



RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: _____ Company: EXXONMOBIL PRODUCTION COMPANY

Well: FRU 197-28A8

Field: FREEDOM UNIT

Country: RIO BLANCO State: COLORADO

API No. 08103116310000

Location: 2402' FSL & 240' FHL Other Services: RPM

SEC: 28 TWP: 15 RGE: 9W

Elevations

KB 8108 ft

DF 6108 ft

GL 6092 ft

G.L. _____ Elevation 6092 ft

K.B. _____ 27 ft Above P. D.

Drill Measured From KELLY BUSHING

Permanent Datum

Log Measured From

Drill Measured From

Date: 10-SEPT-2010

Run: ONE

Service Order: 587926

Depth Driller: 12256 ft

Depth Logger: 12129 ft

Bottom Logged Interval: 12129 ft

Top Logged Interval: 3050 ft

Time Started: 03:00

Time Finished: 08:00

Operator Rig Time: 5 HRS

Type of Fluid in Hole: WATER

Fluid Density: N/A

Fluid Salinity: N/A

Fluid Level: FULL

Logged Cement Top: N/A

Wellhead Pressure: 0 psi

Maximum Hole Deviation: N/A

Nominal Logging Speed: 45 fpm

Maximum Recorded Temperature: N/A

Reference Log Date: N/A

Equipment Location: 4271 GRAND JCT, CO

Recorded By: TIM KAUFF

Witnessed By: MR. JIM JONES

- 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
8.125 in		

Casing Record				
Size	Weight	Grade	From	To
10.75 in	45.5 lbm/ft	J-55	SURFACE	3437 ft
4.5 in	15.1 lbm/ft	P-110	SURFACE	12256 ft

Remarks

SAT DOWN HIGH ON REPEAT MAIN LOG IS DEEPER

SHORT JOINTS ARE MARKED ON LOG

THE CREW OF 4271 THANKS YOU.

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position

1	1	MANUREL	1426XA	10154957	CENTRALIZED
1	1	GAMMA RAY	2458XA	10417457	CENTRALIZED

MAIN SECTION

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	314.263	usec	3049.905	12163.000
RAL	Amp Gate Start Near	197.754	usec	3049.905	12163.000
RAL	Amp Gate Start Radial	197.754	usec	3049.905	12163.000
RAL	Amp Gate Width Far	25.000	usec	3049.905	12163.000
RAL	Amp Gate Width Near	25.000	usec	3049.905	12163.000
RAL	Amp Gate Width Radial	25.000	usec	3049.905	12163.000
RAL	casing od	4.500	inches	3049.905	12163.000
RAL	casing wt	15.100	lbm/ft	3049.905	12163.000
RAL	FB Start Far	289.263	usec	3049.905	12163.000
RAL	FB Start Near	172.754	usec	3049.905	12163.000
RAL	FB Start Radial	172.754	usec	3049.905	12163.000
RAL	FB Thresh Far	15.000	mv	3049.905	12163.000
RAL	FB Thresh Near	10.000	mv	3049.905	12163.000
RAL	FB Thresh Radial	10.000	mv	3049.905	12163.000
RAL	Fluid Travel Time	200.000	usec/ft	3049.905	12162.968

DEPTH OFFSETS (for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES							
		ACAL	ANR	AR1	AR2	AR3	AR4	AR5	AR6
1426XA	-12.360								
		AR5	AR6	AR7	ARB	CHV	FPR2		
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3		
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP		
1426XA	-11.360	AFAR	SIG	TT5					
1426XA	-7.250	GCL							
1426XA	-5.390	GR							
1426XA	0.000	NEU							

