



RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: CH072056	Company Well Field County	WPX ENERGY DUGGAN RWF 323-29 RULISON GARFIELD	State COLORADO
API No: 05045216530000			
29 GS 94W RWF 14-29 NABORS SSD 573	Location SHL: 552' FSL & 593' FWL BHL: 1807' FSL & 2003' FWL SEC 29 TWP 6S RGE 94W	Other Services RPM	
Permanent Datum Log Measured From Drill Measured From	G.L. _____ Elevation 5419.2 ft K.B. _____ 26 ft Above P. D. KELLY BUSHING	Elevations KB 5445.2 ft DF GL 5419.2 ft	

Date	19/MAY/15	
Run	ONE	
Service Order	575083	
Depth Driller	8140 ft	
Depth Logger	8077 ft	
Bottom Logged Interval	8067 ft	
Top Logged Interval	26 ft	
Time Started	14:00	
Time Finished	17:00	
Operator Rig Time	3 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	N/A	
Salinity	N/A	
Fluid Level	72 ft	
Logged Cement Top	N/A	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	N/A	
Nominal Logging Speed	45 fpm	
Maximum Recorded Temperature	223 degF	
Reference Log	N/A	
Reference Log Date	N/A	
Equipment No.	4271	GRAND JUNCTION
Recorded By	W. KINSEL	9721
Witnessed By	MR. BOB CADY	GRAND JUNCTION

- 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	1152'
8.75 In	0 ft	8209 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 In	N/A	N/A	0 ft	1100 ft
4.5 In	11.6 lbm/ft	1-80	0 ft	8140 ft

Remarks
ALL DATA IN THIS LOG WAS DEPTH SHIFTED TO MATCH THE TOP CCL MARK WITH KB LEVEL
AT THE CLIENT'S REQUEST. THE AMOUNT OF LINEAR SHIFT WAS 5 FEET DOWN.
SHORT JOINT: 4752' - 4776'
BHT: 223 degF
LOG DONE WITH 0 PSI ON WELLHEAD

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	VDL	1426XA	10404539	CENTRALIZED
1	1	GAMMA RAY/CCL	1355XA	10580209	CENTRALIZED

MAIN LOG PRIMARY PRESENTATION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	303.100	usec	32.844	8086.500
RAL	Amp Gate Start Near	199.125	usec	32.844	8086.500
RAL	Amp Gate Start Radial	199.015	usec	32.844	8086.500
RAL	Amp Gate Width Far	25.000	usec	32.844	8086.500
RAL	Amp Gate Width Near	25.000	usec	32.844	8086.500
RAL	Amp Gate Width Radial	25.000	usec	32.844	8086.500
RAL	casing od	4.500	inches	32.844	8086.500
RAL	casing wt	11.600	lbm/ft	32.844	8086.500
RAL	FB Start Far	291.900	usec	32.844	8086.500
RAL	FB Start Near	175.391	usec	32.844	8086.500
RAL	FB Start Radial	175.391	usec	32.844	8086.500
RAL	FB Thresh Far	10.000	mv	32.844	8086.500
RAL	FB Thresh Near	4.000	mv	32.844	8086.500
RAL	FB Thresh Radial	4.000	mv	32.844	8086.500
RAL	Fluid Travel Time	200.000	usec/ft	32.844	8086.500

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

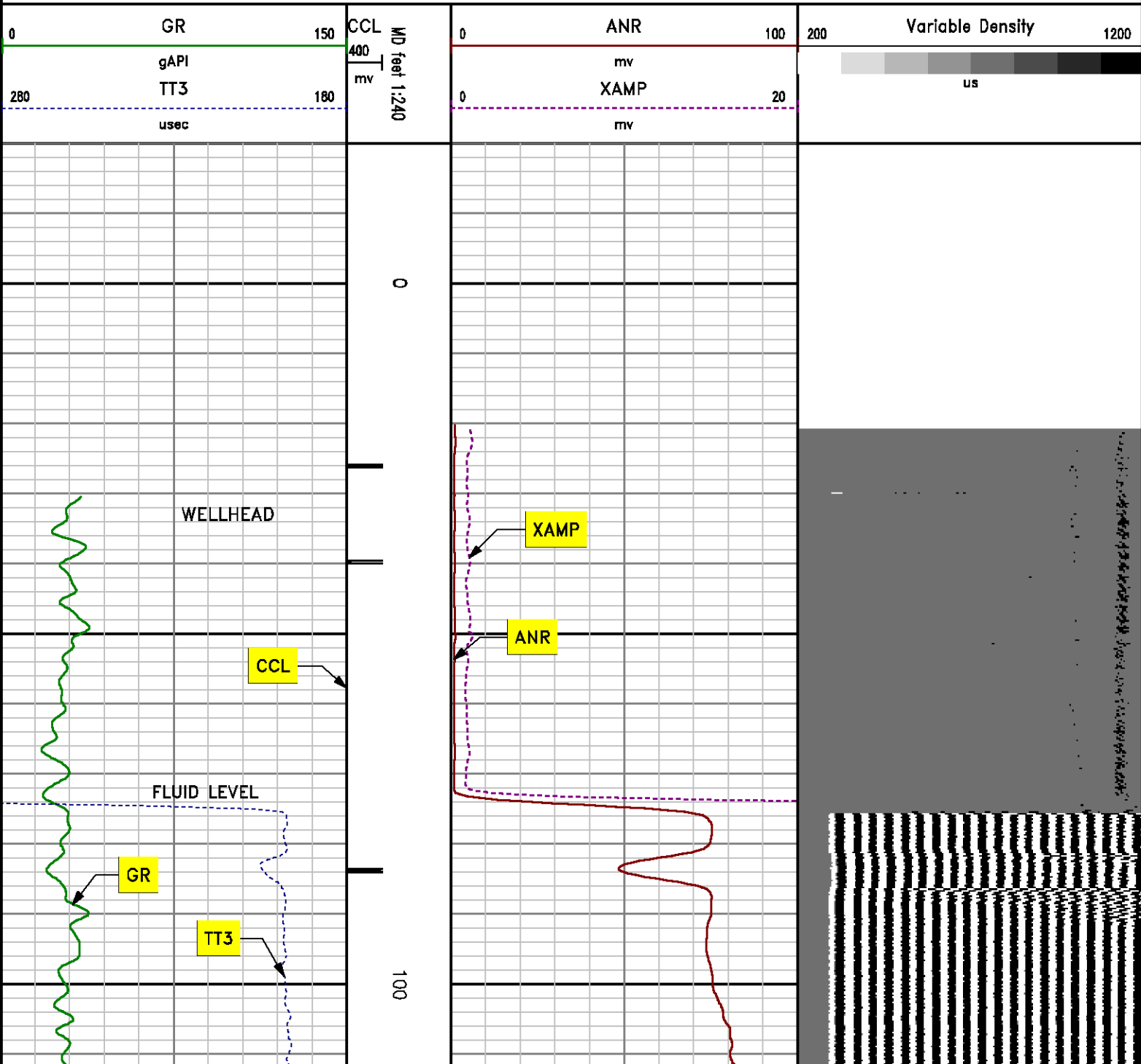
Well : DUGGAN RWF 323-29

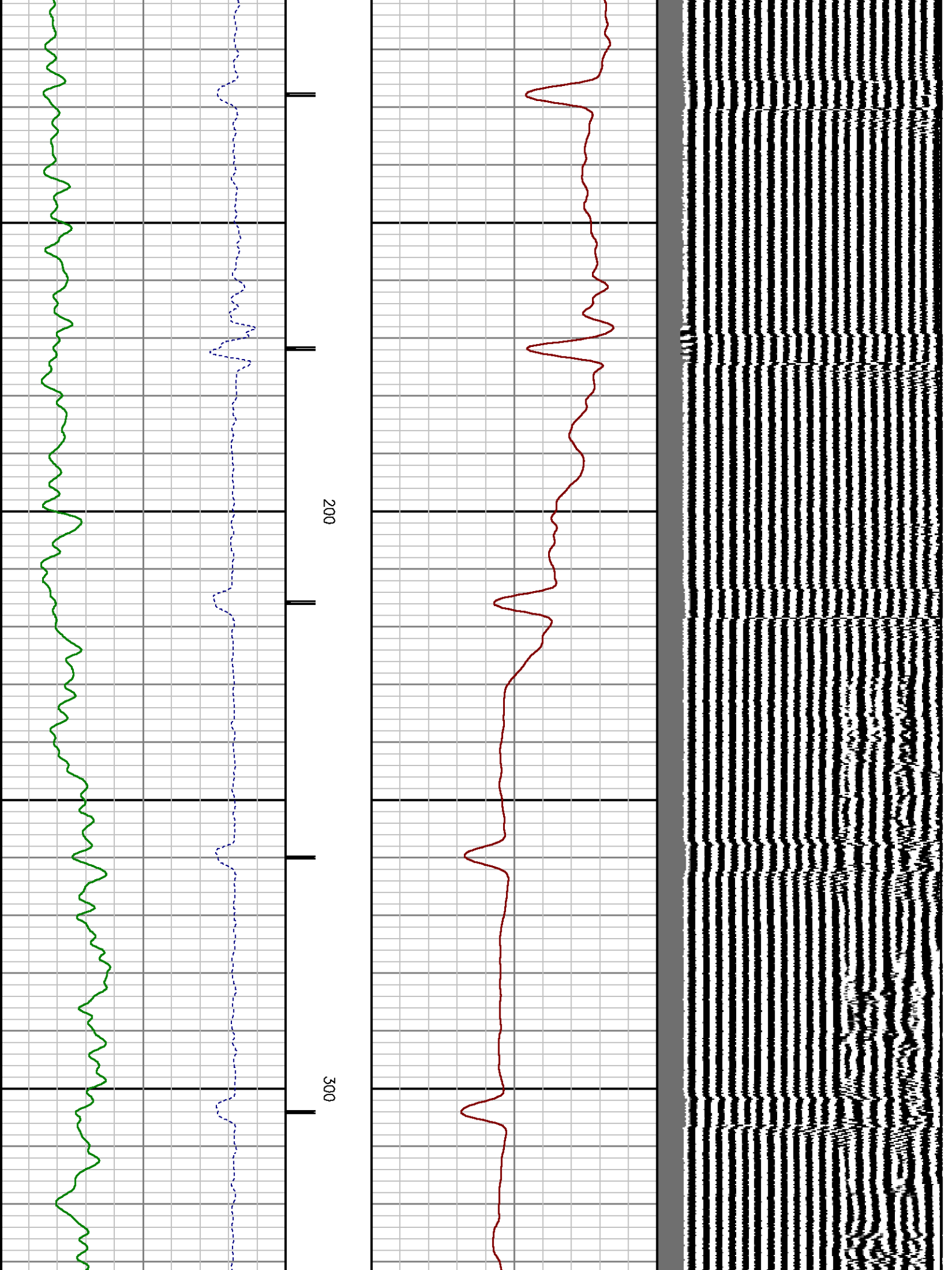
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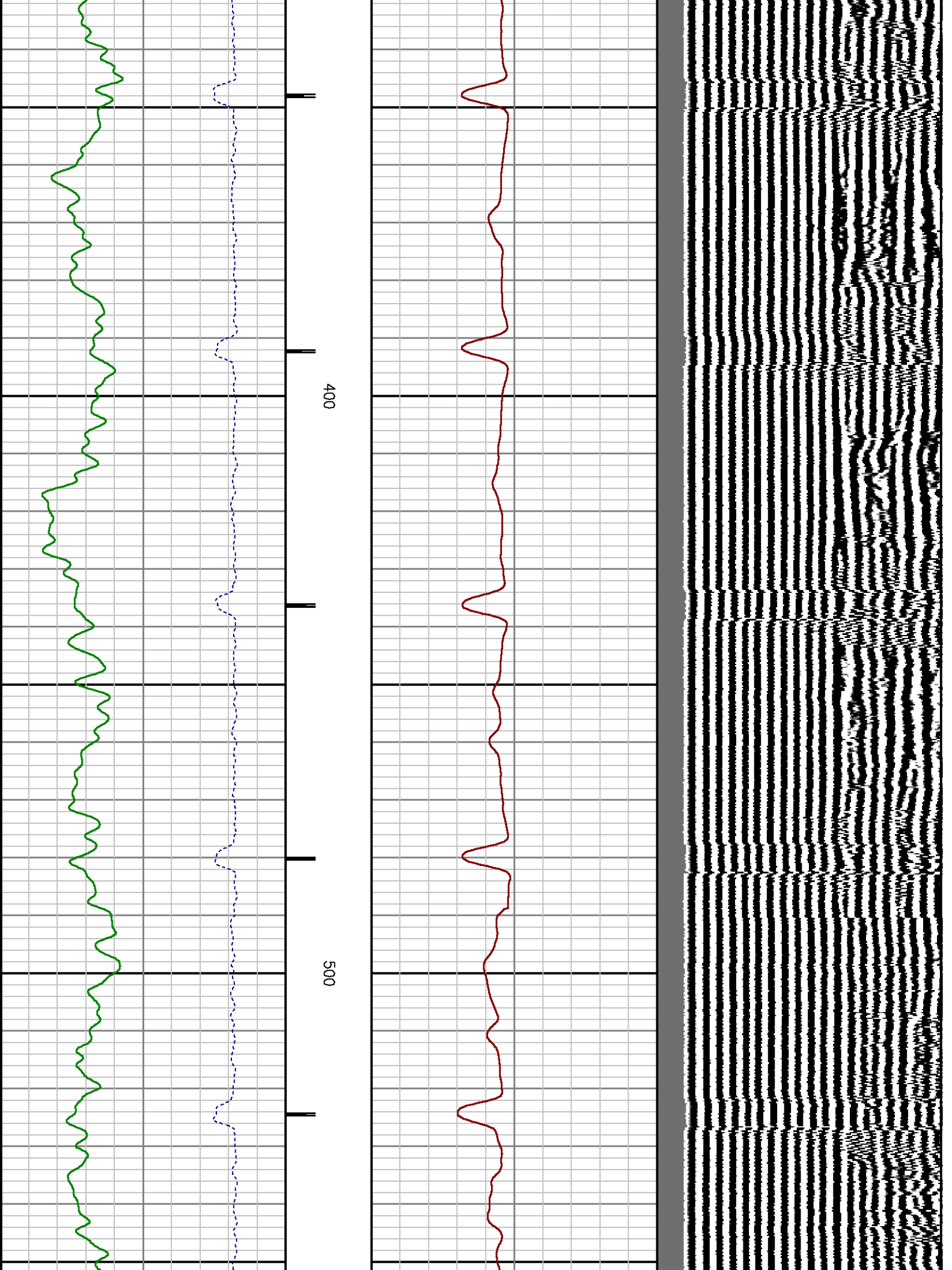
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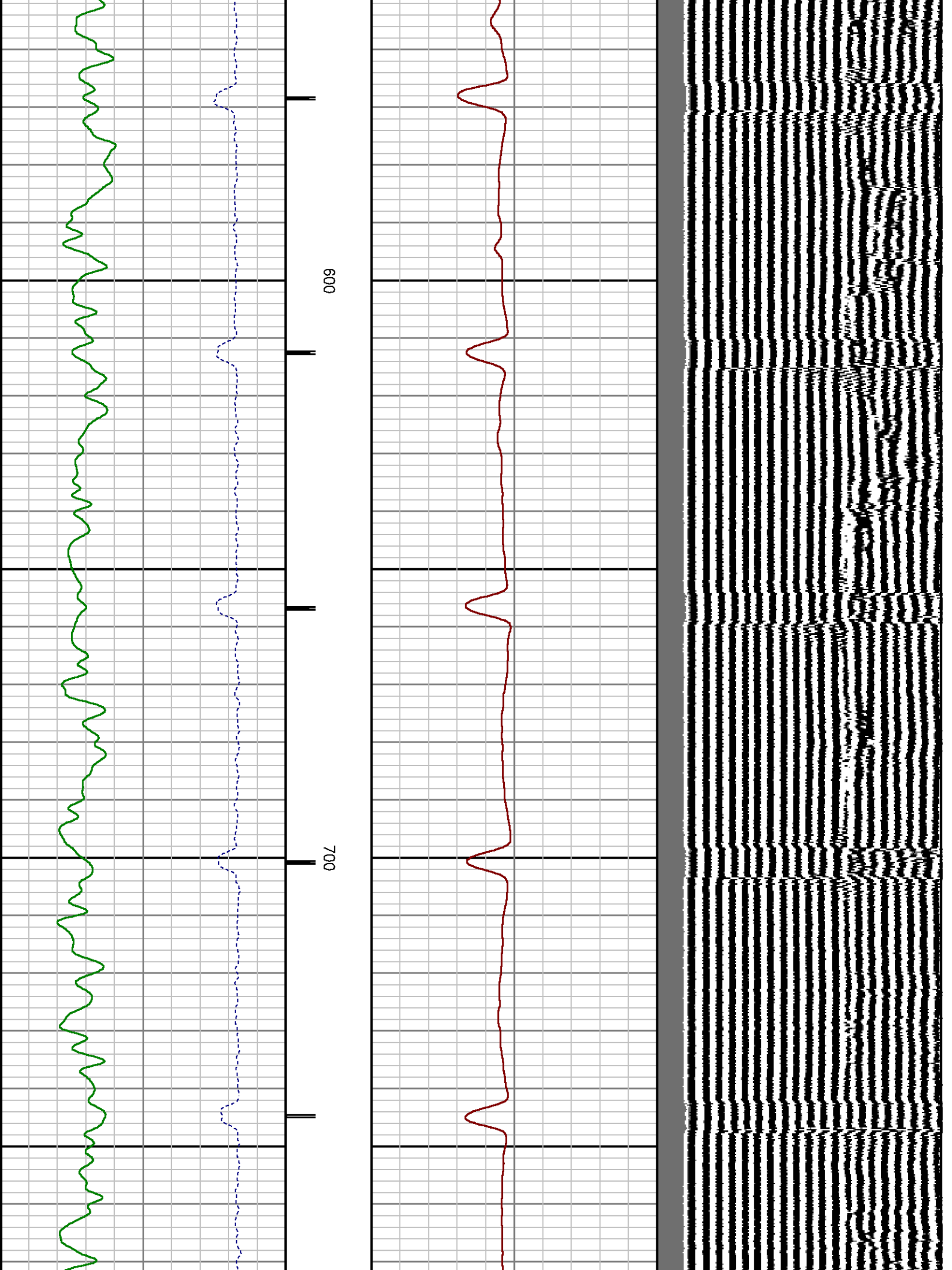
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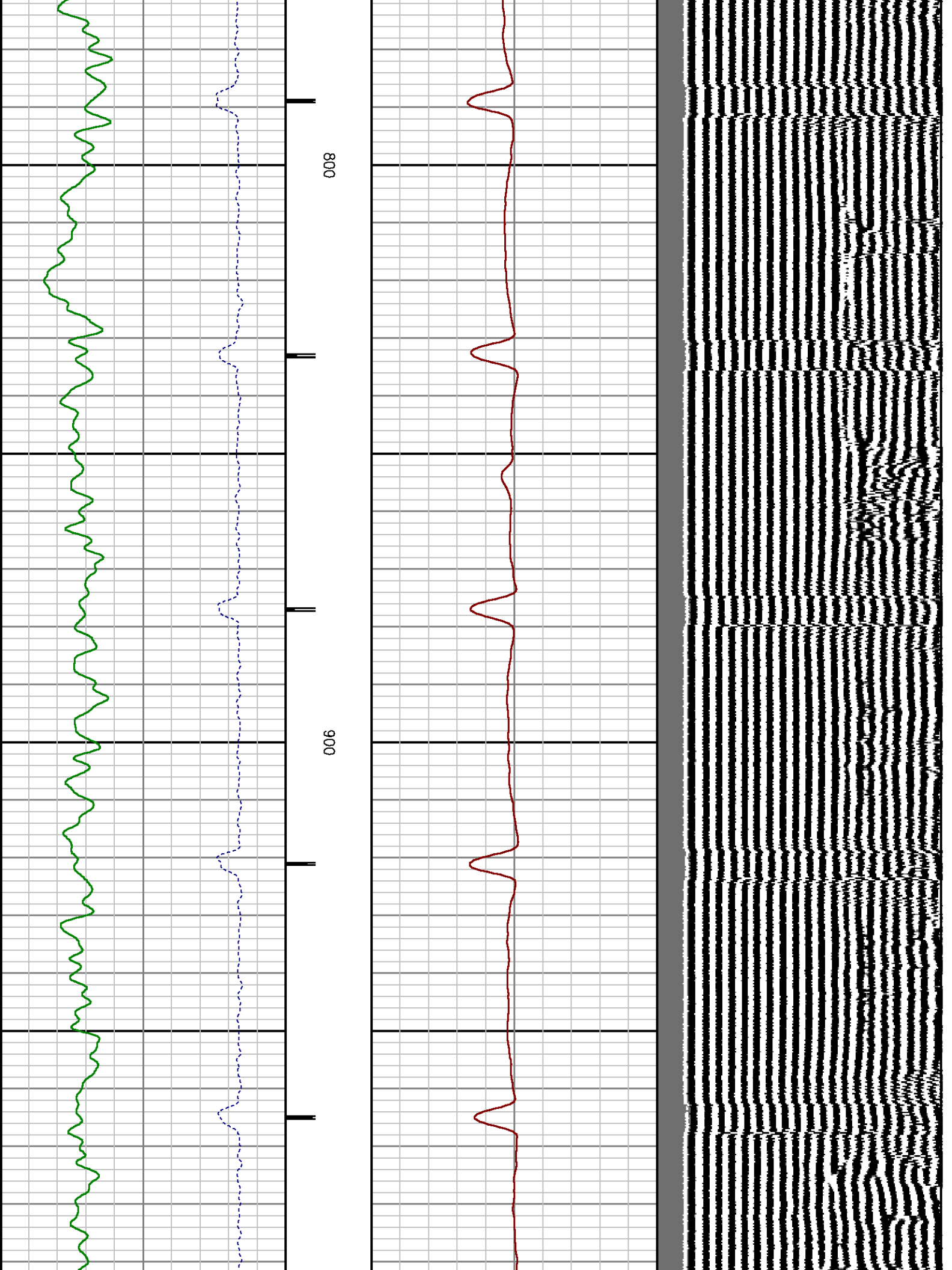
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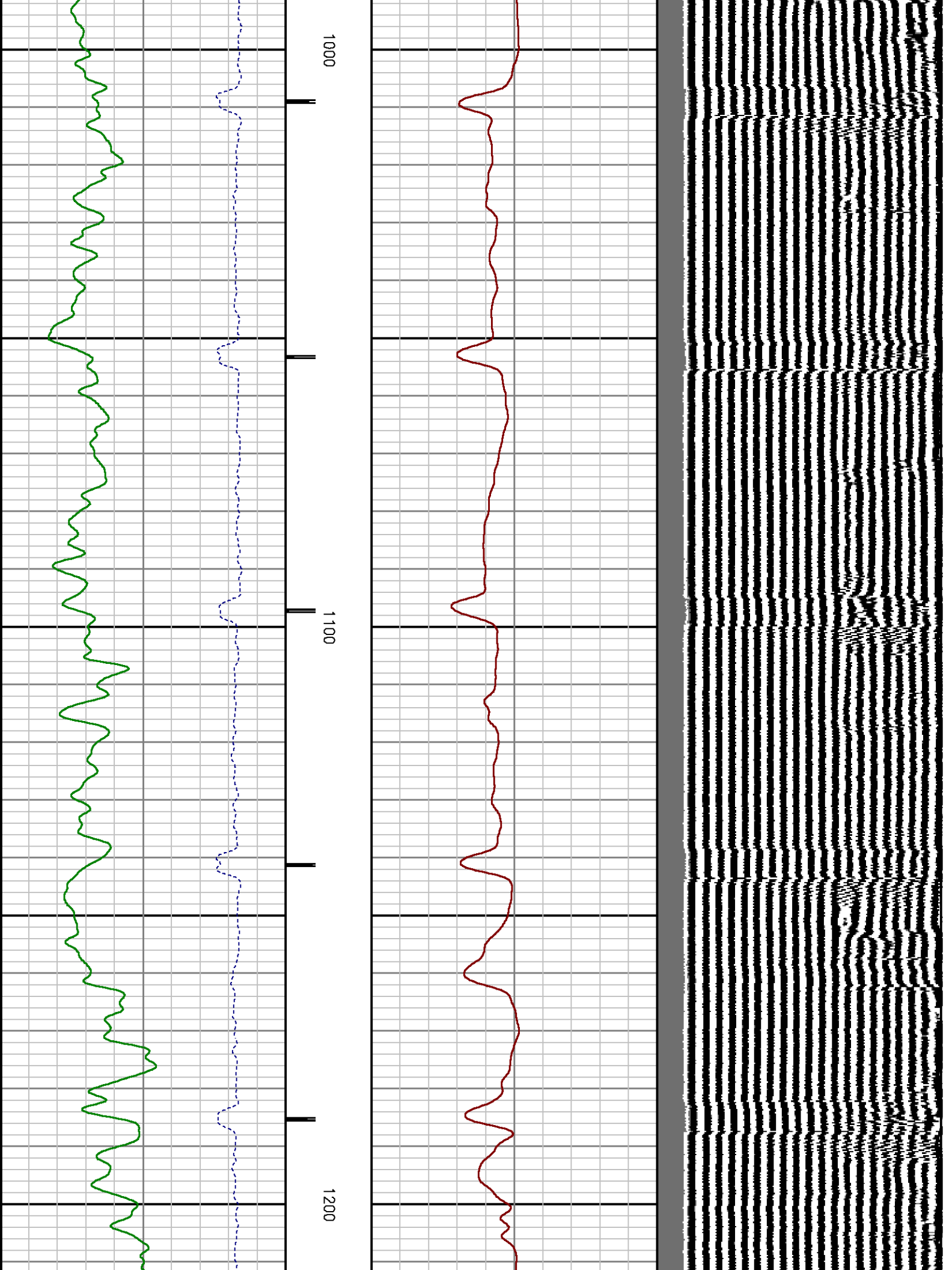


