



RADIAL ANALYSIS BOND LOG

Baker Atlas

File No:

1711

Company

WARATHON OIL & GAS

Well

697-12A-16

Field

GRAND VALLEY

County

CARFIELD

State

COLORADO

API No:

06-045-15034-00

Location

NE/4
1536' NUL & 1934' FEL

Other Services

3.781" GAUGE
FFM

SEC 12 TWP 6S RGE 67E

Permanent Datum

Log Measured From

Drill Measured From

G.L.

Elevation

8300 ft

K.B.

24 ft

Above P. D.

Elevations

KB 8322 ft
DF 8321 ft
GL 8300 ft

KELLY BUSHING

GL 8300 ft

Date

6-JUL-2009

Run

ONE

Service Order

547430

Depth Driller

9644 ft

Depth Logger

9636 ft

Bottom Logged Interval

9636 ft

Top Logged Interval

2800 ft

Time Started

00:00

Time Finished

06:00

Operator Rig Time

5 HRS

Type of Fluid in Hole

WATER

Fluid Density

N/A

Salinity

N/A

Fluid Level

PULL

Logged Cement Top

2940 ft

Wellhead Pressure

1000 psi

Maximum Hole Deviation

N/A

Nominal Logging Speed

40 fpm

Maximum Recorded Temperature

N/A

Reference Log

N/A

Reference Log Date

N/A

Equipment No.

8054

Recorded By

TIM KAUFF

Witnessed By

MR. BILL ARENT

- 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
24 in	SURFACE	146 ft
17.5 in	SURFACE	2789 ft
8.75 in		

Casing Record

Size	Weight	Grade	From	To
20 in	84 lbm/ft	N/A	SURFACE	146 ft
9.825 in	36 lbm/ft	J-55	SURFACE	2789 ft
4.5 in	11.6 lbm/ft	P-110	SURFACE	9830 ft

Remarks

THE CREW OF 8054 THANKS YOU.

Equipment Data

Run	Trip	Tool	Series Number	Serial Number	Position

1	1	MANDREL	1426XA	1021B502	CENTRALIZED
1	1	GAUSSIAN RAY	2458XA	1021B510	CENTRALIZED

MAIN SECTION
PRIMARY PRESENTATION
1000# PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	316.900	usec	29.221	9572.000
RAL	Amp Gate Start Near	200.391	usec	29.221	9572.000
RAL	Amp Gate Start Radial	200.391	usec	29.221	9572.000
RAL	Amp Gate Width Far	25.000	usec	29.221	9572.000
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RAL	casing wt	11.600	lbm/ft	29.221	9572.000
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RAL	FB Thresh Far	10.000	mv	29.221	9572.000
RAL	FB Thresh Near	10.000	mv	29.221	9572.000
RAL	FB Thresh Radial	10.000	mv	29.221	9572.000
RAL	Fluid Travel Time	200.000	usec/ft	29.221	9571.983

DEPTH OFFSETS
(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-15.360	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	ARB	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
		AFAR	SIG	TT5			
1426XA	-14.360						
1426XA	-7.250	GCL					

1426XA
1426XA

-5.390
0.000

GR
NEU

Created by : RAL, v4.8.007

Plotted by : PlotMgr, v5.4.504

Company : MARATHON OIL & GAS

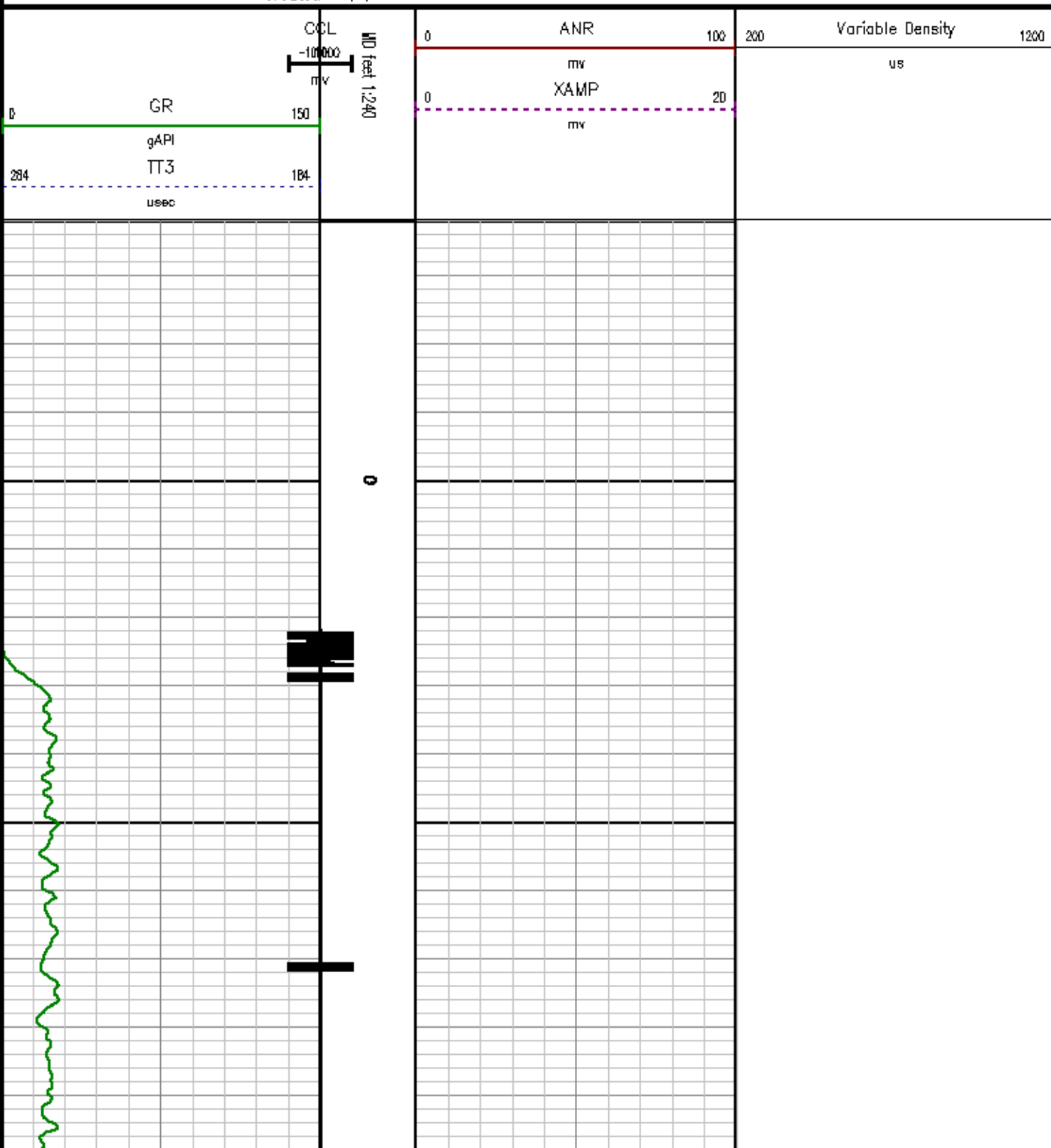
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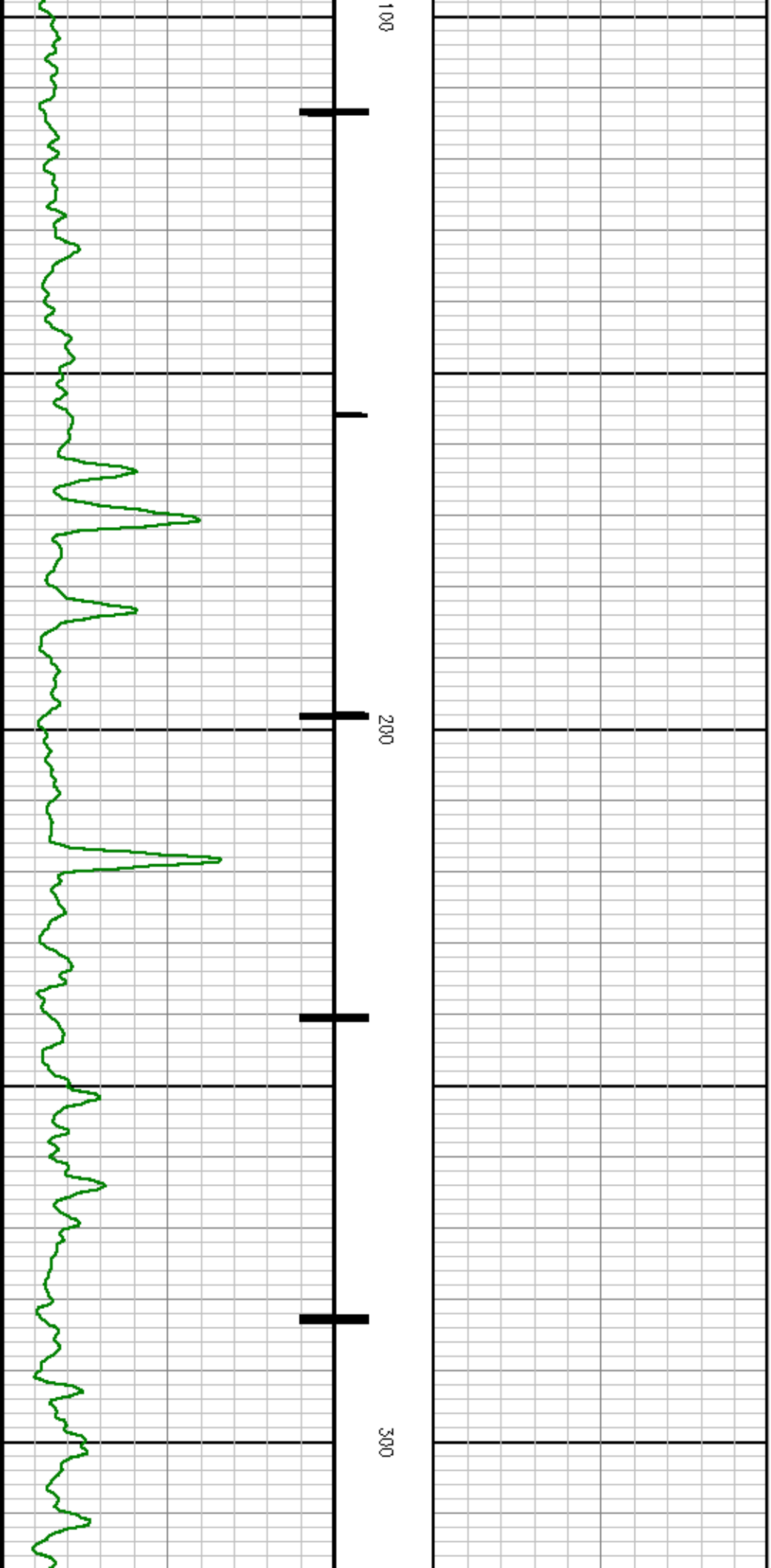
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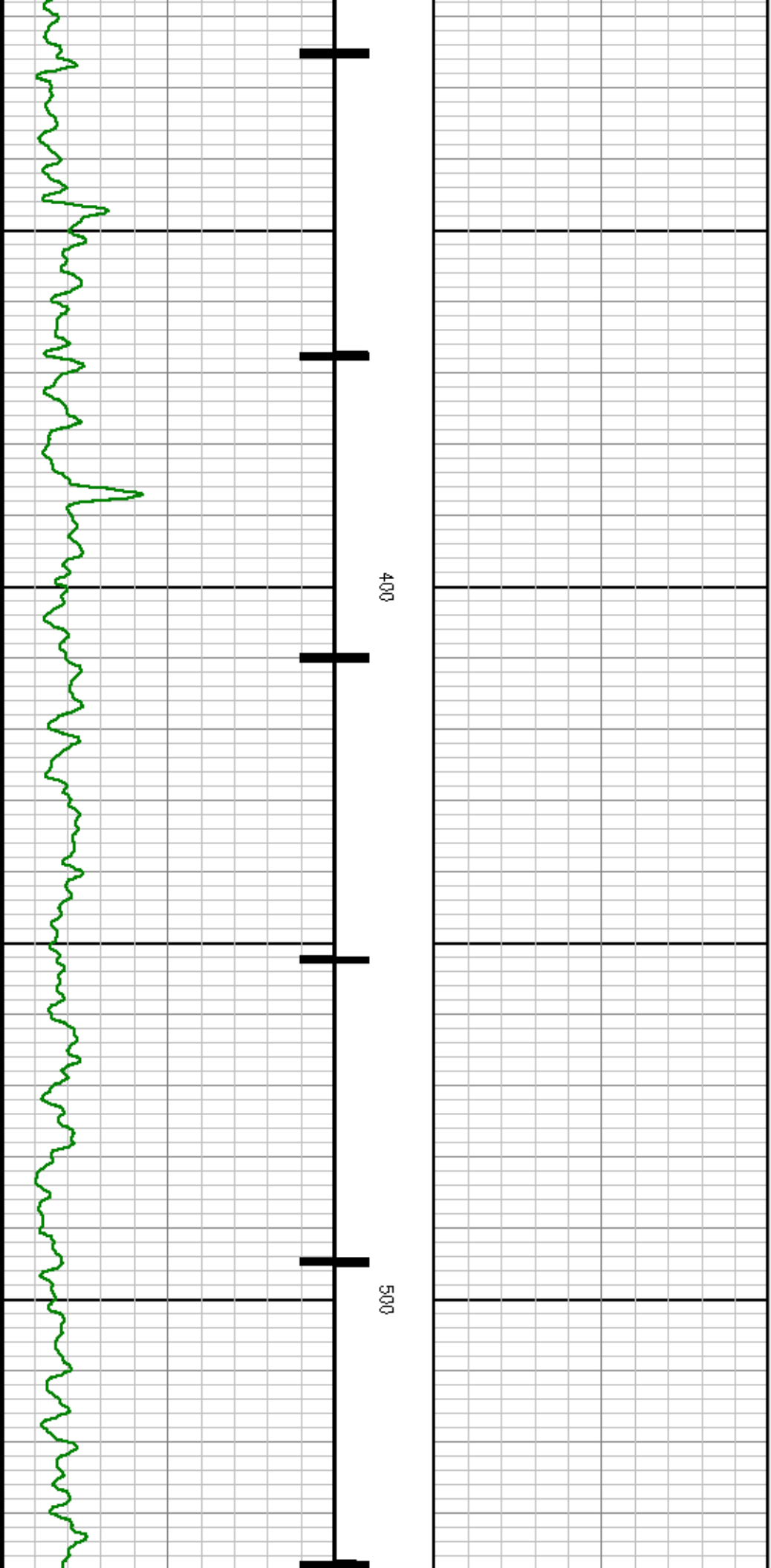
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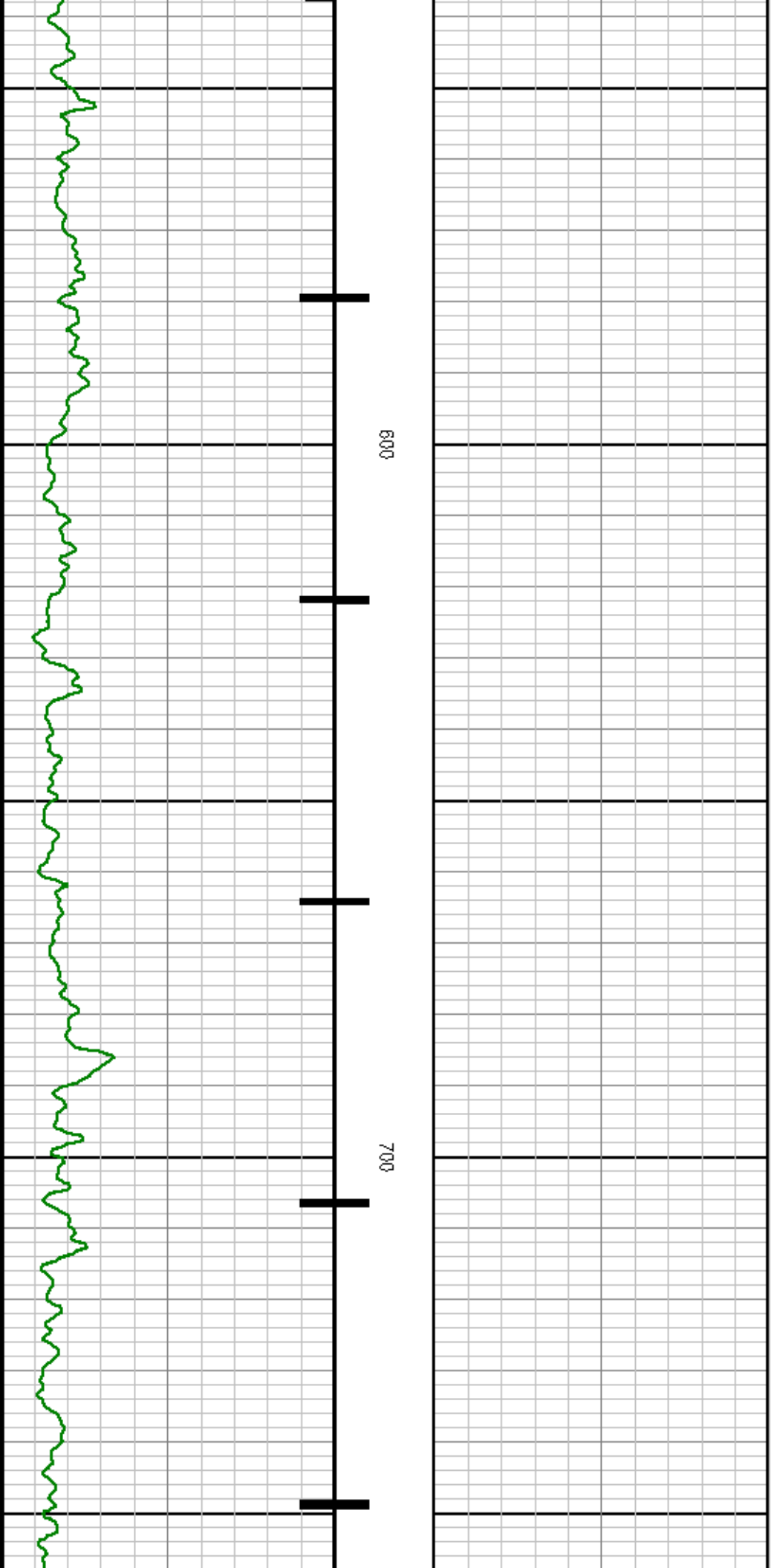
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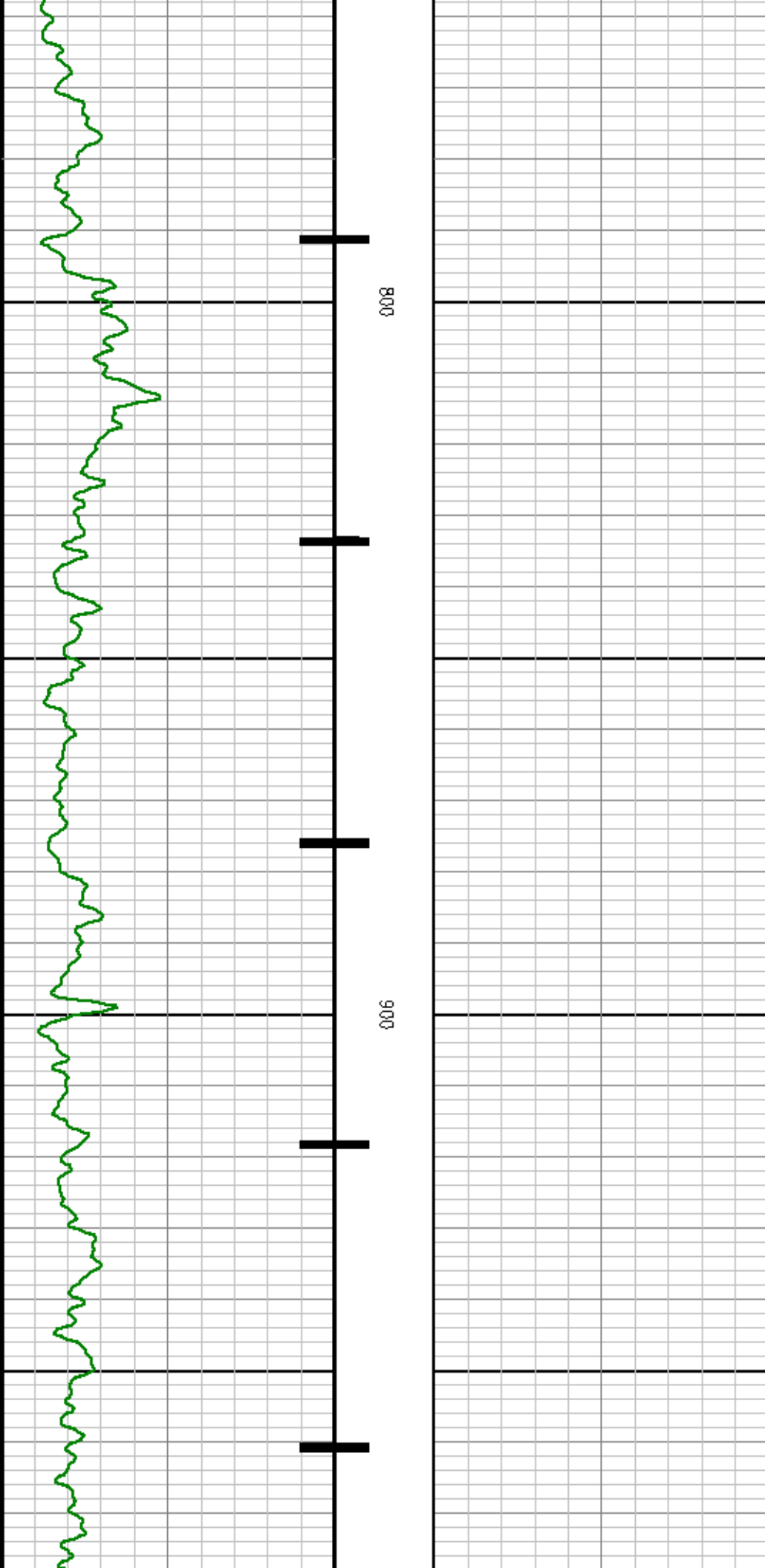
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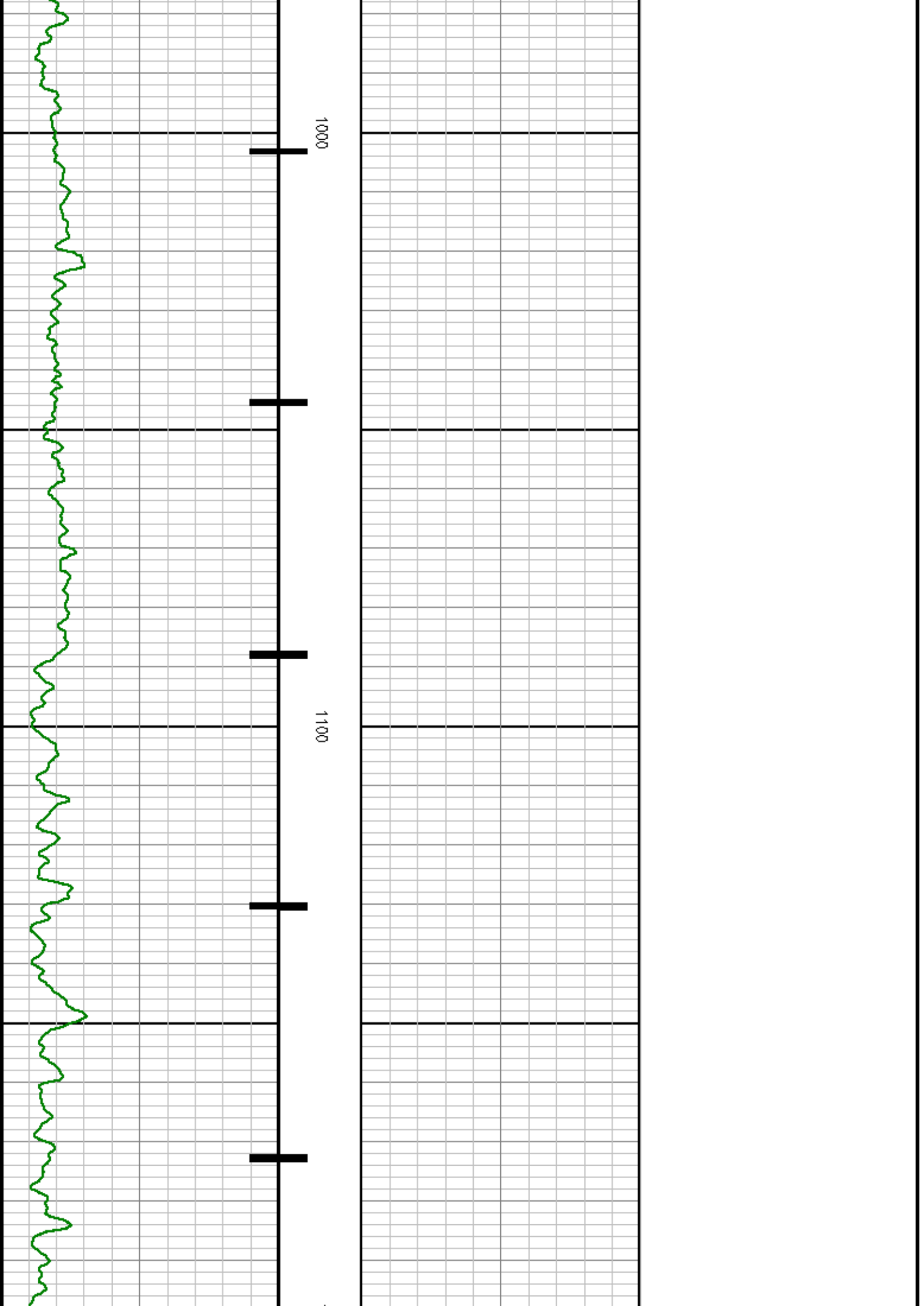


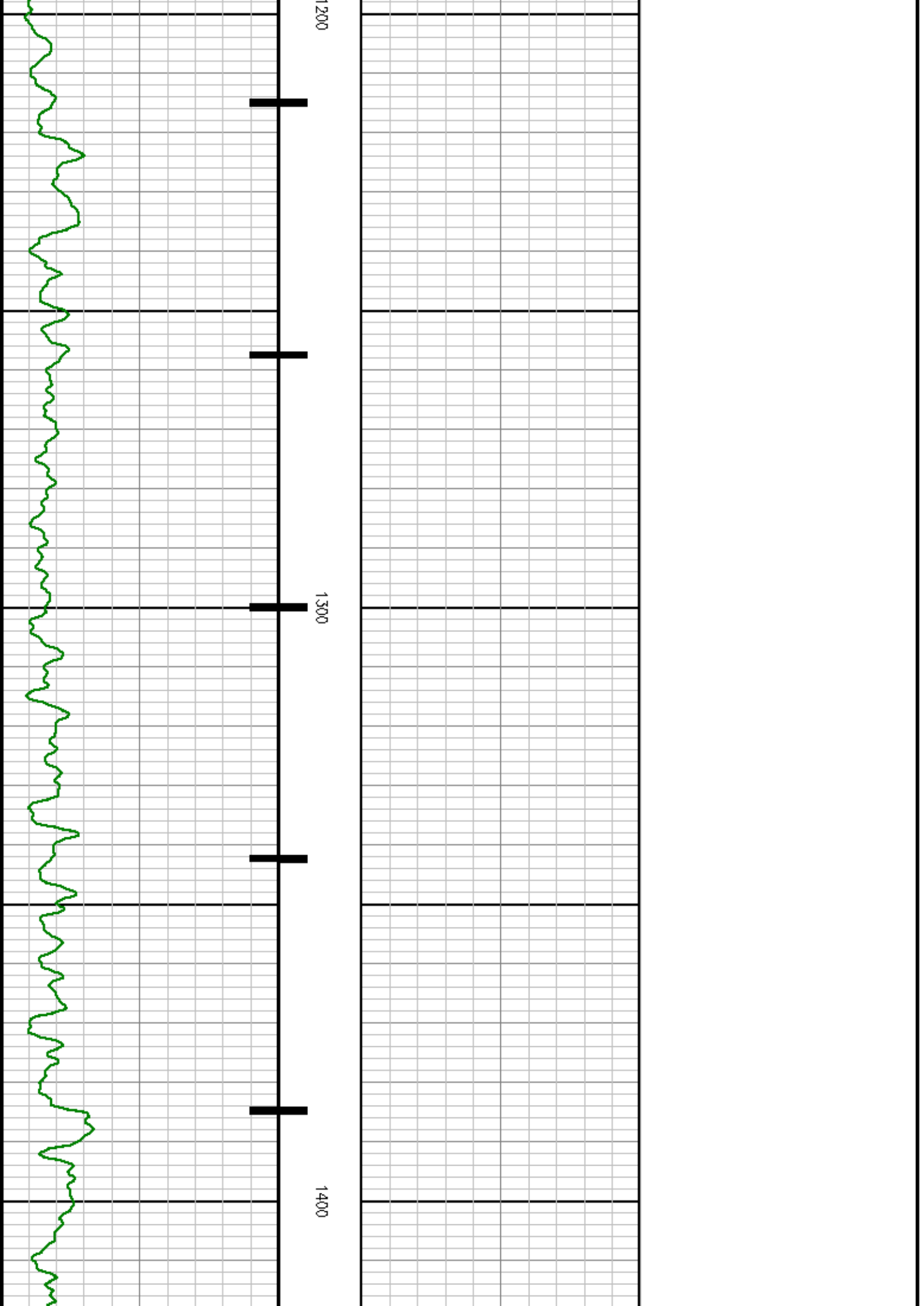


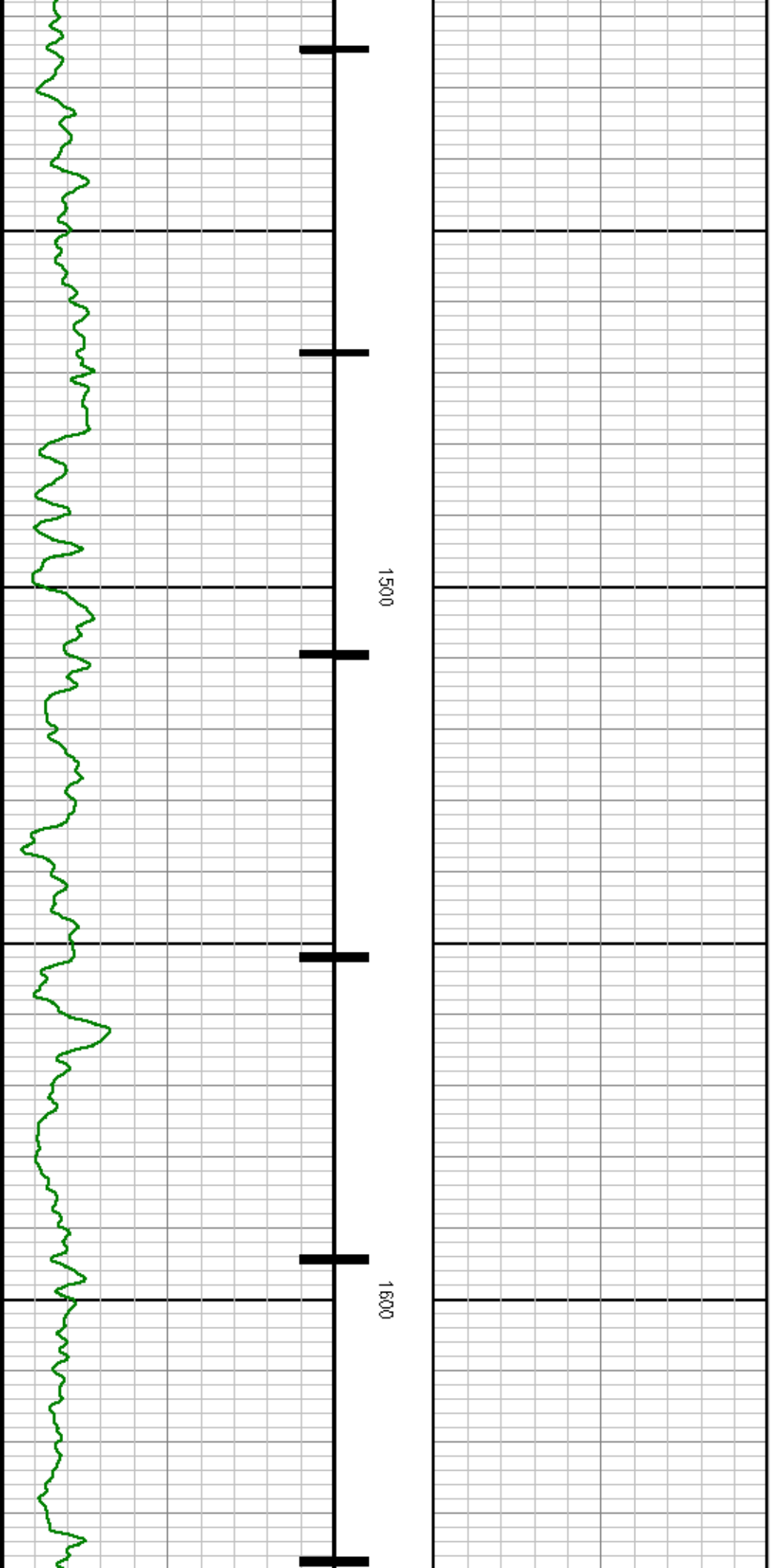


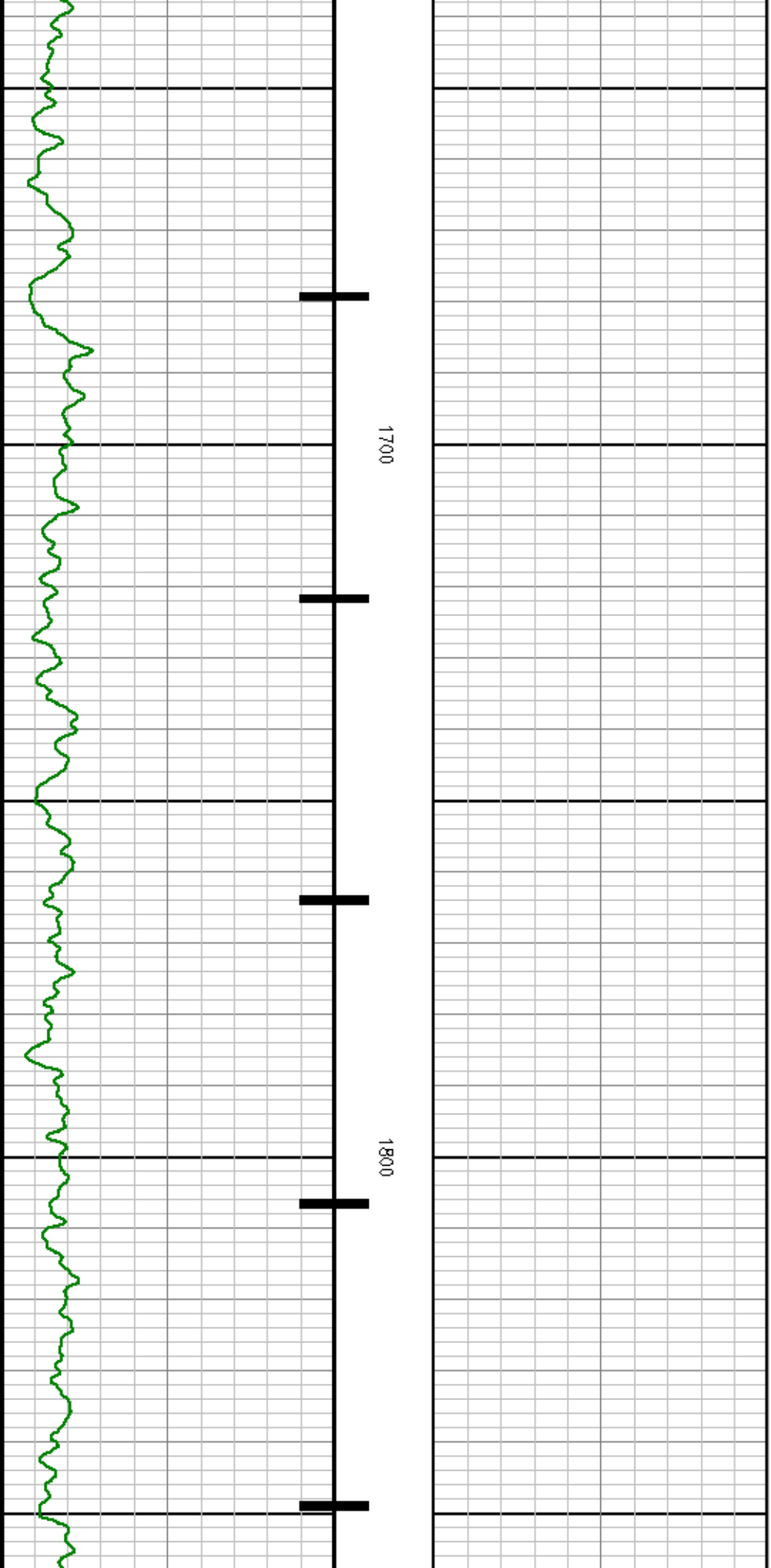


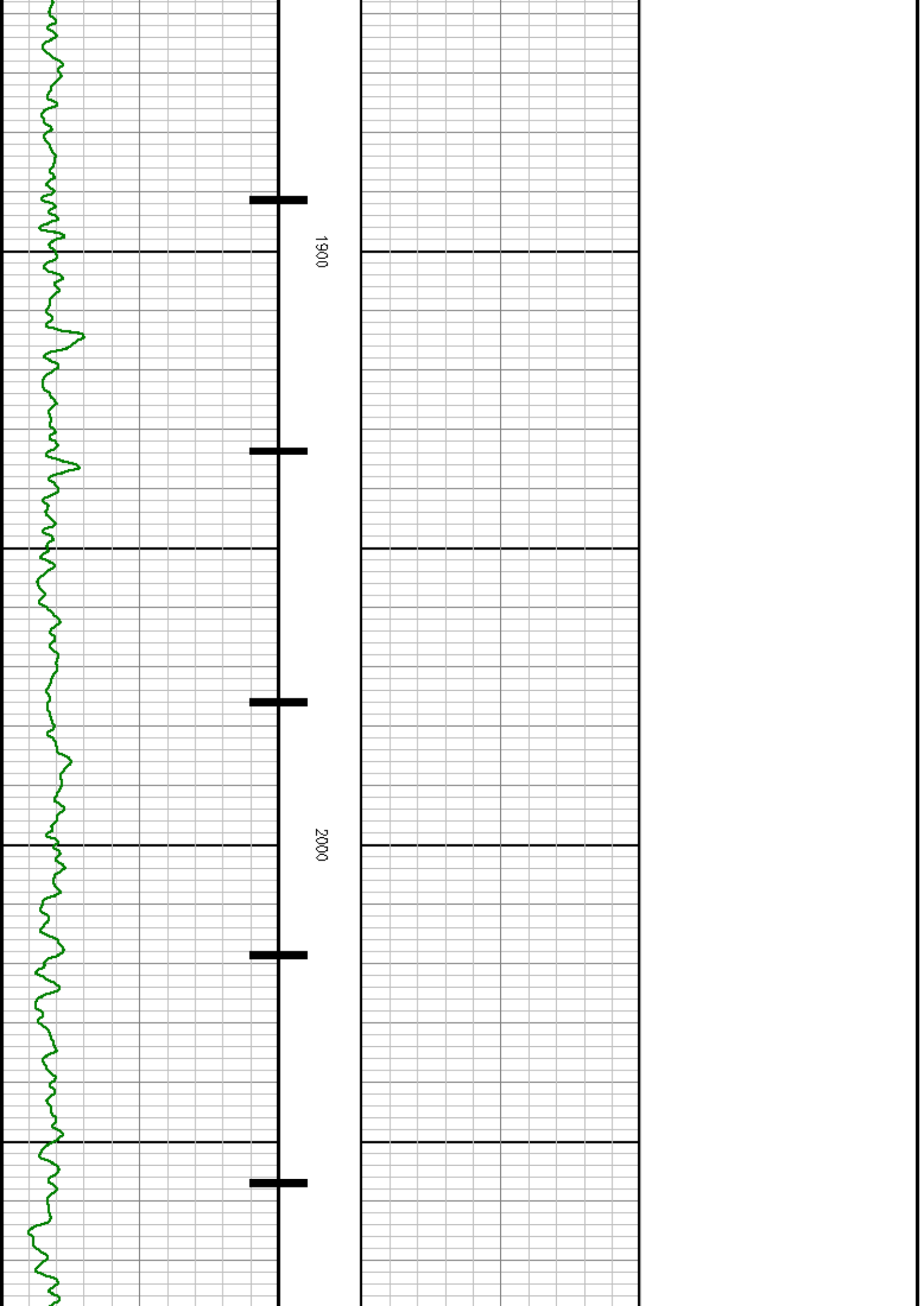


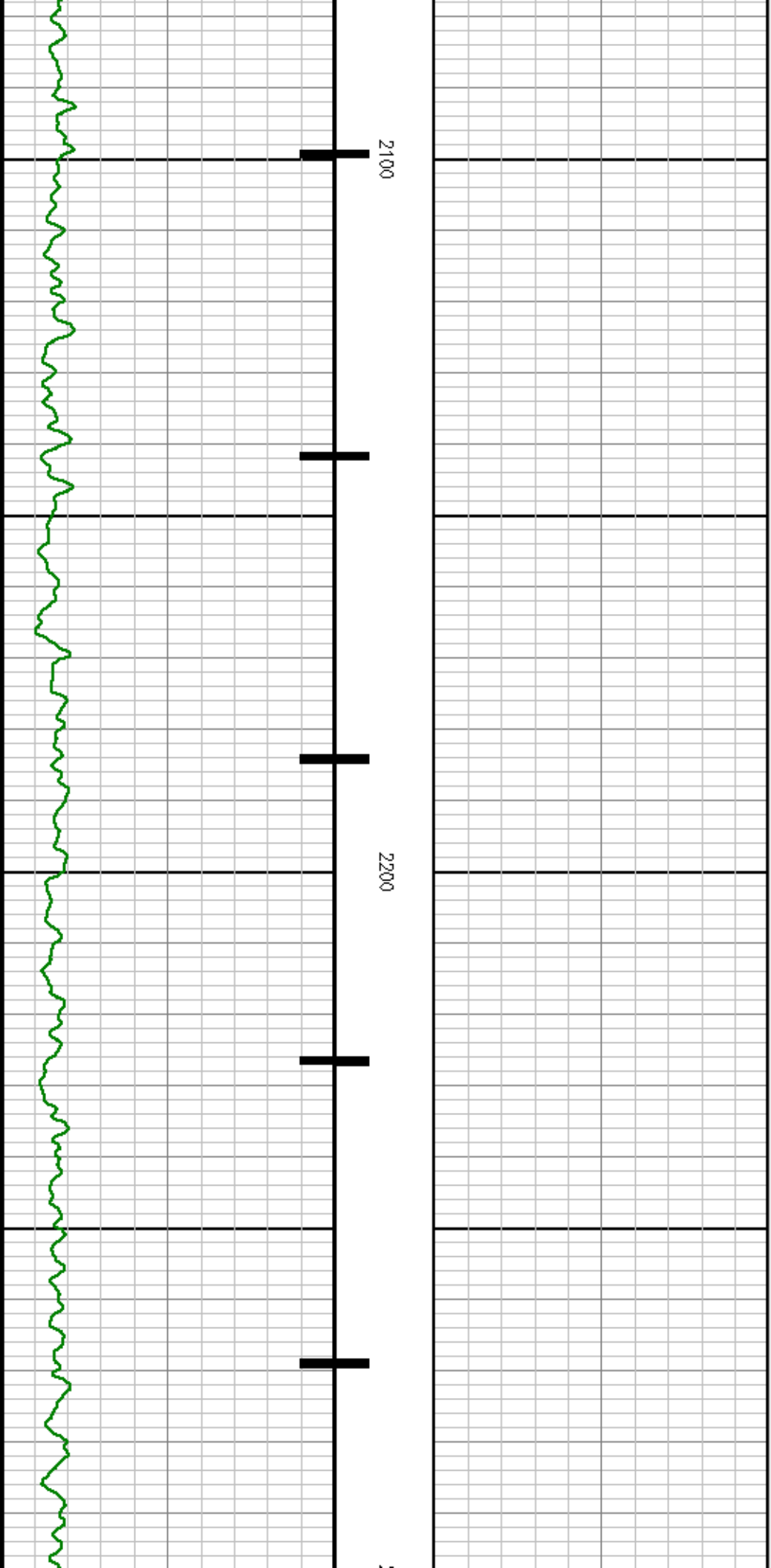


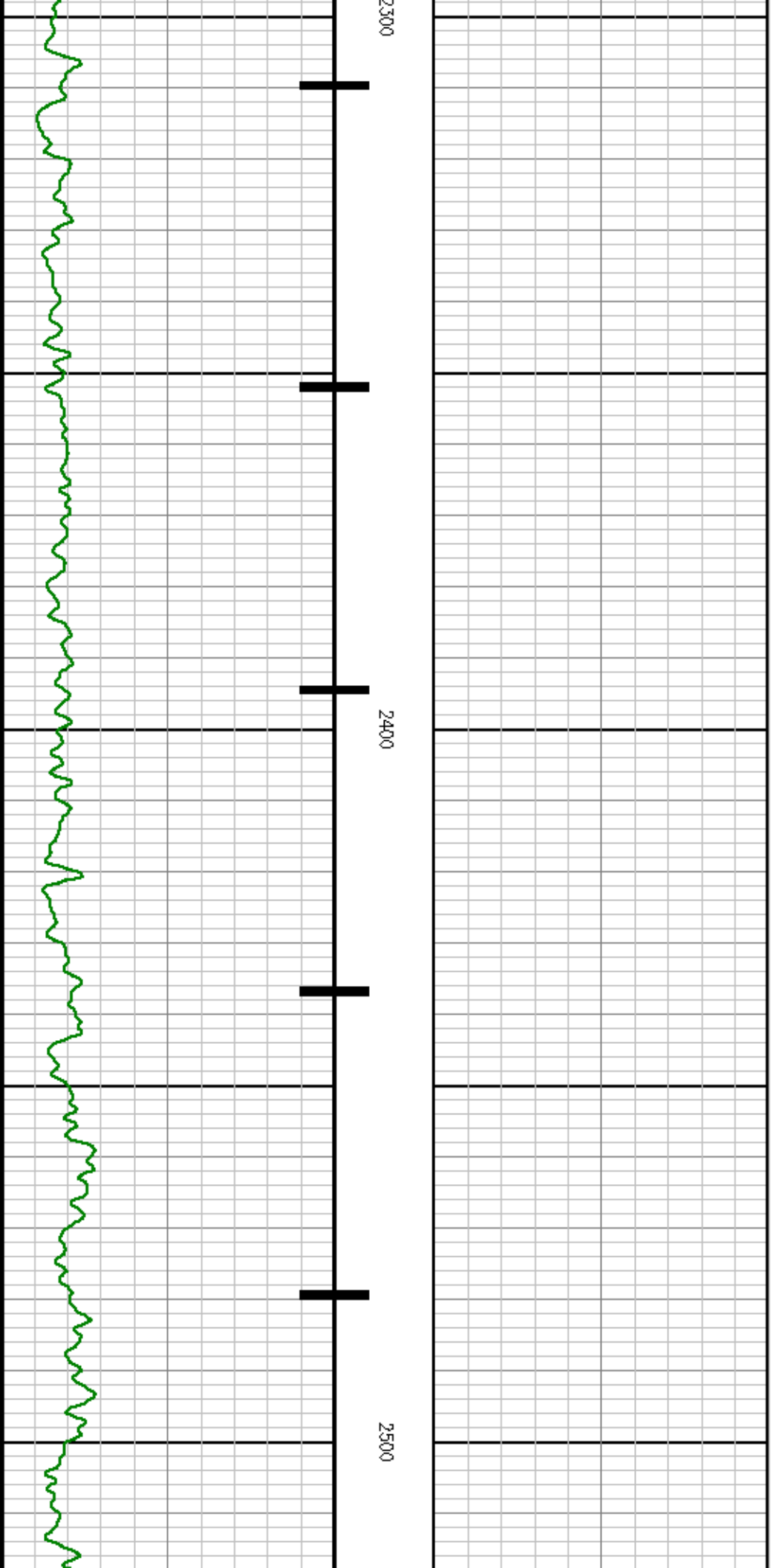


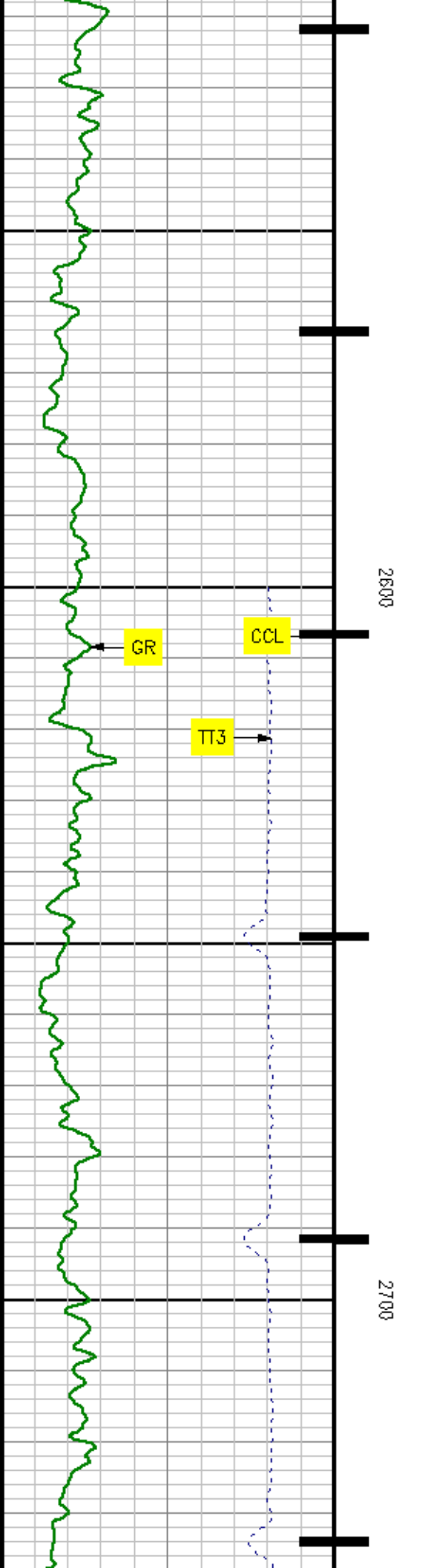
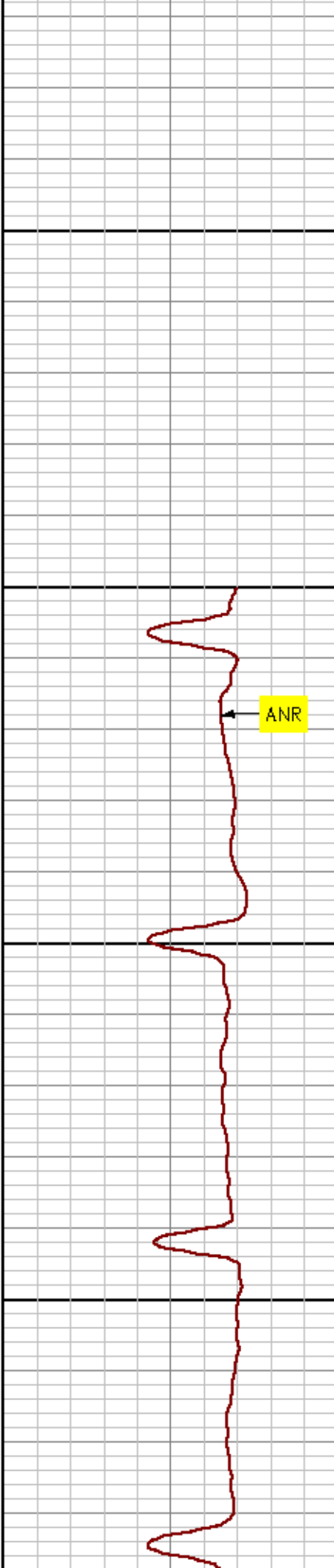


