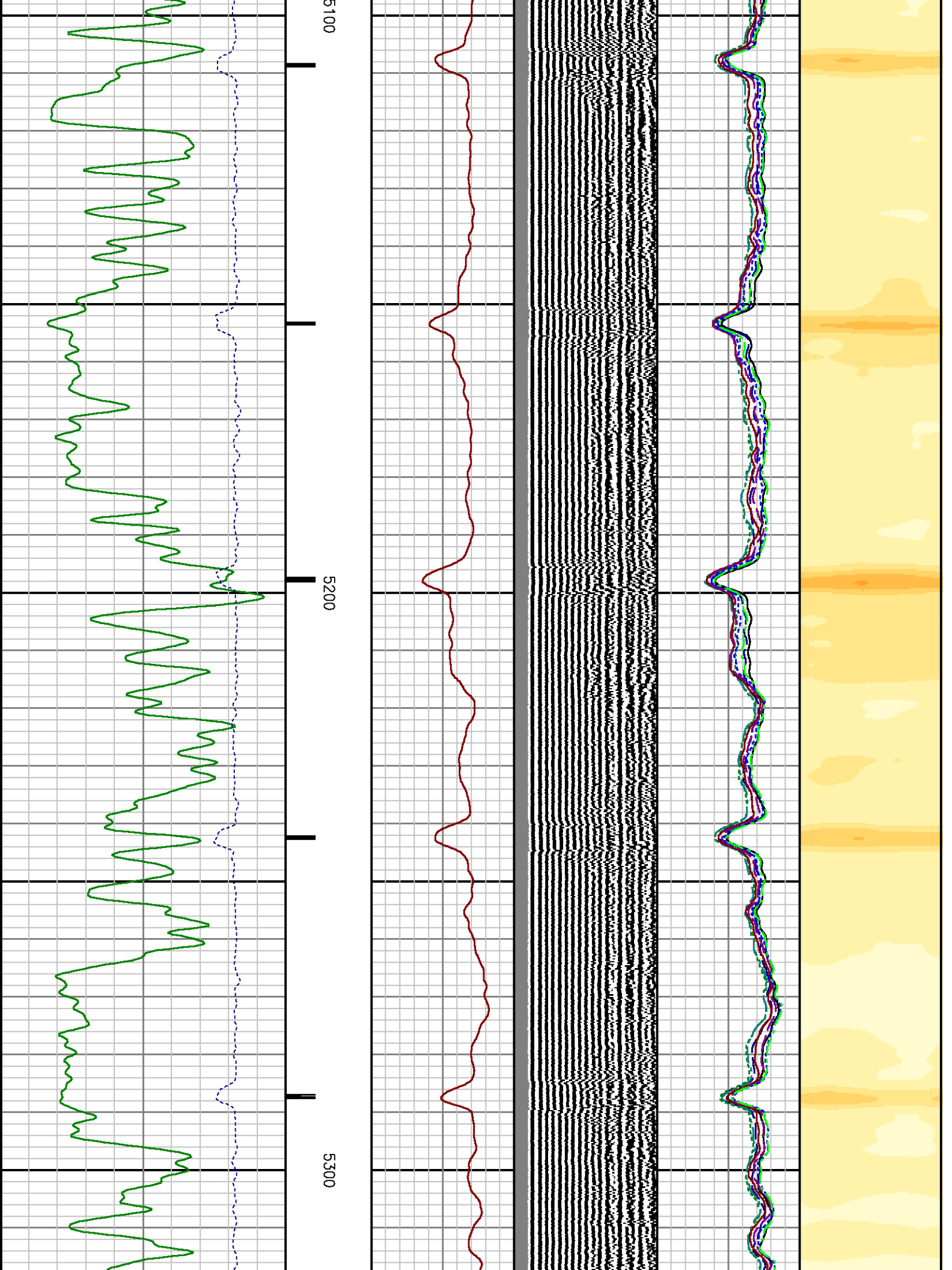


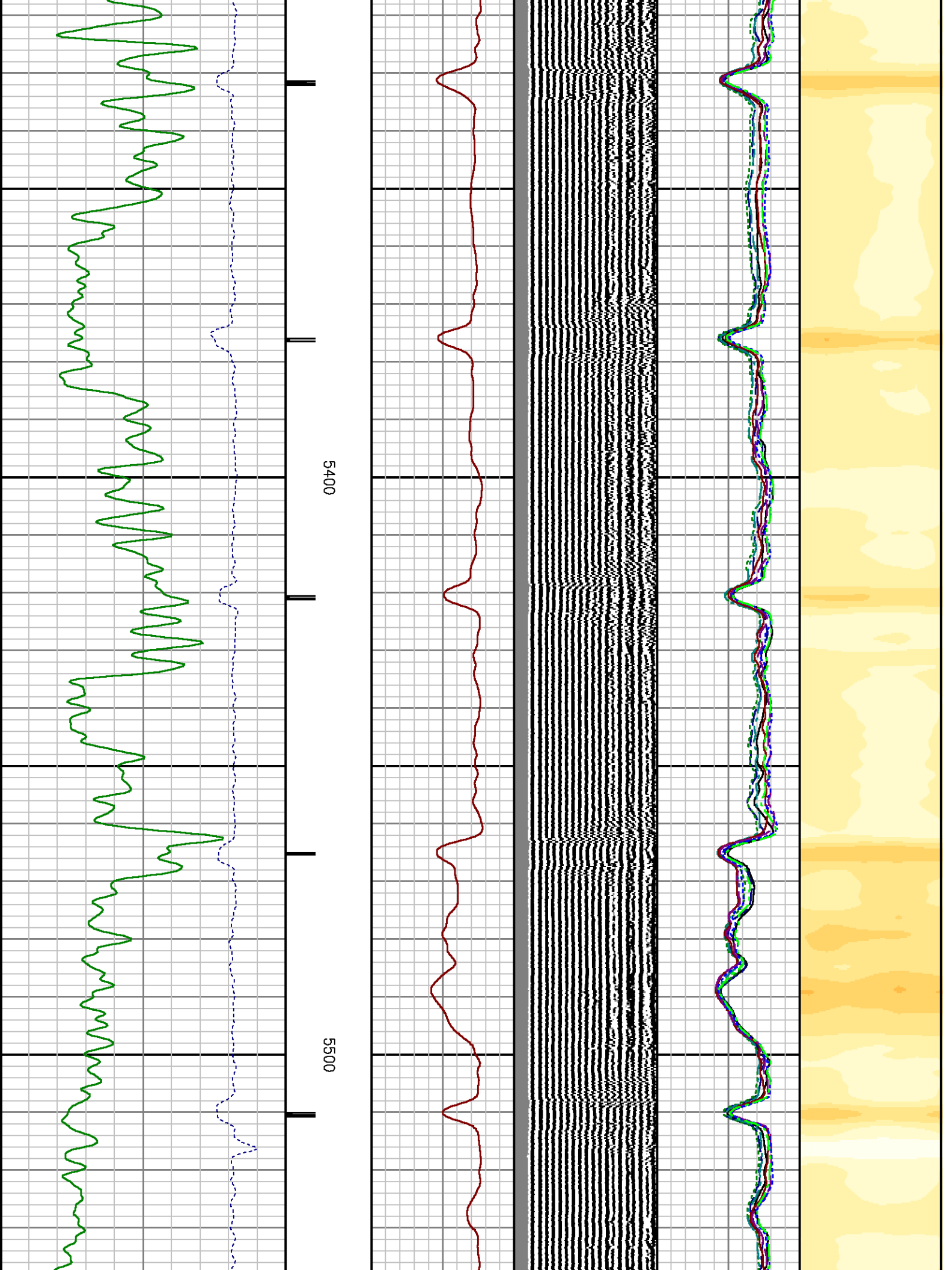


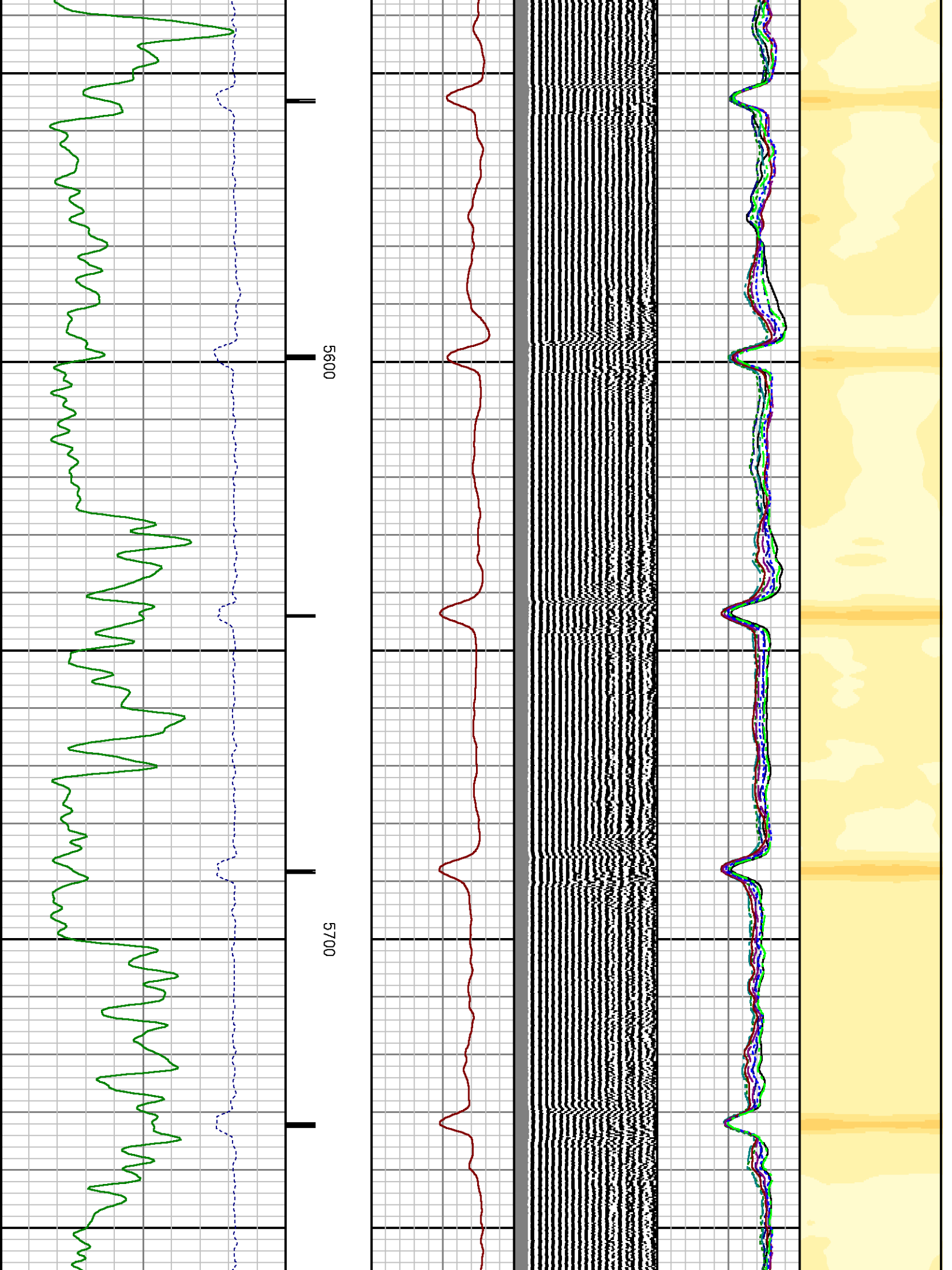


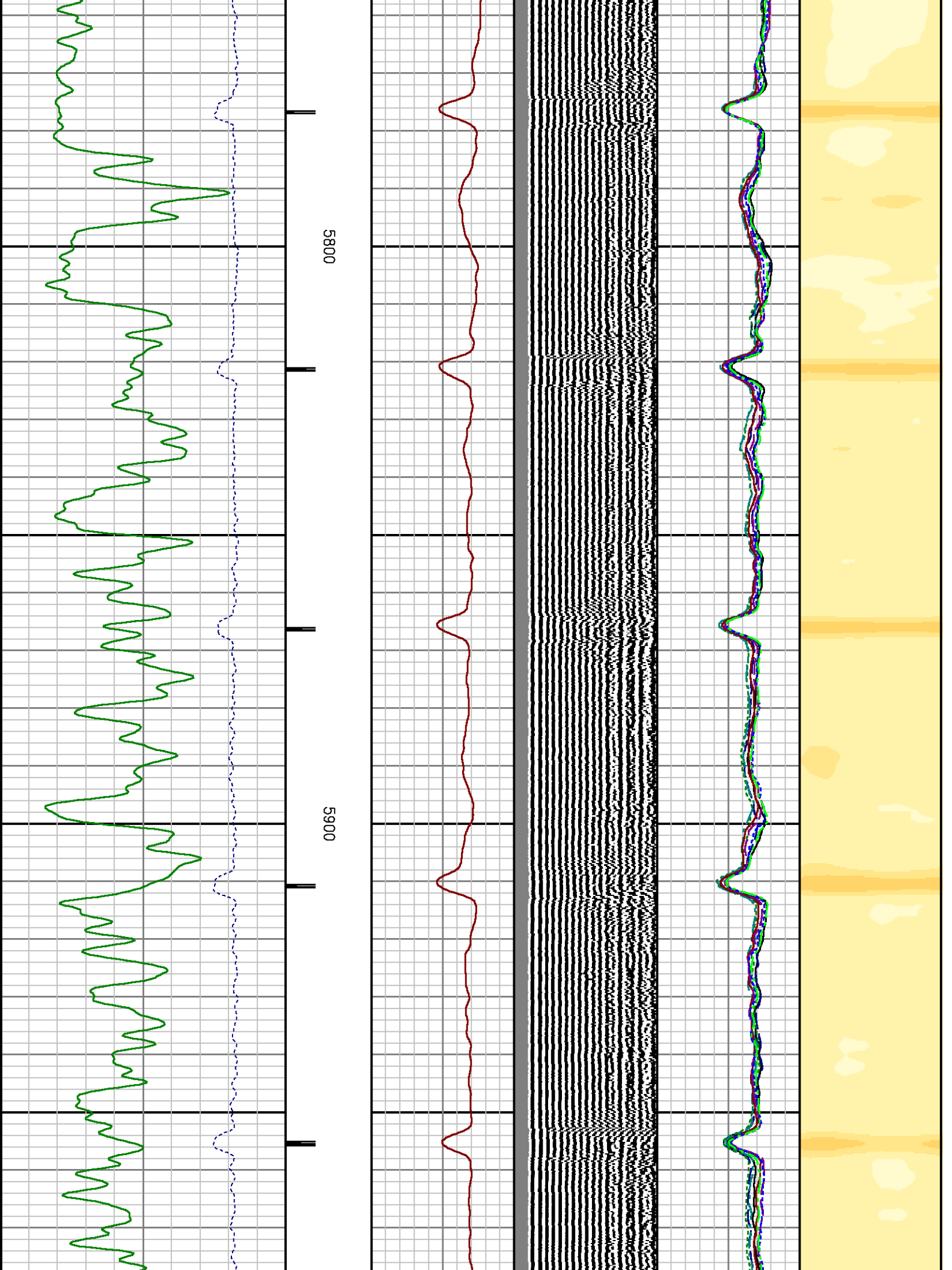


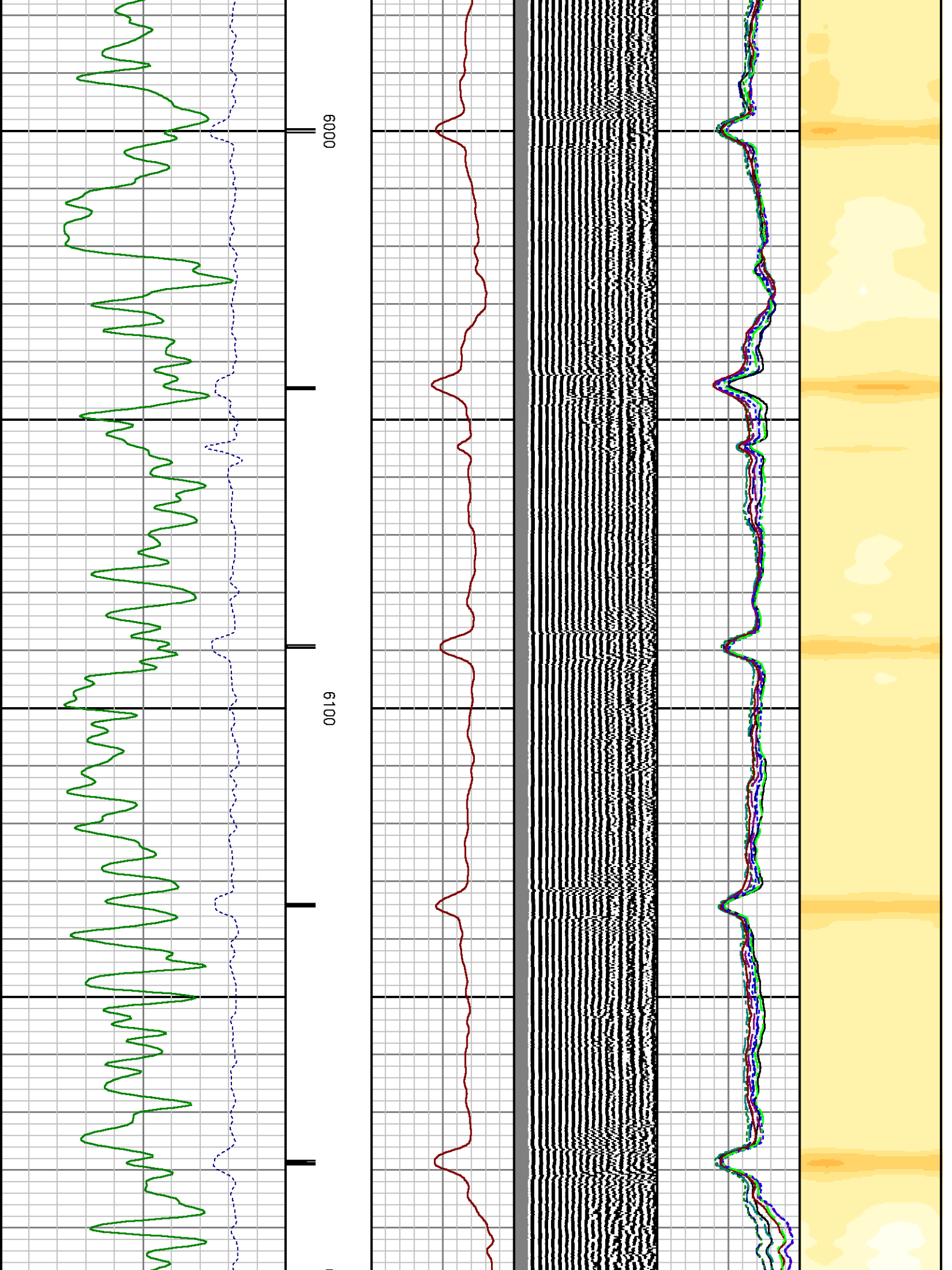


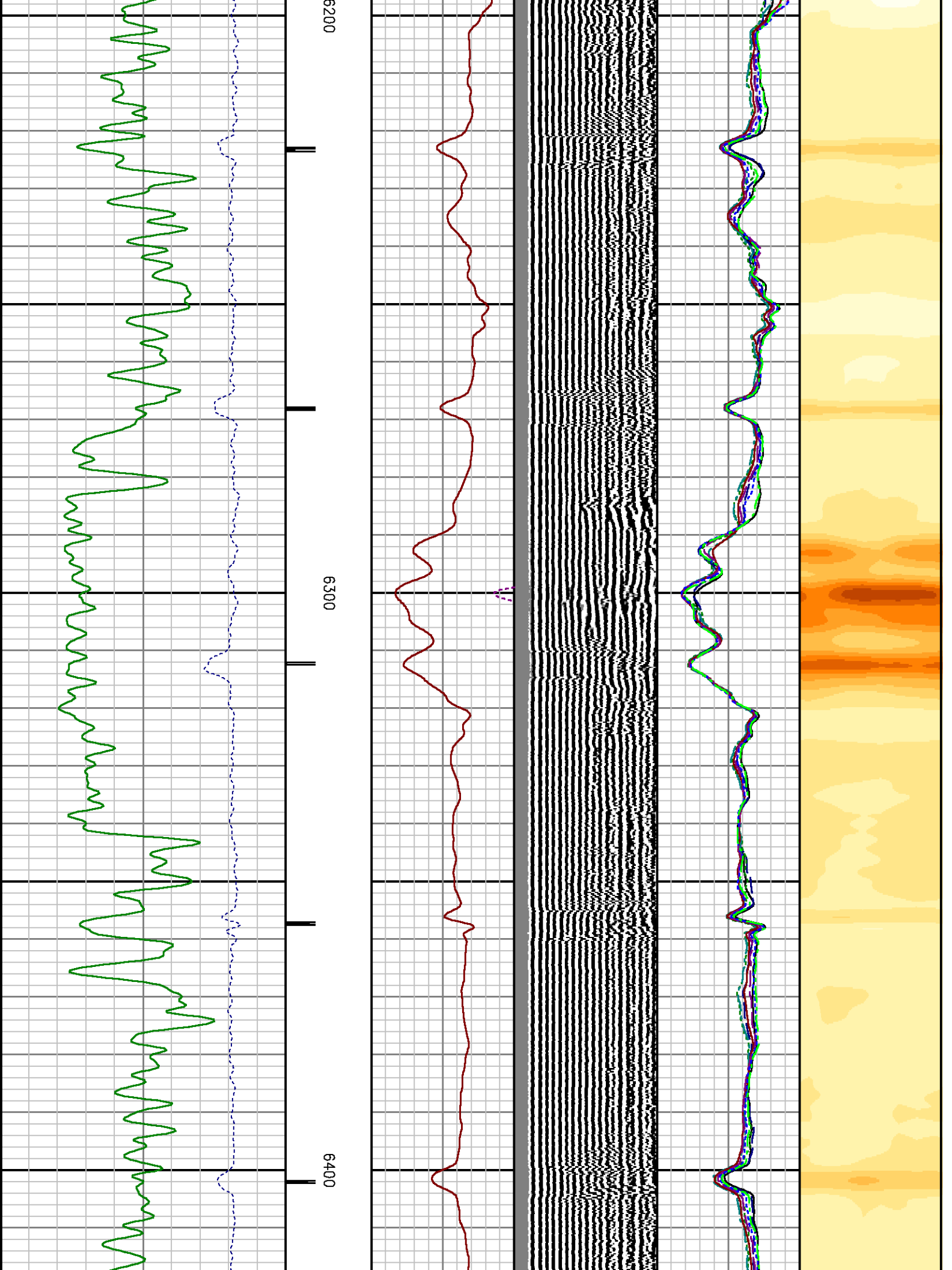


