



RADIAL ANALYSIS BOND LOG

Baker Atlas

File No:	Company	WILLIAMS PRODUCTION COMPANY	
API No:	Well	GM 334-32	
05045178230000	Field	GRAND VALLEY	
	County	GARFIELD	State
		COLORADO	
32 GS 96W	Location	Other Services	
GM 343-32 PAD	SHL: 2829' FNL & 1127' FEL	RPM	
HBP 278	BHL: 634' FSL & 1824' FEL	TEMP	
	SEC 32 TWP 6S RGE 96W		
Permanent Datum	GL	Elevation	5948 ft
Log Measured From	KB	24 ft	Above P. D.
Drill Measured From	KELLY BUSHING		
		KB	5972 ft
		DF	5971 ft
		GL	5948 ft

Date	10 SEP 2010	
Run	ONE	
Service Order	575250	
Depth Driller	7196 ft	
Depth Logger	7356 ft	
Bottom Logged Interval	7352 ft	
Top Logged Interval	20 ft	
Time Started	09:30	
Time Finished	13:00	
Operator Rig Time	3.5 hrs	
Type of Fluid in Hole	WATER	
Fluid Density	N/A	
Salinity	N/A	
Fluid Level	FULL	
Logged Cement Top	N/A	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	N/A	
Nominal Logging Speed	45 fpm	
Maximum Recorded Temperature	211 degF	
Reference Log	BAKER ATLAS TRIPLE COMBO	
Reference Log Date	6 SEP 2010	
Equipment No.	4214	G.J., COLORADO
Recorded By	J. OSTLER	
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	SURFACE	1232 ft
7.875 In	SURFACE	7359 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 In			SURFACE	1232 ft
4.5 In	11.6 lbm/ft	P-110	SURFACE	7359 ft

Remarks
LOG WAS TIED INTO A BAKER ATLAS TRIPLE COMBO LOG
WELL WAS LOGGED WITH 0 PSI AT THE WELL HEAD
BHT = 211°F
SHORT JOINT AT 3798' TO 3820'

Equipment Data

Run	Trip	Tool	Series Number	Serial Number	Position
1	1	VDL	1426XA	10218496	CENTRALIZED
1	1	GR/CCL/NEU	2459XA	10404544	CENTRALIZED

***MAIN SECTION
PRIMARY PRESENTATION
0 PSI***

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	304.158	usec	10.750	7384.000
RAL	Amp Gate Start Near	200.391	usec	10.750	7384.000
RAL	Amp Gate Start Radial	200.391	usec	10.750	7384.000
RAL	Amp Gate Width Far	30.000	usec	10.750	7384.000
RAL	Amp Gate Width Near	30.000	usec	10.750	7384.000
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RAL	casing wt	11.600	lbm/ft	10.750	7384.000
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RAL	FB Thresh Near	4.000	mv	10.750	7384.000
RAL	FB Thresh Radial	4.000	mv	10.750	7384.000
RAL	Fluid Travel Time	200.000	usec/ft	10.750	7384.500

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-16.450	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	-15.450	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

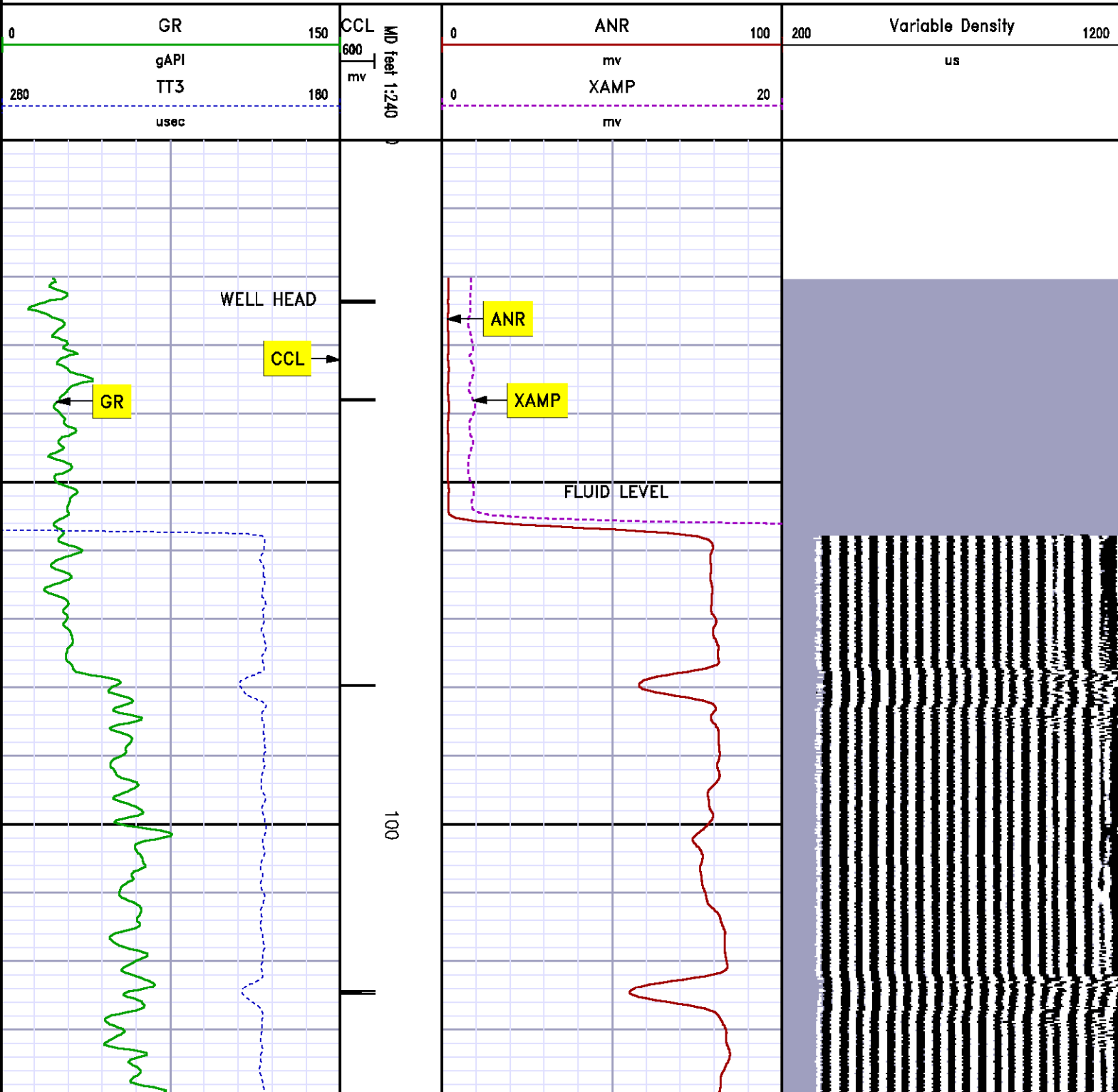
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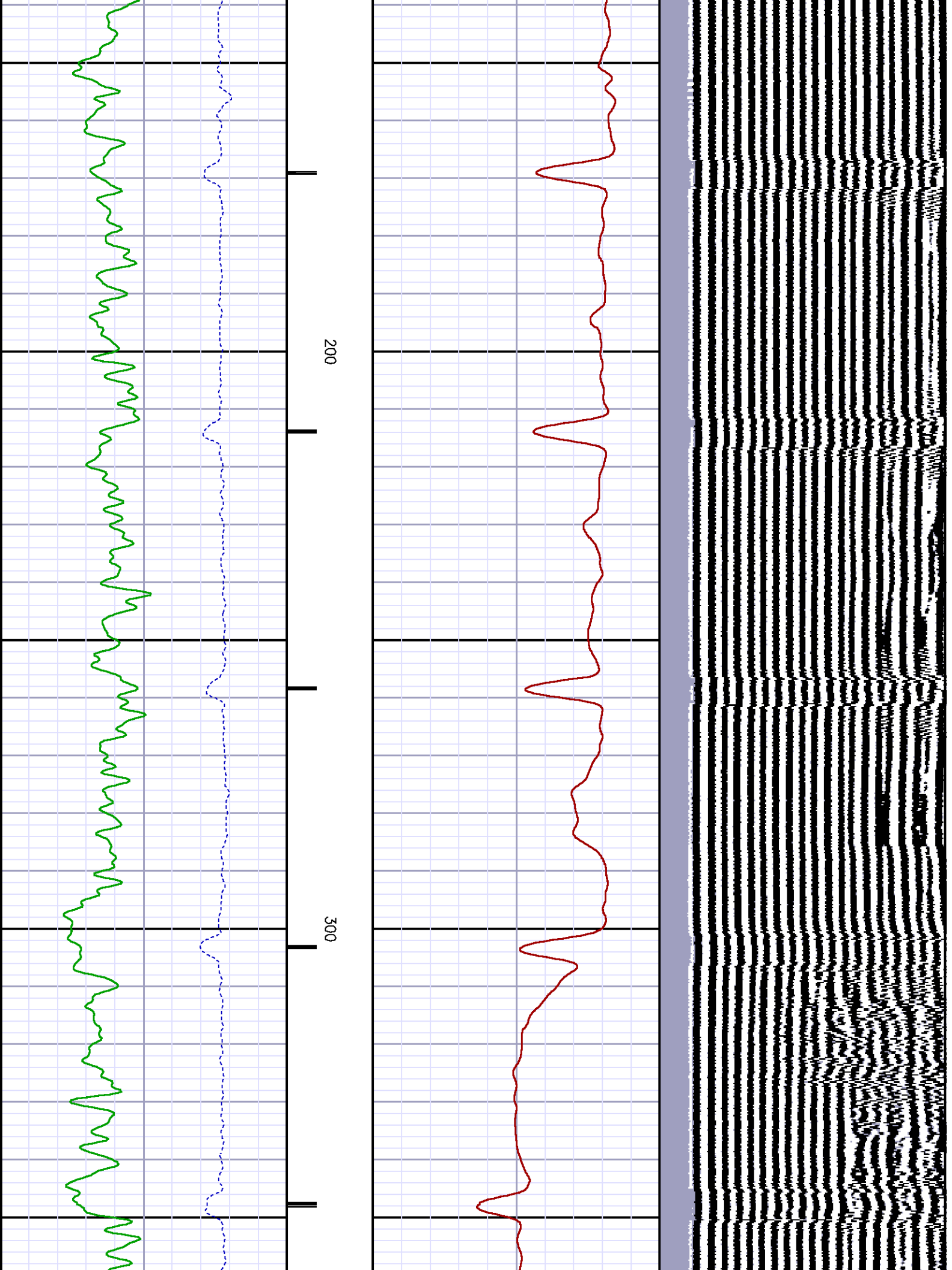
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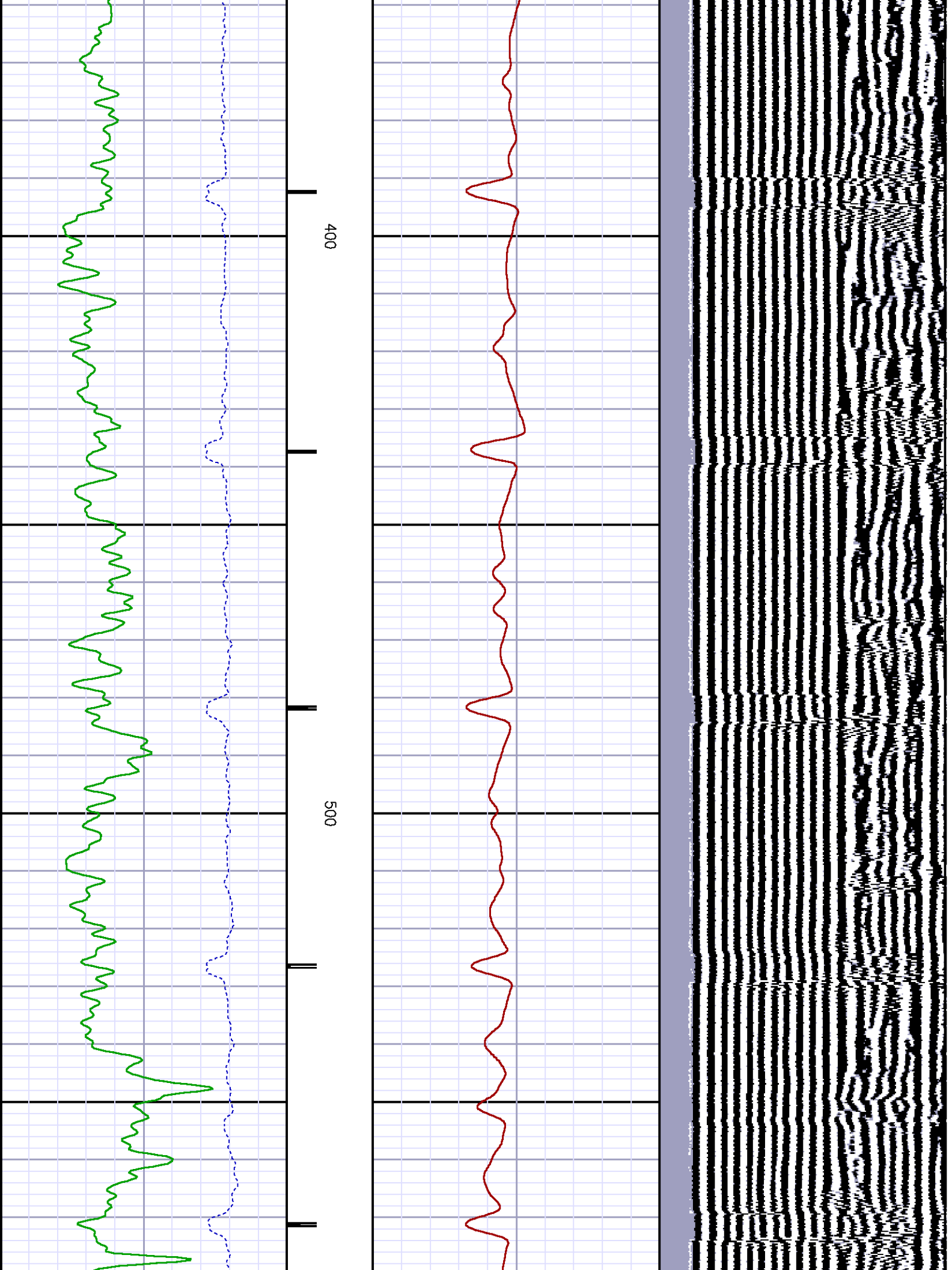
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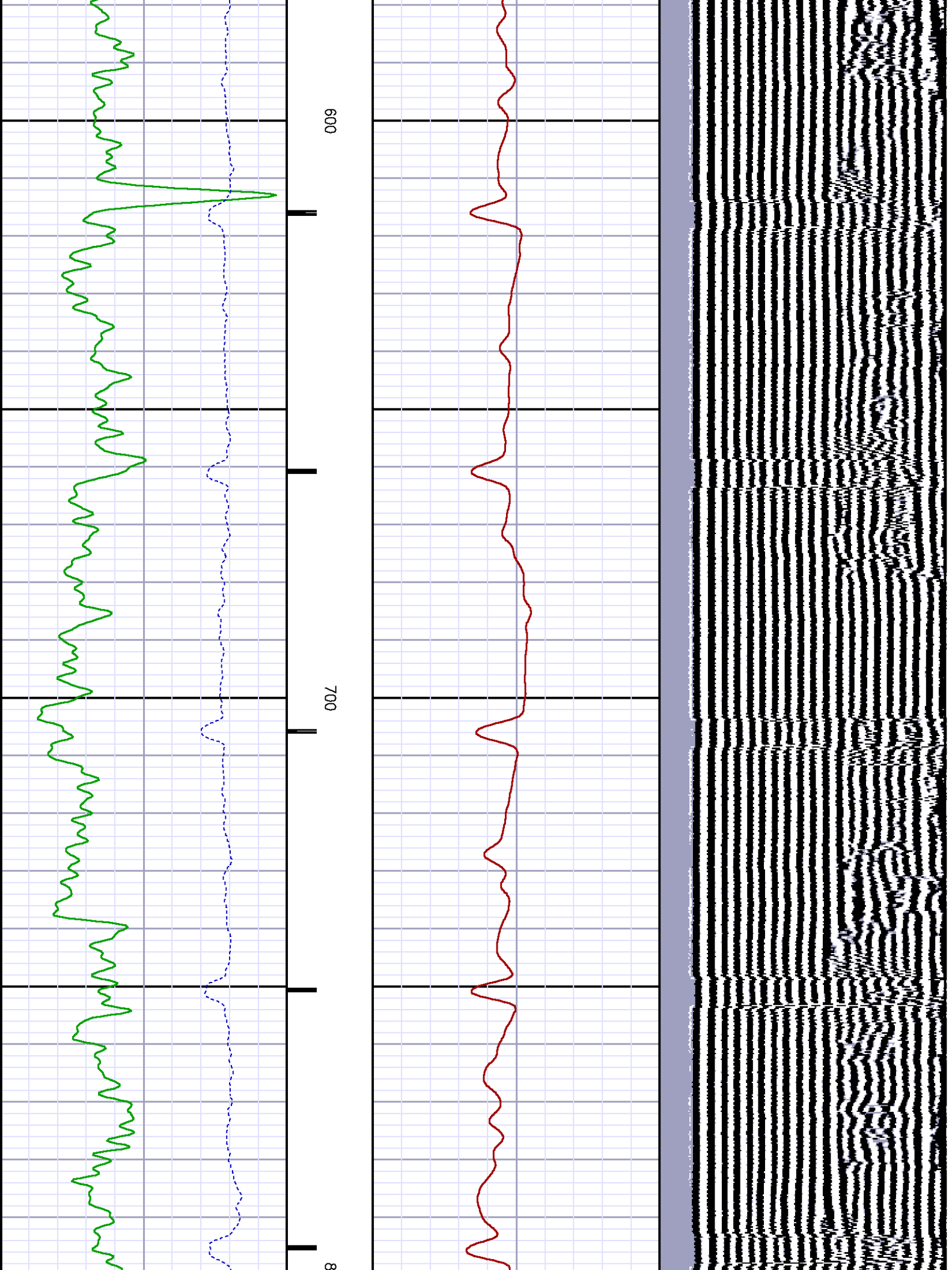
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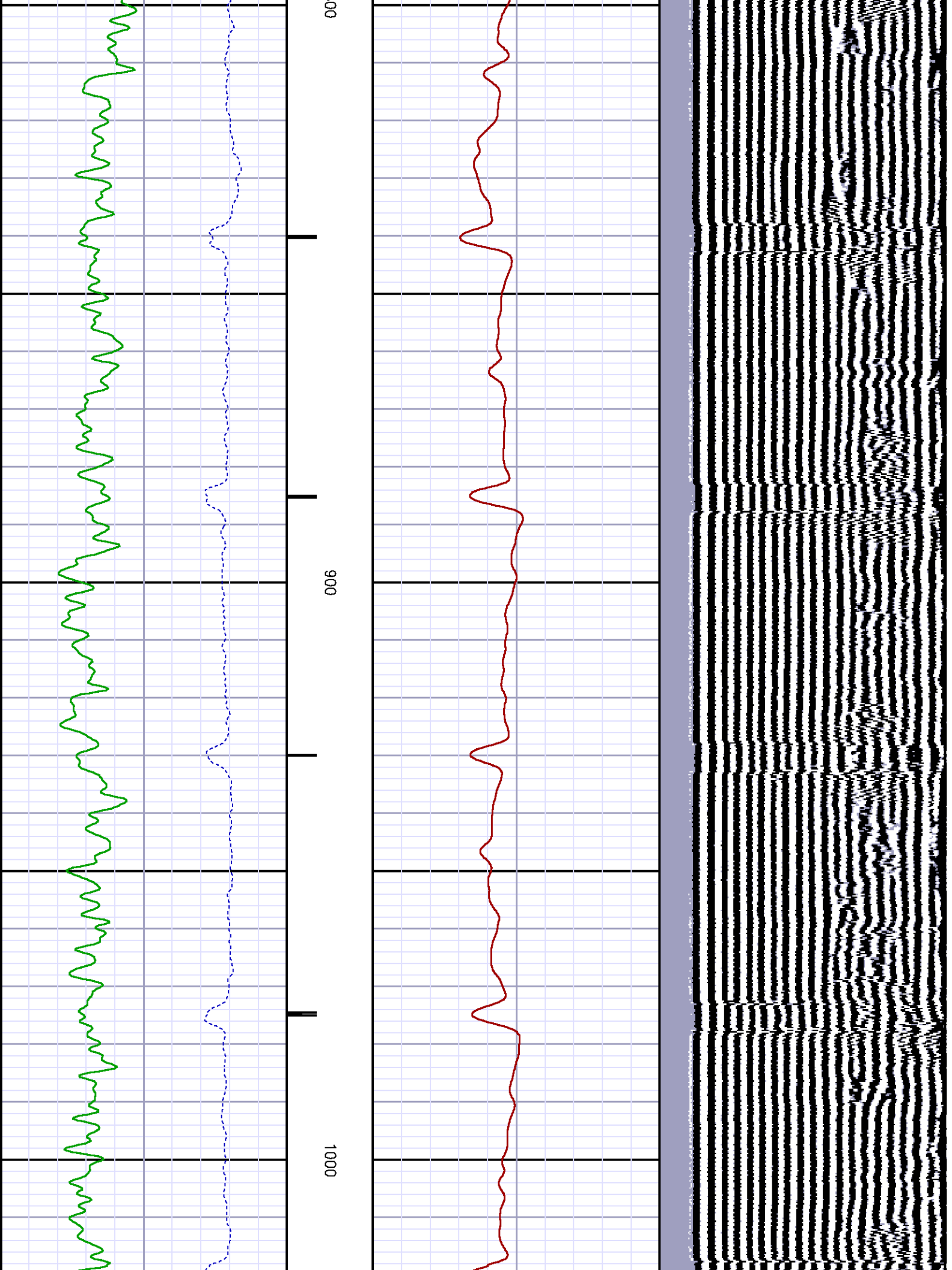
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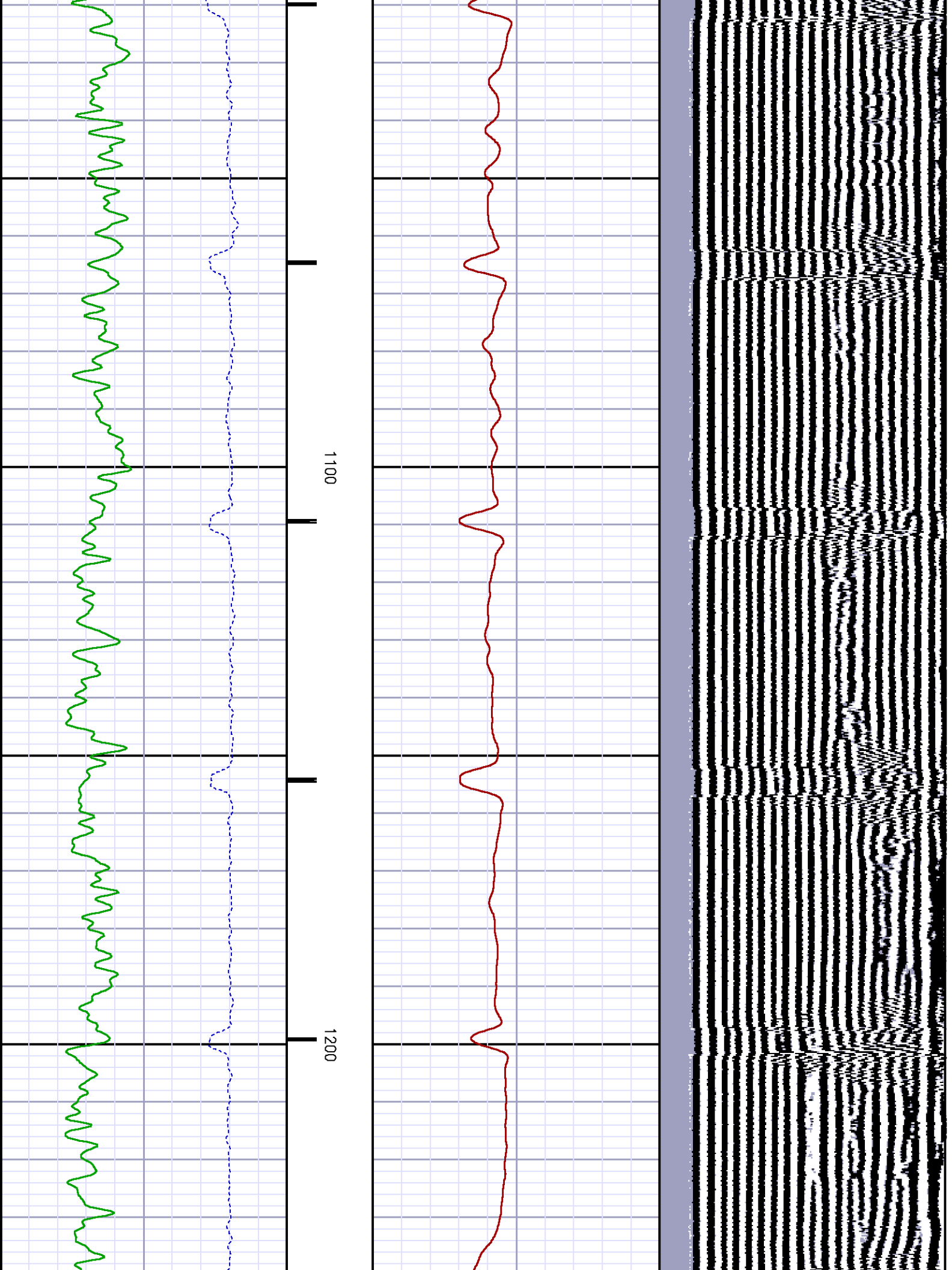