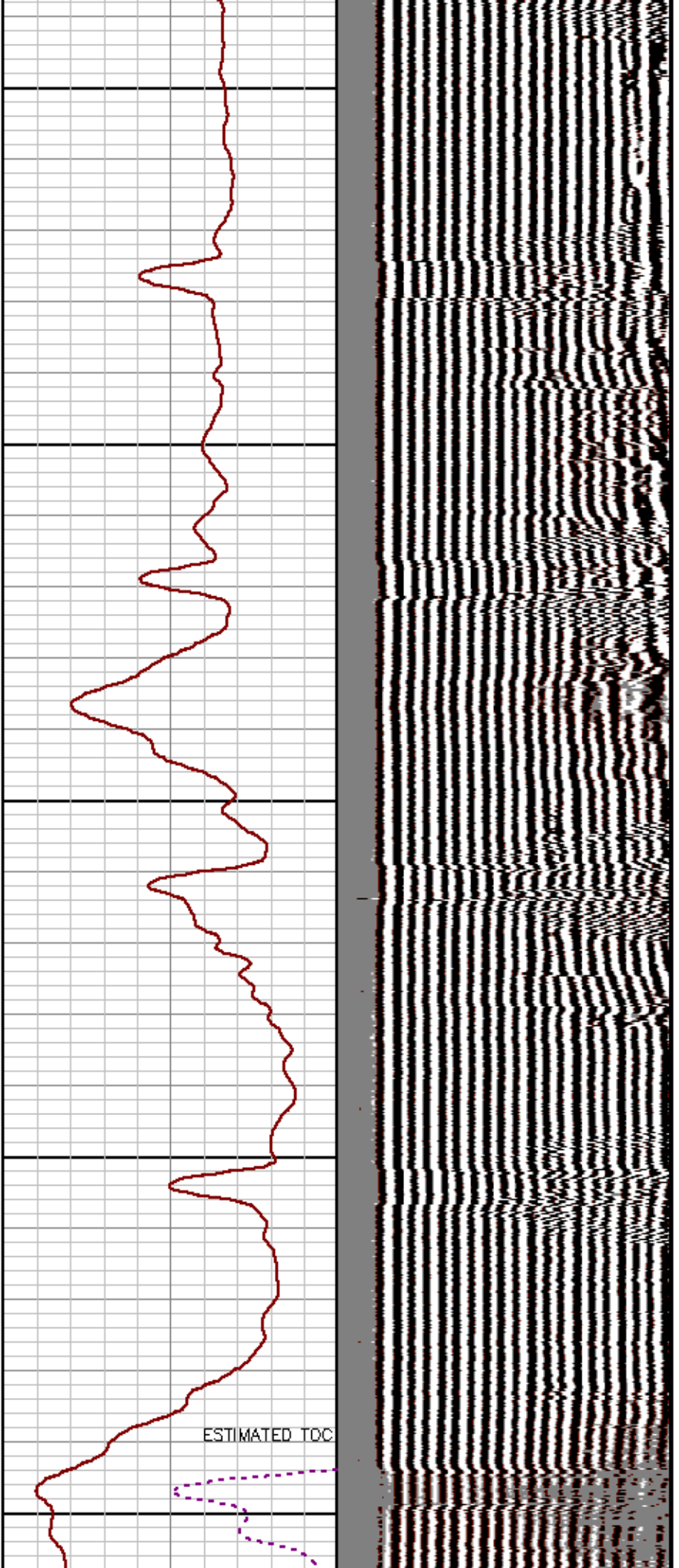








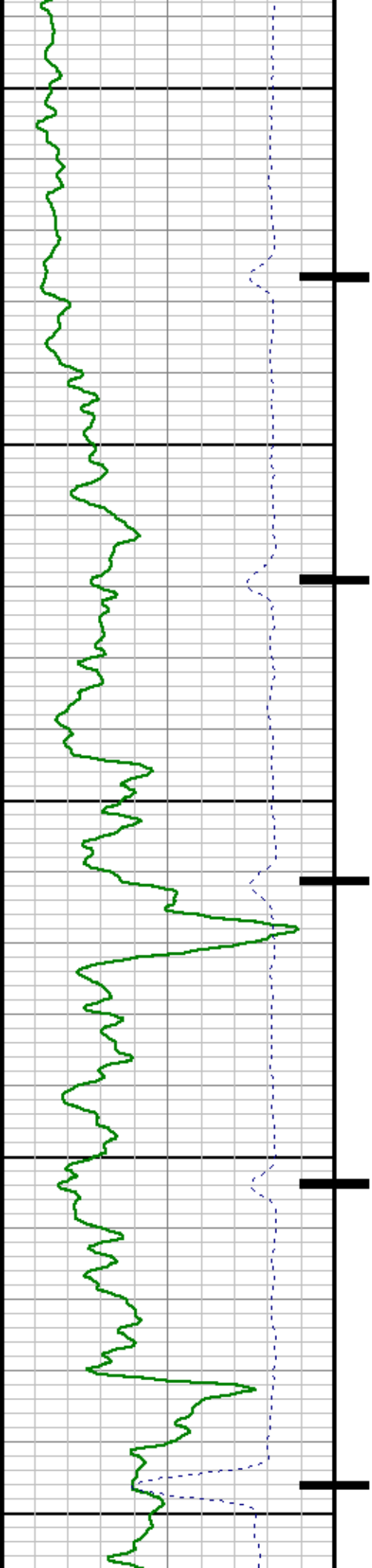


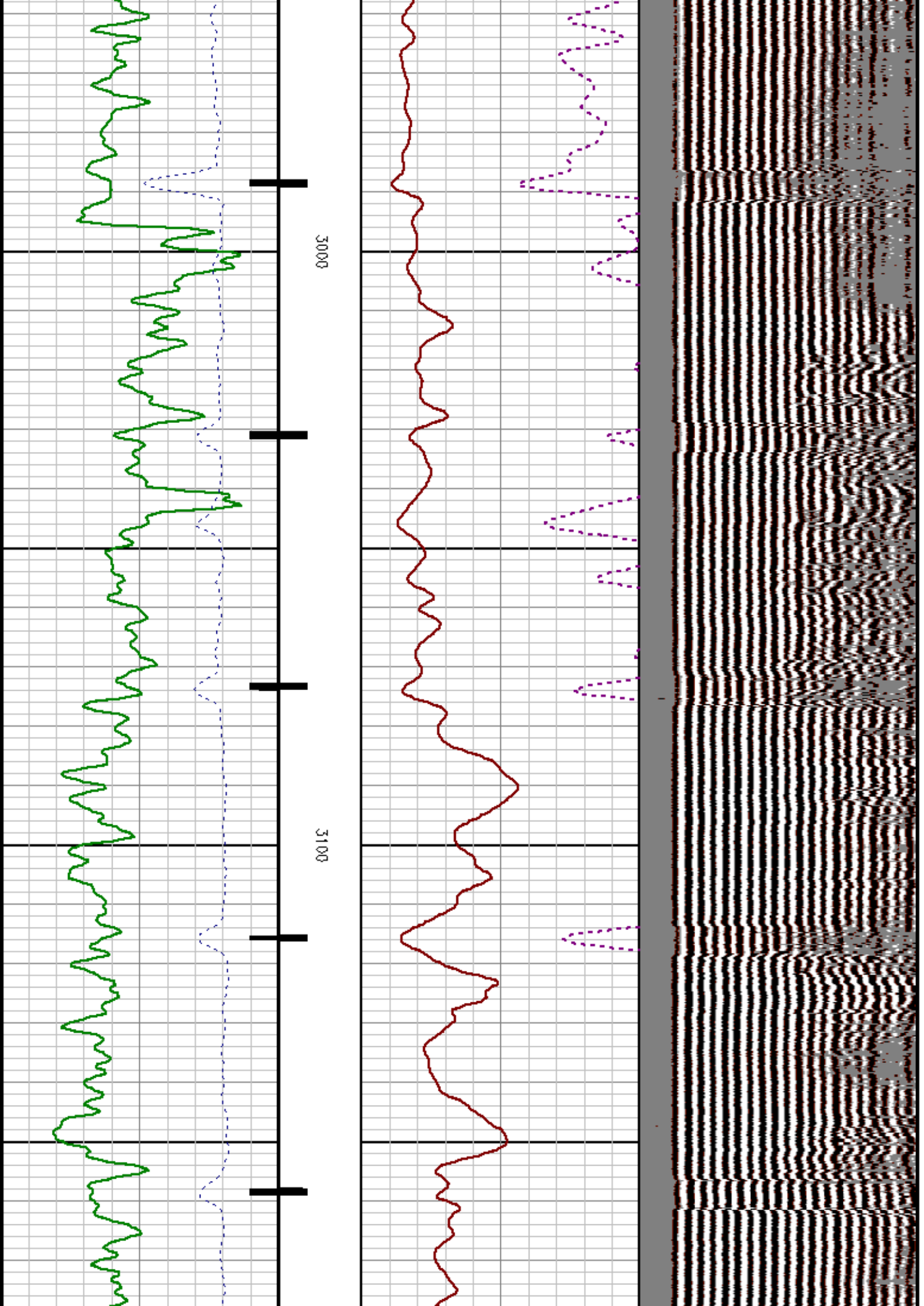


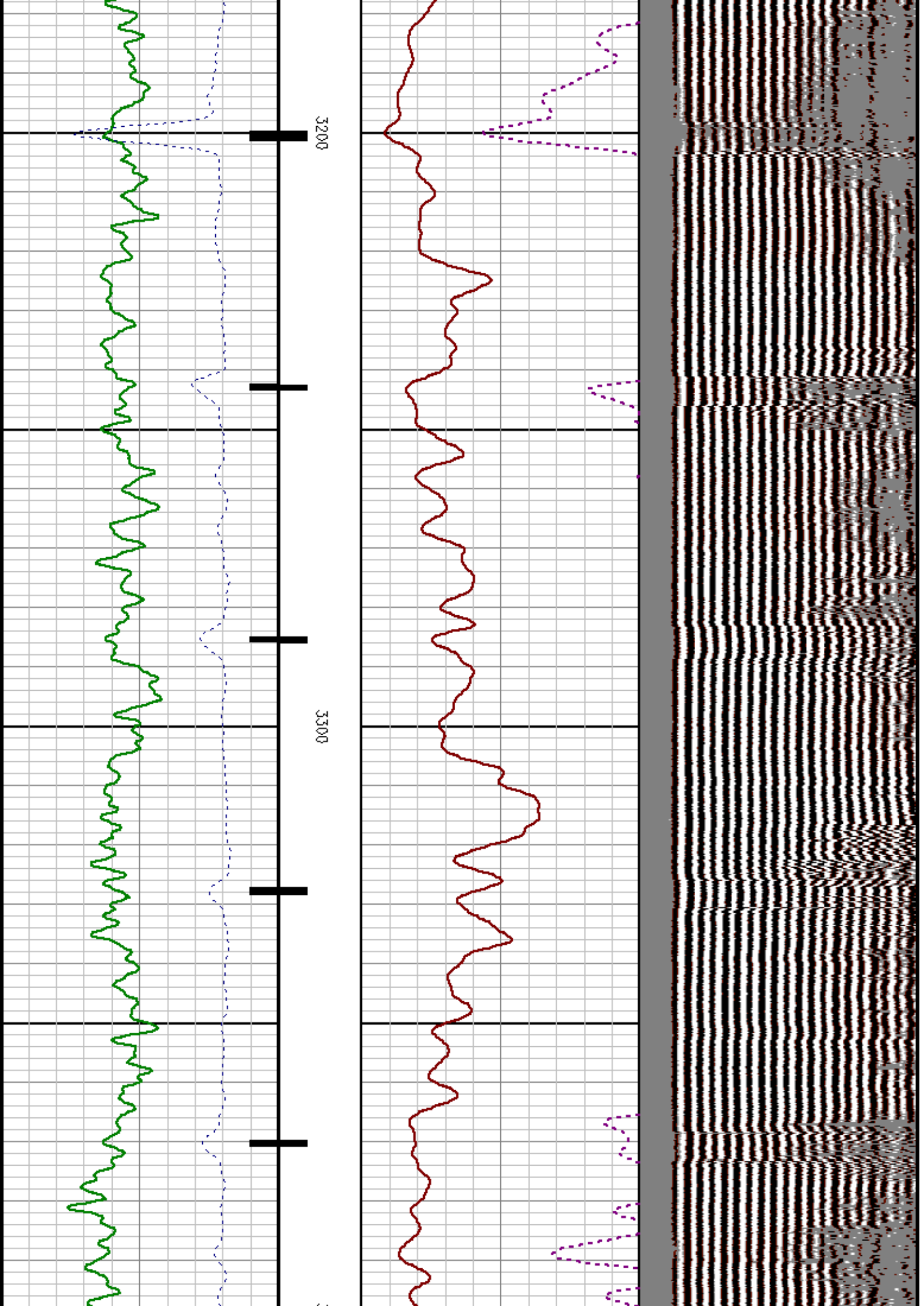
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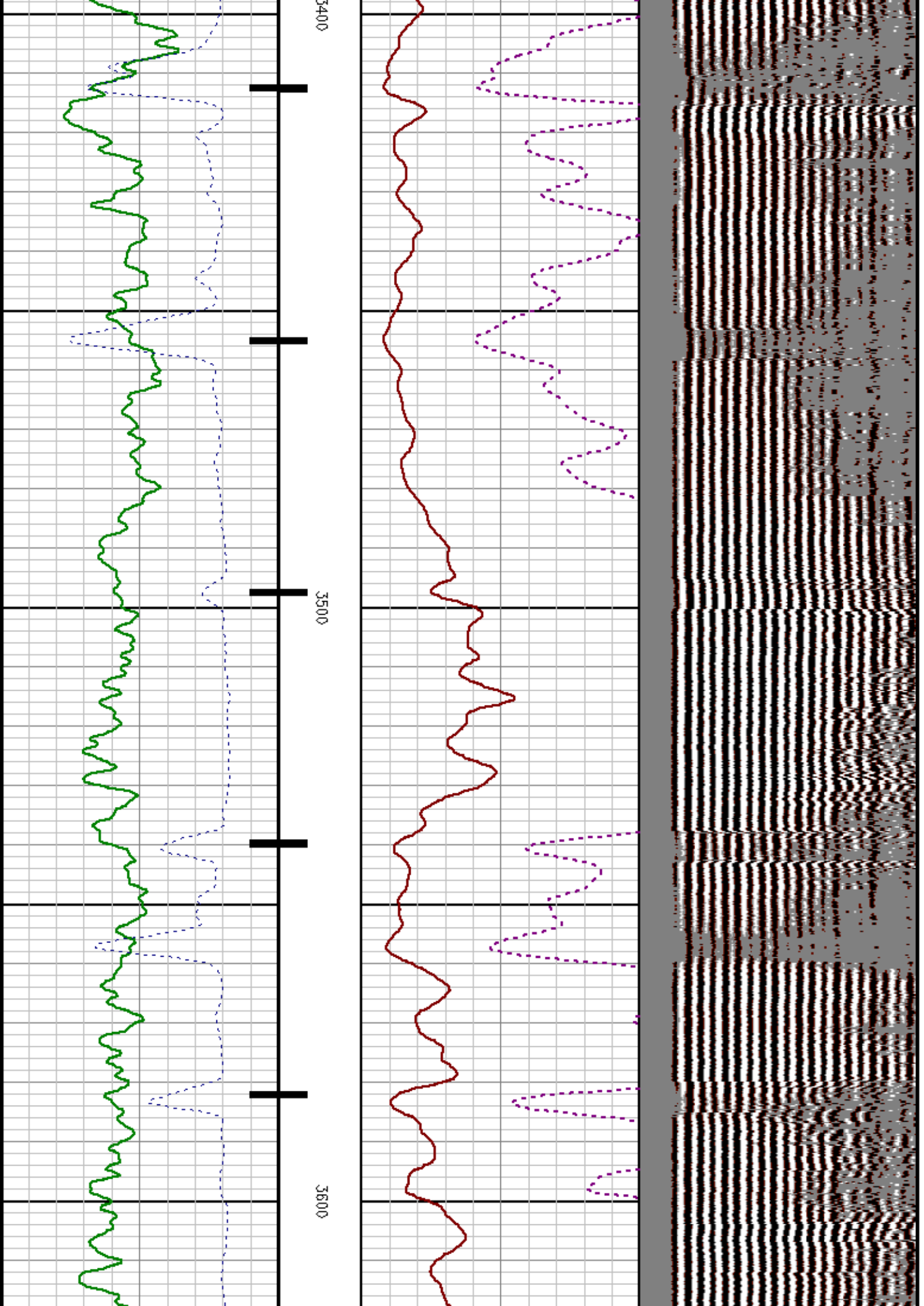
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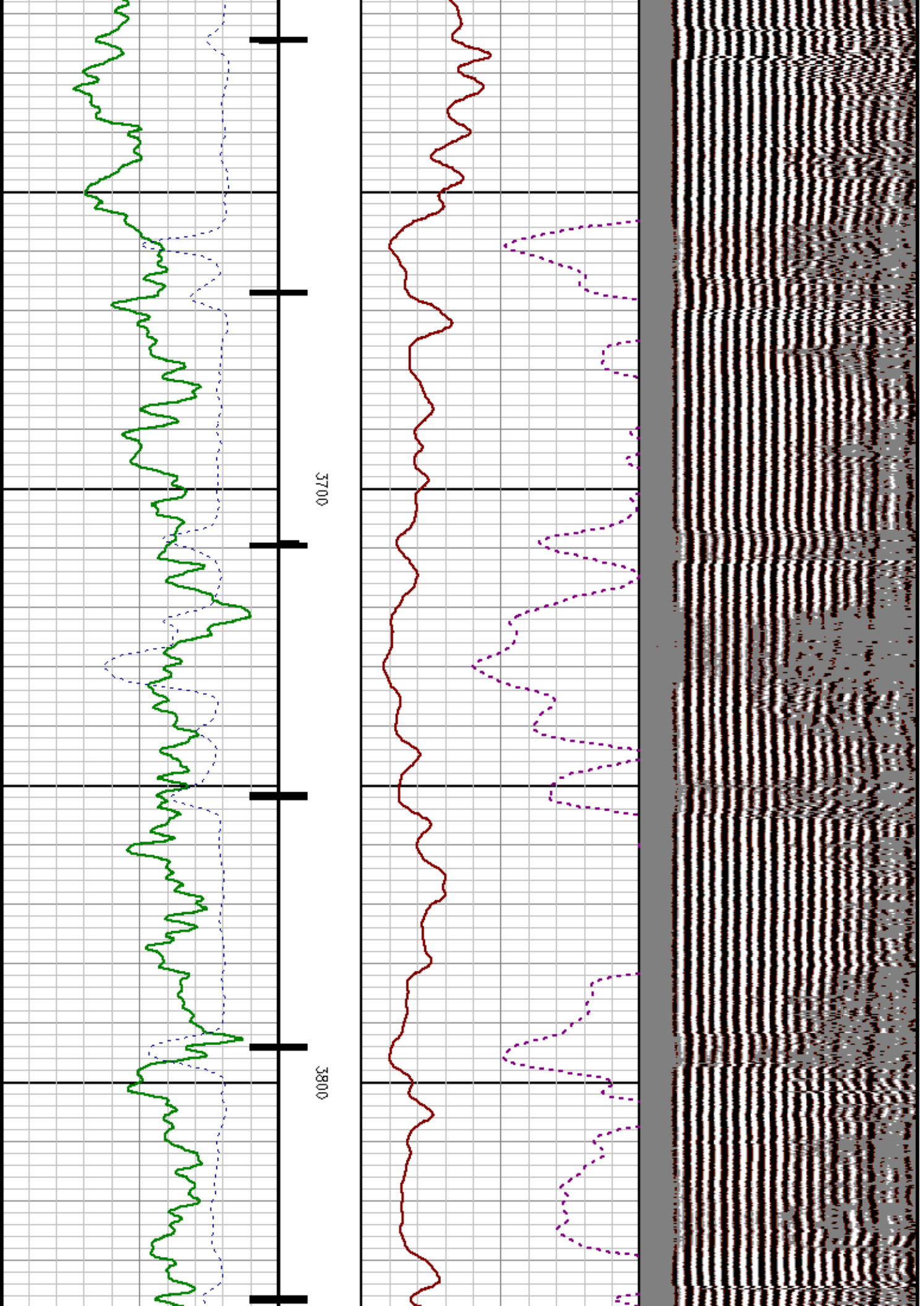
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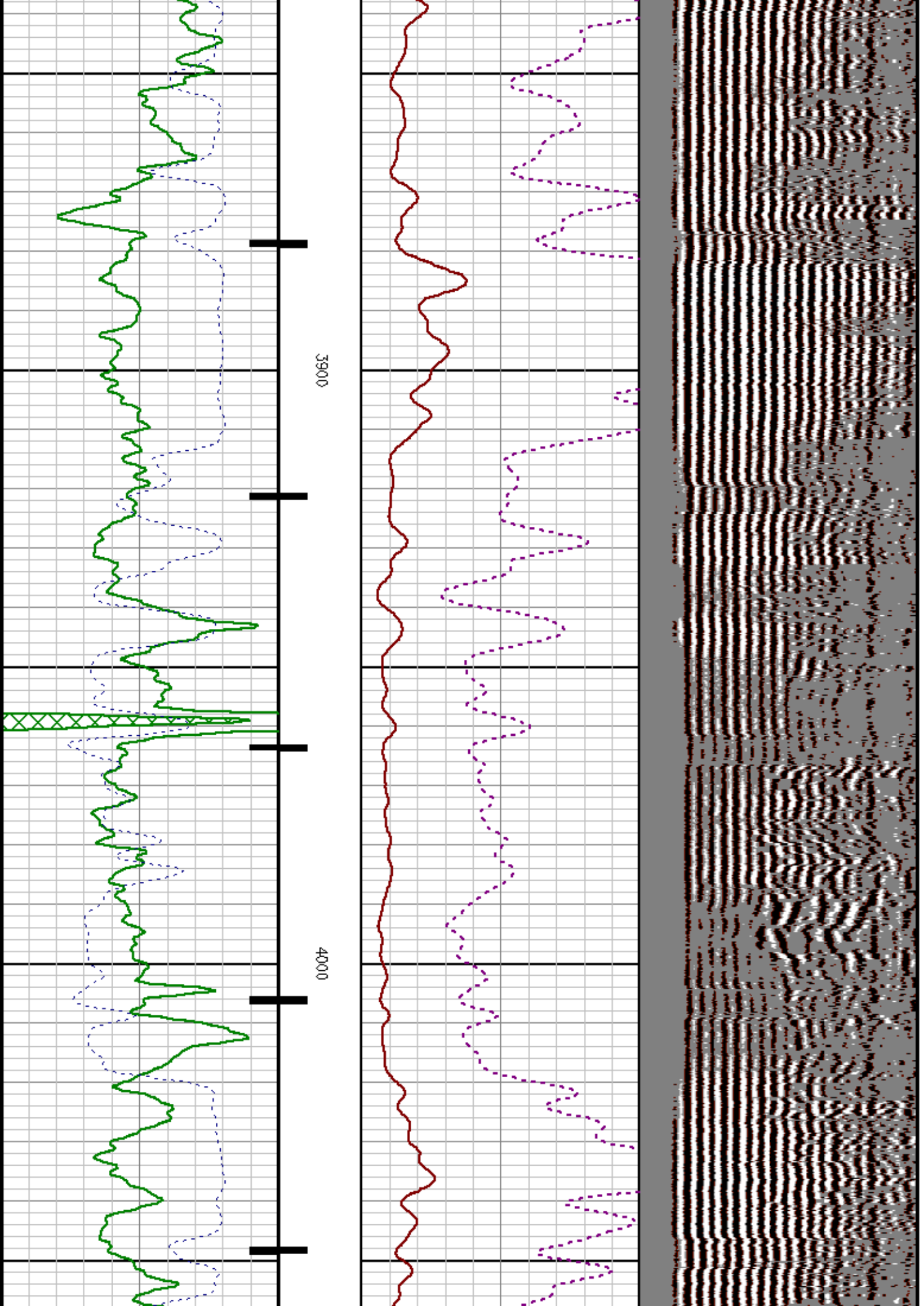