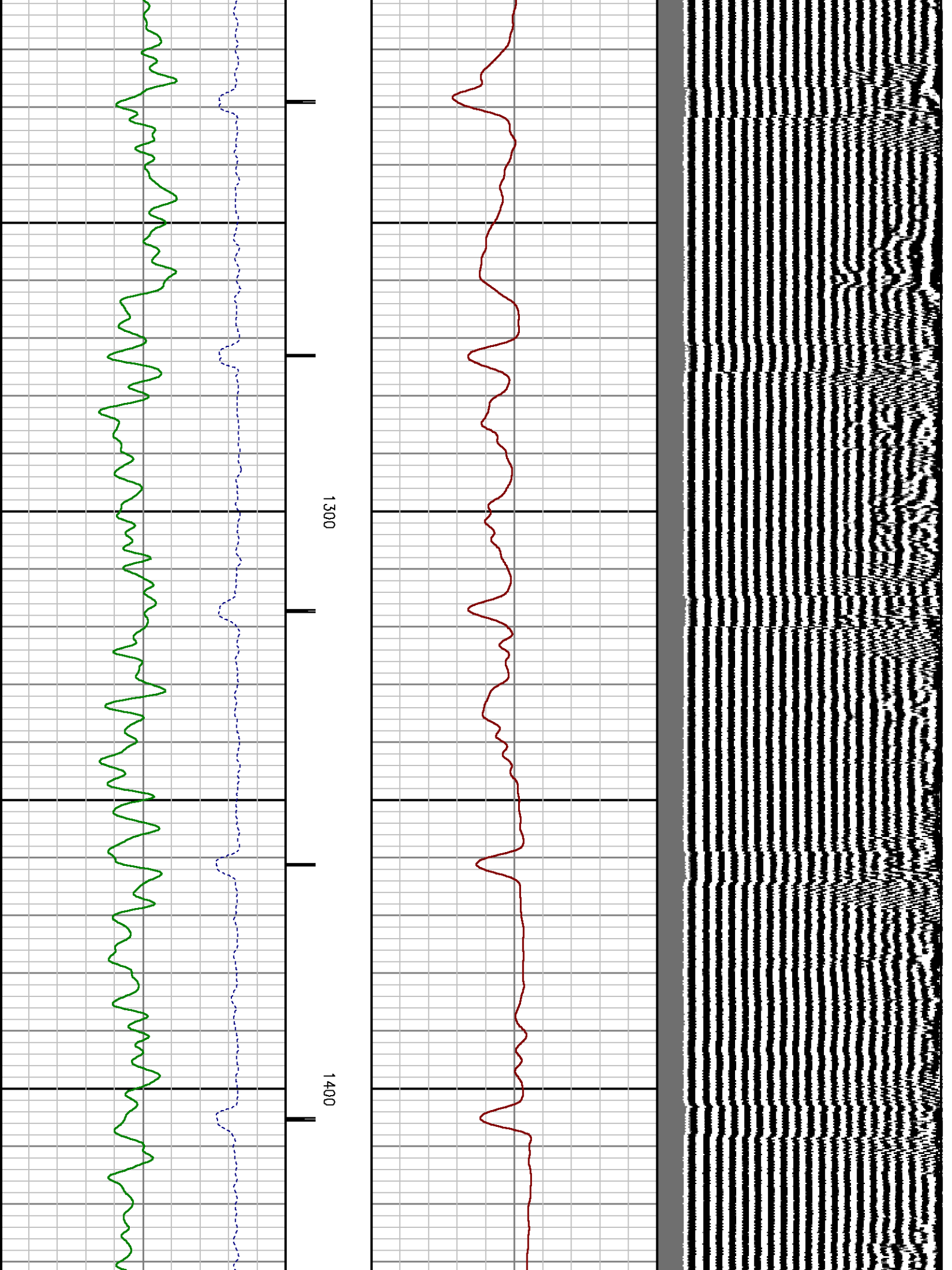


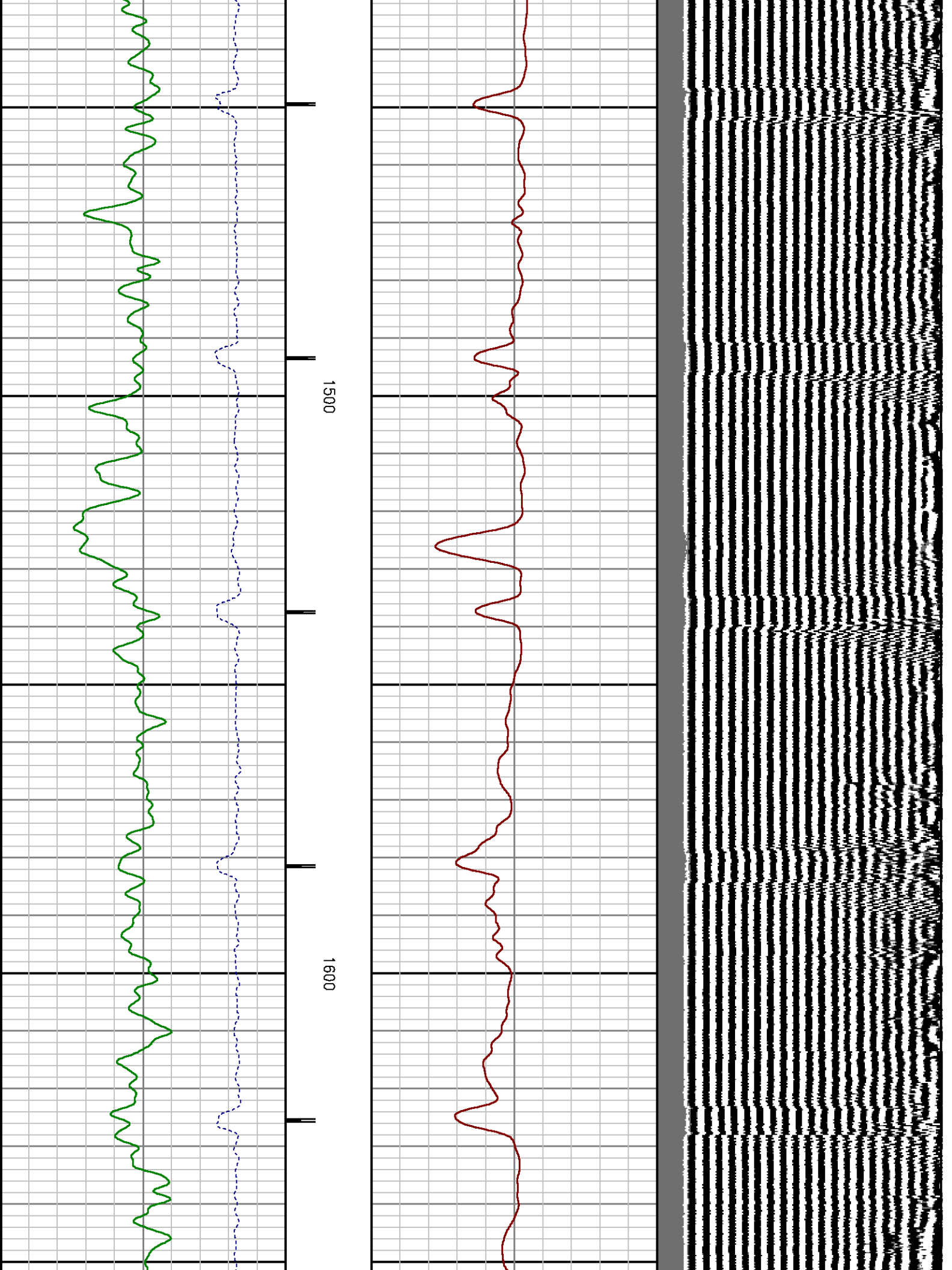


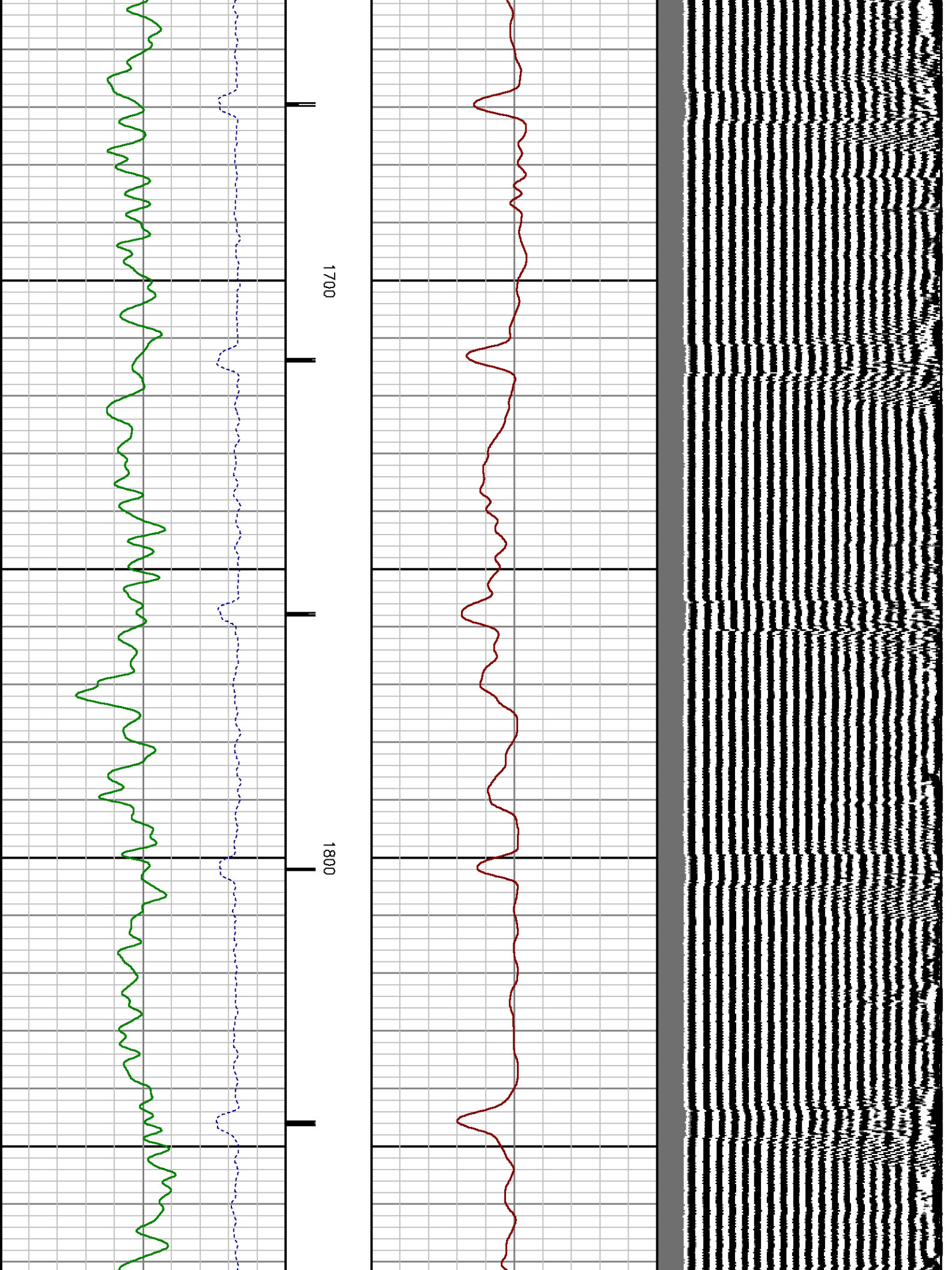


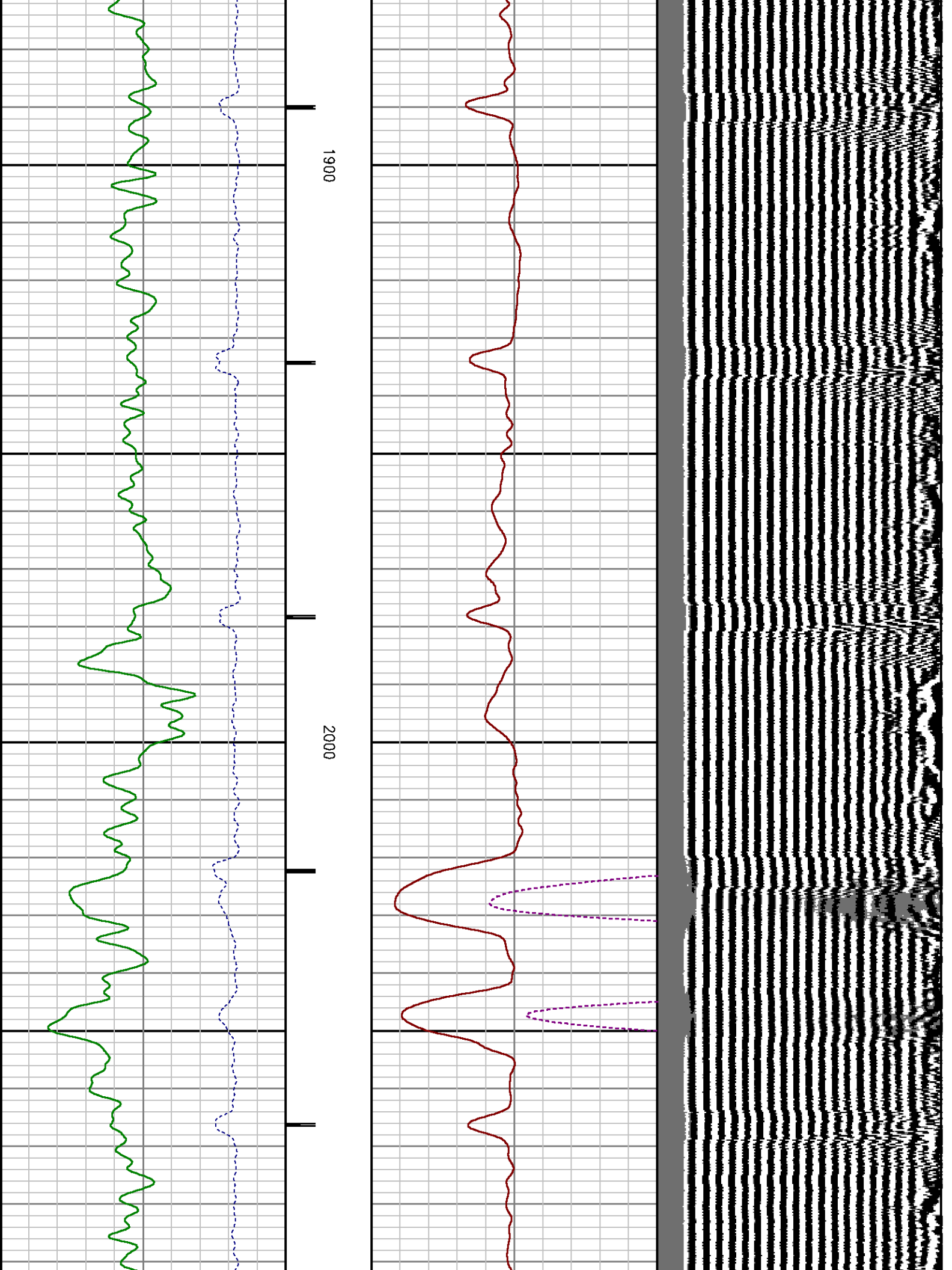


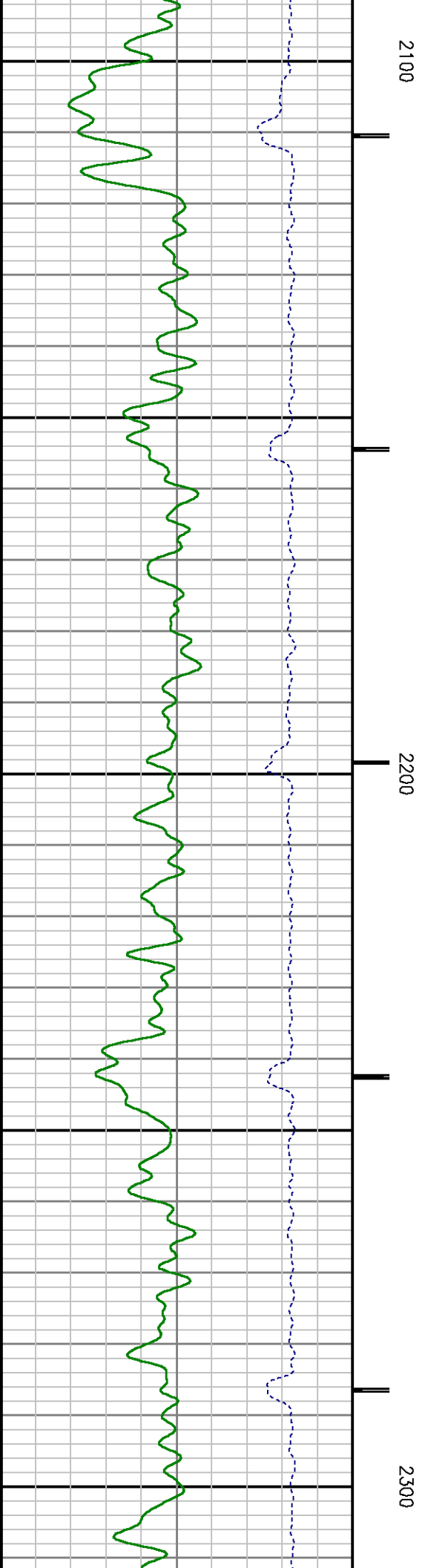
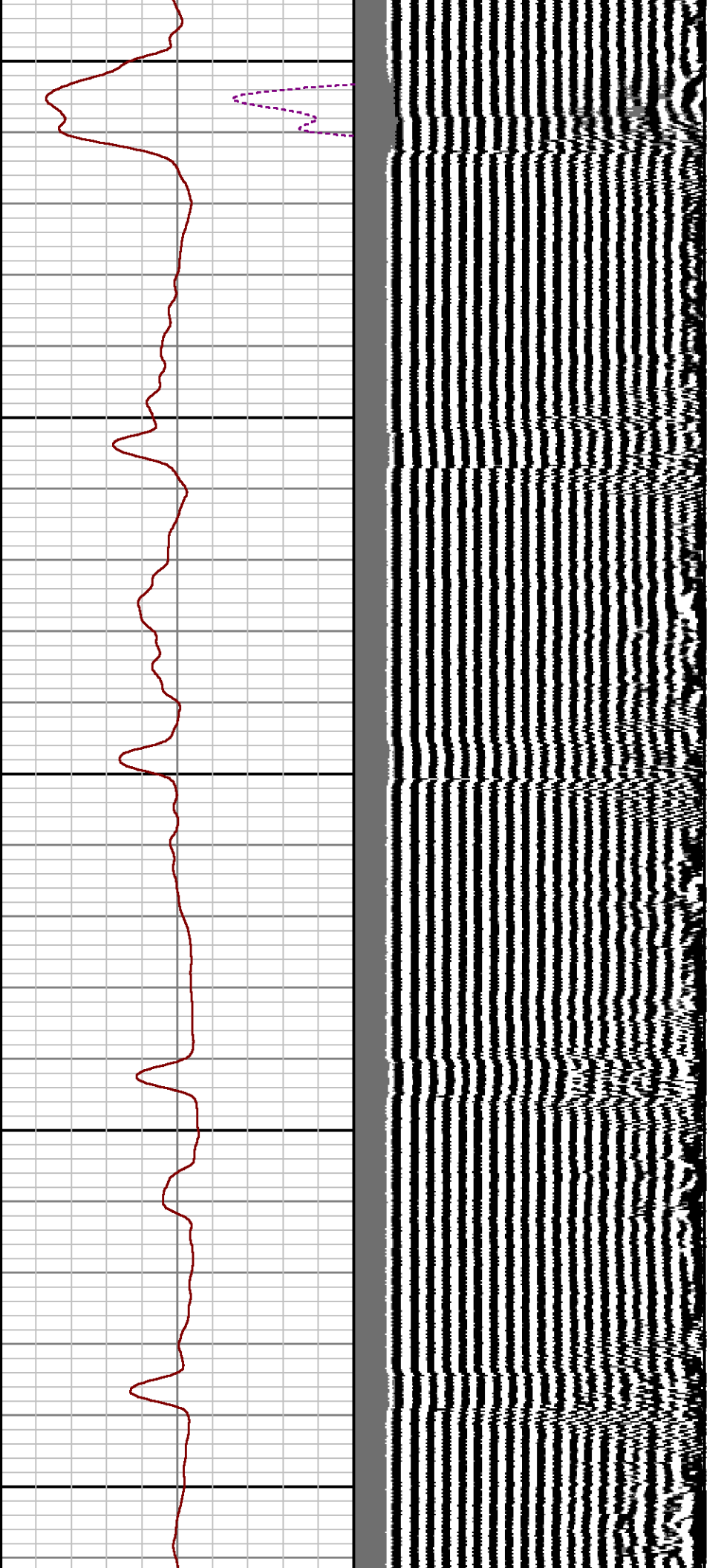


