



RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: CH073164	Company Well Field County	WPX ENERGY DUGGAN RWF 324-29 RULISON GARFIELD	State COLORADO
API No: 05045216590000			
Location 29 6S 94W RWF 14-29 NABORS SSD 573	SHL: 538' FSL & 599' FWL BHL: 973' FSL & 2015' FWL SEC 29 TWP 6S RGE 94W	Other Services N/A	
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	09/JUN/13	
Run	ONE	
Service Order	575096	
Depth Driller	8052 ft	
Depth Logger	7894 ft	
Bottom Logged Interval	7884 ft	
Top Logged Interval	26 ft	
Time Started	7:00	
Time Finished	12:00	
Operator Rig Time	5 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	N/A	
Salinity	N/A	
Fluid Level	22 ft	
Logged Cement Top	N/A	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	N/A	
Nominal Logging Speed	45 fpm	
Maximum Recorded Temperature	222 degF	
Reference Log	BAKER HUGHES HDIL LOG	
Reference Log Date	23/MAY/13	
Equipment No.	4271	GRAND JUNCTION
Recorded By	W. KINSEL	9721
Witnessed By	MR. BOB CADY	GRAND JUNCTION

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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	1133 ft
8.75 In	0 ft	8119 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	8052 ft

Remarks
ALL DATA IN THIS LOG WAS DEPTH SHIFTED TO MATCH A BAKER HUGHES HDIL LOG DATED 23 MAY 2013 AT THE CLIENT'S REQUEST. THE AMOUNT OF LINEAR SHIFT WAS 4 FEET DOWN. DEPTH SHIFTING PROCESS CREATES THE POTENTIAL FOR COLLAR LENGTHS TO VARY FROM OTHER CASED HOLE LOGS WITHOUT A GAMMA RAY REFERENCE. SHORT JOINT: 4384' - 4408' BHT: 222 degF

LOG DONE WITH 0 PSI ON WELLHEAD

TAGGED BOTTOM AT 7894', EXPECTED PBTD WAS 8052'

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	VDL	1426XA	10124106	CENTRALIZED
1	1	GAMMA RAY/CCL	1355XA	10580209	CENTRALIZED

MAIN LOG PRIMARY PRESENTATION

0 PSI

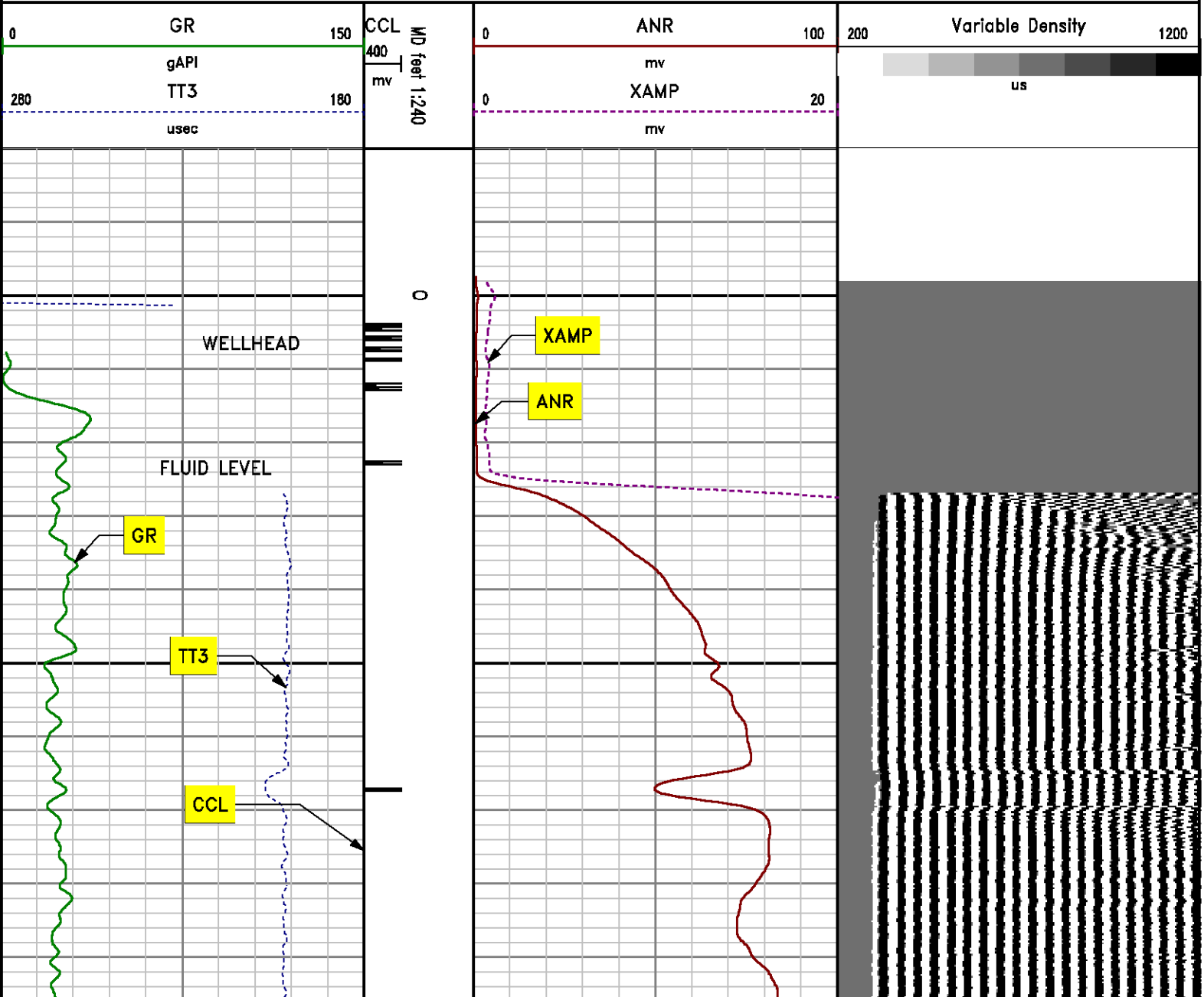
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	307.440	usec	24.281	7915.000
RAL	Amp Gate Start Near	199.015	usec	24.281	7915.000
RAL	Amp Gate Start Radial	199.599	usec	24.281	7915.000
RAL	Amp Gate Width Far	25.000	usec	24.281	7915.000
RAL	Amp Gate Width Near	25.000	usec	24.281	7915.000
RAL	Amp Gate Width Radial	25.000	usec	24.281	7915.000
RAL	casing od	4.500	inches	24.281	7915.000
RAL	casing wt	11.600	lbm/ft	24.281	7915.000
RAL	FB Start Far	291.900	usec	24.281	7915.000
RAL	FB Start Near	175.391	usec	24.281	7915.000
RAL	FB Start Radial	175.391	usec	24.281	7915.000
RAL	FB Thresh Far	10.000	mv	24.281	7915.000
RAL	FB Thresh Near	4.000	mv	24.281	7915.000
RAL	FB Thresh Radial	4.000	mv	24.281	7915.000
RAL	Fluid Travel Time	200.000	usec/ft	24.281	7914.875

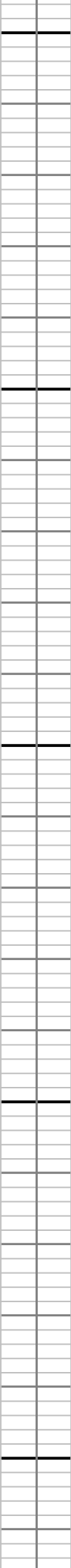
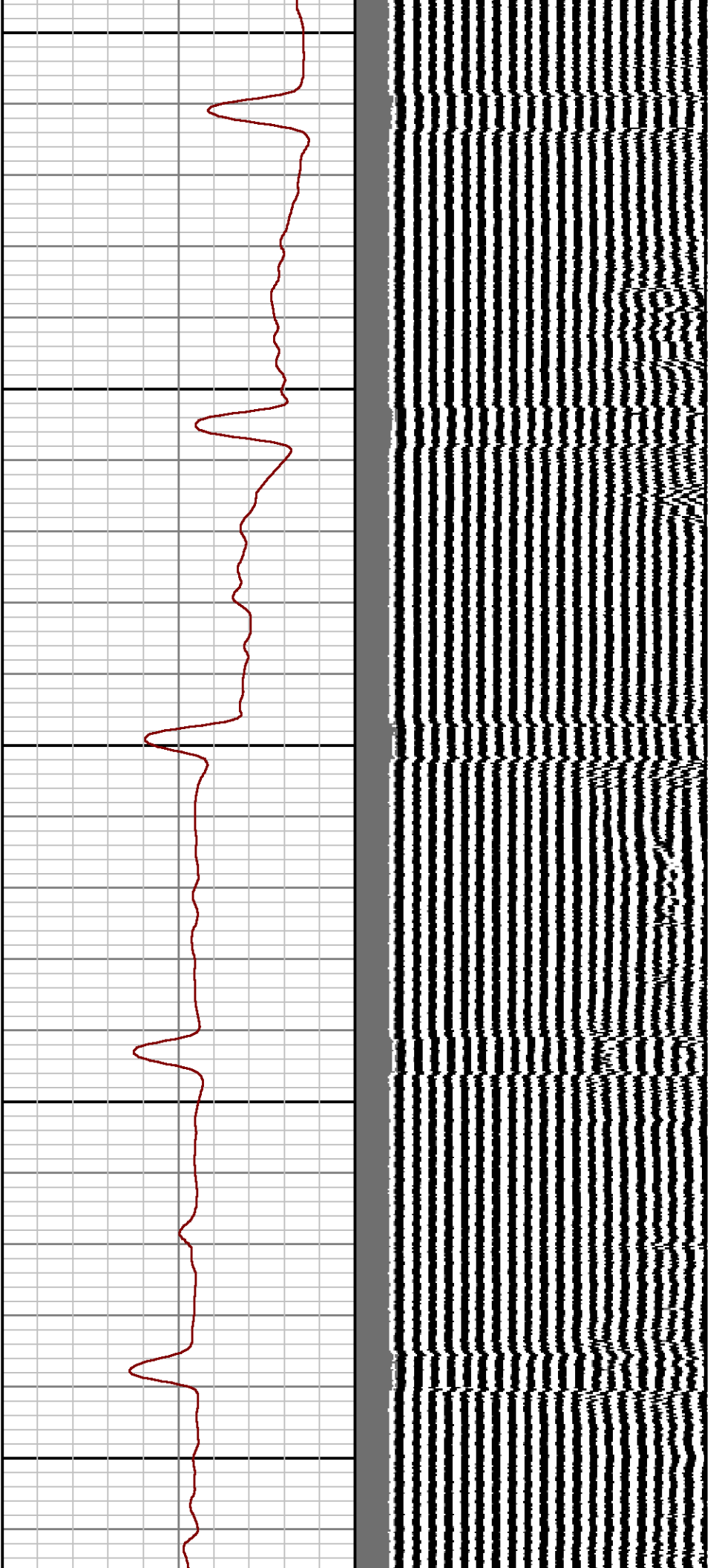
DEPTH OFFSETS

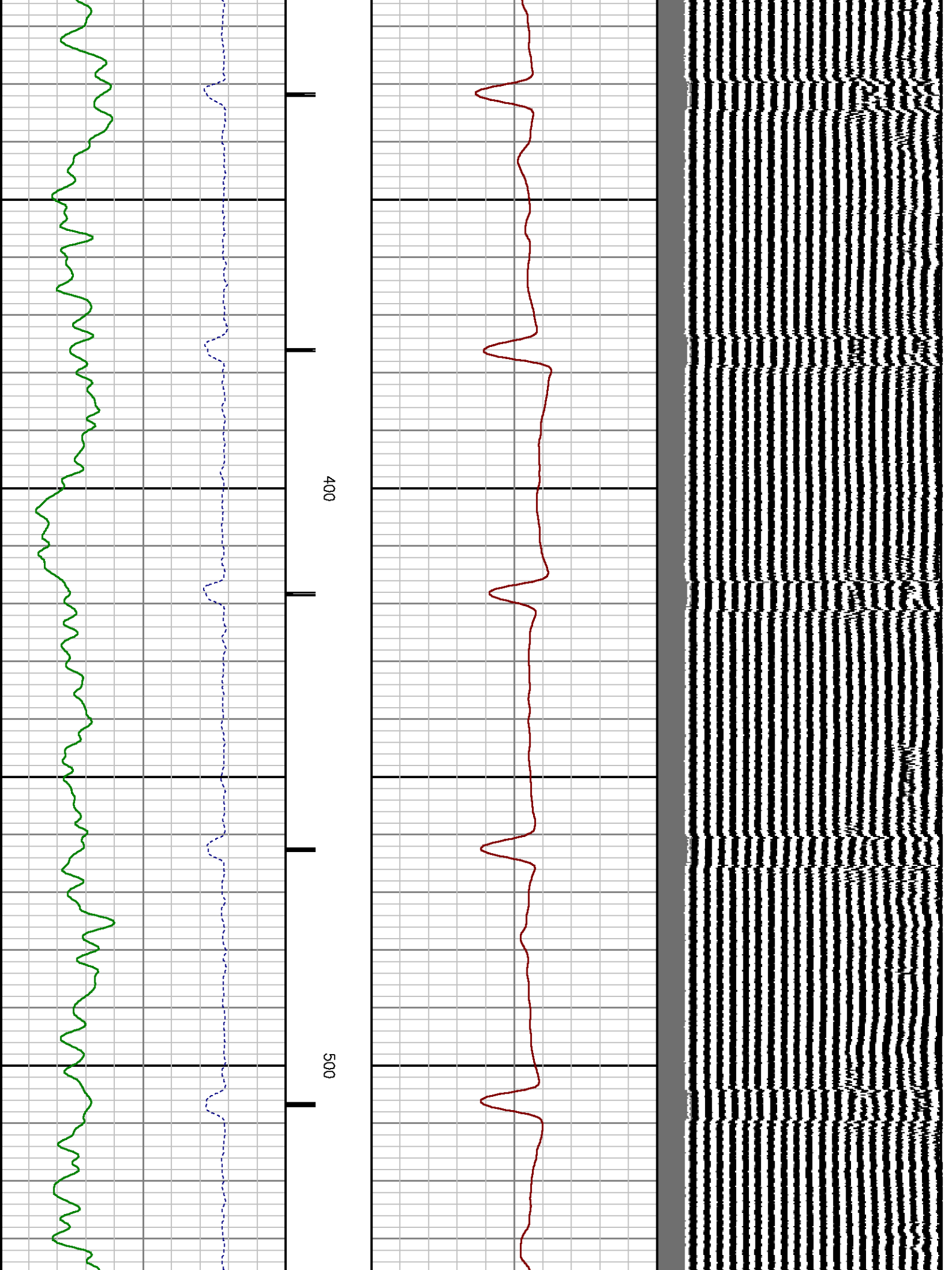
(for Acquired Curves)

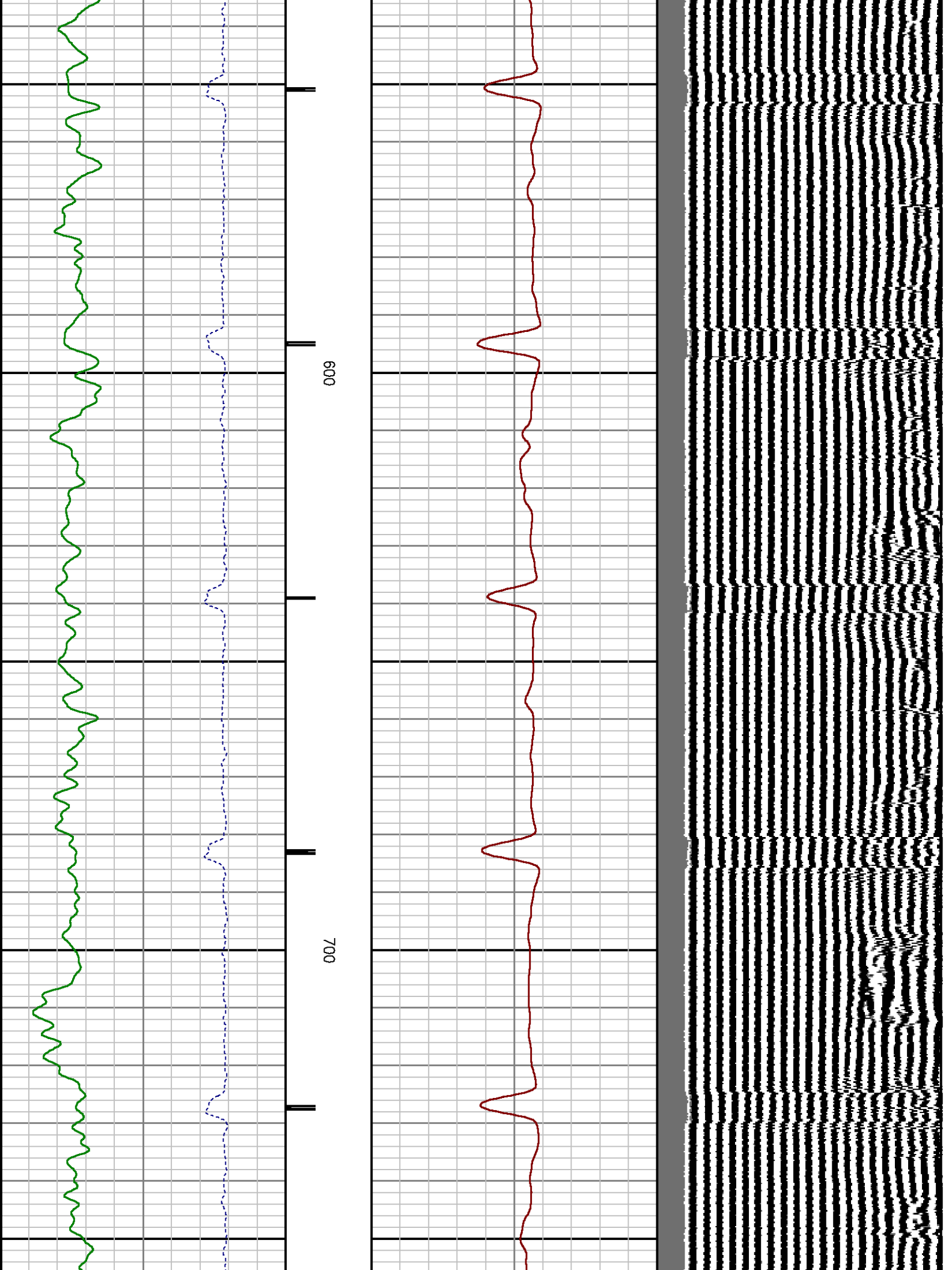
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			AR5	AR6	AR7	AR8	CHV	FPR2
			FPR3	FPR5	TT3	TTR1	TTR2	TTR3
			TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-10.040		AFAR	SIG	TT5			
1355XA	-5.620		CCL					
1355XA	-1.500		GR					
1355XA	0.000		TEMP					

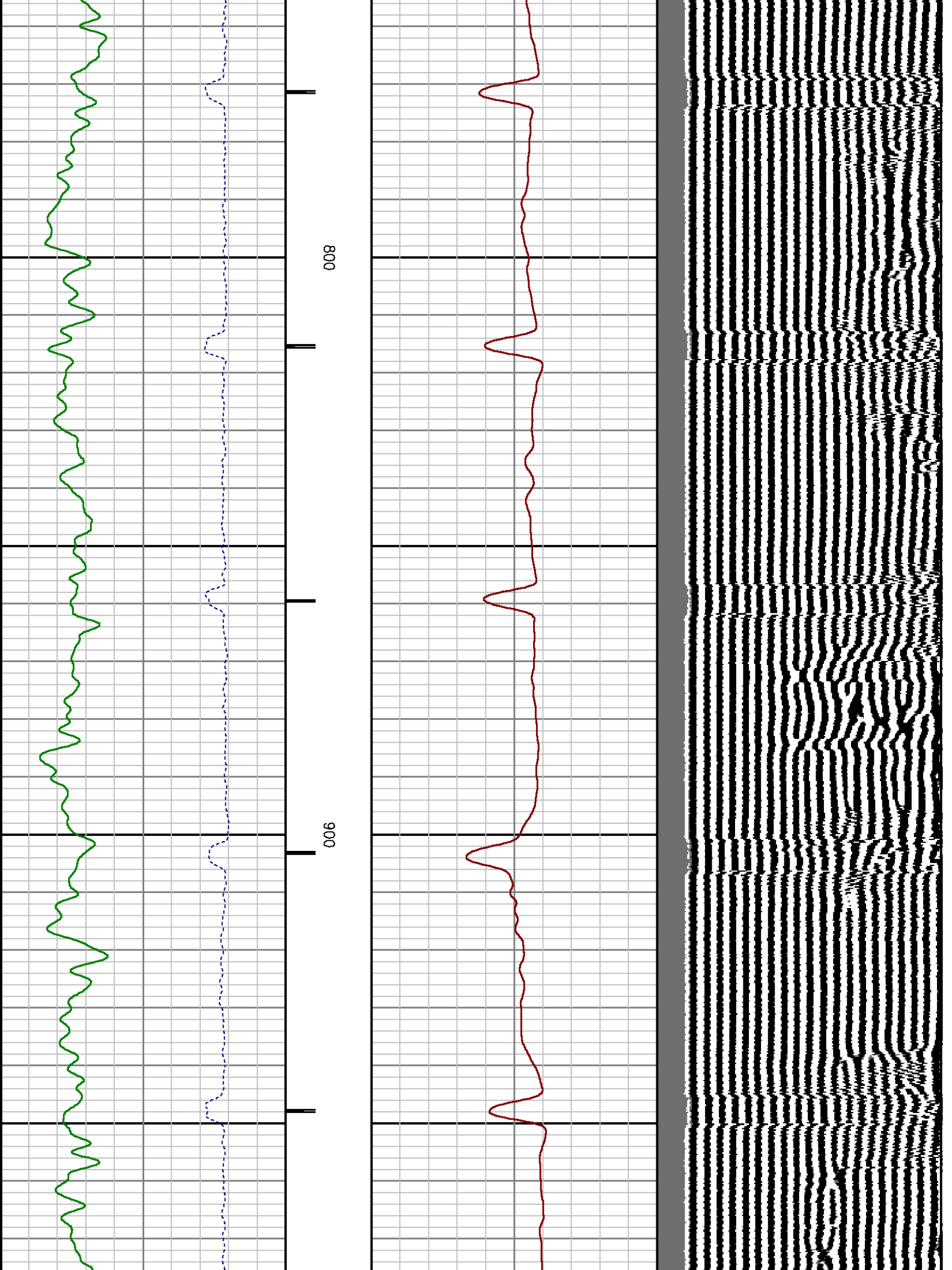
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 Plotted by : PlotMgr, v5.4.504
 Company : WPX ENERGY
 Well : DUGGAN RWF 324-29
 File Name : d:\welldata\324cbl\main.xtf
 Mode : PlotMgr 5.4.504
 Interval : -20.00 - 7900.00 feet UP
 Created : 6/9/2013 9:23:38 AM