Created by : RAL, v4.8.007

Plotted by : PlotMgr, v5.4.504

Company : EXXONMOBIL PRODUCTION COMPANY

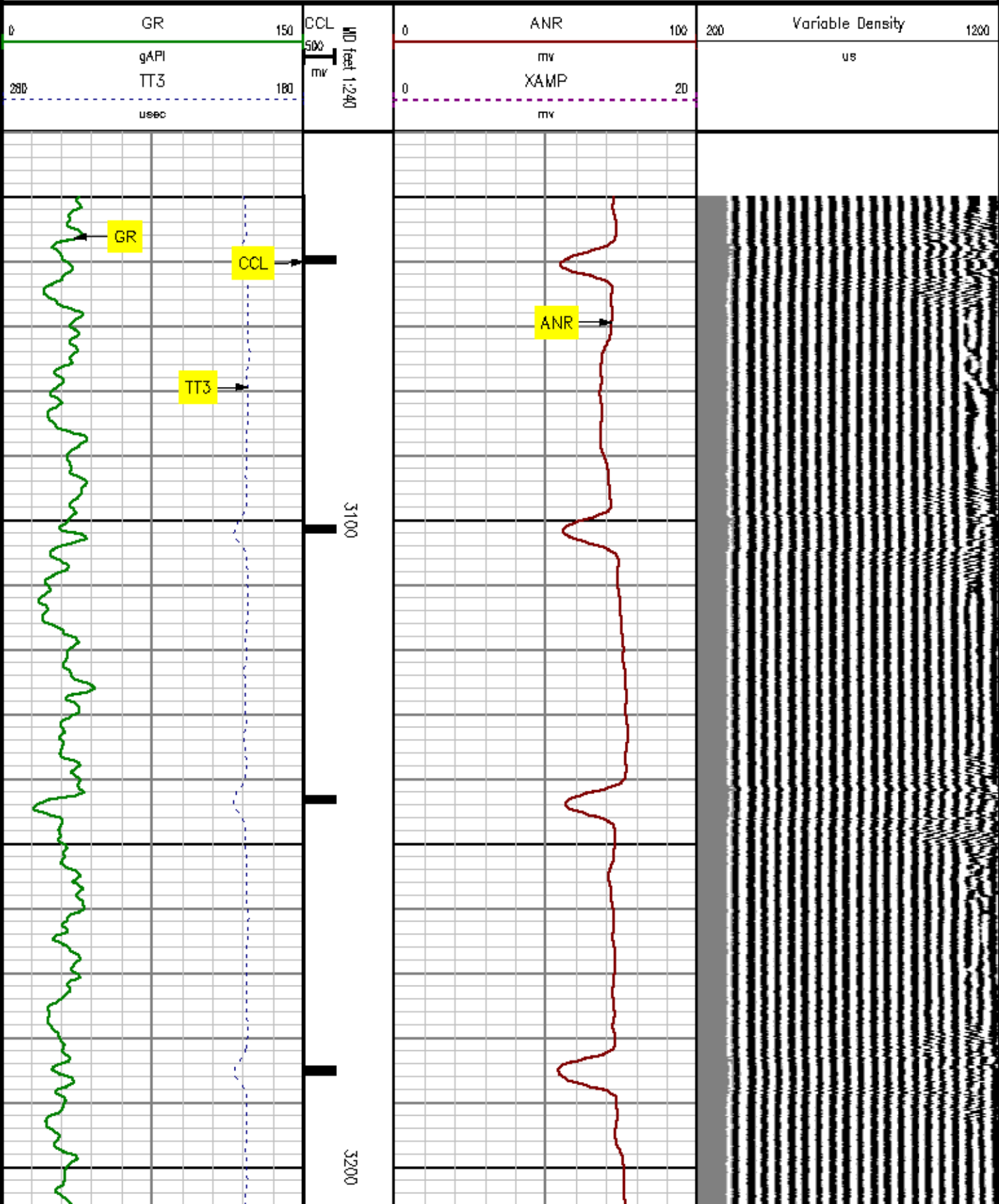
Well : FRU 197-28A8

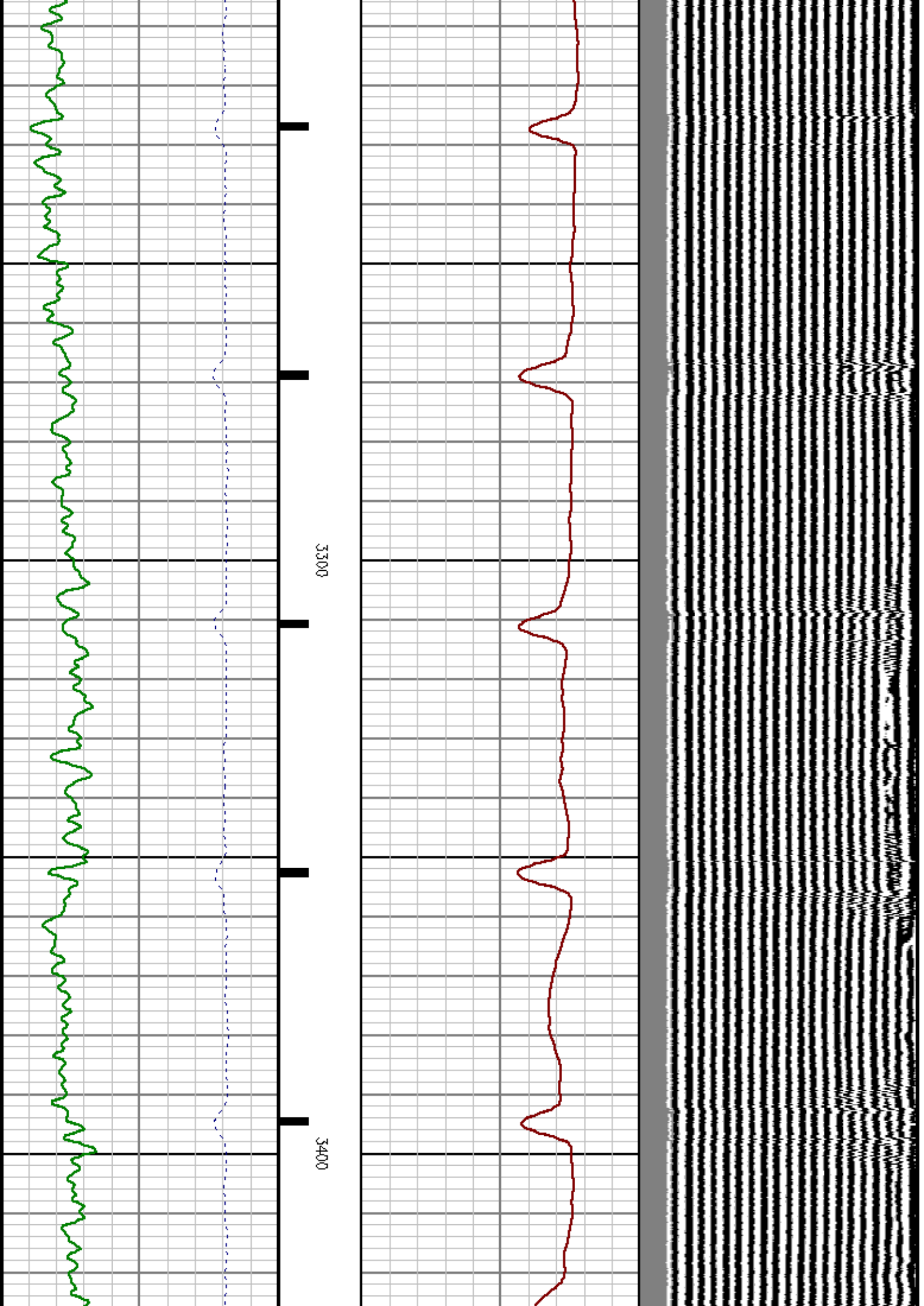
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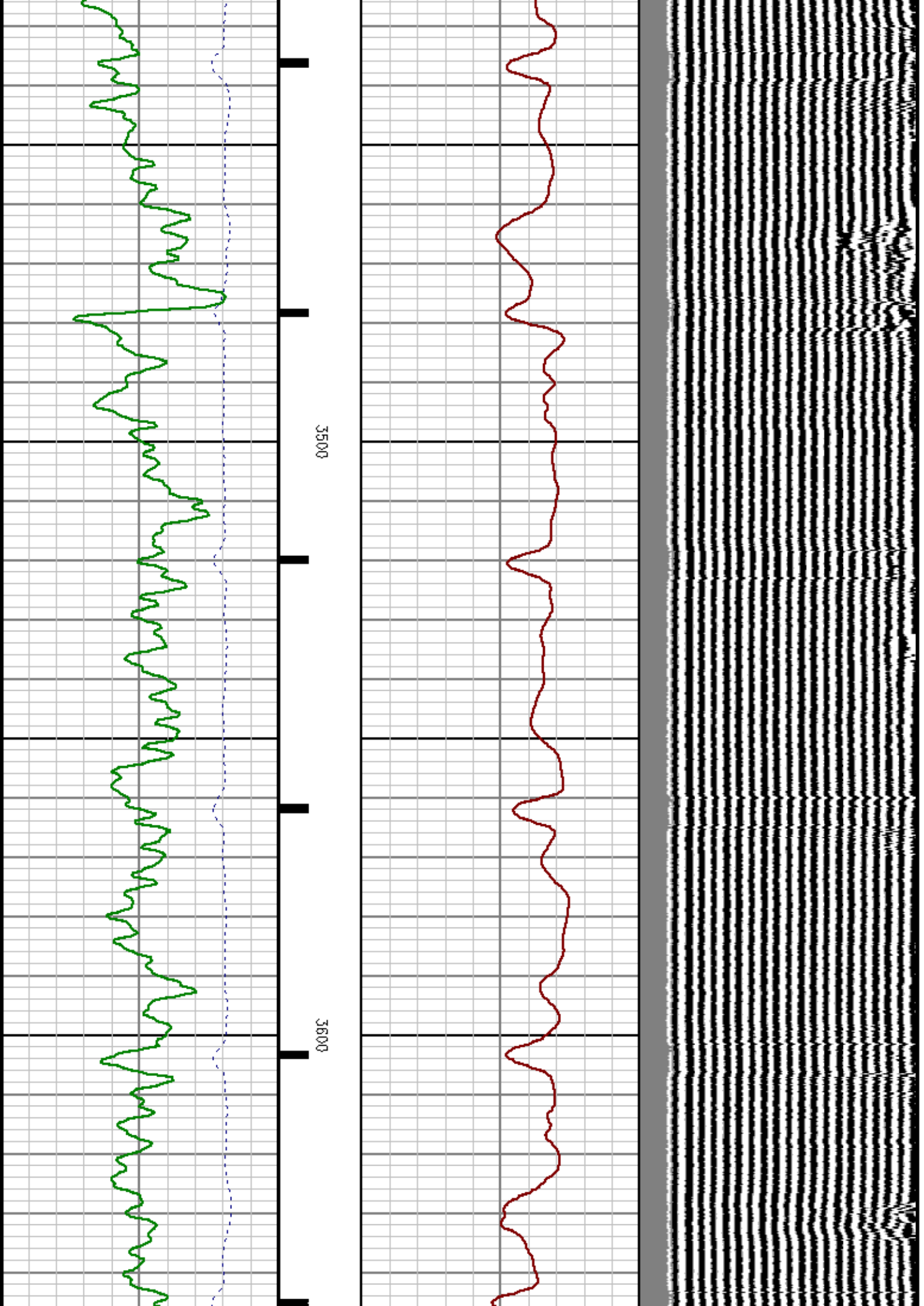
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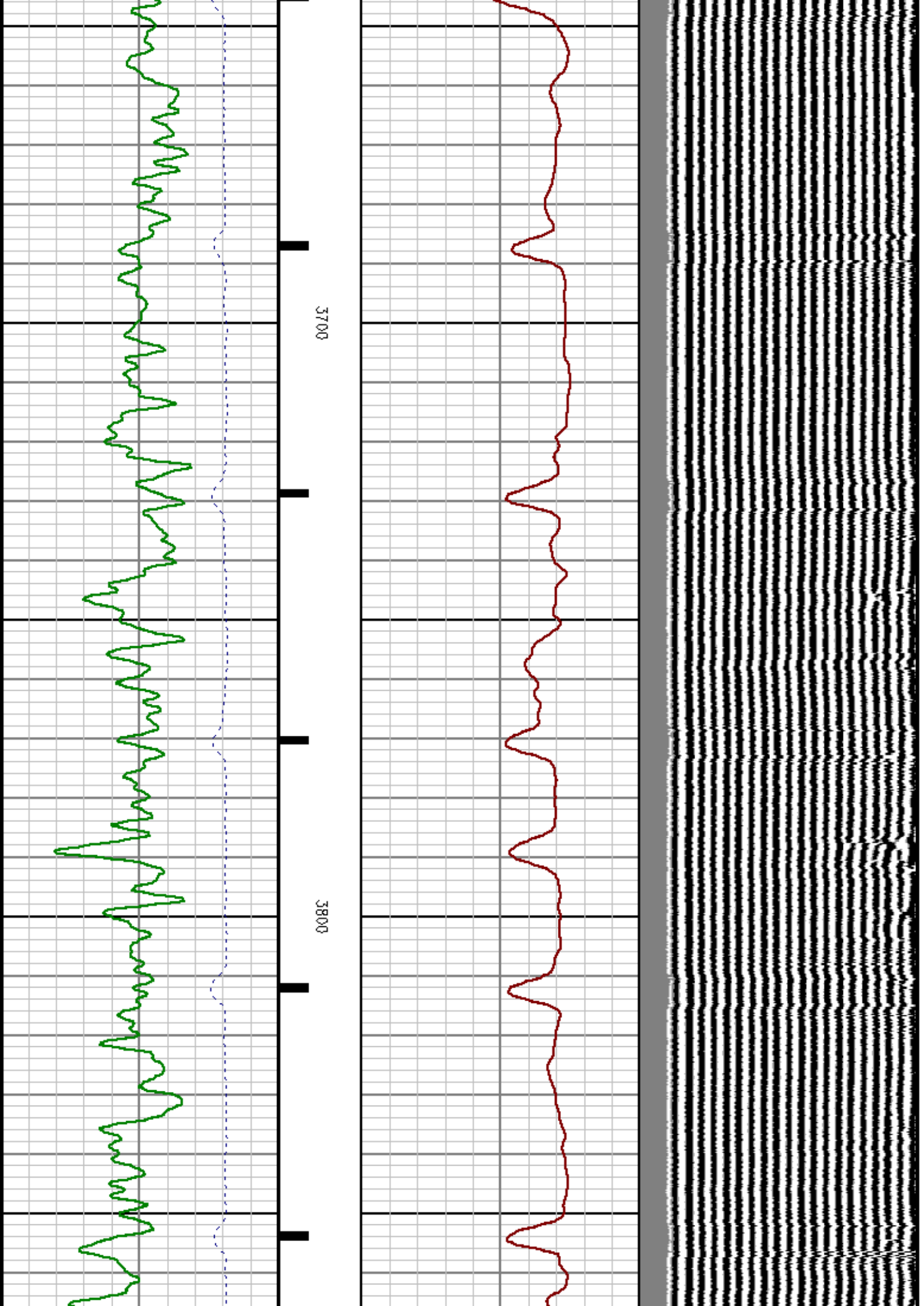
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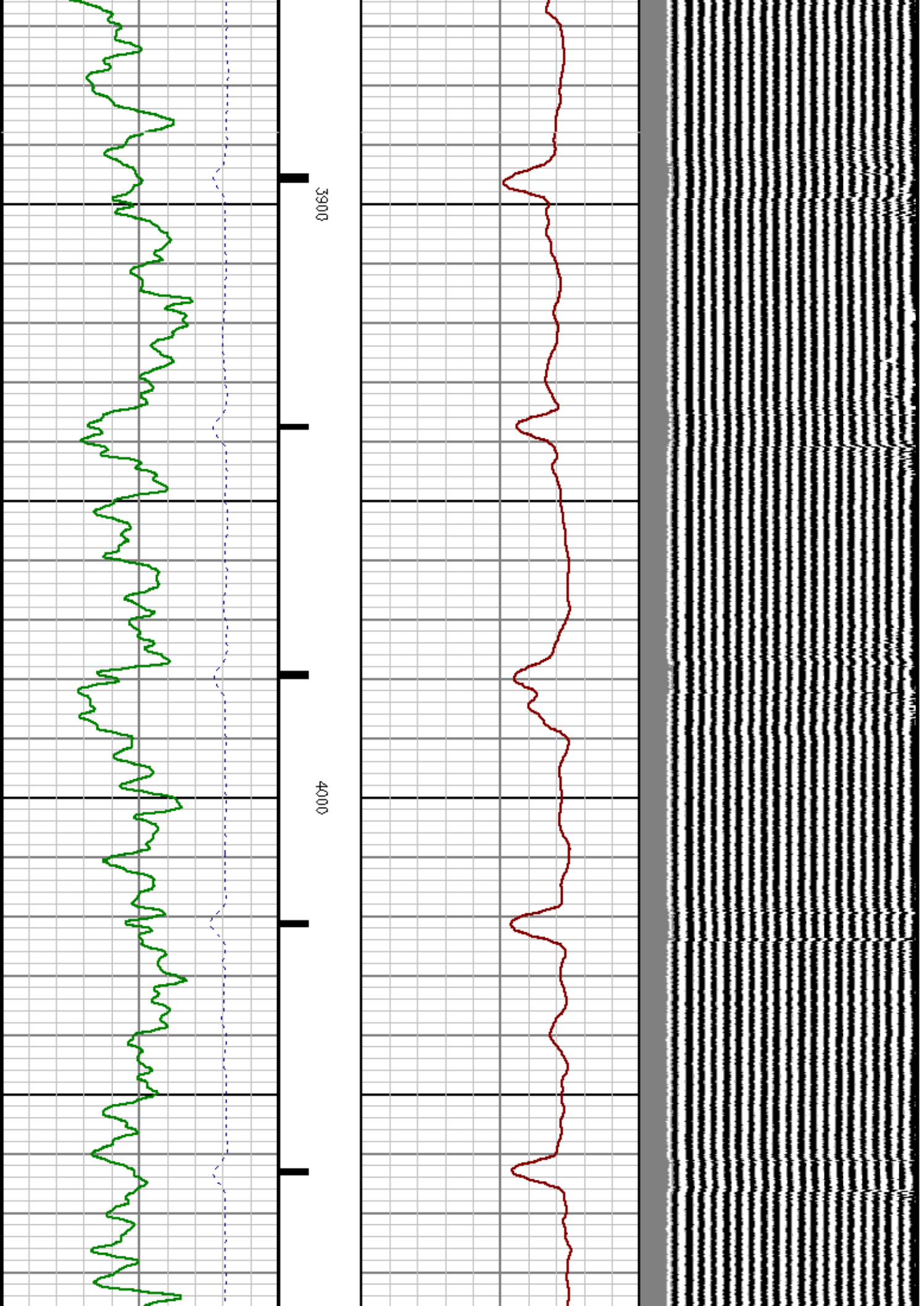
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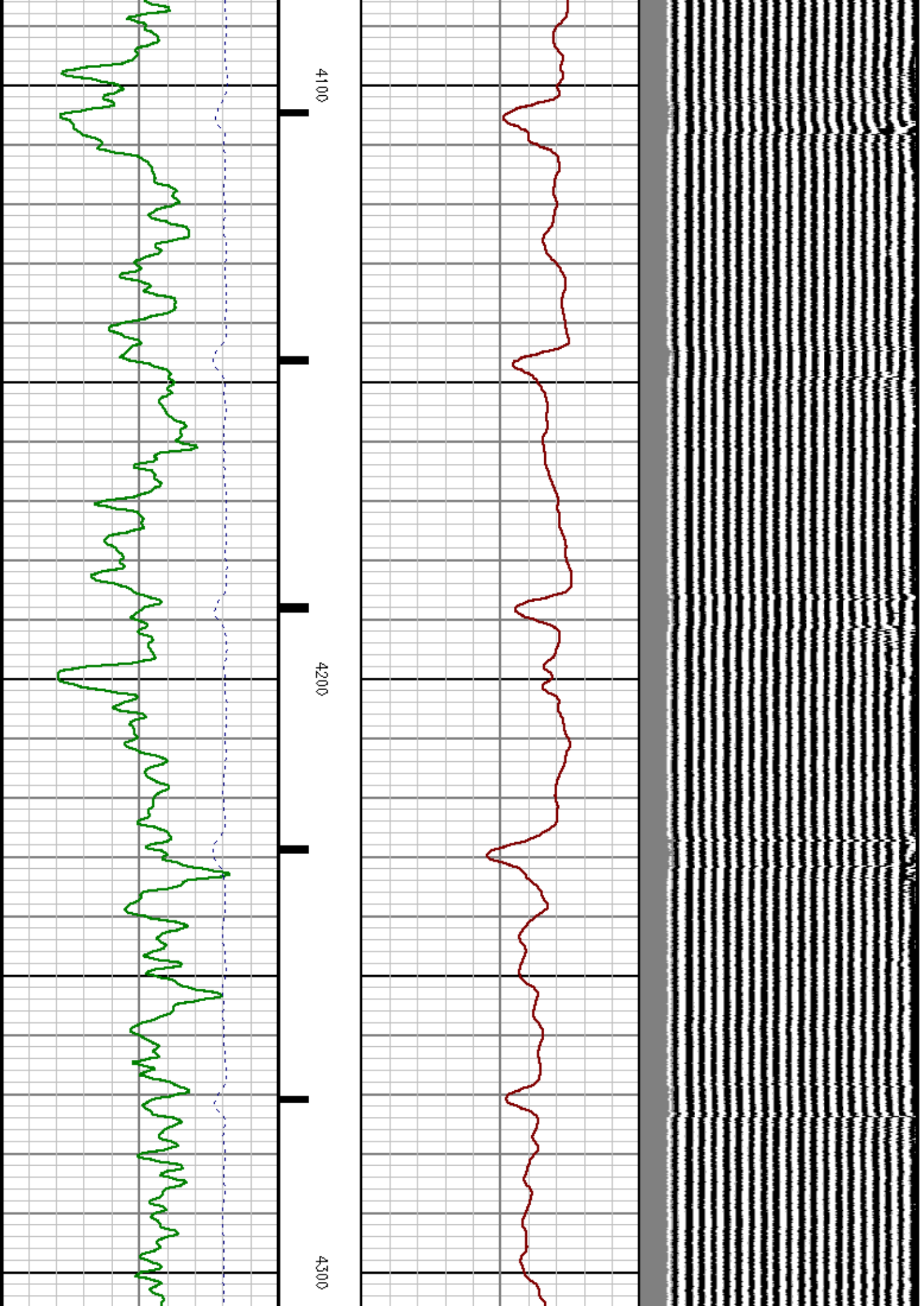


