



# RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: CH073467	Company Well Field County	WPX ENERGY FEDERAL BCU 33-36-199 BARCUS CREEK UNIT RIO BLANCO	State COLORADO
API No: 05103119490000			
56 1N 99W BCU 442-36-199 CYCLONE 29	Location SHL: 1462' FNL & 1112' FEL SEC:36 BHL: 2081' FSL & 1984' FEL SEC:36 SEC 36 TWP 1N RGE 99W	Other Services N/A	
Permanent Datum Log Measured From Drill Measured From	G.L. _____ Elevation 6868 ft K.B. _____ 21 ft Above P. D. KELLY BUSHING	Elevations KB 6869 ft DF GL 6868 ft	

Date	30/JUL/13	
Run	ONE	
Service Order	B24462	
Depth Driller	10240 ft	
Depth Logger	10224 ft	
Bottom Logged Interval	10214 ft	
Top Logged Interval	21 ft	
Time Started	8:00	
Time Finished	12:00	
Operator Rig Time	4 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	N/A	
Salinity	N/A	
Fluid Level	74 ft	
Logged Cement Top	N/A	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	N/A	
Nominal Logging Speed	45 fpm	
Maximum Recorded Temperature	276 degF	
Reference Log	BAKER HUGHES HDIL LOG	
Reference Log Date	16/JUL/13	
Equipment No.	4271	GRAND JUNCTION
Recorded By	W. KINSEL	9721
Witnessed By	MR. TED RASDALE	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
30 1n	0 ft	80 ft
14.75/13.5	0 ft	3235 ft
8.75/7.875	0 ft	10301 ft

Casing Record				
Size	Weight	Grade	From	To
18 1n	N/A	N/A	0 ft	80 ft
9.625 1n	N/A	N/A	0 ft	3101 ft
4.5 1n	11.6 lbm/ft	P-110	0 ft	10240 ft

Remarks
ALL DATA IN THIS LOG WAS DEPTH SHIFTED TO MATCH A BAKER HUGHES HDIL LOG DATED 16 JULY 2013 AT THE CLIENT'S REQUEST. THE AMOUNT OF LINEAR SHIFT WAS 12 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: 6231' - 6254'

**BHT: 267 degF**

LOG DONE WITH 0 PSI ON WELLHEAD

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	306.674	usec	18.624	10242.000
RAL	Amp Gate Start Near	198.578	usec	18.624	10242.000
RAL	Amp Gate Start Radial	199.015	usec	18.624	10242.000
RAL	Amp Gate Width Far	25.000	usec	18.624	10242.000
RAL	Amp Gate Width Near	25.000	usec	18.624	10242.000
RAL	Amp Gate Width Radial	25.000	usec	18.624	10242.000
RAL	casing od	4.500	inches	18.624	10242.000
RAL	casing wt	11.600	lbm/ft	18.624	10242.000
RAL	FB Start Far	291.900	usec	18.624	10242.000
RAL	FB Start Near	175.391	usec	18.624	10242.000
RAL	FB Start Radial	175.391	usec	18.624	10242.000
RAL	FB Thresh Far	10.000	mv	18.624	10242.000
RAL	FB Thresh Near	4.000	mv	18.624	10242.000
RAL	FB Thresh Radial	4.000	mv	18.624	10242.000
RAL	Fluid Travel Time	200.000	usec/ft	18.624	10241.937

## DEPTH OFFSETS

(for Acquired Curves)

SERIES

DEPTH OFFSET

### 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

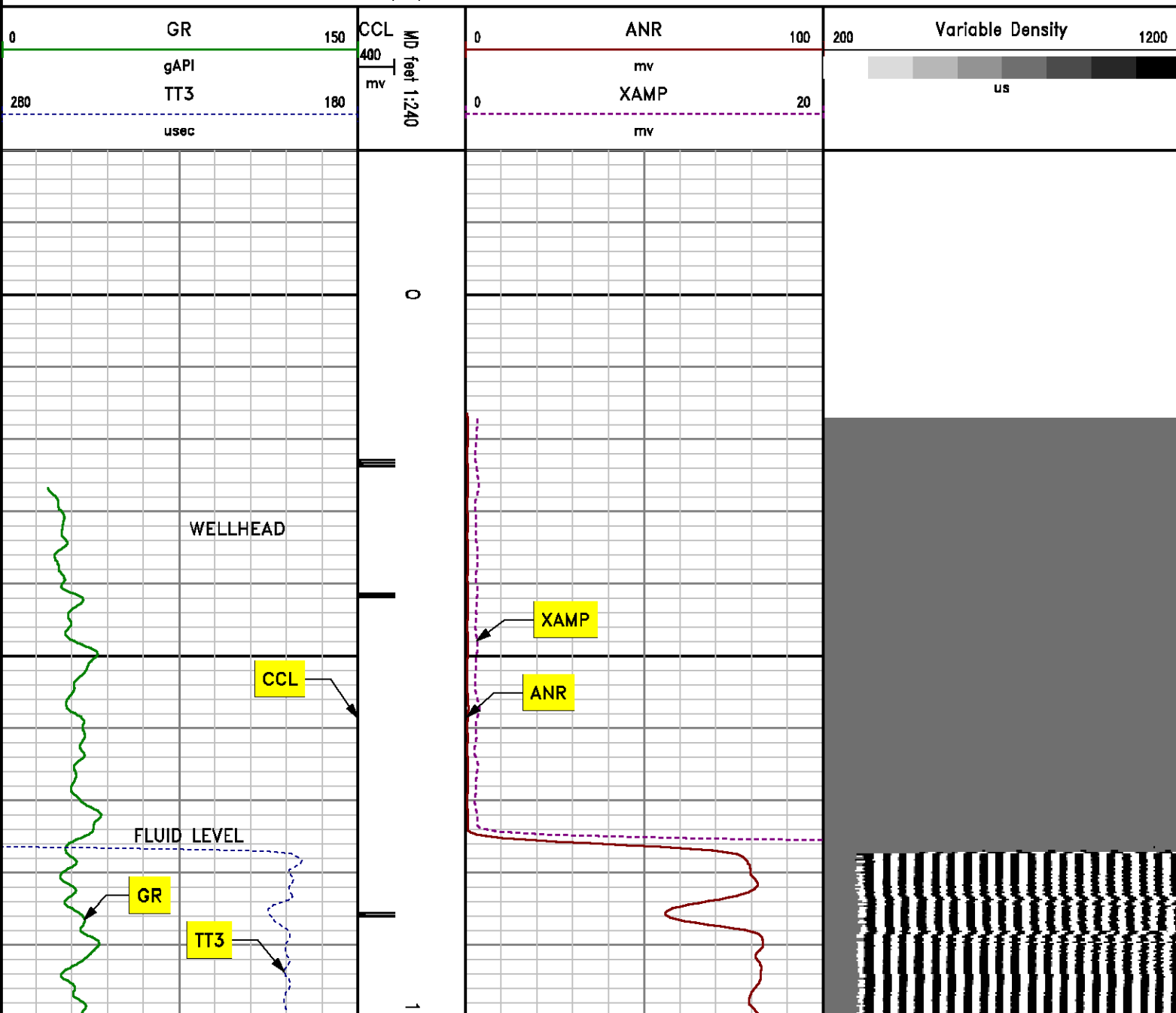
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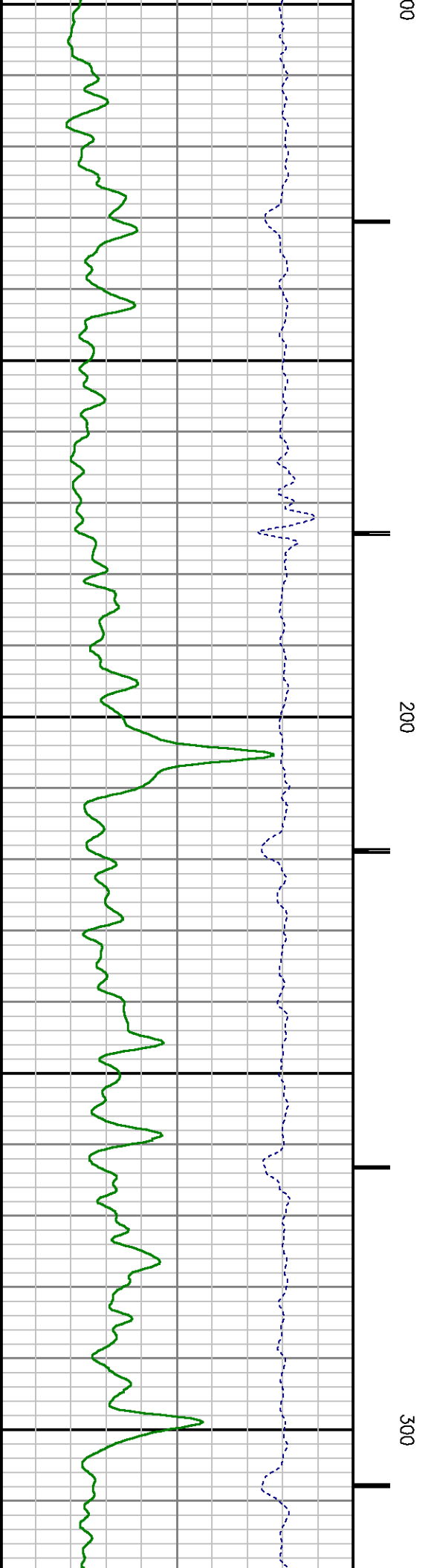
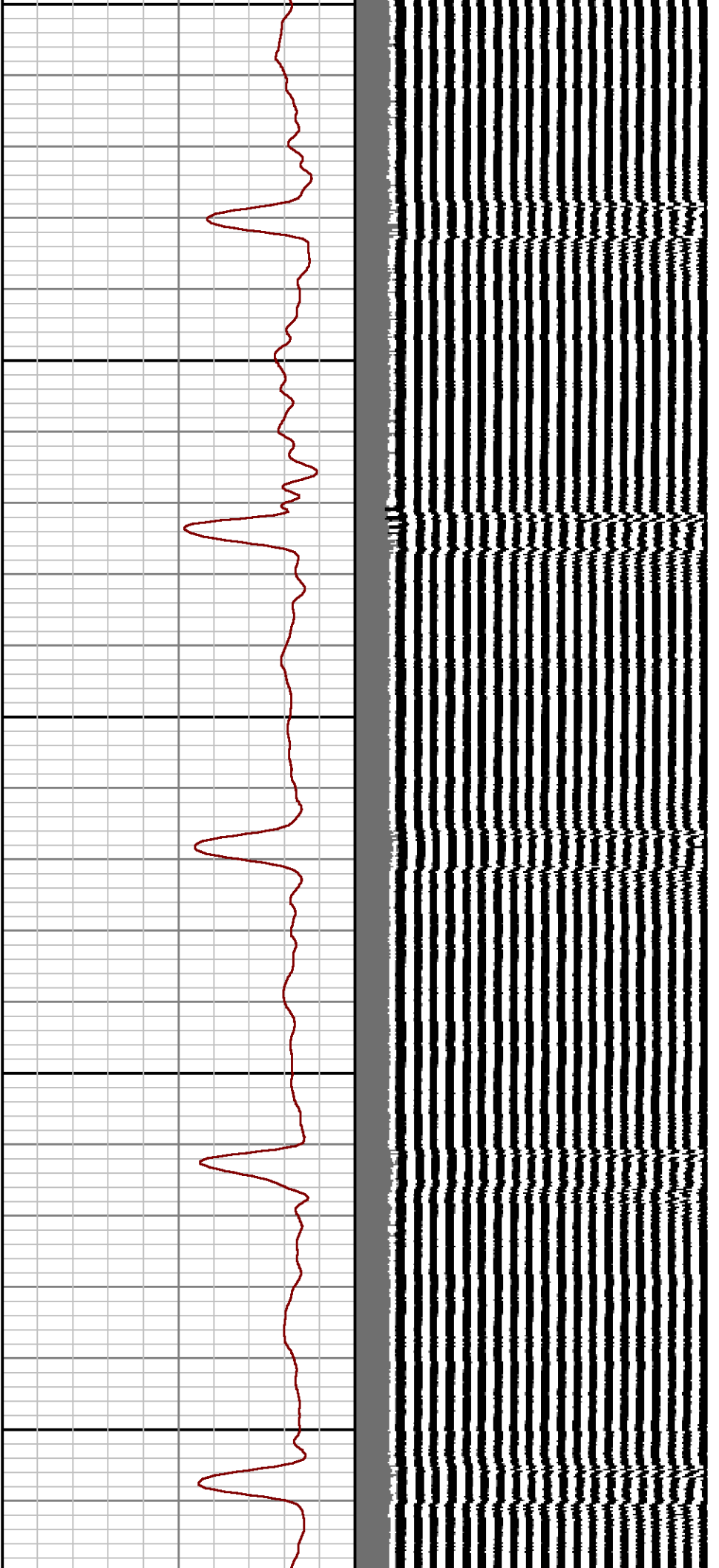
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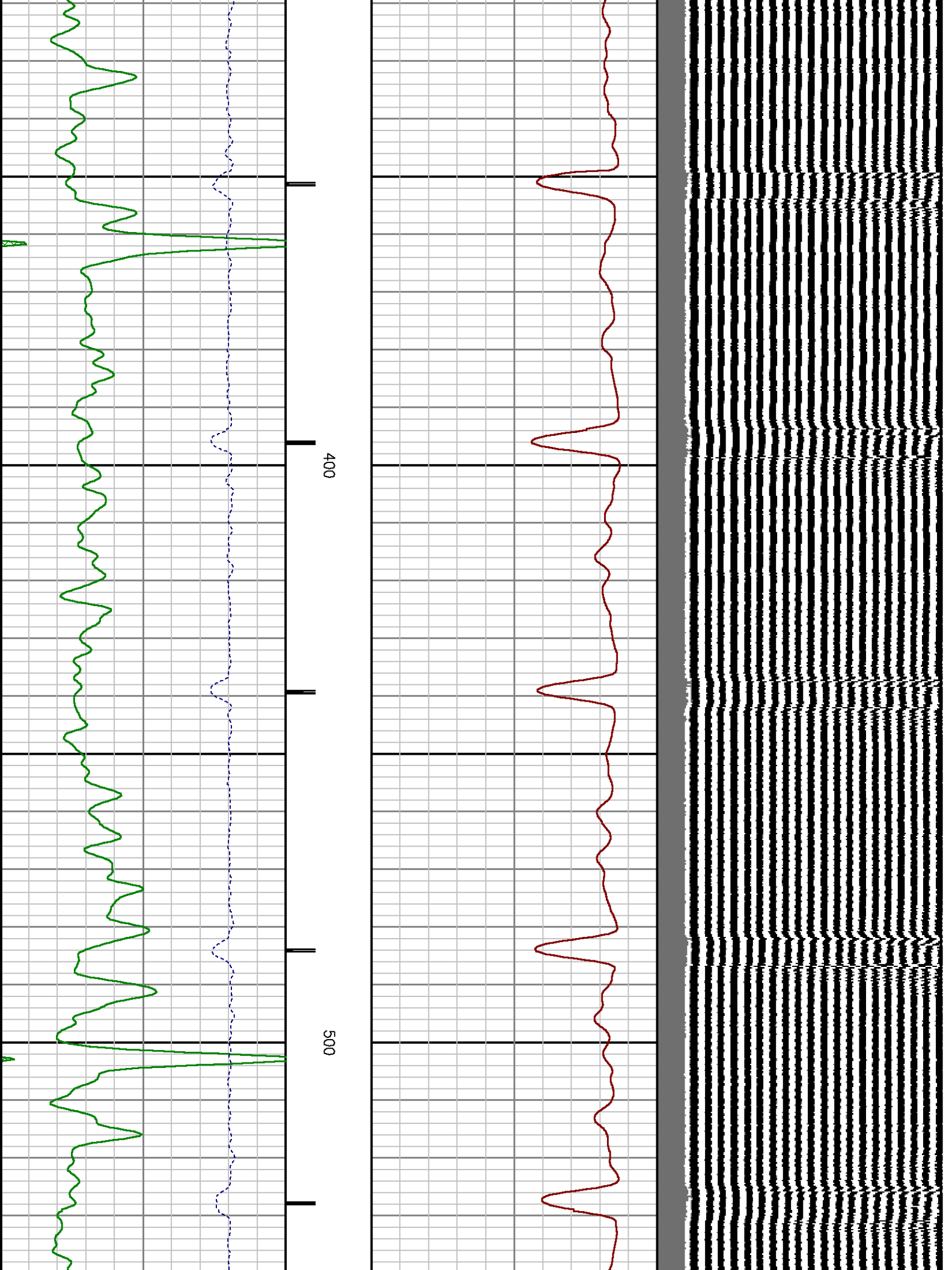
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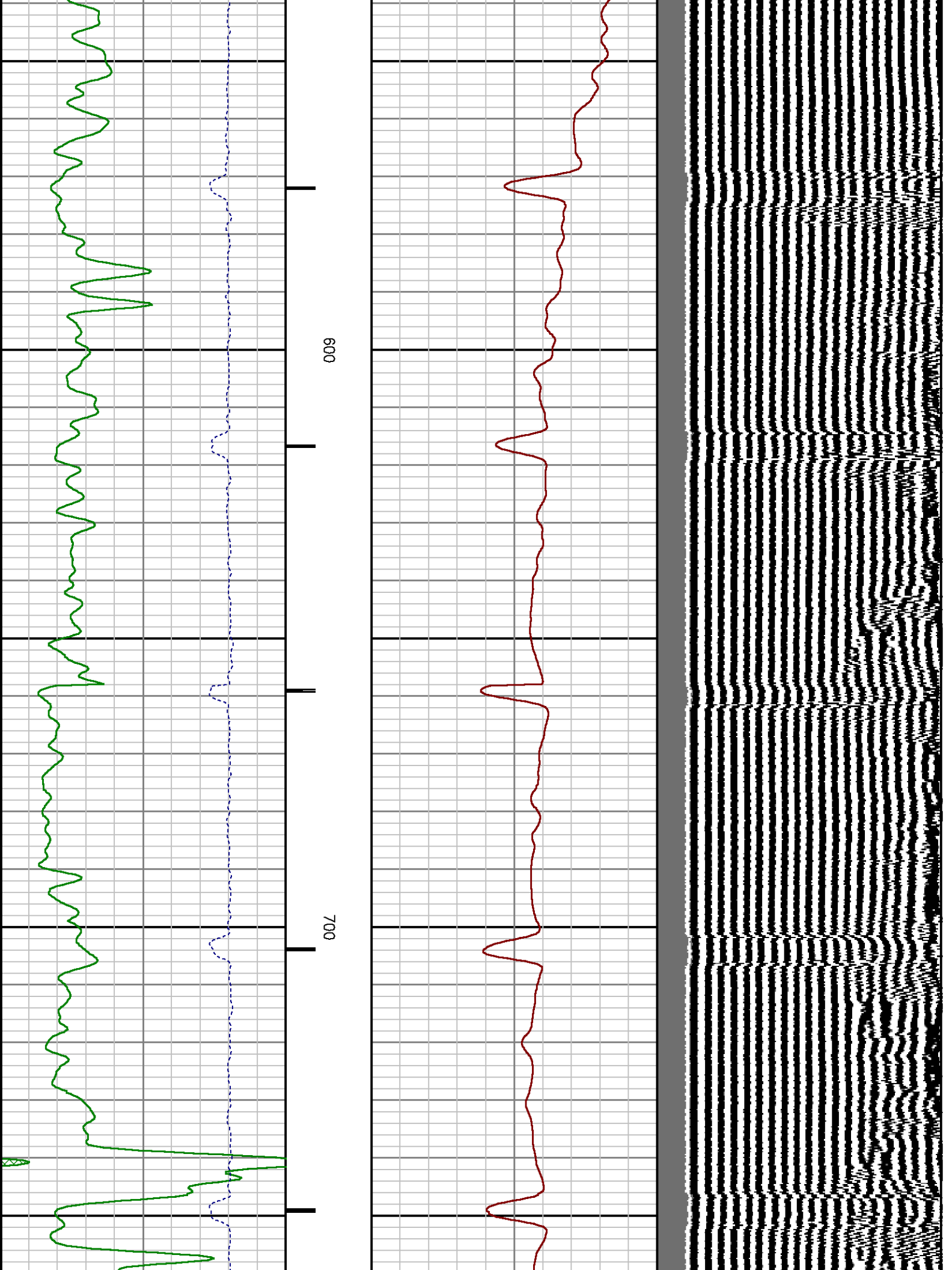
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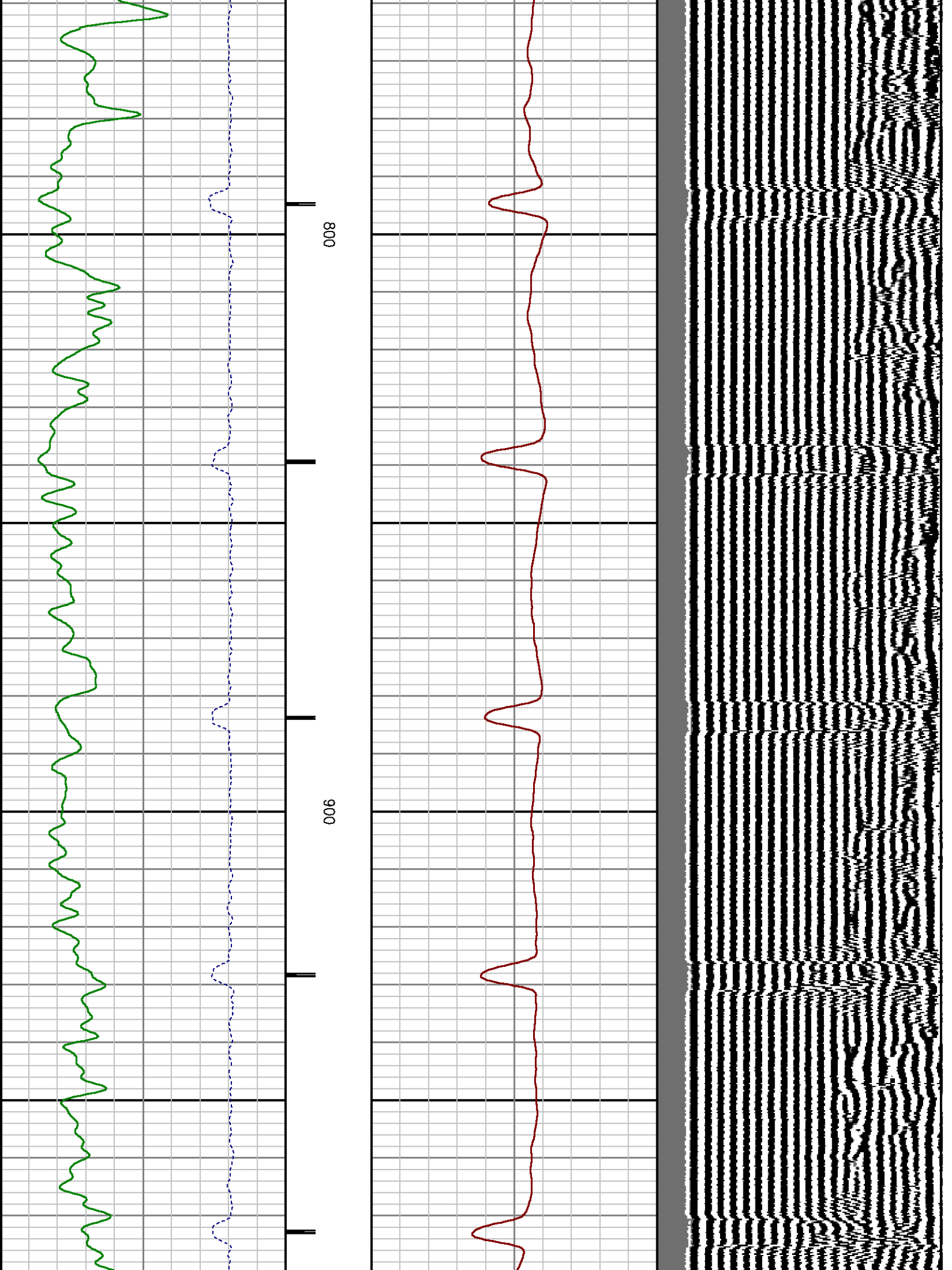