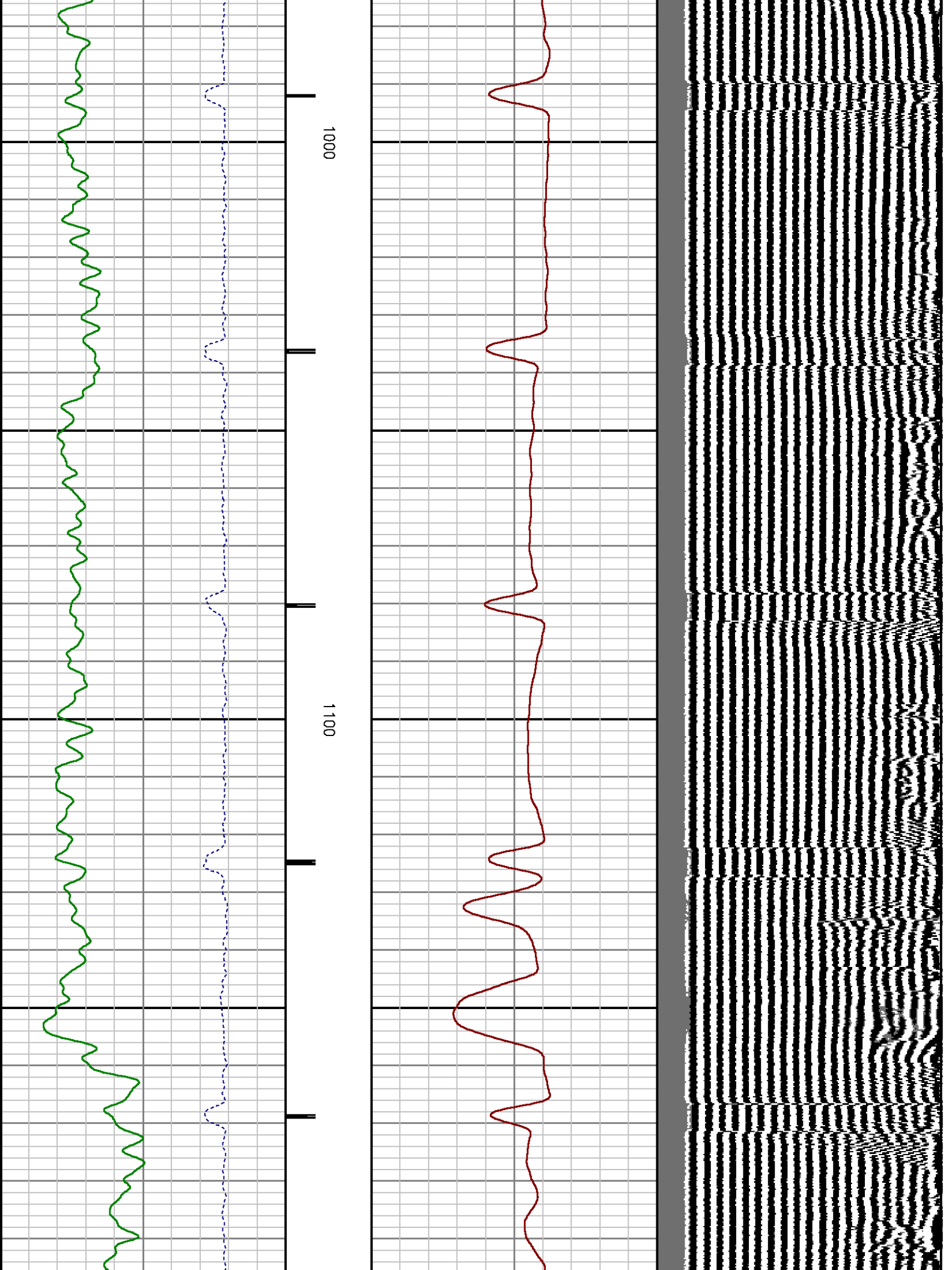


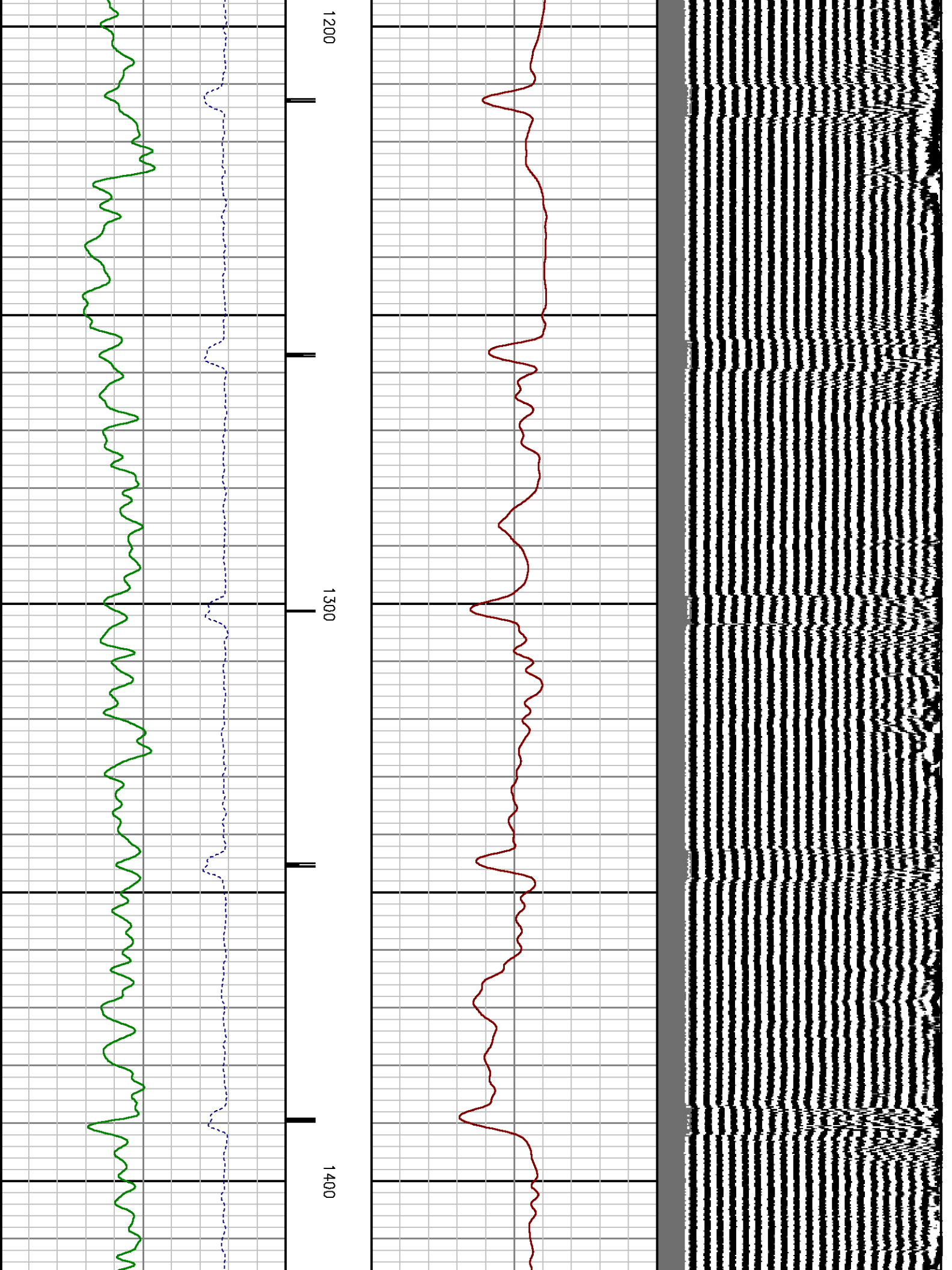


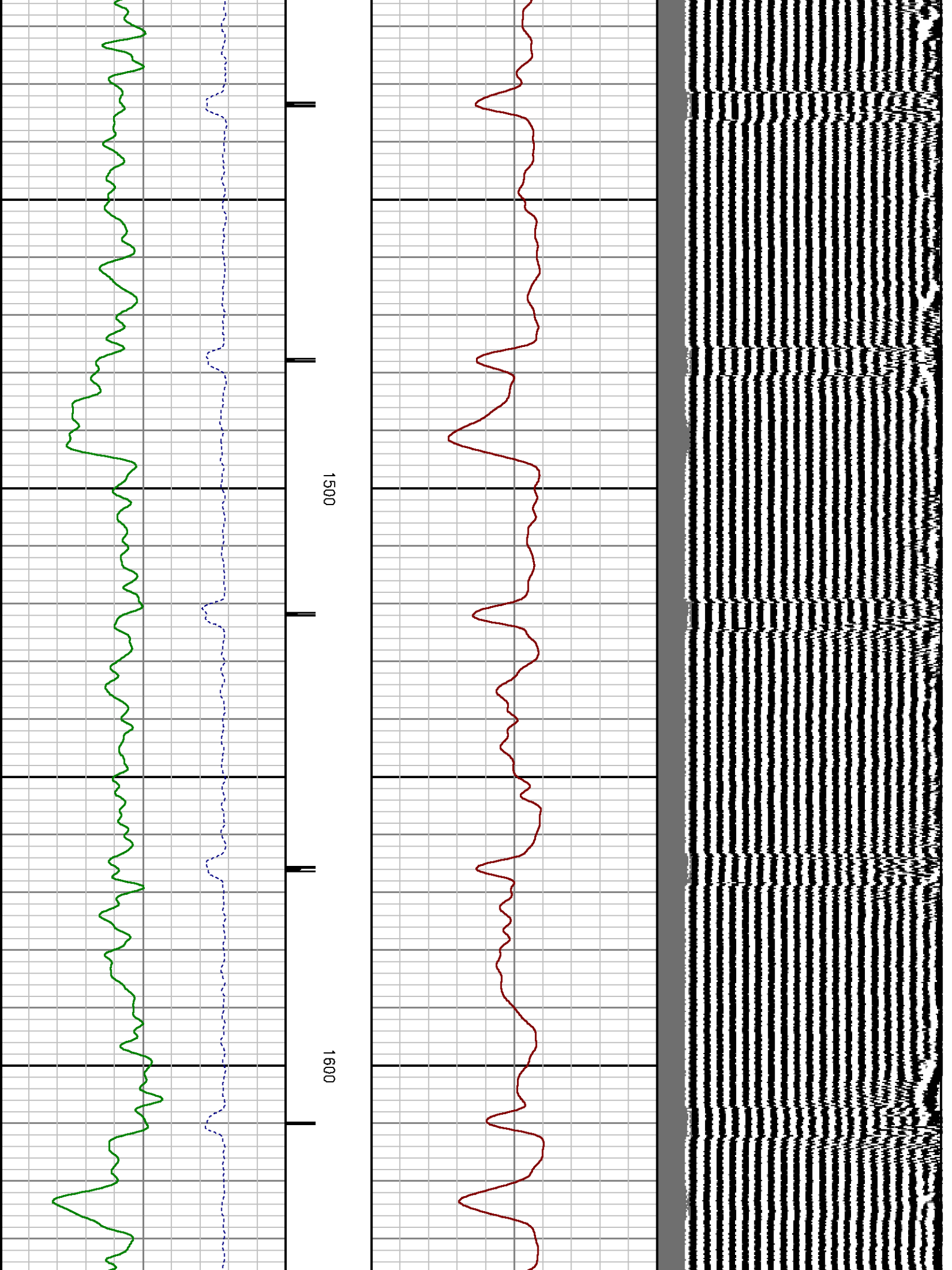


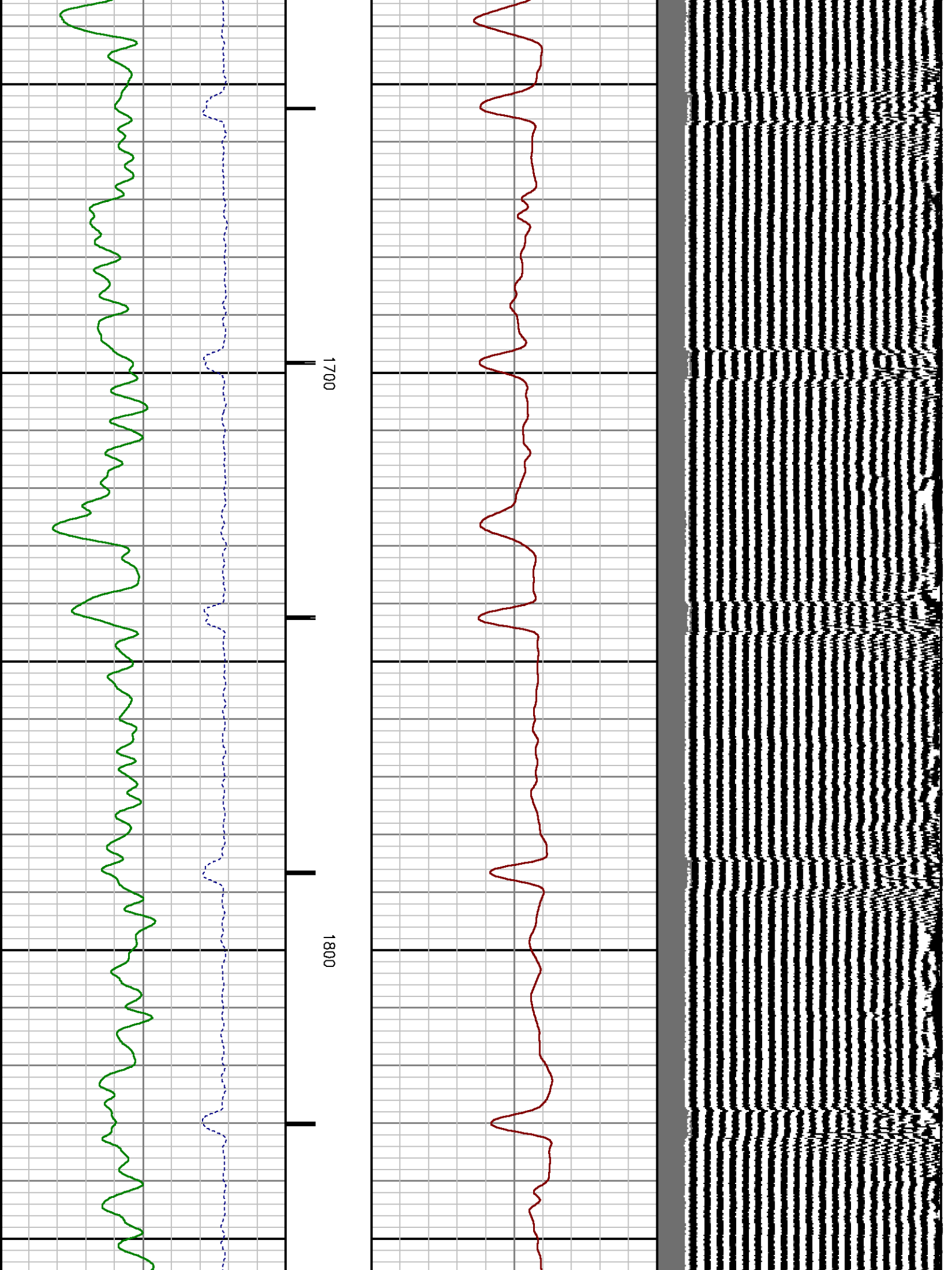


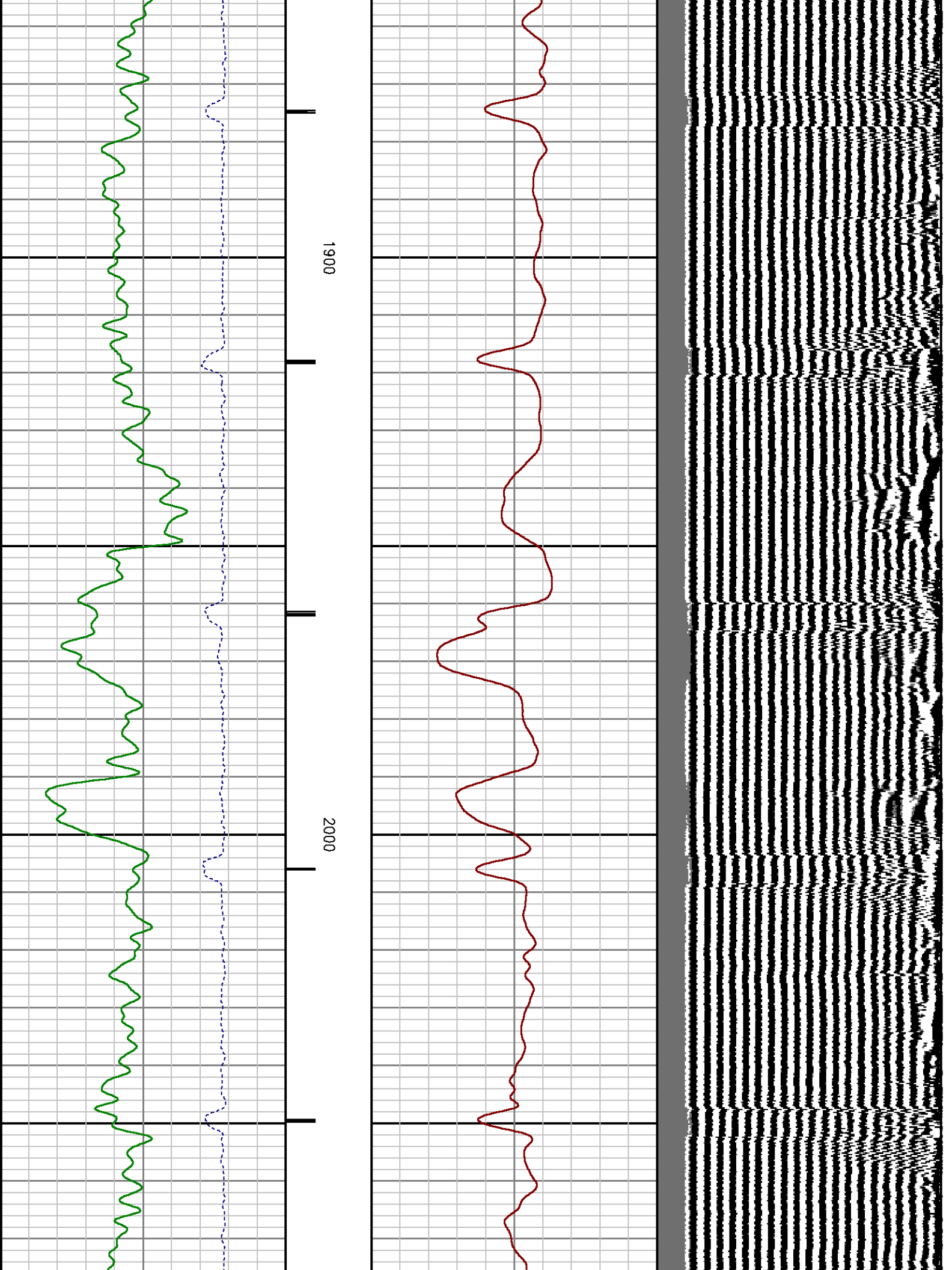


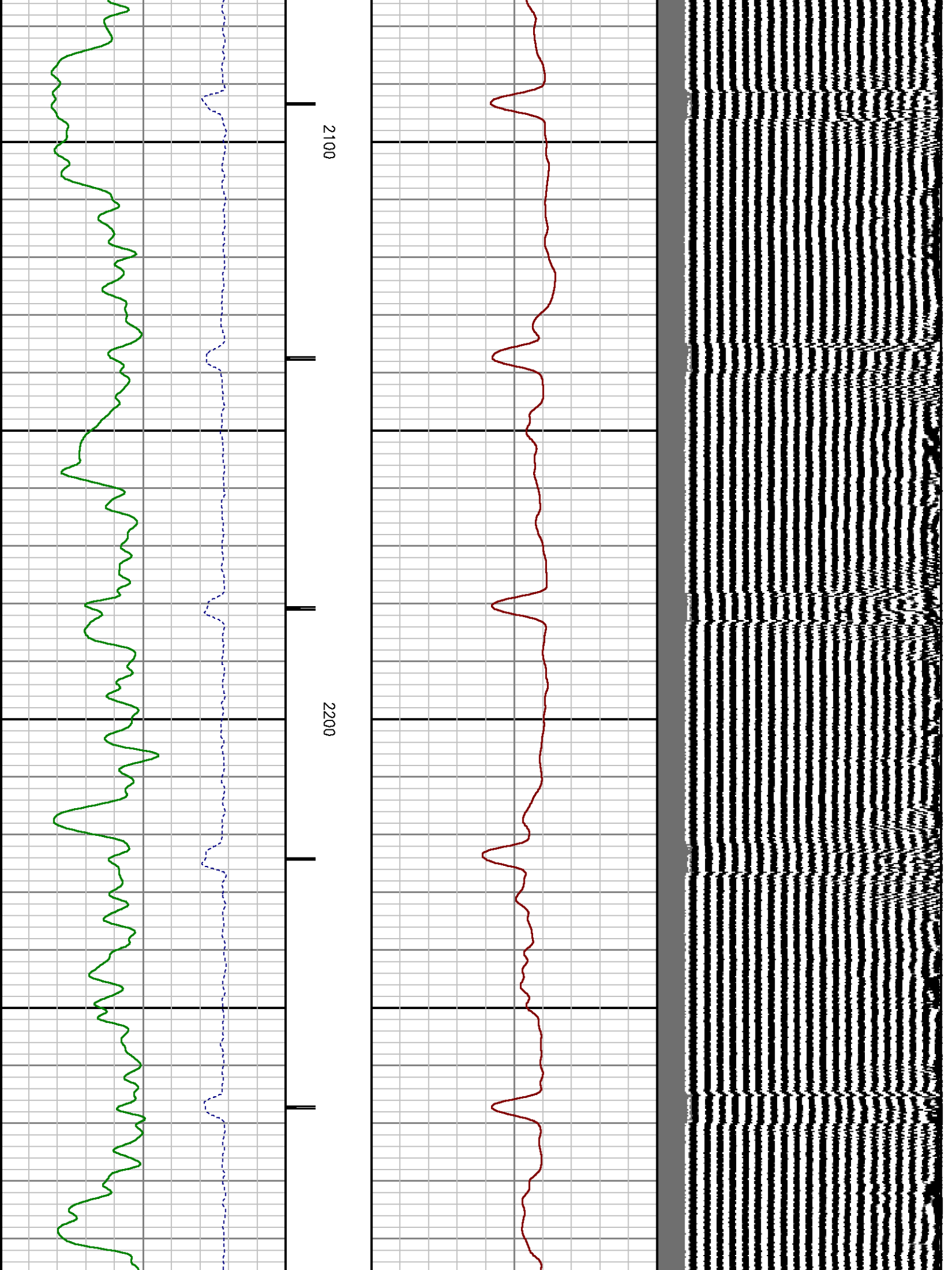


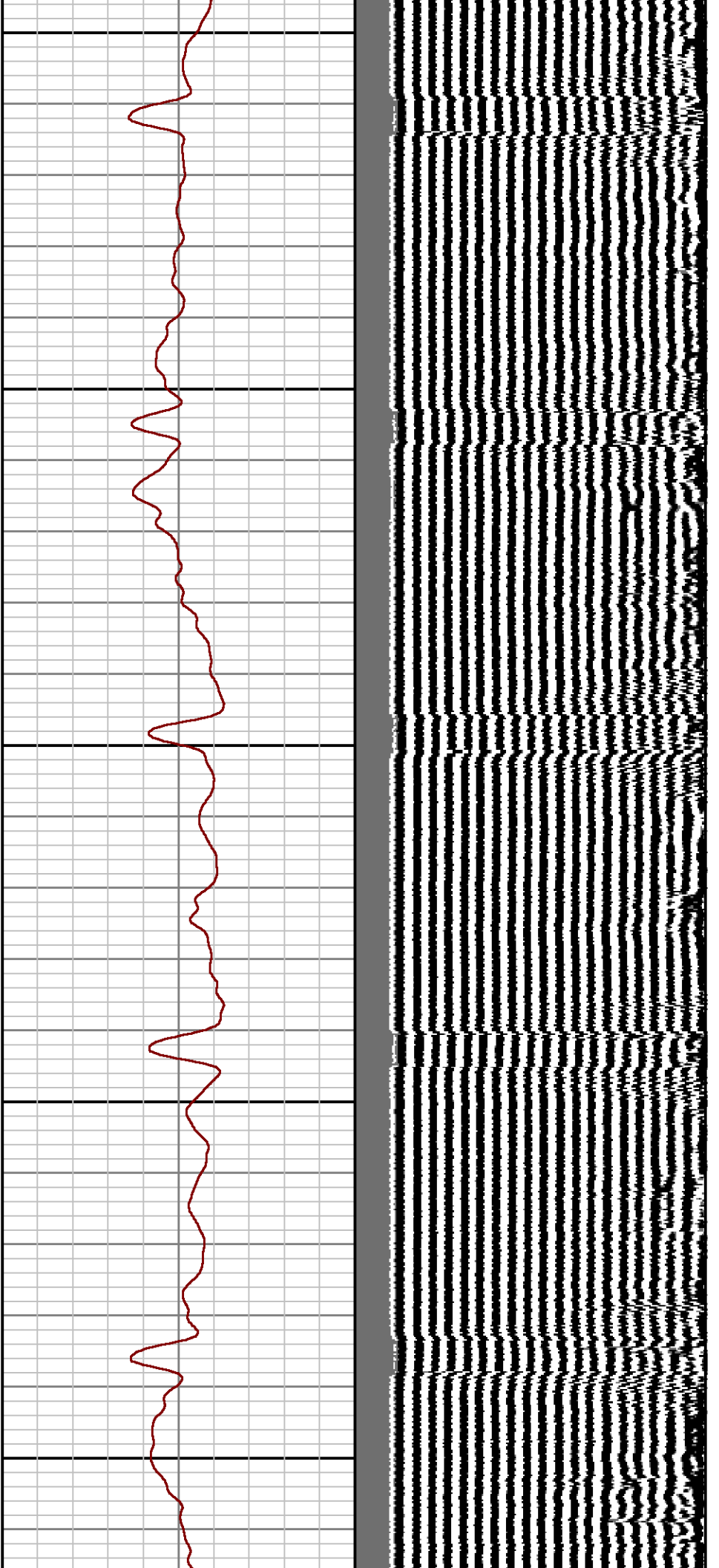








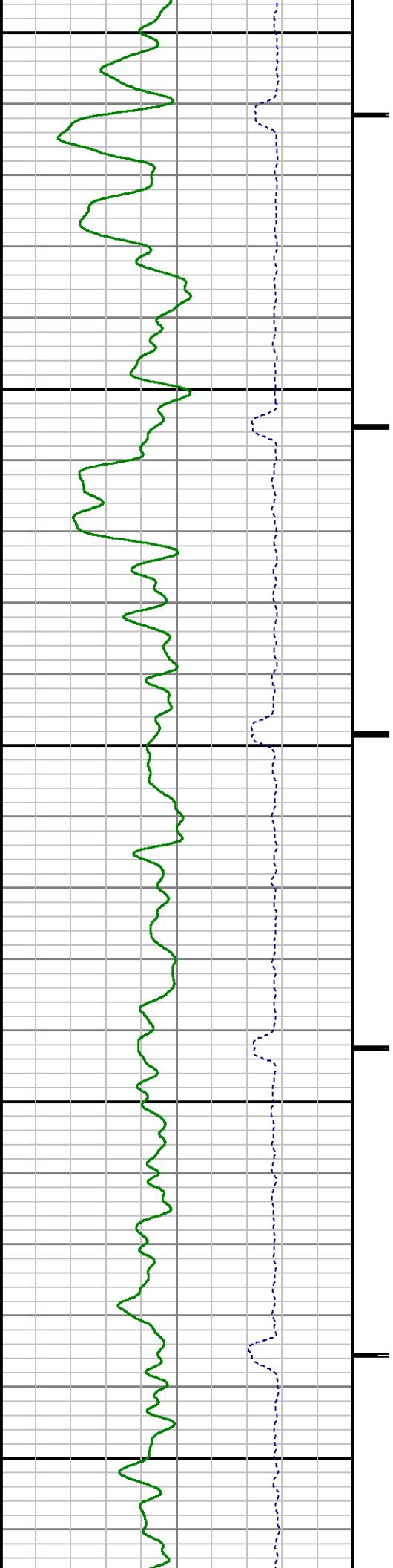


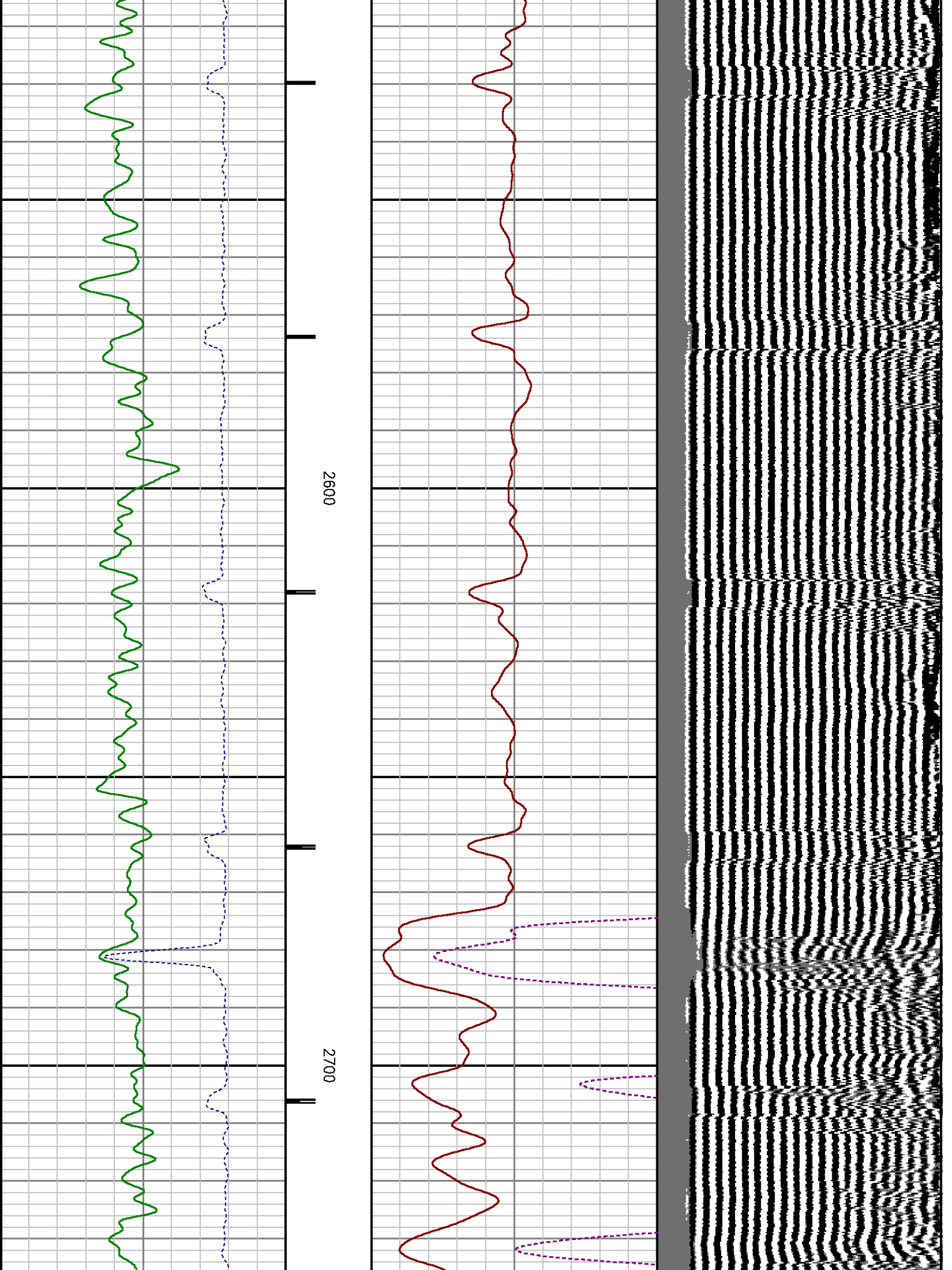


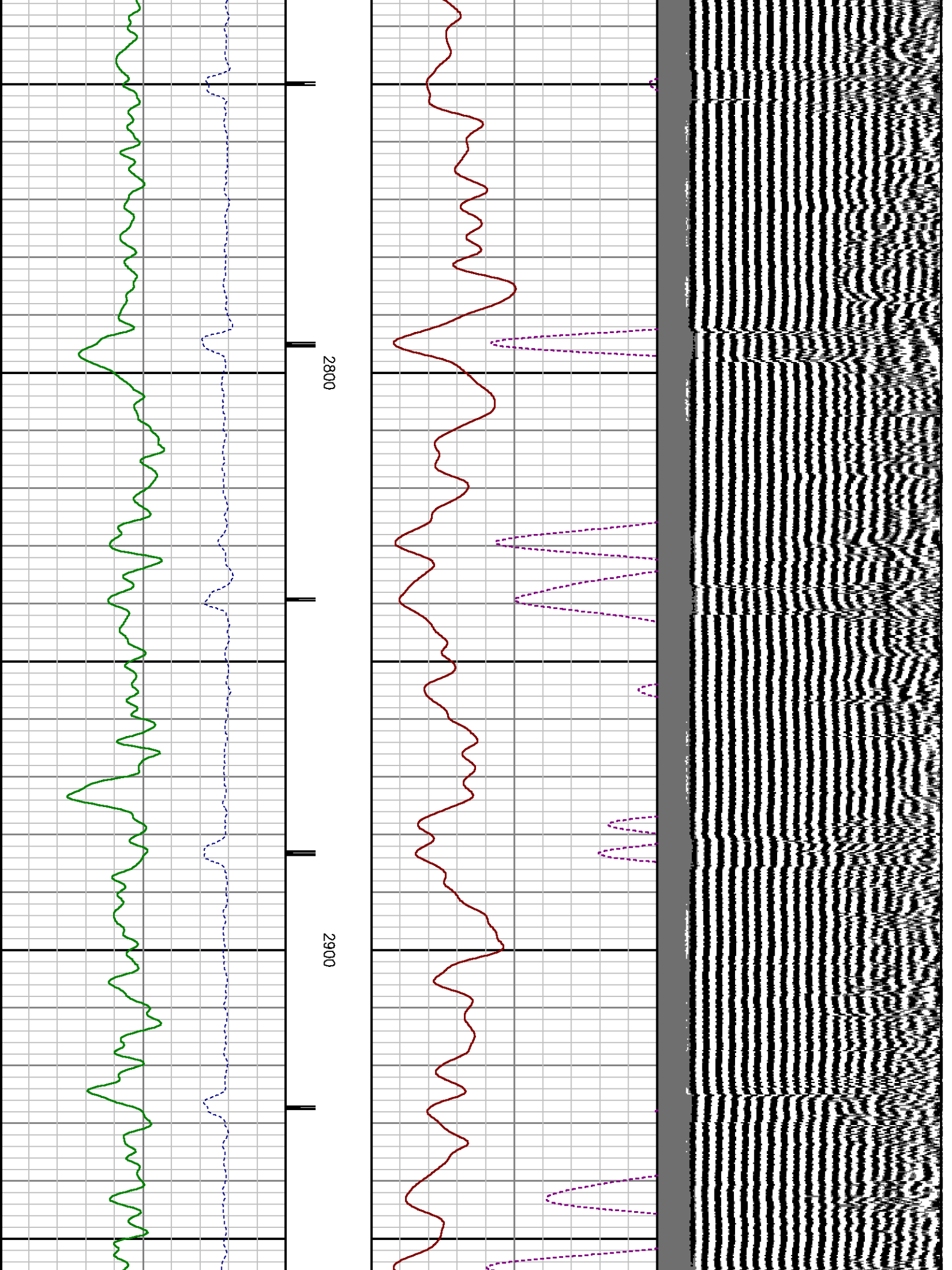
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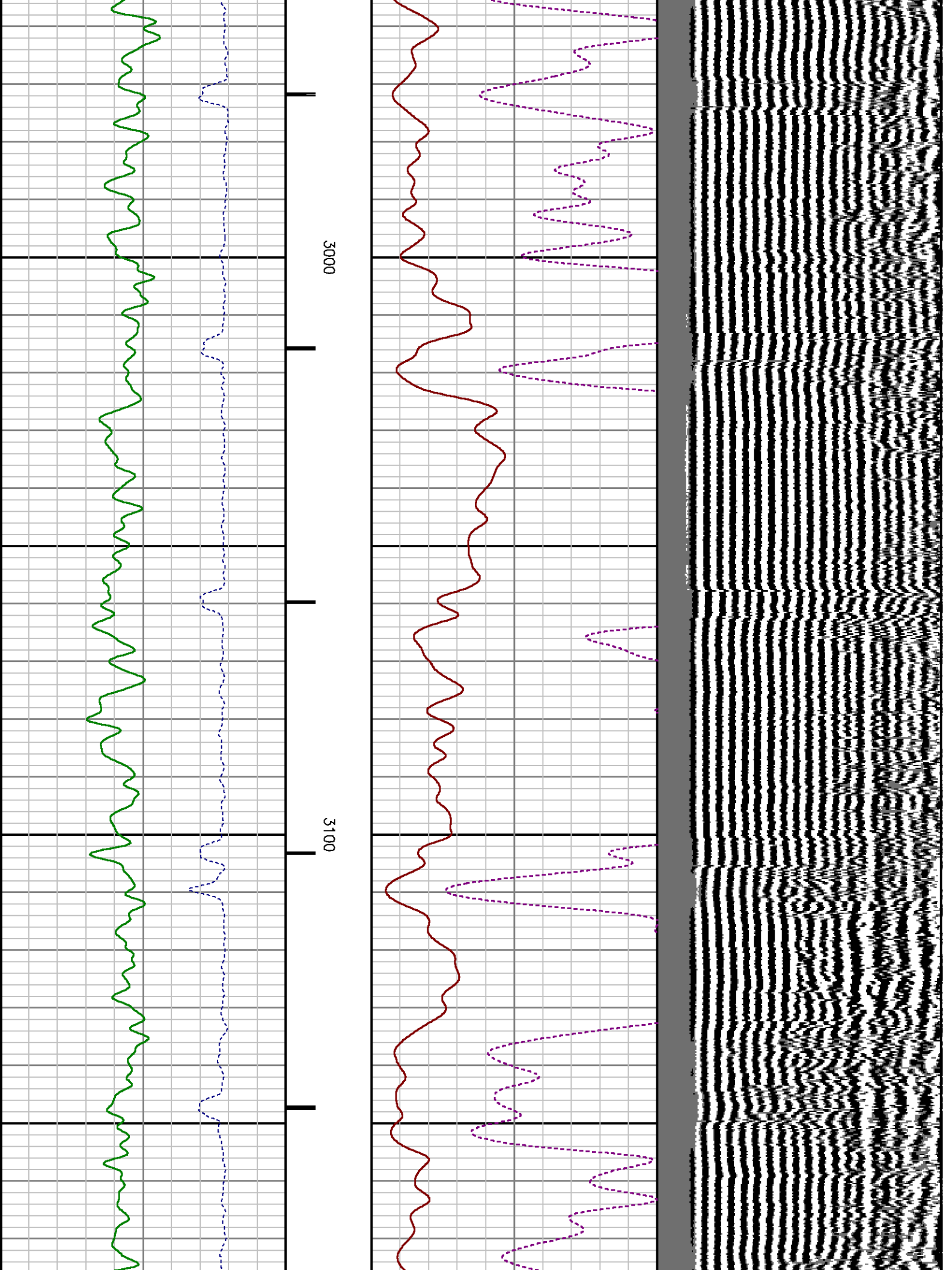
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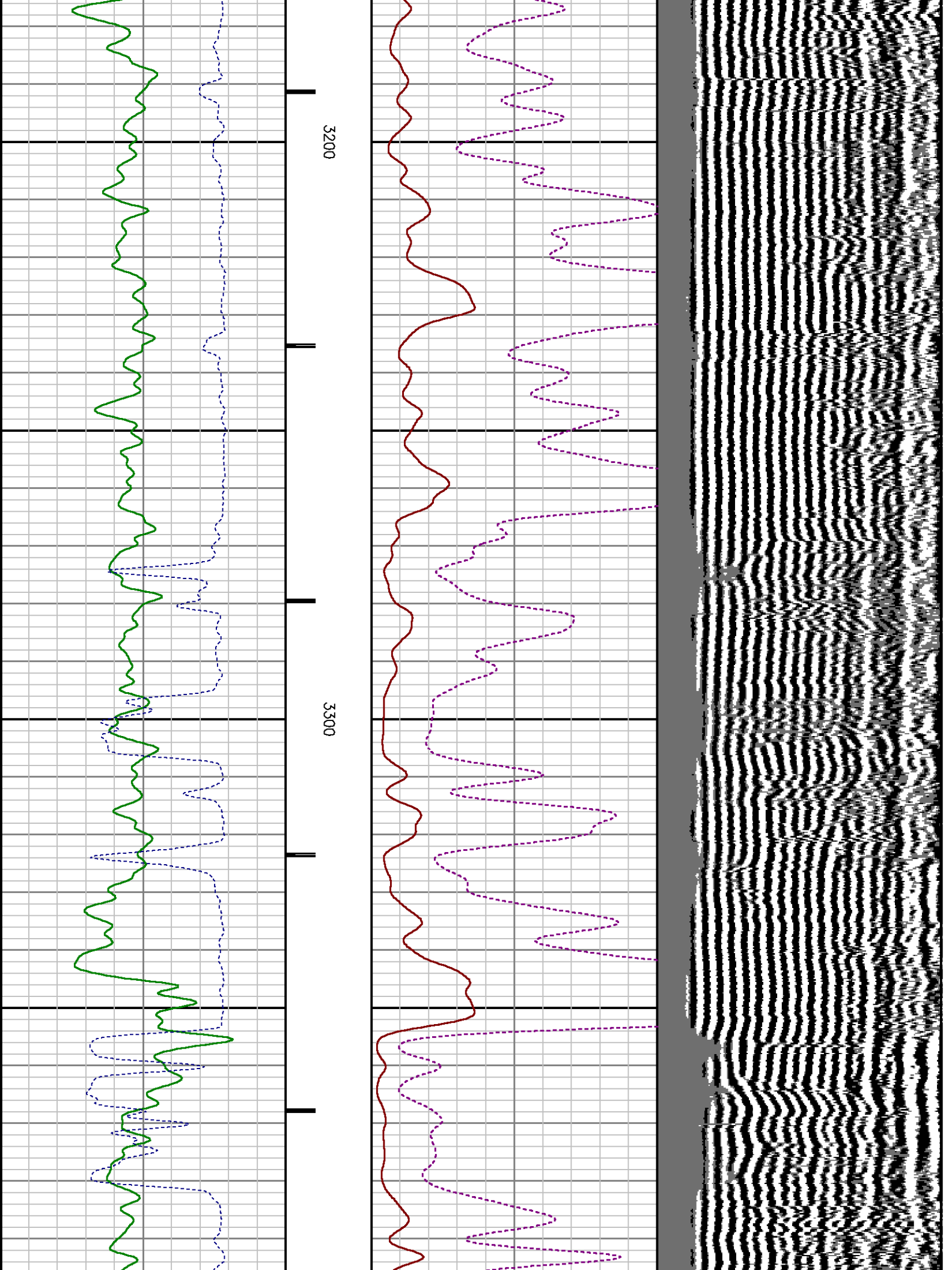
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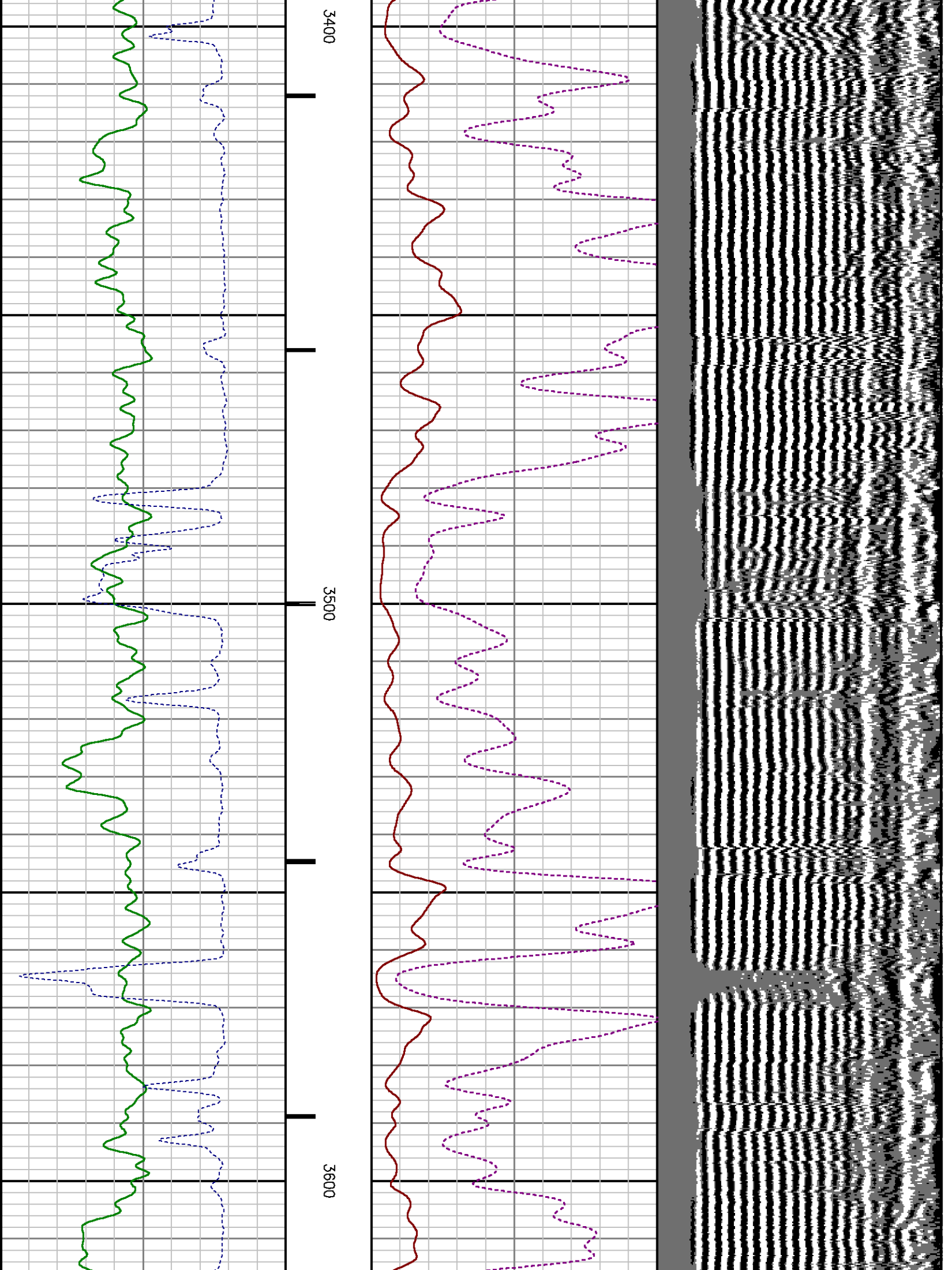


