



RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: CH082594	Company Well Field County	WPX ENERGY FEDERAL RU 11-5 RULISON GARFIELD	State CO
API No: 05045217730000	Location SHL: 207' FNL & 2599' FWL BHL: 157' FNL & 681' FWL SEC 5 TWP 75 RGE 93W		
5 7S 93W RU 23-5 PAD MABORS 576	Other Services		
Permanent Datum Log Measured From Drill Measured From	GL KB KB	Elevation 26 ft Above P. D.	Elevations KB 7628 ft DF GL 7602 ft

Date	15/FEB/14
Run	ONE
Service Order	US6525267
Depth Driller	10201 ft
Depth Logger	10181 ft
Bottom Logged Interval	10181 ft
Top Logged Interval	26 ft
Time Started	17:00
Time Finished	22:30
Operator Rig Time	5.5 HOURS
Type of Fluid in Hole	WATER
Fluid Density	NA
Salinity	NA
Fluid Level	NA
Logged Cement Top	NA
Wellhead Pressure	0 psi
Maximum Hole Deviation	NA
Nominal Logging Speed	65 fpm
Maximum Recorded Temperature	238 degF
Reference Log	BAKER HUGHES OPEN HOLE
Reference Log Date	26/JAN/2014
Equipment No.	4271
Recorded By	NEWELL
Witnessed By	JEFF DUCY

- 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	1130 ft
8.75 In	1130 ft	10249 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 In			0 ft	1130 ft
4.5 In	11.6 lbm/ft	HCP-110	0 ft	10249 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes HDIL/ZDL/CN/GR open hole log dated 1/26/2014 at the clients request.
The depth matching process creates potential for collar lengths to vary from those recorded on other cased hole wireline units without a Gamma Ray reference.

The amount of linear shift is 18 feet.

Logged with zero PSI at wellhead.

BHT = 238 °F

SJ = 6674'–6697'

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	CBL	1426XA	10218496	CENTRALIZED
1	1	GR/CCL	2459XA	10124121	CENTRALIZED

PRIMARY PRESENTATION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	22.566	10167.000
RAL	Amp Gate Start Near	195.000	usec	22.566	10167.000
RAL	Amp Gate Start Radial	195.000	usec	22.566	10167.000
RAL	Amp Gate Width Far	25.000	usec	22.566	10167.000
RAL	Amp Gate Width Near	25.000	usec	22.566	10167.000
RAL	Amp Gate Width Radial	25.000	usec	22.566	10167.000
RAL	casing od	4.500	inches	22.566	10167.000
RAL	casing wt	11.600	lbm/ft	22.566	10167.000
RAL	FB Start Far	291.900	usec	22.566	10167.000
RAL	FB Start Near	175.391	usec	22.566	10167.000
RAL	FB Start Radial	175.391	usec	22.566	10167.000
RAL	FB Thresh Far	10.000	mv	22.566	10167.000
RAL	FB Thresh Near	4.000	mv	22.566	10167.000
RAL	FB Thresh Radial	4.000	mv	22.566	10167.000
RAL	Fluid Travel Time	200.000	usec/ft	22.566	10166.879

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

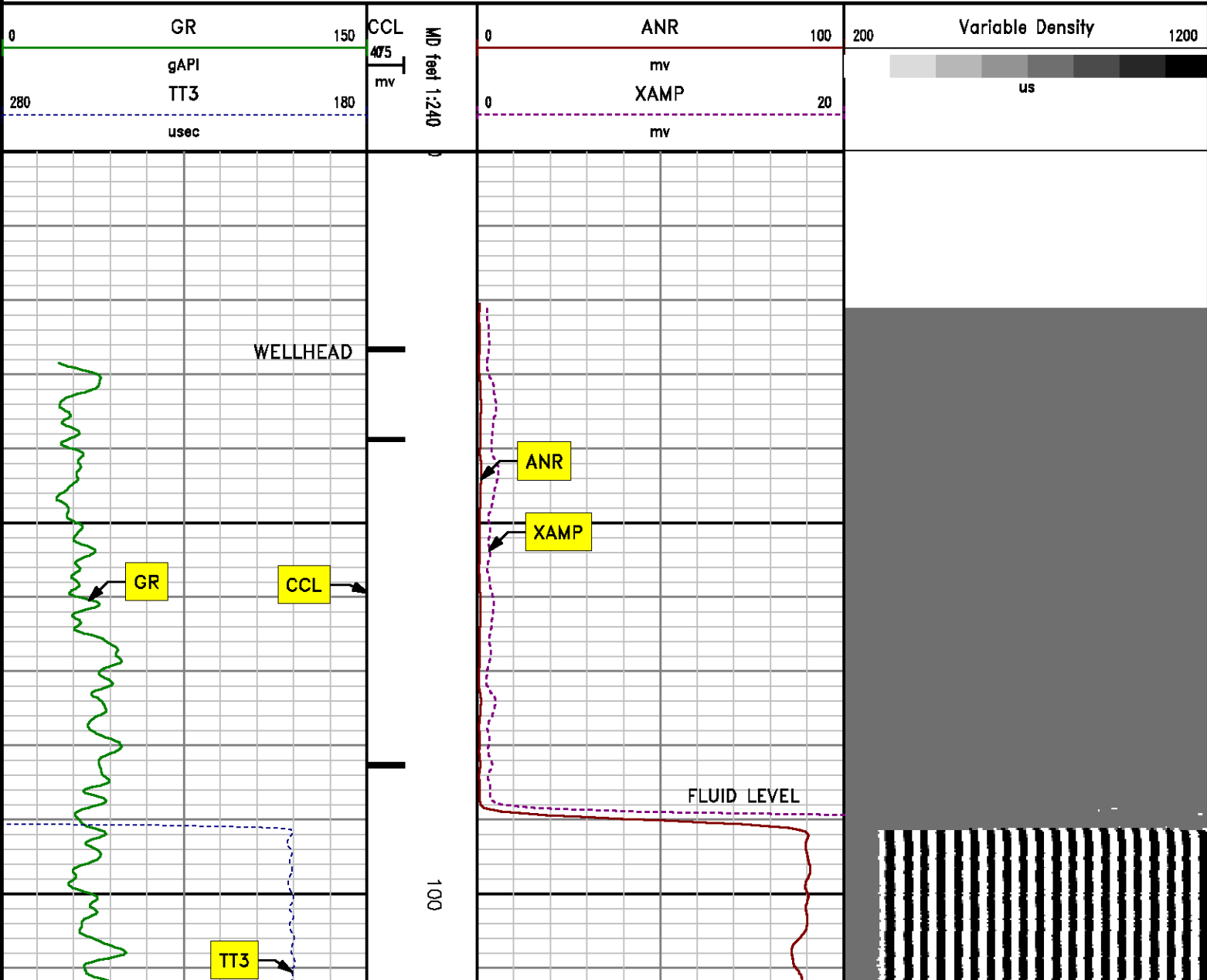
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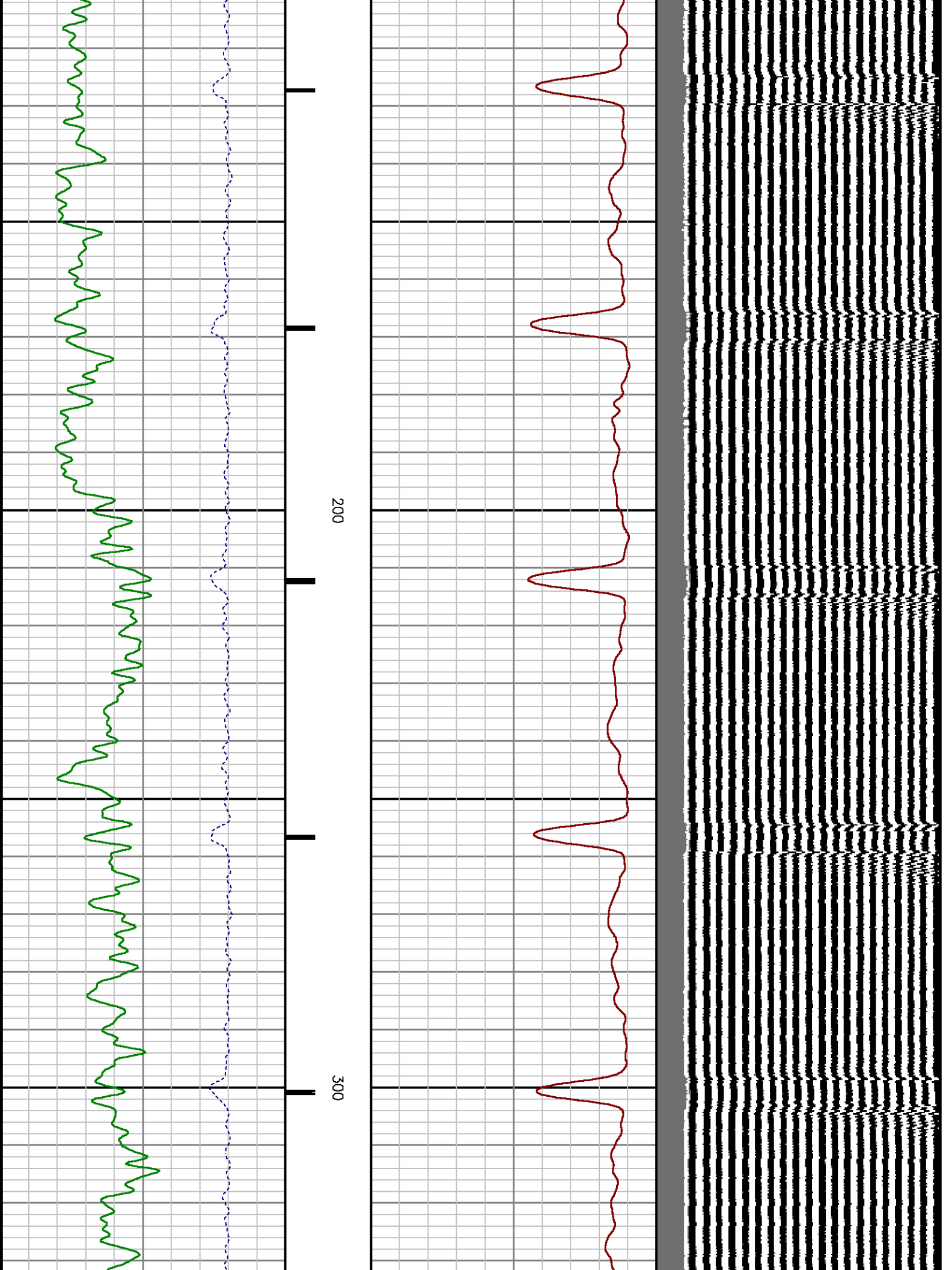
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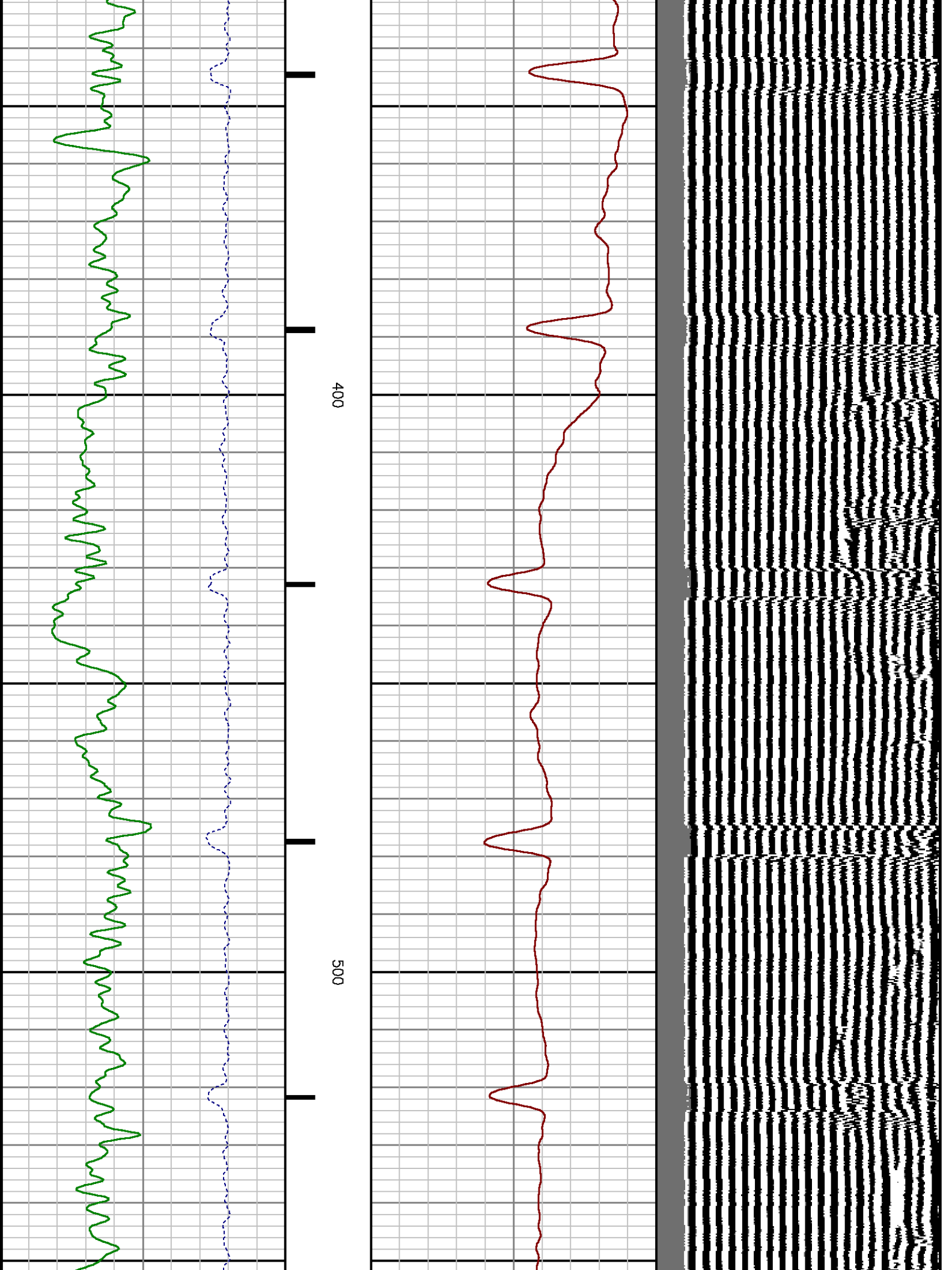
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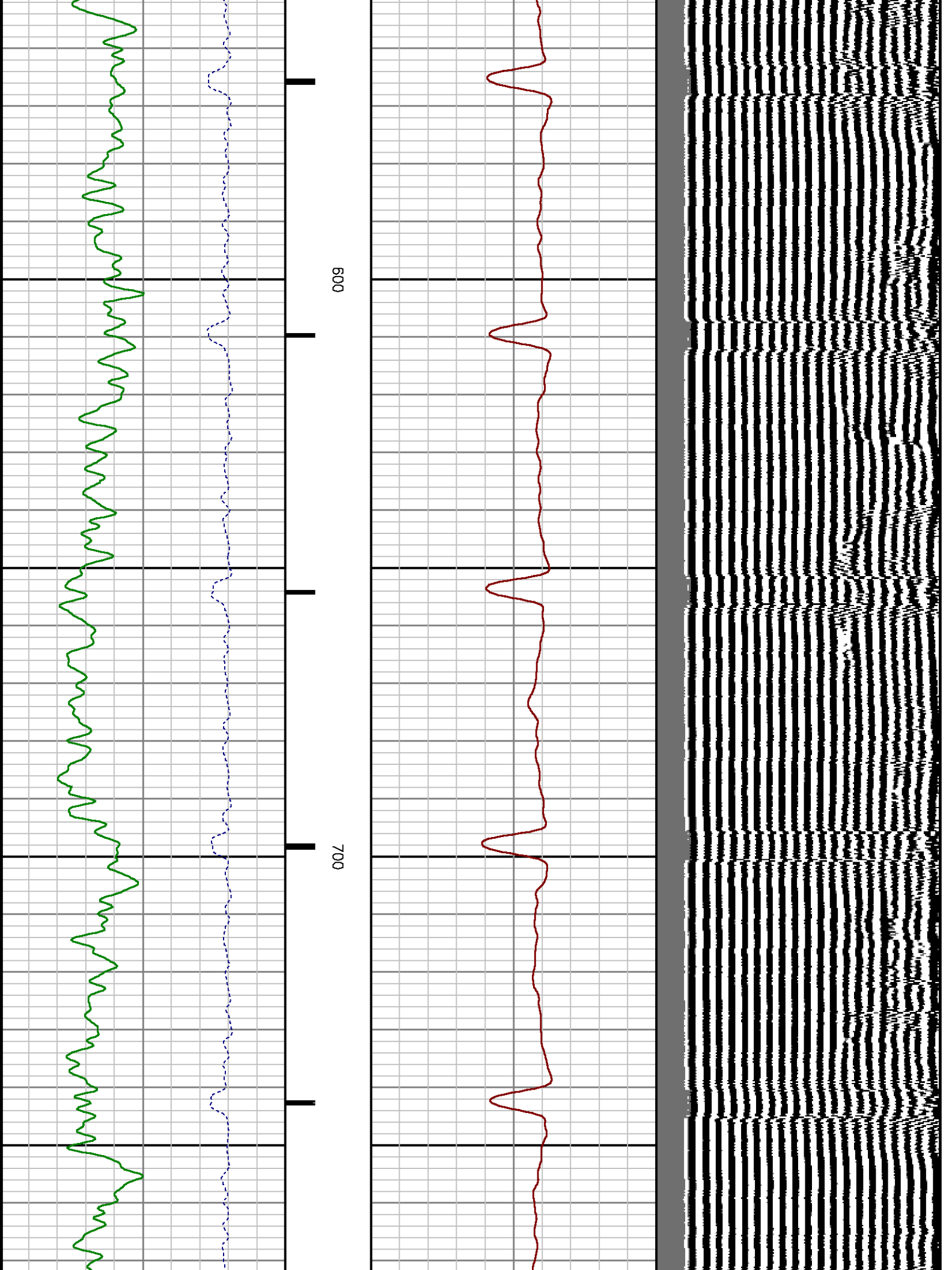
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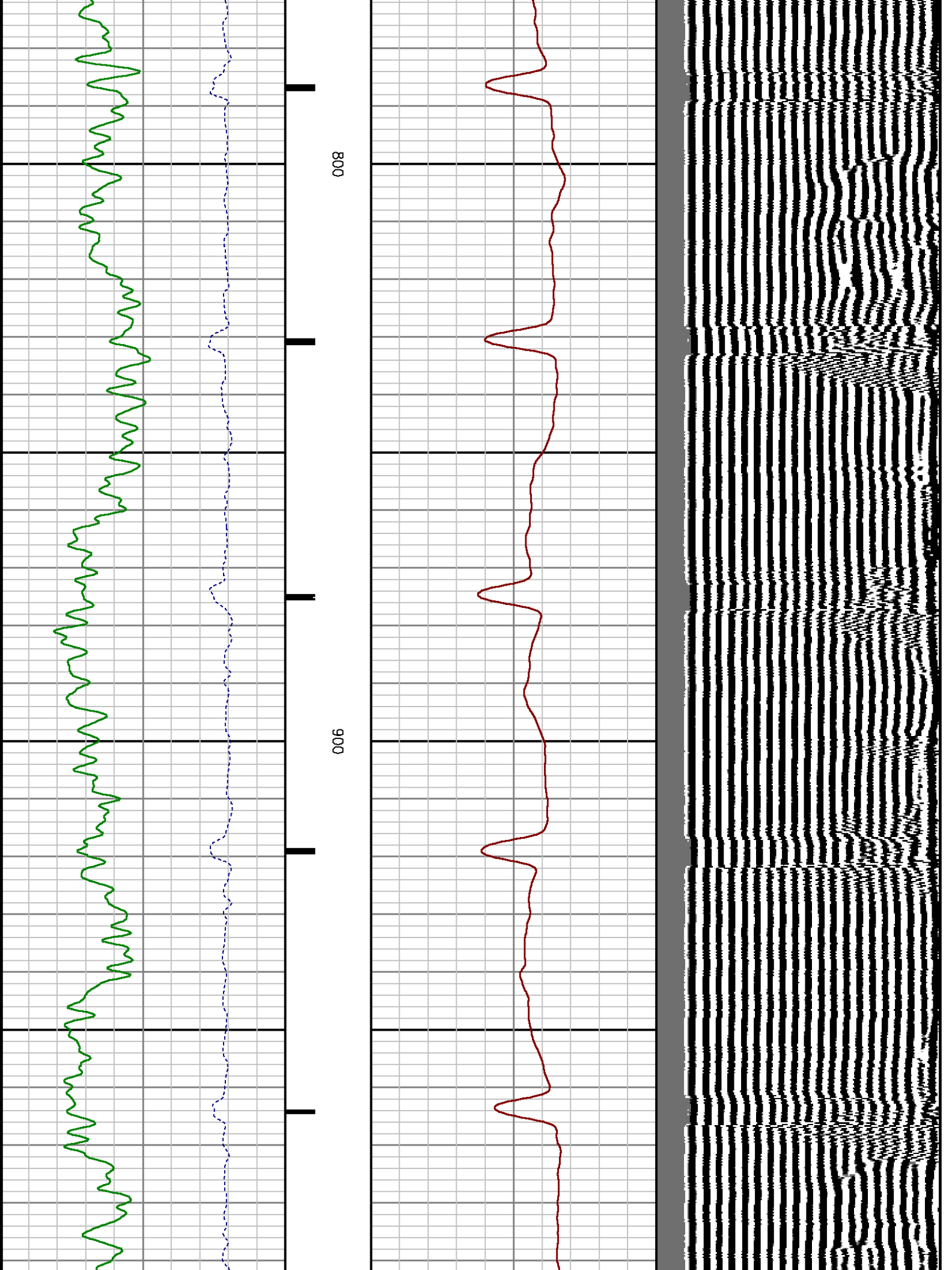
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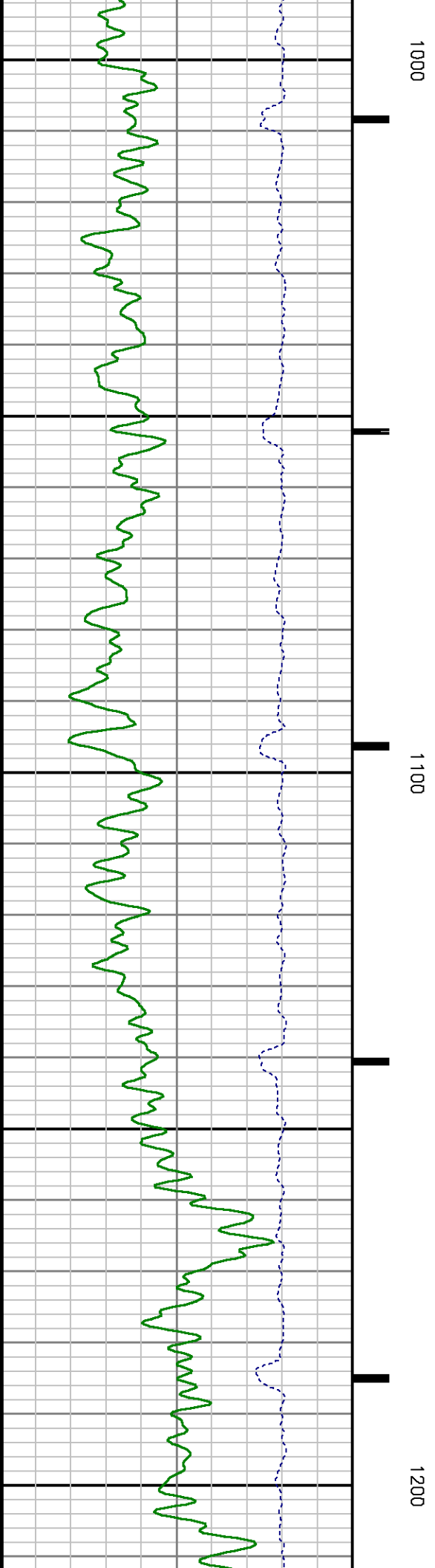
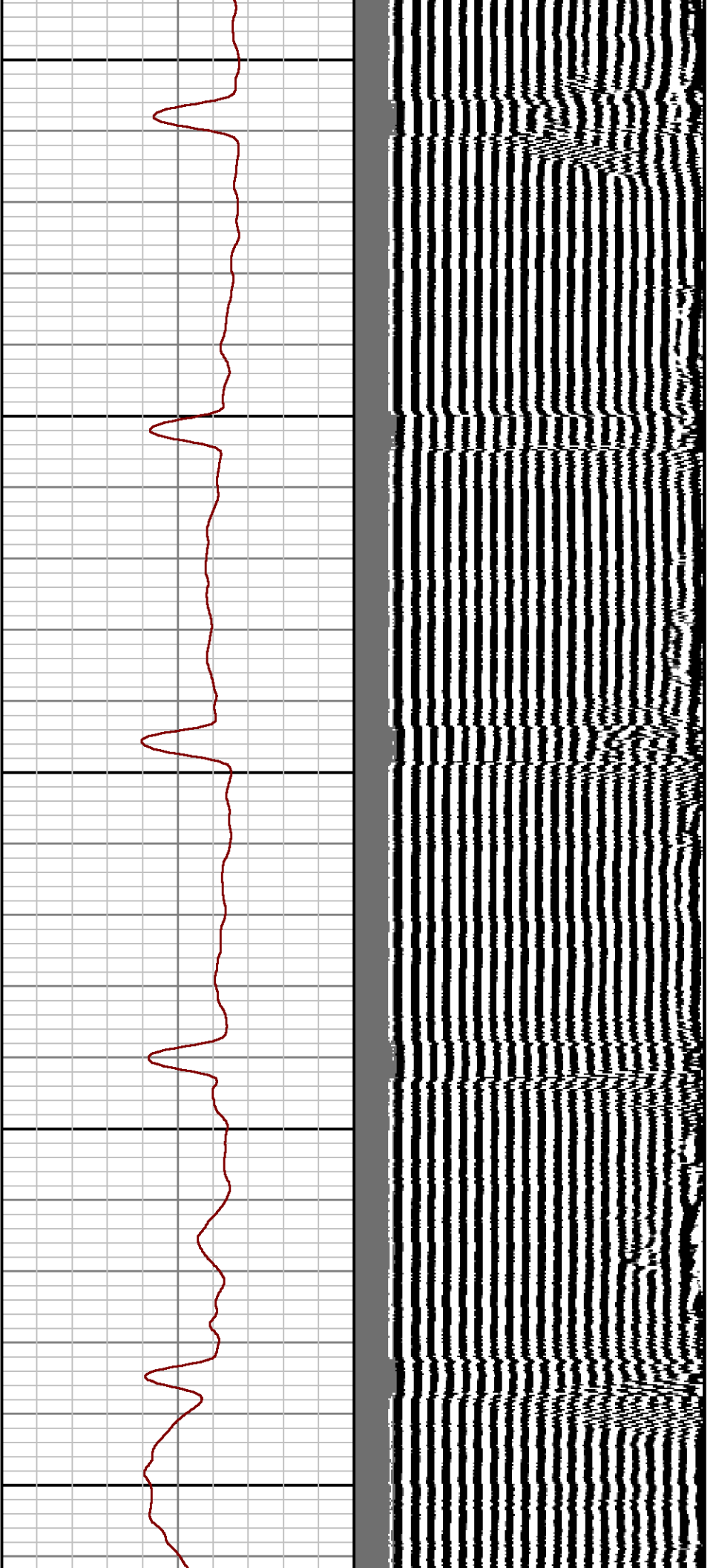


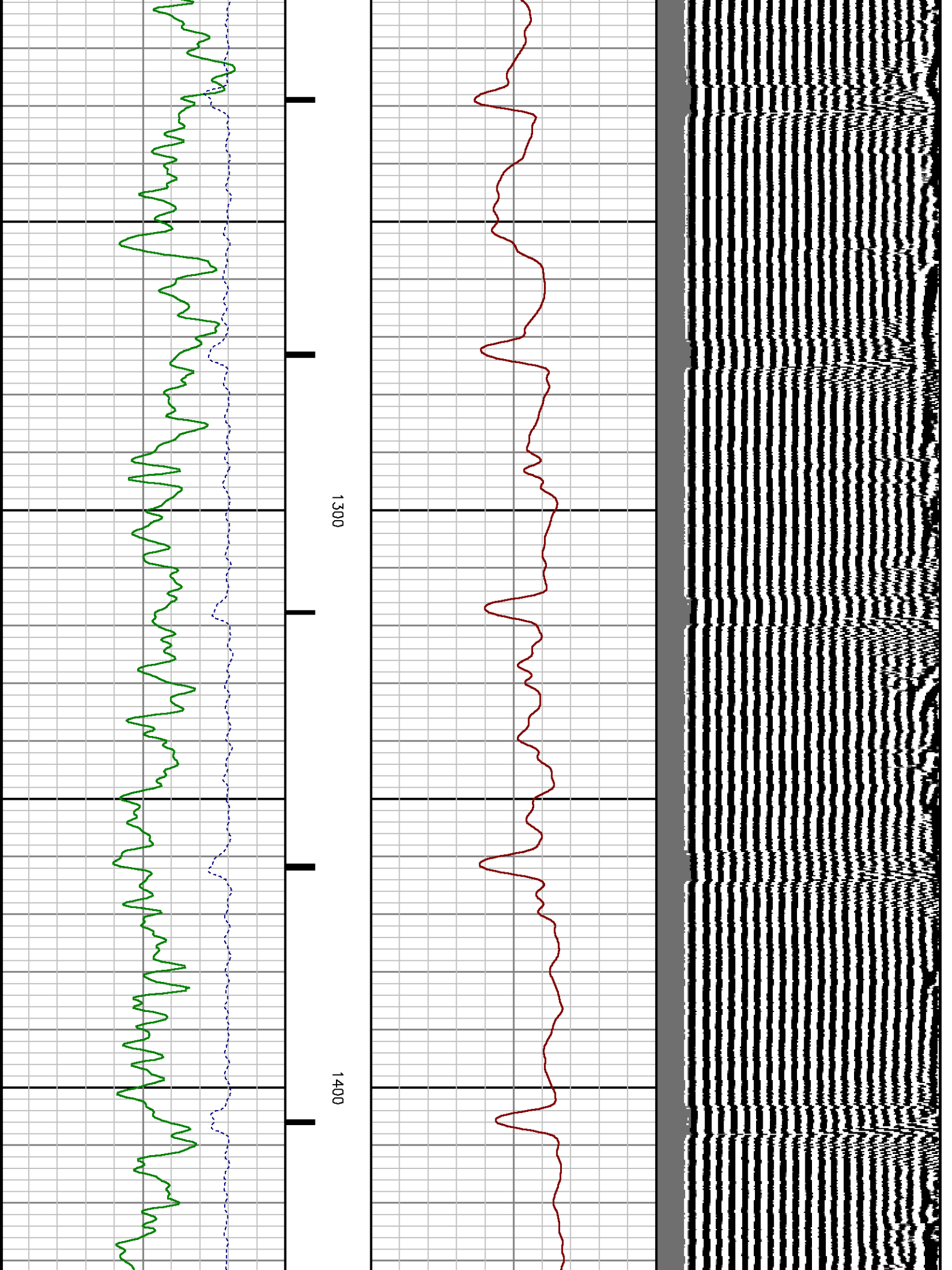


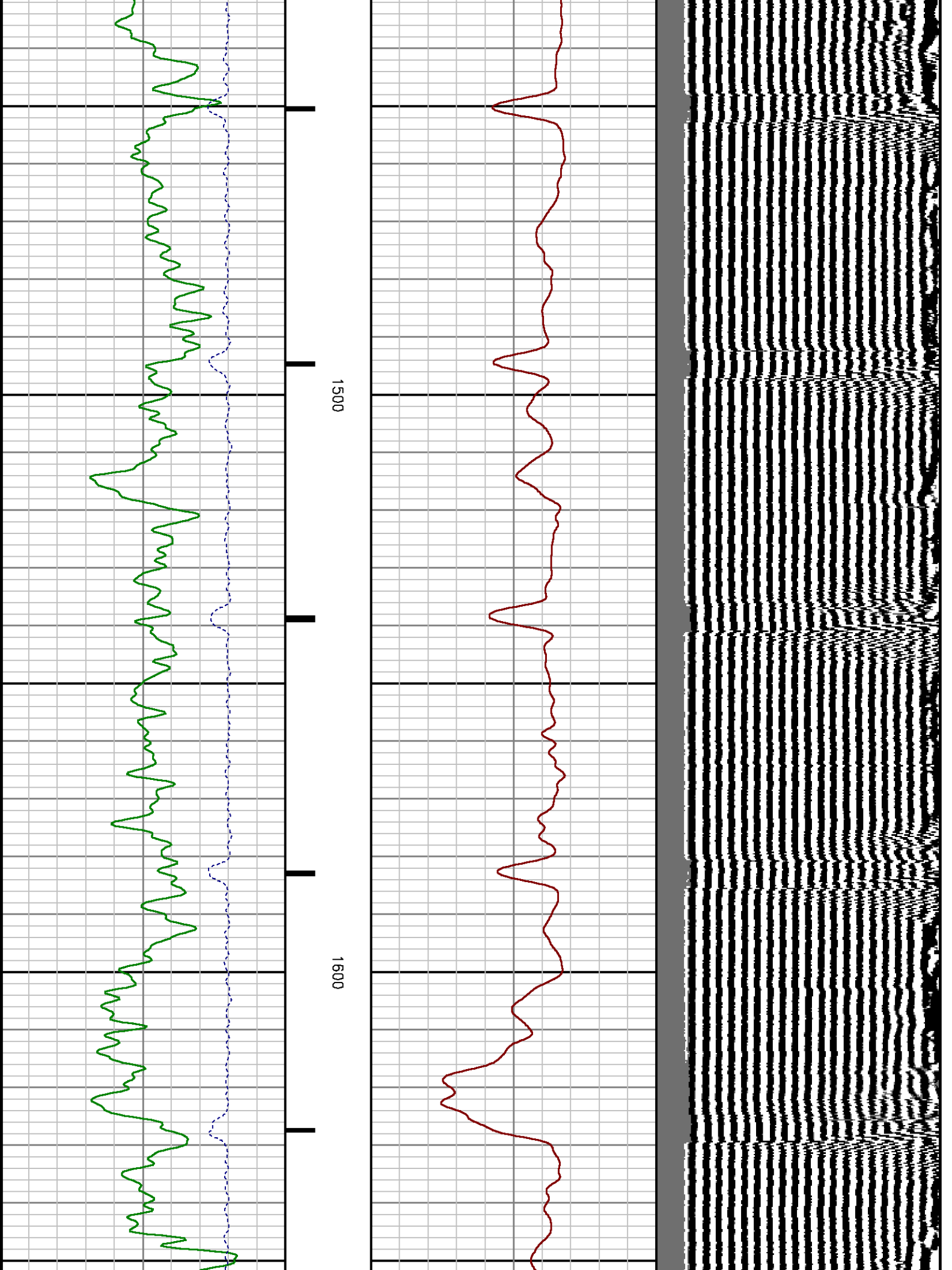


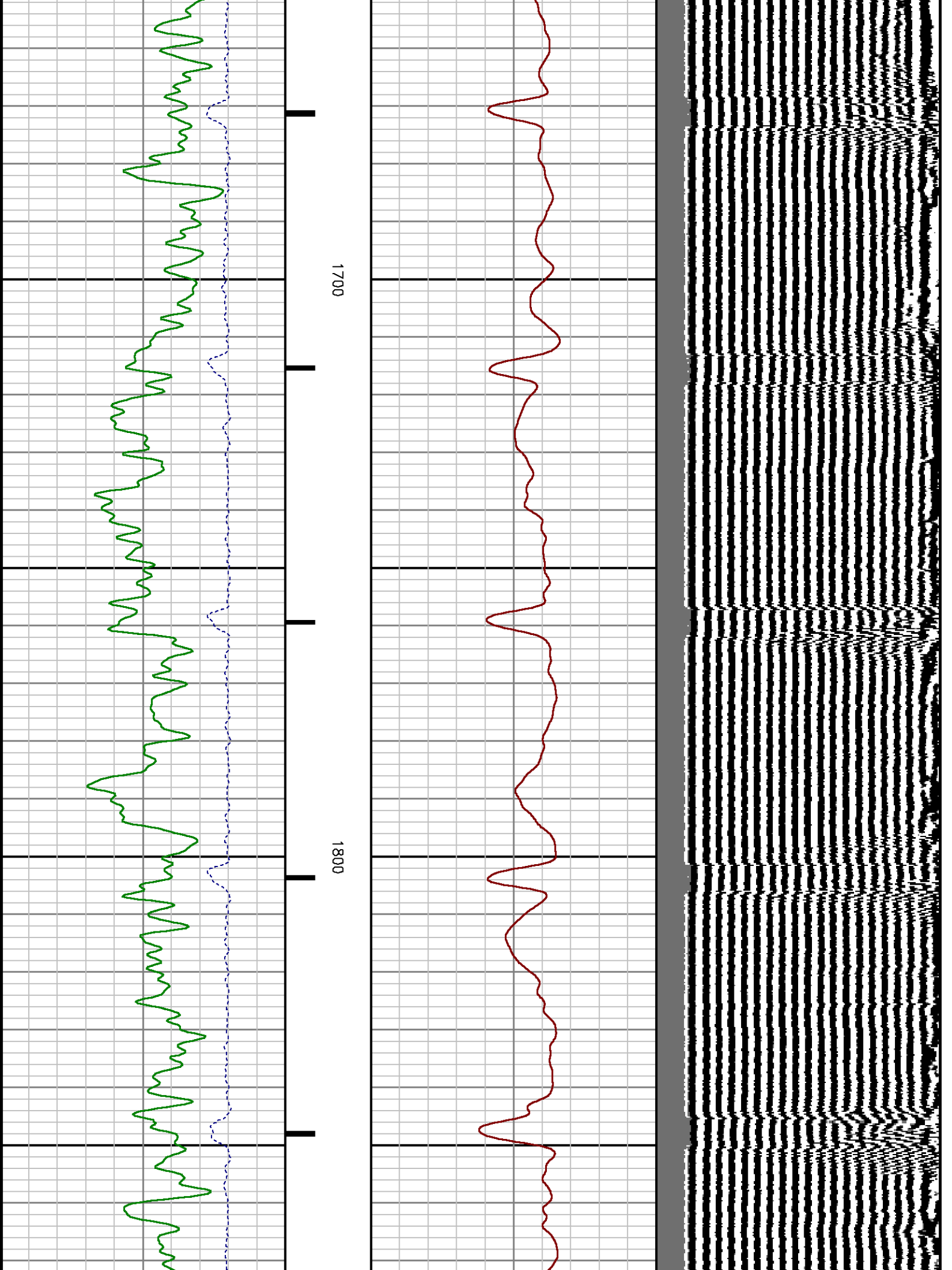


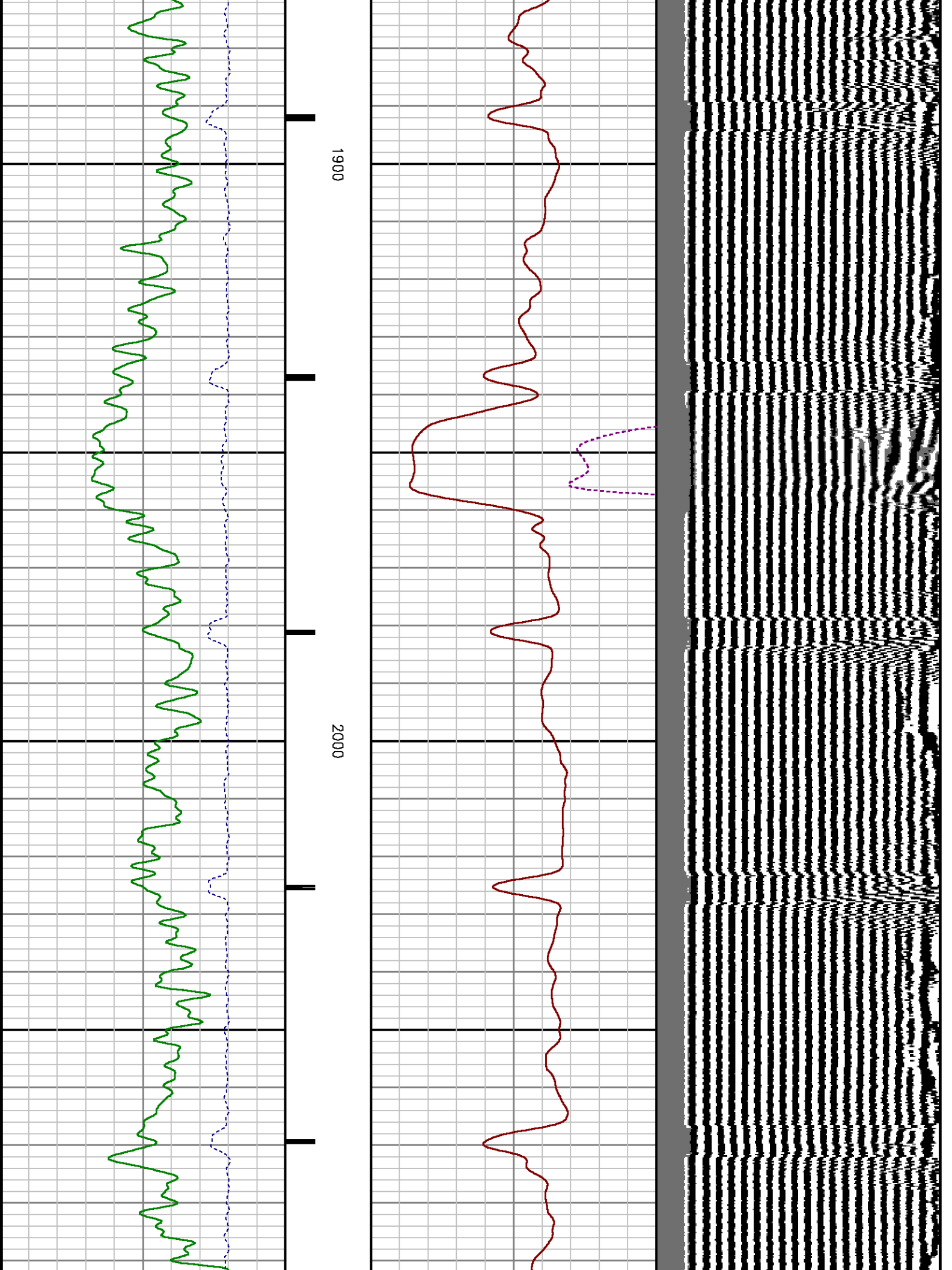


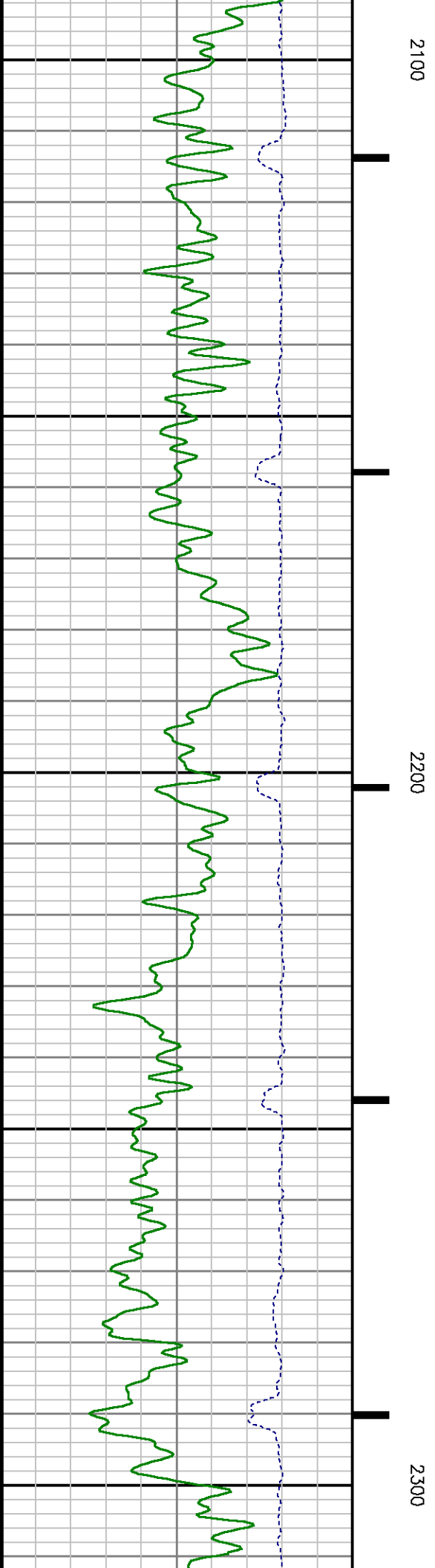
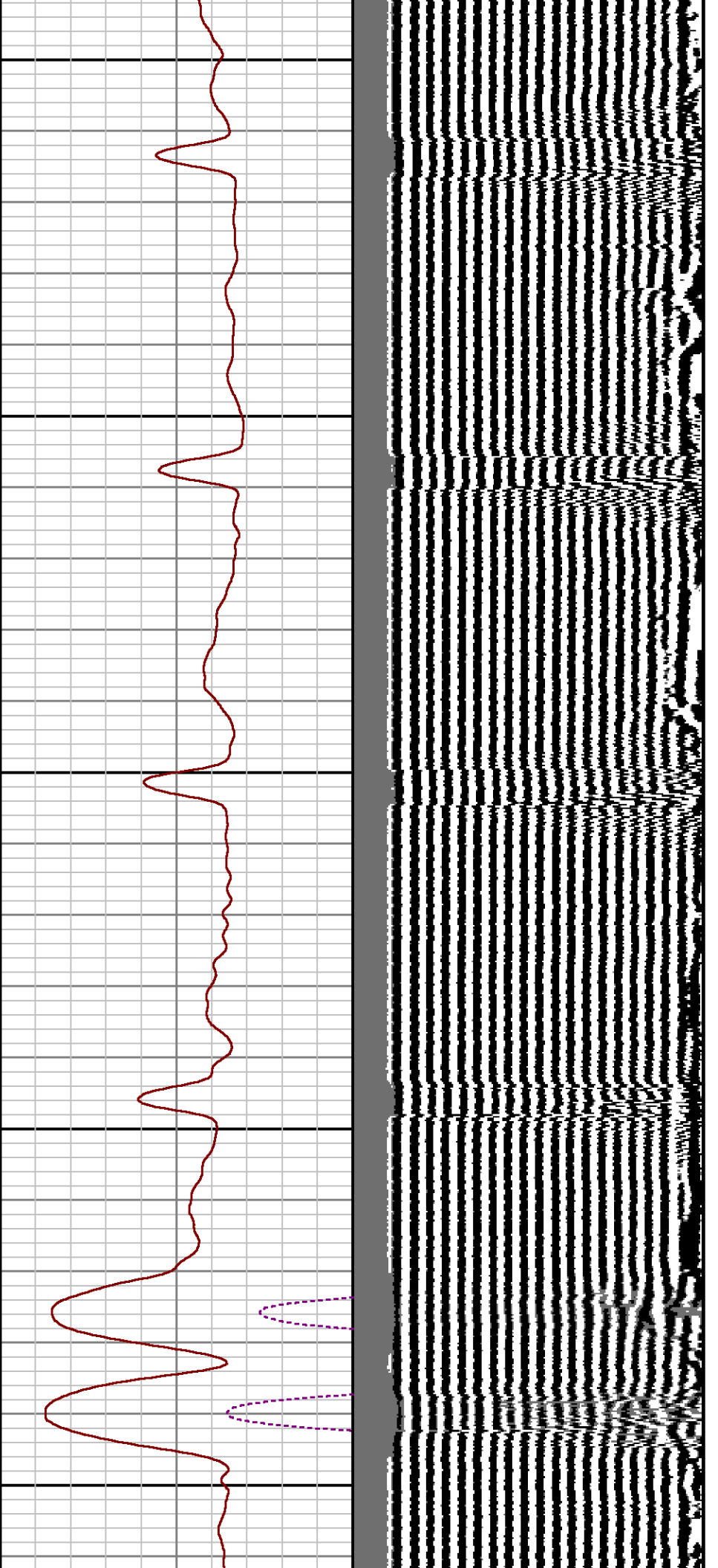


