



RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: CH082591	Company Well	WPX ENERGY FEDERAL NER 444-32
API No: 05045217850000	Field County	RULISON GARFIELD State CO
32 6S 93W RU 23-5 PAD MABORS 576	Location SHL: 204' FNL & 2609' FNL (5 7S 93W) BHL: 121' FSL & 701' FEL (32 6S 93W) SEC 32 TWP 6S RGE 93W	Other Services
Permanent Datum Log Measured From Drill Measured From	GL Elevation 7602 ft KB 26 ft Above P. D. KB GL 7602 ft	Elevations KB 7628 ft DF GL 7602 ft

Date	14/FEB/14	
Run	ONE	
Service Order	US6525265	
Depth Driller	10298 ft	
Depth Logger	10265 ft	
Bottom Logged Interval	10255 ft	
Top Logged Interval	26 ft	
Time Started	9:00	
Time Finished	13:30	
Operator Rig Time	4.5 HOURS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	86 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	65 fpm	
Maximum Recorded Temperature	236 degF	
Reference Log	BAKER HUGHES OPEN HOLE	
Reference Log Date	15/JAN/2014	
Equipment No.	4271	GRAND JCT.
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	10318 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	10318 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 01/15/2014 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 10 feet.

Logged with zero PSI at wellhead.

BHT = 236 °F

SJ = 6888'–6909'

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	34.155	10275.750
RAL	Amp Gate Start Near	195.000	usec	34.155	10275.750
RAL	Amp Gate Start Radial	195.000	usec	34.155	10275.750
RAL	Amp Gate Width Far	25.000	usec	34.155	10275.750
RAL	Amp Gate Width Near	25.000	usec	34.155	10275.750
RAL	Amp Gate Width Radial	25.000	usec	34.155	10275.750
RAL	casing od	4.500	inches	34.155	10275.750
RAL	casing wt	11.600	lbm/ft	34.155	10275.750
RAL	FB Start Far	291.900	usec	34.155	10275.750
RAL	FB Start Near	175.391	usec	34.155	10275.750
RAL	FB Start Radial	175.391	usec	34.155	10275.750
RAL	FB Thresh Far	10.000	mv	34.155	10275.750
RAL	FB Thresh Near	4.000	mv	34.155	10275.750
RAL	FB Thresh Radial	4.000	mv	34.155	10275.750
RAL	Fluid Travel Time	200.000	usec/ft	34.155	10270.405

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

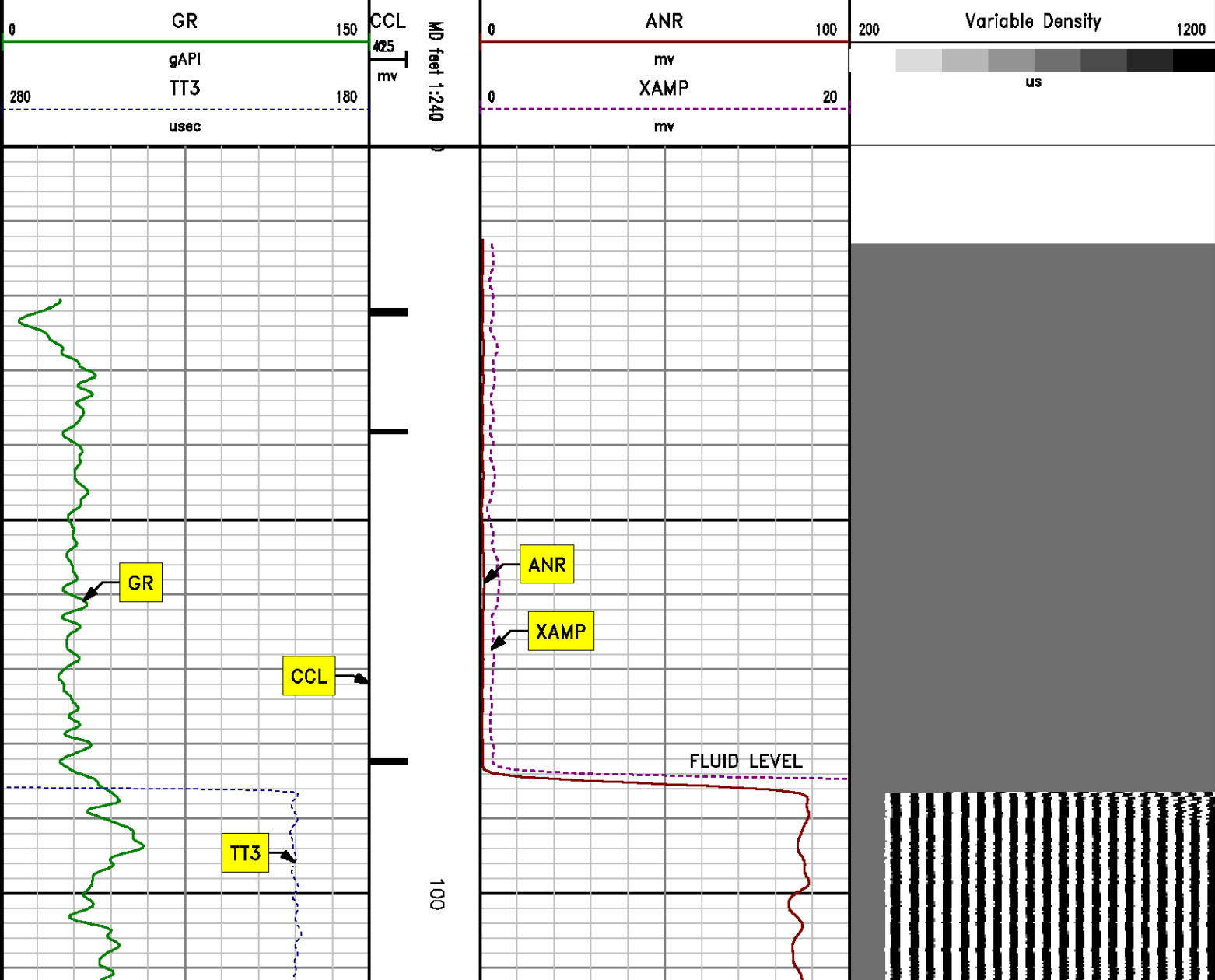
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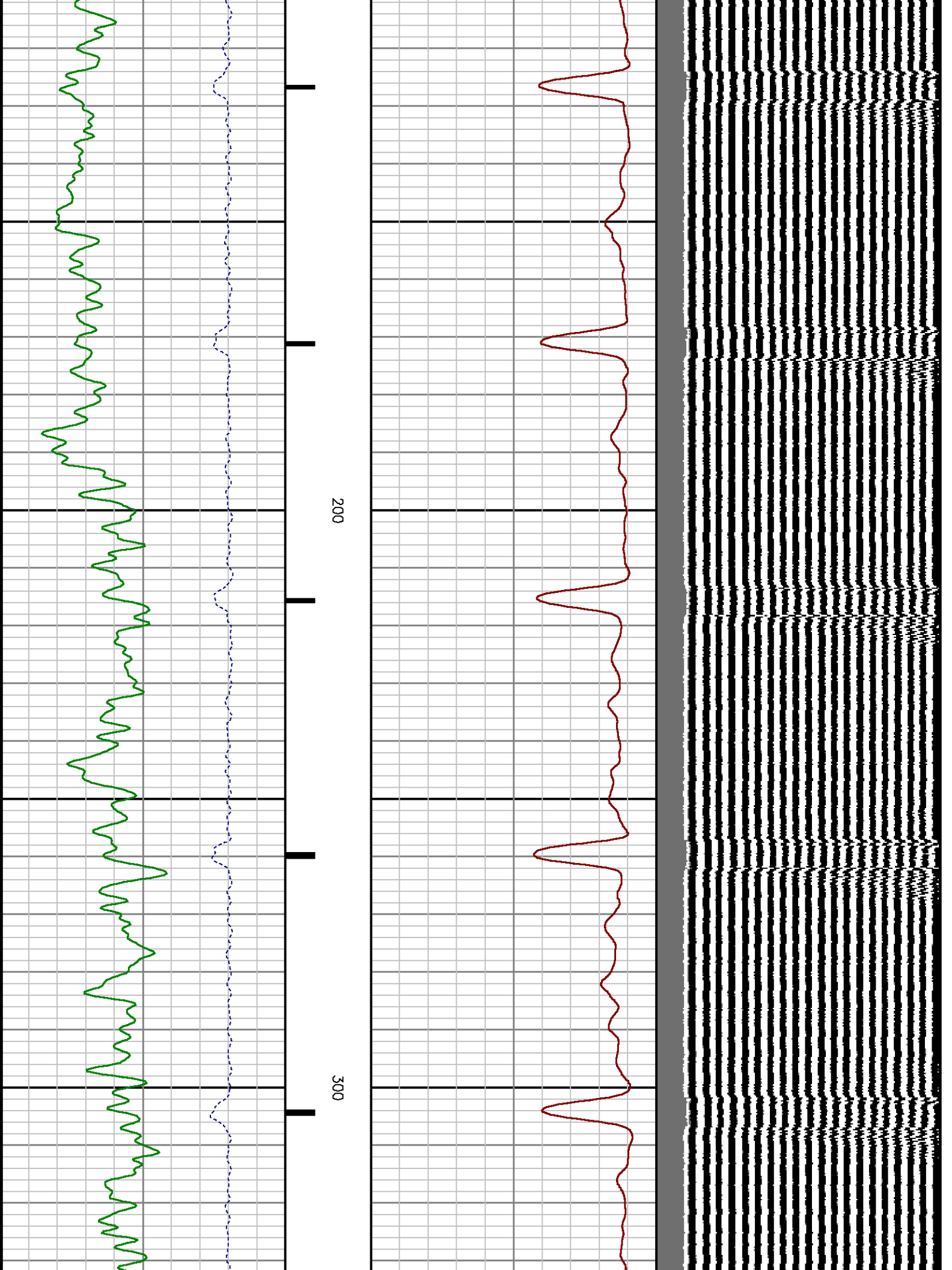
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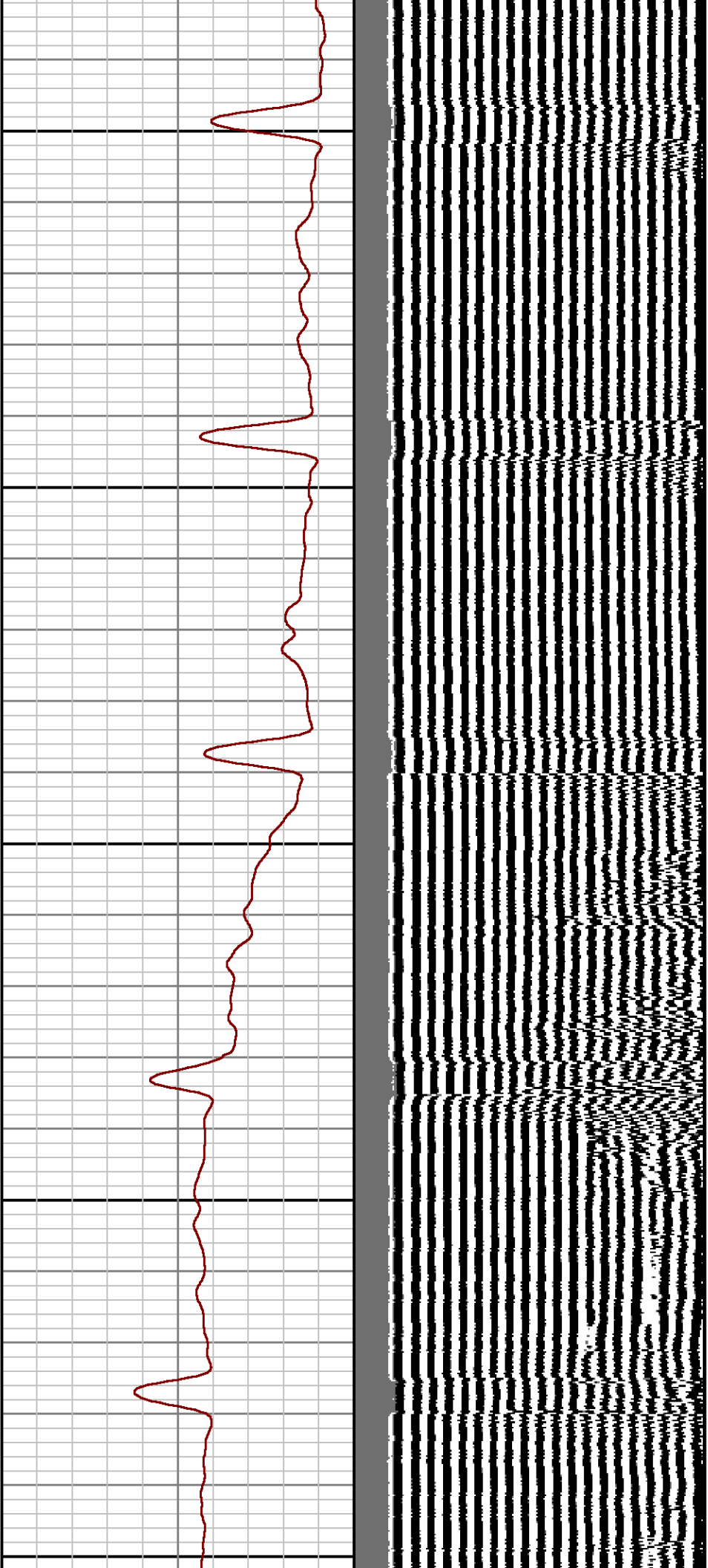
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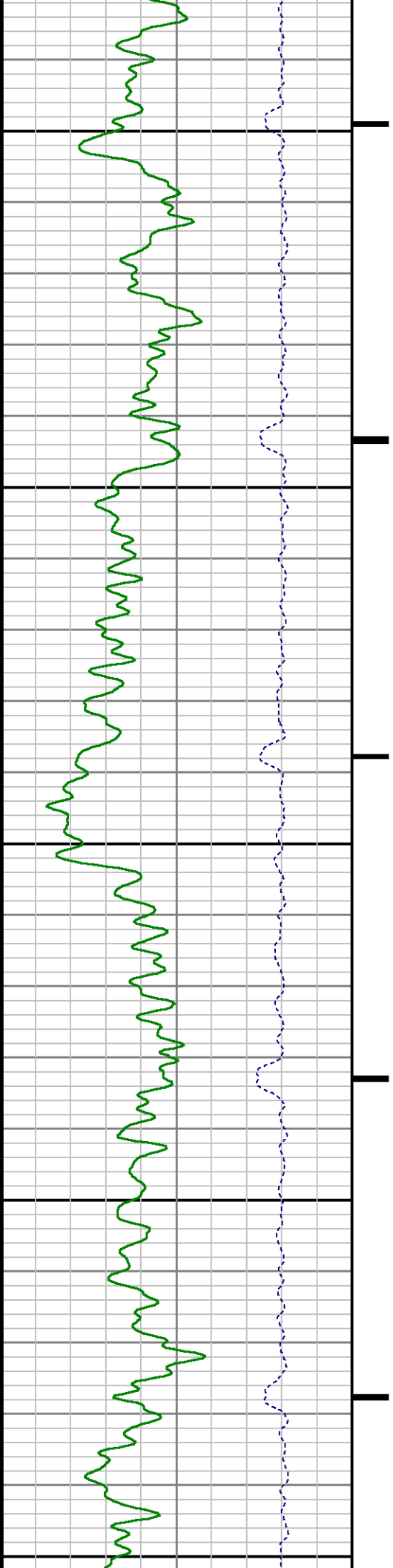


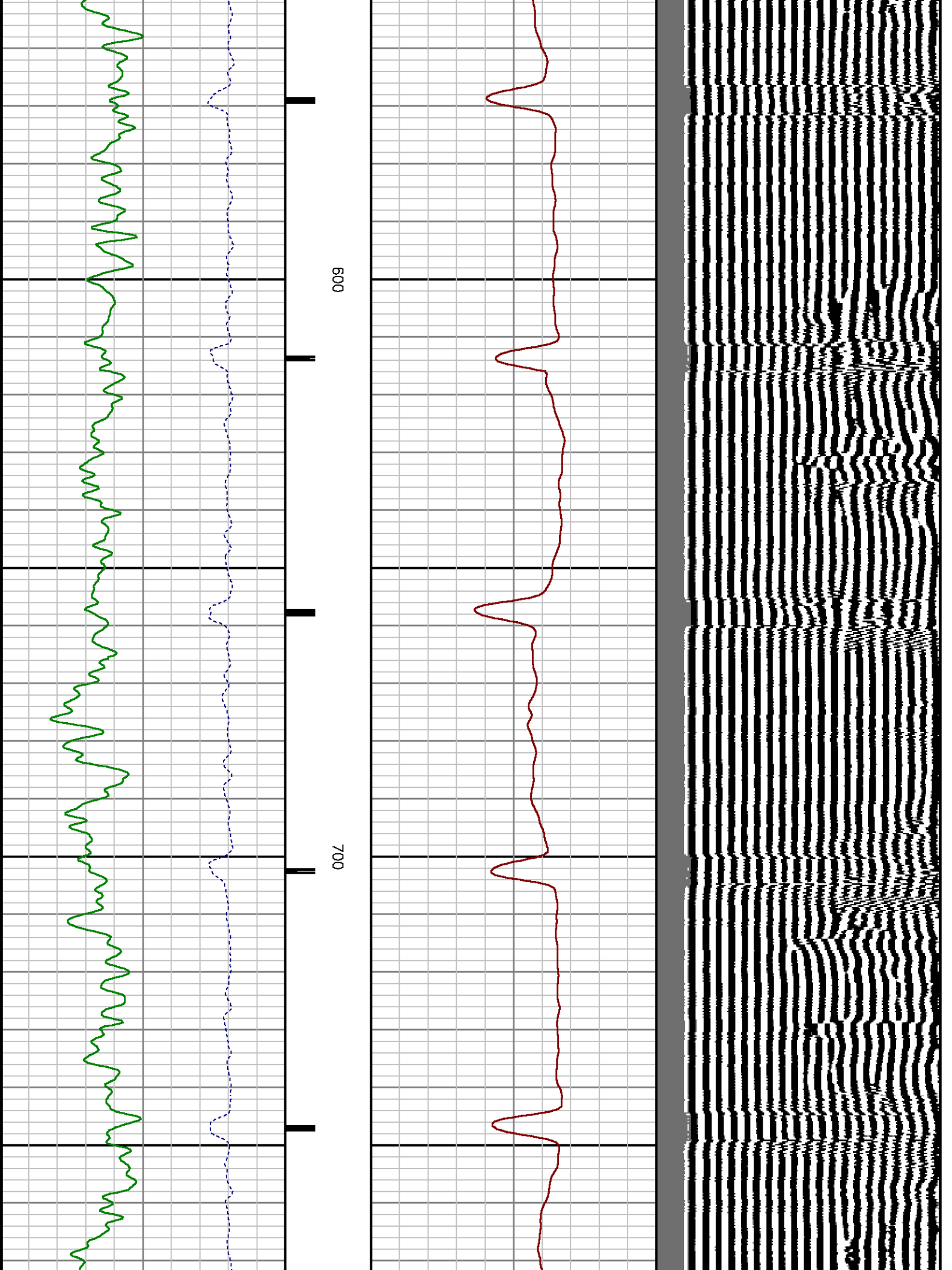


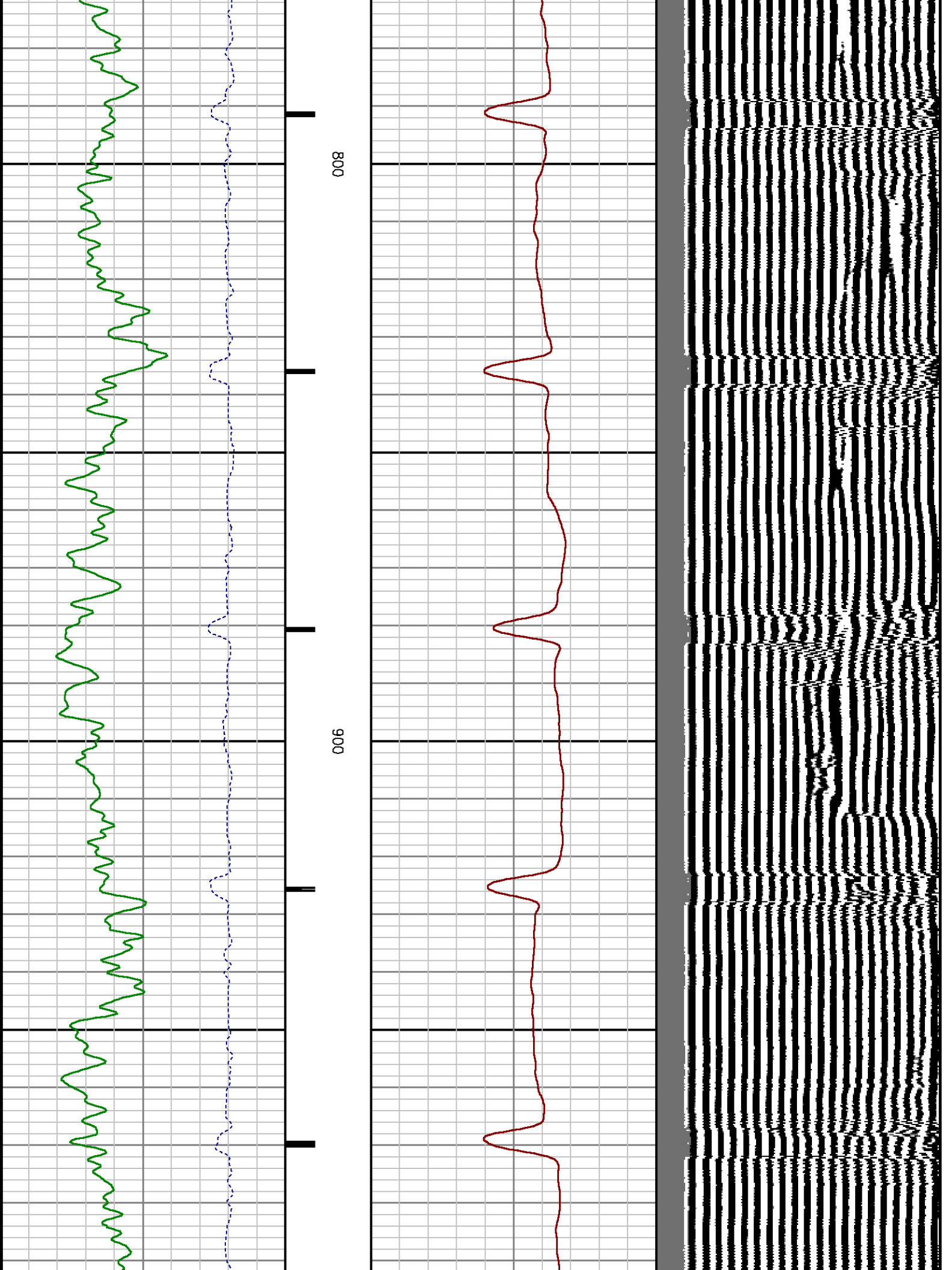


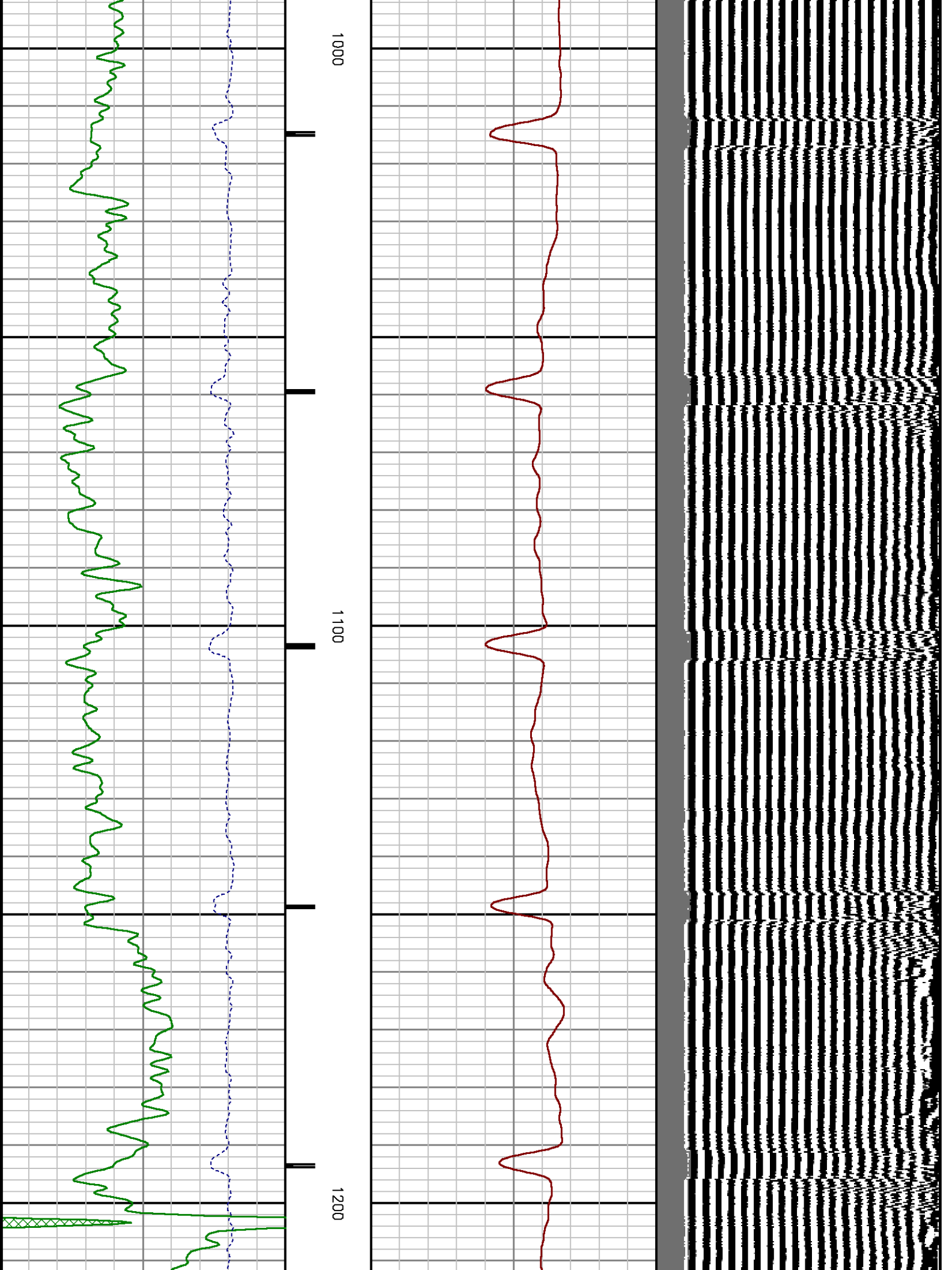
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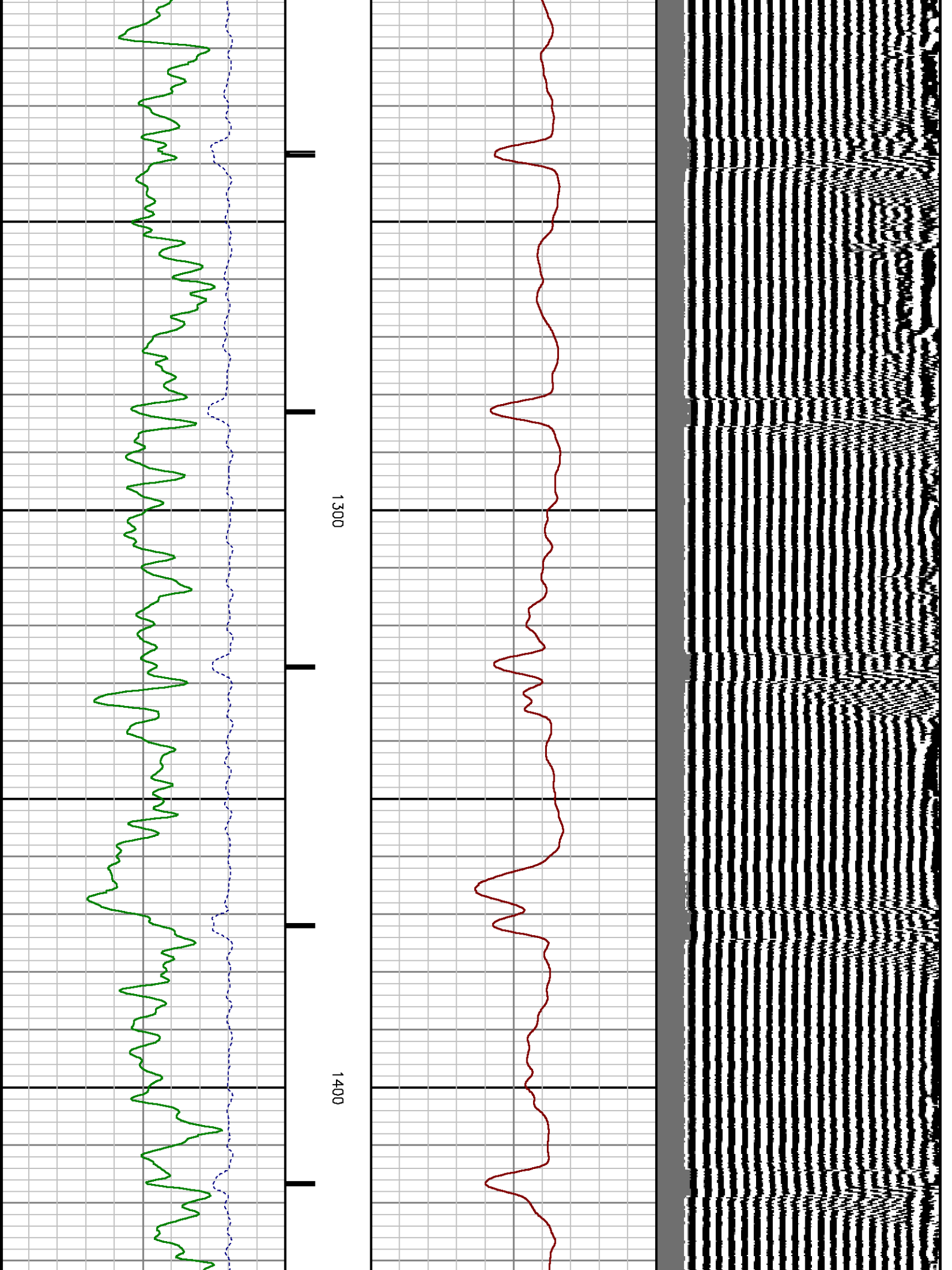
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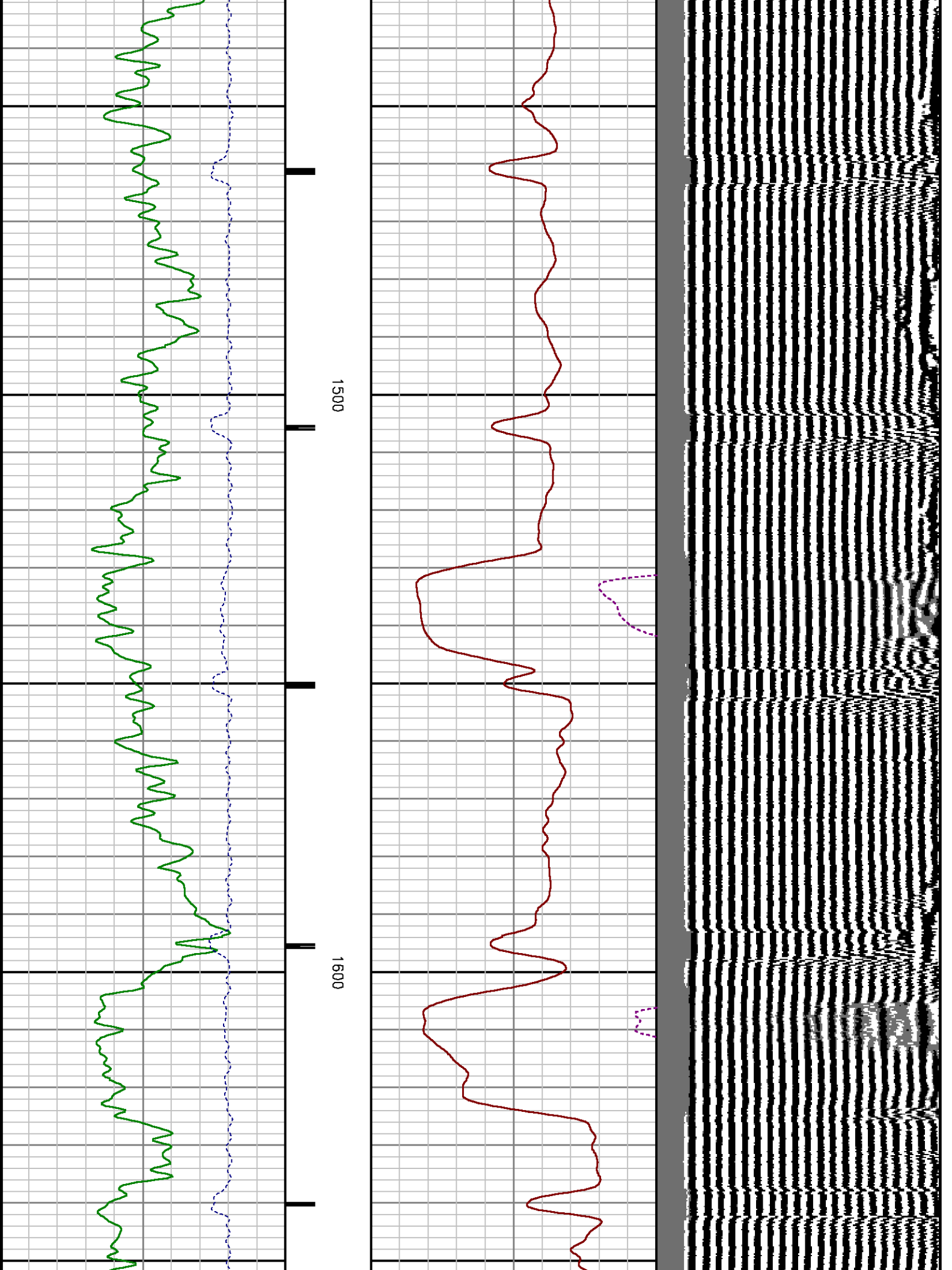


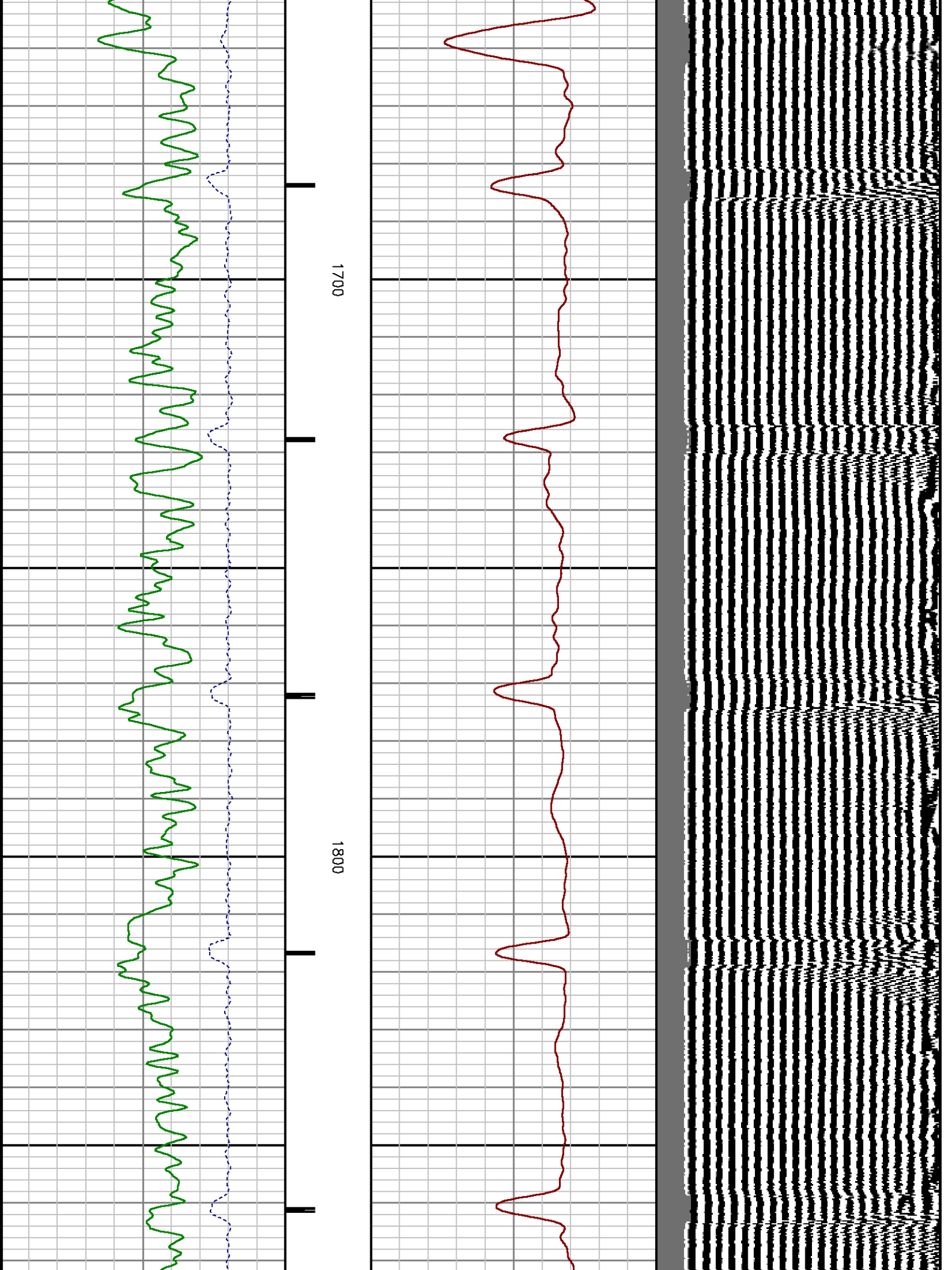


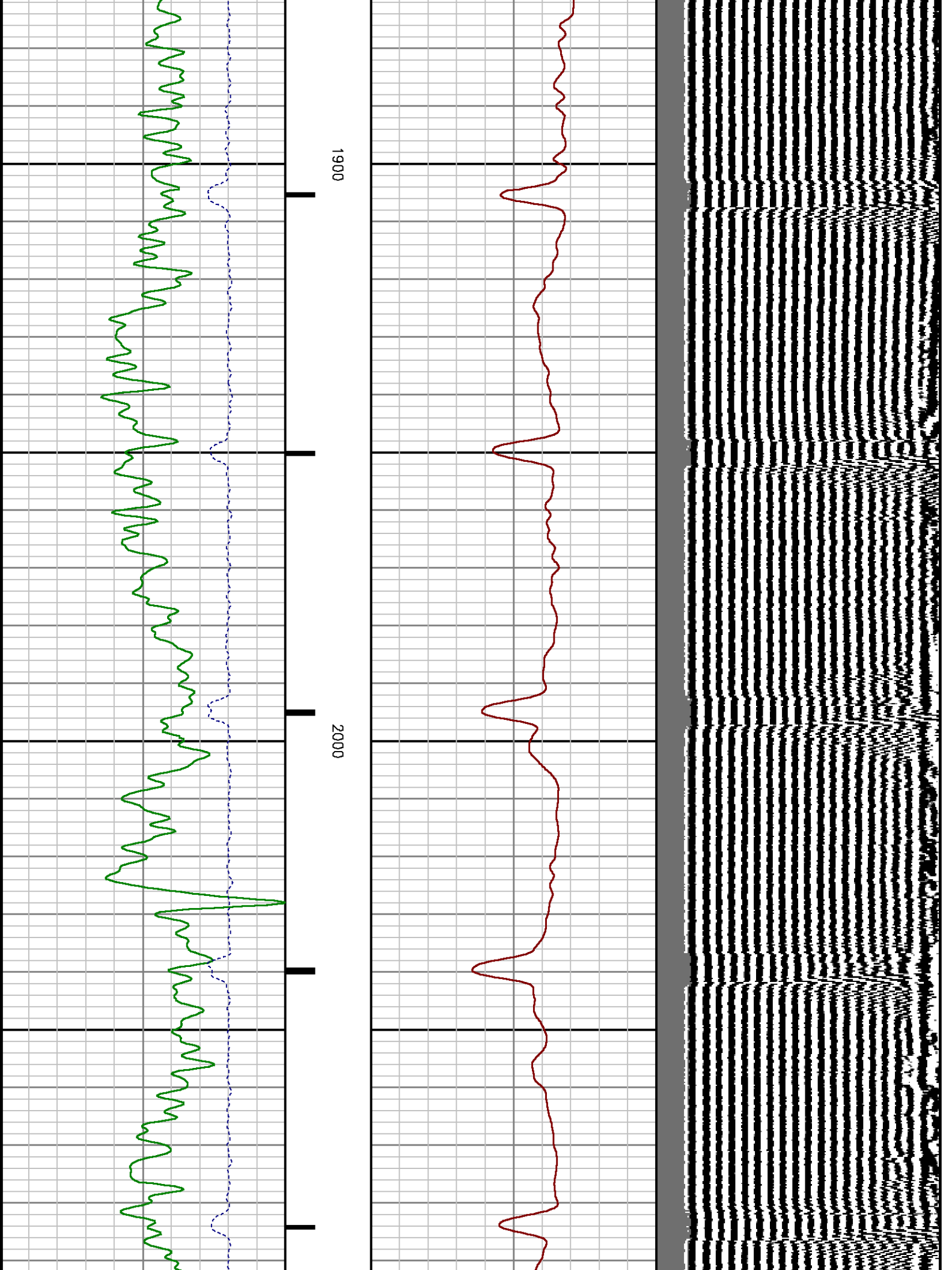


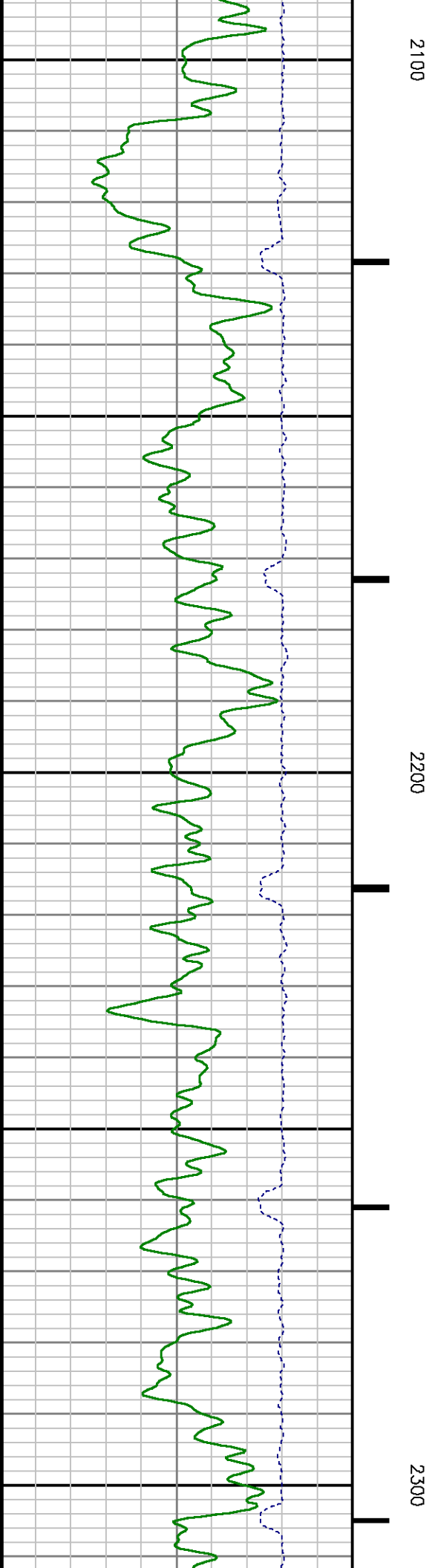
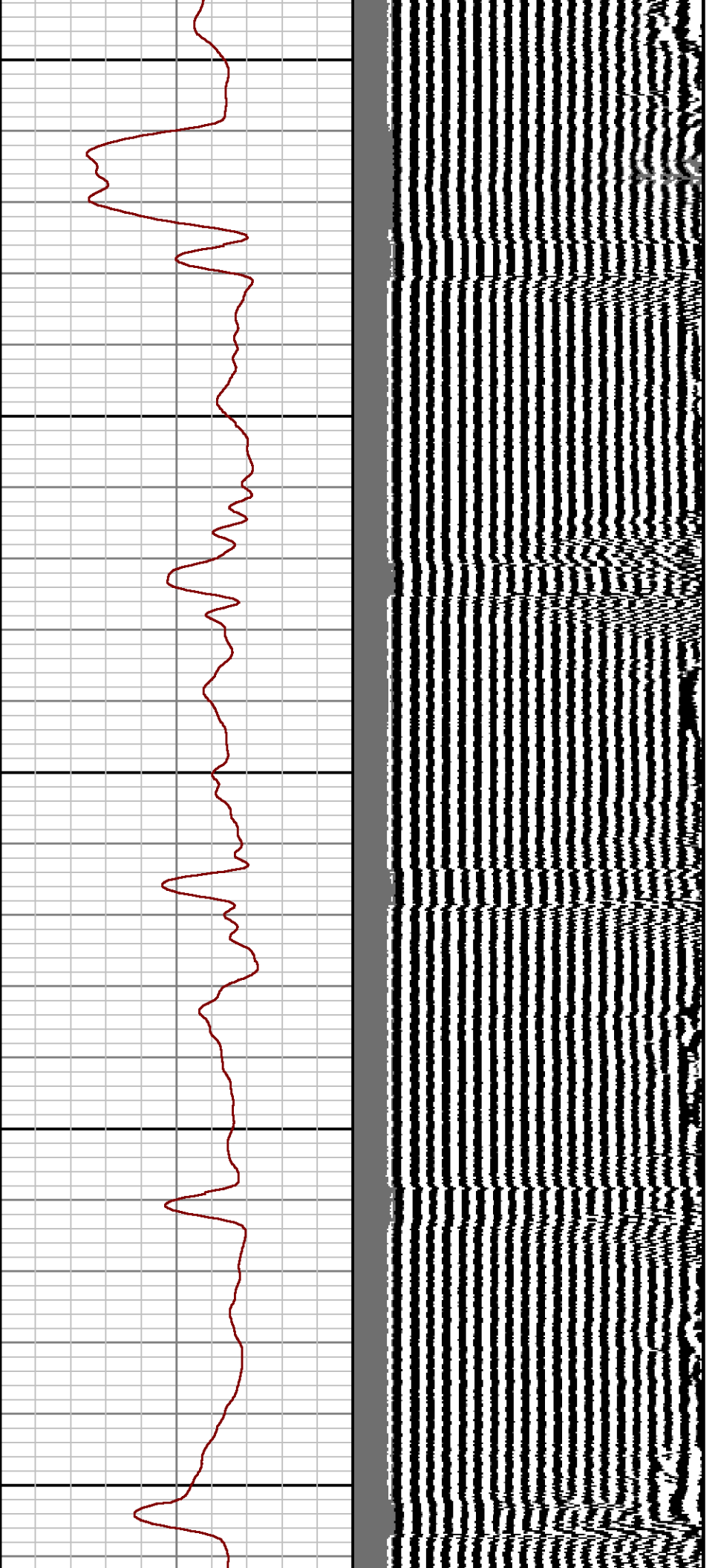


