



# RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: CH070854	Company Well Field County	WPX ENERGY DUGGAN RWF 513-29 RULISON GARFIELD	State COLORADO
API No: 05045216620000			
29 GS 94W RWF 14-29 NABORS SSD 573	Location SHL: 579' FSL & 582' FWL BHL: 2481' FSL & 734' 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/APR/15	
Run	ONE	
Service Order	533659	
Depth Driller	8276 ft	
Depth Logger	8243 ft	
Bottom Logged Interval	8233 ft	
Top Logged Interval	26 ft	
Time Started	10:30	
Time Finished	16:00	
Operator Rig Time	7.5 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	N/A	
Salinity	N/A	
Fluid Level	122 ft	
Logged Cement Top	N/A	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	N/A	
Nominal Logging Speed	45 fpm	
Maximum Recorded Temperature	232 degF	
Reference Log	N/A	
Reference Log Date	N/A	
Equipment No.	6726	ROCK SPRINGS
Recorded By	U. KINSEL	9712
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	1155 ft
8.75 In	0 ft	8333 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	8278 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 10 FEET DOWN.
SHORT JOINT: 4890' - 4910'
BHT: 232 degF
LOG DONE WITH 0 PSI ON WELLHEAD

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	VDL	1426XA	10163028	CENTRALIZED
1	1	GAMMA RAY/CCL	2459XA	10417457	CENTRALIZED

***MAIN LOG PRIMARY PRESENTATION***  
***0 PSI***

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	324.736	usec	18.500	8262.000
RAL	Amp Gate Start Near	197.549	usec	18.500	8262.000
RAL	Amp Gate Start Radial	198.435	usec	18.500	8262.000
RAL	Amp Gate Width Far	25.000	usec	18.500	8262.000
RAL	Amp Gate Width Near	25.000	usec	18.500	8262.000
RAL	Amp Gate Width Radial	25.000	usec	18.500	8262.000
RAL	casing od	4.500	inches	18.500	8262.000
RAL	casing wt	11.600	lbm/ft	18.500	8262.000
RAL	FB Start Far	291.900	usec	18.500	8262.000
RAL	FB Start Near	175.391	usec	18.500	8262.000
RAL	FB Start Radial	175.391	usec	18.500	8262.000
RAL	FB Thresh Far	10.000	mv	18.500	8262.000
RAL	FB Thresh Near	4.000	mv	18.500	8262.000
RAL	FB Thresh Radial	4.000	mv	18.500	8262.000
RAL	Fluid Travel Time	200.000	usec/ft	18.500	8261.965

## 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

1426XA -15.750  
2459XA -11.340  
2459XA -9.490  
2459XA -4.090

FPR3	FPR5	TT3	TTR1	TTR2	TTR3
TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
AFAR	SIG	TT5			
CCL					
GR					
NEU					

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

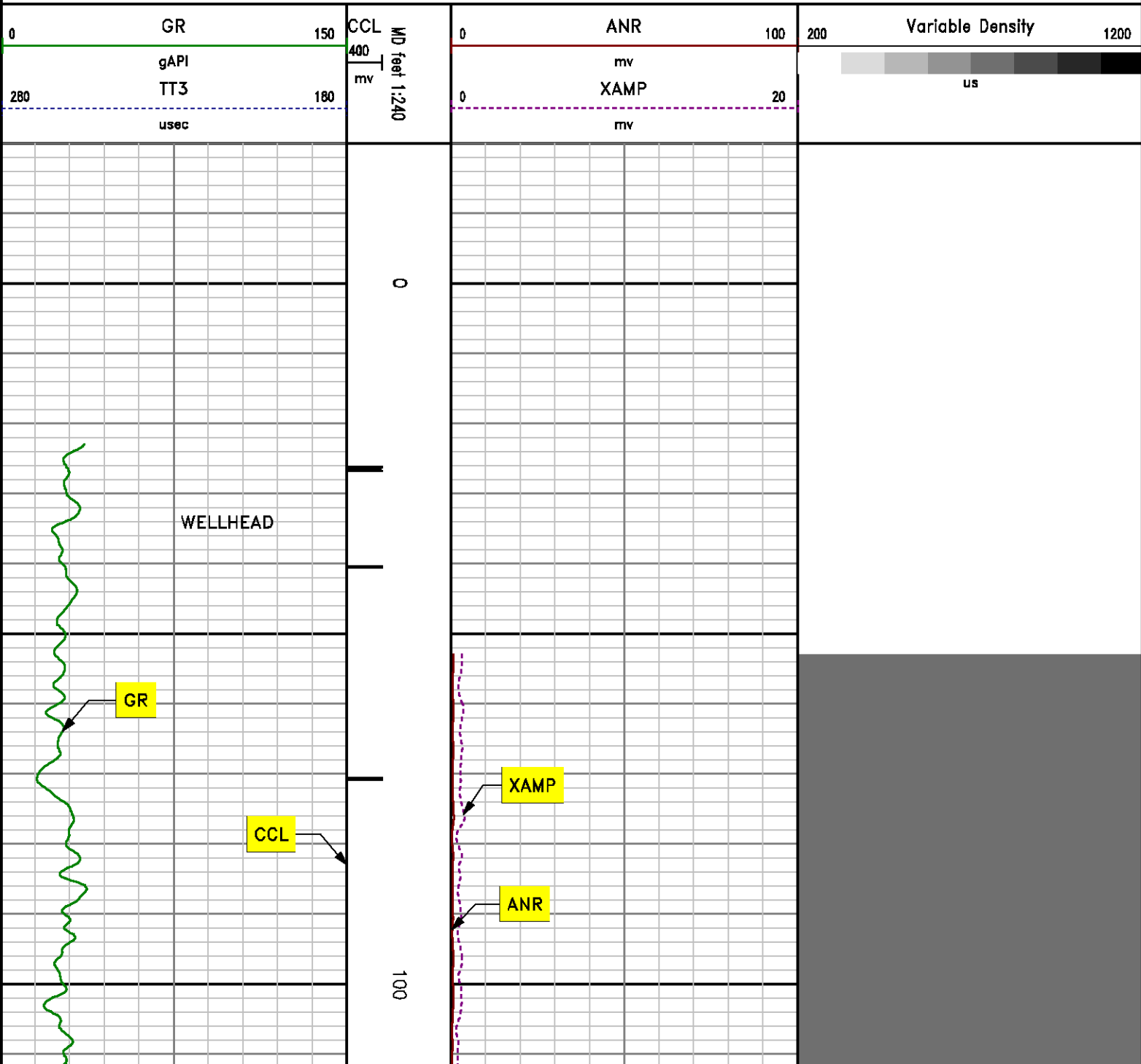
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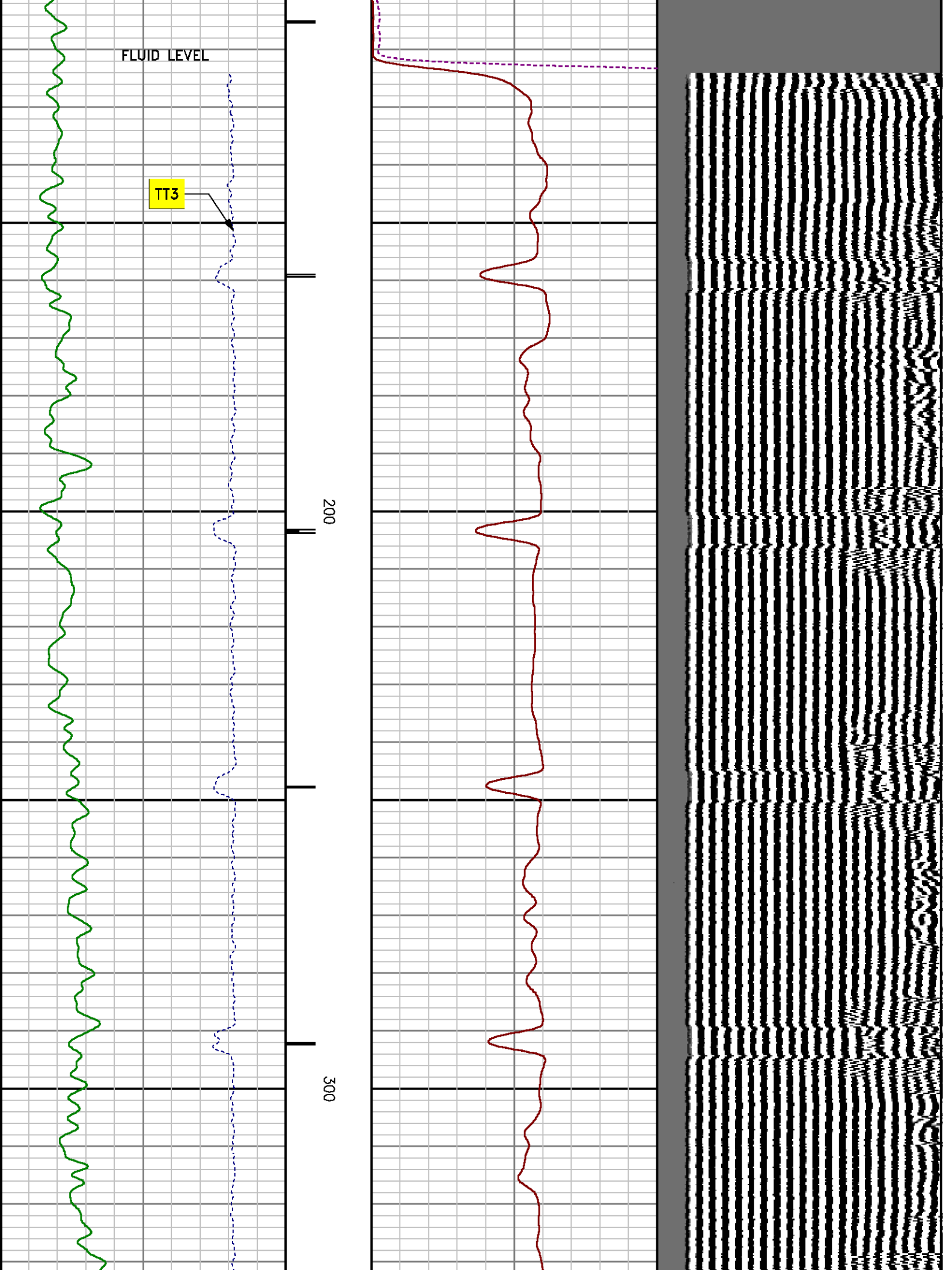
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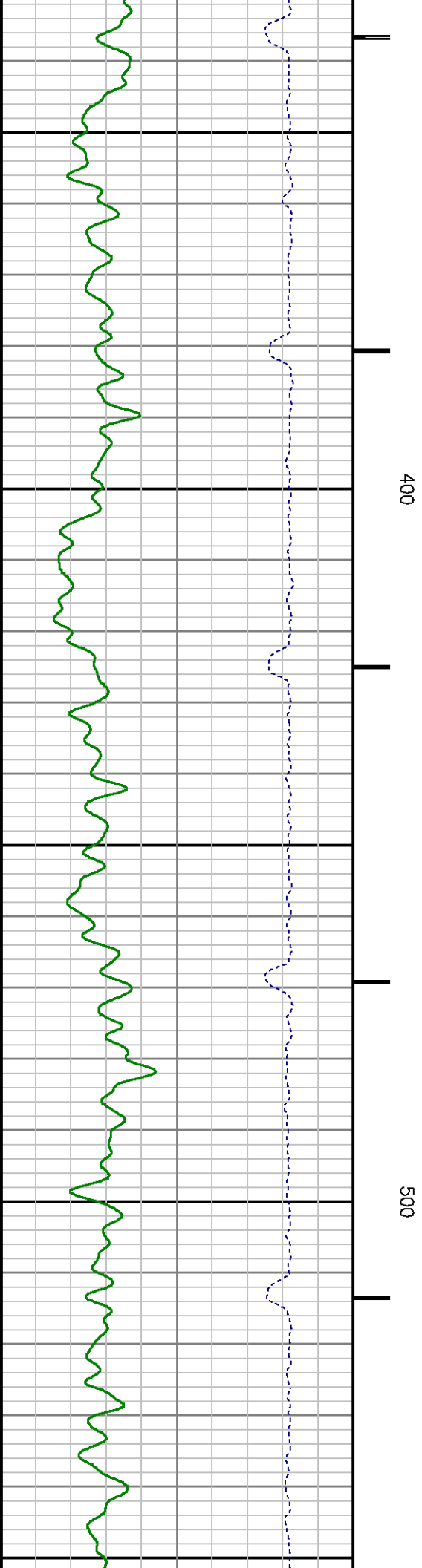
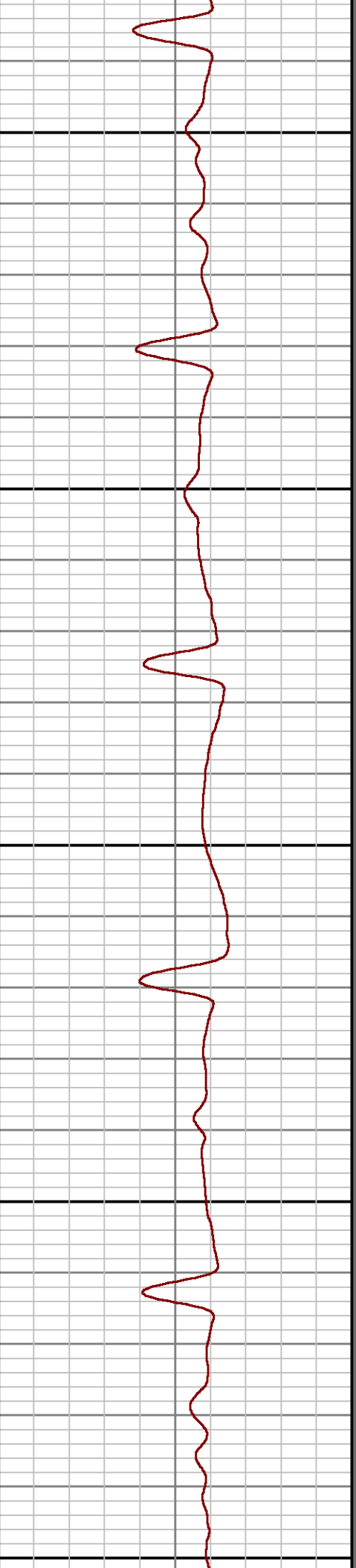
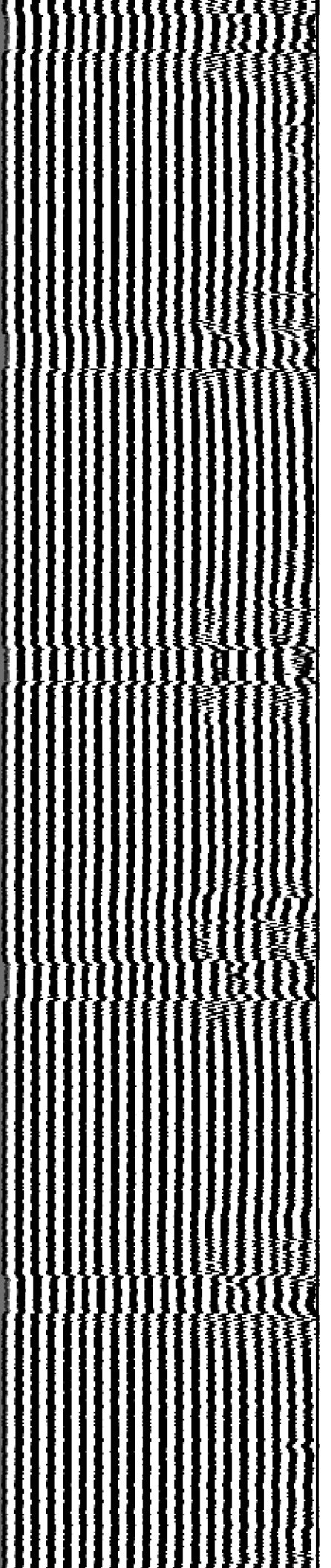
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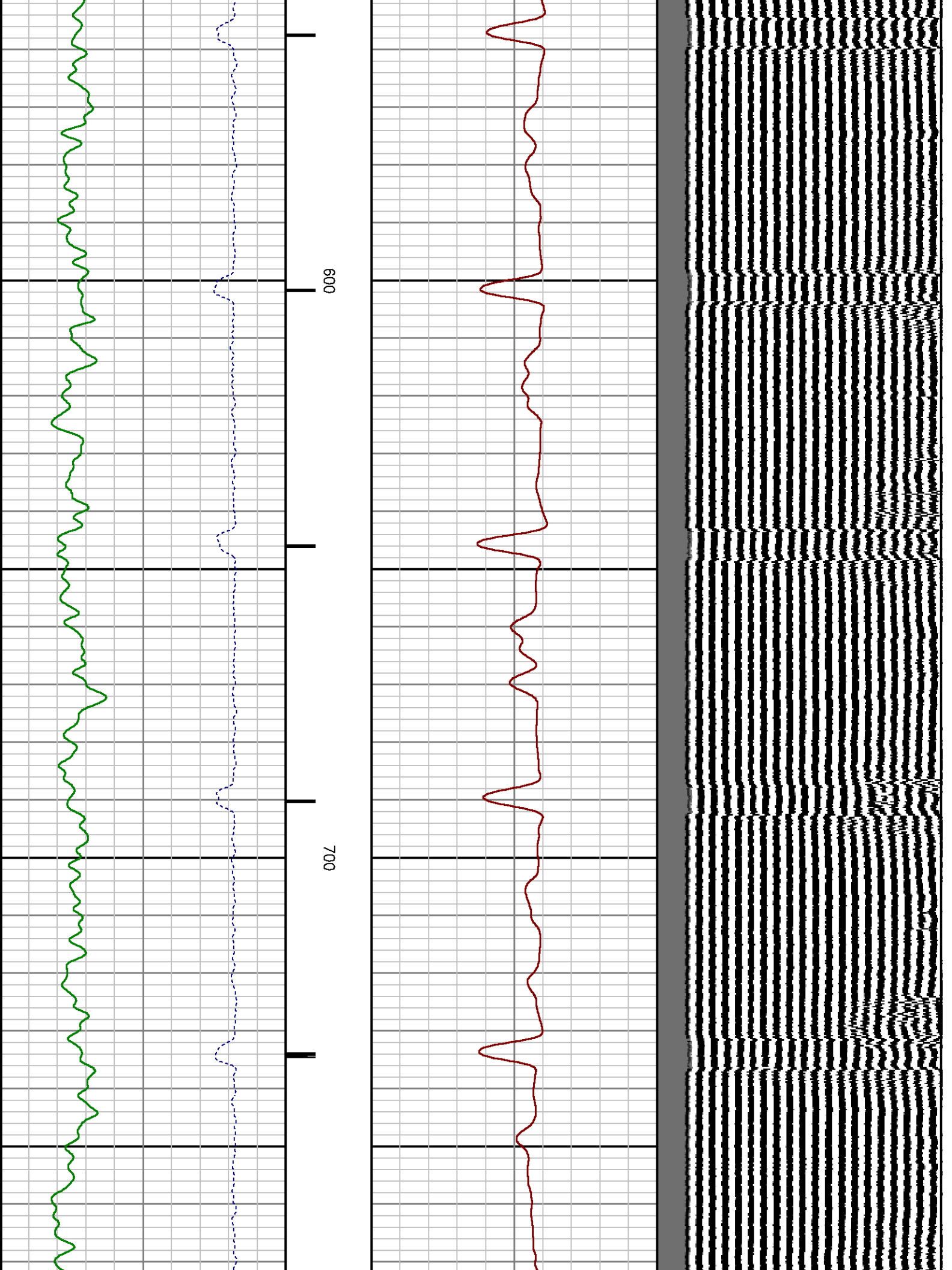
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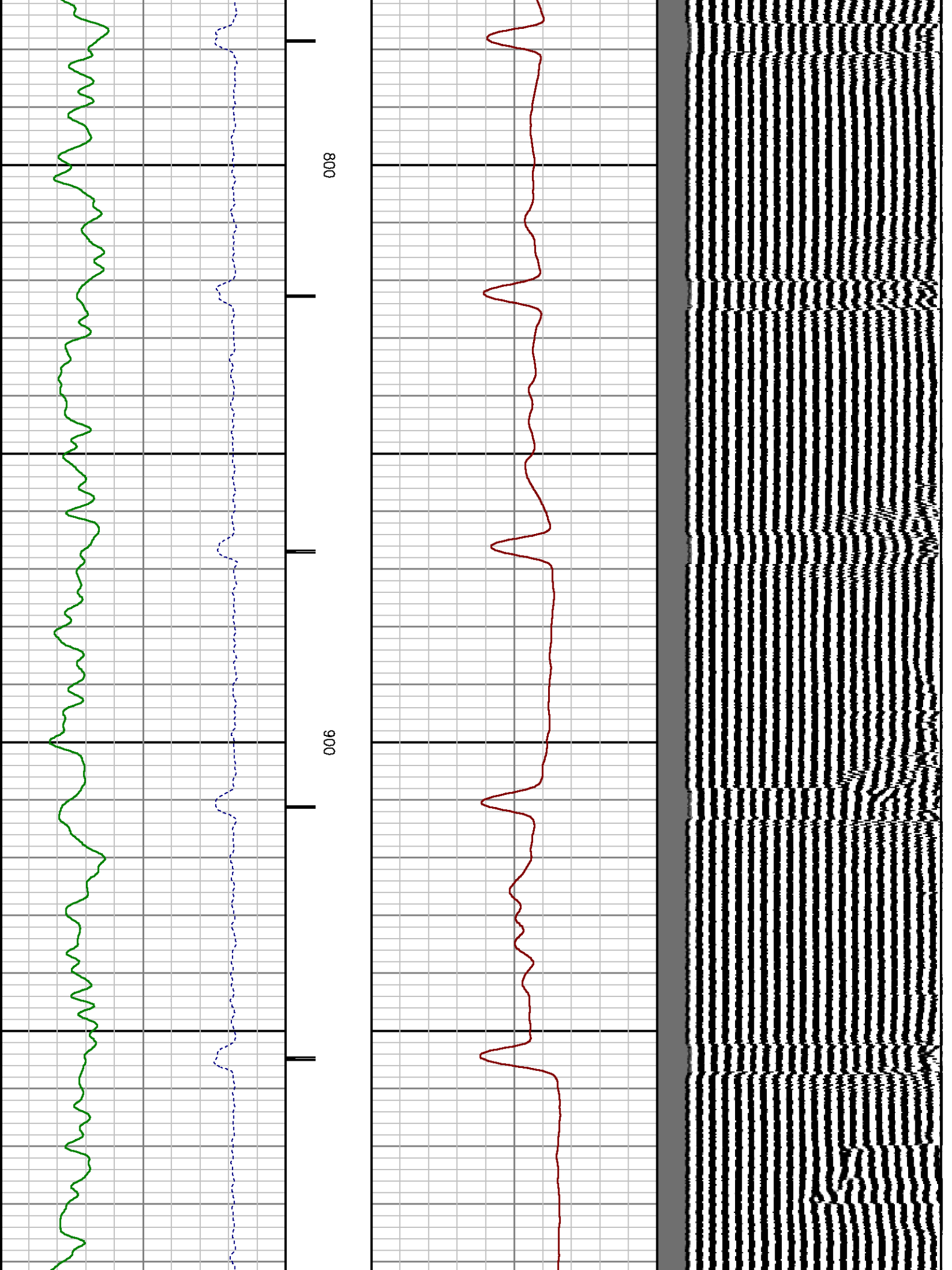
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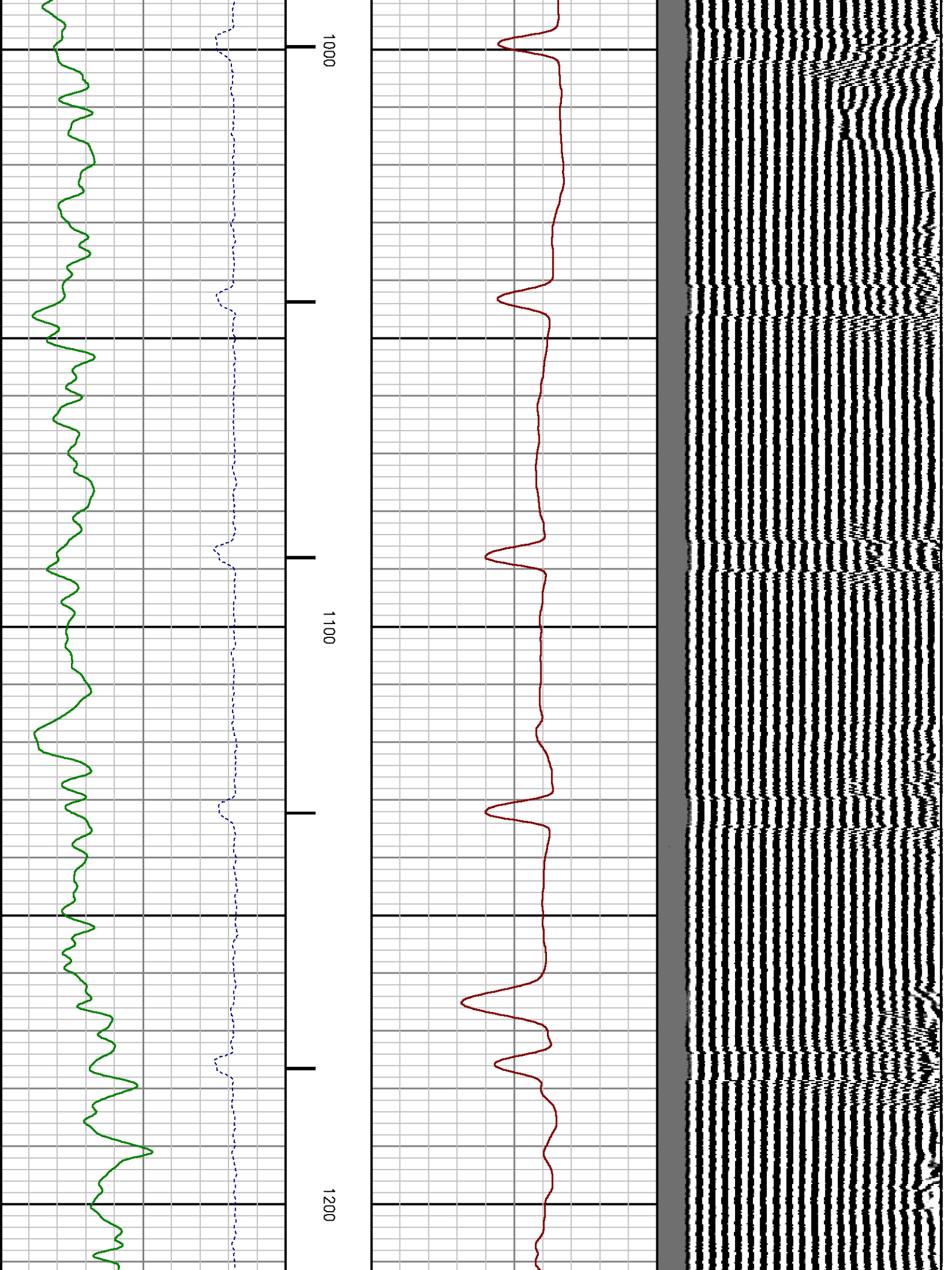