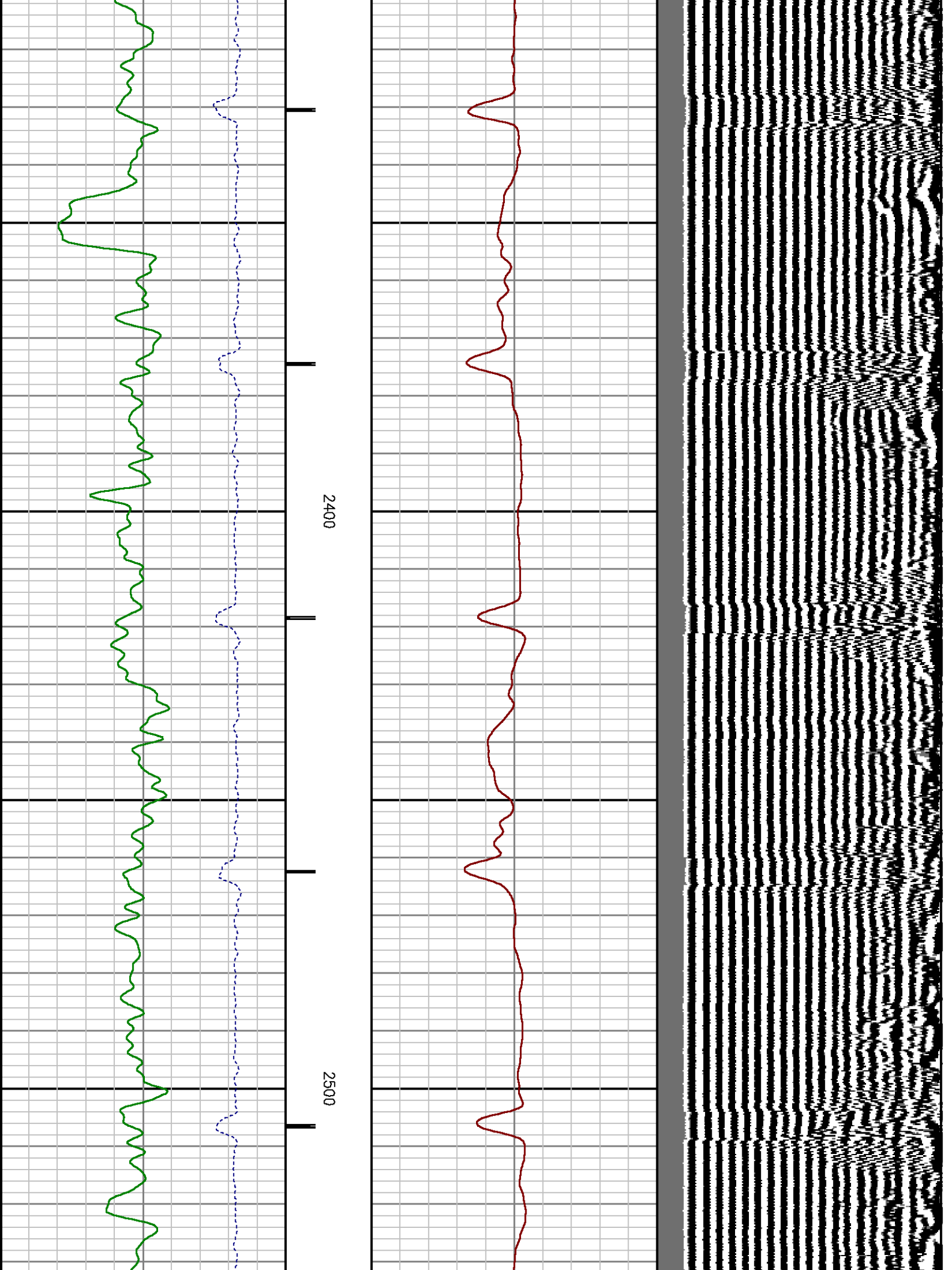


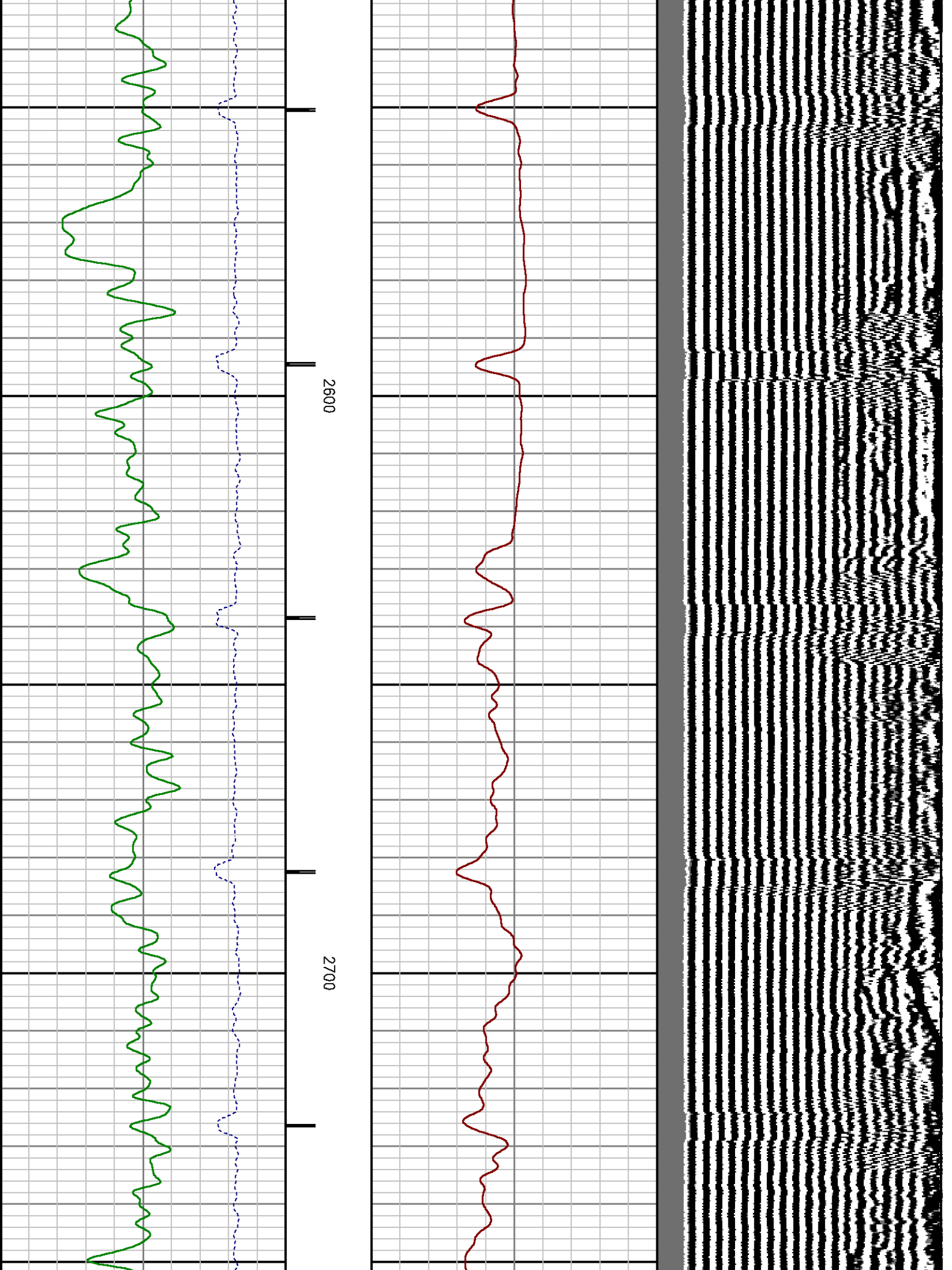


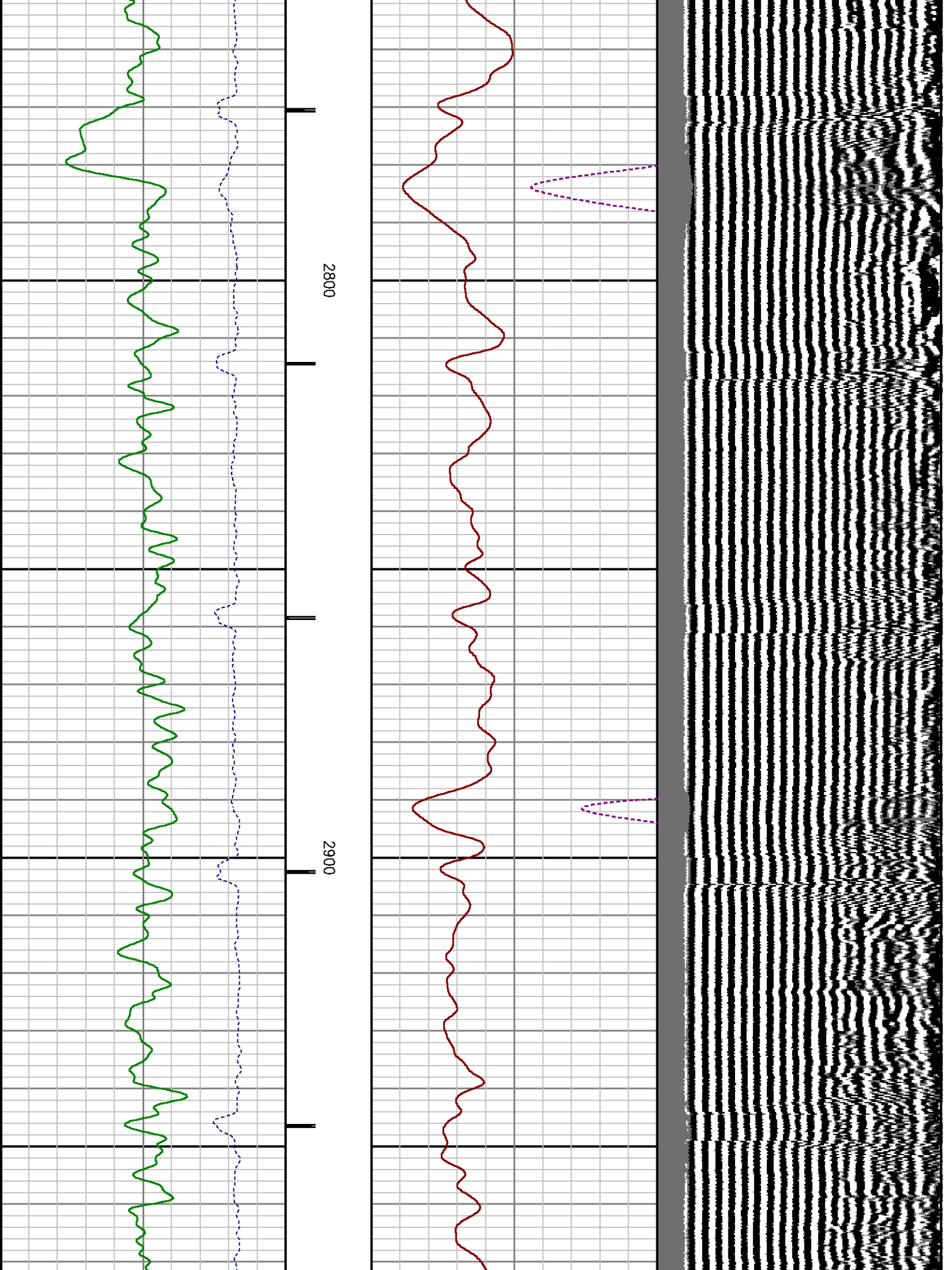


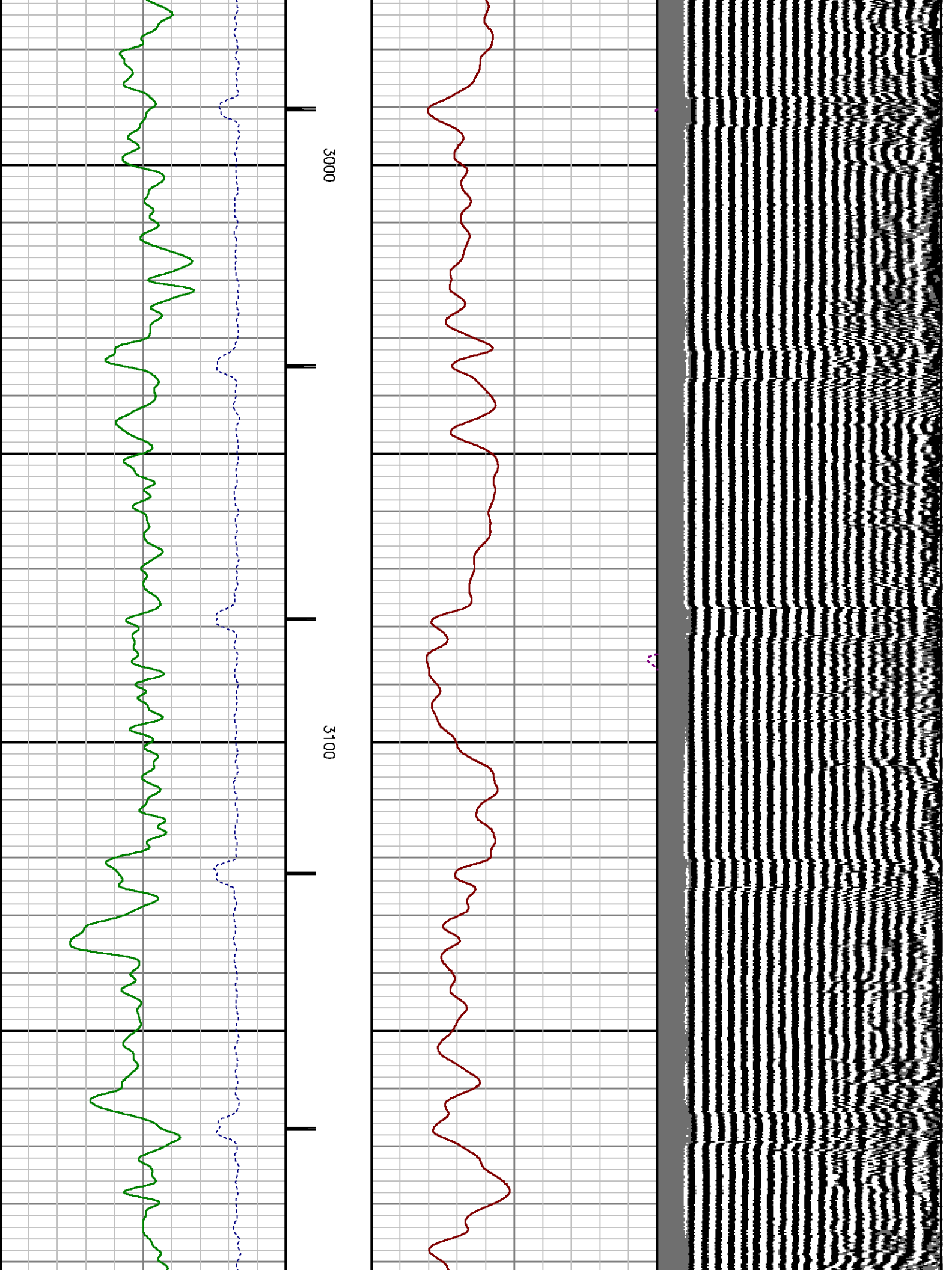


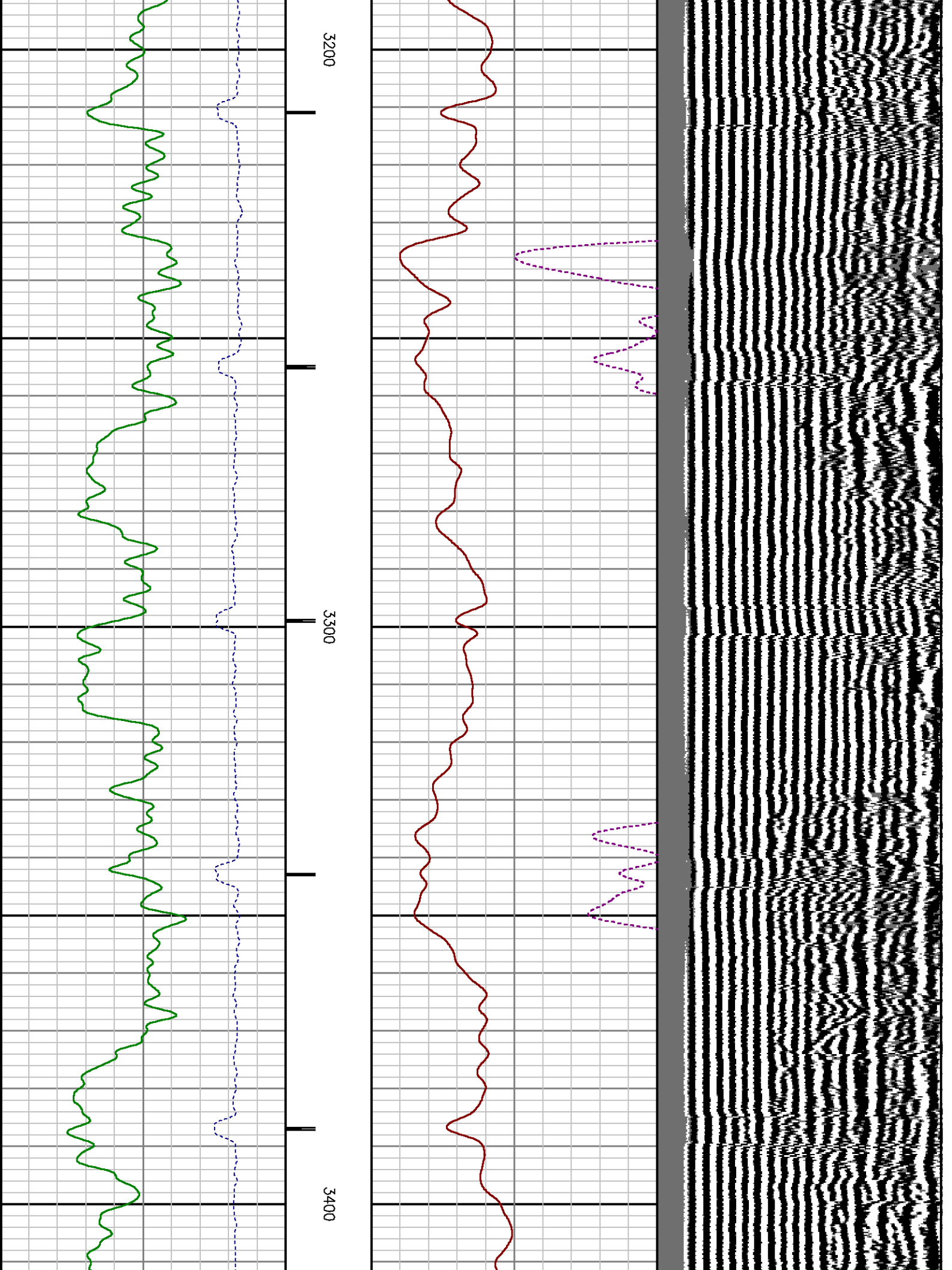


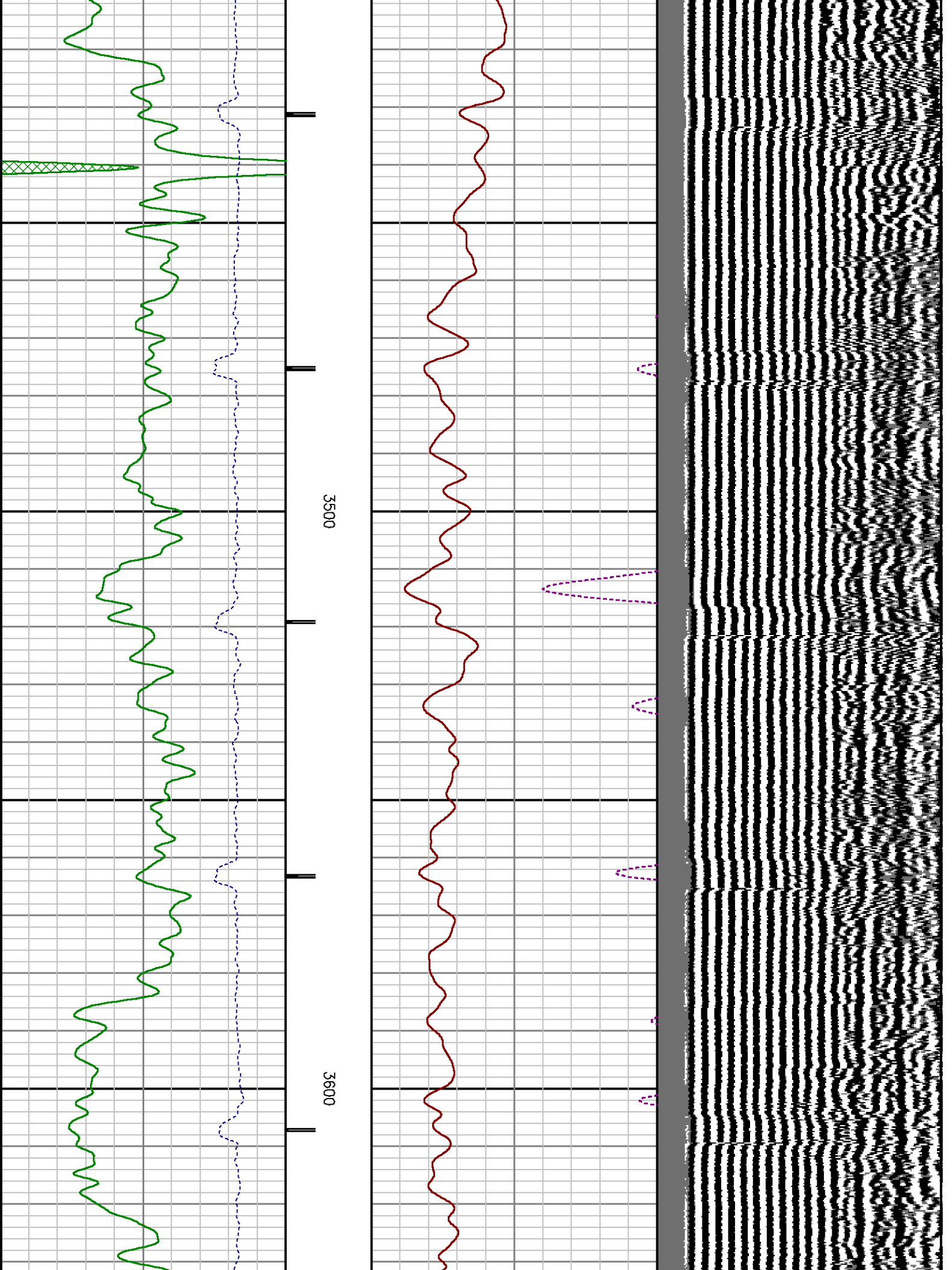


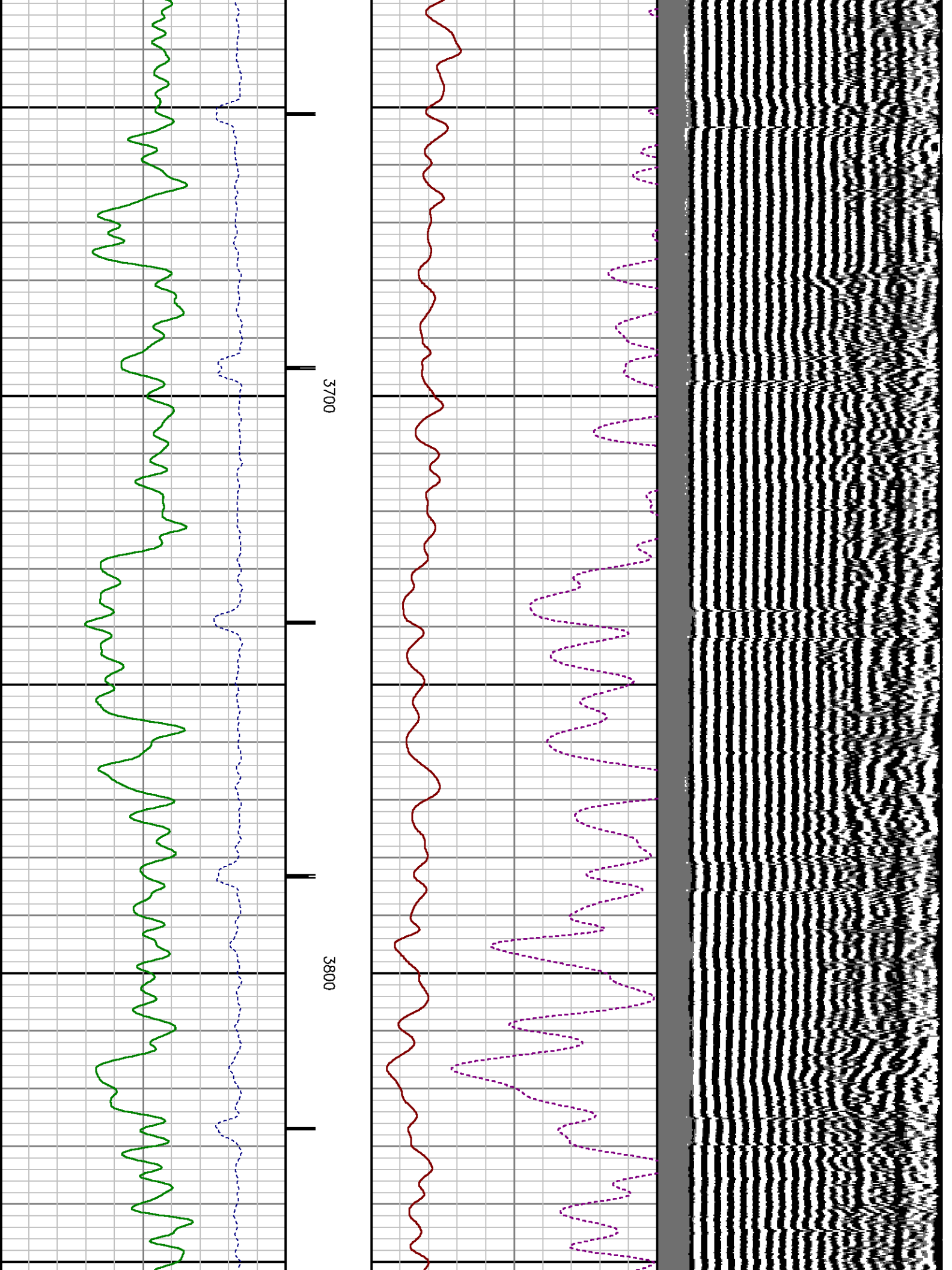


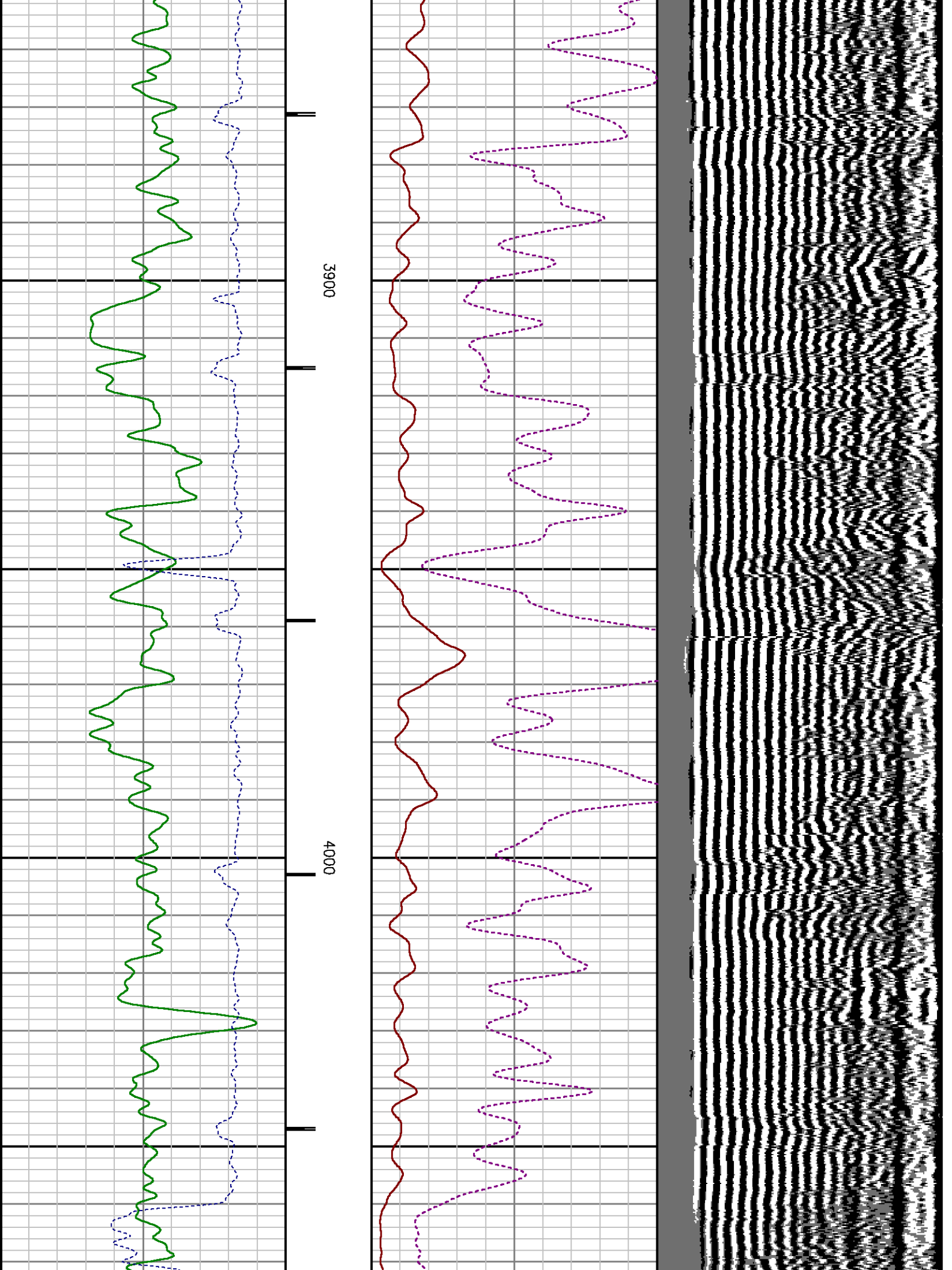


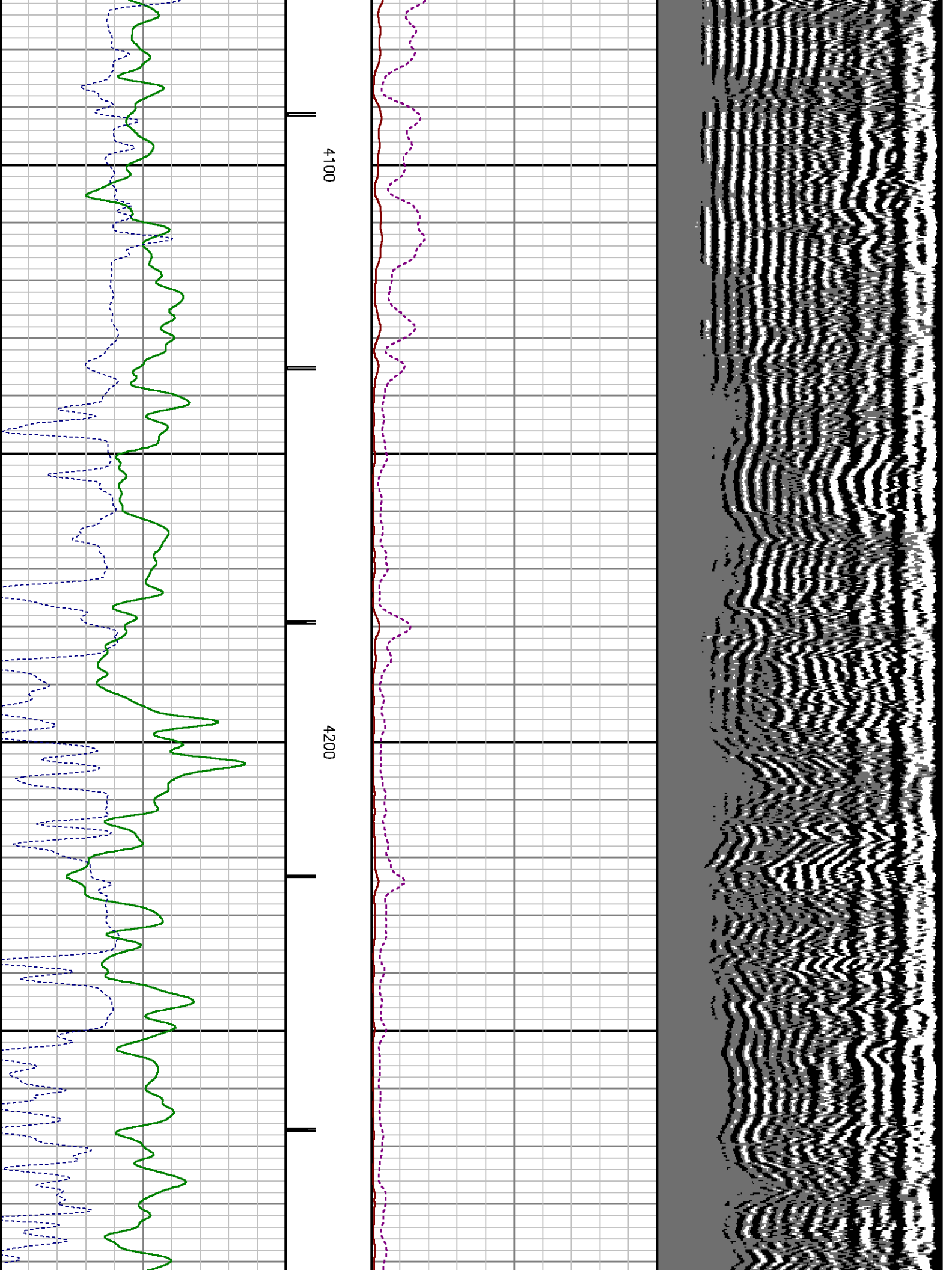


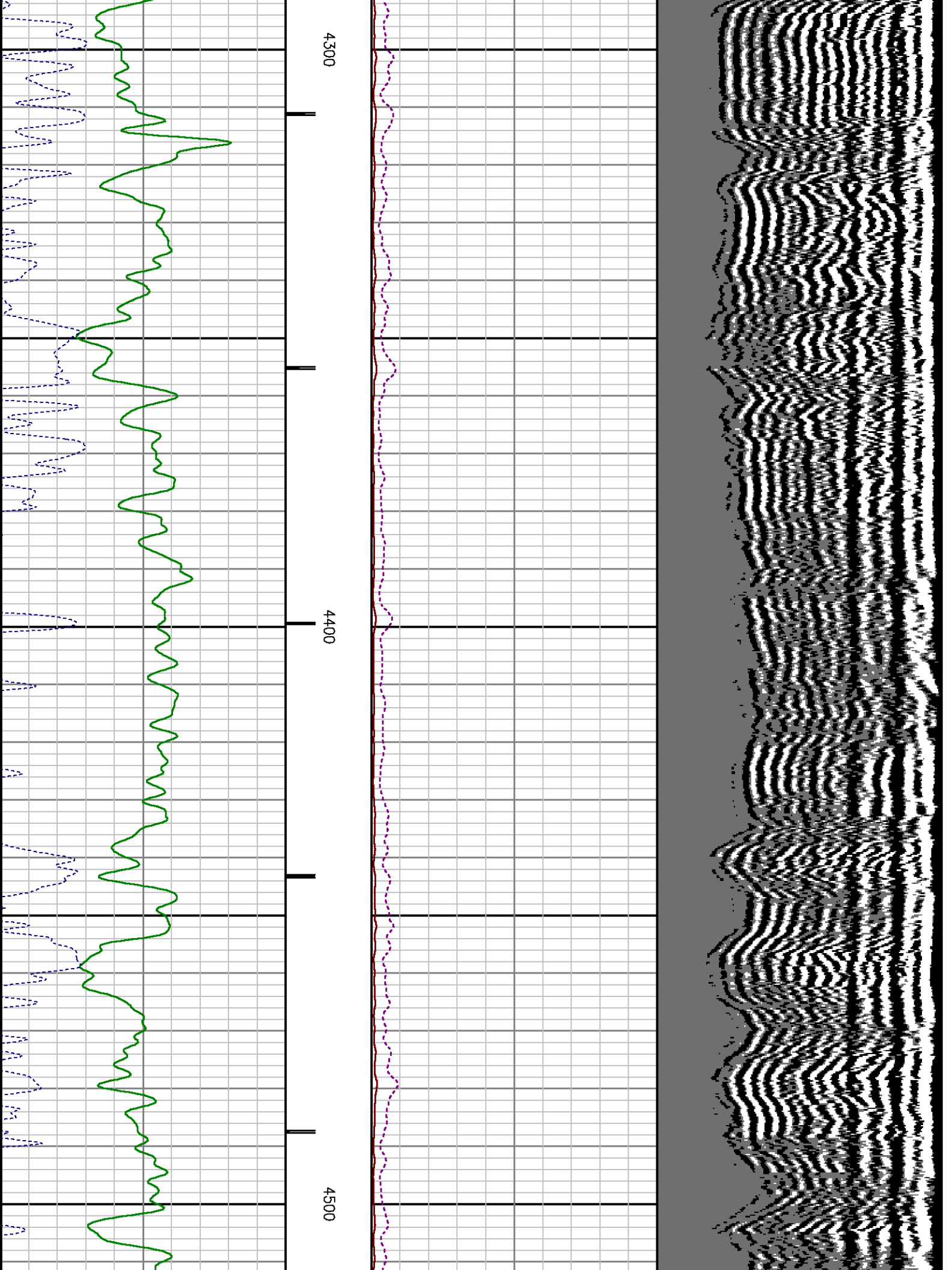


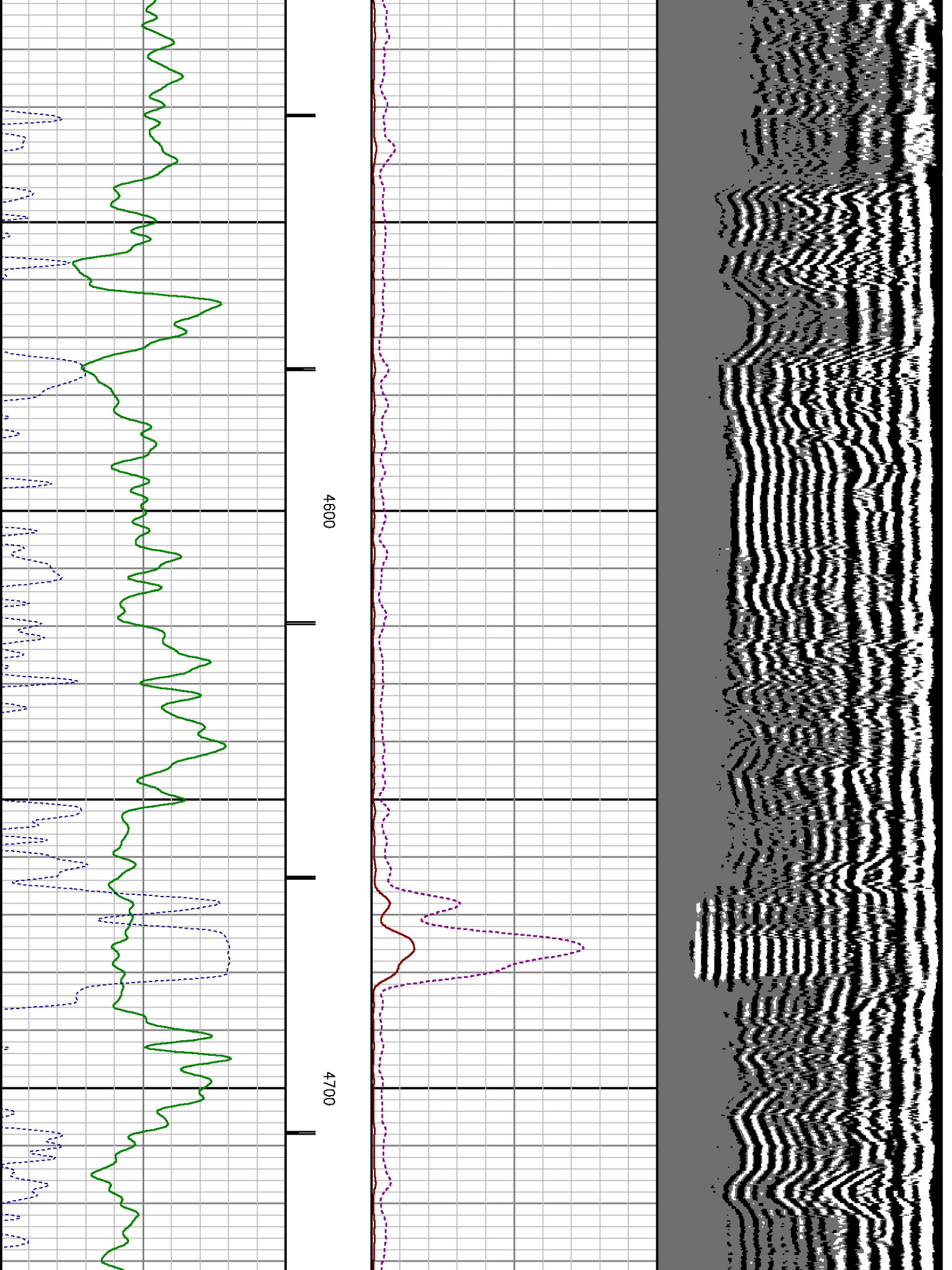


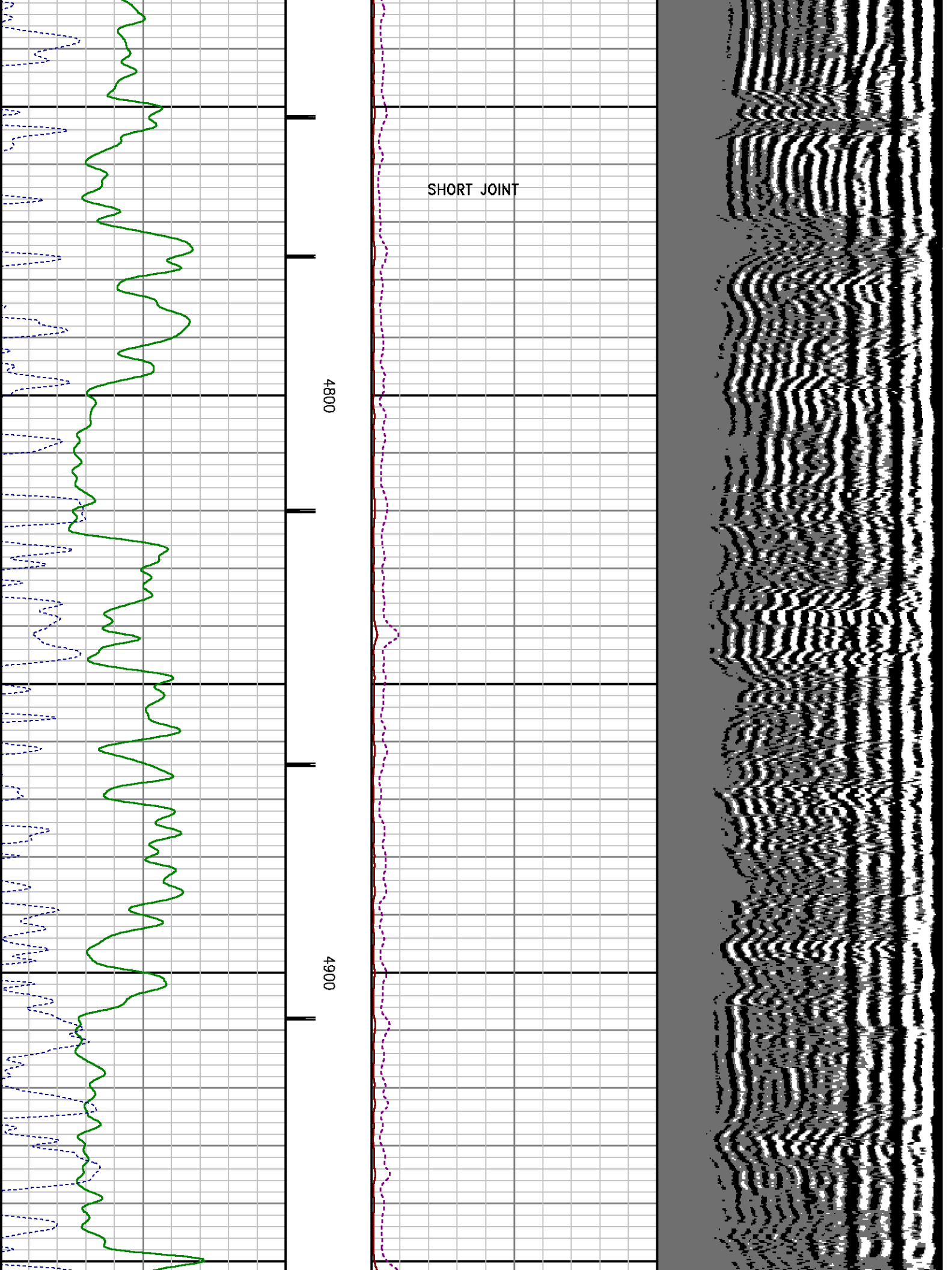


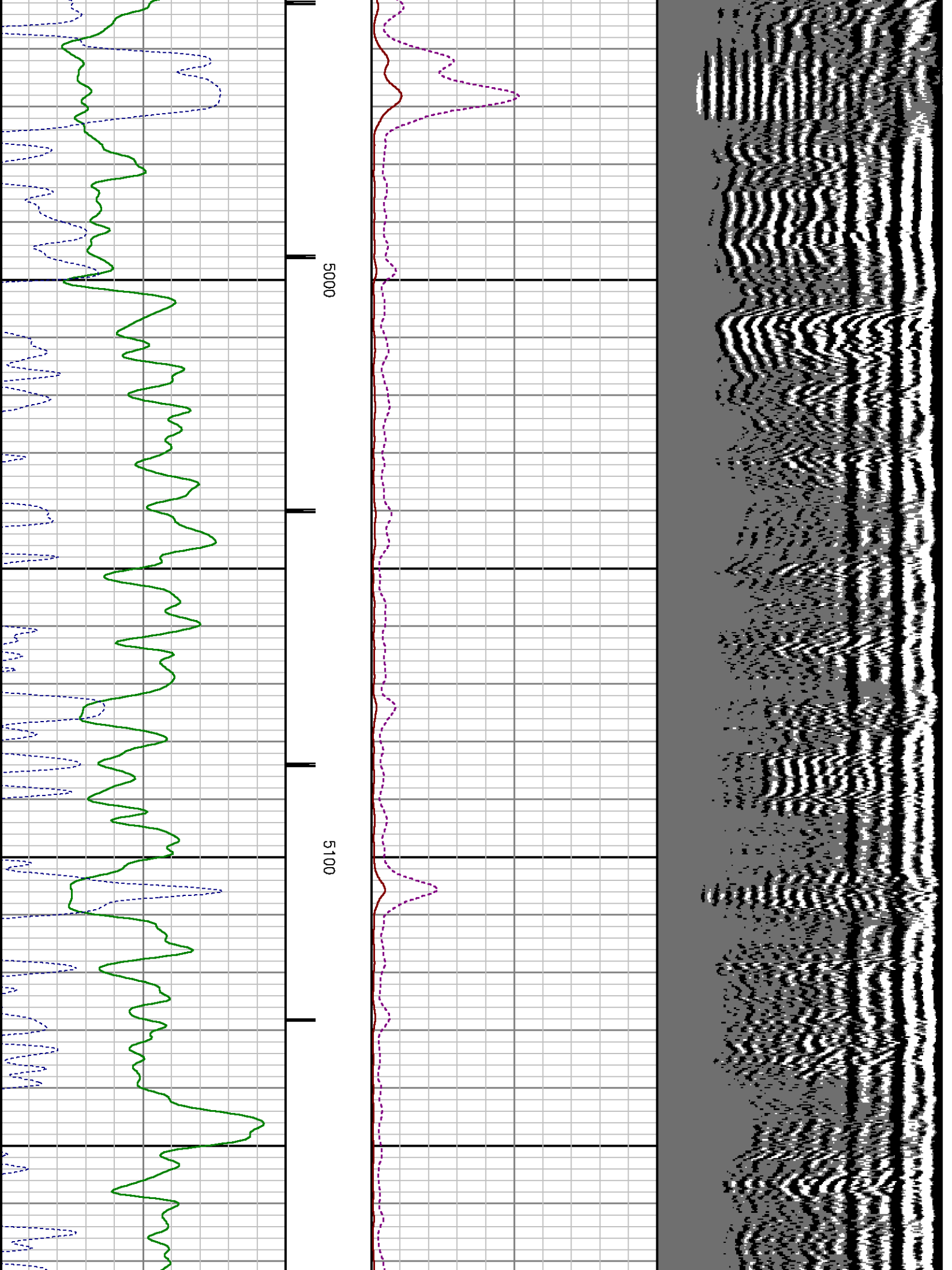


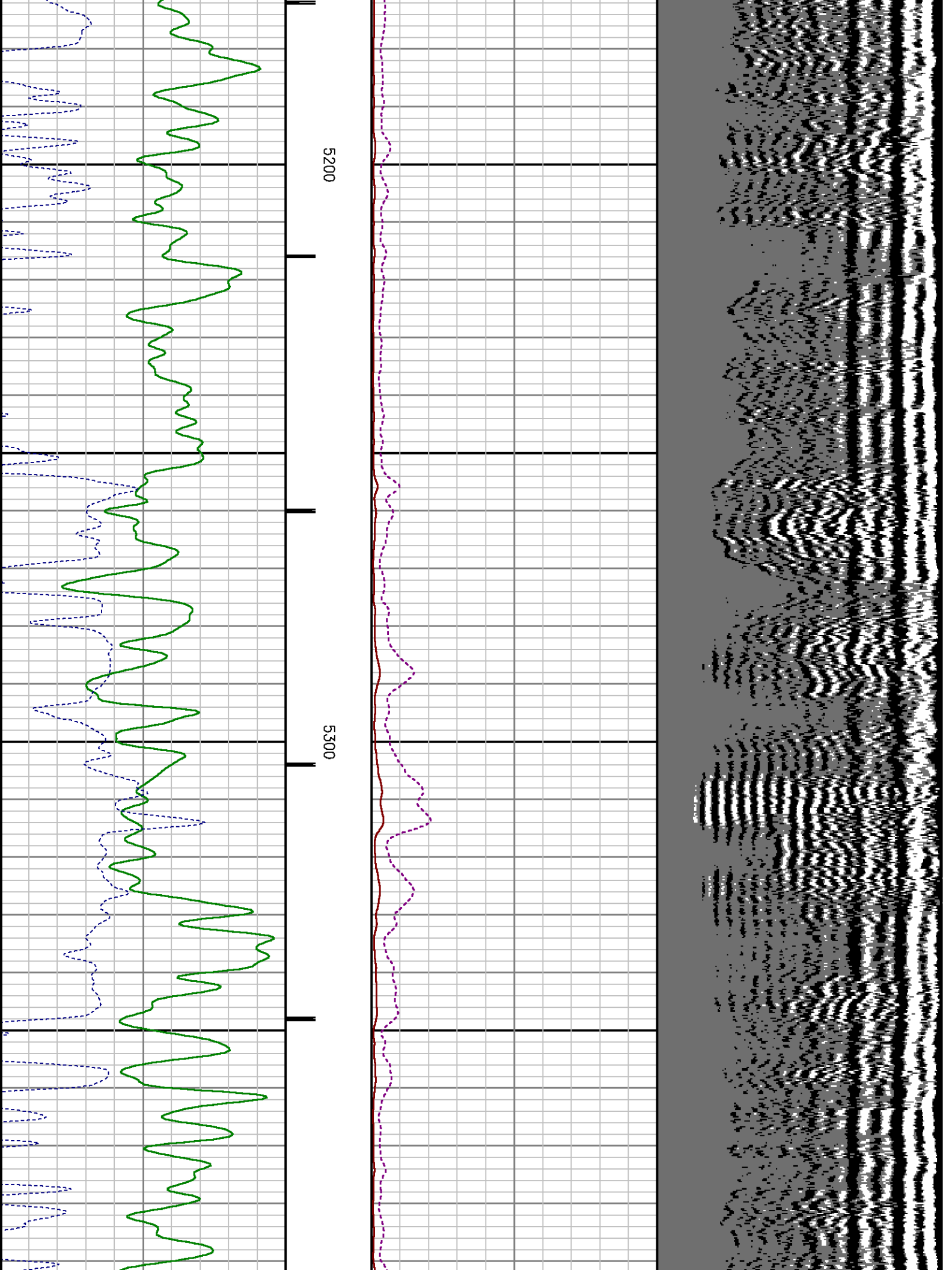


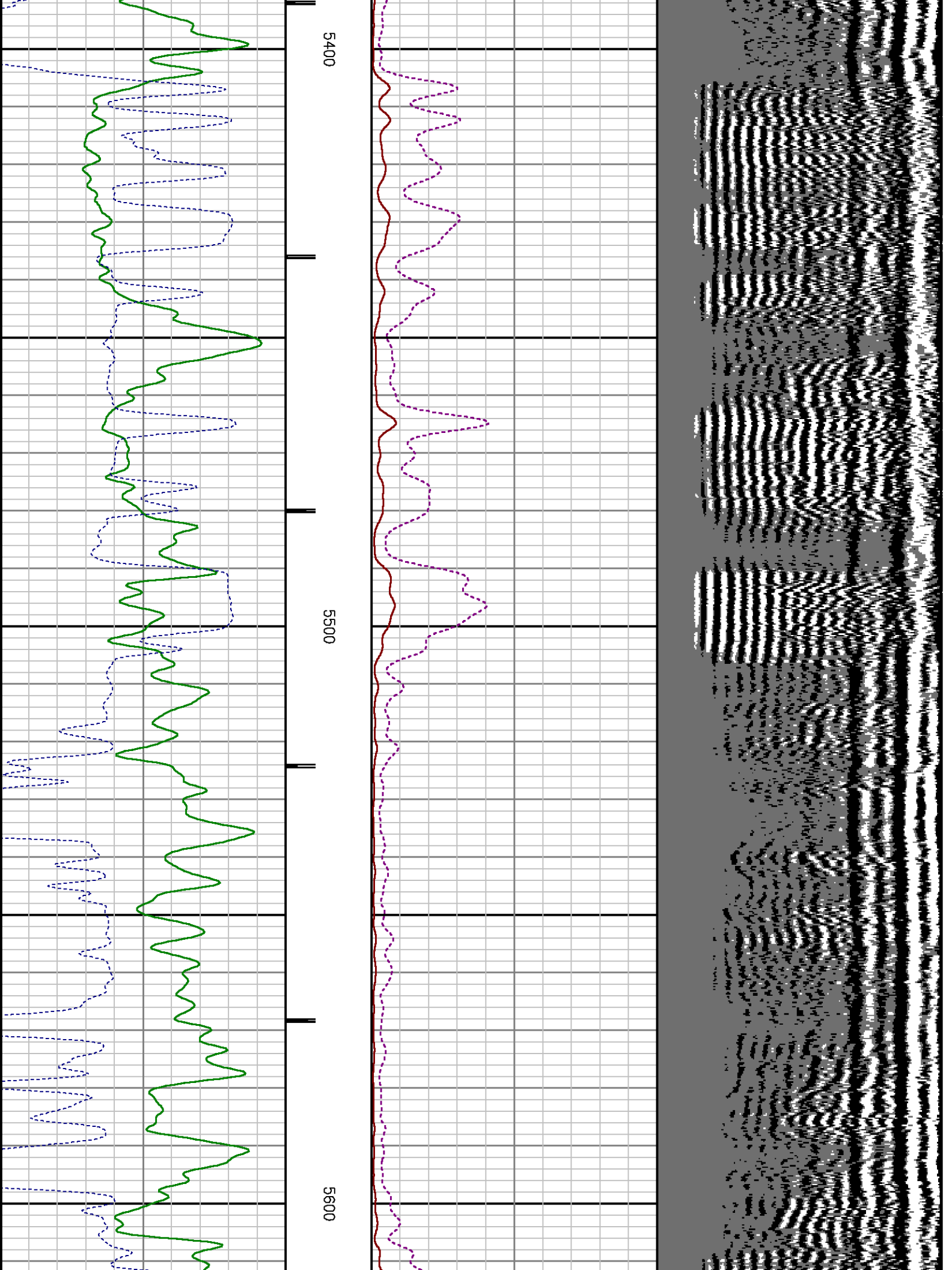


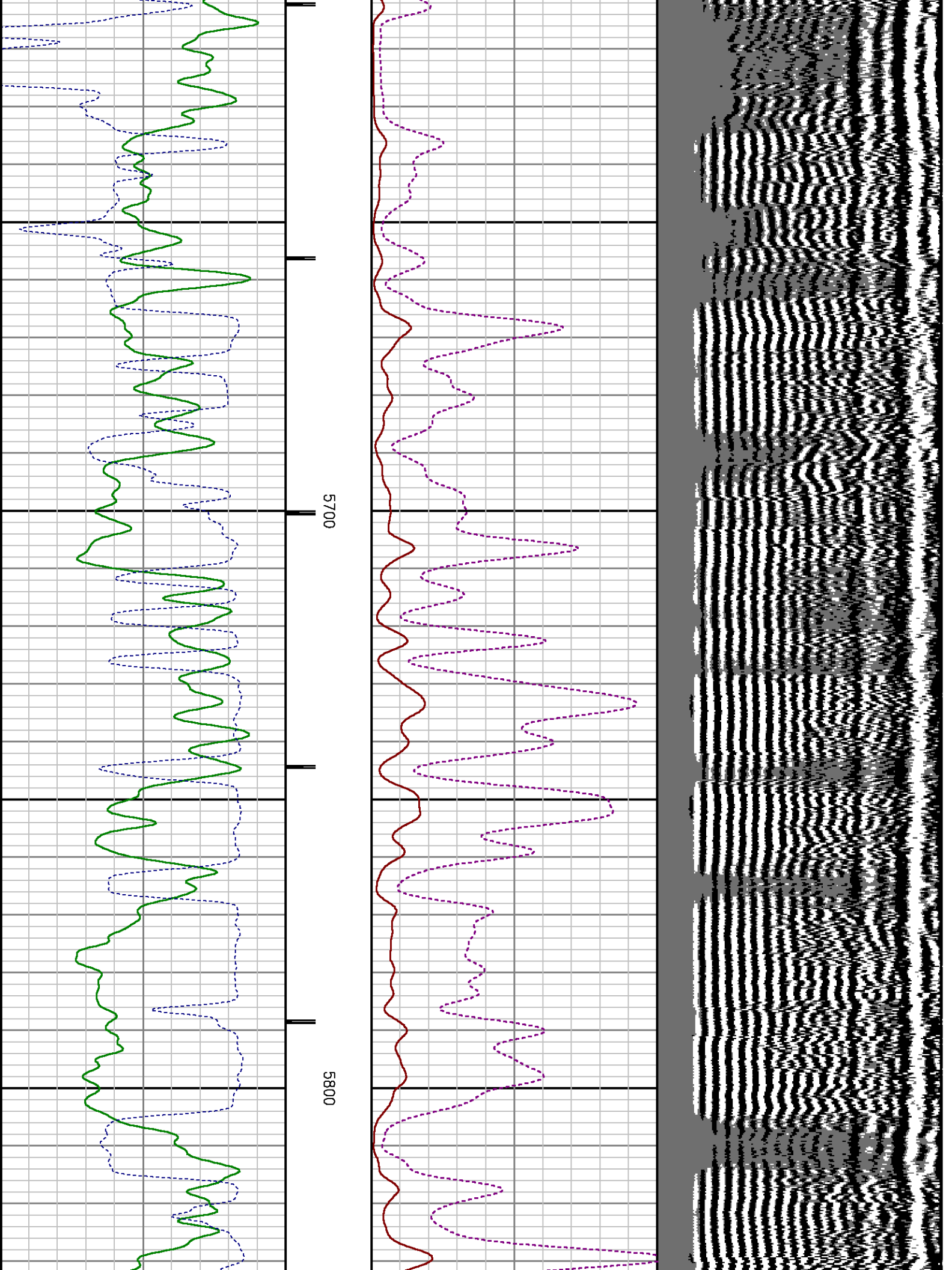


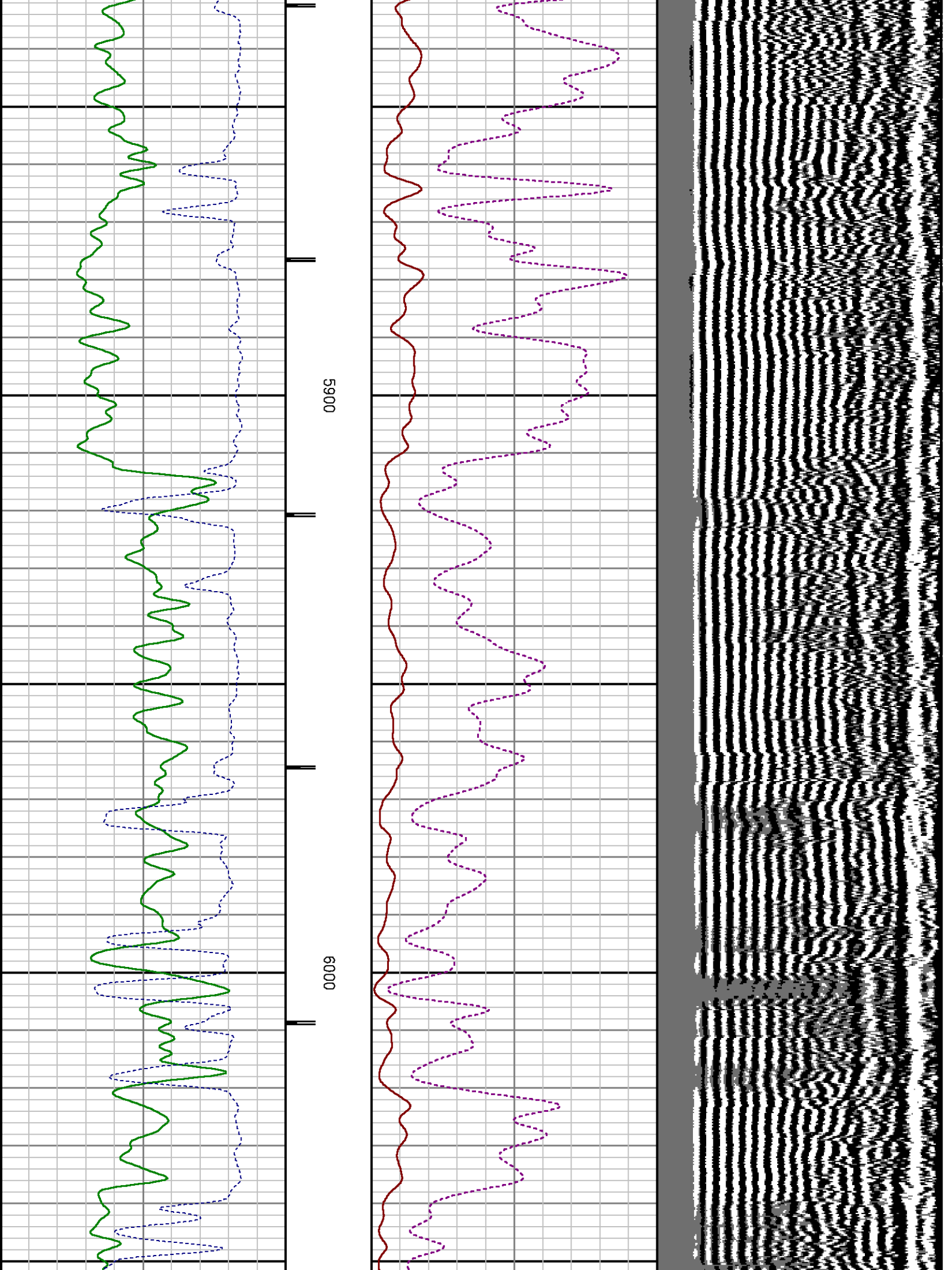


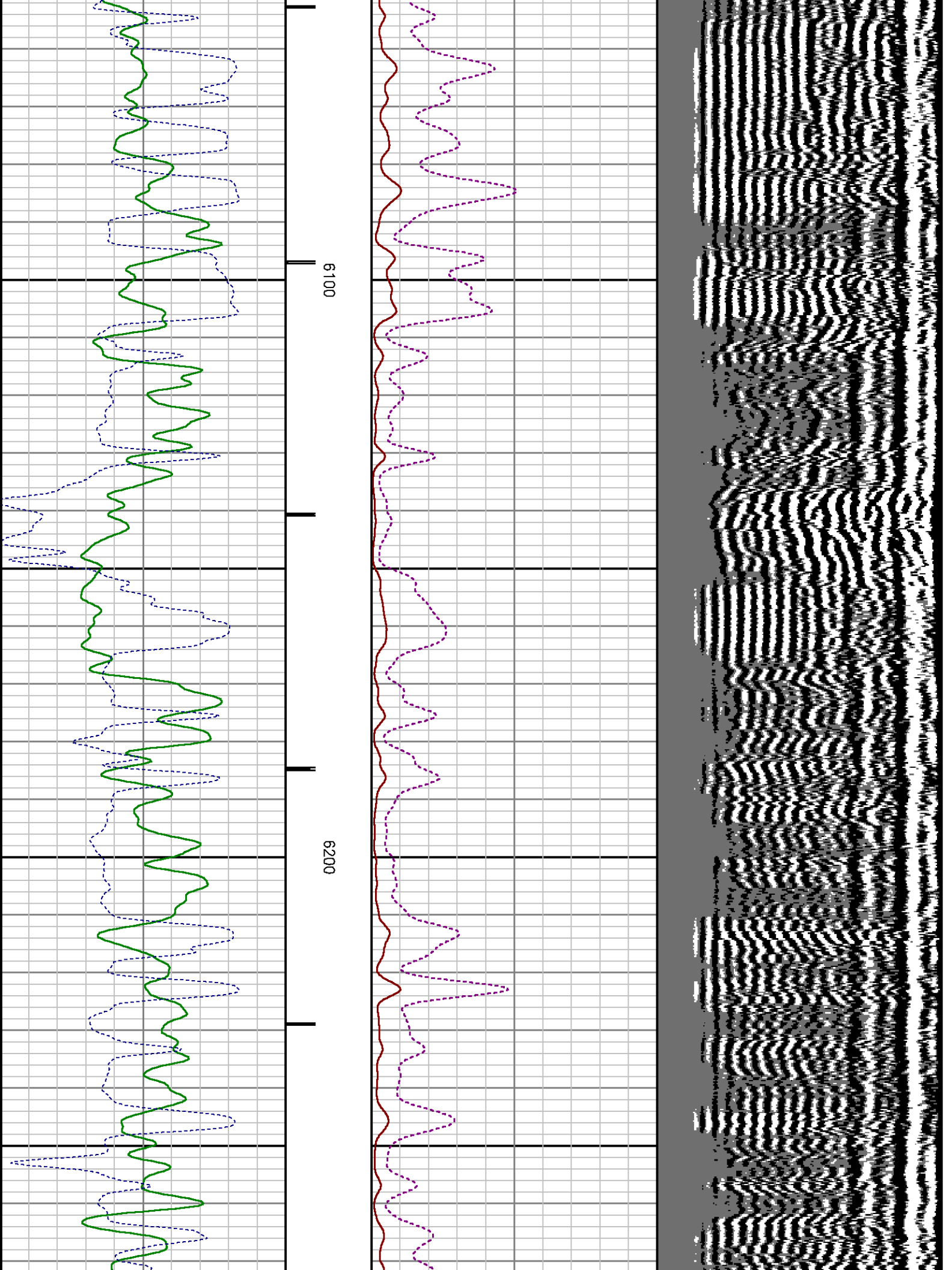


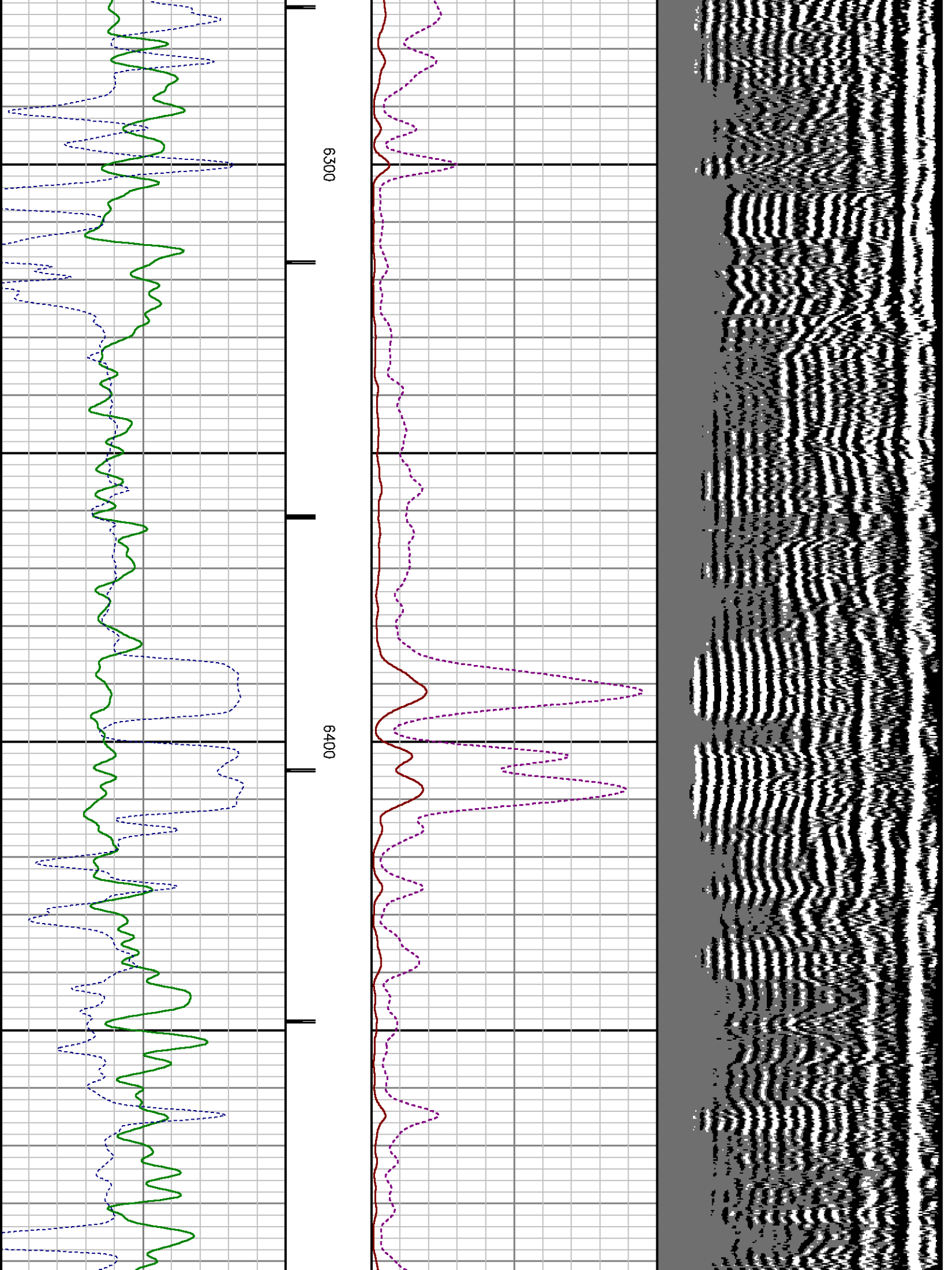


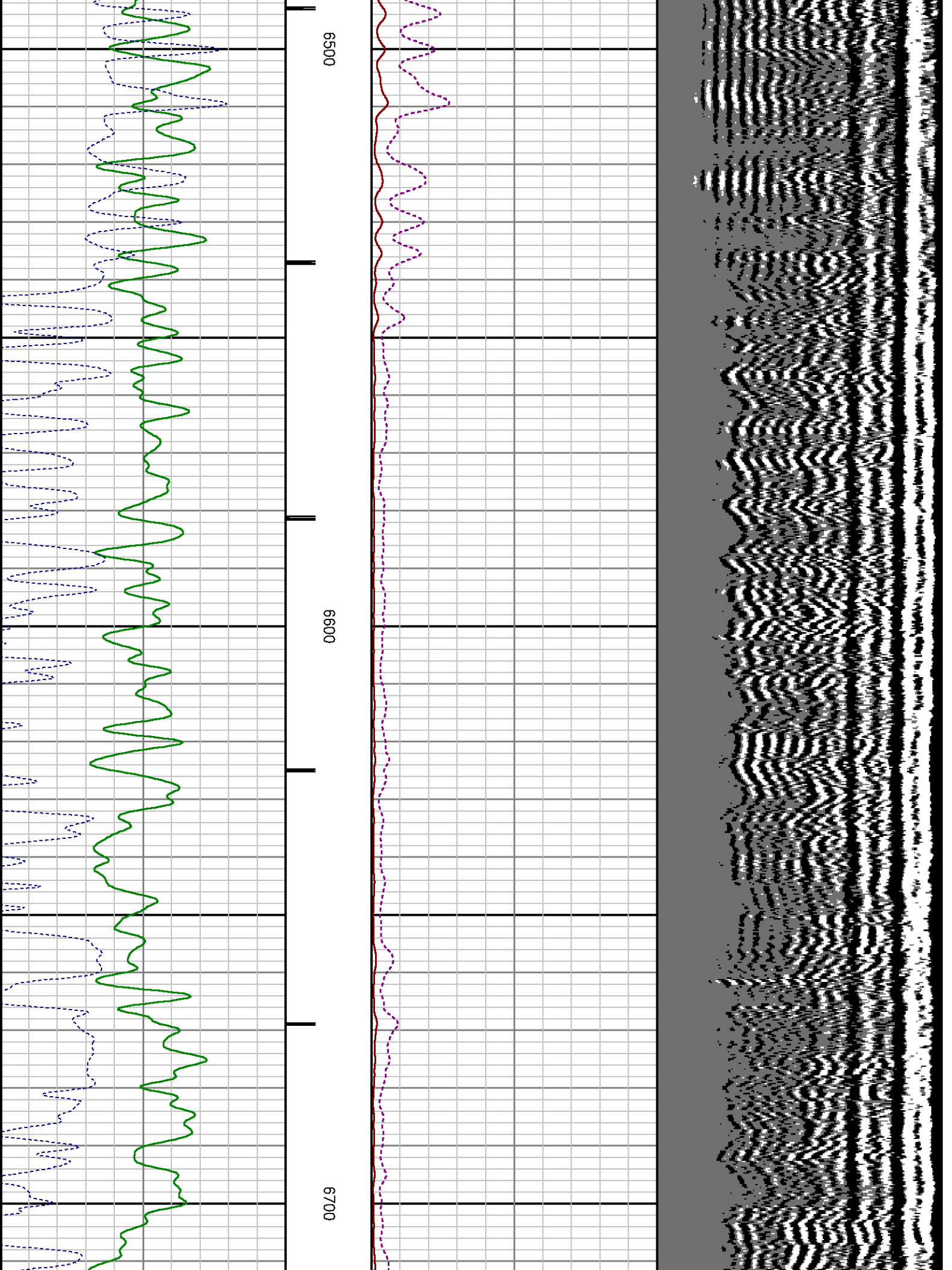