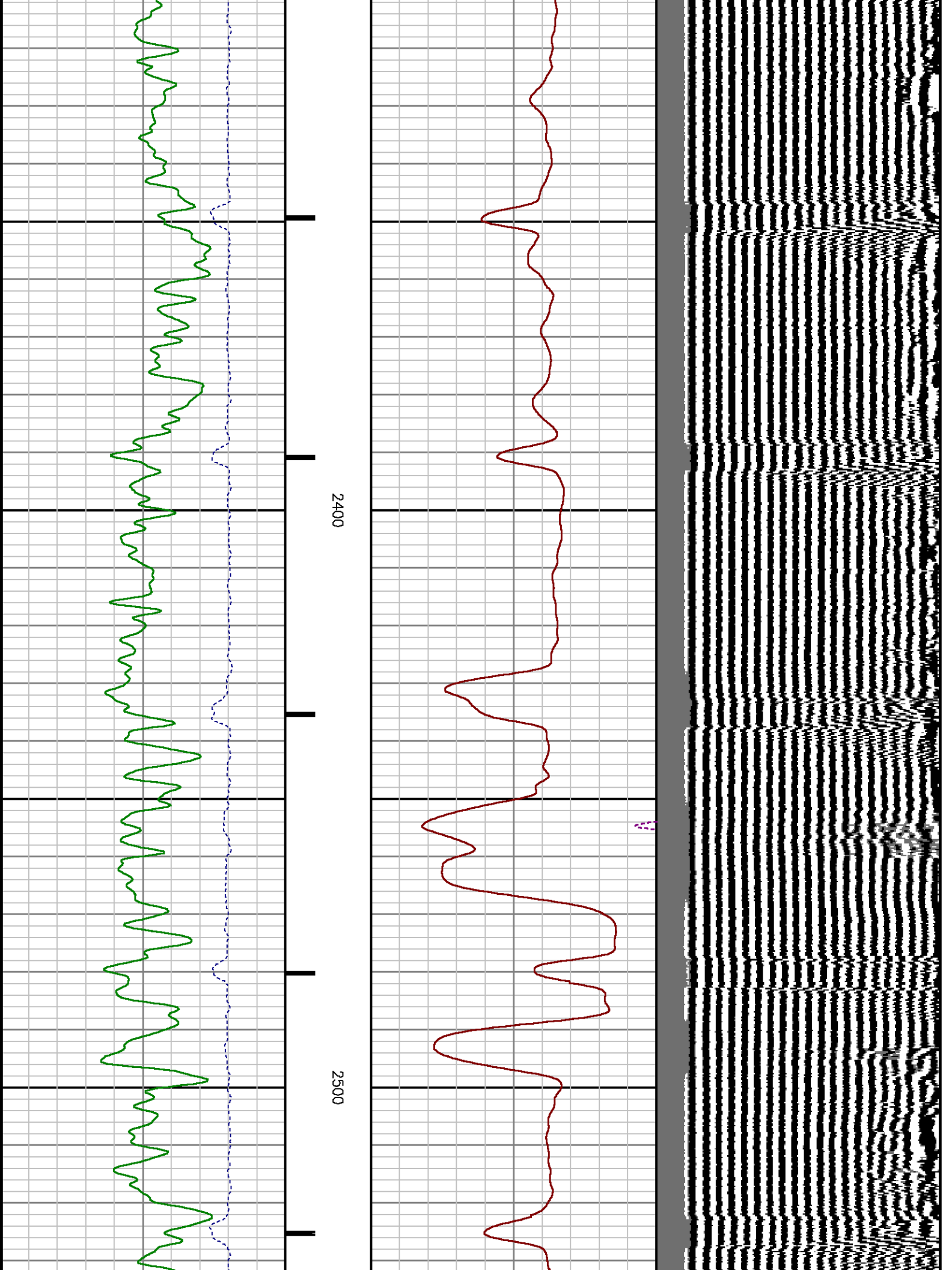


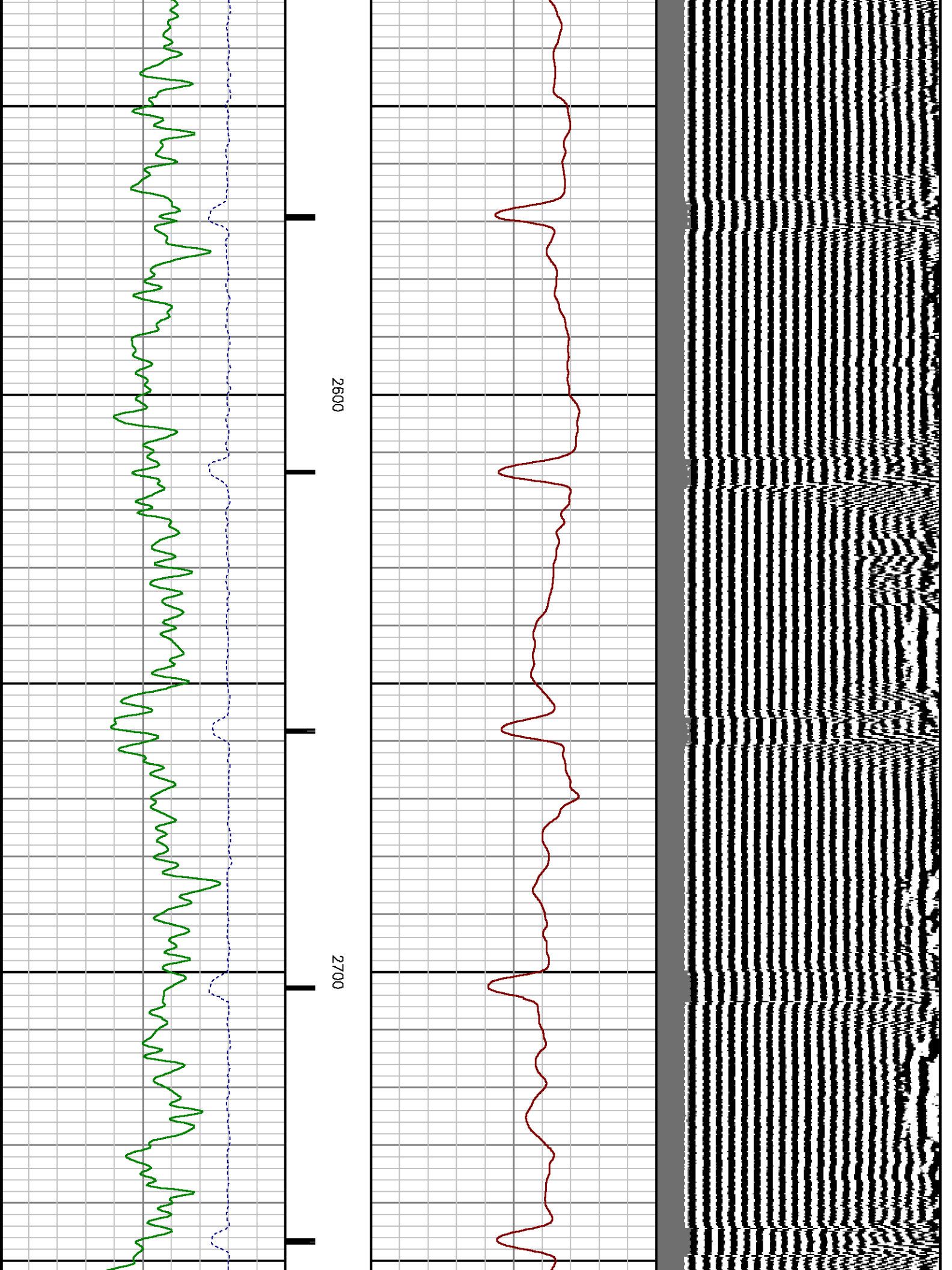


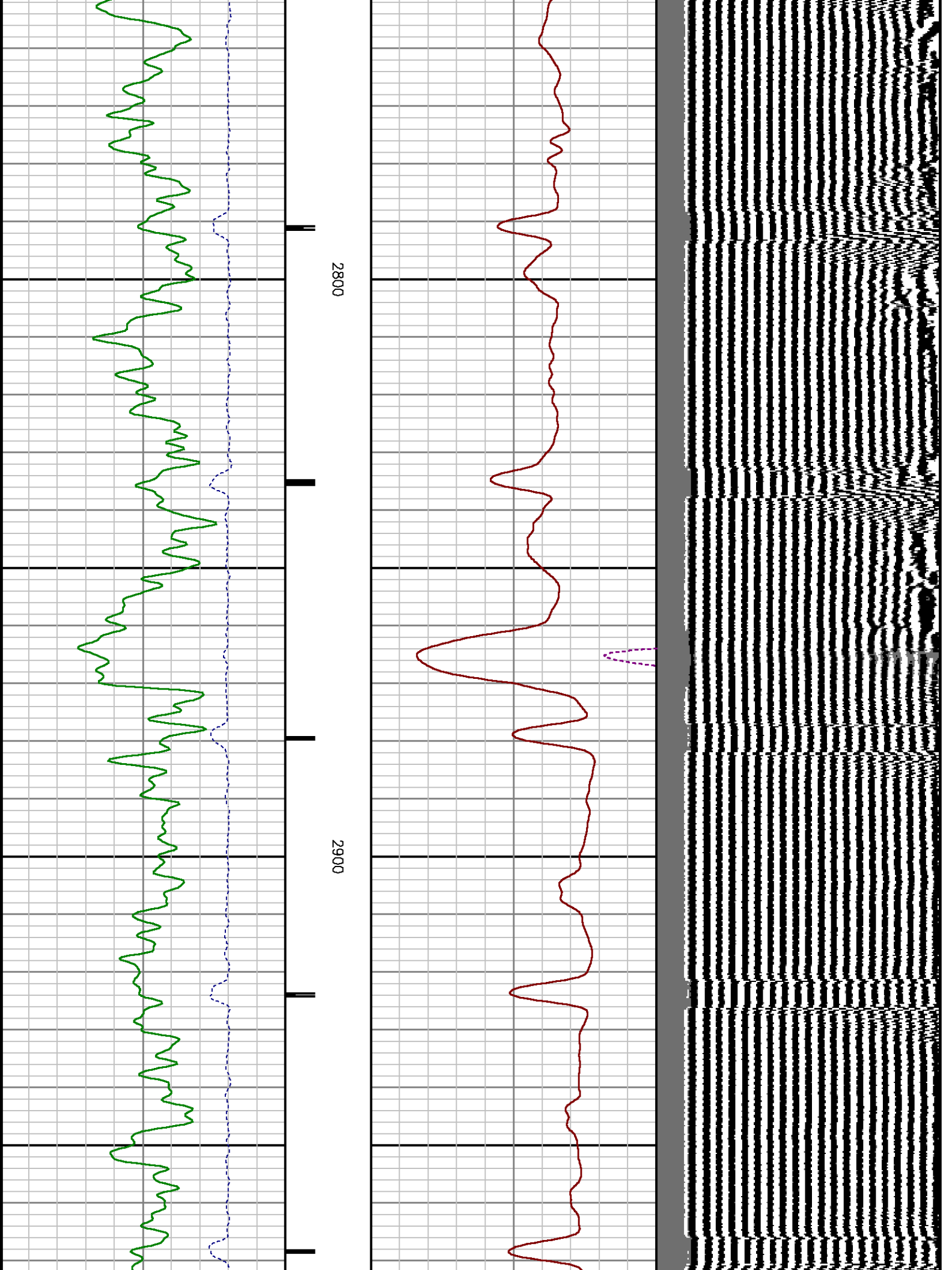


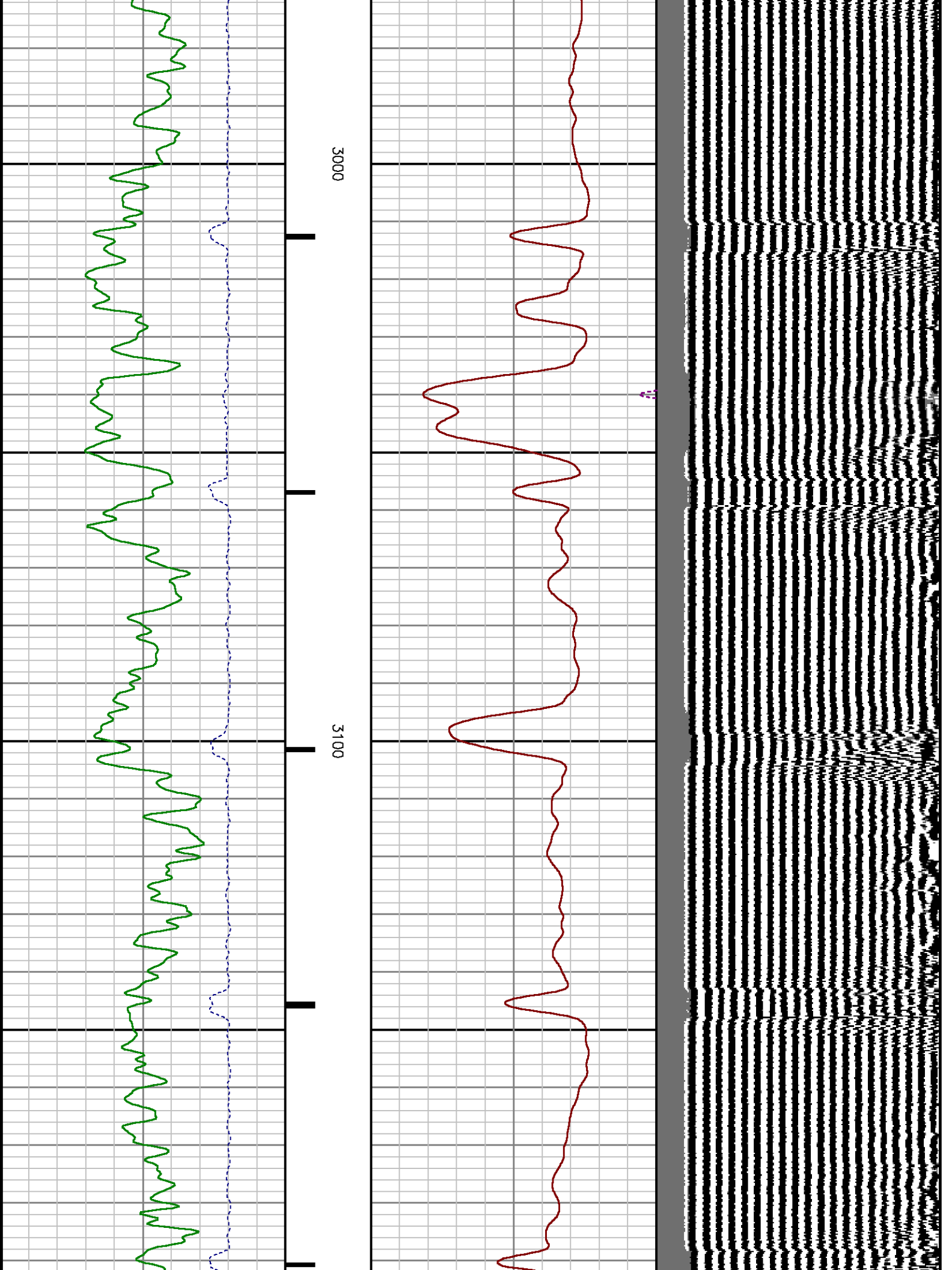


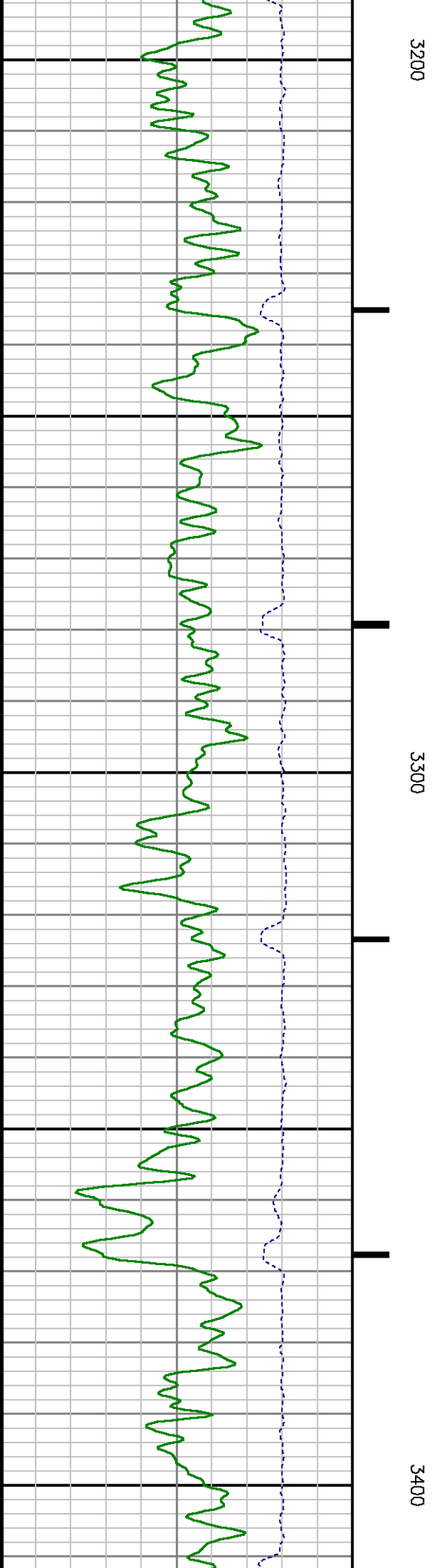
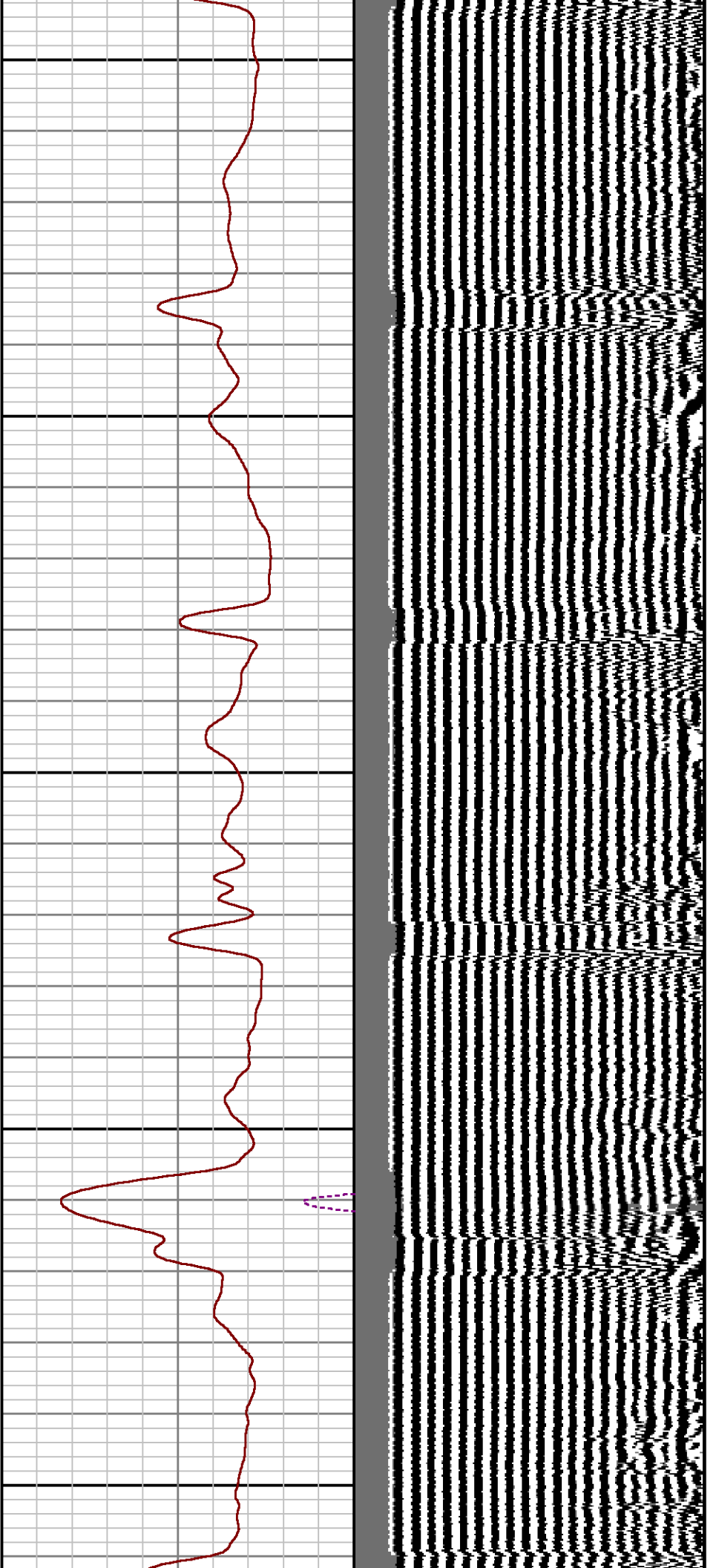