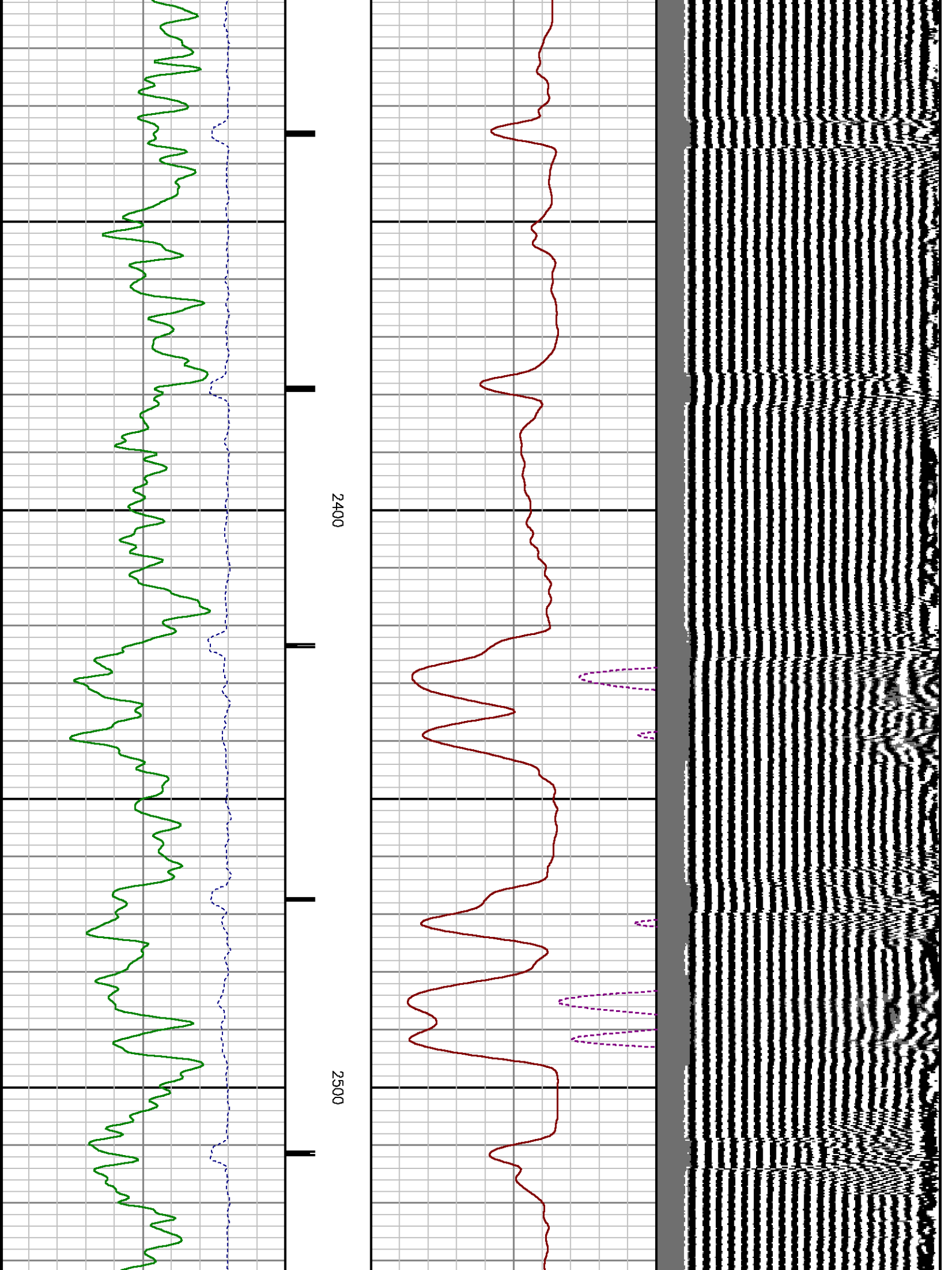


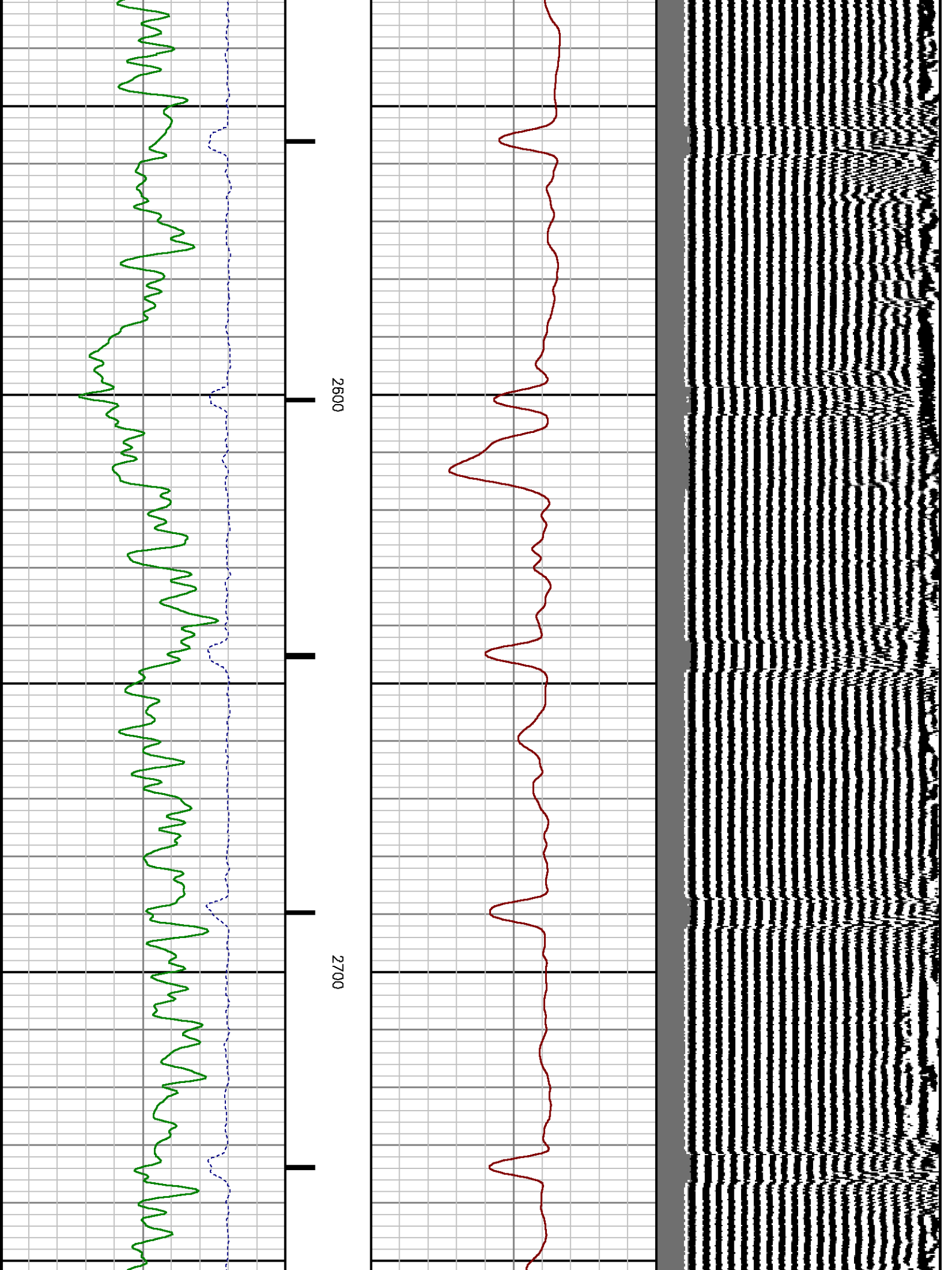


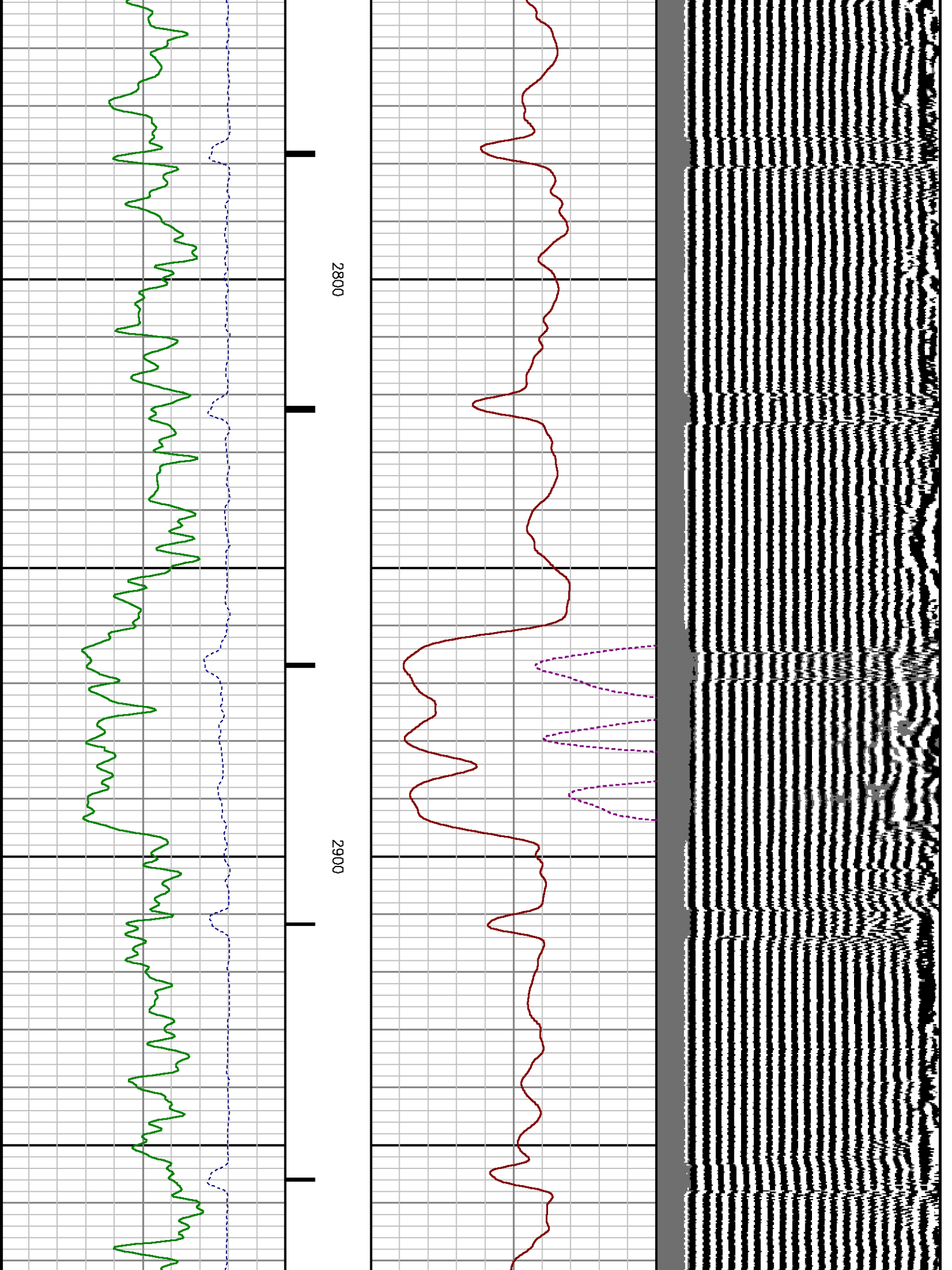


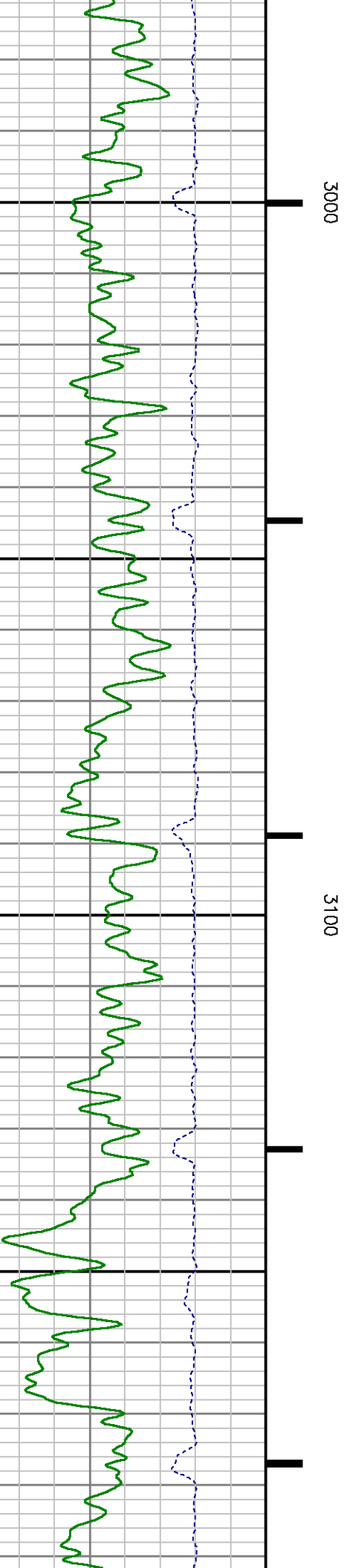
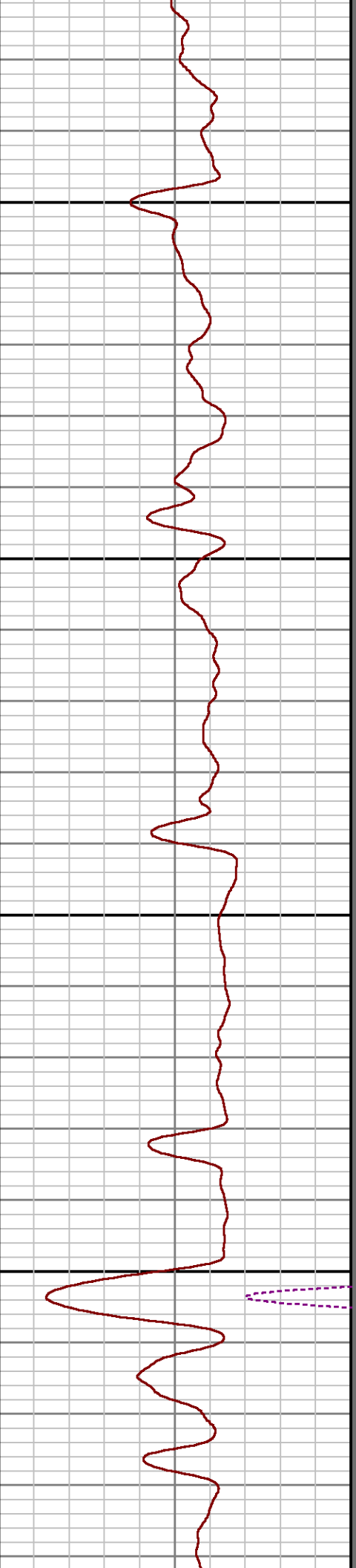
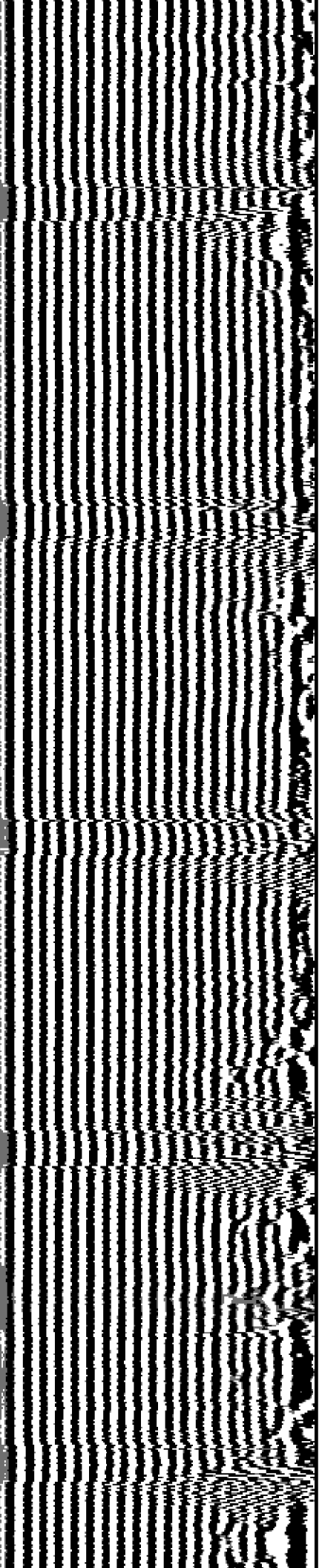


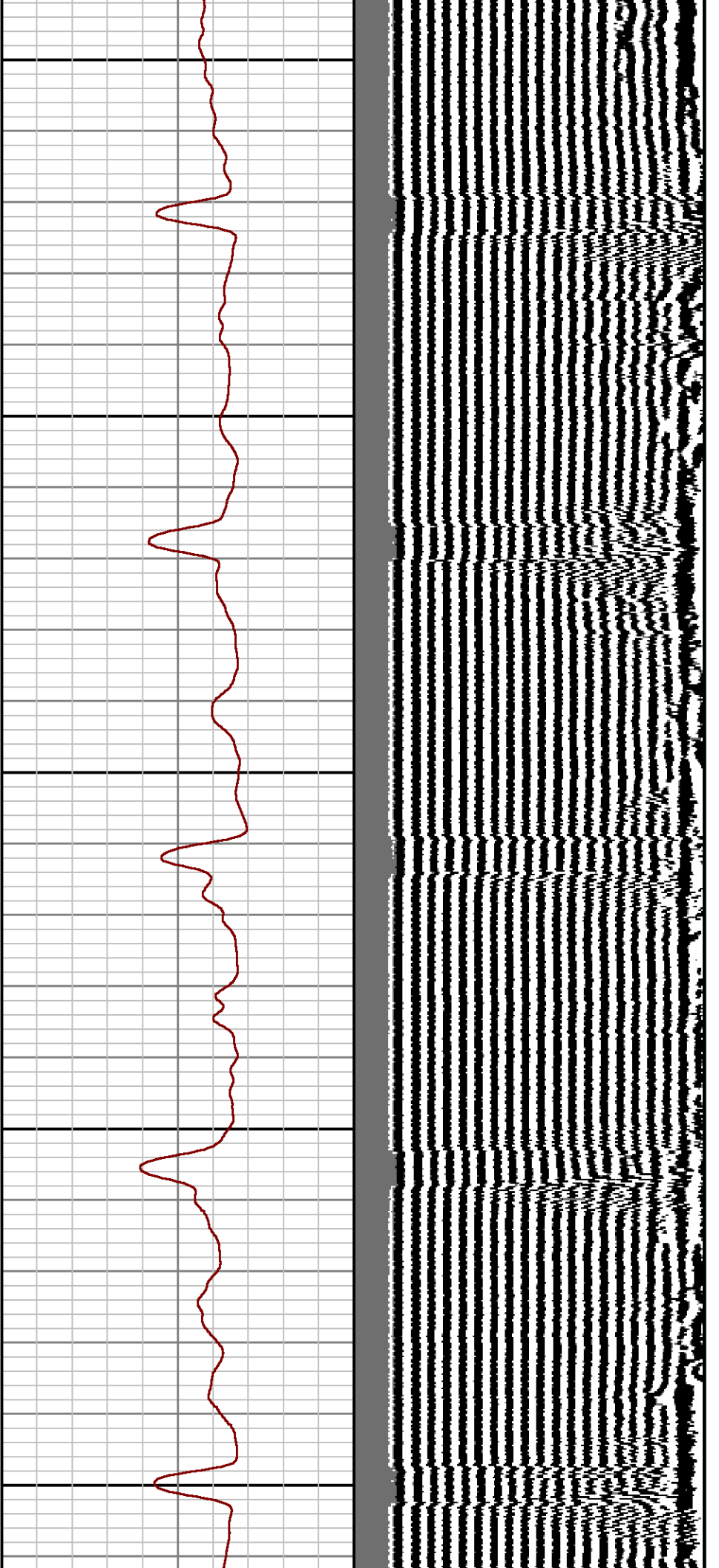








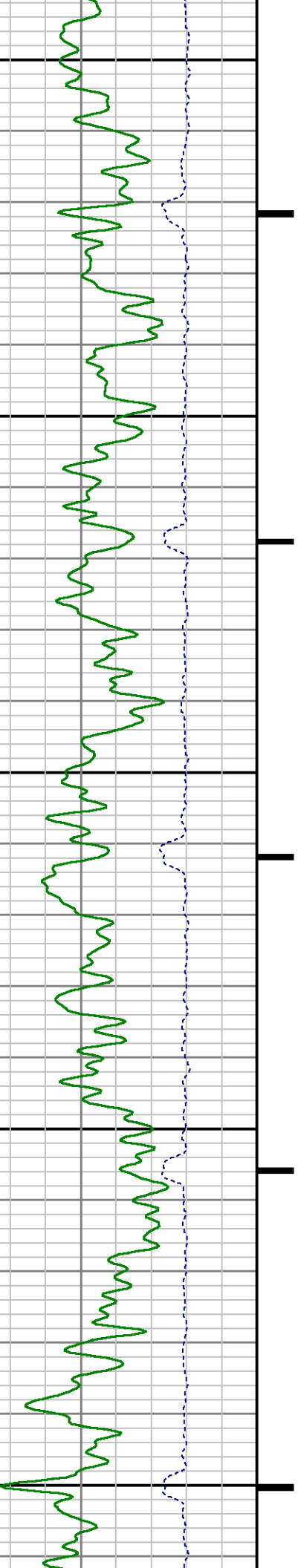


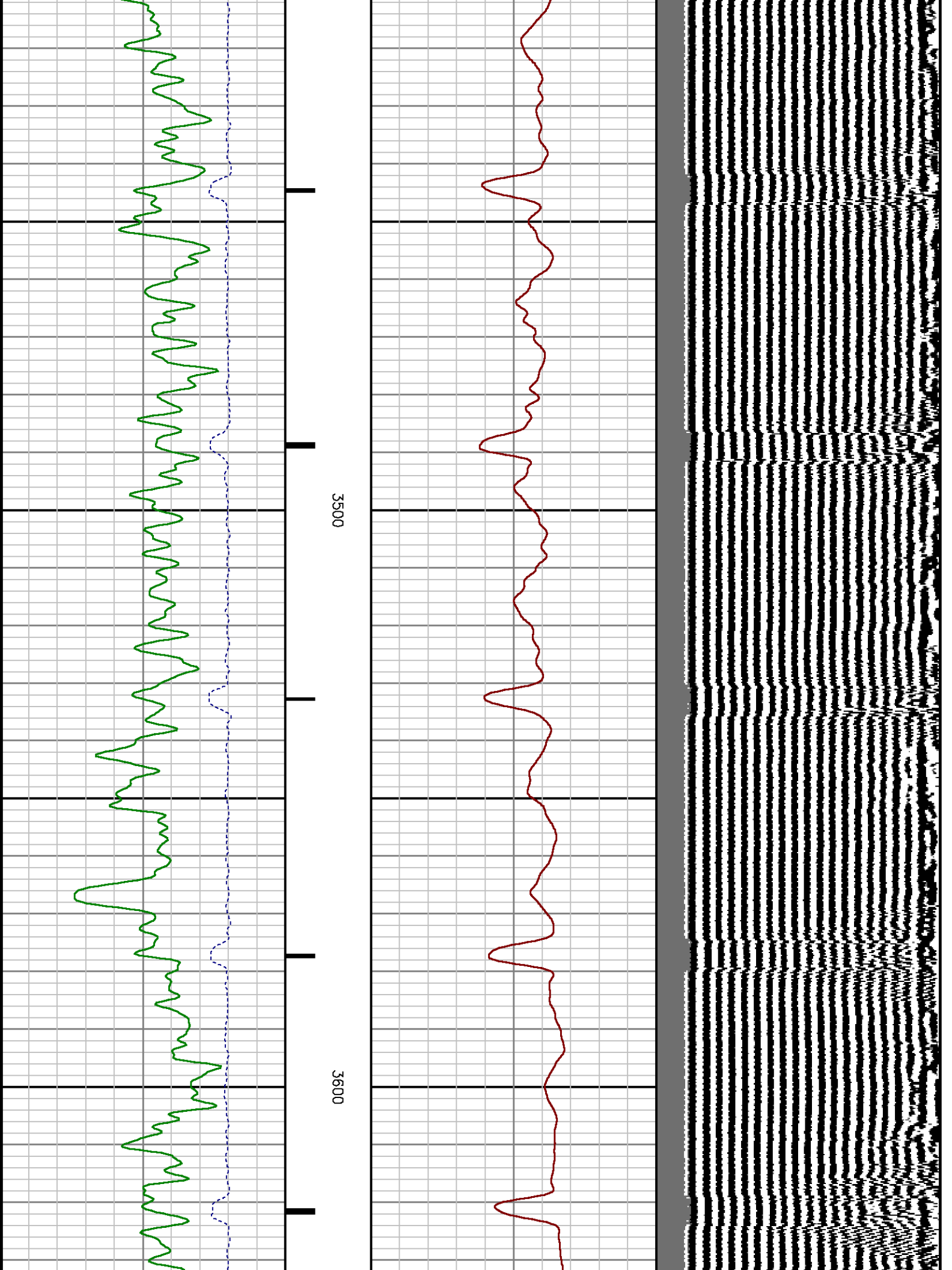


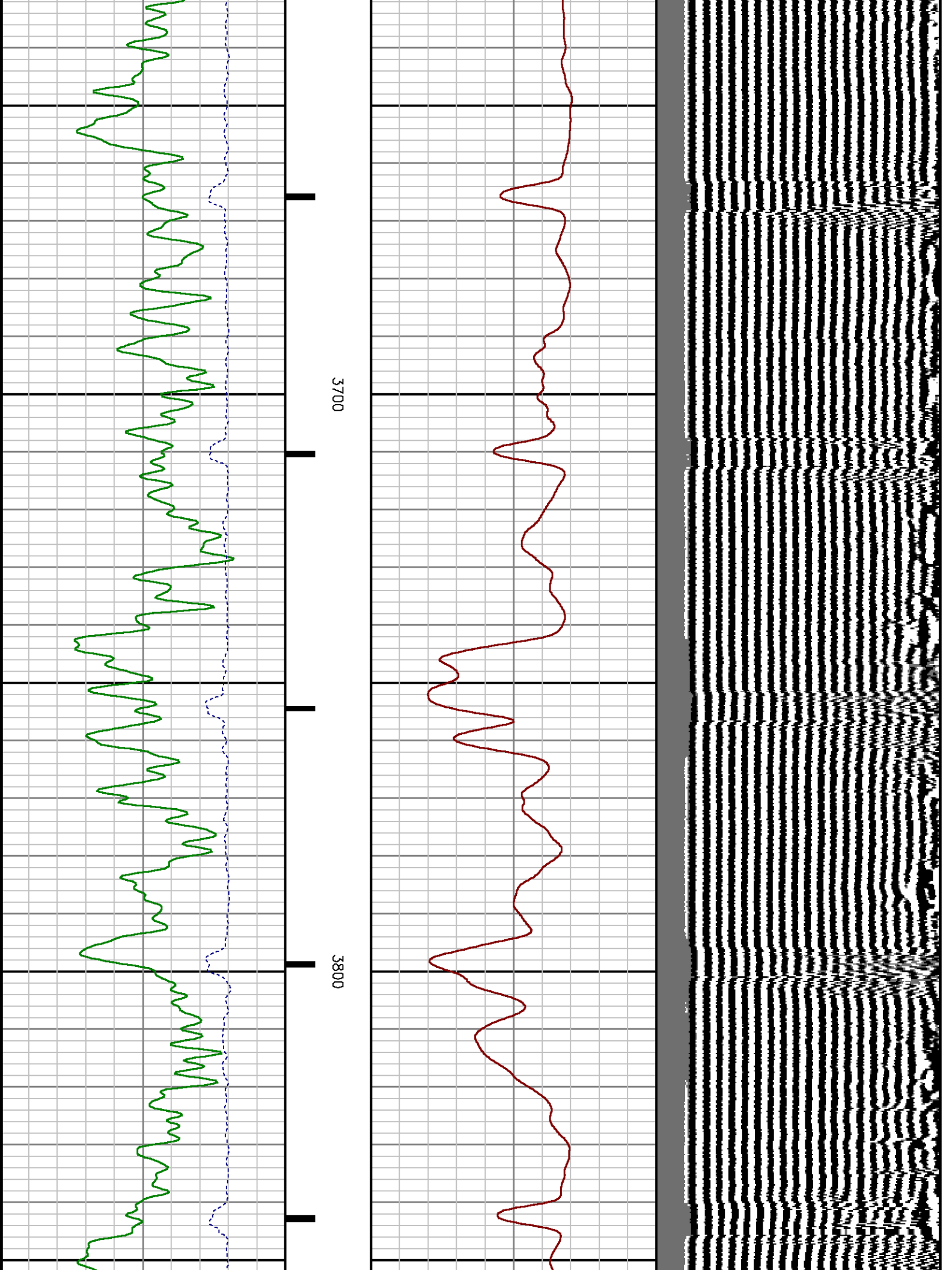
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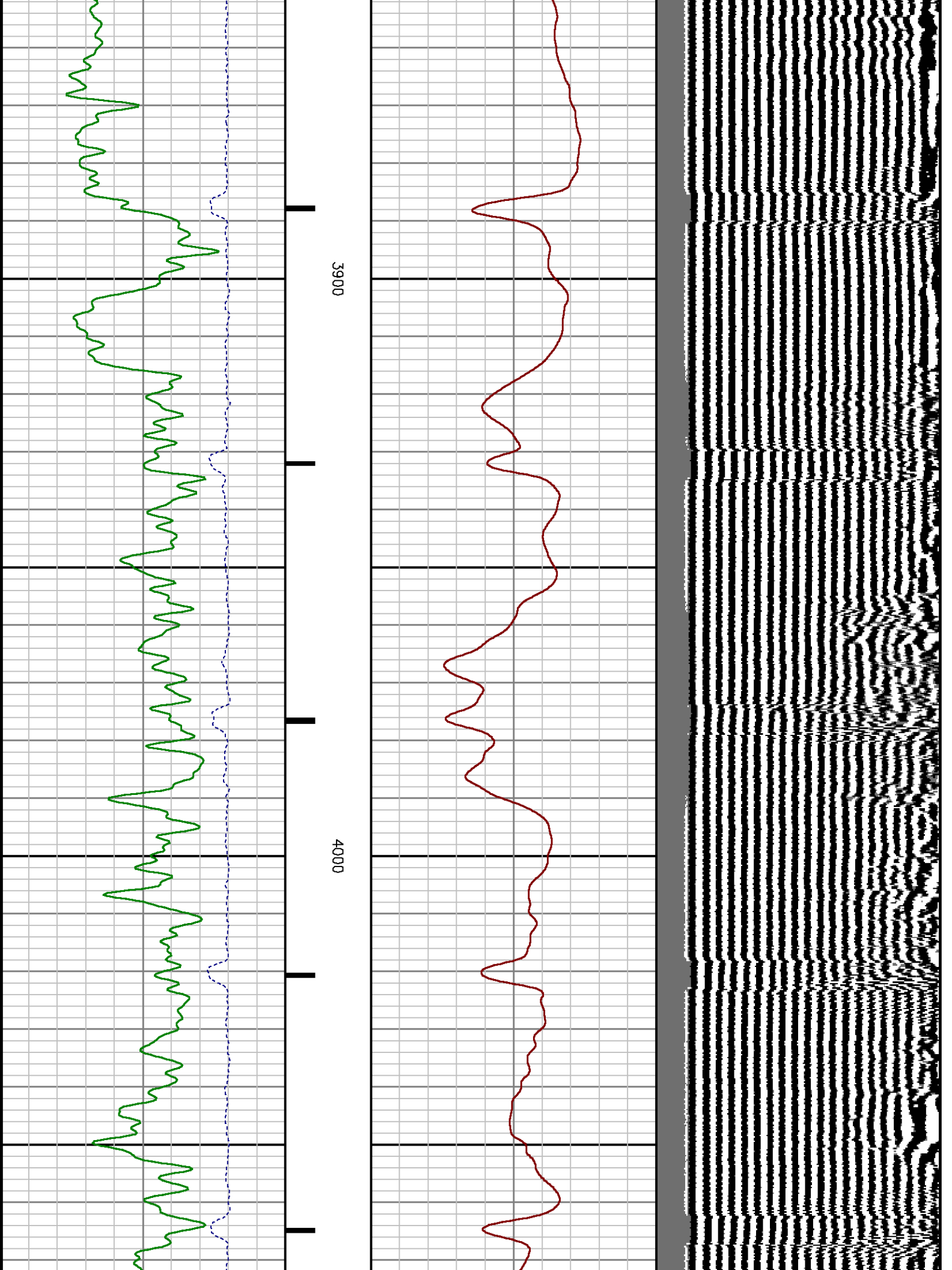
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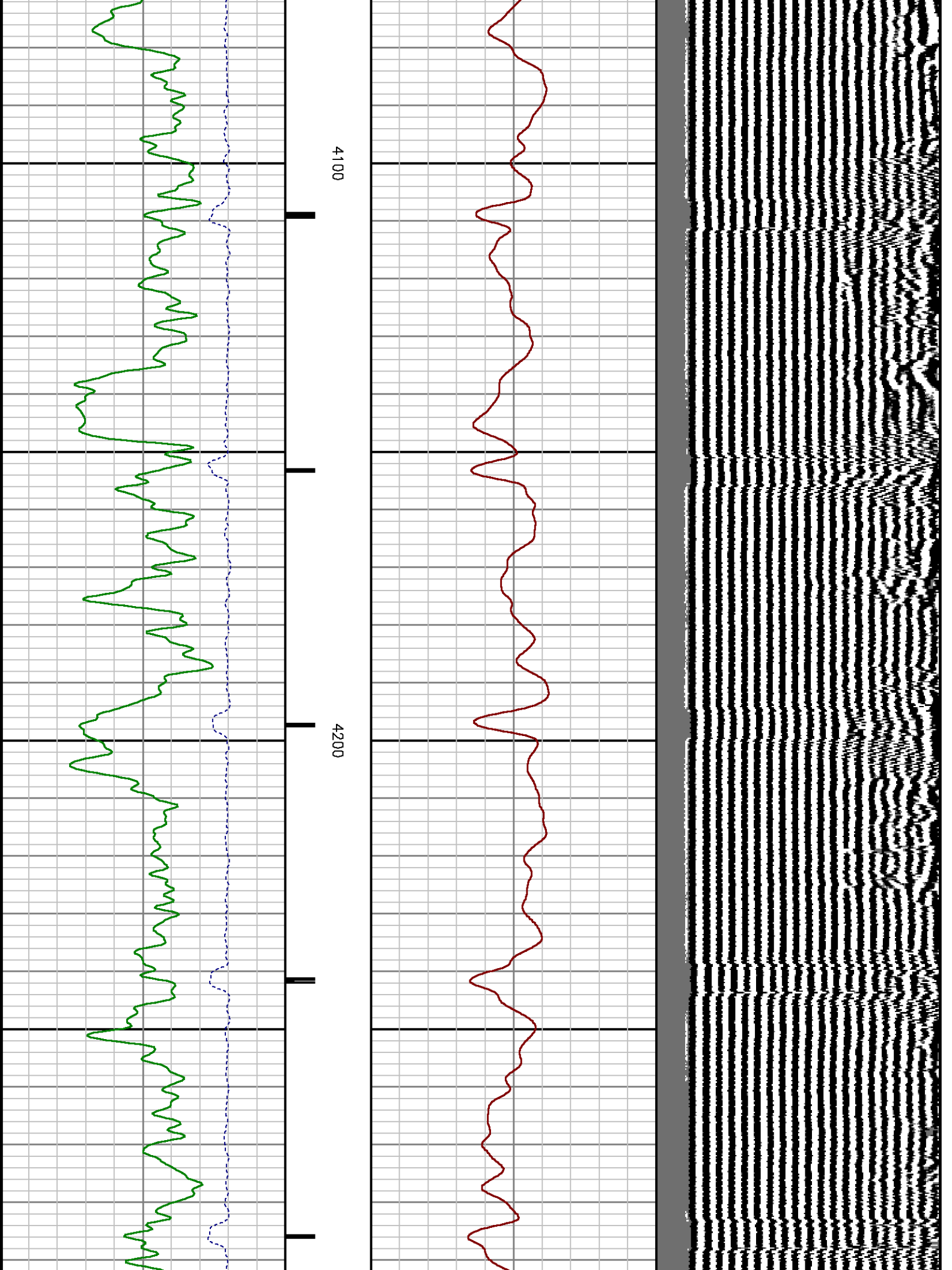
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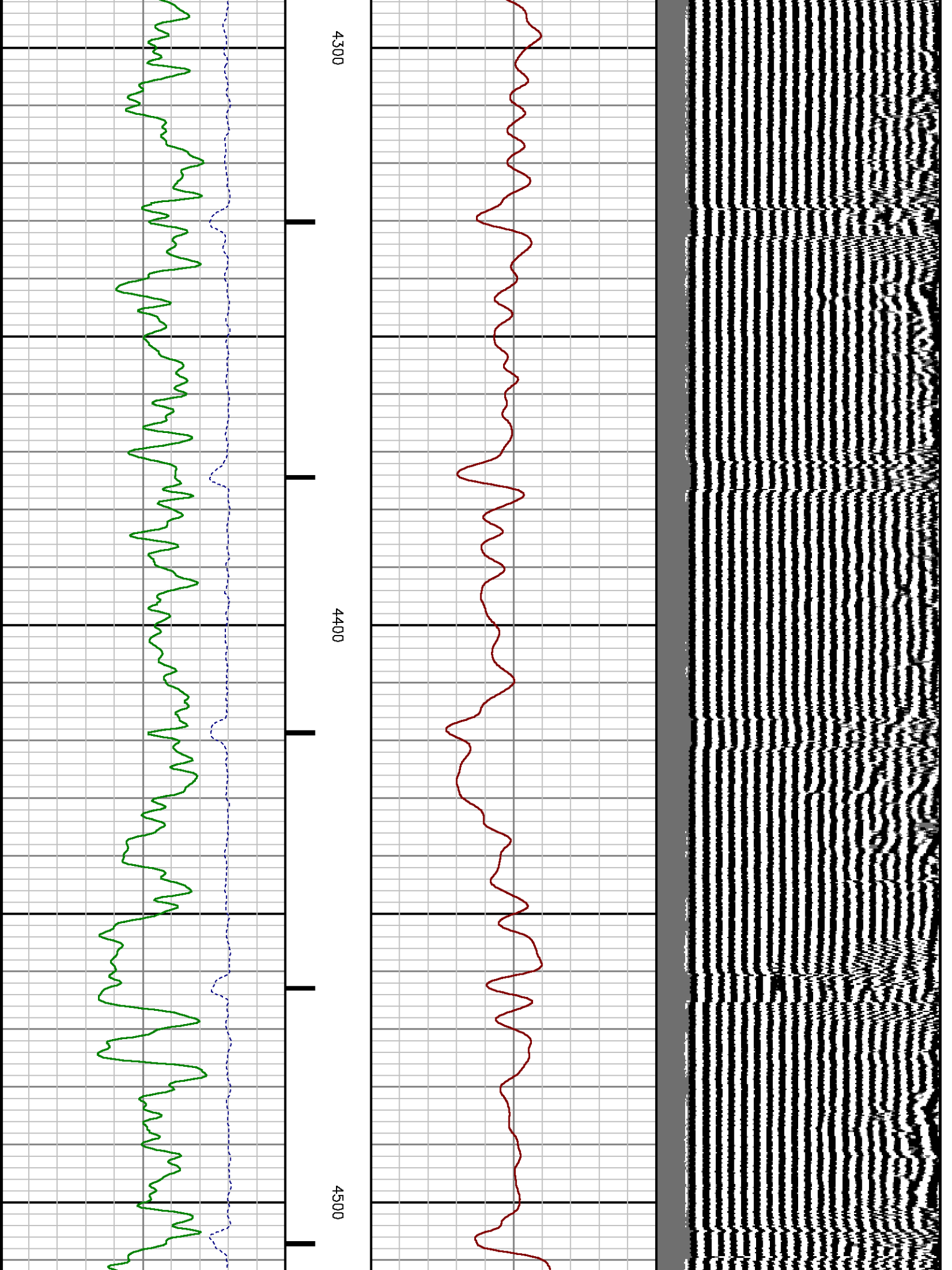