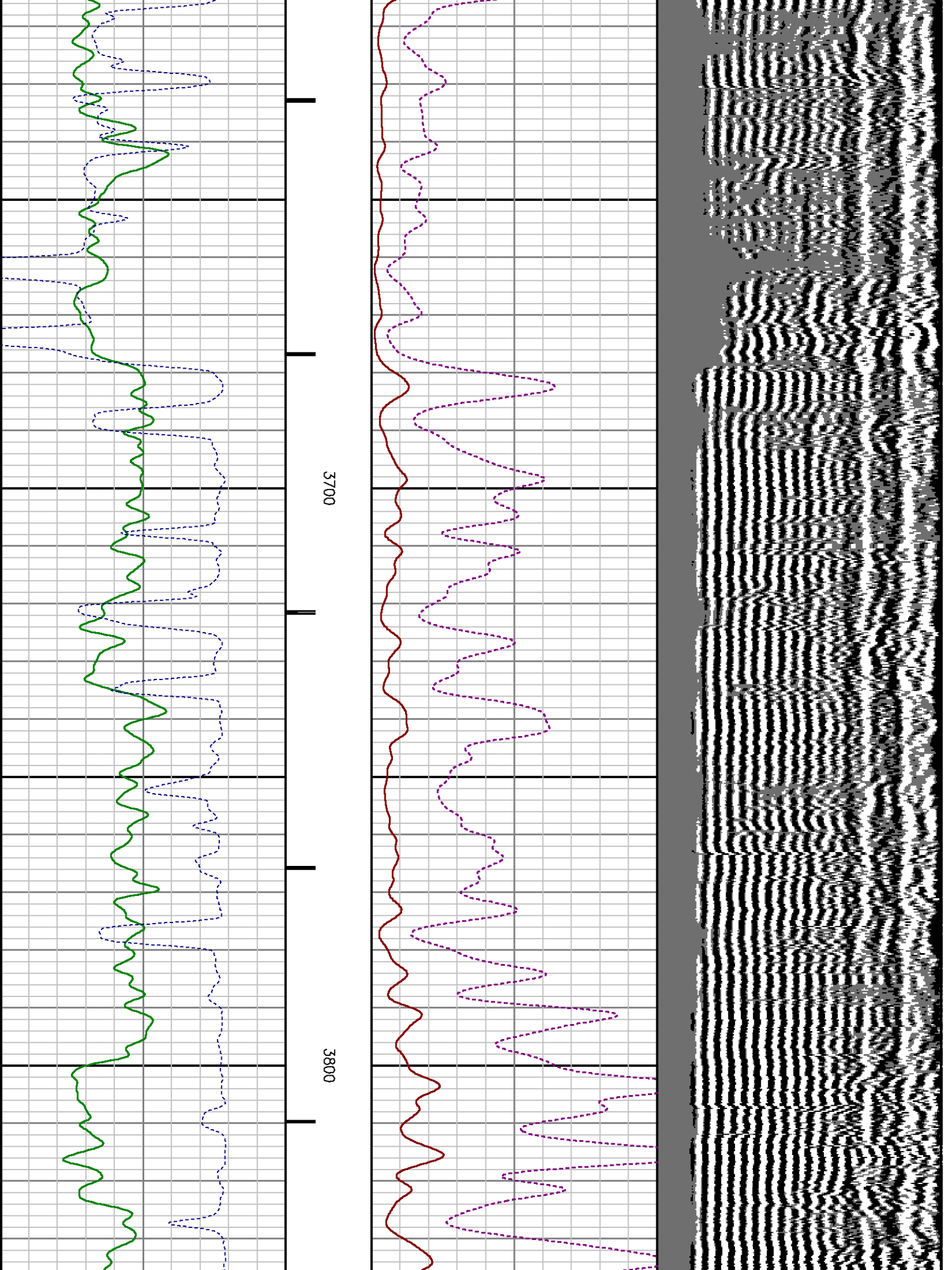


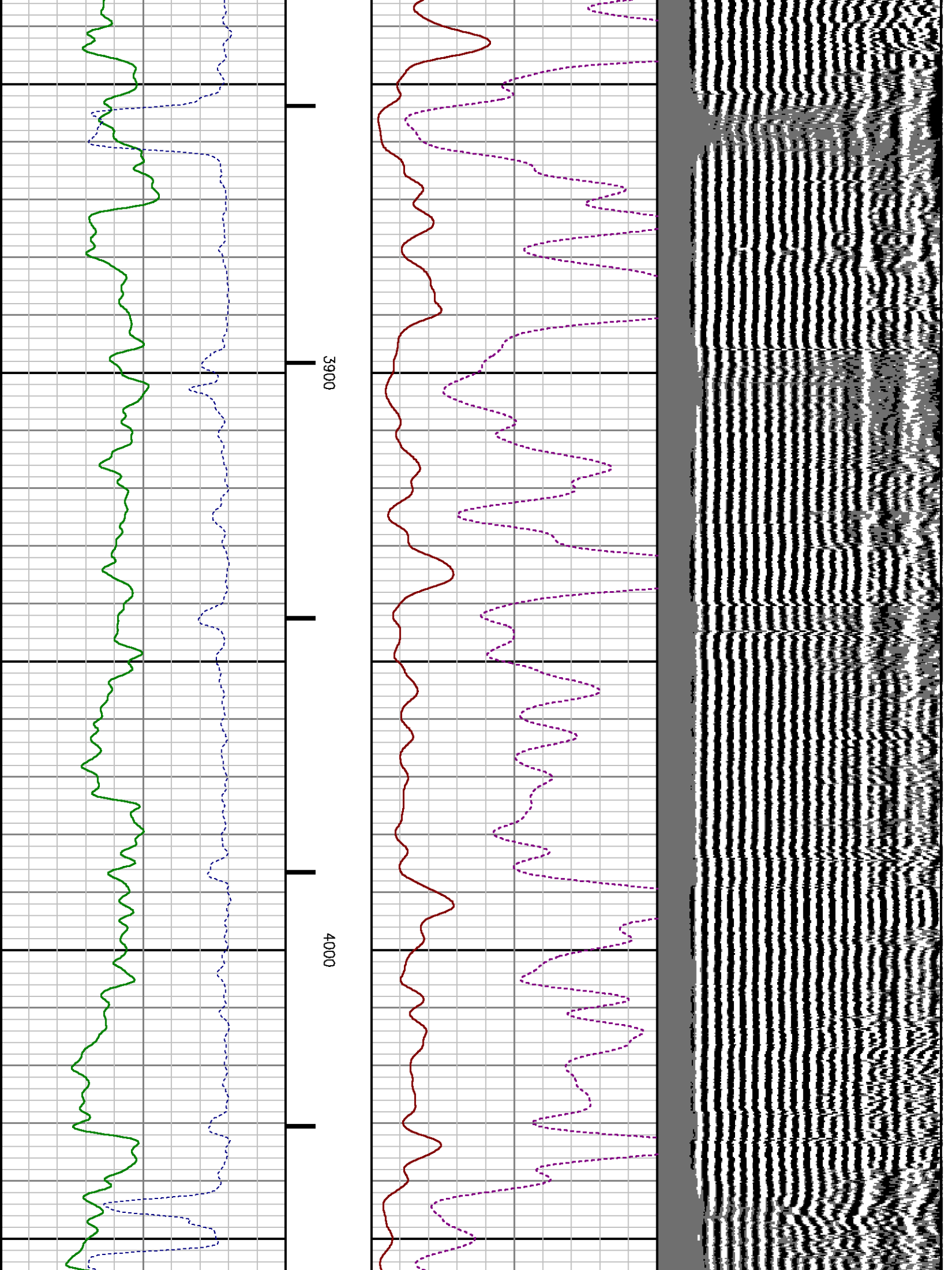


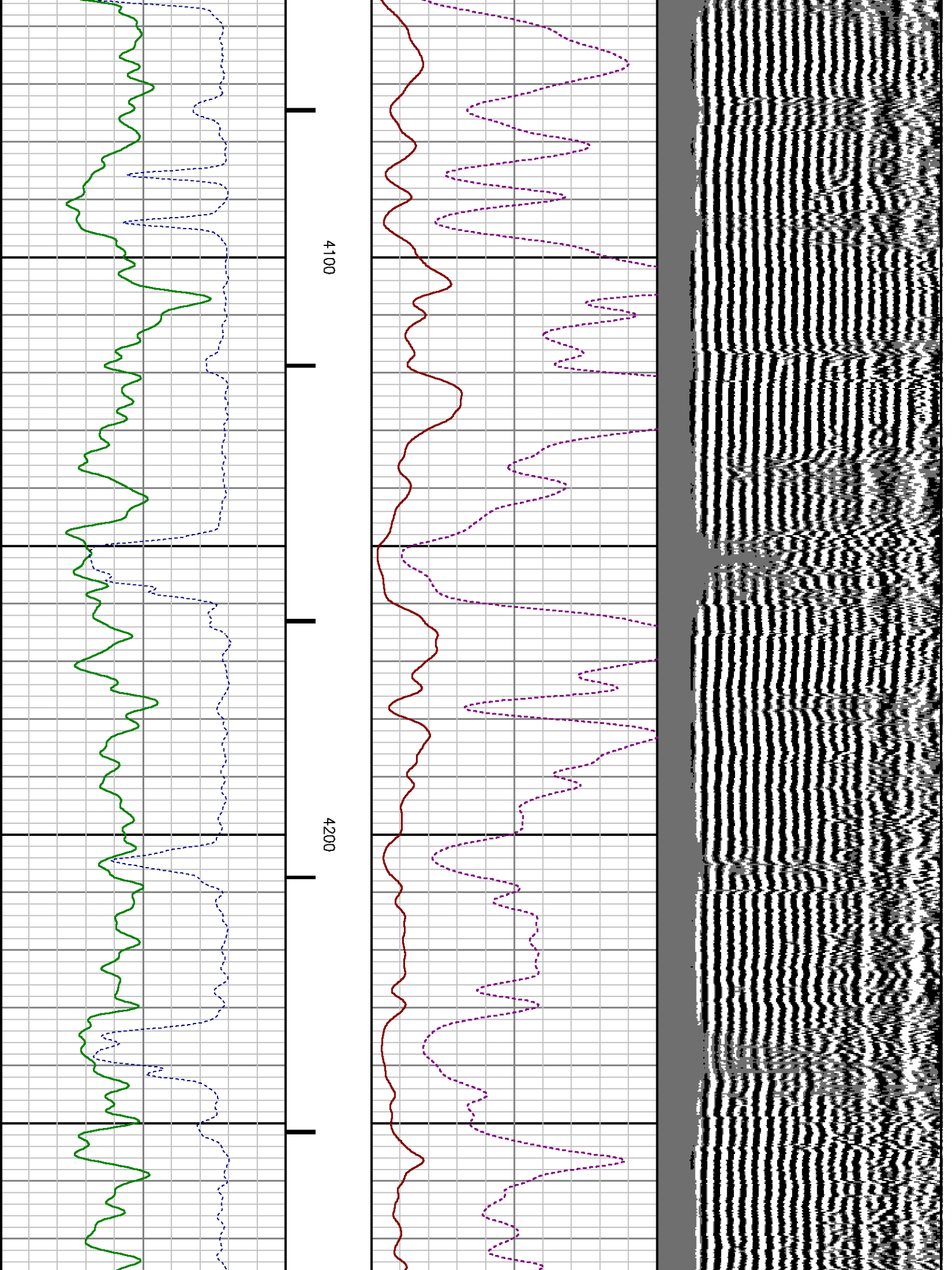


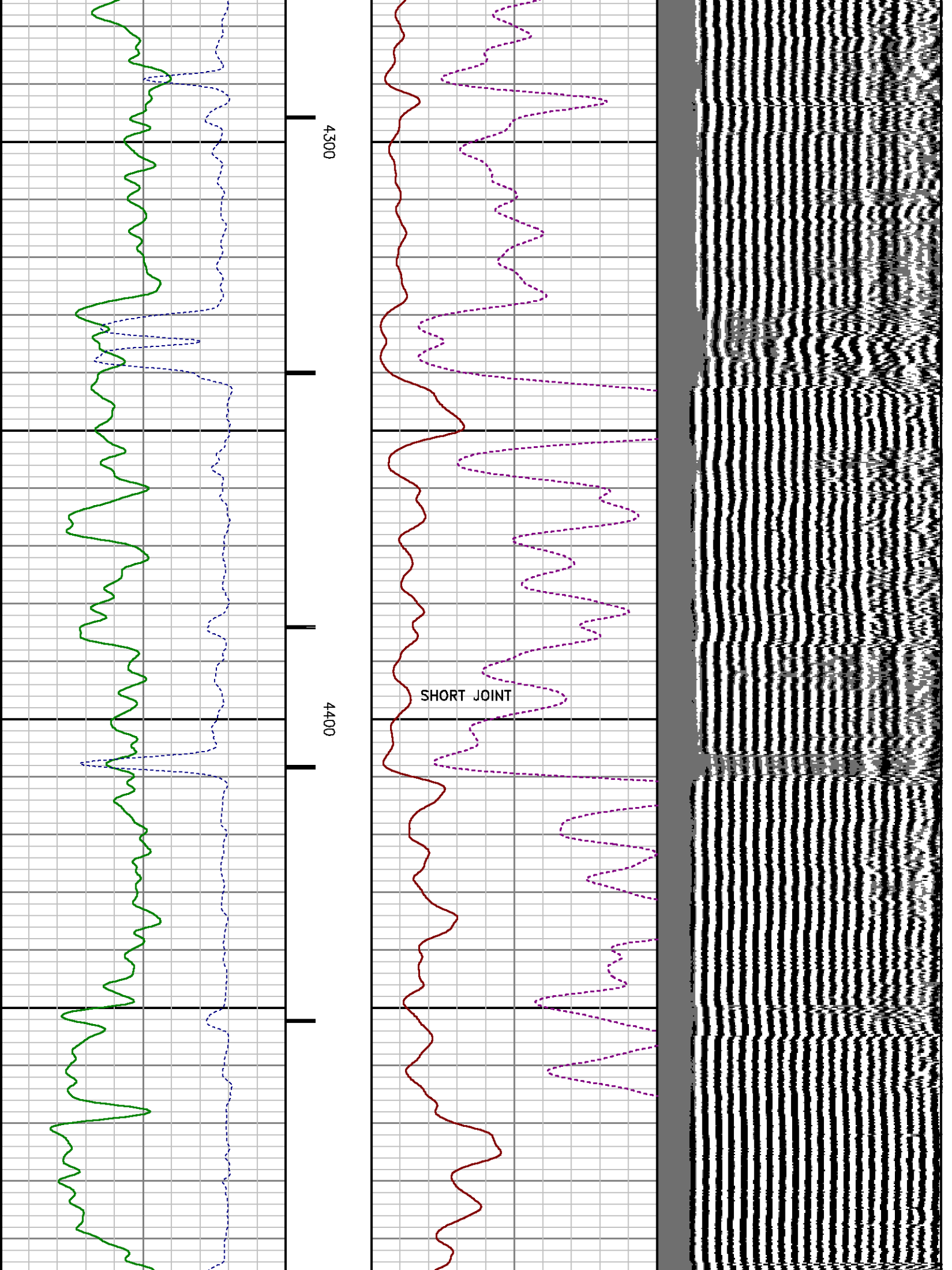


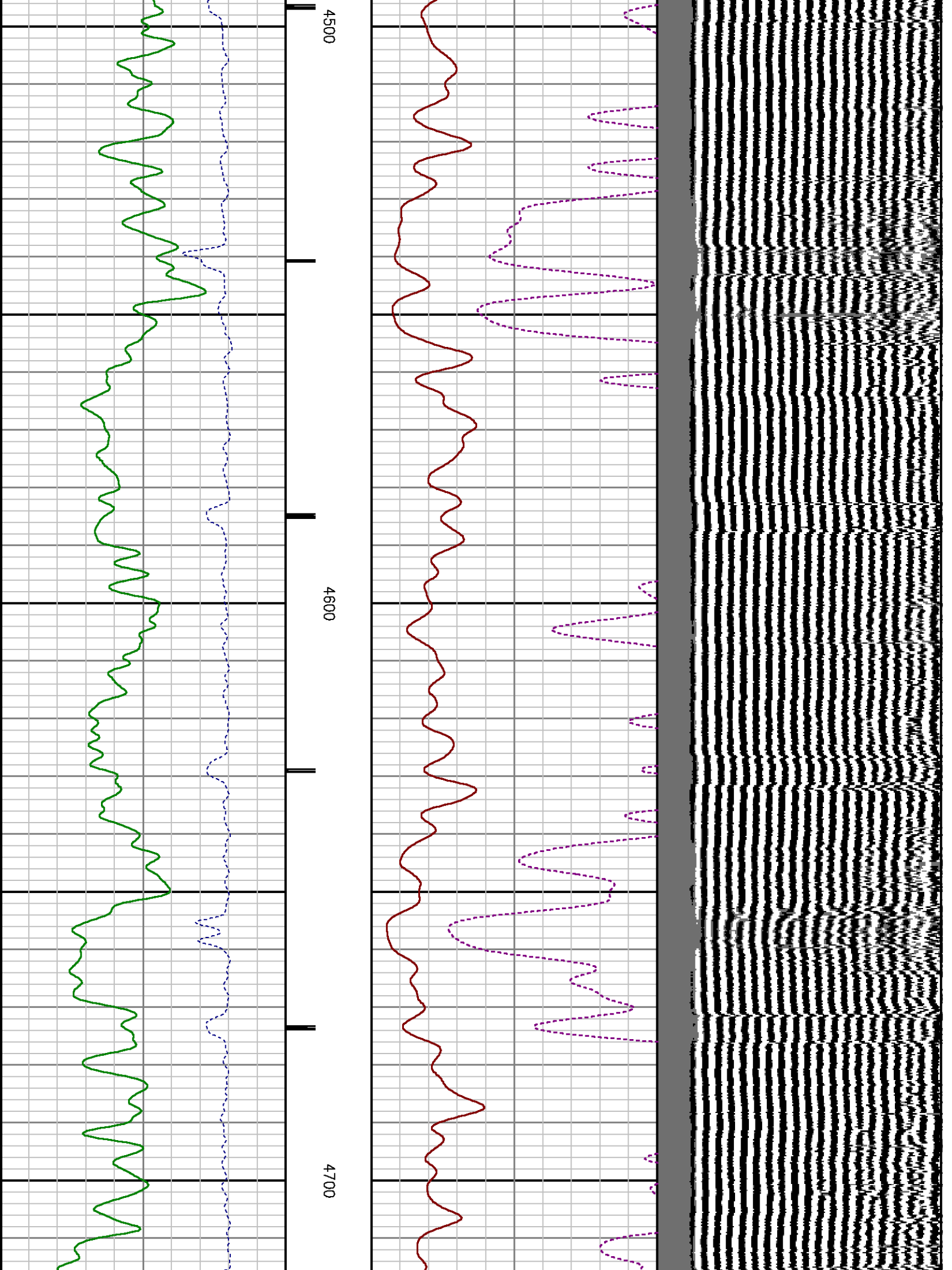


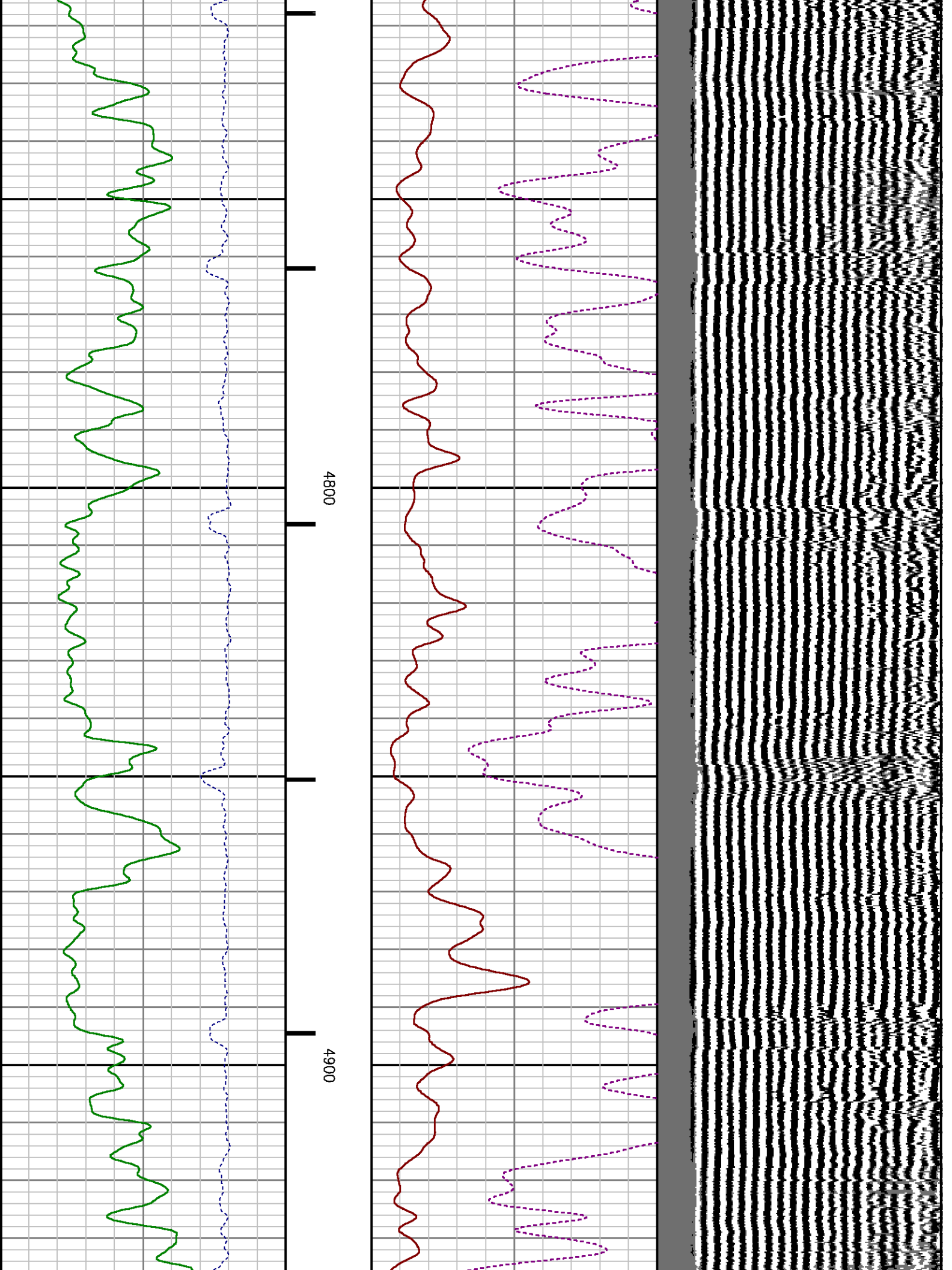


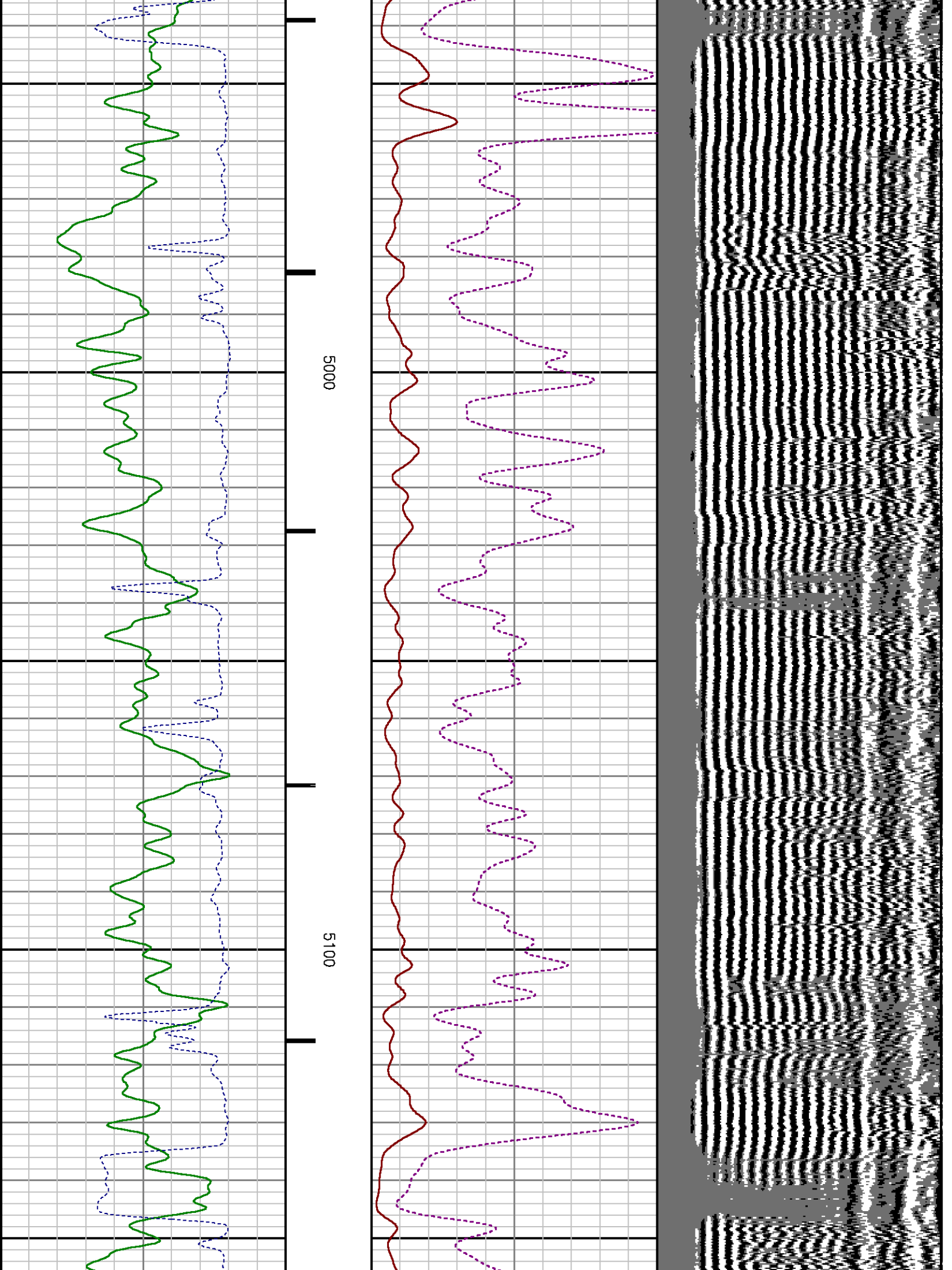


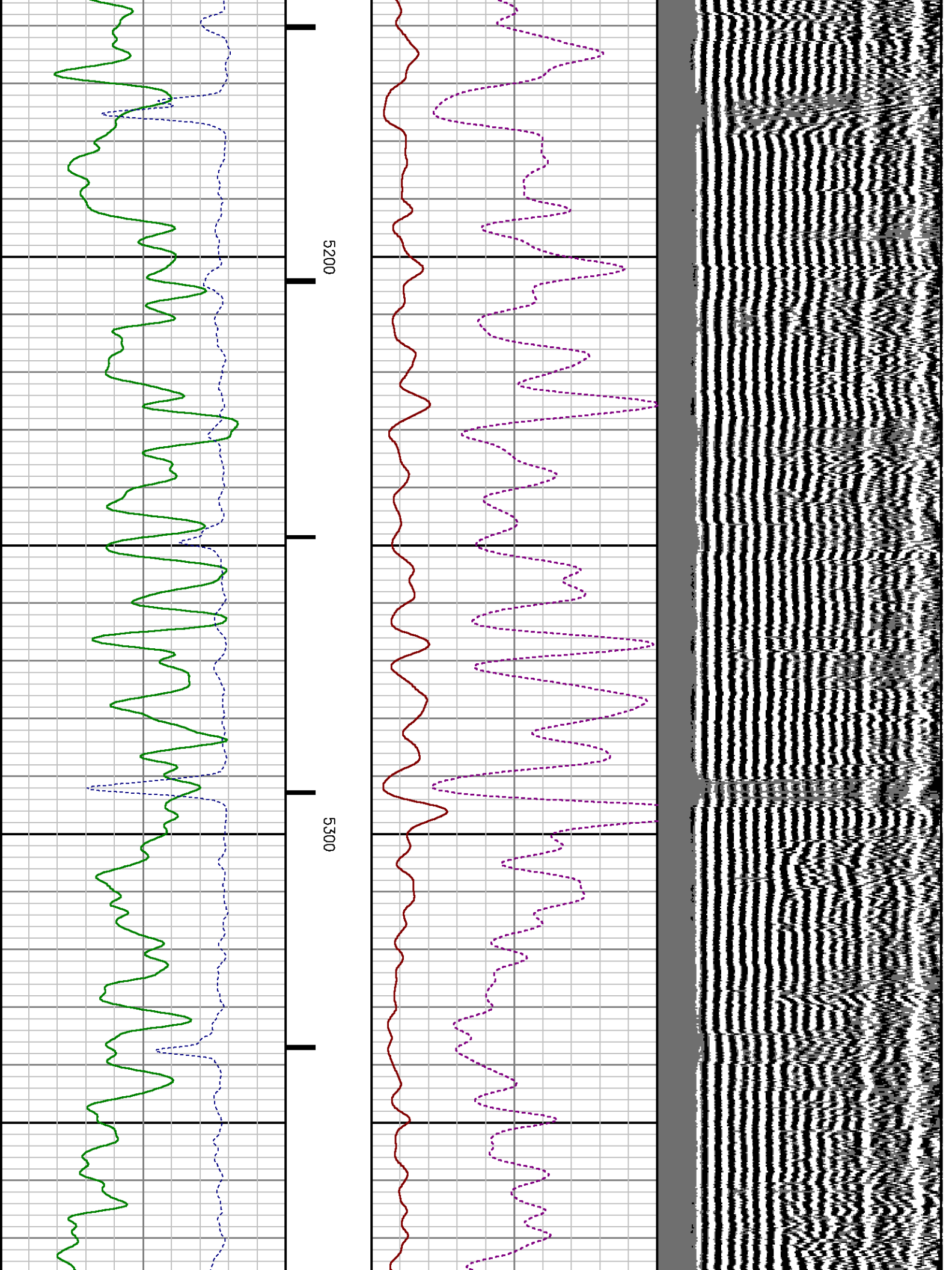


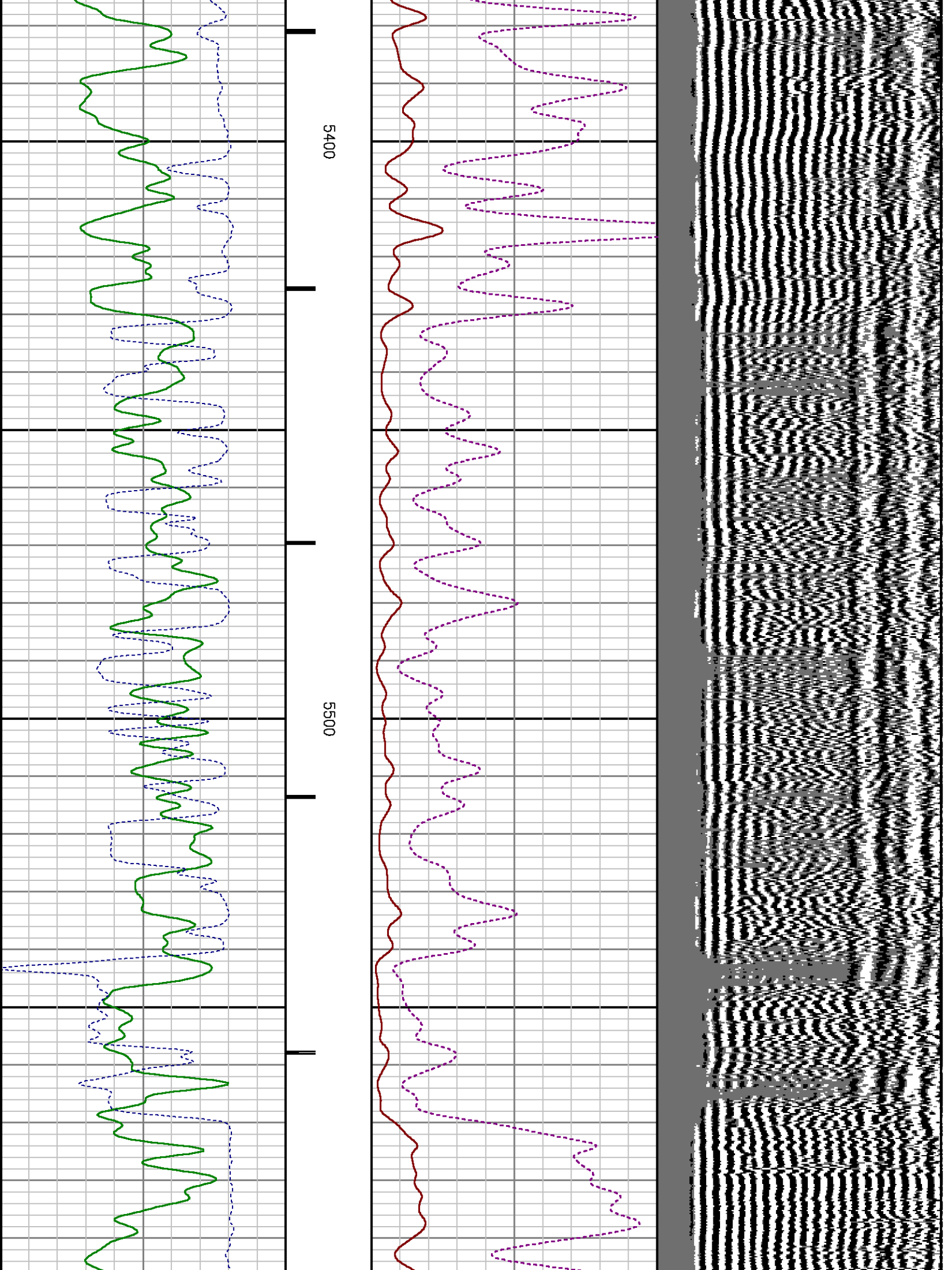


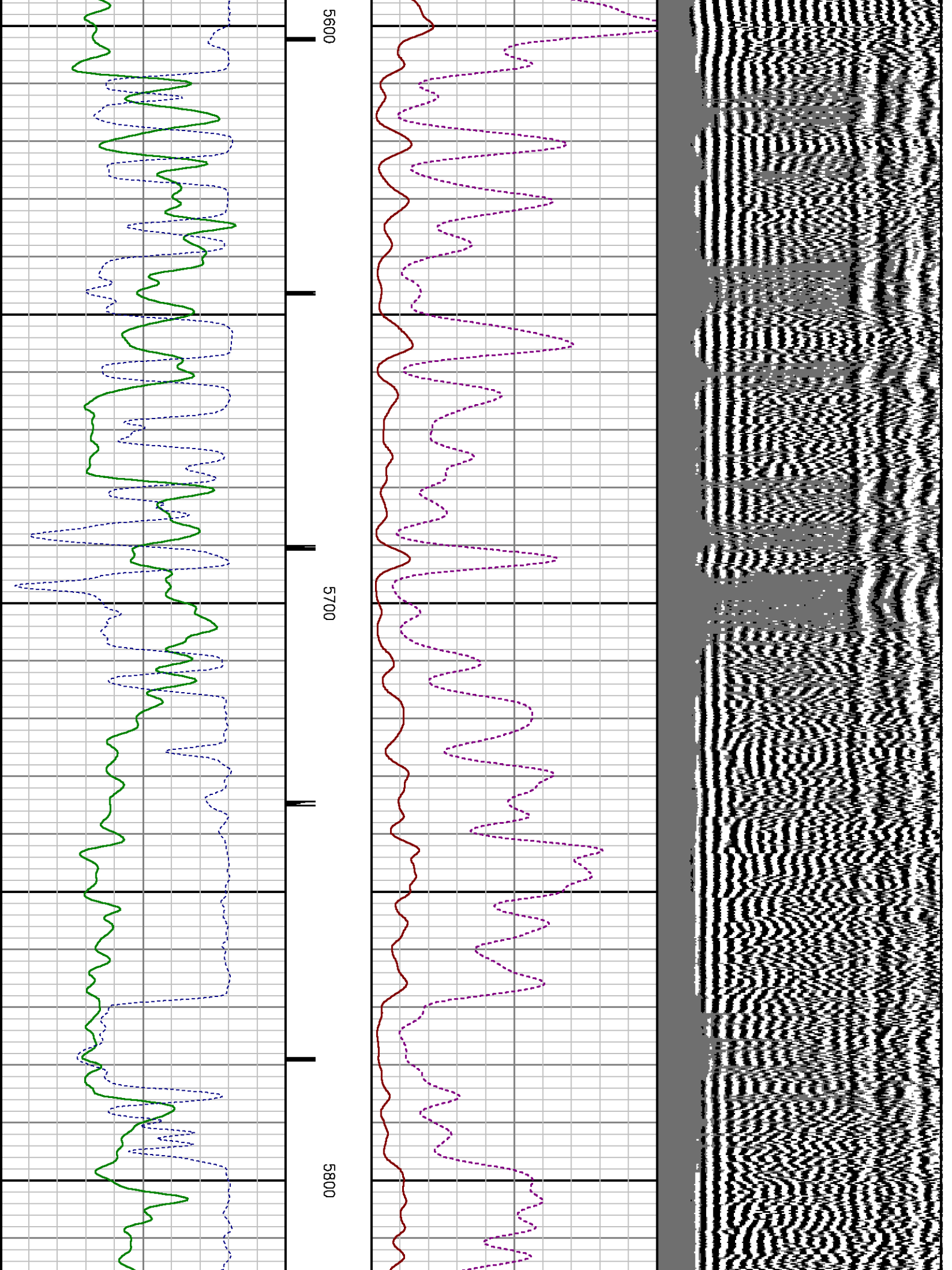


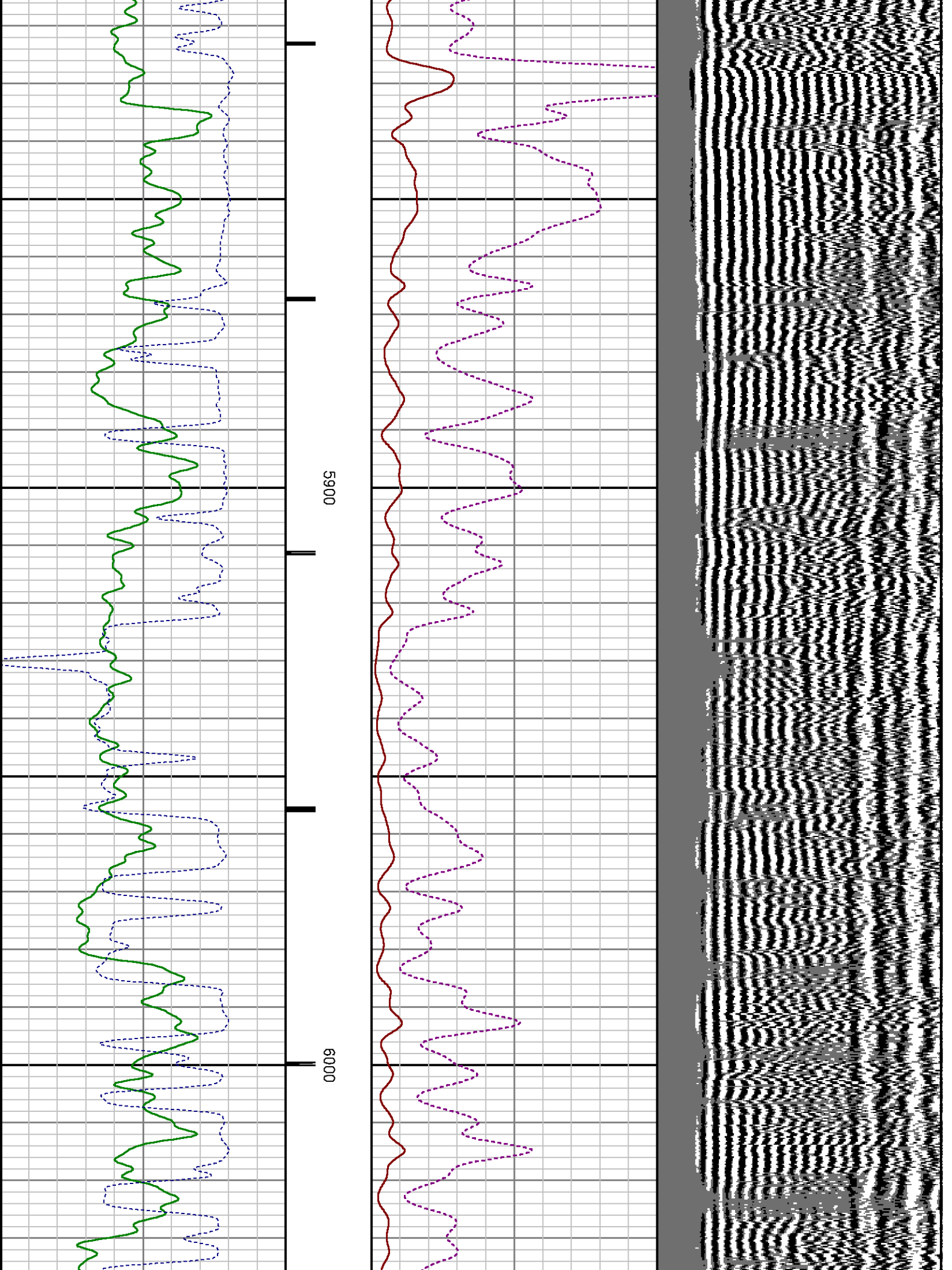


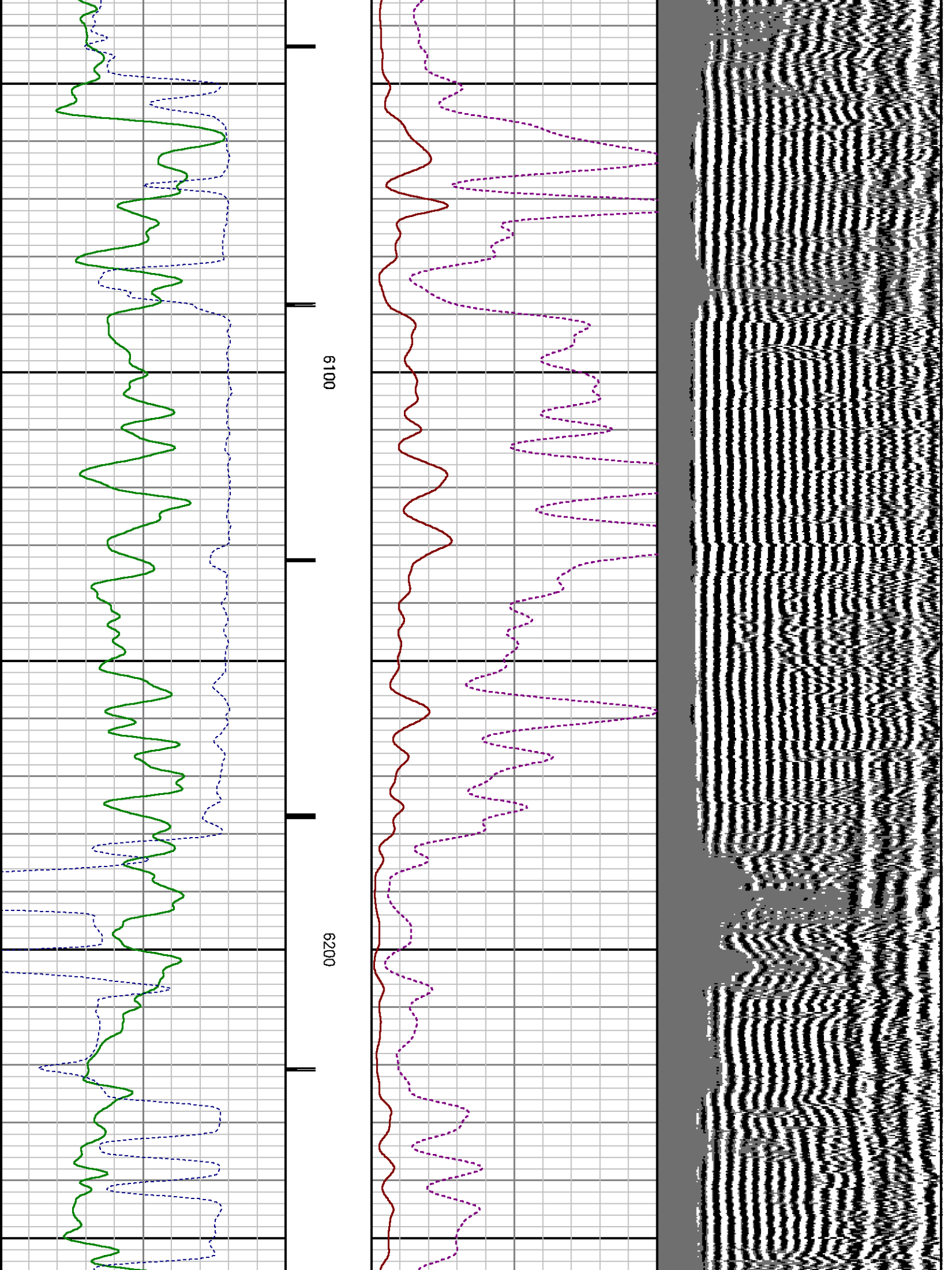