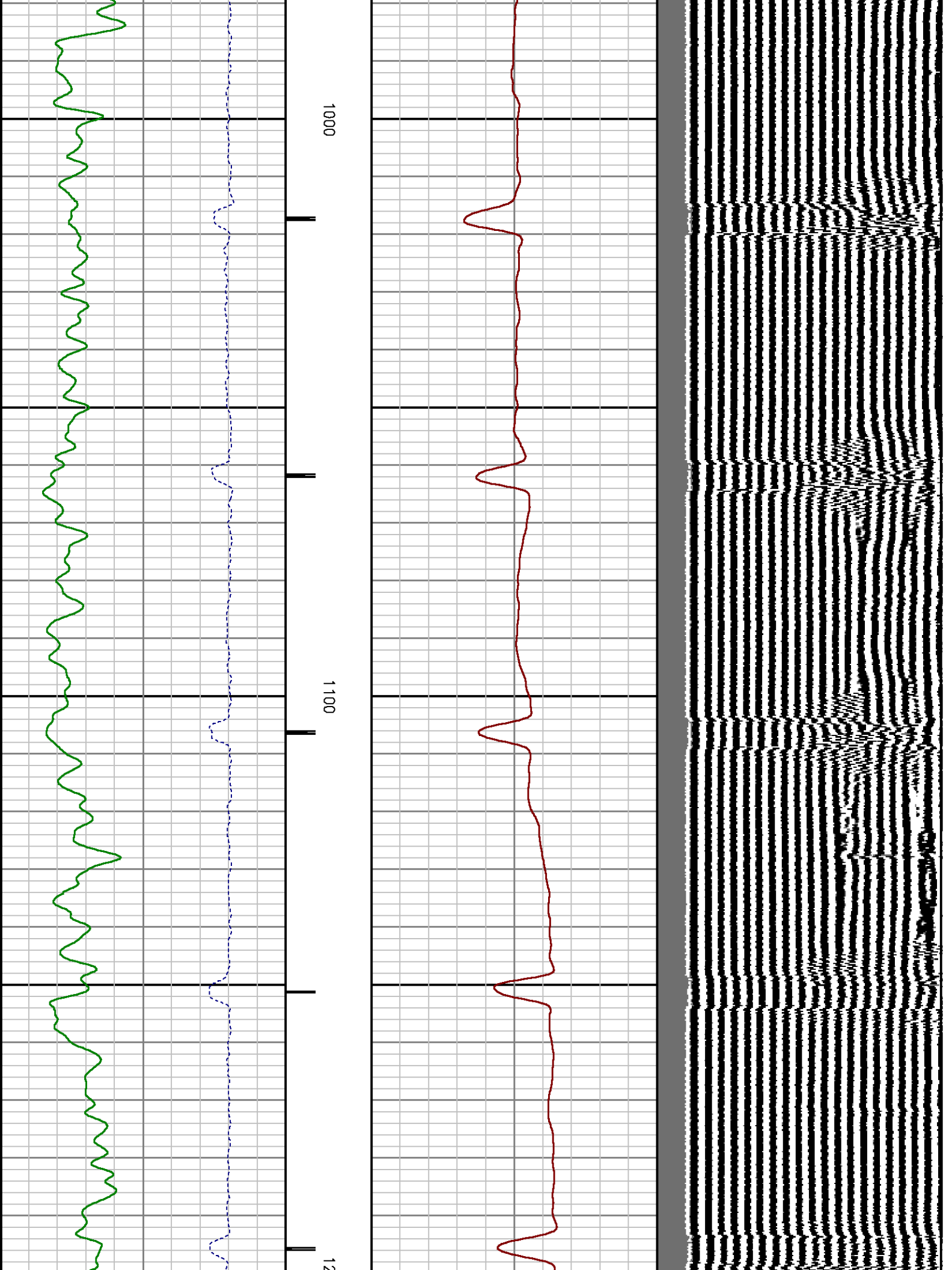


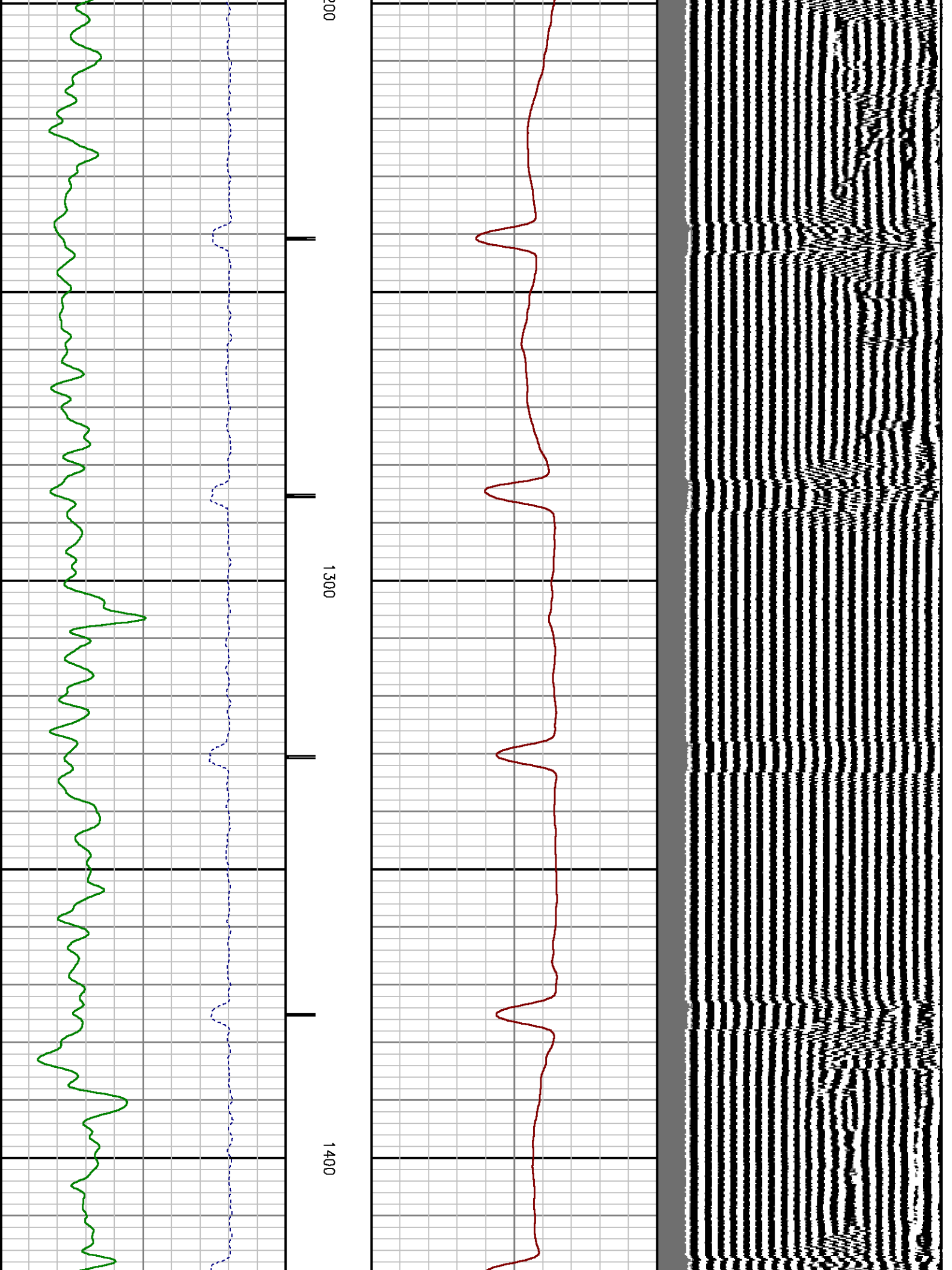


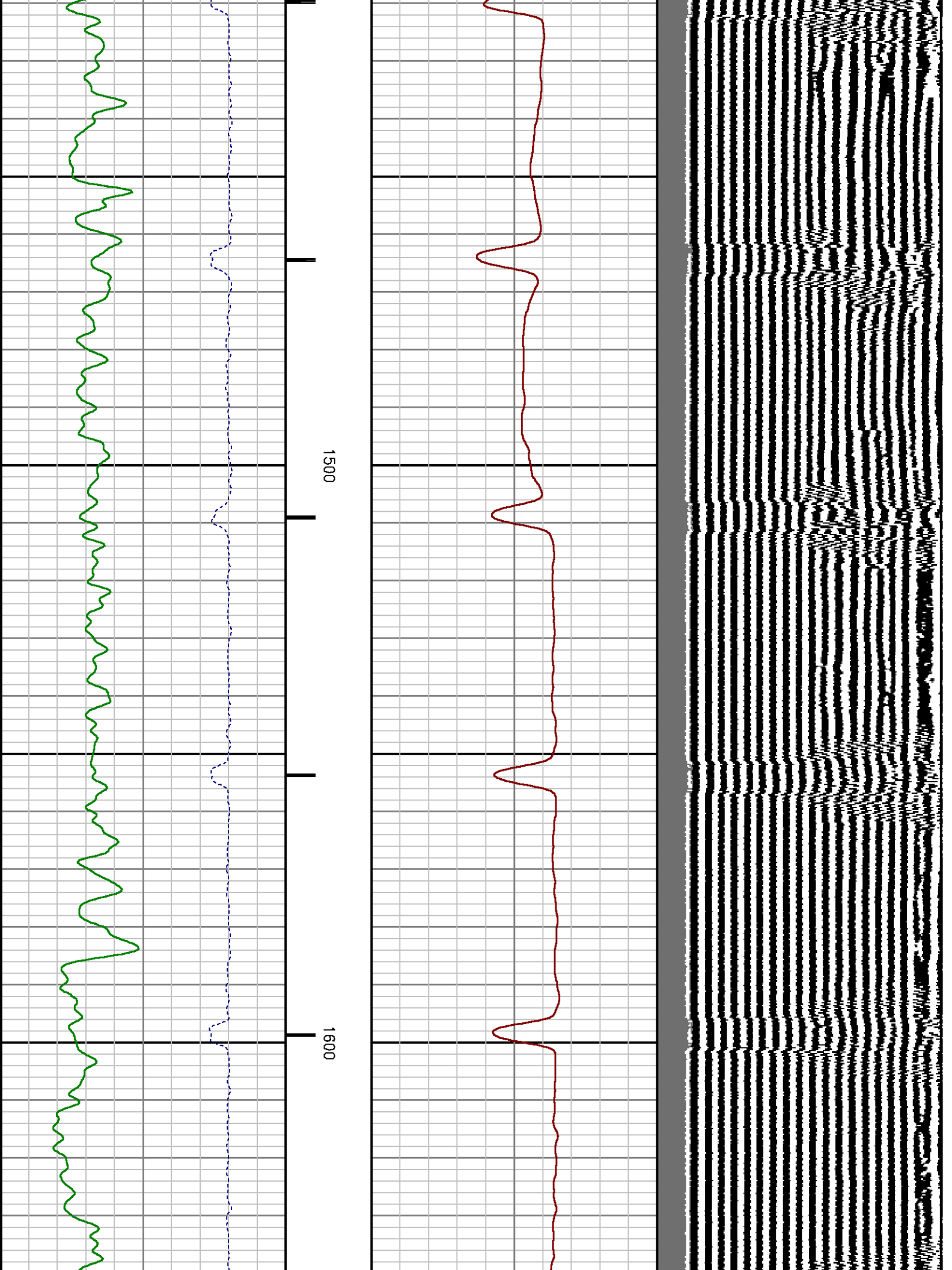


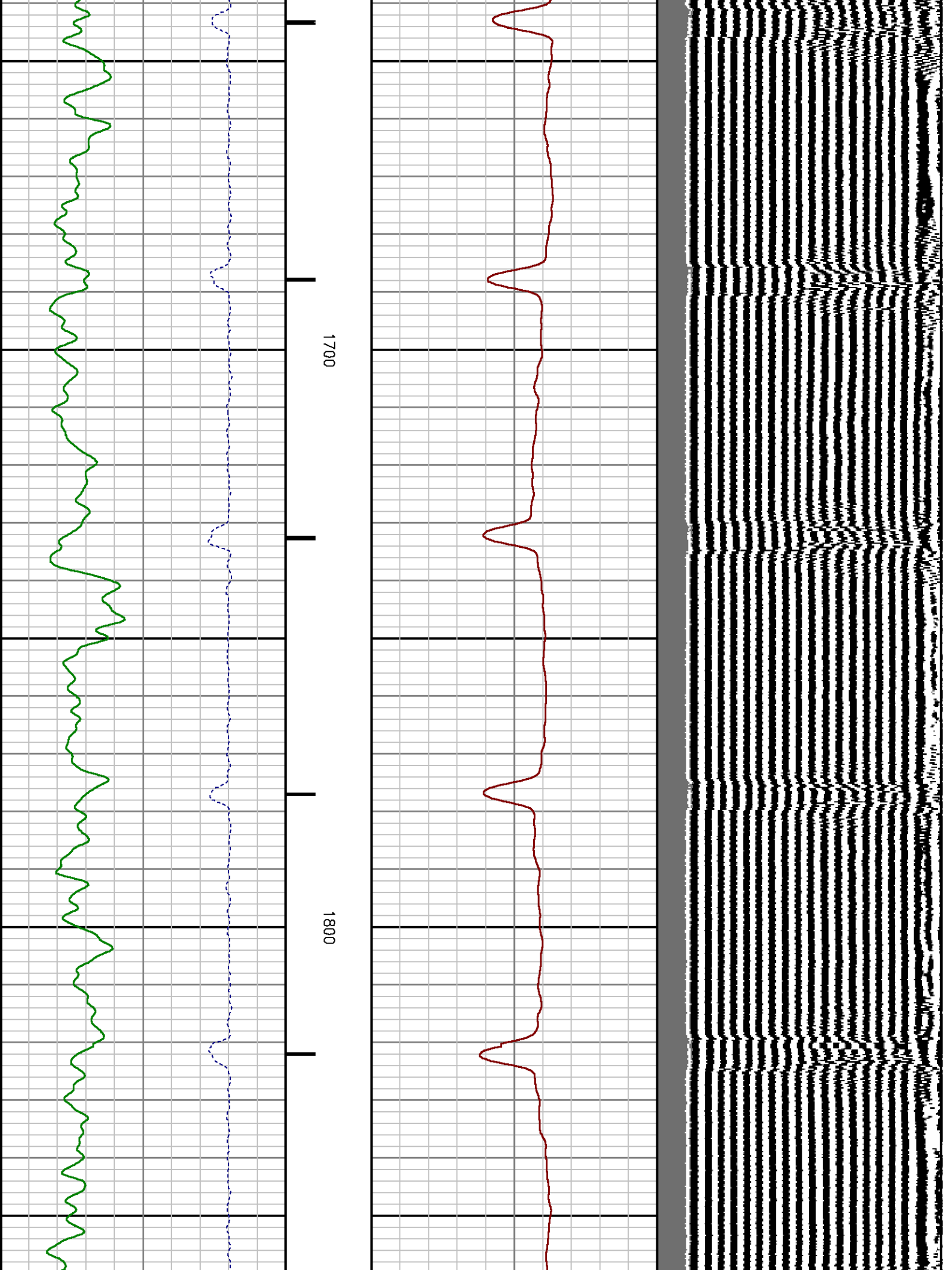




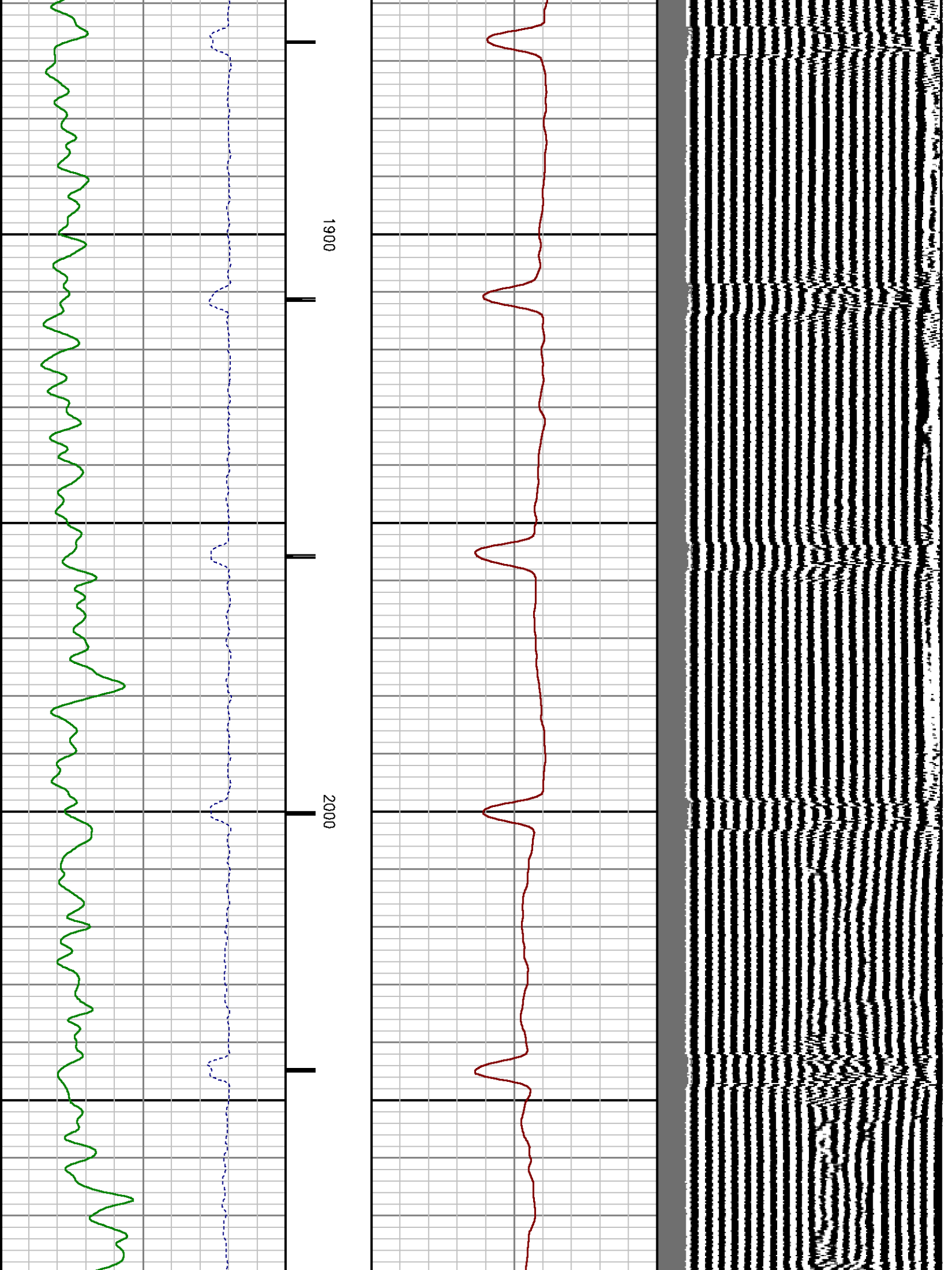




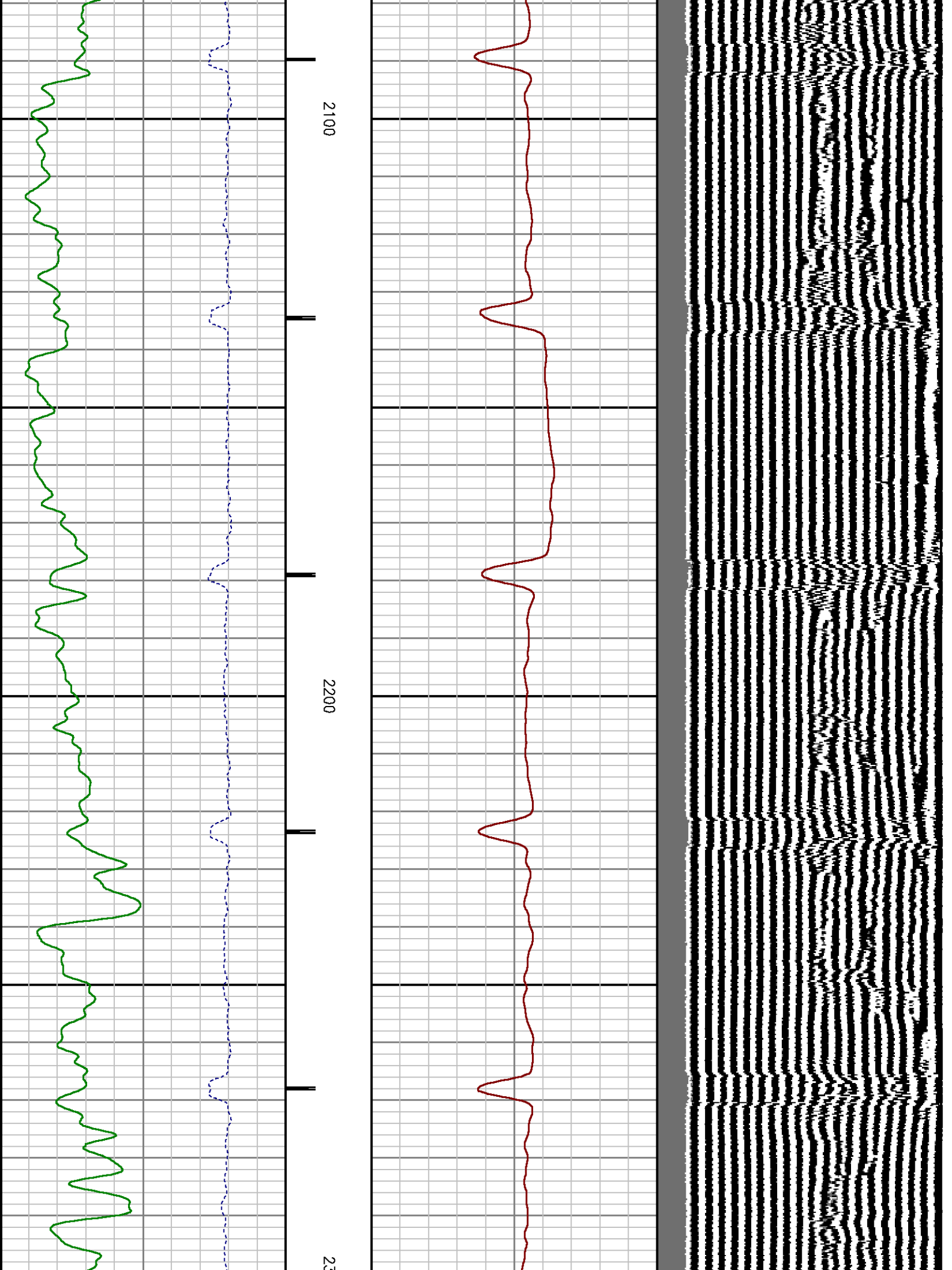


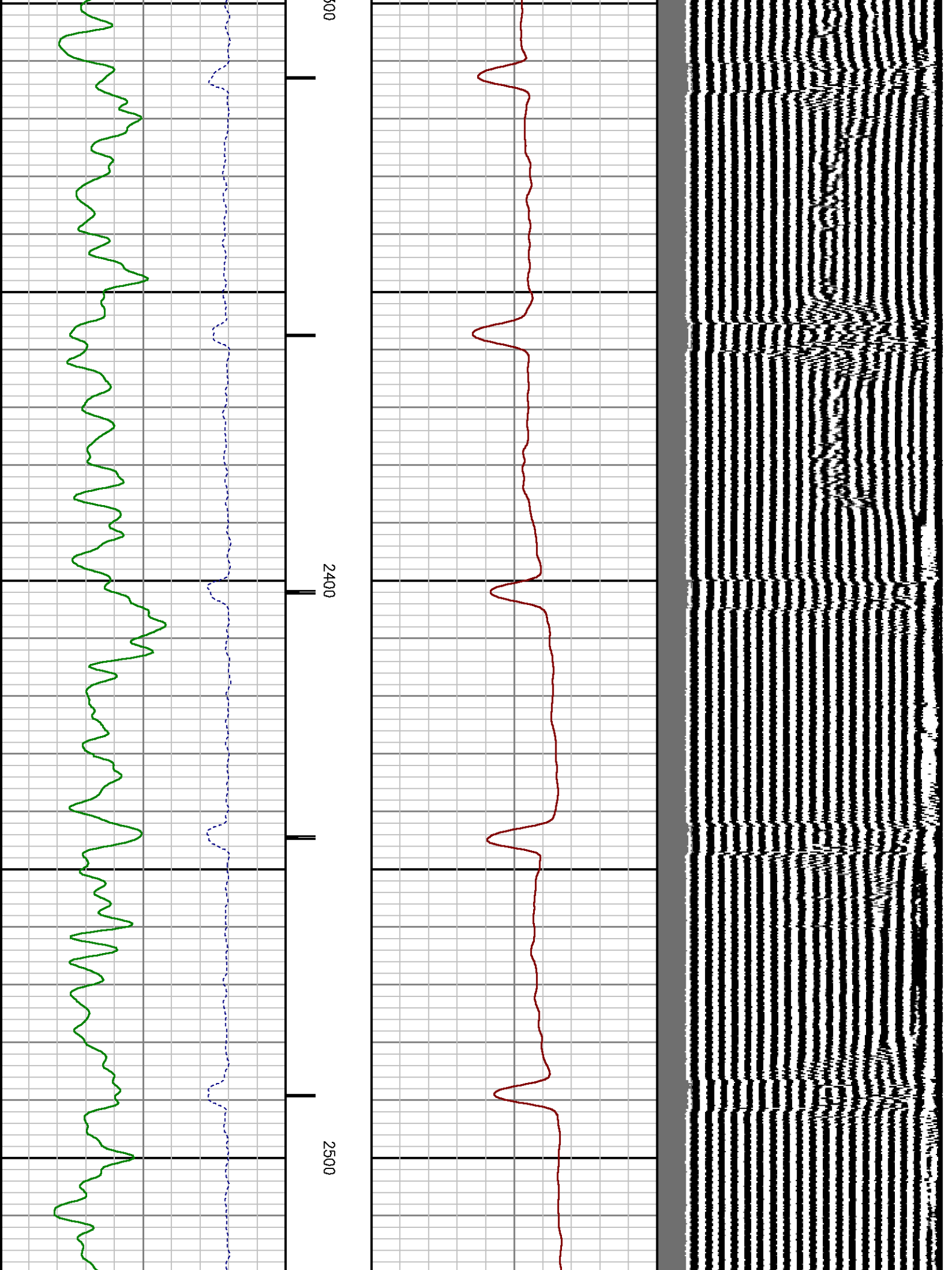


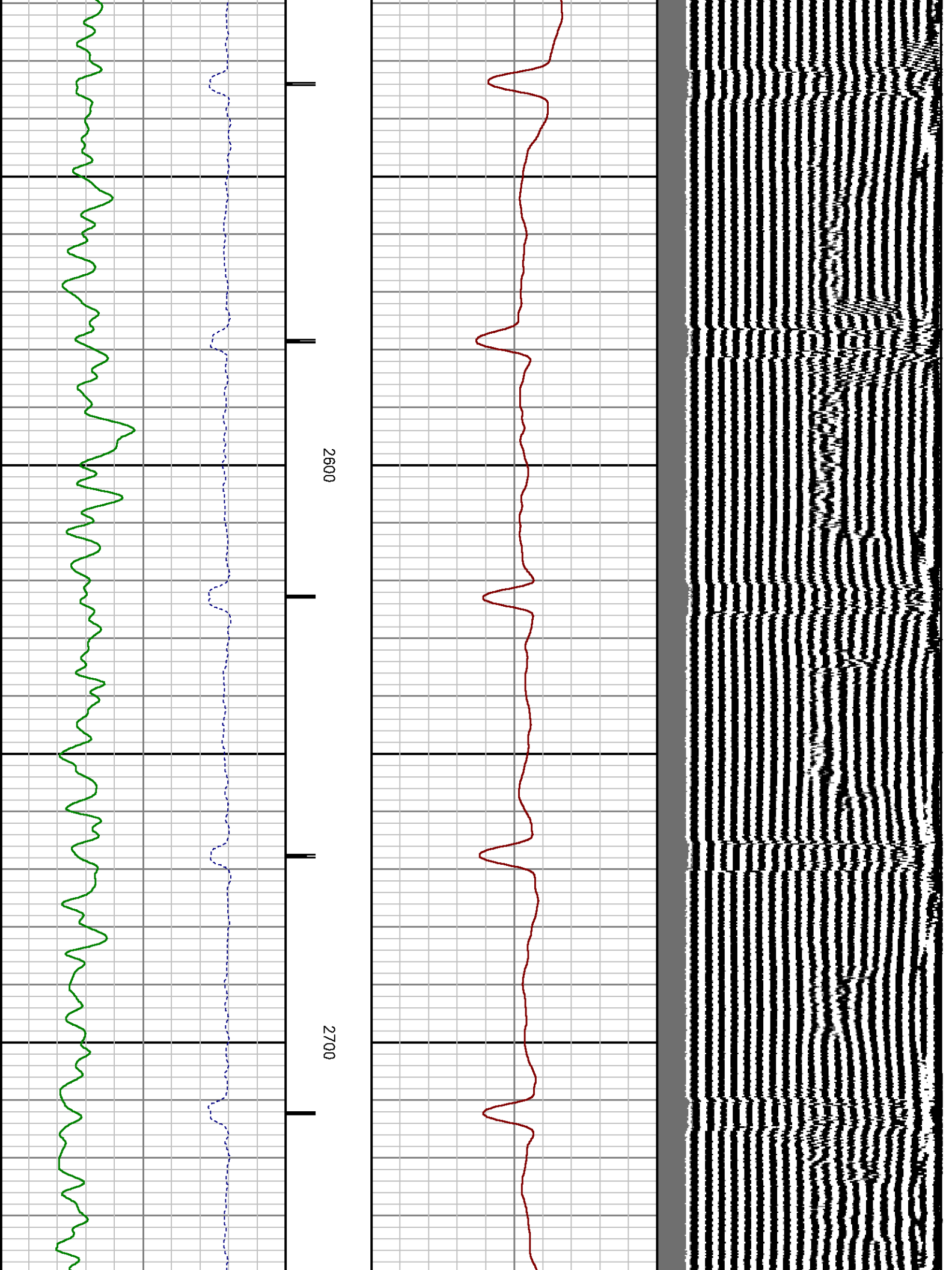


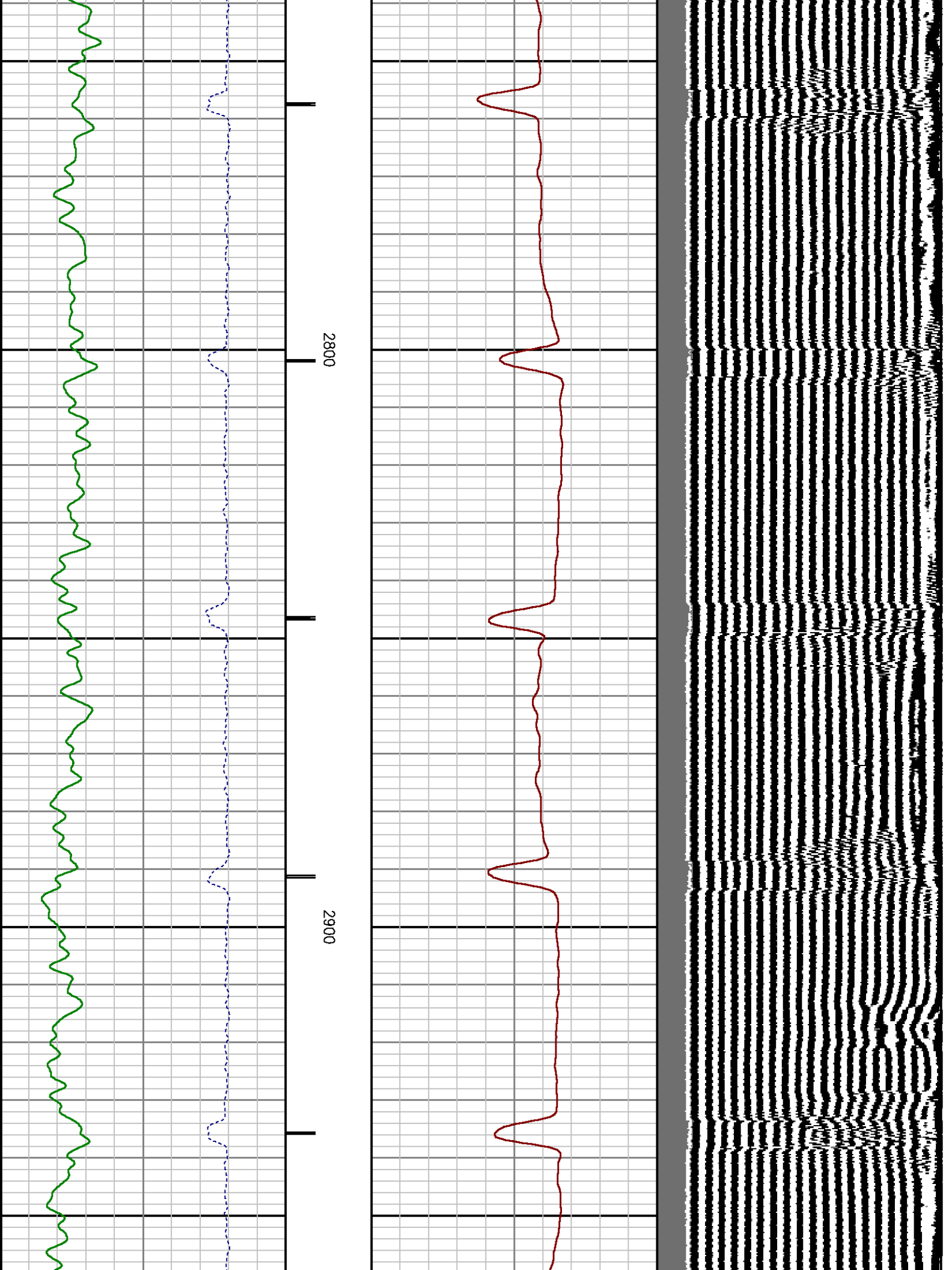


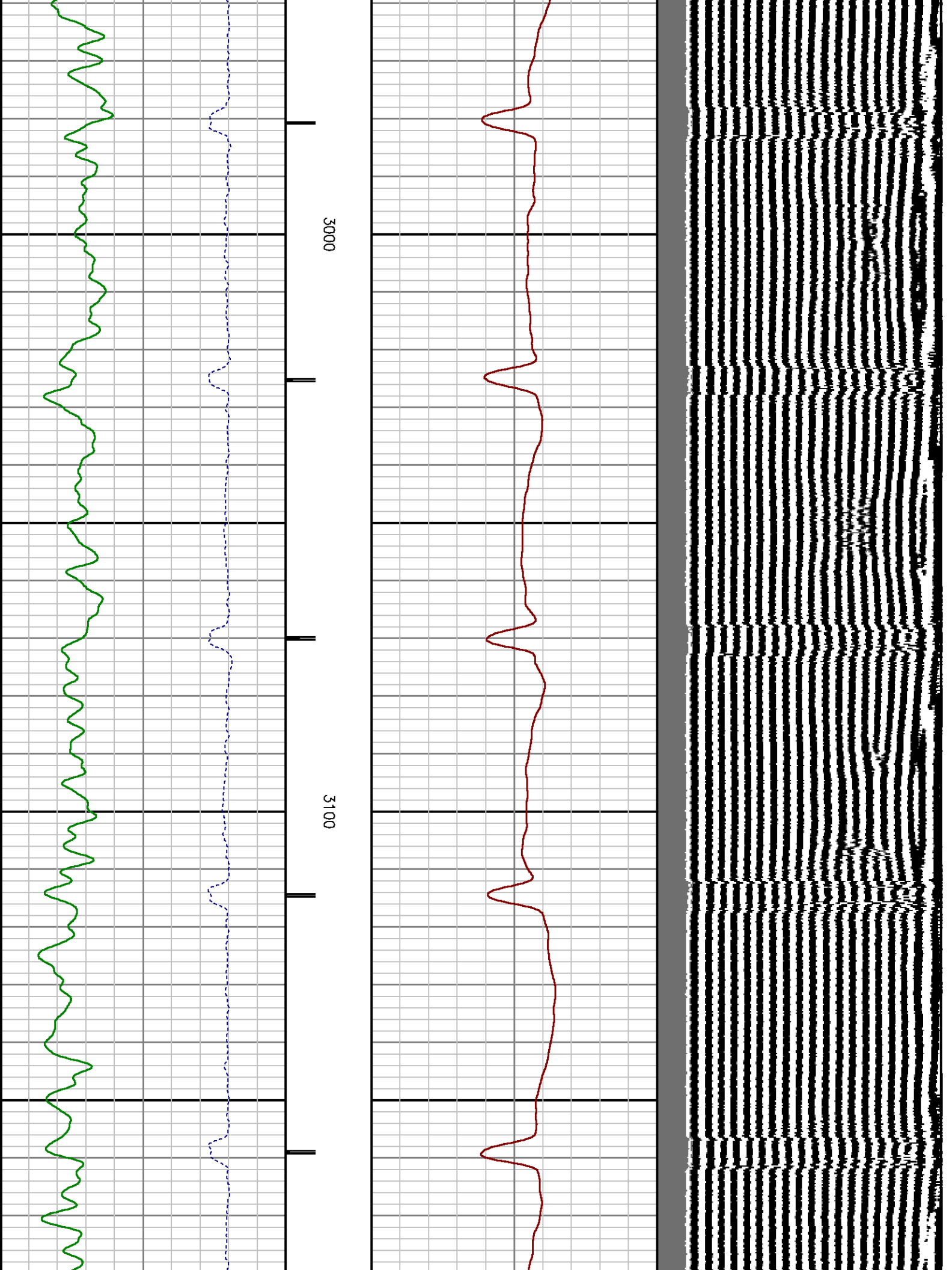


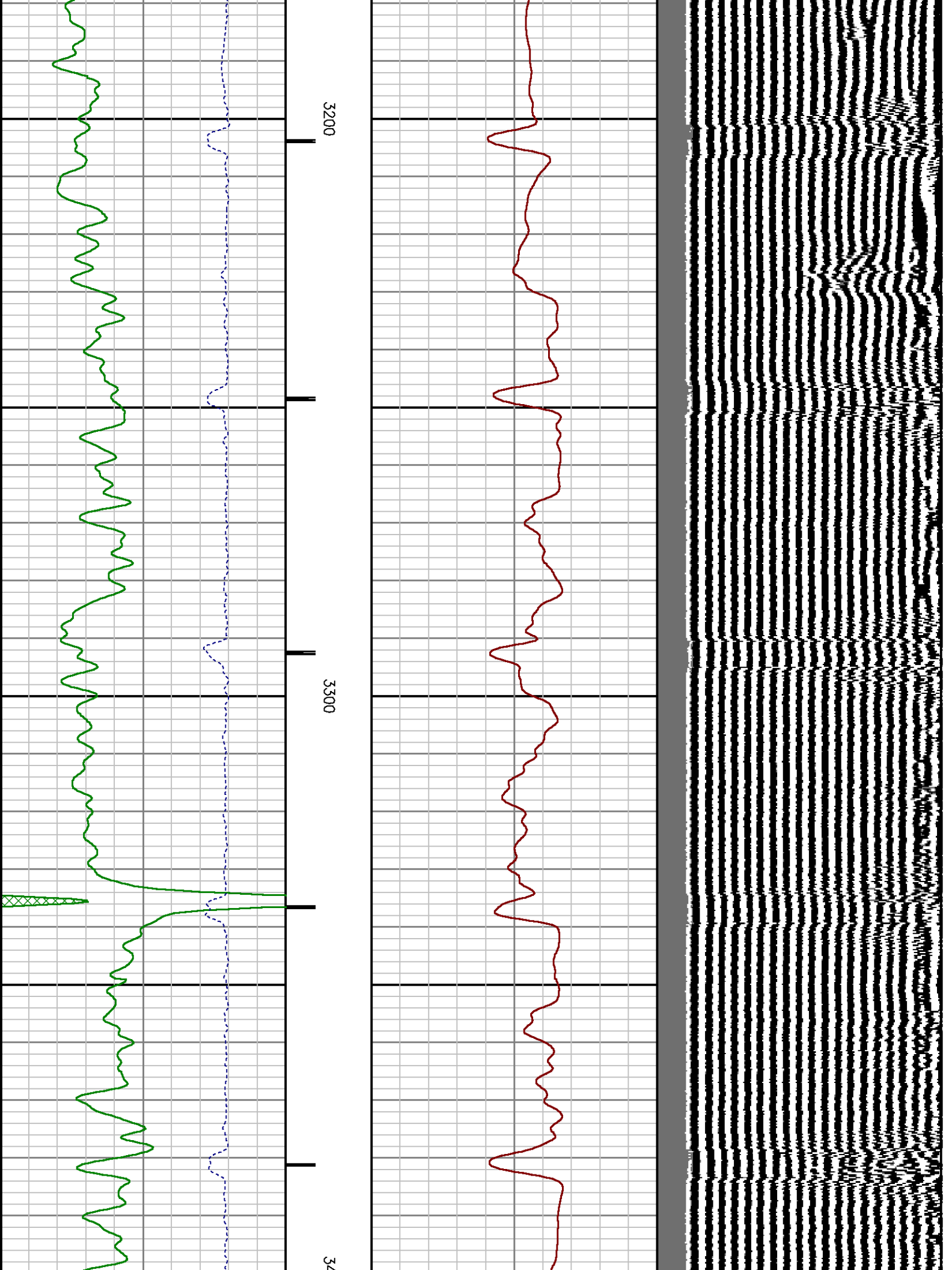




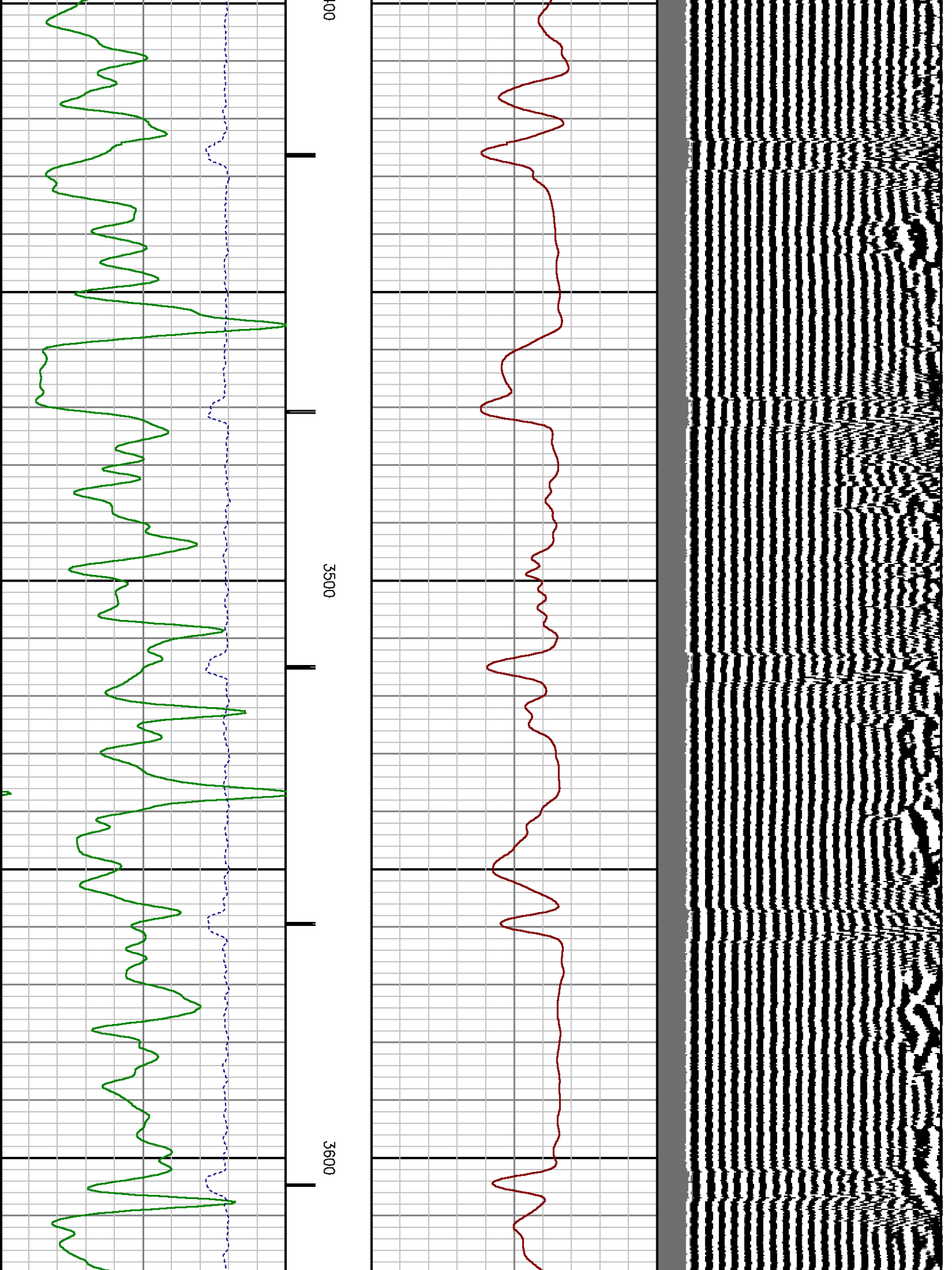


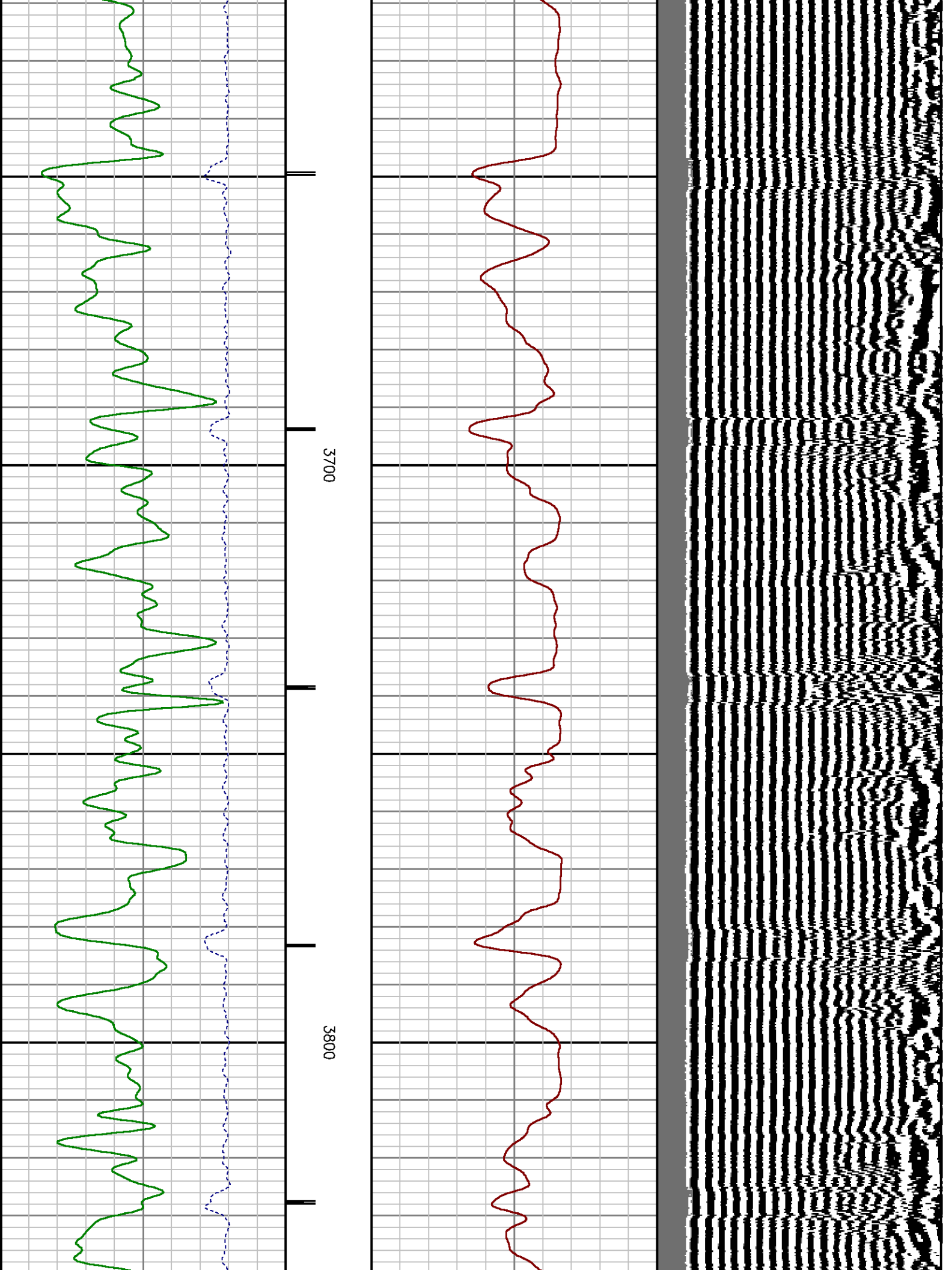




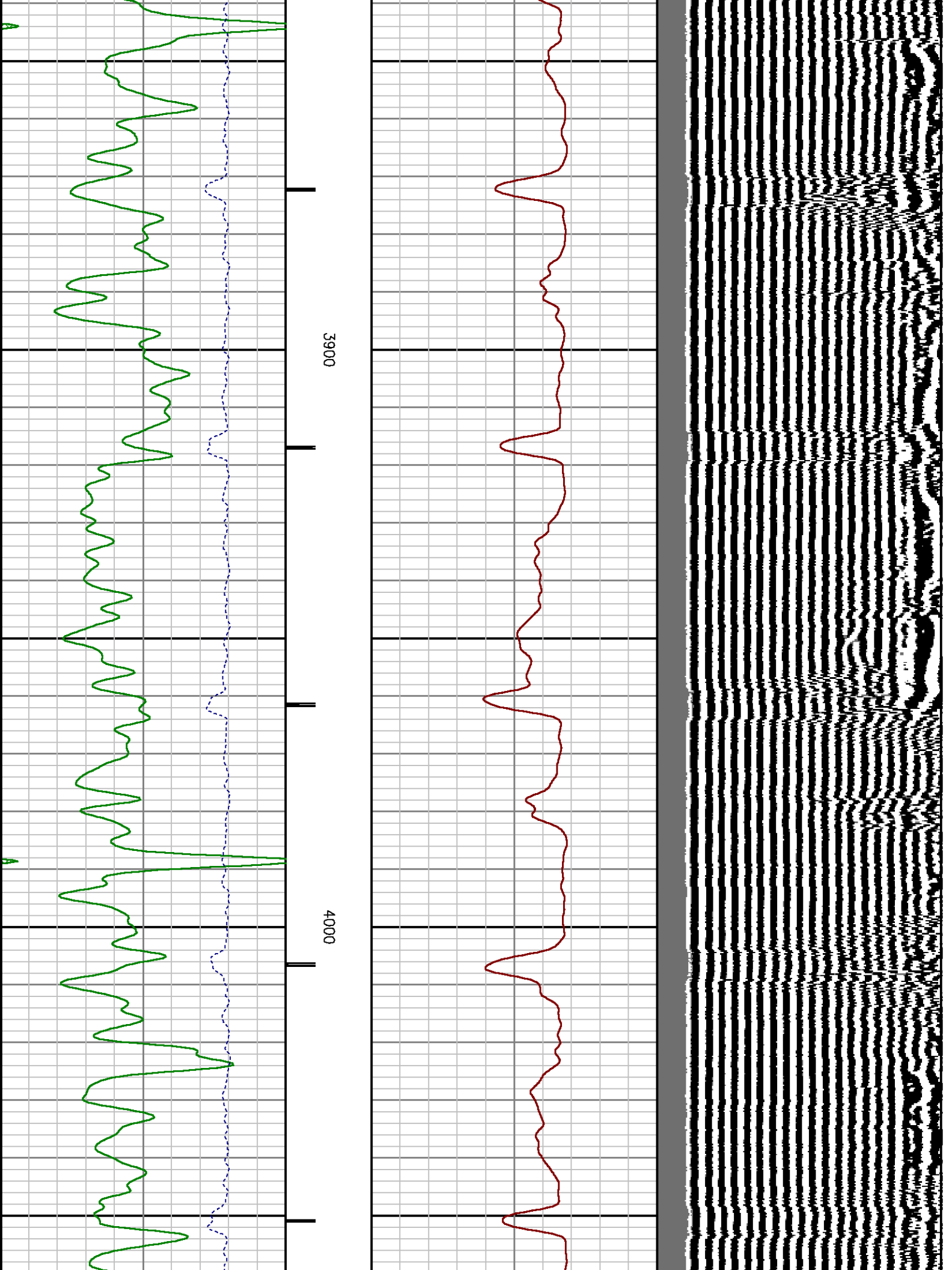


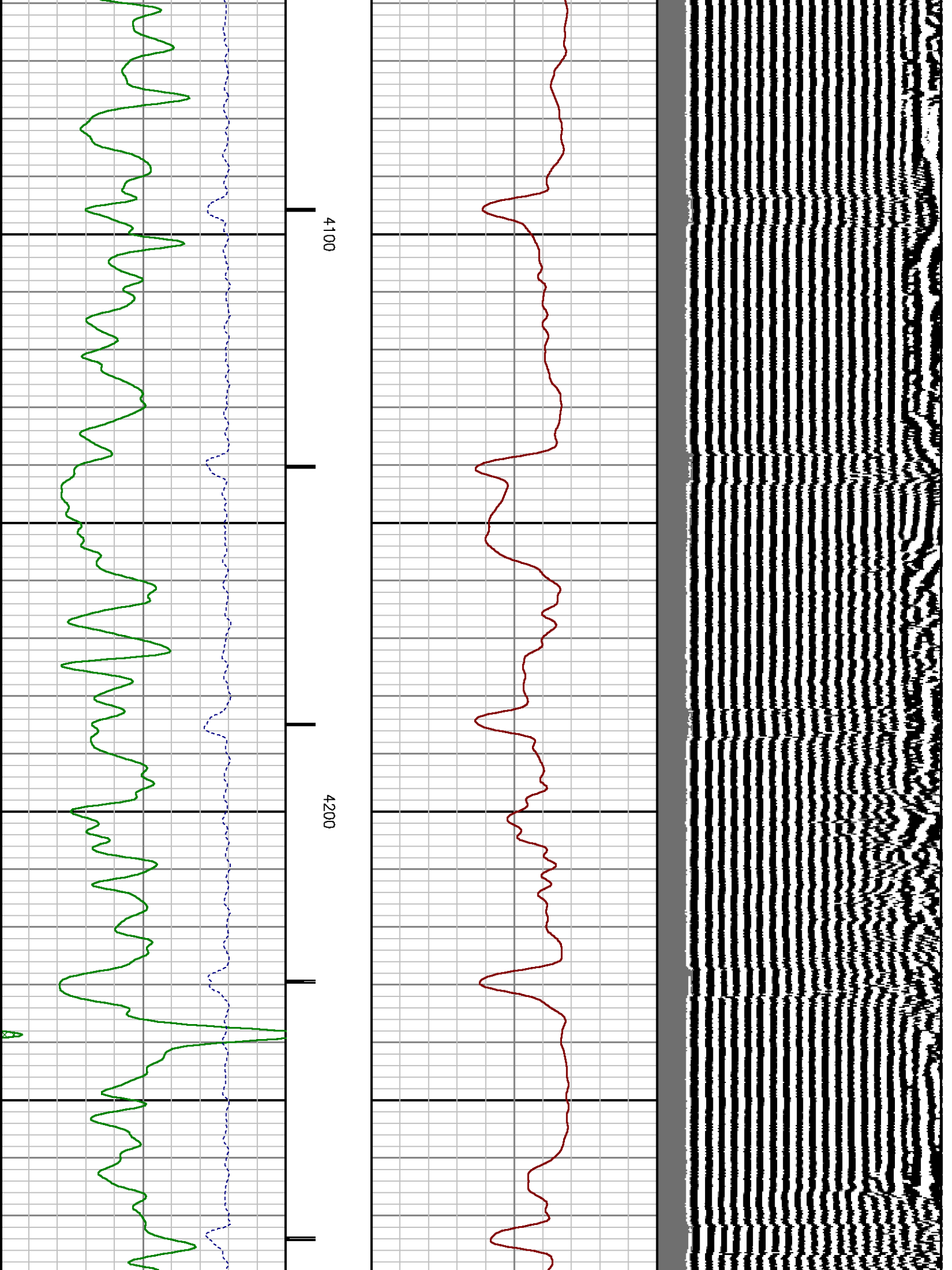


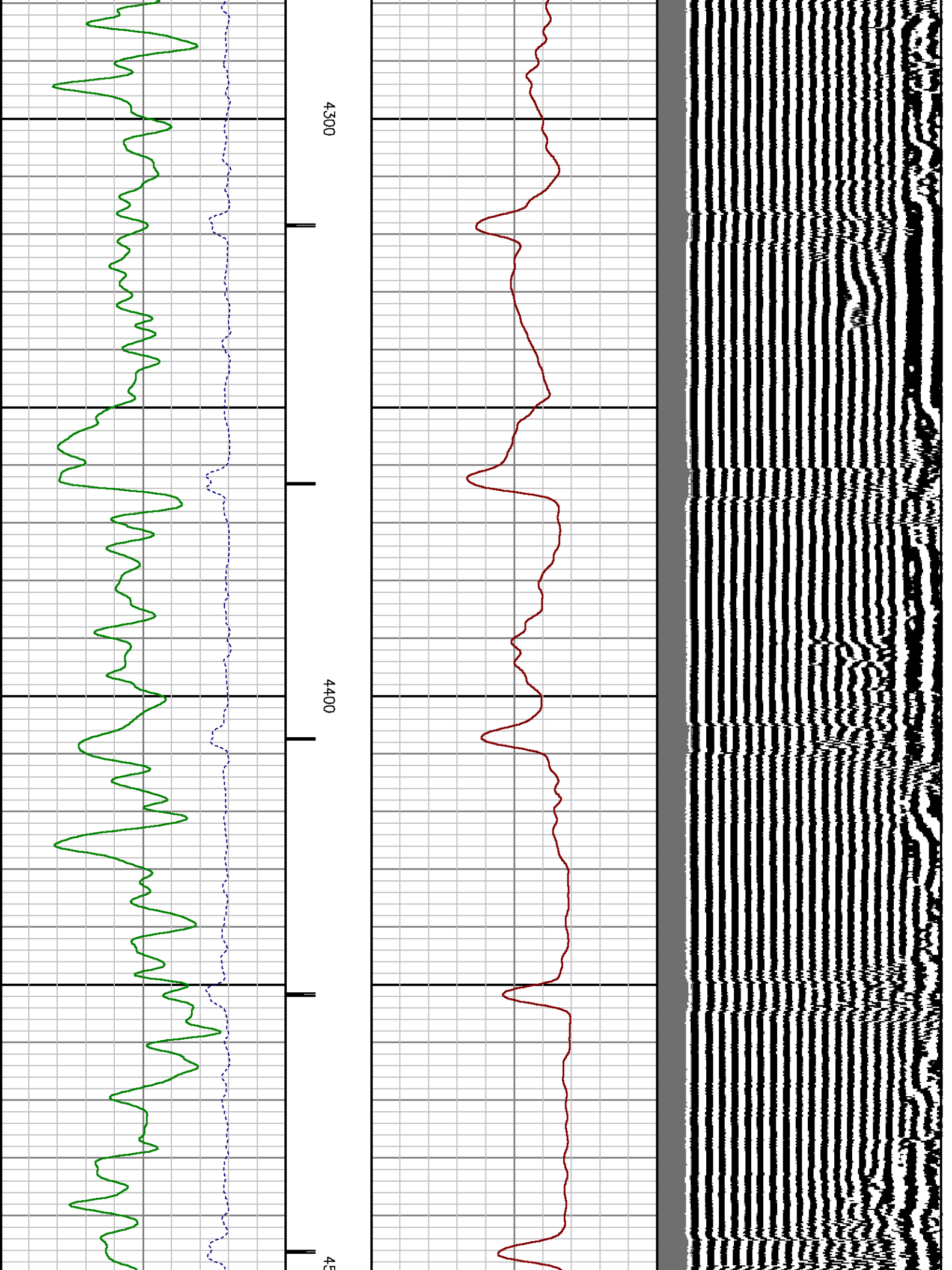


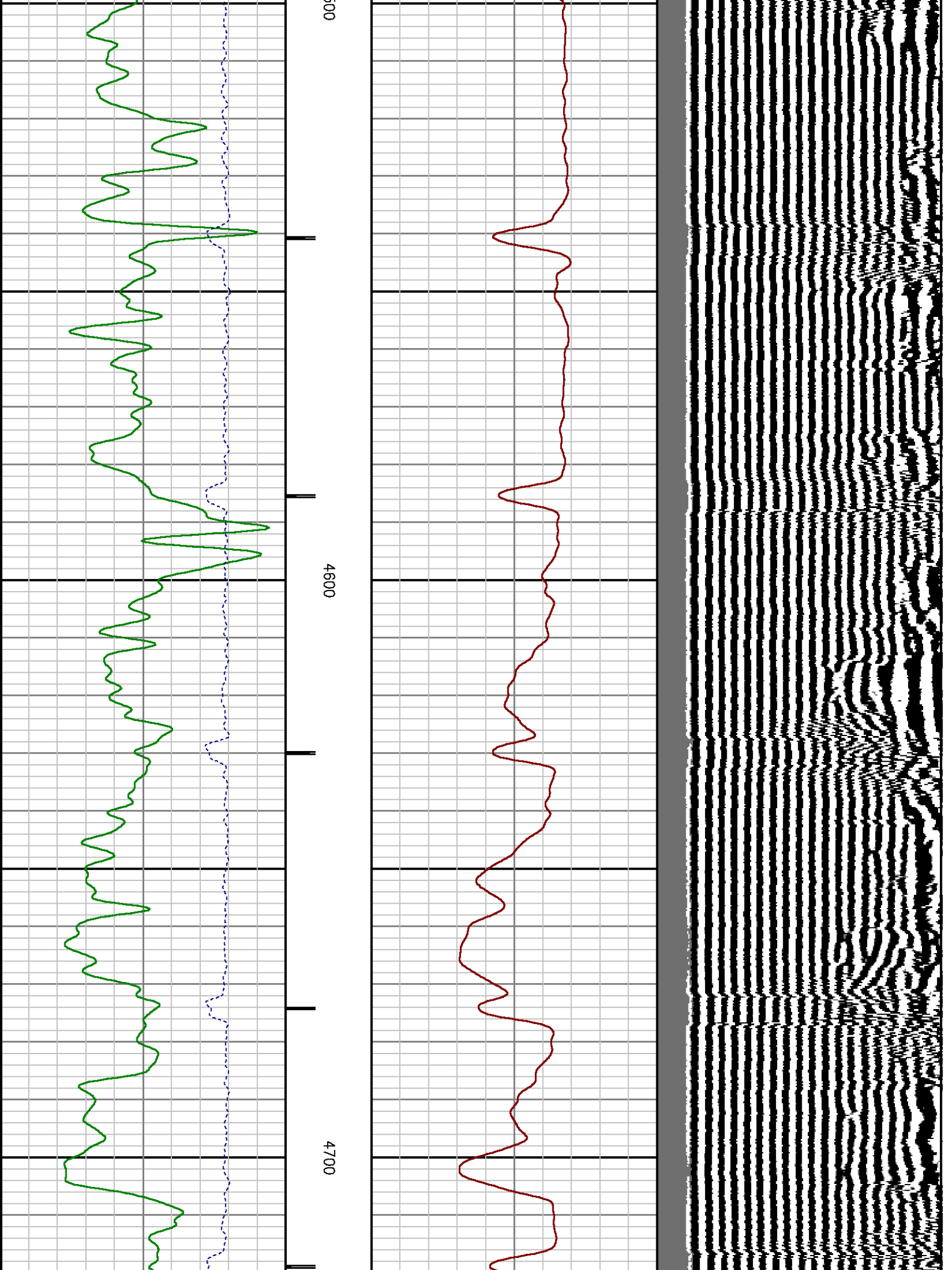


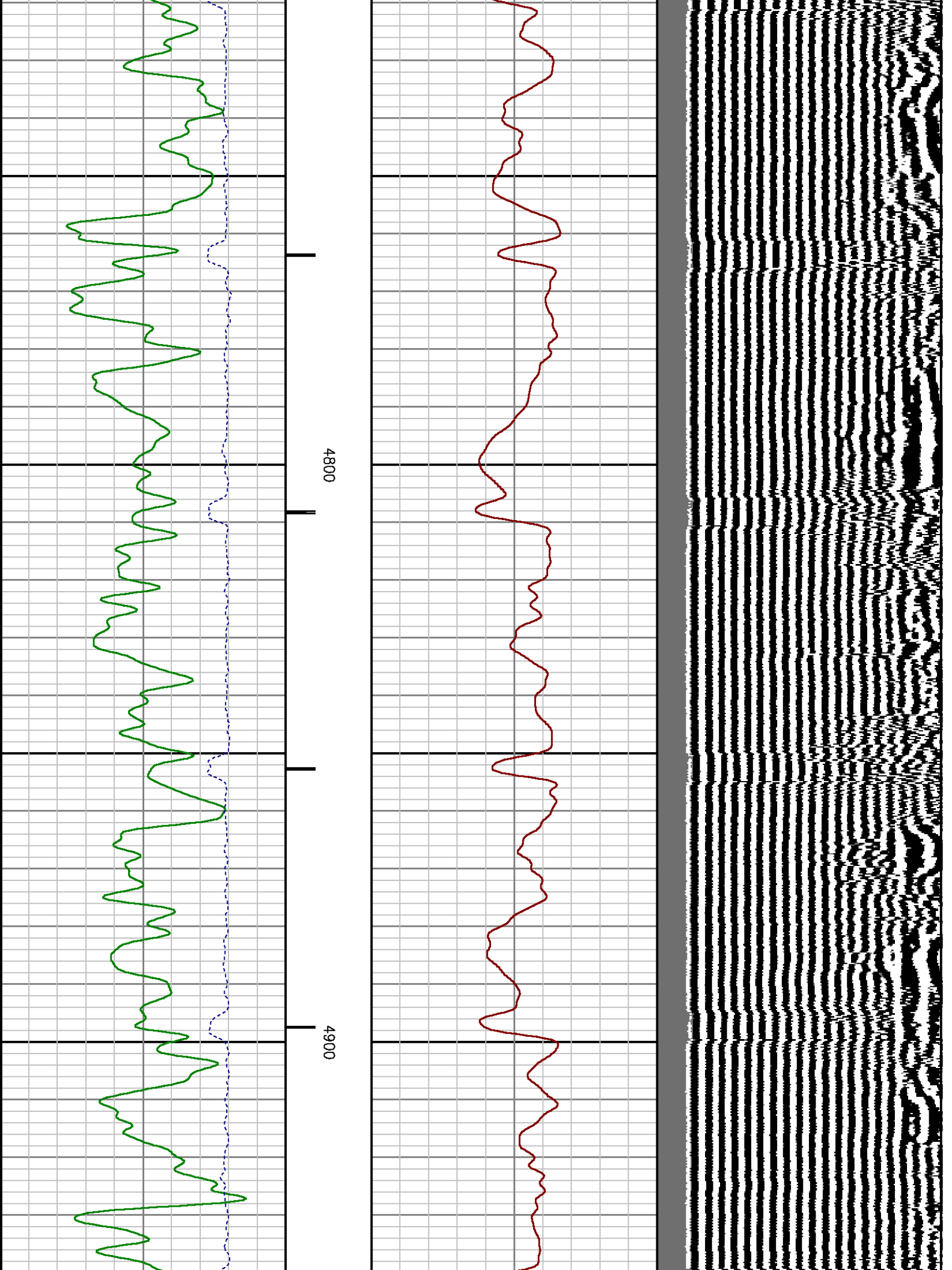


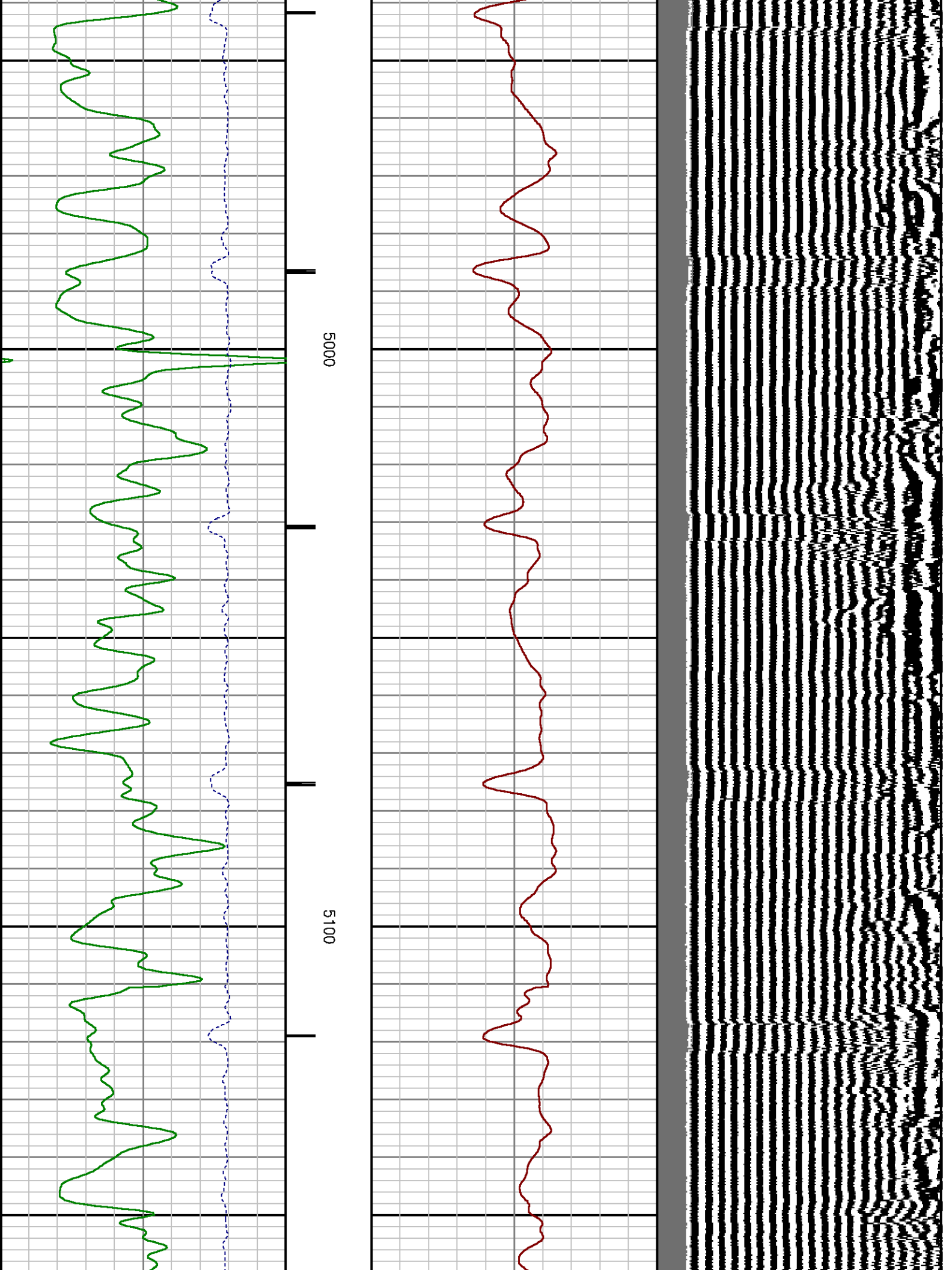




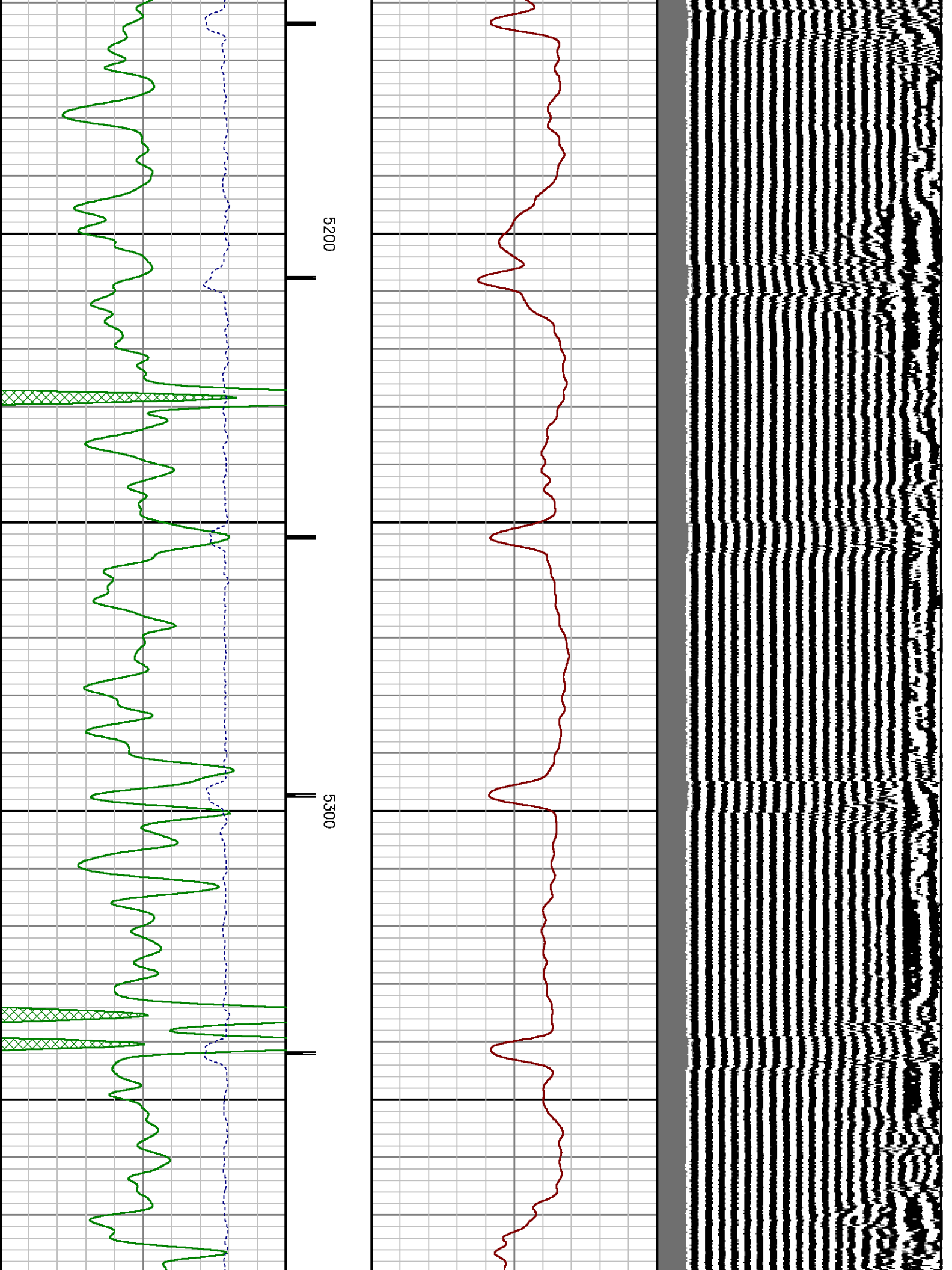