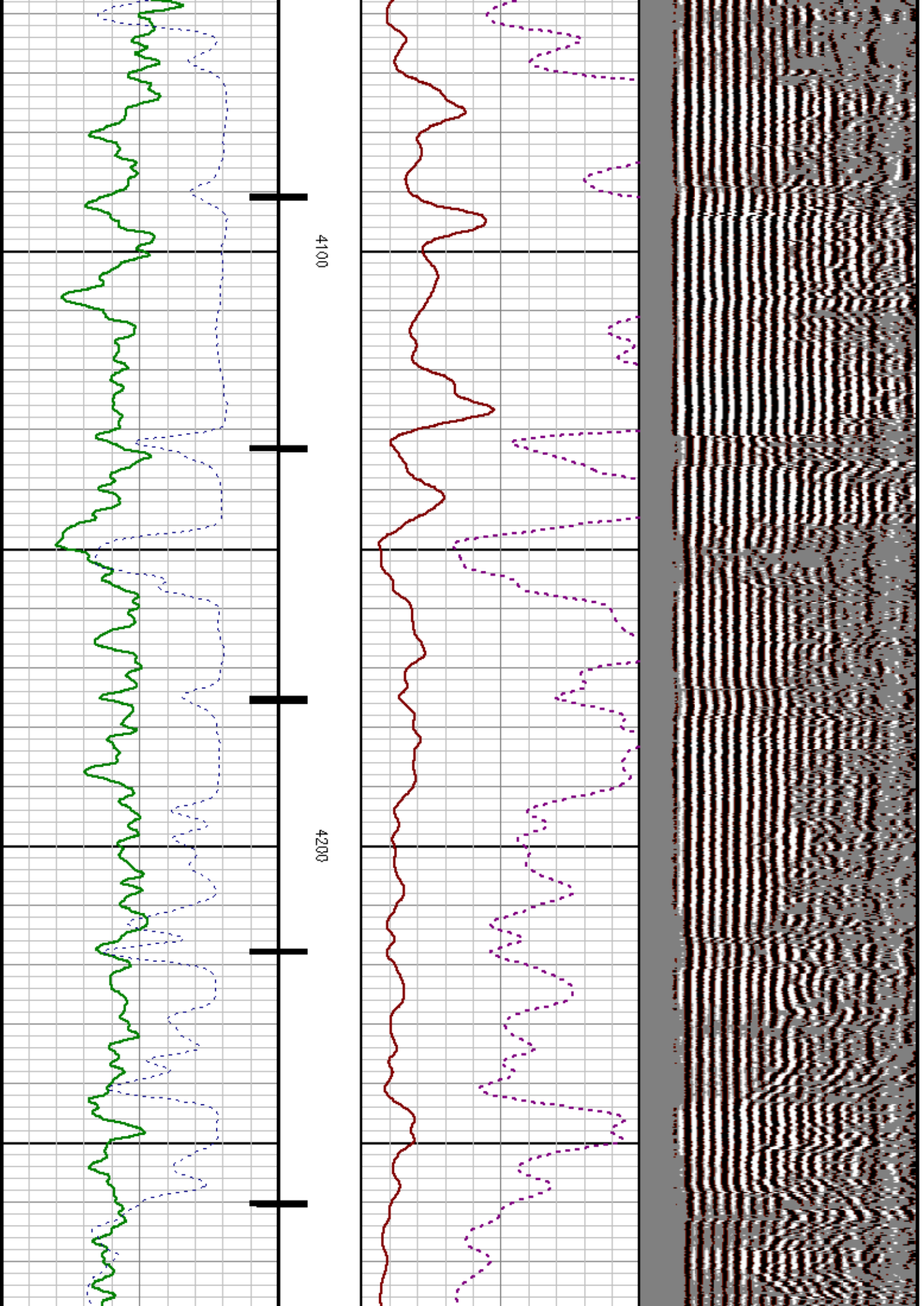


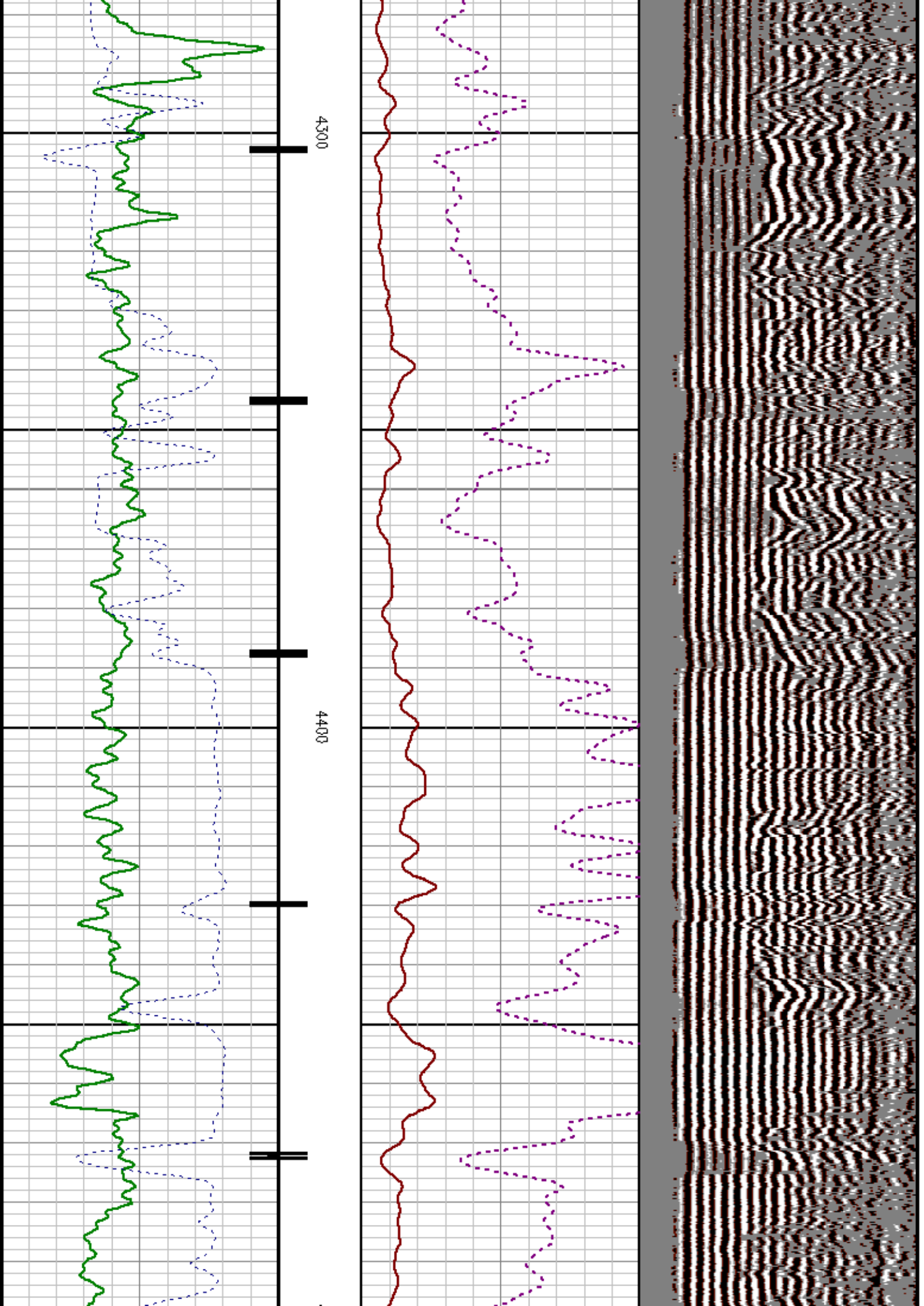


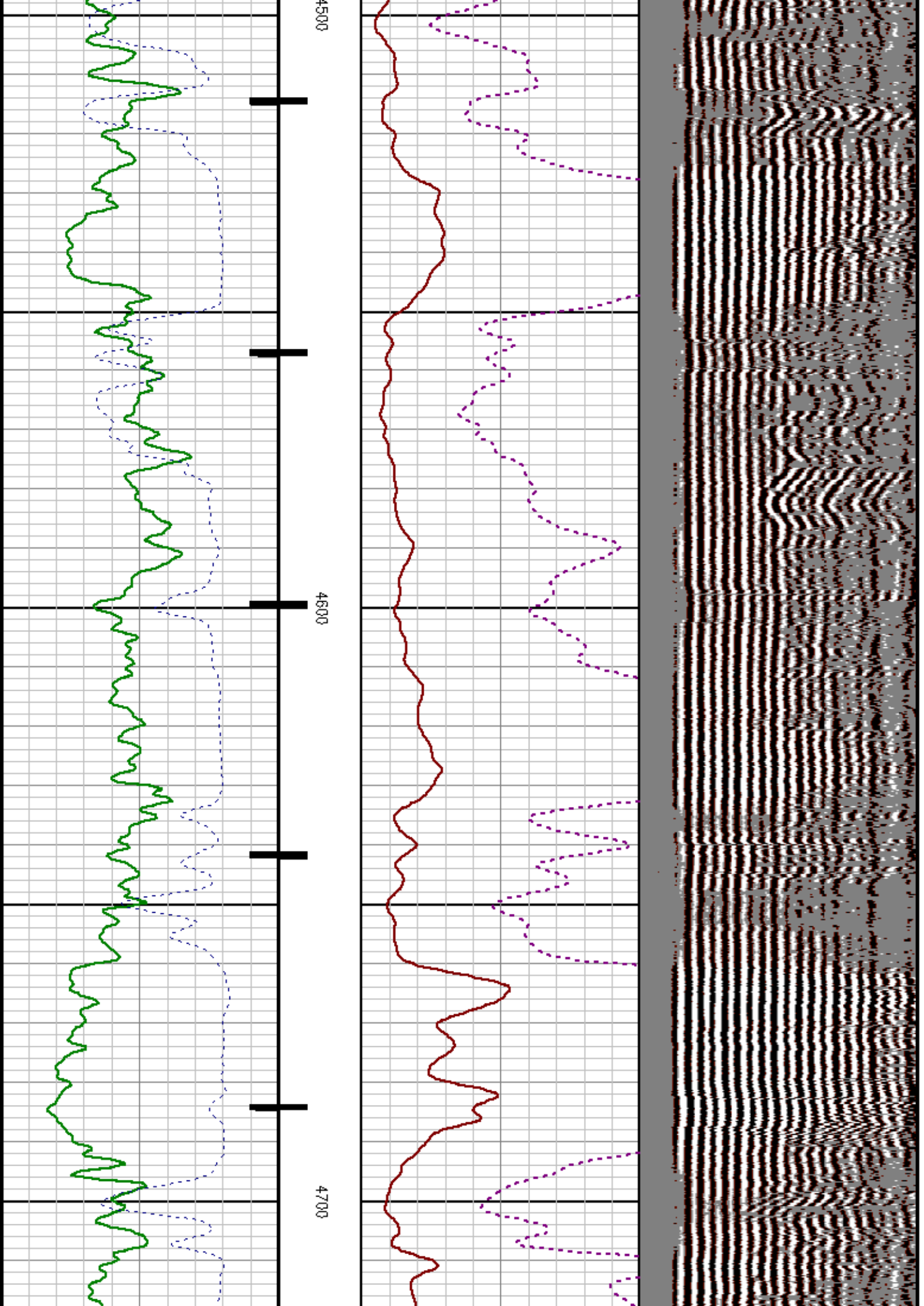


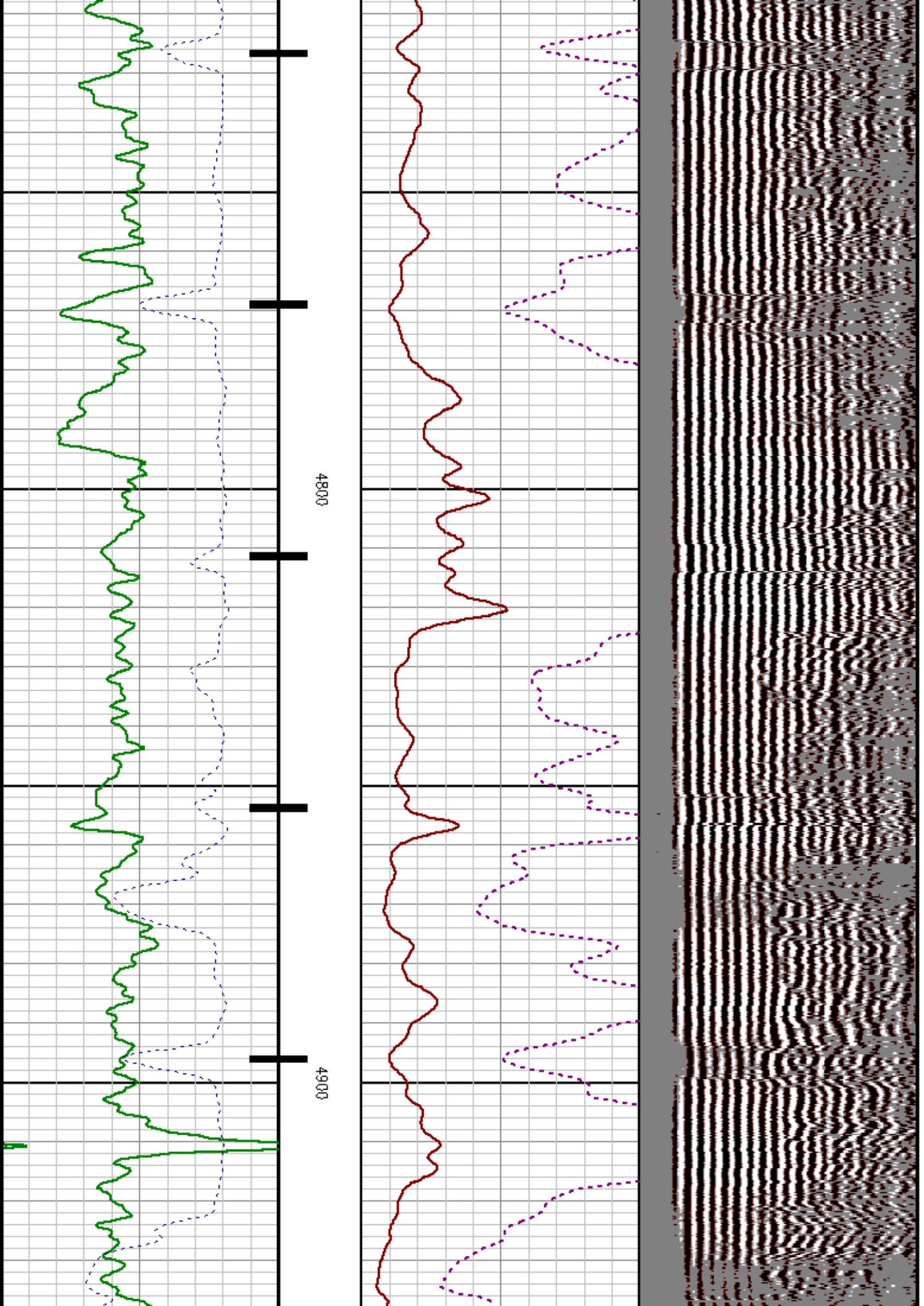


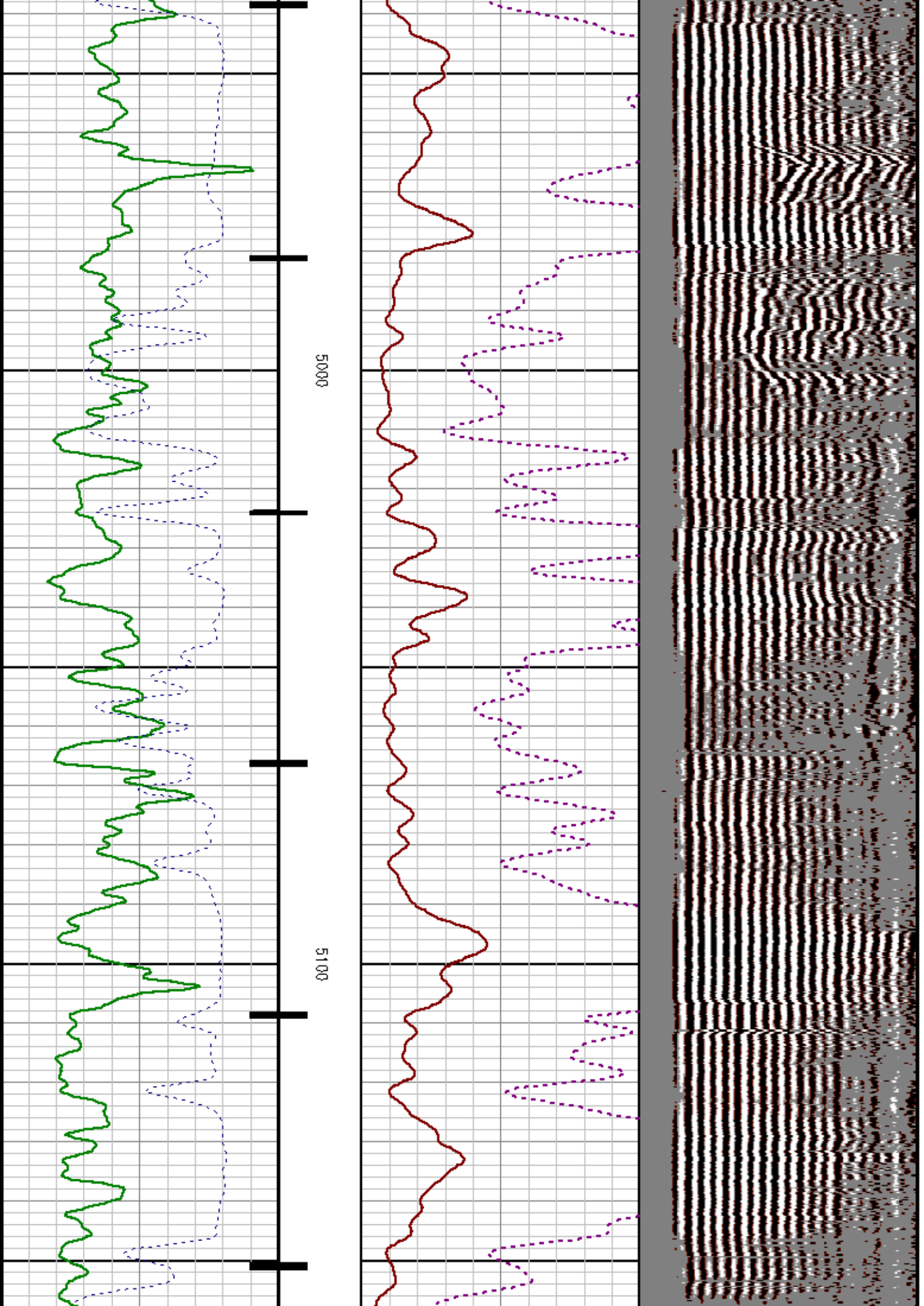


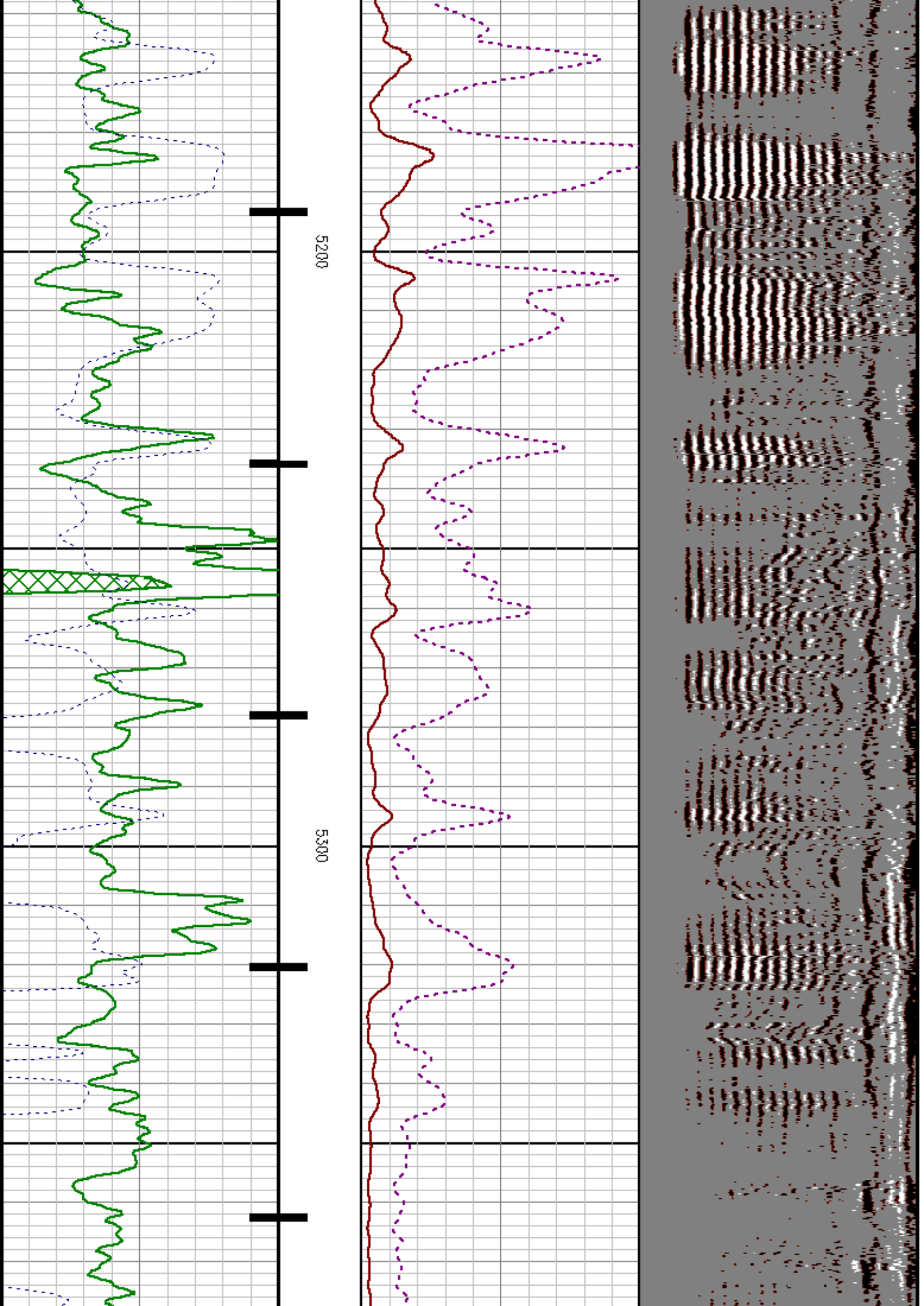


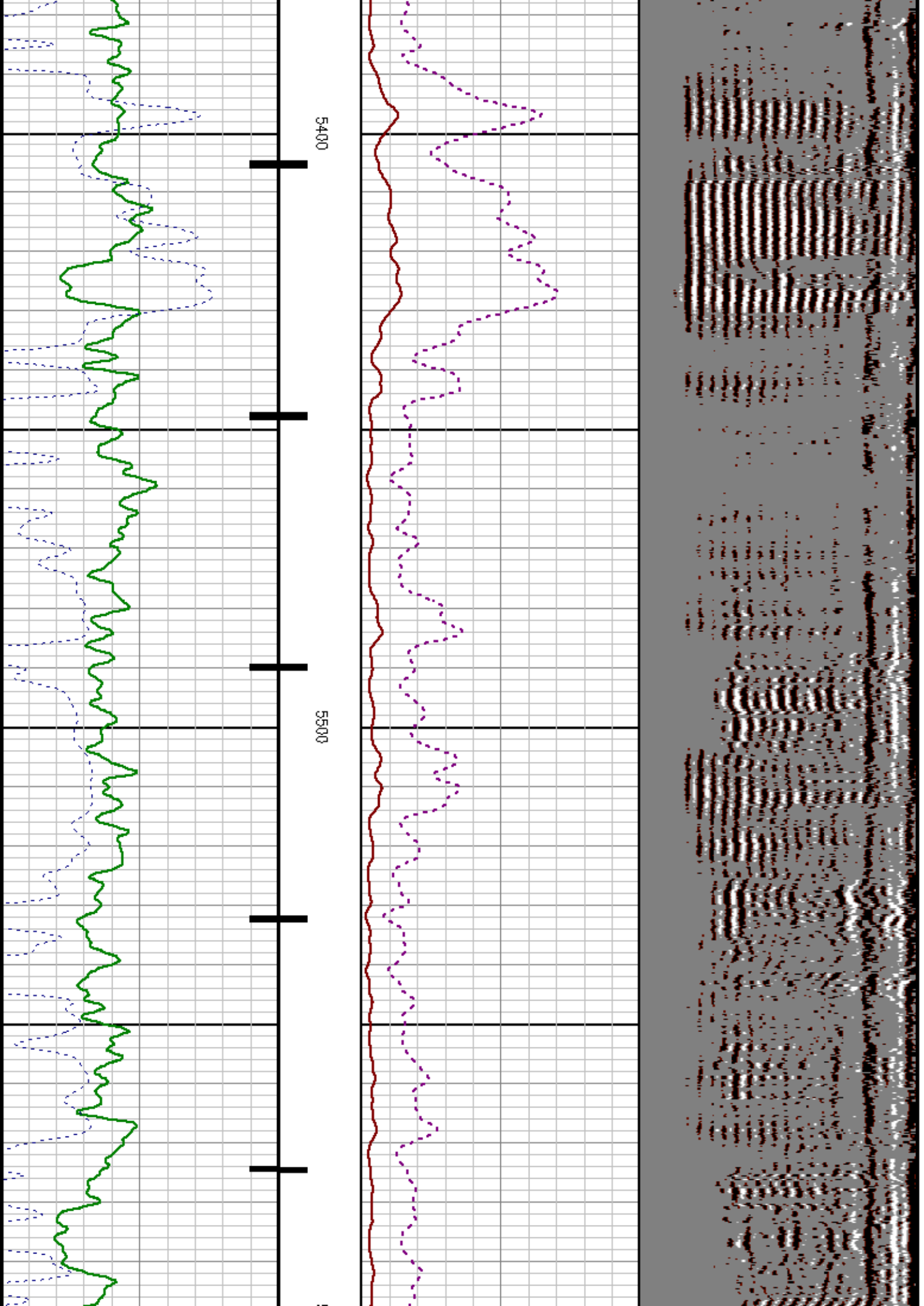


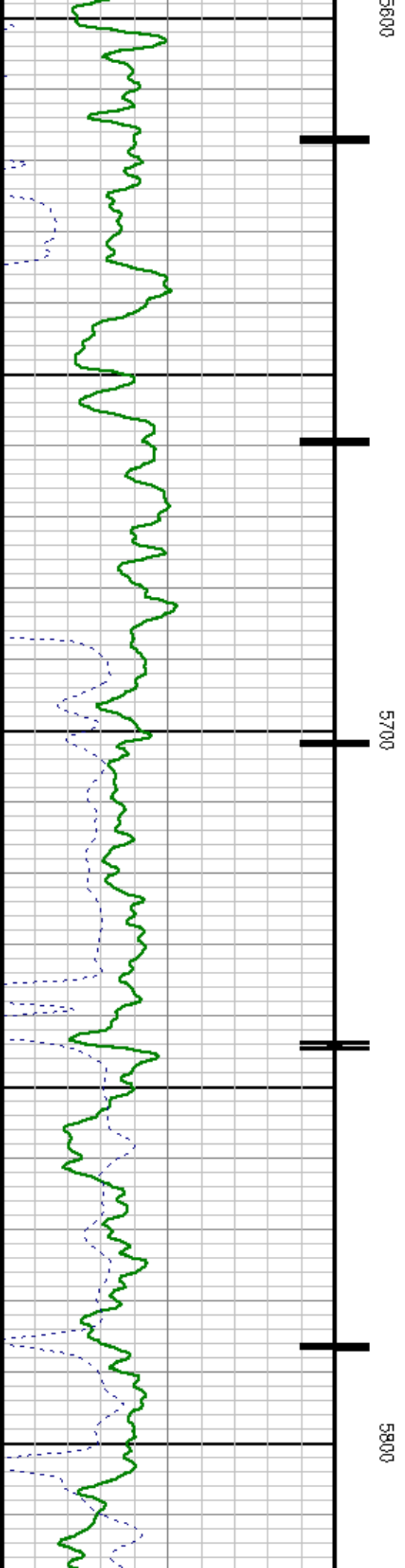
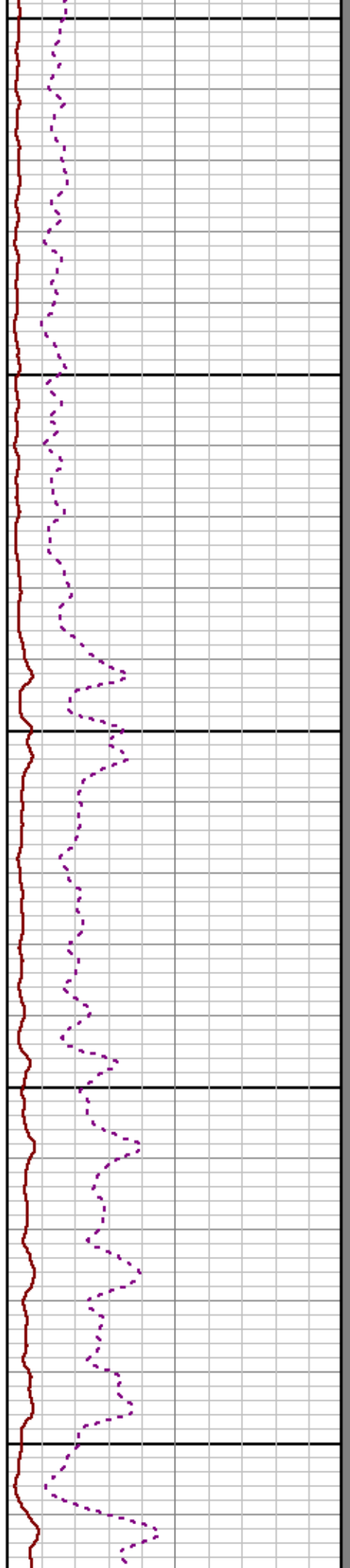
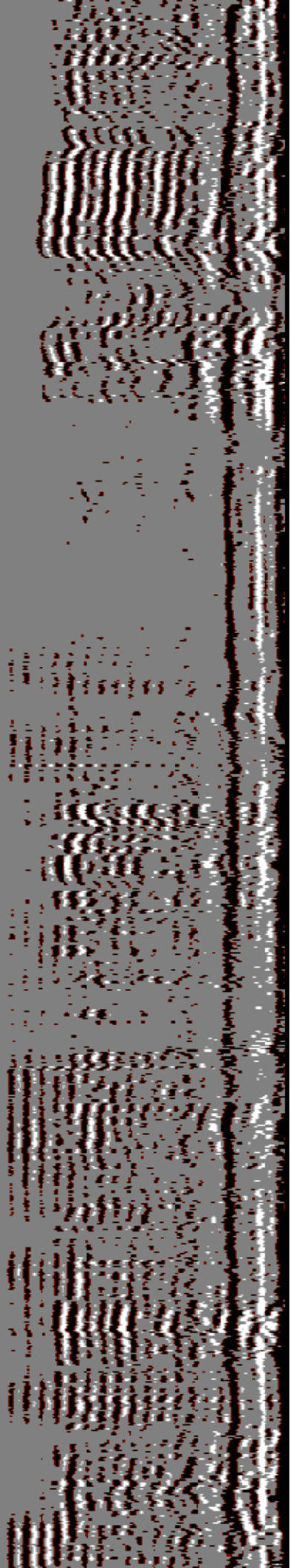


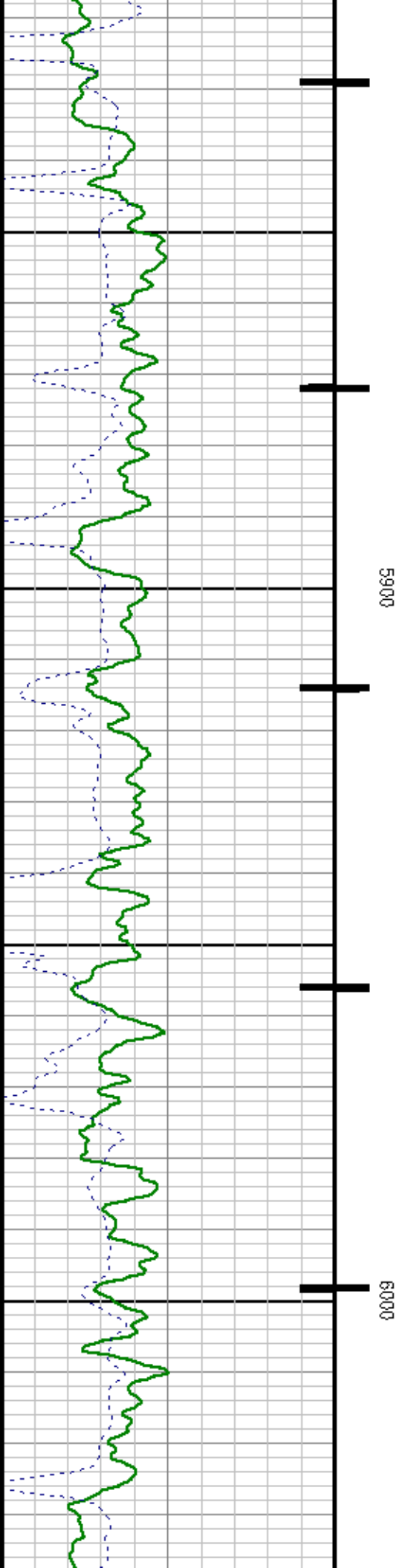
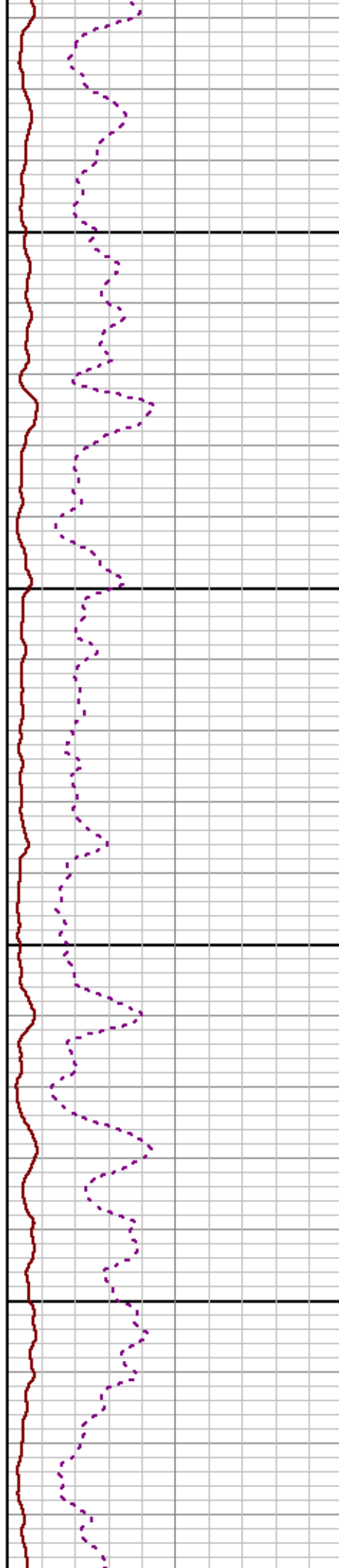
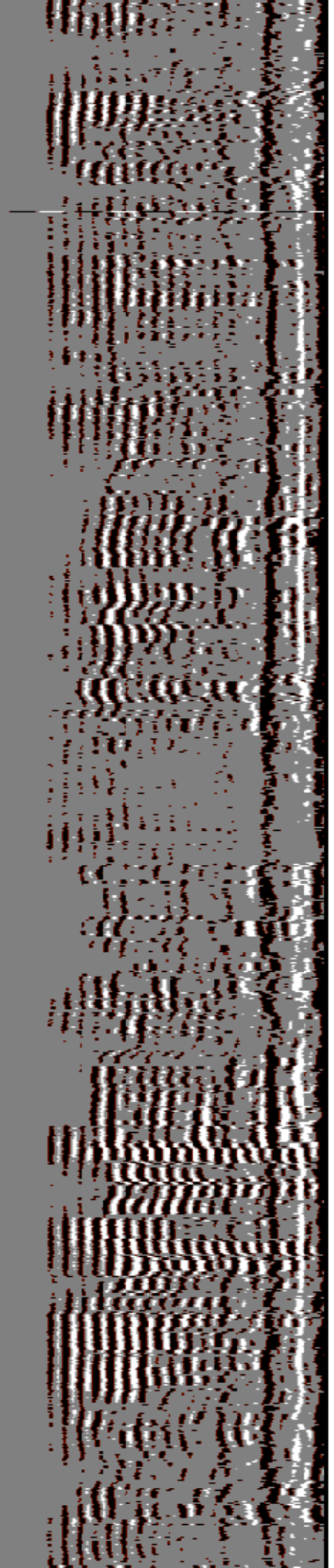


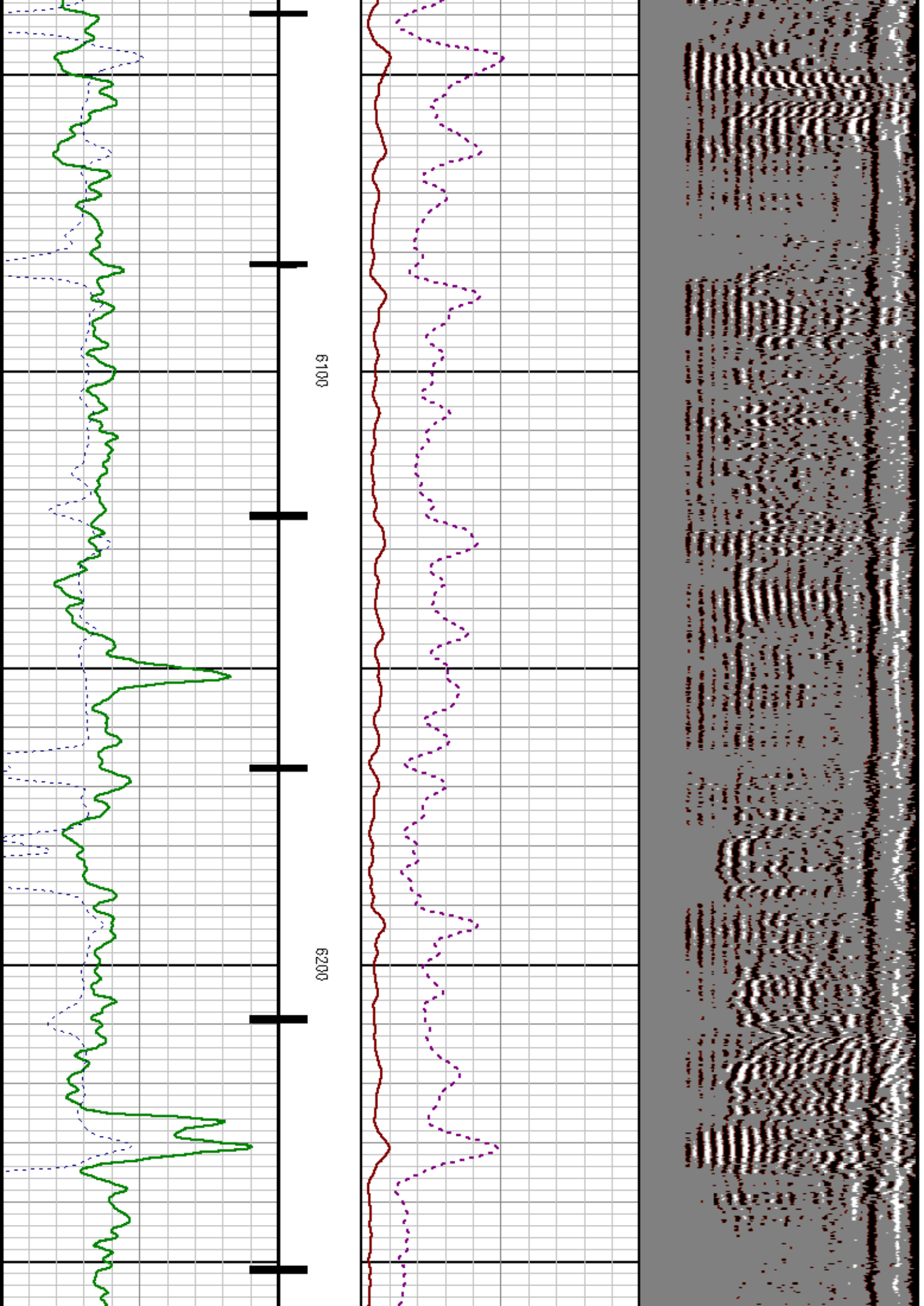


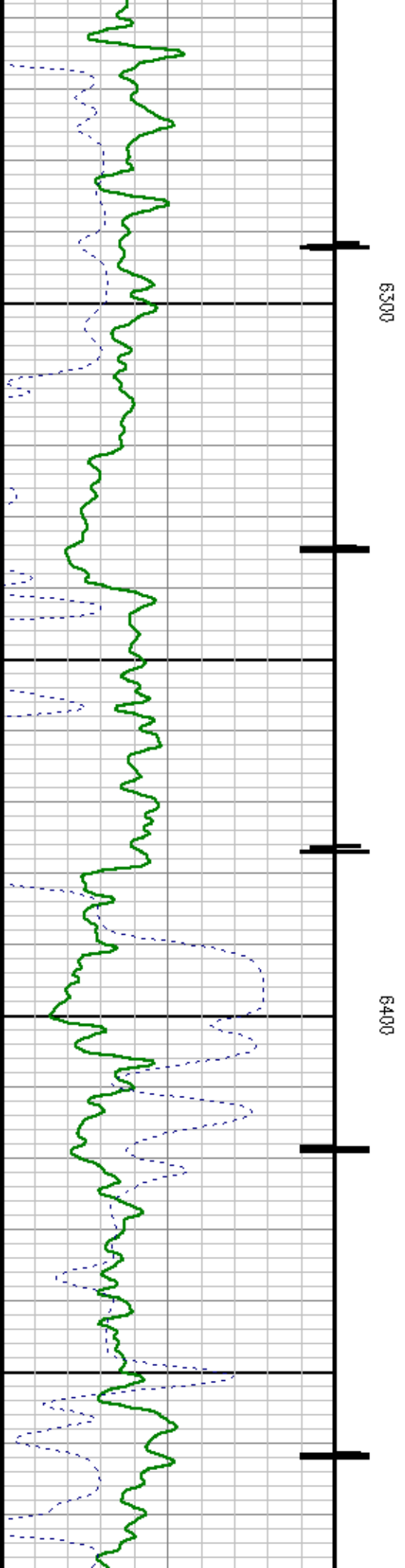
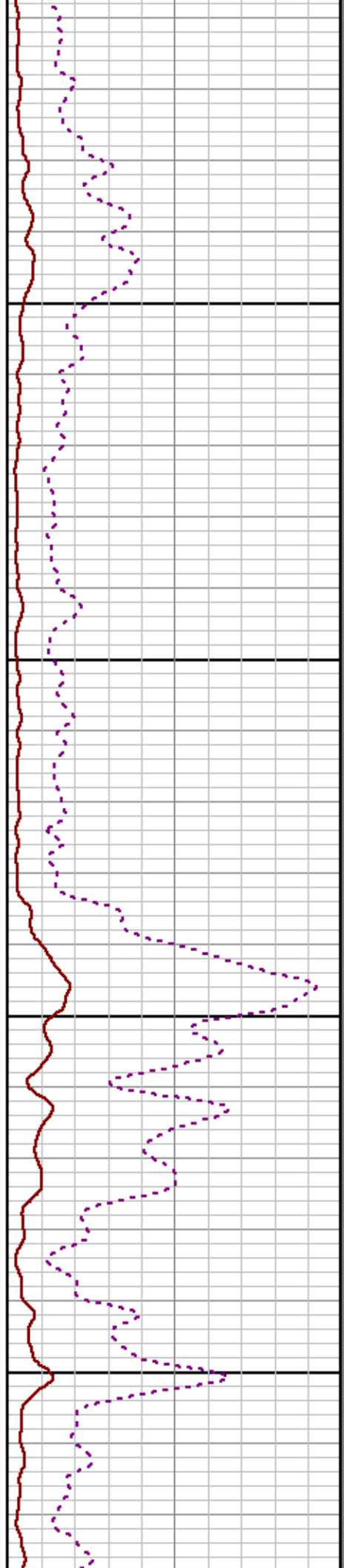
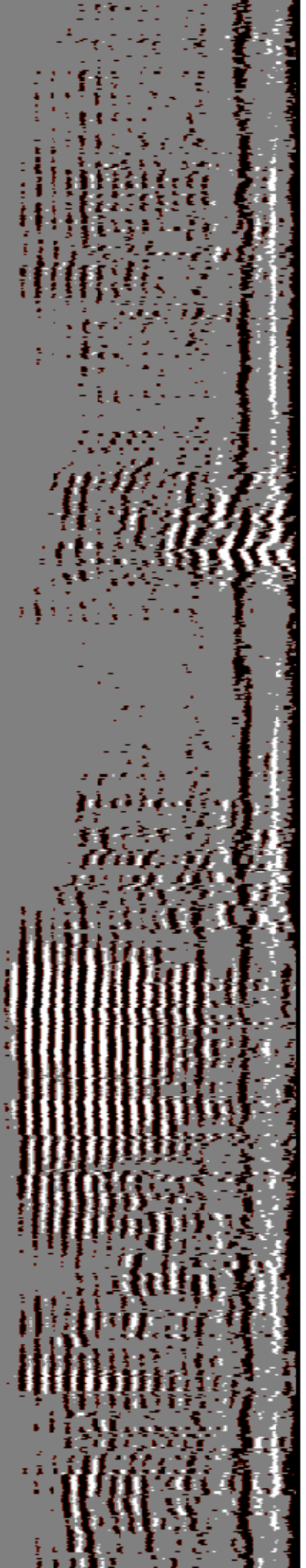


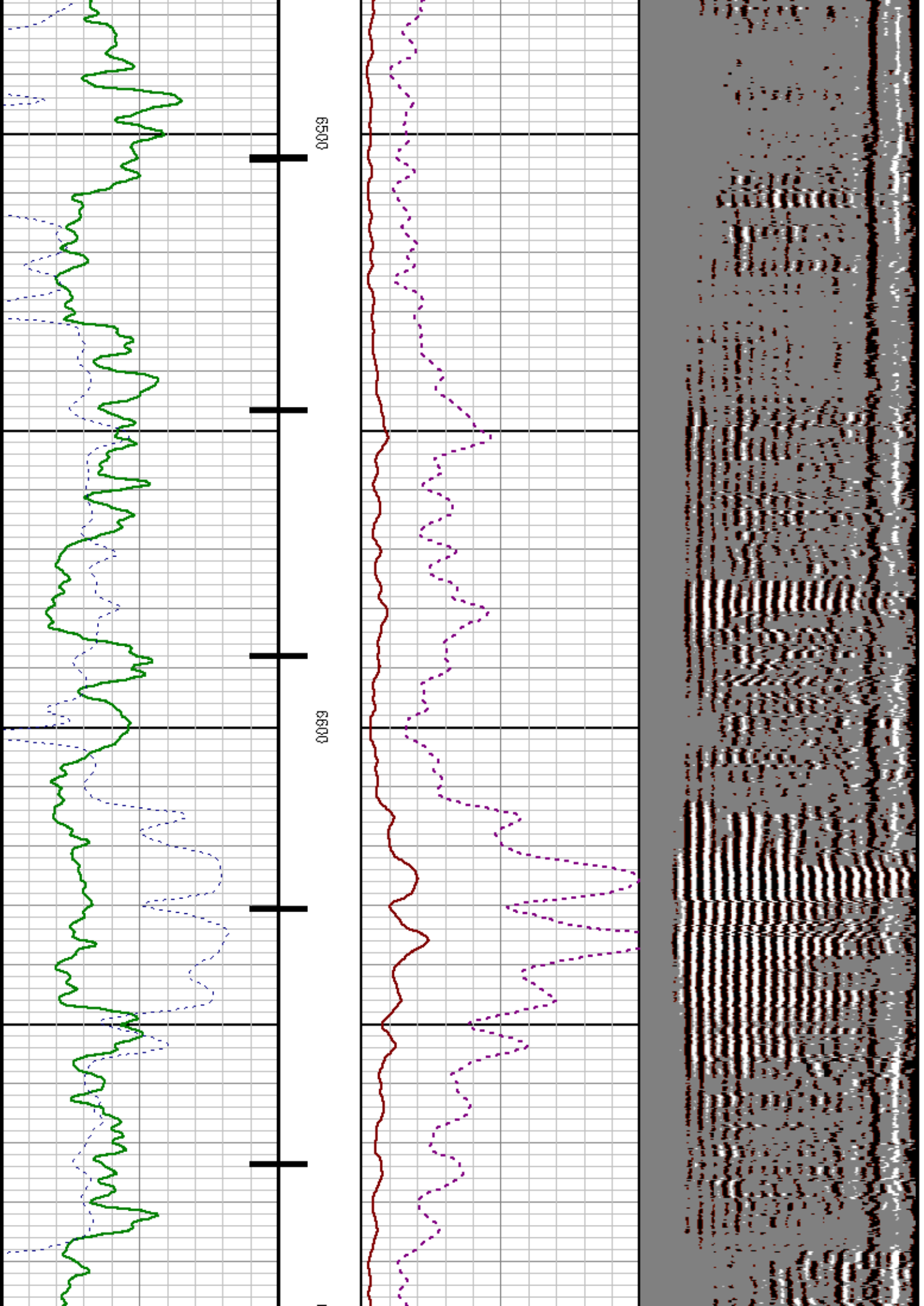


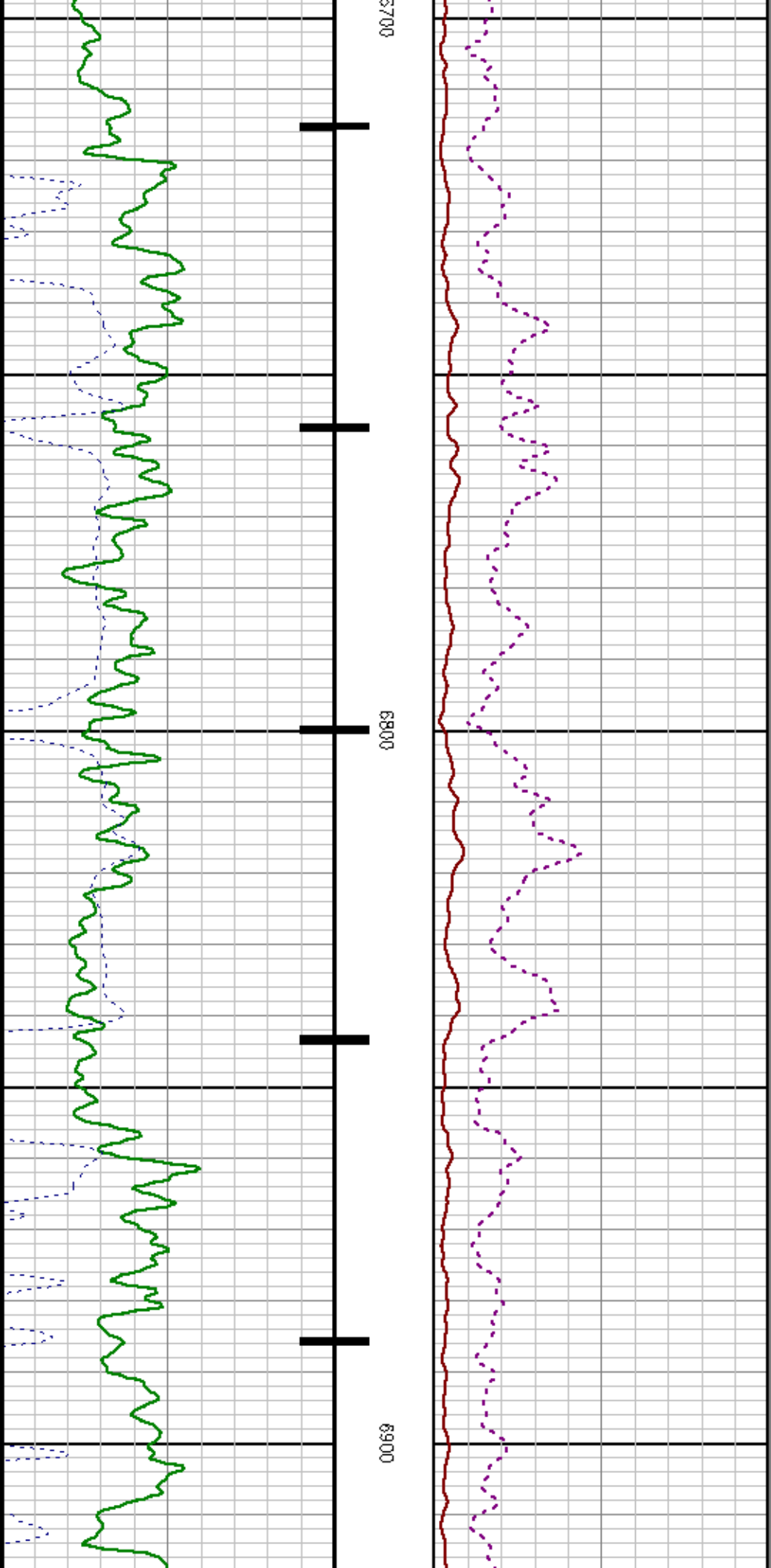
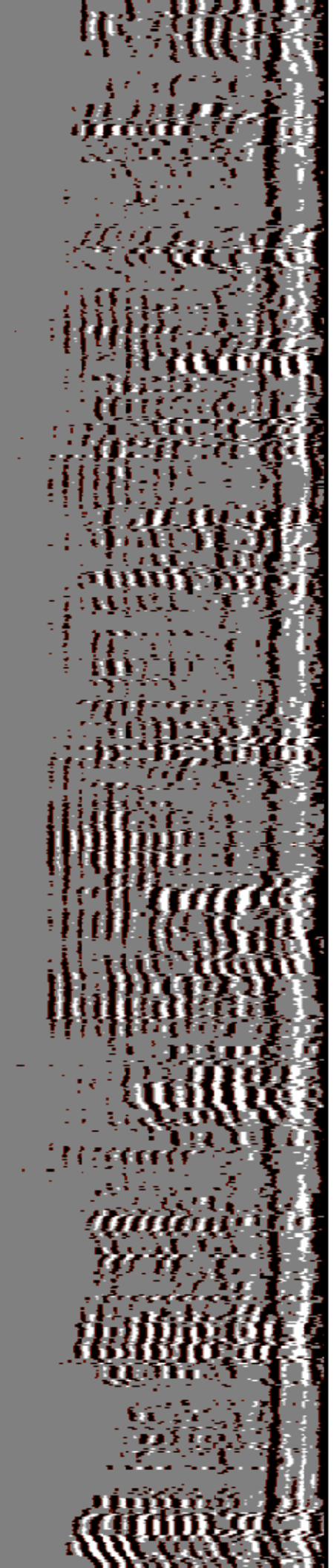