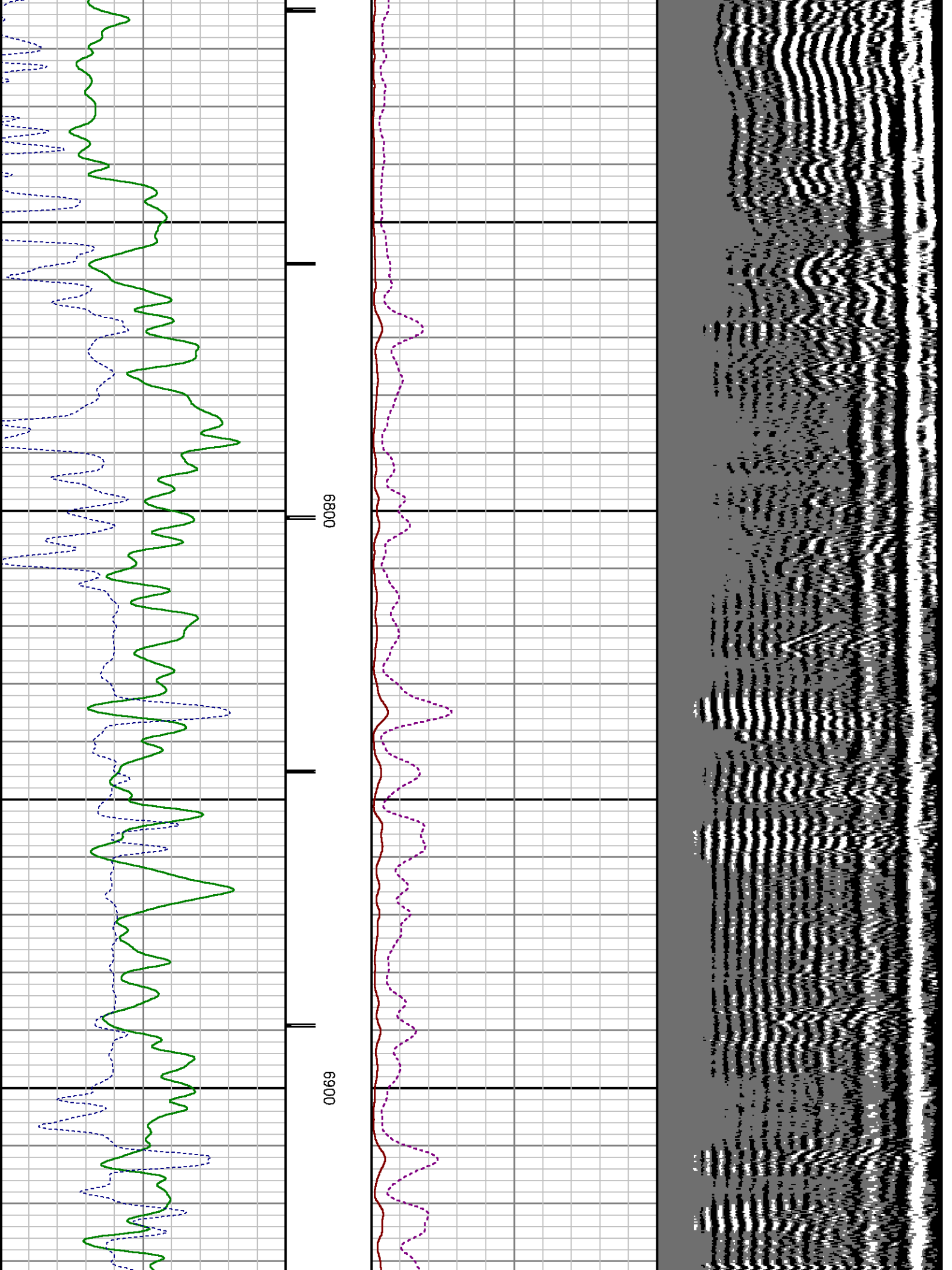


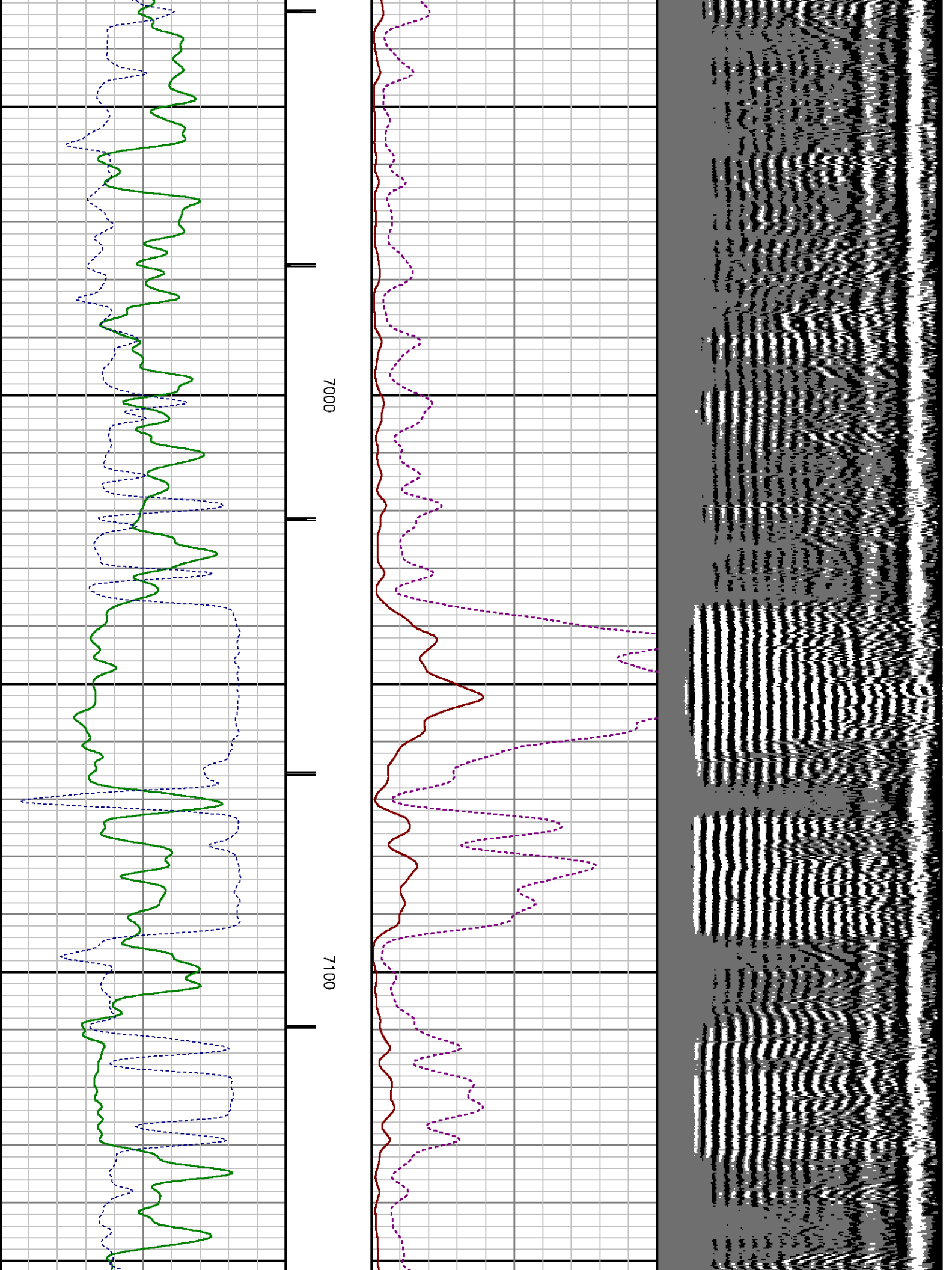


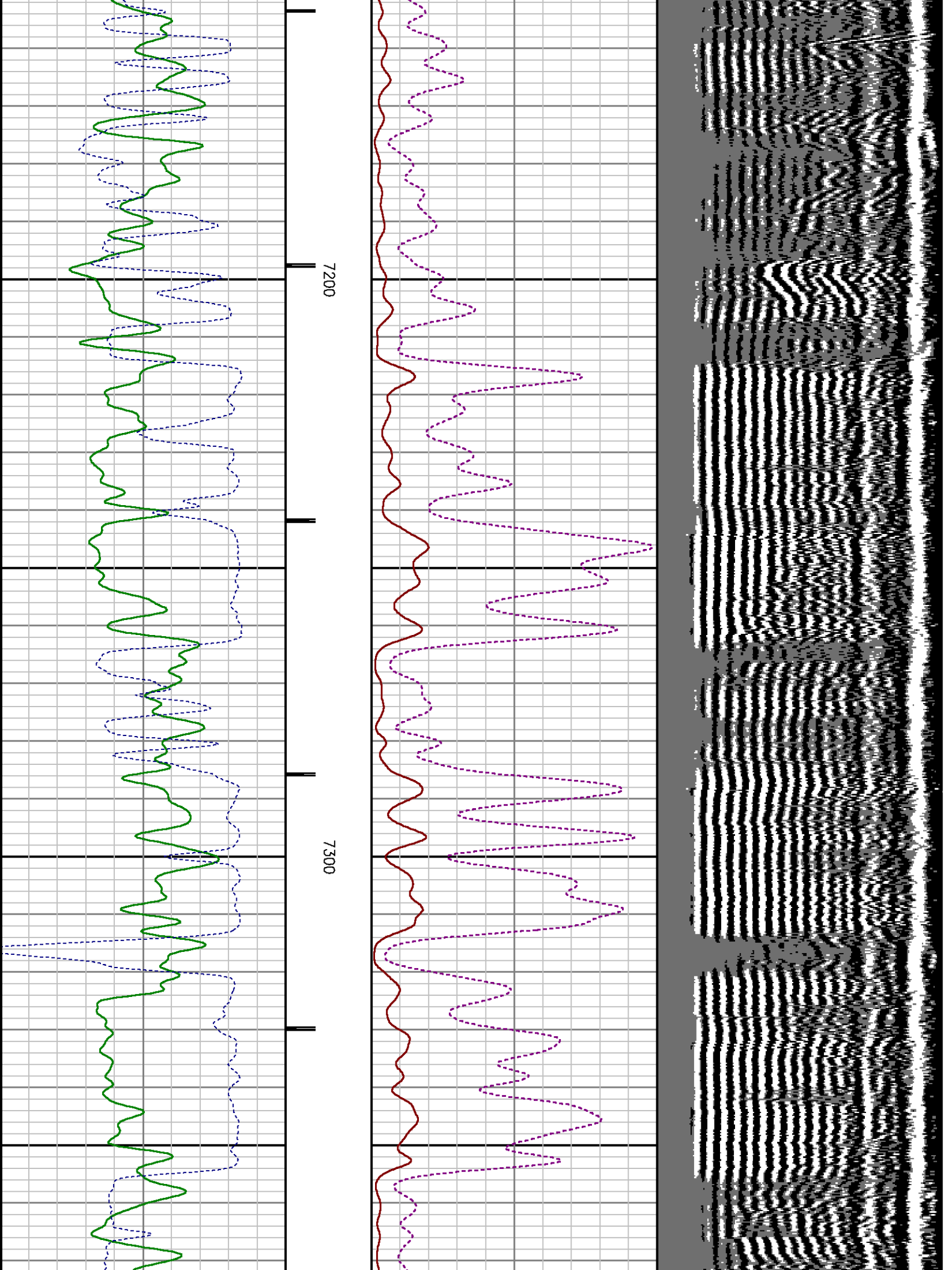


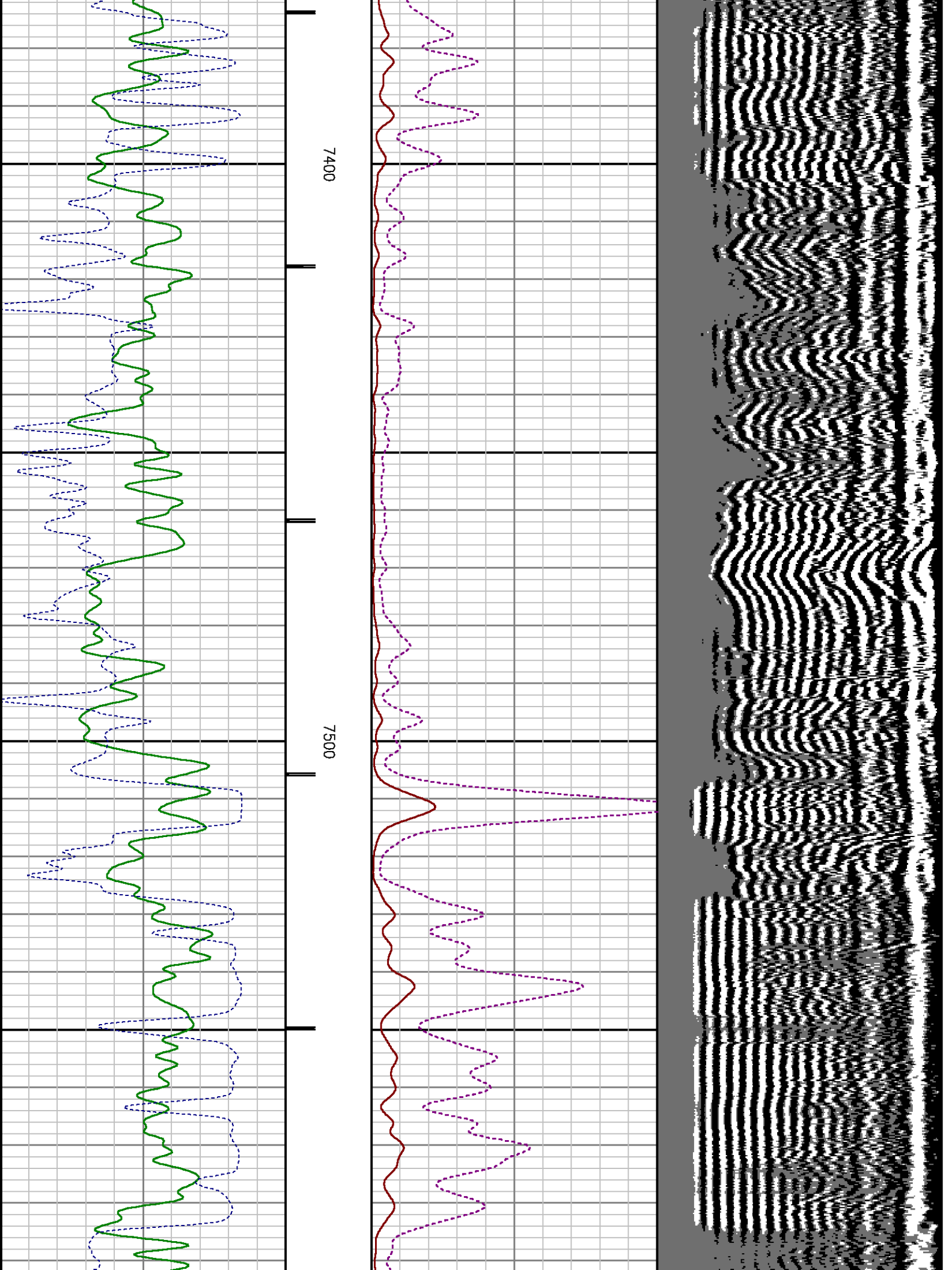


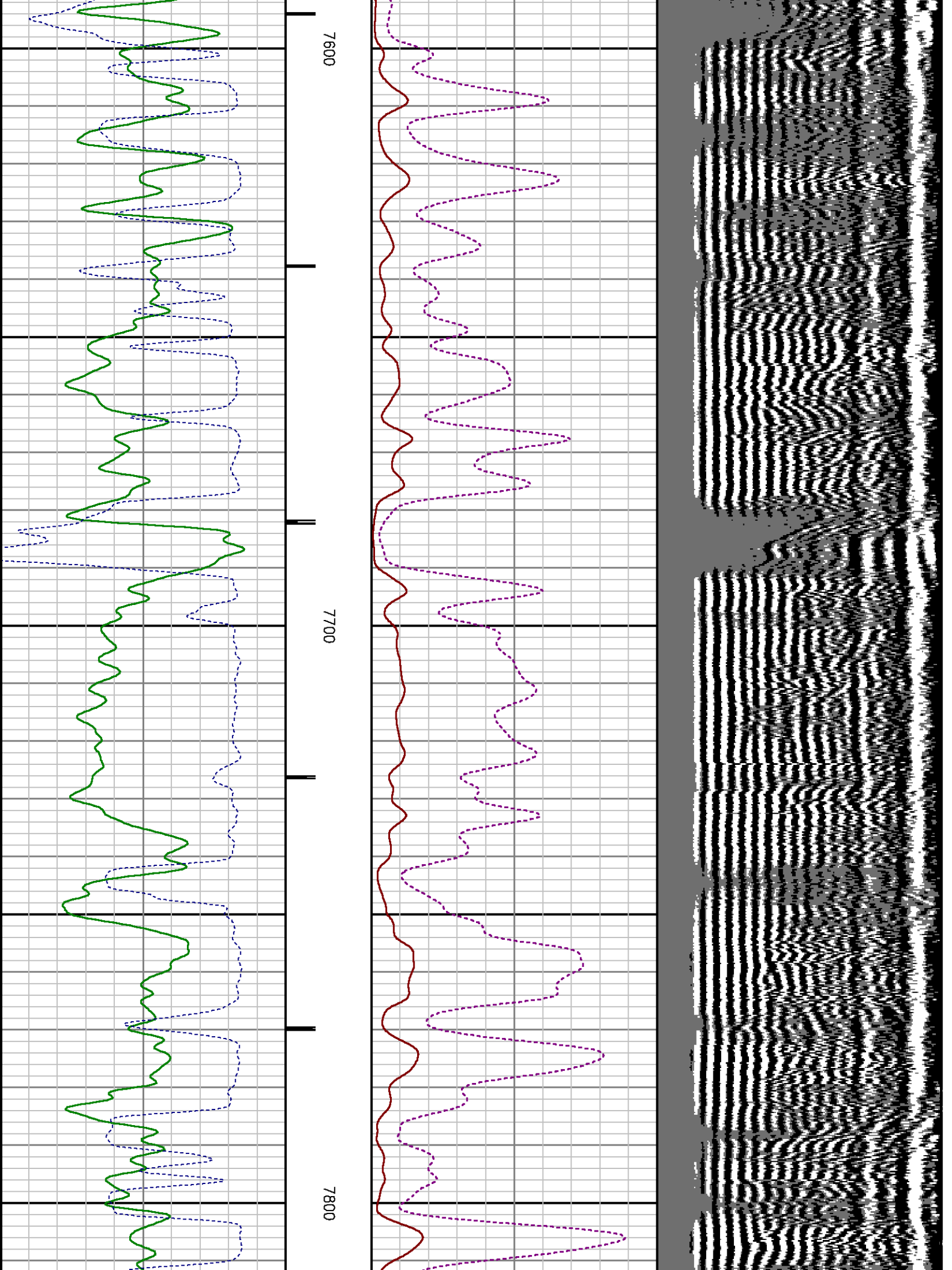


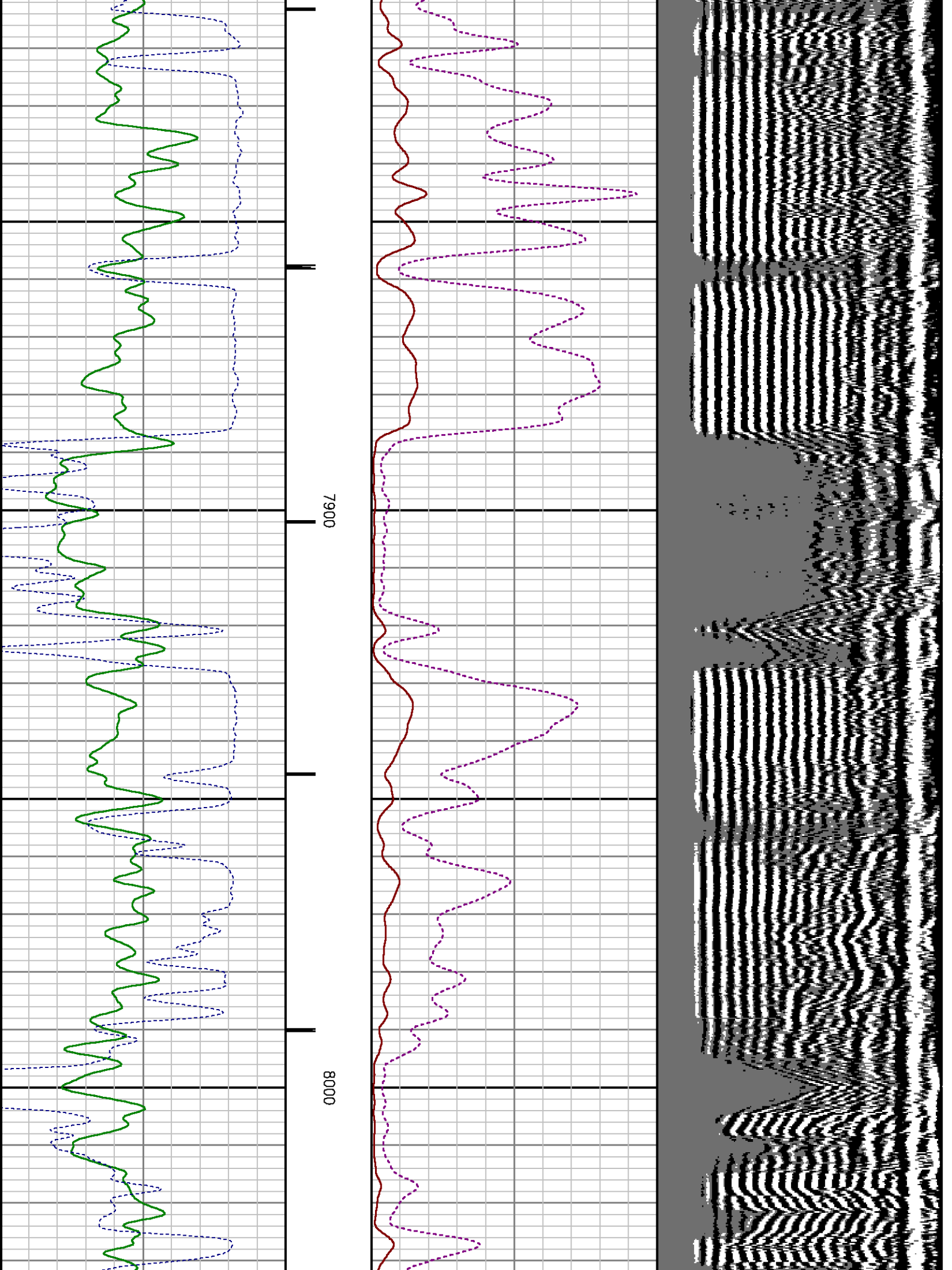


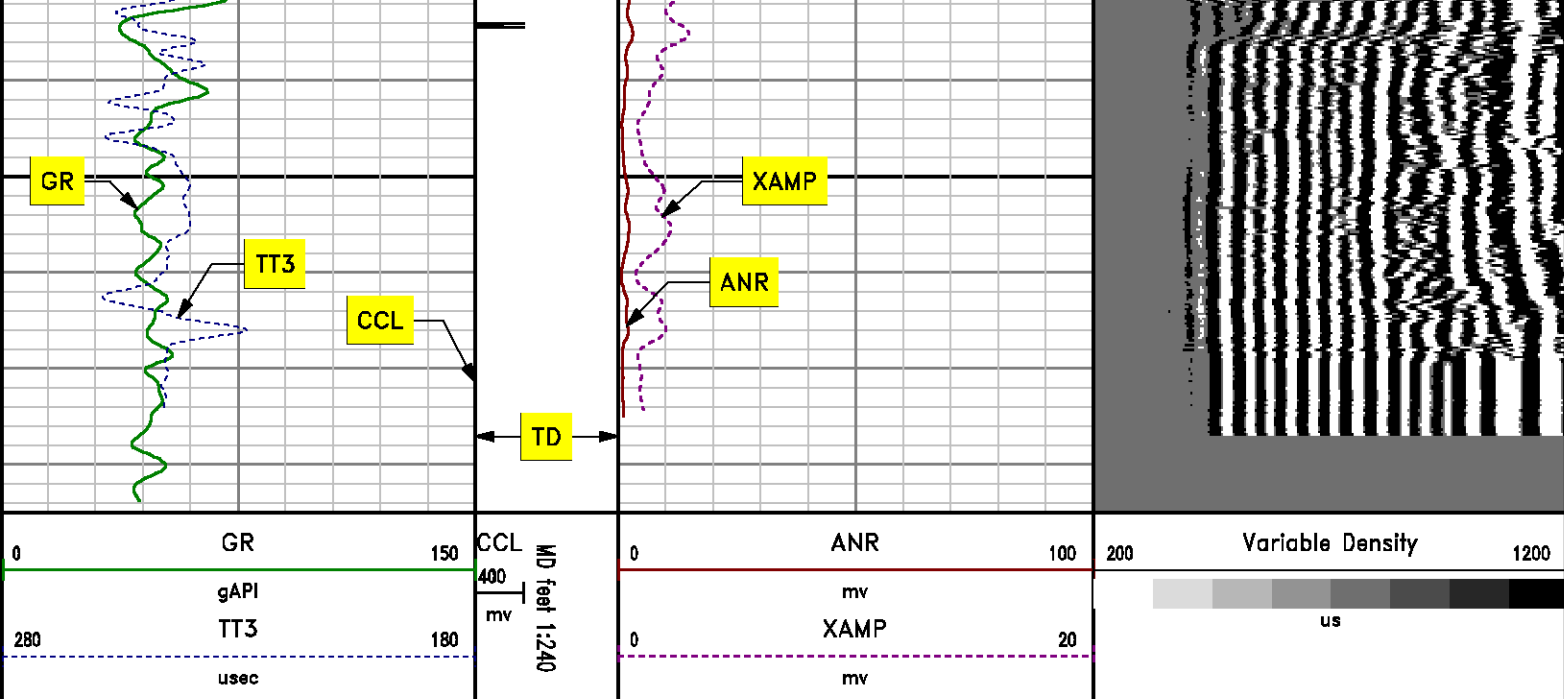












MAIN LOG SECONDARY PRESENTATION

0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	303.100	usec	32.844	8086.500
RAL	Amp Gate Start Near	199.125	usec	32.844	8086.500
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RAL	casing wt	11.600	lbm/ft	32.844	8086.500
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RAL	FB Thresh Far	10.000	mv	32.844	8086.500
RAL	FB Thresh Near	4.000	mv	32.844	8086.500
RAL	FB Thresh Radial	4.000	mv	32.844	8086.500
RAL	Fluid Travel Time	200.000	usec/ft	32.844	8086.500