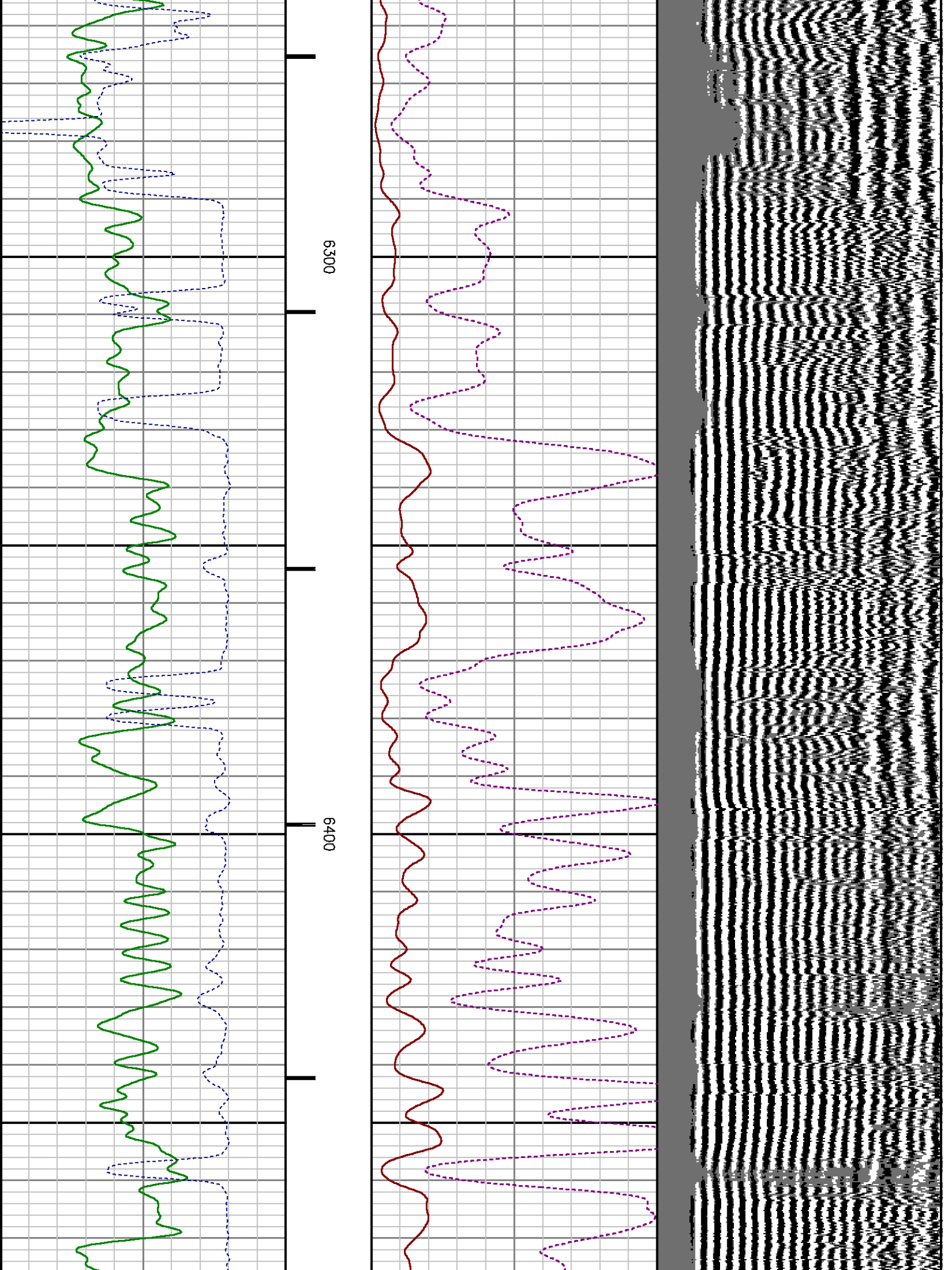


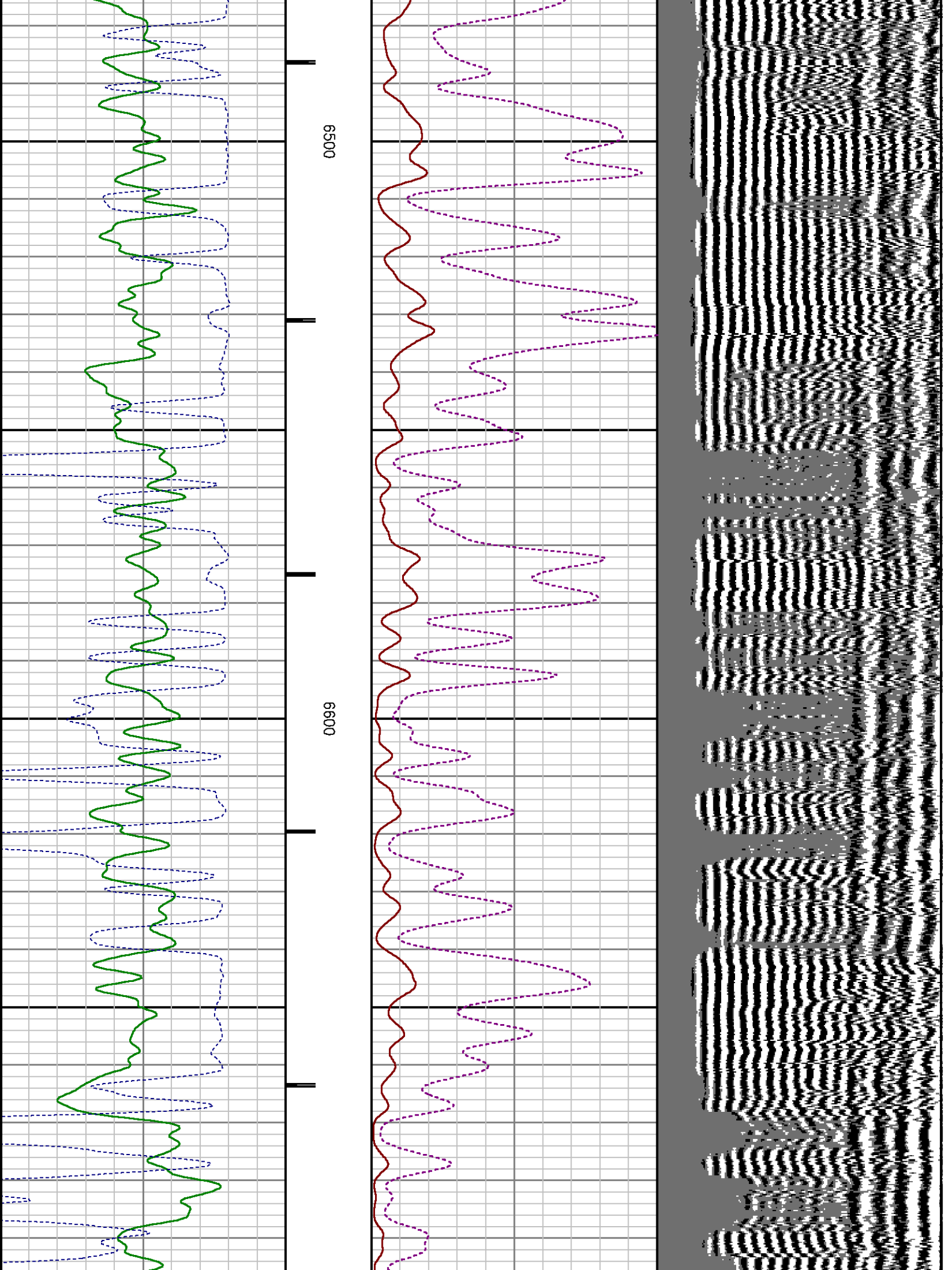


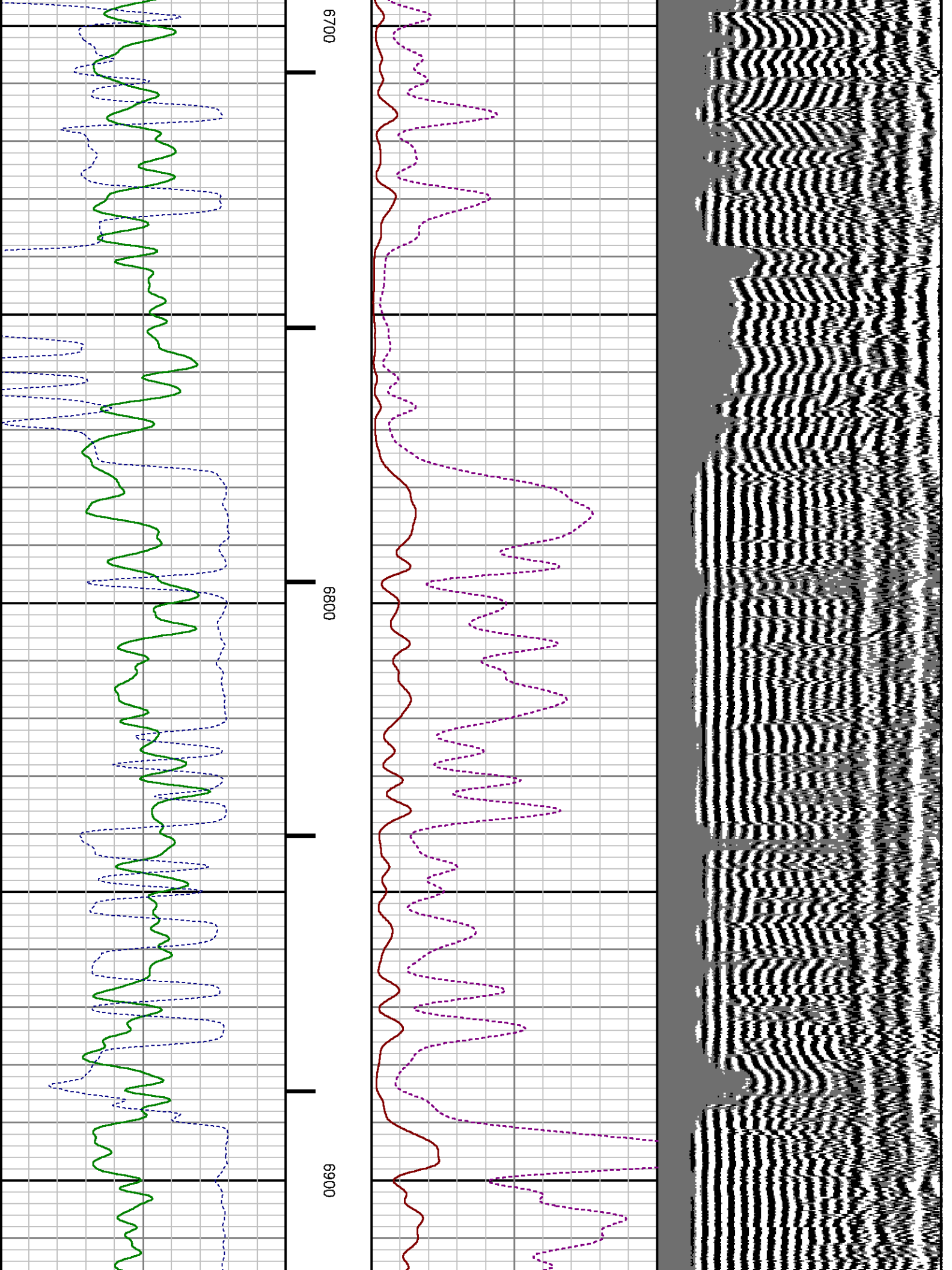


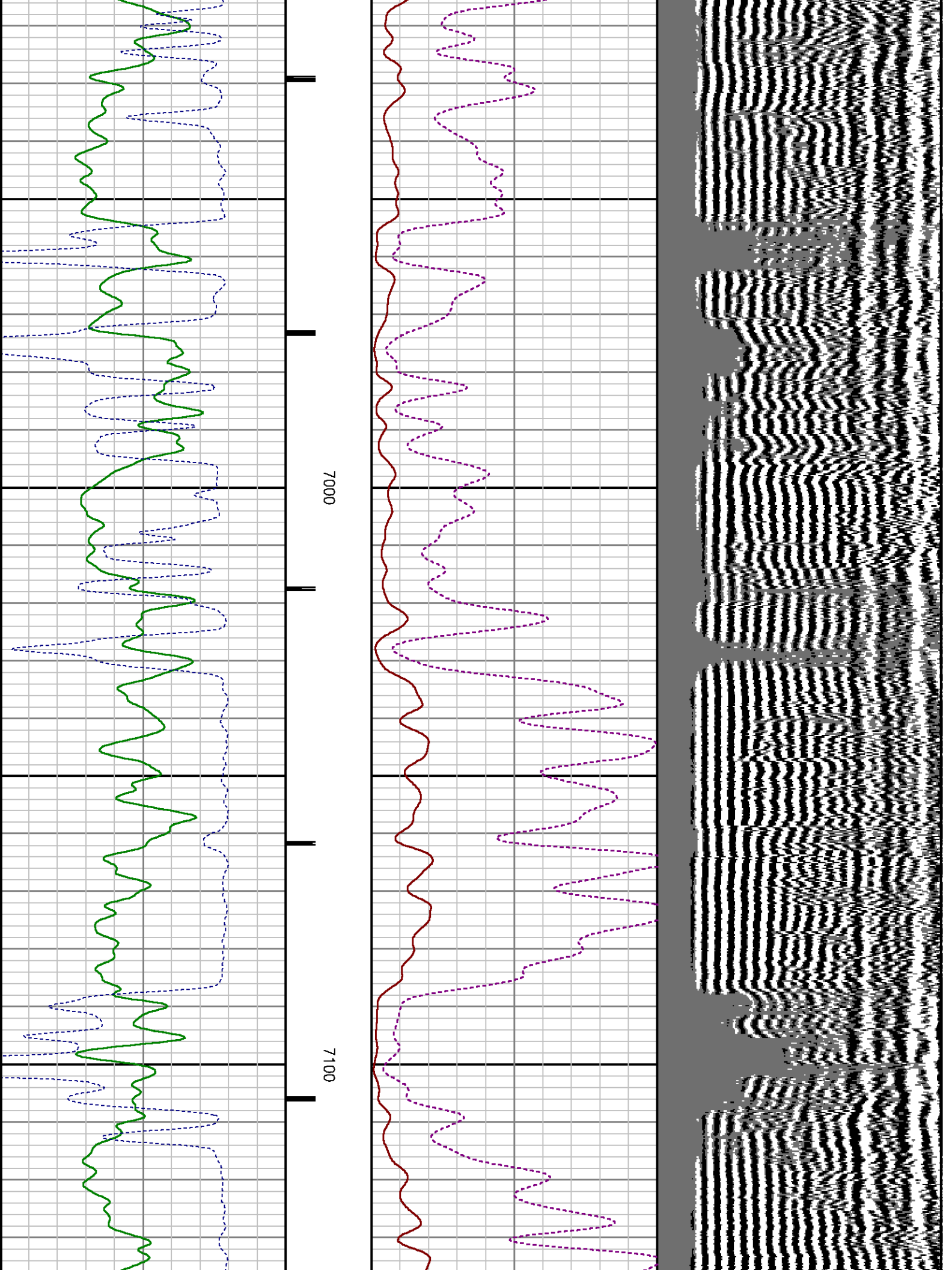


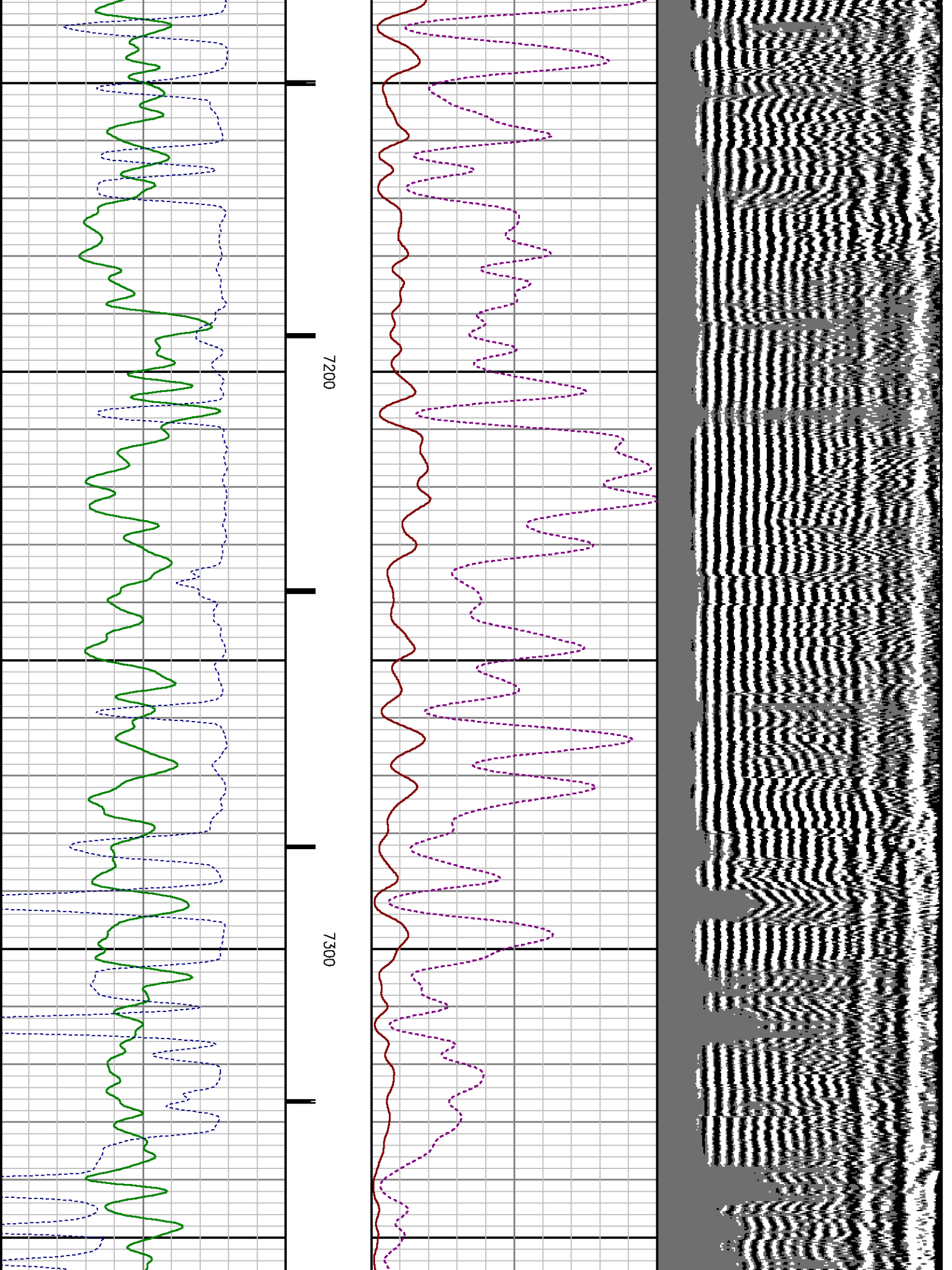


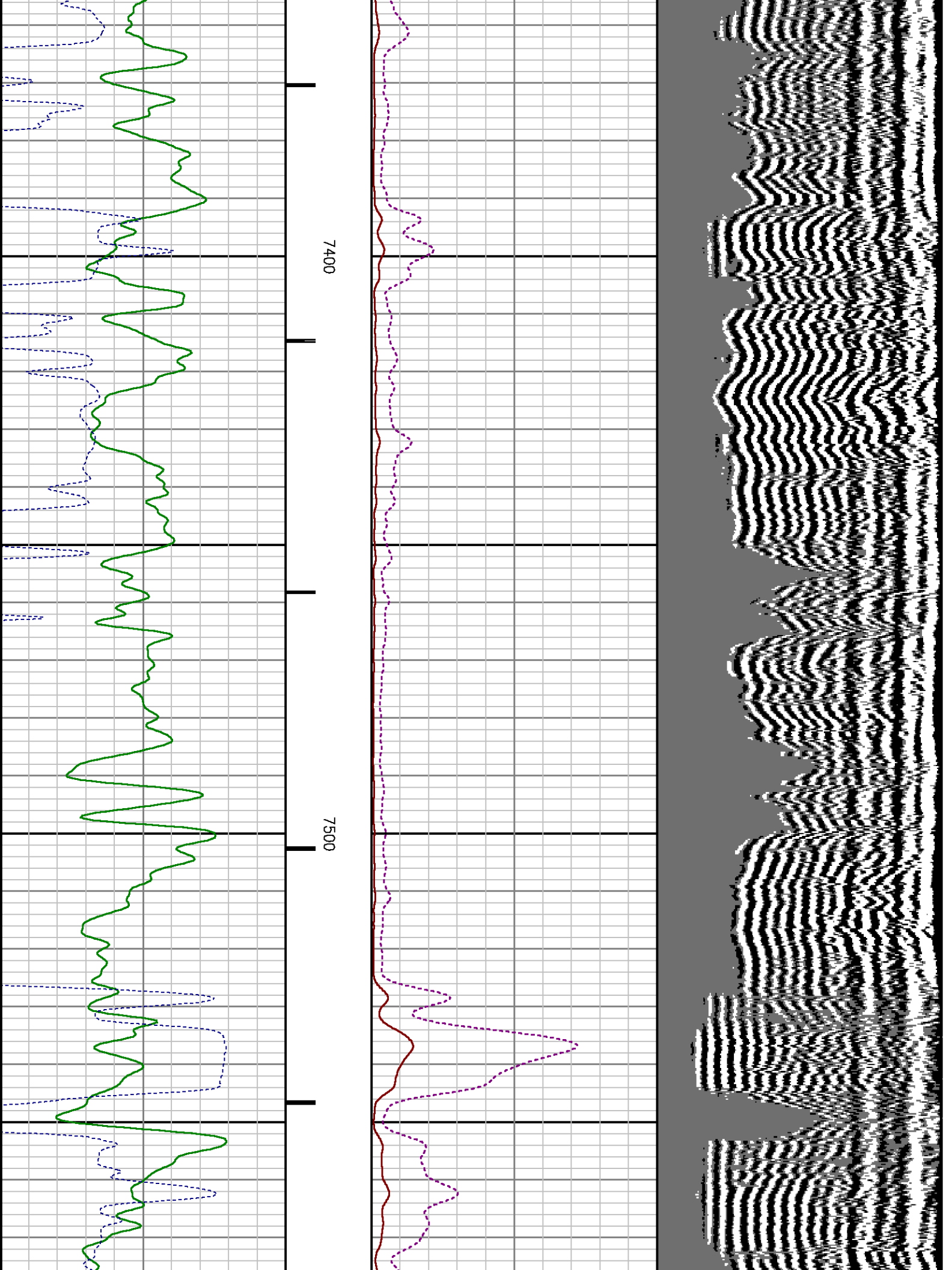


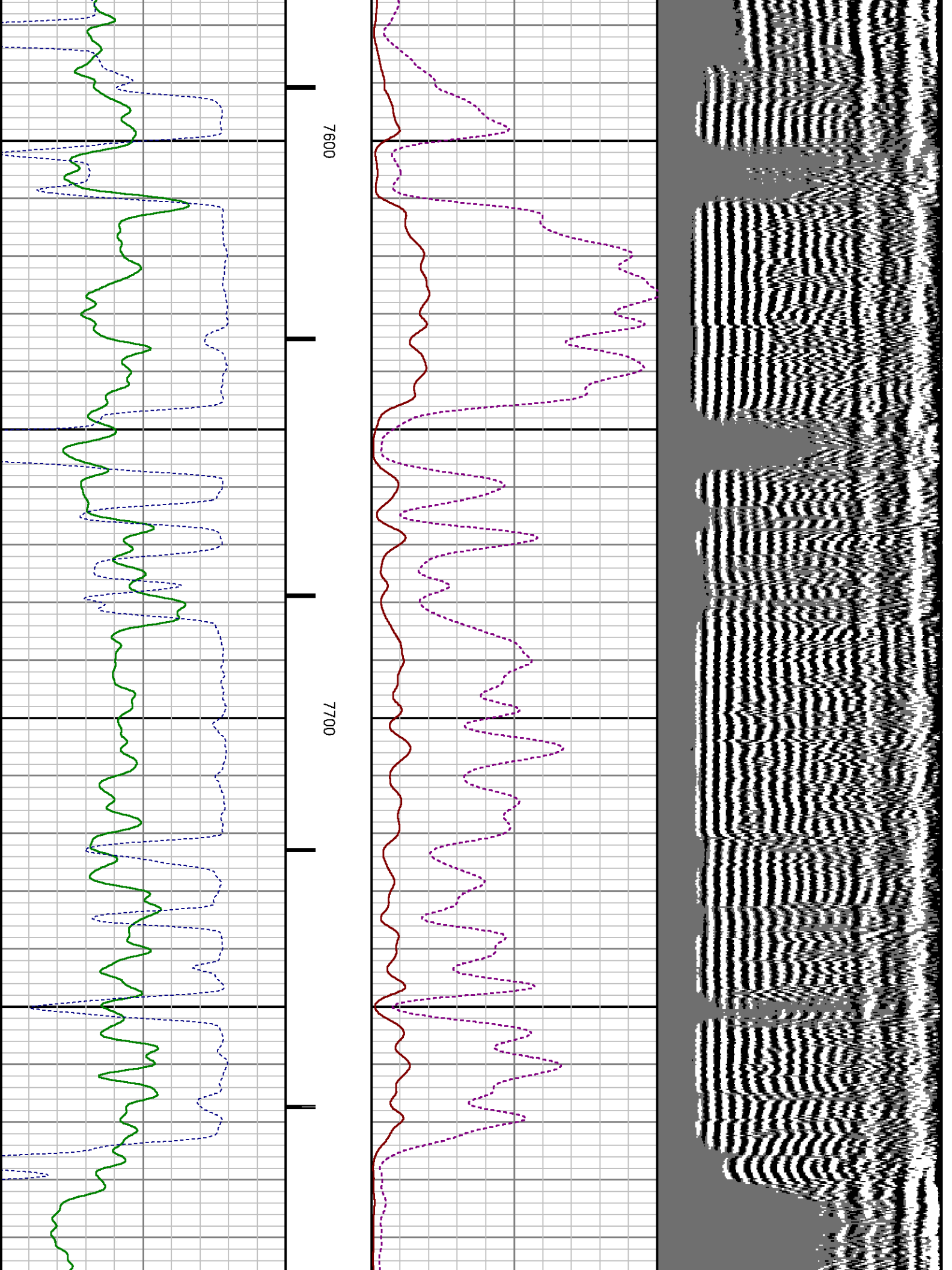










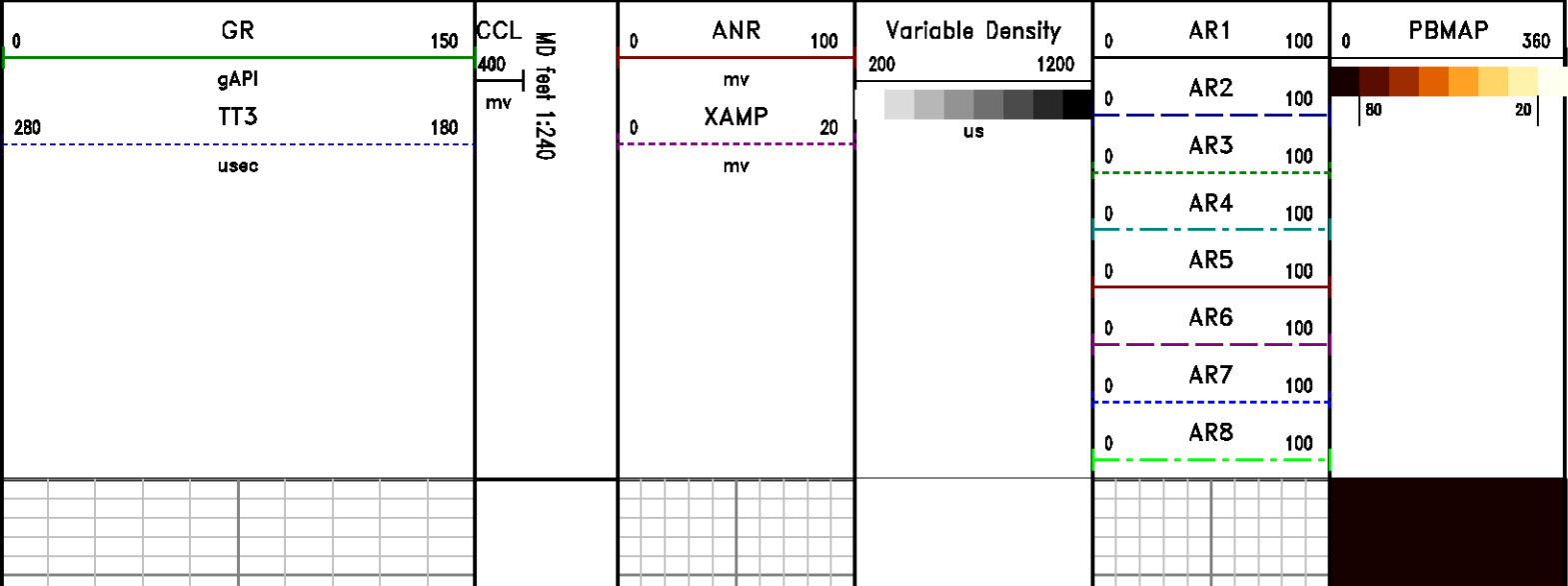


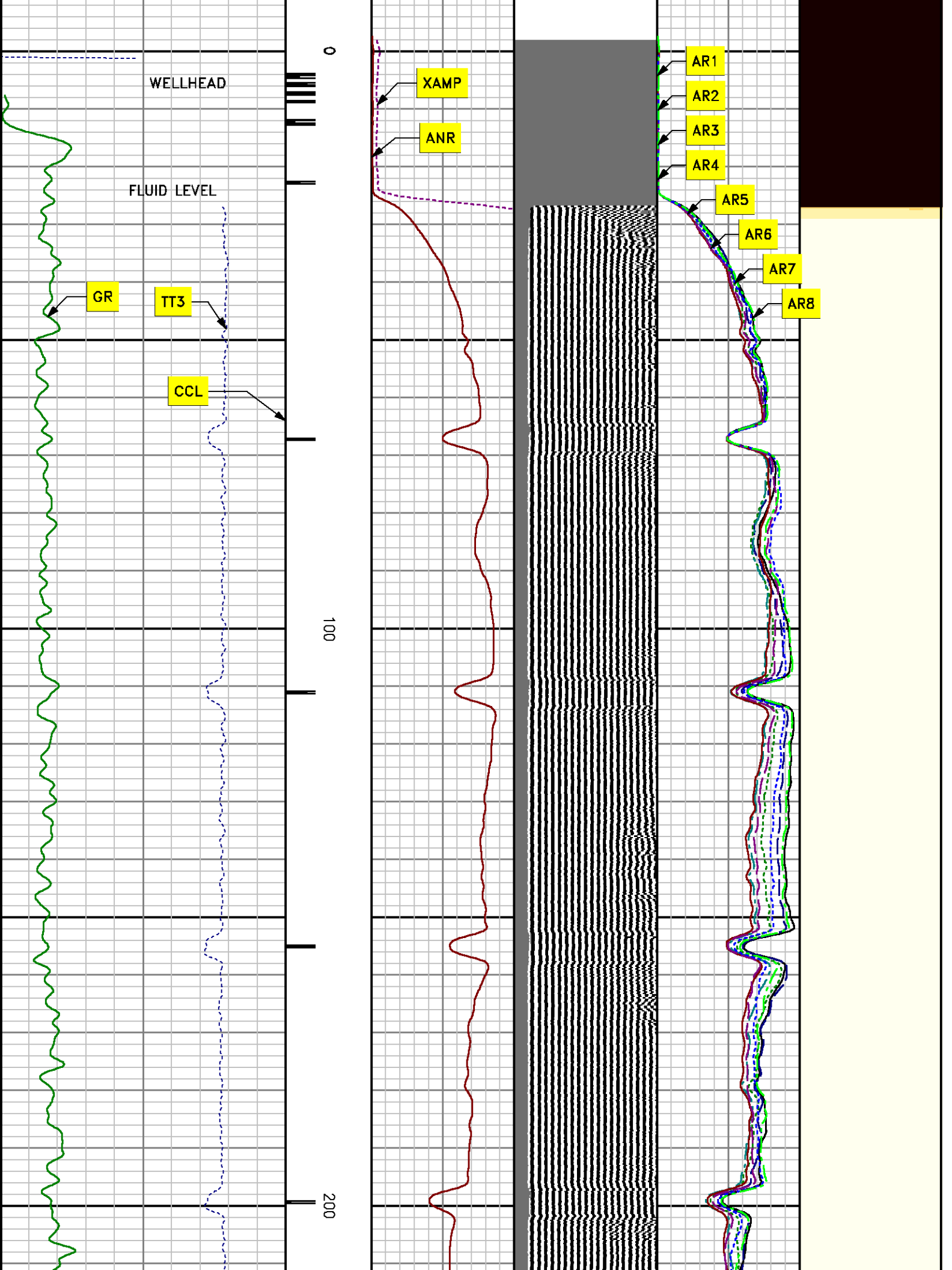
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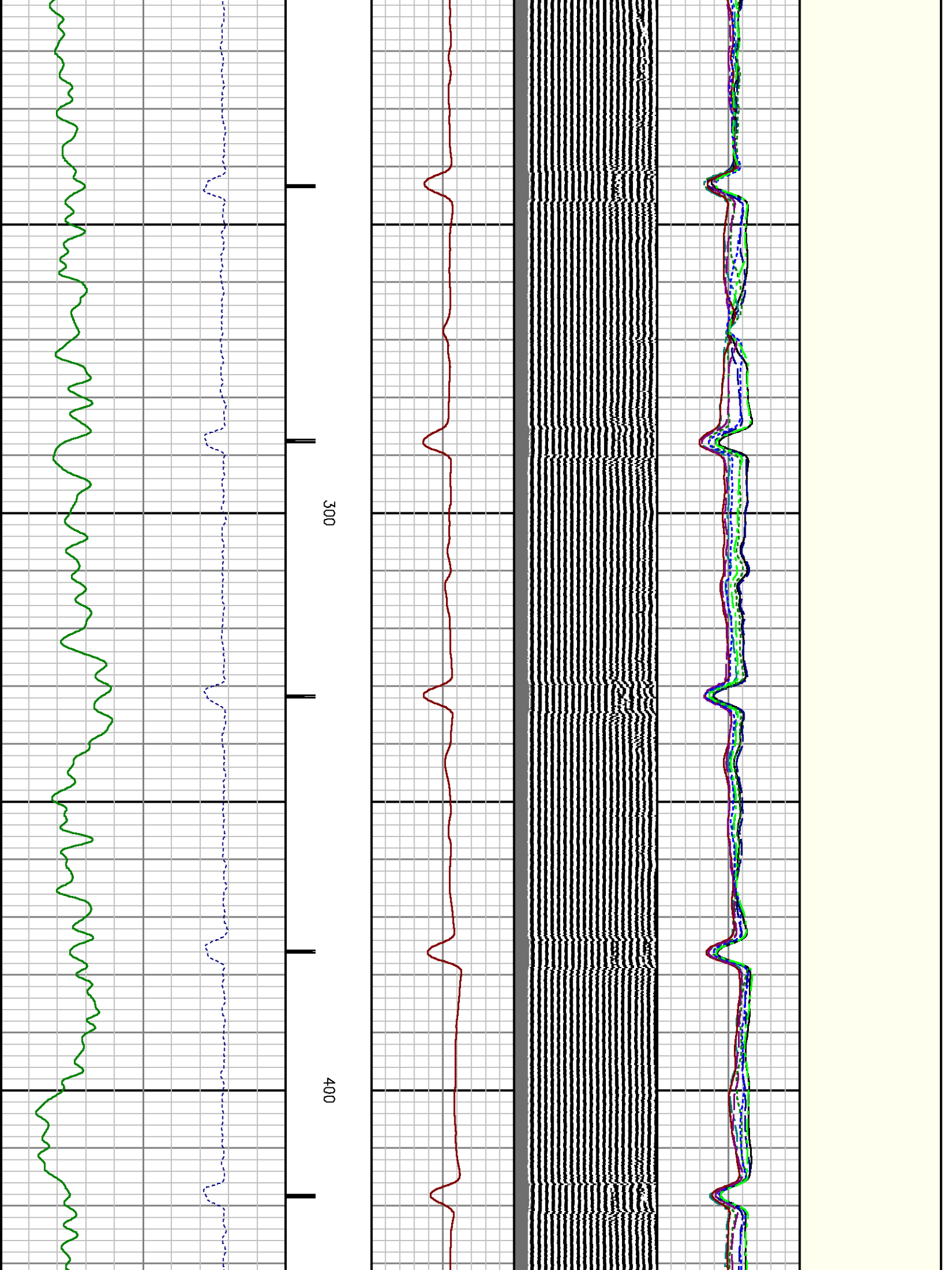
DEPTH OFFSETS
(for Acquired Curves)

