



RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: CH029310	Company Well	WILLIAMS PRODUCTION COMPANY	
API No: 05045194330000	Field County	GM 444-31 GRAND VALLEY GARFIELD State COLORADO	
31 6S 96W GM 333-31 PAD H&P 278	Location SHL: 2234' FSL & 1629' FEL BHL: 149' FSL & 995' FEL SEC 31 TWP 6S RGE 96W	Other Services RPM	
Permanent Datum Log Measured From Drill Measured From	GROUND LEVEL KELLY BUSHING KELLY BUSHING	Elevation 6100 ft Above P. D.	Elevations KB 6124 ft DF 6123 ft GL 6100 ft

Date	9 FEBRUARY 2011	
Run	ONE	
Service Order	575622	
Depth Driller	7315 ft	
Depth Logger	7225 ft	
Bottom Logged Interval	7221 ft	
Top Logged Interval	24 ft	
Time Started	2100	
Time Finished	0100	
Operator Rig Time	4	
Type of Fluid in Hole	WATER	
Fluid Density	8.4 lbm/gal	
Salinity	NA	
Fluid Level	NA	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	45 fpm	
Maximum Recorded Temperature	214 degF	
Reference Log	NONE	
Reference Log Date	NA	
Equipment No.	4214	G.J. COLORADO
Recorded By	FLOYD RENEAU	
Witnessed By	MR. MIKE SNOW	

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

Borehole Record		
Bit Size	From	To
13.5 In	0 ft	1171 ft
7.875 In	0 ft	7326 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 In			0 ft	1171 ft
4.5 In	11.6 lbm/ft	P-110	0 ft	7326 ft

Remarks
LOG WAS FRIST LOG OF WELL
LOGGED WITH ZERO PSI AT WELLHEAD
BHT = 214°F
SHORT JOINT = 3704'-3725'

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

PRIMARY PRESENTATION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	316.900	usec	26.156	7251.500
RAL	Amp Gate Start Near	200.391	usec	26.156	7251.500
RAL	Amp Gate Start Radial	200.391	usec	26.156	7251.500
RAL	Amp Gate Width Far	25.000	usec	26.156	7251.500
RAL	Amp Gate Width Near	25.000	usec	26.156	7251.500
RAL	Amp Gate Width Radial	25.000	usec	26.156	7251.500
RAL	casing od	4.500	inches	26.156	7251.500
RAL	casing wt	11.600	lbm/ft	26.156	7251.500
RAL	FB Start Far	291.900	usec	26.156	7251.500
RAL	FB Start Near	180.000	usec	26.156	7251.500
RAL	FB Start Radial	180.000	usec	26.156	7251.500
RAL	FB Thresh Far	15.000	mv	26.156	7251.500
RAL	FB Thresh Near	10.000	mv	26.156	7251.500
RAL	FB Thresh Radial	10.000	mv	26.156	7251.500
RAL	Fluid Travel Time	200.000	usec/ft	26.156	7251.281

DEPTH OFFSETS
(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-16.750	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-16.750	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP

1426XA	-15.750	AFAR	SIG	115
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

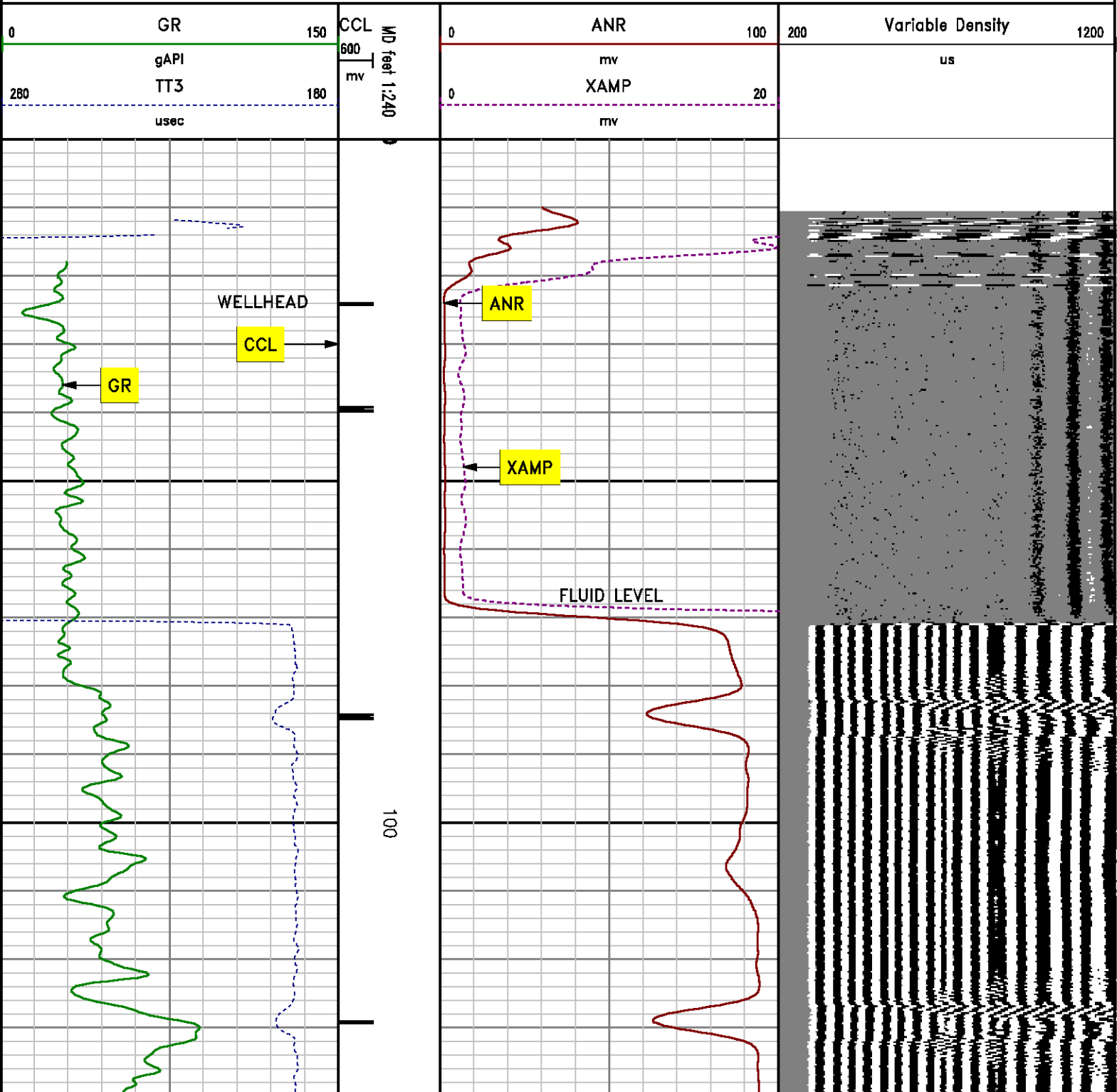
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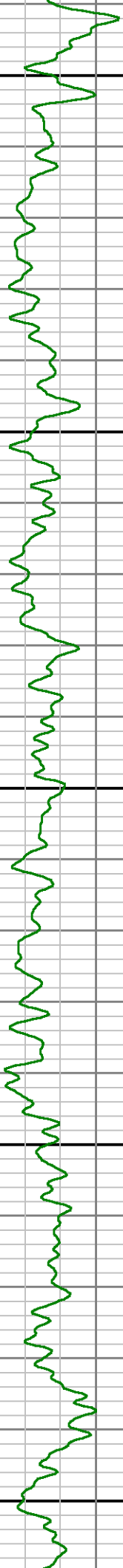
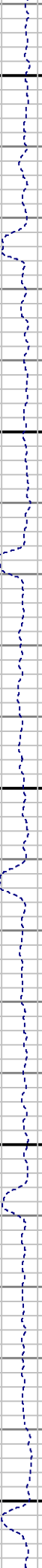
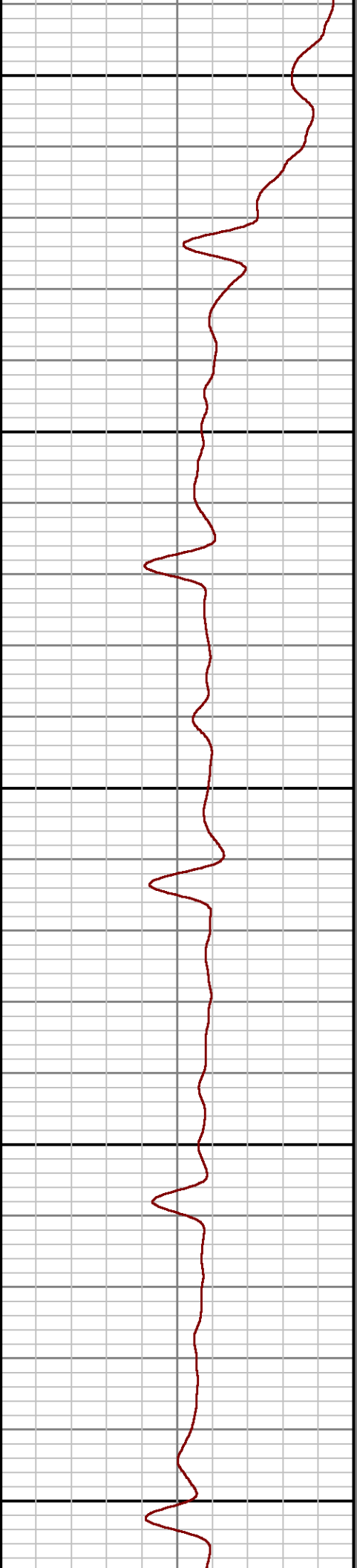
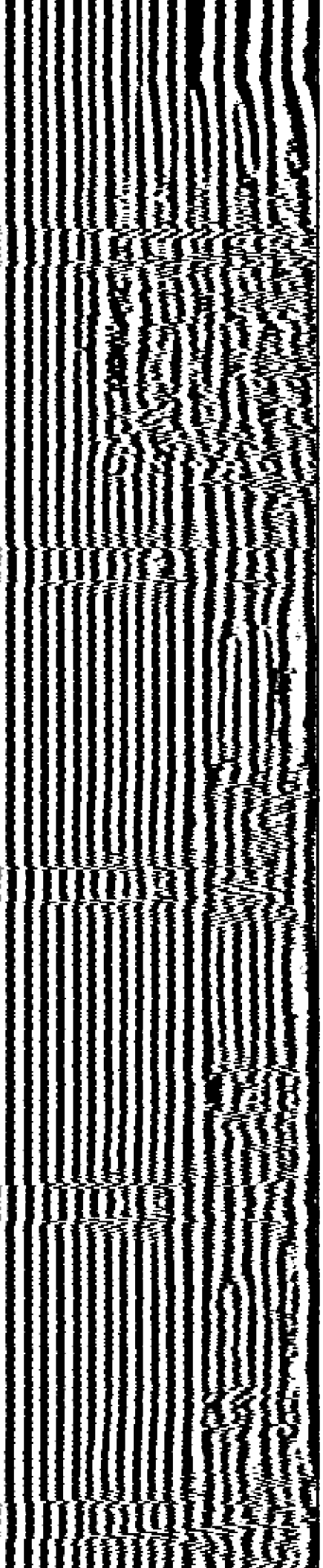
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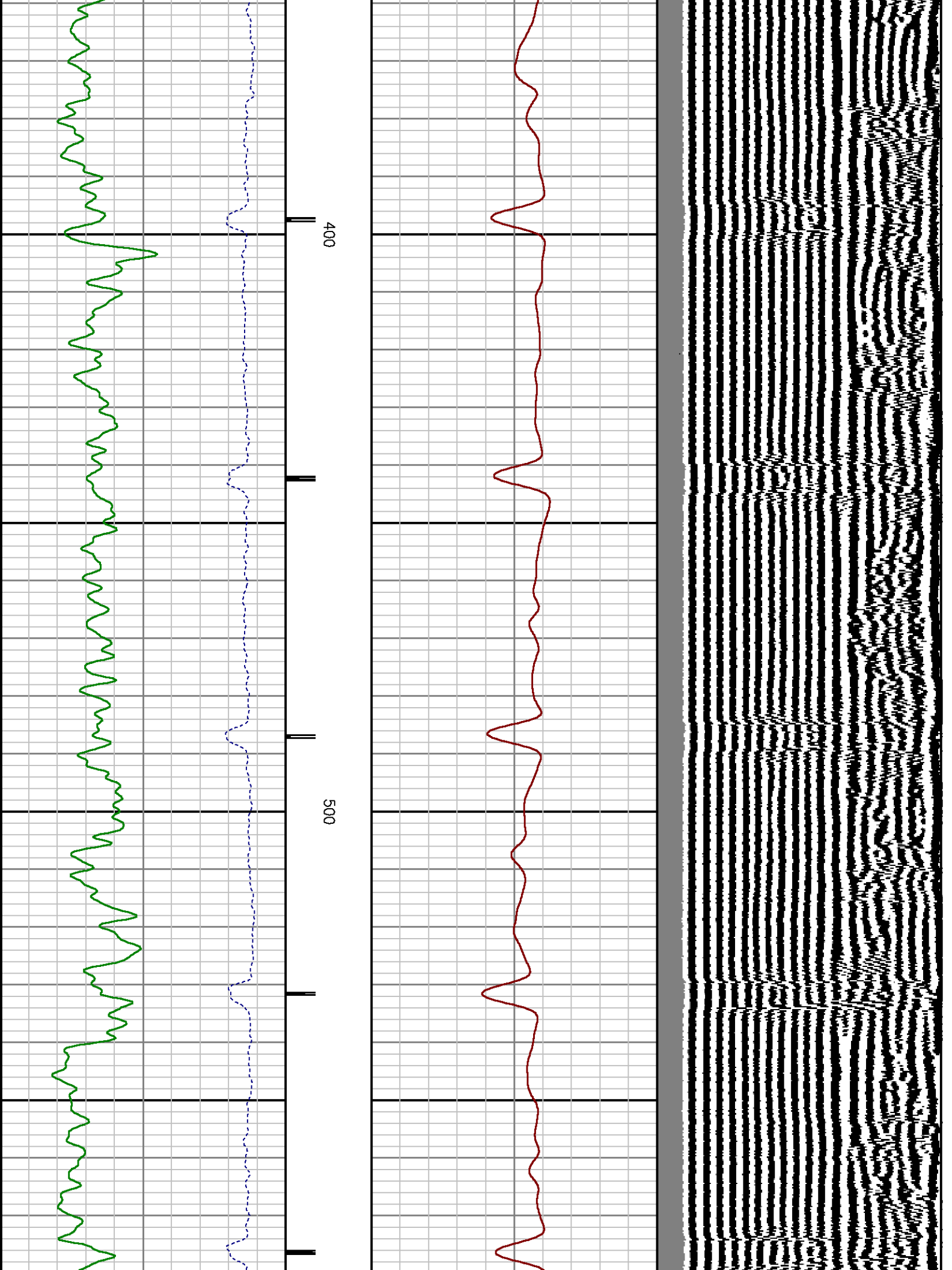
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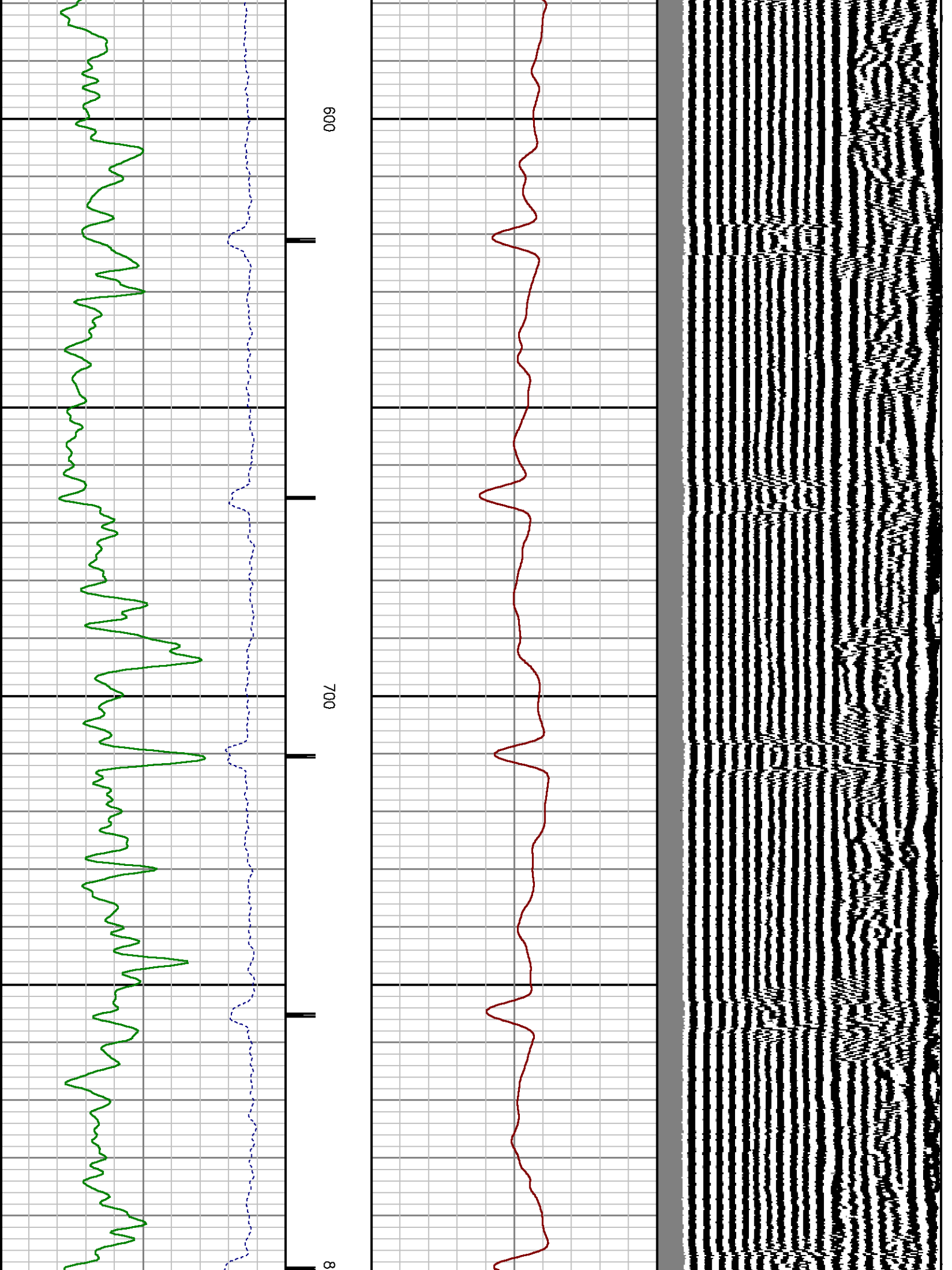
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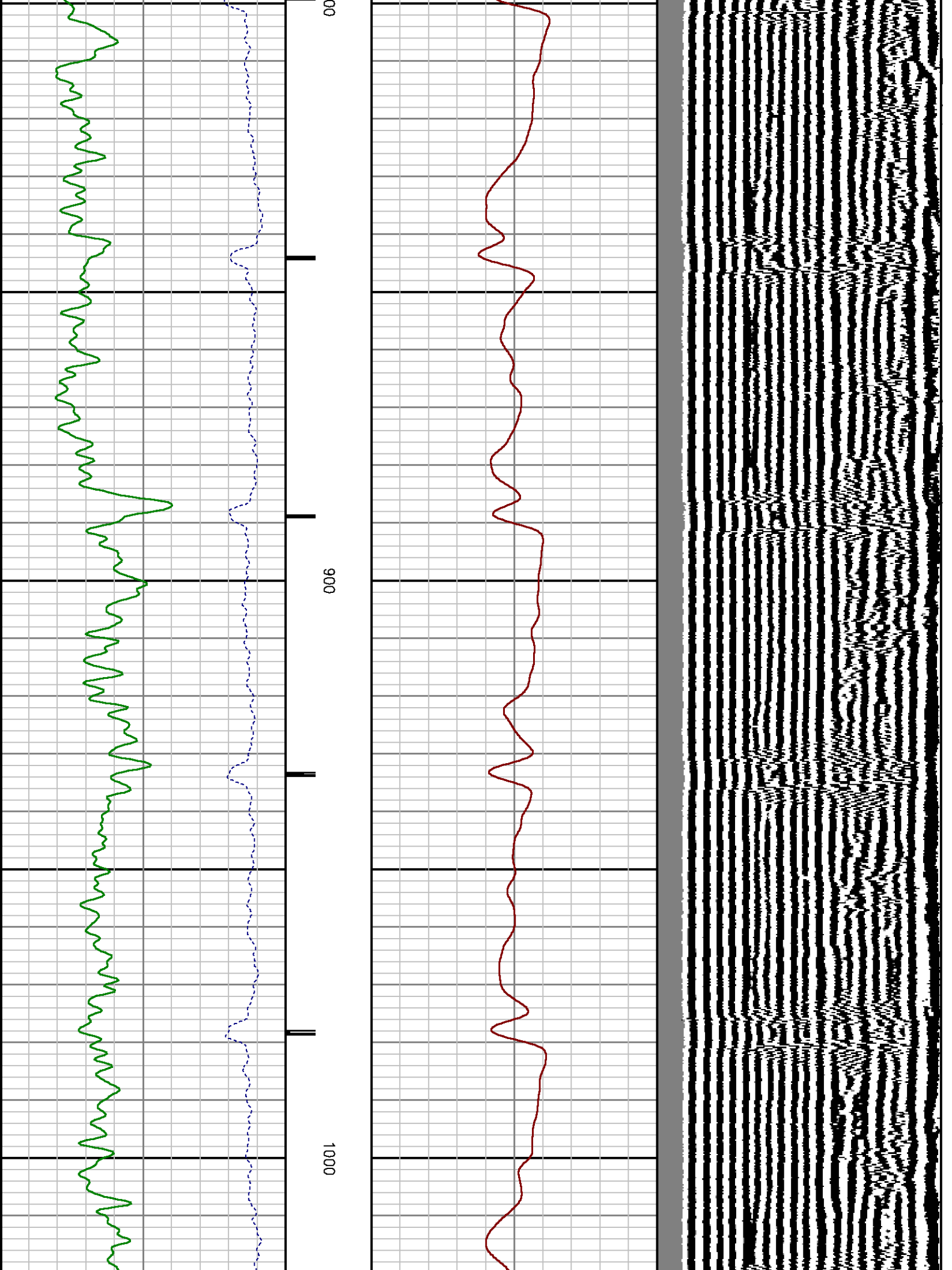
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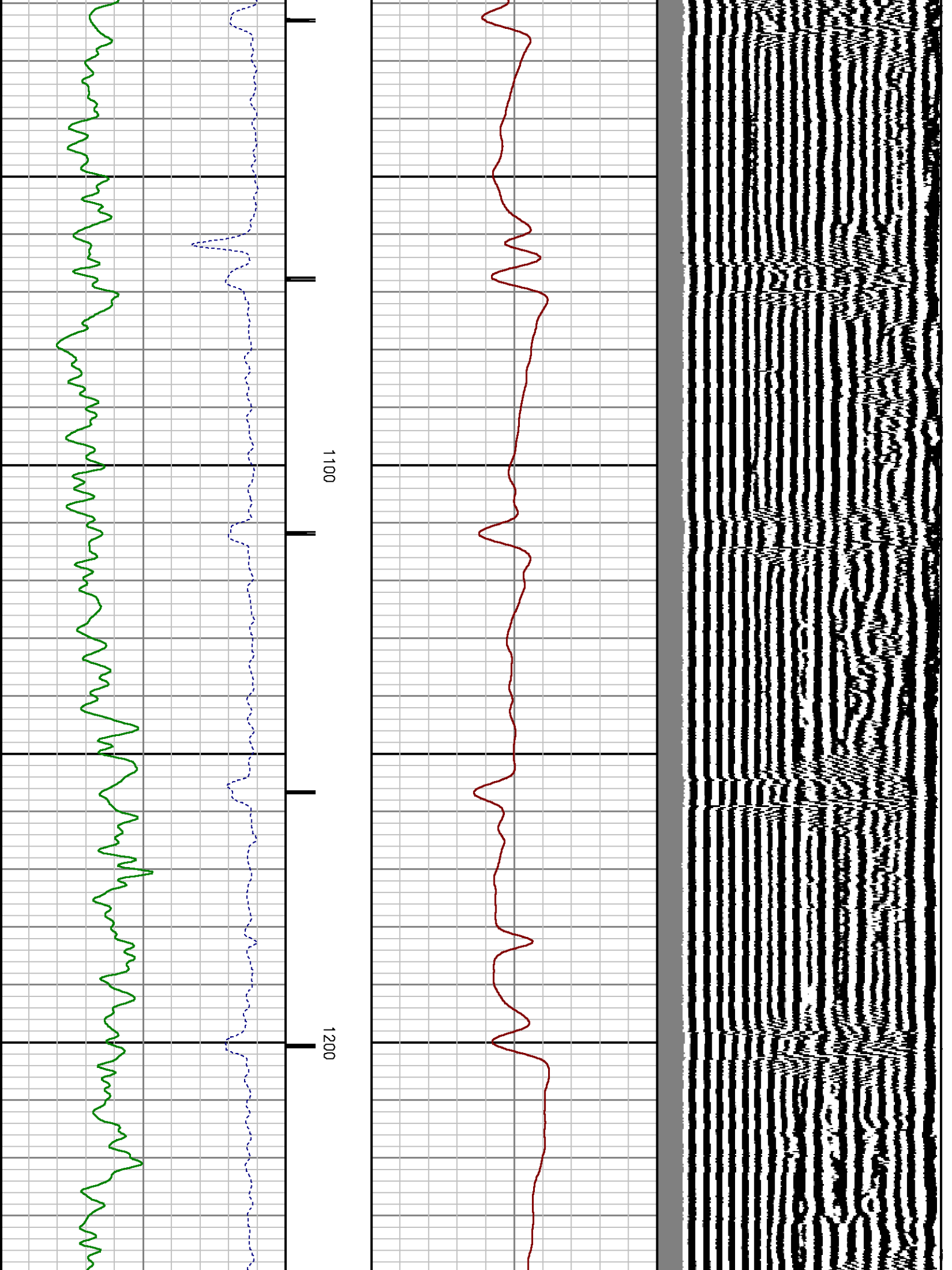


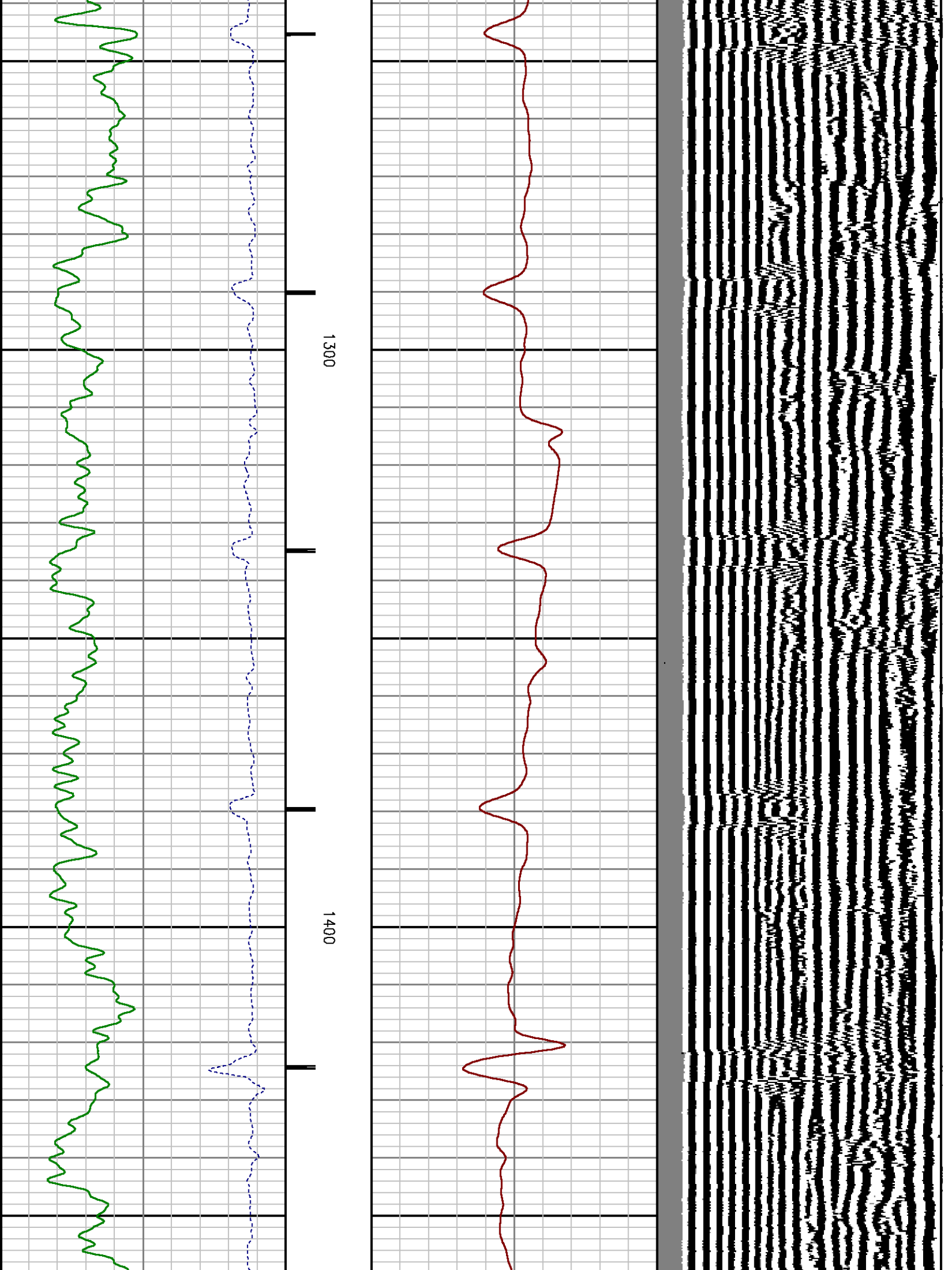


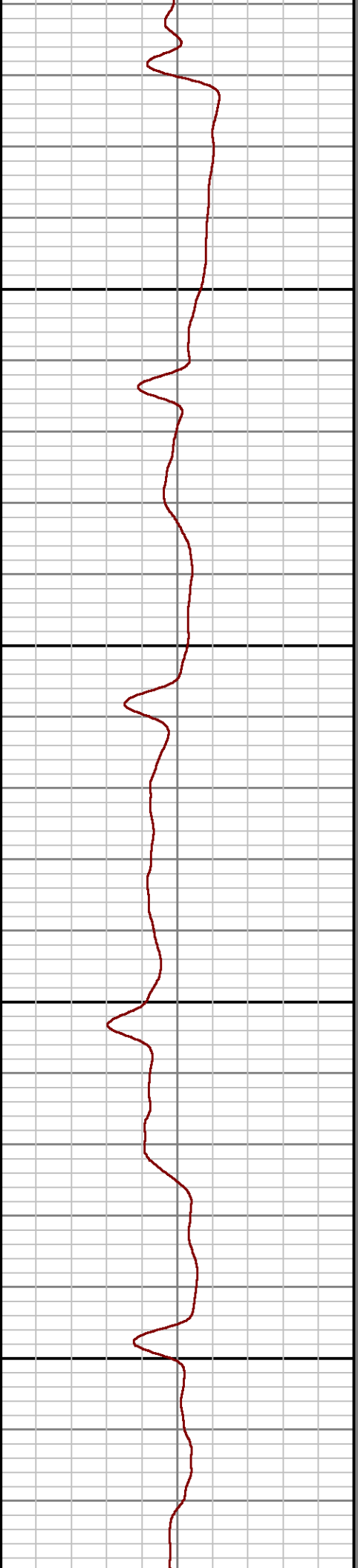
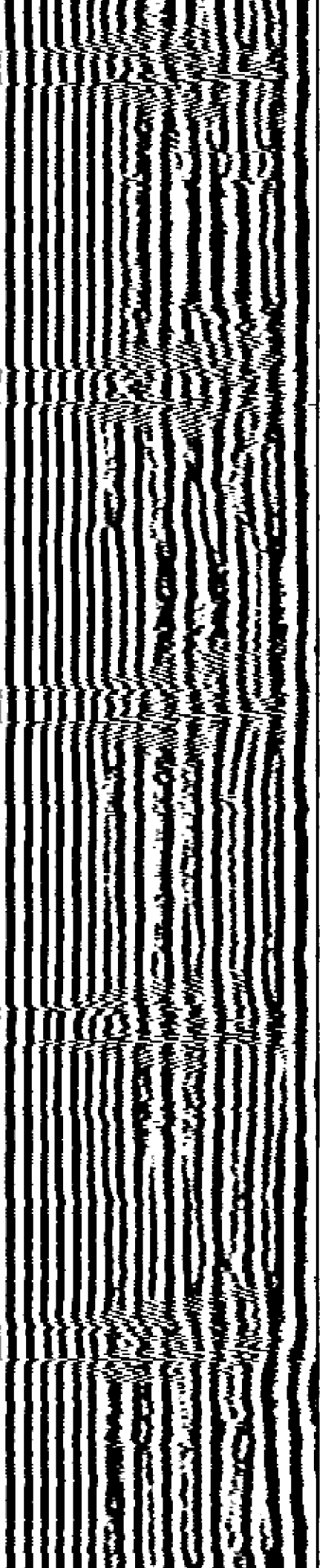