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

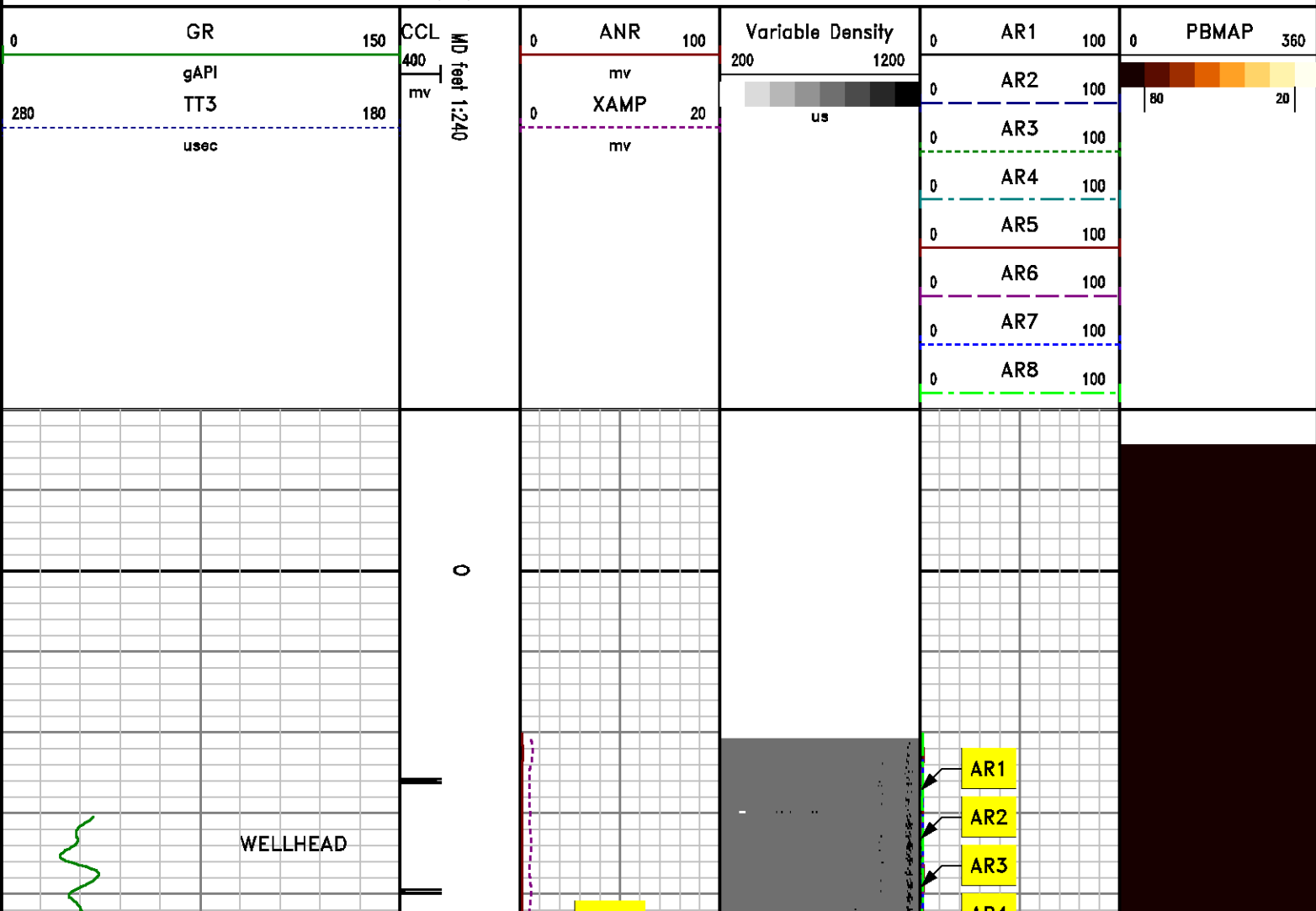
Well : DUGGAN RWF 323-29

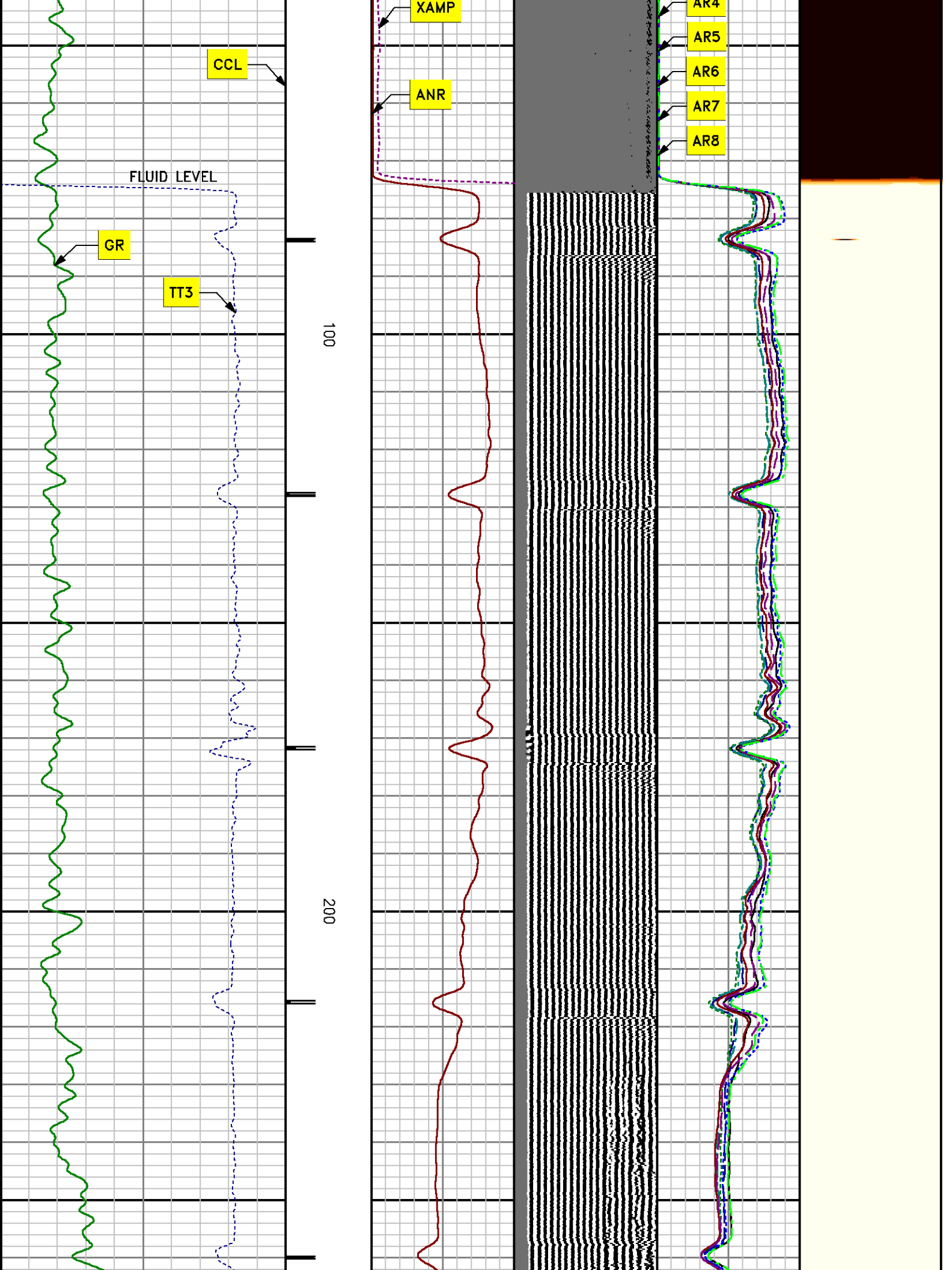
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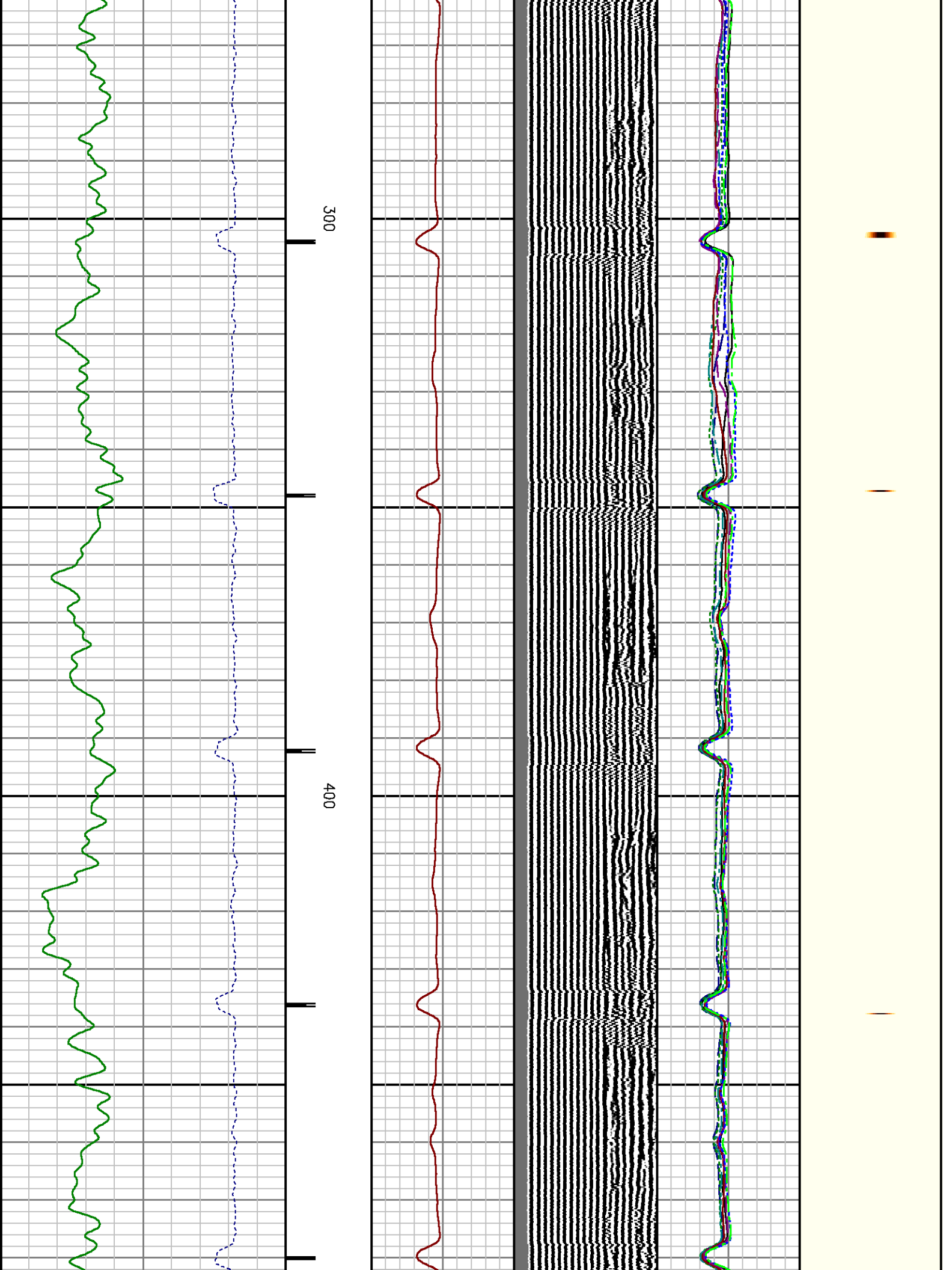
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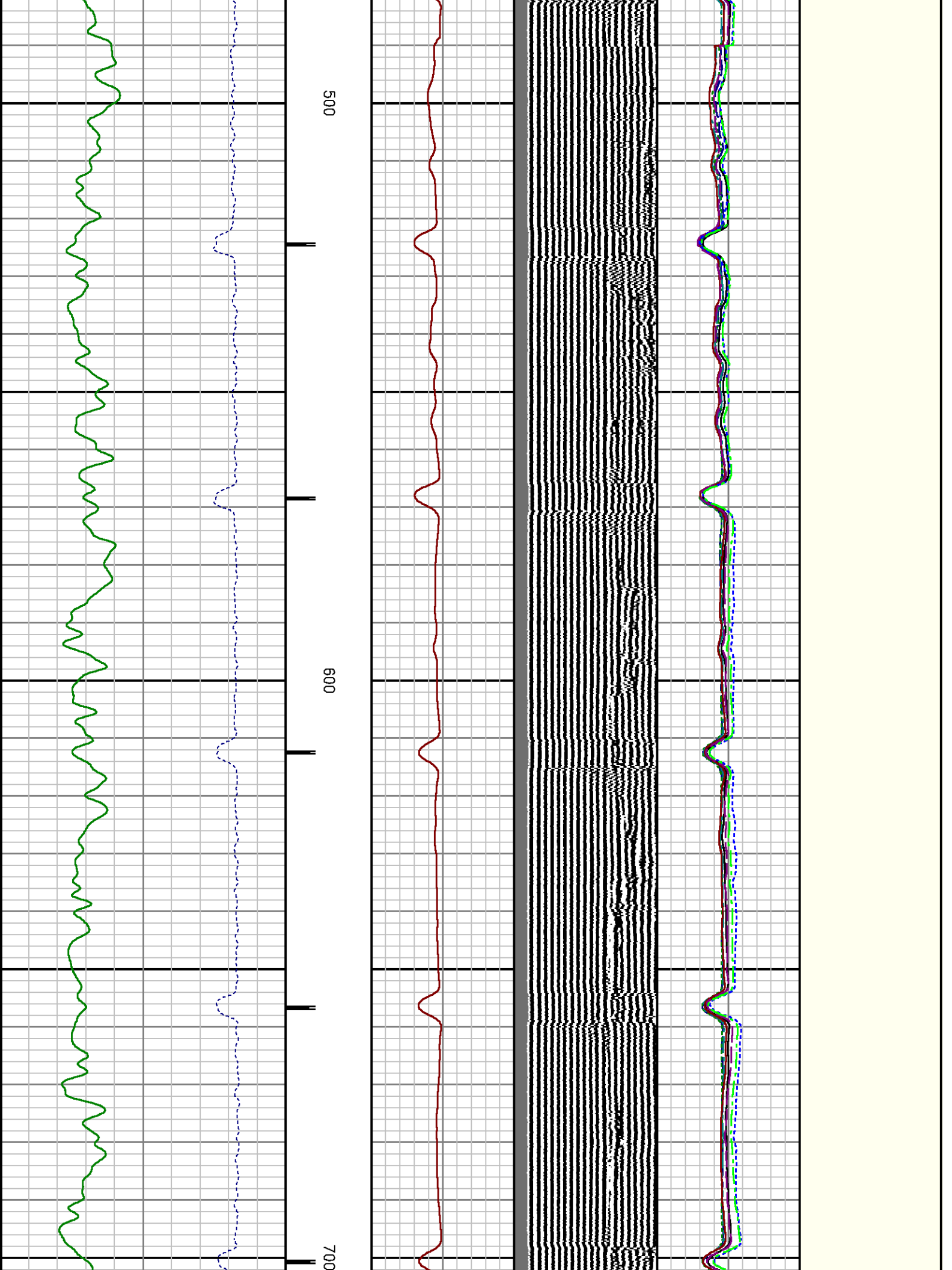
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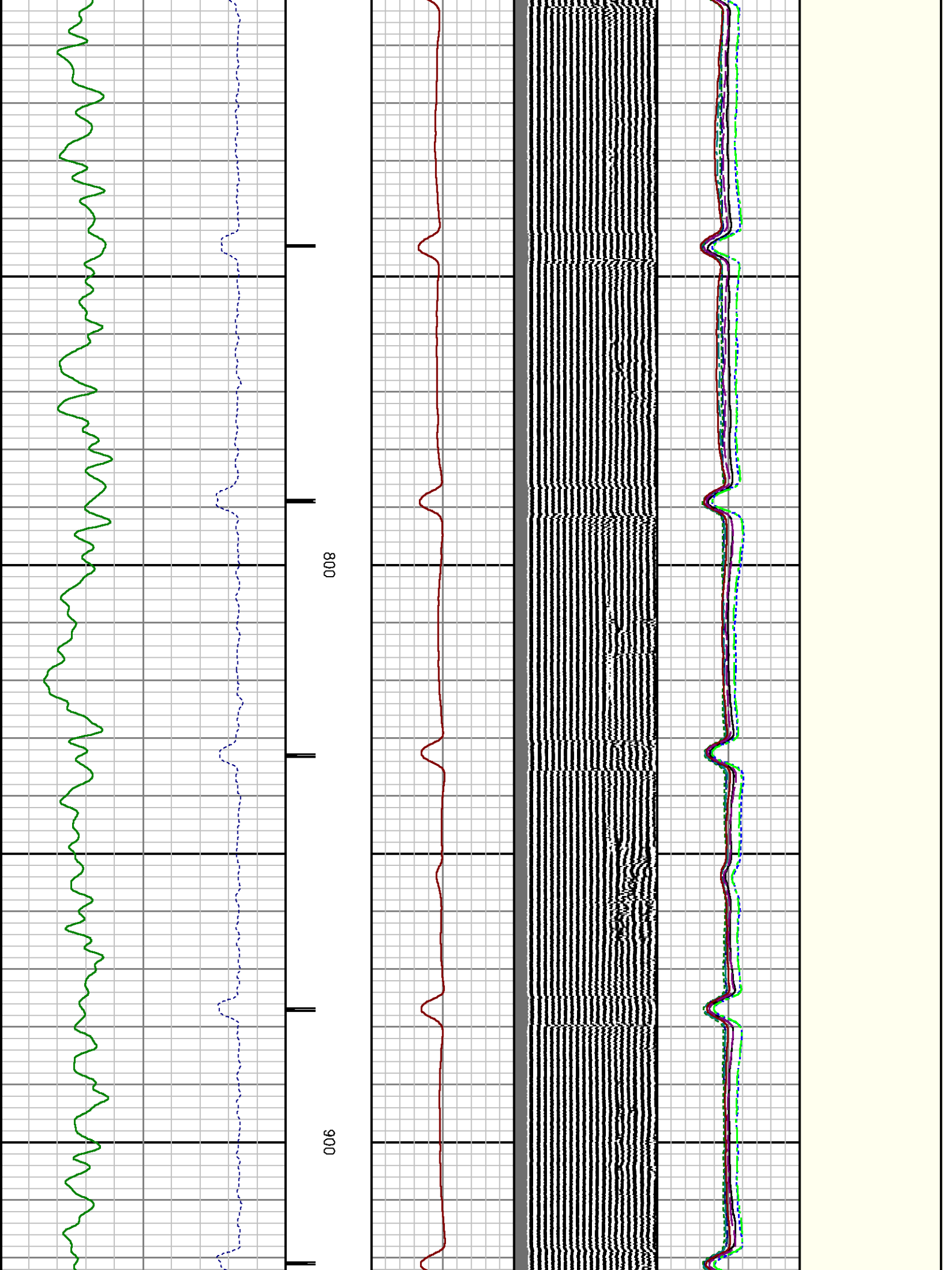
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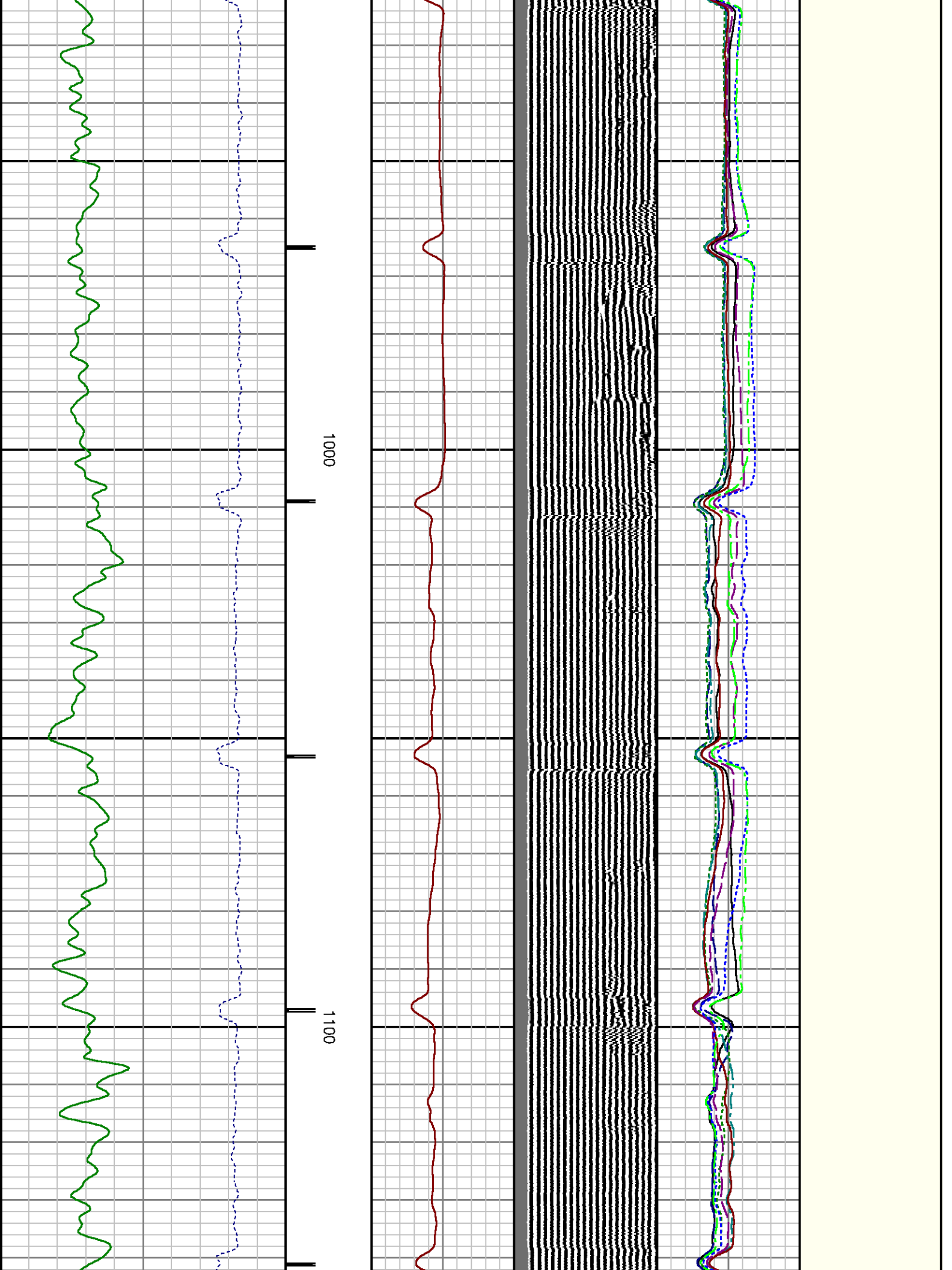