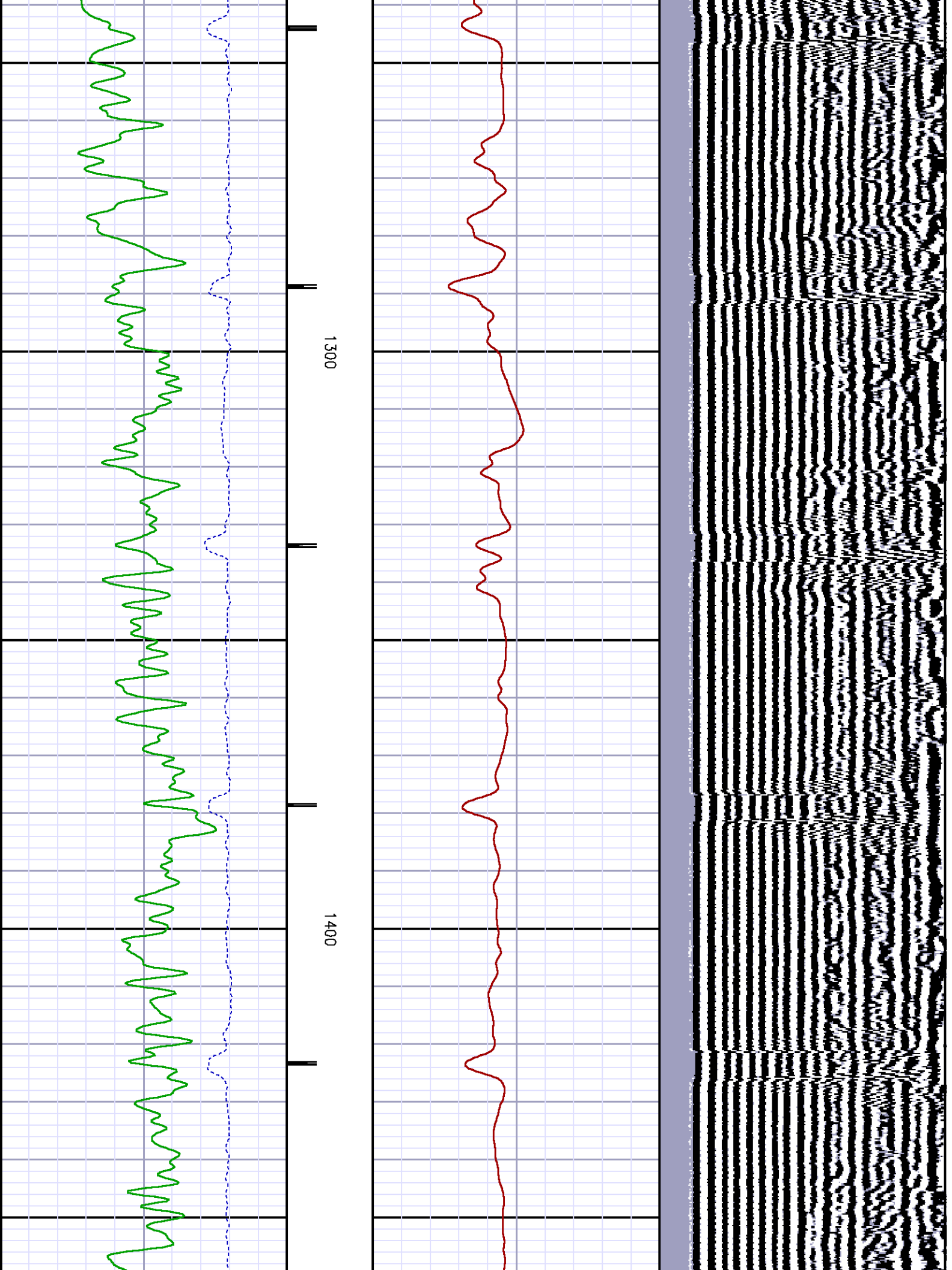


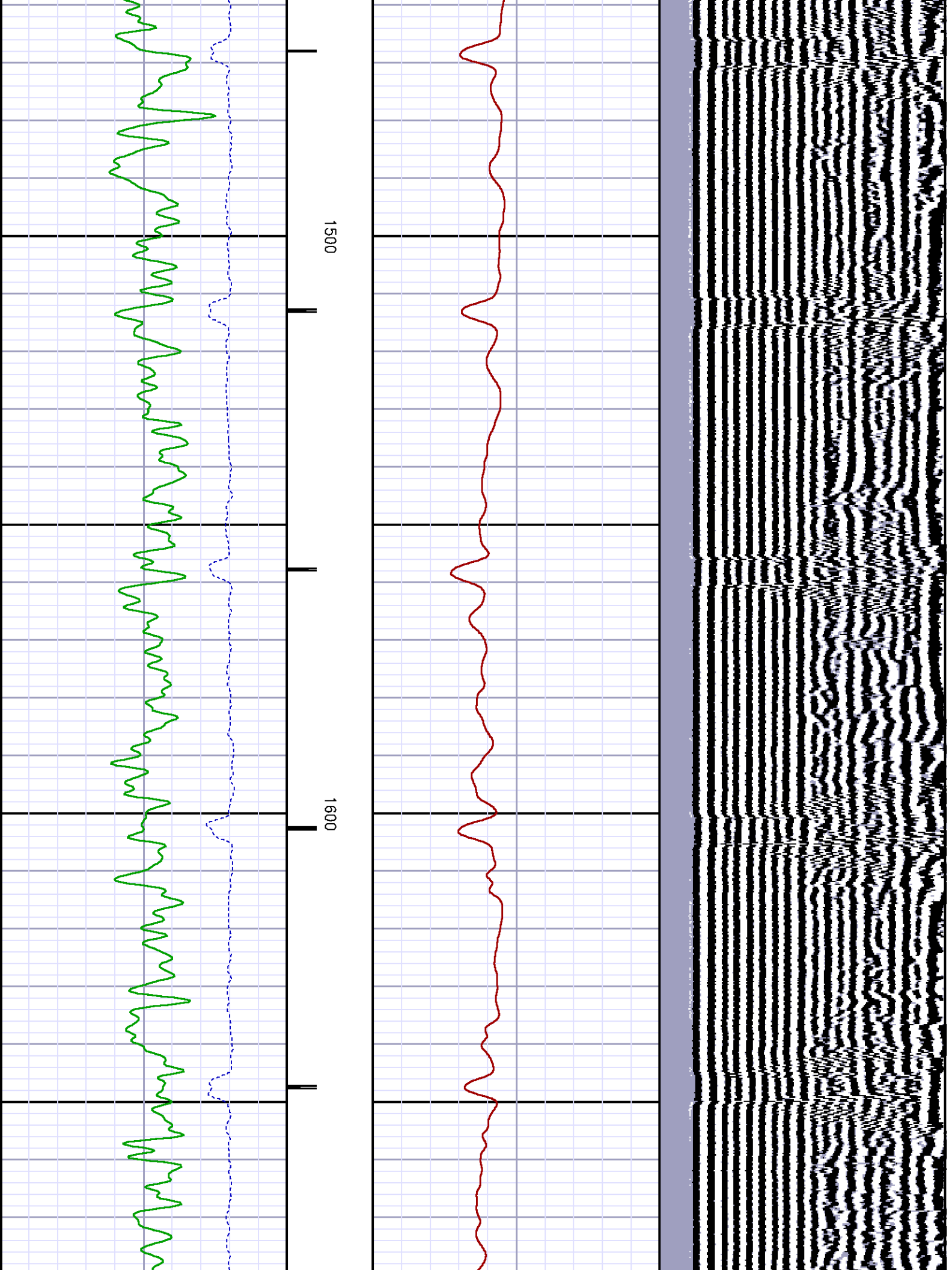


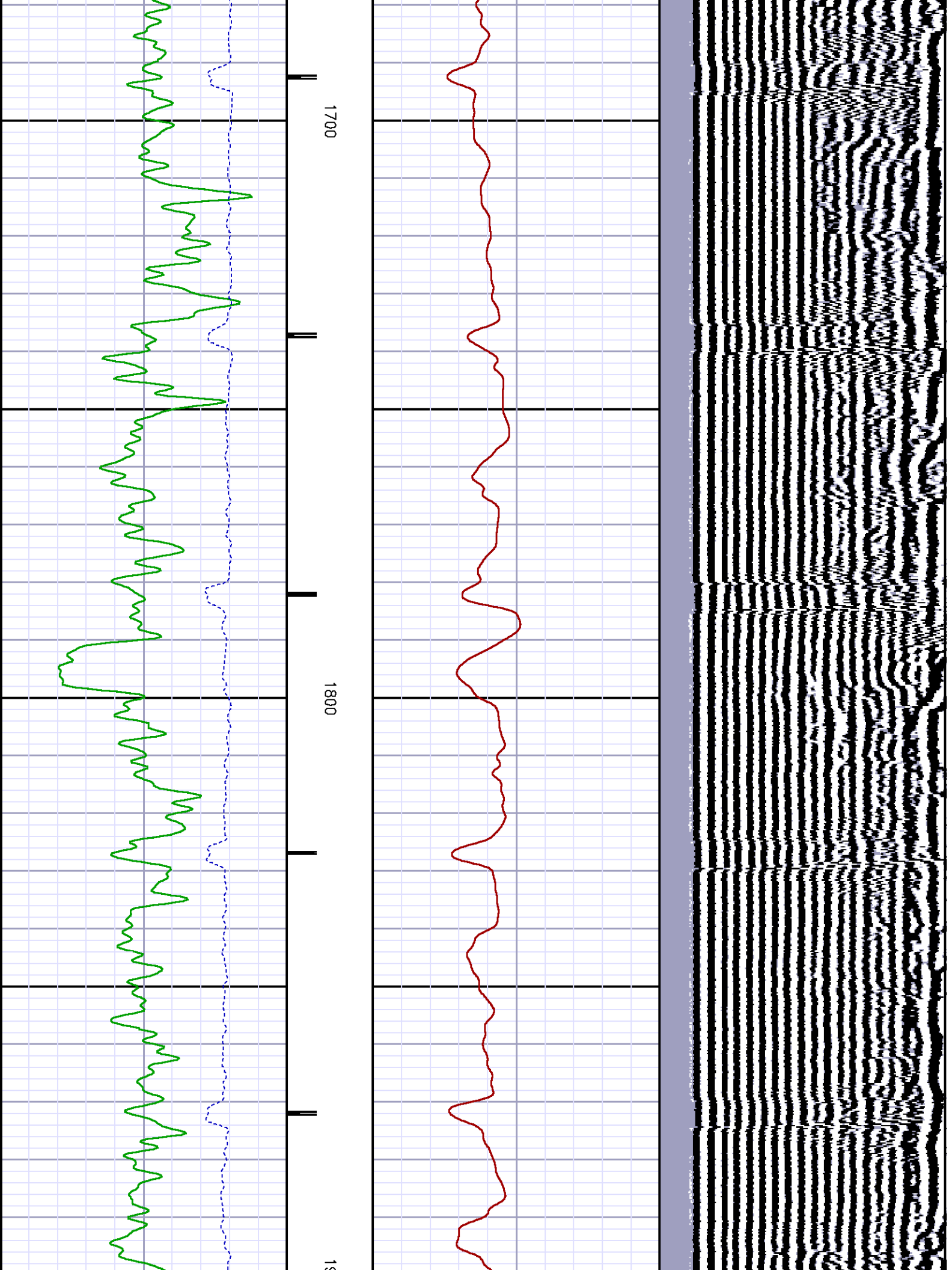


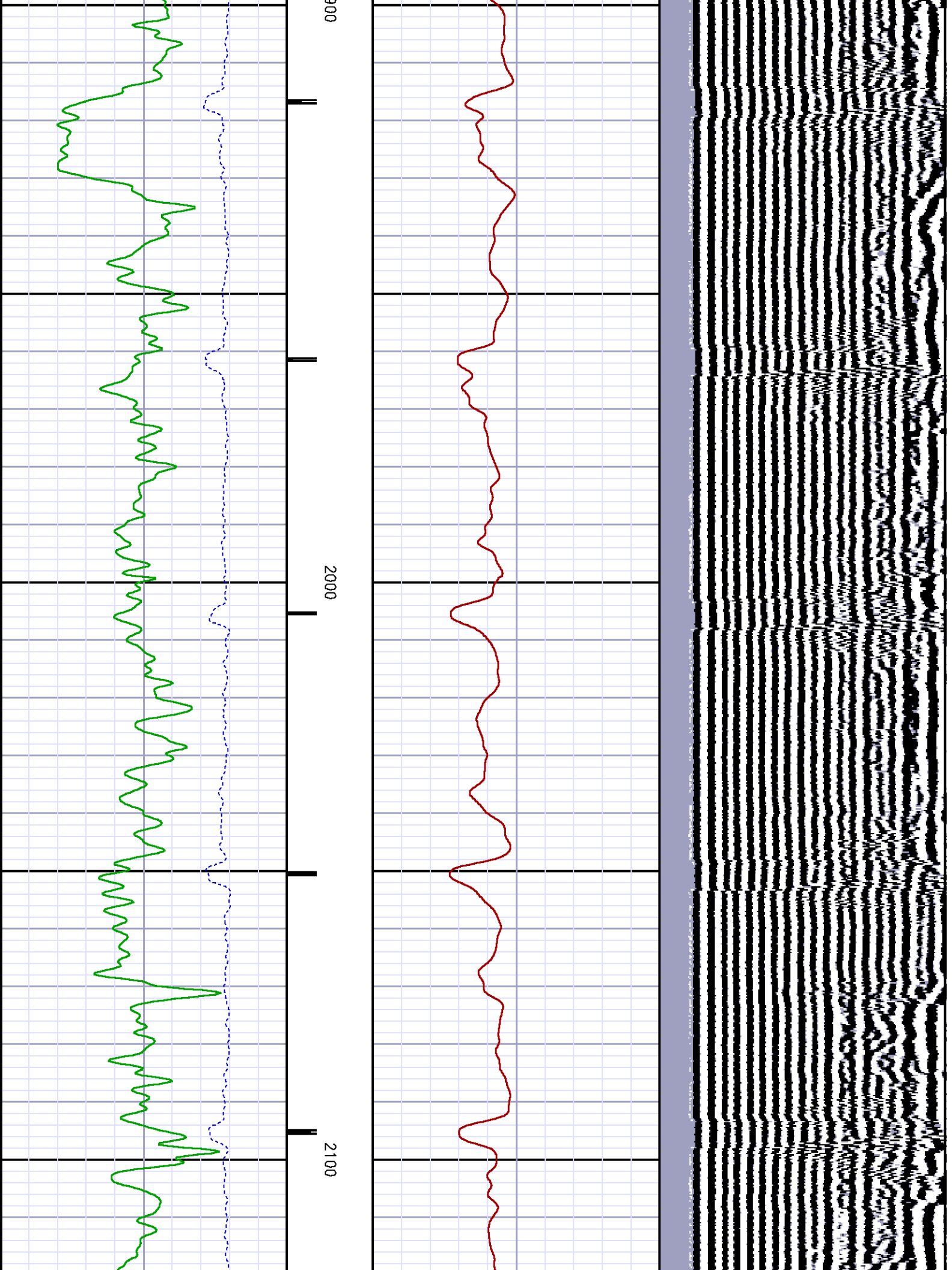


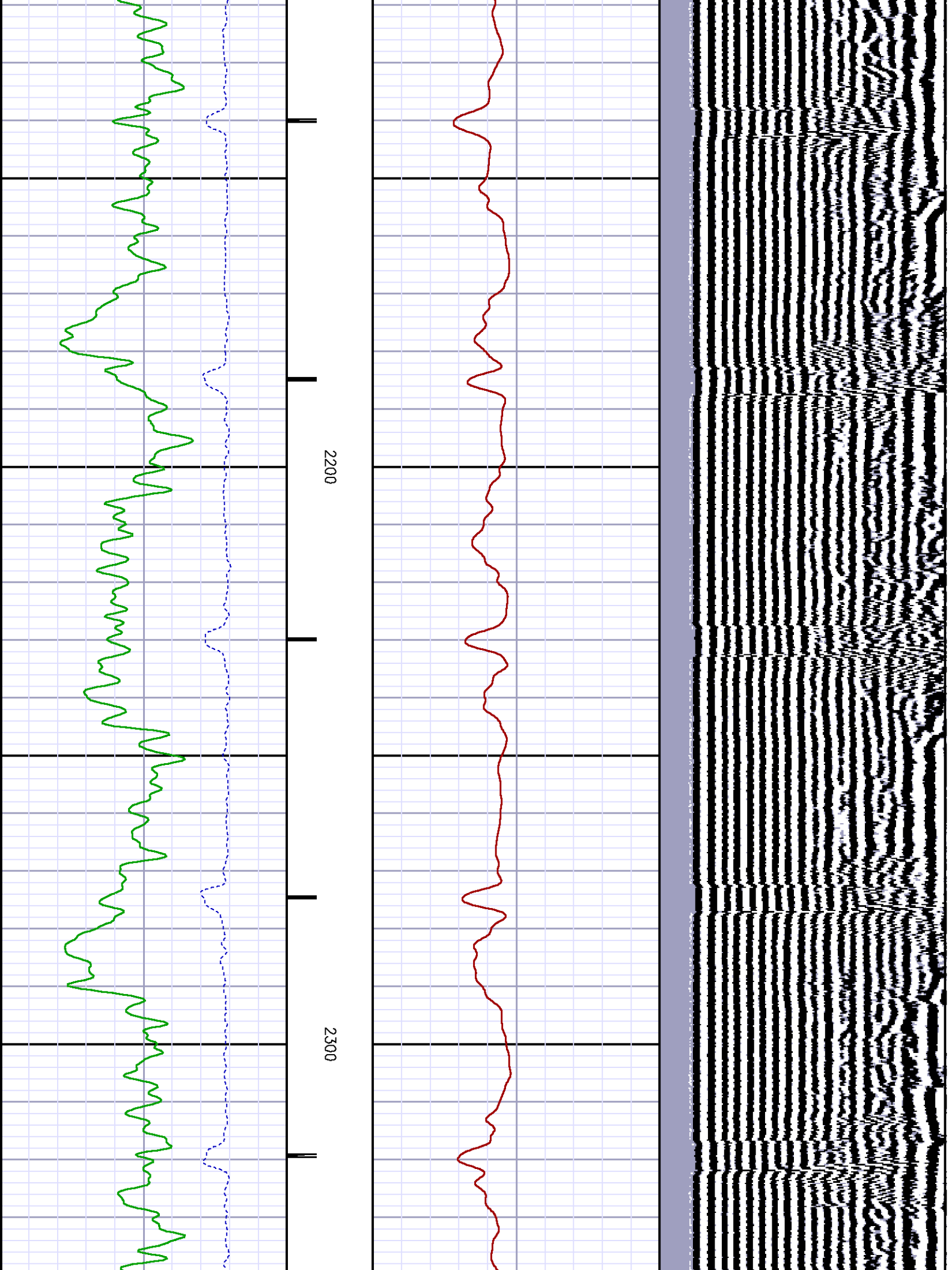


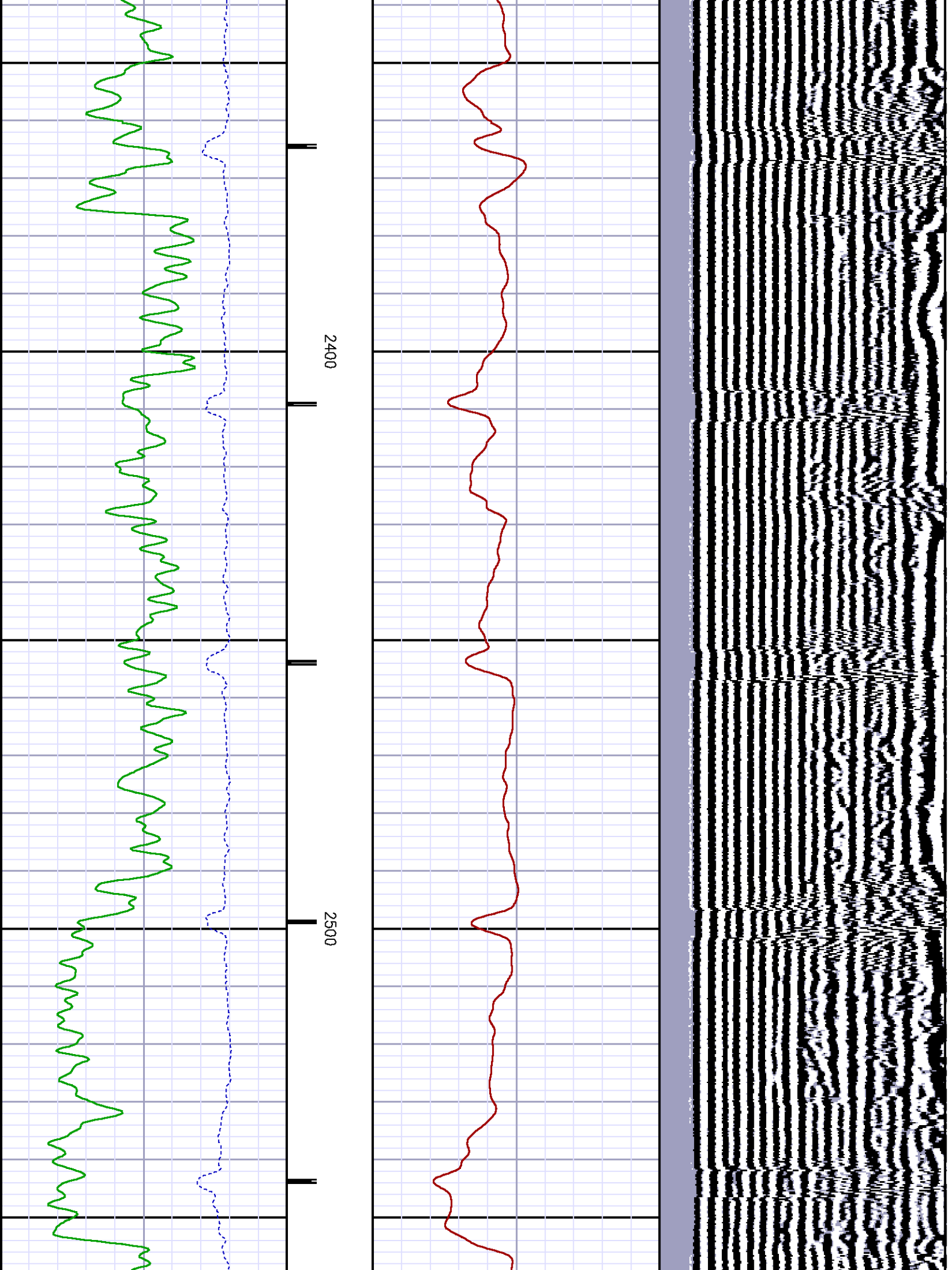


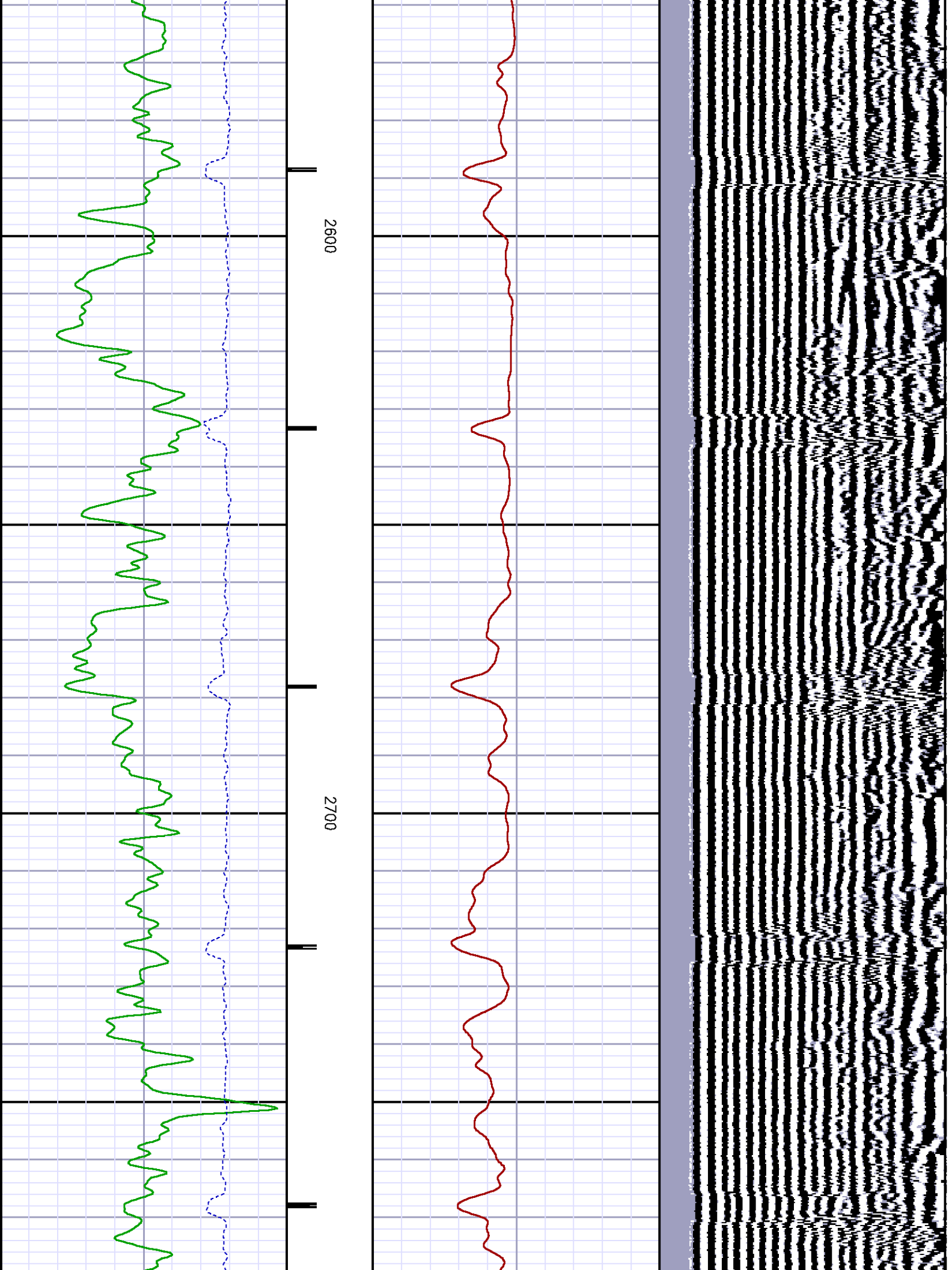


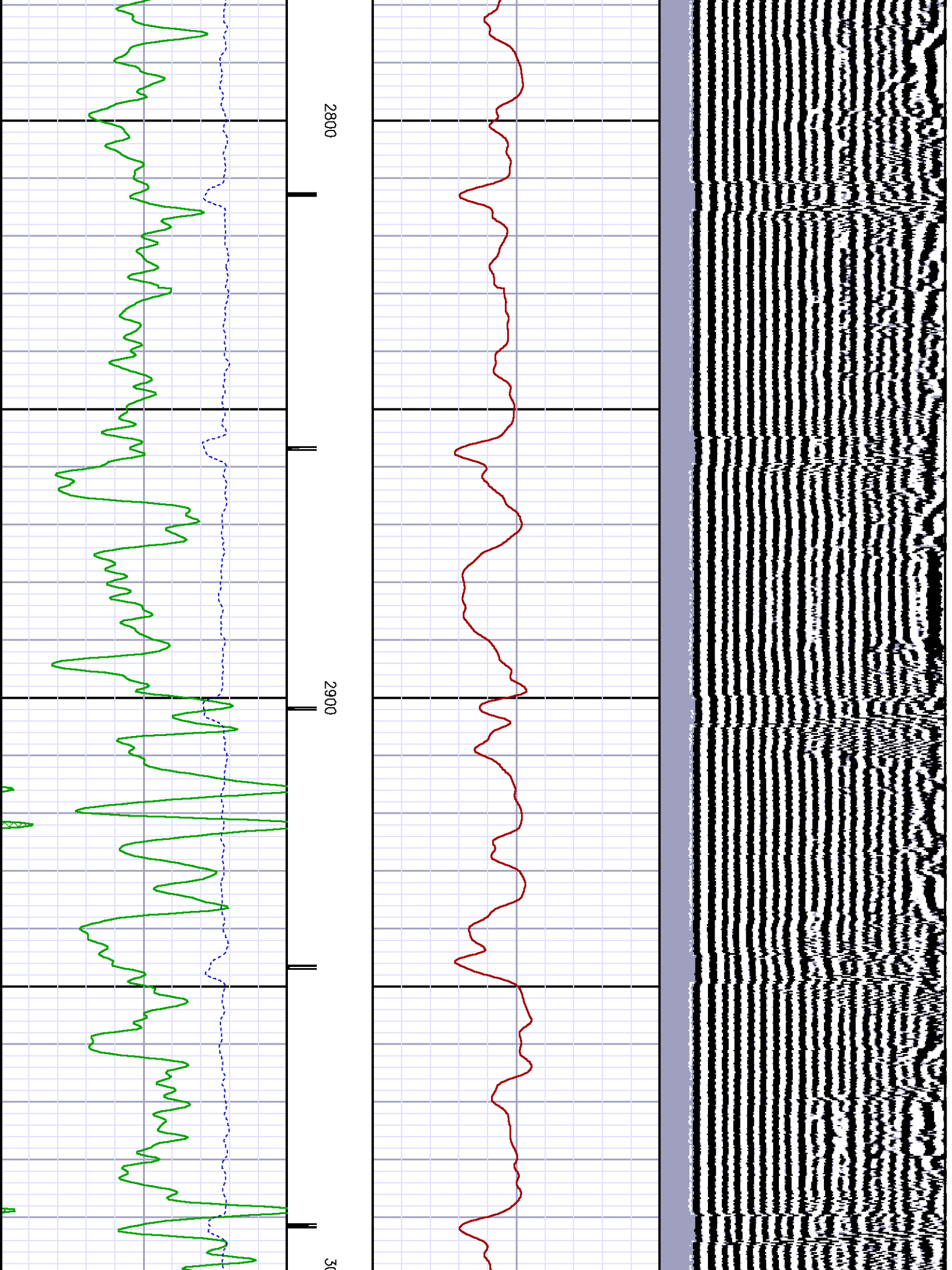


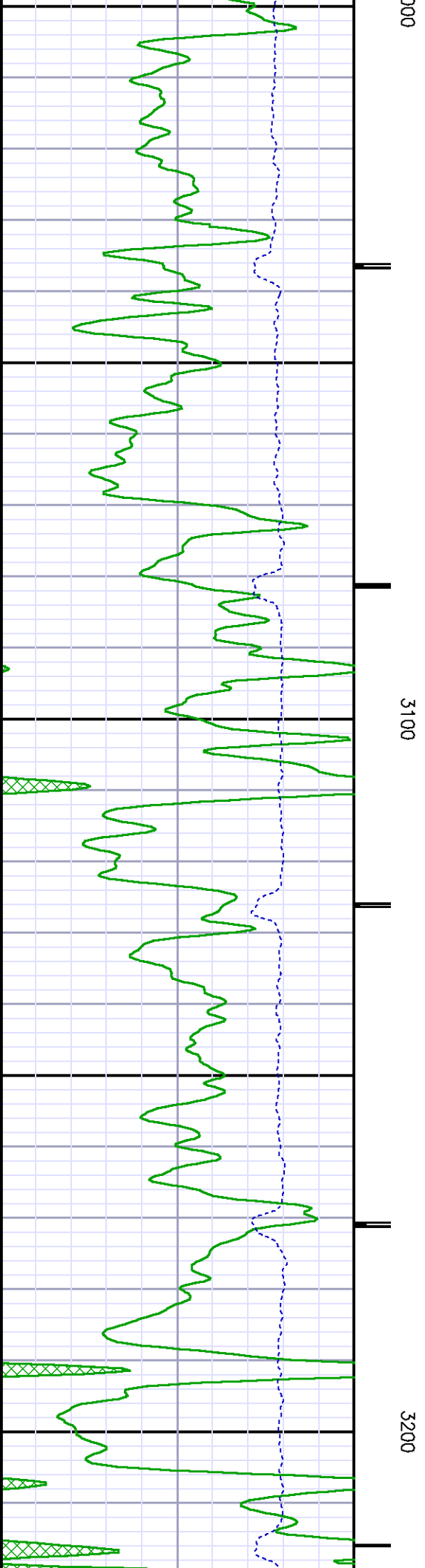
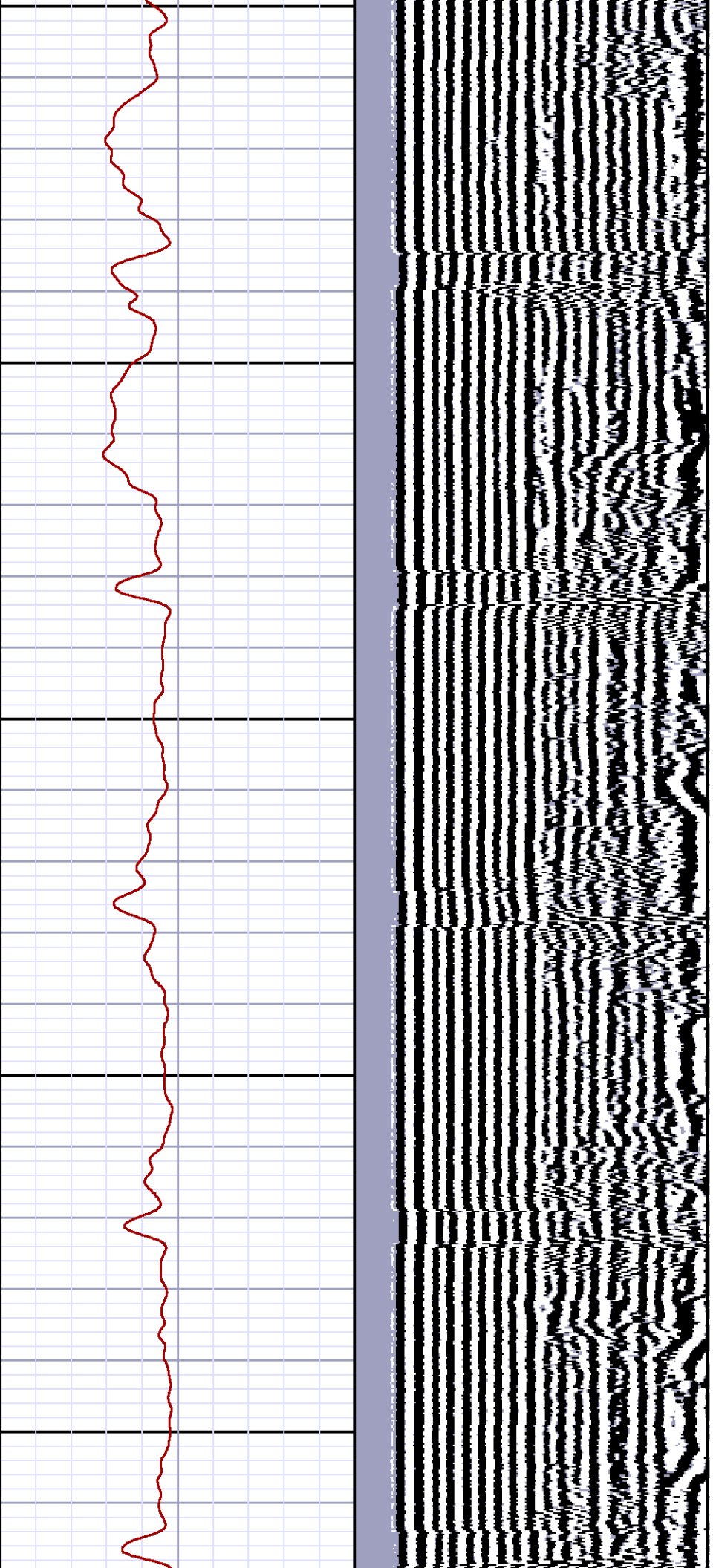