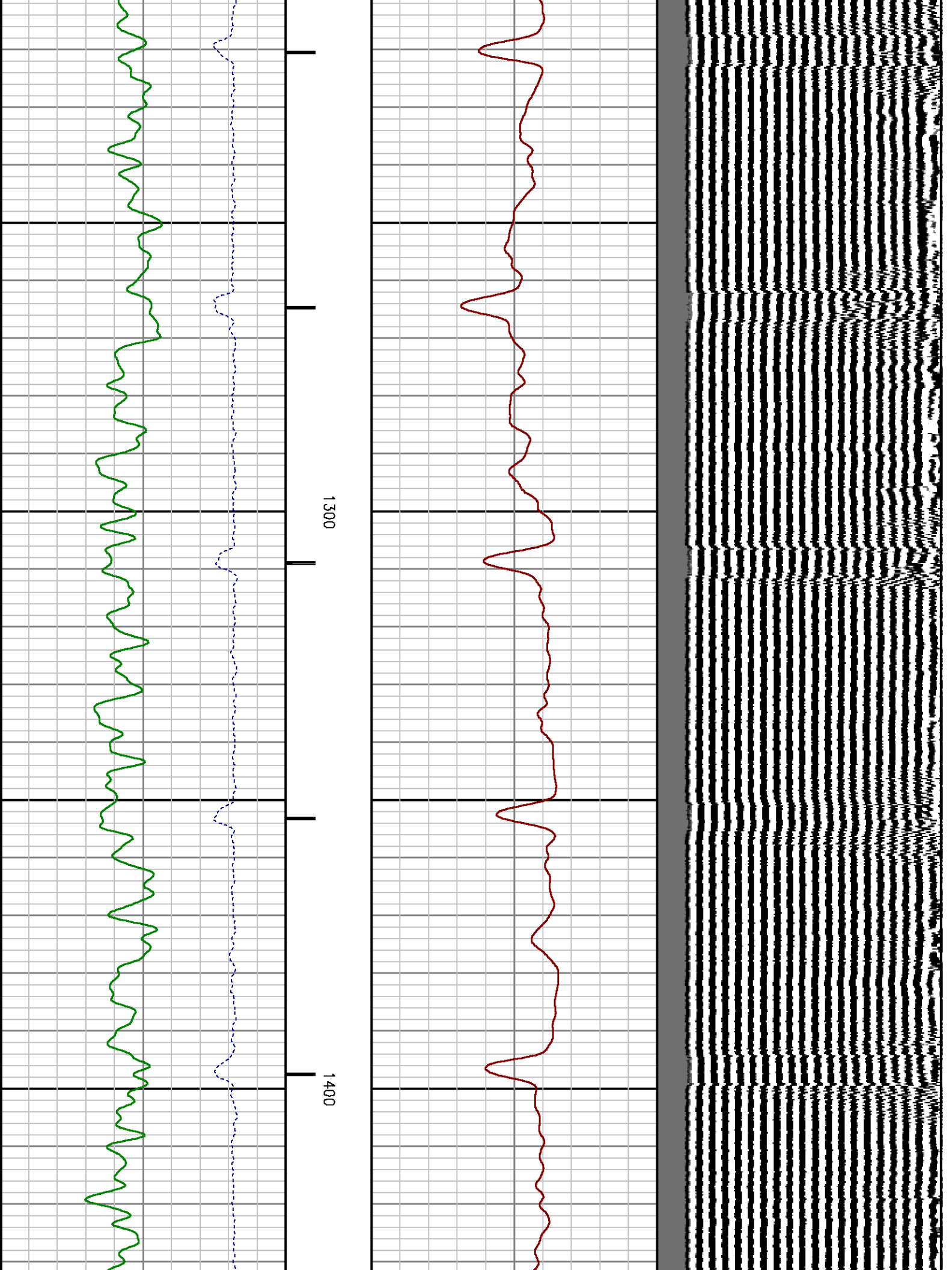


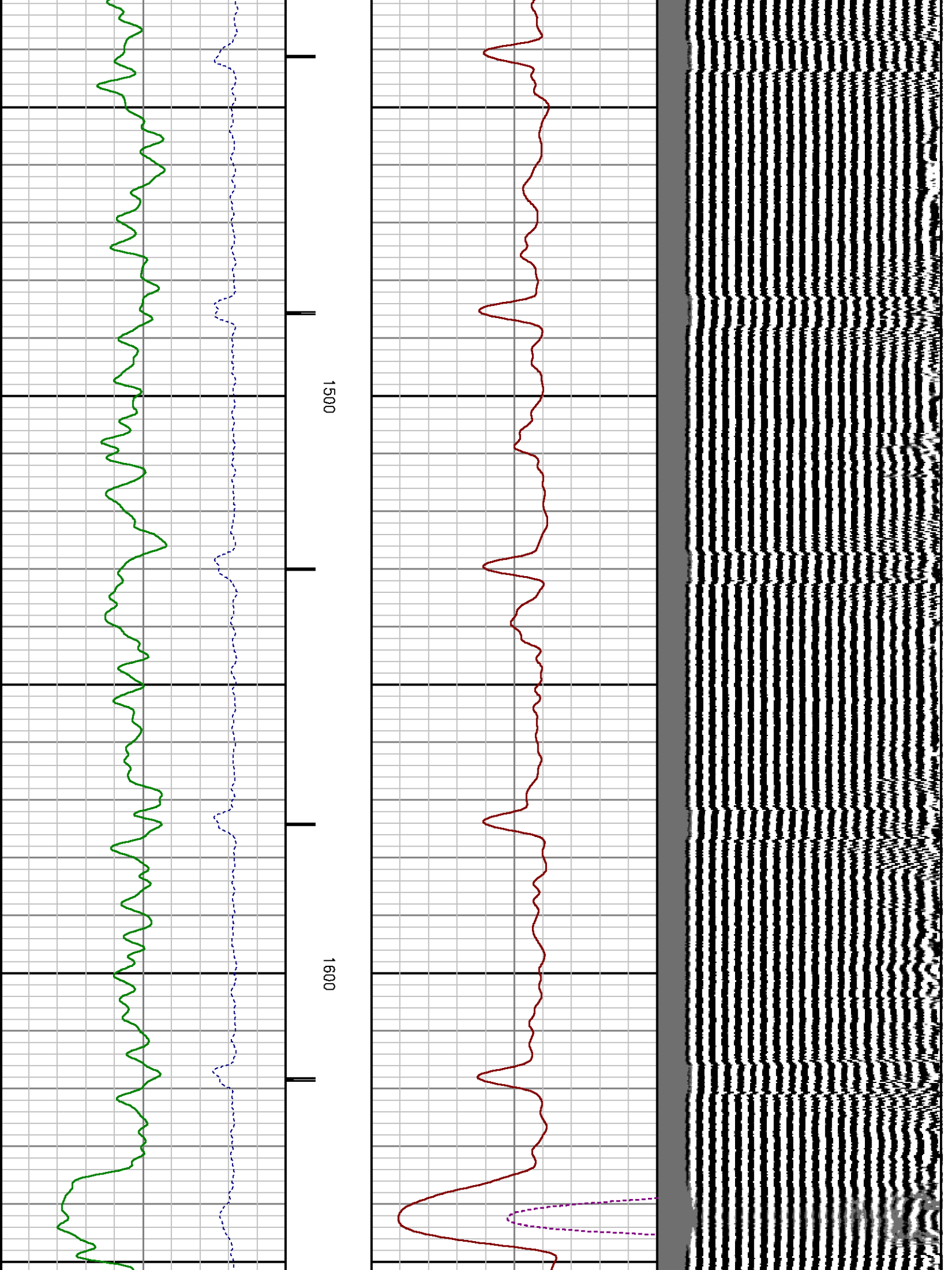


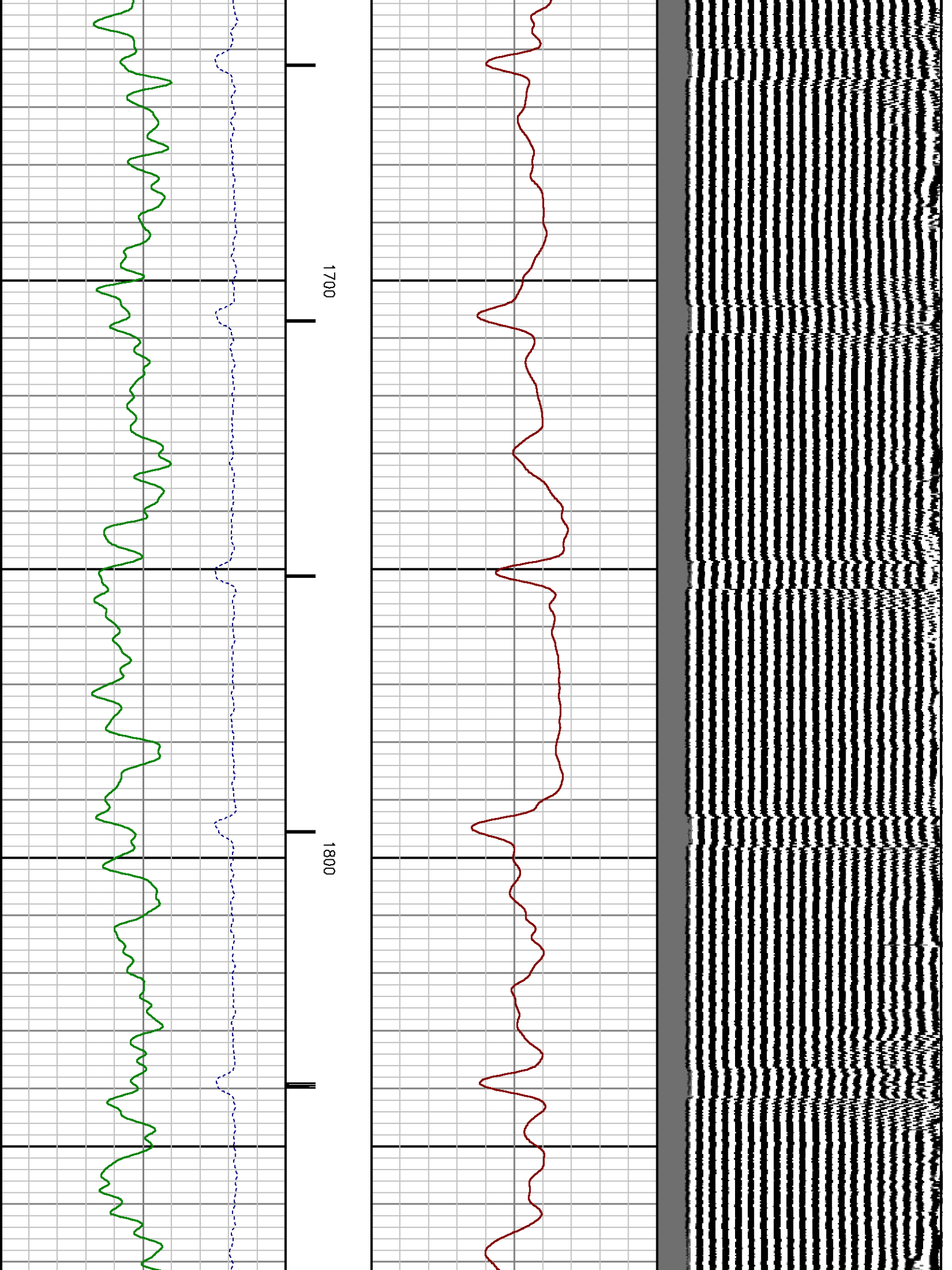


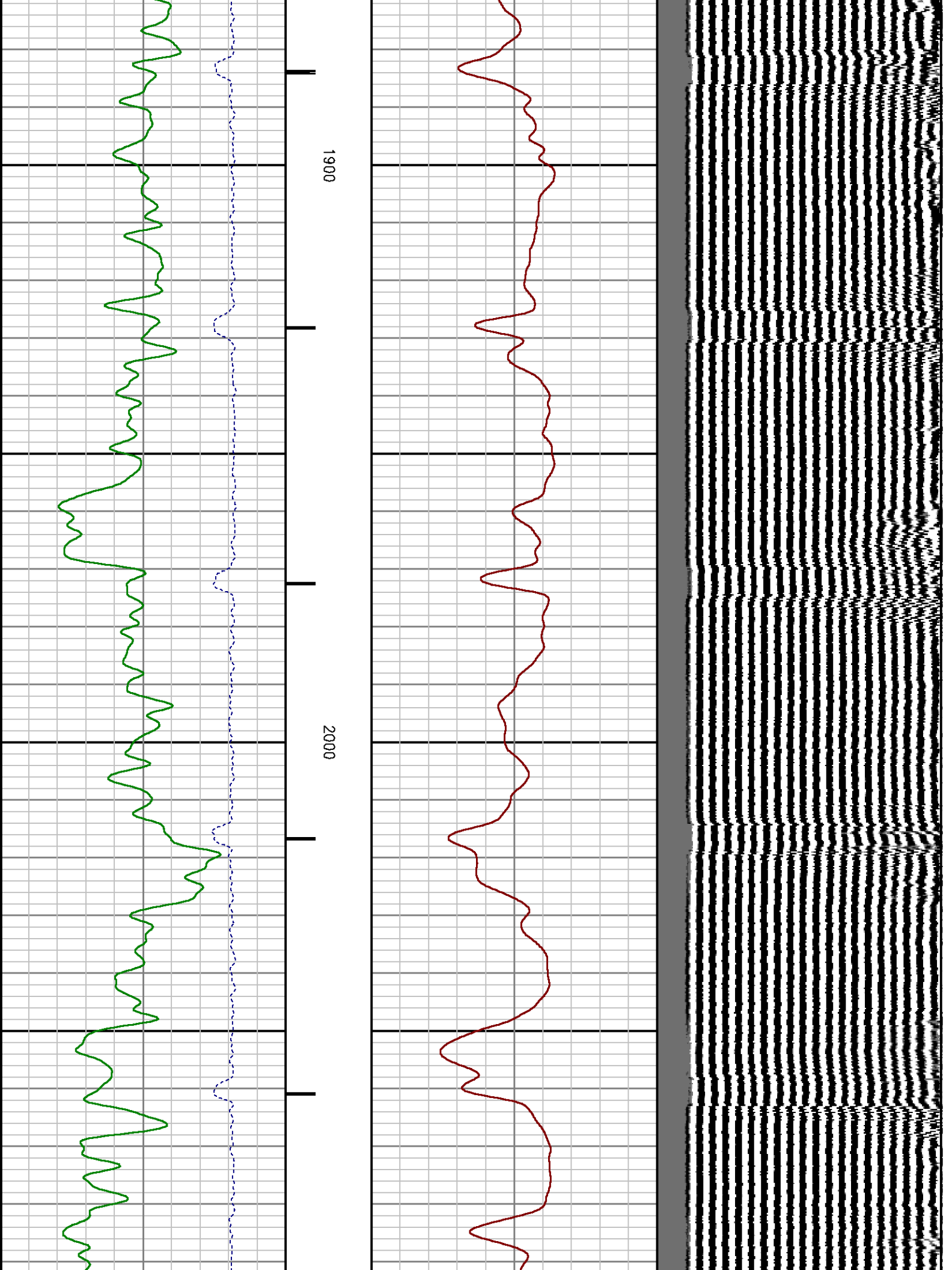


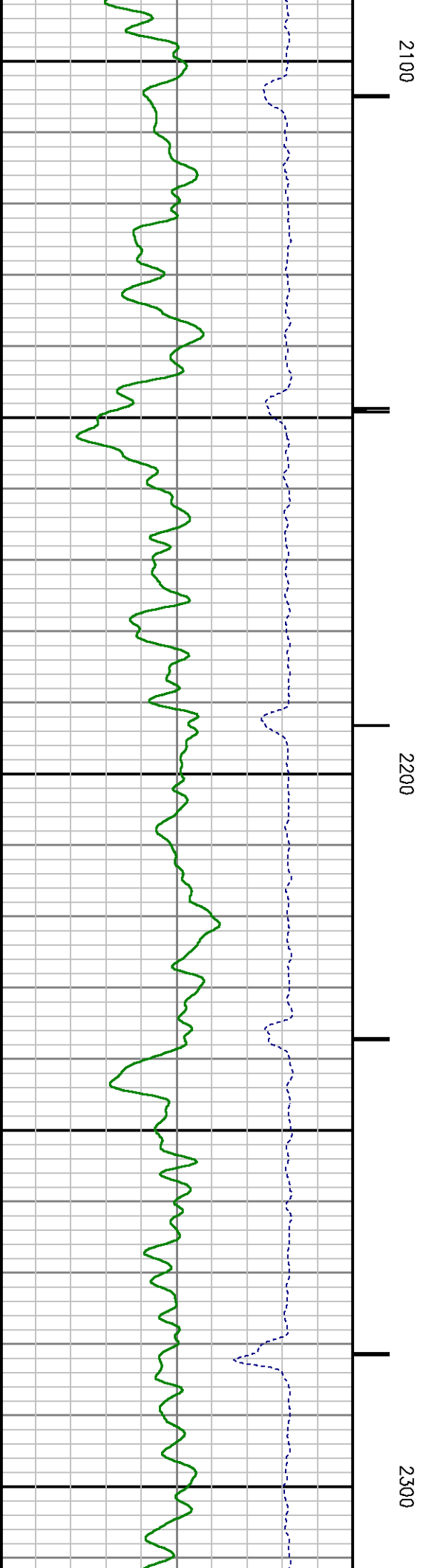
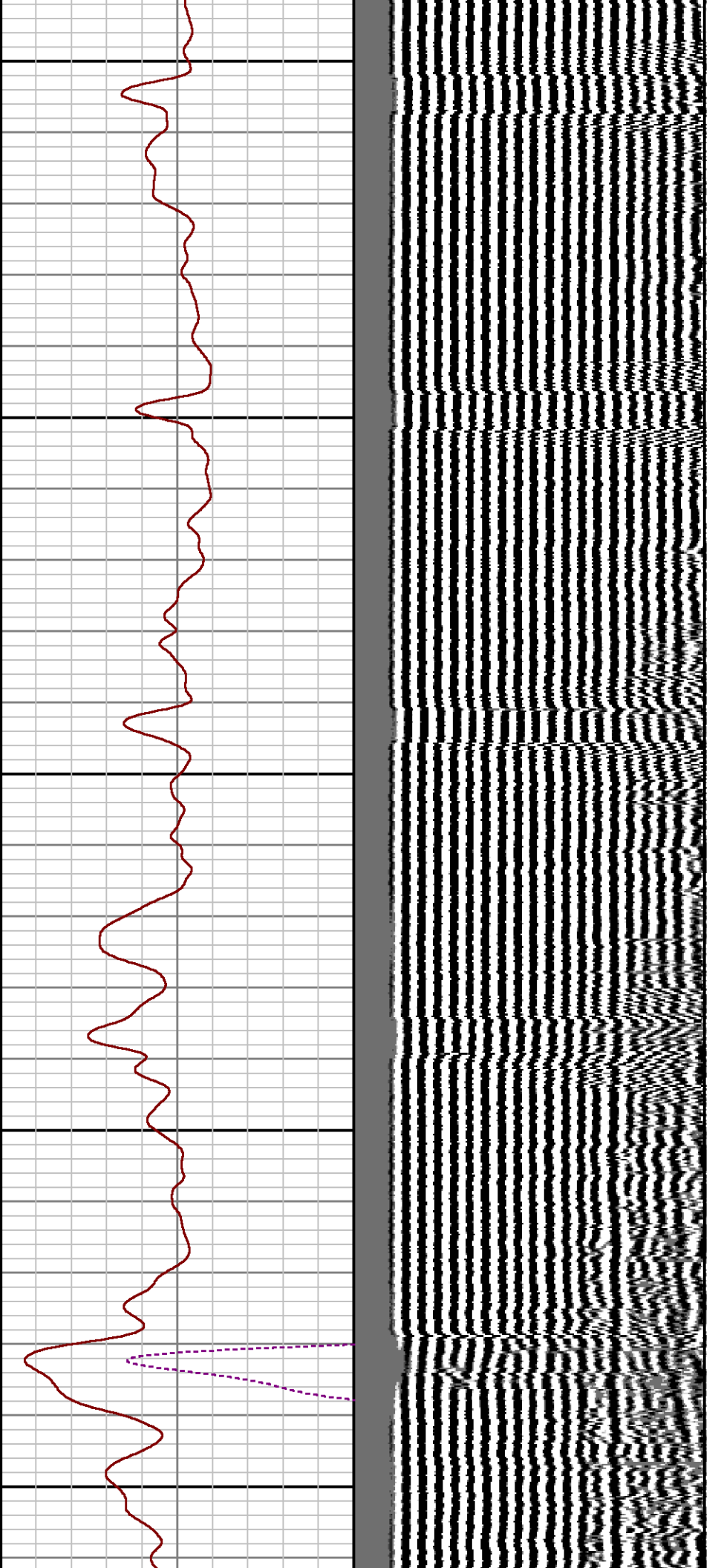