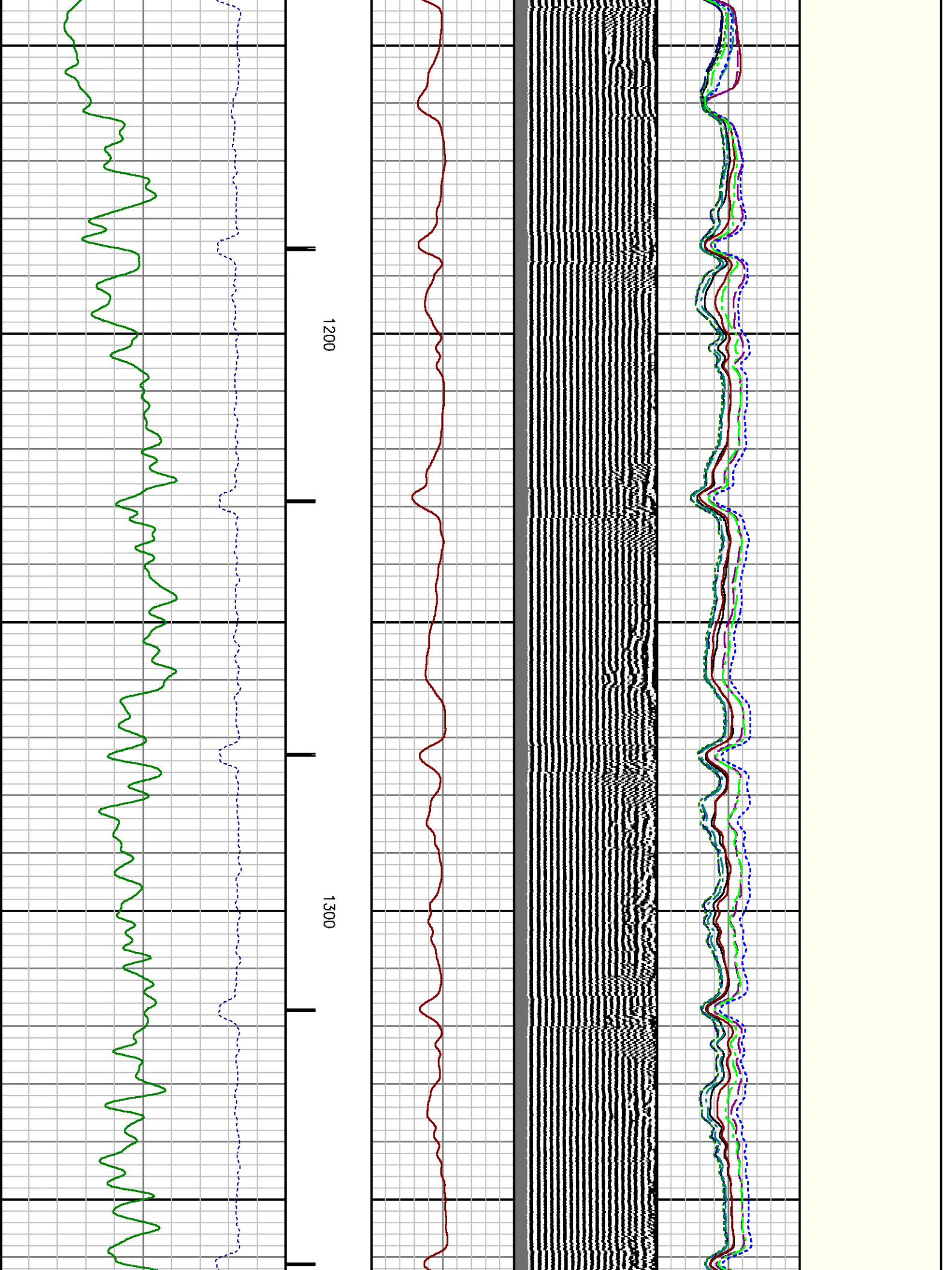


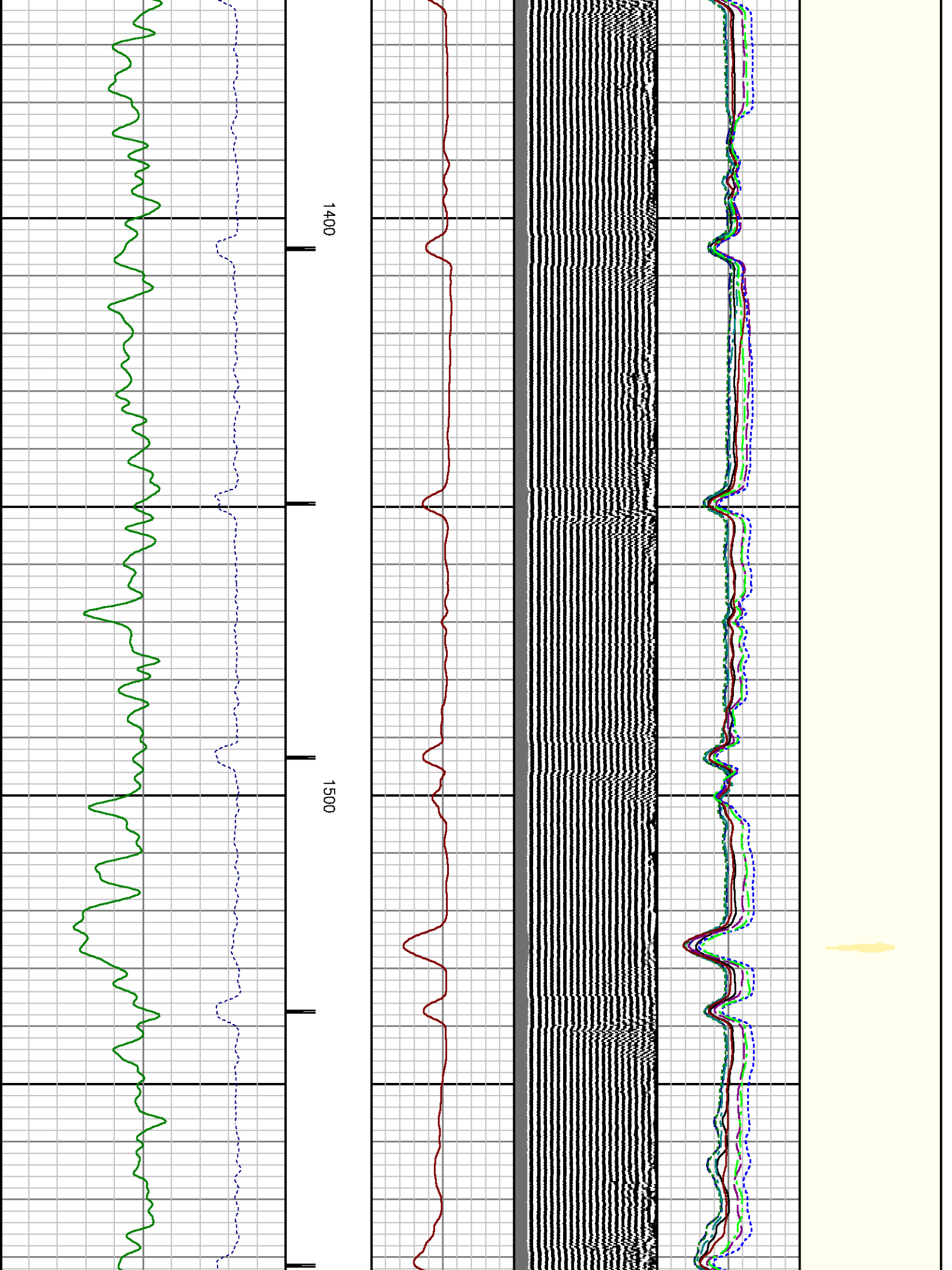


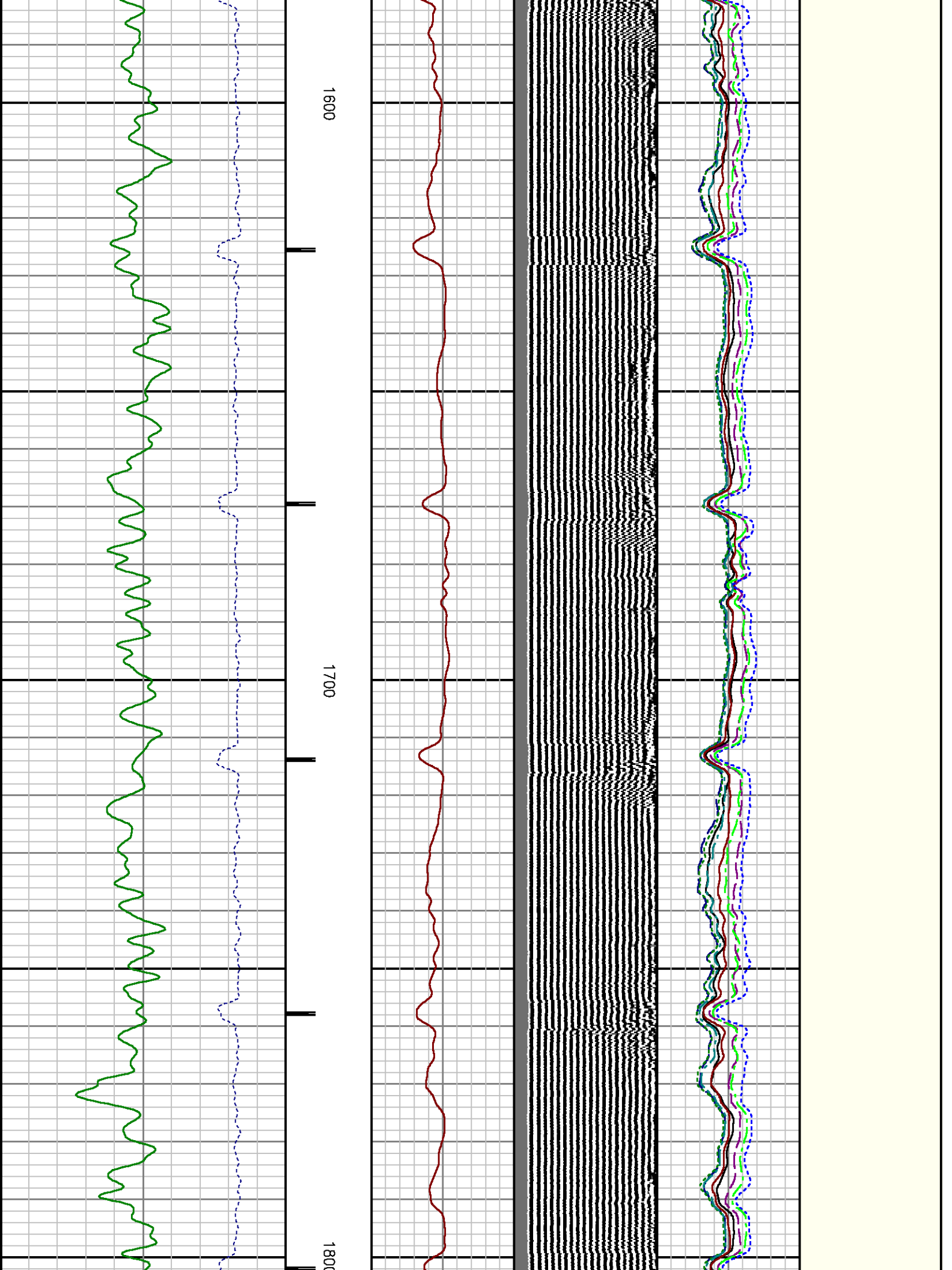


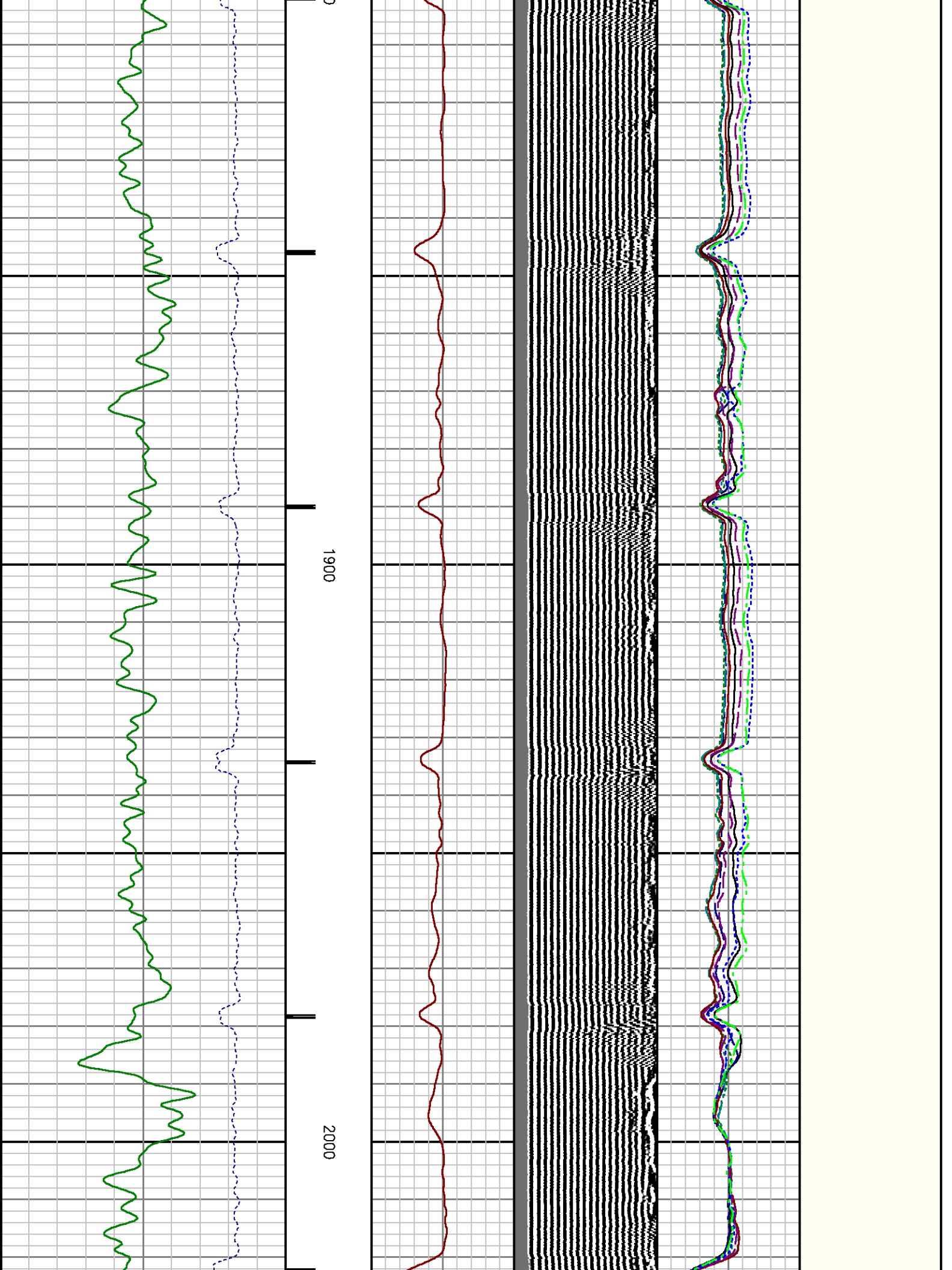


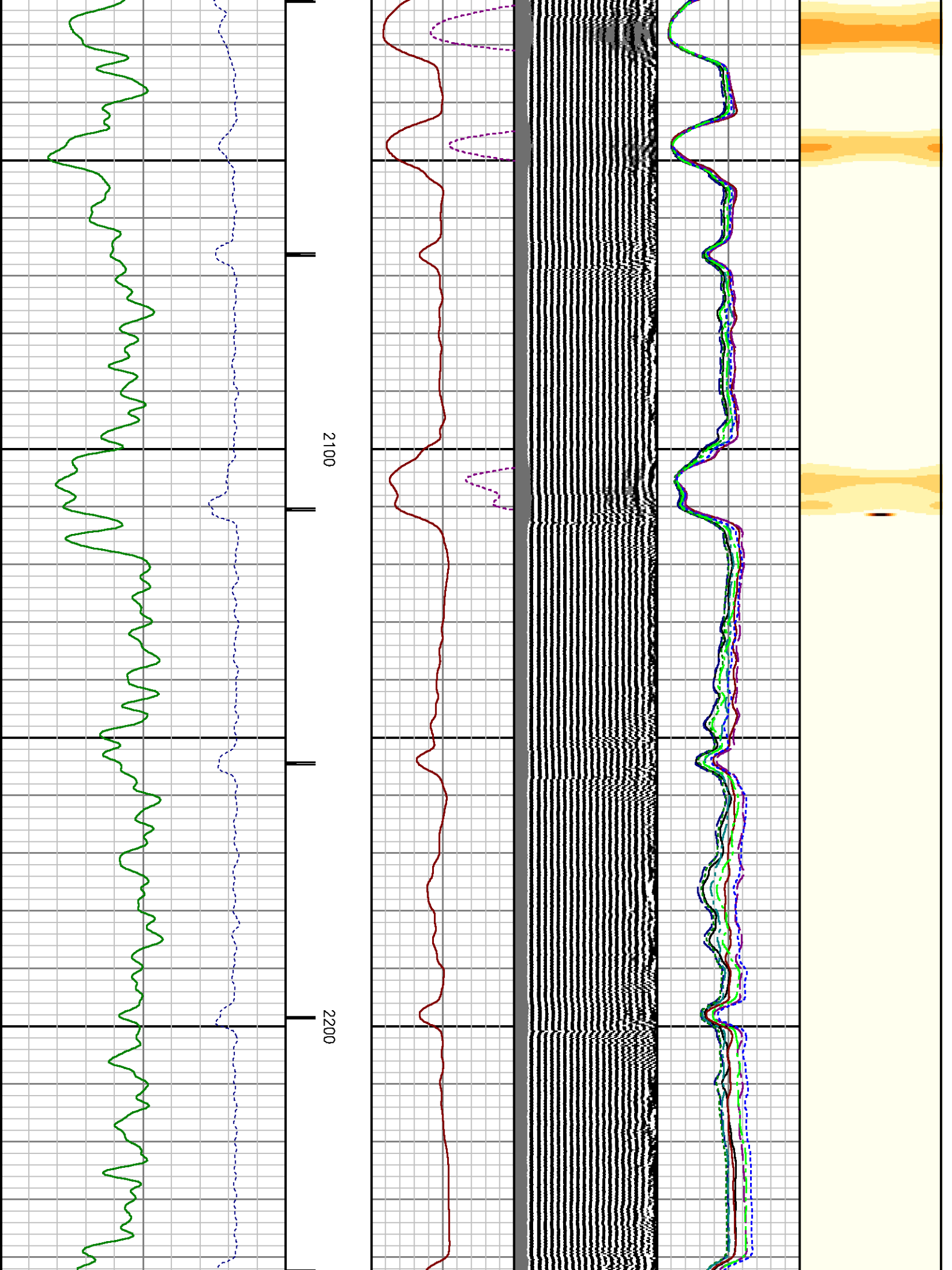


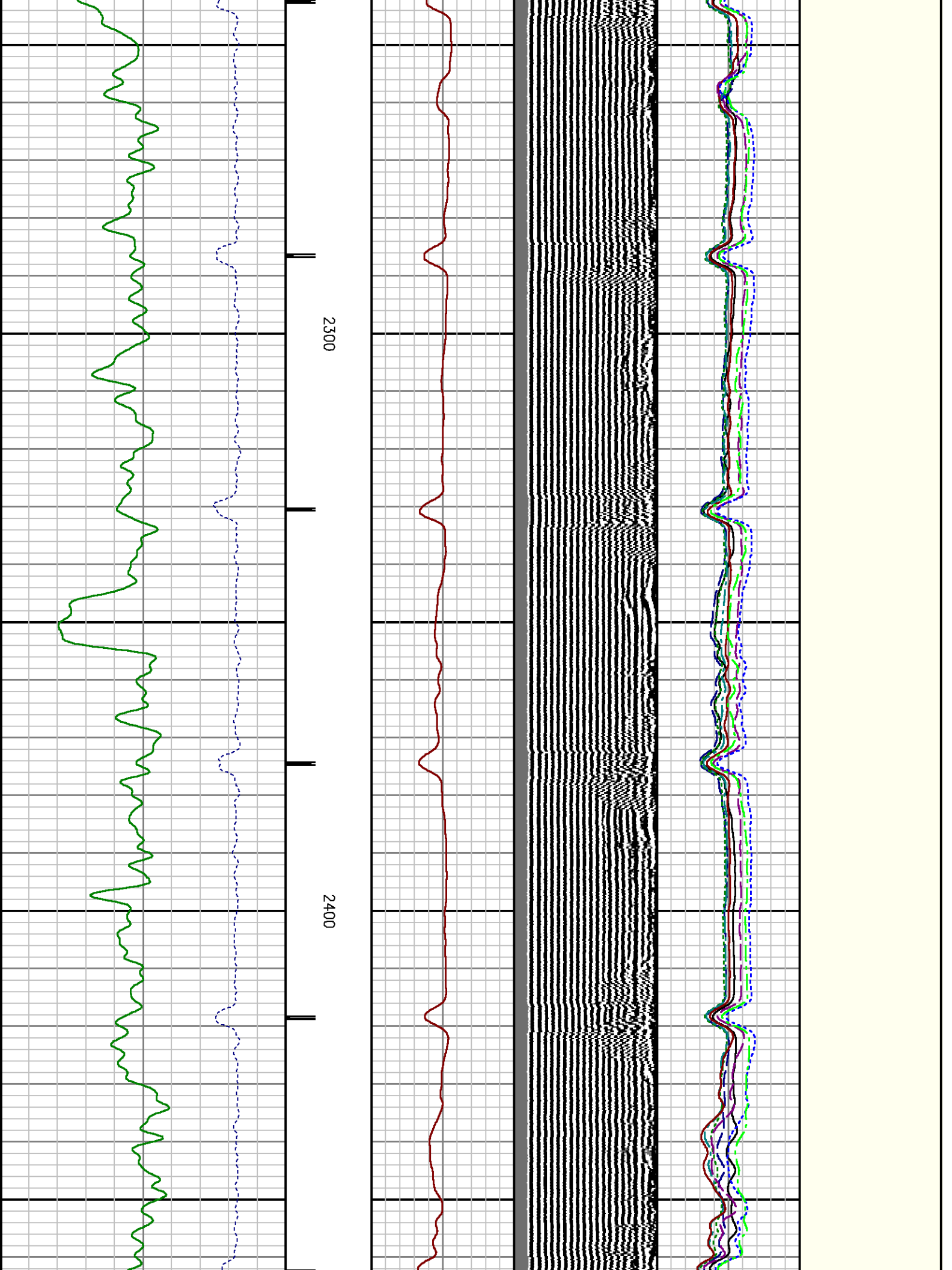


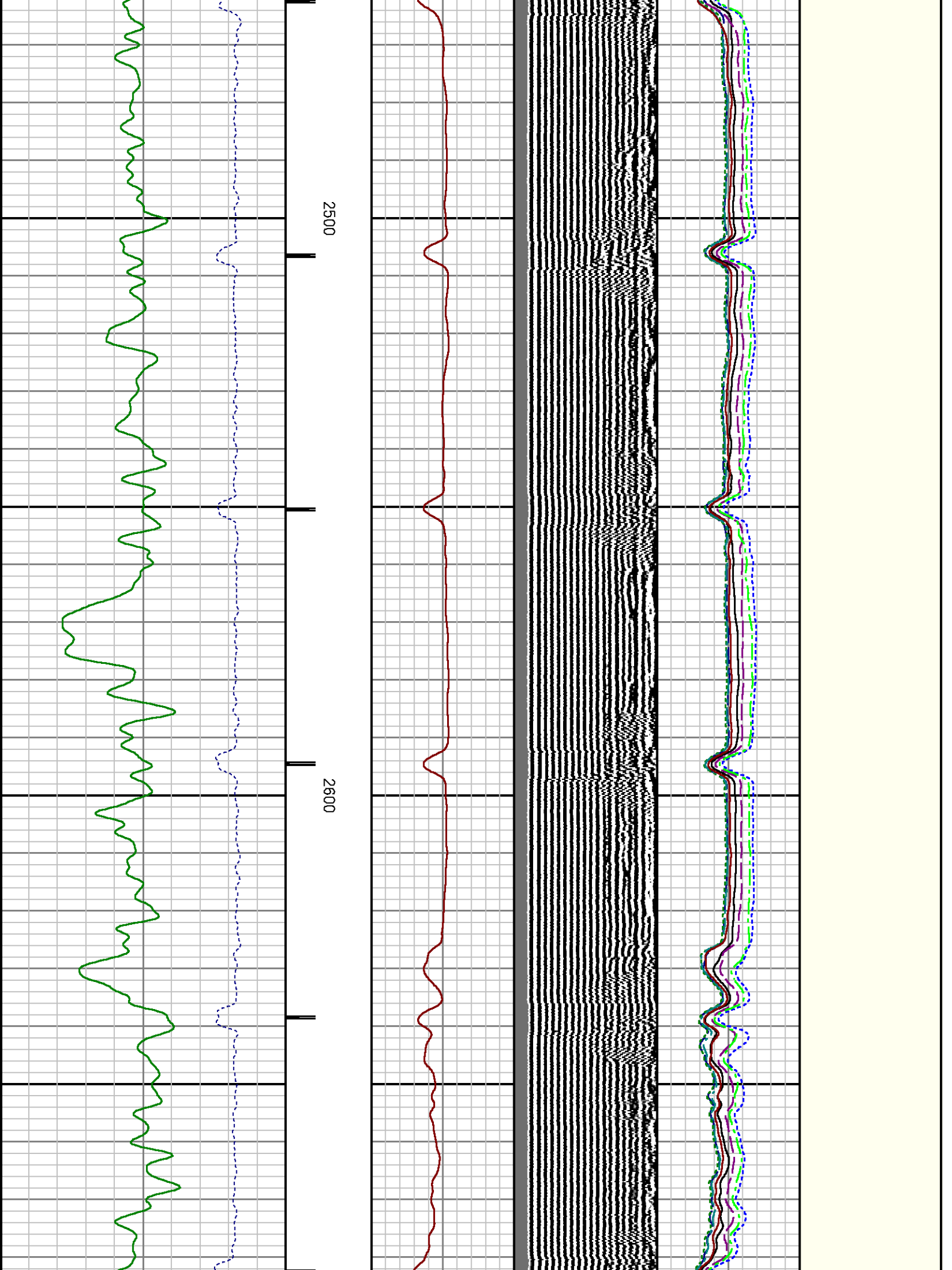


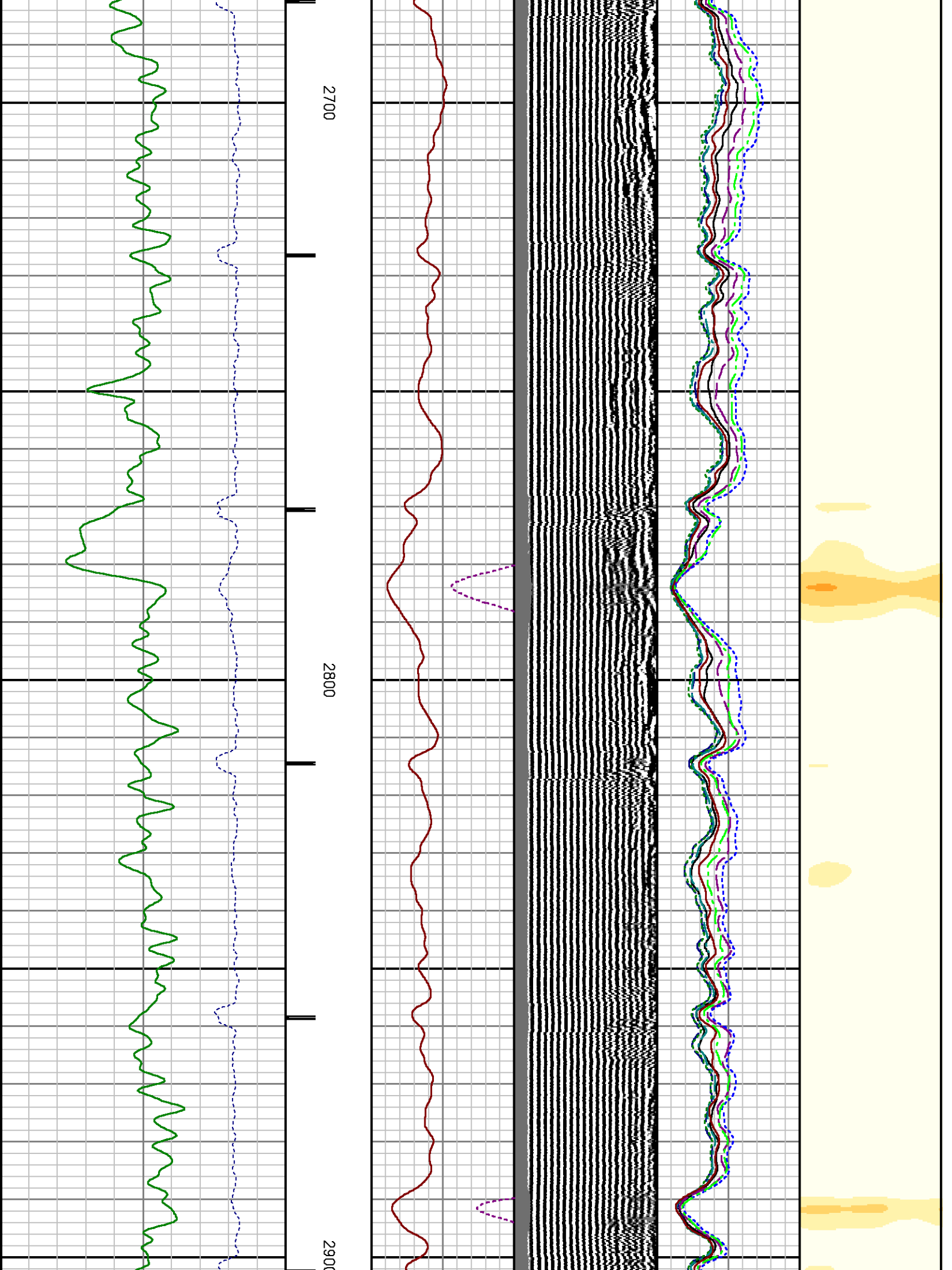


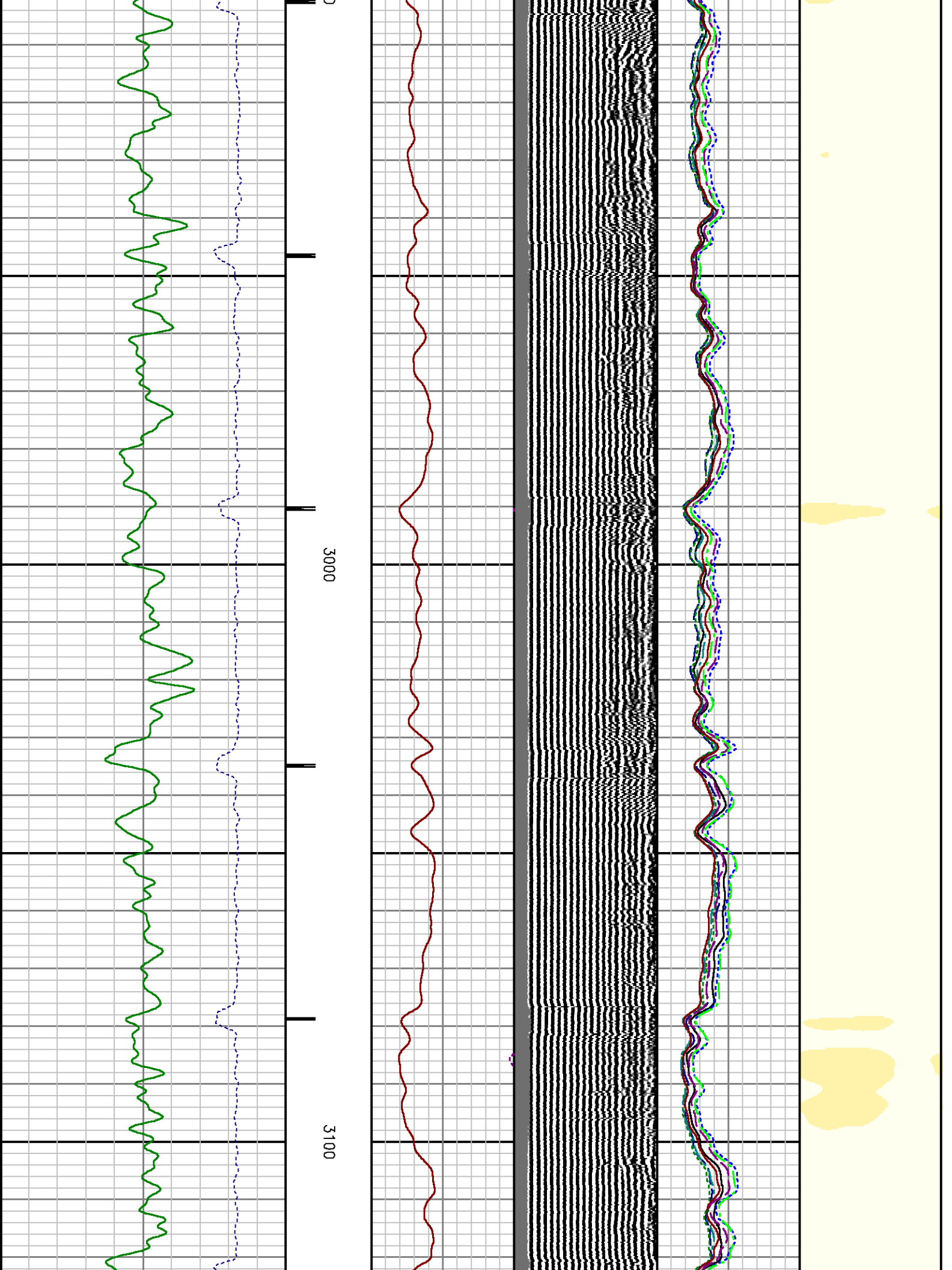


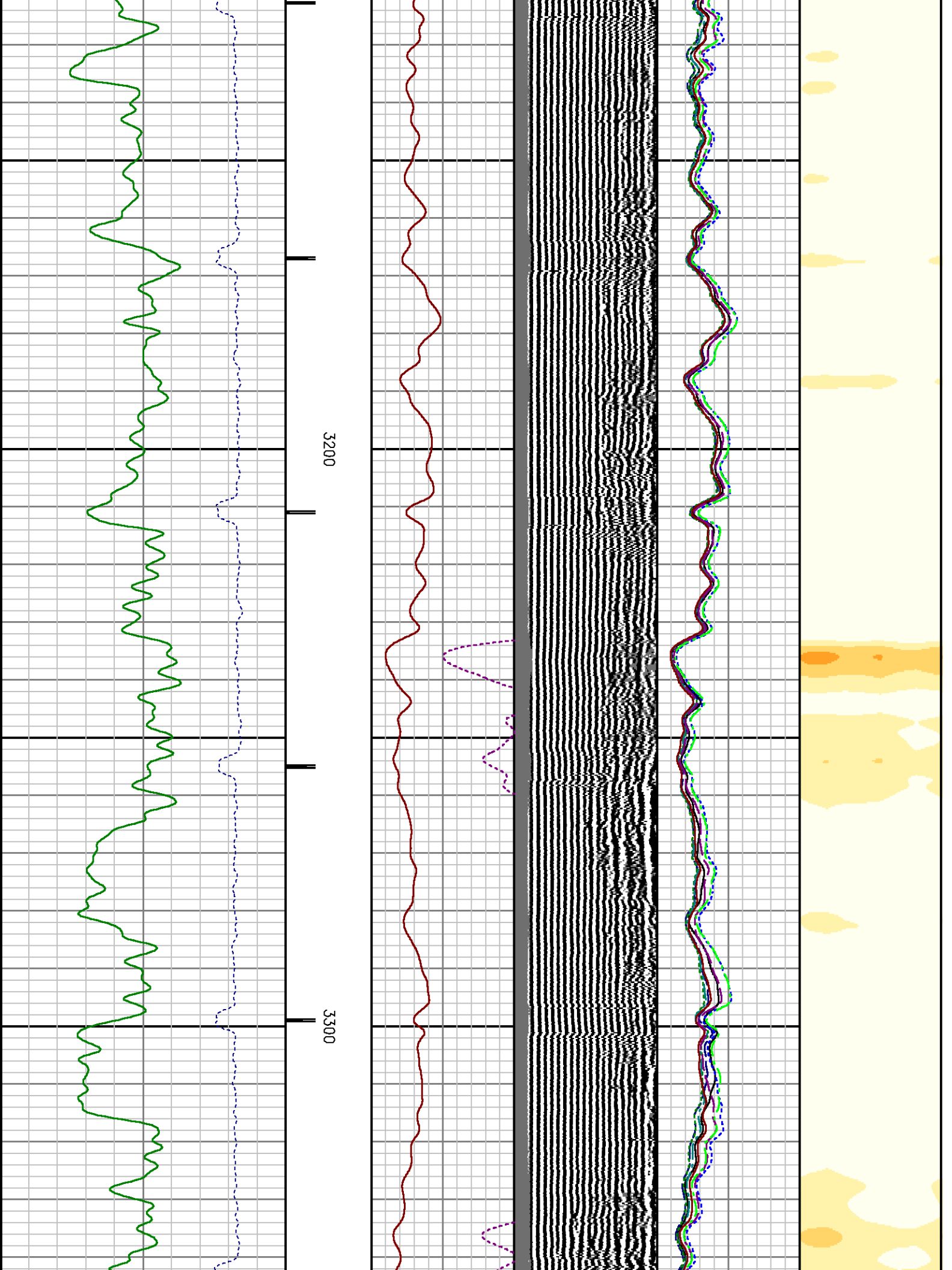


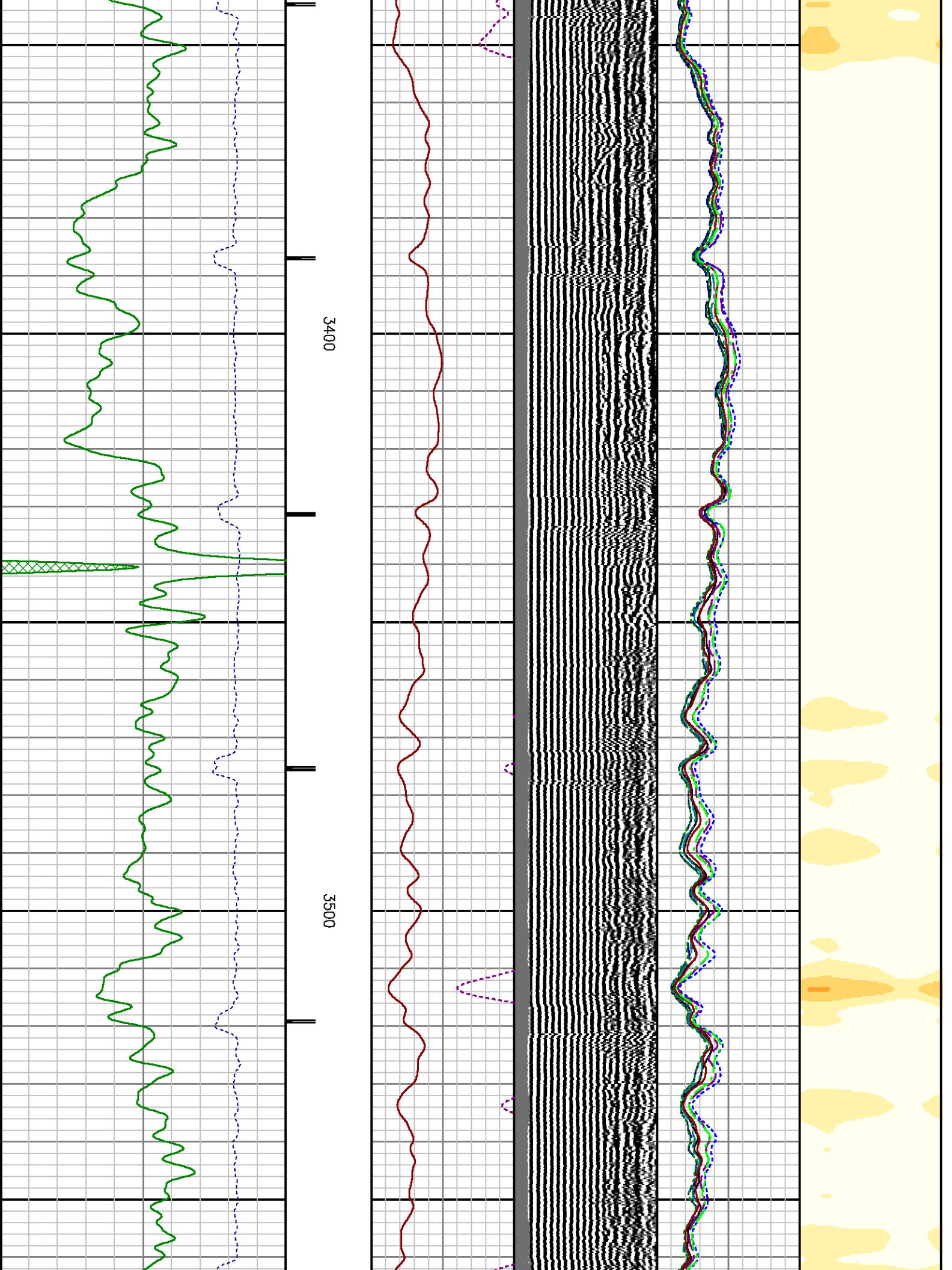


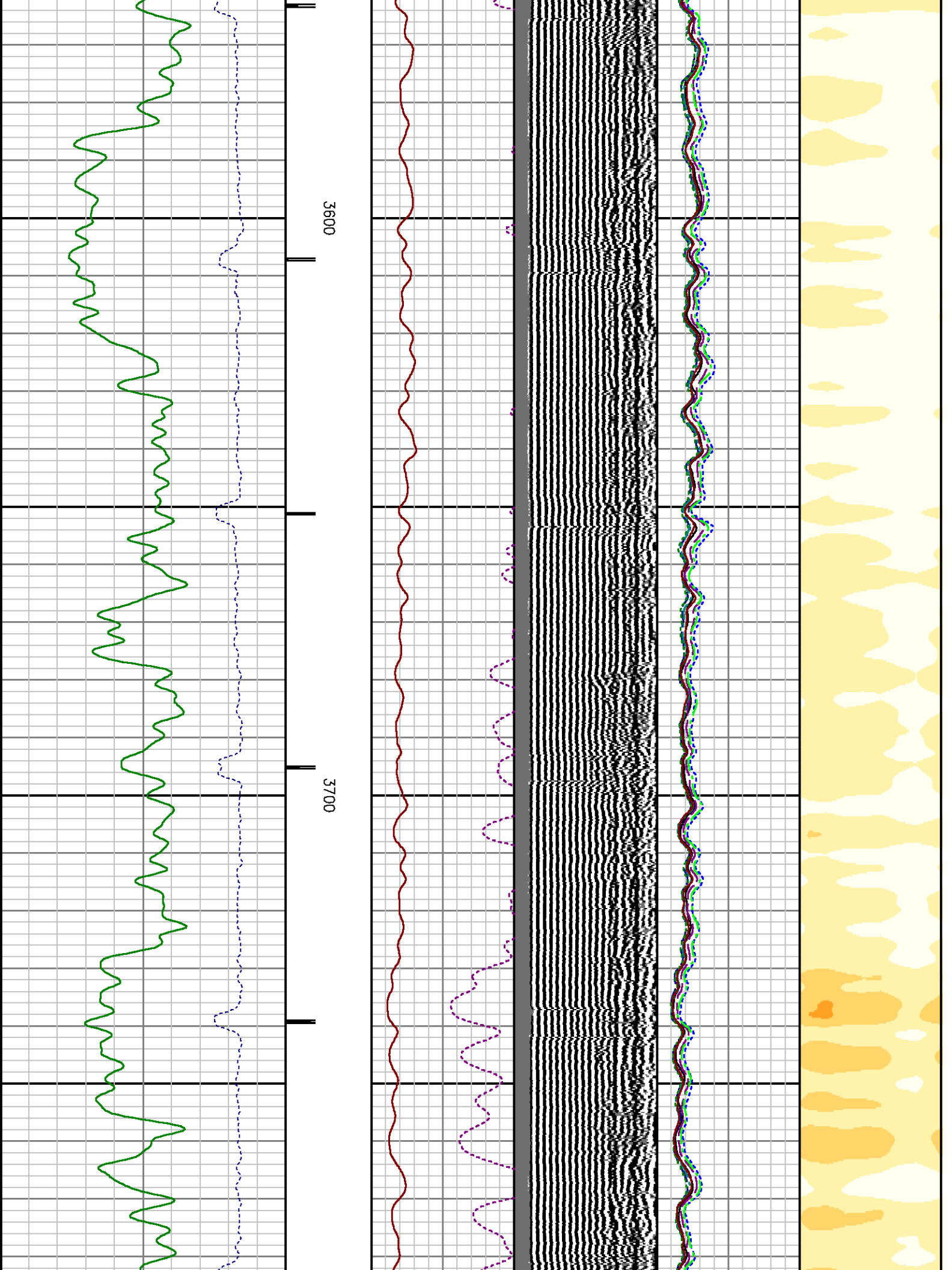


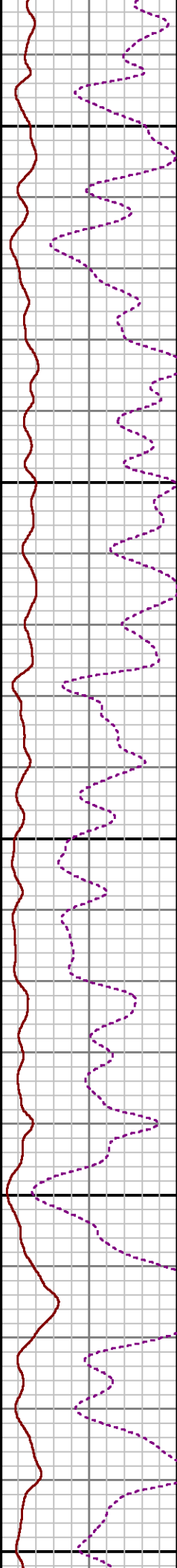
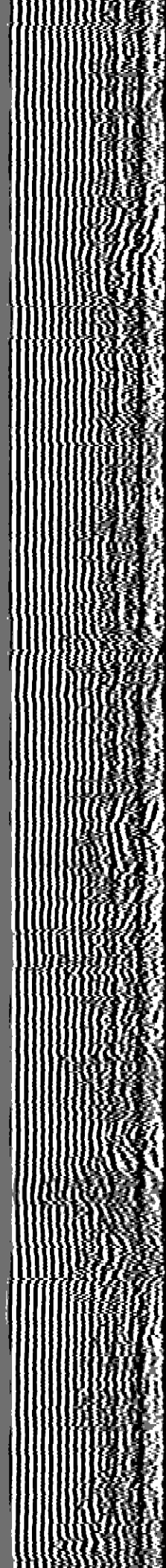
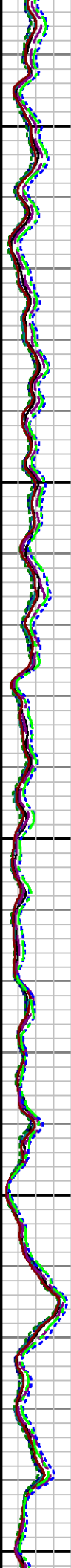
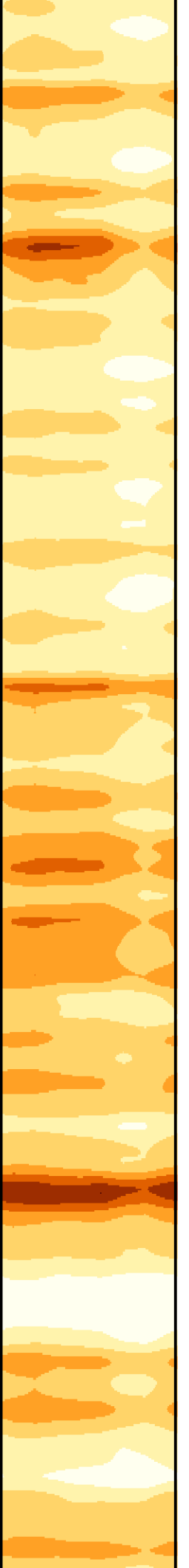