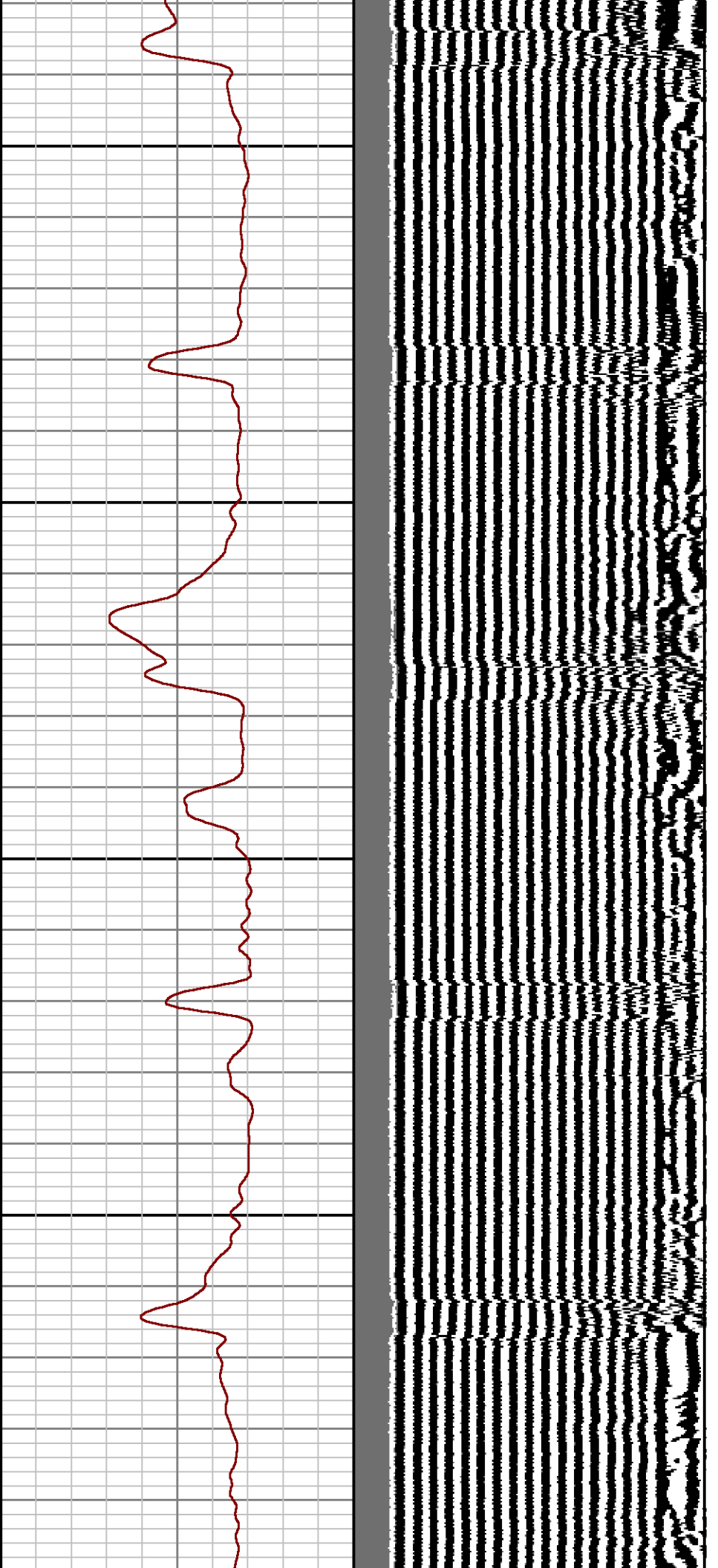








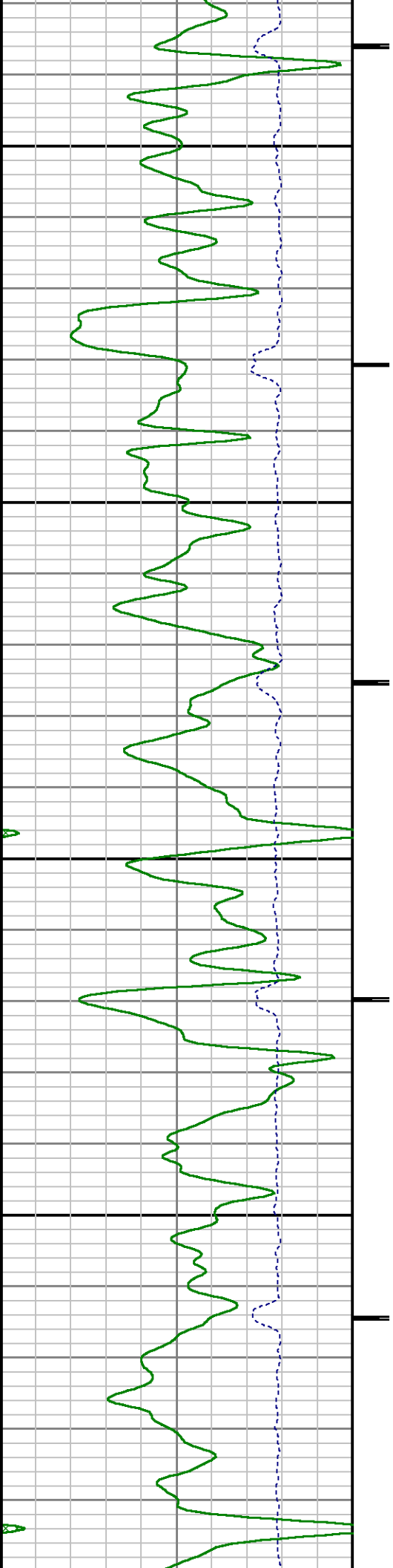




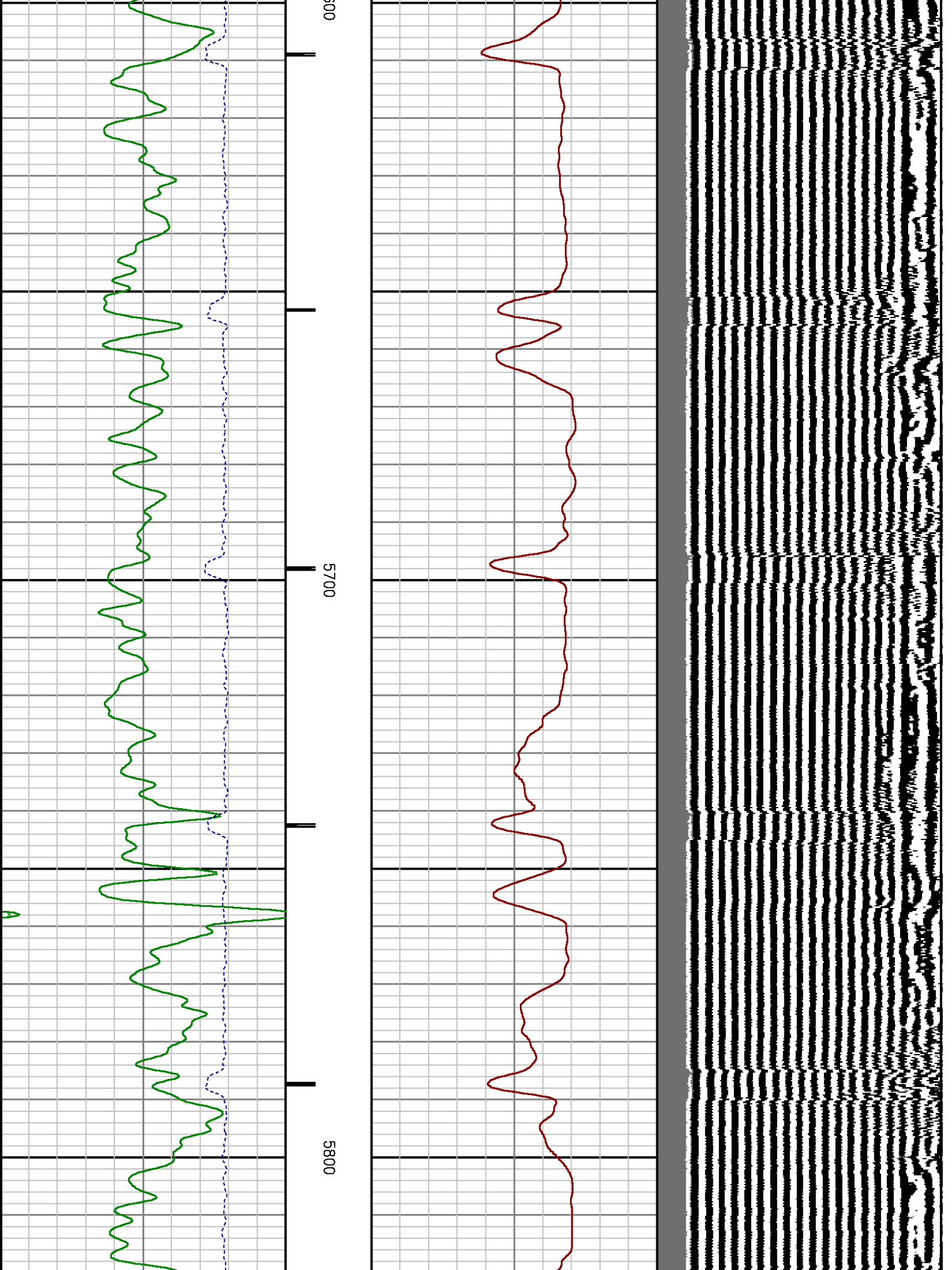
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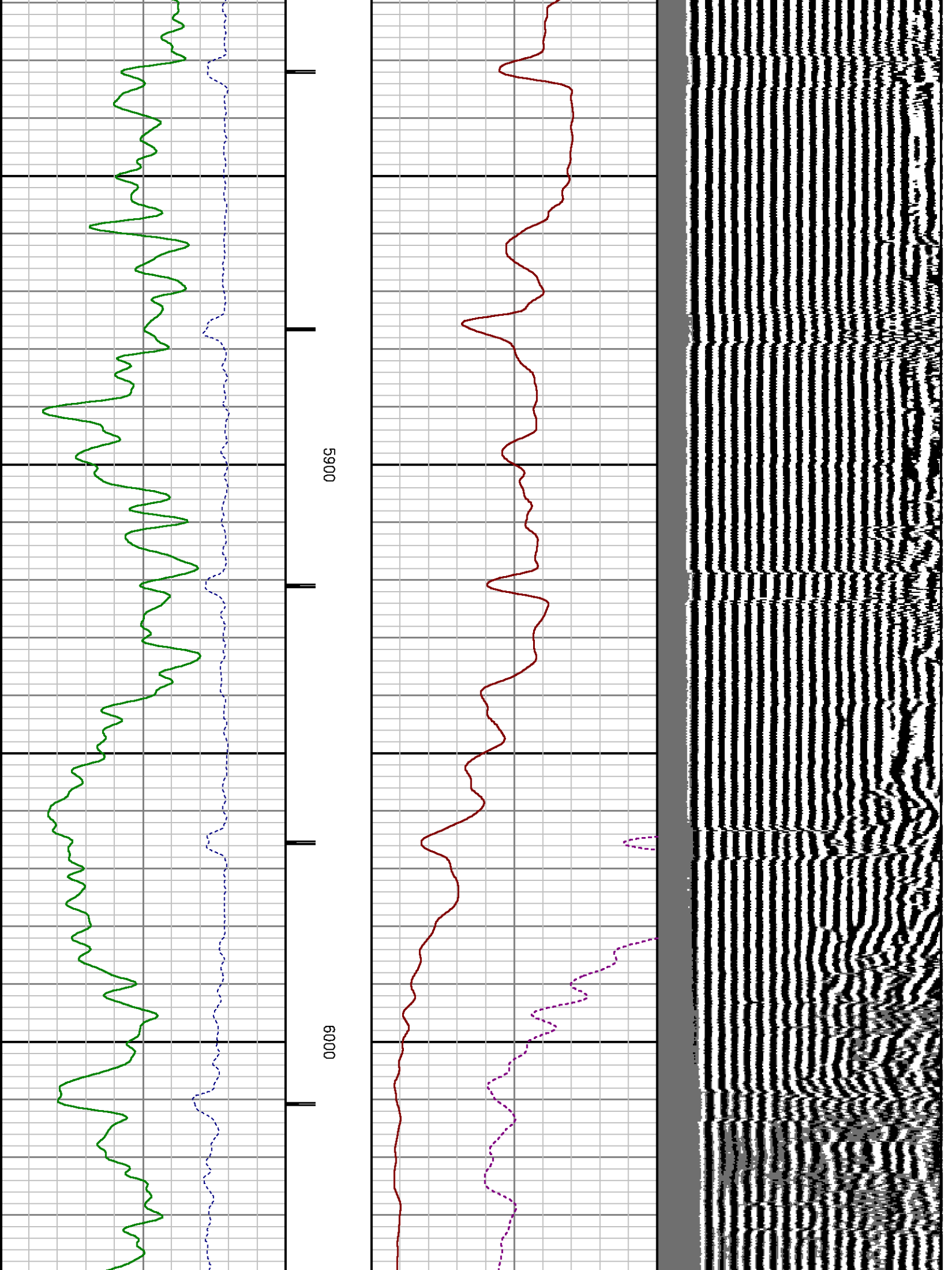
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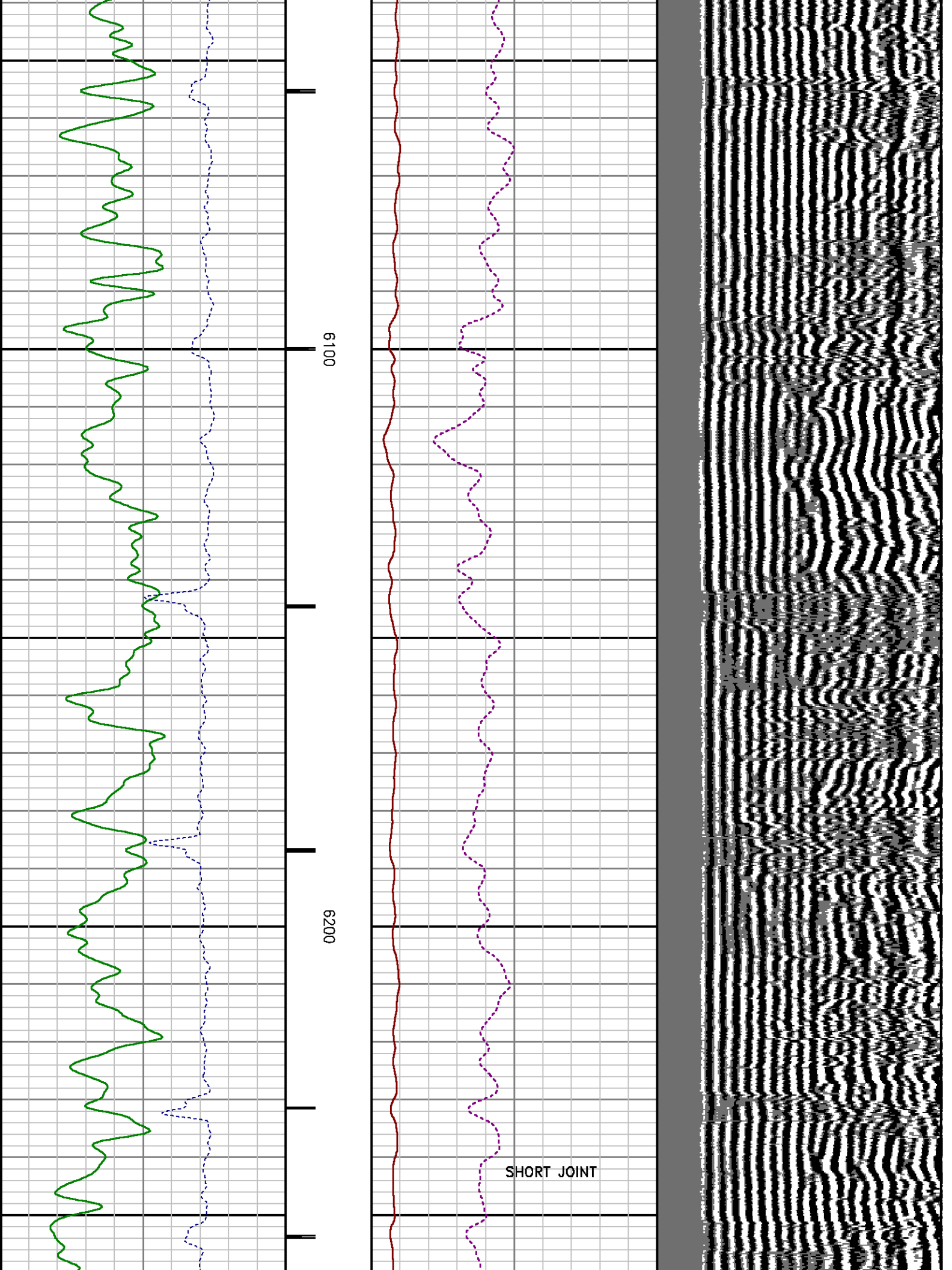
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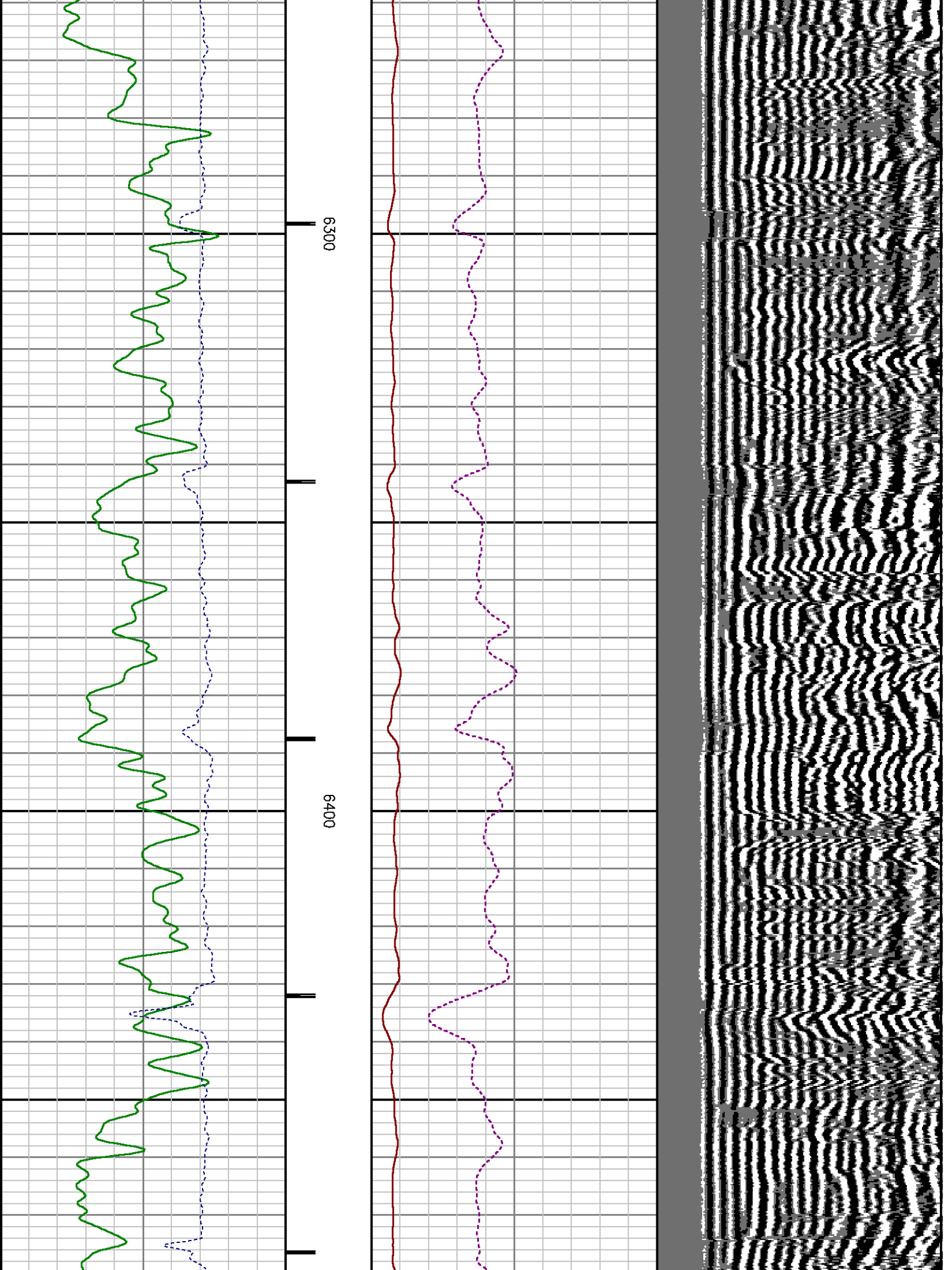


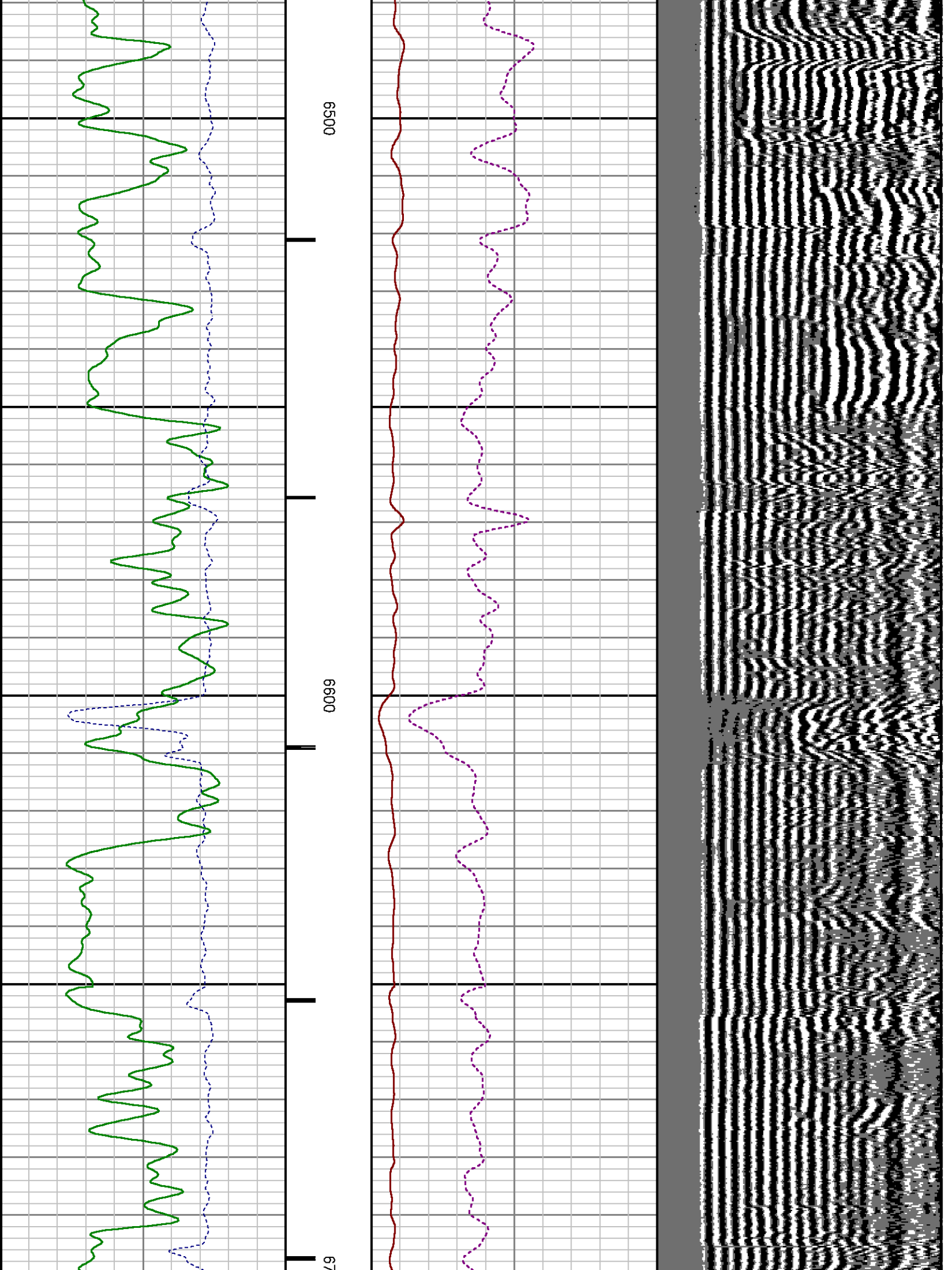




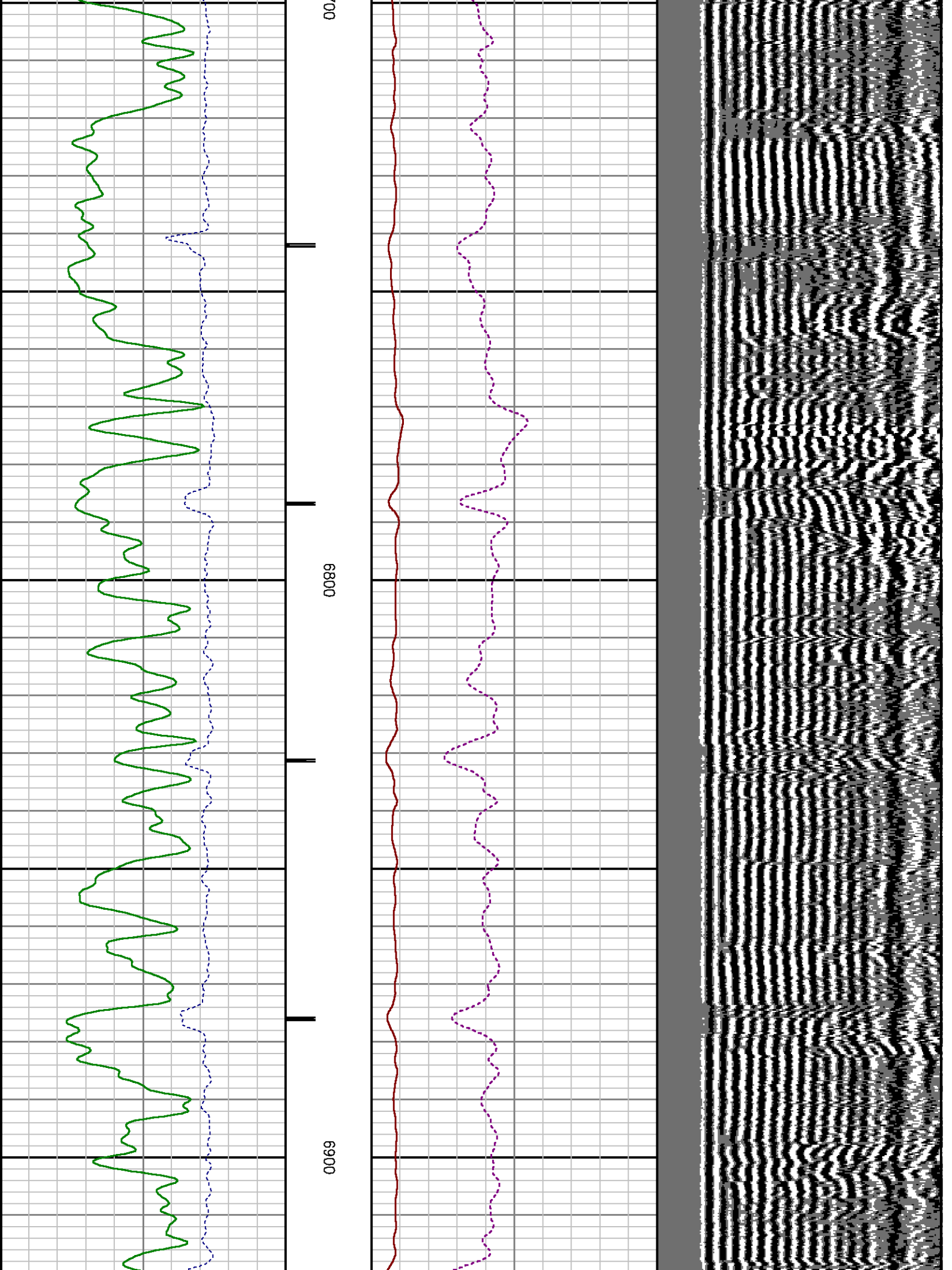


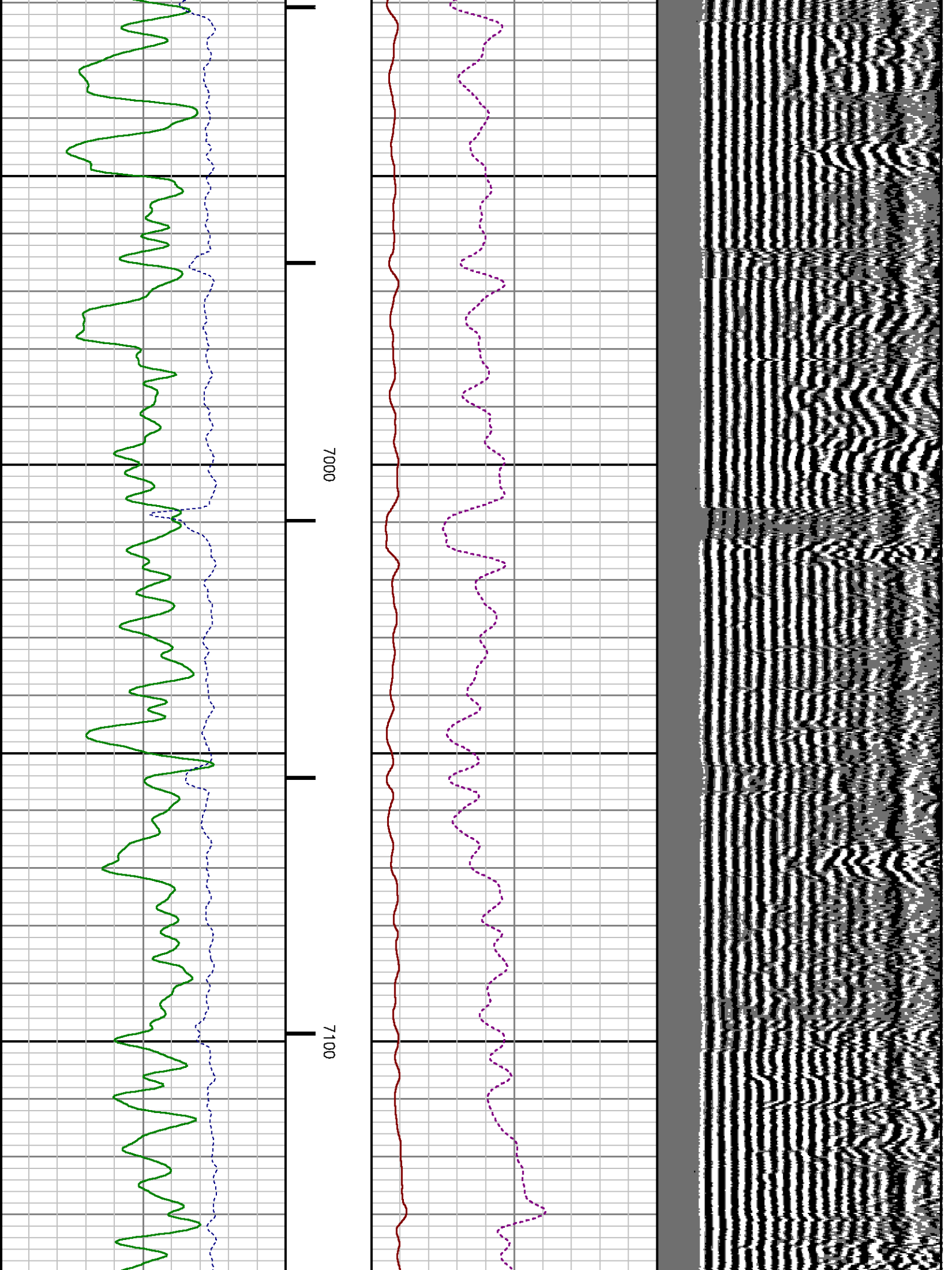


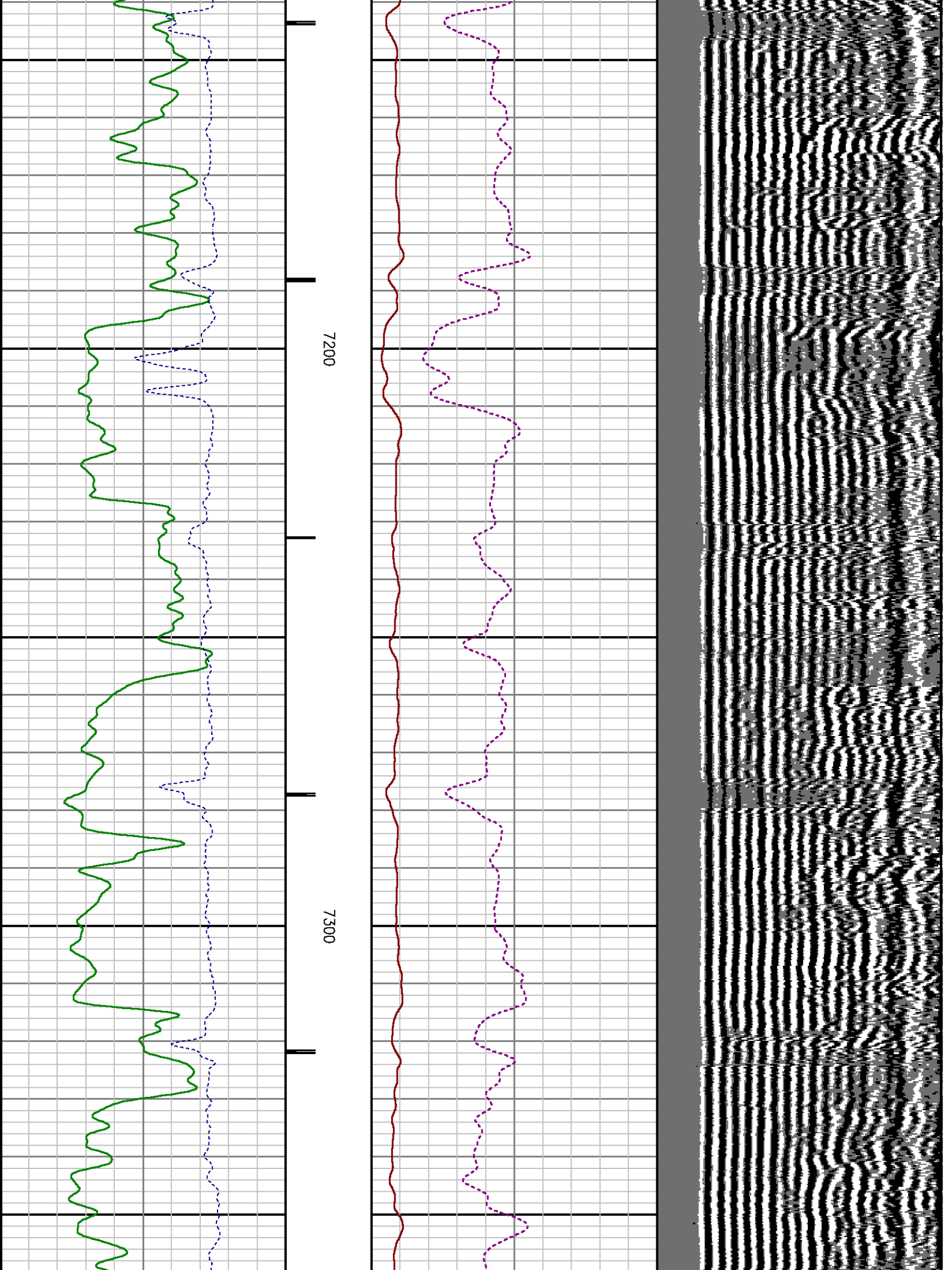




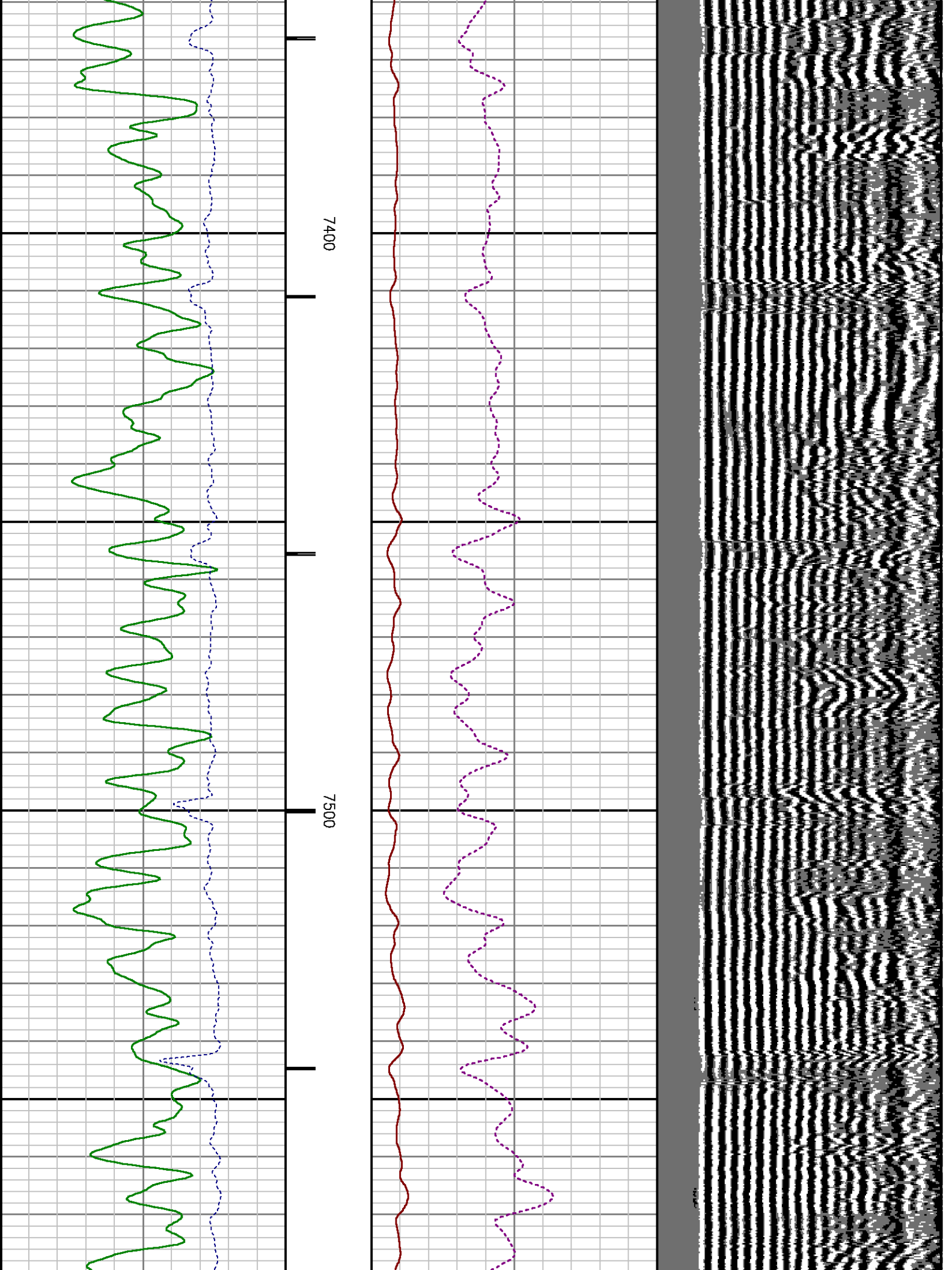


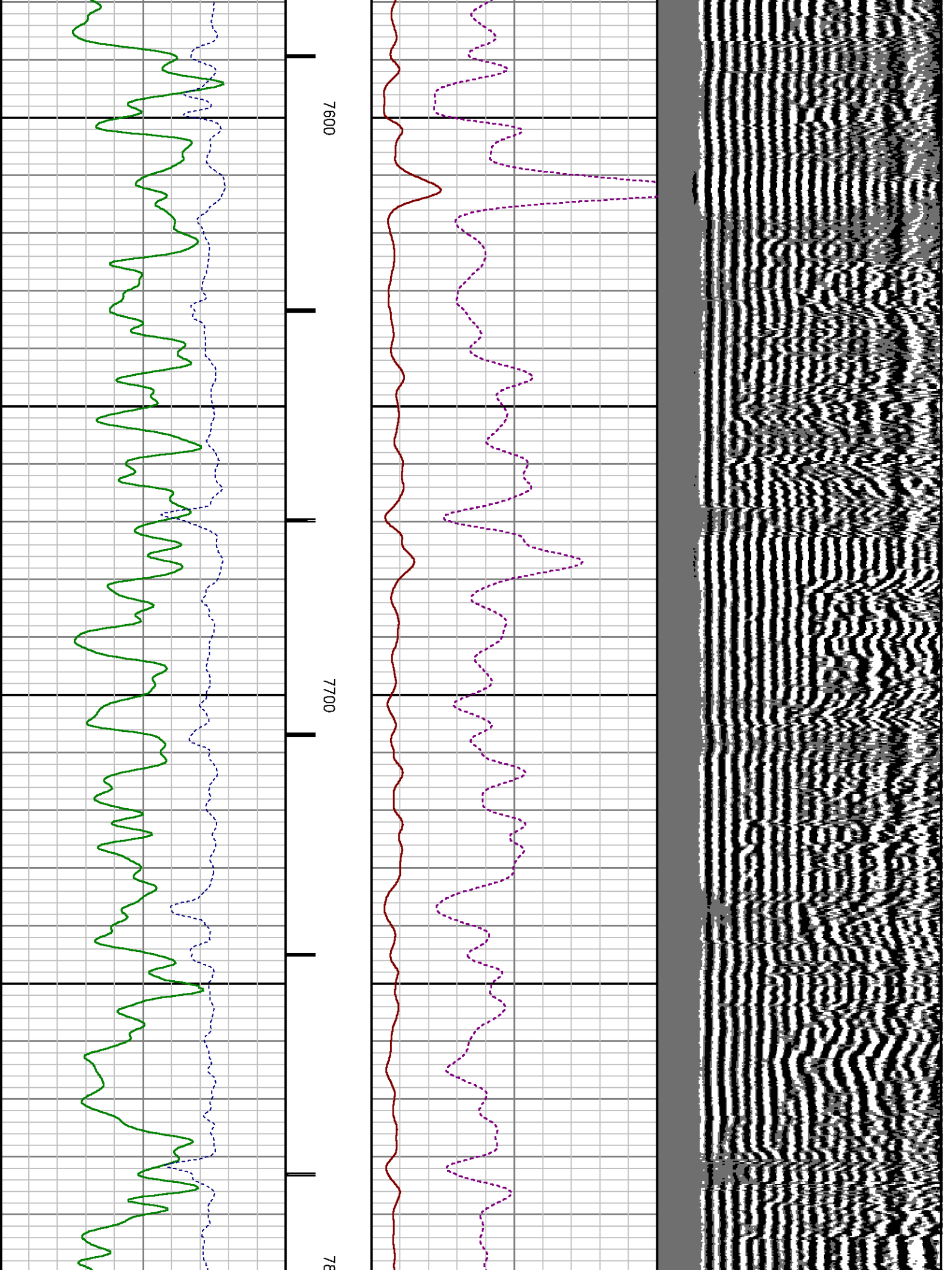


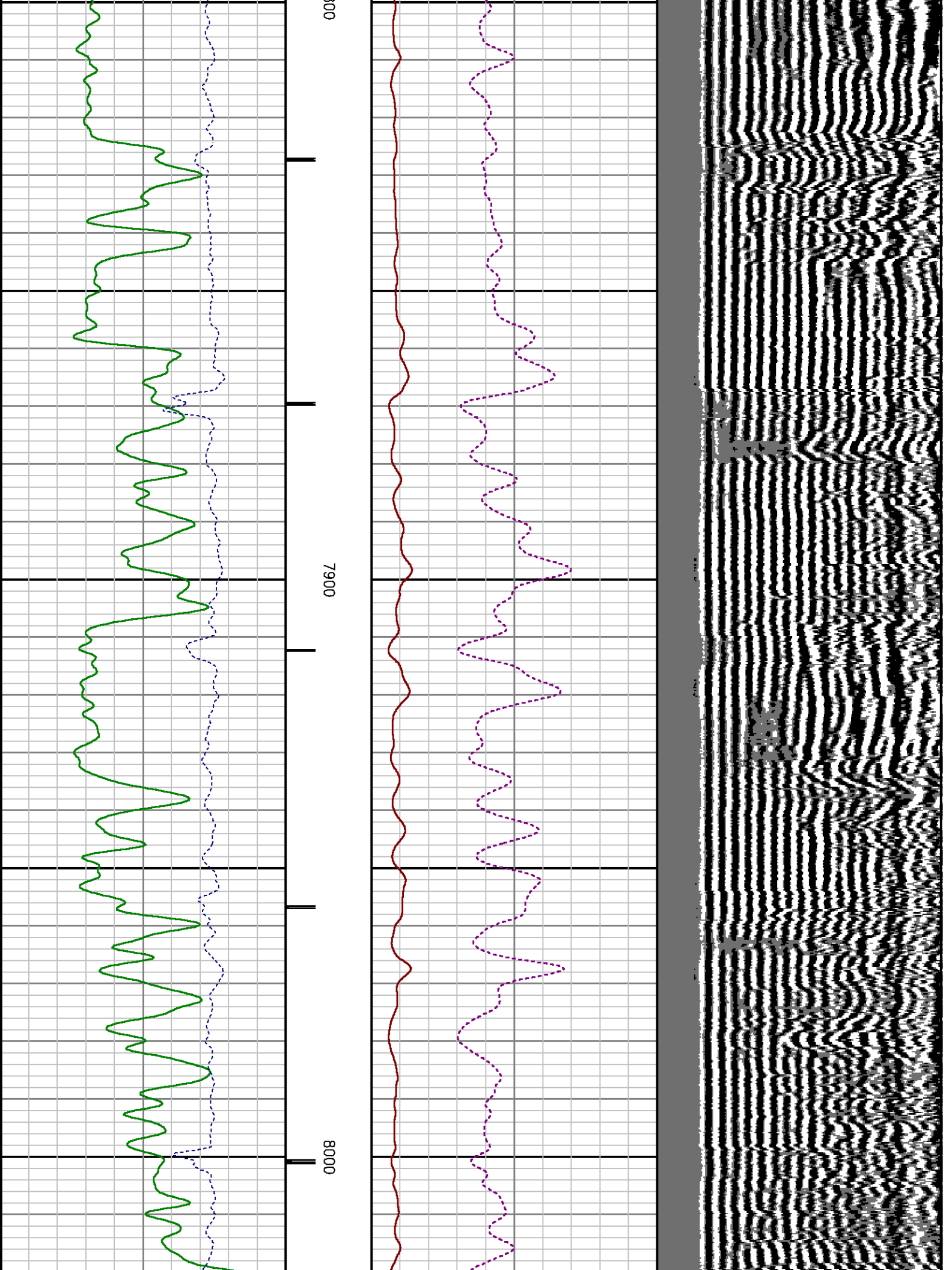


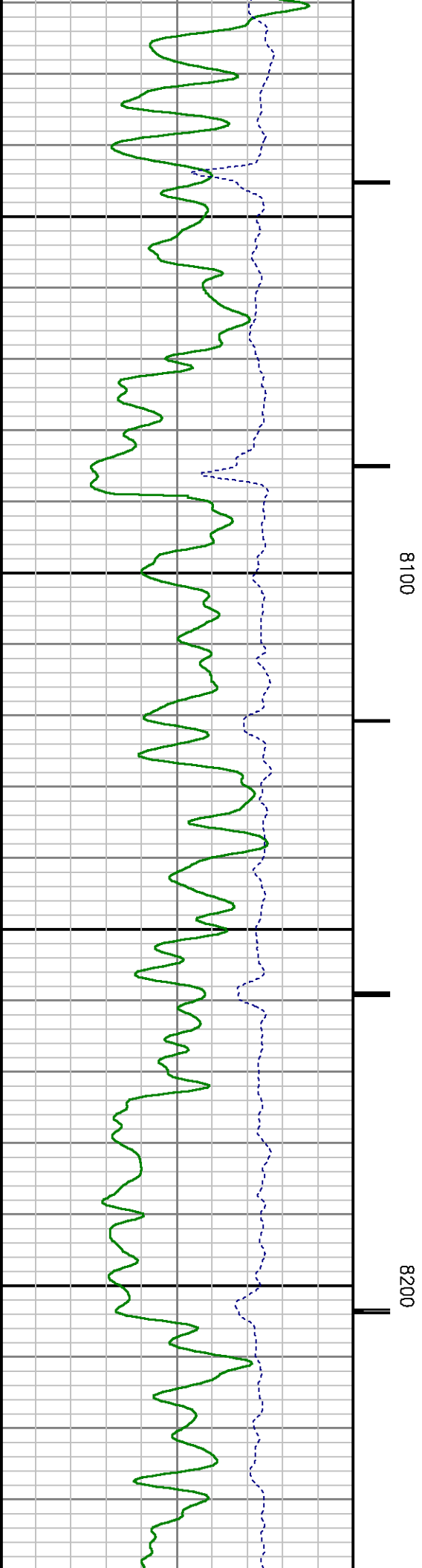
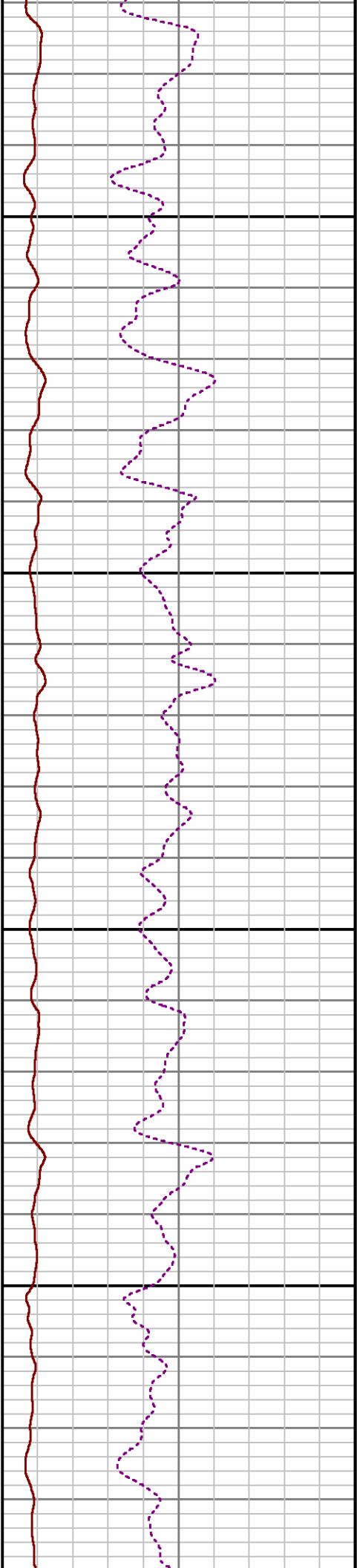
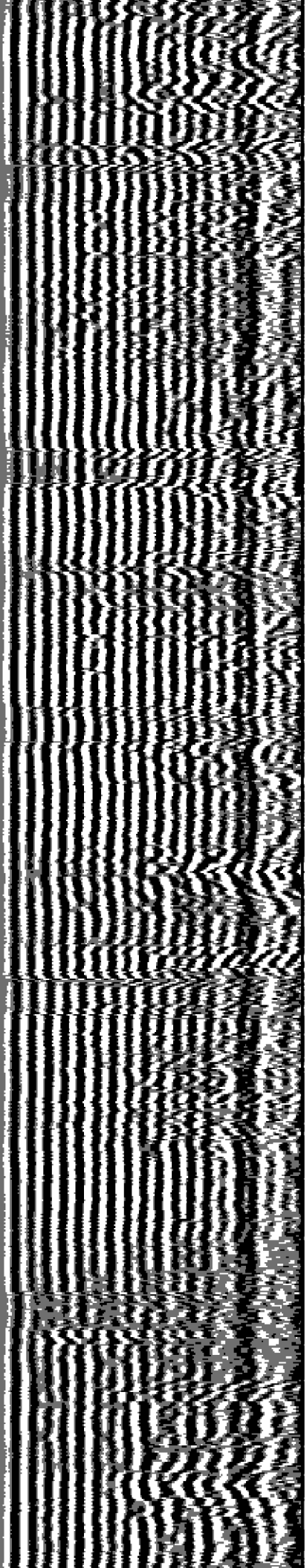