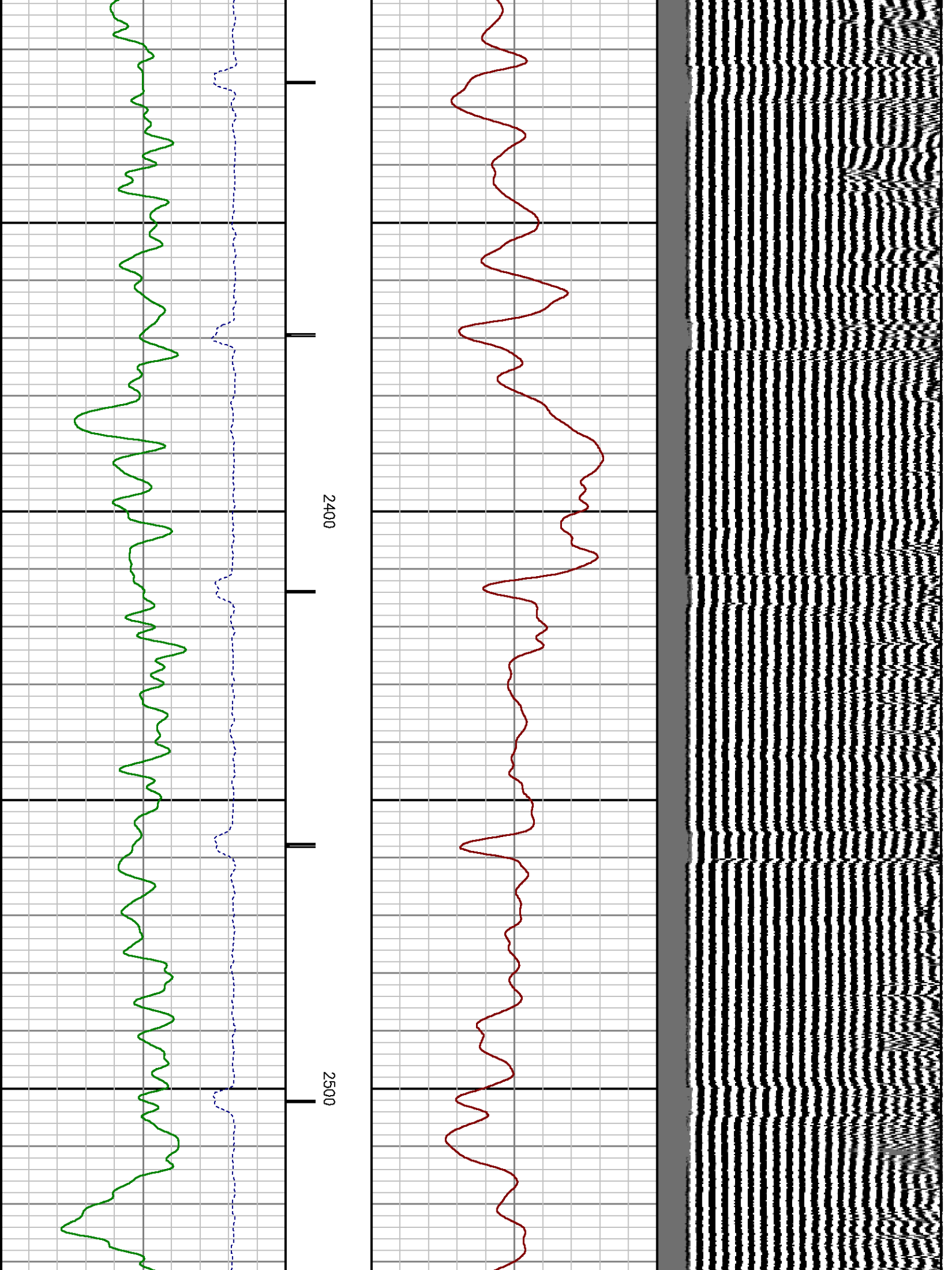




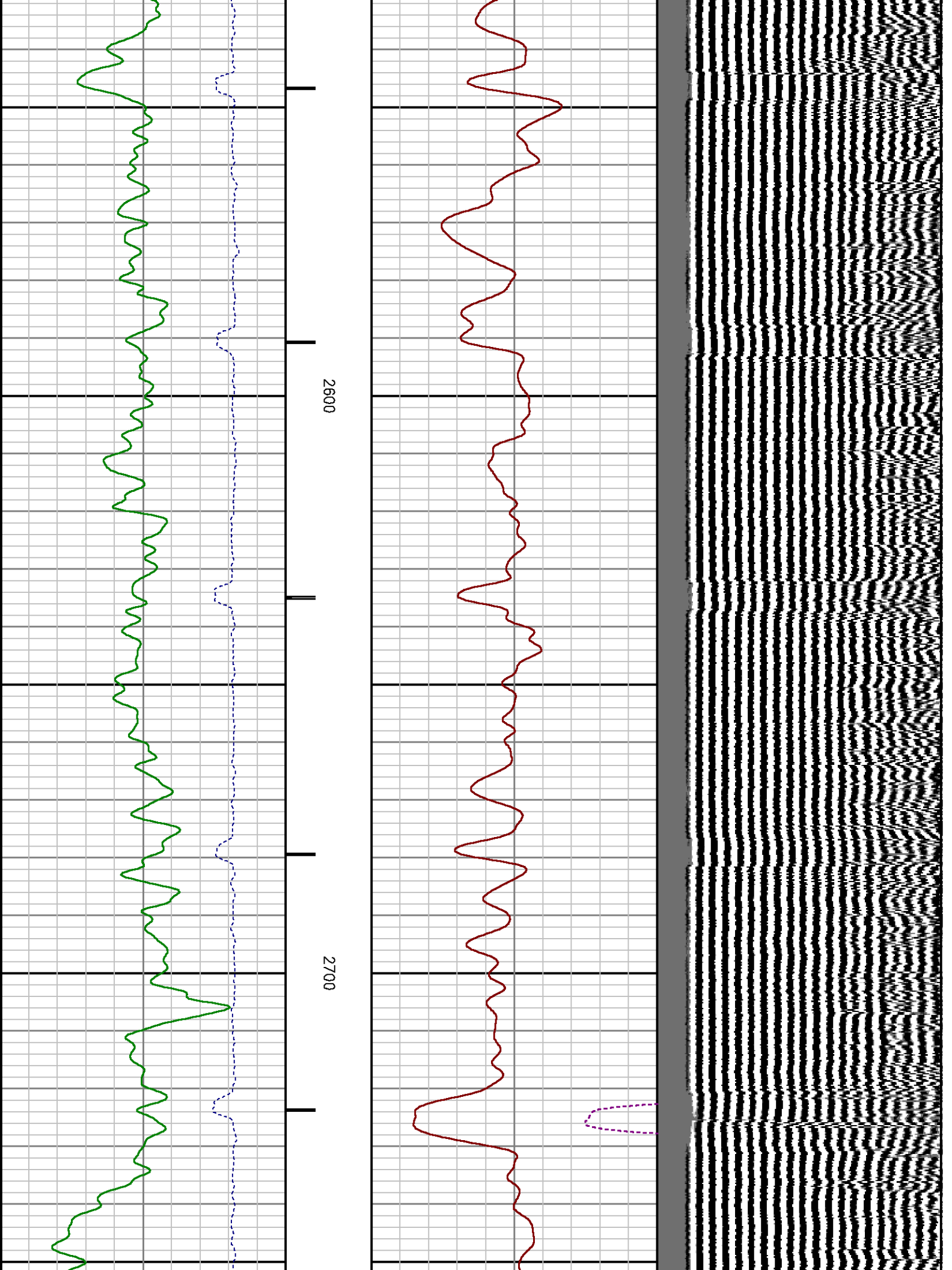


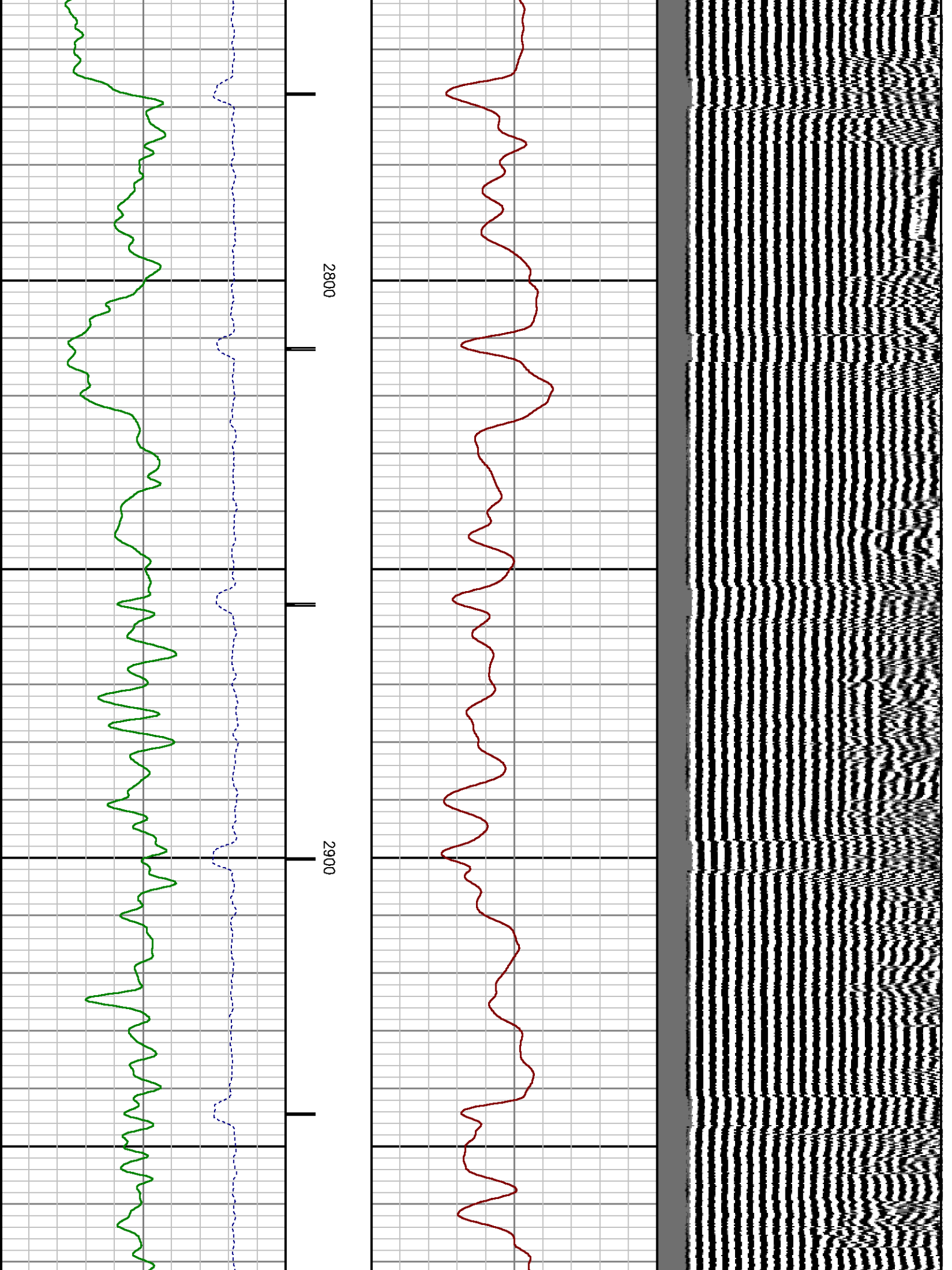




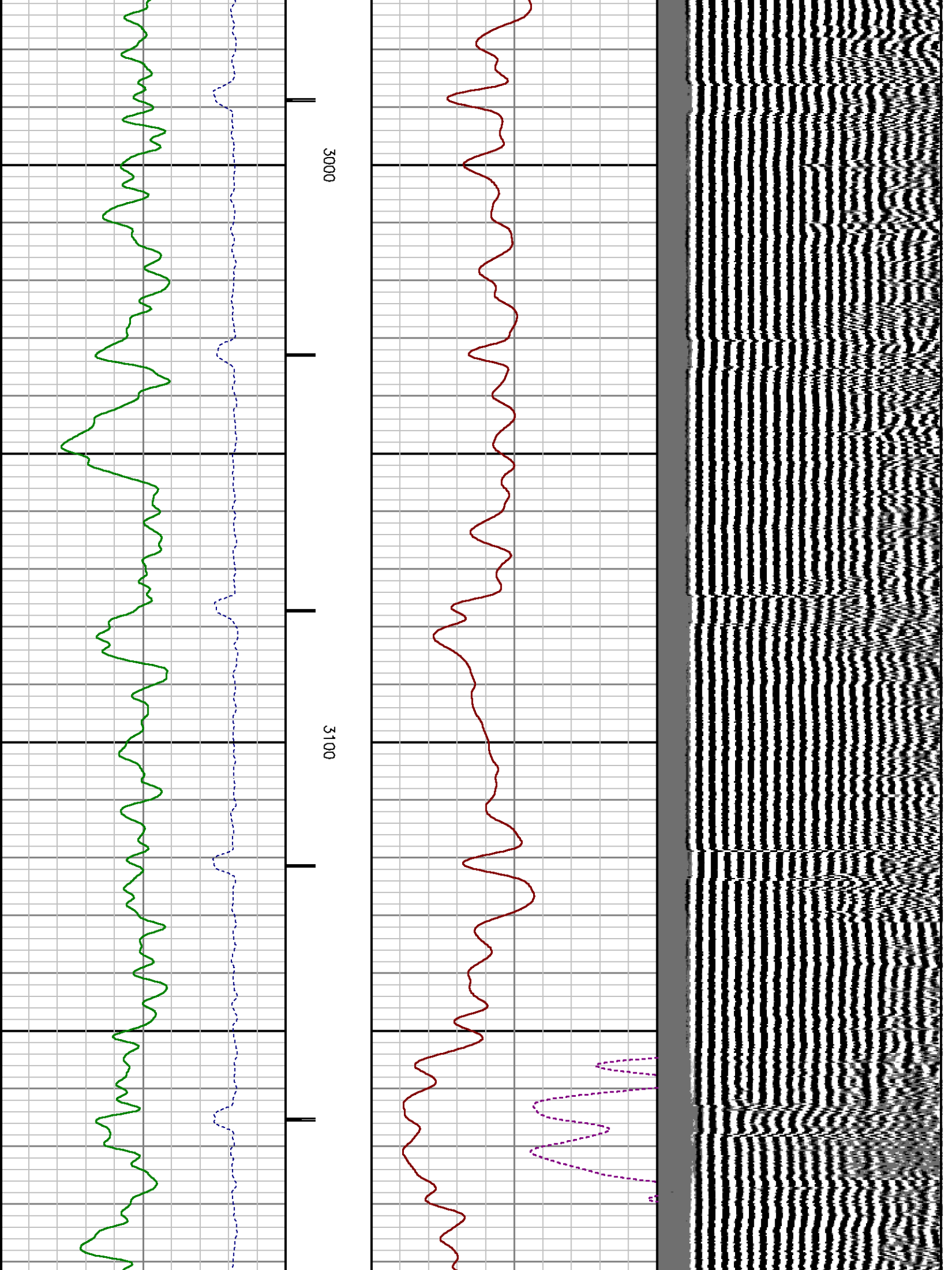


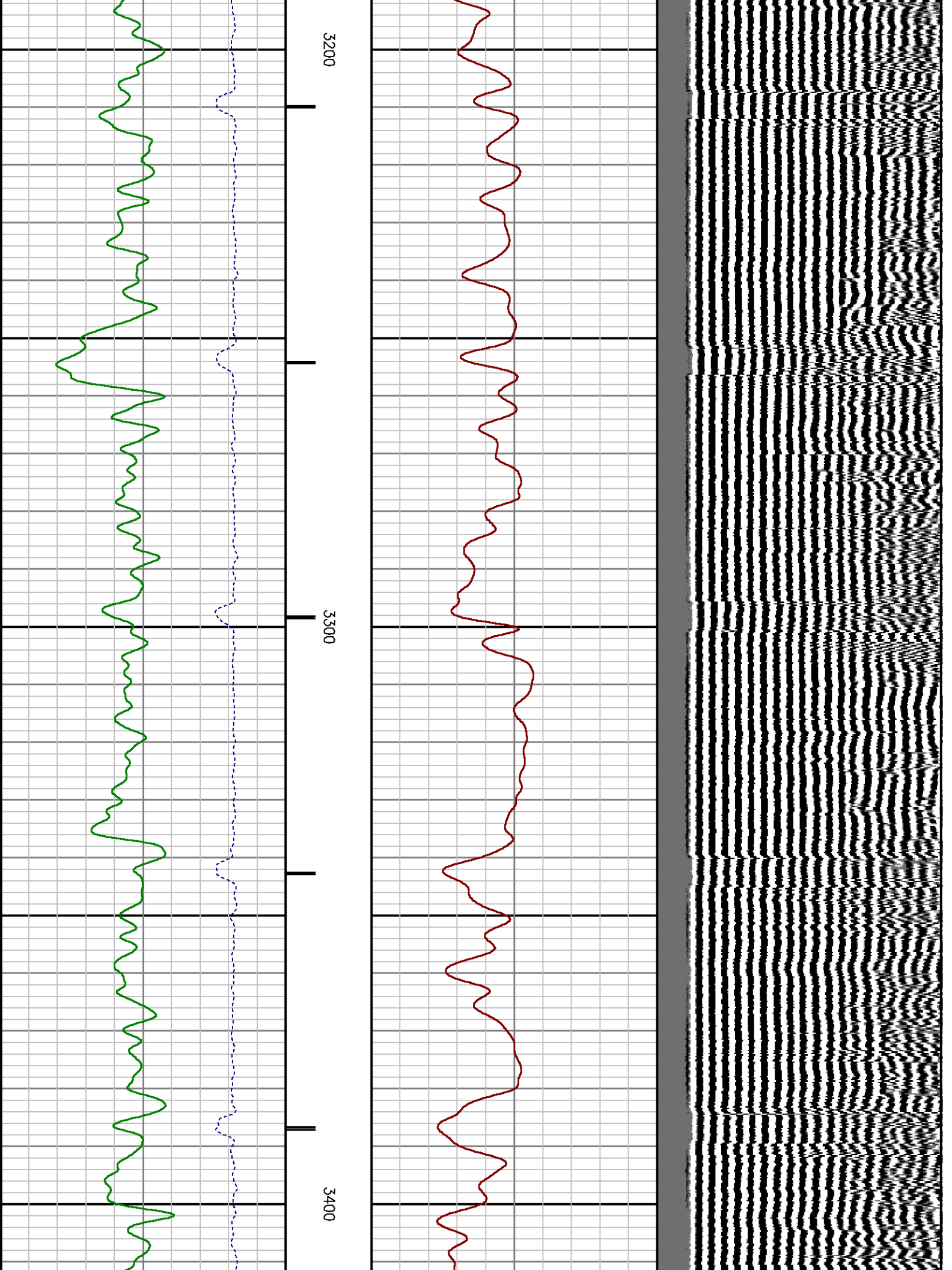


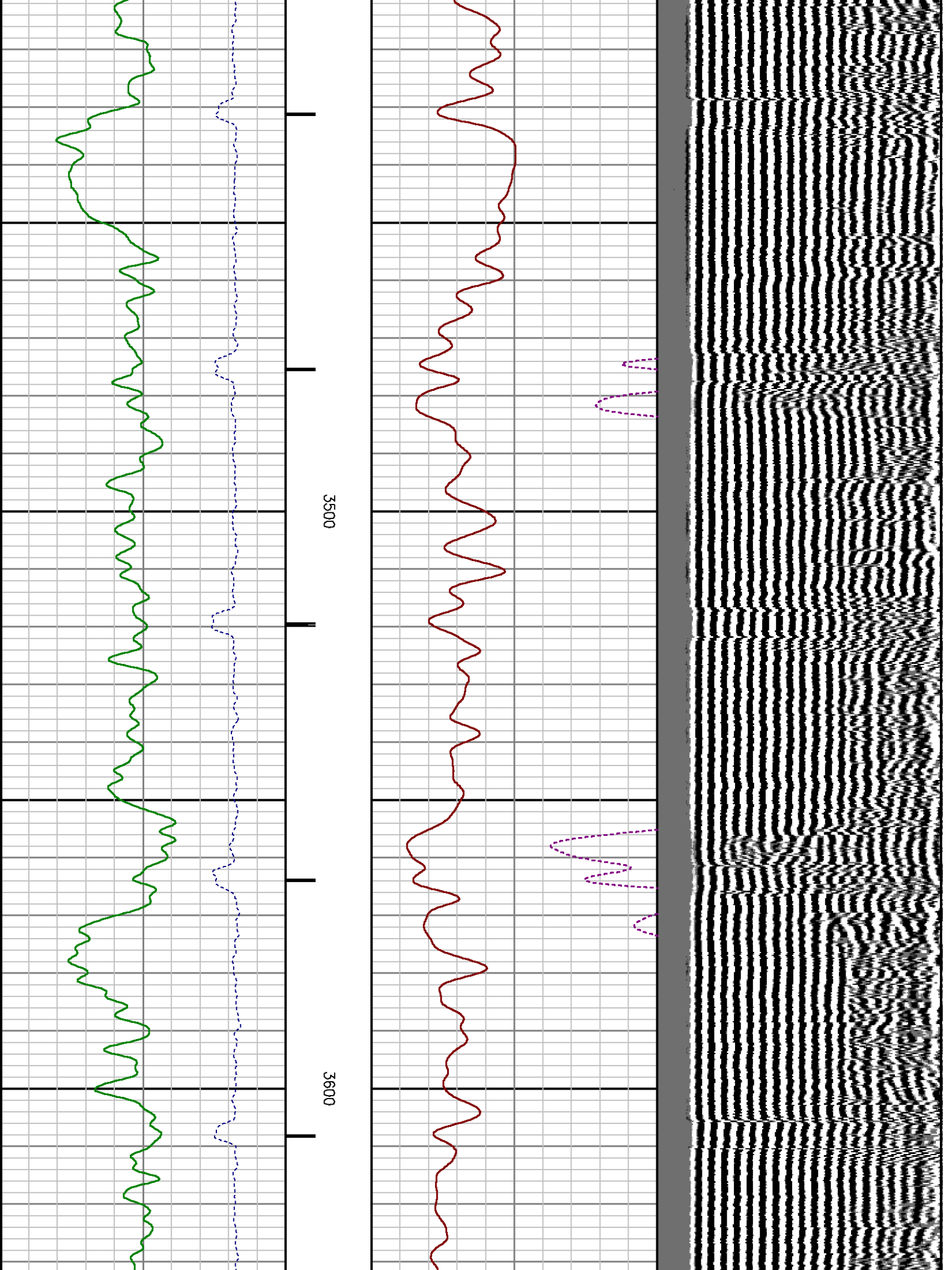


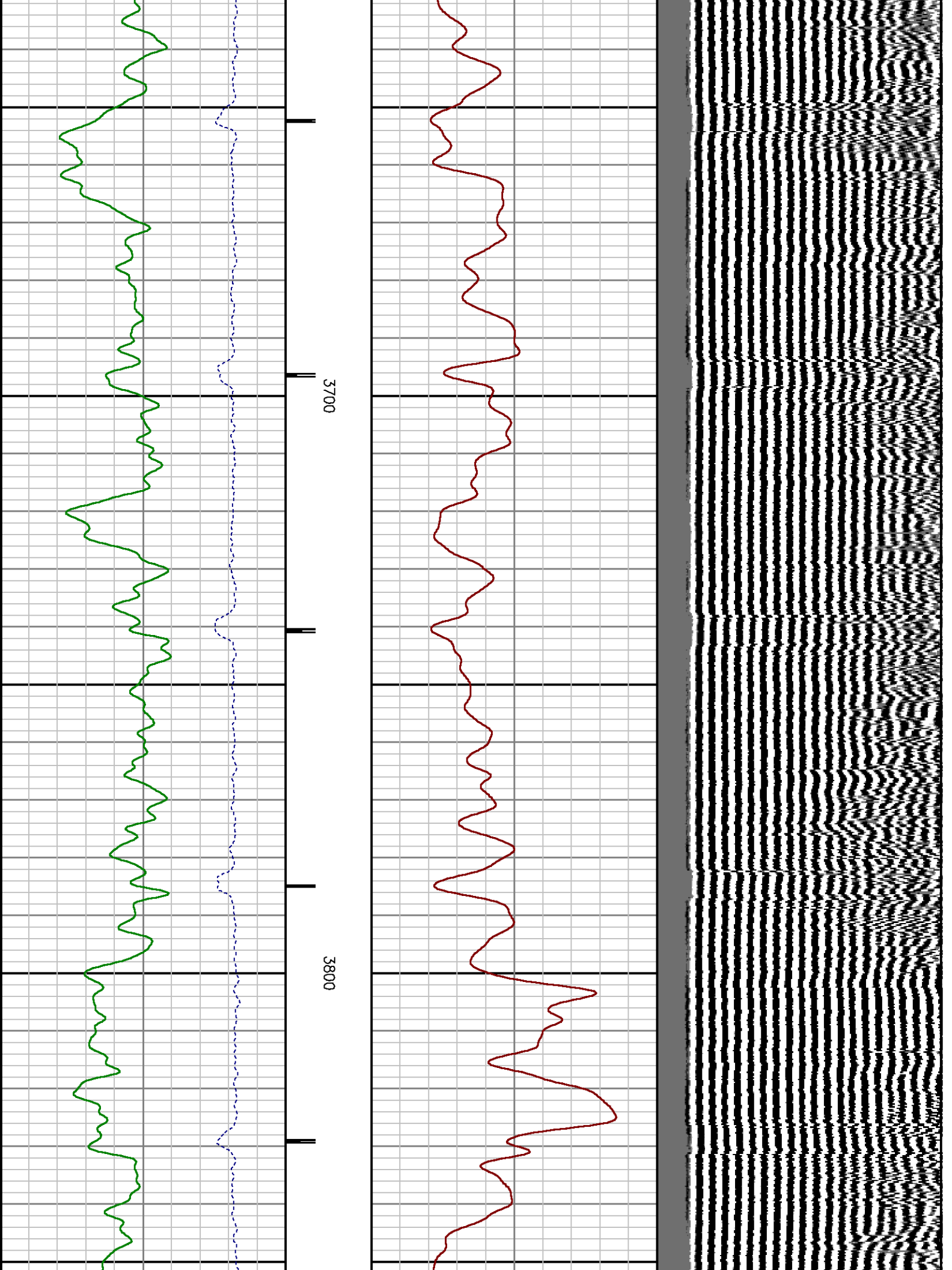




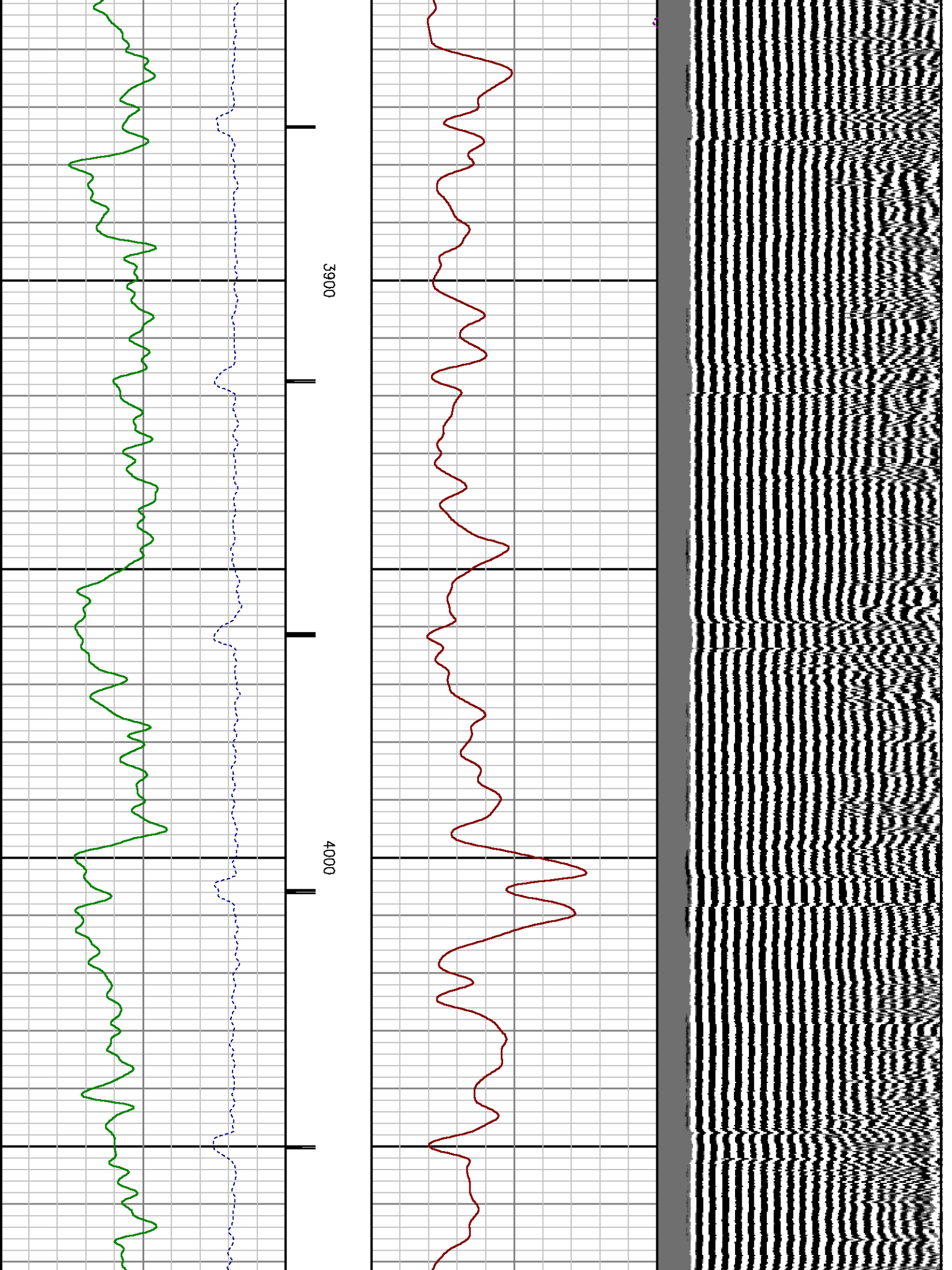


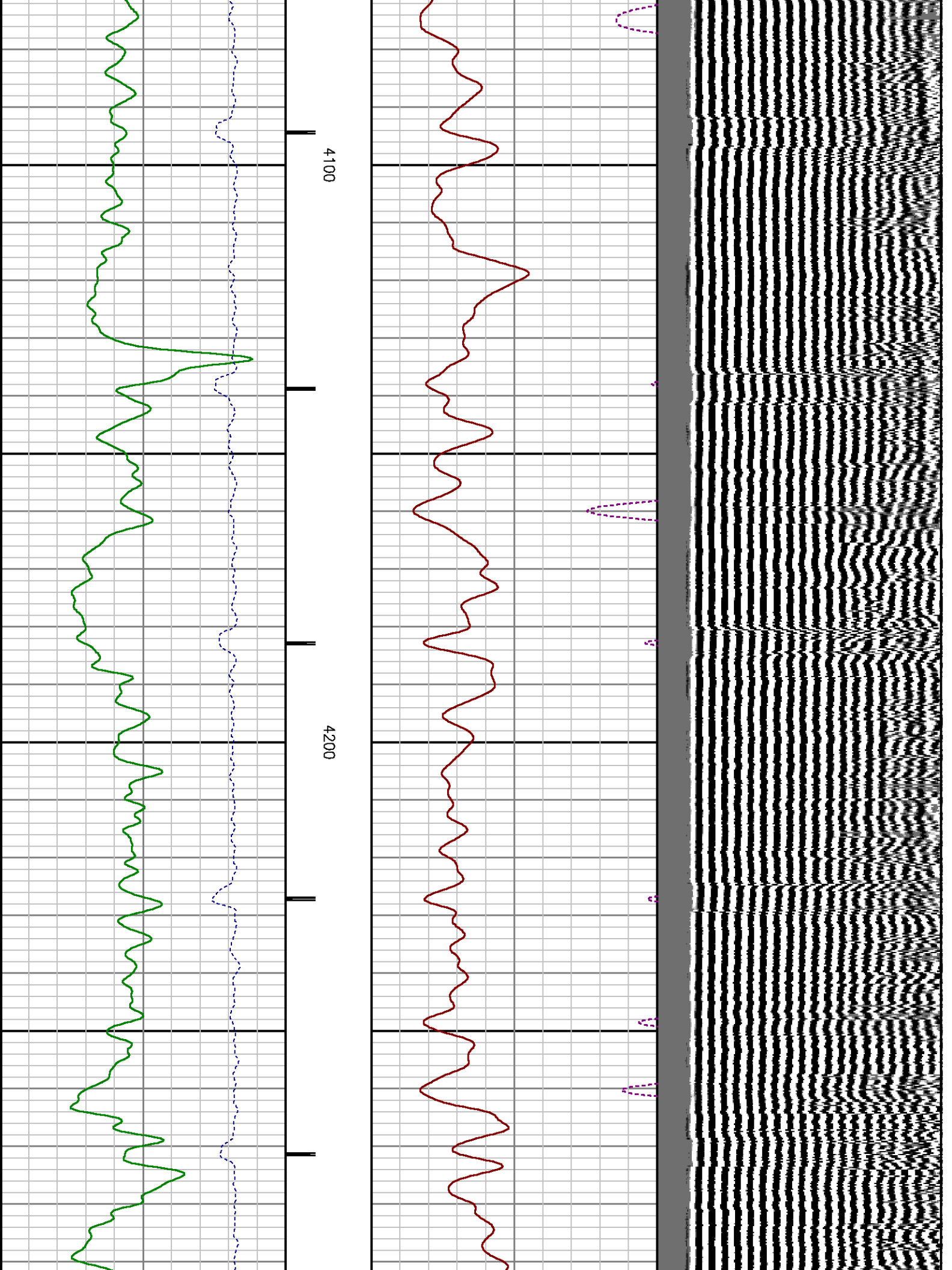


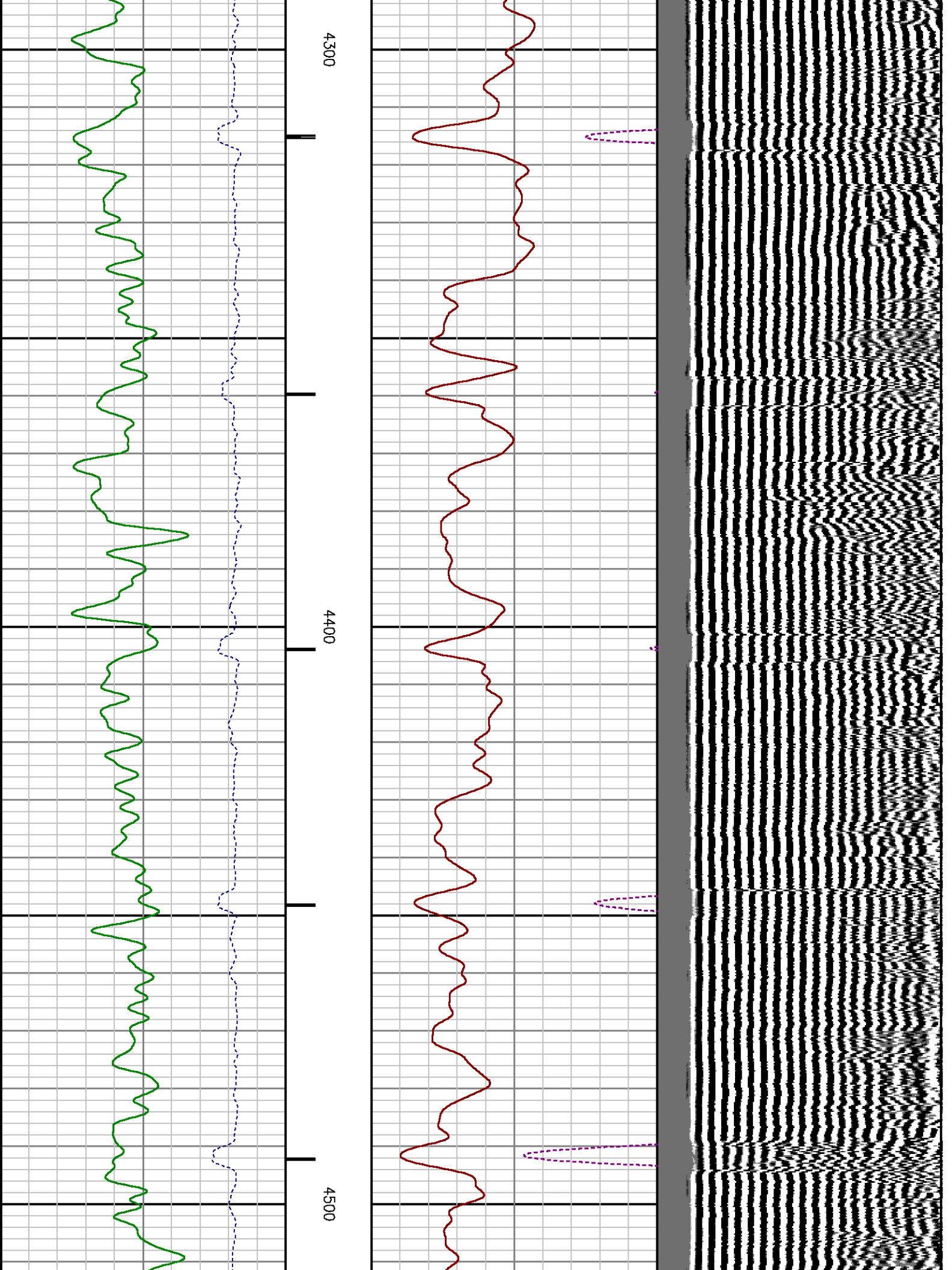


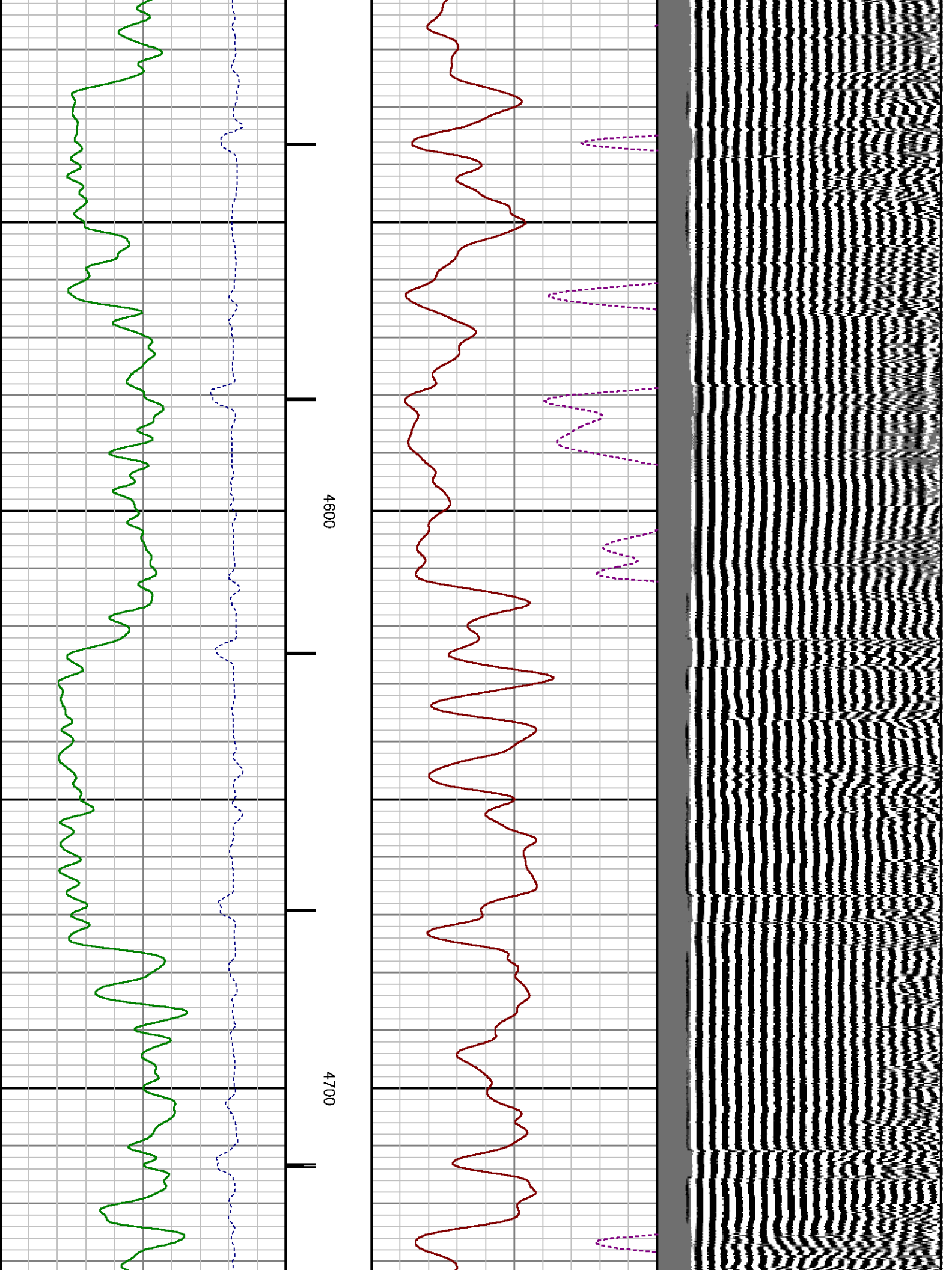




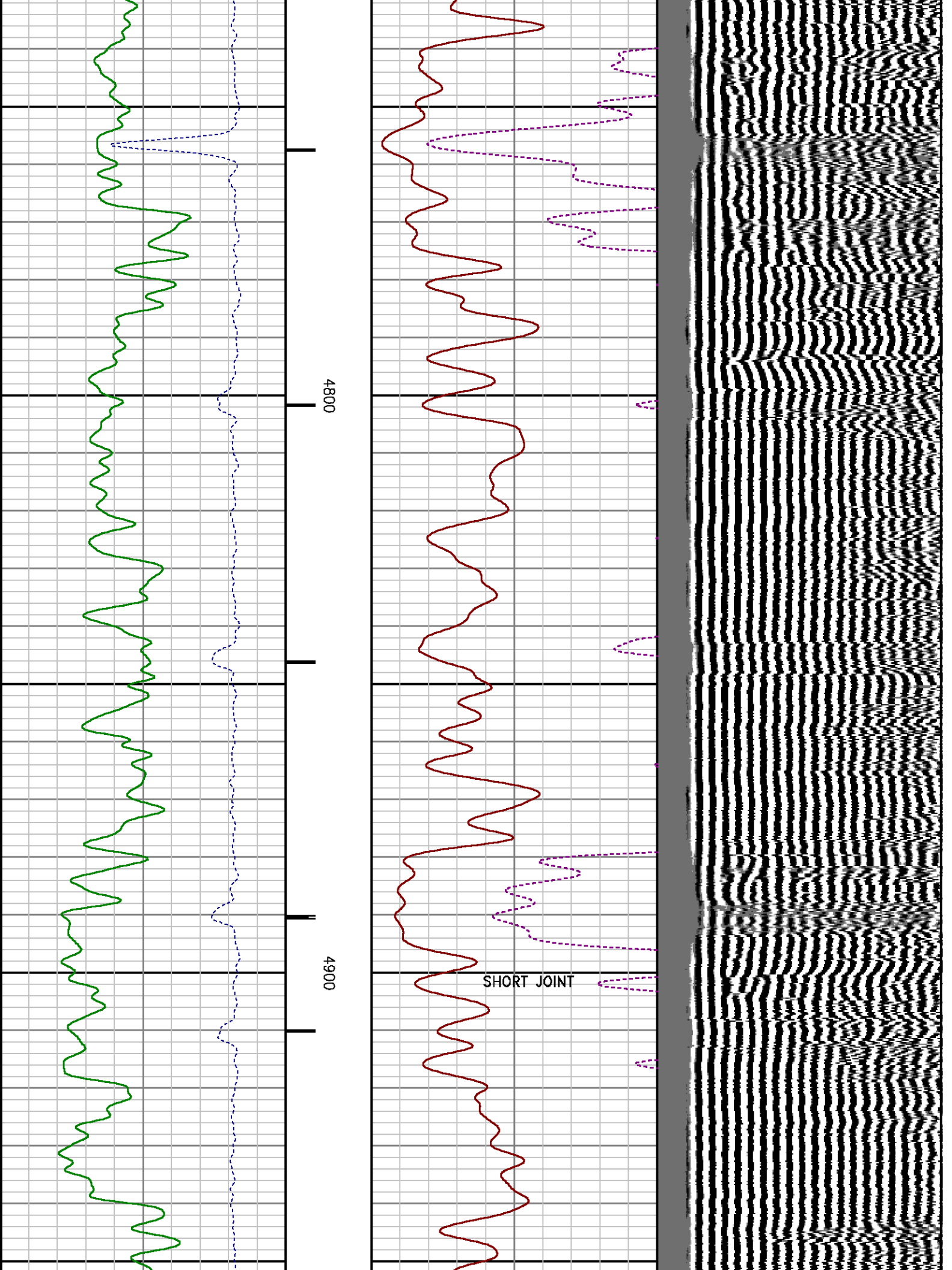


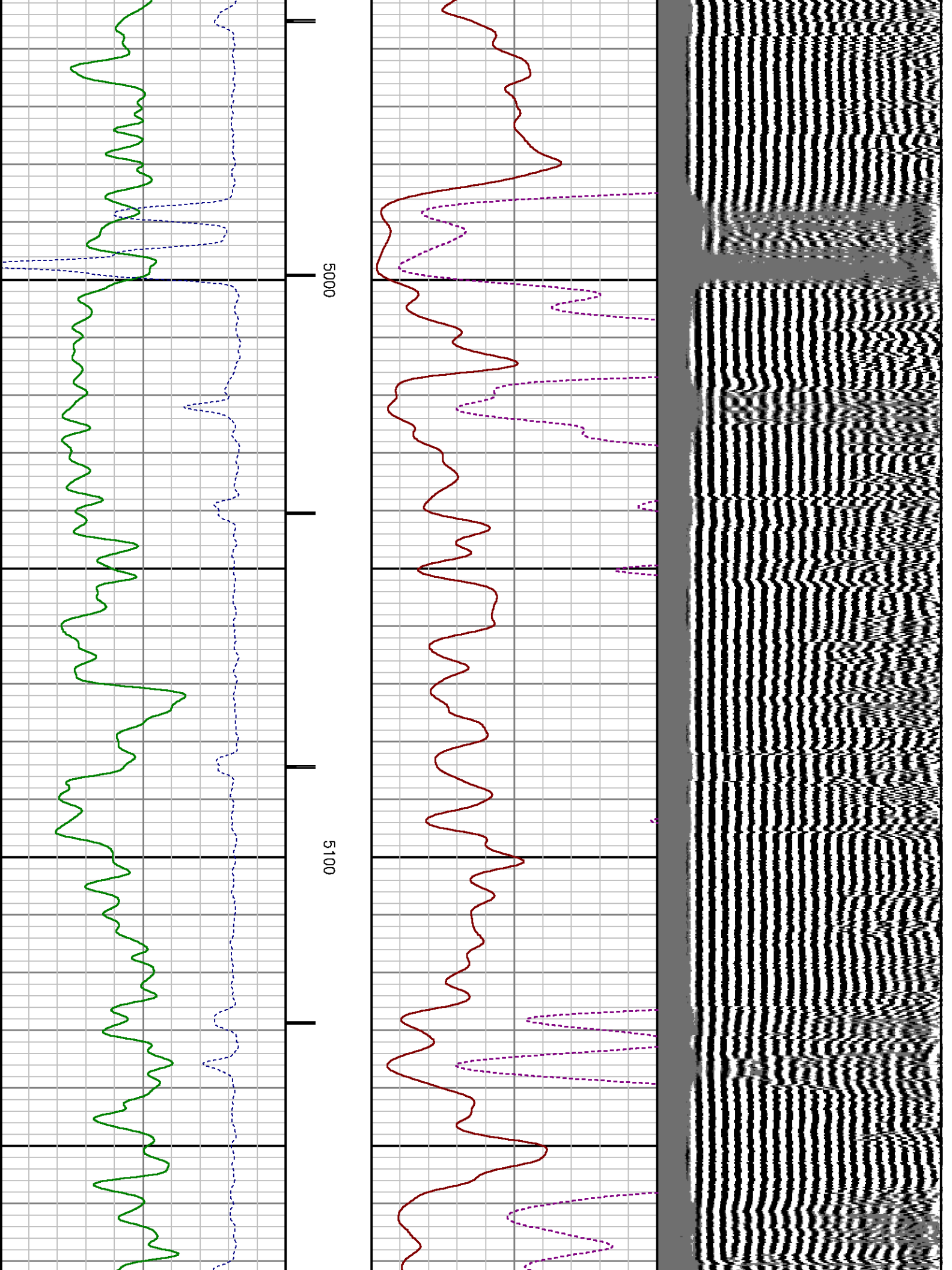


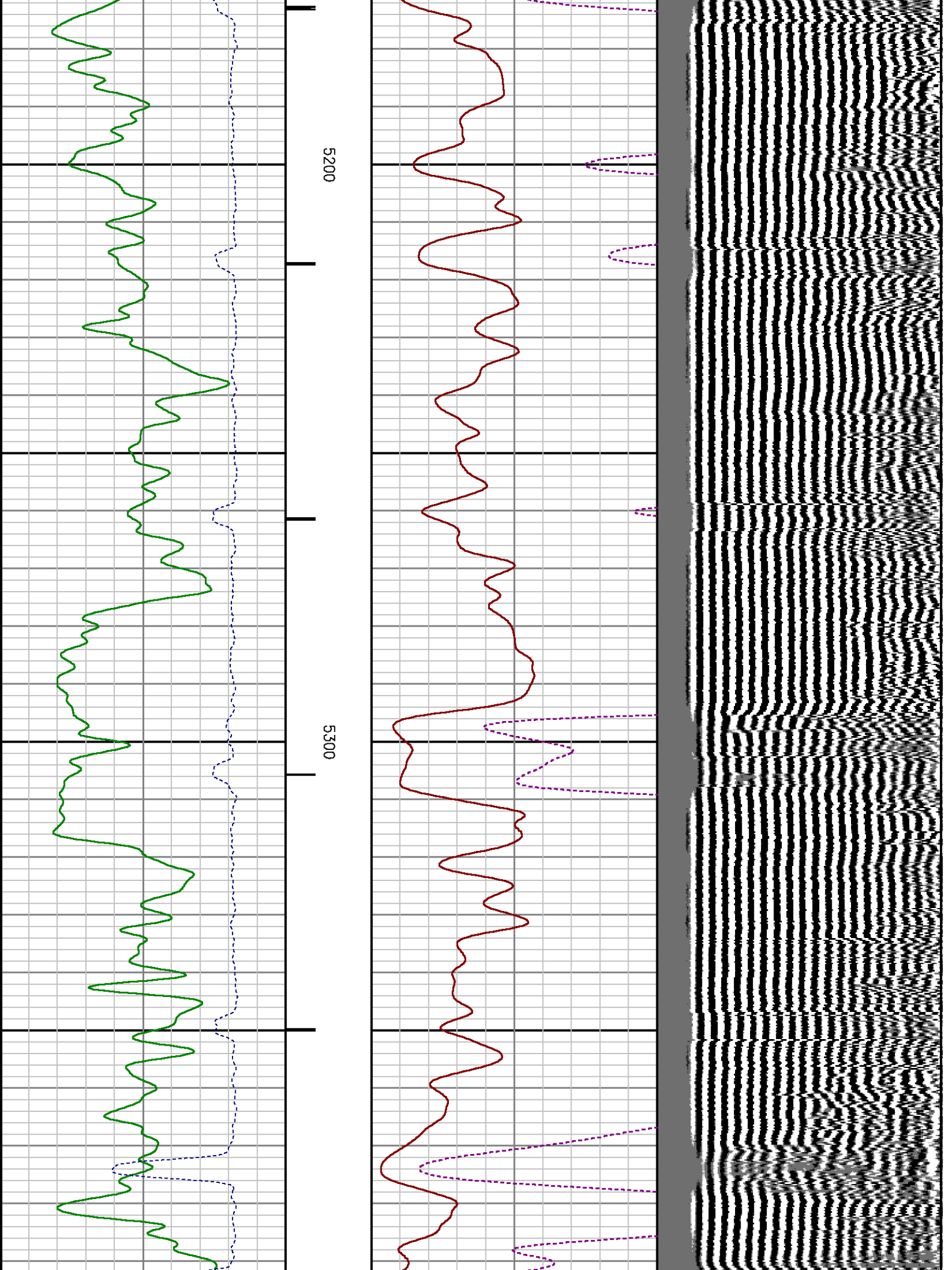


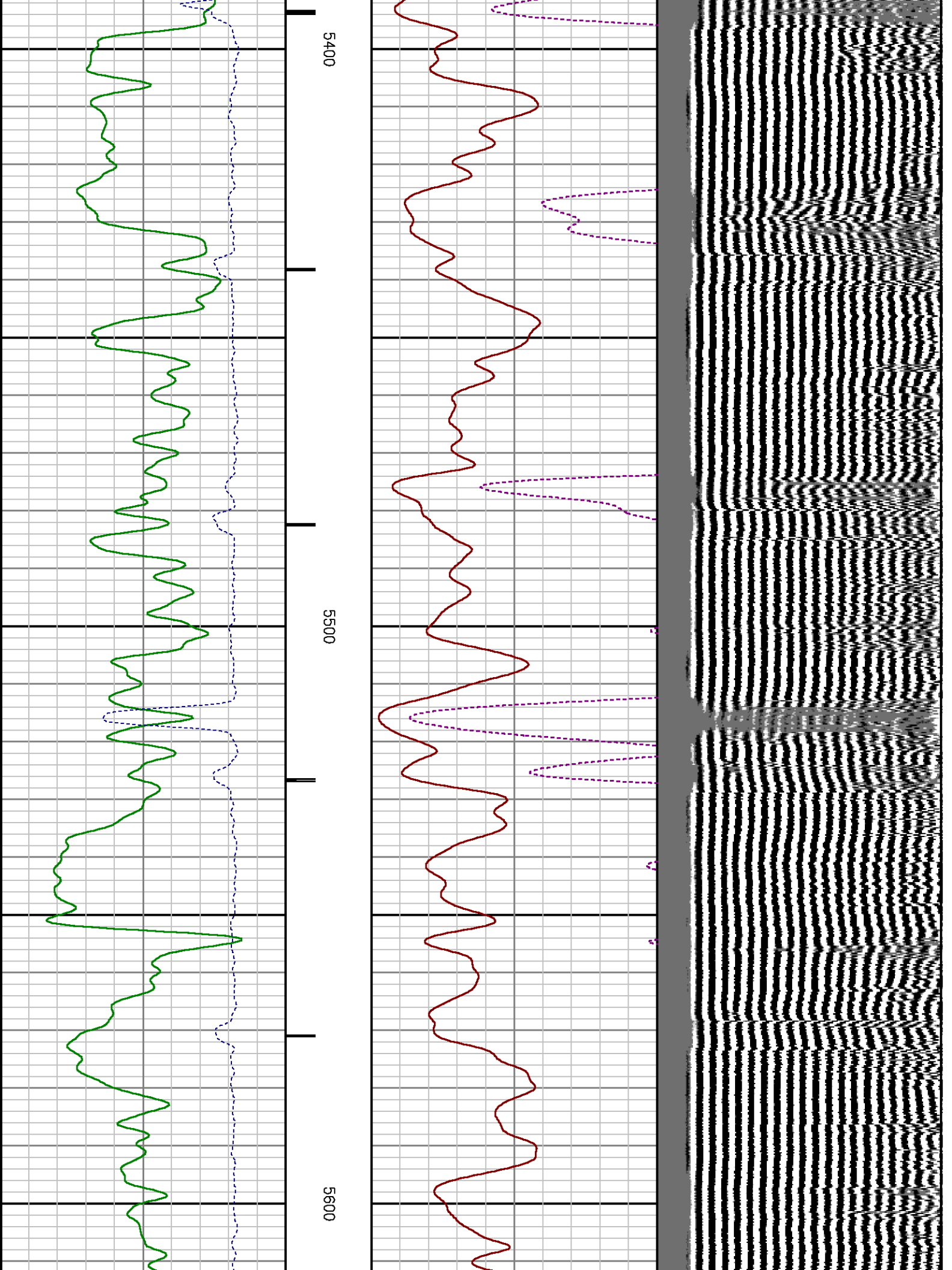




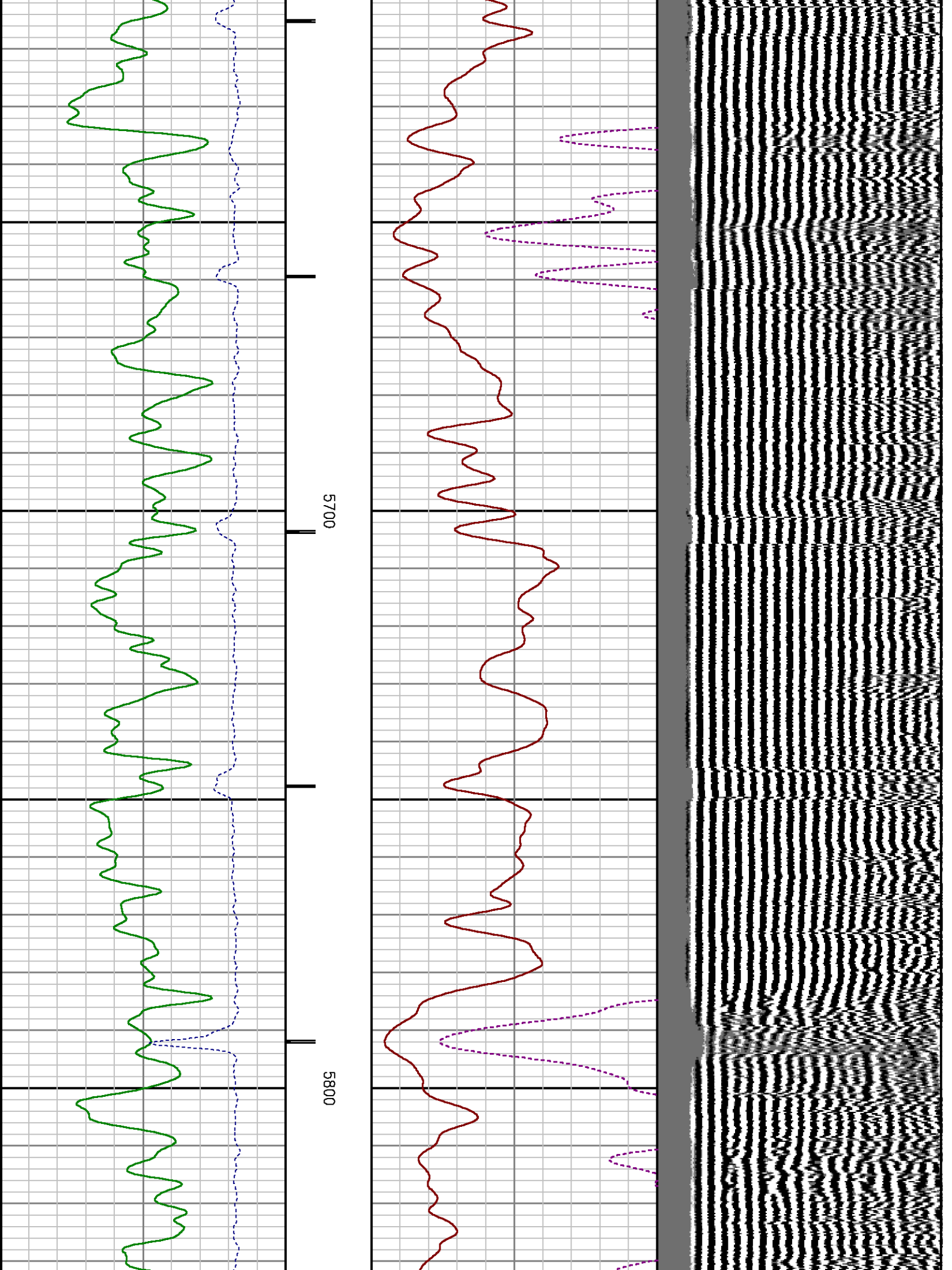


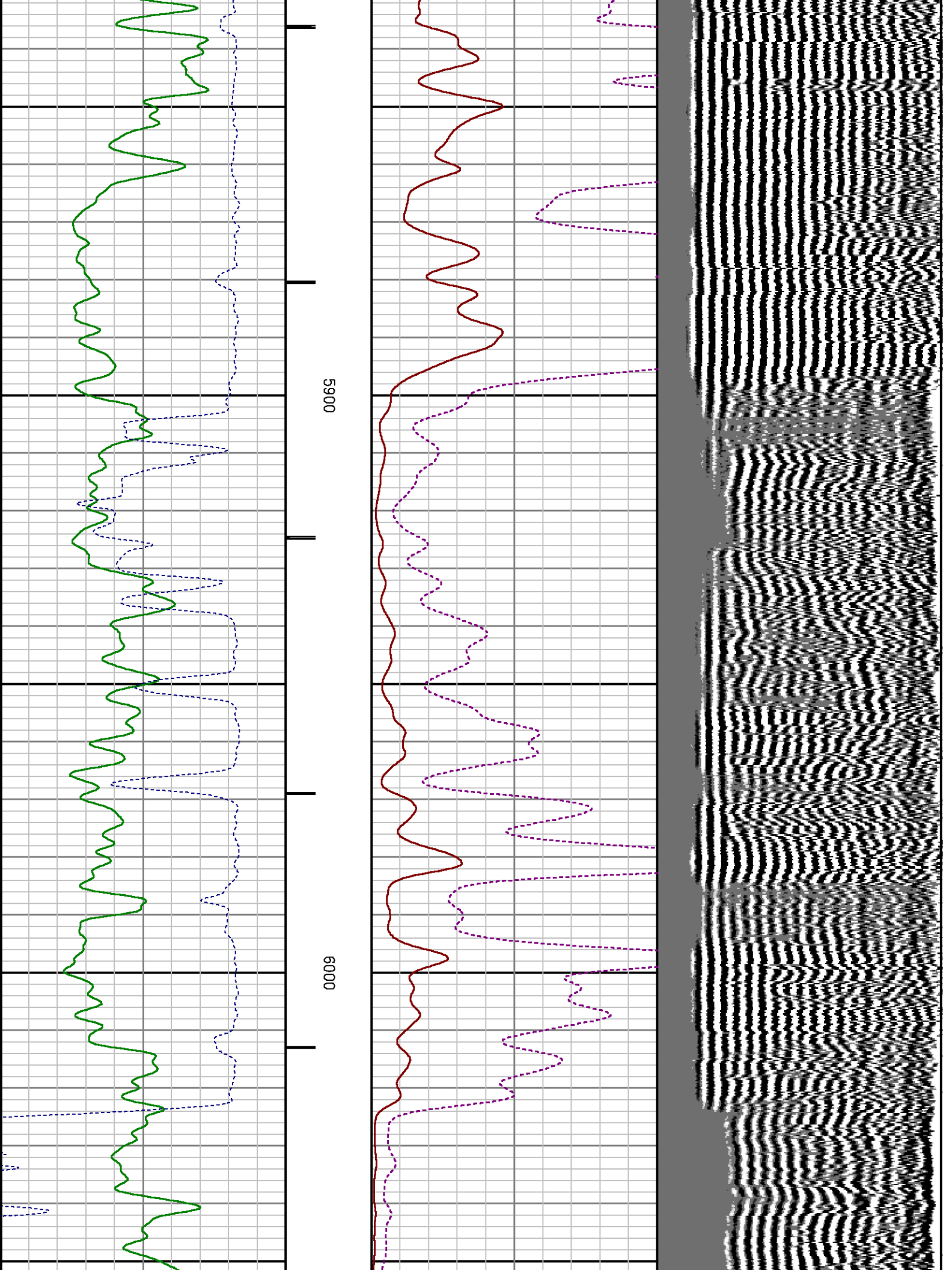


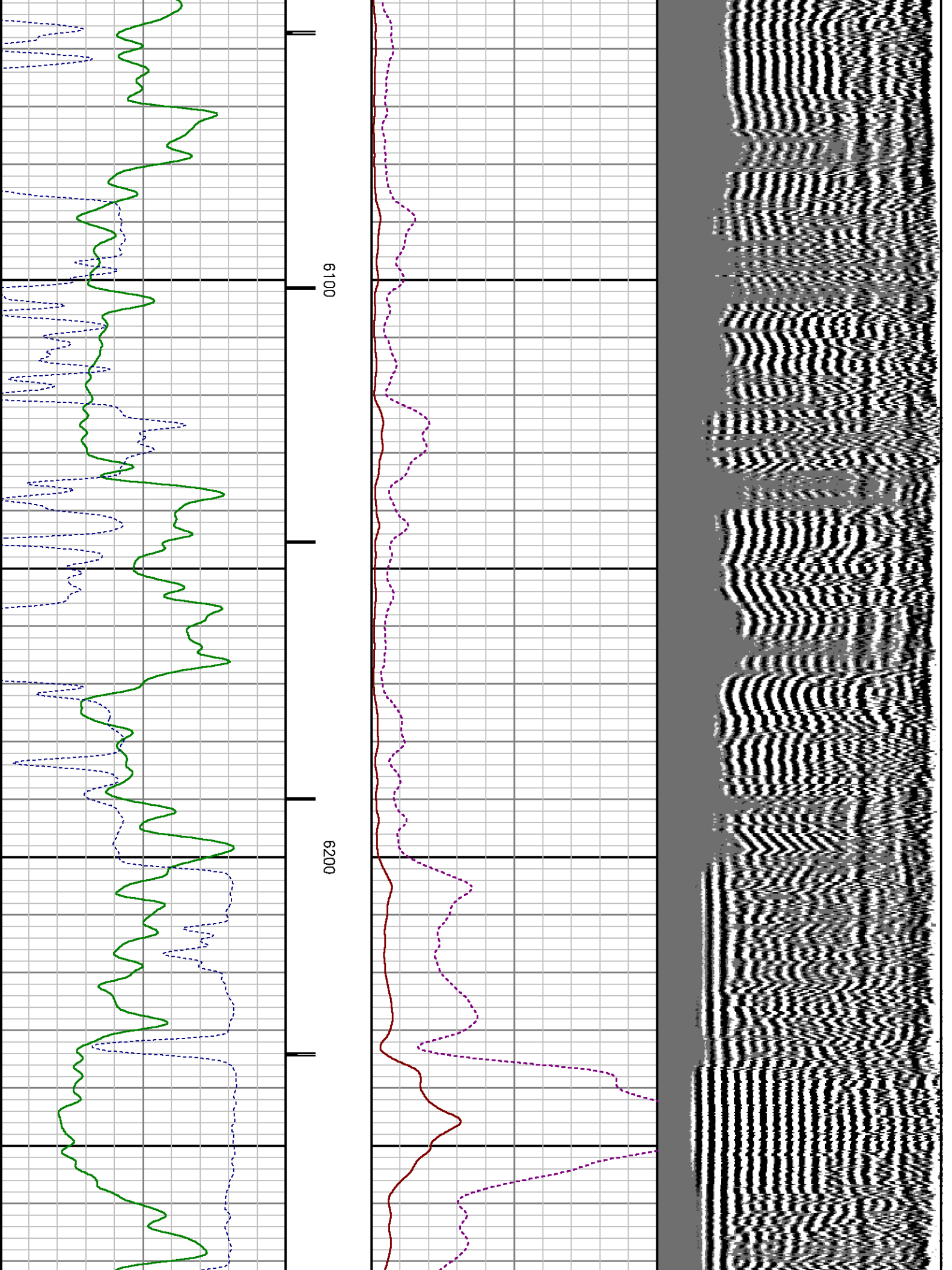


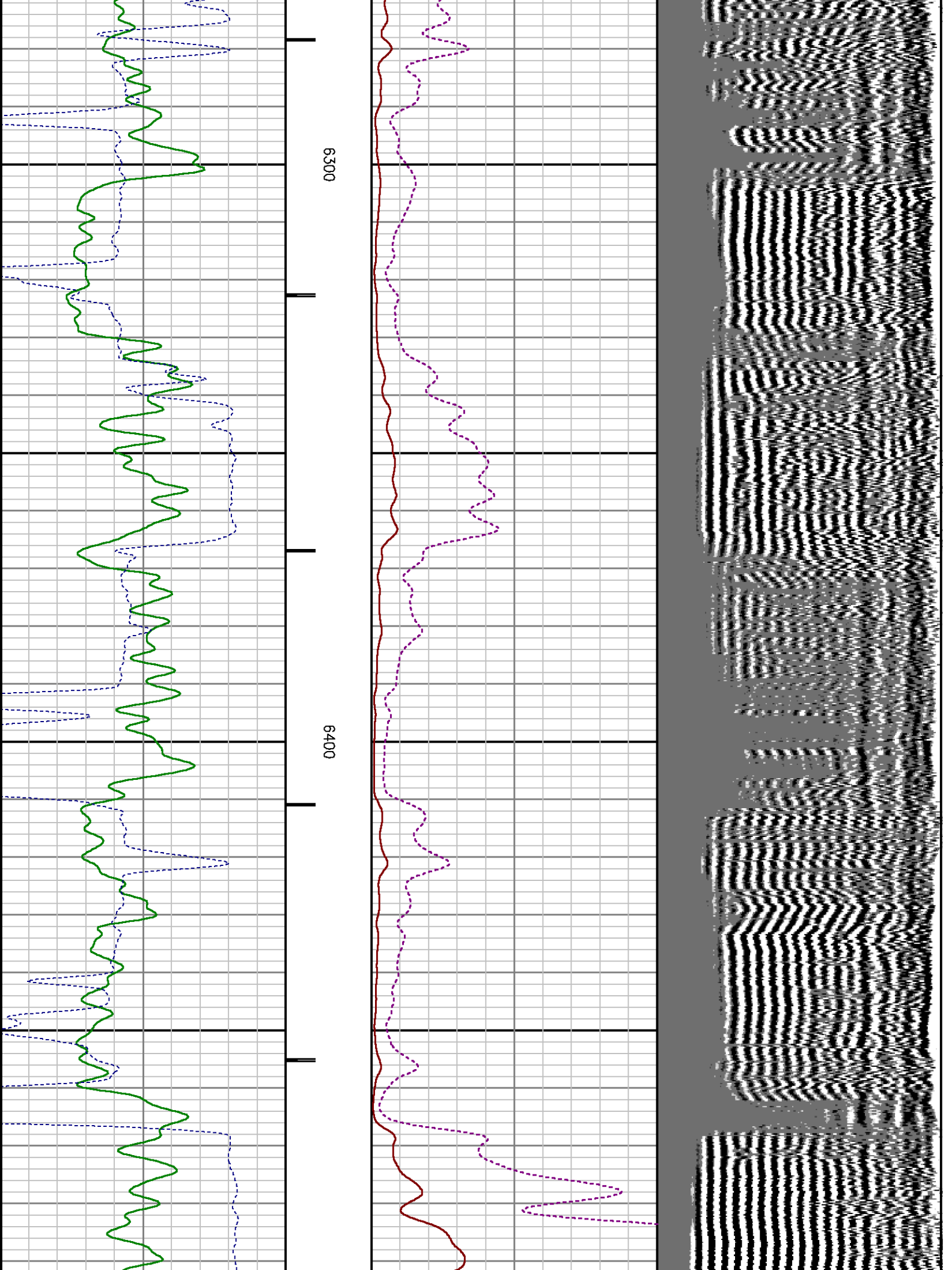




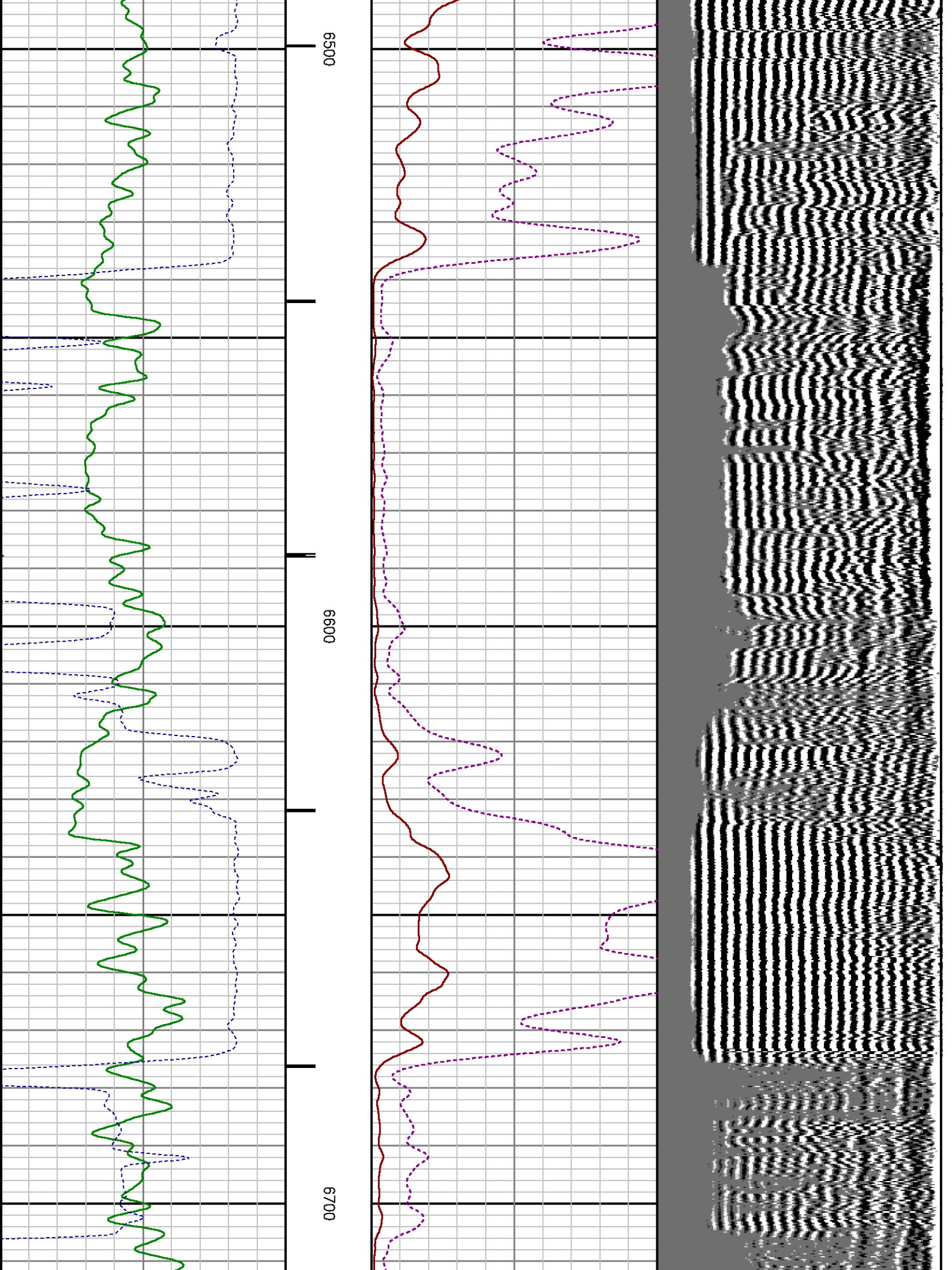


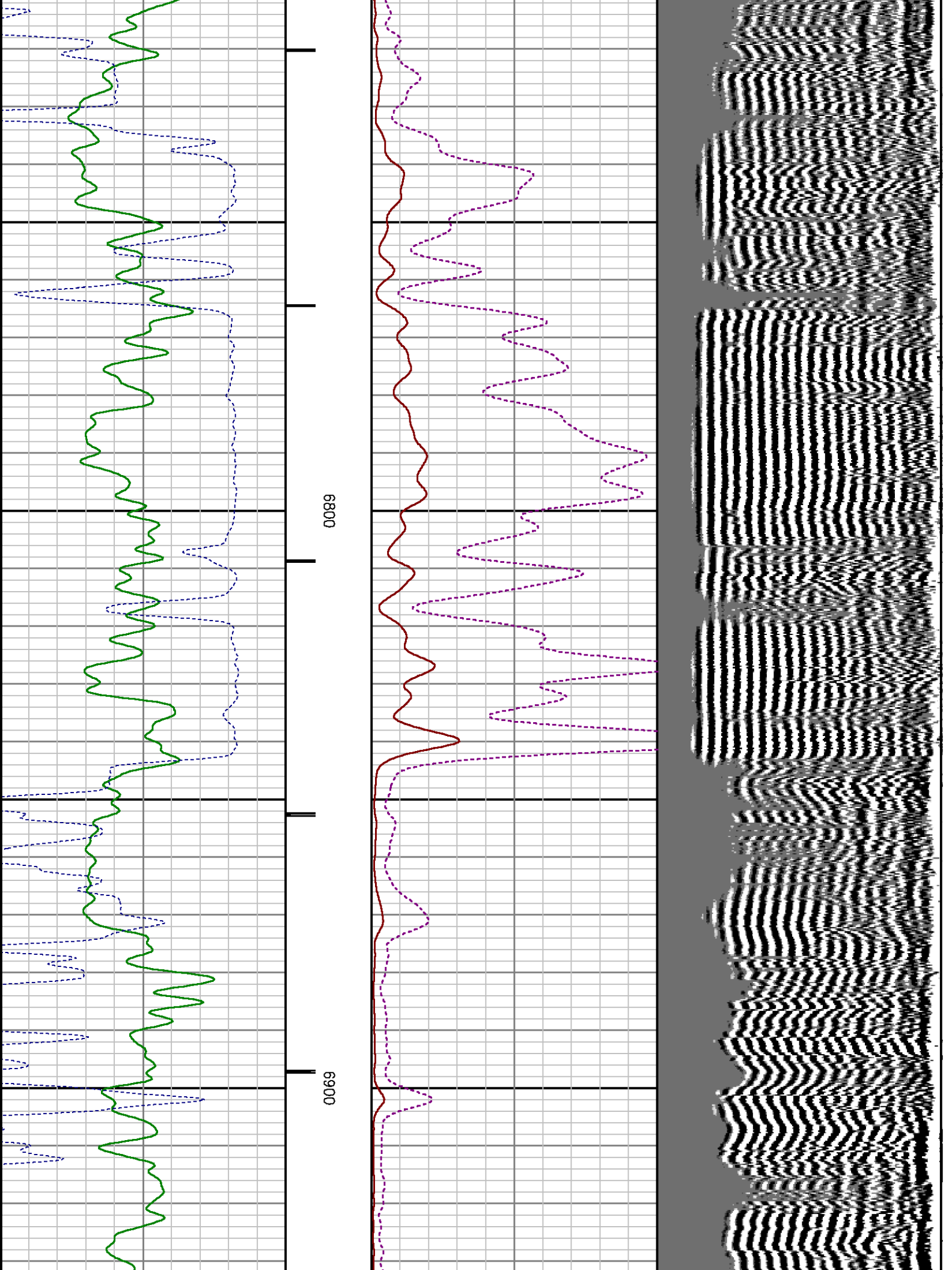


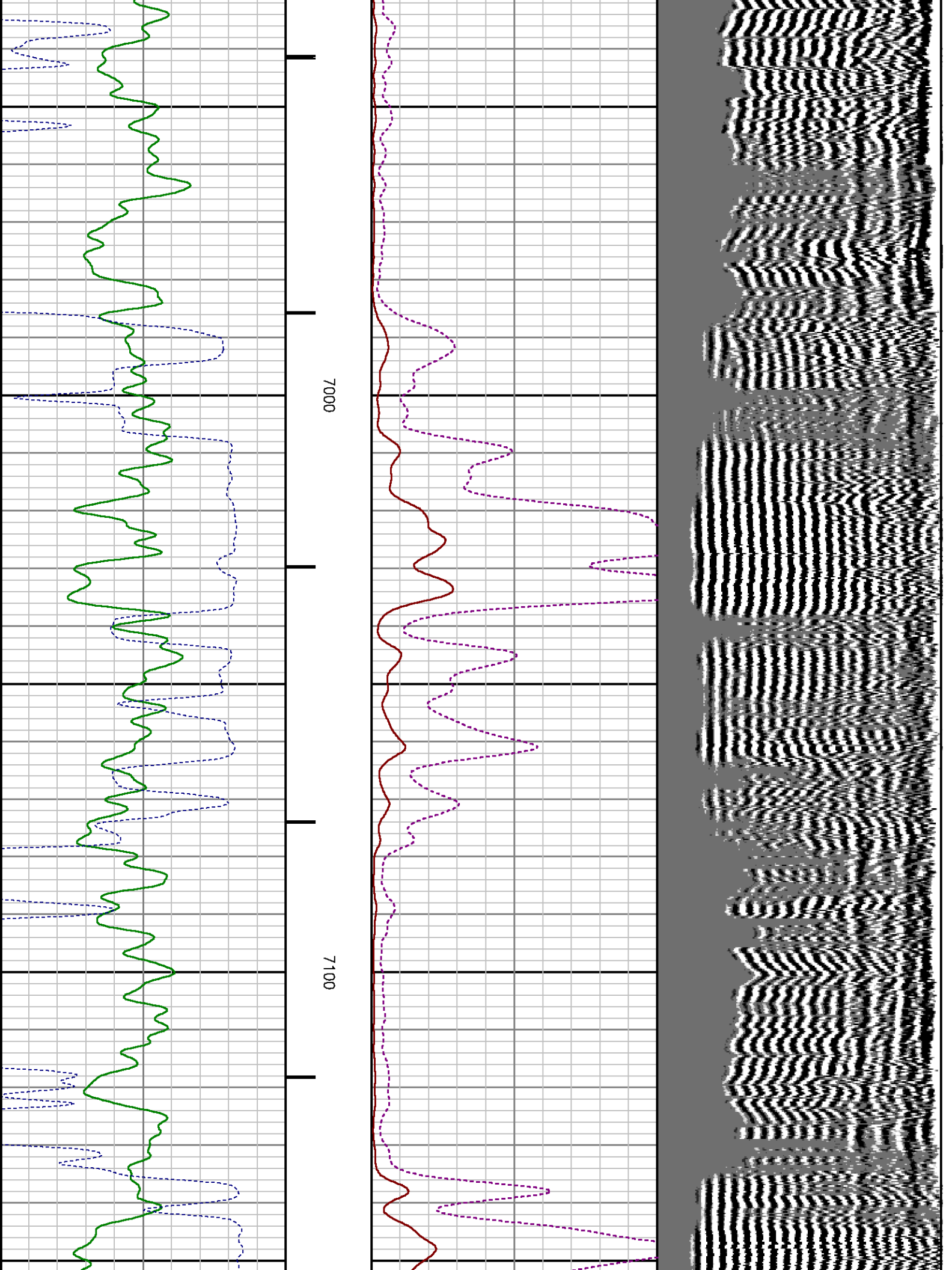


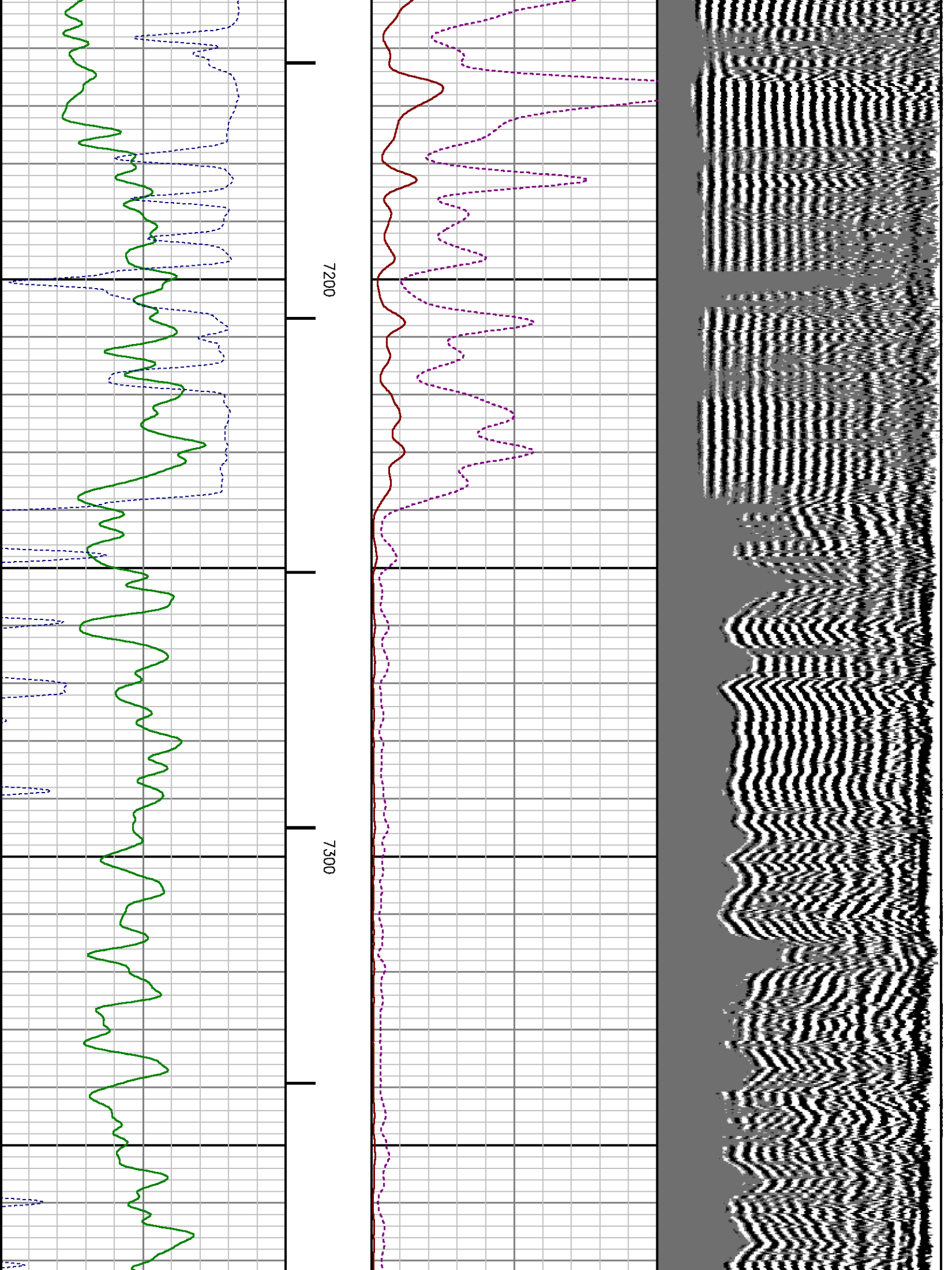




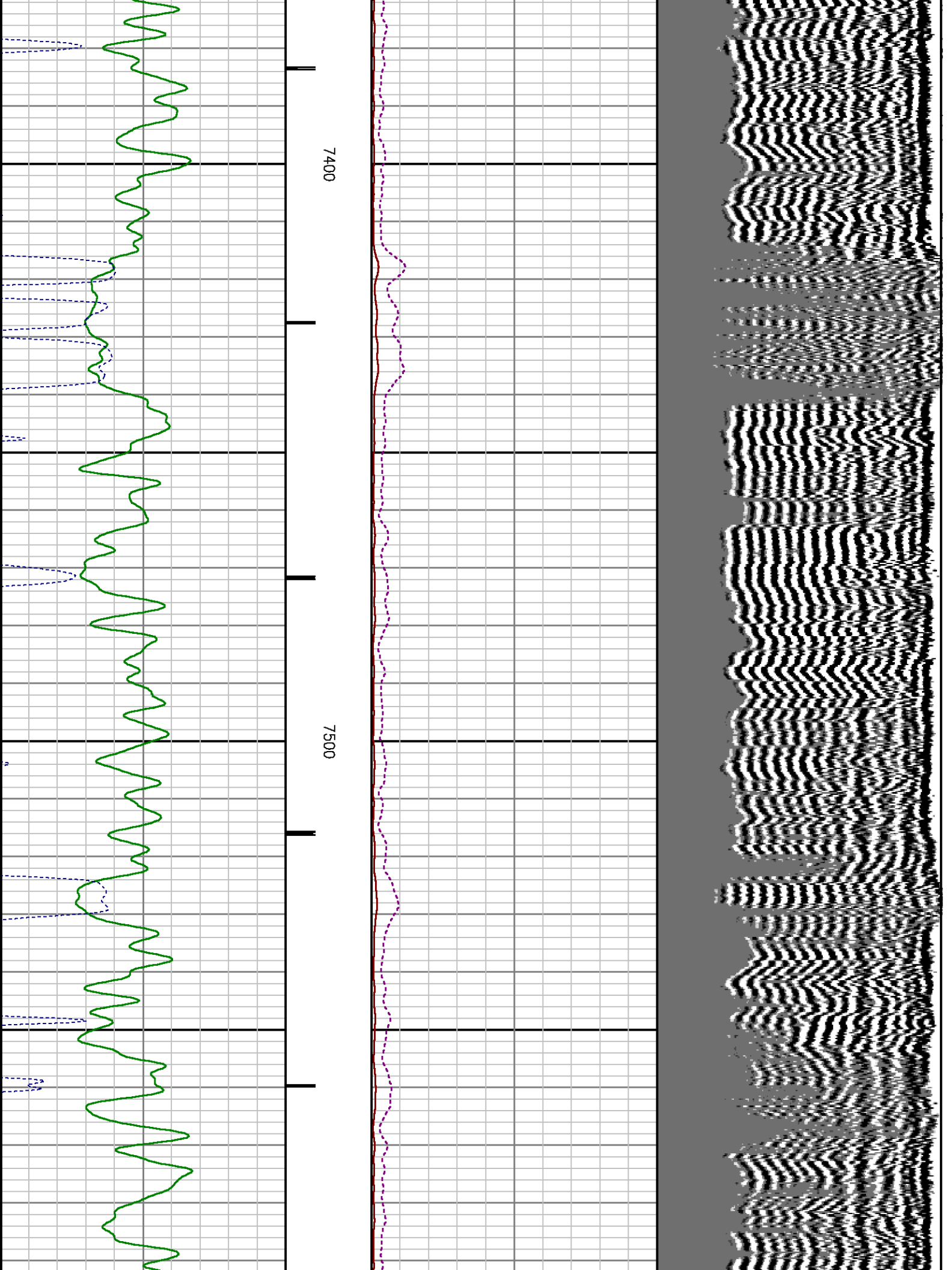


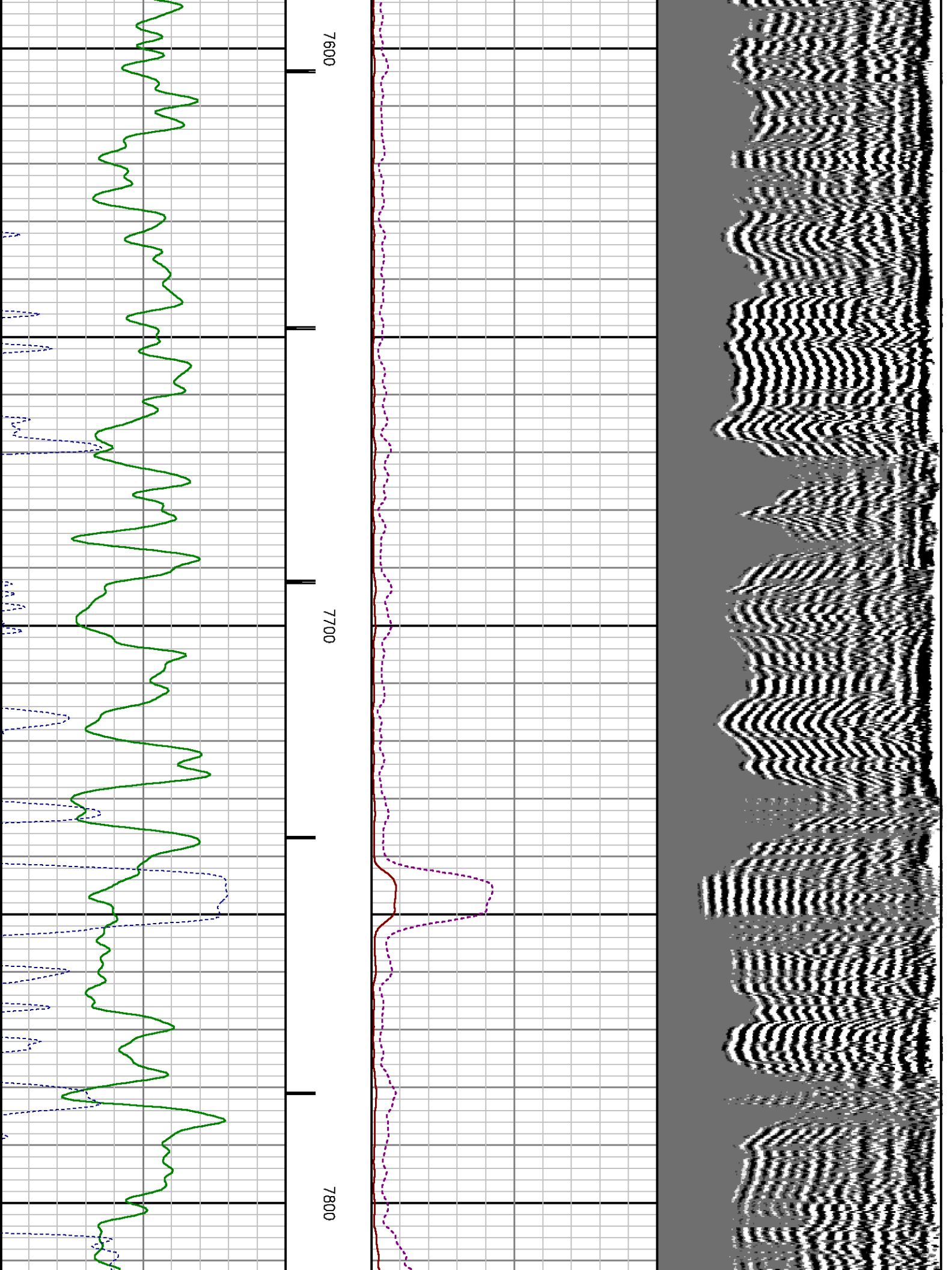


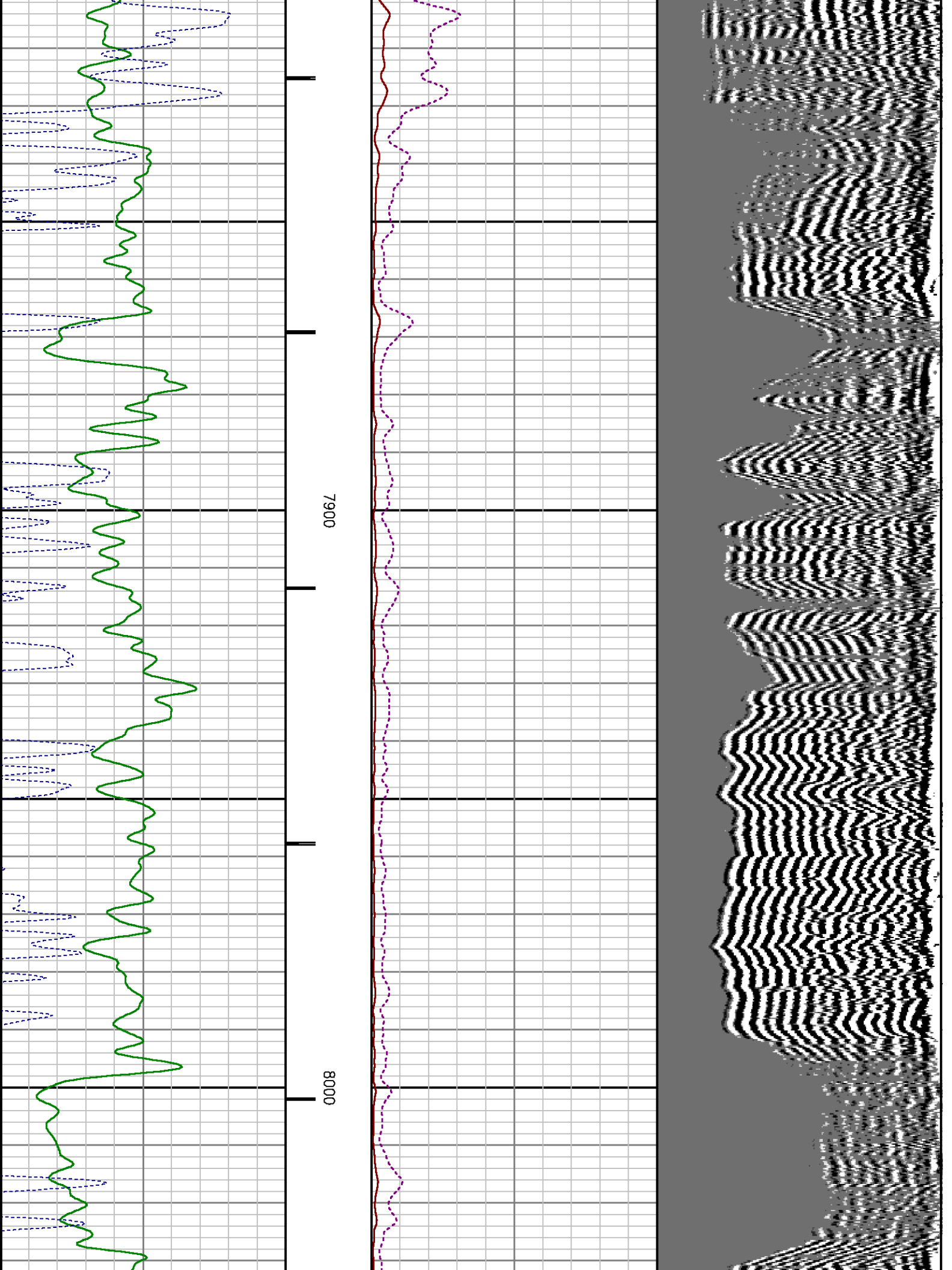


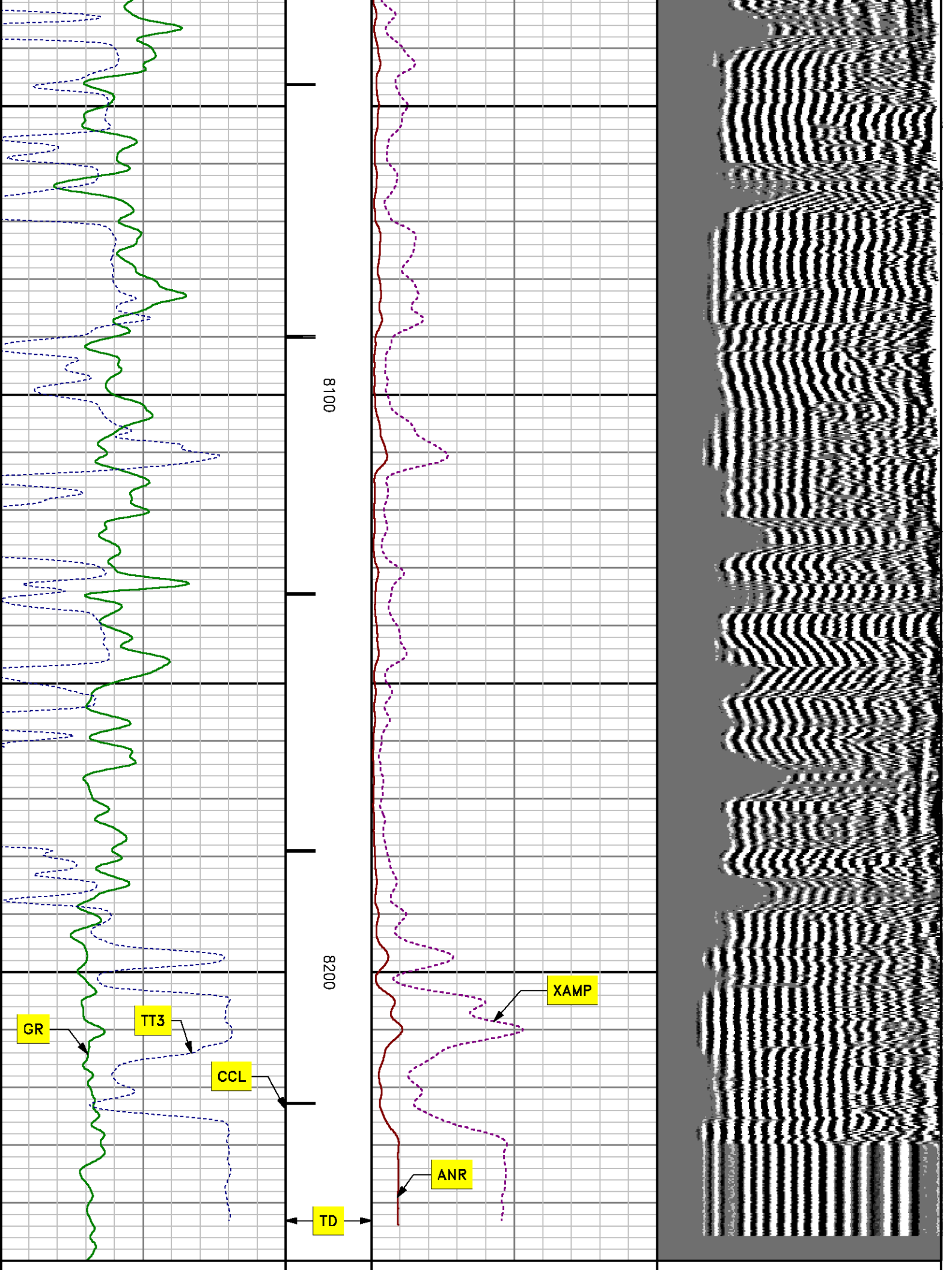