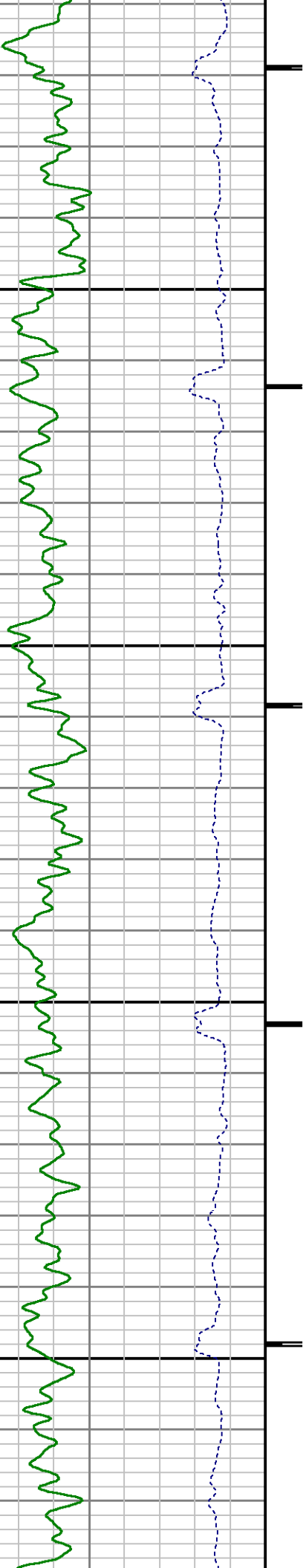


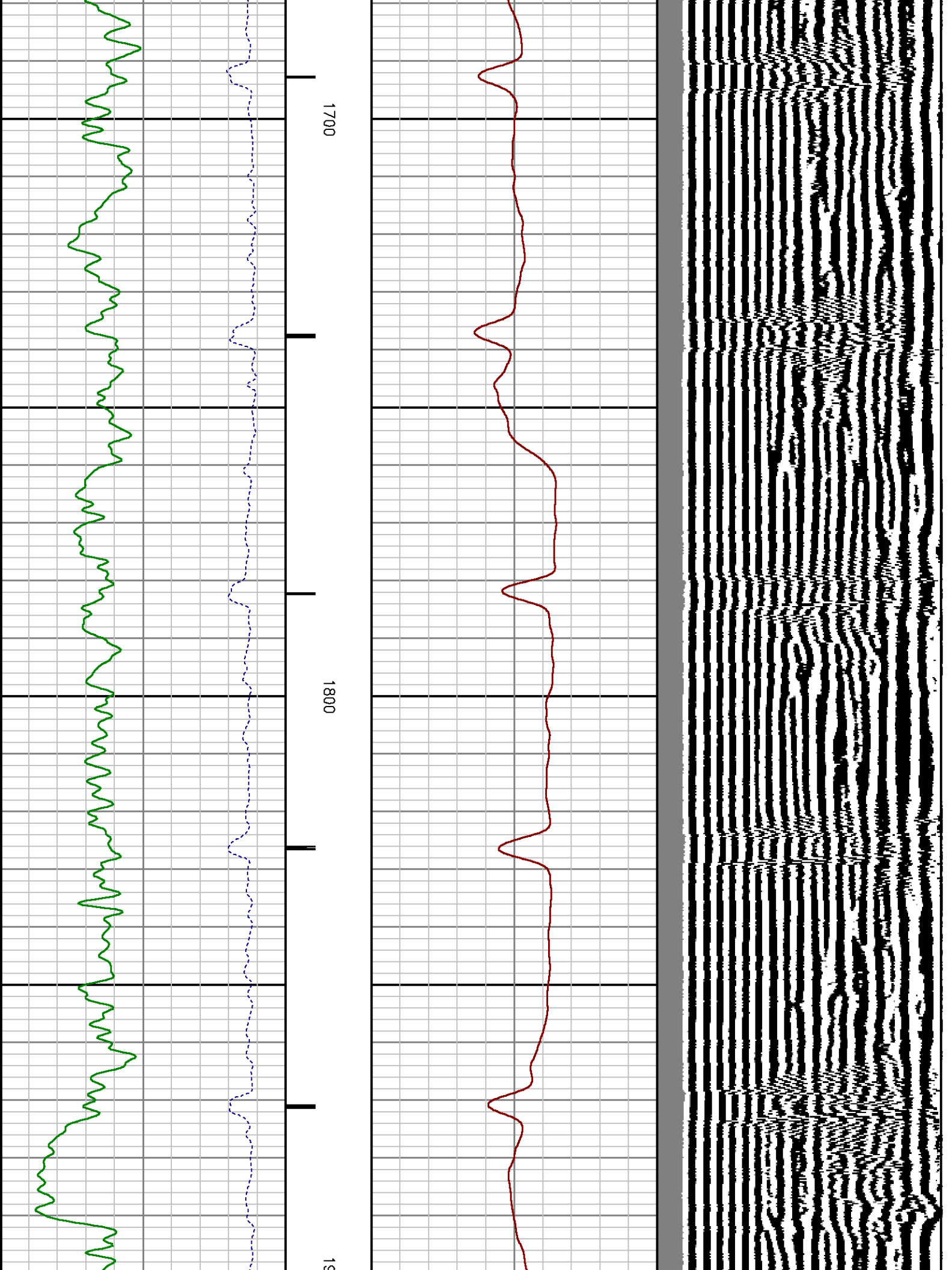


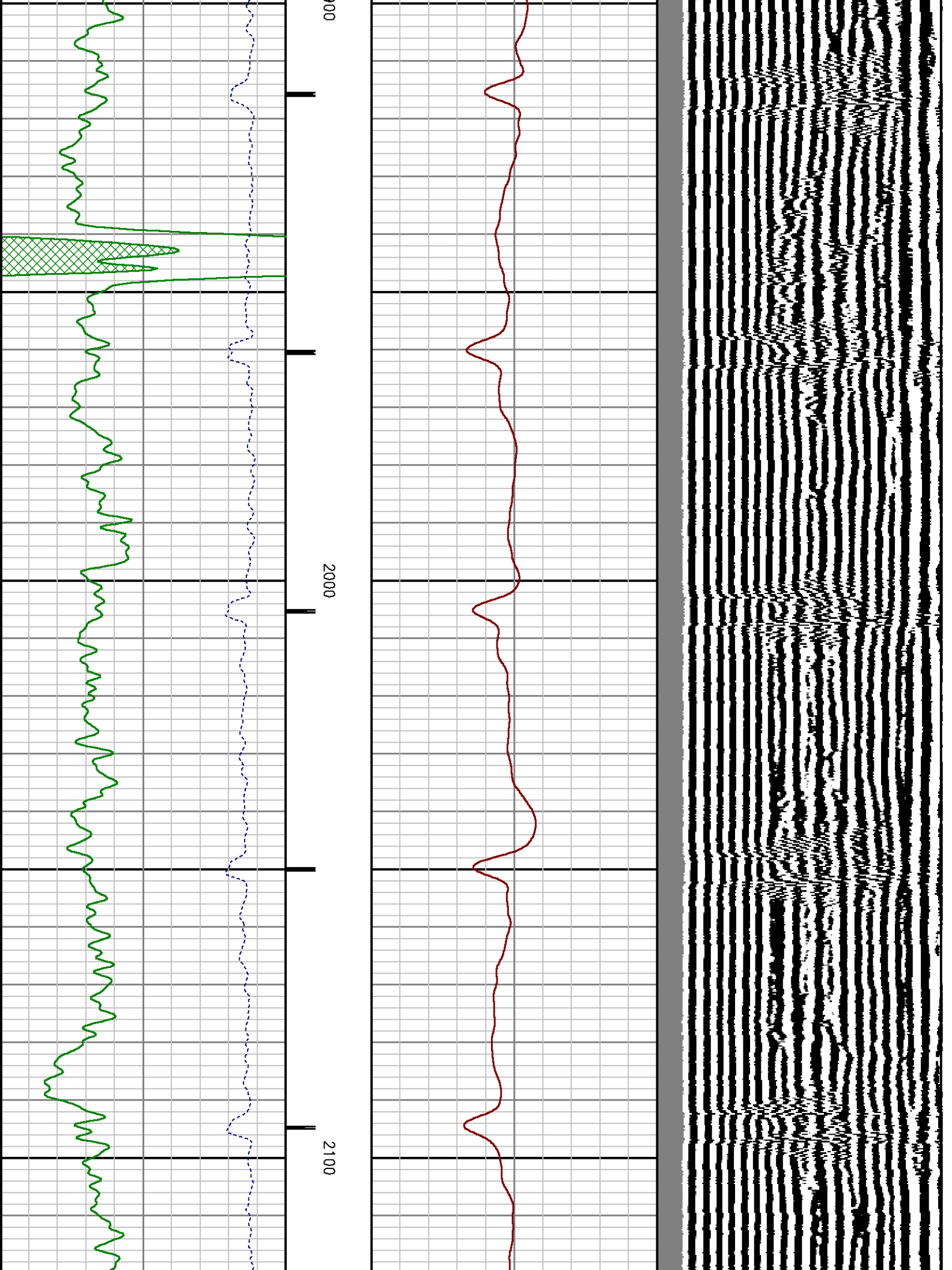


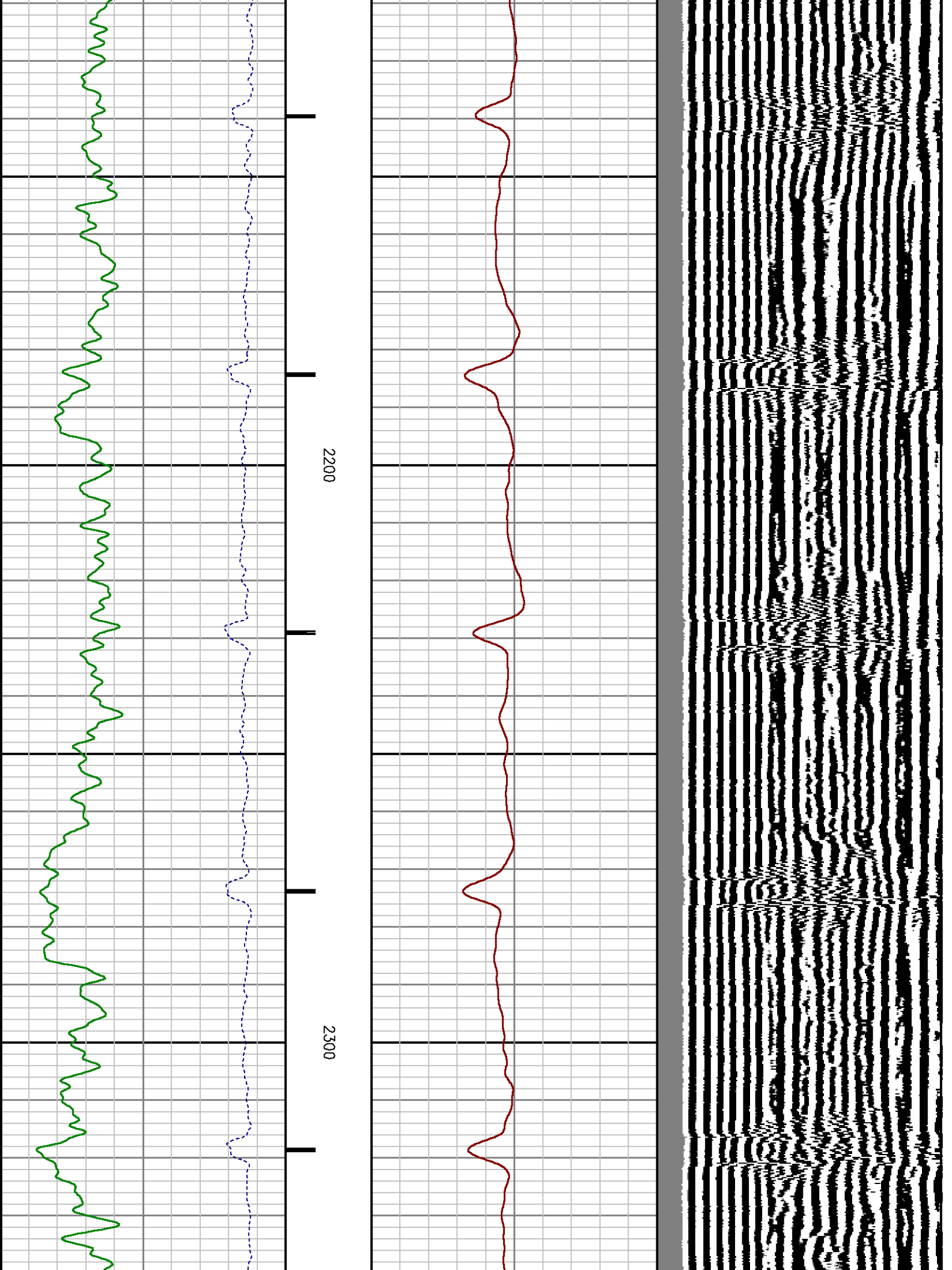
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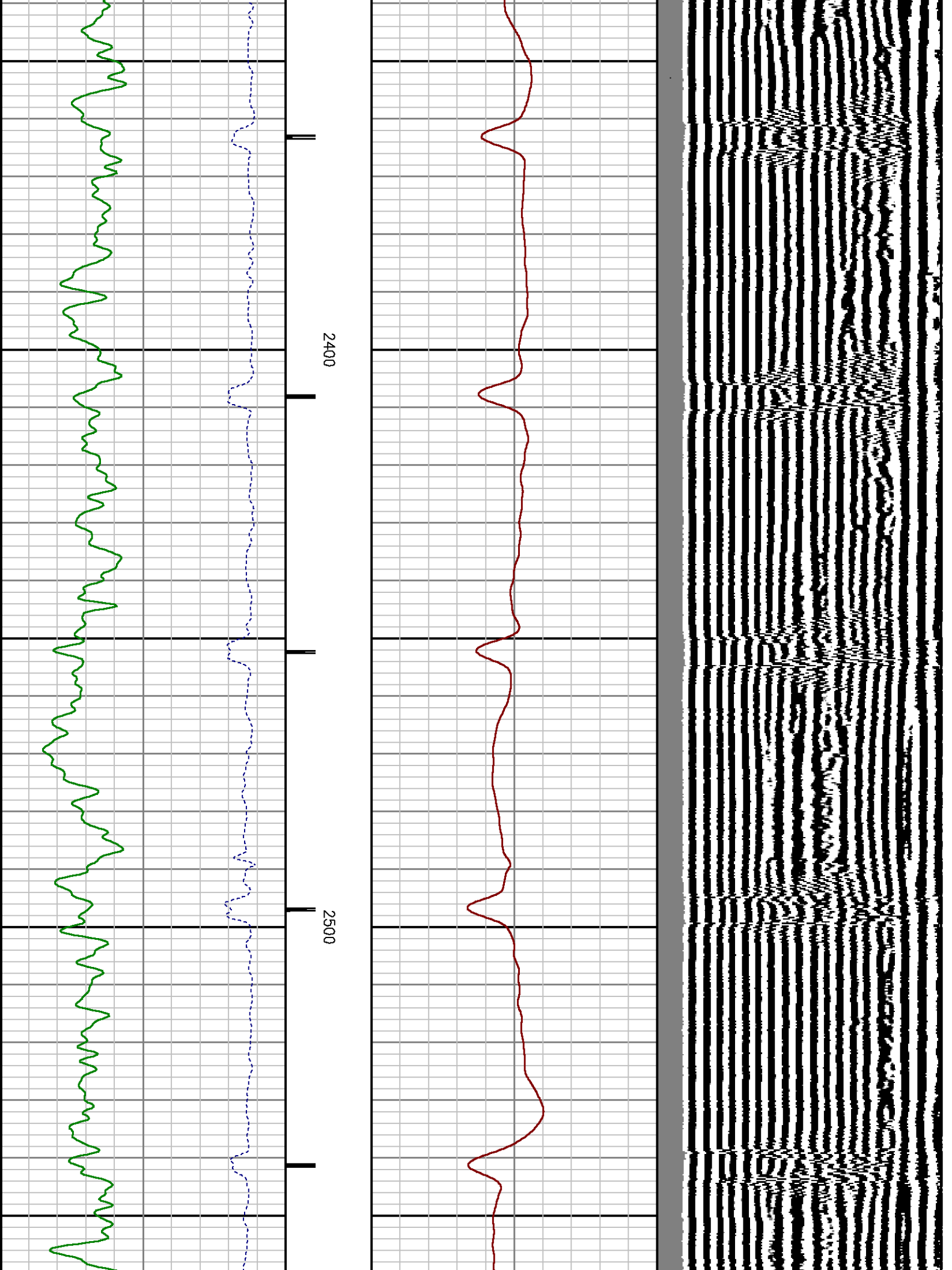
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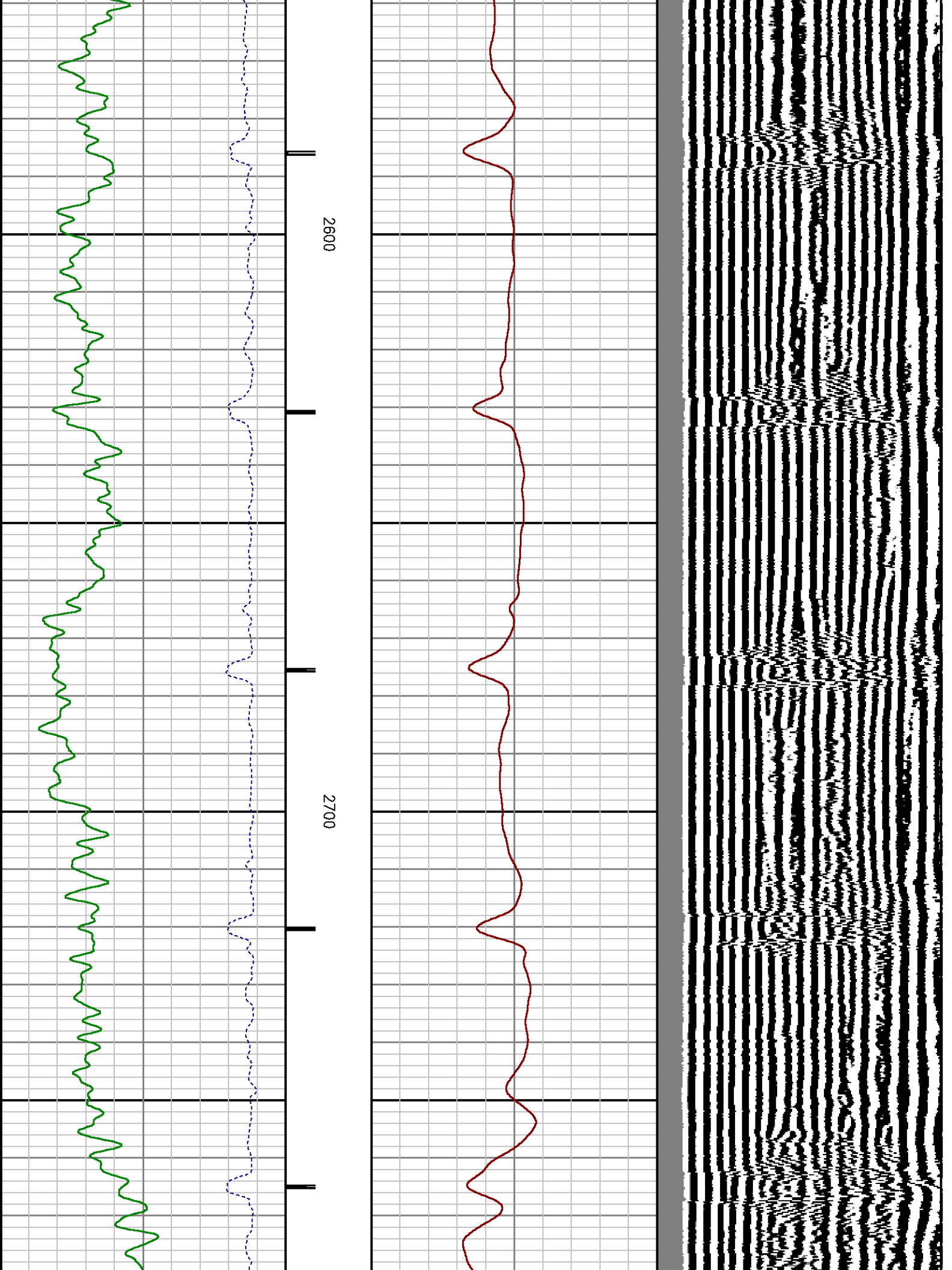