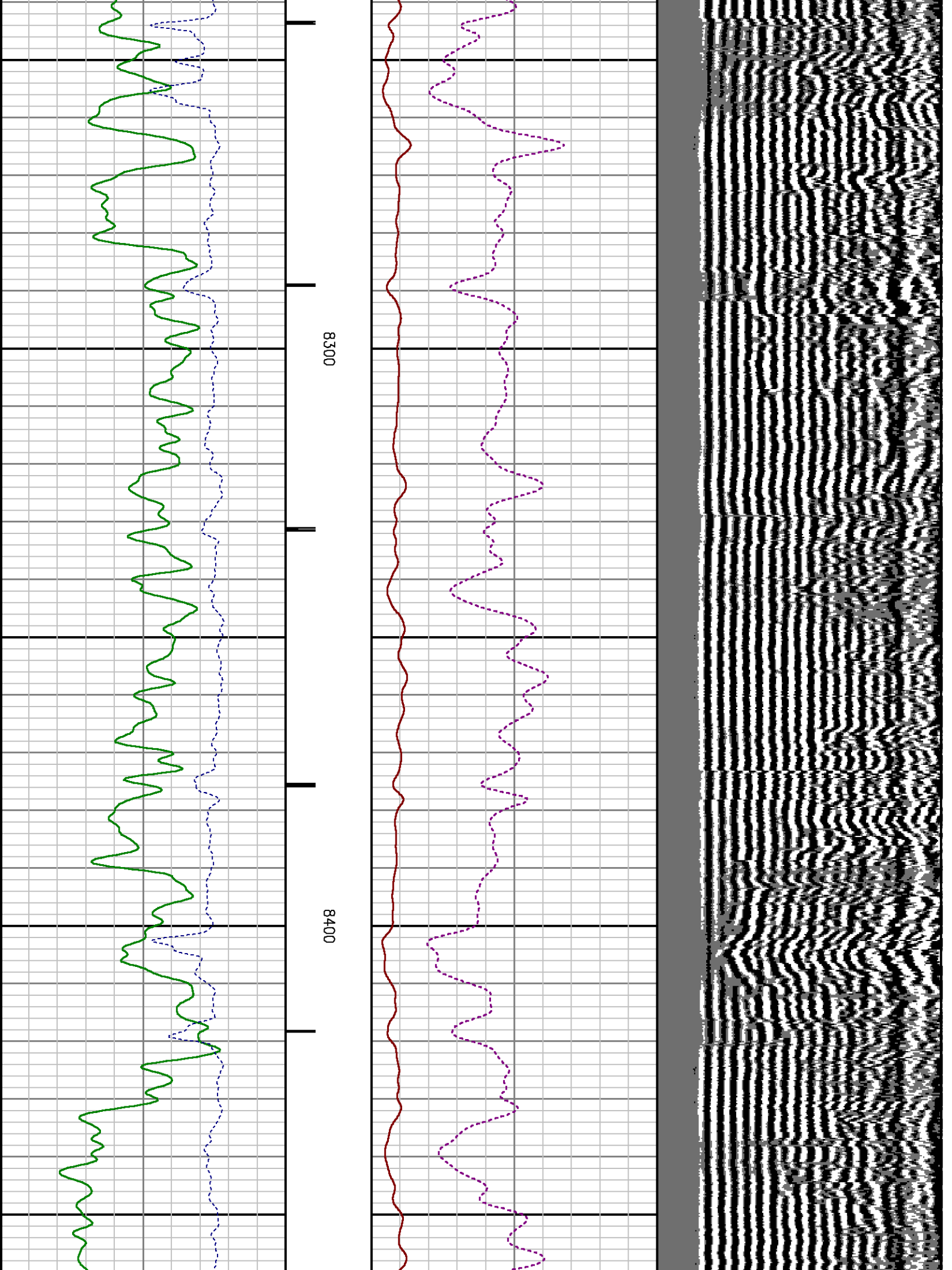




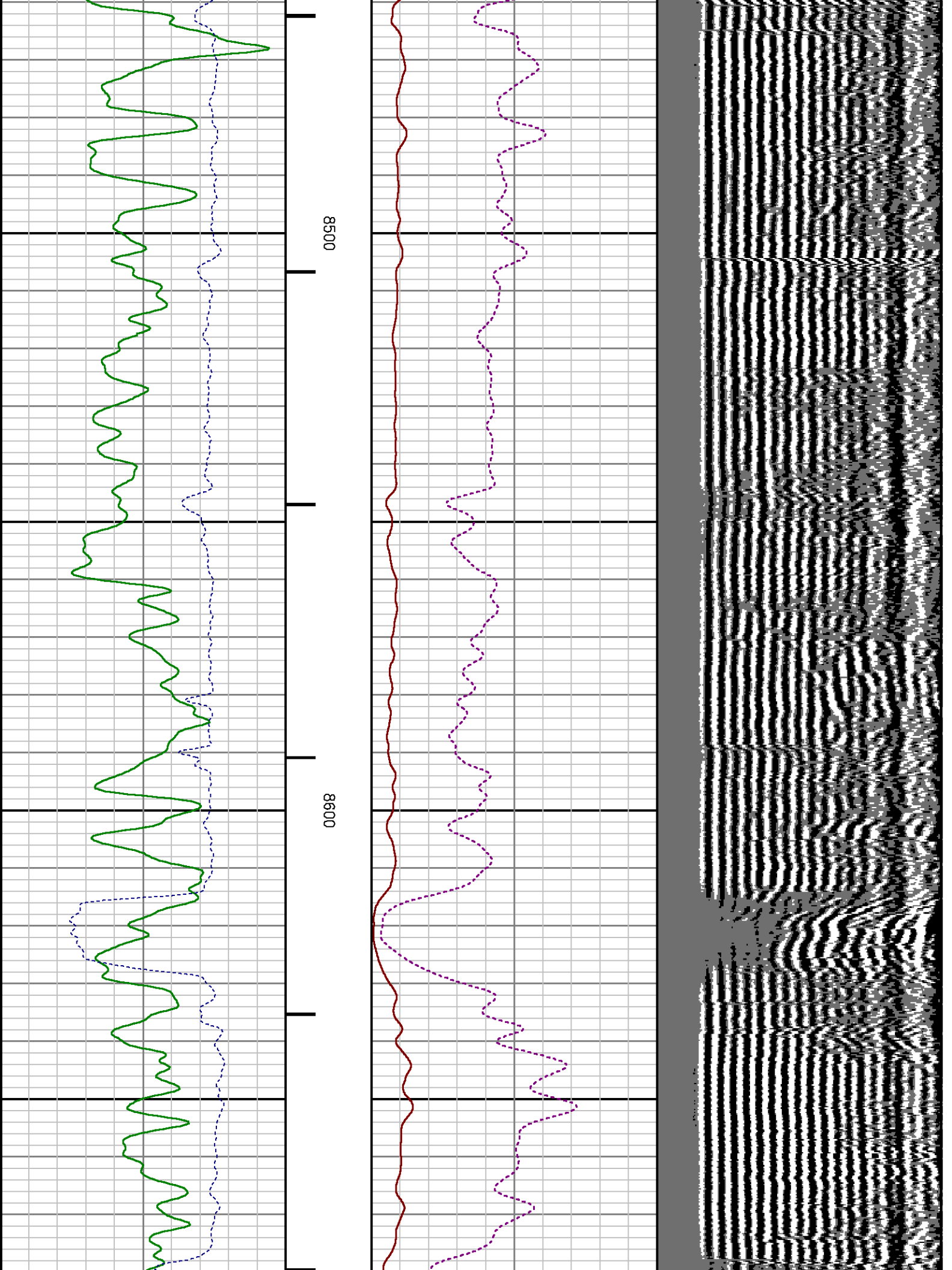


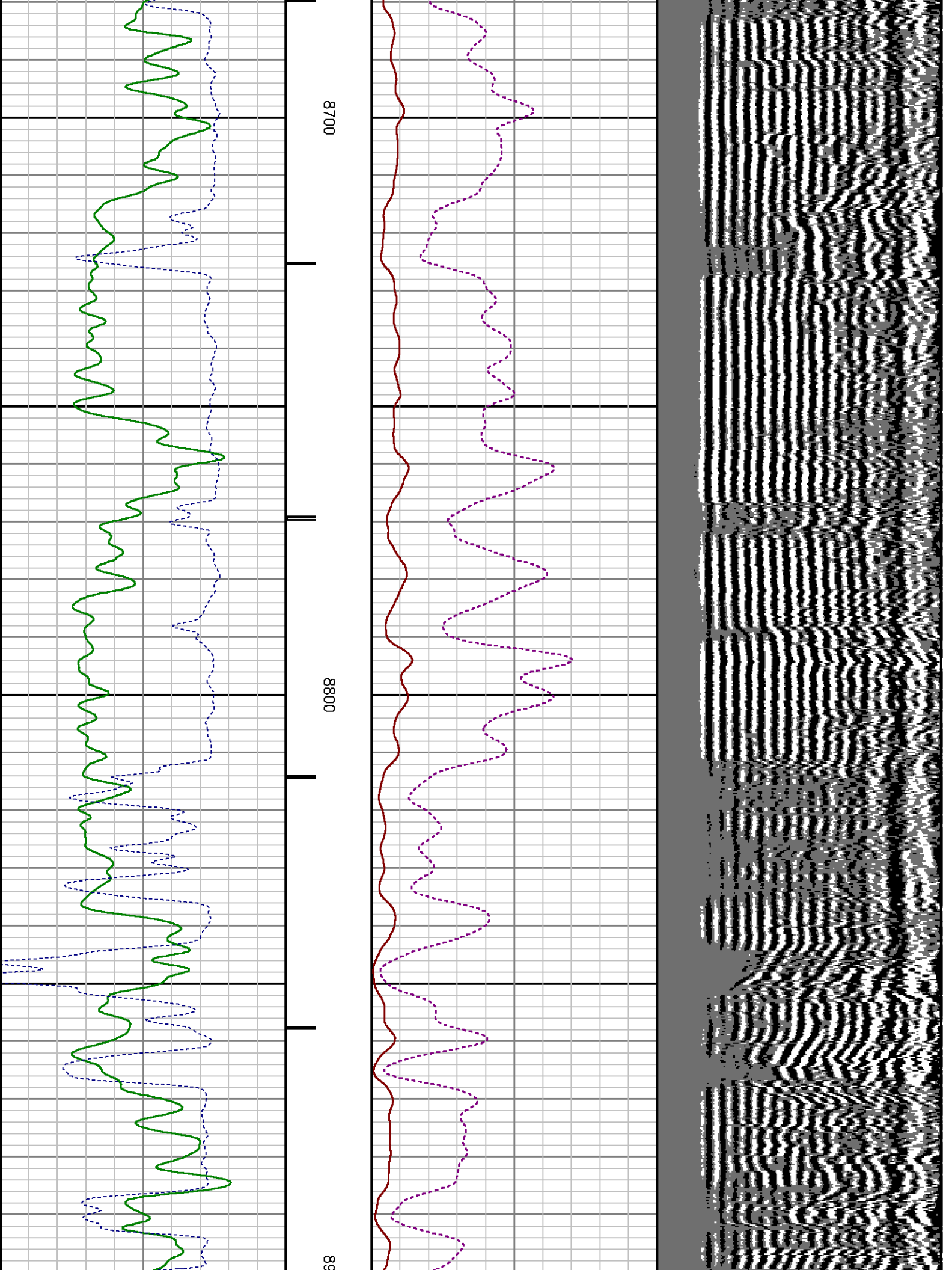




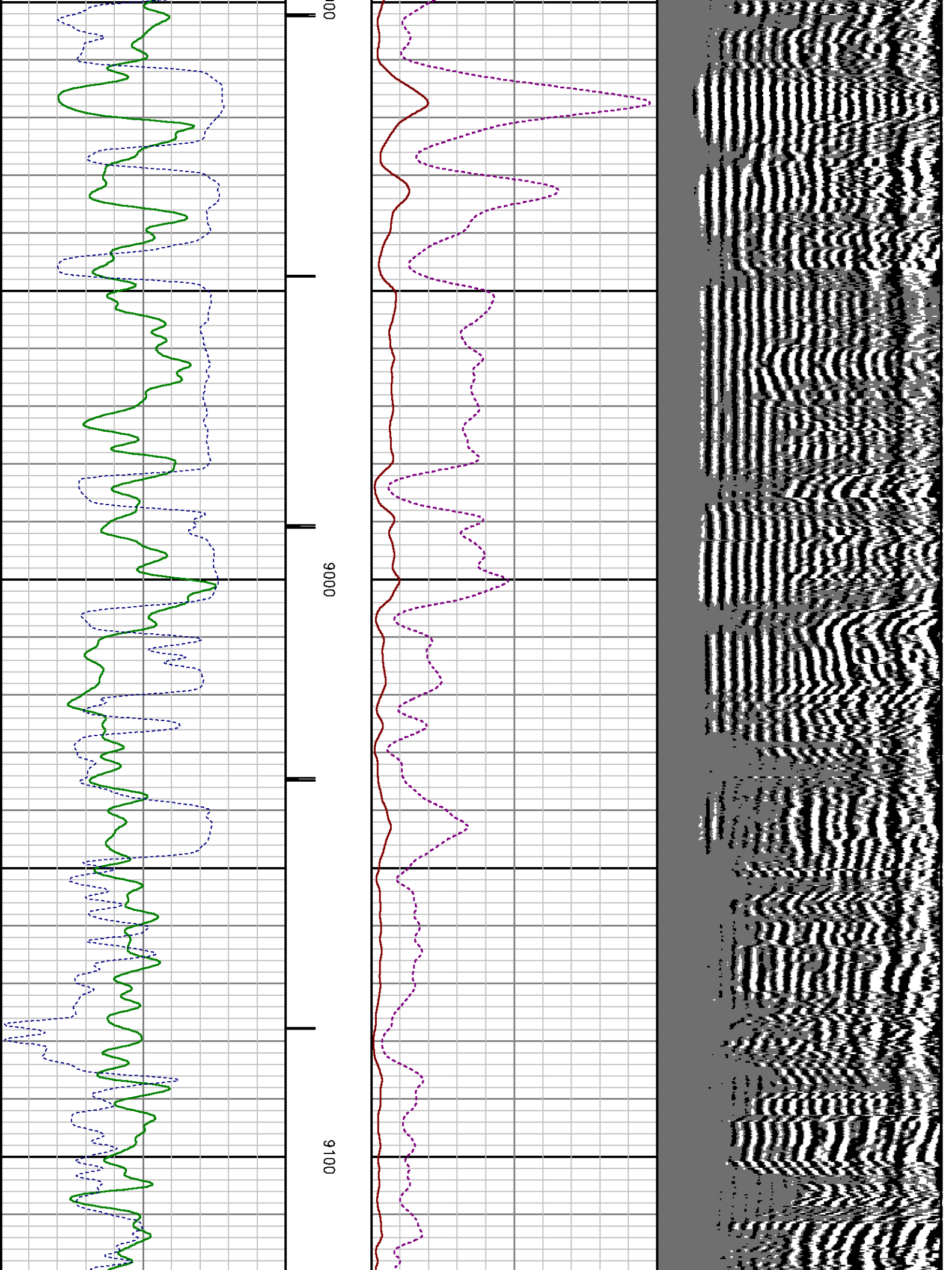


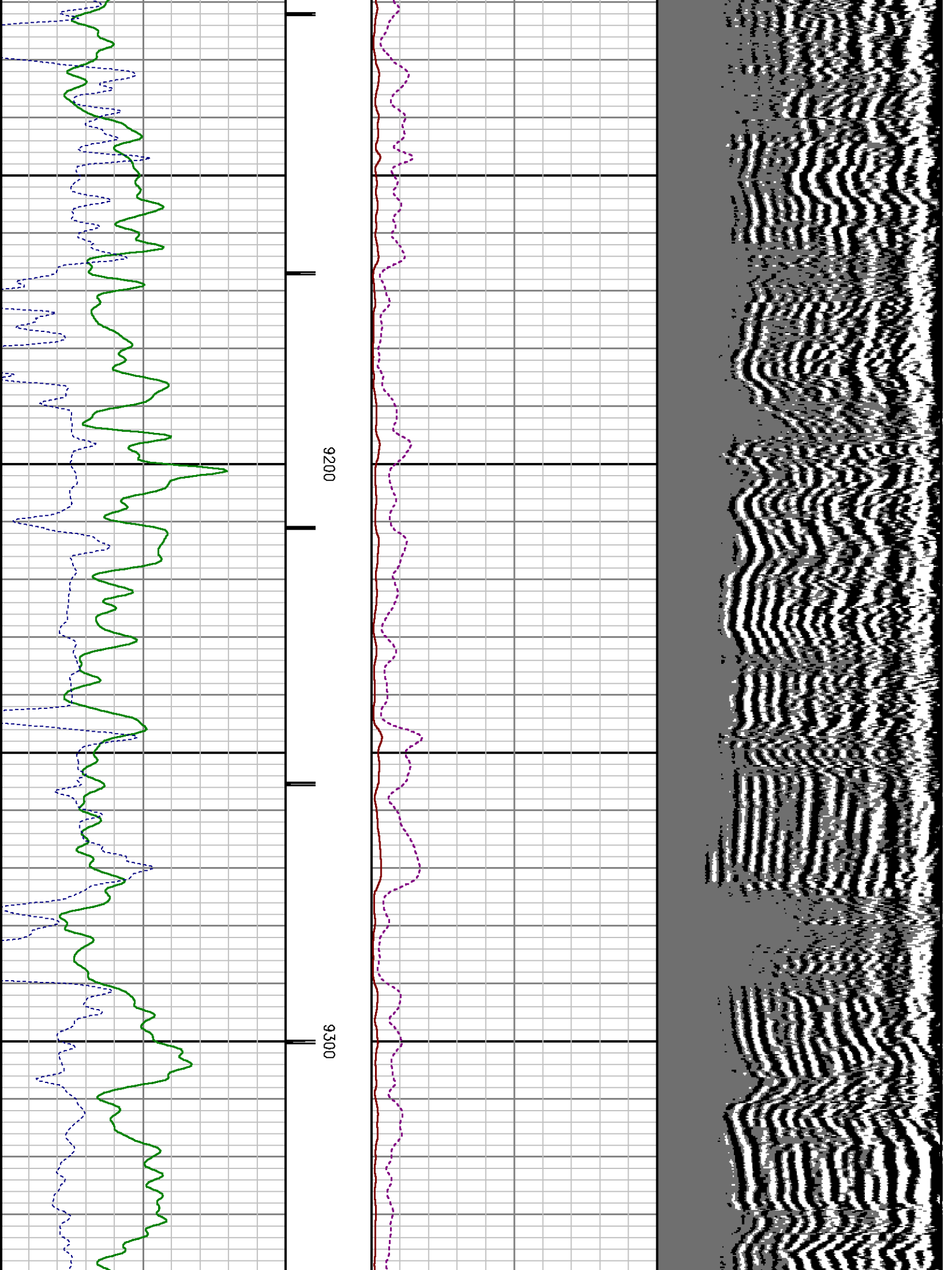


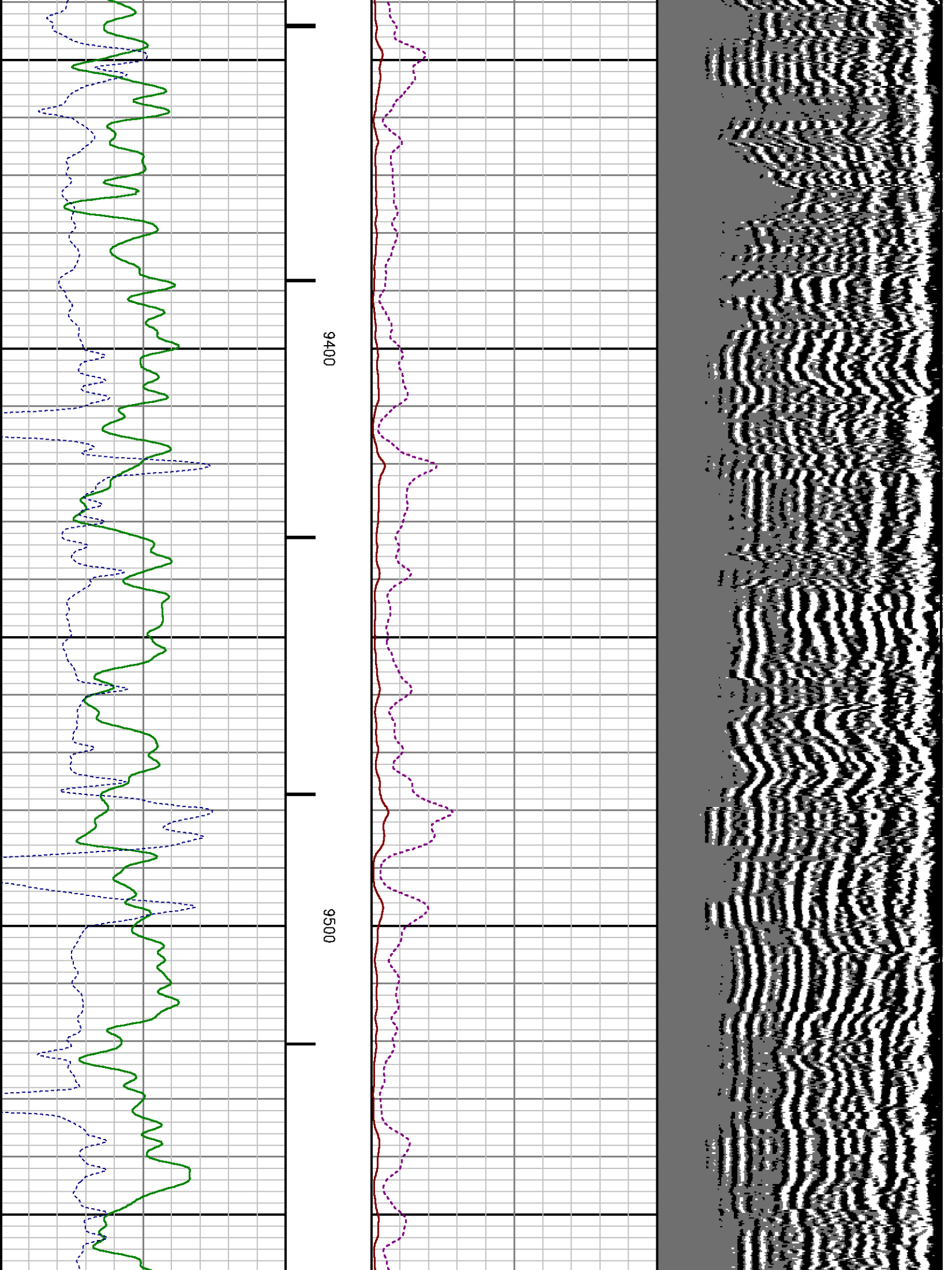


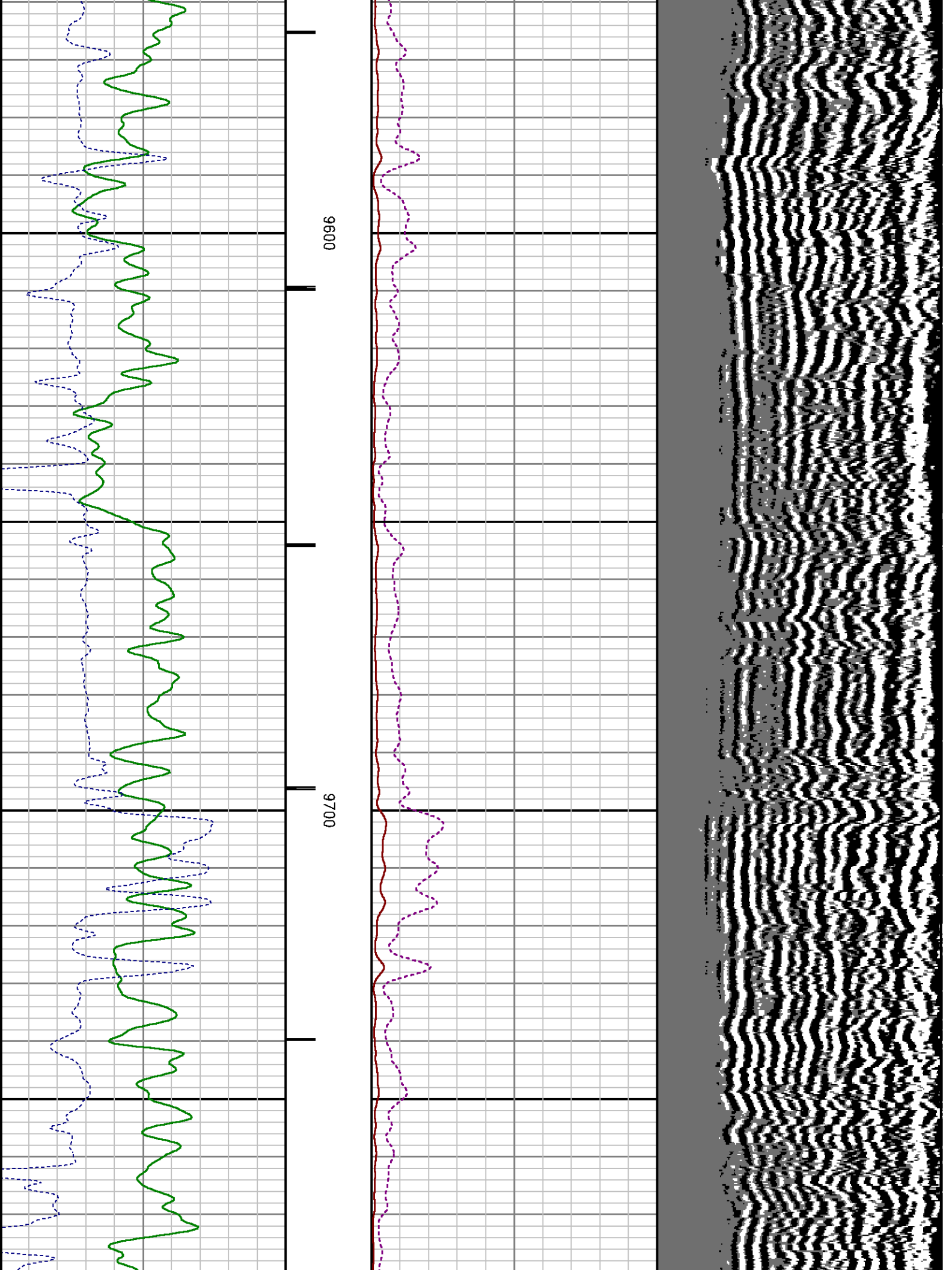


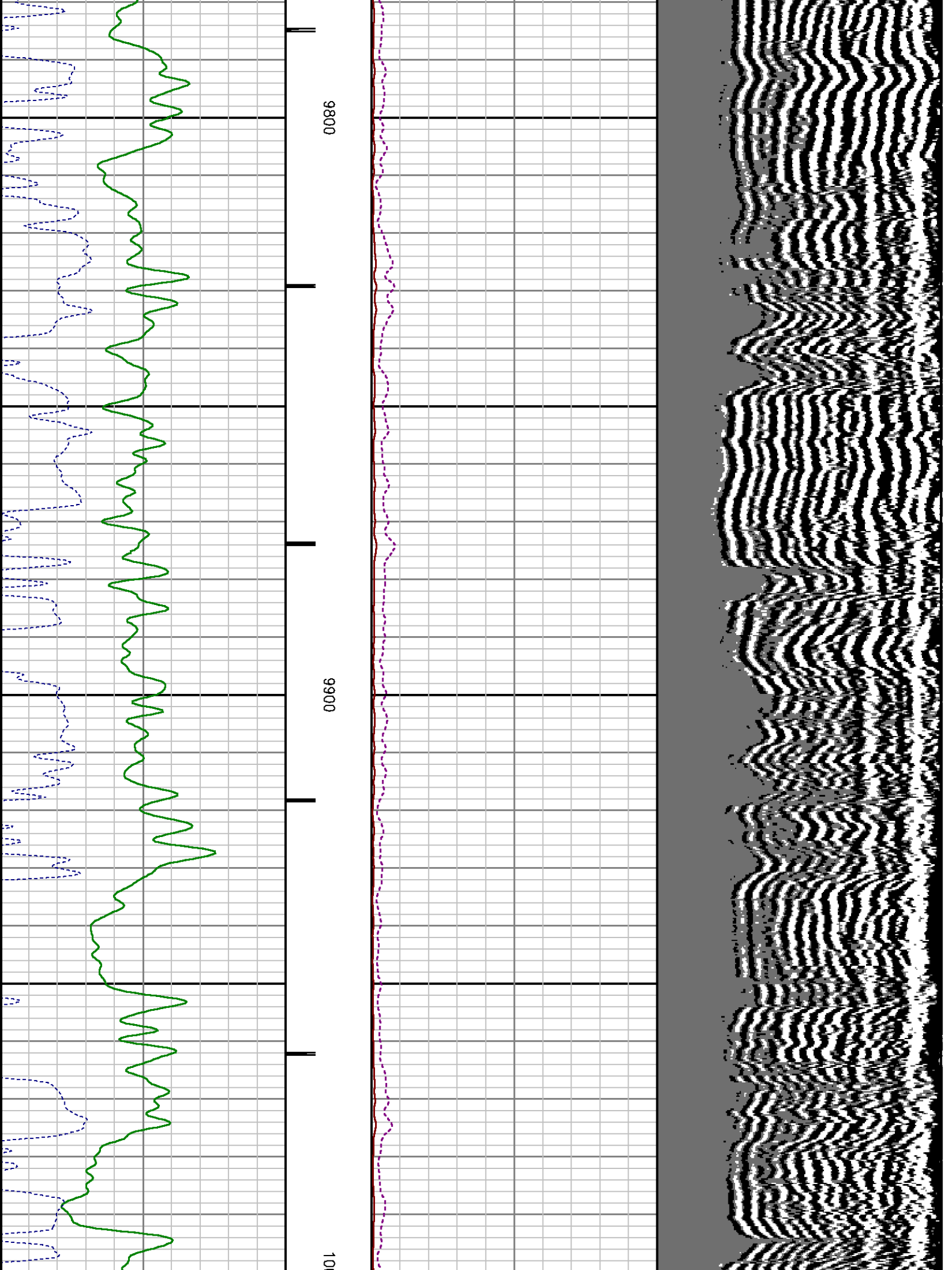




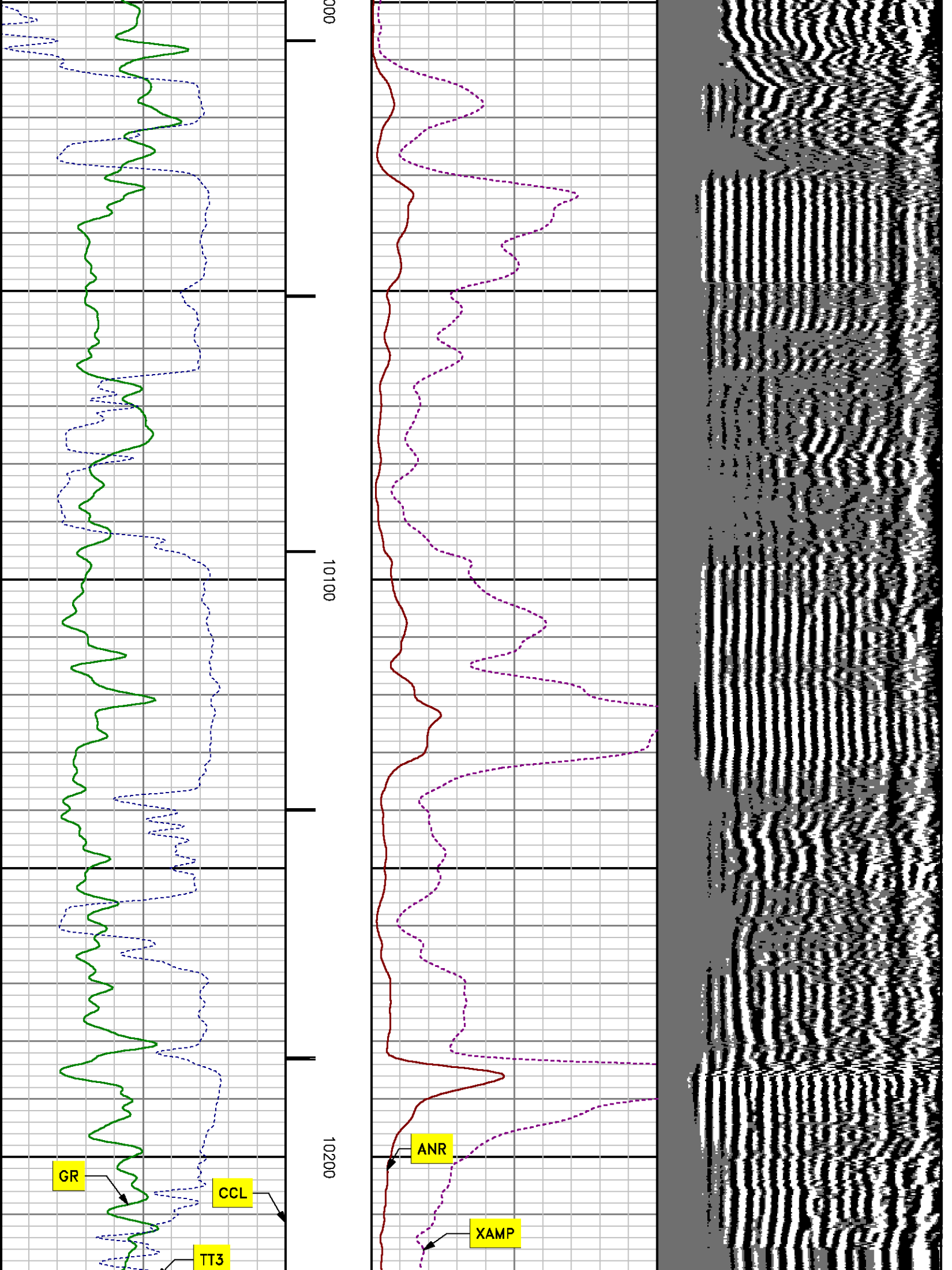




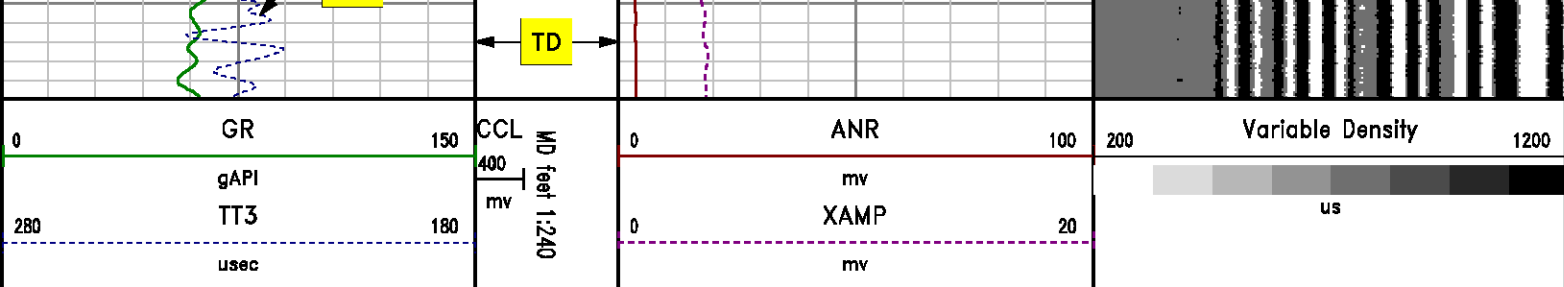












## MAIN LOG SECONDARY PRESENTATION

### 0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	306.674	usec	18.624	10242.000
RAL	Amp Gate Start Near	198.578	usec	18.624	10242.000
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RAL	FB Thresh Radial	4.000	mv	18.624	10242.000
RAL	Fluid Travel Time	200.000	usec/ft	18.624	10241.937