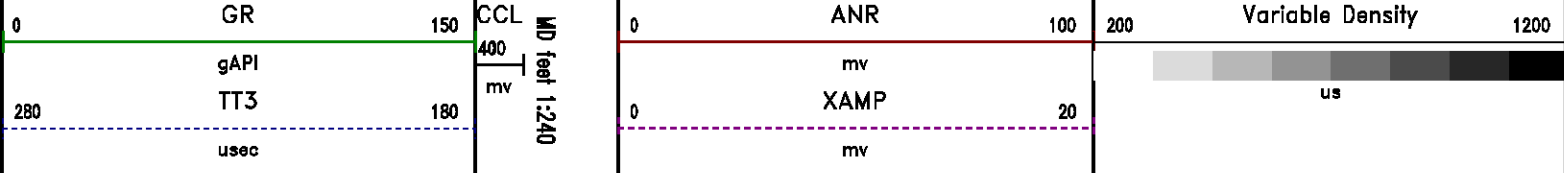












# MAIN LOG SECONDARY PRESENTATION

## 0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	324.736	u sec	18.500	8262.000
RAL	Amp Gate Start Near	197.549	u sec	18.500	8262.000
RAL	Amp Gate Start Radial	198.435	u sec	18.500	8262.000
RAL	Amp Gate Width Far	25.000	u sec	18.500	8262.000
RAL	Amp Gate Width Near	25.000	u sec	18.500	8262.000
RAL	Amp Gate Width Radial	25.000	u sec	18.500	8262.000
RAL	casing od	4.500	inches	18.500	8262.000
RAL	casing wt	11.600	lbm/ft	18.500	8262.000
RAL	FB Start Far	291.900	u sec	18.500	8262.000
RAL	FB Start Near	175.391	u sec	18.500	8262.000
RAL	FB Start Radial	175.391	u sec	18.500	8262.000
RAL	FB Thresh Far	10.000	mv	18.500	8262.000
RAL	FB Thresh Near	4.000	mv	18.500	8262.000
RAL	FB Thresh Radial	4.000	mv	18.500	8262.000
RAL	Fluid Travel Time	200.000	u sec/ft	18.500	8261.965

## 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
		AFAR	SIG	TT5			
1426XA	-15.750						
2459XA	-11.340	CCL					

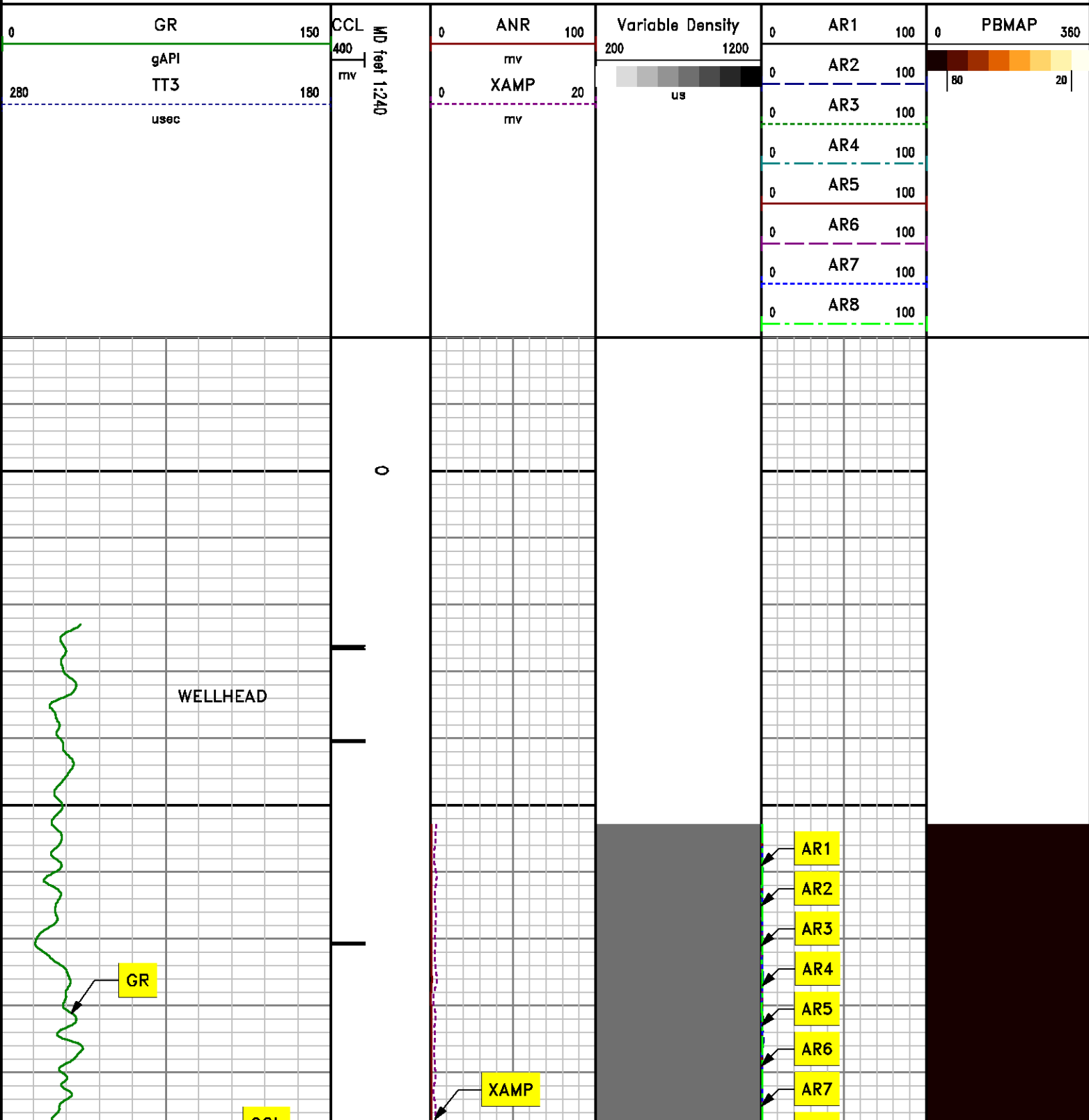
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2459XA

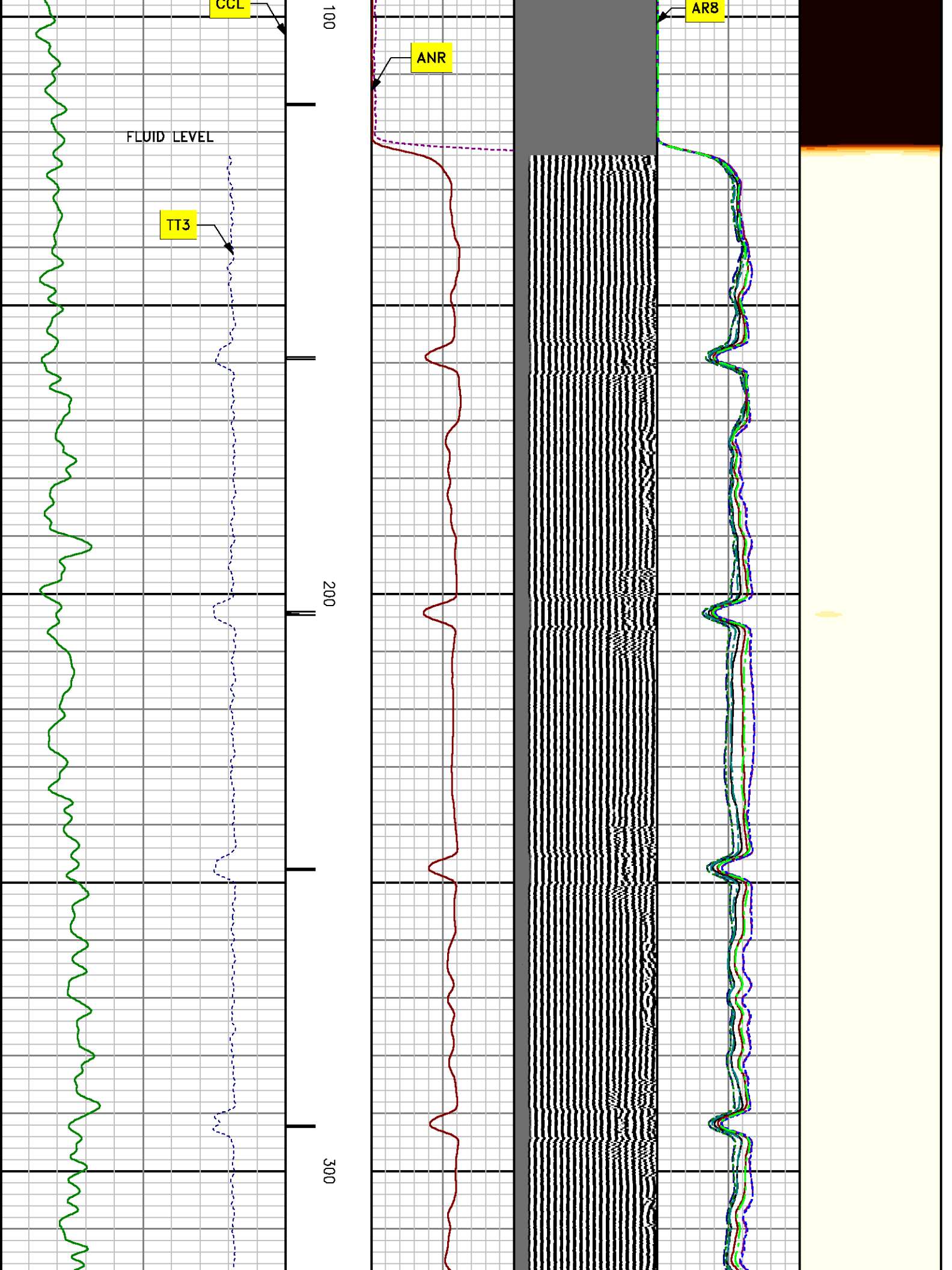
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-4.090