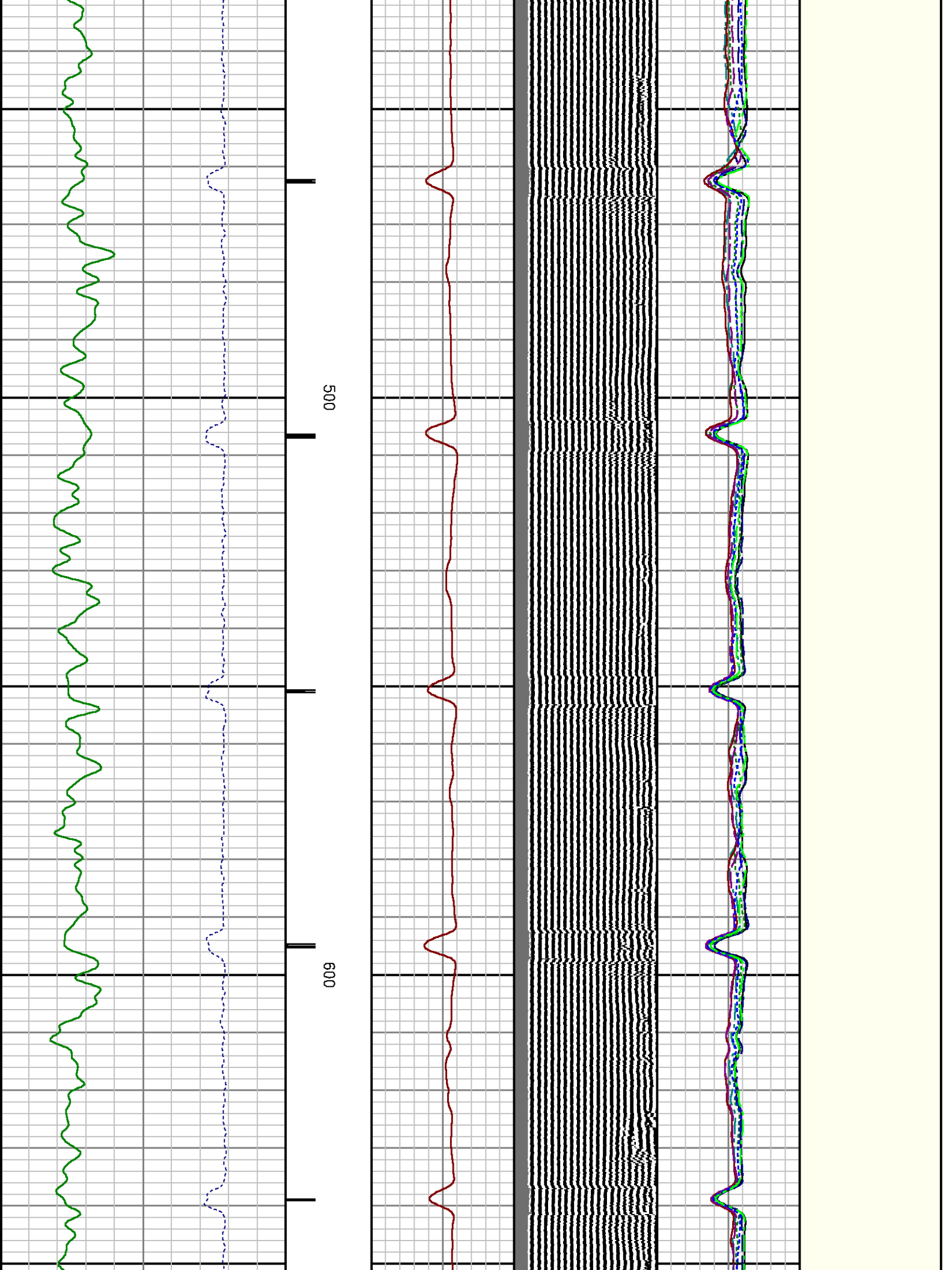
SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-11.000	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-10.040	AFAR	SIG	TT5			
1355XA	-5.620	CCL					
1355XA	-1.500	GR					
1355XA	0.000	TEMP					

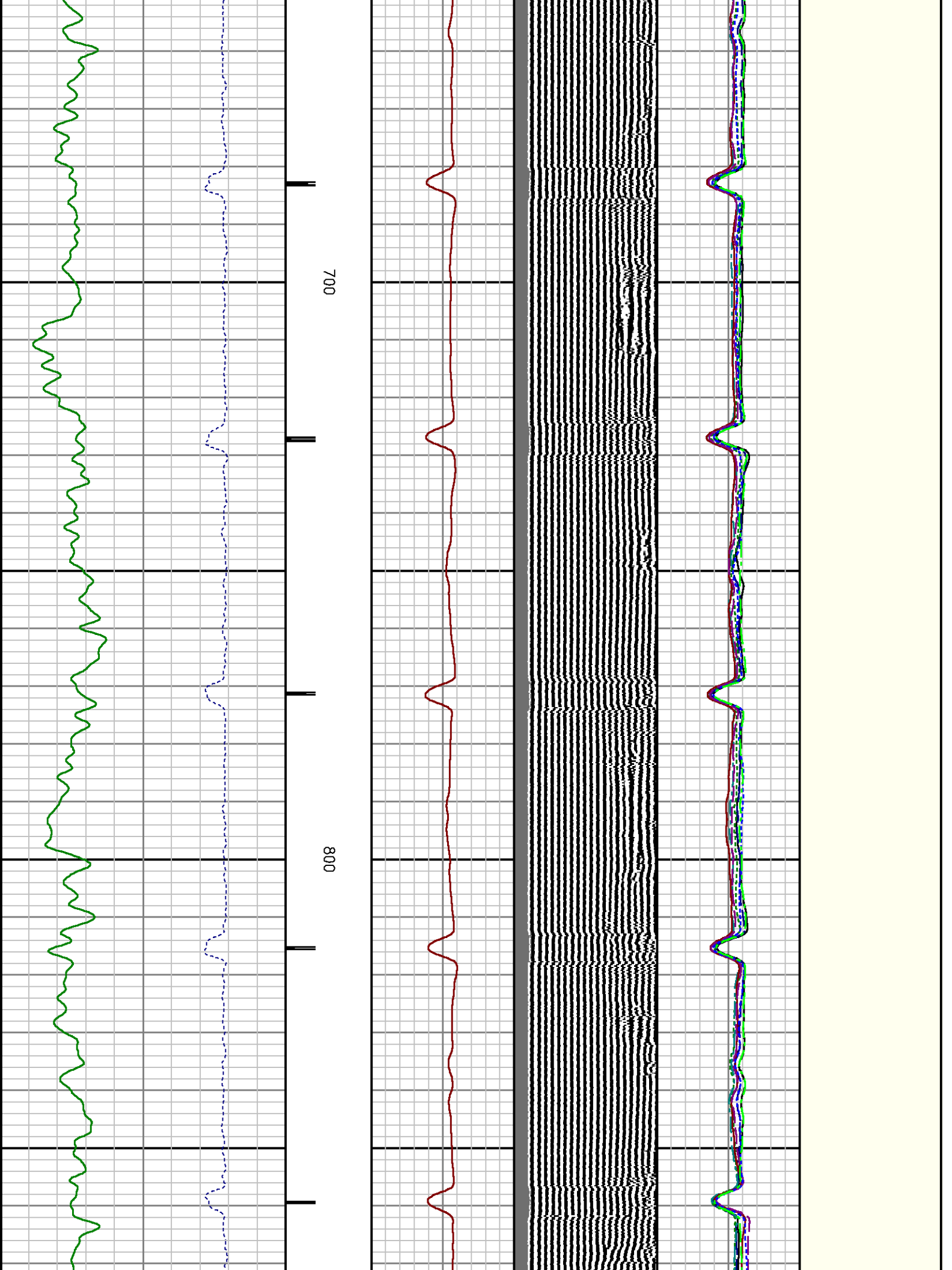
Created by : RAL, v4.8.008
Plotted by : PlotMgr, v5.4.504
Company : WPX ENERGY
Well : DUGGAN RWF 324-29
File Name : d:\welldata\324cbl\main.xtf
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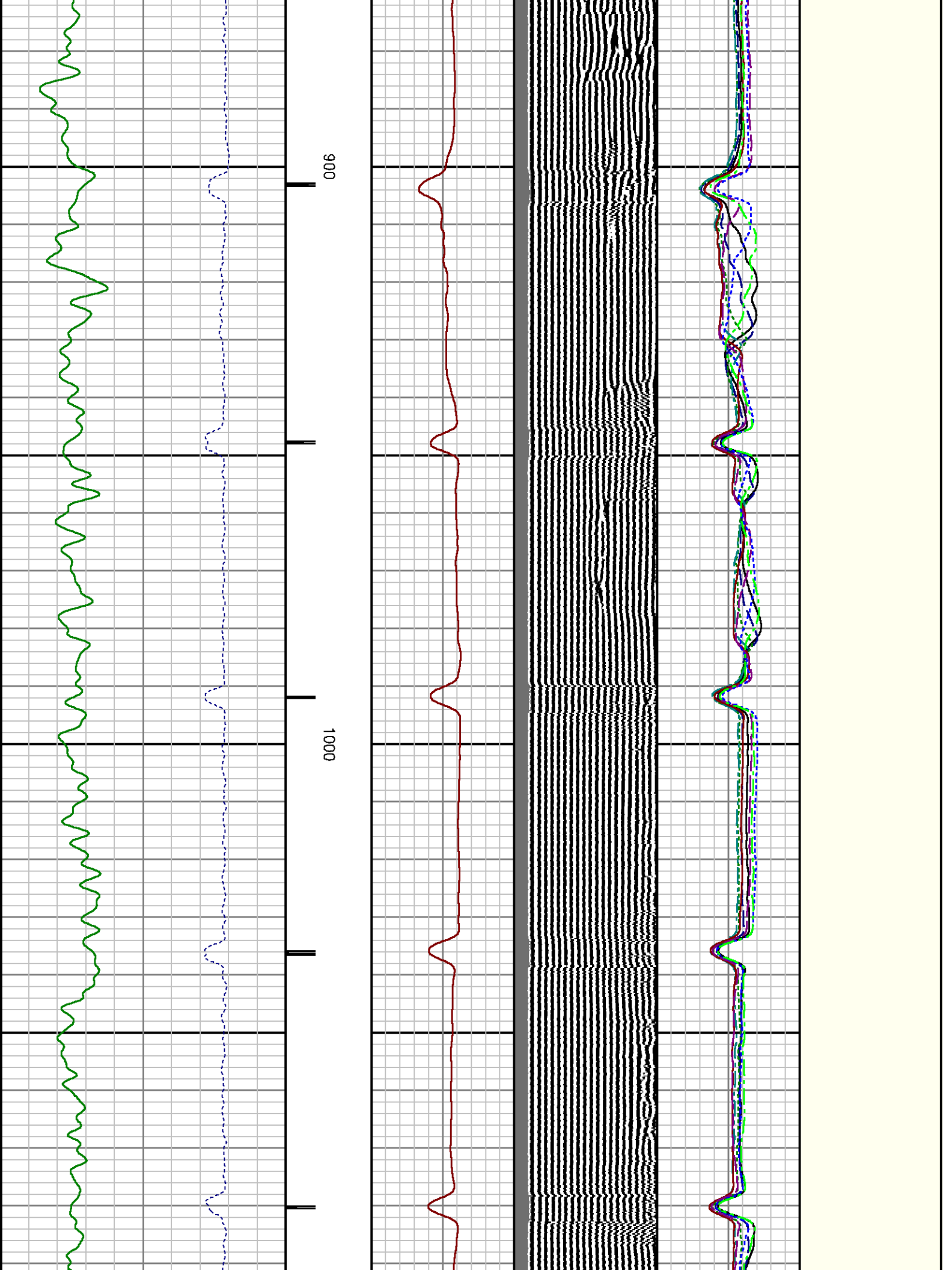