## 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

1426XA	-10.040	AFAR	SIG	TT5
1355XA	-5.620	CCL		
1355XA	-1.500	GR		
1355XA	0.000	TEMP		

TTR4 TTR5 TTR6 TTR7 TTR8 XAMP

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

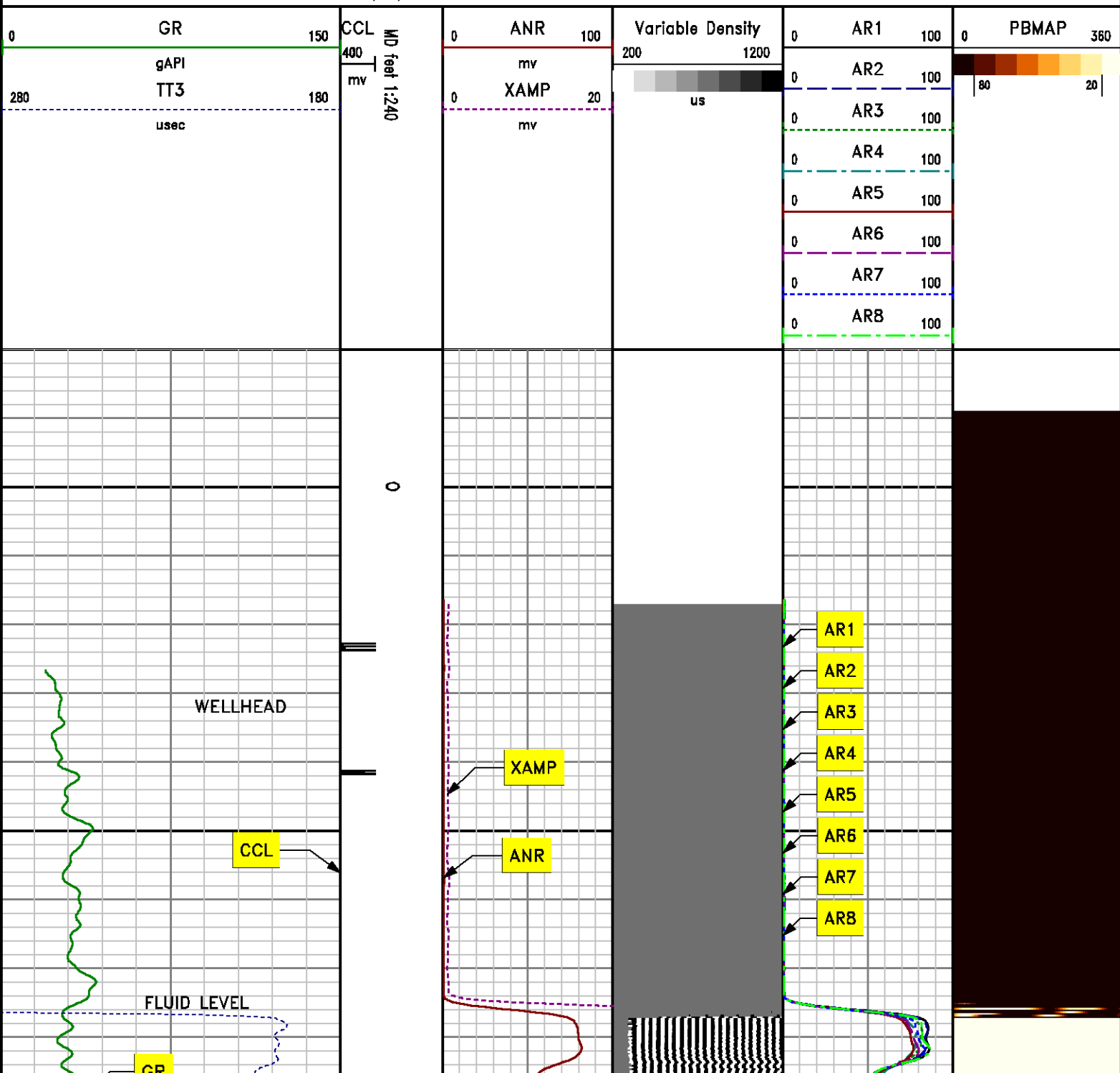
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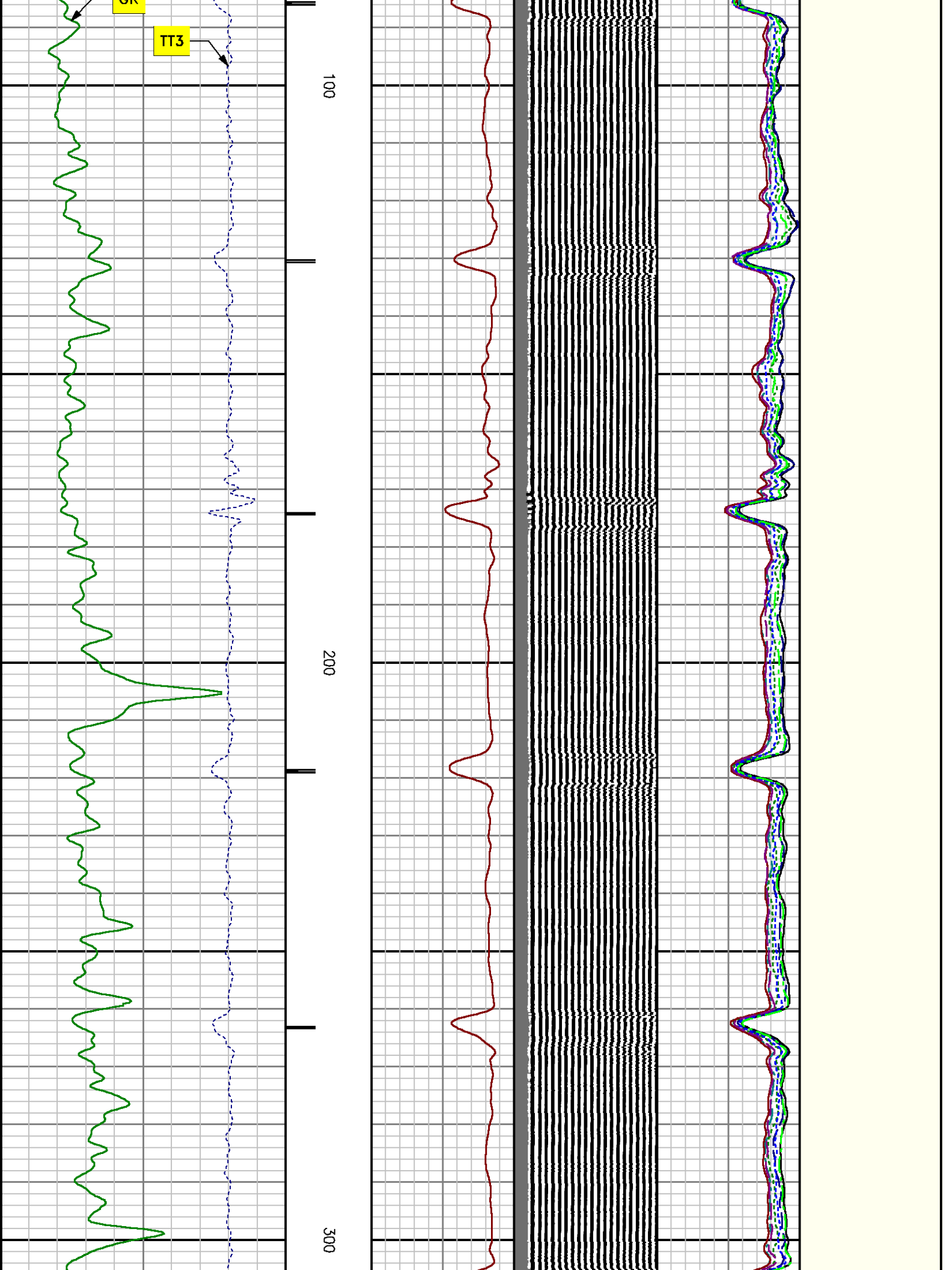
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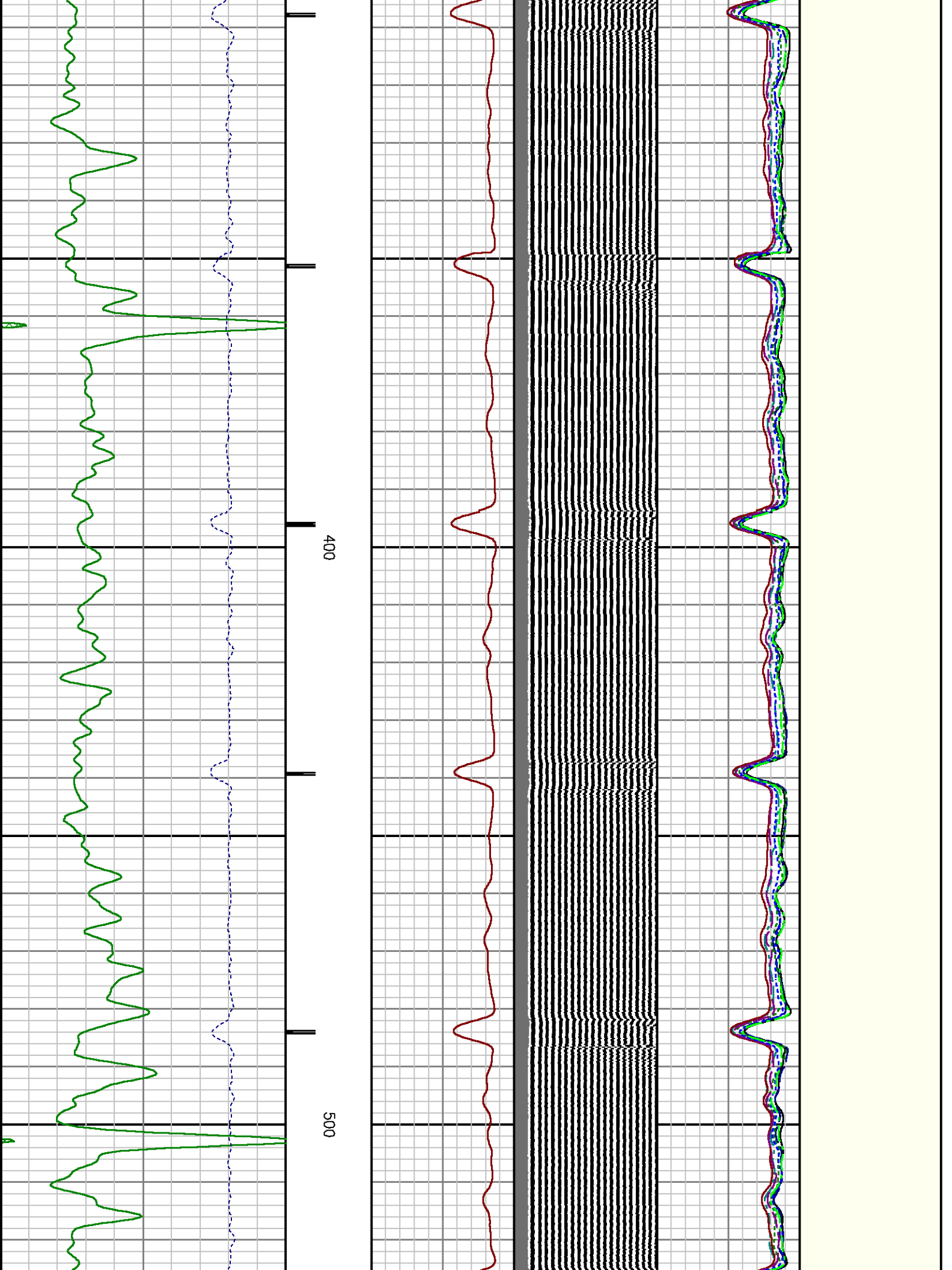
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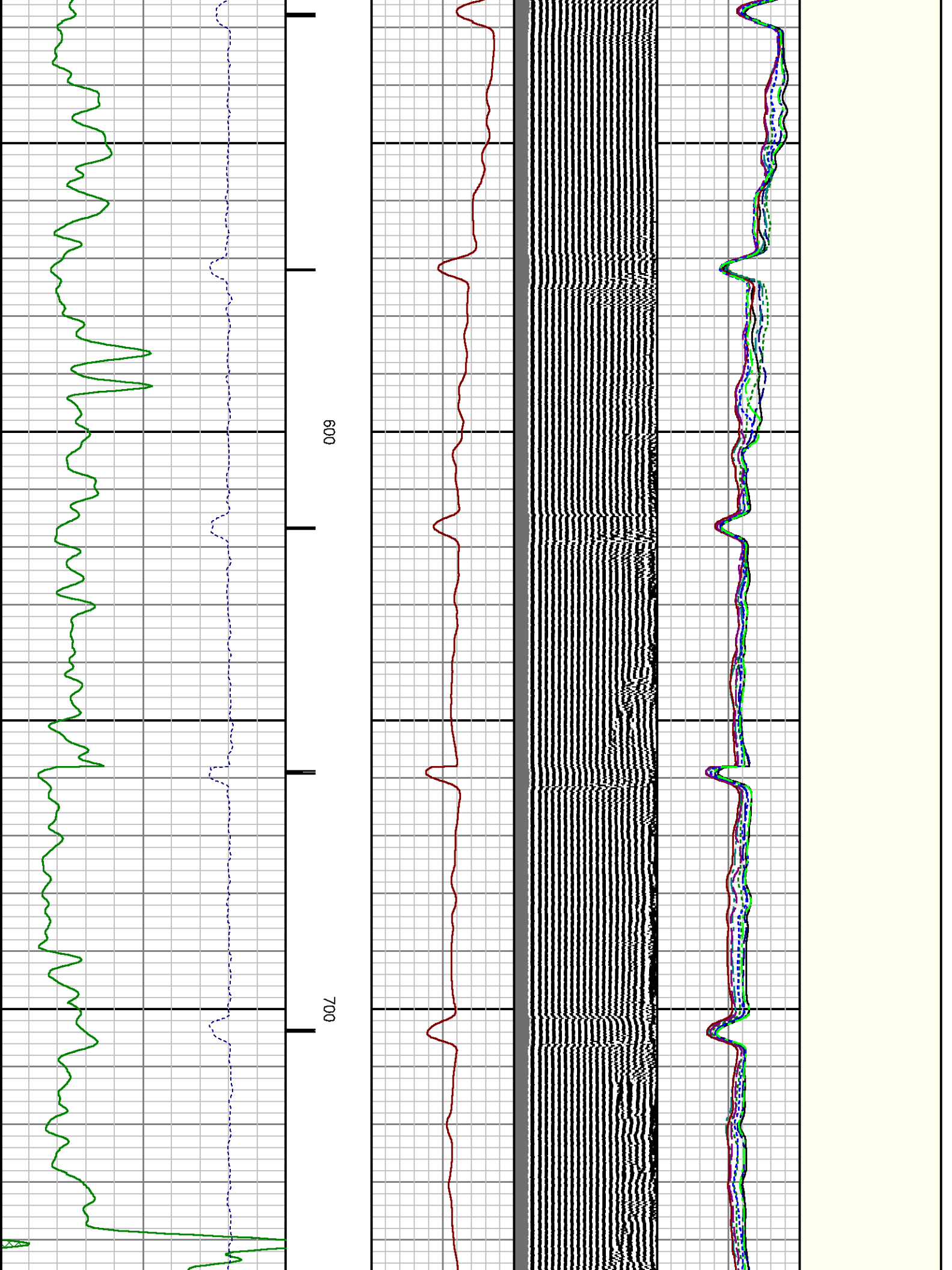
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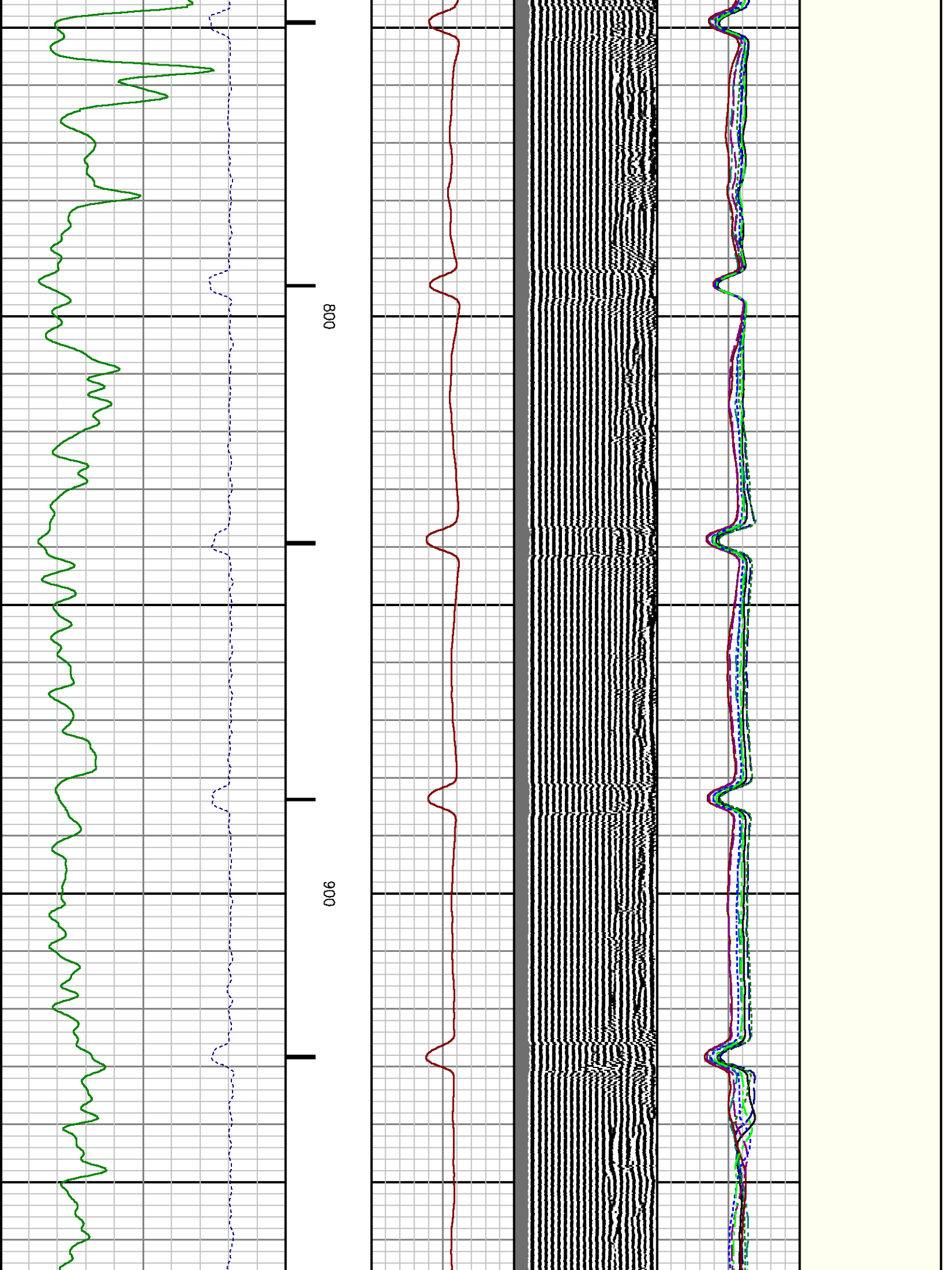
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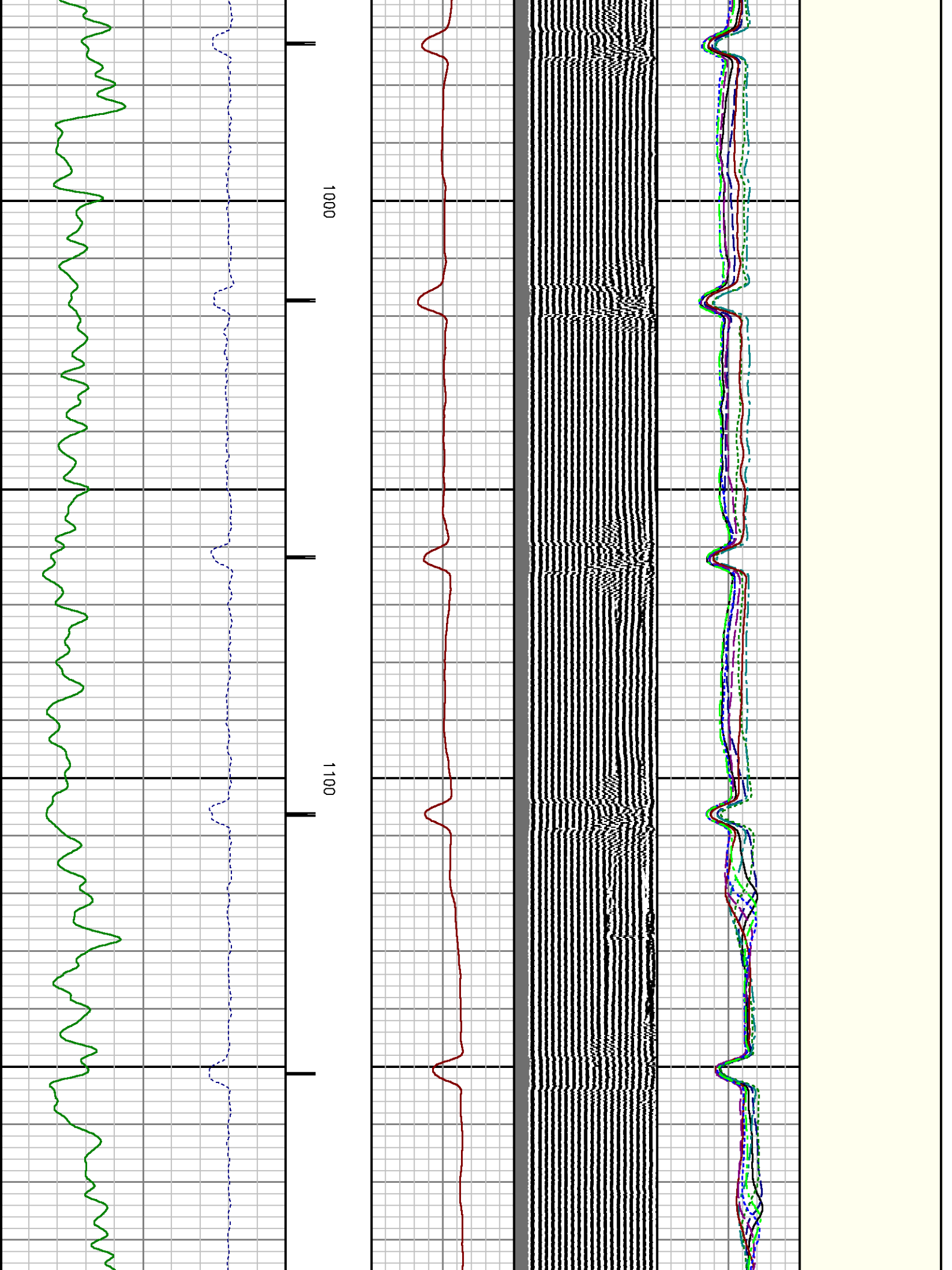