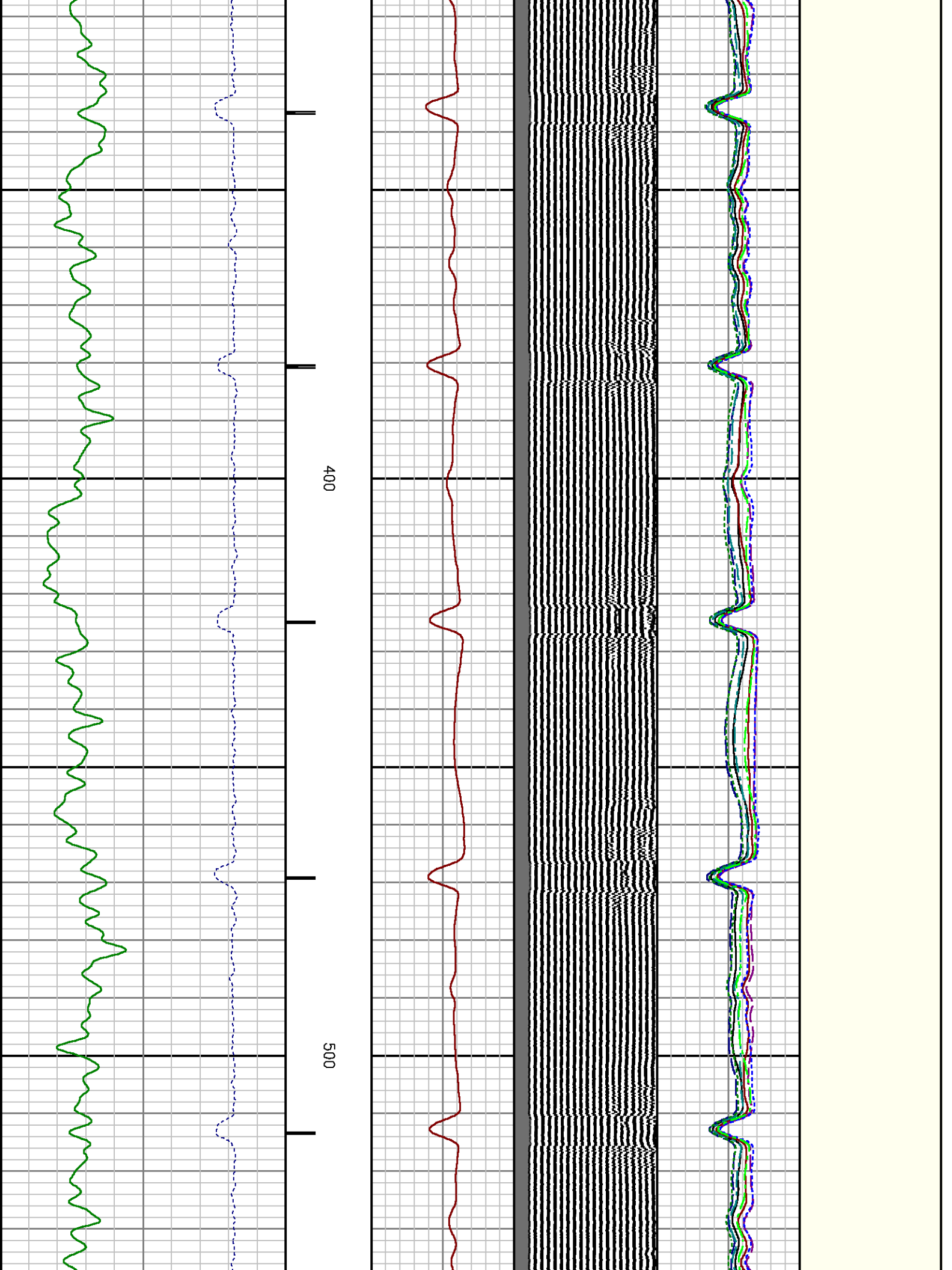
GR  
NEU

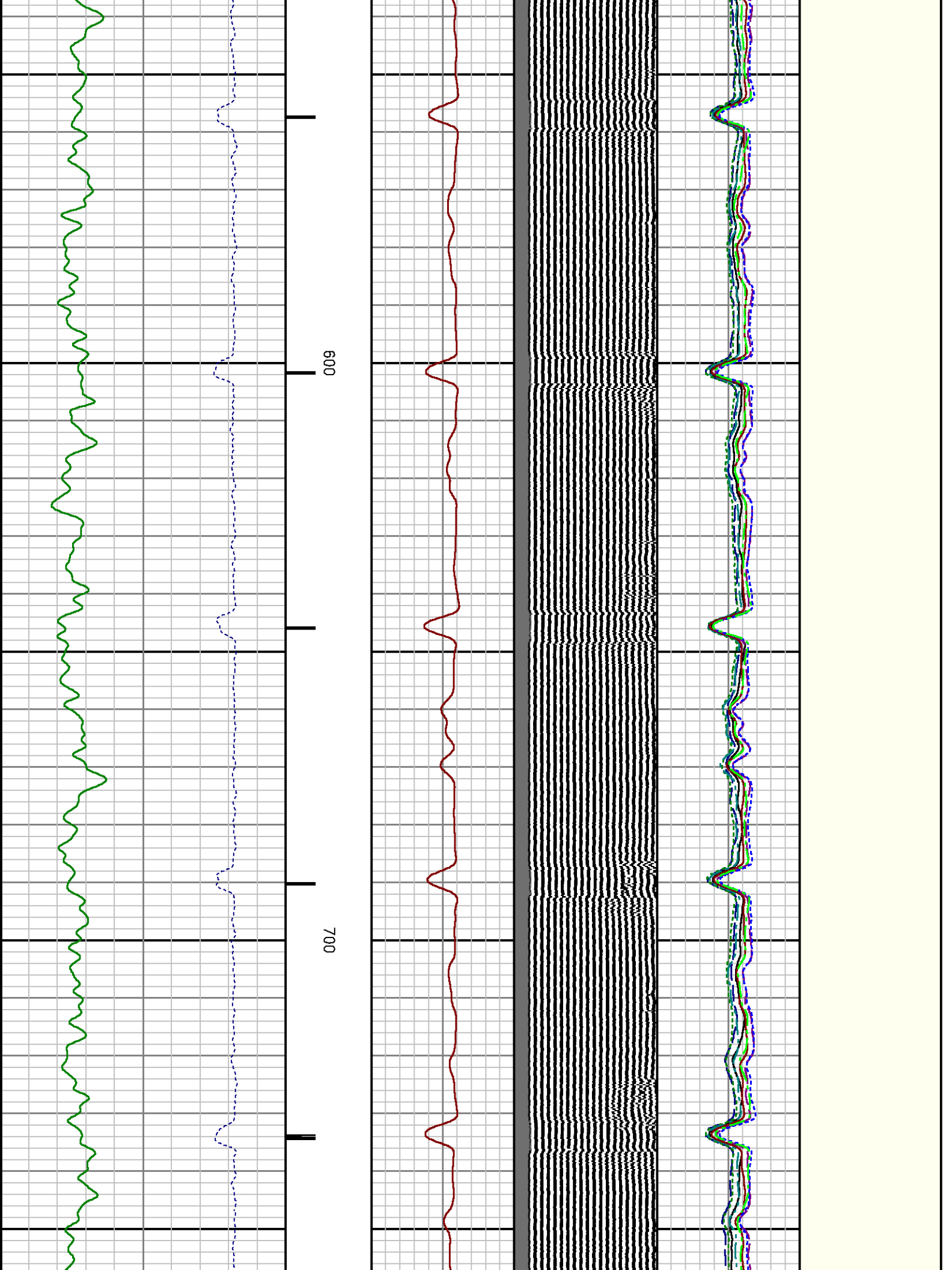
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Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY  
Well : DUGGAN RWF 513-29  
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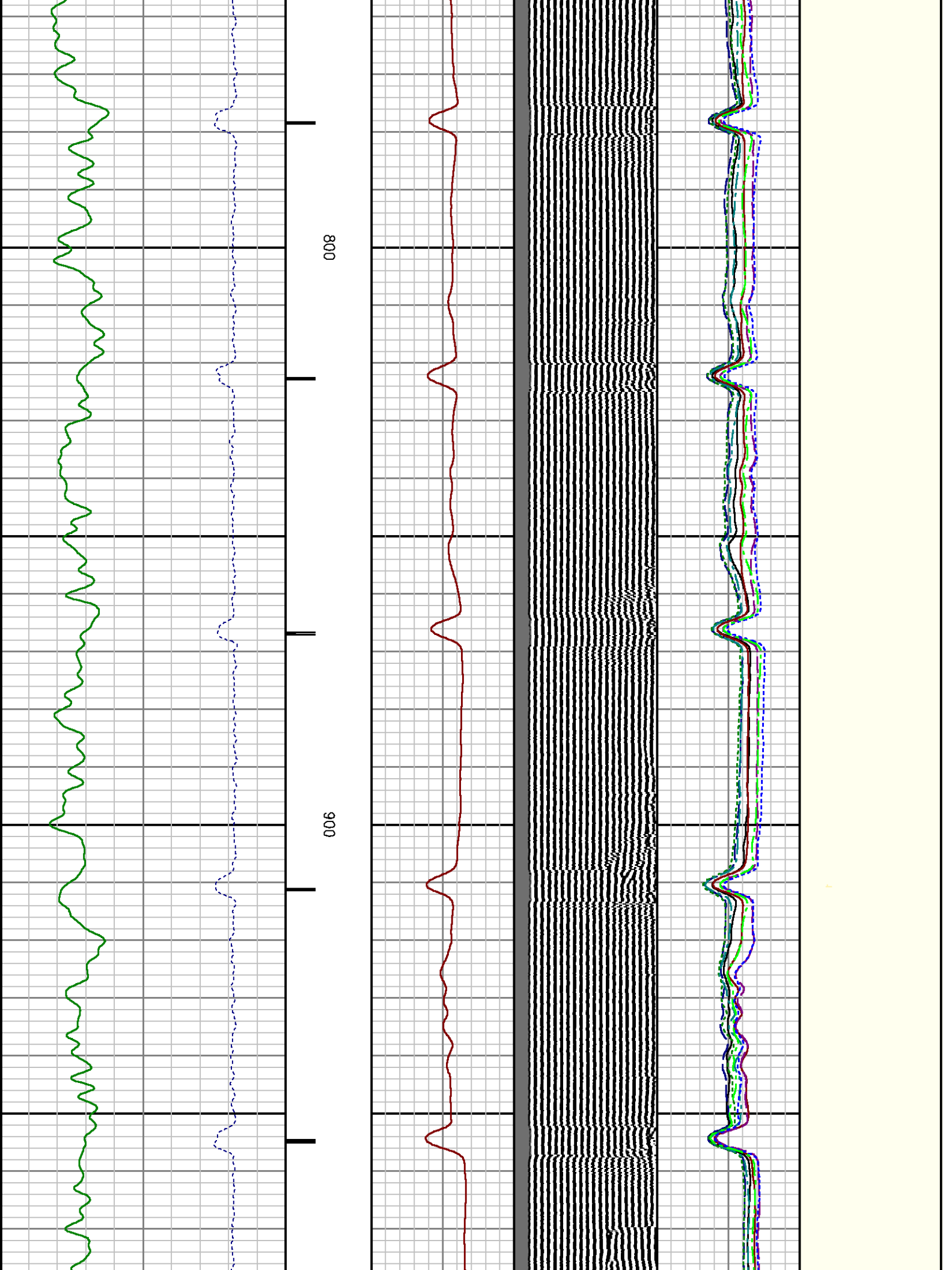