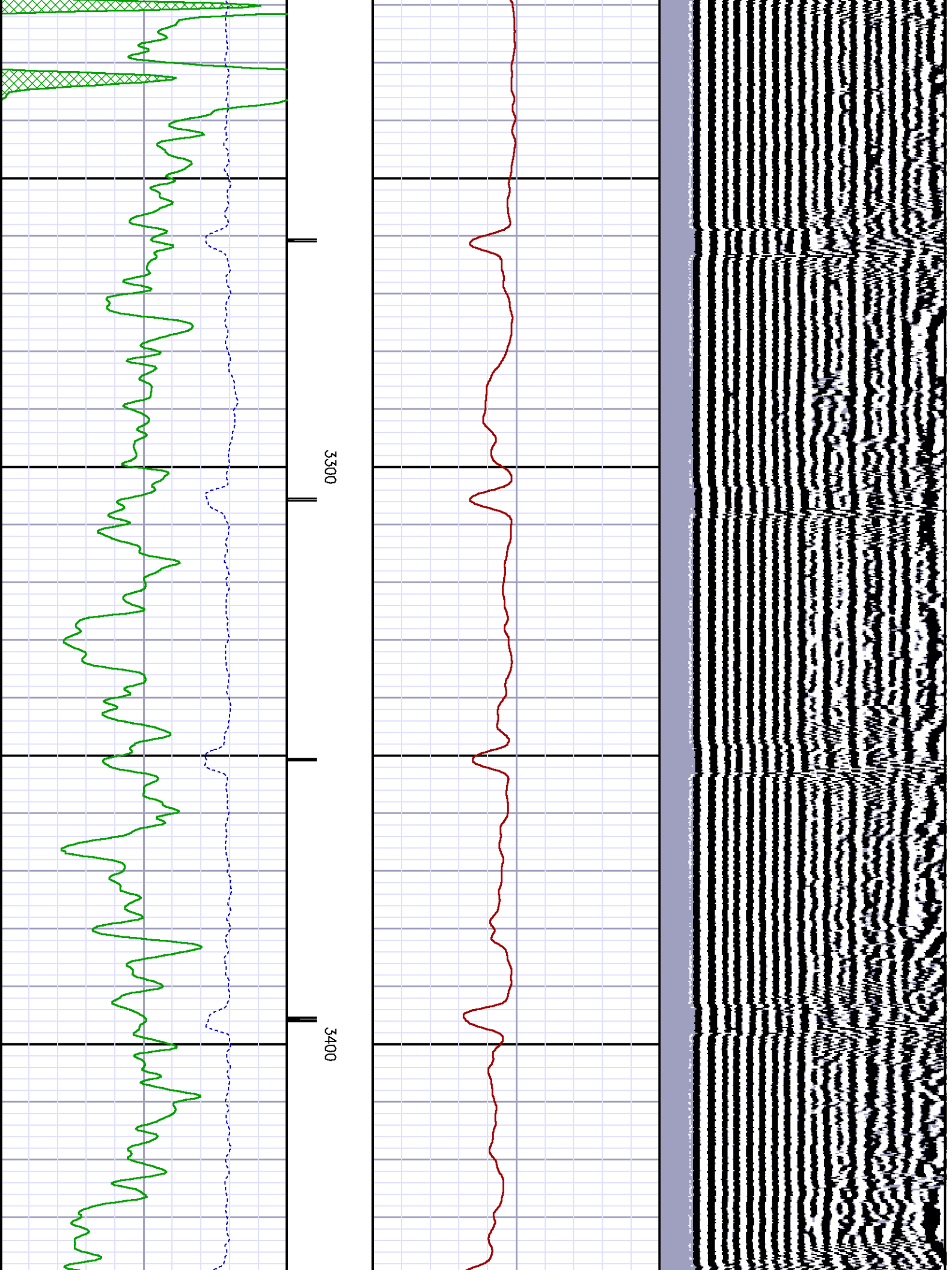


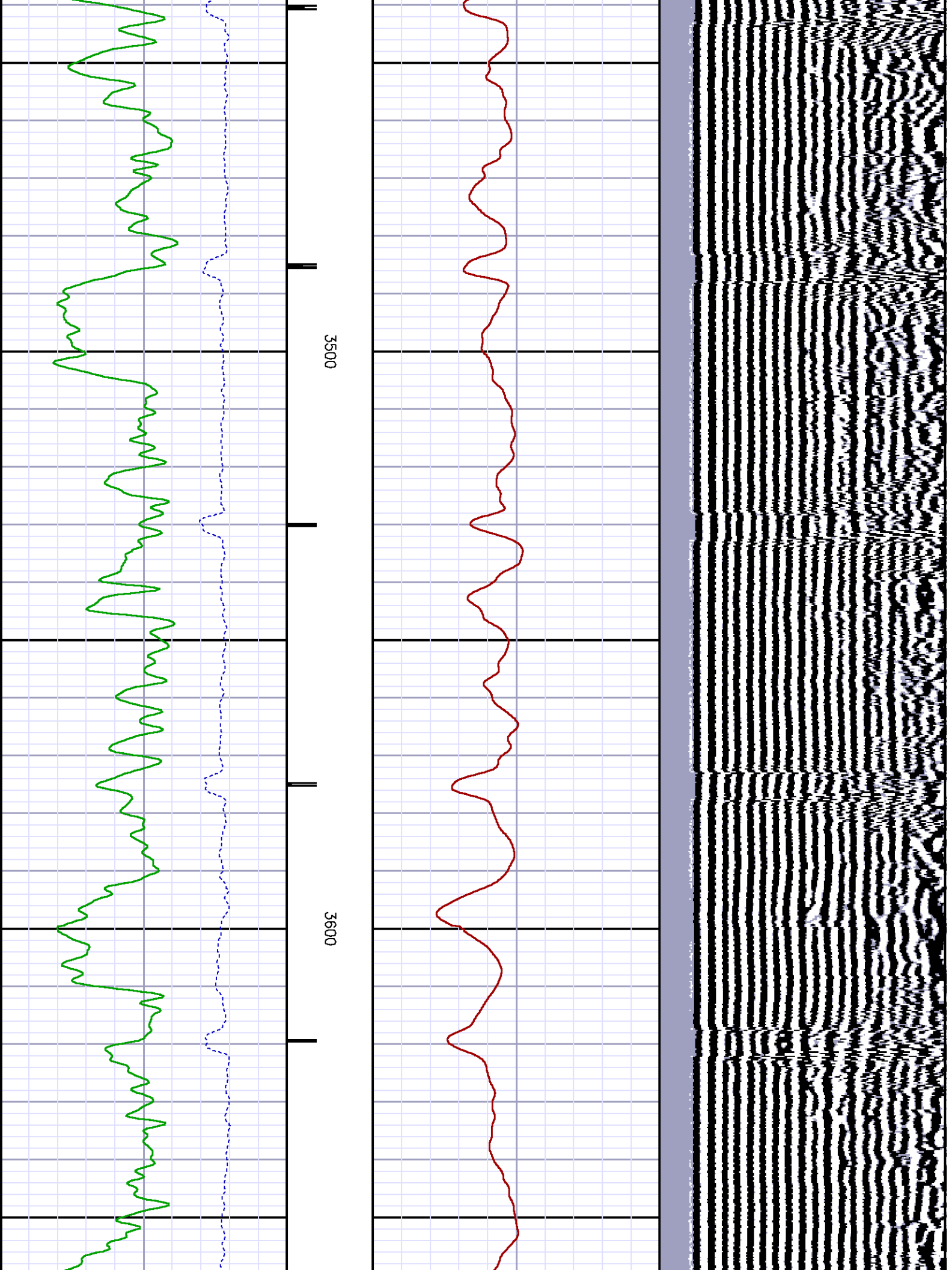


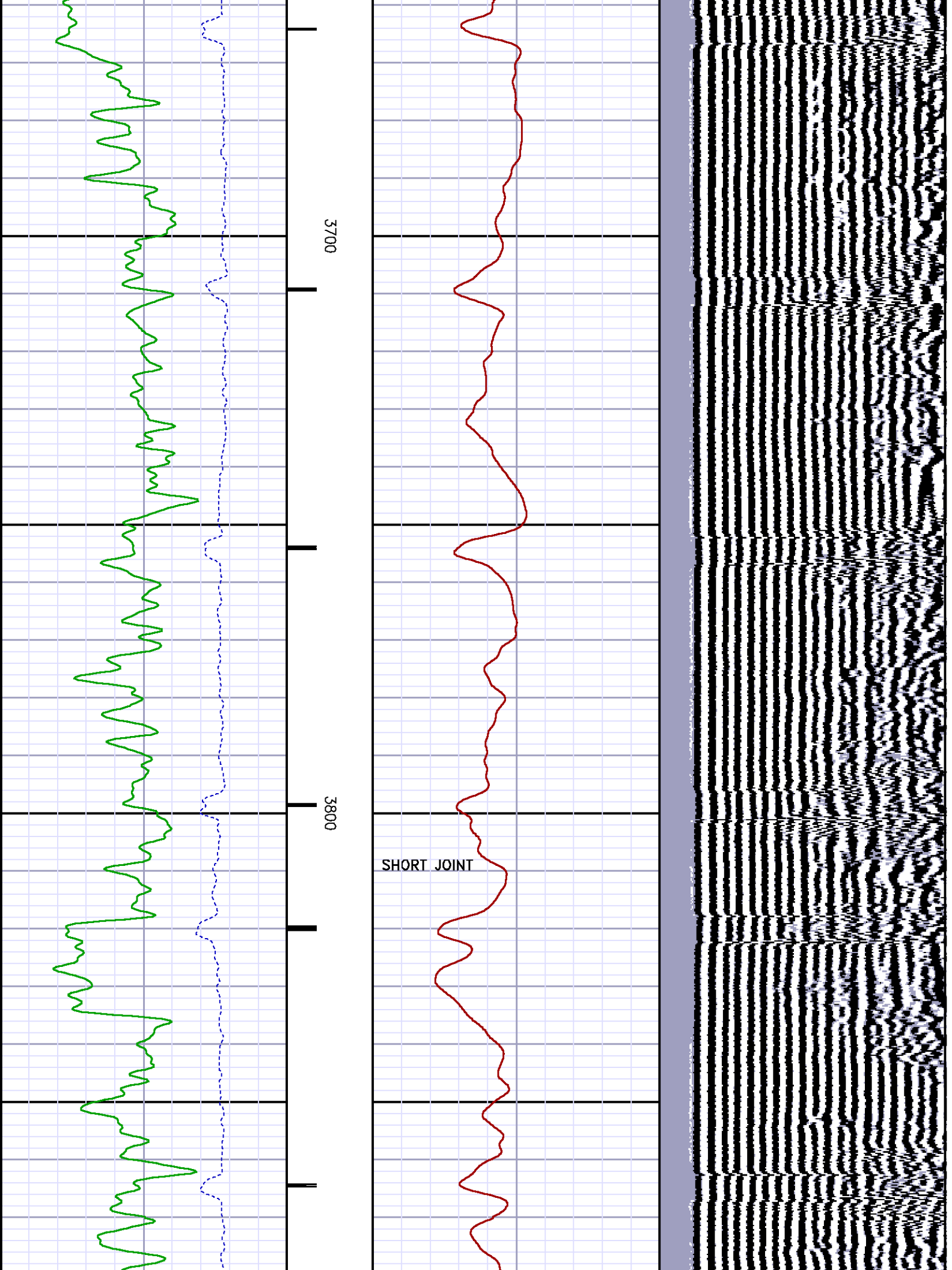


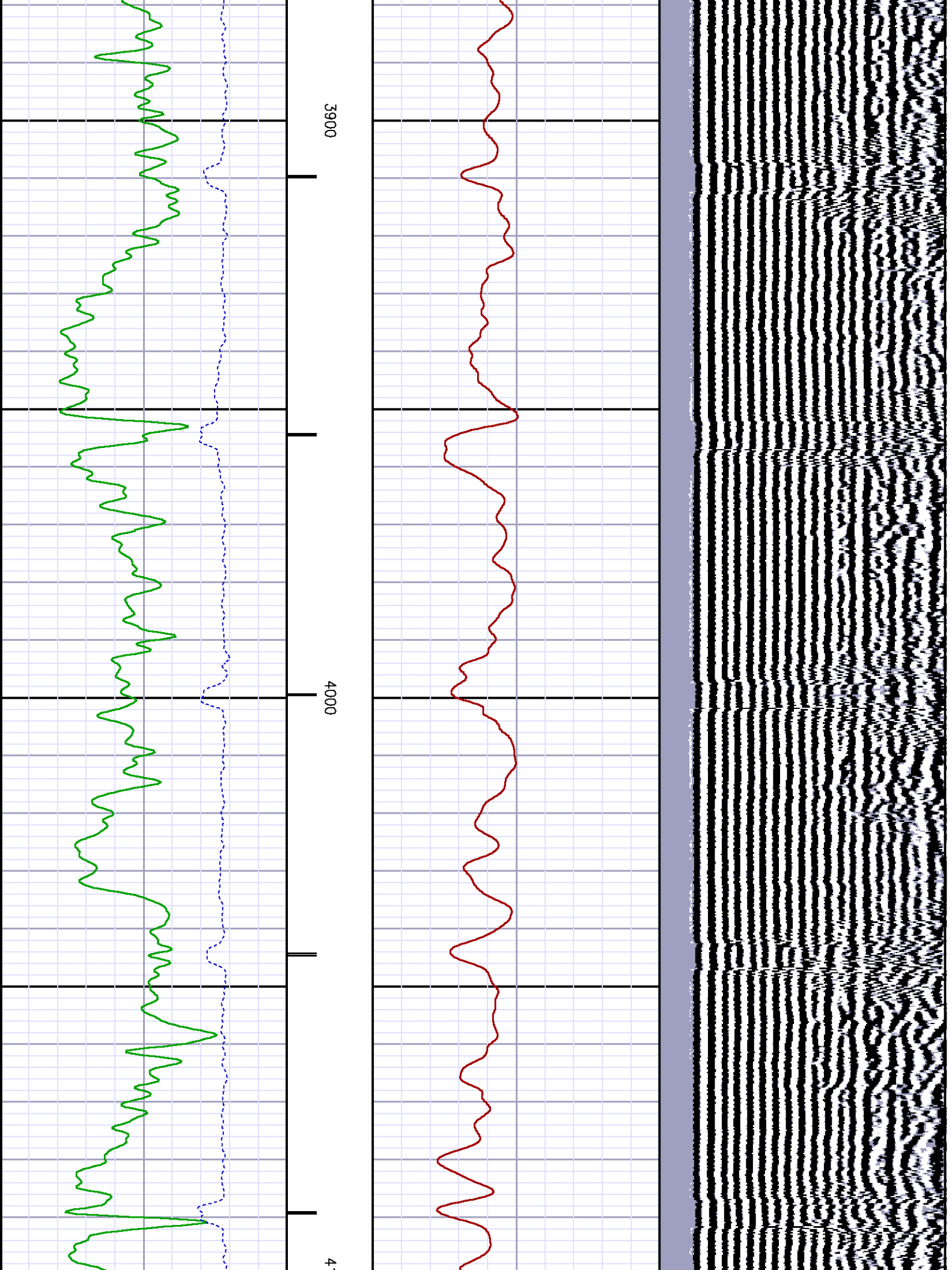


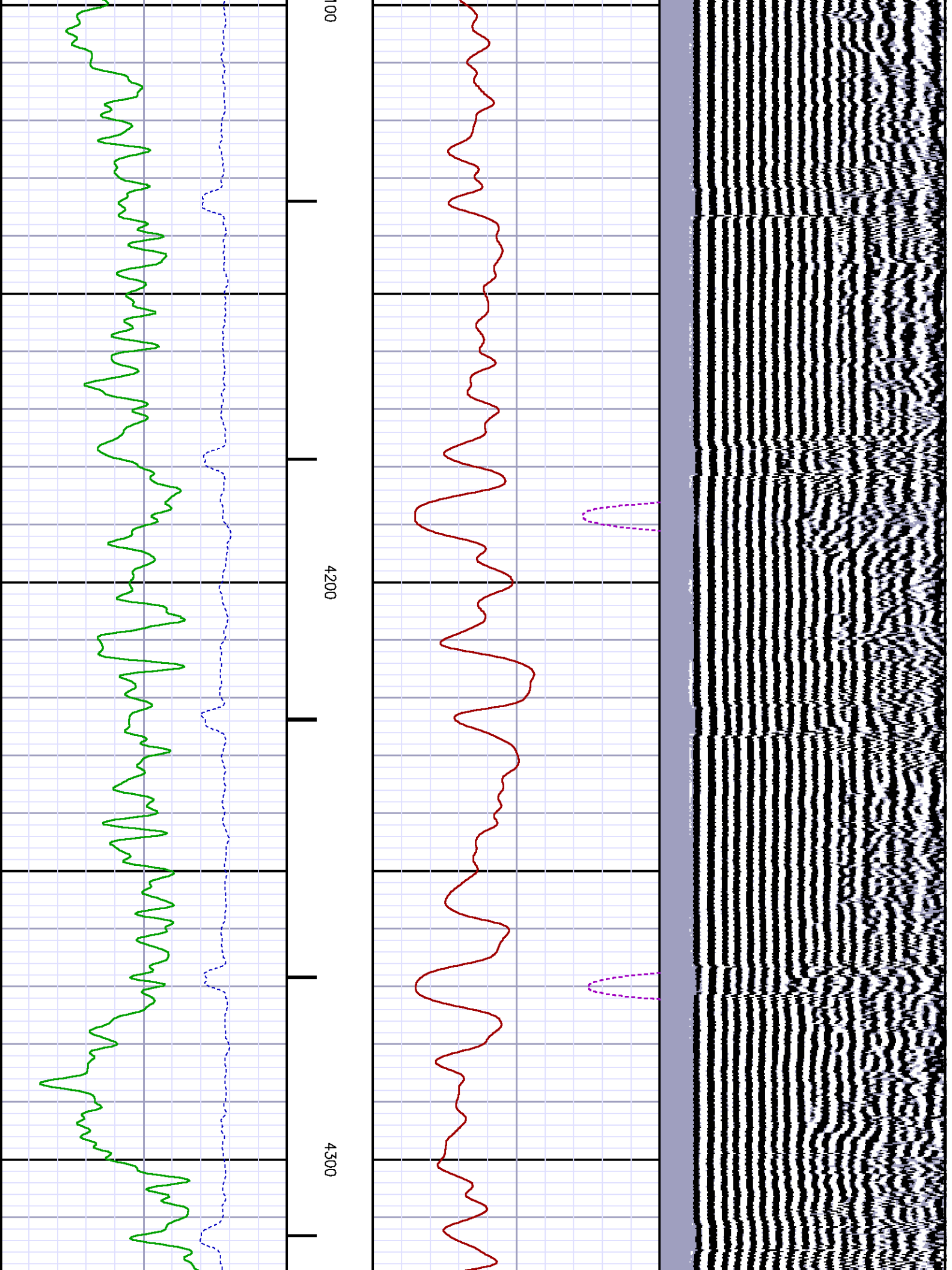


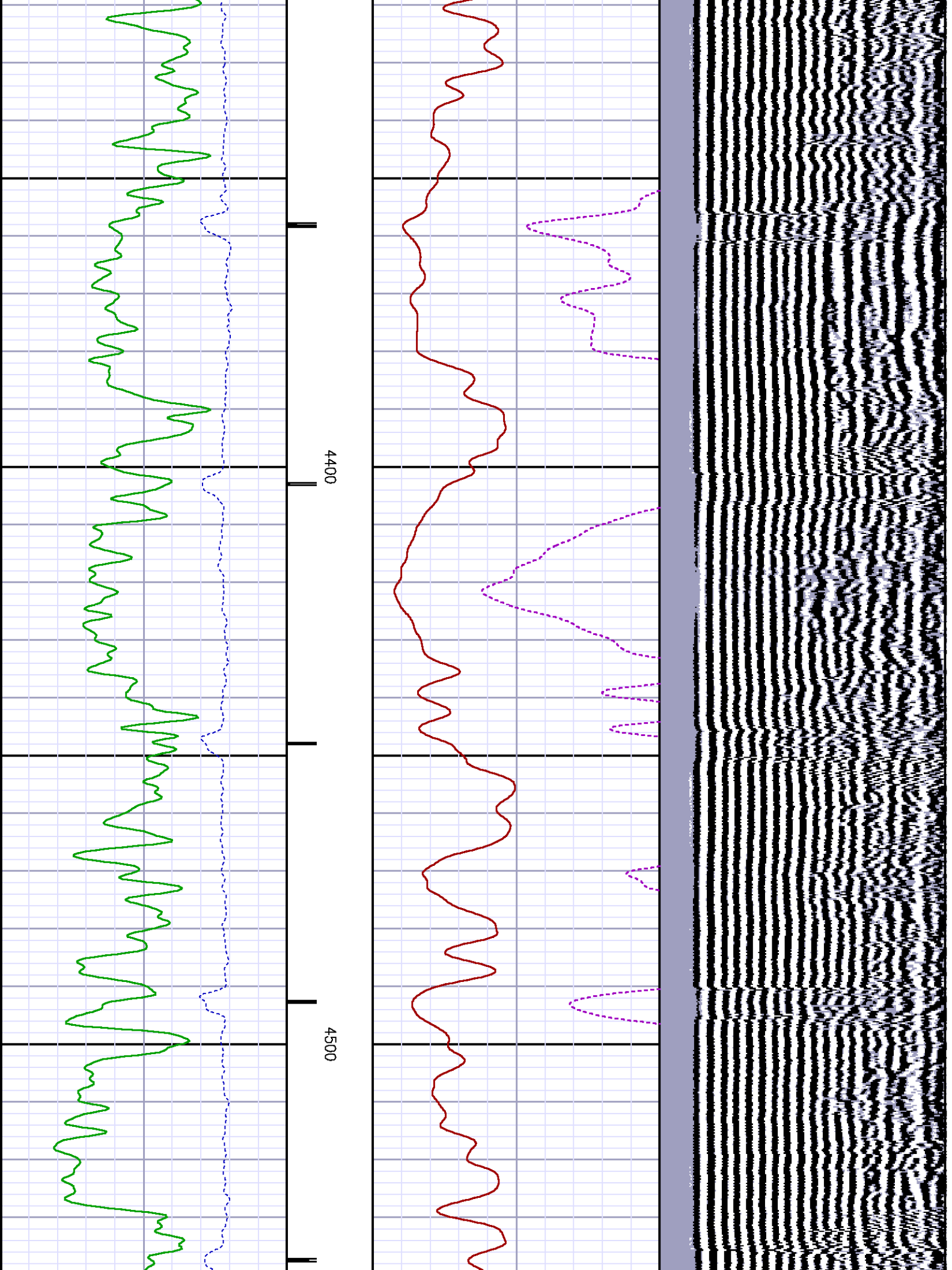


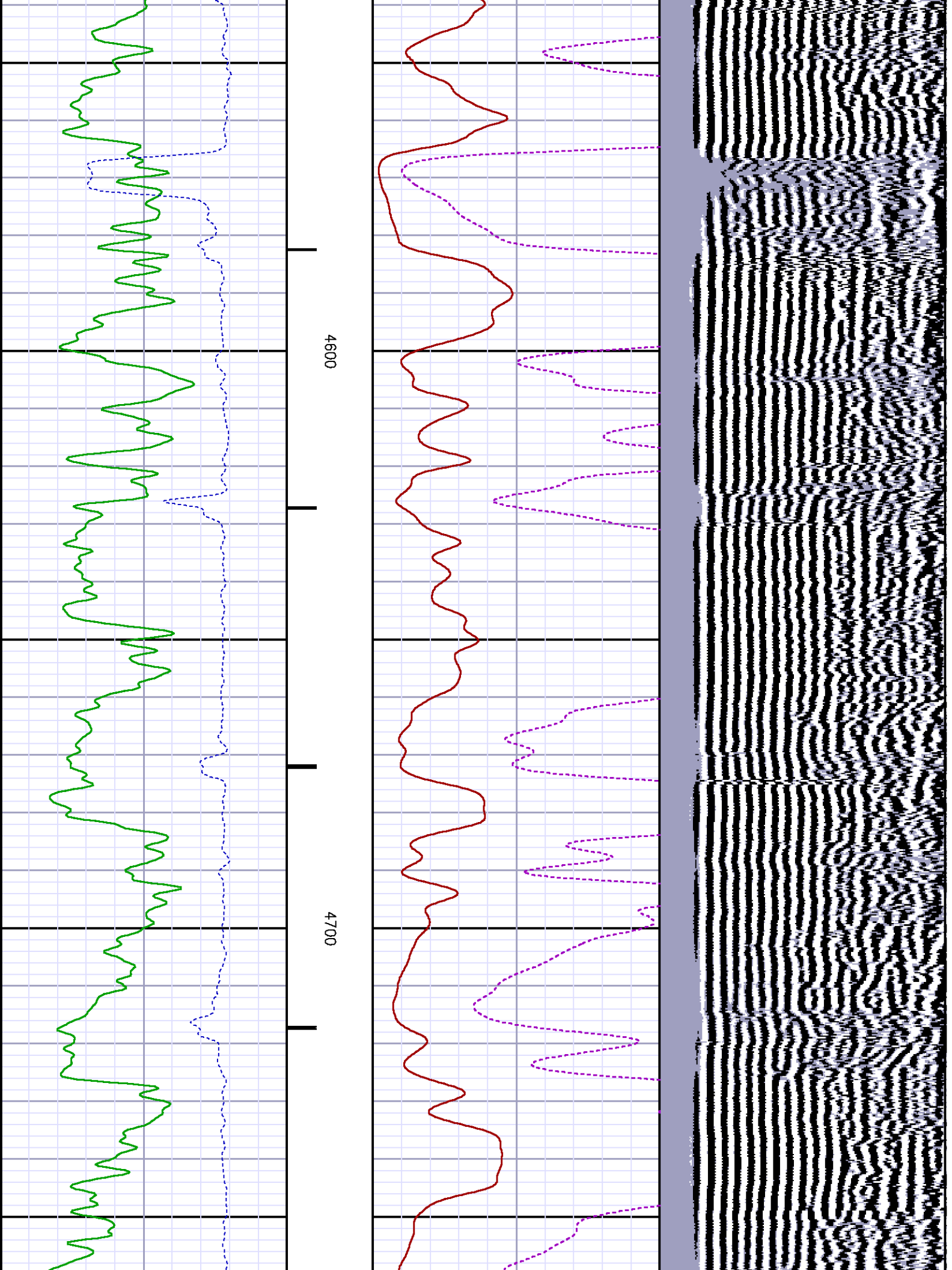


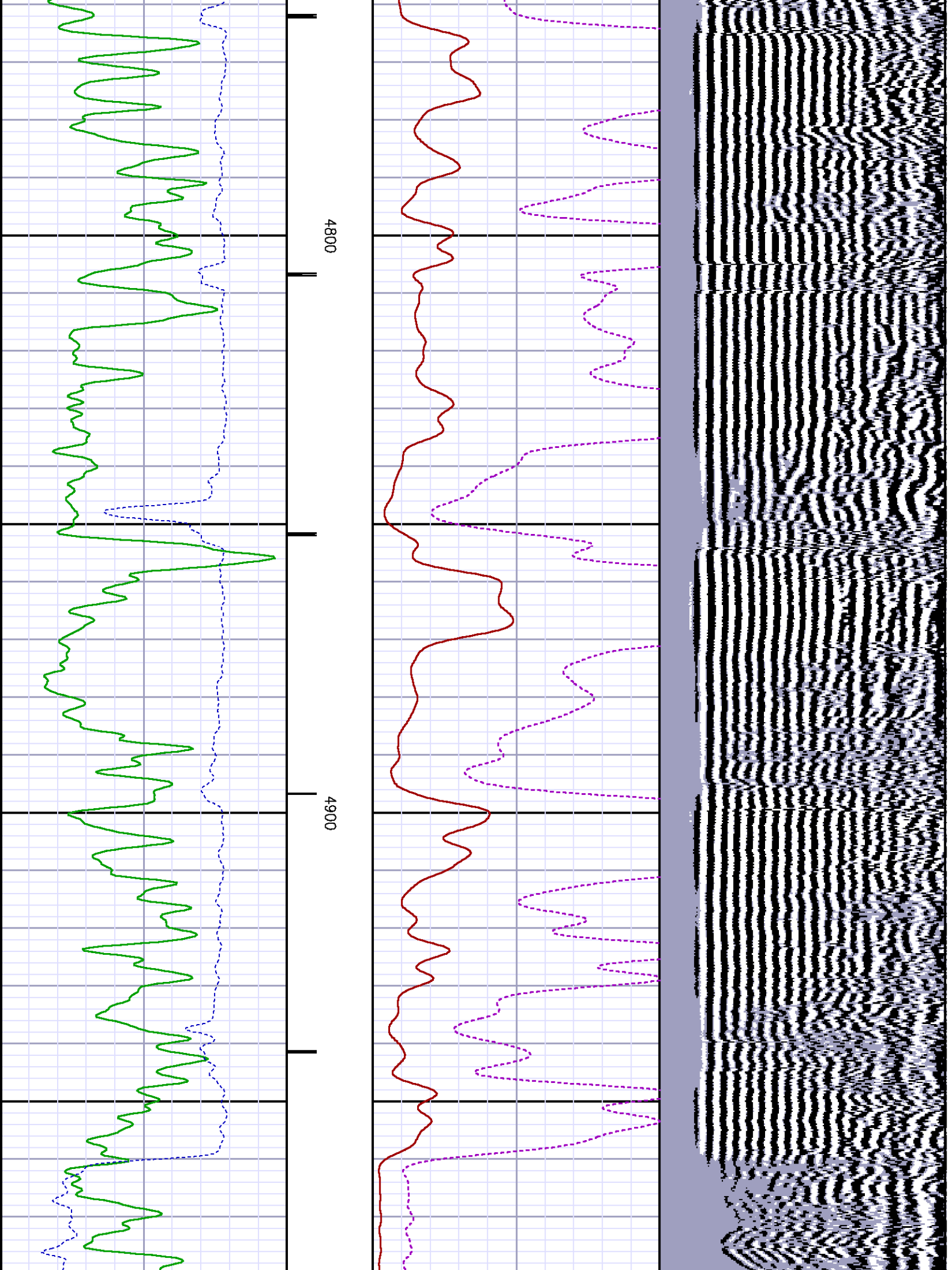


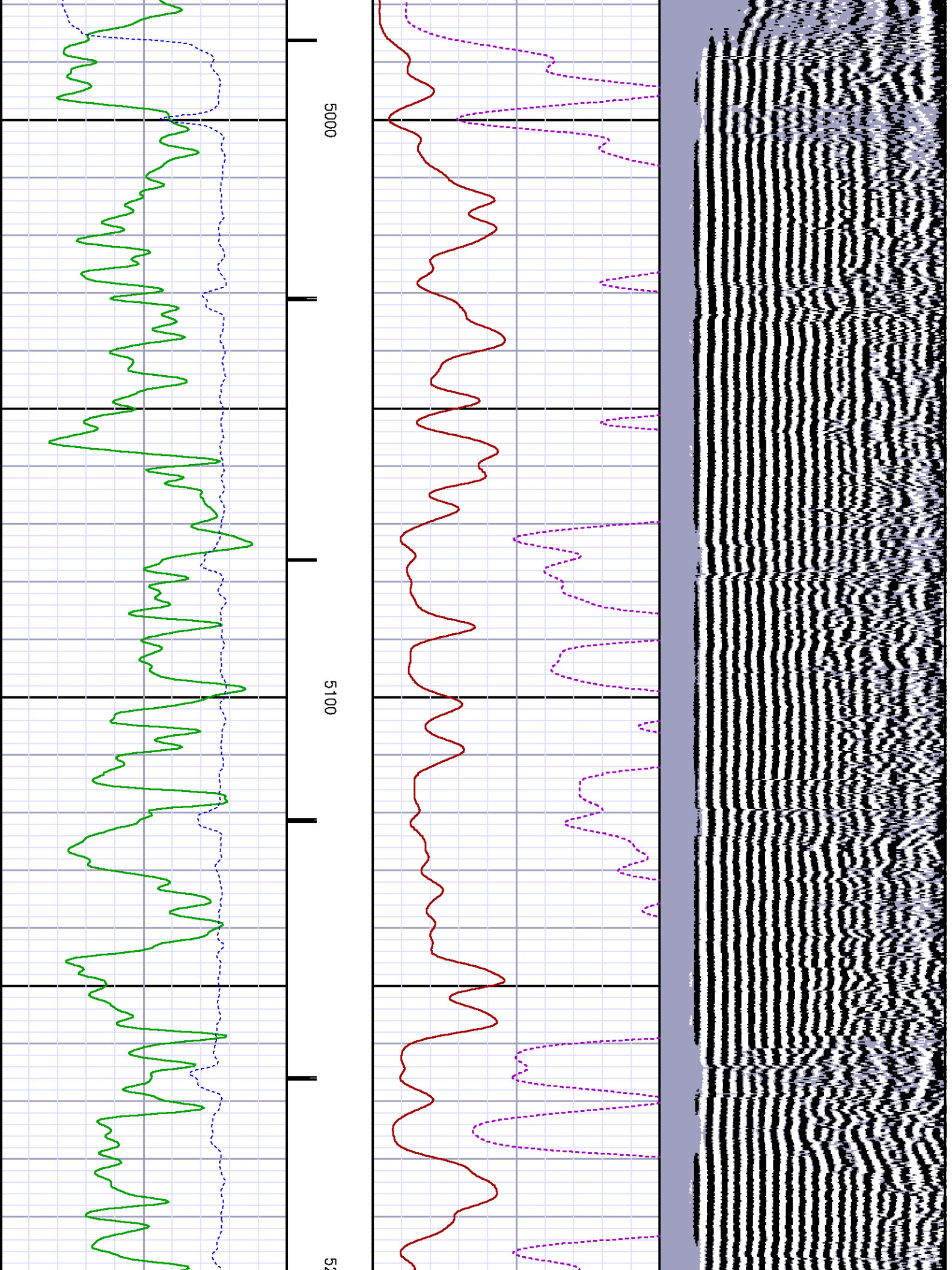


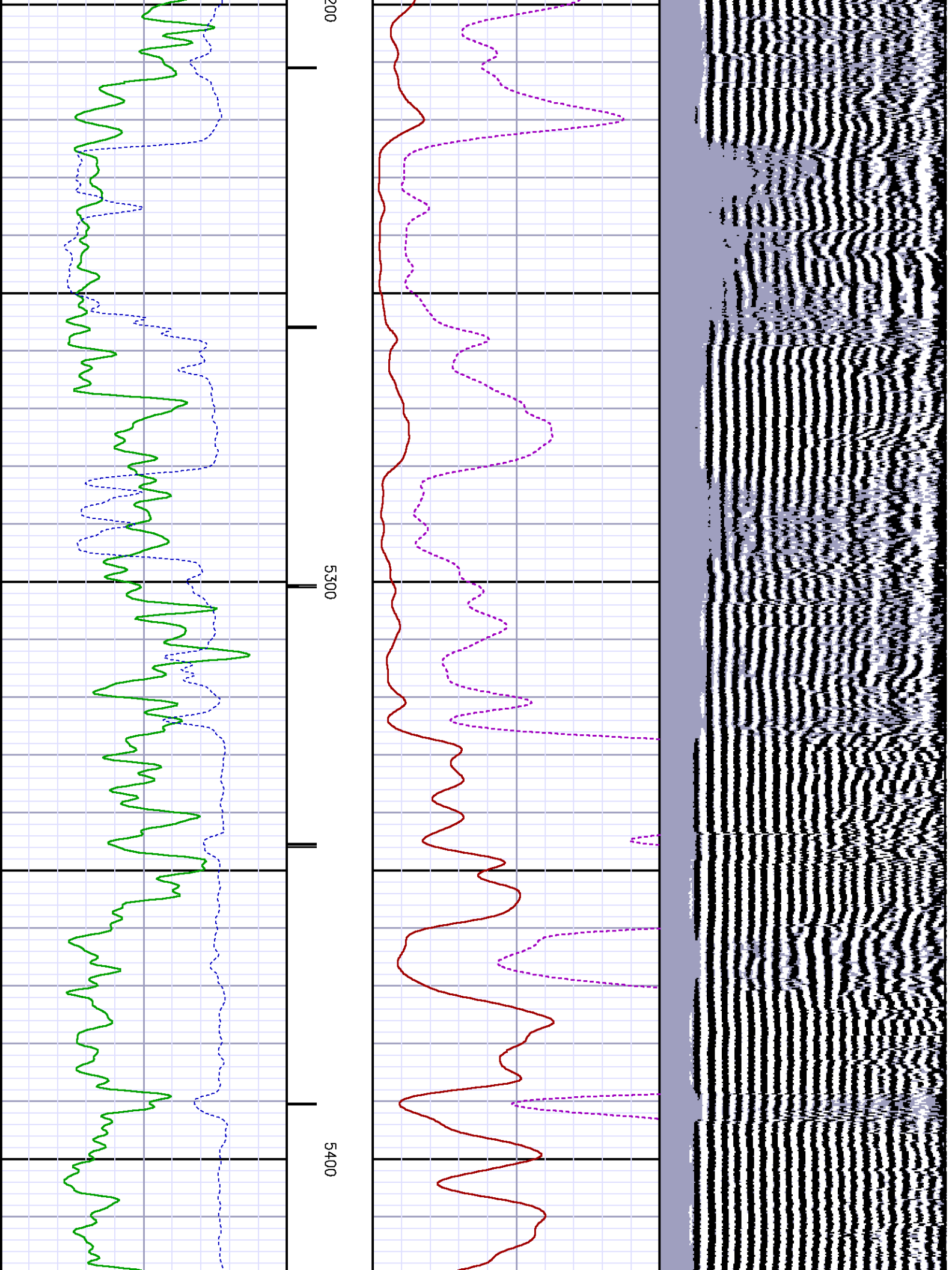


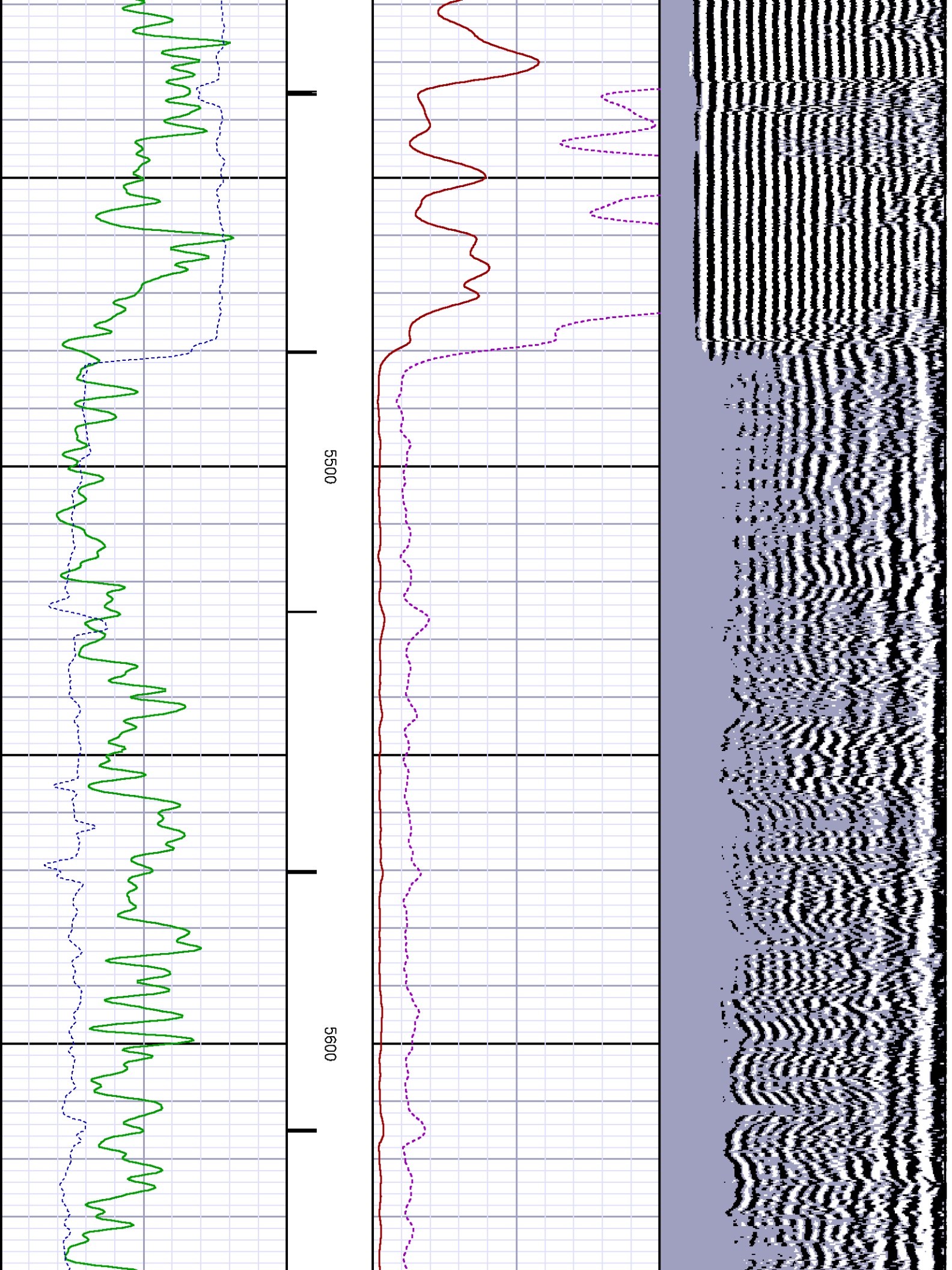


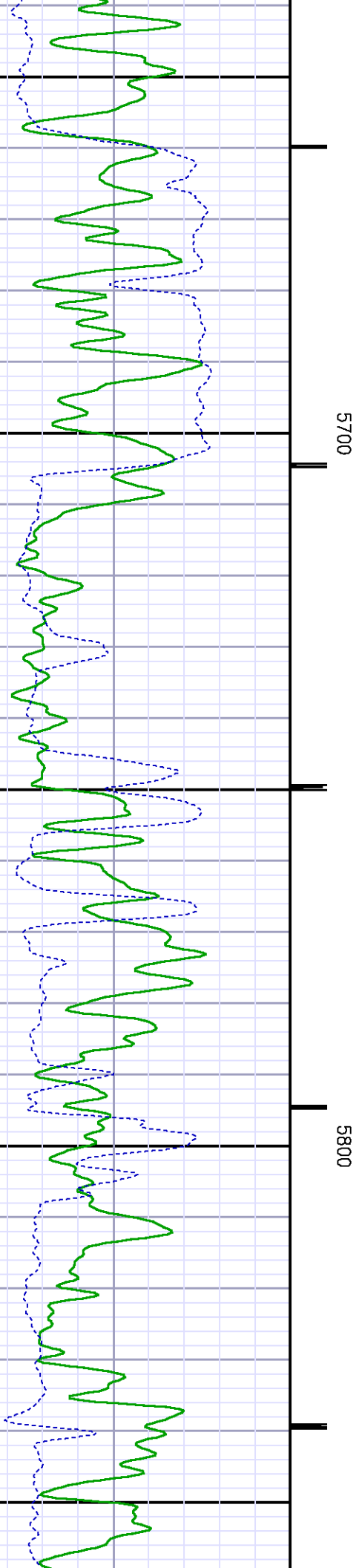
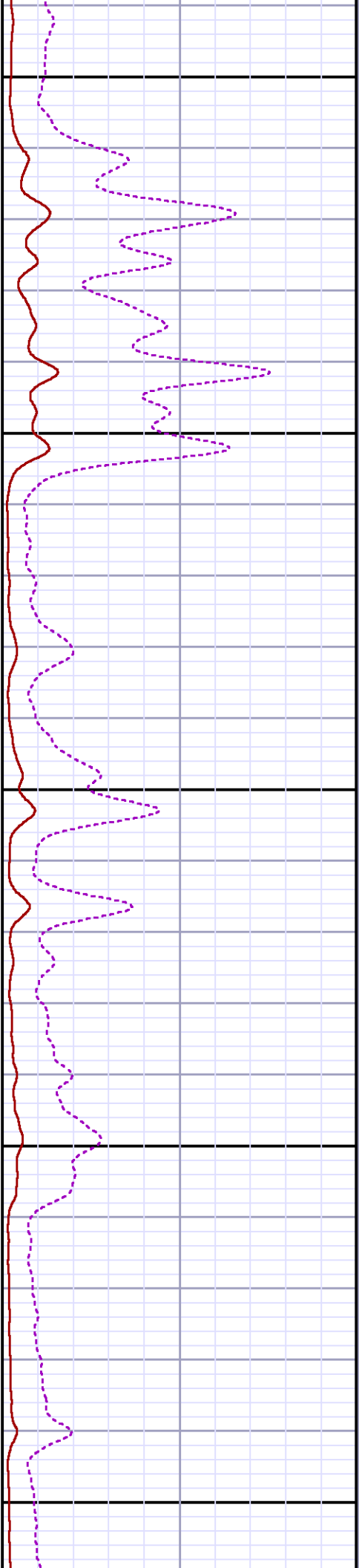
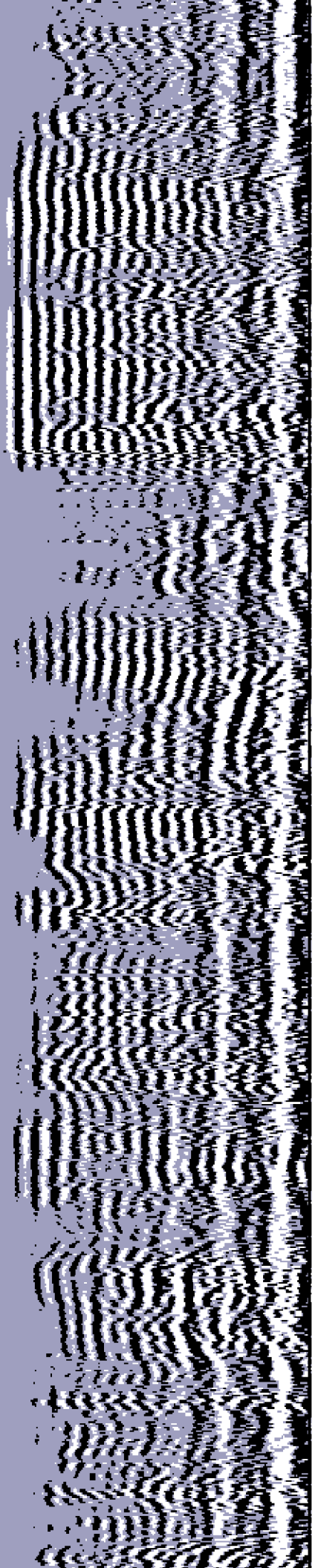