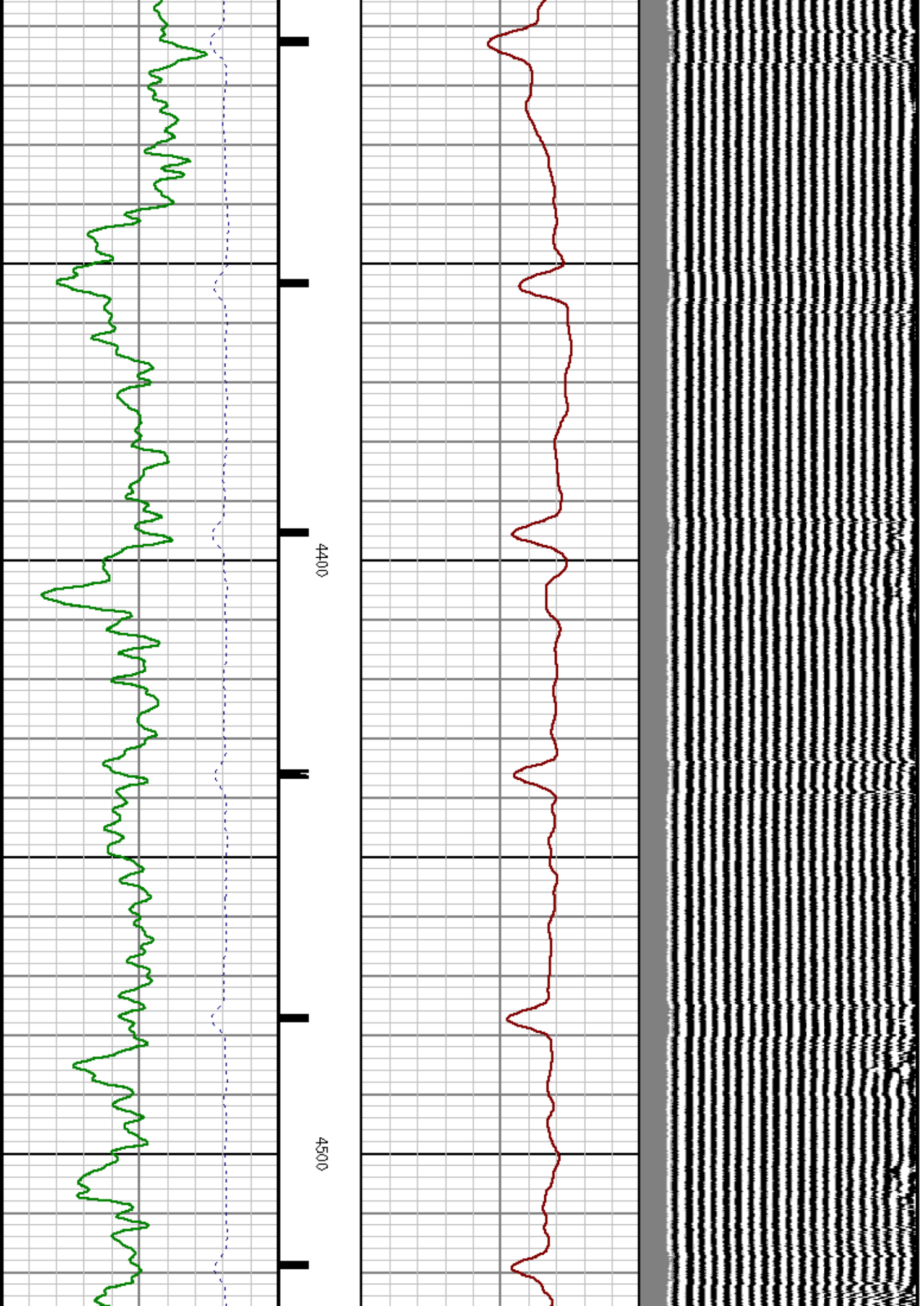


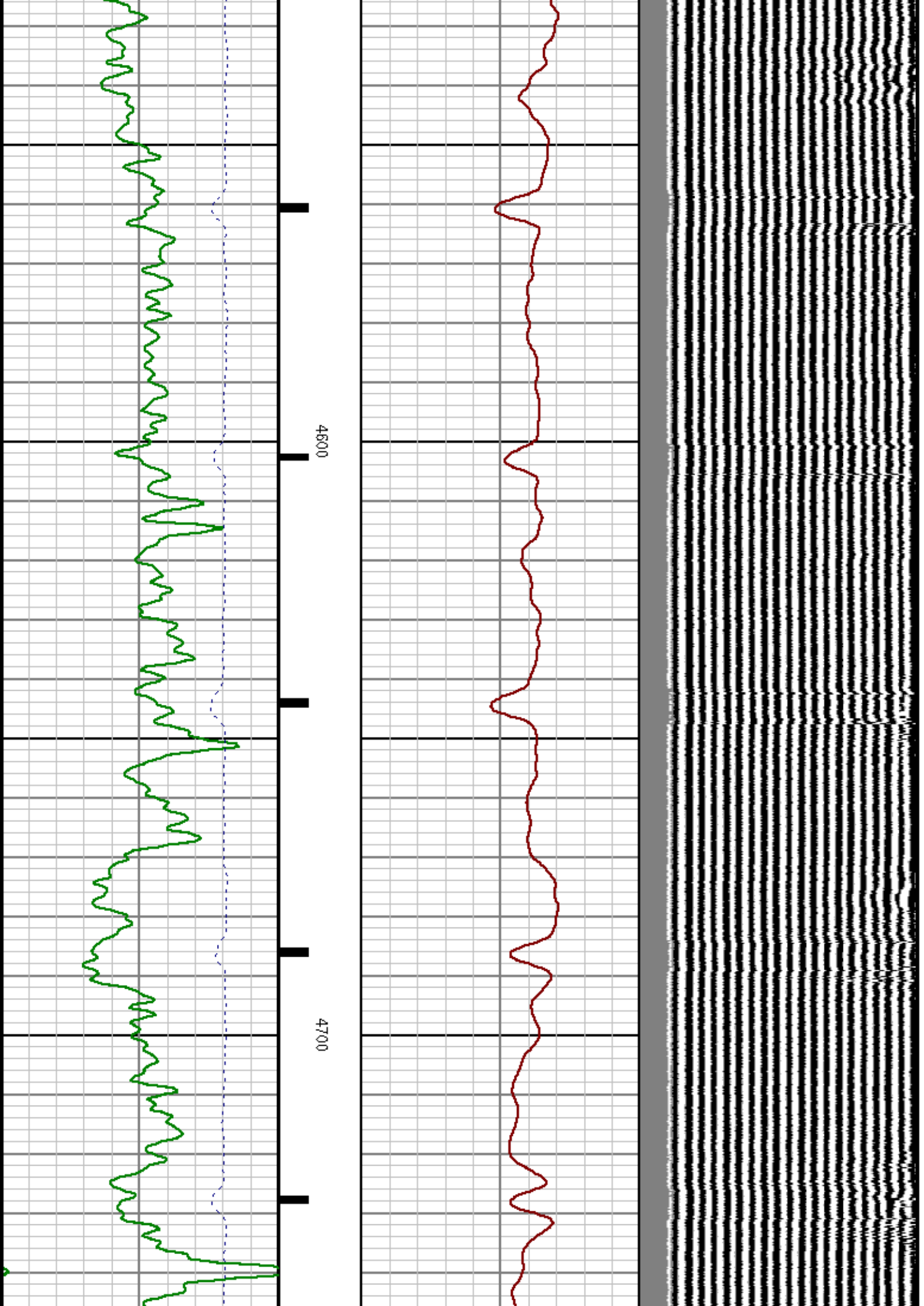


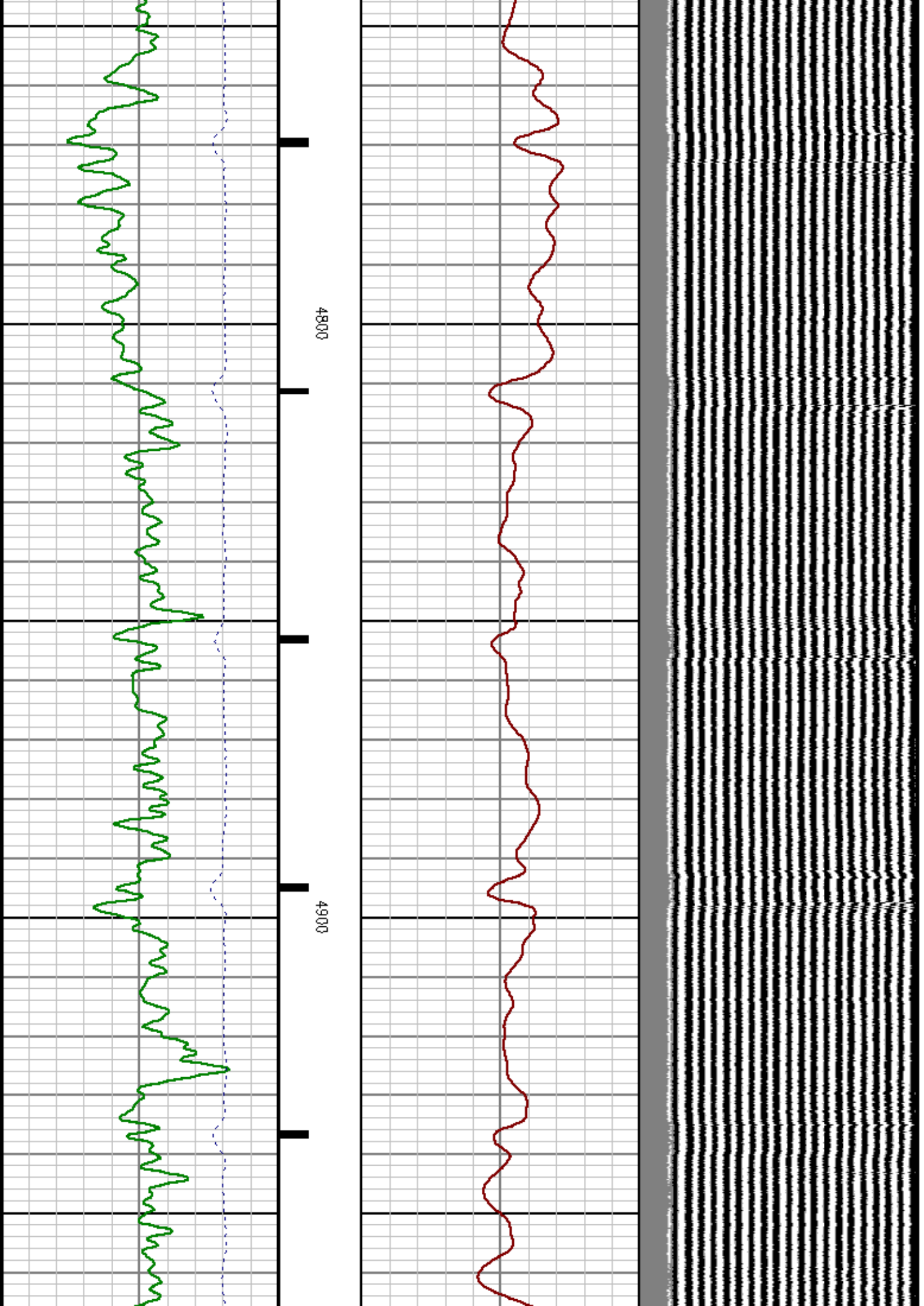


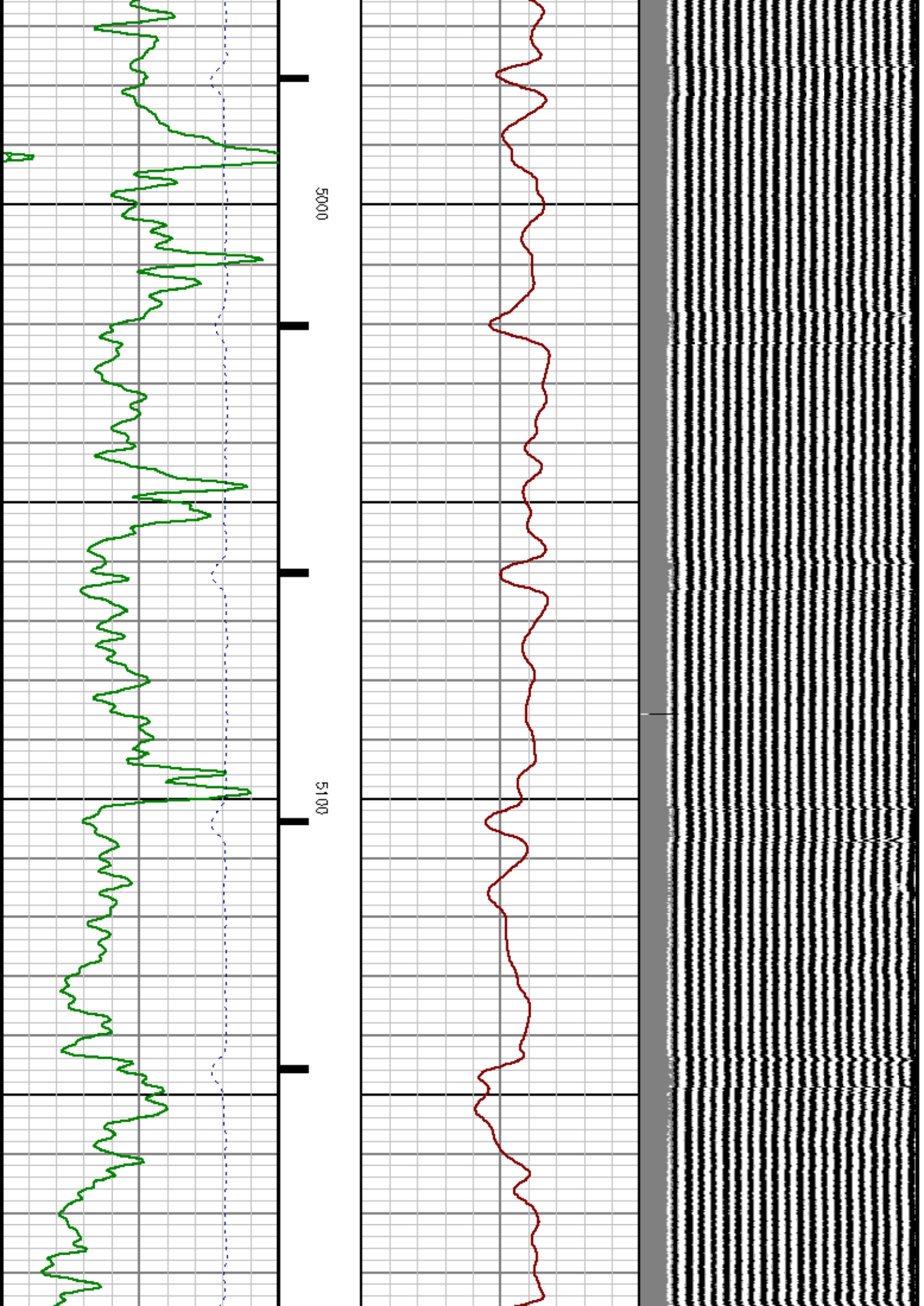


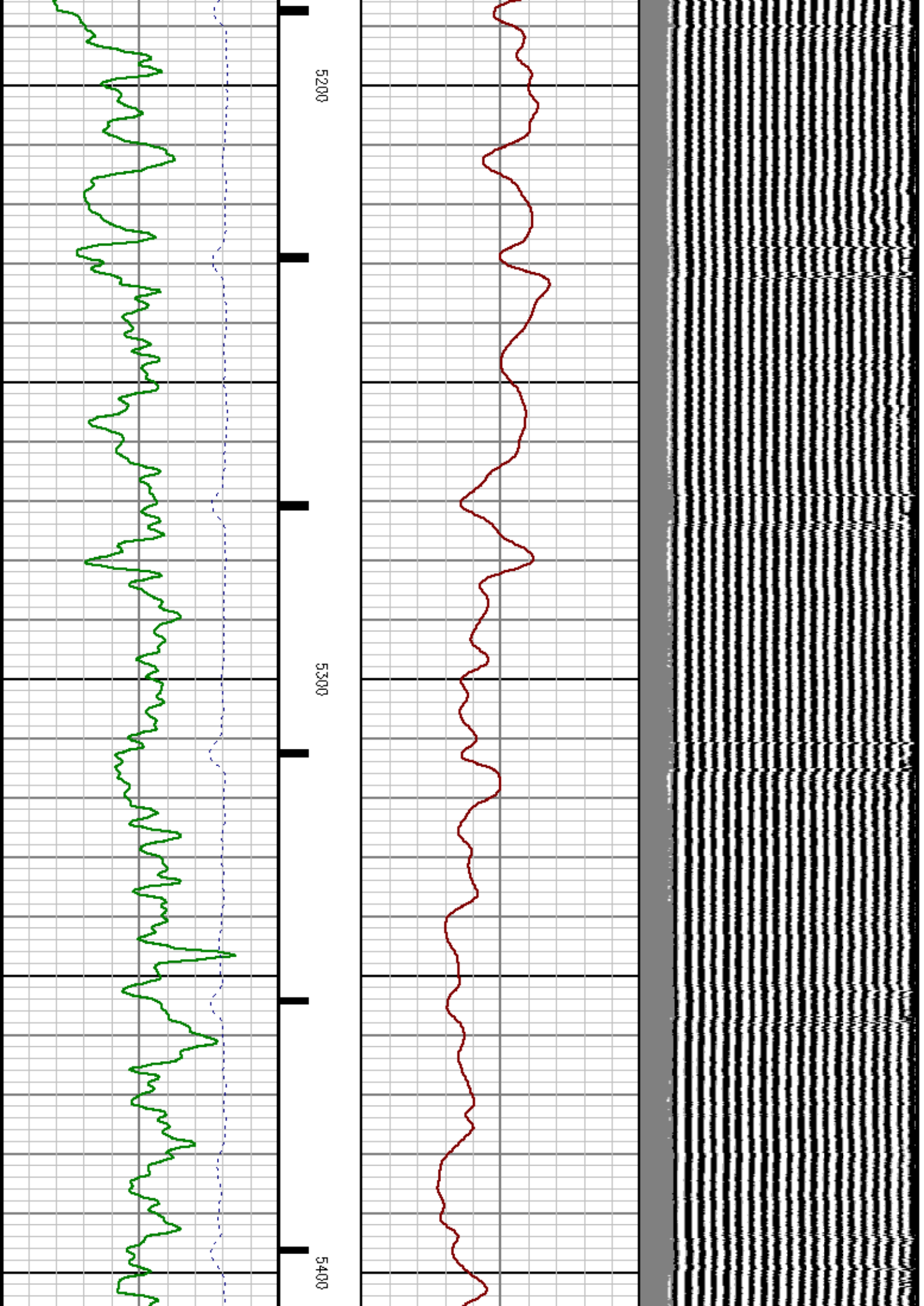