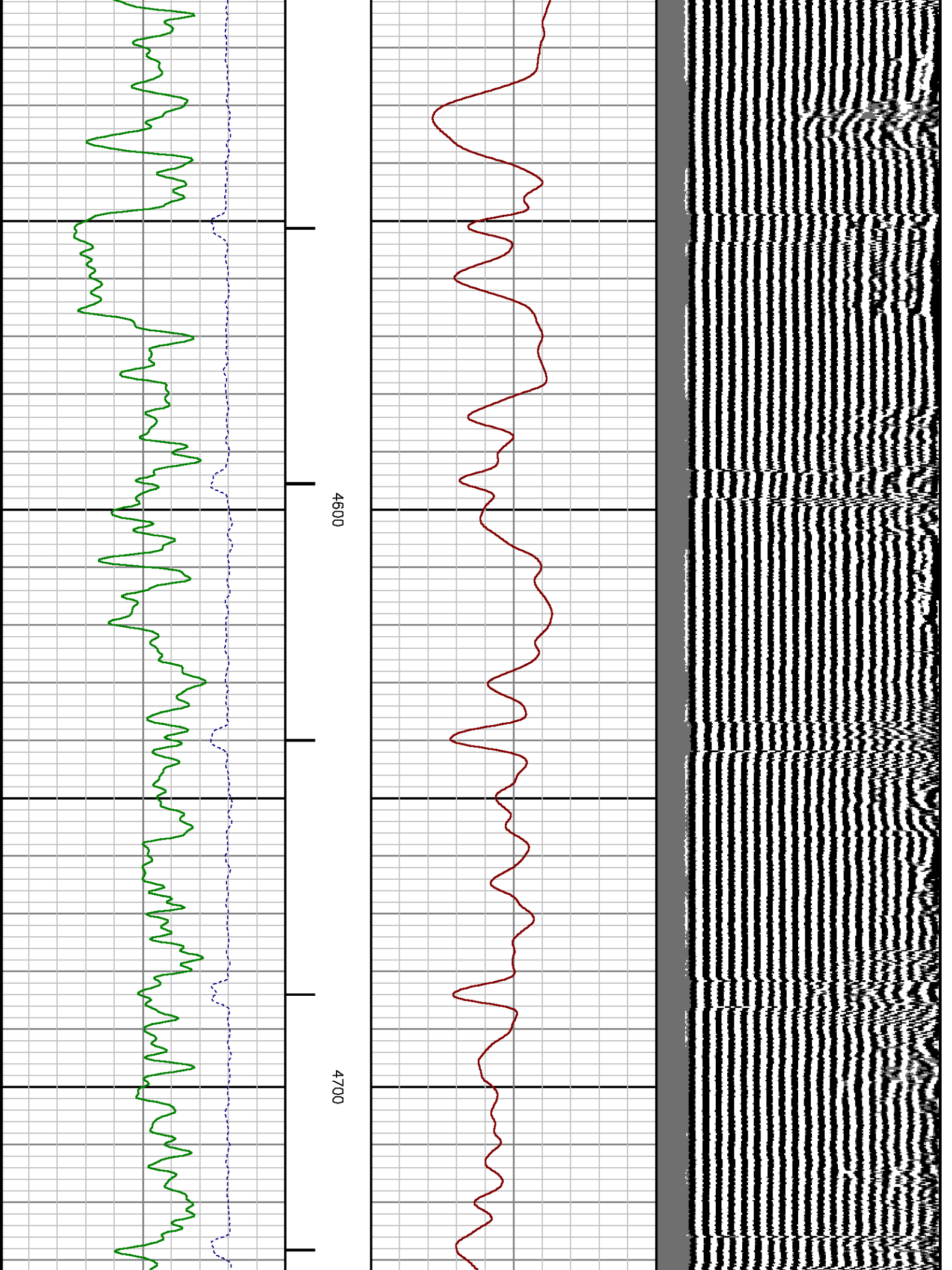


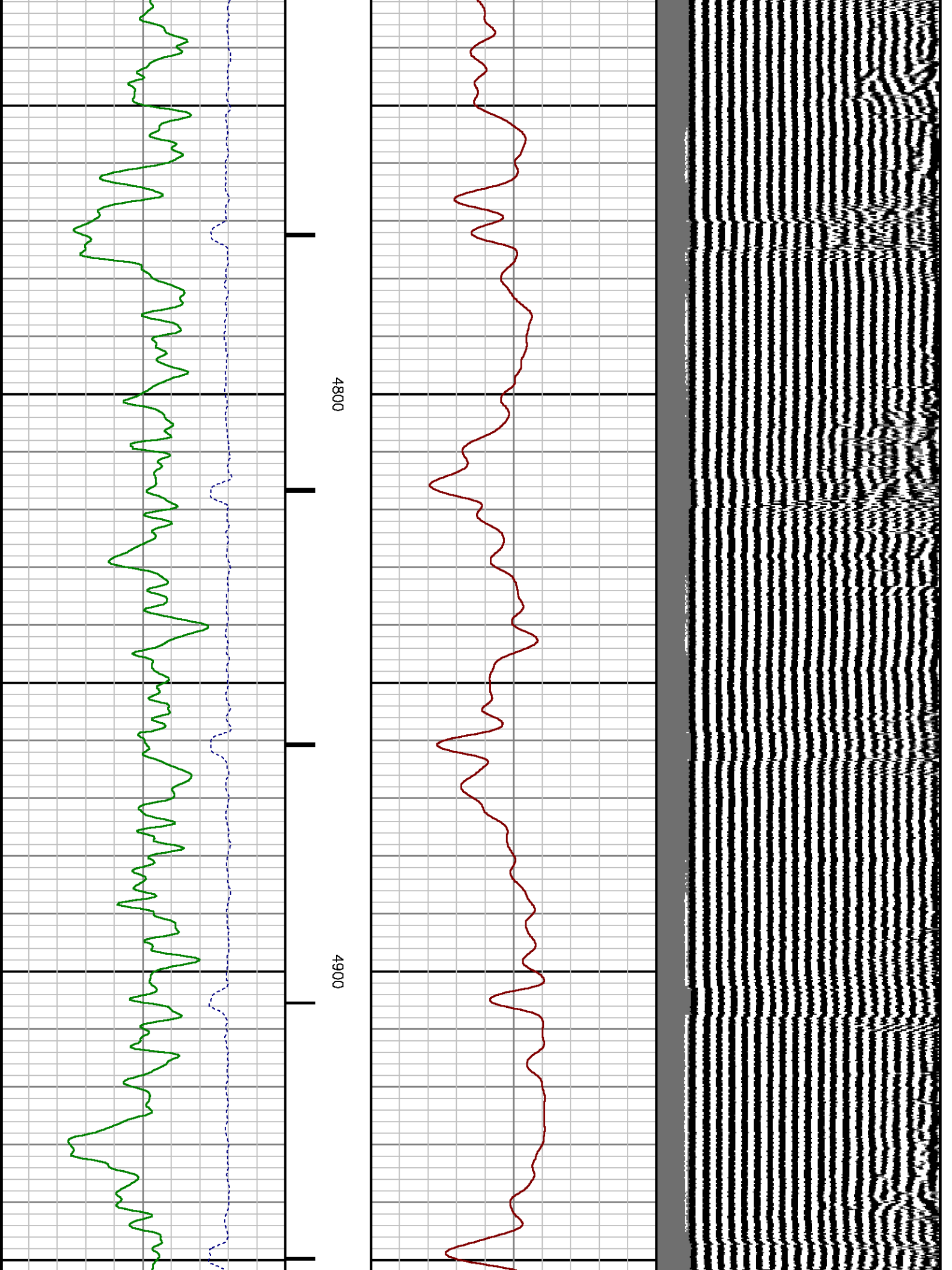


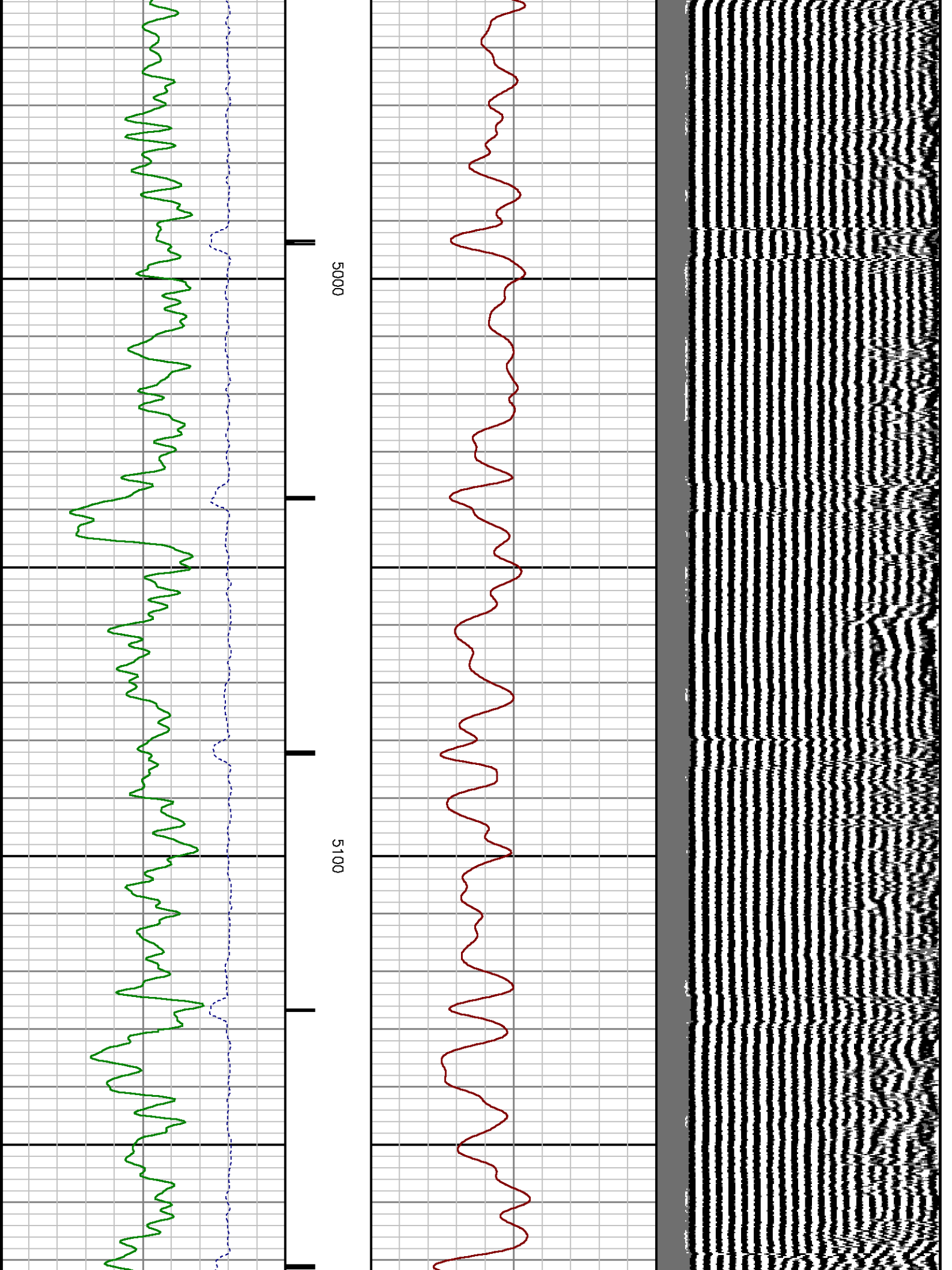


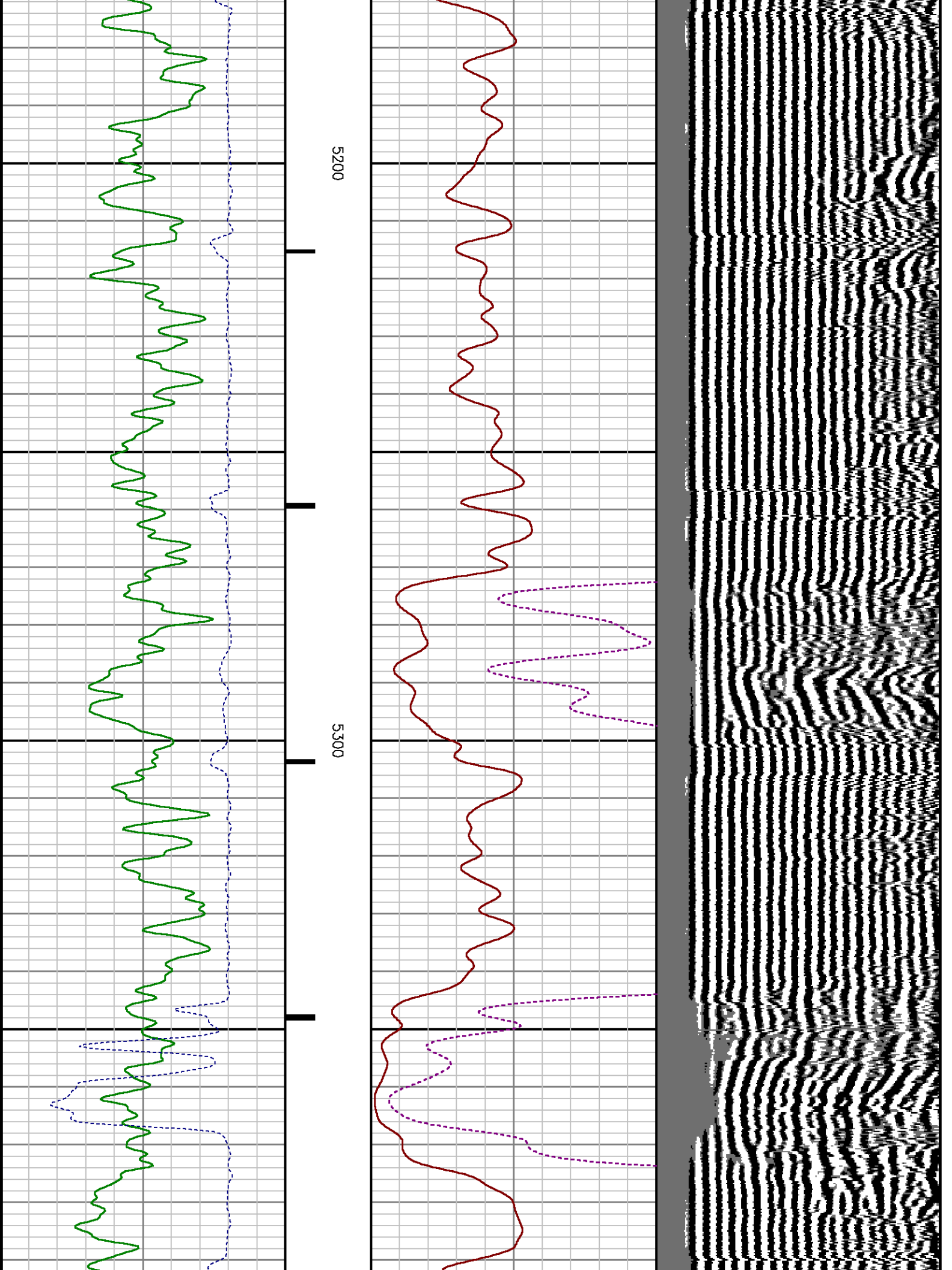


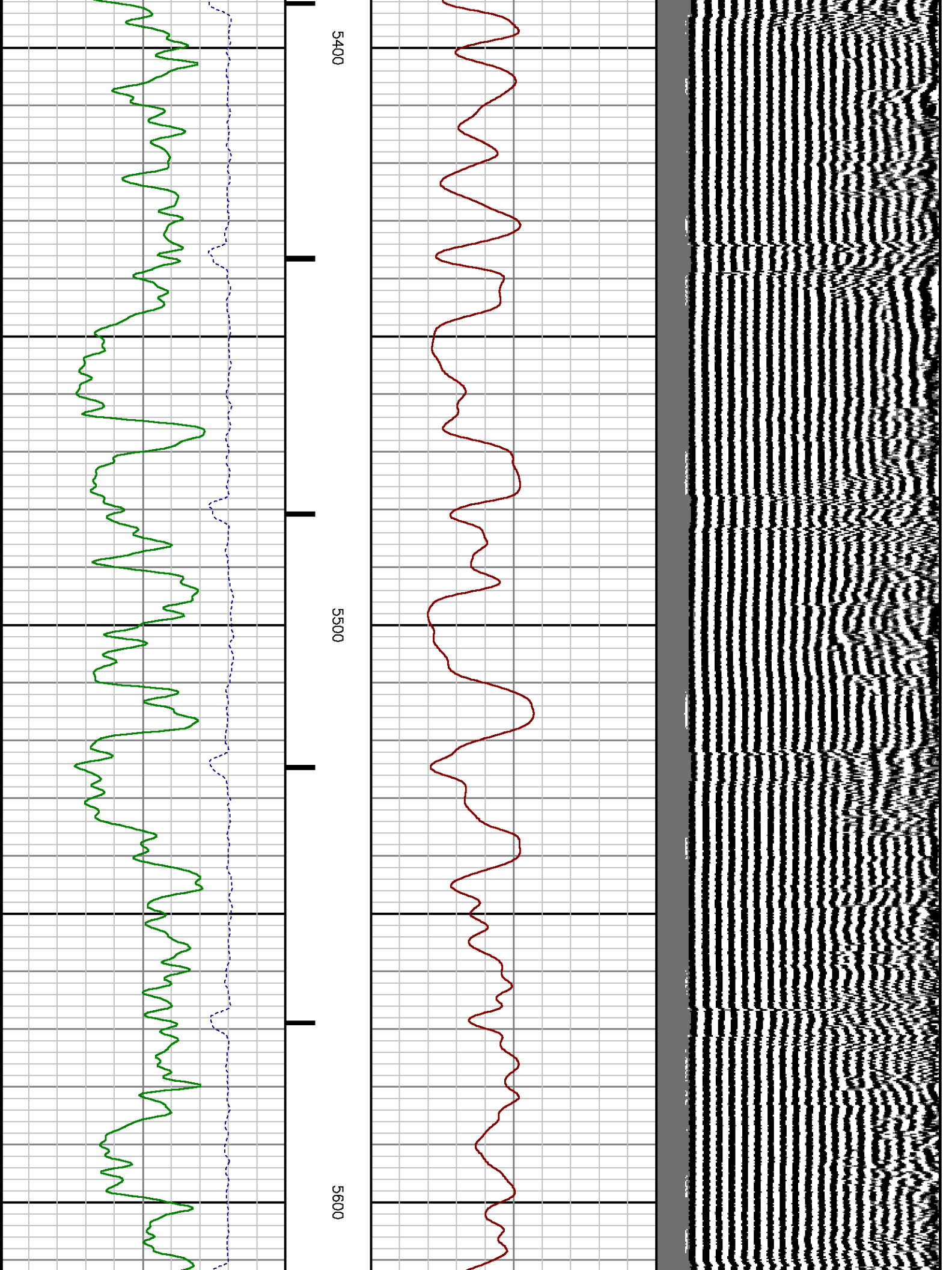


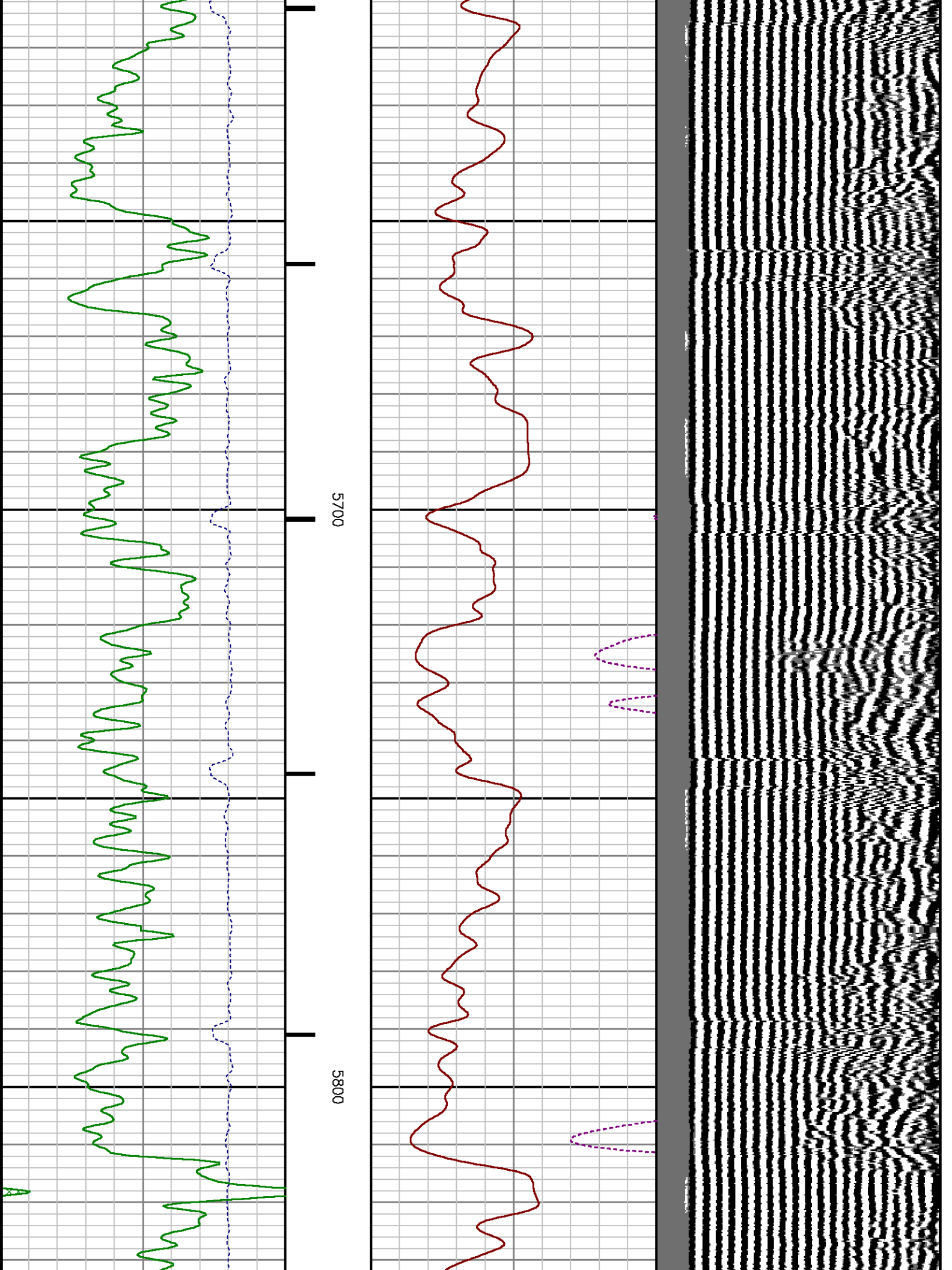


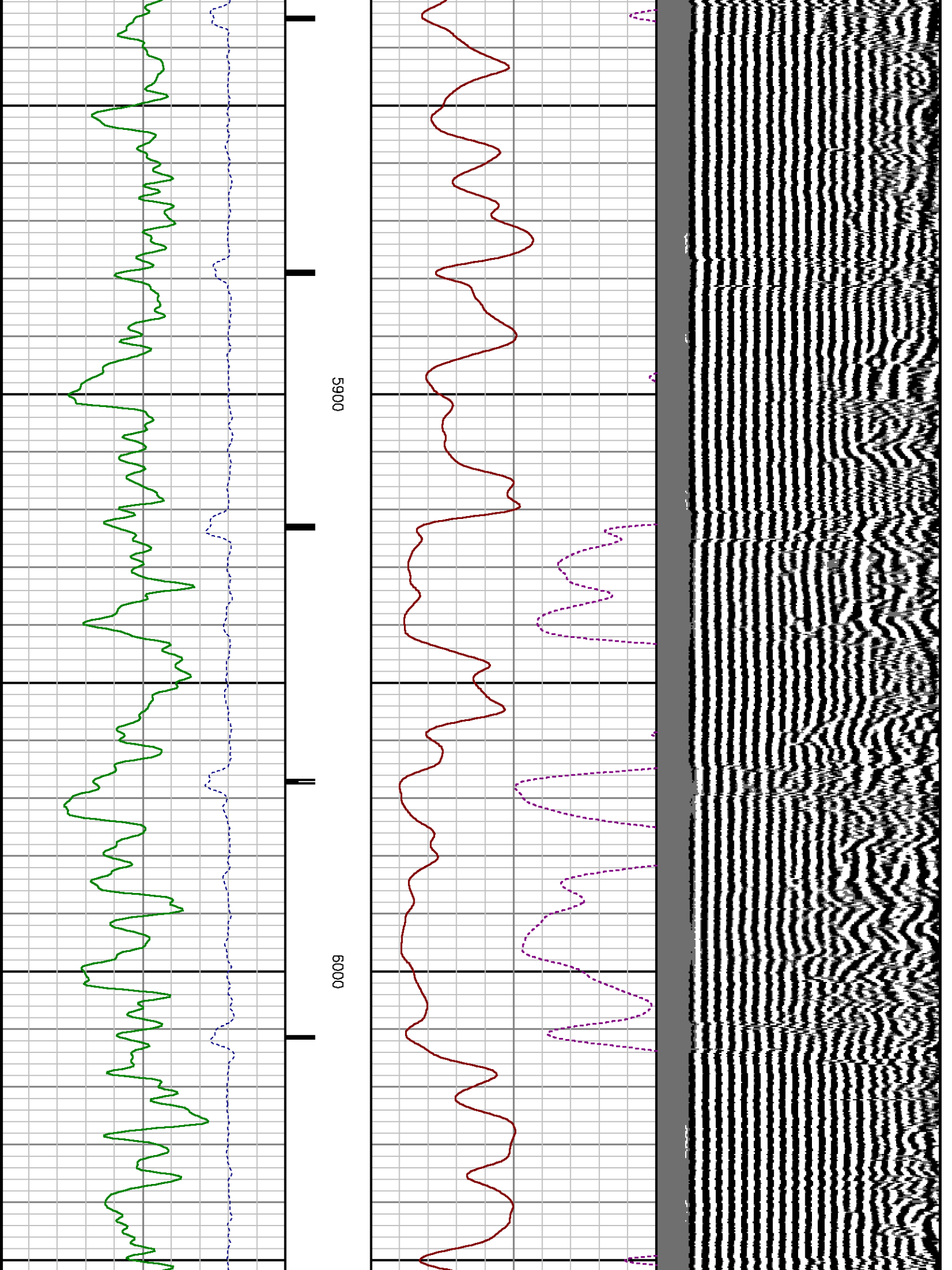


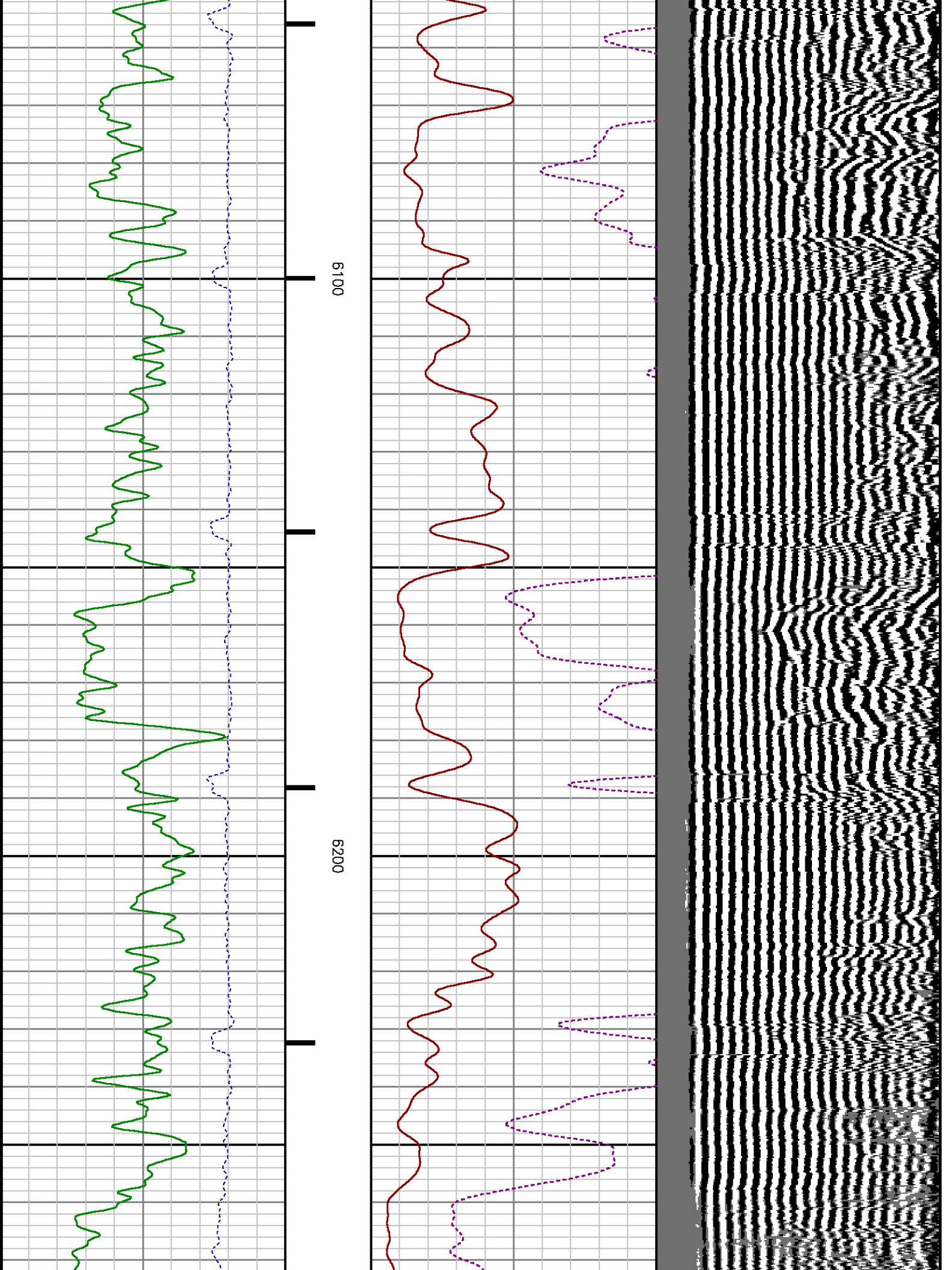


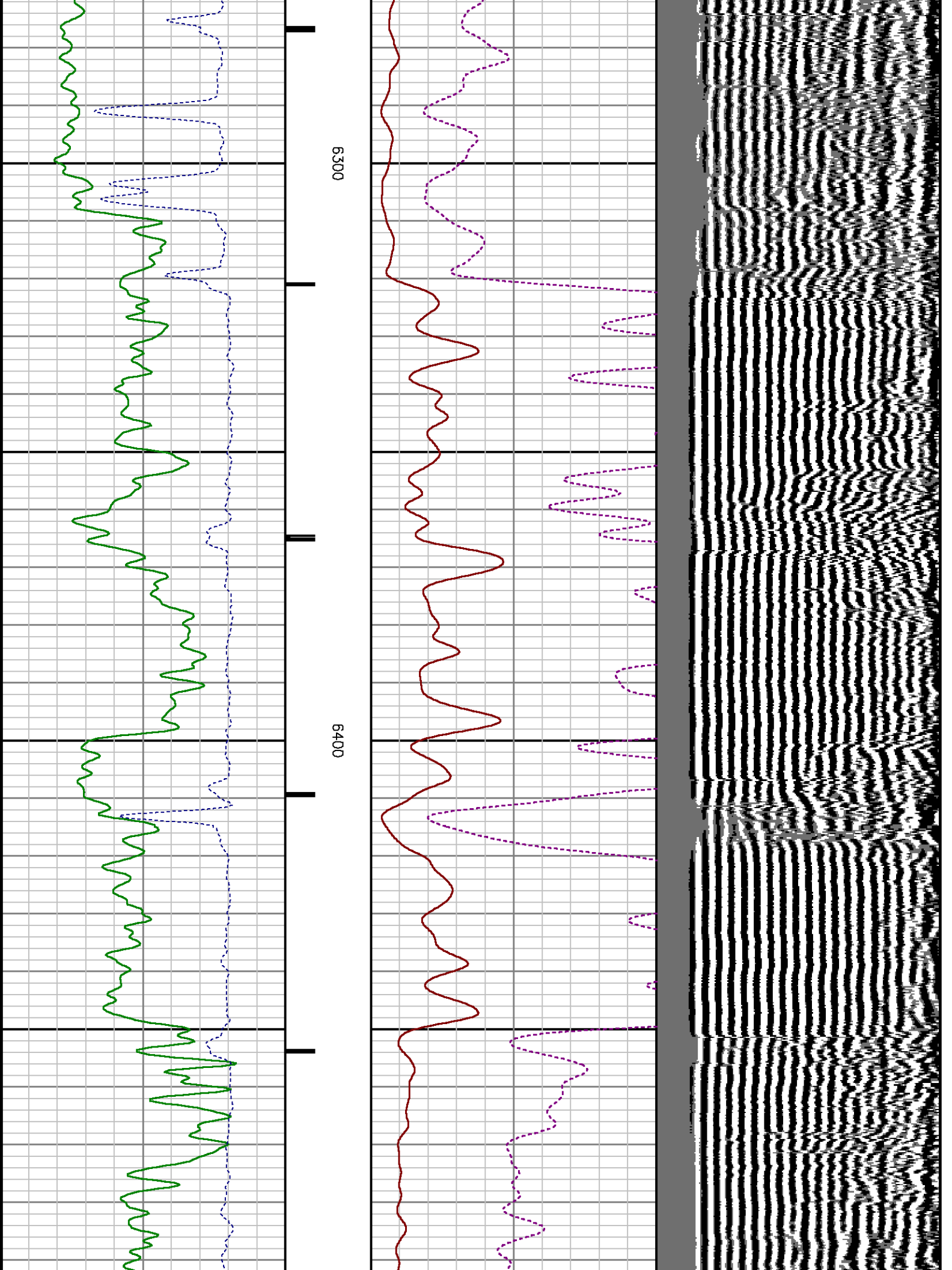


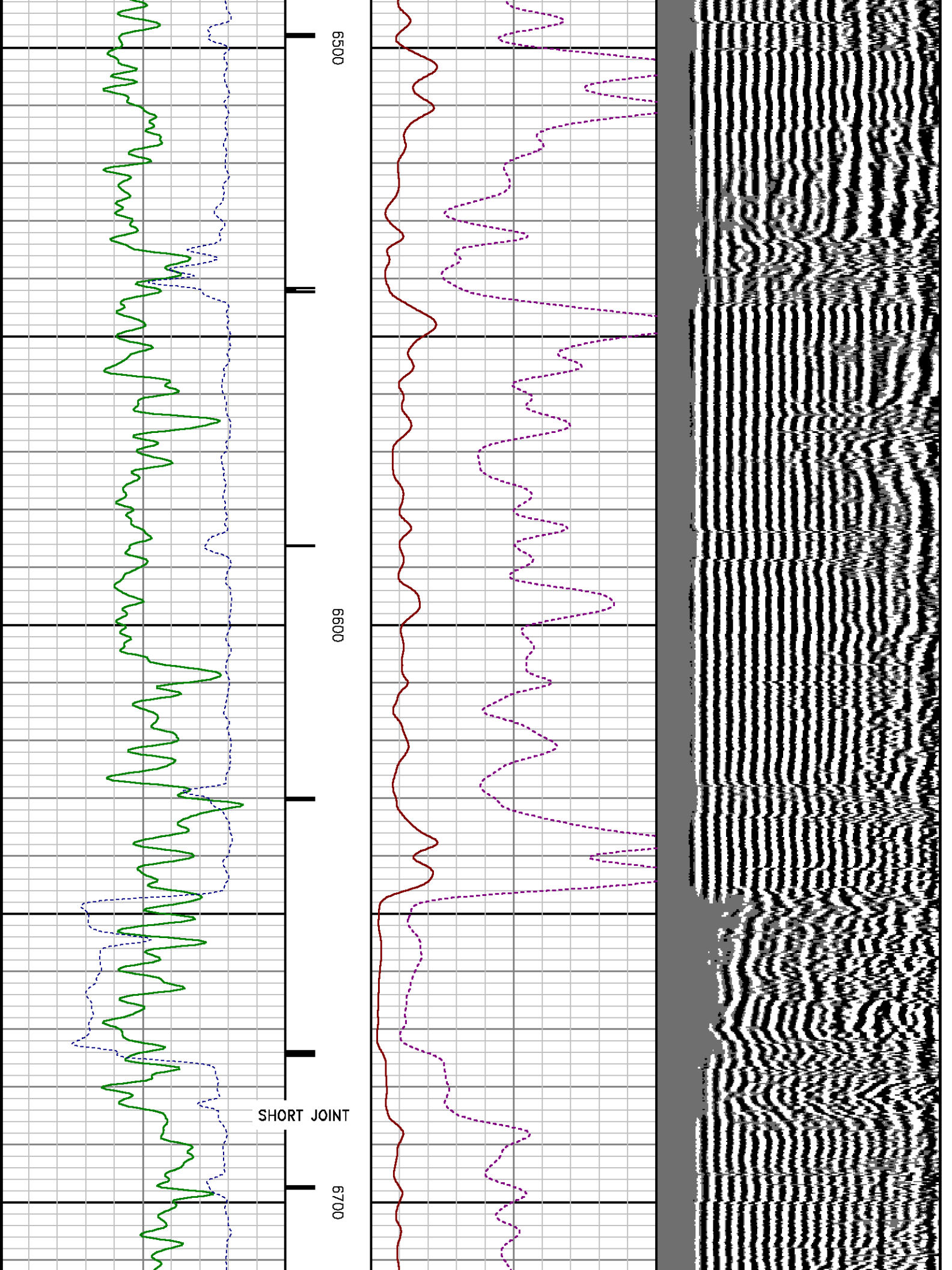


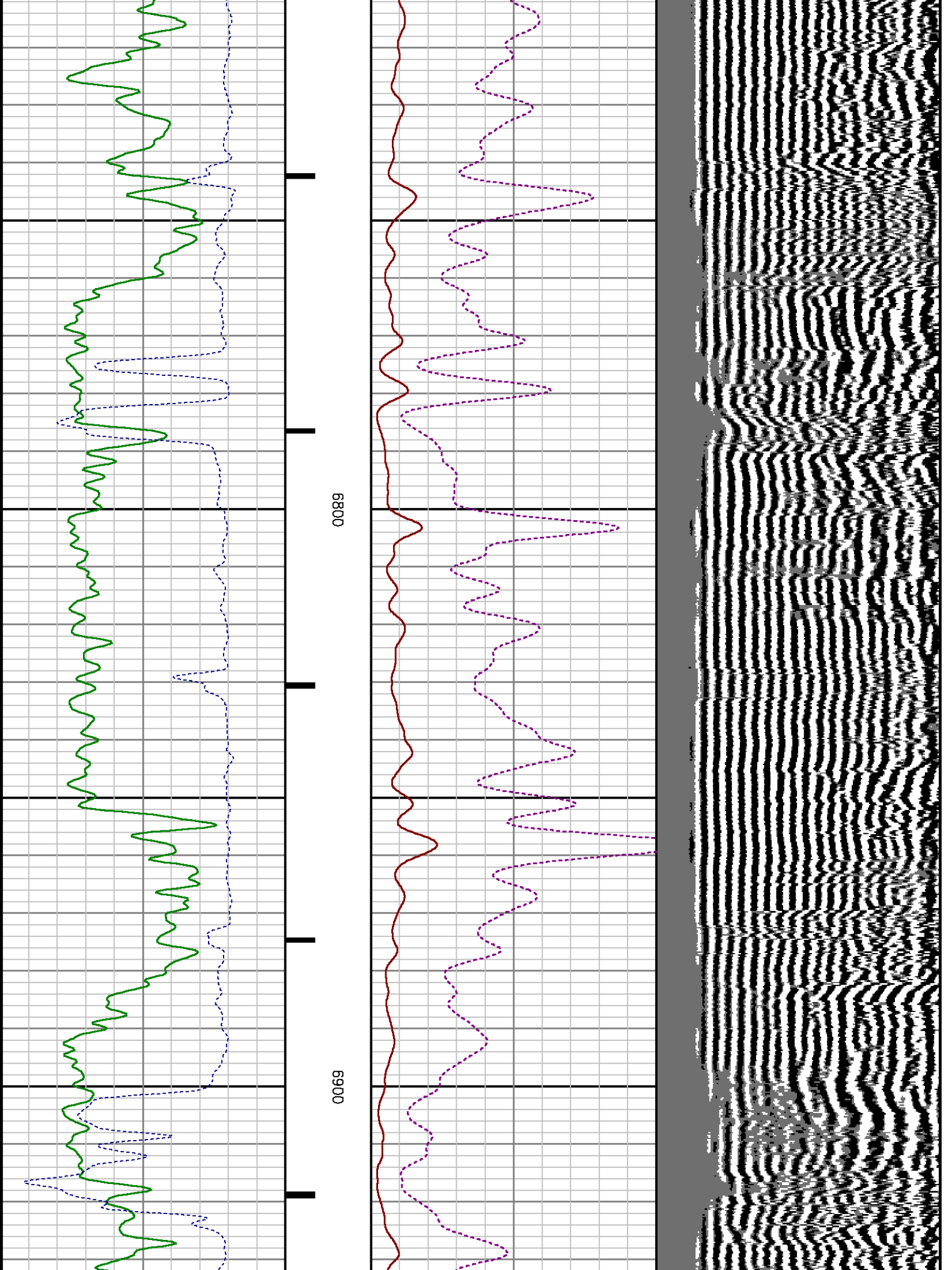


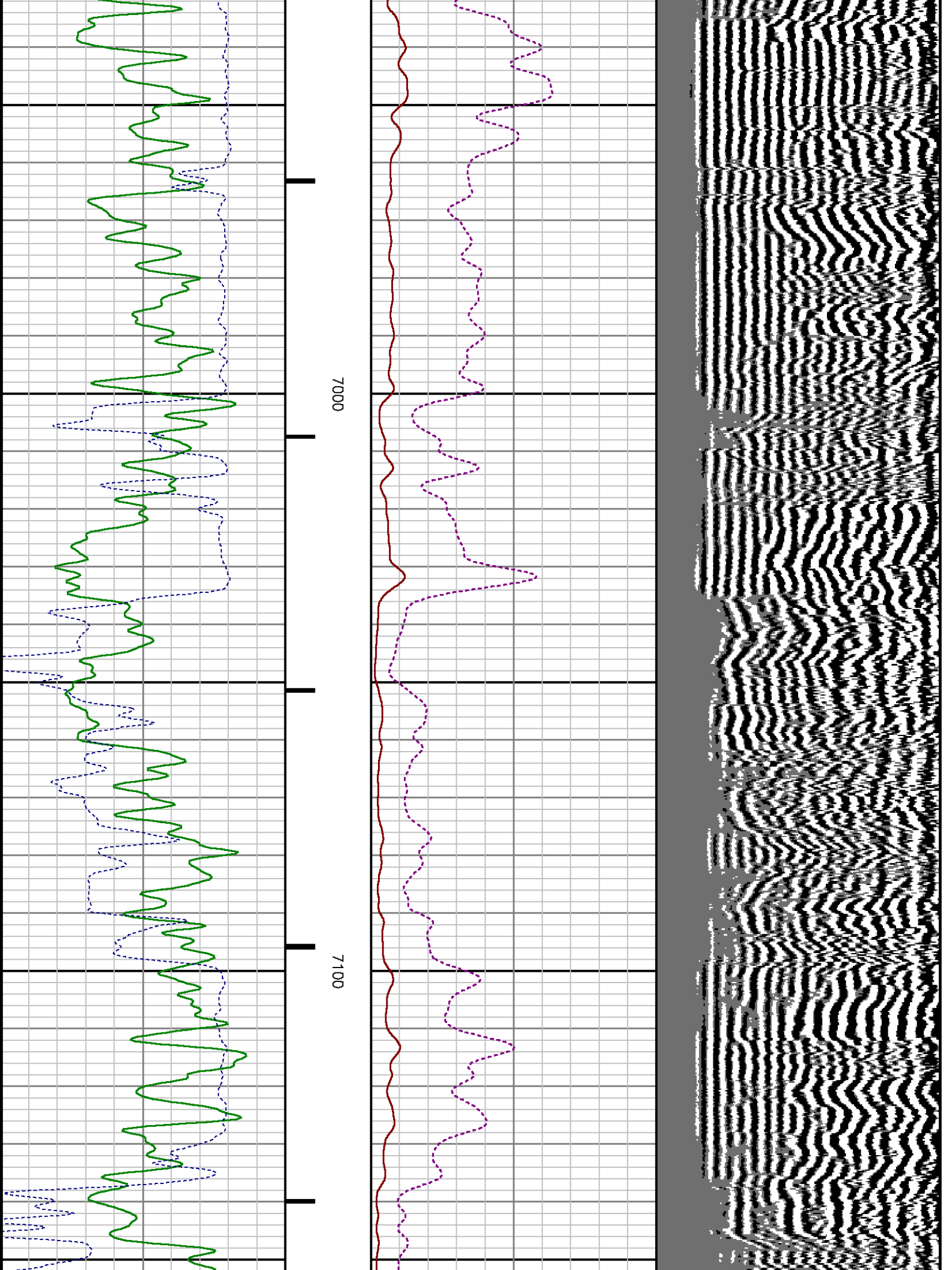


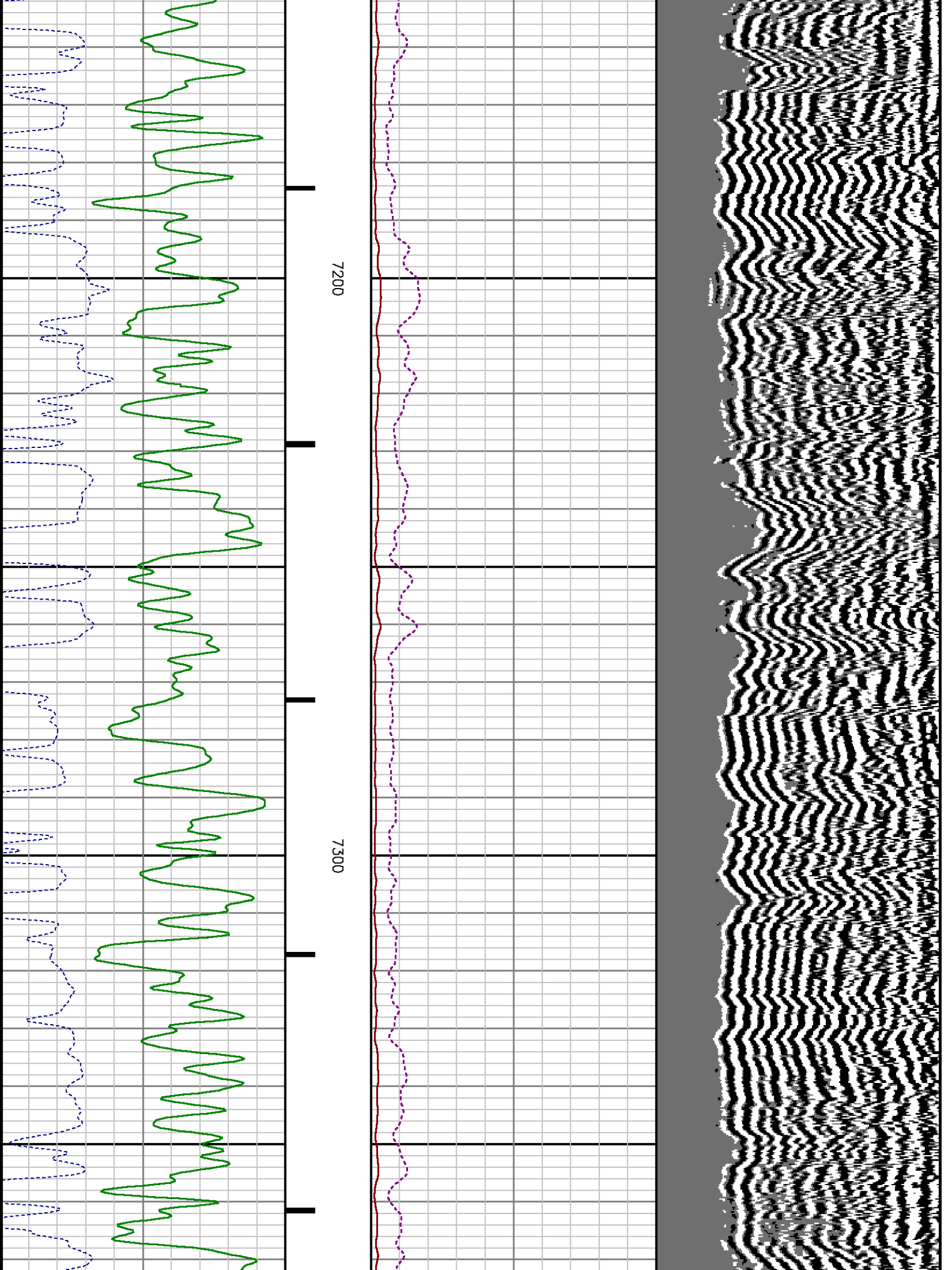


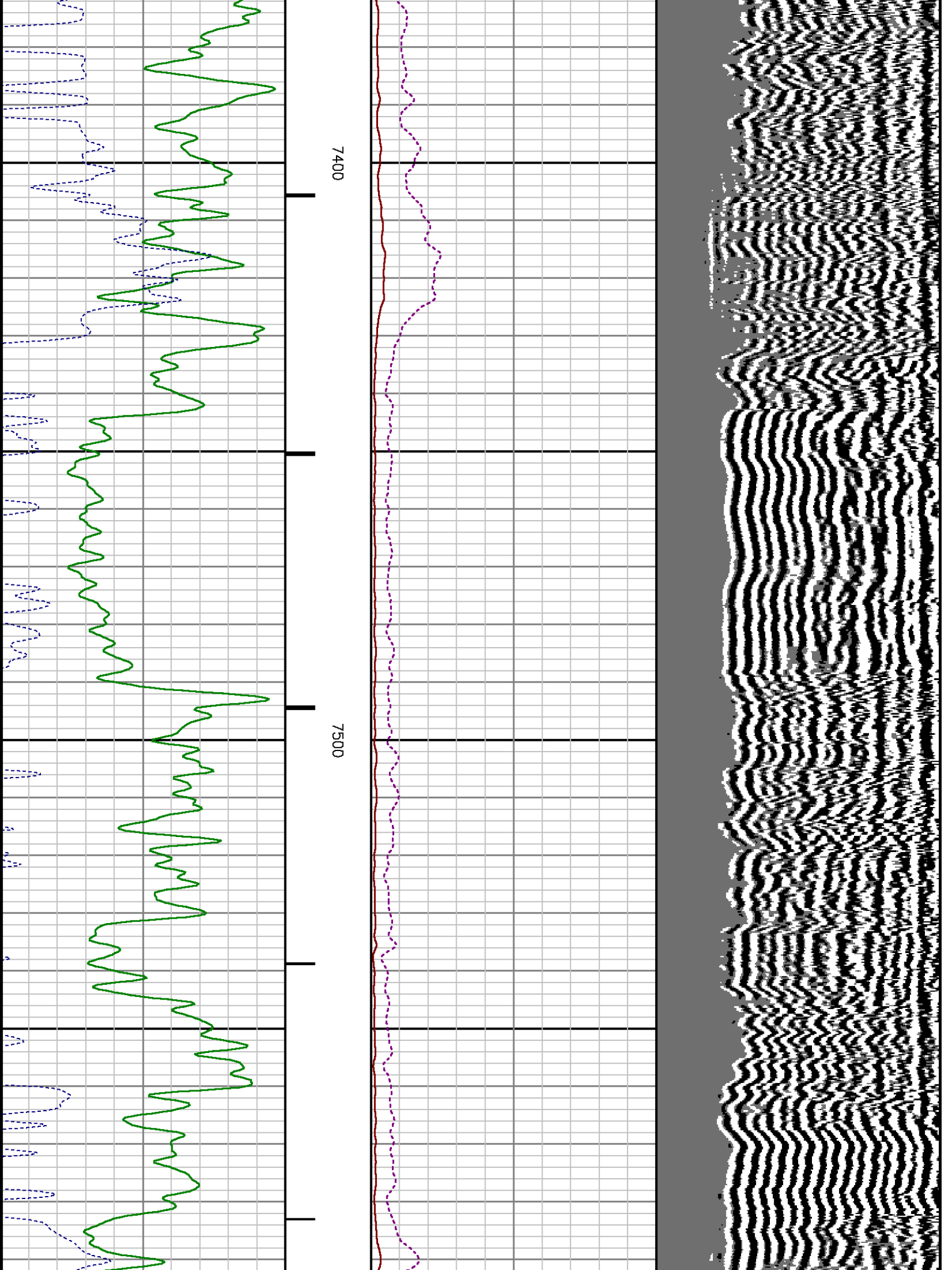


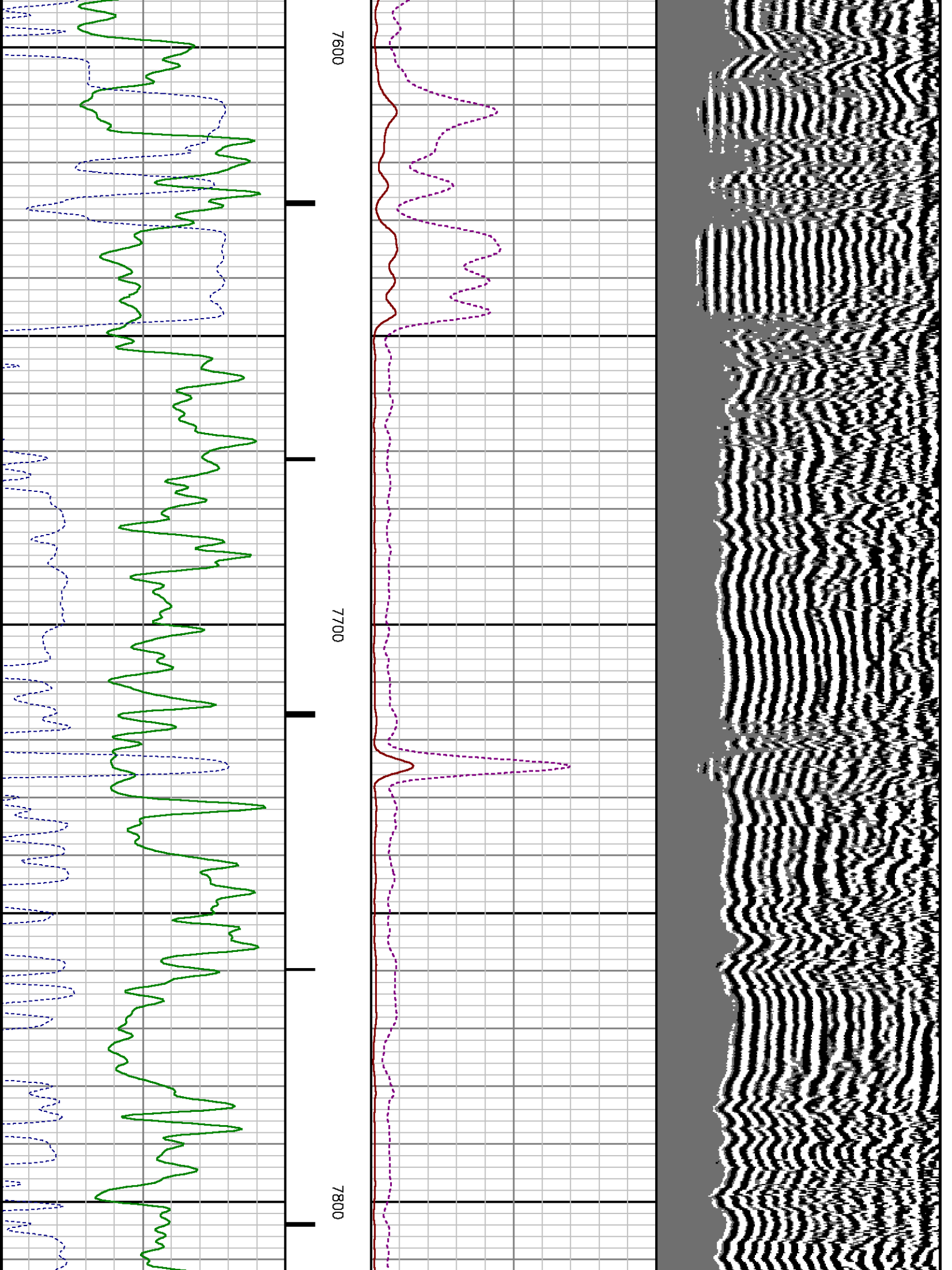


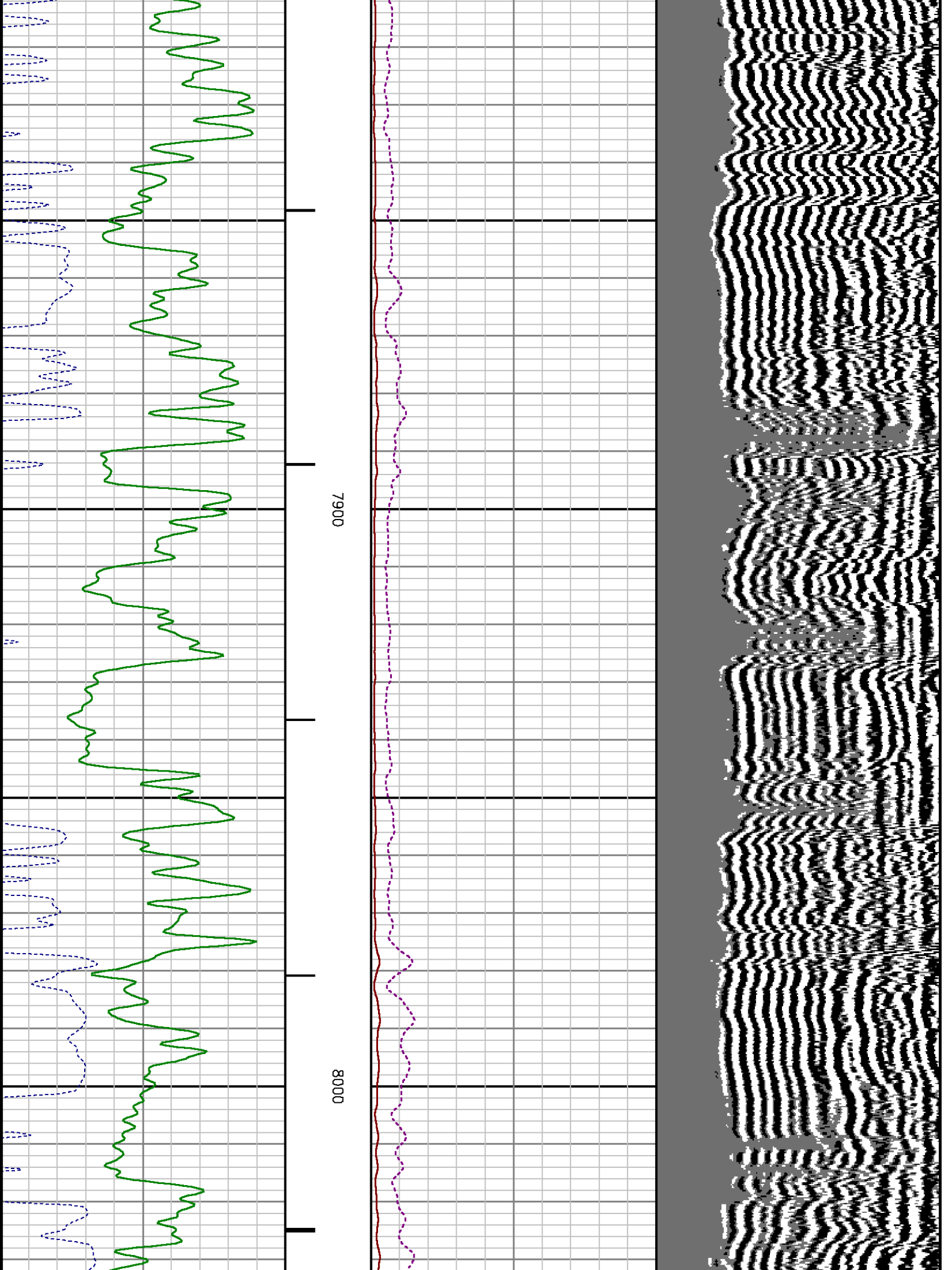


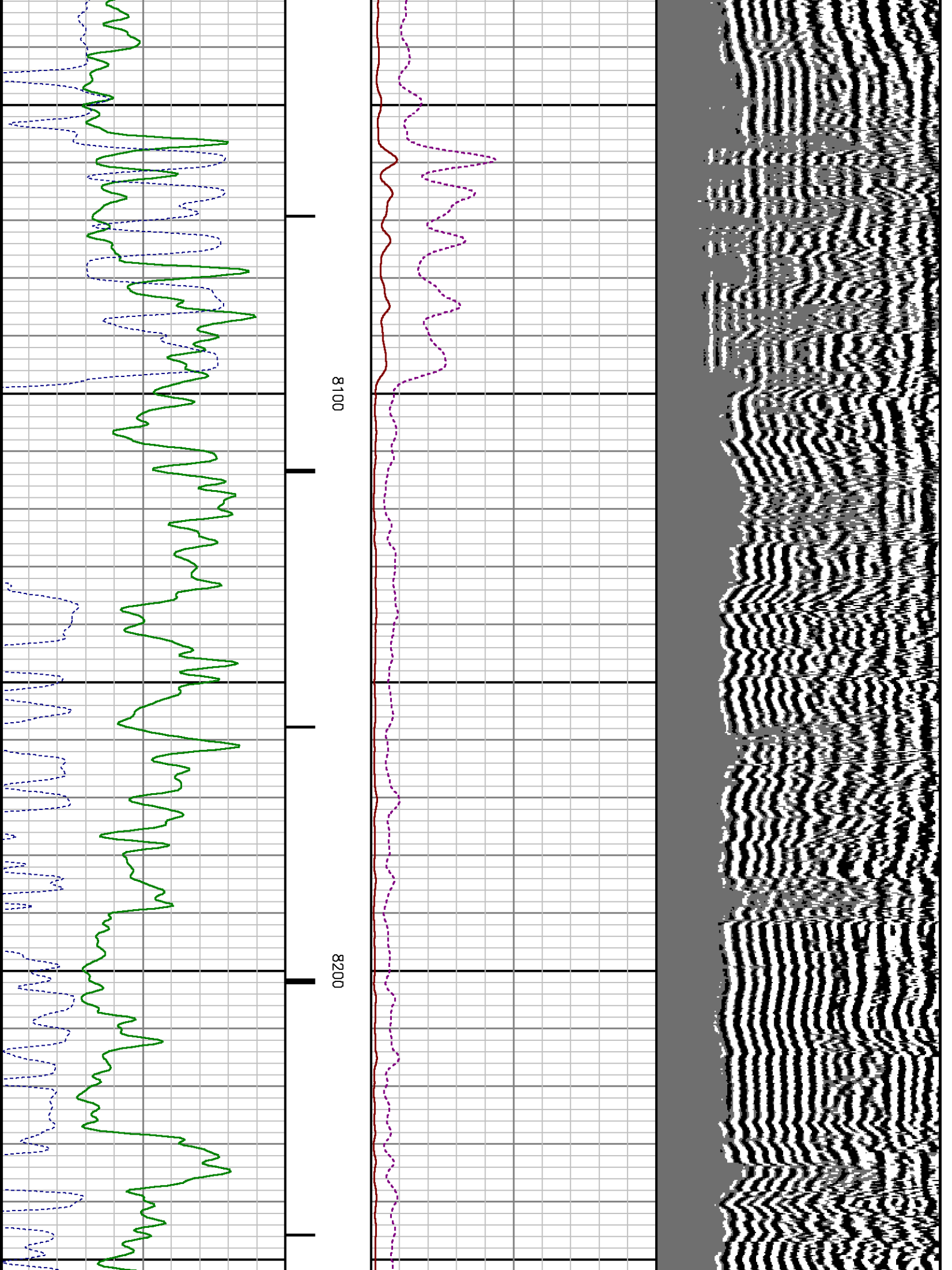


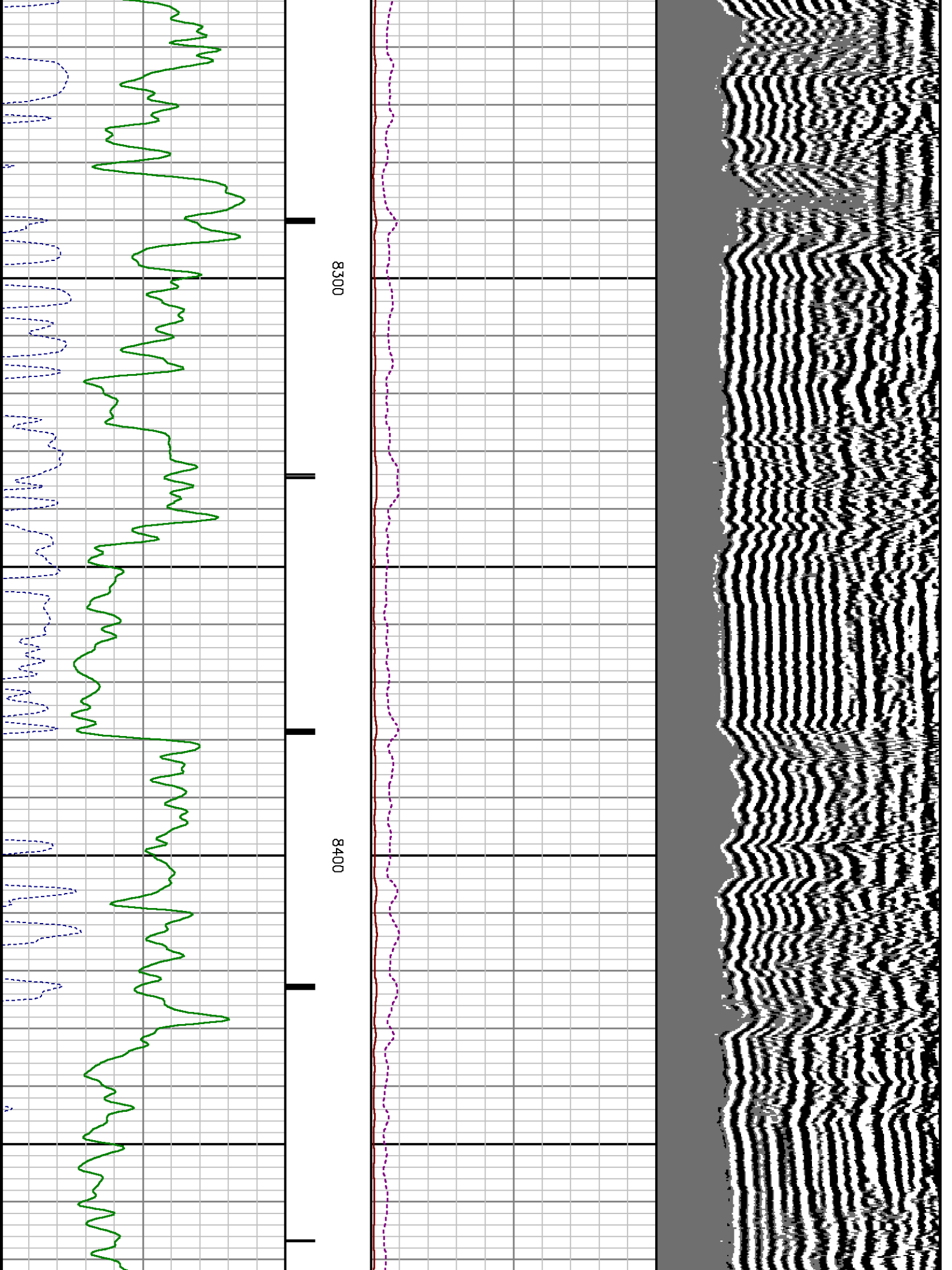


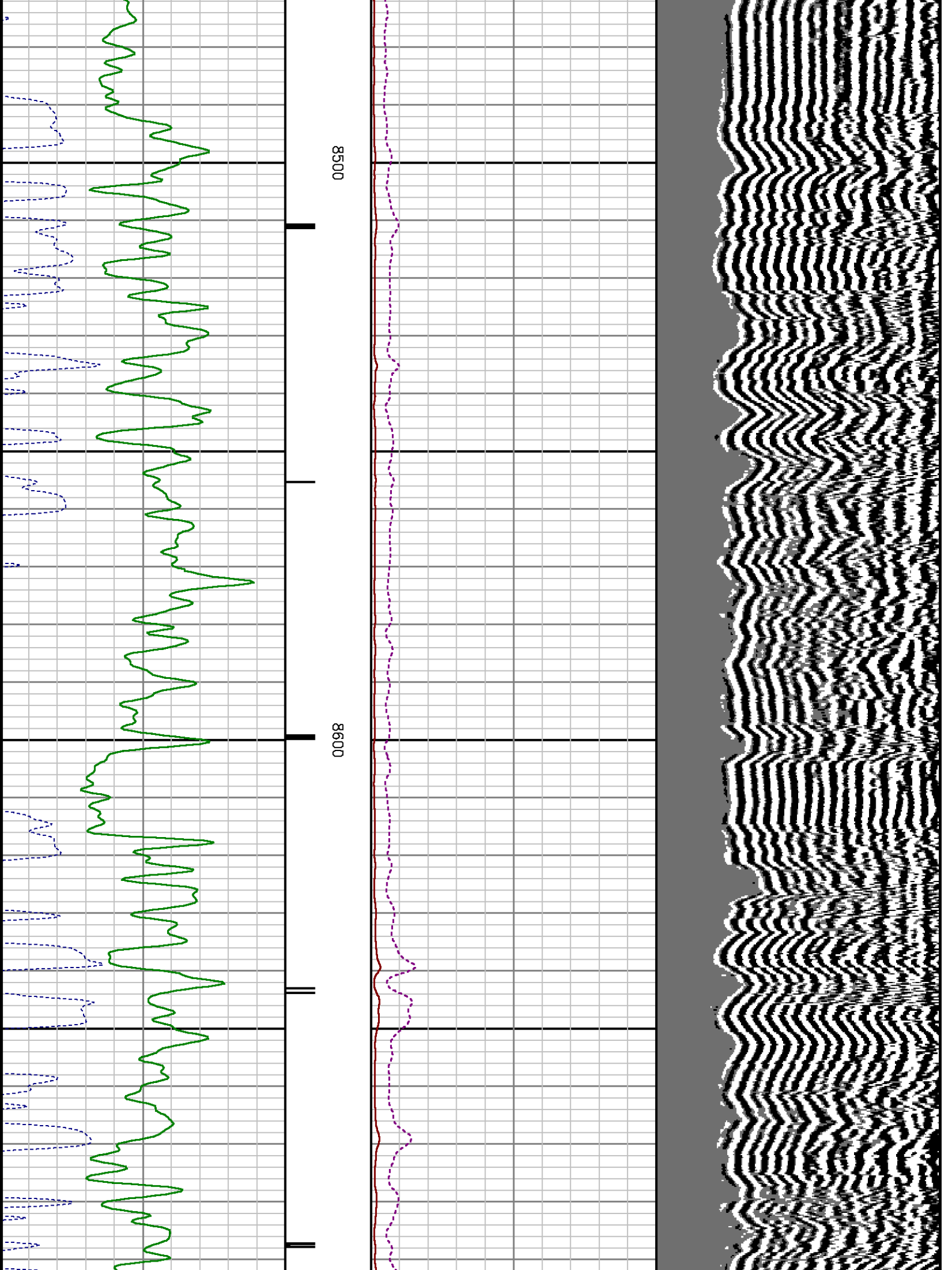