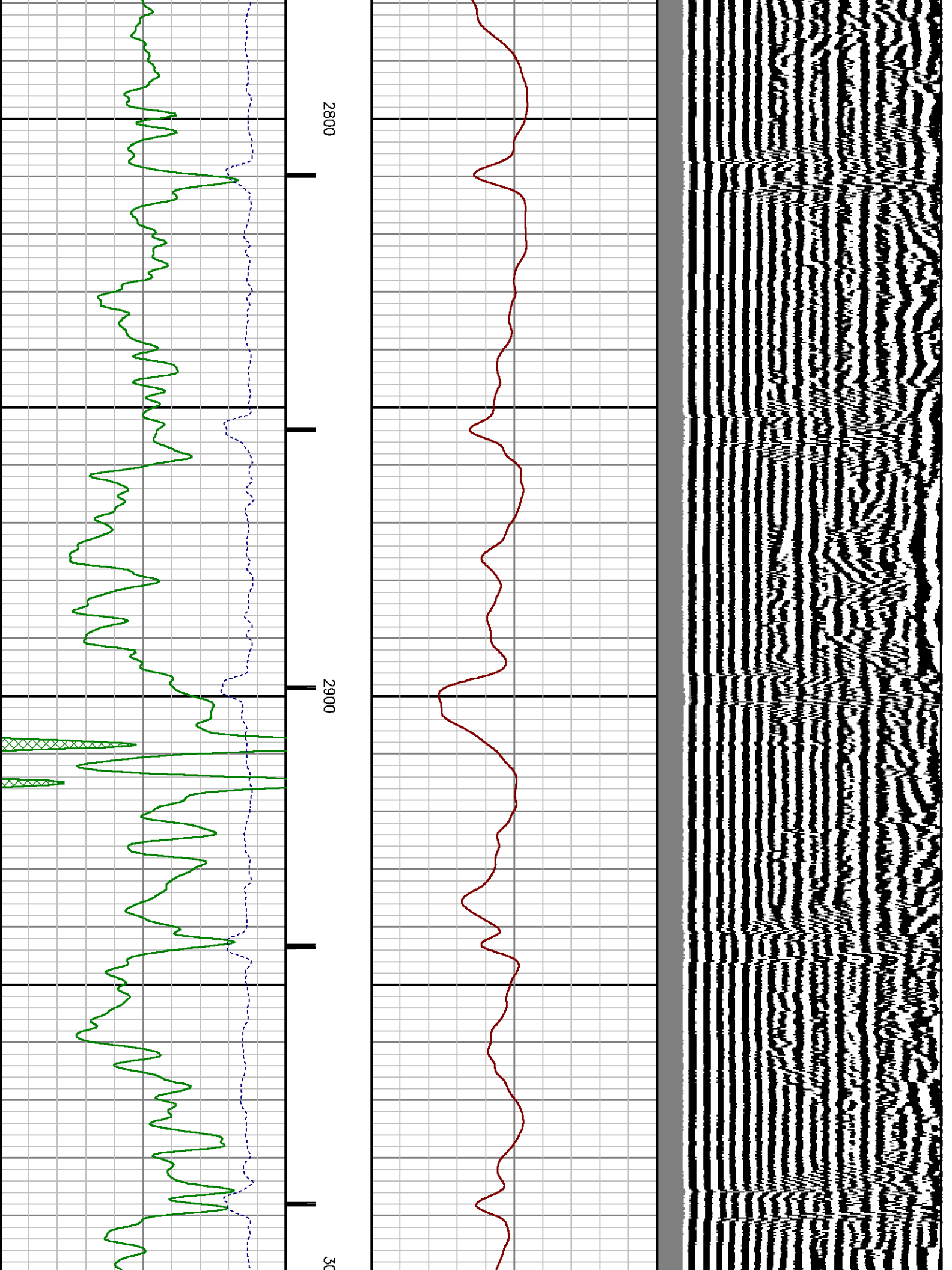


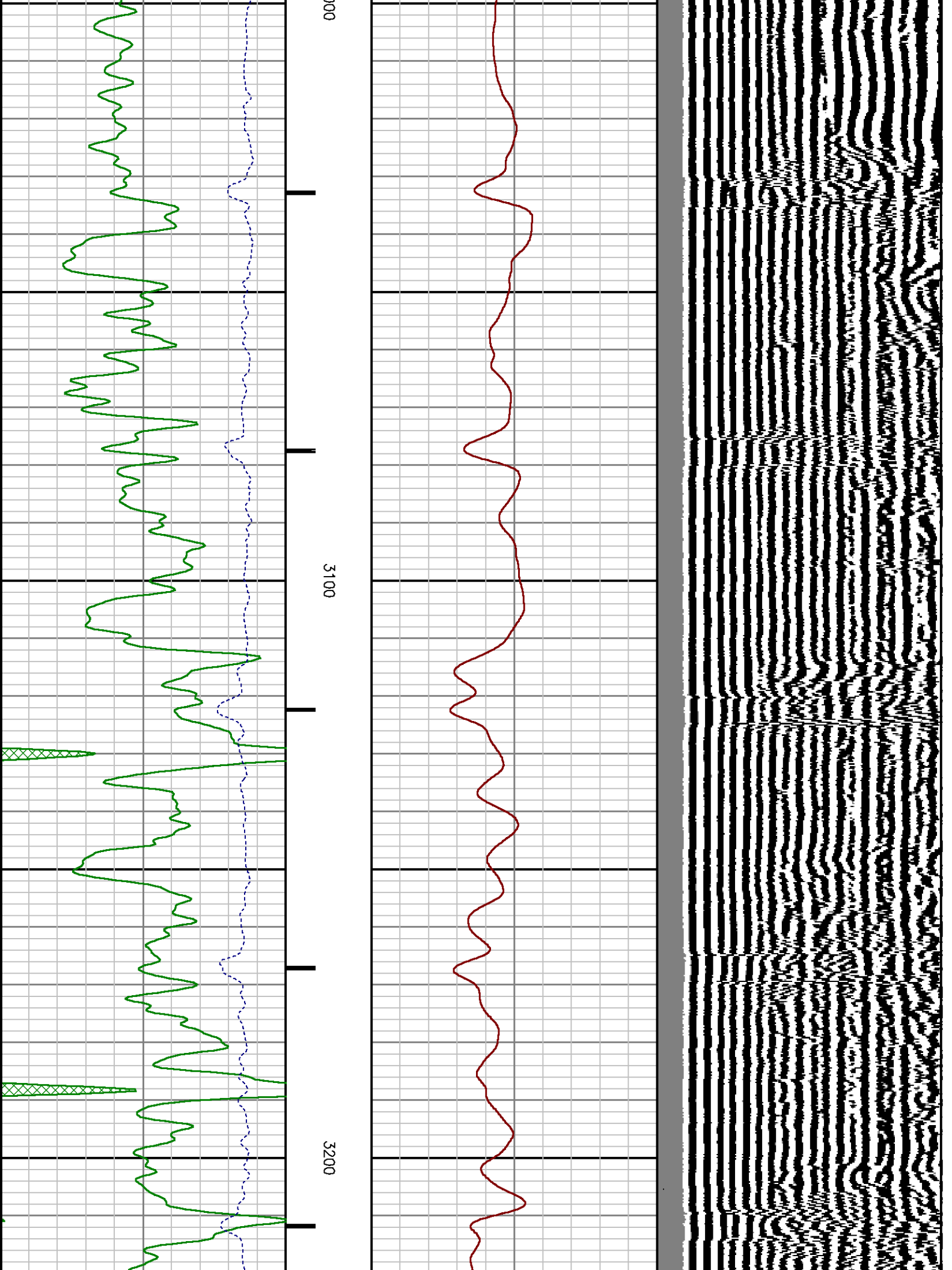


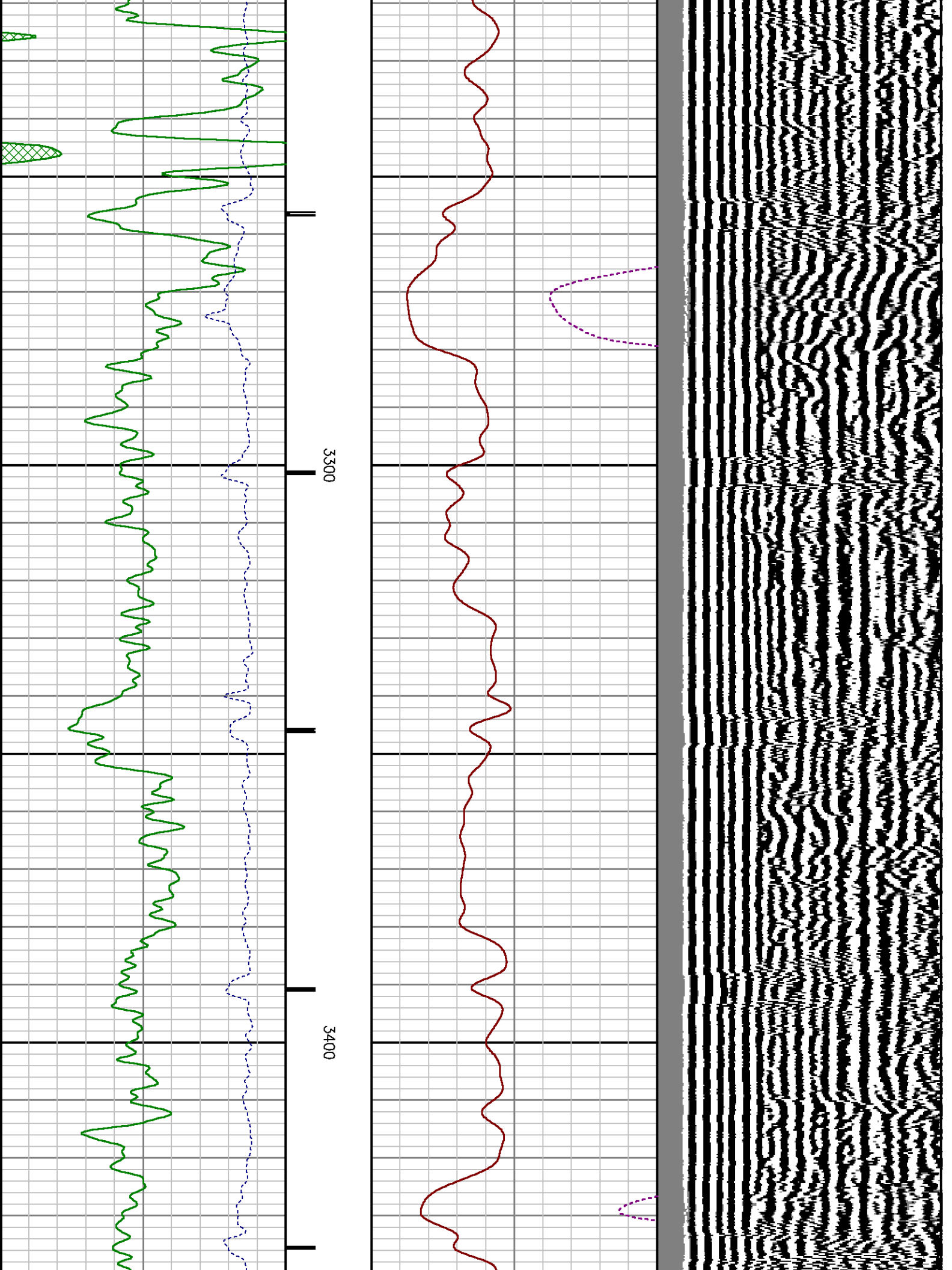


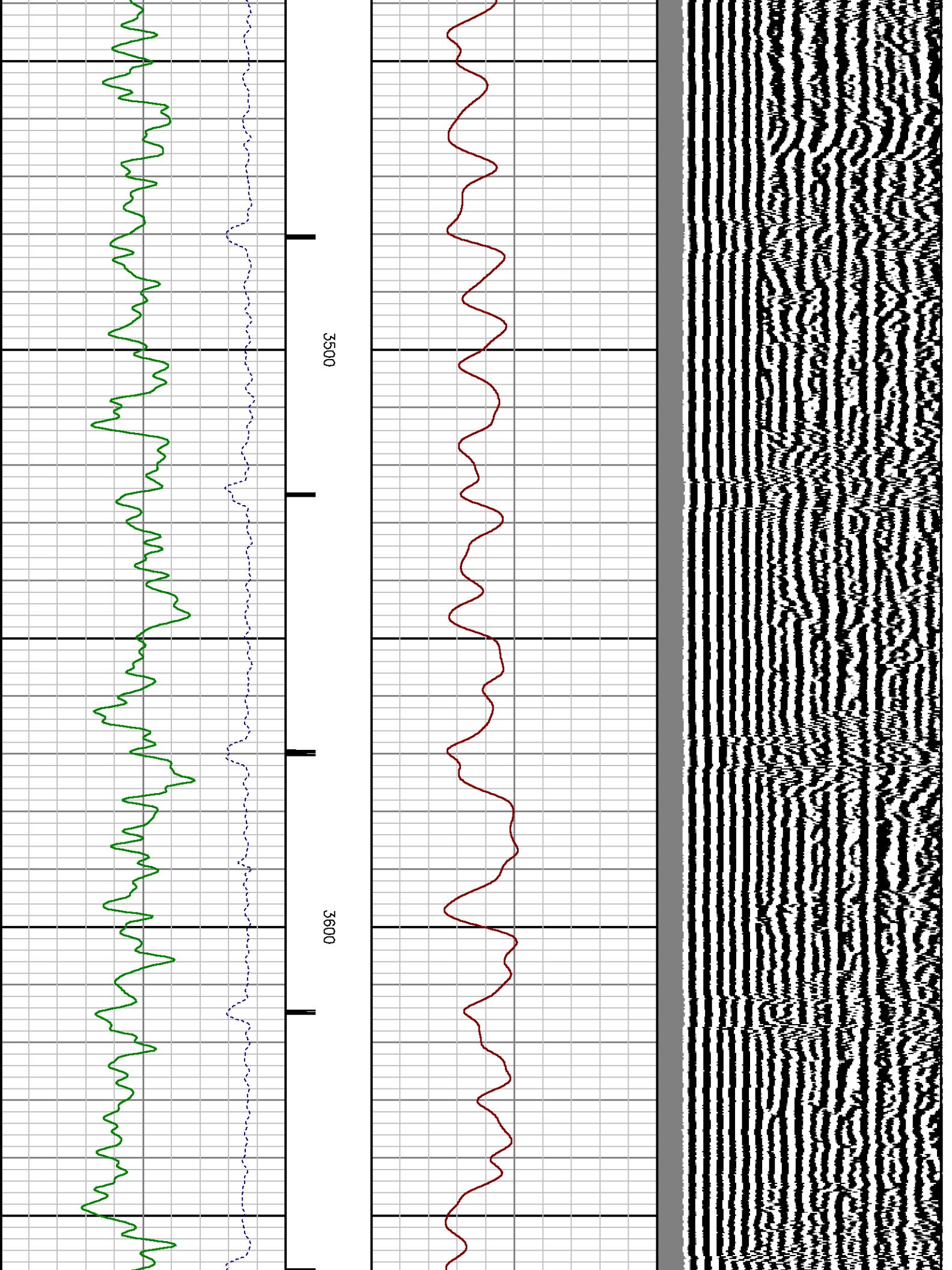


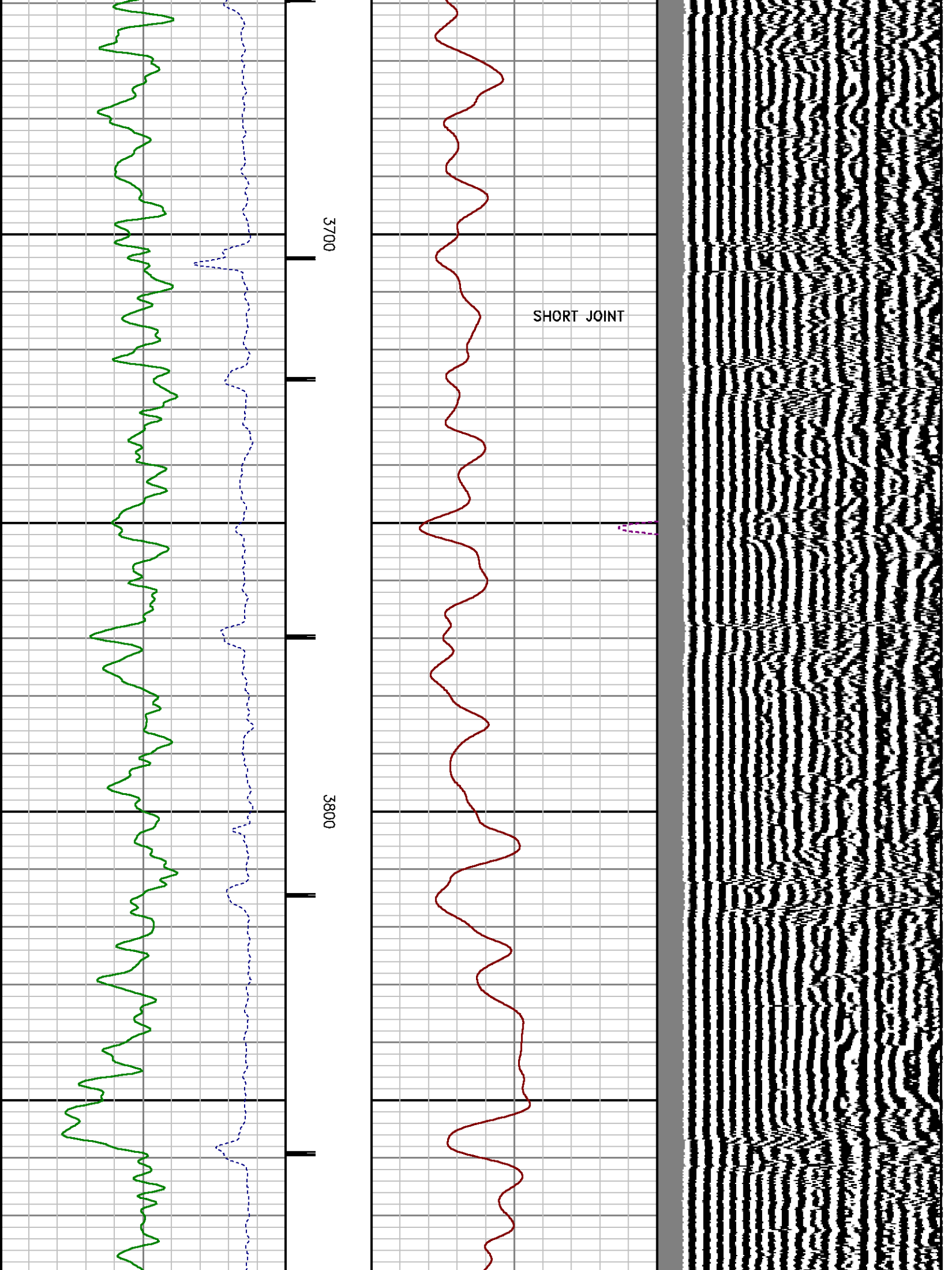


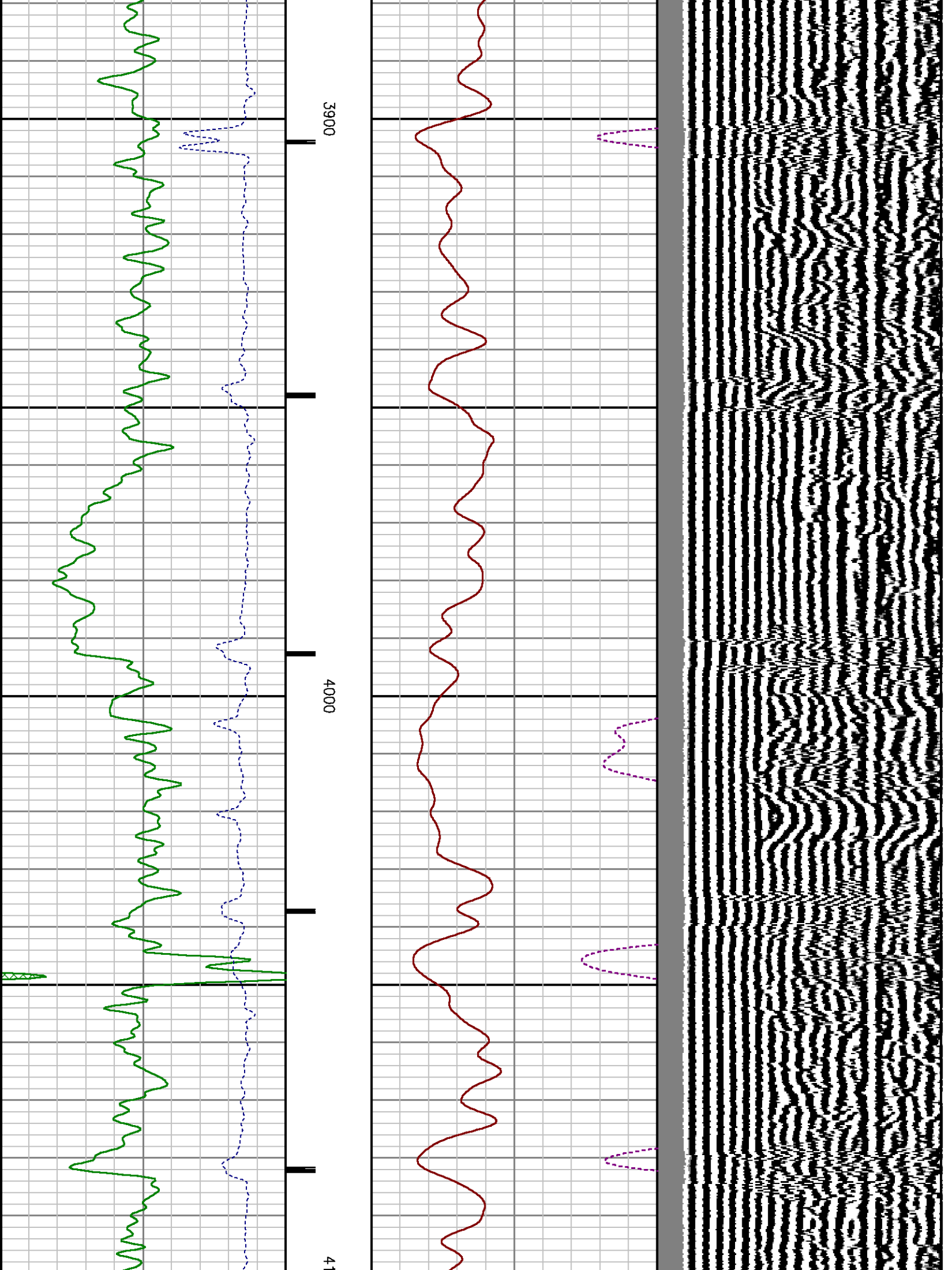


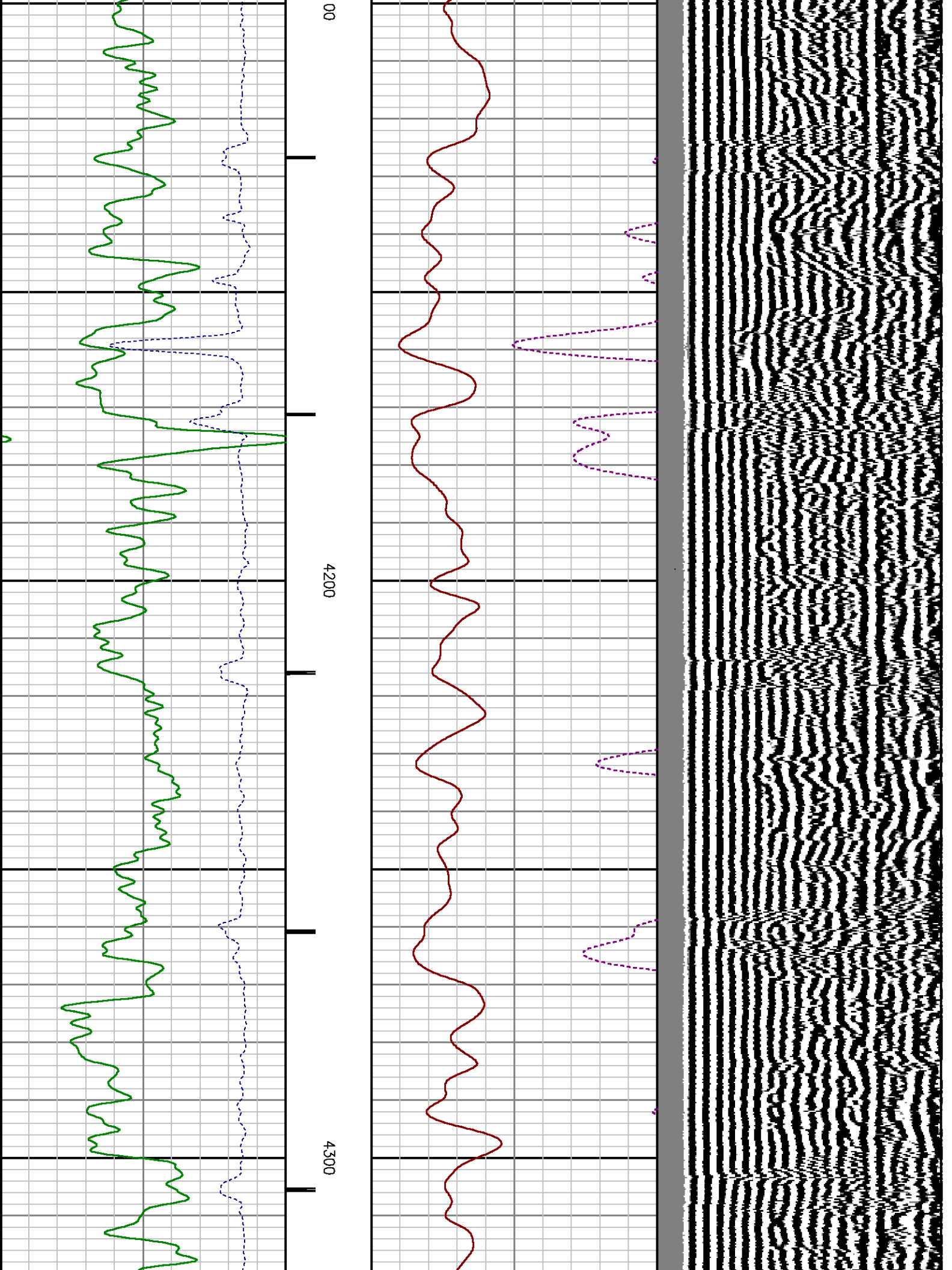


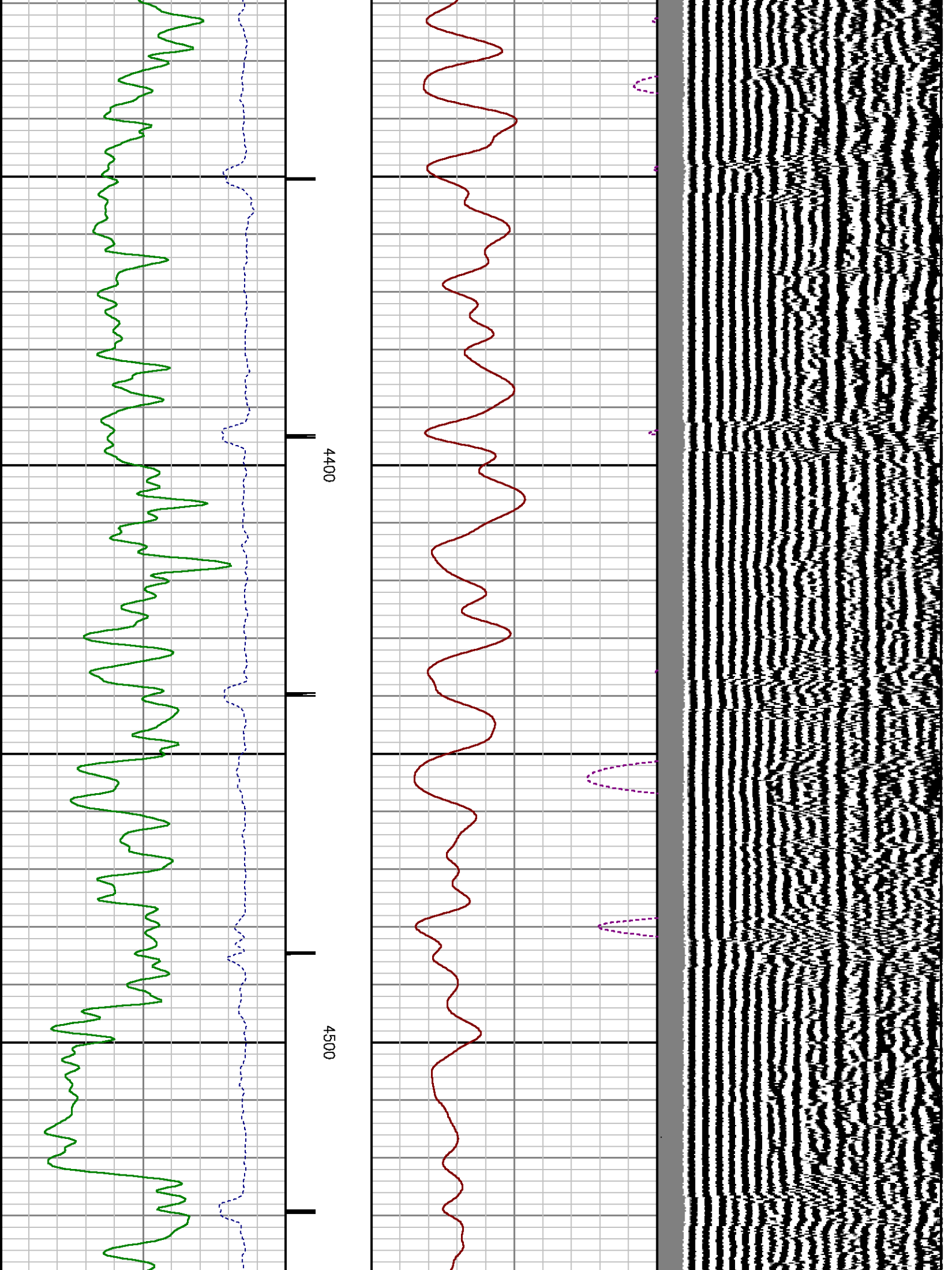


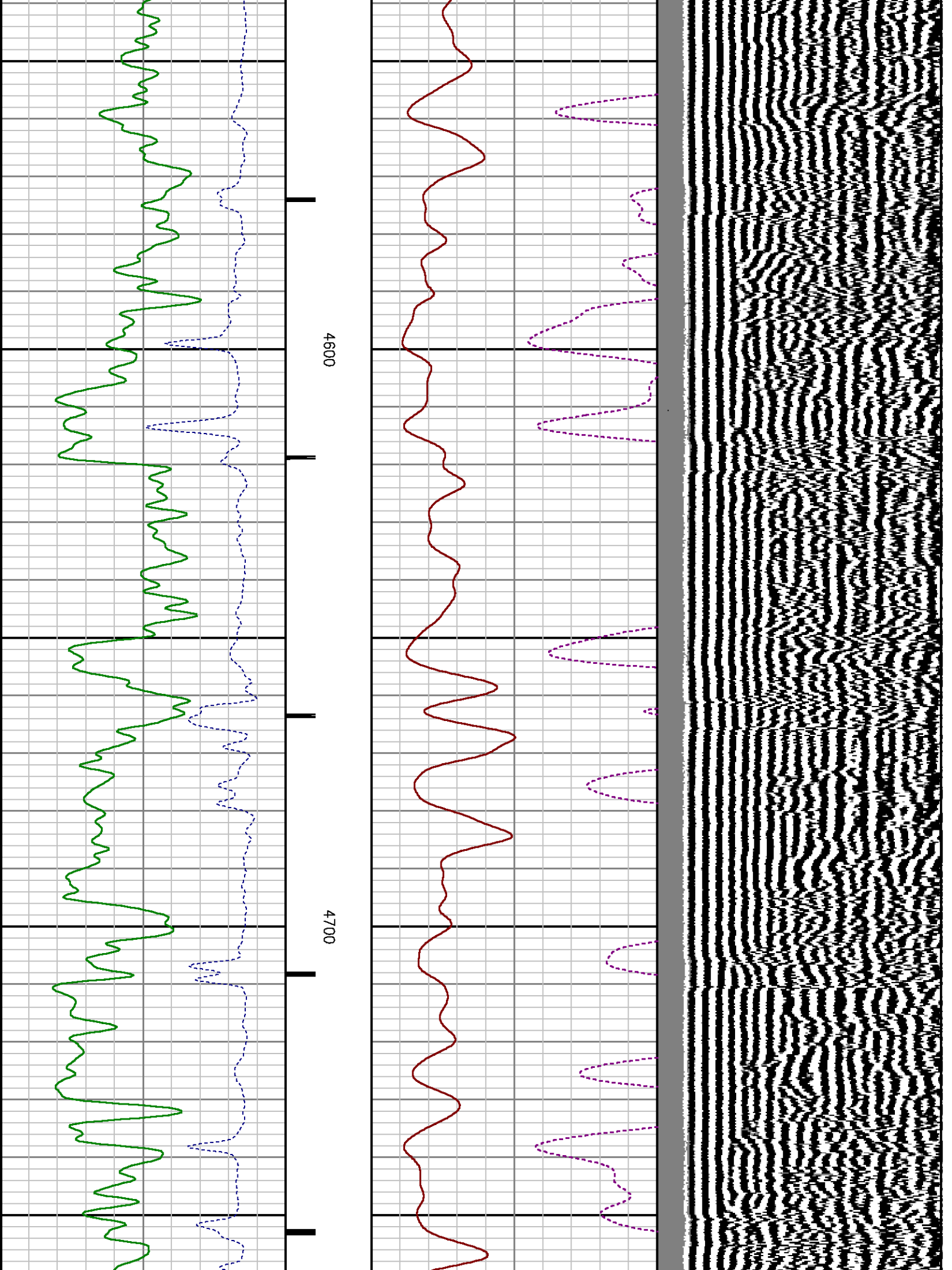


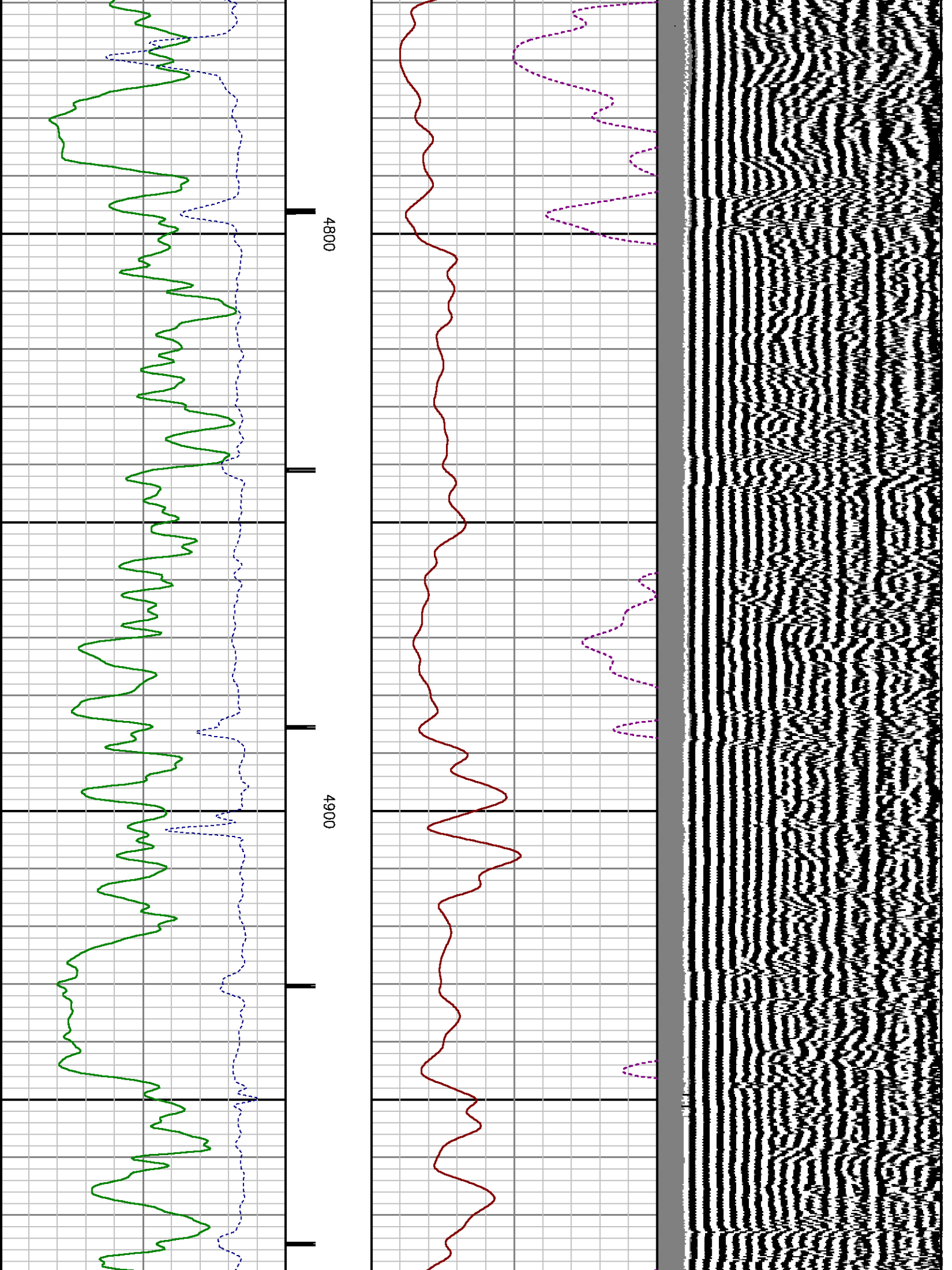


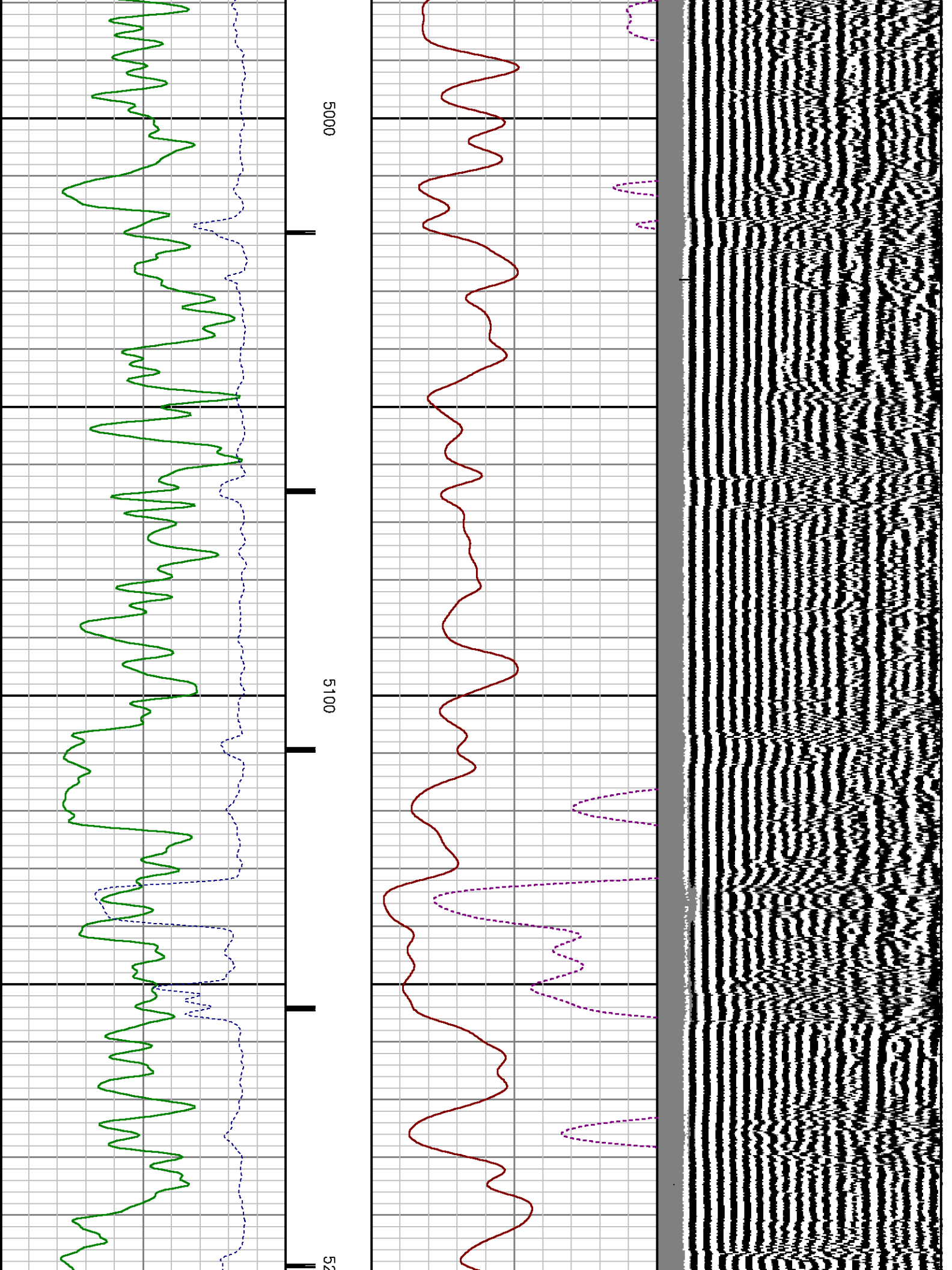


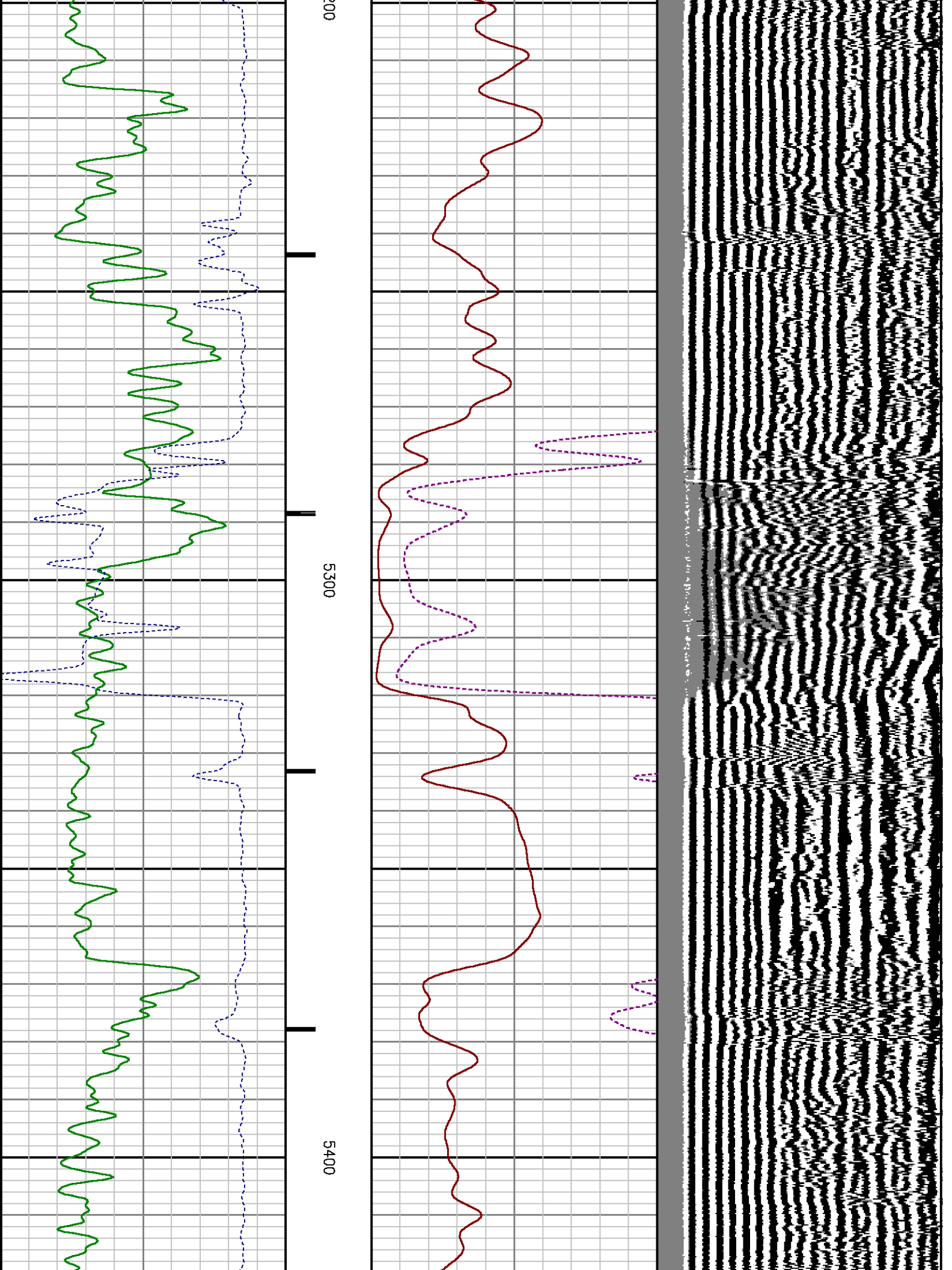


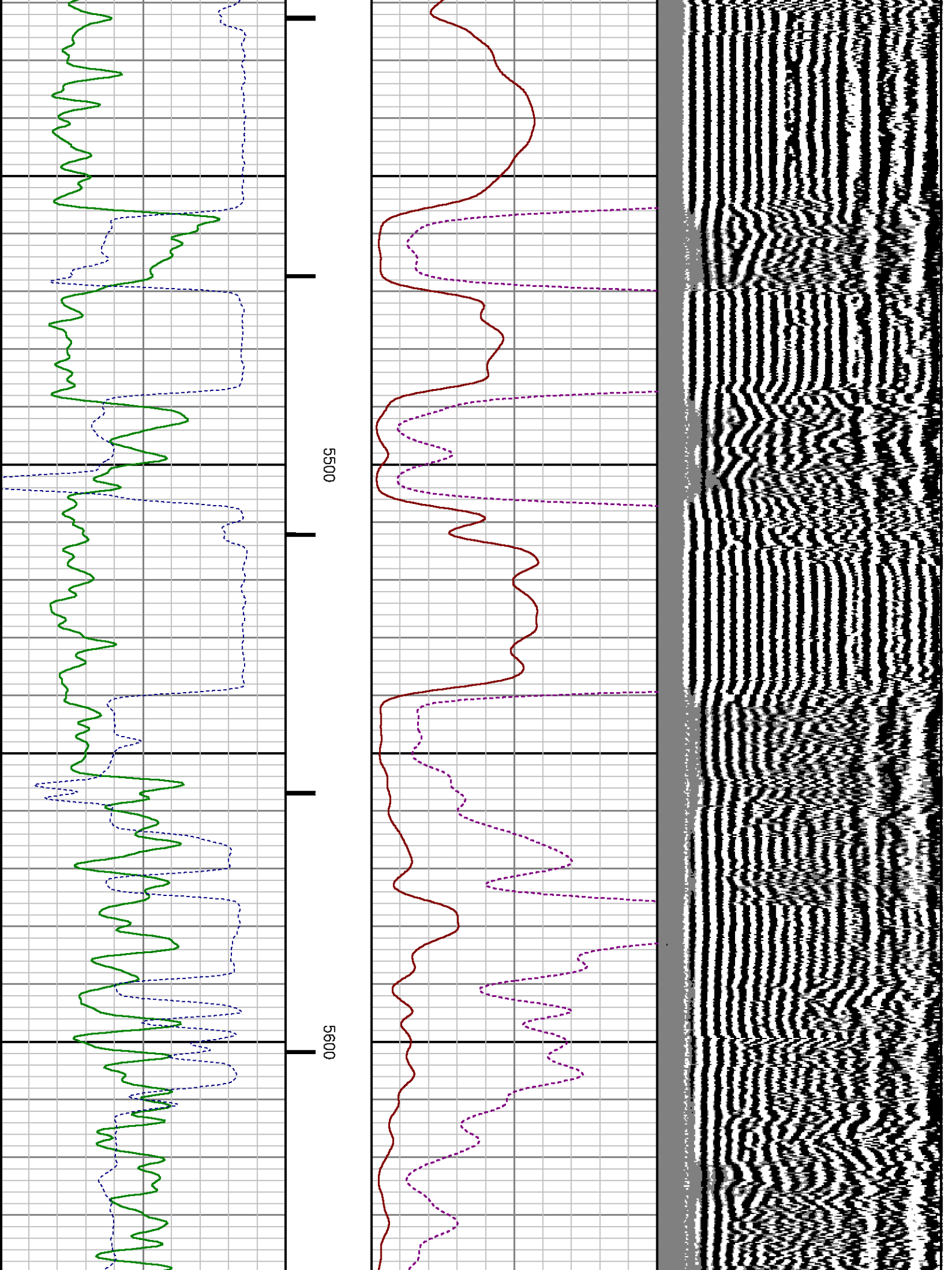


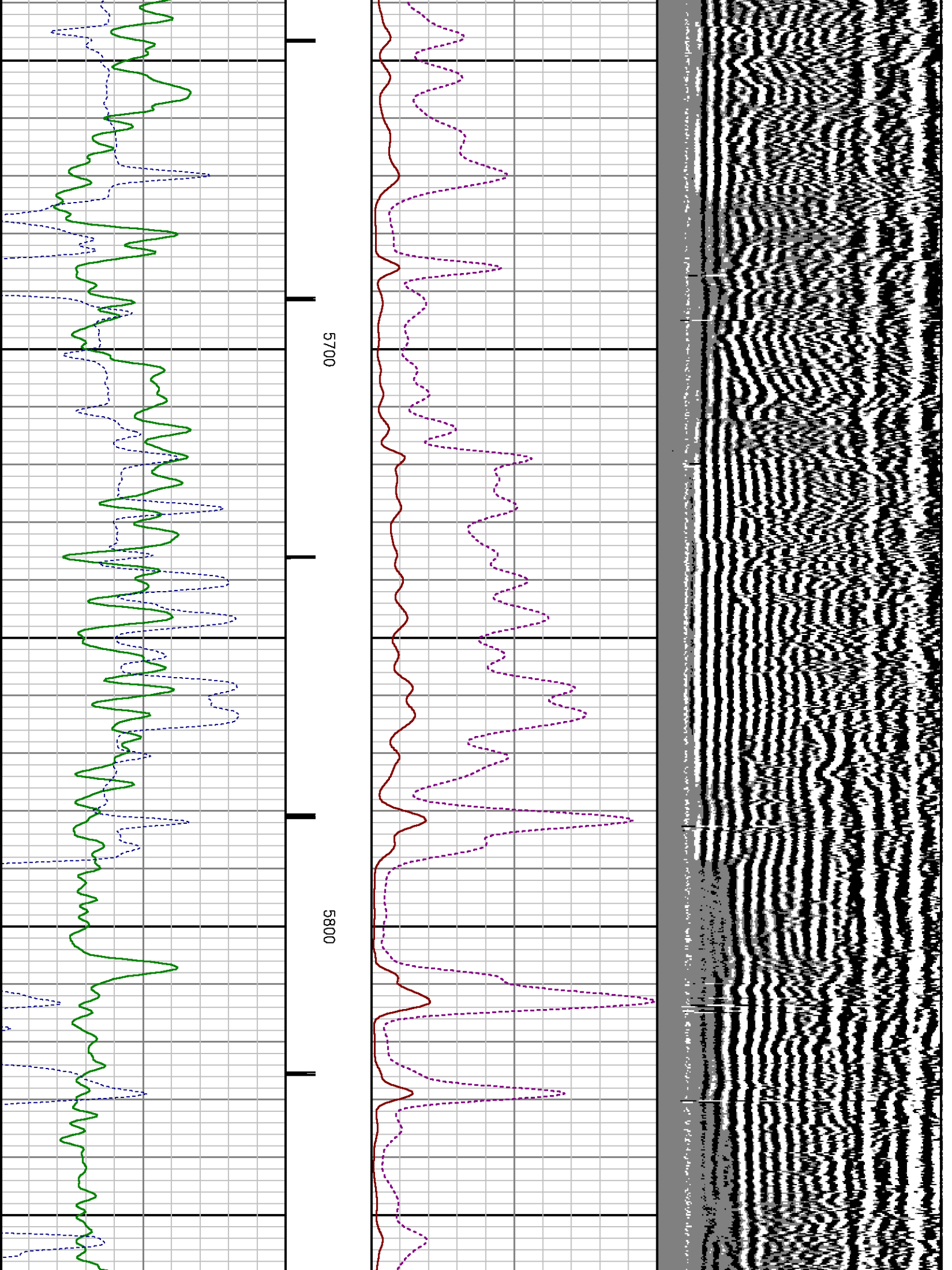


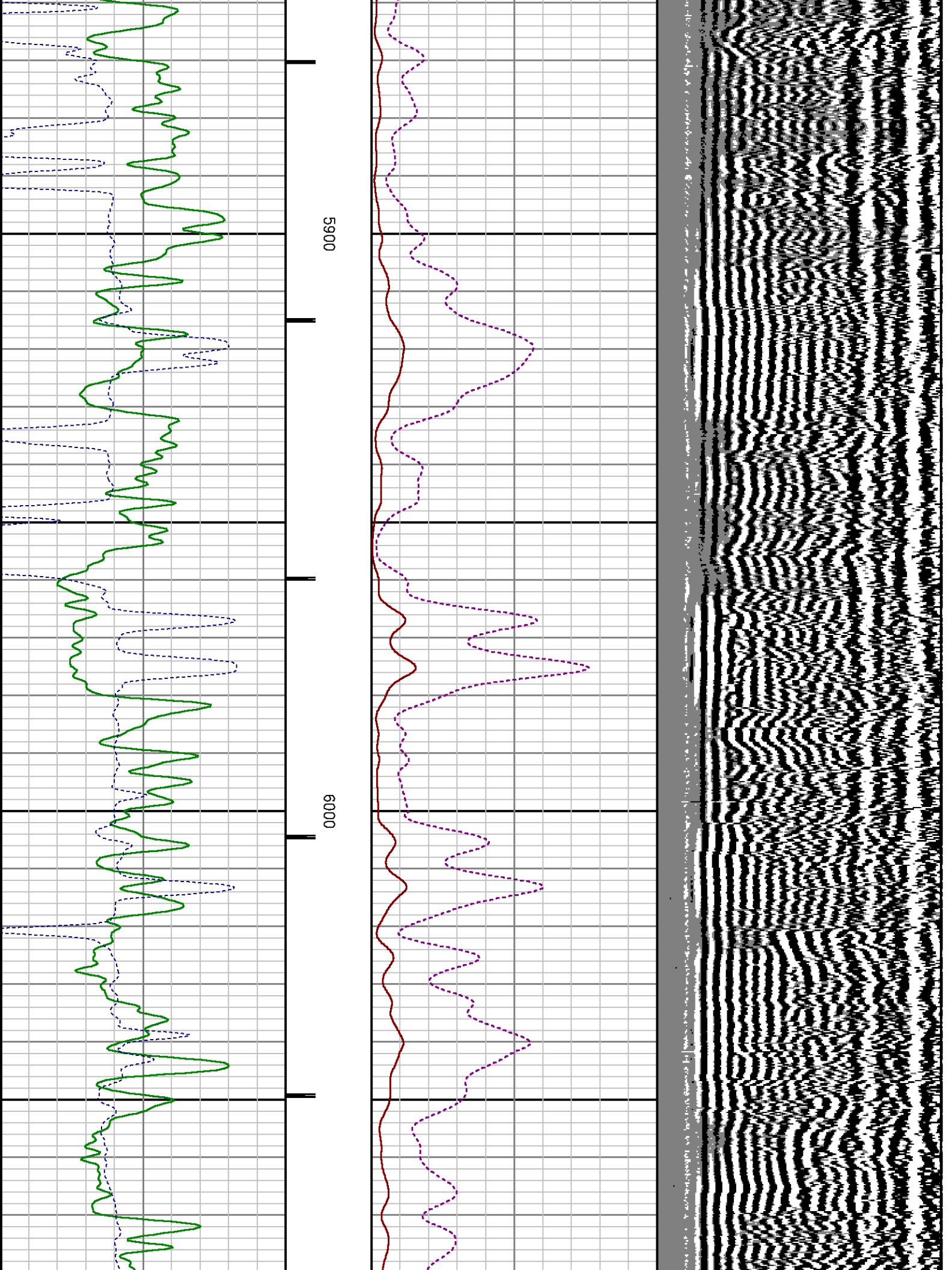


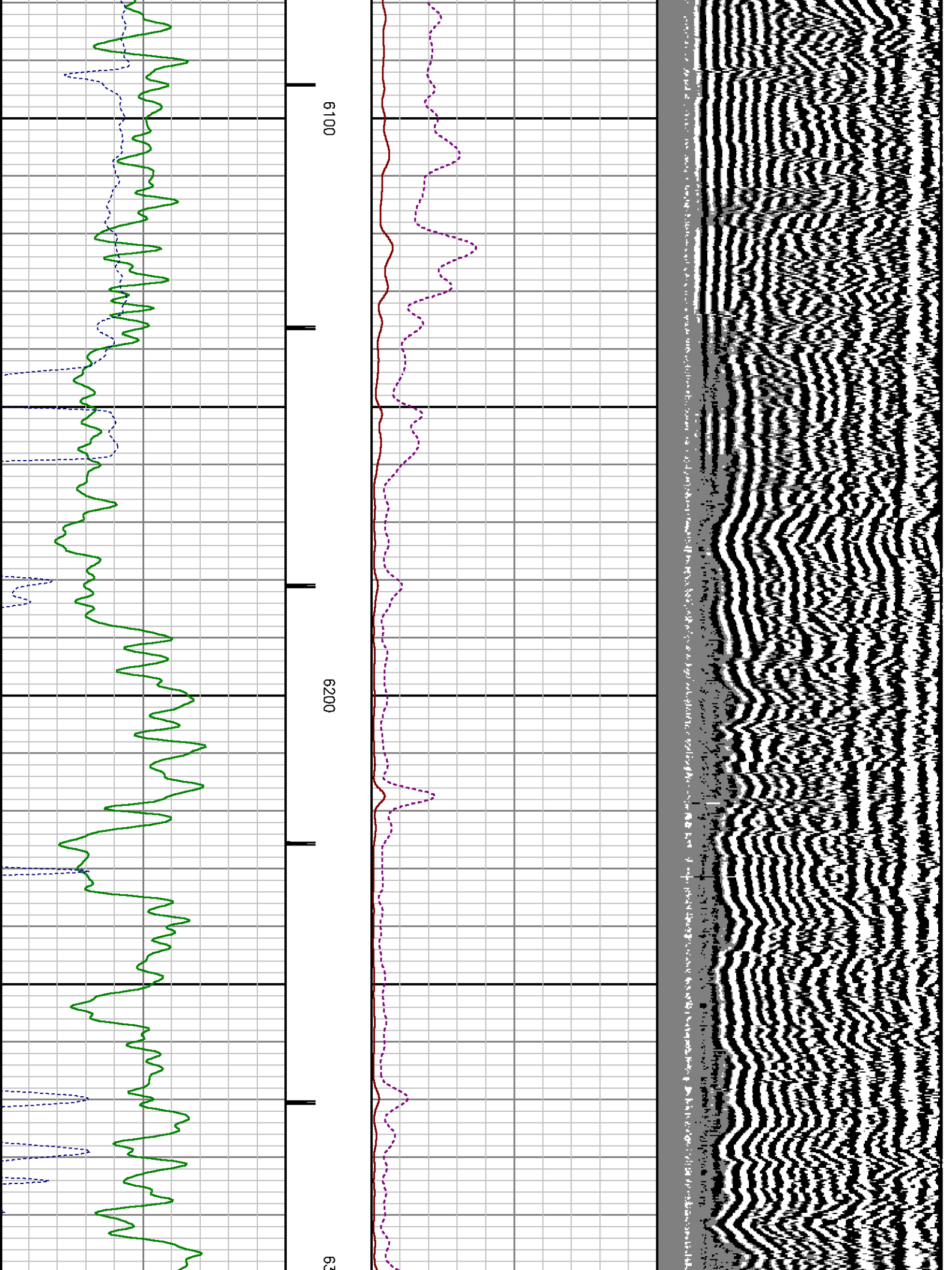


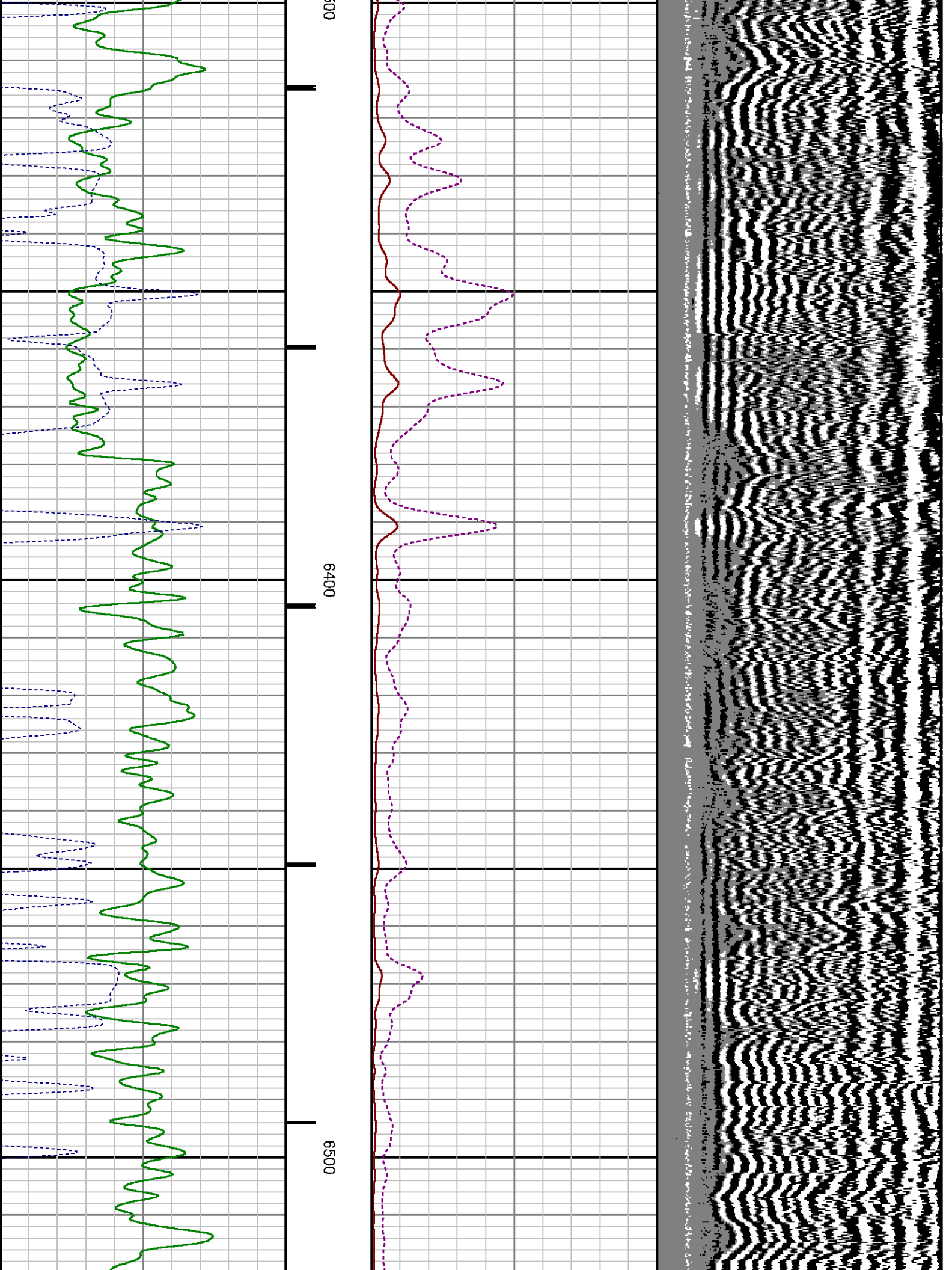