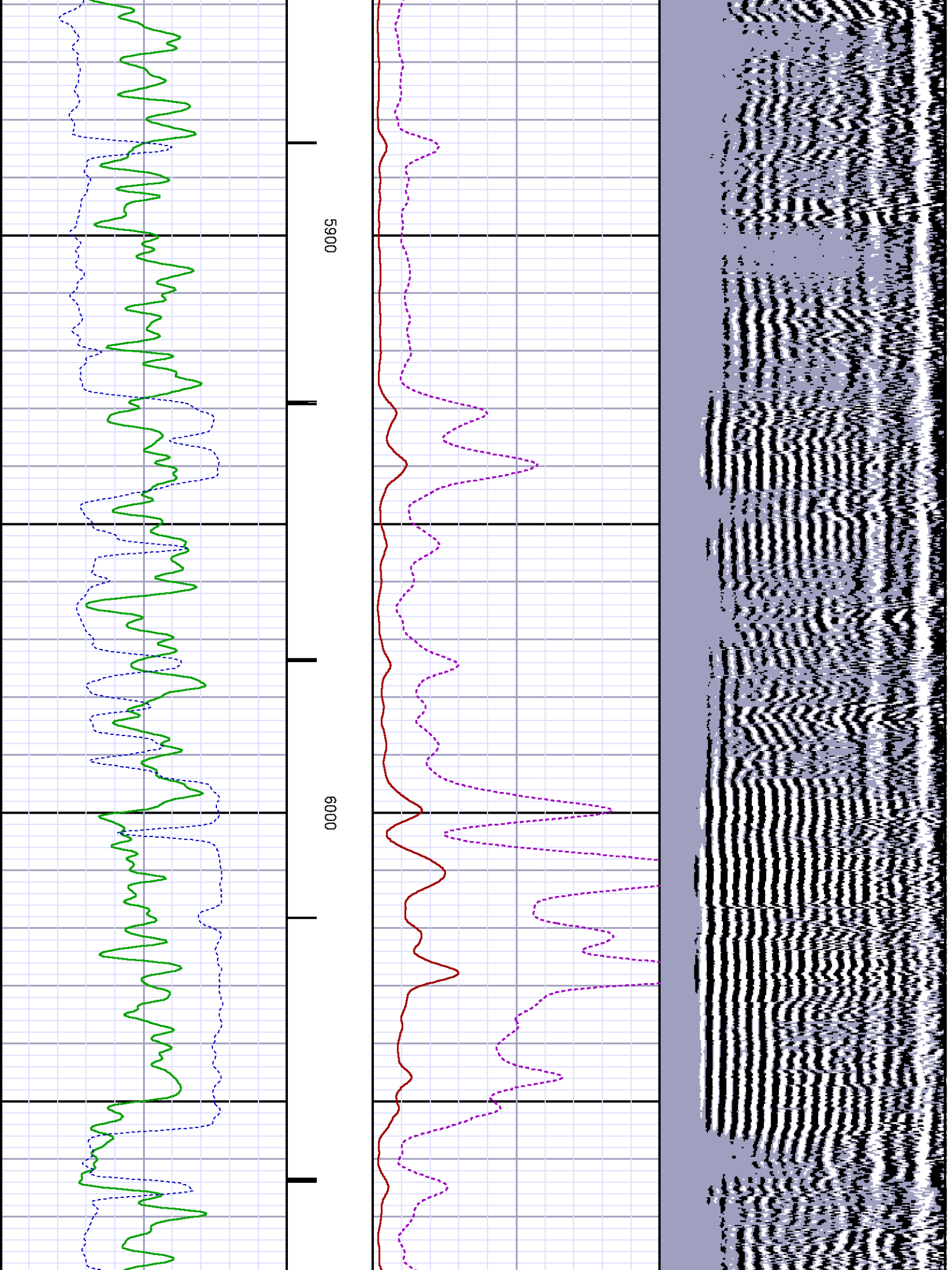


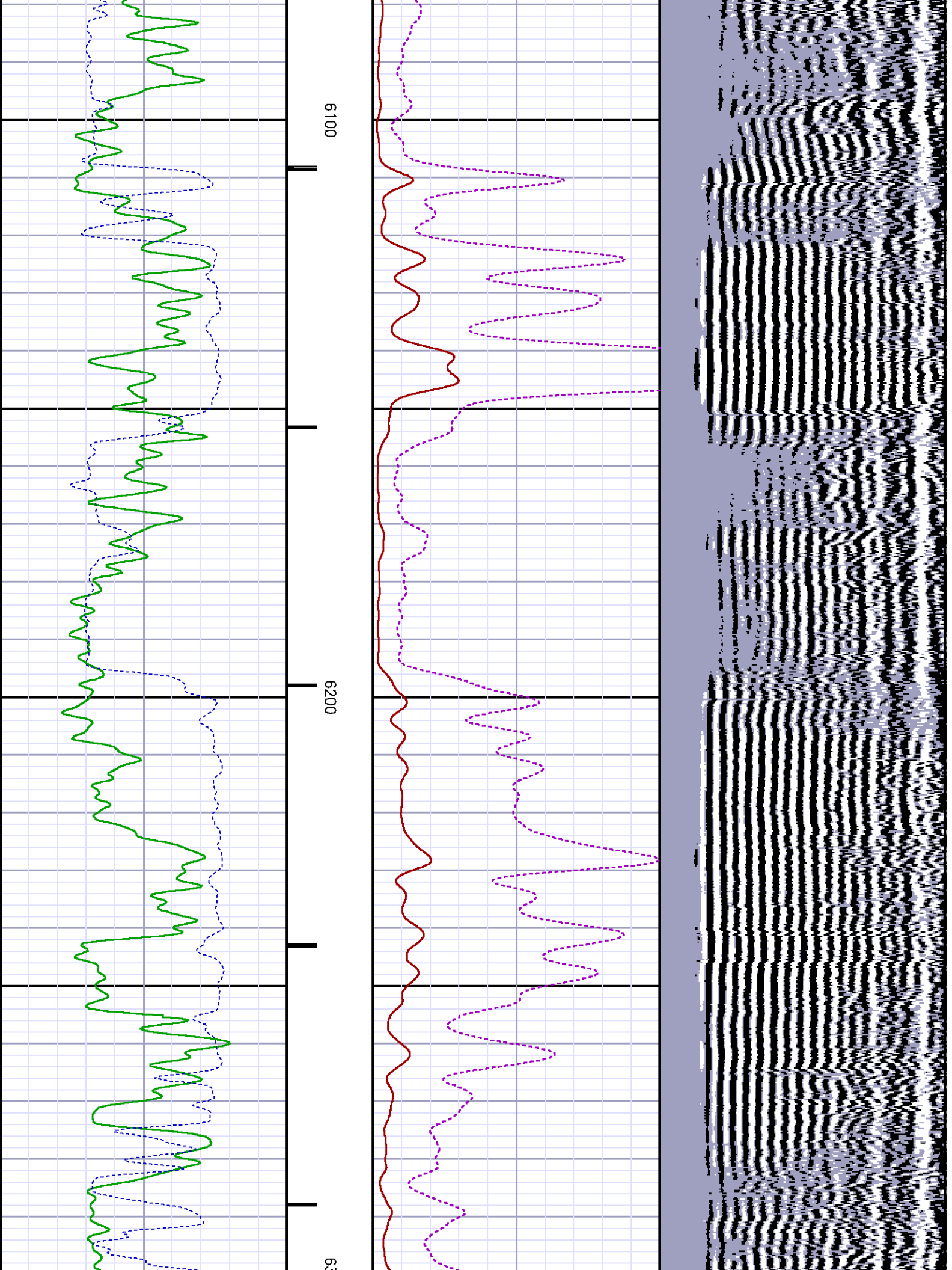


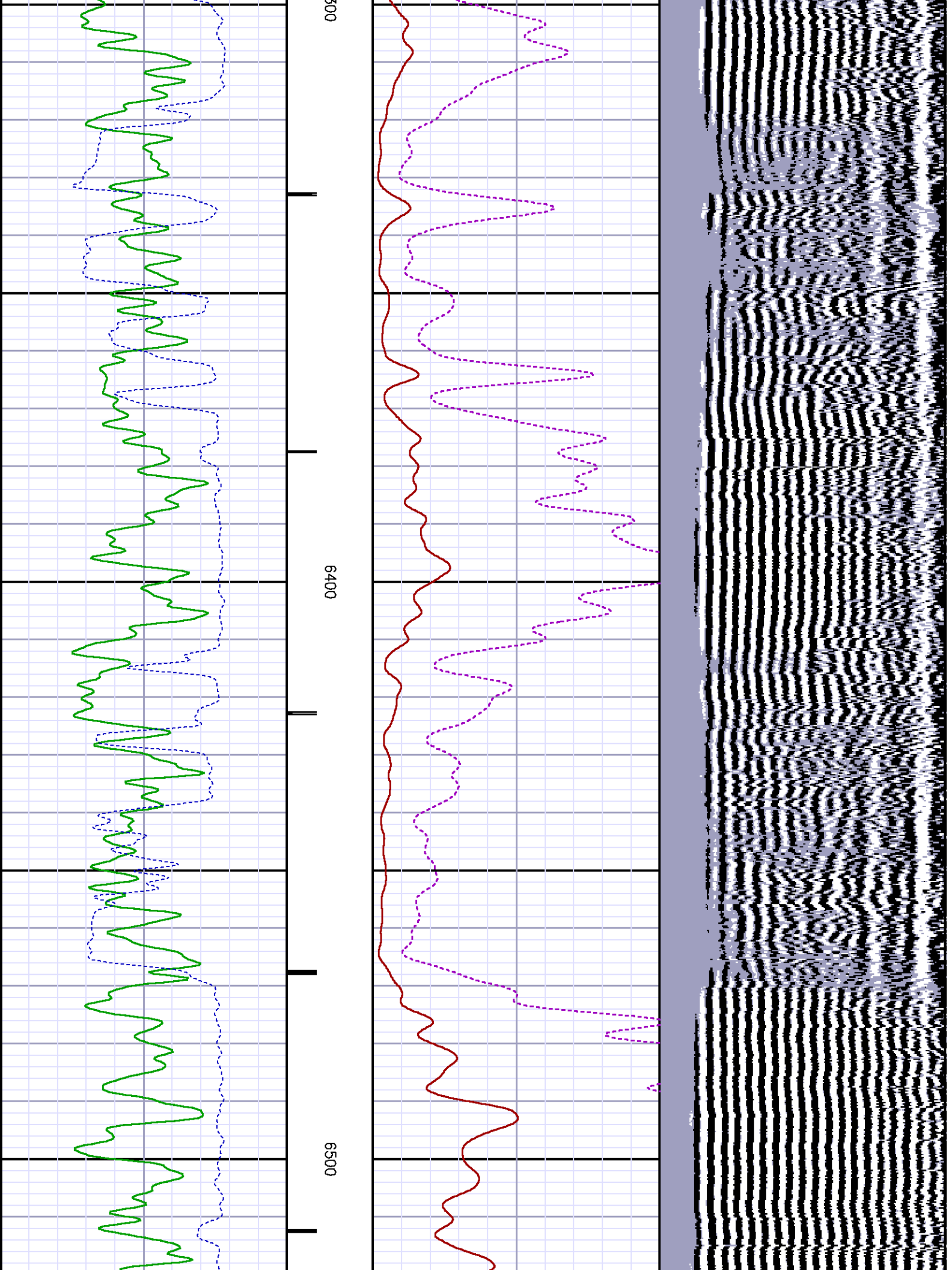


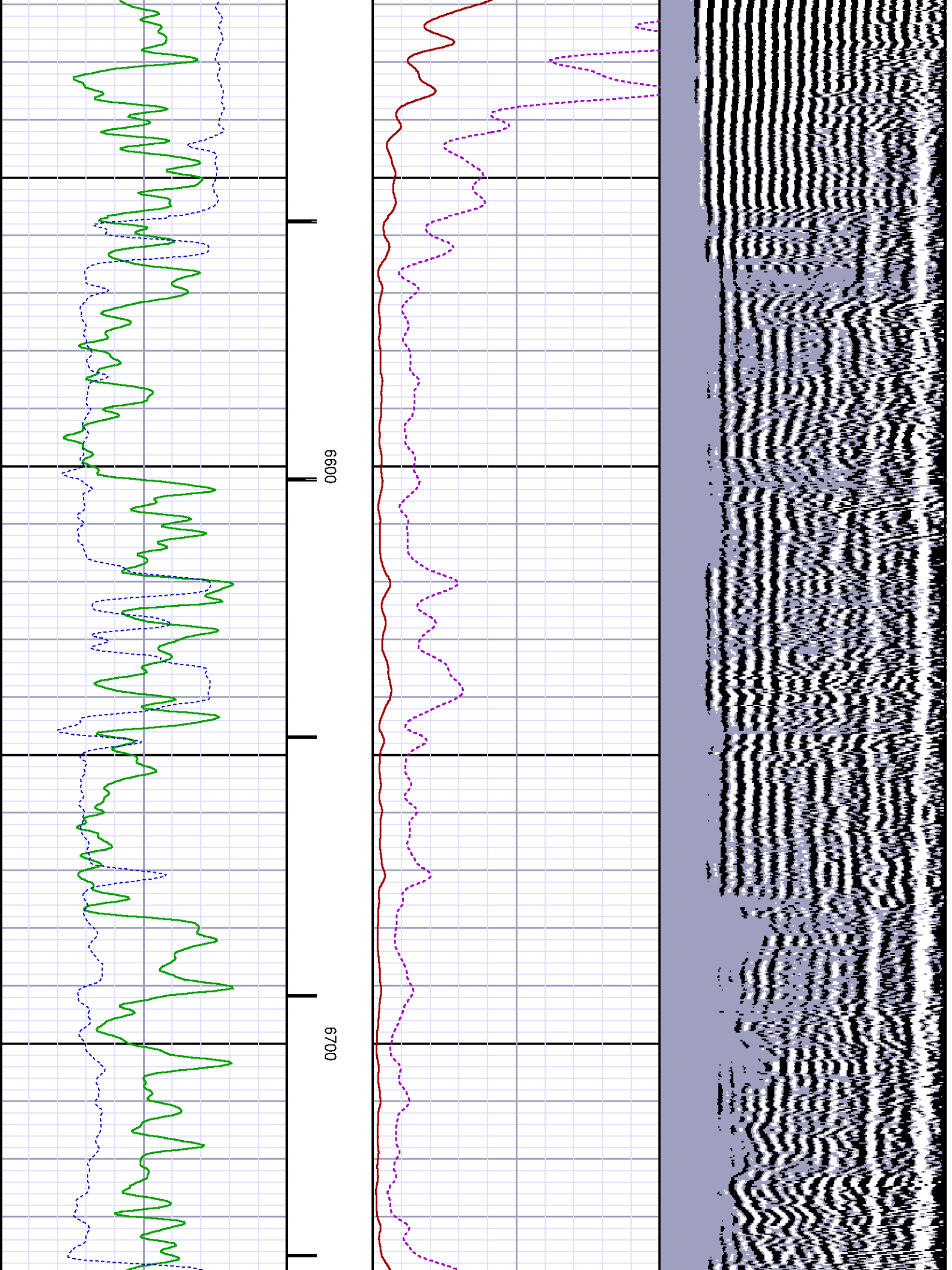


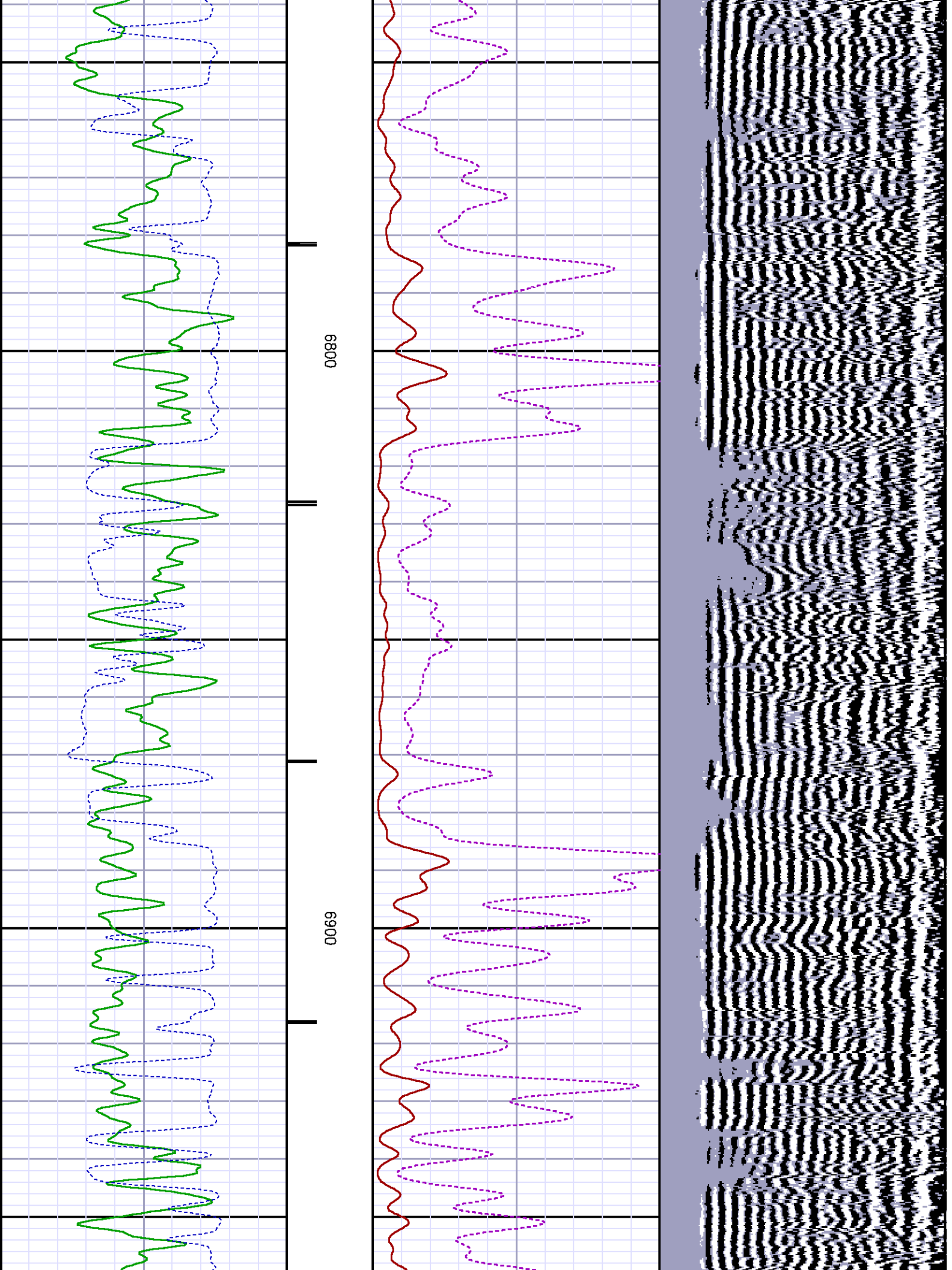


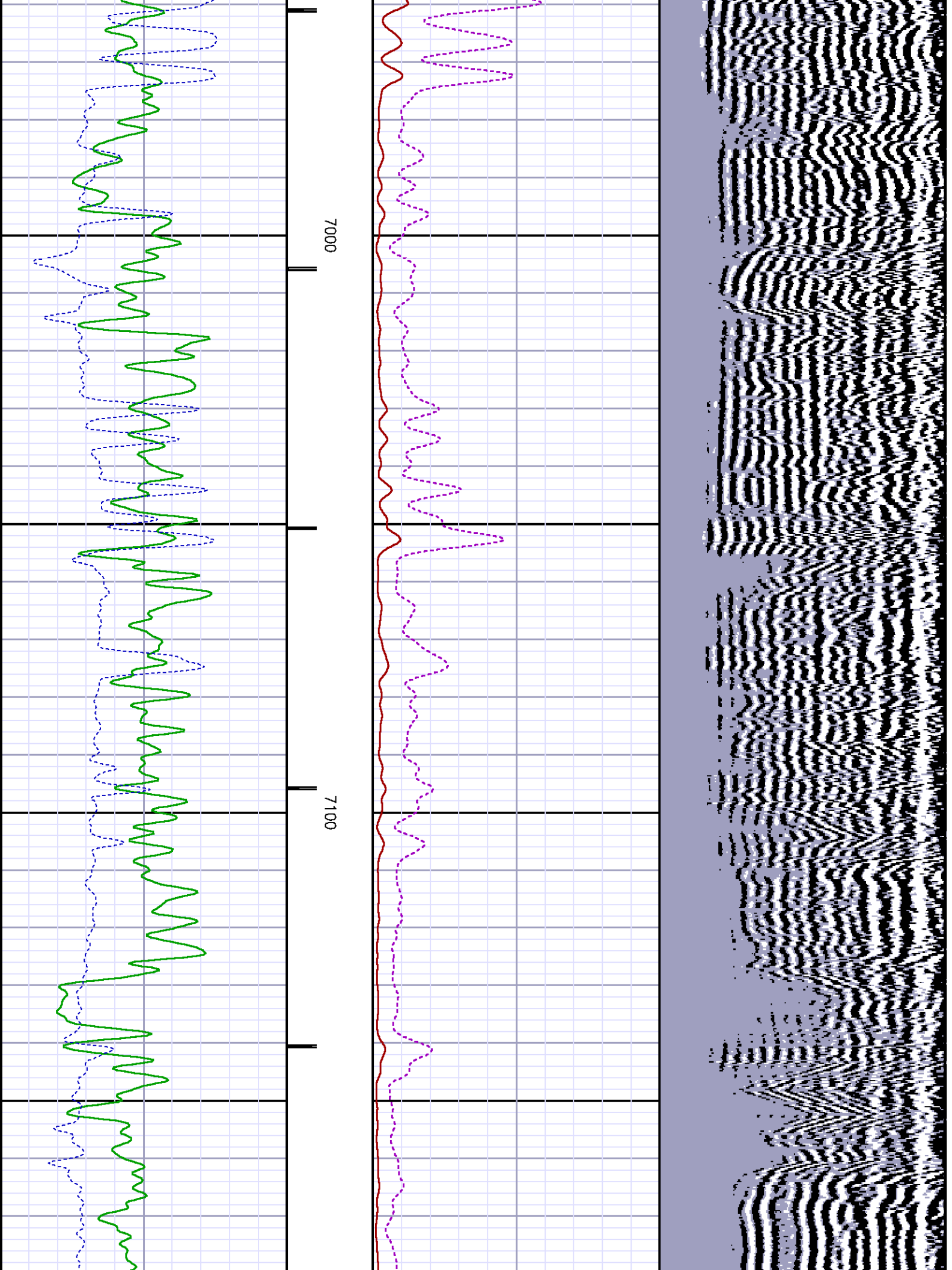


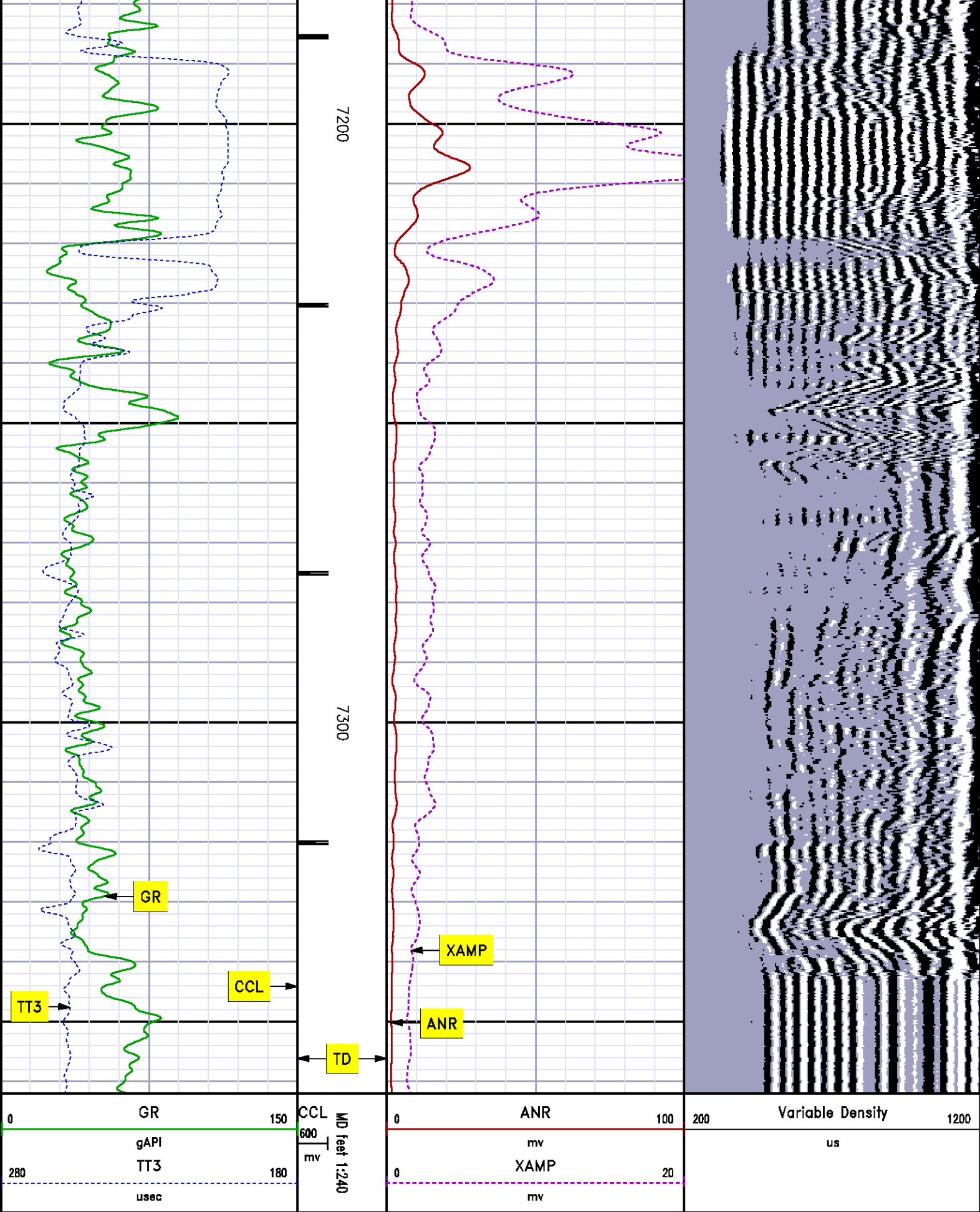












MAIN SECTION

SECONDARY PRESENTATION

0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
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1426XA	-15.450	AFAR	SIG	TT5			
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Company : WILLIAMS PRODUCTION COMPANY