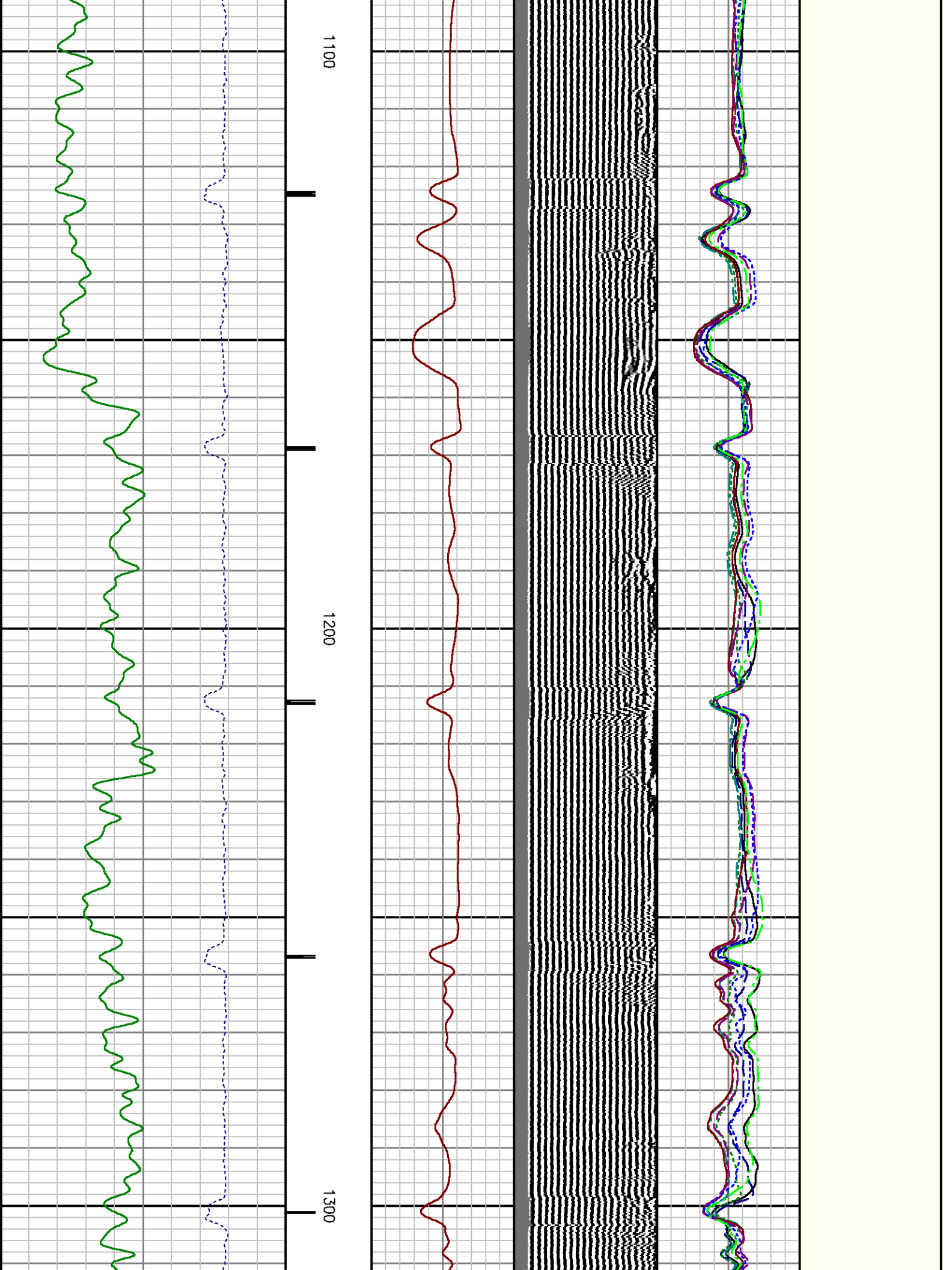


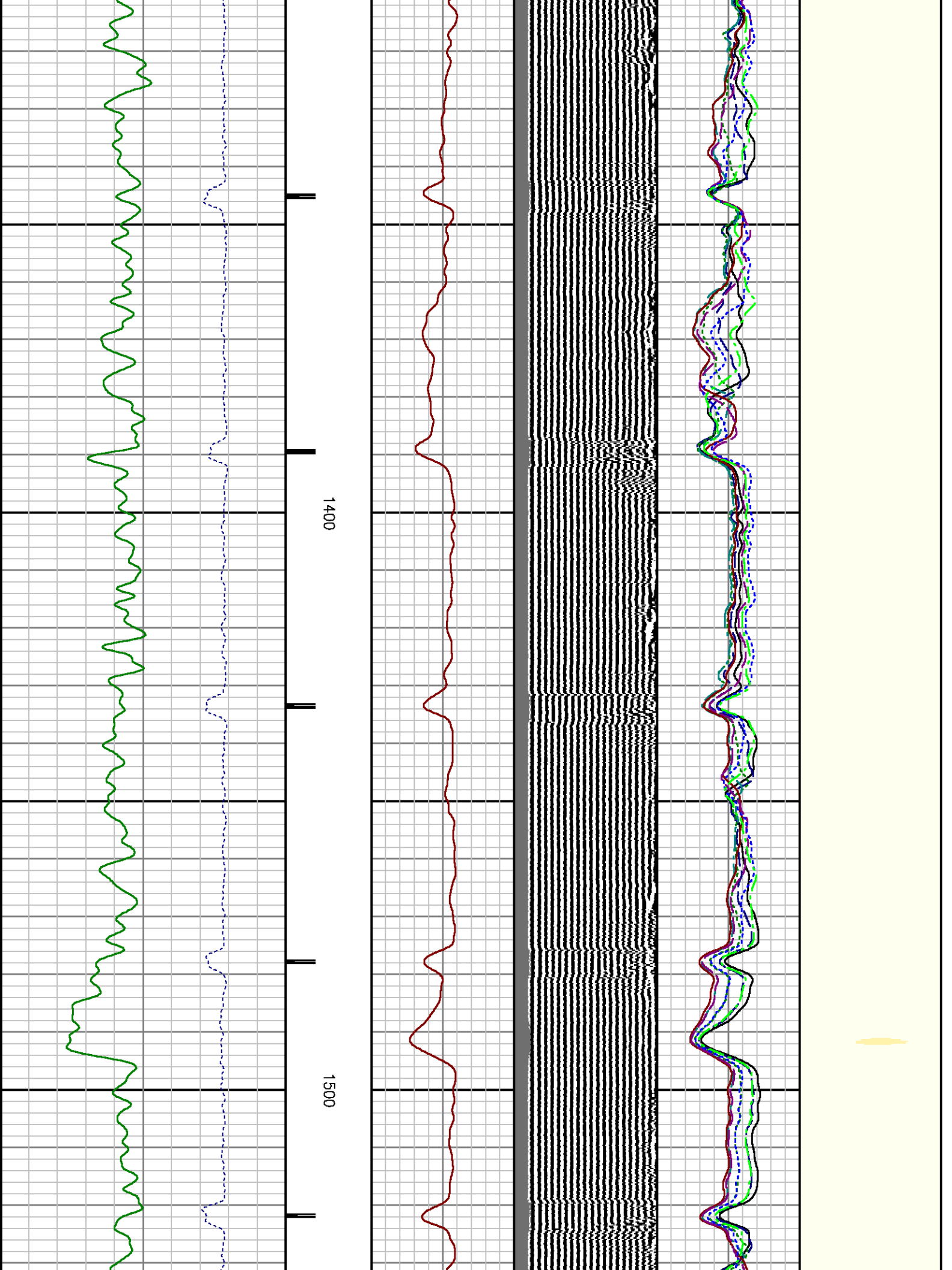


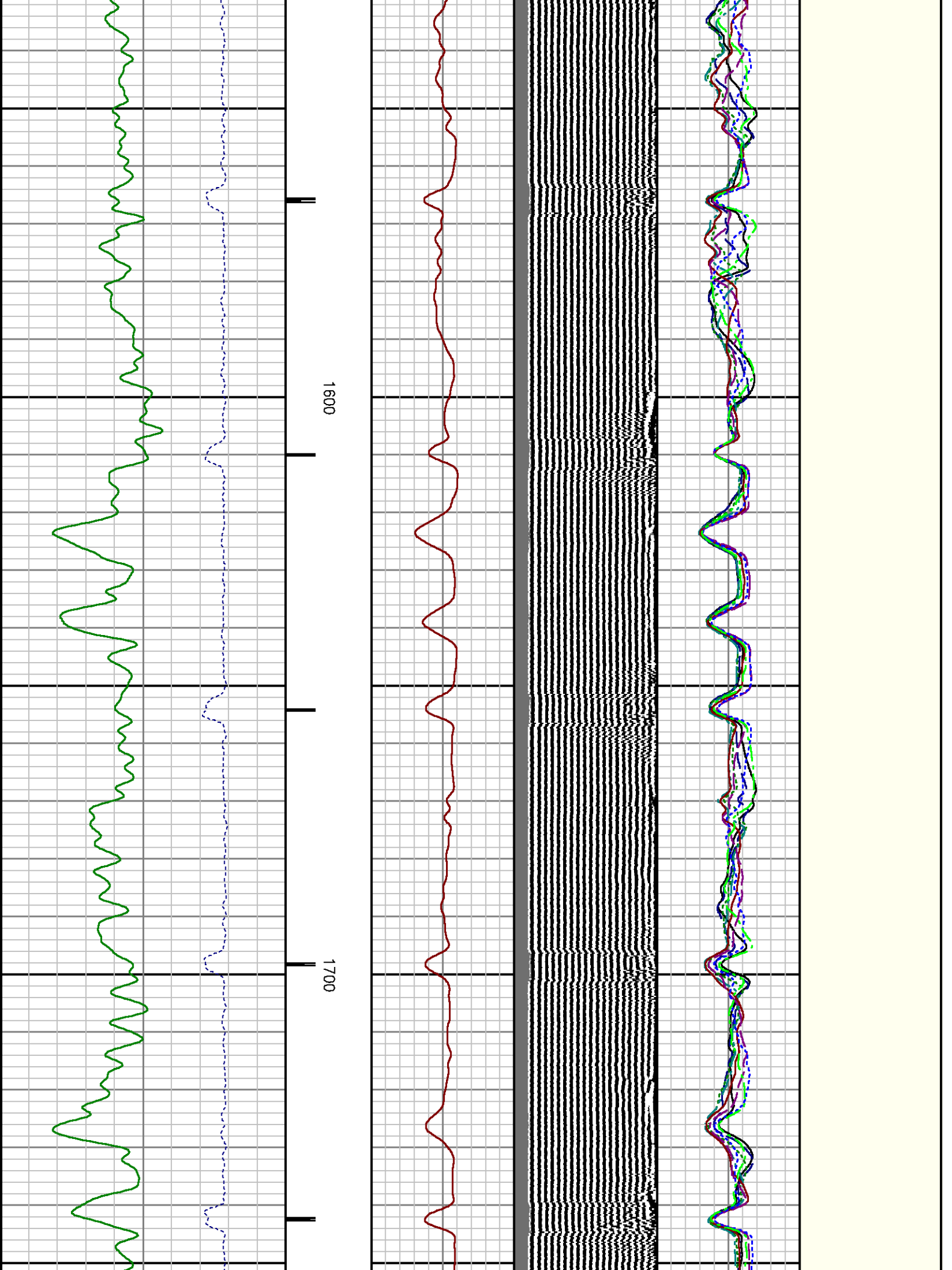


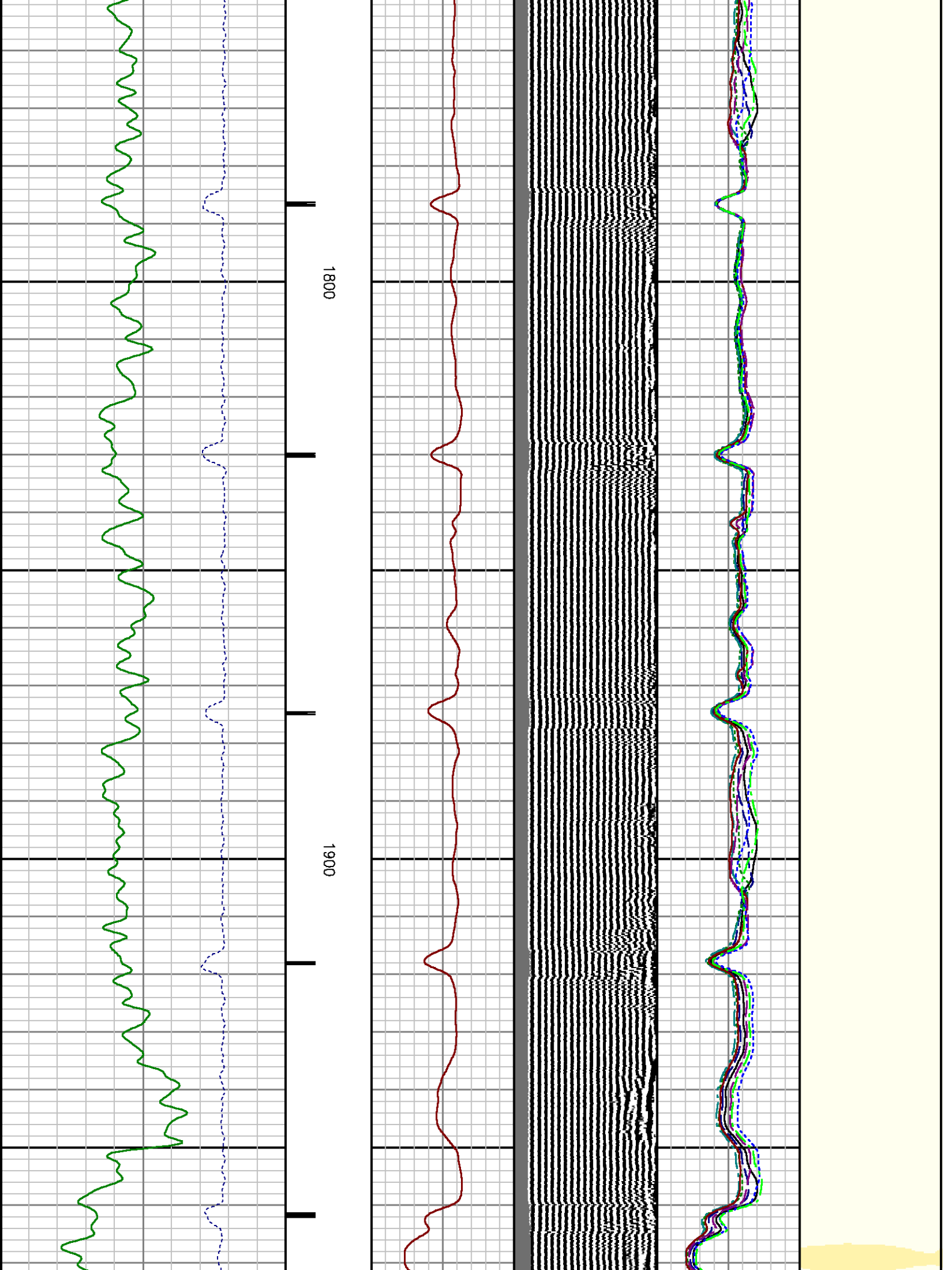


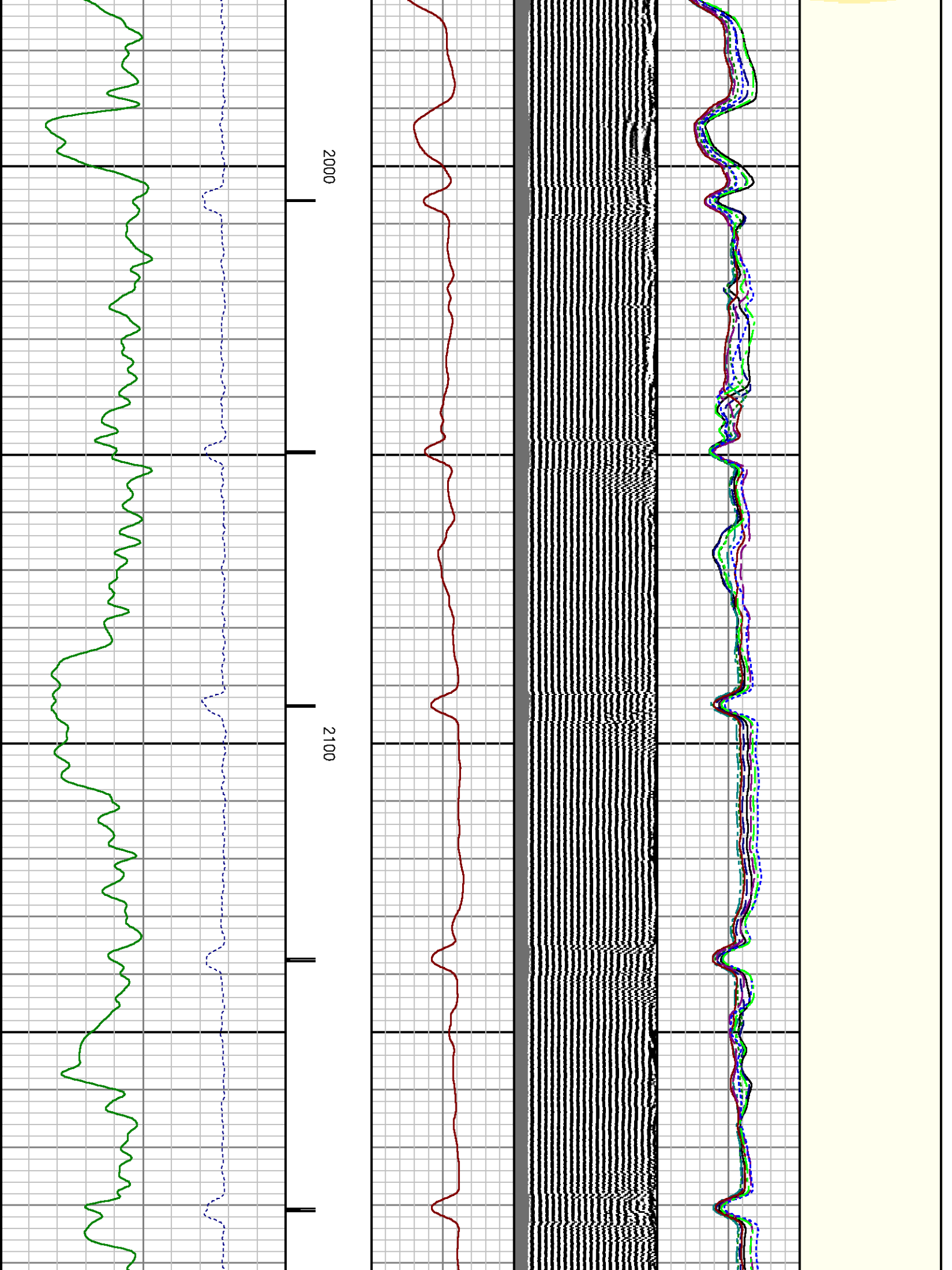


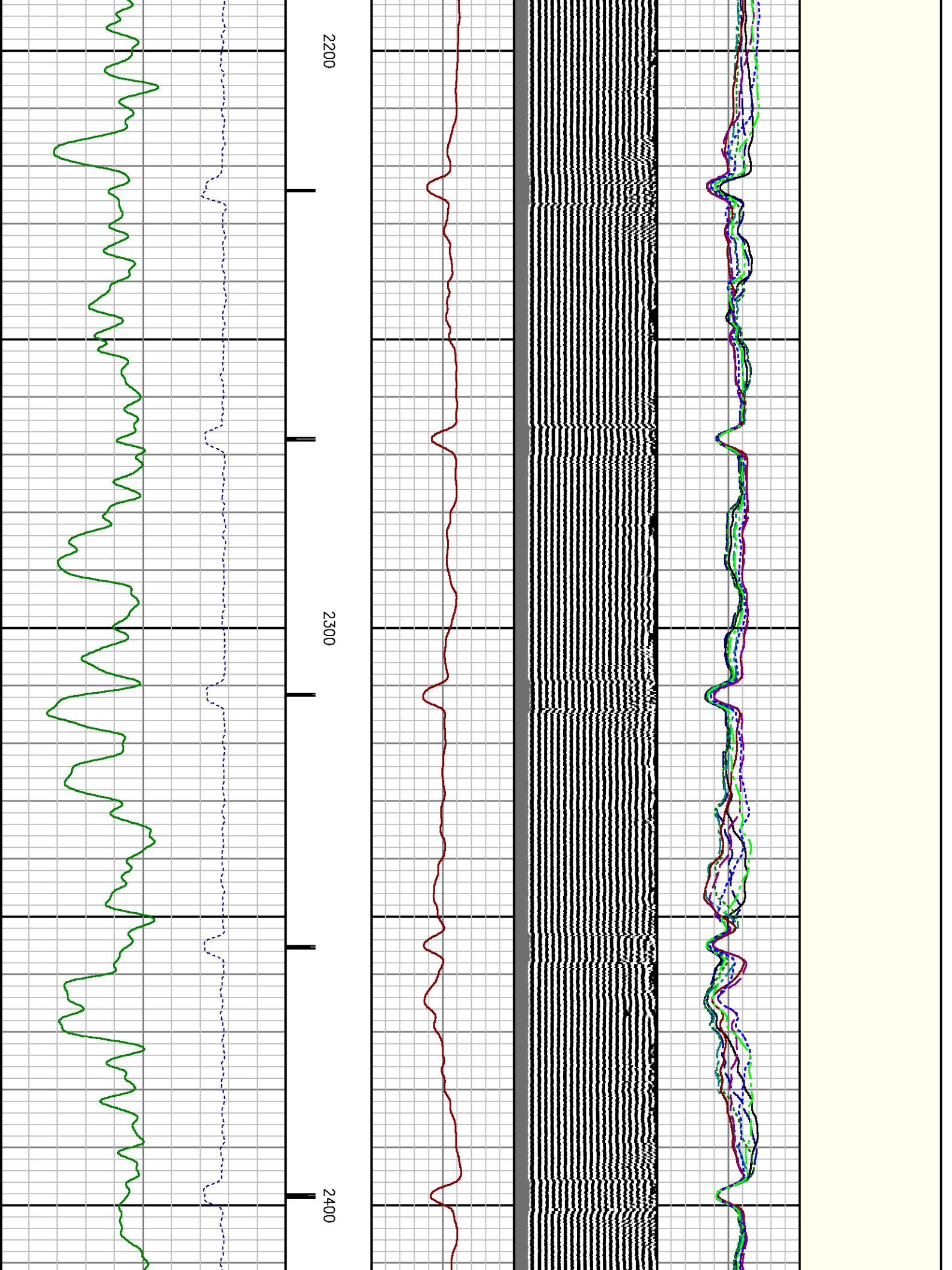


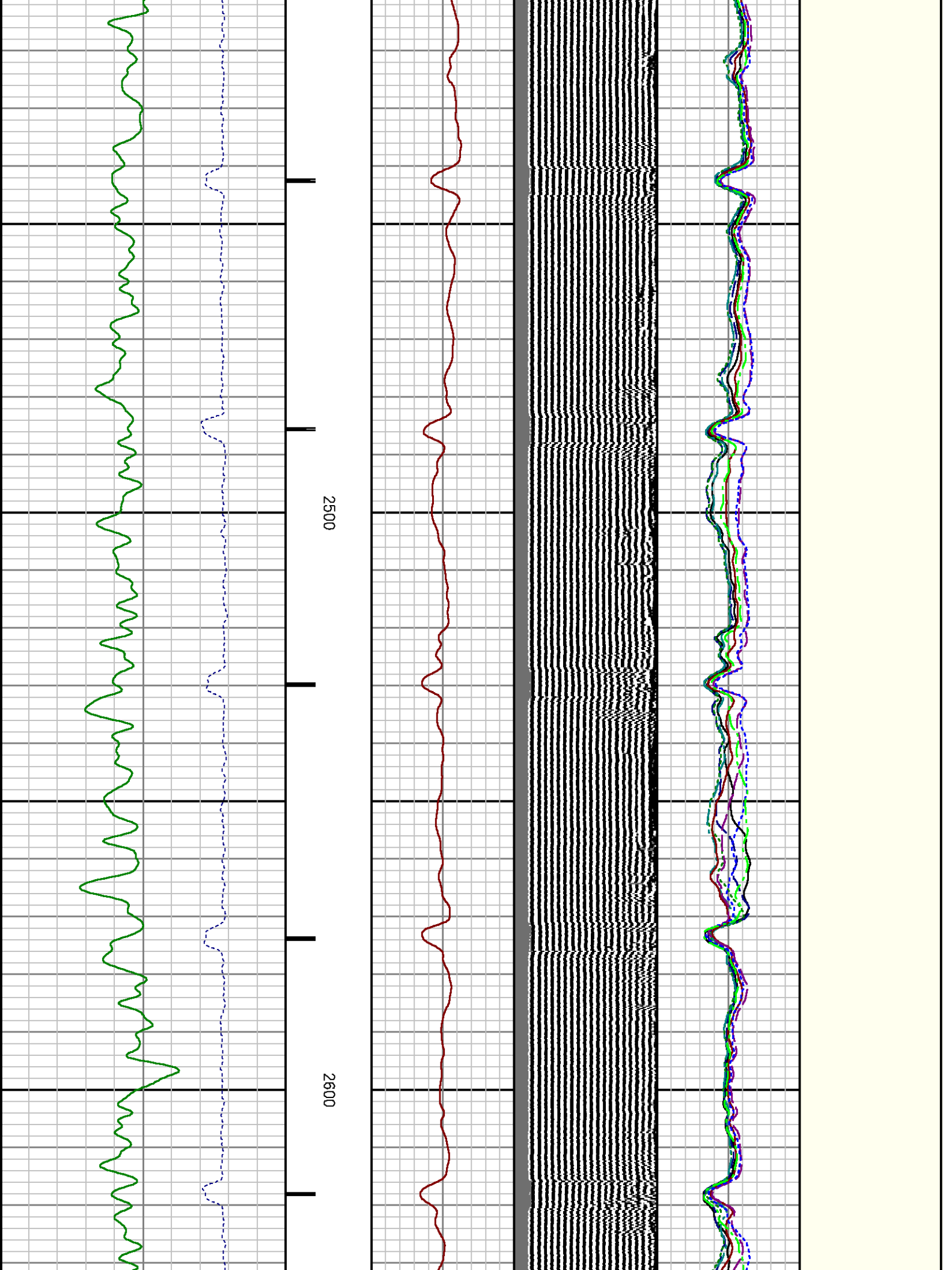


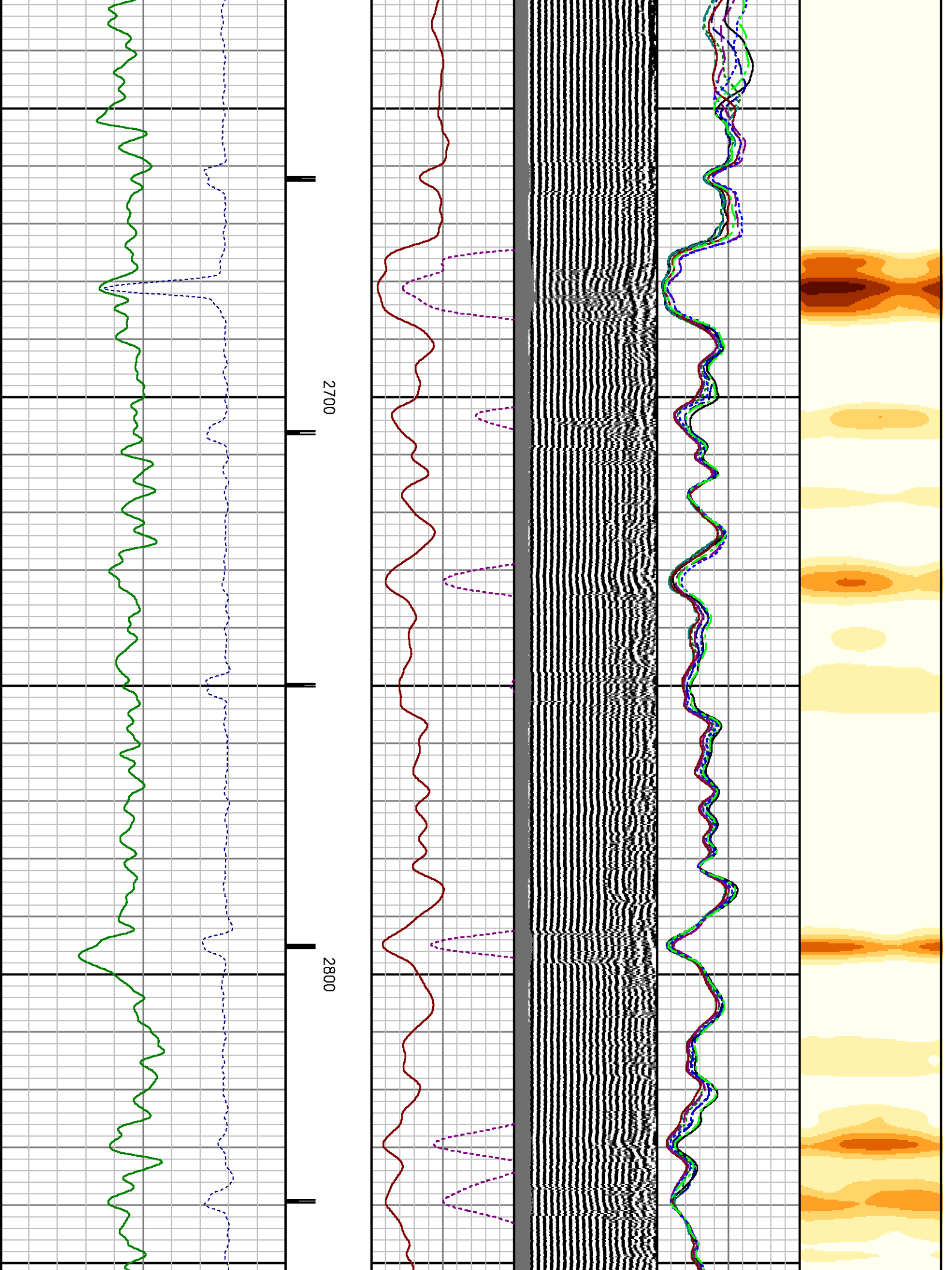


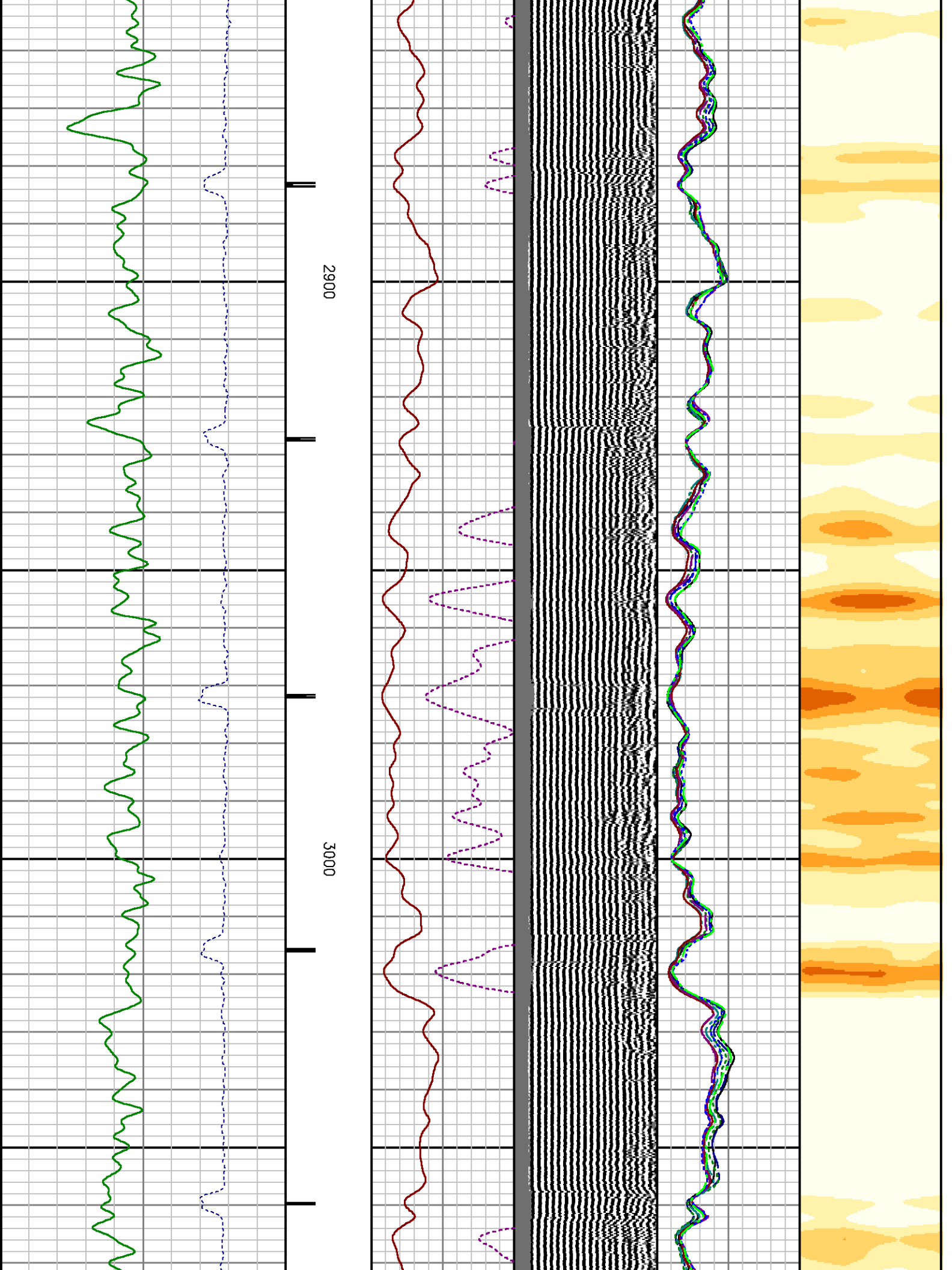


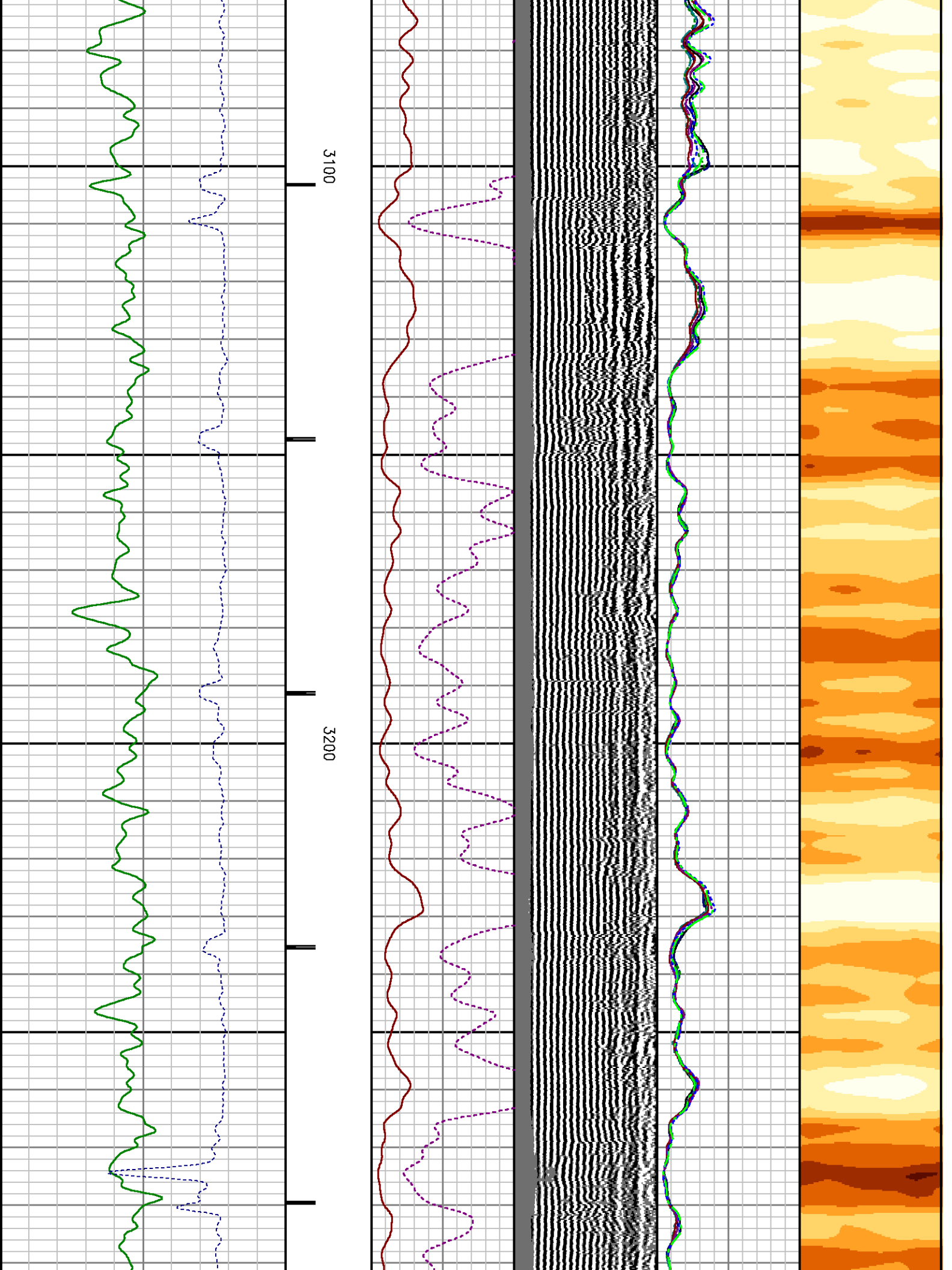


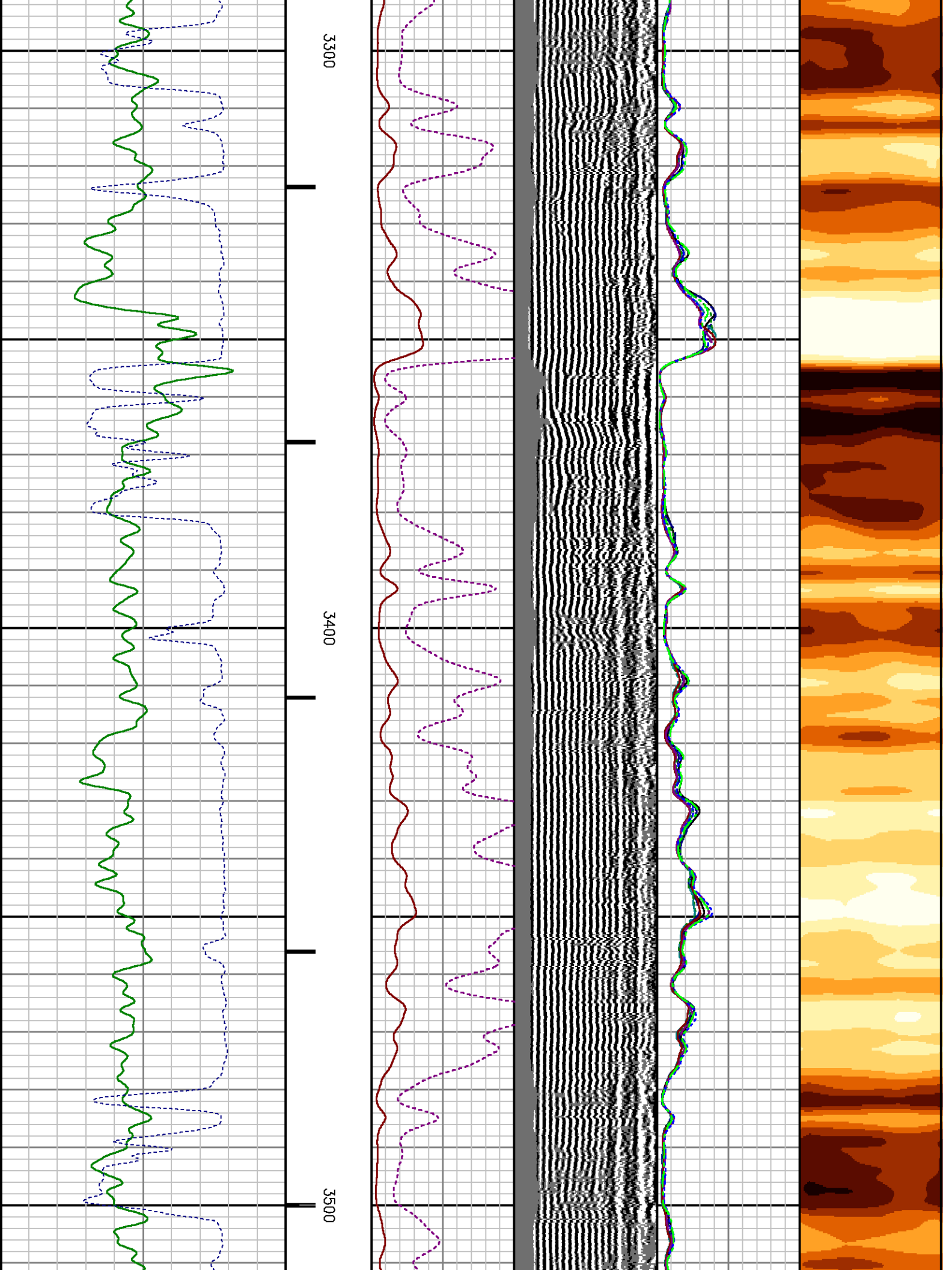


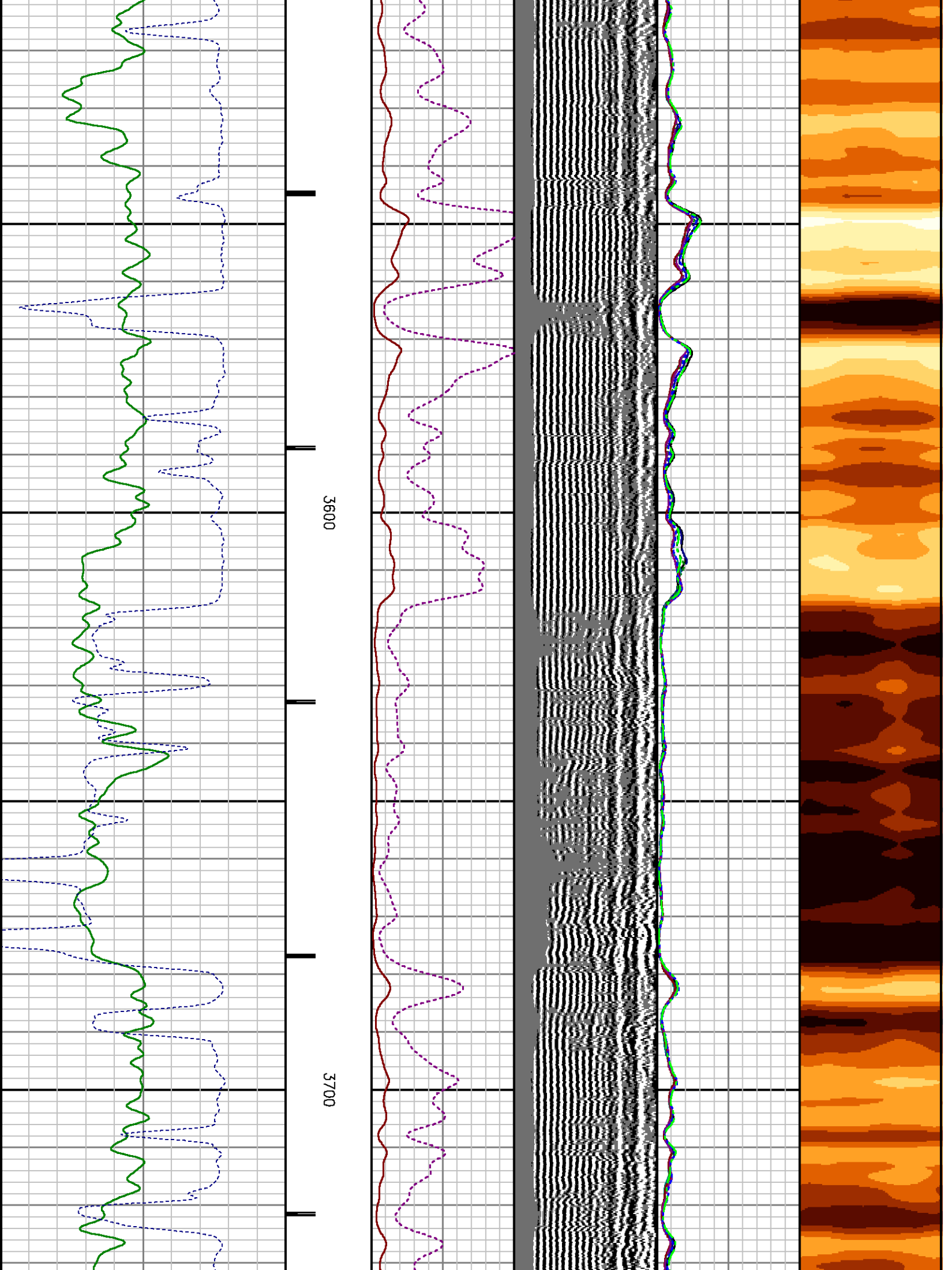


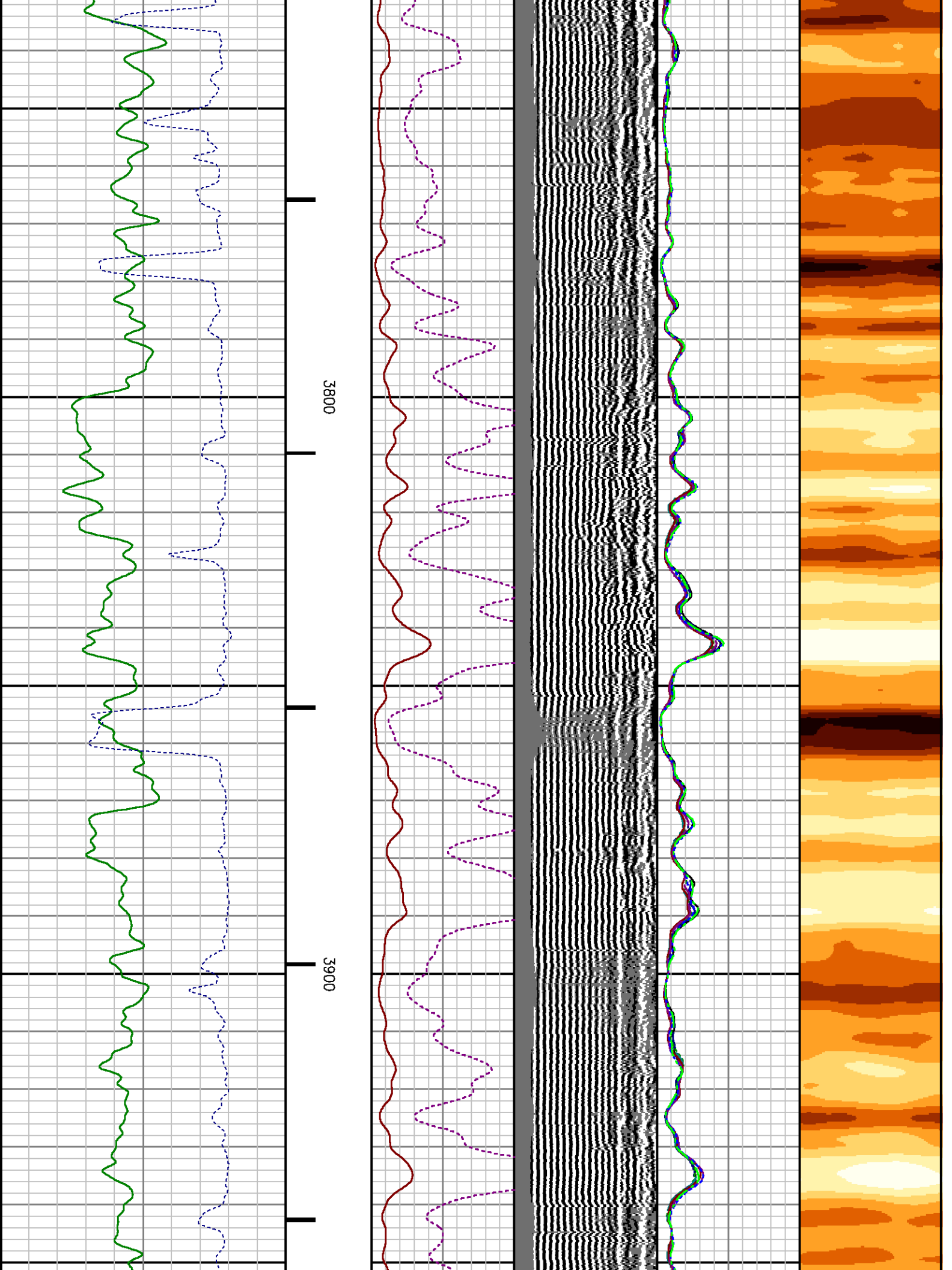


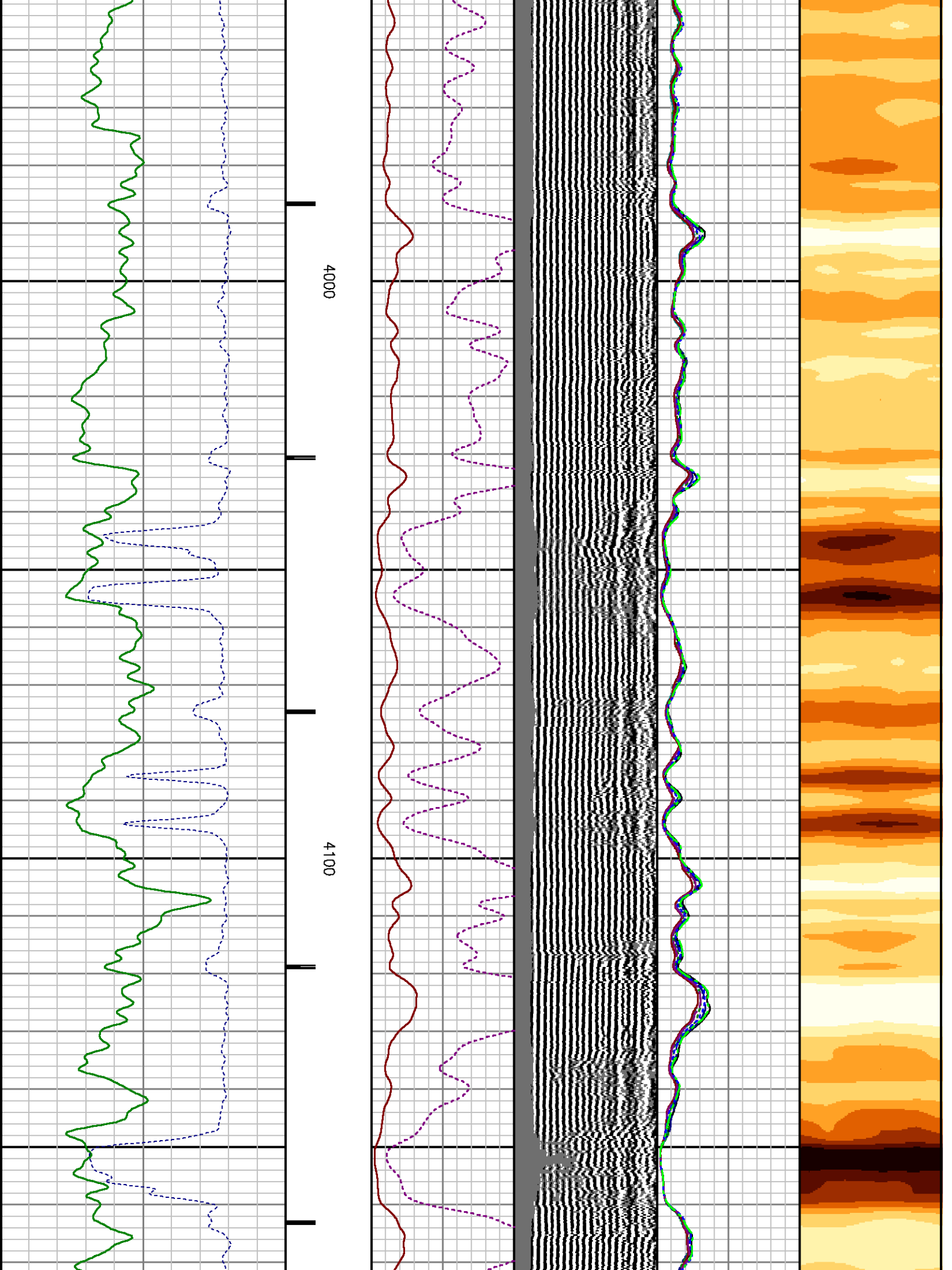


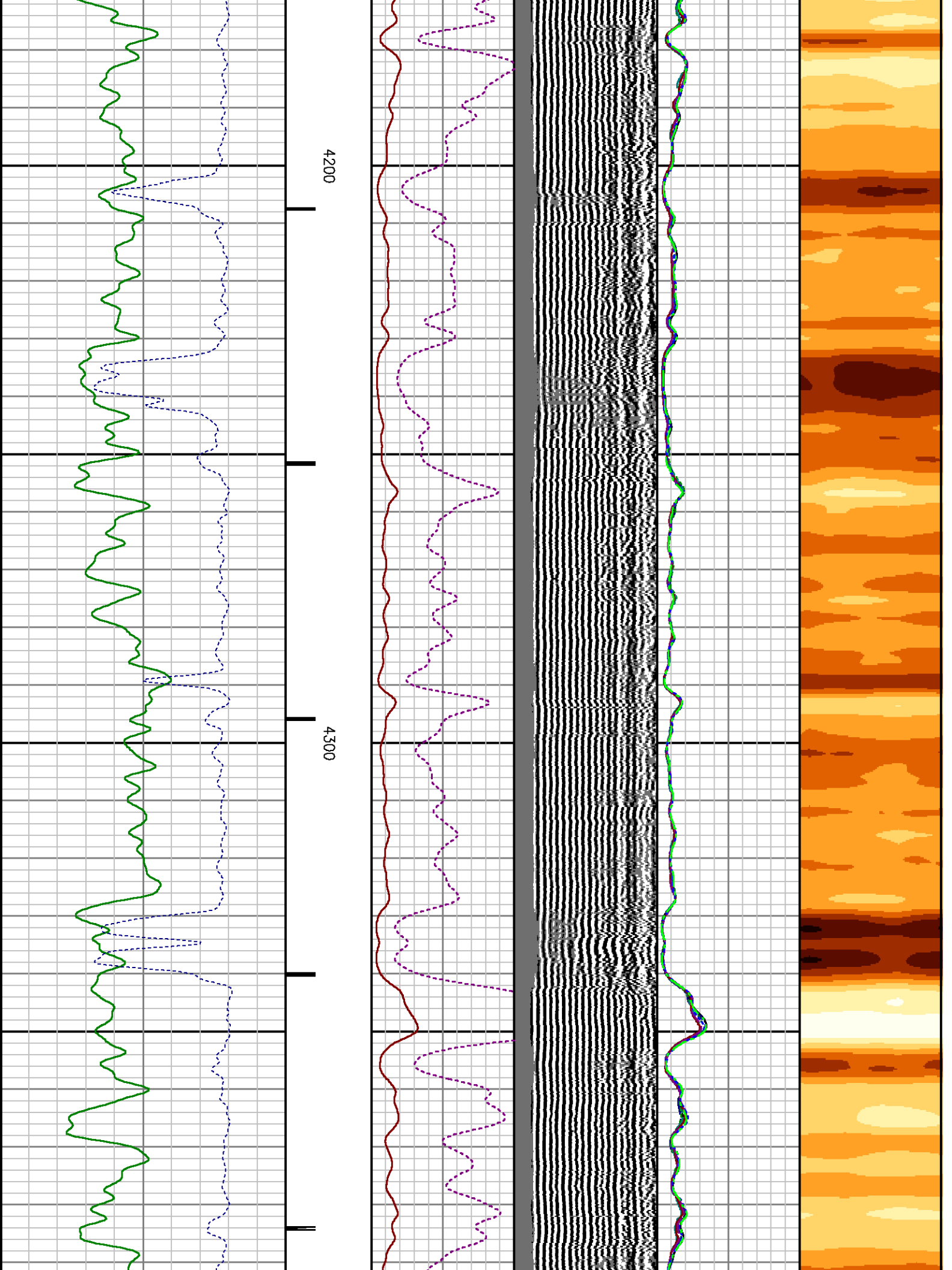


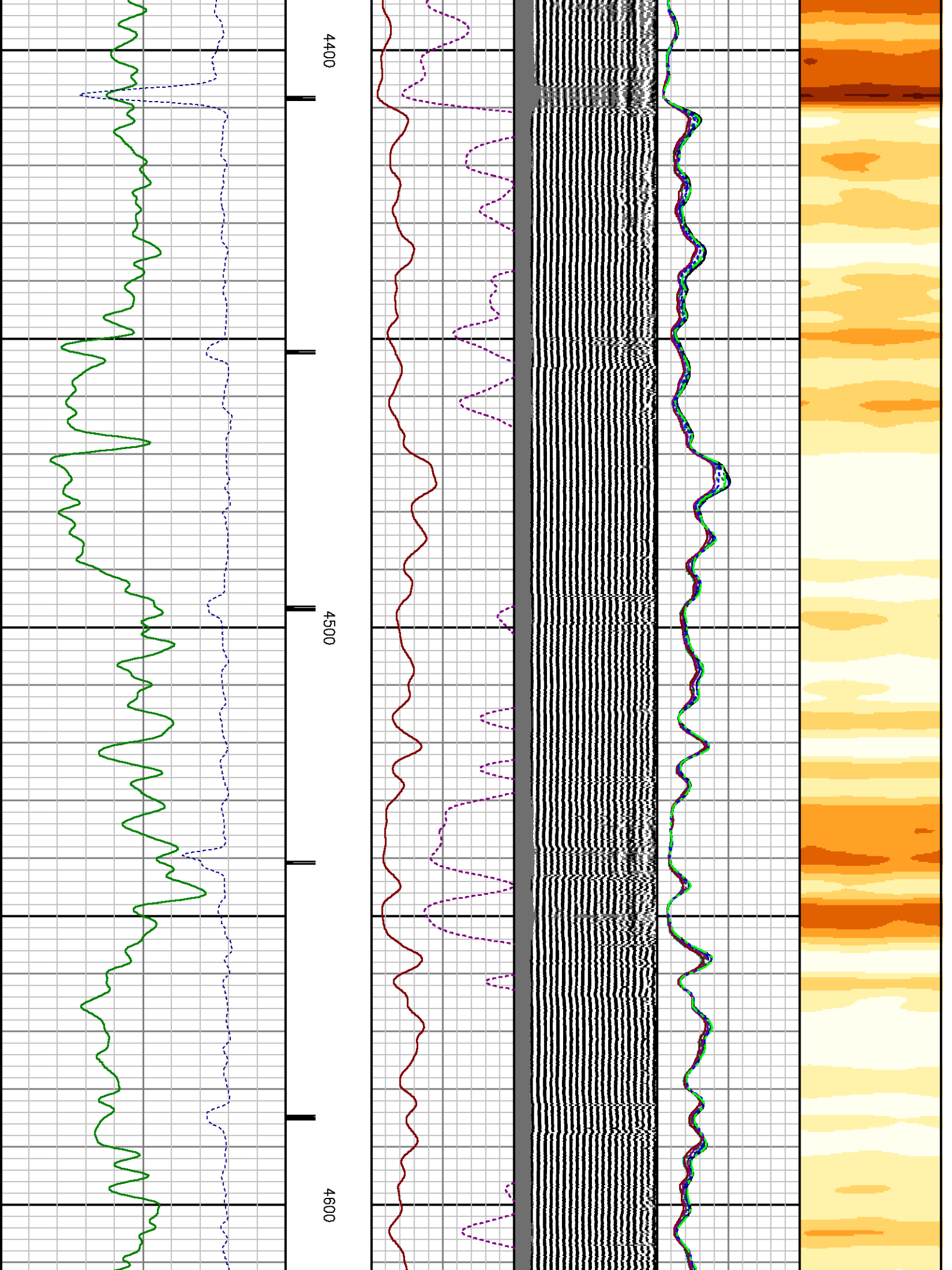


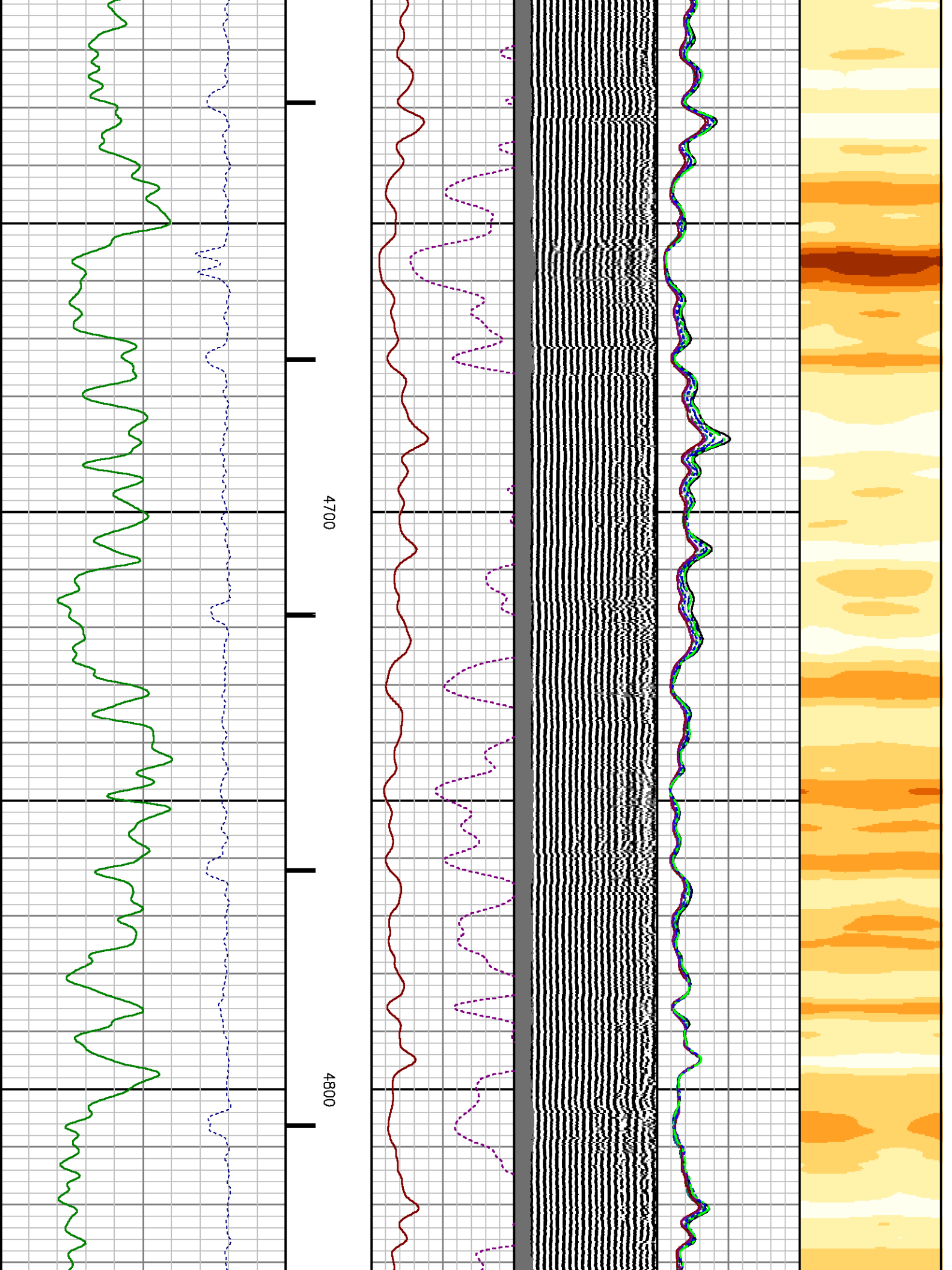


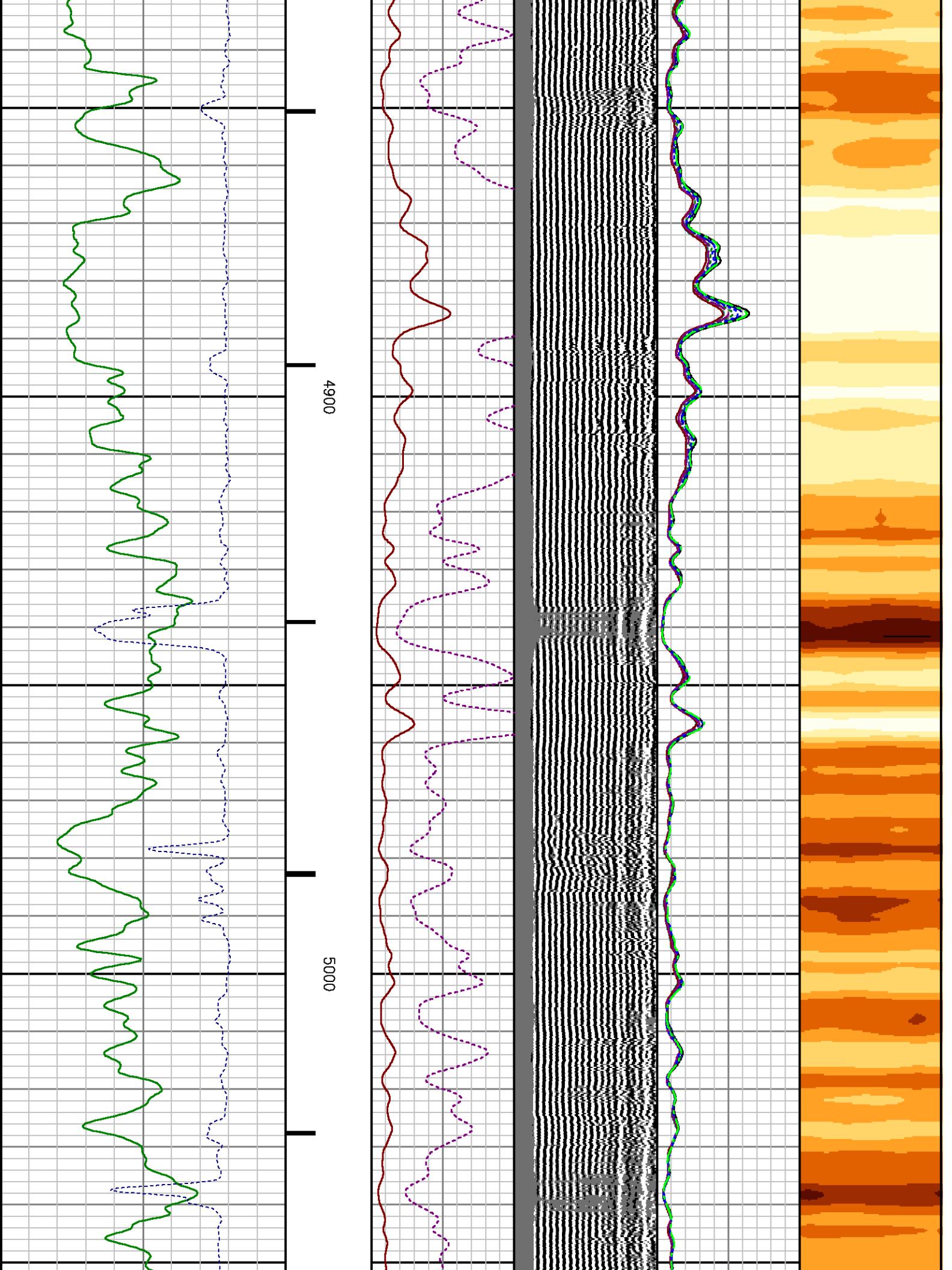


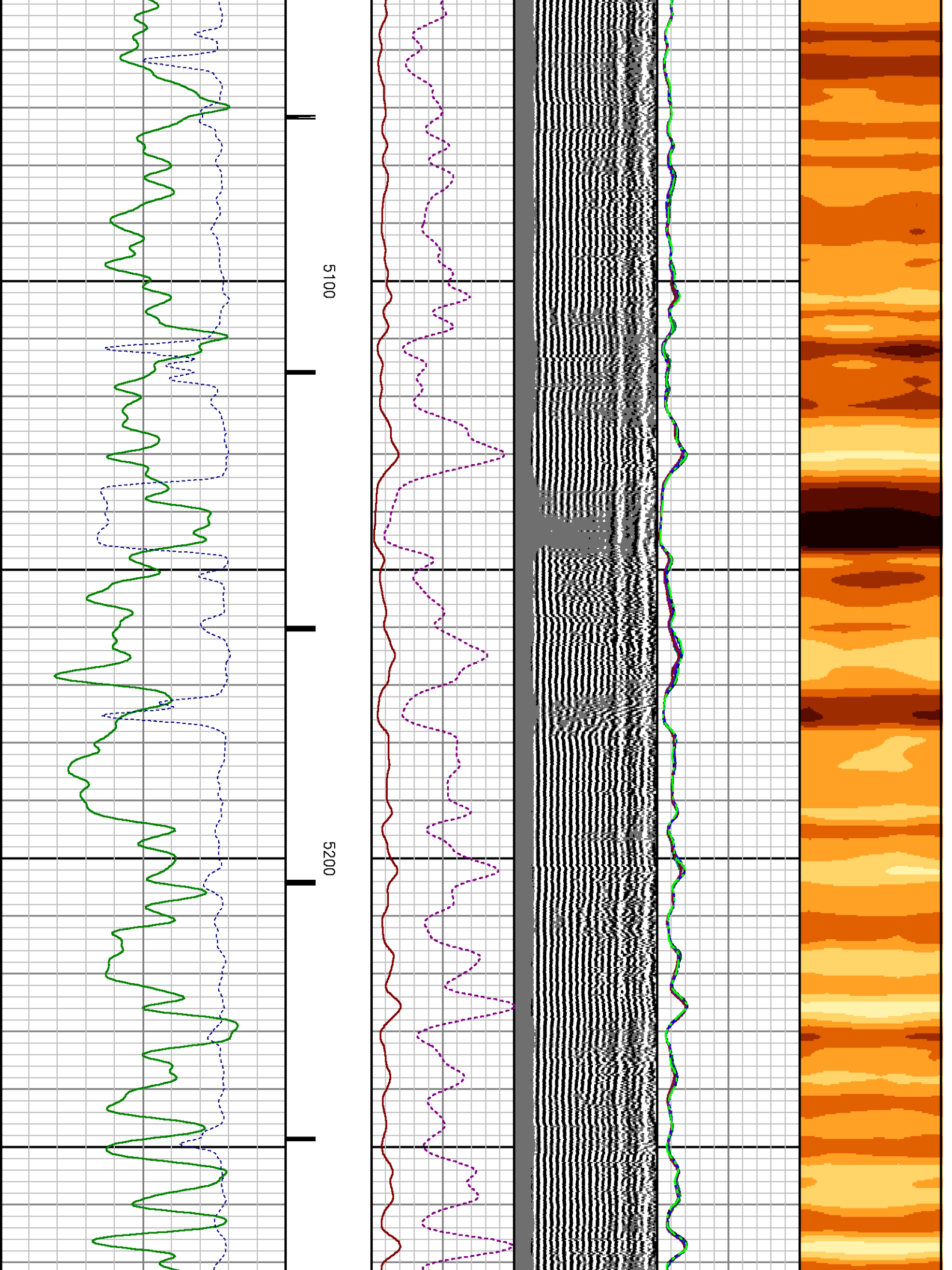


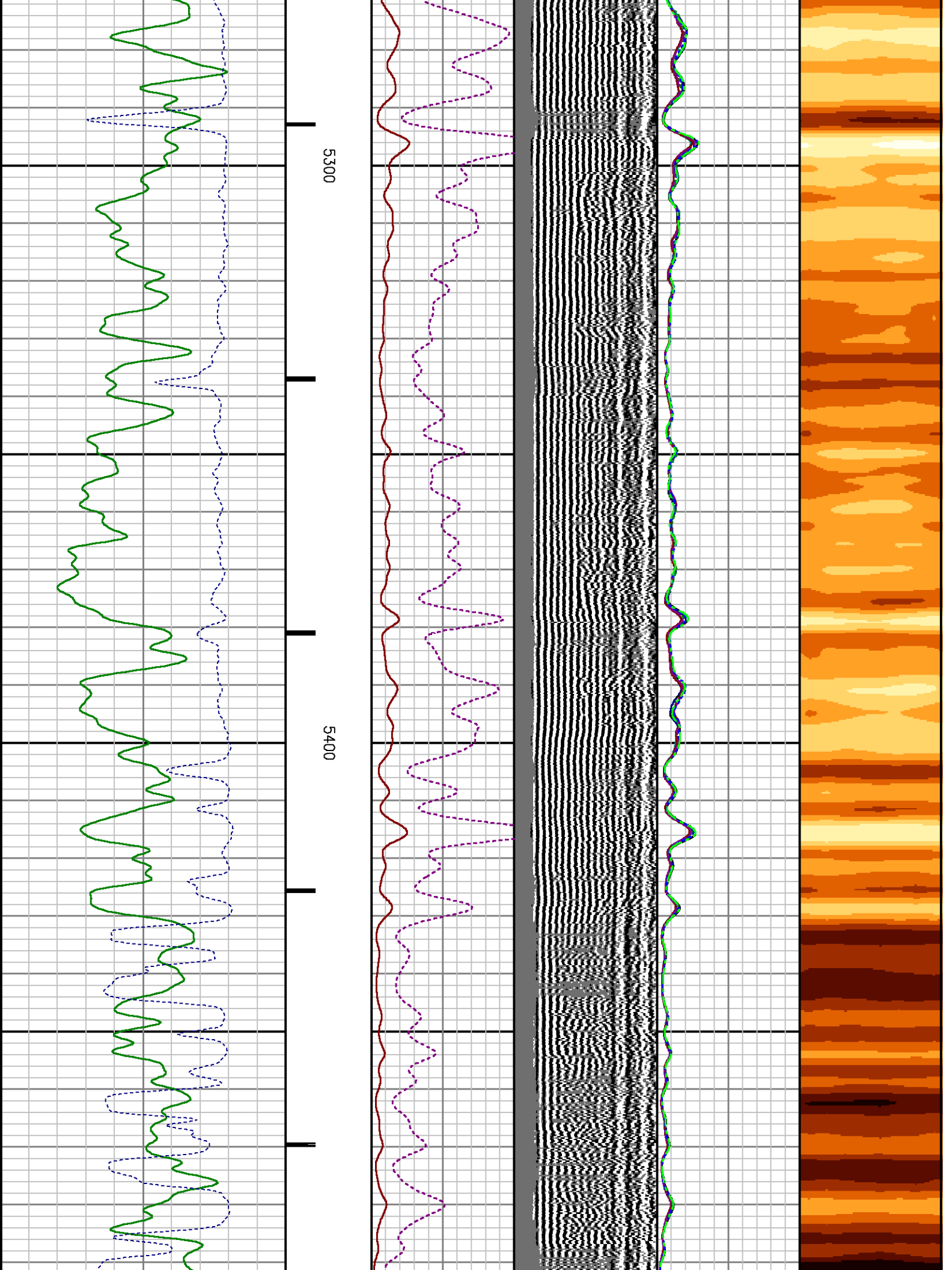


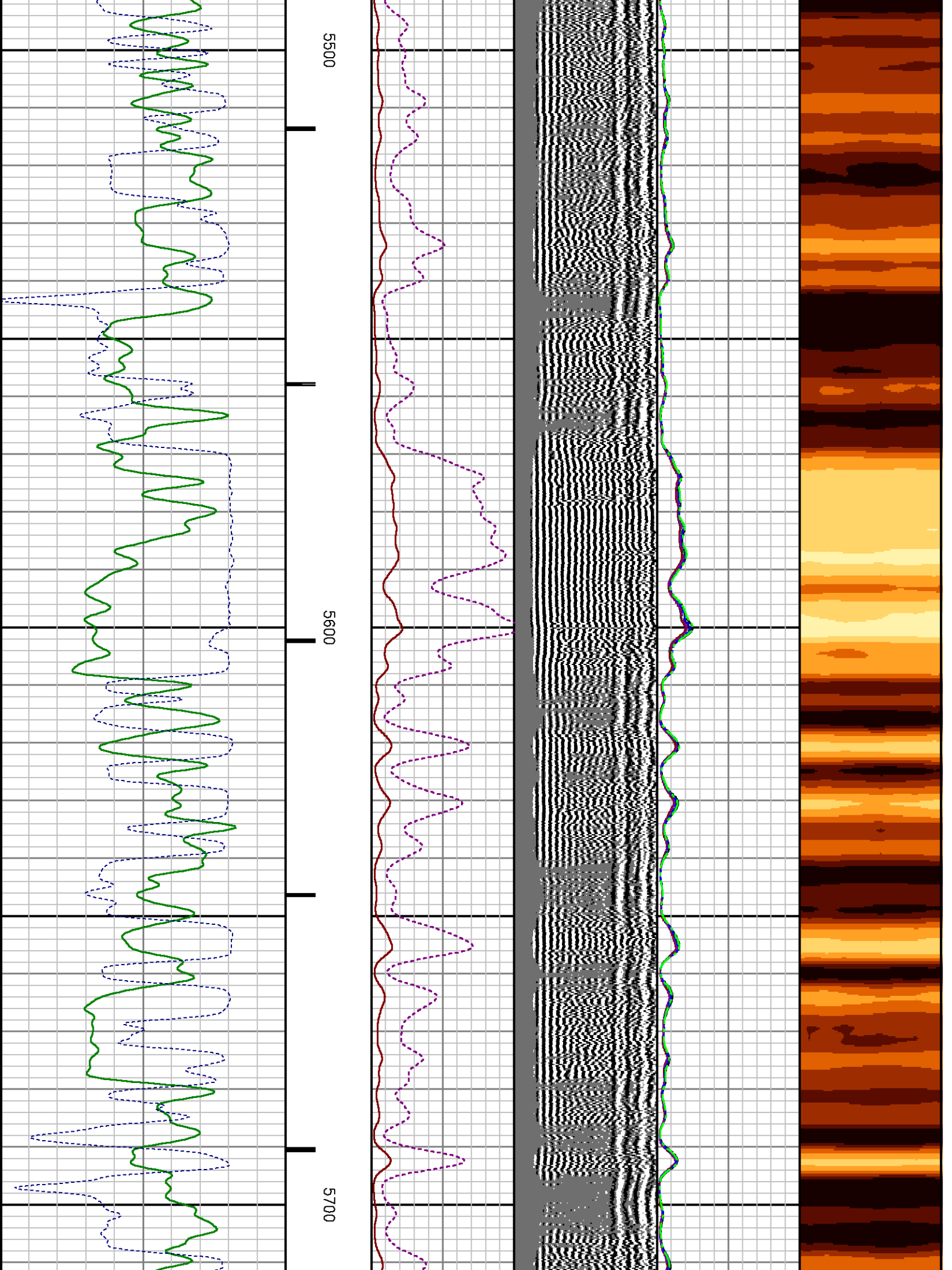


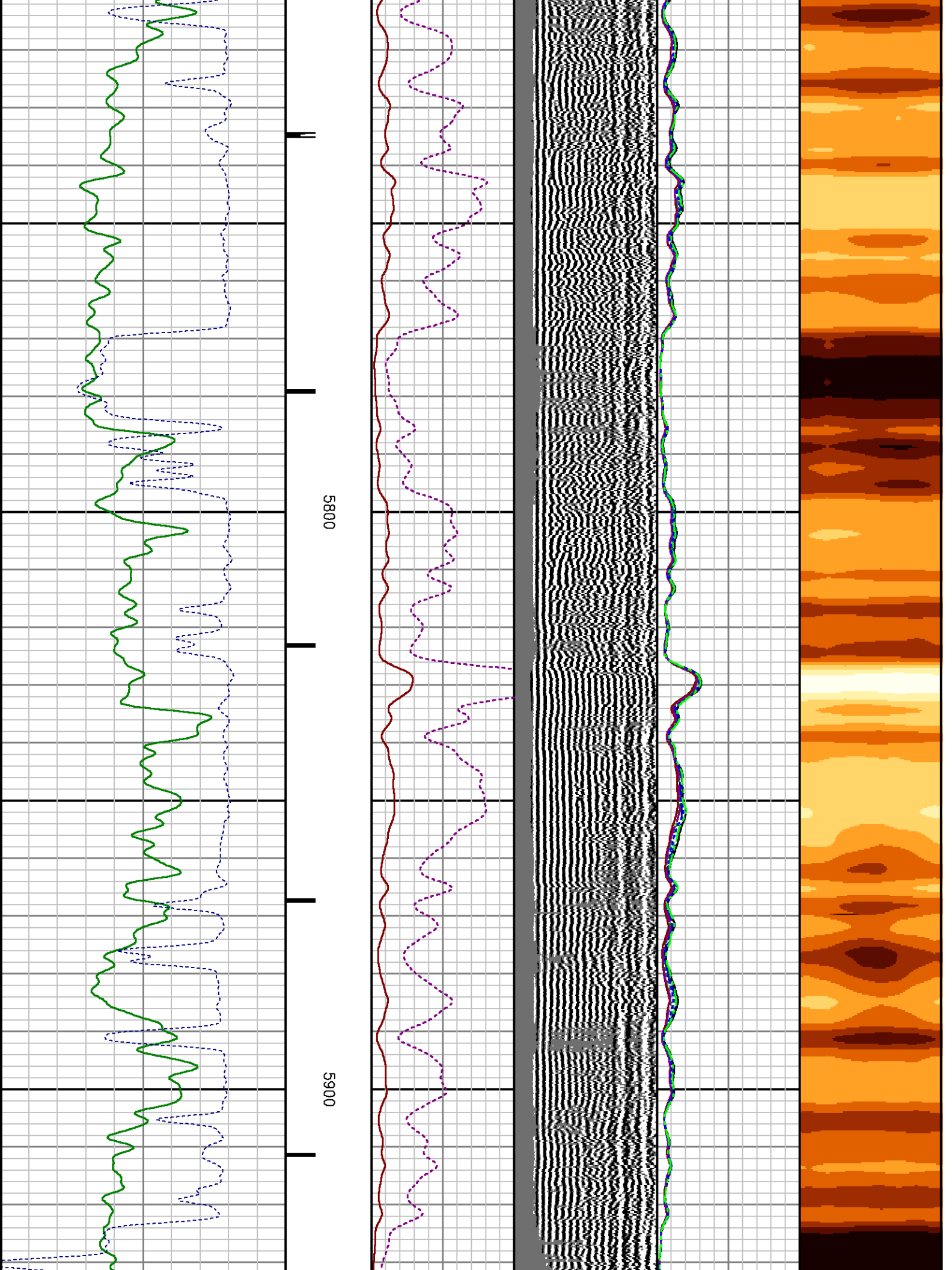


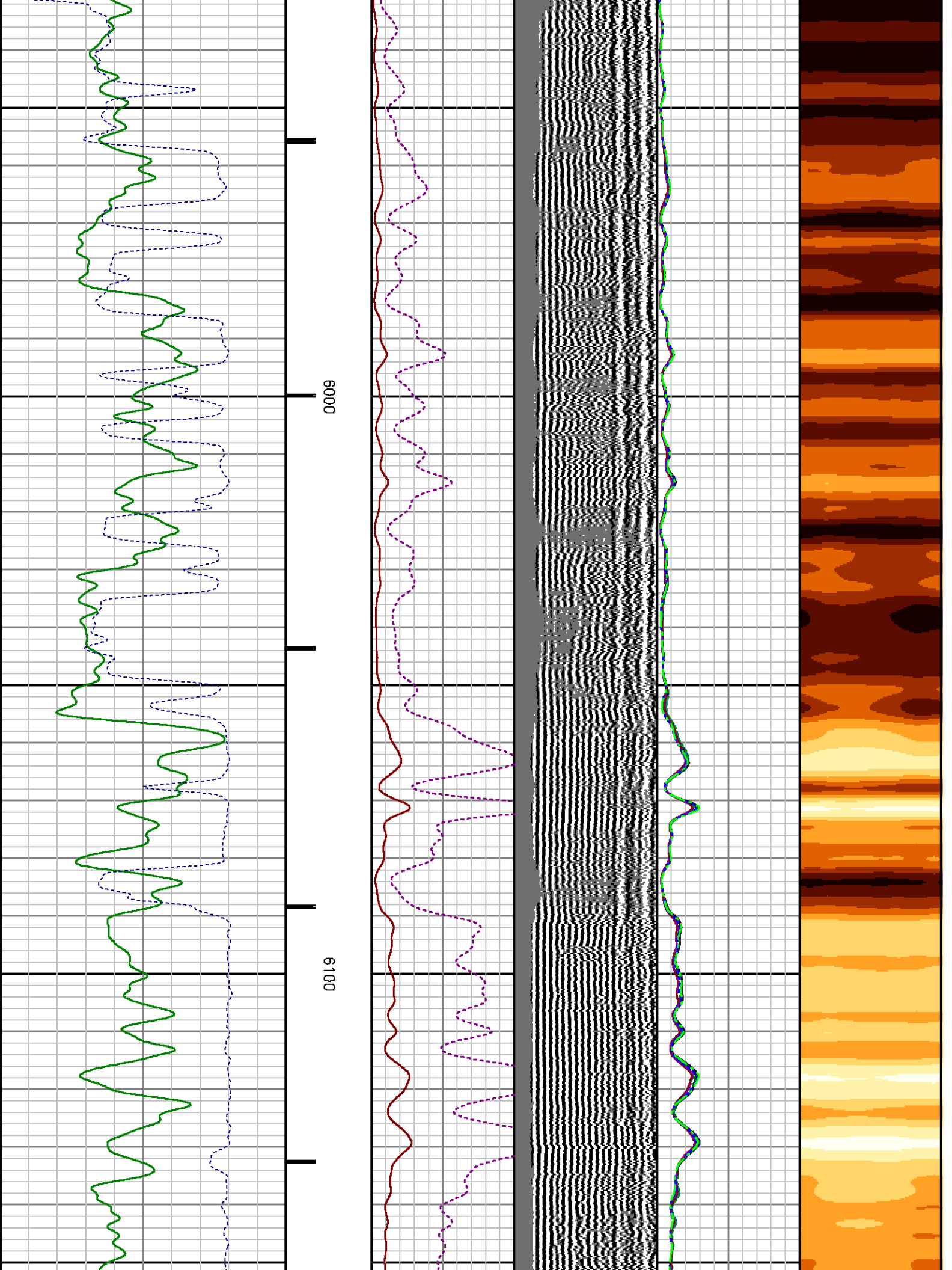


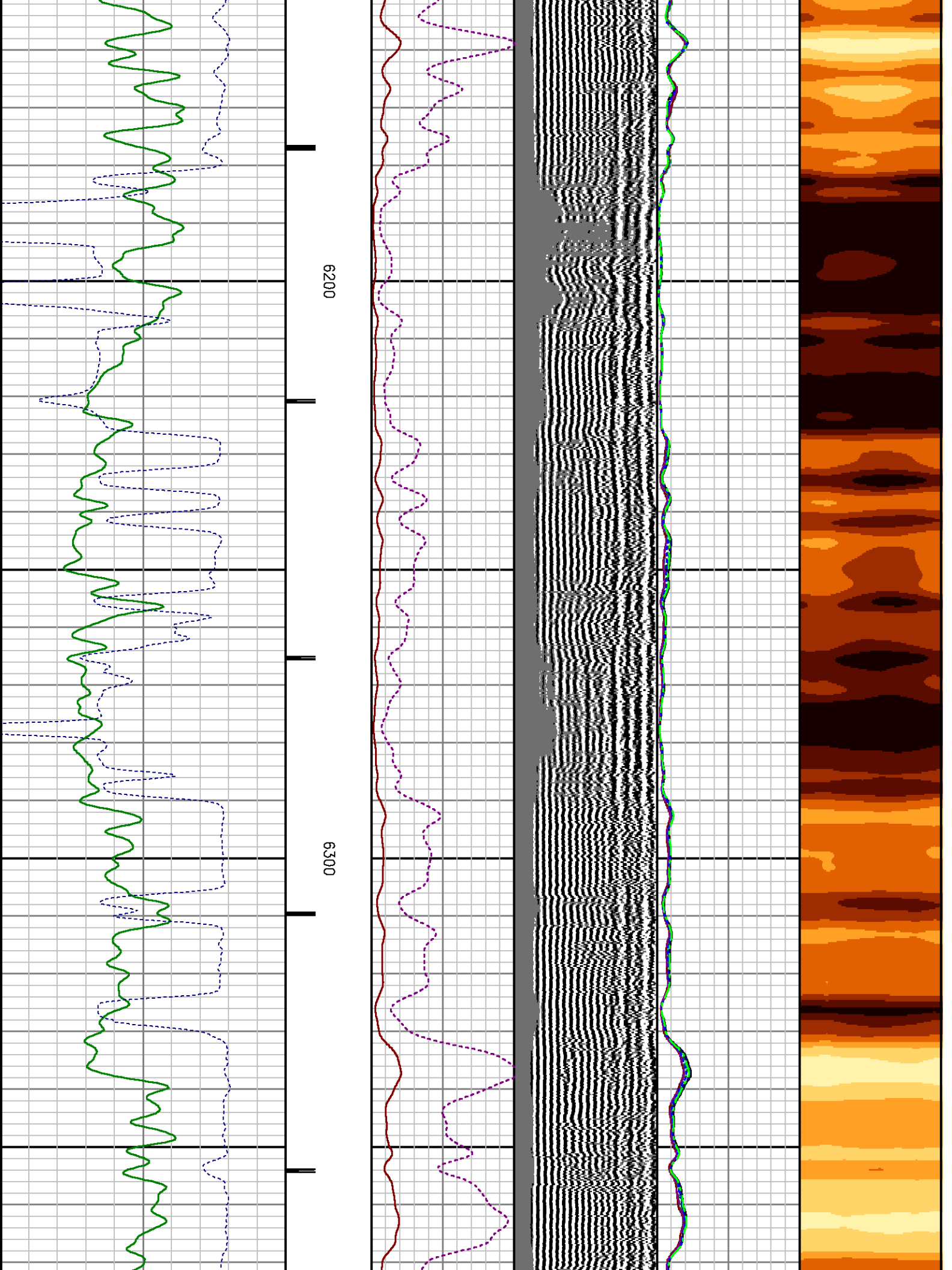


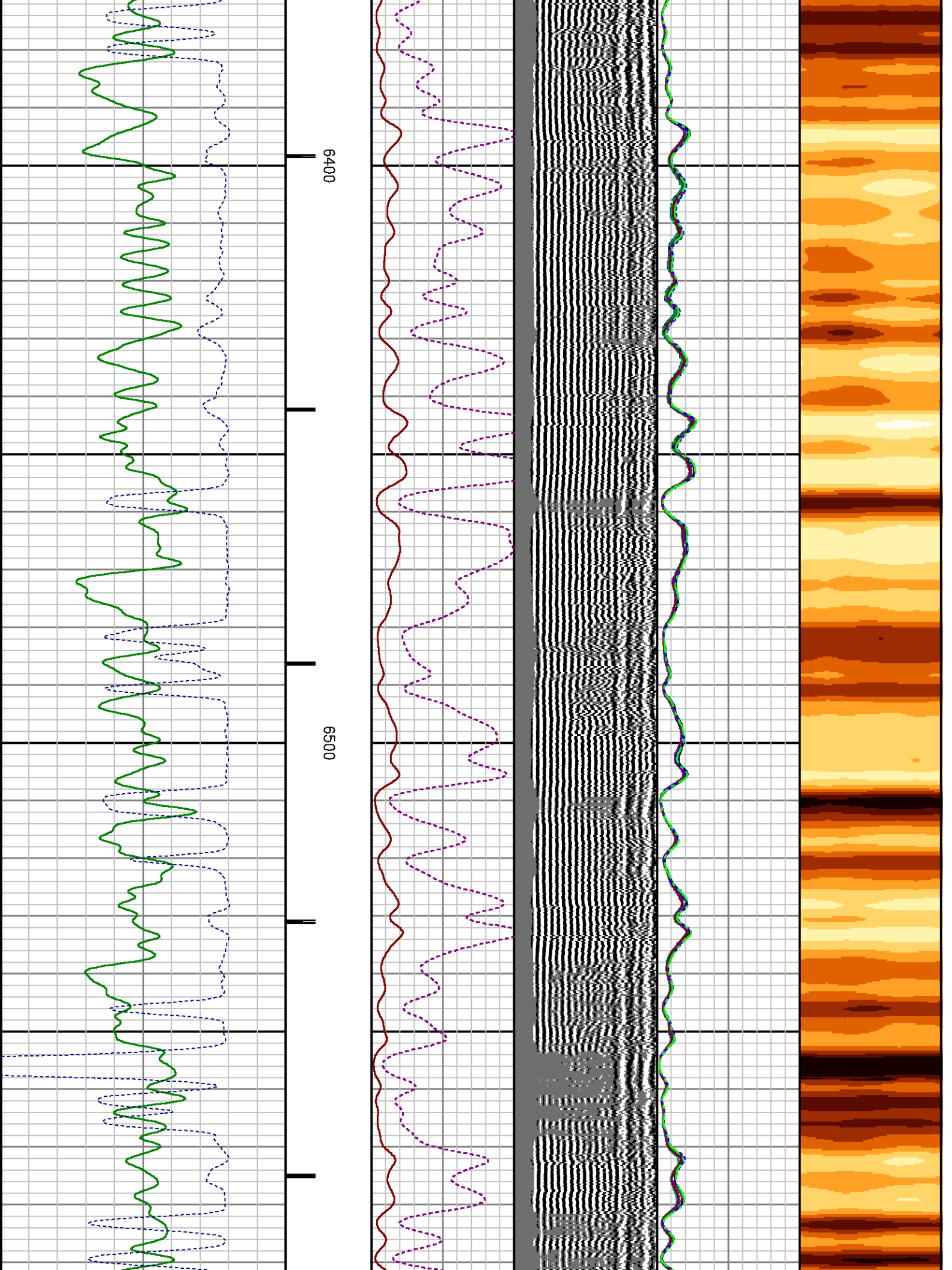


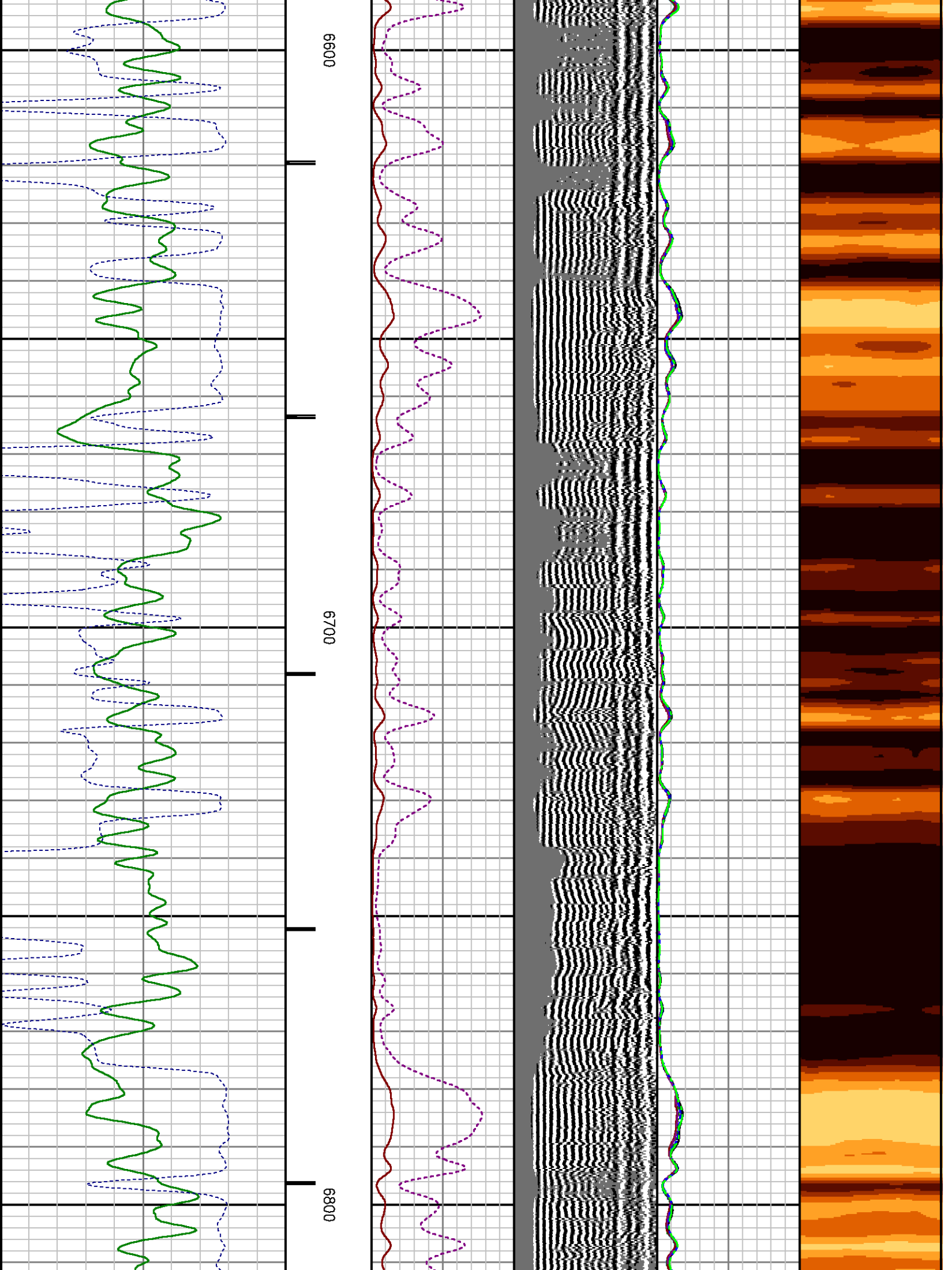


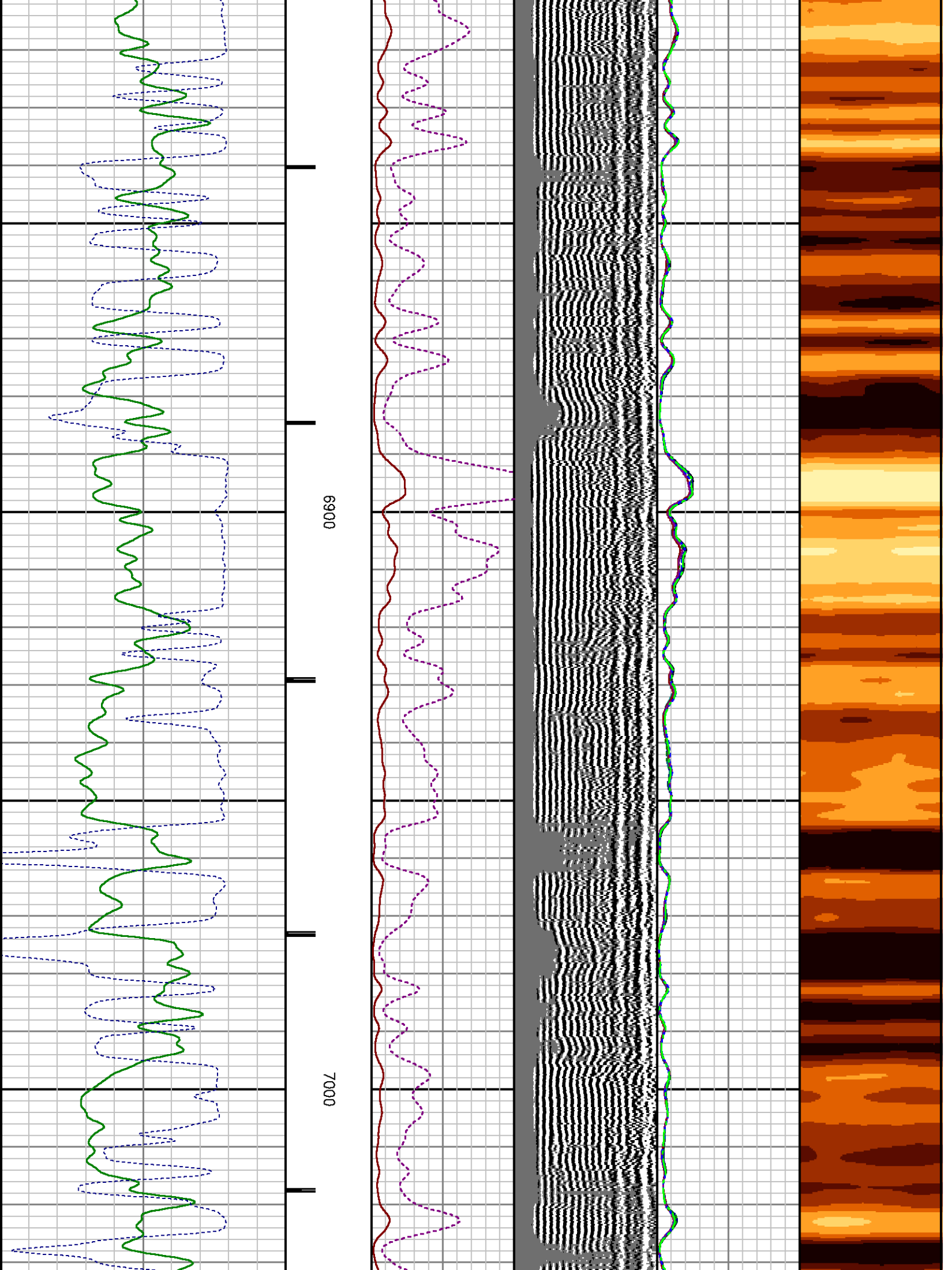


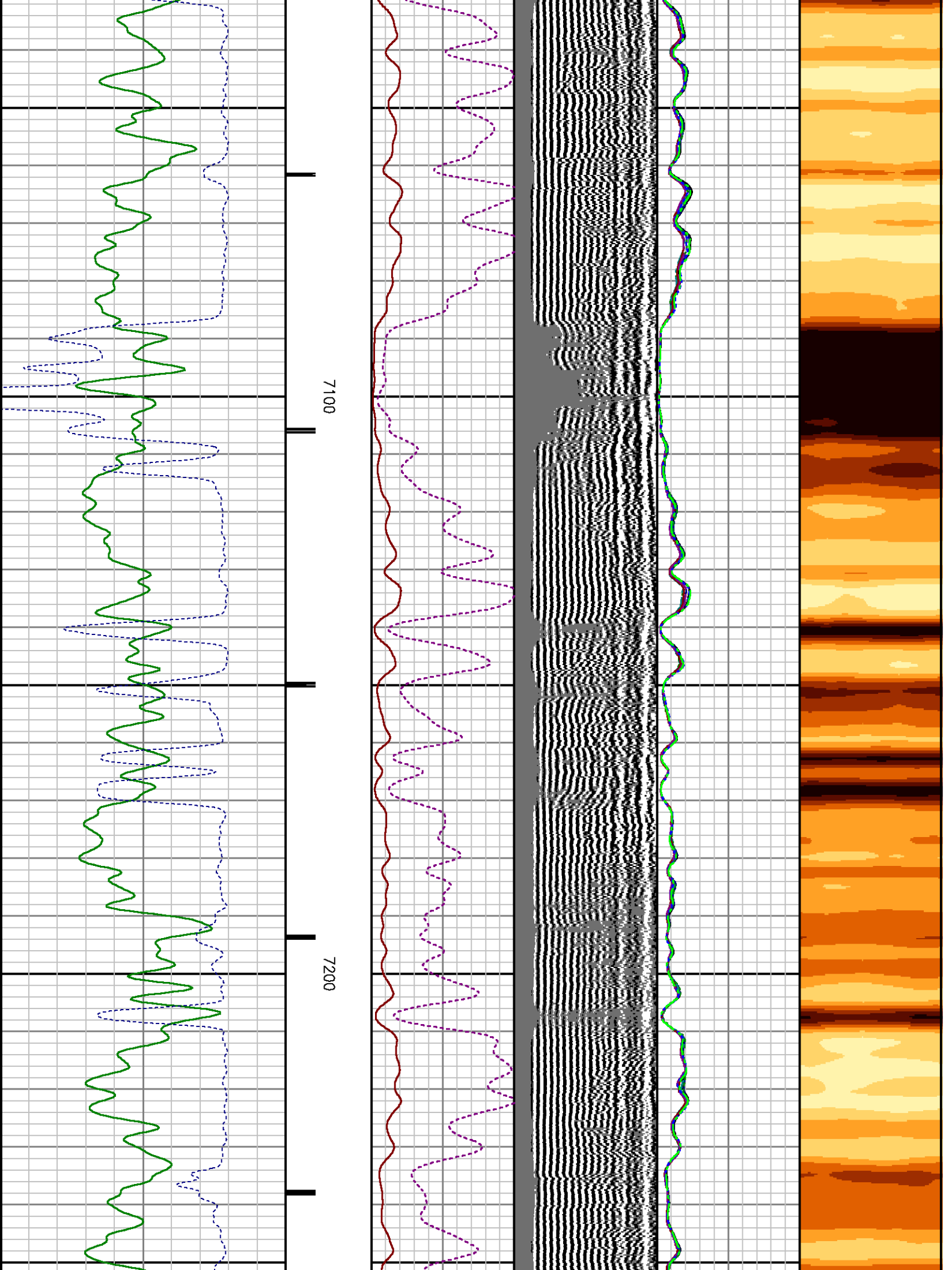


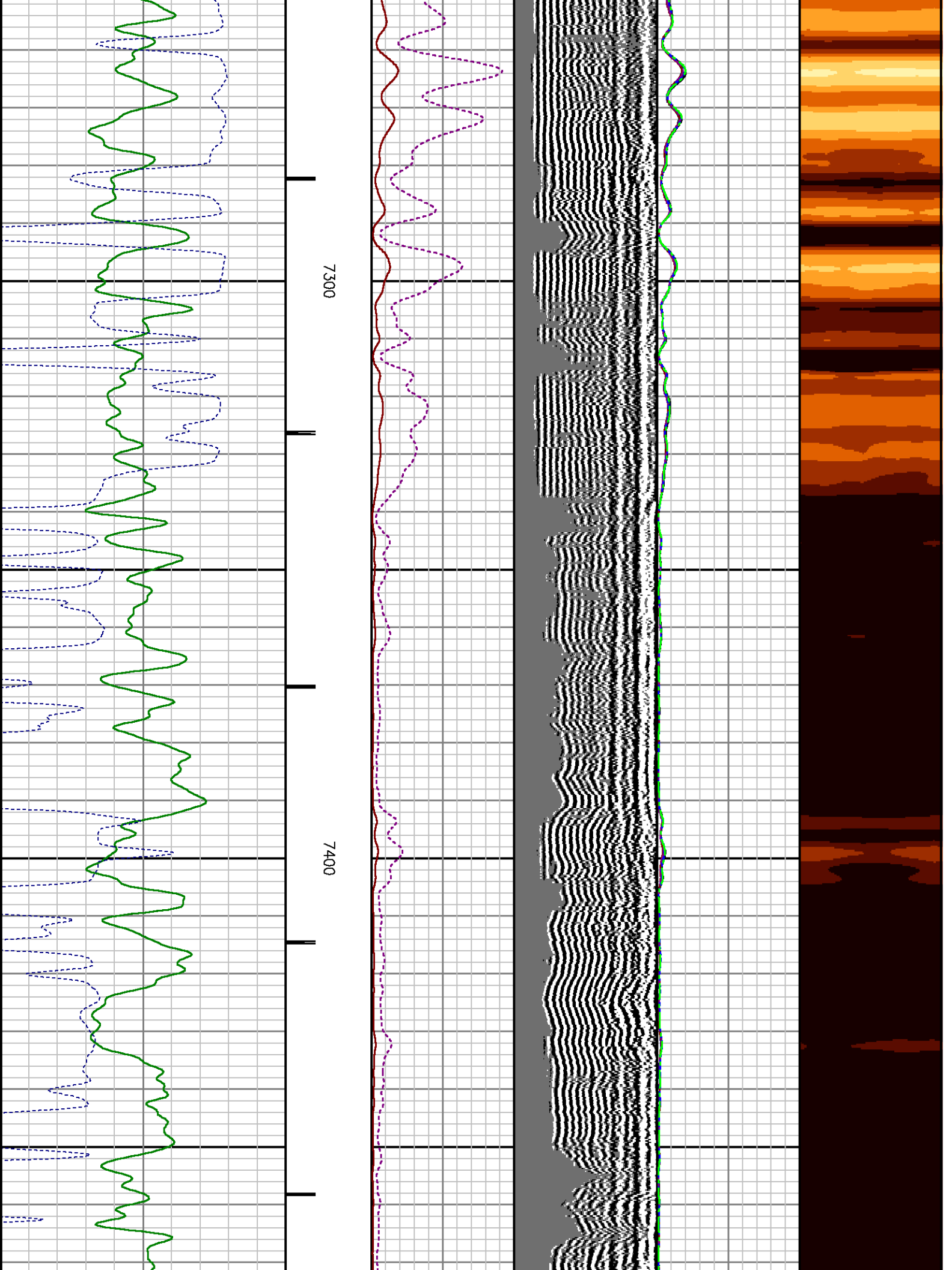


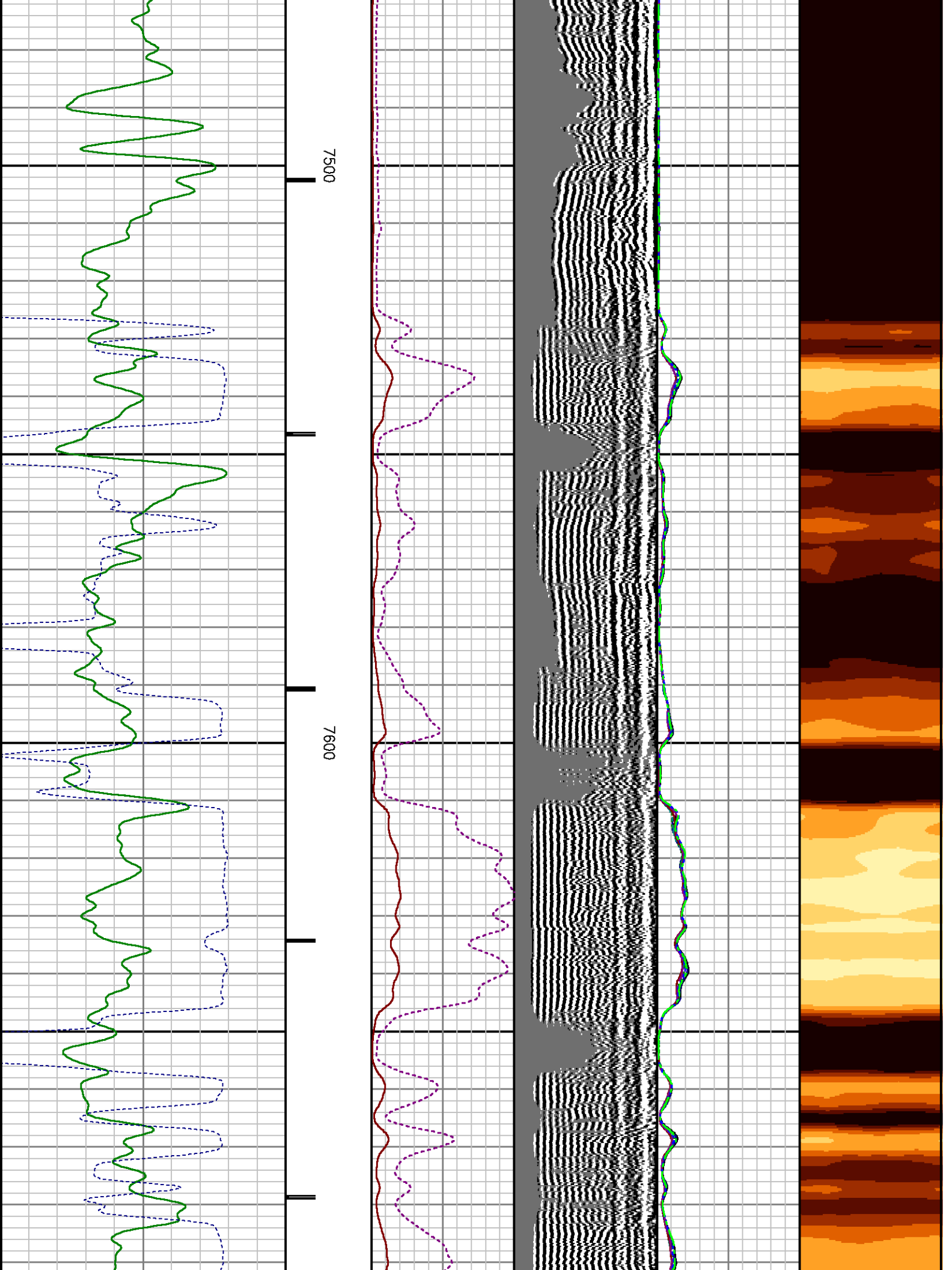


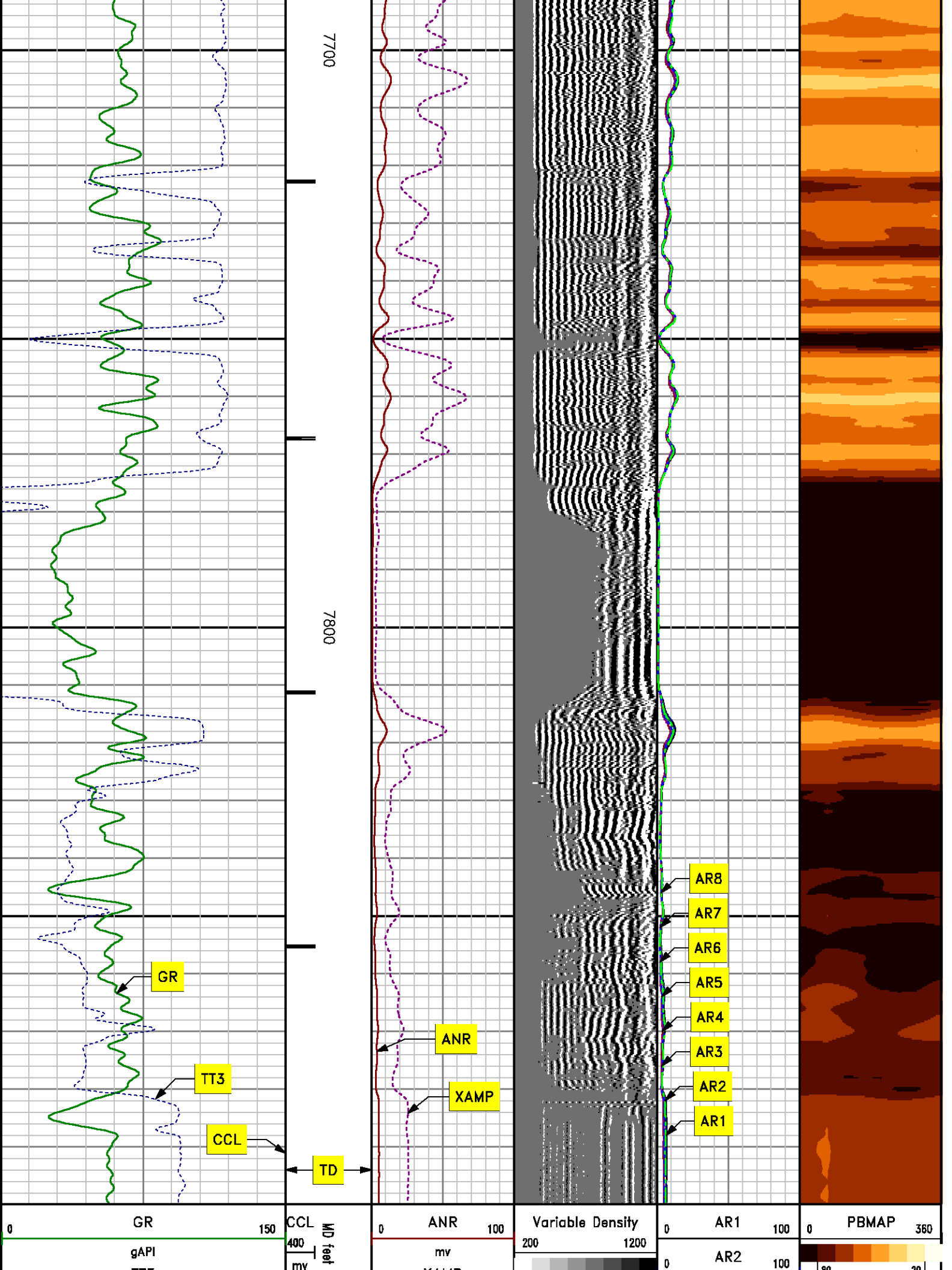












280	113	180	1240	0	XAMP	20	us	0	AR3	100	80	20
	usec				mv							
								0	AR4	100		
								0	AR5	100		
								0	AR6	100		
								0	AR7	100		
								0	AR8	100		

REPEAT PASS
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	307.440	usec	7569.781	7940.000
RAL	Amp Gate Start Near	199.015	usec	7569.781	7940.000
RAL	Amp Gate Start Radial	199.599	usec	7569.781	7940.000
RAL	Amp Gate Width Far	25.000	usec	7569.781	7940.000
RAL	Amp Gate Width Near	25.000	usec	7569.781	7940.000
RAL	Amp Gate Width Radial	25.000	usec	7569.781	7940.000