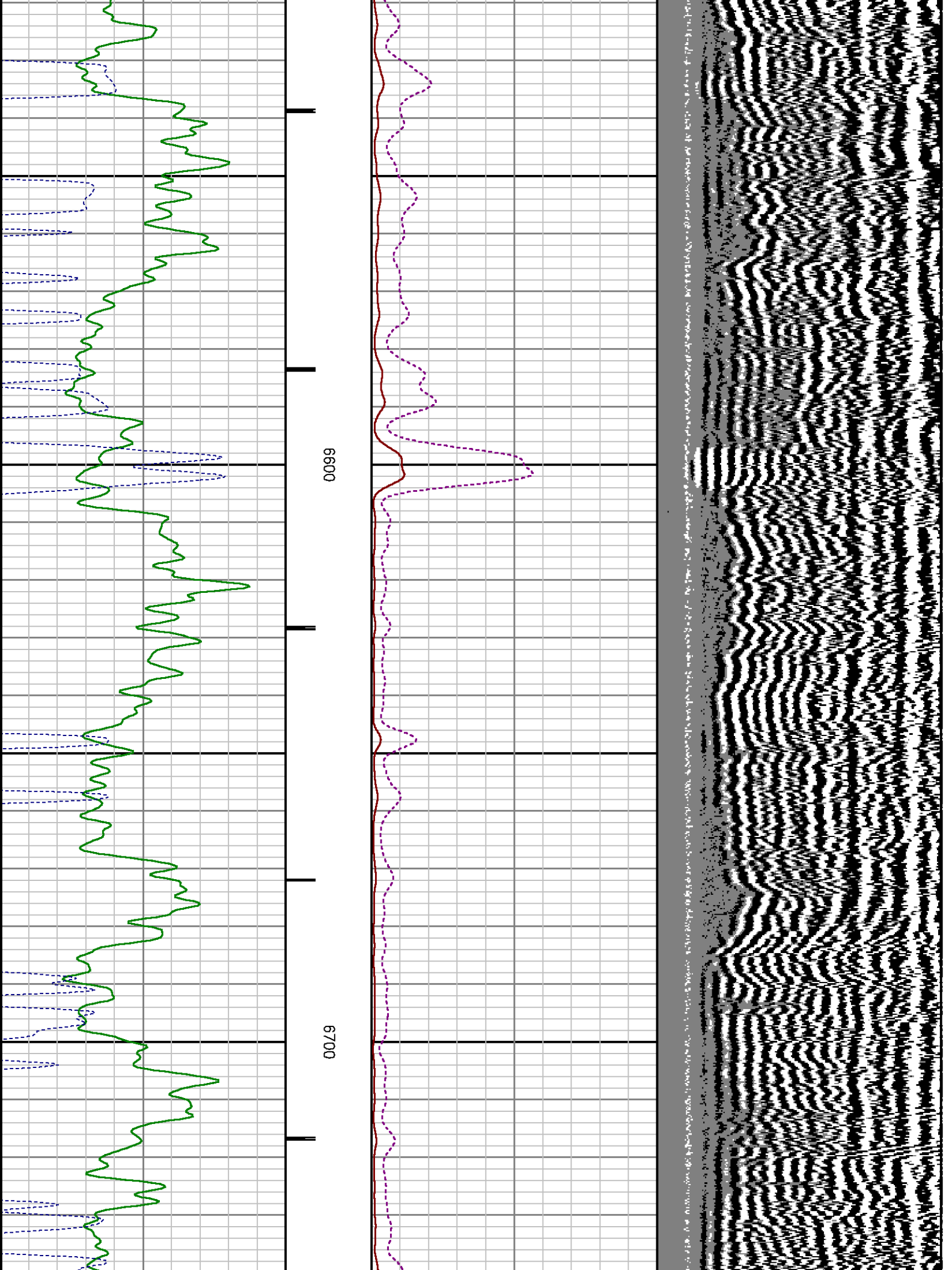


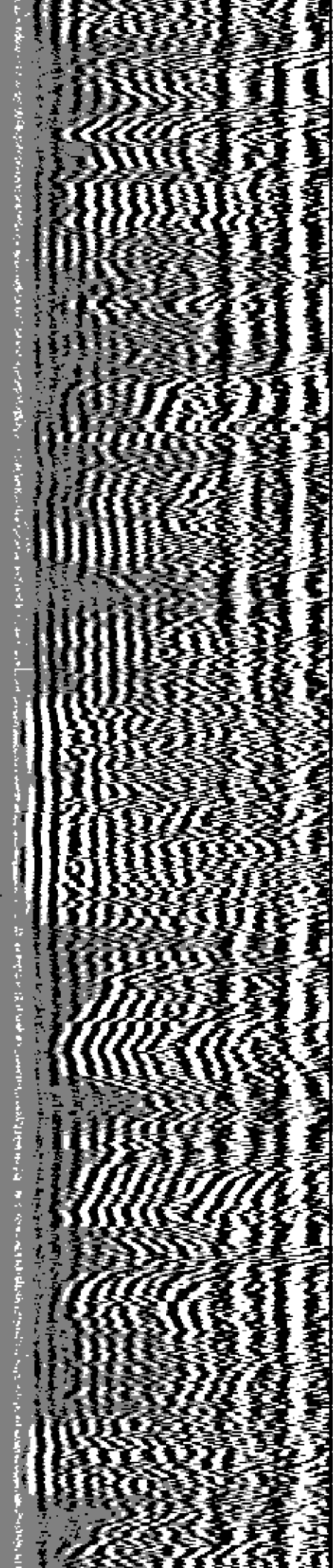
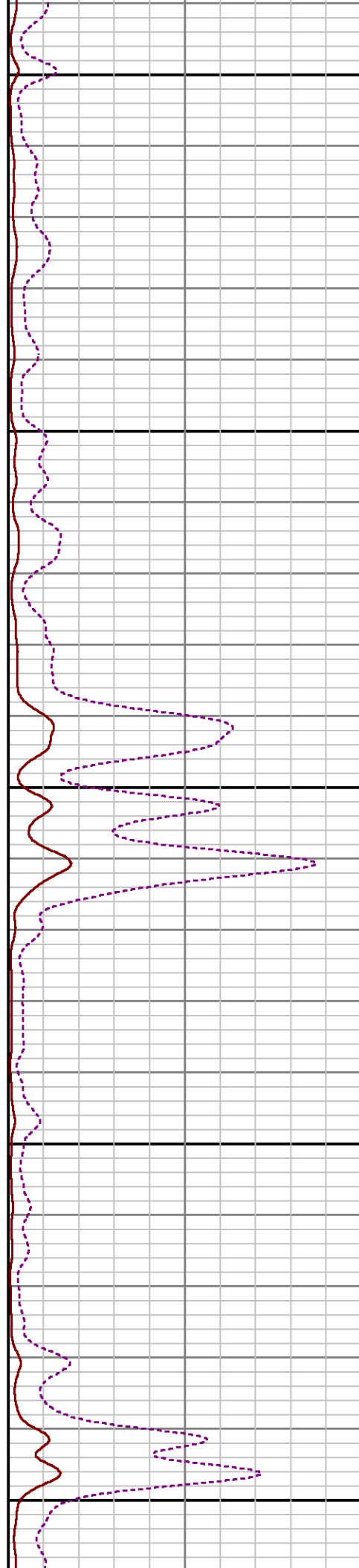
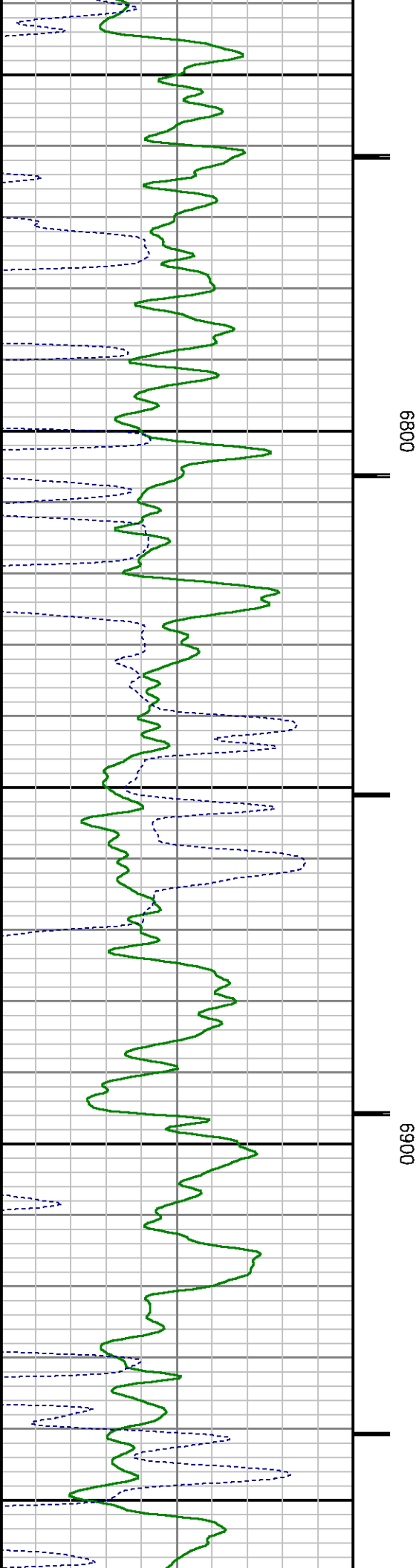


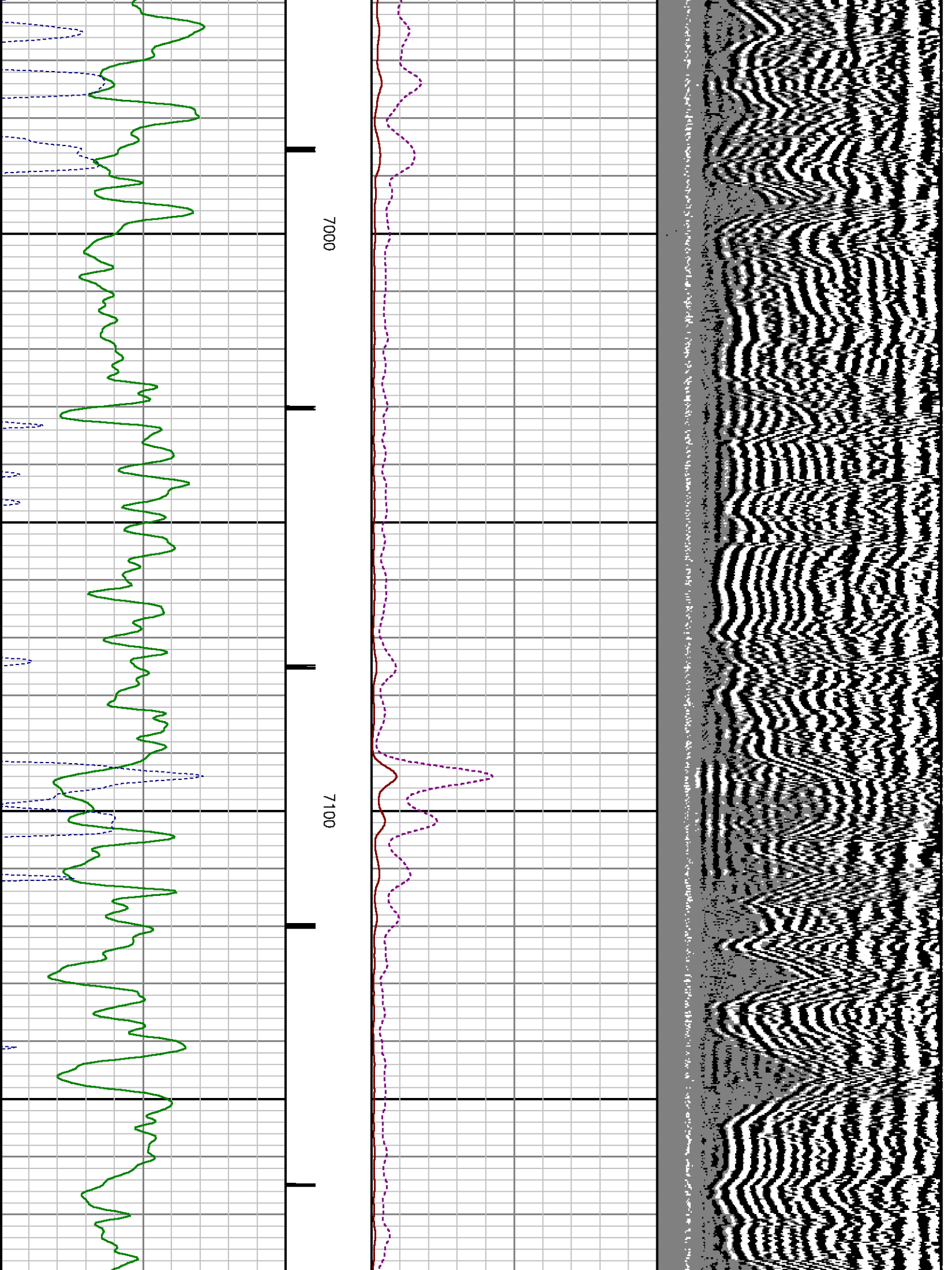


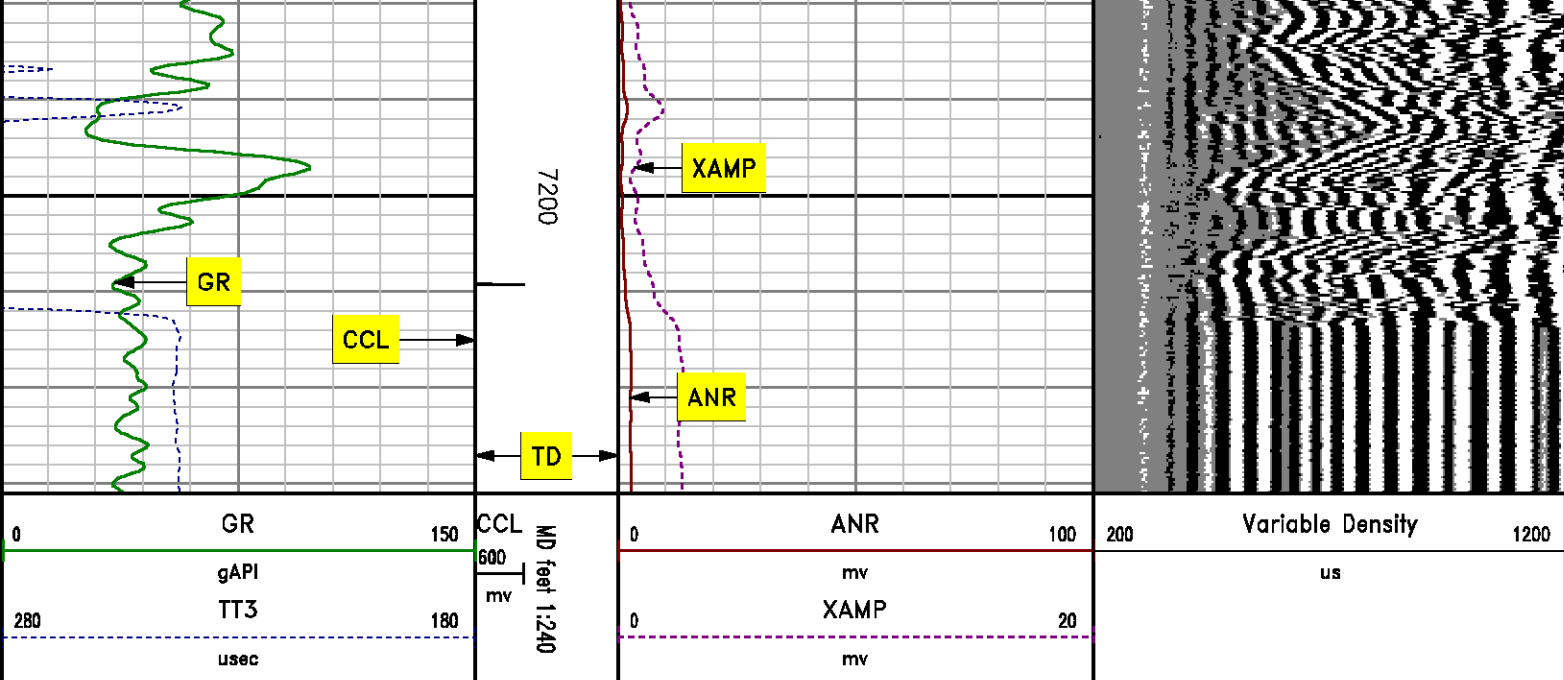












SECONDARY PRESENTATION

0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	316.900	u sec	26.156	7251.500
RAL	Amp Gate Start Near	200.391	u sec	26.156	7251.500
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(for Acquired Curves)

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1426XA	-15.750	AFAR	SIG	TT5			
2459XA	-11.340	CCL					
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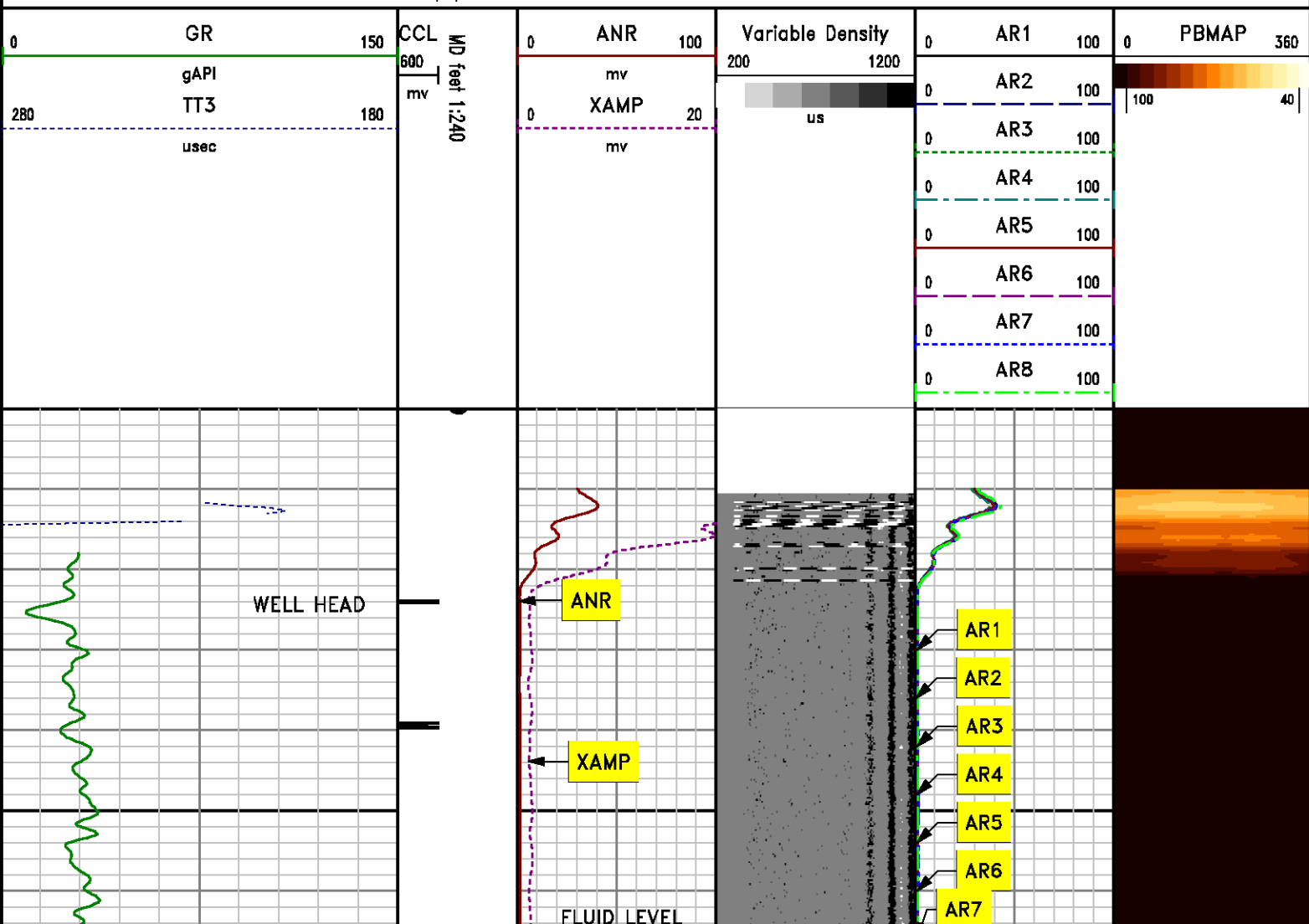
Well : GM 444-31