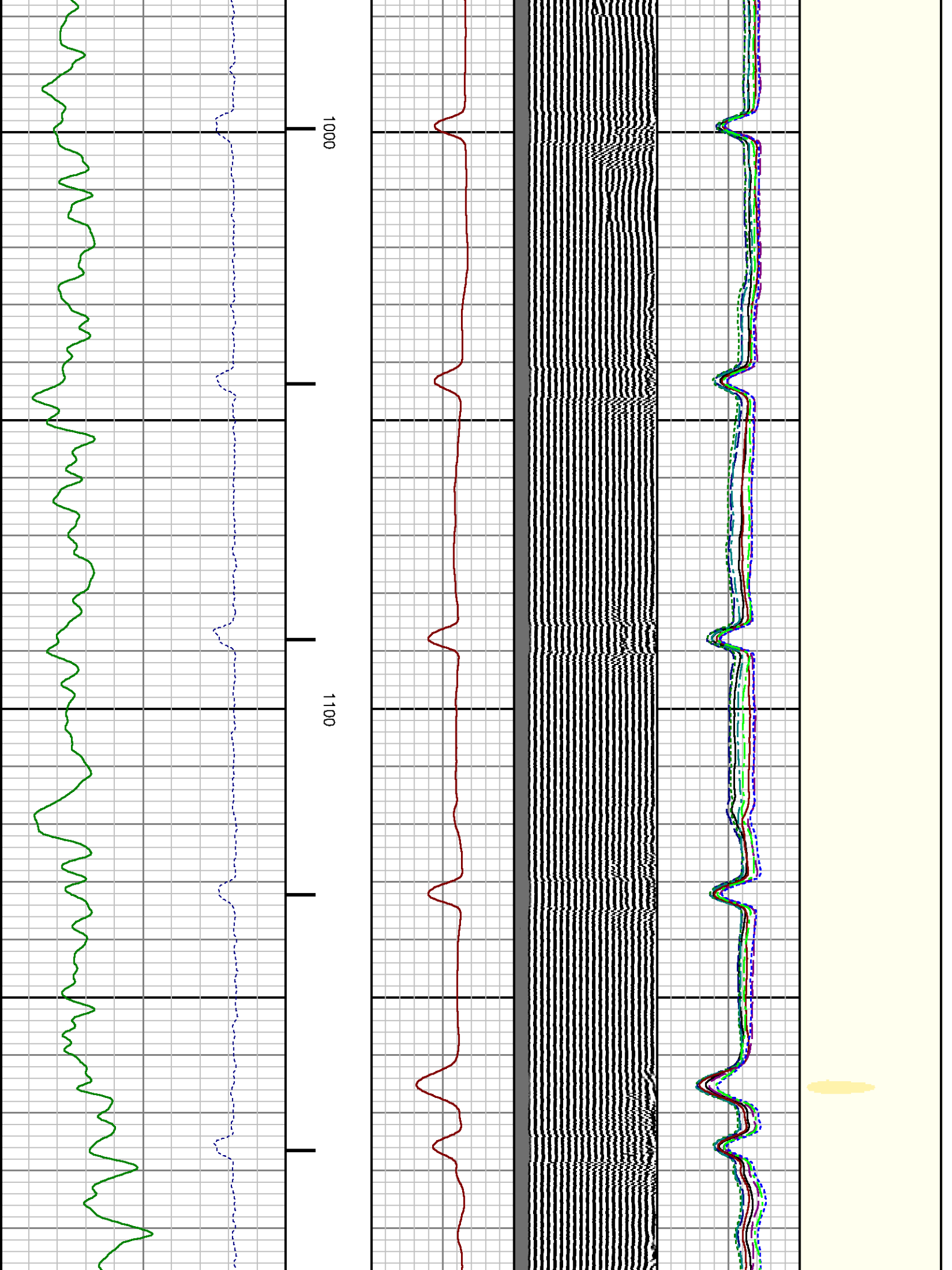


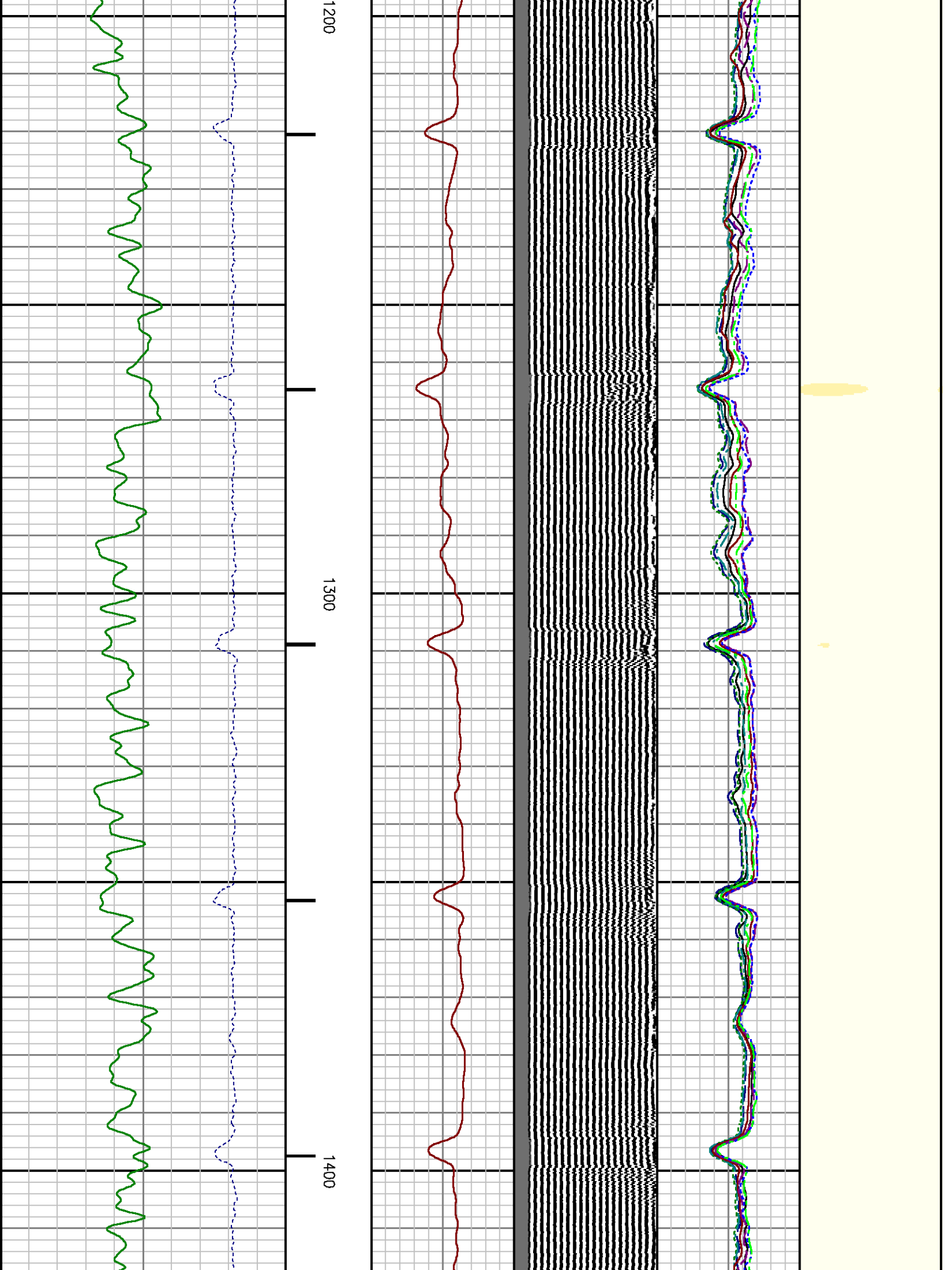


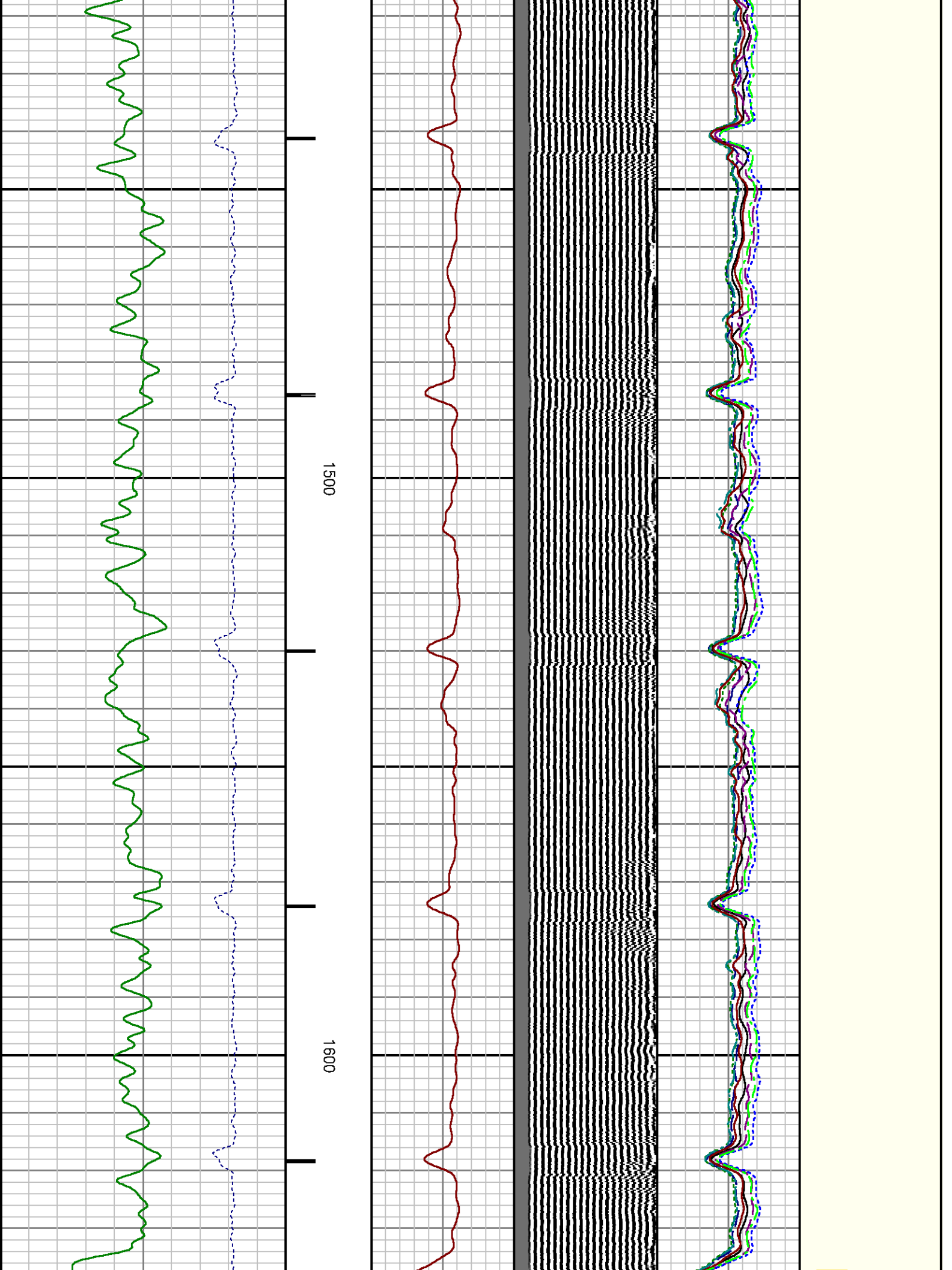


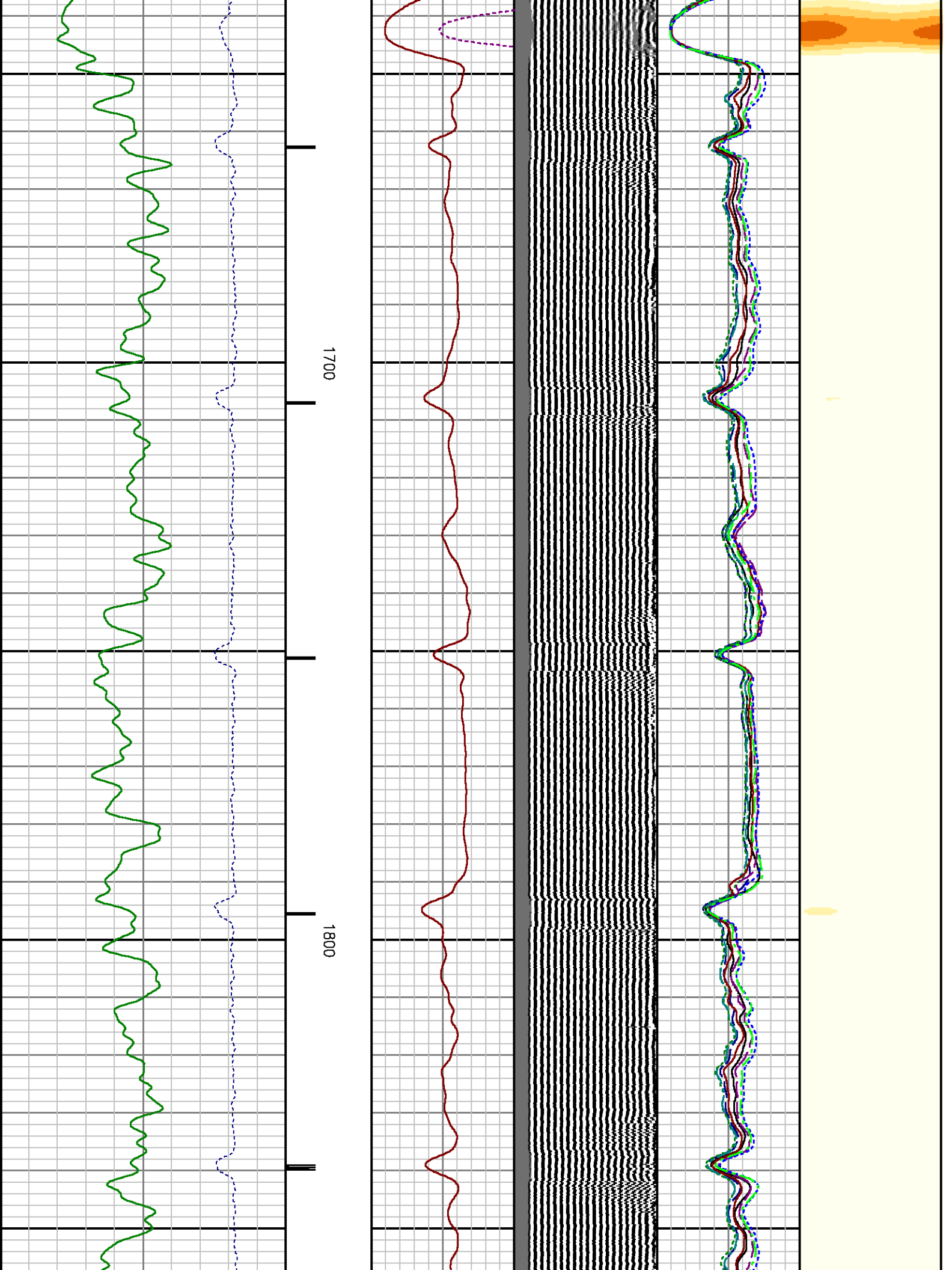




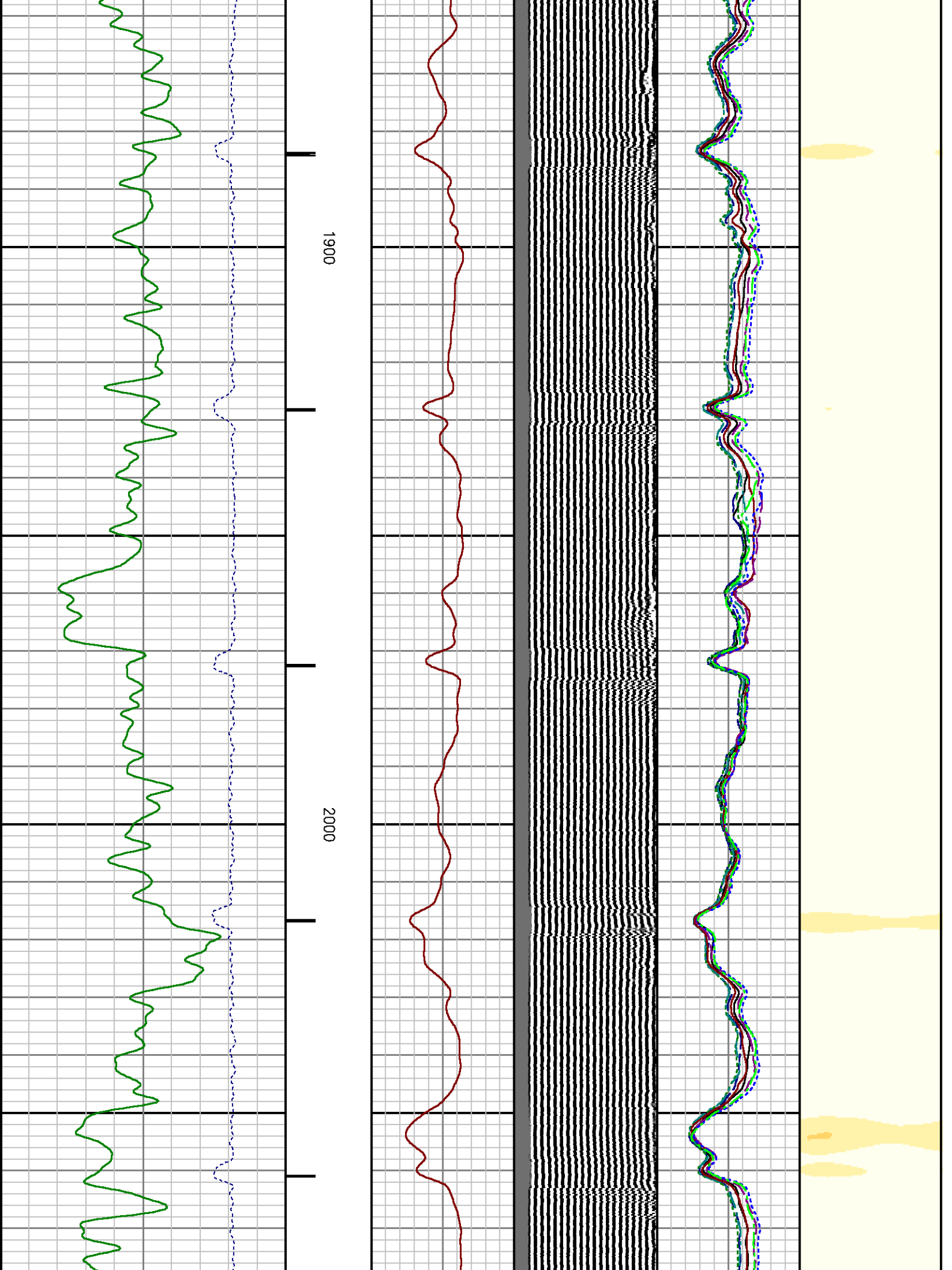


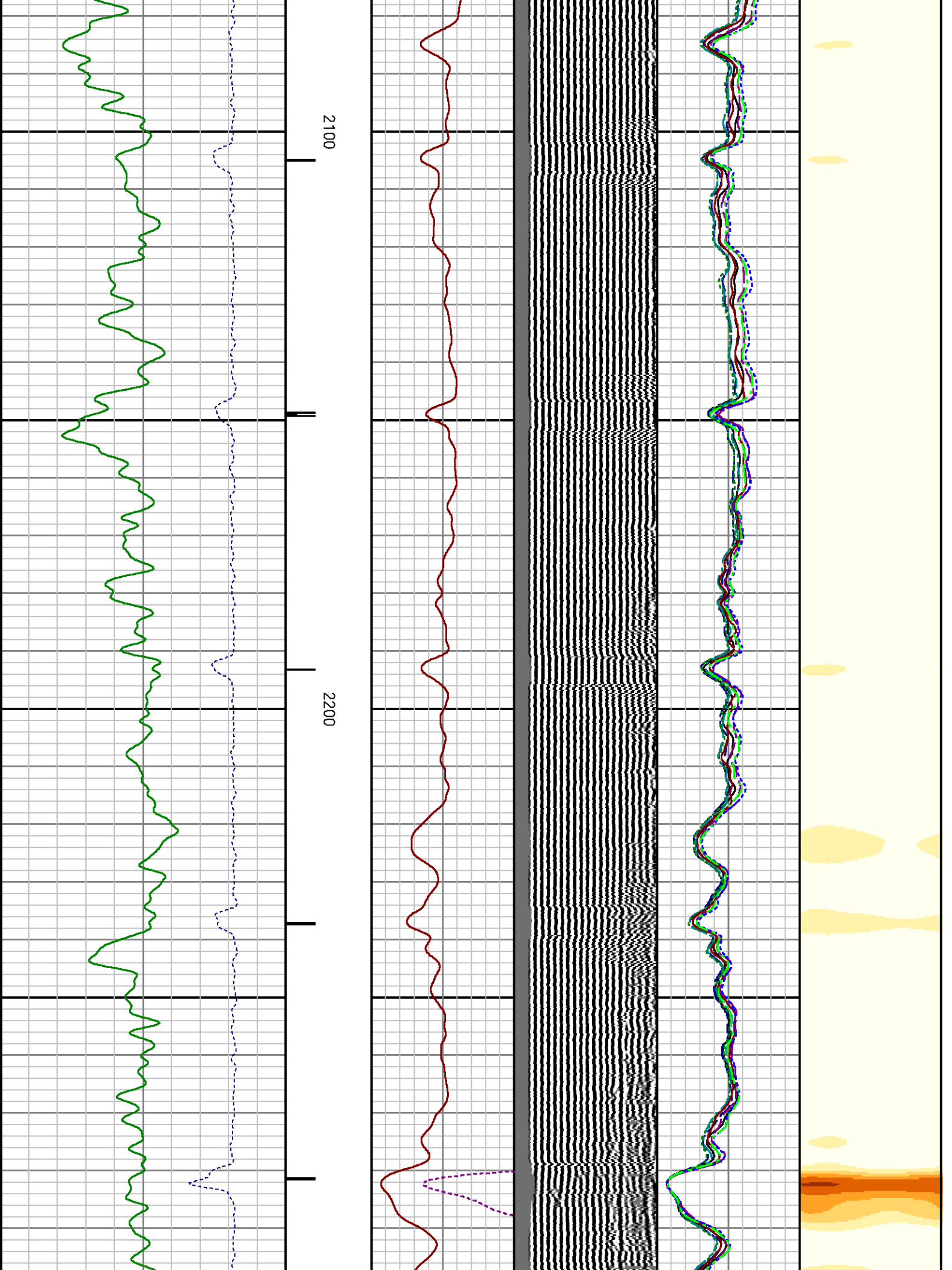


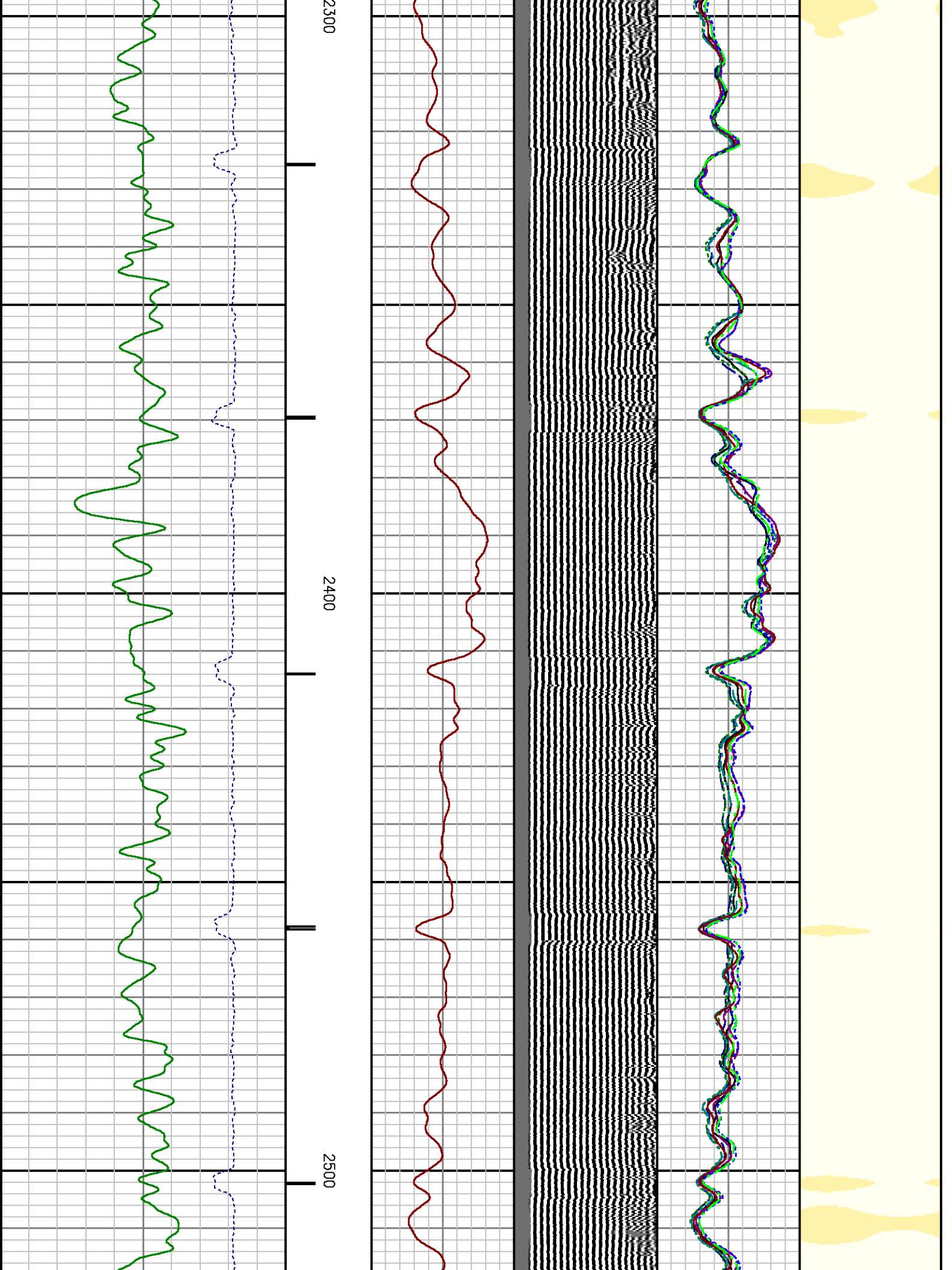


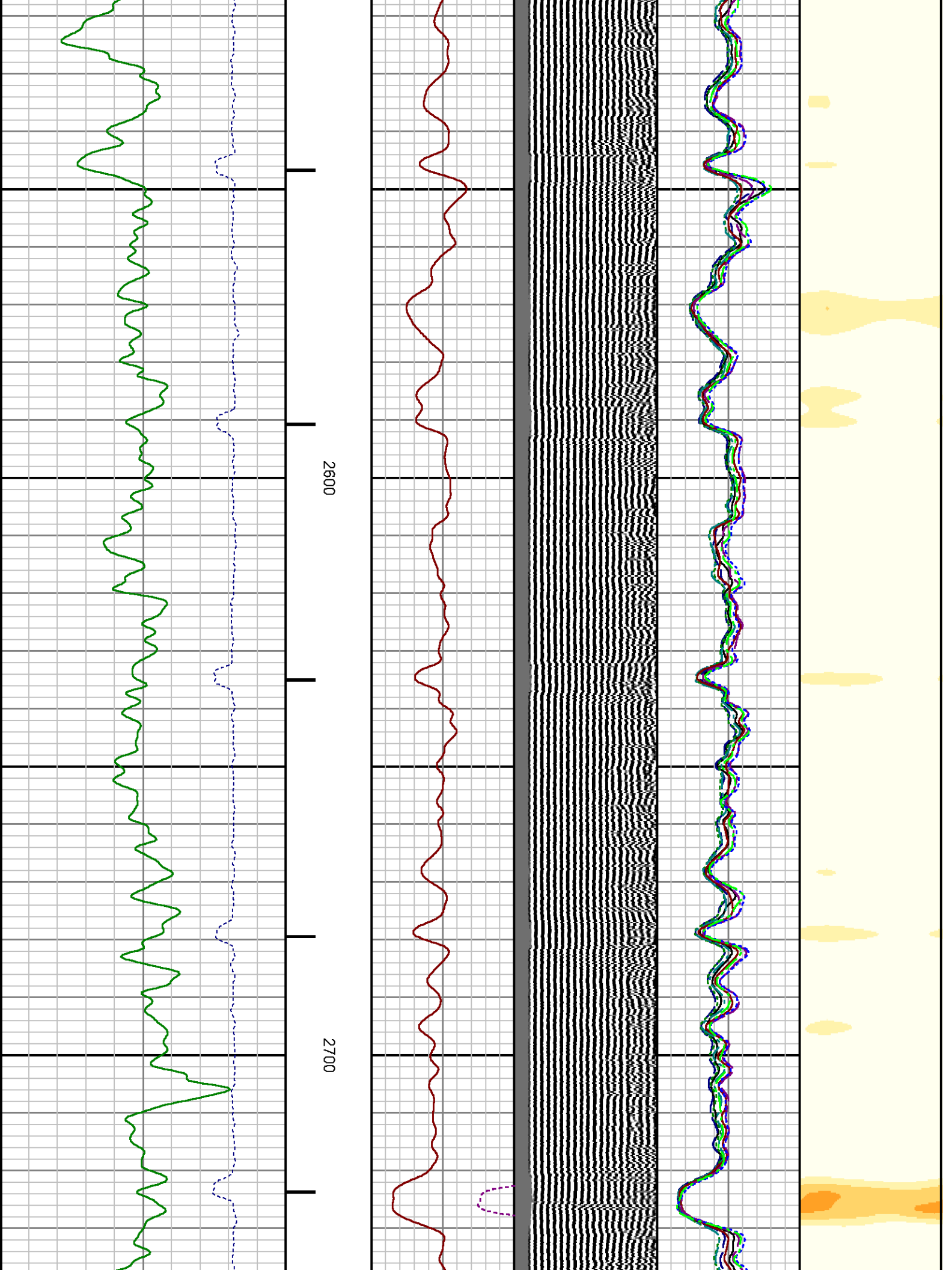


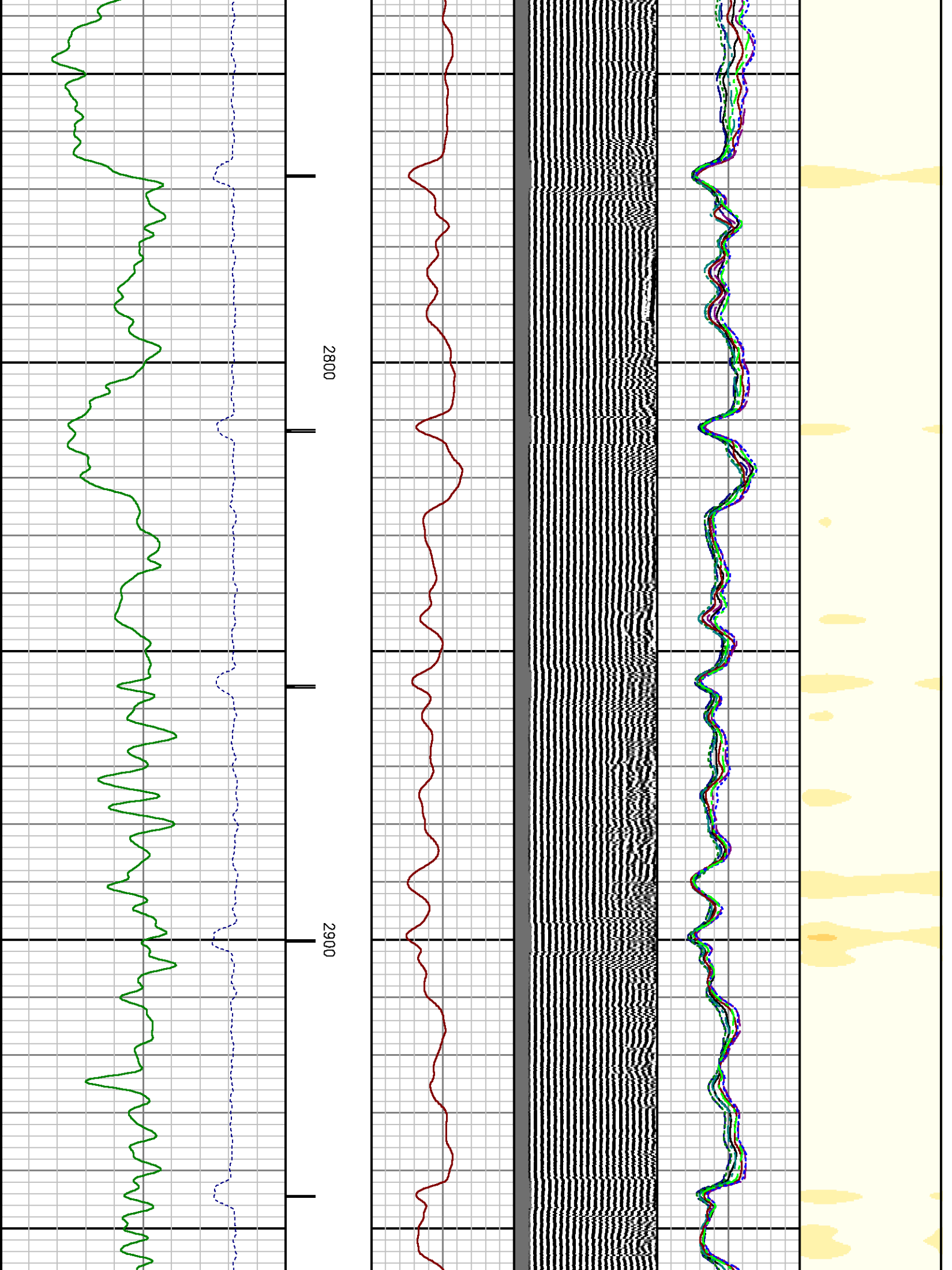




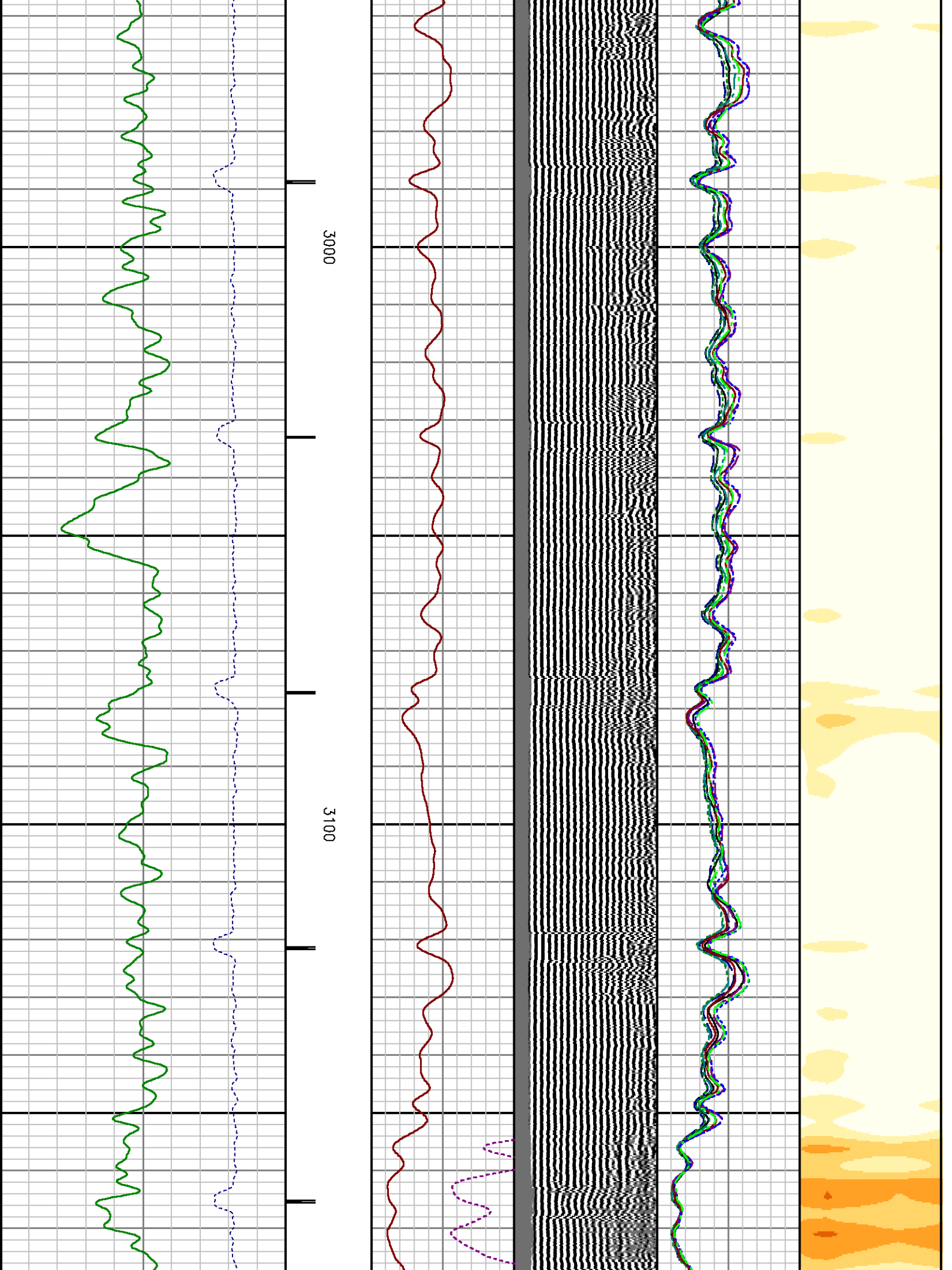


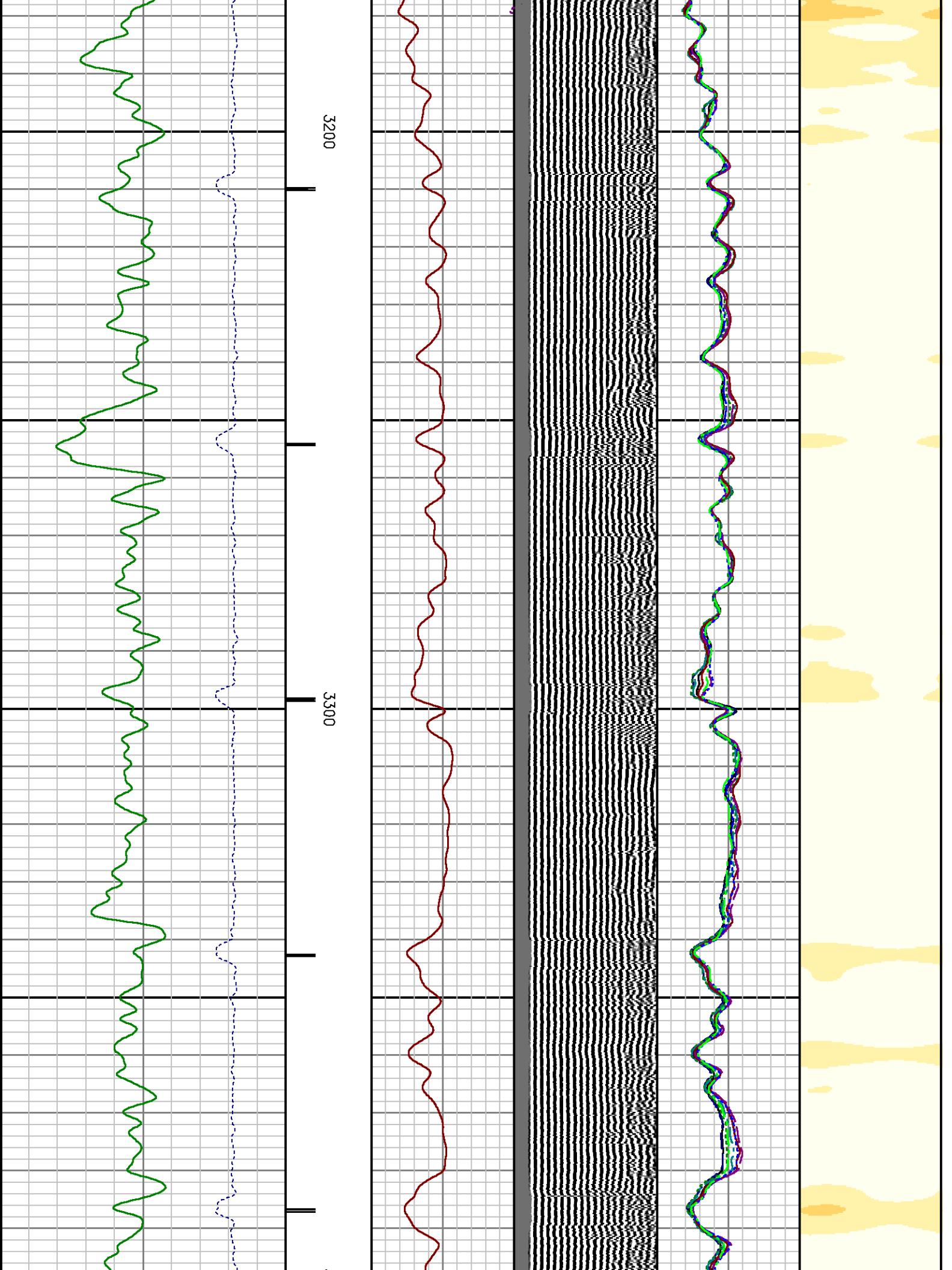


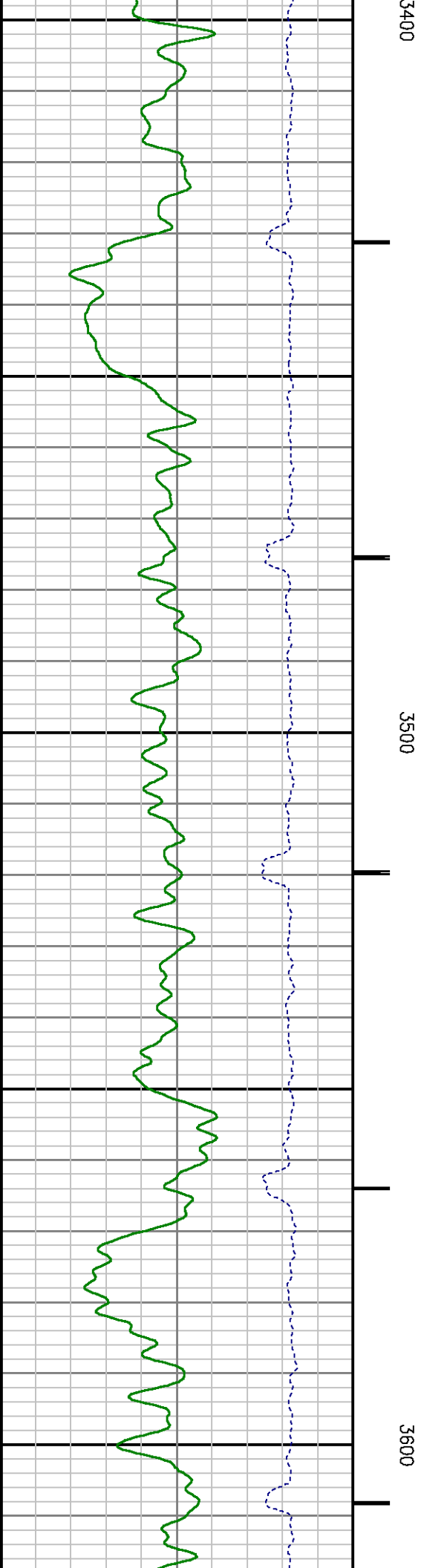
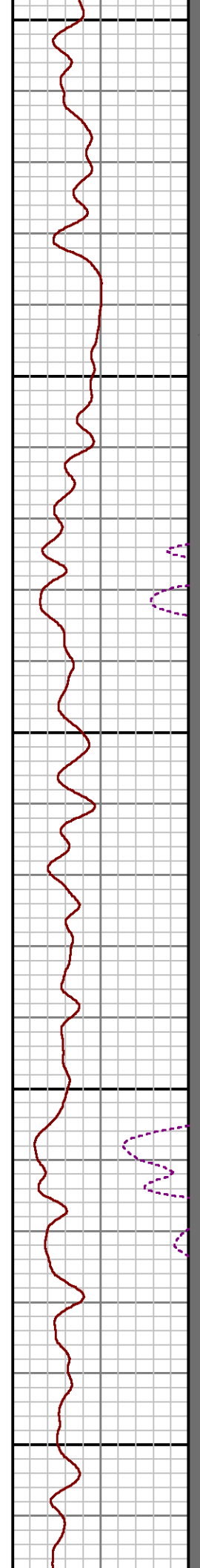
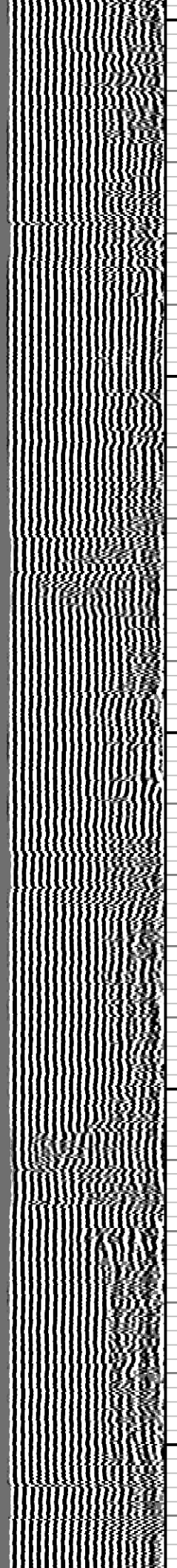
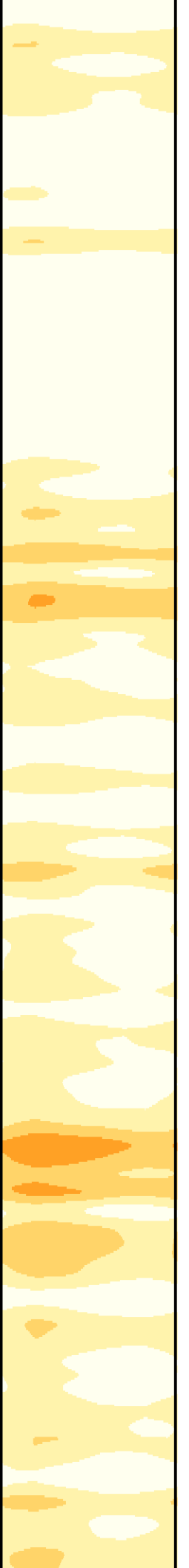