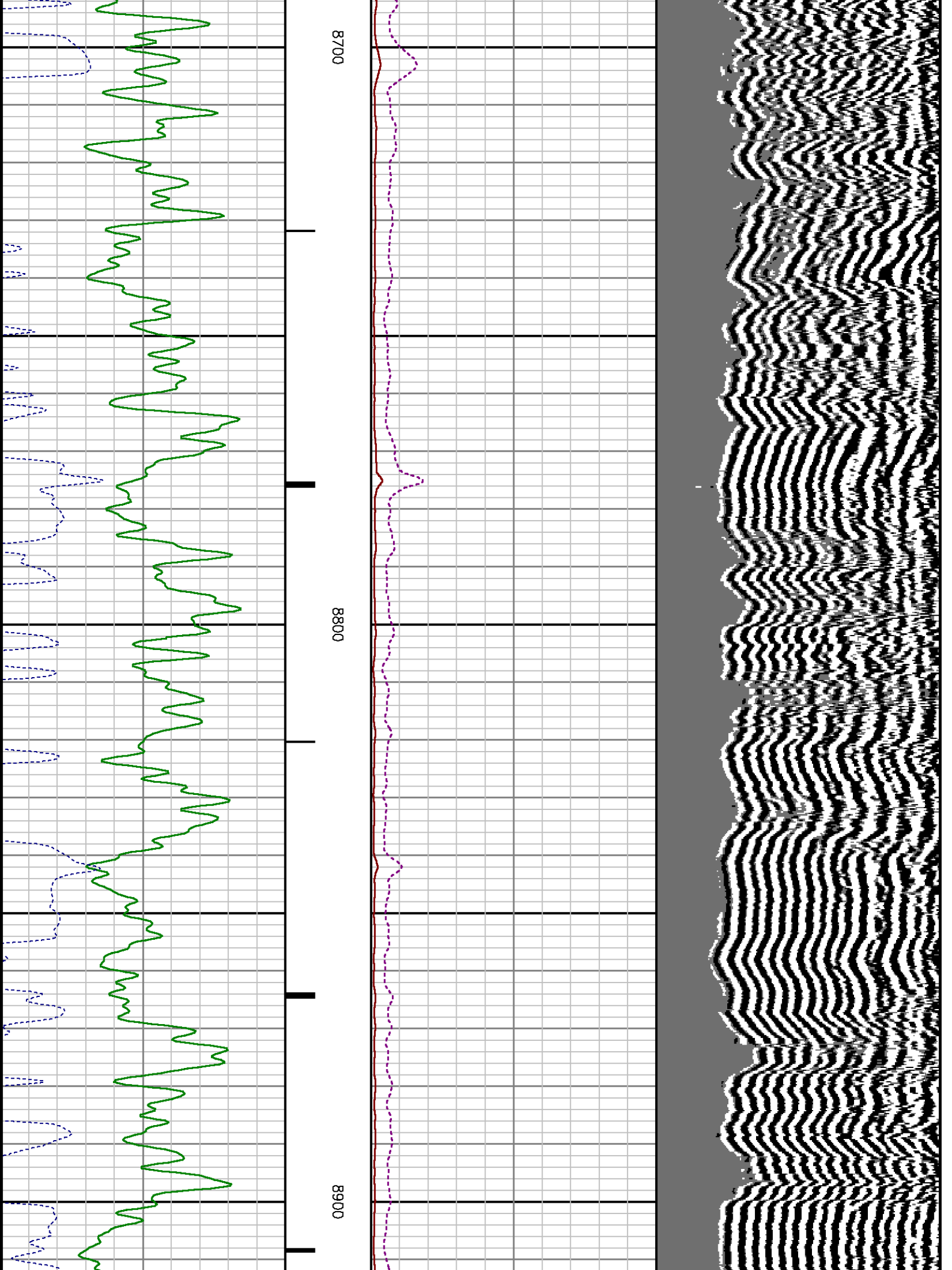


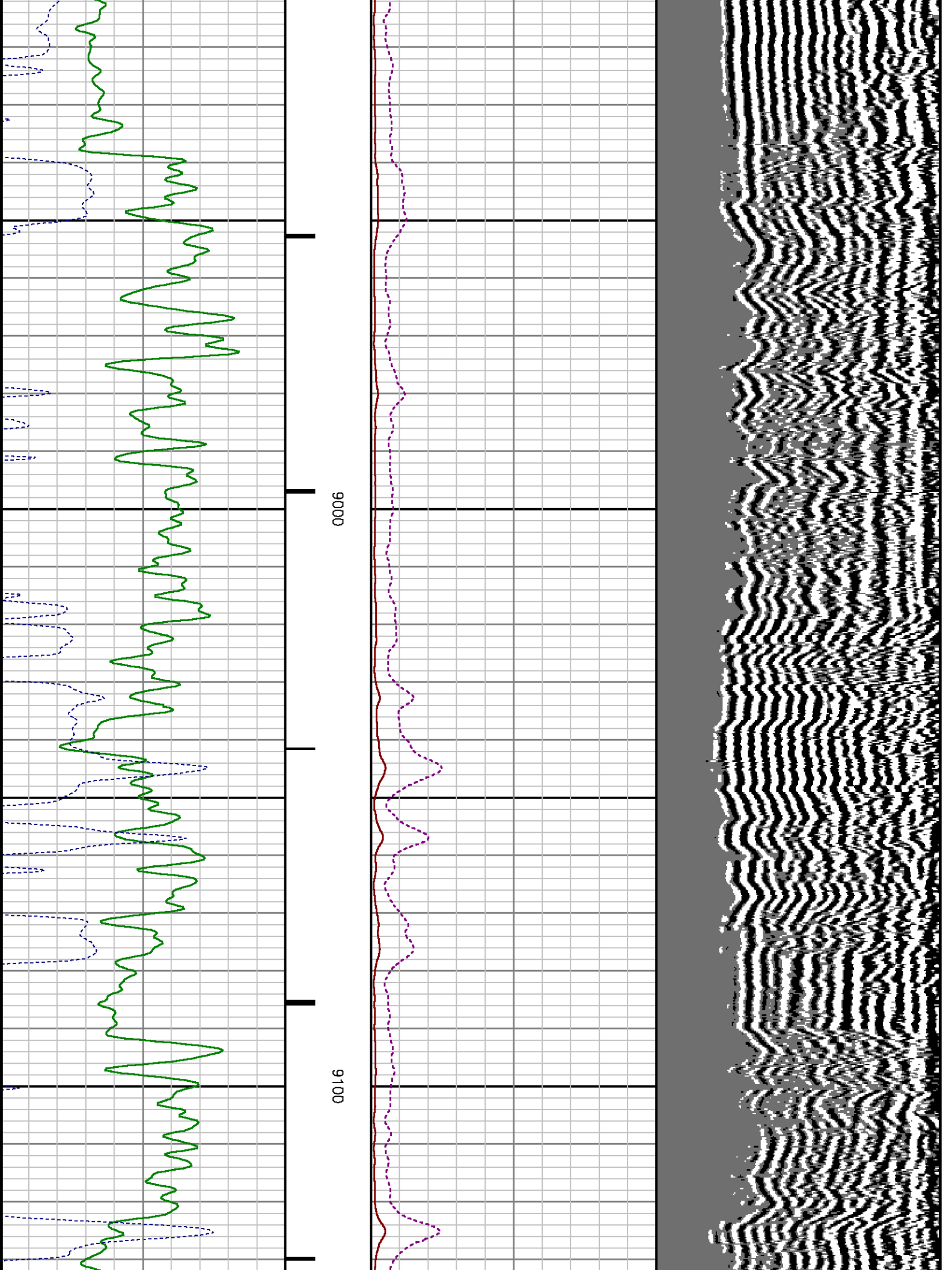


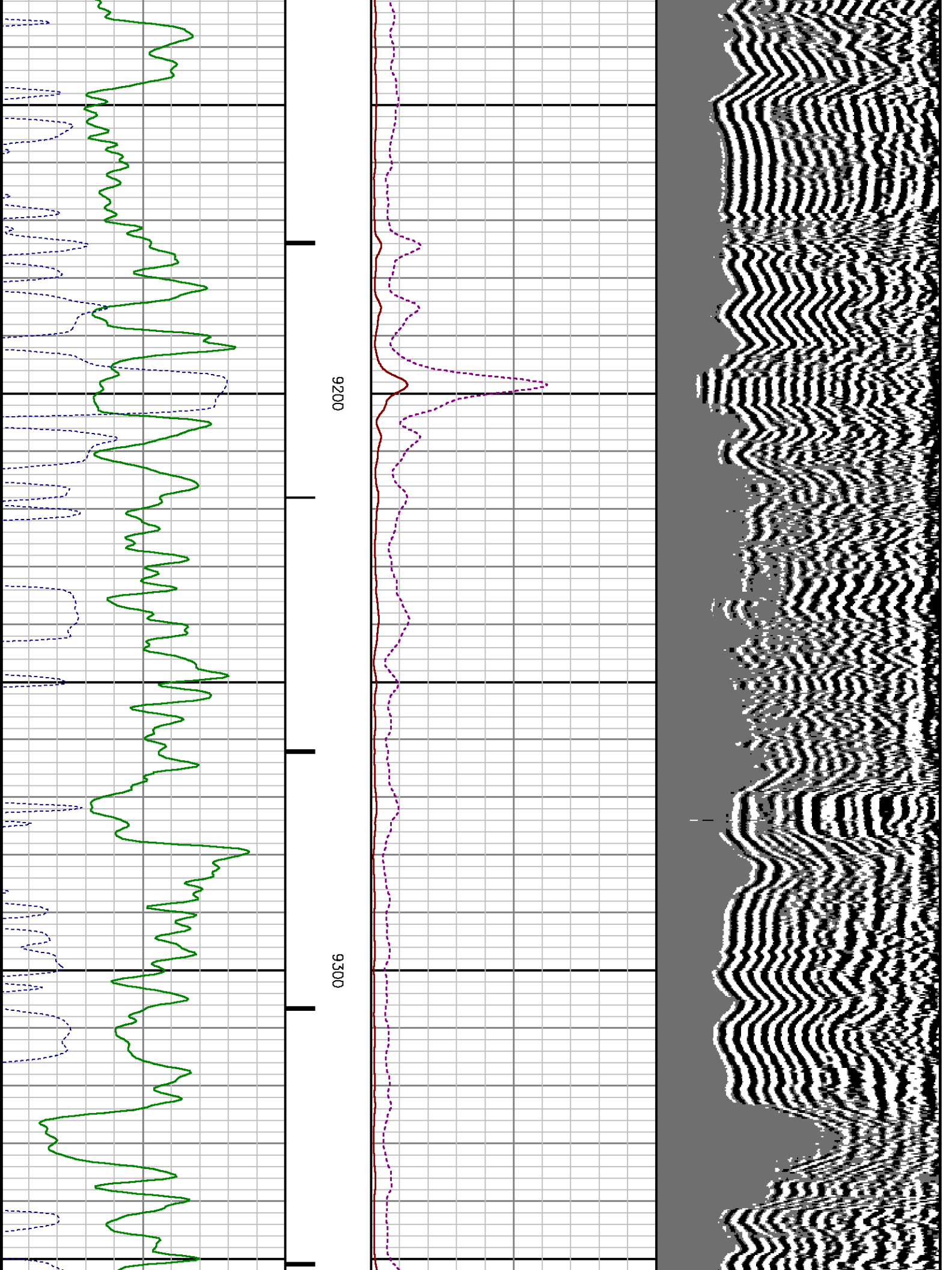


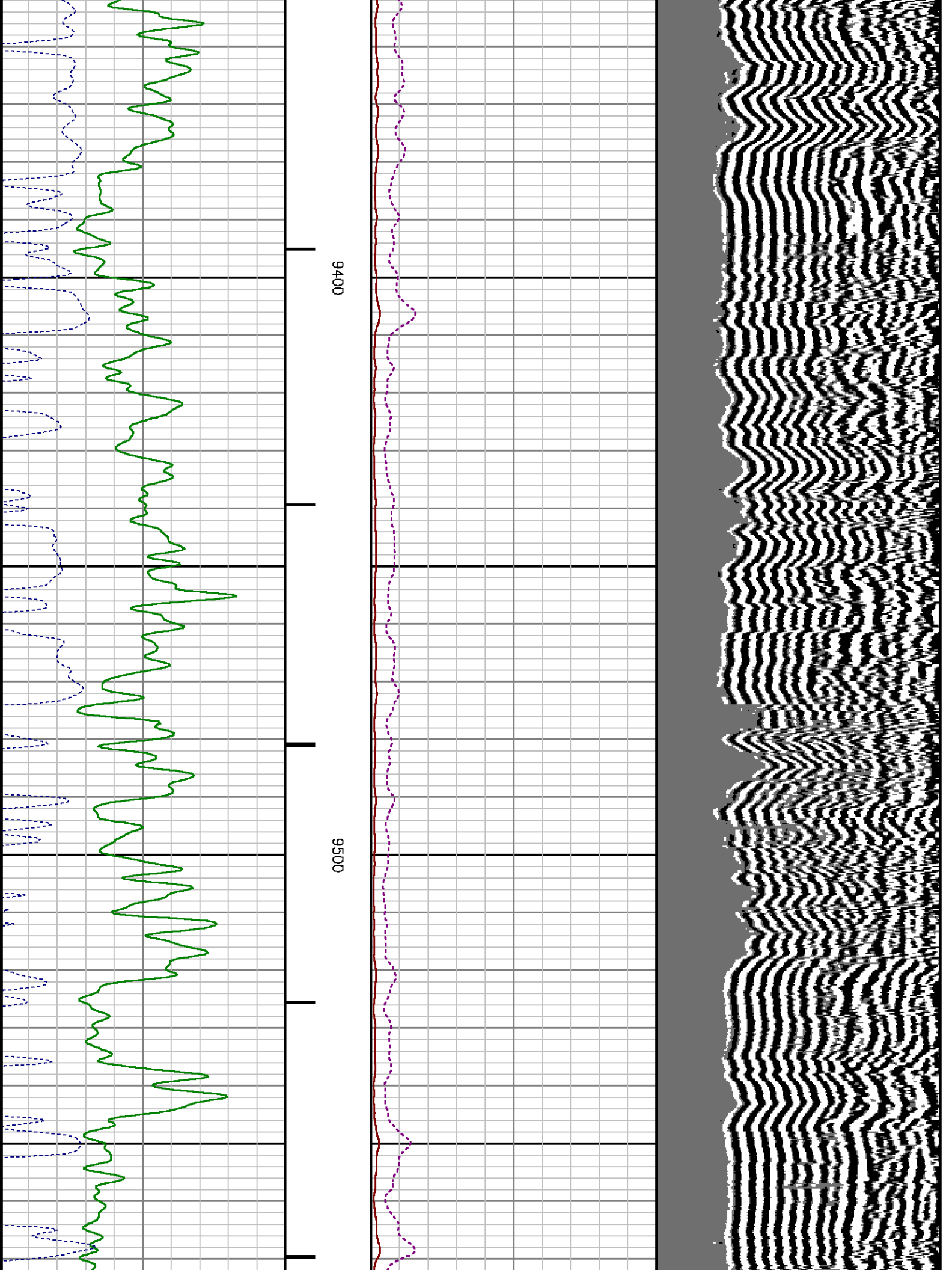


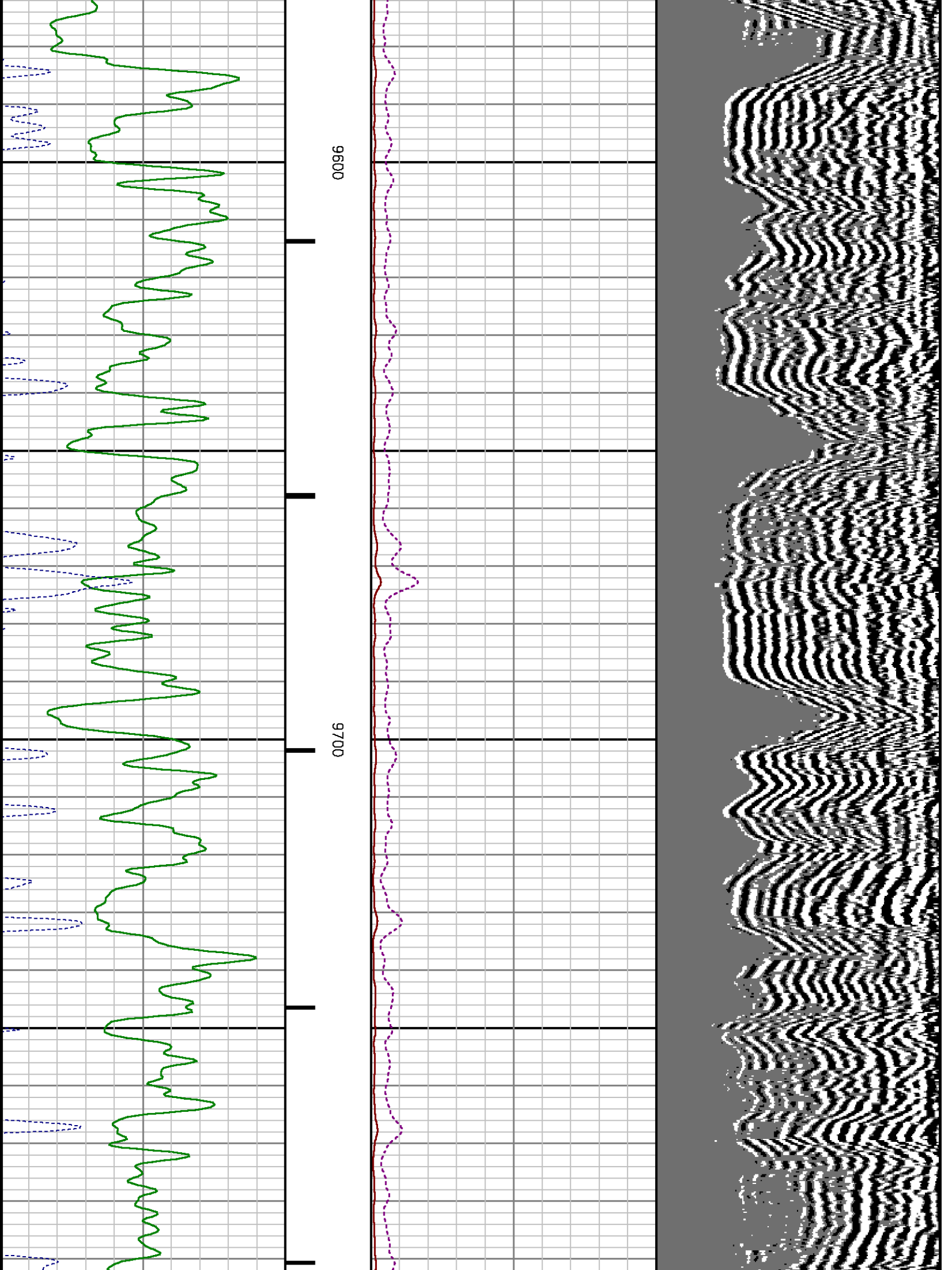


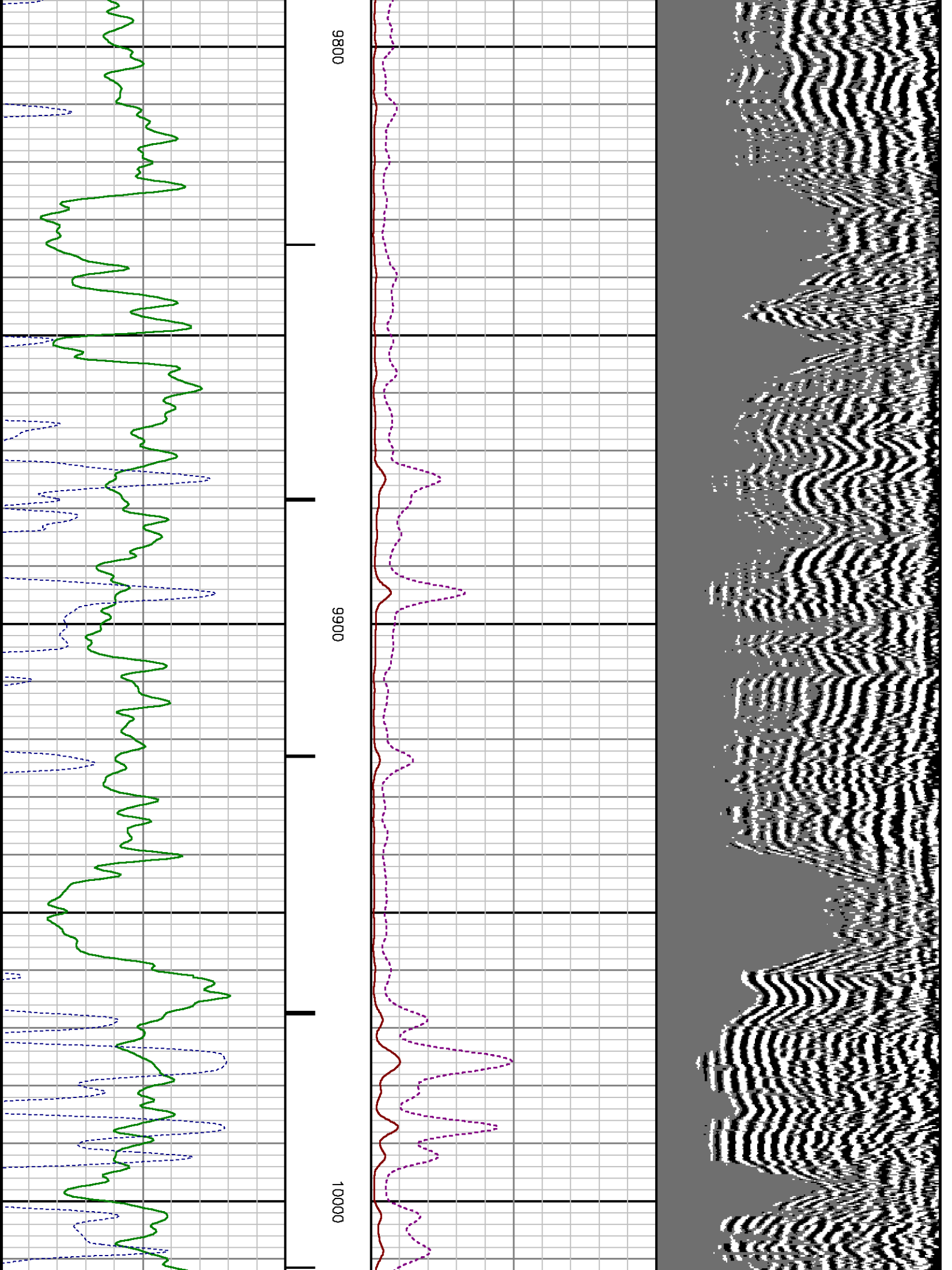


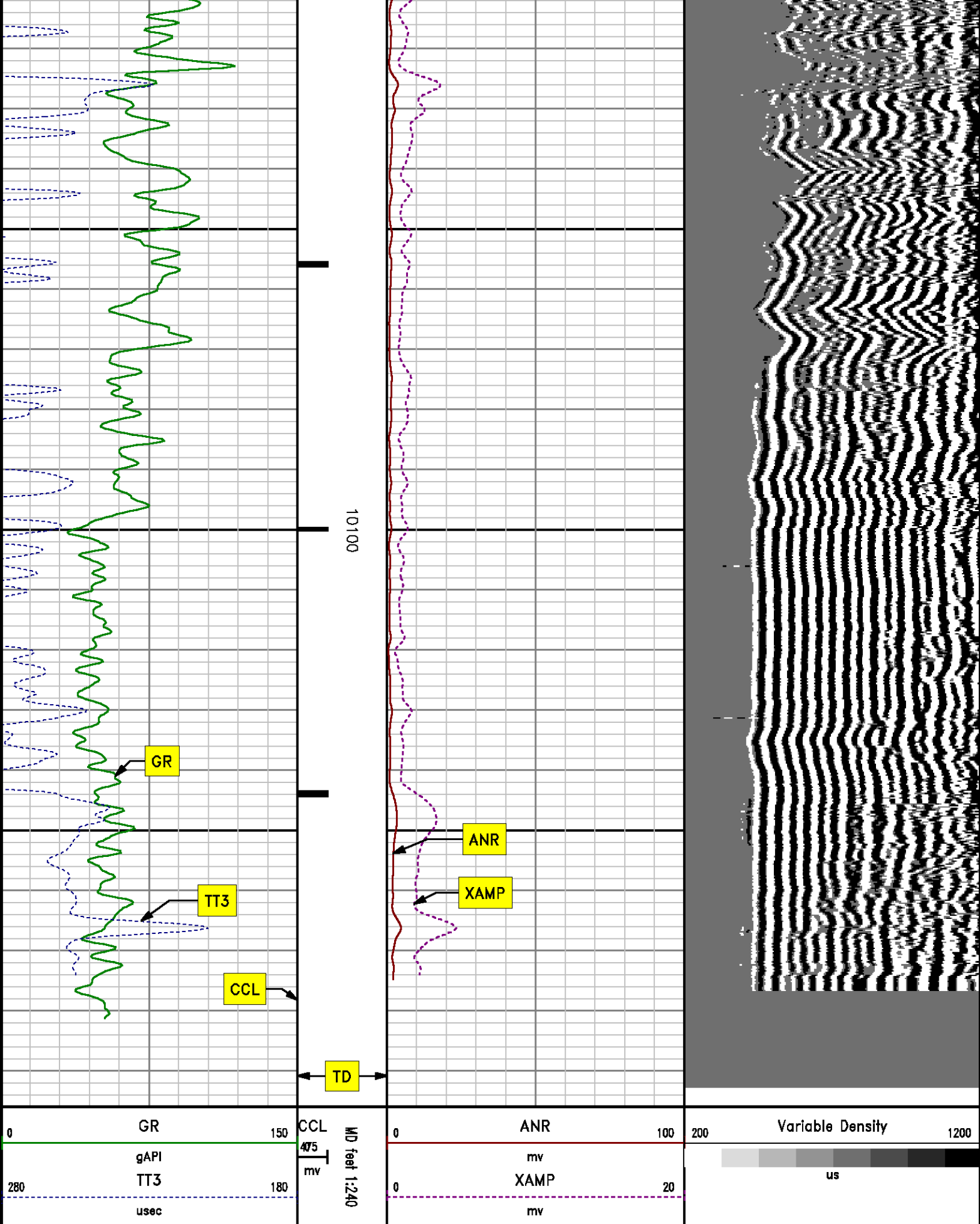












SECONDARY PRESENTATION

0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	22.566	10167.000
RAL	Amp Gate Start Near	195.000	usec	22.566	10167.000
RAL	Amp Gate Start Radial	195.000	usec	22.566	10167.000
RAL	Amp Gate Width Far	25.000	usec	22.566	10167.000
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RAL	FB Thresh Far	10.000	mv	22.566	10167.000
RAL	FB Thresh Near	4.000	mv	22.566	10167.000
RAL	FB Thresh Radial	4.000	mv	22.566	10167.000
RAL	Fluid Travel Time	200.000	usec/ft	22.566	10166.879

DEPTH OFFSETS

(for Acquired Curves)