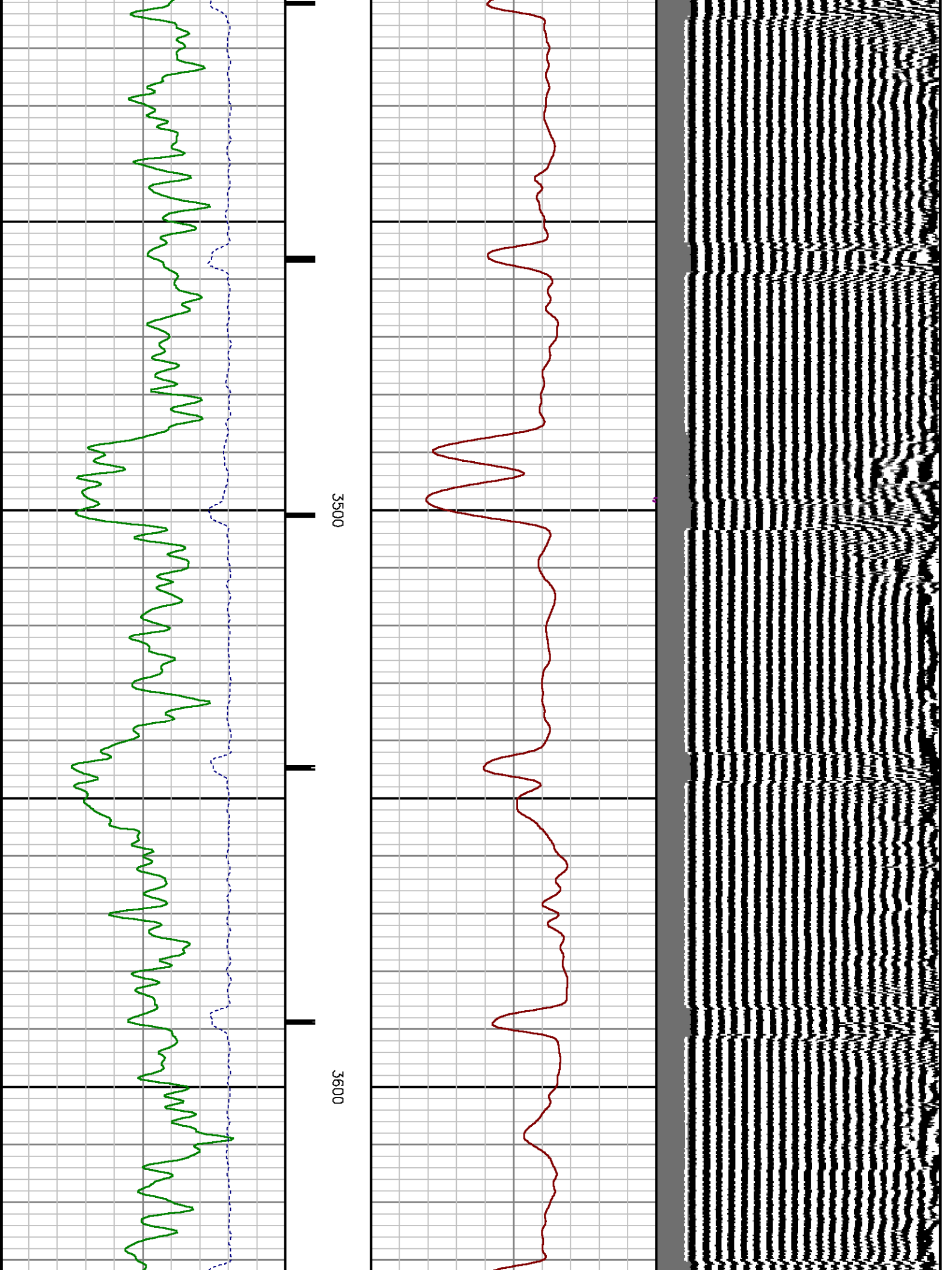


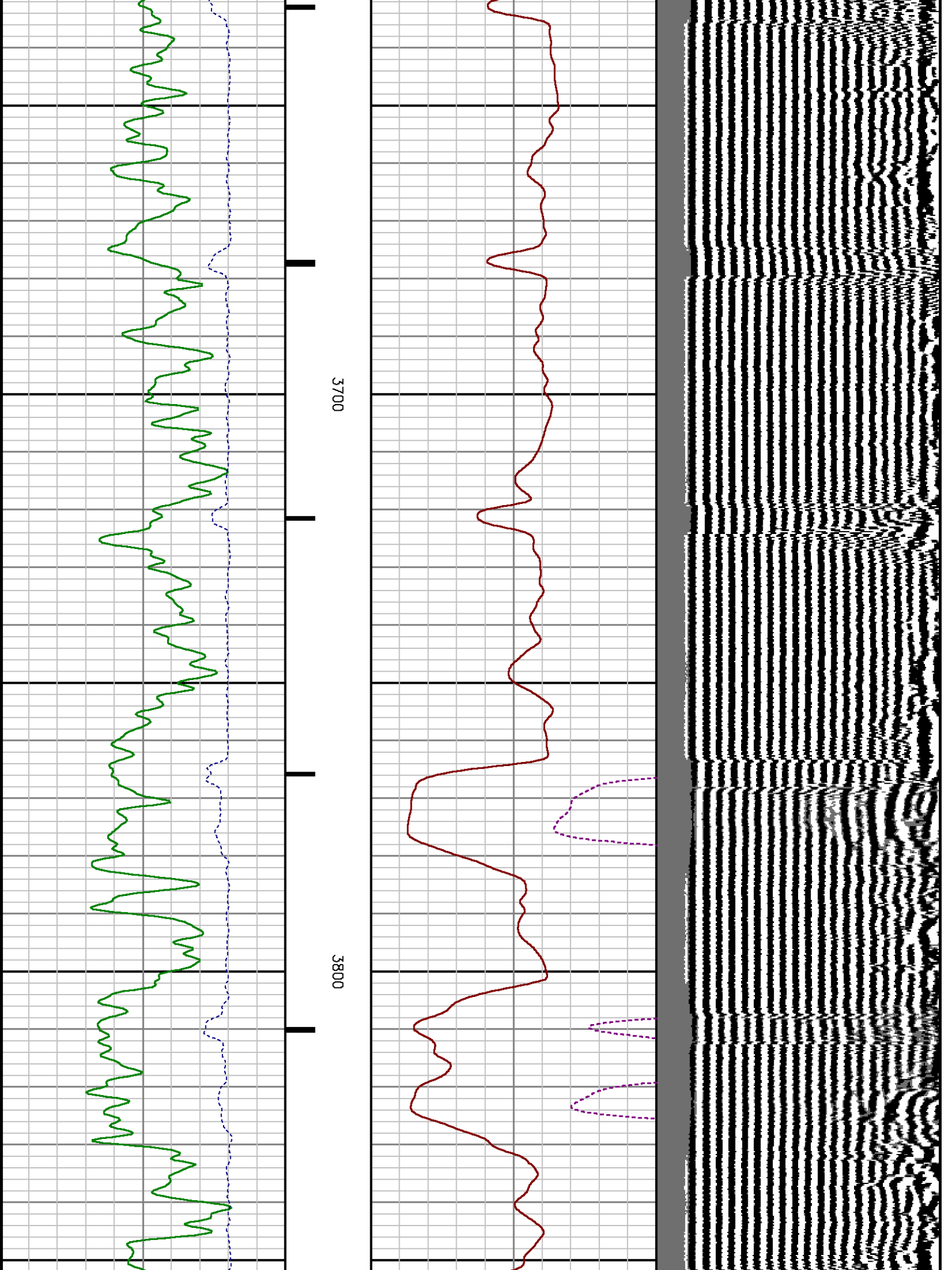


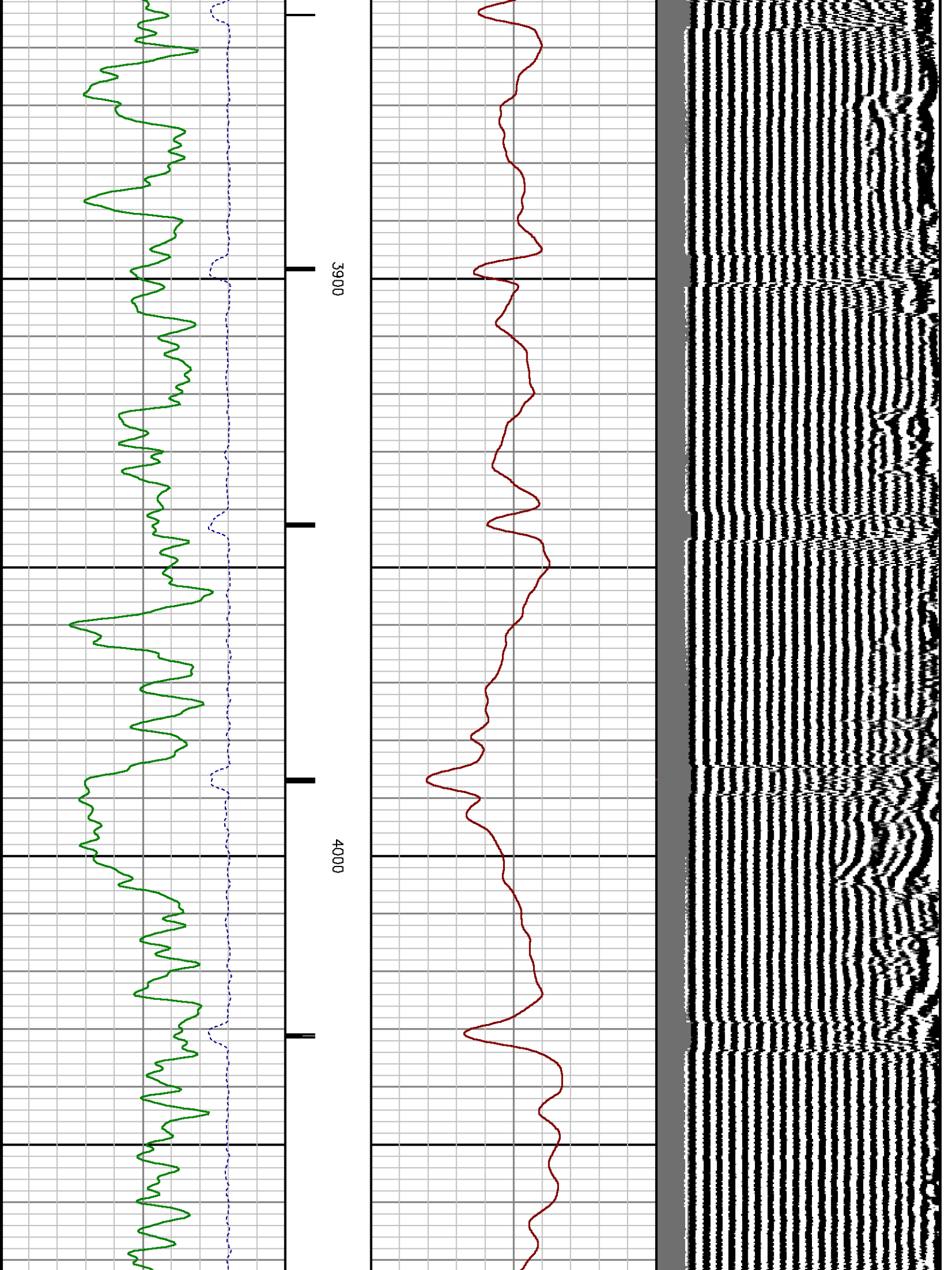


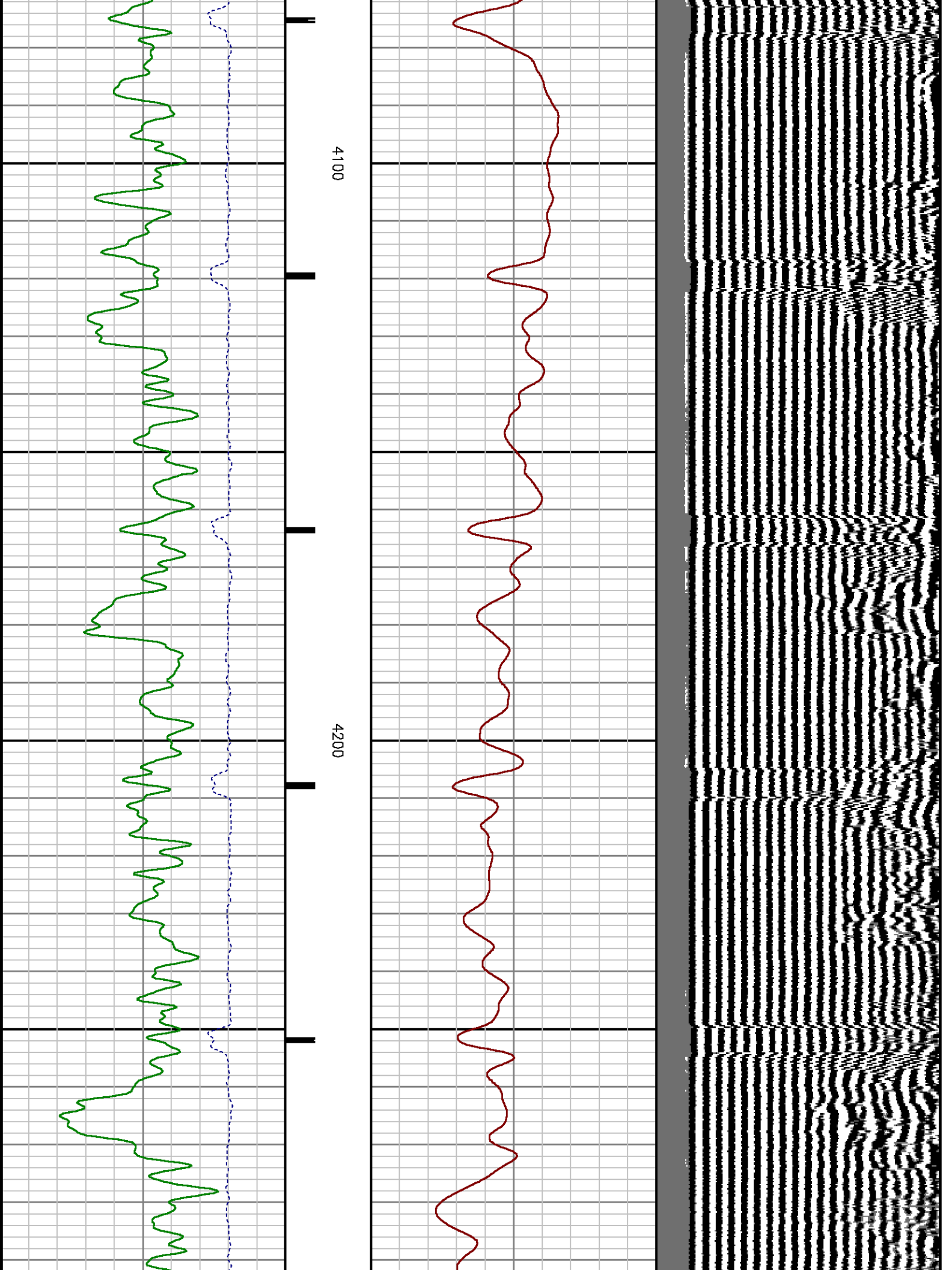


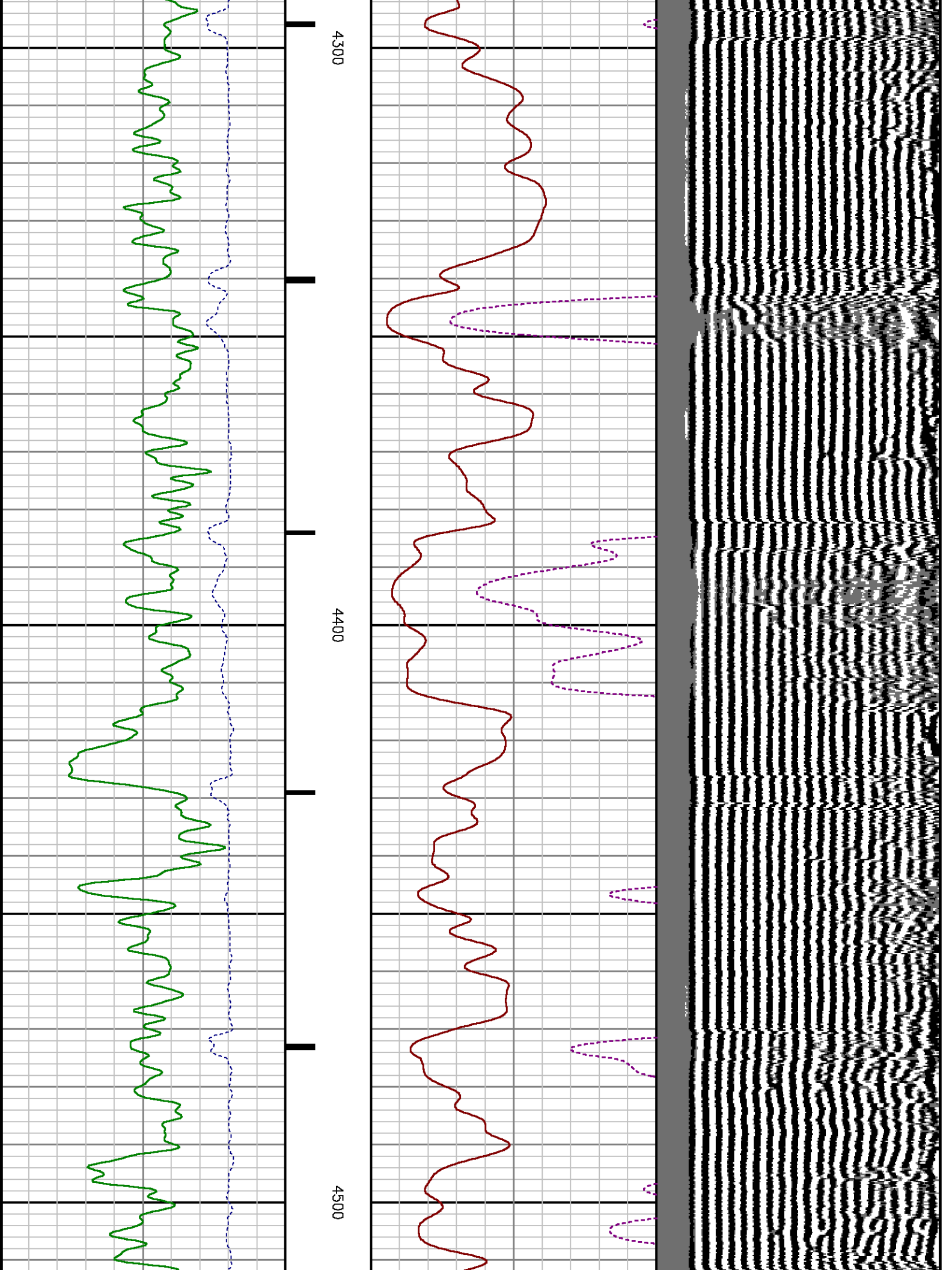


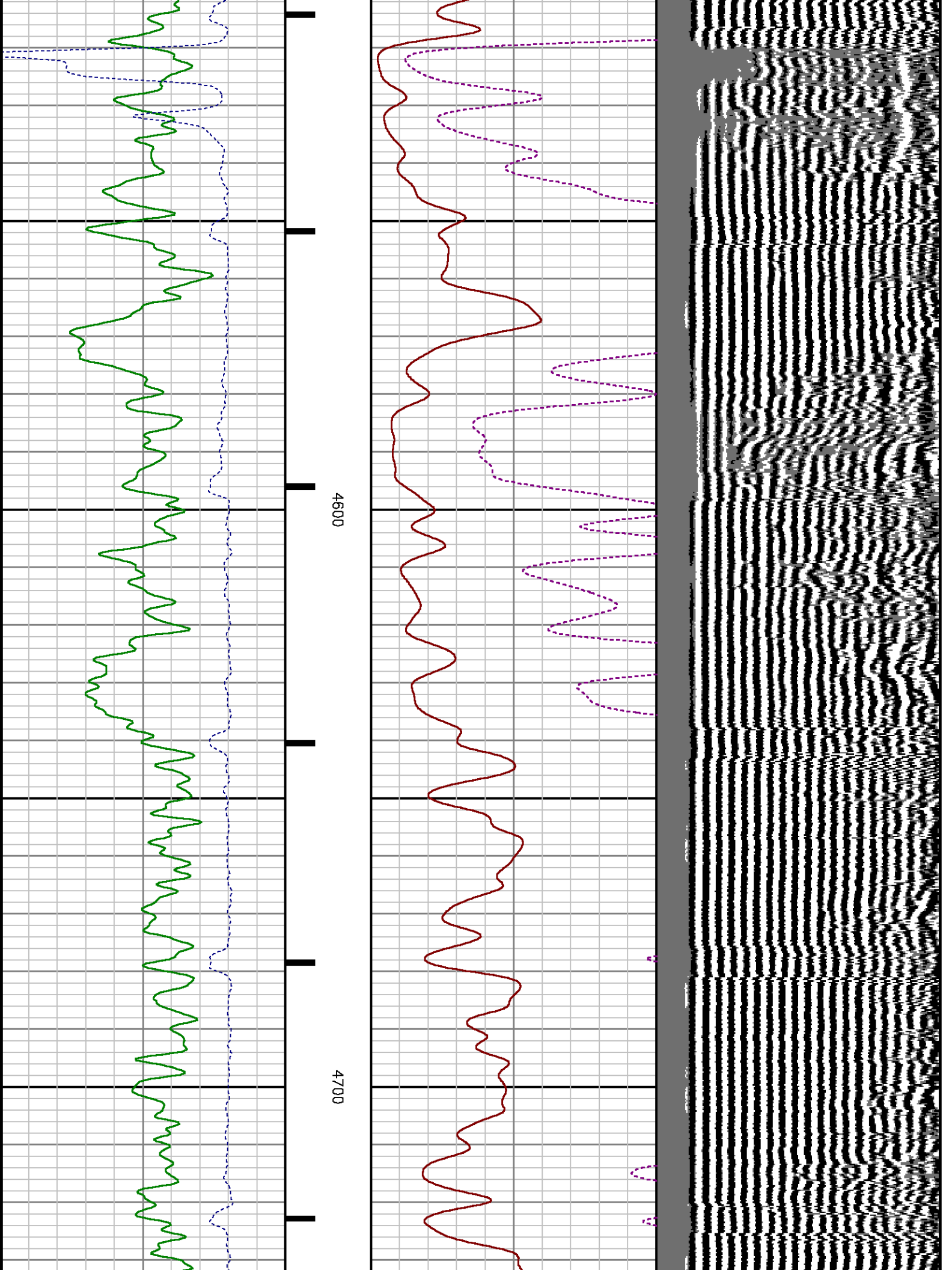


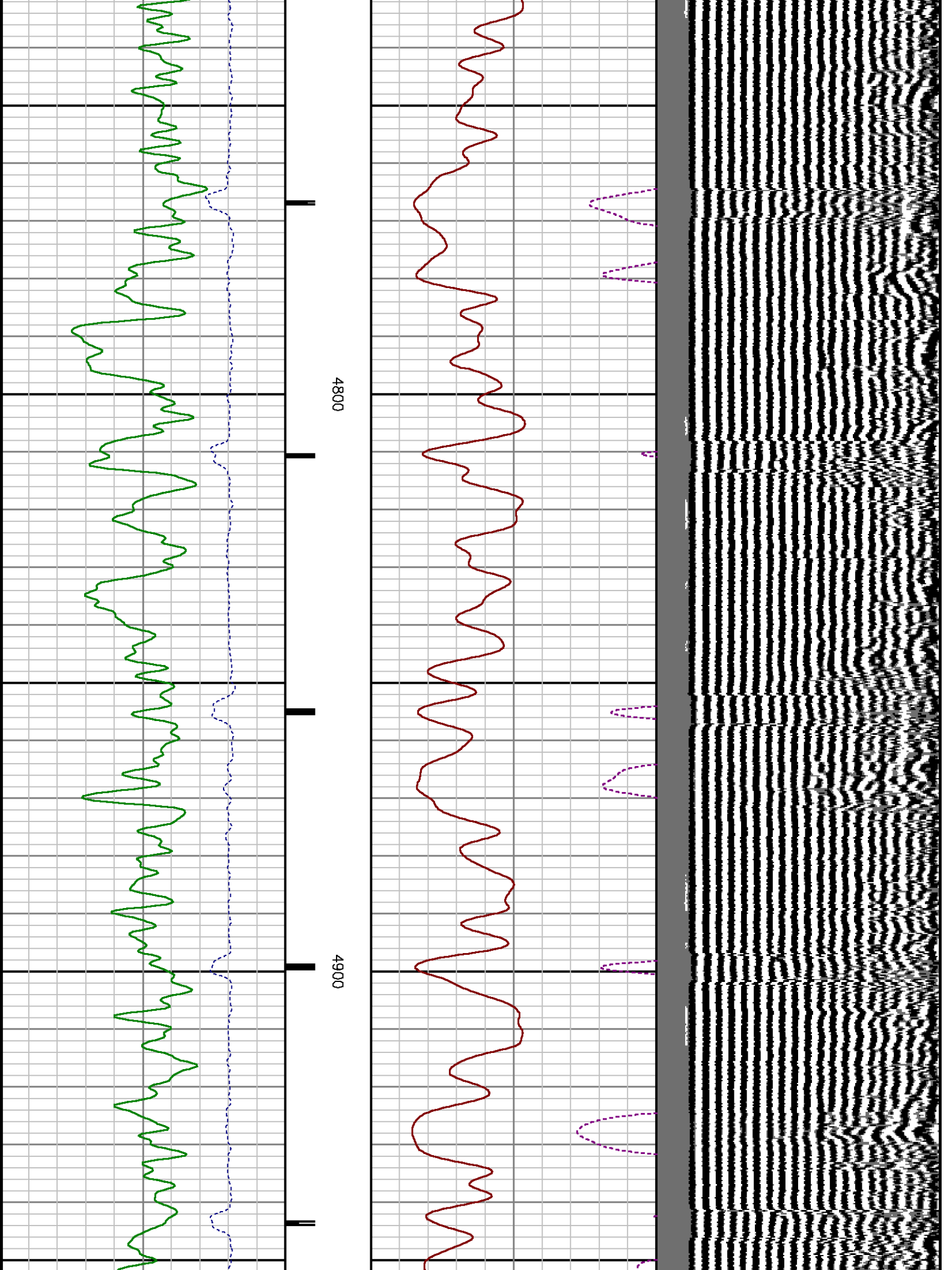


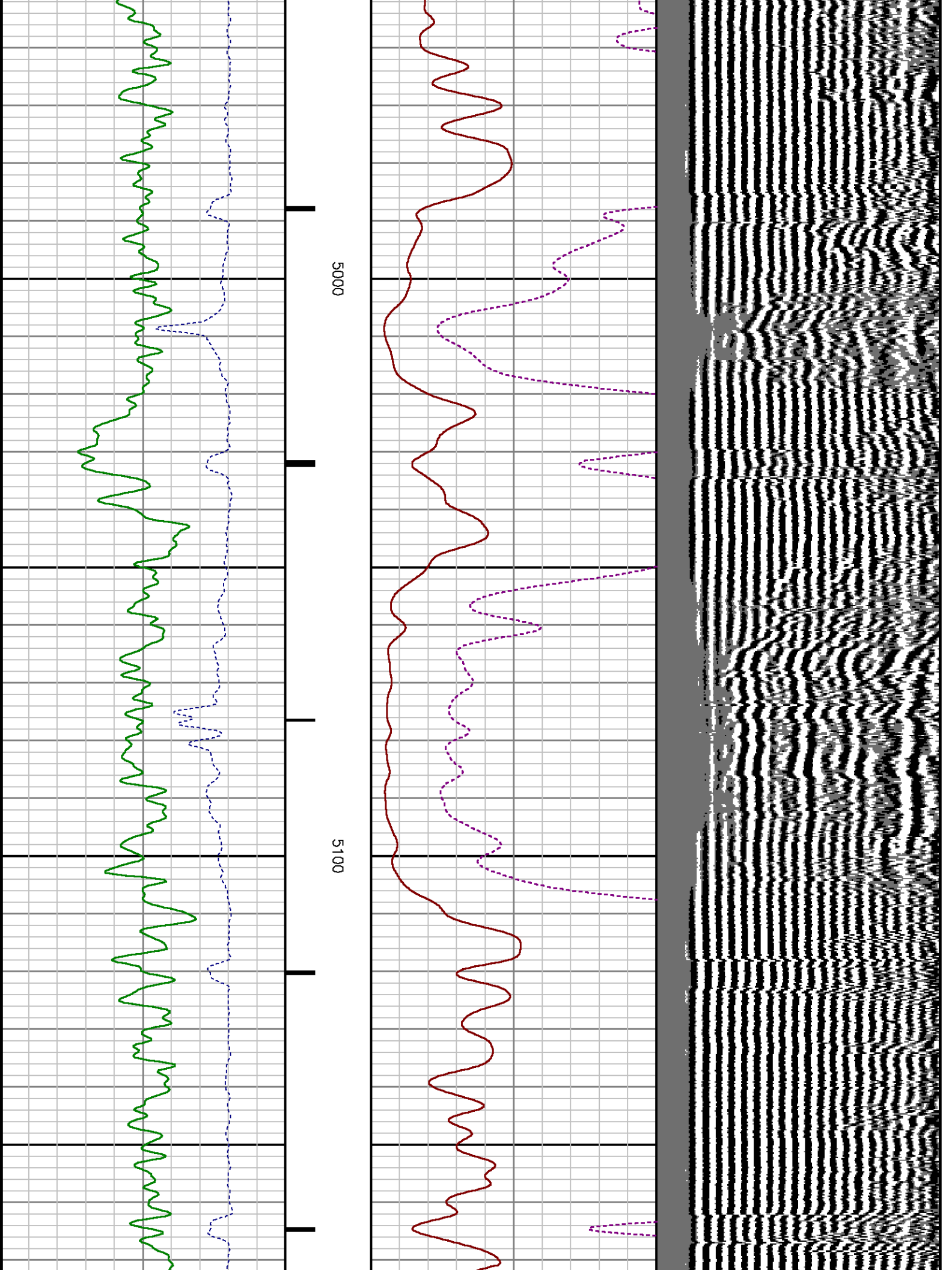


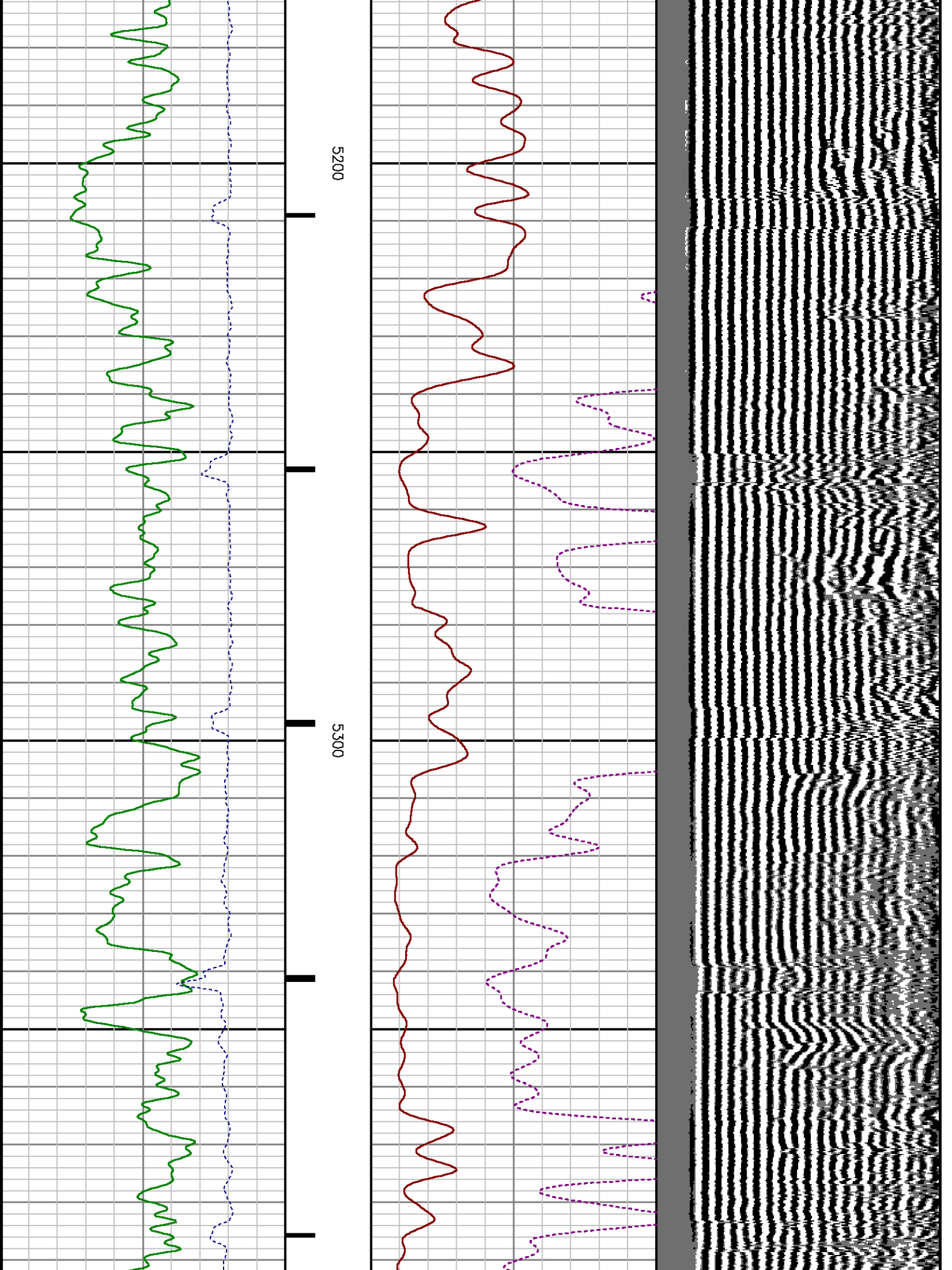


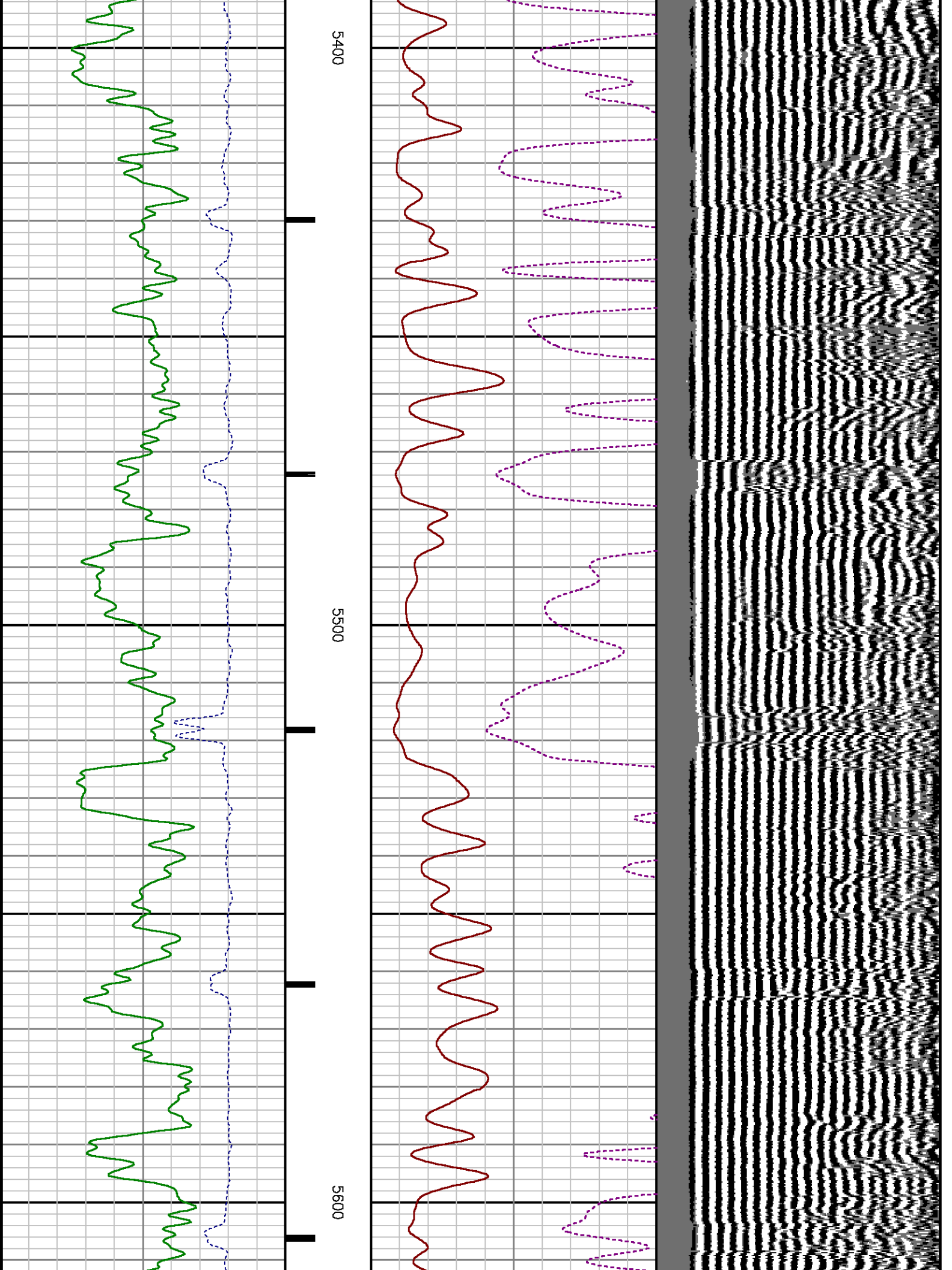


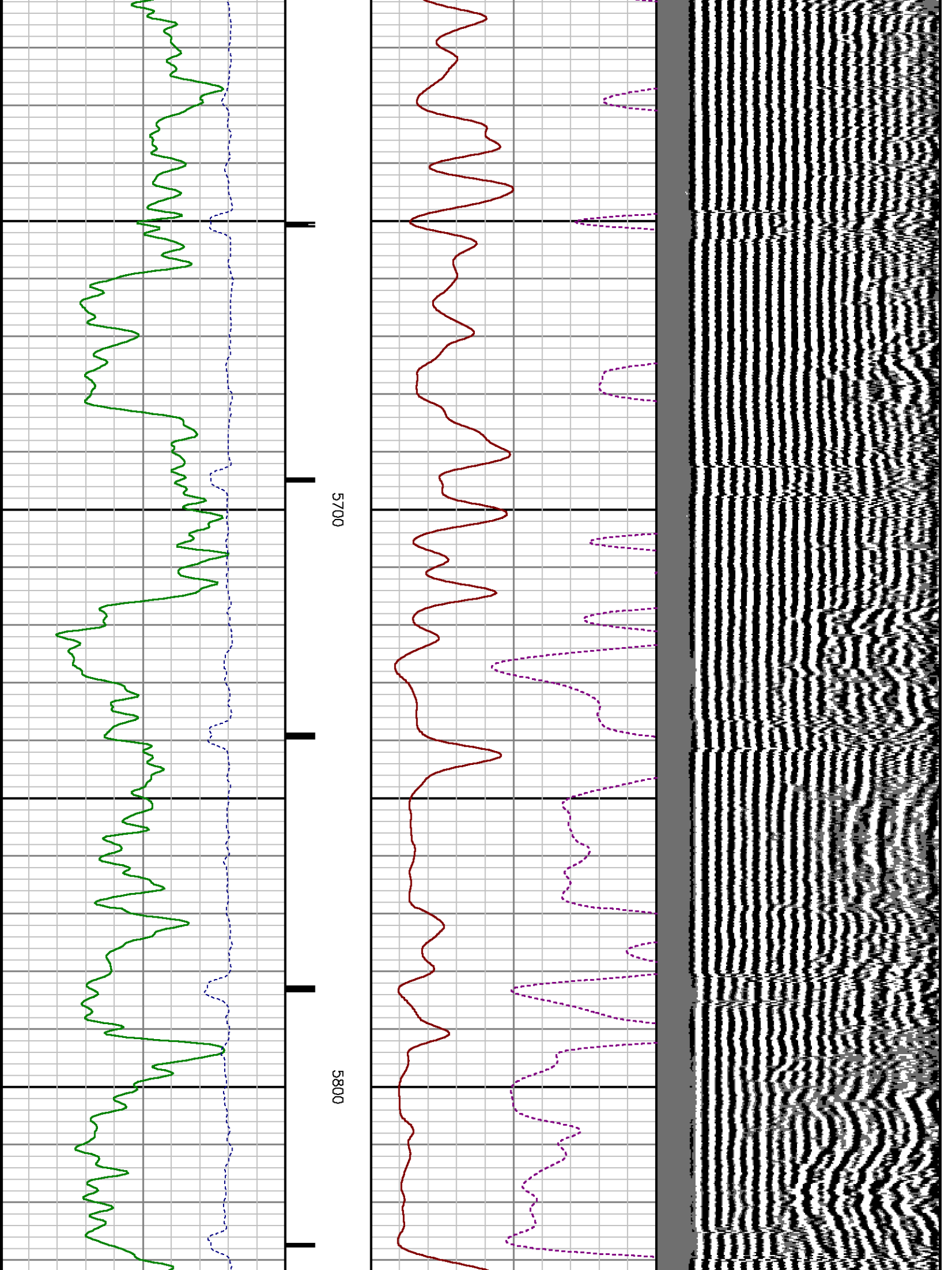


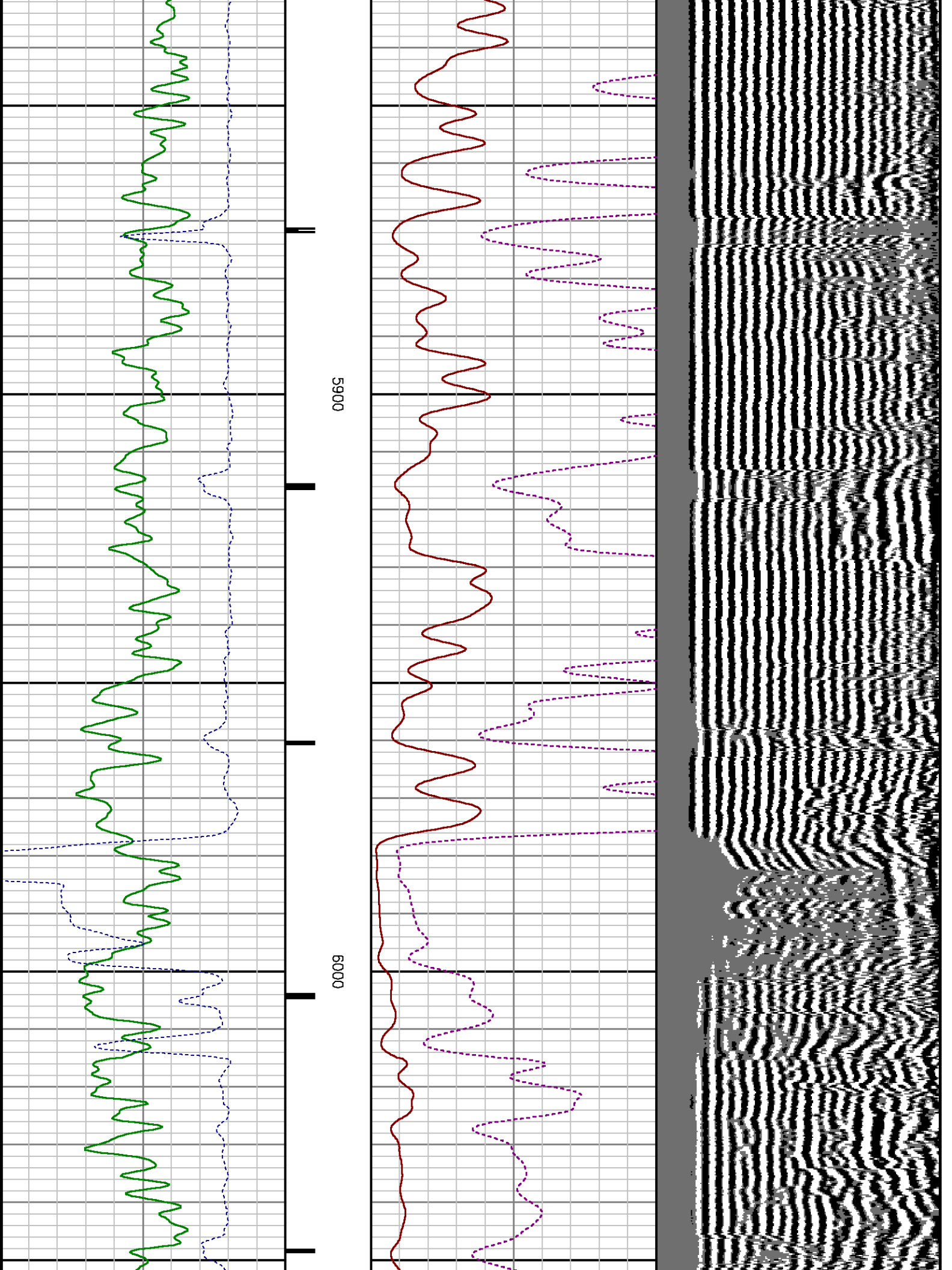


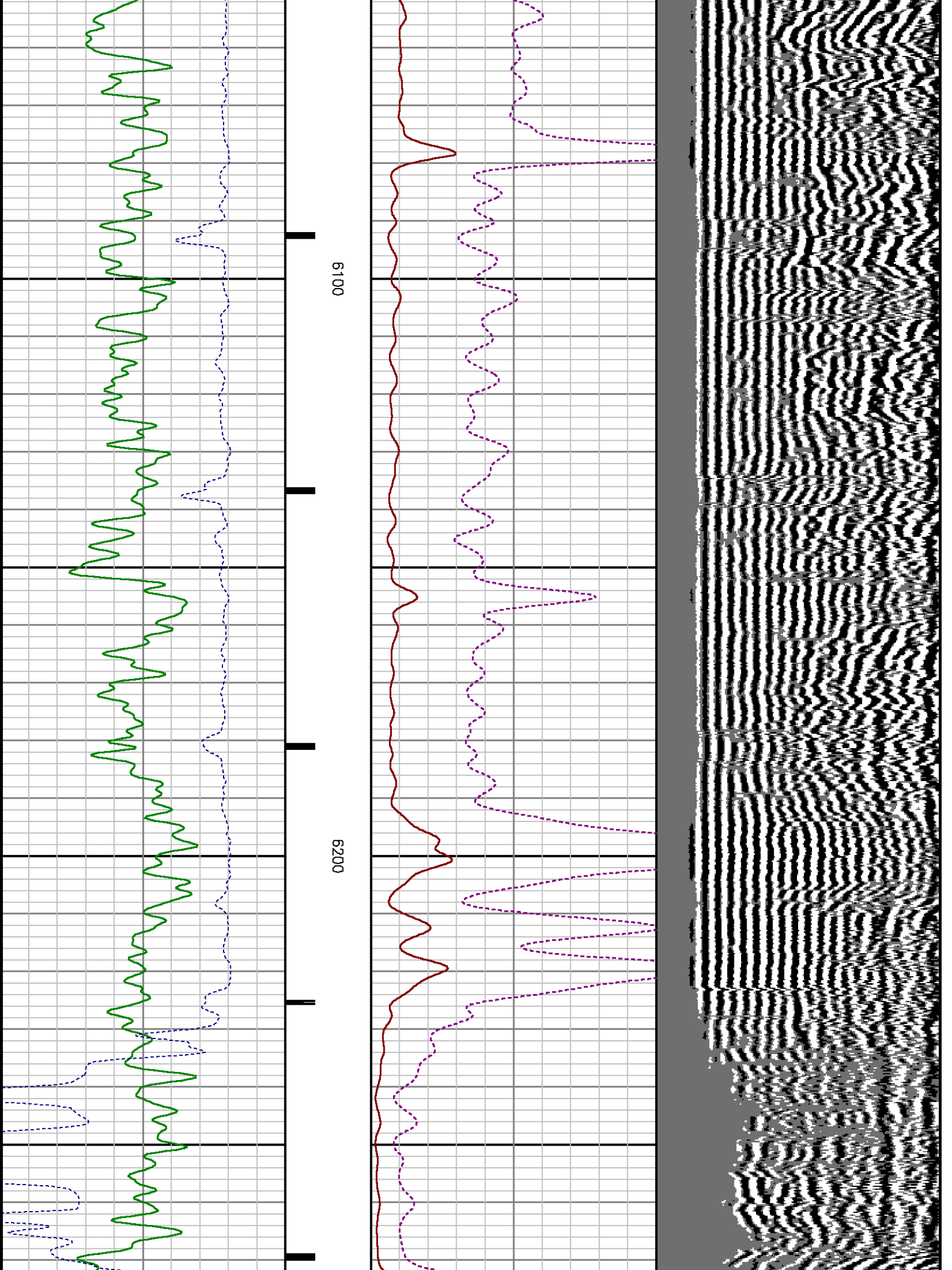


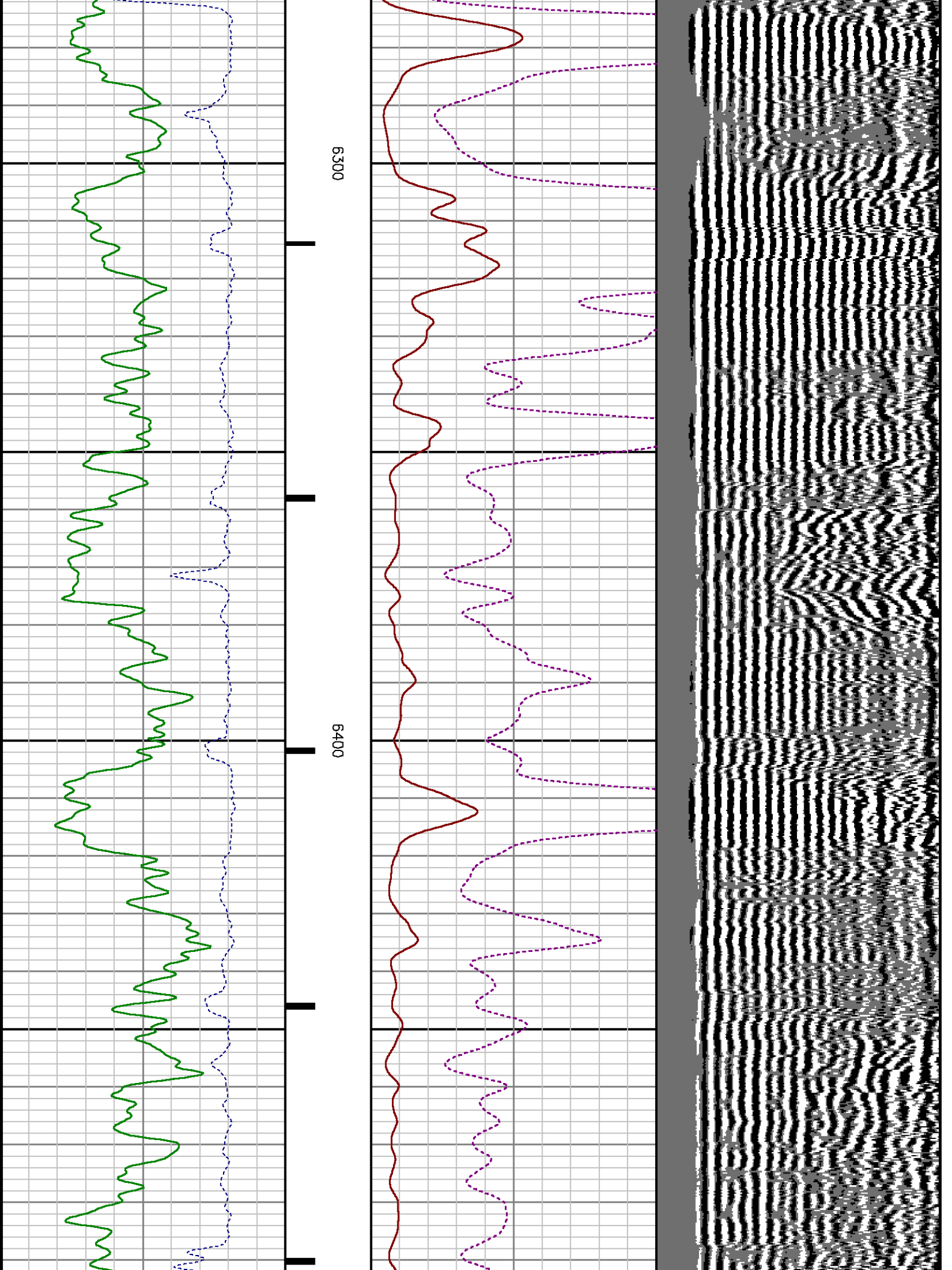


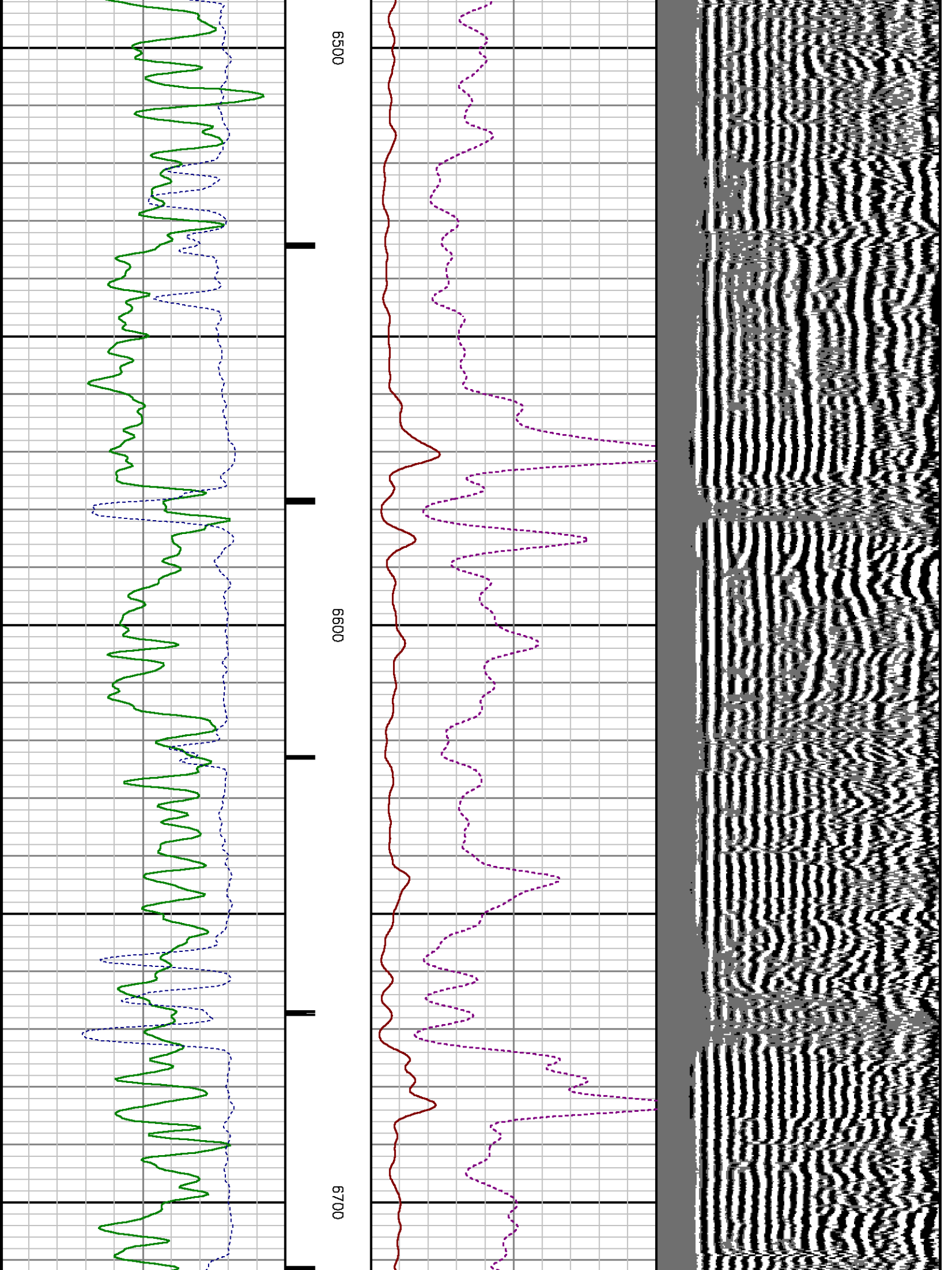


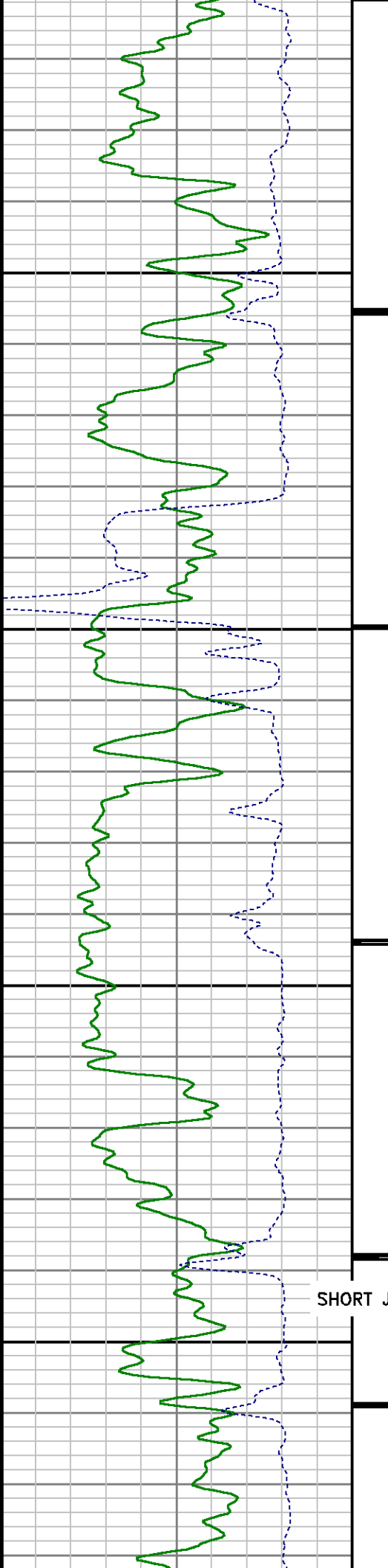








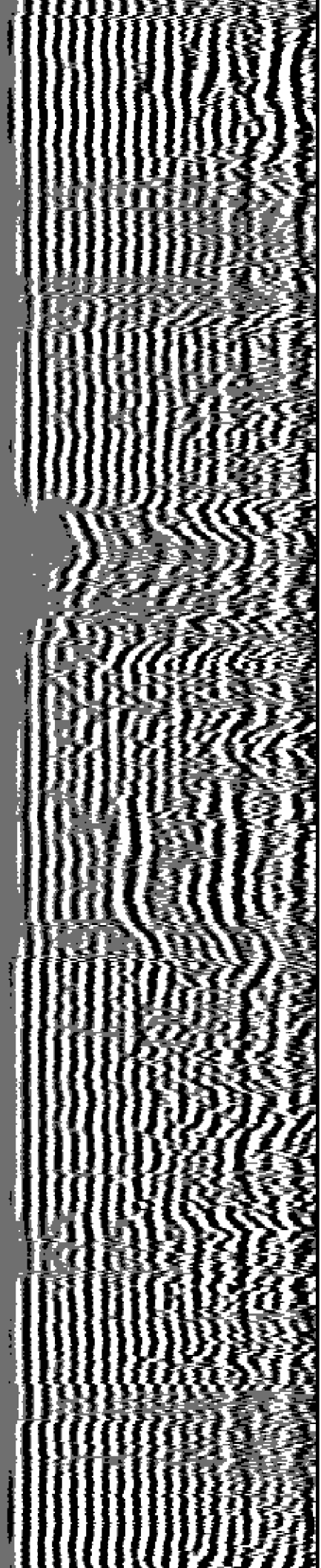
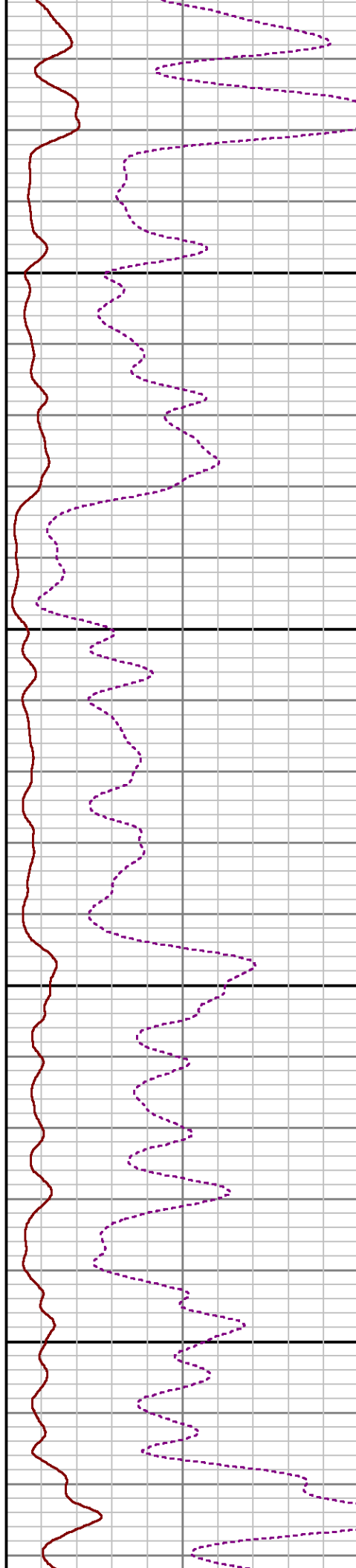


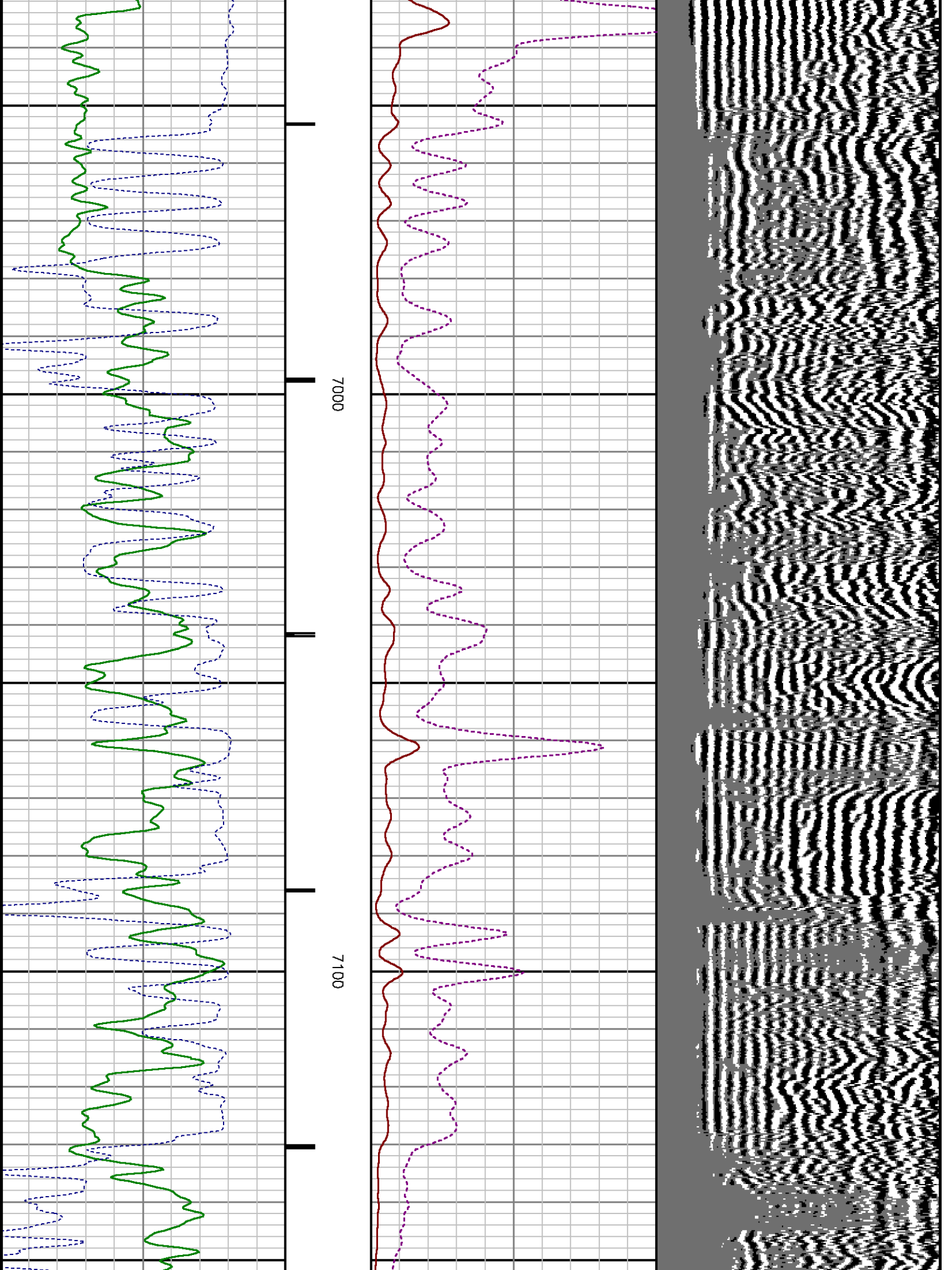


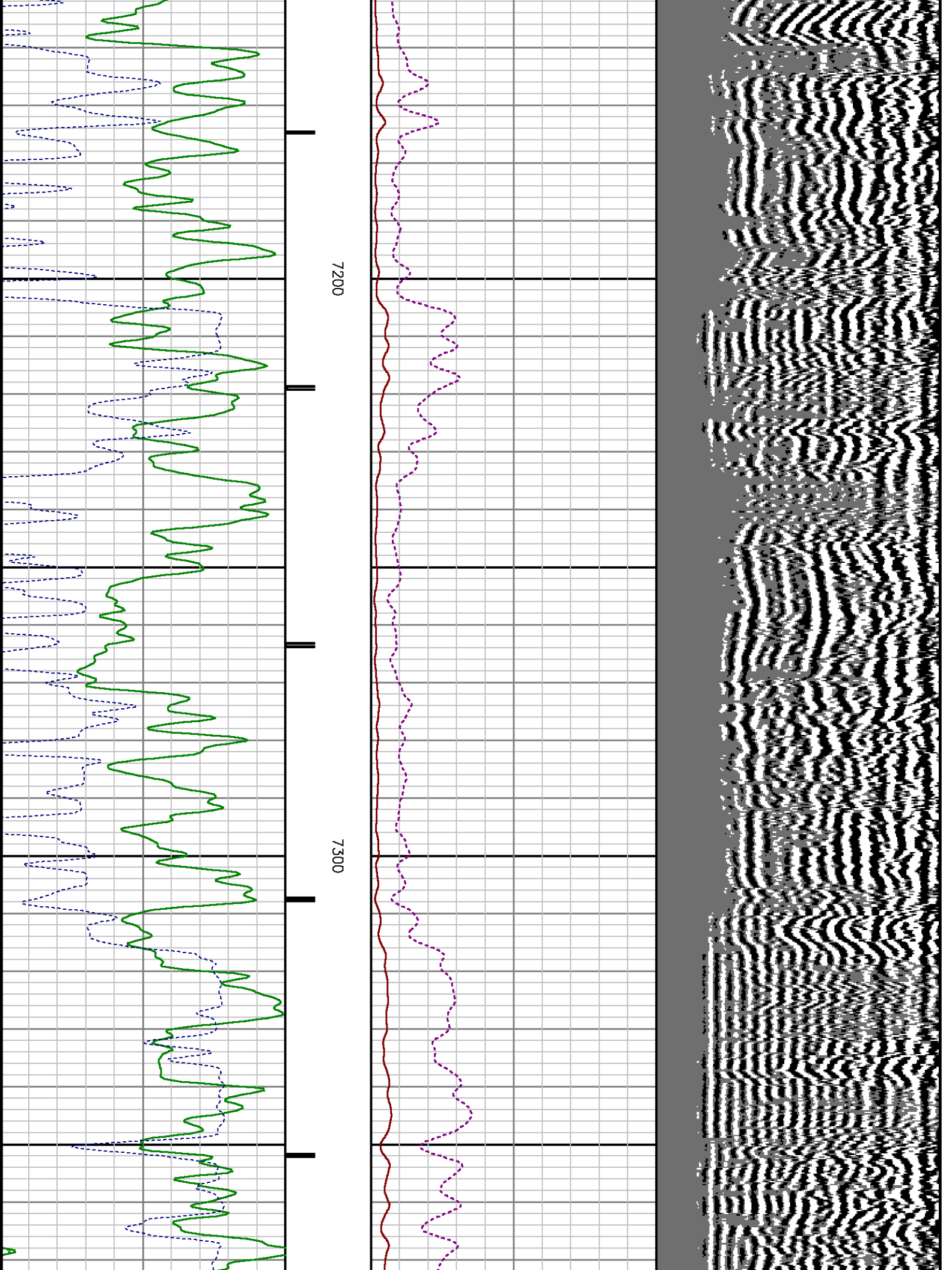
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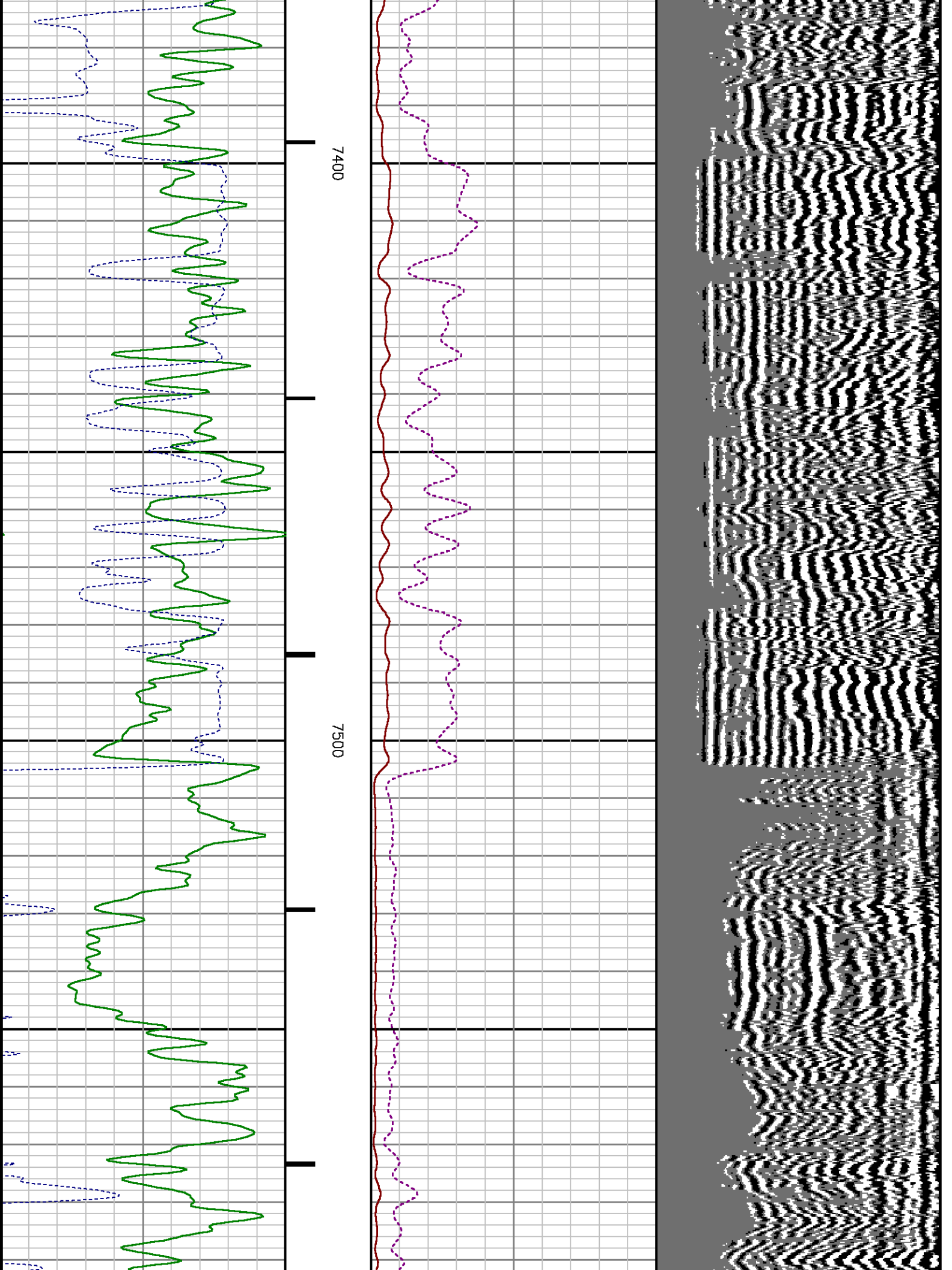
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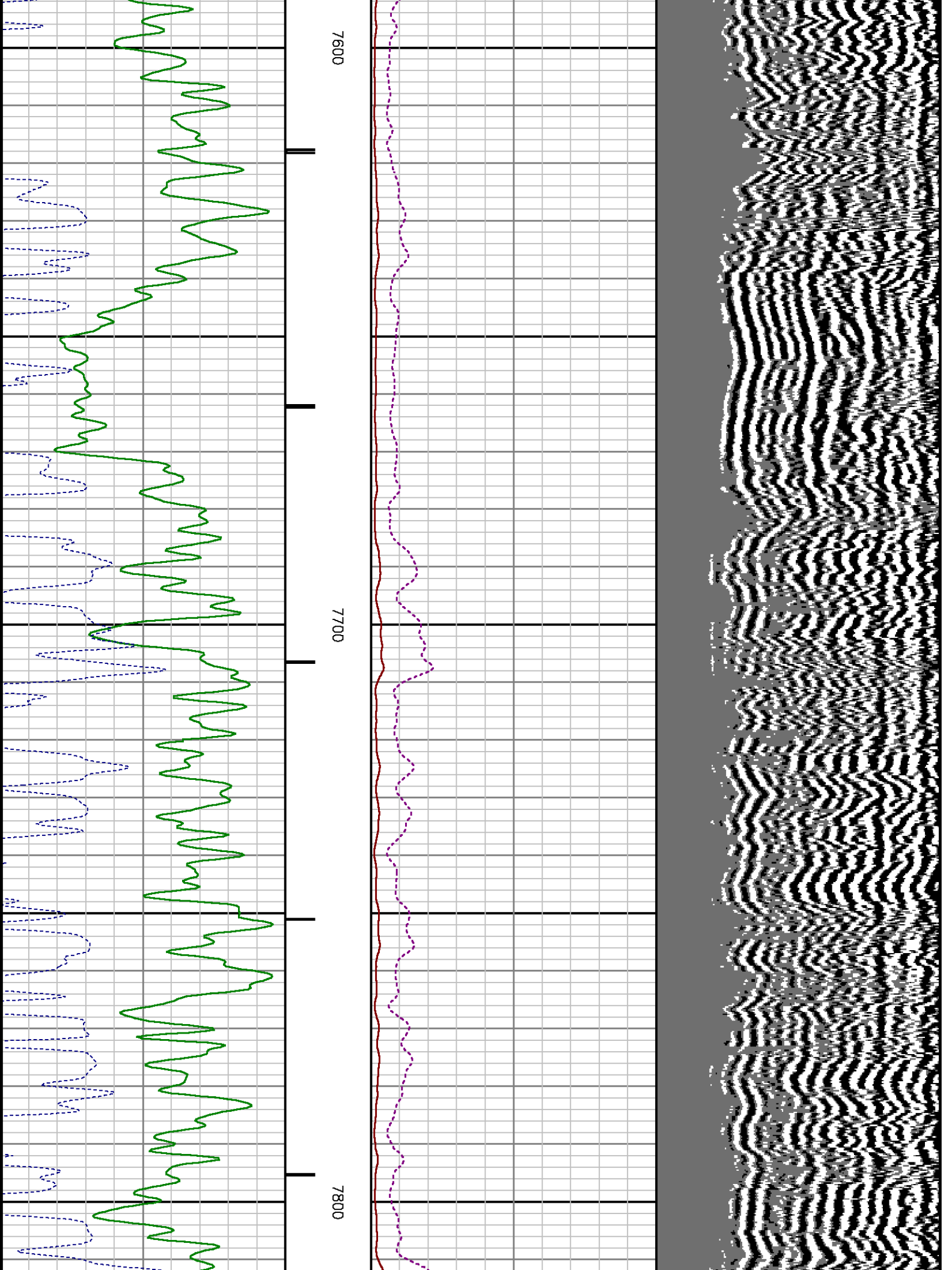
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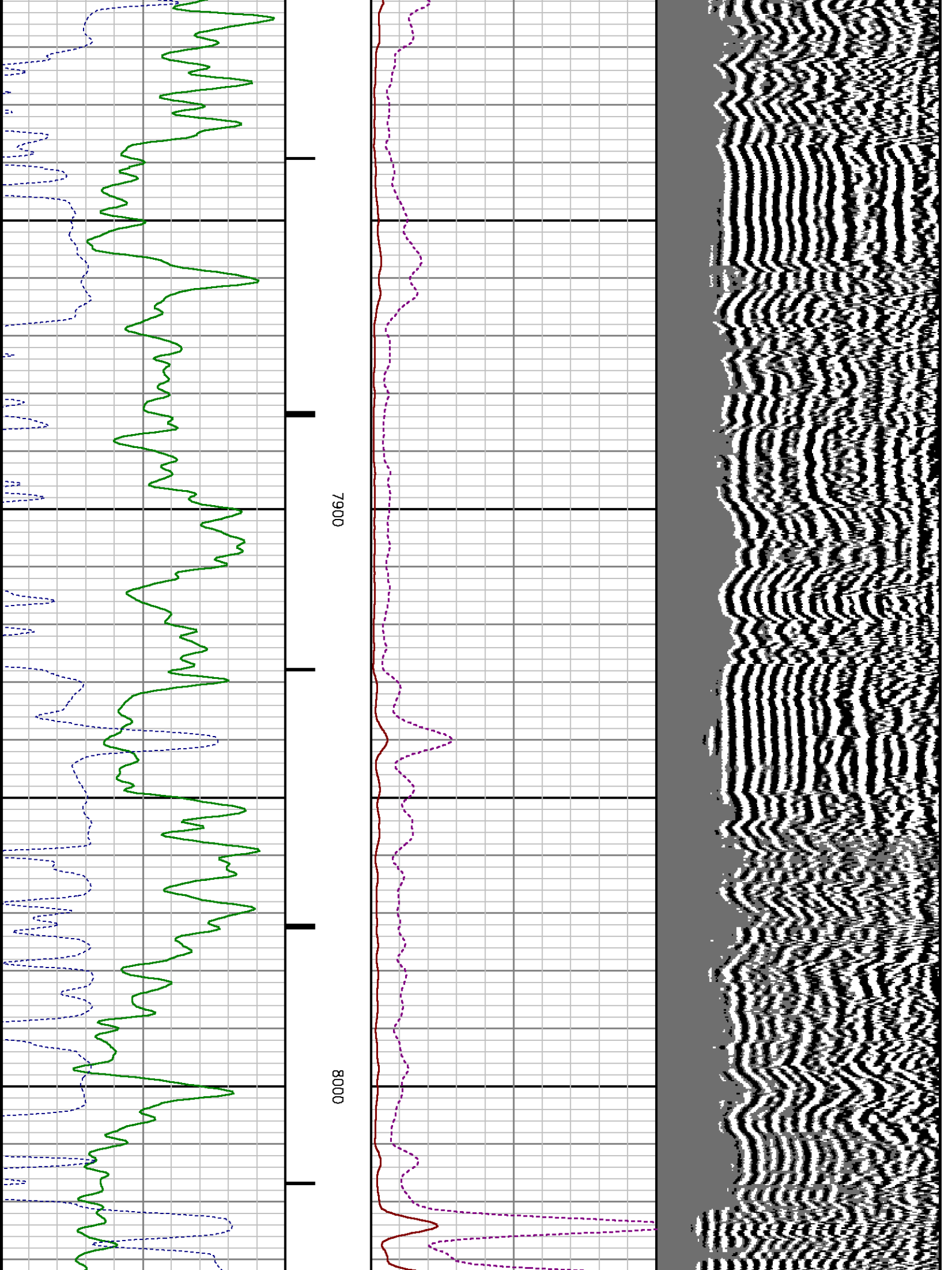