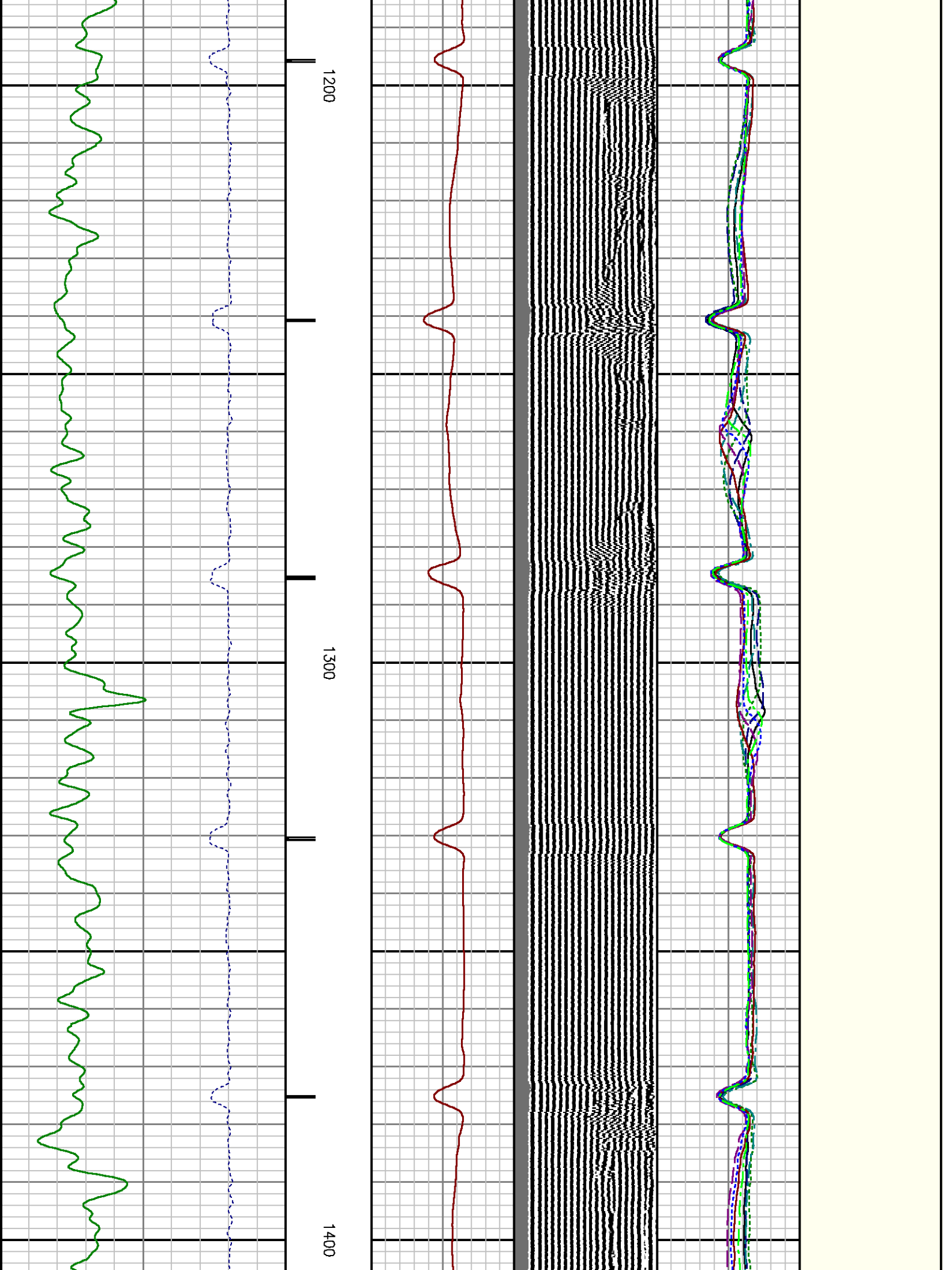


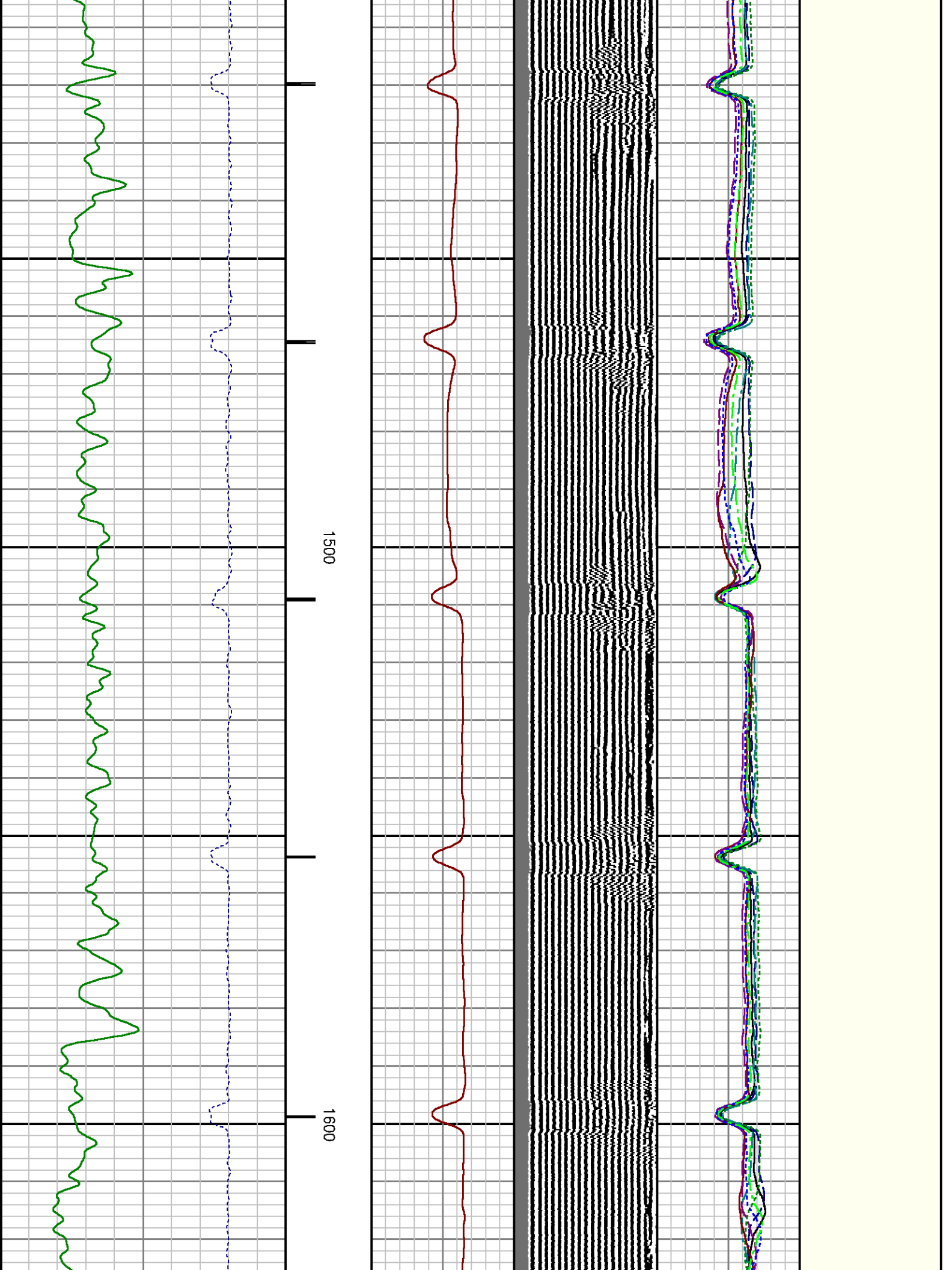


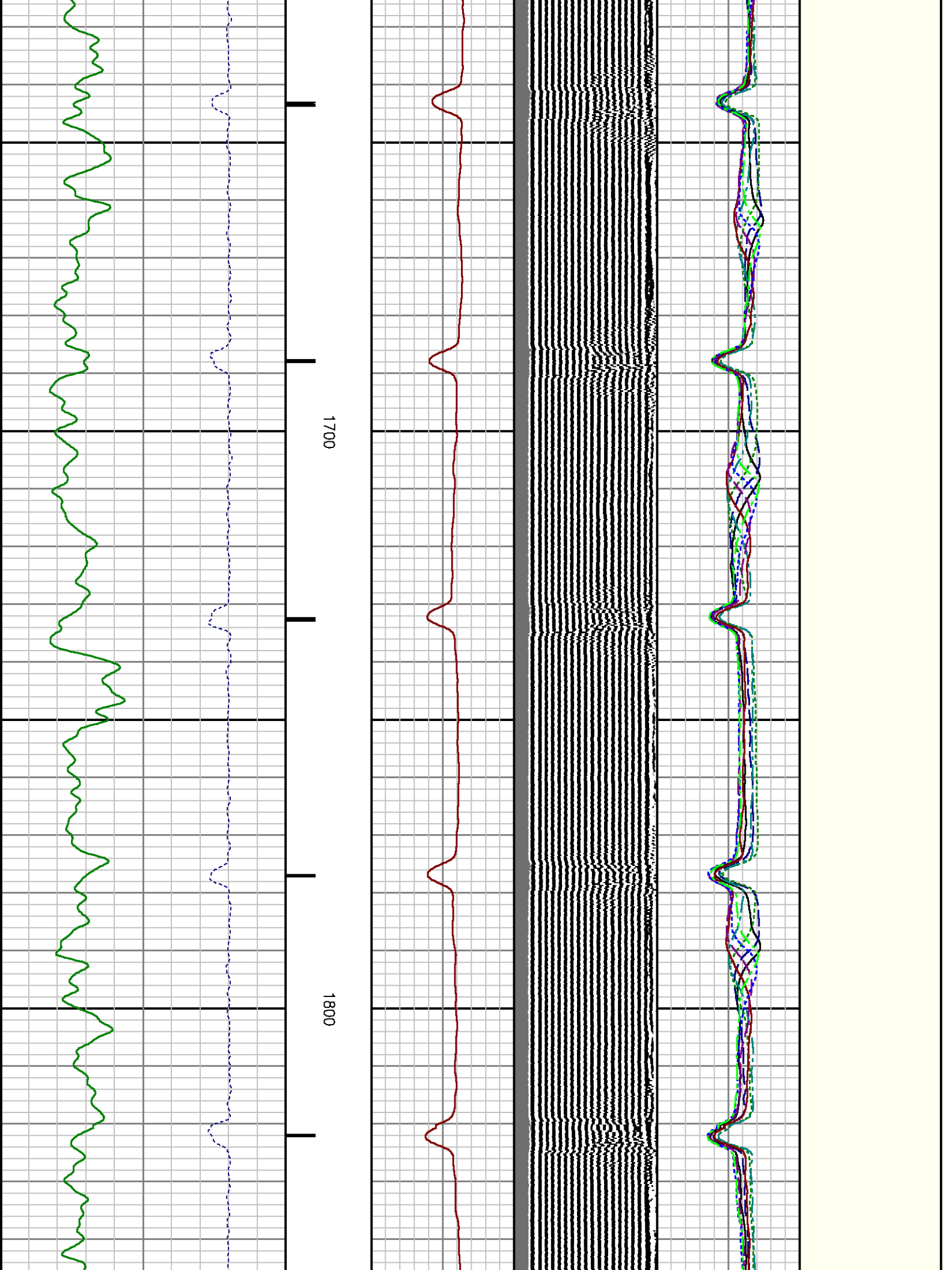


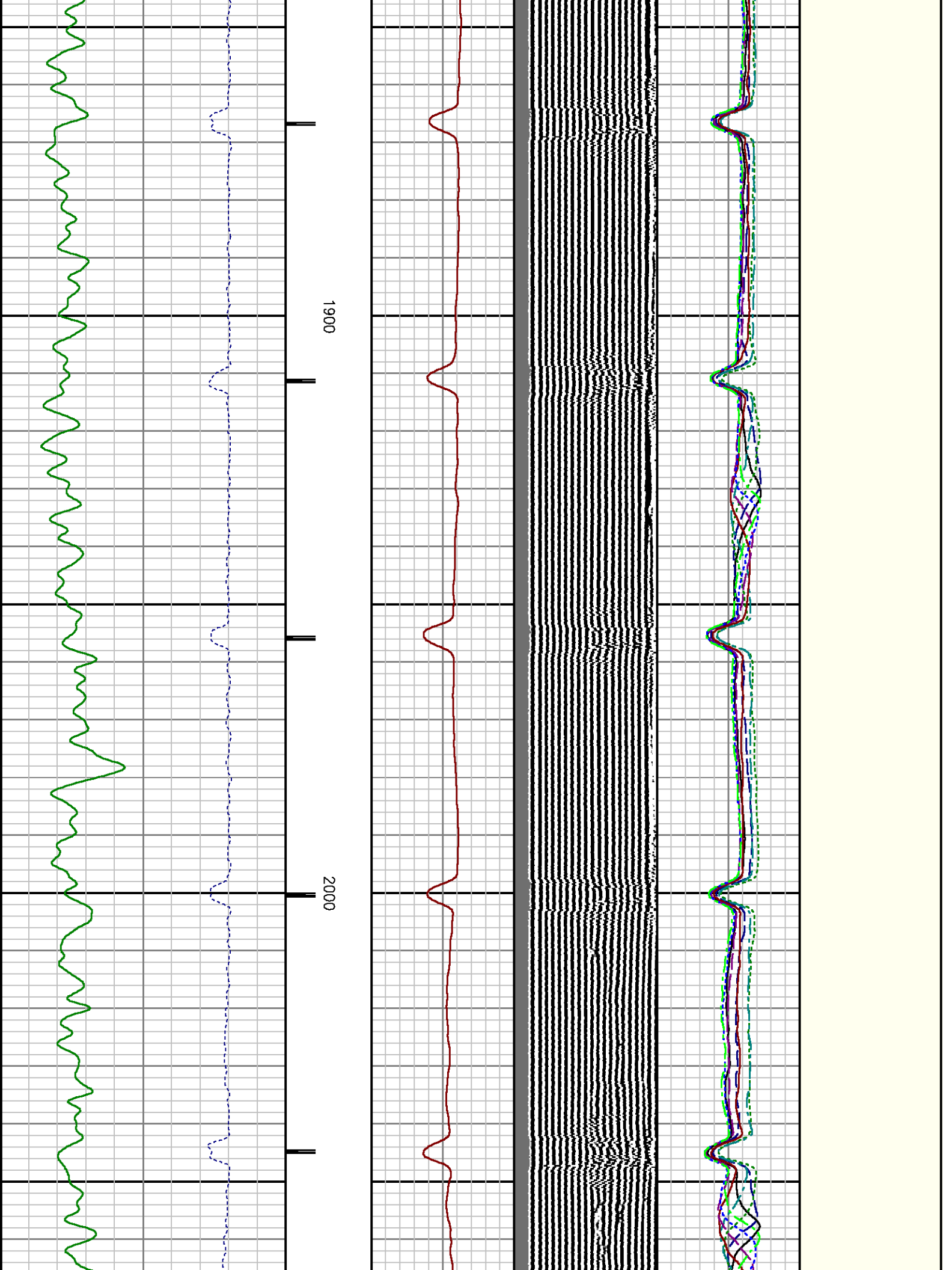


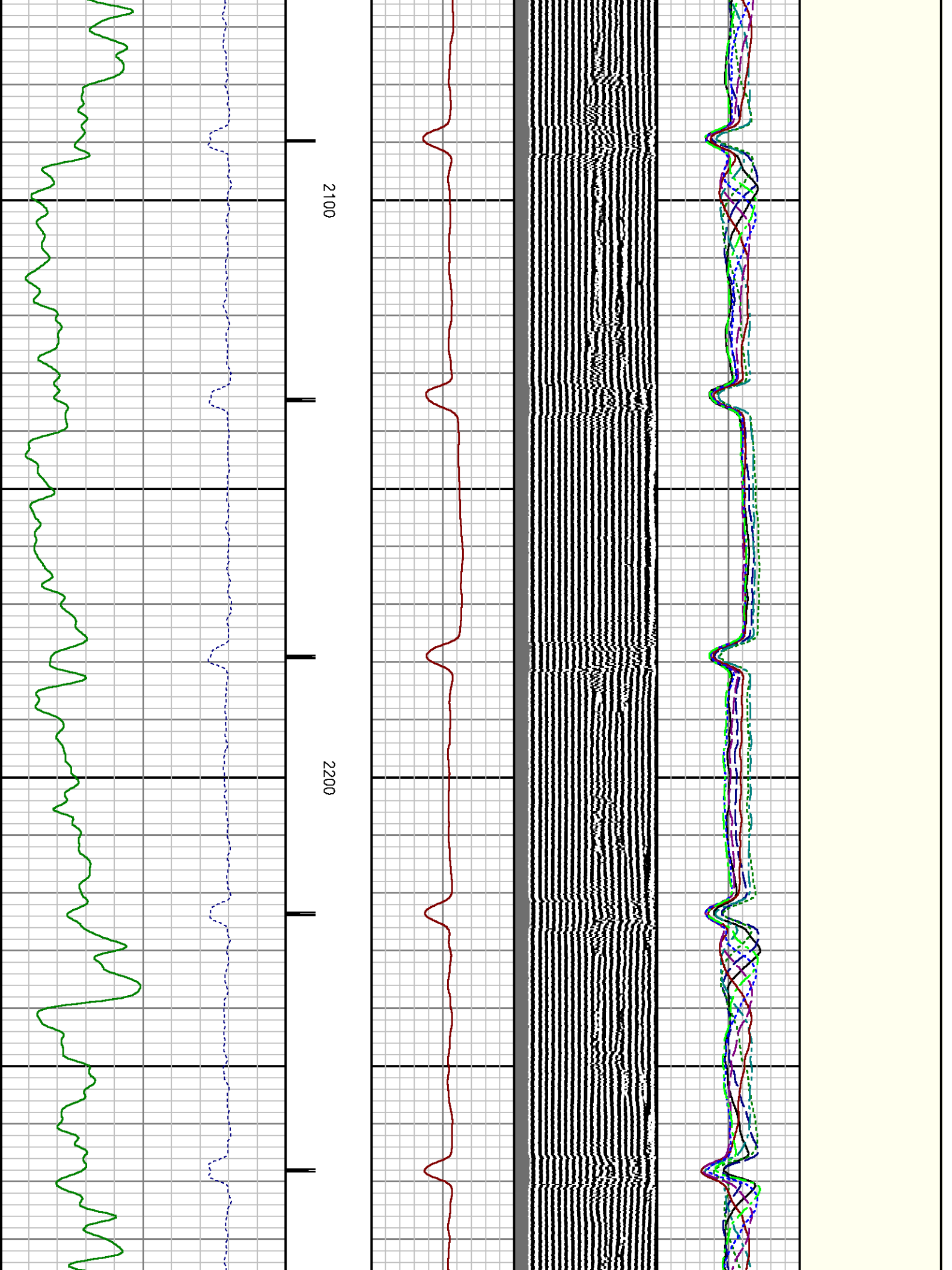




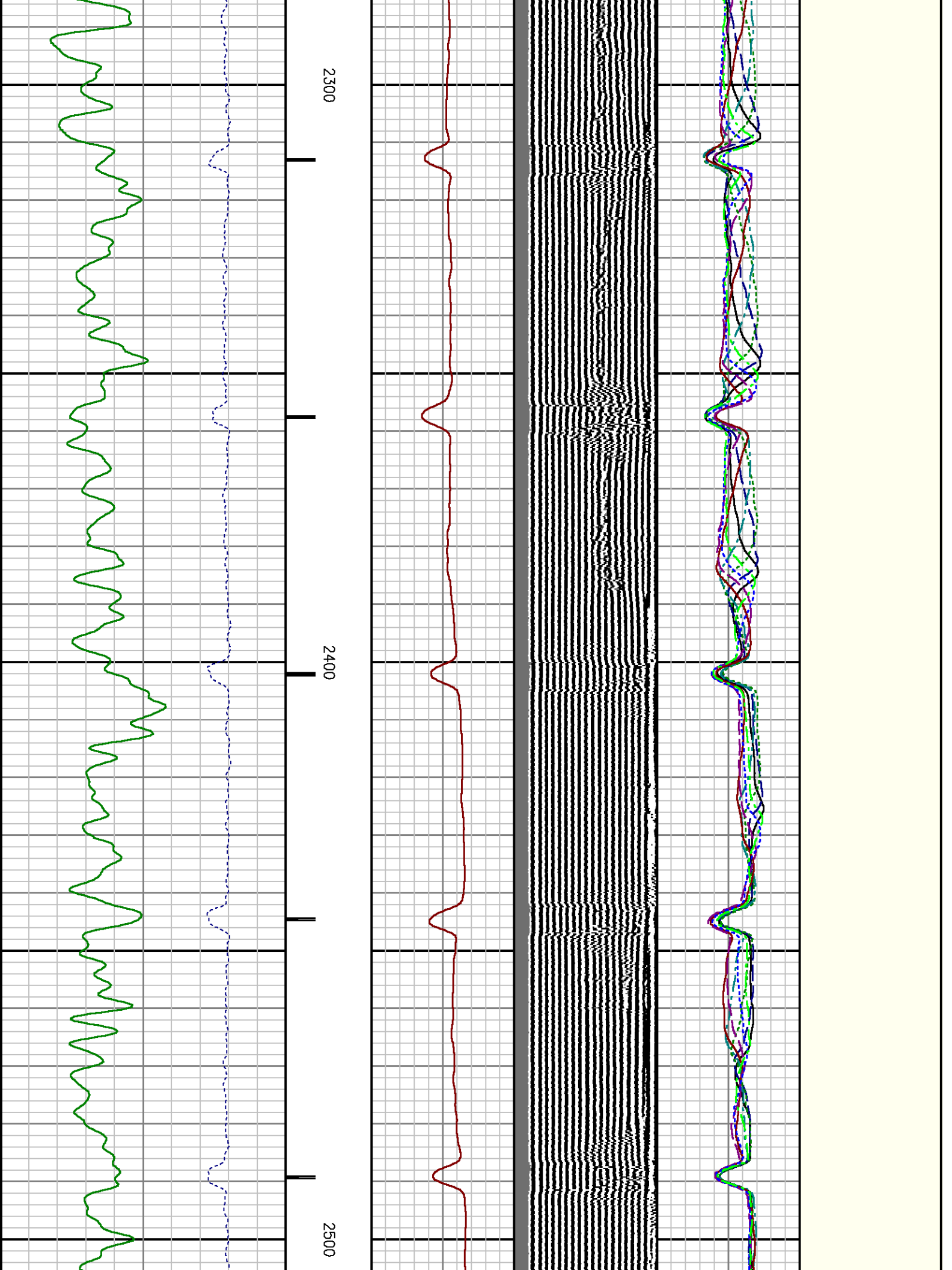


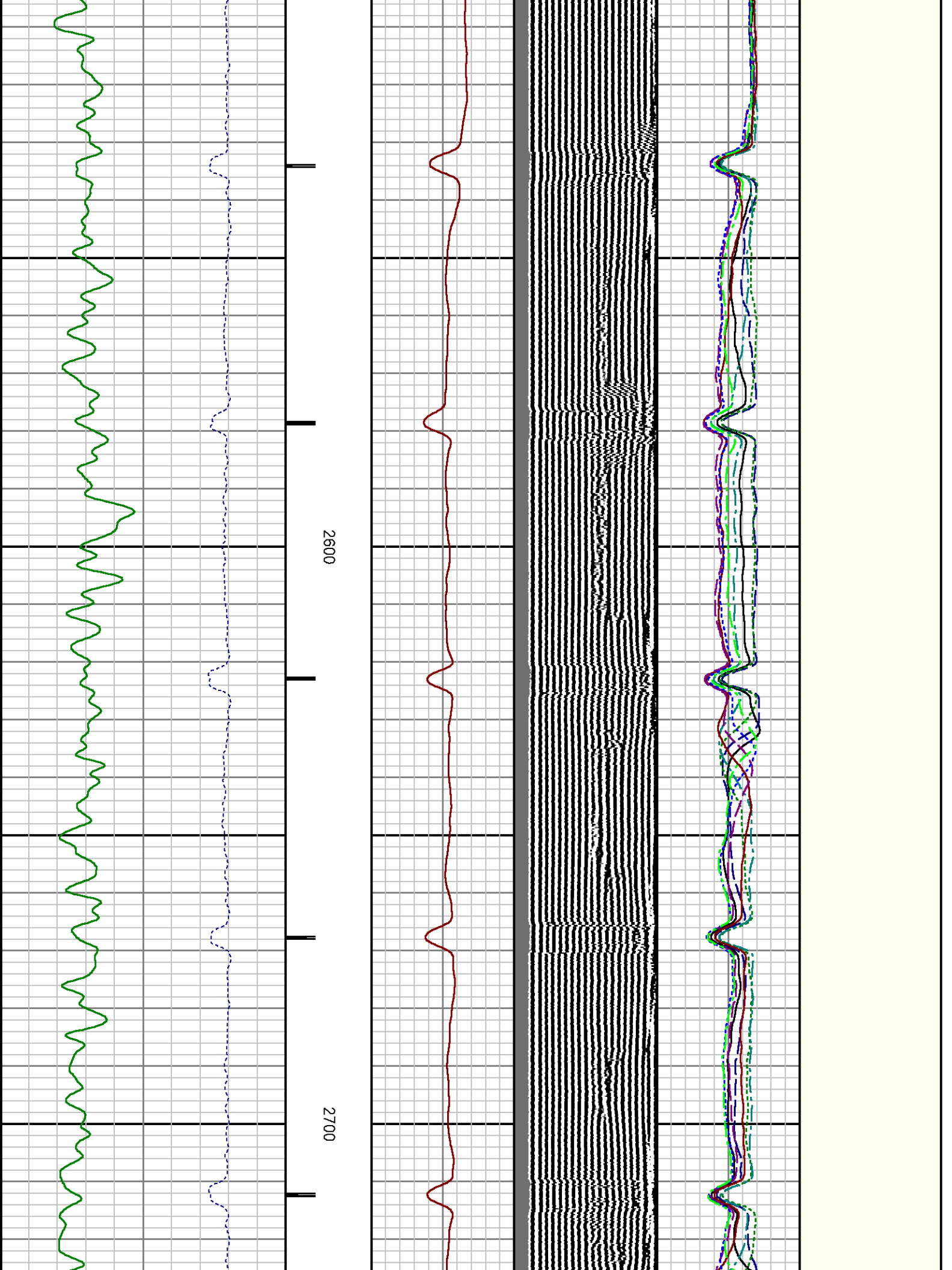


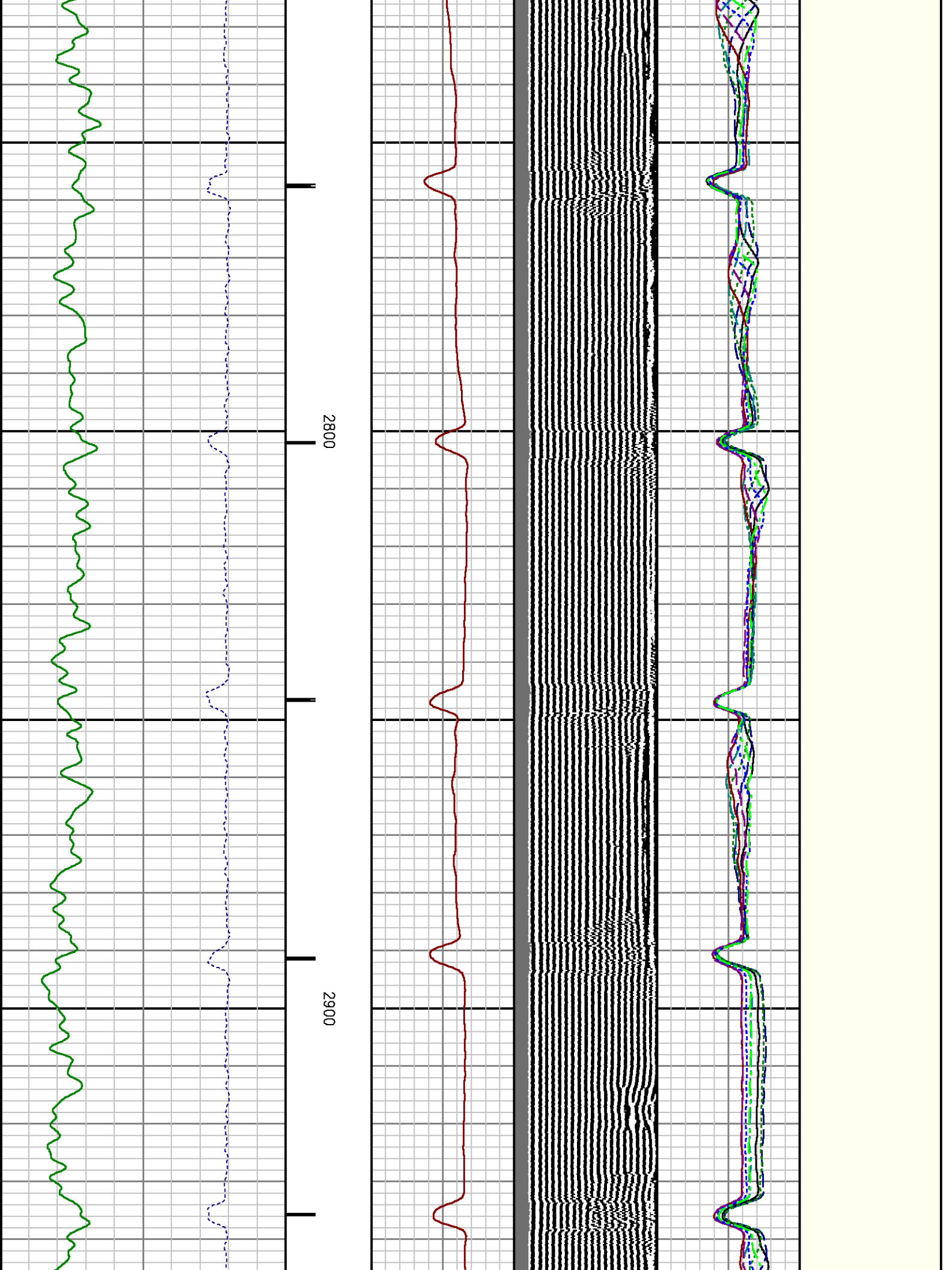


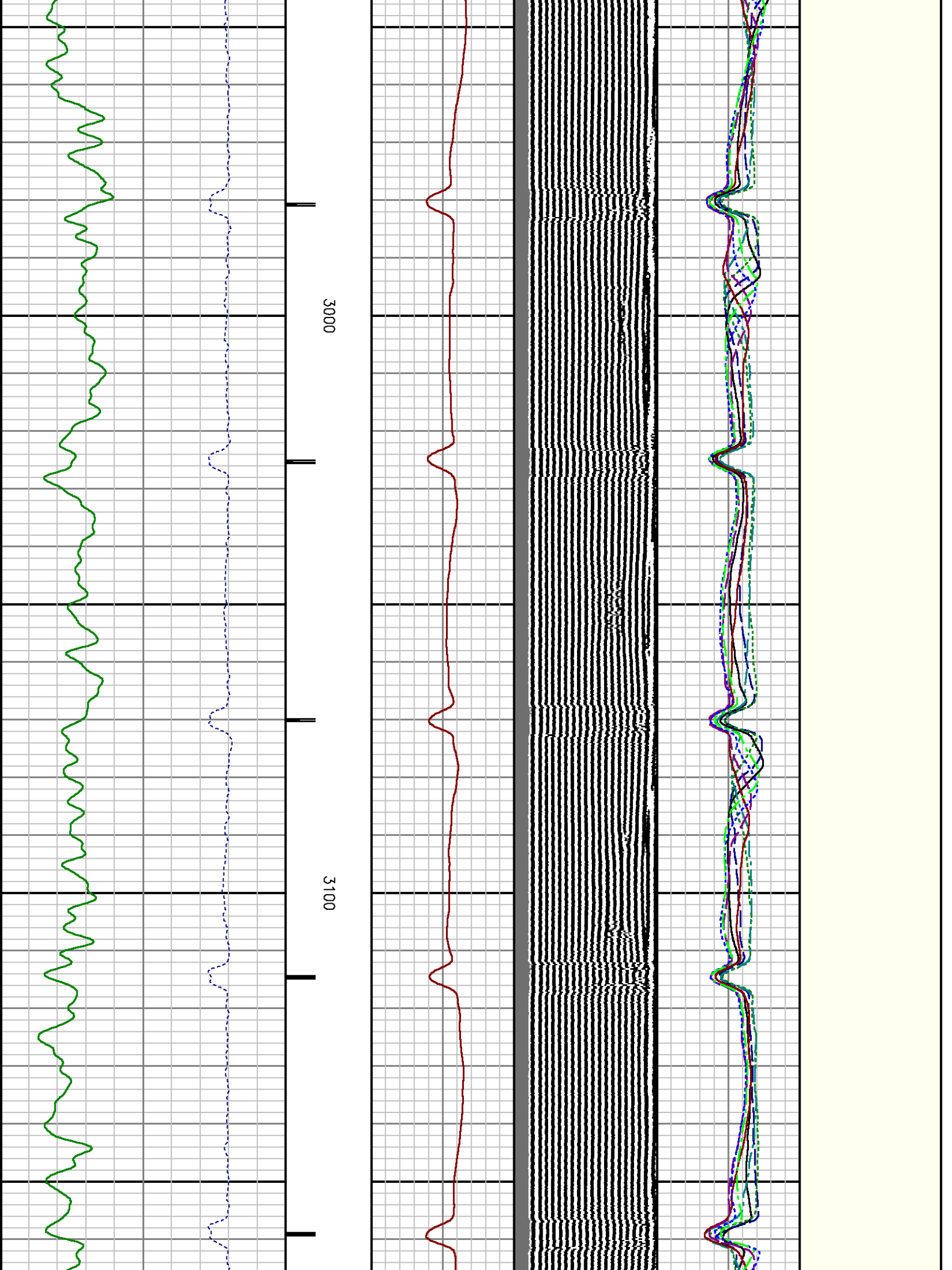


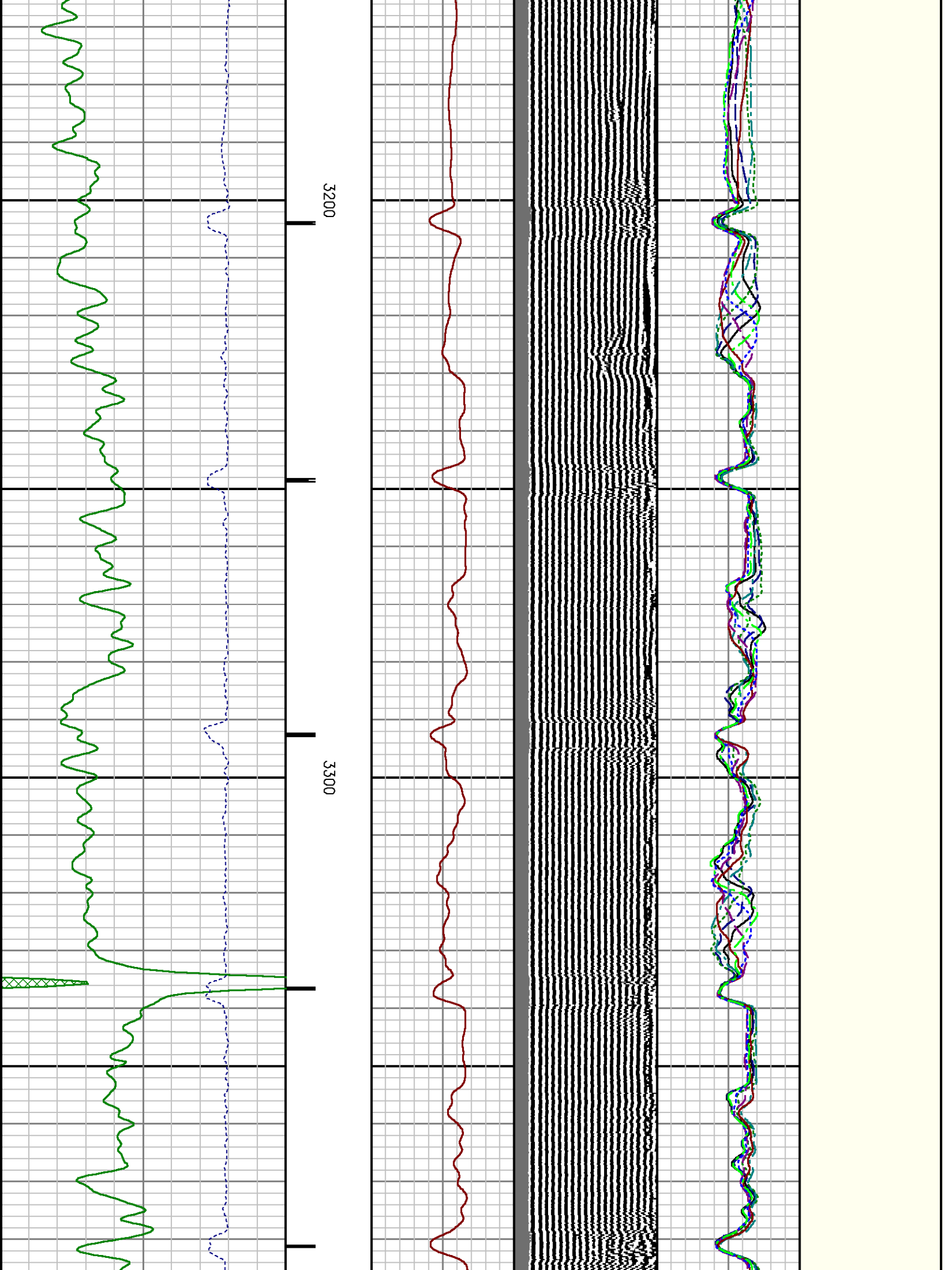


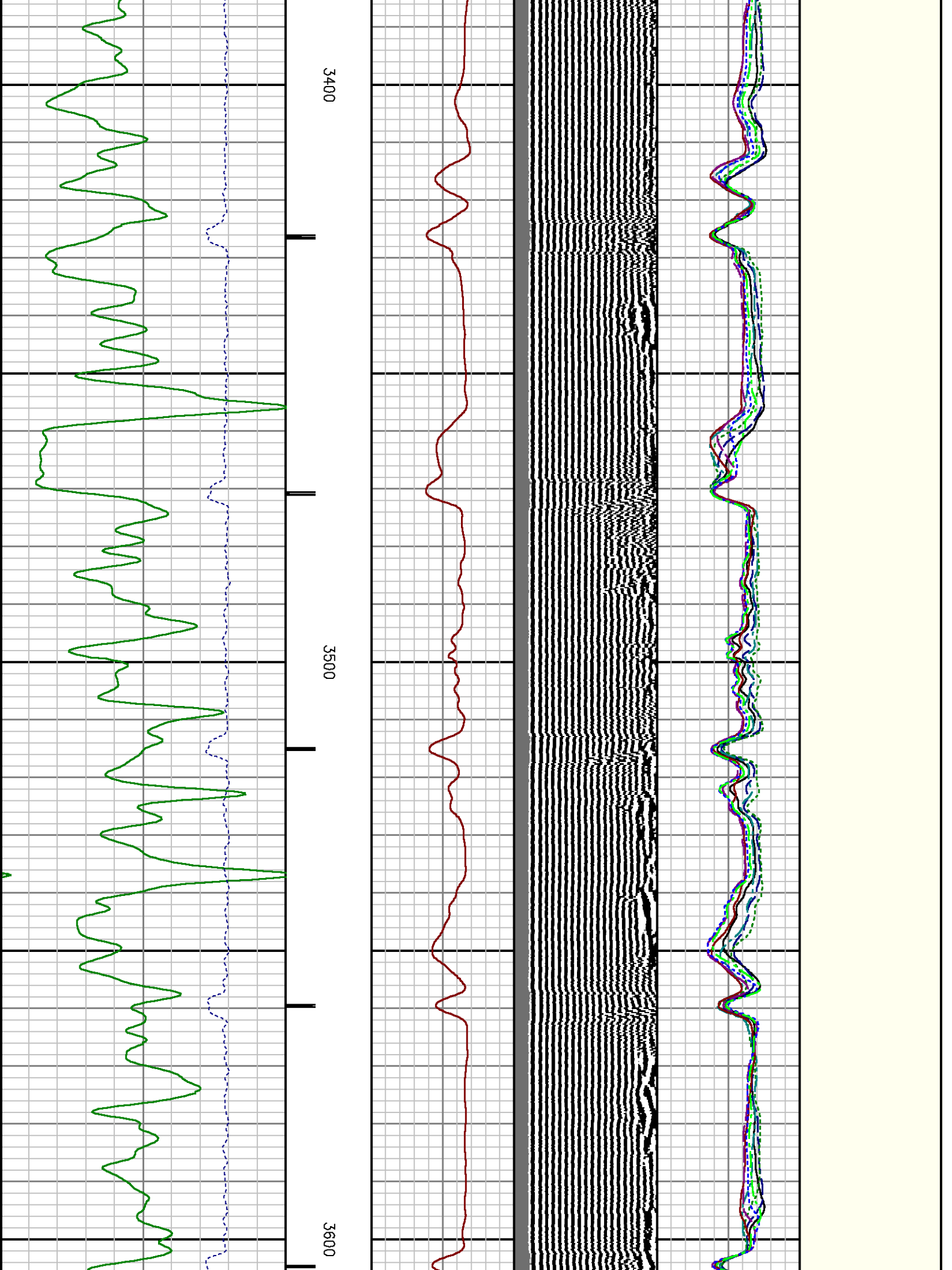




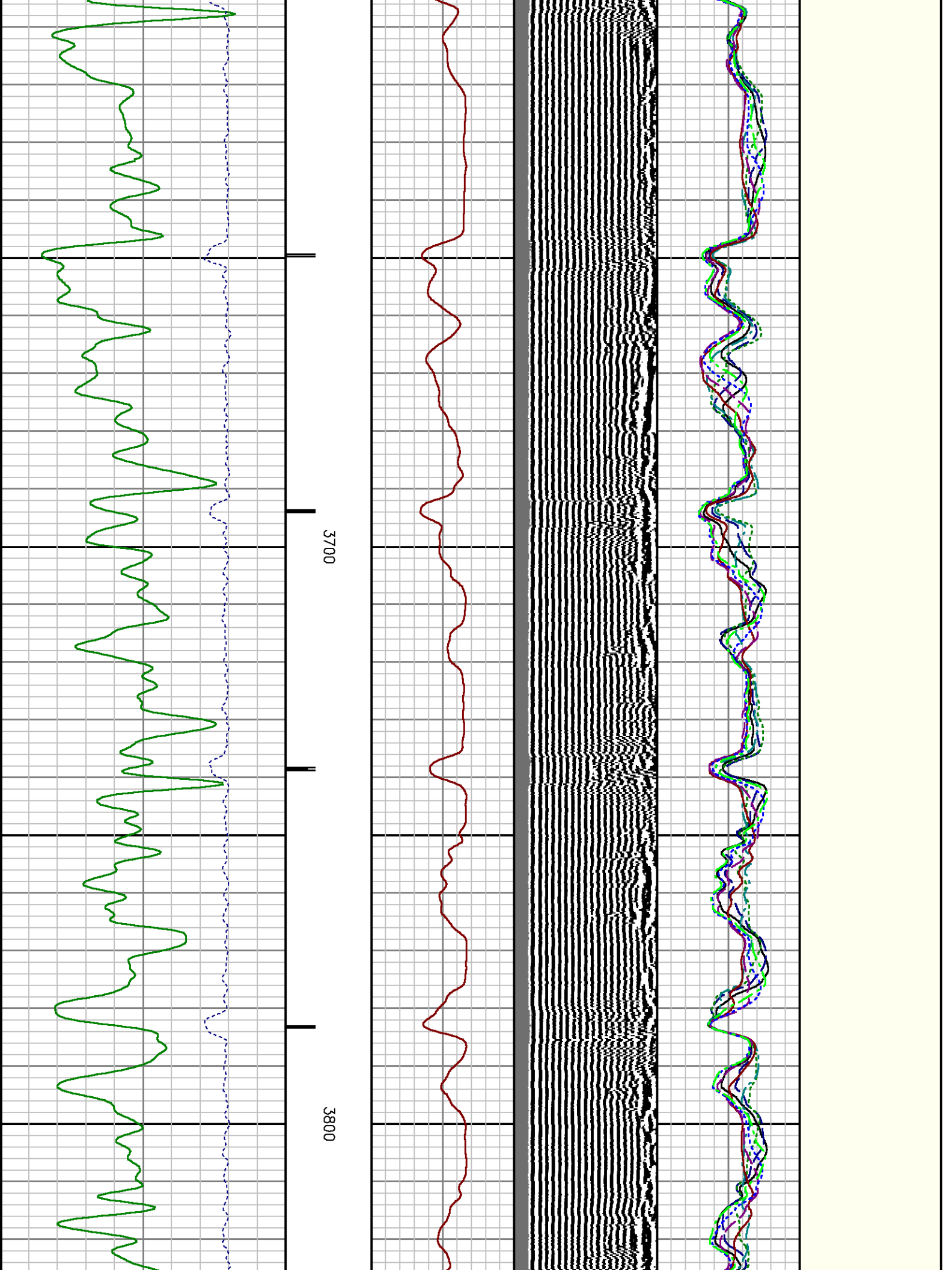


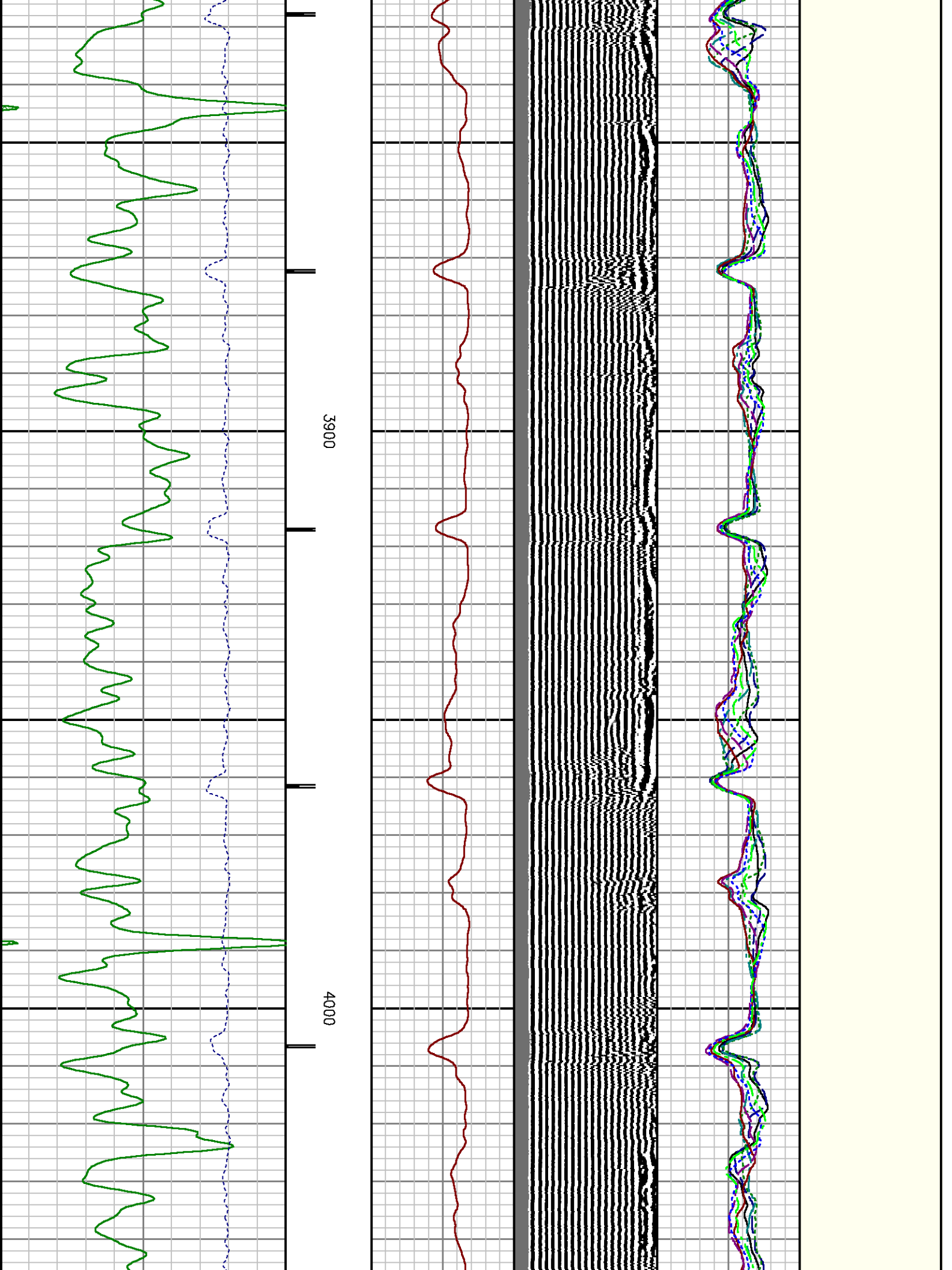


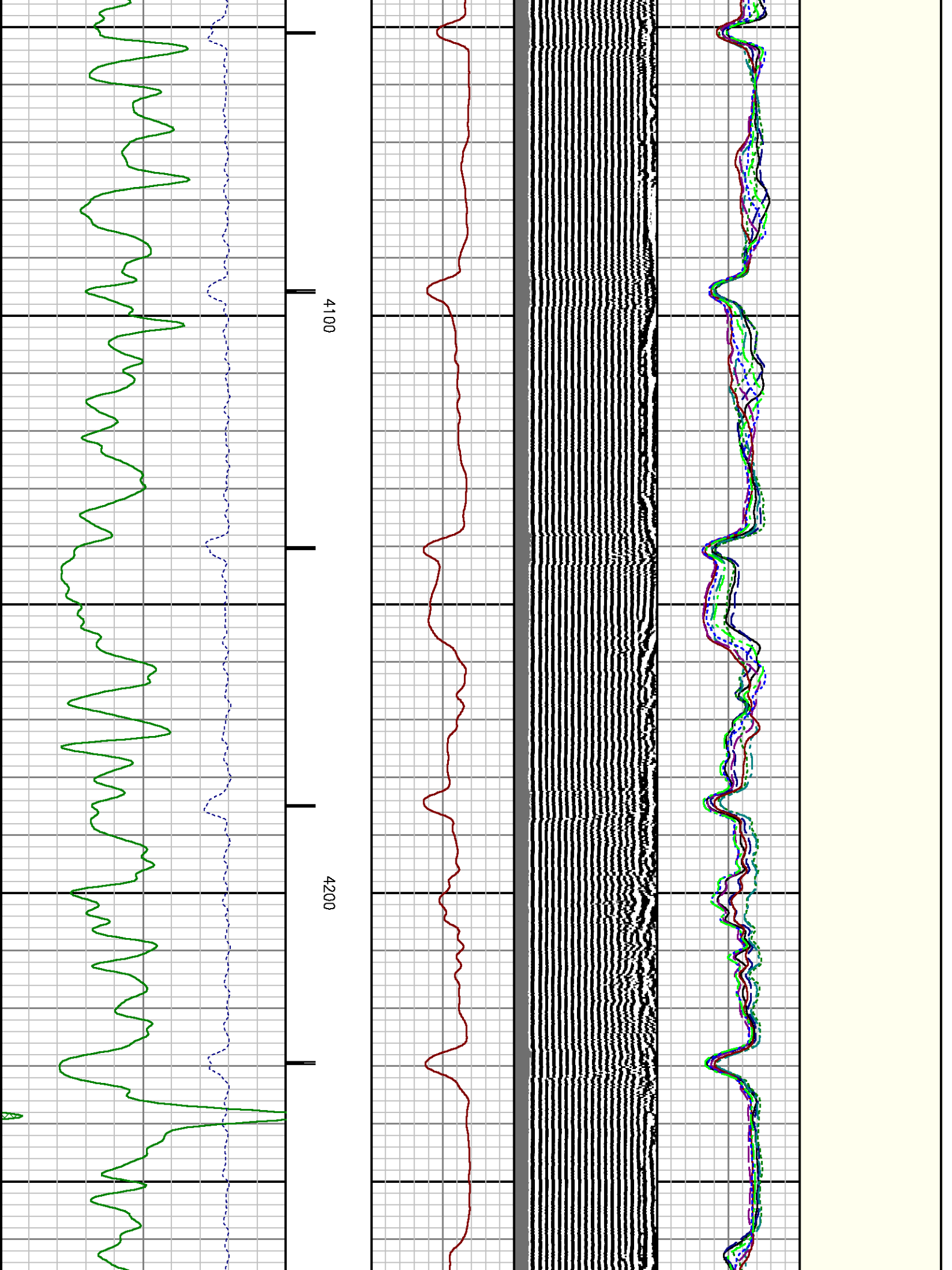


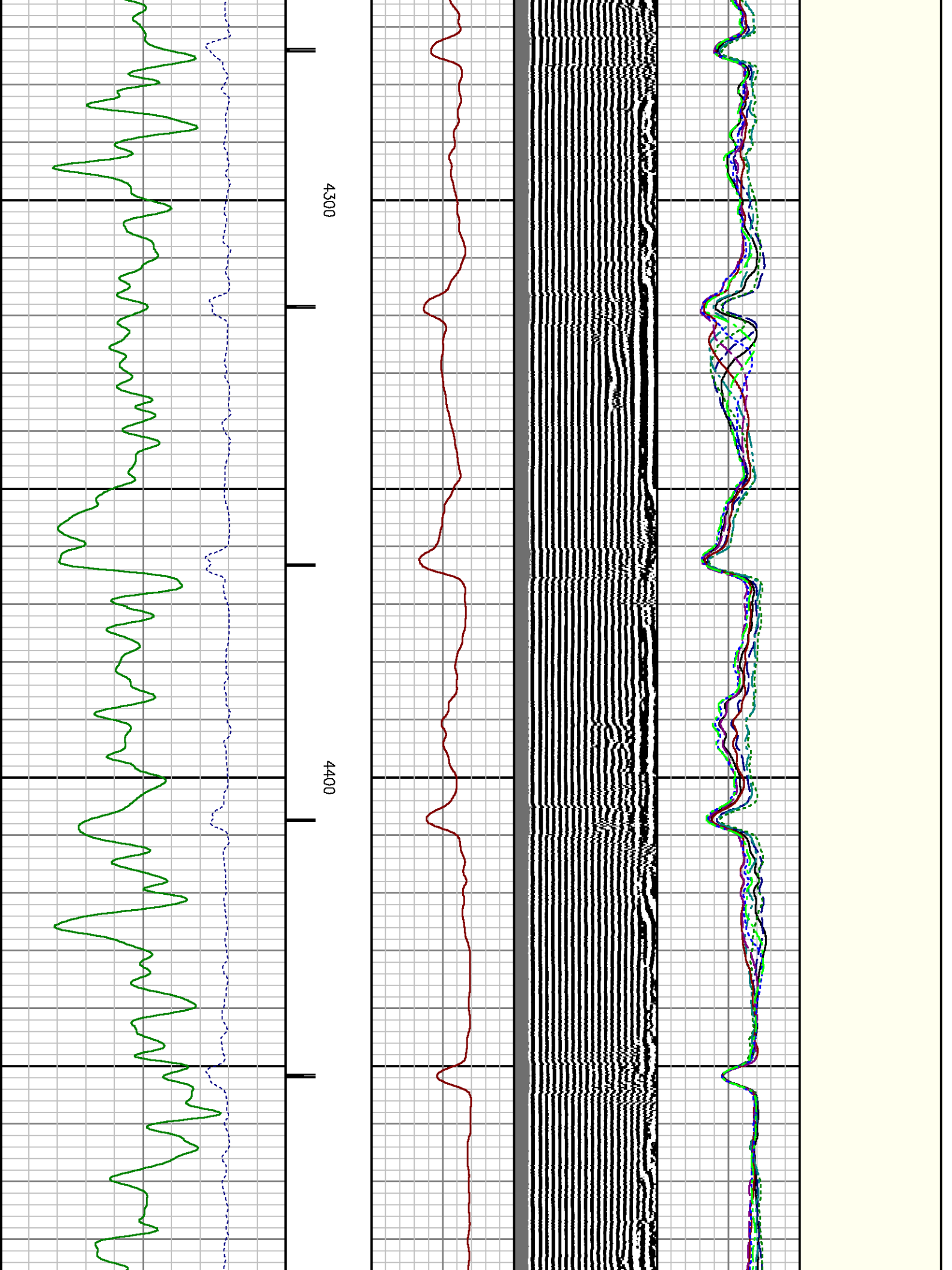


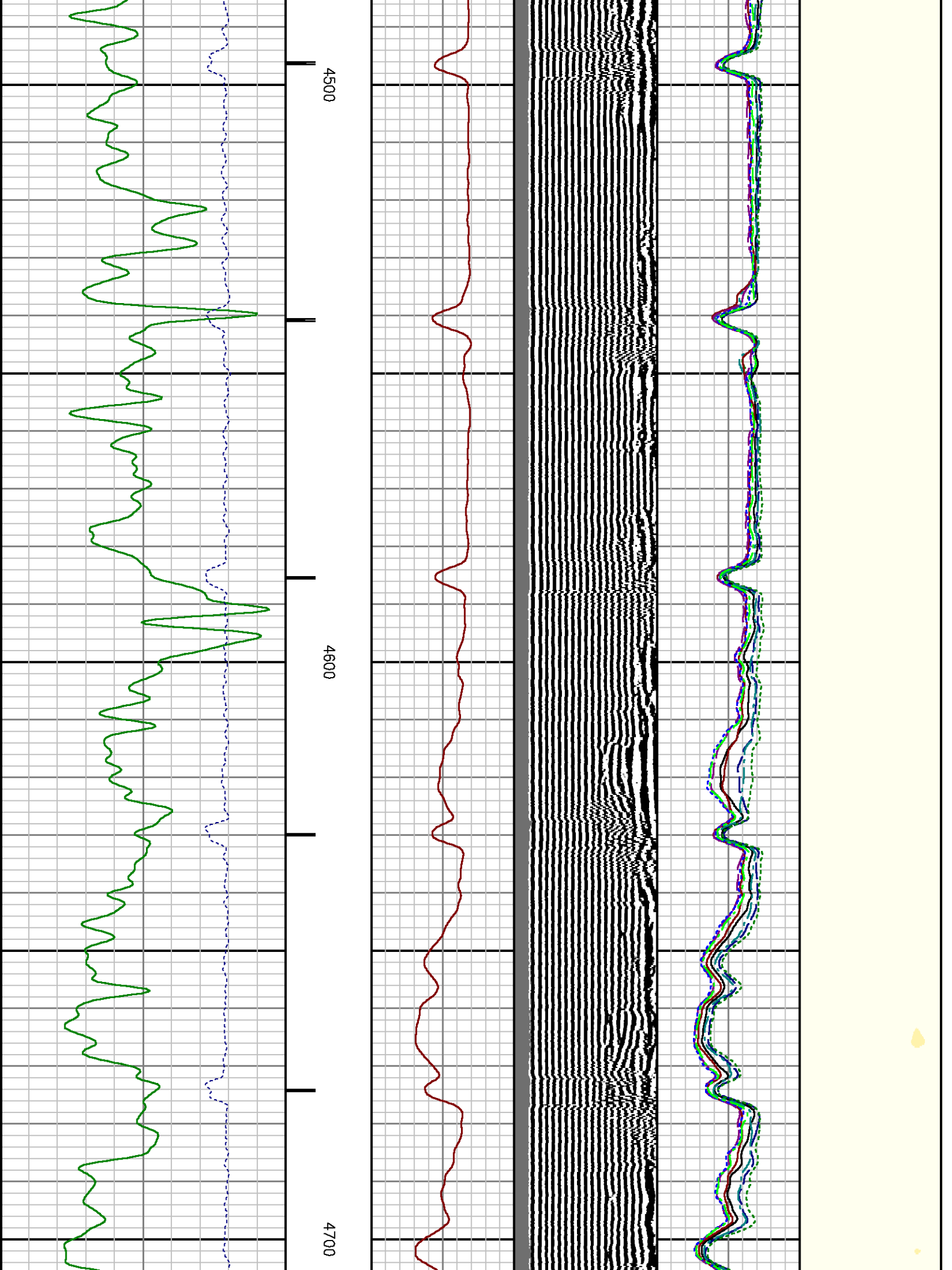


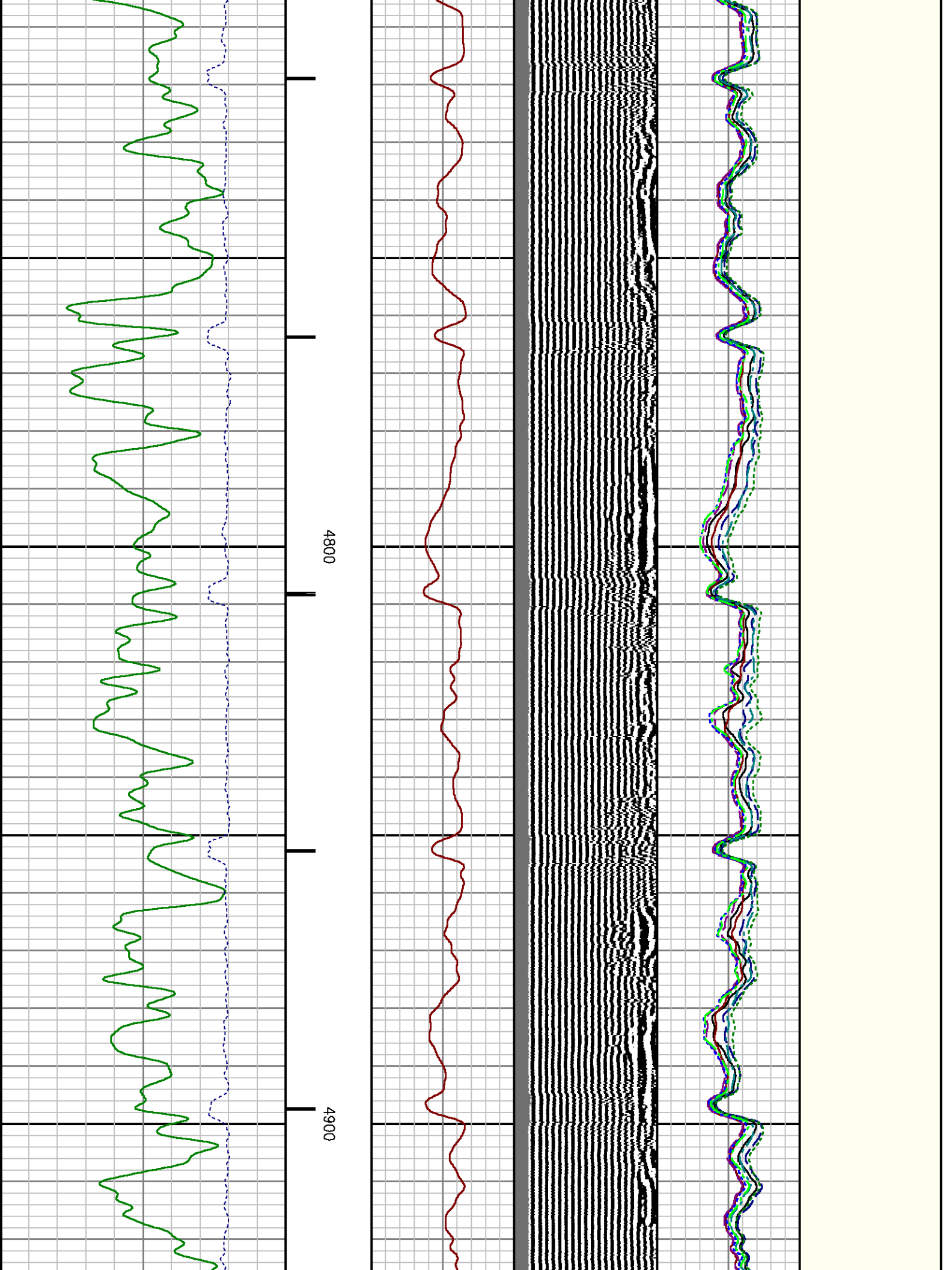




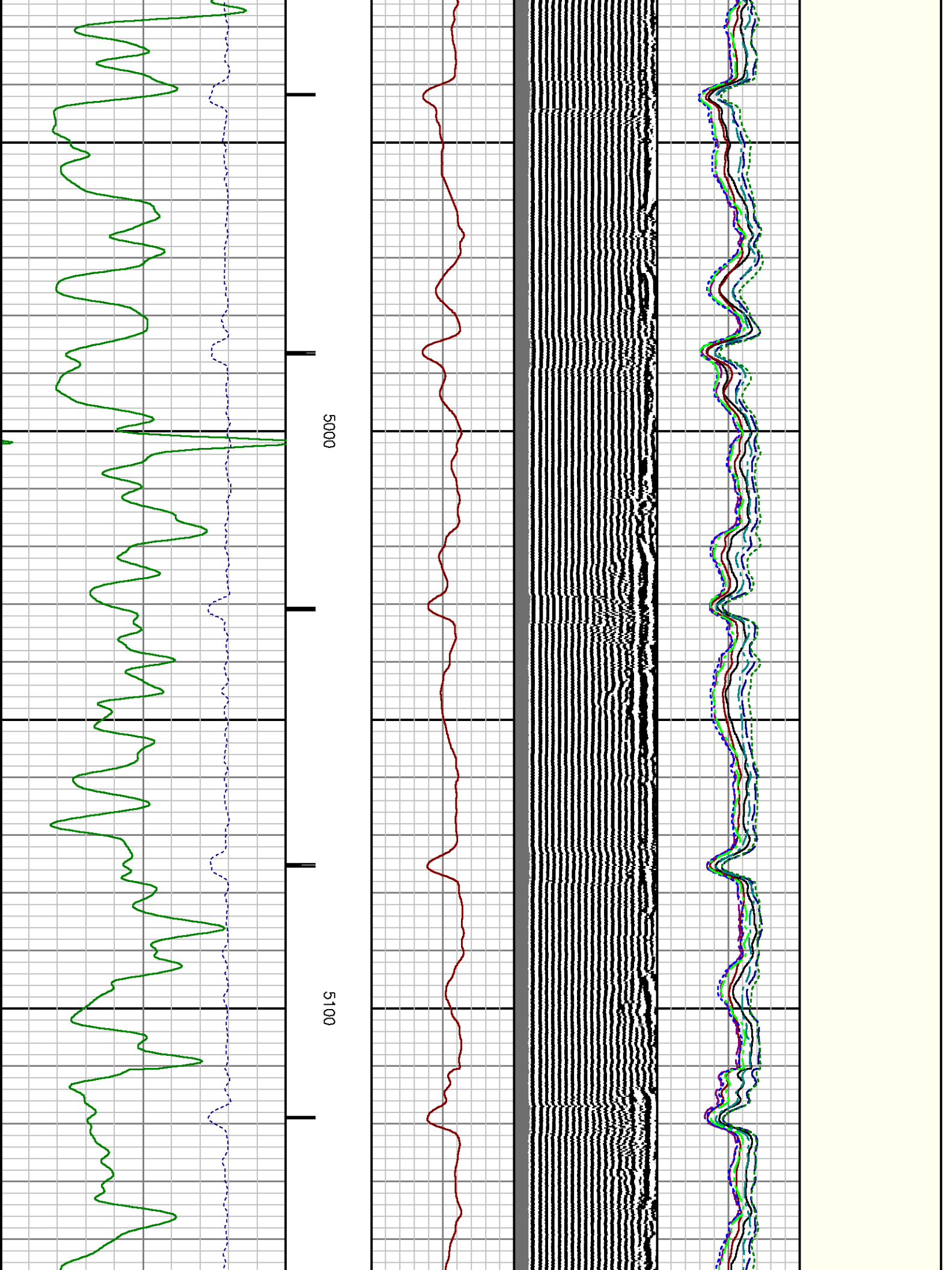


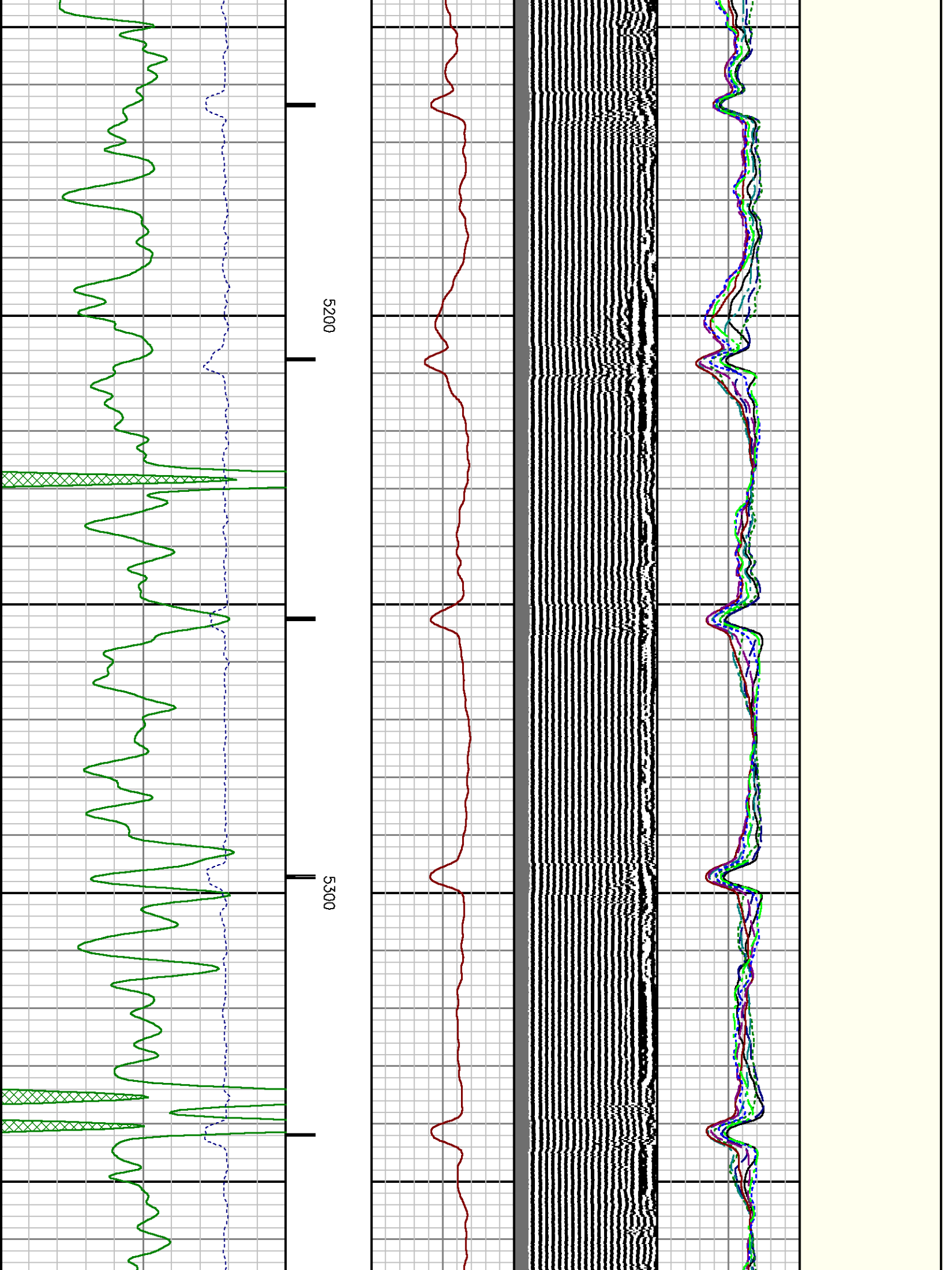


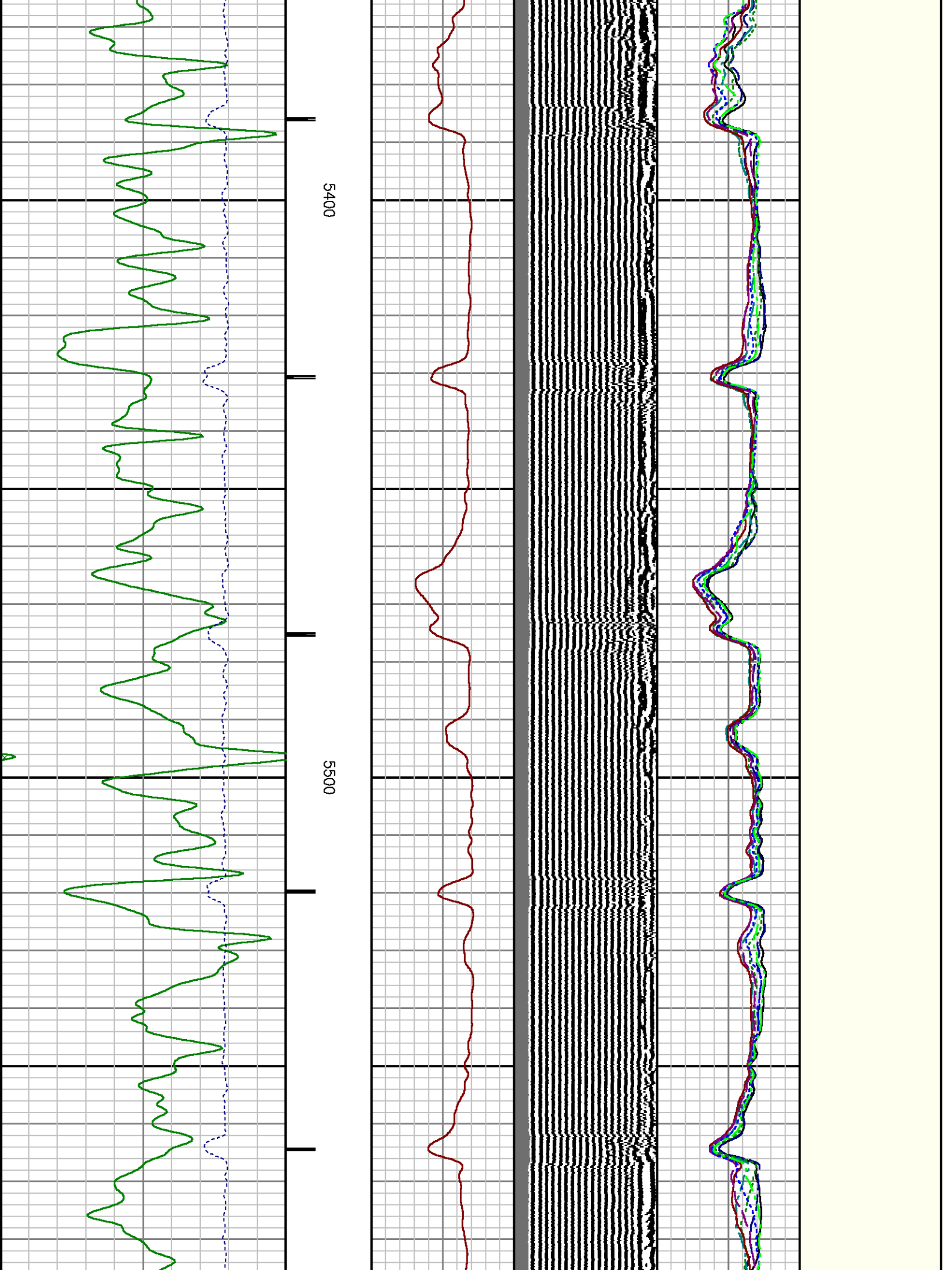


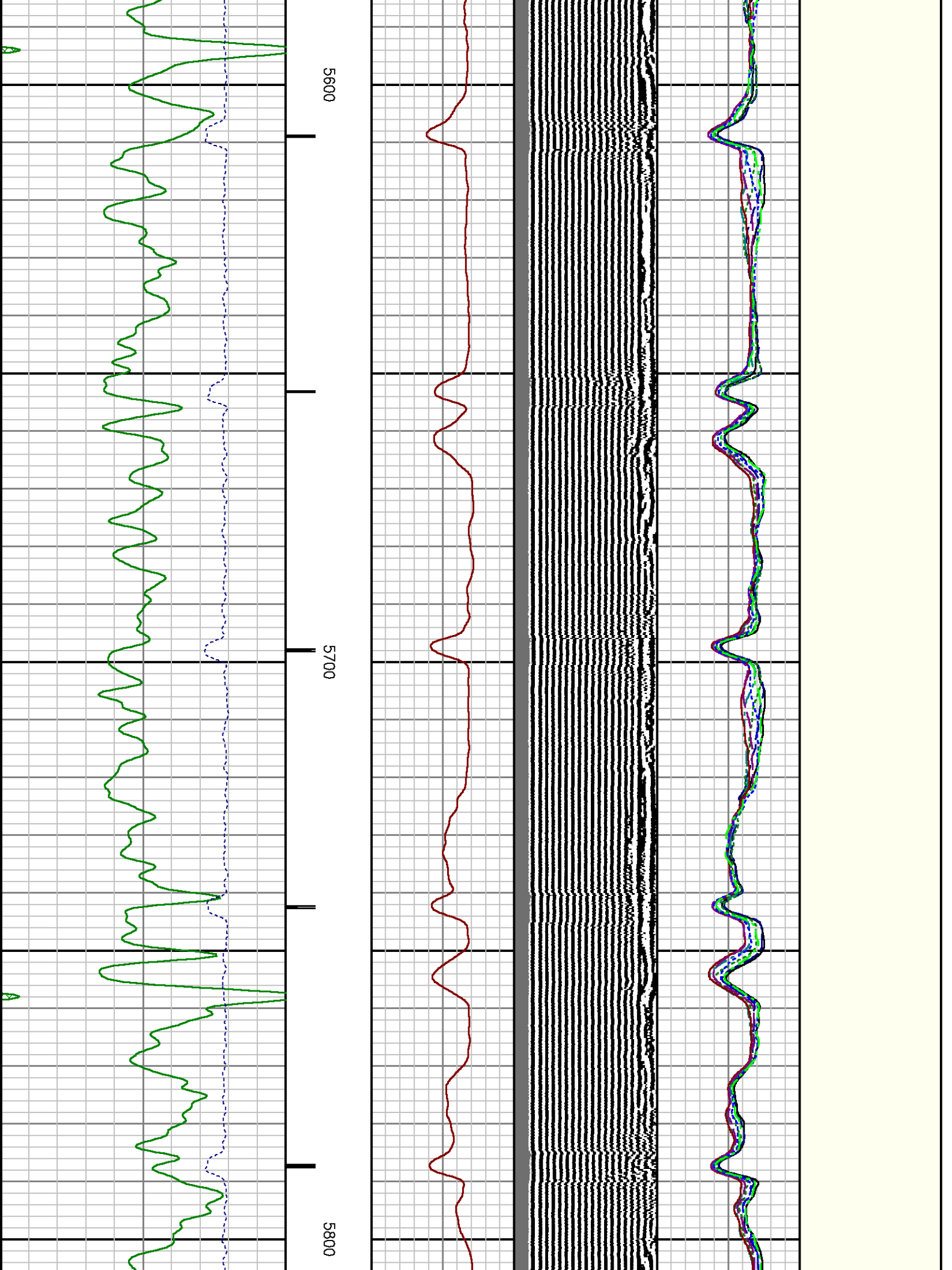


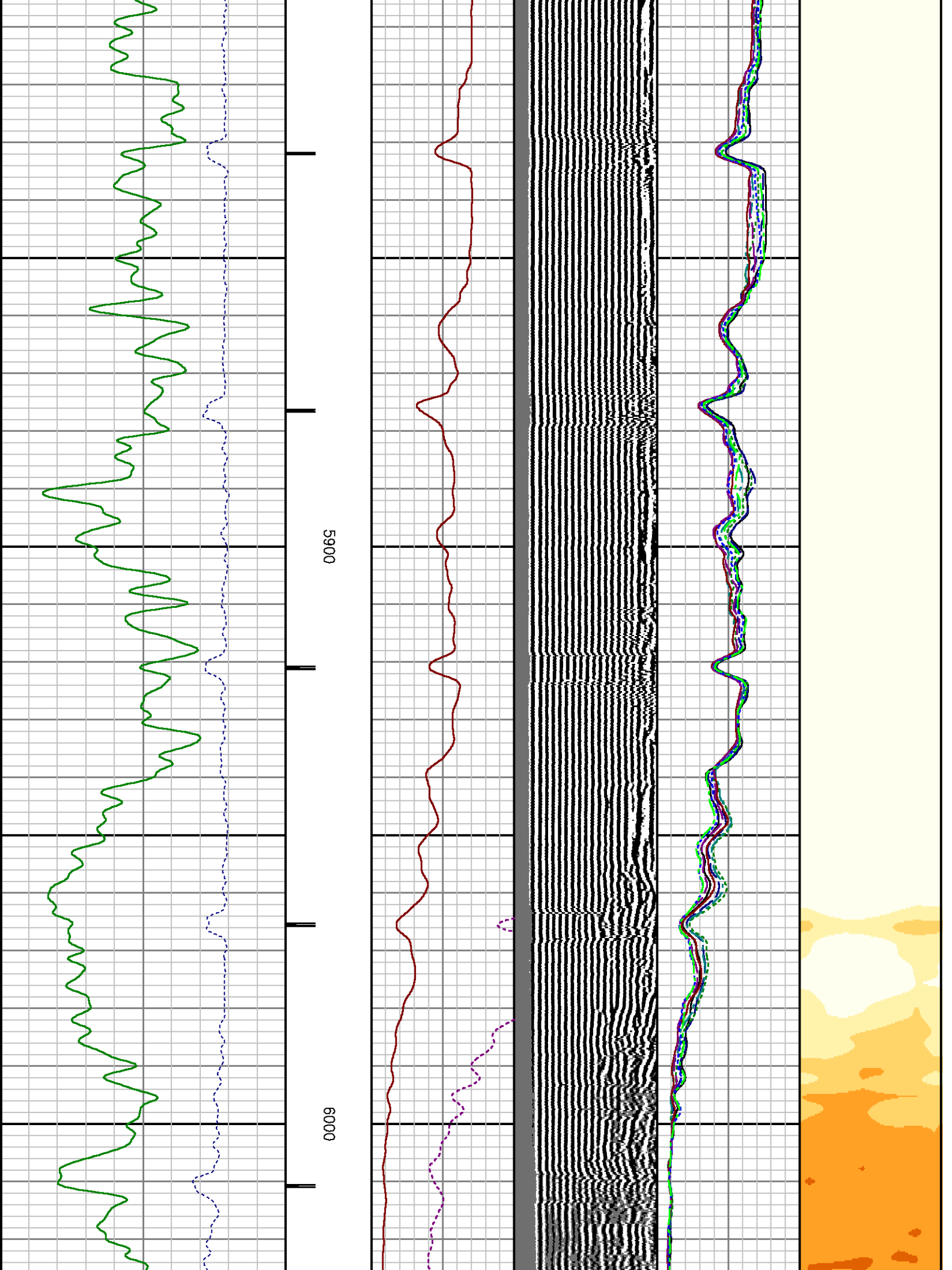