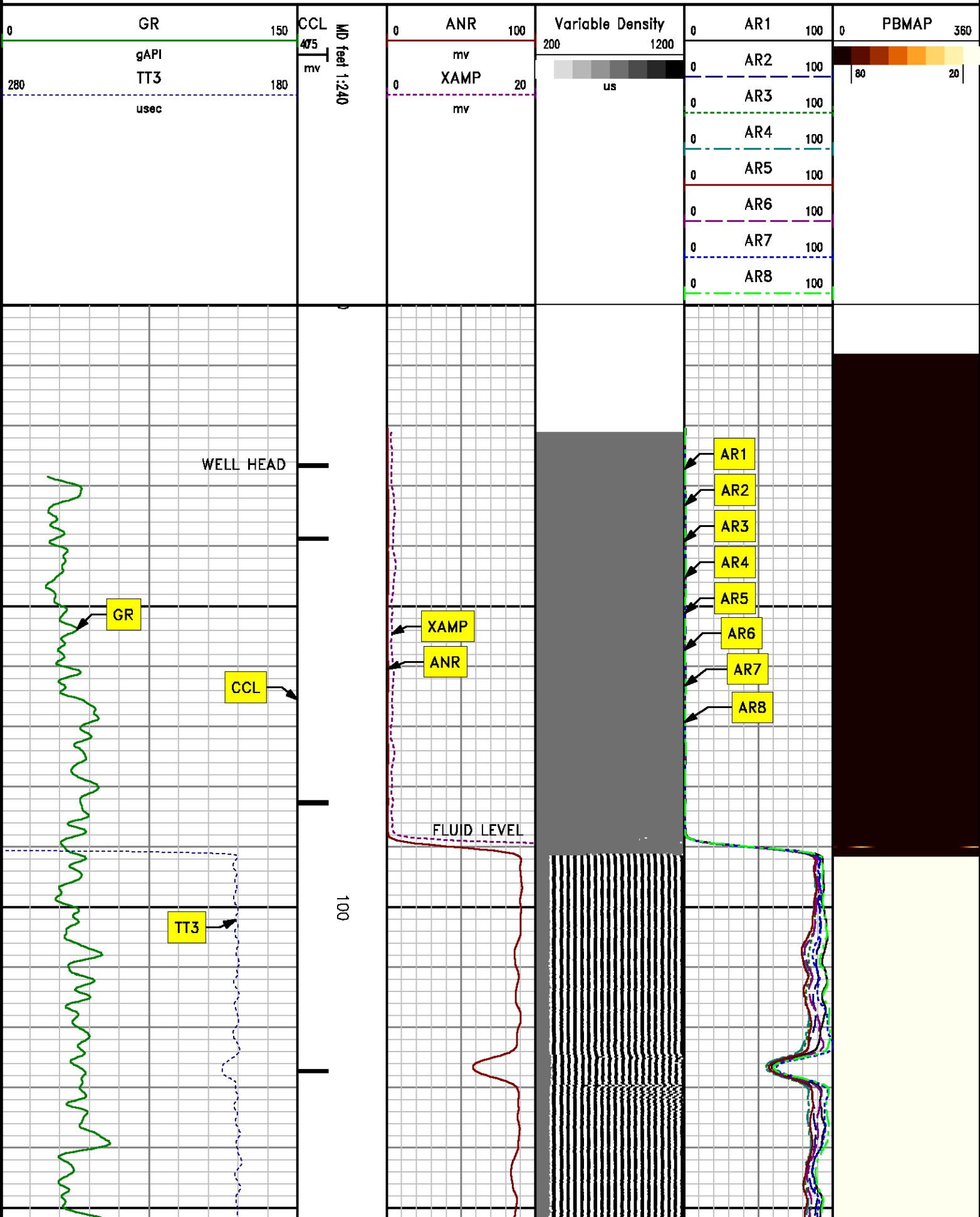
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		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-15.750	AFAR	SIG	TT5			
2459XA	-11.340	CCL					
2459XA	-9.490	GR					
2459XA	-4.090	NEU					

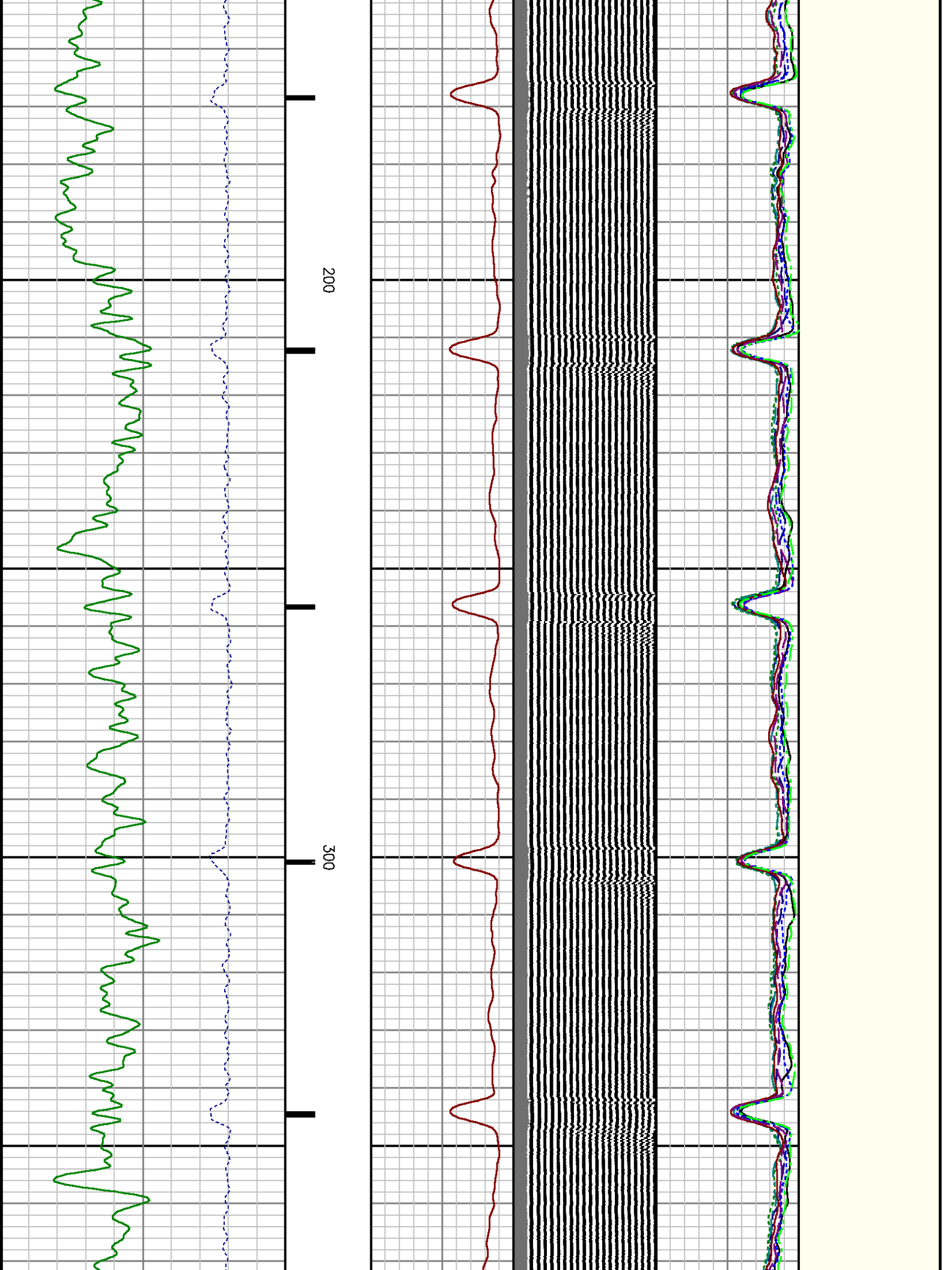
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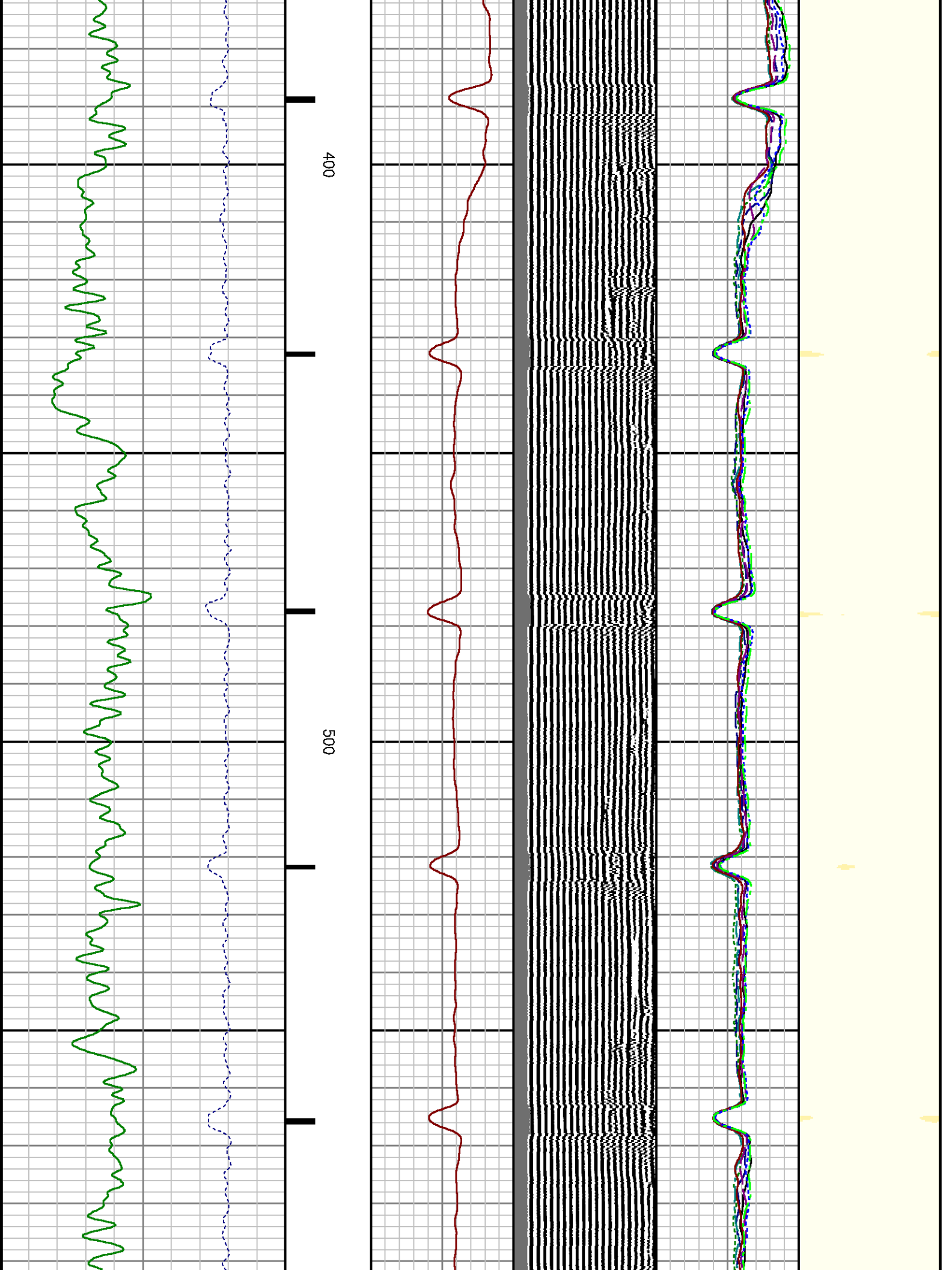
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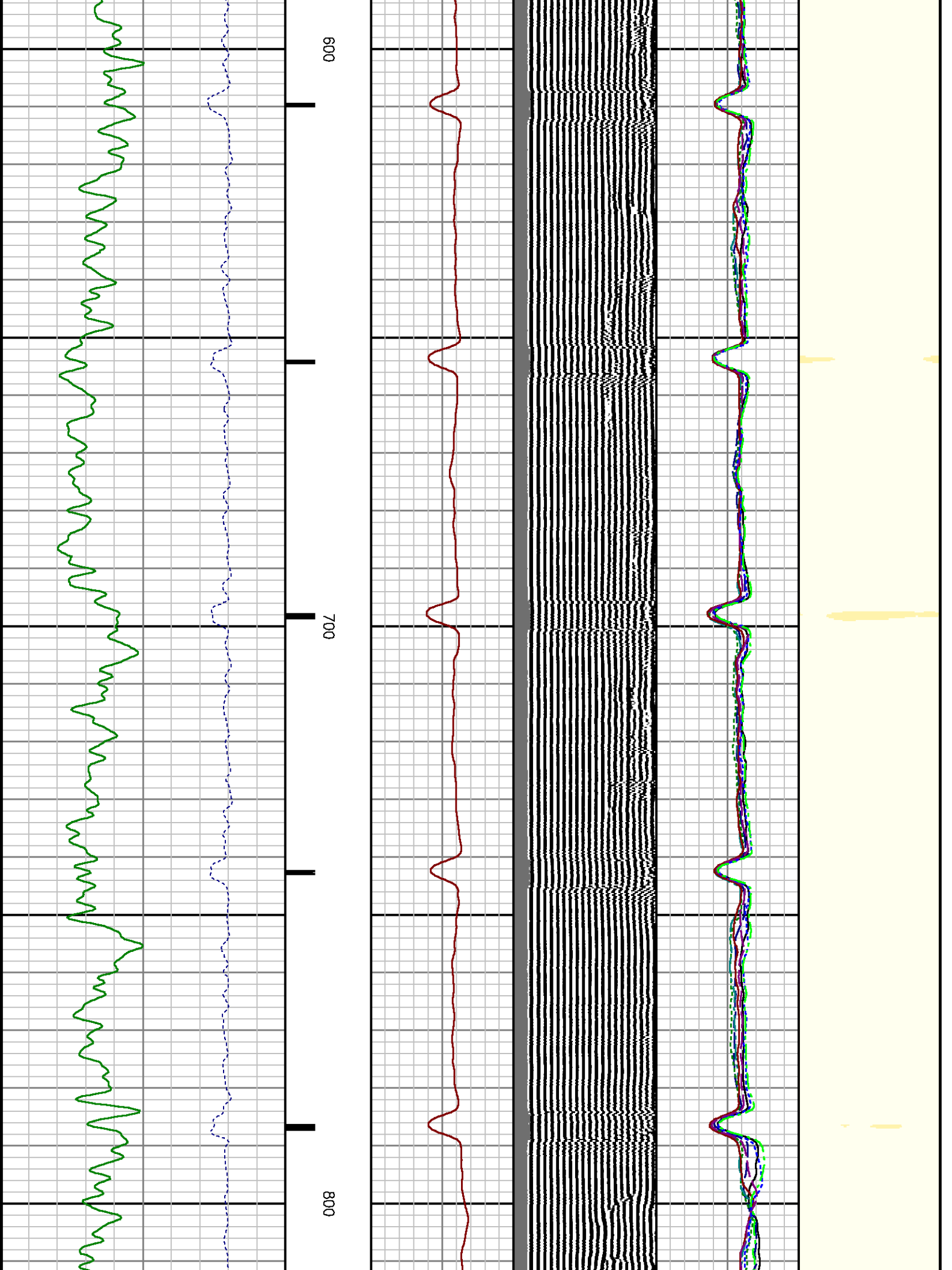
Company : WPX ENERGY

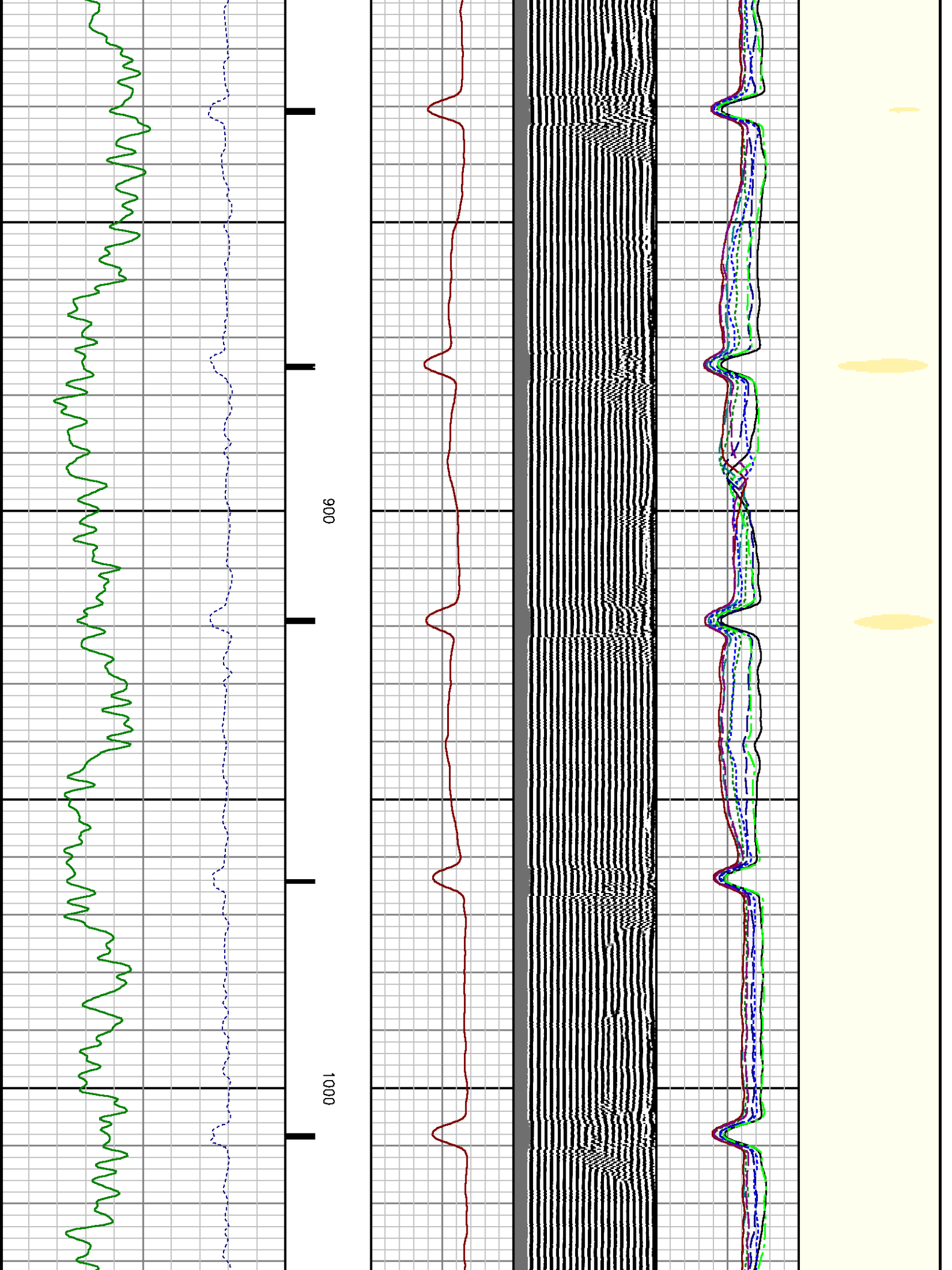
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Interval : 0.00 - 10196.00 feet UP
Created : 2/15/2014 7:34:47 PM

