



RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: GH077402	Company Well	WPX ENERGY MORGAN CMU 323-33
API No: 00045220560000	Field County	WILDCAT GARFIELD
	State	COLORADO
33 6S 90W CMU 22-33 PAD NABORS 674	Location SHL: 1762' FNL X 2614' FWL BHL: 2186' FNL X 1986' FWL SEC 33 TWP 6S RGE 90W	Other Services NONE
Permanent Datum Log Measured From Drill Measured From	OL KB KELLY BUSHING	Elevation 7226 ft Above P. D.
		Elevations KB 7262 ft DF GL 7226 ft

Date	12/SEP/13	
Run	ONE	
Service Order	US624414	
Depth Driller	10,741	
Depth Logger	10,741	
Bottom Logged Interval	10,731	
Top Logged Interval	26 ft	
Time Started	1330	
Time Finished	1830	
Operator Rig Time	5 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	77 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	65 fpm	
Maximum Recorded Temperature	290 degF	
Reference Log	SBL OH LOG	
Reference Log Date	02/SEP/13	
Equipment No.	4271	GRAND JCT
Recorded By	FLOYD RENEAU	
Witnessed By	JEFF BRADY	

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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	1117 ft
8.75 in	1117 ft	10815 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			0 ft	1117 ft
4.5 in	11.6 lbm/ft	I-80	0 ft	10815 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Schlumberger open hole log dated 2/SEP/2013 at the clients request.
The amount of linear shift is 12 feet.
The depth matching process creates potential for collar lengths to vary from those recorded on other cased hole wireline units without a Gamma Ray reference.
SJ = 7476'-7496'

BHT = 290°F

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	VDL	1426XA	10218495	CENT
1	1	GR/CCL	1355XA	10580209	CENT

PRIMARY PRESENTATION

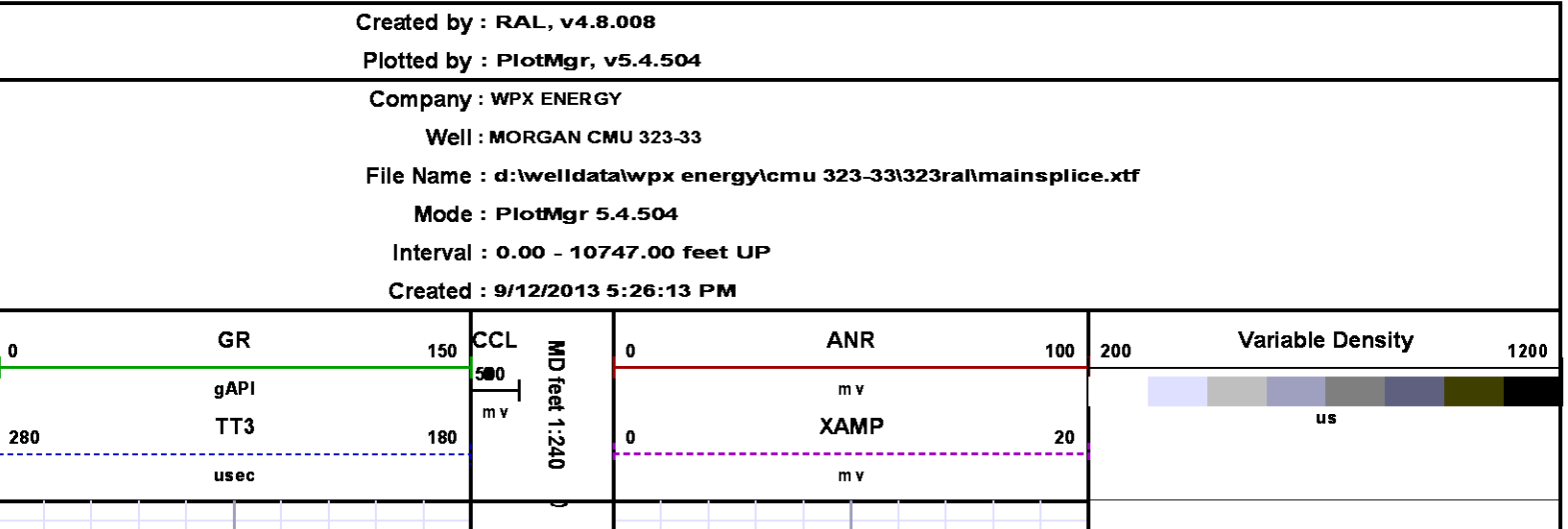
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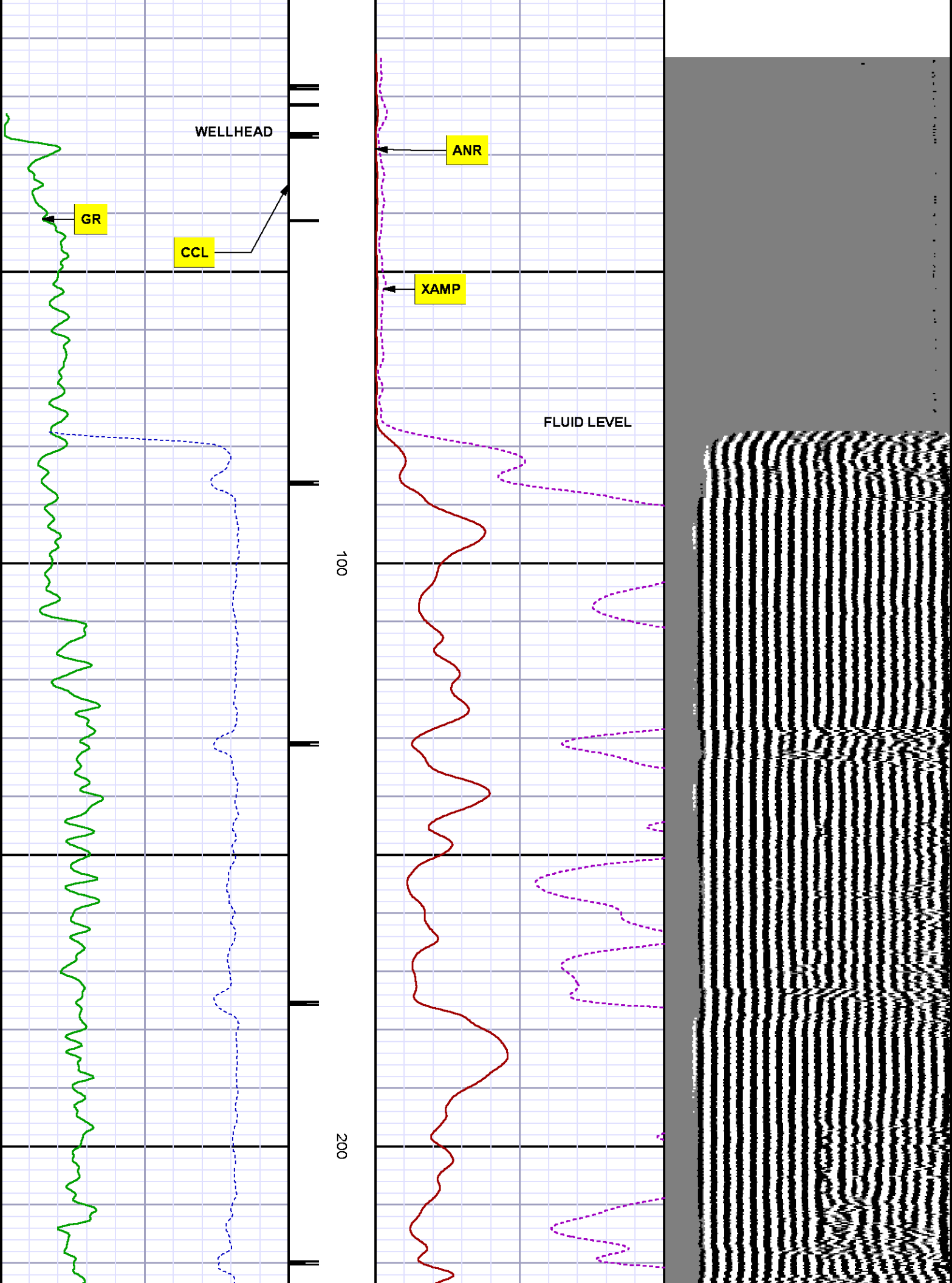
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
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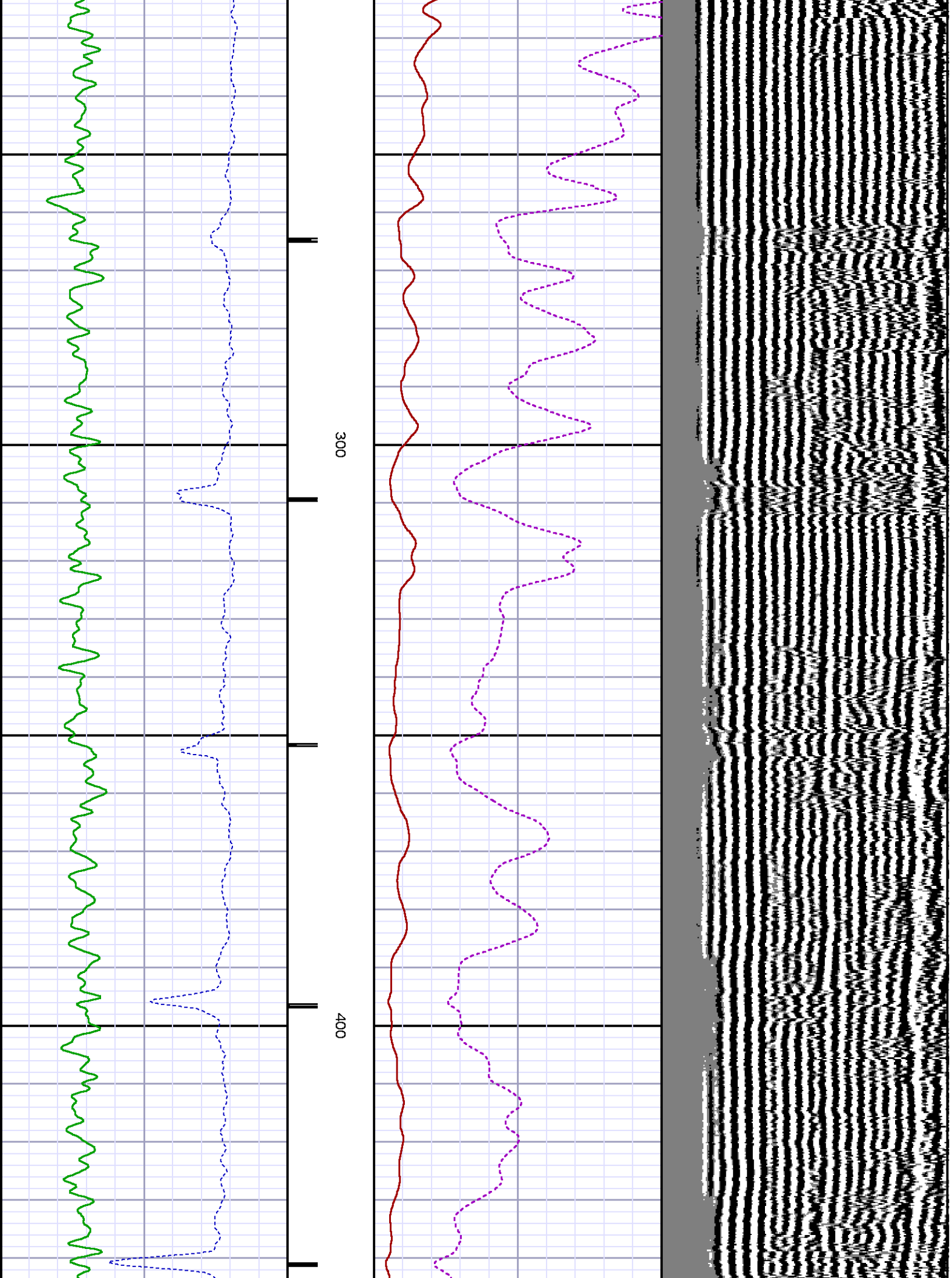
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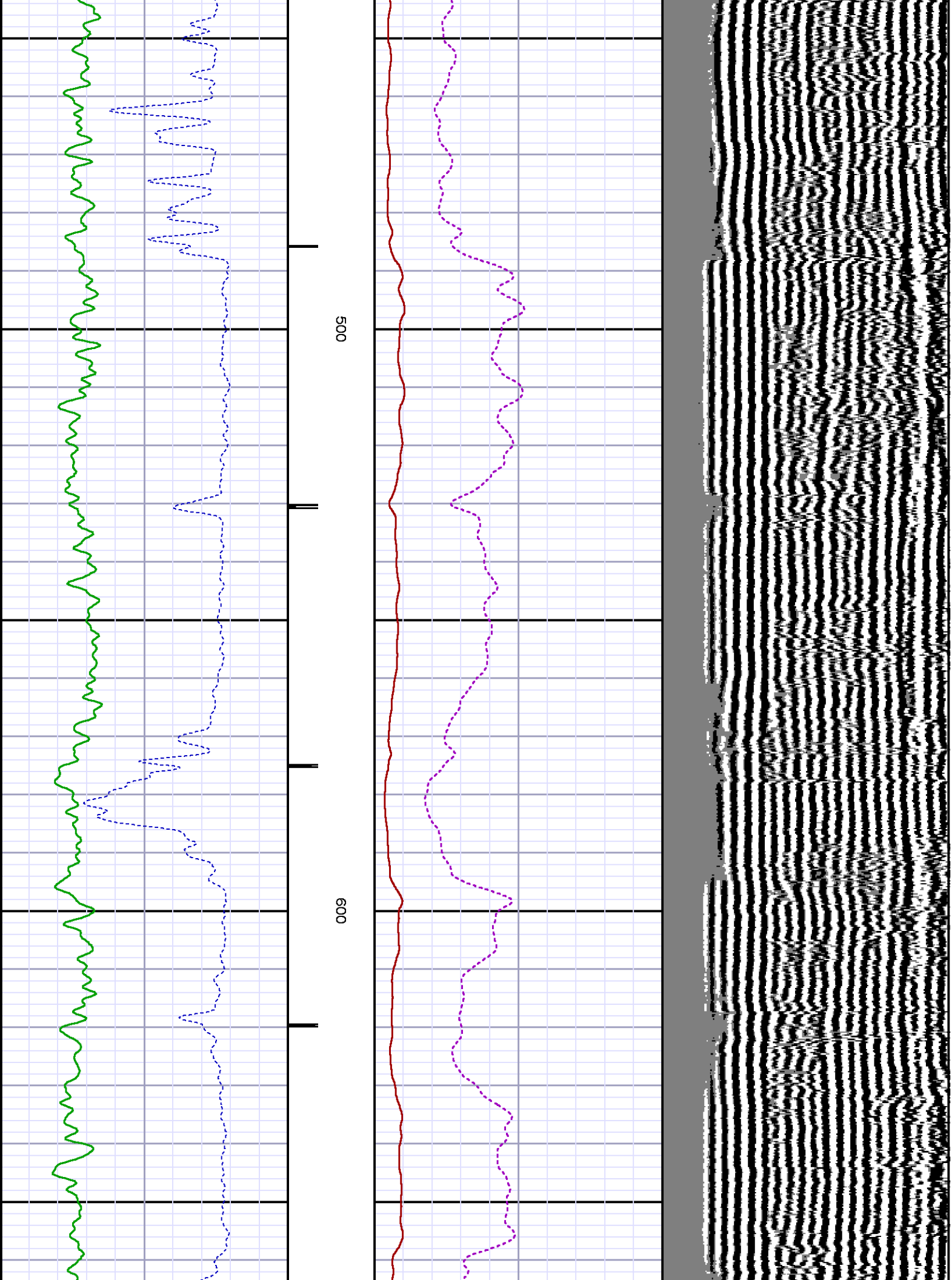
DEPTH OFFSETS
(for Acquired Curves)

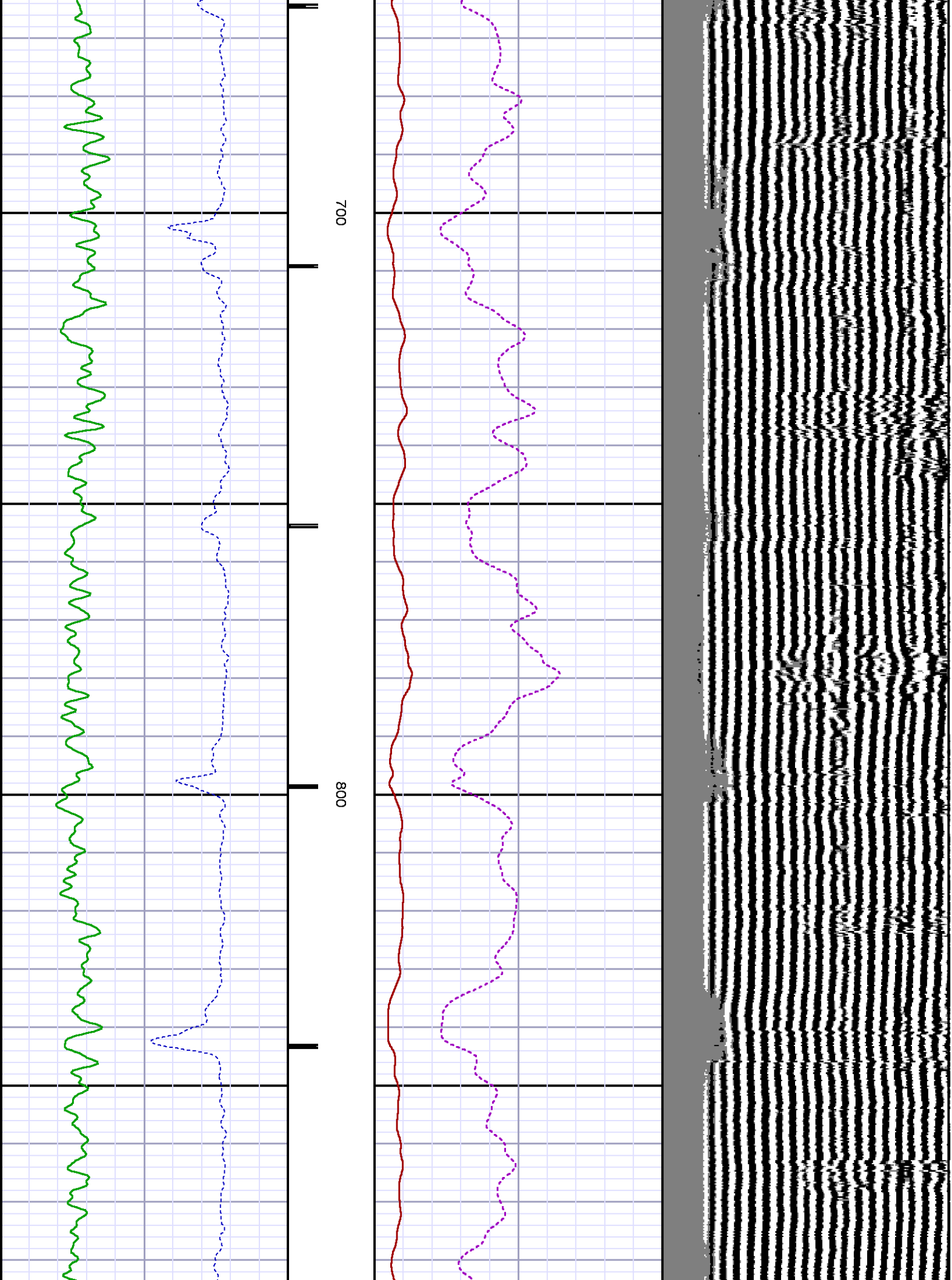
SERIES	DEPTH OFFSET	ACQUIRED CURVES
1426XA	-11.000	ACAL ANR AR1 AR2 AR3 AR4 AR5 AR6 AR7 AR8 CHV FPR2 FPR3 FPR5 TT3 TTR1 TTR2 TTR3 TTR4 TTR5 TTR6 TTR7 TTR8 XAMP
1426XA	-10.040	AFAR SIG TT5
1355XA	-5.620	CCL
1355XA	-1.500	GR
1355XA	0.000	TEMP

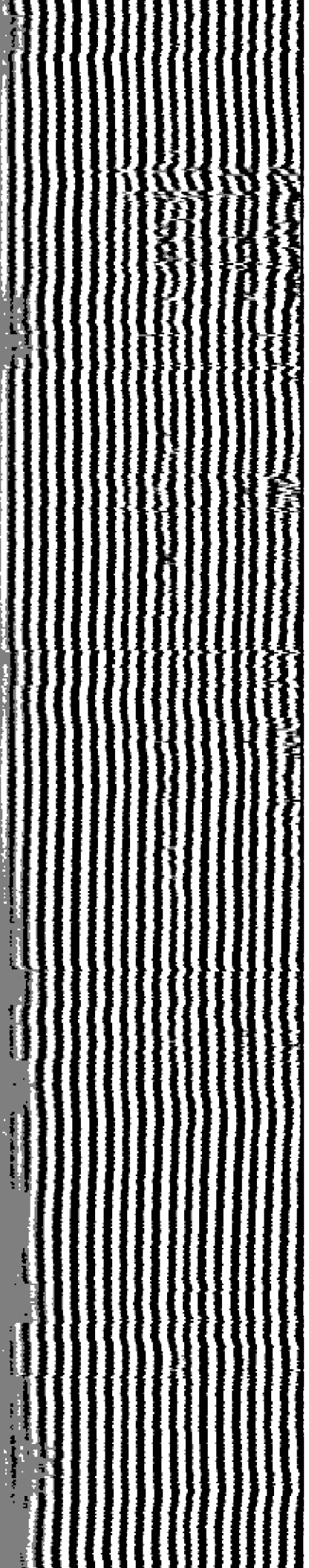








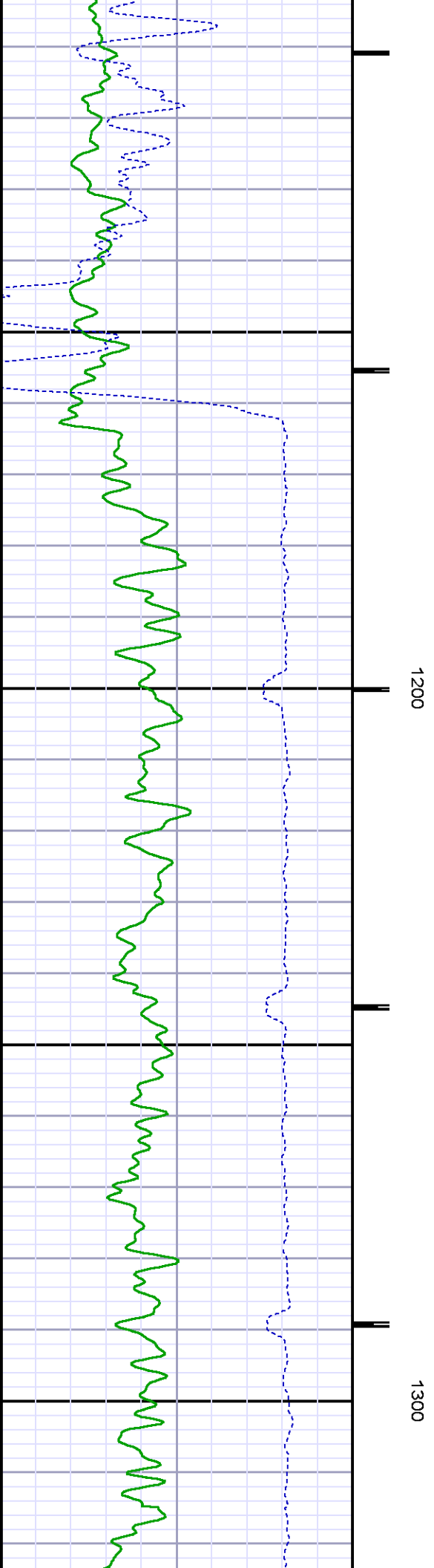
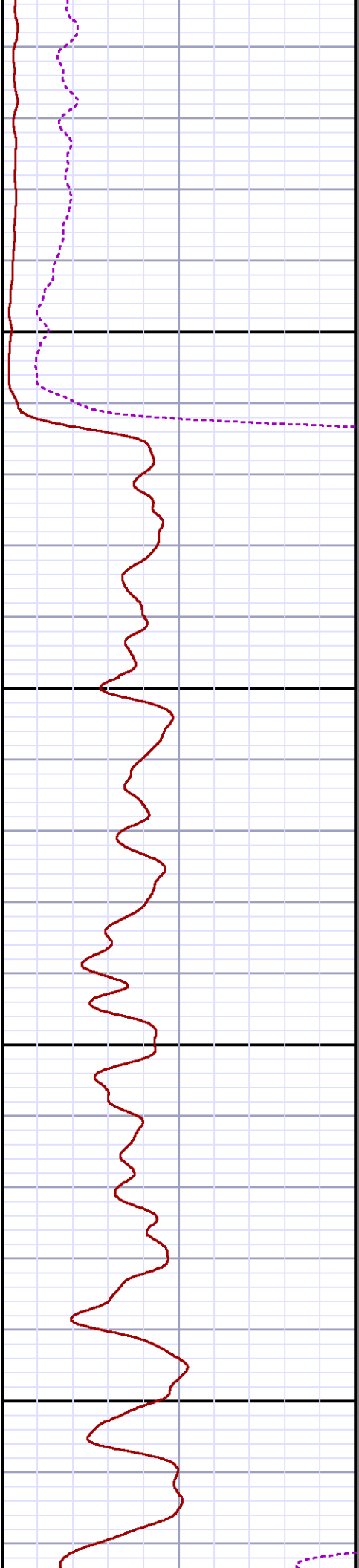
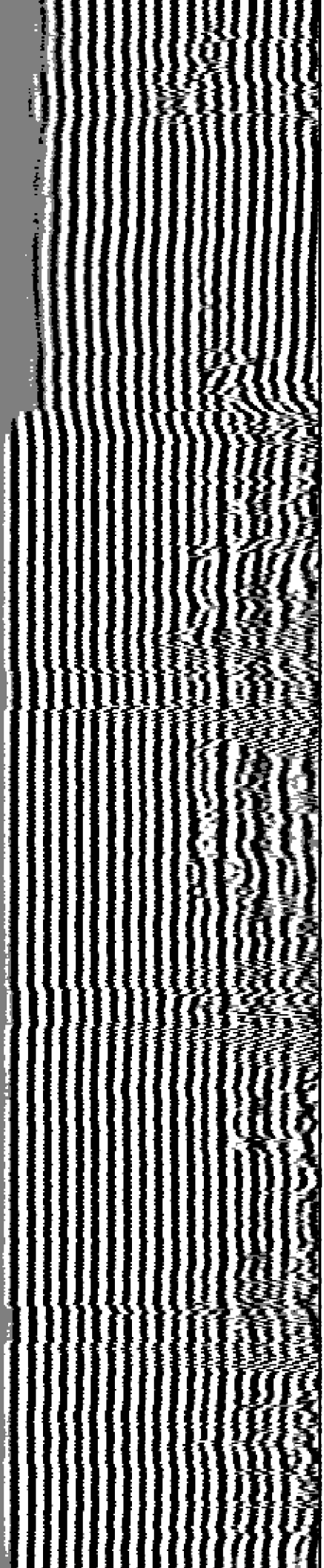


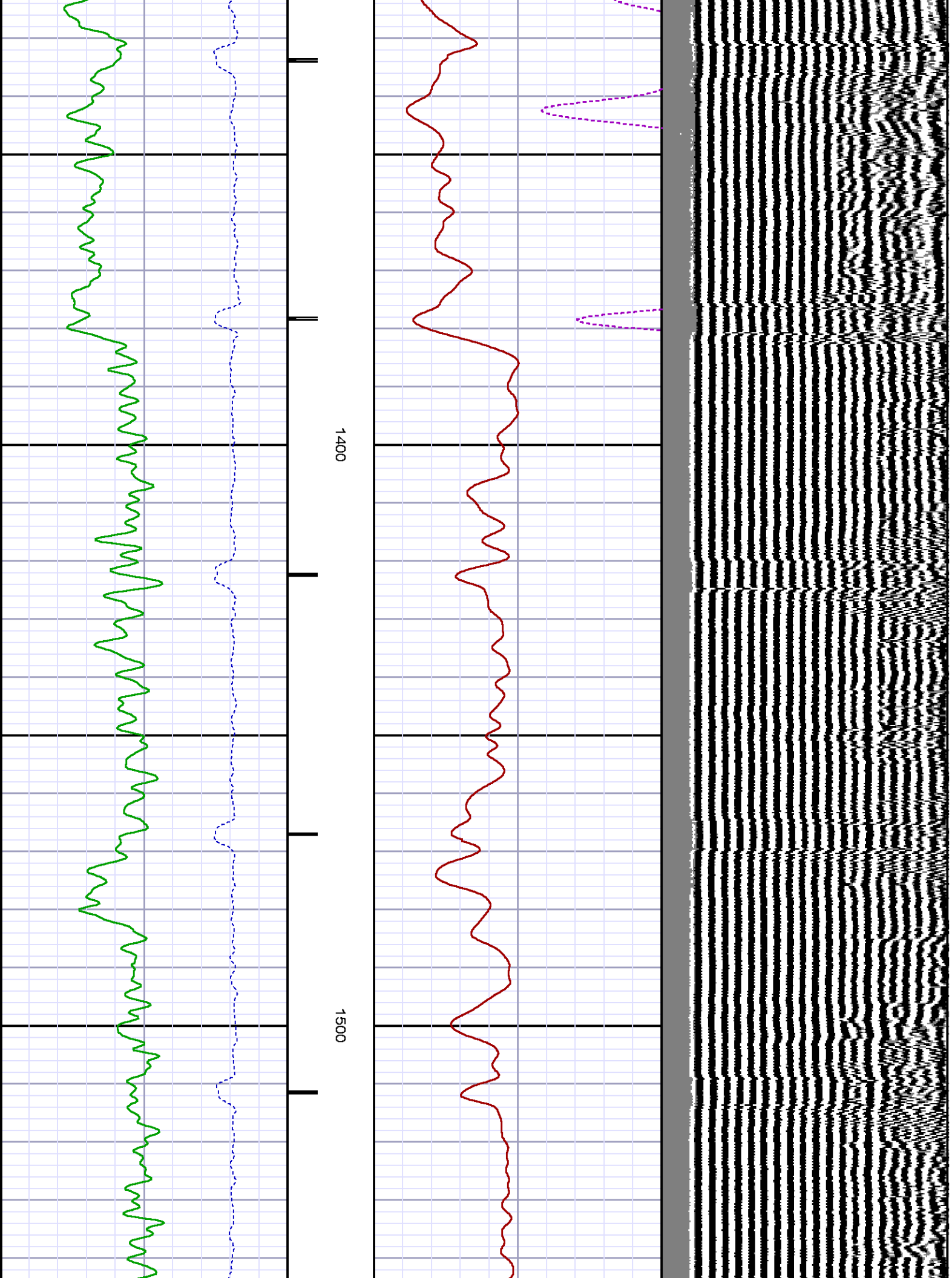


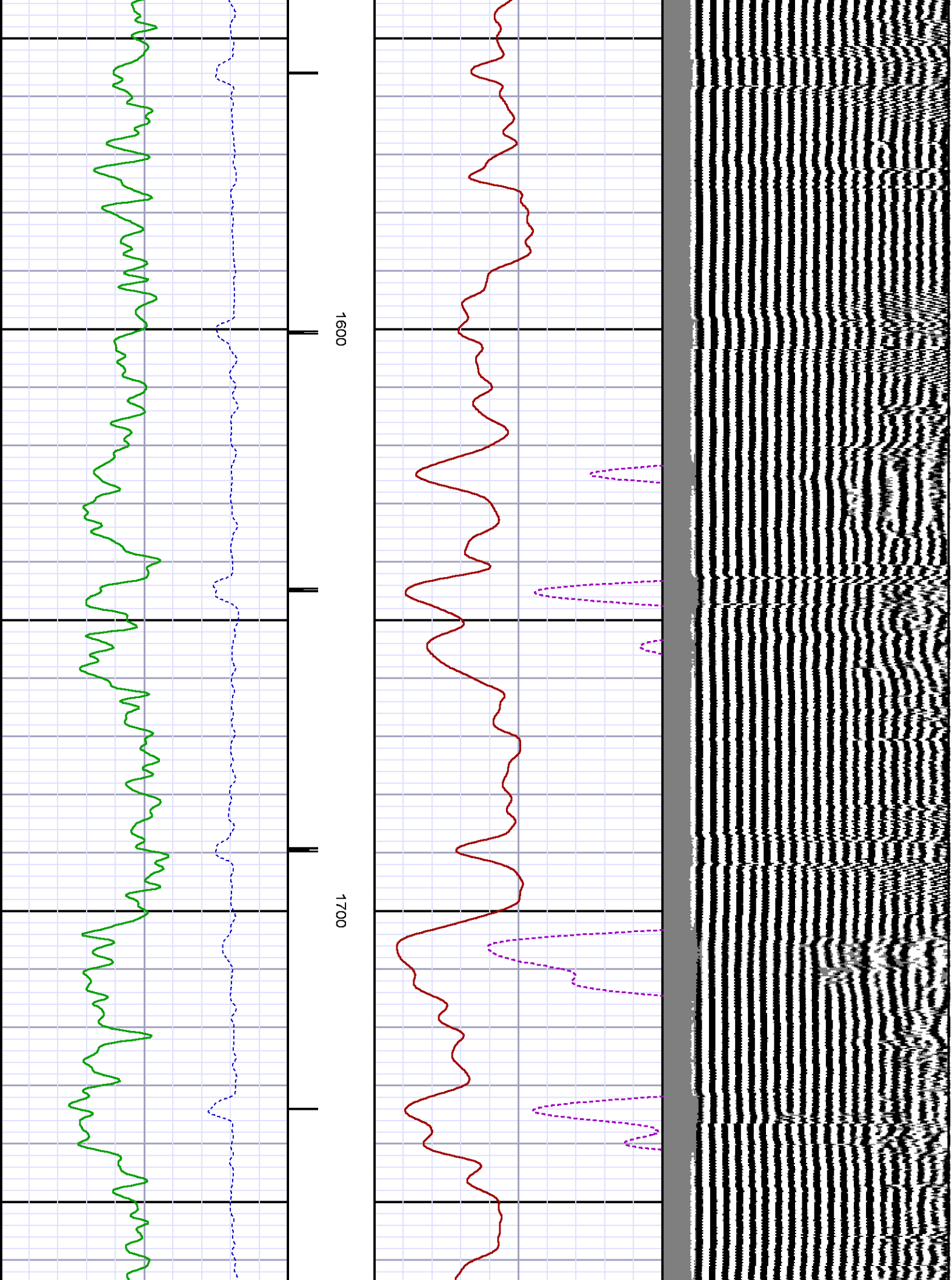
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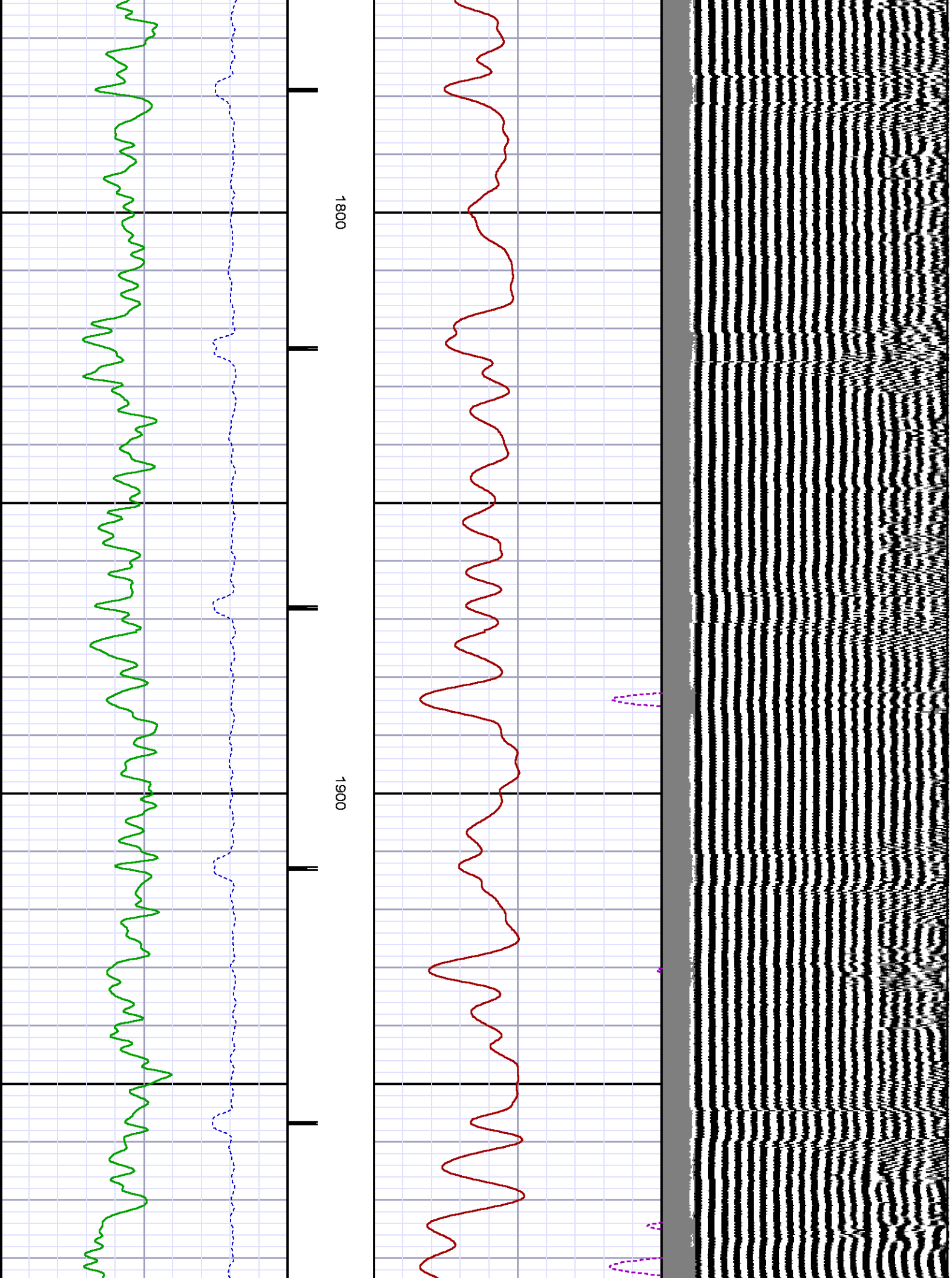
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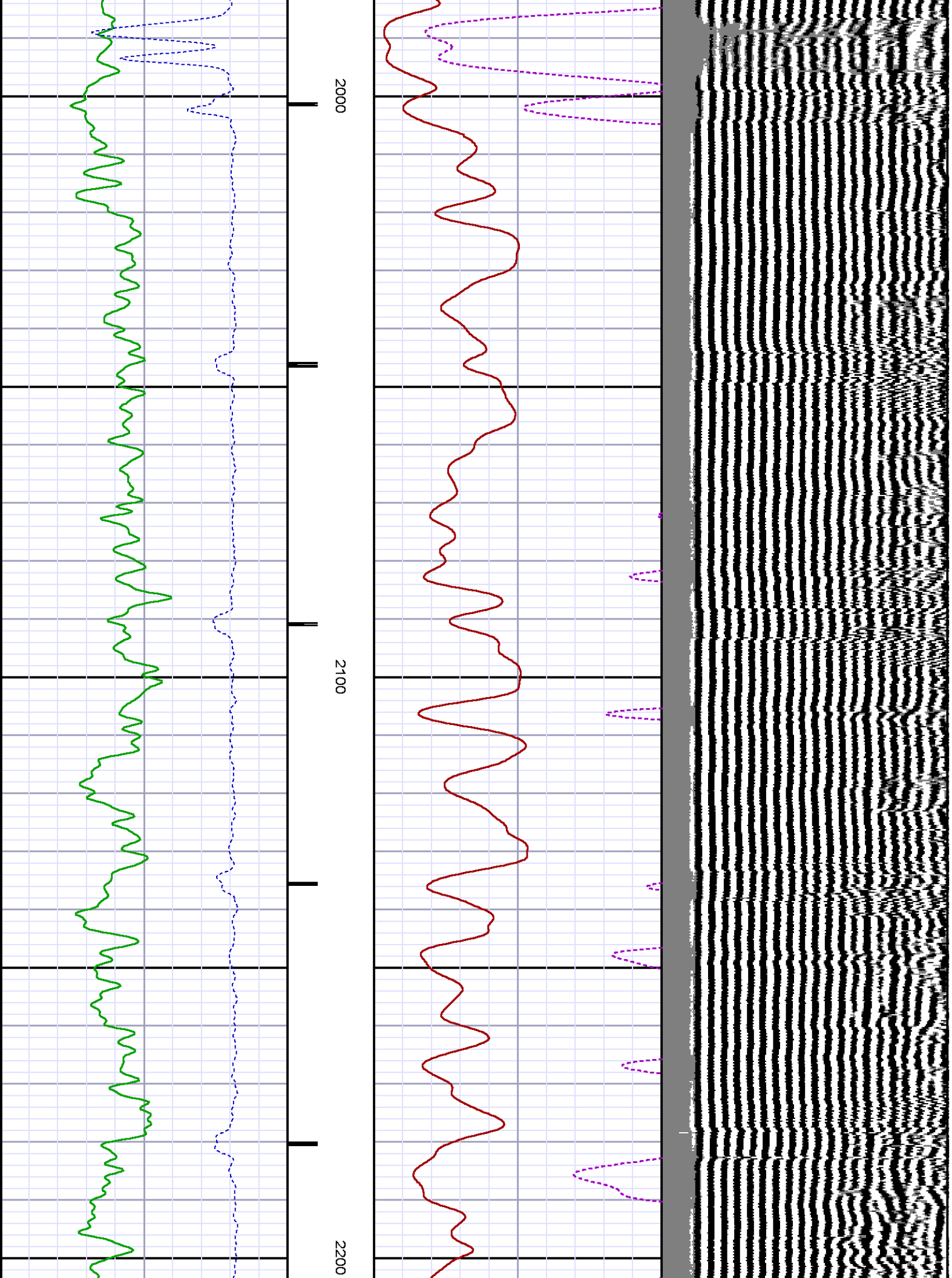
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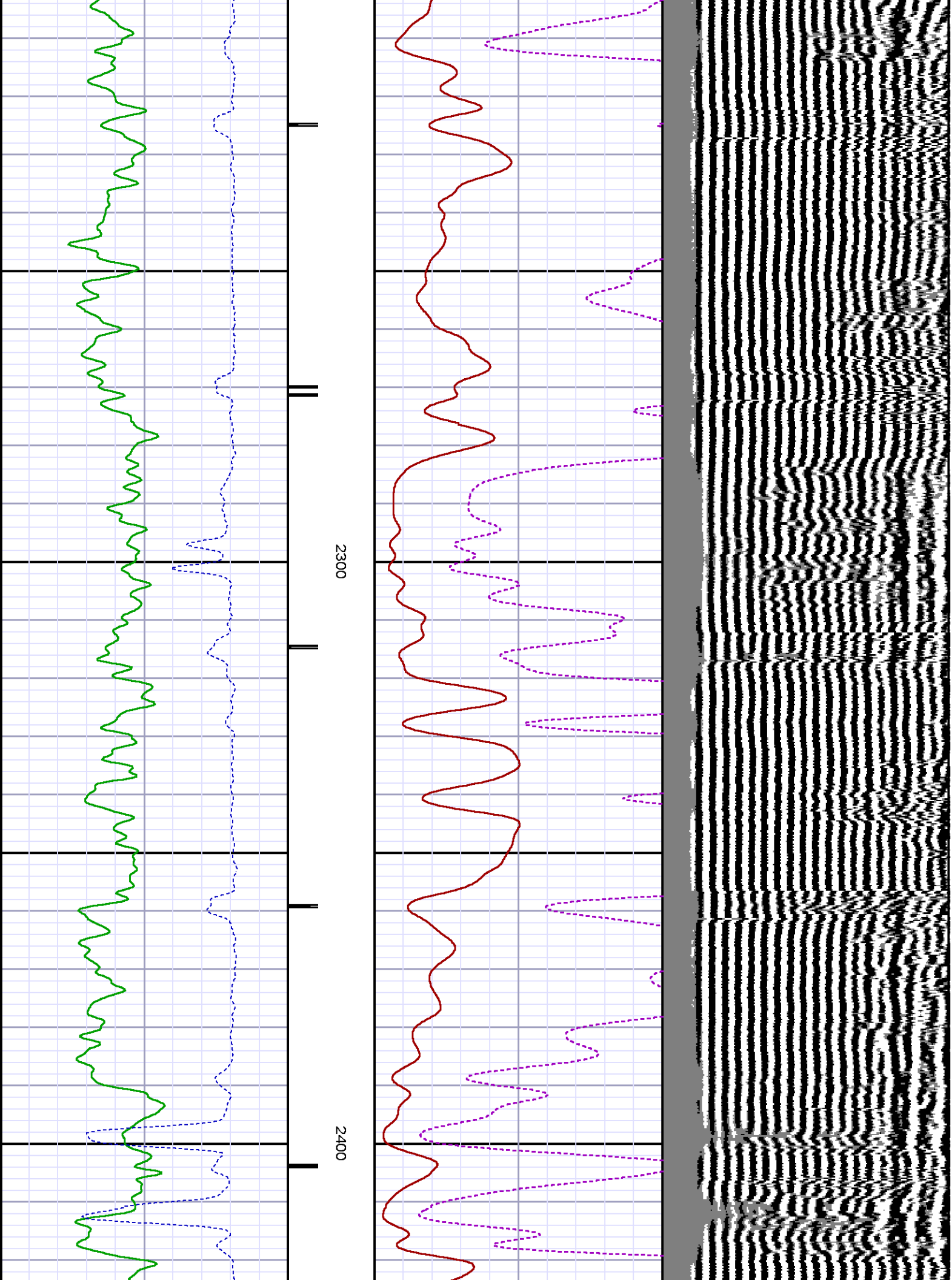