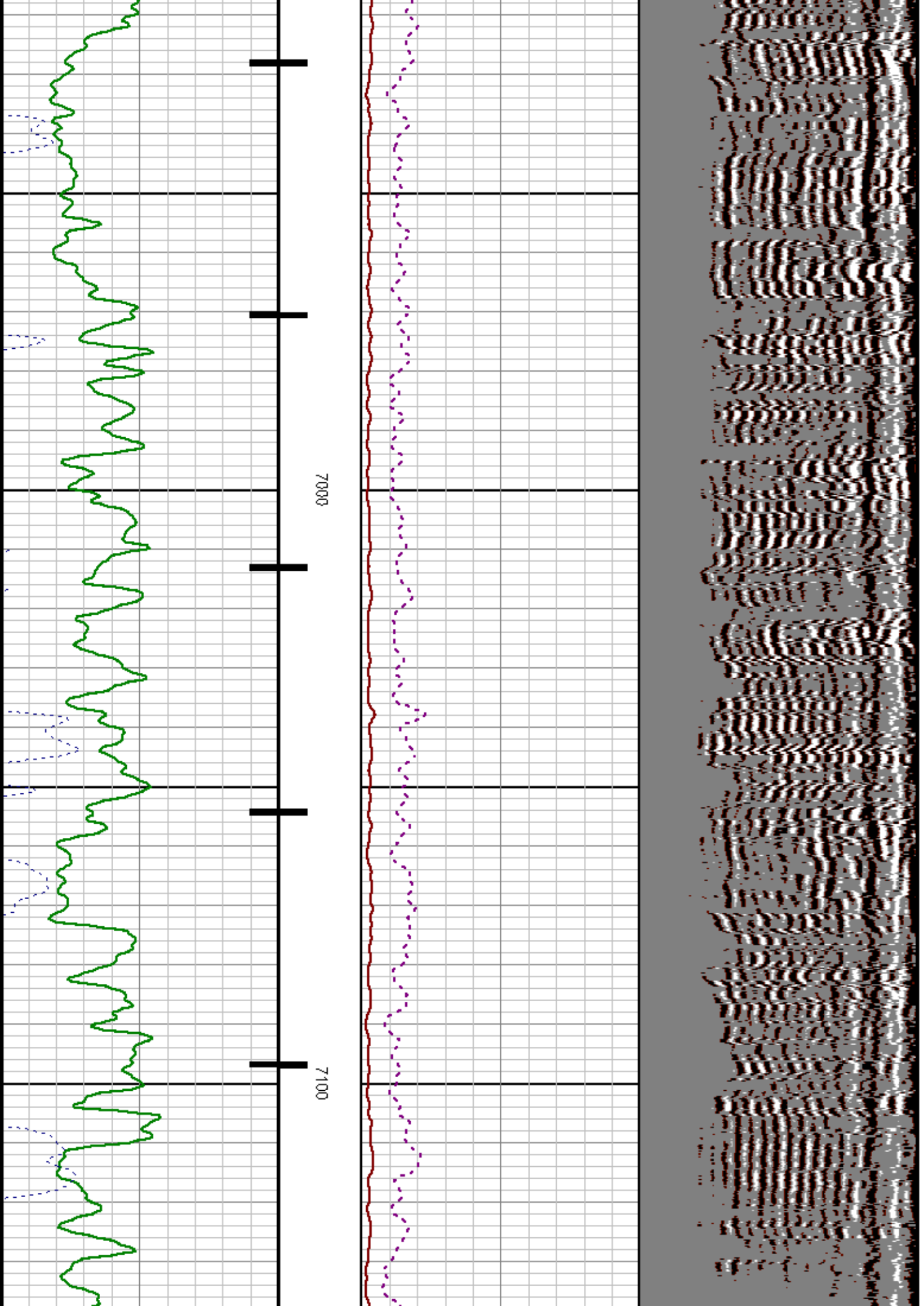


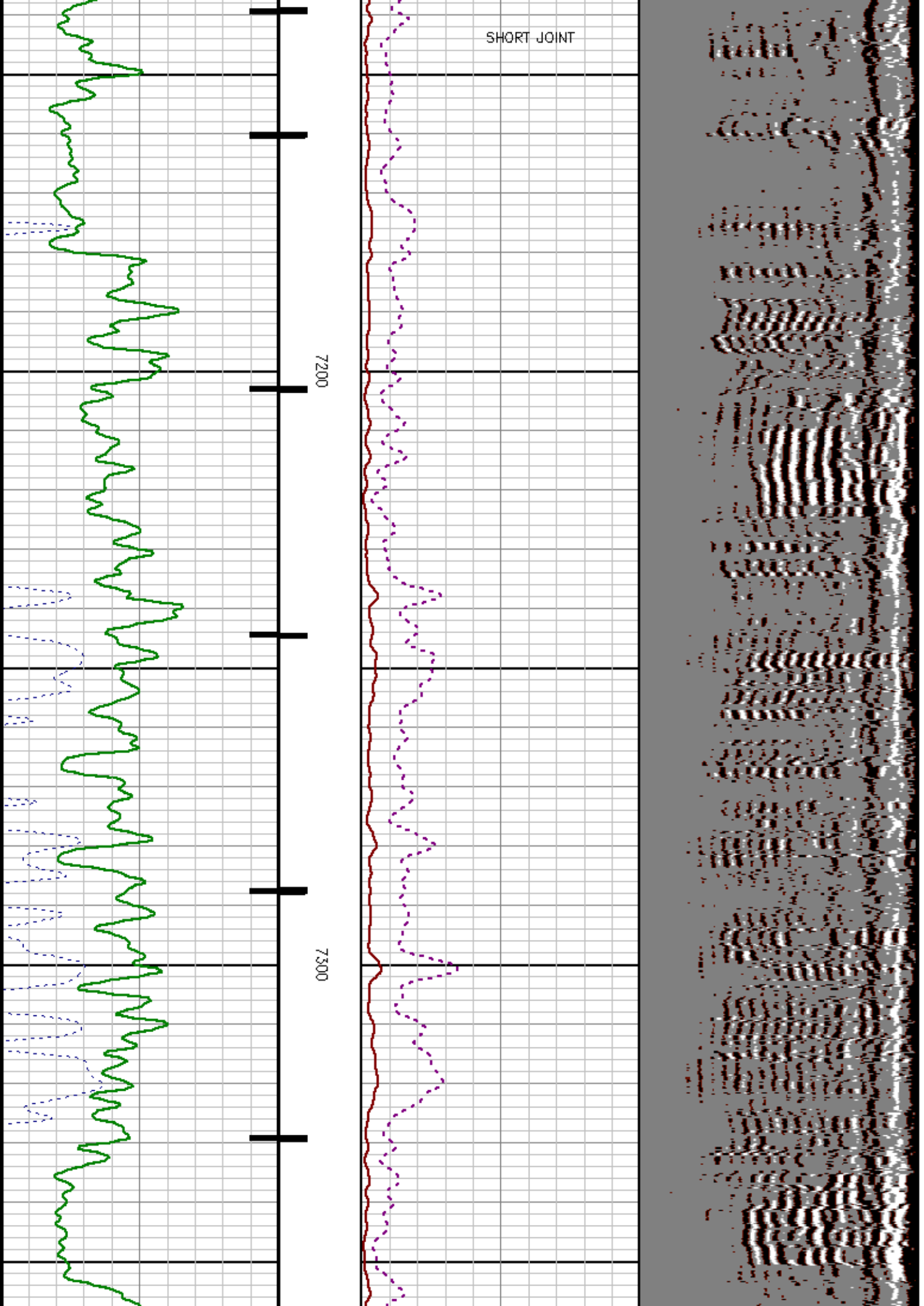


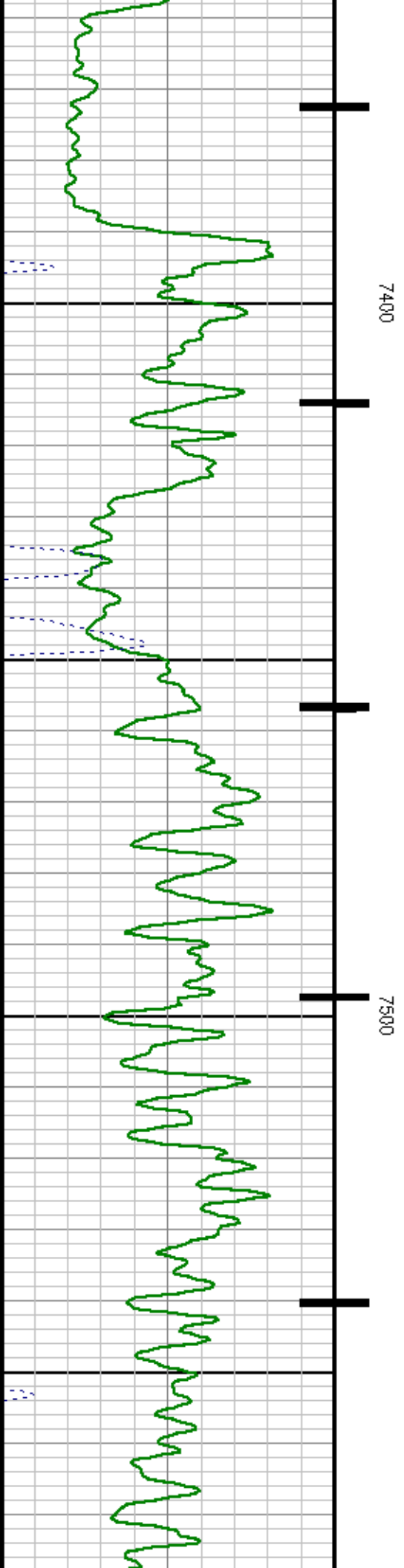
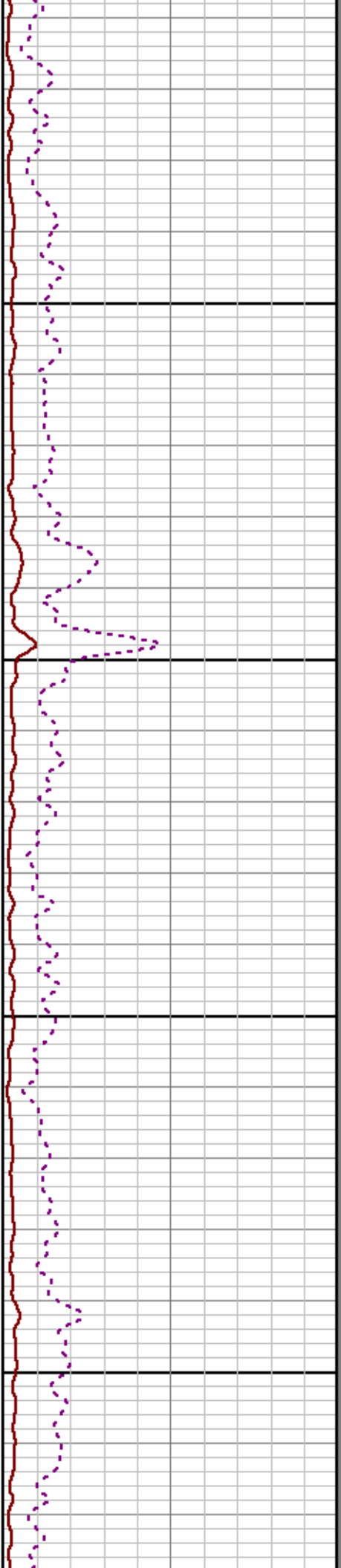
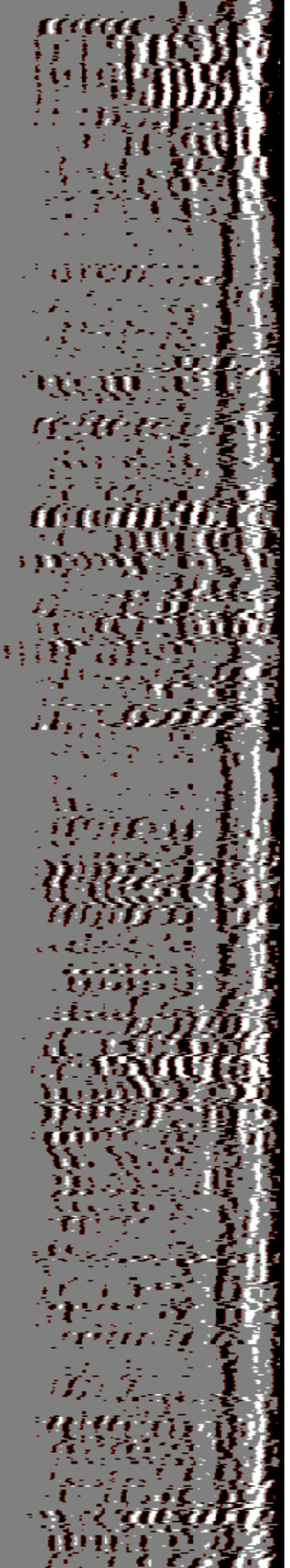


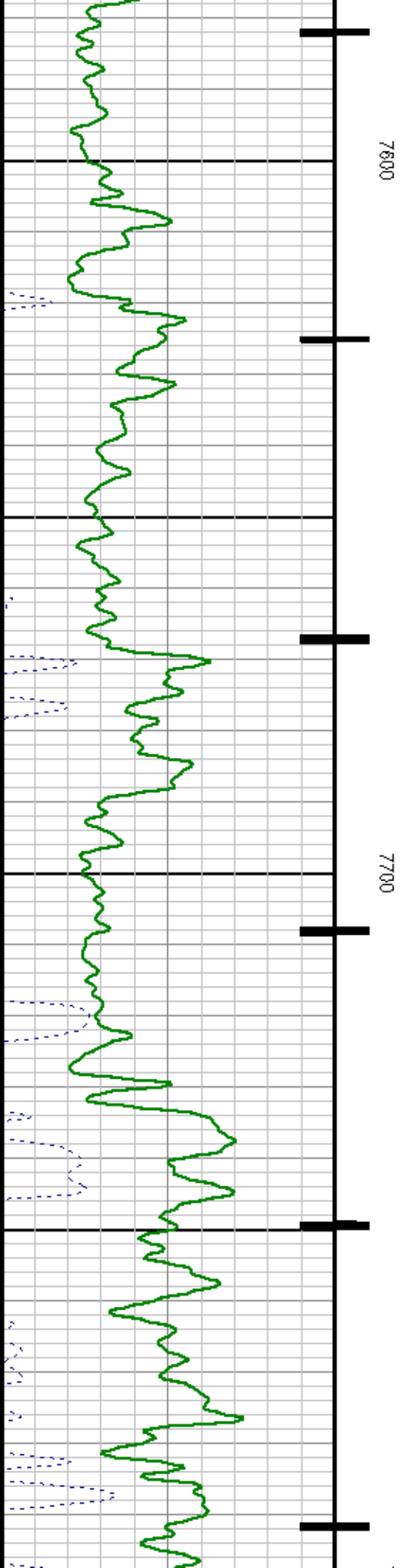
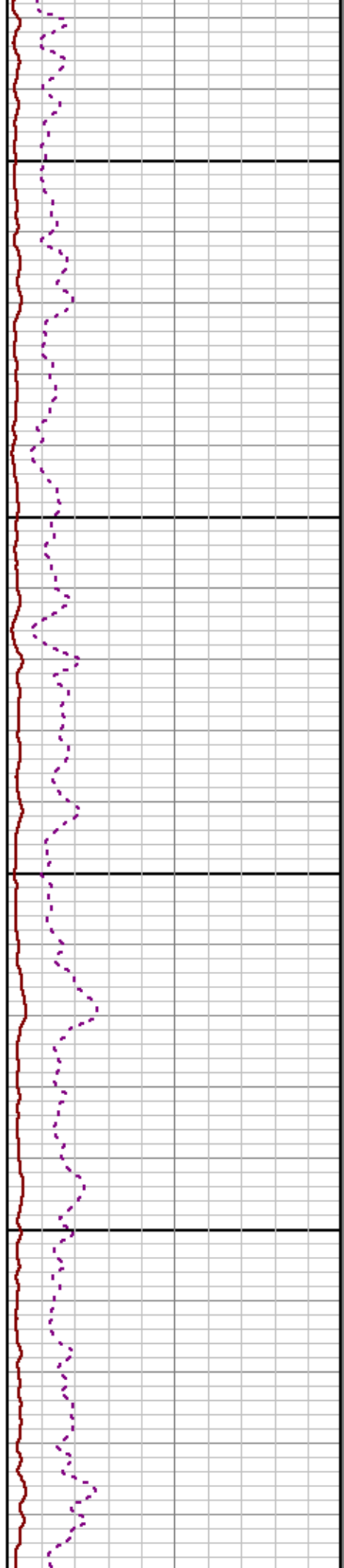
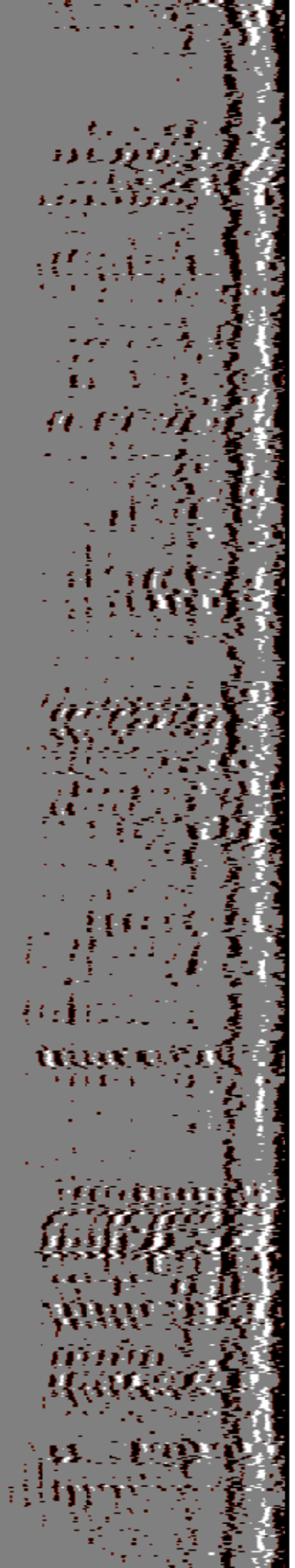


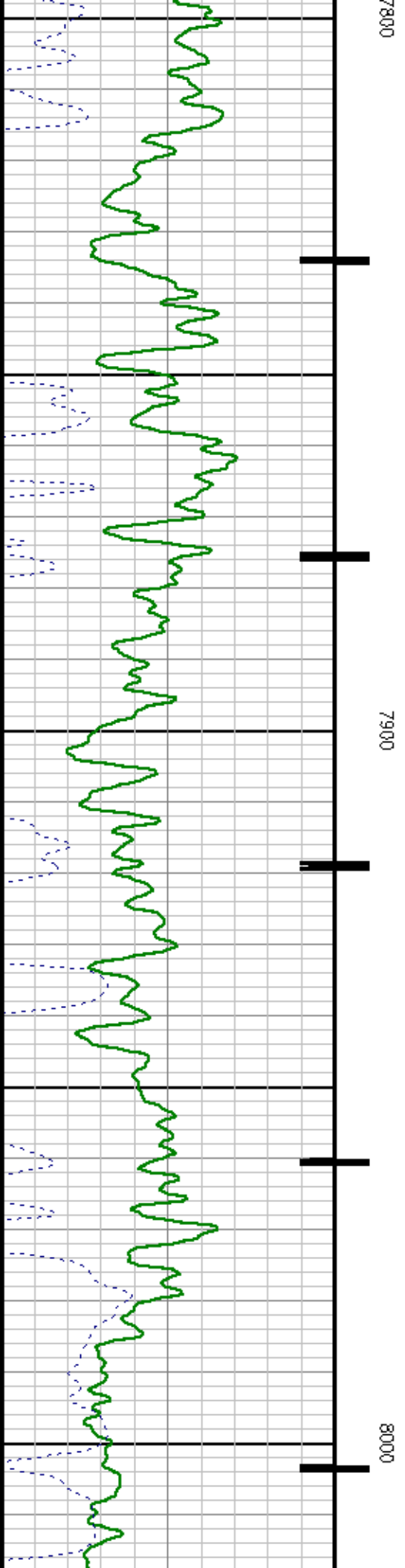
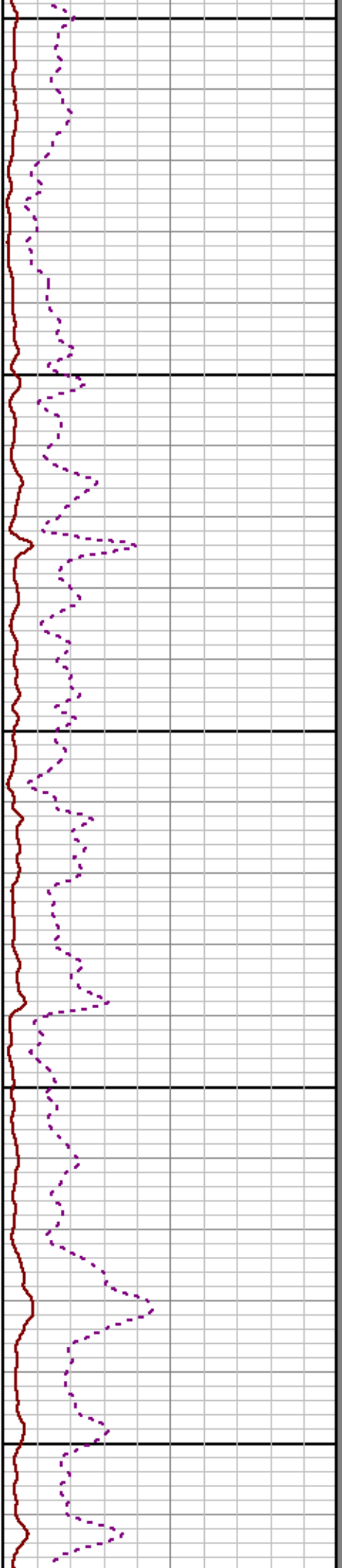
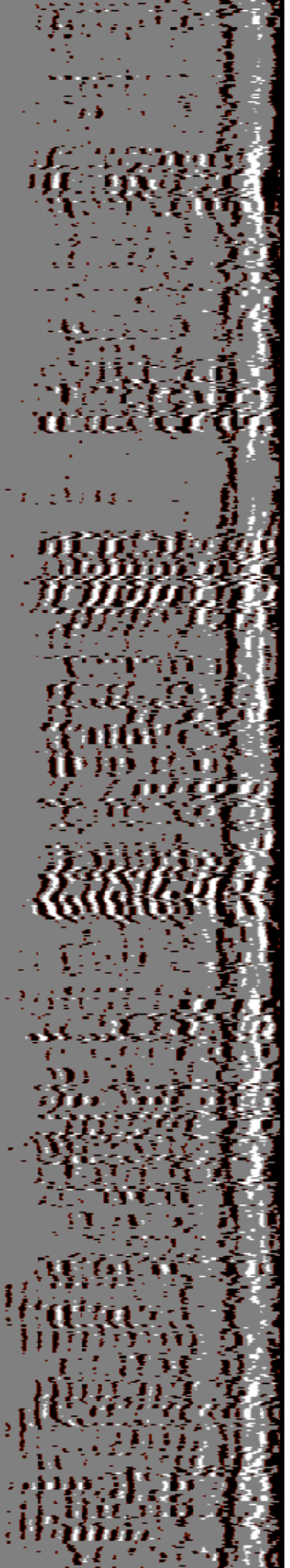


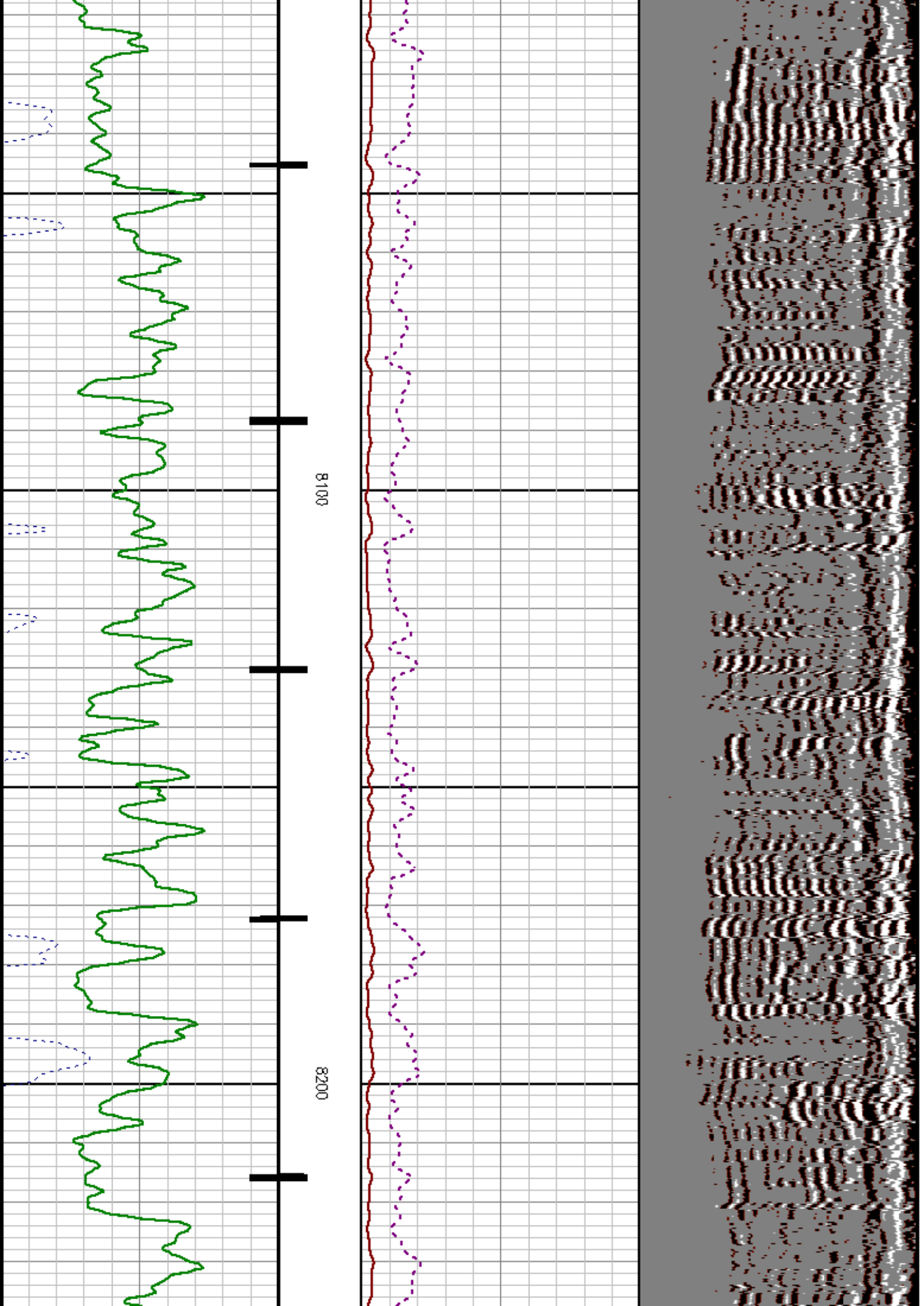


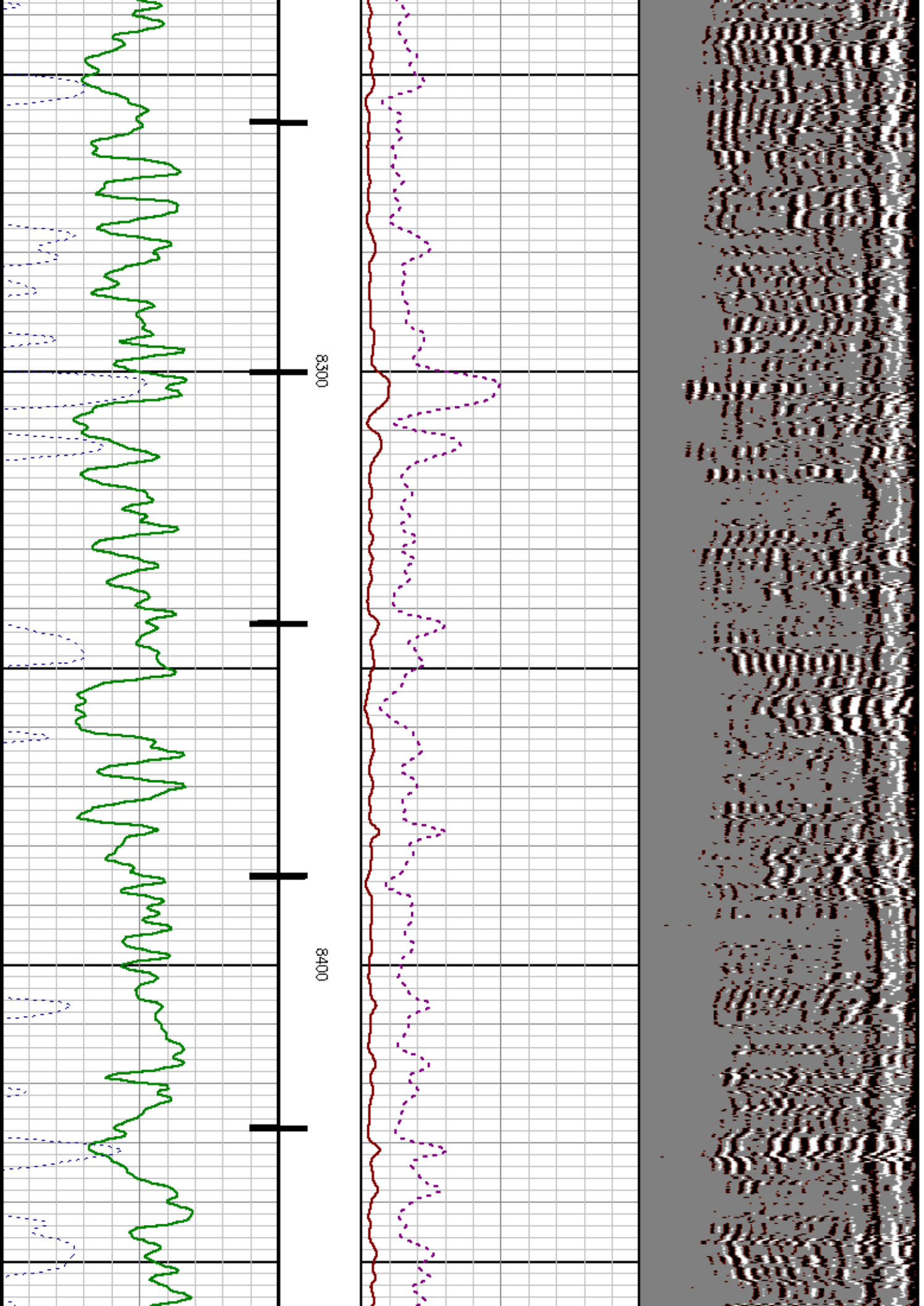


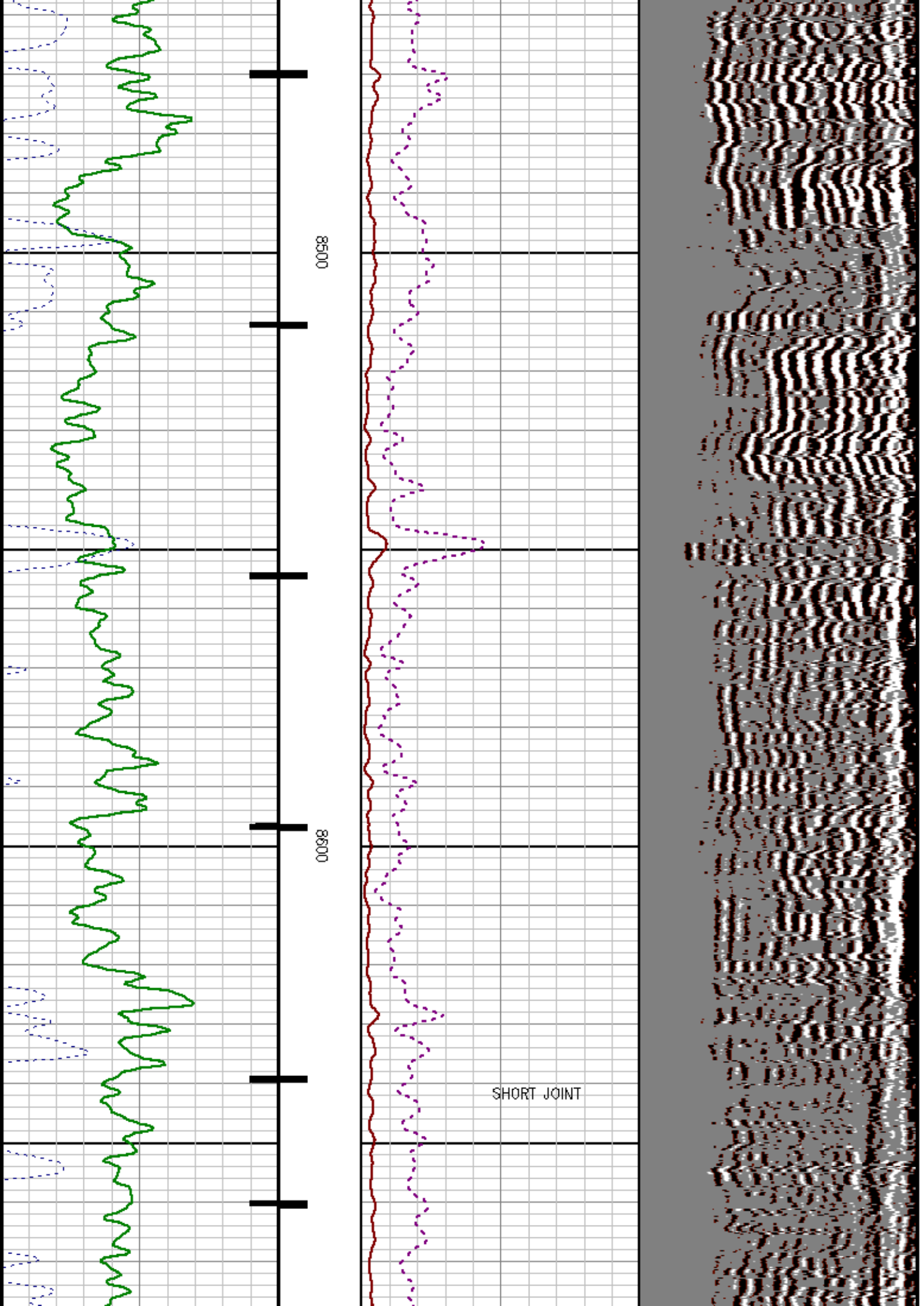


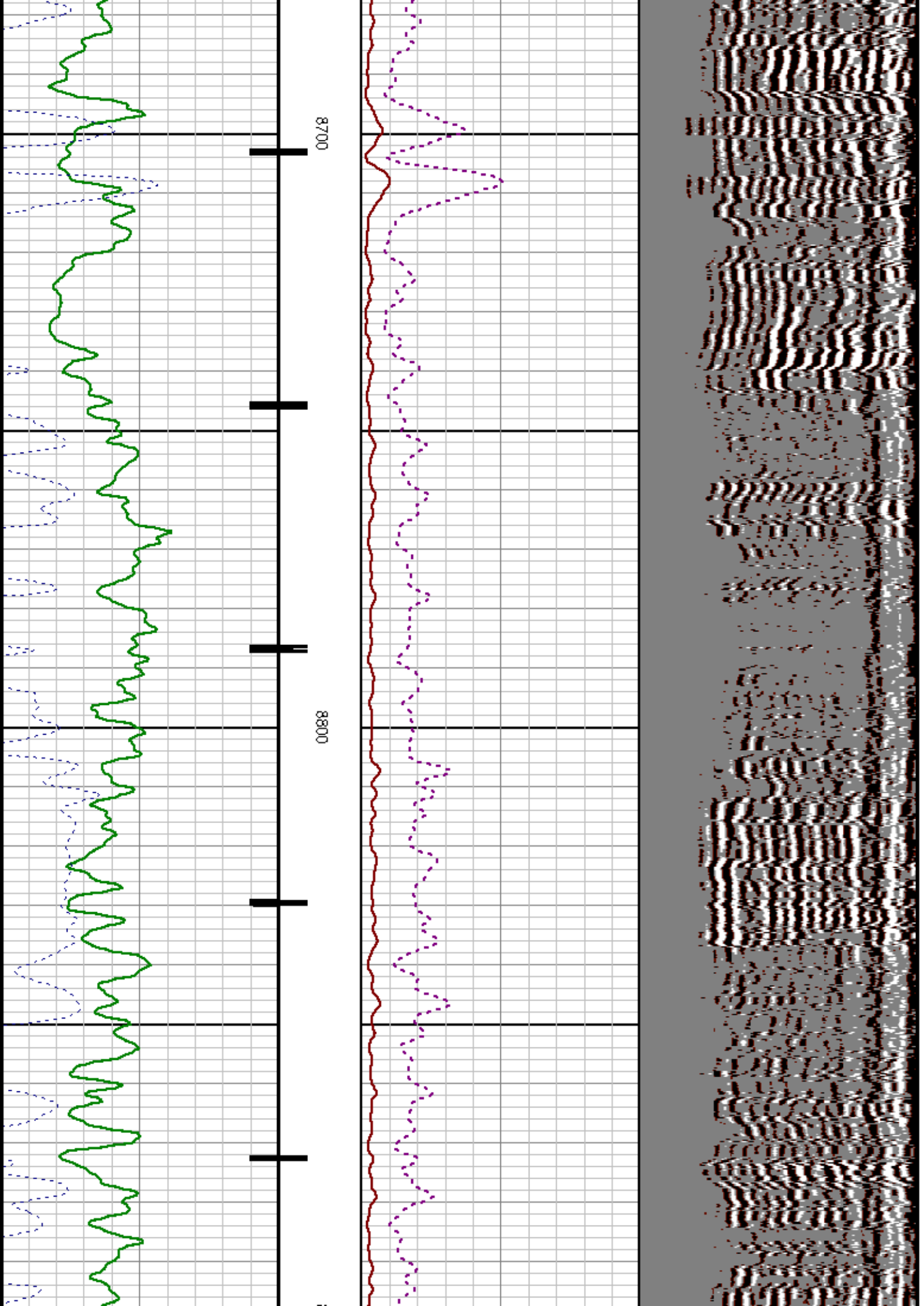


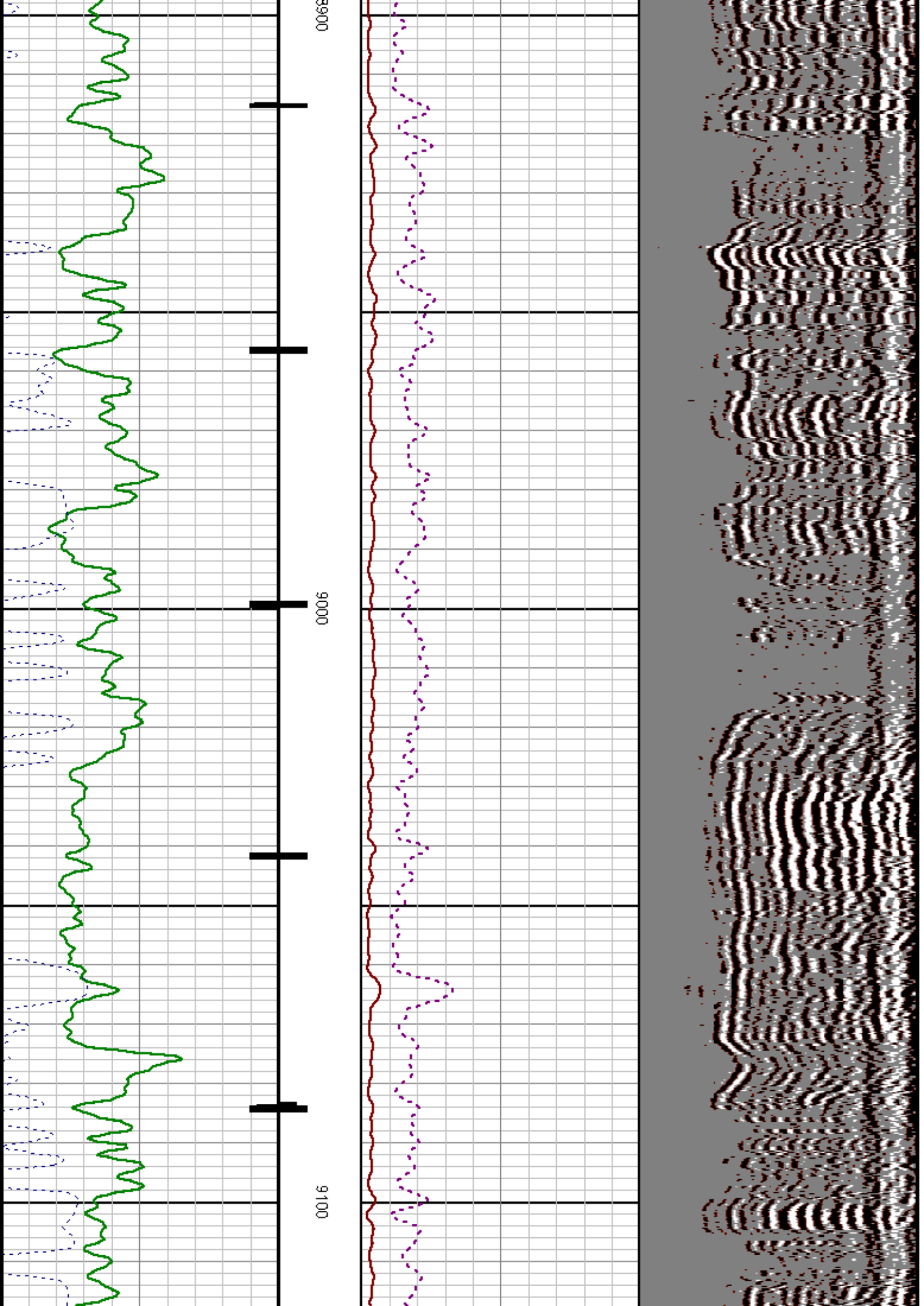


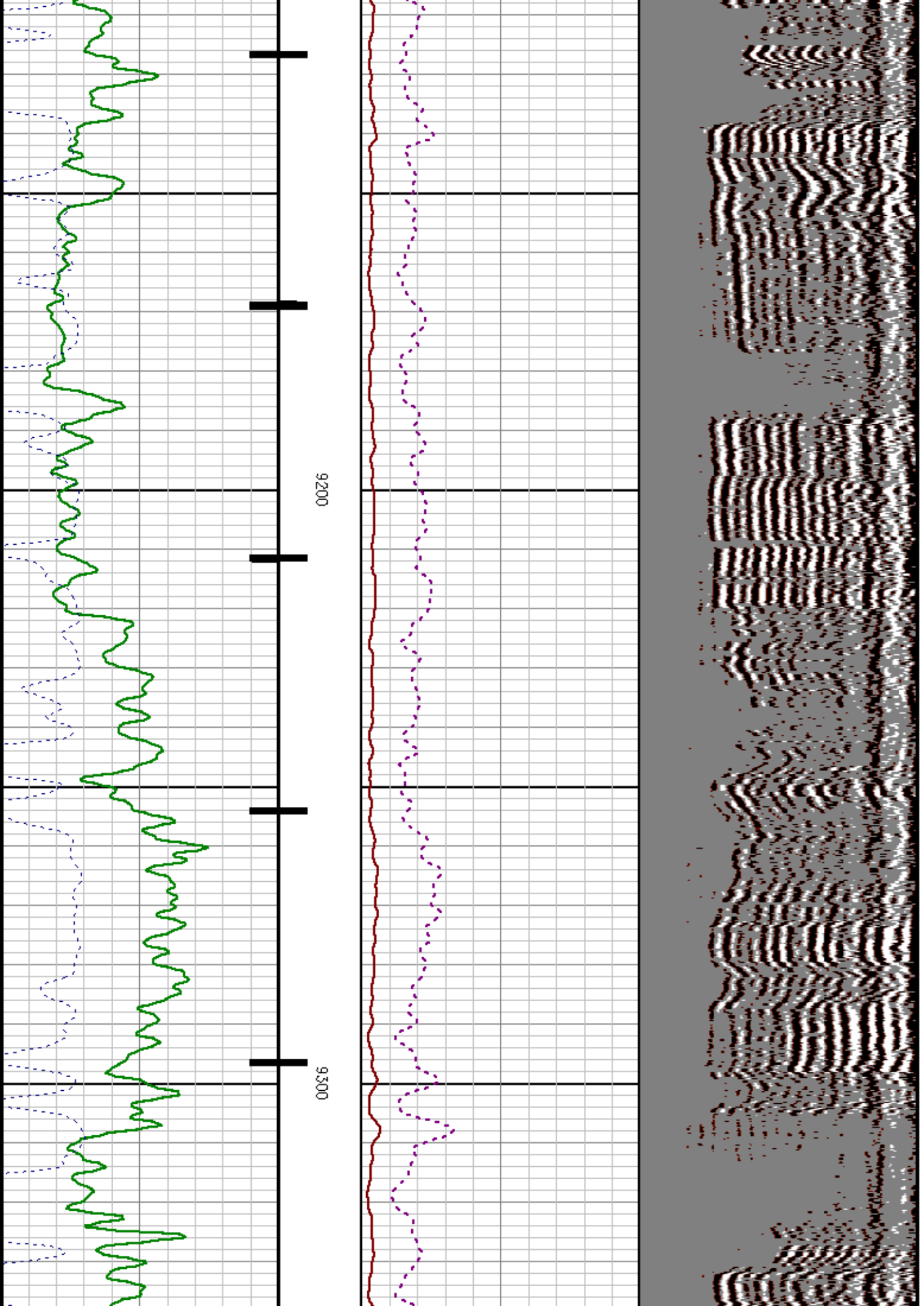


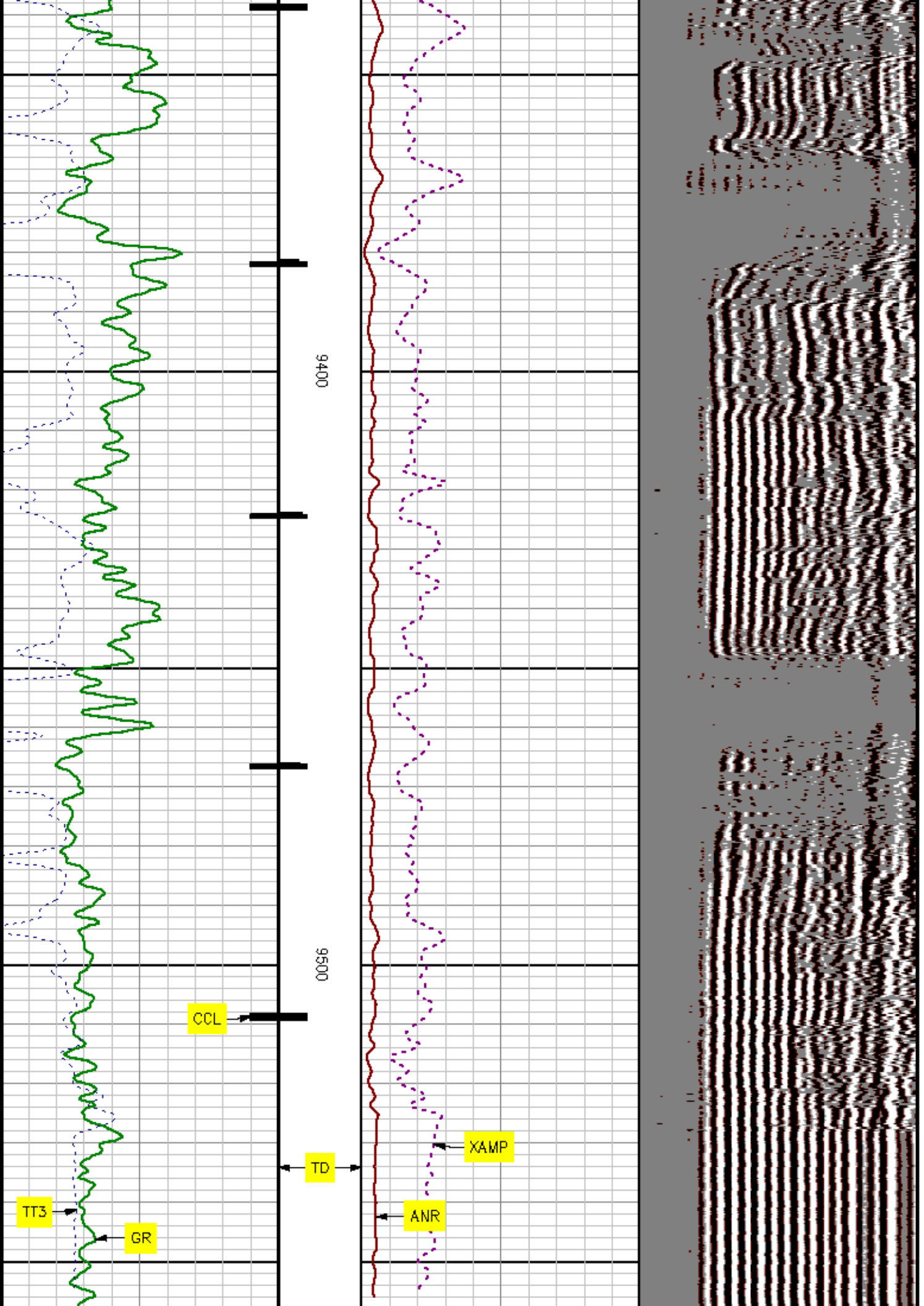


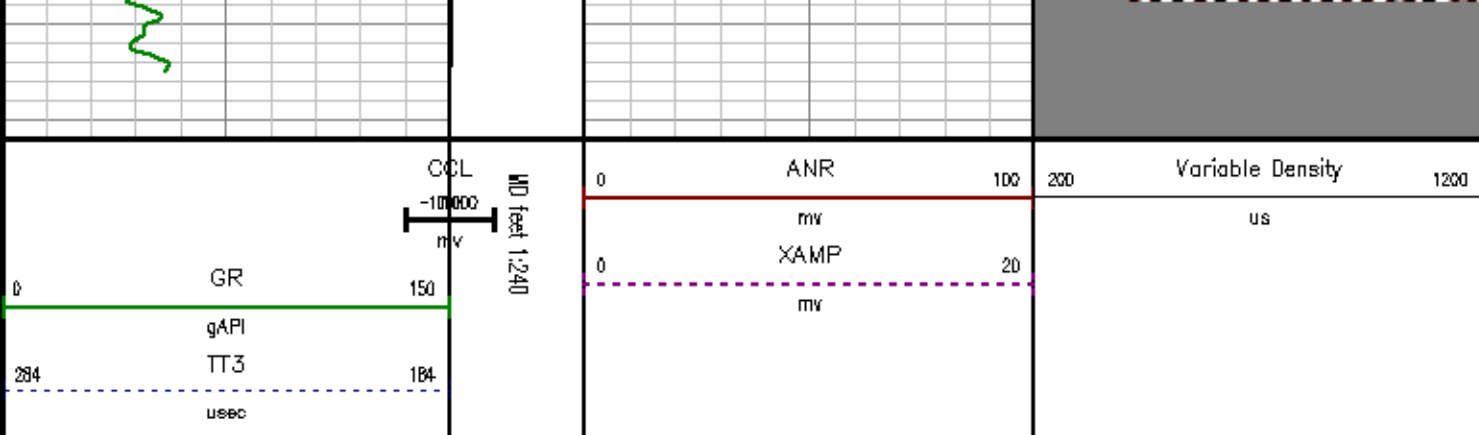












MAIN SECTION SECONDARY PRESENTATION

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
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RAL	FB Thresh Radial	10.000	mv	29.221	9572.000
RAL	Fluid Travel Time	200.000	uSec/ft	29.221	9571.983

DEPTH OFFSETS (for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES
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SERIES