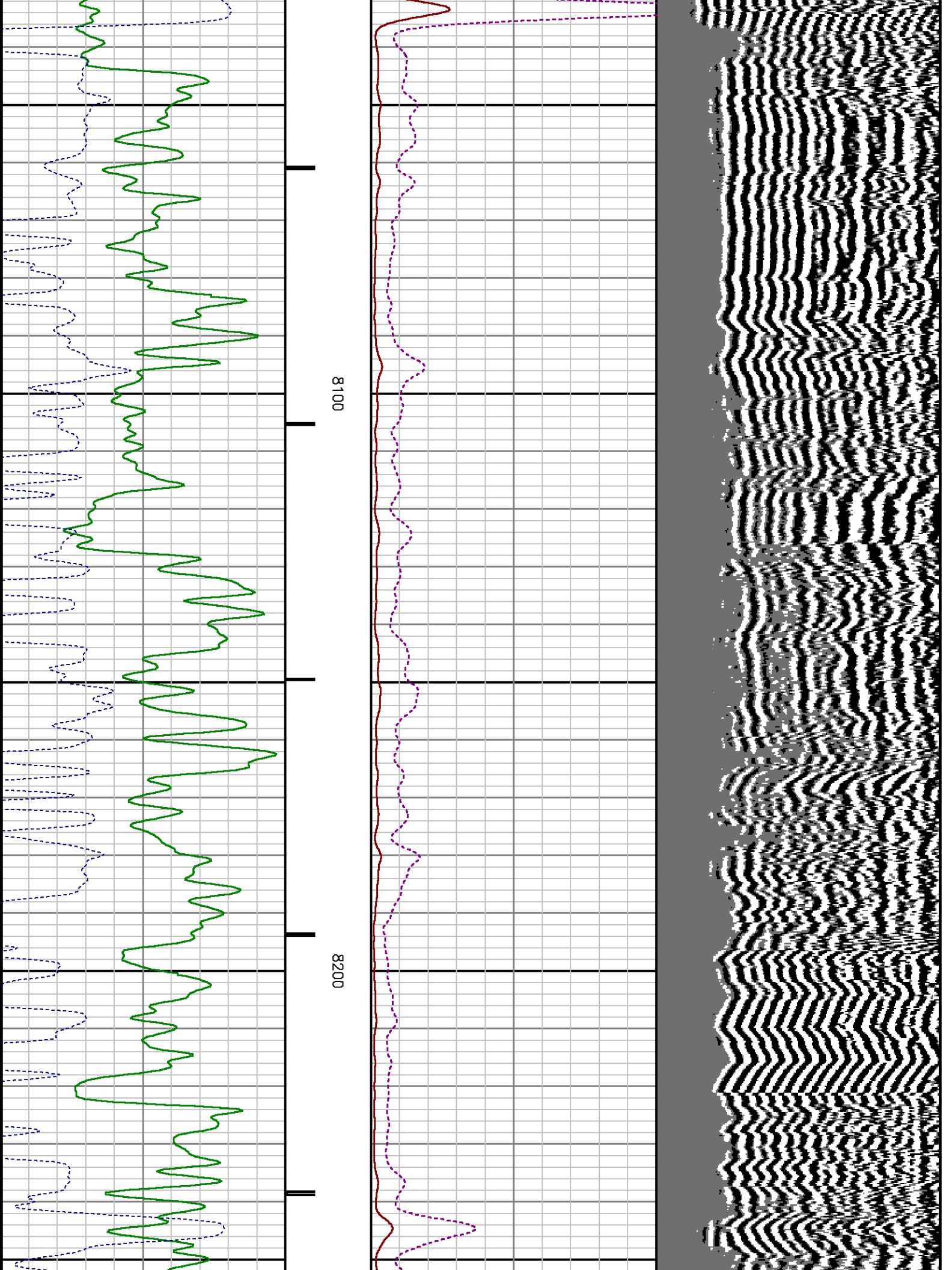


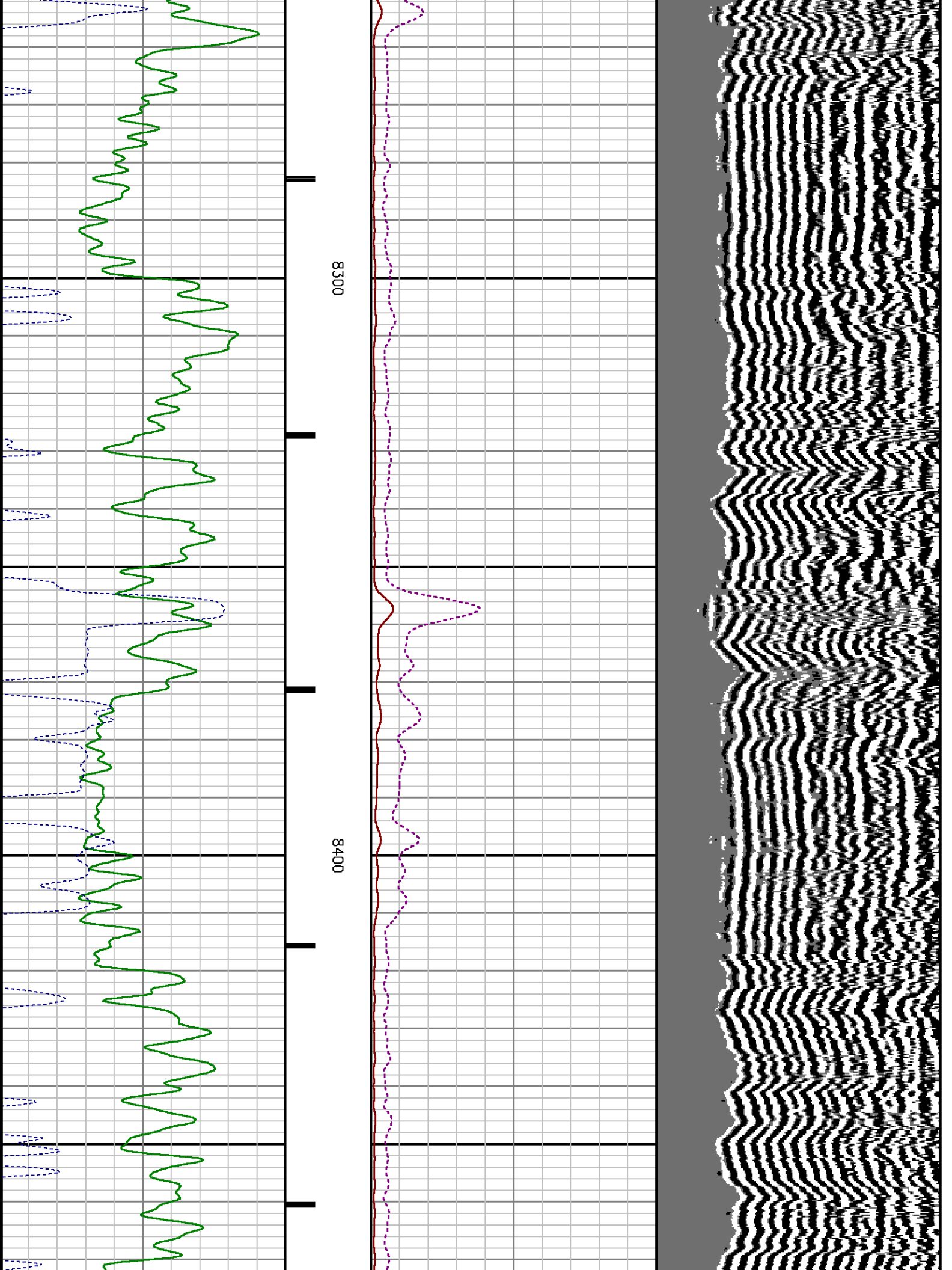


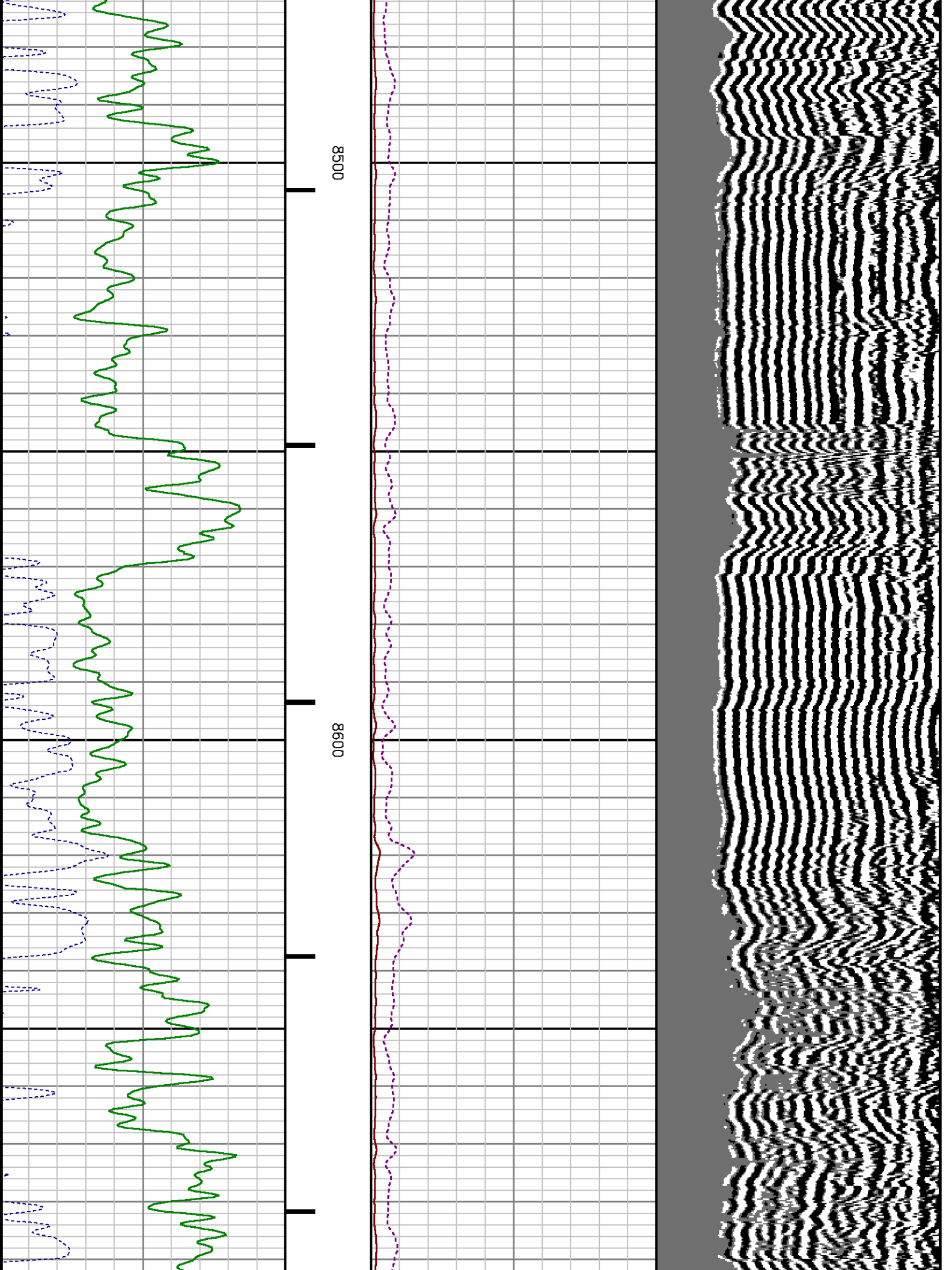


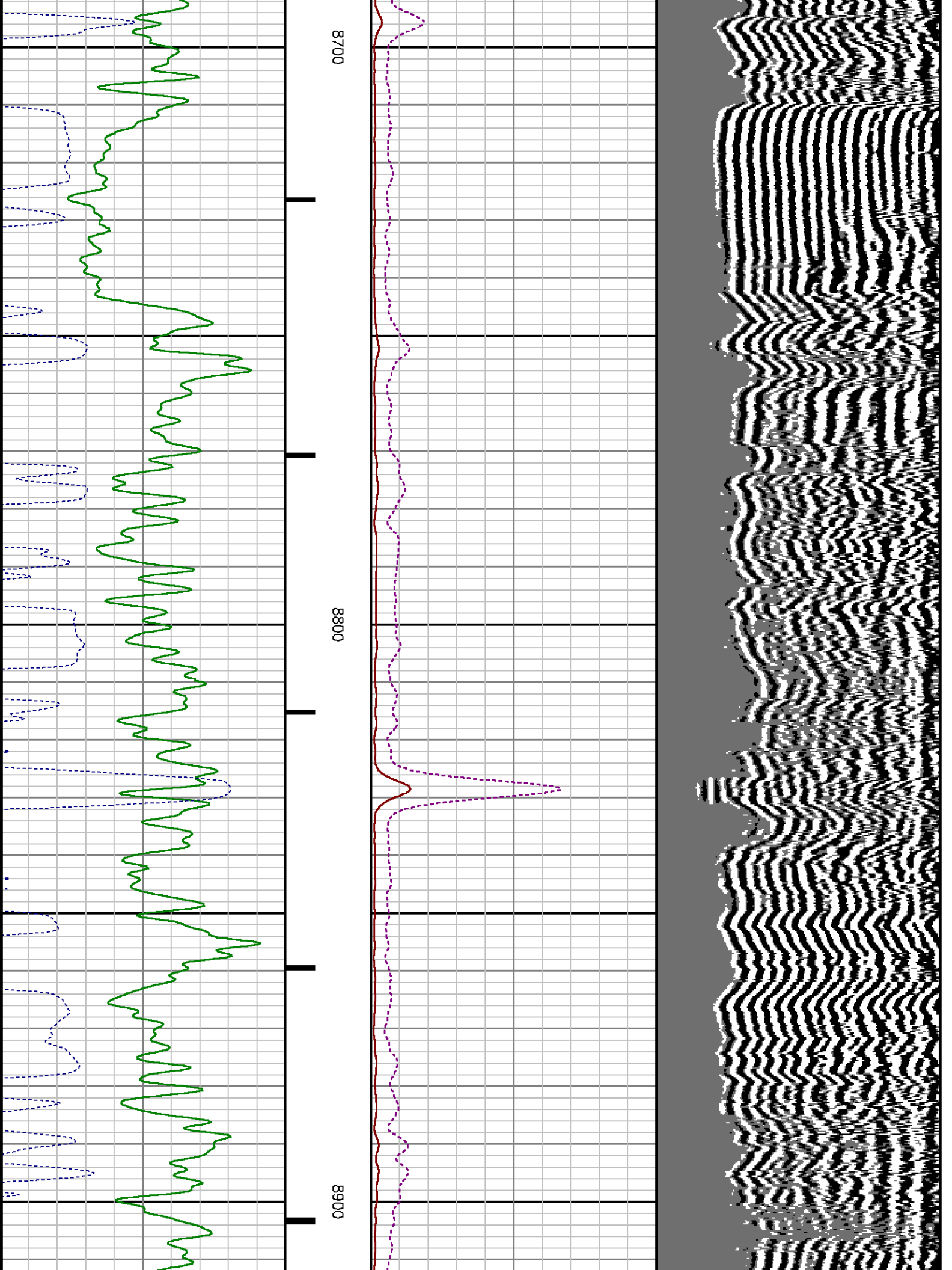


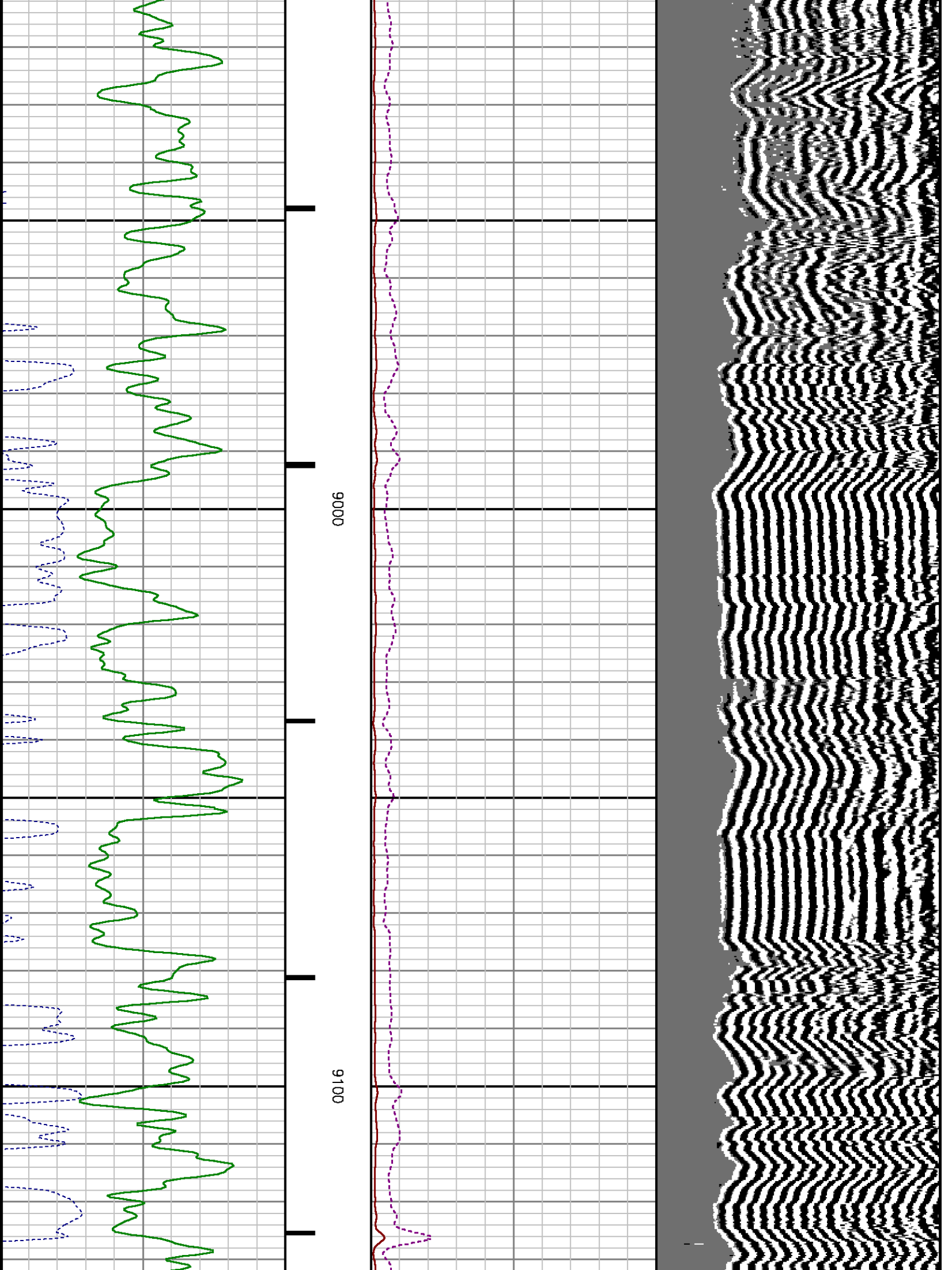


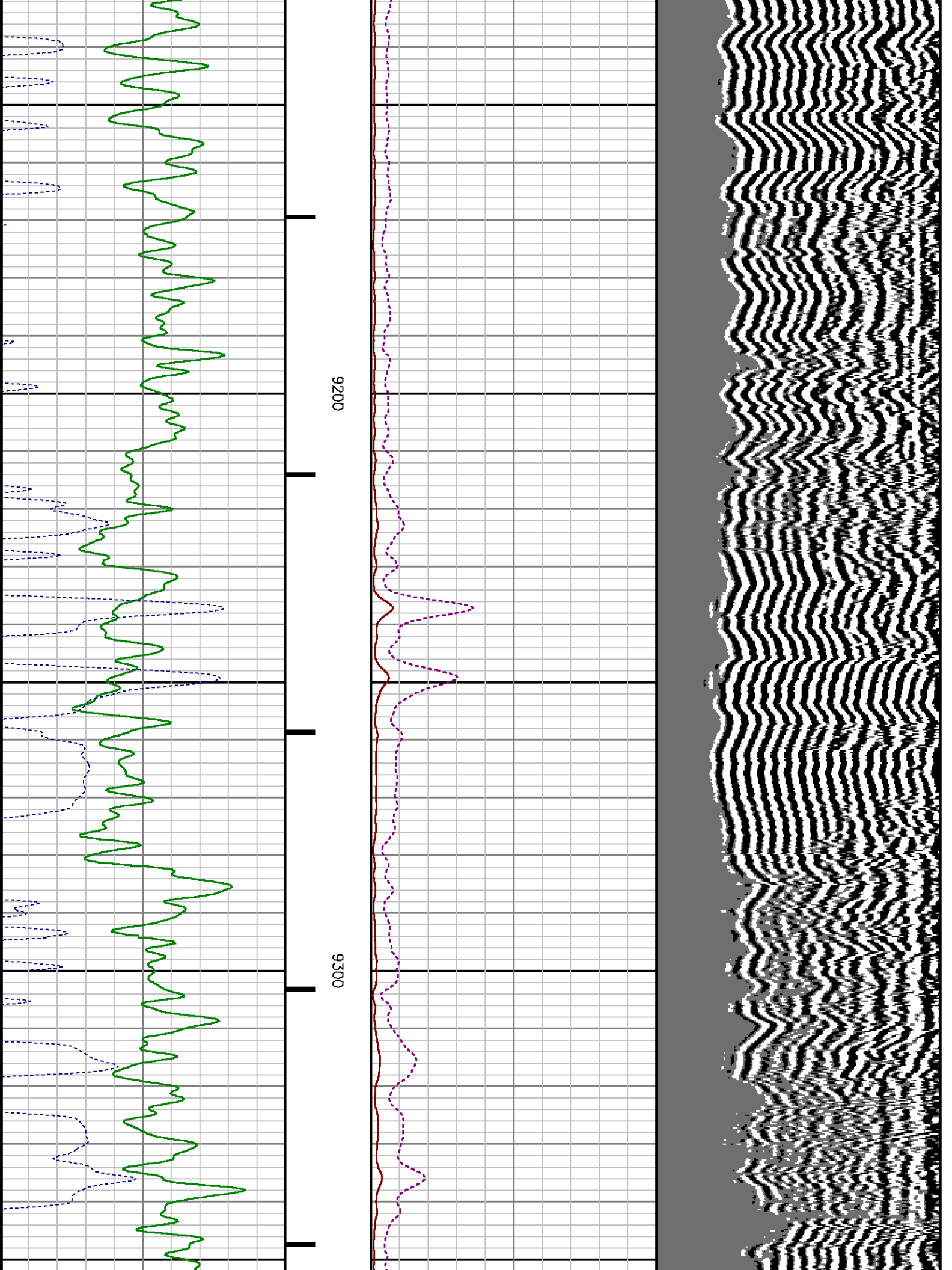


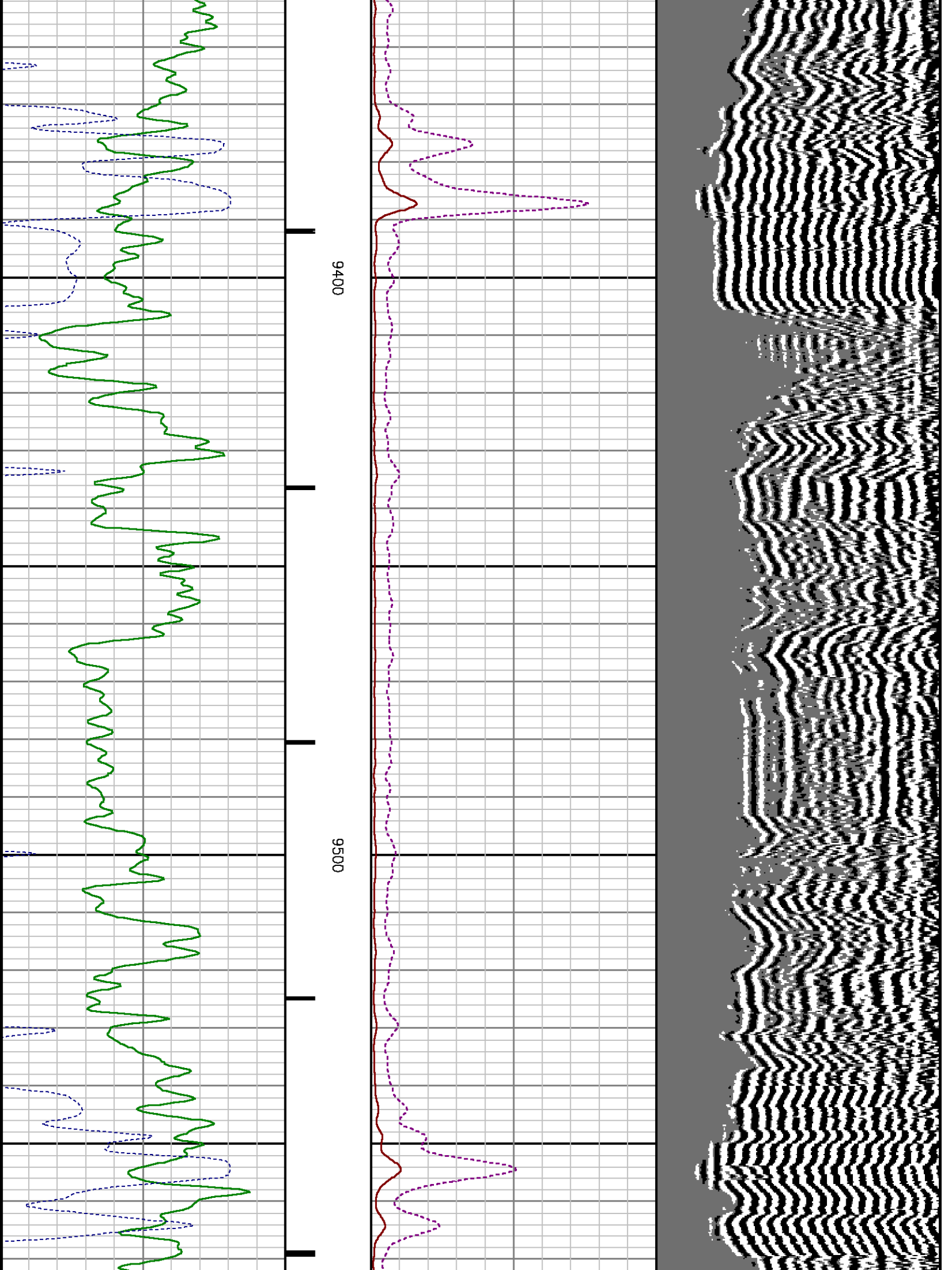


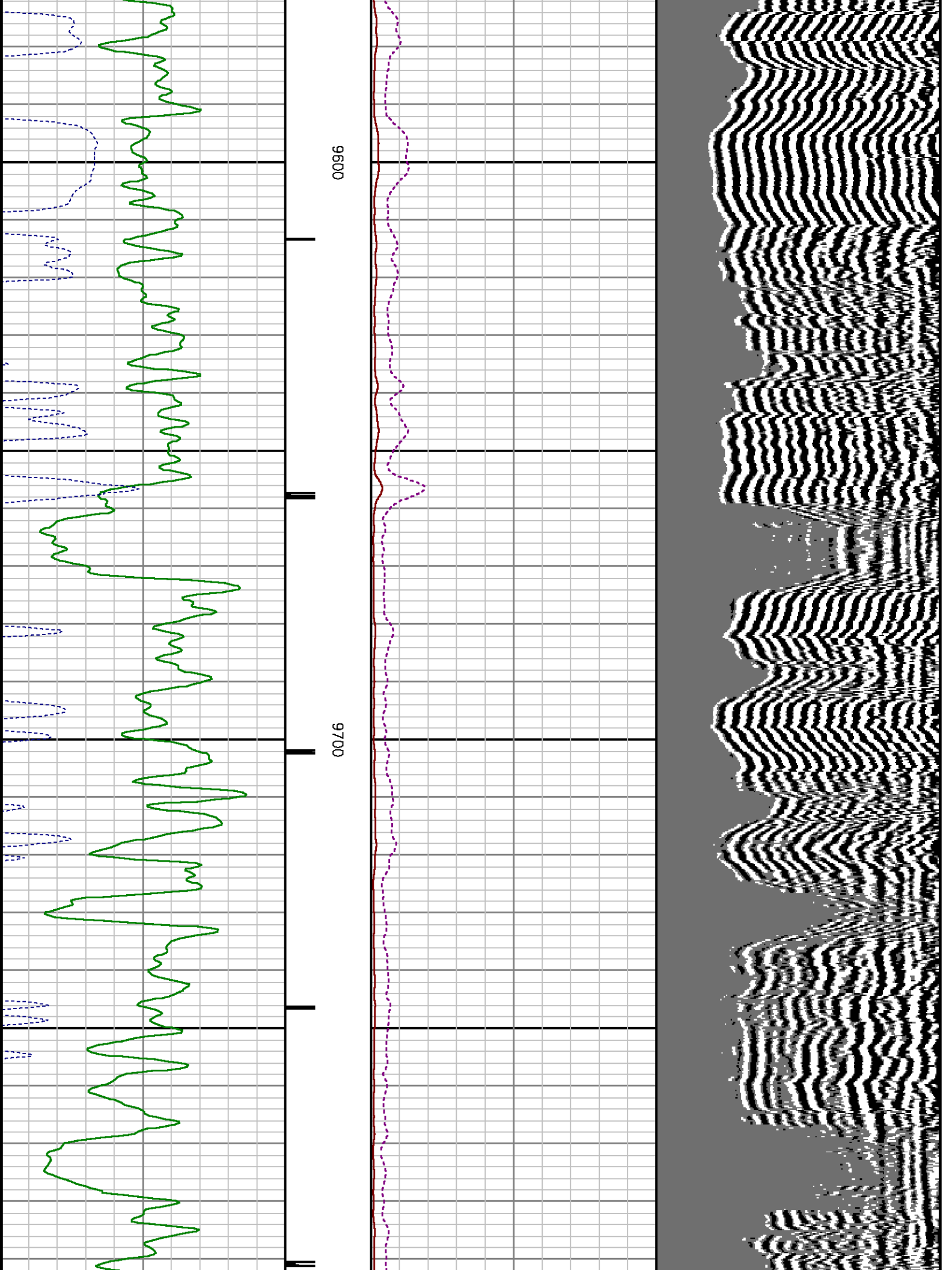


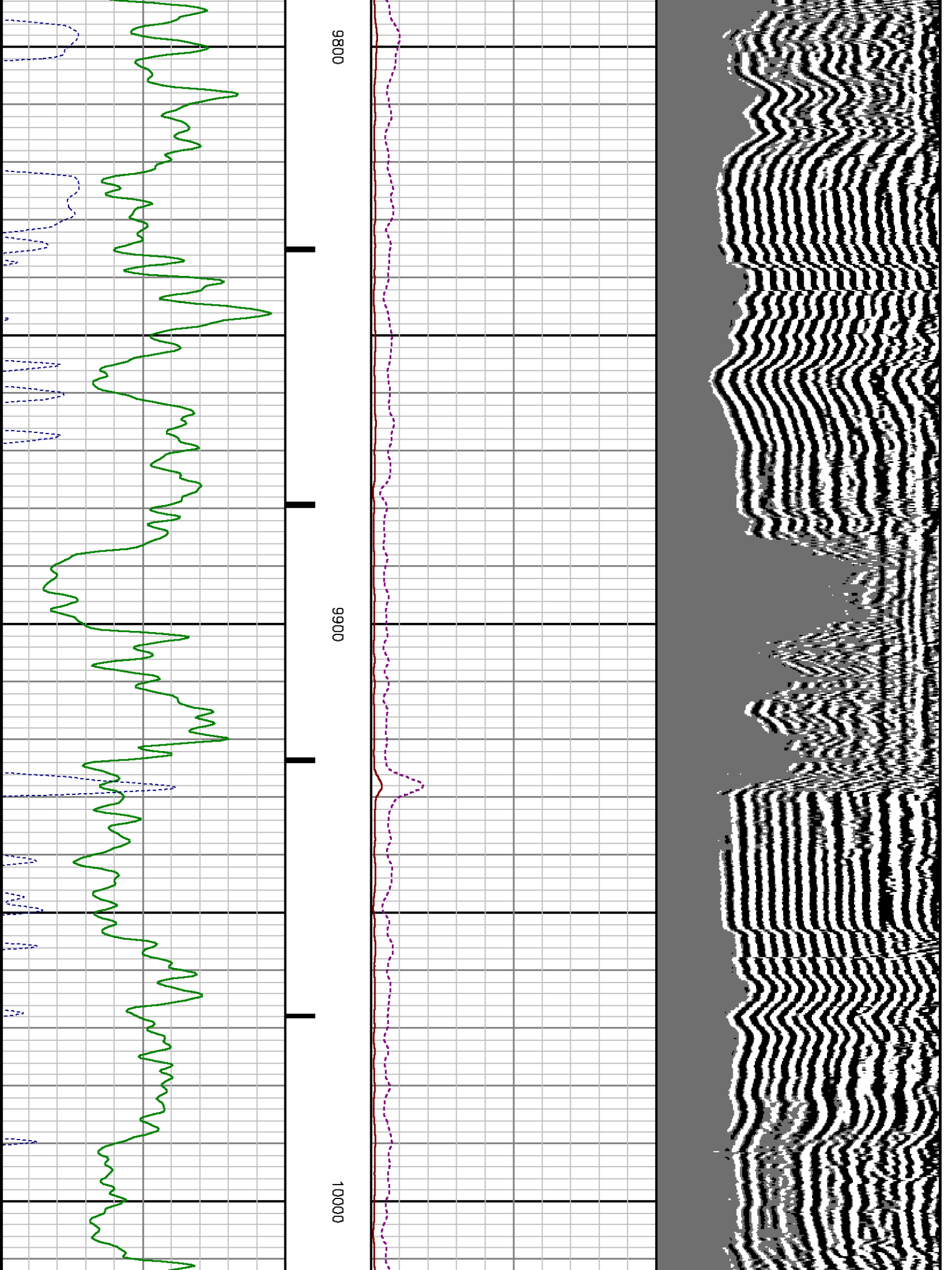


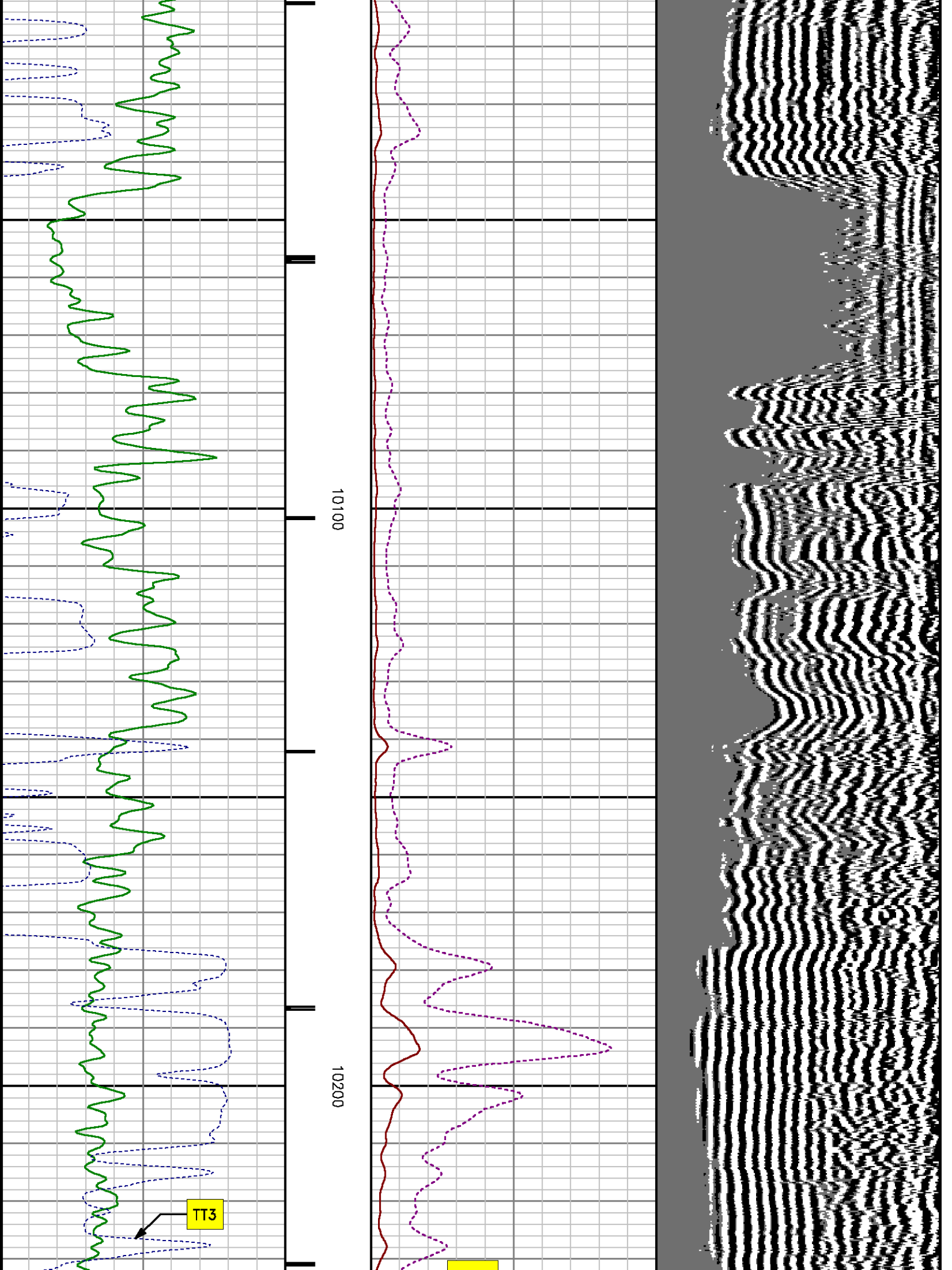


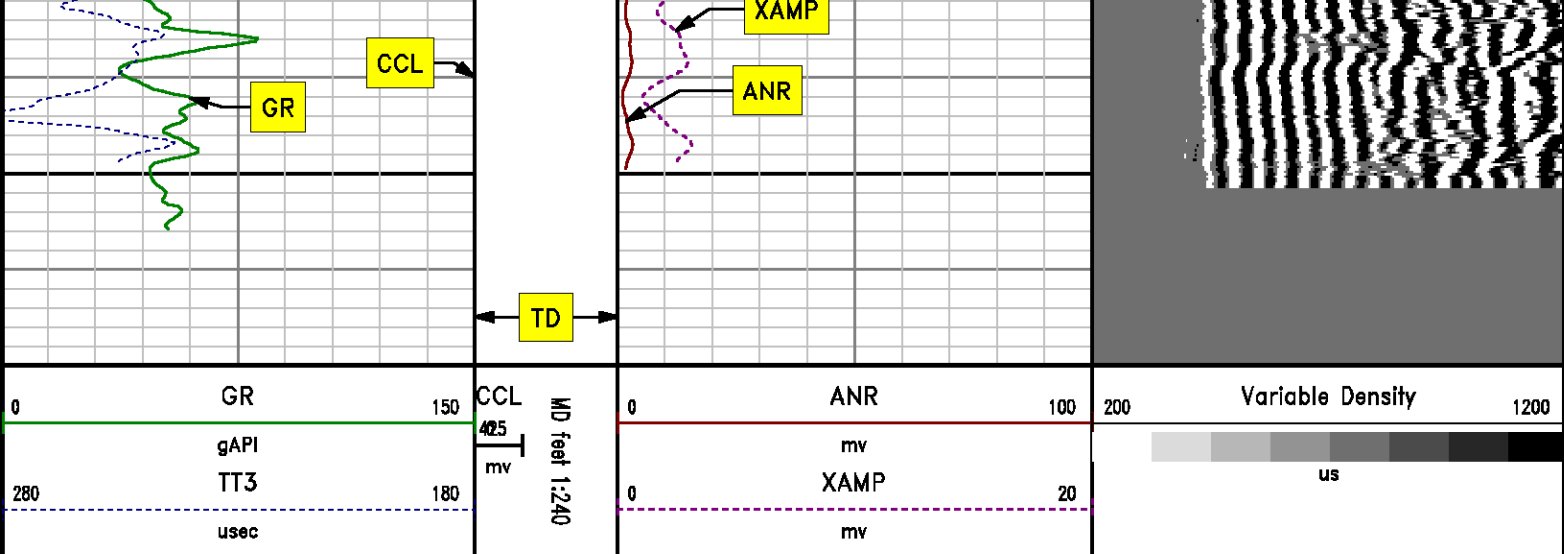












SECONDARY PRESENTATION

0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	u sec	34.155	10275.750
RAL	Amp Gate Start Near	195.000	u sec	34.155	10275.750
RAL	Amp Gate Start Radial	195.000	u sec	34.155	10275.750
RAL	Amp Gate Width Far	25.000	u sec	34.155	10275.750
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RAL	FB Thresh Radial	4.000	mv	34.155	10275.750
RAL	Fluid Travel Time	200.000	u sec/ft	34.155	10270.405