RAL	casing od	4.500	inches	7569.781	7940.000
RAL	casing wt	11.600	lbm/ft	7569.781	7940.000
RAL	FB Start Far	291.900	usec	7569.781	7940.000
RAL	FB Start Near	175.391	usec	7569.781	7940.000
RAL	FB Start Radial	175.391	usec	7569.781	7940.000
RAL	FB Thresh Far	10.000	mv	7569.781	7940.000
RAL	FB Thresh Near	4.000	mv	7569.781	7940.000
RAL	FB Thresh Radial	4.000	mv	7569.781	7940.000
RAL	Fluid Travel Time	200.000	usec/ft	7569.781	7940.000

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES						
1426XA	-11.000	ACAL	ANR	AR1	AR2	AR3	AR4	

1426XA -10.040
1355XA -5.620
1355XA -1.500
1355XA 0.000

AR5	AR6	AR7	AR8	CHV	FPR2
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

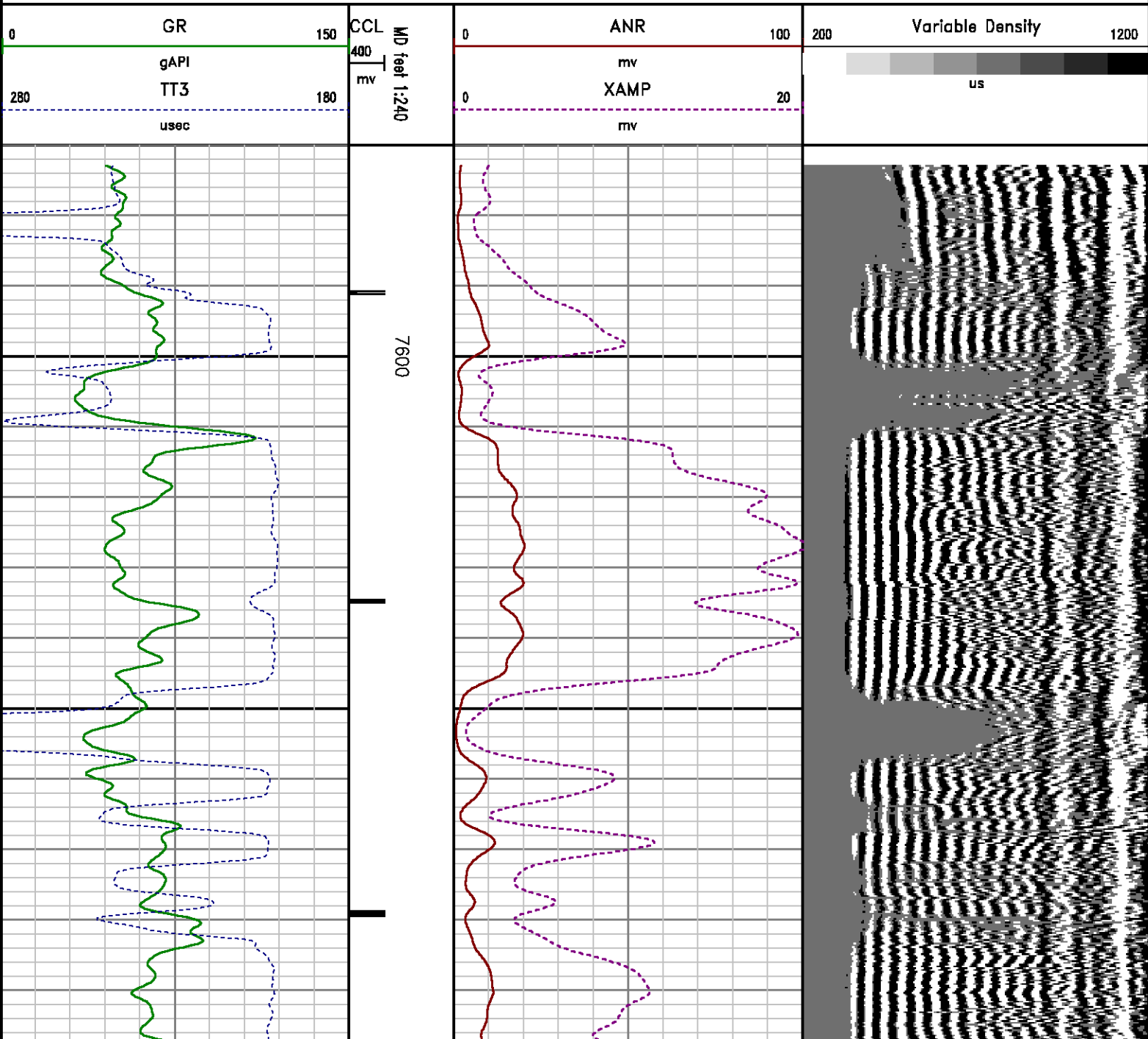
Well : DUGGAN RWF 324-29

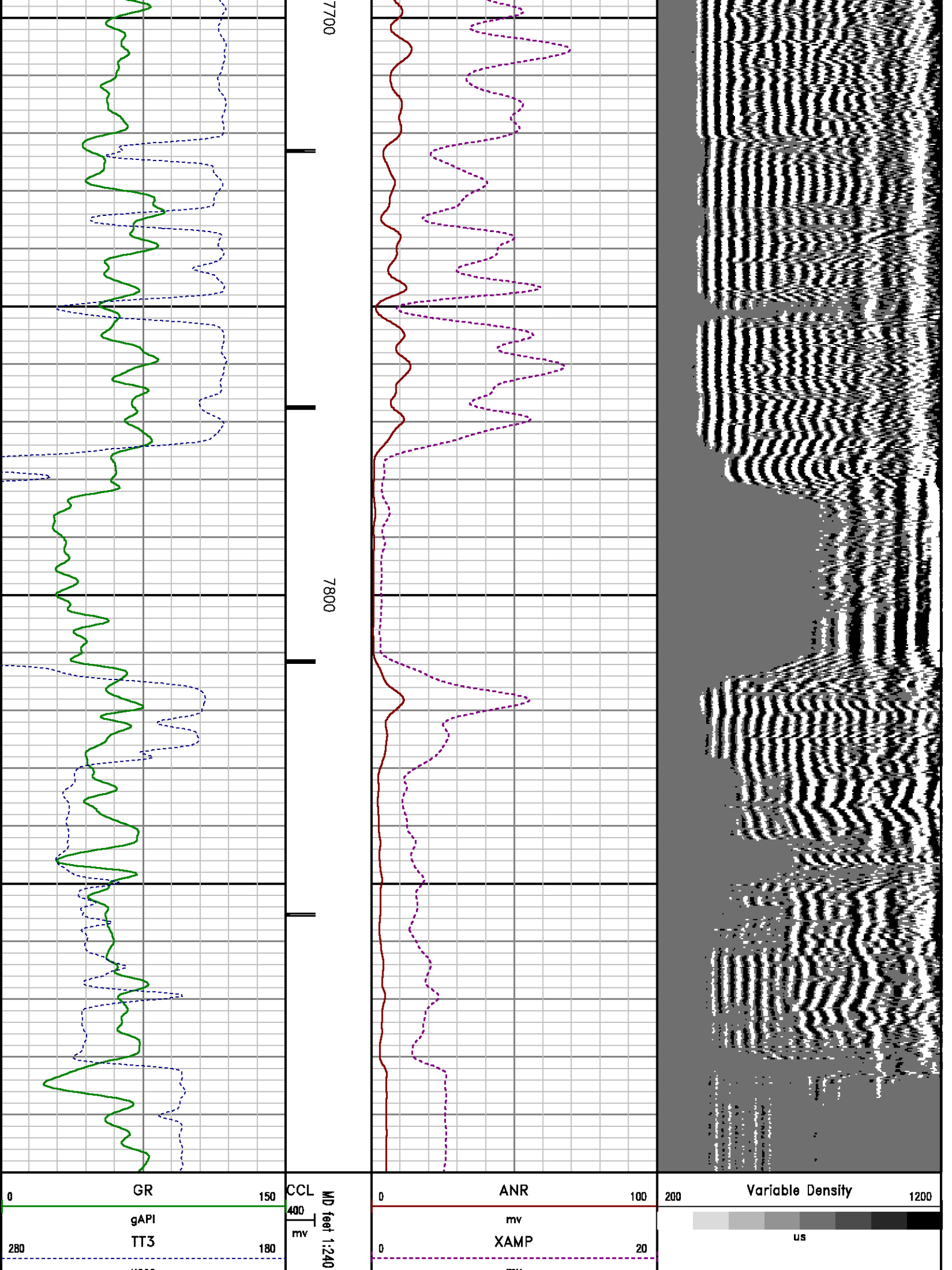
File Name : d:\welldata\324cbl\repeat.xtf

Mode : PlotMgr 5.4.504

Interval : 7570.00 - 7900.00 feet UP

Created : 6/9/2013 9:12:44 AM





uSec

mV

CALIBRATION SUMMARY

GAMMA RAY

Calibration File: C:\case\calver\GR\209J1.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Mon Jun 03 09:09:02 2013 TOOL SERIES: 1355XA ASSET: 209 SEQ: J1

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	149.24	605.69	0.405	60.49	245.49	185.00

Verification File: C:\case\calver\GR\209J1.VP

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Mon Jun 03 09:10:36 2013 TOOL SERIES: 1355XA ASSET: 209 SEQ: J1

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	150.93	617.24	0.405	61.17	250.17	189.00

RALSHP

Shop Calibration: C:\case\calver\RALSHP\106JUN9_shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun Jun 09 08:33:31 2013 TOOL SERIES: 1426XA ASSET: 106 SEQ: JUN9

Tool Delay [uSec]	Tank OD in	Tank Wt lbm/ft	Tank ID in
-58.00	5.50	15.50	4.95

RECEIVER	Travel Time [uSec]	Amp. Gate Start [uSec]	Amp. Gate Width [uSec]	Zero Gate Start [uSec]	Zero Gate Width [uSec]	Zero Amp. [mV]	Amp Ref. [mV]	Shop Factor