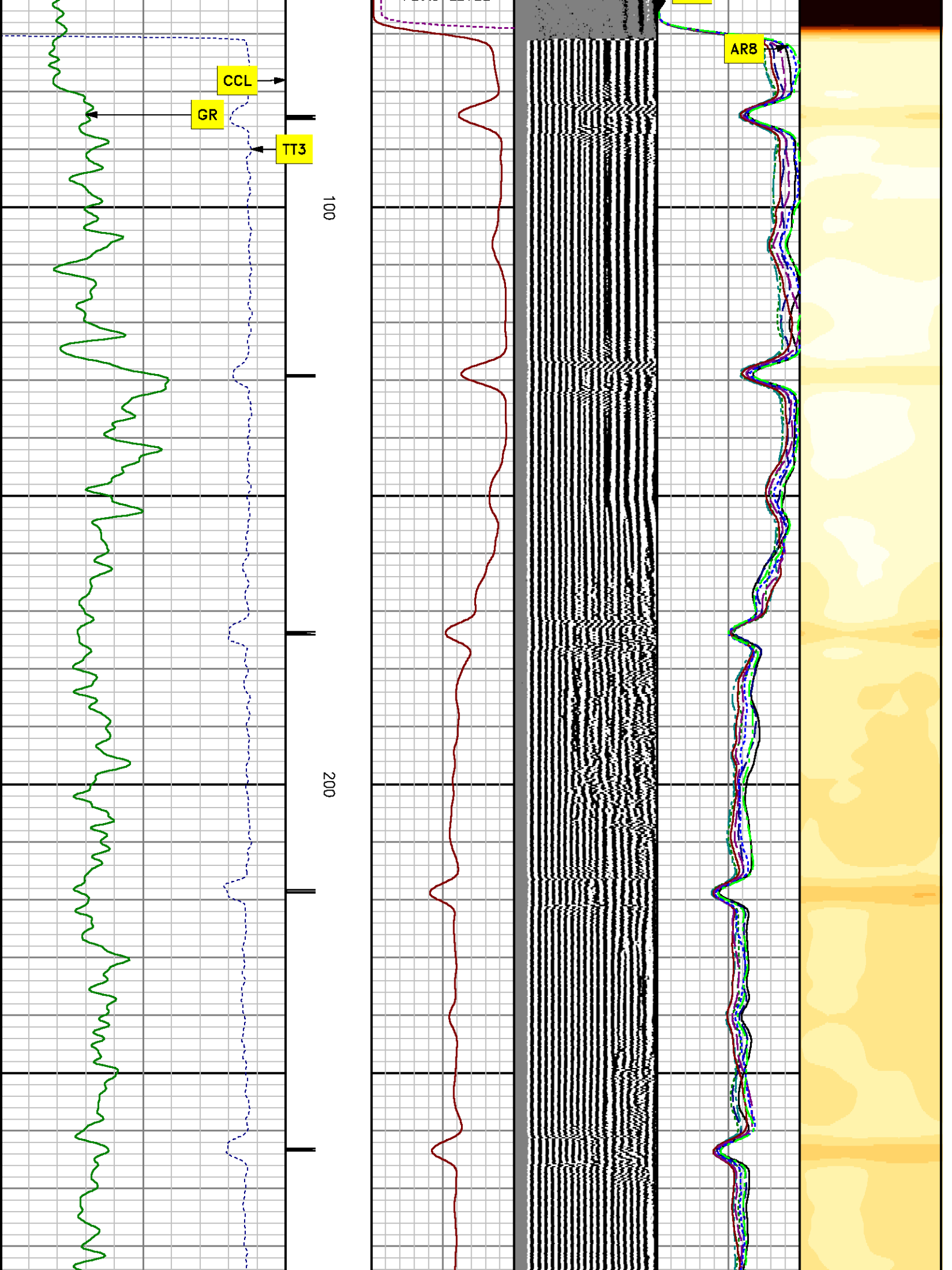
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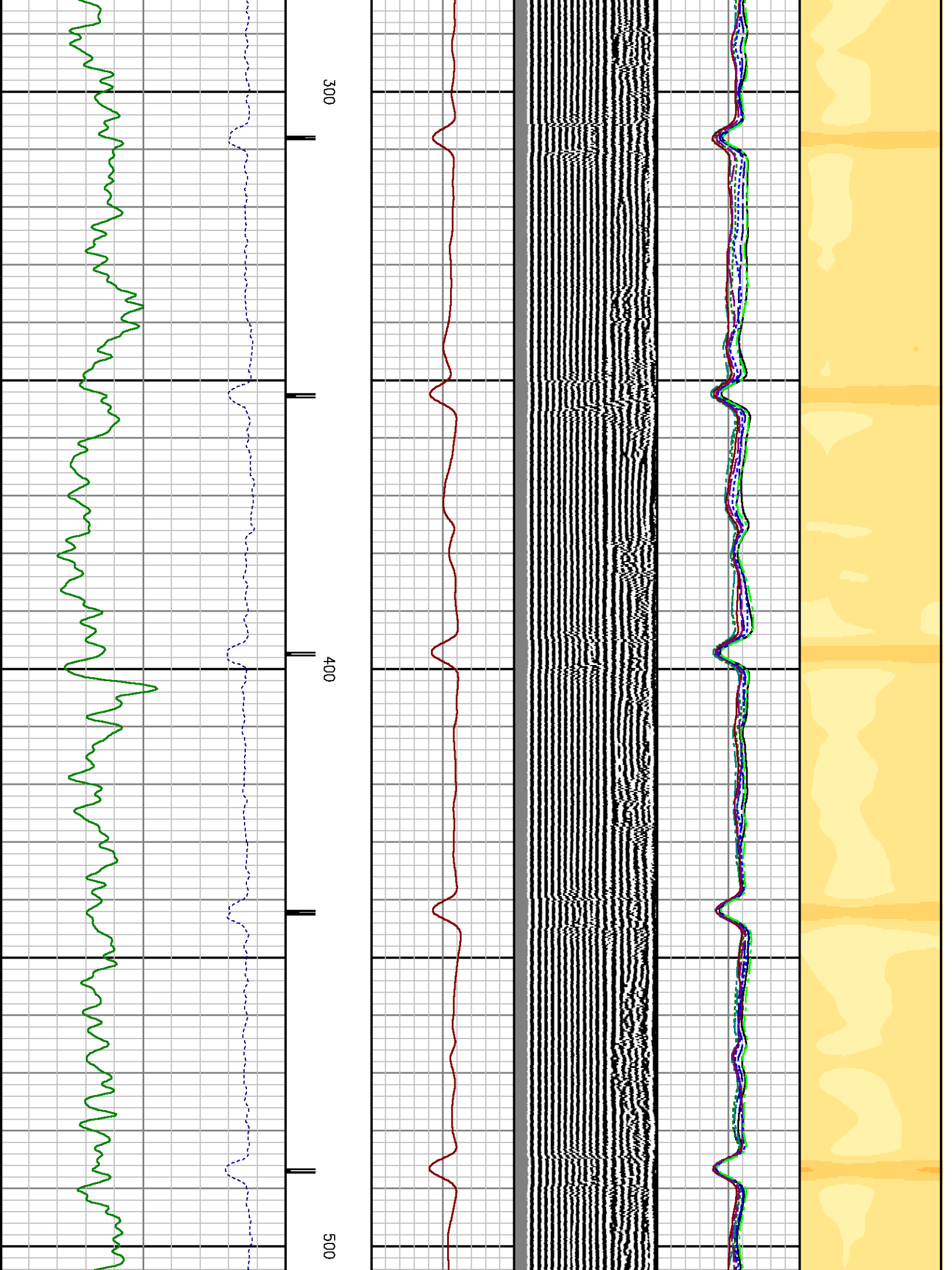
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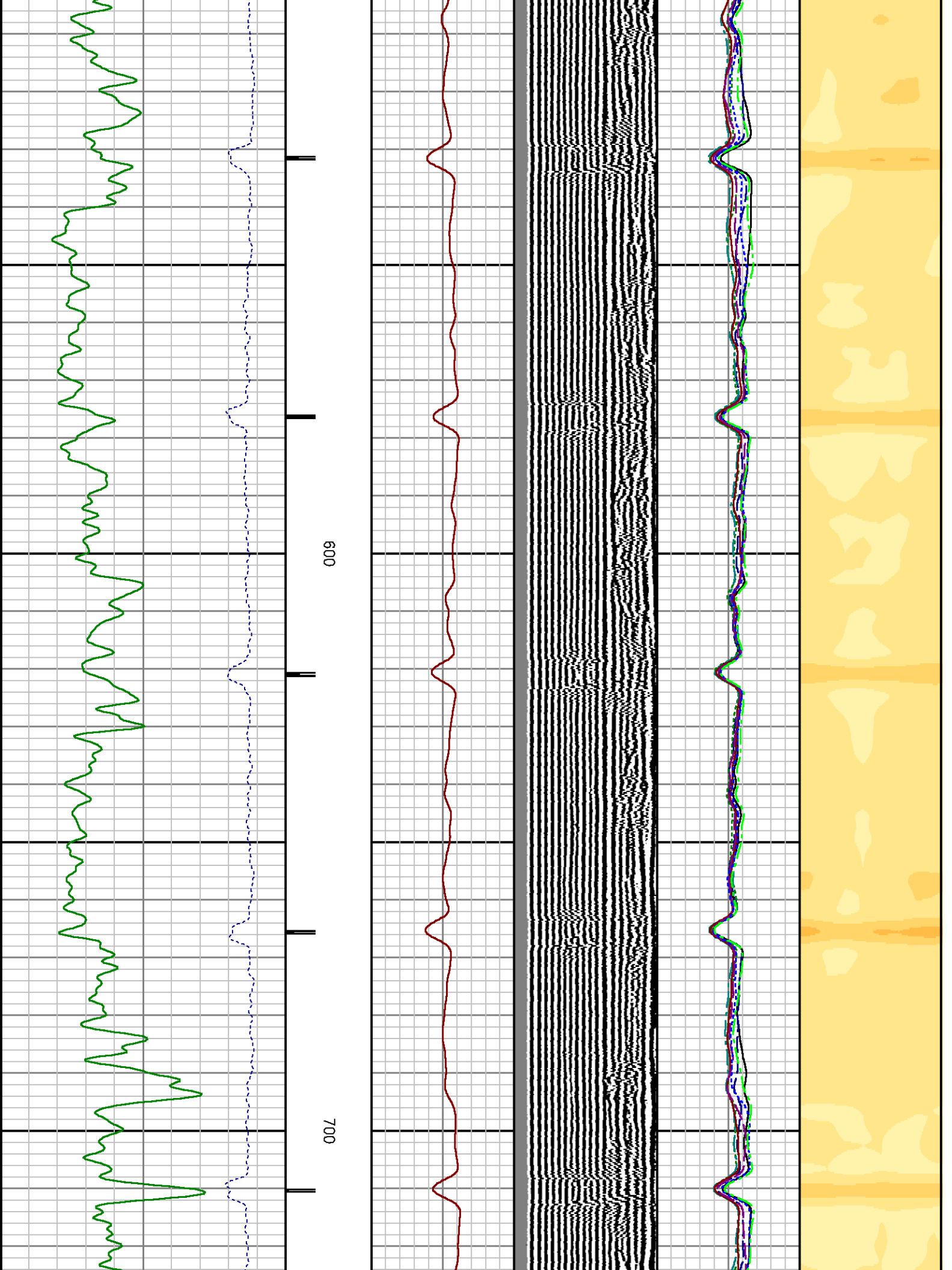
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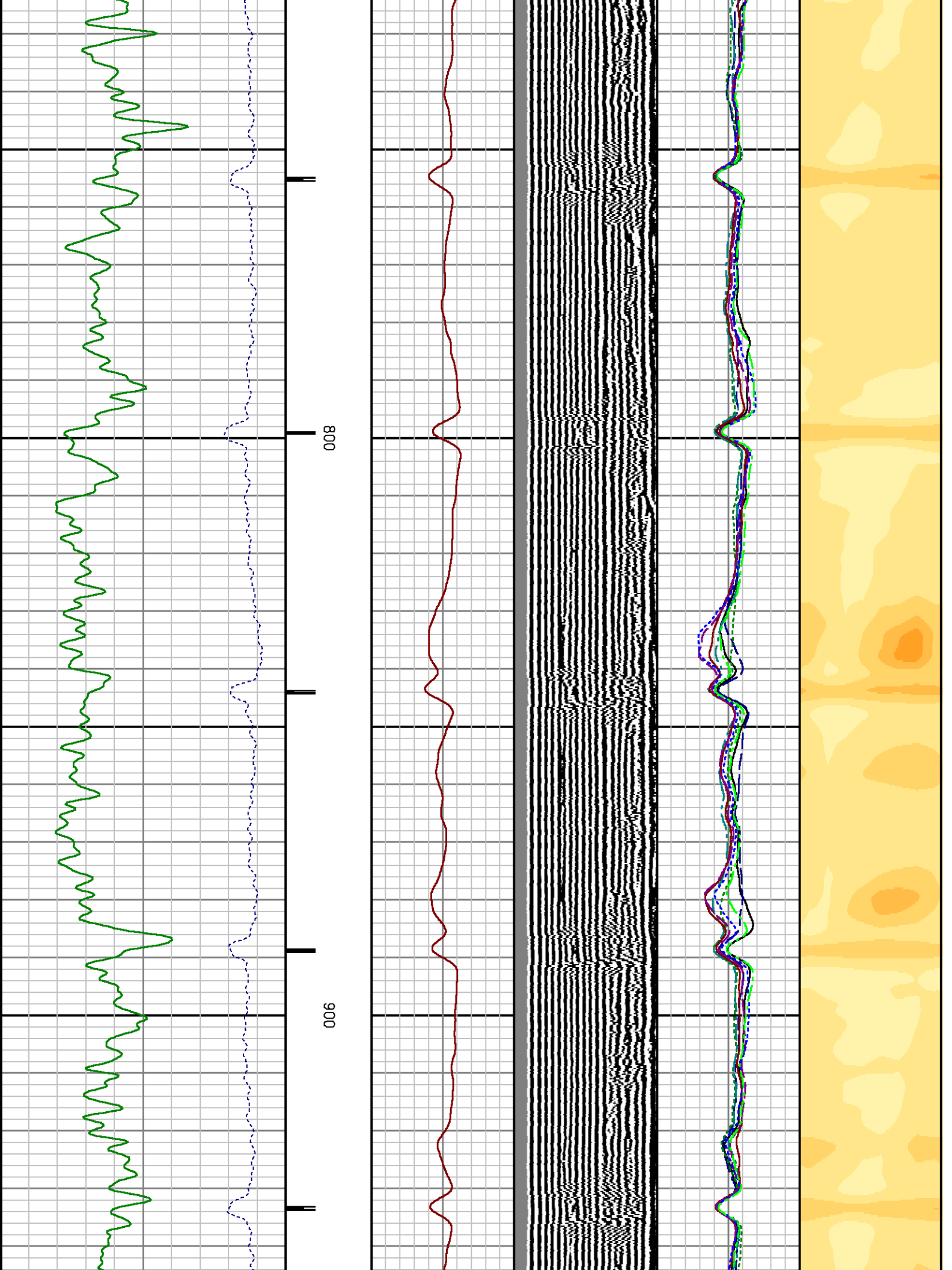
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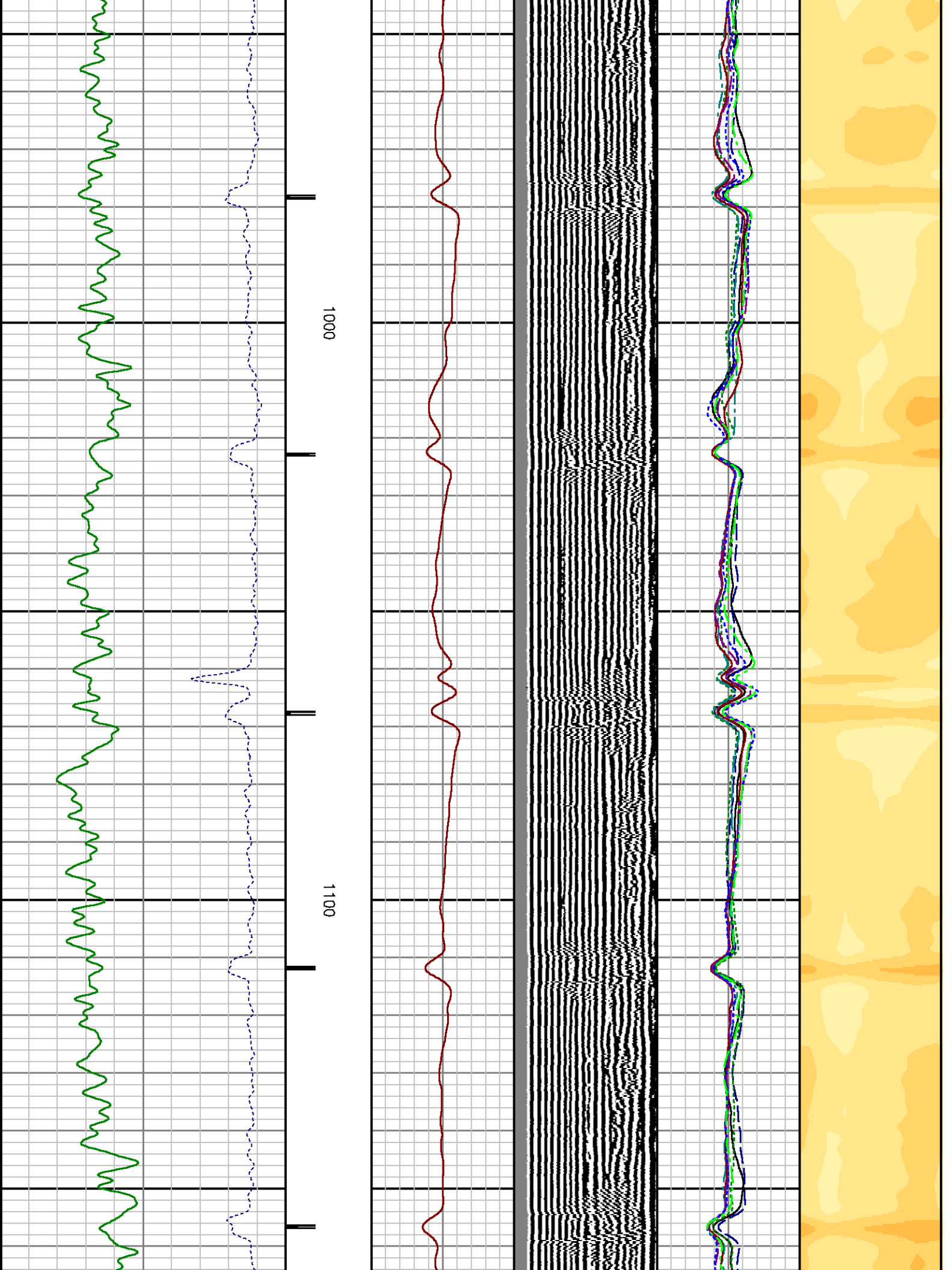