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

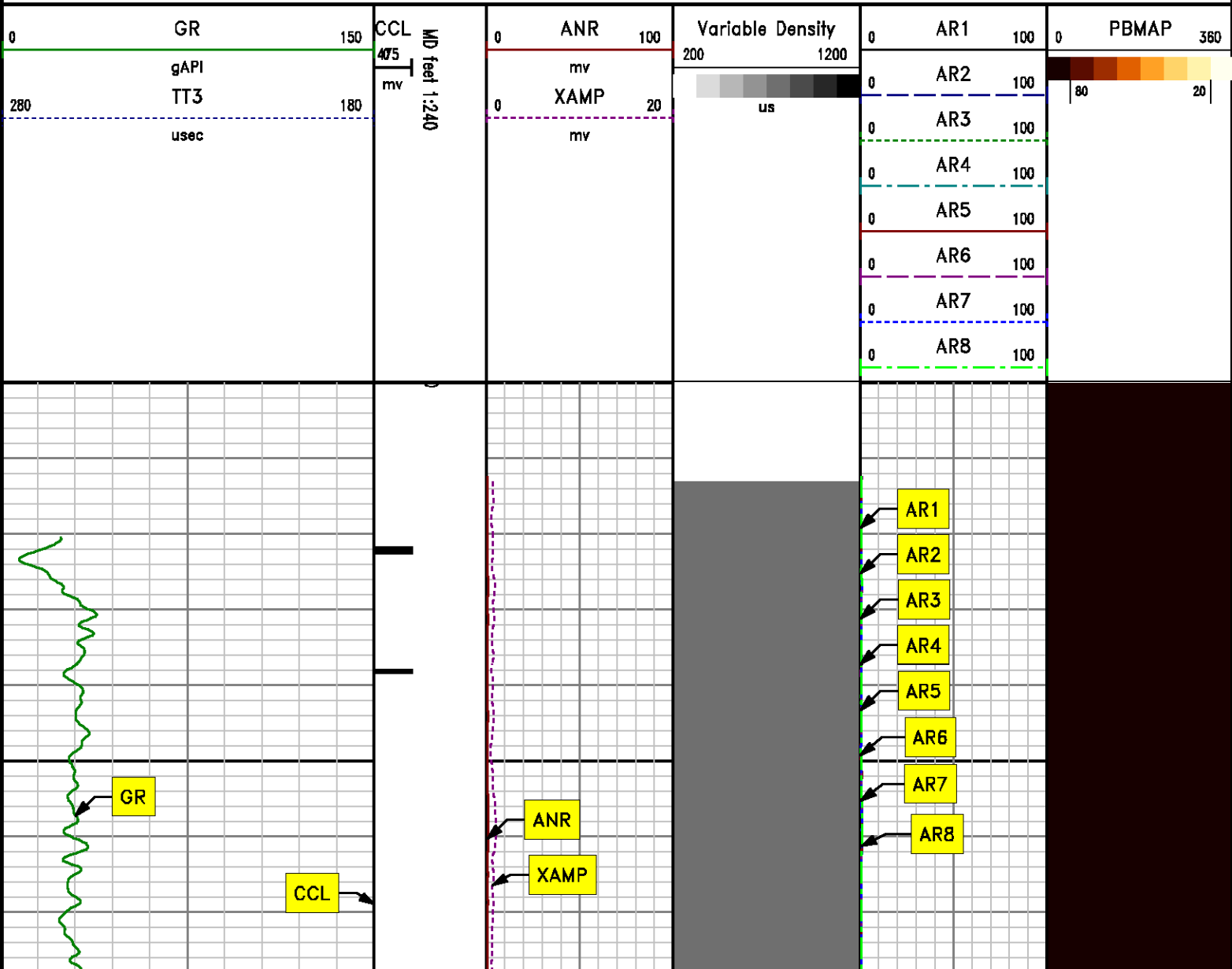
Well : FEDERAL NER 444-32

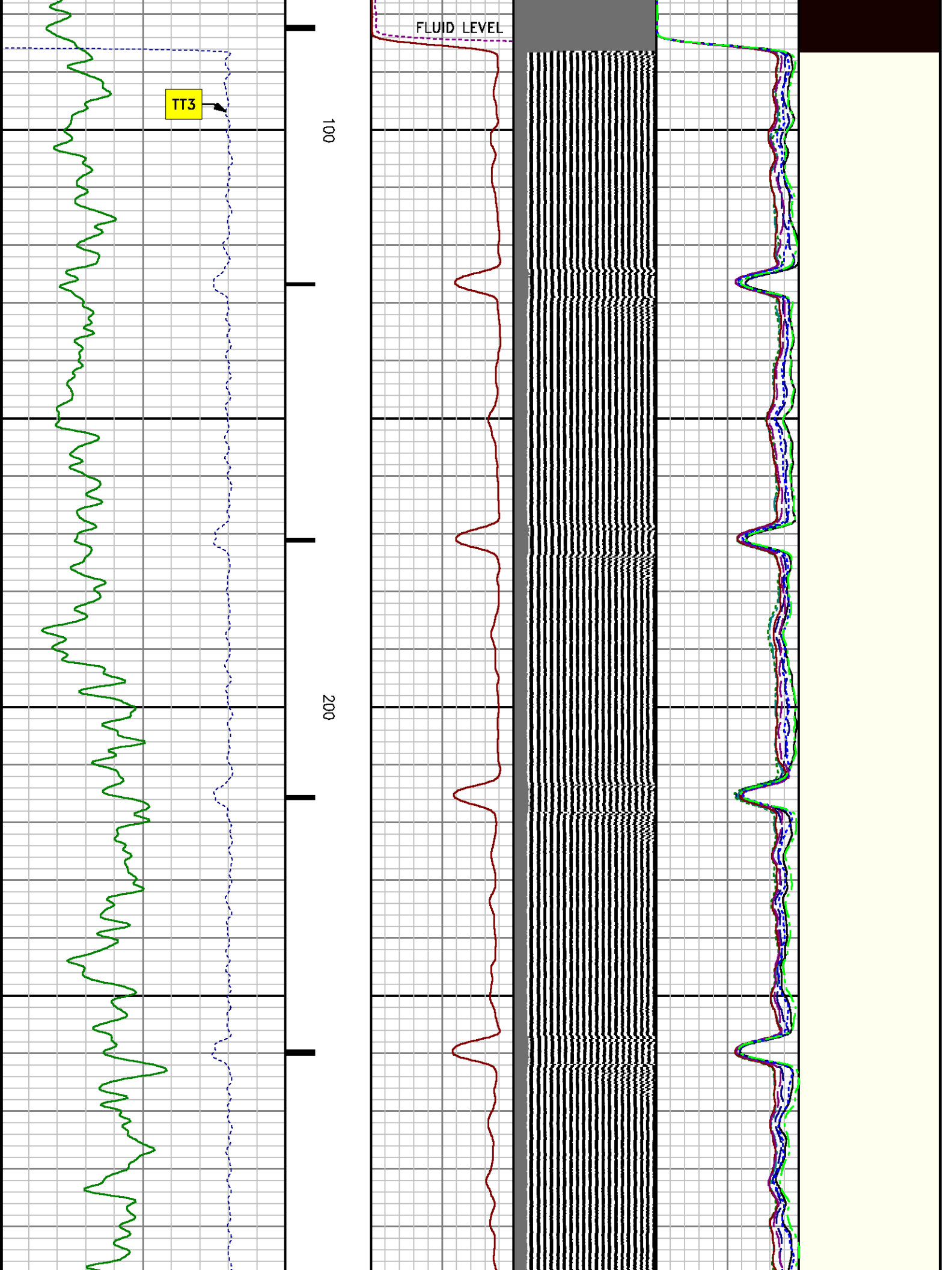
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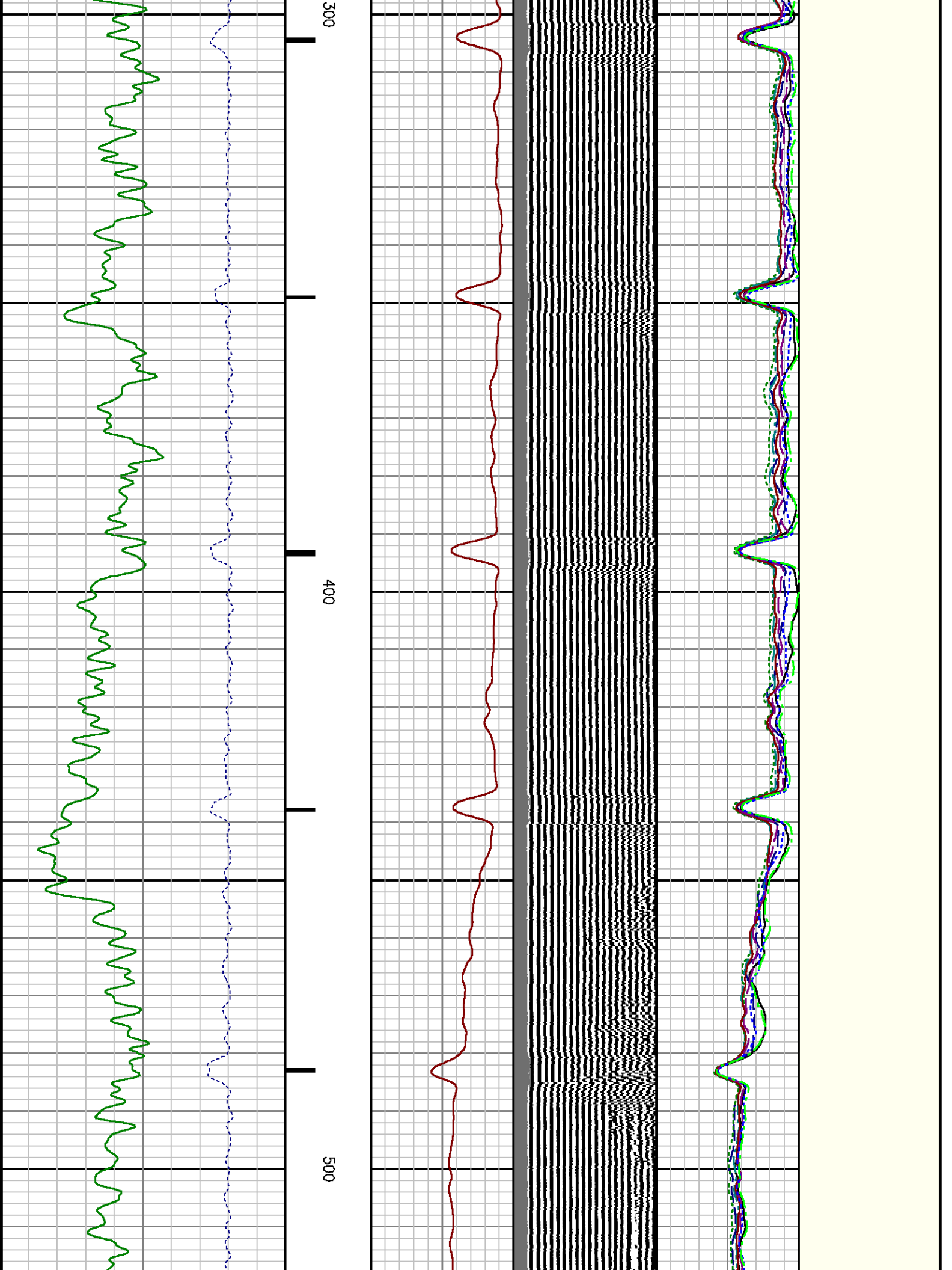
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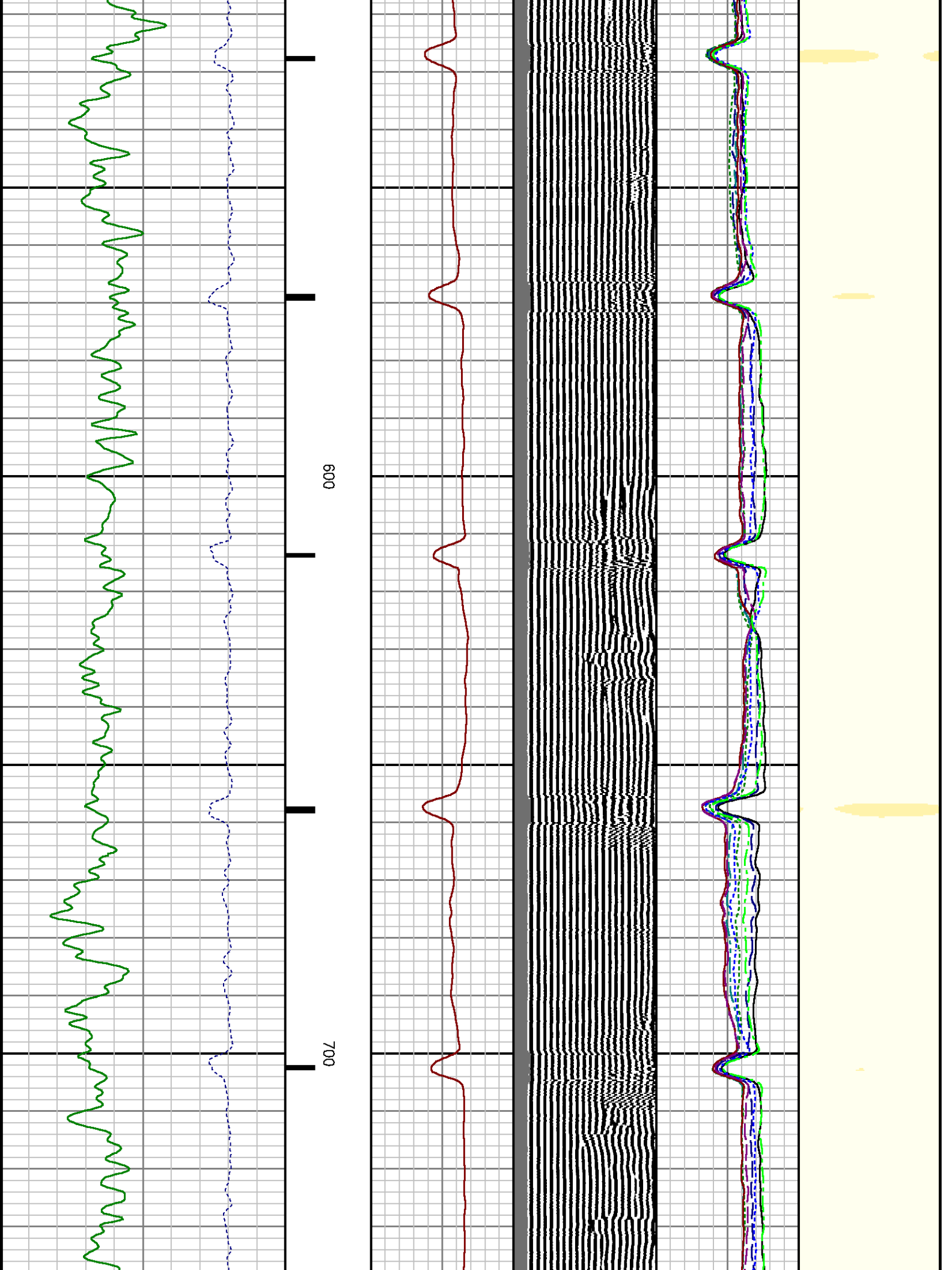
Interval : 0.00 - 10270.00 feet UP

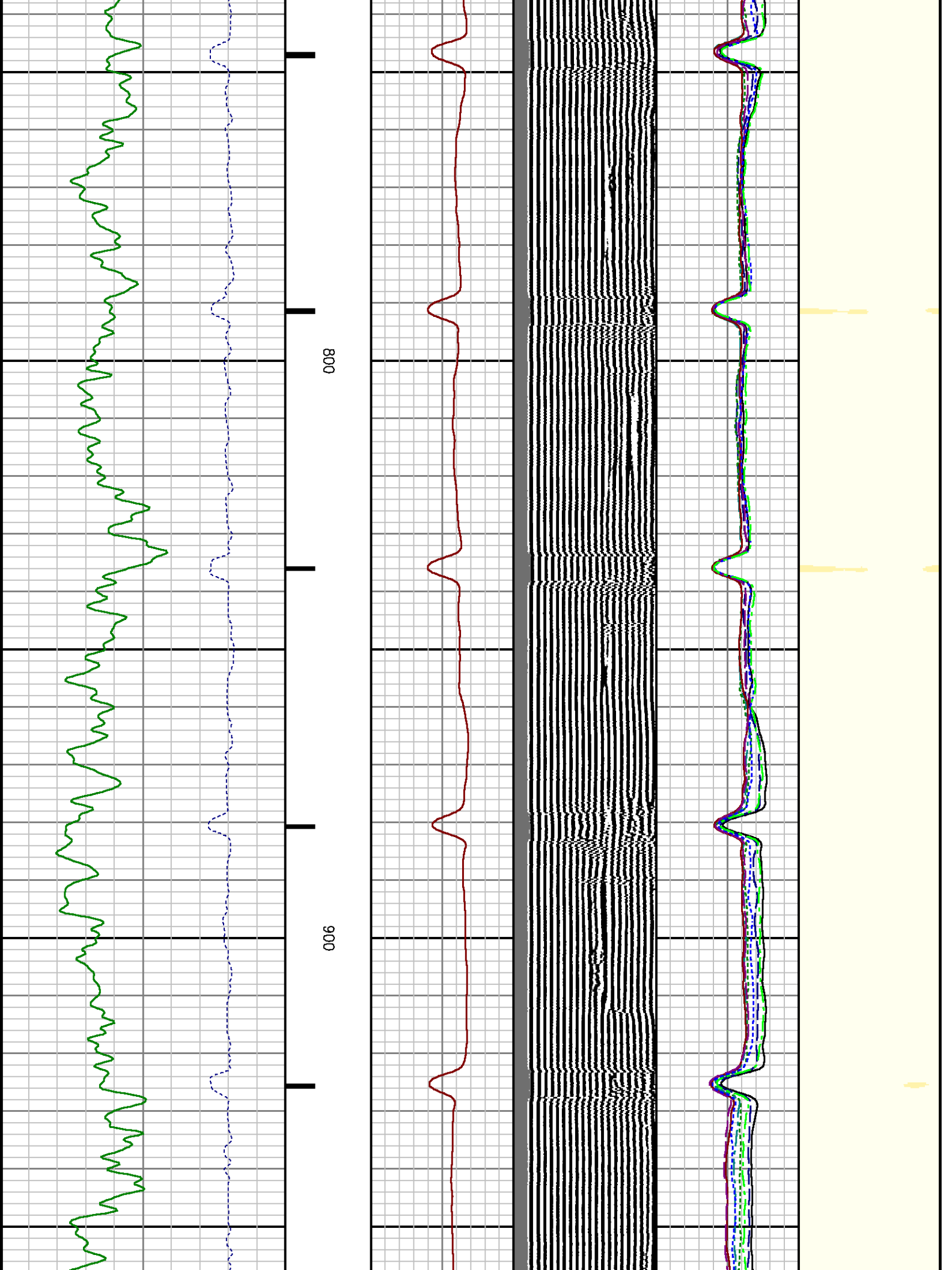
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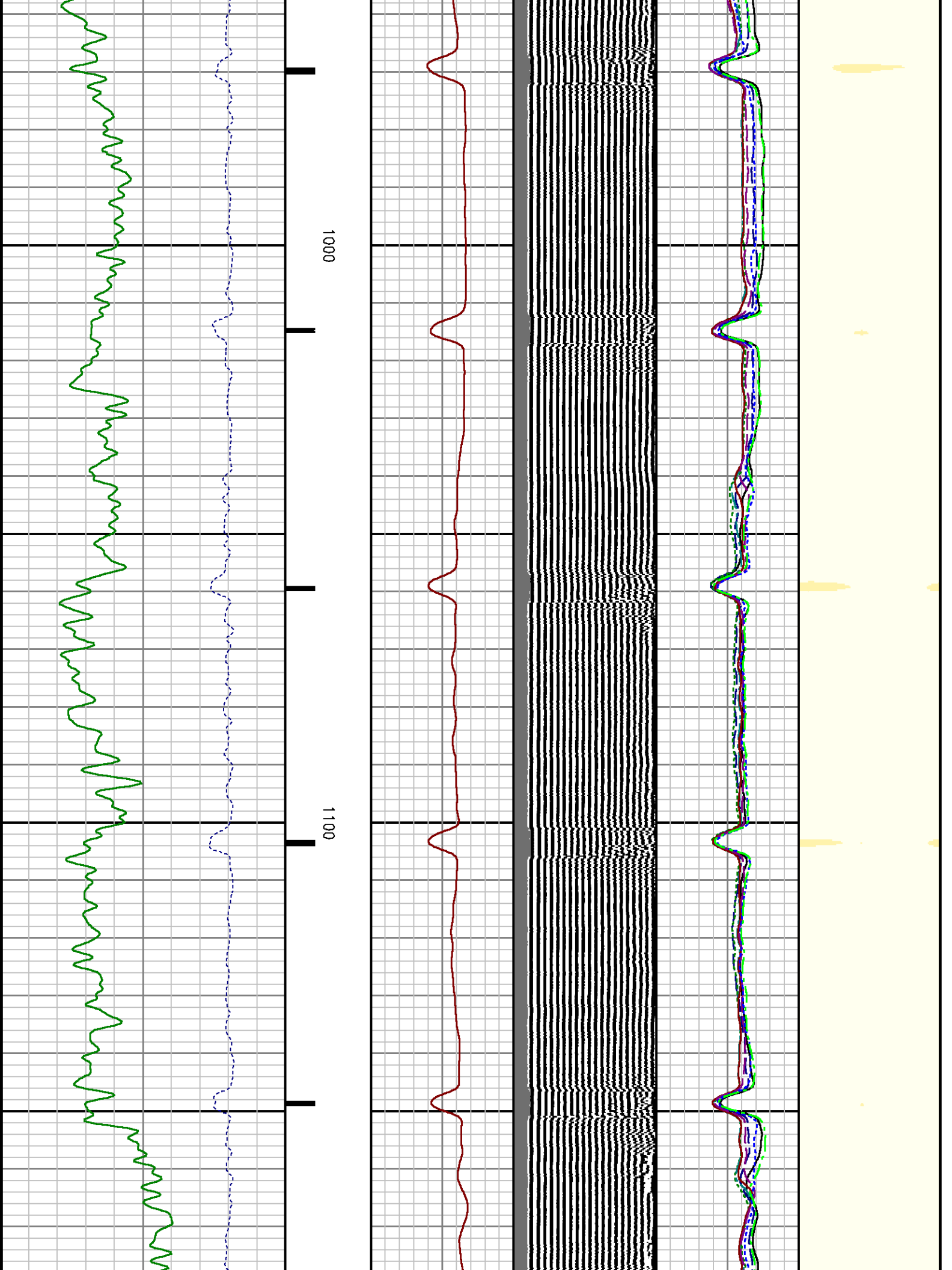


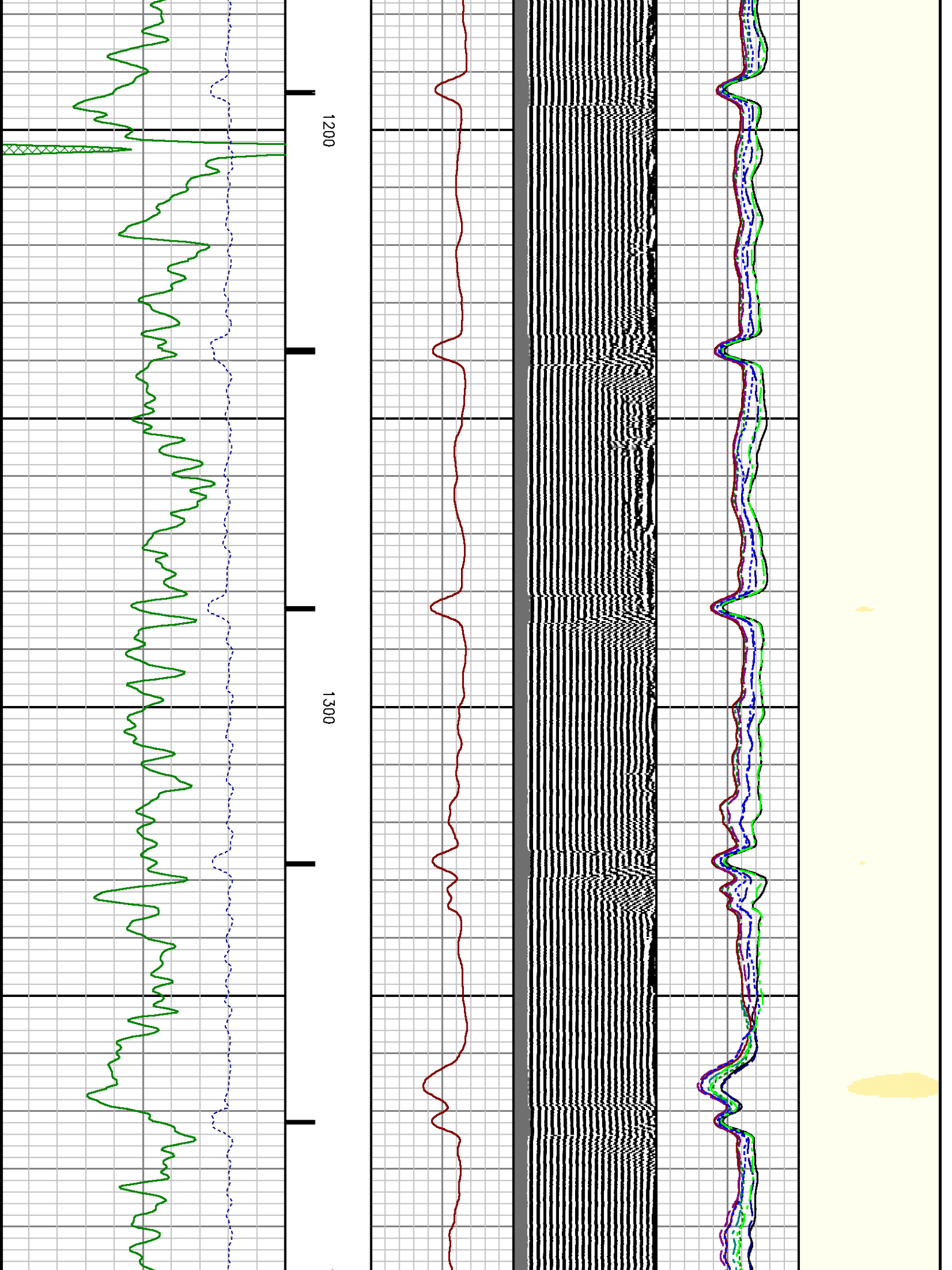


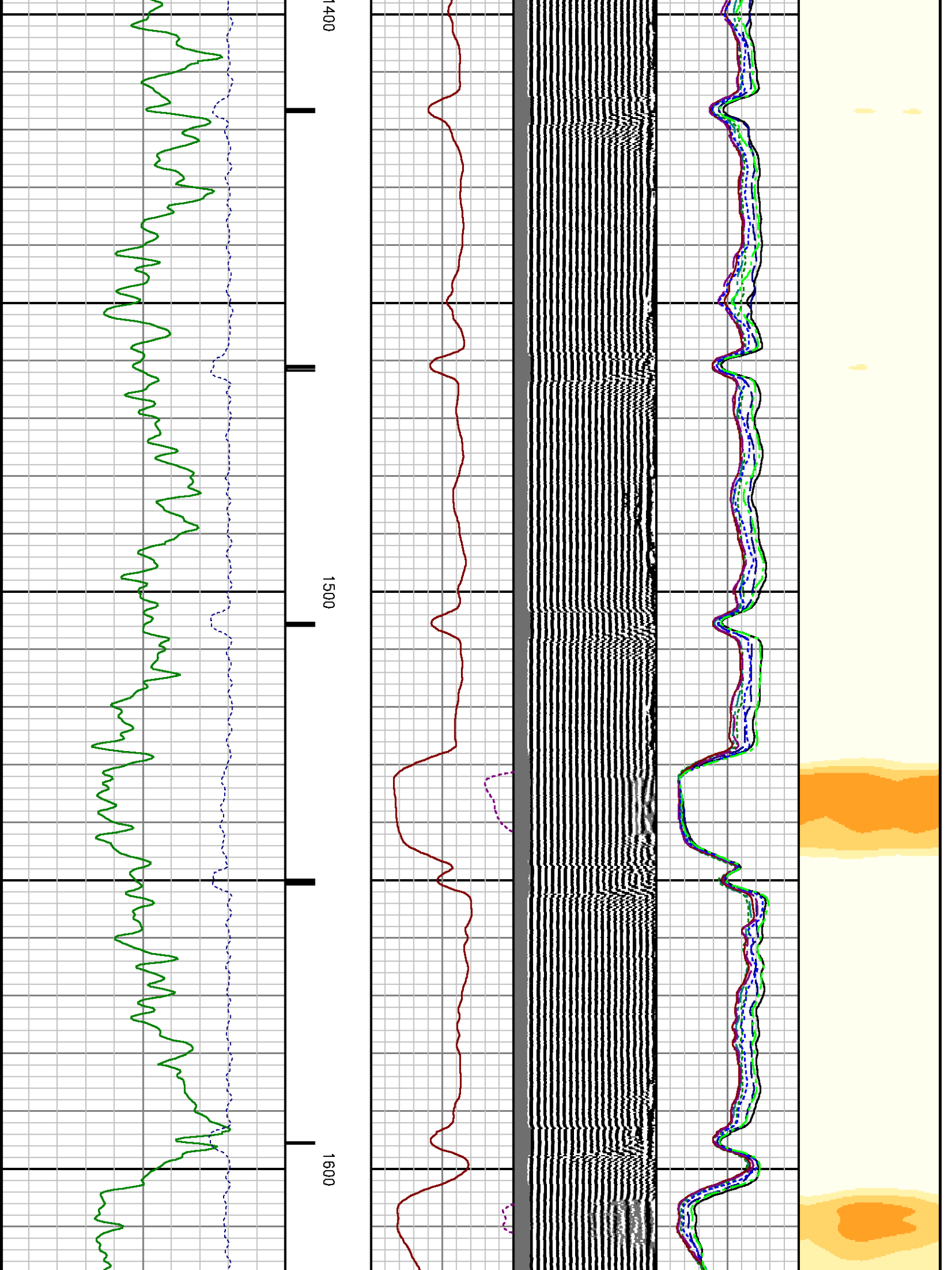


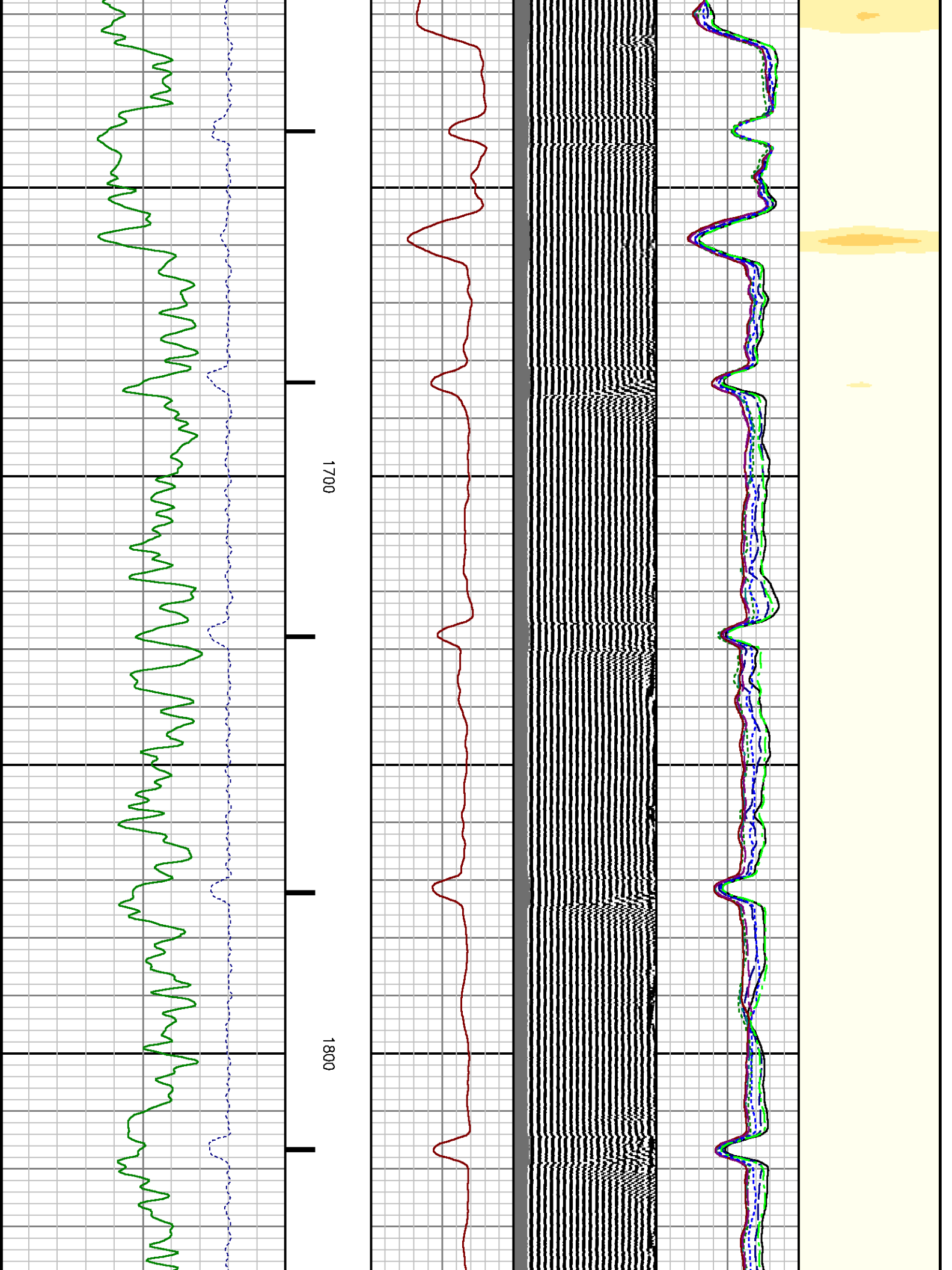


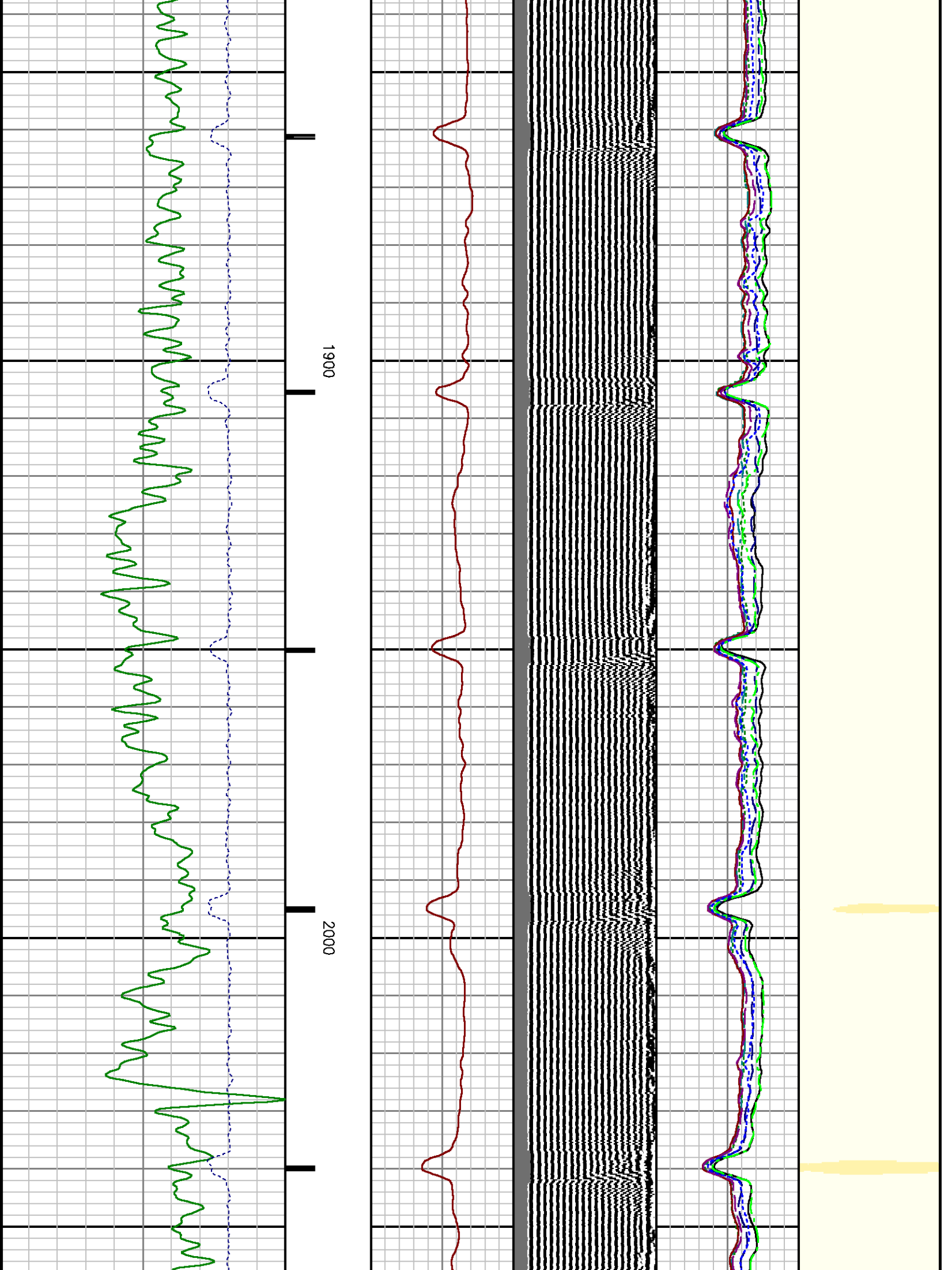


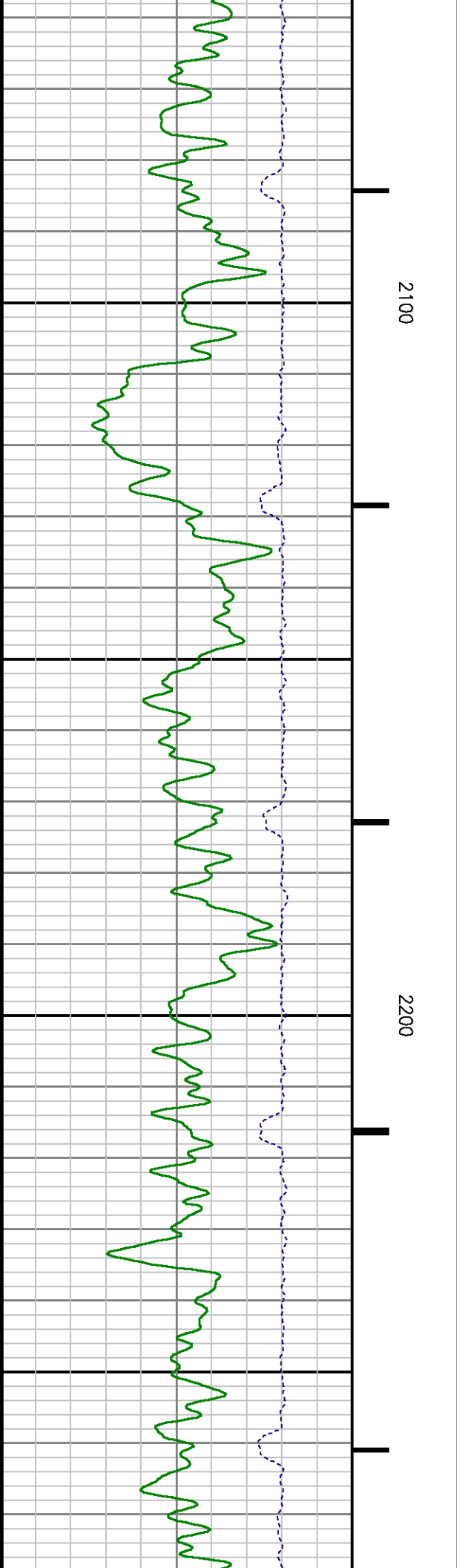
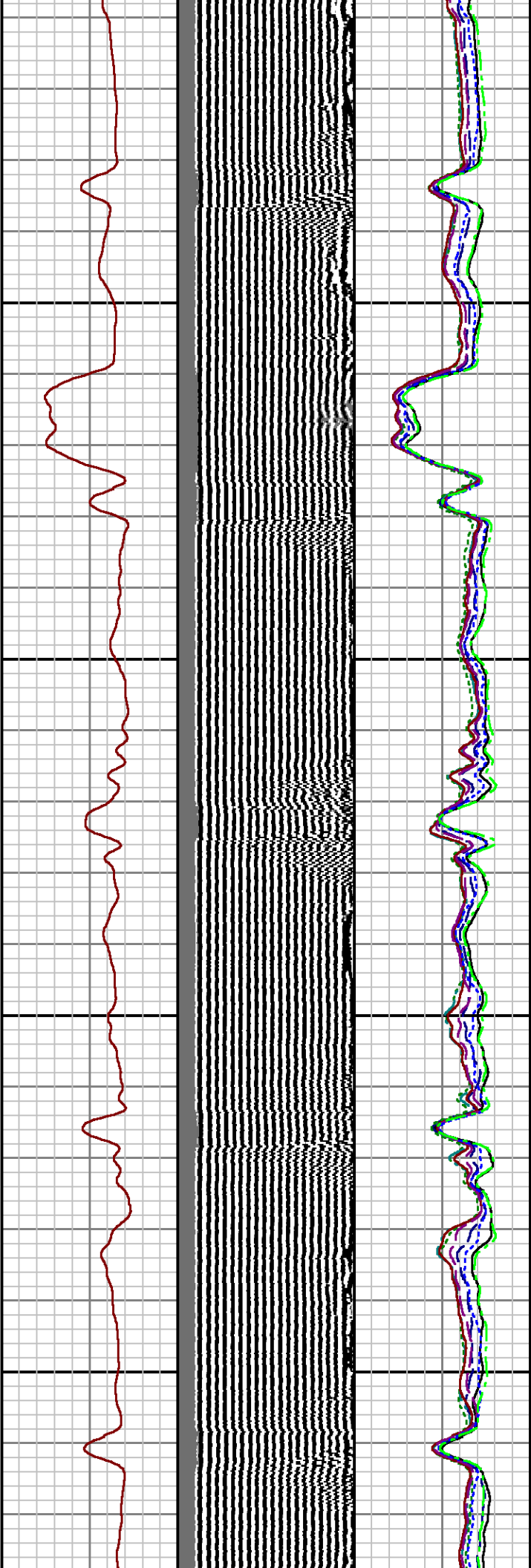
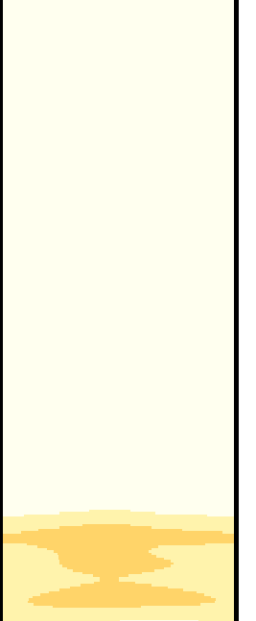