CAL Pulse	221	216	30	166	25	-0.161	100.00	0.12
3 Ft. Receiver	221	216	30	166	25	-0.341	100.00	0.12
5 Ft. Receiver	329	324	30	264	25	0.184	150.00	0.13
Radial #1	221	216	30	166	25	-0.860	100.00	0.11
Radial #2	221	216	30	166	25	-0.045	100.00	0.12
Radial #3	221	216	30	166	25	-0.301	100.00	0.12
Radial #4	221	216	30	166	25	-0.584	100.00	0.12
Radial #5	221	216	30	166	25	-0.456	100.00	0.12

Radial #6	221	216	30	166	25	-0.618	100.00	0.12
Radial #7	221	216	30	166	25	-0.364	100.00	0.12
Radial #8	221	216	30	166	25	-0.484	100.00	0.11

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\106JUN9 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun Jun 09 08:35:10 2013 TOOL SERIES: 1426XA ASSET: 106 SEQ: JUN9

Tool Delay [usec] -58.00 Casing OD 4.50 in Casing Wt 11.60 lbm/ft Casing ID 4.00 in

RECEIVER	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Full Amp. [mV]	Wellsite Factor	Amp. Ref [mV]
CAL Pulse	166	25	0.031	0.000	0.99	100.000
3 Ft. Receiver	200	30	-0.162			
5 Ft. Receiver	317	30	0.297			
Radial #1	200	30	-0.824			
Radial #2	200	30	-0.302			
Radial #3	200	30	-0.103			
Radial #4	200	30	-0.208			
Radial #5	200	30	-0.159			
Radial #6	200	30	-0.070			
Radial #7	200	30	0.024			
Radial #8	200	30	-0.071			

TOOL DIAGRAM

OTA SHORT CABLE HEAD

18.89'

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



XMIT

12.71'

Temp Rating	350.00 °F
Press Rating	18000.00 PSI

NEAR RCVR	9.63'
FAR RCVR	7.71'
CCL	5.79'
GR	1.67'
TEMP	0.17'
	0.00'

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"



Company	WPX ENERGY		
Well	DUGGAN RWF 324-29		
Field	RULISON		
County	GARFIELD	State	COLORADO

File No:	CH073164
API No:	05045216590000

Location					Elevations	
SHL: 538' FSL & 599' FWL					KB	5445.2 ft
BHL: 973' FSL & 2015' FWL					DF	
					GL	5419.2 ft
SEC	29	TWP	6S	RGE	94W	

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

Baker Atlas