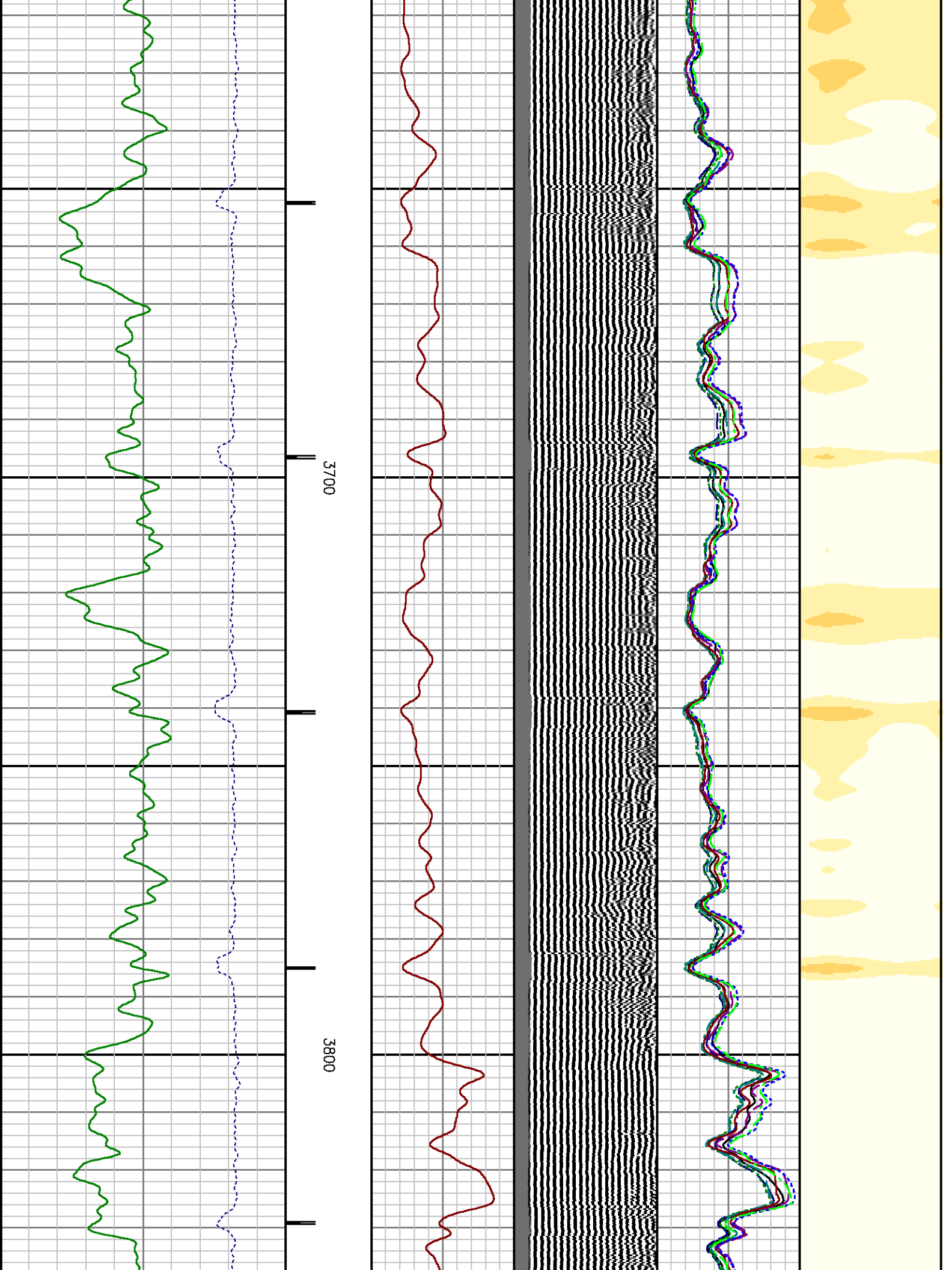


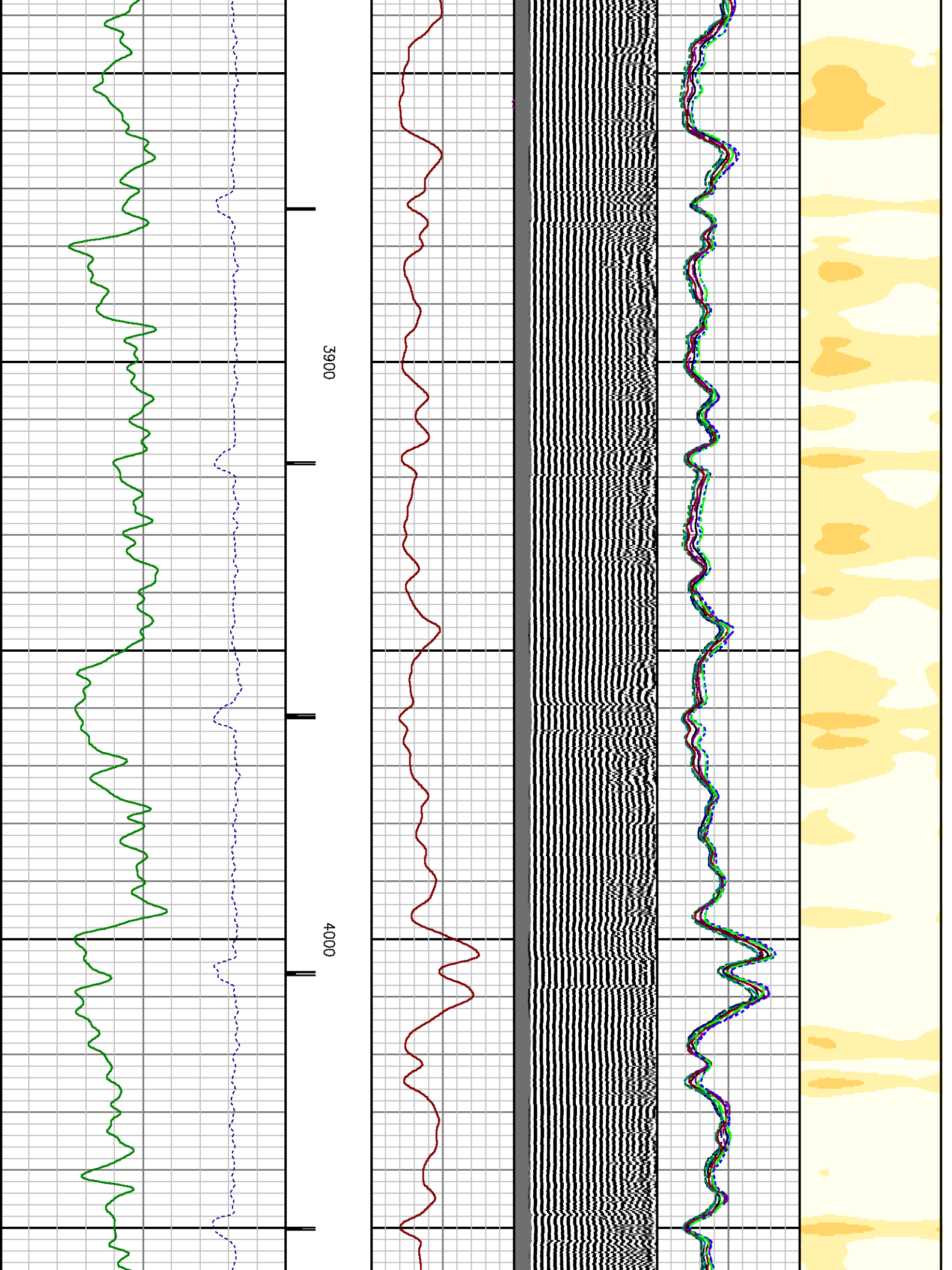




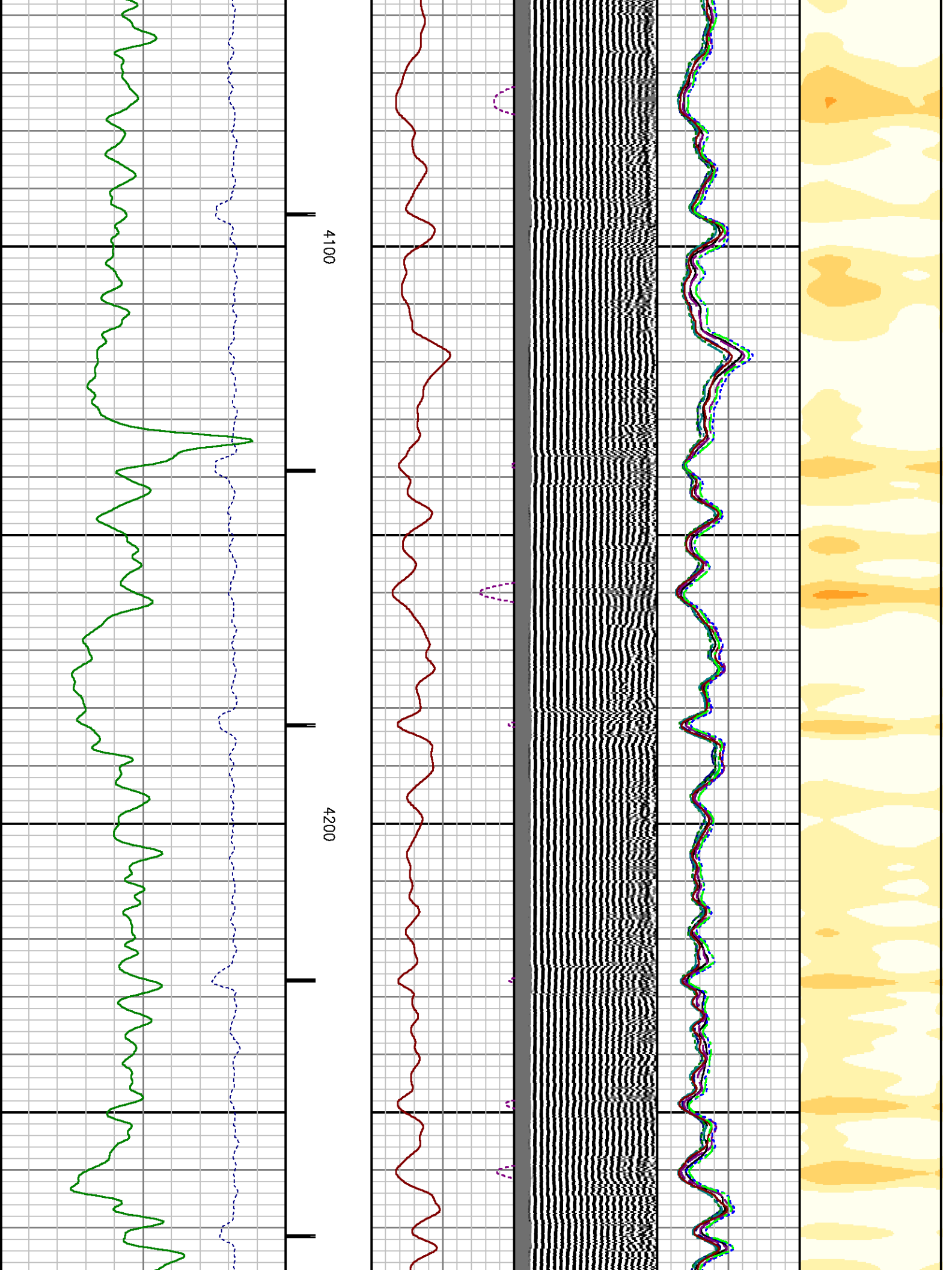


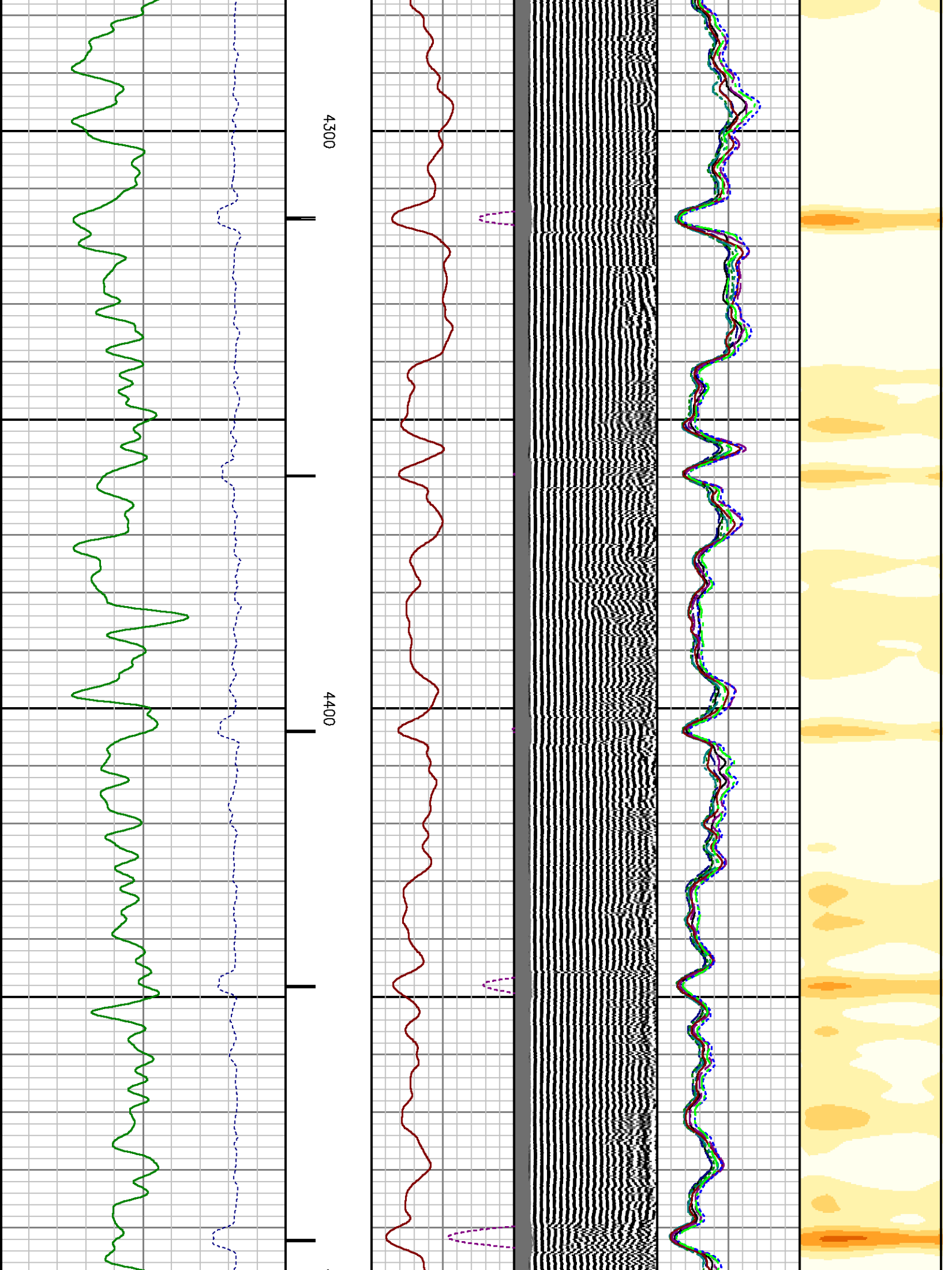


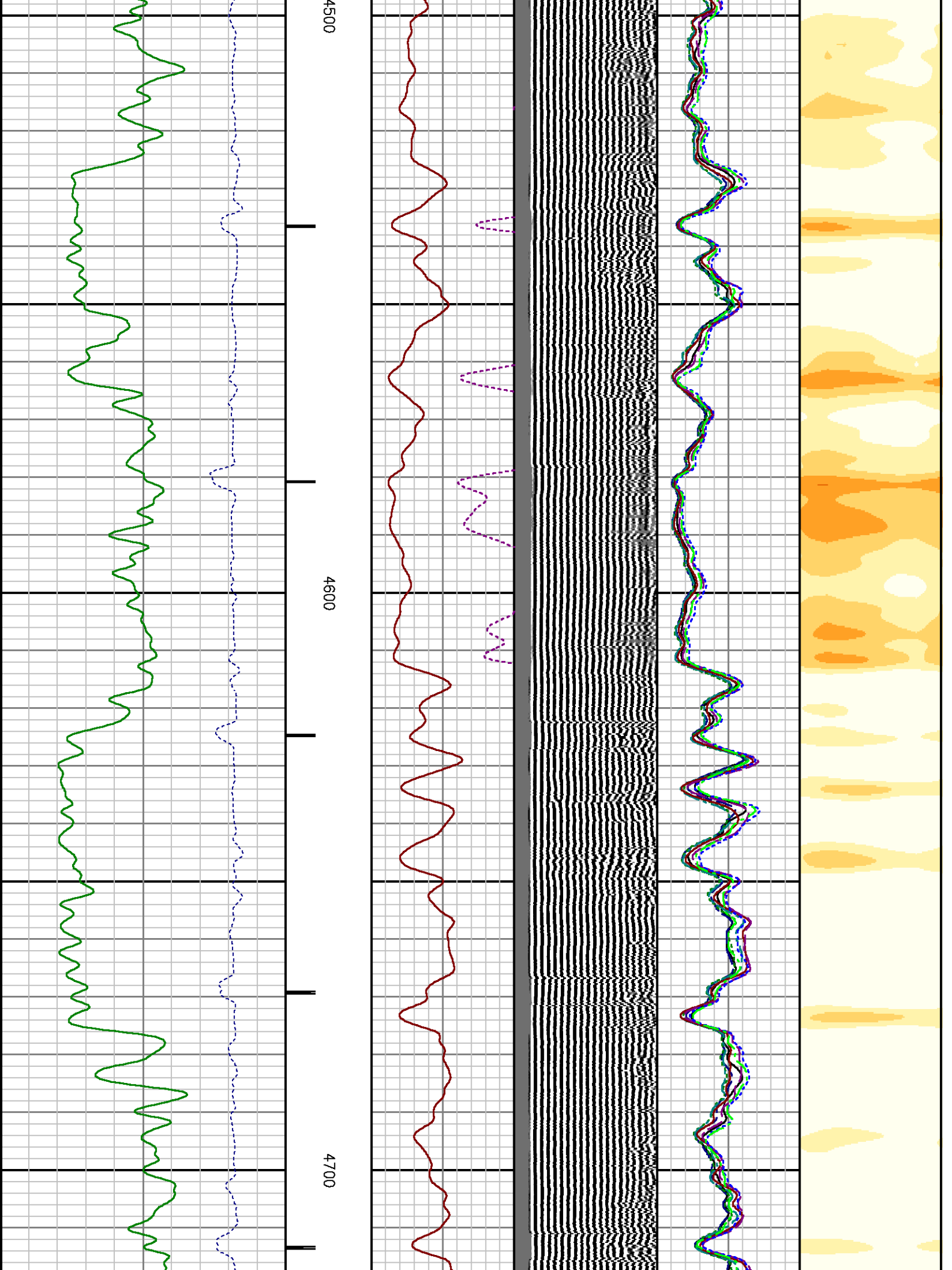


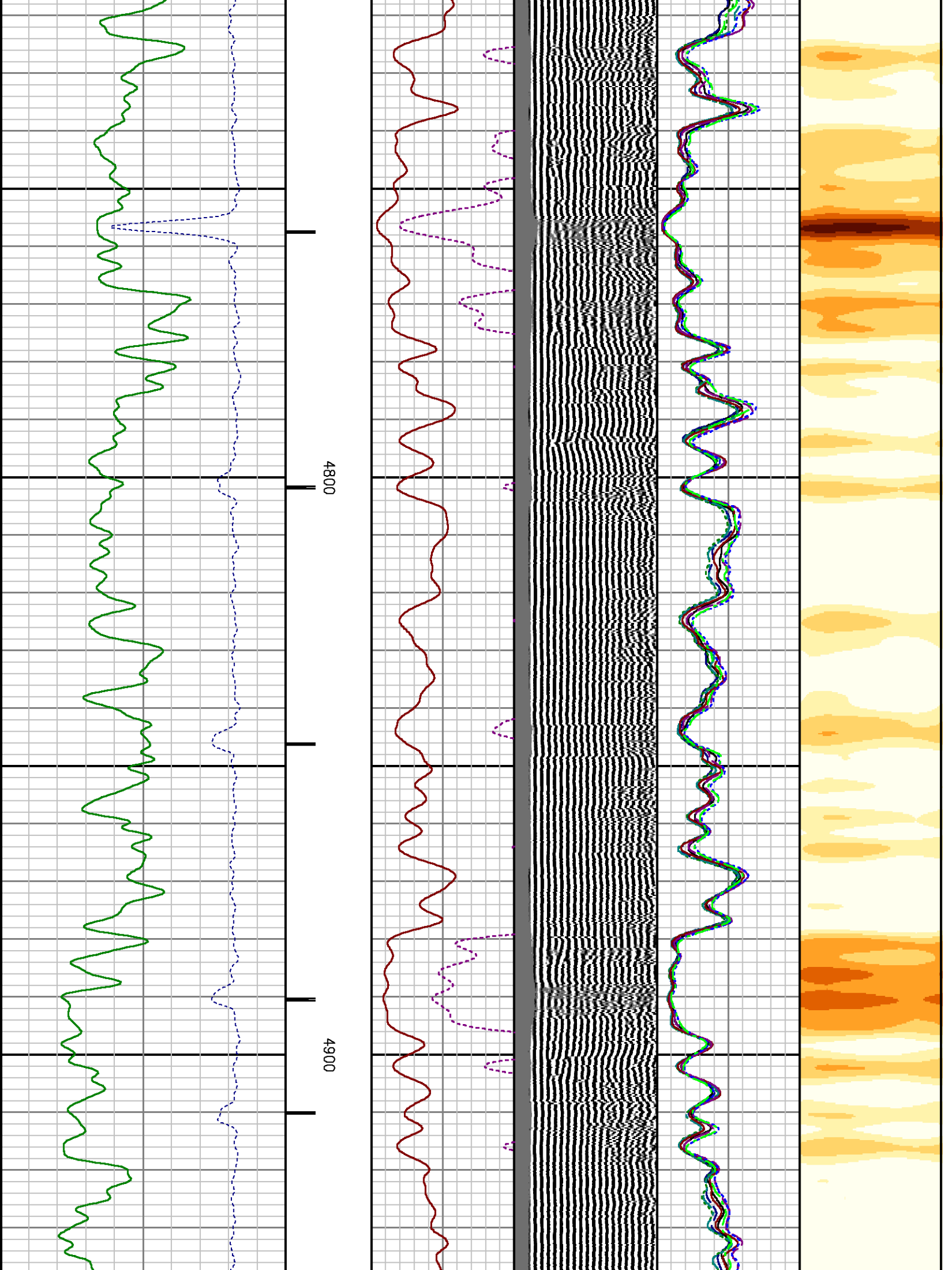


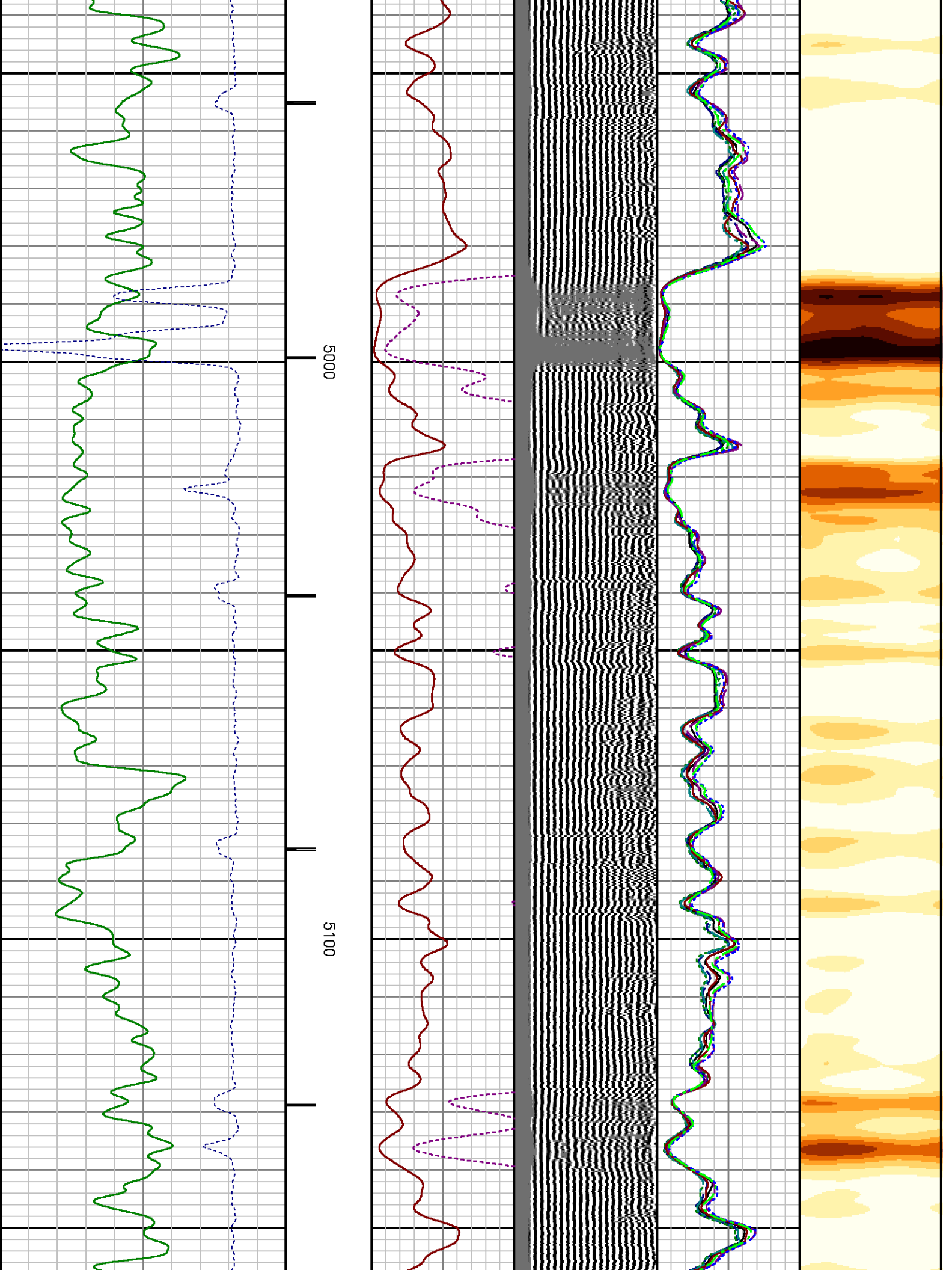




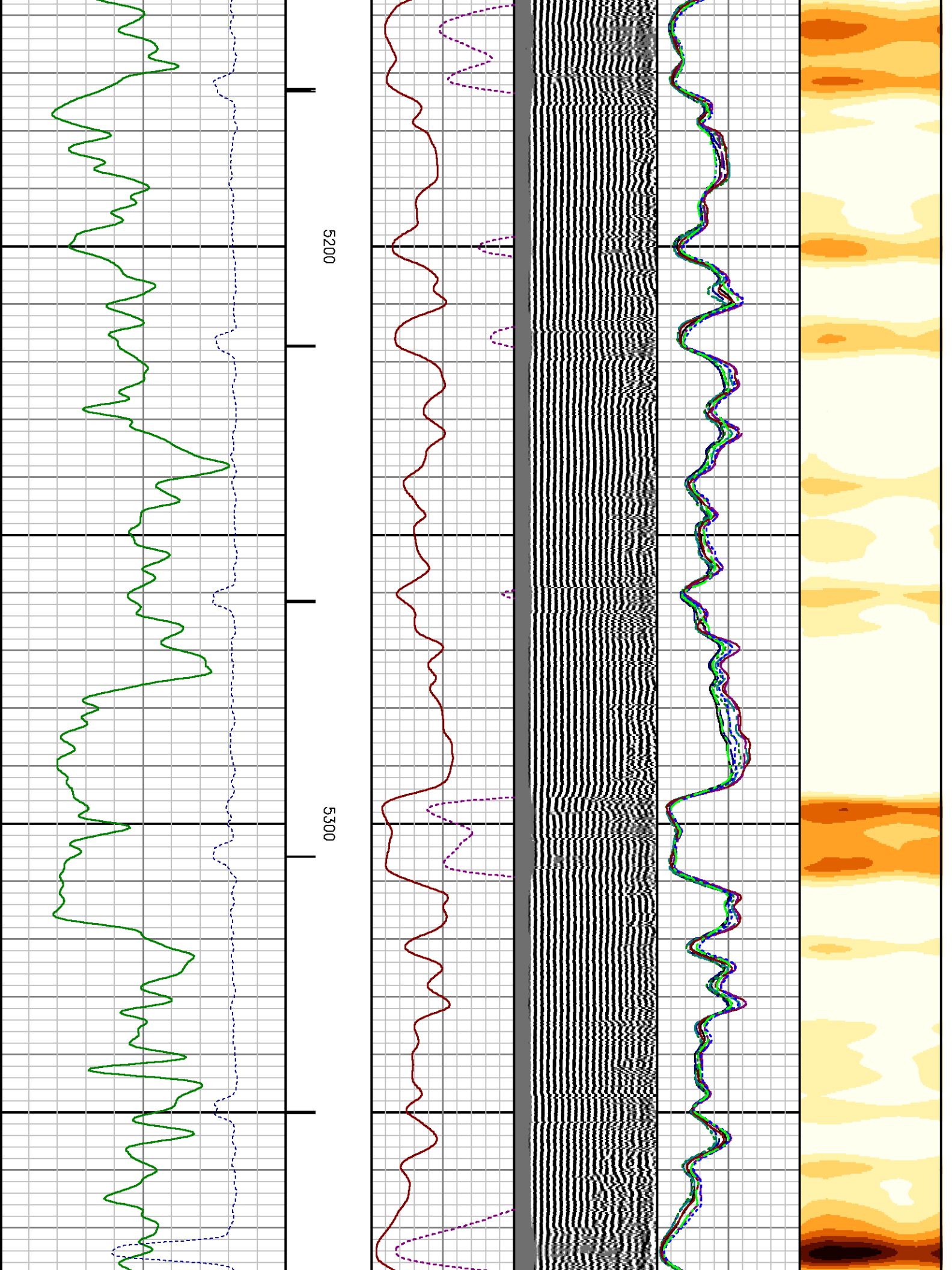


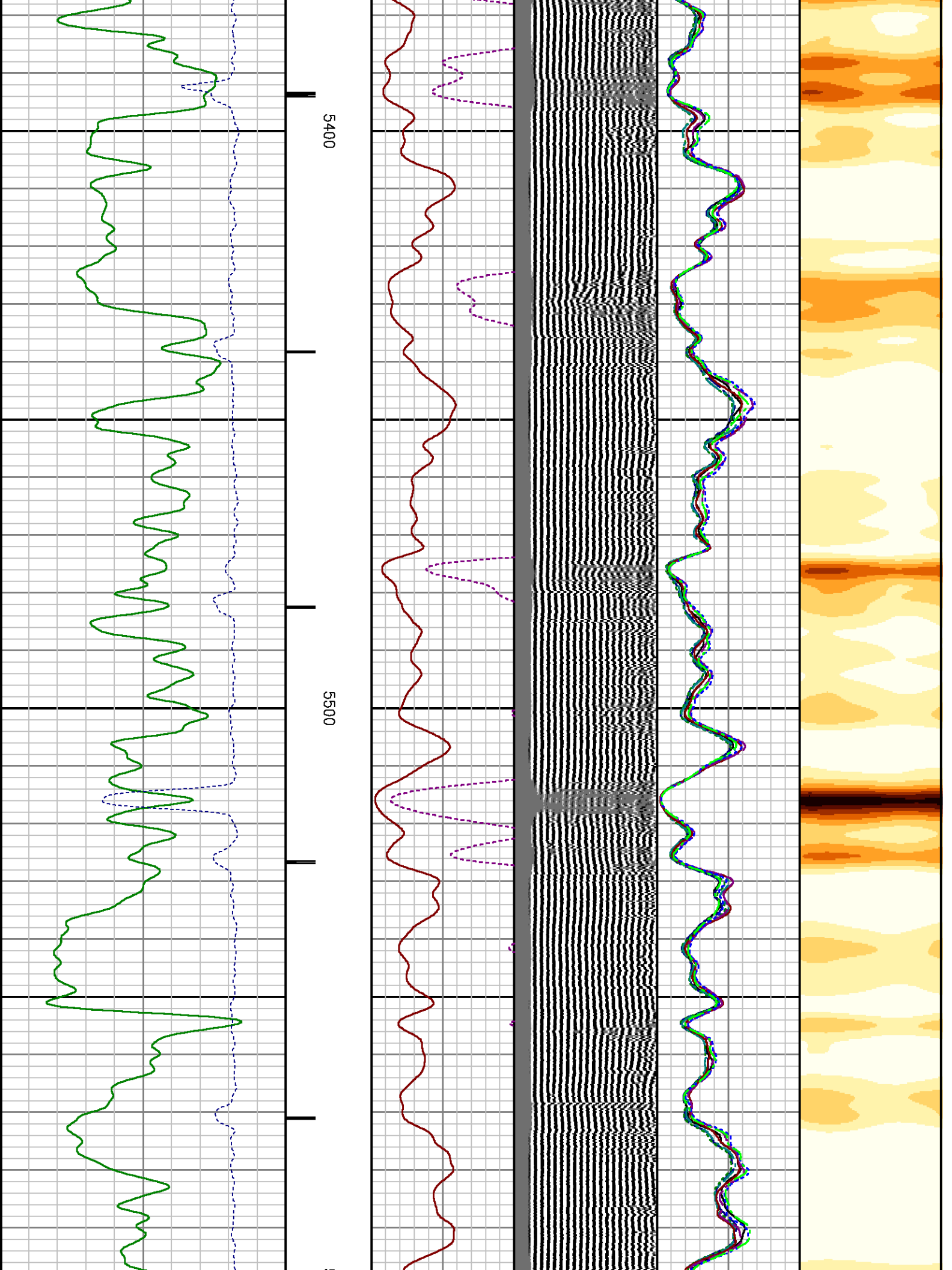


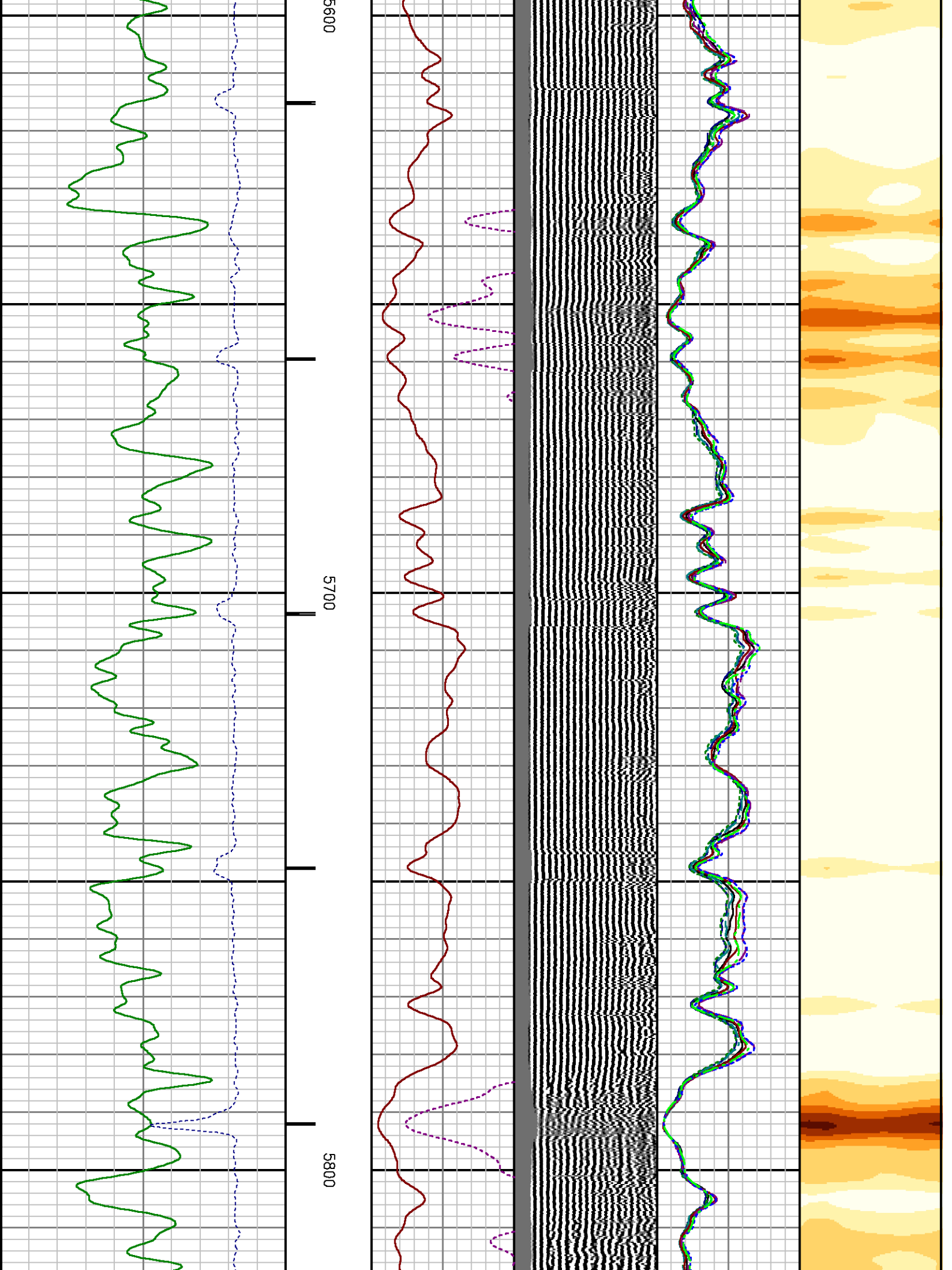


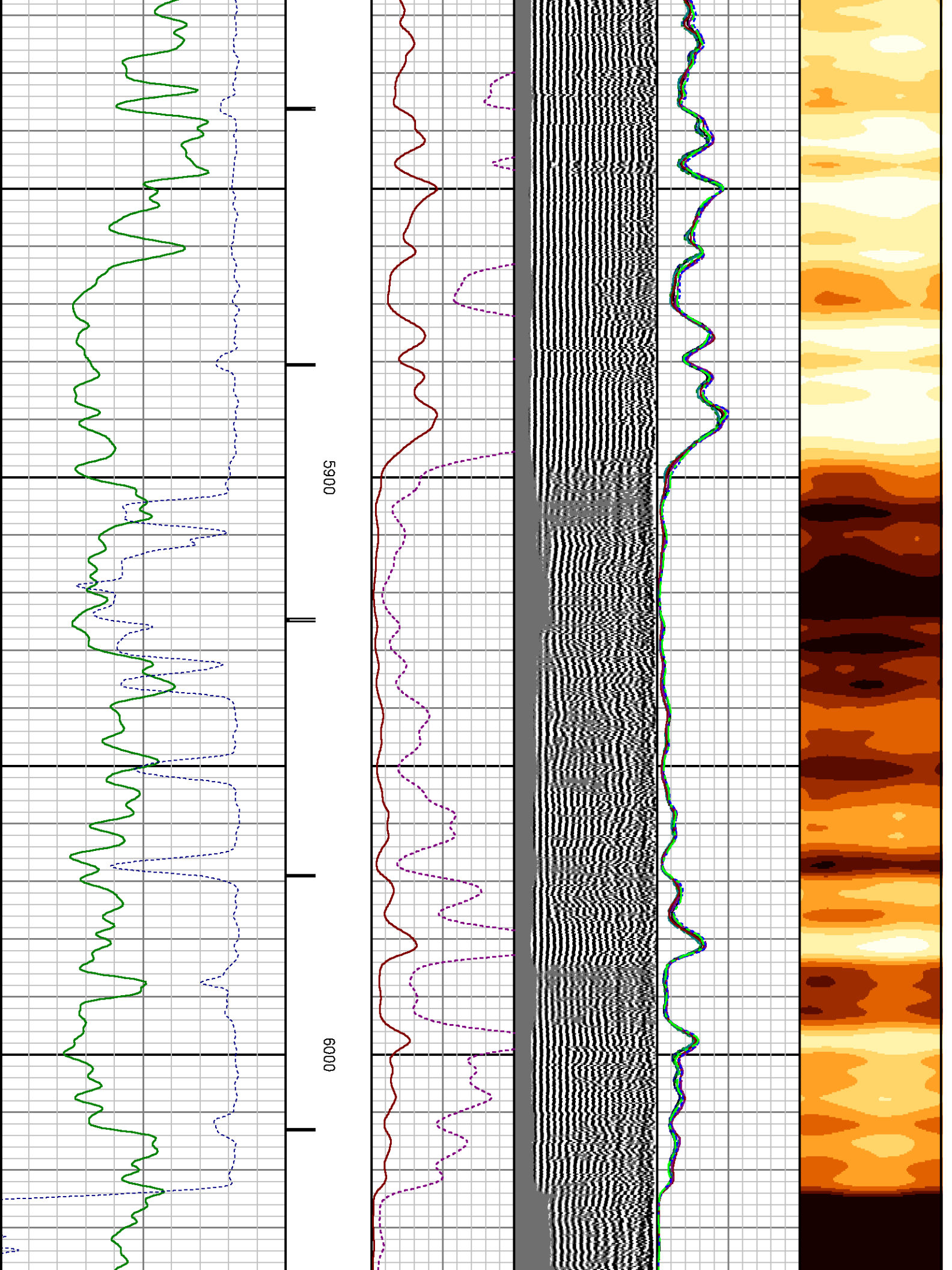




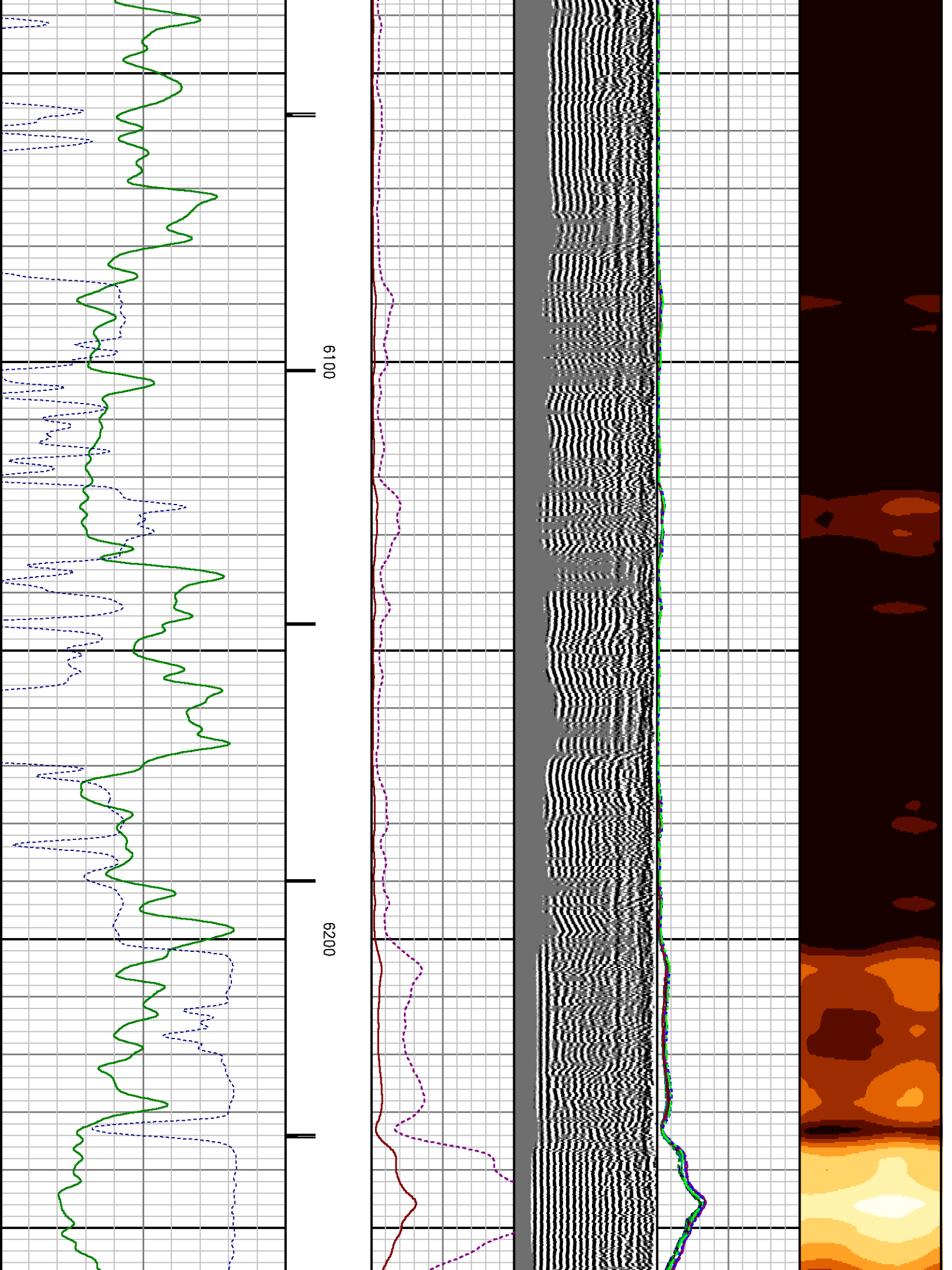




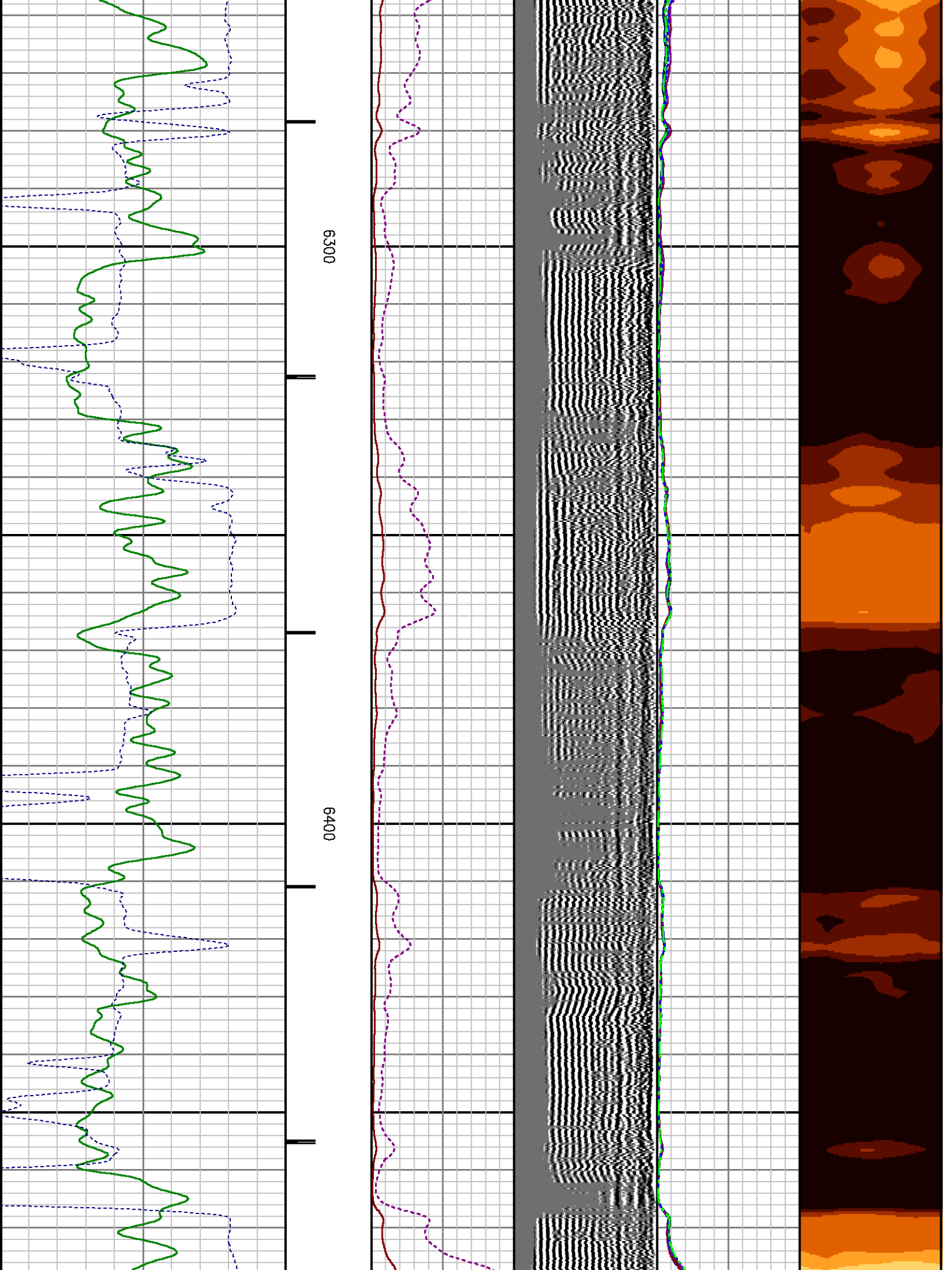


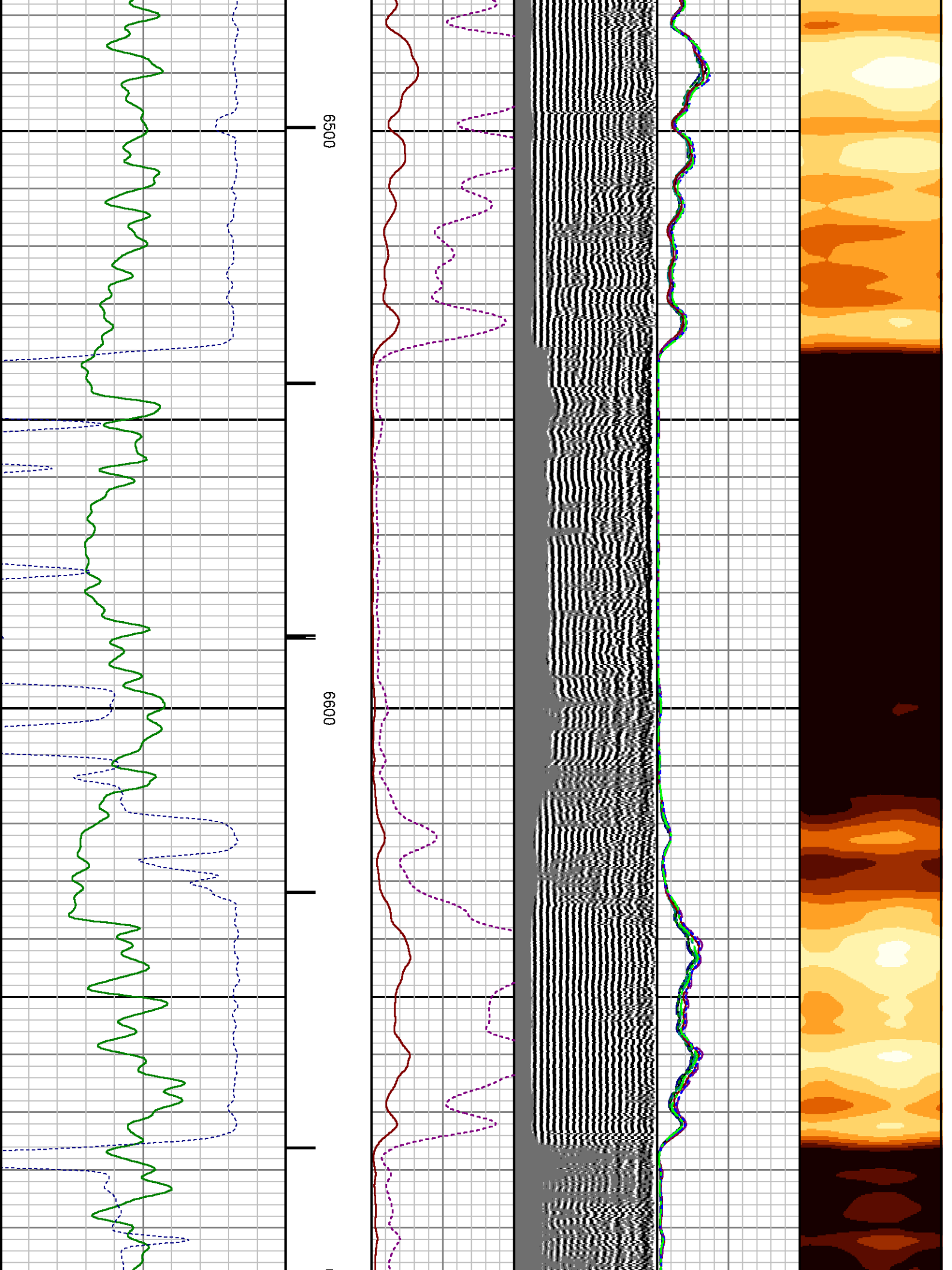


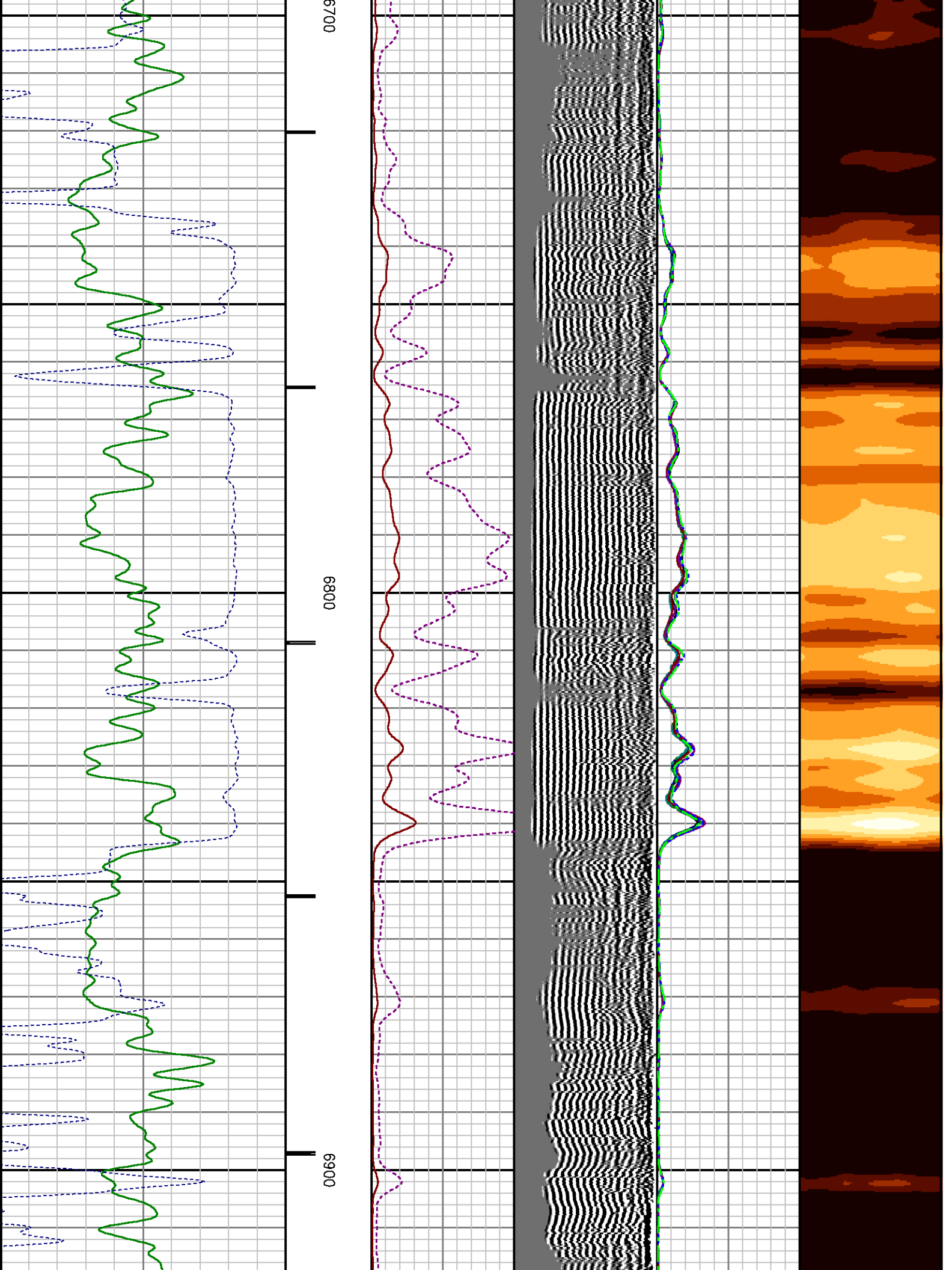


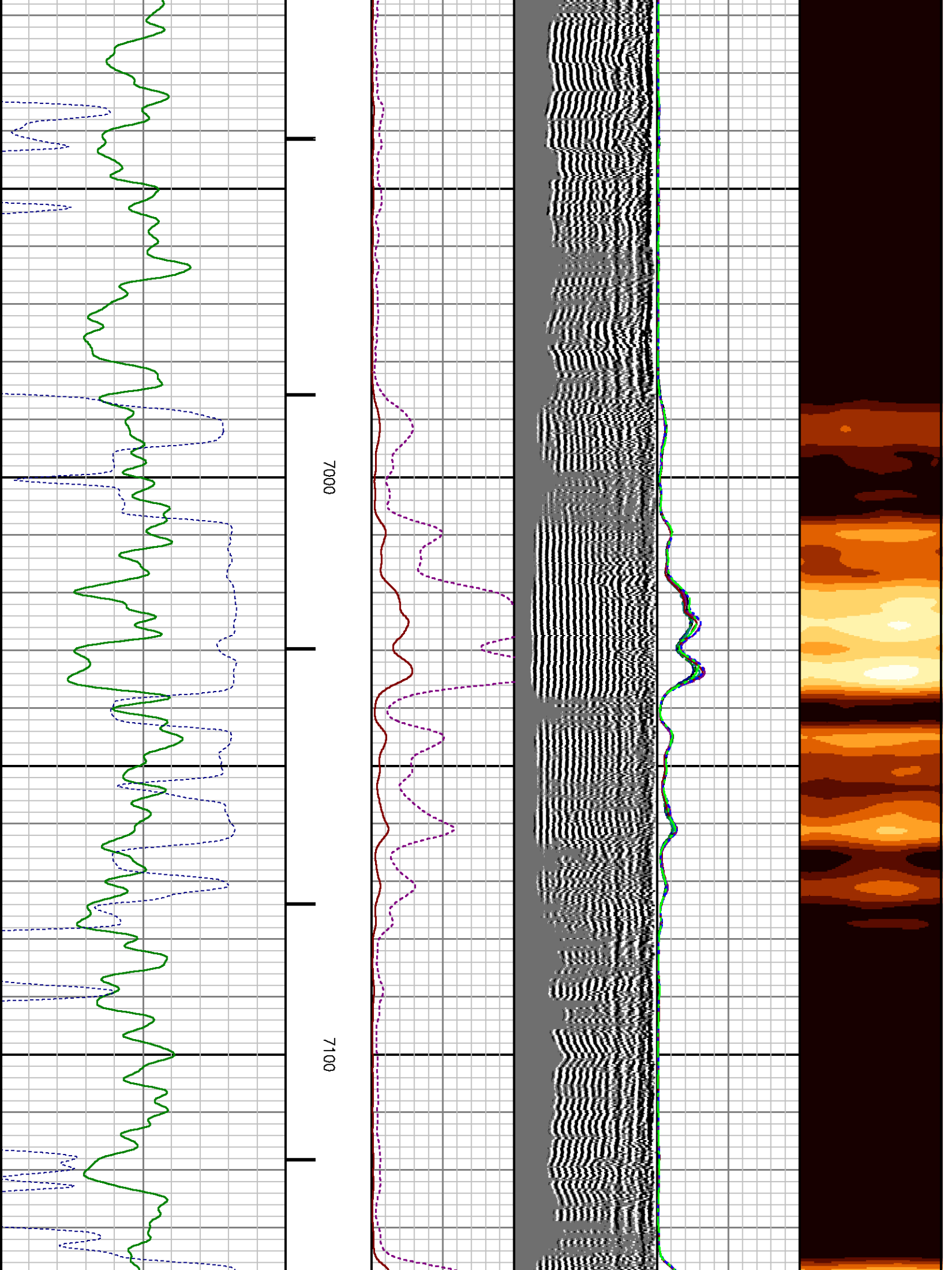




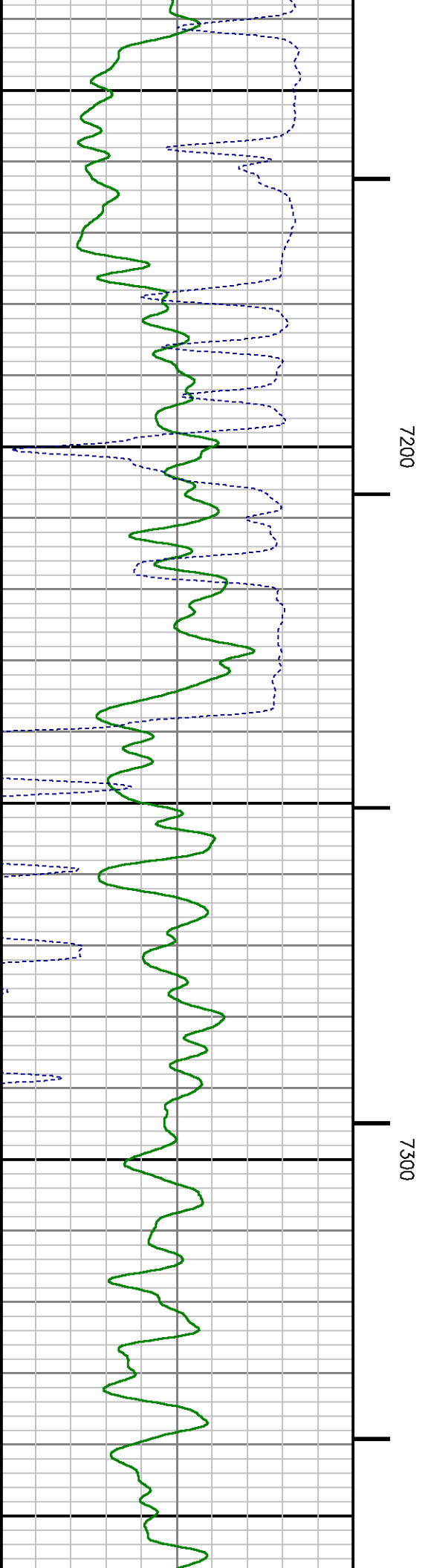
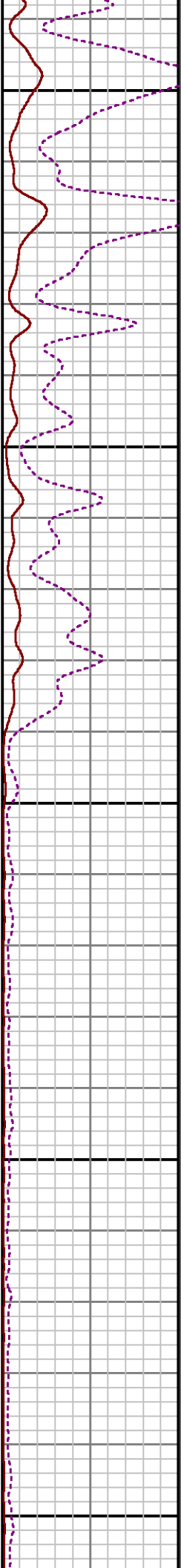
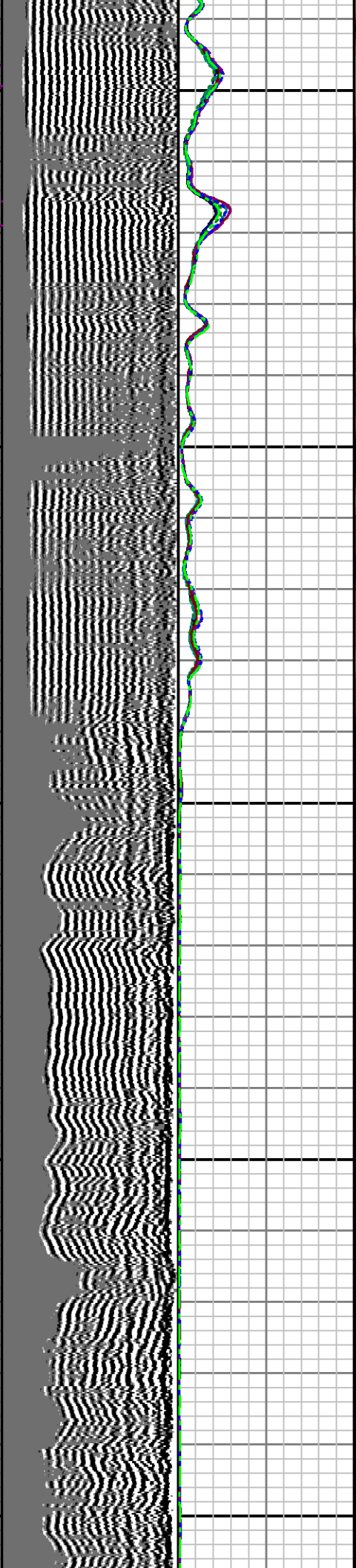
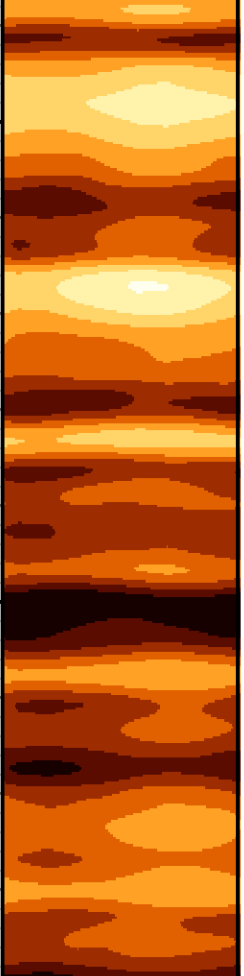




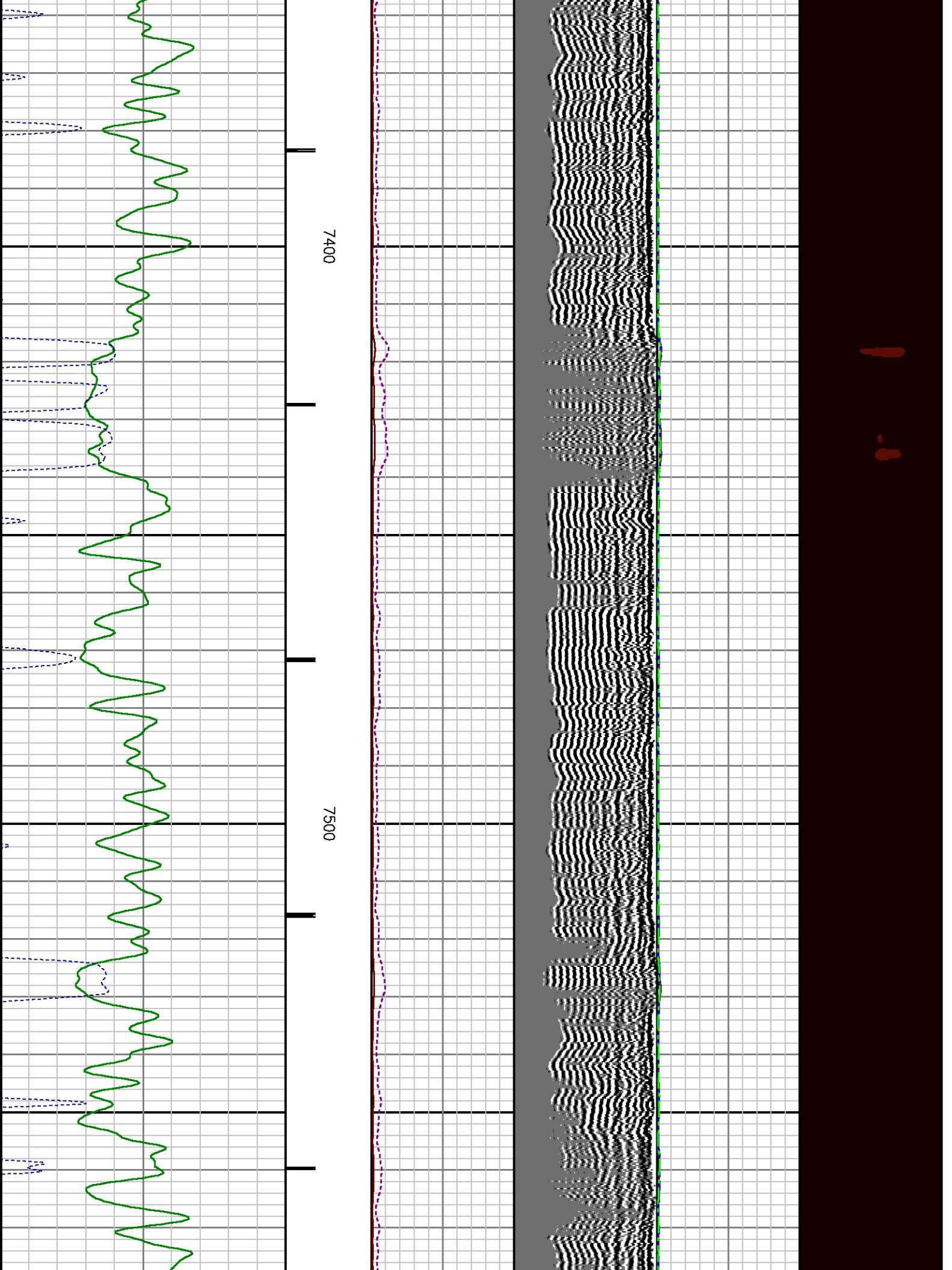


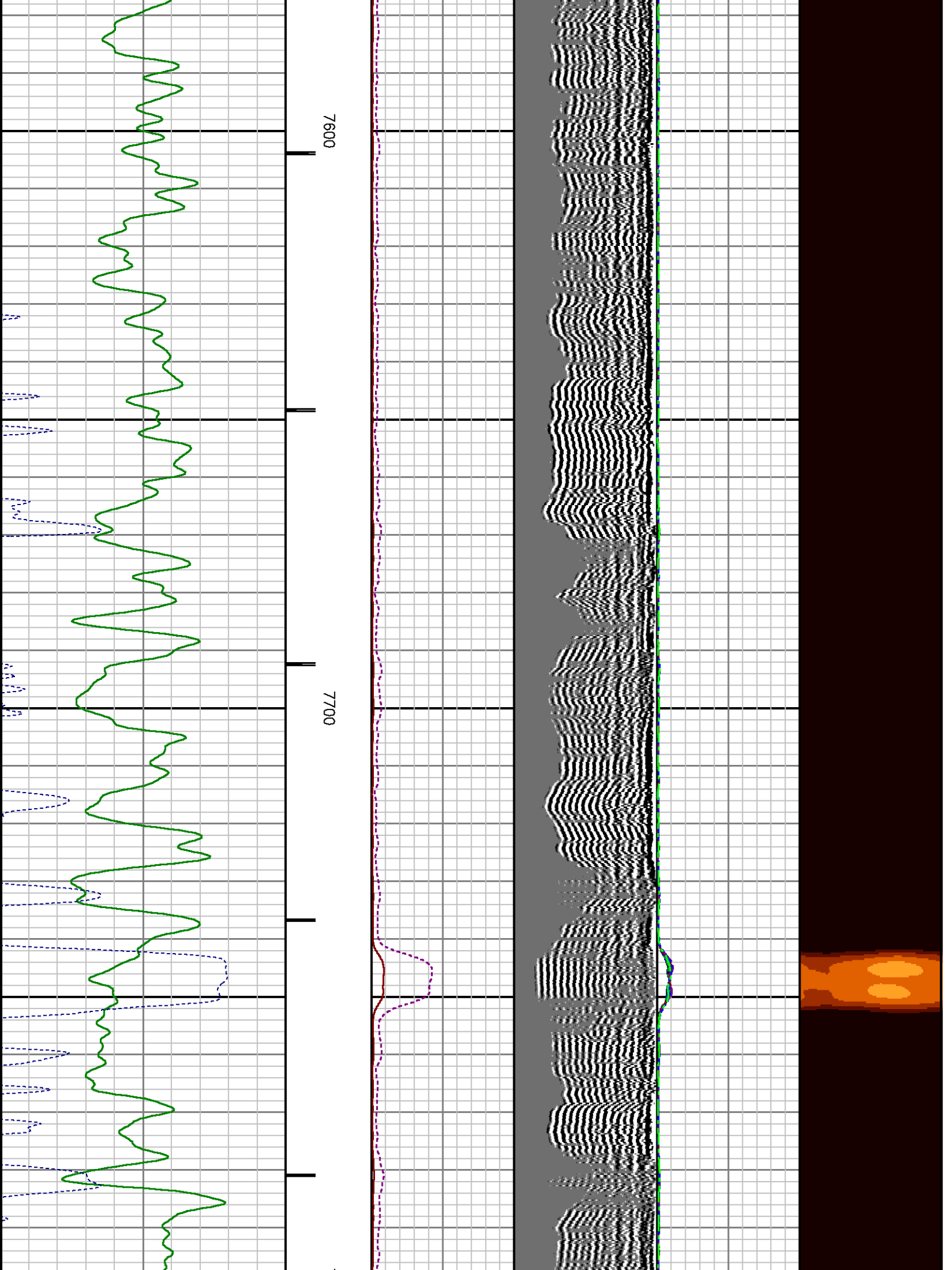


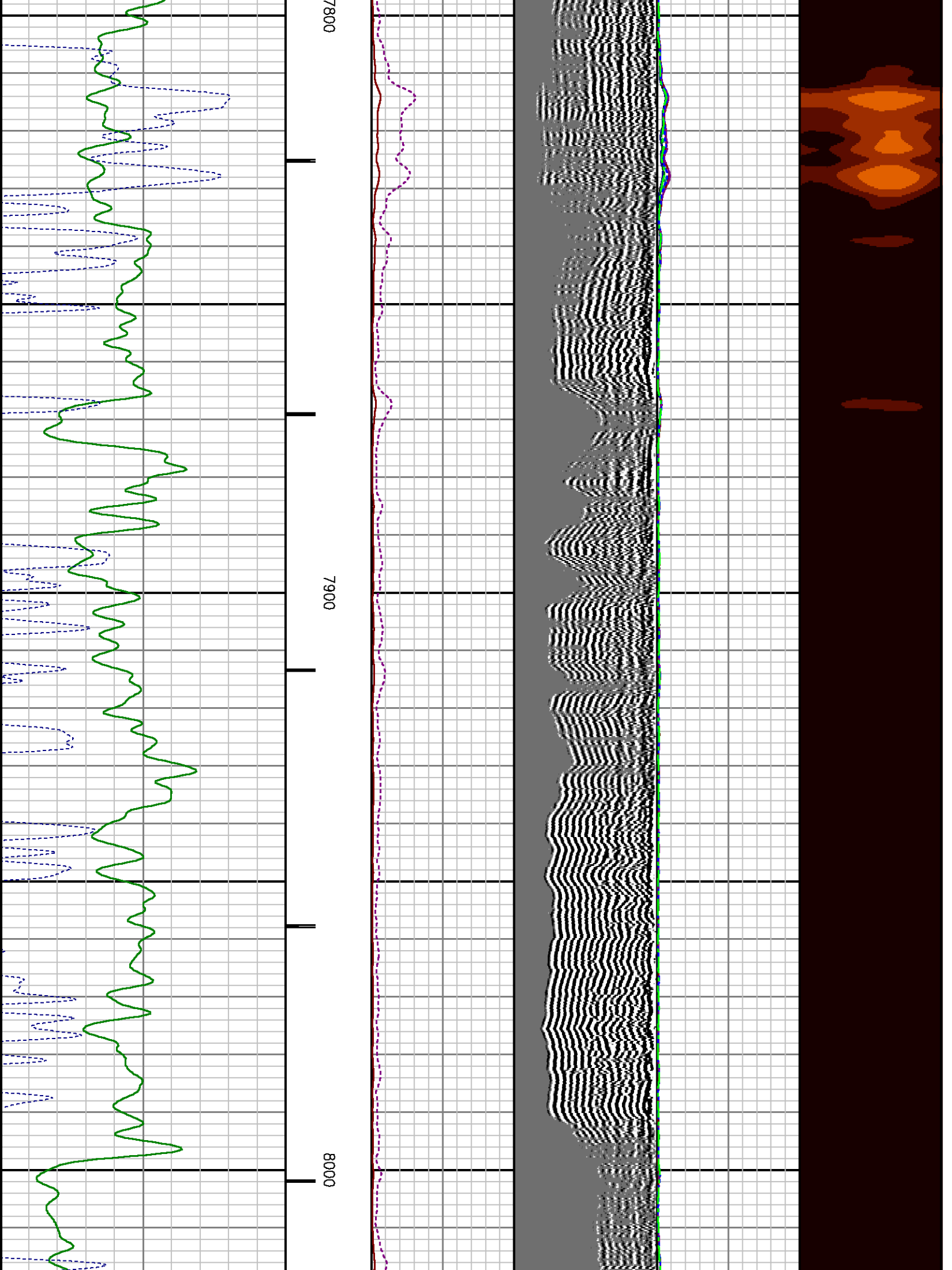


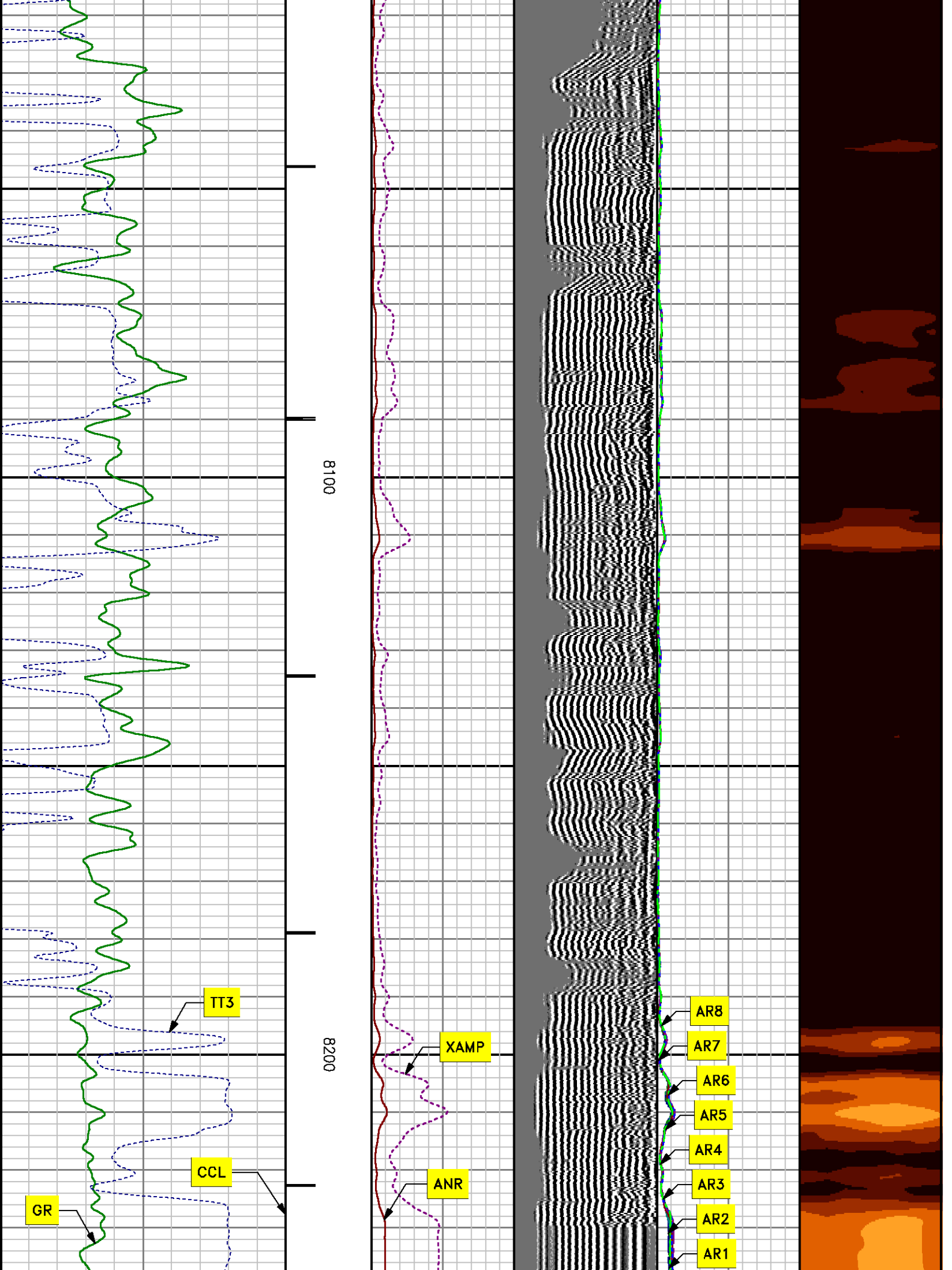


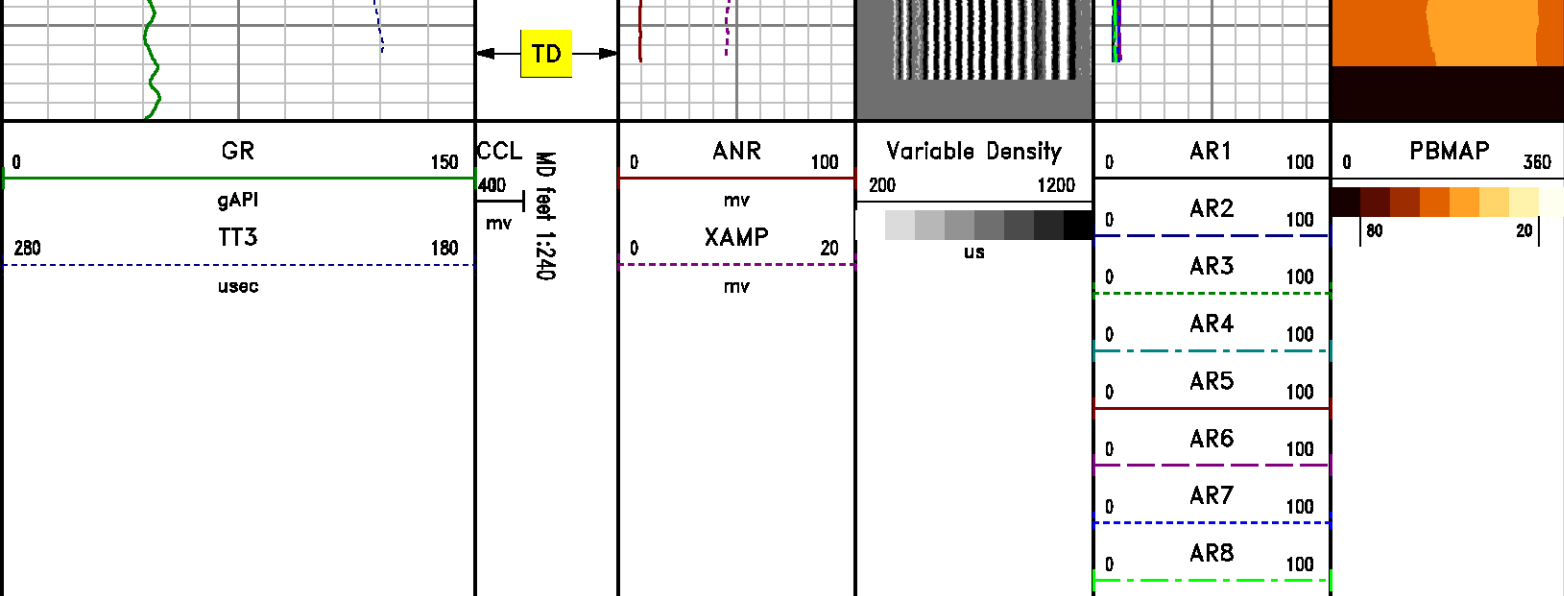












*REPEAT PASS*  
*0 PSI*

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	324.736	u sec	7879.750	8201.000
RAL	Amp Gate Start Near	197.549	u sec	7879.750	8201.000
RAL	Amp Gate Start Radial	198.435	u sec	7879.750	8201.000
RAL	Amp Gate Width Far	25.000	u sec	7879.750	8201.000
RAL	Amp Gate Width Near	25.000	u sec	7879.750	8201.000
RAL	Amp Gate Width Radial	25.000	u sec	7879.750	8201.000
RAL	casing od	4.500	inches	7879.750	8201.000
RAL	casing wt	11.600	lbm/ft	7879.750	8201.000
RAL	FB Start Far	291.900	u sec	7879.750	8201.000
RAL	FB Start Near	175.391	u sec	7879.750	8201.000
RAL	FB Start Radial	175.391	u sec	7879.750	8201.000
RAL	FB Thresh Far	10.000	mv	7879.750	8201.000
RAL	FB Thresh Near	4.000	mv	7879.750	8201.000
RAL	FB Thresh Radial	4.000	mv	7879.750	8201.000
RAL	Fluid Travel Time	200.000	u sec/ft	7879.750	8200.727



# 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 : WPX ENERGY

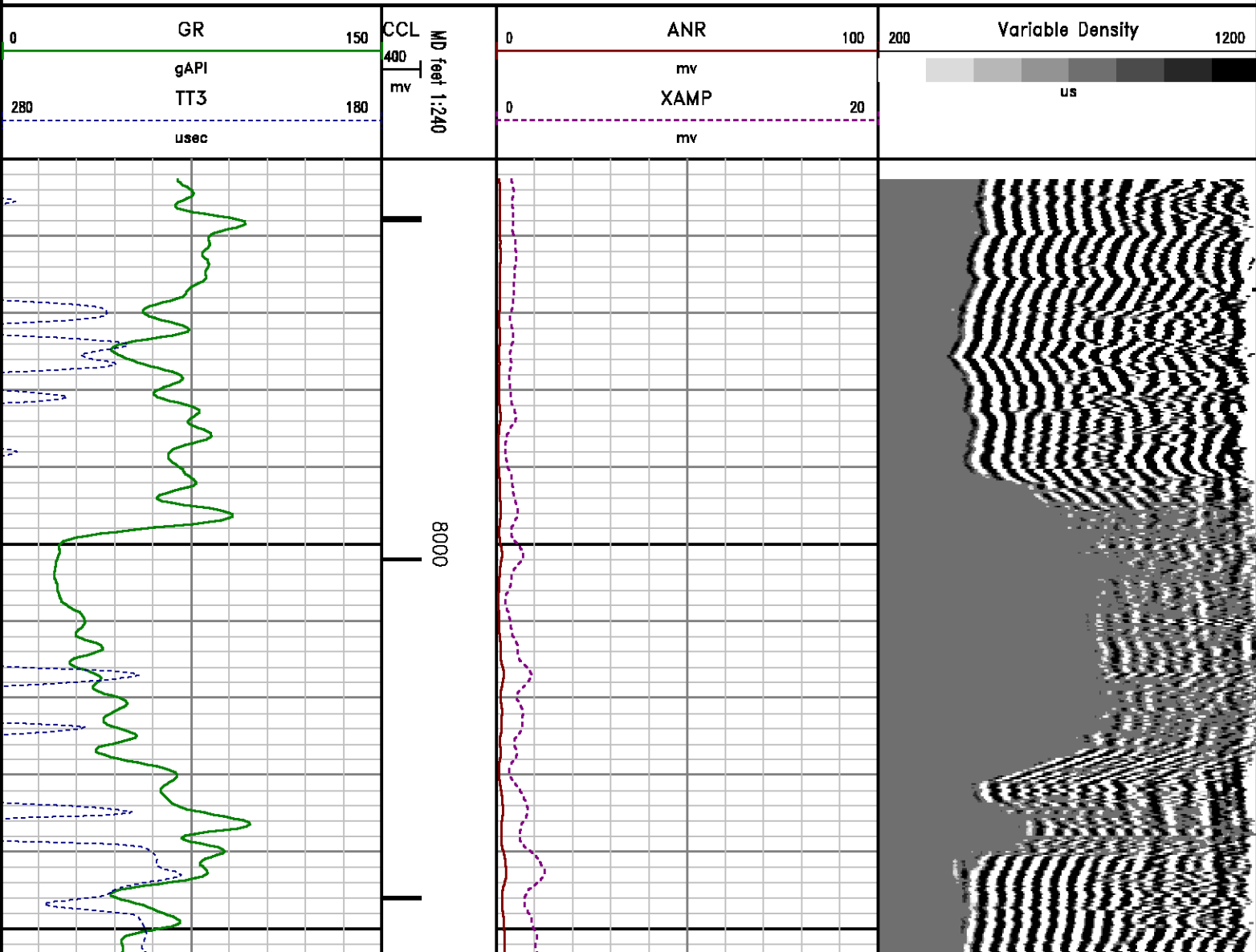
Well : DUGGAN RWF 513-29

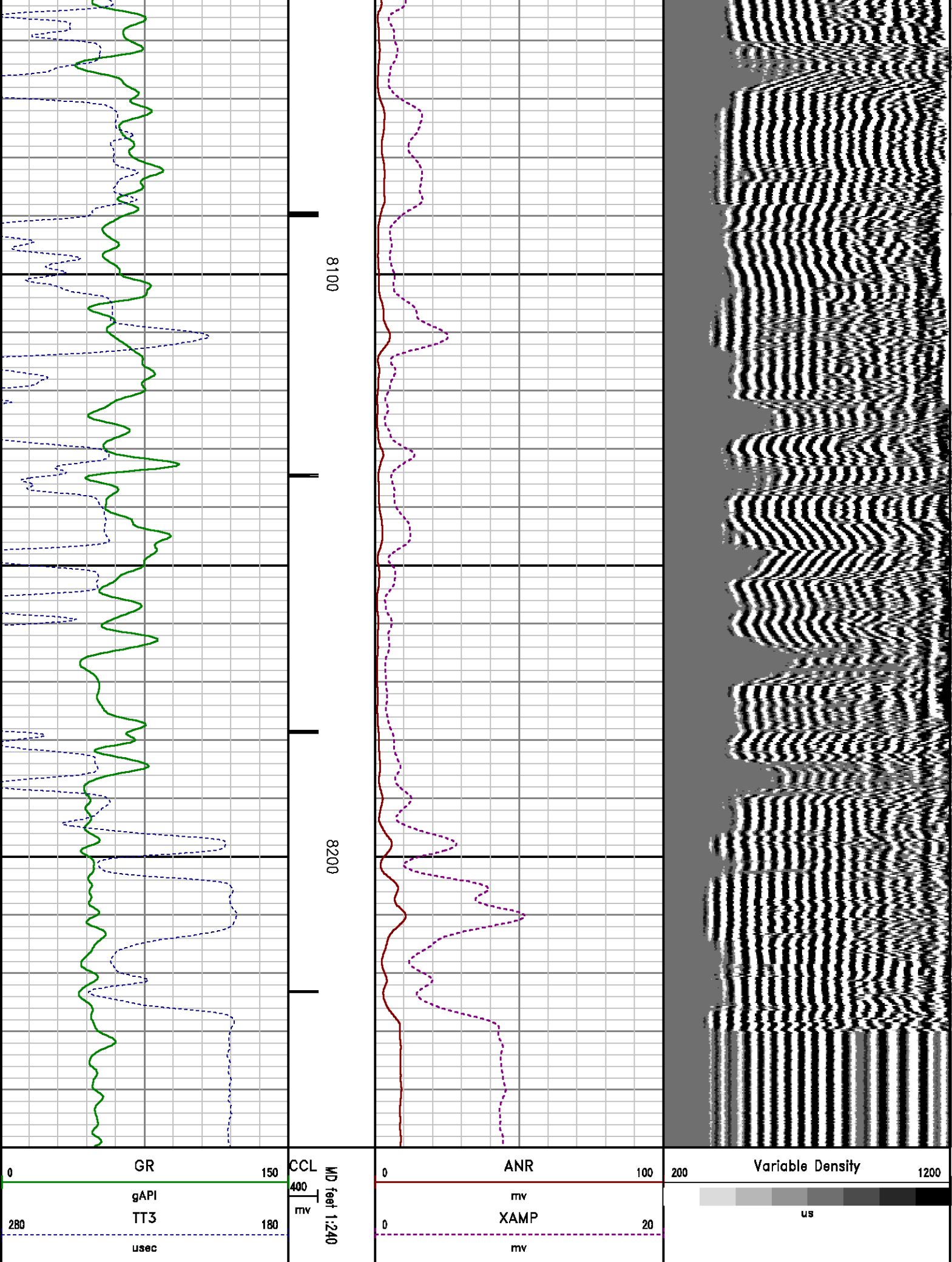
File Name : d:\welldata\513cbl\repeat.xtf

Mode : PlotMgr 5.4.504

Interval : 7950.00 - 8250.00 feet UP

Created : 4/19/2013 1:19:11 PM





# CALIBRATION SUMMARY

## GAMMA RAY

Calibration File: C:\case\calver\GR\457A8.cal

### CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun Apr 18 23:15:39 2013 TOOL SERIES: 2459XA ASSET: 457 SEQ: A8

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
SHOP JIG	66.00	309.33	0.760	50.17	235.17	185.00

Verification File: C:\case\calver\GR\457A8.VP

### PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Sun Apr 18 23:18:38 2013 TOOL SERIES: 2459XA ASSET: 457 SEQ: A8

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