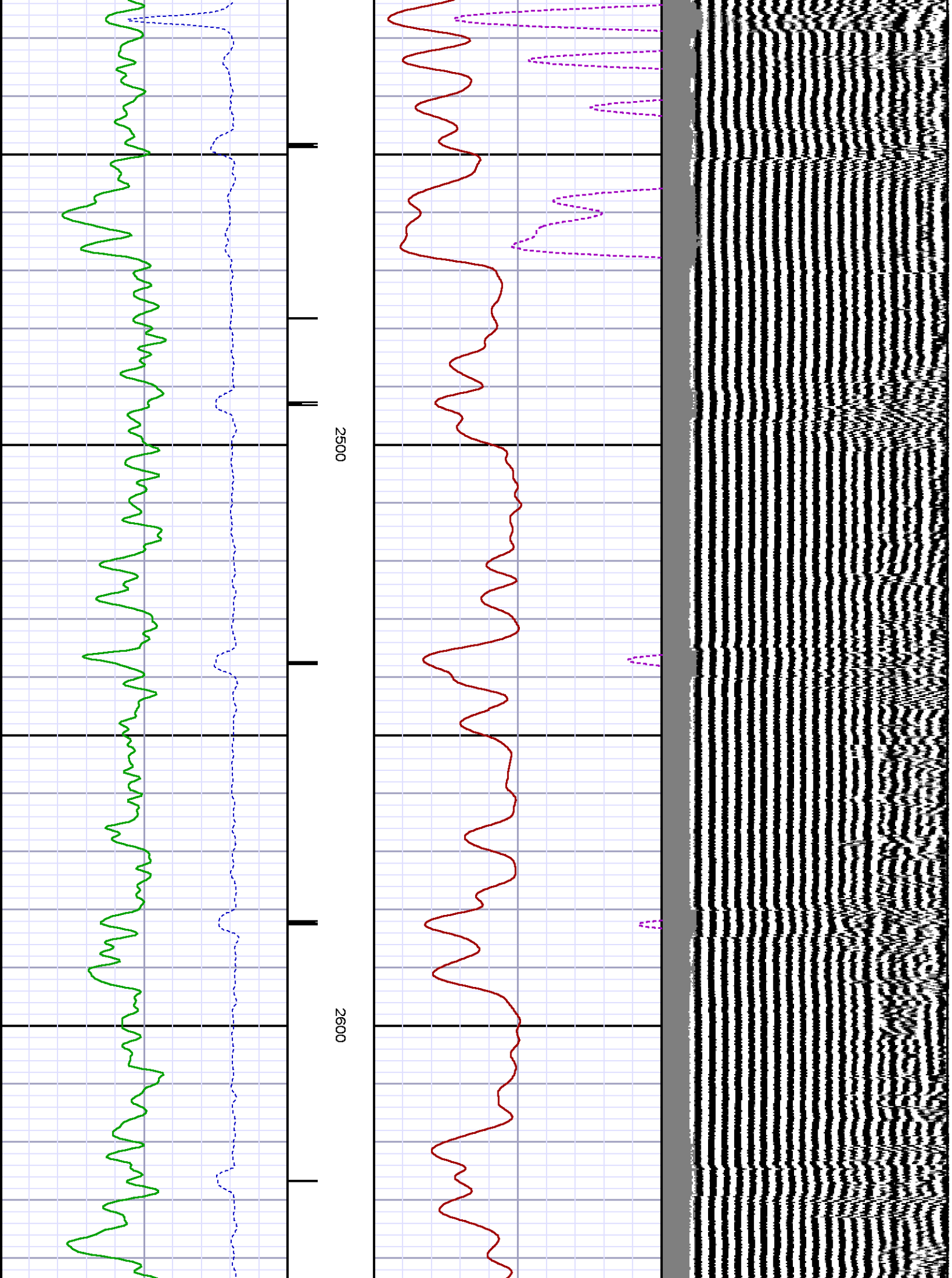


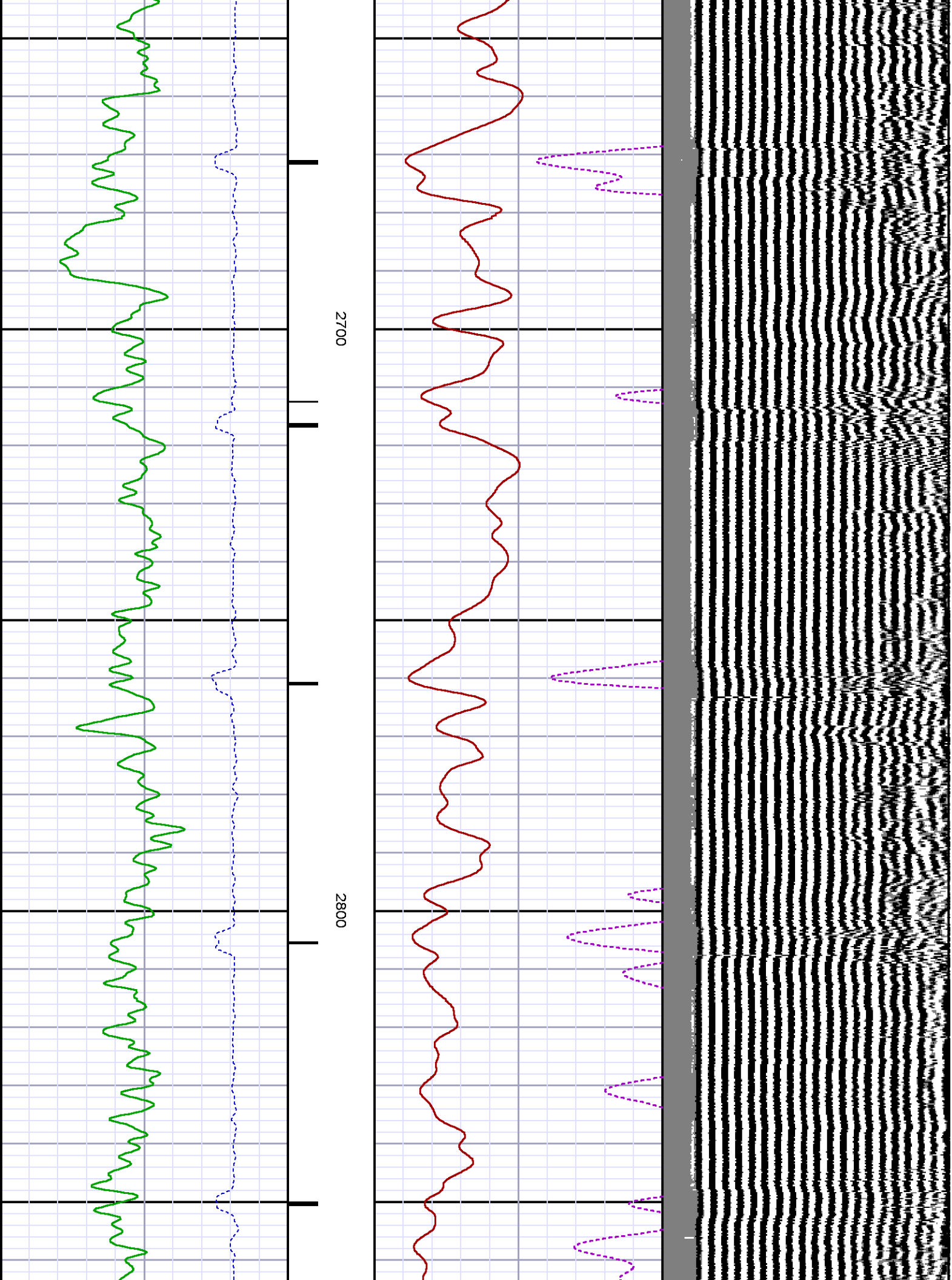


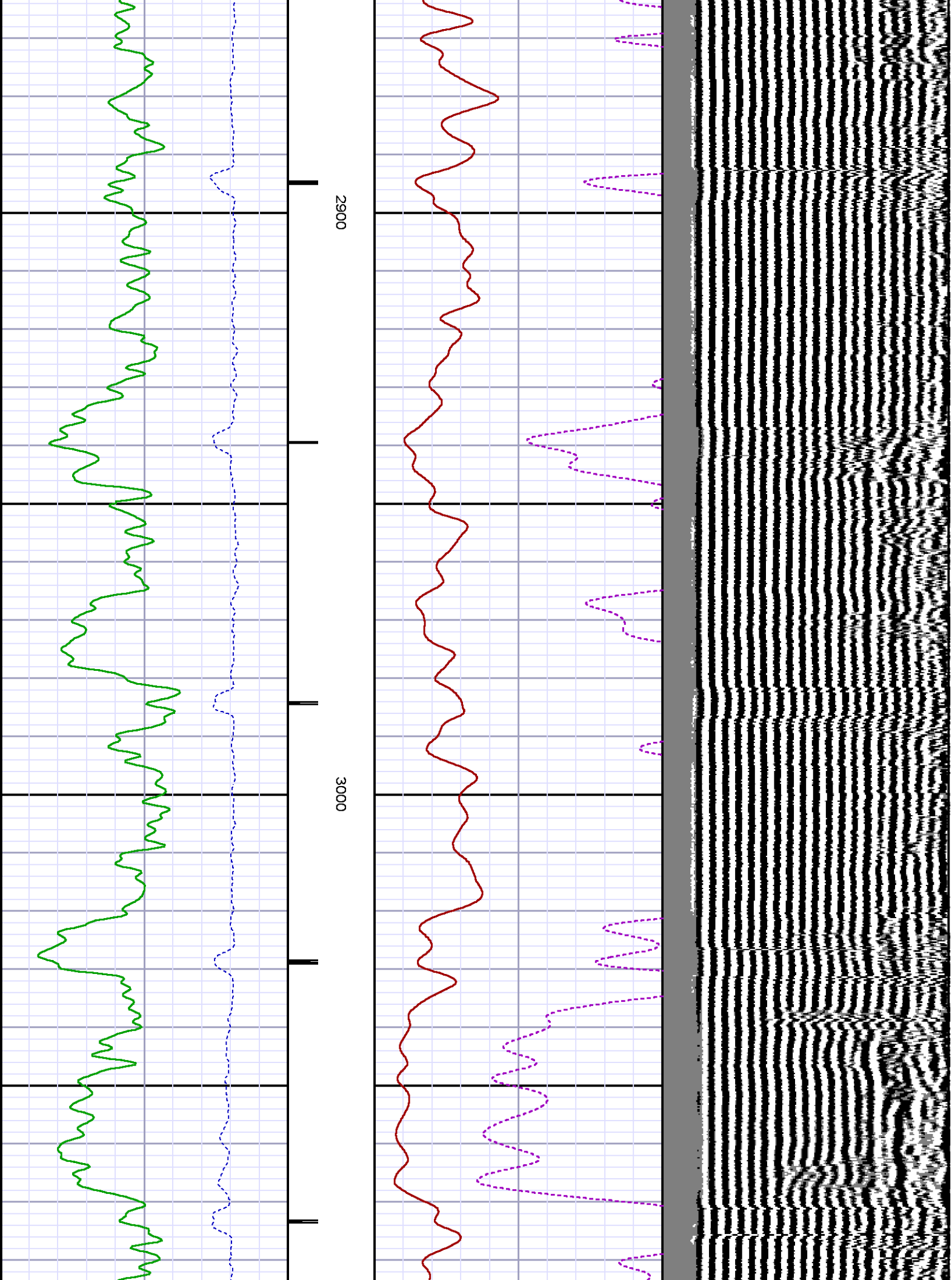


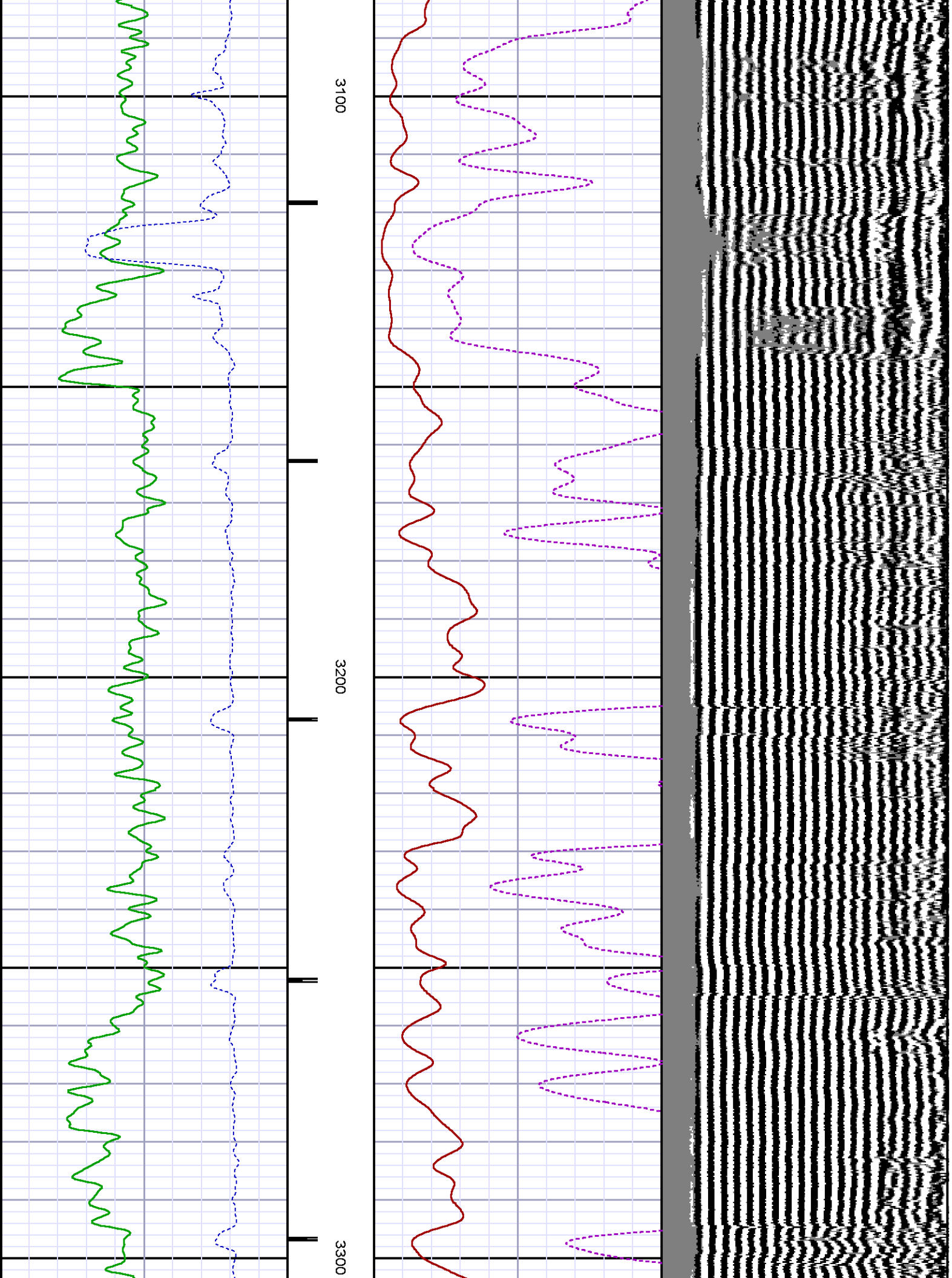


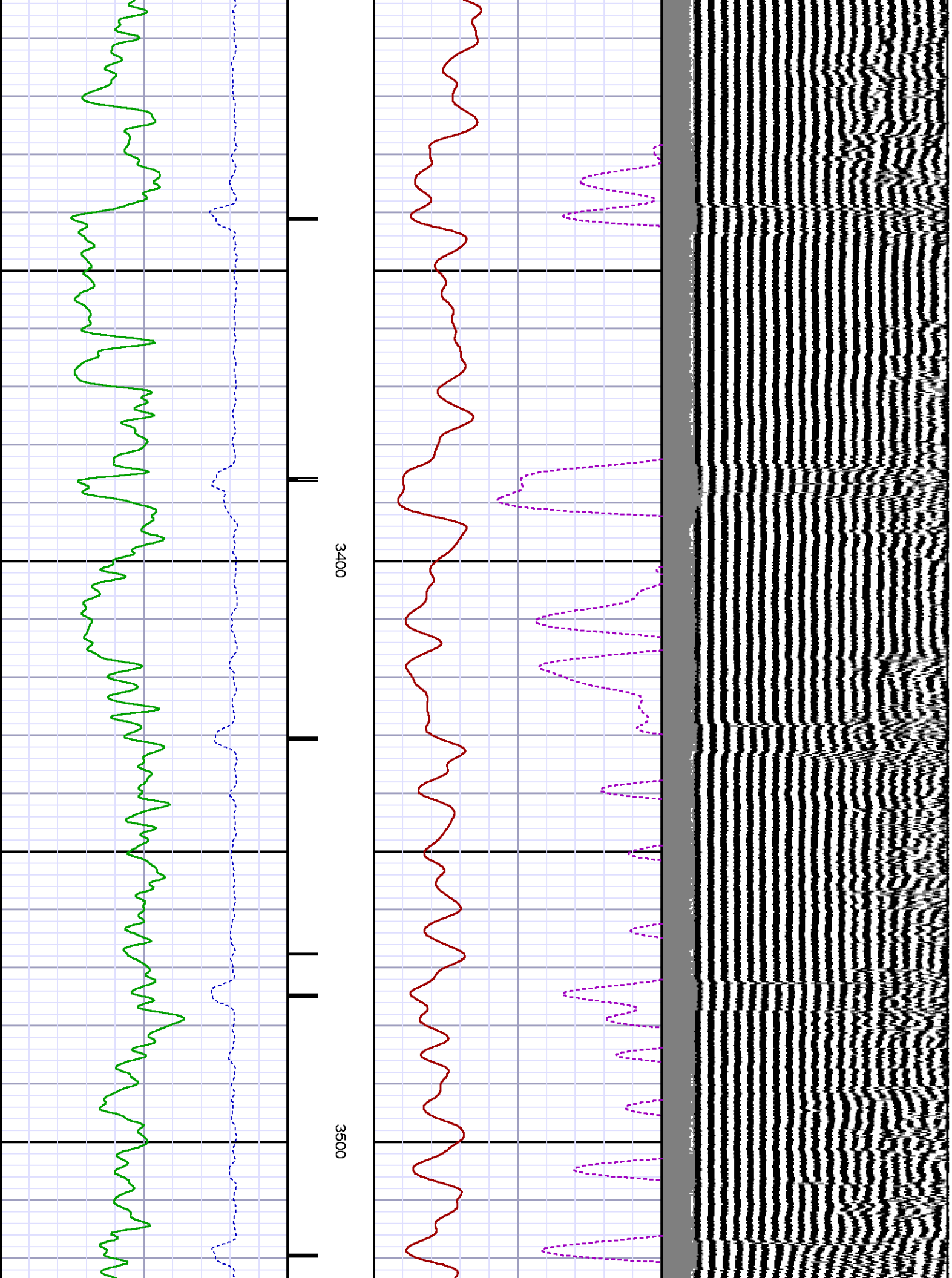


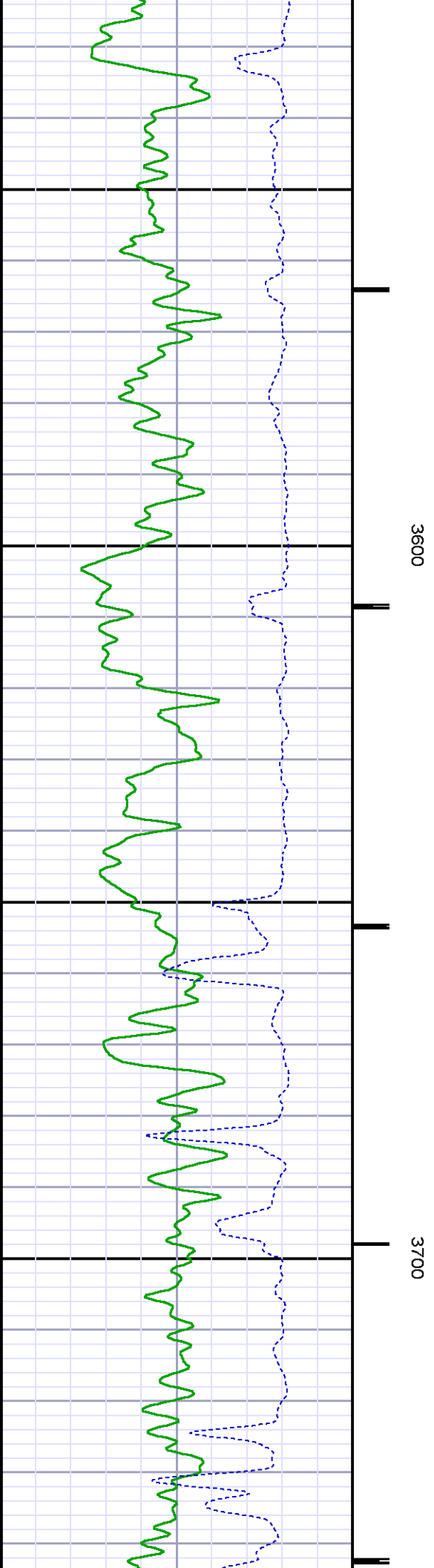
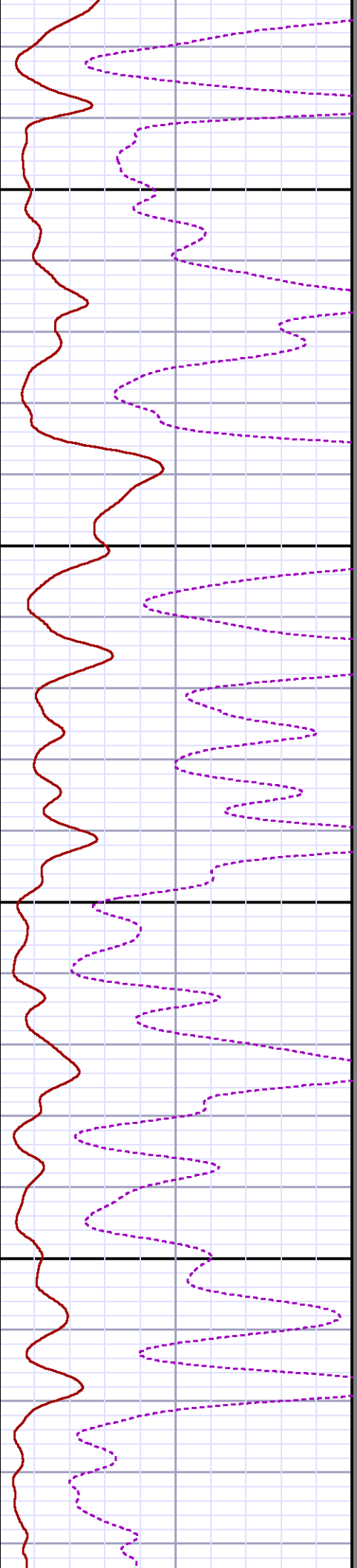
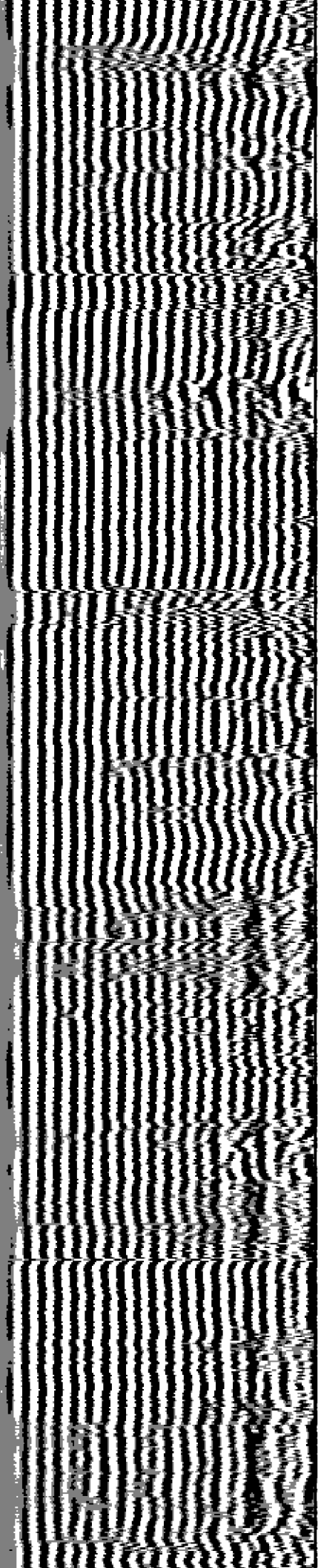