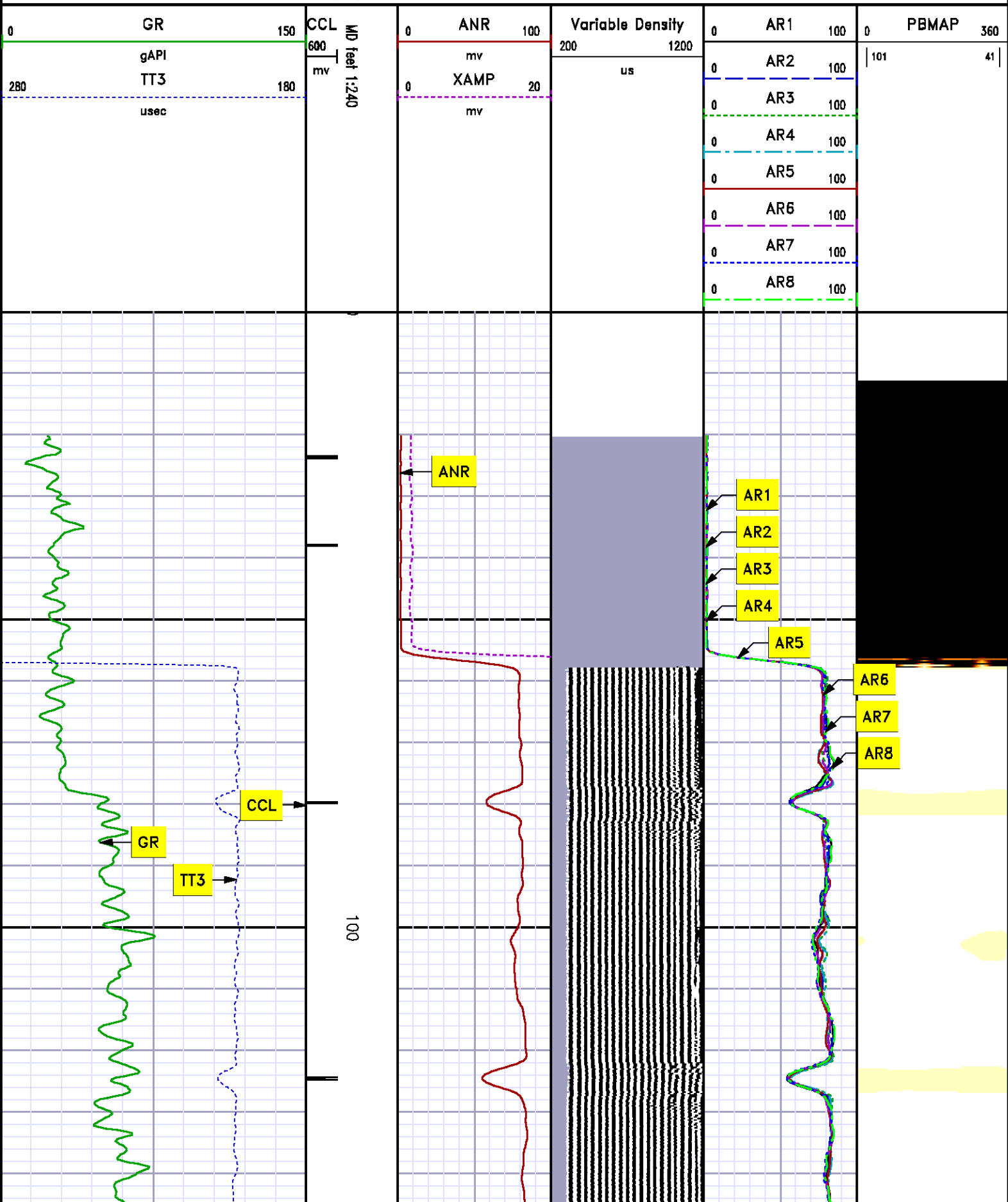
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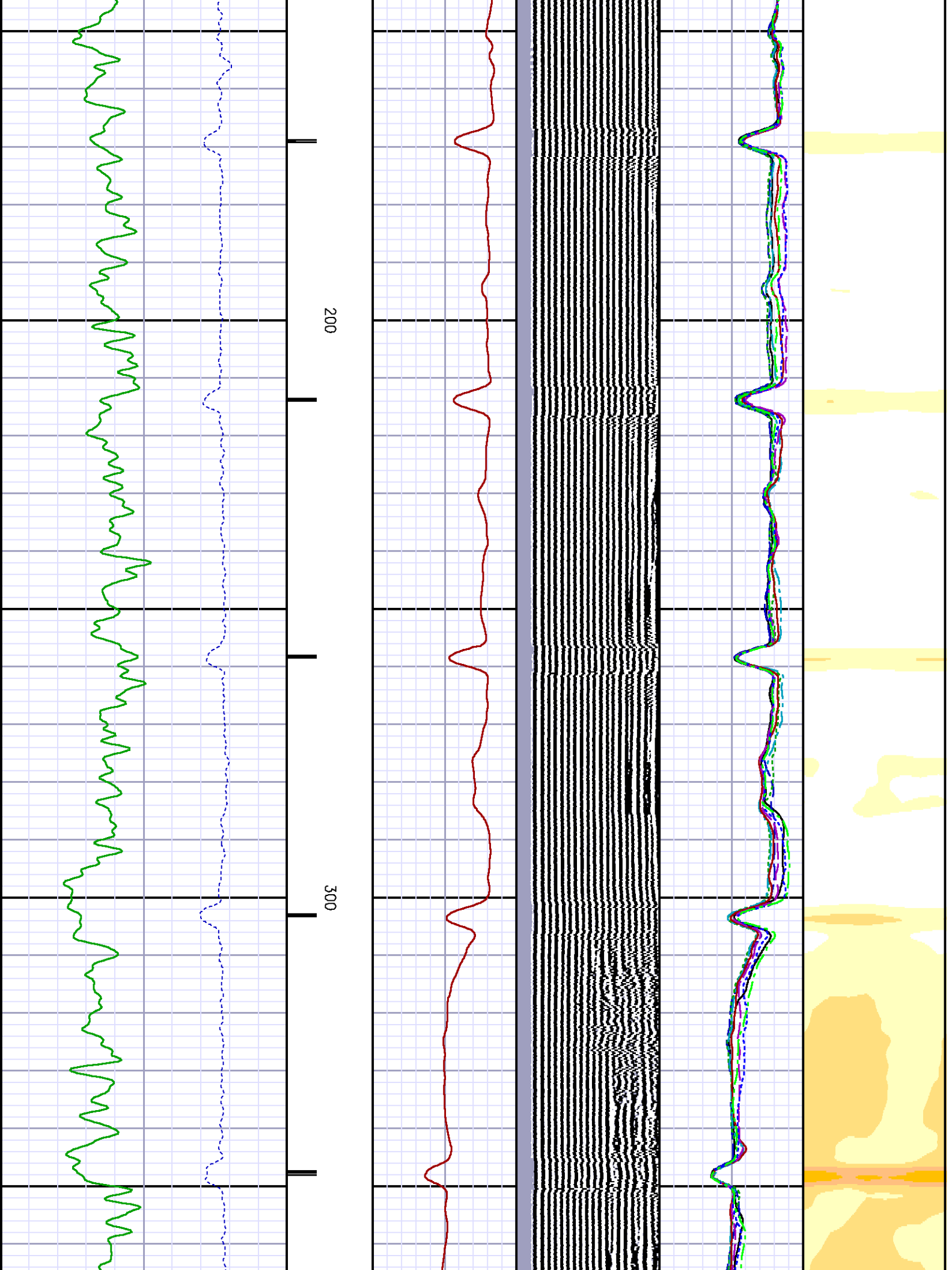
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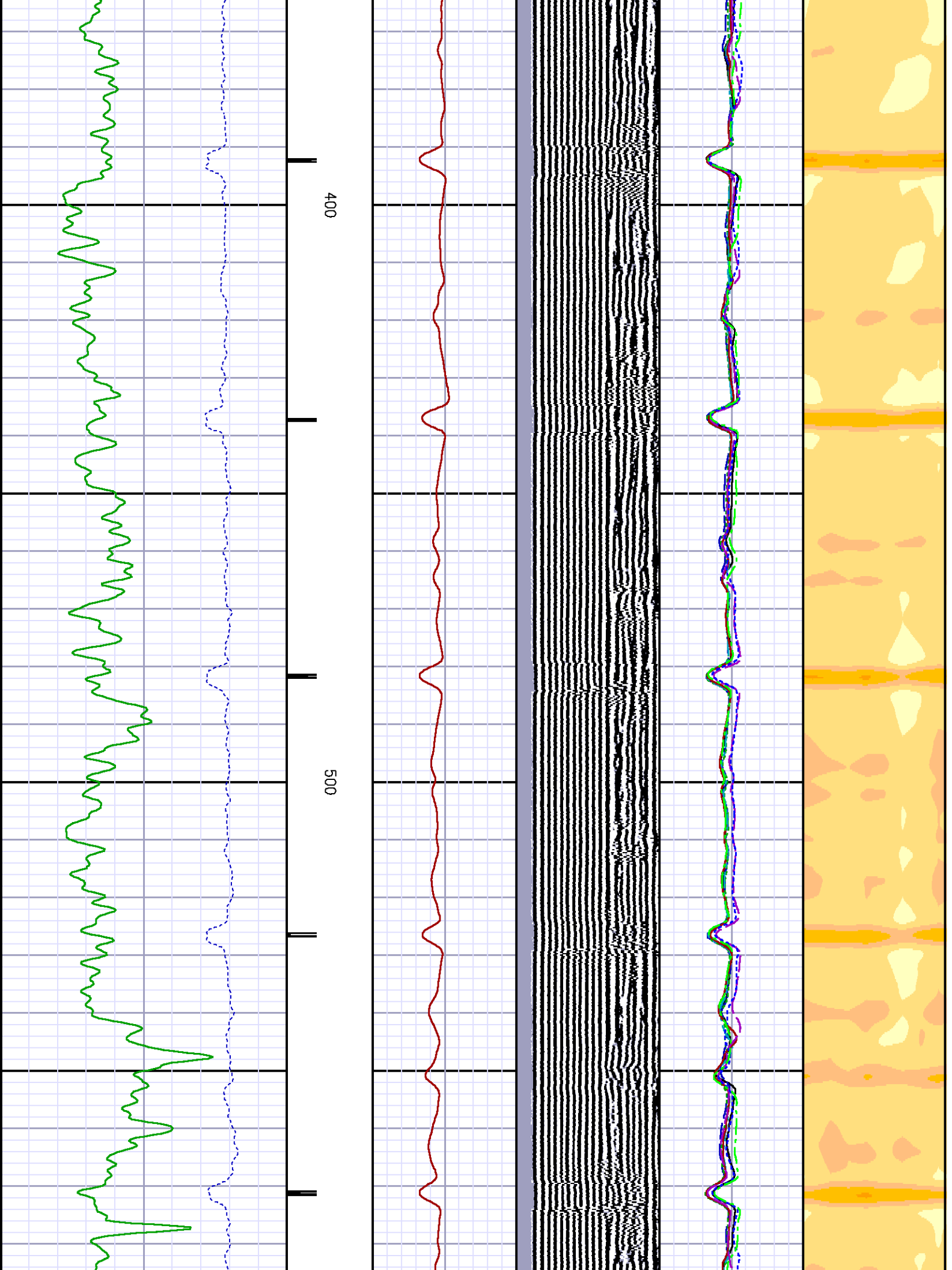
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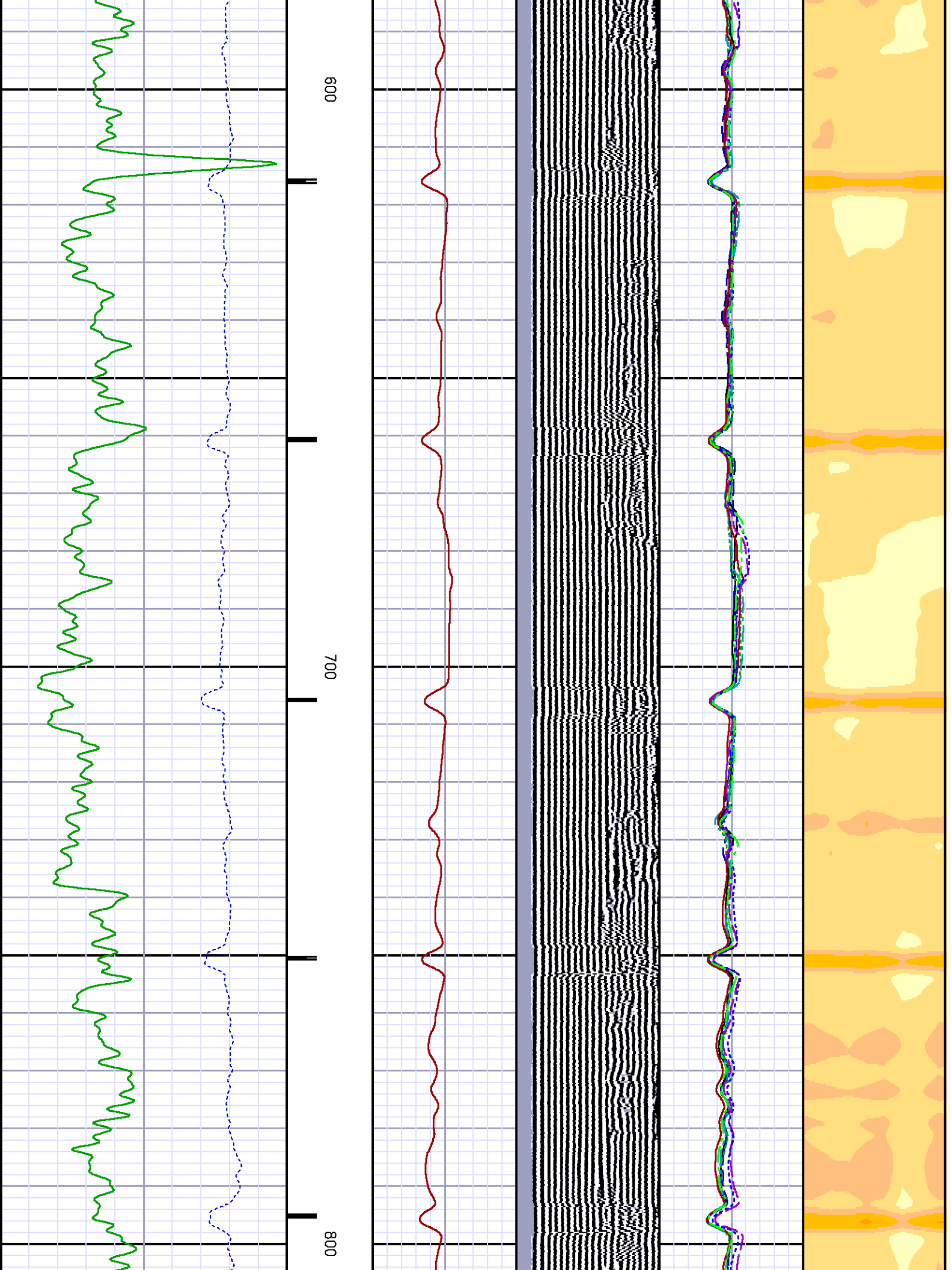
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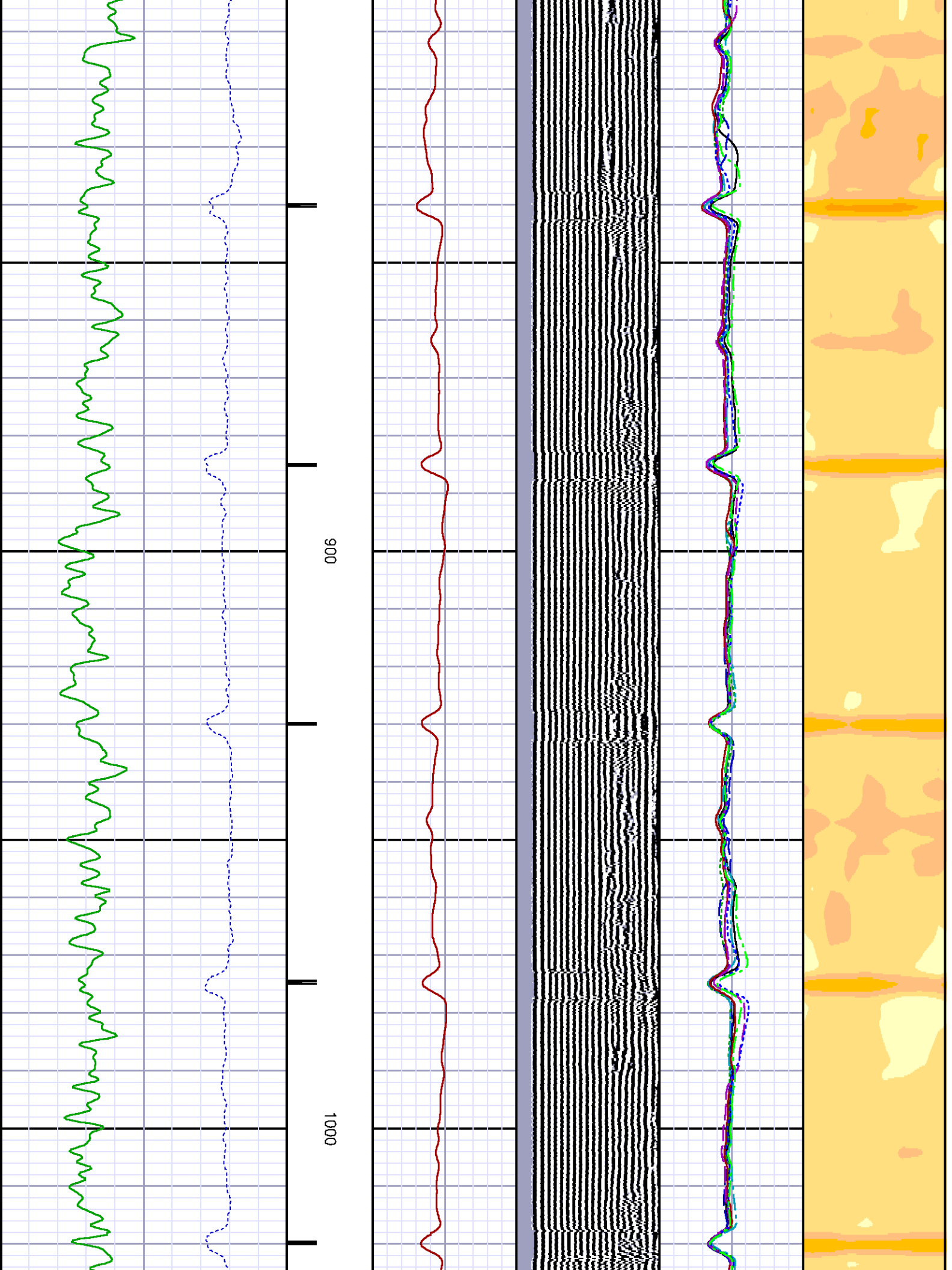
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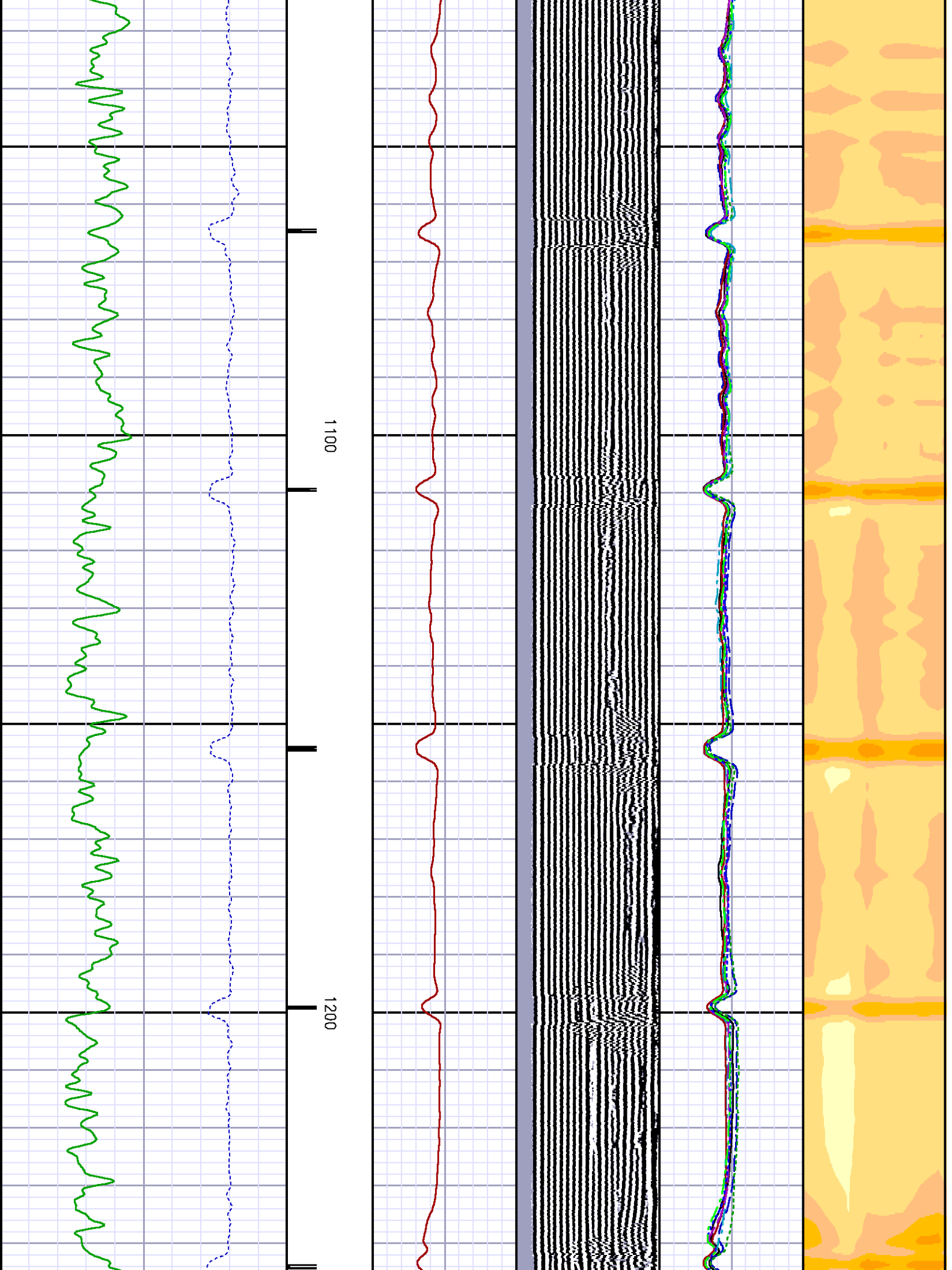