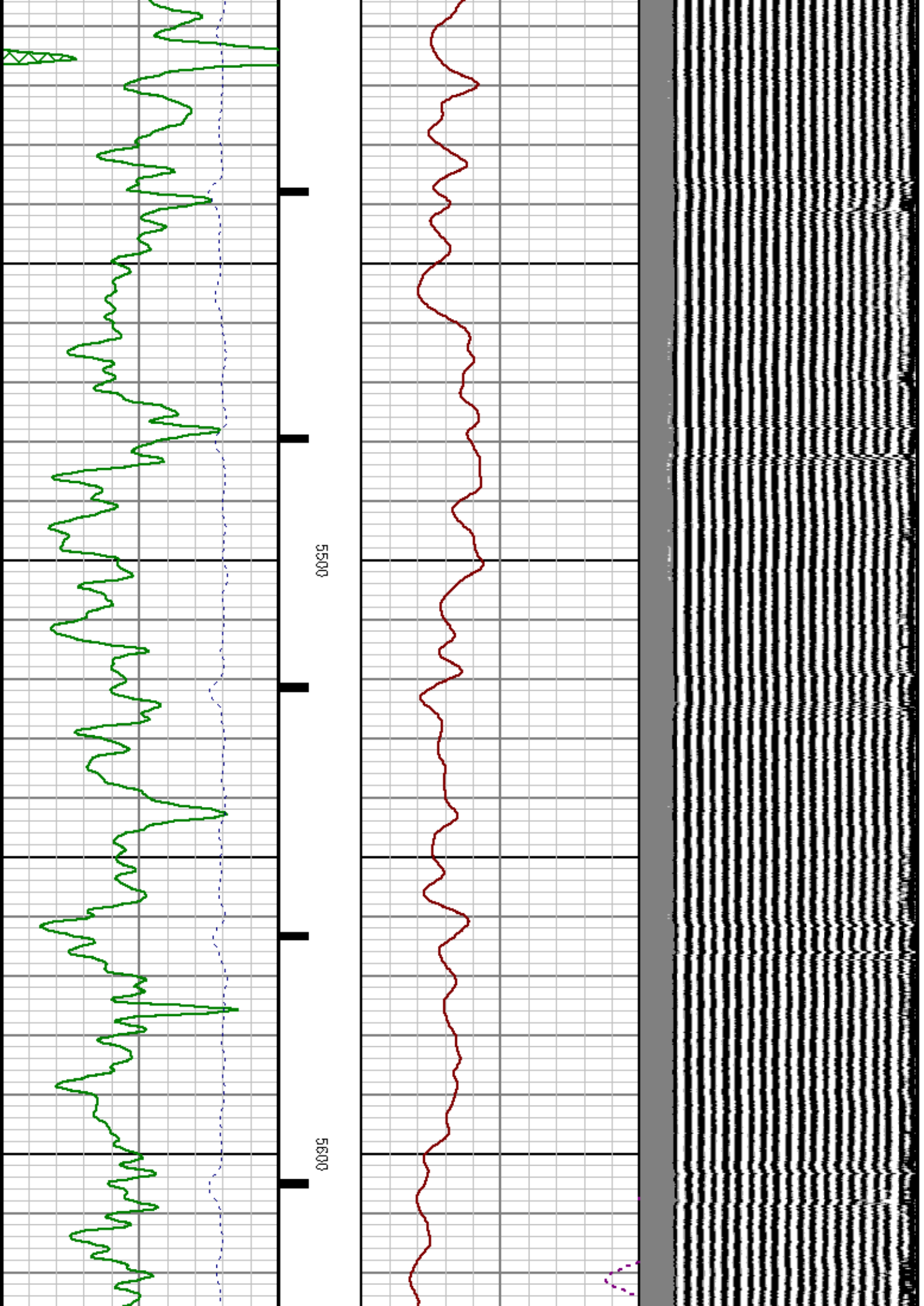


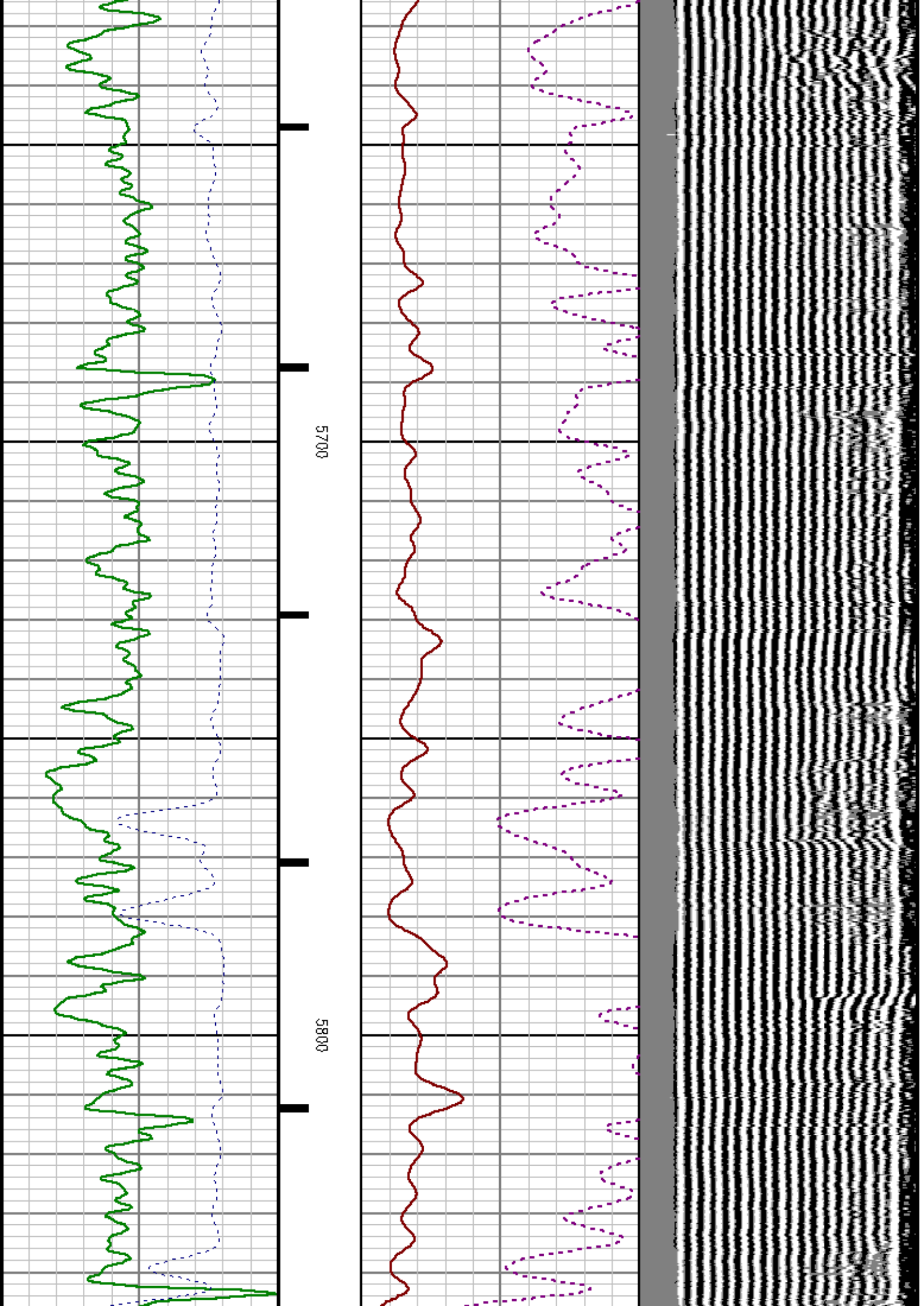


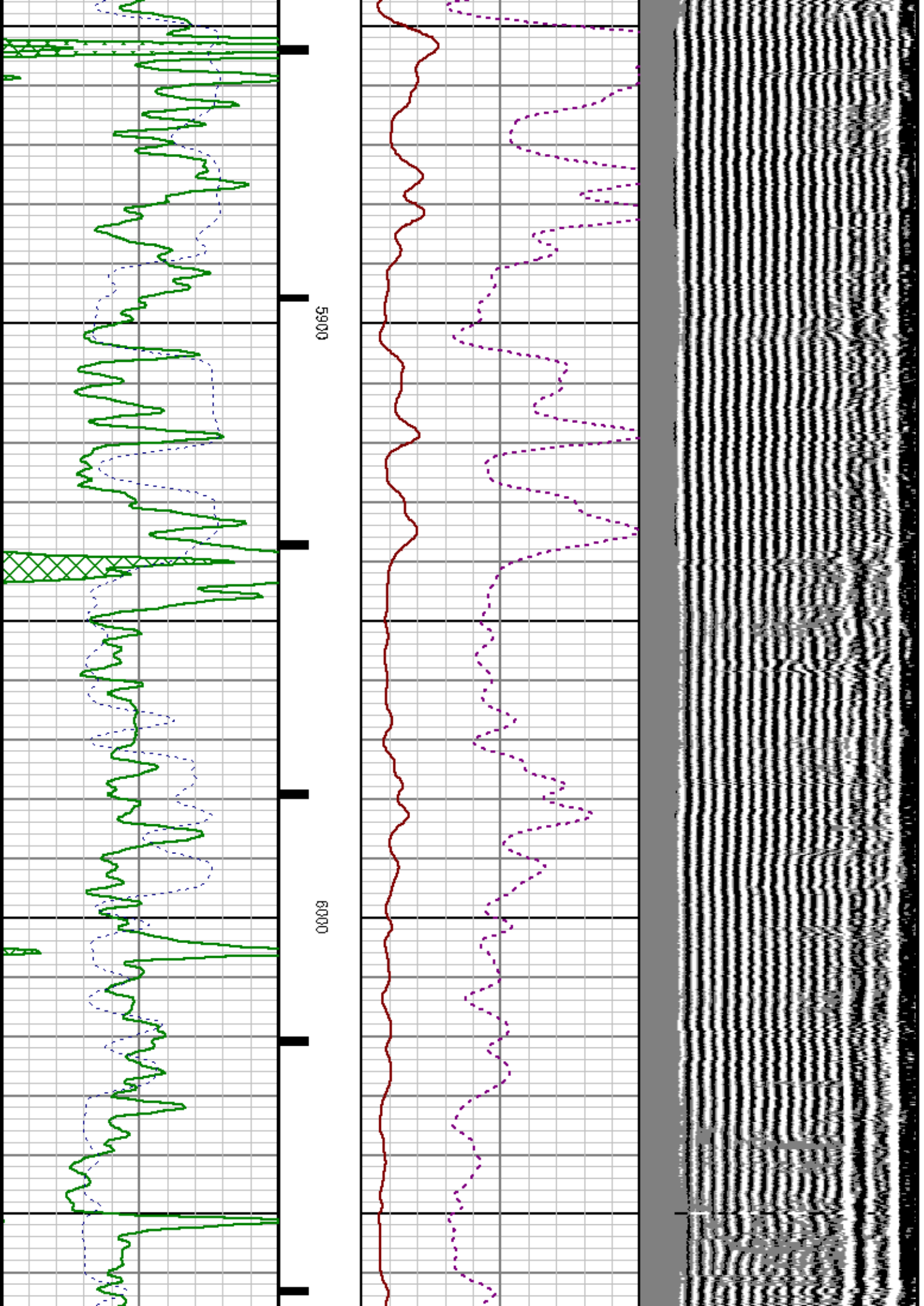


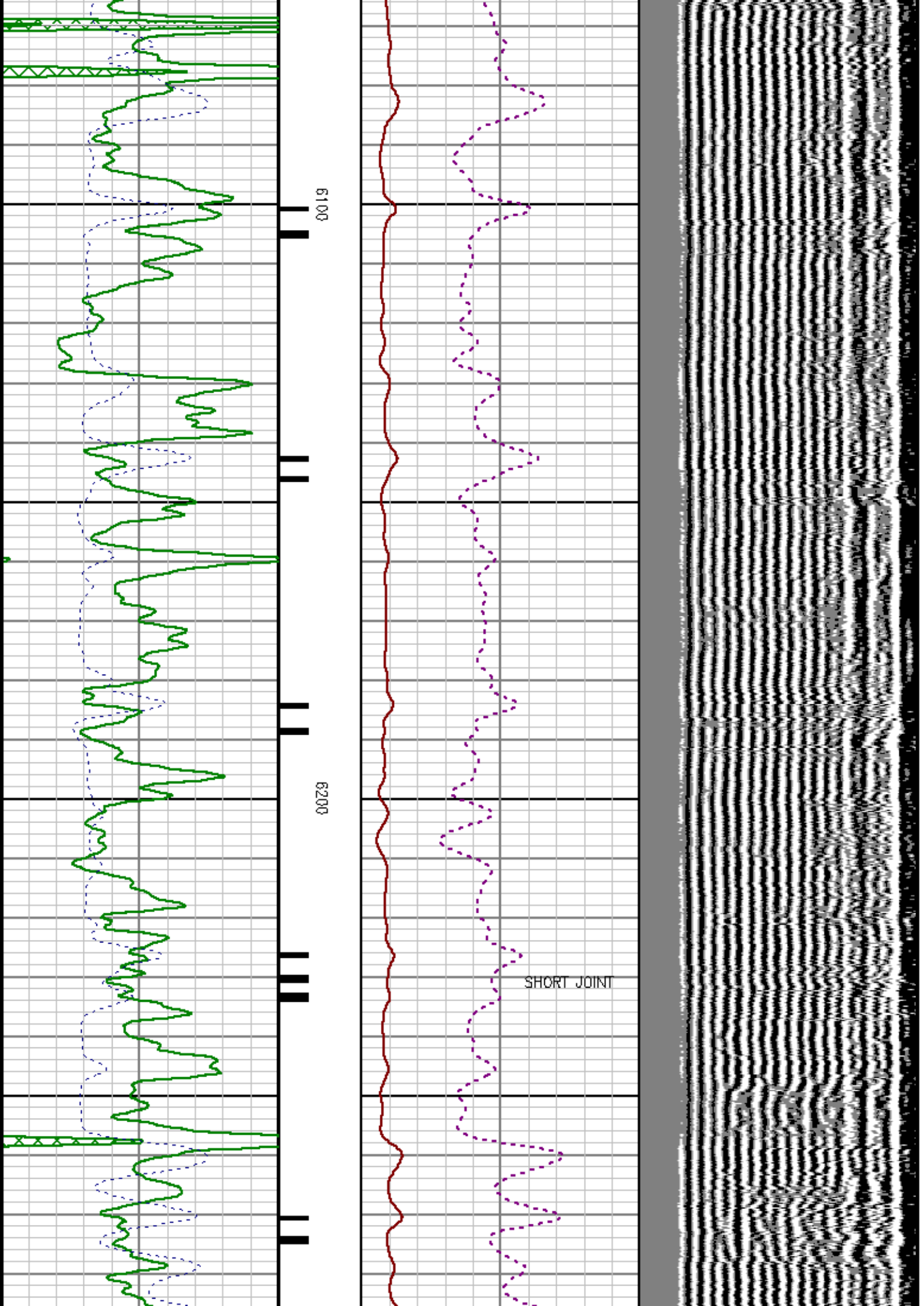