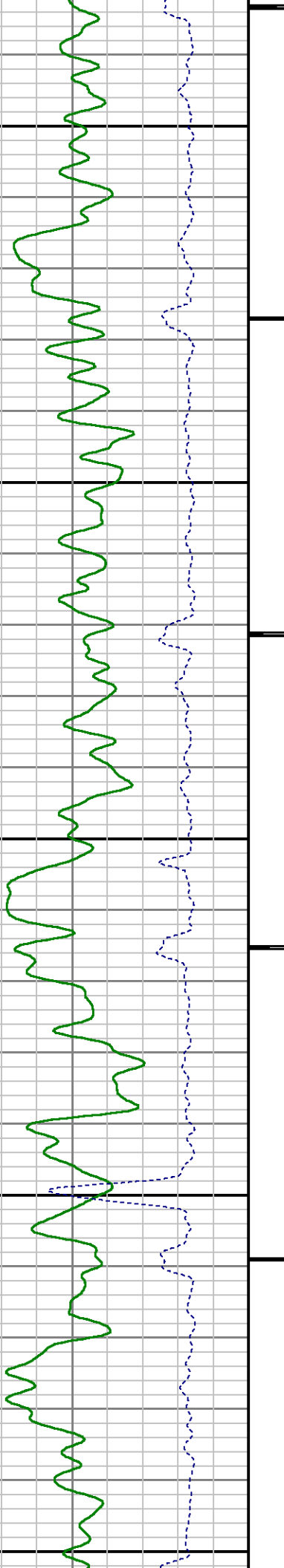


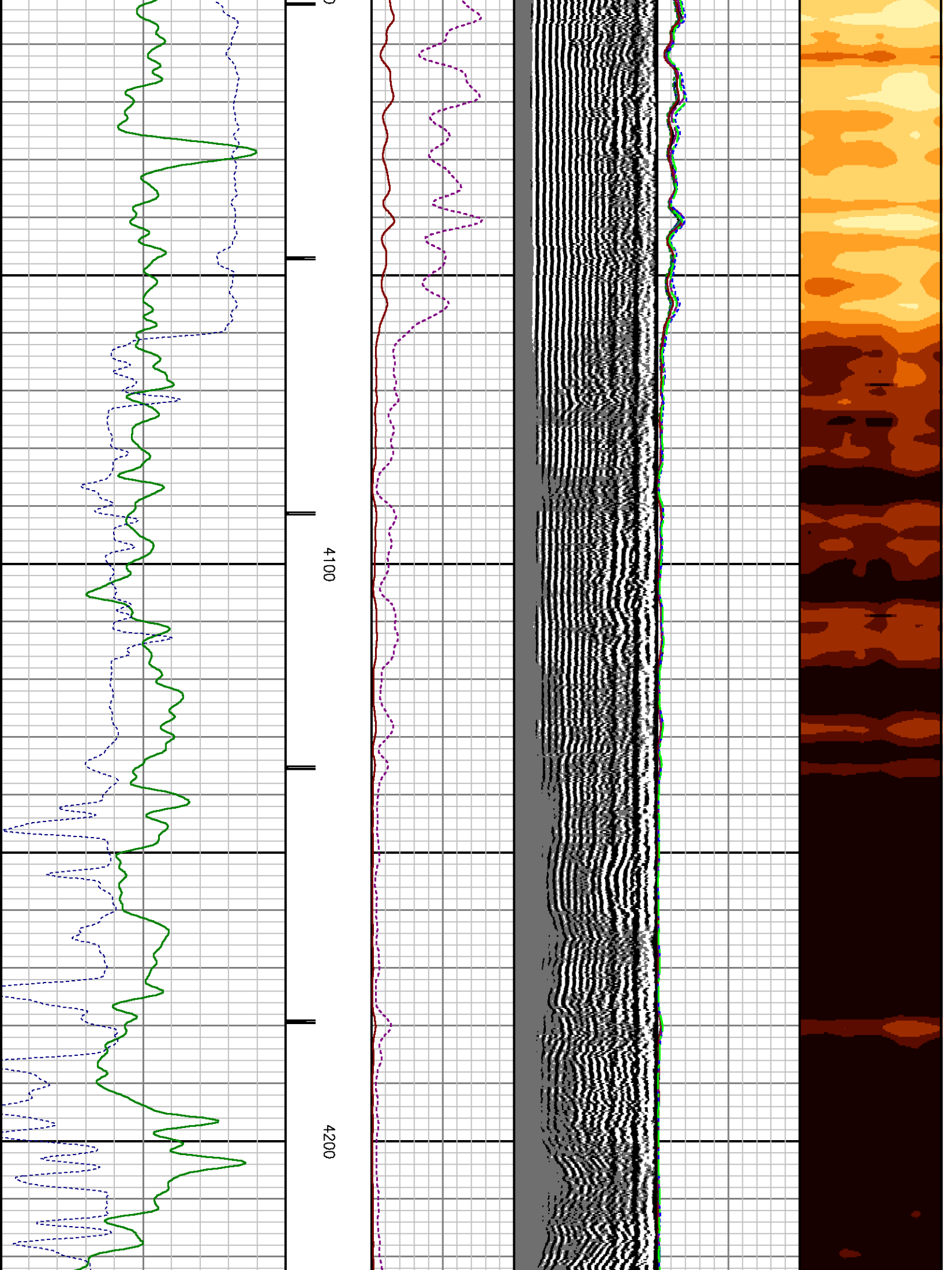


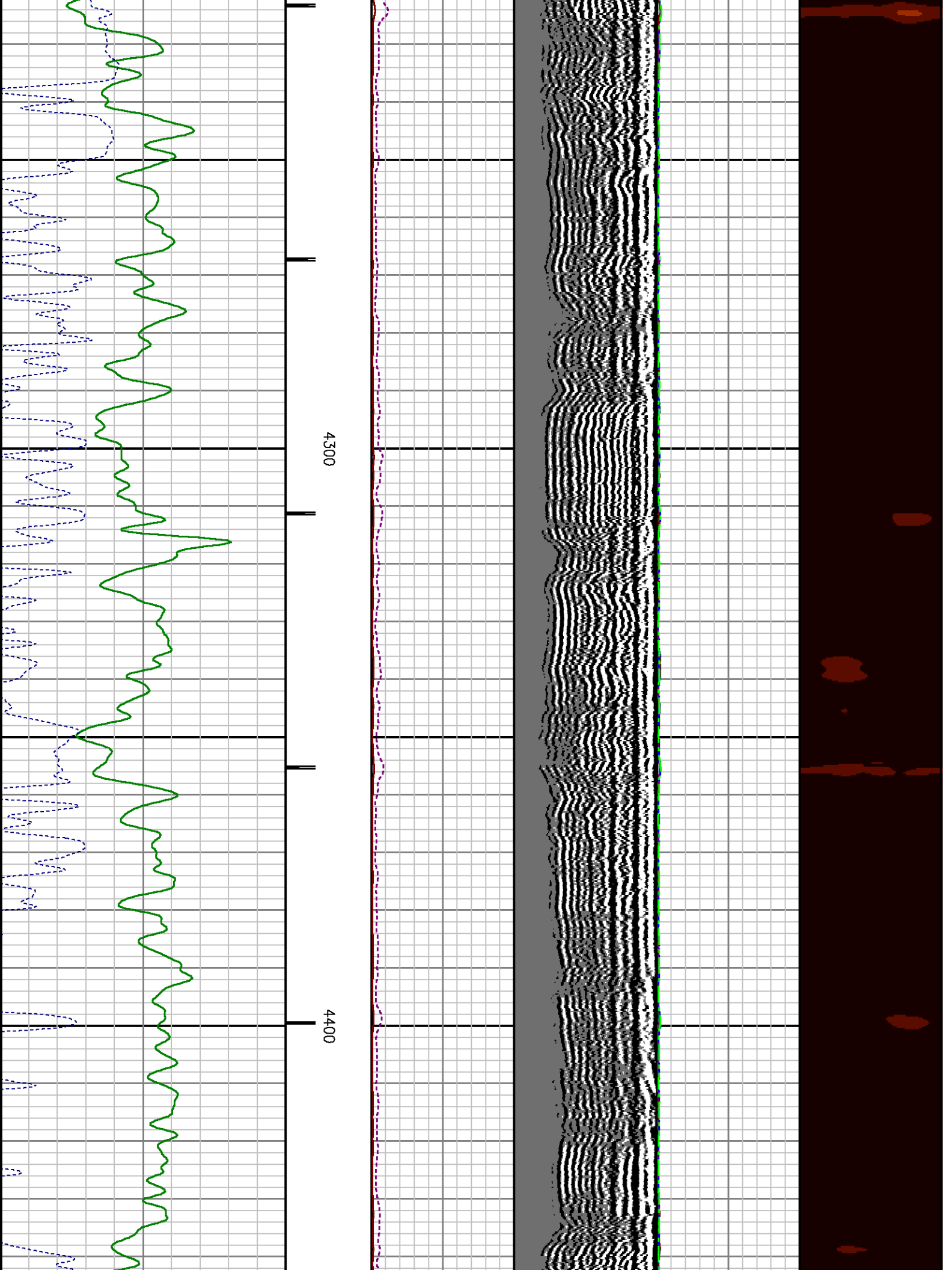
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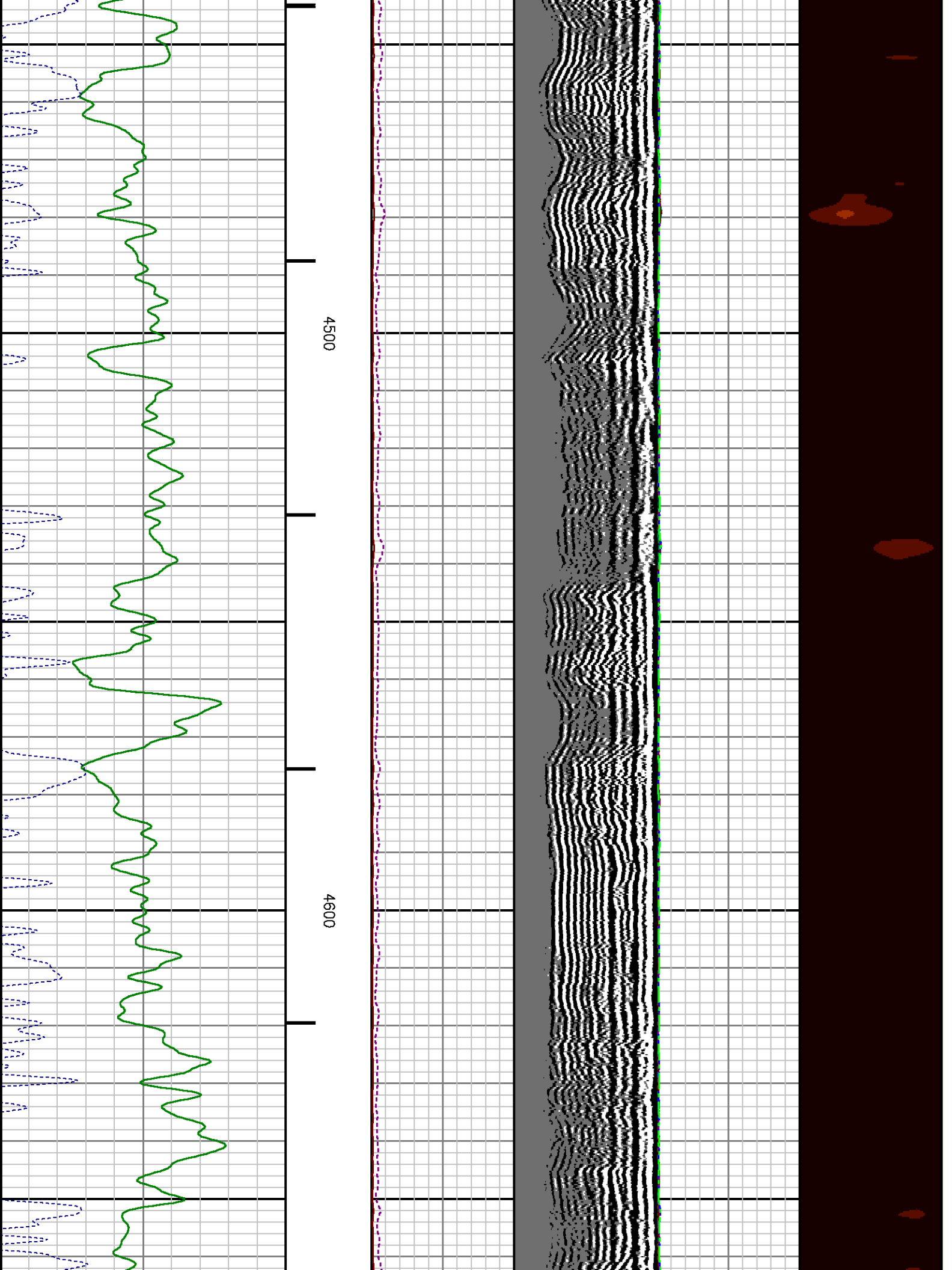
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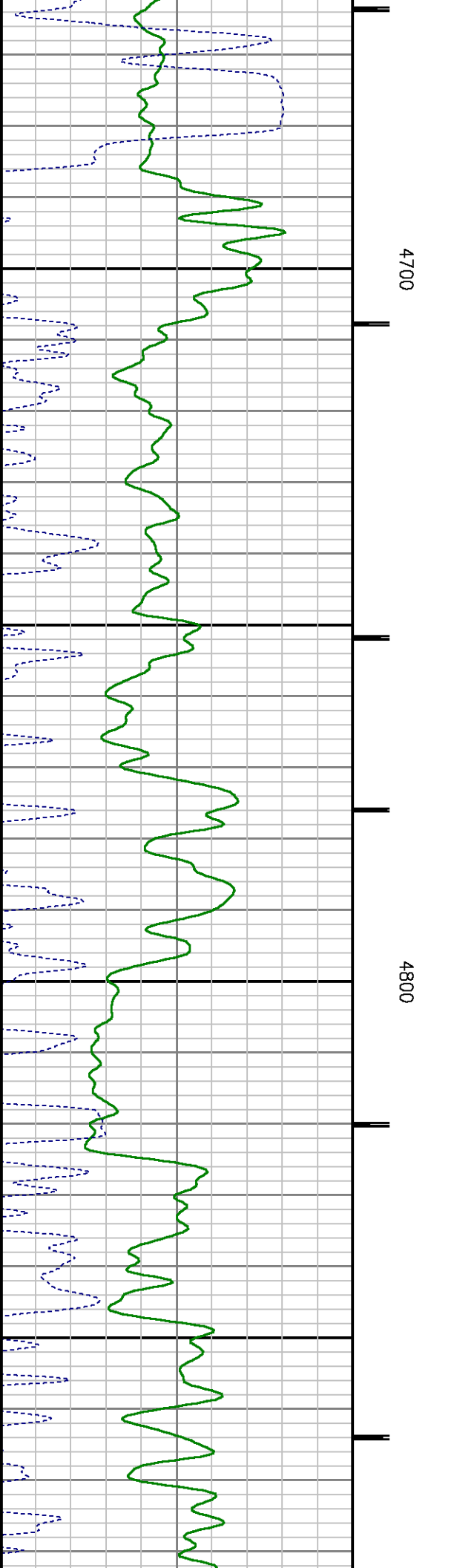
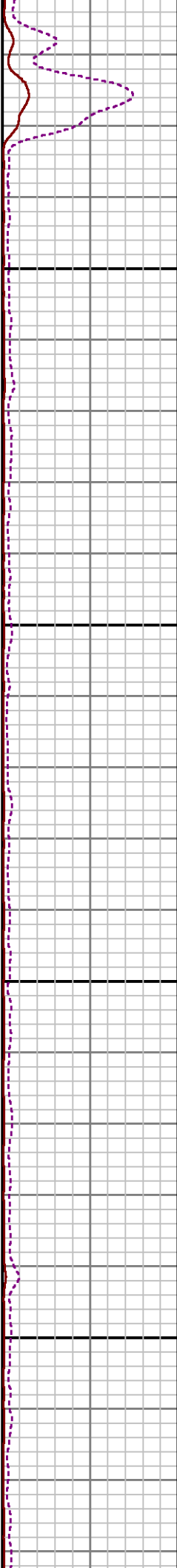
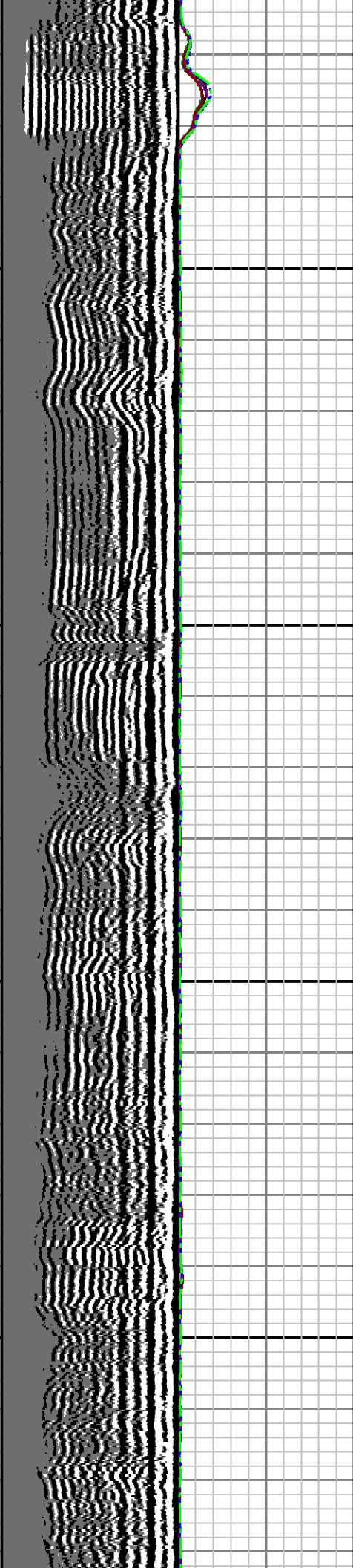
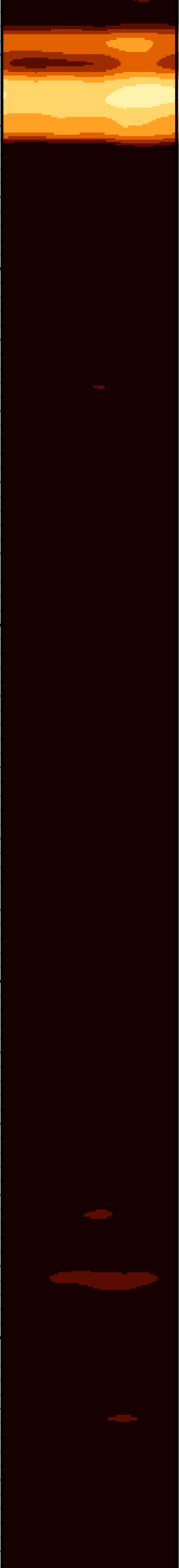
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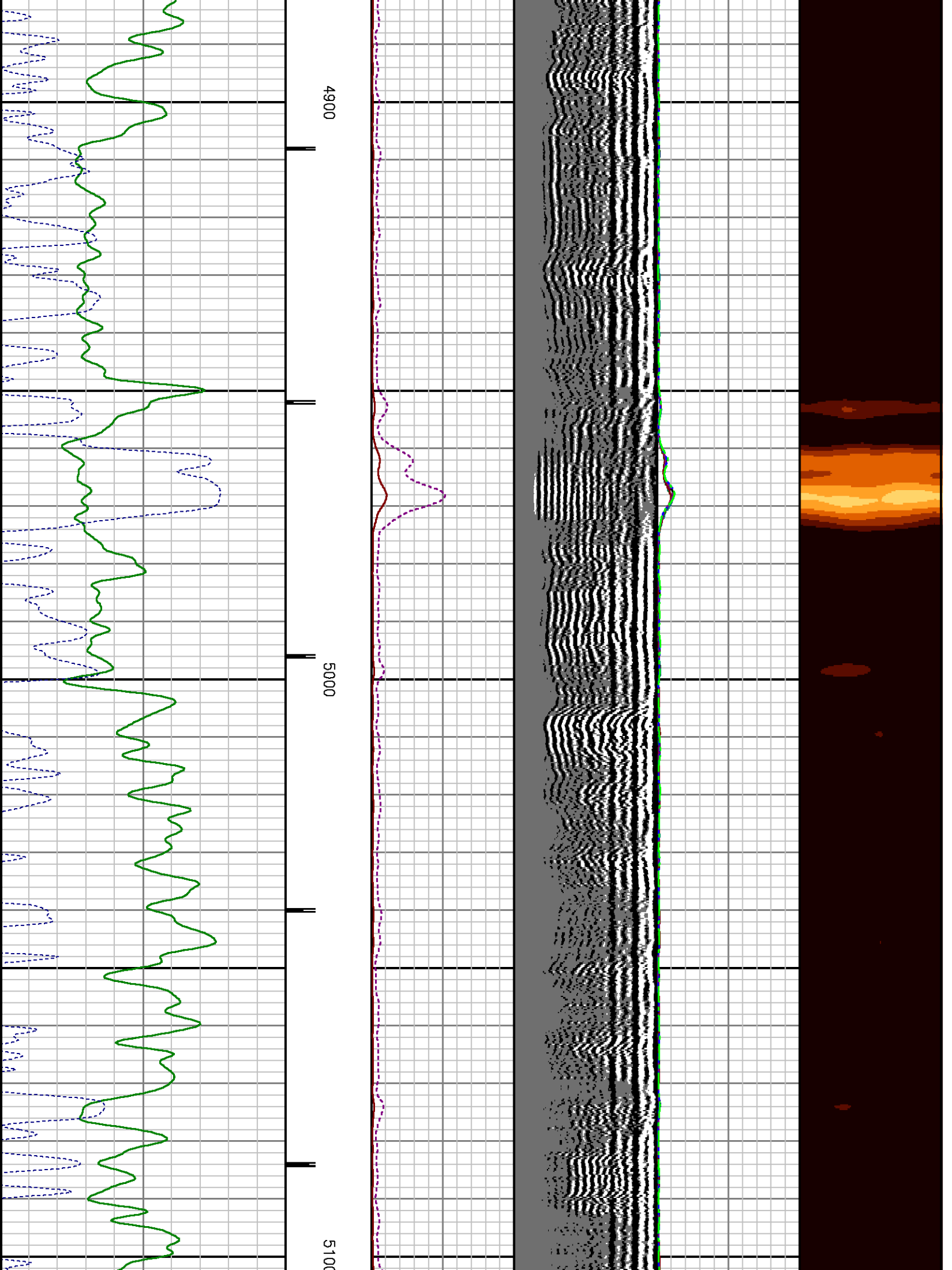