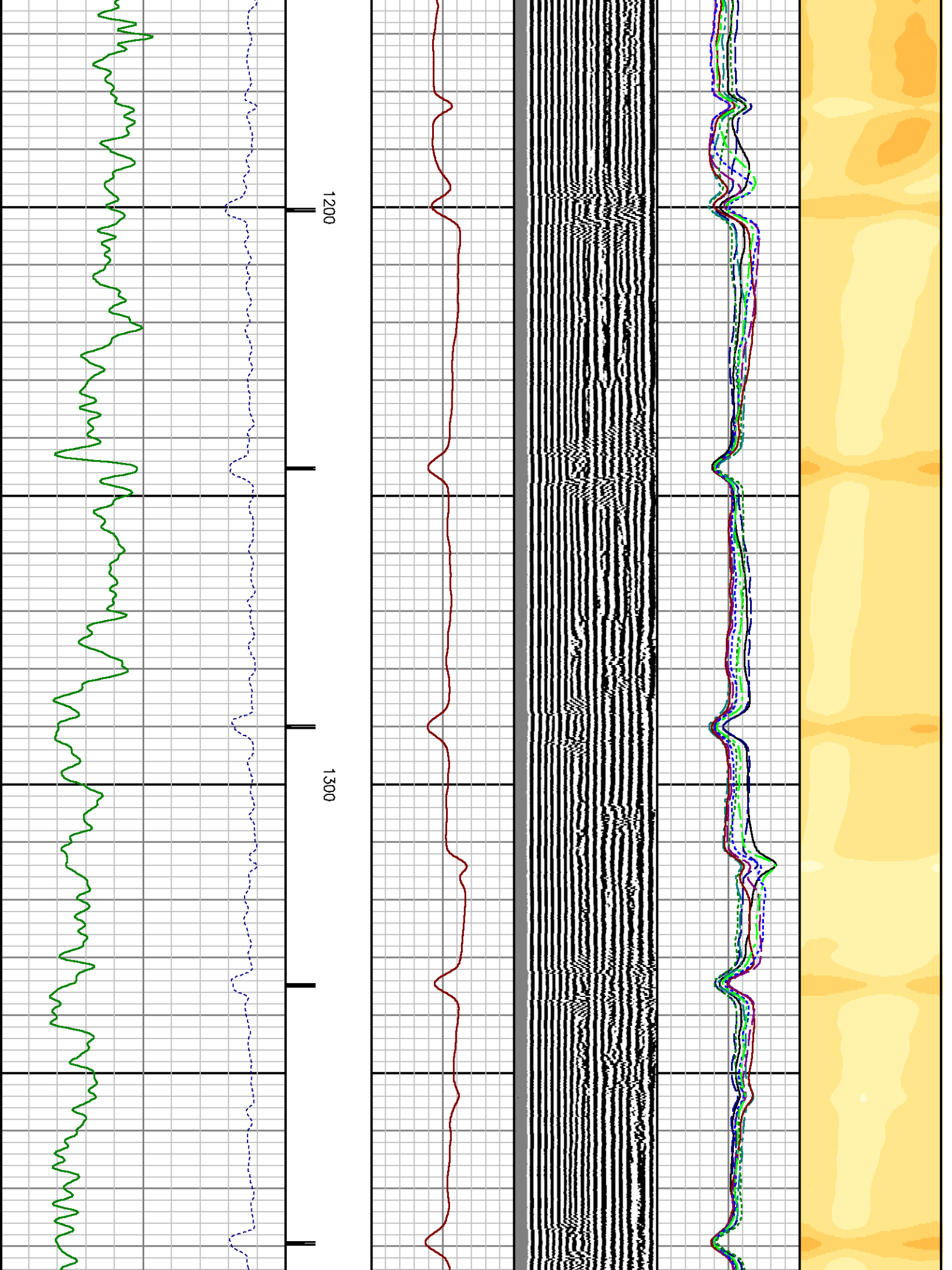


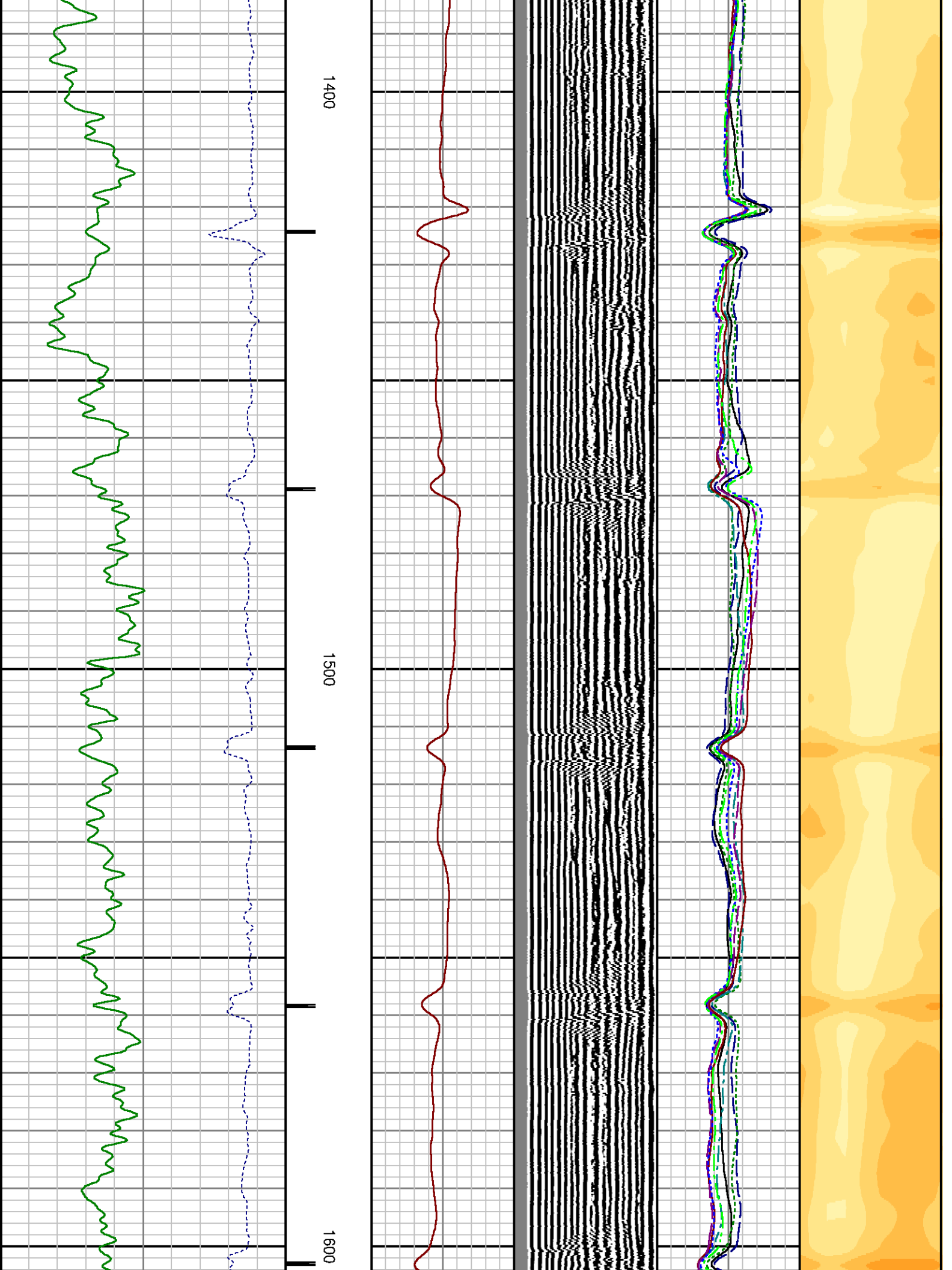


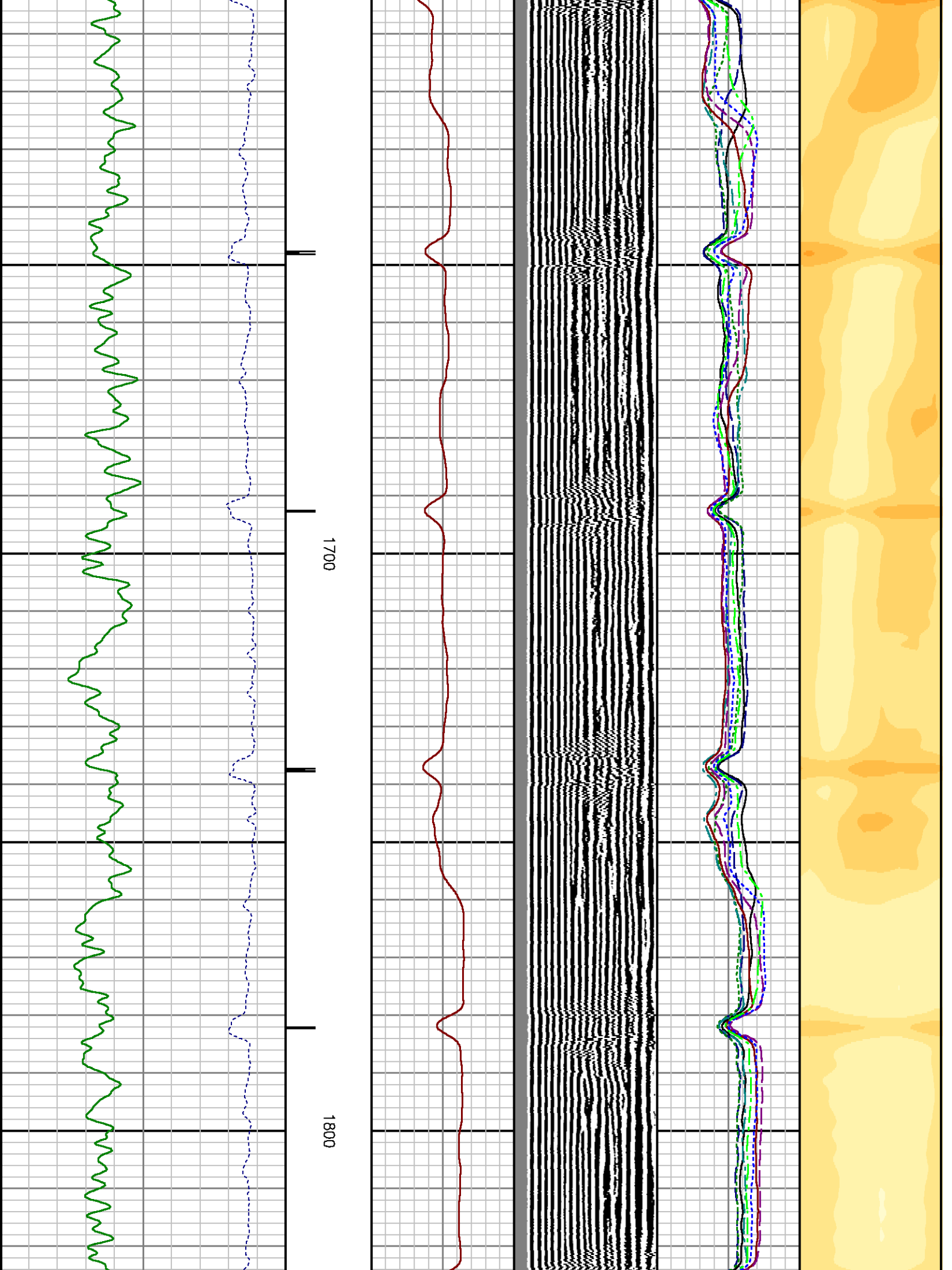


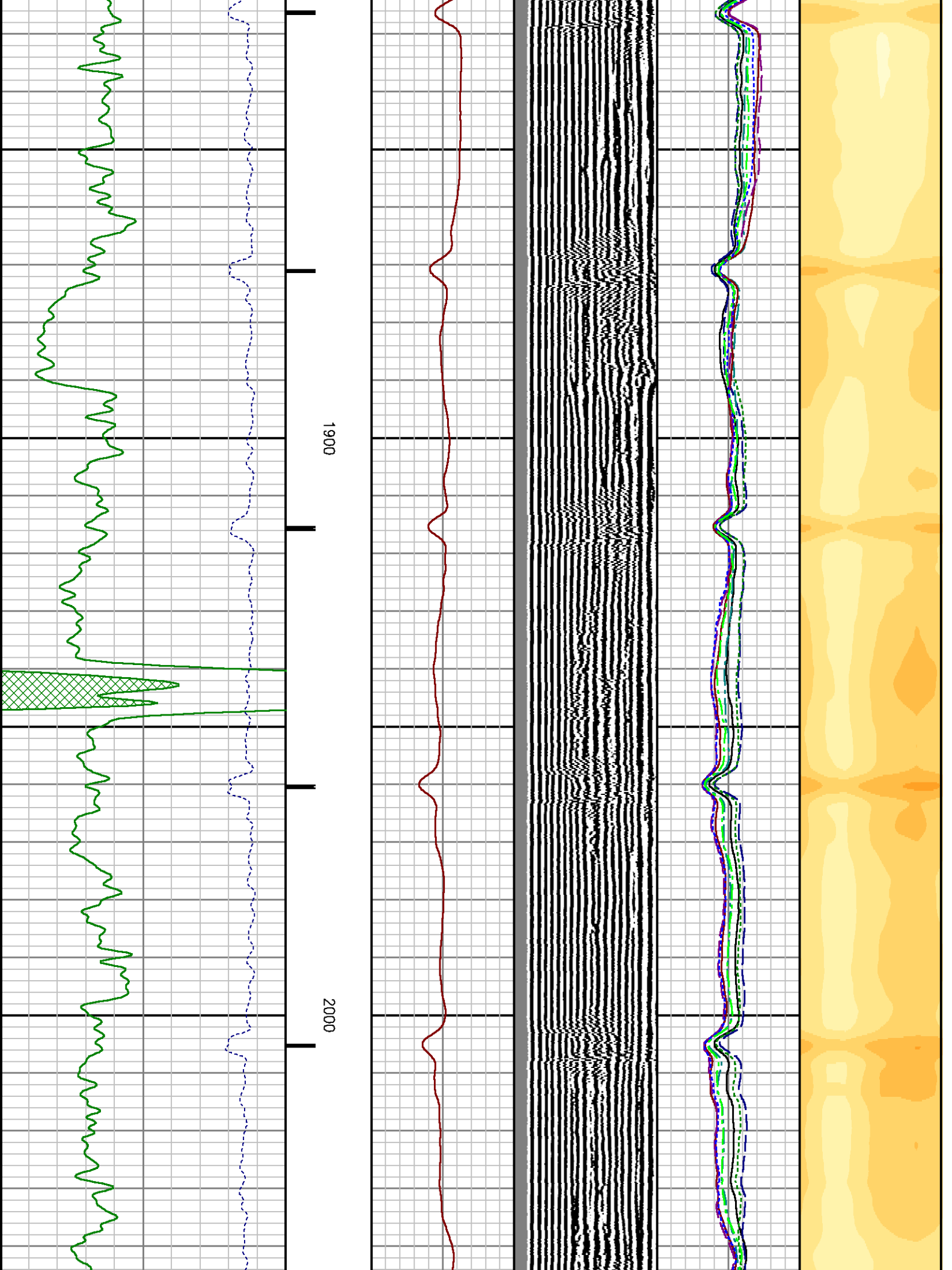


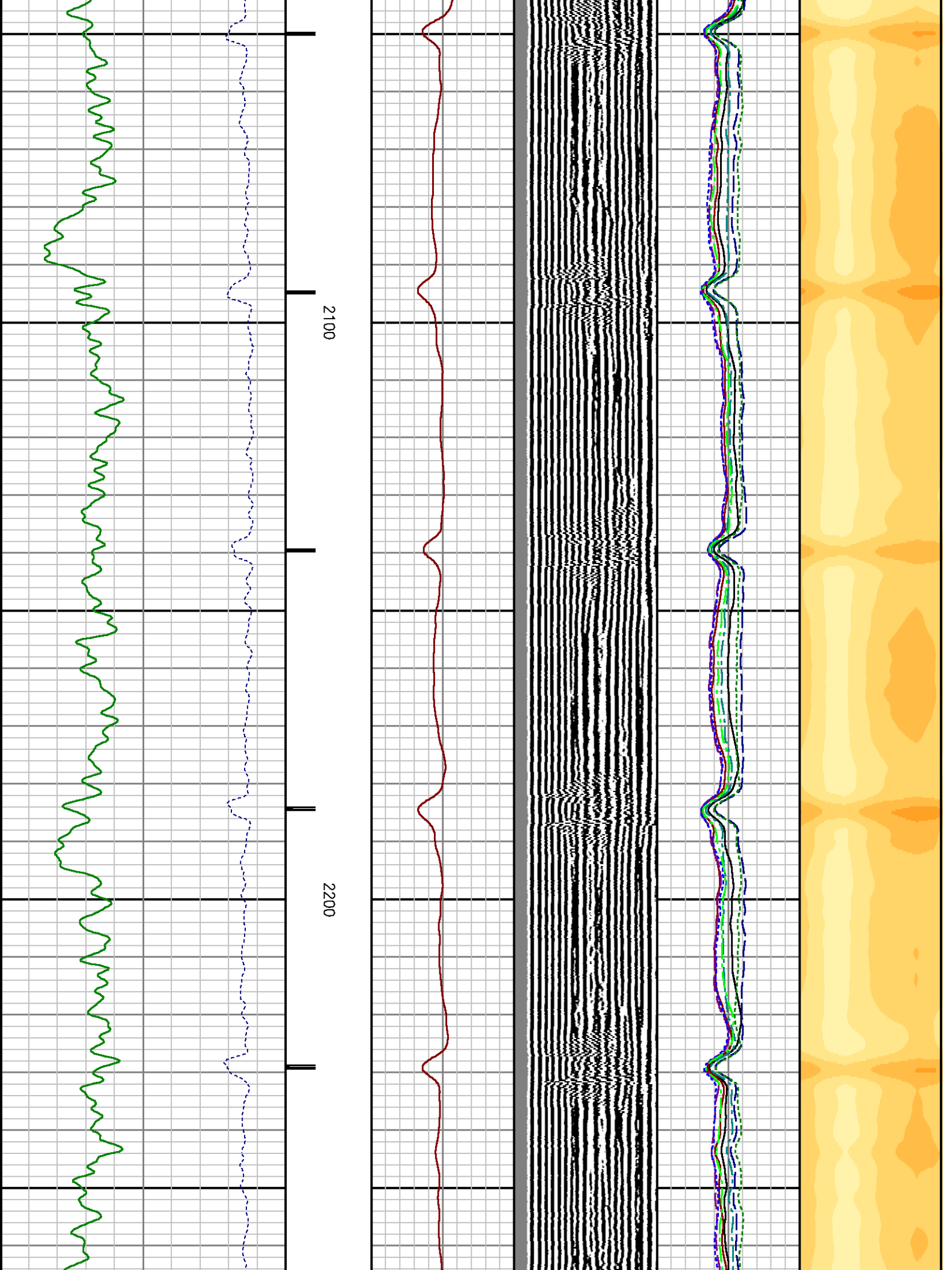


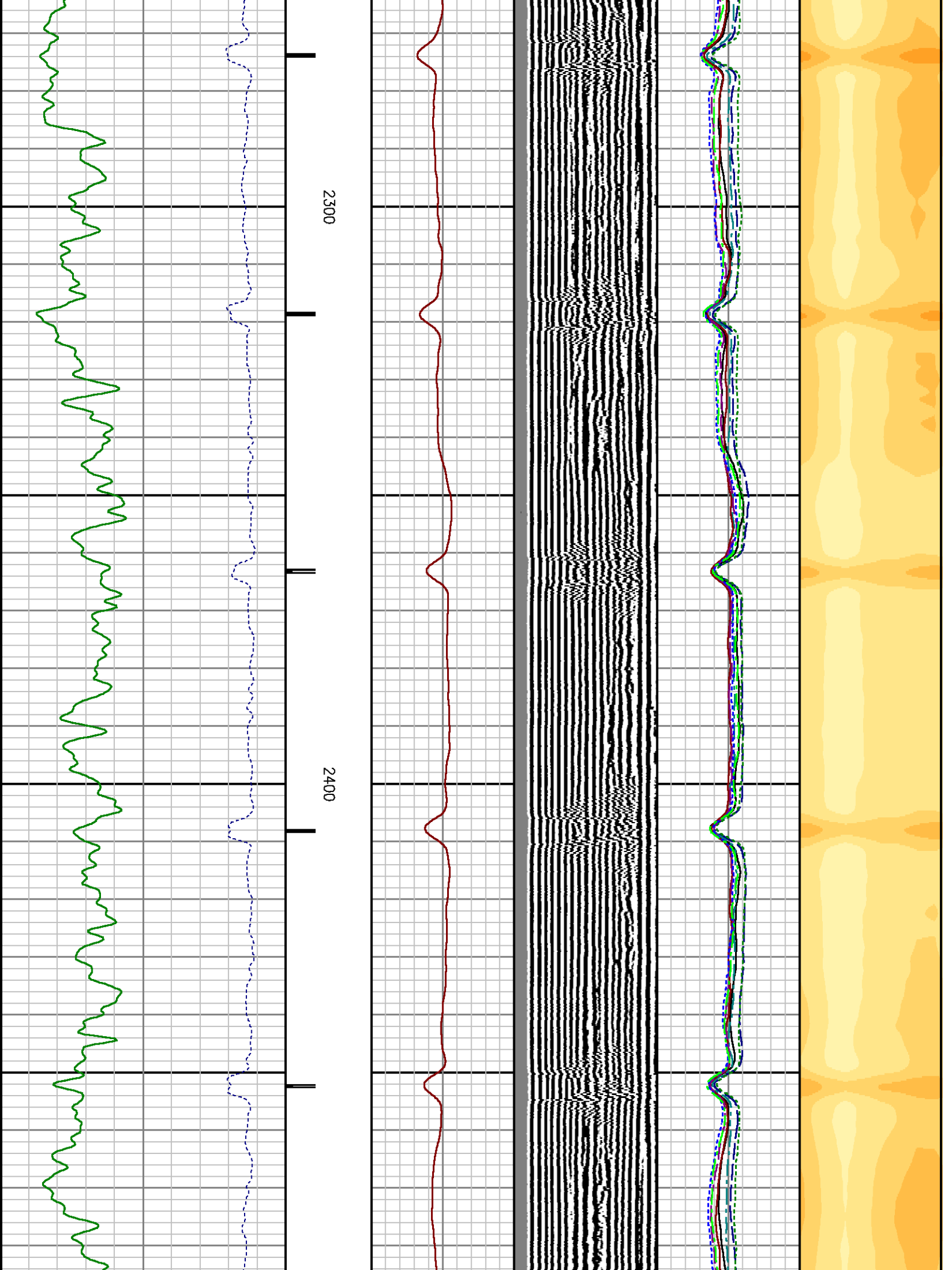


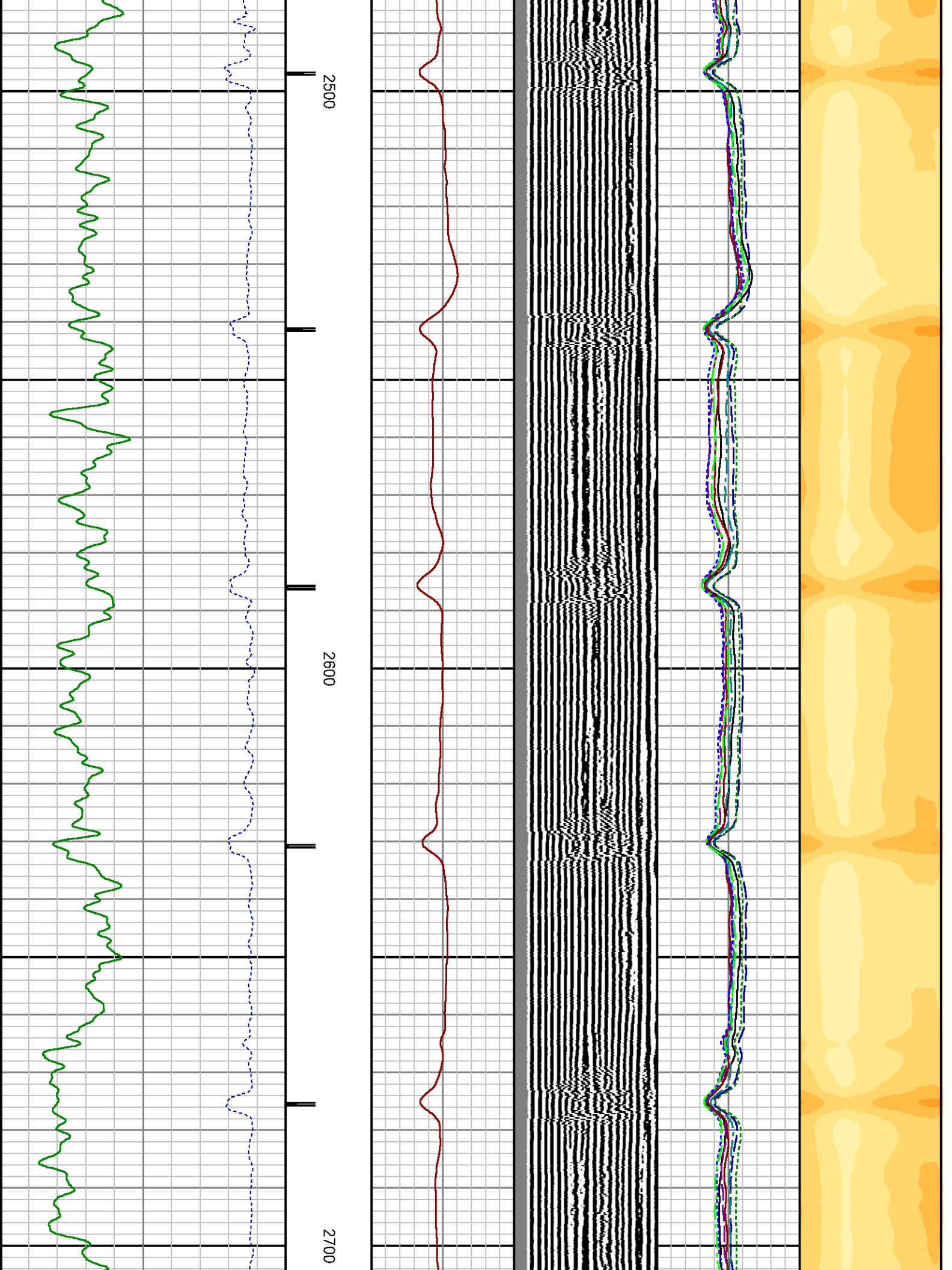


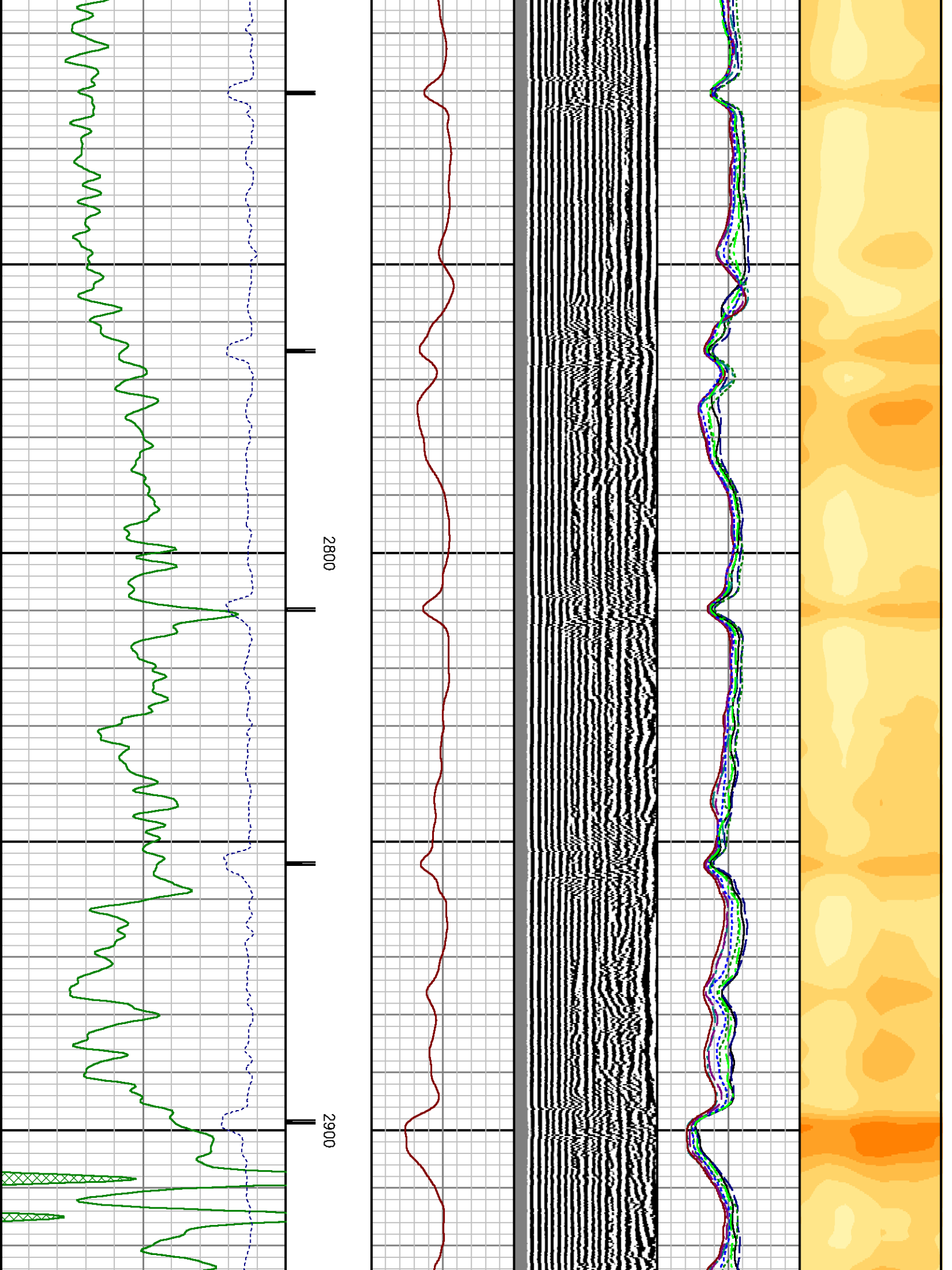


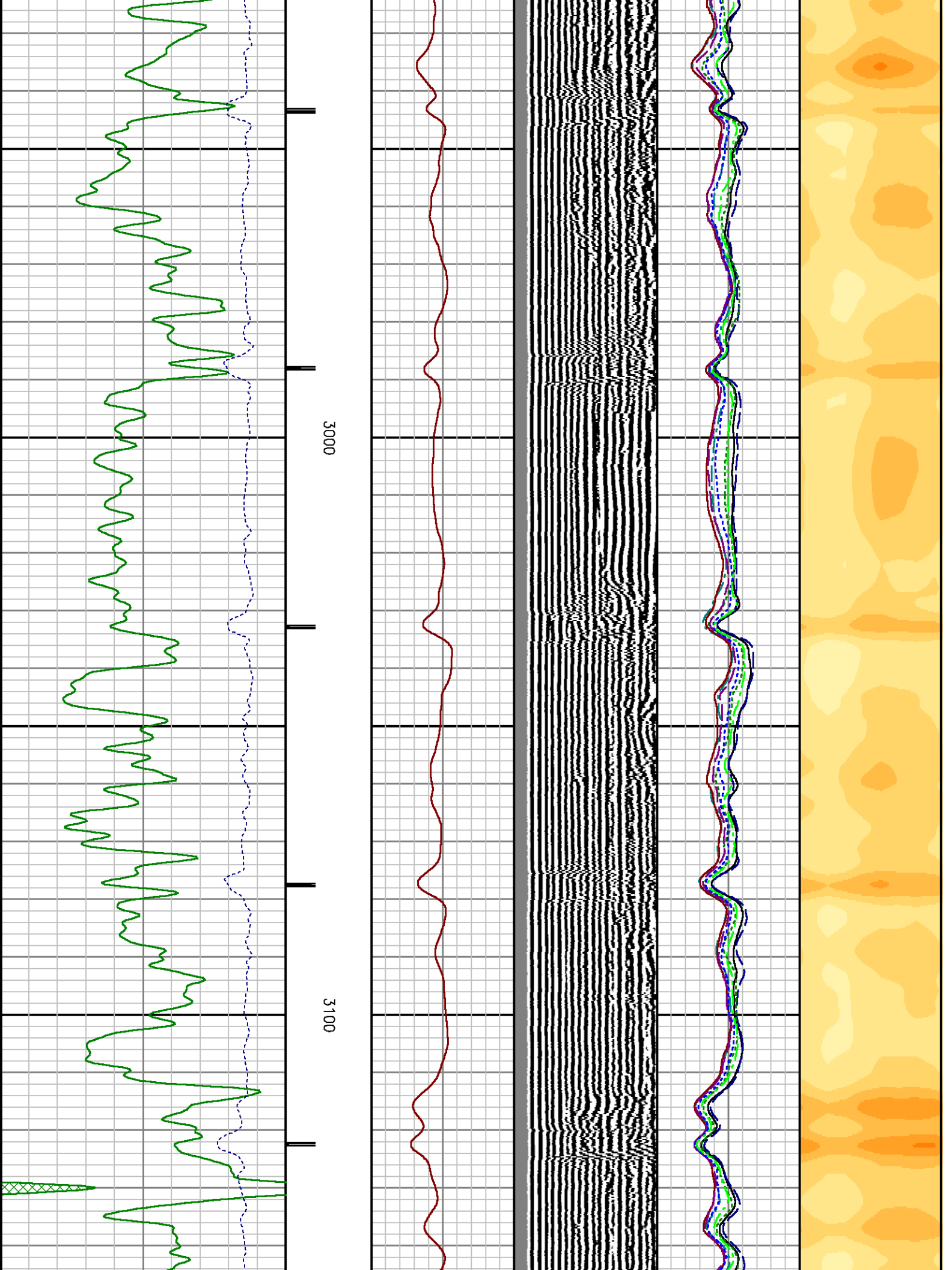


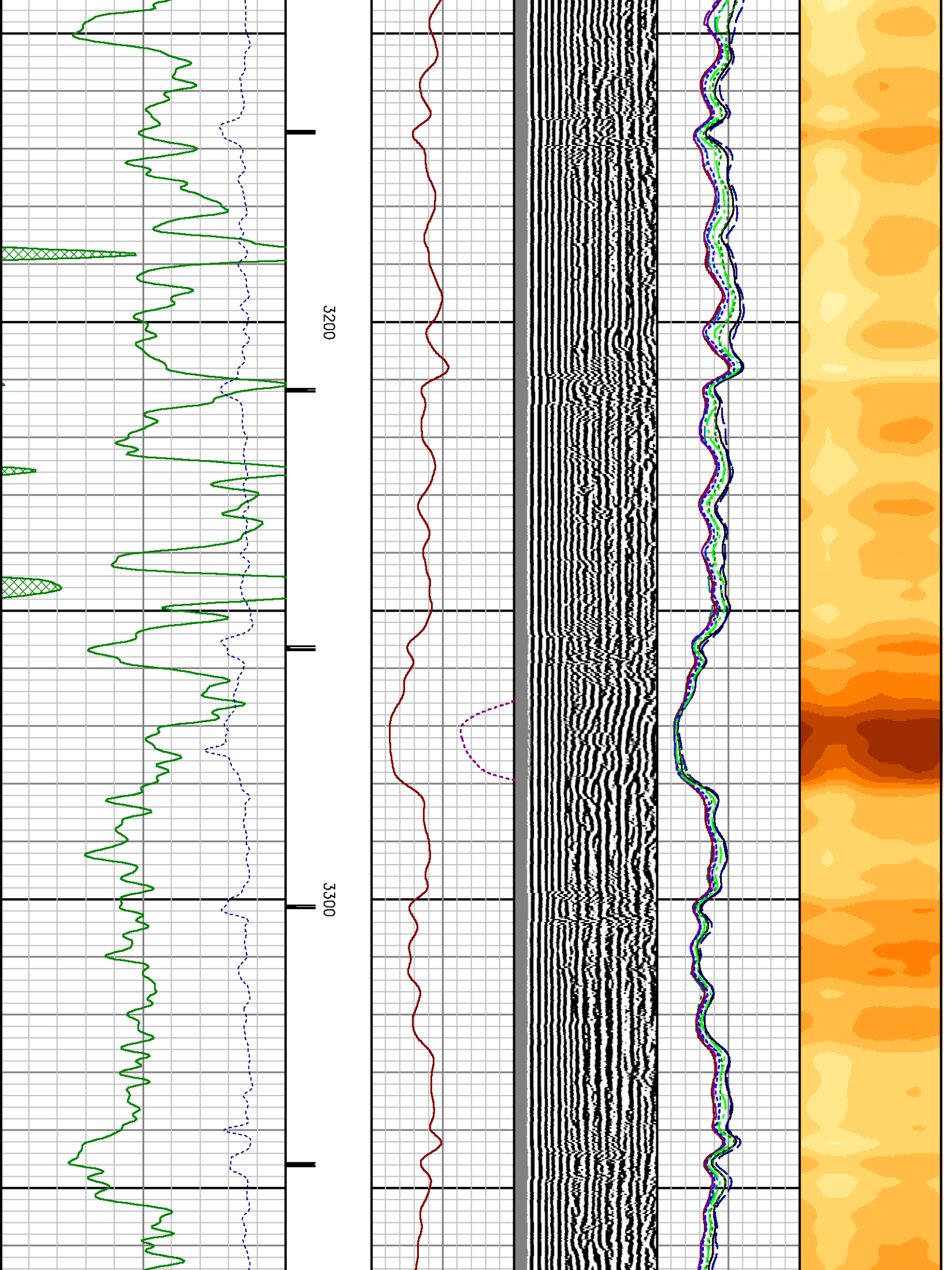


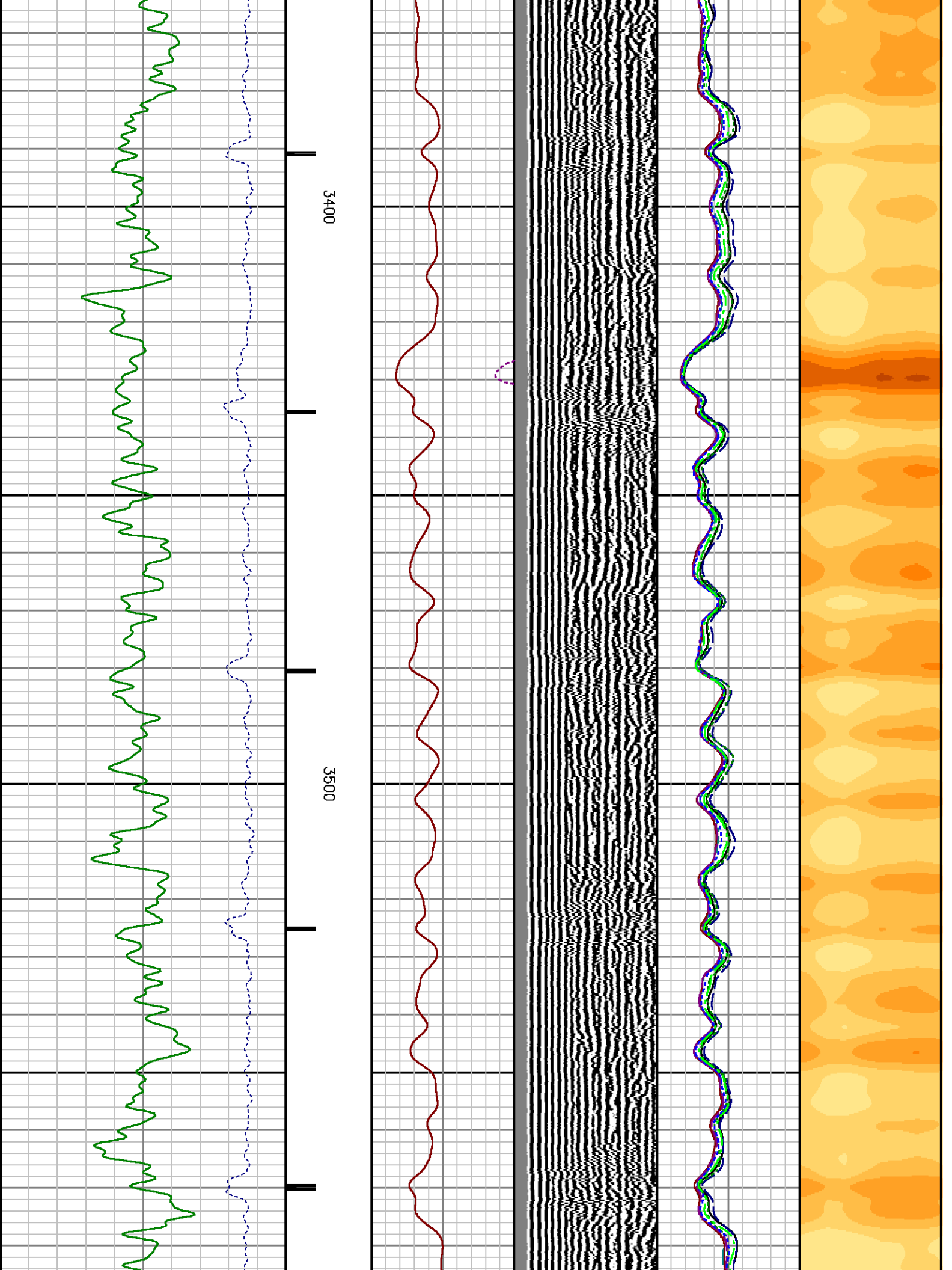


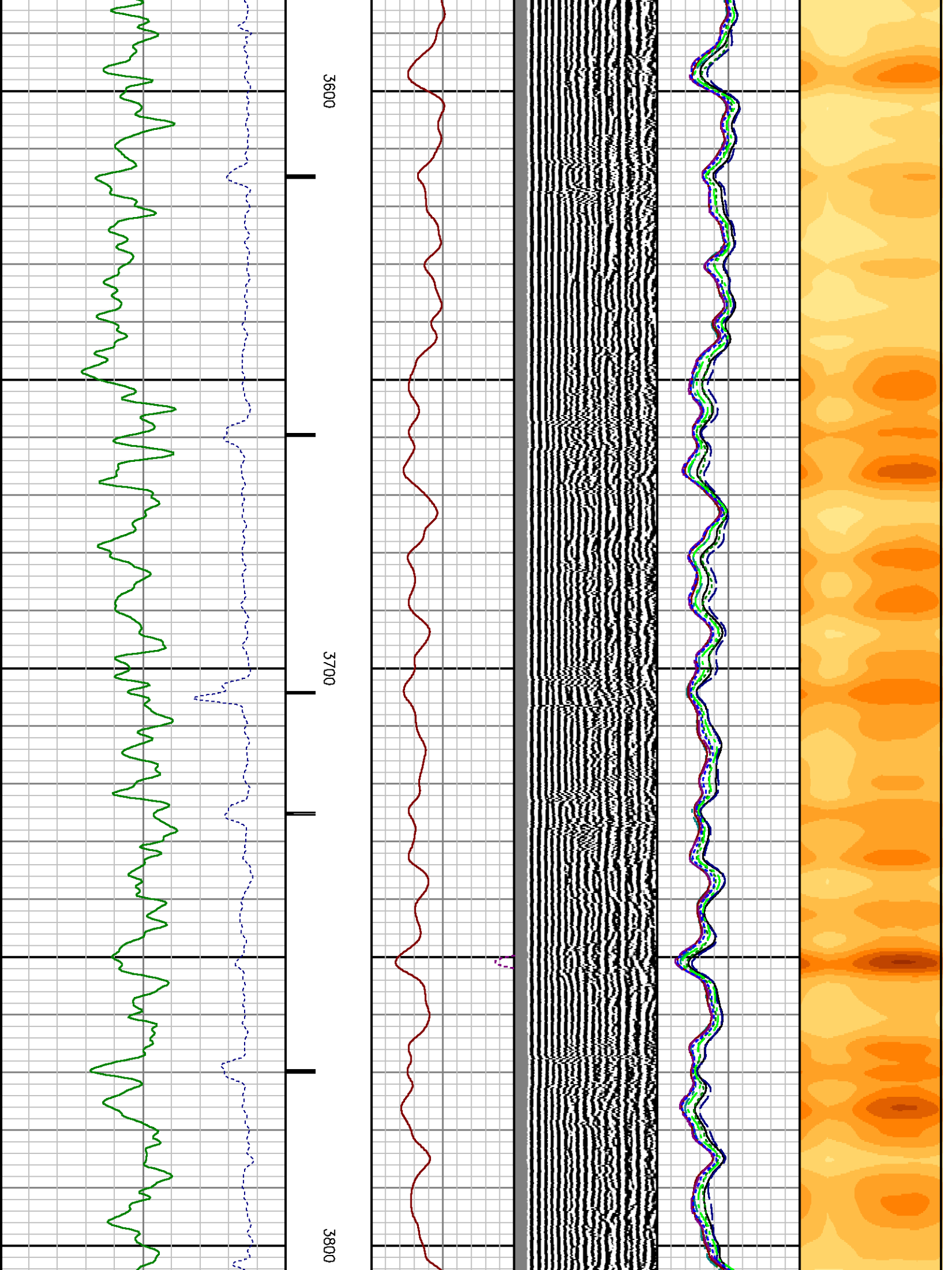


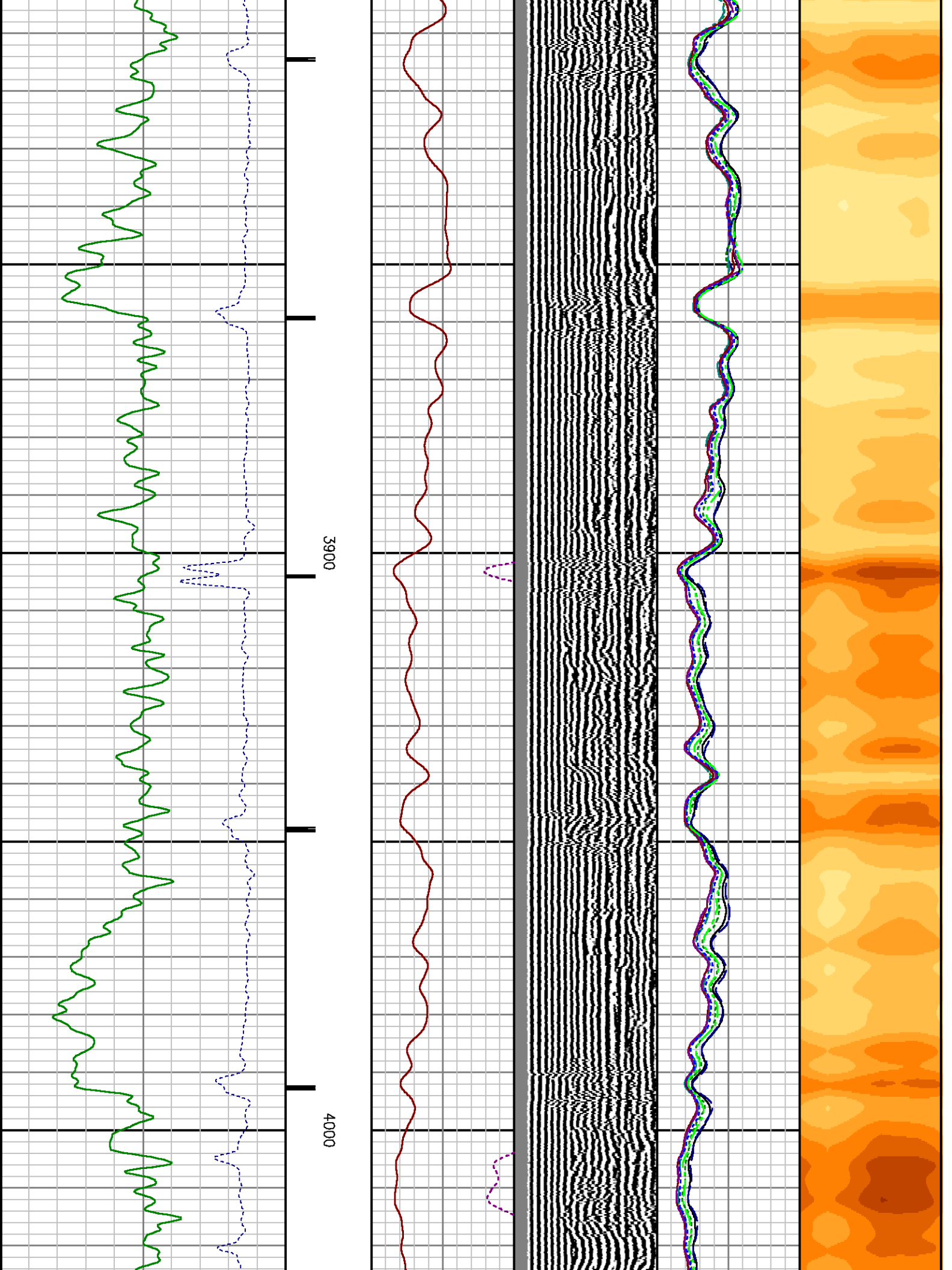


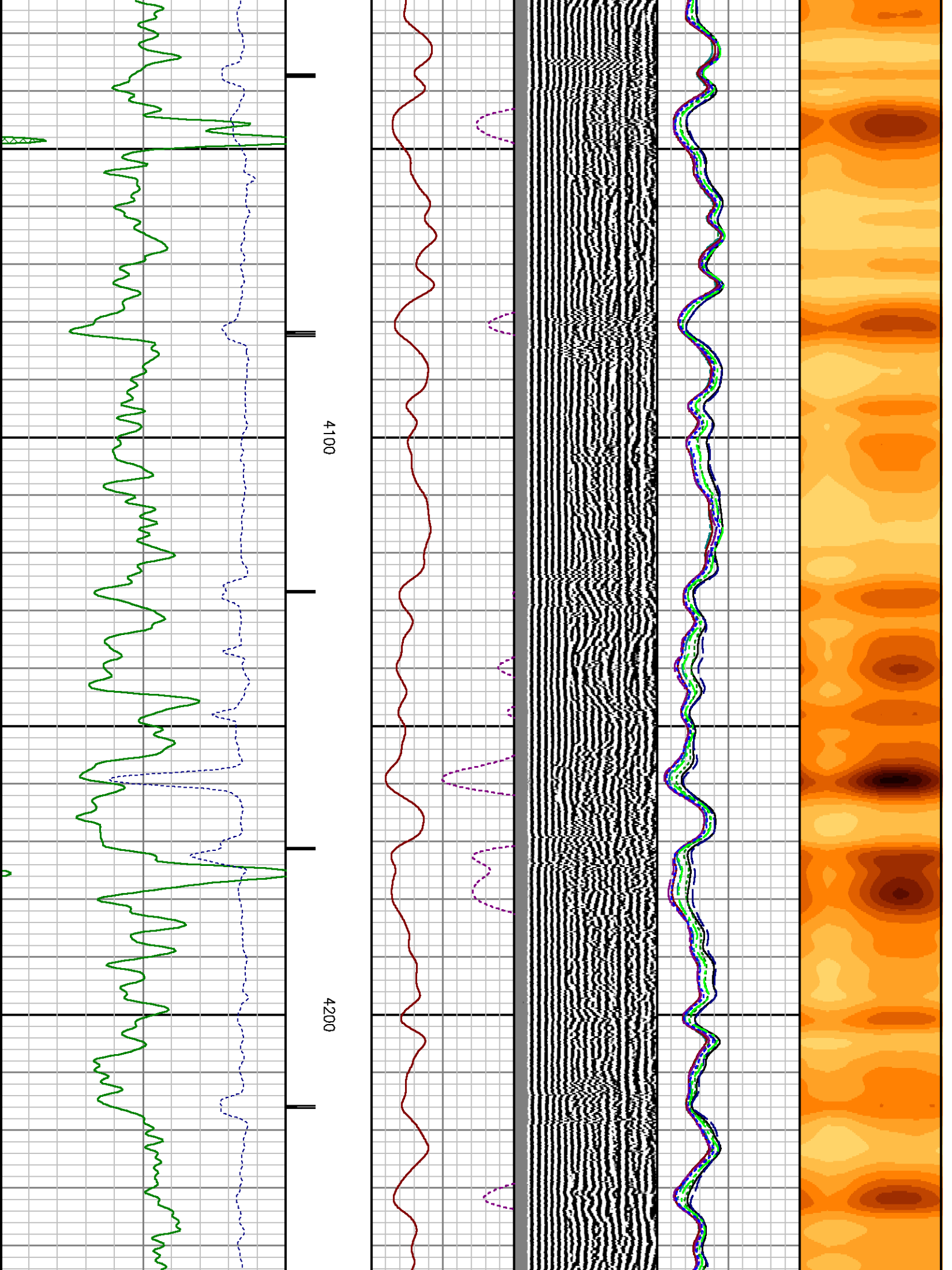


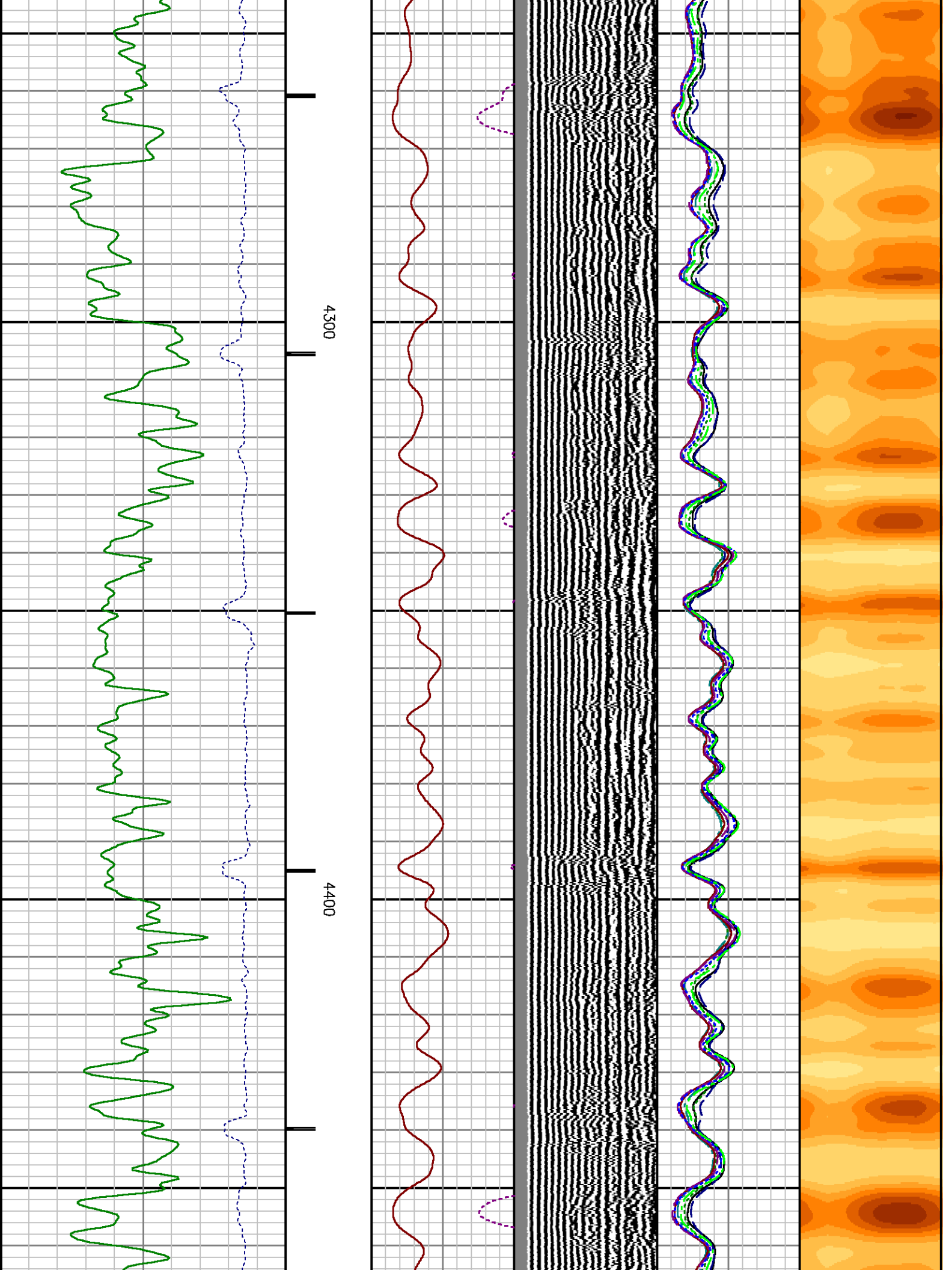


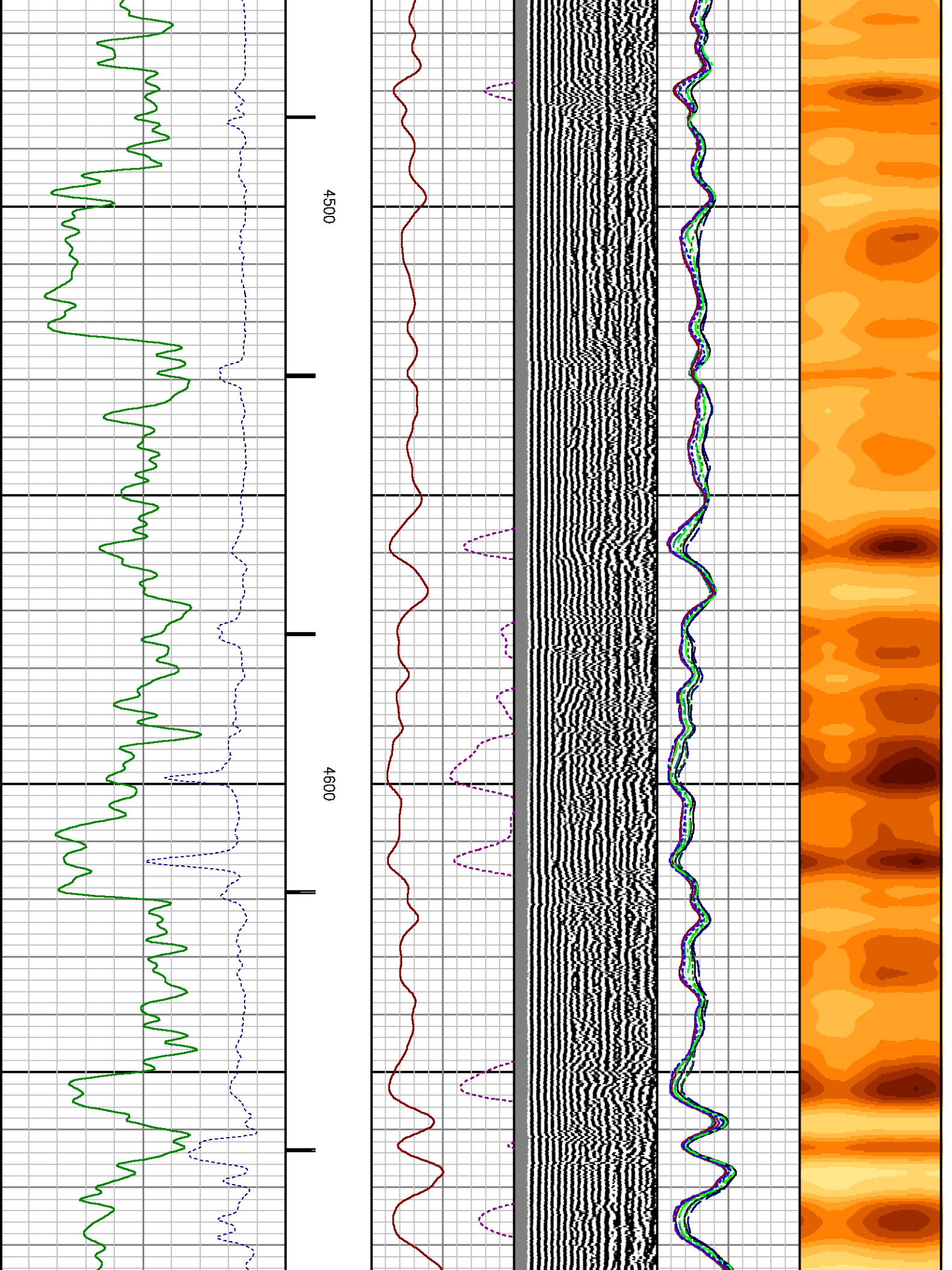


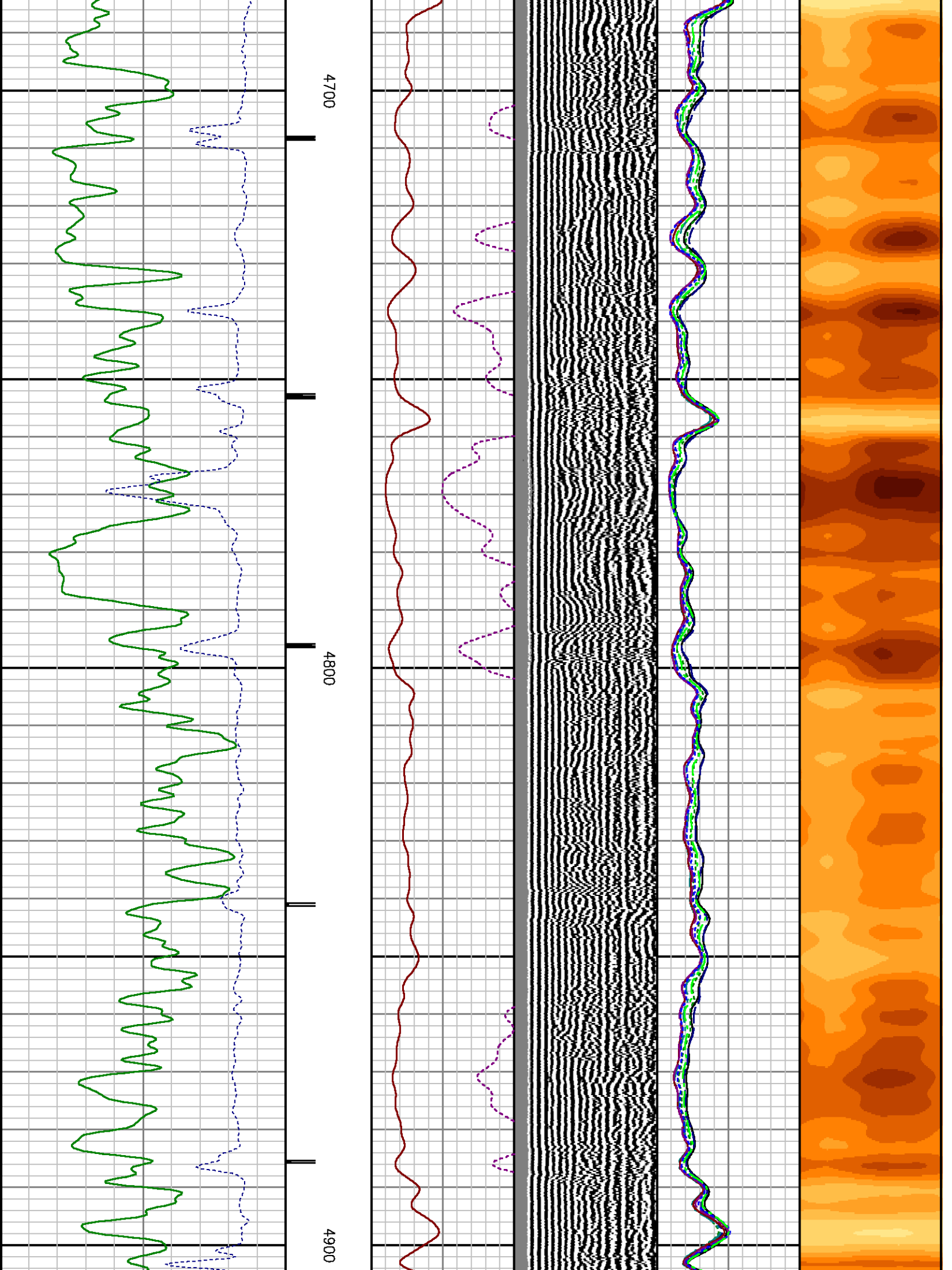


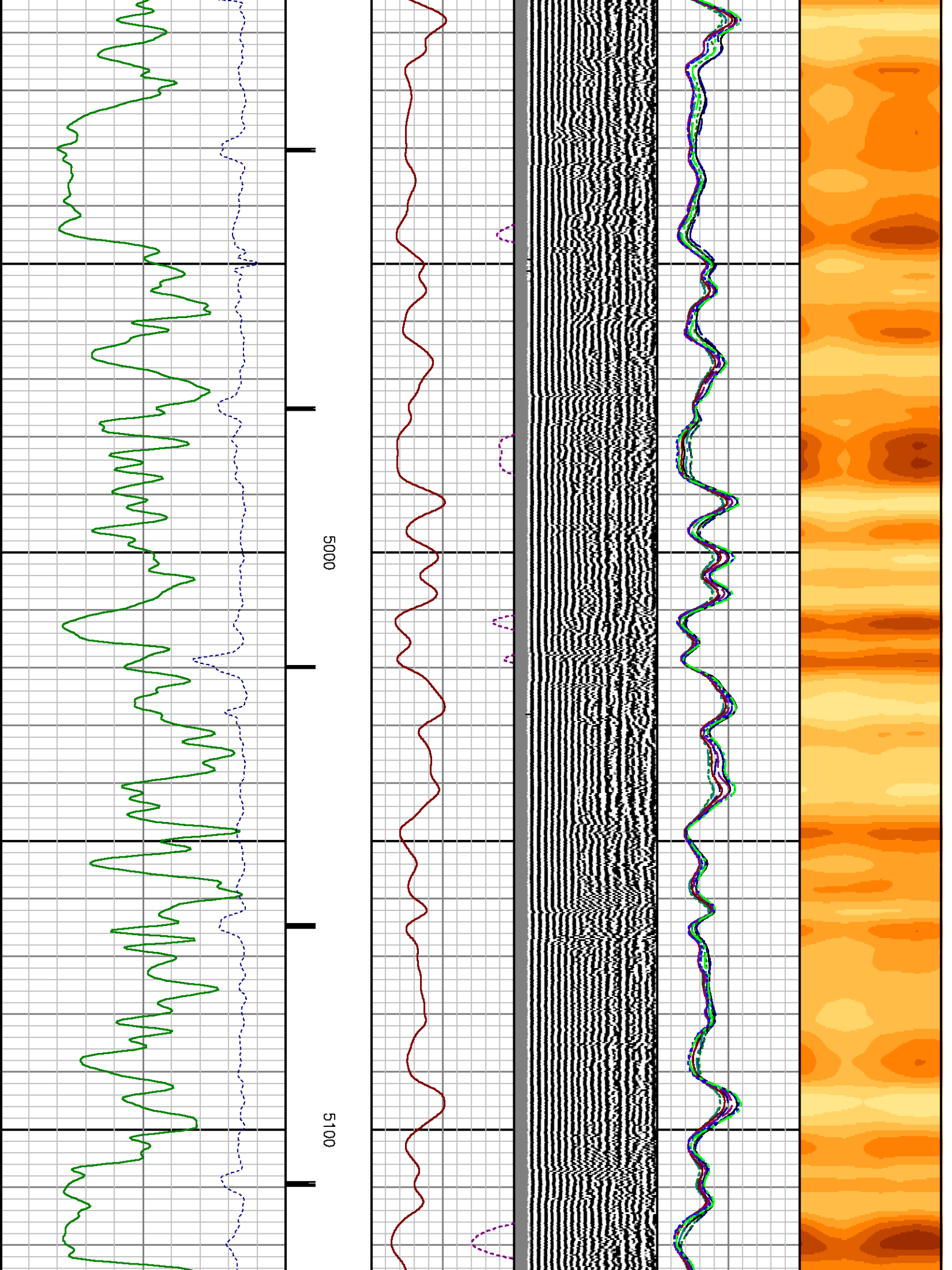


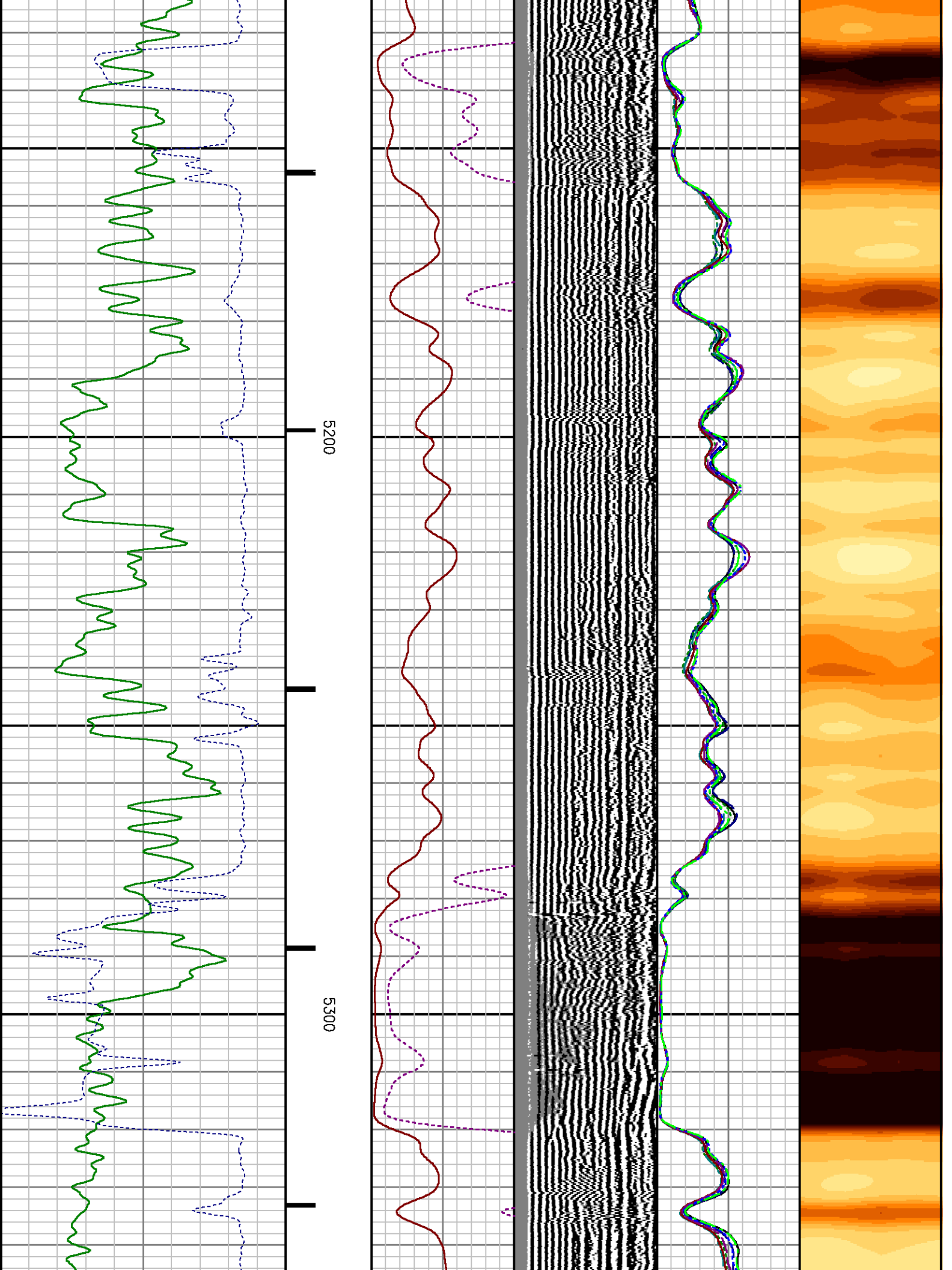


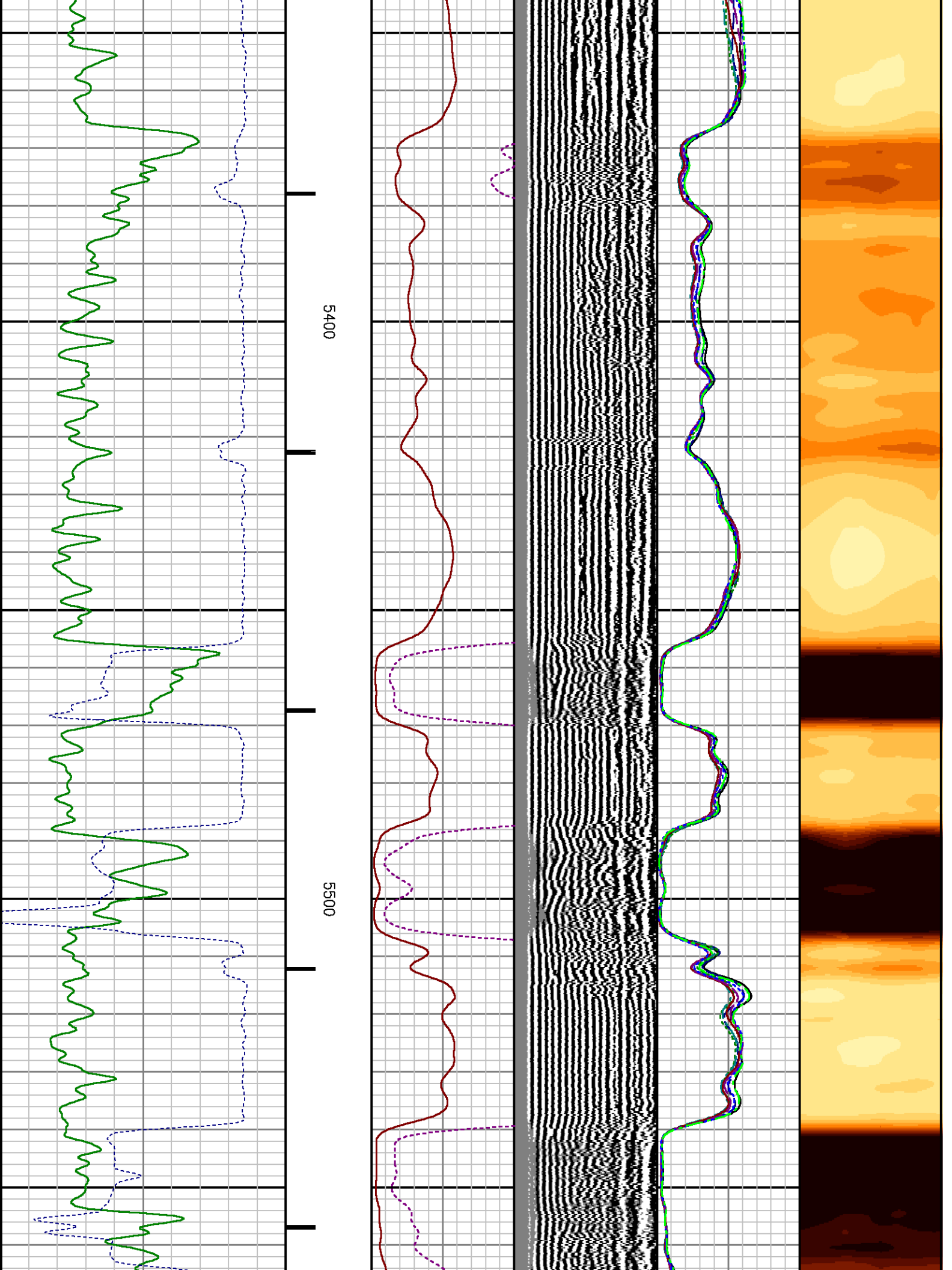


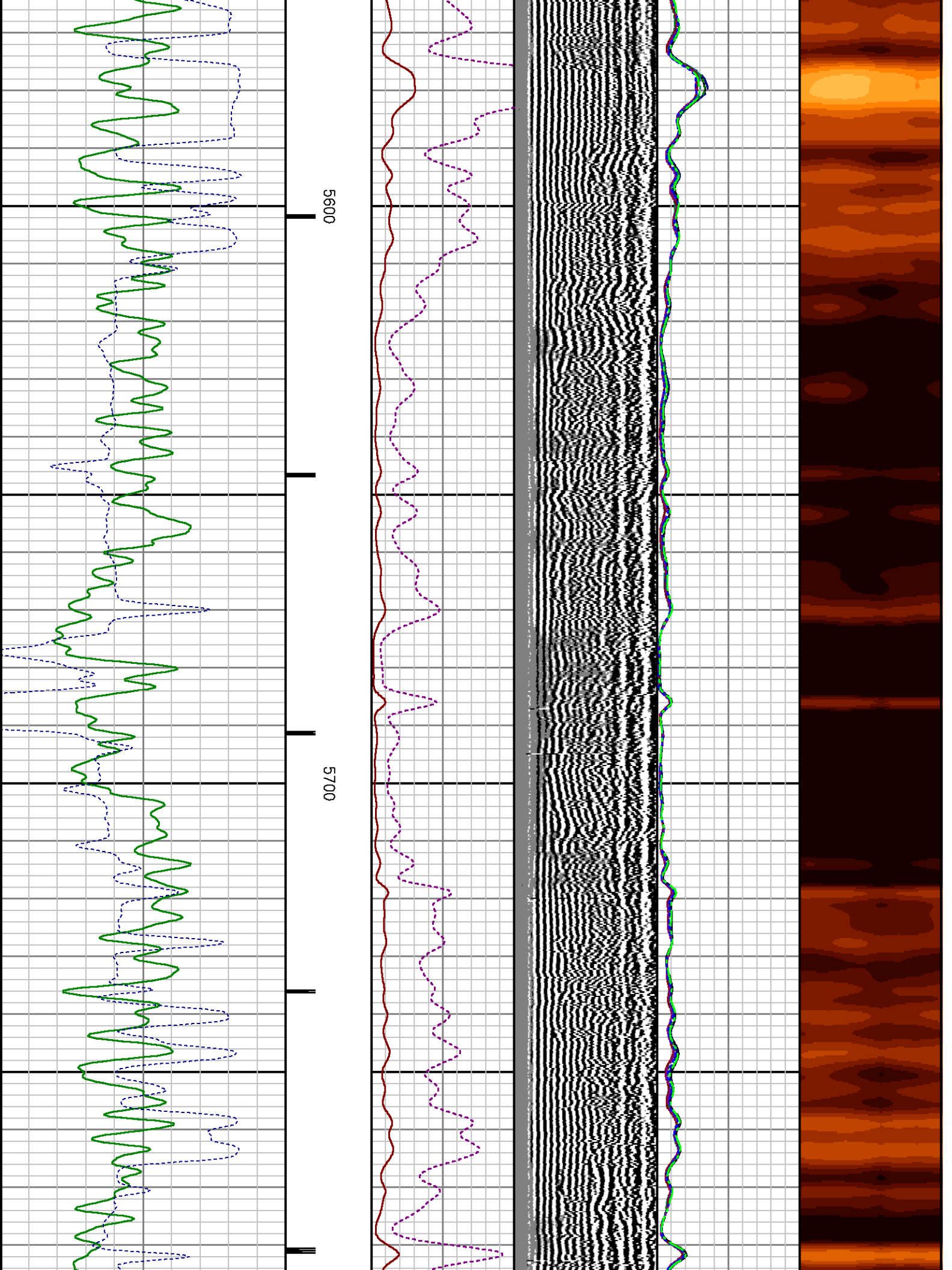


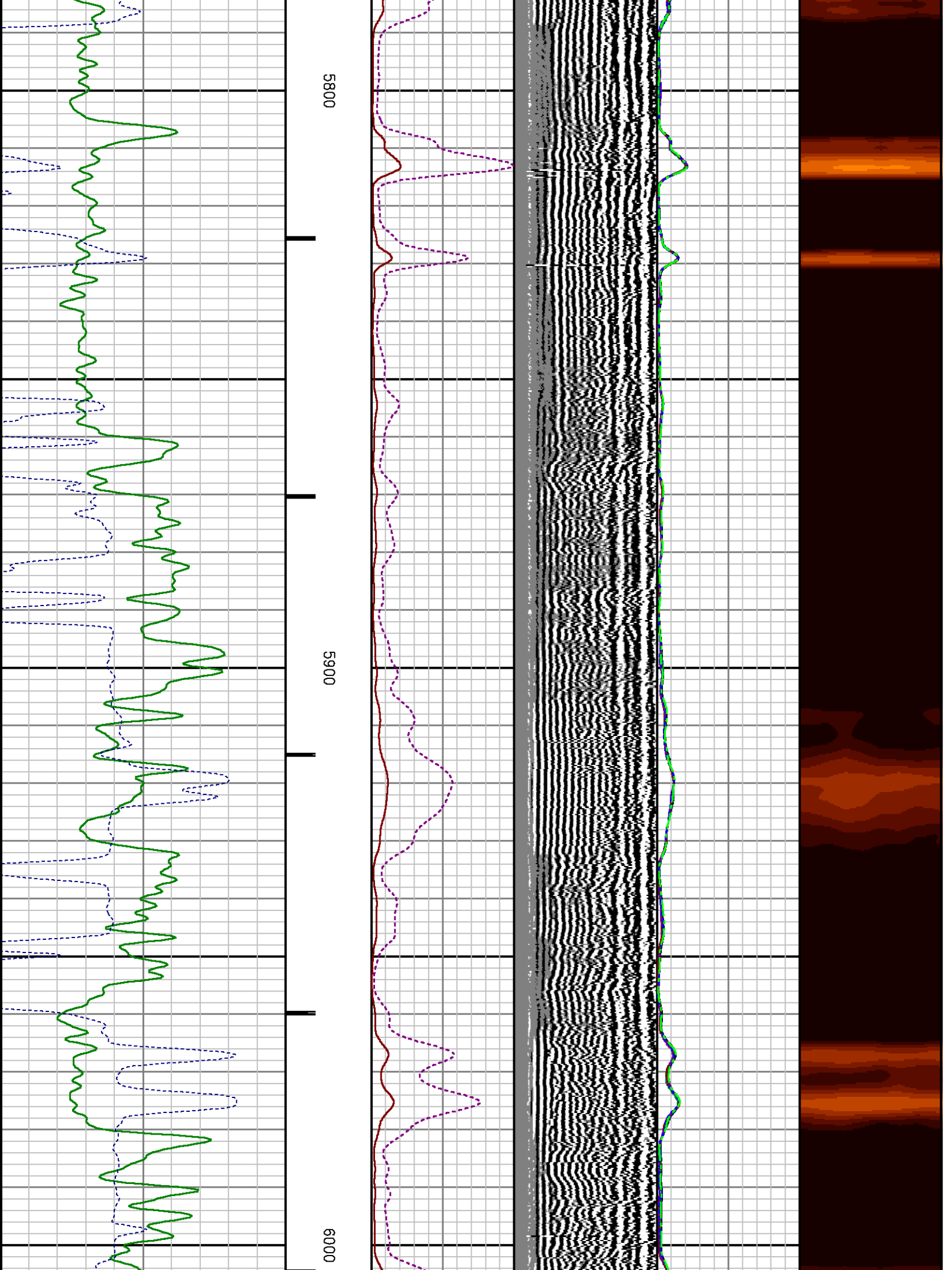


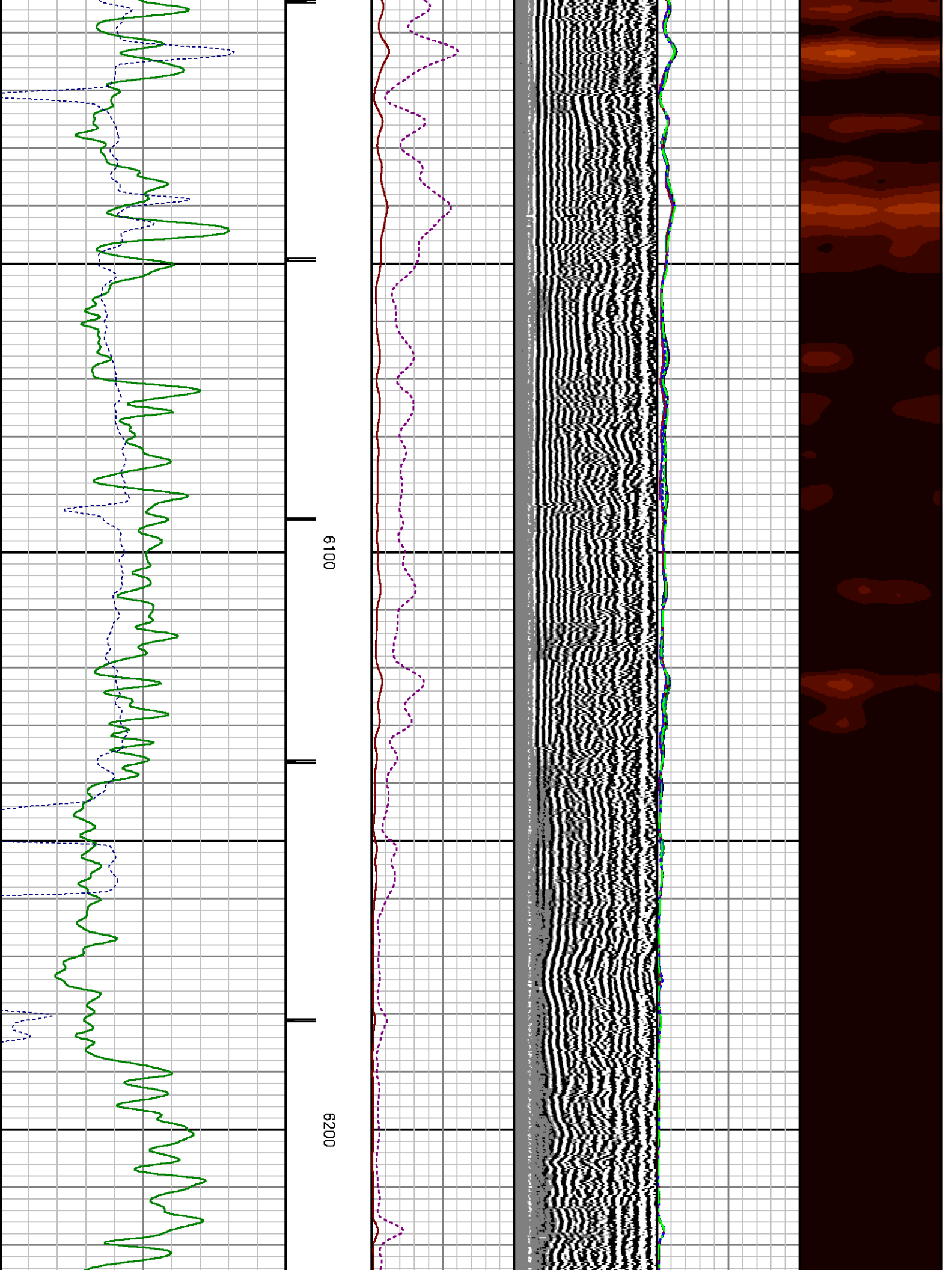


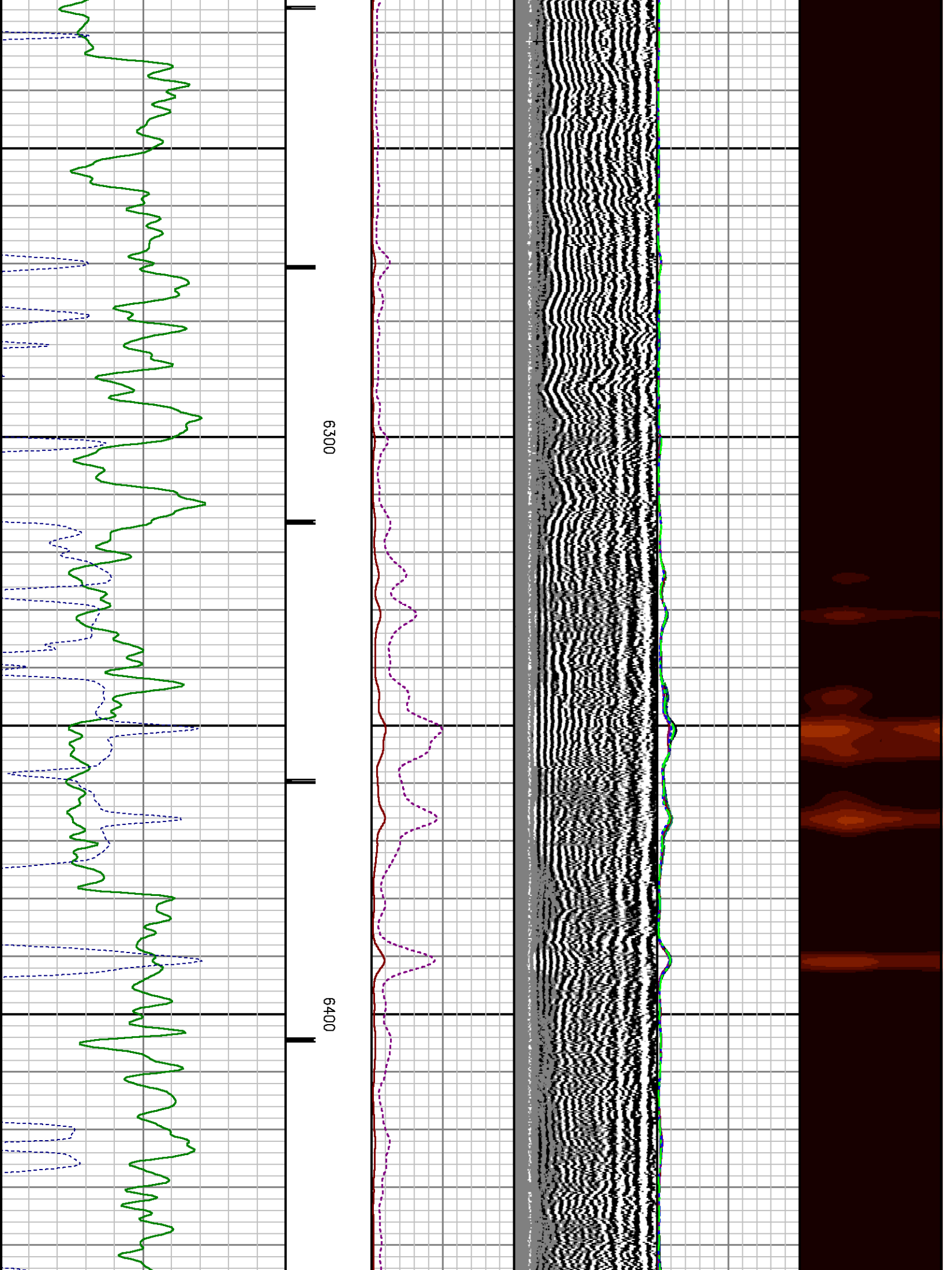


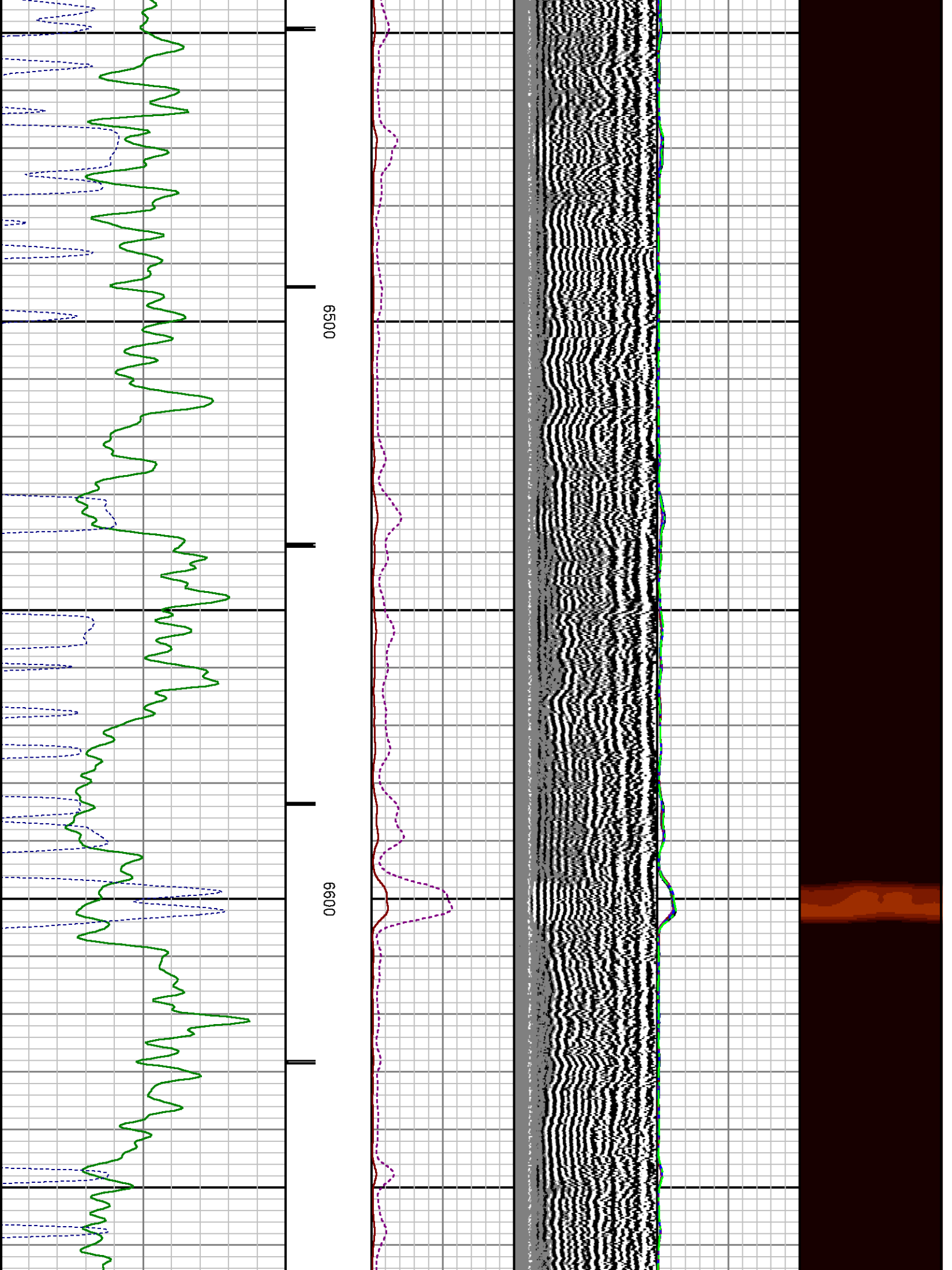


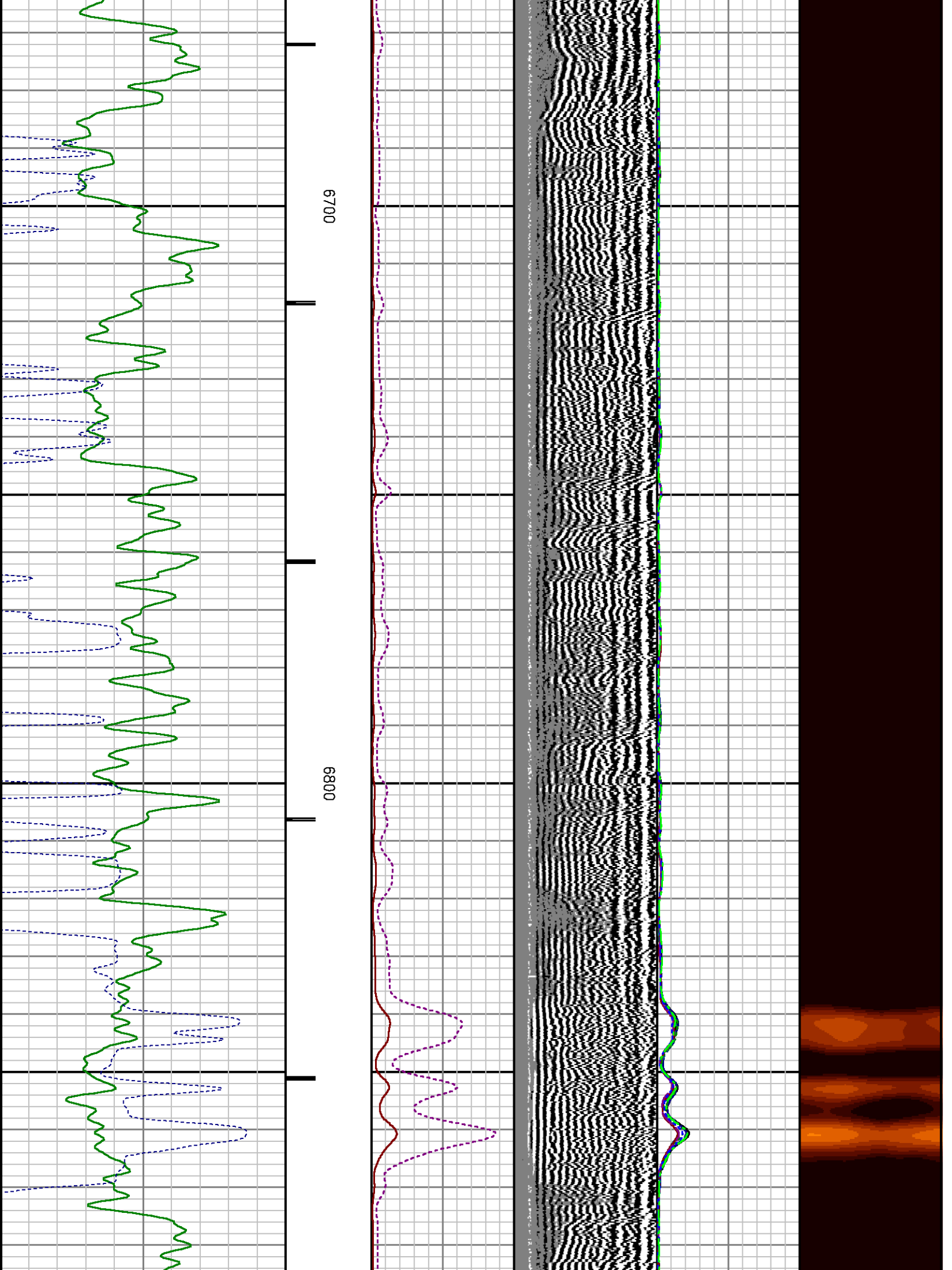


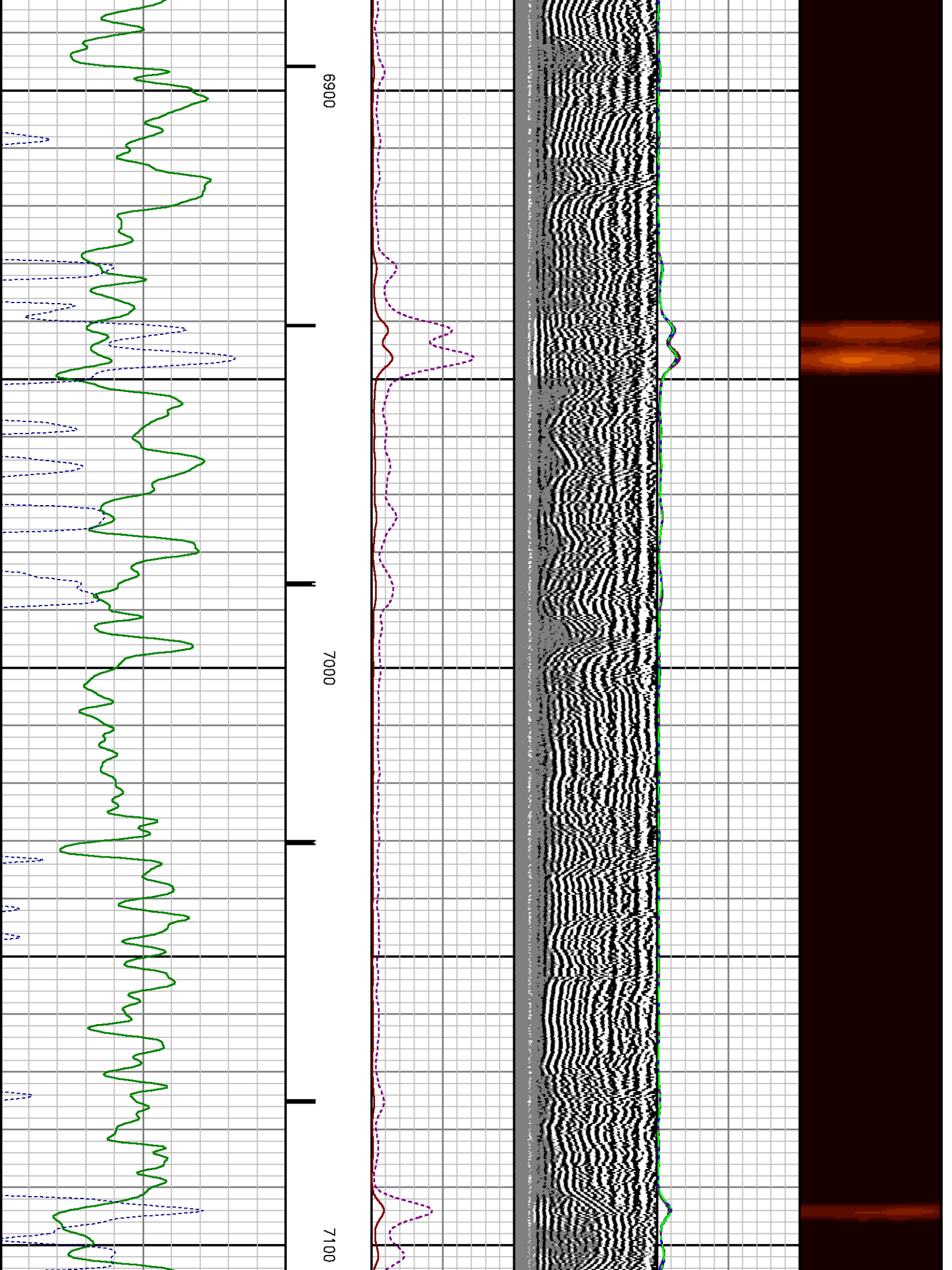


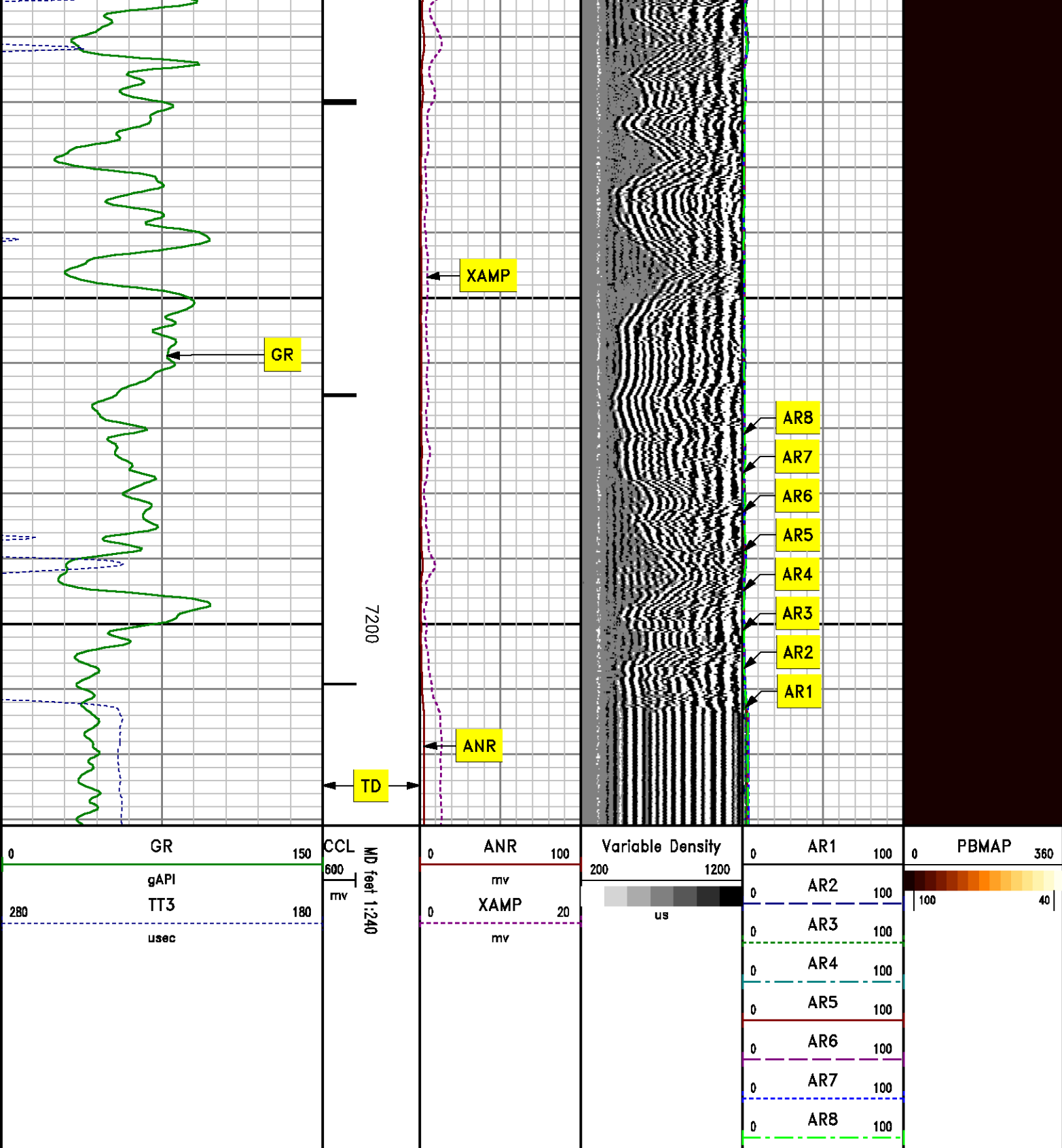












REPEAT SECTION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	316.900	usec	6813.526	7265.620
RAL	Amp Gate Start Near	200.391	usec	6813.526	7265.620
RAL	Amp Gate Start Radial	200.391	usec	6813.526	7265.620
RAL	Amp Gate Width Far	25.000	usec	6813.526	7265.620
RAL	Amp Gate Width Near	25.000	usec	6813.526	7265.620
RAL	Amp Gate Width Radial	25.000	usec	6813.526	7265.620
RAL	casing od	4.500	inches	6813.526	7265.620
RAL	casing wt	11.600	lbm/ft	6813.526	7265.620
RAL	FB Start Far	291.900	usec	6813.526	7265.620
RAL	FB Start Near	180.000	usec	6813.526	7265.620
RAL	FB Start Radial	180.000	usec	6813.526	7265.620
RAL	FB Thresh Far	15.000	mv	6813.526	7265.620