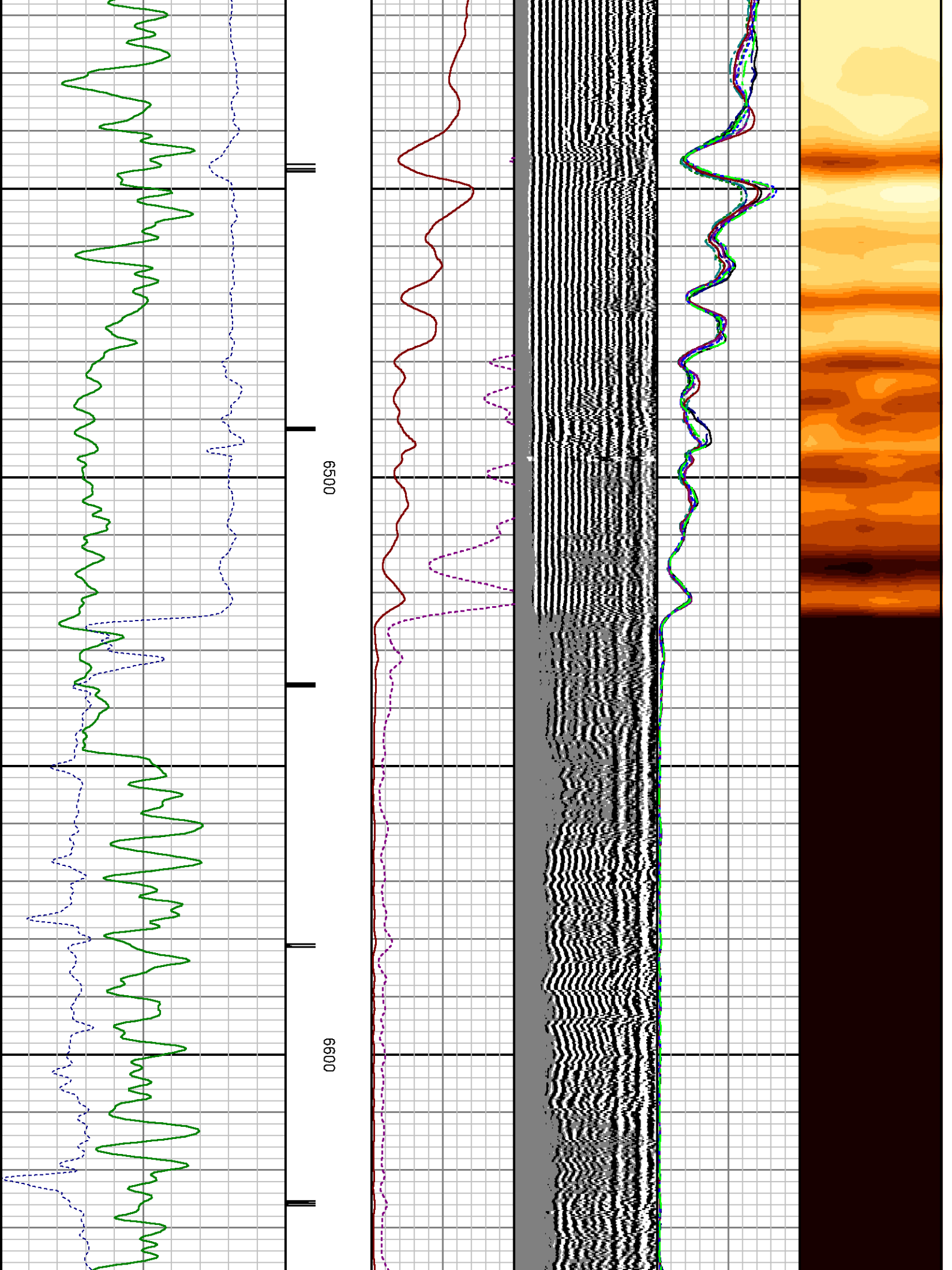


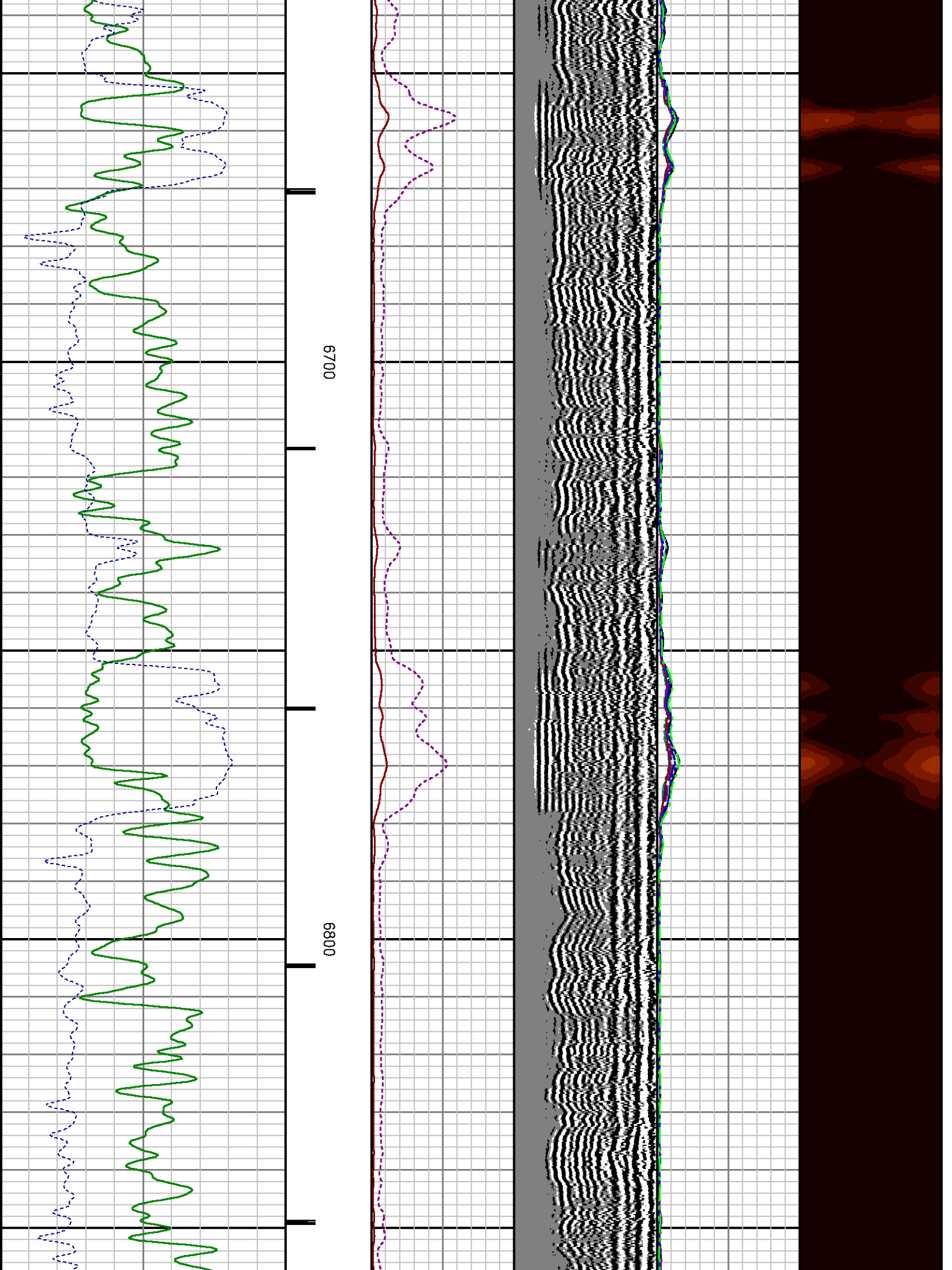


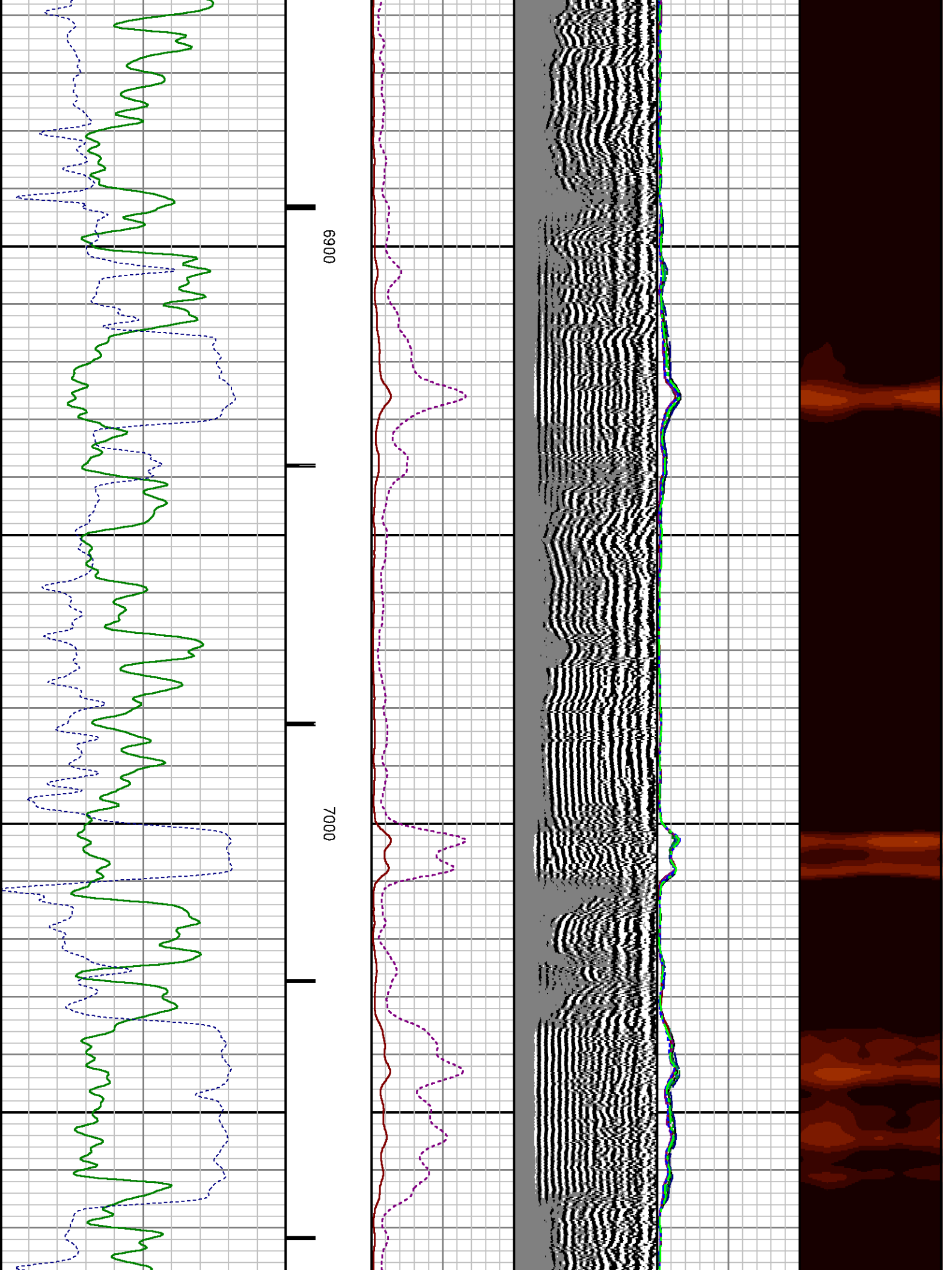


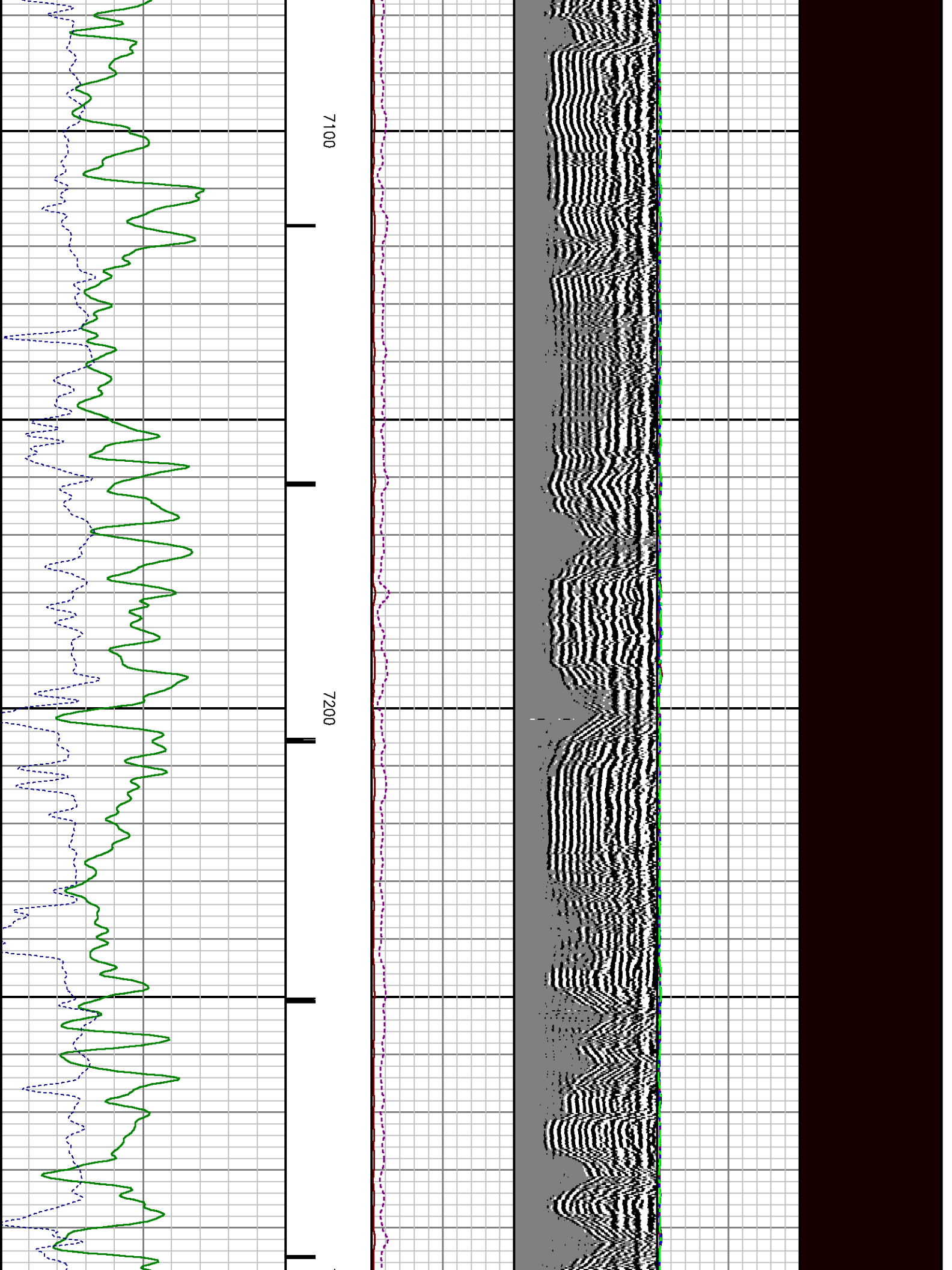


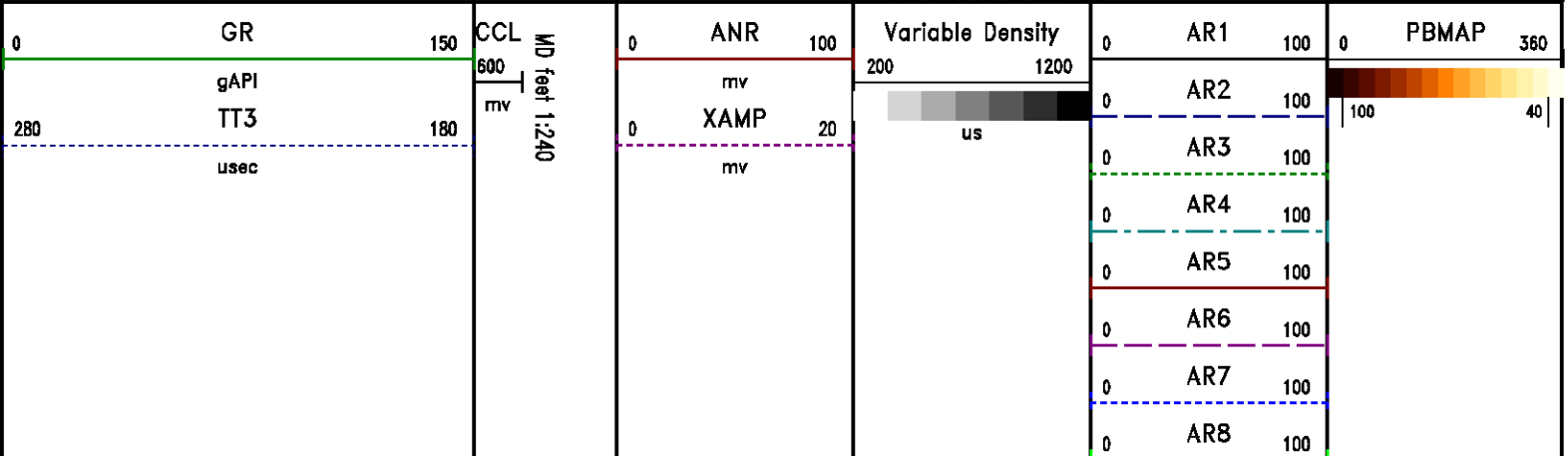
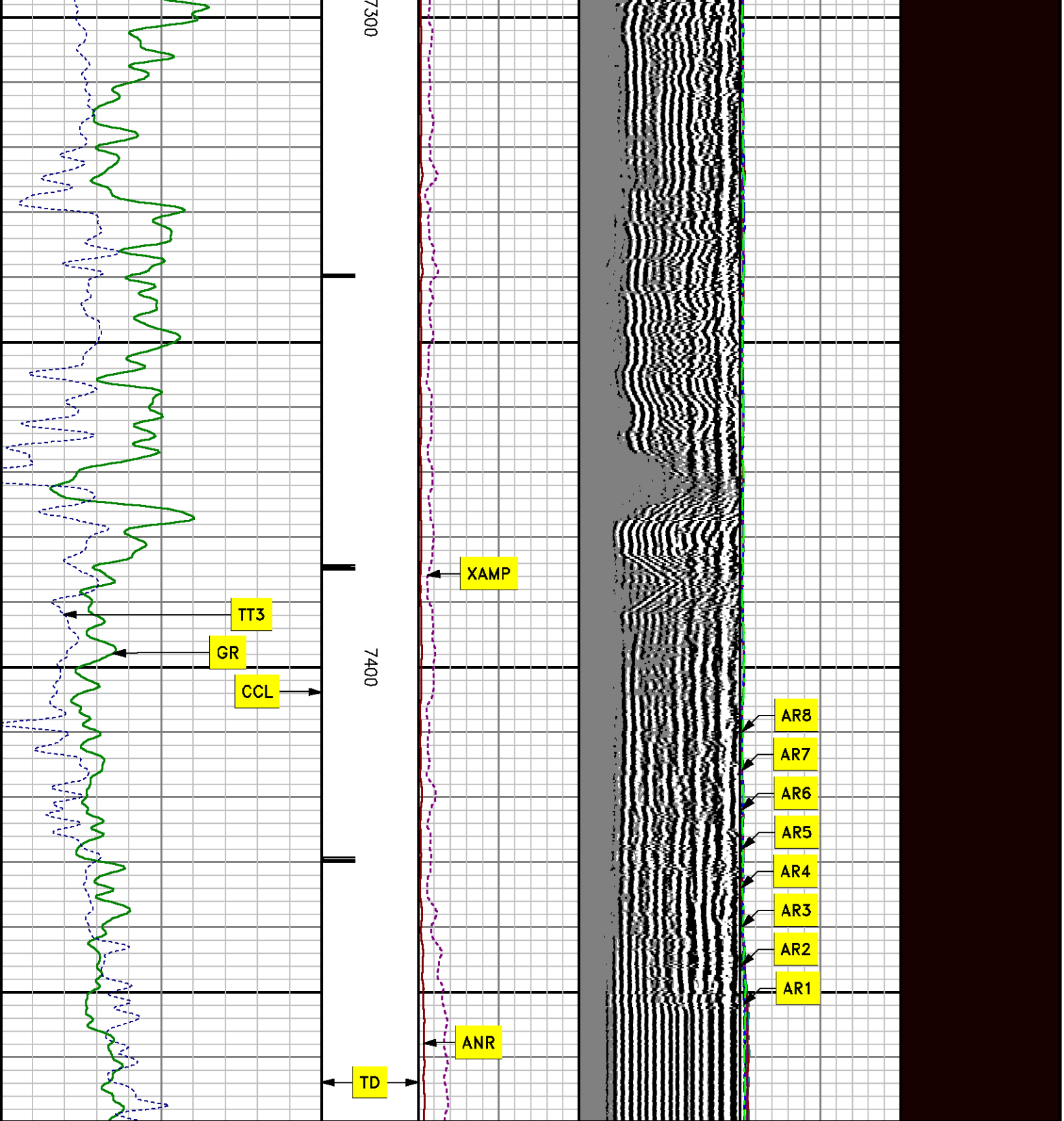