DEPTH OFFSET

ACQUIRED CURVES

1426XA -15.360

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 -14.360

AFAR SIG TT5

1426XA -7.250

CCL

1426XA -5.390

GR

1426XA 0.000

NEU

Created by : RAL, v4.8.007

Plotted by : PlotMgr, v5.4.504

Company : MARATHON OIL & GAS

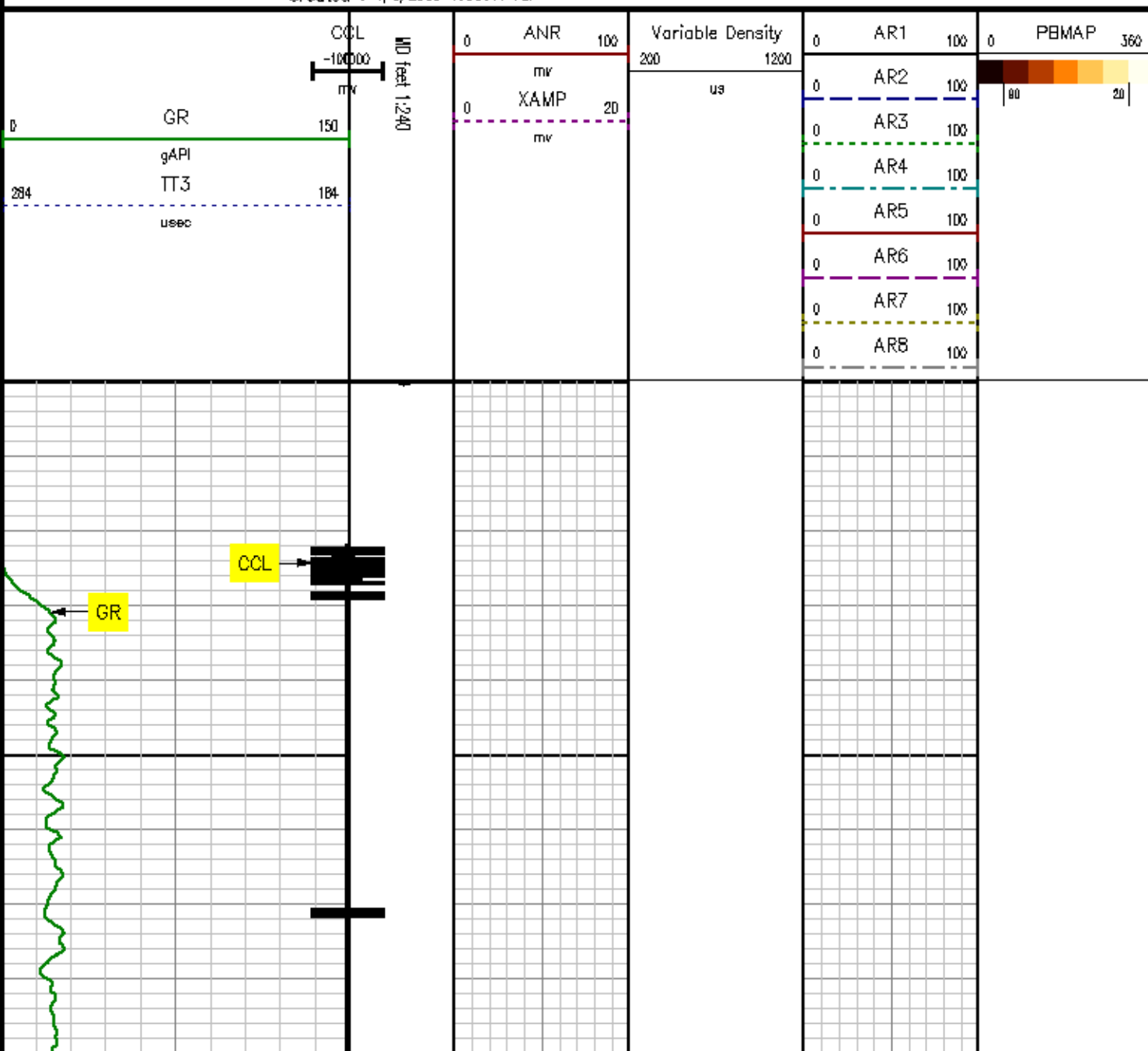
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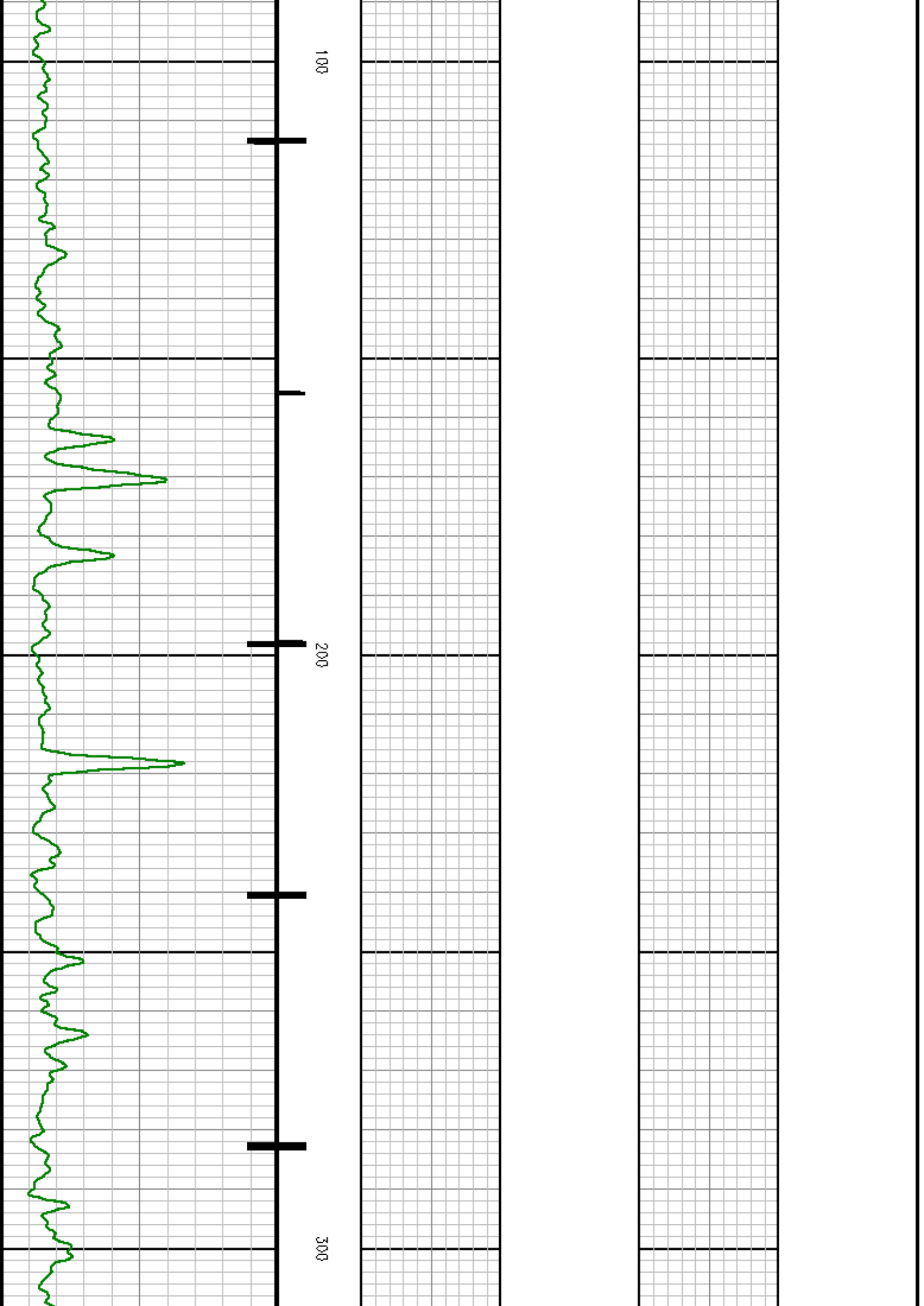
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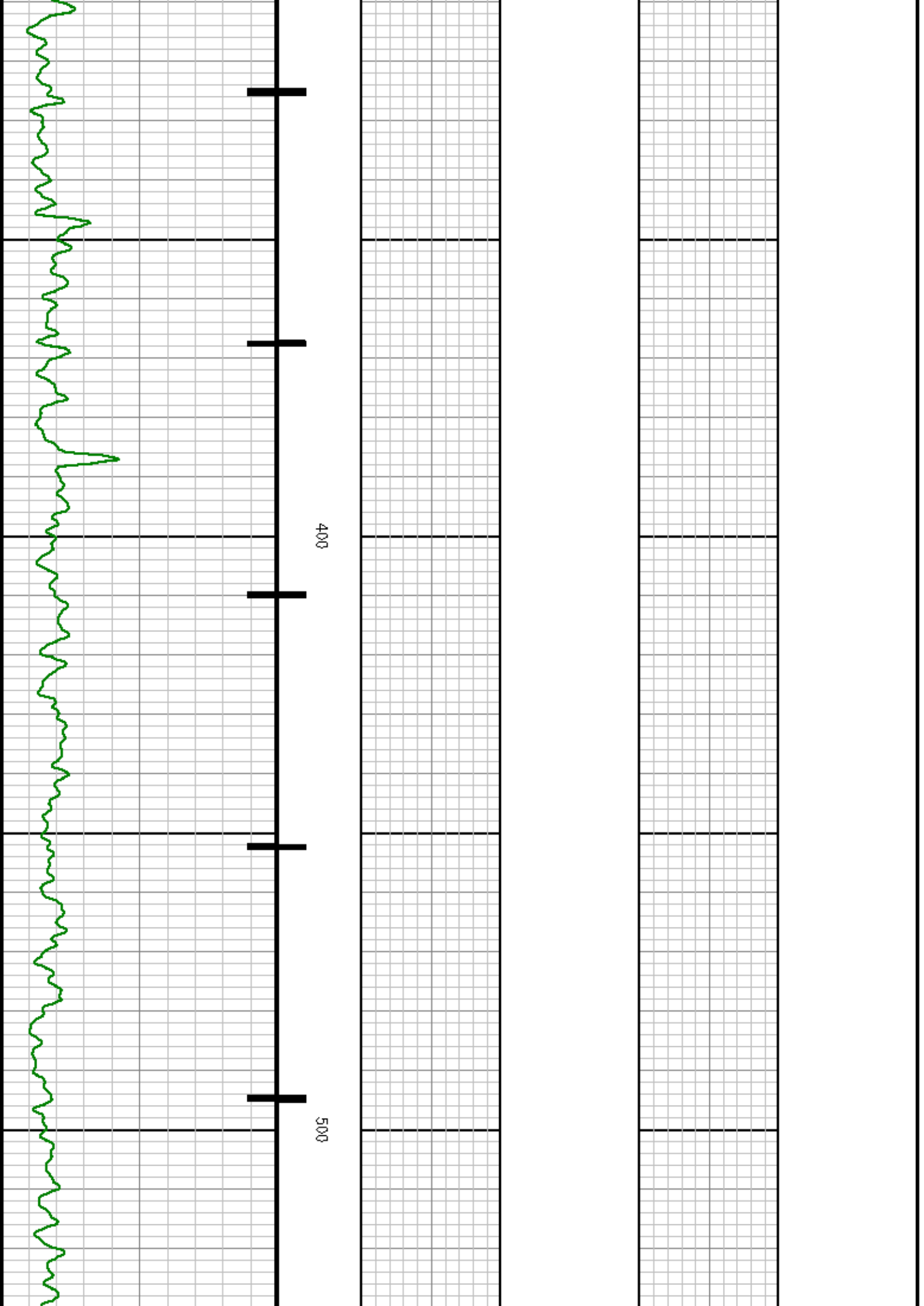
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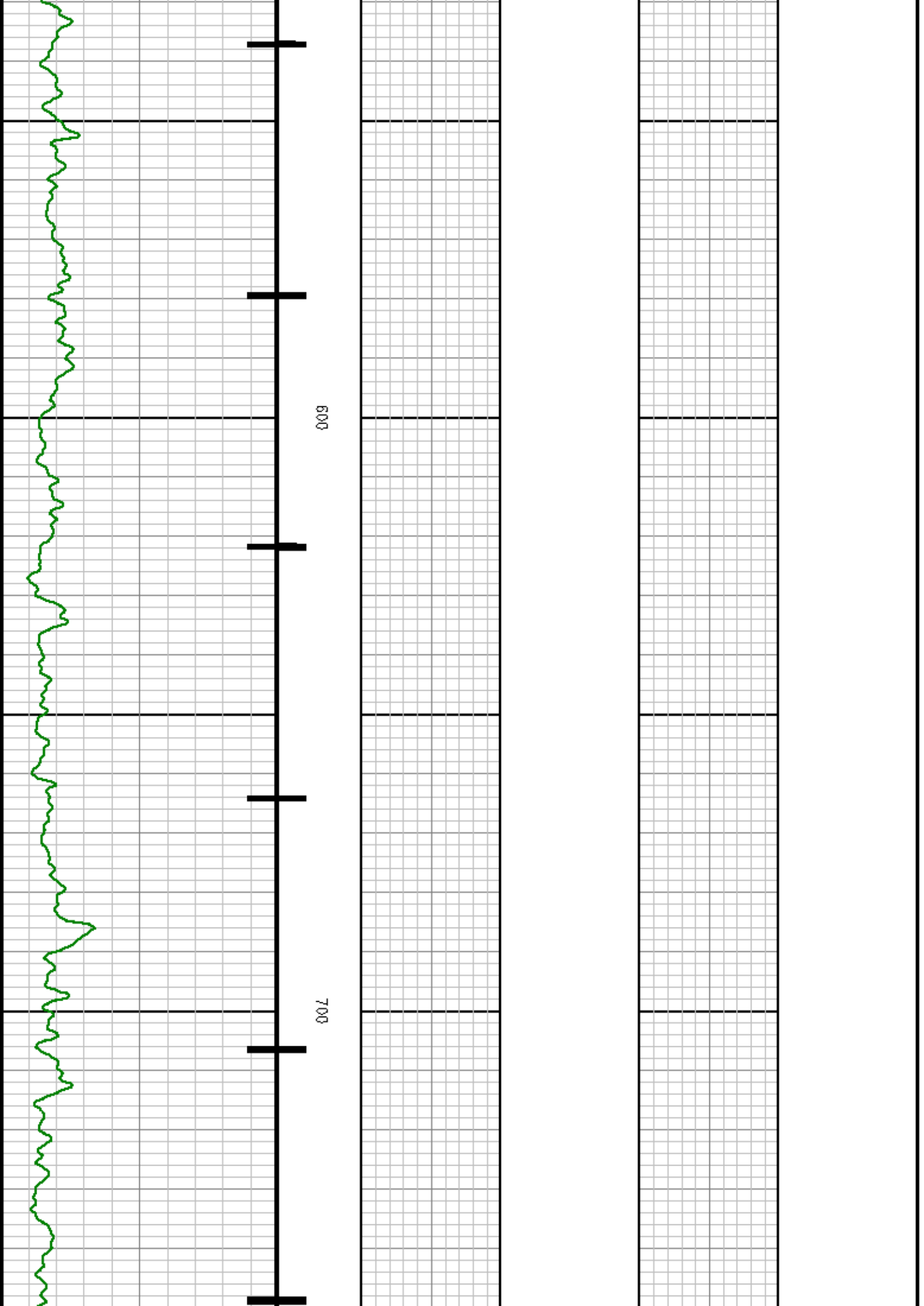
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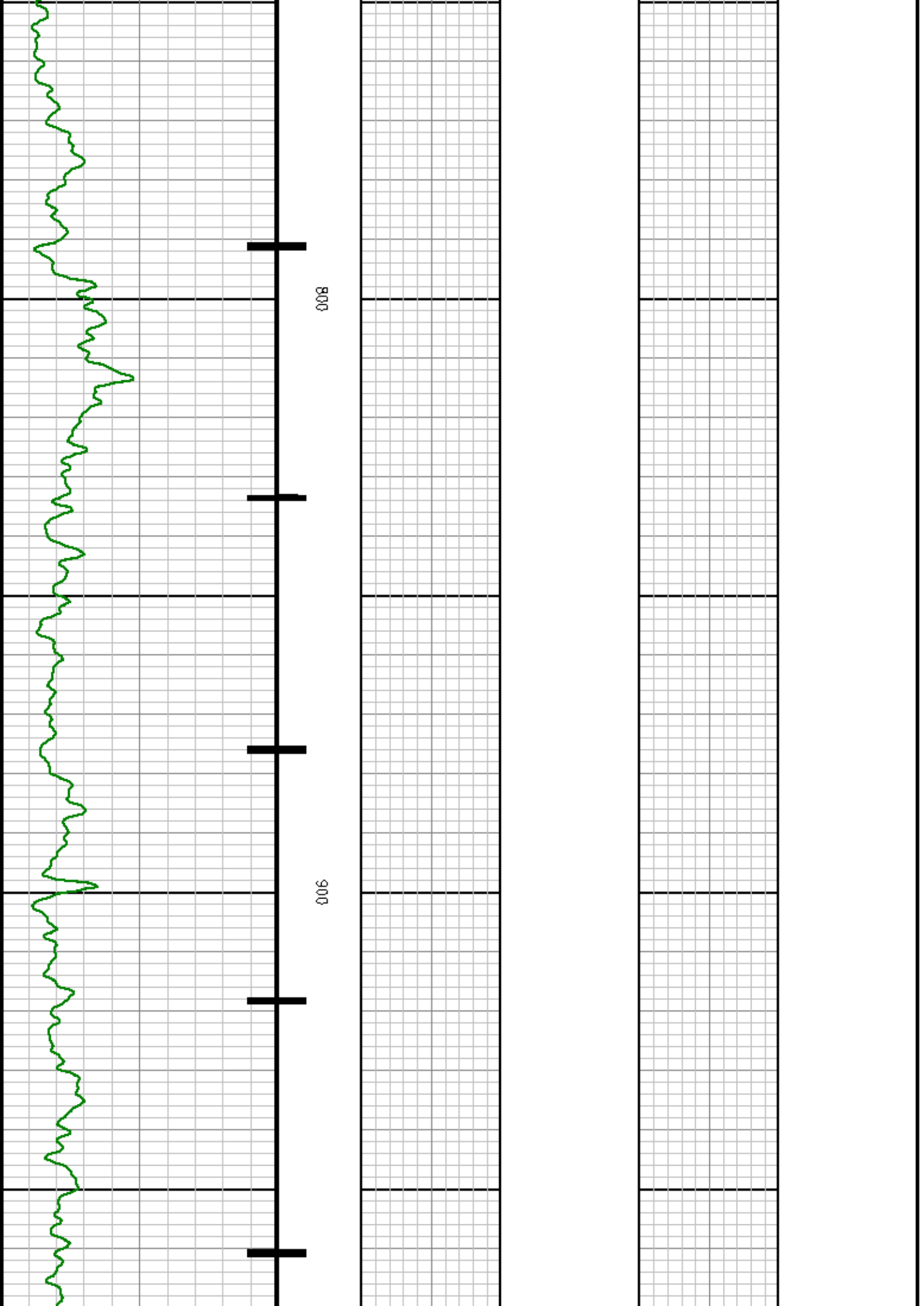
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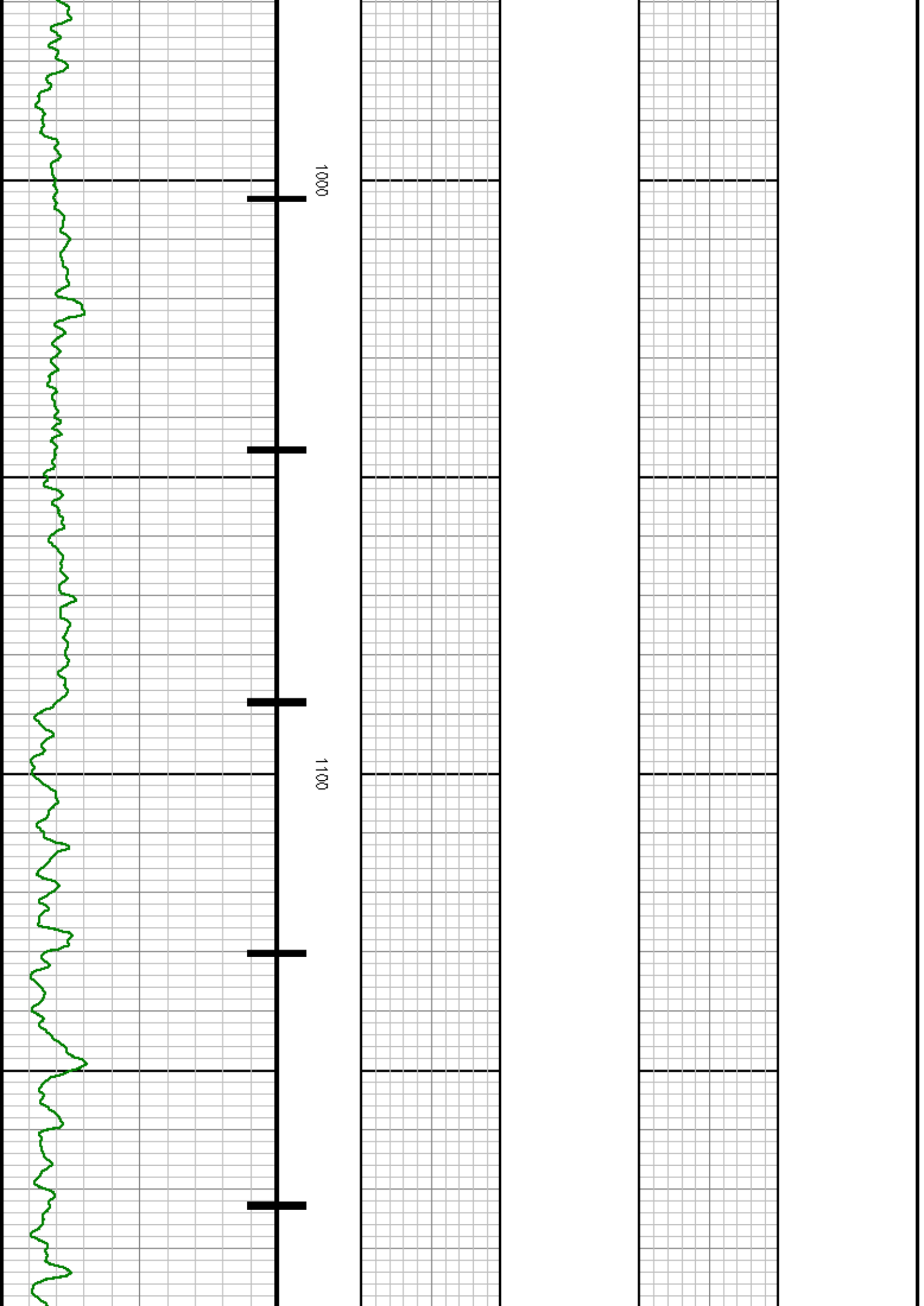