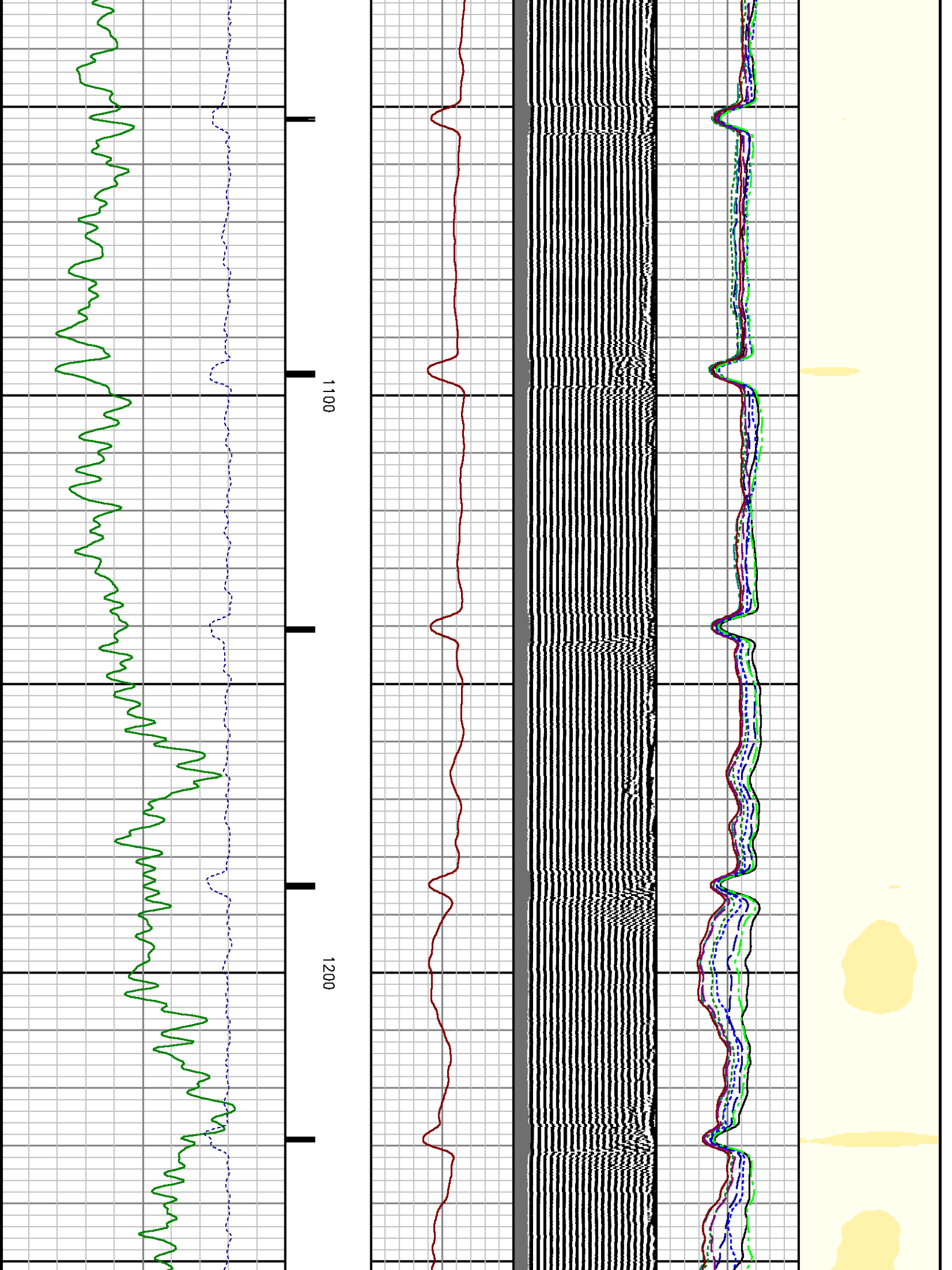


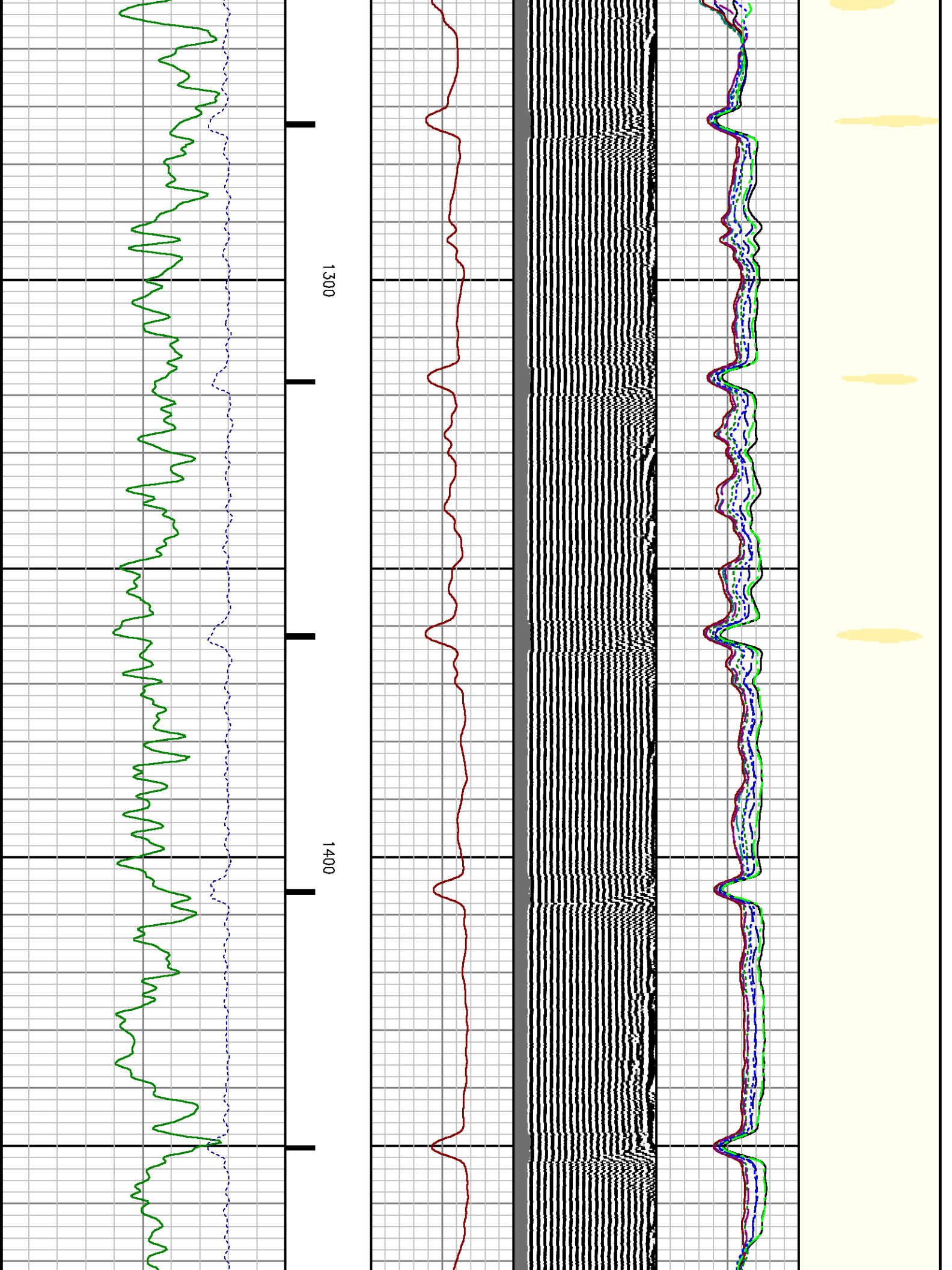


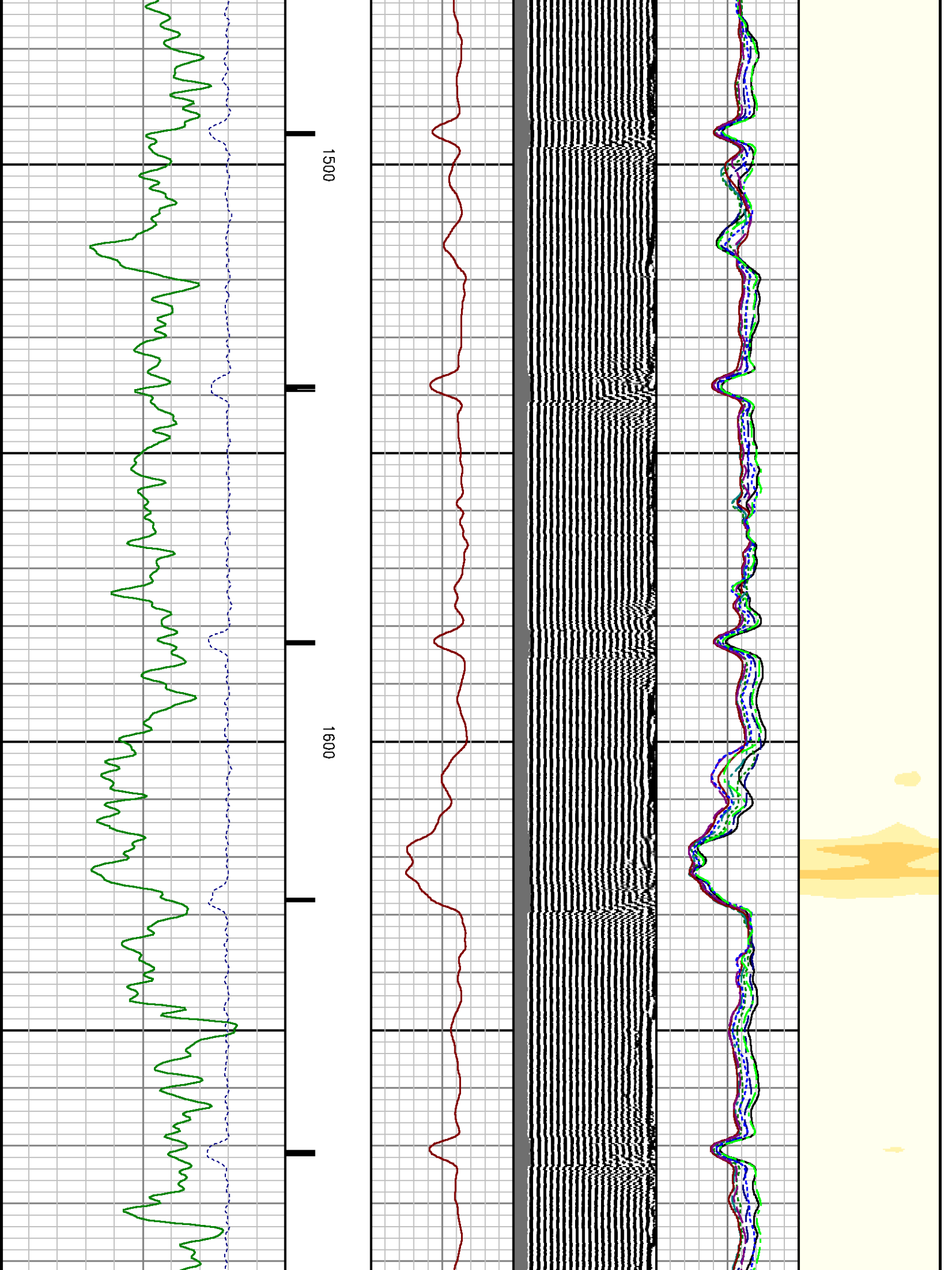


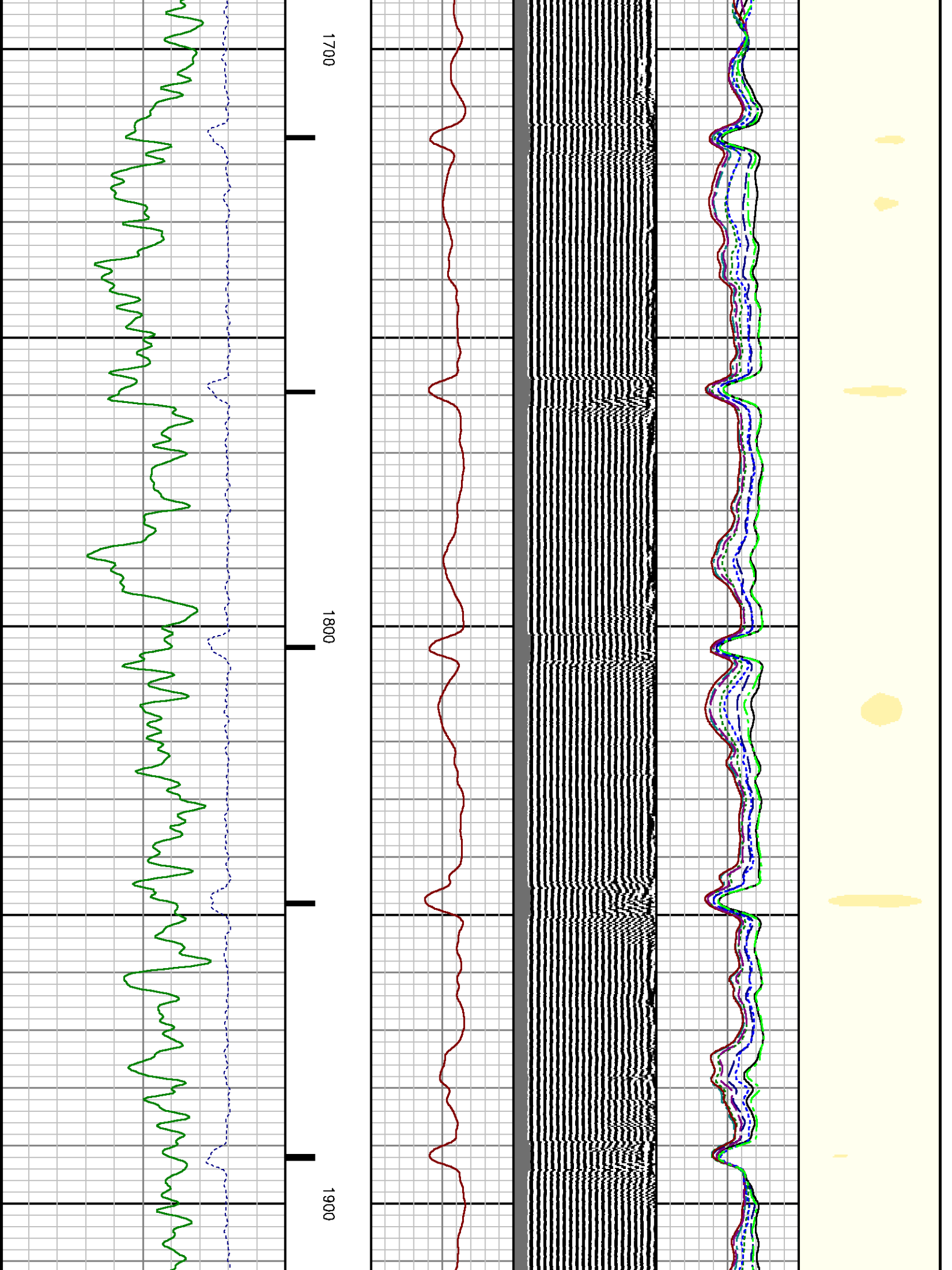


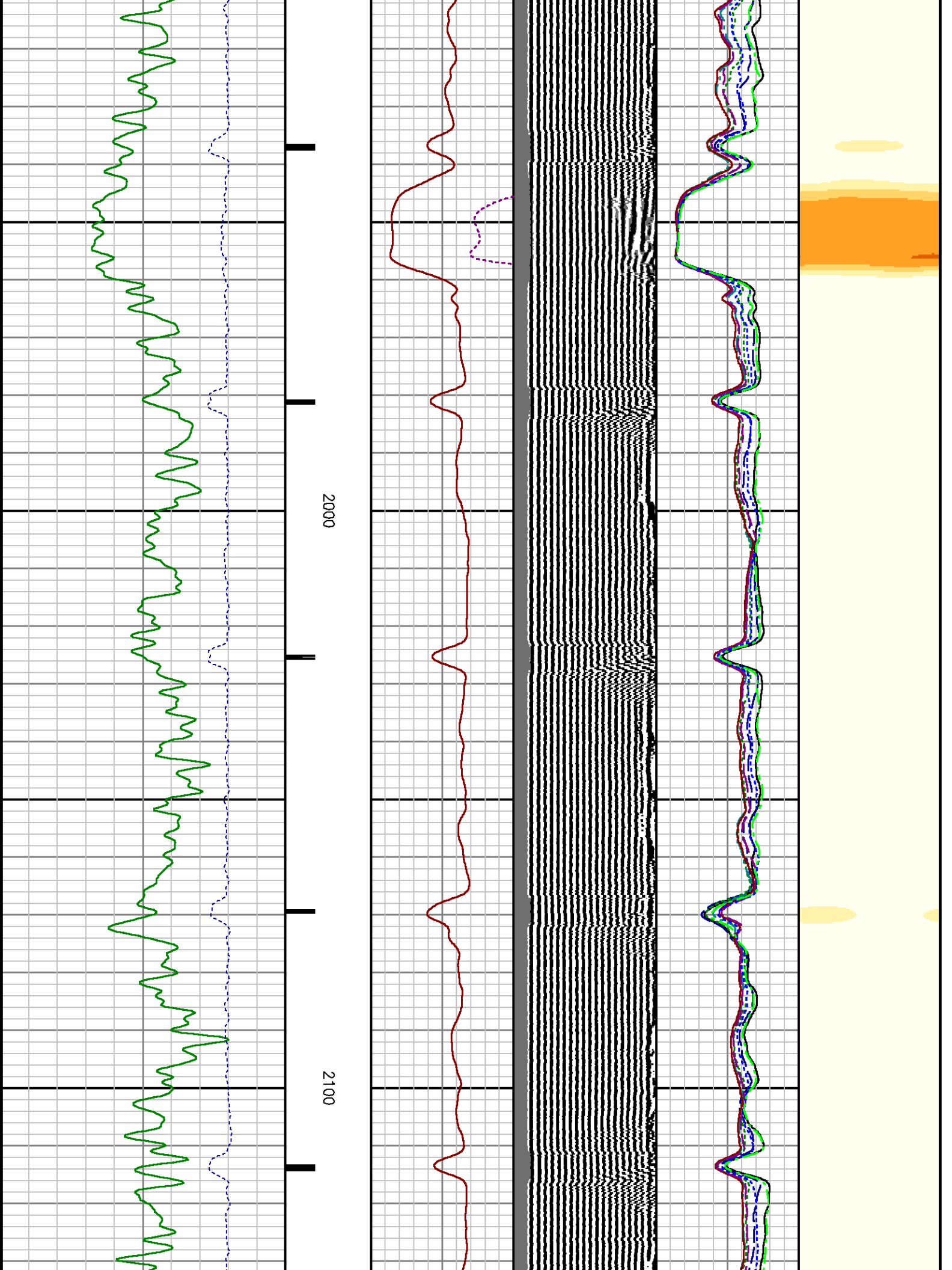


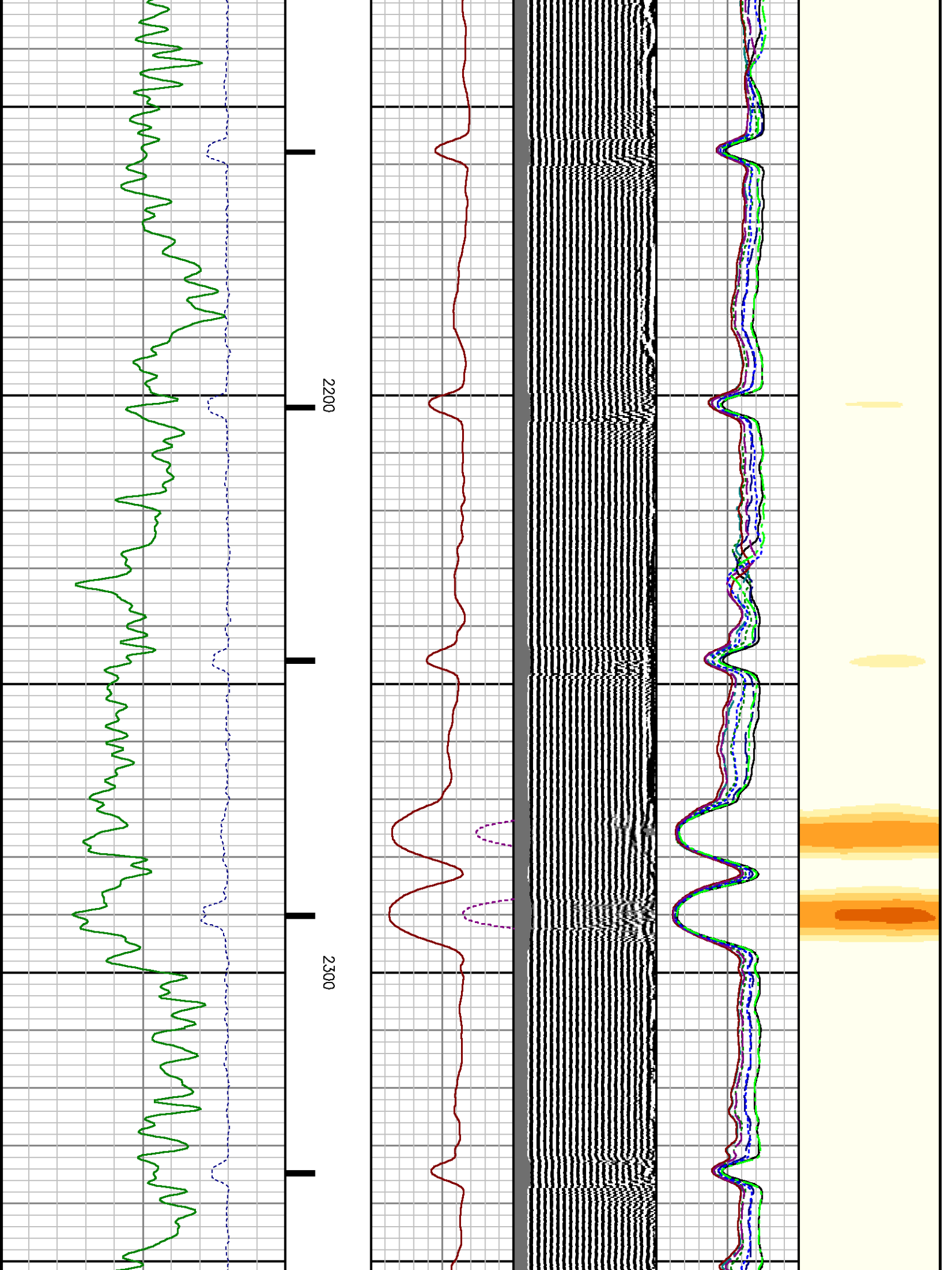


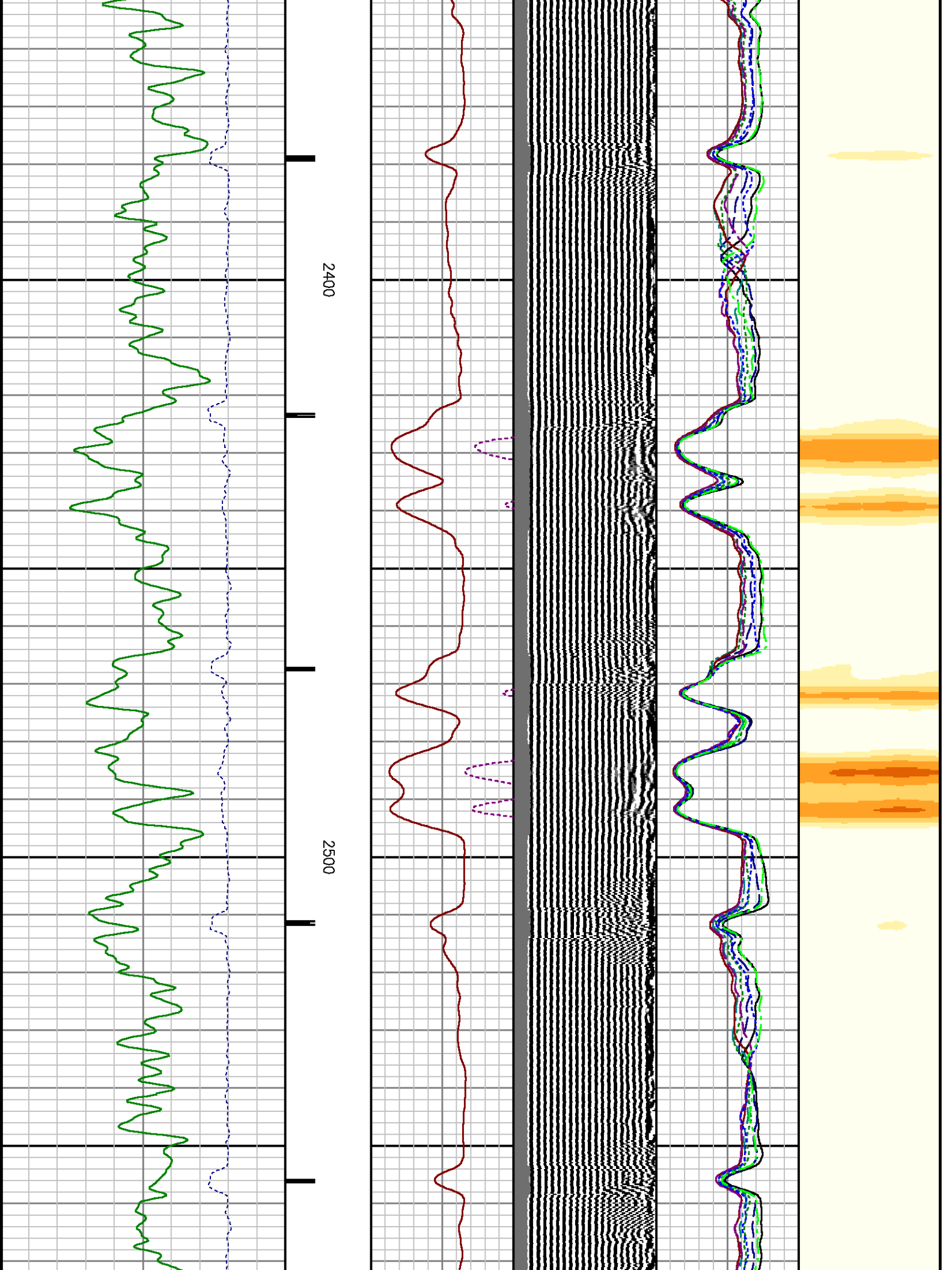


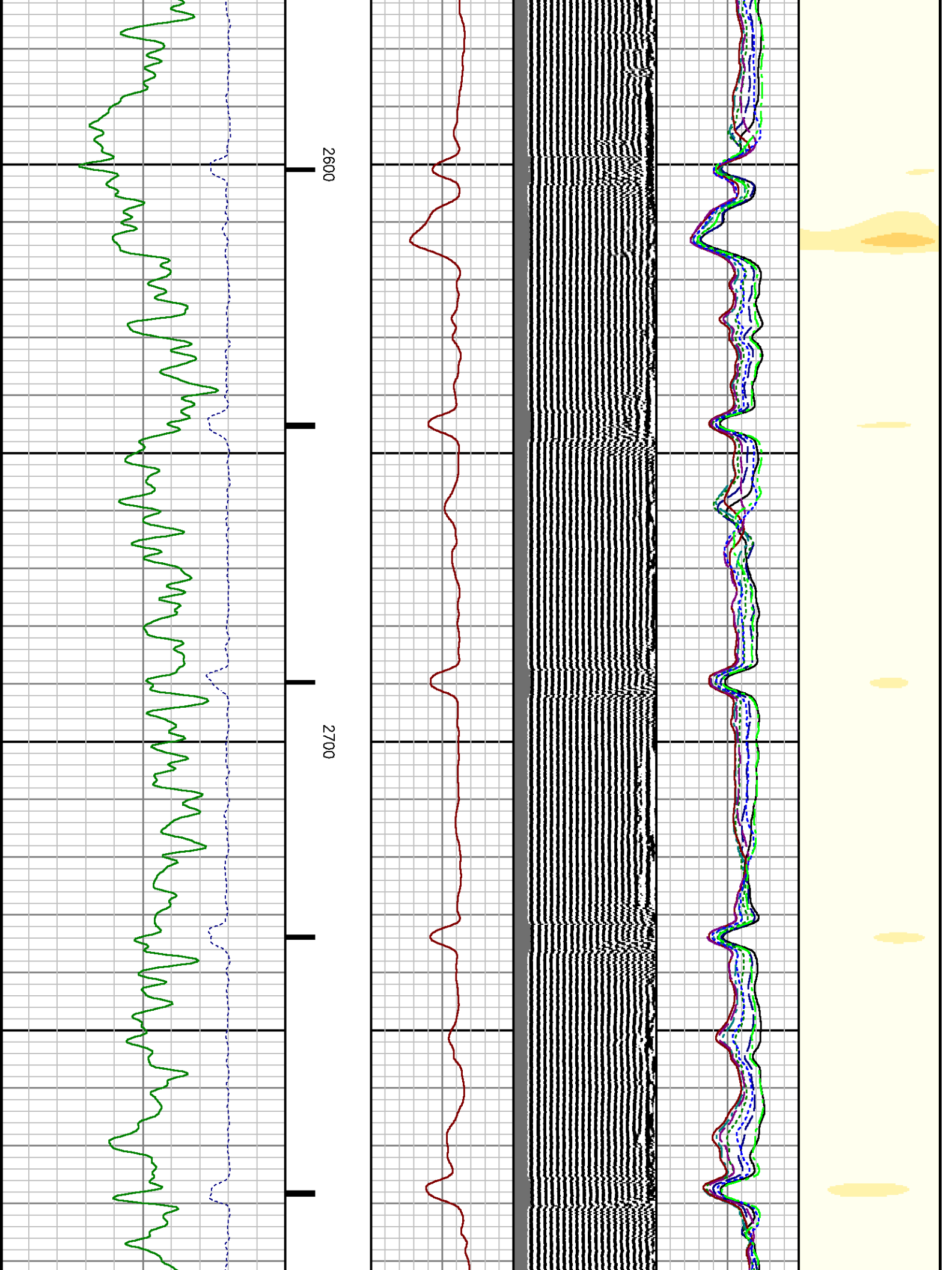


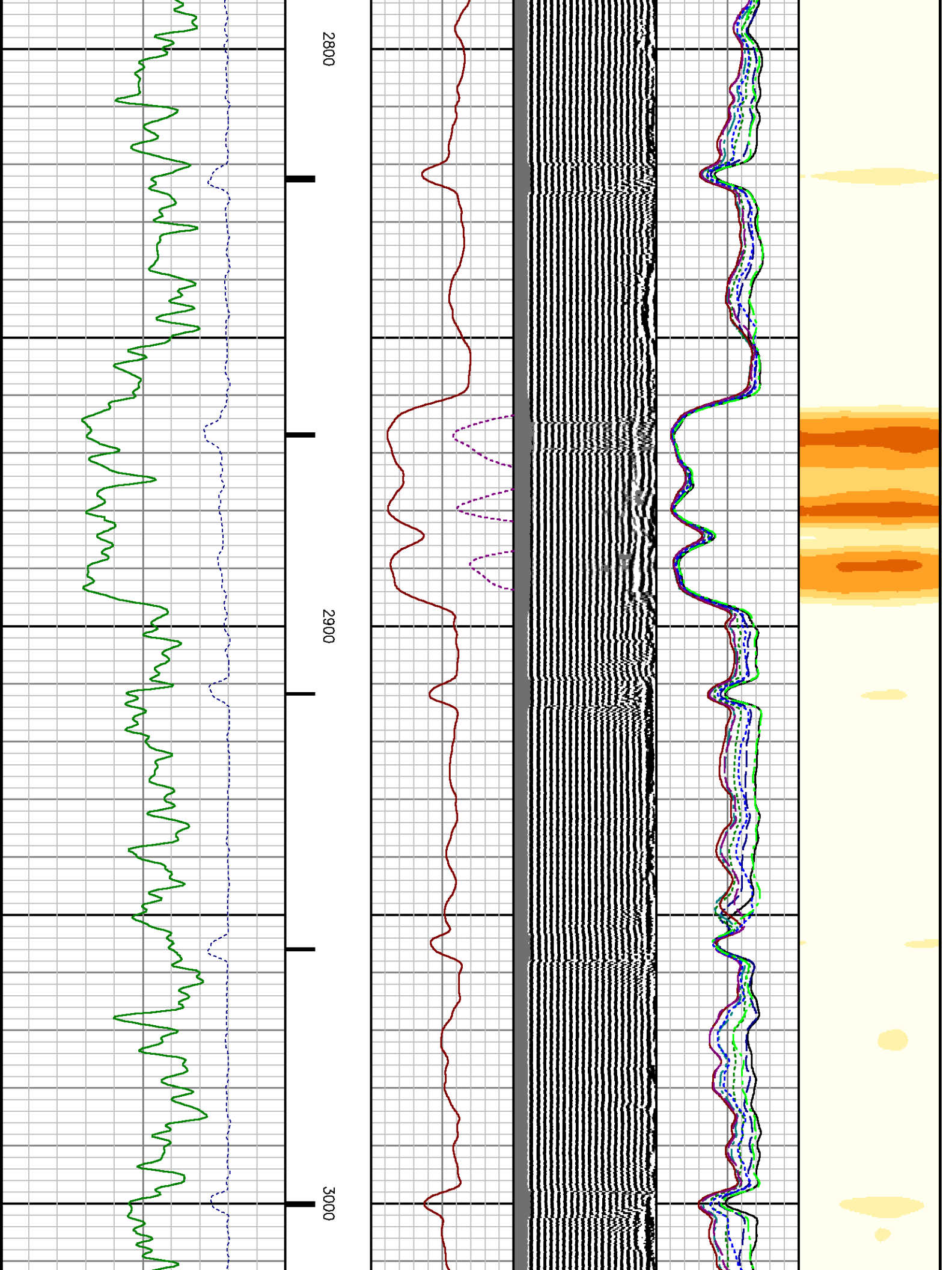


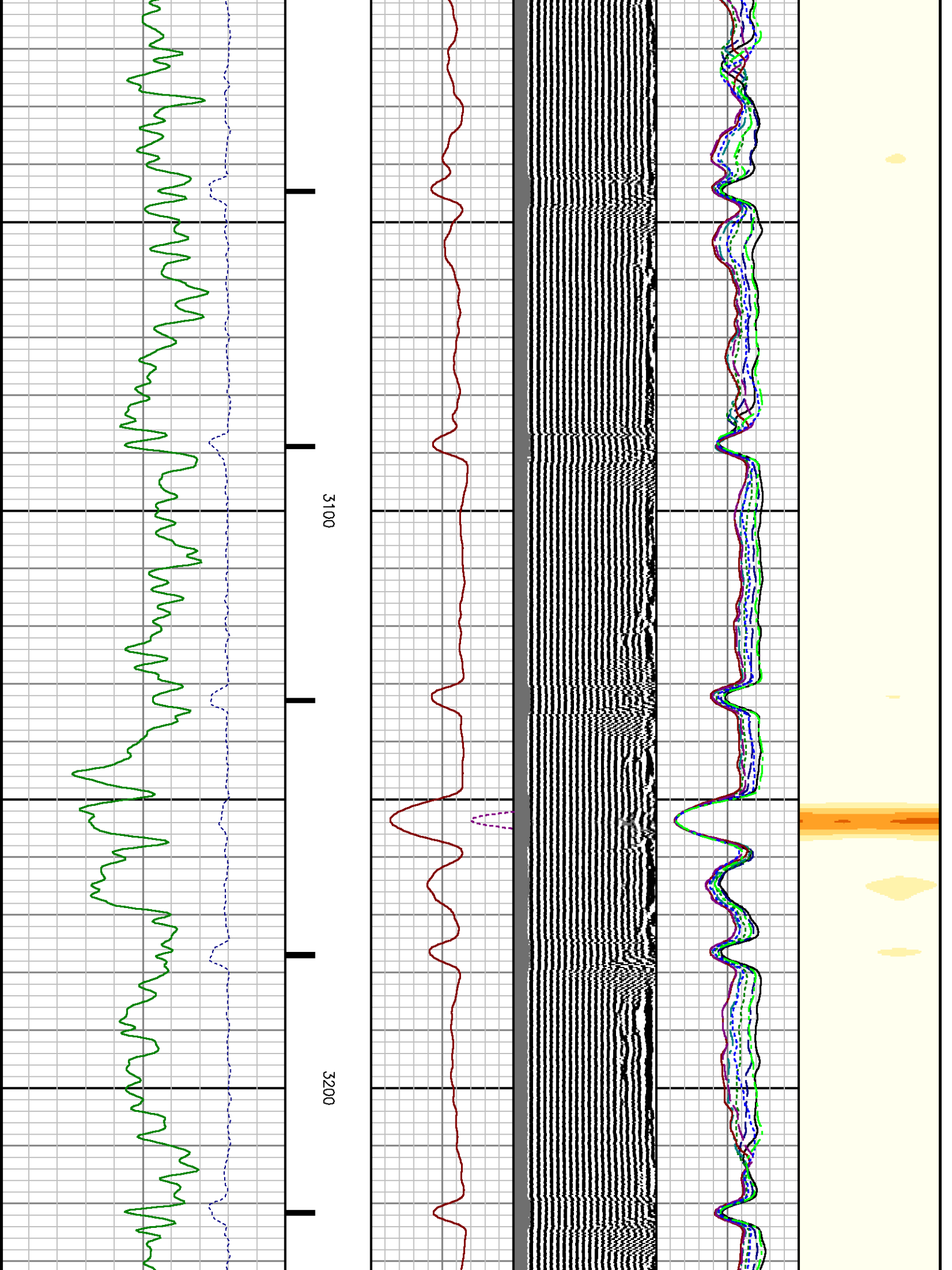


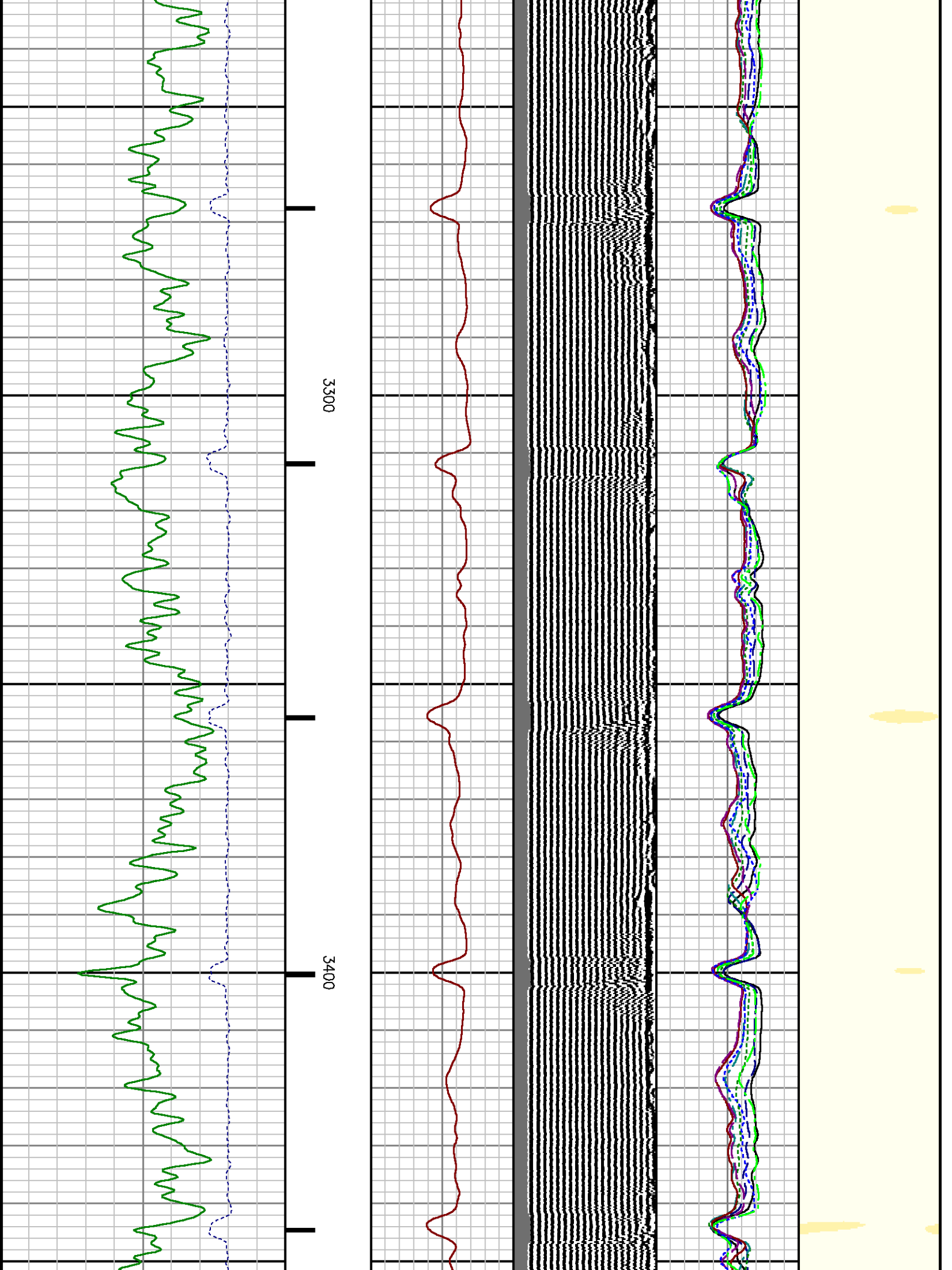


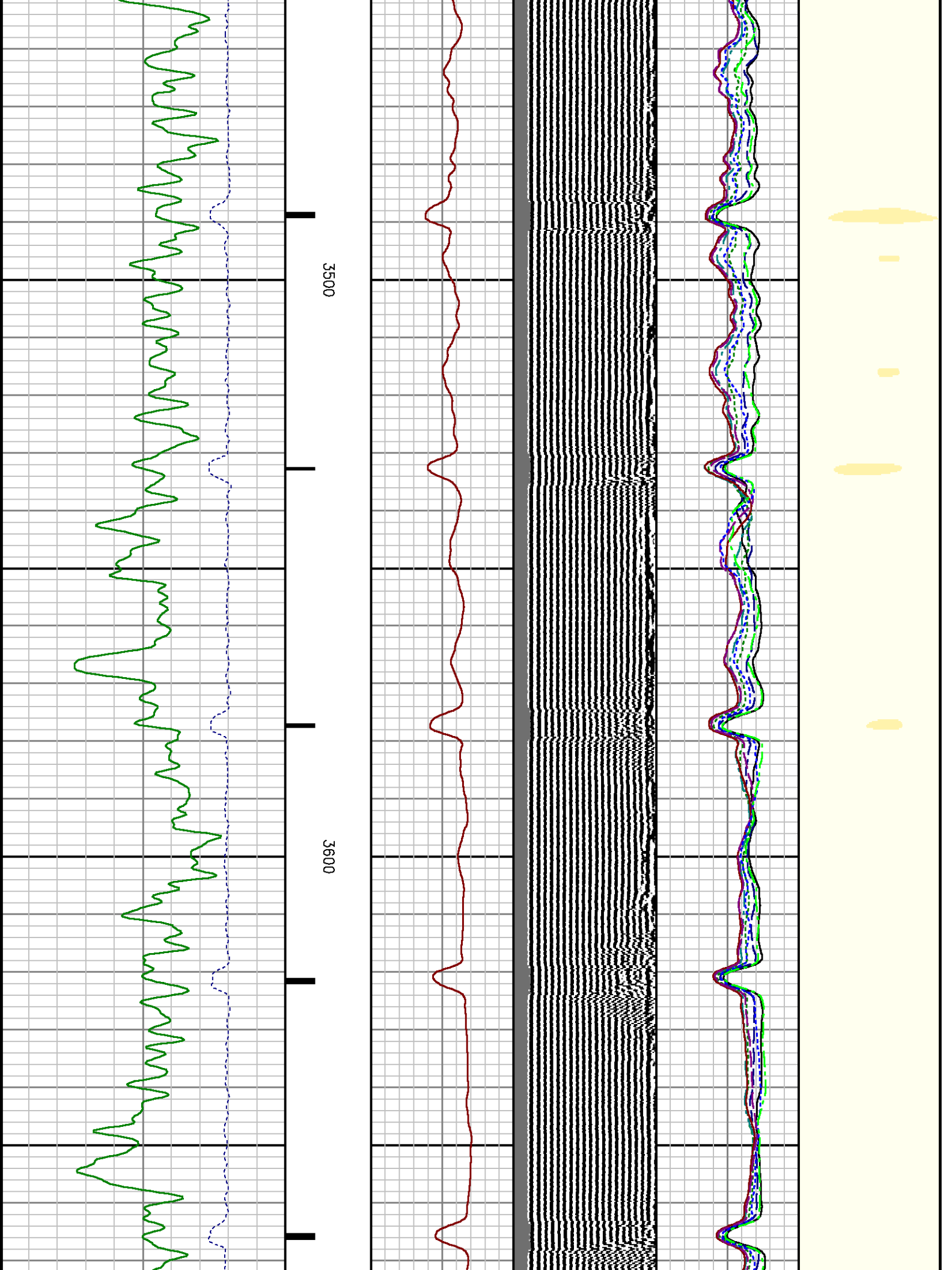


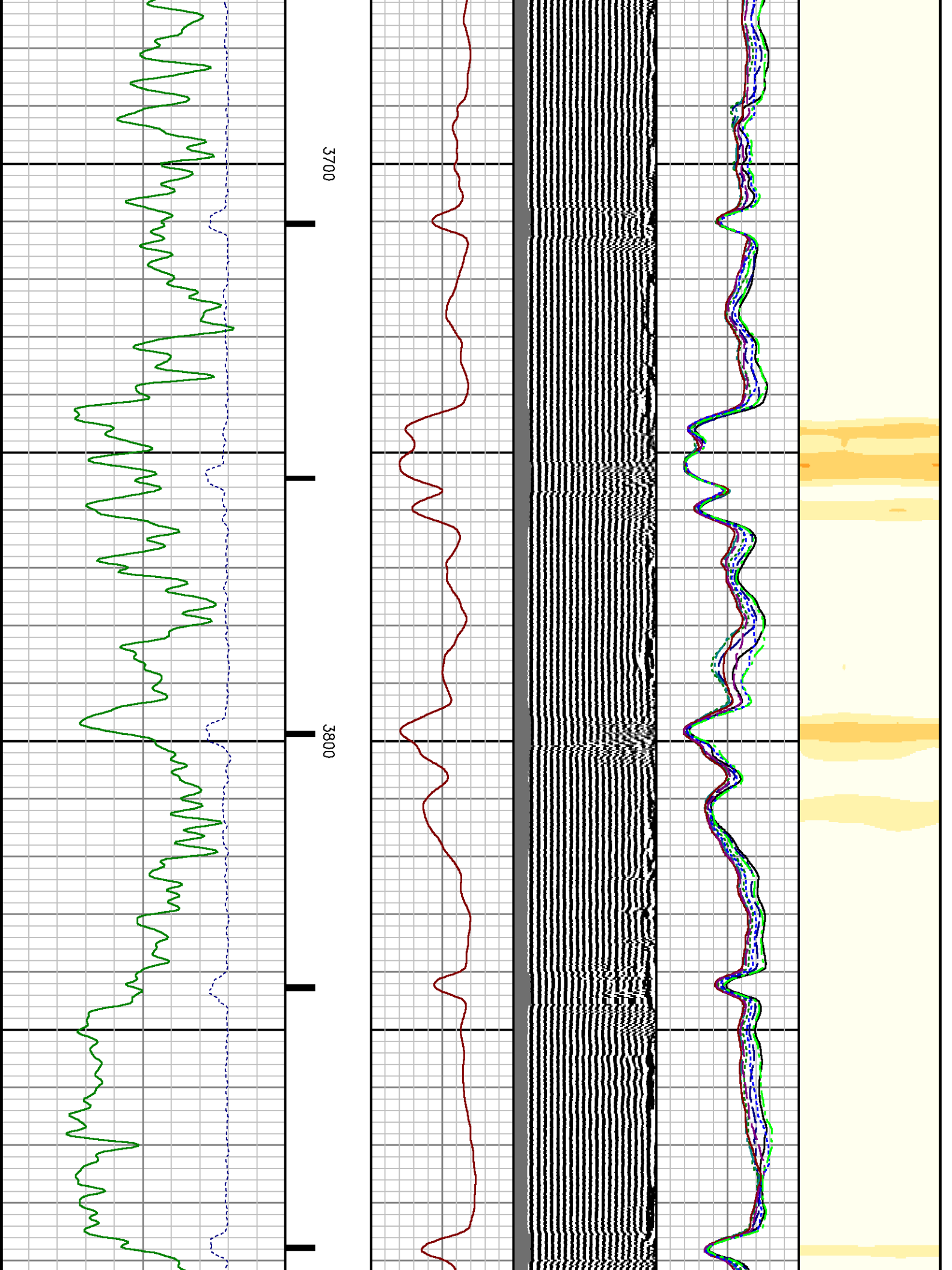


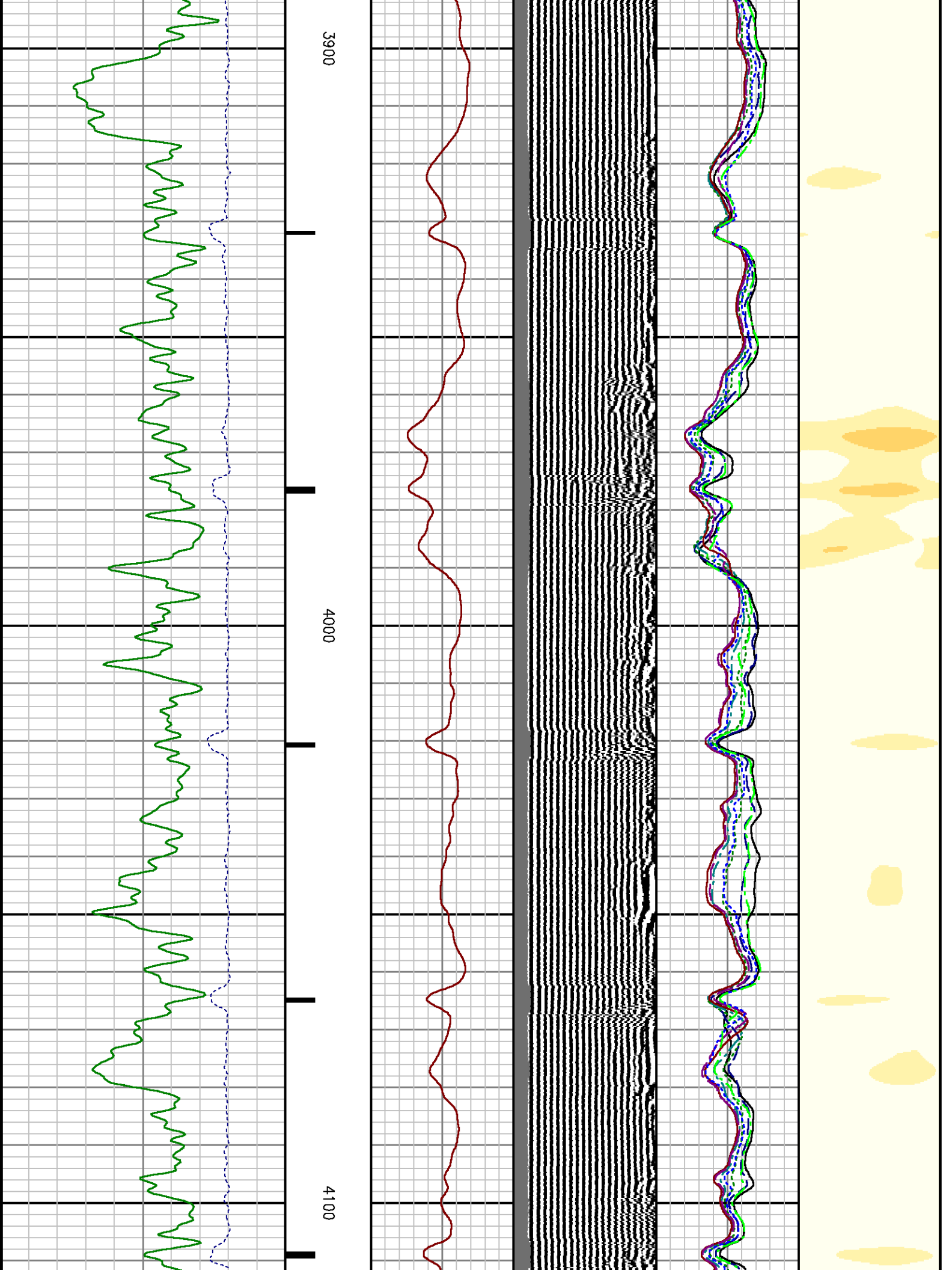


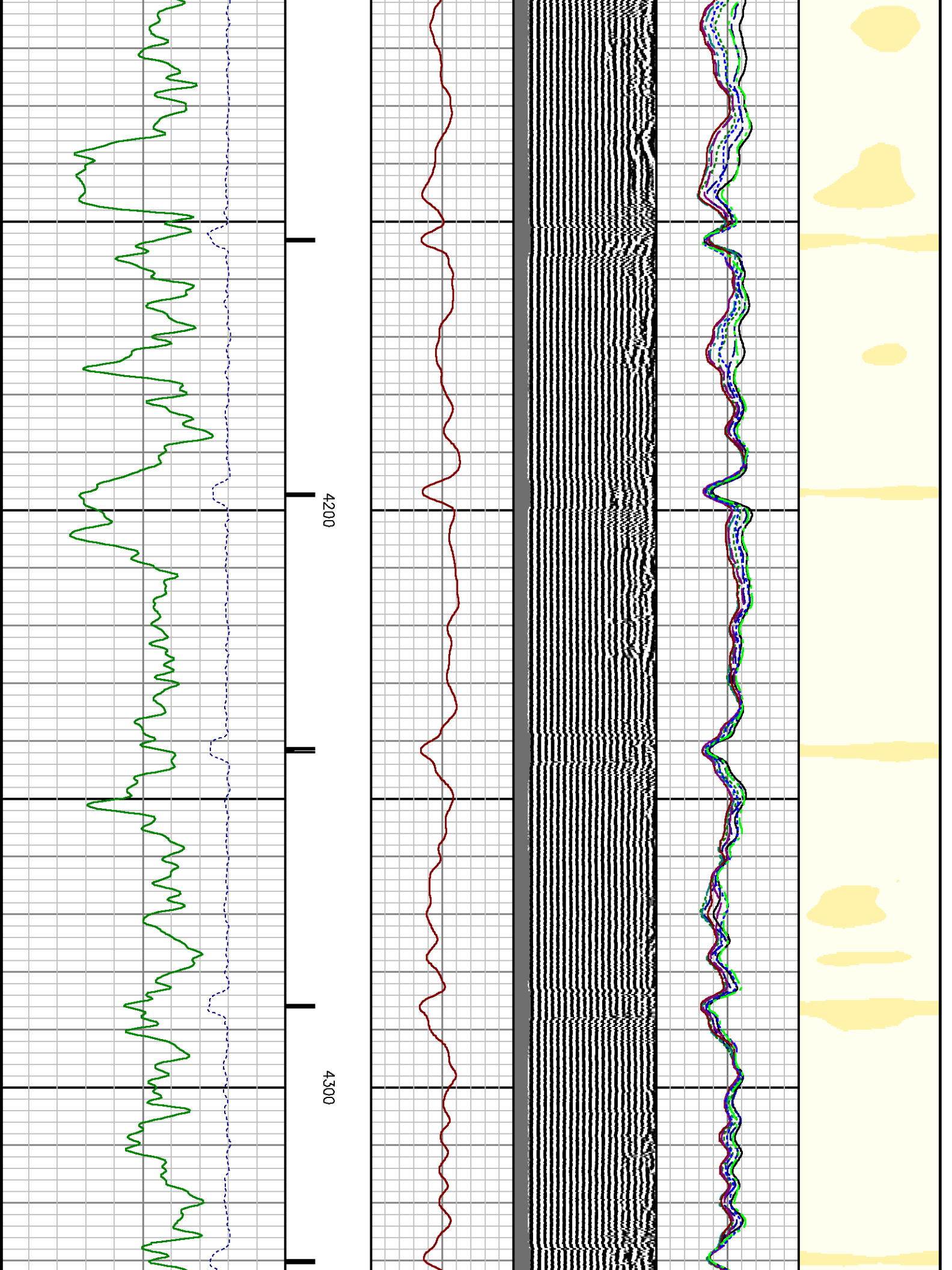


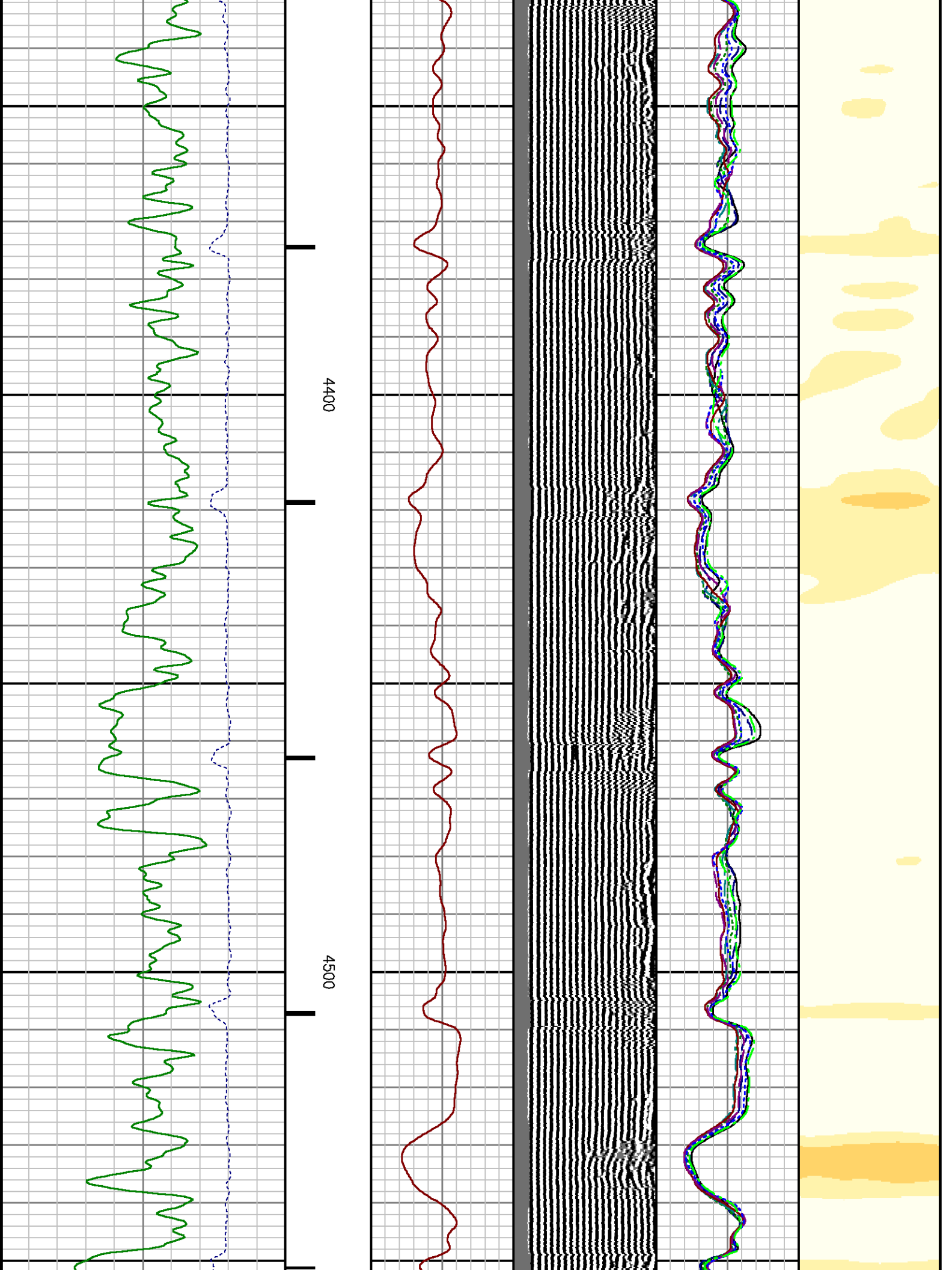


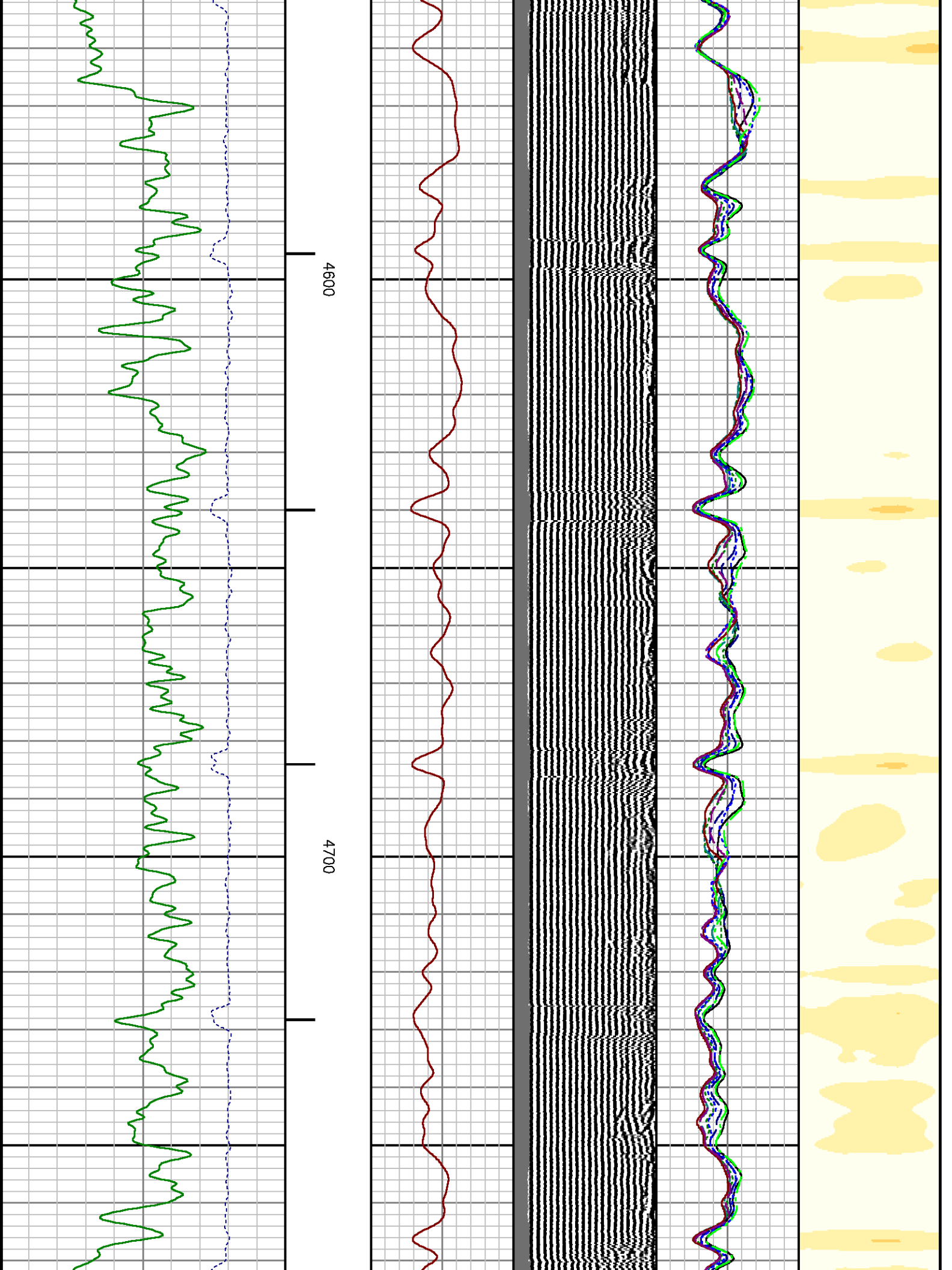


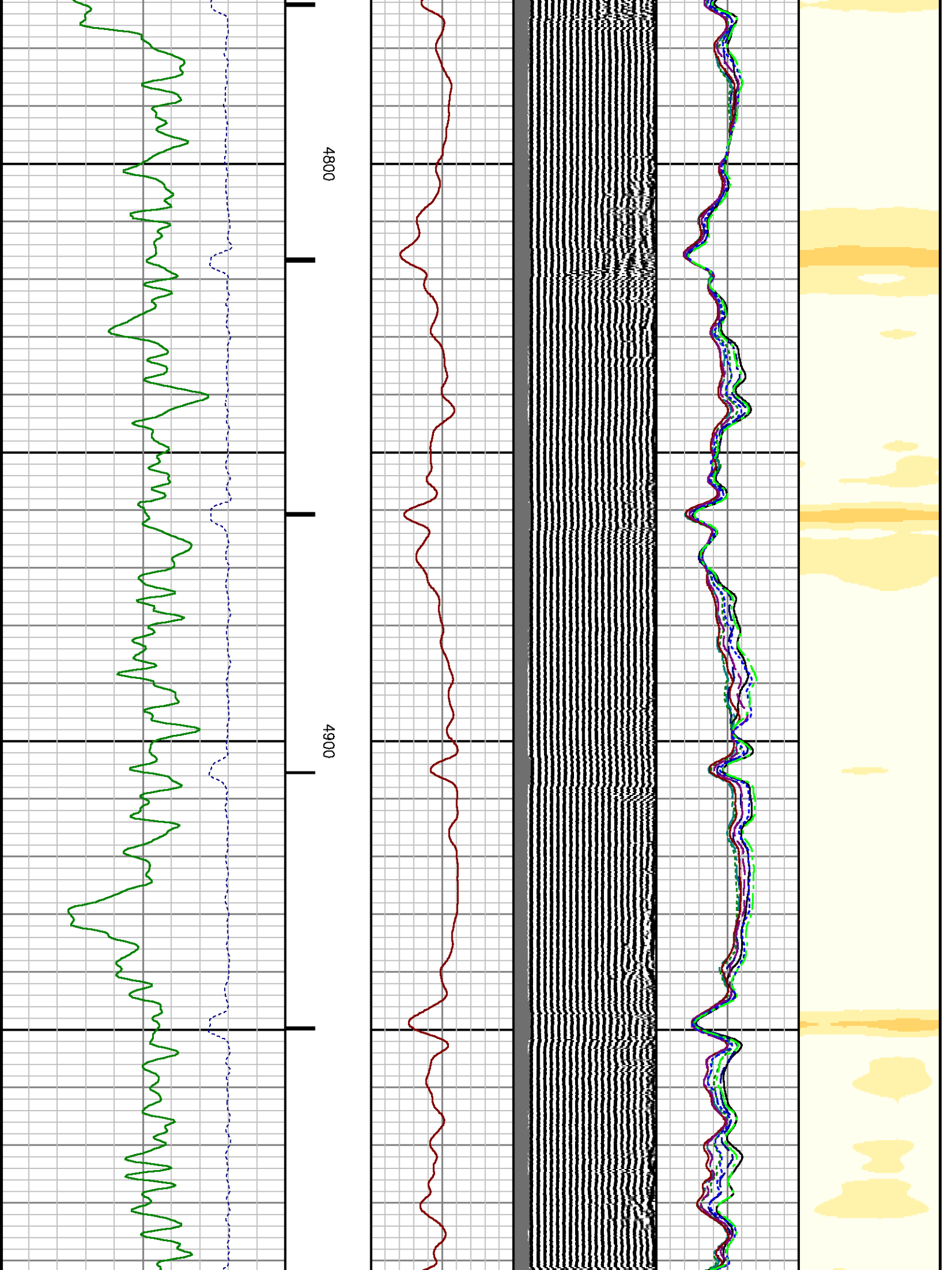


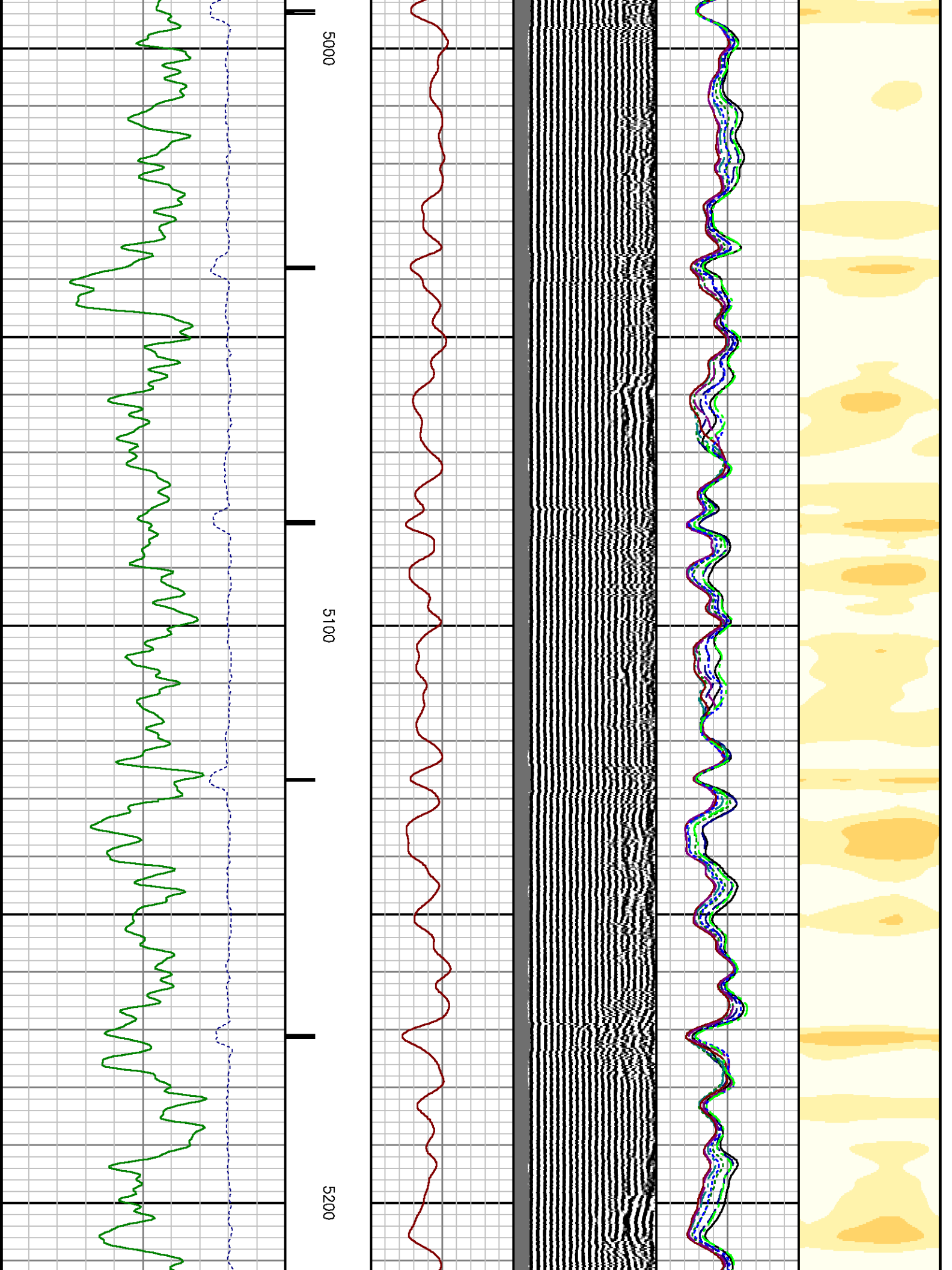


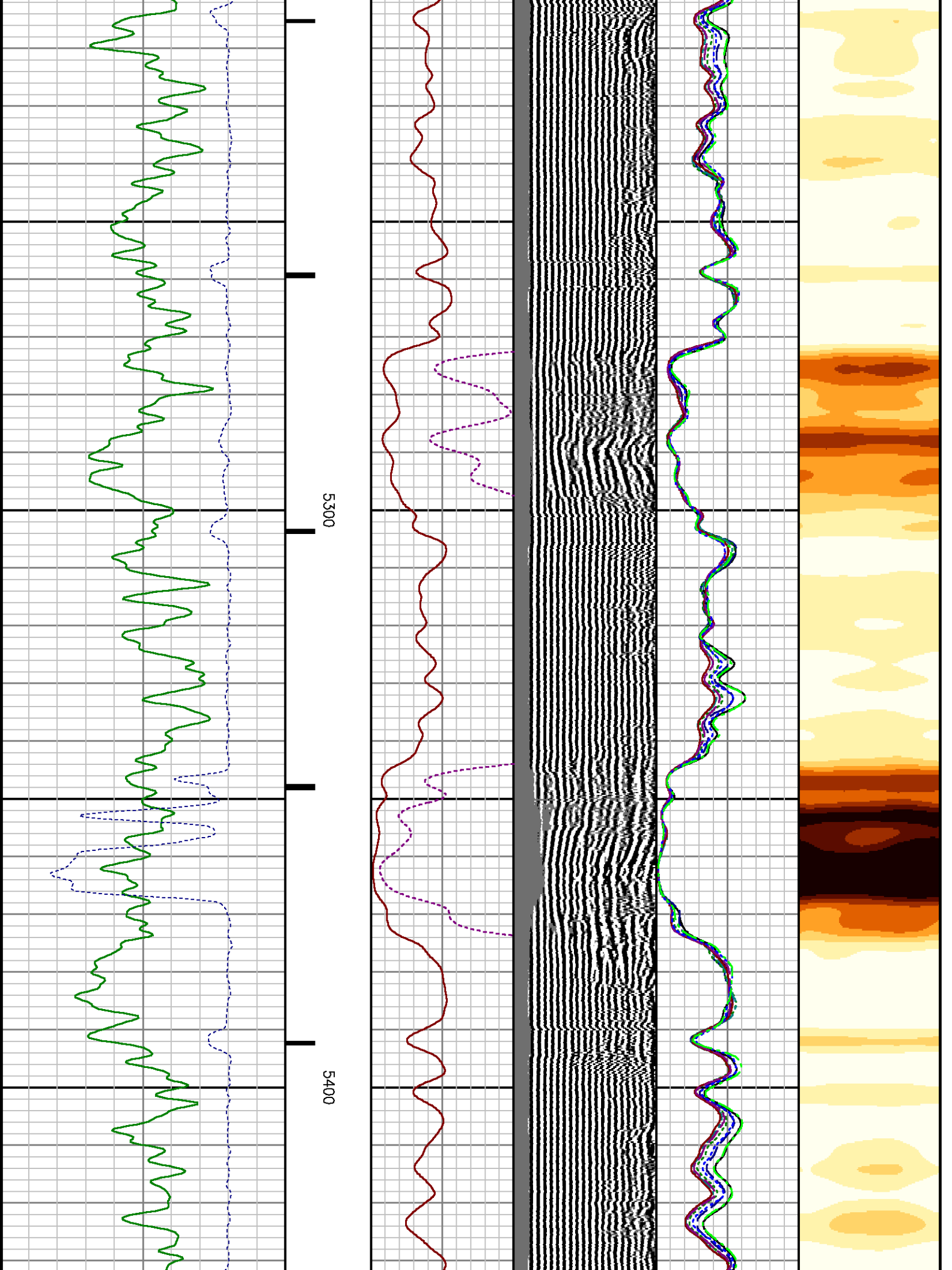


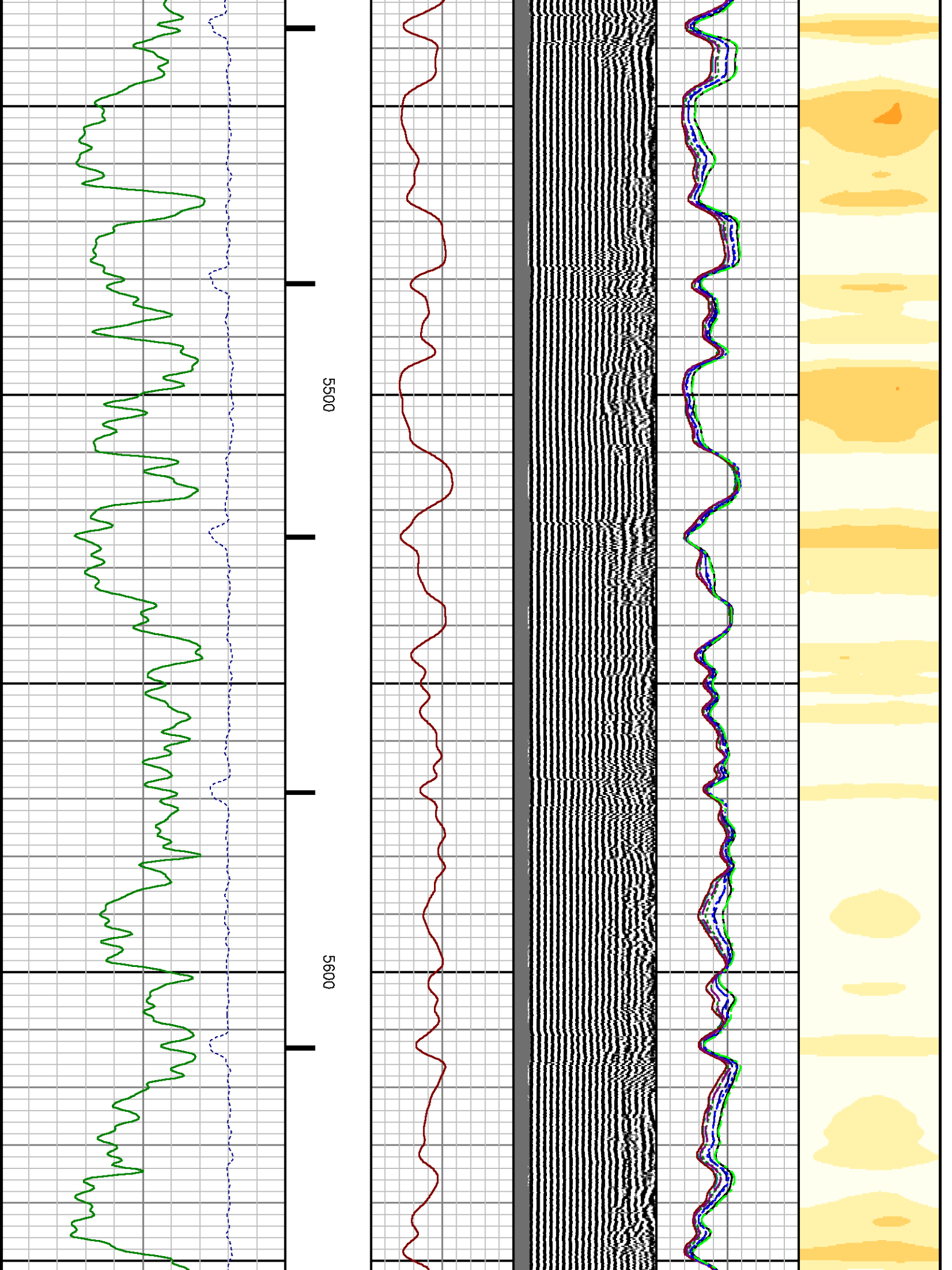


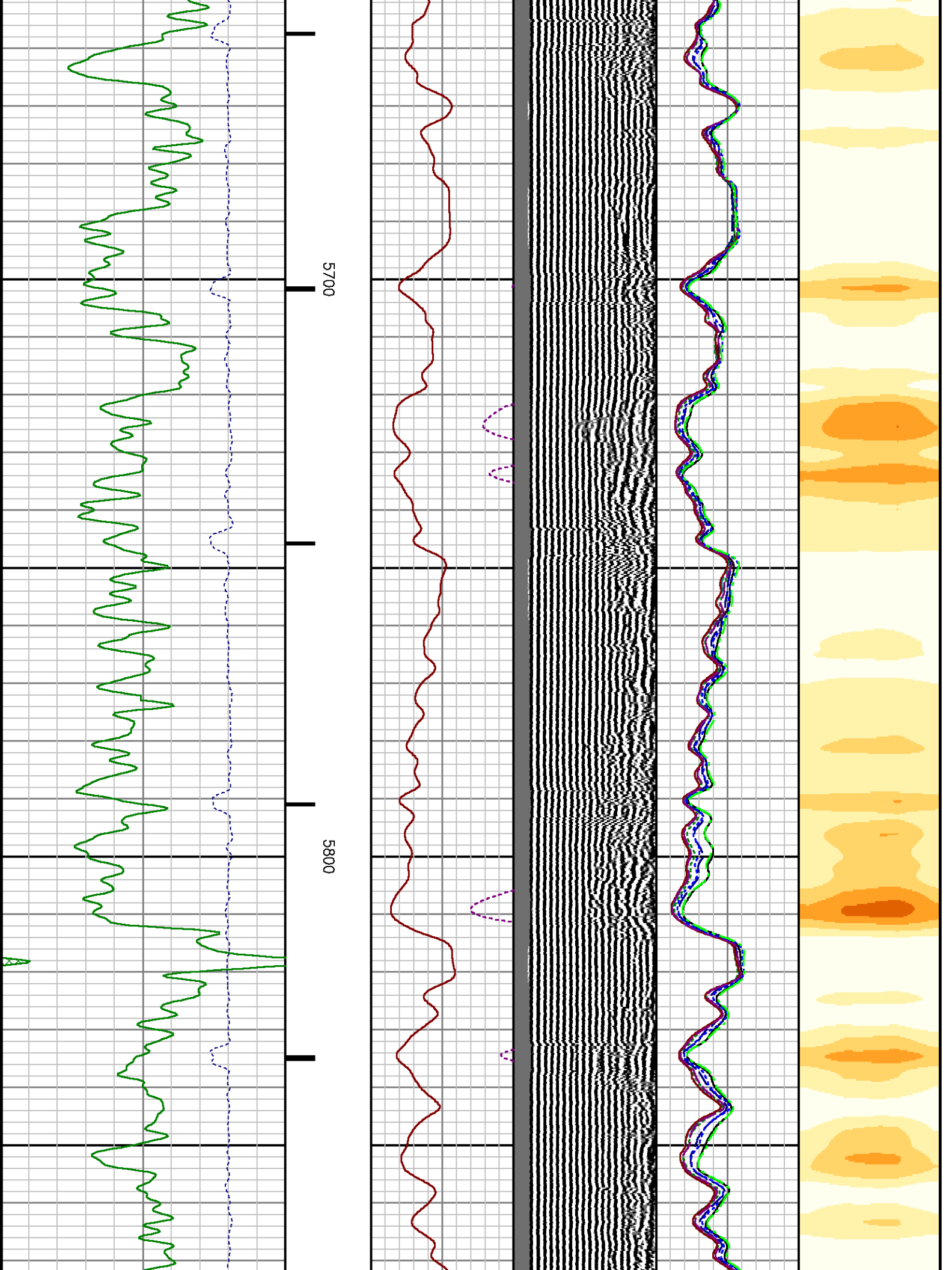


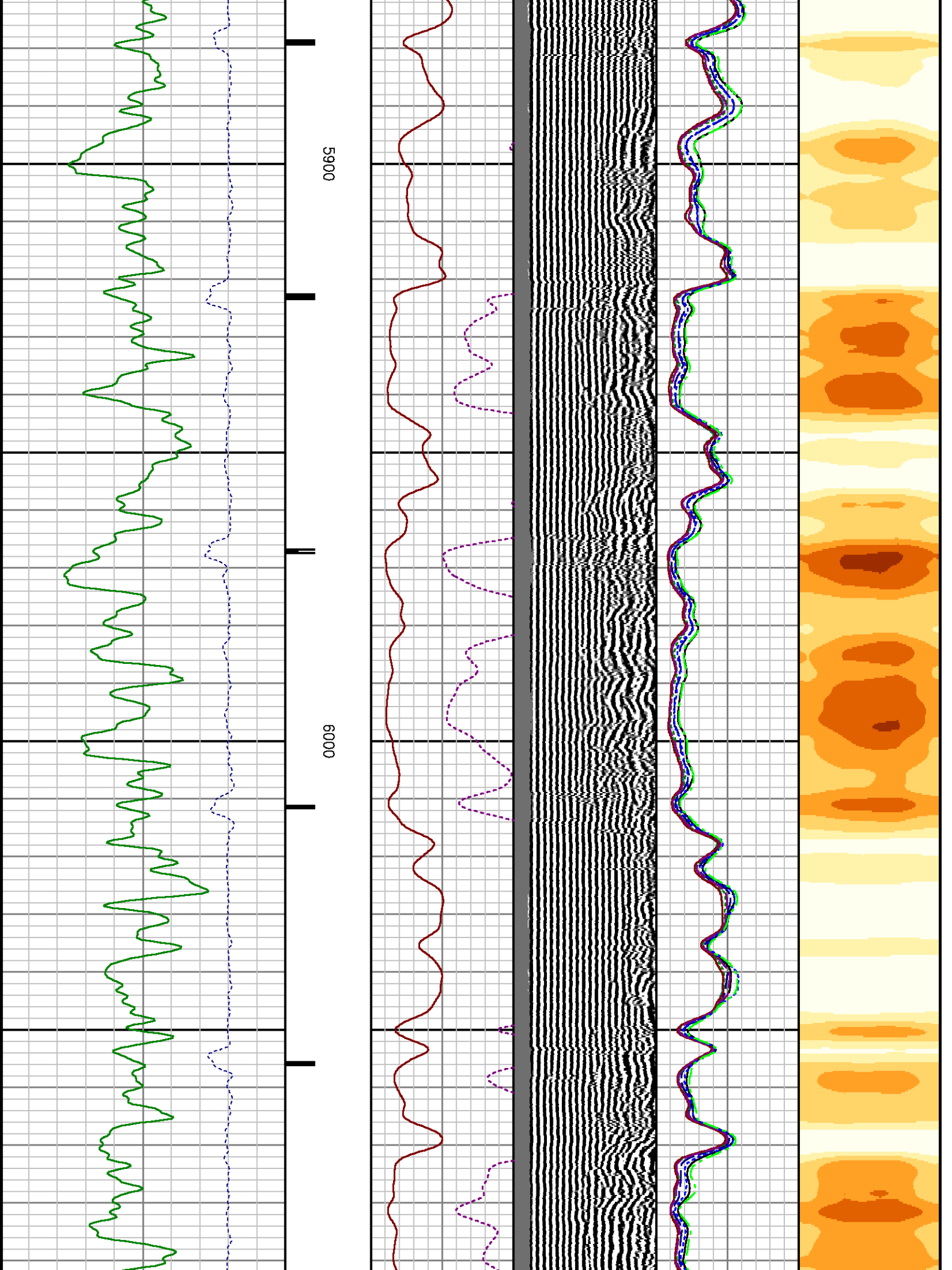


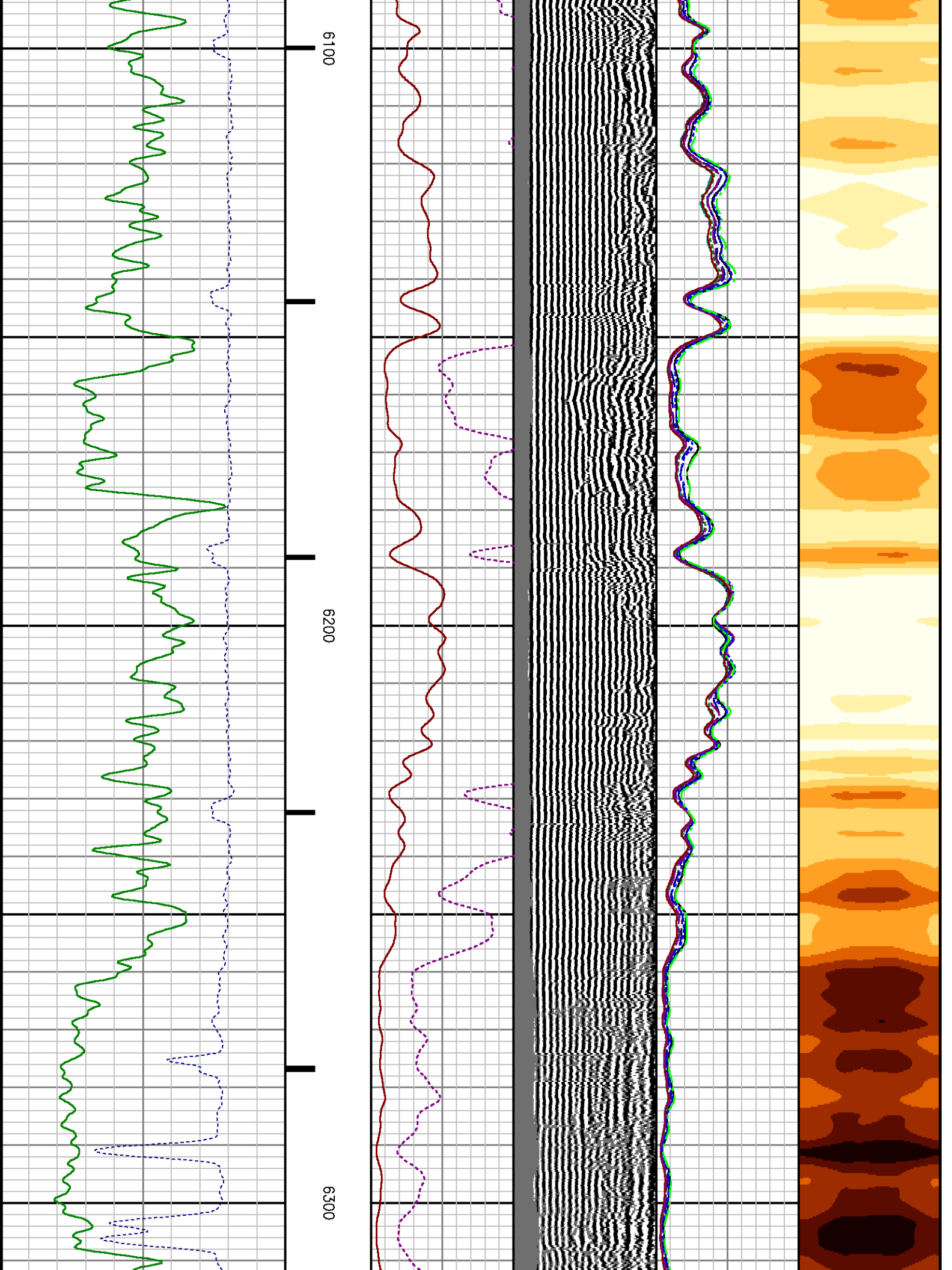


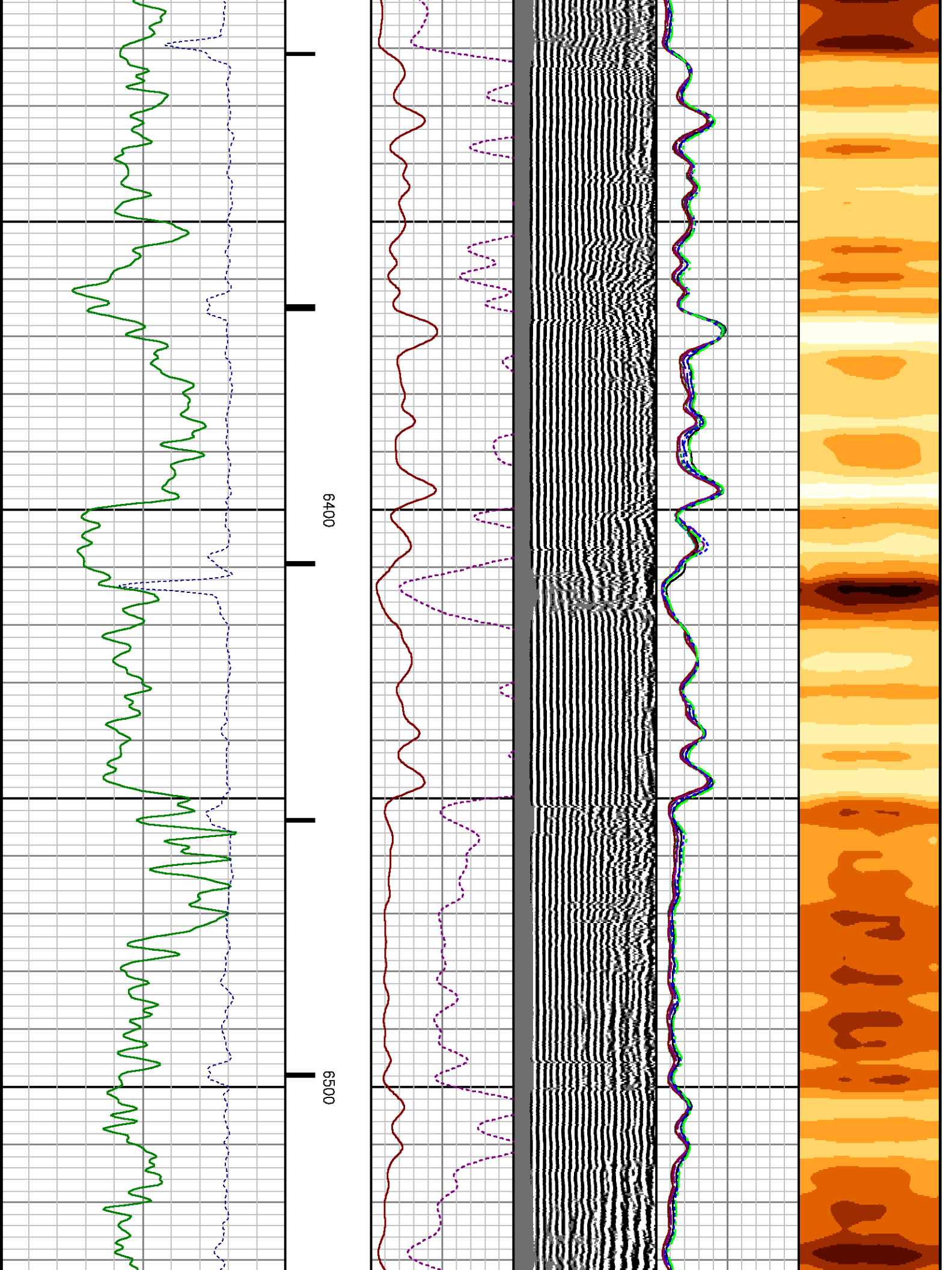


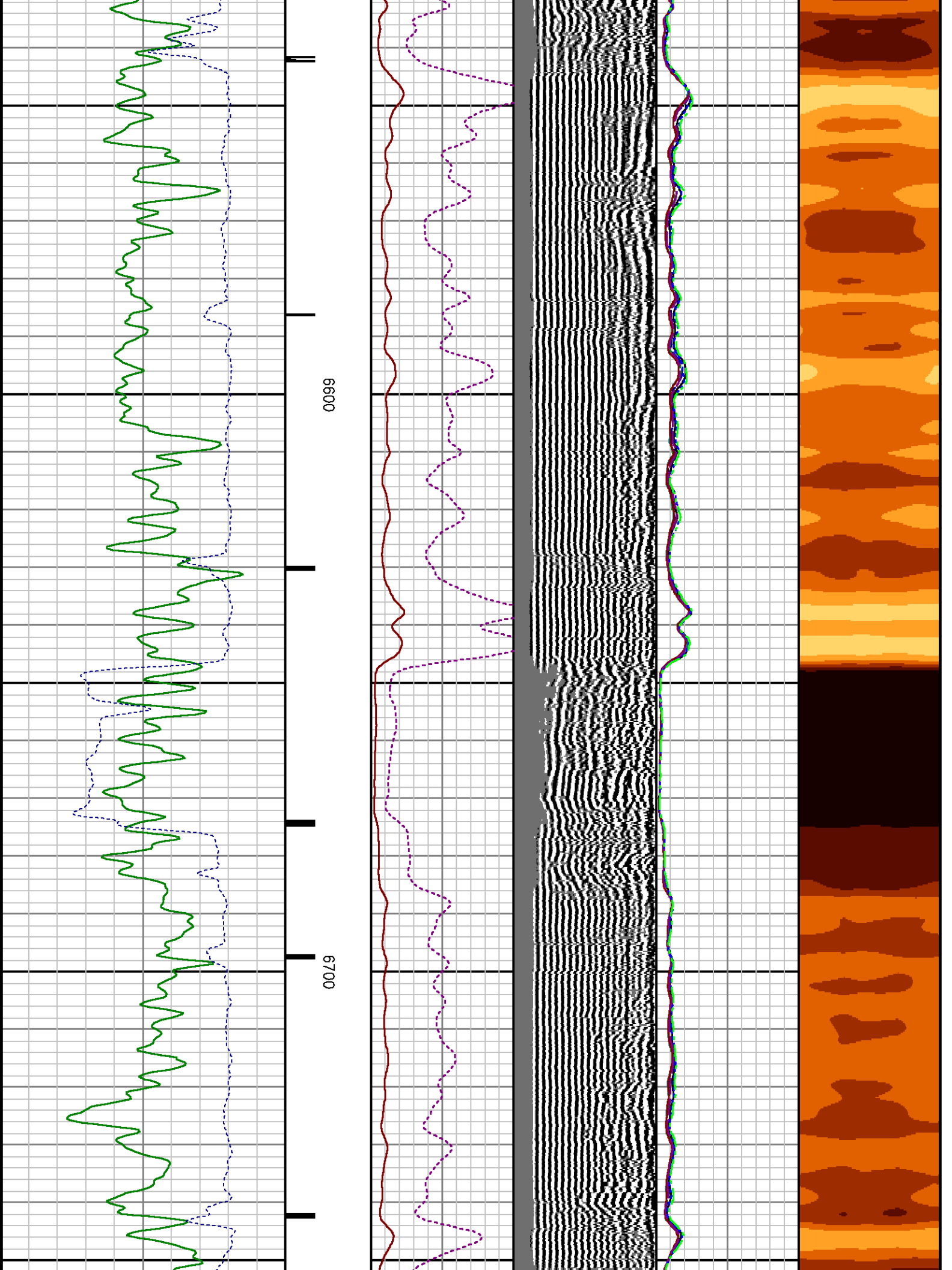


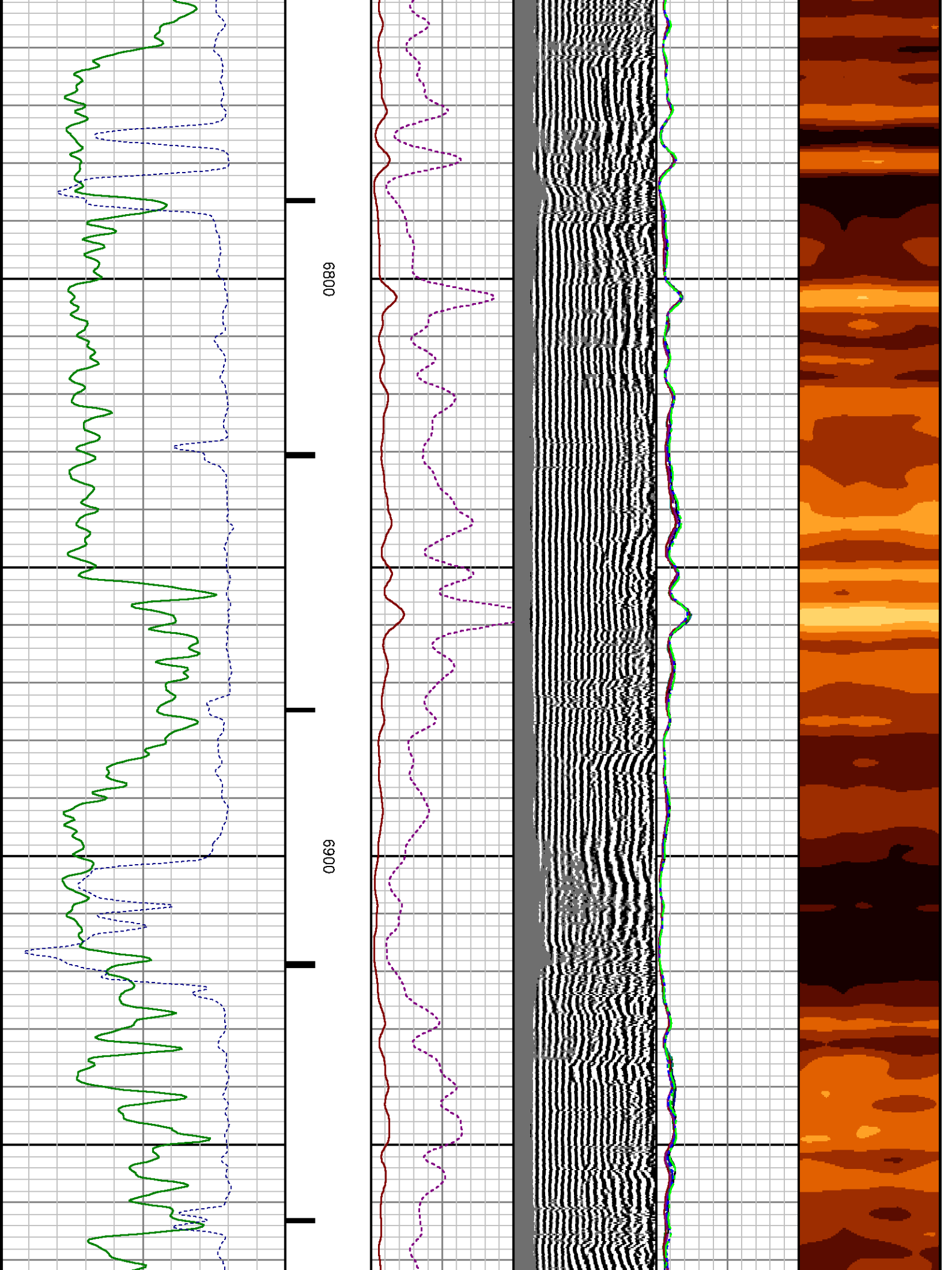


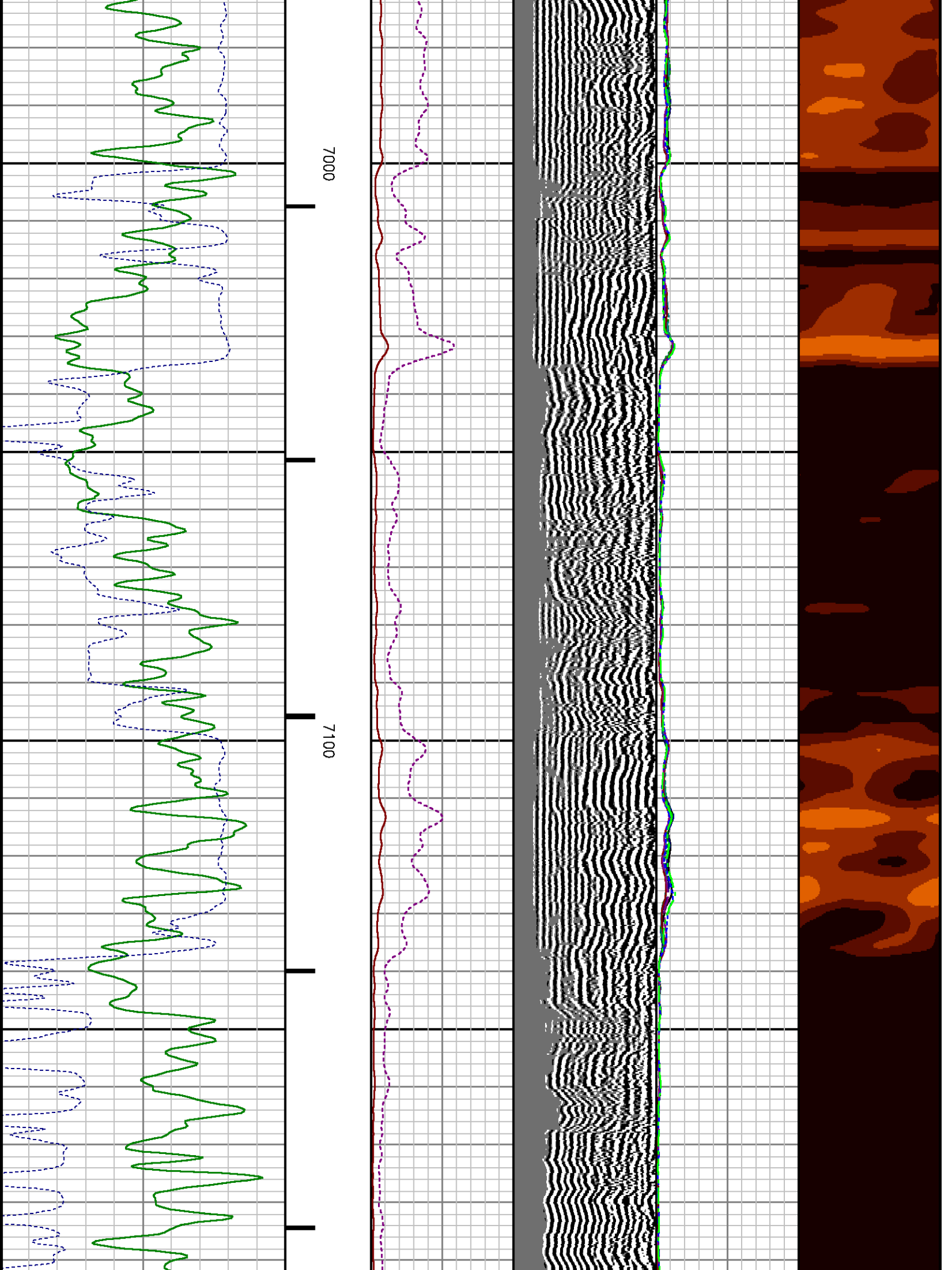


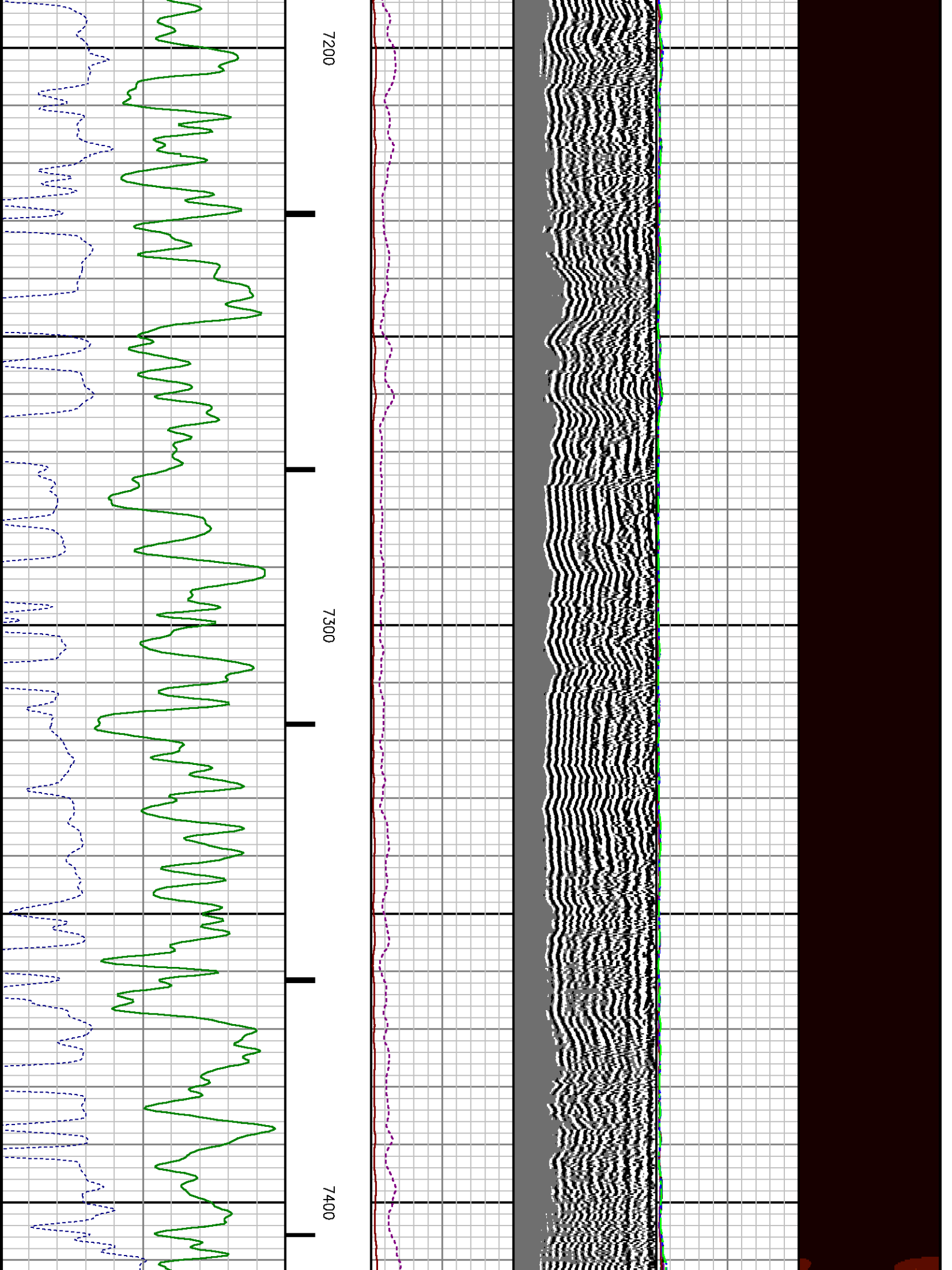


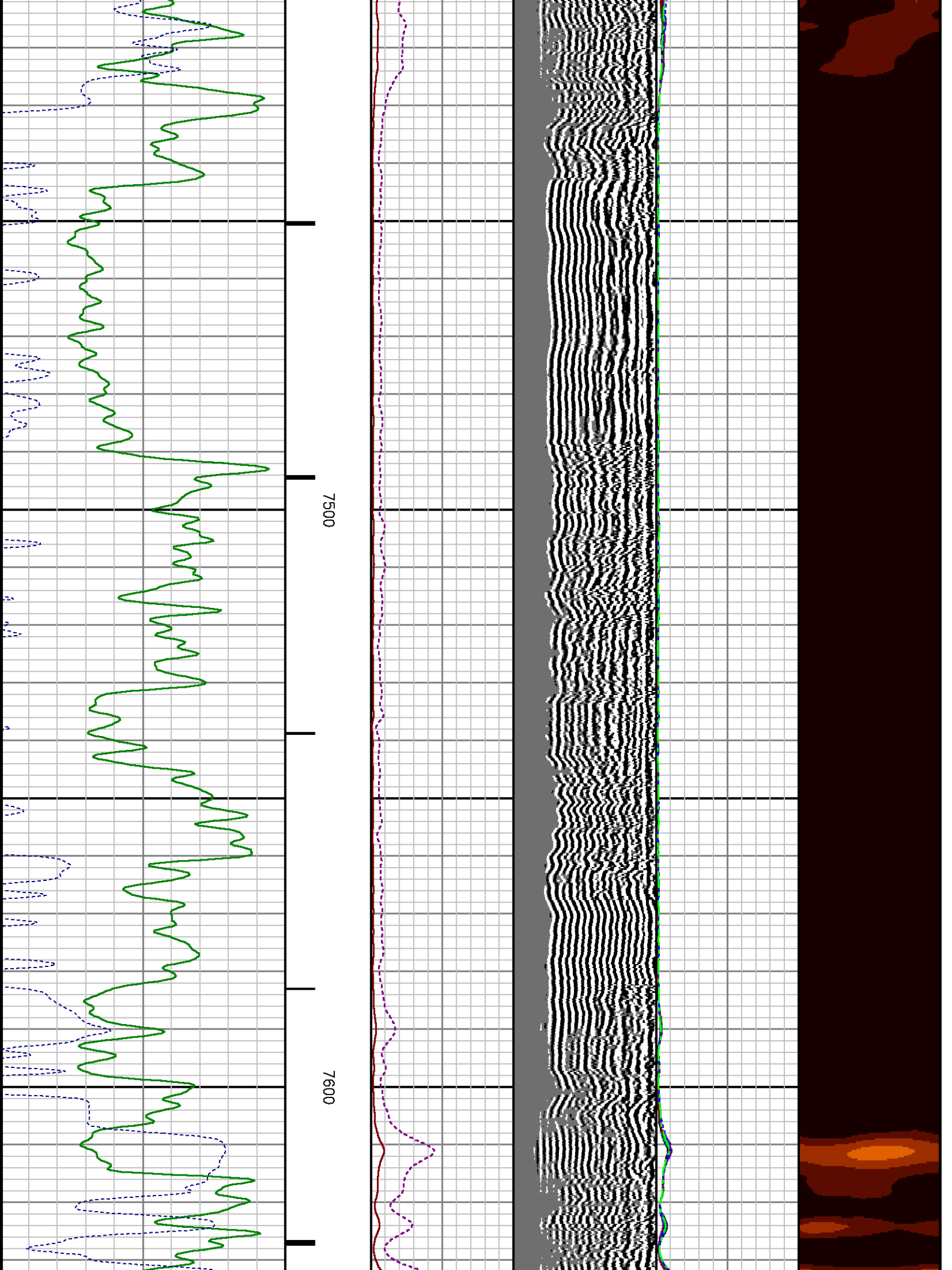


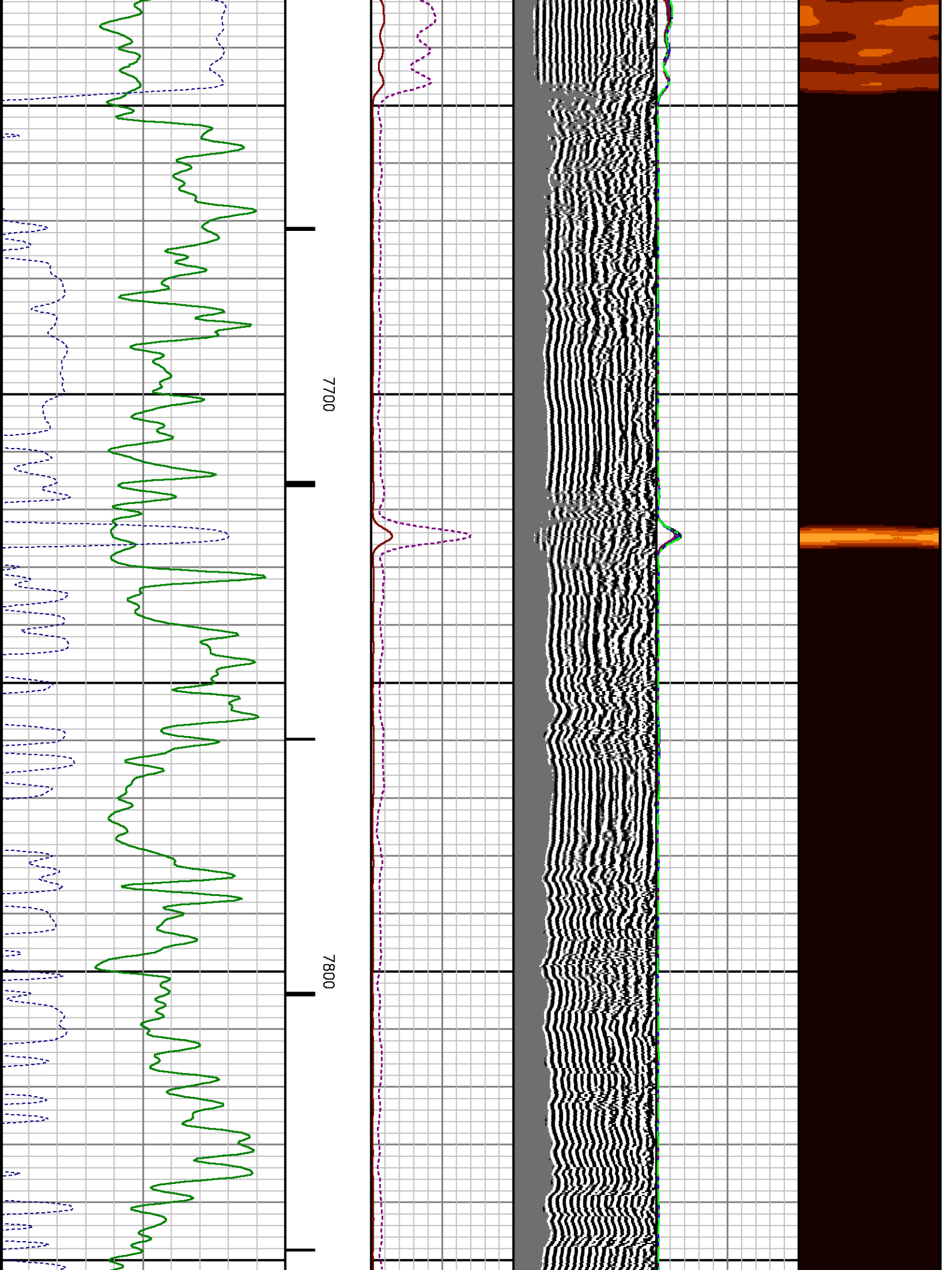


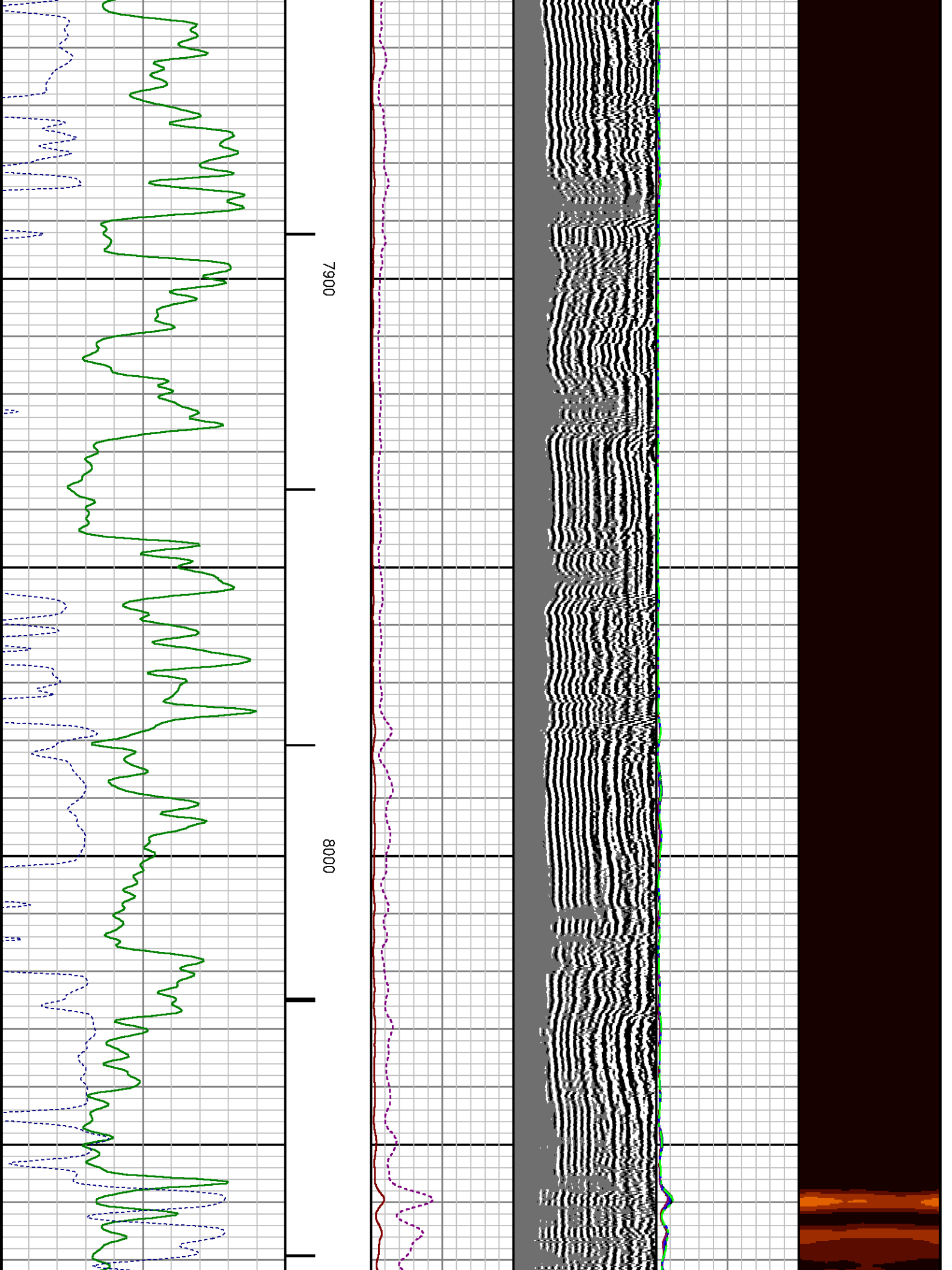


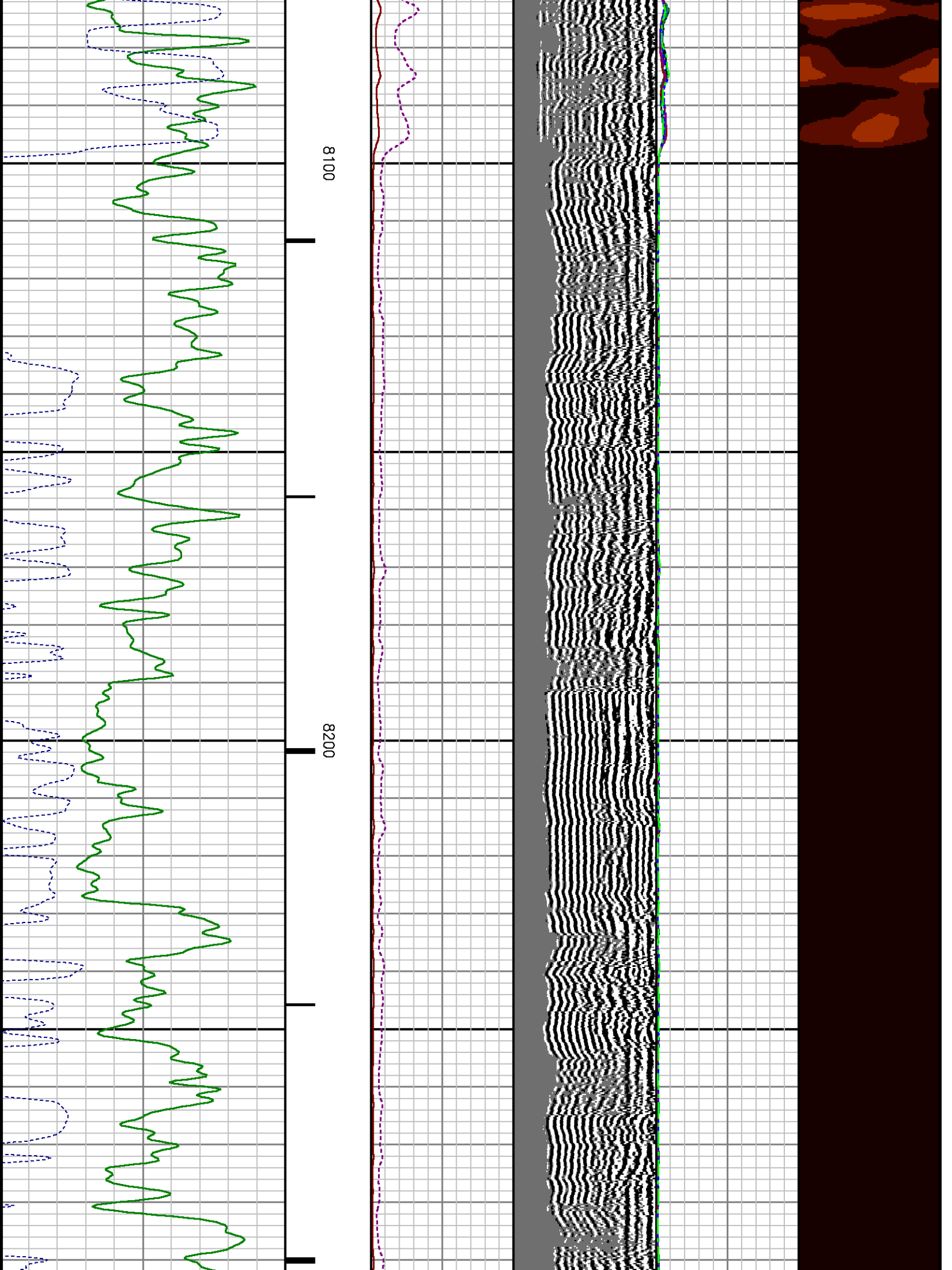


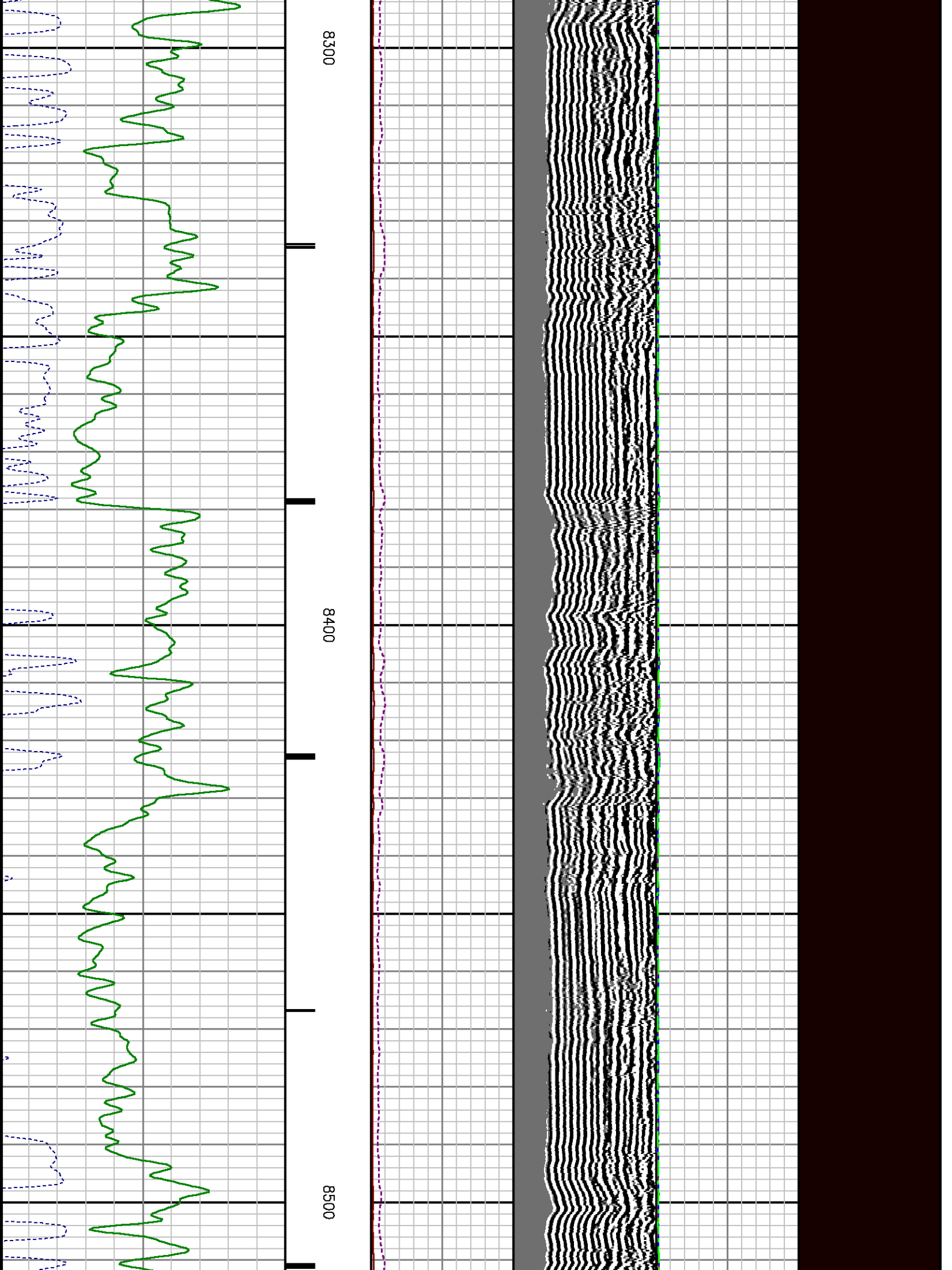


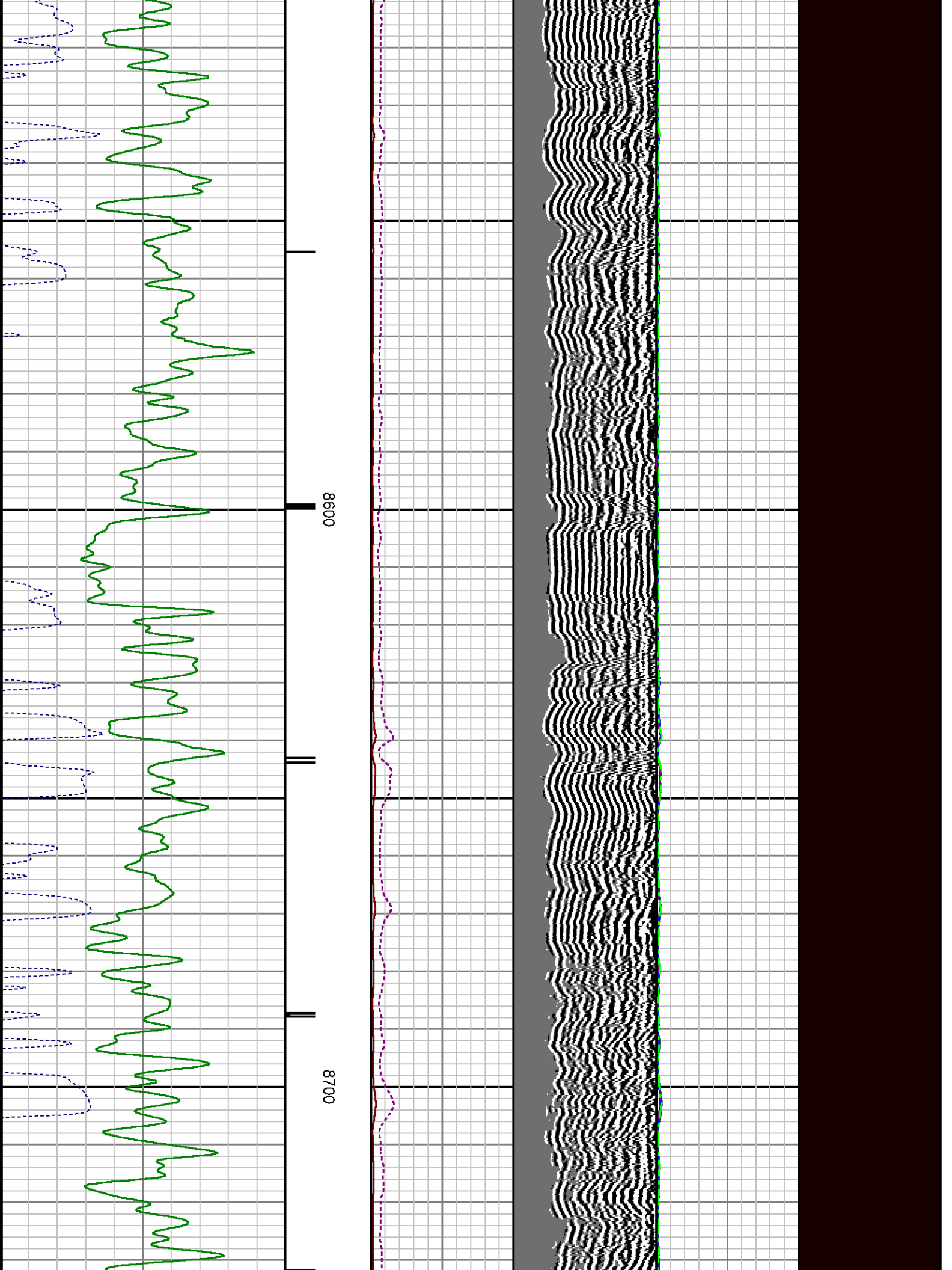


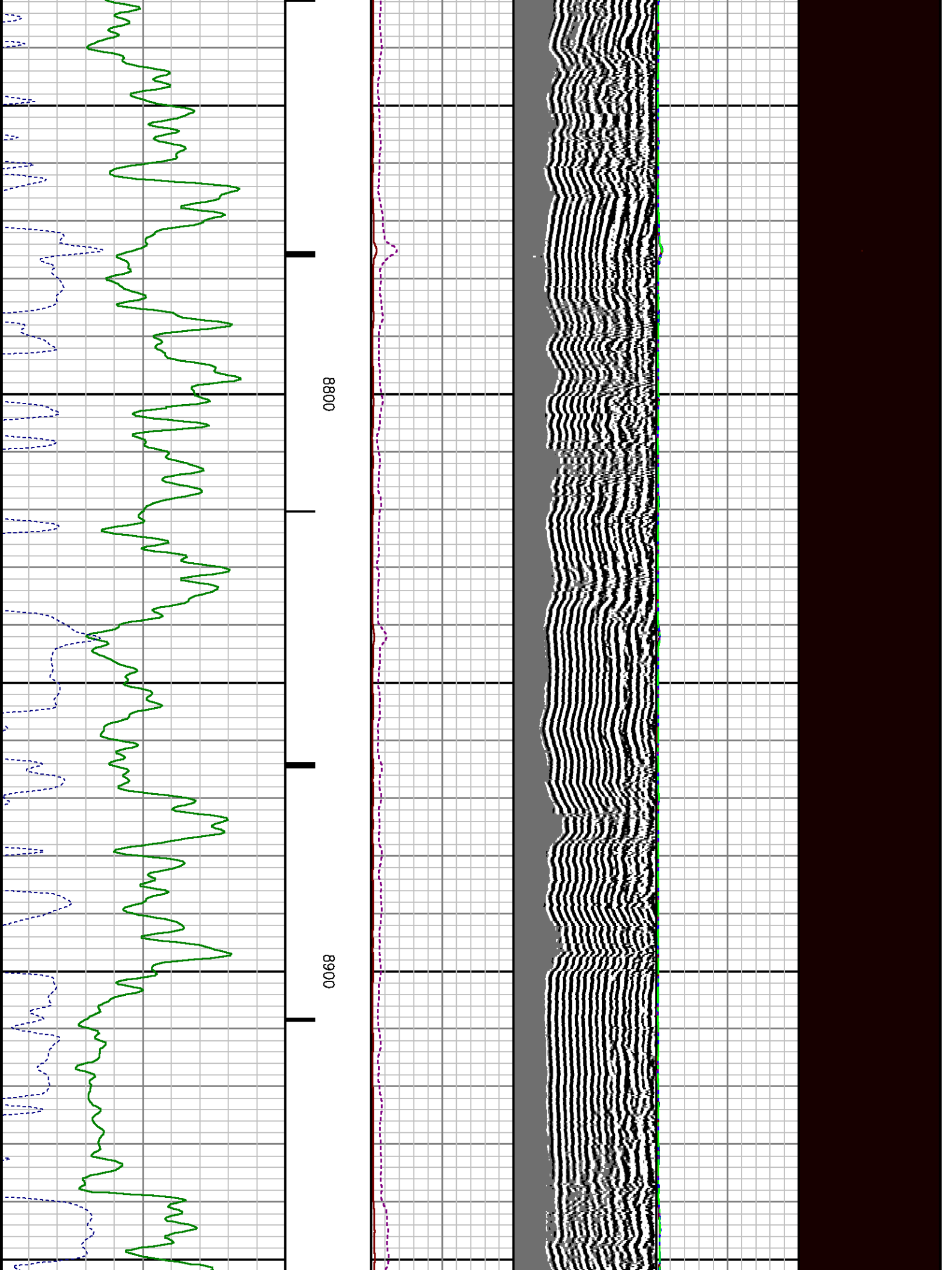


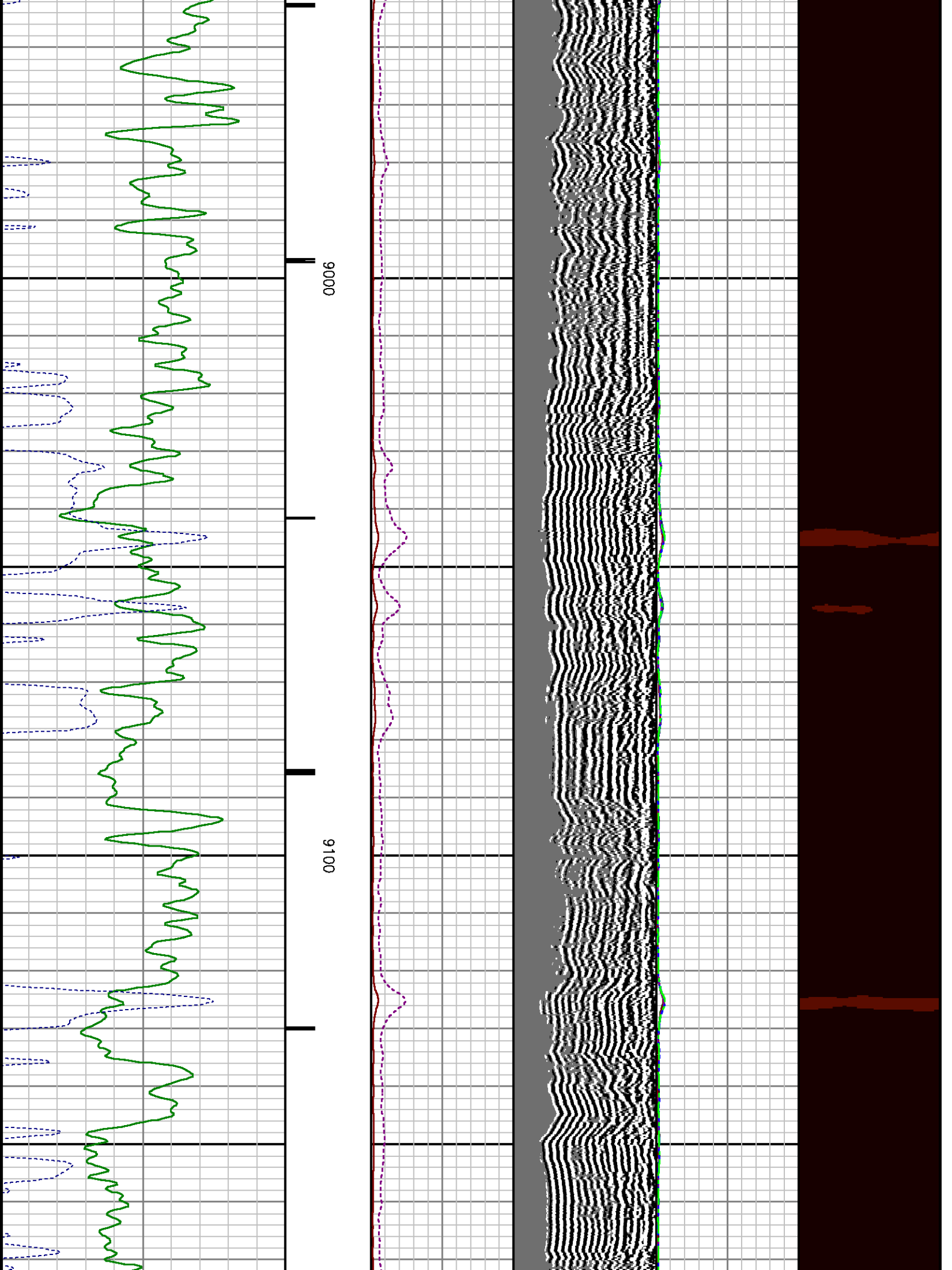


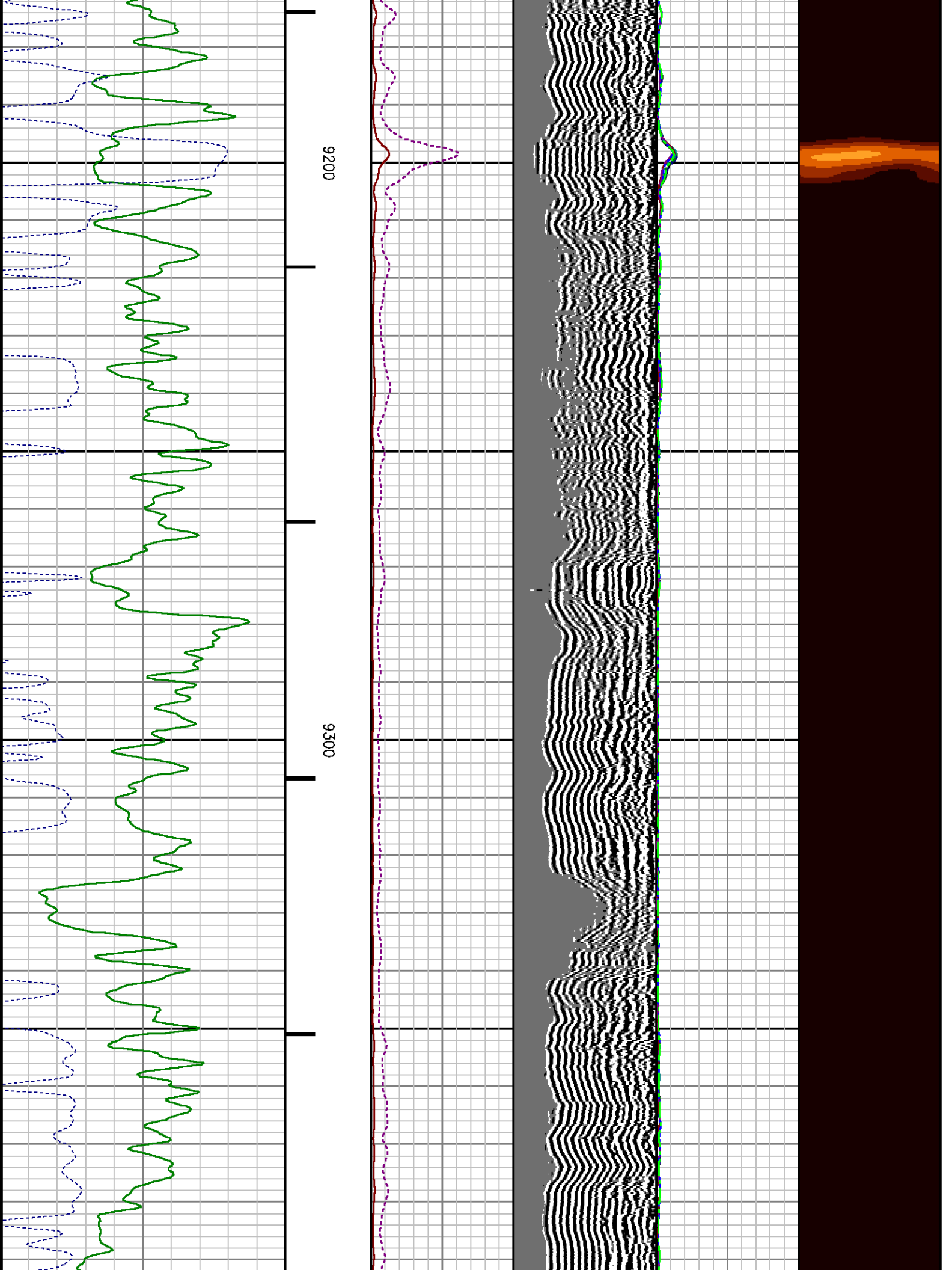


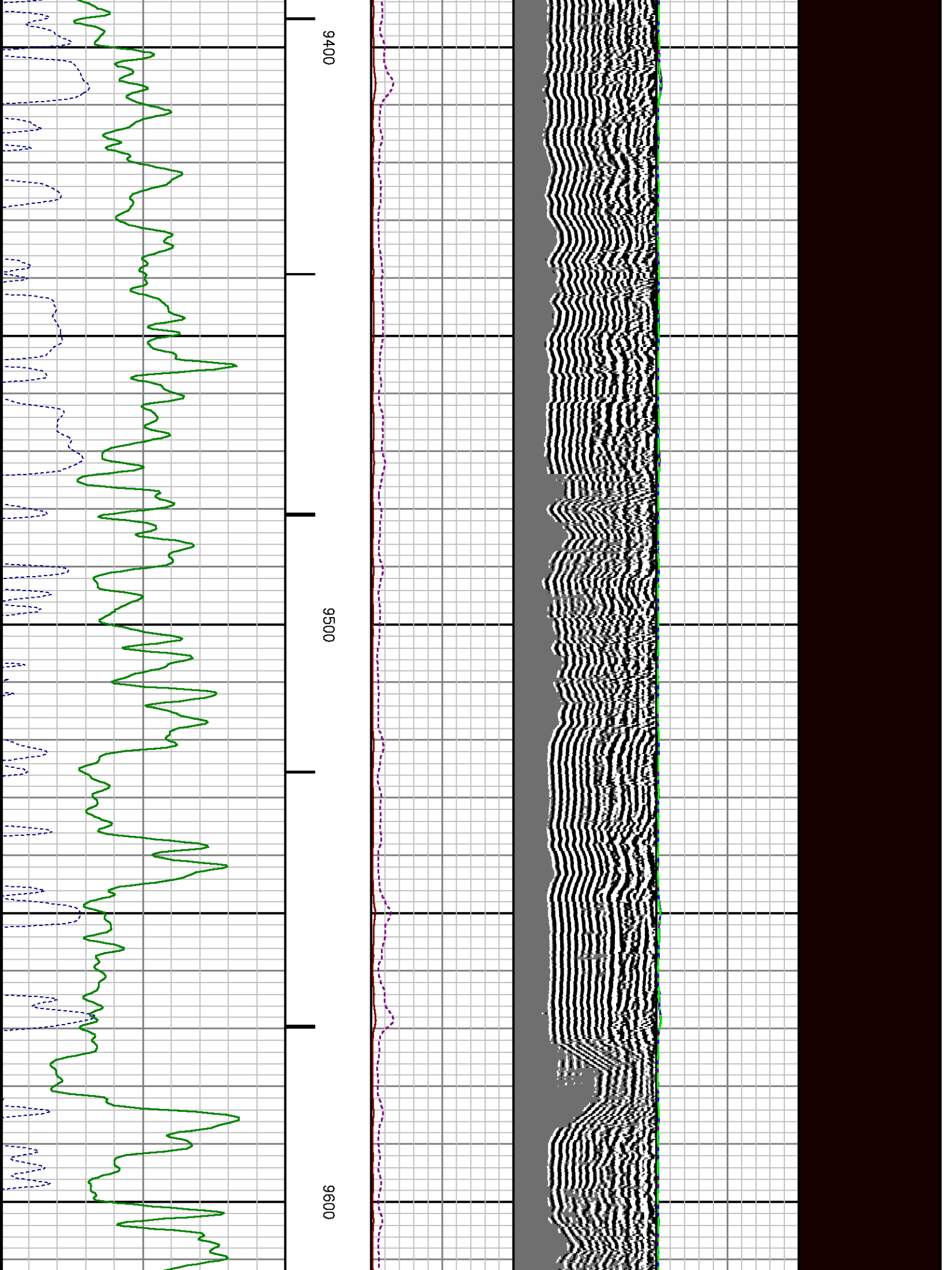


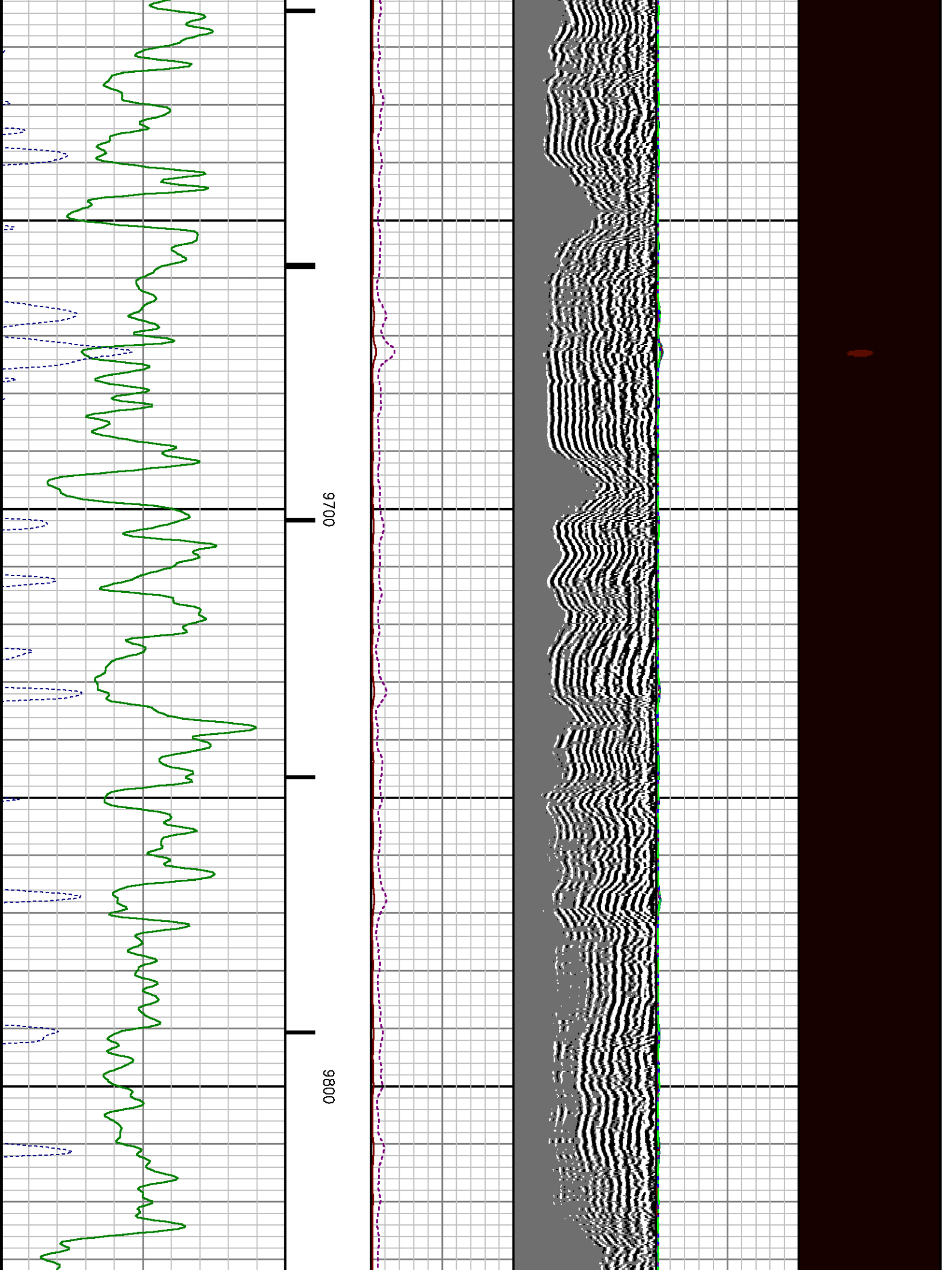


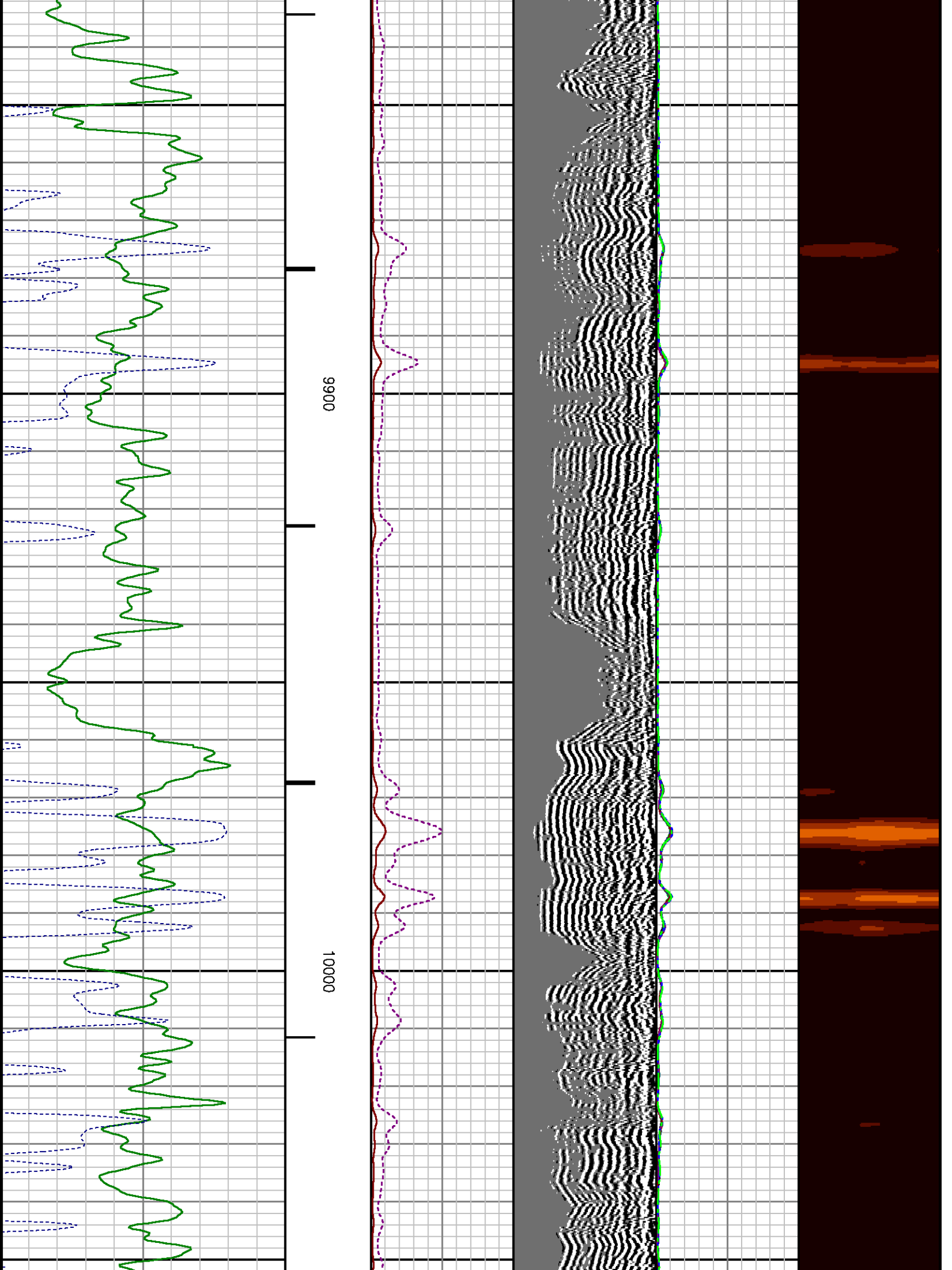


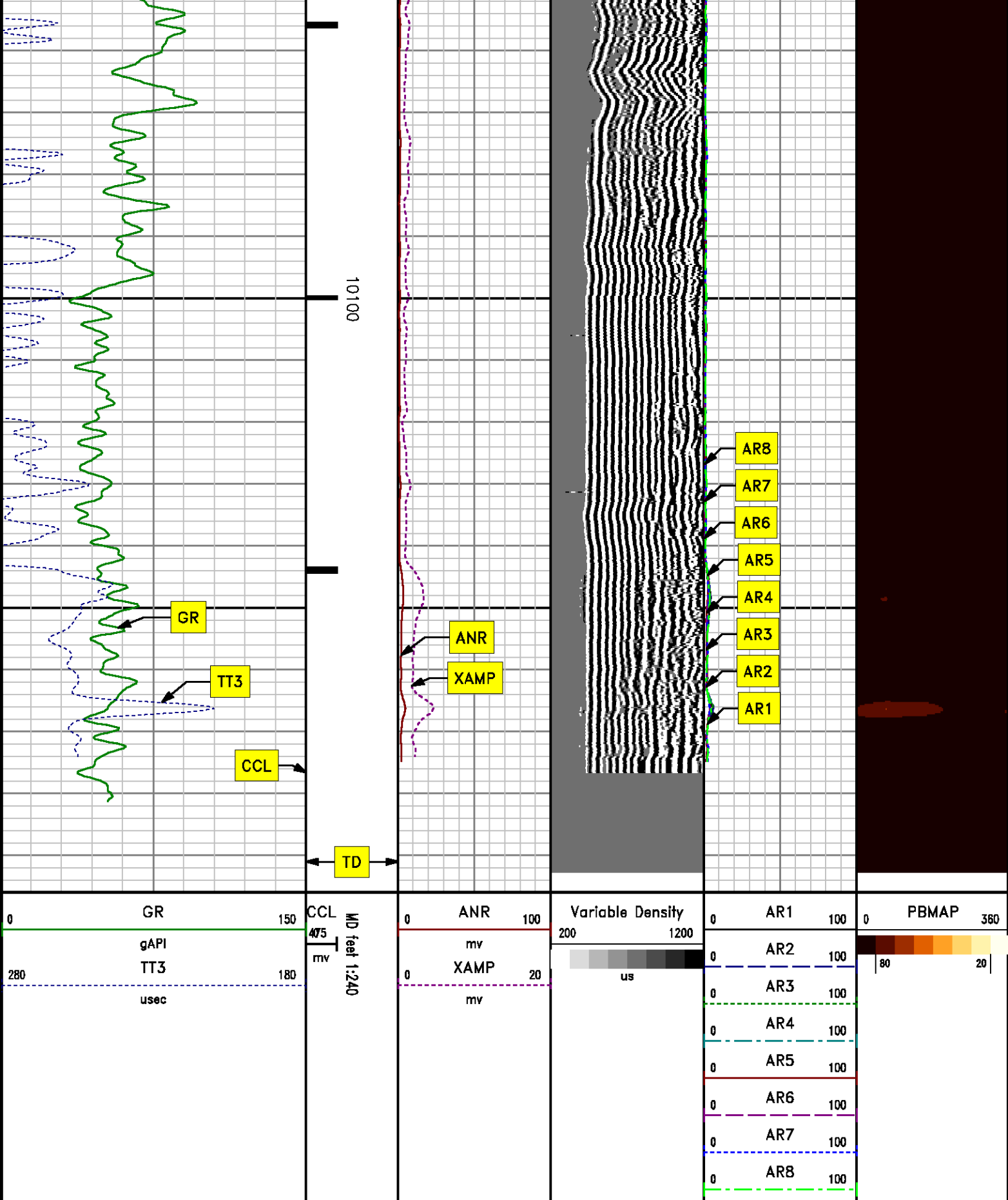












REPEAT SECTION

0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	9859.670	10196.920
RAL	Amp Gate Start Near	195.000	usec	9859.670	10196.920
RAL	Amp Gate Start Radial	195.000	usec	9859.670	10196.920
RAL	Amp Gate Width Far	25.000	usec	9859.670	10196.920
RAL	Amp Gate Width Near	25.000	usec	9859.670	10196.920