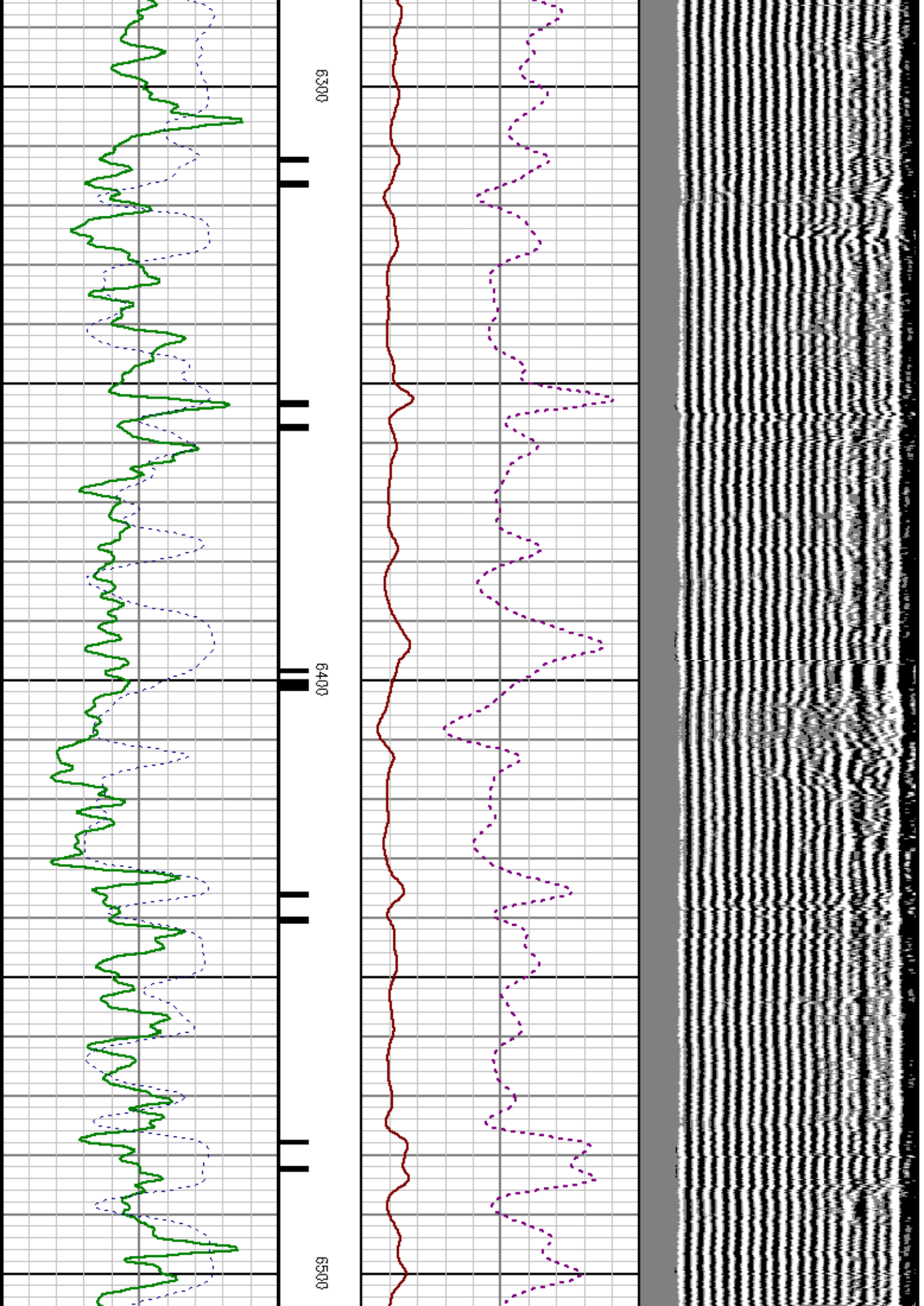


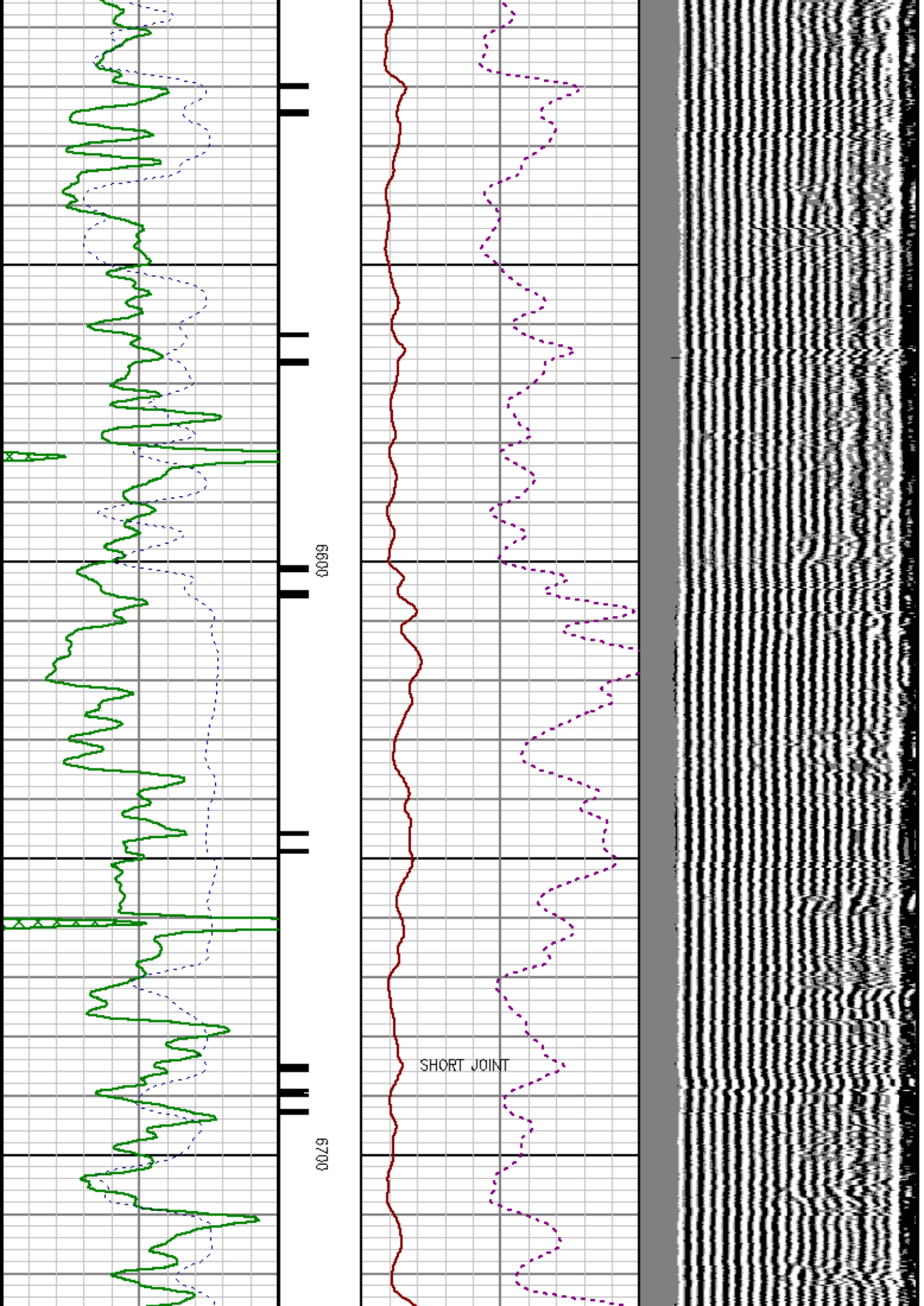


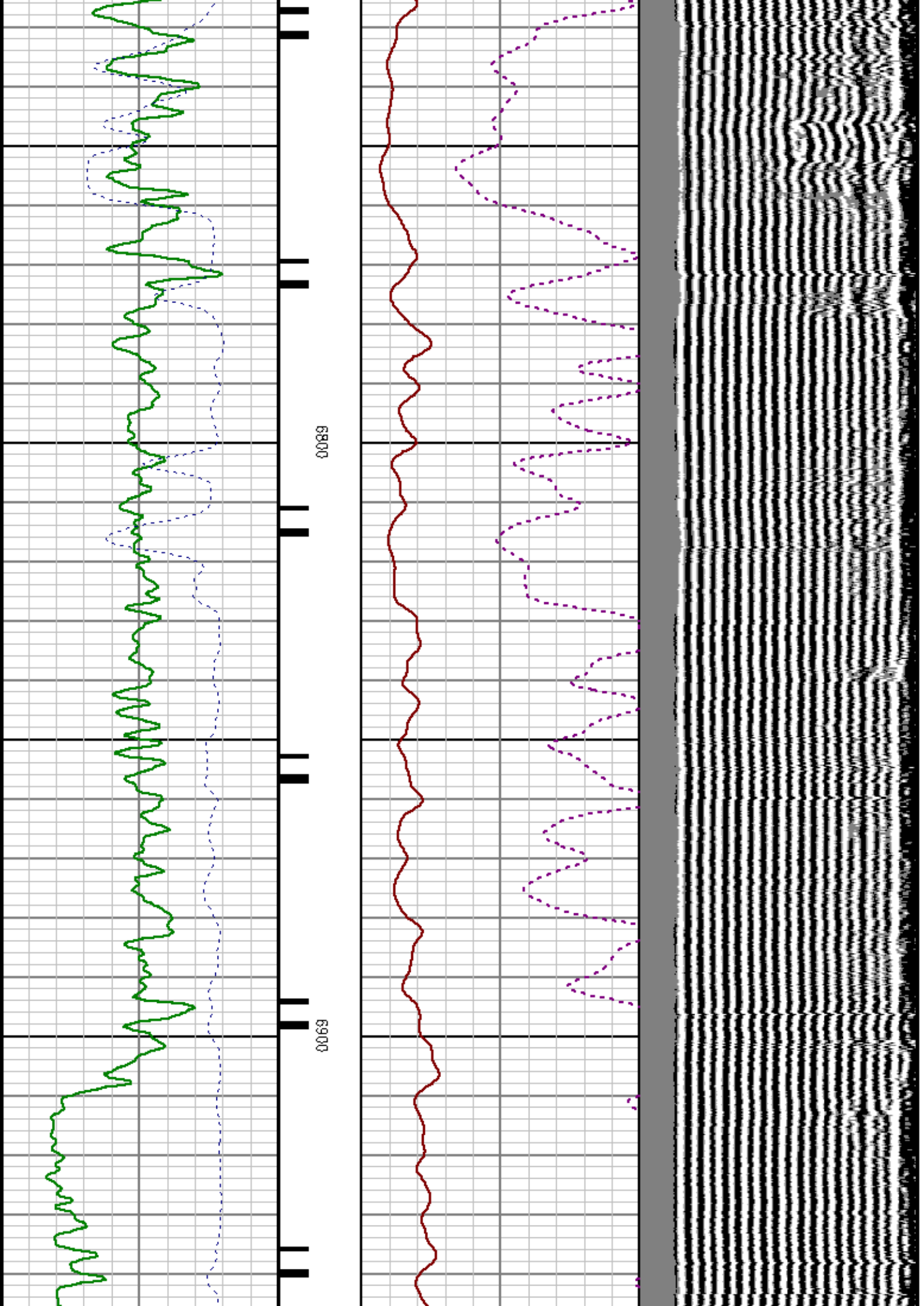


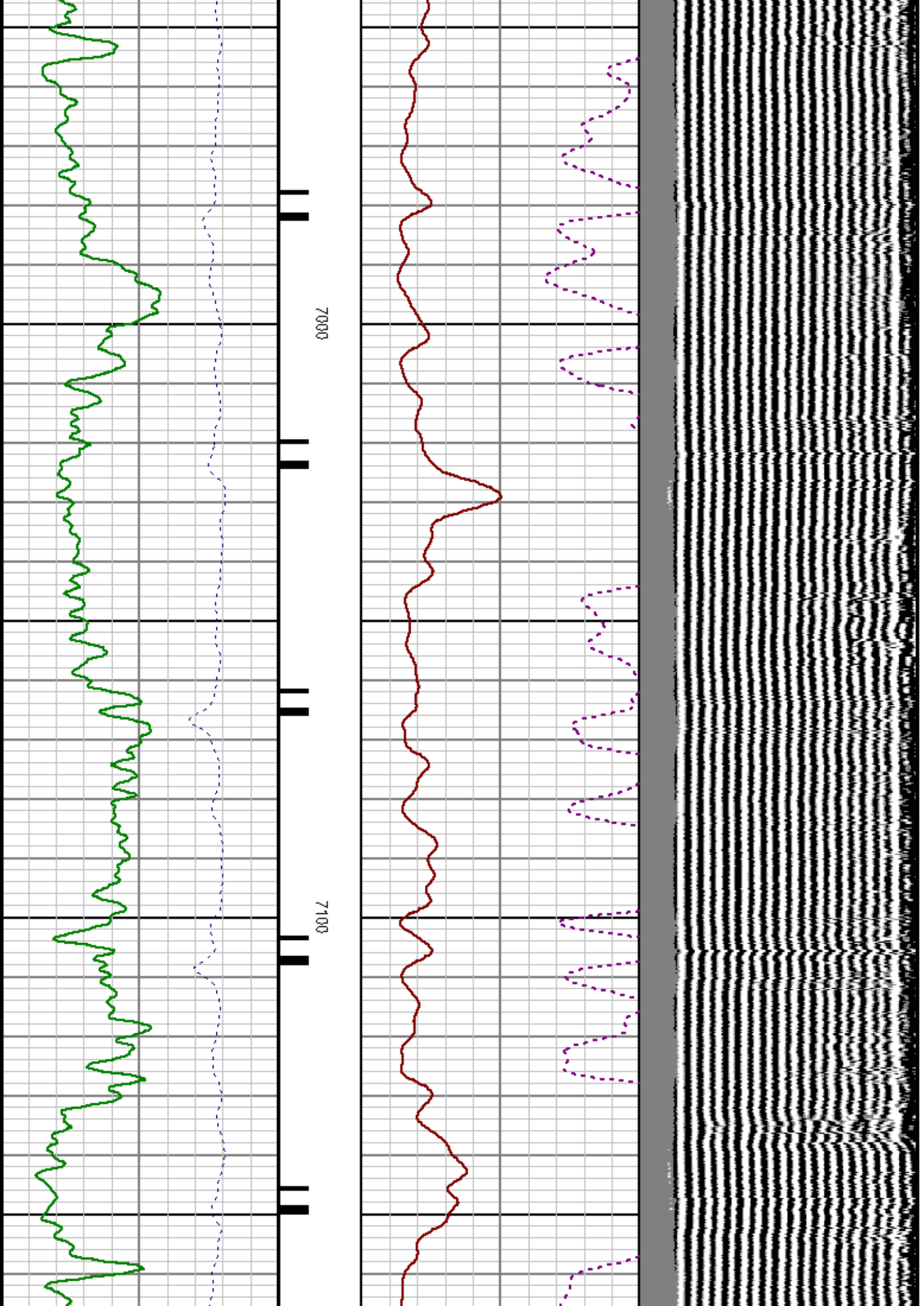


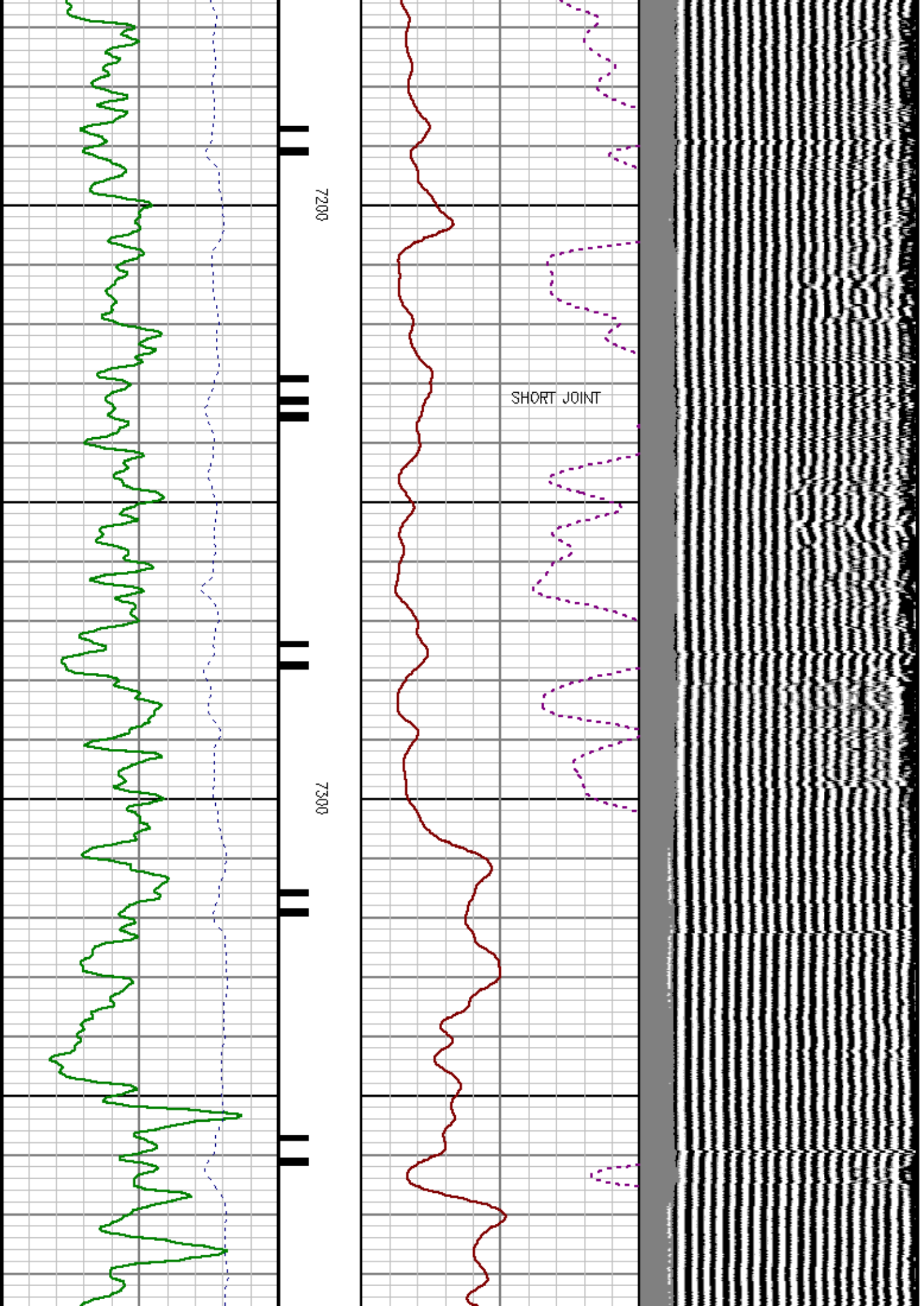