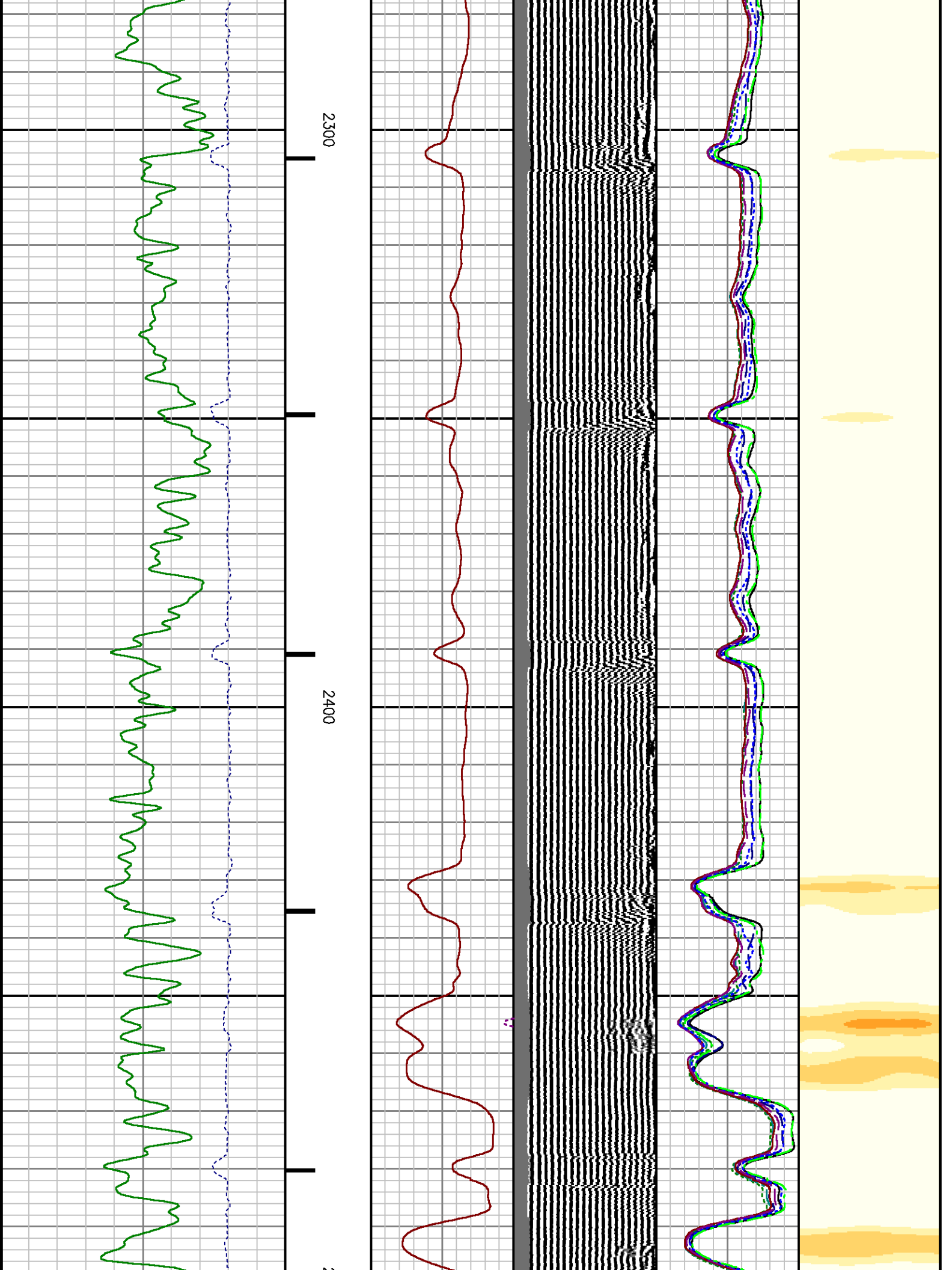


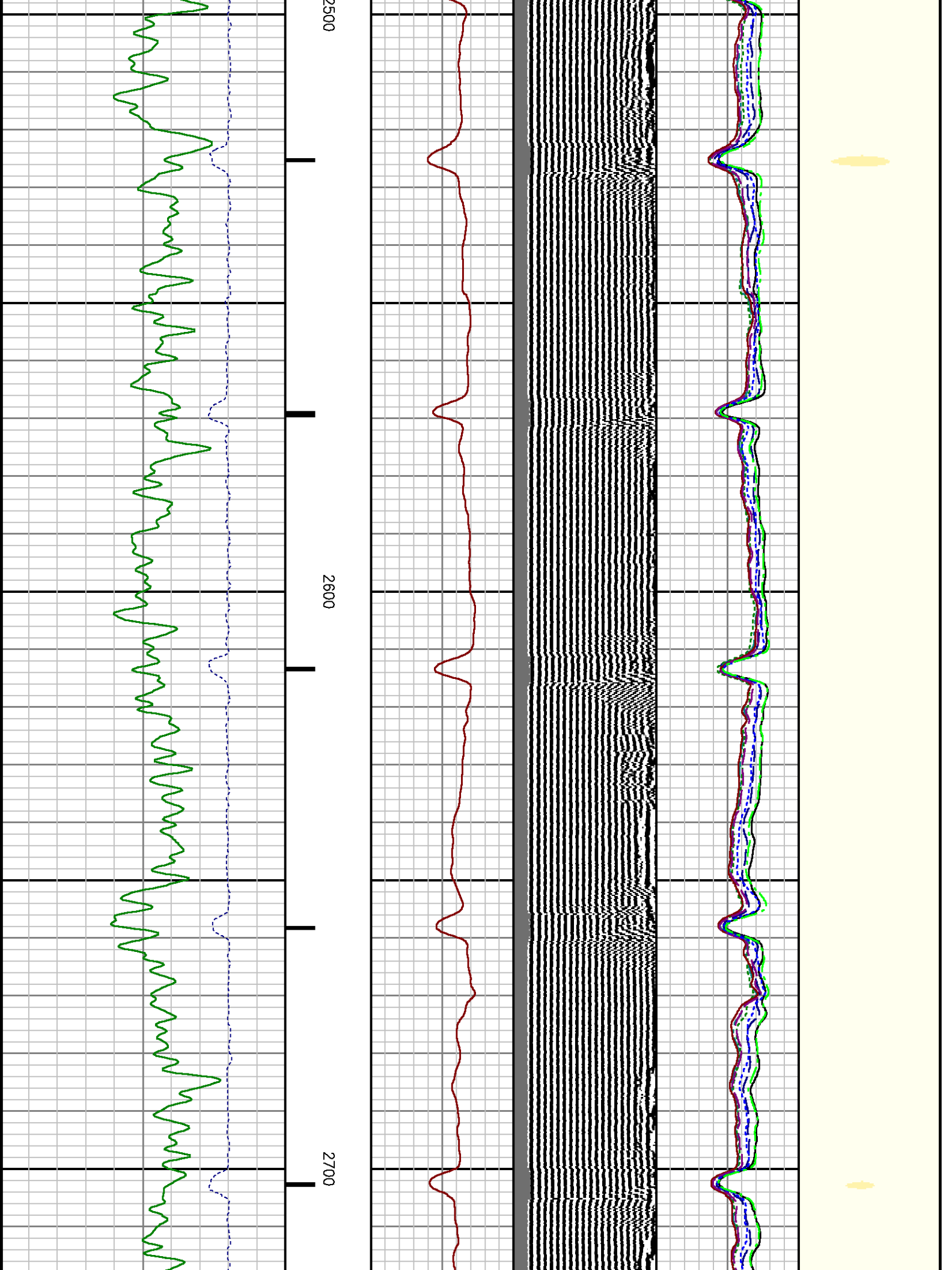


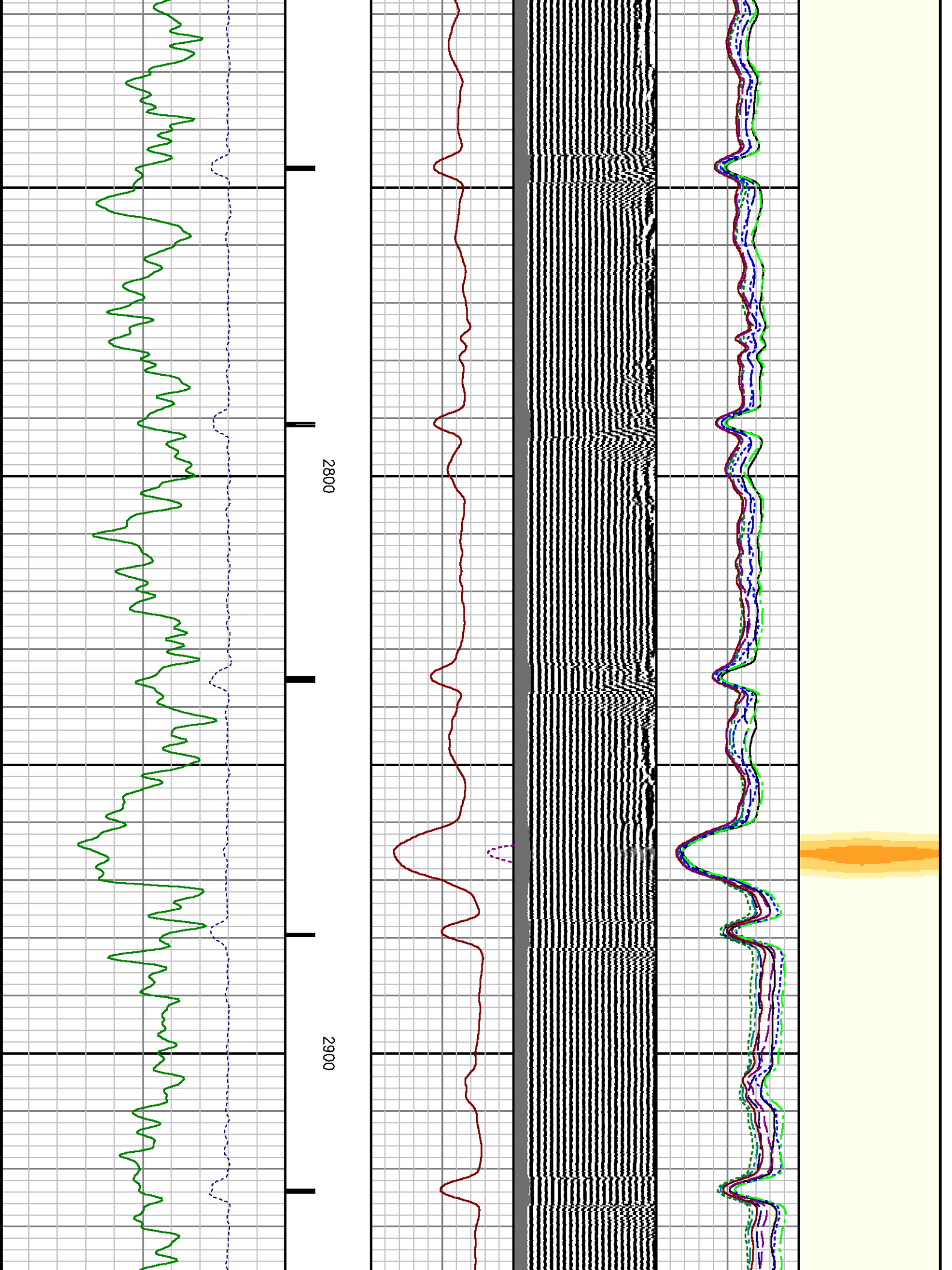


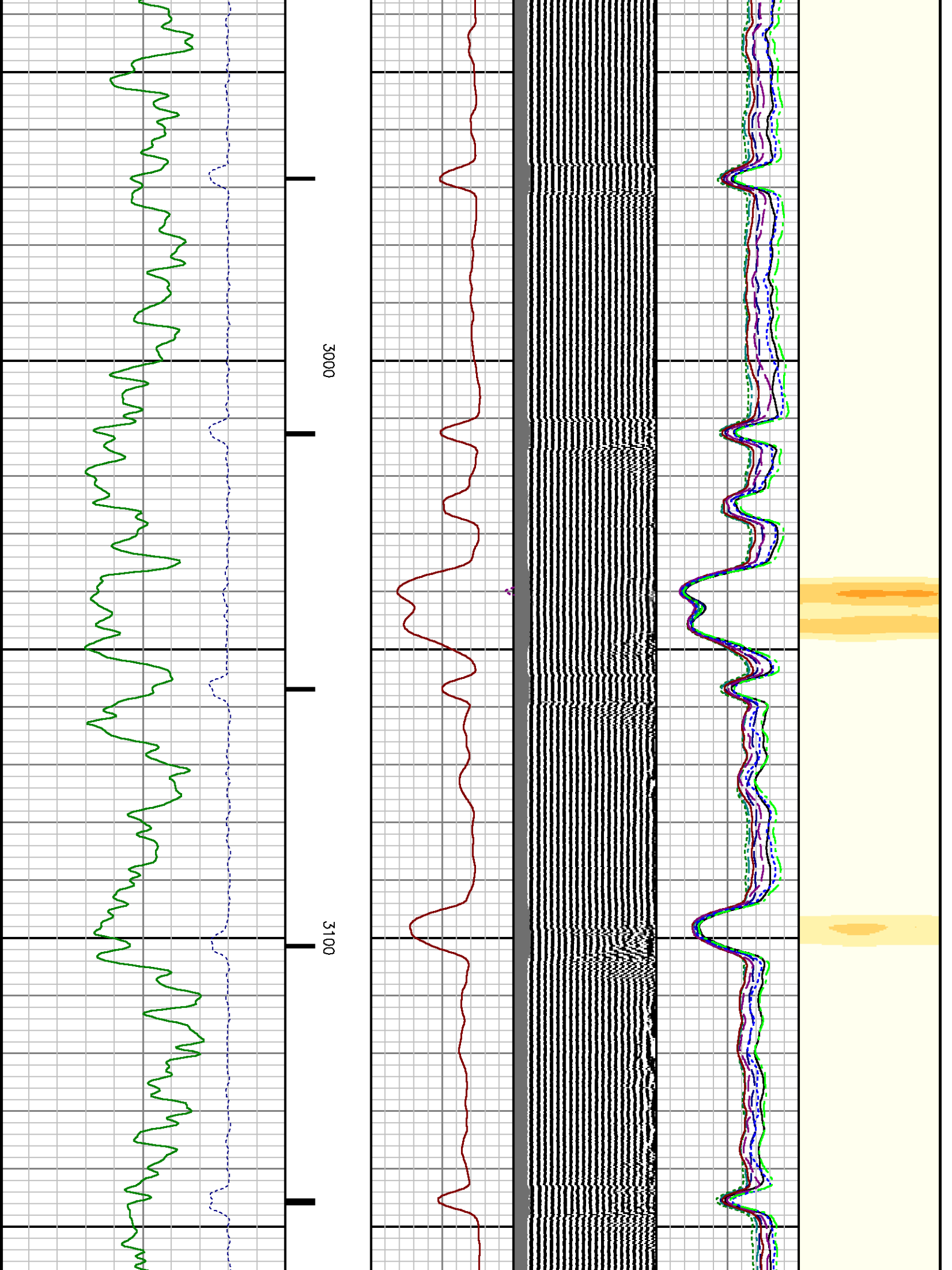


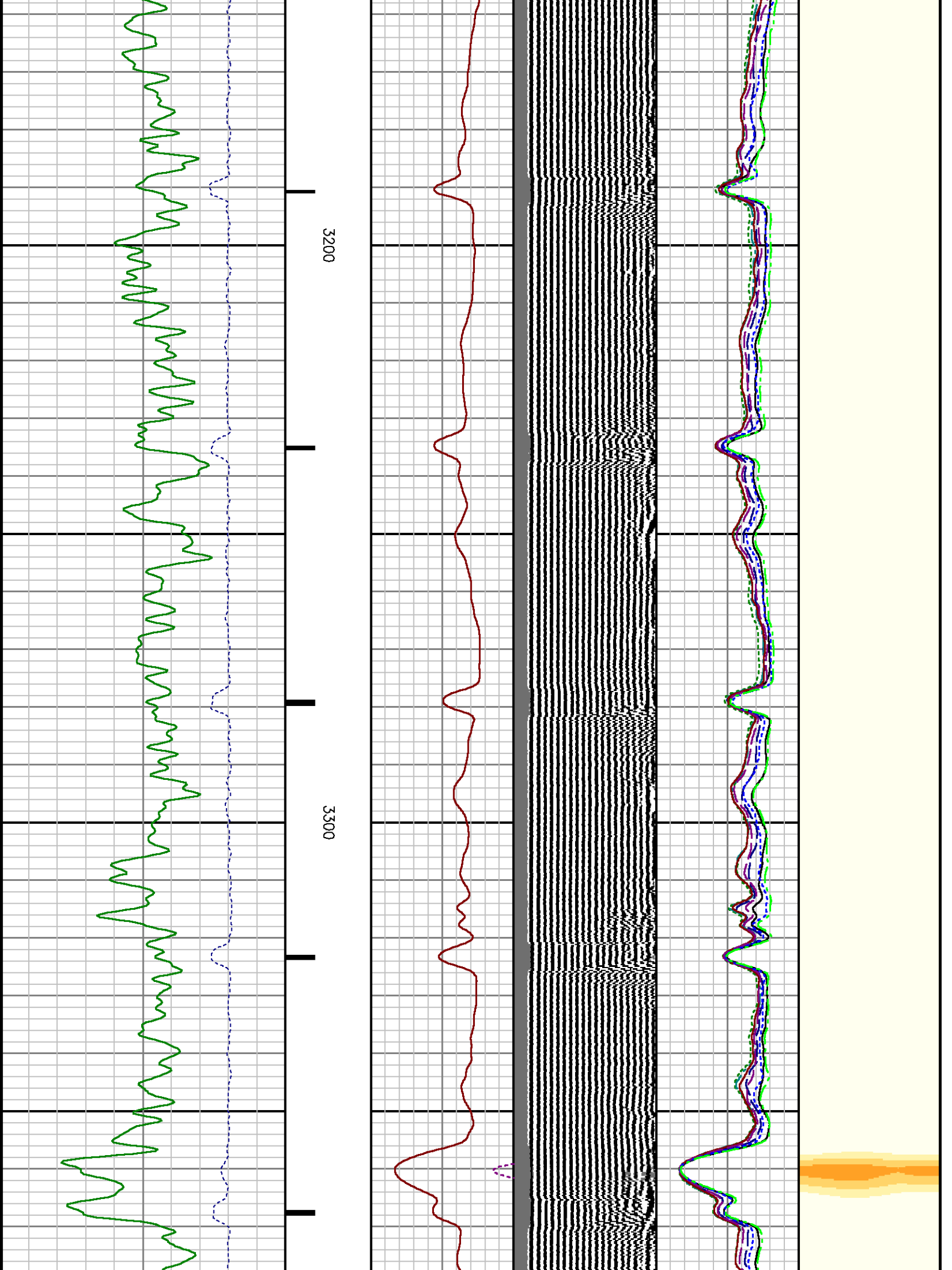


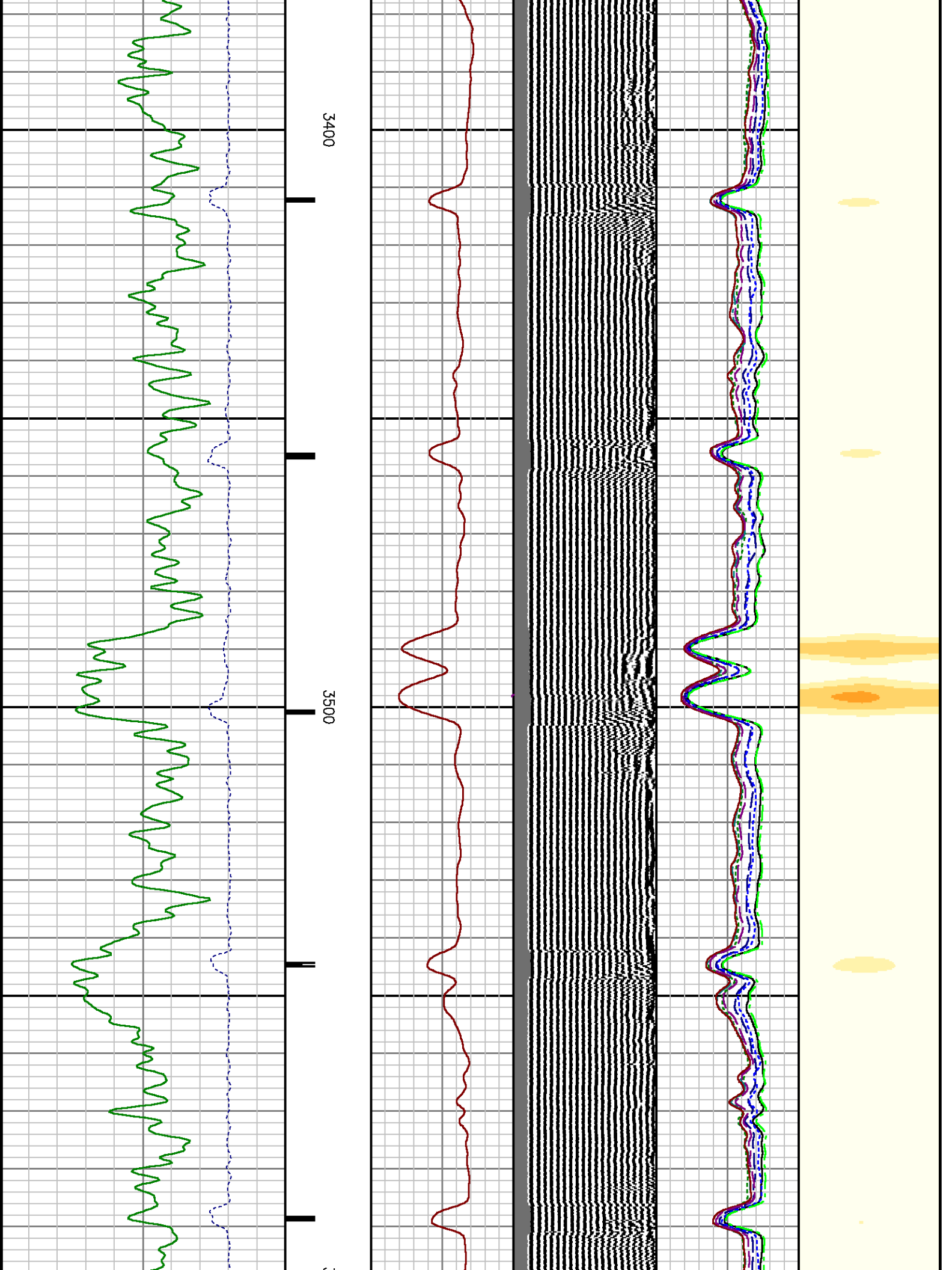


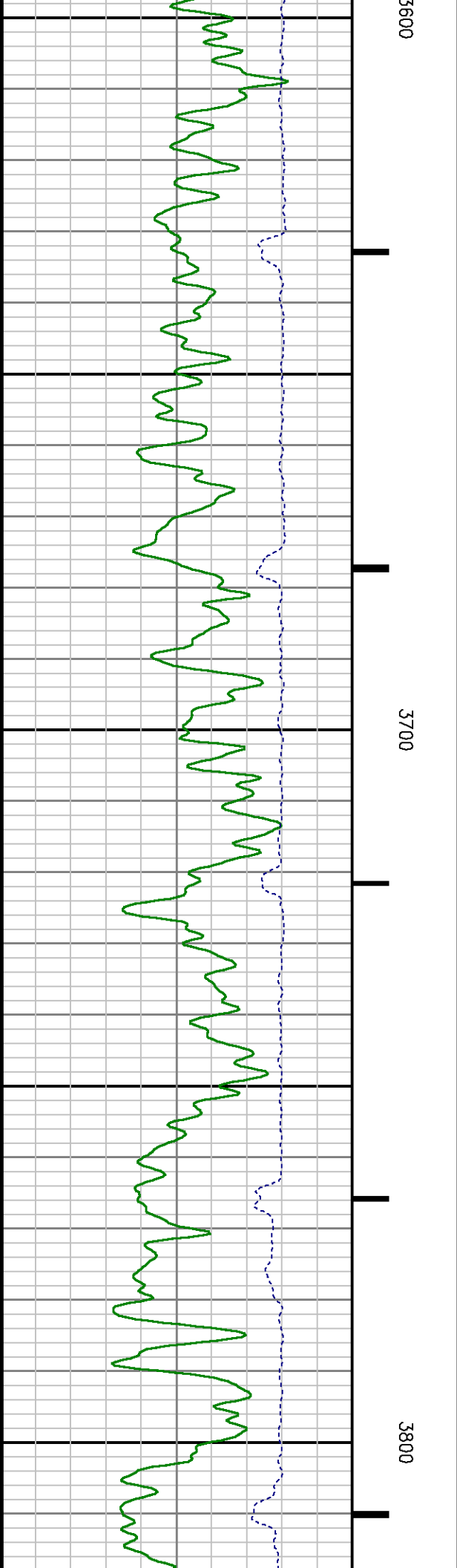
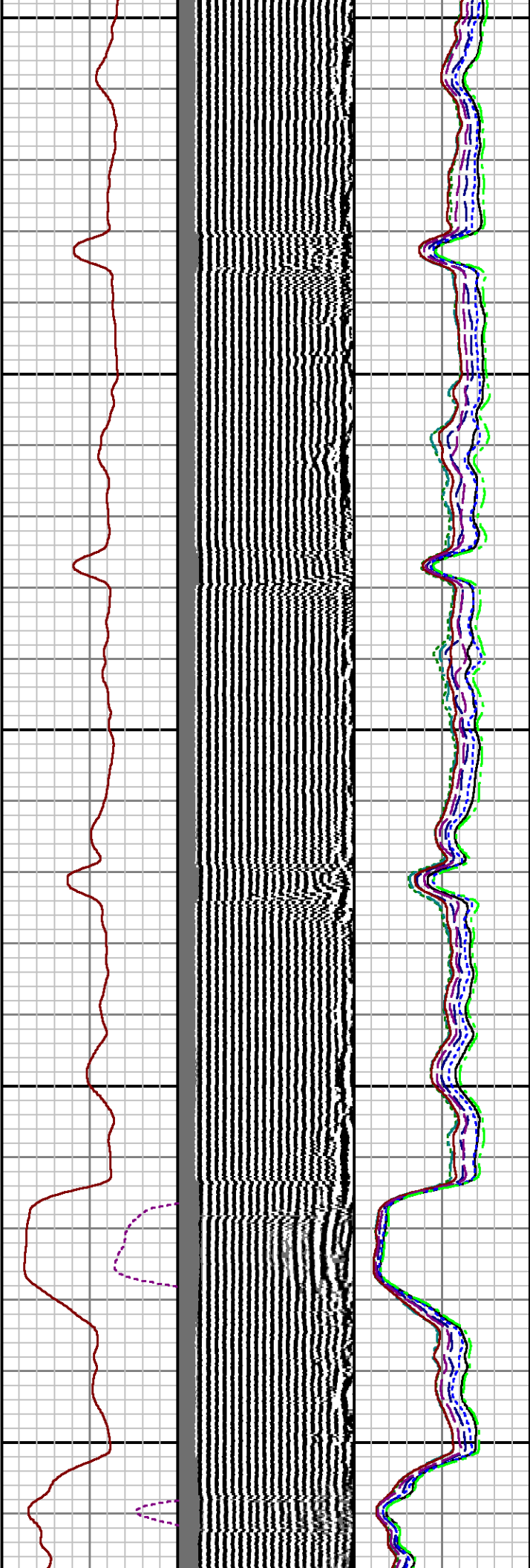
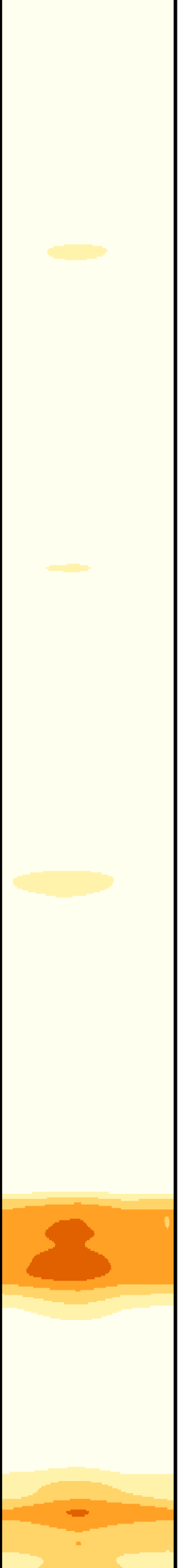


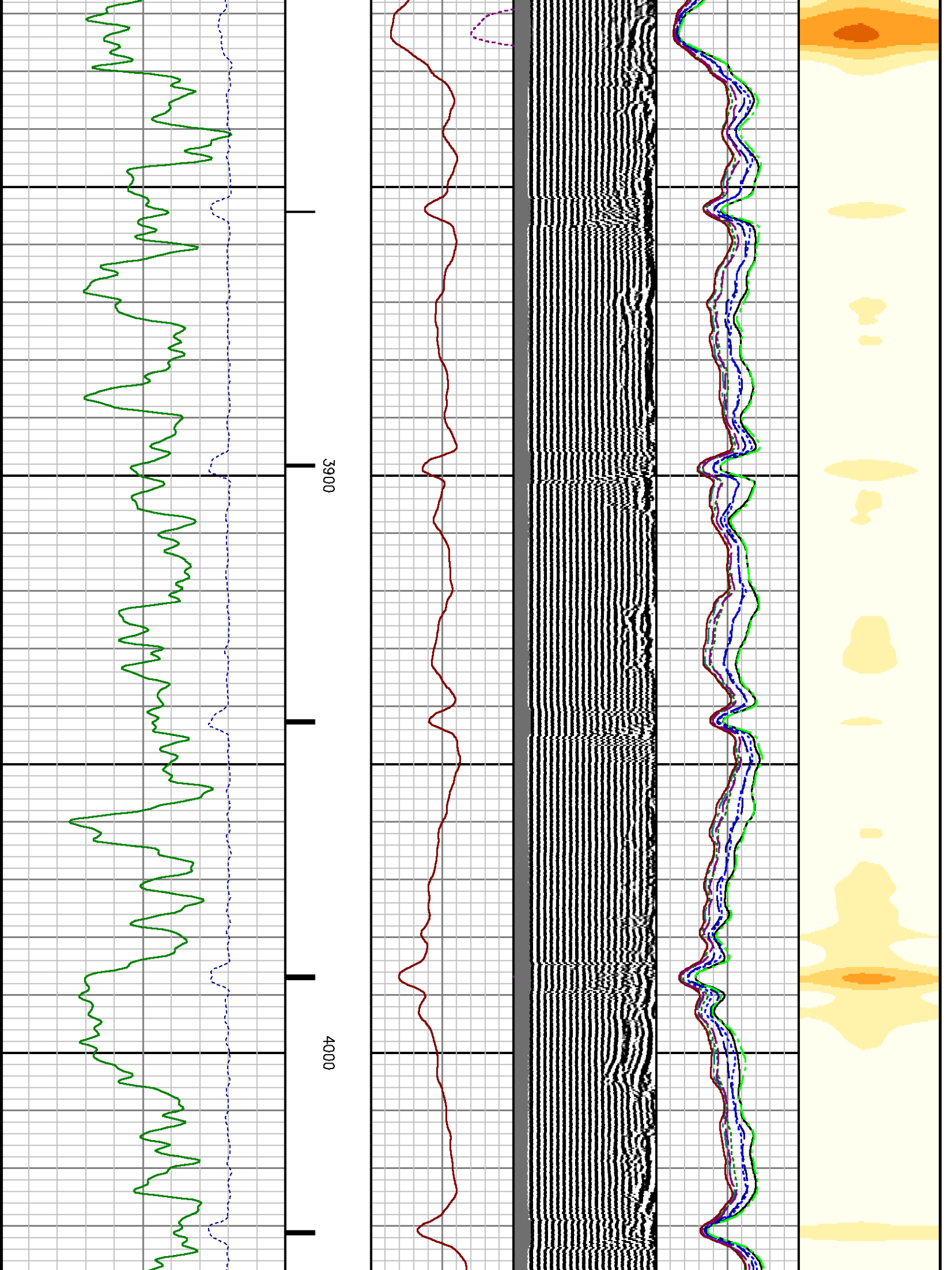


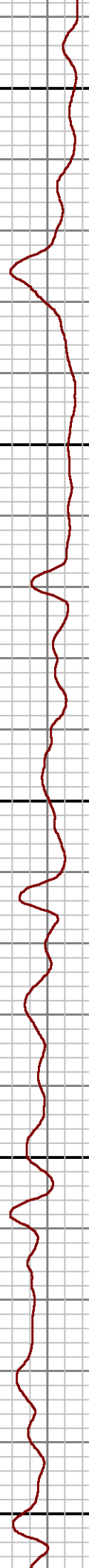
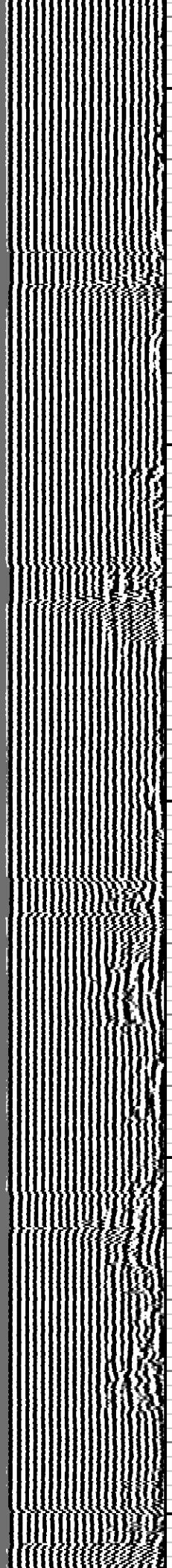
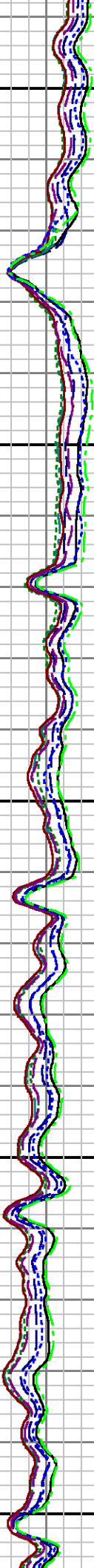
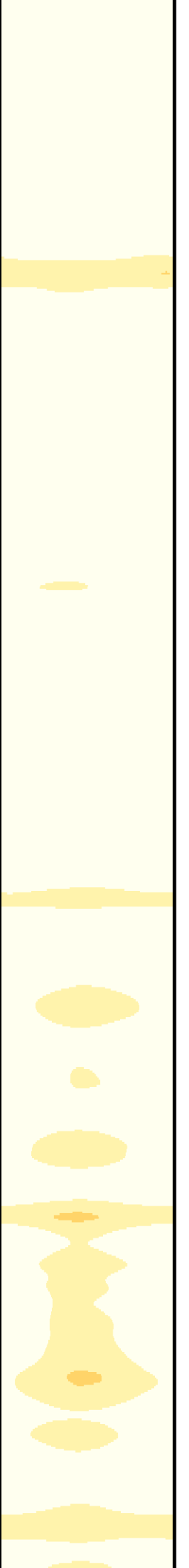






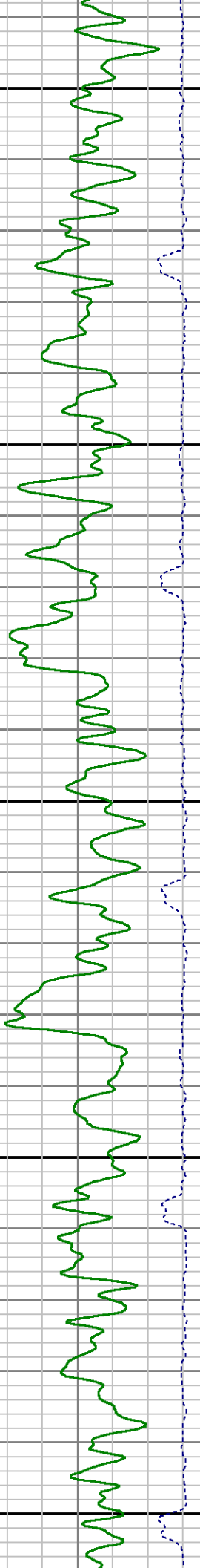


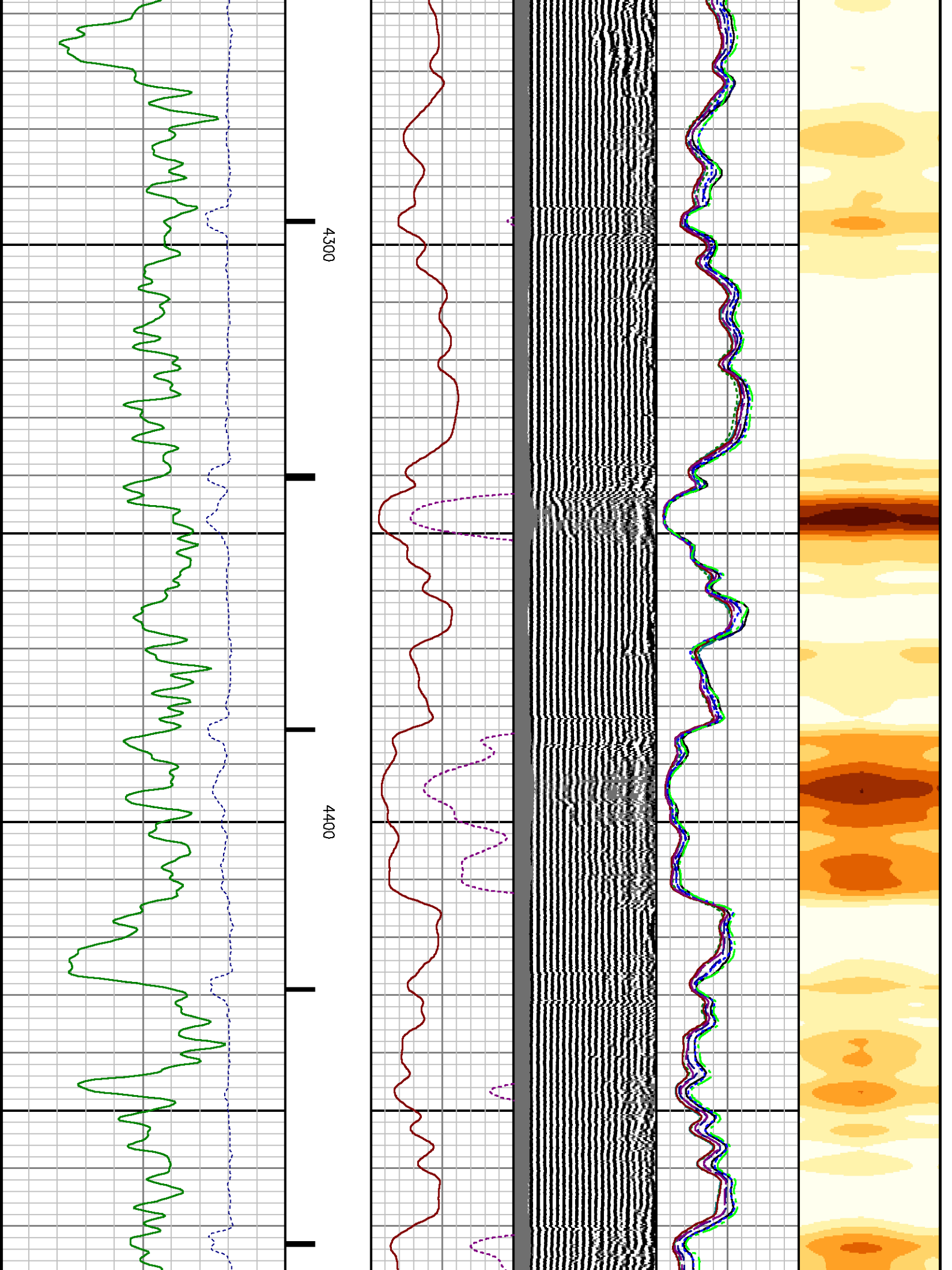


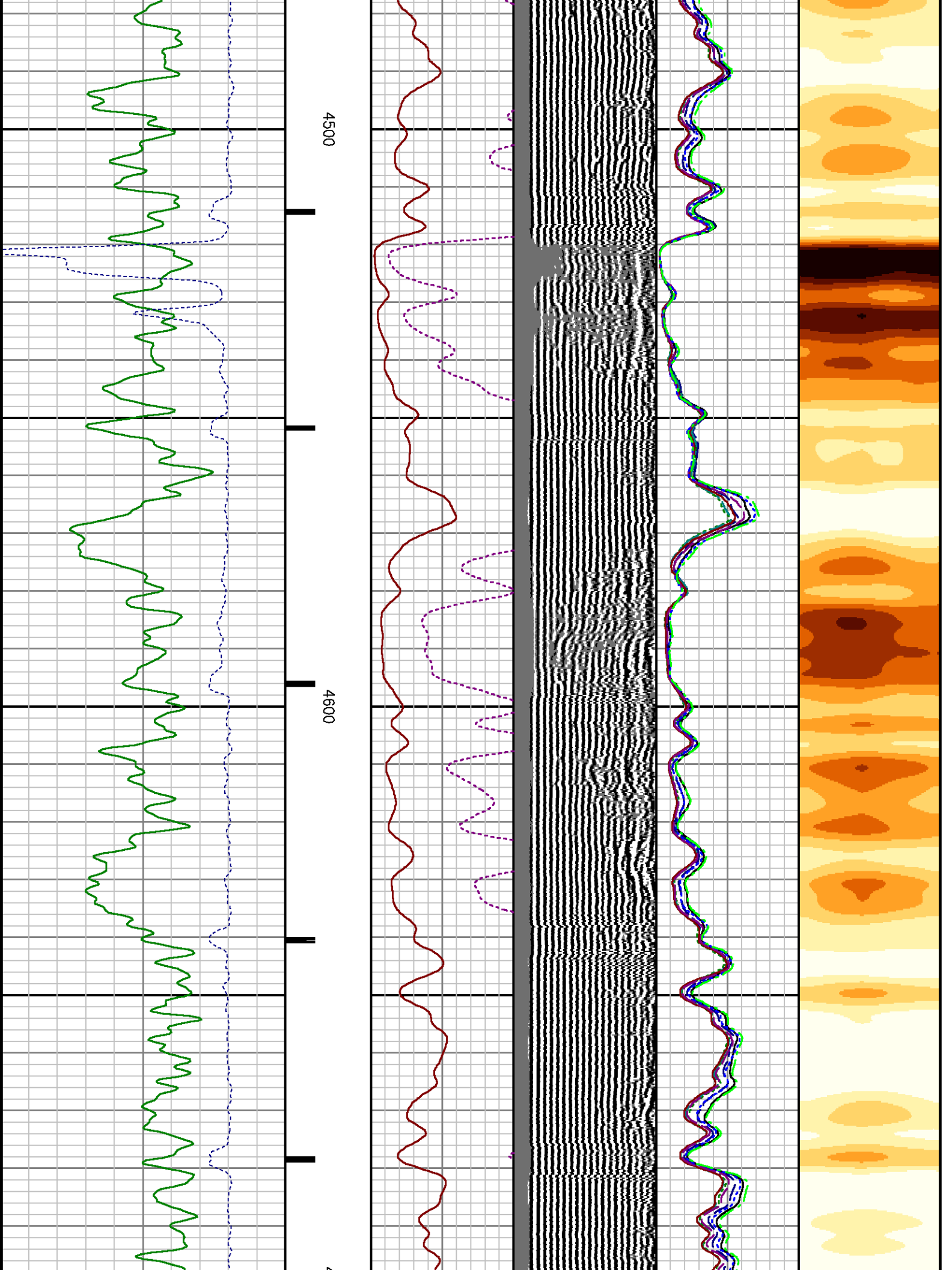


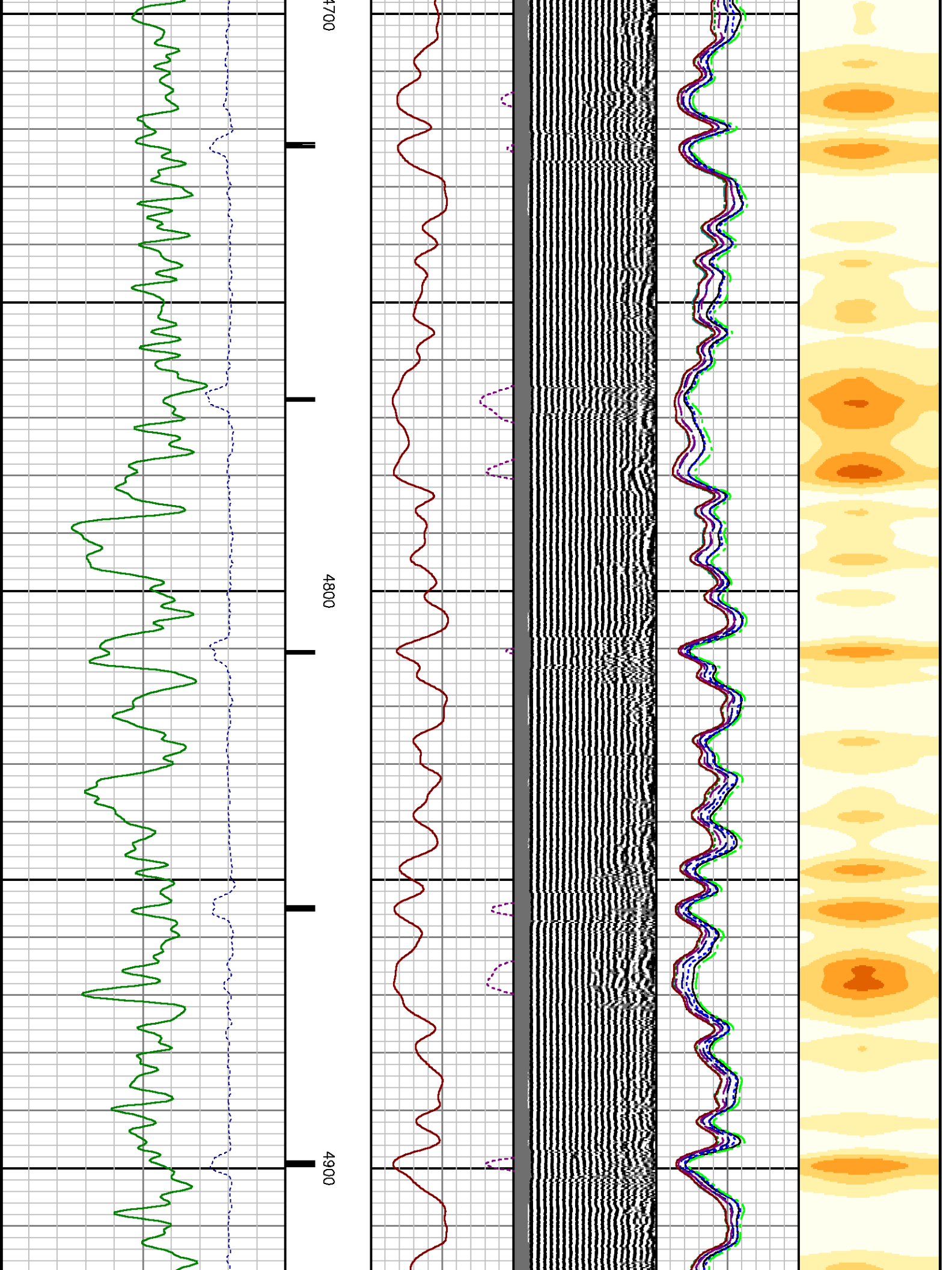
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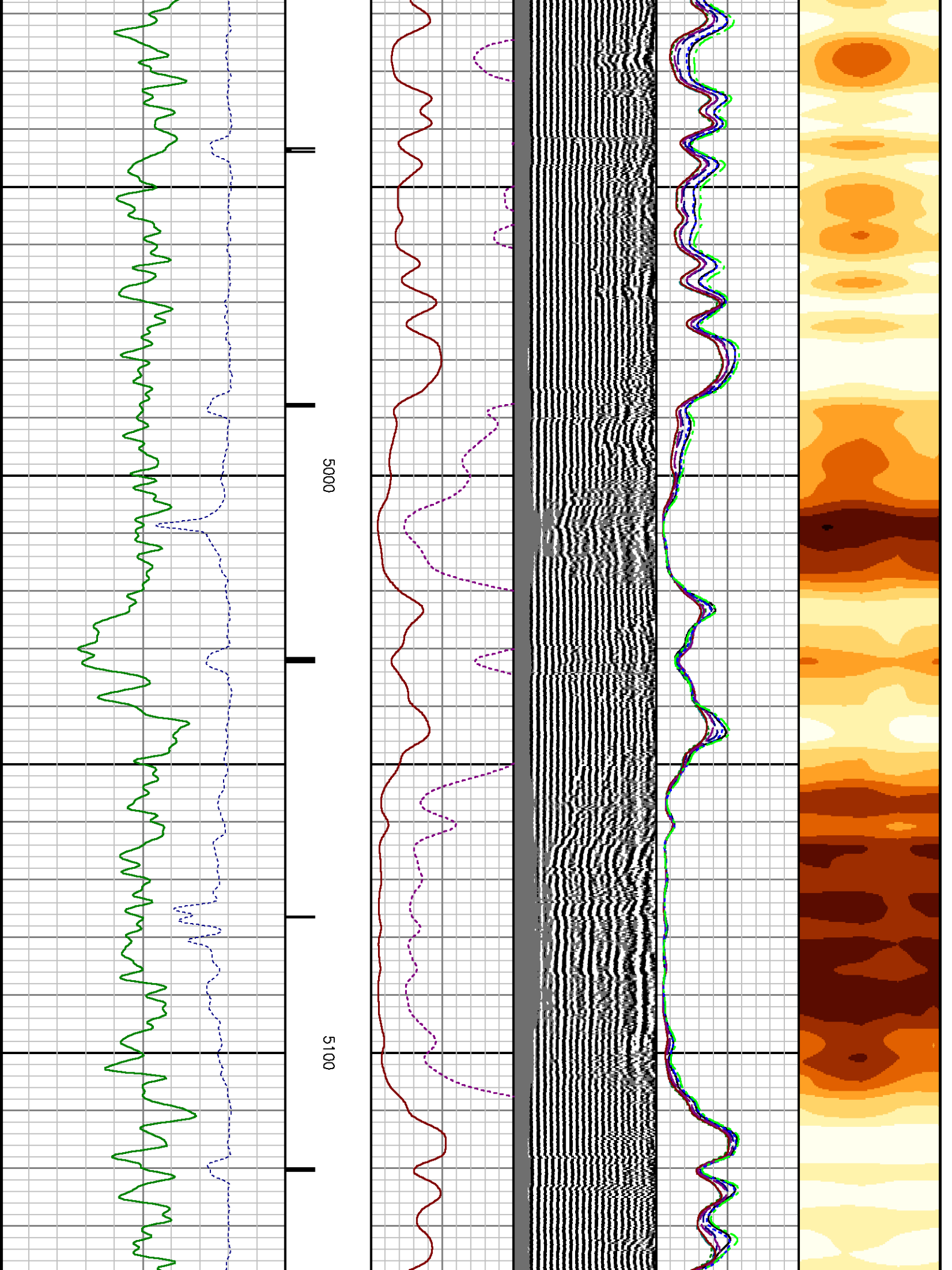
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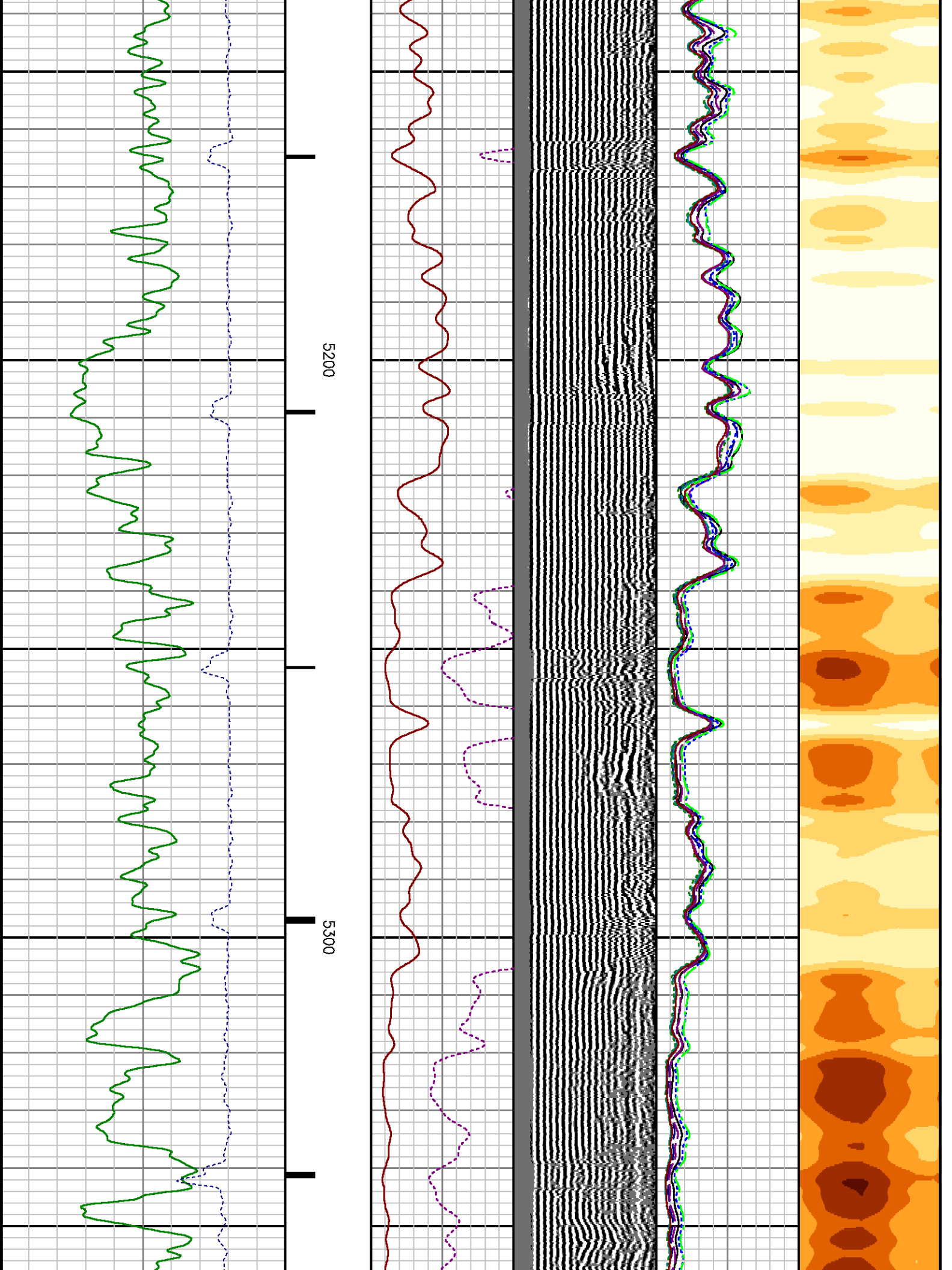