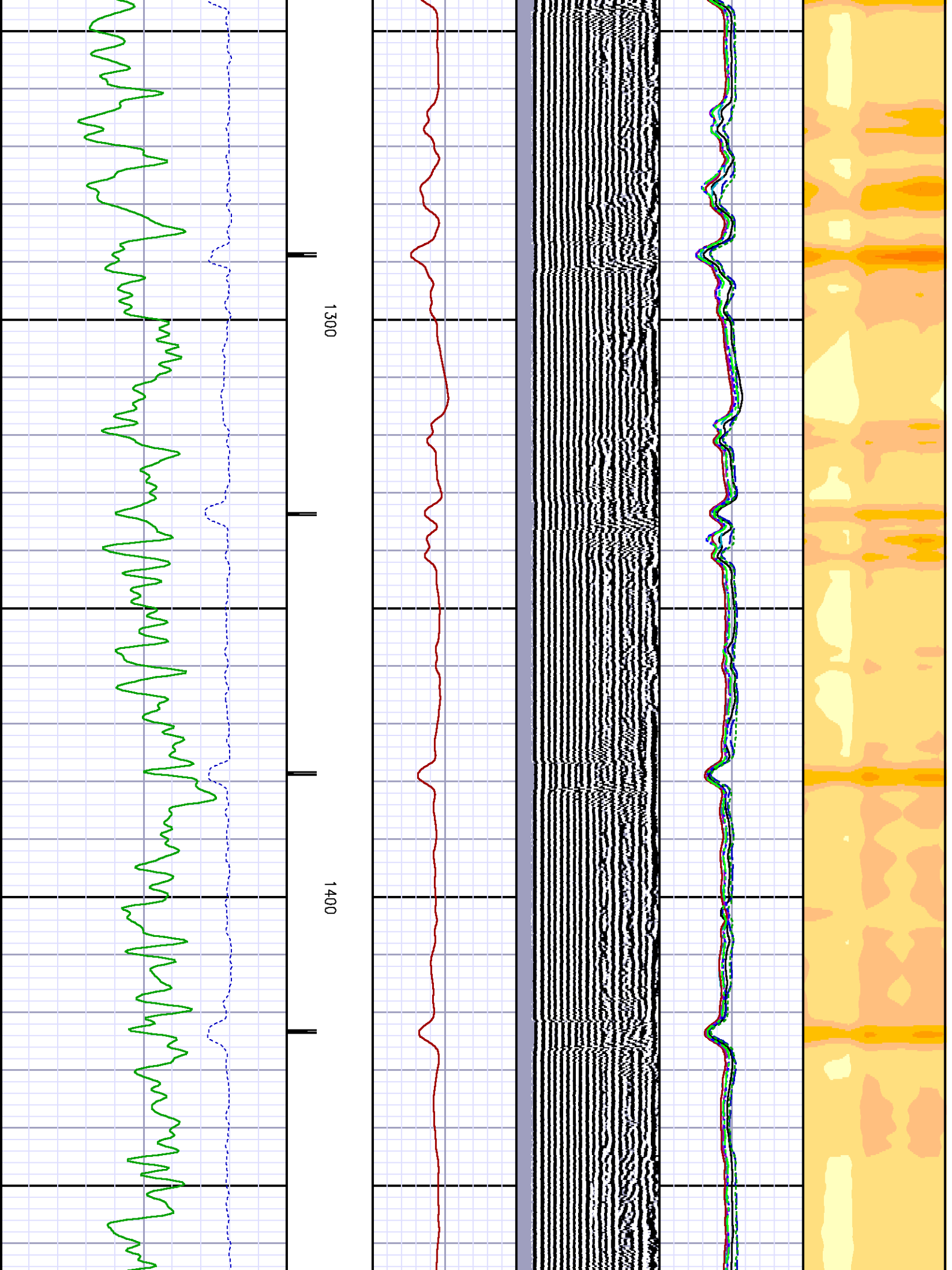


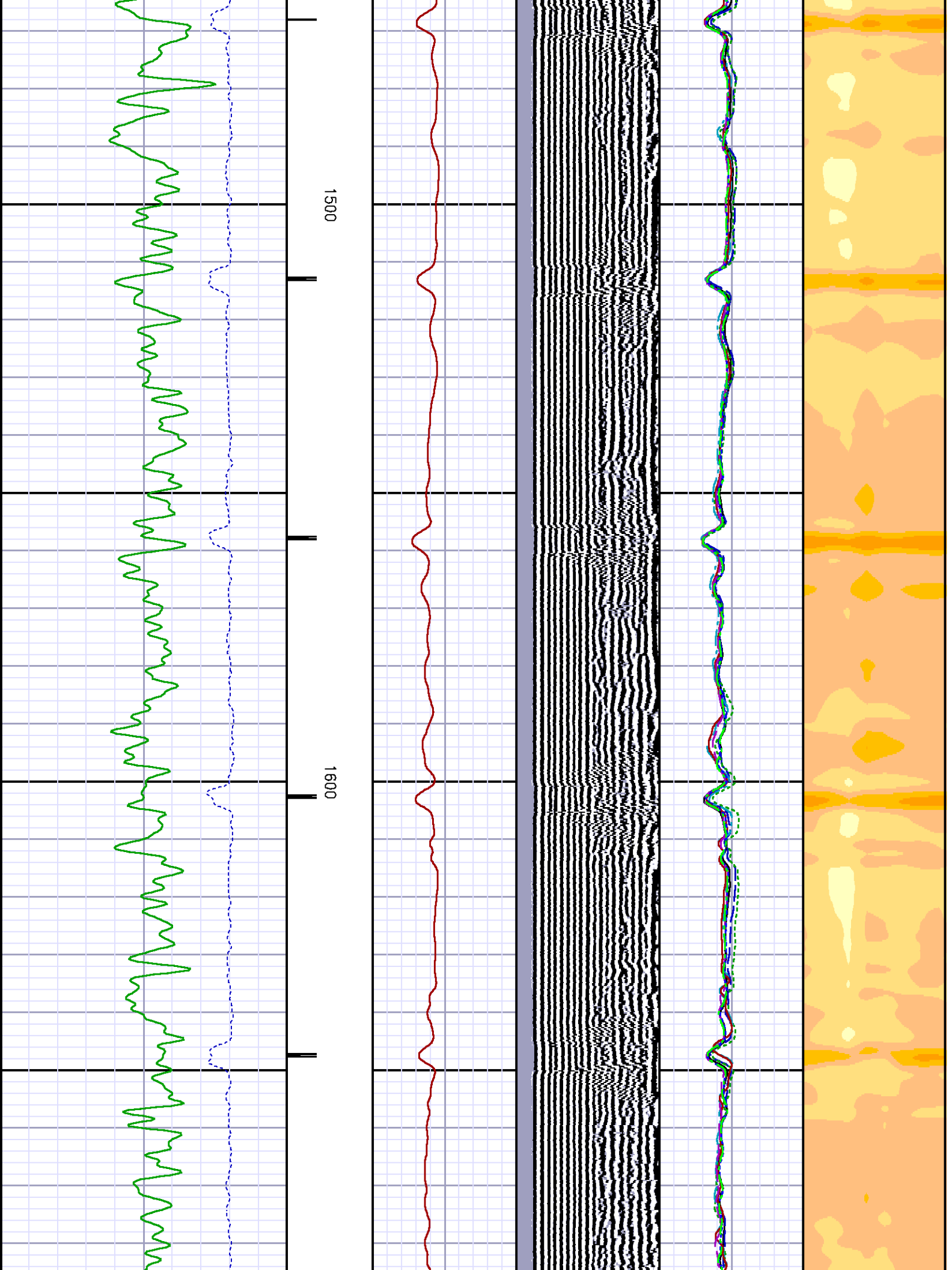


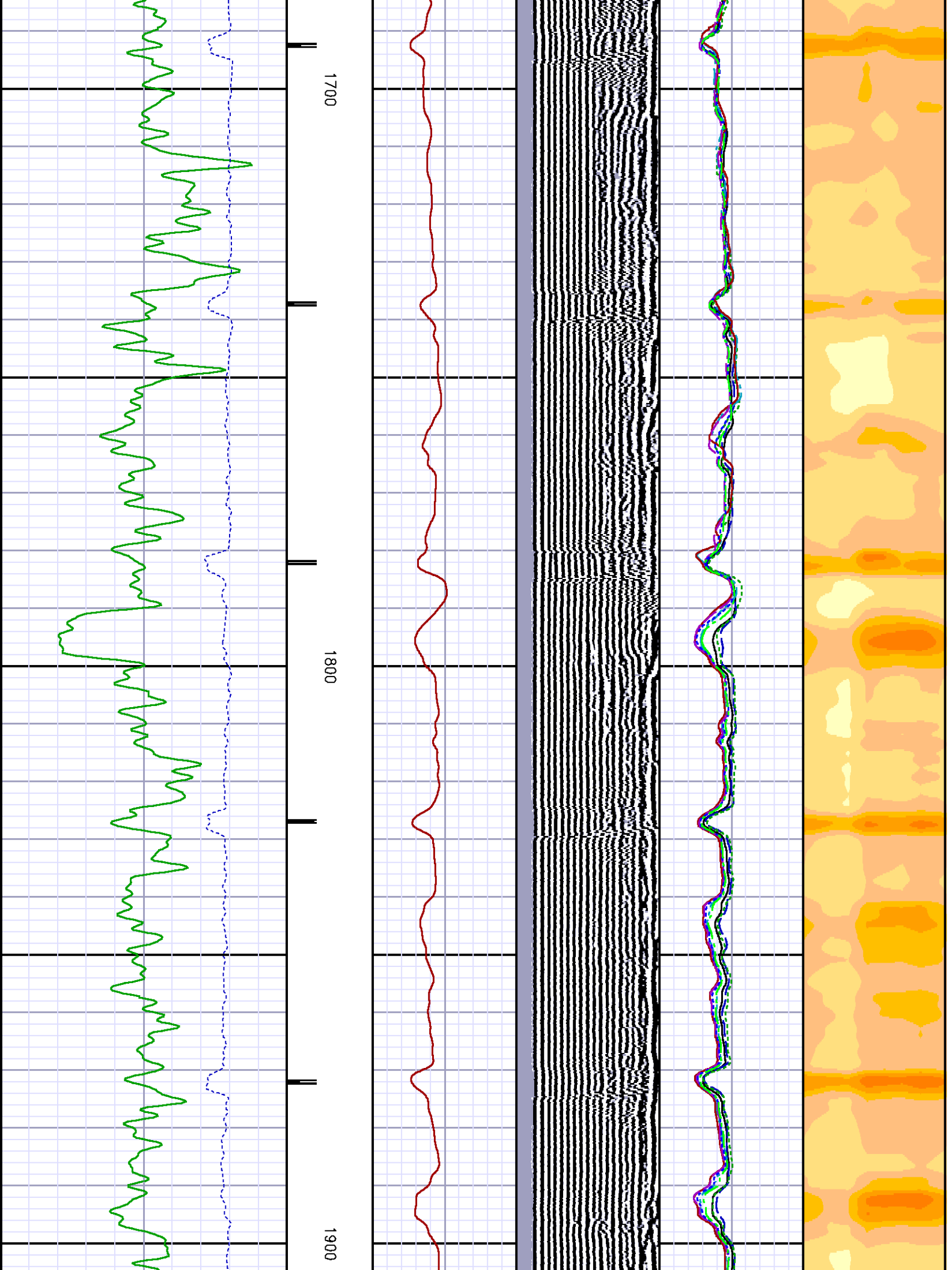


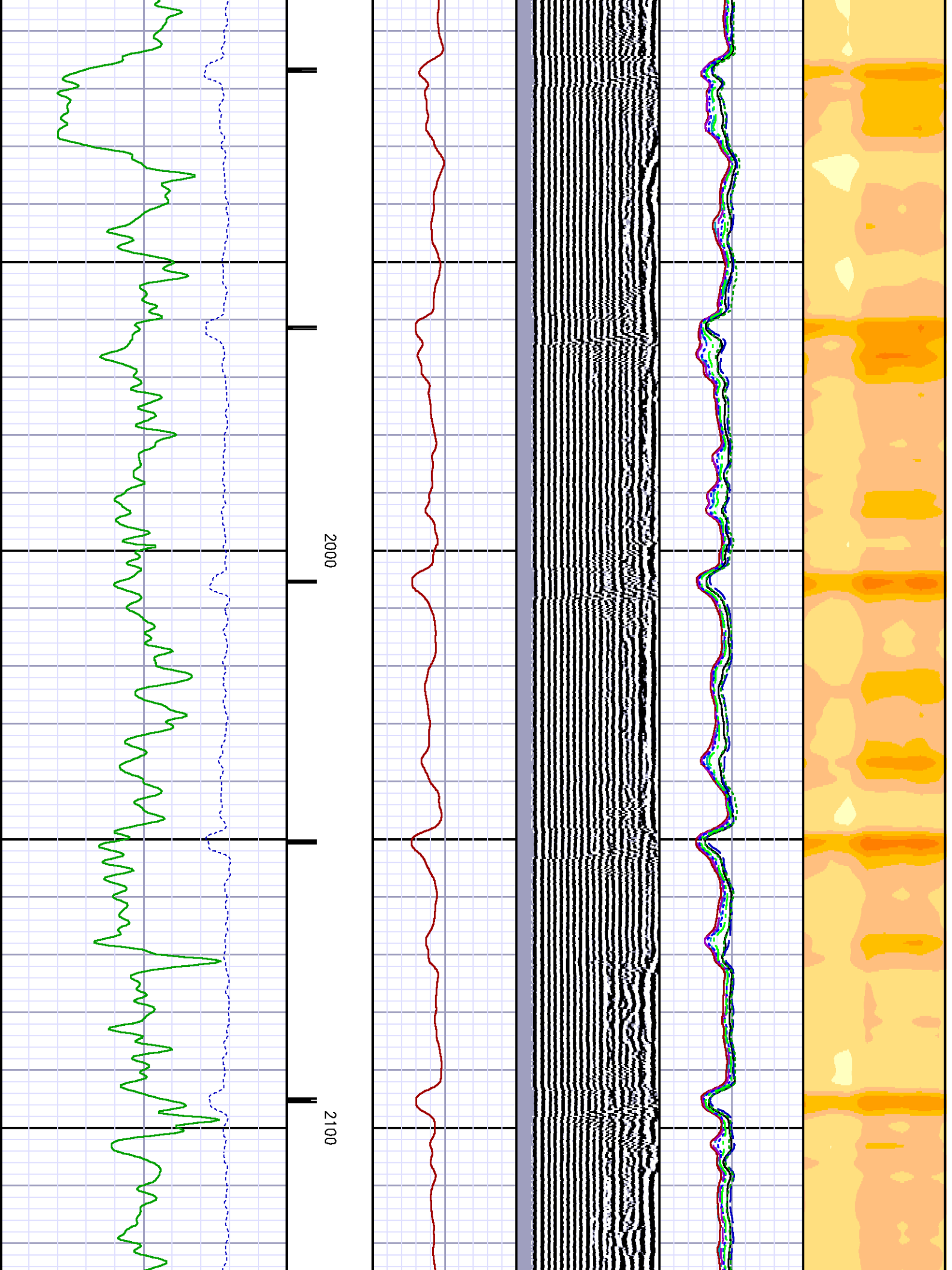


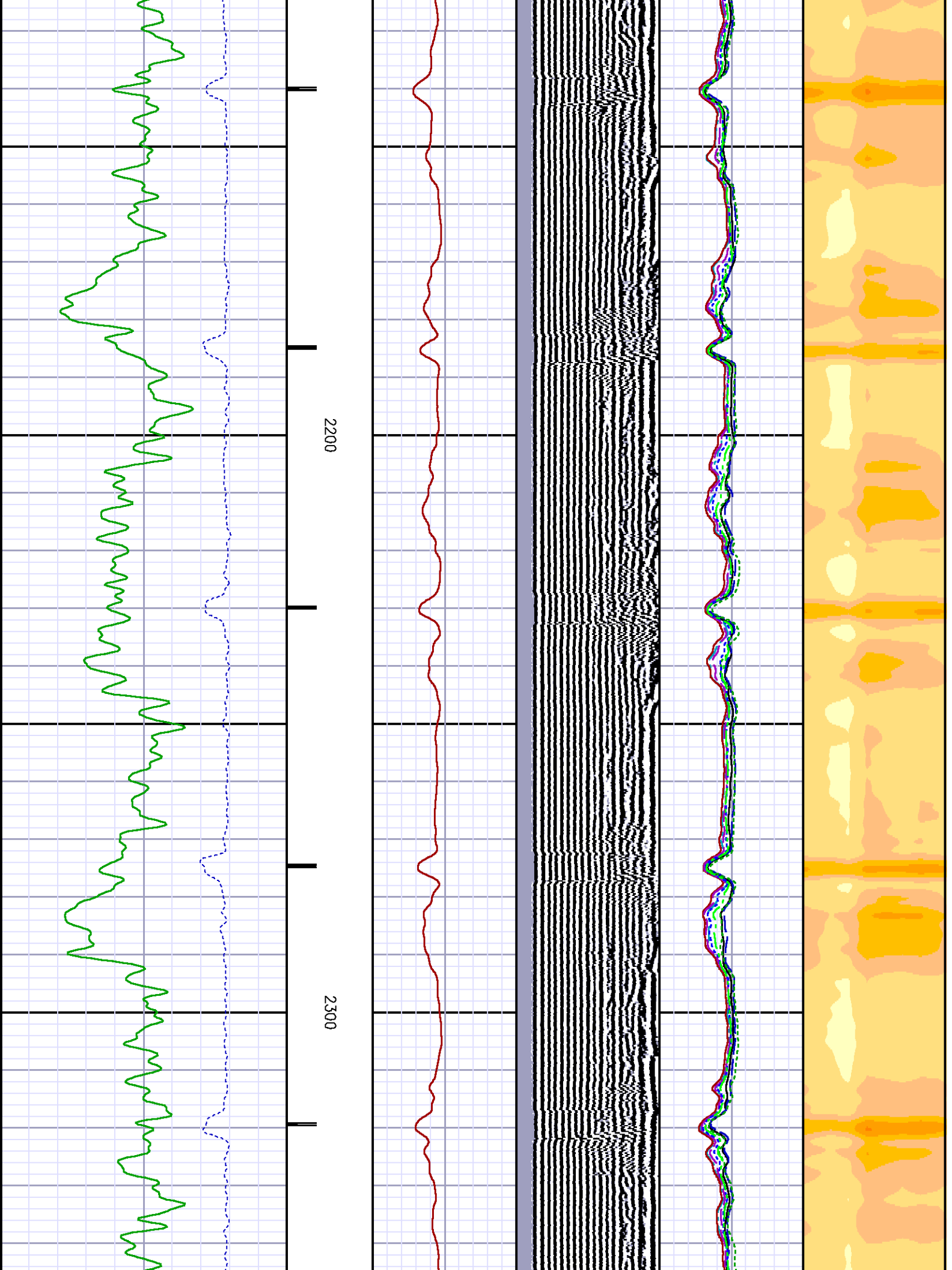


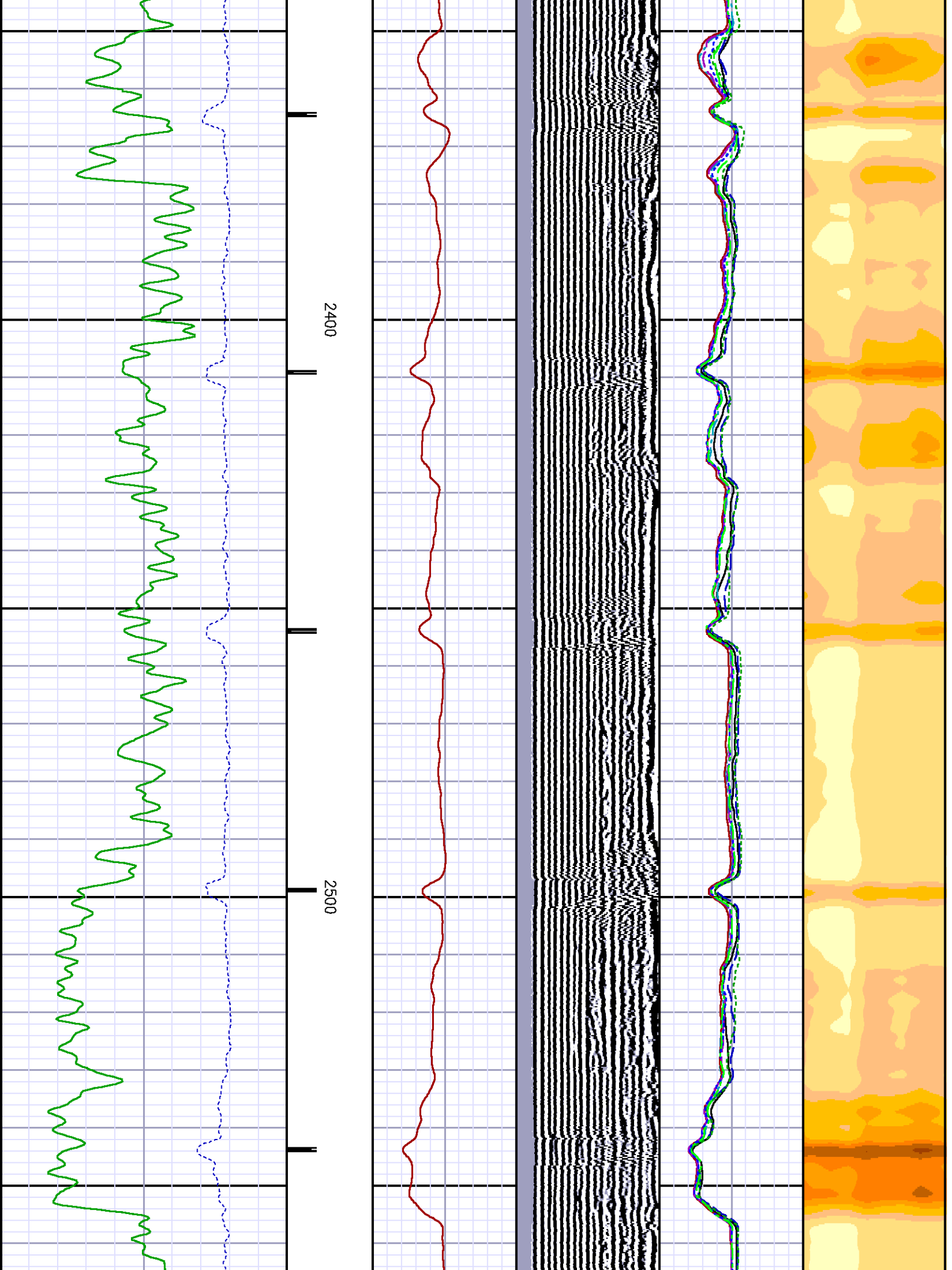


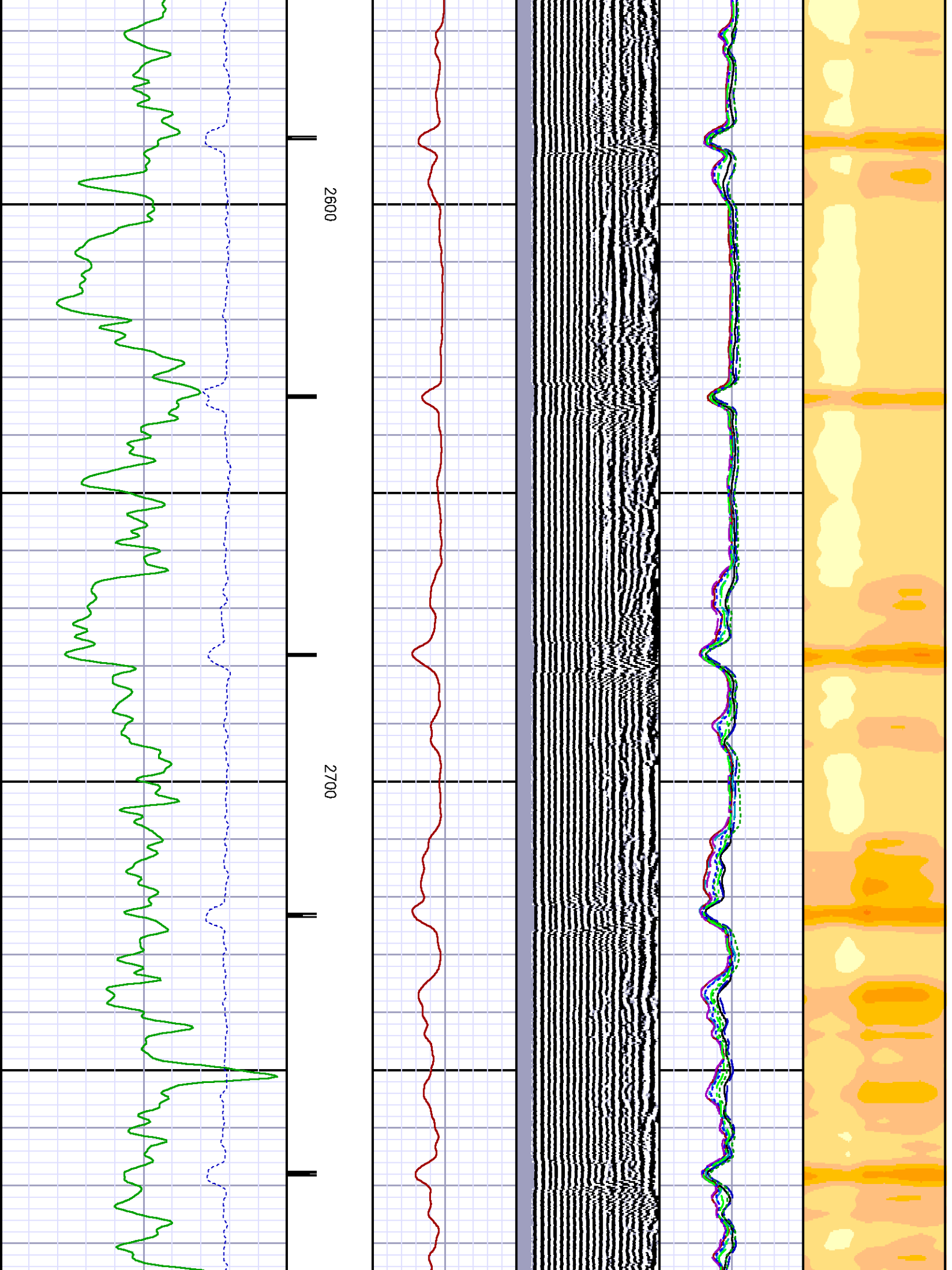


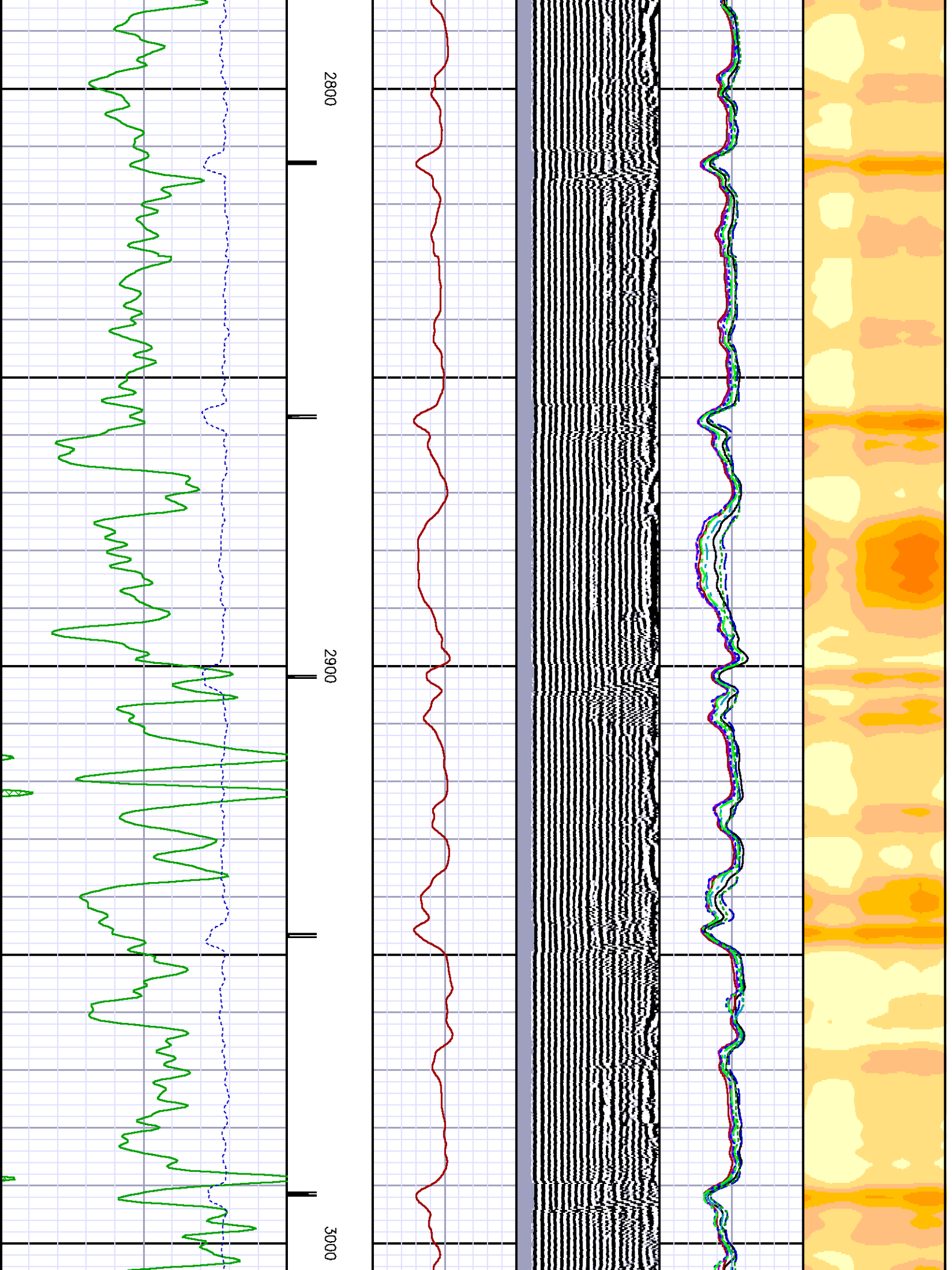


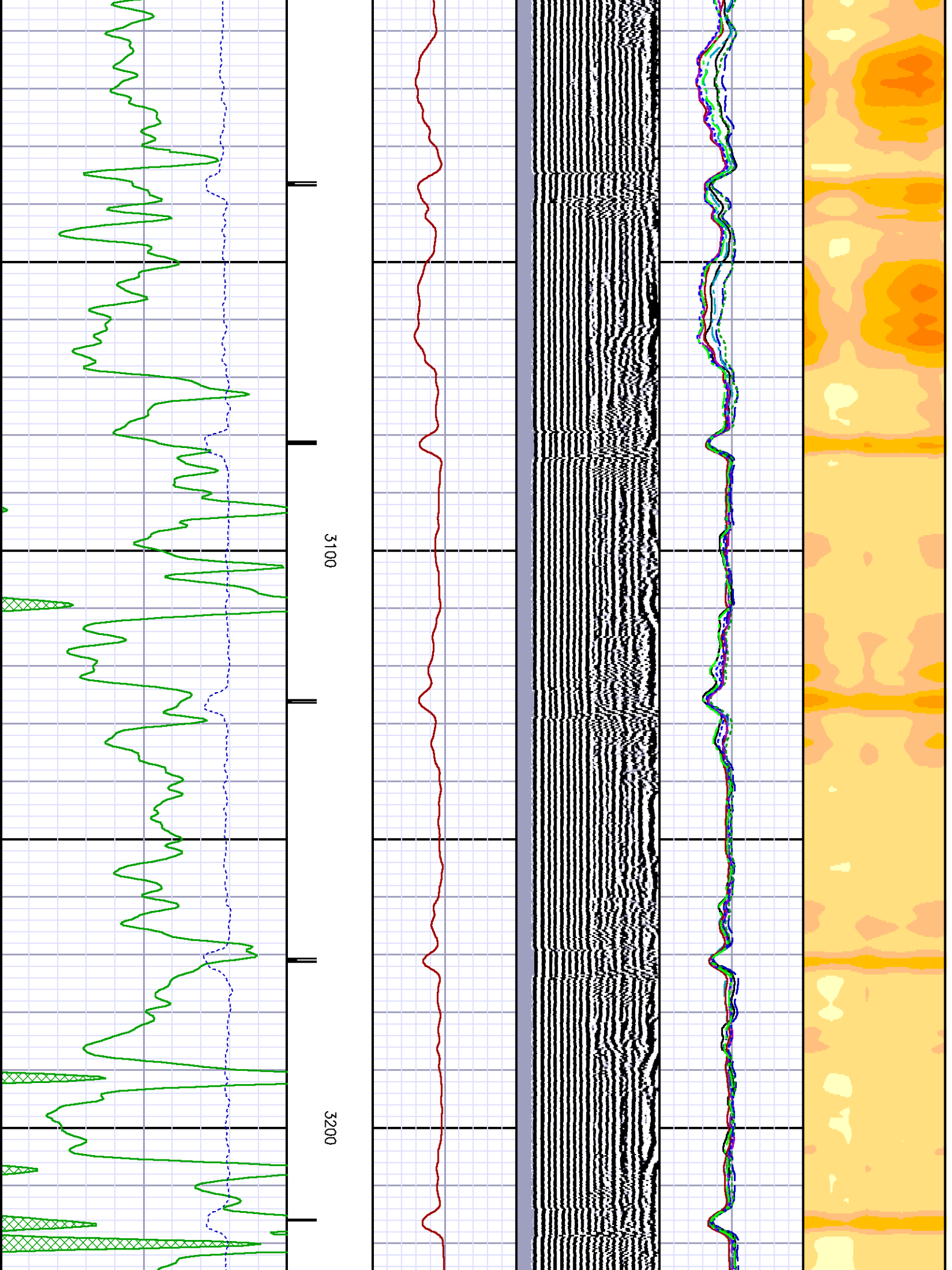


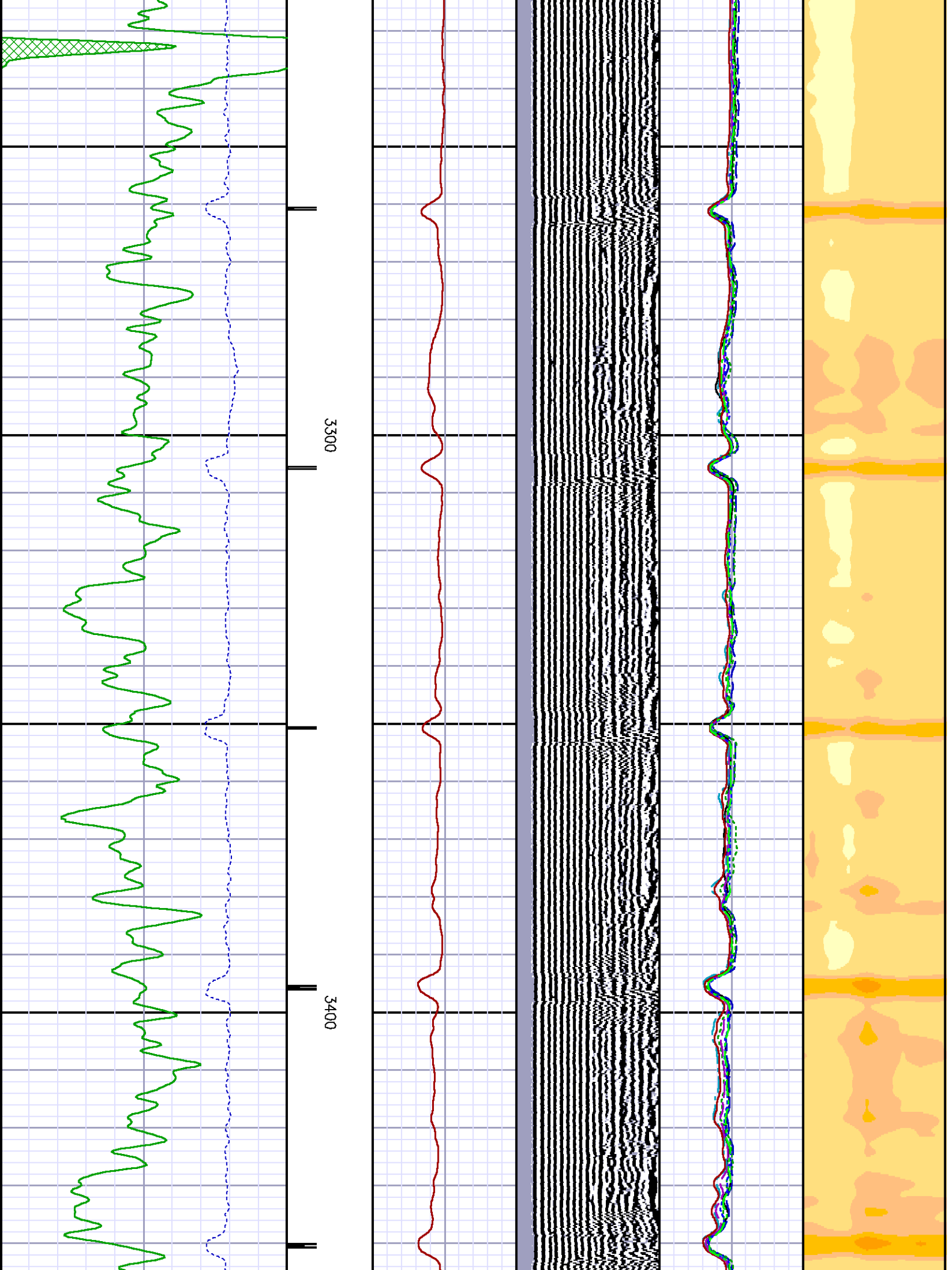


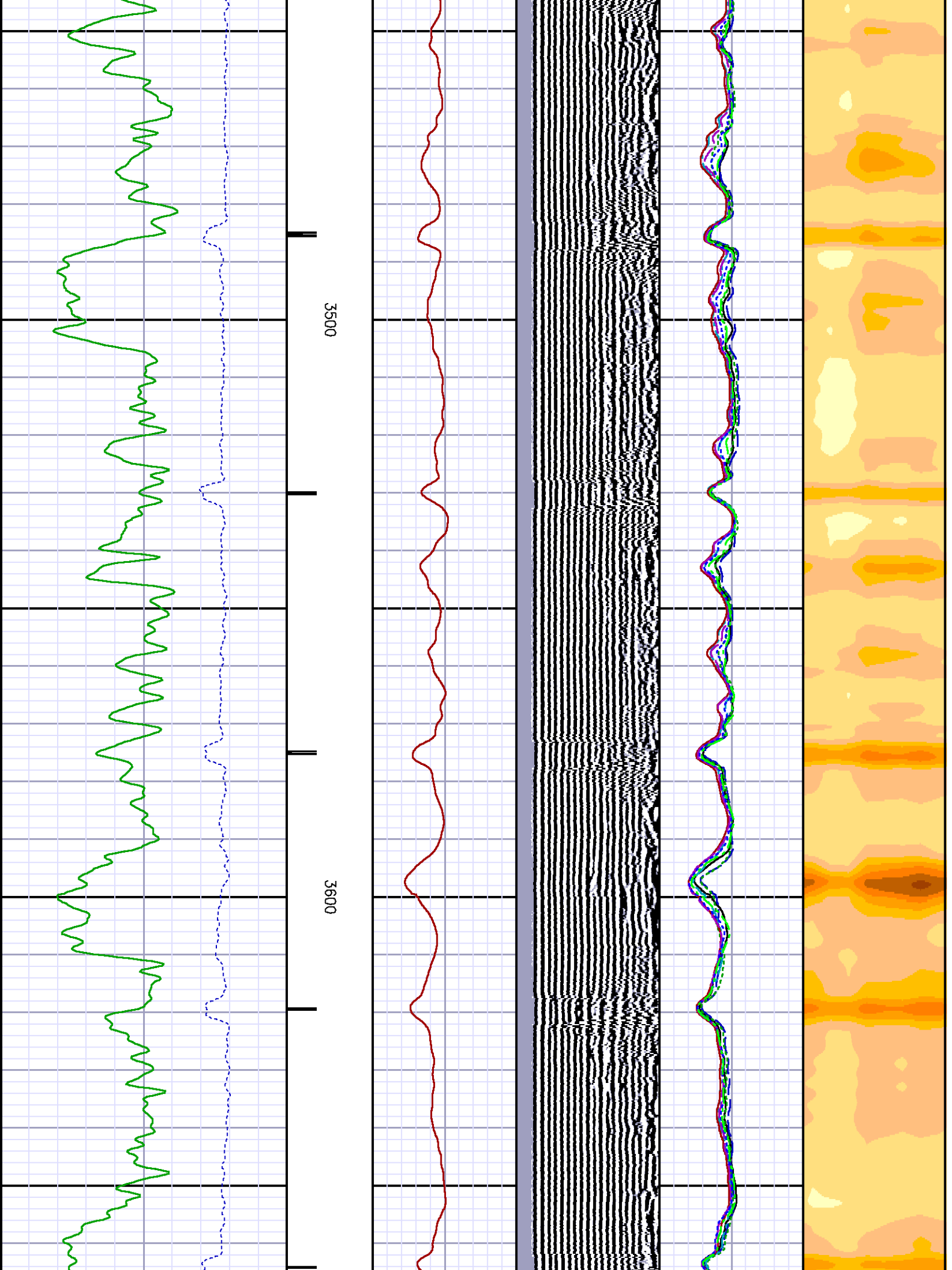


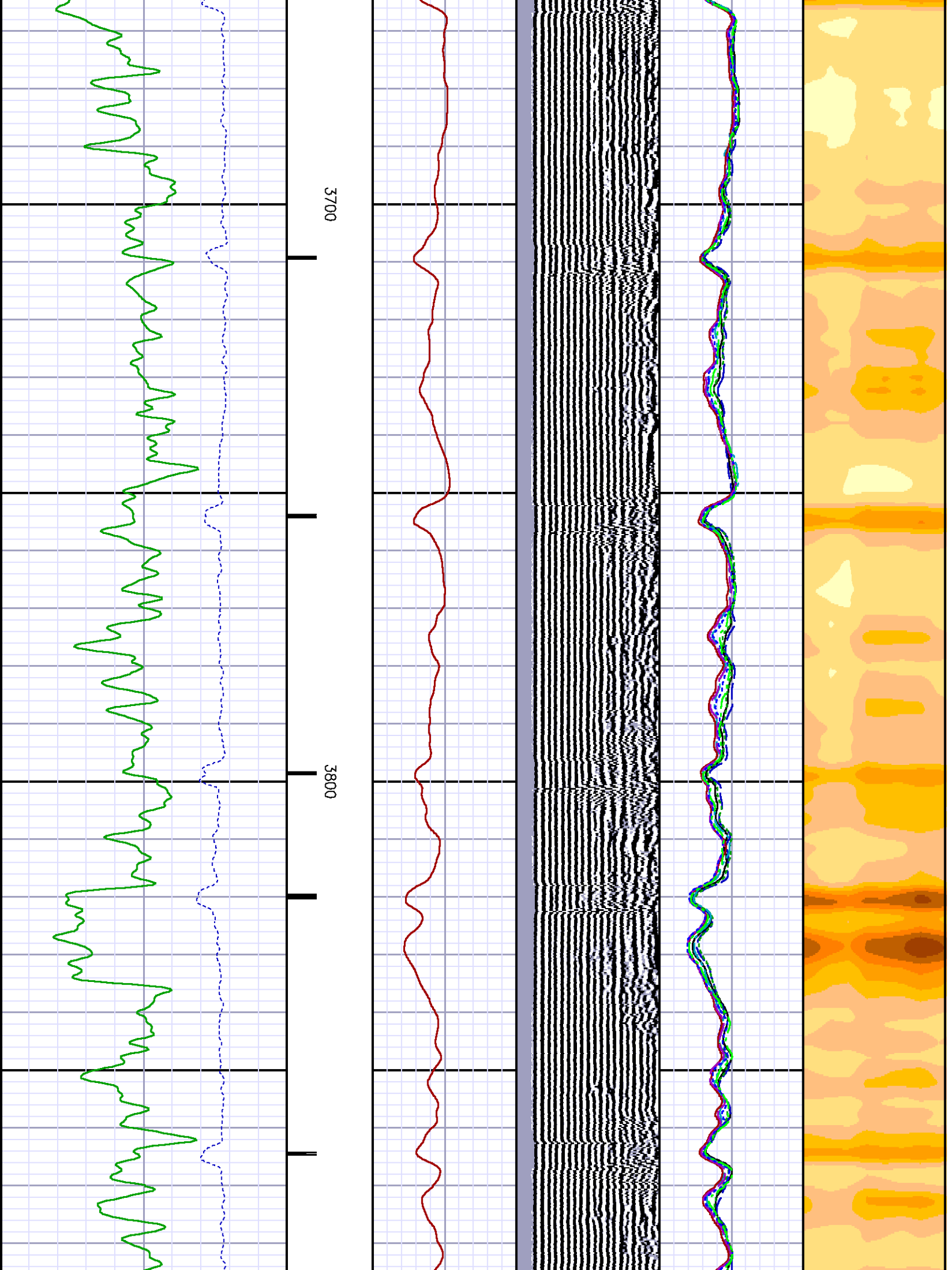


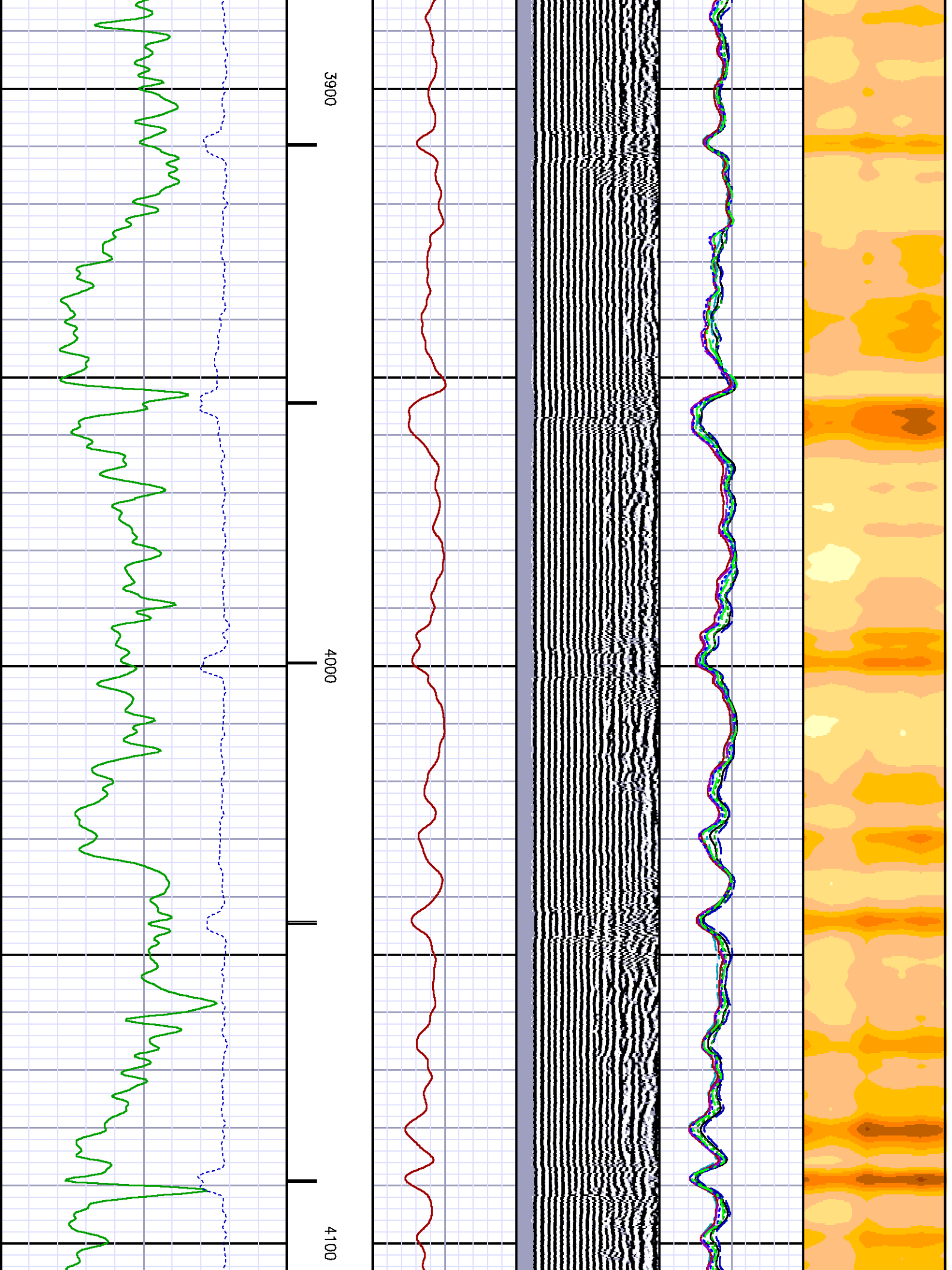


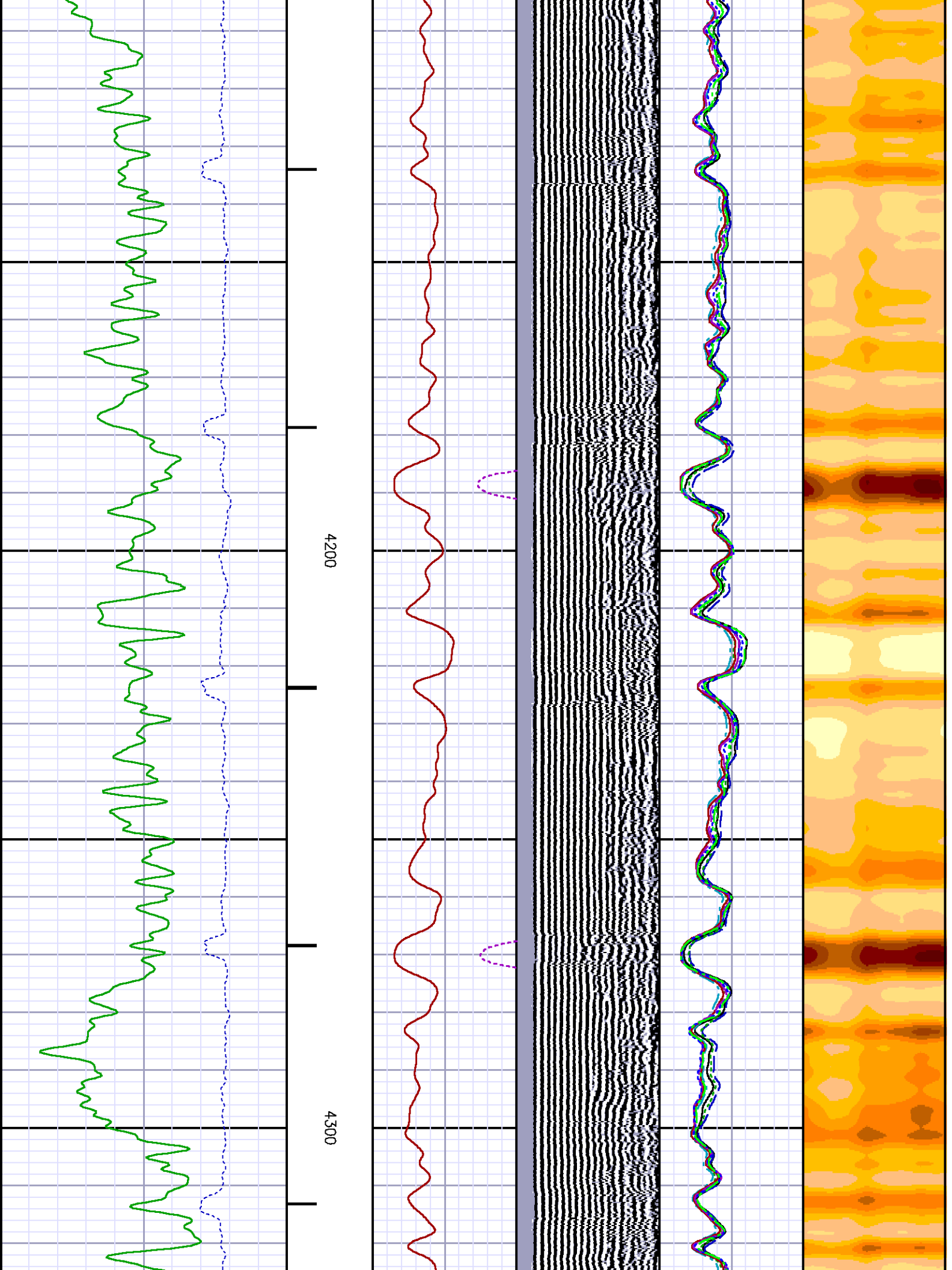


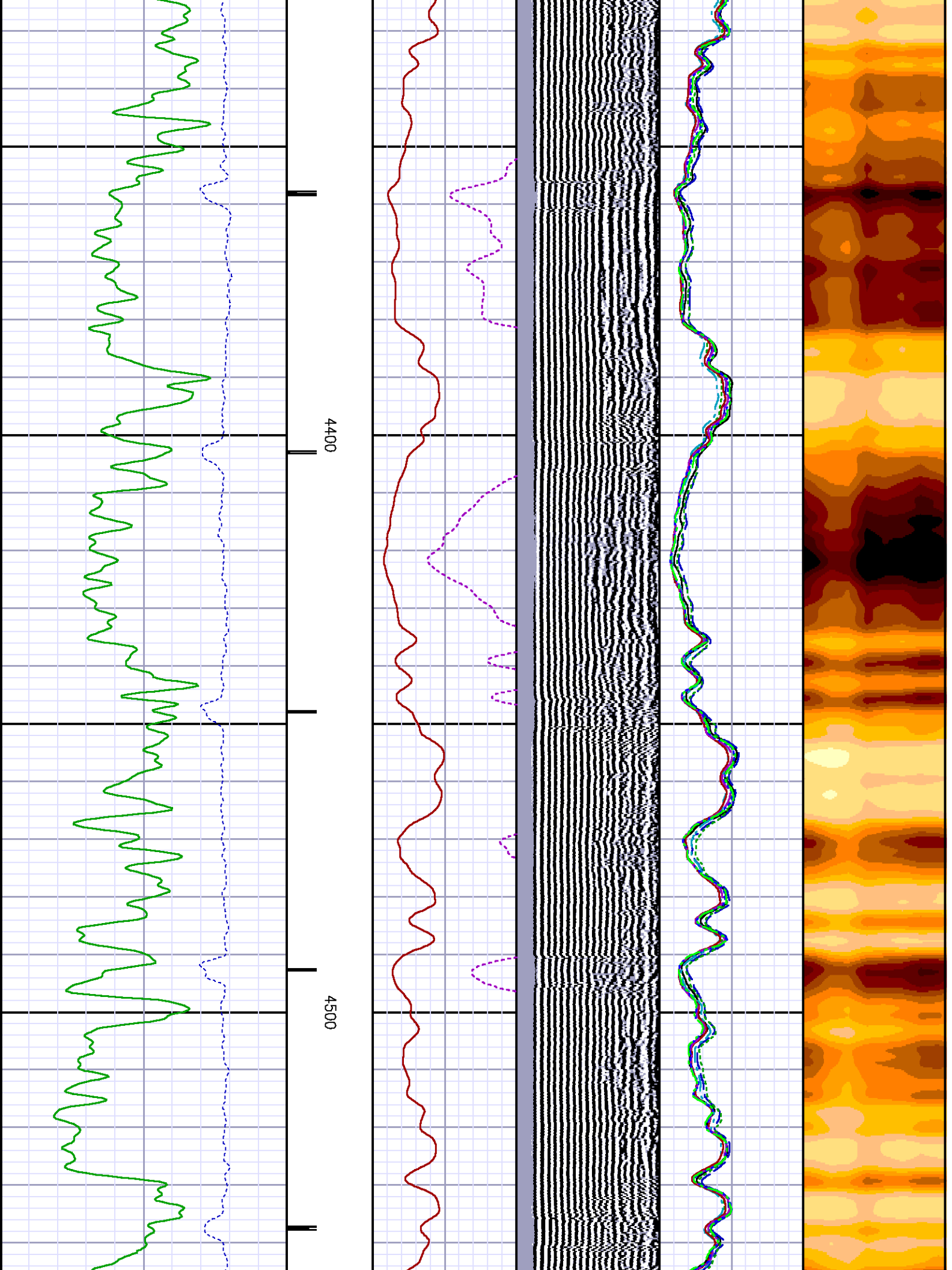


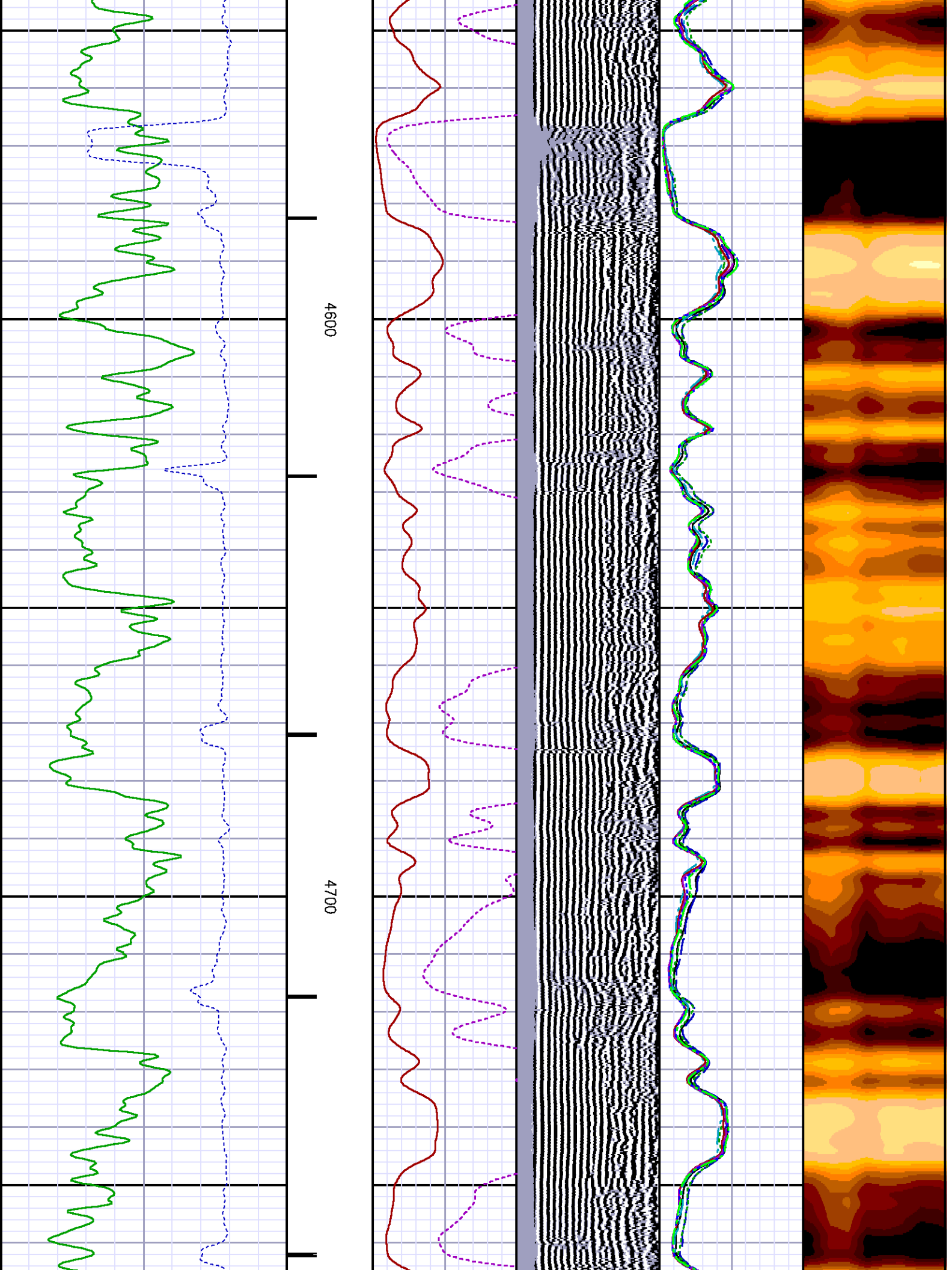


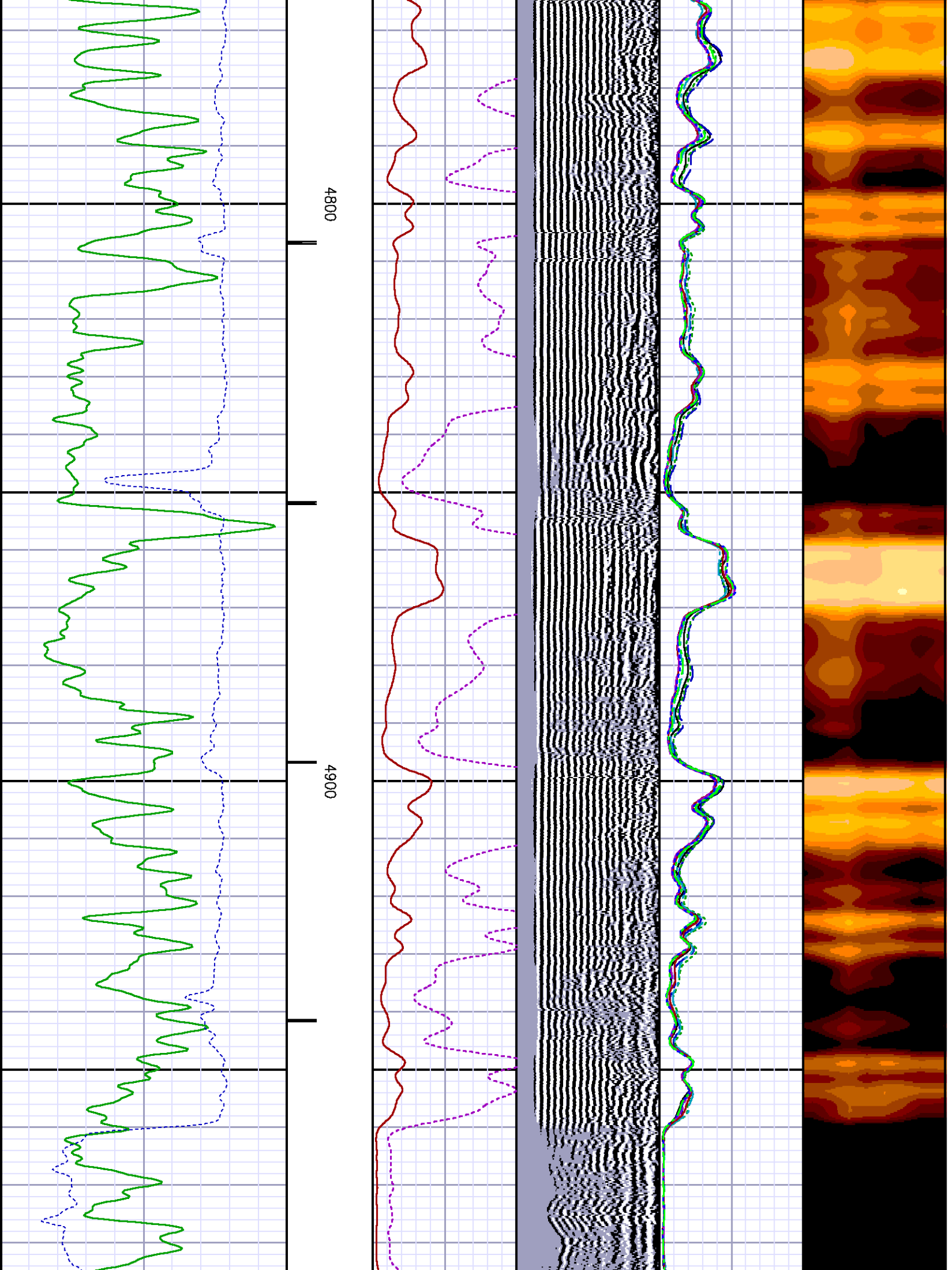


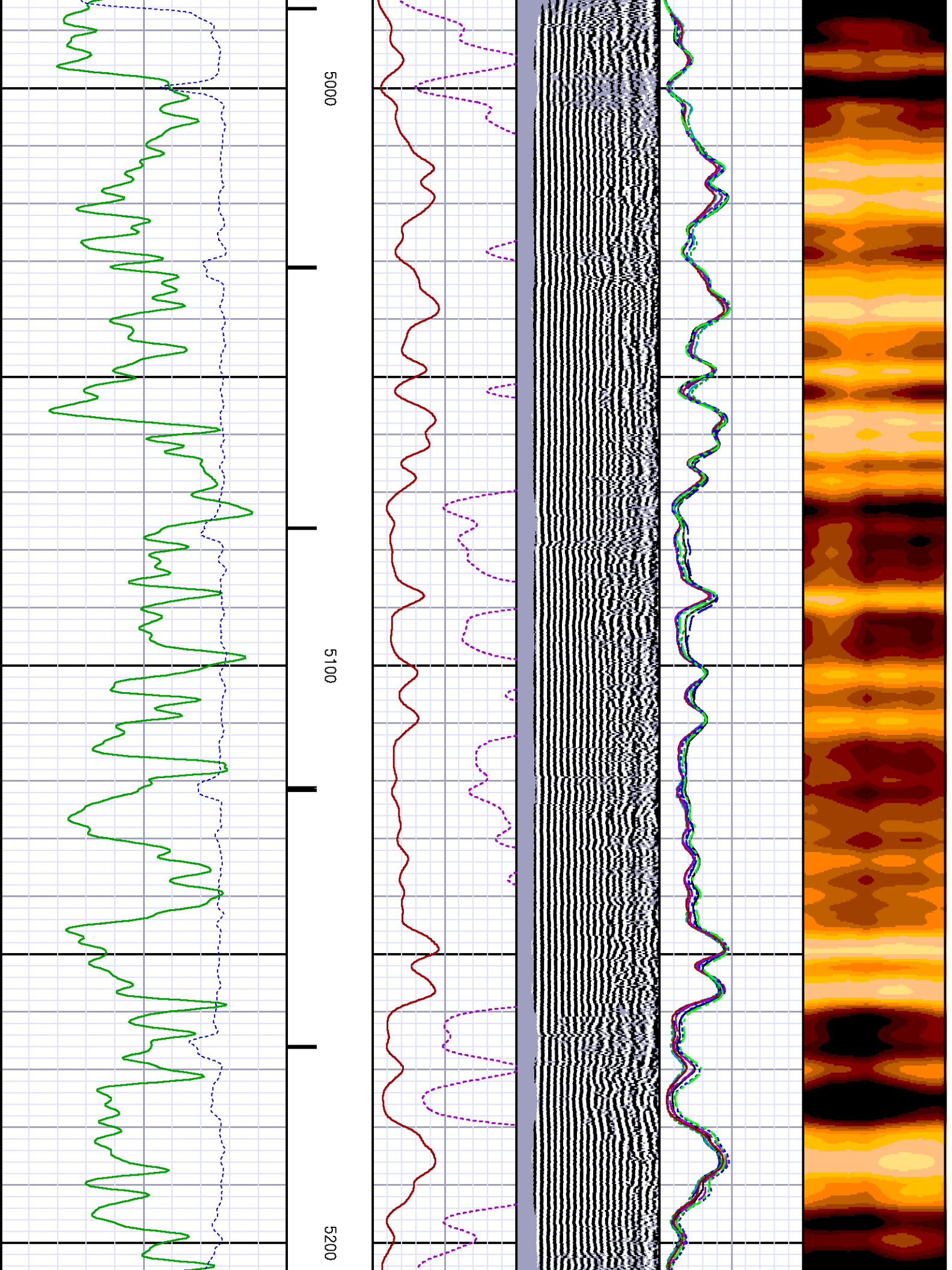


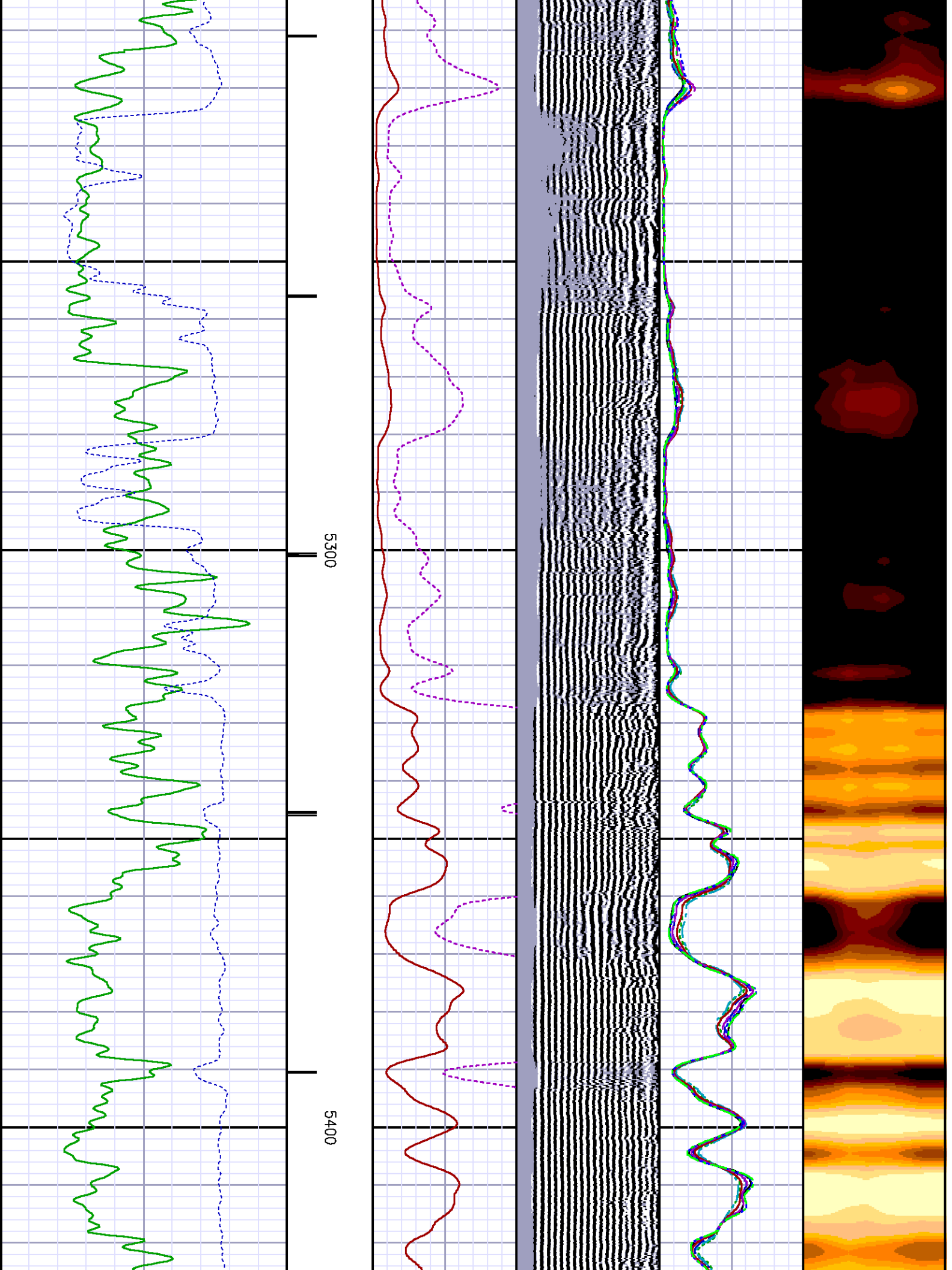


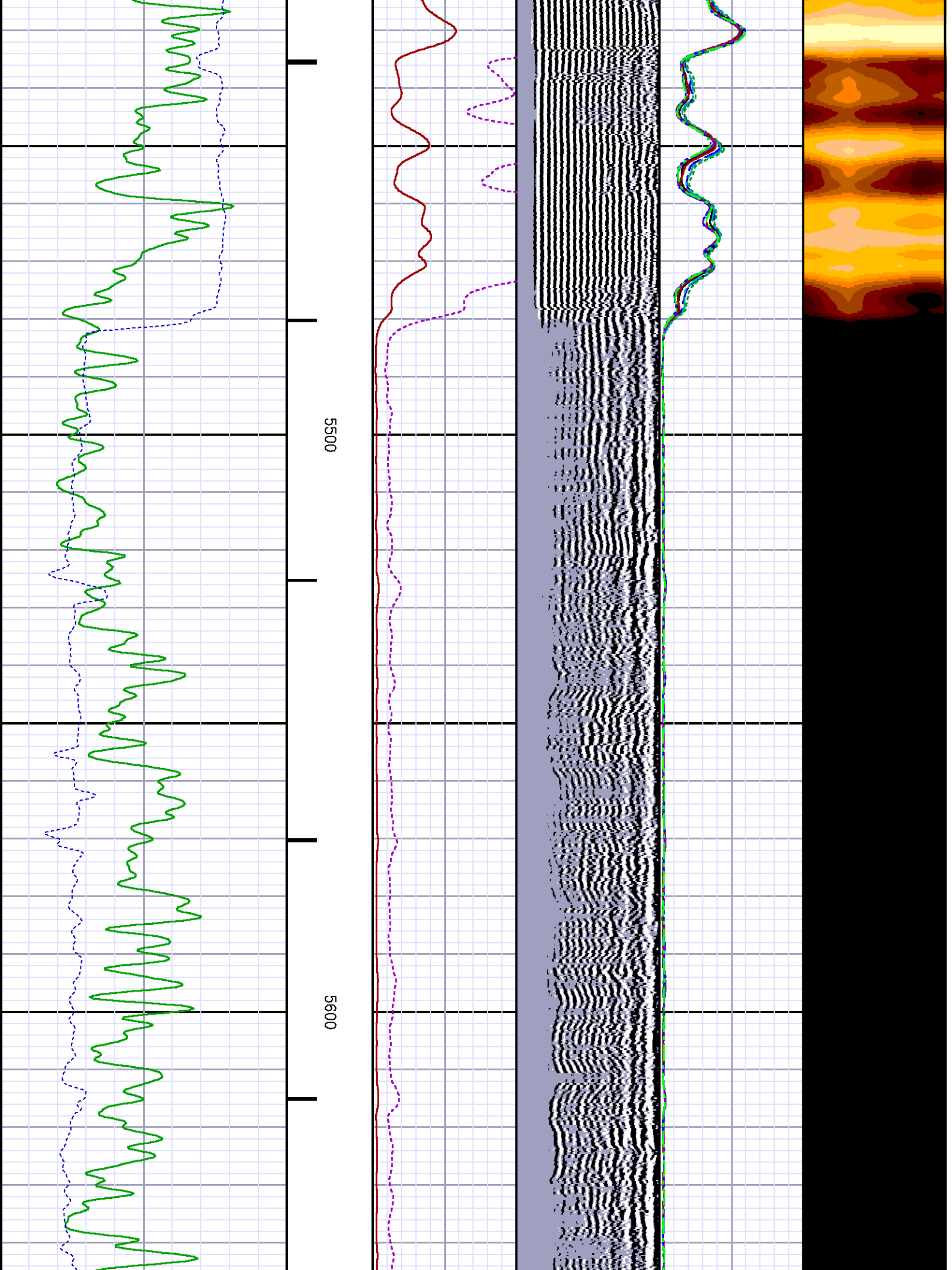


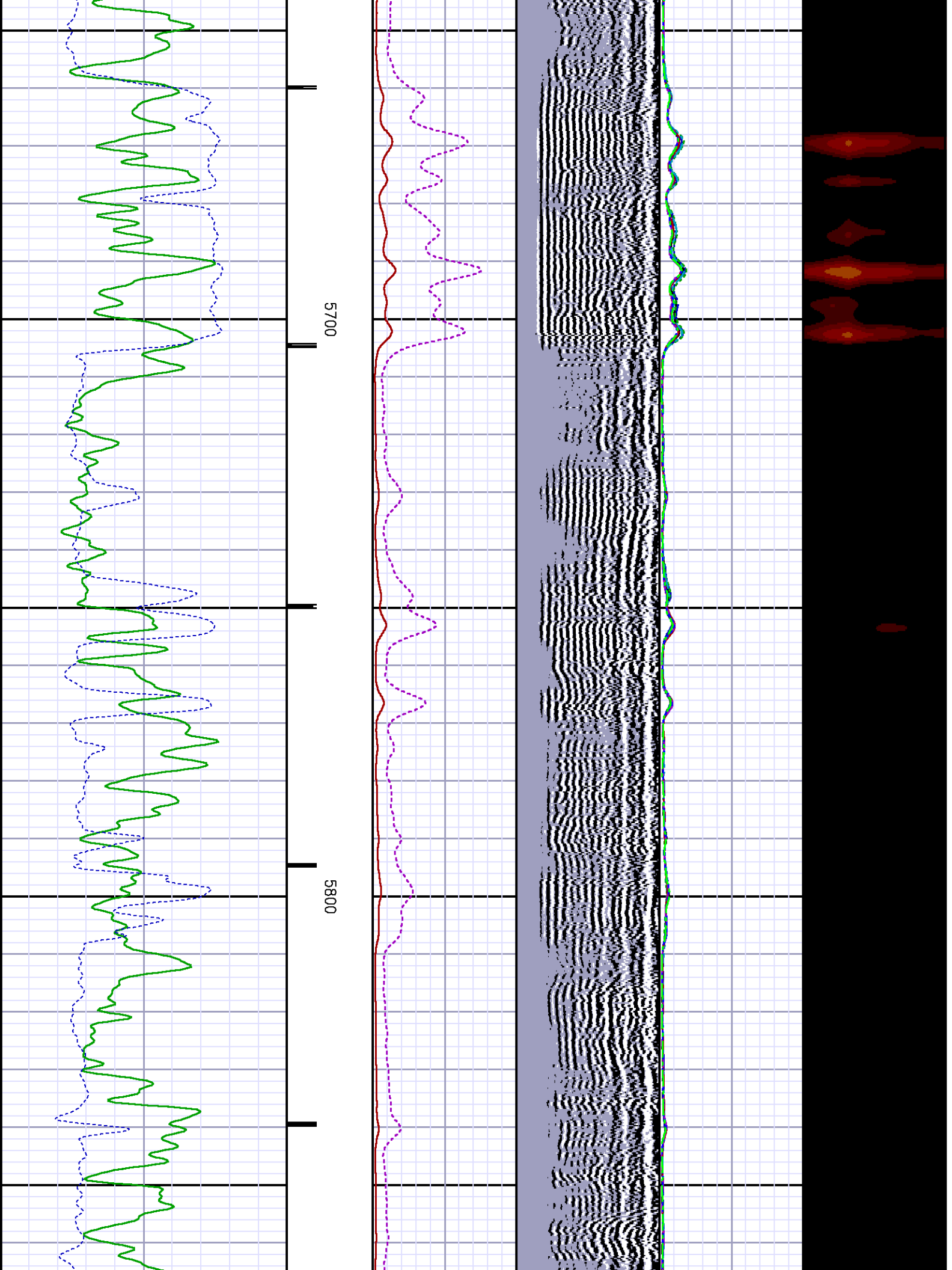


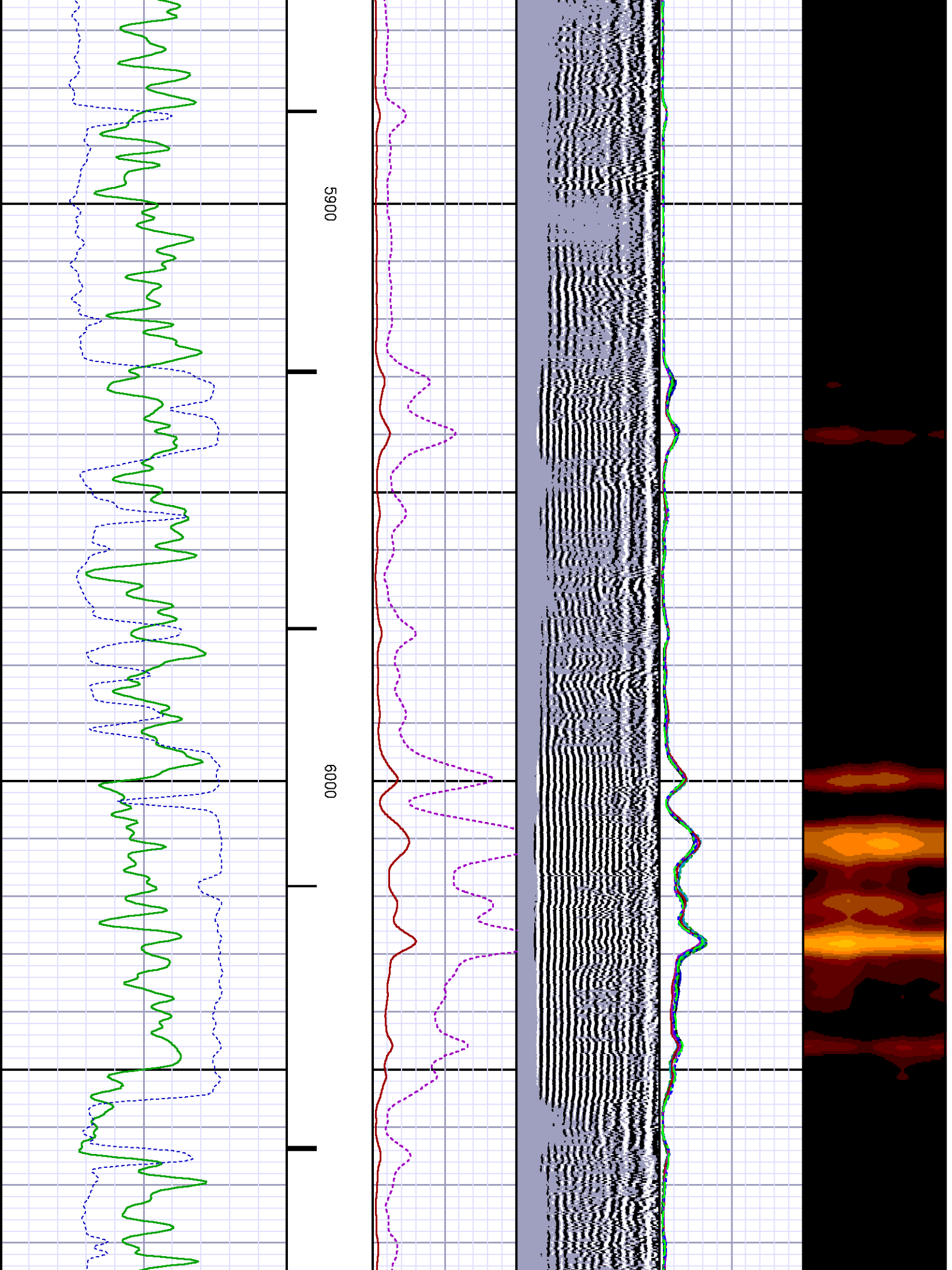


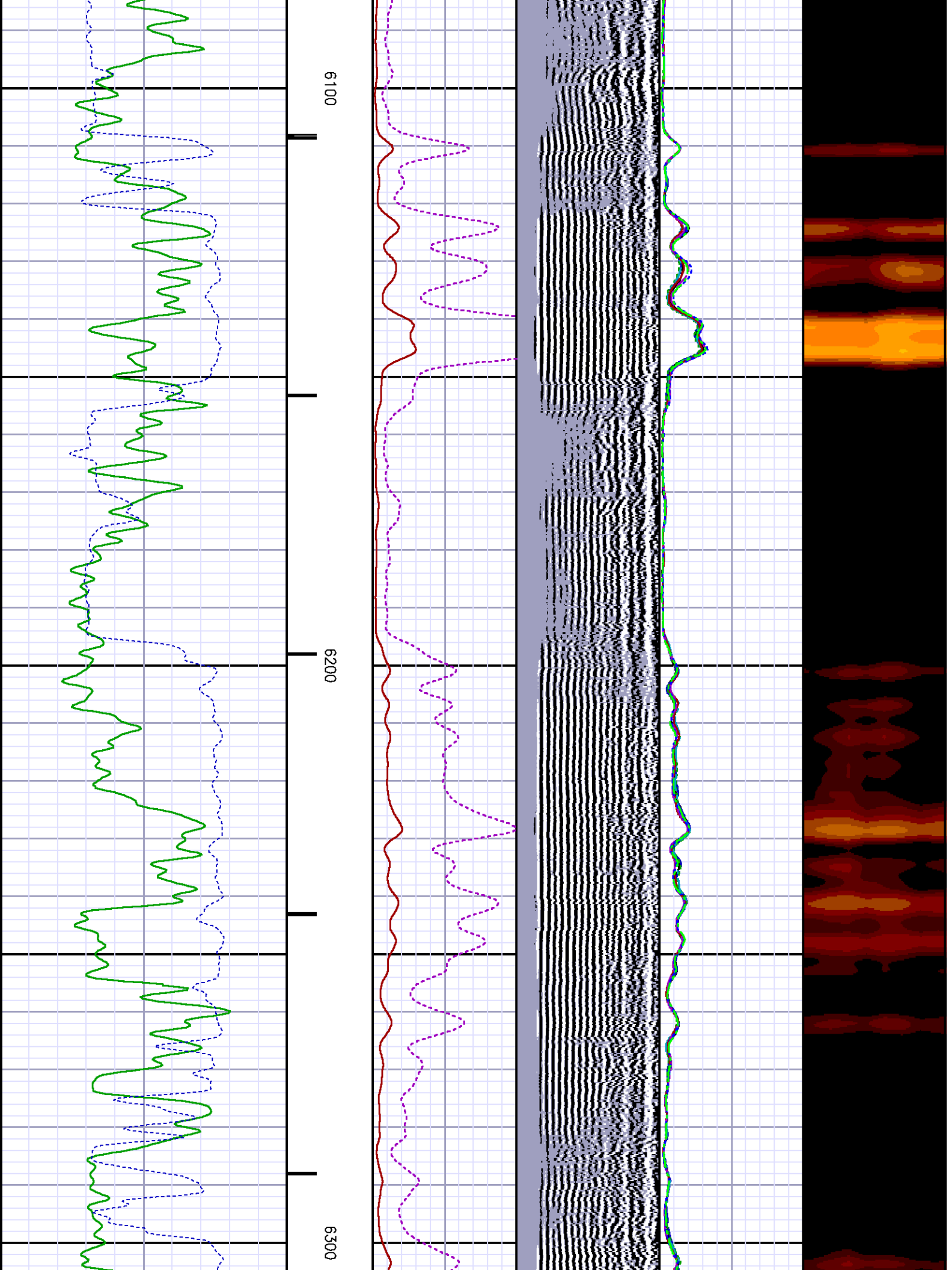


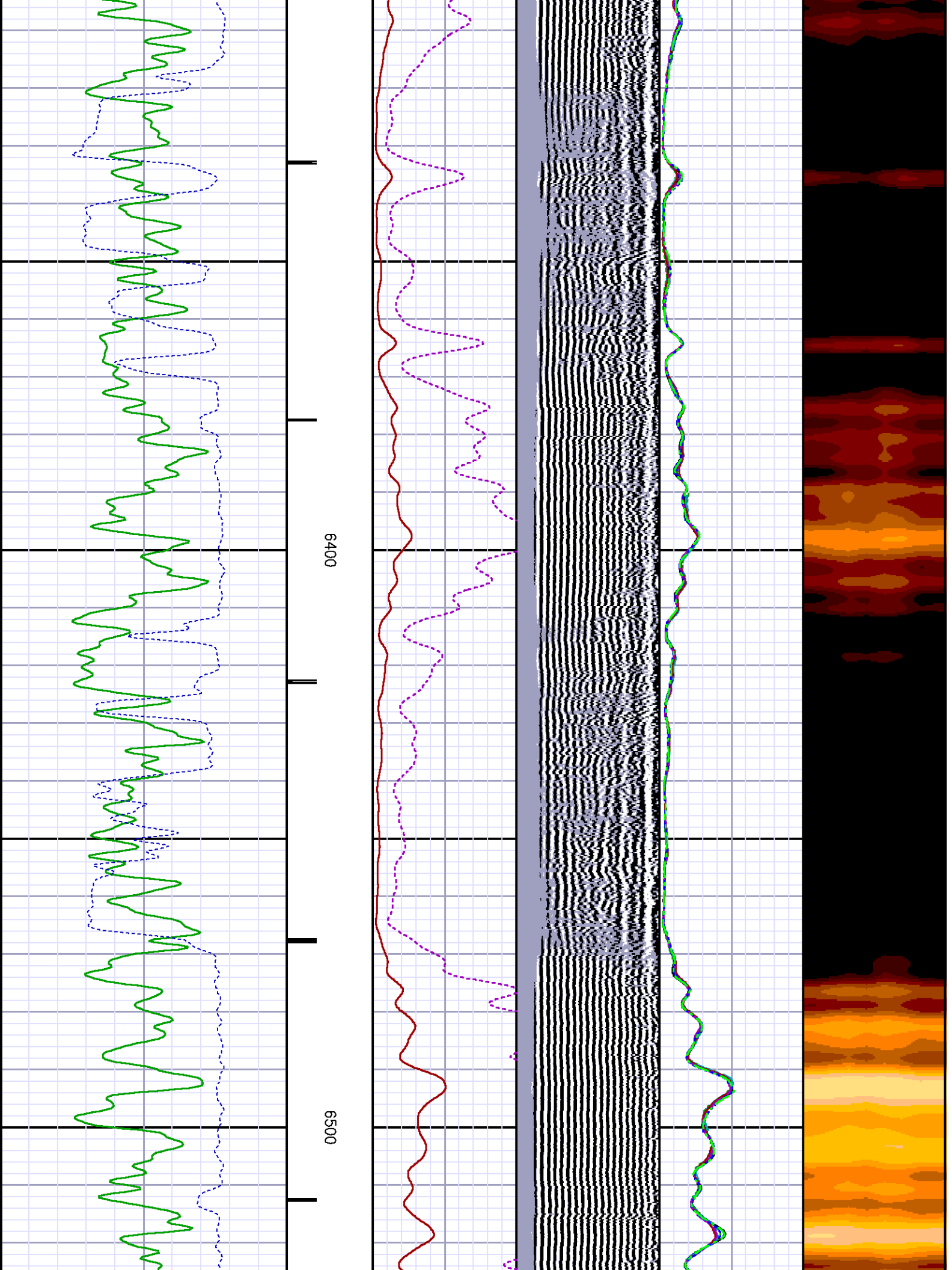


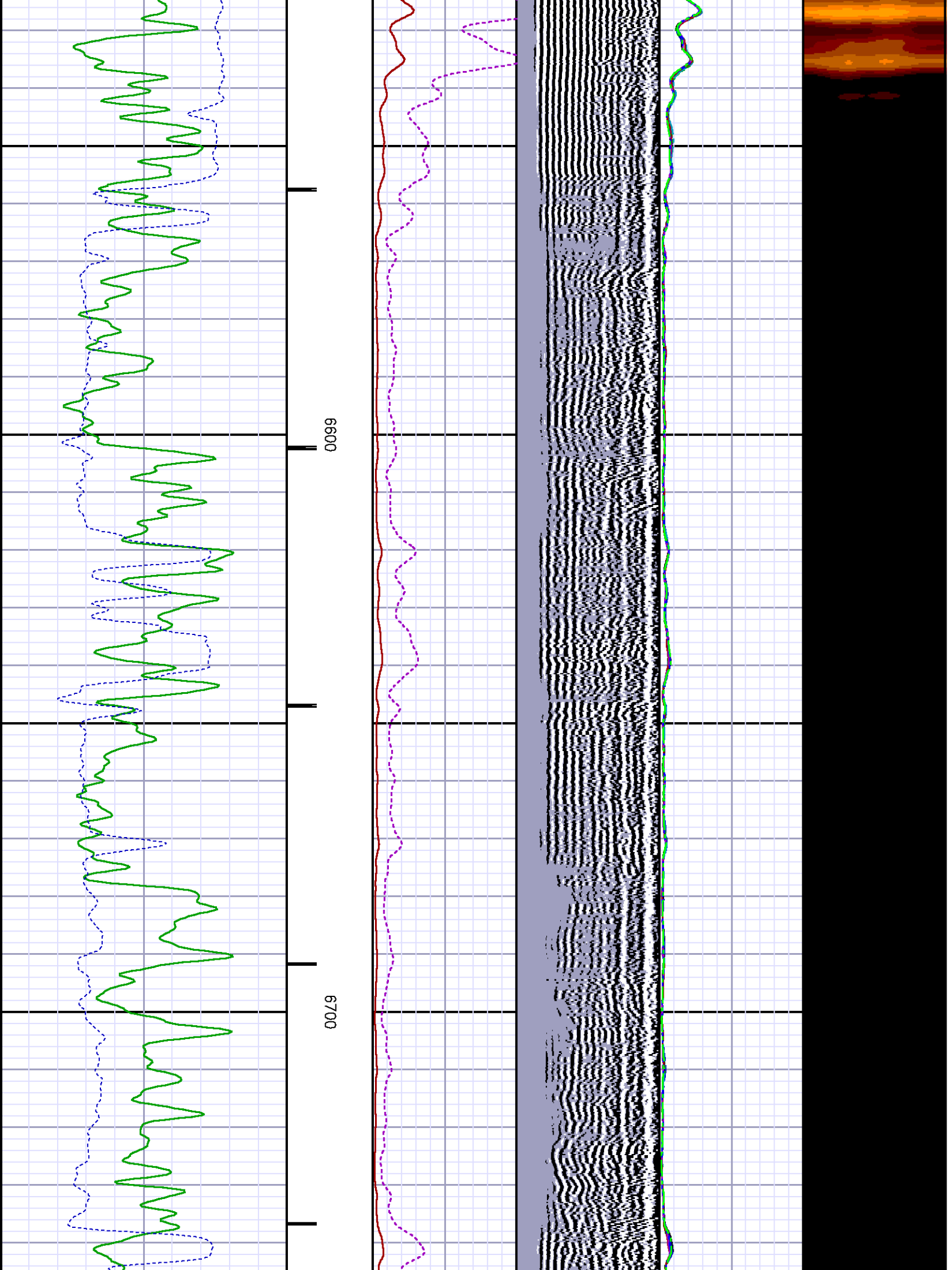


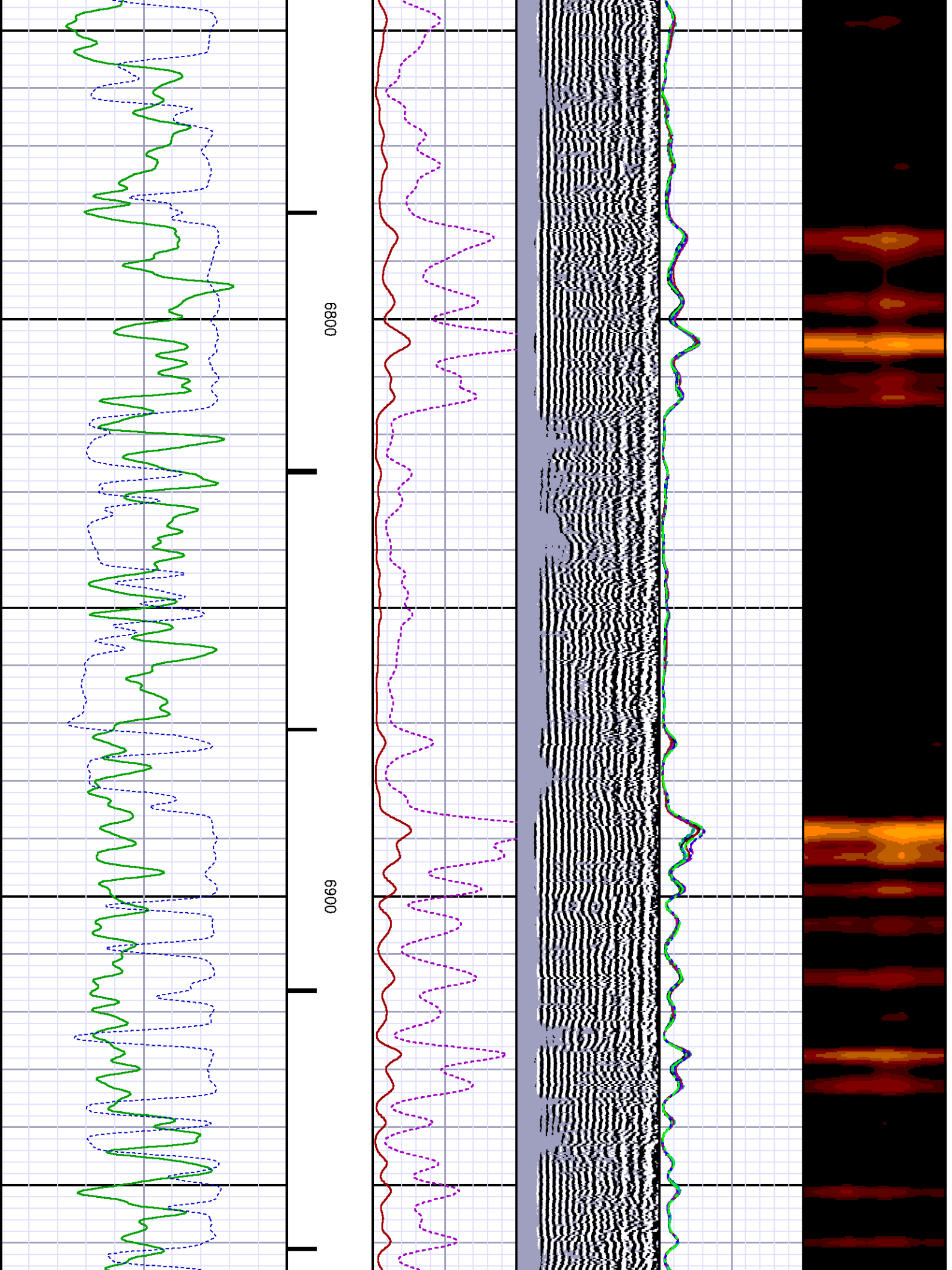


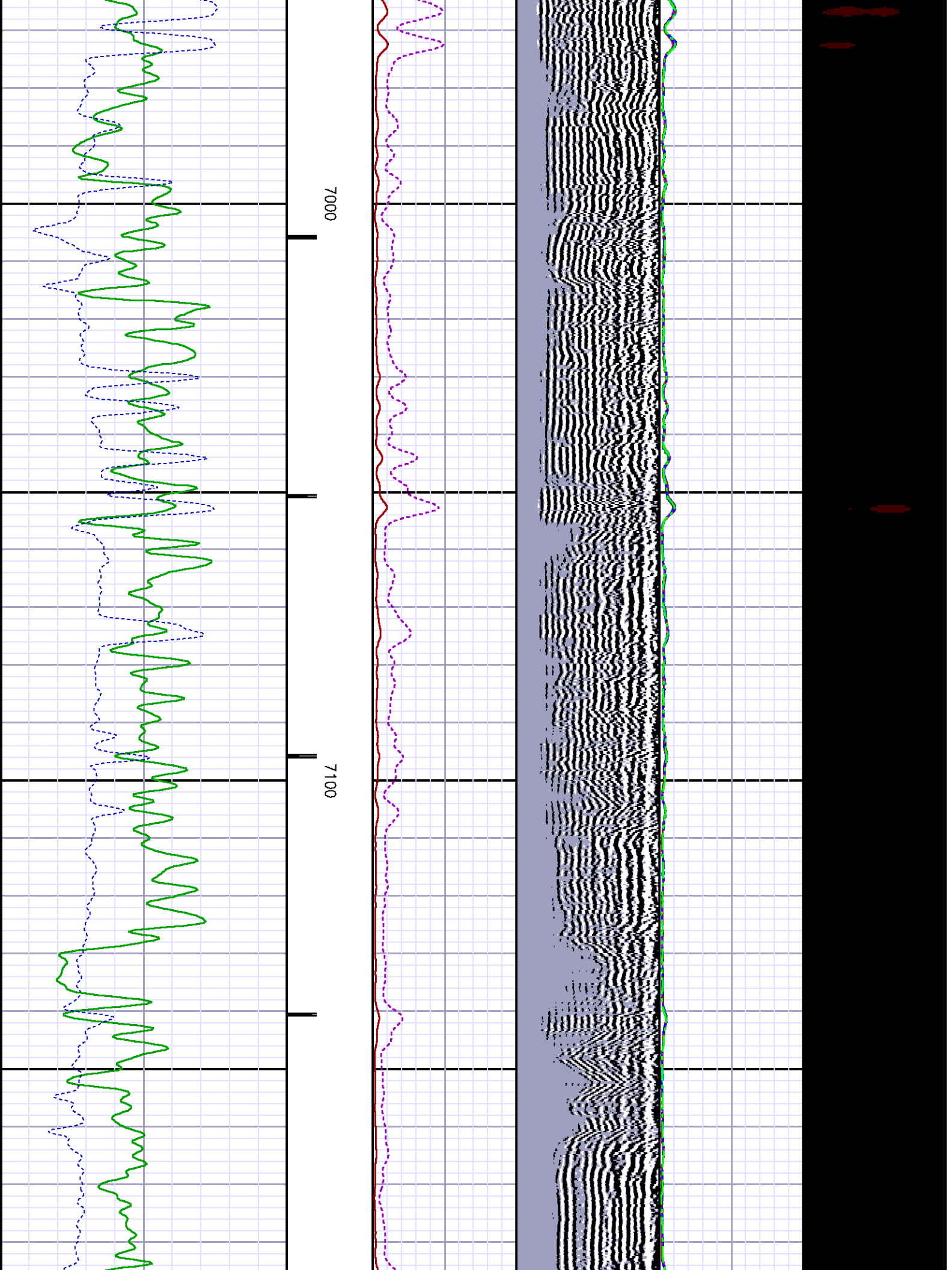


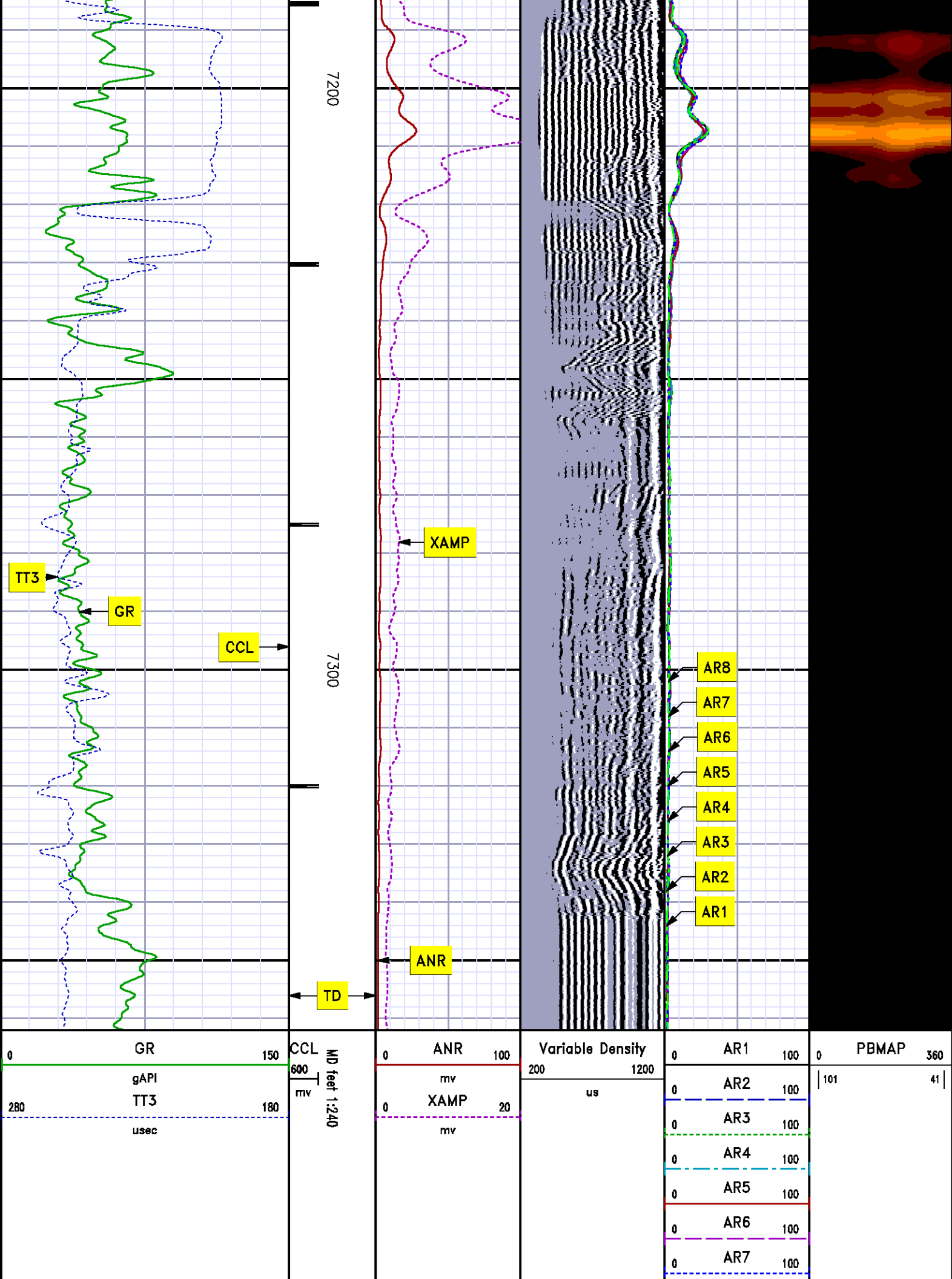












REPEAT SECTION

0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	304.158	usec	7000.000	7384.000
RAL	Amp Gate Start Near	200.391	usec	7000.000	7384.000
RAL	Amp Gate Start Radial	200.391	usec	7000.000	7384.000
RAL	Amp Gate Width Far	30.000	usec	7000.000	7384.000
RAL	Amp Gate Width Near	30.000	usec	7000.000	7384.000
RAL	Amp Gate Width Radial	30.000	usec	7000.000	7384.000
RAL	casing od	4.500	inches	7000.000	7384.000
RAL	casing wt	11.600	lbm/ft	7000.000	7384.000