REPEAT SECTION

0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	316.900	usec	7067.020	7494.020
RAL	Amp Gate Start Near	200.391	usec	7067.020	7494.020
RAL	Amp Gate Start Radial	200.391	usec	7067.020	7494.020
RAL	Amp Gate Width Far	25.000	usec	7067.020	7494.020
RAL	Amp Gate Width Near	25.000	usec	7067.020	7494.020
RAL	Amp Gate Width Radial	25.000	usec	7067.020	7494.020
RAL	casing od	4.500	inches	7067.020	7494.020
RAL	casing wt	11.600	lbm/ft	7067.020	7494.020
RAL	FB Start Far	291.900	usec	7067.020	7494.020
RAL	FB Start Near	180.000	usec	7067.020	7494.020
RAL	FB Start Radial	180.000	usec	7067.020	7494.020
RAL	FB Thresh Far	10.000	mv	7067.020	7494.020
RAL	FB Thresh Near	4.000	mv	7067.020	7494.020
RAL	FB Thresh Radial	4.000	mv	7067.020	7494.020
RAL	Fluid Travel Time	200.000	usec/ft	7067.020	7494.743

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-16.750	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	-15.750	AFAR	SIG	TT5			
2459XA	-11.340	CCL					
2459XA	-9.490	GR					
2459XA	-4.090	NEU					