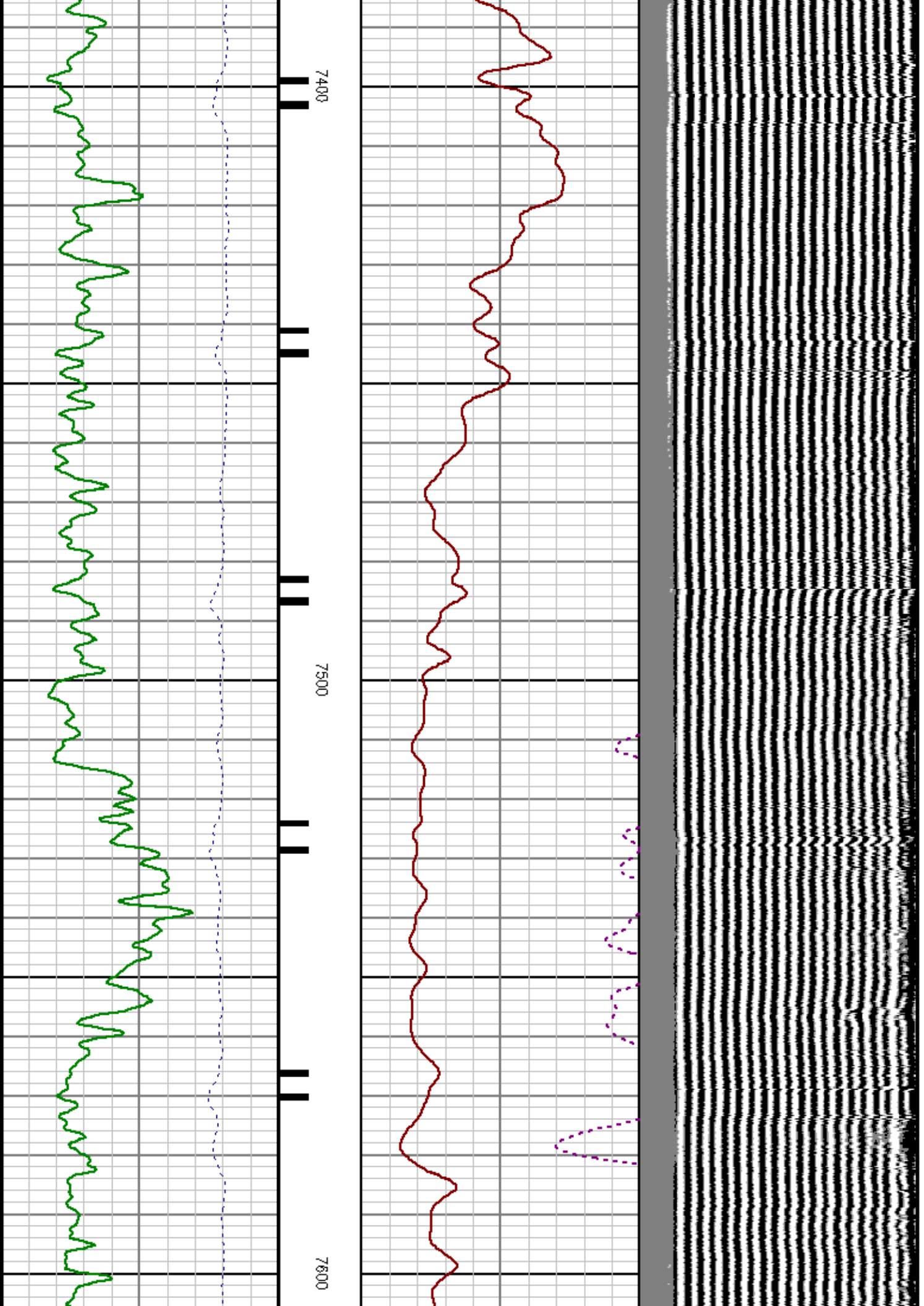


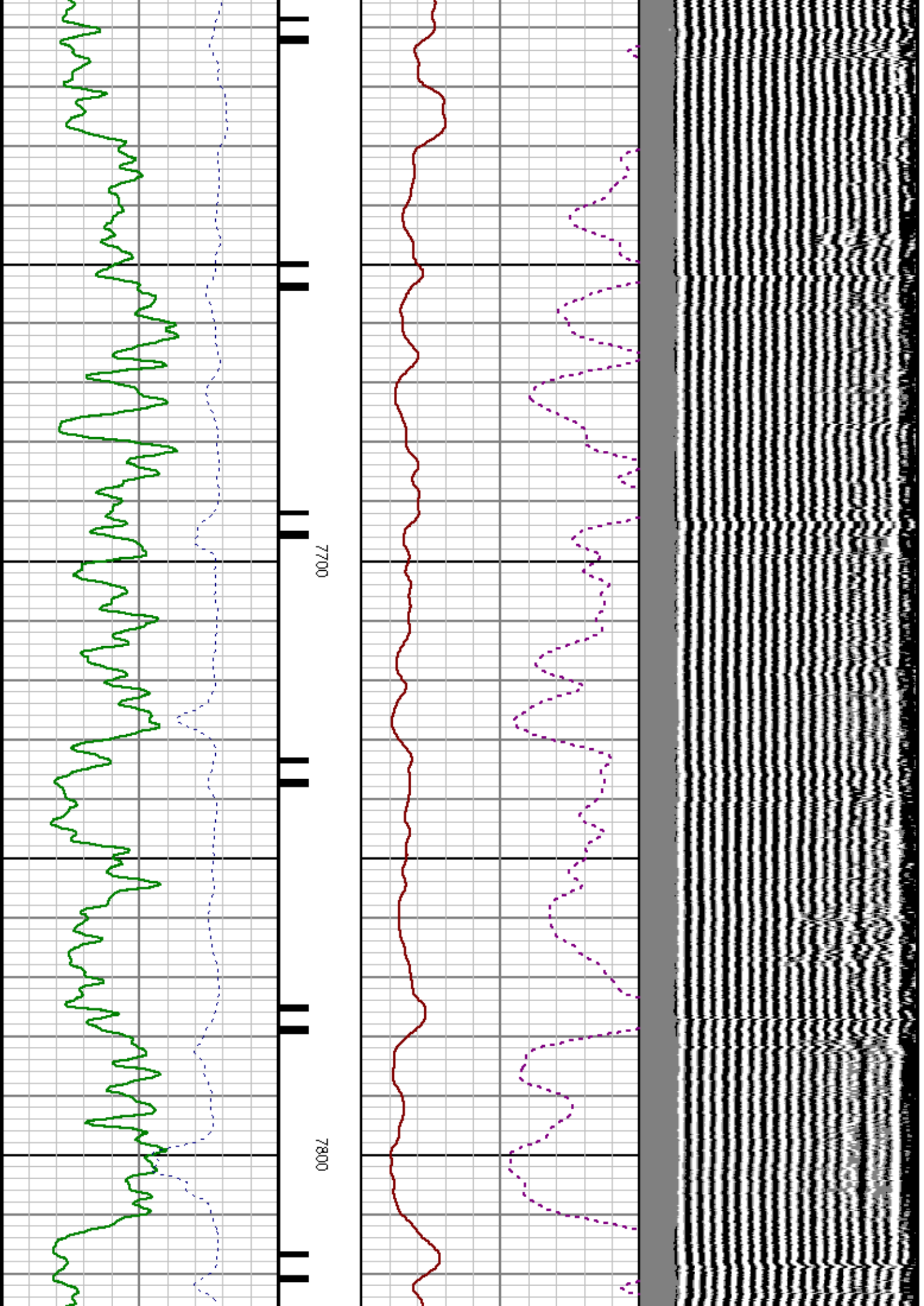


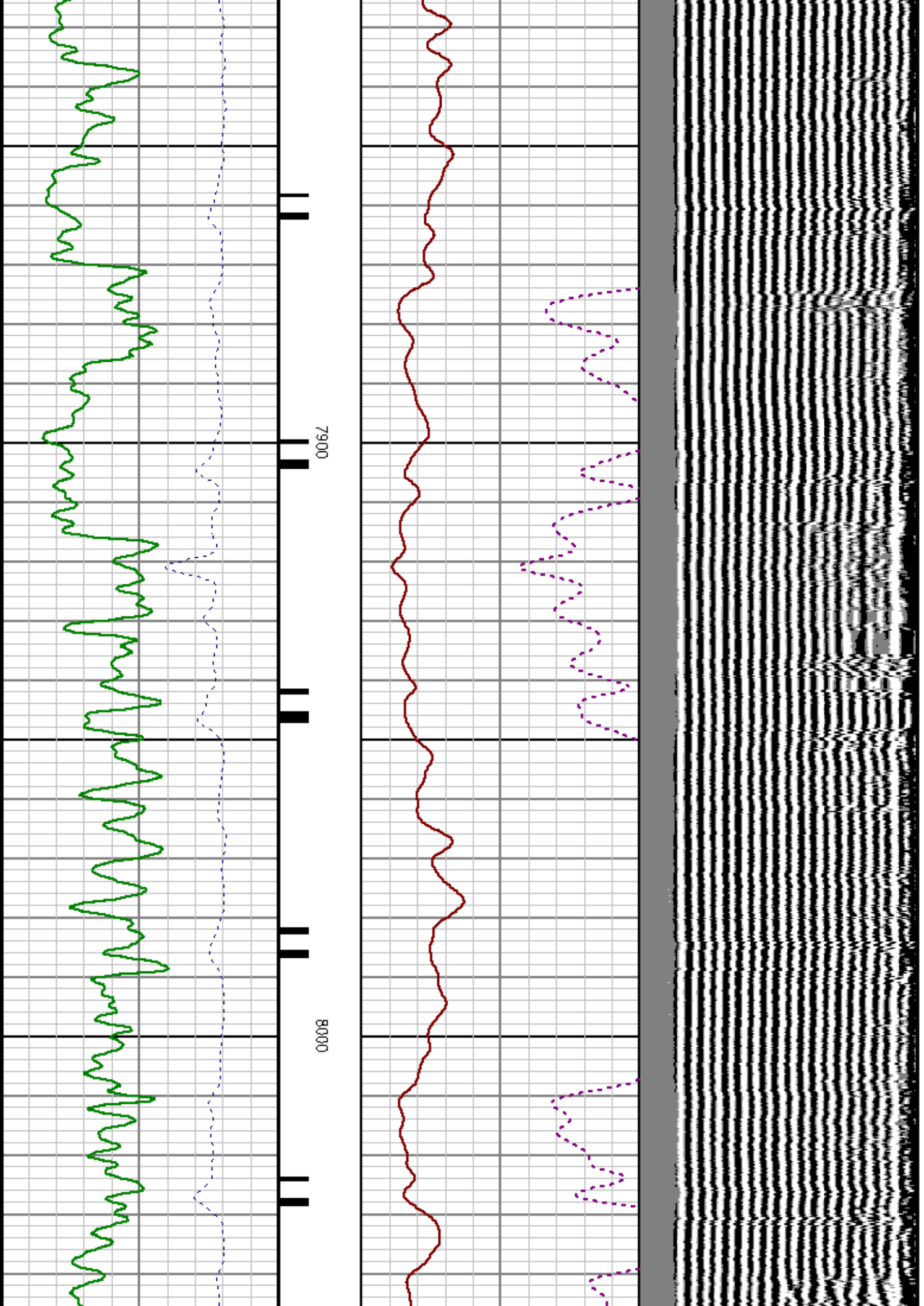


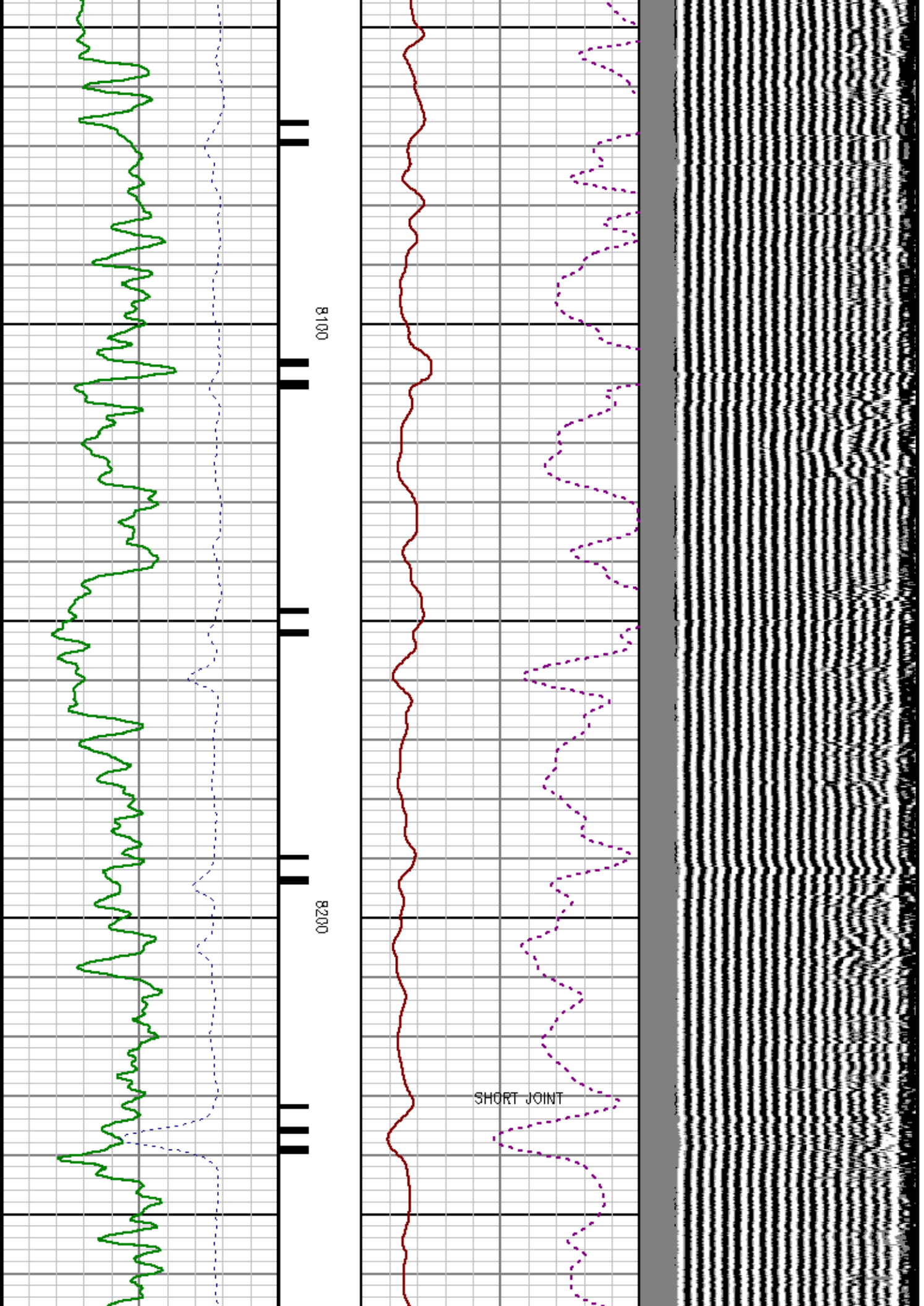