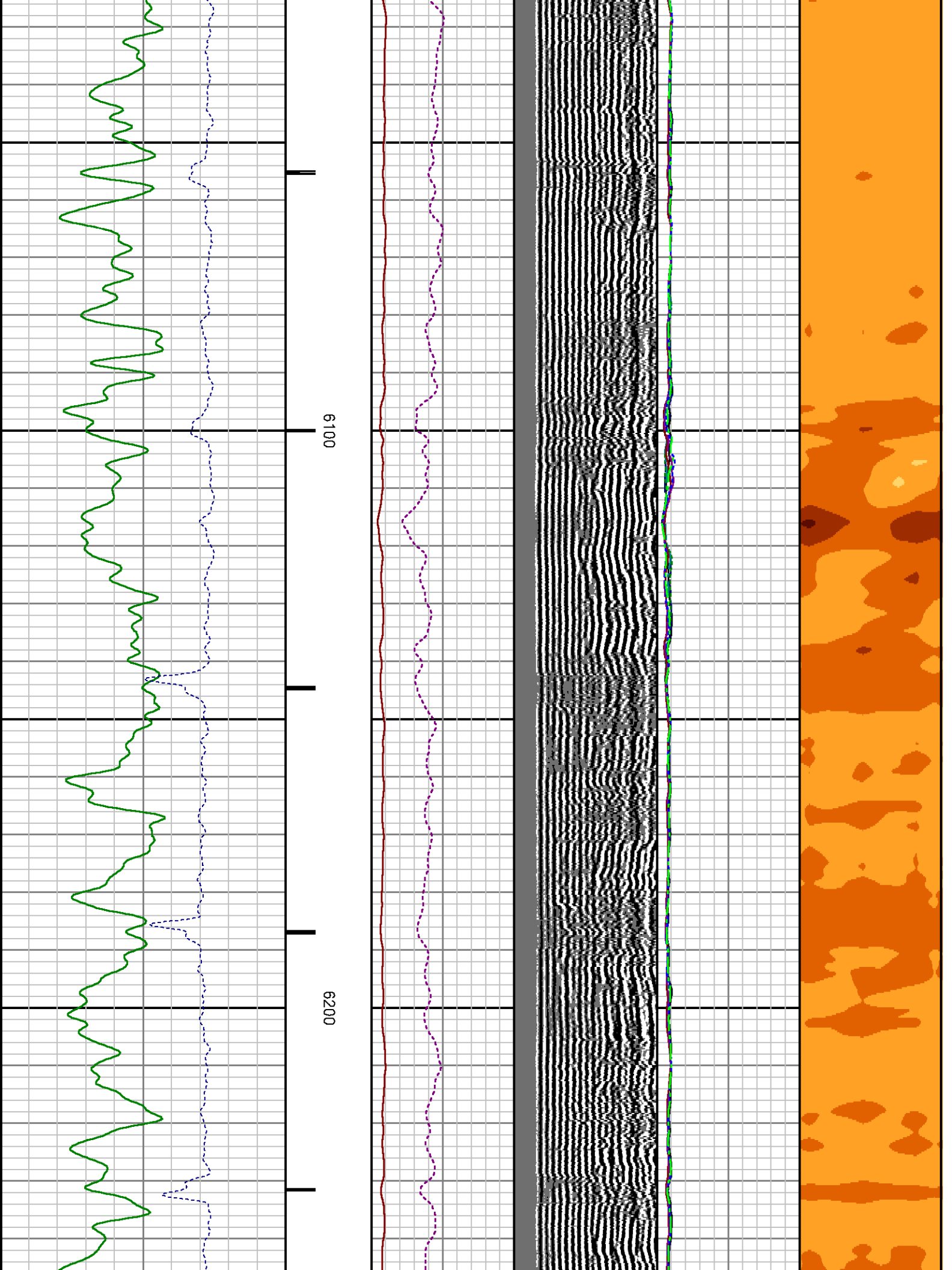




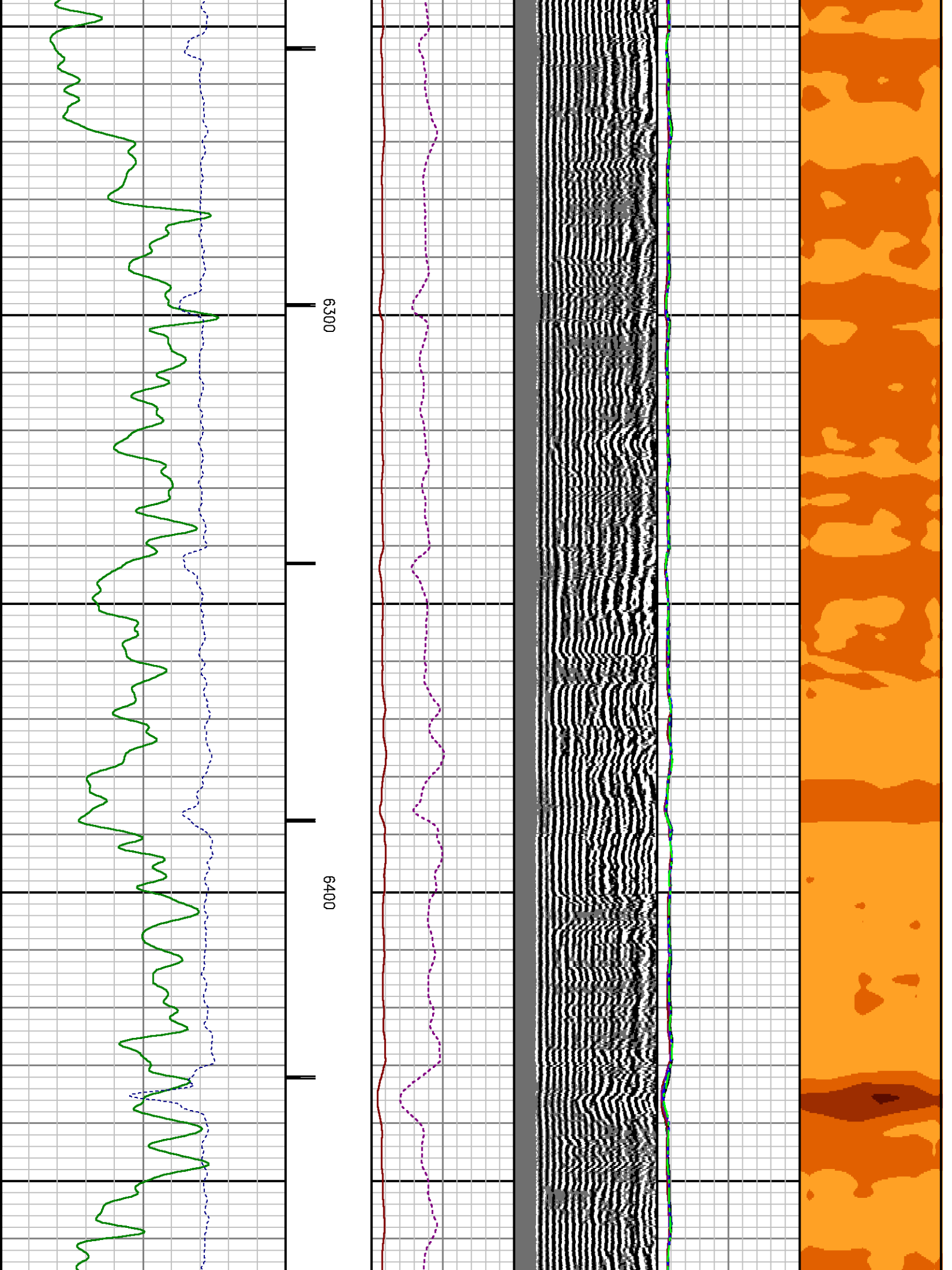


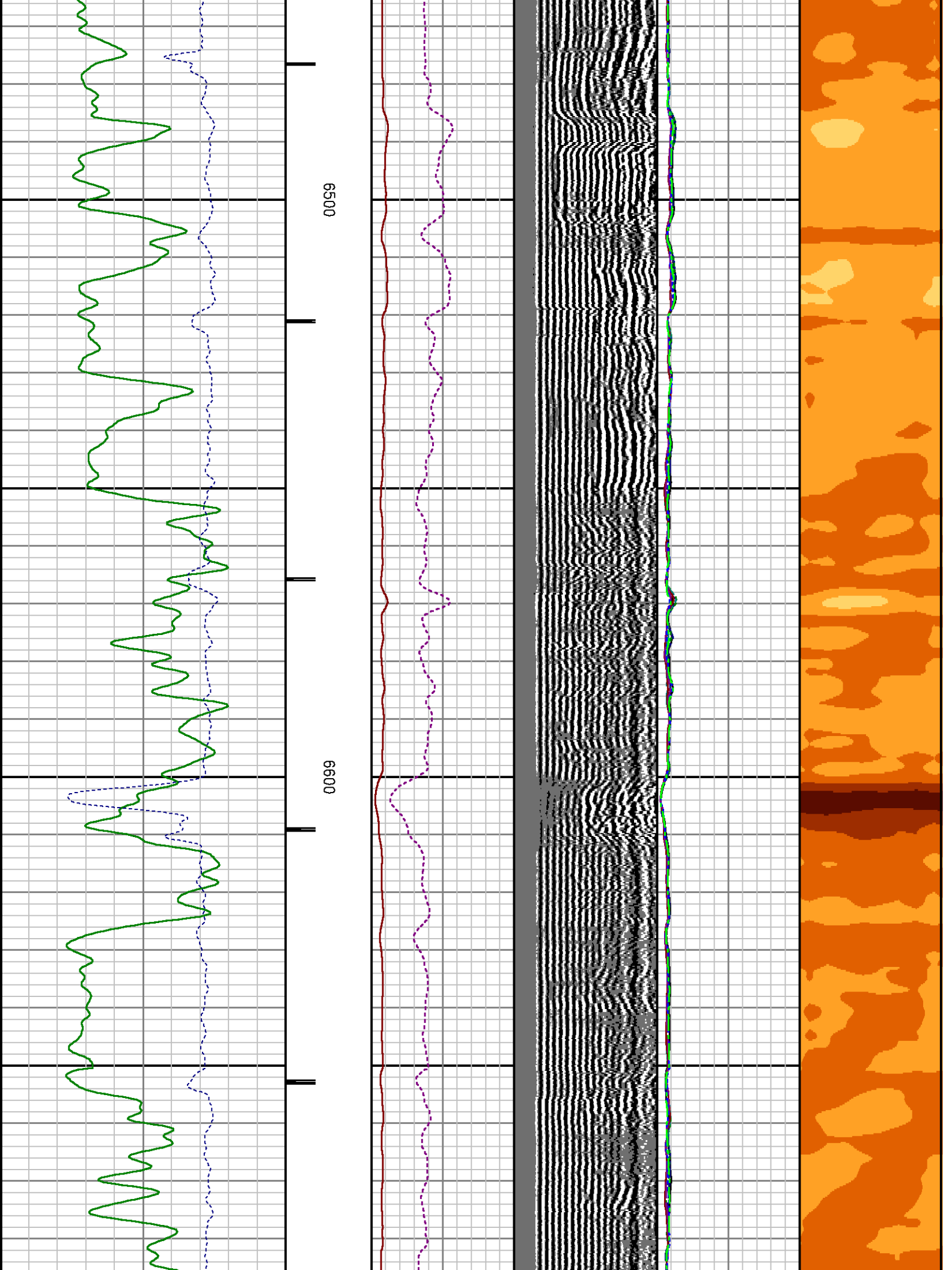


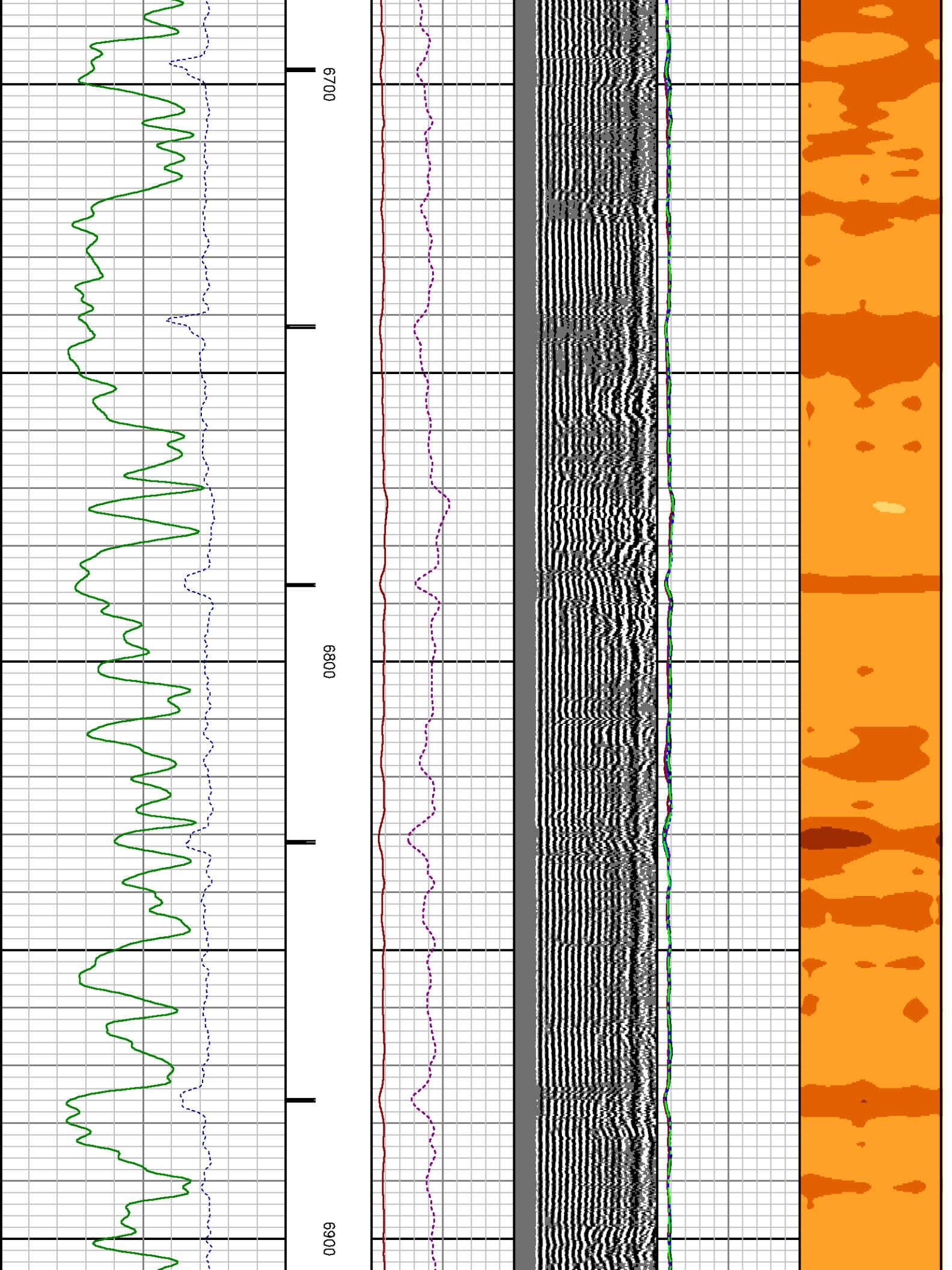


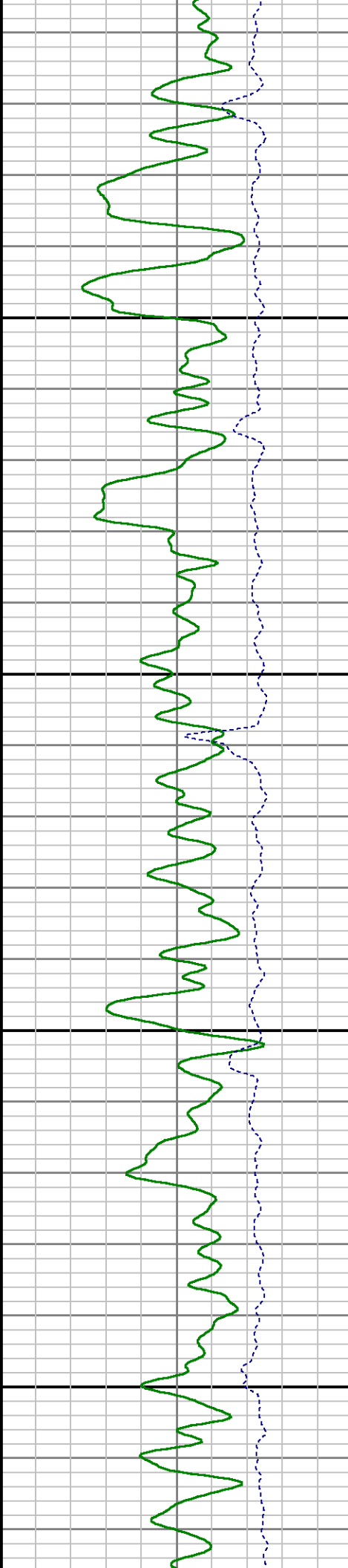
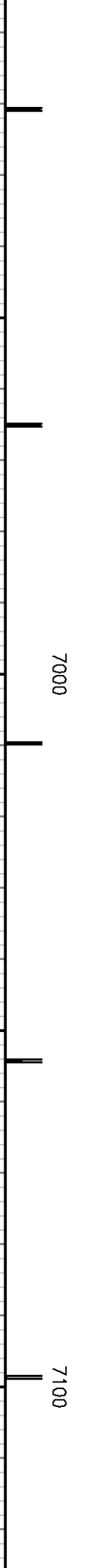
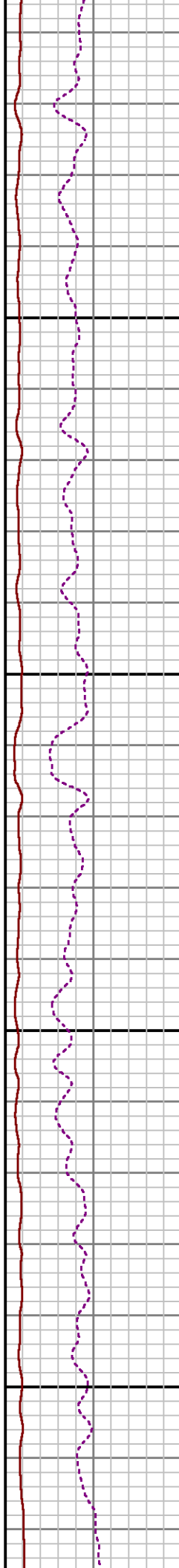
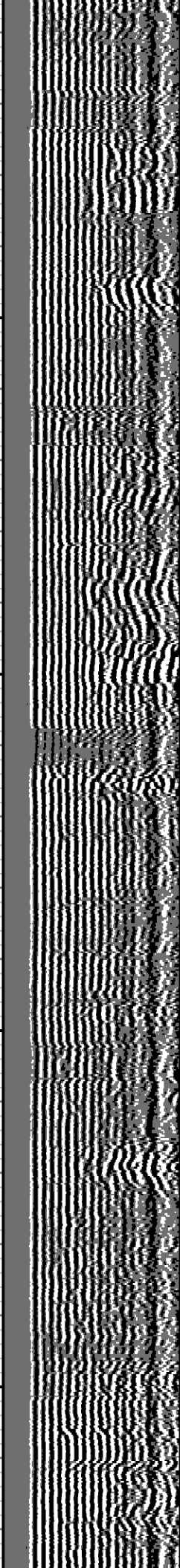
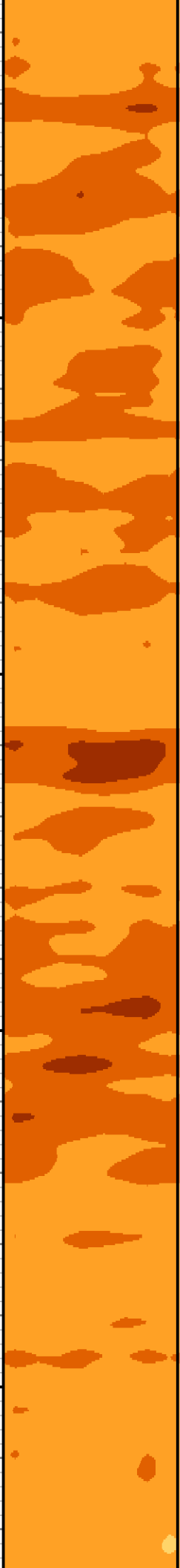


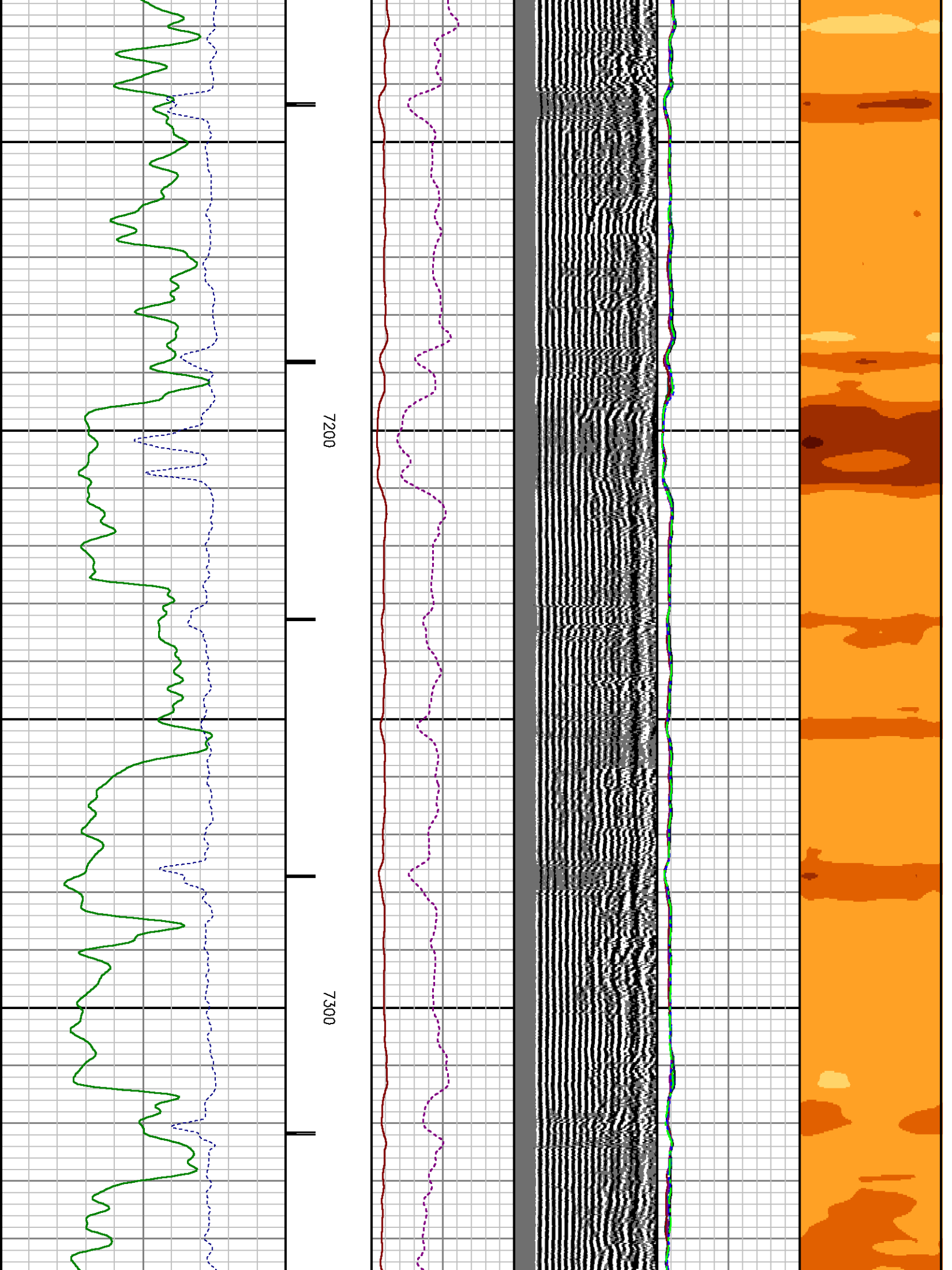




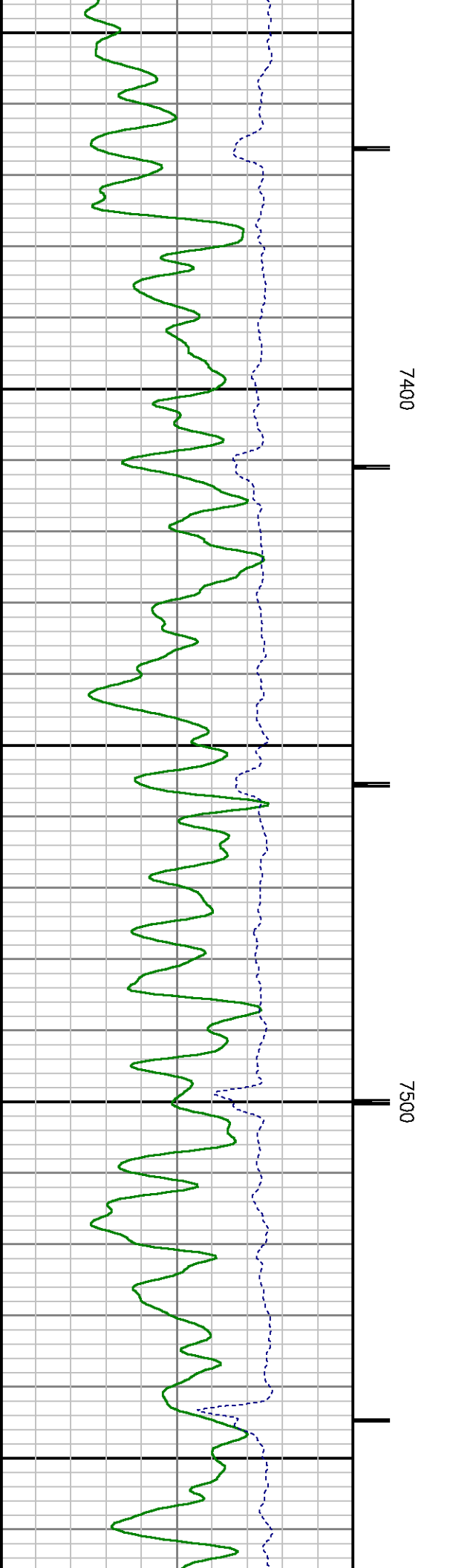
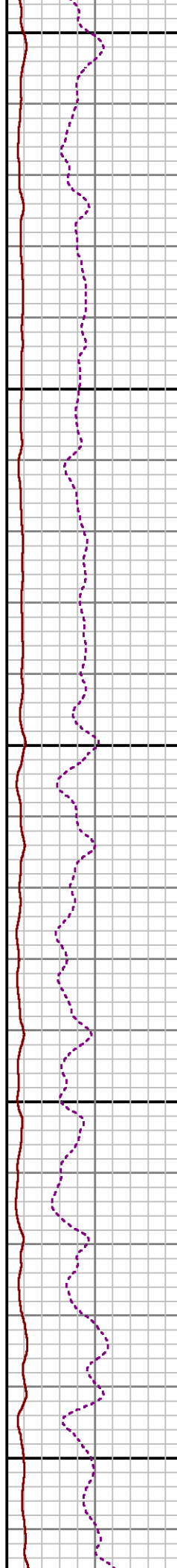
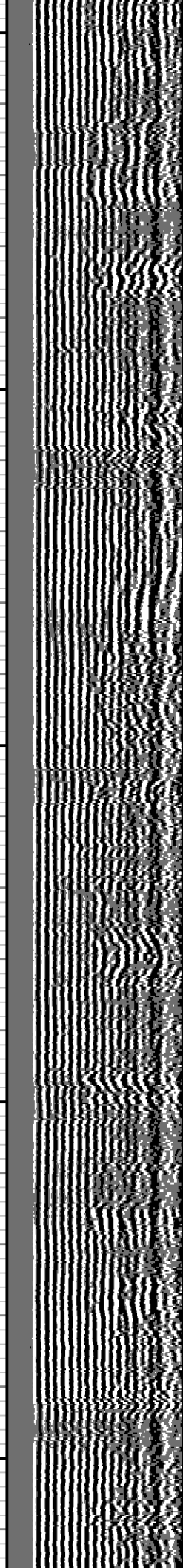
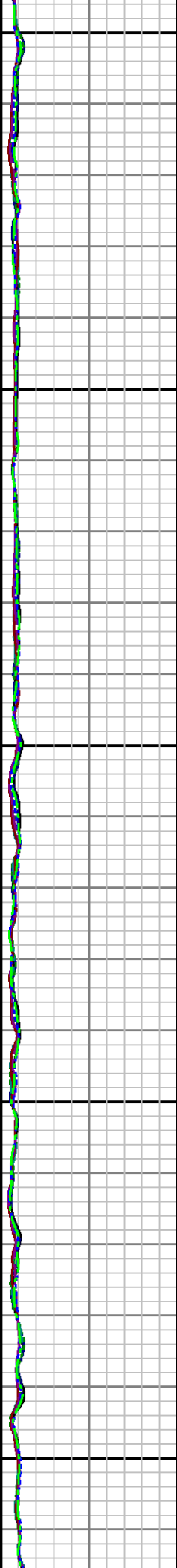




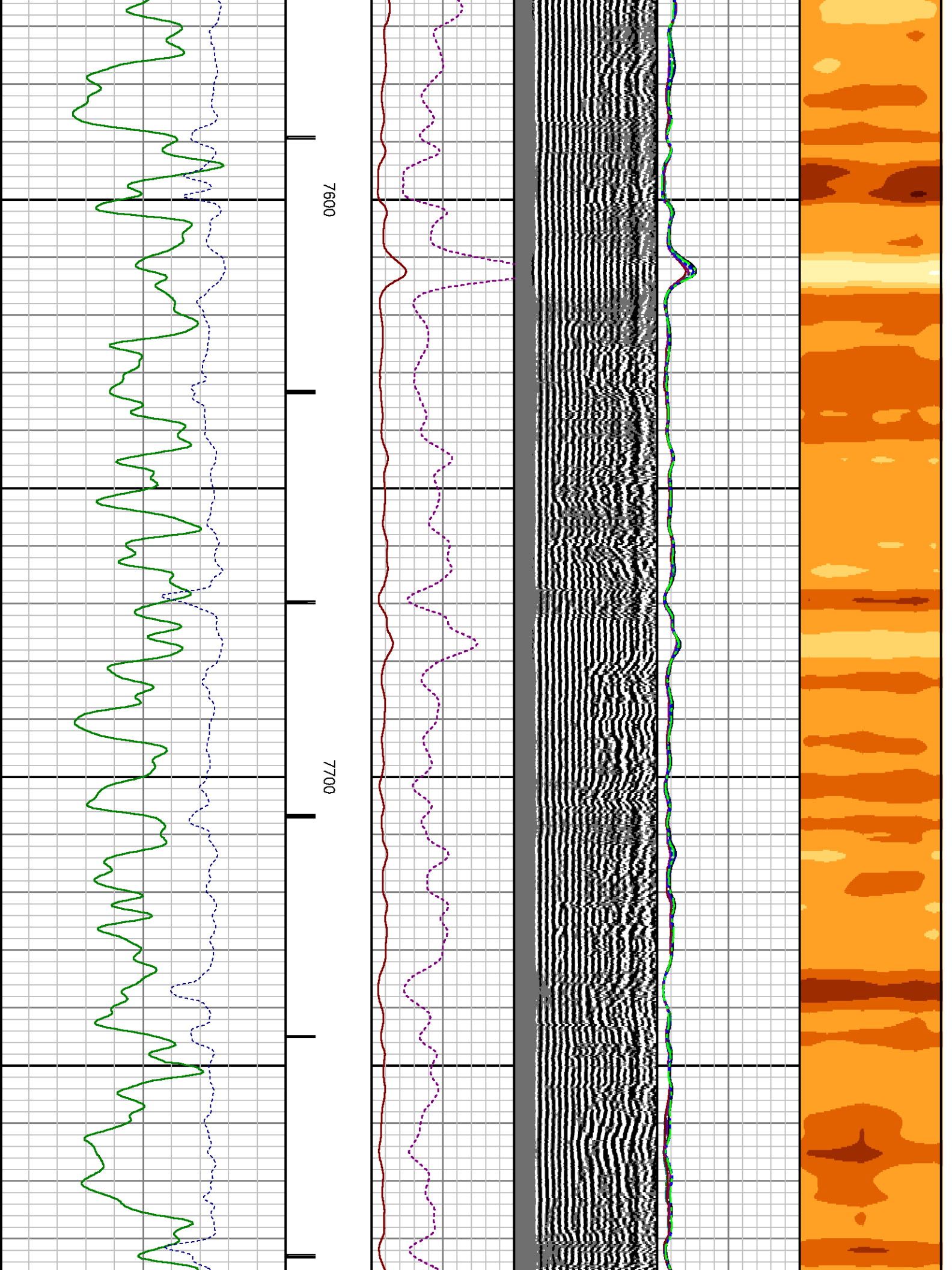


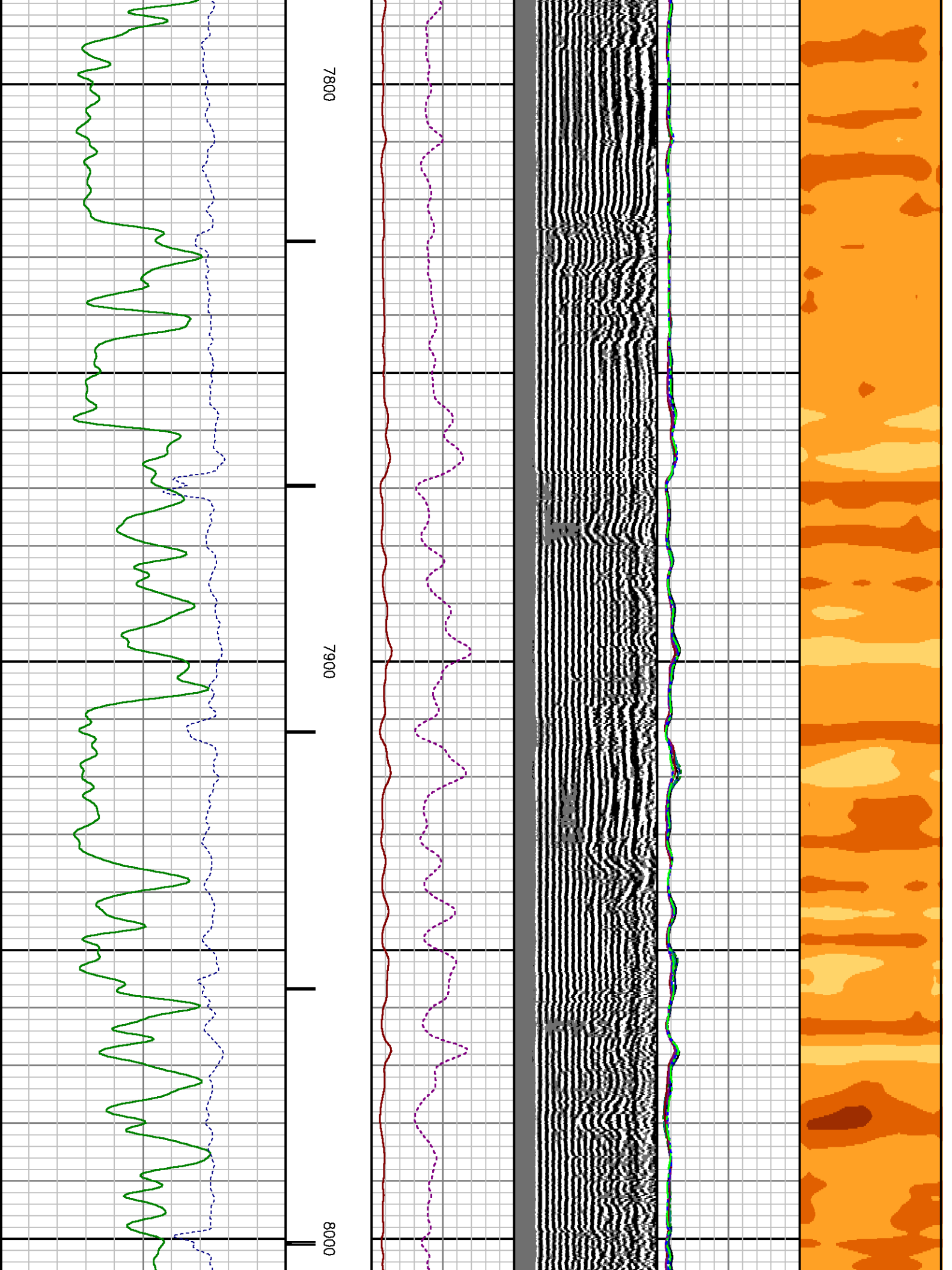


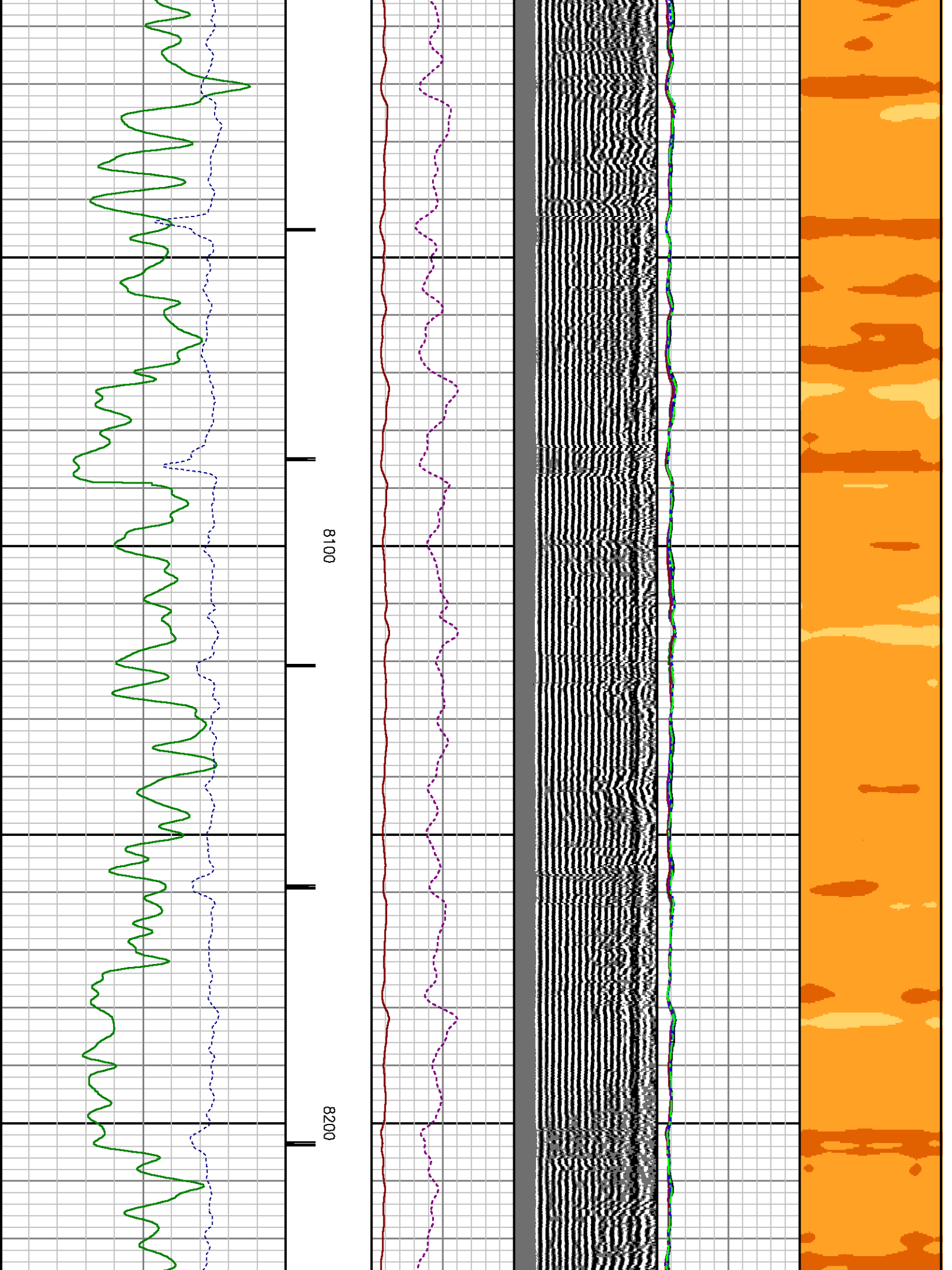


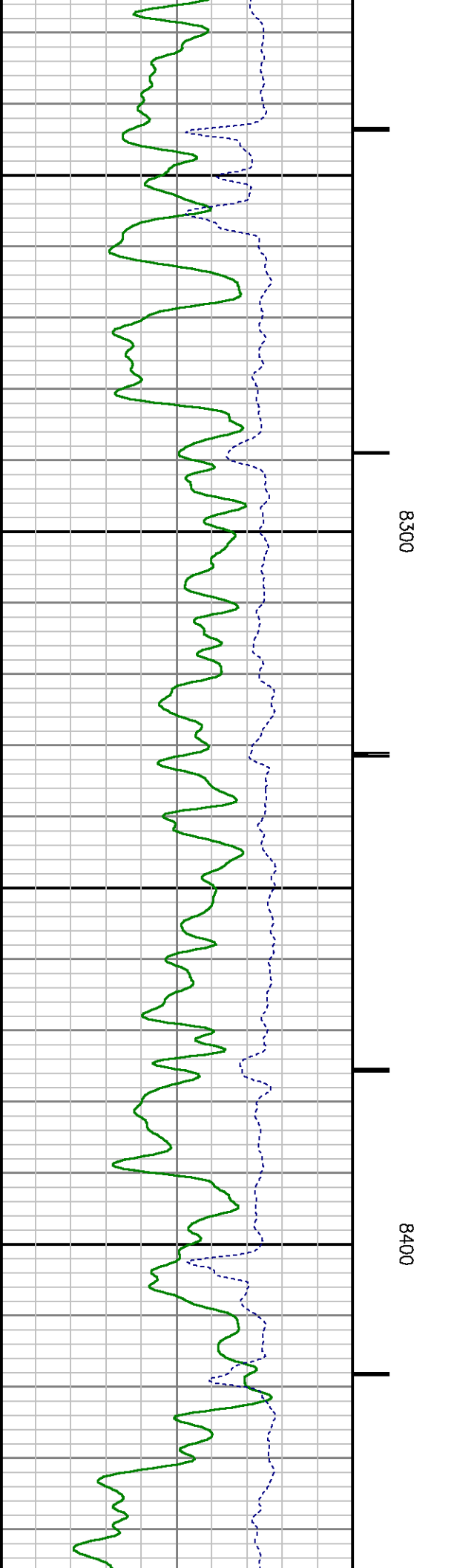
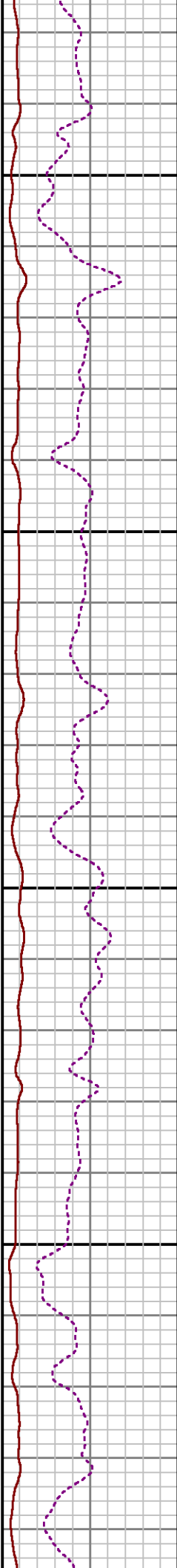
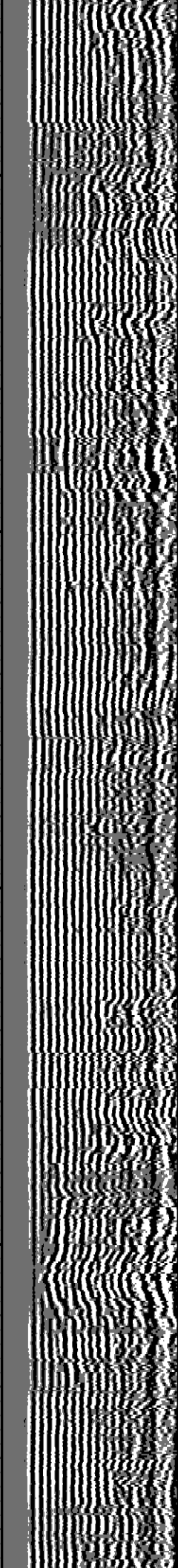
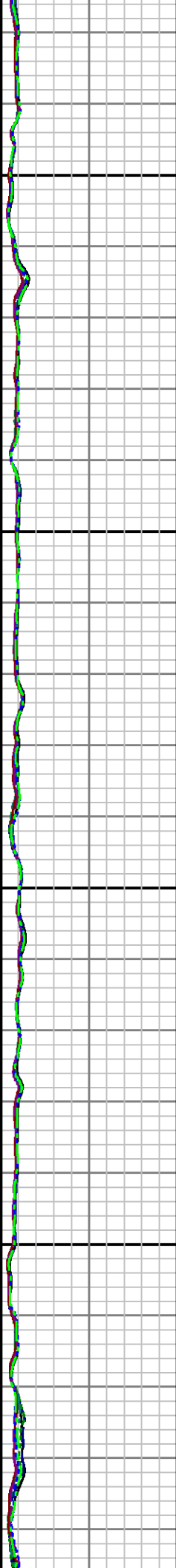
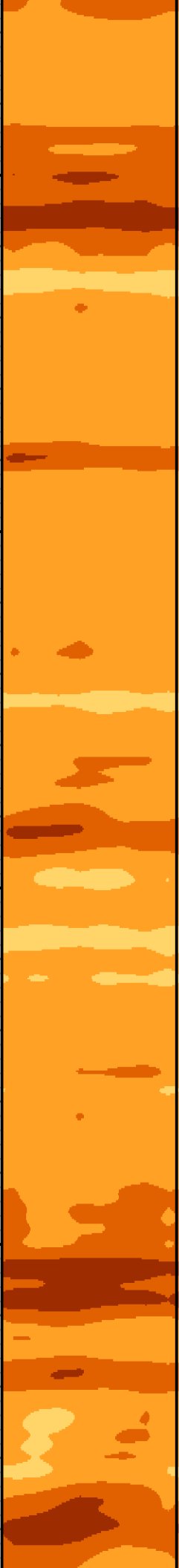