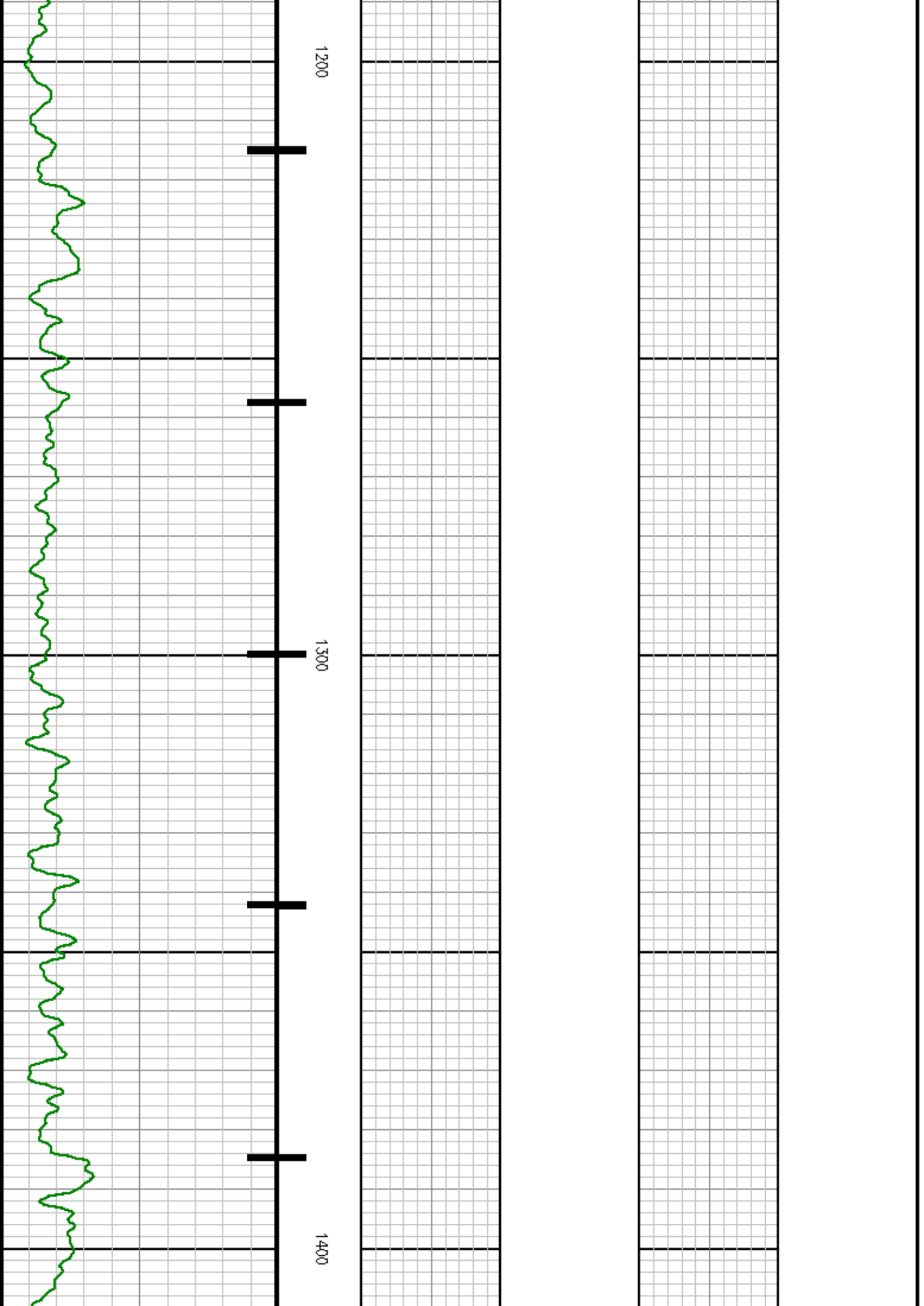


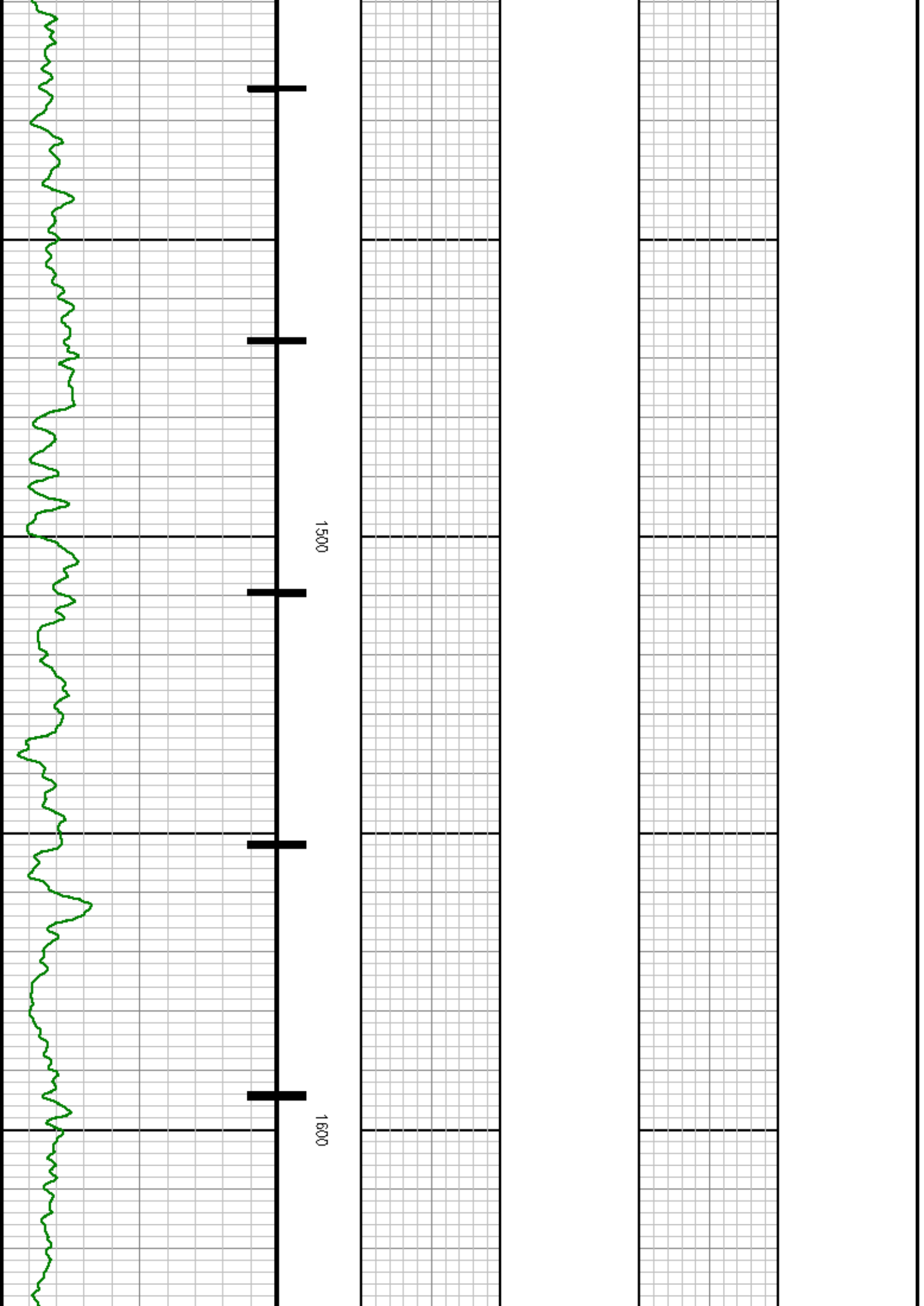


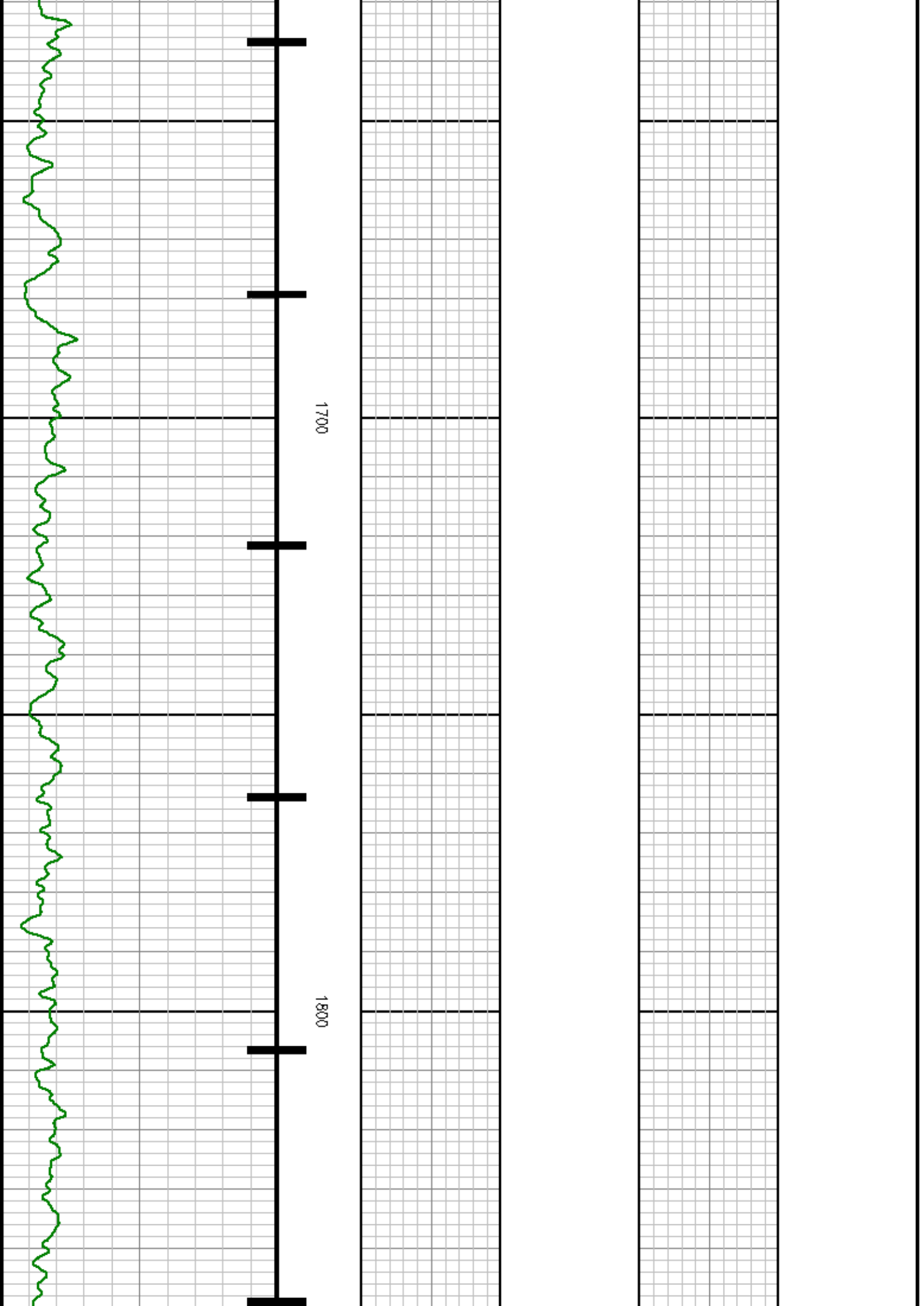


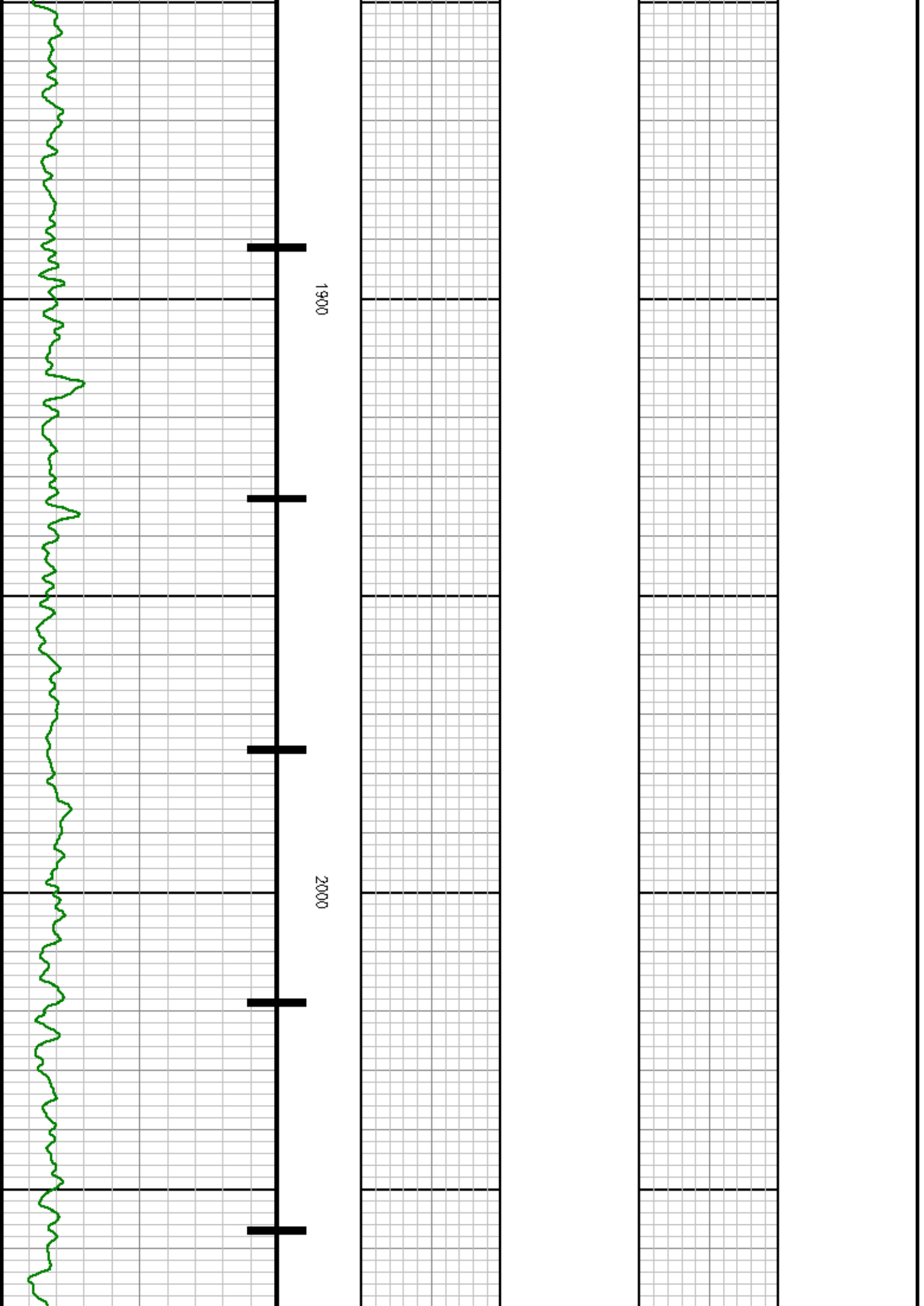


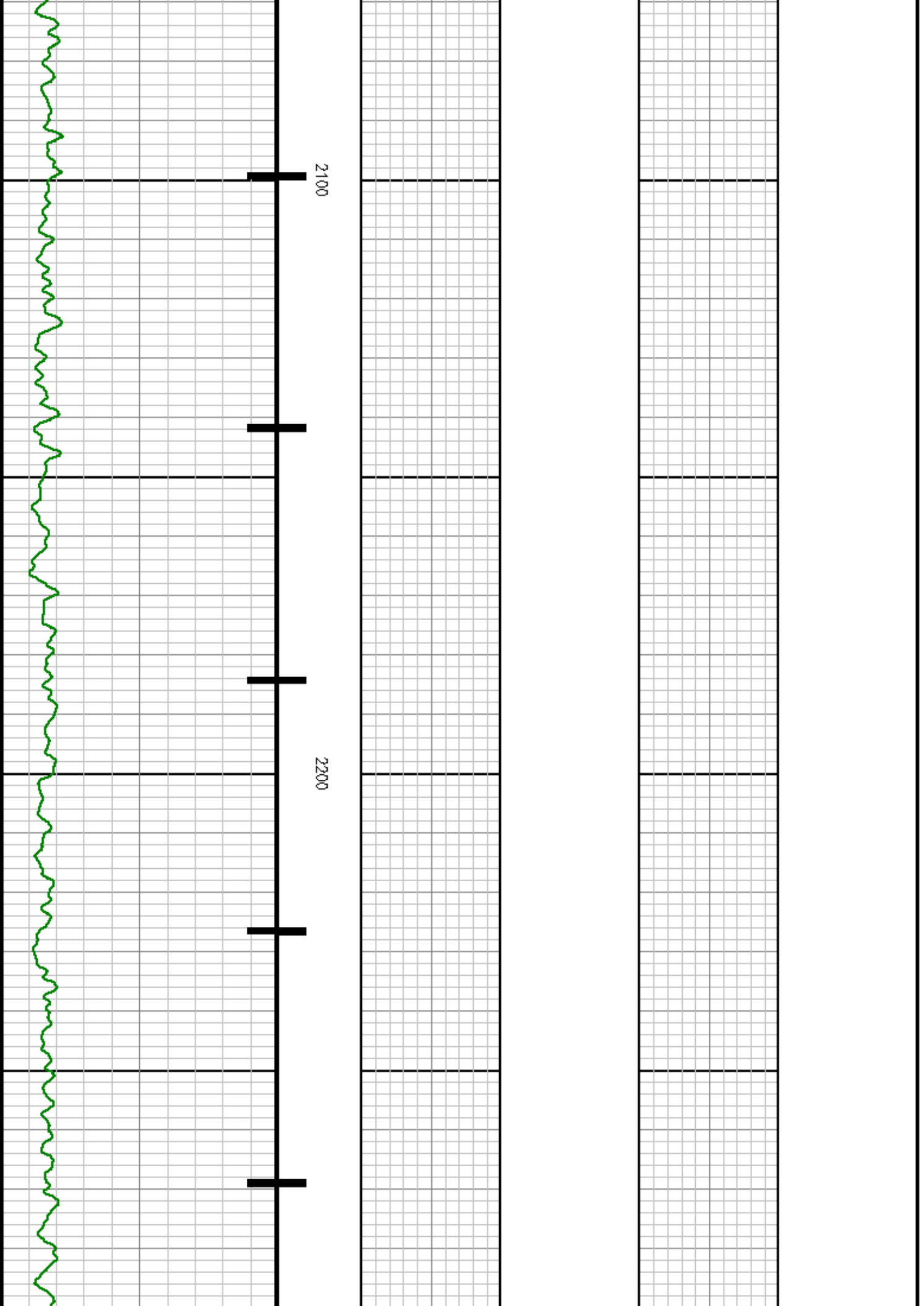


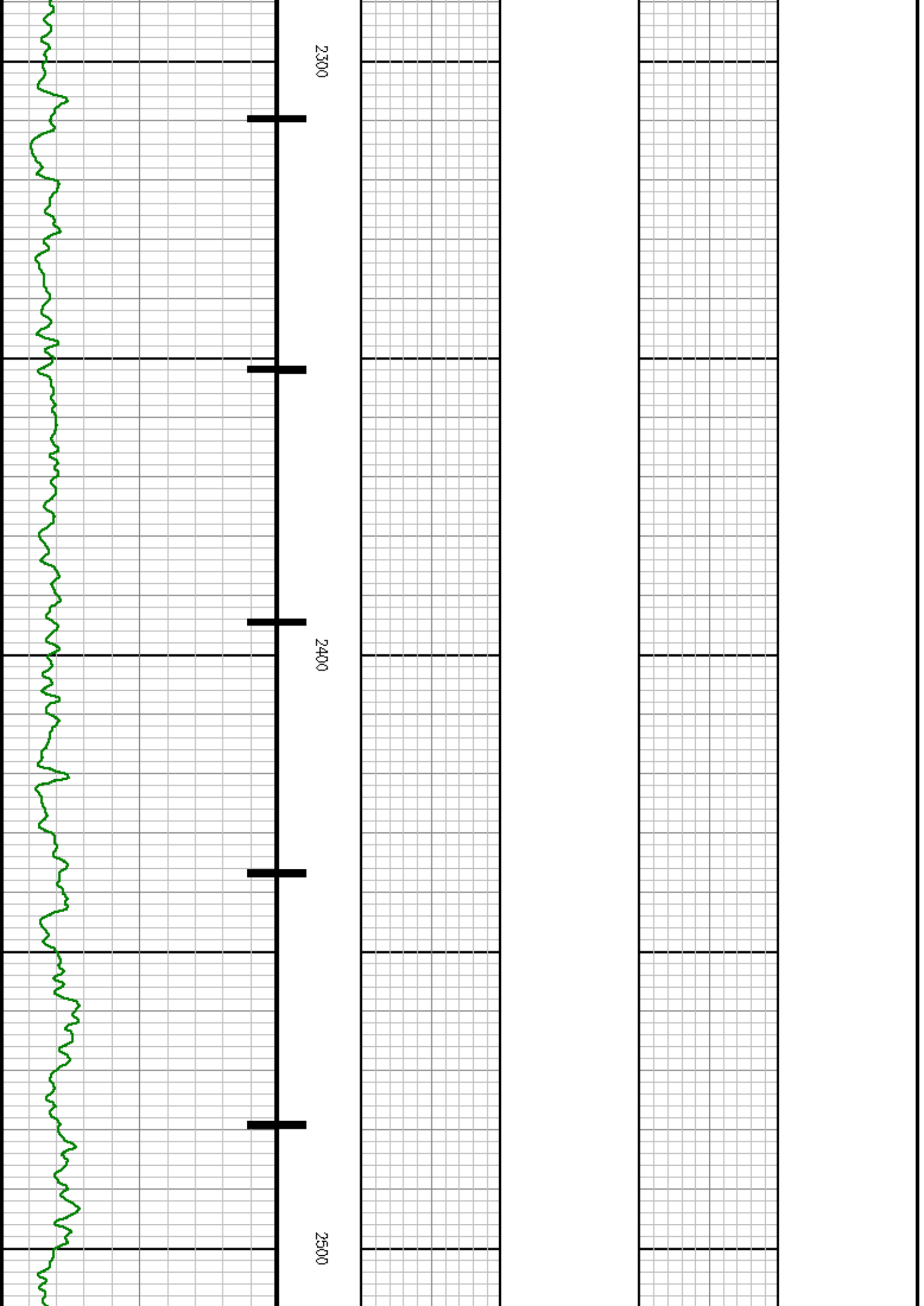


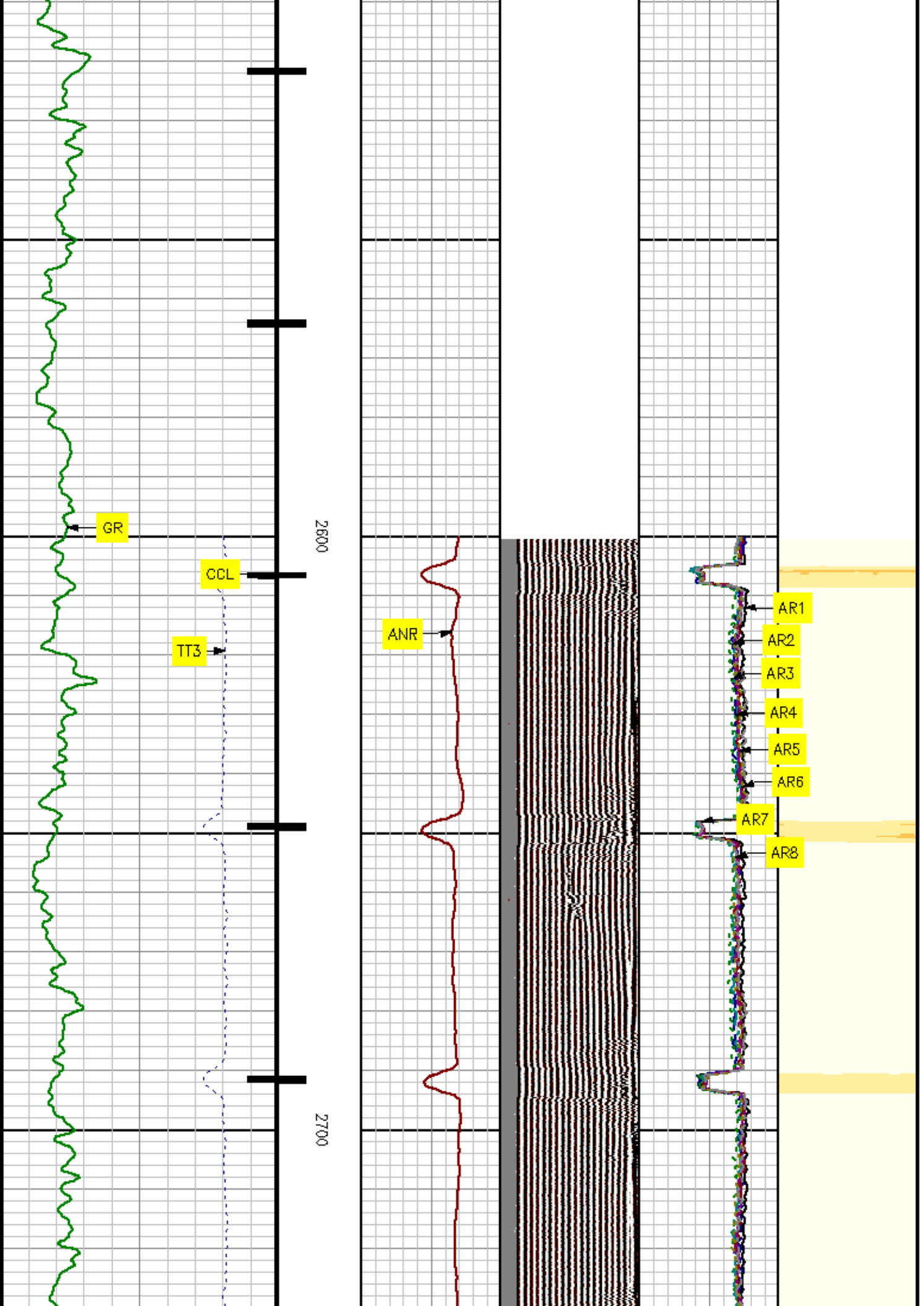


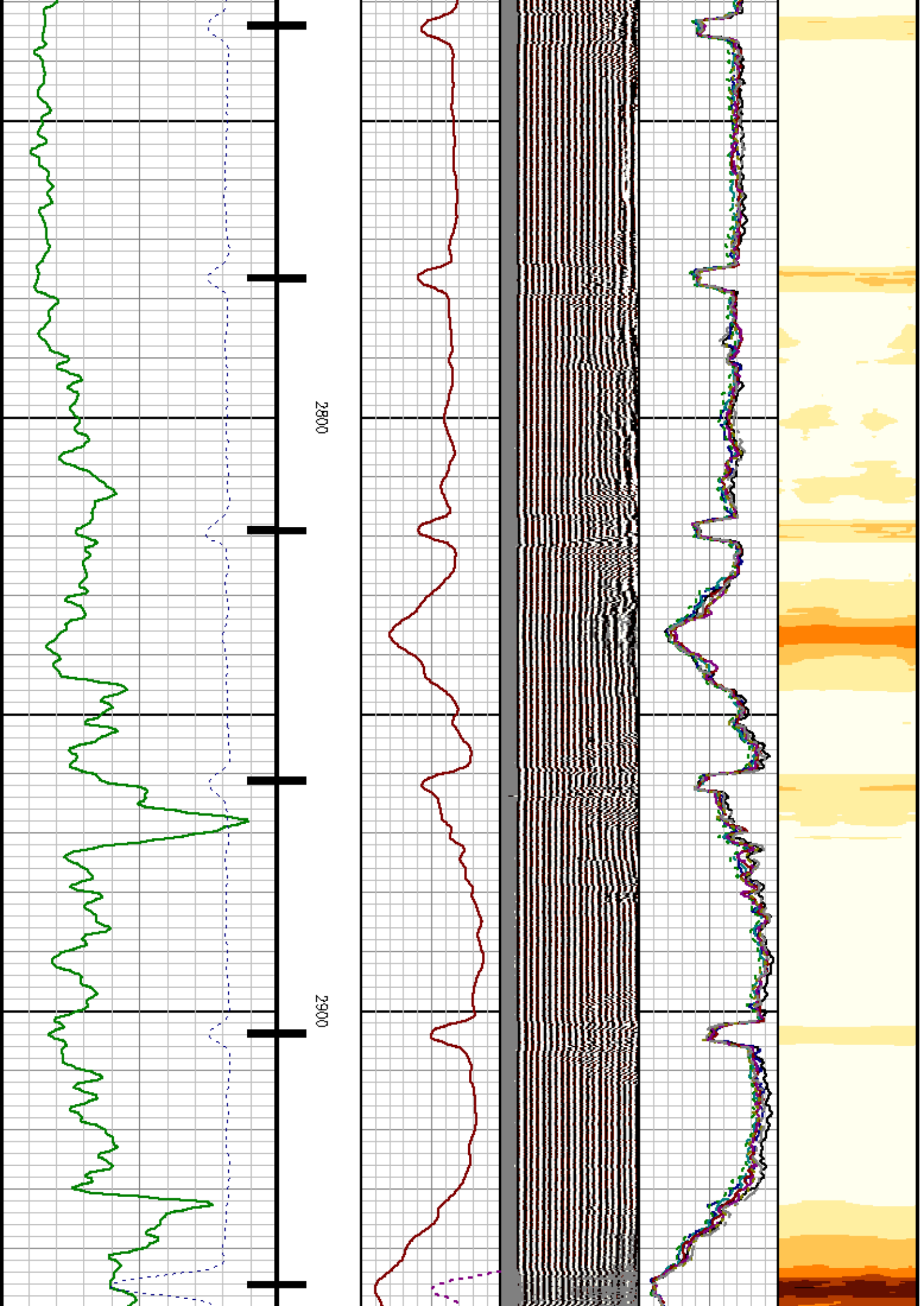


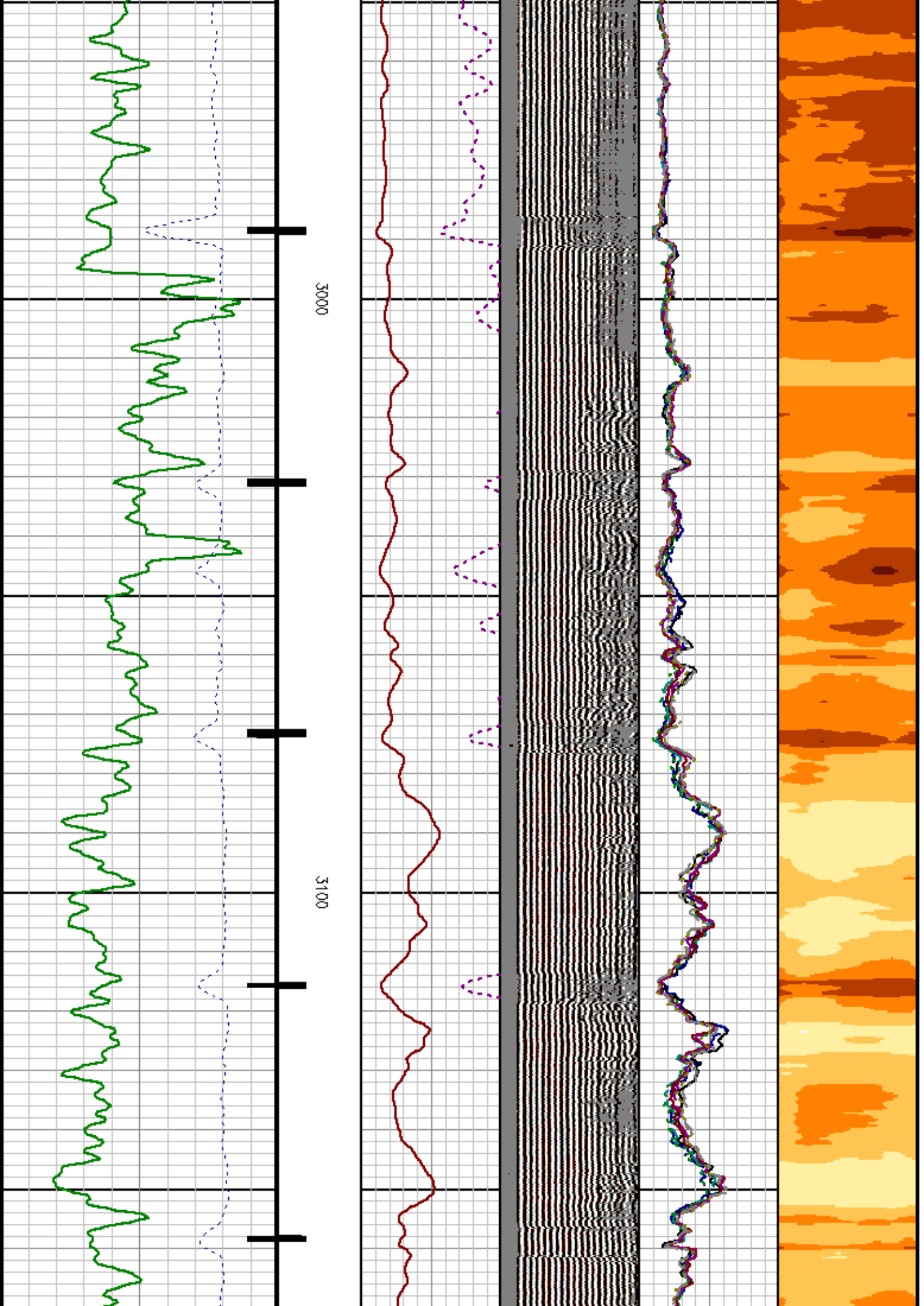


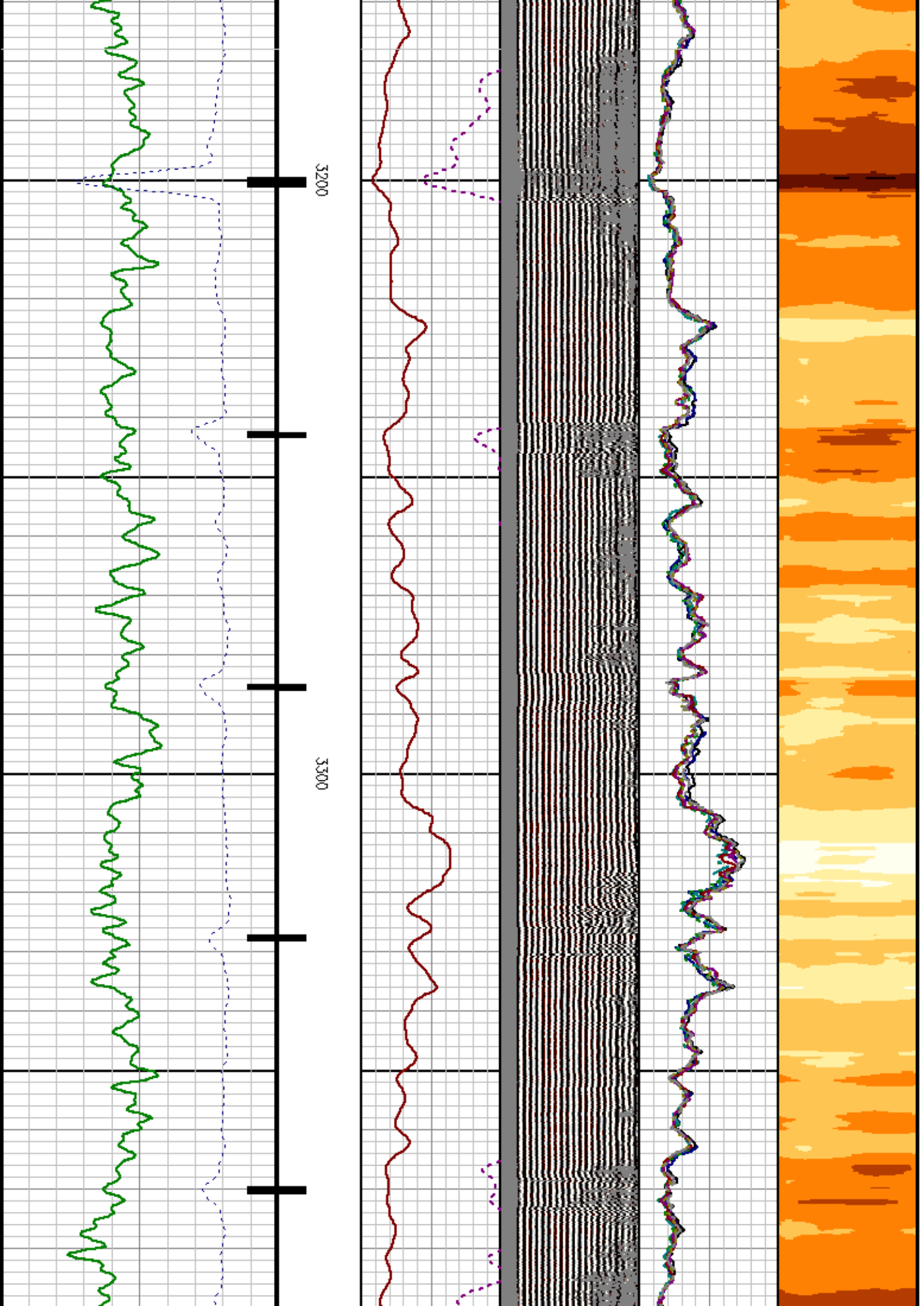


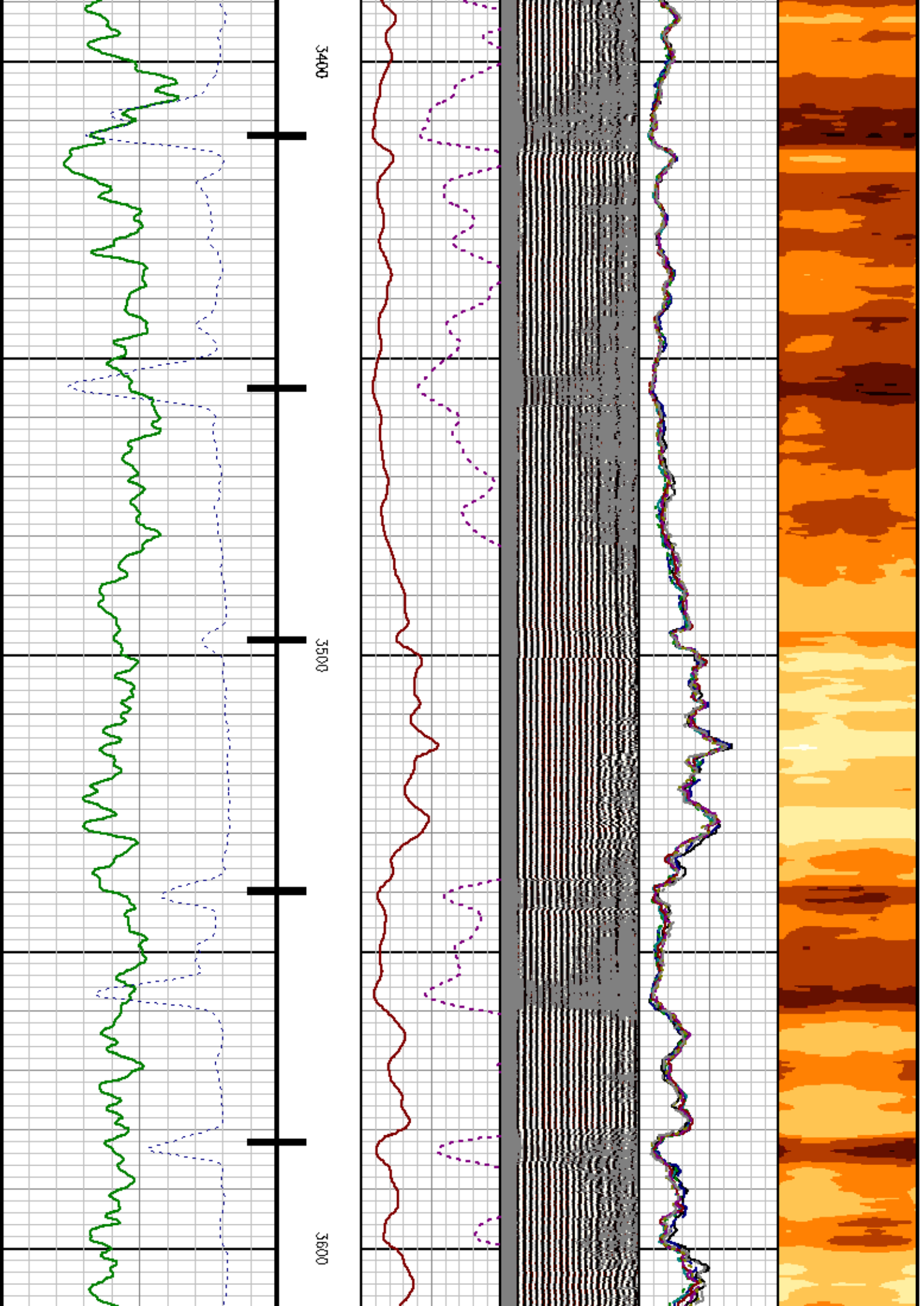


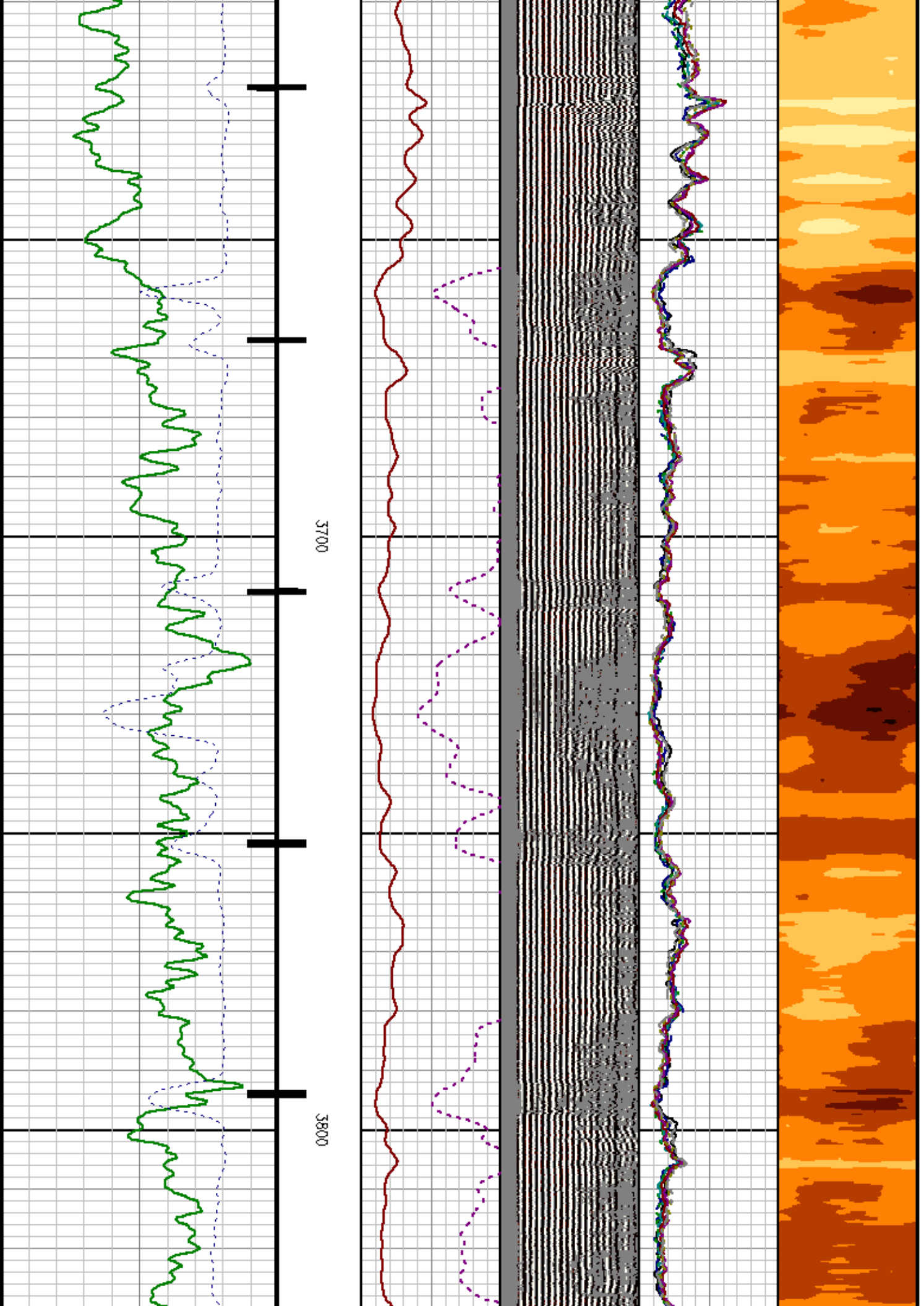


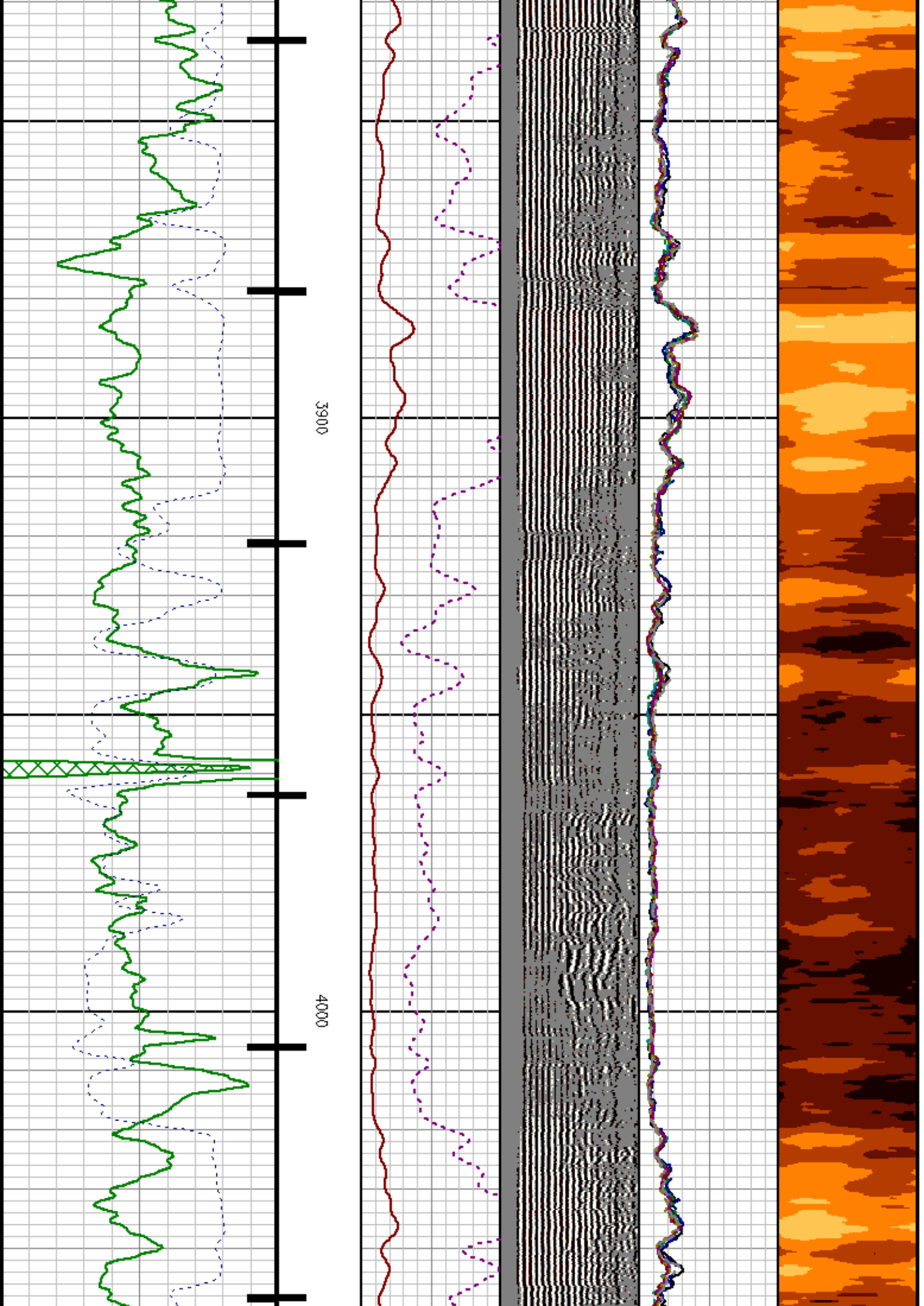


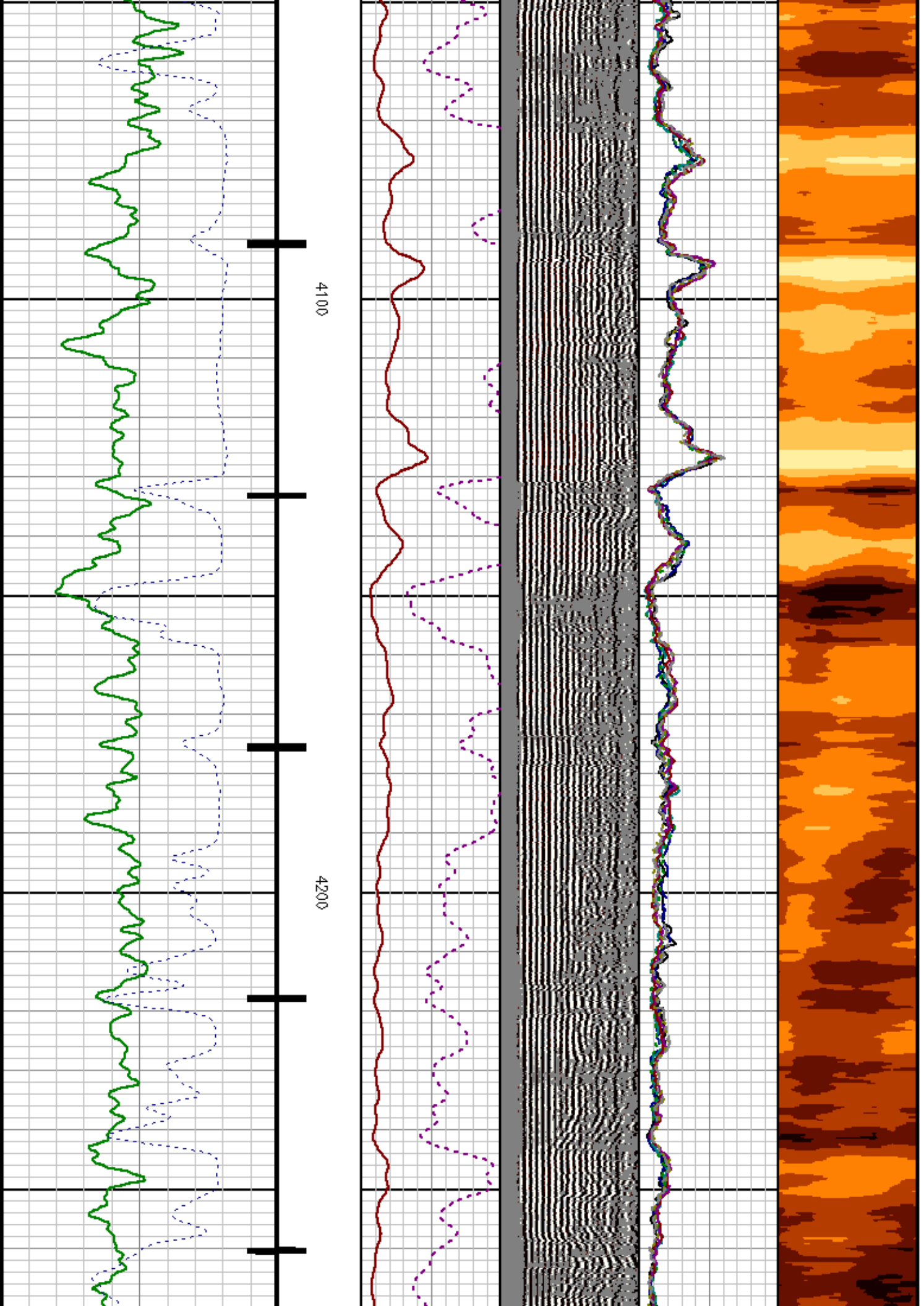


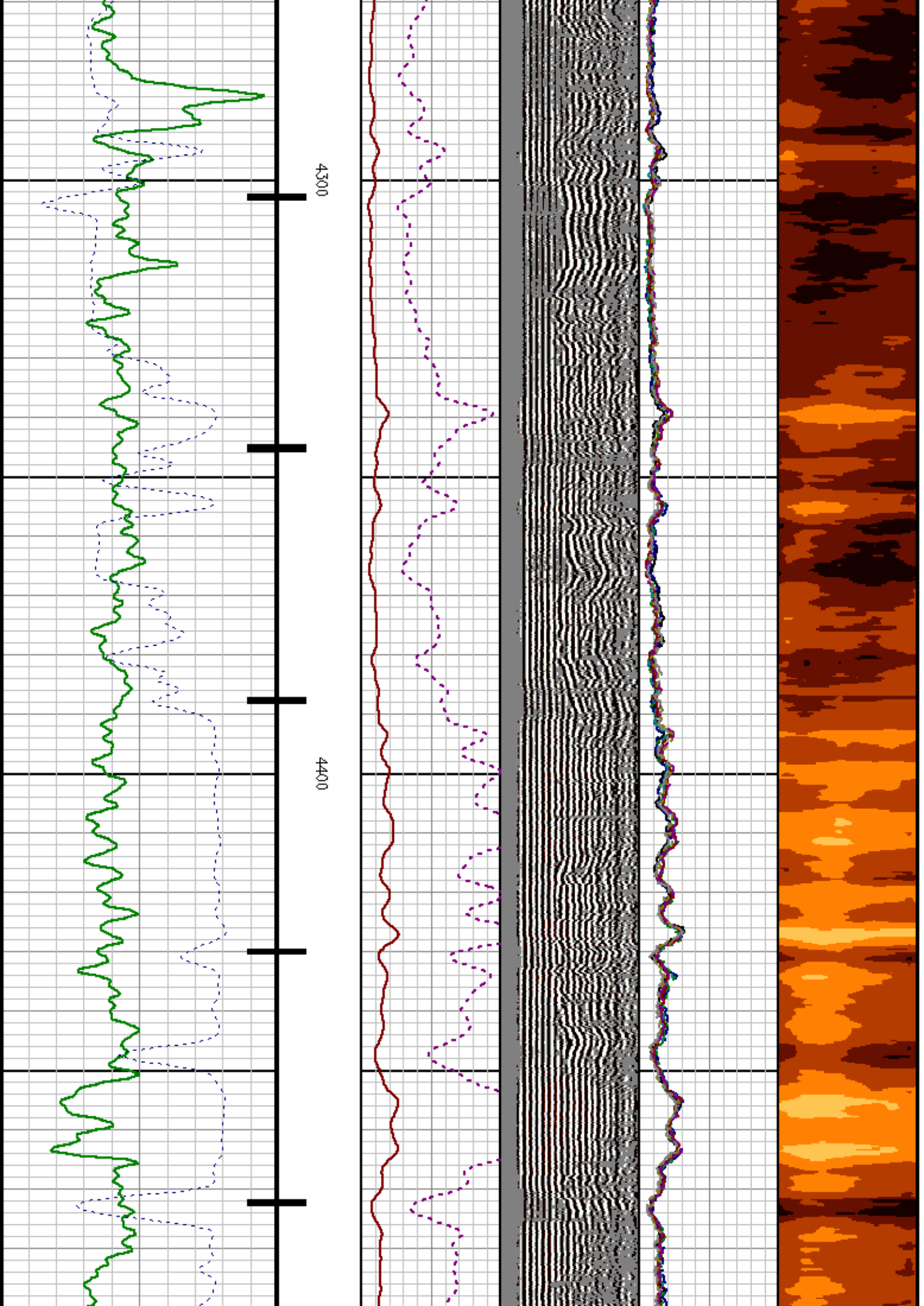


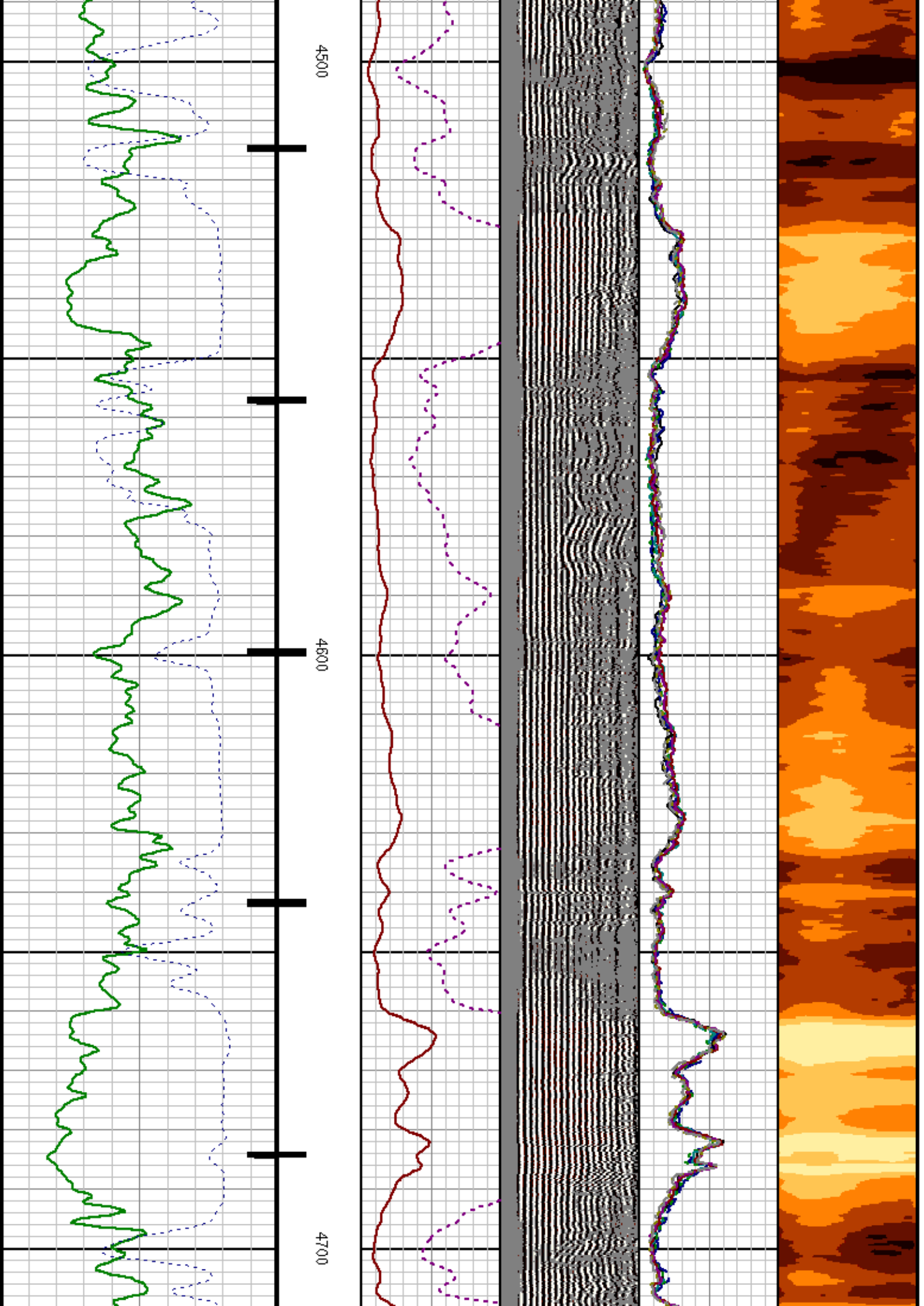


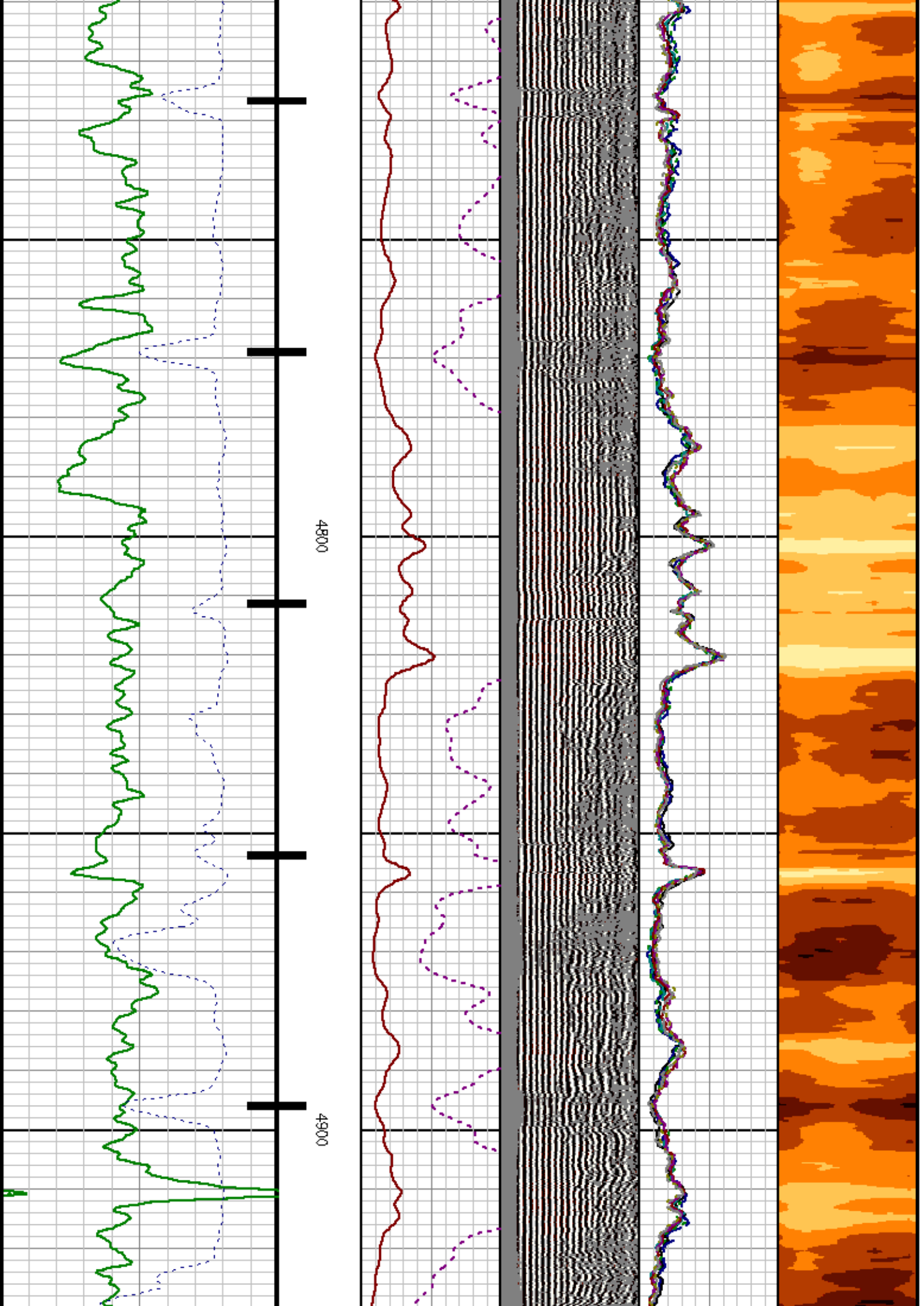


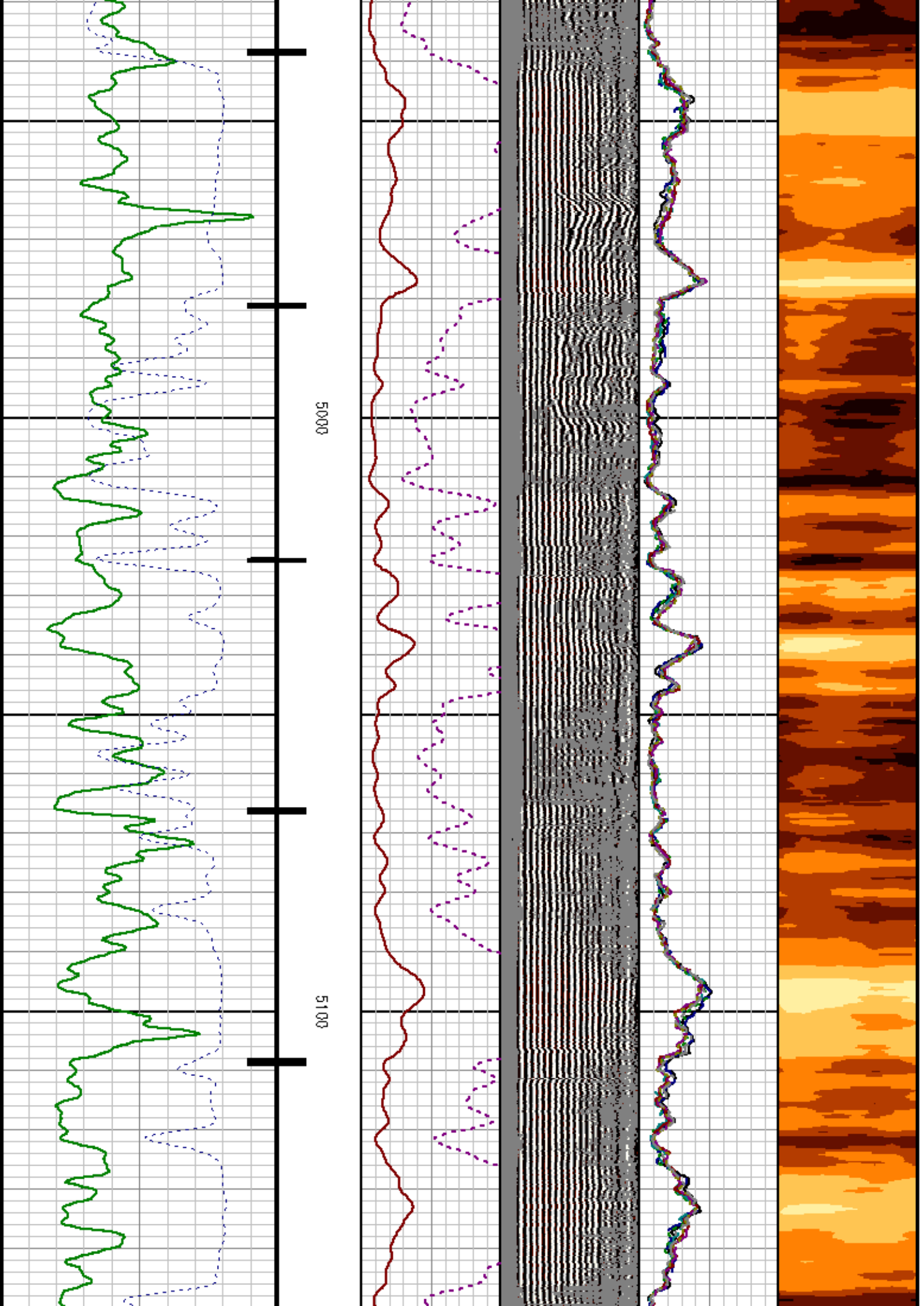


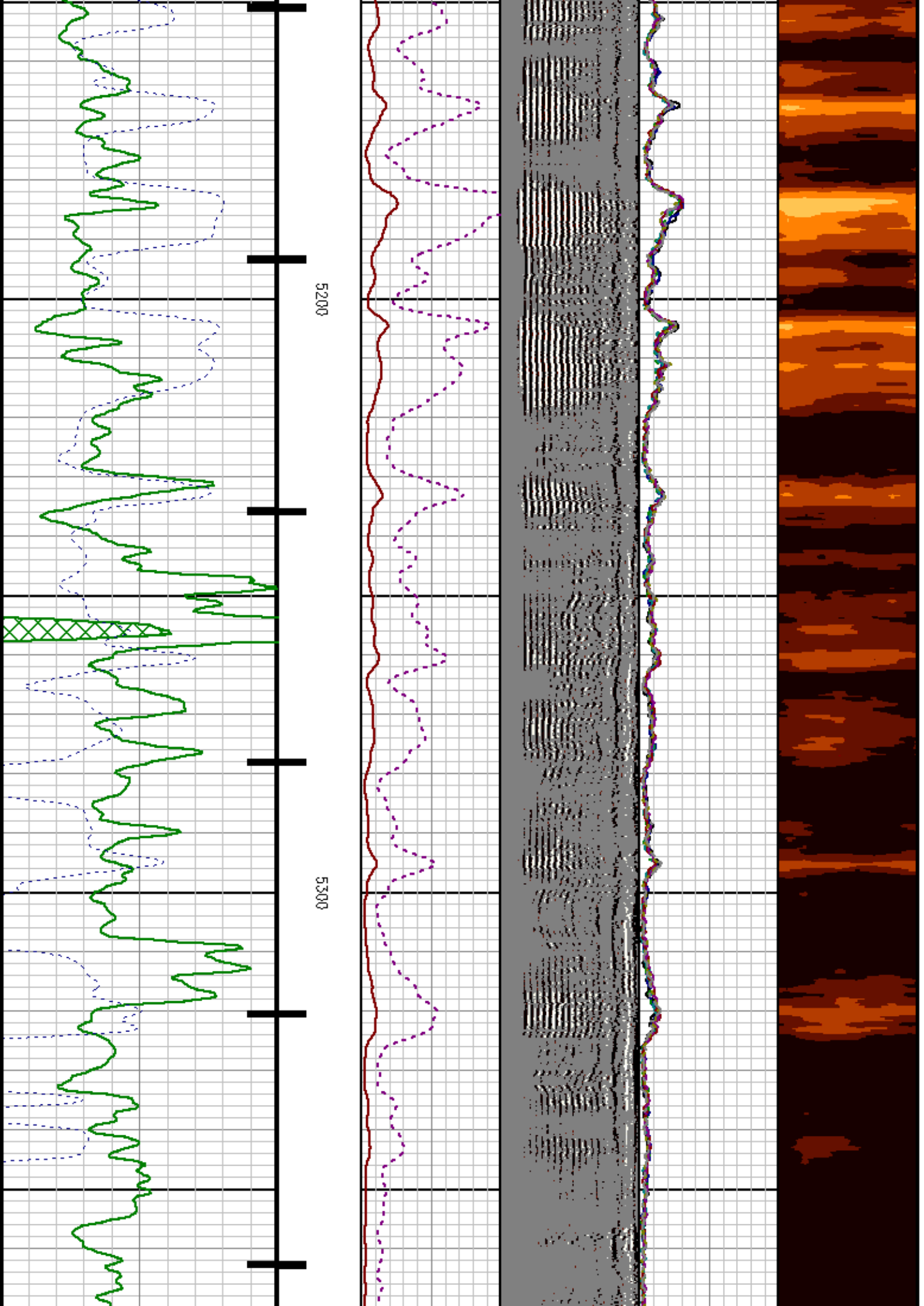


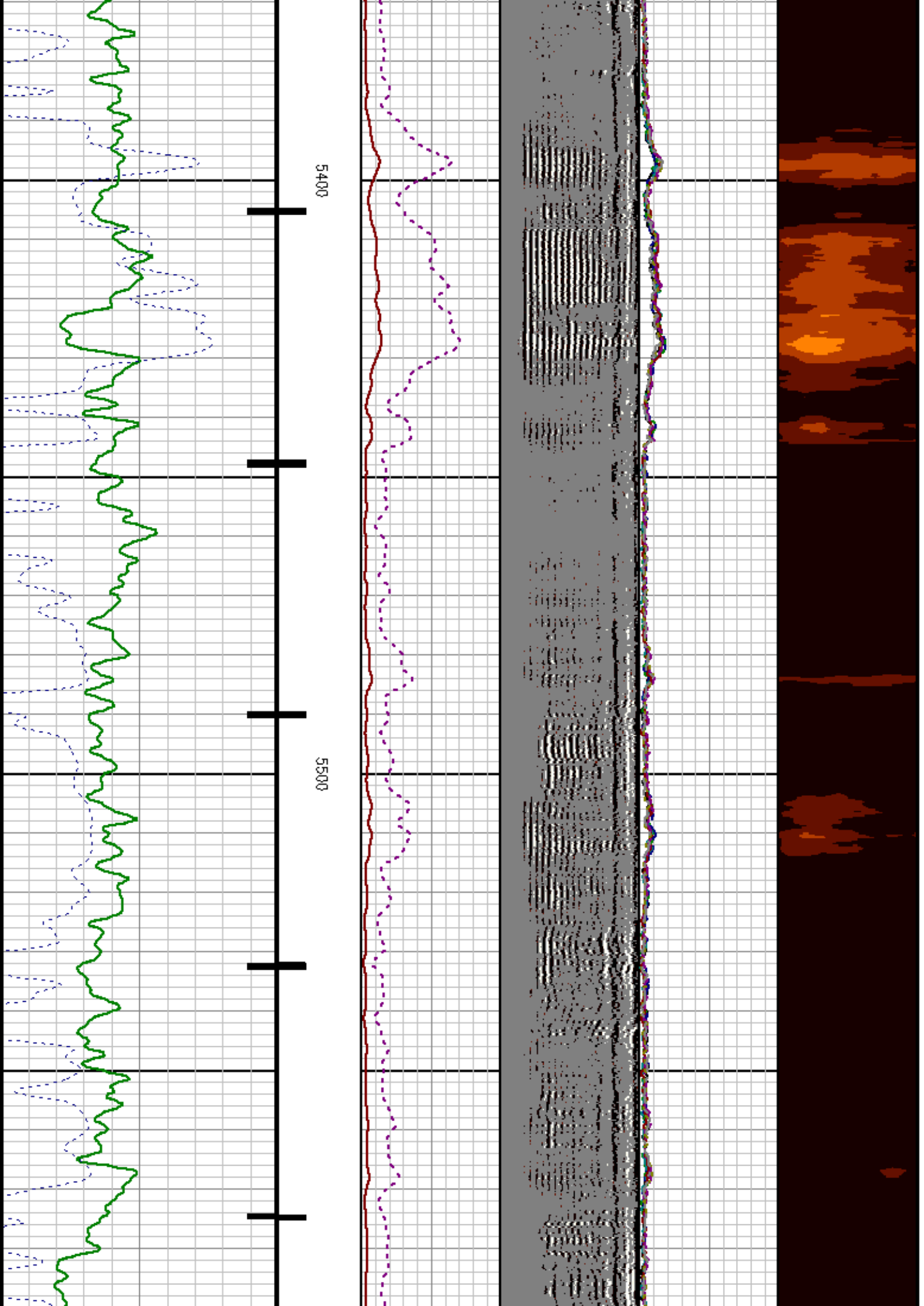


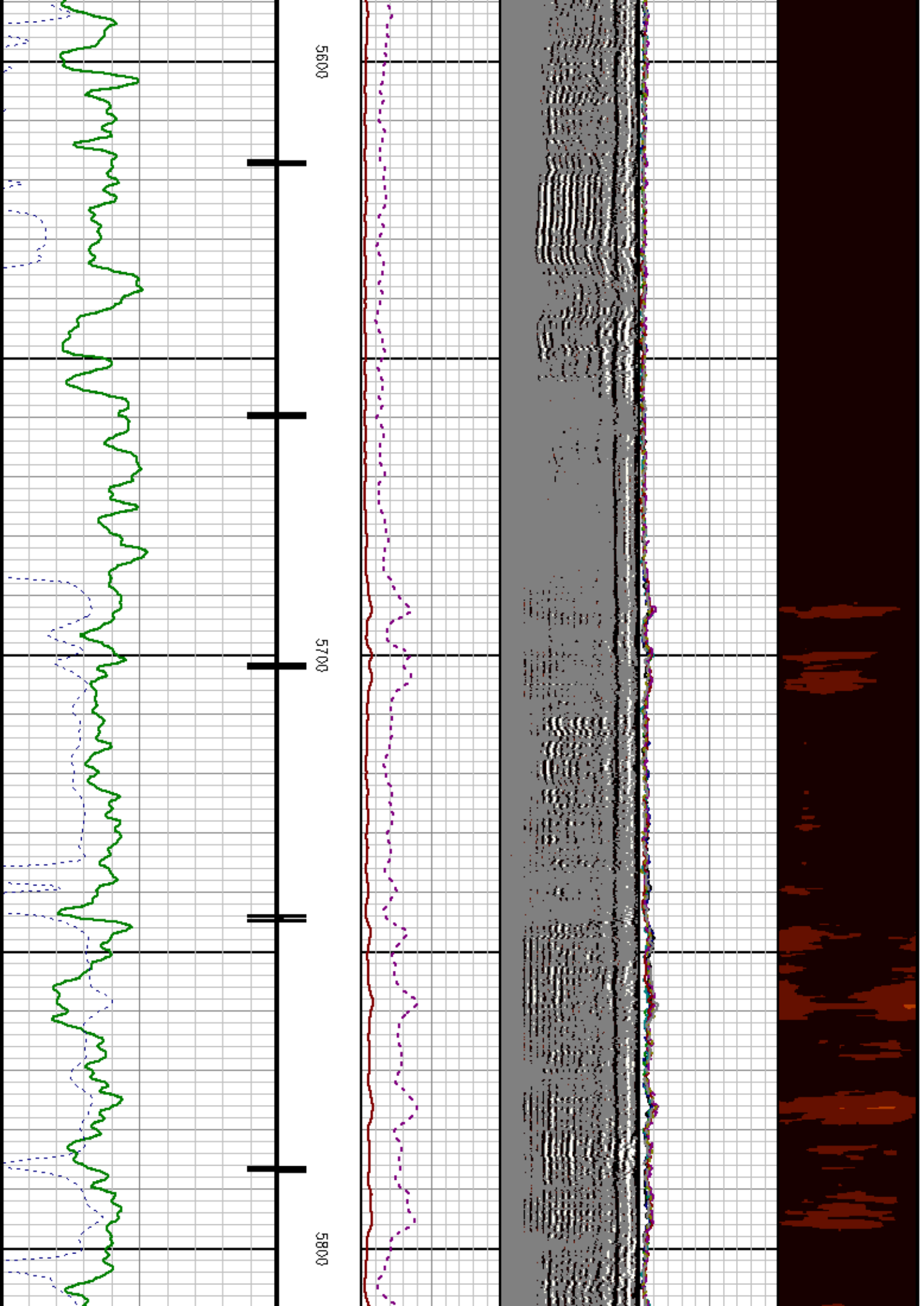


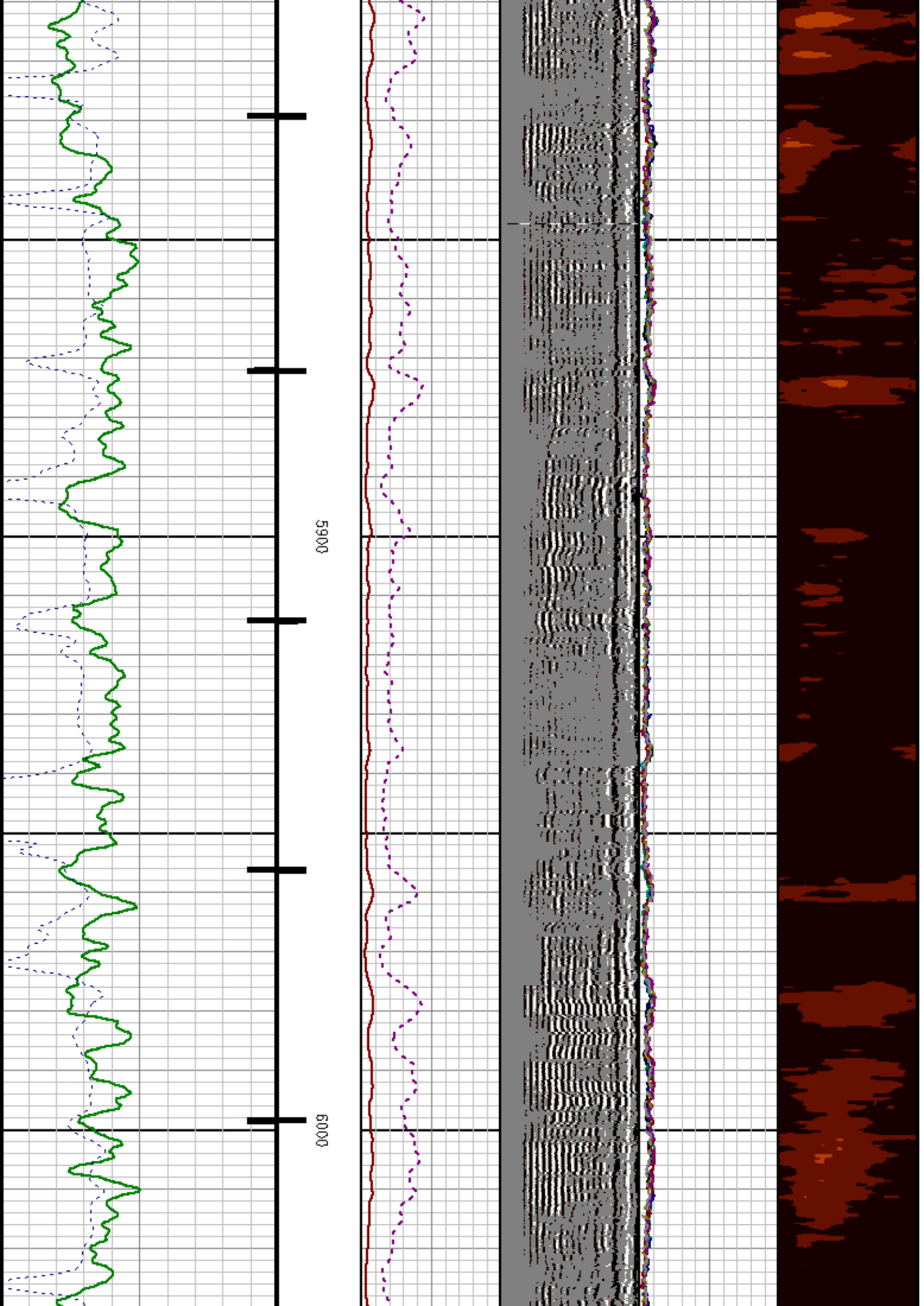


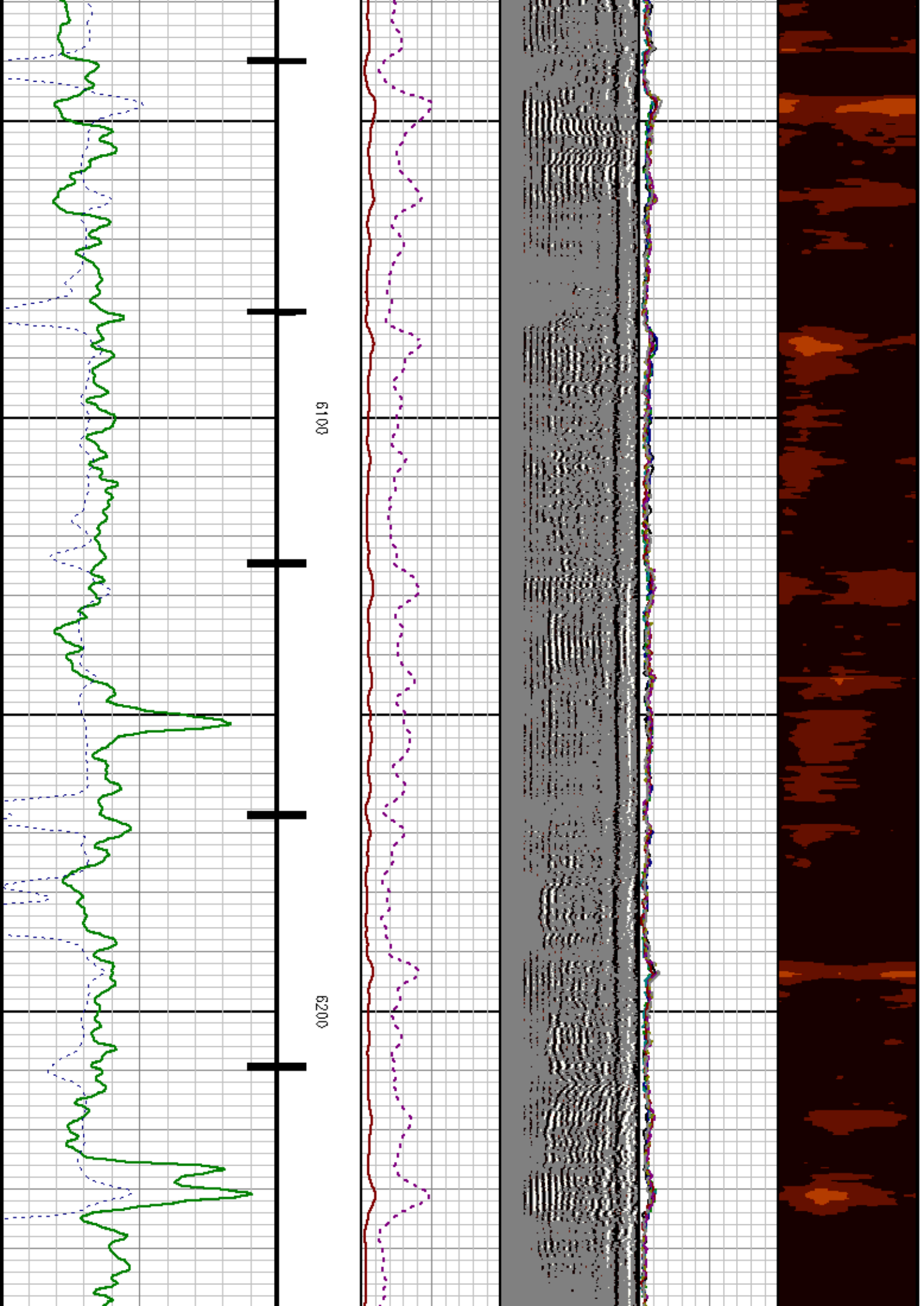


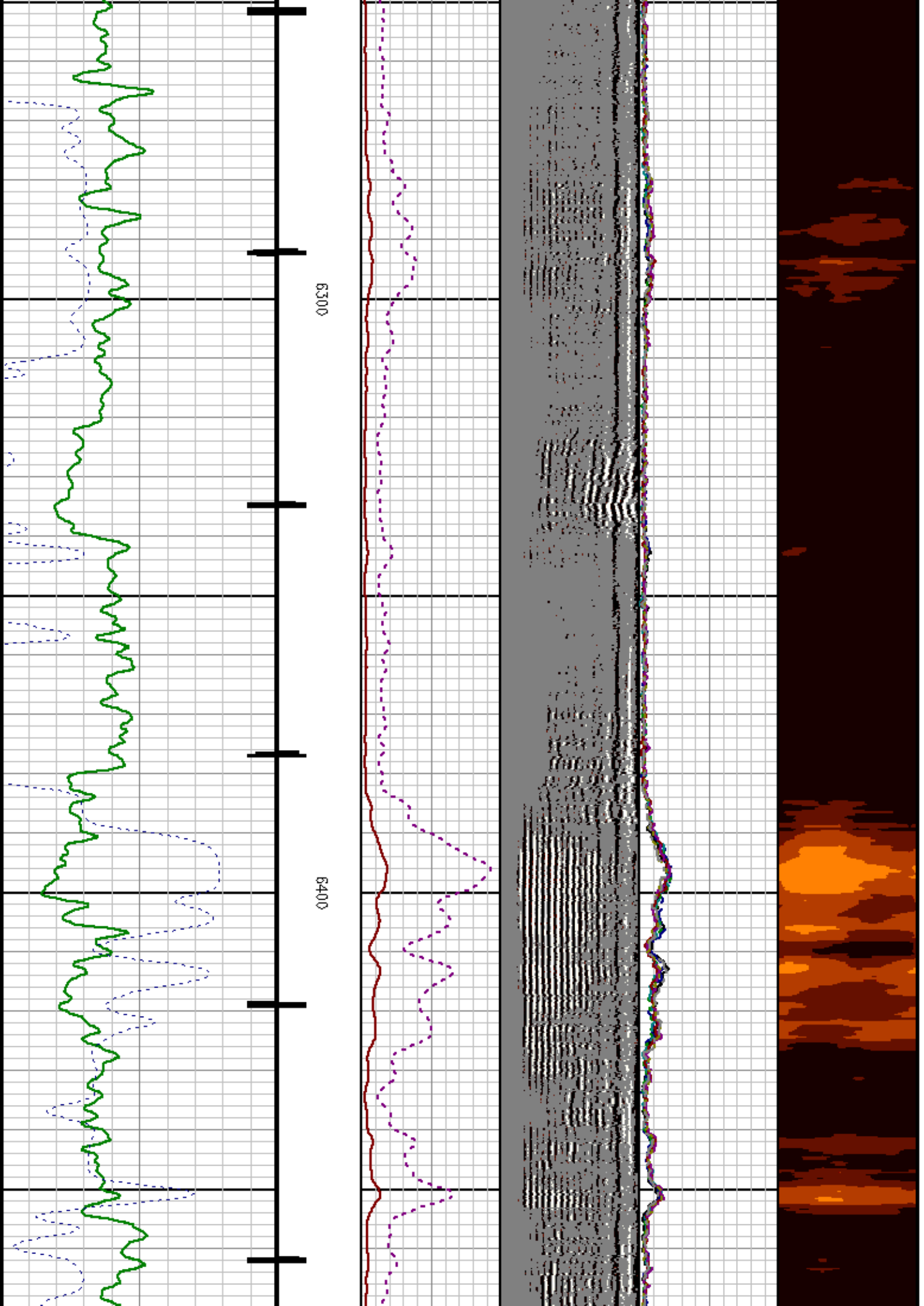


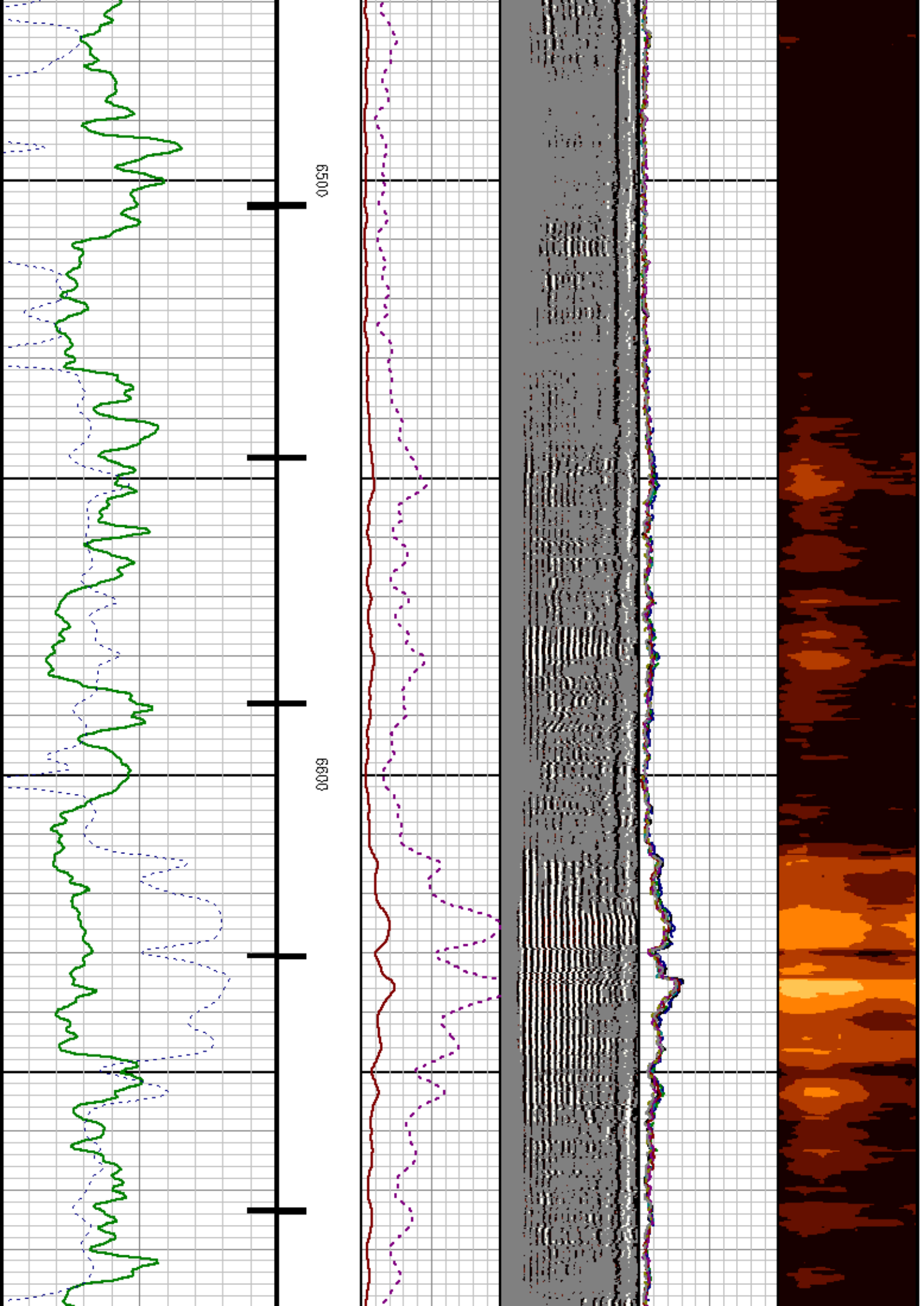


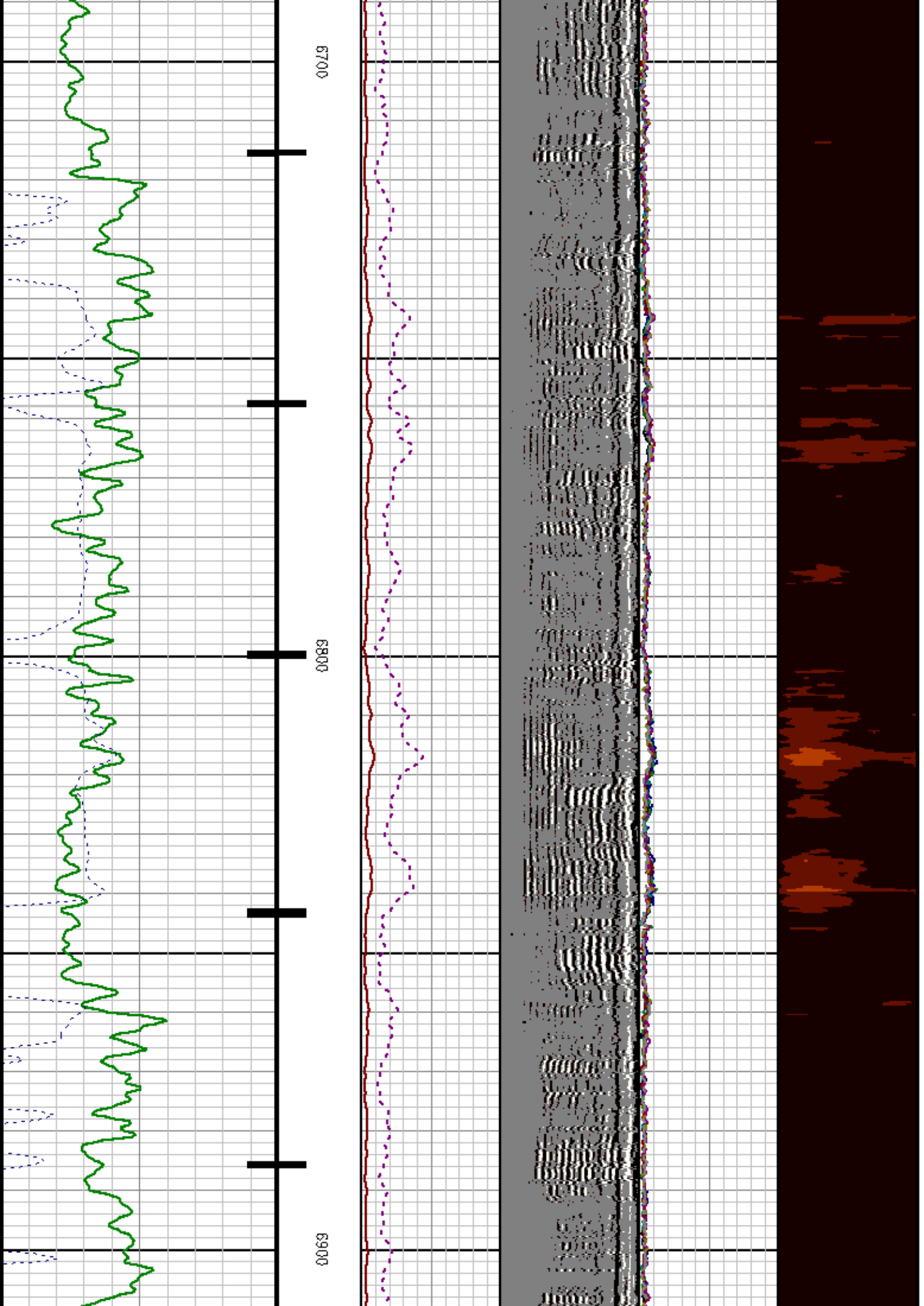


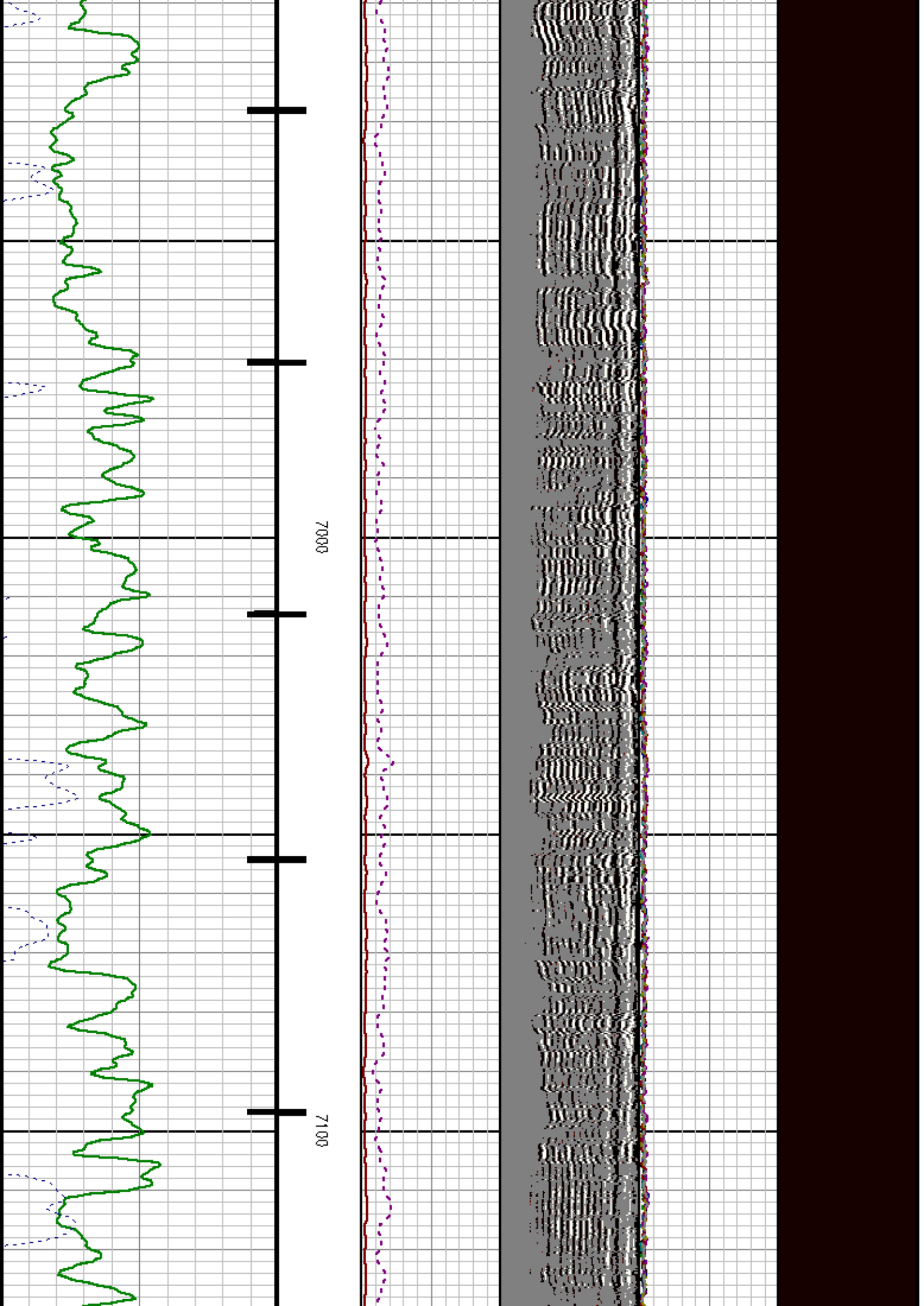


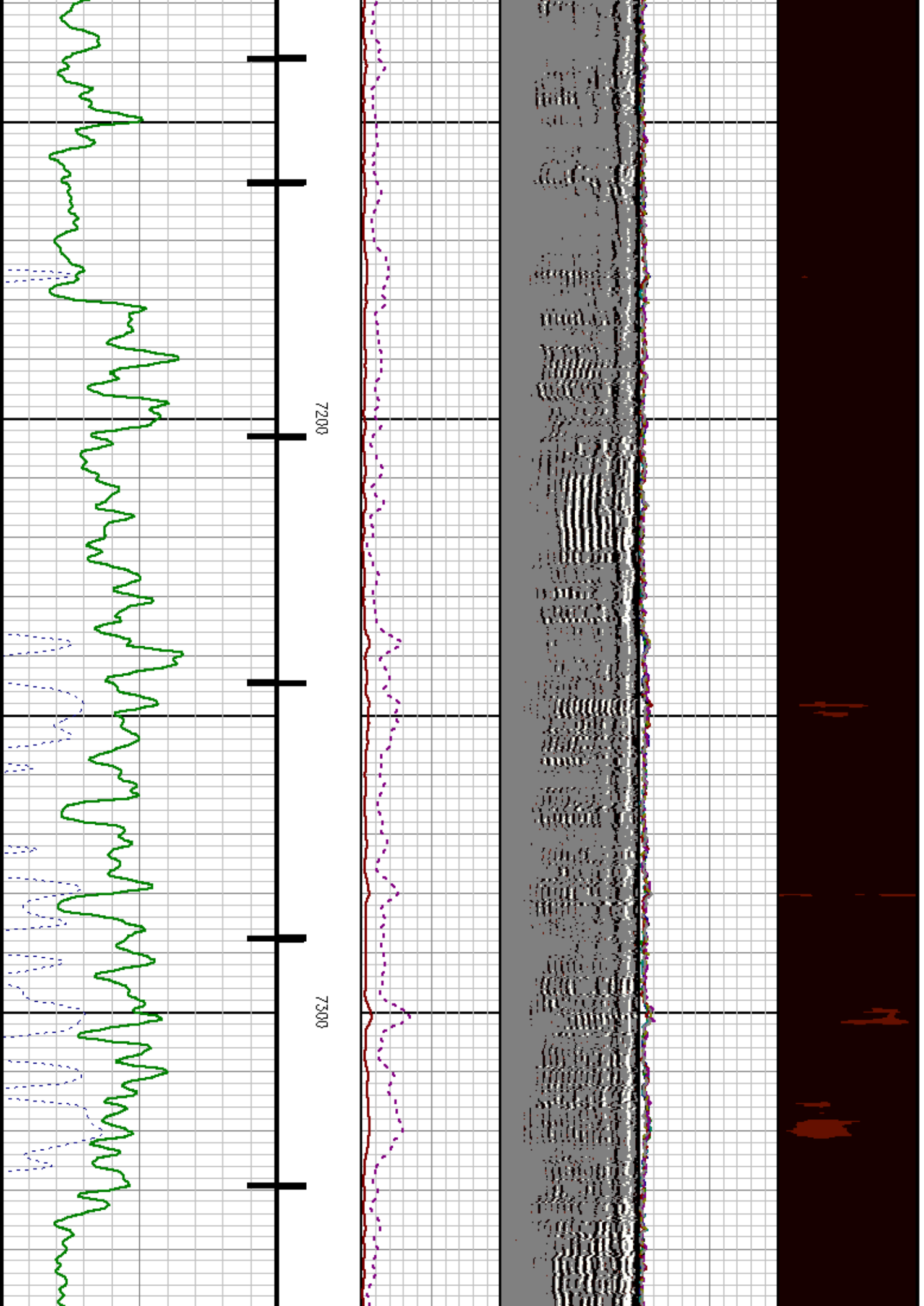


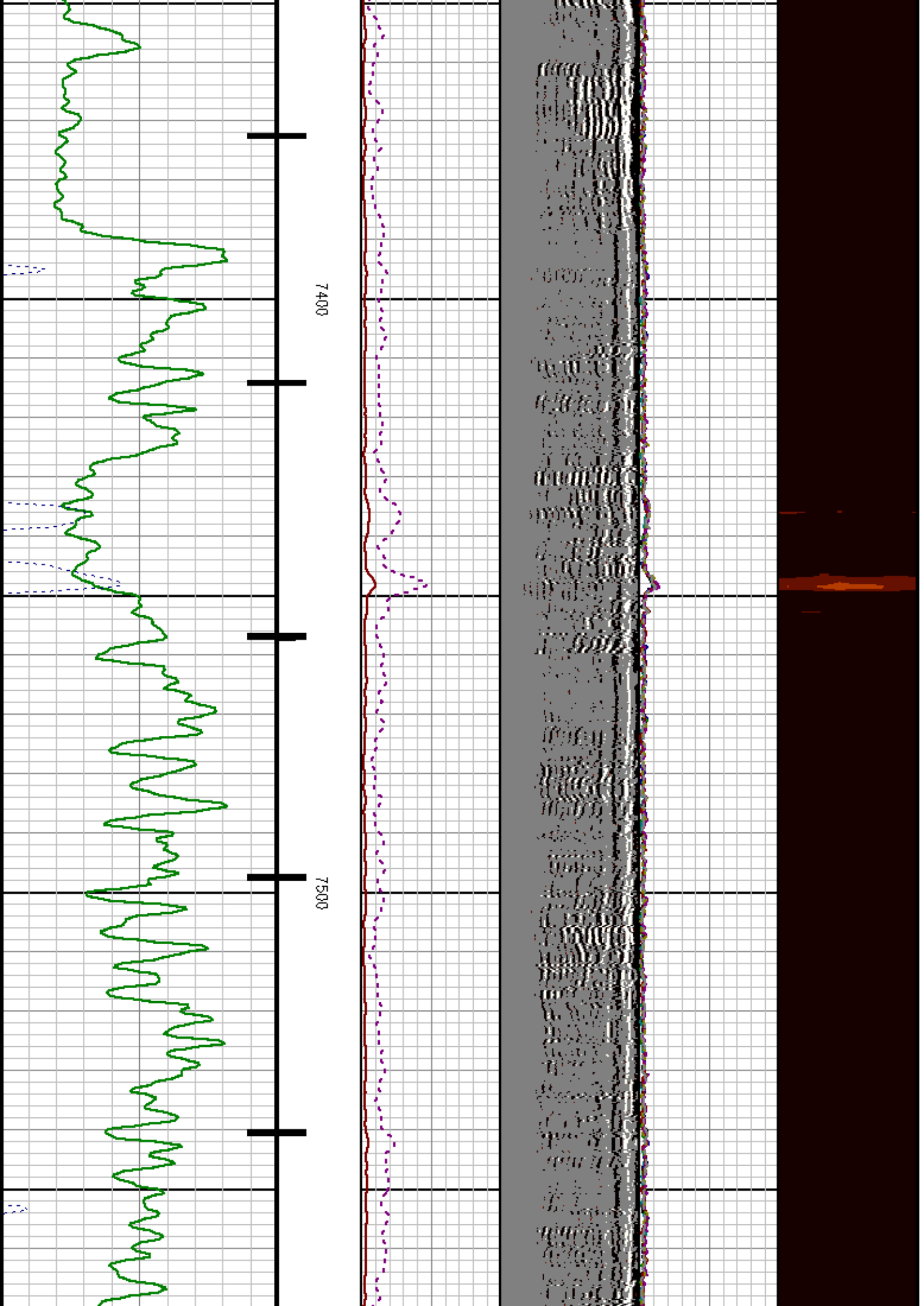


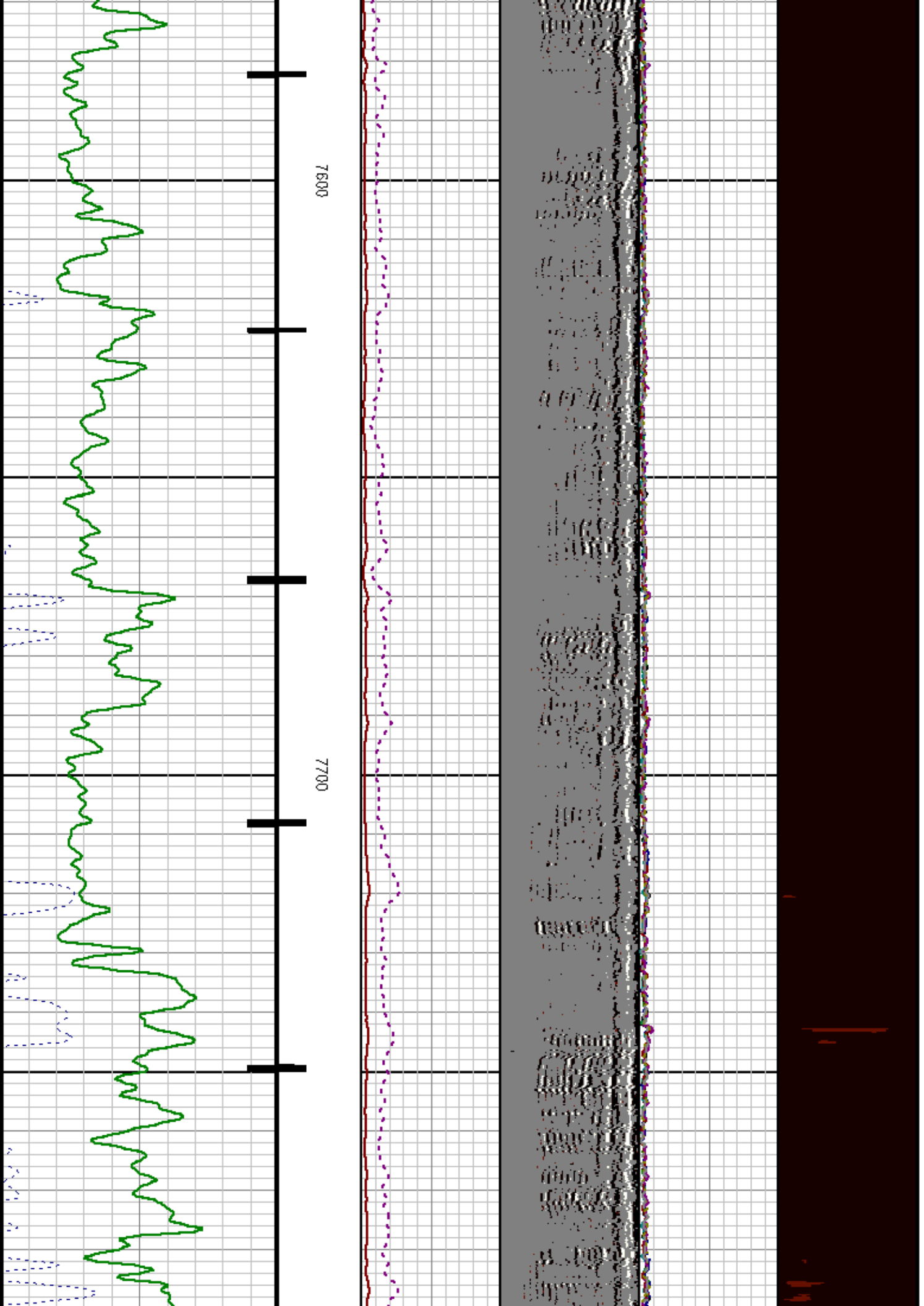


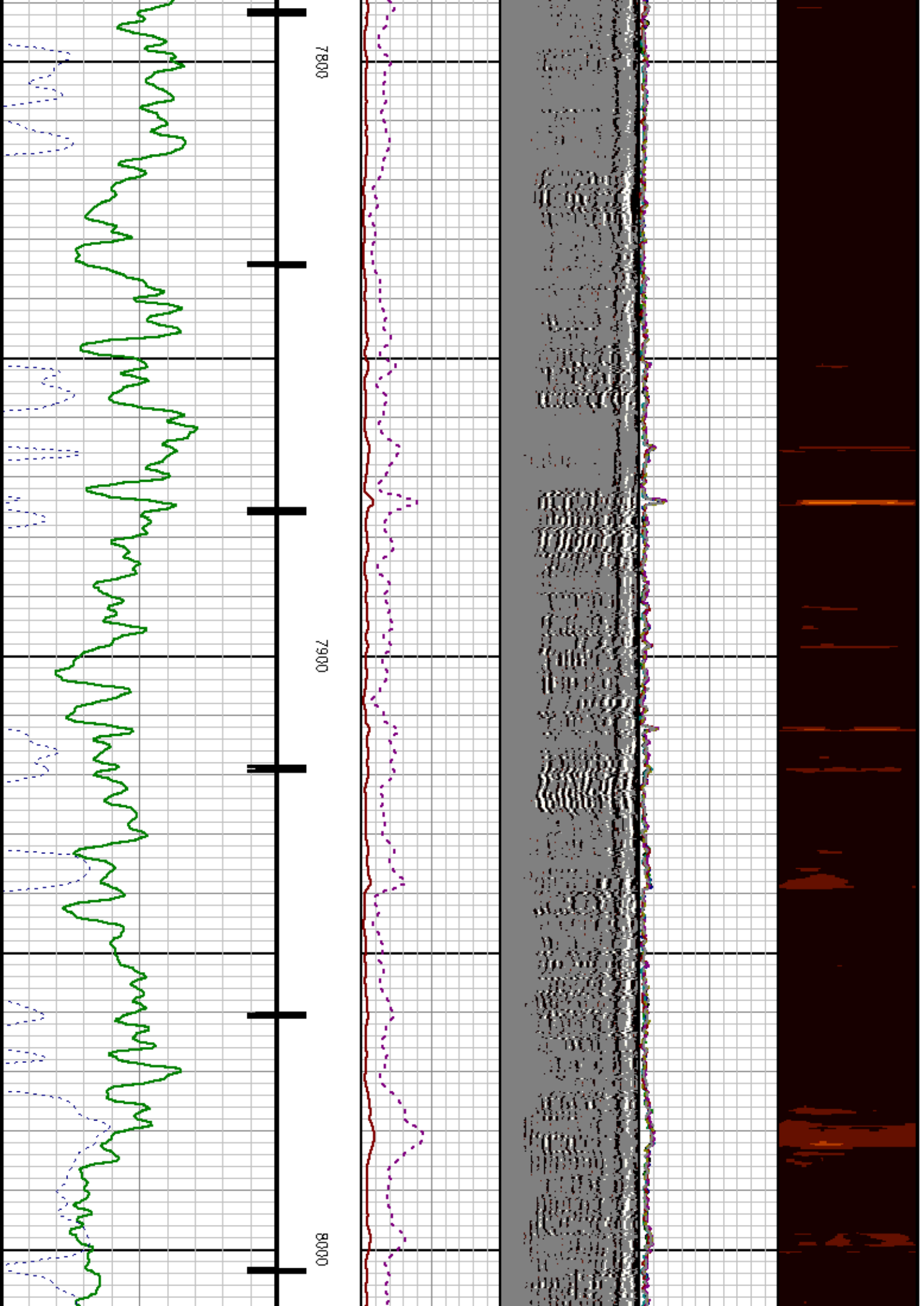


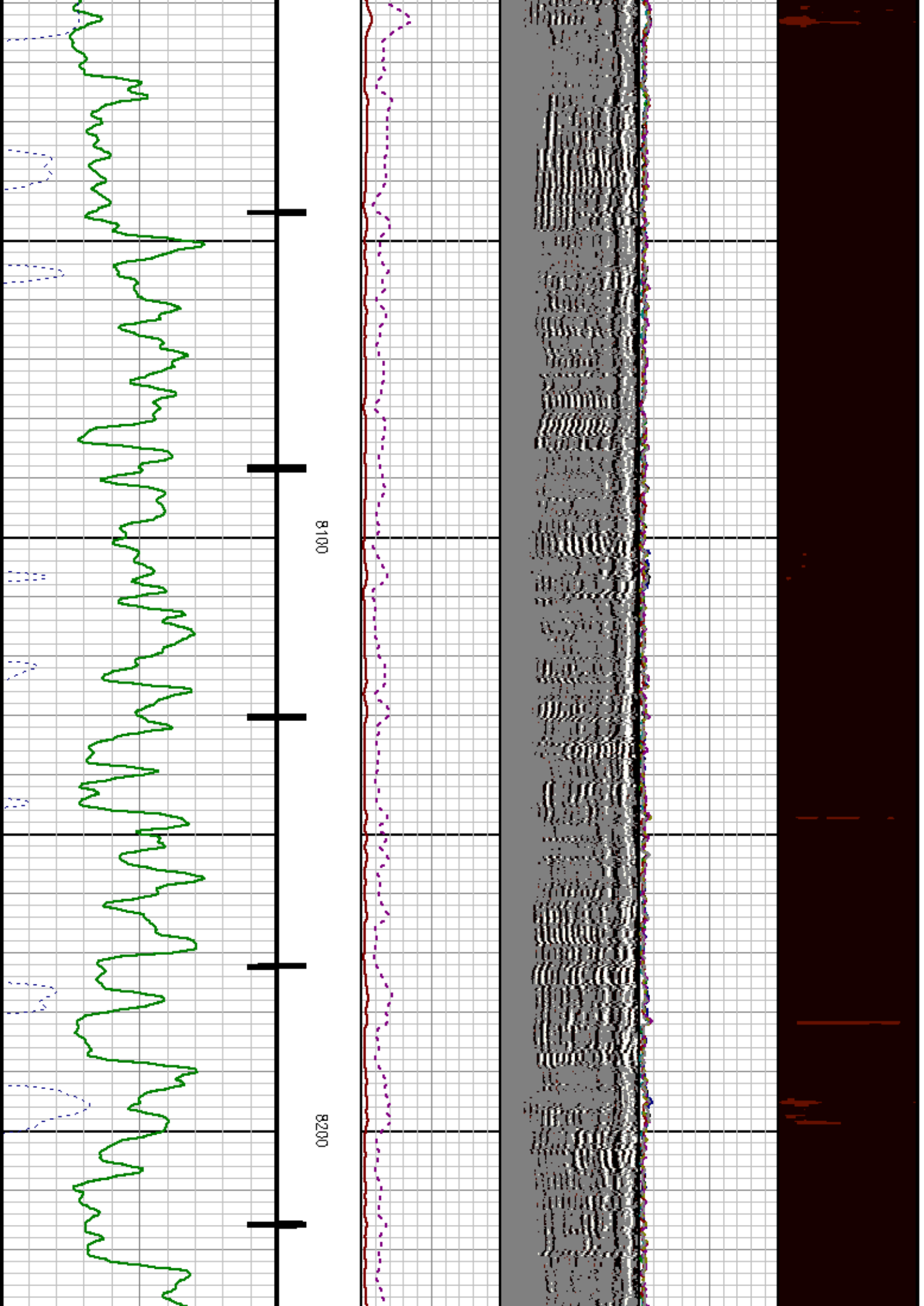


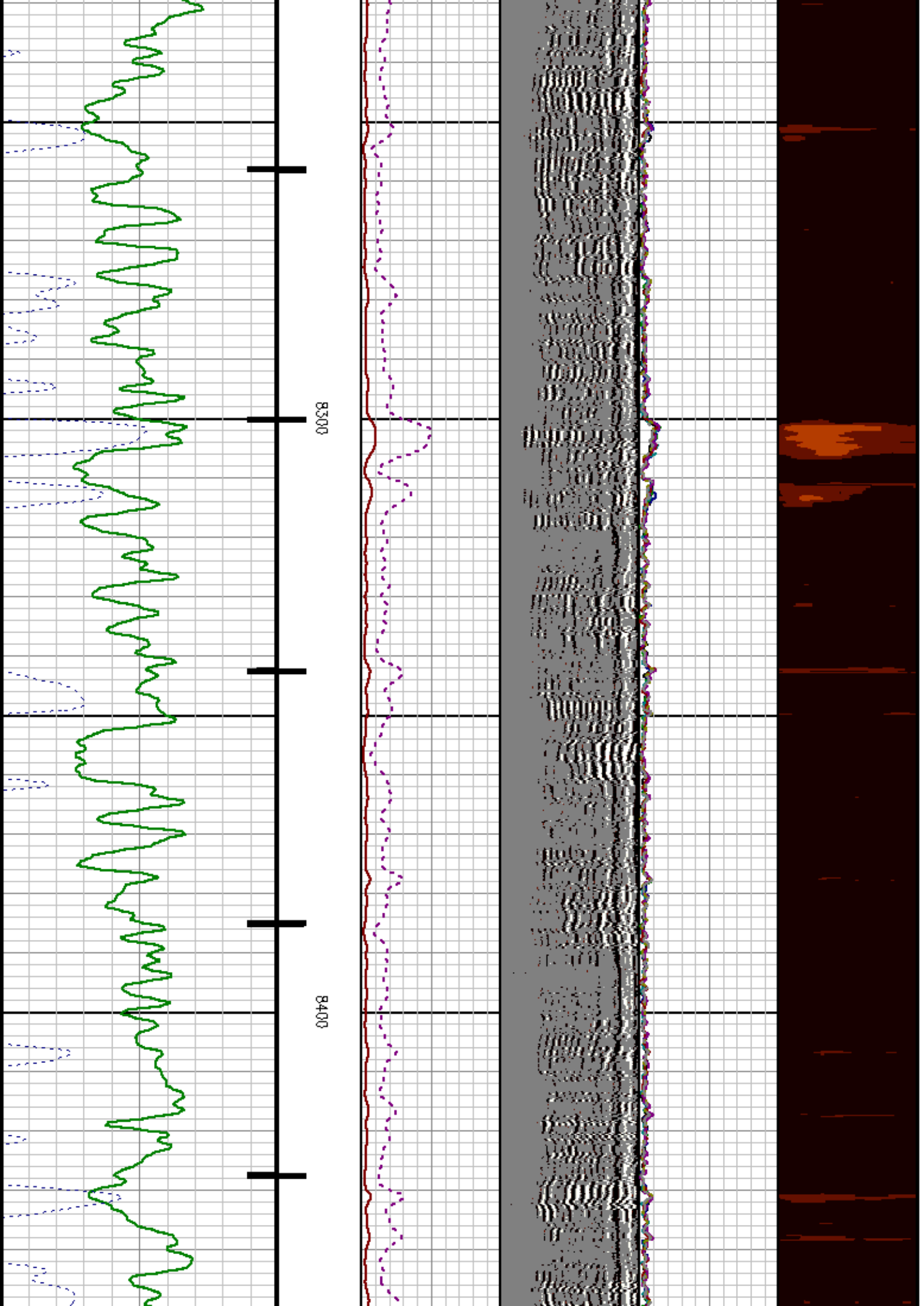


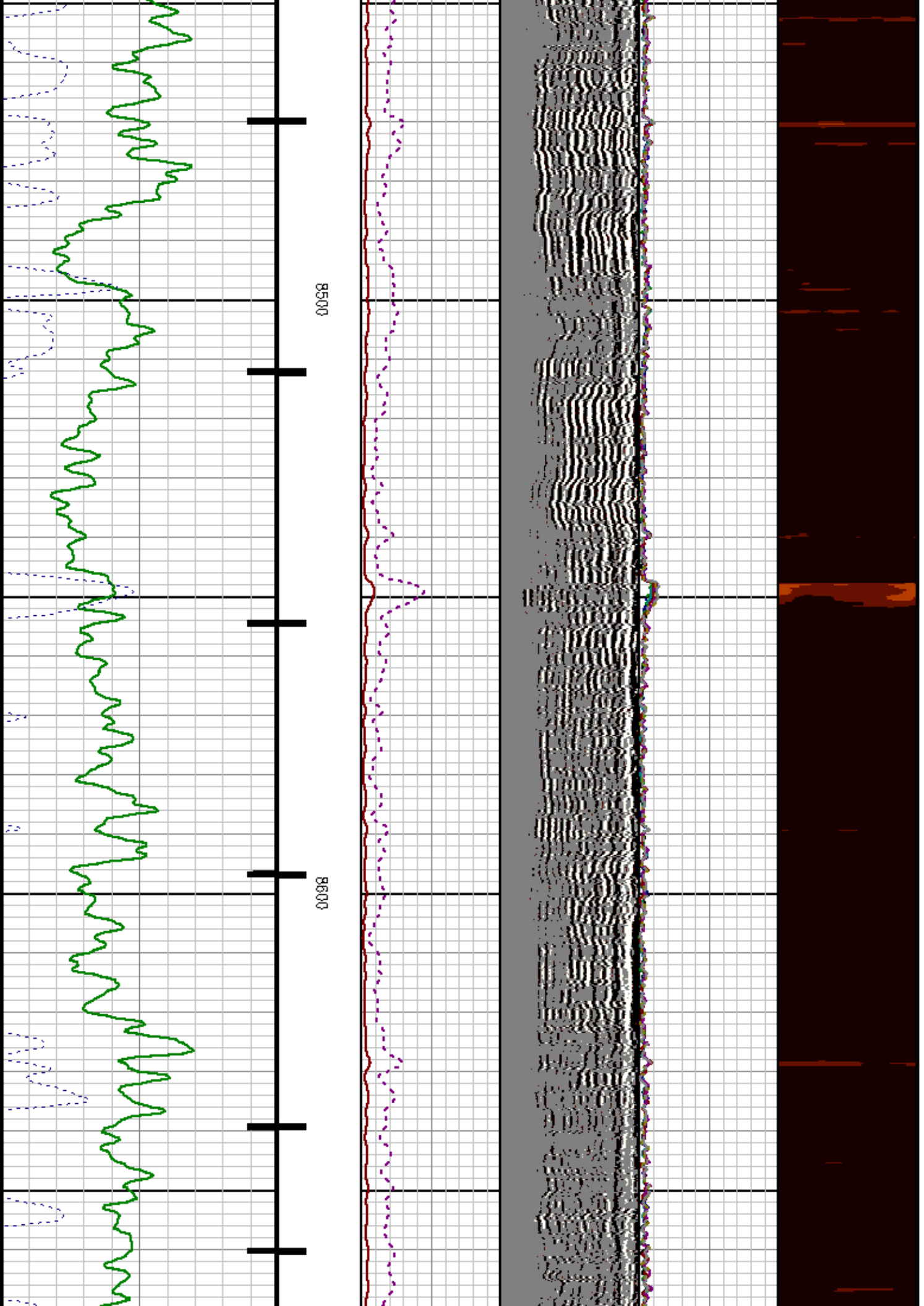


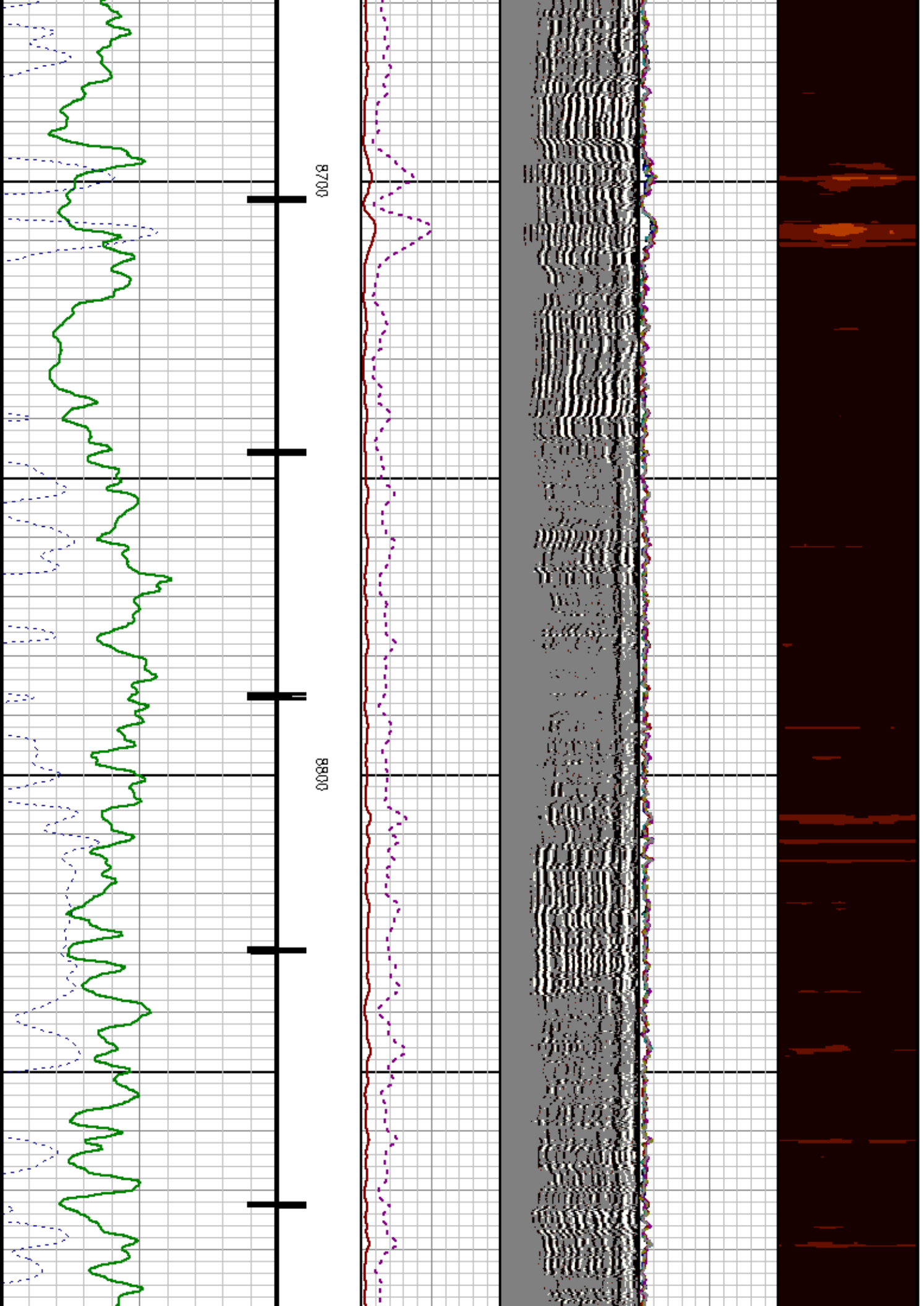


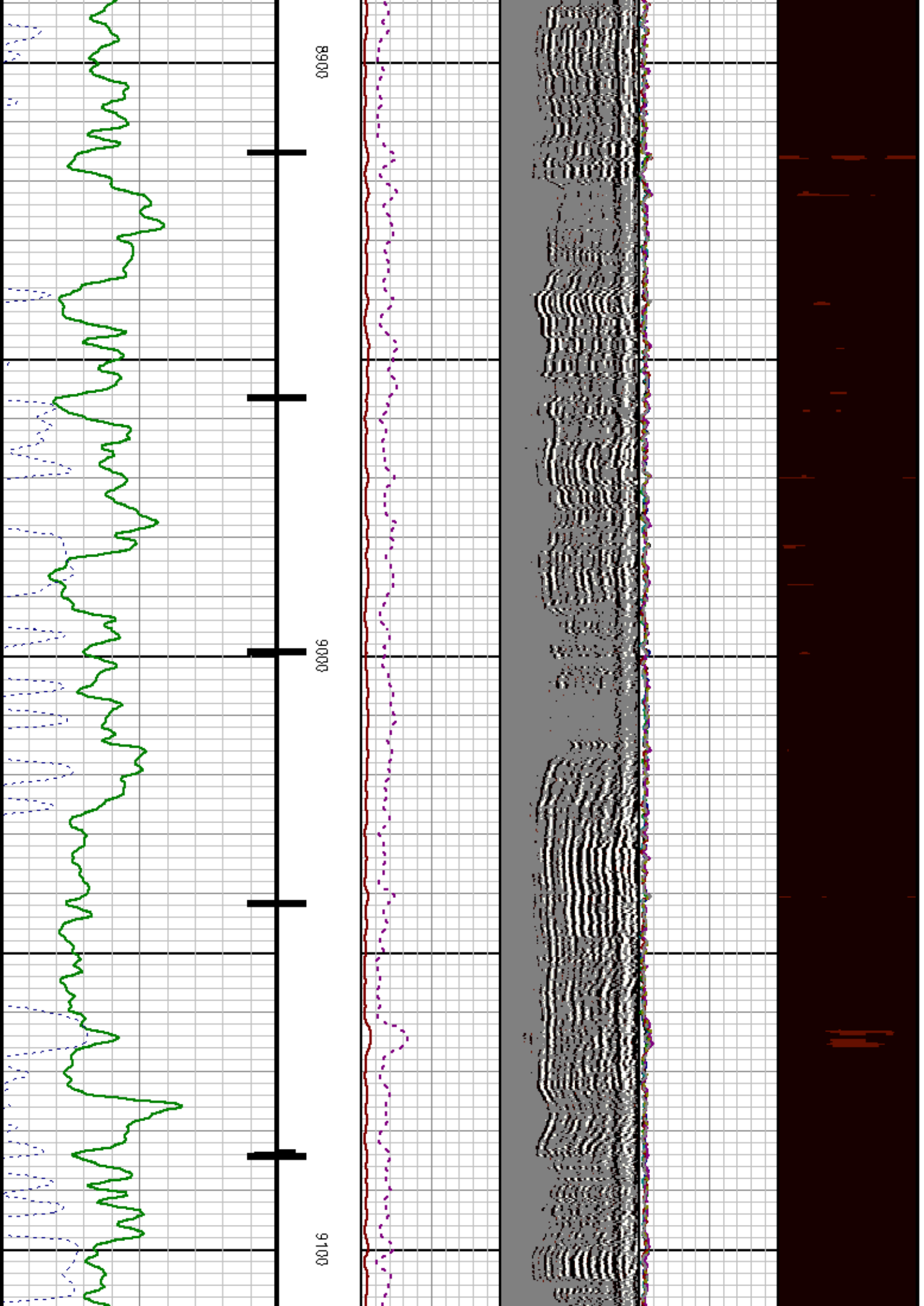


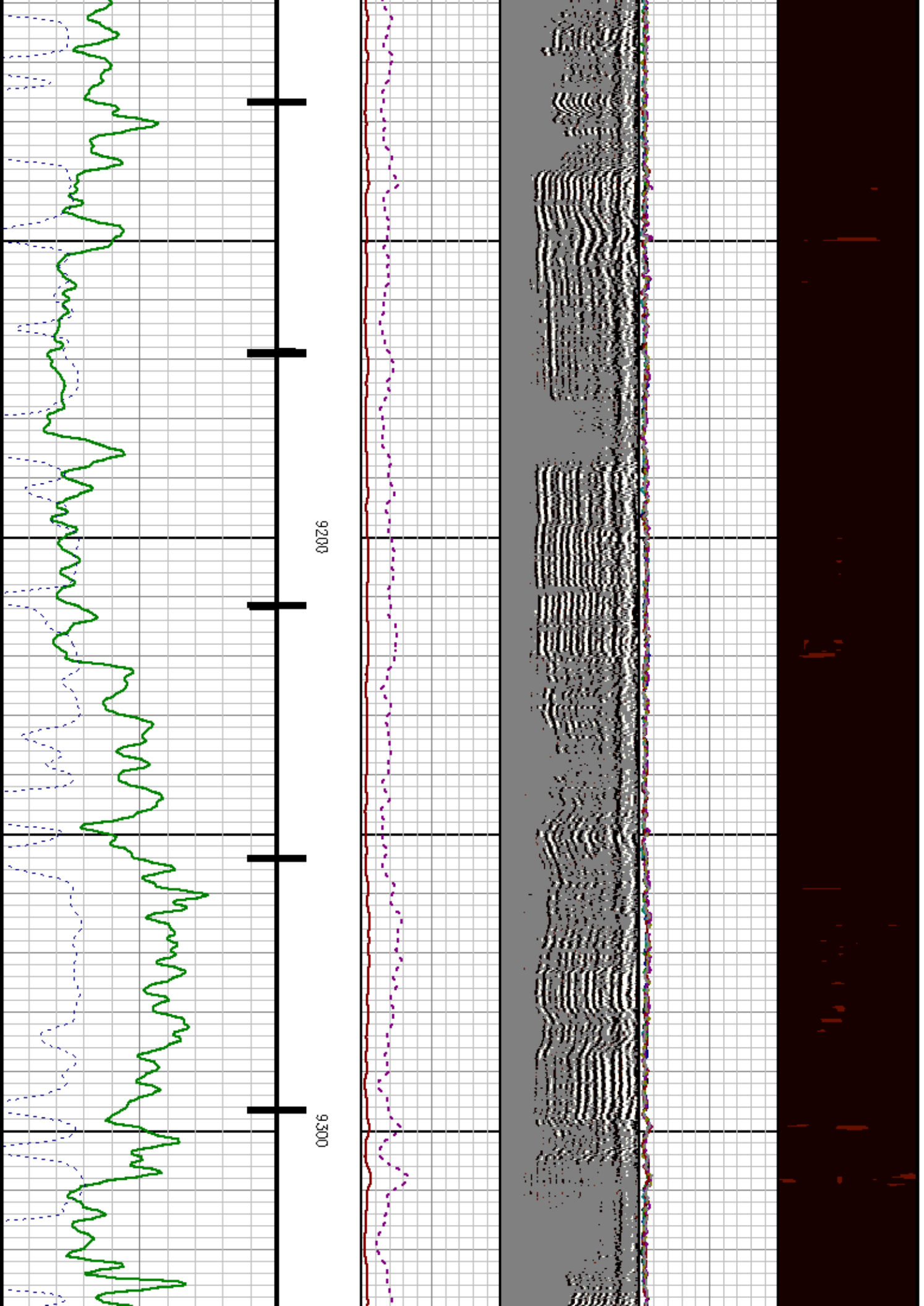


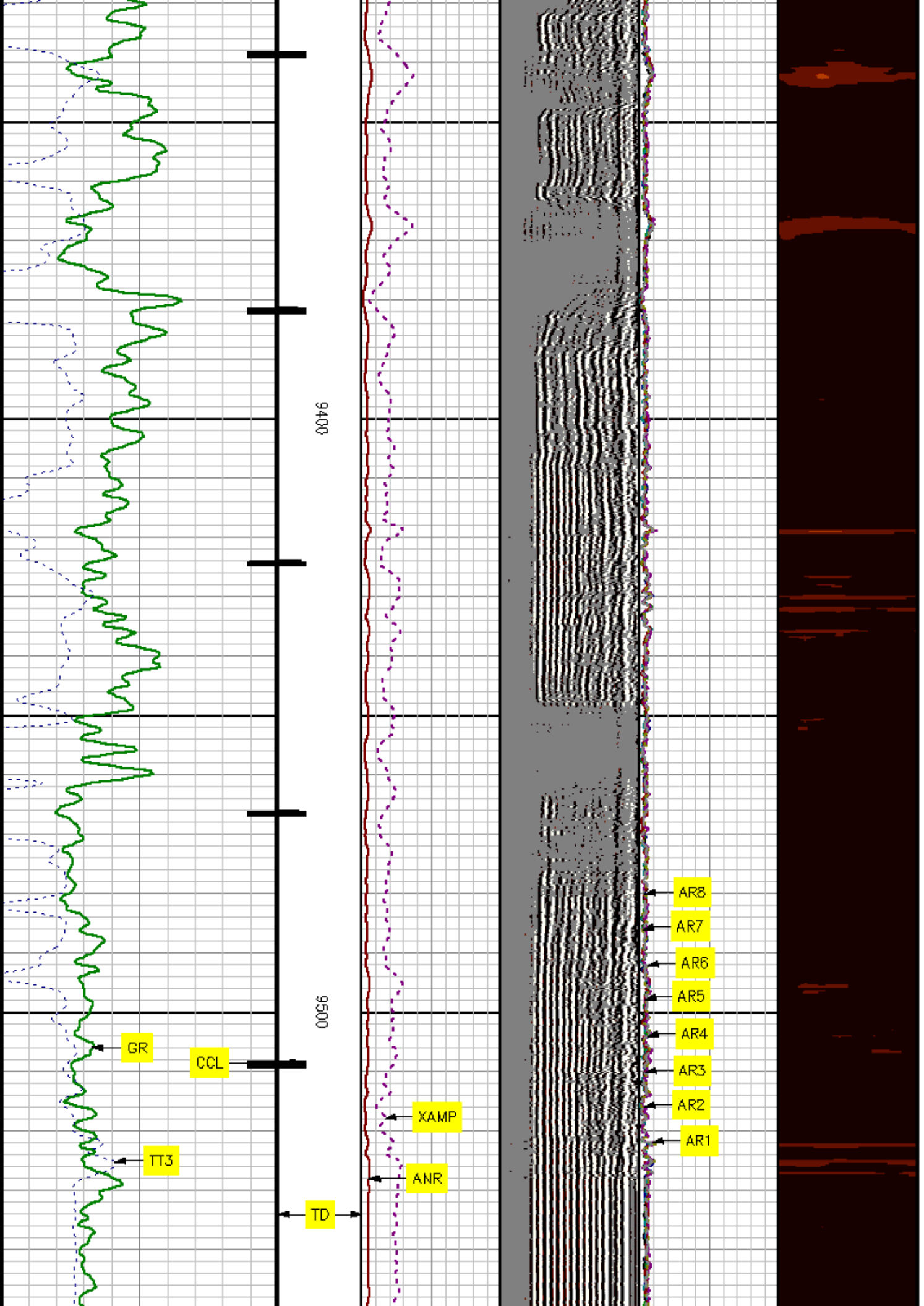


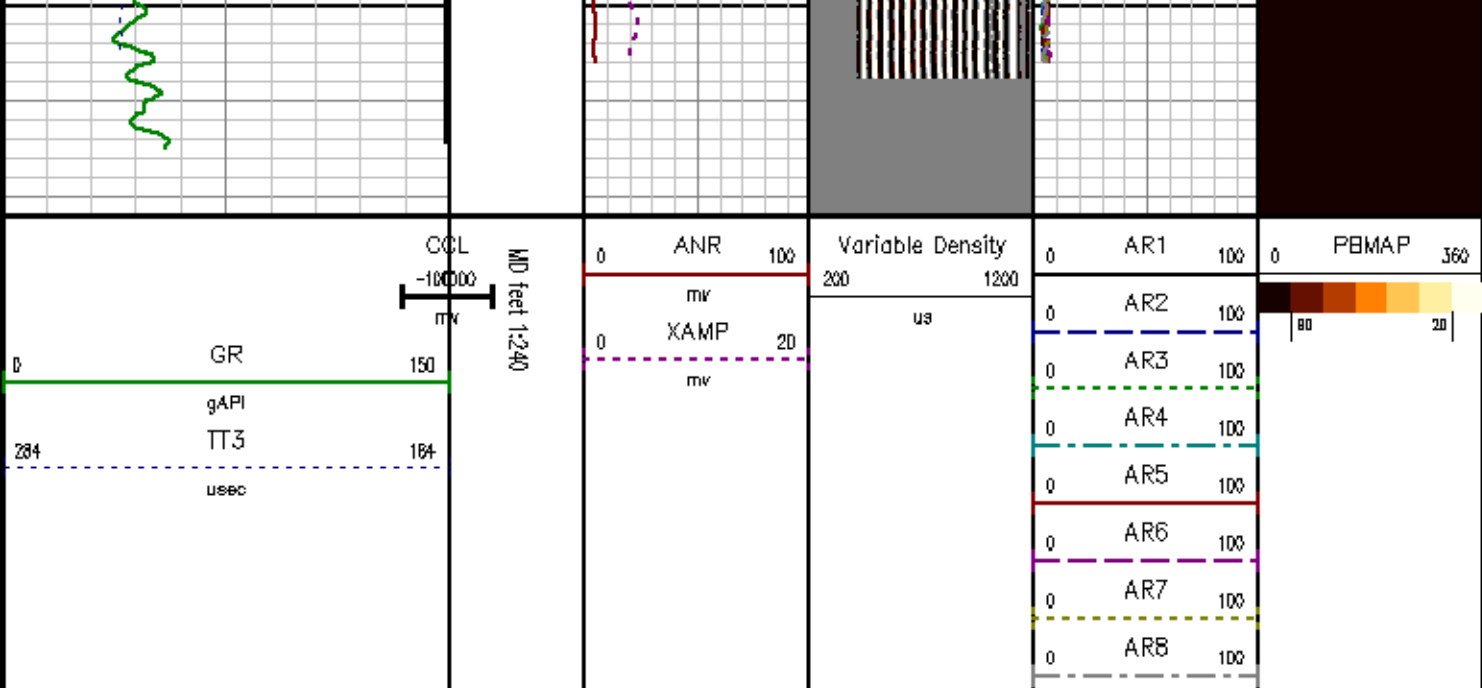












REPEAT SECTION

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	316.900	usec	9211.250	9566.500