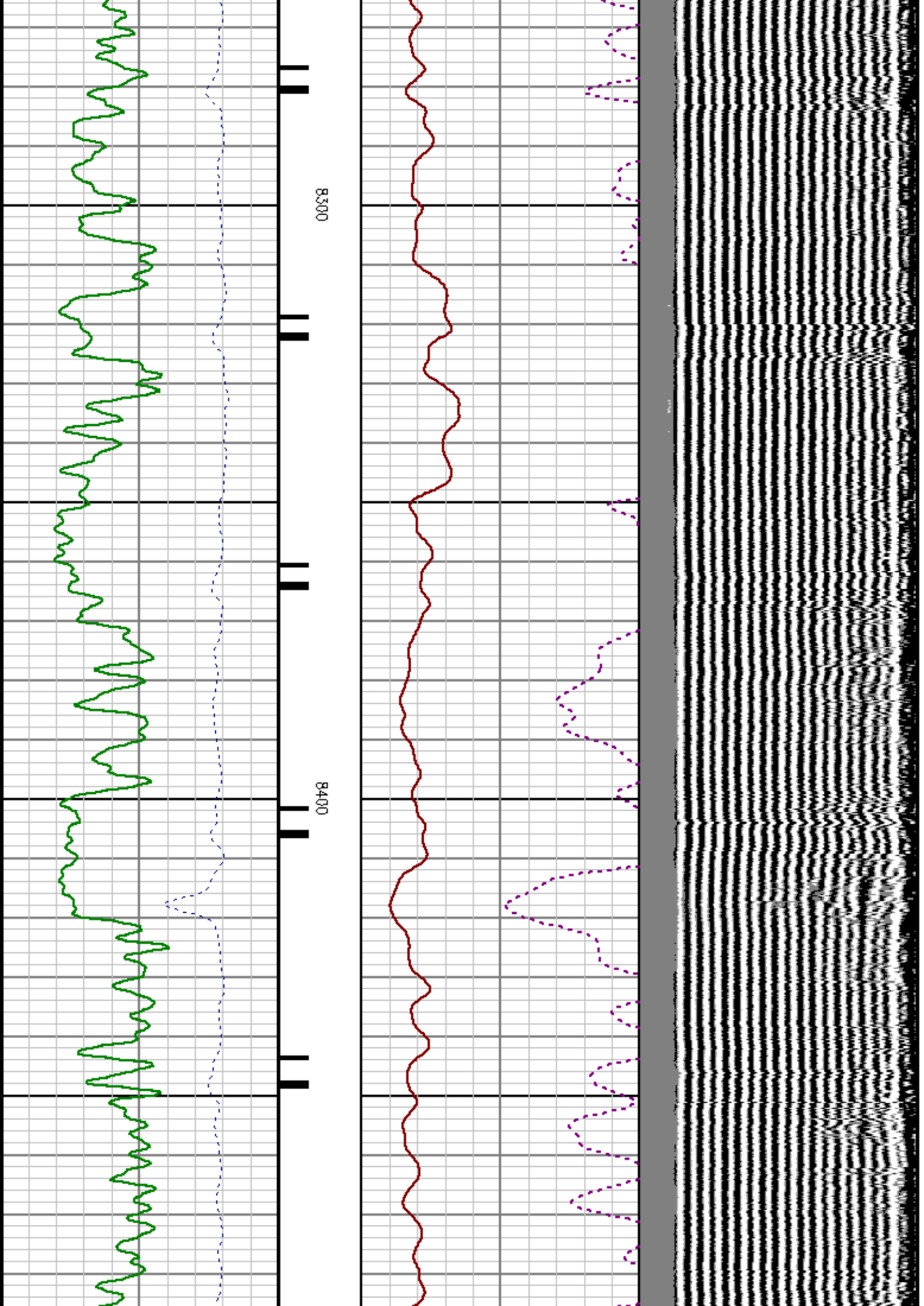


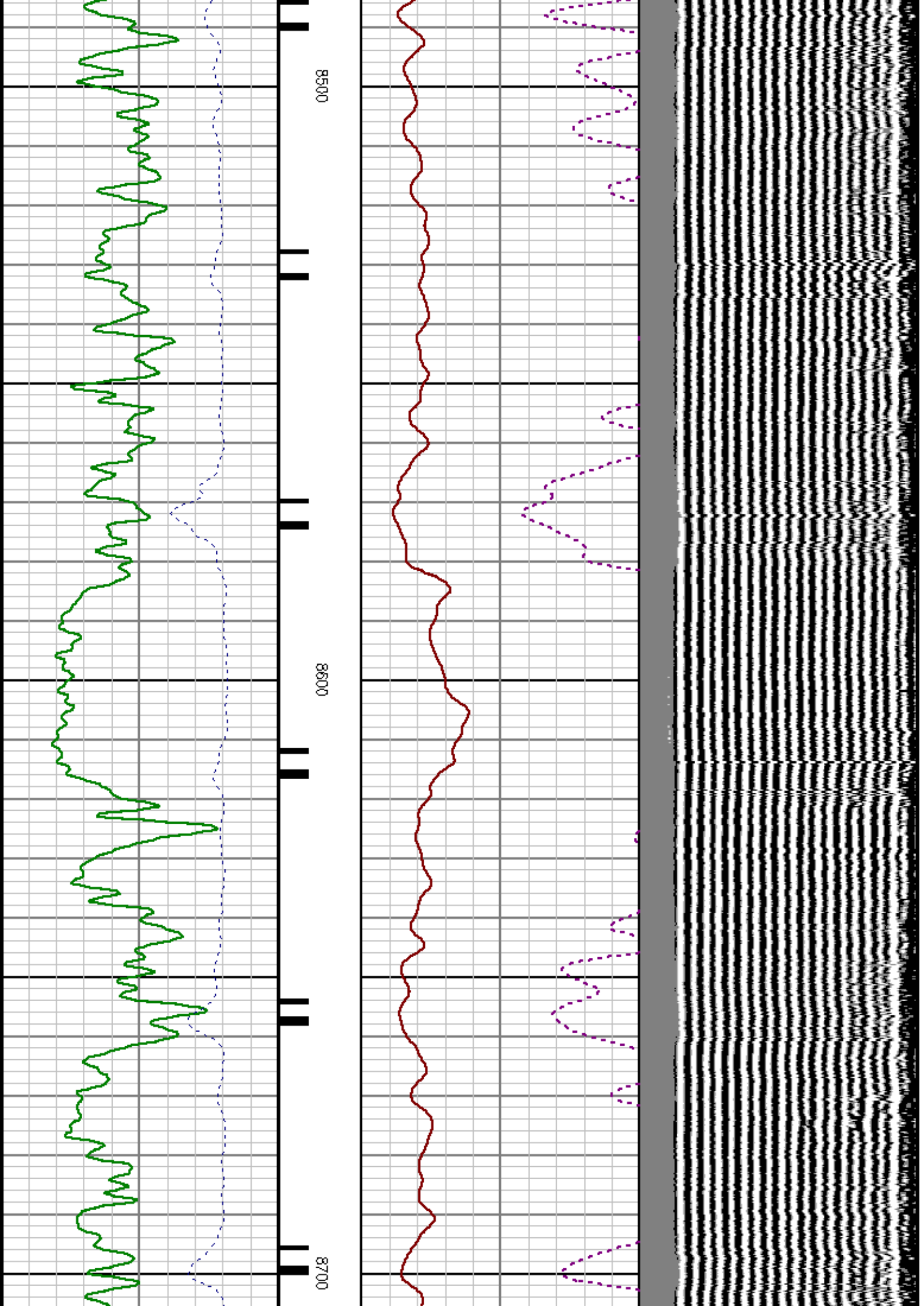


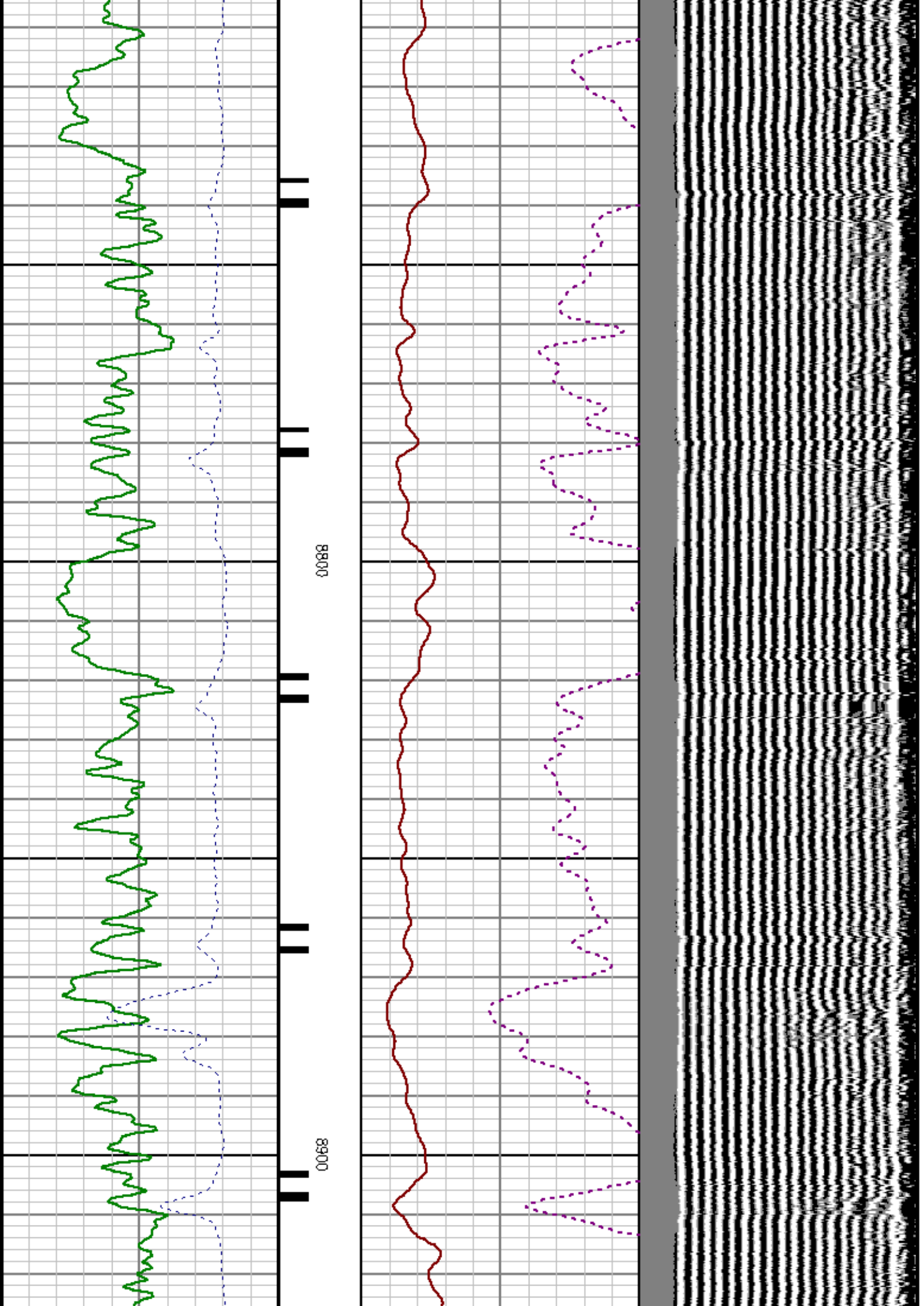
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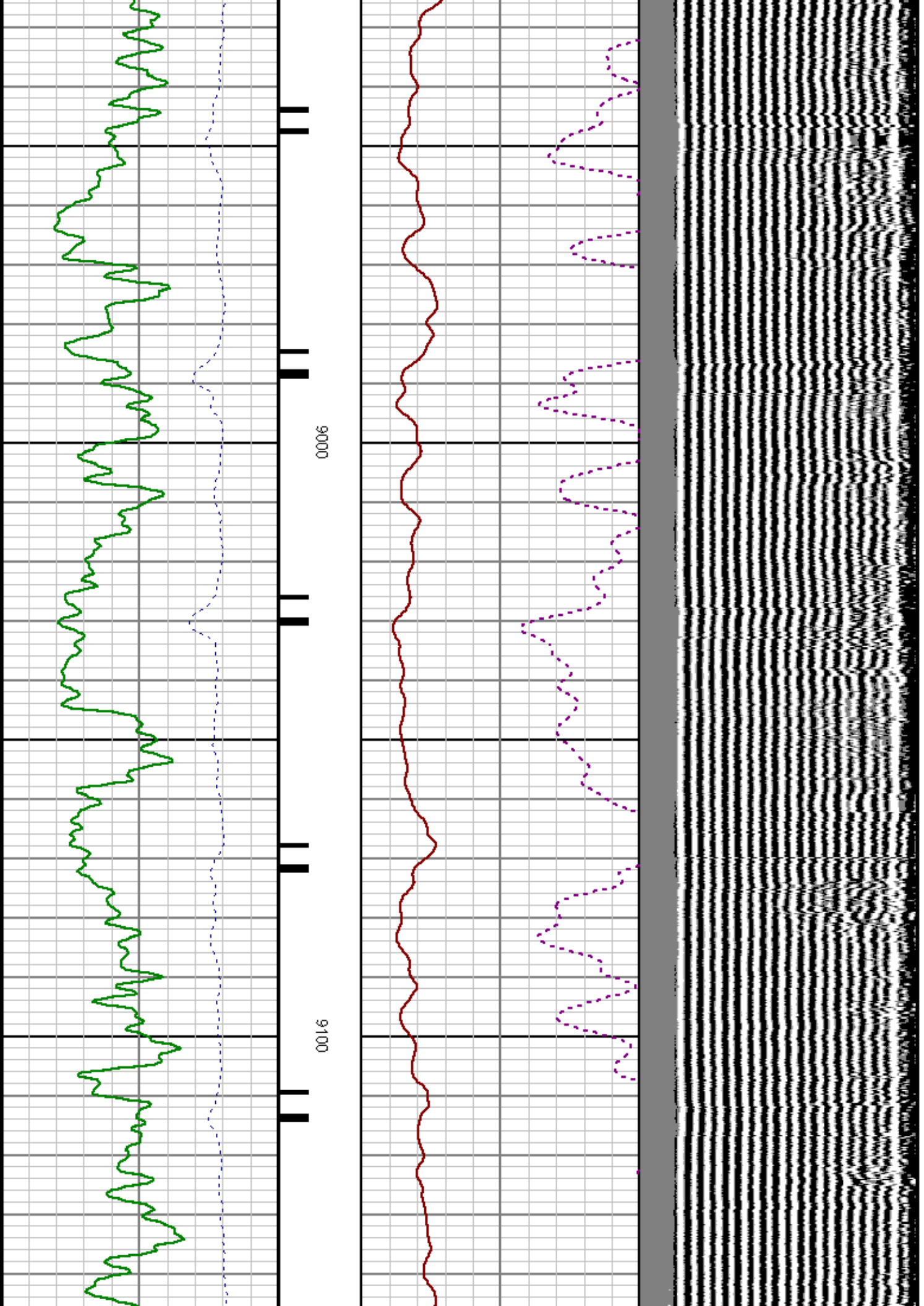