SHOP JIG	62.89	300.67	0.760	47.81	228.59	180.77

## RALSHP

Shop Calibration: C:\case\calver\RALSHP\028A19\_shp.cal

### SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Fri Apr 19 12:30:19 2013 TOOL SERIES: 1426XA ASSET: 028 SEQ: A19

Tool Delay [usec]	Tank OD In	Tank Wt lbm/ft	Tank ID In
-61.00	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	218	216	30	166	25	-0.017	100.00	0.77
3 Ft. Receiver	218	216	30	166	25	-0.233	100.00	0.77
5 Ft. Receiver	350	346	30	282	25	-1.367	150.00	0.65
Radial #1	219	216	30	166	25	0.428	100.00	0.77
Radial #2	219	216	30	166	25	-0.056	100.00	0.77
Radial #3	219	216	30	166	25	0.017	100.00	0.78
Radial #4	218	216	30	166	25	-0.022	100.00	0.78
Radial #5	217	216	30	166	25	-0.317	100.00	0.77
Radial #6	217	216	30	166	25	0.089	100.00	0.77
Radial #7	216	216	30	166	25	-0.144	100.00	0.77

Radial #8	219	216	30	166	25	0.172	100.00	0.76
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# RALFLD

WellSite Calibration: C:\case\calver\RALFLD\028A19 fld.cal

## WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Fri Apr 19 12:32:10 2013 TOOL SERIES: 1426XA ASSET: 028 SEQ: A19

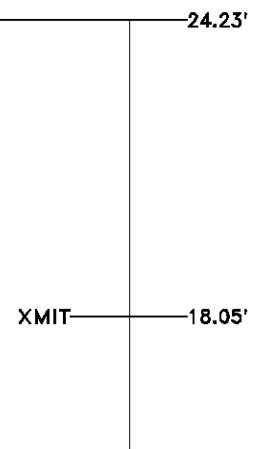
Tool Delay [usec] -61.00 Casing OD In 4.50 Casing Wt lbm/ft 11.60 Casing ID In 4.00

RECEIVER	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Full Amp. [mV]	Wellsite Factor	Amp. Ref [mV]
CAL Pulse	166	25	0.039	0.000	1.00	100.000
3 Ft. Receiver	200	30	0.132			
5 Ft. Receiver	317	30	0.034			
Radial #1	200	30	0.161			
Radial #2	200	30	0.213			
Radial #3	200	30	0.096			
Radial #4	200	30	0.152			
Radial #5	200	30	0.132			
Radial #6	200	30	0.170			
Radial #7	200	30	0.175			
Radial #8	200	30	0.178			

# TOOL DIAGRAM

OTA SHORT CABLE HEAD

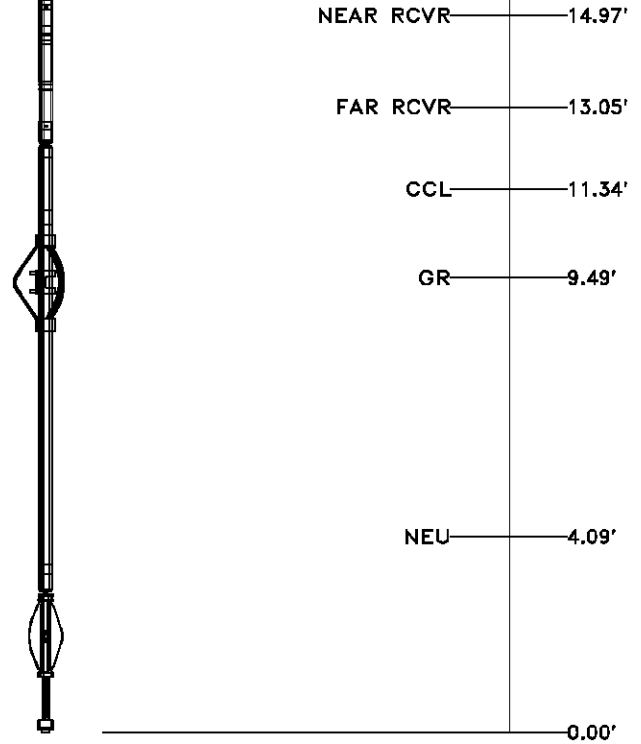
PROBE 2 3/4 DUAL RECEIVER RADII	
Series	1426XA
Mnemonic	PROB
Diameter	2.75"
Length	11.17'
Measure Point	0.75' FAR RCVR
Measure Point	2.67' NEAR RCVR
Measure Point	5.75' XMIT
Temp Rating	350.00 °F
Press Rating	18000.00 PSI



Probe GR/CCL/NEU	
Series	2459XA
Mnemonic	PROB
Diameter	2.75"
Length	9.42'
Measure Point	1.21' NEU
Measure Point	6.60' GR
Measure Point	8.46' CCL

CENTRALIZER	
Series	RALCENT
Mnemonic	CENT
Diameter	3.12"
Weight	20.00 lb

Total Length: 24.23'  
Total Weight: Not Available  
Max Diameter: 0' 3.12"



Company WPX ENERGY  
Well DUGGAN RWF 513-29  
Field RULISON  
County GARFIELD State COLORADO

File No:  
CH070854  
API No:  
05045216620000

Location  
SHL: 579' FSL & 582' FWL  
BHL: 2481' FSL & 734' FWL  
Elevations  
KB 5445.2 ft  
DF  
GL 5419.2 ft  
SEC 29 TWP 6S RGE 94W

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

Baker Atlas