RAL	Amp Gate Start Near	200.391	usec	9211.250	9566.500
RAL	Amp Gate Start Radial	200.391	usec	9211.250	9566.500
RAL	Amp Gate Width Far	25.000	usec	9211.250	9566.500
RAL	Amp Gate Width Near	25.000	usec	9211.250	9566.500
RAL	Amp Gate Width Radial	25.000	usec	9211.250	9566.500
RAL	casing od	4.500	inches	9211.250	9566.500
RAL	casing wt	11.600	lbm/ft	9211.250	9566.500
RAL	FB Start Far	291.900	usec	9211.250	9566.500
RAL	FB Start Near	175.391	usec	9211.250	9566.500
RAL	FB Start Radial	175.391	usec	9211.250	9566.500
RAL	FB Thresh Far	10.000	mv	9211.250	9566.500
RAL	FB Thresh Near	10.000	mv	9211.250	9566.500
RAL	FB Thresh Radial	10.000	mv	9211.250	9566.500
RAL	Fluid Travel Time	200.000	usec/ft	9211.250	9566.140

DEPTH OFFSETS (for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-15.360	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	-14.360	AFAR	SIG	TT5			
1426XA	-7.250	CCL					
1426XA	-5.390	GR					
1426XA	0.000	NEU					

Created by : RAL, v4.8.007

Plotted by : PlotMgr, v5.4.504

Company : MARATHON OIL & GAS

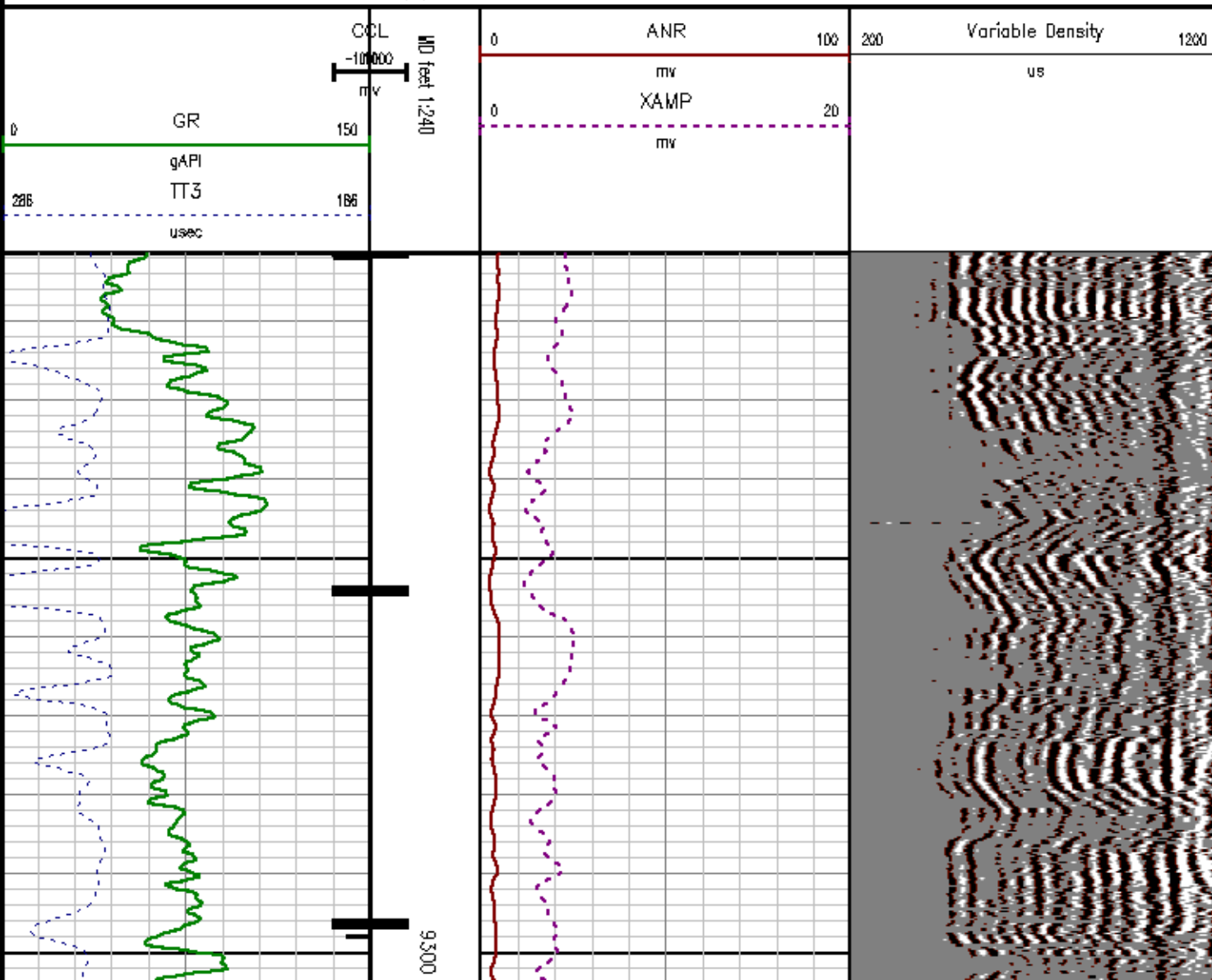
Well : 697-12A-16

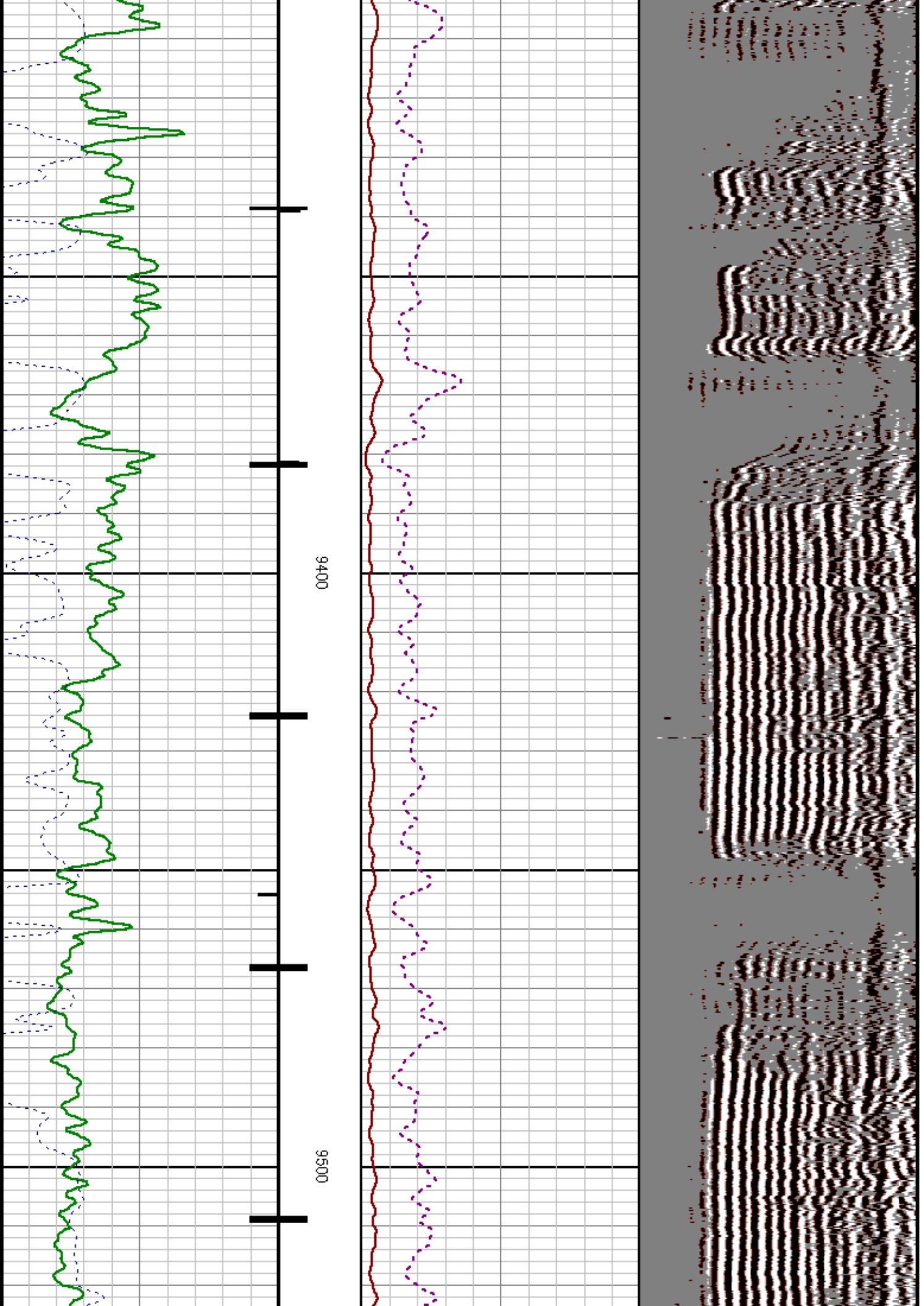
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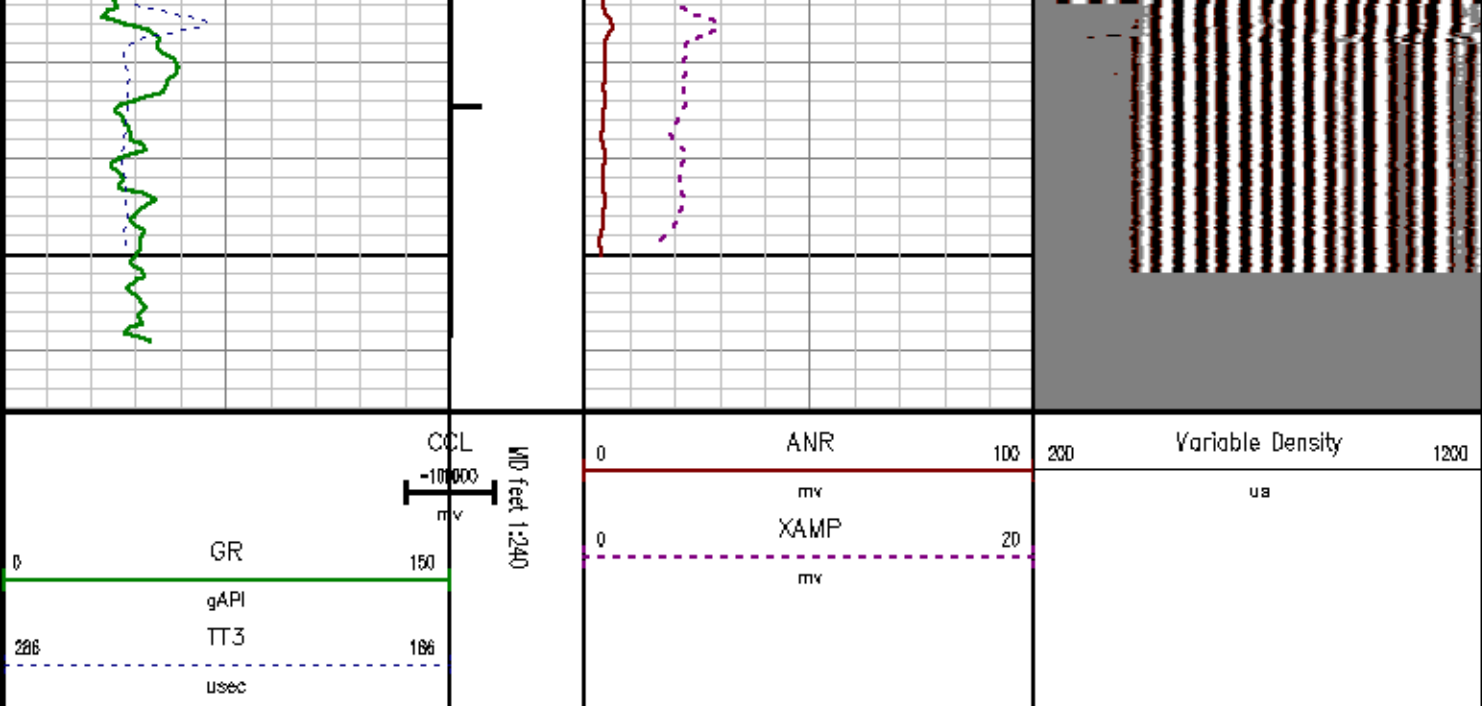
Mode : PlotMgr 5.4.504

Interval : 9211.50 - 9566.50 feet UP

Created : 1/6/2009 1:37:48 AM







CALIBRATION SUMMARY

RALSHP

Shop Calibration: C:\cgsa\calver\RALSHP\502J1_ahp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Mon Jan 05 15:43:25 2009 TOOL SERIES: 1426XA ASSET: 502 SEQ: J1

Tool Delay [uSec] -54.00 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	221	216	30	166	25	-0.158	100.00	0.13
3 Ft. Receiver	205	216	30	166	25	5.605	100.00	0.13
5 Ft. Receiver	329	332	30	282	25	-21.680	100.00	0.09