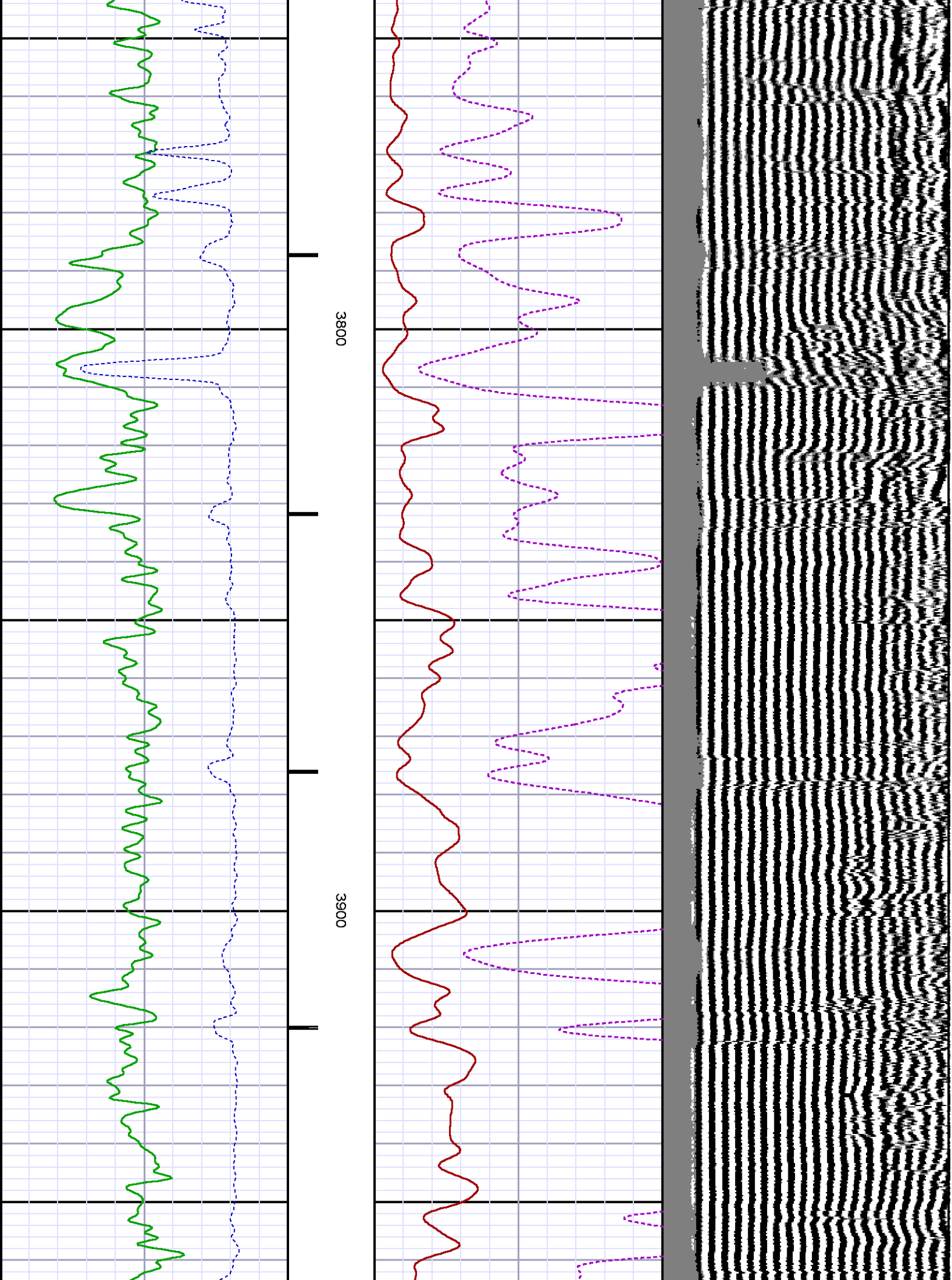


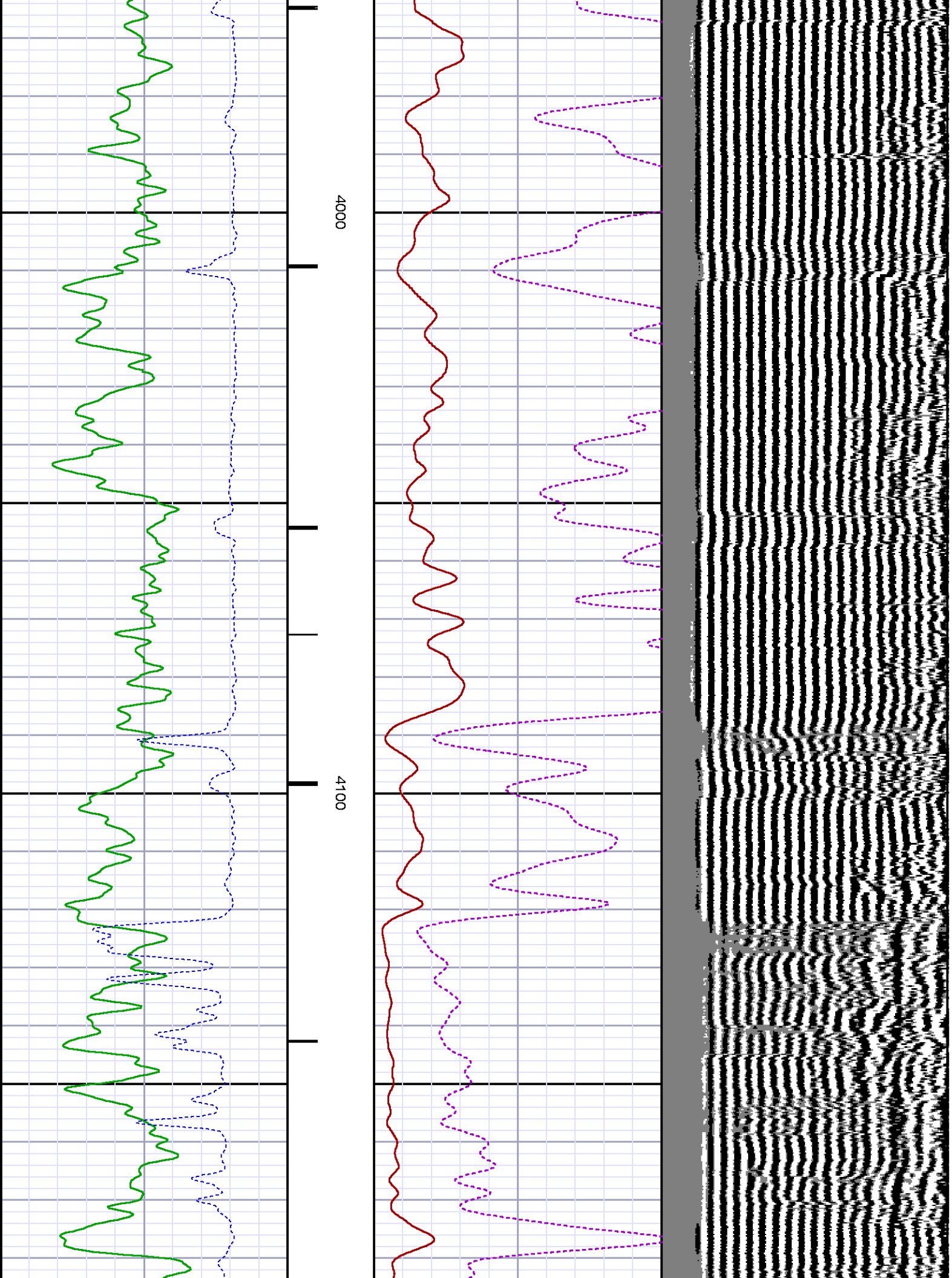


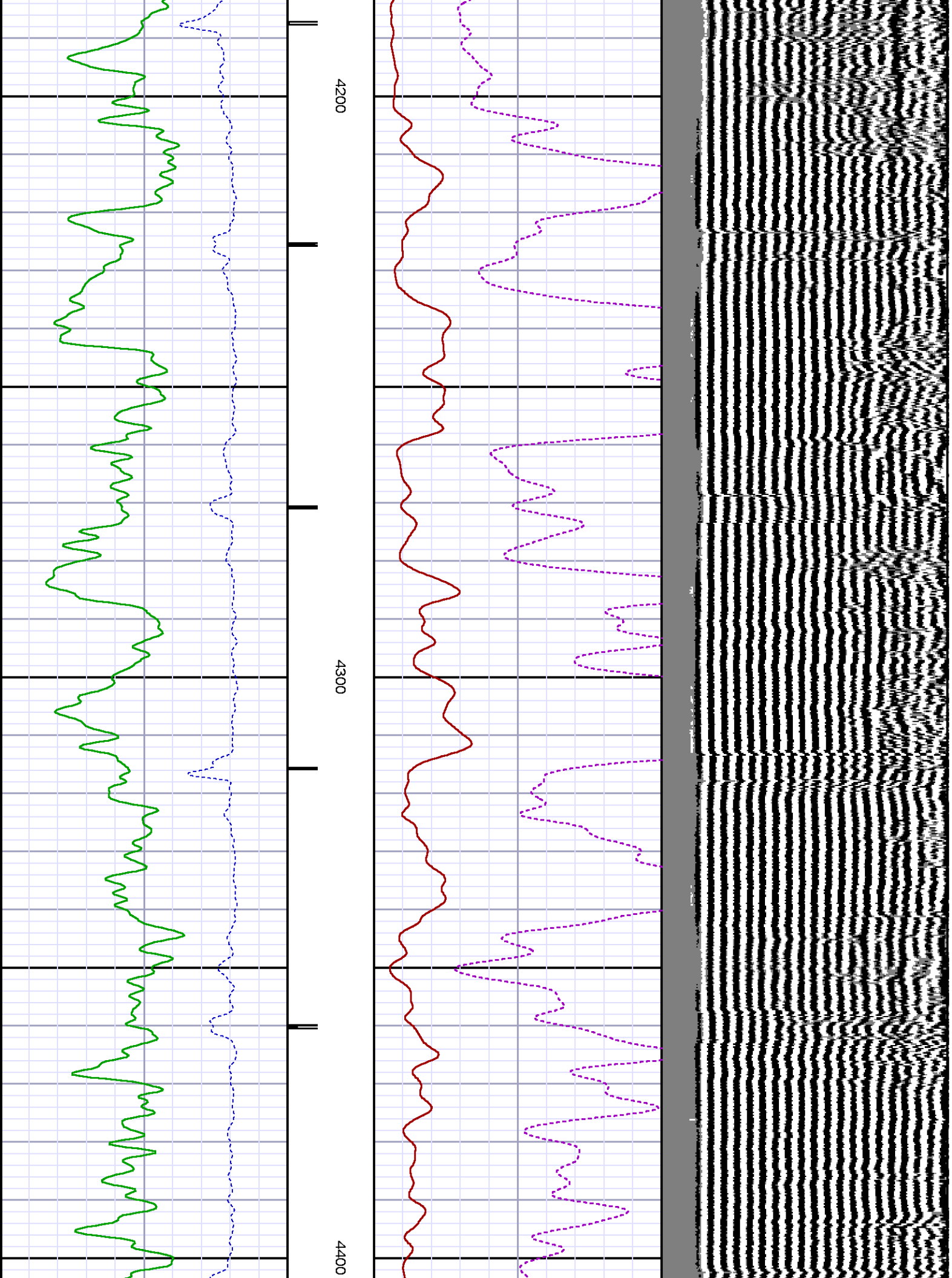


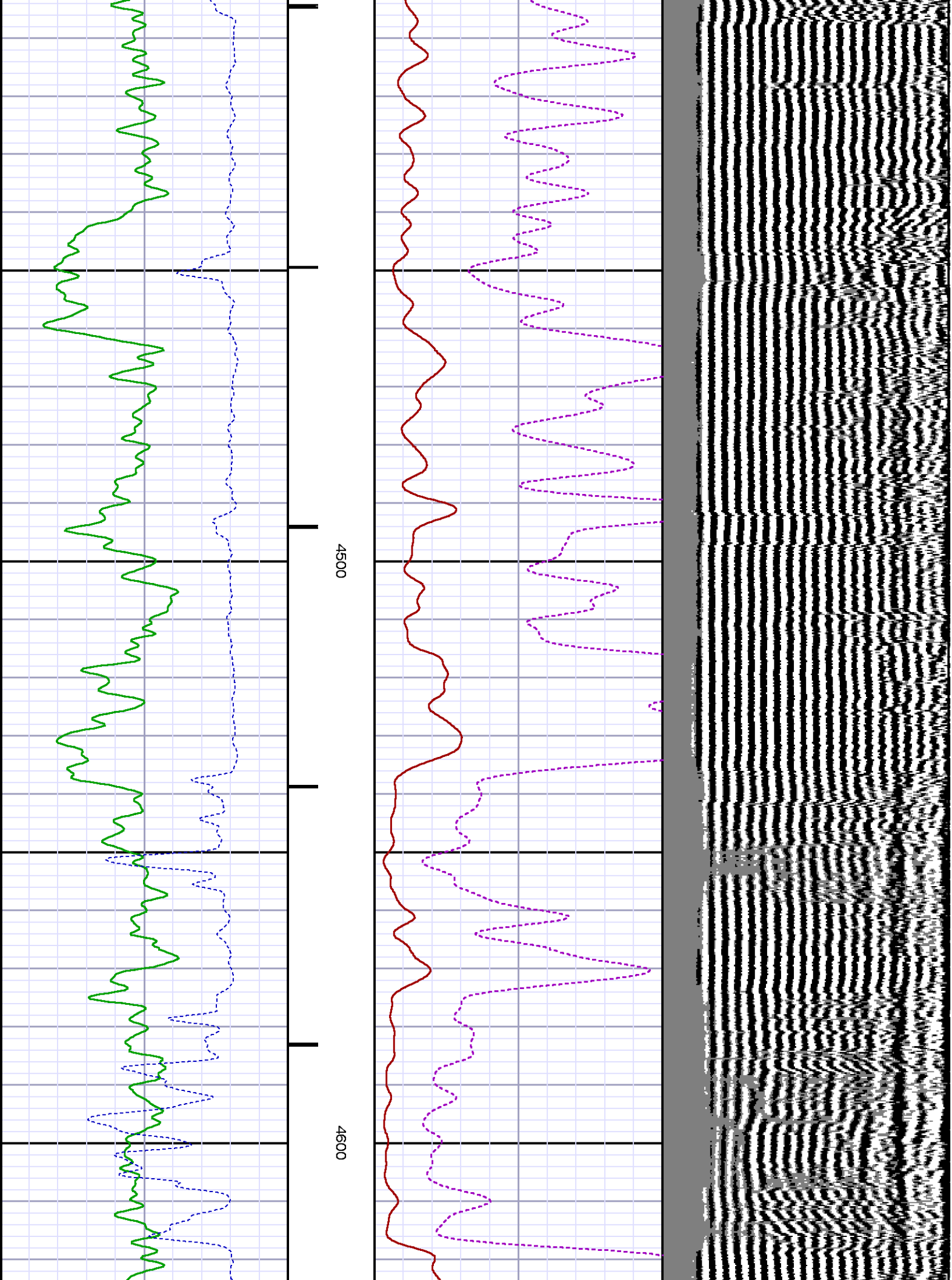


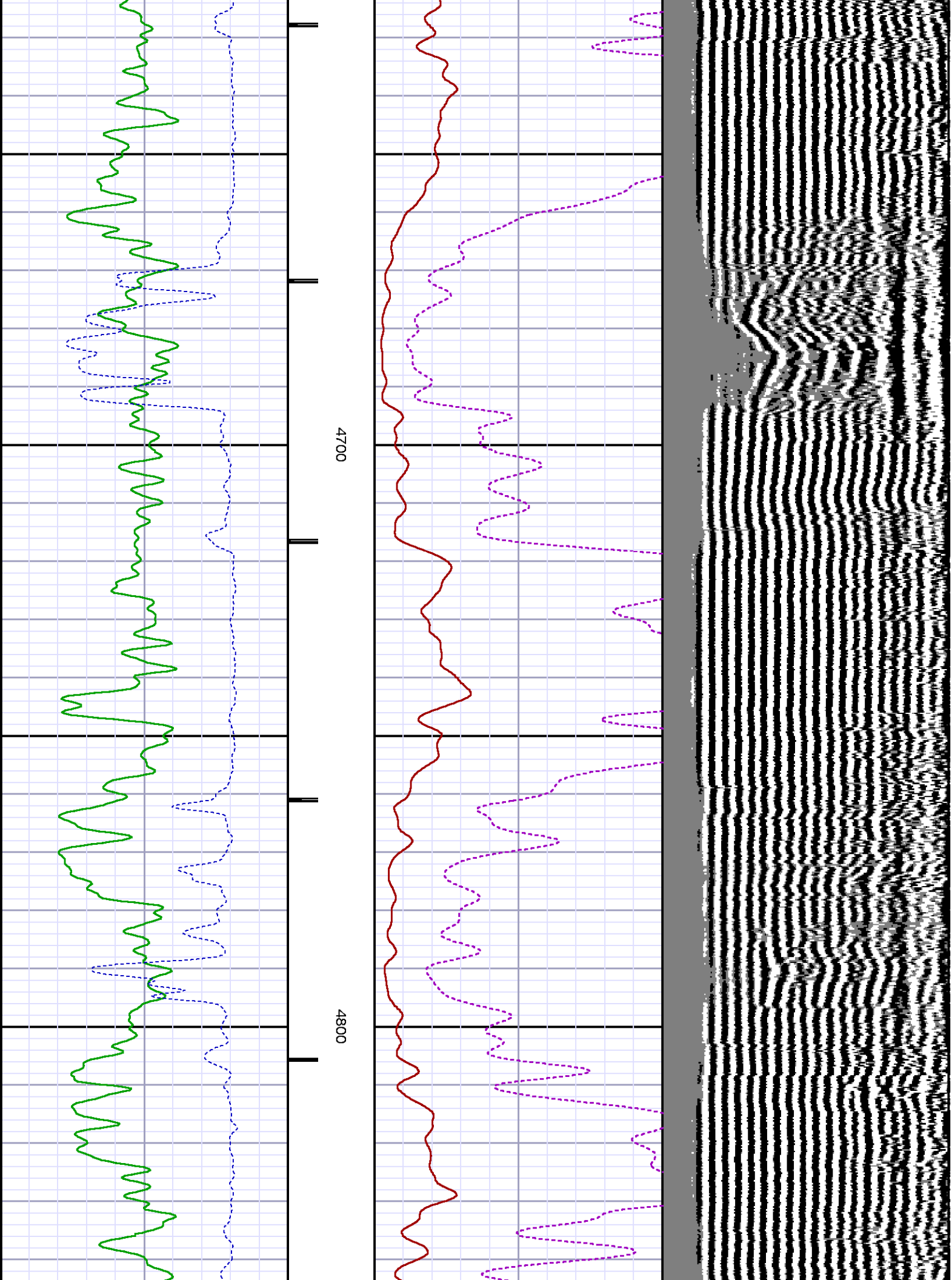


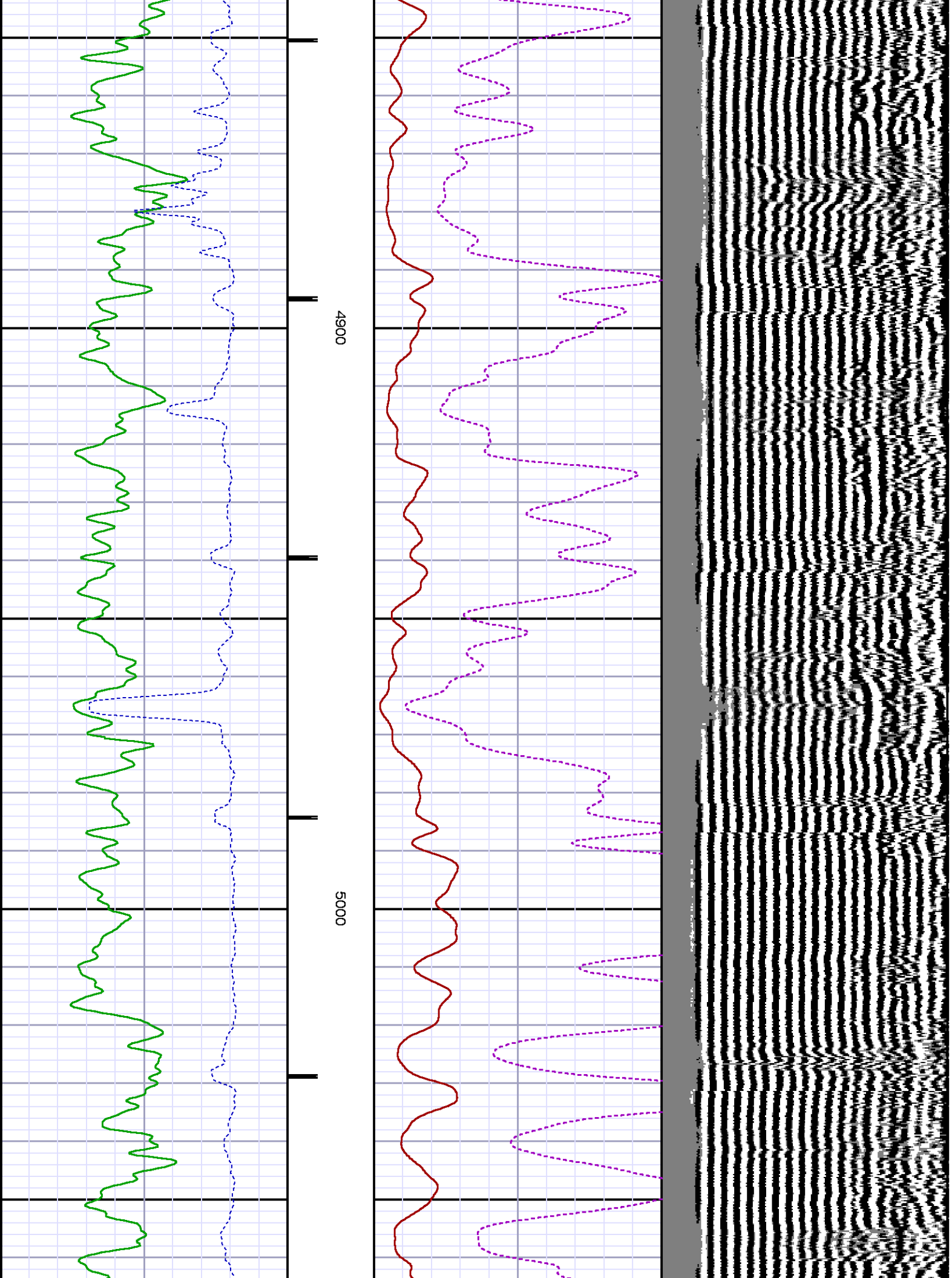


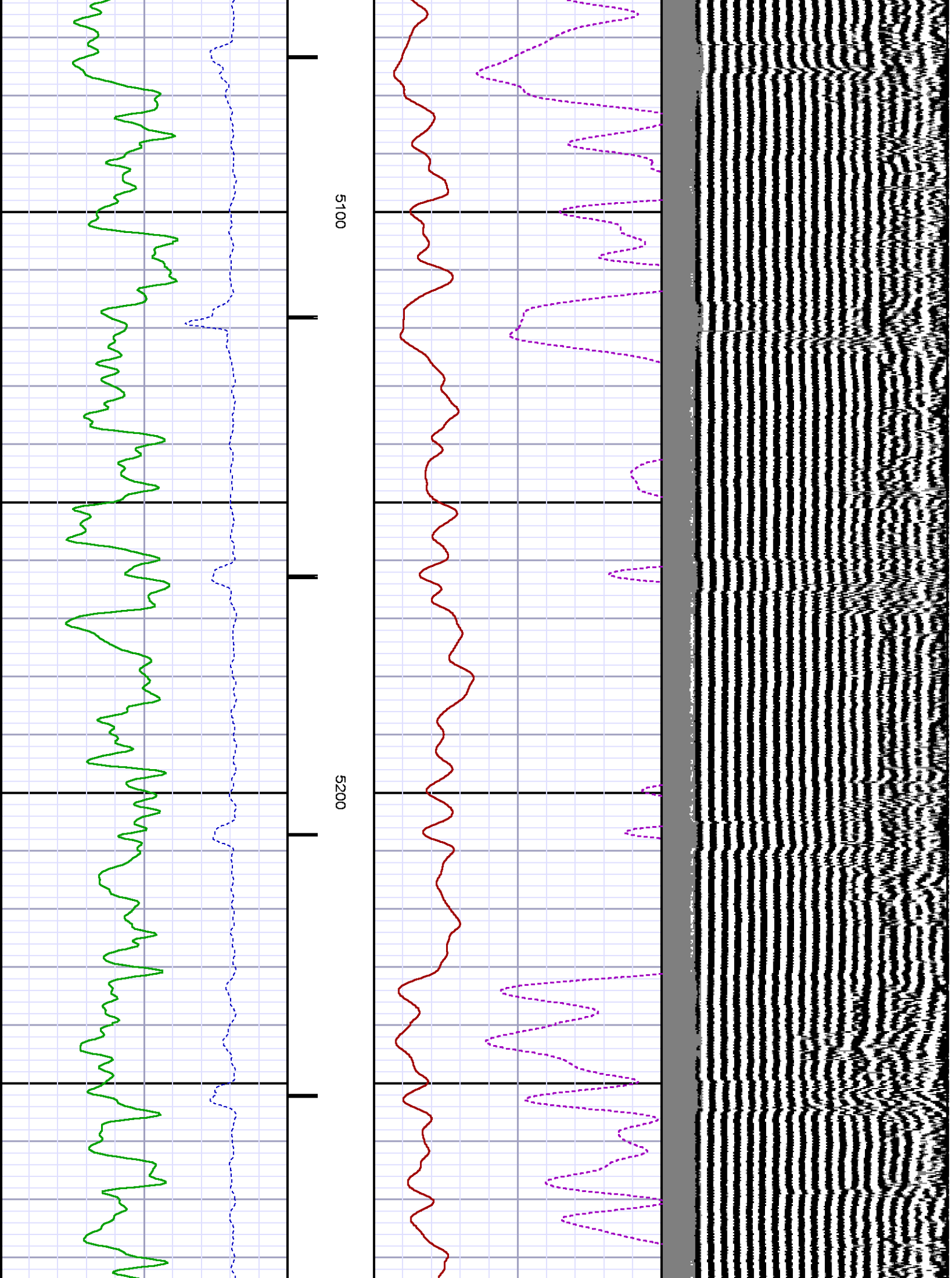


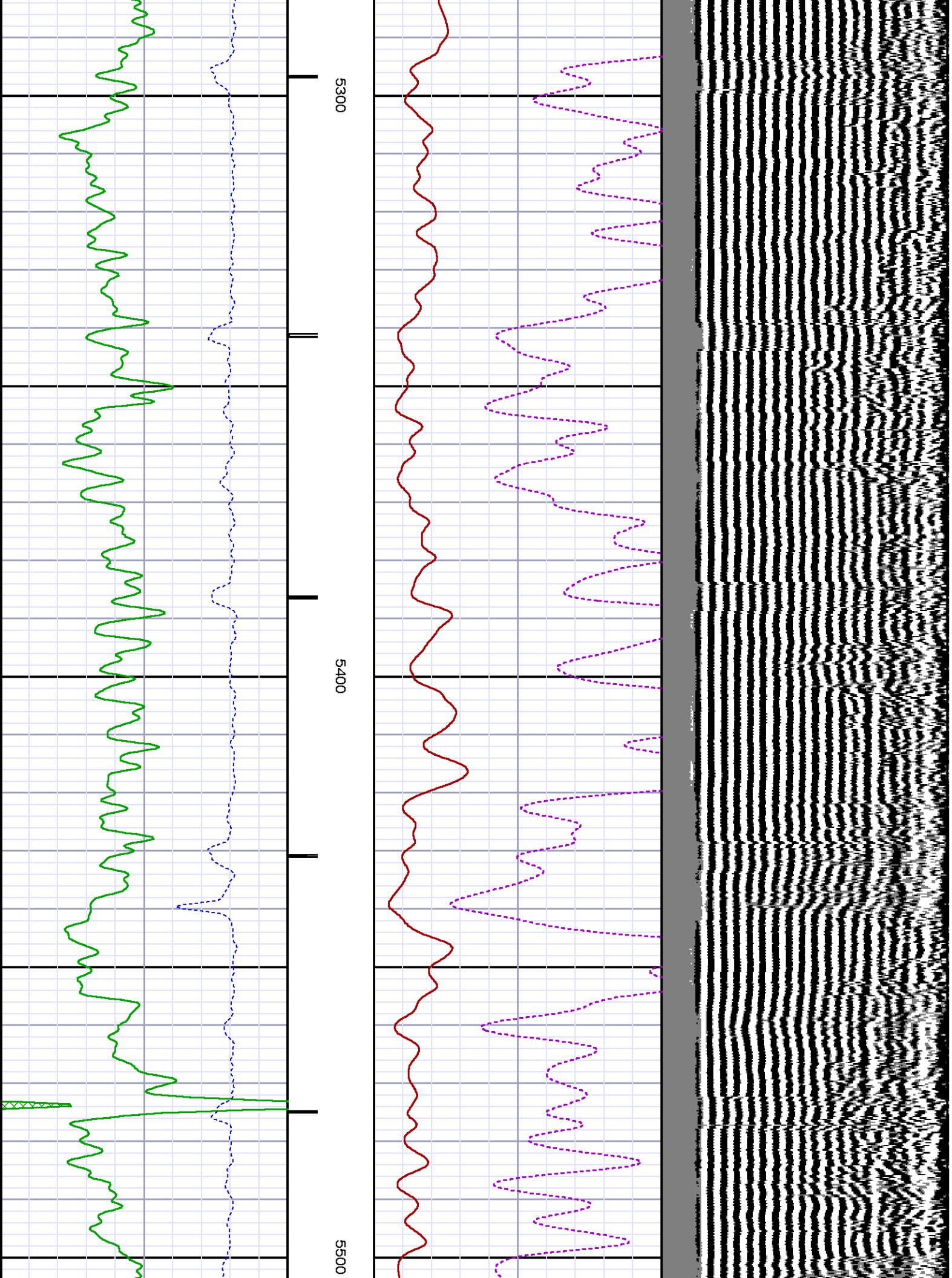


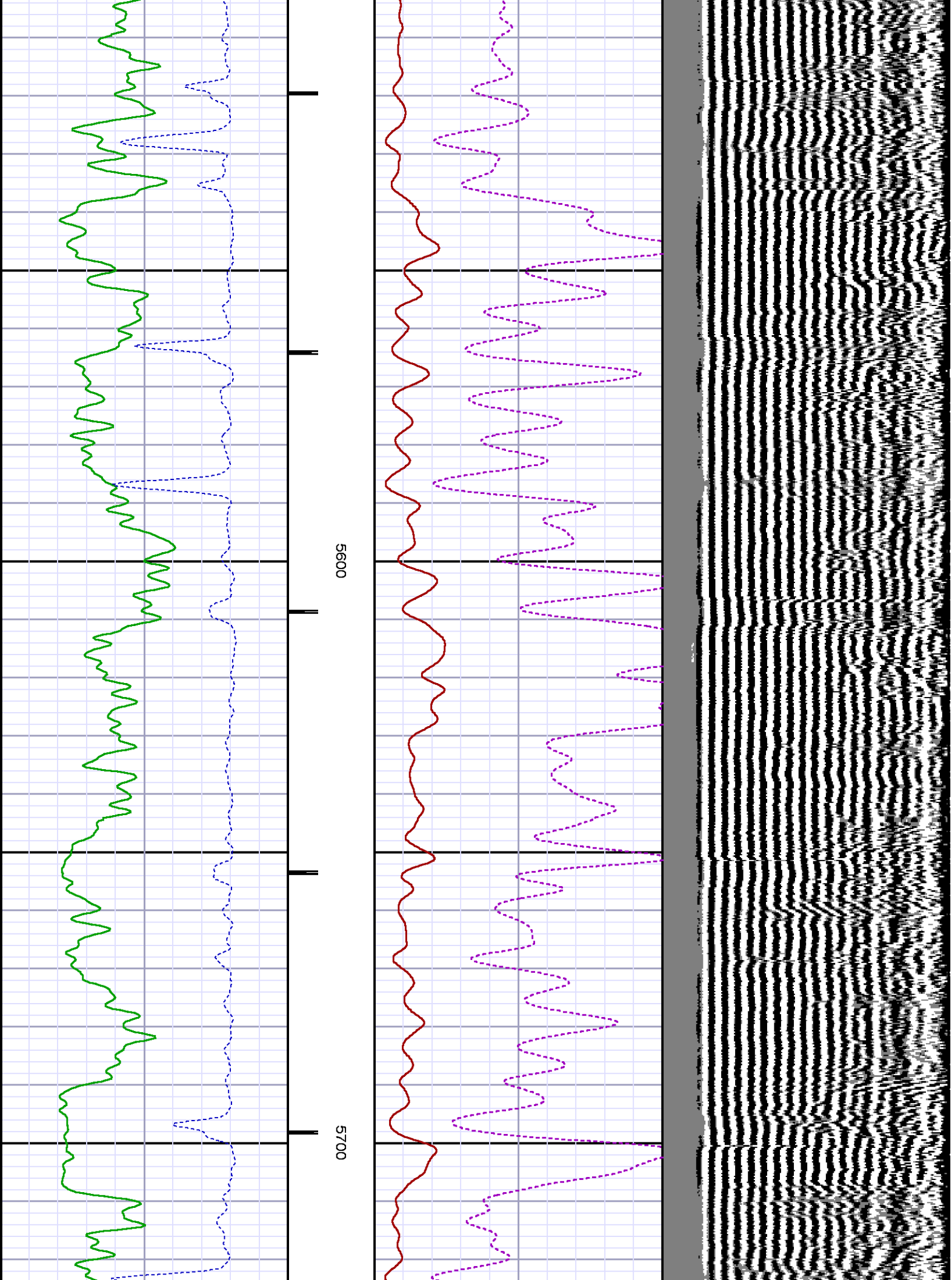


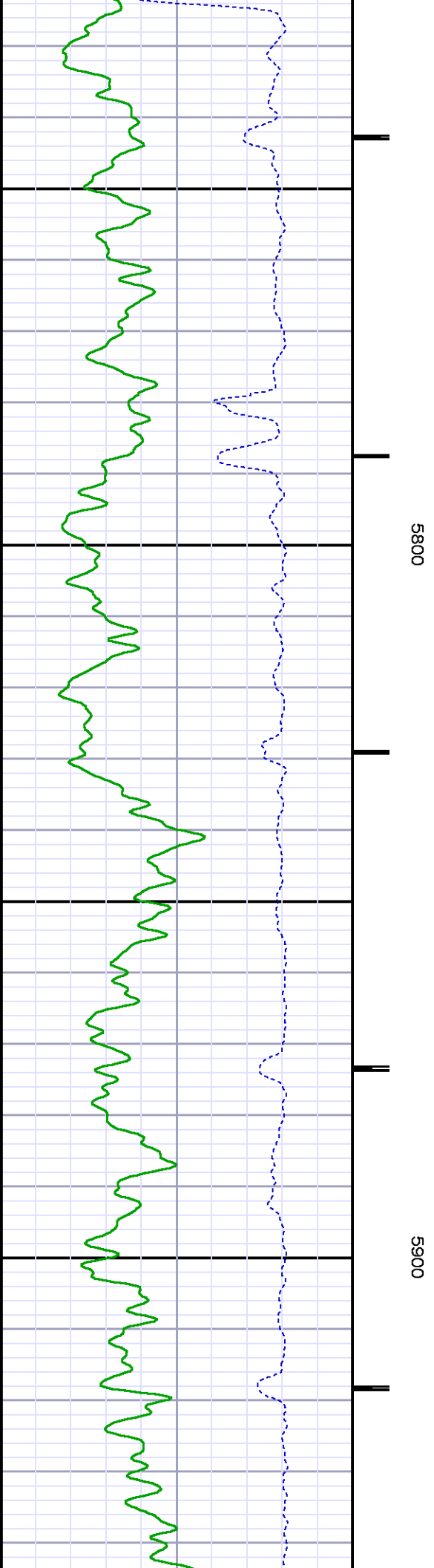
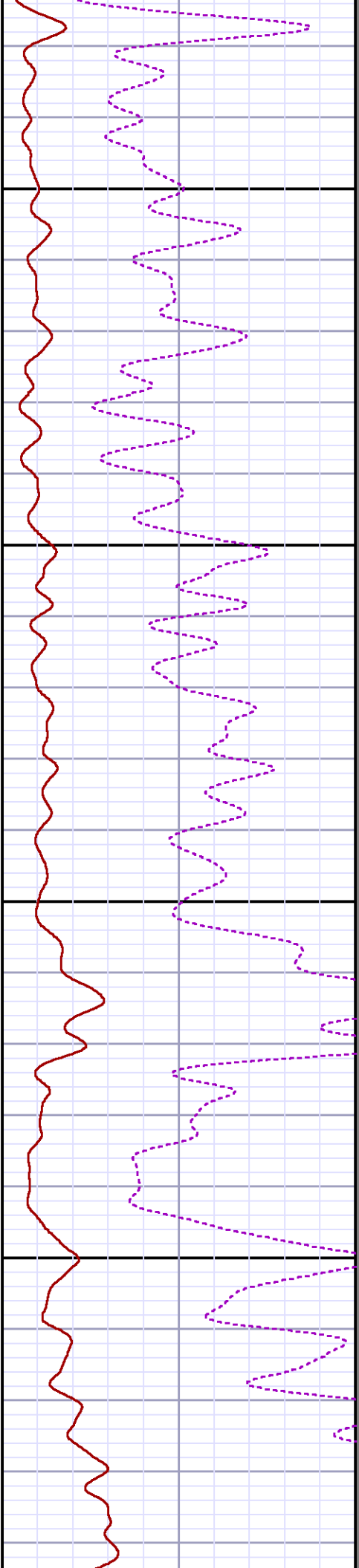
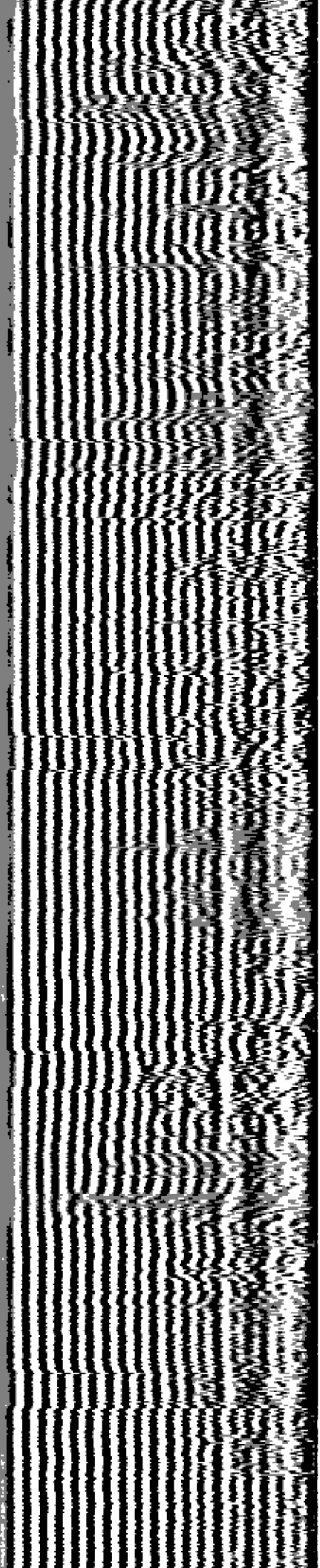


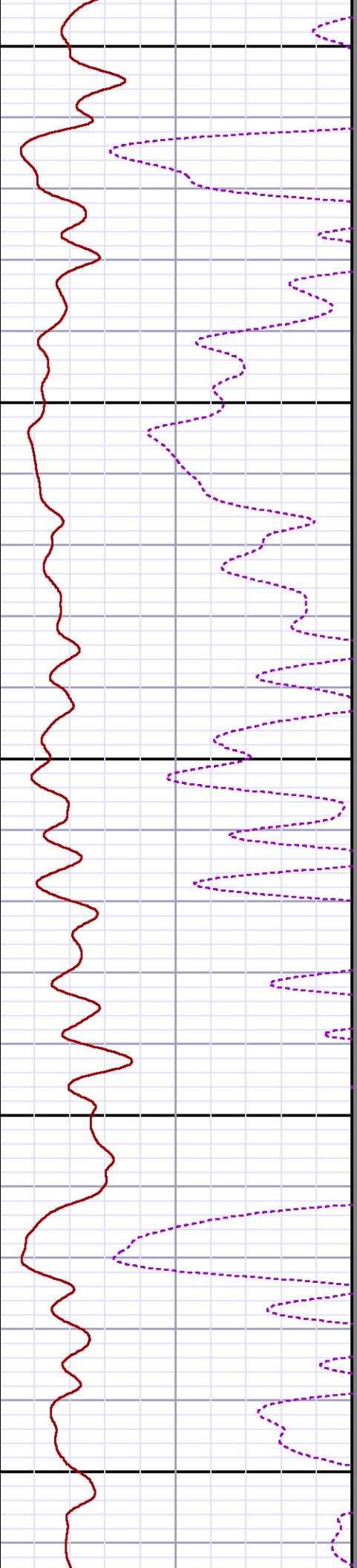
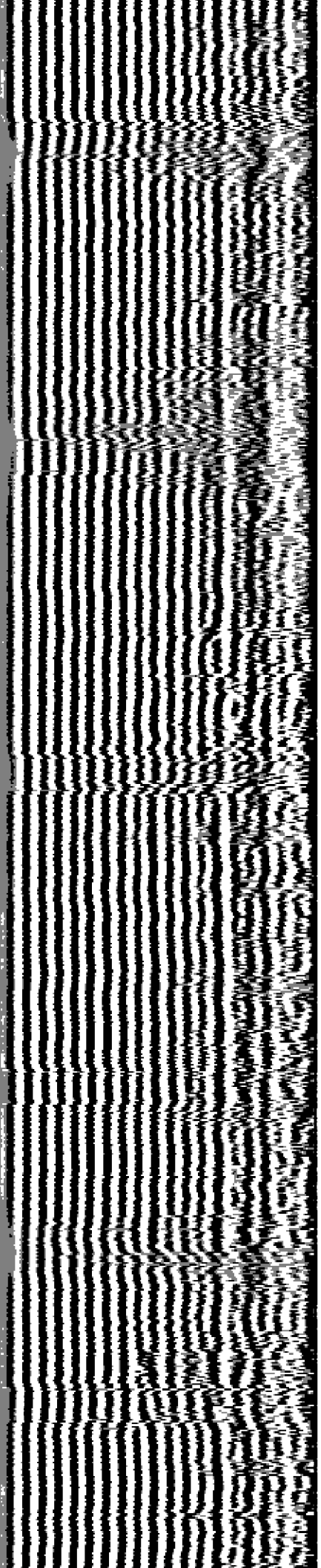






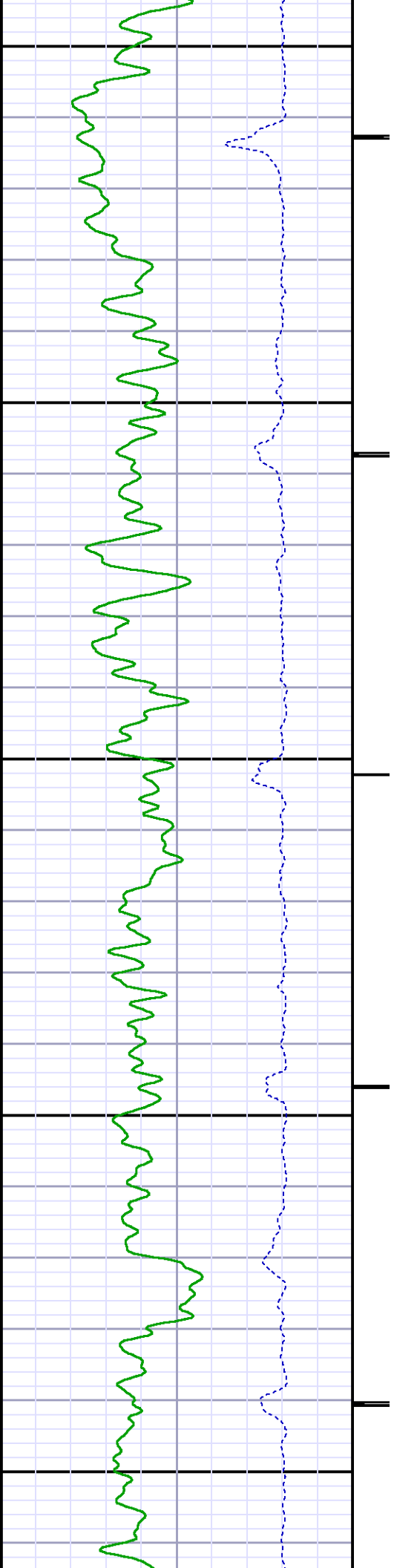


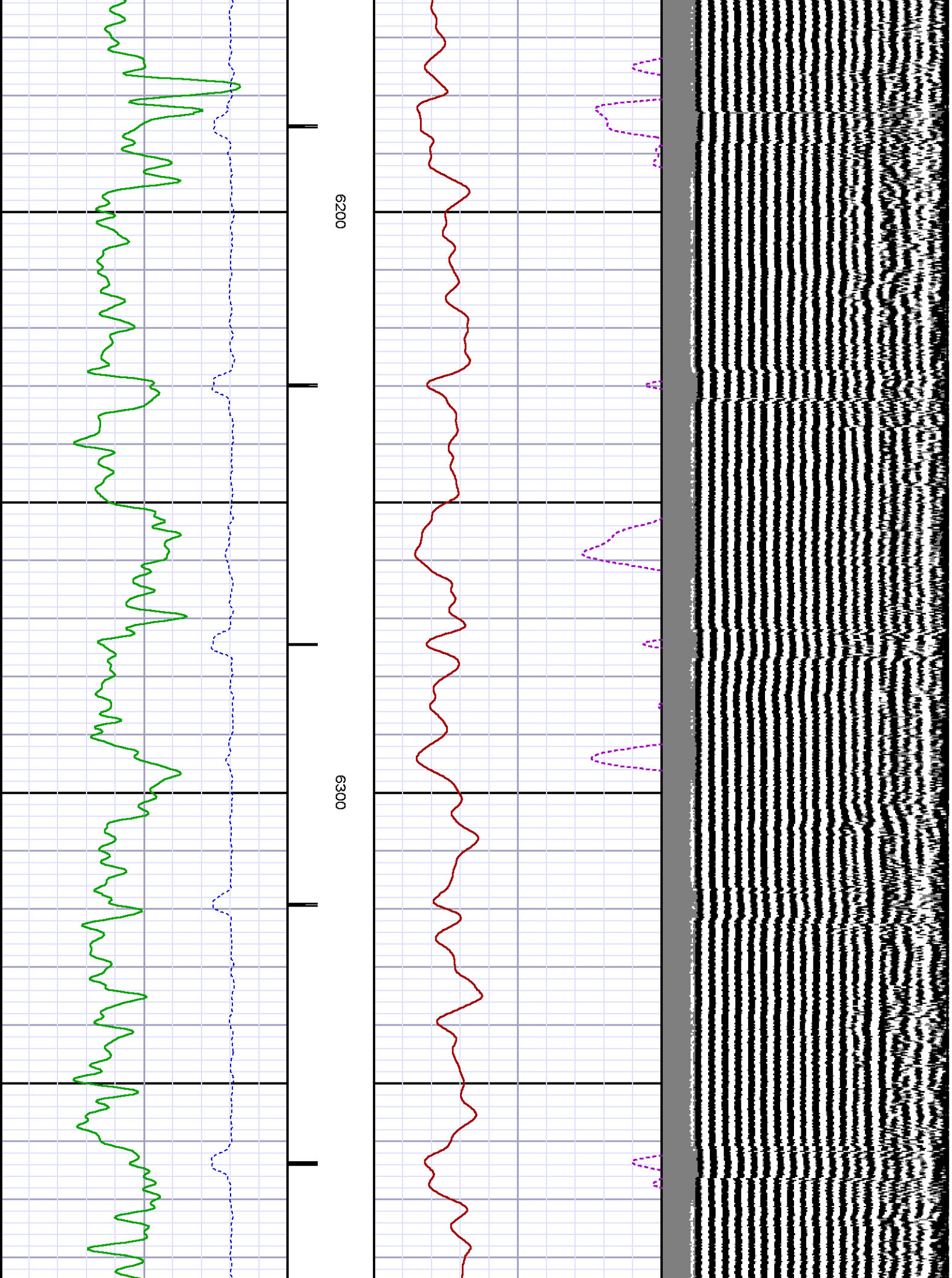


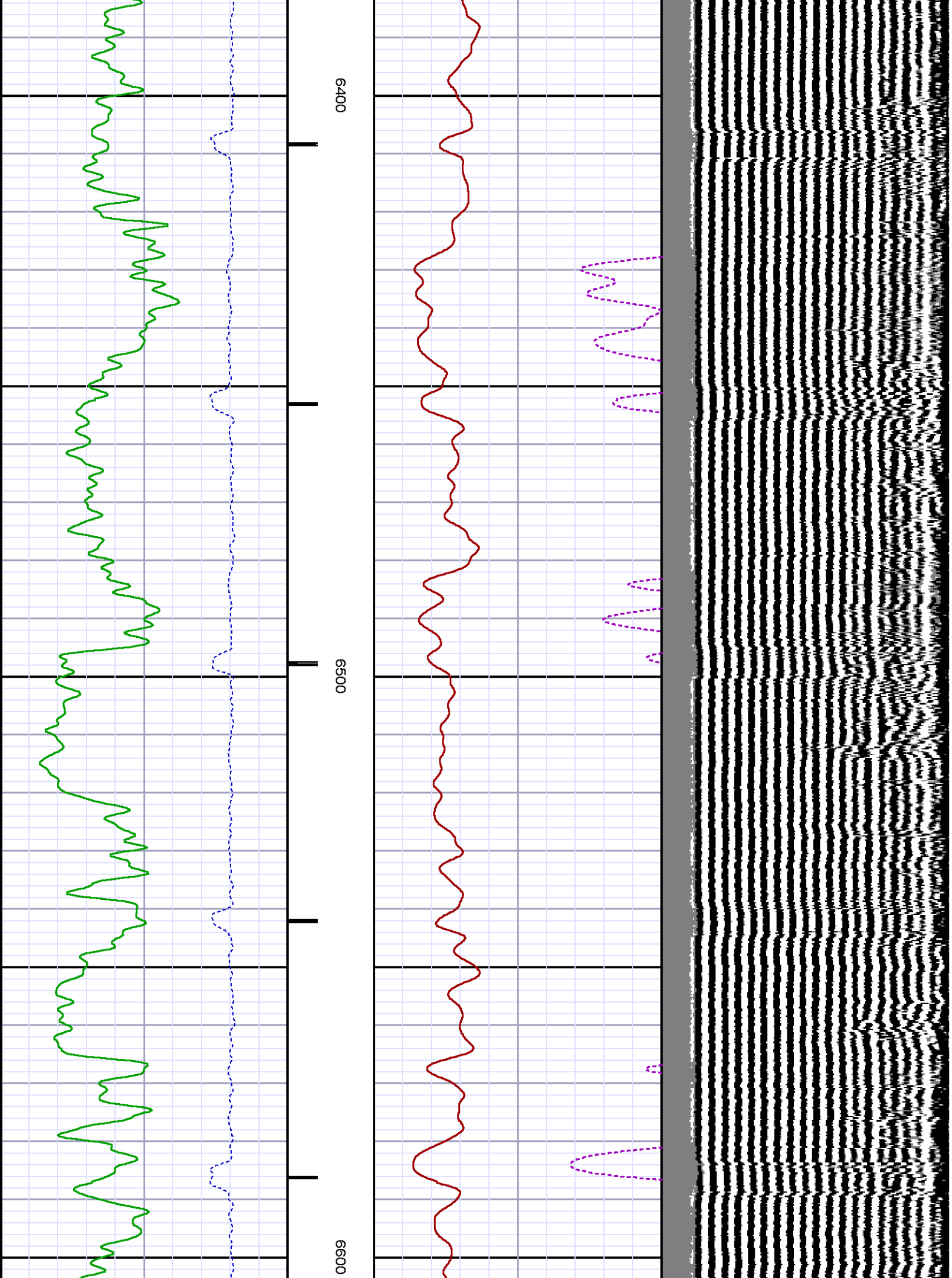


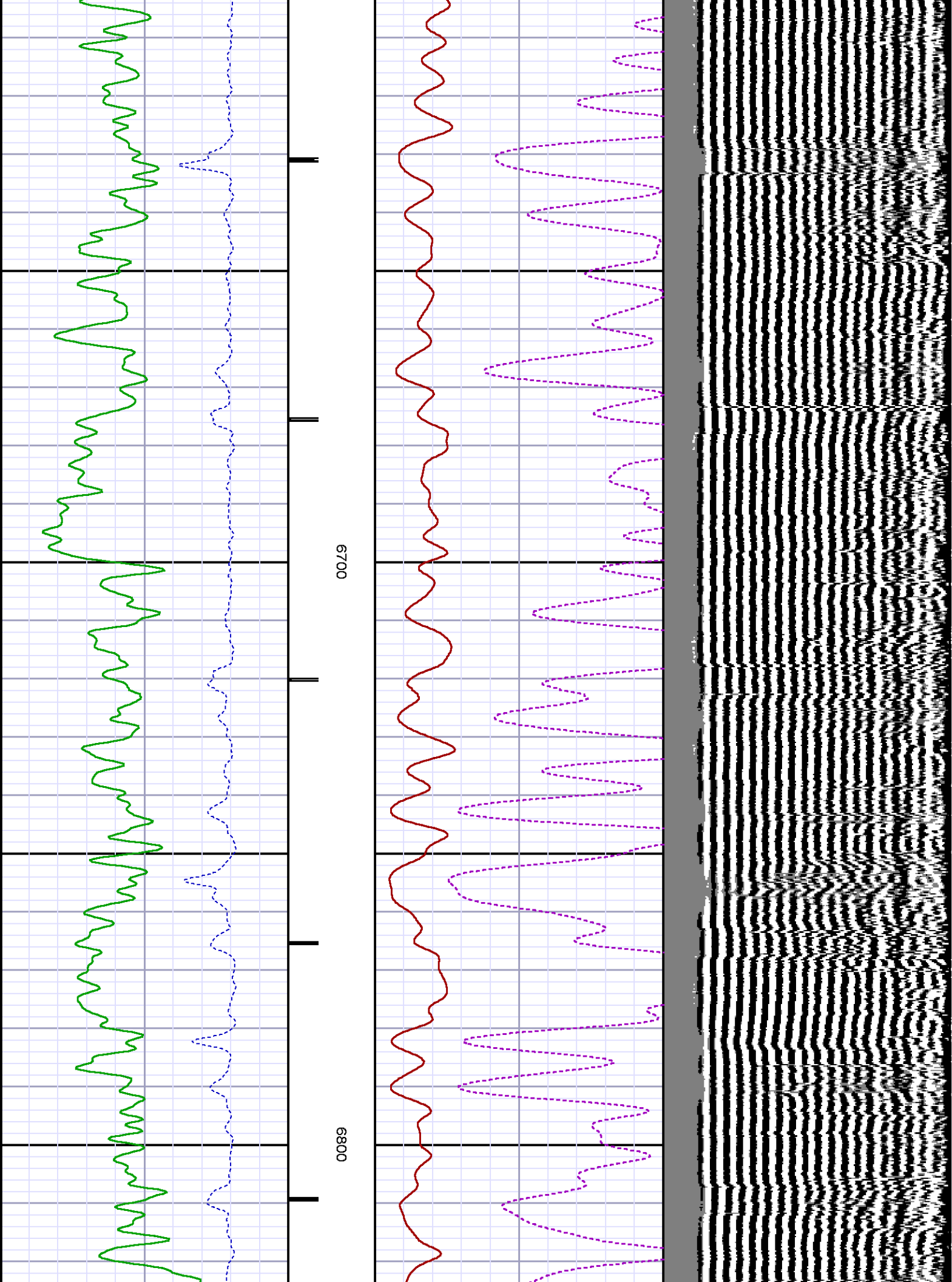
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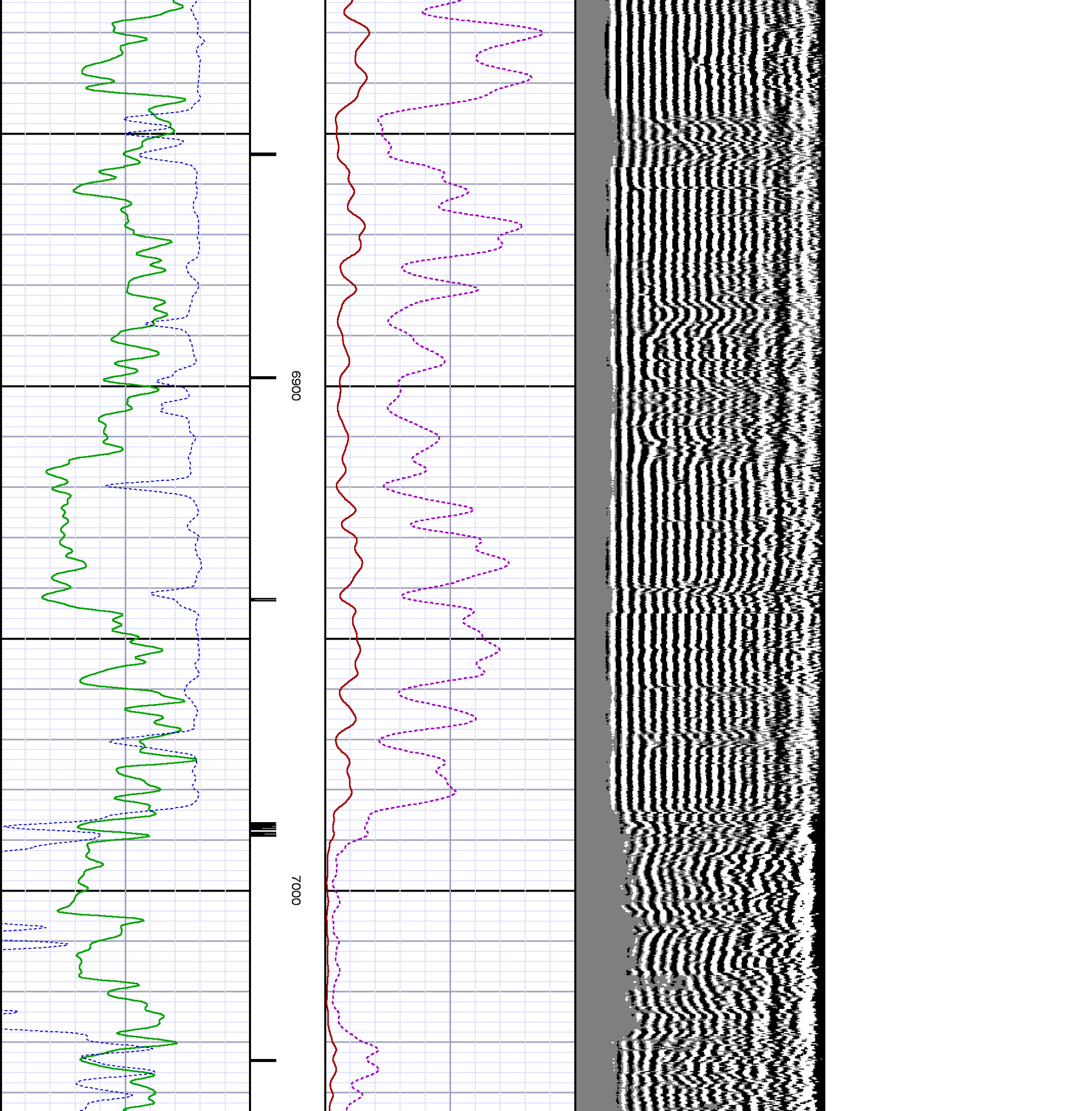
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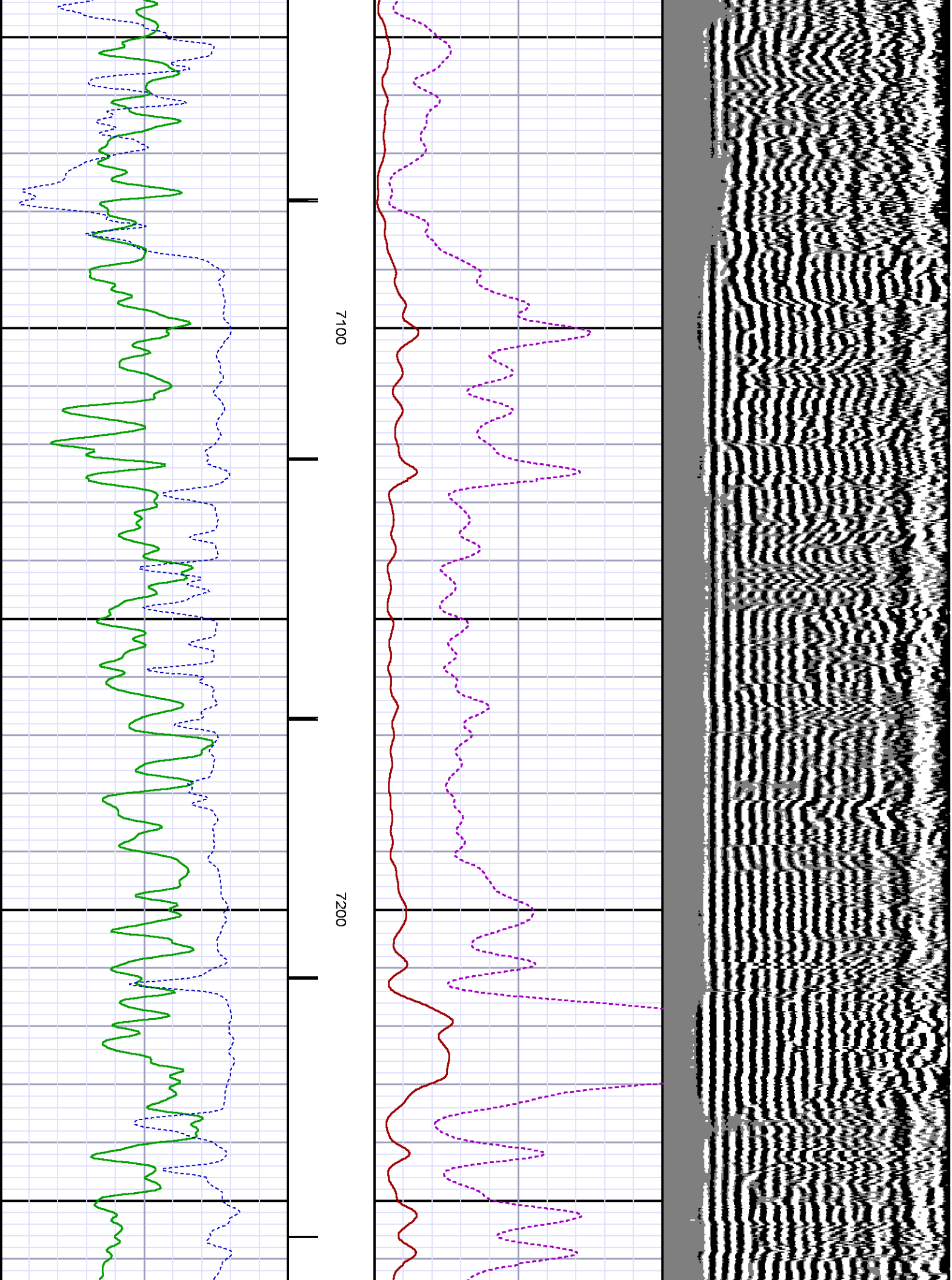


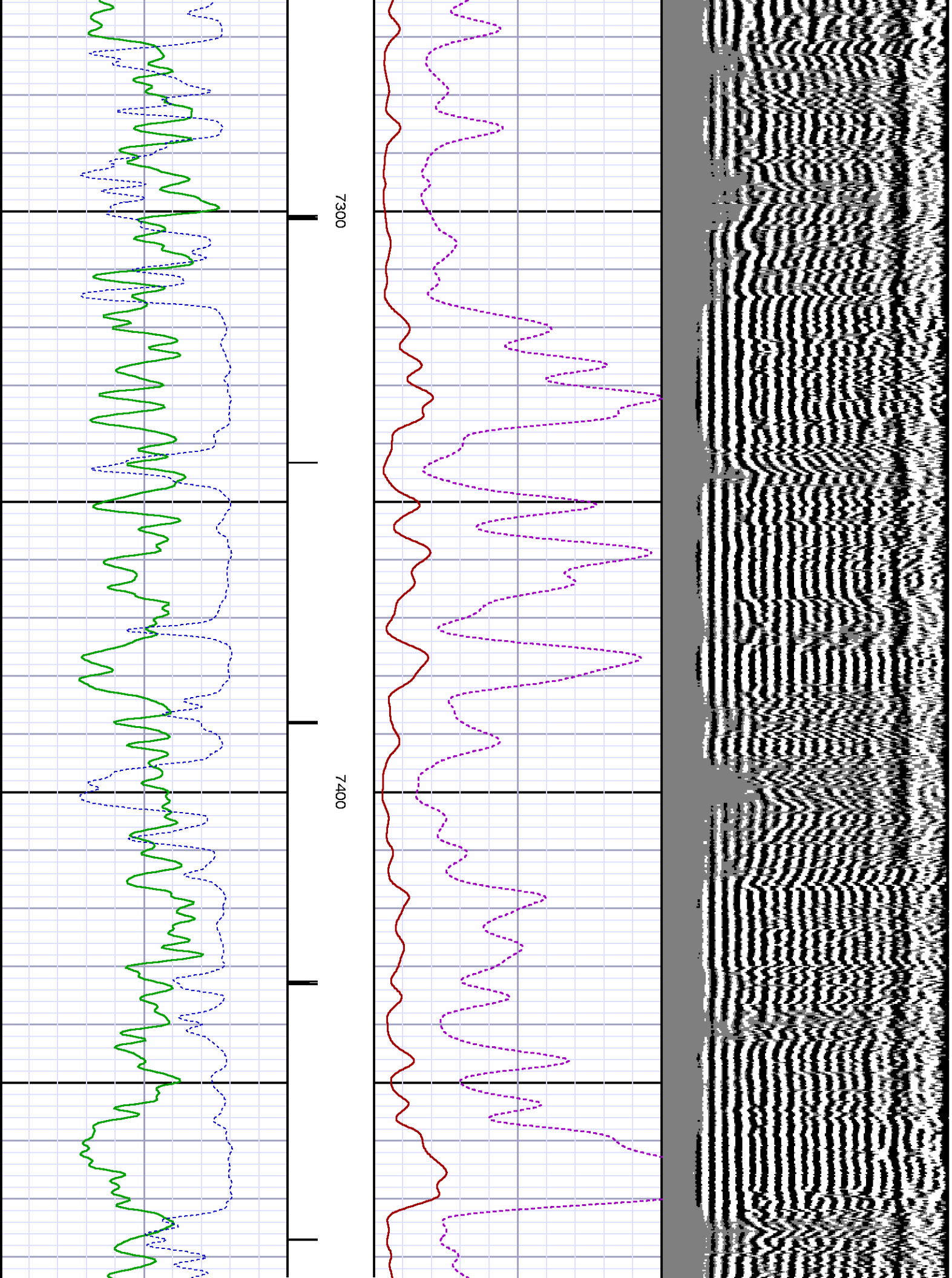


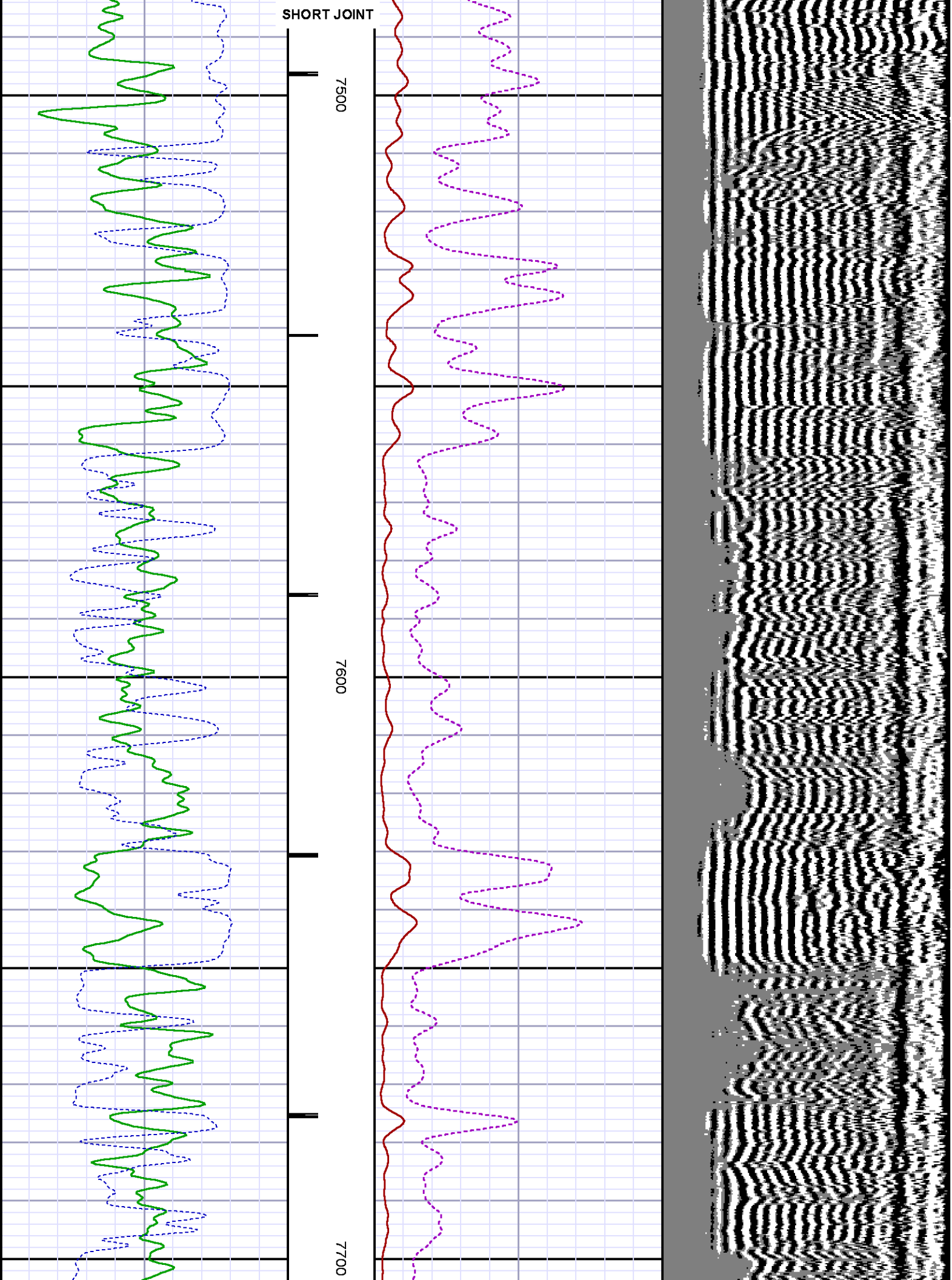


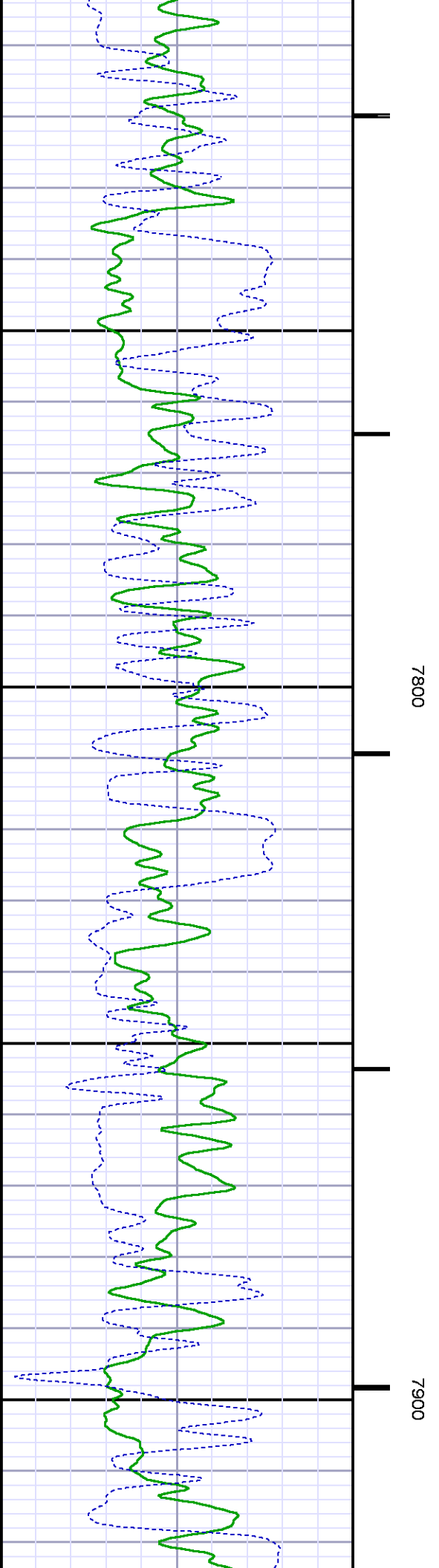
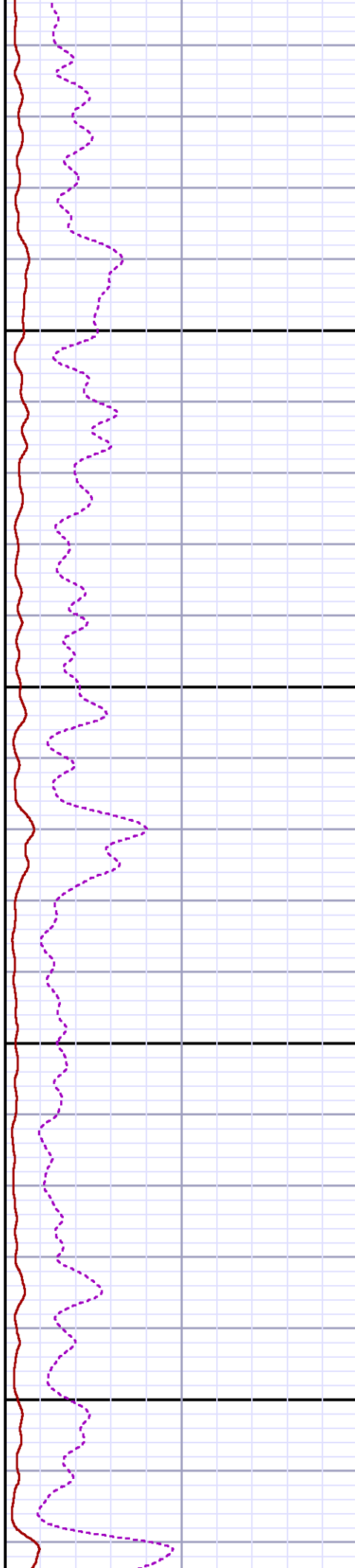
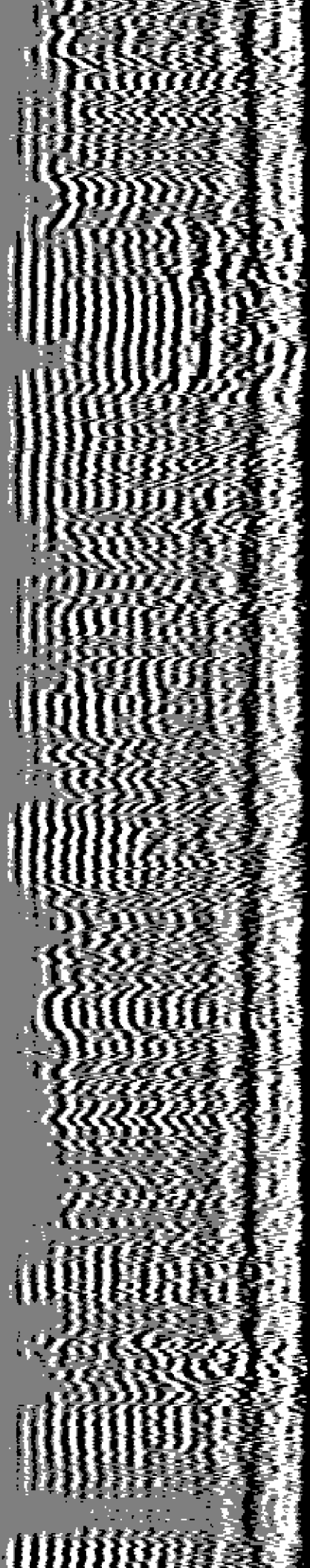