RAL	FB Thresh Near	10.000	mv	6813.526	7265.620
RAL	FB Thresh Radial	10.000	mv	6813.526	7265.620
RAL	Fluid Travel Time	200.000	usec/ft	6813.526	7265.151

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-16.750	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-15.750	AFAR	SIG	TT5			
2459XA	-11.340	CCL					
2459XA	-9.490	GR					
2459XA	-4.090	NEU					

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WILLIAMS PRODUCTION COMPANY

Well : GM 444-31

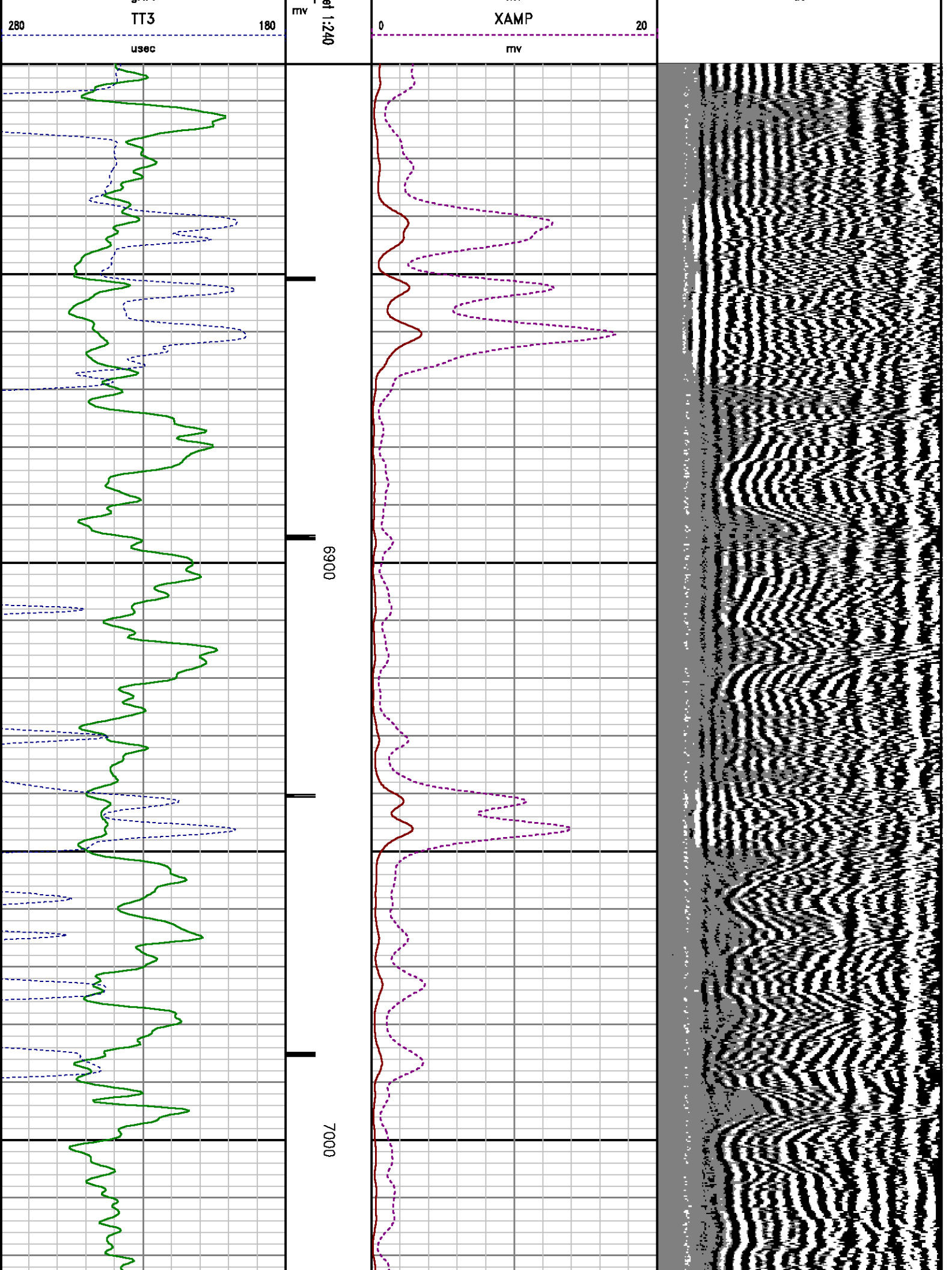
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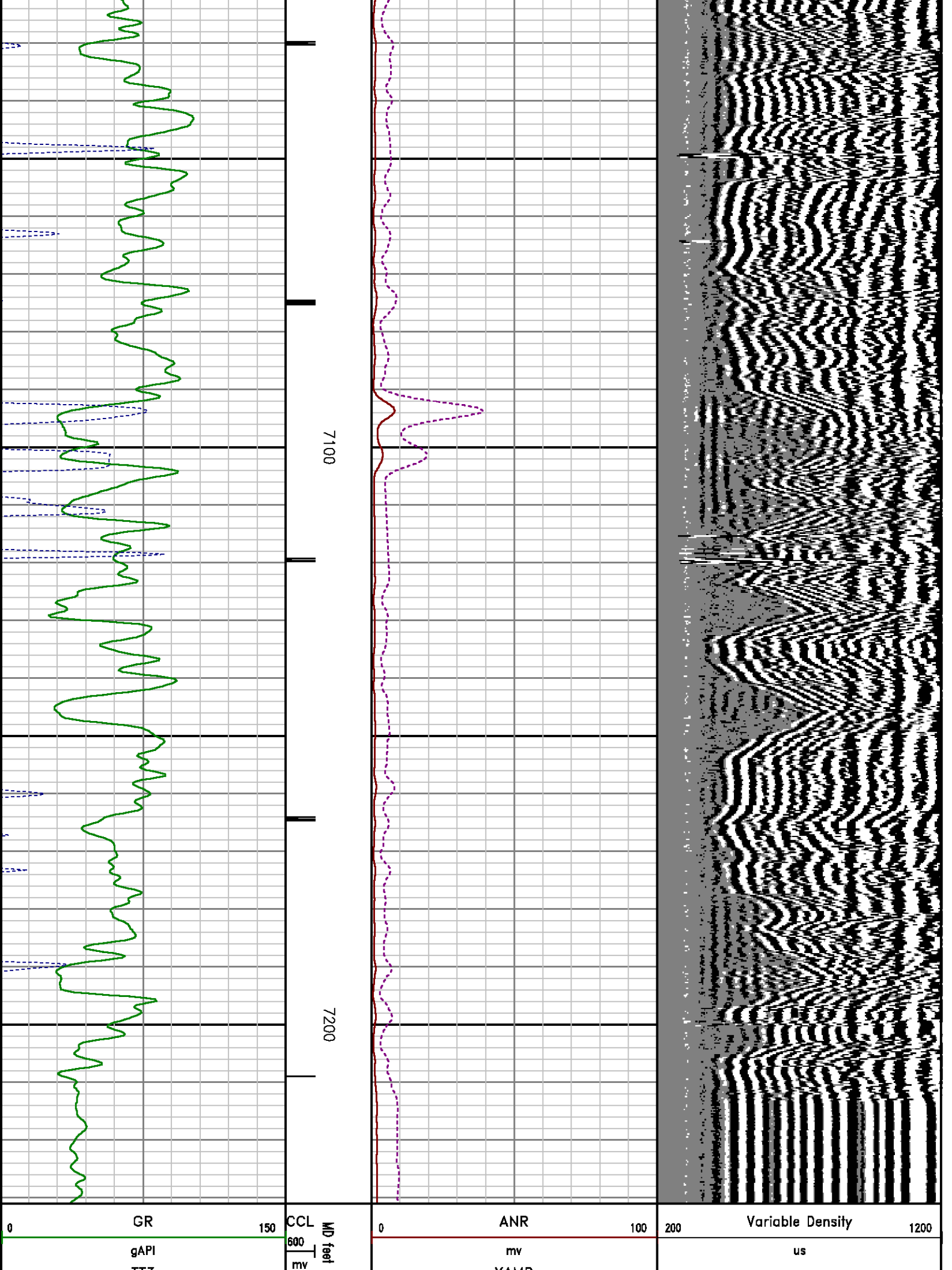
Mode : PlotMgr 5.4.504

Interval : 6813.62 - 7231.00 feet UP

Created : 2/9/2011 10:19:39 PM

0	GR	150	CCL	MD (feet)	0	ANR	100	200	Variable Density	1200
	API		600			mv			us	





280	115	180	0	XAMP	20
	u sec			mv	

CALIBRATION SUMMARY

RALSHP

Shop Calibration: C:\case\calver\RALSHP\028F3 shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Wed Feb 09 20:46:18 2011 TOOL SERIES: 1426XA ASSET: 028 SEQ: F3

Tool Delay [u sec] -62.00 Tank OD In 5.50 Tank Wt lbm/ft 15.50 Tank ID In 4.95

RECEIVER	Travel Time [u sec]	Amp. Gate Start [u sec]	Amp. Gate Width [u sec]	Zero Gate Start [u sec]	Zero Gate Width [u sec]	Zero Amp. [mV]	Amp Ref. [mV]	Shop Factor
CAL Pulse	216	216	30	166	25	-0.555	100.00	0.24
3 Ft. Receiver	215	216	30	150	25	-0.324	100.00	0.24
5 Ft. Receiver	307	316	30	220	25	0.340	150.00	0.58
Radial #1	214	216	30	149	25	-0.231	100.00	0.24
Radial #2	215	216	30	149	25	0.105	100.00	0.24
Radial #3	216	216	30	149	25	-0.146	100.00	0.24
Radial #4	216	216	30	149	25	-0.122	100.00	0.24
Radial #5	215	216	30	149	25	0.054	100.00	0.24
Radial #6	214	216	30	149	25	-0.030	100.00	0.24
Radial #7	213	216	30	149	25	0.121	100.00	0.24
Radial #8	215	216	30	149	25	-0.080	100.00	0.24

RALFLD