Radial #1	223	216	30	166	25	7.519	100.00	0.13
Radial #2	222	216	30	166	25	3.342	100.00	0.13
Radial #3	221	216	30	166	25	4.129	100.00	0.13
Radial #4	220	216	30	166	25	7.139	100.00	0.13
Radial #5	217	216	30	166	25	3.724	100.00	0.13
Radial #6	218	216	30	166	25	-1.180	100.00	0.13
Radial #7	219	216	30	166	25	2.483	100.00	0.13
Radial #8	222	216	30	166	25	3.081	100.00	0.13

GAMMA RAY

Calibration File: C:\case\calver\GR\10218510J2.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED:	Mon Jan 05 19:46:53 2009	TOOL SERIES:	1426XA	ASSET:	10218510	SEQ:	J2
Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]	
S2K DA857	114.22	493.64	0.264	30.10	130.10	100.00	

Verification File: C:\case\calver\GR\10218510J2.VP

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED:	Mon Jan 05 19:47:56 2009	TOOL SERIES:	1426XA	ASSET:	10218510	SEQ:	J2
Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]	
S2K DA857	111.56	469.78	0.264	29.40	123.81	94.41	

TOOL DIAGRAM

OTA SHORT CABLE HEAD

CENTRALIZER

Series	RALCENT
Mnemonic	CENT
Diameter	3.12"
Weight	20.00 lb

PROBE 2 3/4 DUAL RECEIVER RADII (1426XA)

CENTRALIZER

Series	RALCENT
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30.00'

XMIT 20.94'

NEAR RCVR 17.85'

FAR RCVR 15.94'



Mnemonic	CENT
Diameter	3.12"
Weight	20.00 lb

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

CCL	11.34'
GR	9.49'
NEU	4.09'
	0.00'

Total Length: 30.00'
Total Weight: Not Available
Max Diameter: 0' 3.12"

 BAKER HUGHES	Company	MARATHON OIL & GAS				File No:	1711
	Well	697-12A-16				API No:	05-045-15034-00
	Field	GRAND VALLEY					
	County	GARFIELD	State	COLORADO			
Baker Atlas	Location					Elevations	
	NE/4					KB	8322 ft
	1538' FNL & 1854' FEL					DF	8321 ft
						GL	8300 ft
	SEC	12	TWP	6S	RGE	97W	