RAL	FB Start Far	291.900	usec	7000.000	7384.000
RAL	FB Start Near	175.391	usec	7000.000	7384.000
RAL	FB Start Radial	175.391	usec	7000.000	7384.000
RAL	FB Thresh Far	10.000	mv	7000.000	7384.000
RAL	FB Thresh Near	4.000	mv	7000.000	7384.000
RAL	FB Thresh Radial	4.000	mv	7000.000	7384.000
RAL	Fluid Travel Time	200.000	usec/ft	7000.000	7384.812

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-16.450	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	-15.450	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

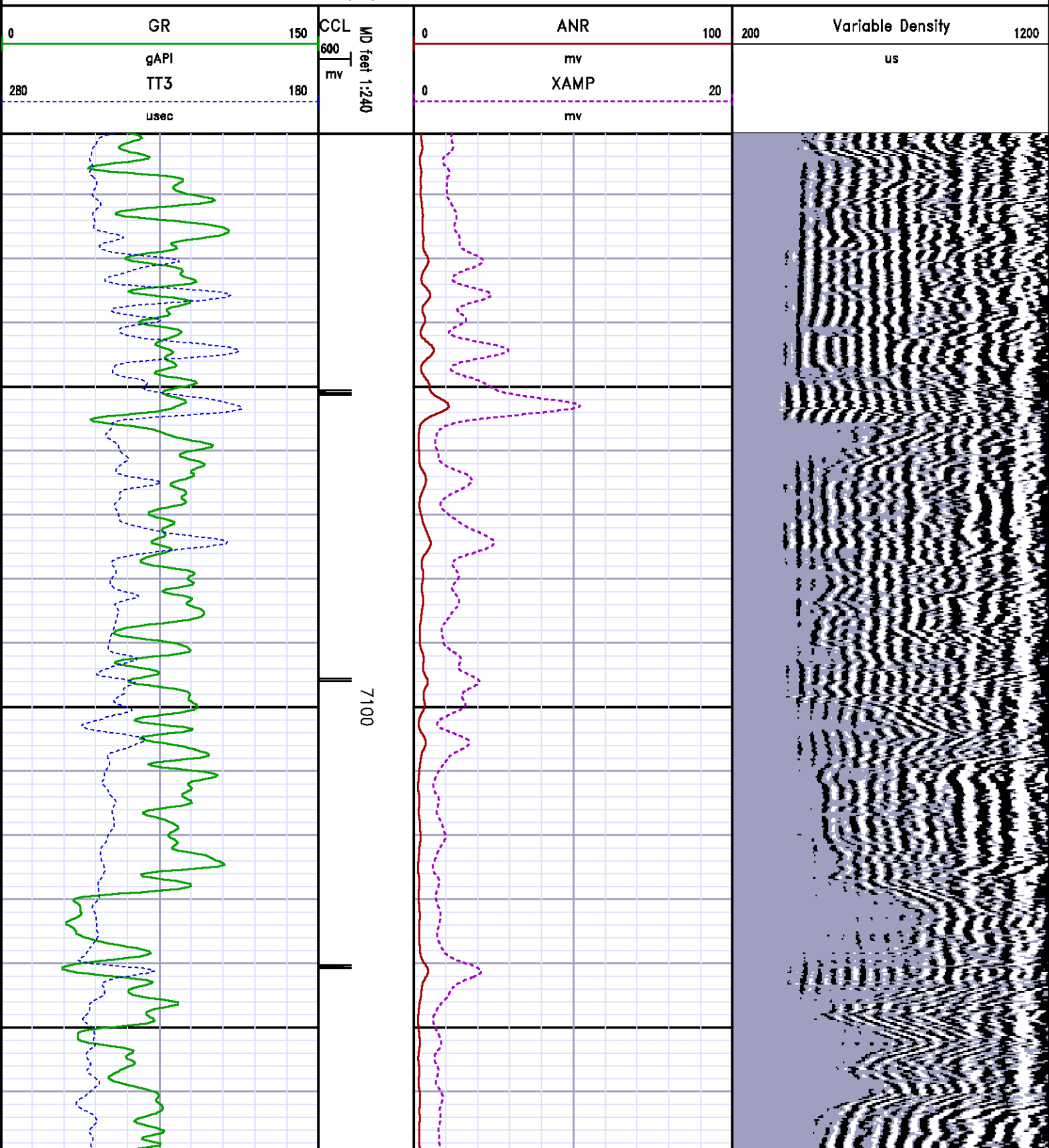
Well : GM 334-32

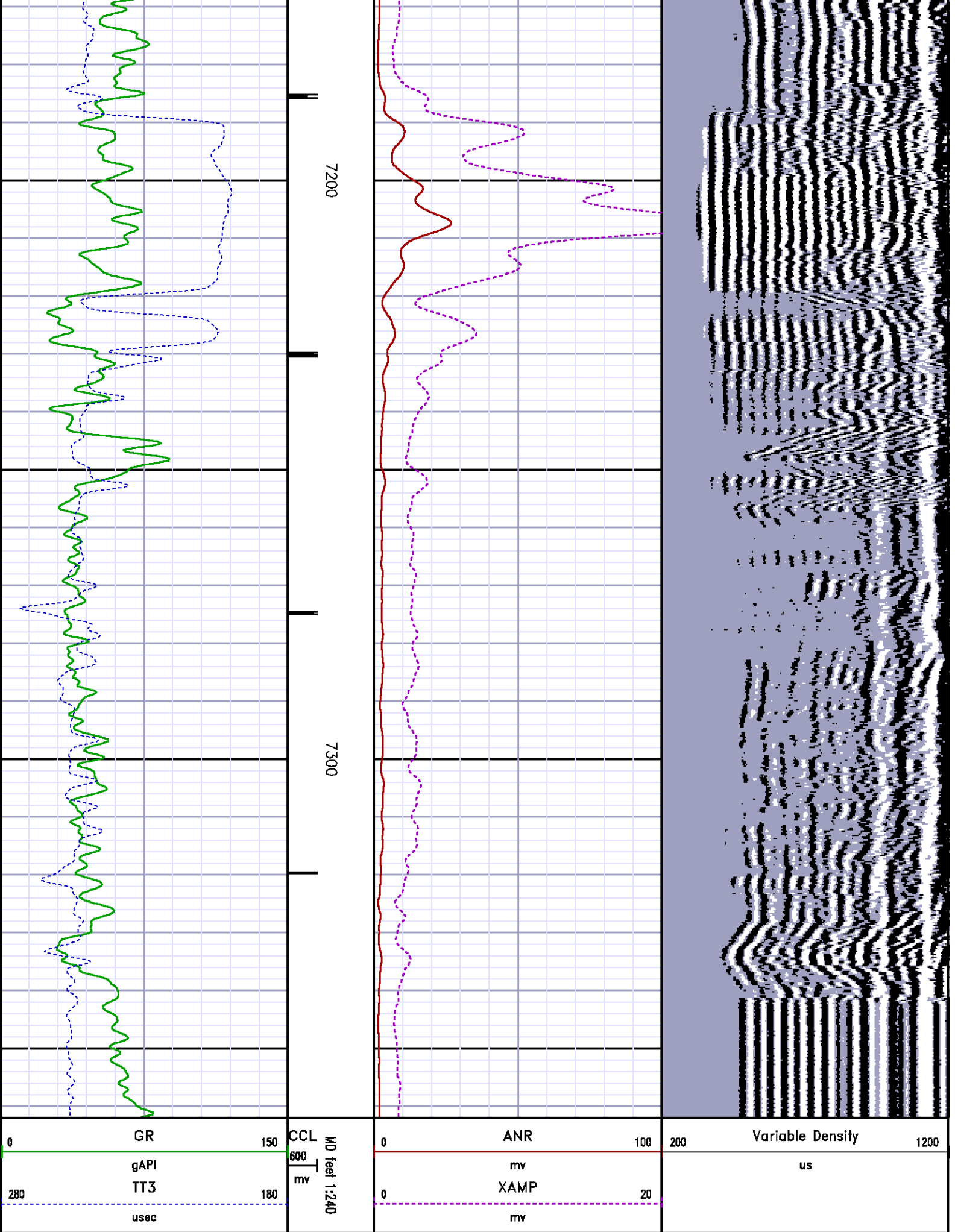
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Mode : PlotMgr 5.4.504

Interval : 7010.50 - 7362.00 feet UP

Created : 9/10/2010 5:57:27 PM





CALIBRATION SUMMARY

GAMMA RAY

Calibration File: C:\case\calver\GR\544S1.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sat Sep 04 10:05:21 2010 TOOL SERIES: 2459XA ASSET: 544 SEQ: S1

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K SHOP	69.69	254.84	0.999	69.63	254.63	185.00

Verification File: C:\case\calver\GR\544S1.VP

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Sat Sep 04 10:06:50 2010 TOOL SERIES: 2459XA ASSET: 544 SEQ: S1

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K SHOP	75.20	255.02	0.999	75.14	254.81	179.67

RALSHP

Shop Calibration: C:\case\calver\RALSHP\496S9 shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Sep 09 10:54:57 2010 TOOL SERIES: 1426XA ASSET: 496 SEQ: S9

Tool Delay [usec]	Tank OD In	Tank Wt lbm/ft	Tank ID In
-51.00	5.50	15.50	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	220	216	30	166	25	0.114	100.00	0.31