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WILLIAMS PRODUCTION COMPANY

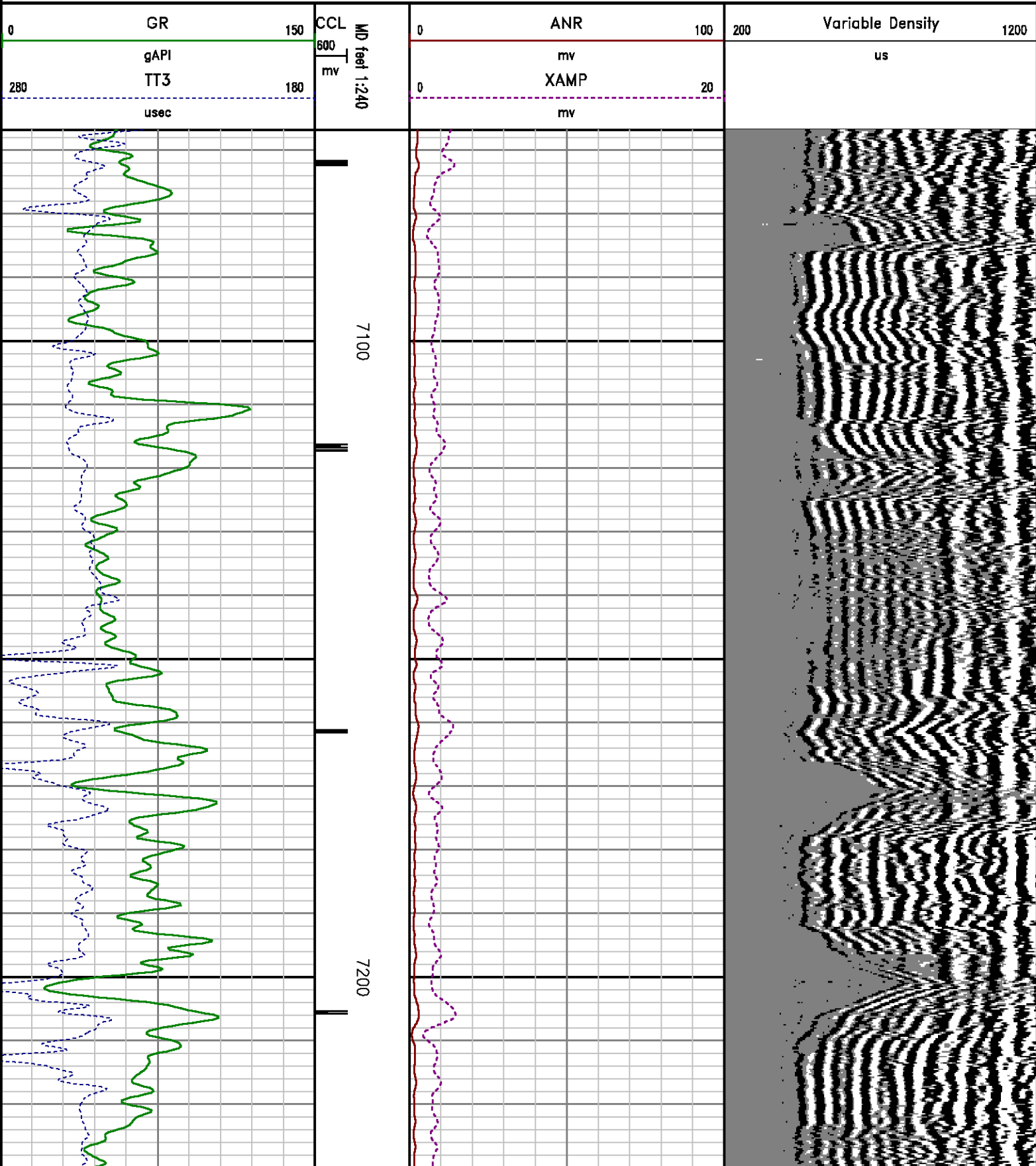
Well : GM 414-32

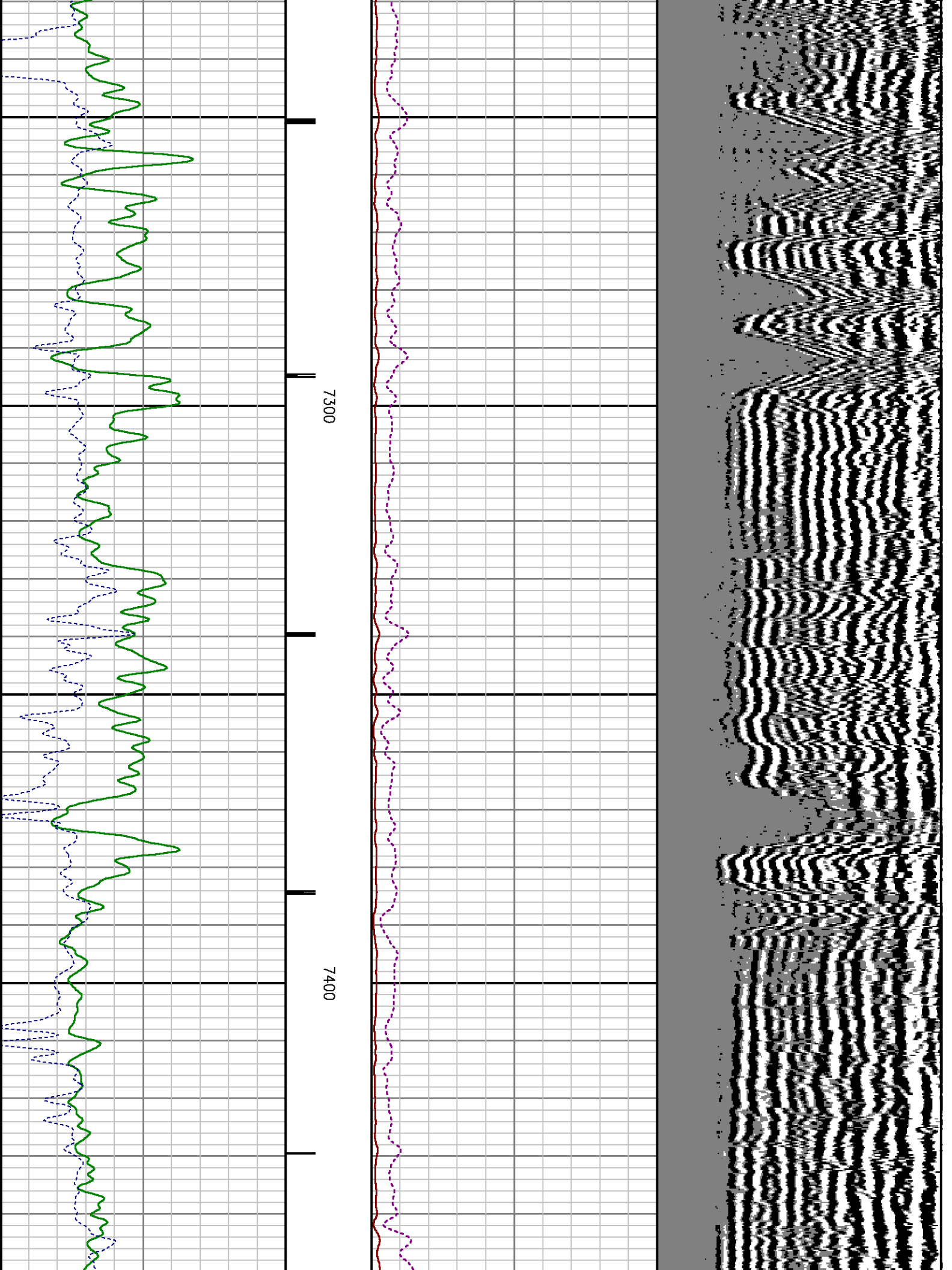
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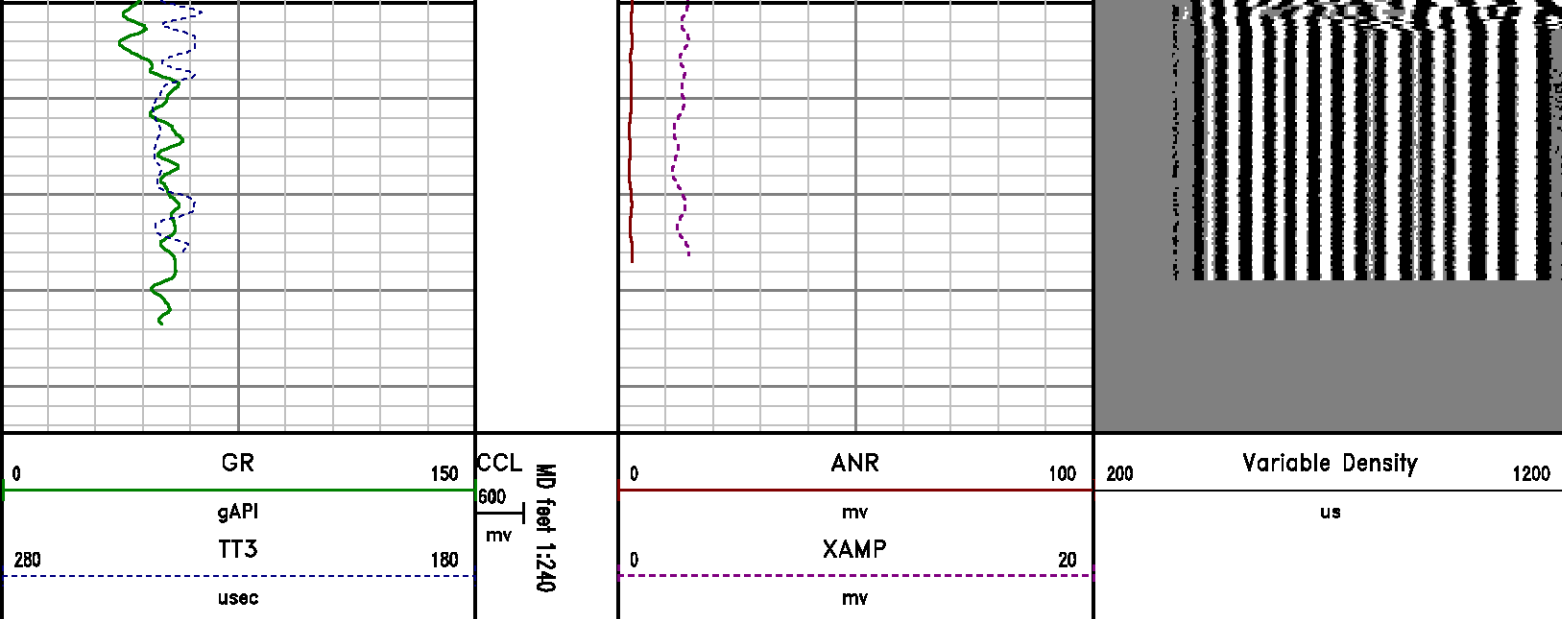
Mode : PlotMgr 5.4.504