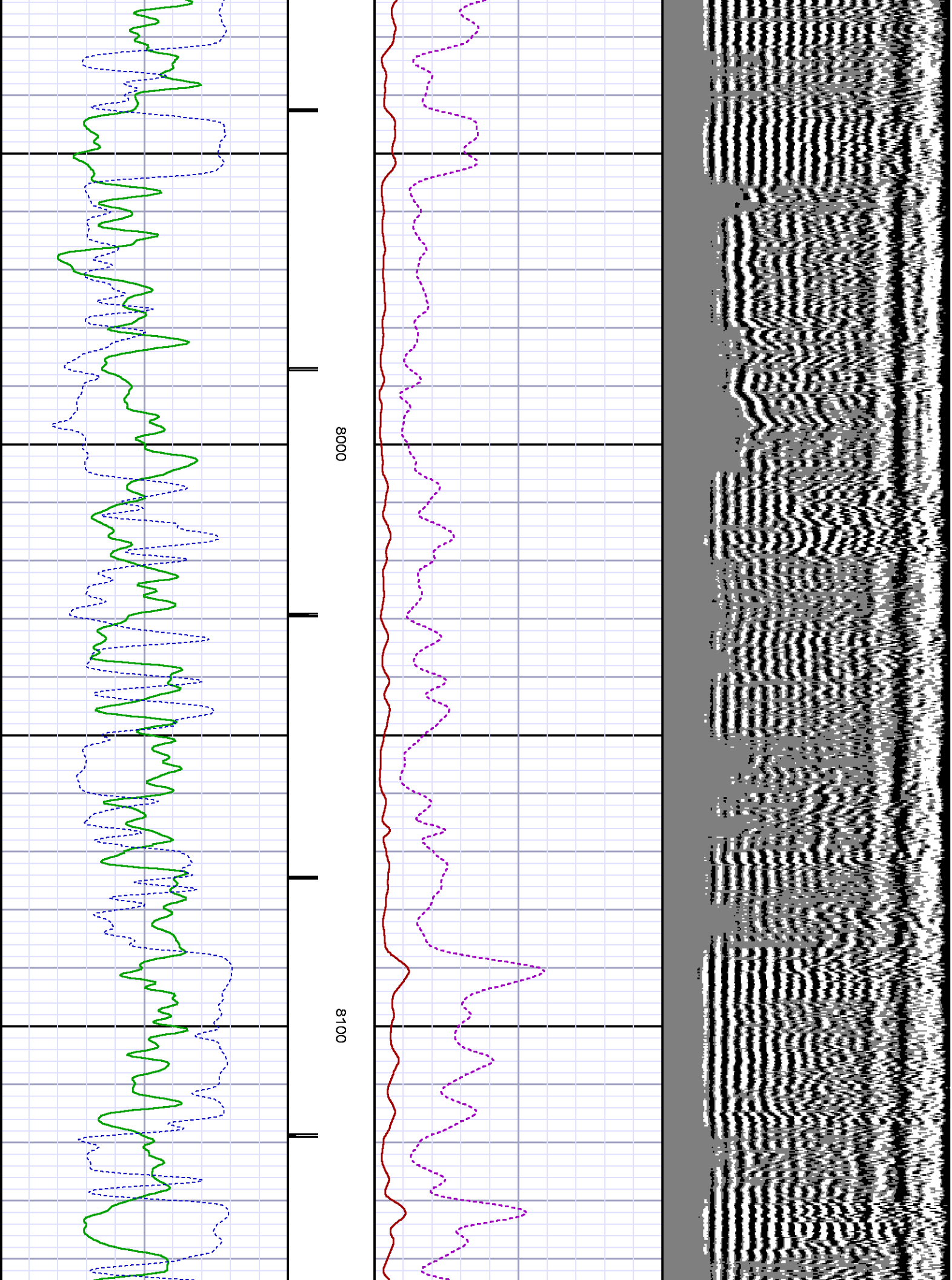


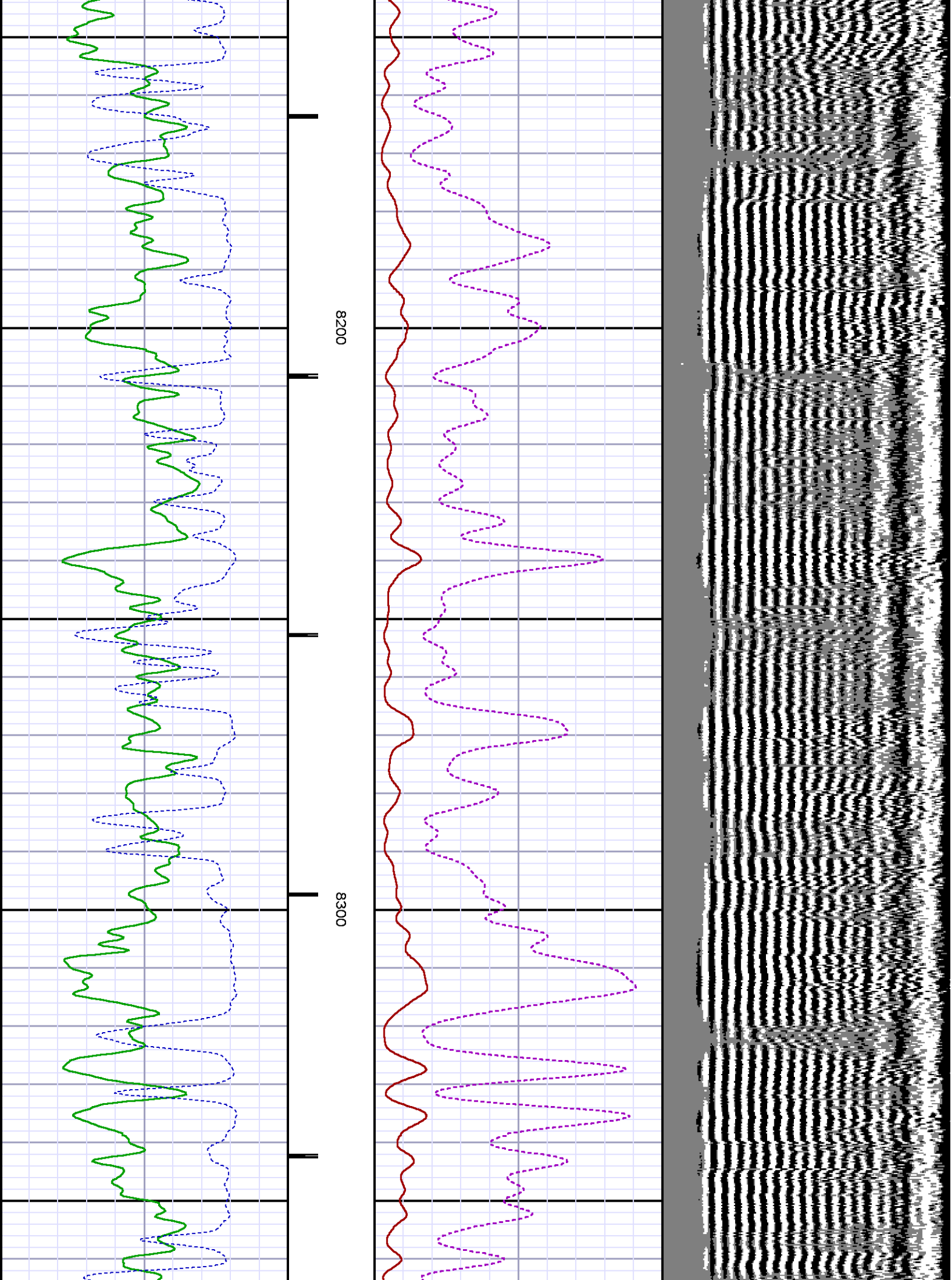


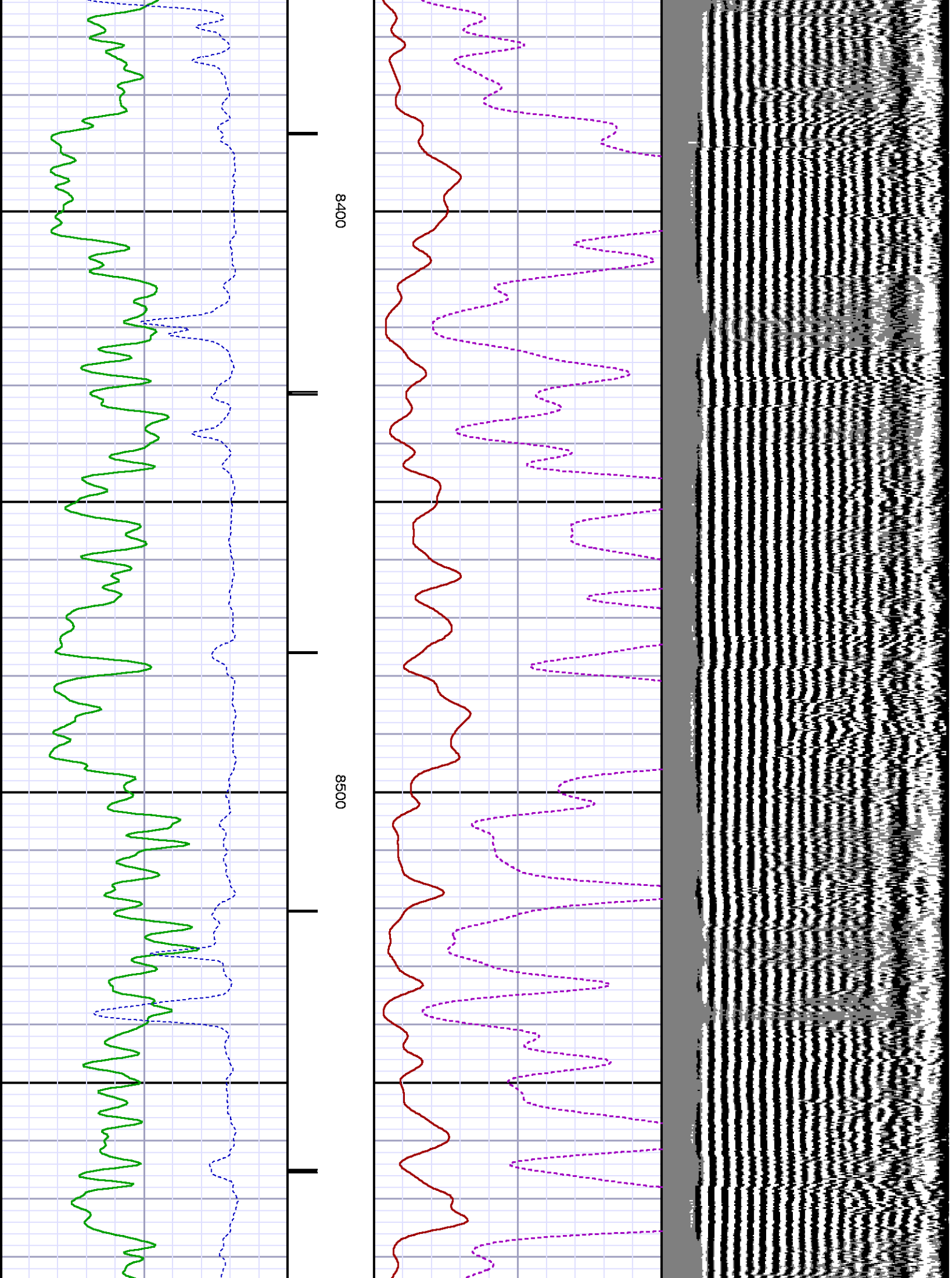


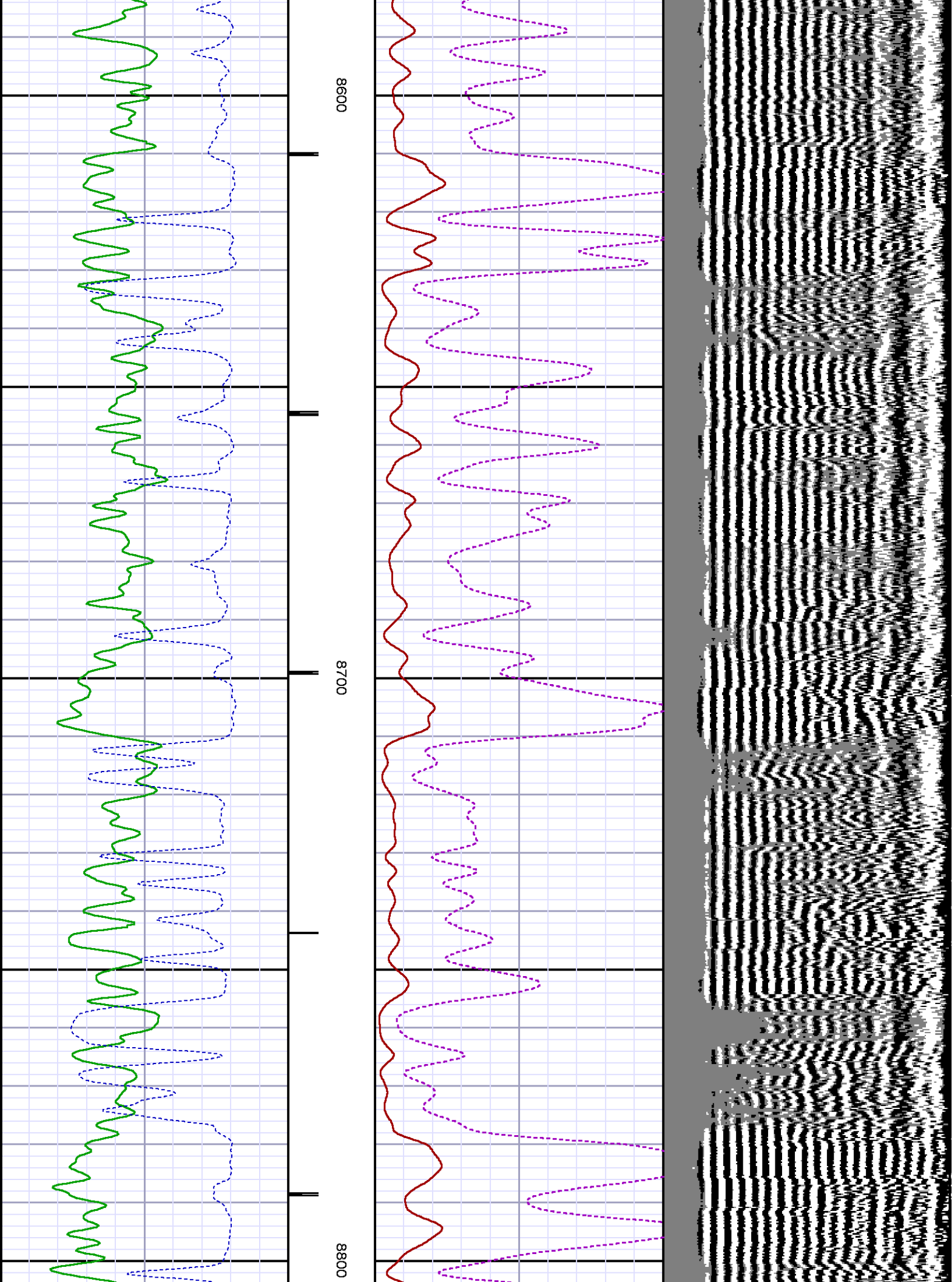


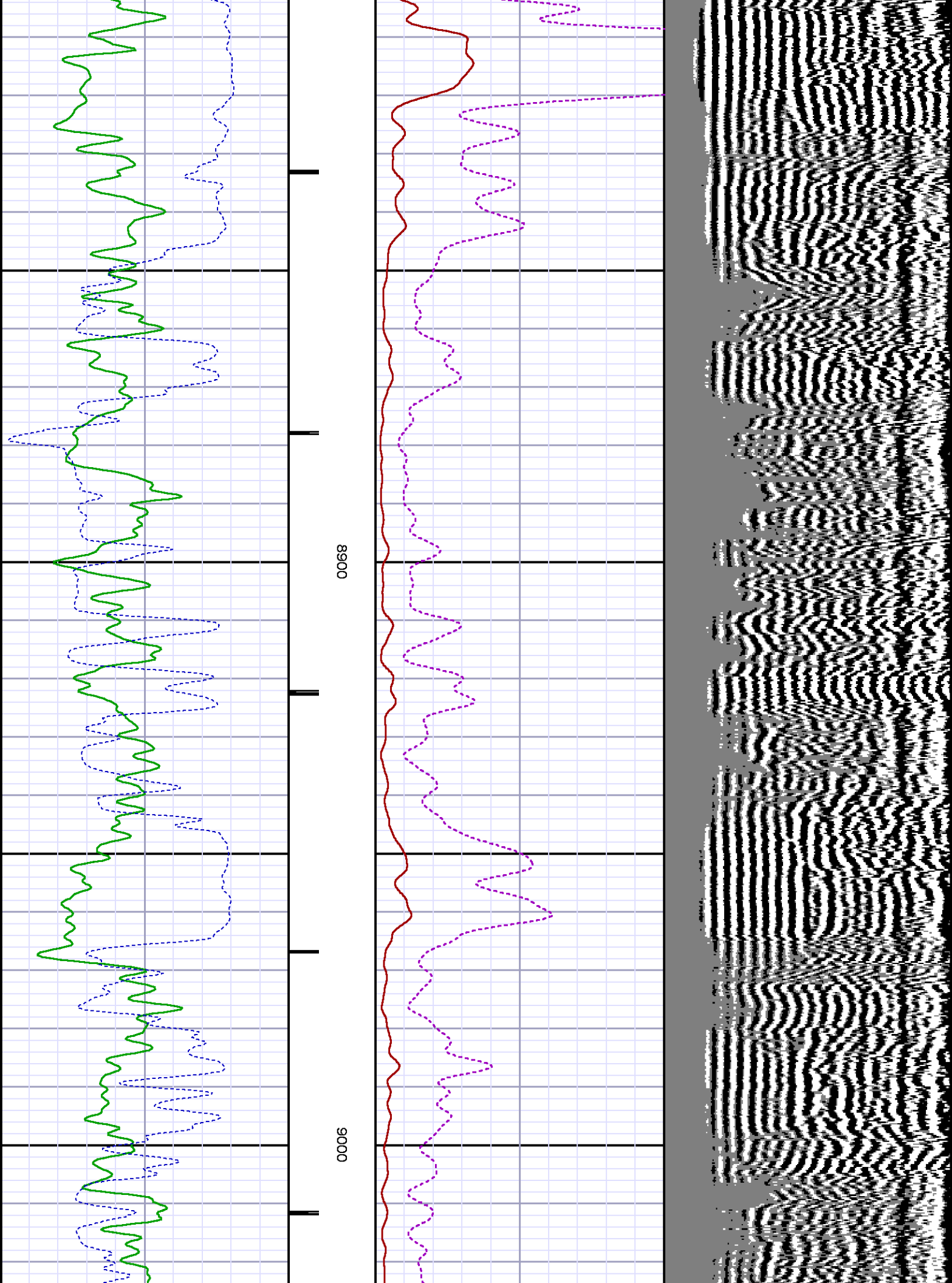


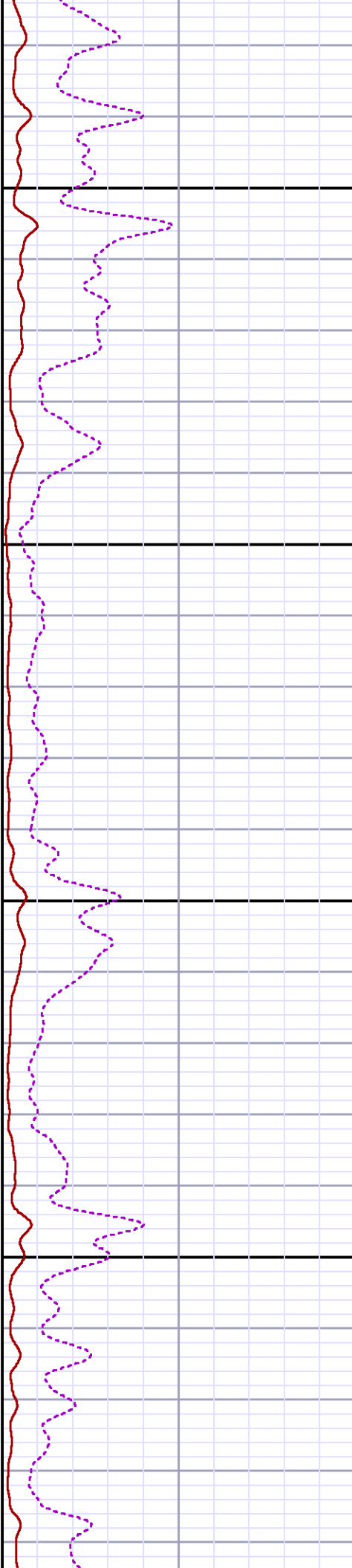
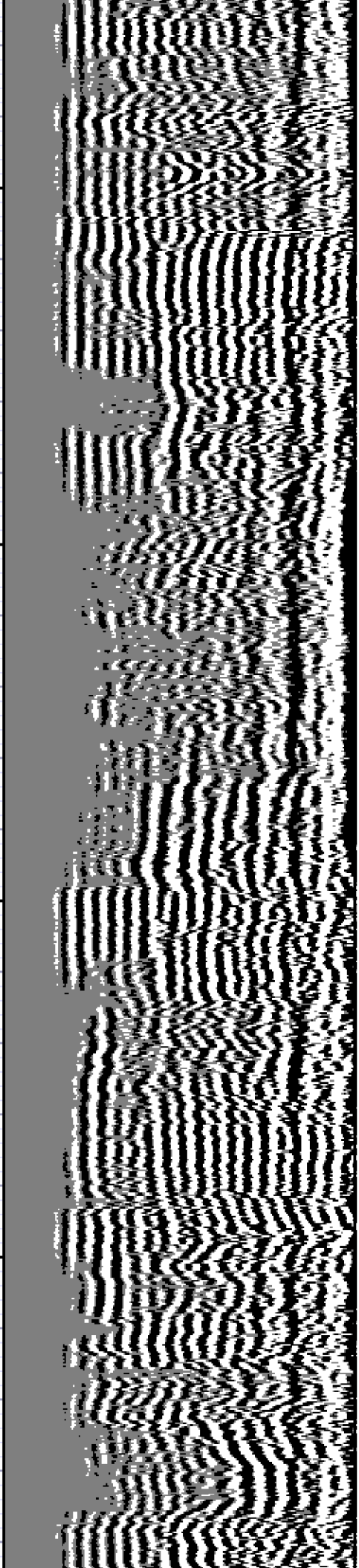






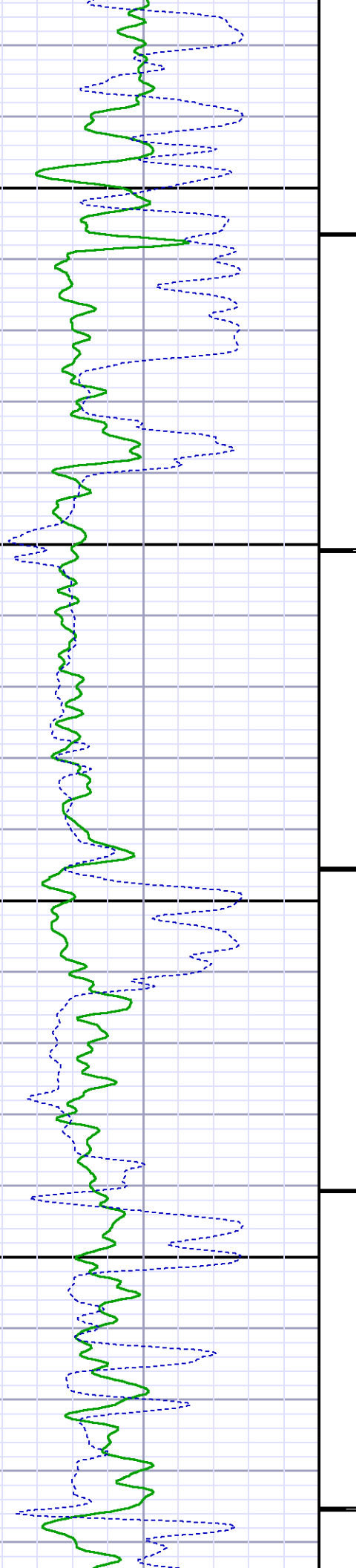


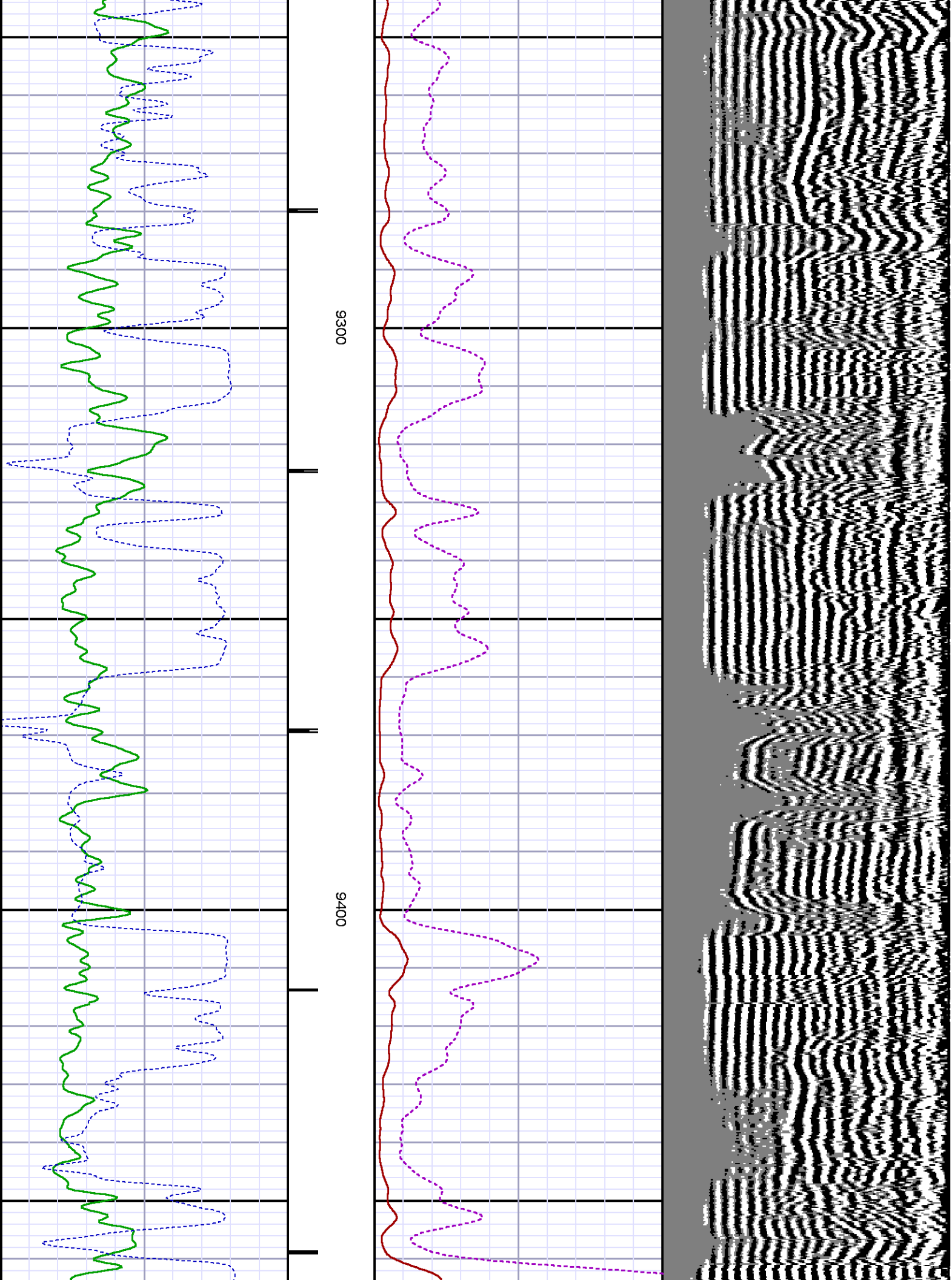


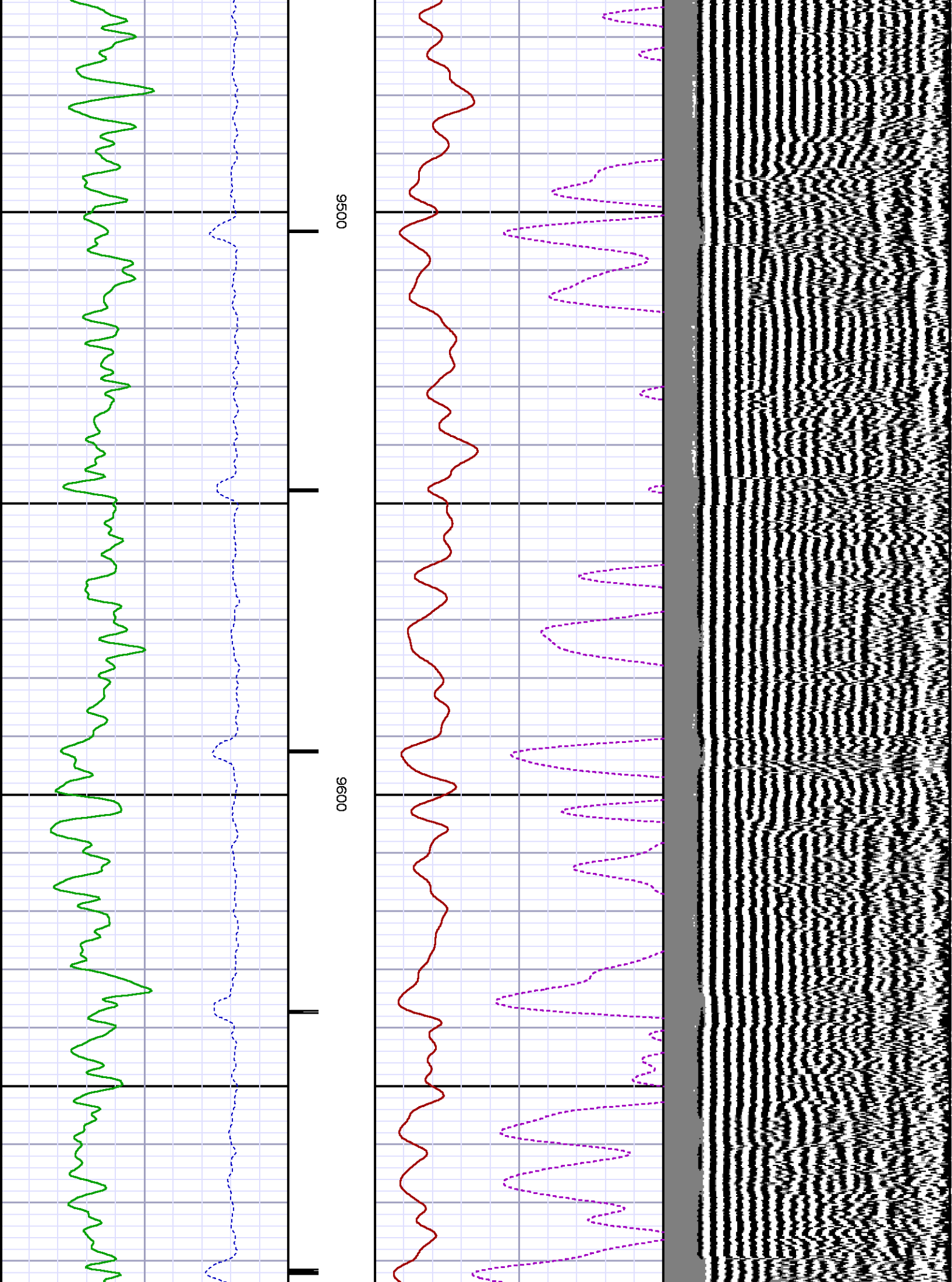


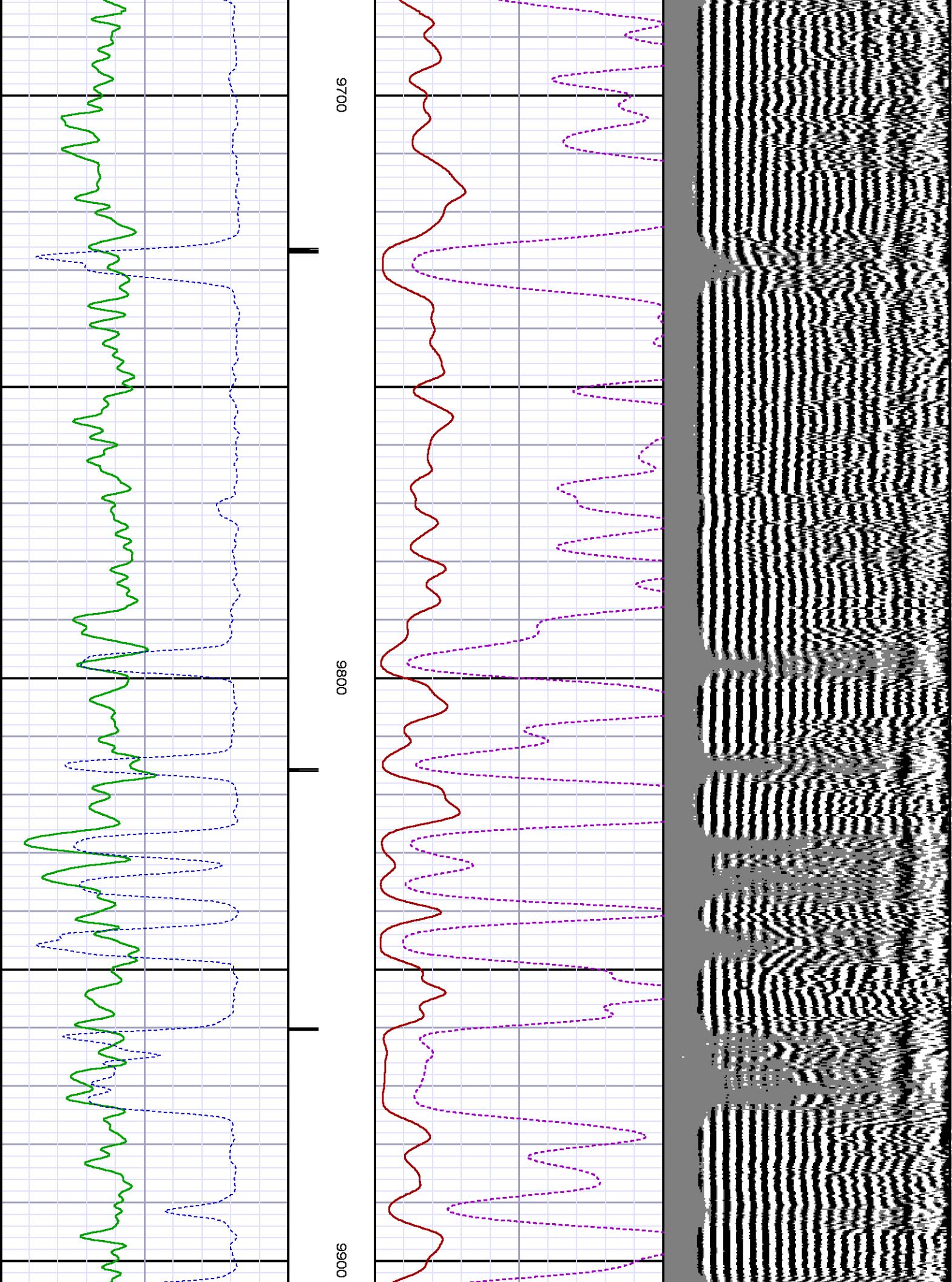
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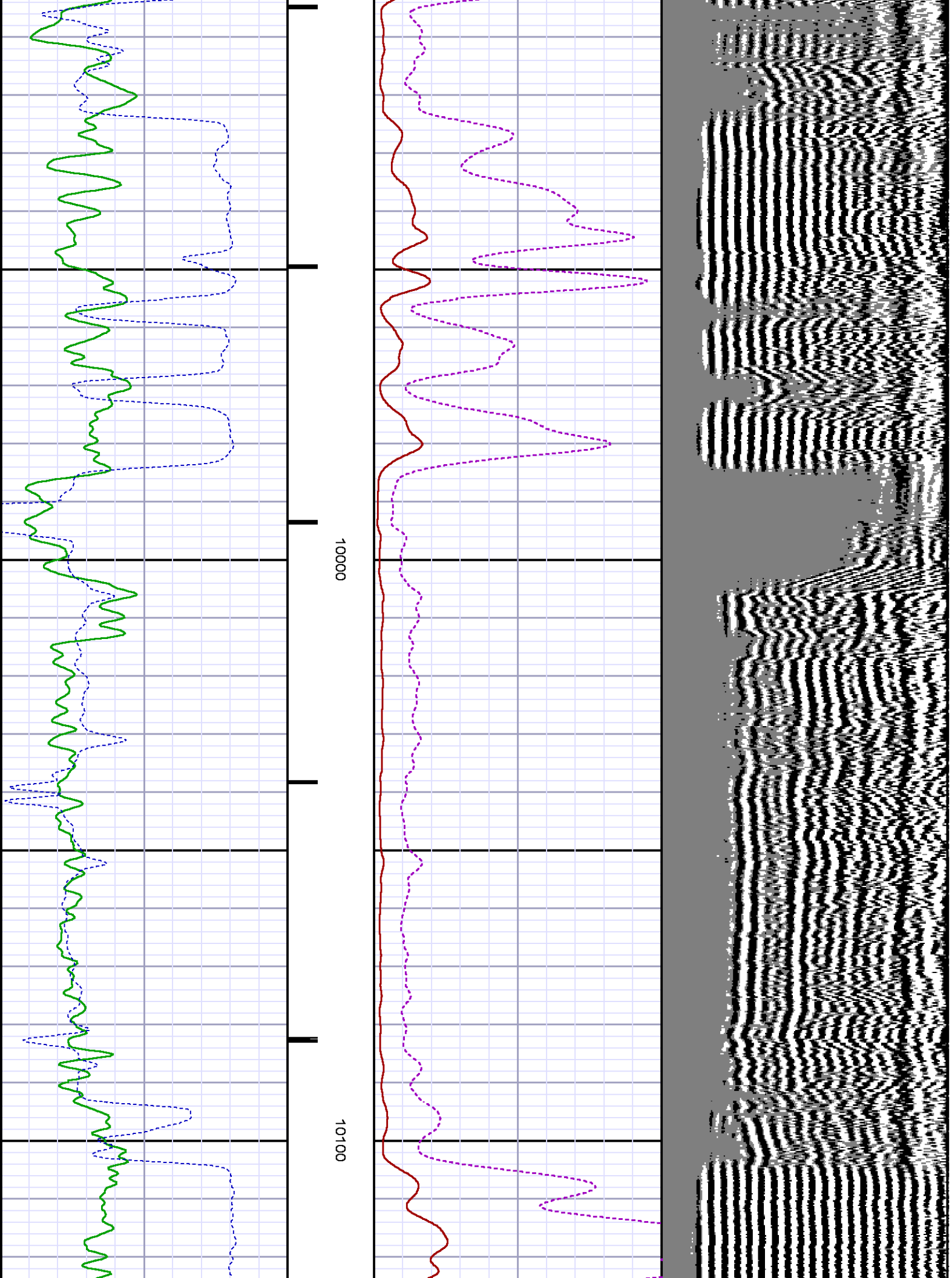
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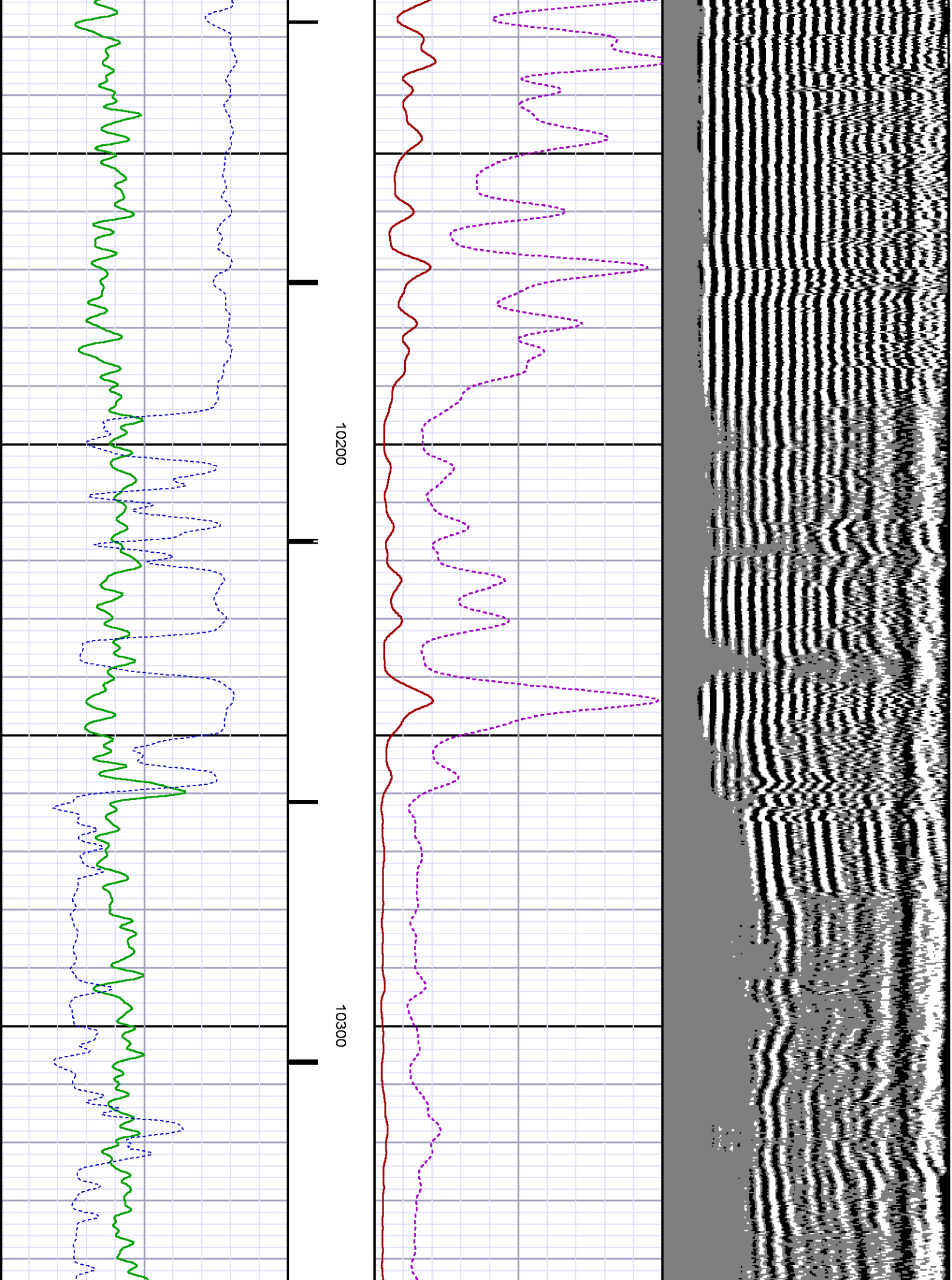


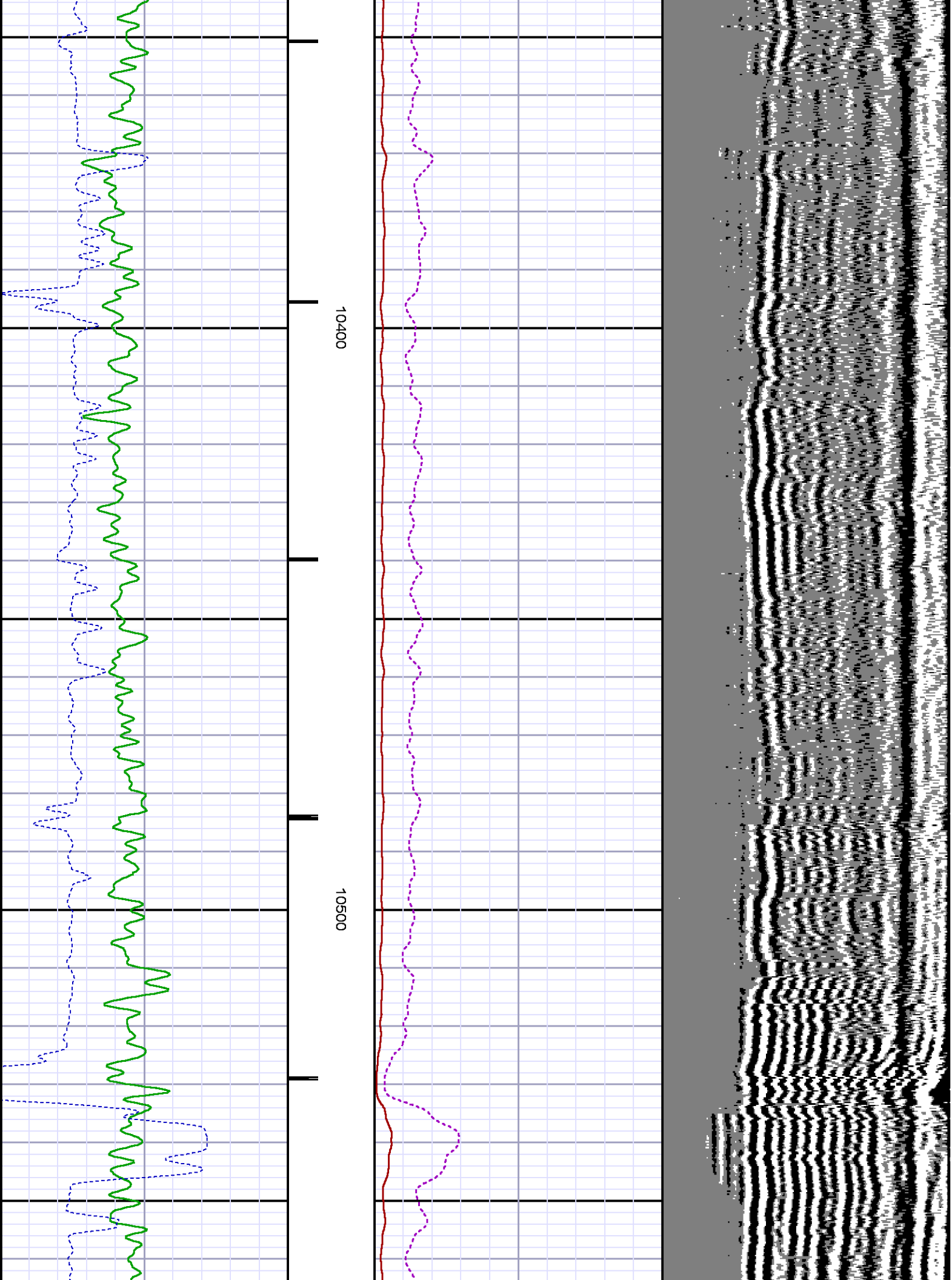


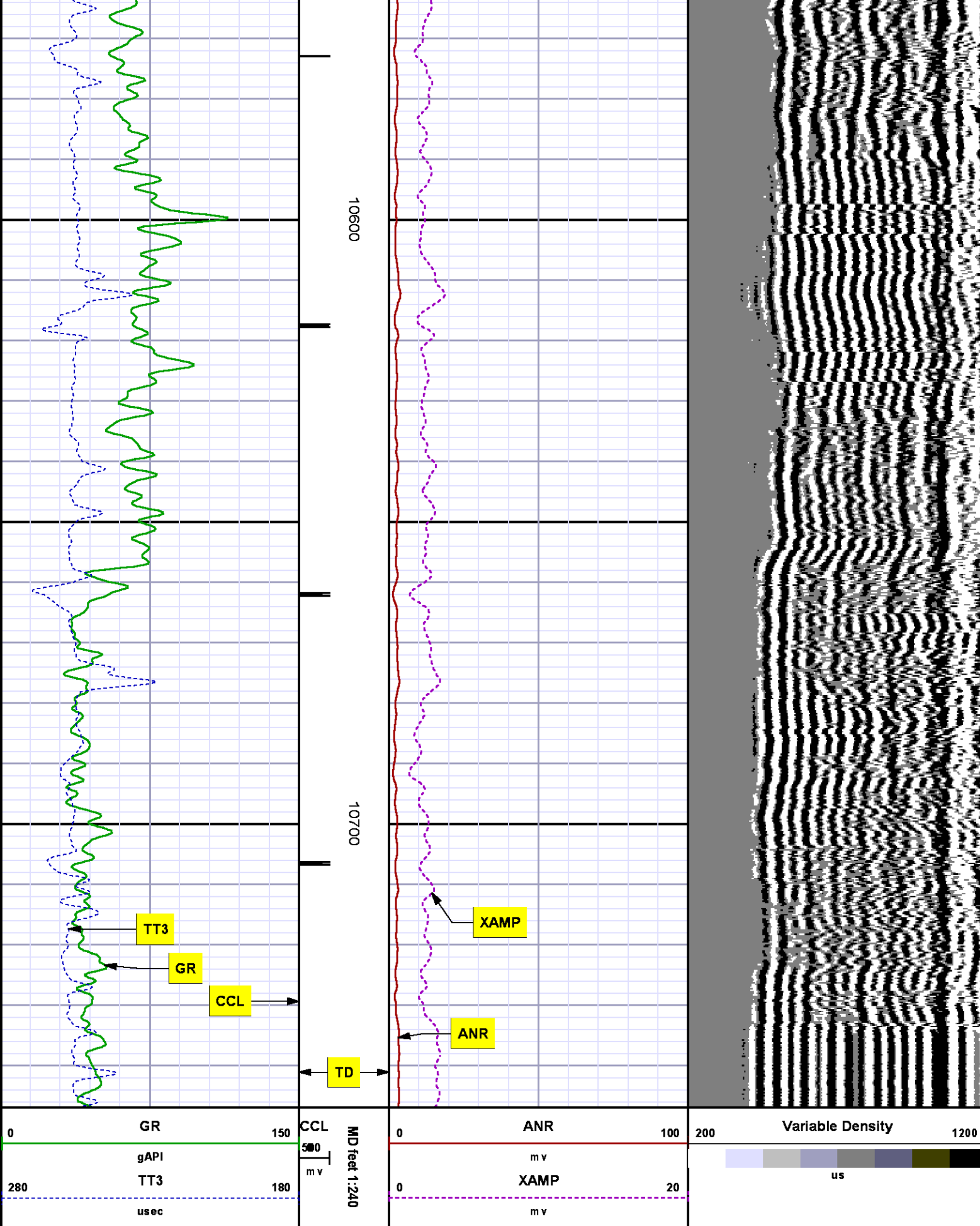












SECONDARY PRESENTATION

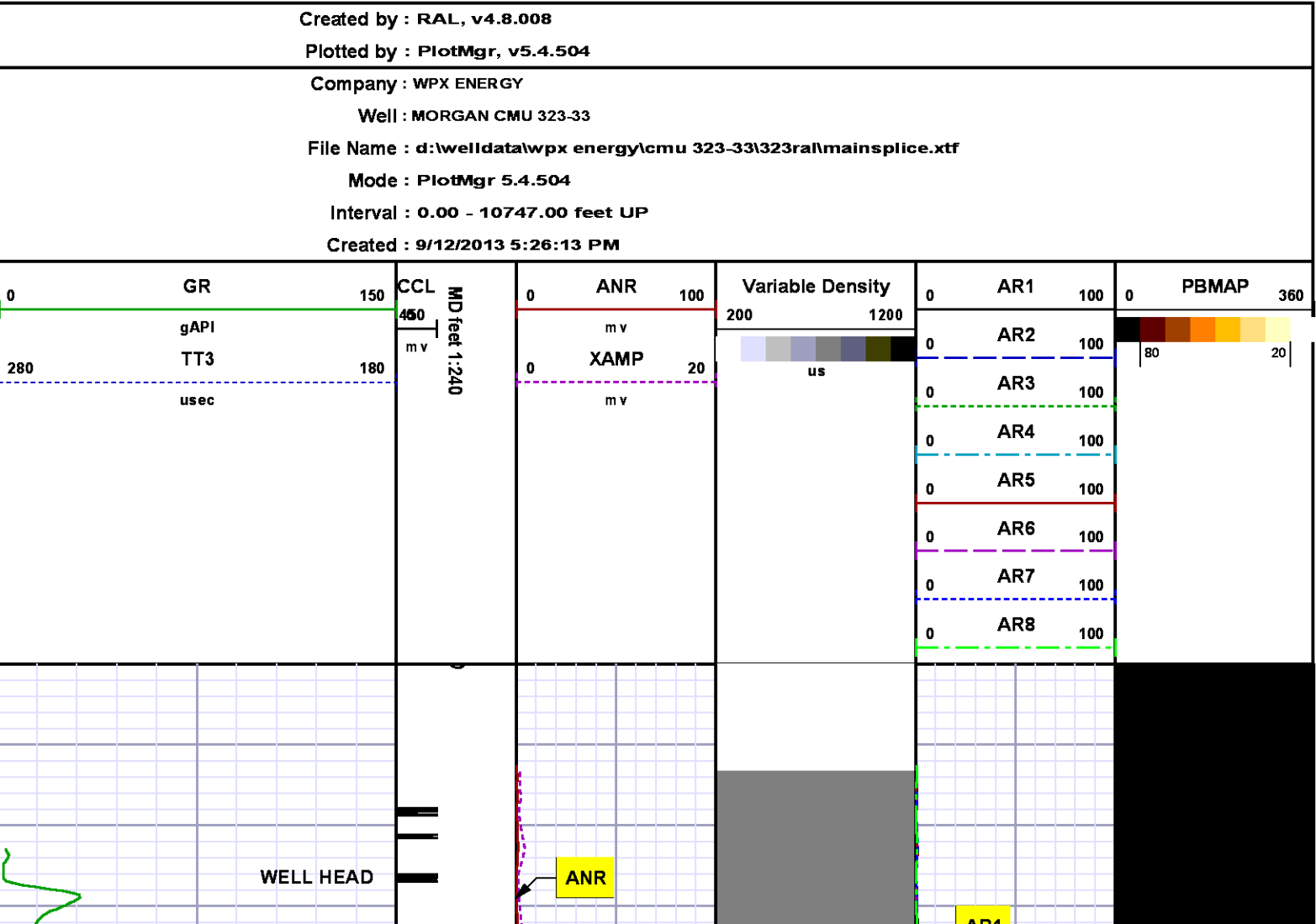
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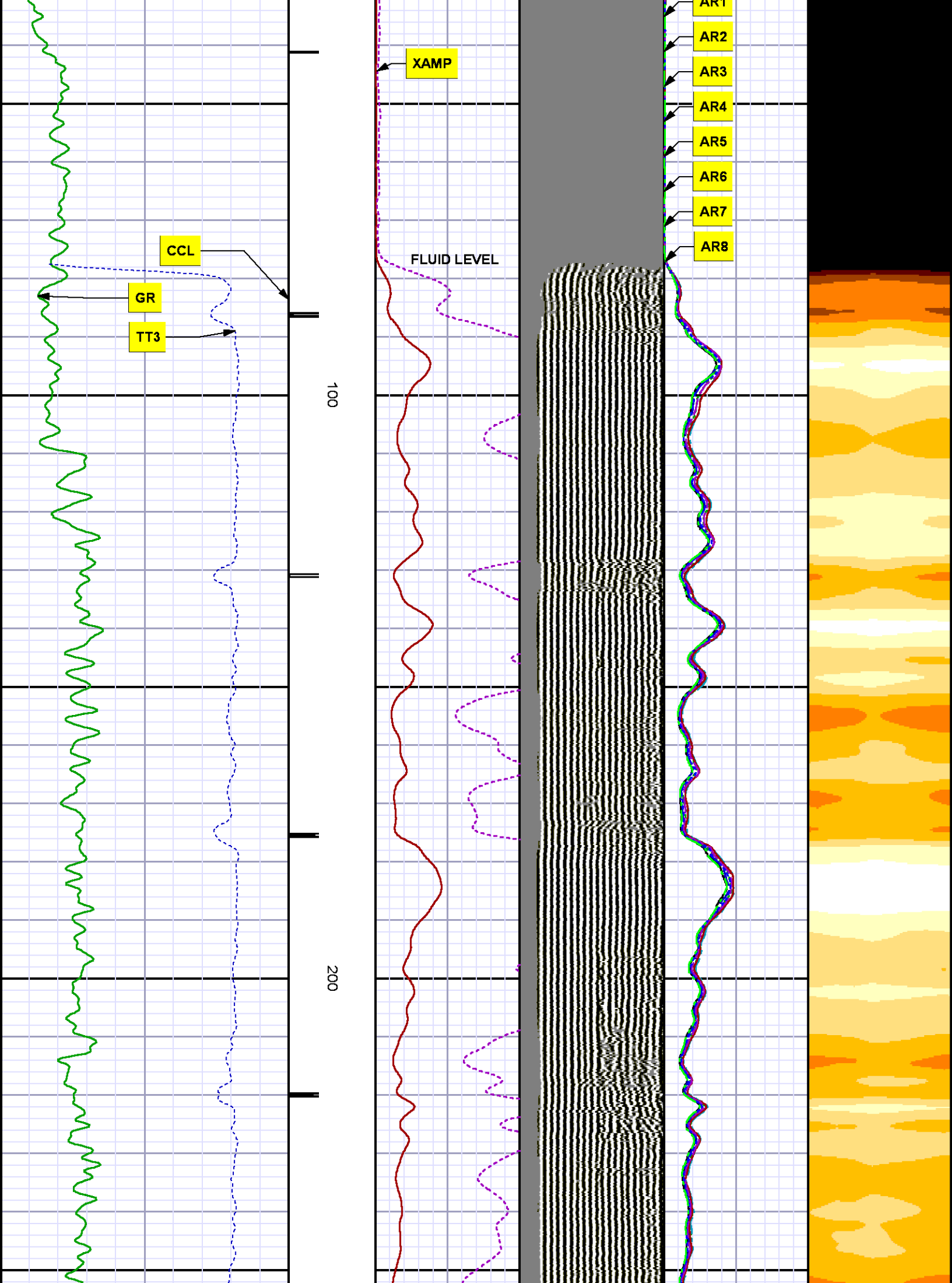
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RAL	FB Start Far	291.900	usec	1312.000	1486.000
RAL	FB Start Near	180.000	usec	1312.000	1486.000
RAL	FB Start Radial	180.000	usec	1312.000	1486.000
RAL	FB Thresh Far	10.000	mv	1312.000	1486.000
RAL	FB Thresh Near	4.000	mv	1312.000	1486.000
RAL	FB Thresh Radial	4.000	mv	1312.000	1486.000
RAL	Fluid Travel Time	200.000	usec/ft	1312.000	1486.000
RAL	Amp Gate Start Far	305.000	usec	1510.093	10741.000
RAL	Amp Gate Start Near	195.000	usec	1510.093	10741.000
RAL	Amp Gate Start Radial	195.000	usec	1510.093	10741.000
RAL	Amp Gate Width Far	25.000	usec	1510.093	10741.000
RAL	Amp Gate Width Near	25.000	usec	1510.093	10741.000
RAL	Amp Gate Width Radial	25.000	usec	1510.093	10741.000
RAL	casing od	4.500	inches	1510.093	10741.000
RAL	casing wt	11.600	lbm/ft	1510.093	10741.000
RAL	FB Start Far	291.900	usec	1510.093	10741.000
RAL	FB Start Near	180.000	usec	1510.093	10741.000