3 Ft. Receiver	220	216	30	121	66	-0.221	100.00	0.30
5 Ft. Receiver	328	332	30	282	25	-8.725	150.00	0.32
Radial #1	220	216	30	166	25	-0.567	100.00	0.30
Radial #2	220	216	30	166	25	-0.621	100.00	0.30
Radial #3	220	216	30	166	25	-0.689	100.00	0.30
Radial #4	220	216	30	166	25	-0.550	100.00	0.30
Radial #5	220	216	30	166	25	-0.336	100.00	0.30
Radial #6	220	216	30	166	25	-0.283	100.00	0.30
Radial #7	220	216	30	166	25	-0.054	100.00	0.30
Radial #8	221	216	30	166	25	0.061	100.00	0.31

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\496S9 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Sep 09 11:06:26 2010 TOOL SERIES: 1426XA ASSET: 496 SEQ: S9

Tool Delay [usec] -51.00 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	-0.029	0.000	1.00	100.000
3 Ft. Receiver	200	30	-1.988			
5 Ft. Receiver	317	30	-1.931			
Radial #1	200	30	-2.111			
Radial #2	200	30	-2.006			
Radial #3	200	30	-2.127			
Radial #4	200	30	-2.298			
Radial #5	200	30	-2.217			
Radial #6	200	30	-2.217			
Radial #7	200	30	-2.439			
Radial #8	200	30	-2.087			

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



24.23'
XMIT 18.05'
NEAR RCVR 14.97'

FAR RCVR — 13.05'

CCL — 11.34'

GR — 9.49'

NEU — 4.09'

0.00'

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'

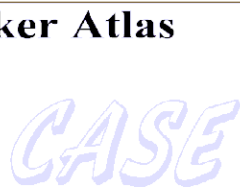
Total Weight: Not Available

Max Diameter: 0' 3.12"



Company	WILLIAMS PRODUCTION COMPANY		
Well	GM 334-32		
Field	GRAND VALLEY		
County	GARFIELD	State	COLORADO

File No:	
API No:	05045178230000



Location		Elevations	
SHL: 2629' FNL & 1127' FEL		KB	5972 ft
BHL: 634' FSL & 1824' FEL		DF	5971 ft
		GL	5948 ft
SEC	32	TWP	6S
		RGE	96W

32 6S 96W
GM 343-32 PAD
H&P 278