RAL	Amp Gate Width Radial	25.000	usec	9859.670	10196.920
RAL	casing od	4.500	inches	9859.670	10196.920
RAL	casing wt	11.600	lbm/ft	9859.670	10196.920
RAL	FB Start Far	291.900	usec	9859.670	10196.920
RAL	FB Start Near	175.391	usec	9859.670	10196.920
RAL	FB Start Radial	175.391	usec	9859.670	10196.920
RAL	FB Thresh Far	10.000	mv	9859.670	10196.920
RAL	FB Thresh Near	4.000	mv	9859.670	10196.920
RAL	FB Thresh Radial	4.000	mv	9859.670	10196.920
RAL	Fluid Travel Time	200.000	usec/ft	9859.670	10196.920

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

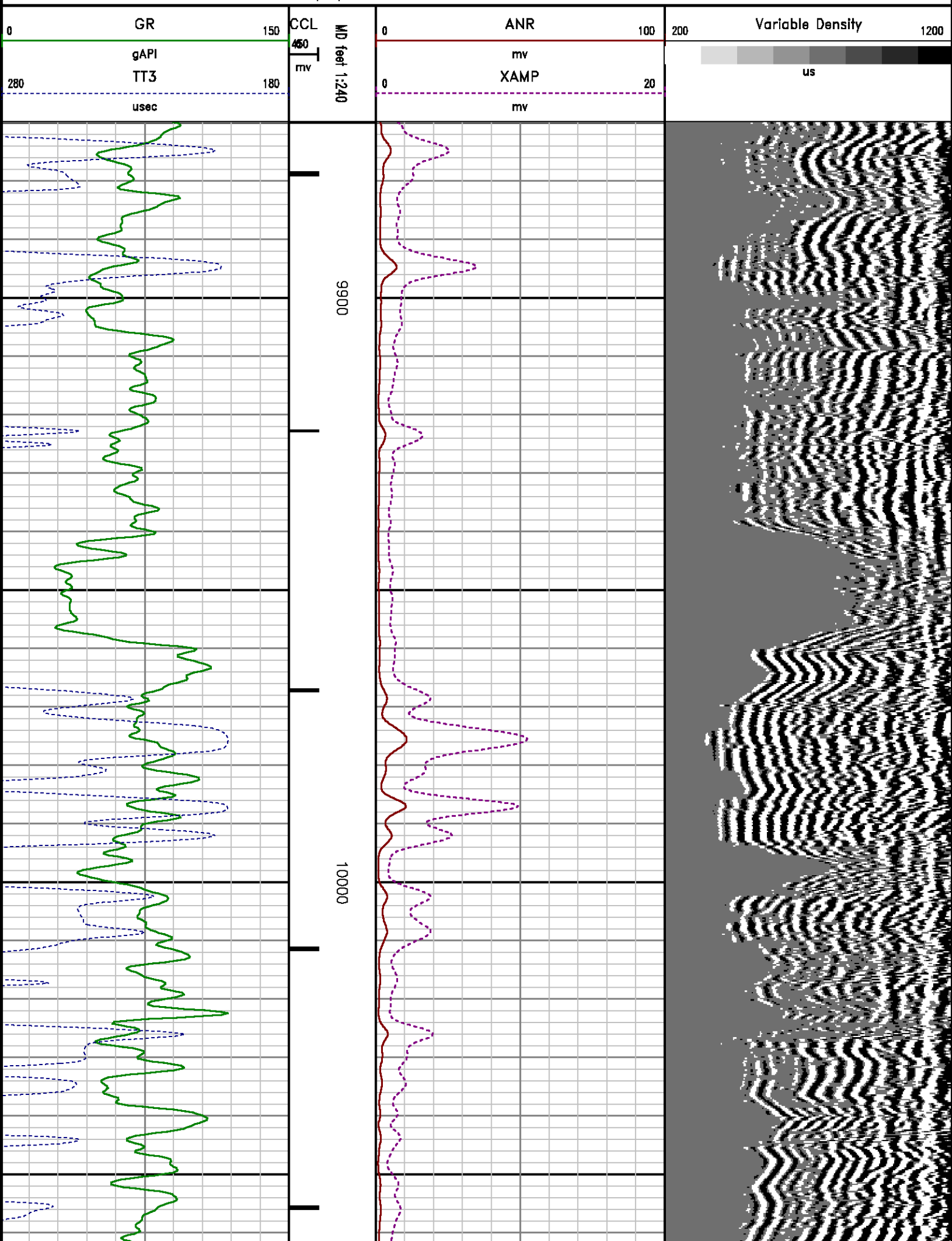
Well : FEDERAL RU 11-5

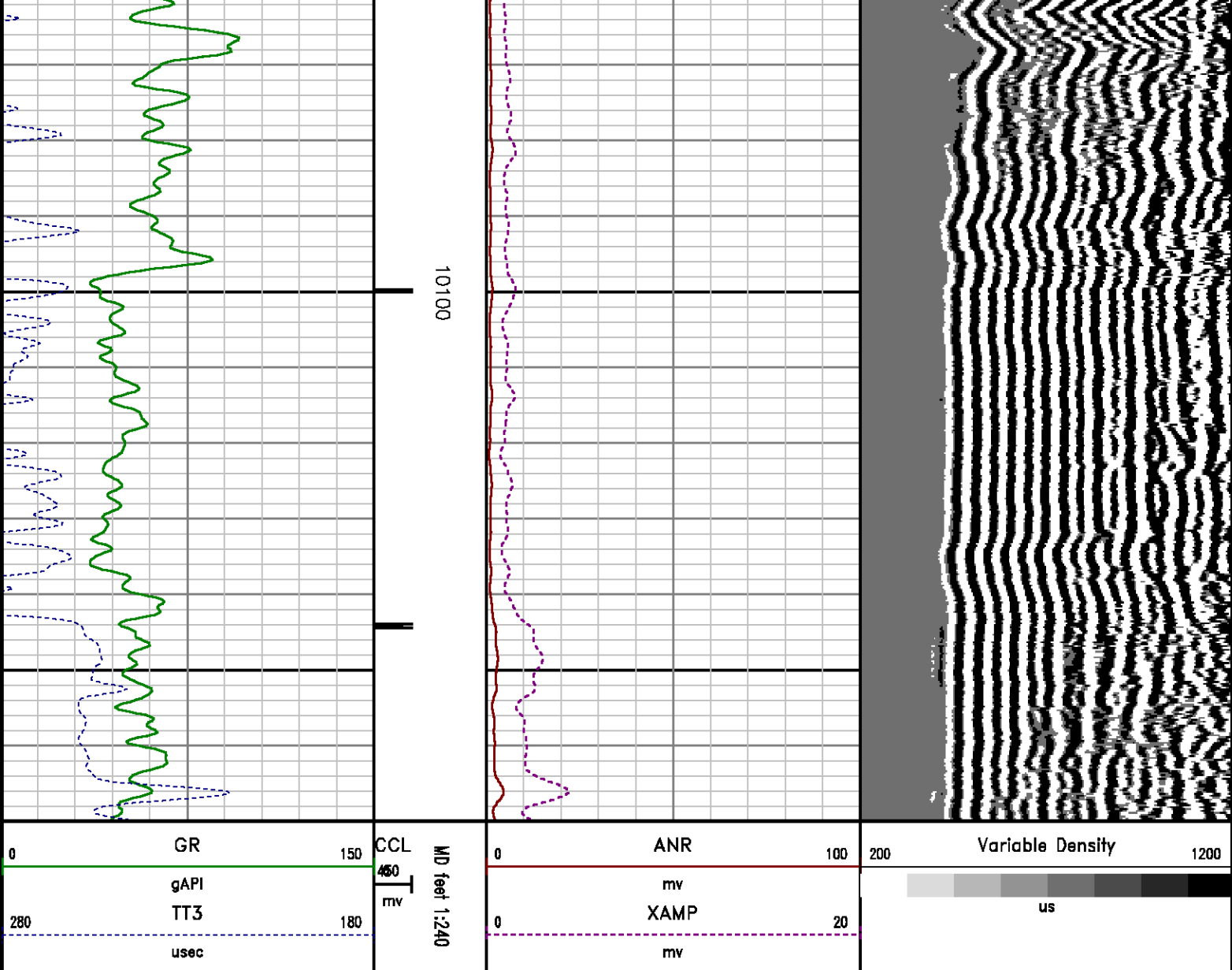
File Name : d:\welldata\wpx\federal ru 11-5\11cbl\repeat.tif

Mode : PlotMgr 5.4.504

Interval : 9870.00 - 10170.00 feet UP

Created : 2/15/2014 7:26:51 PM





CALIBRATION SUMMARY

RALSHP

Shop Calibration: C:\case\calver\RALSHP\49613_shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Feb 13 13:20:36 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: 13

Tool Delay [u sec] -56.00 Tank OD in 5.50 Tank Wt lbm/ft 15.50 Tank ID in 4.95

RECEIVER Travel Time Amp. Gate Start Width Zero Gate Start Width Zero Amp. Amp Ref. Shop Factor

CAL Pulse	[usec]	218	Start [usec]	216	Width [usec]	30	Start [usec]	166	Width [usec]	25	[mV]	0.333	[mV]	100.00	0.16
3 Ft. Receiver		217		216		30		166		14		-0.033		100.00	0.16
5 Ft. Receiver		326		325		30		264		25		1.115		150.00	0.18
Radial #1		217		216		30		166		10		0.060		100.00	0.16
Radial #2		217		216		30		166		10		-0.271		100.00	0.16
Radial #3		218		216		30		166		10		-0.467		100.00	0.16
Radial #4		218		216		30		166		10		-0.083		100.00	0.16
Radial #5		217		216		30		166		10		-0.144		100.00	0.16
Radial #6		216		216		30		166		10		-0.188		100.00	0.16
Radial #7		216		216		30		166		10		-0.244		100.00	0.16
Radial #8		218		216		30		166		10		0.219		100.00	0.16

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\49613 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Feb 13 13:23:12 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: 13

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="0.034"/>	<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="1.548"/>			