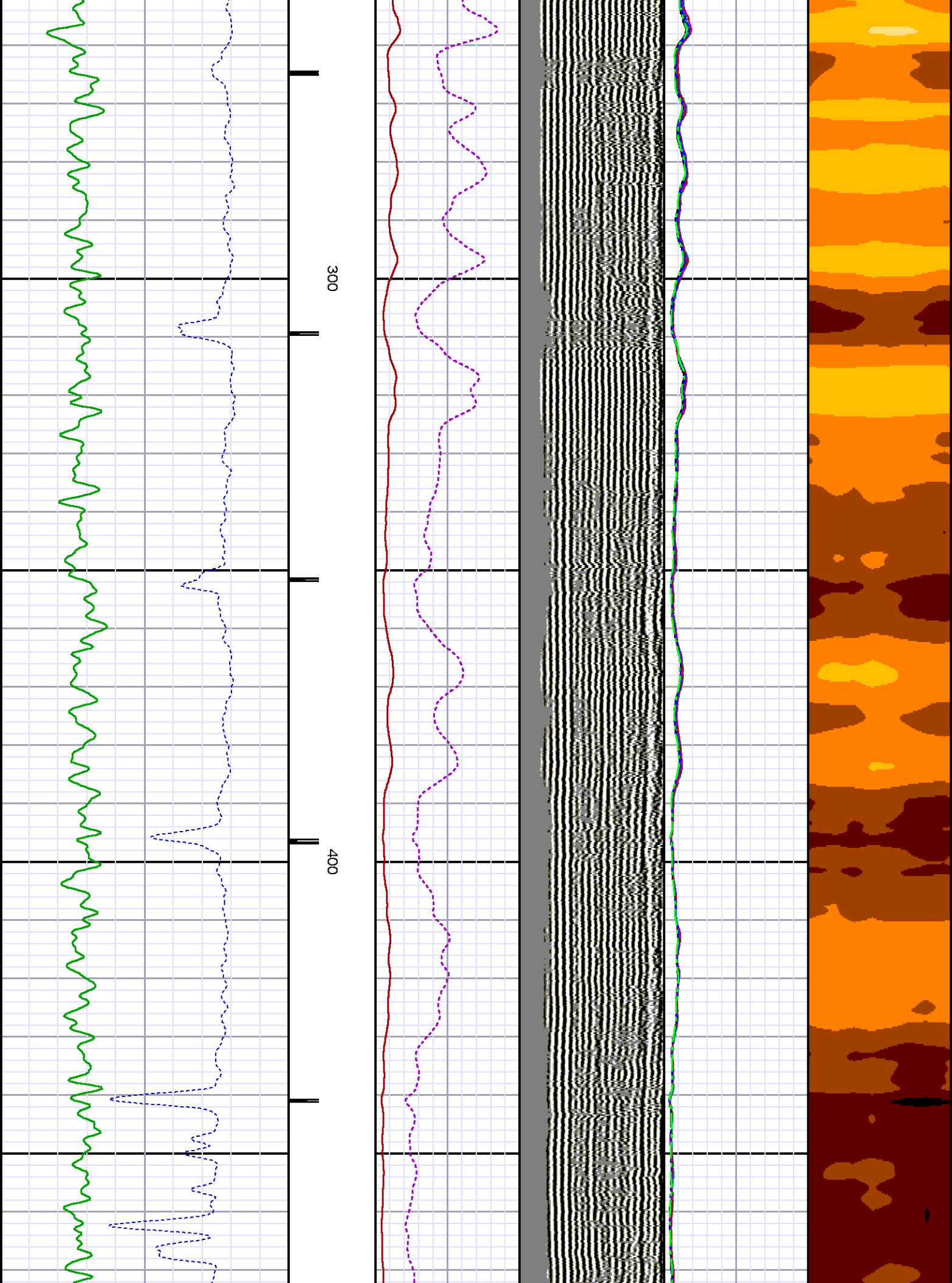
RAL	FB Start Radial	180.000	u sec	1510.093	10741.000
RAL	FB Thresh Far	10.000	mv	1510.093	10741.000
RAL	FB Thresh Near	4.000	mv	1510.093	10741.000
RAL	FB Thresh Radial	4.000	mv	1510.093	10741.000
RAL	Fluid Travel Time	200.000	u sec/ft	1510.093	10741.000

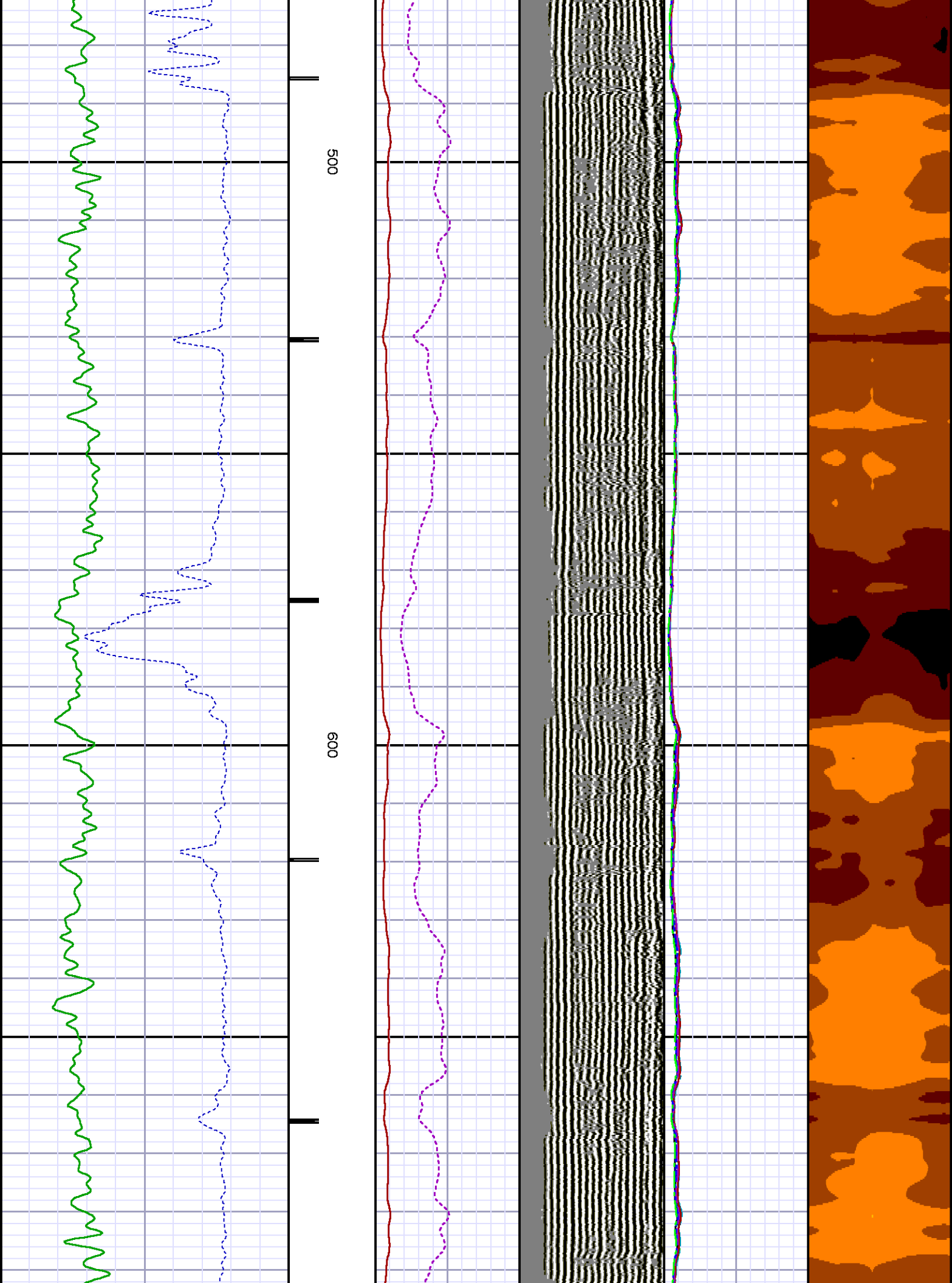
DEPTH OFFSETS
(for Acquired Curves)

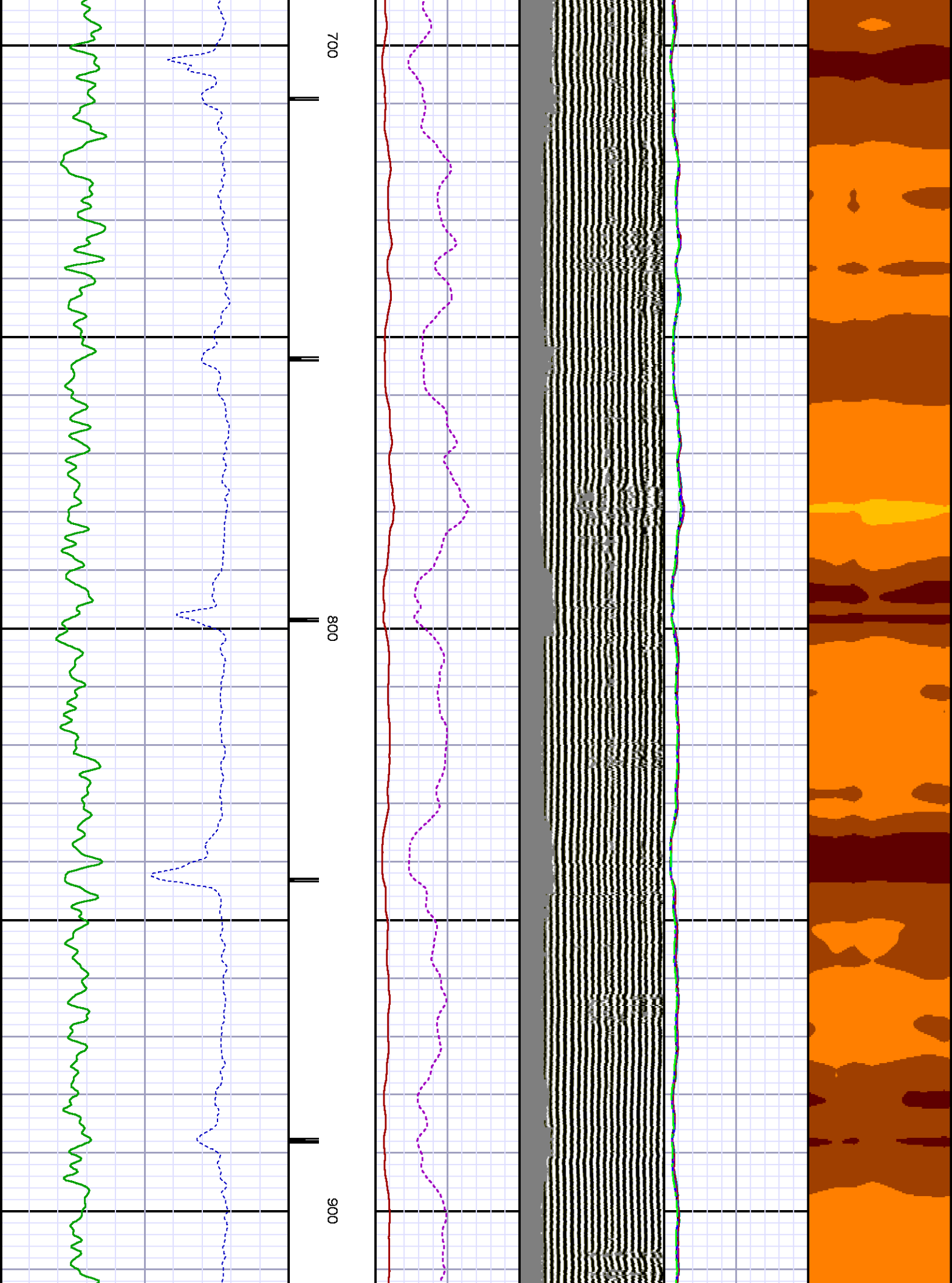
SERIES	DEPTH OFFSET	ACQUIRED CURVES
1426XA	-11.000	ACAL ANR AR1 AR2 AR3 AR4 AR5 AR6 AR7 AR8 CHV FPR2 FPR3 FPR5 TT3 TTR1 TTR2 TTR3 TTR4 TTR5 TTR6 TTR7 TTR8 XAMP
1426XA	-10.040	AFAR SIG TT5
1355XA	-5.620	CCL
1355XA	-1.500	GR
1355XA	0.000	TEMP