Interval : 7066.77 - 7494.77 feet UP

Created : 2/13/2011 5:05:17 PM







CALIBRATION SUMMARY

RALSHP

Shop Calibration: C:\case\calver\RALSHP\028F6_shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun Feb 13 14:31:20 2011 TOOL SERIES: 1426XA ASSET: 028 SEQ: F6

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	215	216	30	166	25	-0.544	100.00	0.35
3 Ft. Receiver	215	216	30	157	25	-0.485	100.00	0.34
5 Ft. Receiver	322	323	30	242	25	0.313	150.00	0.37
Radial #1	214	216	30	153	25	-0.356	100.00	0.34
Radial #2	216	216	30	153	25	0.005	100.00	0.34
Radial #3	216	216	30	153	25	-0.369	100.00	0.34
Radial #4	216	216	30	153	25	-0.120	100.00	0.34
Radial #5	214	216	30	153	25	-0.201	100.00	0.34
Radial #6	214	216	30	153	25	-0.451	100.00	0.34
Radial #7	213	216	30	153	25	-0.119	100.00	0.34
Radial #8	214	216	30	153	25	-0.126	100.00	0.34

RALFLD

WellSite Calibration: C:\case\calver\RALFLD\028F6 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun Feb 13 14:33:48 2011 TOOL SERIES: 1426XA ASSET: 028 SEQ: F6

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

RECEIVER	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Full Amp. [mV]	Wellsite Factor	Amp. Ref [mV]
CAL Pulse	166	25	-0.153	0.000	1.01	100.000
3 Ft. Receiver	200	25	-2.029			
5 Ft. Receiver	317	25	-2.377			
Radial #1	200	25	-2.399			
Radial #2	200	25	-2.168			
Radial #3	200	25	-2.149			
Radial #4	200	25	-2.237			
Radial #5	200	25	-2.391			
Radial #6	200	25	-2.383			
Radial #7	200	25	-2.521			
Radial #8	200	25	-2.377			

GAMMA RAY

Calibration File: C:\case\calver\GR\503F1.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Feb 01 13:31:16 2011 TOOL SERIES: 2459XA ASSET: 503 SEQ: F1

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	81.42	366.98	0.648	52.75	237.75	185.00

Verification File: C:\case\calver\GR\503F1.VP

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Tue Feb 01 13:40:09 2011 TOOL SERIES: 2459XA ASSET: 503 SEQ: F1

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	73.78	353.11	0.648	47.80	228.77	180.97

TOOL DIAGRAM

TOOL DIAGRAM

OTA SHORT CABLE HEAD

PROBE 2 3/4 DUAL RECEIVER RADII

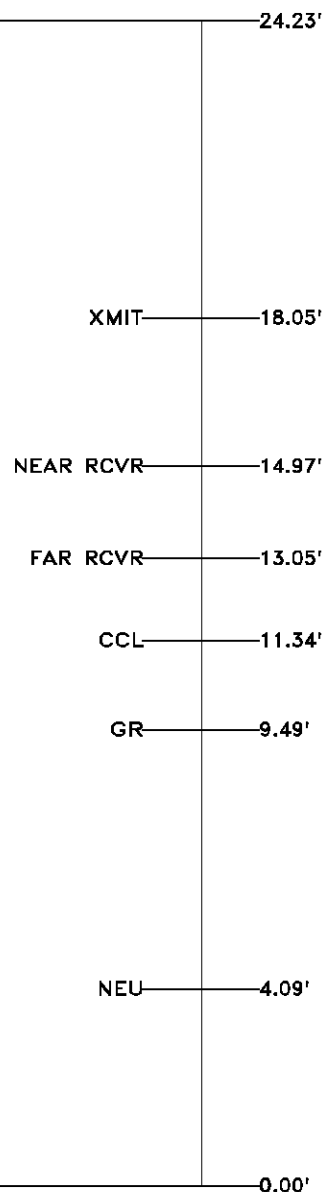
Series 1426XA
 Mnemonic PROB
 Diameter 2.75"
 Length 11.17'
 Measure Point 0.75' FAR RCVR
 Measure Point 2.67' NEAR RCVR
 Measure Point 5.75' XMIT
 Temp Rating 350.00 °F
 Press Rating 18000.00 PSI

Probe GR/CCL/NEU

Series 2459XA
 Mnemonic PROB
 Diameter 2.75"
 Length 9.42'
 Measure Point 1.21' NEU
 Measure Point 6.60' GR
 Measure Point 8.46' CCL

CENTRALIZER

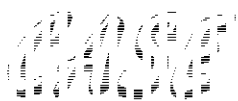
Series RALCENT
 Mnemonic CENT
 Diameter 3.12"
 Weight 20.00 lb



Total Length: 24.23'
 Total Weight: Not Available
 Max Diameter: 0' 3.12"



Baker Atlas



Company

WILLIAMS PRODUCTION COMPANY

Well

GM 414-32

Field

GRAND VALLEY

County

GARFIELD

State

COLORADO

Location

SHL: 2245' FSL & 1825' FEL; S31 6S 96W

BHL: 606' FSL & 182' FEL; S32 6S 96W

SEC 32

TWP 6S

RGE 96W

Elevations

KB 6124 ft

DF 6123 ft

GL 6100 ft

File No:

CH029307

API No:

05045194430000

32 6S 96W

GM 333-31 PAD

H&P 278