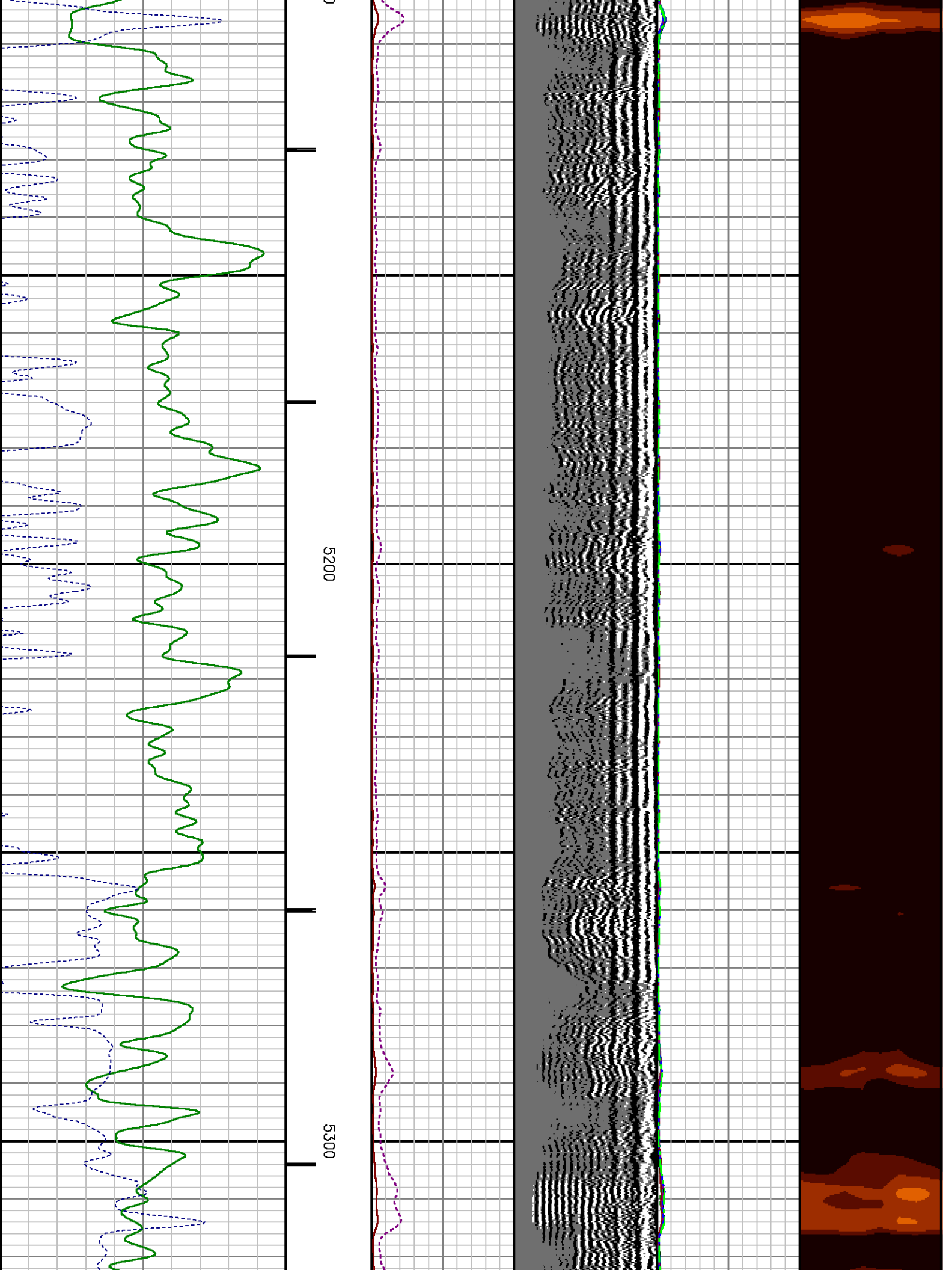


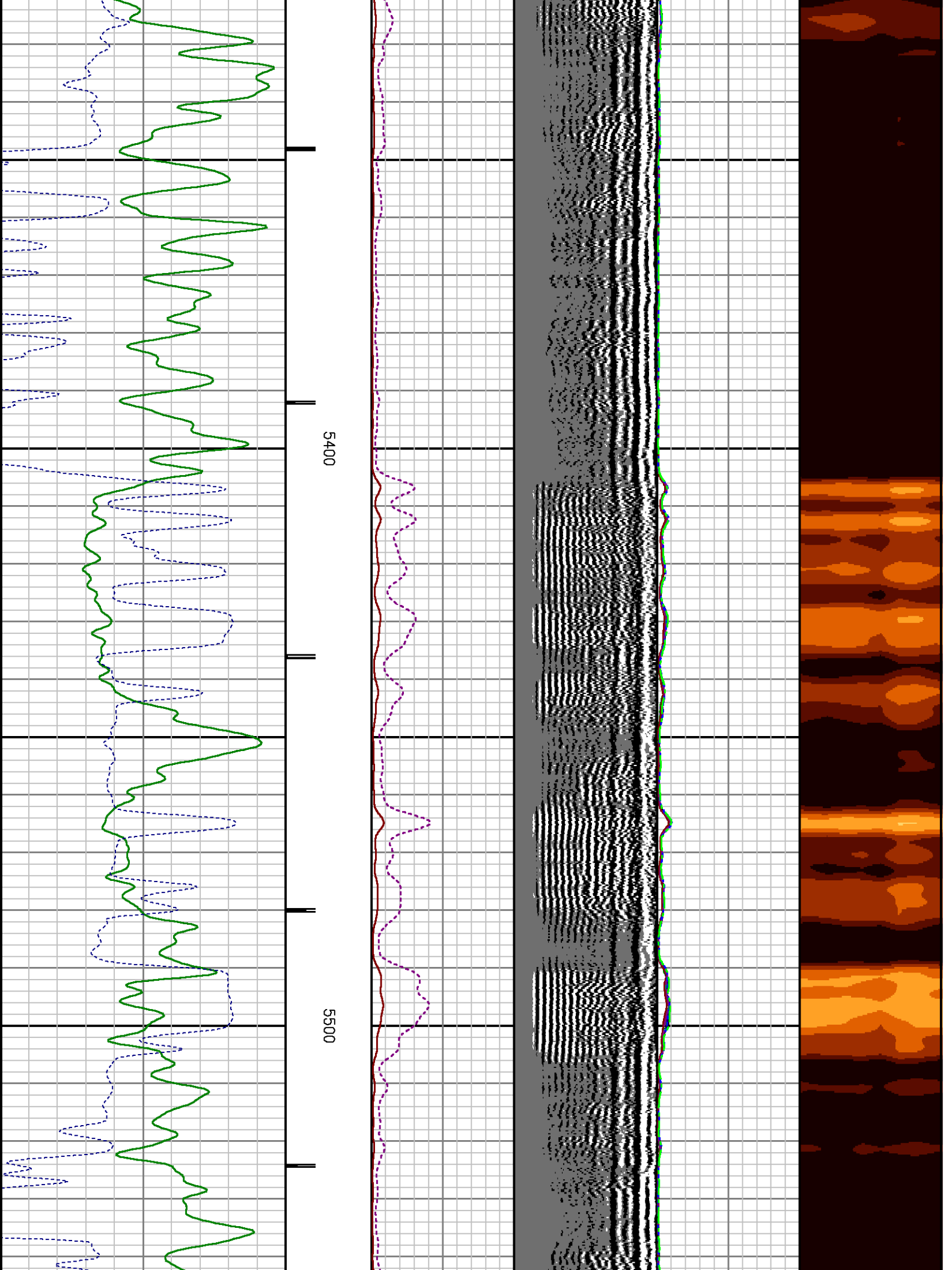


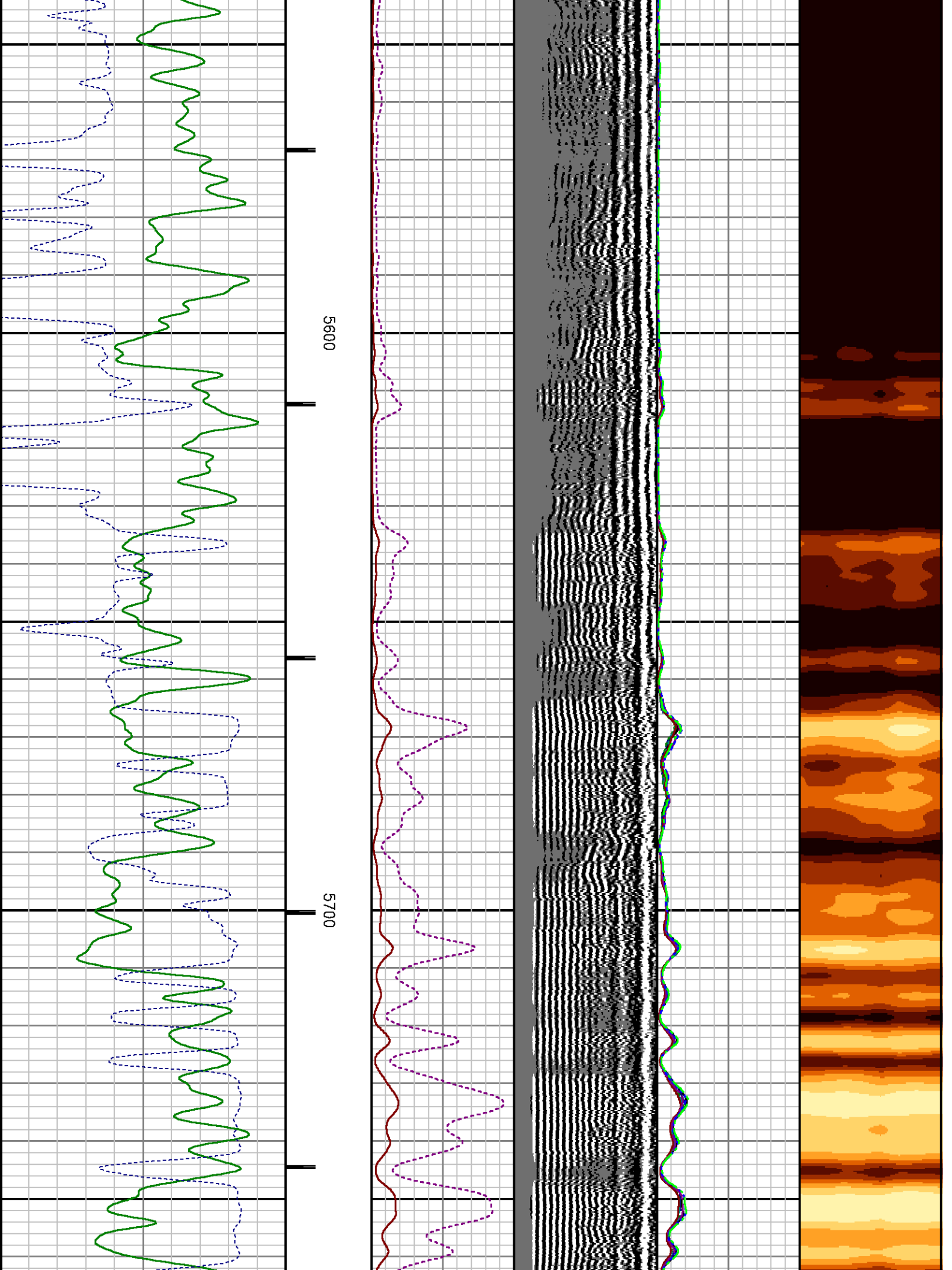


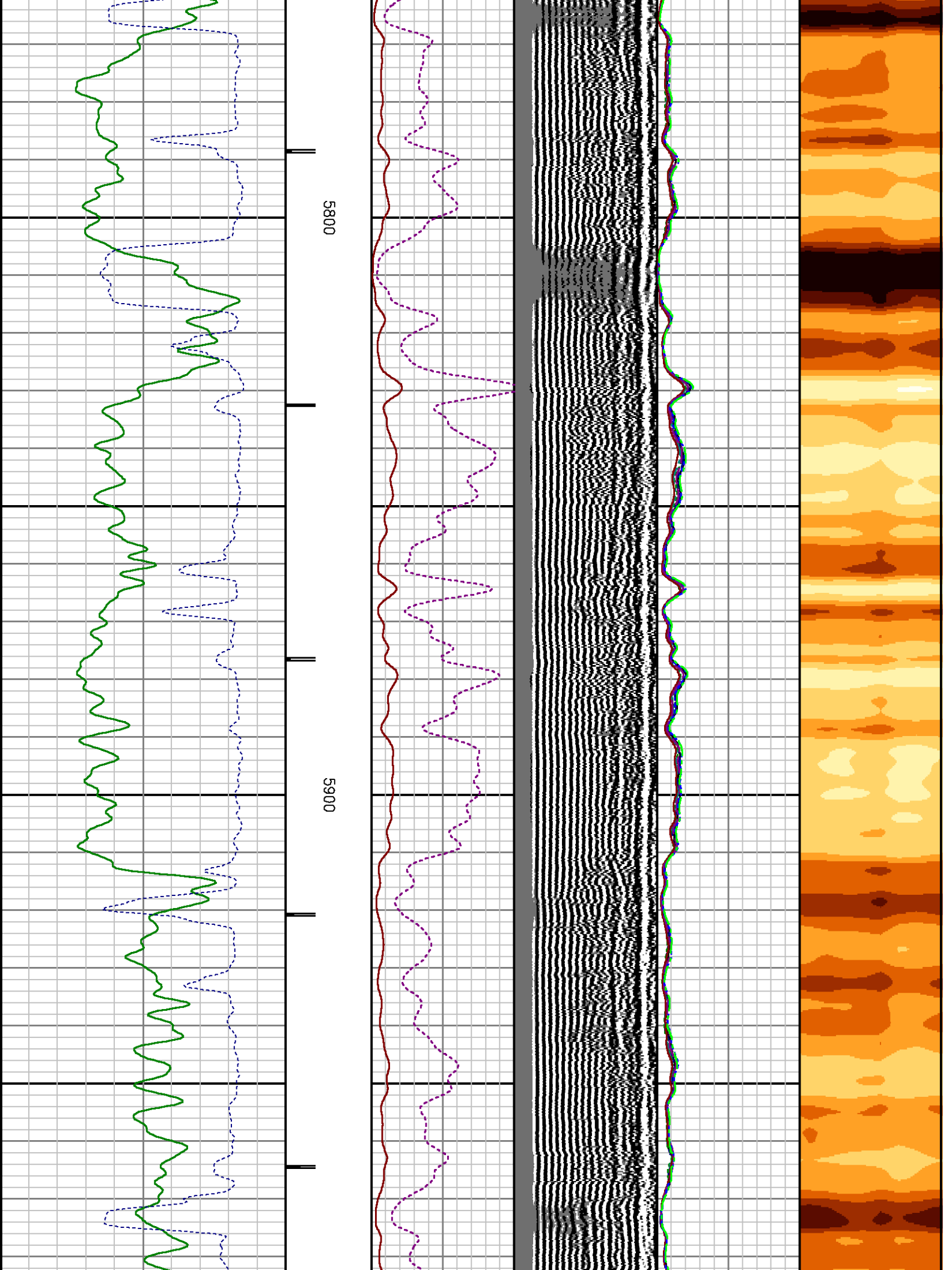


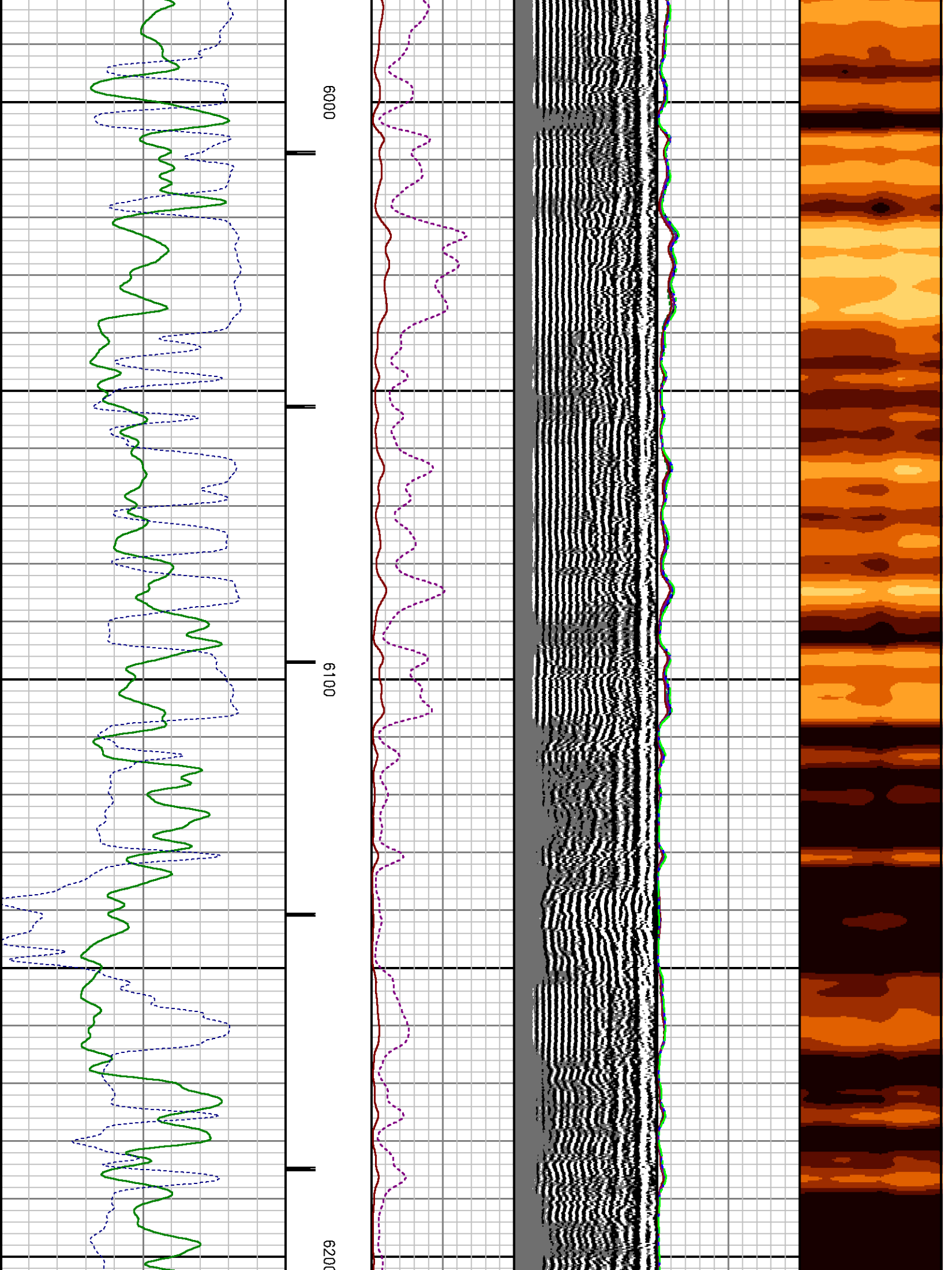


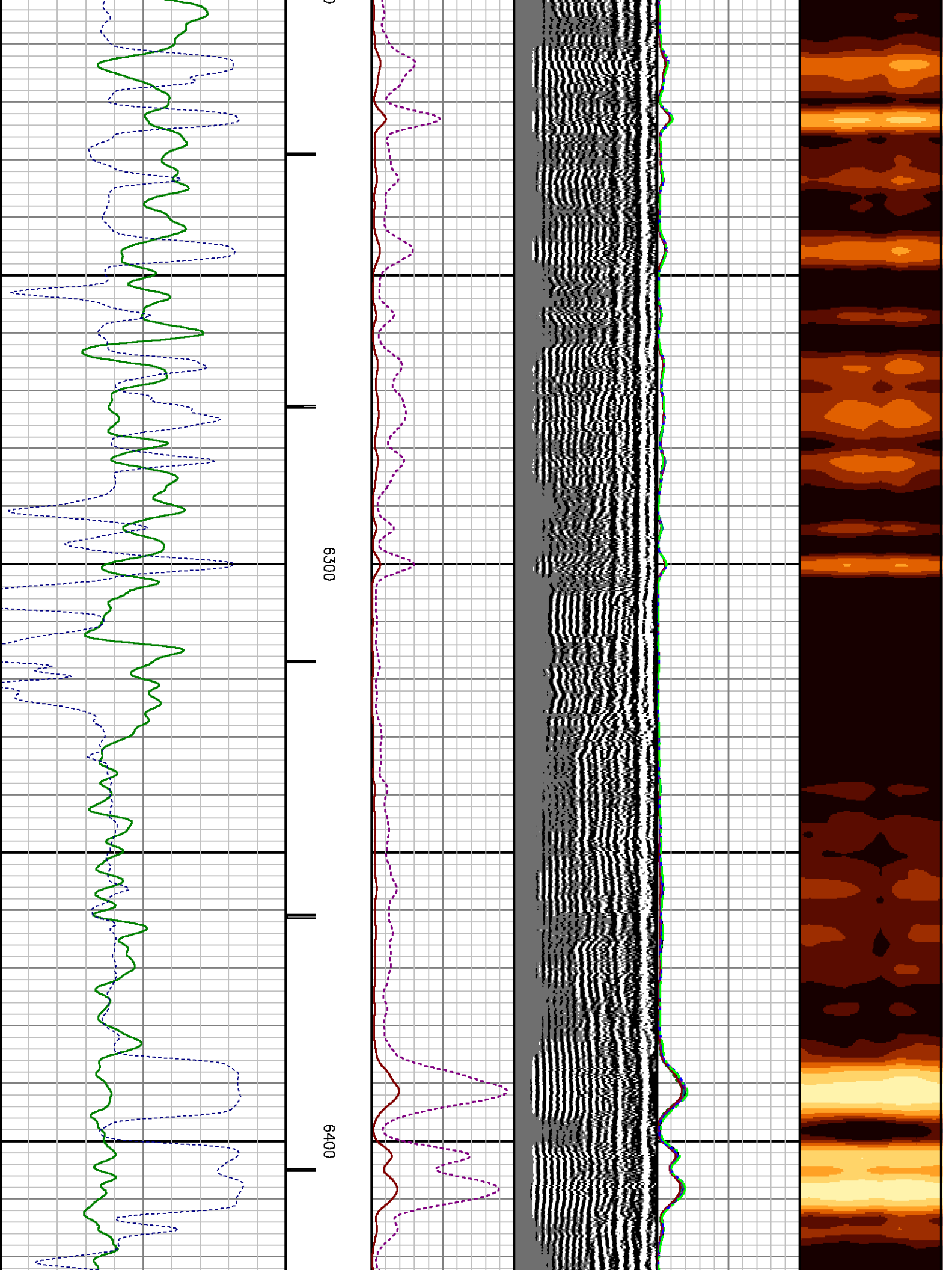


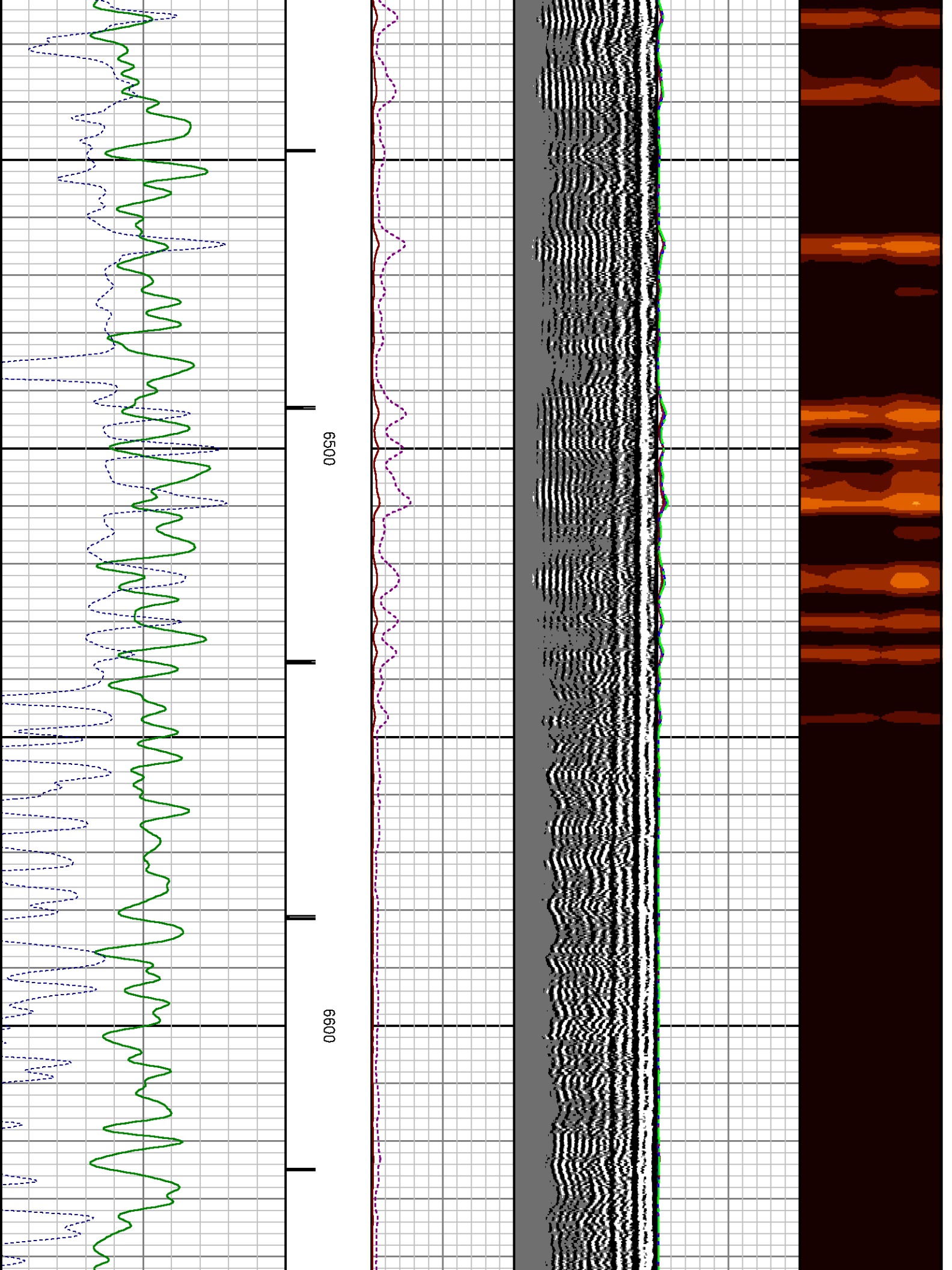


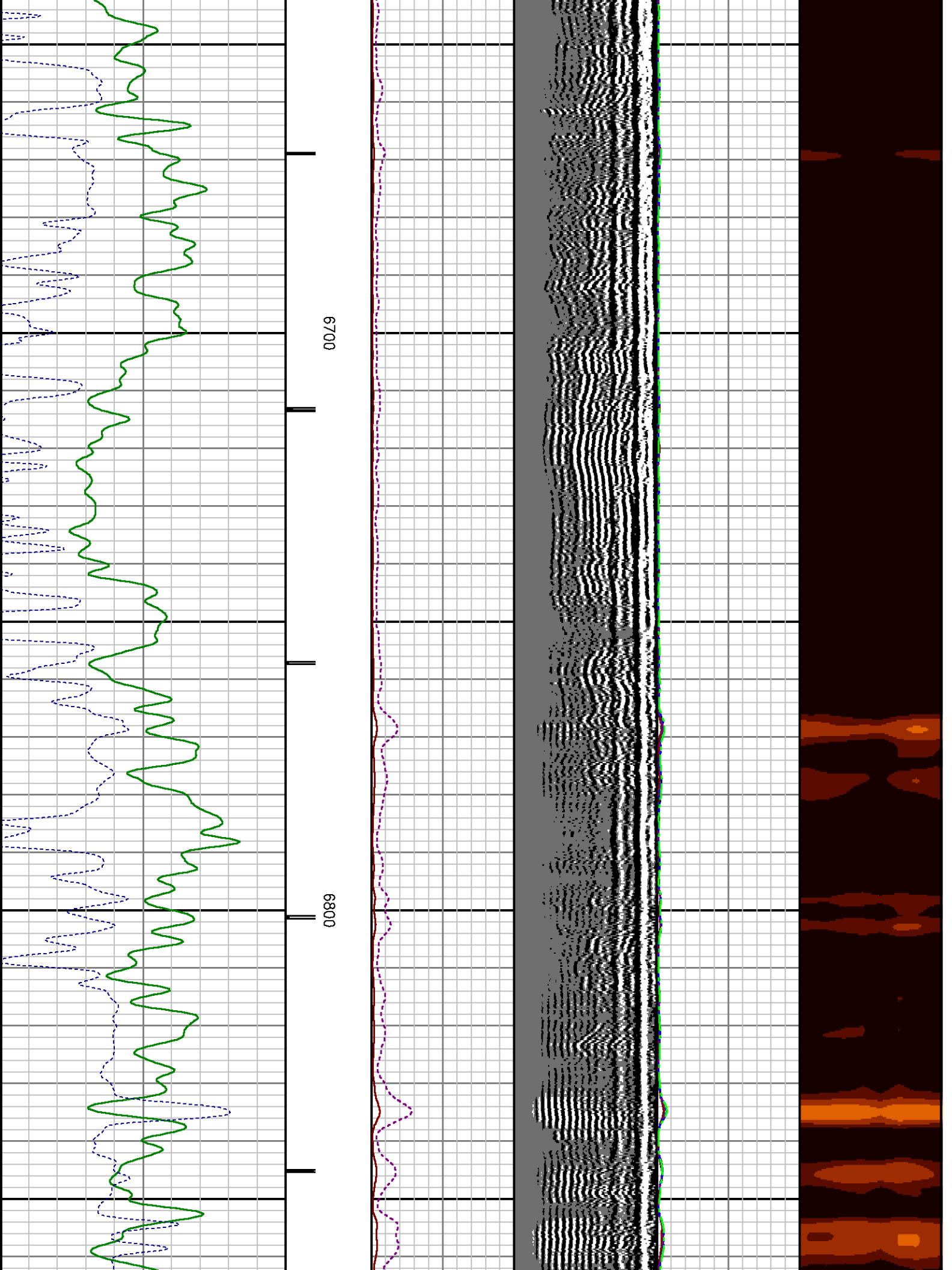


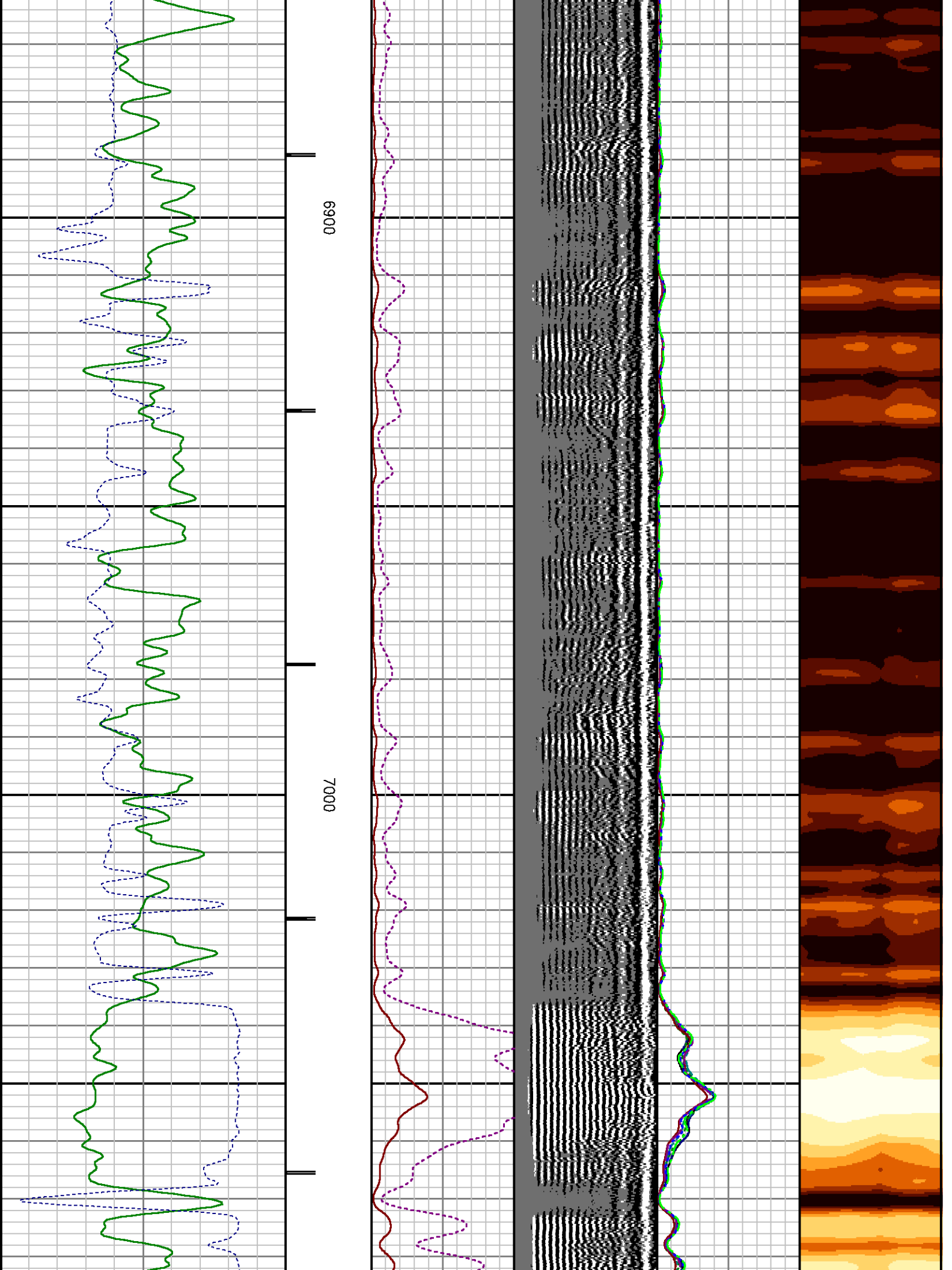


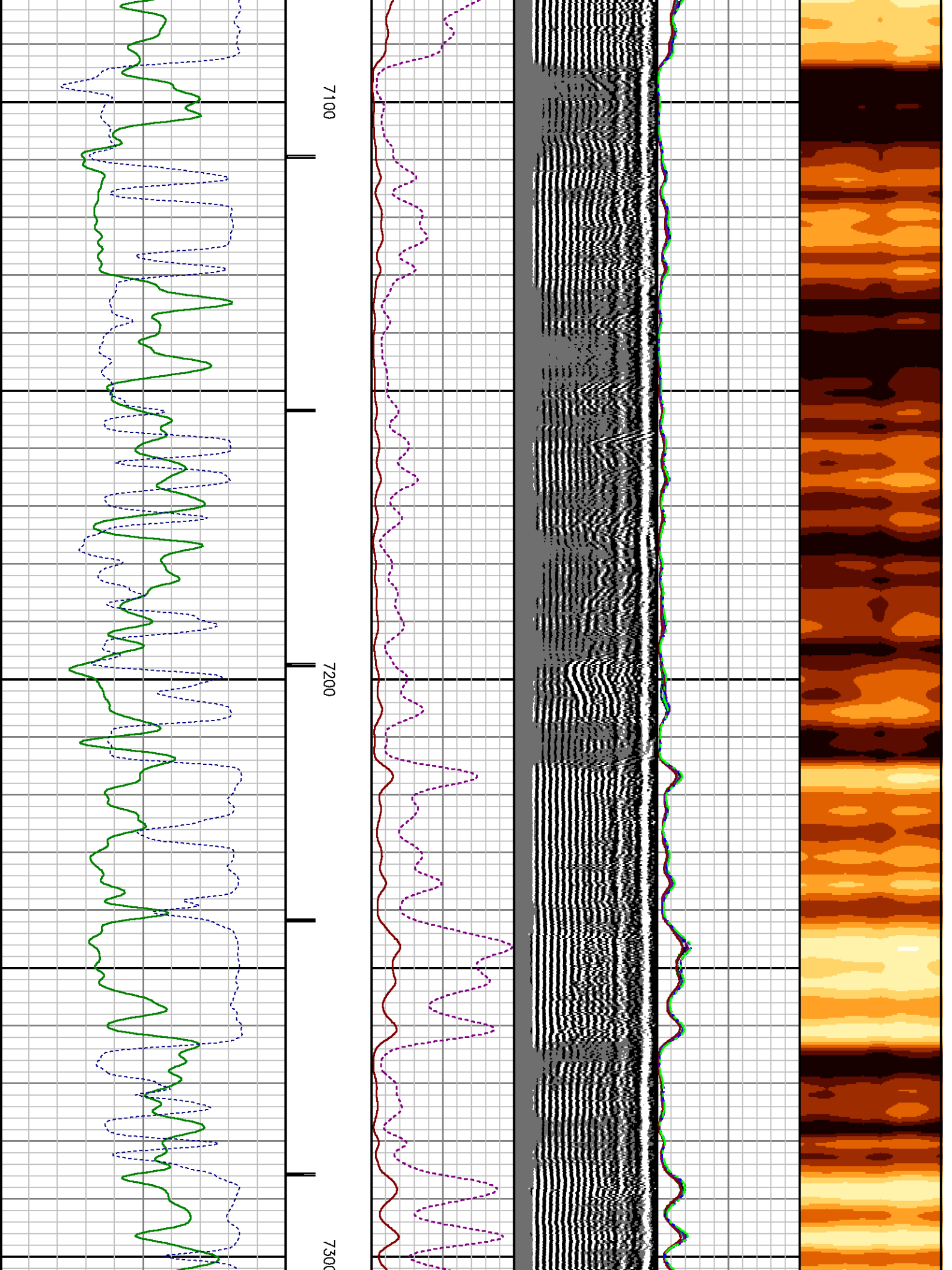


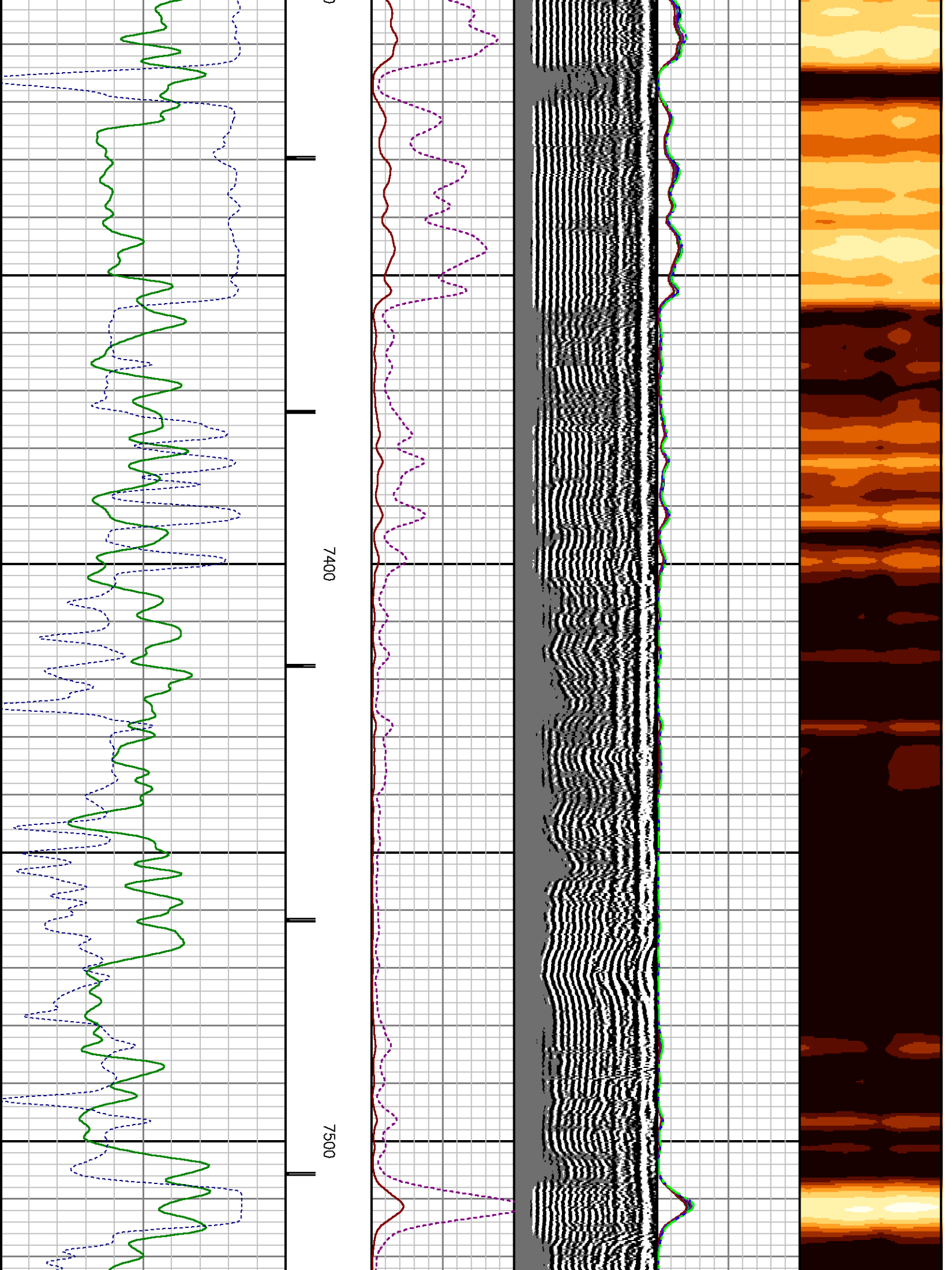


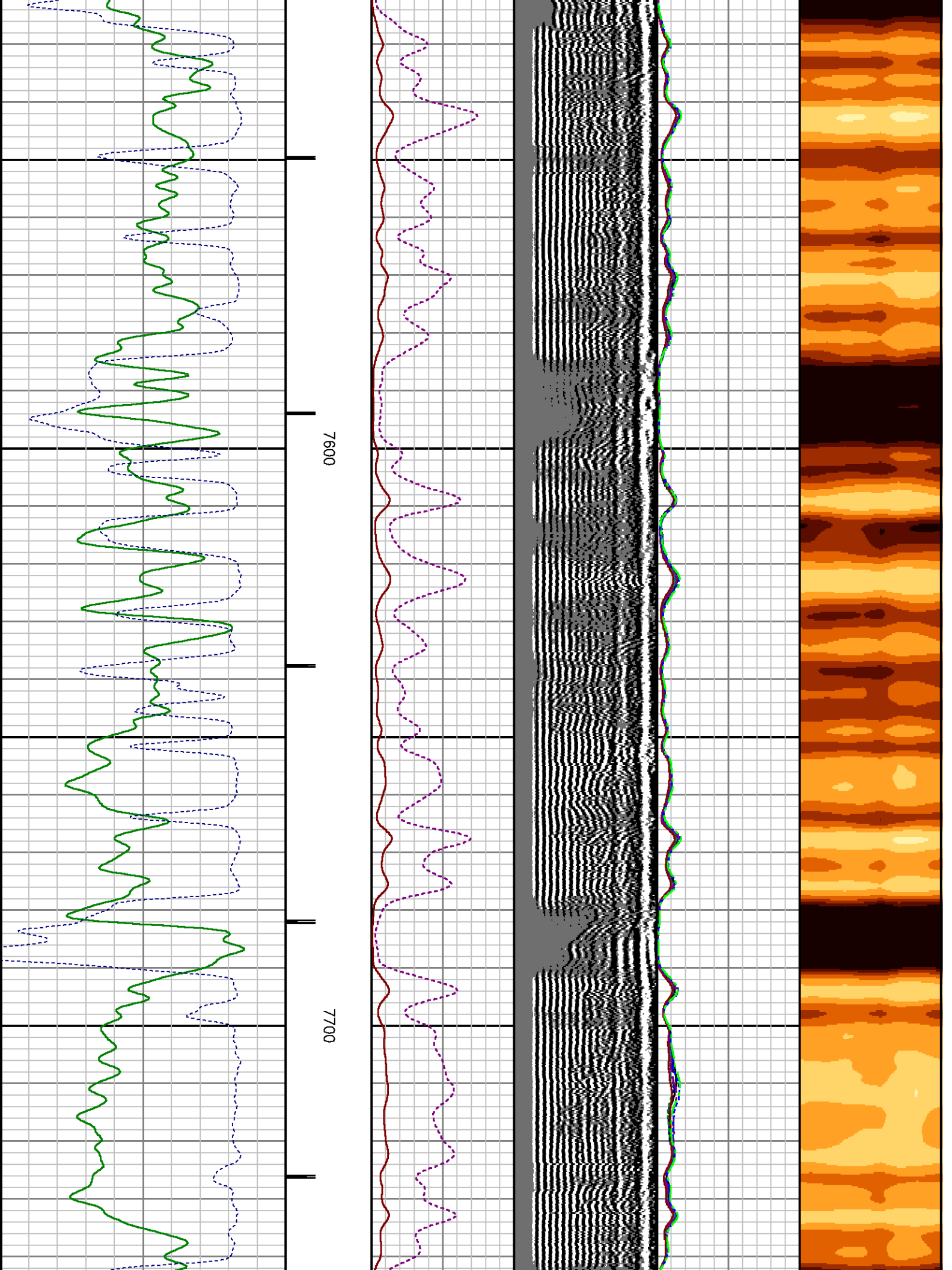


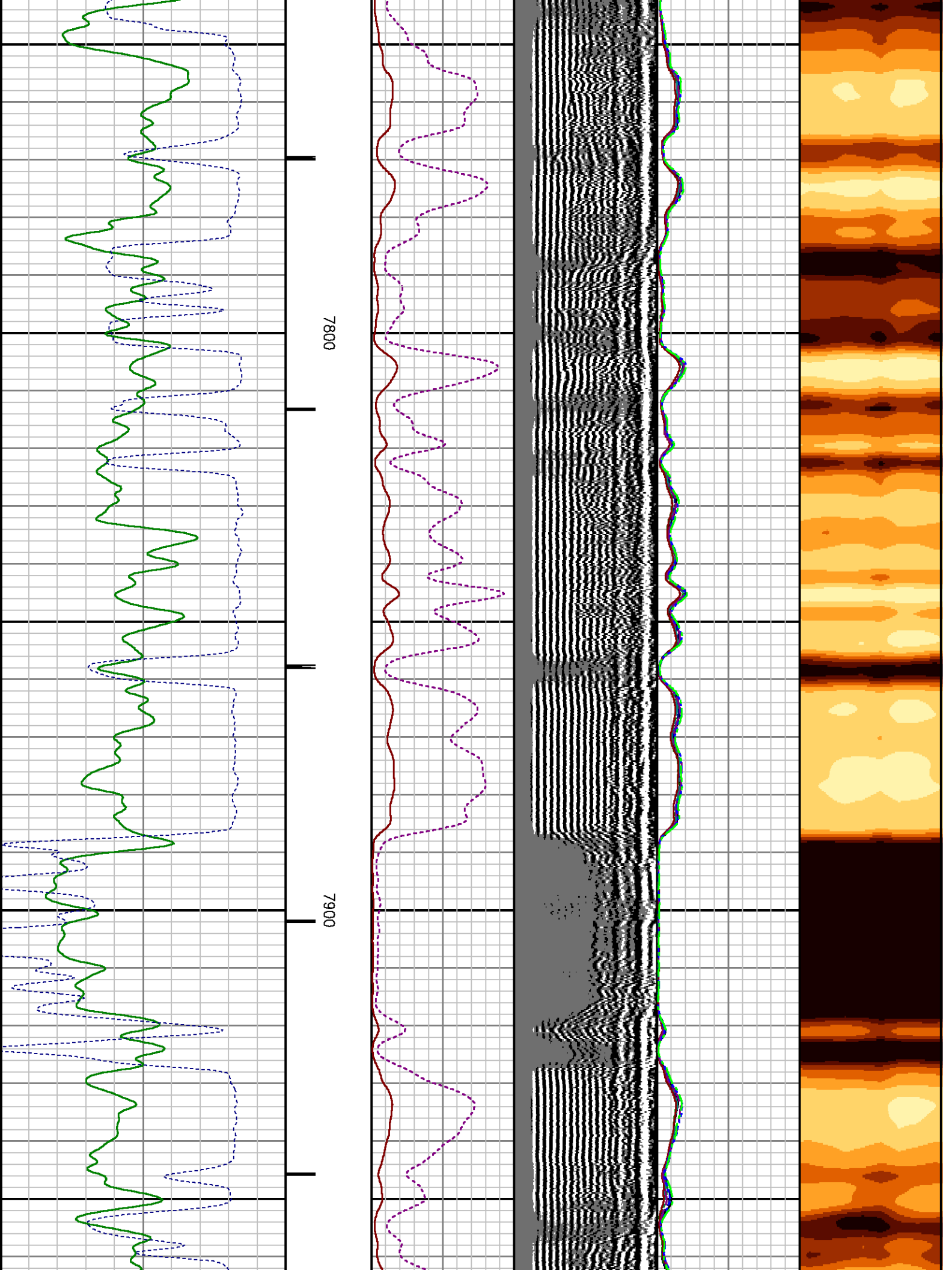


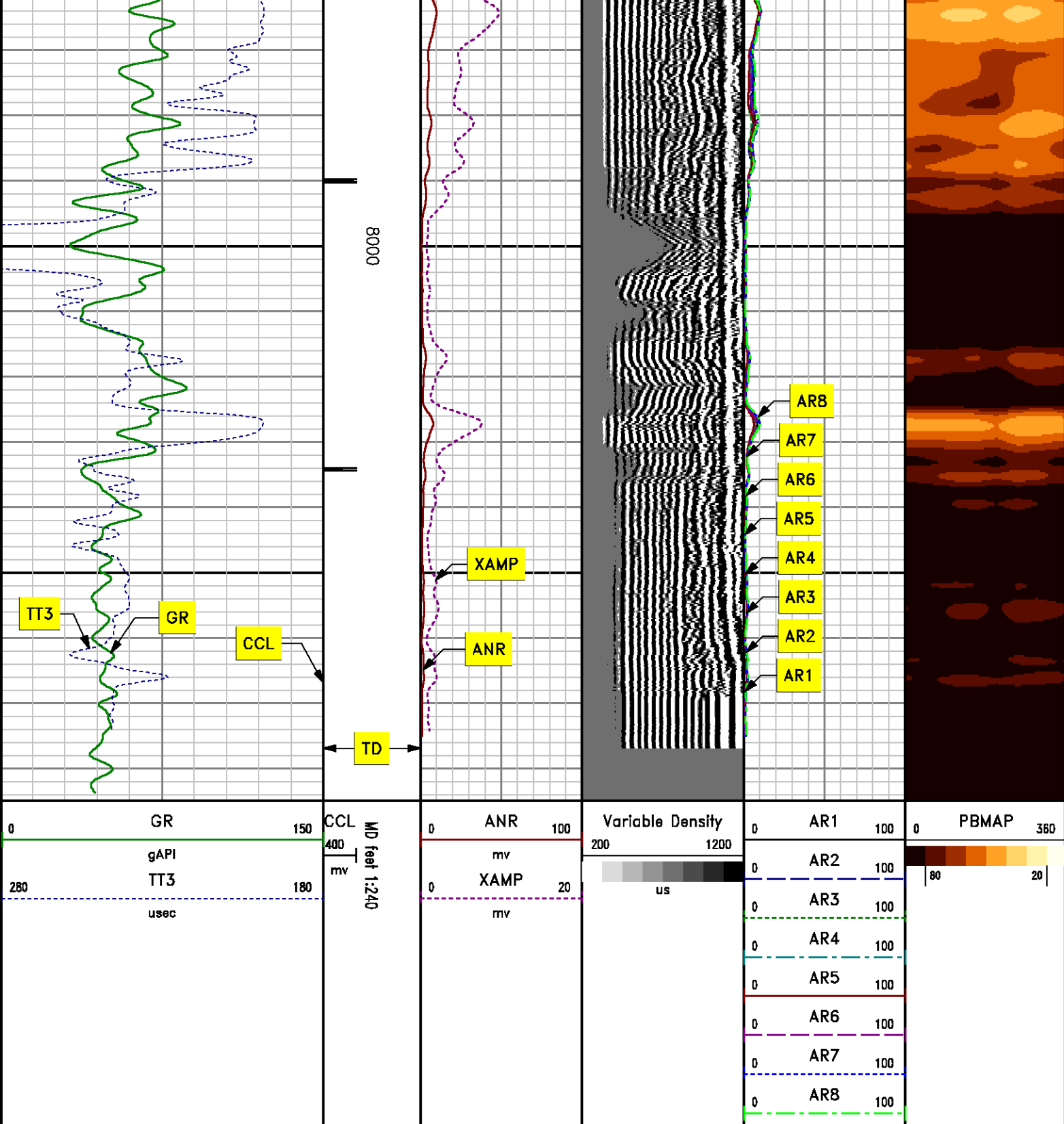












REPEAT PASS
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	303.100	usec	7749.875	8084.000
RAL	Amp Gate Start Near	199.125	usec	7749.875	8084.000
RAL	Amp Gate Start Radial	199.015	usec	7749.875	8084.000
RAL	Amp Gate Width Far	25.000	usec	7749.875	8084.000
RAL	Amp Gate Width Near	25.000	usec	7749.875	8084.000
RAL	Amp Gate Width Radial	25.000	usec	7749.875	8084.000
RAL	casing od	4.500	inches	7749.875	8084.000
RAL	casing wt	11.600	lbm/ft	7749.875	8084.000
RAL	FB Start Far	291.900	usec	7749.875	8084.000
RAL	FB Start Near	175.391	usec	7749.875	8084.000
RAL	FB Start Radial	175.391	usec	7749.875	8084.000
RAL	FB Thresh Far	10.000	mv	7749.875	8084.000
RAL	FB Thresh Near	4.000	mv	7749.875	8084.000
RAL	FB Thresh Radial	4.000	mv	7749.875	8084.000
RAL	Fluid Travel Time	200.000	usec/ft	7749.875	8084.000

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					

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

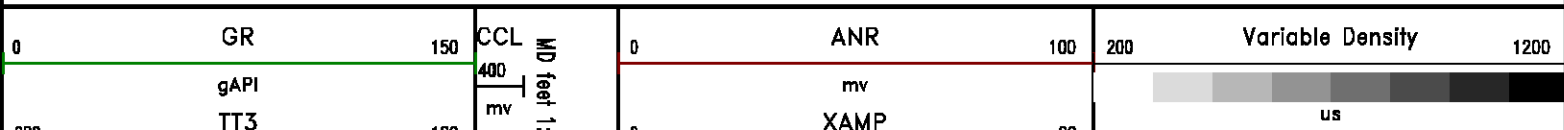
Well : DUGGAN RWF 323-29

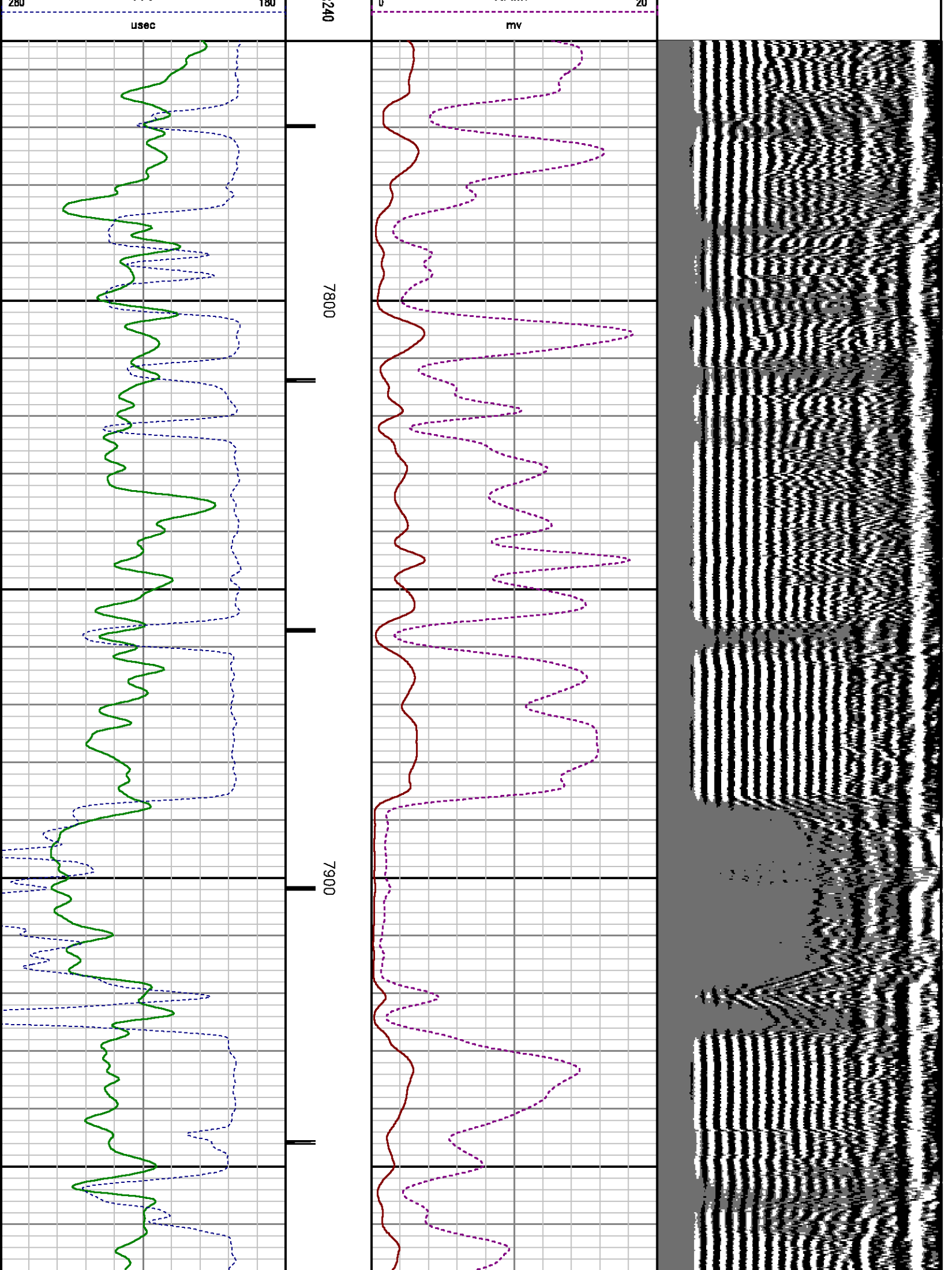
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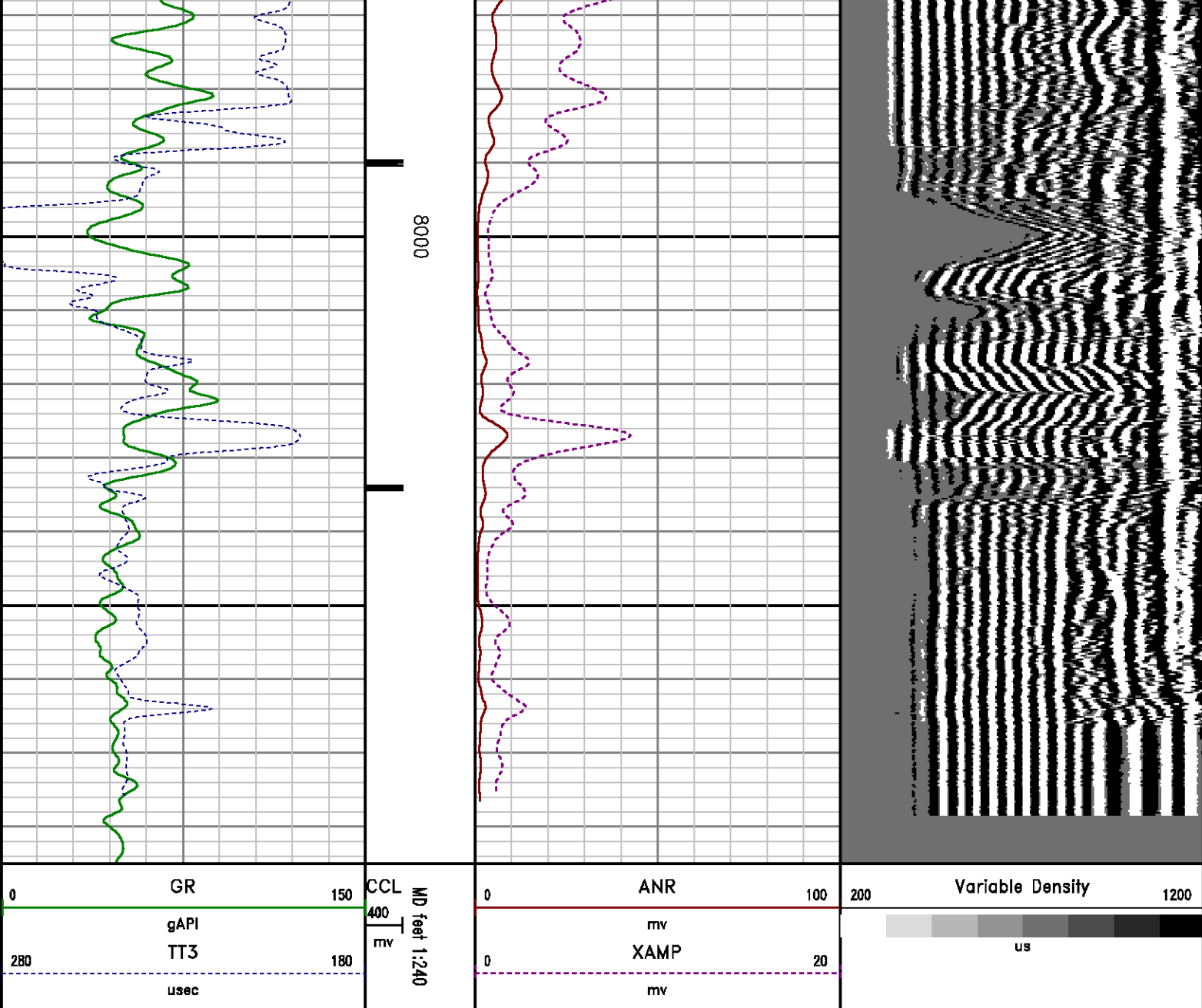
Mode : PlotMgr 5.4.504

Interval : 7755.00 - 8085.00 feet UP

Created : 5/19/2013 2:49:45 PM







CALIBRATION SUMMARY

RALSHP

Shop Calibration: C:\case\calver\RALSHP\539M19 shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun May 19 11:21:47 2013 TOOL SERIES: 1426XA ASSET: 539 SEQ: M19

Tool Delay	-58.00	Tank OD	5.50	Tank Wt	15.50	Tank ID	4.95
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[usec]

in

lbm/ft

in

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	-0.394	100.00	0.19
3 Ft. Receiver	217	216	30	151	25	-0.281	100.00	0.18
5 Ft. Receiver	324	322	30	253	25	0.210	150.00	0.20
Radial #1	218	216	30	144	25	2.062	100.00	0.18
Radial #2	218	216	30	144	25	0.890	100.00	0.19
Radial #3	218	216	30	144	25	0.185	100.00	0.19
Radial #4	217	216	30	144	25	0.017	100.00	0.19
Radial #5	217	216	30	144	25	0.140	100.00	0.18
Radial #6	216	216	30	144	25	-0.130	100.00	0.18
Radial #7	216	216	30	144	25	-0.074	100.00	0.18
Radial #8	218	216	30	144	25	0.190	100.00	0.18

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\539M19 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun May 19 11:23:34 2013 TOOL SERIES: 1426XA ASSET: 539 SEQ: M19

Tool Delay [usec] -58.00 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	-0.258	0.000	1.00	100.000
3 Ft. Receiver	200	30	-2.814			
5 Ft. Receiver	317	30	-3.773			
Radial #1	200	30	-4.611			
Radial #2	200	30	-3.928			
Radial #3	200	30	-3.872			
Radial #4	200	30	-4.158			
Radial #5	200	30	-5.590			
Radial #6	200	30	-4.285			
Radial #7	200	30	-4.583			
Radial #8	200	30	-4.392			

GAMMA RAY

Calibration File: C:\case\calver\GR\209M2.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun May 12 13:40:15 2013 TOOL SERIES: 1355XA ASSET: 209 SEQ: M2

Calibrator # Background Calibrator On Multiplicative Background Calibrator On Differential

		[cps]	[cps]		[api]	[api]	[api]
S2K	WA612	129.07	523.51	0.469	60.53	245.53	185.00

Verification File: C:\case\calver\GR\209M2.VP

PRIMARY LOG VERIFICATION							
DATE/TIME PERFORMED:		Sun May 12 13:41:35 2013		TOOL SERIES:	1355XA	ASSET:	209 SEQ: M2
Calibrator #	Background	Calibrator On		Multiplicative	Background	Calibrator On	Differential
	[cps]	[cps]			[api]	[api]	[api]
S2K WA612	131.47	531.85		0.469	61.66	249.45	187.79

TOOL DIAGRAM

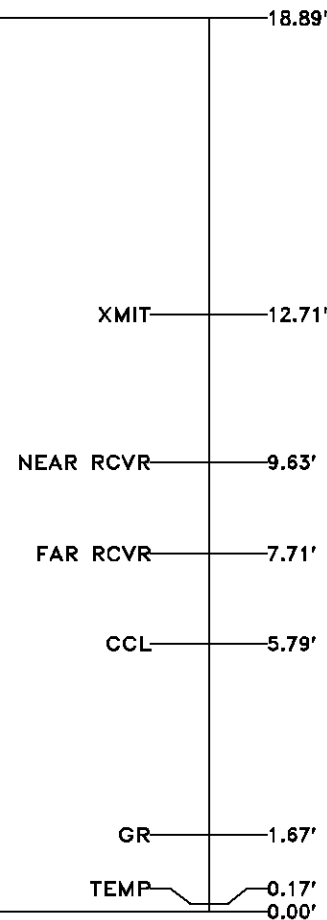
OTA SHORT CABLE HEAD

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

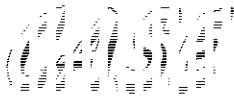
Series	1355XA
Mnemonic	RAL
Diameter	2.75"
Weight	85.00 lb
Length	6.96'
Measure Point	0.17' TEMP
Measure Point	1.67' GR
Measure Point	5.79' CCL
Temp Rating	400.00 °F
Press Rating	20000.00 PSI



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



Baker Atlas



Company
Well
Field
County

WPX ENERGY
DUGGAN RWF 323-29
RULISON
GARFIELD State COLORADO

File No:
CH072056
API No:
05045216650000

Location

SHL: 552' FSL & 593' FWL
BHL: 1607' FSL & 2003' FWL

Elevations

KB 5445.2 ft
DF
GL 5419.2 ft

29 6S 94W
RWF 14-29
NABORS SSD 573

SEC 29 TWP 6S RGE 94W