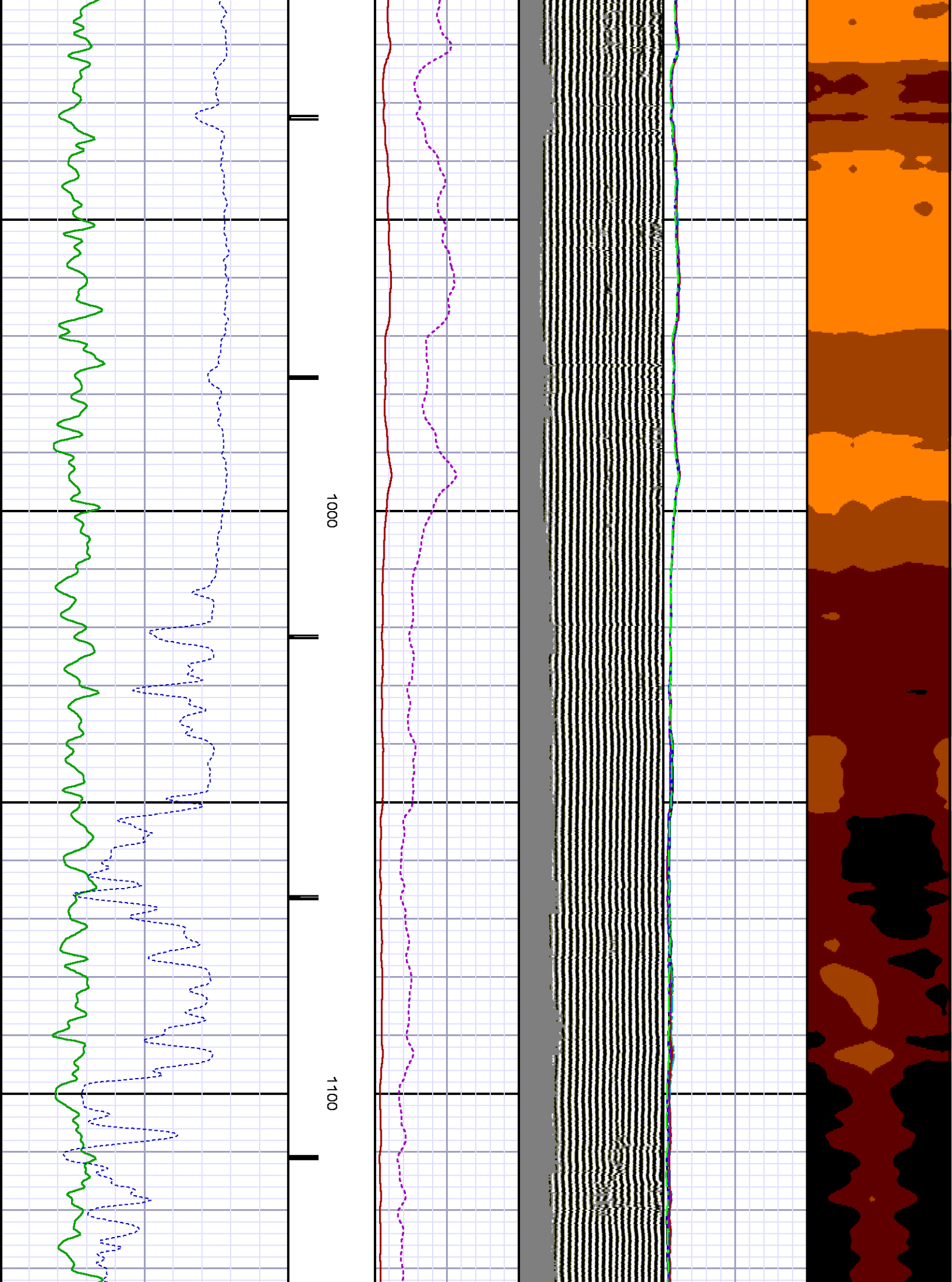


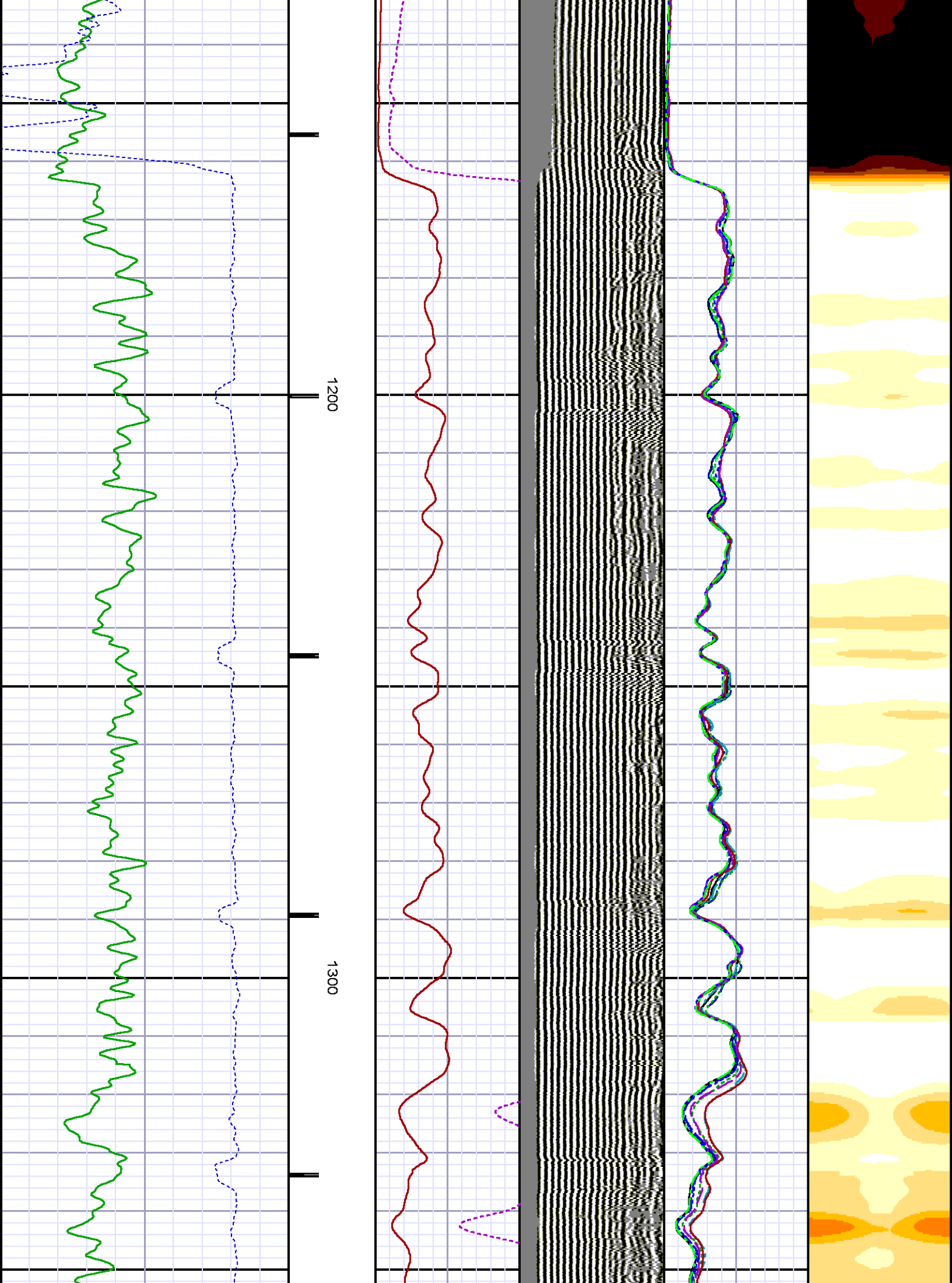


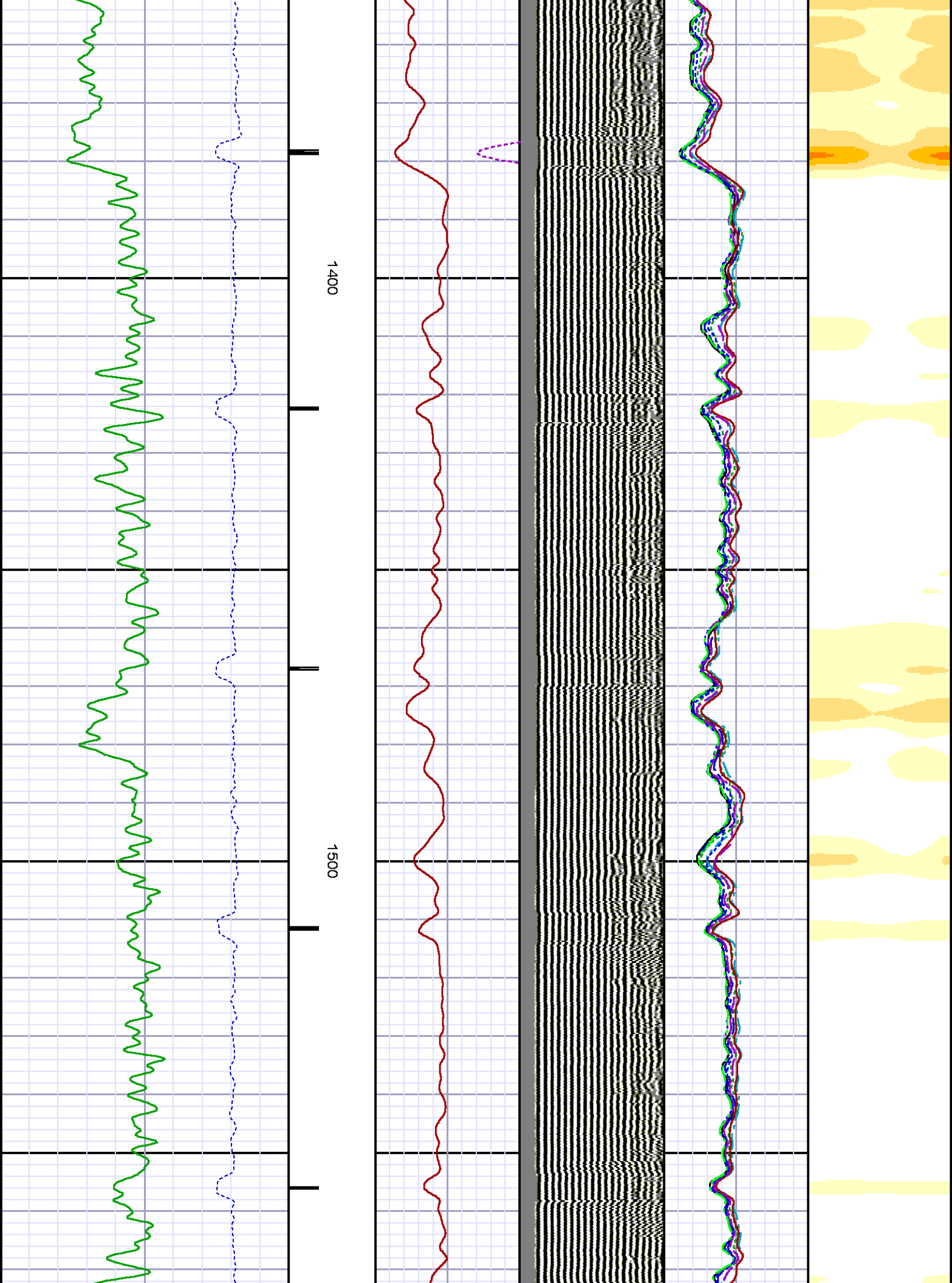


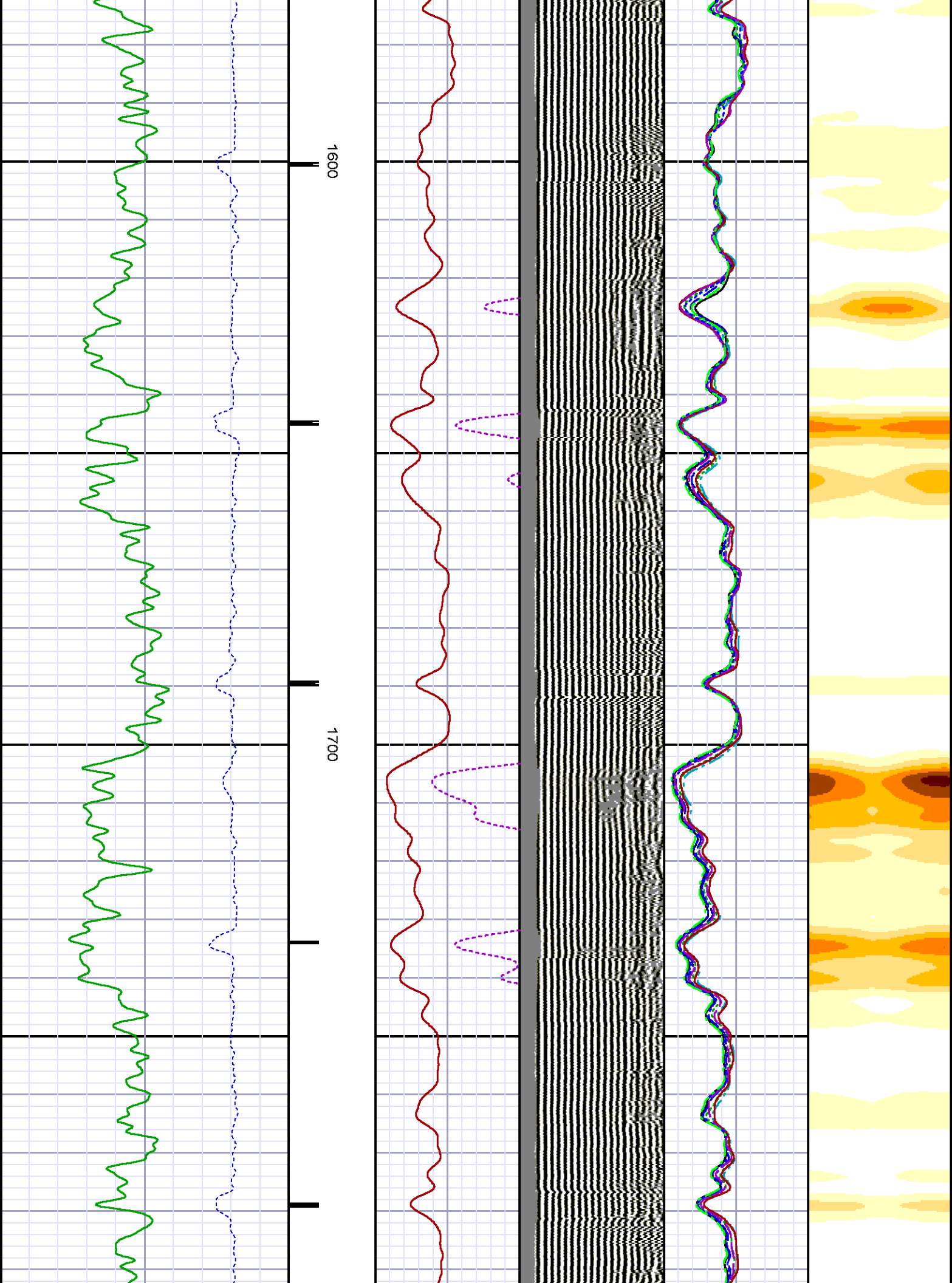


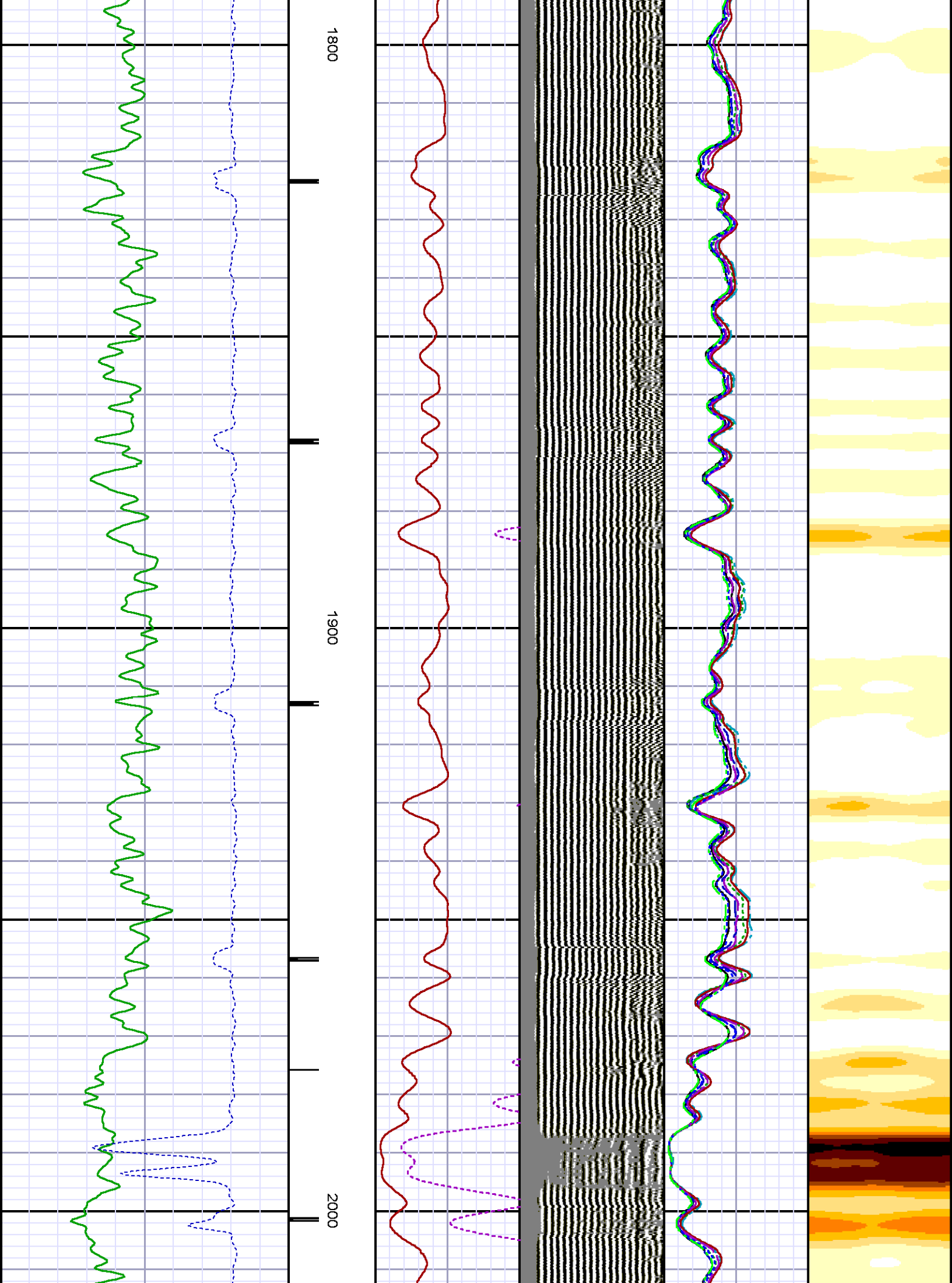


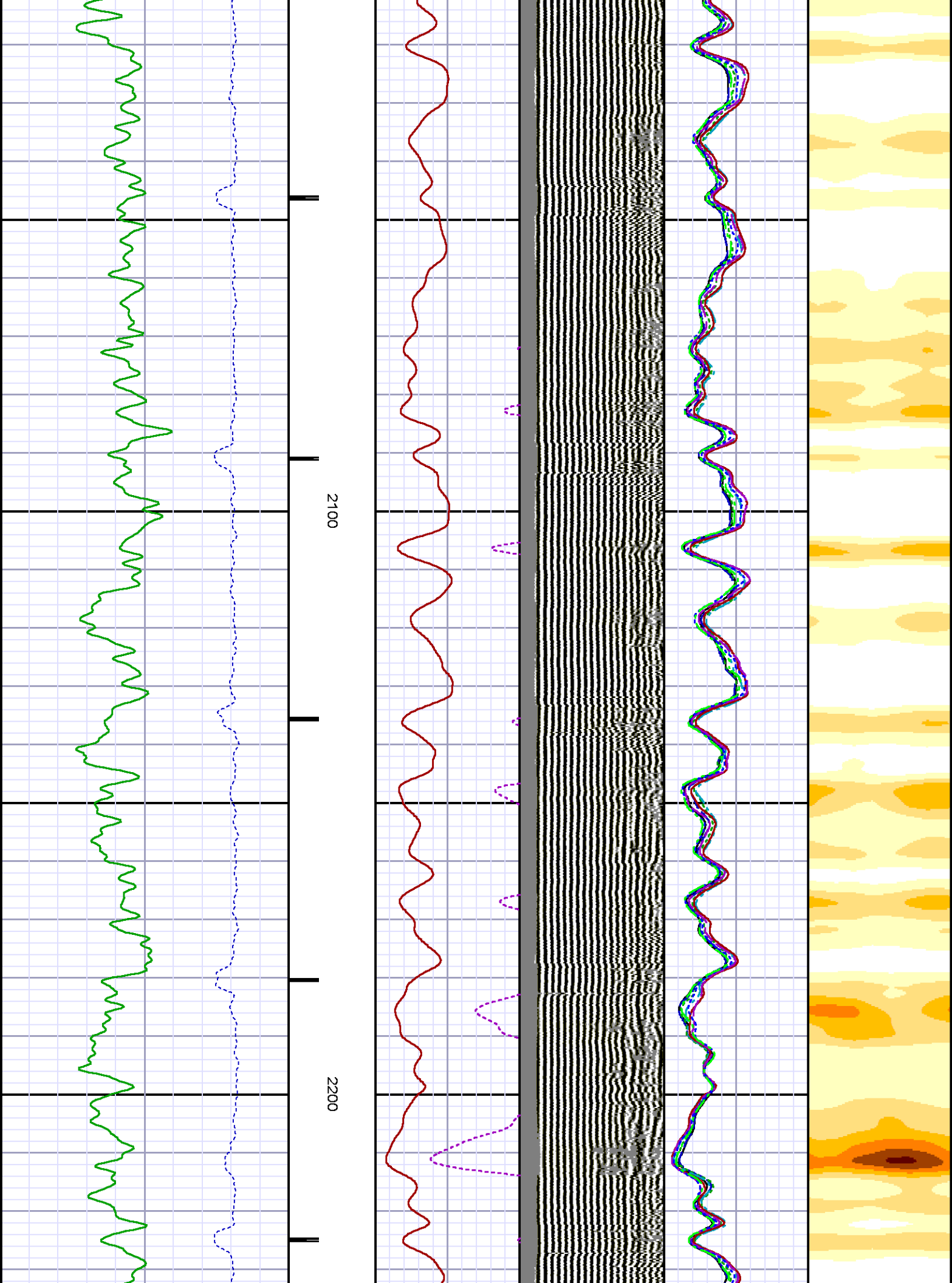


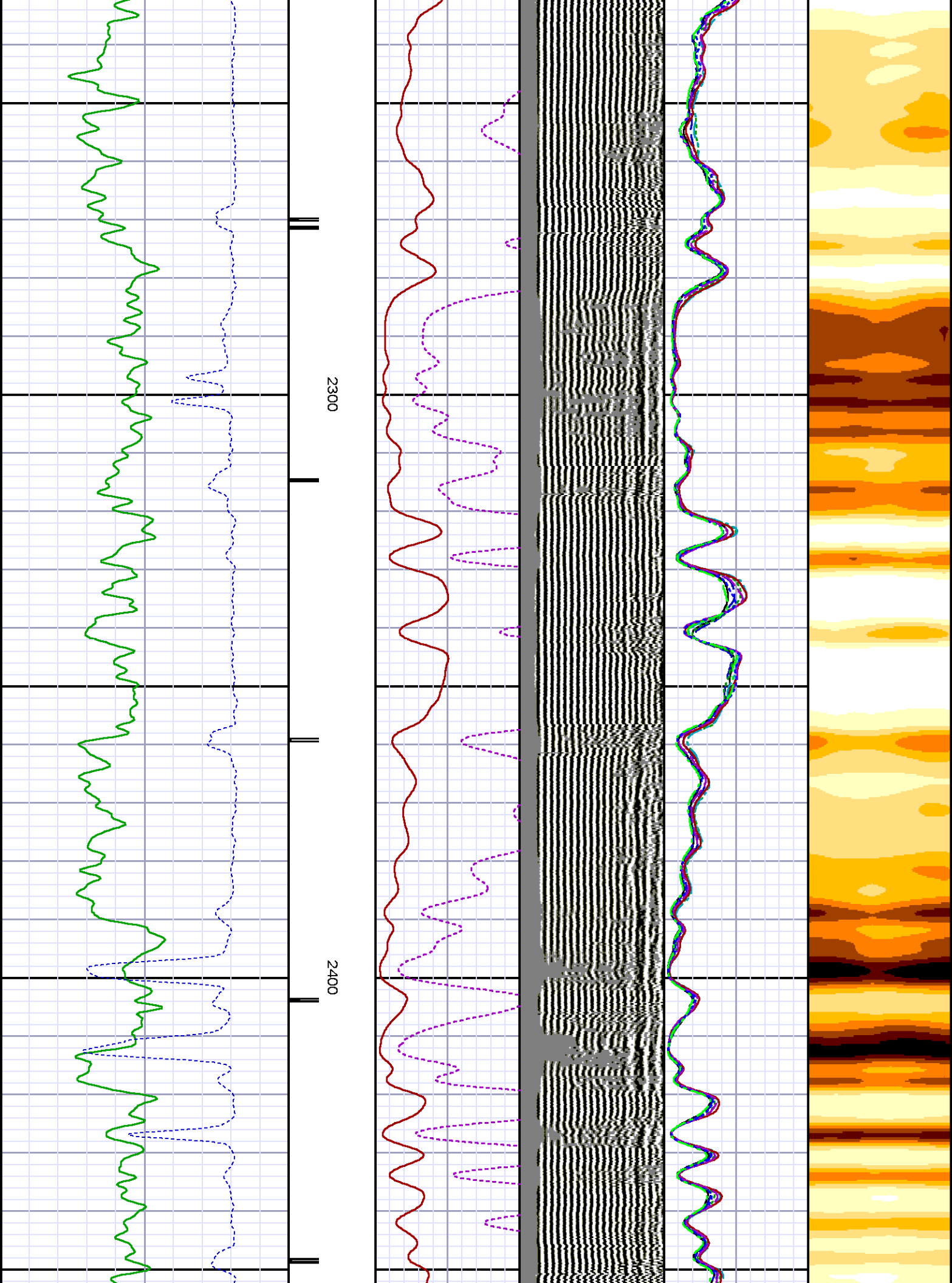


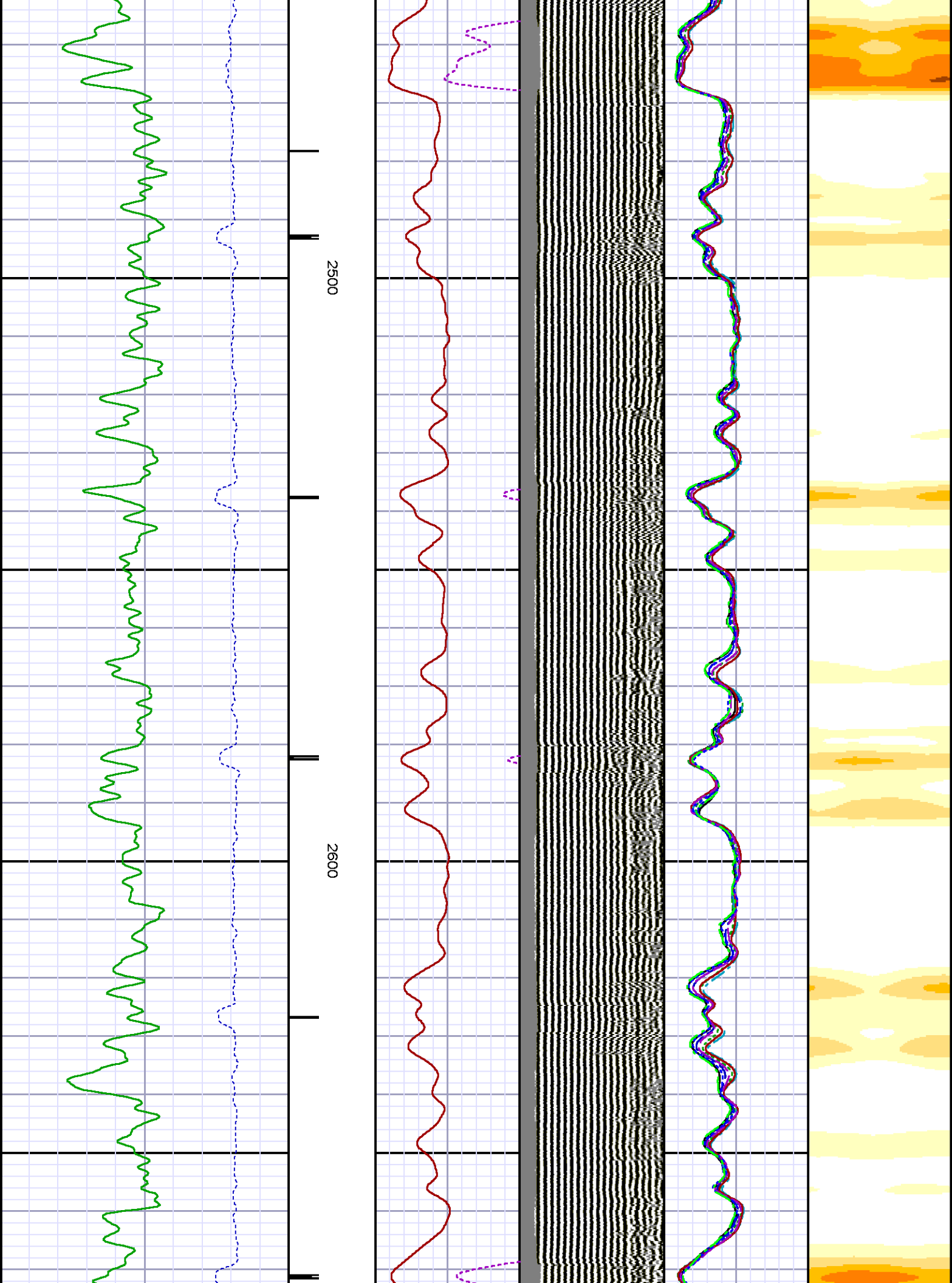


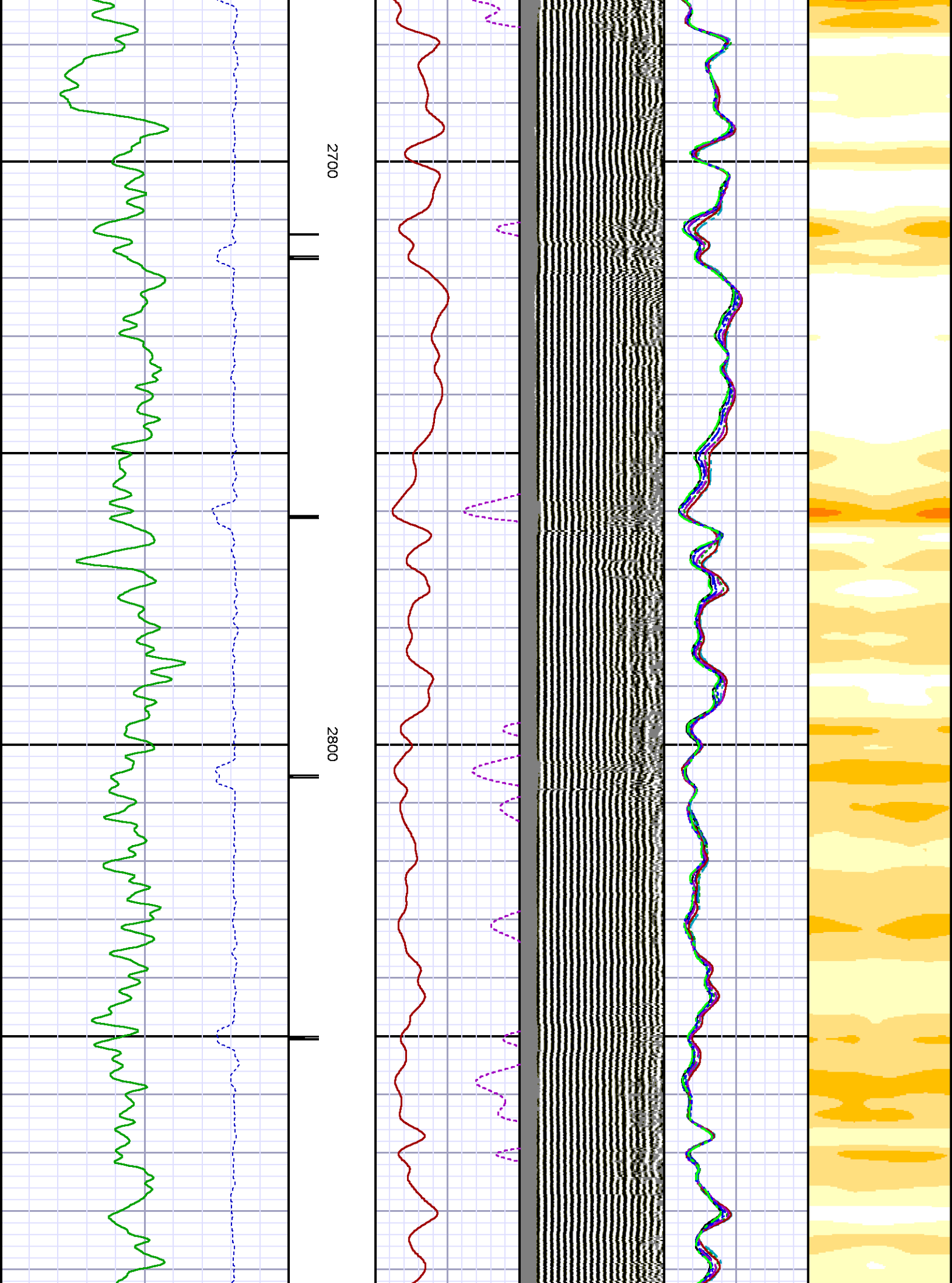


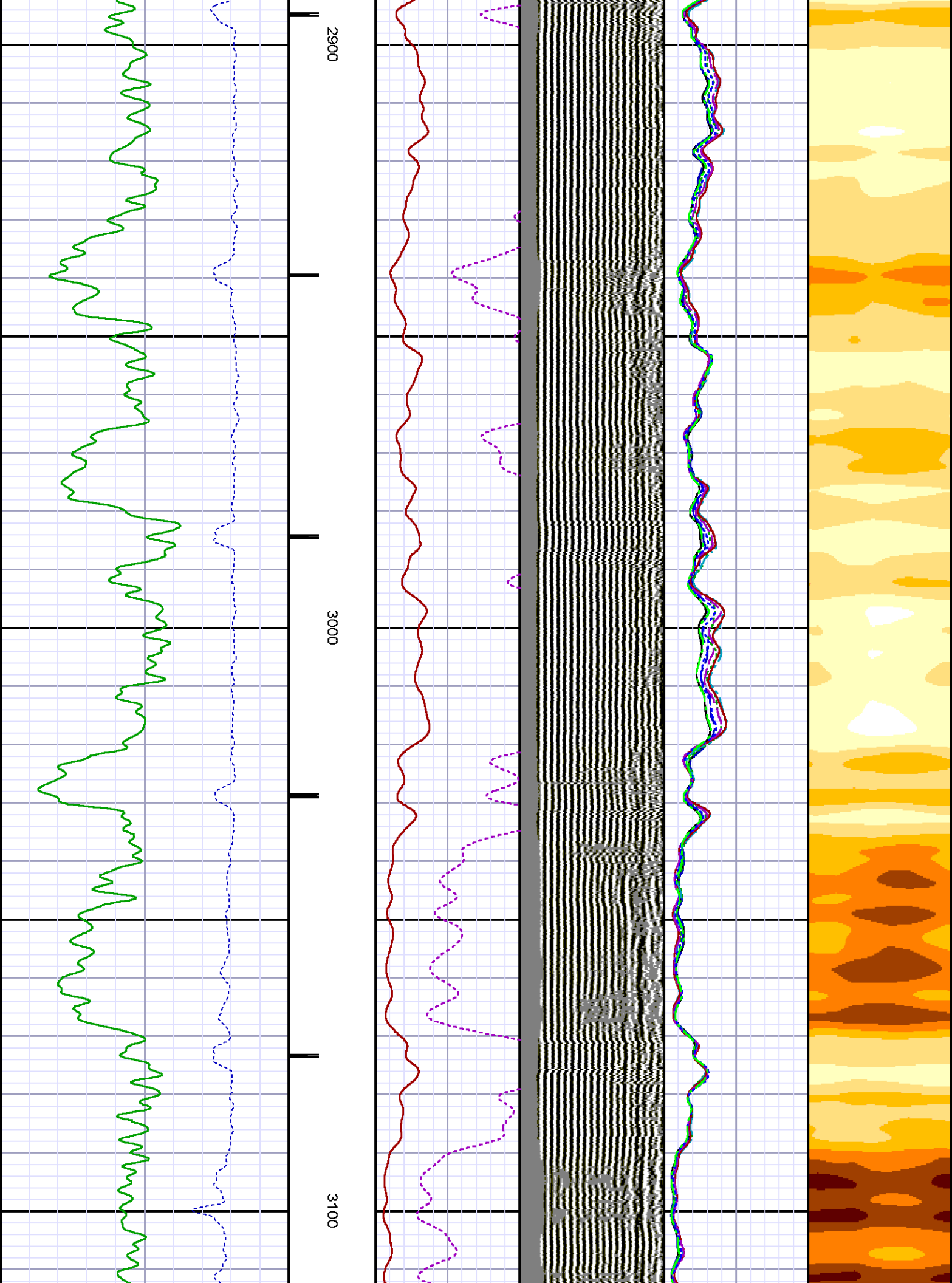


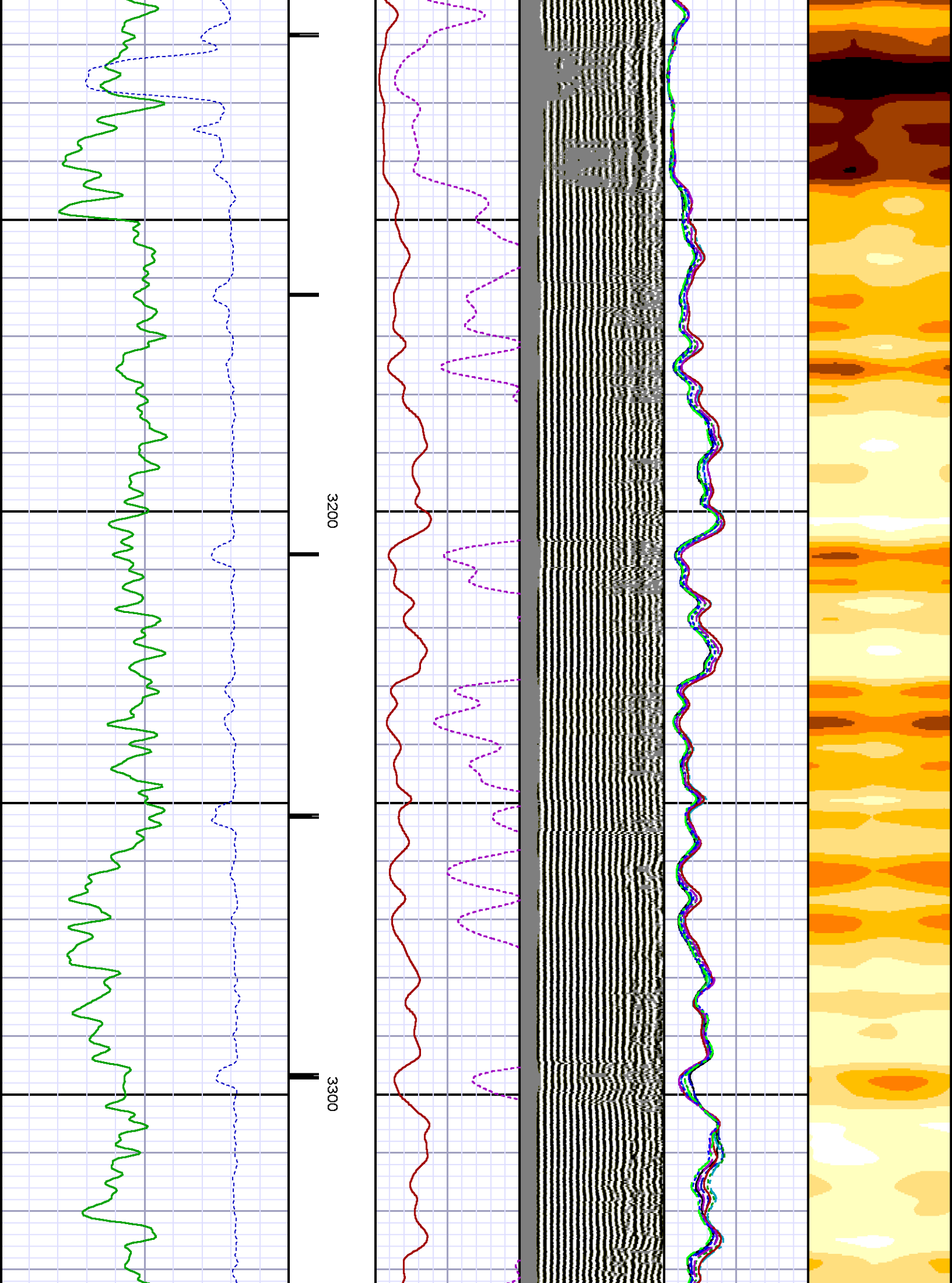


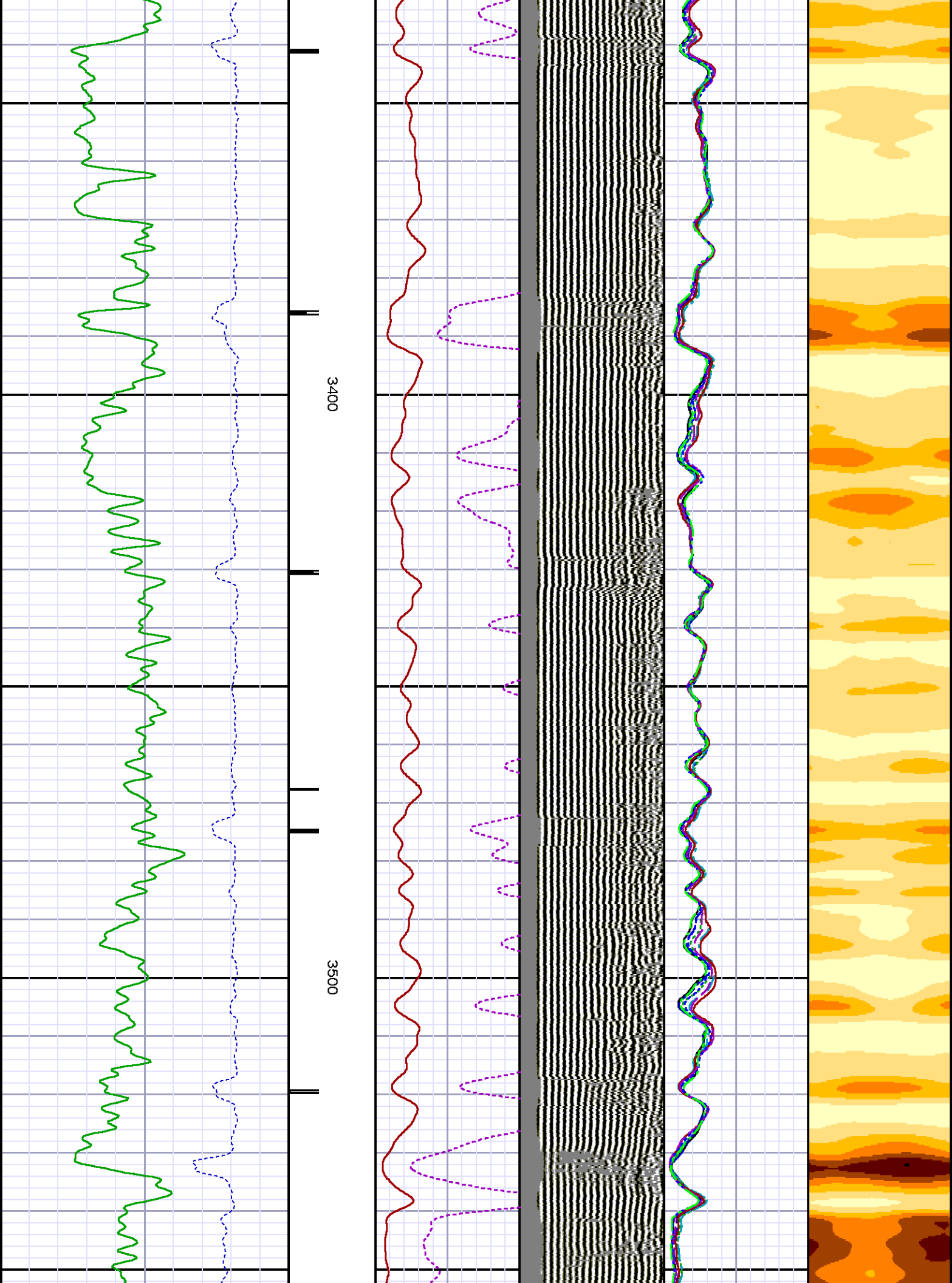


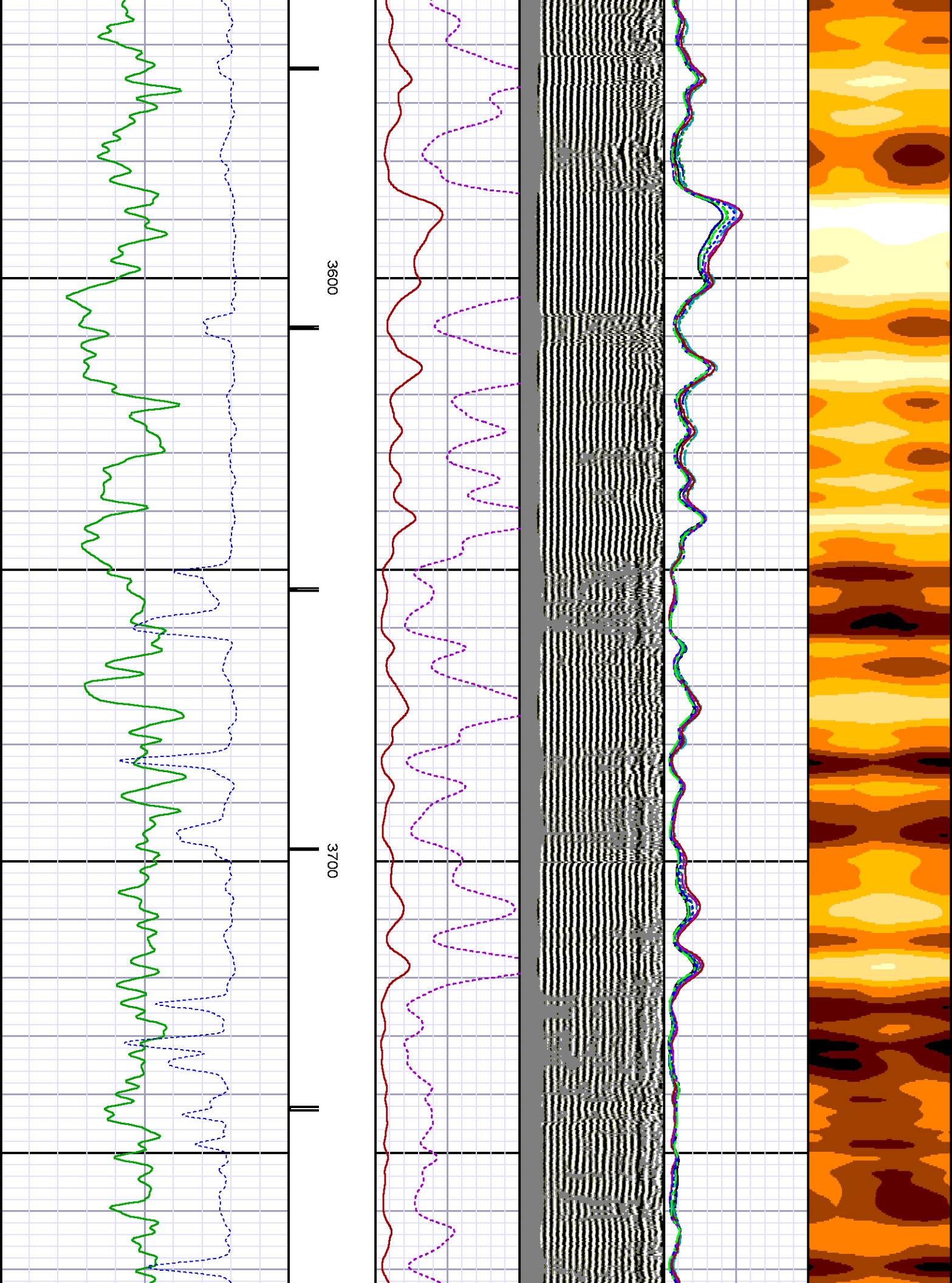


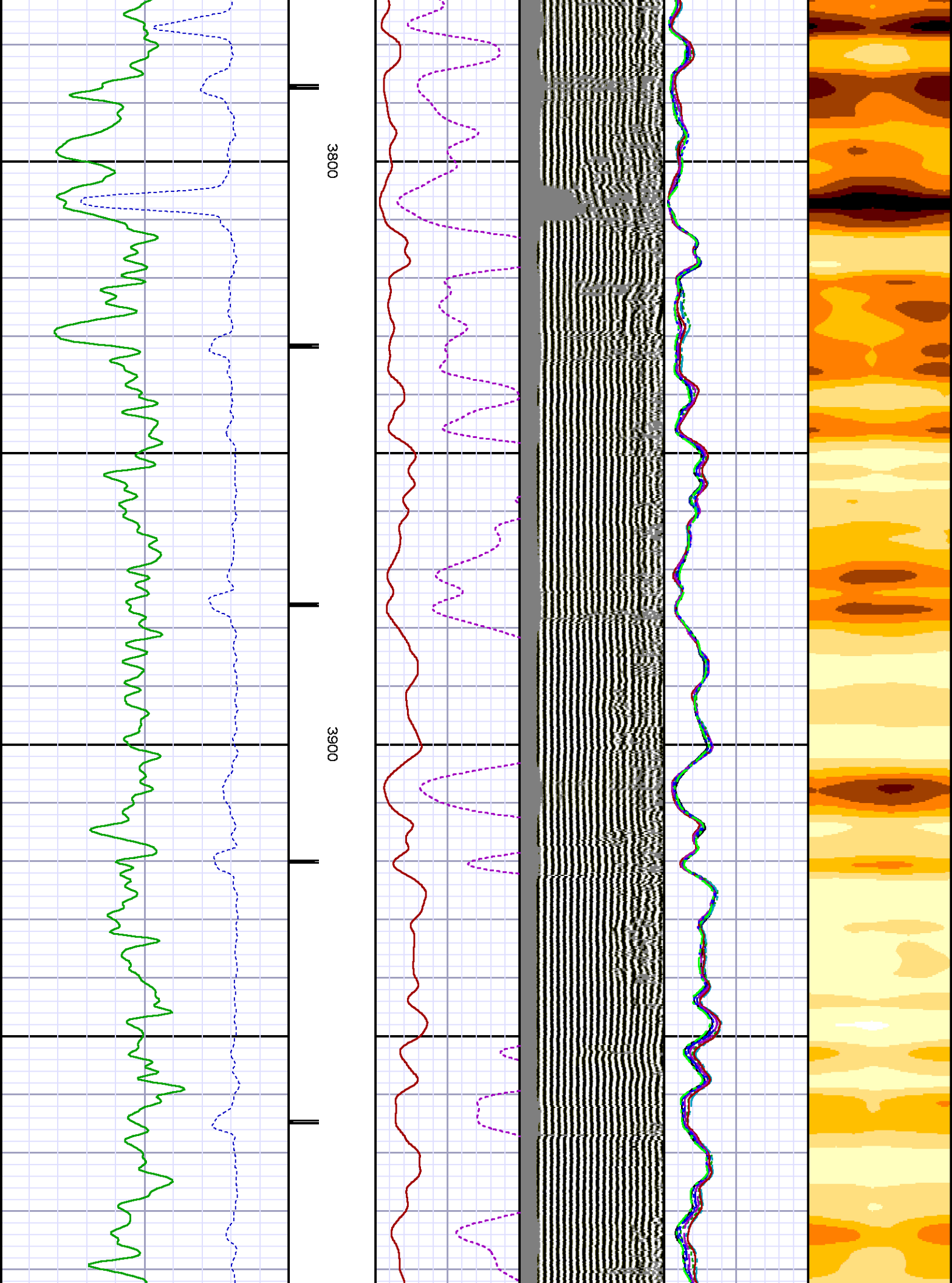


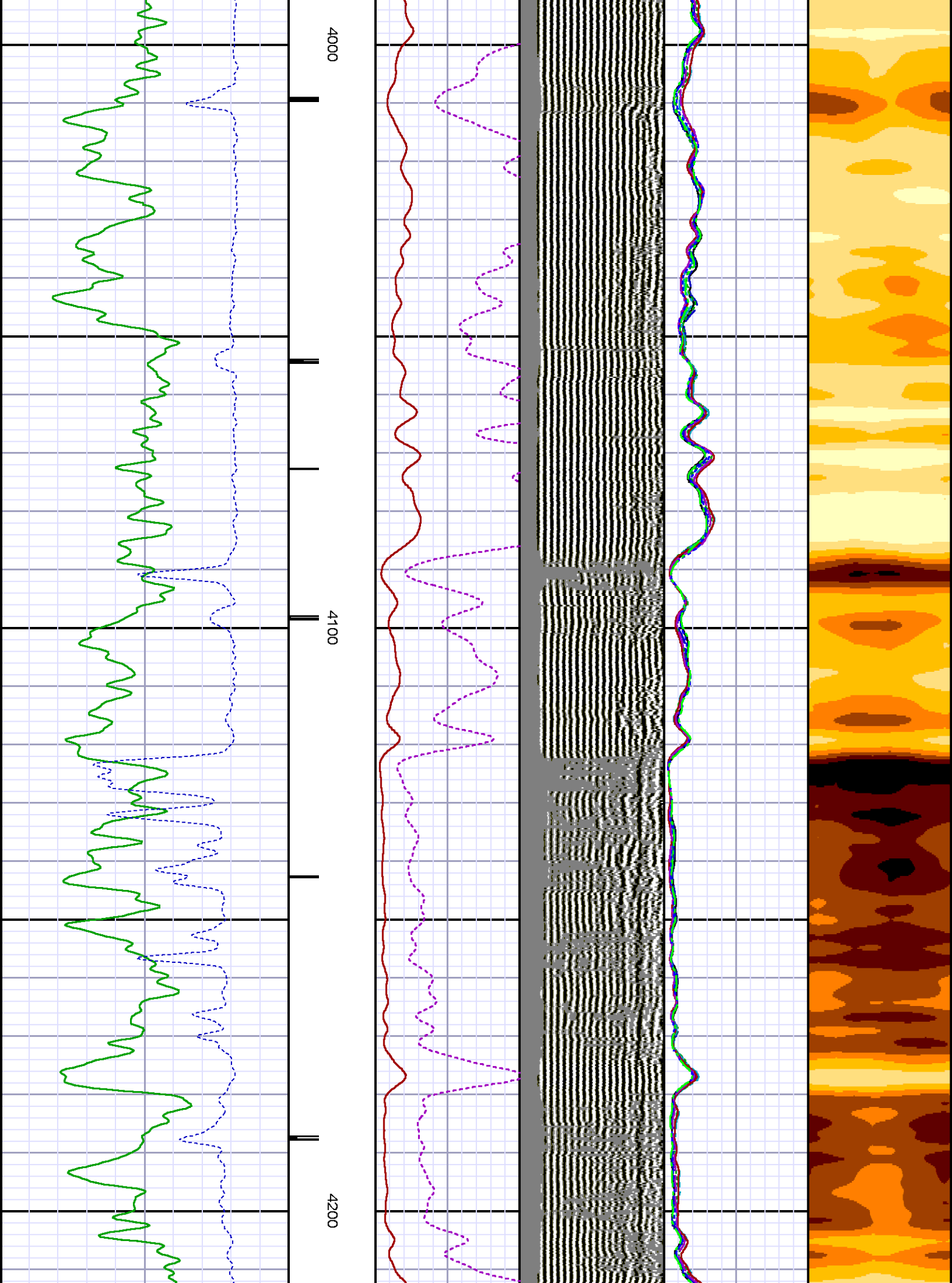


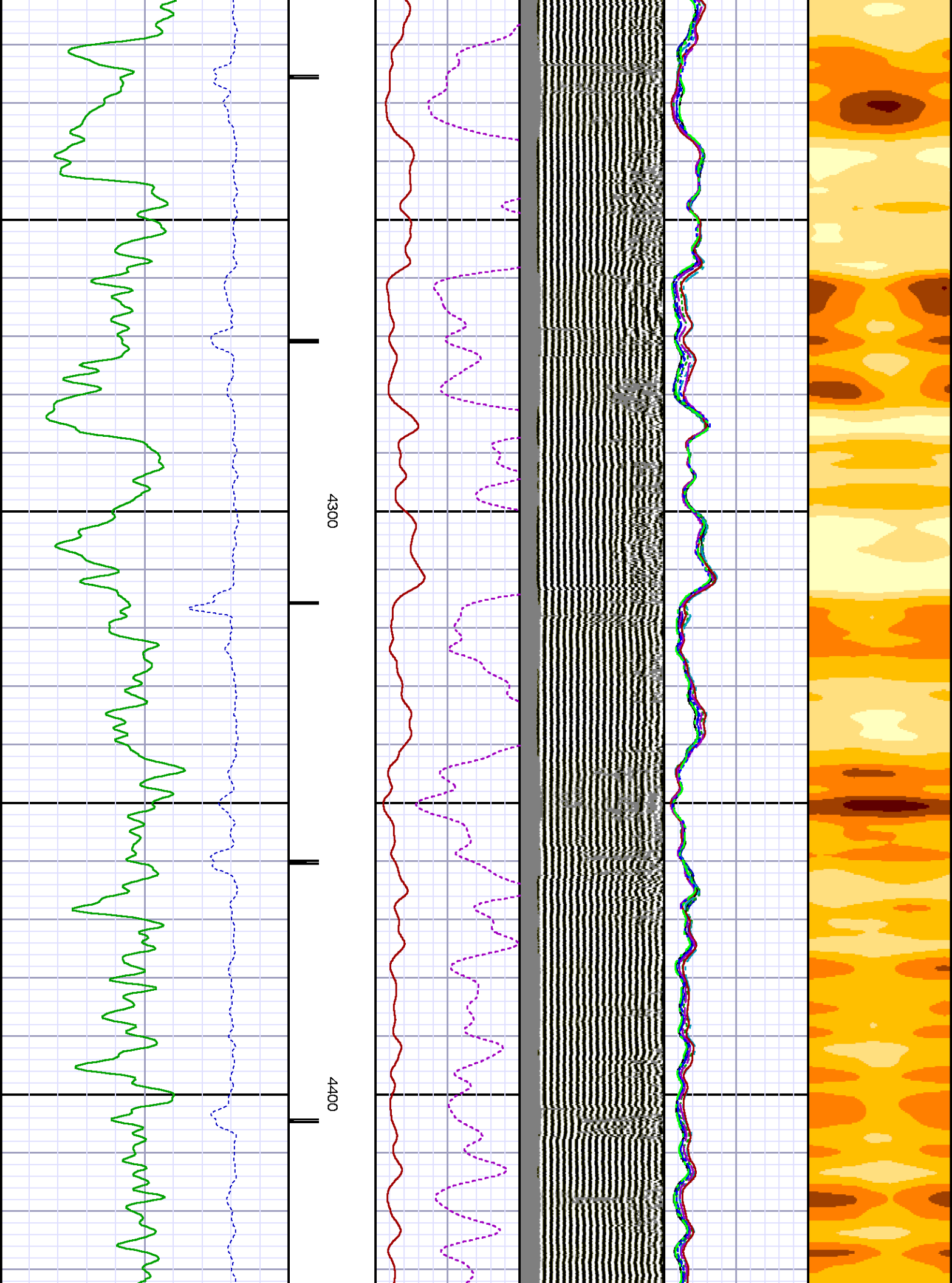


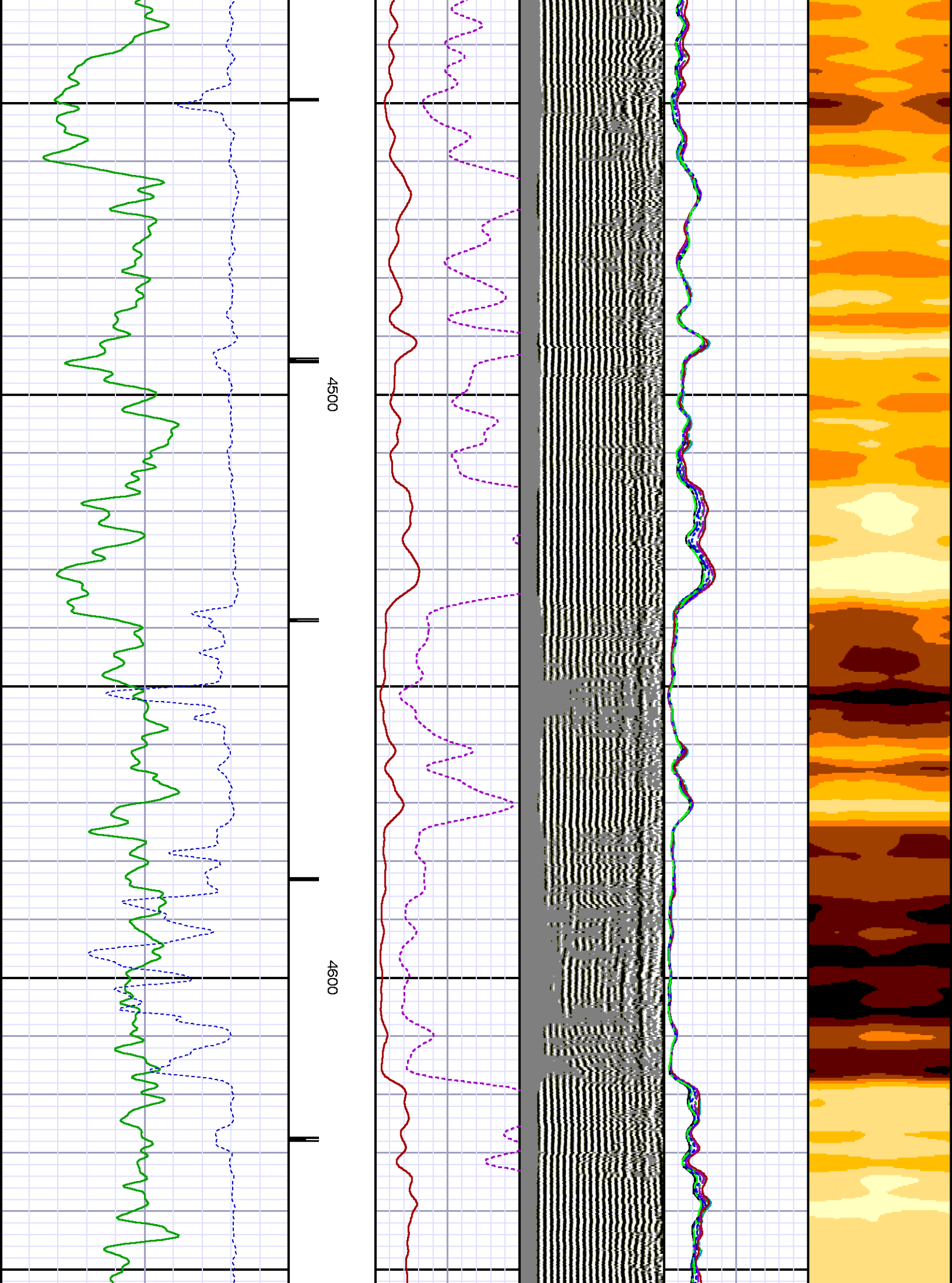


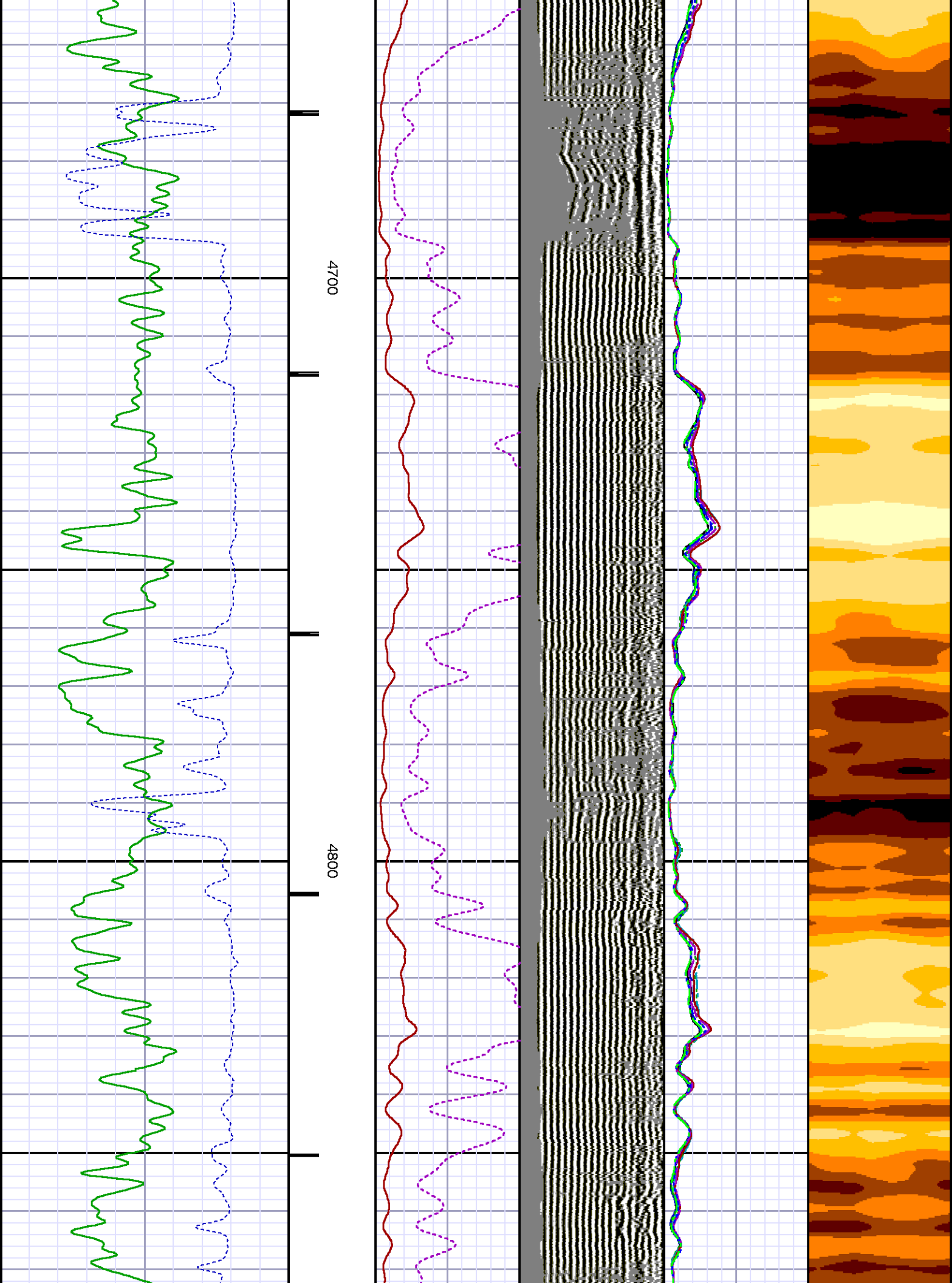


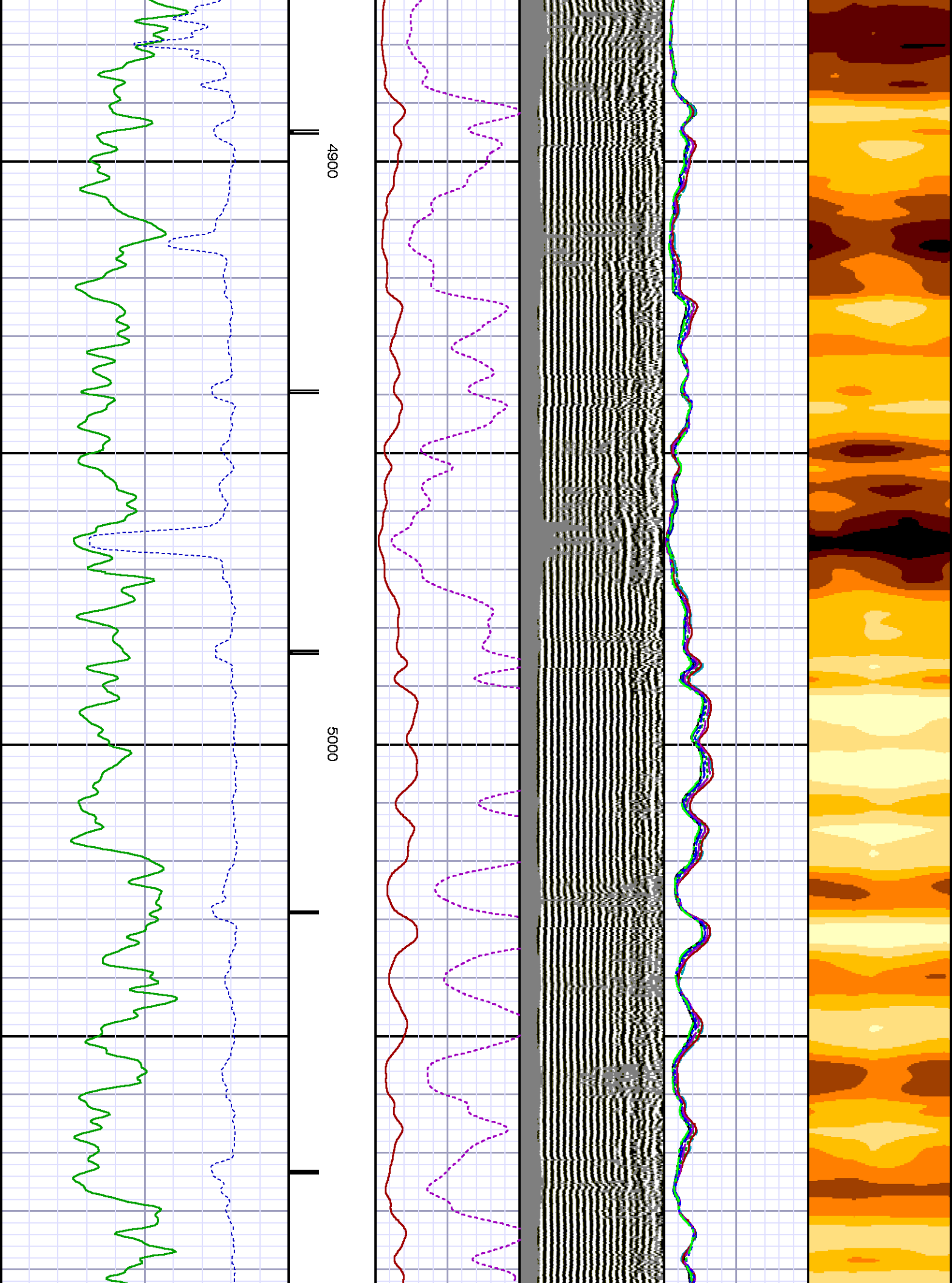


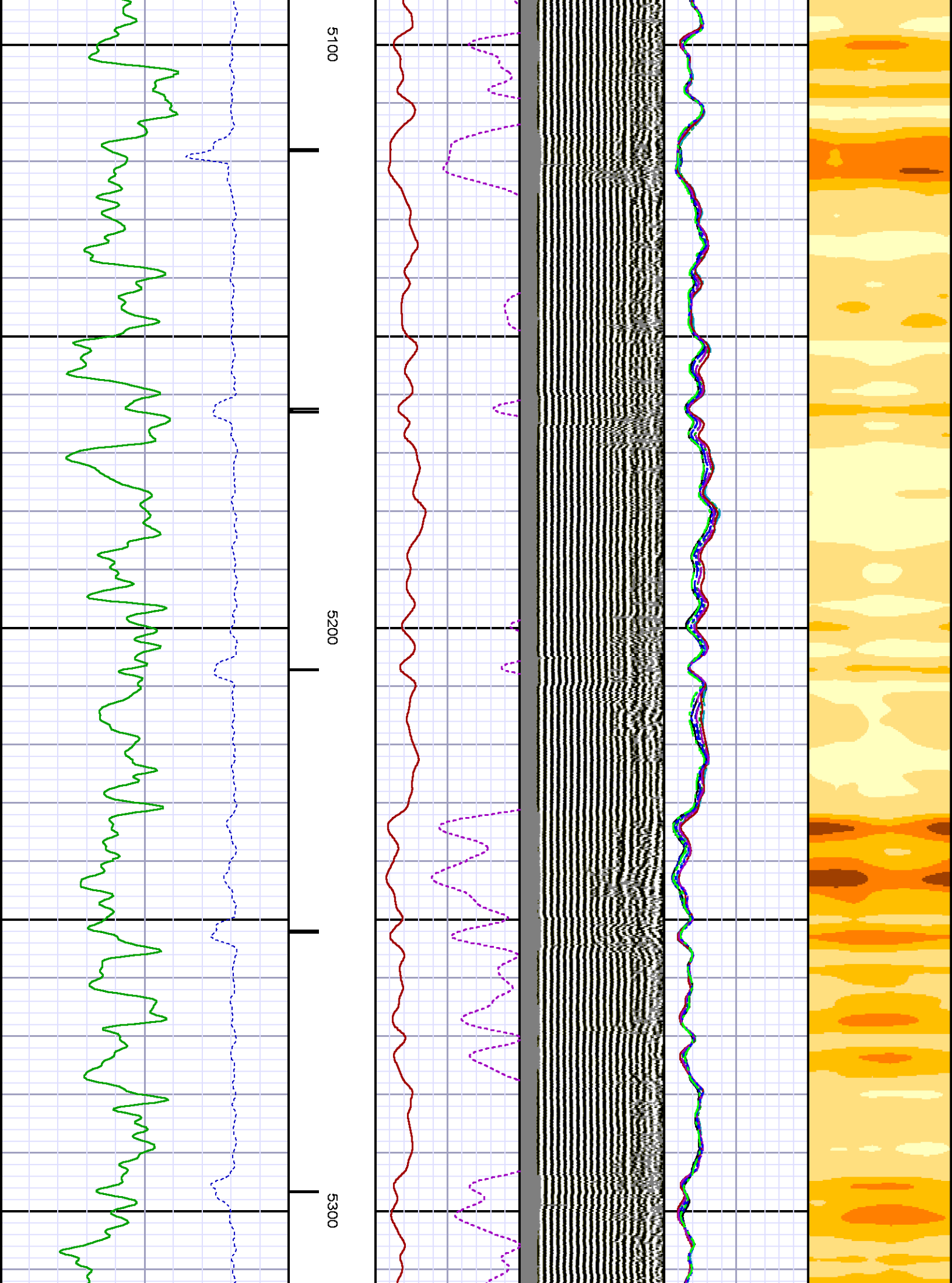


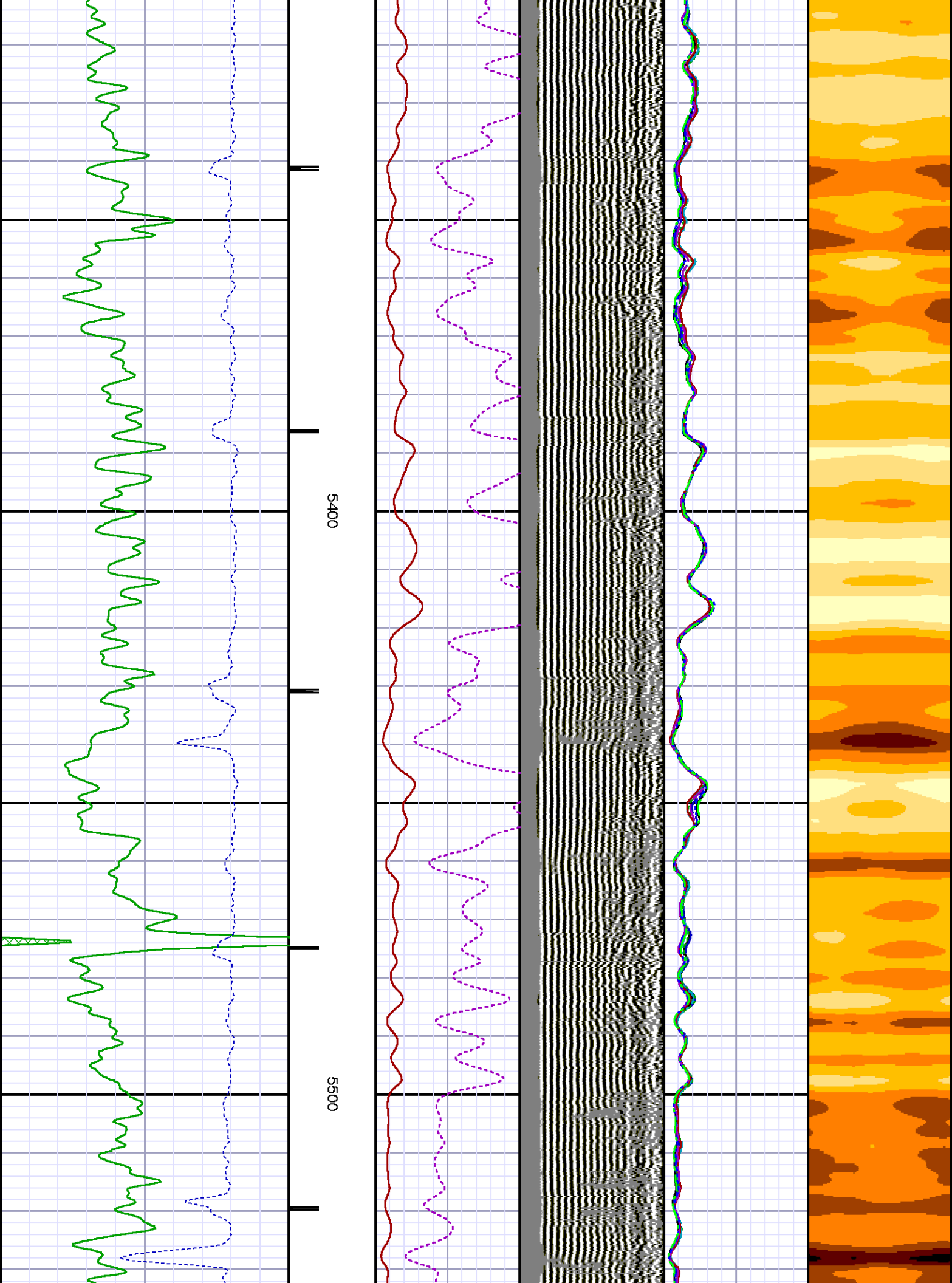


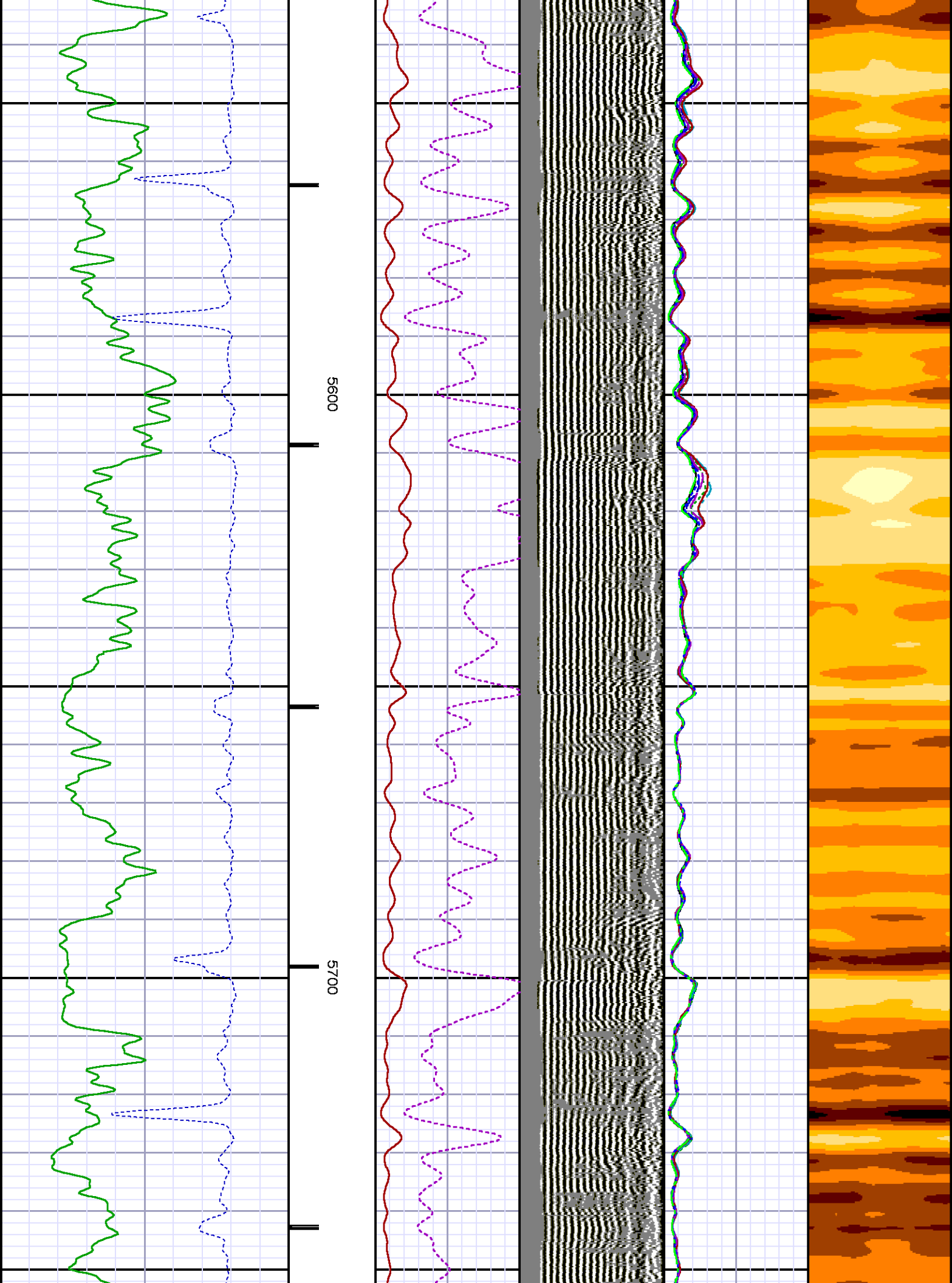


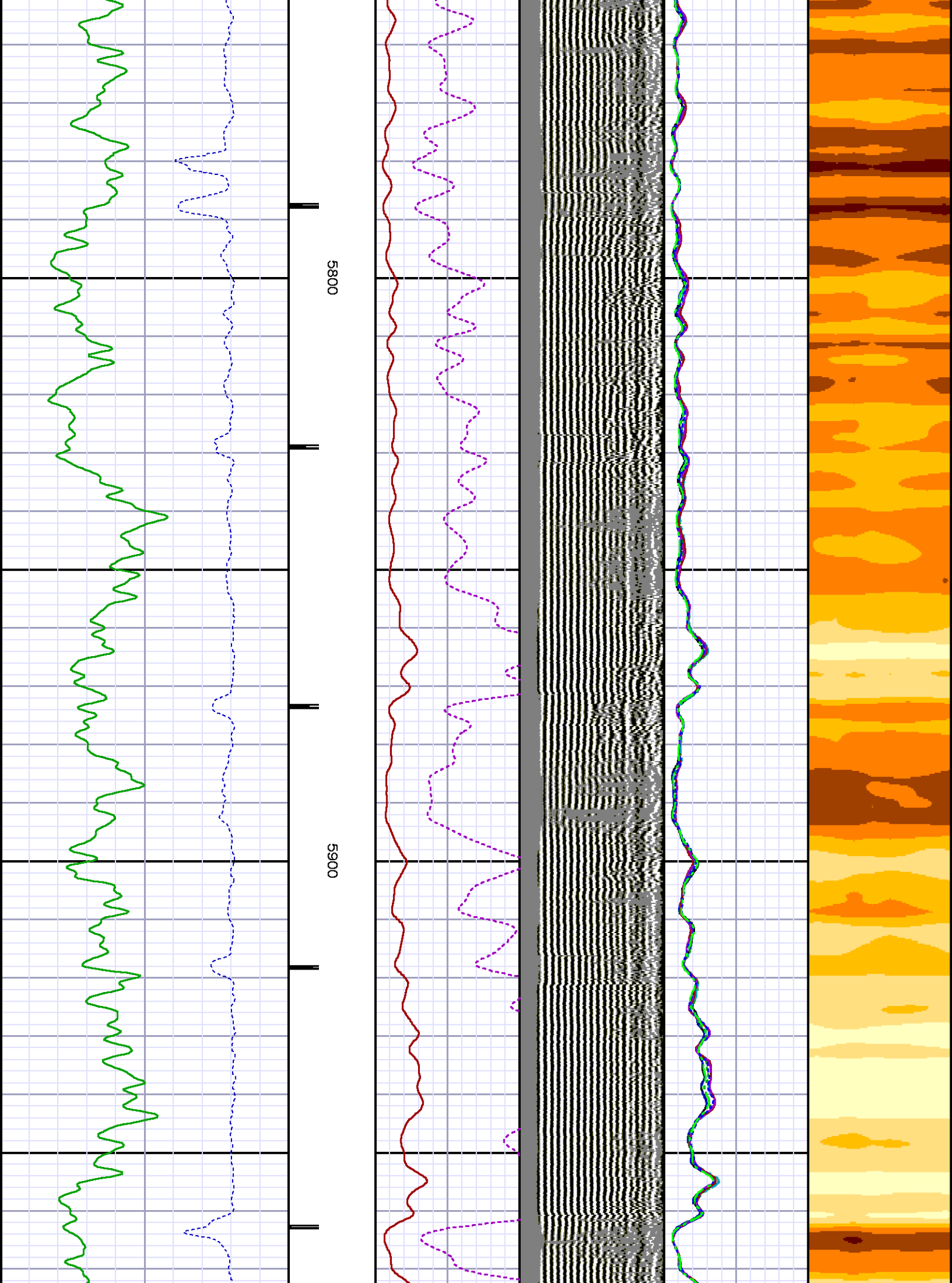


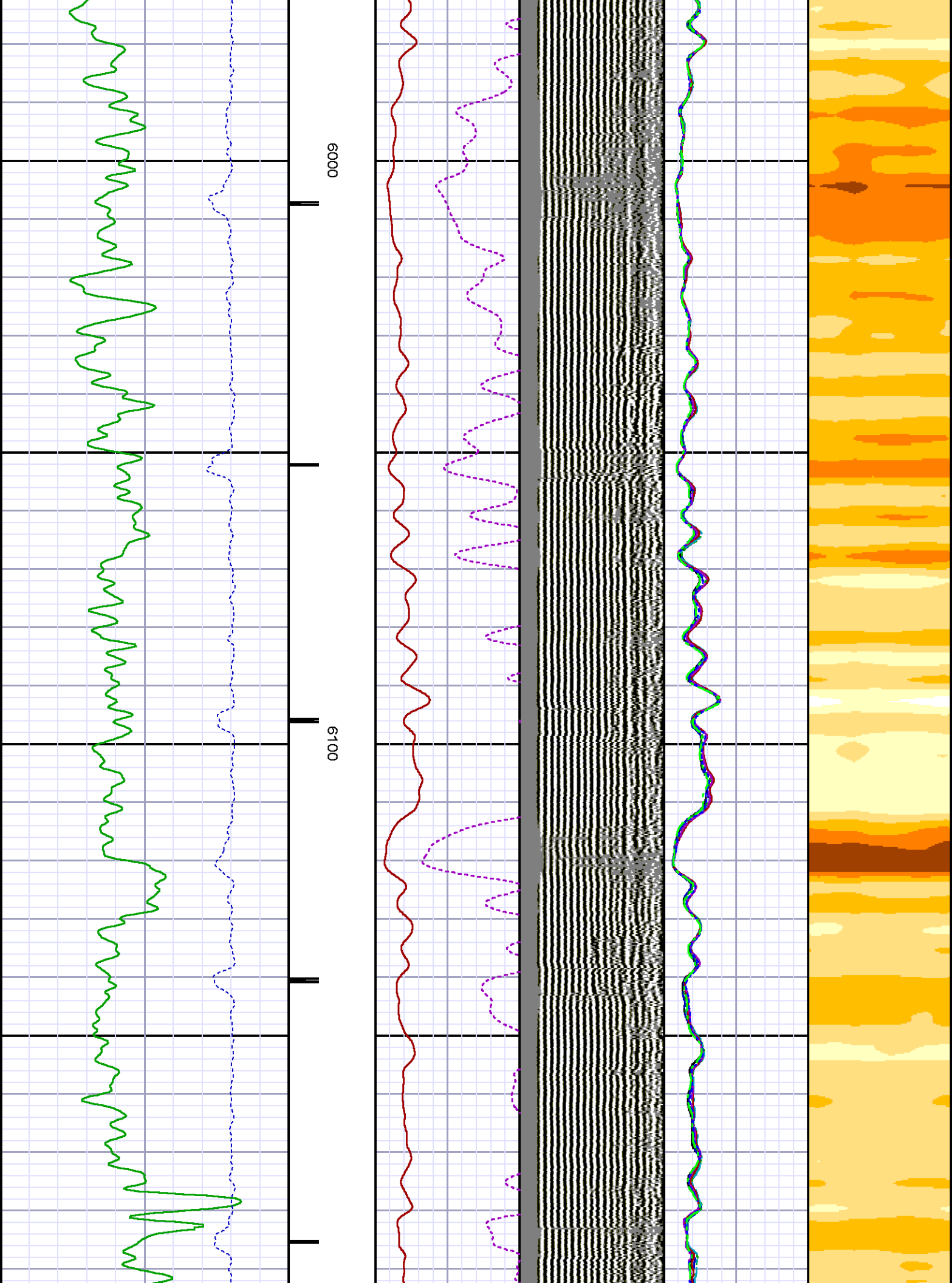


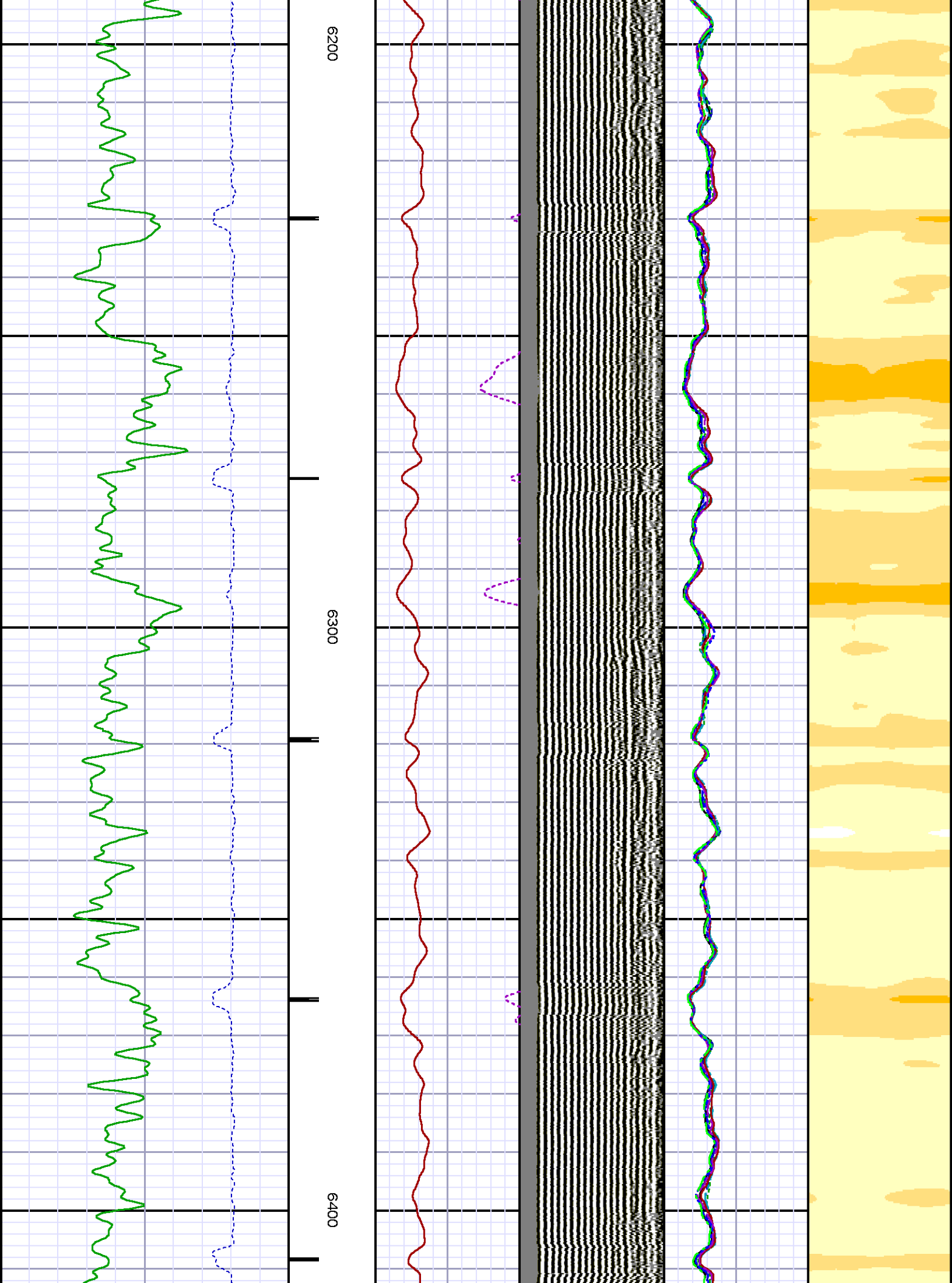


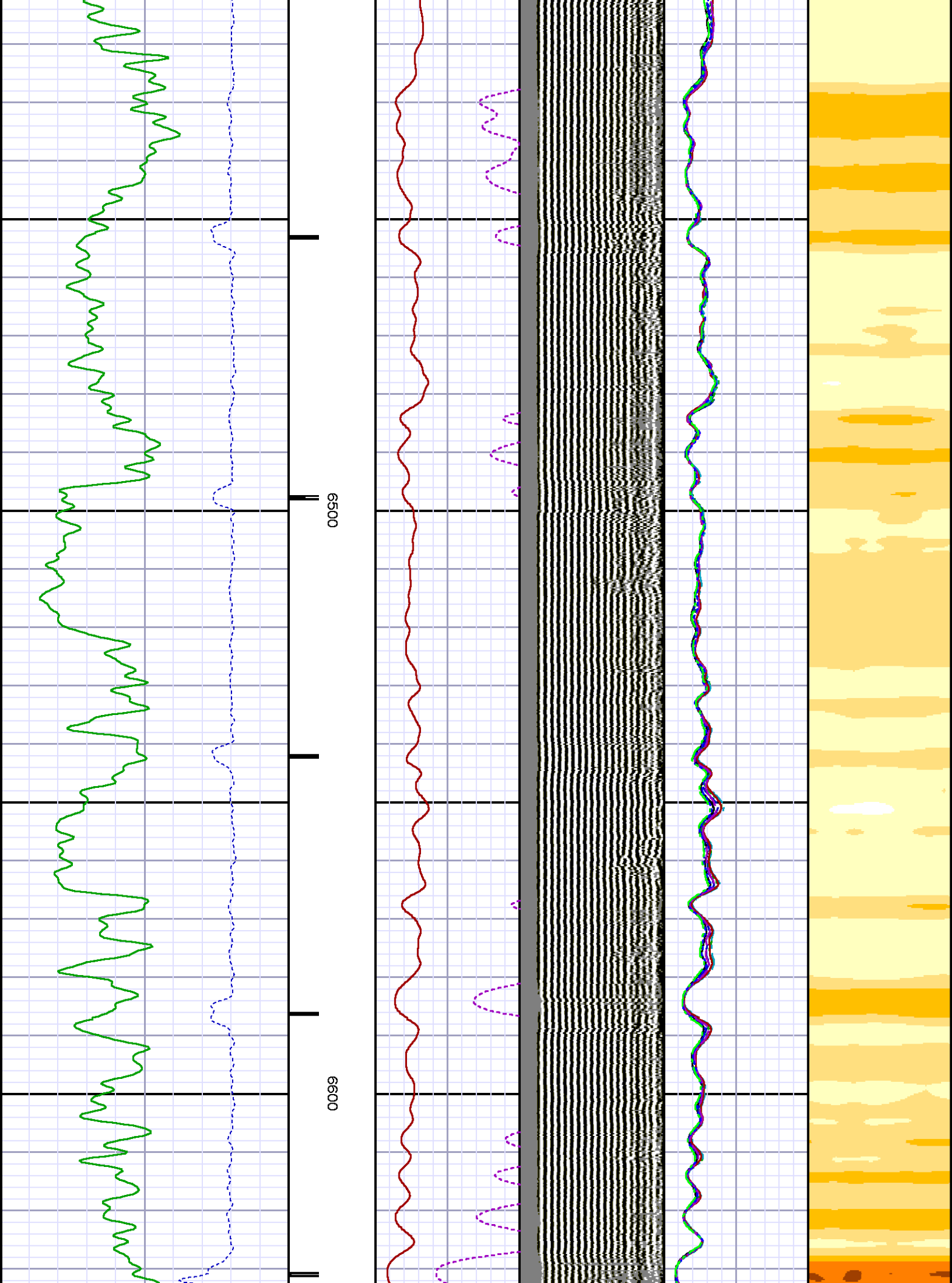


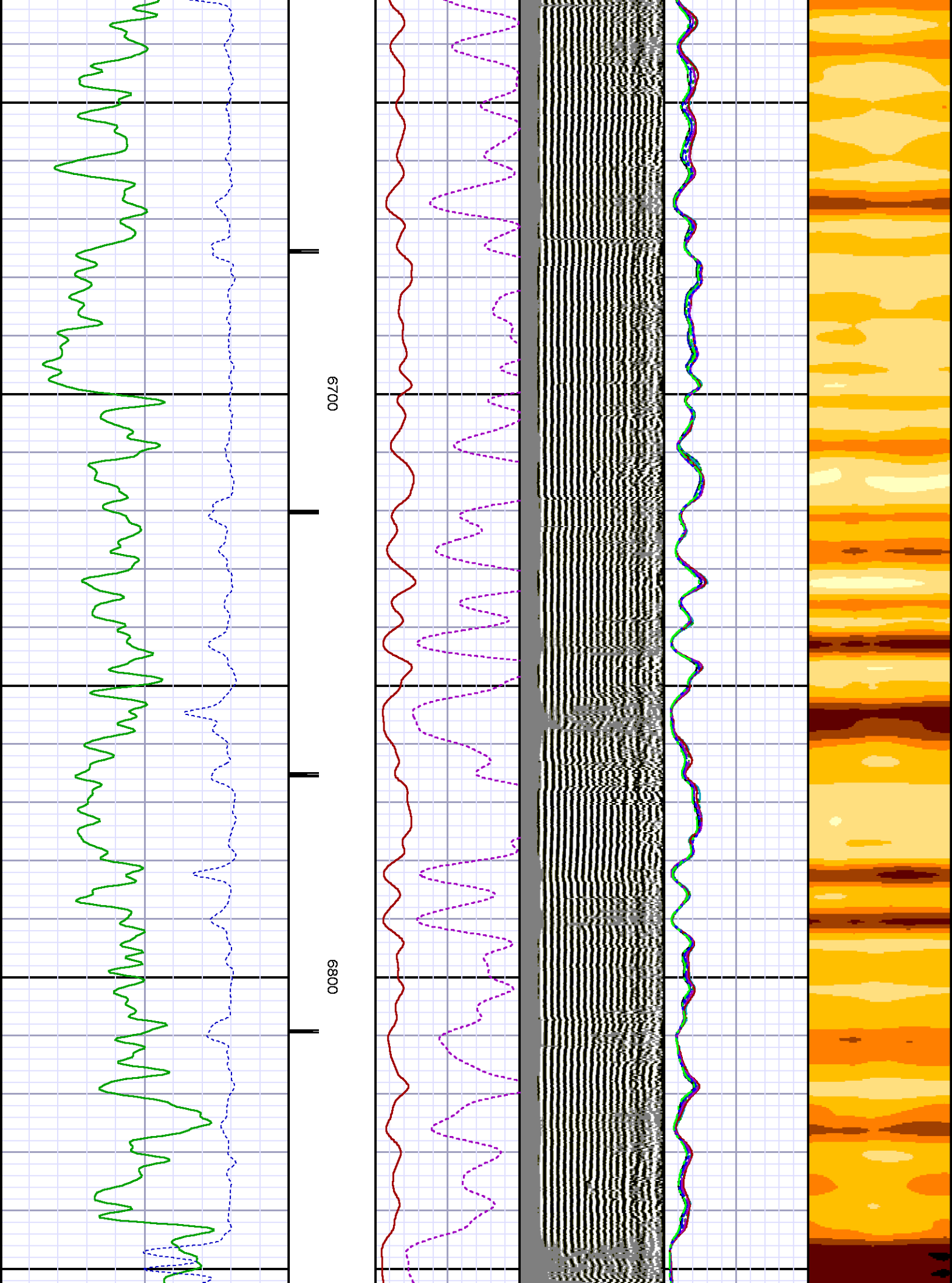


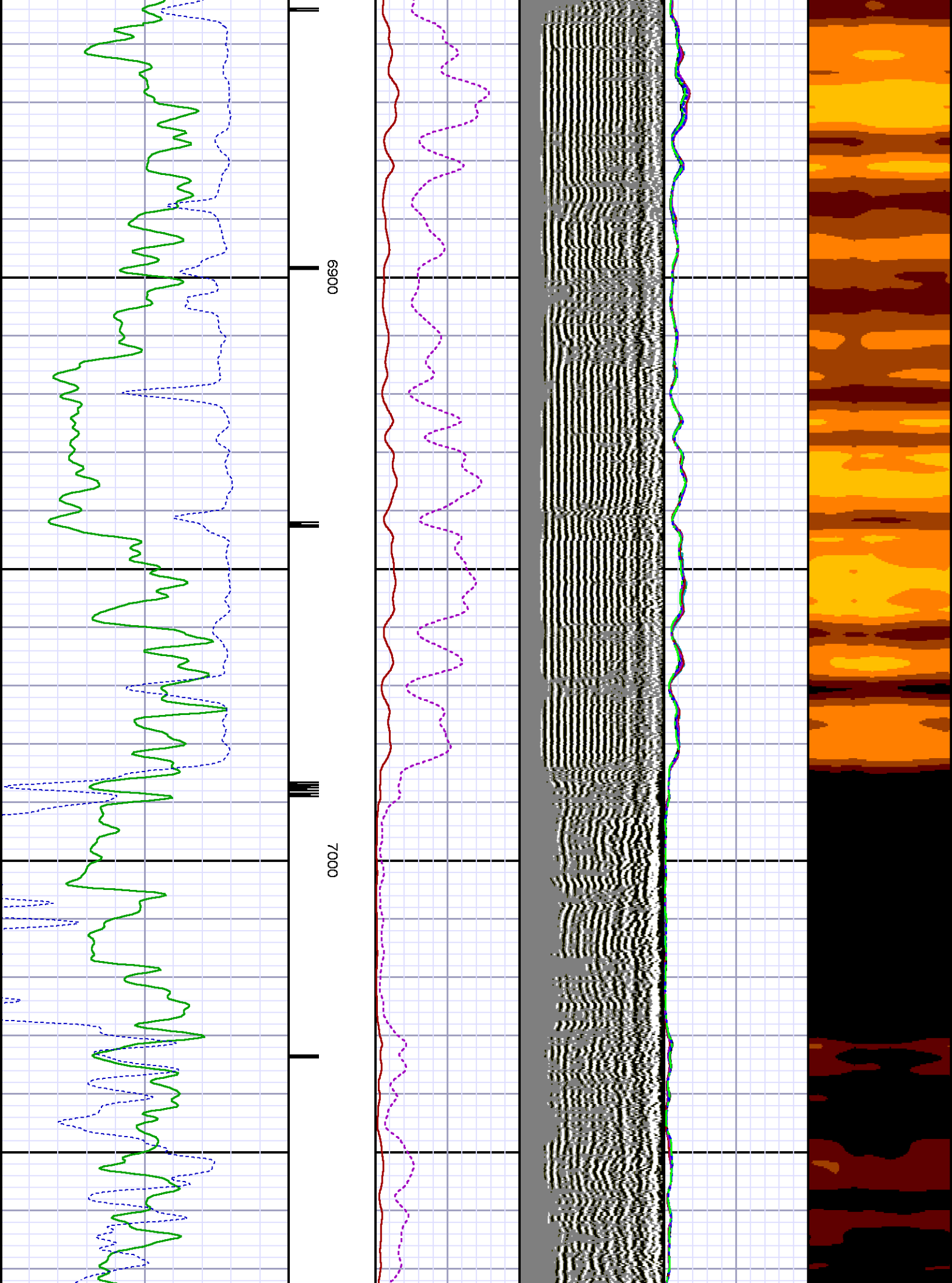


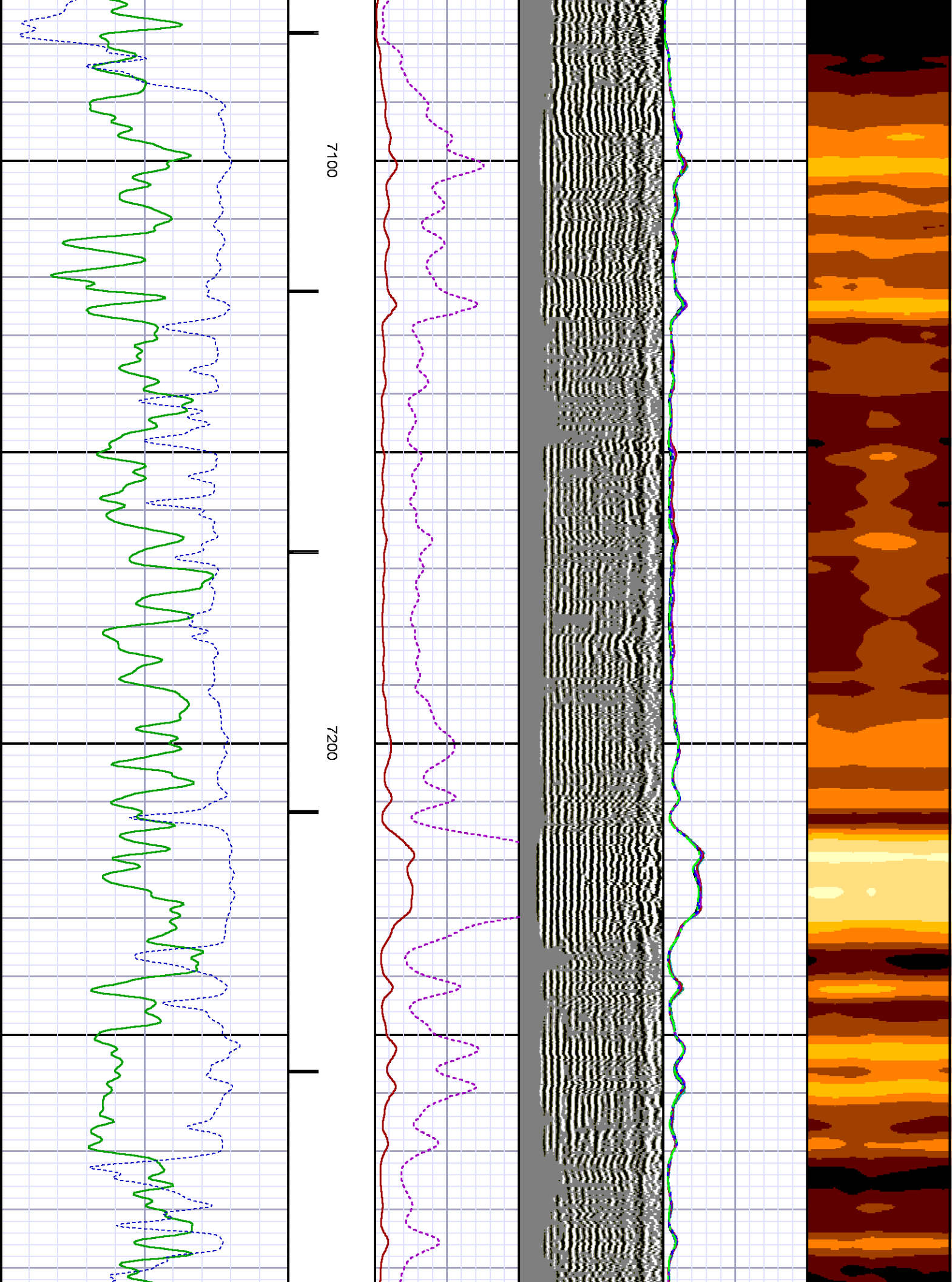


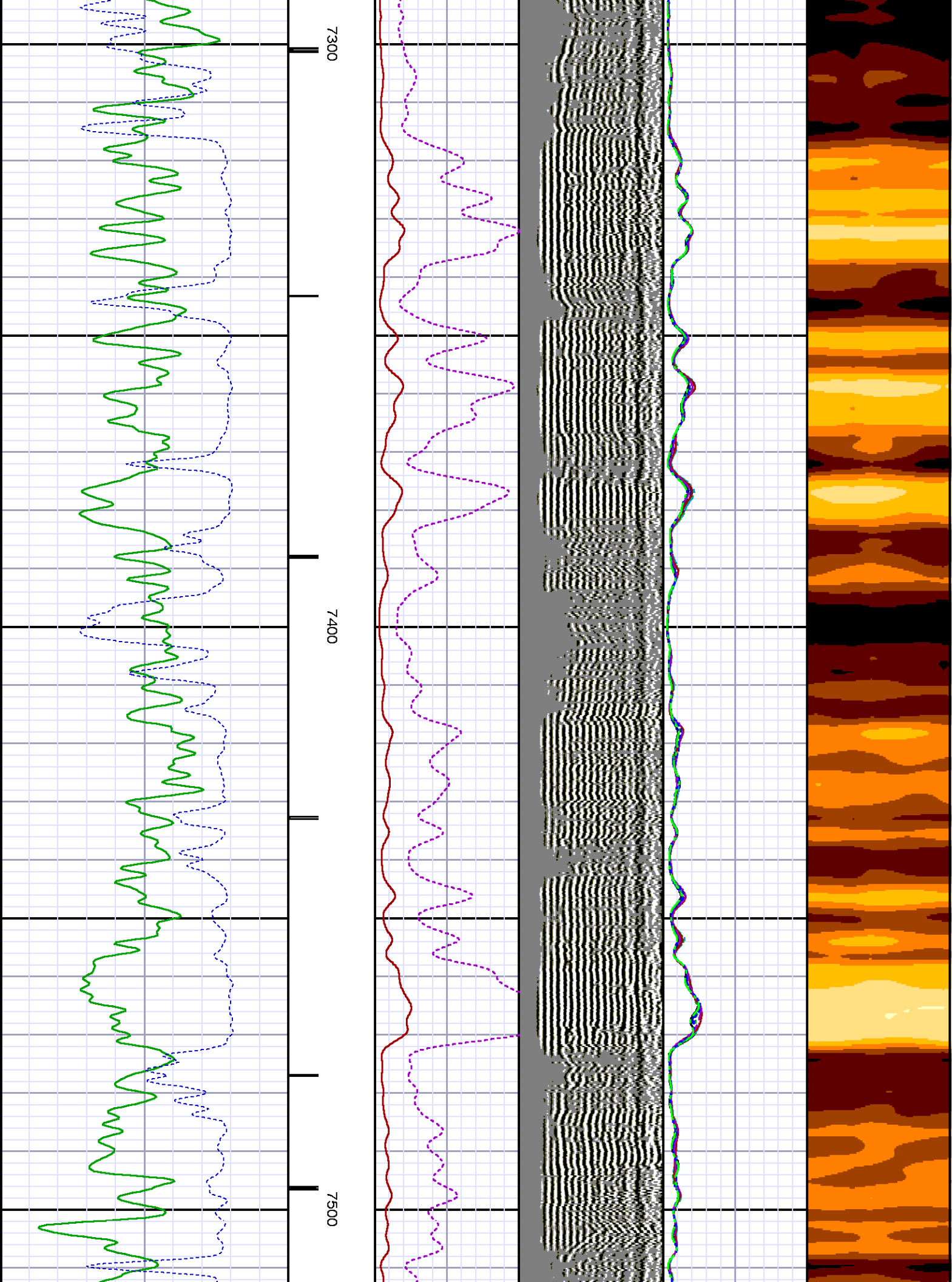


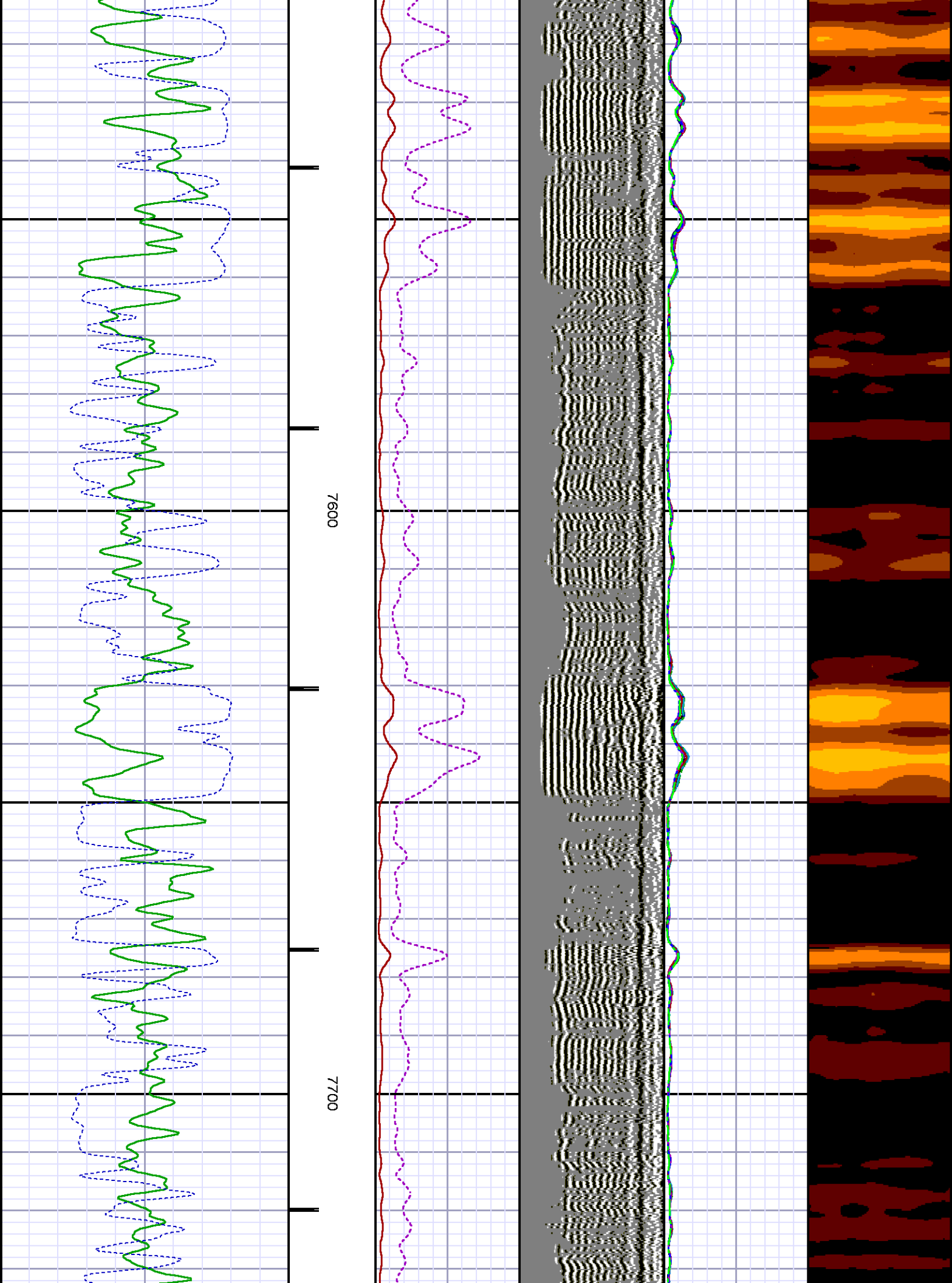


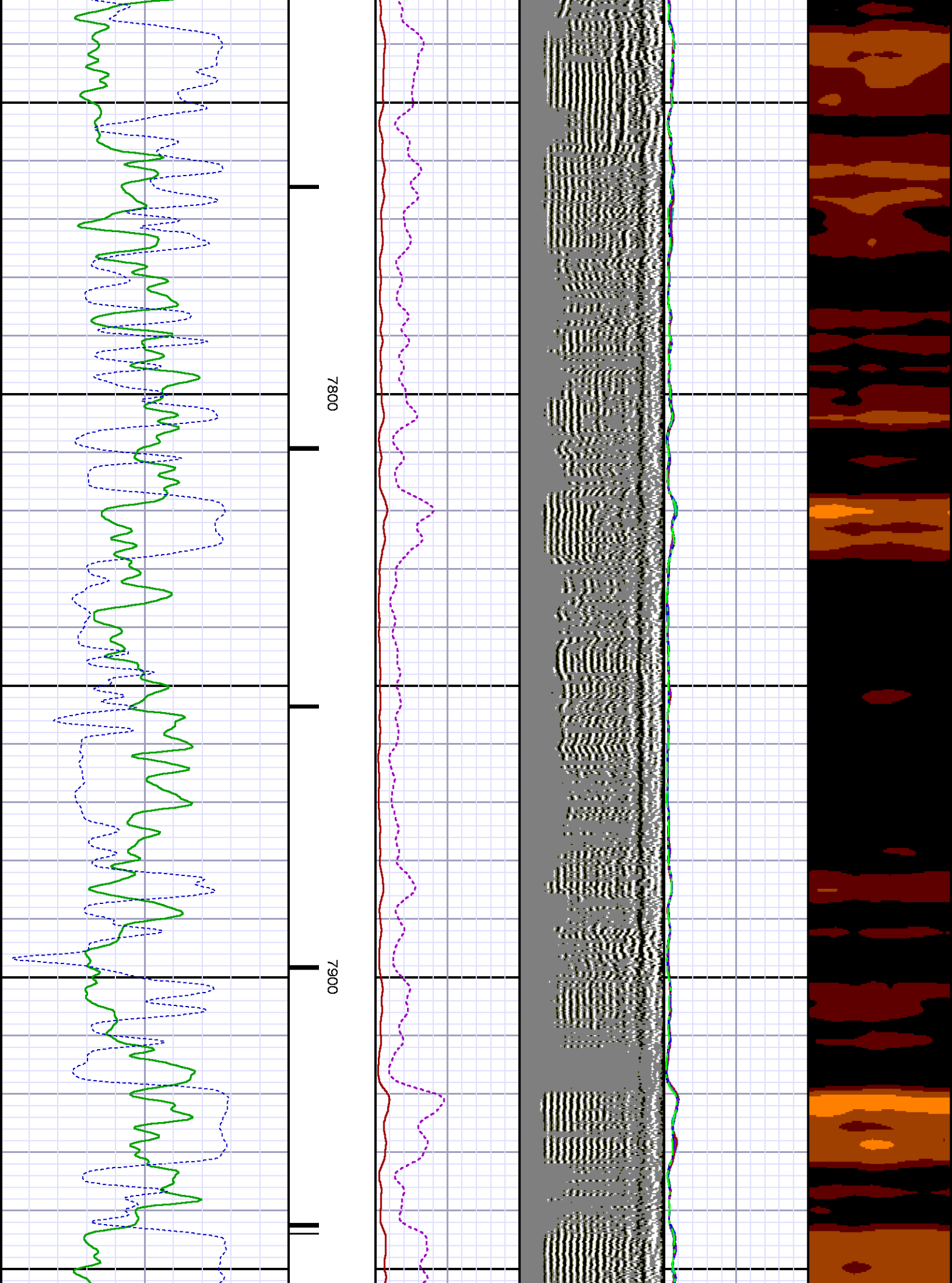


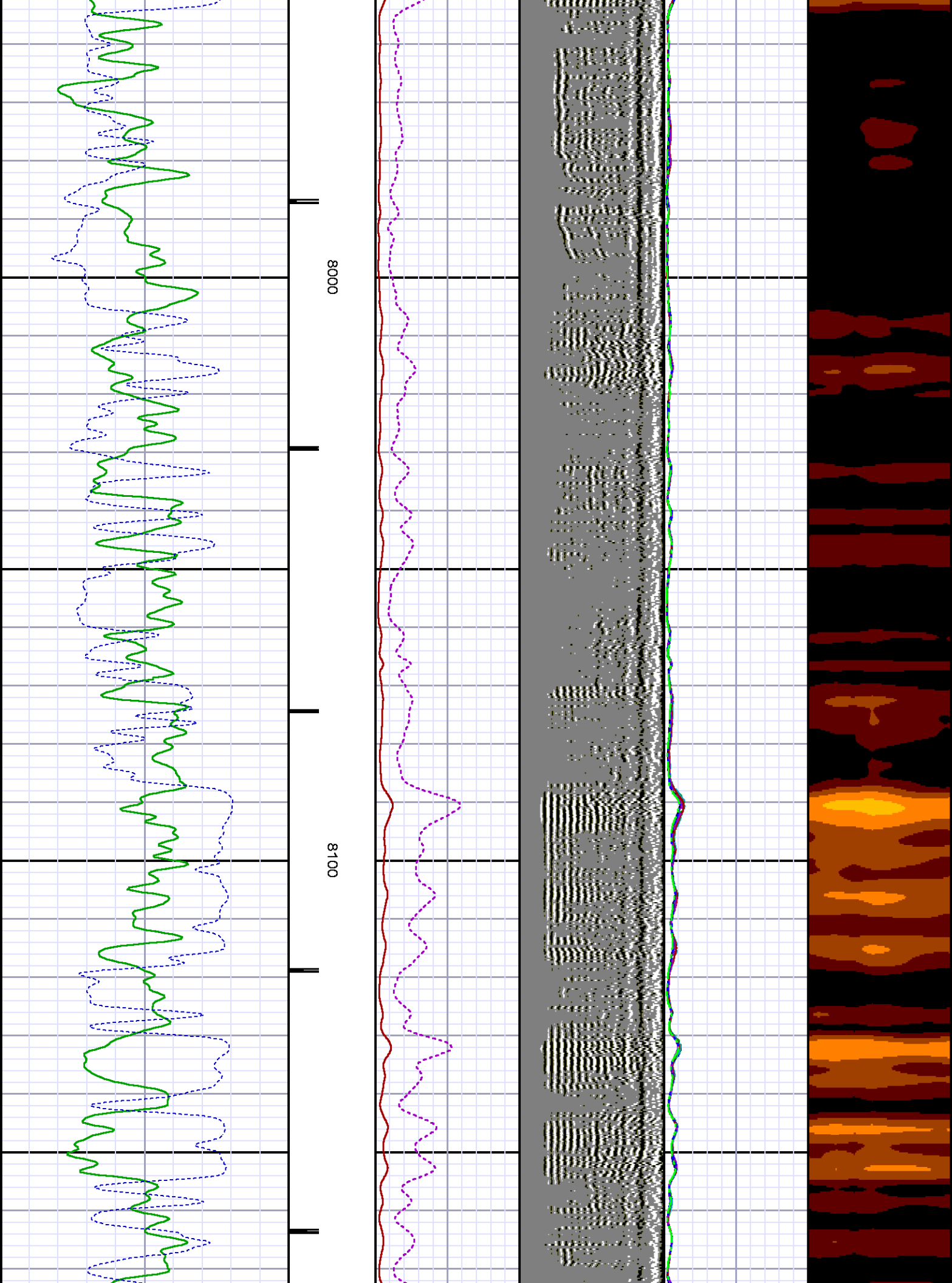


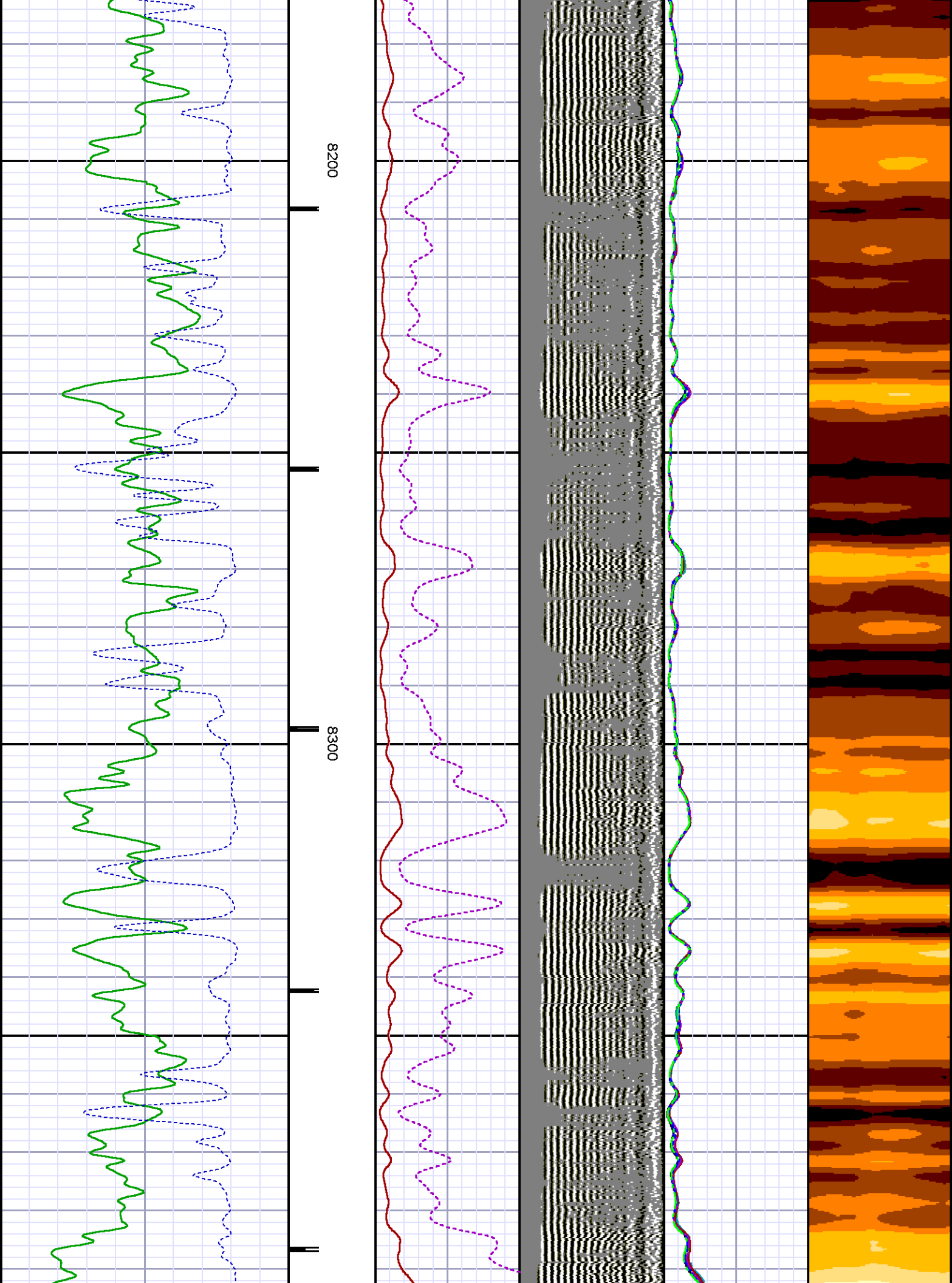


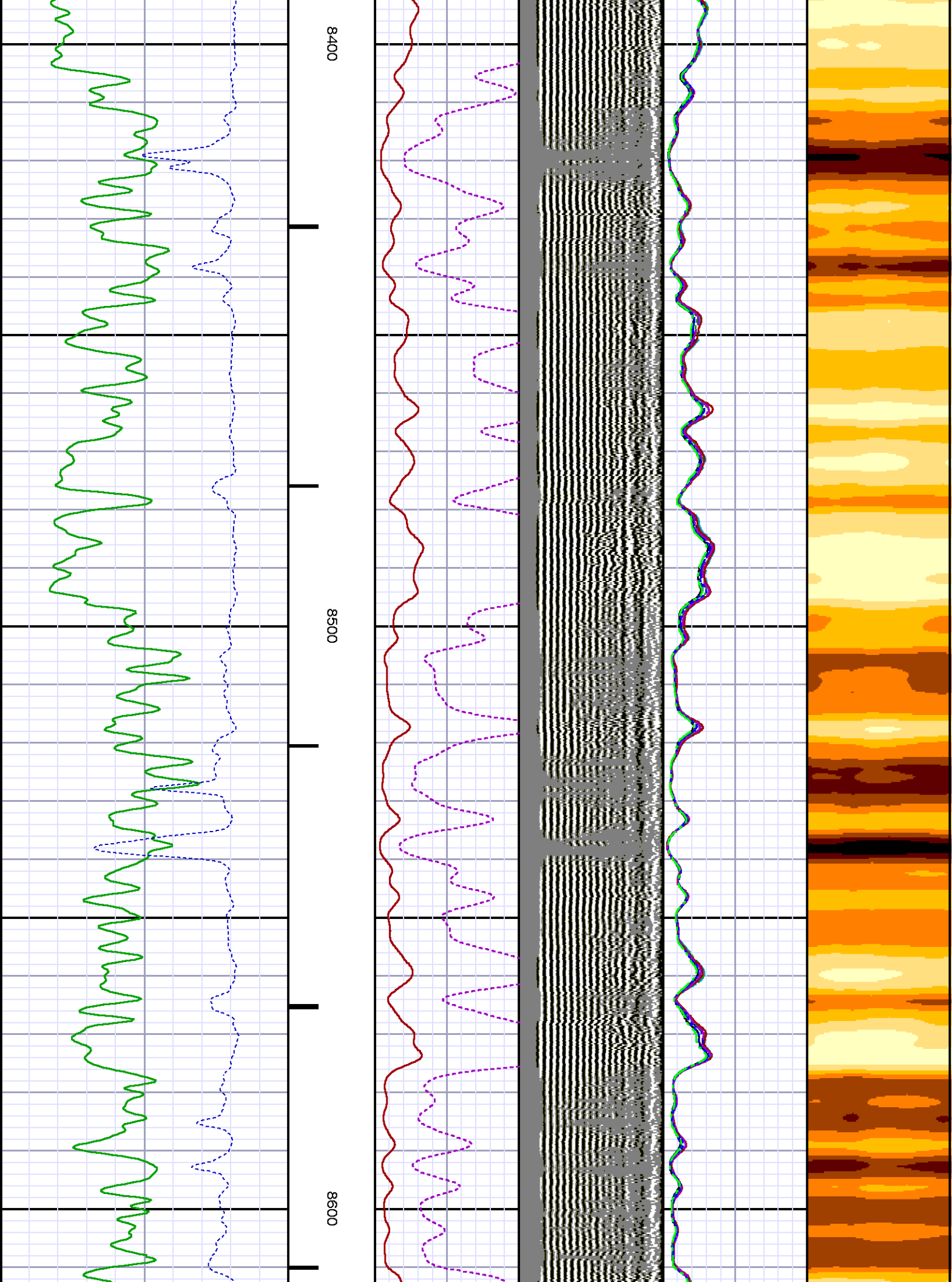


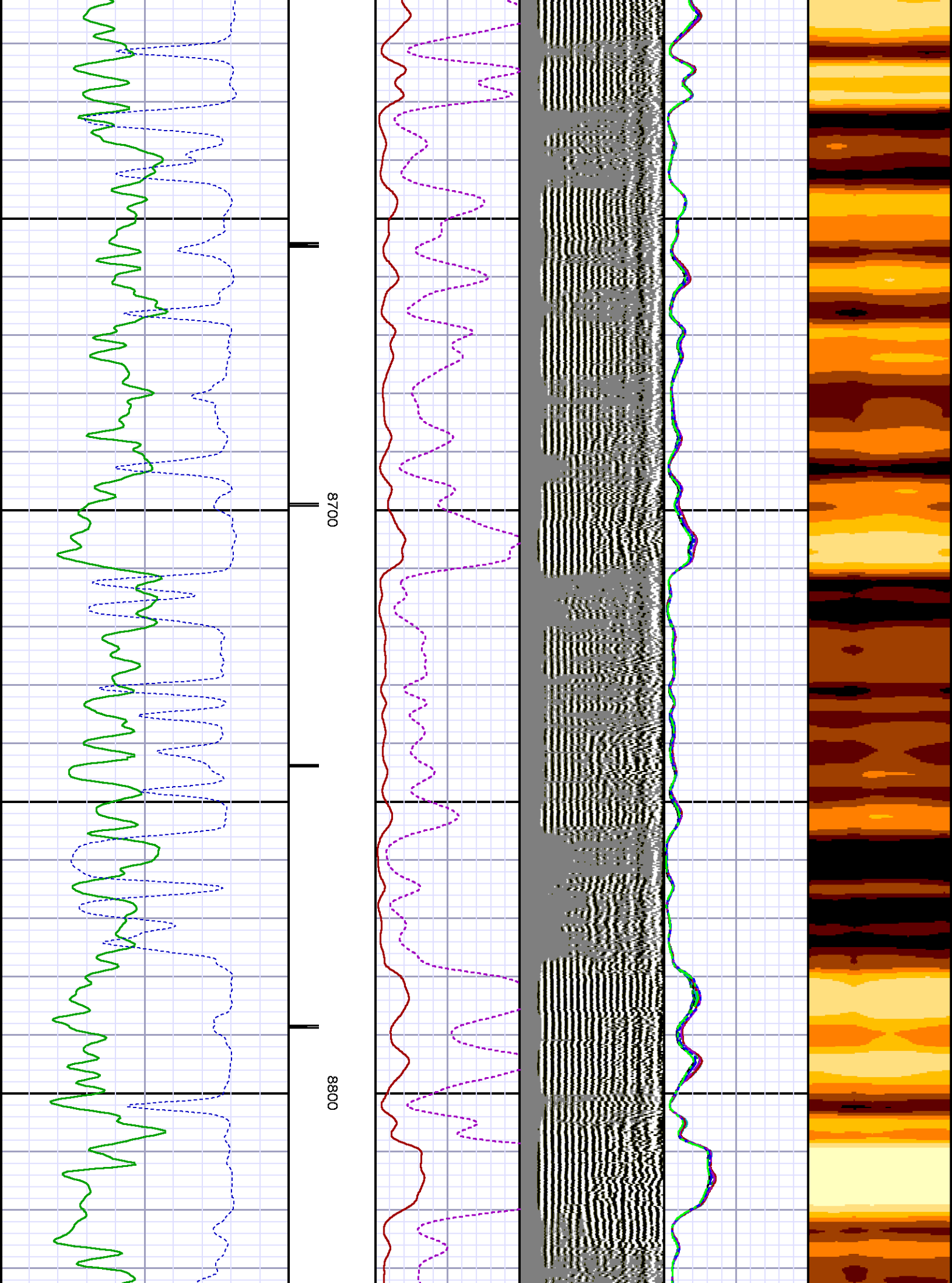


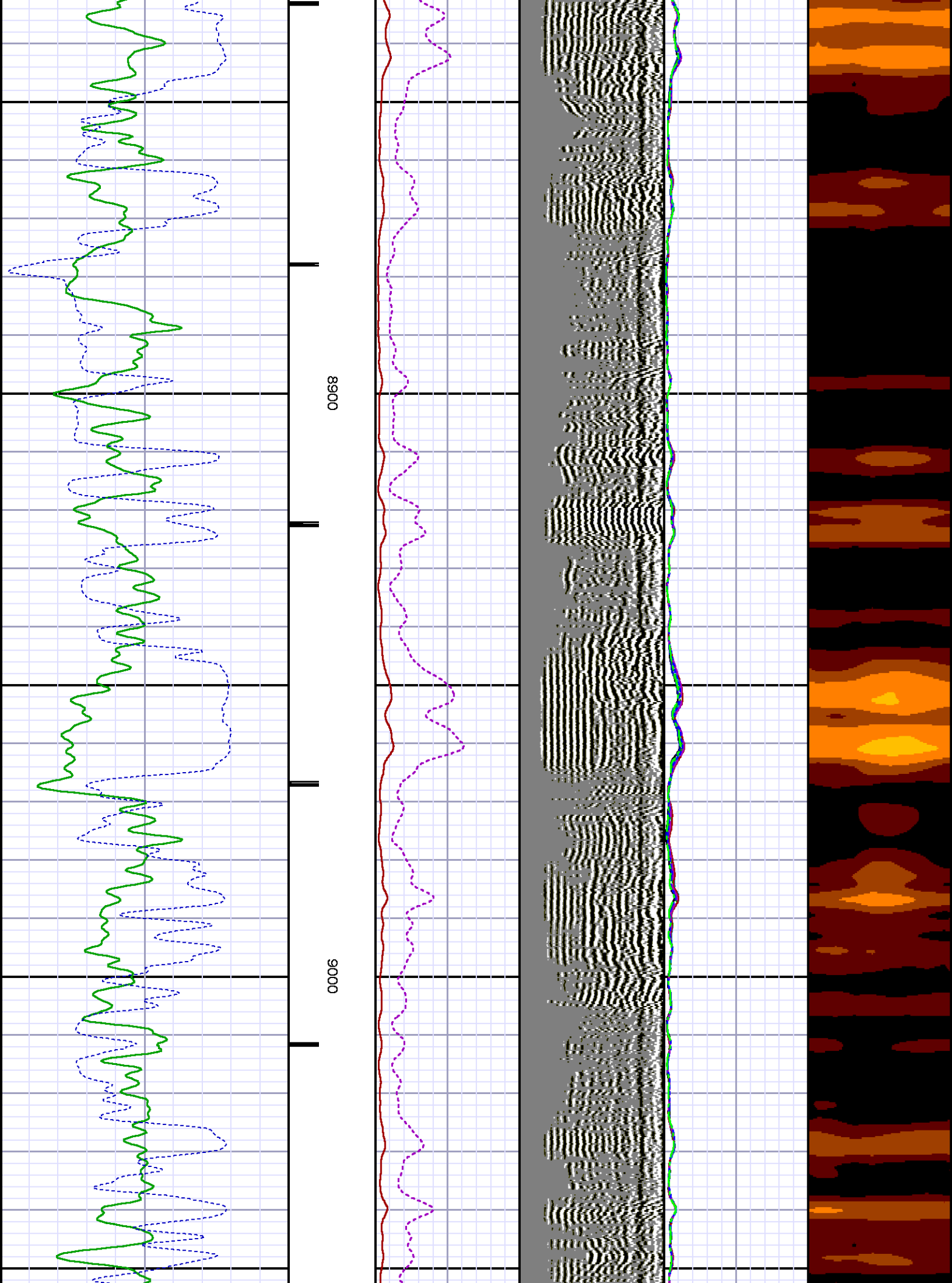


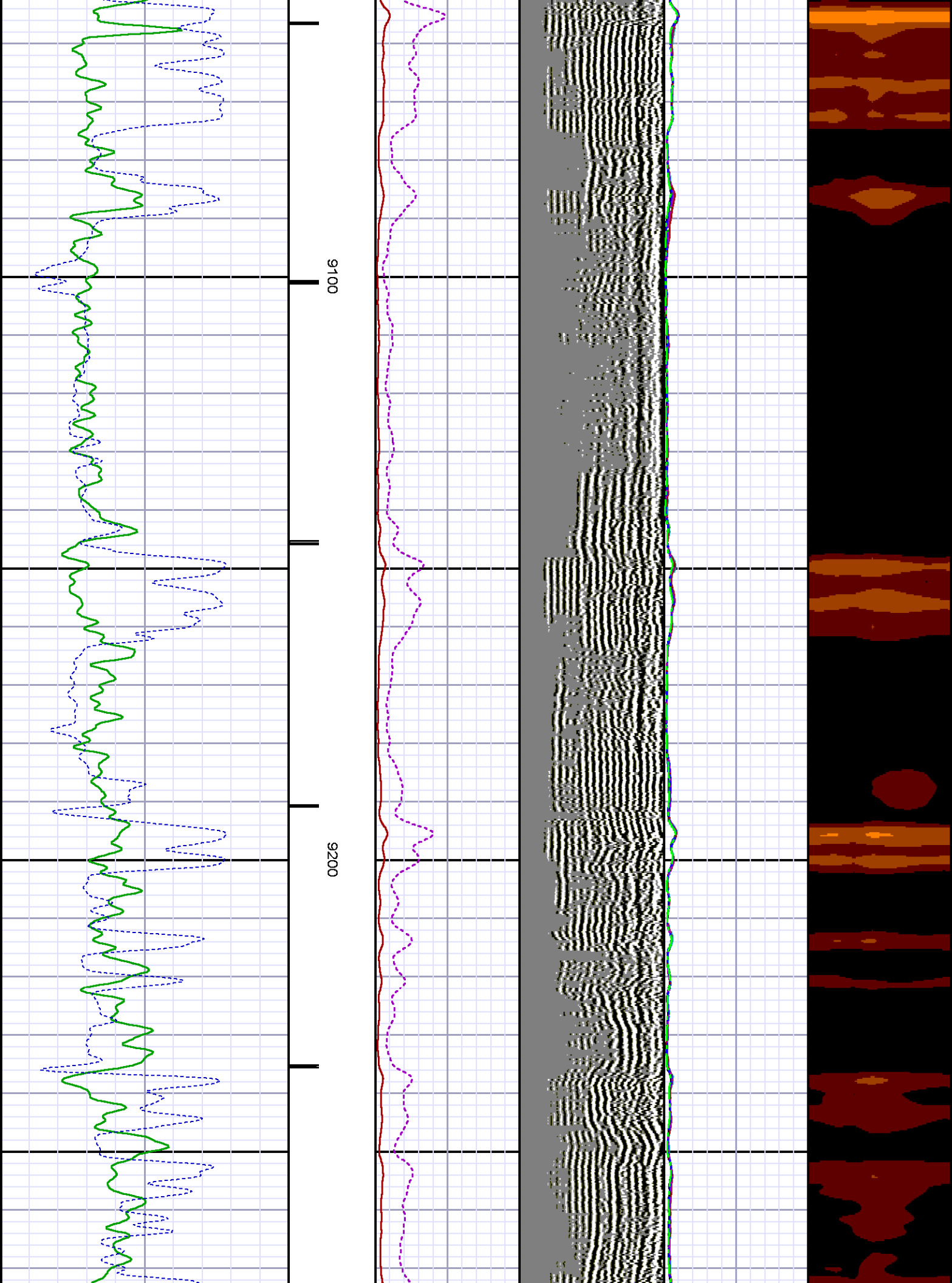


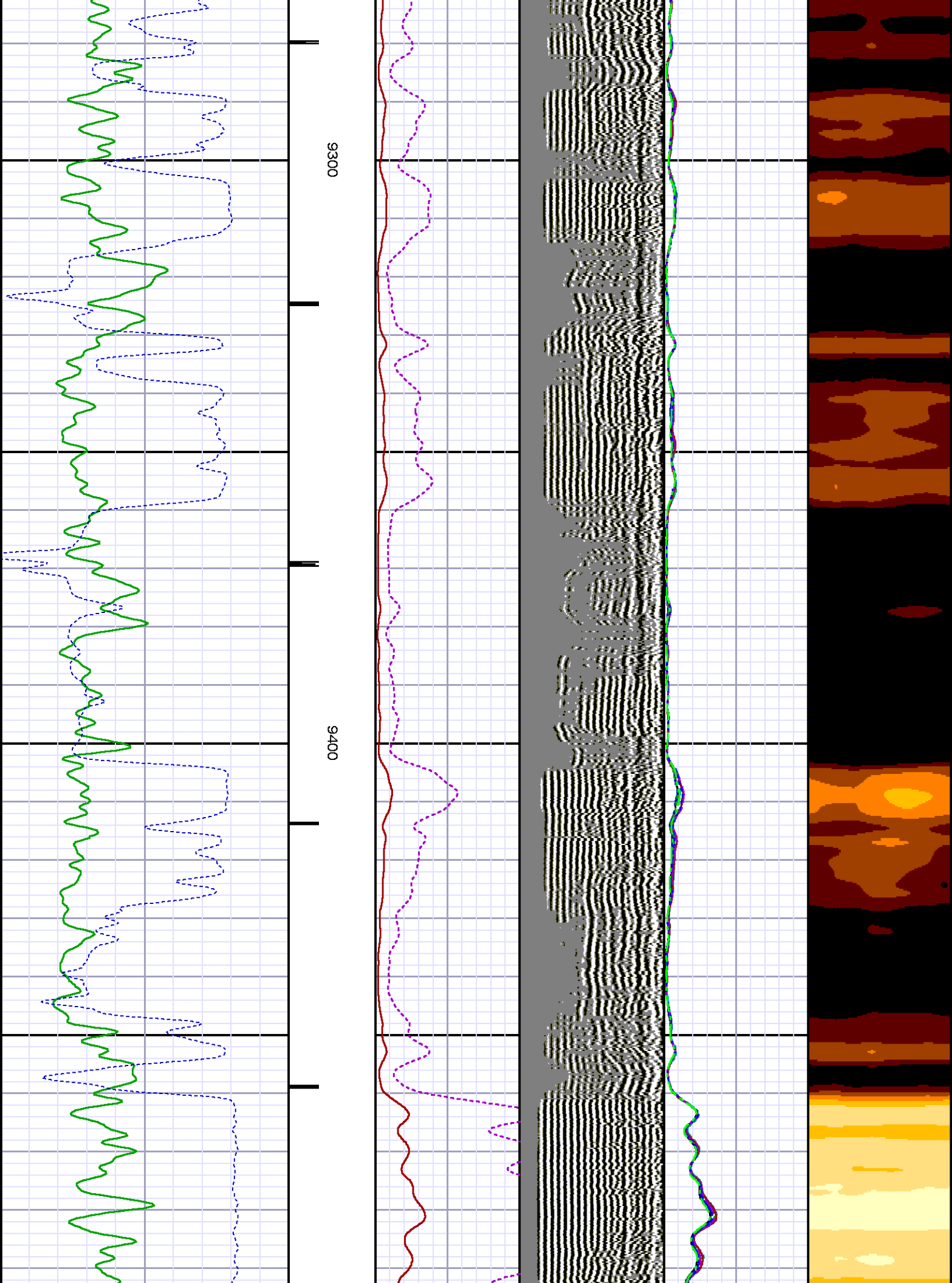


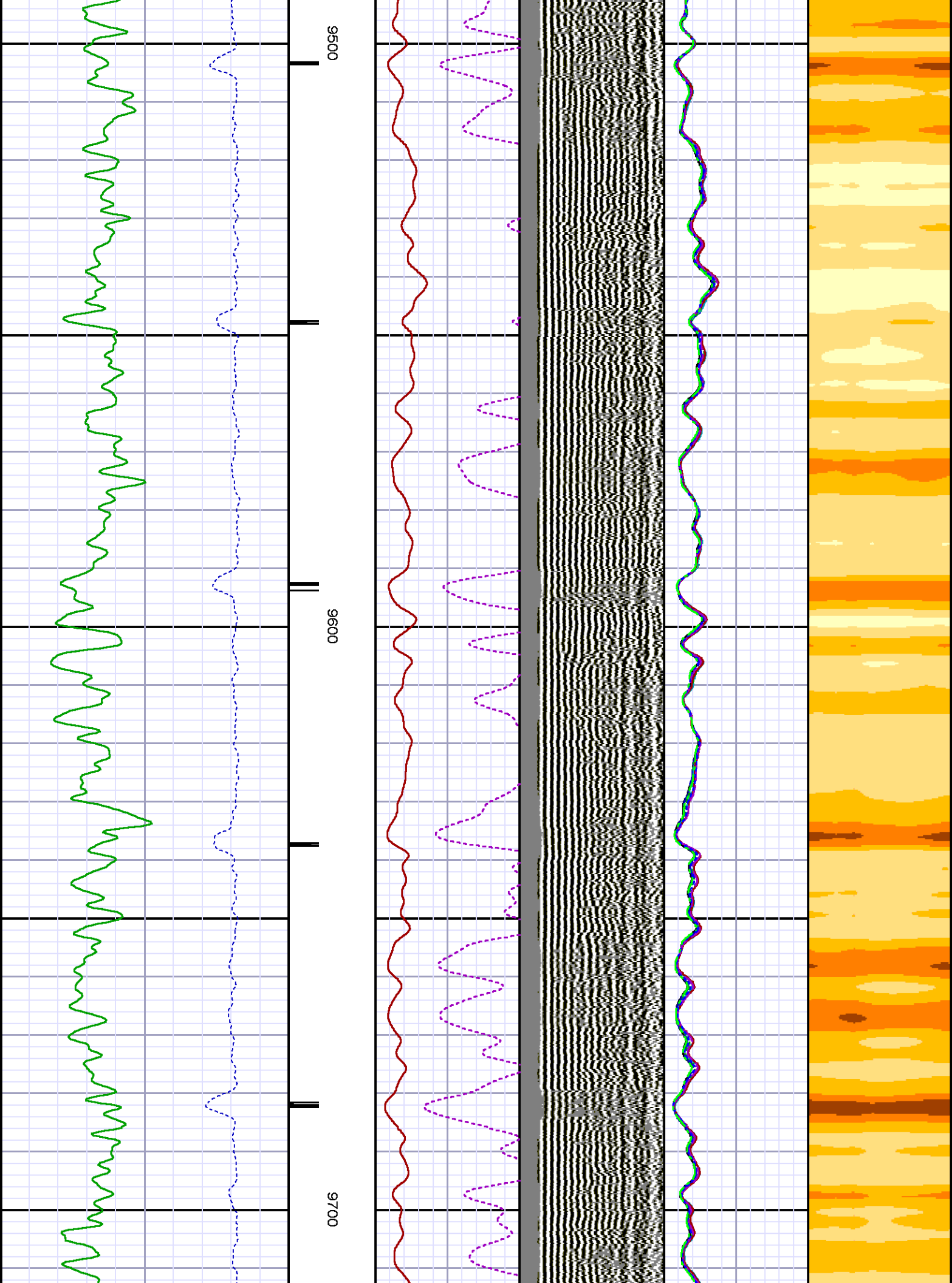


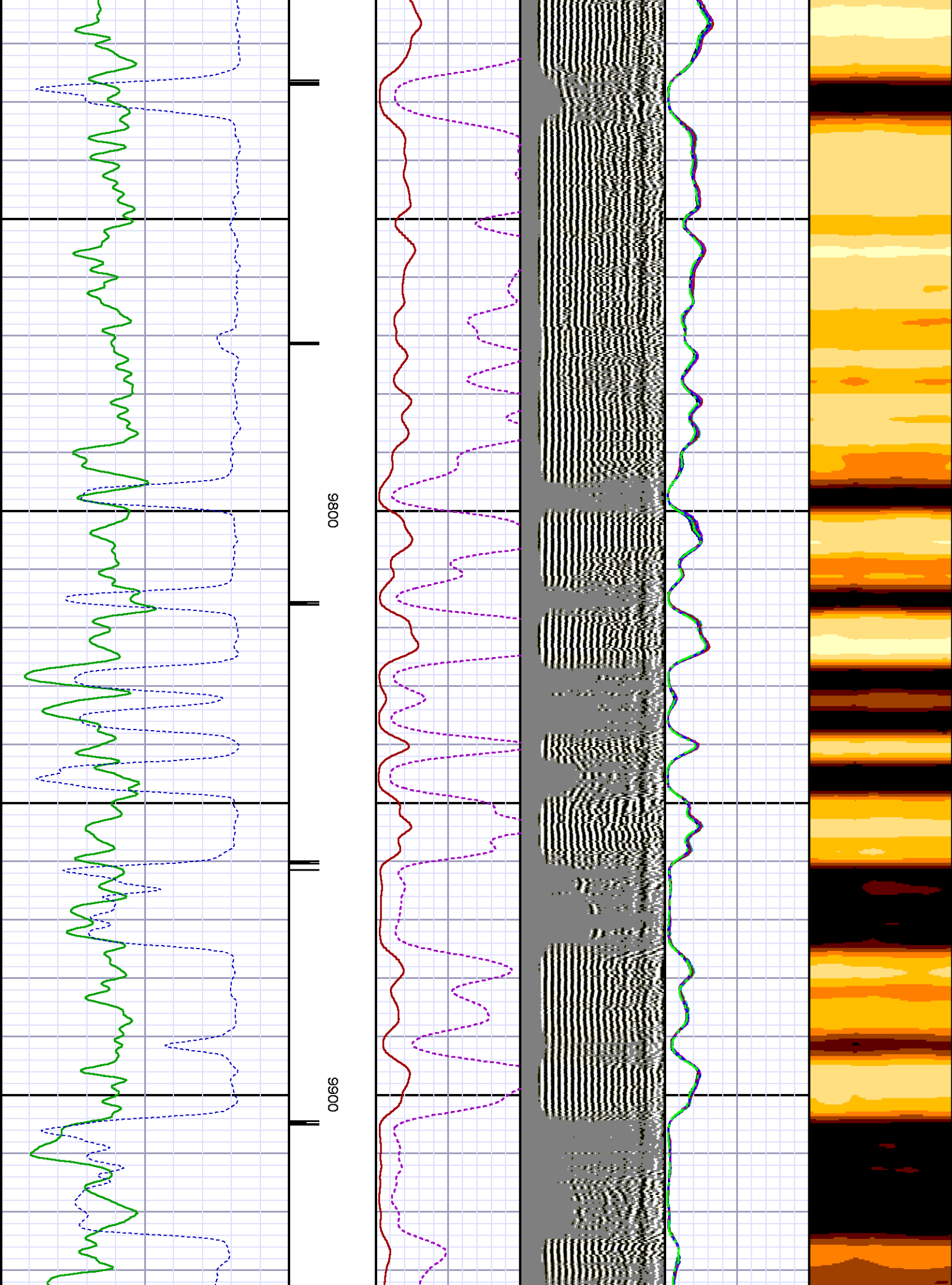