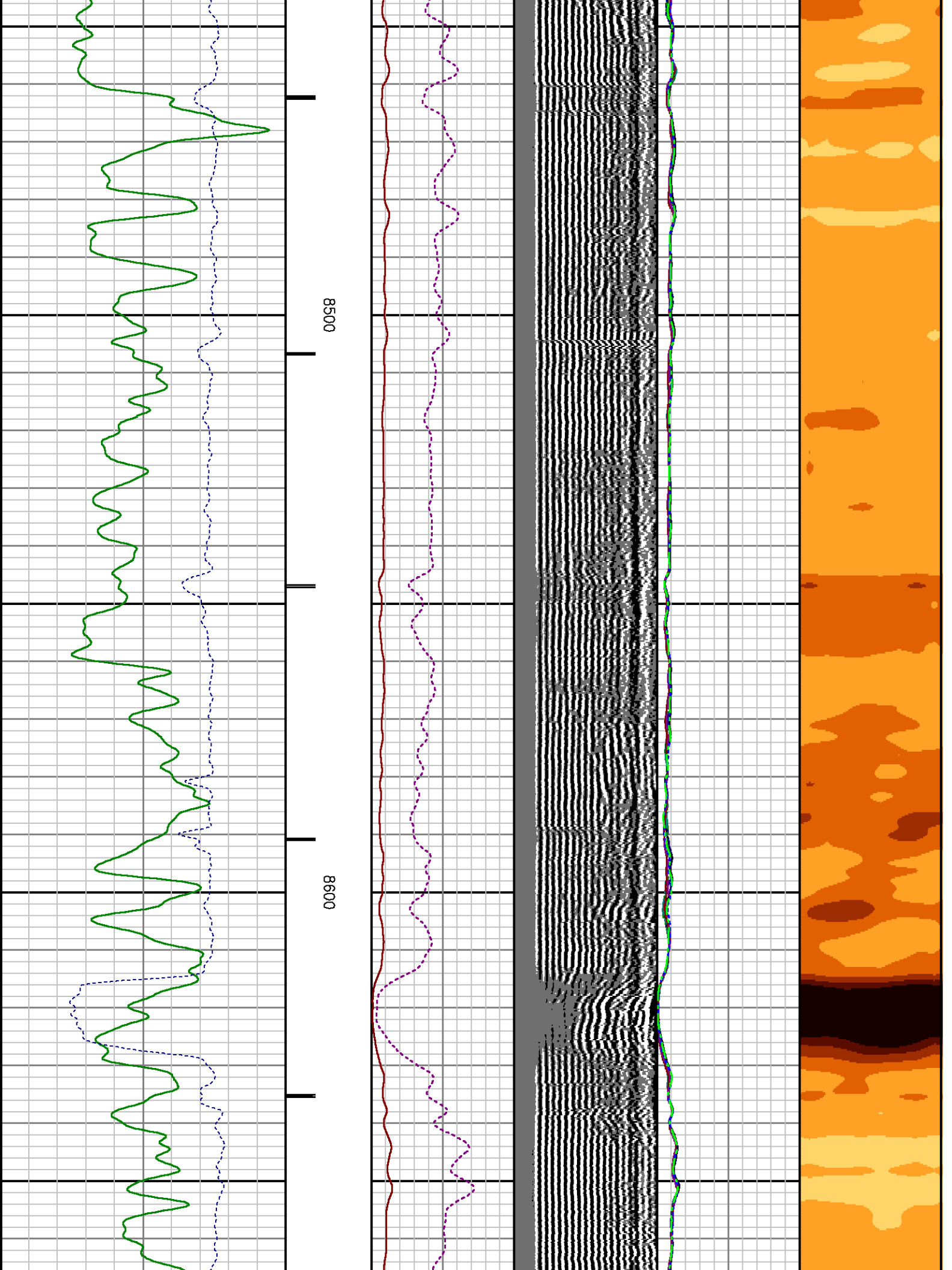




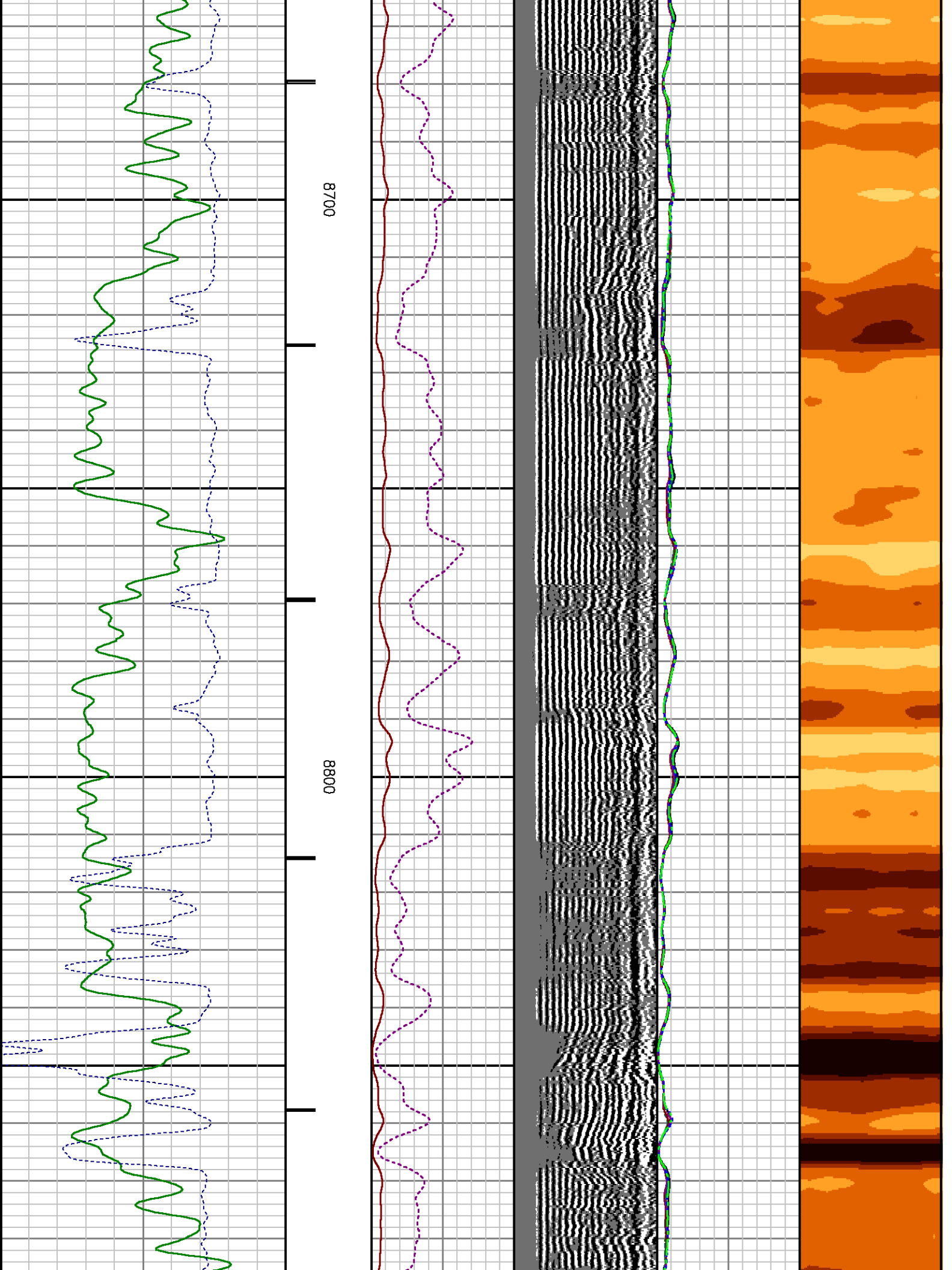




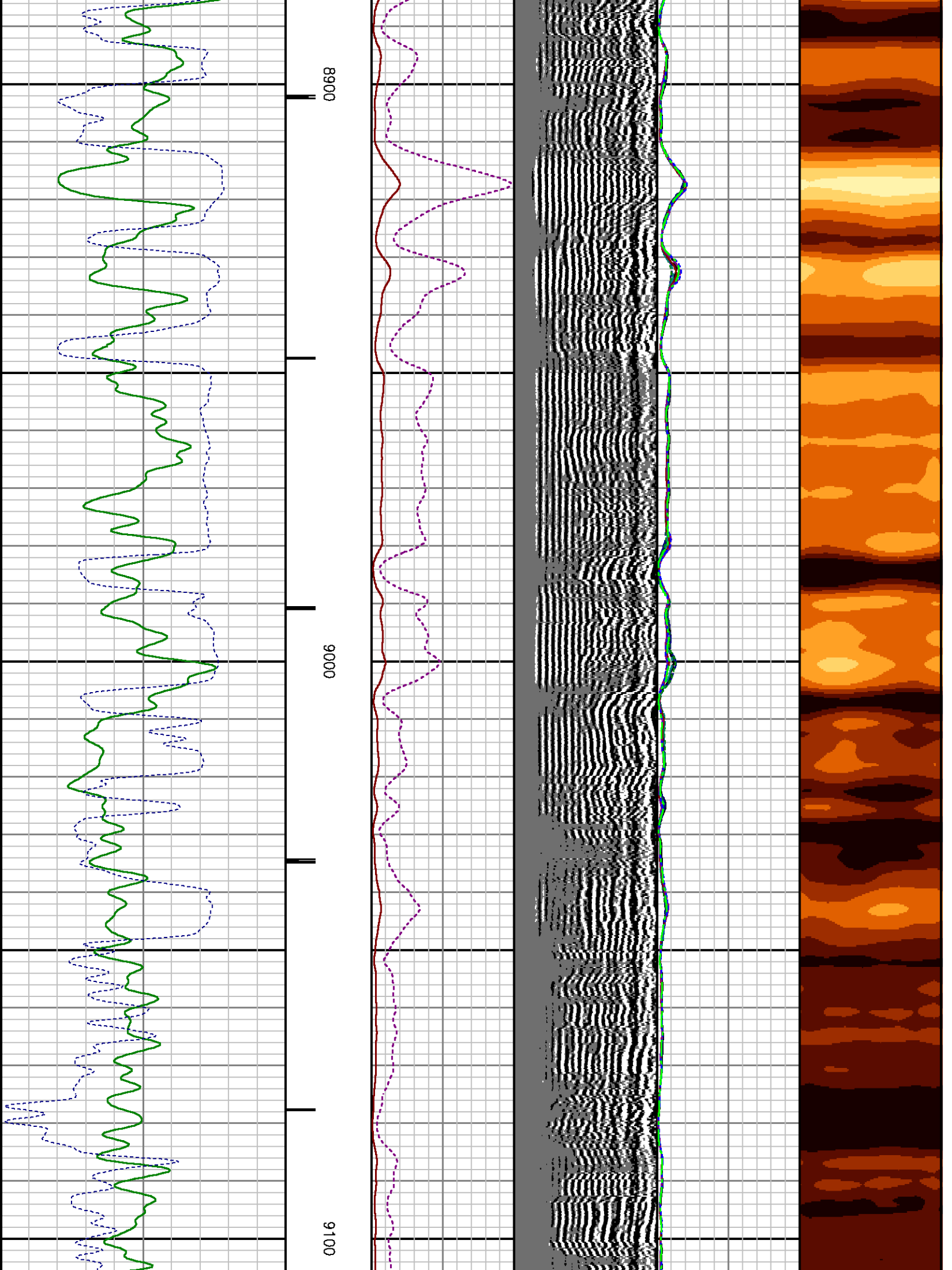


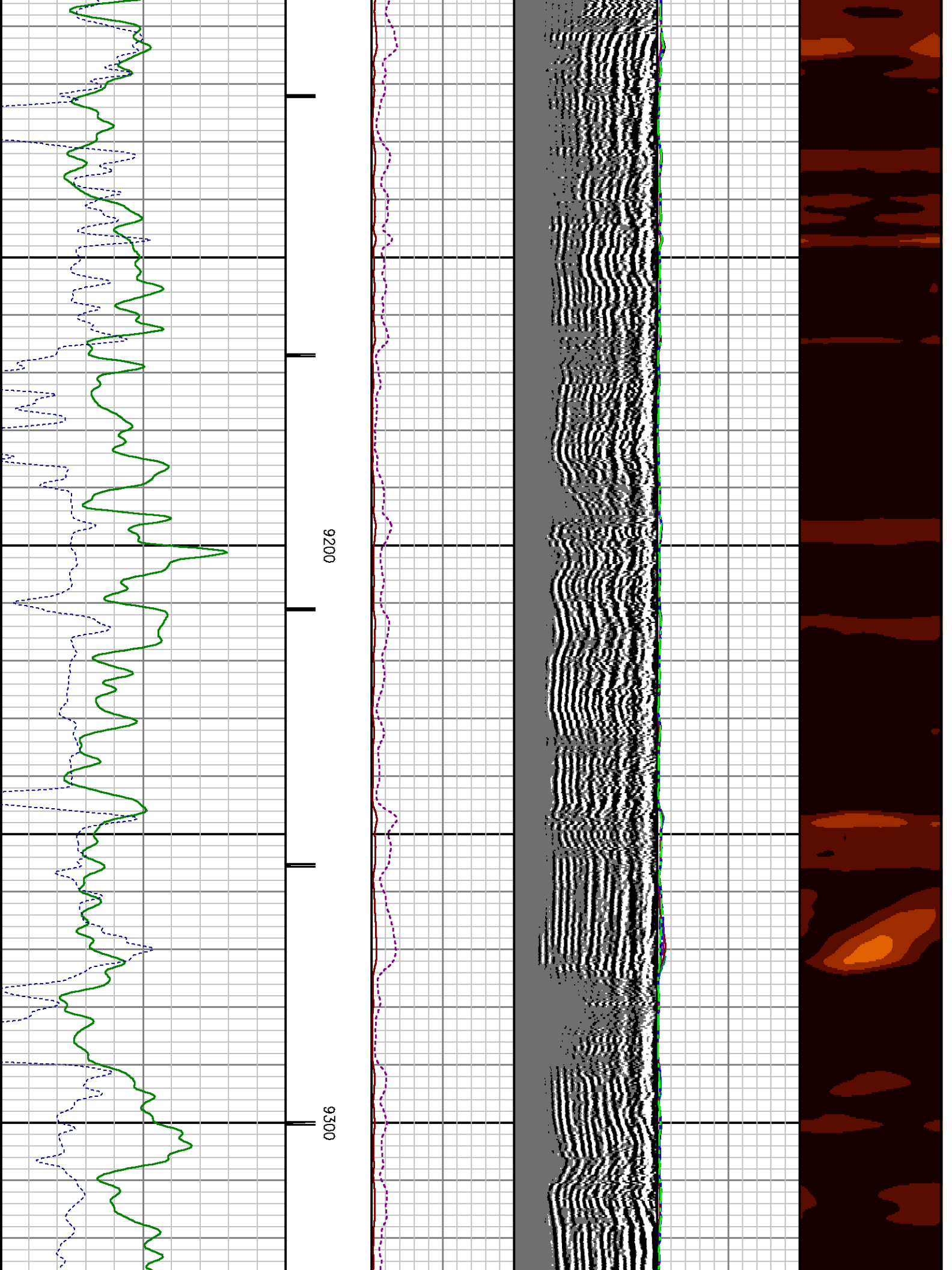


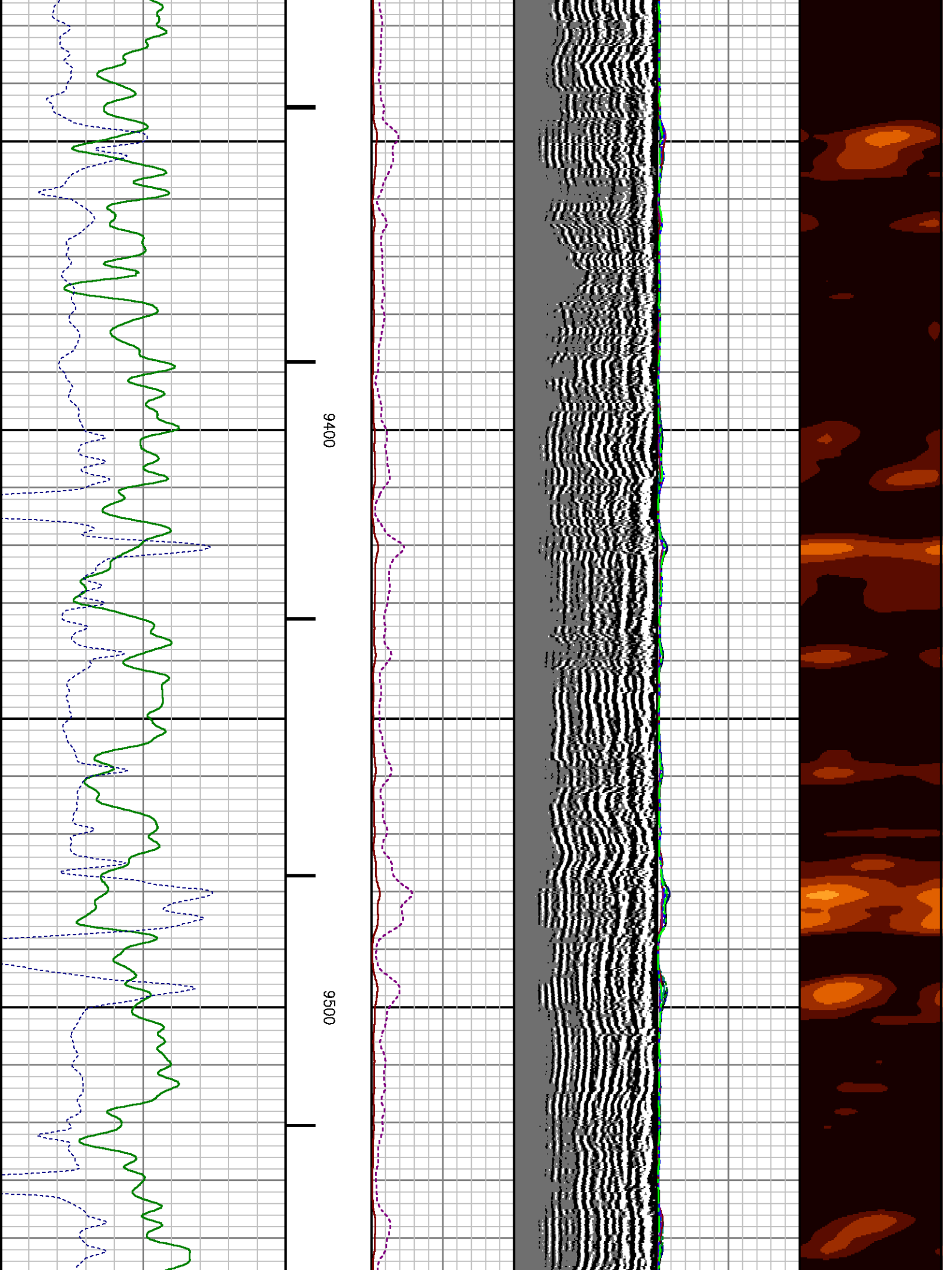


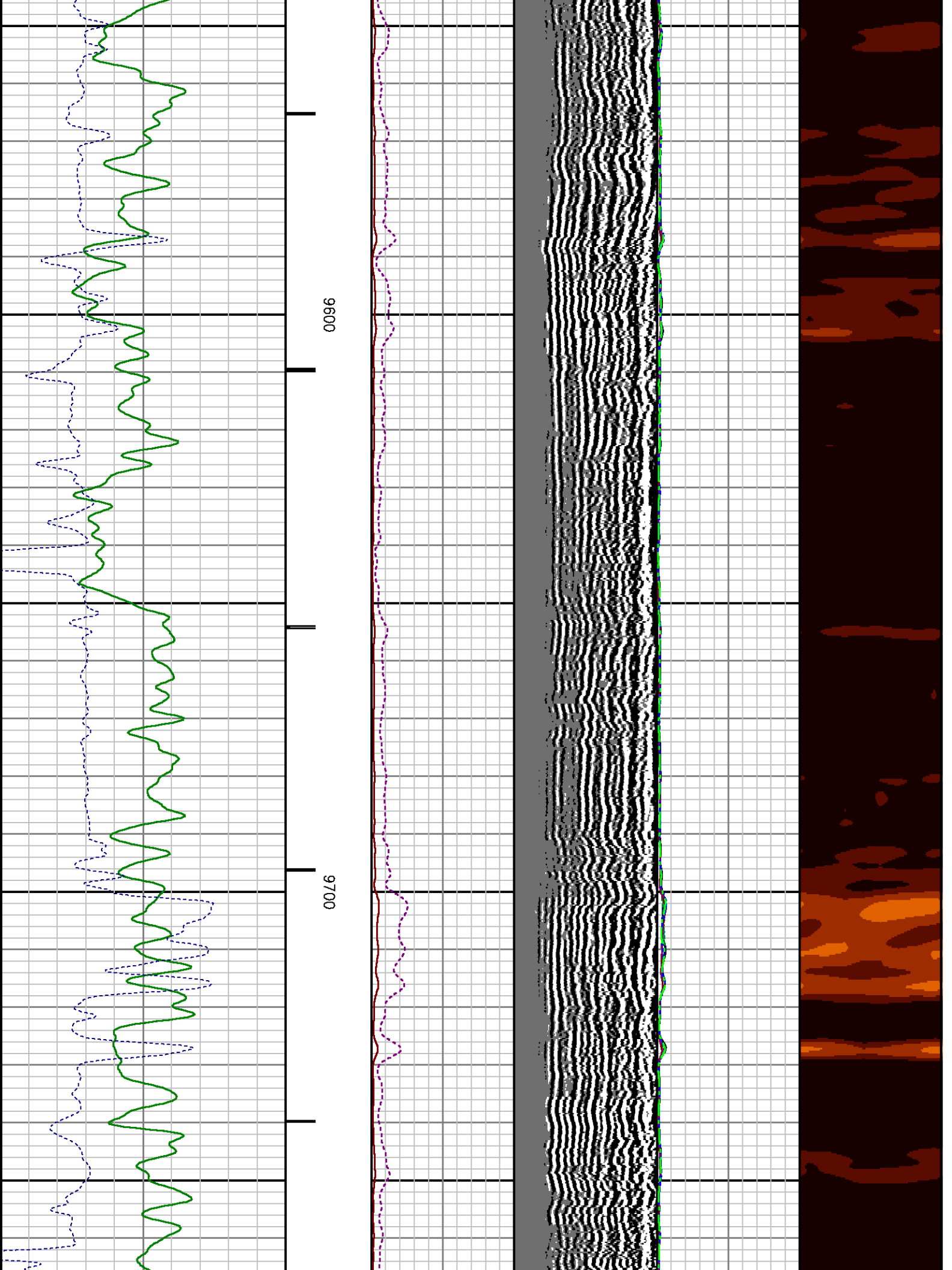


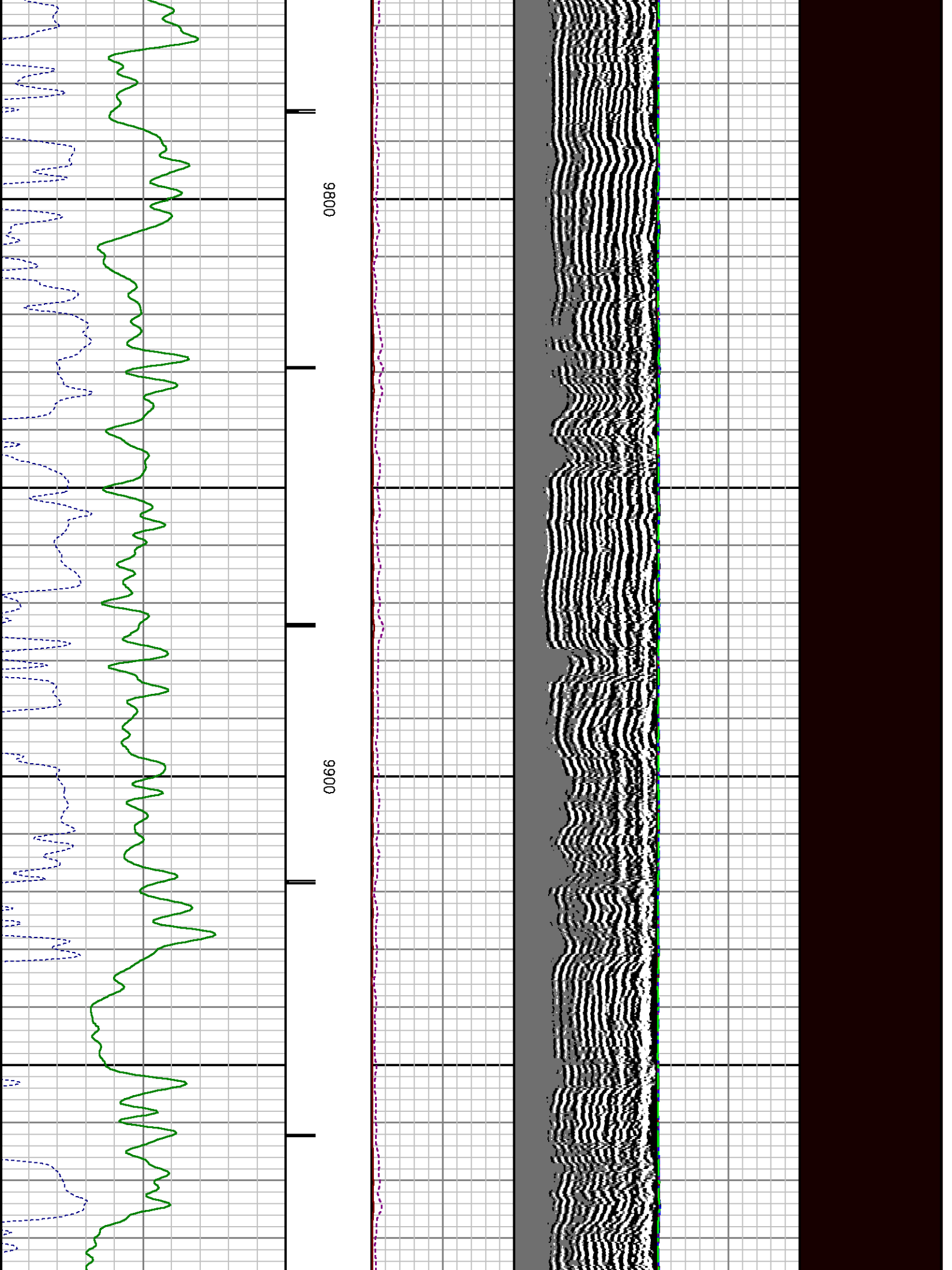


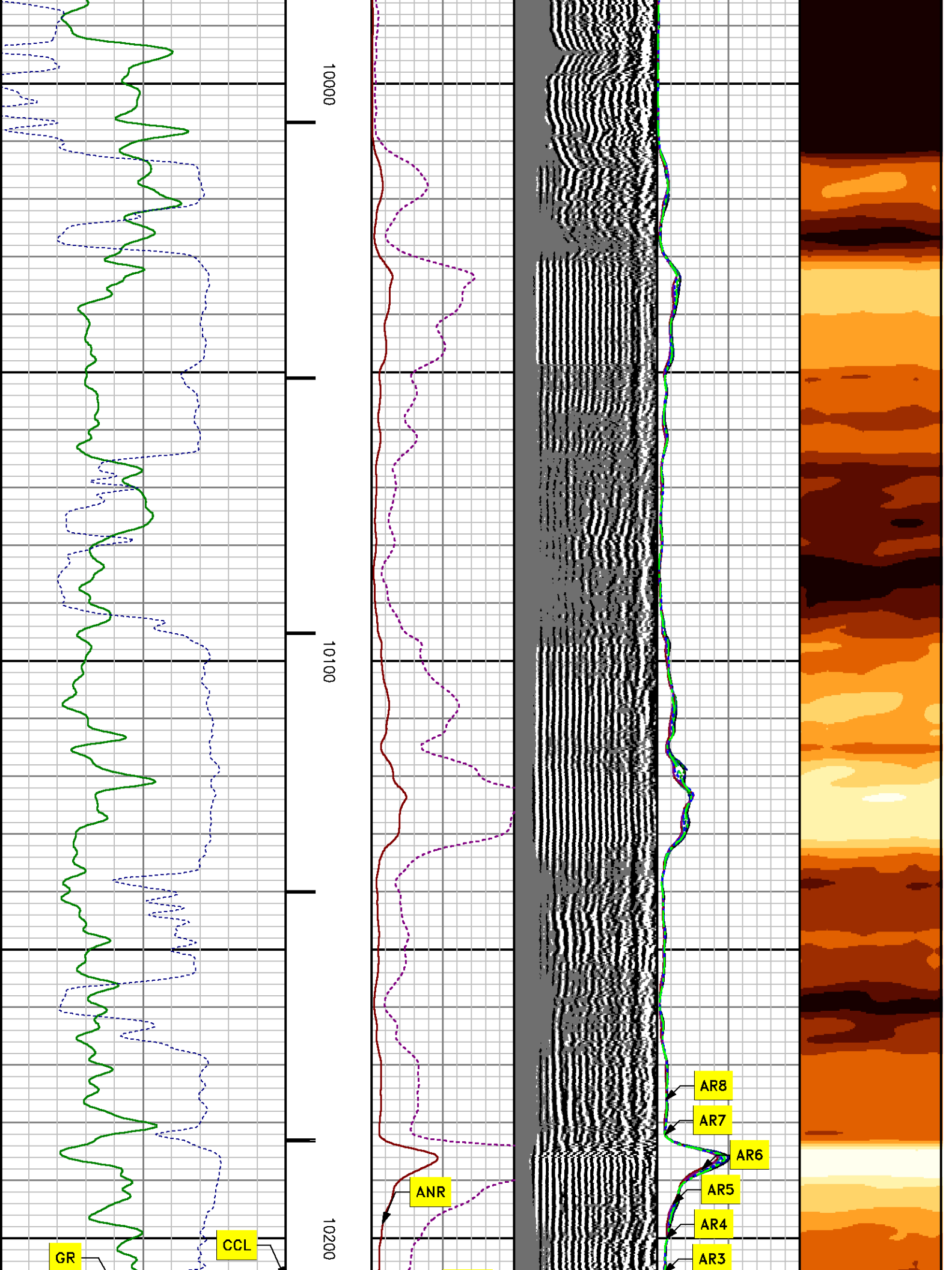




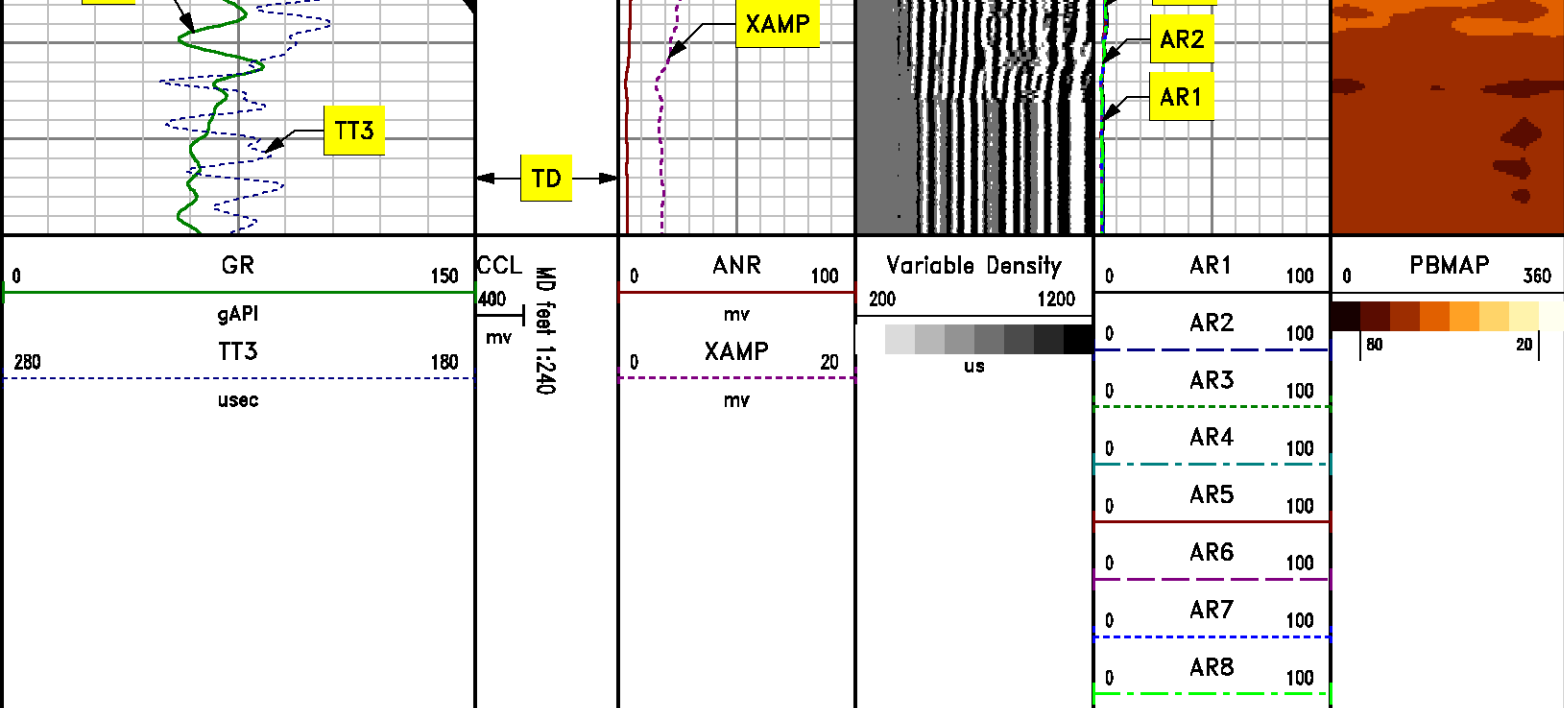












*REPEAT PASS*  
*0 PSI*

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	306.674	u sec	9919.968	10240.000
RAL	Amp Gate Start Near	198.578	u sec	9919.968	10240.000
RAL	Amp Gate Start Radial	199.015	u sec	9919.968	10240.000
RAL	Amp Gate Width Far	25.000	u sec	9919.968	10240.000
RAL	Amp Gate Width Near	25.000	u sec	9919.968	10240.000
RAL	Amp Gate Width Radial	25.000	u sec	9919.968	10240.000
RAL	casing od	4.500	inches	9919.968	10240.000
RAL	casing wt	11.600	lbm/ft	9919.968	10240.000
RAL	FB Start Far	291.900	u sec	9919.968	10240.000
RAL	FB Start Near	175.391	u sec	9919.968	10240.000
RAL	FB Start Radial	175.391	u sec	9919.968	10240.000
RAL	FB Thresh Far	10.000	mv	9919.968	10240.000
RAL	FB Thresh Near	4.000	mv	9919.968	10240.000
RAL	FB Thresh Radial	4.000	mv	9919.968	10240.000
RAL	Fluid Travel Time	200.000	u sec/ft	9919.968	10239.874

# 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

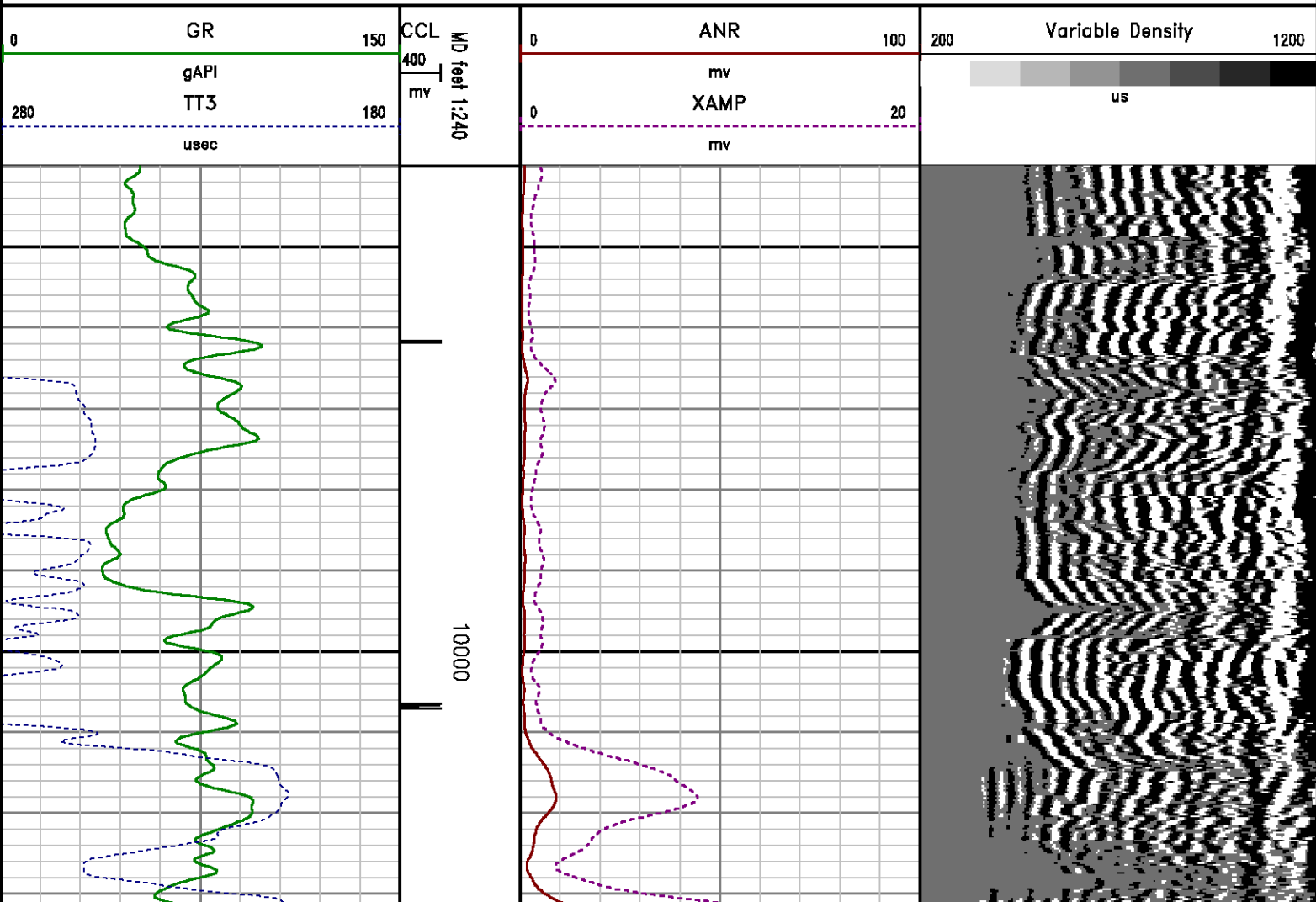
Well : FEDERAL BCU 33-36-199

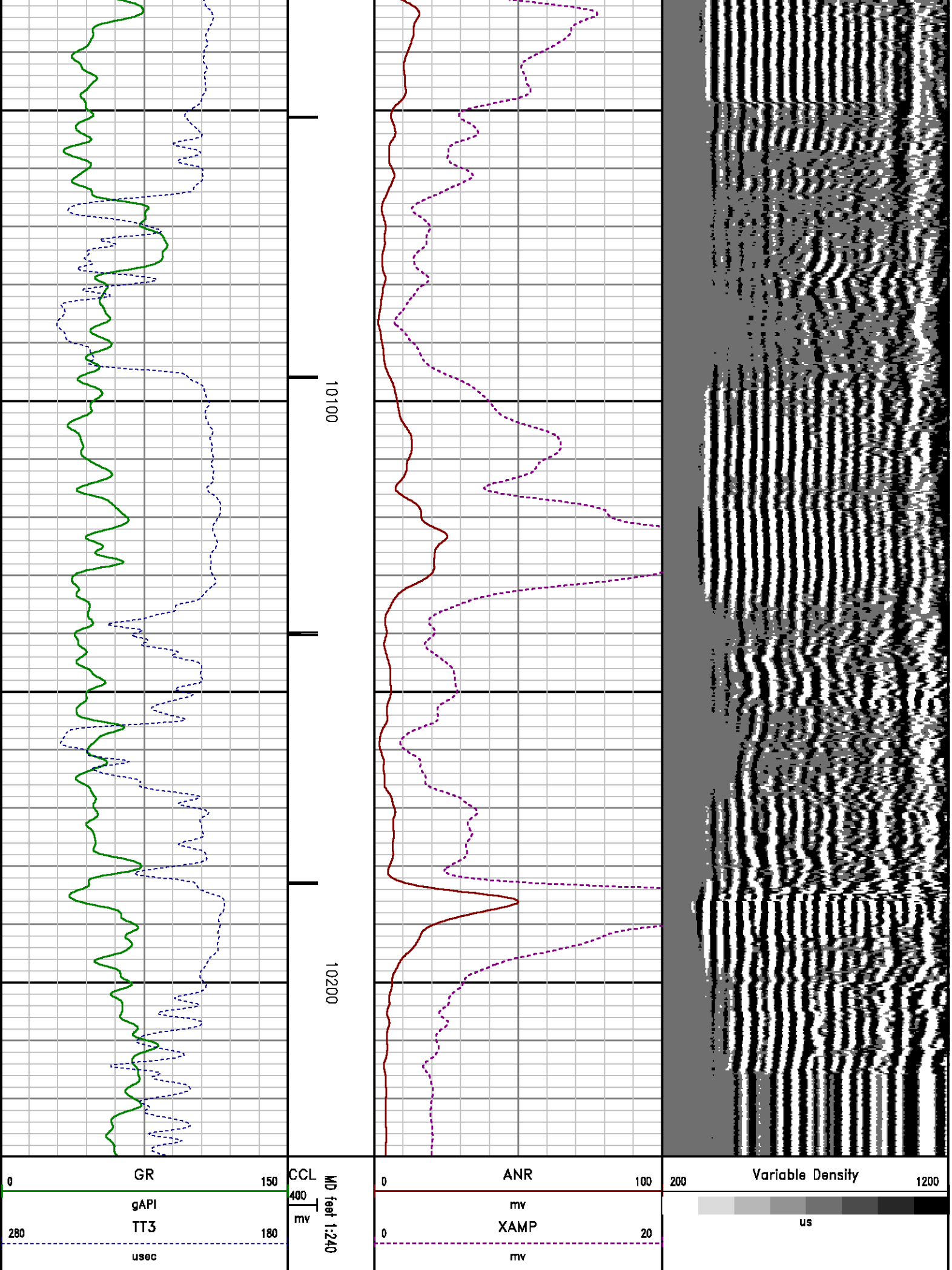
File Name : d:\welldata\33cb\repeat.xtf

Mode : PlotMgr 5.4.504

Interval : 9940.00 - 10230.00 feet UP

Created : 7/30/2013 9:35:45 AM





# CALIBRATION SUMMARY

## GAMMA RAY

Calibration File: C:\case\calver\GR\209J3.cal

### CALIBRATION SUMMARY

DATE/TIME PERFORMED:	Tue Jul 30 08:43:58 2013	TOOL SERIES:	1355XA	ASSET:	209	SEQ:	J3
Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]	
SHOP JIG	113.02	548.53	0.425	48.01	233.01	185.00	

Verification File: C:\case\calver\GR\209J3.VP

### PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED:	Tue Jul 30 08:46:06 2013	TOOL SERIES:	1355XA	ASSET:	209	SEQ:	J3
Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]	
SHOP JIG	112.22	543.20	0.425	47.67	230.74	183.07	

## RALSHP

Shop Calibration: C:\case\calver\RALSHP\106JUL30\_shp.cal

### SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED:	Tue Jul 30 08:52:10 2013	TOOL SERIES:	1426XA	ASSET:	106	SEQ:	JUL30
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Tool Delay [usec]	-58.00	Tank OD in	5.50	Tank Wt lbm/ft	15.50	Tank ID in	4.95	
RECEIVER	Travel Time [usec]	Amp. Gate Start [usec]	Amp. Gate Width [usec]	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Amp Ref. [mV]	Shop Factor
CAL Pulse	219	216	30	166	25	-0.133	100.00	0.20
3 Ft. Receiver	219	216	30	166	25	-0.775	100.00	0.19
5 Ft. Receiver	327	323	30	267	25	0.195	150.00	0.21
Radial #1	218	216	30	166	25	-0.650	100.00	0.19
Radial #2	219	216	30	166	25	0.068	100.00	0.19
Radial #3	219	216	30	166	25	-0.347	100.00	0.19
Radial #4	219	216	30	166	25	-0.516	100.00	0.19
Radial #5	219	216	30	166	25	-0.263	100.00	0.19
Radial #6	219	216	30	166	25	-0.190	100.00	0.19

Radial #7	217	216	30	166	25	0.048	100.00	0.19
Radial #8	219	216	30	166	25	-0.578	100.00	0.19

## RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\106JUL30 fld.cal

### WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Jul 30 08:53:33 2013 TOOL SERIES: 1426XA ASSET: 106 SEQ: JUL30

Tool Delay [usec]  Casing OD  Casing Wt  Casing ID

RECEIVER	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Full Amp. [mV]	Wellsite Factor	Amp. Ref [mV]
CAL Pulse	<input type="text" value="166"/>	<input type="text" value="25"/>	<input type="text" value="-0.031"/>	<input type="text" value="0.000"/>	<input type="text" value="1.00"/>	<input type="text" value="100.000"/>
3 Ft. Receiver	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="-1.523"/>			
5 Ft. Receiver	<input type="text" value="317"/>	<input type="text" value="30"/>	<input type="text" value="-2.258"/>			
Radial #1	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="-2.301"/>			
Radial #2	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="-1.990"/>			
Radial #3	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="-1.626"/>			
Radial #4	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="-1.760"/>			
Radial #5	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="-1.496"/>			
Radial #6	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="-1.609"/>			
Radial #7	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="-1.195"/>			
Radial #8	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="-1.492"/>			

## TOOL DIAGRAM

OTA SHORT CABLE HEAD

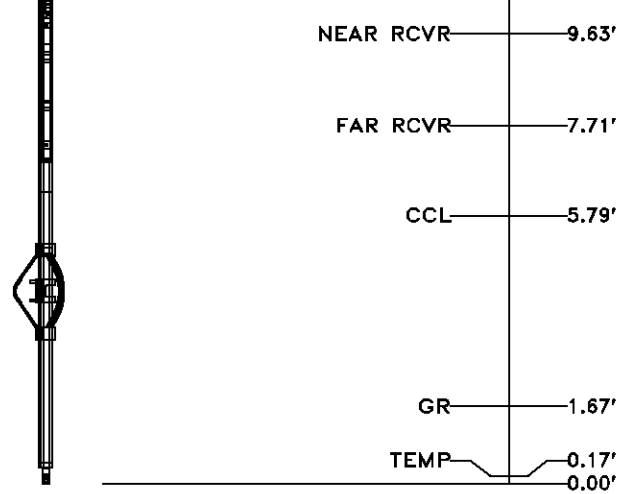
PROBE 2 3/4 DUAL RECEIVER RADII	
Series	1426XA
Mnemonic	PROB
Diameter	2.75"
Length	11.17'
Measure Point	0.75' FAR RCVR
Measure Point	2.67' NEAR RCVR
Measure Point	5.75' XMIT
Temp Rating	350.00 °F
Press Rating	18000.00 PSI



18.89'

XMIT 12.71'

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	FEDERAL BCU 33-36-199		
Field	BARCUS CREEK UNIT		
County	RIO BLANCO	State	COLORADO

File No:  
CH075467

API No:  
05103119490000

#### Location

SHL: 1462' FNL & 1112' FEL SEC:36  
BHL: 2081' FSL & 1984' FEL SEC:36

SEC 36 TWP 1N RGE 99W

#### Elevations

KB 6889 ft  
DF  
GL 6868 ft

36 1N 99W  
BCU 442-36-199  
CYCLONE 29

6889

Baker Atlas