WellSite Calibration: C:\case\calver\RALFLD\028F3 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Wed Feb 09 20:48:31 2011 TOOL SERIES: 1426XA ASSET: 028 SEQ: F3

Tool Delay [u sec] -62.00 Casing OD In 4.50 Casing Wt lbm/ft 11.60 Casing ID In 4.00

RECEIVER	Zero Gate Start [u sec]	Zero Gate Width [u sec]	Zero Amp. [mV]	Full Amp. [mV]	Wellsite Factor	Amp. Ref [mV]
CAL Pulse	166	25	-0.114	0.000	1.00	100.000

3 Ft. Receiver	200	25	-1.372
5 Ft. Receiver	317	25	-2.978
Radial #1	200	25	-1.586
Radial #2	200	25	-1.405
Radial #3	200	25	-1.609
Radial #4	200	25	-1.563
Radial #5	200	25	-1.615
Radial #6	200	25	-1.594
Radial #7	200	25	-1.790
Radial #8	200	25	-1.492

GAMMA RAY

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

CALIBRATION SUMMARY

DATE/TIME PERFORMED:	Tue Feb 01 13:31:16 2011	TOOL SERIES:	2459XA	ASSET:	503	SEQ:	F1
Calibrator #	Background	Calibrator On	Multiplicative	Background	Calibrator On	Differential	
	[cps]	[cps]		[api]	[api]	[api]	
S2K WA612	81.42	366.98	0.648	52.75	237.75	185.00	

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

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED:	Tue Feb 01 13:40:09 2011	TOOL SERIES:	2459XA	ASSET:	503	SEQ:	F1
Calibrator #	Background	Calibrator On	Multiplicative	Background	Calibrator On	Differential	
	[cps]	[cps]		[api]	[api]	[api]	
S2K WA612	73.78	353.11	0.648	47.80	228.77	180.97	

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



24.23'

XMIT 18.05'

Measure Point	2.67' NEAR RCVR
Measure Point	5.75' XMIT
Temp Rating	350.00 °F
Press Rating	18000.00 PSI

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"



Baker Atlas

CASE

Company

WILLIAMS PRODUCTION COMPANY

Well

GM 444-31

Field

GRAND VALLEY

County

GARFIELD

State

COLORADO

Location

SHL: 2234' FSL & 1629' FEL

BHL: 149' FSL & 995' FEL

SEC 31 TWP 6S RGE 96W

Elevations

KB 6124 ft

DF 6123 ft

GL 6100 ft

File No:

CH029310

API No:

05045194330000

31 6S 96W

GM 333-31 PAD

H&P 278