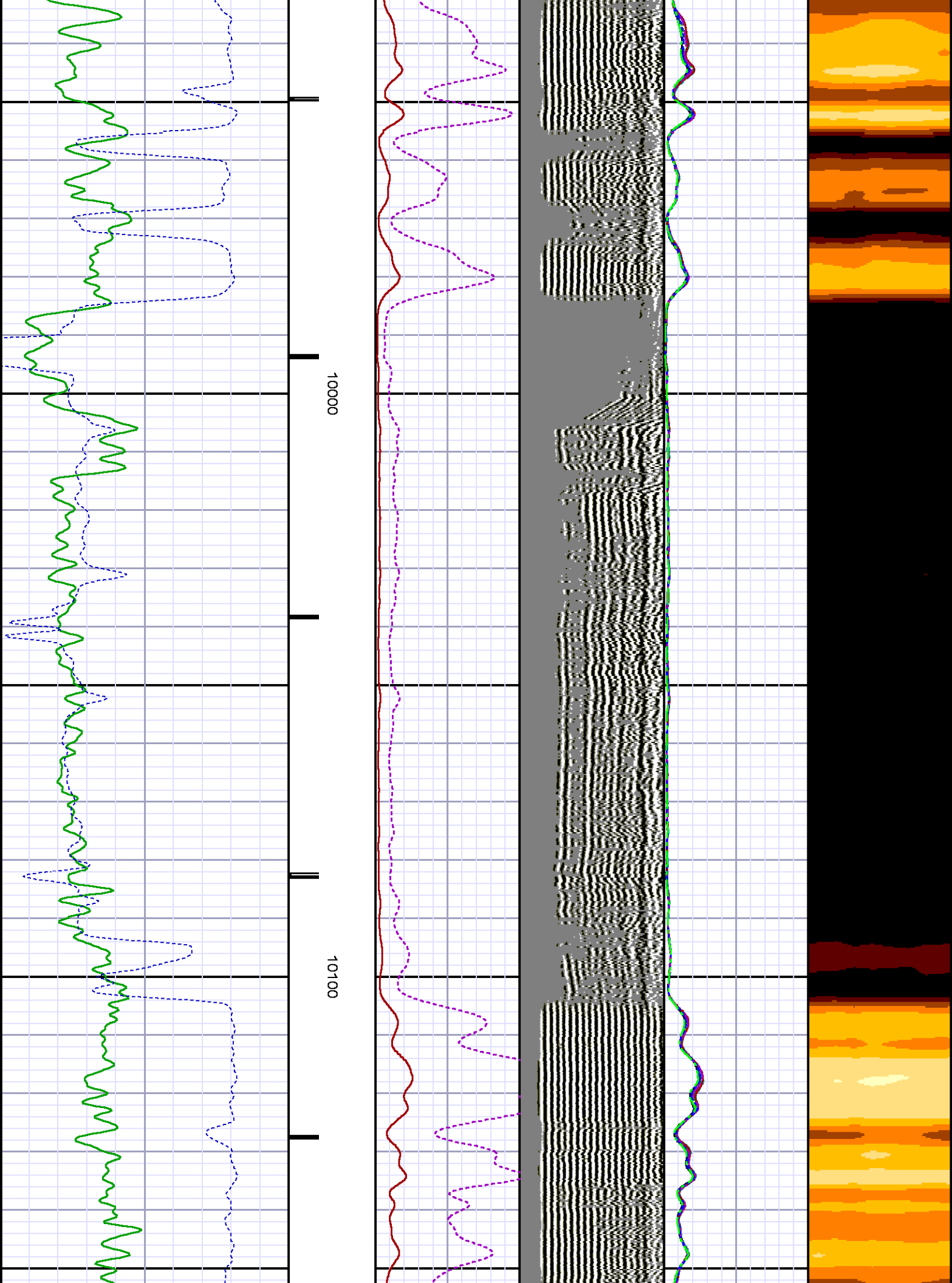


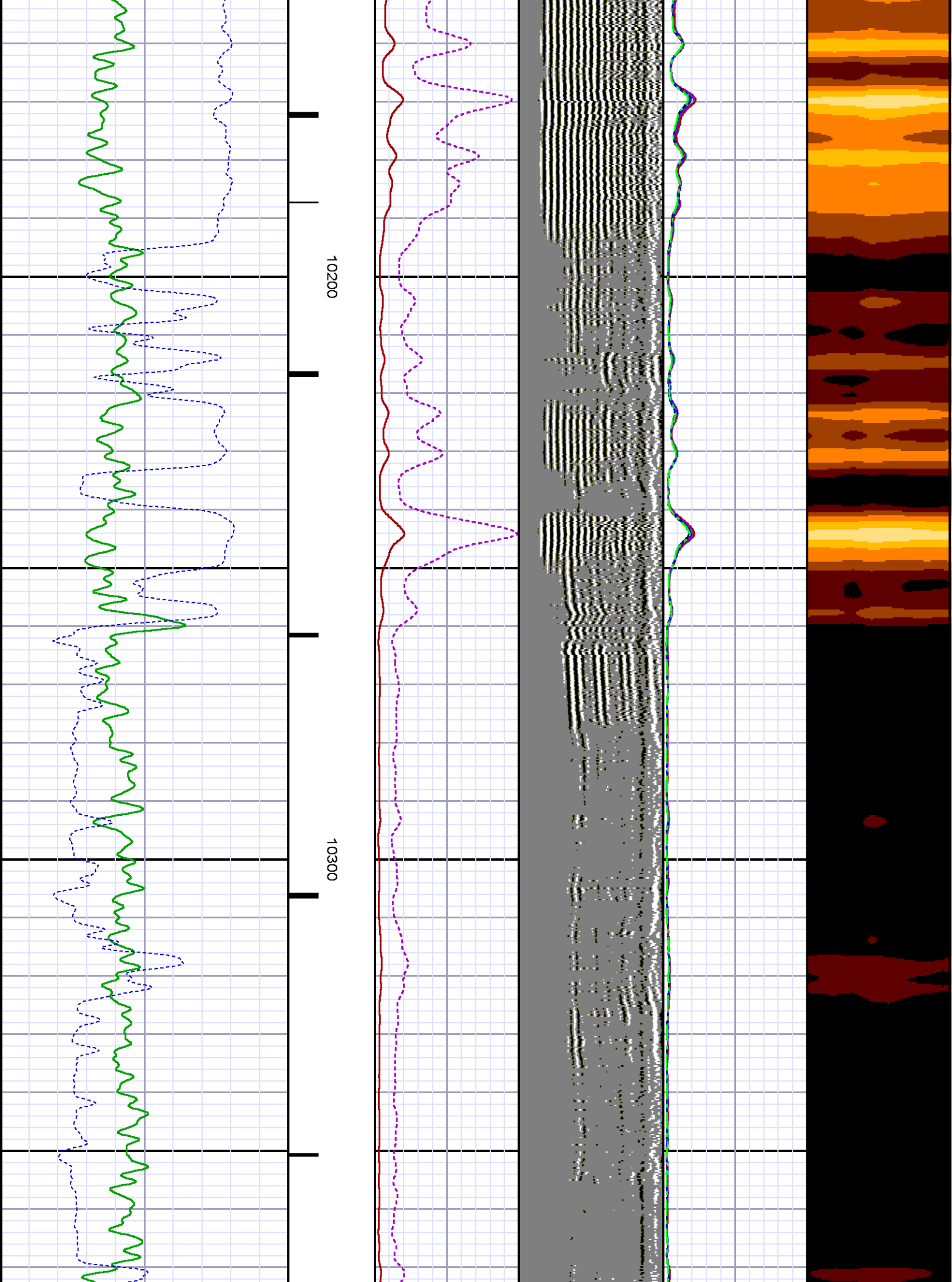


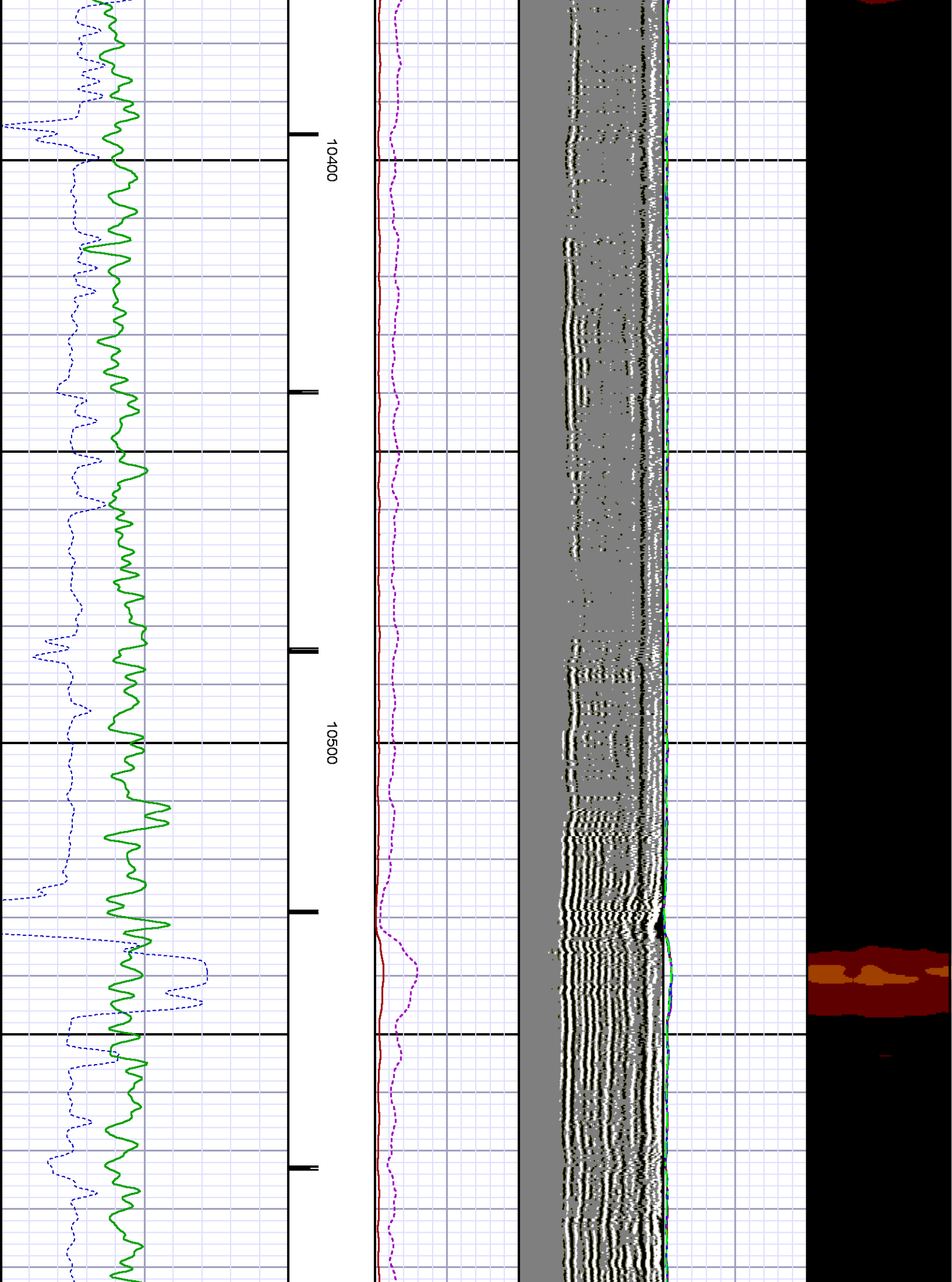


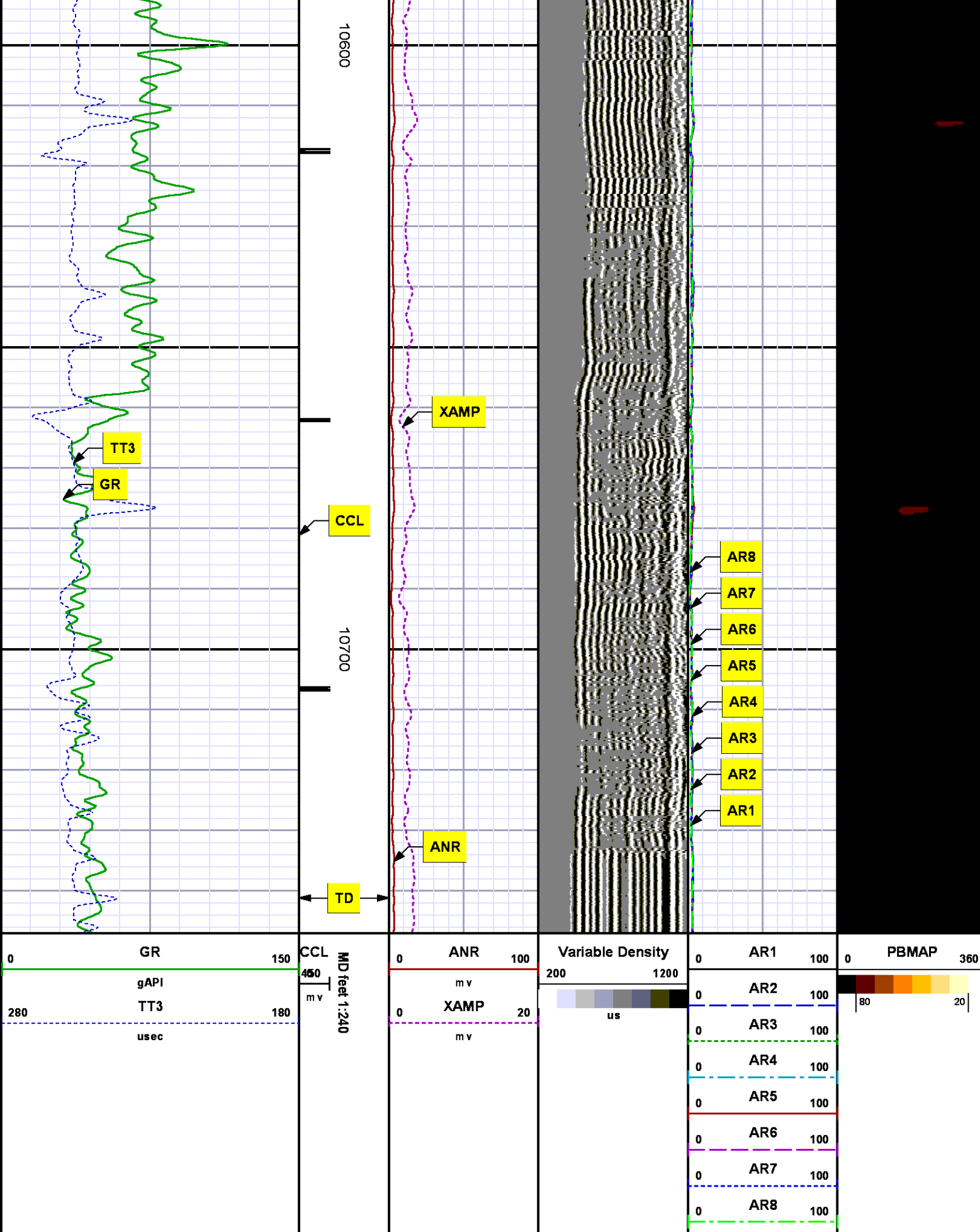










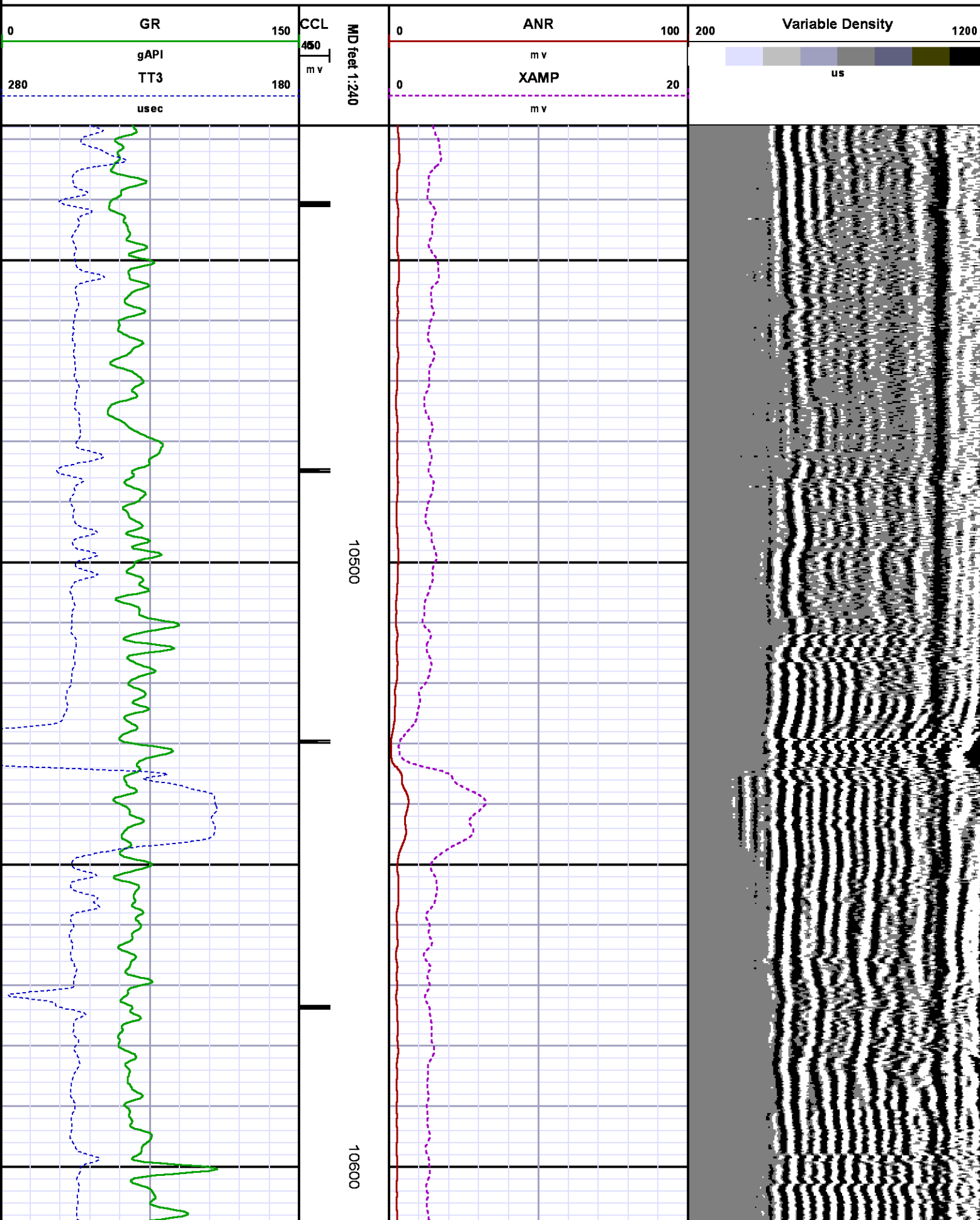


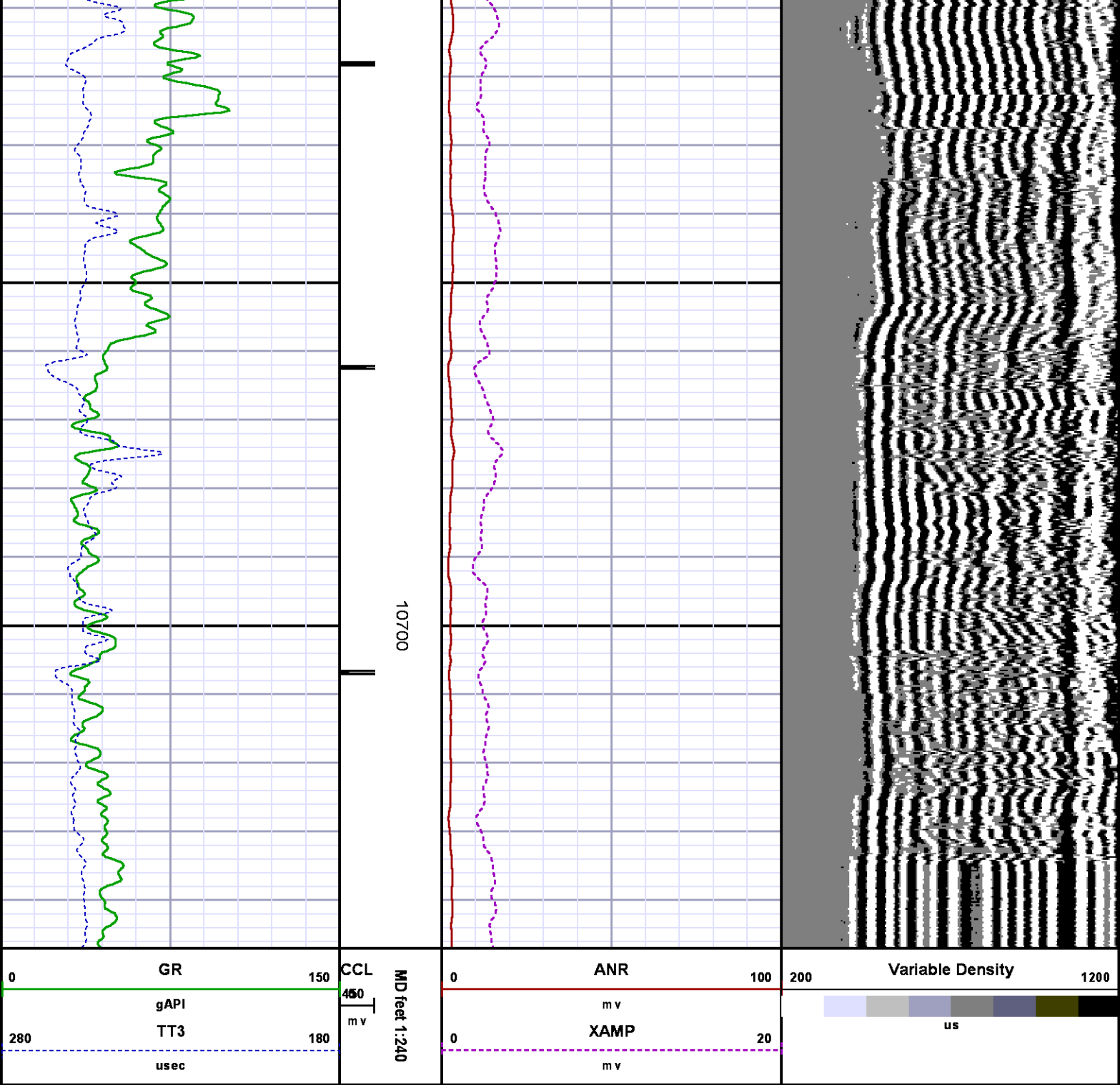
REPEAT SECTION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	10427.533	10767.690
RAL	Amp Gate Start Near	195.000	usec	10427.533	10767.690
RAL	Amp Gate Start Radial	195.000	usec	10427.533	10767.690
RAL	Amp Gate Width Far	25.000	usec	10427.533	10767.690
RAL	Amp Gate Width Near	25.000	usec	10427.533	10767.690
RAL	Amp Gate Width Radial	25.000	usec	10427.533	10767.690
RAL	casing od	4.500	inches	10427.533	10767.690
RAL	casing wt	11.600	lbm/ft	10427.533	10767.690
RAL	FB Start Far	291.900	usec	10427.533	10767.690
RAL	FB Start Near	180.000	usec	10427.533	10767.690
RAL	FB Start Radial	180.000	usec	10427.533	10767.690
RAL	FB Thresh Far	10.000	mv	10427.533	10767.690
RAL	FB Thresh Near	4.000	mv	10427.533	10767.690
RAL	FB Thresh Radial	4.000	mv	10427.533	10767.690
RAL	Fluid Travel Time	200.000	usec/ft	10427.533	10767.658

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					





CALIBRATION SUMMARY

RALSHP

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Mon Sep 09 09:53:25 2013 TOOL SERIES: 1426XA ASSET: 495 SEQ: S9

Tool Delay [usec] -62.00 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	219	216	30	166	25	-0.131	100.00	0.14
3 Ft. Receiver	217	216	30	150	25	-2.075	100.00	0.14
5 Ft. Receiver	328	325	30	254	25	-0.810	150.00	0.15
Radial #1	218	216	30	150	25	4.904	100.00	0.14
Radial #2	218	216	30	150	25	2.571	100.00	0.14
Radial #3	217	216	30	150	25	1.640	100.00	0.14
Radial #4	216	216	30	150	25	2.261	100.00	0.14
Radial #5	216	216	30	150	25	-0.101	100.00	0.14