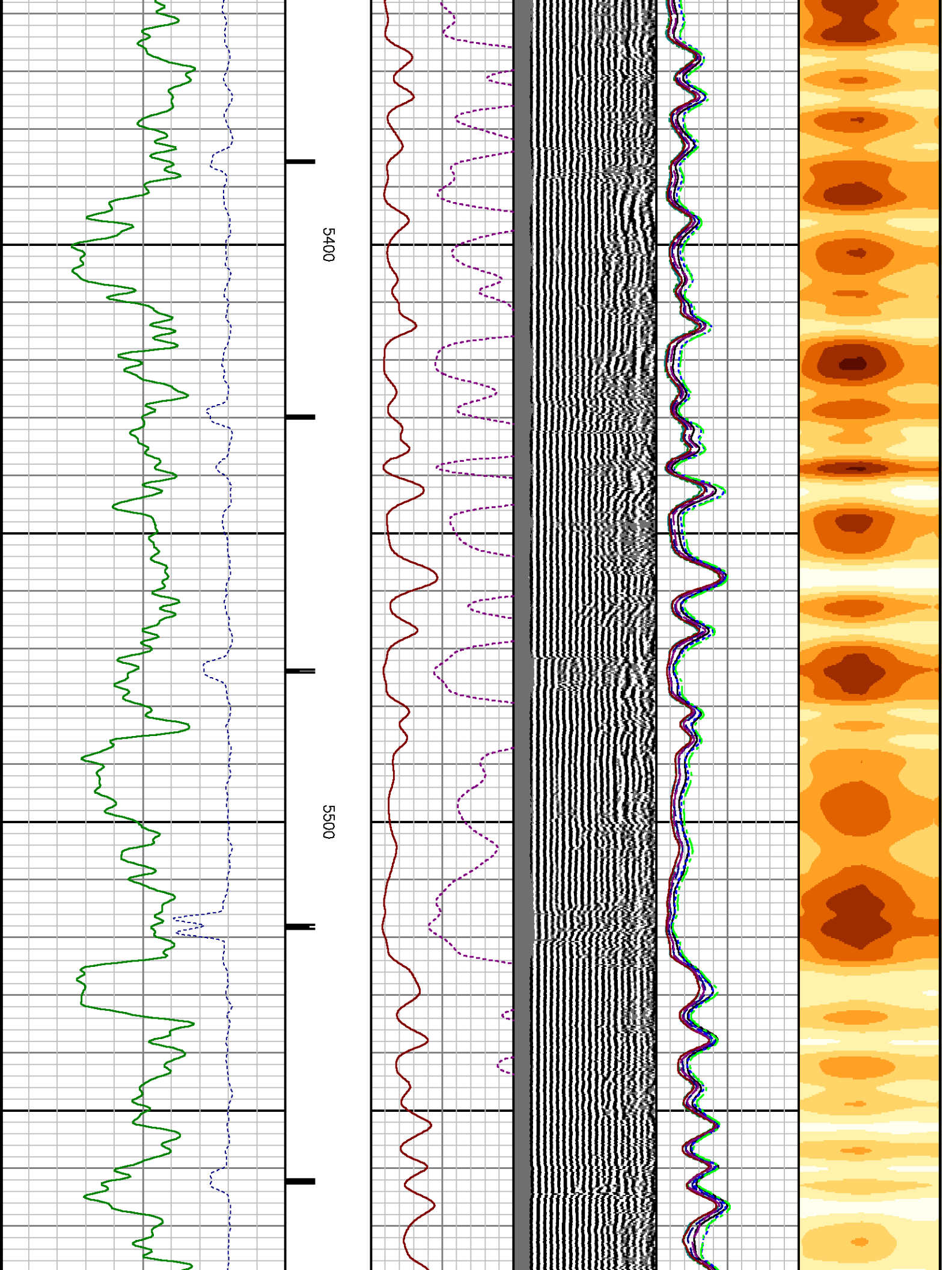


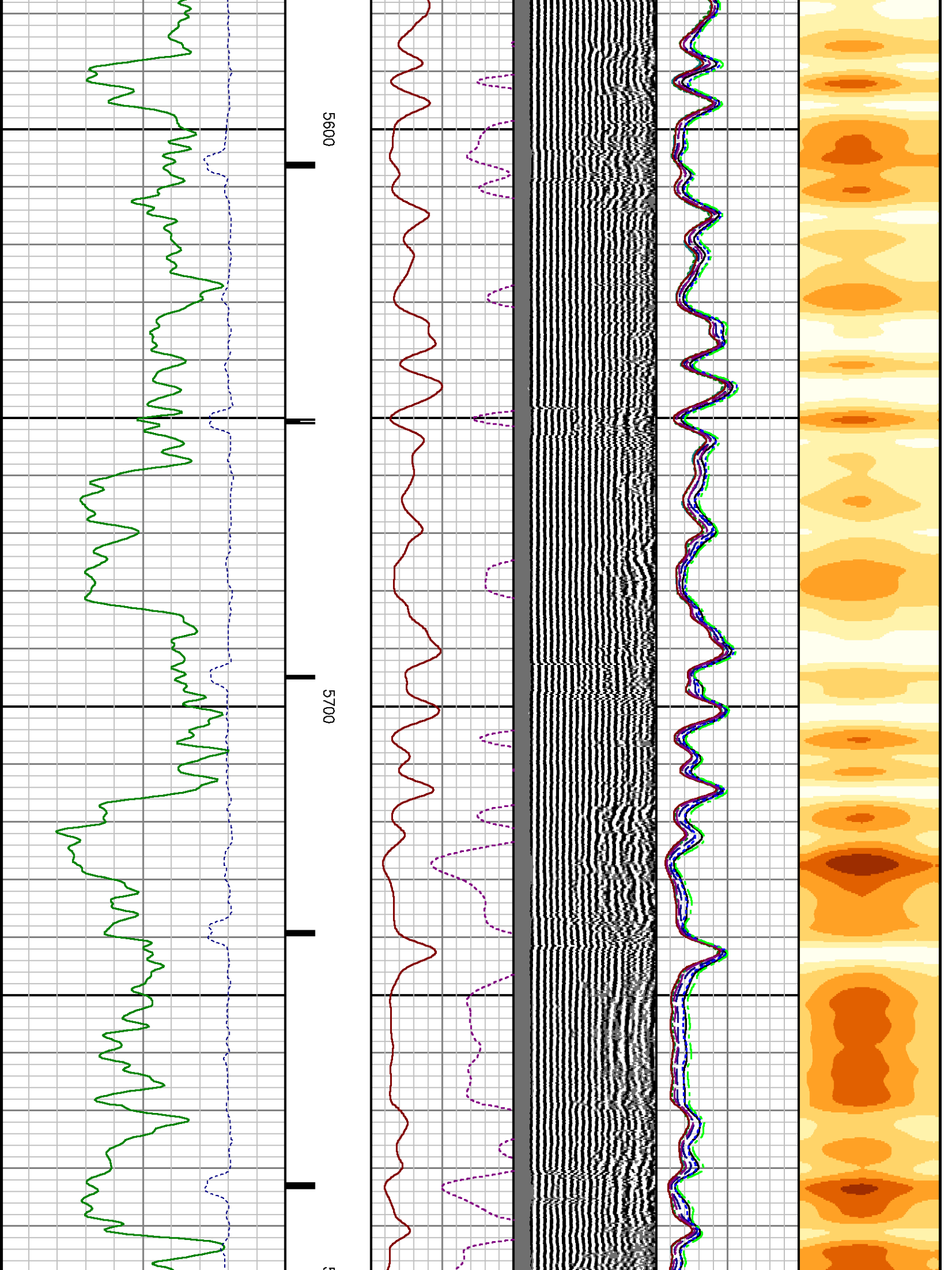


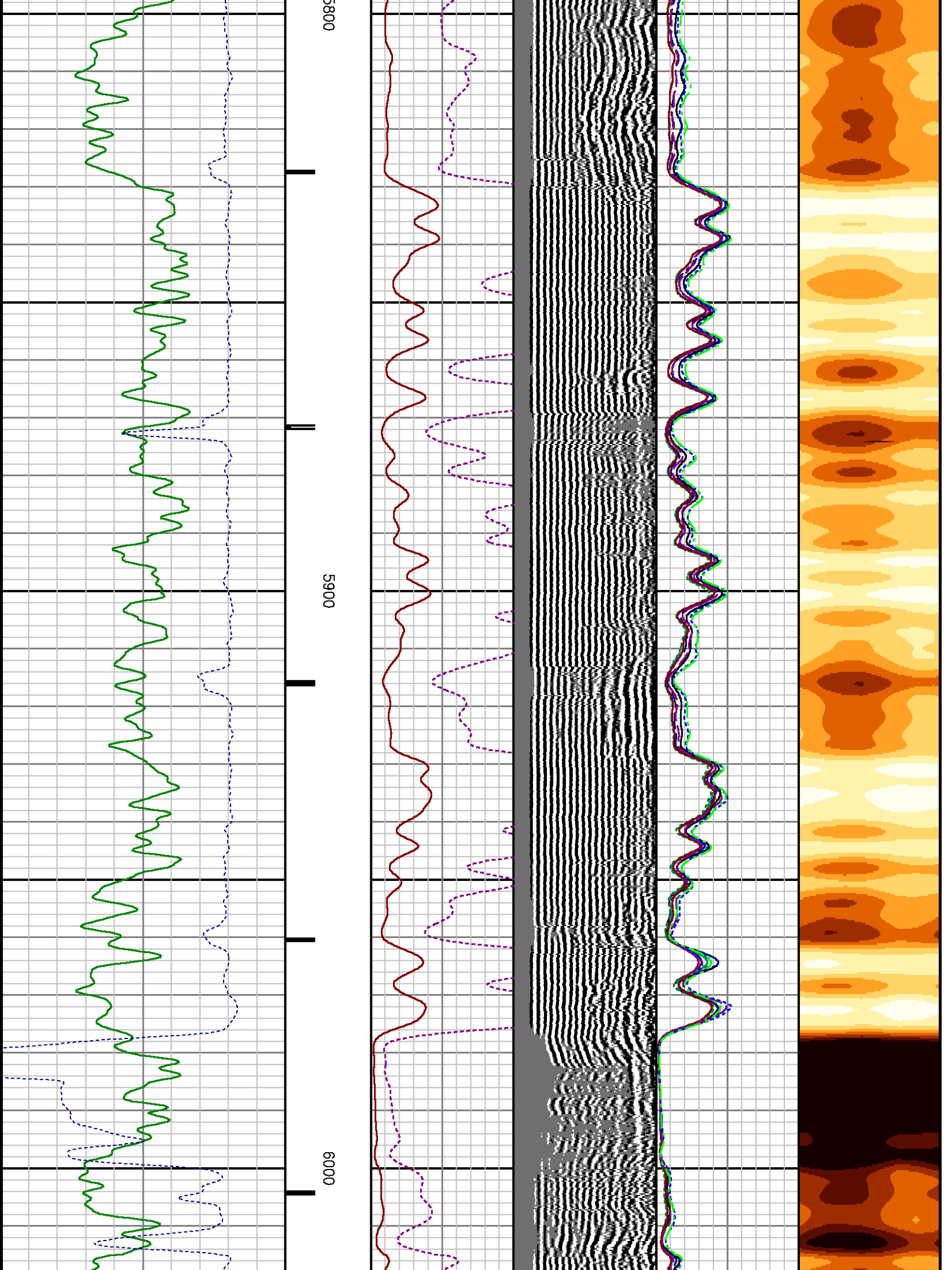


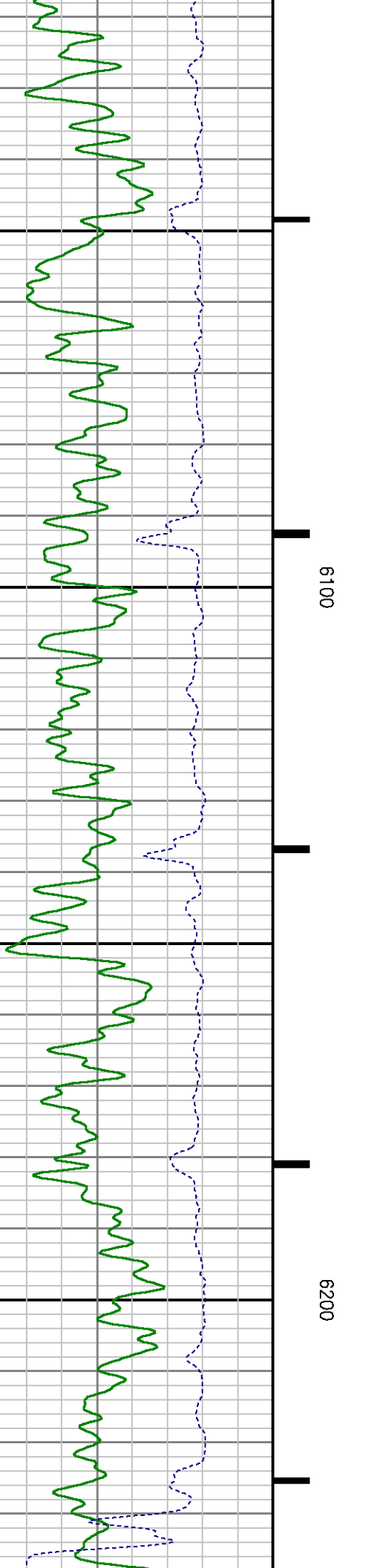
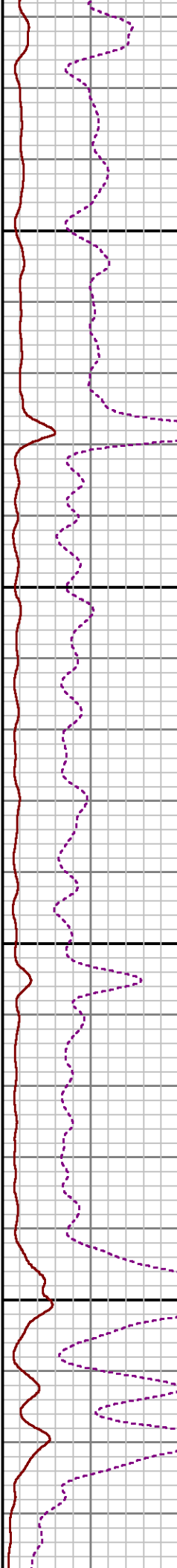
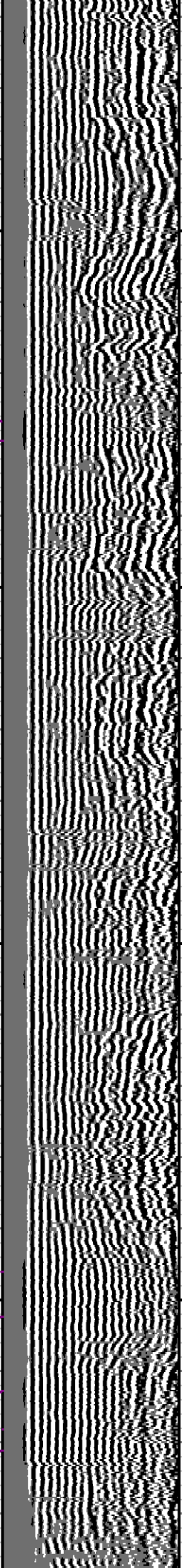
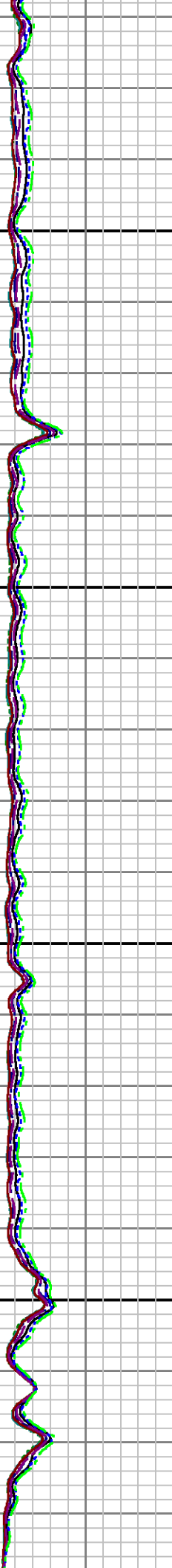
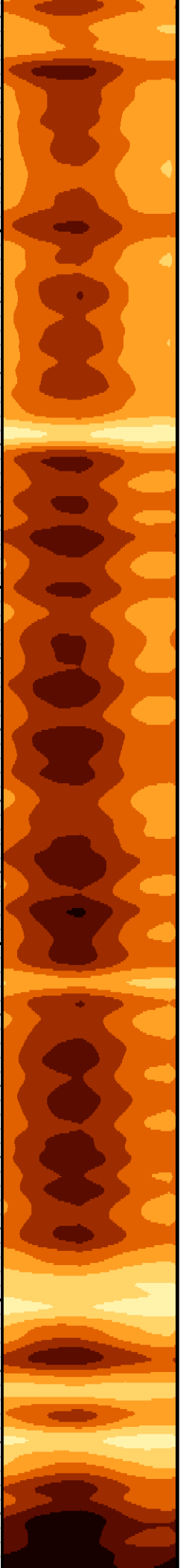