5 Ft. Receiver	<input type="text" value="317"/>	<input type="text" value="30"/>	<input type="text" value="0.974"/>			
Radial #1	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="1.075"/>			
Radial #2	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="1.078"/>			
Radial #3	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="1.220"/>			
Radial #4	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="1.223"/>			
Radial #5	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="1.454"/>			
Radial #6	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="1.520"/>			
Radial #7	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="1.230"/>			
Radial #8	<input type="text" value="200"/>	<input type="text" value="30"/>	<input type="text" value="1.160"/>			

GAMMA RAY

Calibration File: C:\case\calver\GR\121J2.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Jan 21 14:45:39 2014 TOOL SERIES: 2459XA ASSET: 121 SEQ: J2

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
SK2 WA612	<input type="text" value="71.78"/>	<input type="text" value="314.67"/>	<input type="text" value="0.762"/>	<input type="text" value="54.67"/>	<input type="text" value="239.67"/>	<input type="text" value="185.00"/>

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Tue Jan 21 14:46:51 2014 TOOL SERIES: 2459XA ASSET: 121 SEQ: J2

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
SK2 WA612	74.22	316.93	0.762	56.53	241.40	184.86

TOOL DIAGRAM

OTA SHORT CABLE HEAD**PROBE 2 3/4 DUAL RECEIVER RADII**

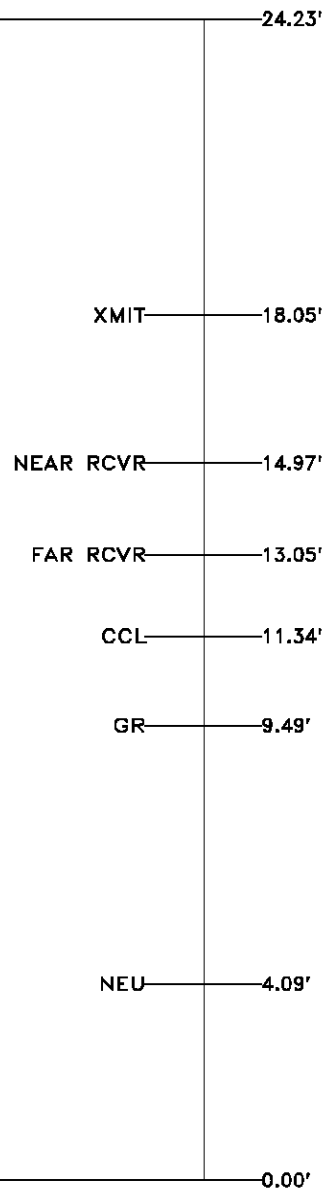
Series	1426XA
Mnemonic	PROB
Diameter	2.75"
Length	11.17'
Measure Point	0.75' FAR RCVR
Measure Point	2.67' NEAR RCVR
Measure Point	5.75' XMIT
Temp Rating	350.00 °F
Press Rating	18000.00 PSI

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	FEDERAL RU 11-5		
Field	RULISON		
County	GARFIELD	State	CO

File No:
CH082594
API No:
05045217730000

Location

SHL: 207' FNL & 2599' FWL
BHL: 157' FNL & 681' FWL

SEC 5 TWP 7S RGE 93W

Elevations

KB 7628 ft
DF
GL 7602 ft

5 7S 93W
RU 23-5 PAD
NABORS 576

CASE

Baker Atlas