Radial #6	216	216	30	150	25	1.554	100.00	0.14
Radial #7	217	216	30	150	25	1.490	100.00	0.14
Radial #8	219	216	30	150	25	0.392	100.00	0.14

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD495S9 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Mon Sep 09 09:55:31 2013 TOOL SERIES: 1426XA ASSET: 495 SEQ: S9

Tool Delay [usec] -62.00 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	-0.028	0.000	1.00	100.000
3 Ft. Receiver	195	25	-0.200			
5 Ft. Receiver	305	25	-0.128			
Radial #1	195	25	-0.130			
Radial #2	195	25	-0.105			
Radial #3	195	25	-0.081			
Radial #4	195	25	-0.189			
Radial #5	195	25	-0.101			
Radial #6	195	25	-0.126			
Radial #7	195	25	-0.158			
Radial #8	195	25	-0.059			

GAMMA RAY

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Aug 29 09:42:38 2013 TOOL SERIES: 1355XA ASSET: 209 SEQ: A9

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
SHOP JIG	149.16	633.51	0.382	56.97	241.97	185.00

Verification File: C:\case\calver\GR\209A9.VP

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Thu Aug 29 09:44:11 2013 TOOL SERIES: 1355XA ASSET: 209 SEQ: A9

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
SHOP JIG	153.60	637.78	0.382	58.67	243.60	184.93

TOOL DIAGRAM

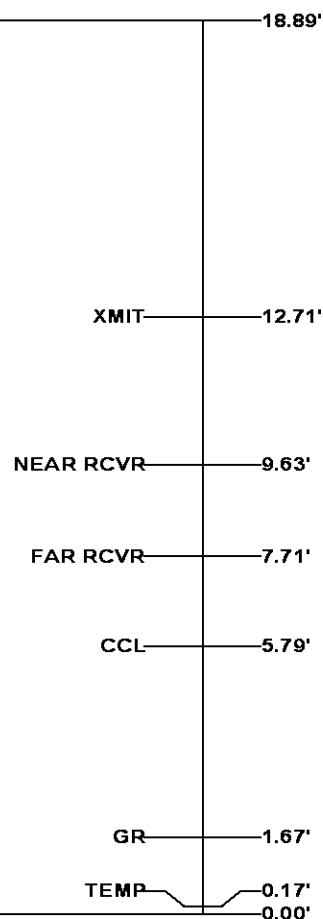
OTA SHORT CABLE HEAD

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"

<div> BAKER HUGHES</div> <div>Baker Atlas</div> <div>CASE</div>	Company	WPX ENERGY				File No:			
	Well	MORGAN CMU 323-33					CH077402		
	Field	WILDCAT					API No:		
	County	GARFIELD		State	COLORADO			05045220560000	
	Location				Elevations				
SHL: 1762' FNL X 2614' FWL				KB 7252 ft		33 6S 90W			
BHL: 2186' FNL X 1986' FWL				DF		CMU 22-33 PAD			
SEC 33 TWP 6S RGE 90W				GL 7226 ft		NABORS 574			