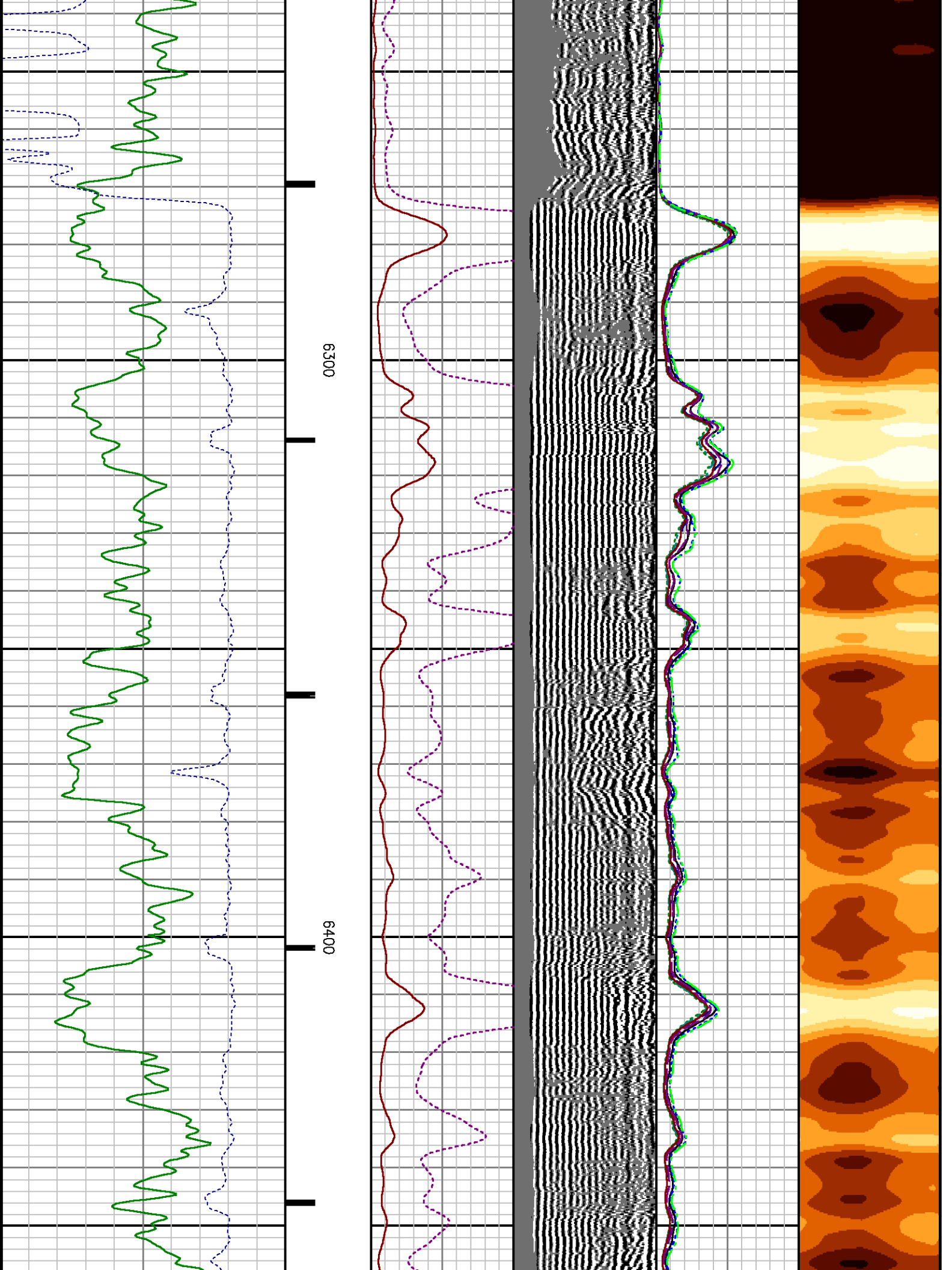


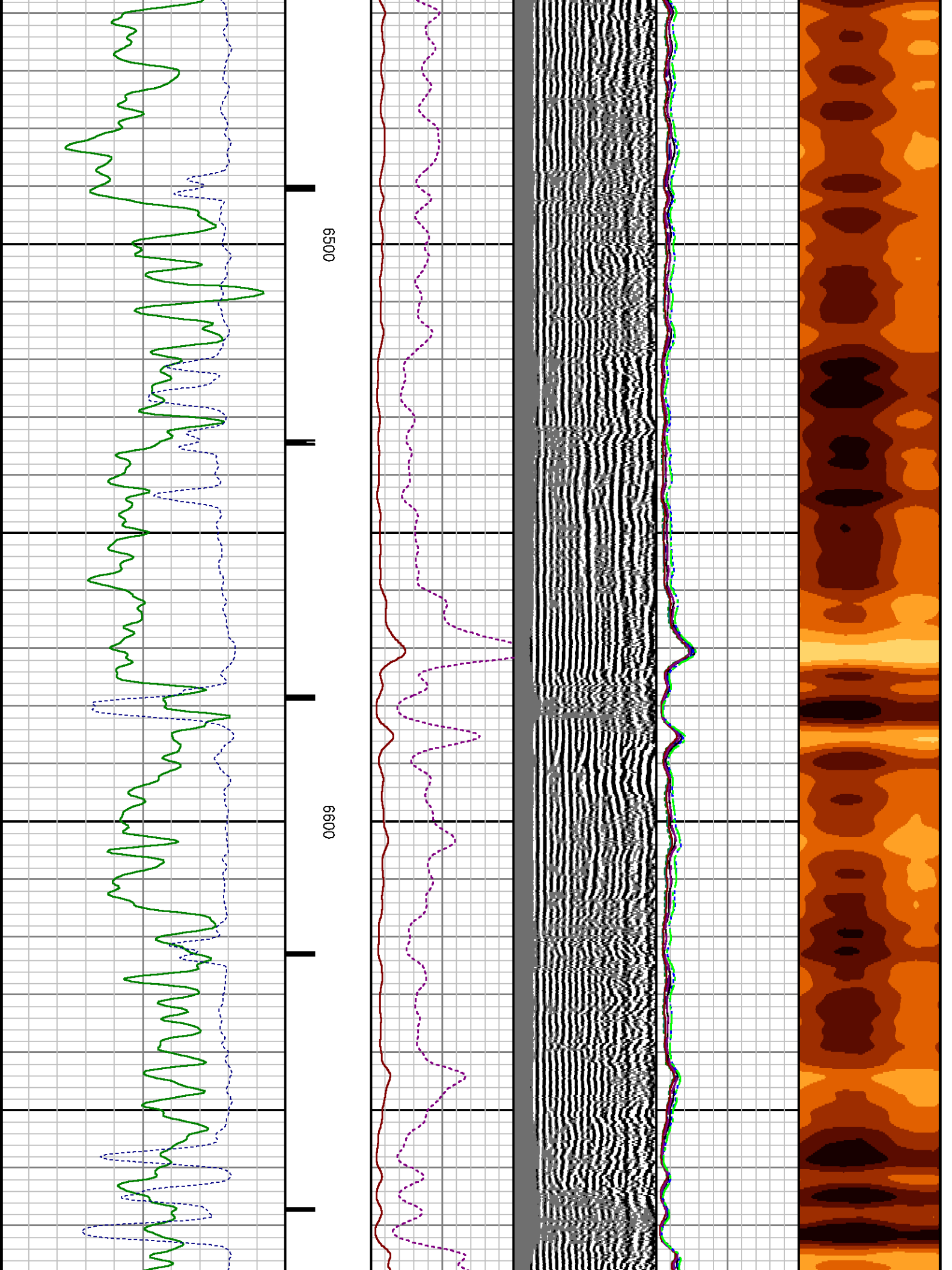


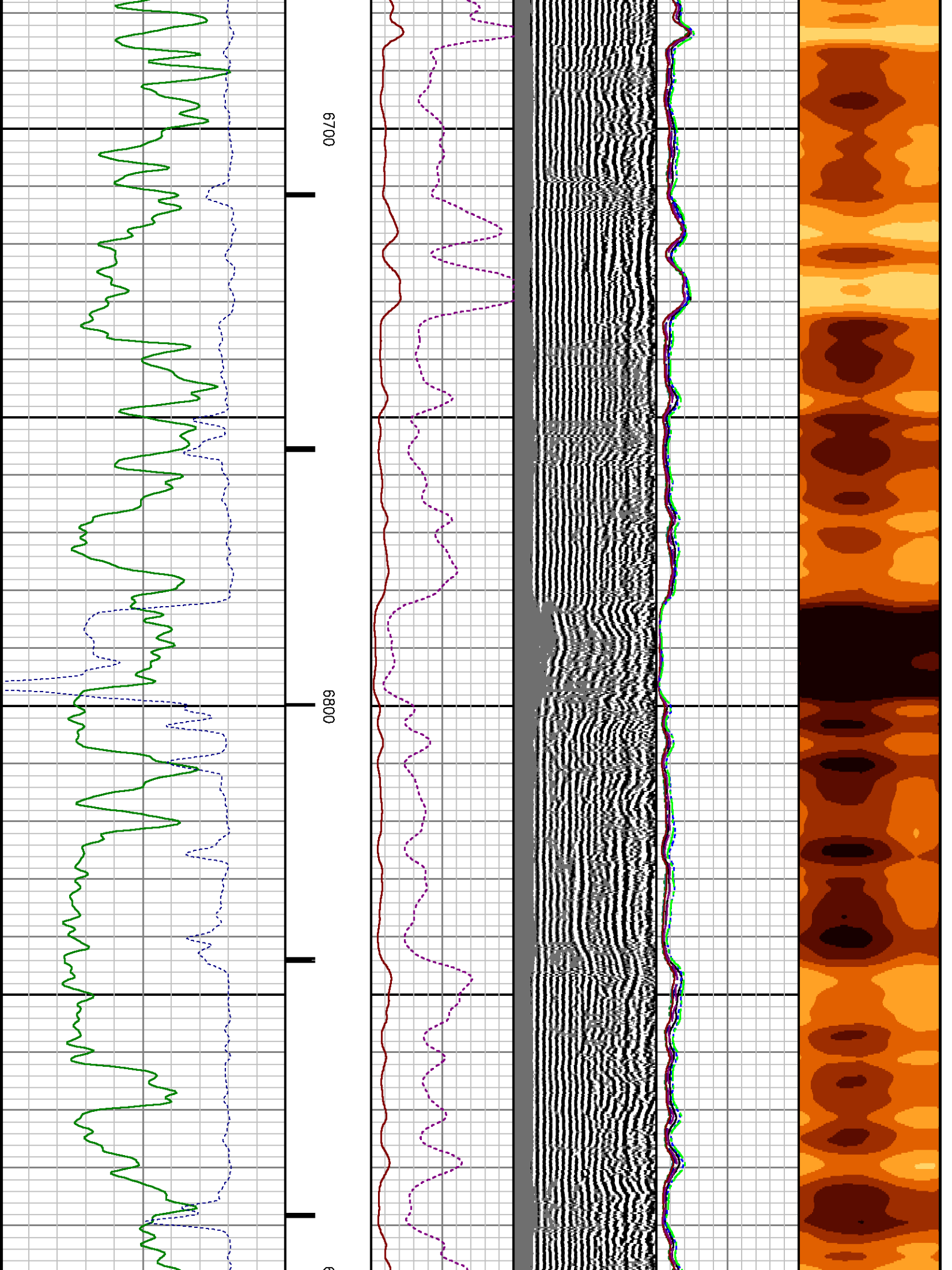


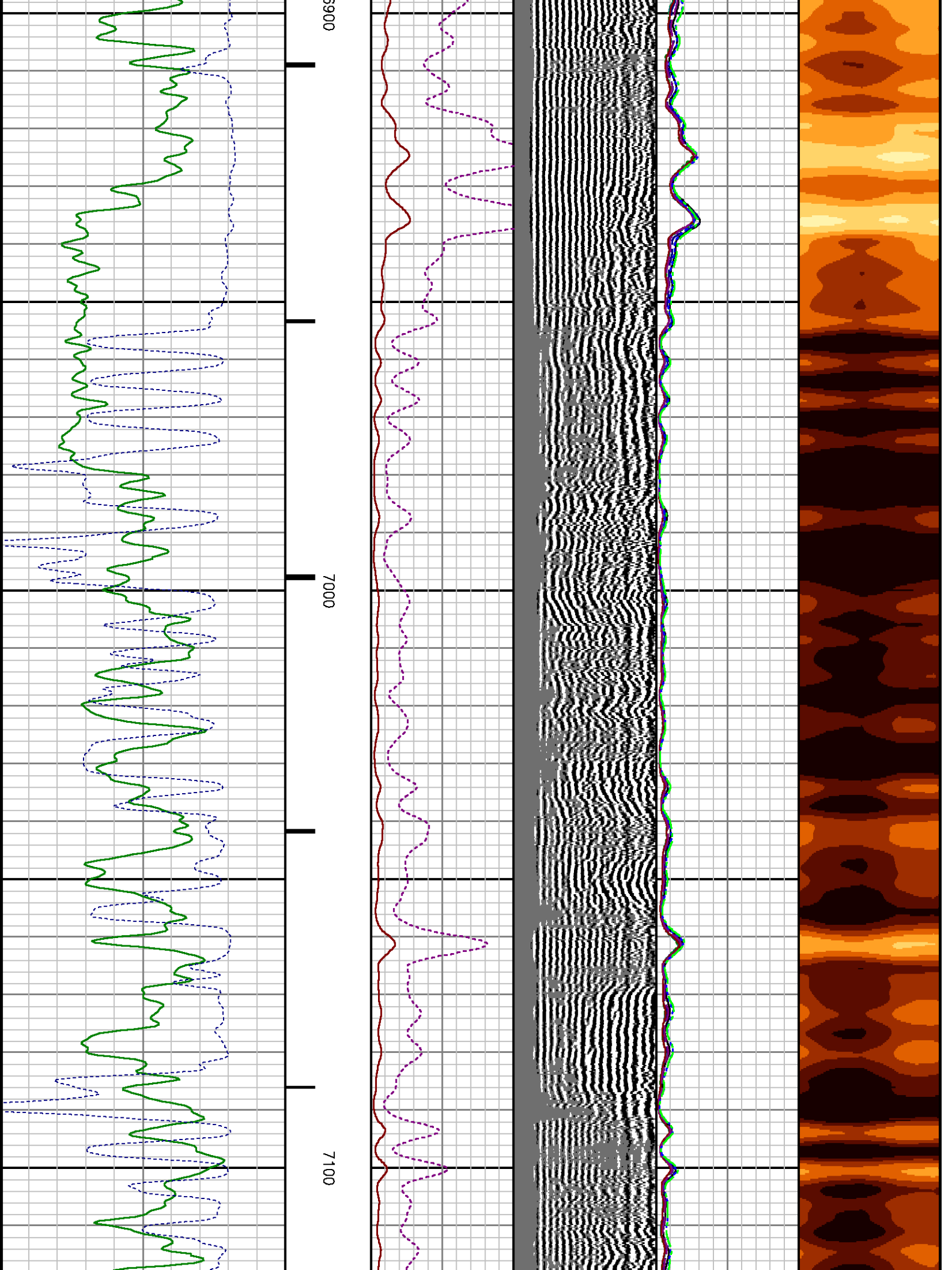


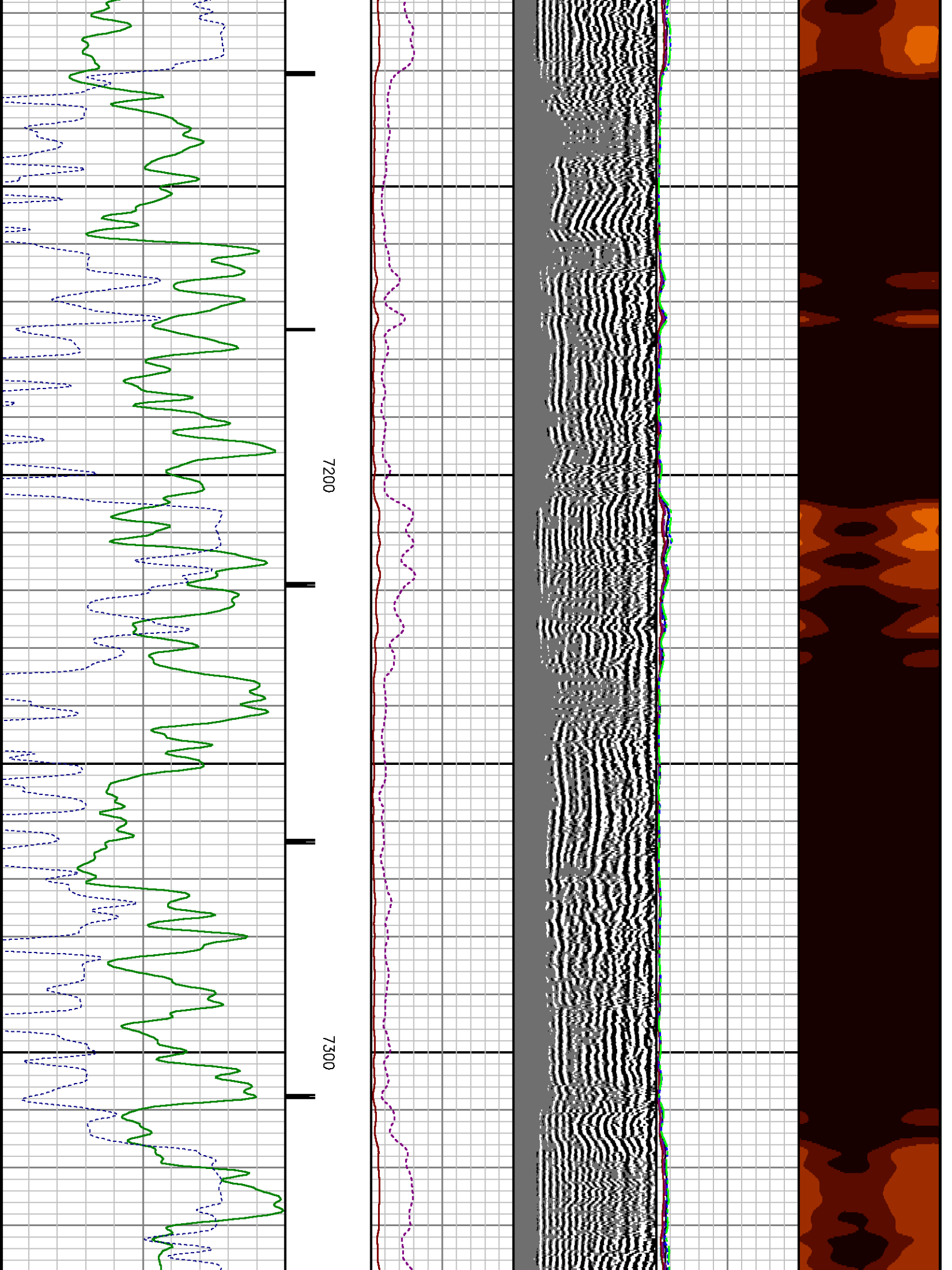


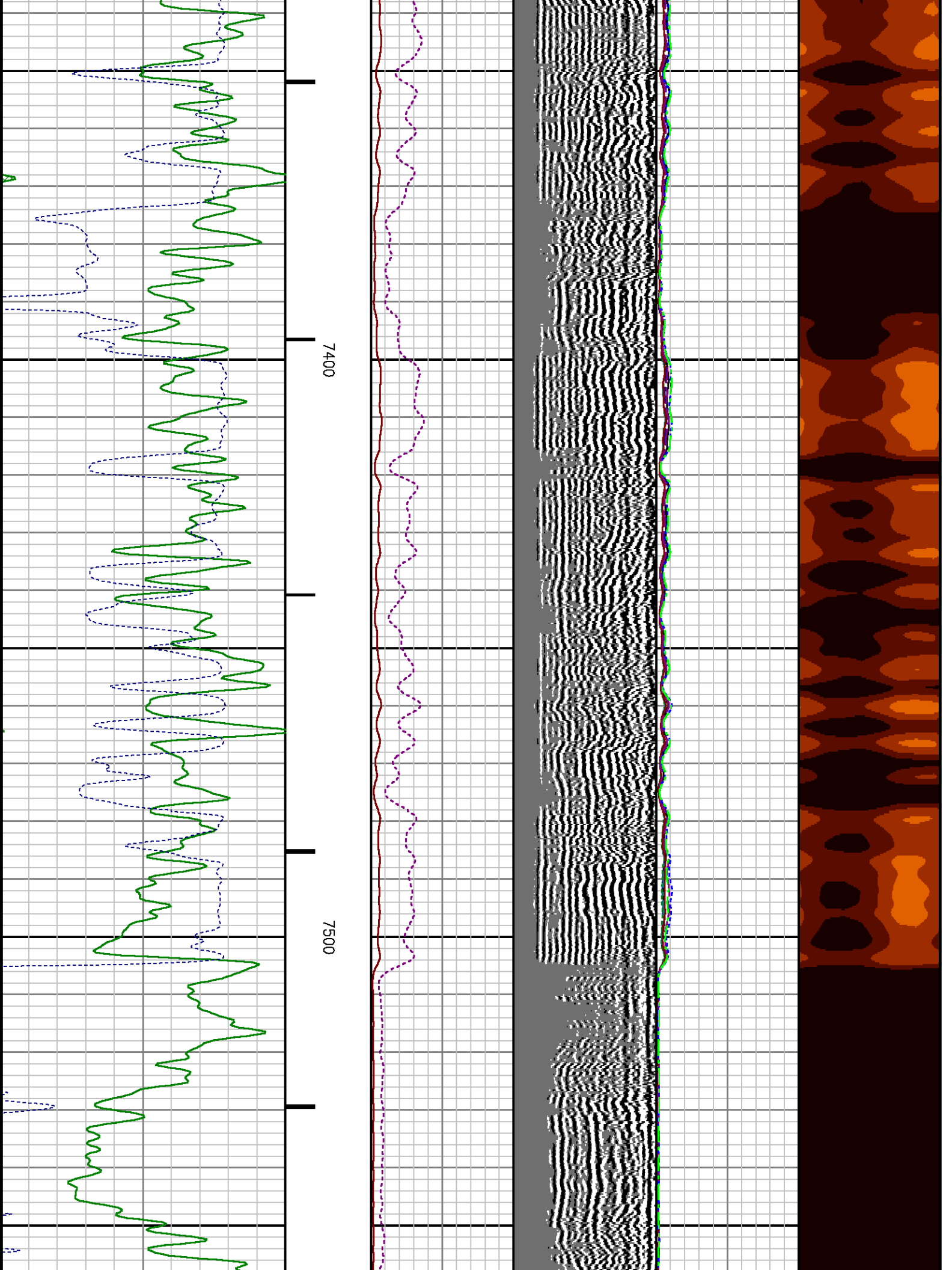


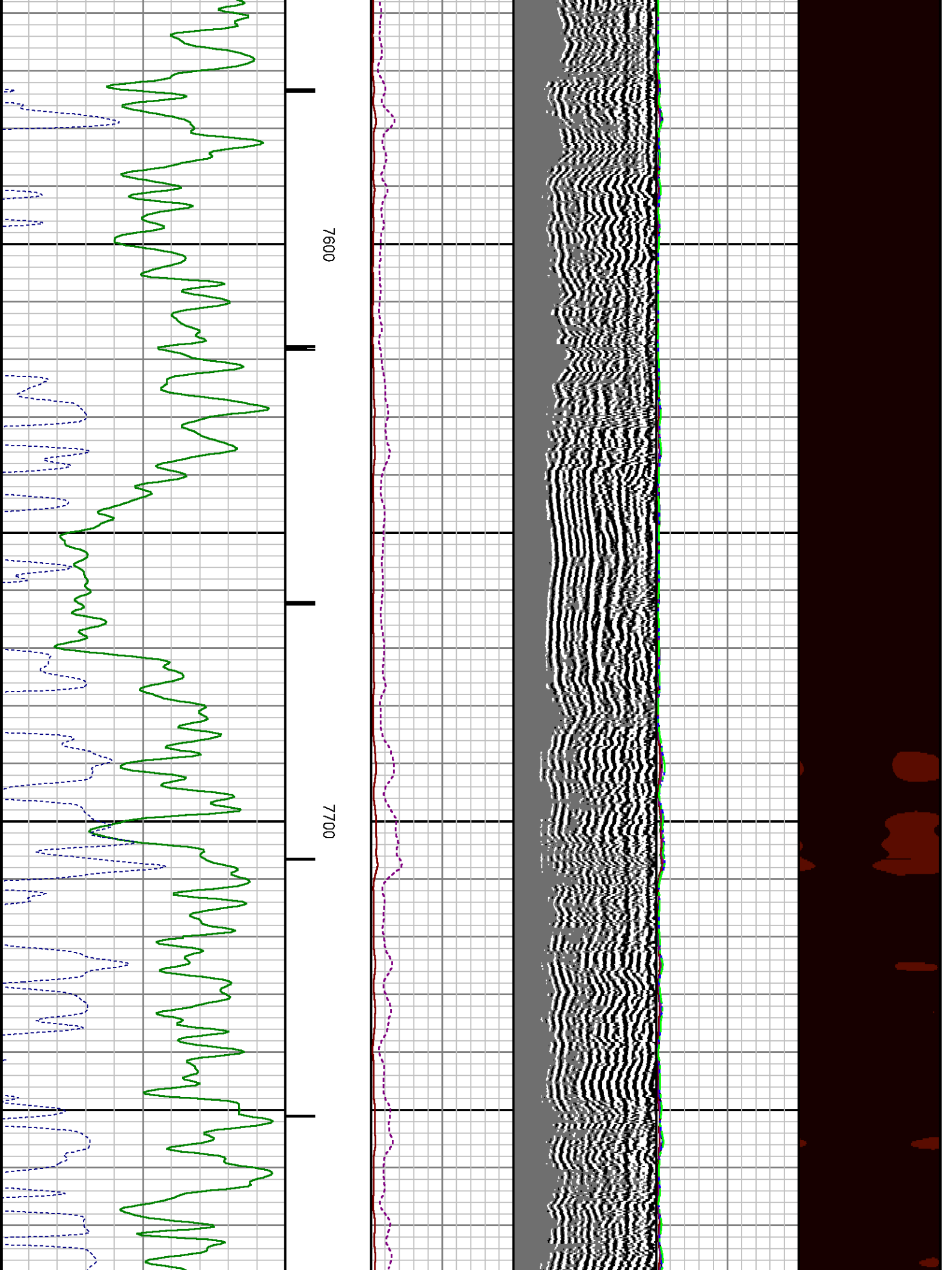


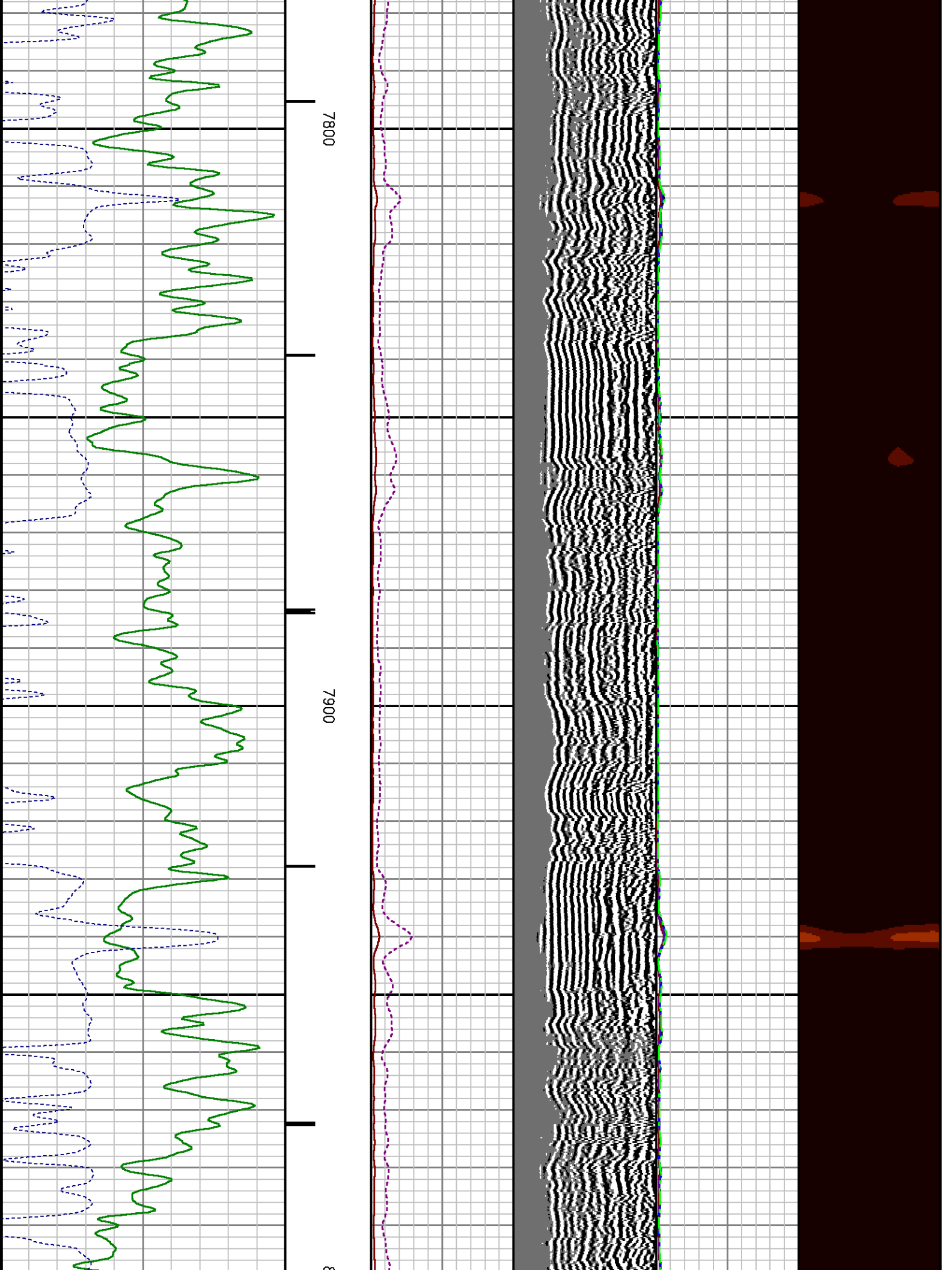


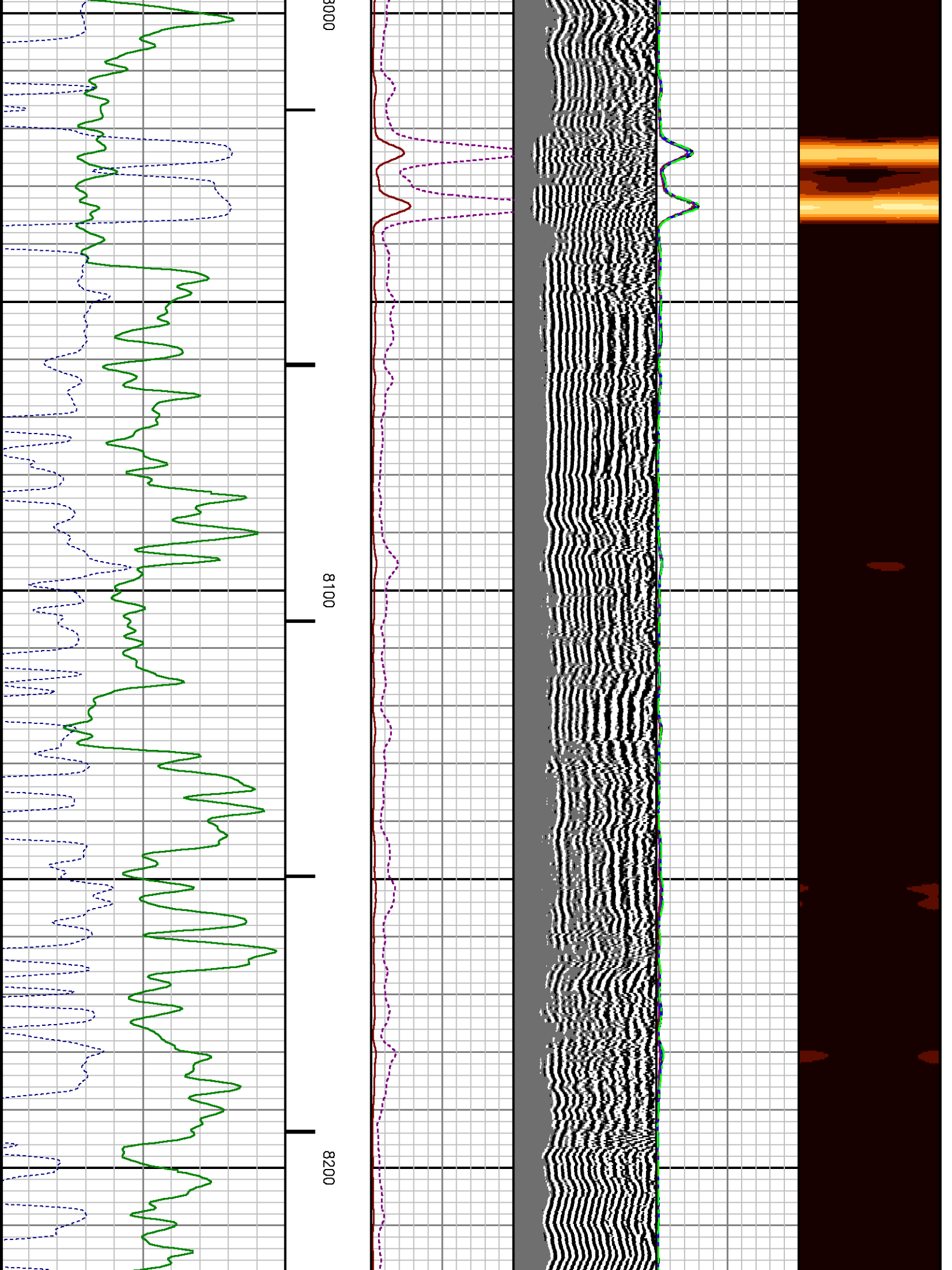


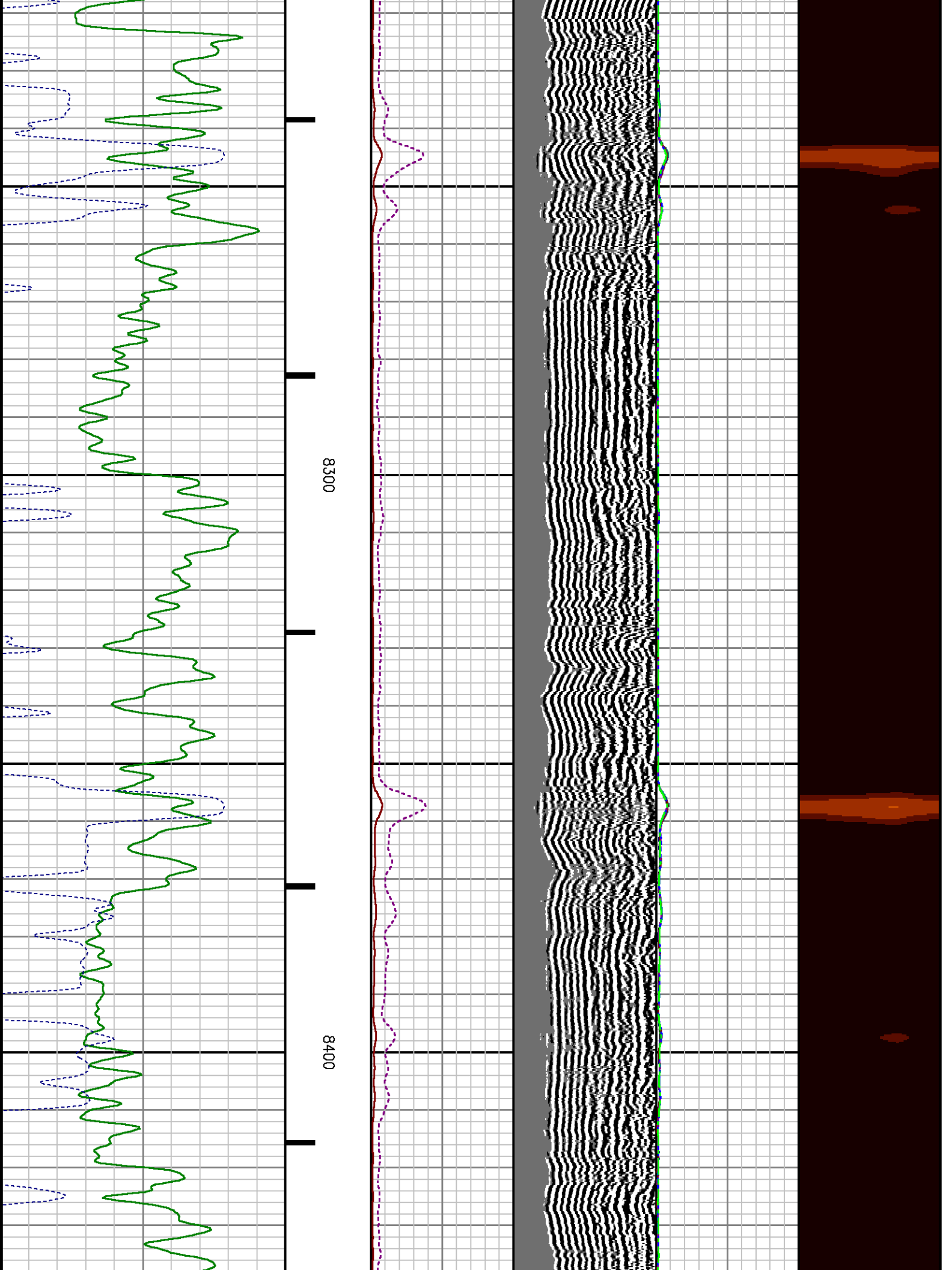


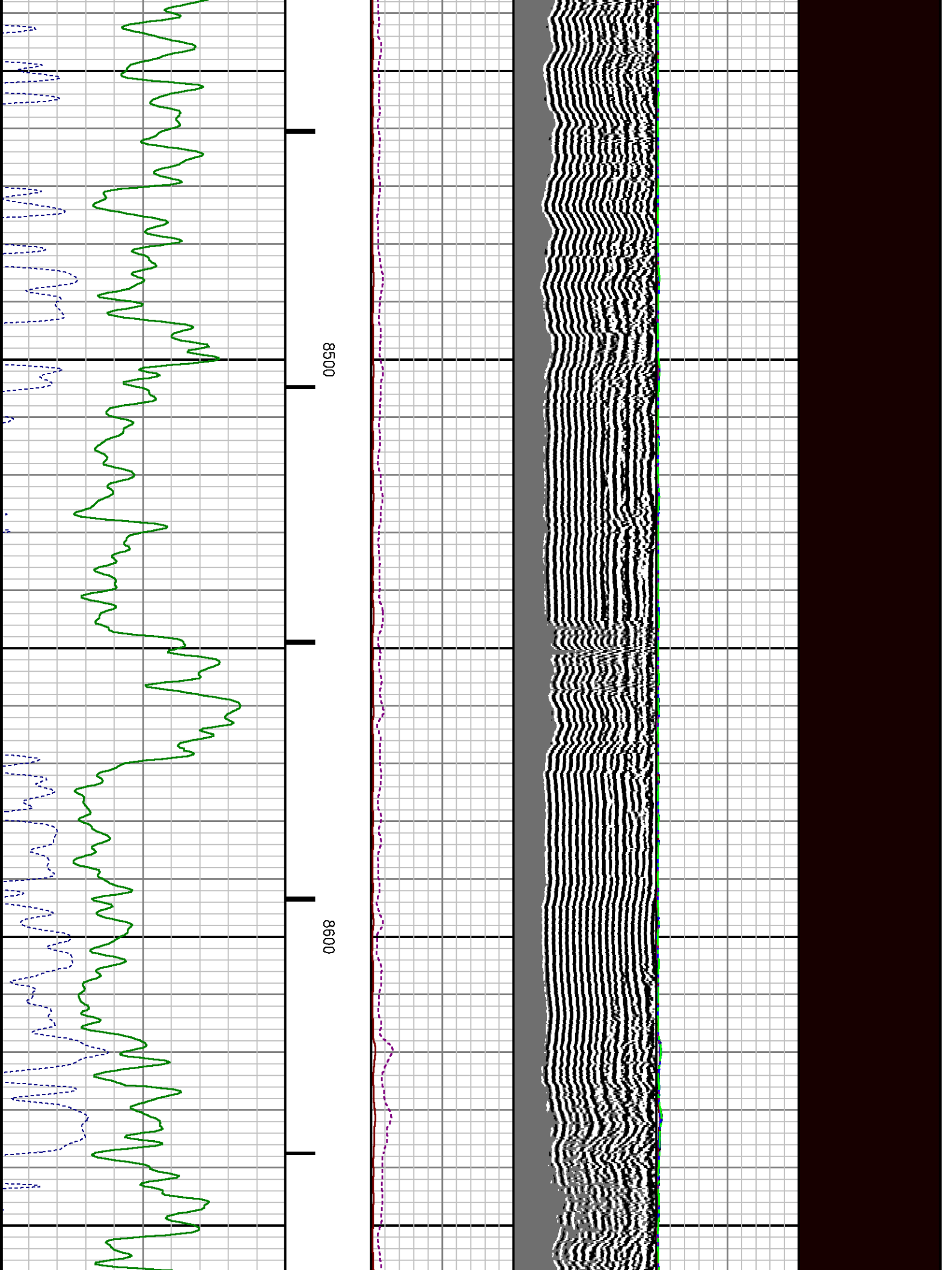


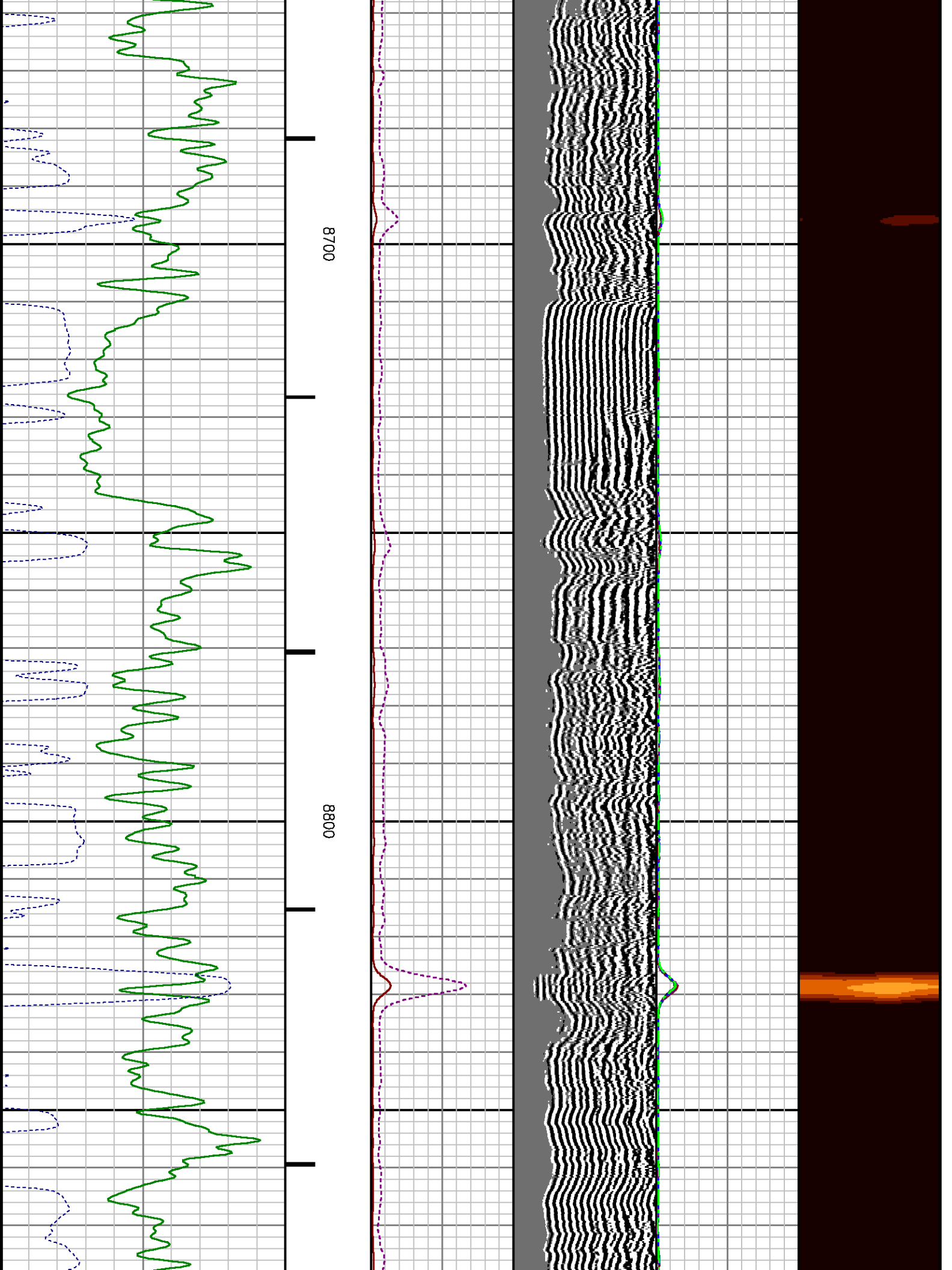


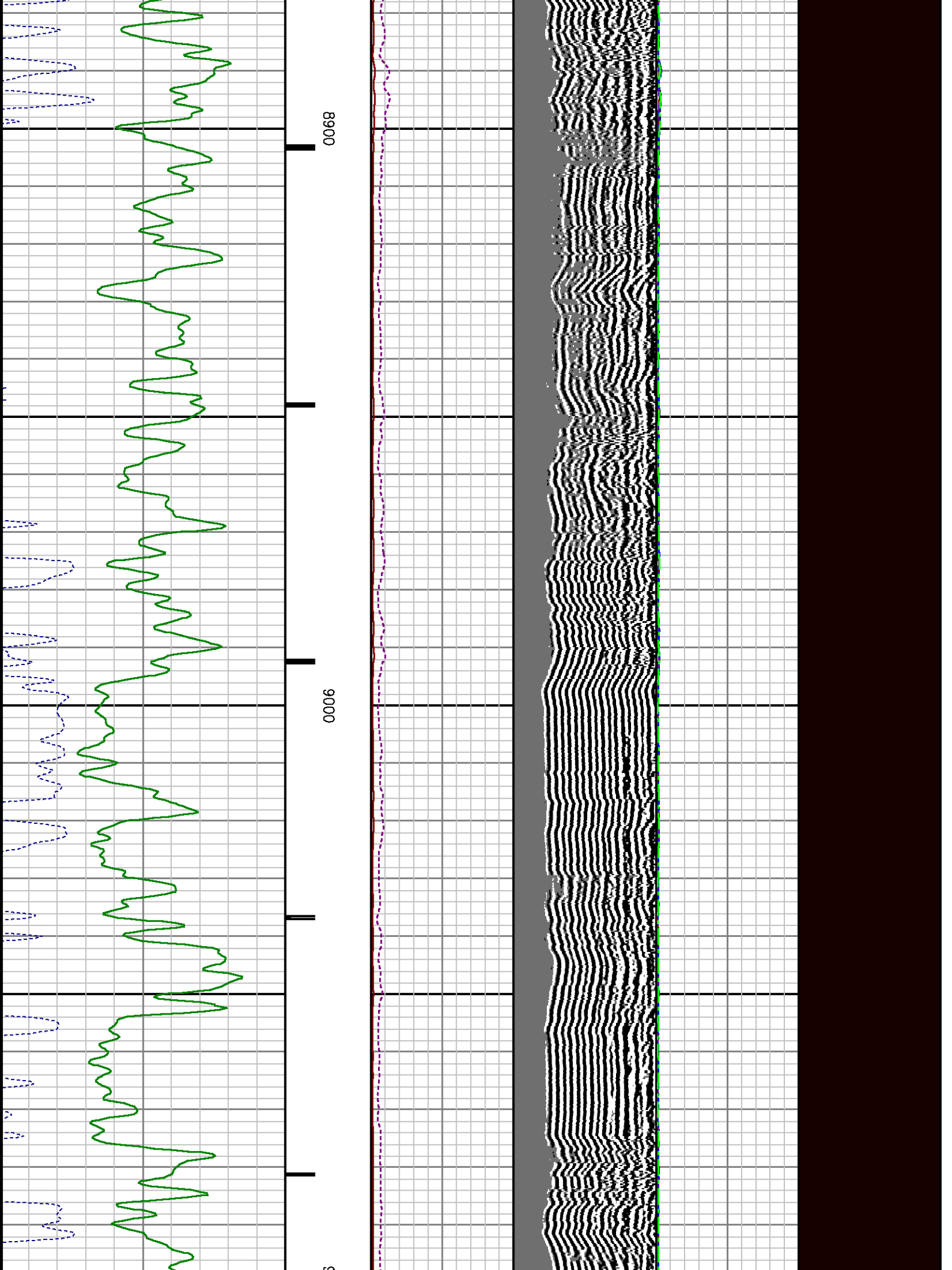


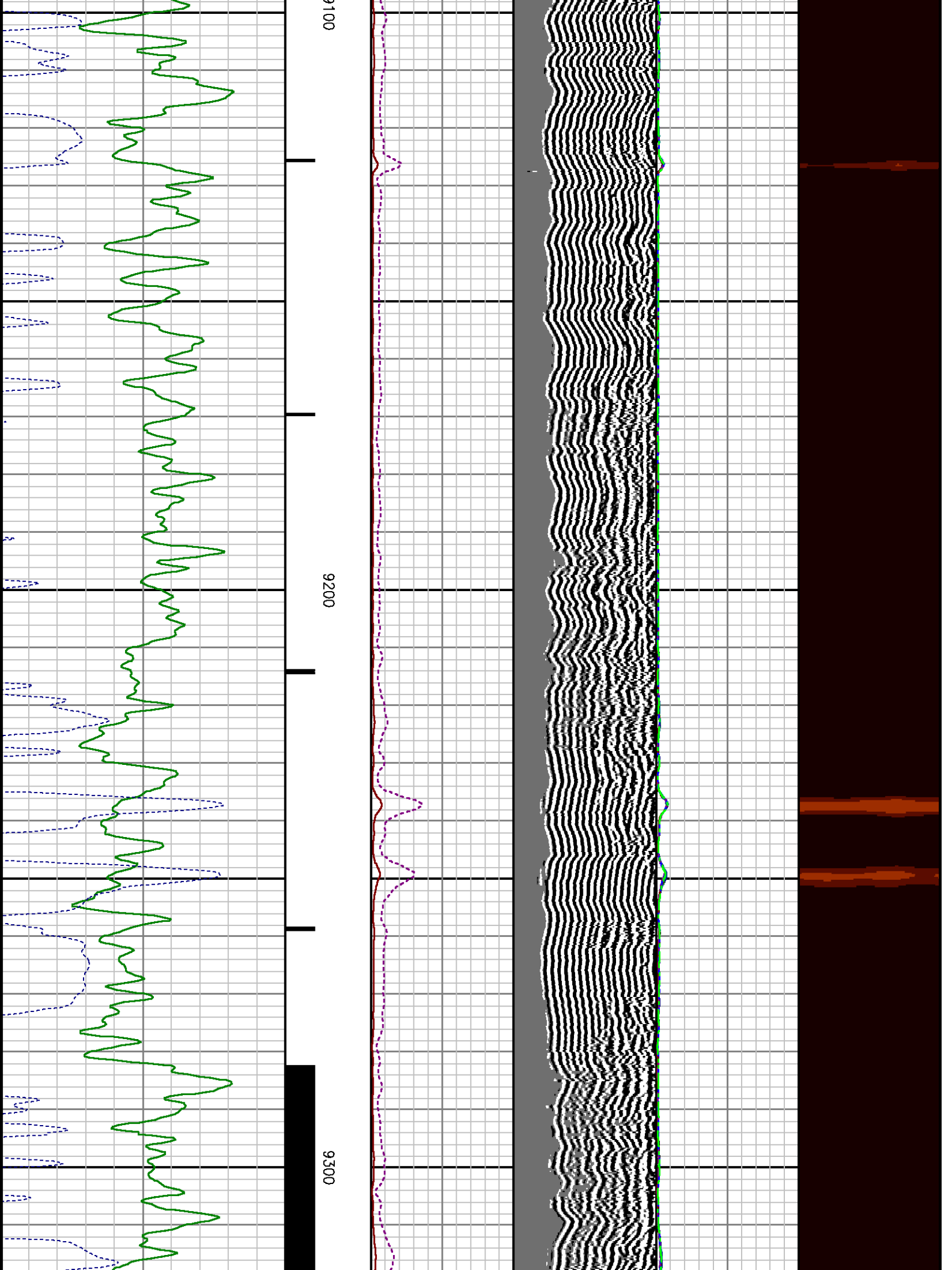


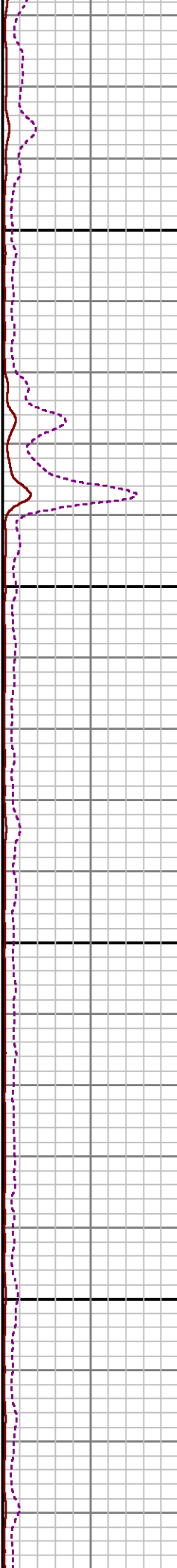
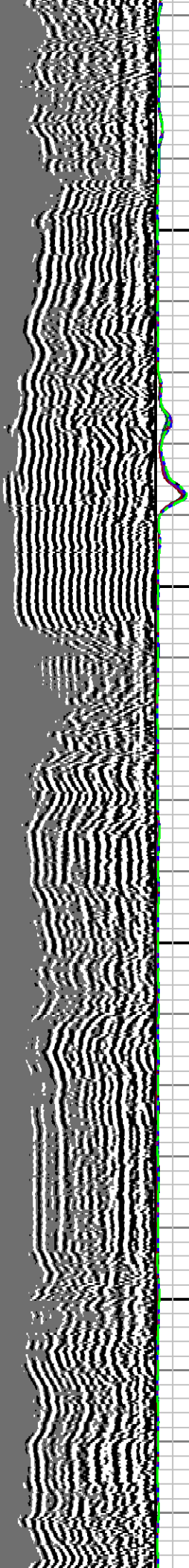
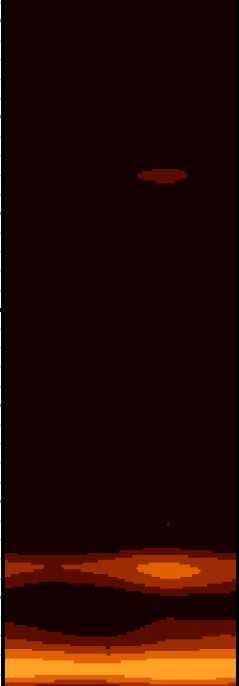






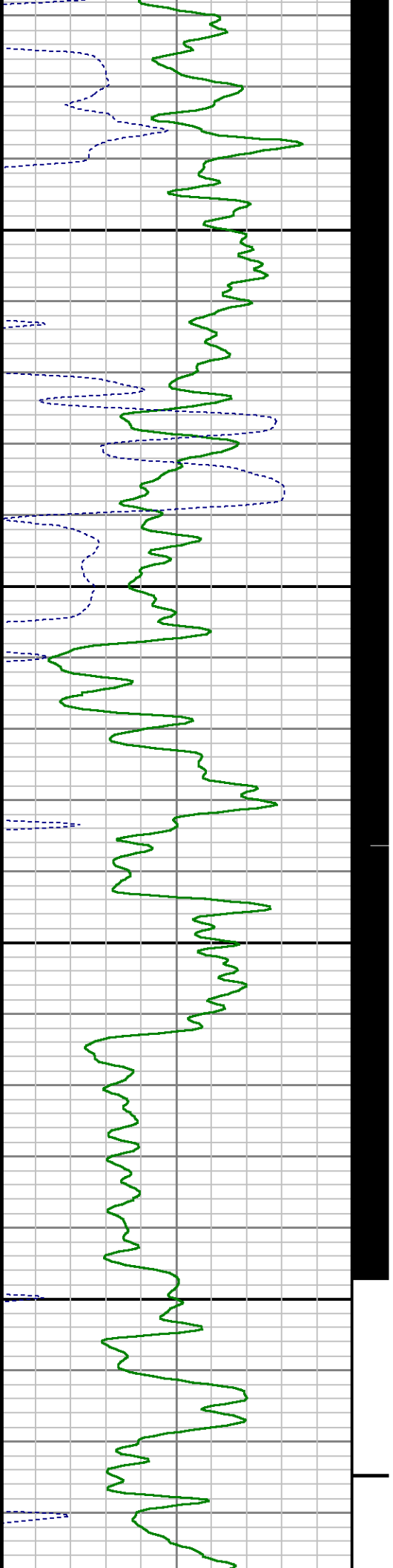


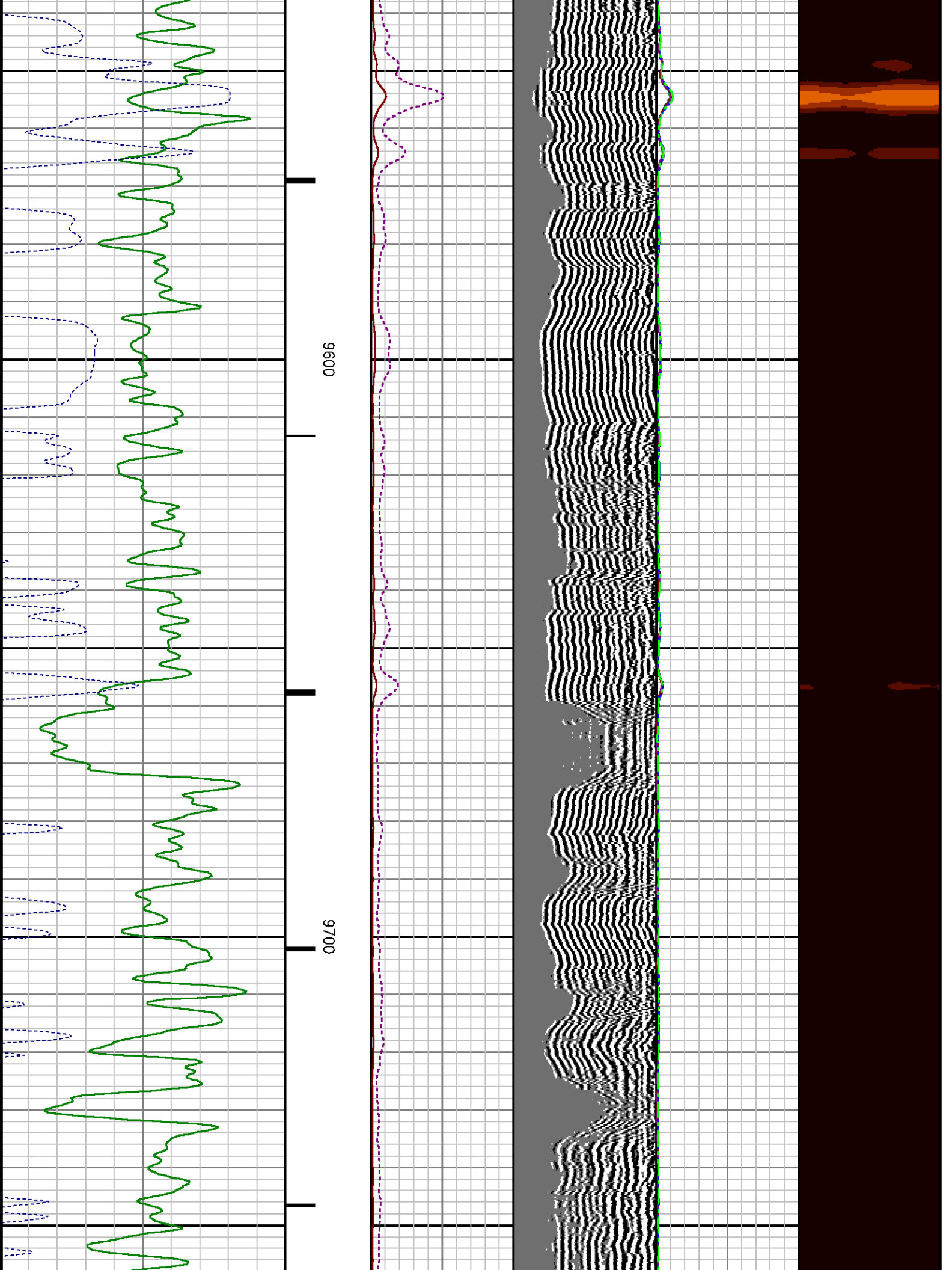


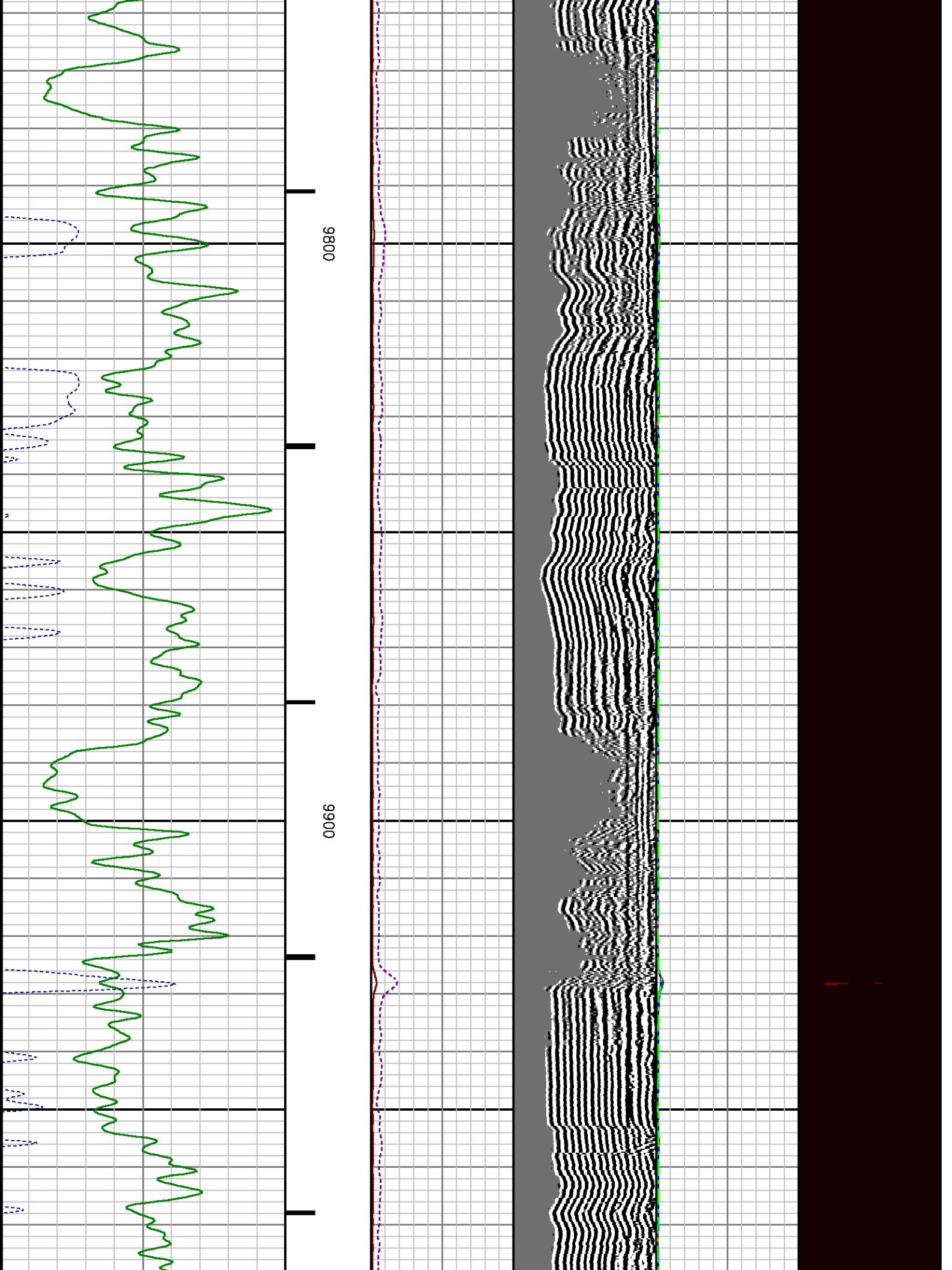


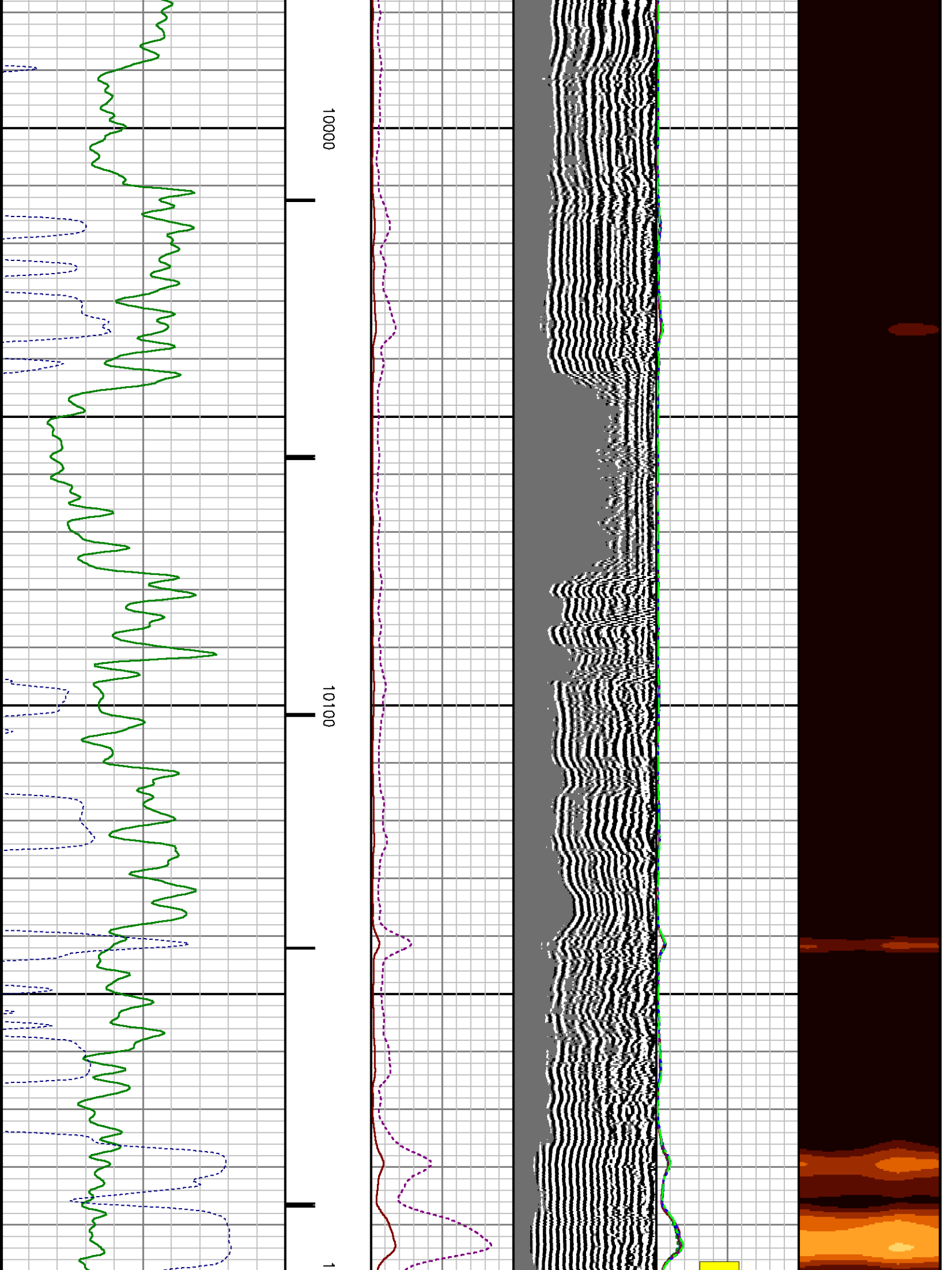
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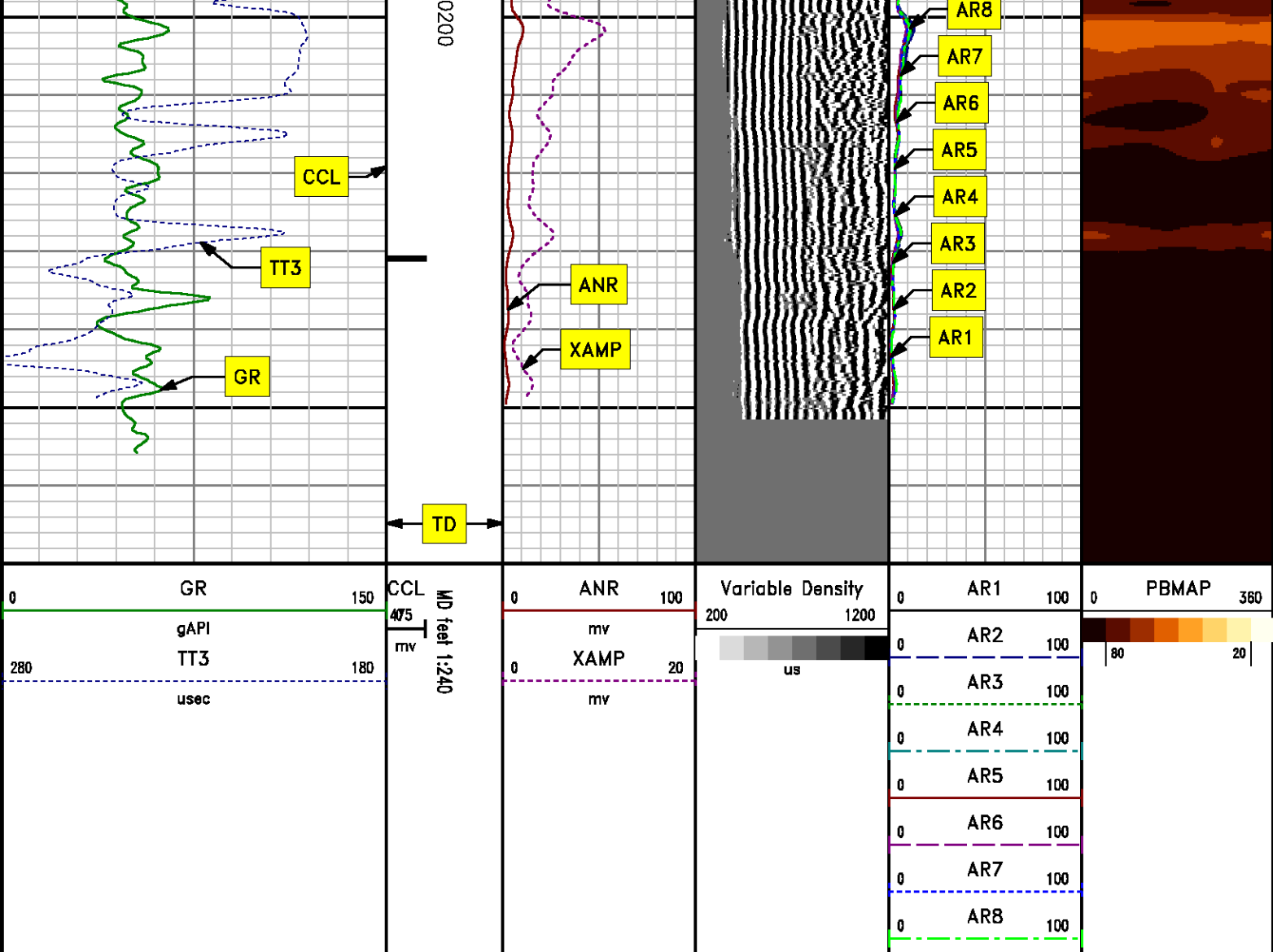
9500











REPEAT SECTION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	u sec	9927.540	10266.790
RAL	Amp Gate Start Near	195.000	u sec	9927.540	10266.790
RAL	Amp Gate Start Radial	195.000	u sec	9927.540	10266.790
RAL	Amp Gate Width Far	25.000	u sec	9927.540	10266.790
RAL	Amp Gate Width Near	25.000	u sec	9927.540	10266.790
RAL	Amp Gate Width Radial	25.000	u sec	9927.540	10266.790

RAL	Amp Gate Width Radial	25.000	usec	9927.540	10266.790
RAL	casing od	4.500	inches	9927.540	10266.790
RAL	casing wt	11.600	lbm/ft	9927.540	10266.790
RAL	FB Start Far	291.900	usec	9927.540	10266.790
RAL	FB Start Near	175.391	usec	9927.540	10266.790
RAL	FB Start Radial	175.391	usec	9927.540	10266.790
RAL	FB Thresh Far	10.000	mv	9927.540	10266.790
RAL	FB Thresh Near	4.000	mv	9927.540	10266.790
RAL	FB Thresh Radial	4.000	mv	9927.540	10266.790
RAL	Fluid Travel Time	200.000	usec/ft	9927.540	10266.758

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

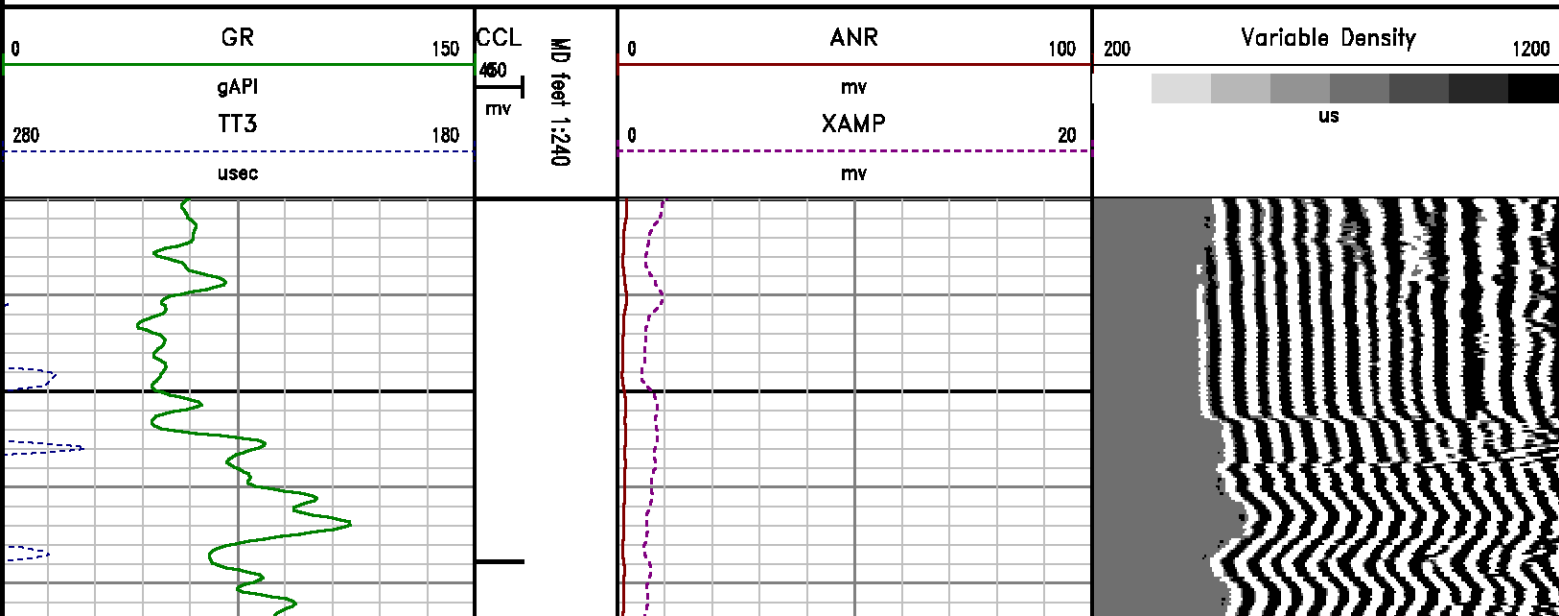
Well : FEDERAL NER 444-32

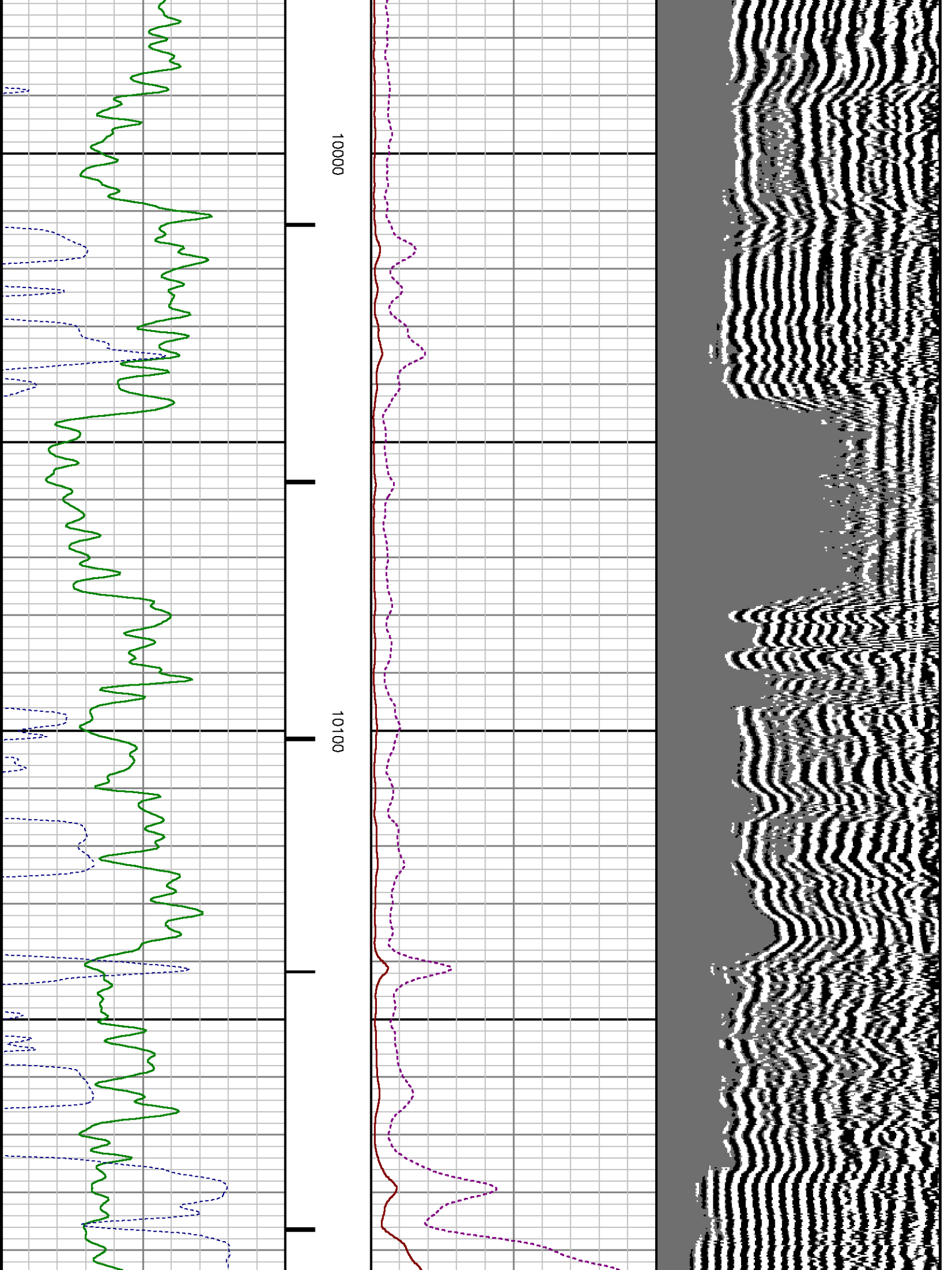
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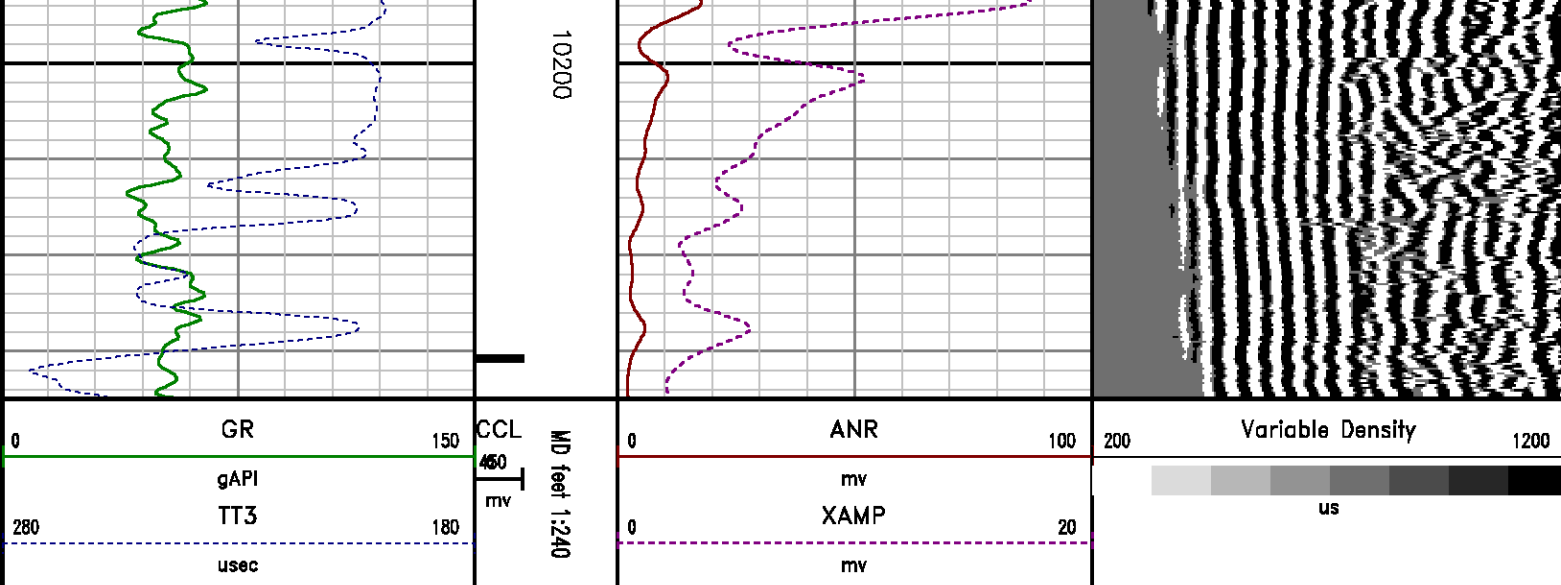
Mode : PlotMgr 5.4.504

Interval : 9930.00 - 10235.00 feet UP

Created : 2/14/2014 10:31:01 AM







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 [usec] -56.00 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	218	216	30	166	25	0.333	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

PAILED

Wellsite Calibration: C:\case\calver\RAIFLD\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] -56.00 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	0.034	0.000	1.00	100.000
3 Ft. Receiver	200	30	1.548			
5 Ft. Receiver	317	30	0.974			
Radial #1	200	30	1.075			
Radial #2	200	30	1.078			
Radial #3	200	30	1.220			
Radial #4	200	30	1.223			
Radial #5	200	30	1.454			
Radial #6	200	30	1.520			
Radial #7	200	30	1.230			
Radial #8	200	30	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	71.78	314.67	0.762	54.67	239.67	185.00

Verification File: C:\case\calver\GR\121J2.VP

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

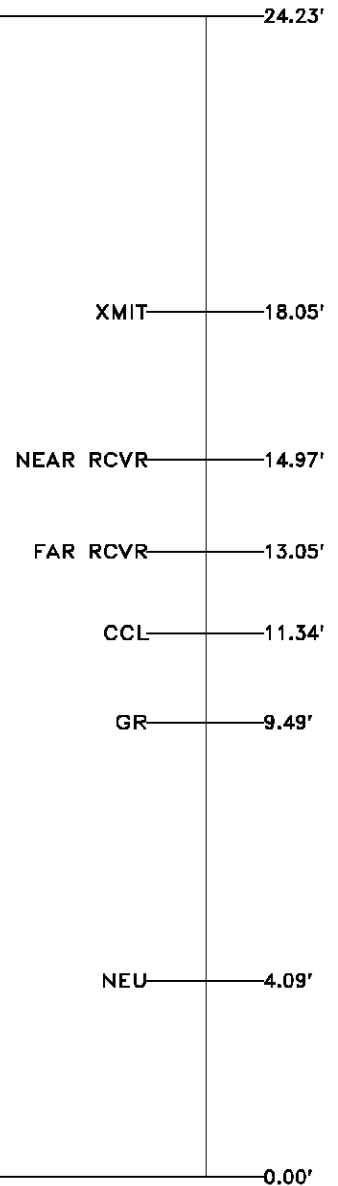
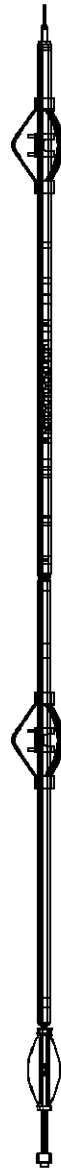
Series 1426XA
 Mnemonic PROB
 Diameter 2.75"
 Length 11.17'
 Measure Point 0.75' FAR RCVR
 Measure Point 2.67' NEAR RCVR
 Measure Point 5.75' XMIT
 Temp Rating 350.00 °F
 Press Rating 18000.00 PSI

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 NER 444-32

Field

RULISON

County

GARFIELD

State

CO

Location

SHL: 204' FNL & 2609' FWL (5 7S 93W)

BHL: 121' FSL & 701' FEL (32 6S 93W)

Elevations

KB 7628 ft

DF

GL 7602 ft

File No:

CH082591

API No:

05045217850000

32 6S 93W

RU 23-5 PAD

NABORS 576

SEC 32

TWP 6S

RGE 93W

CASE

Baker Atlas