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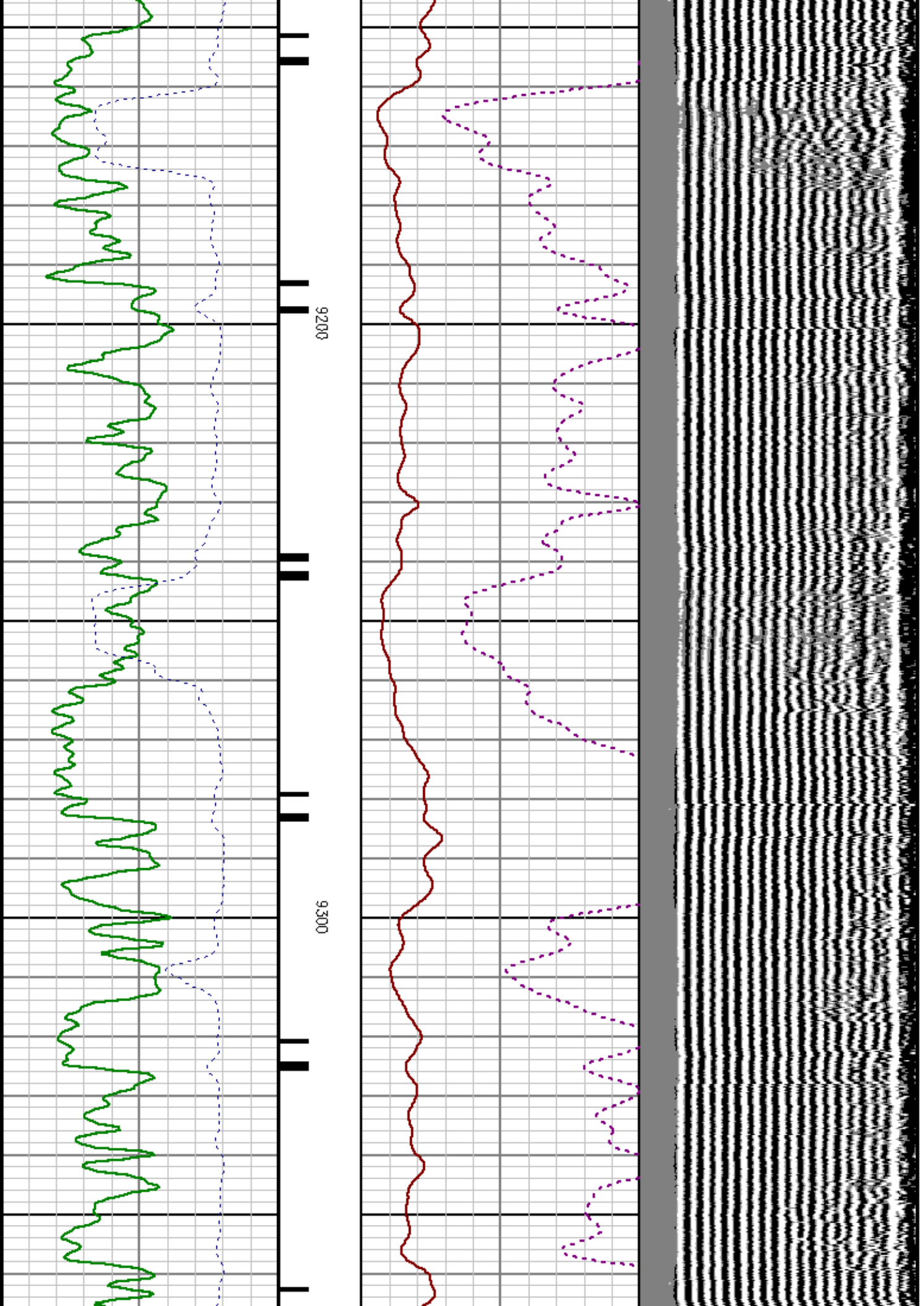
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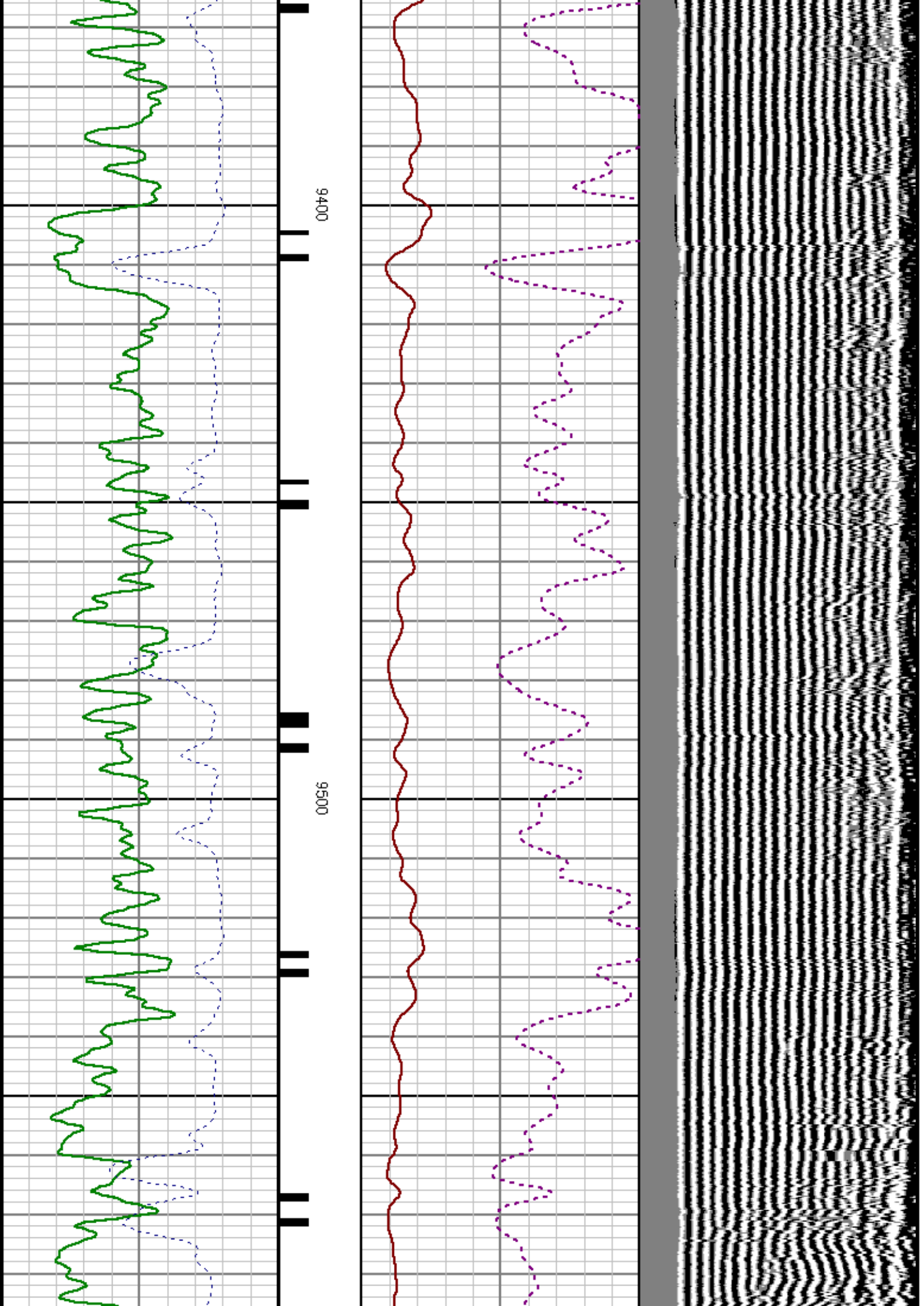


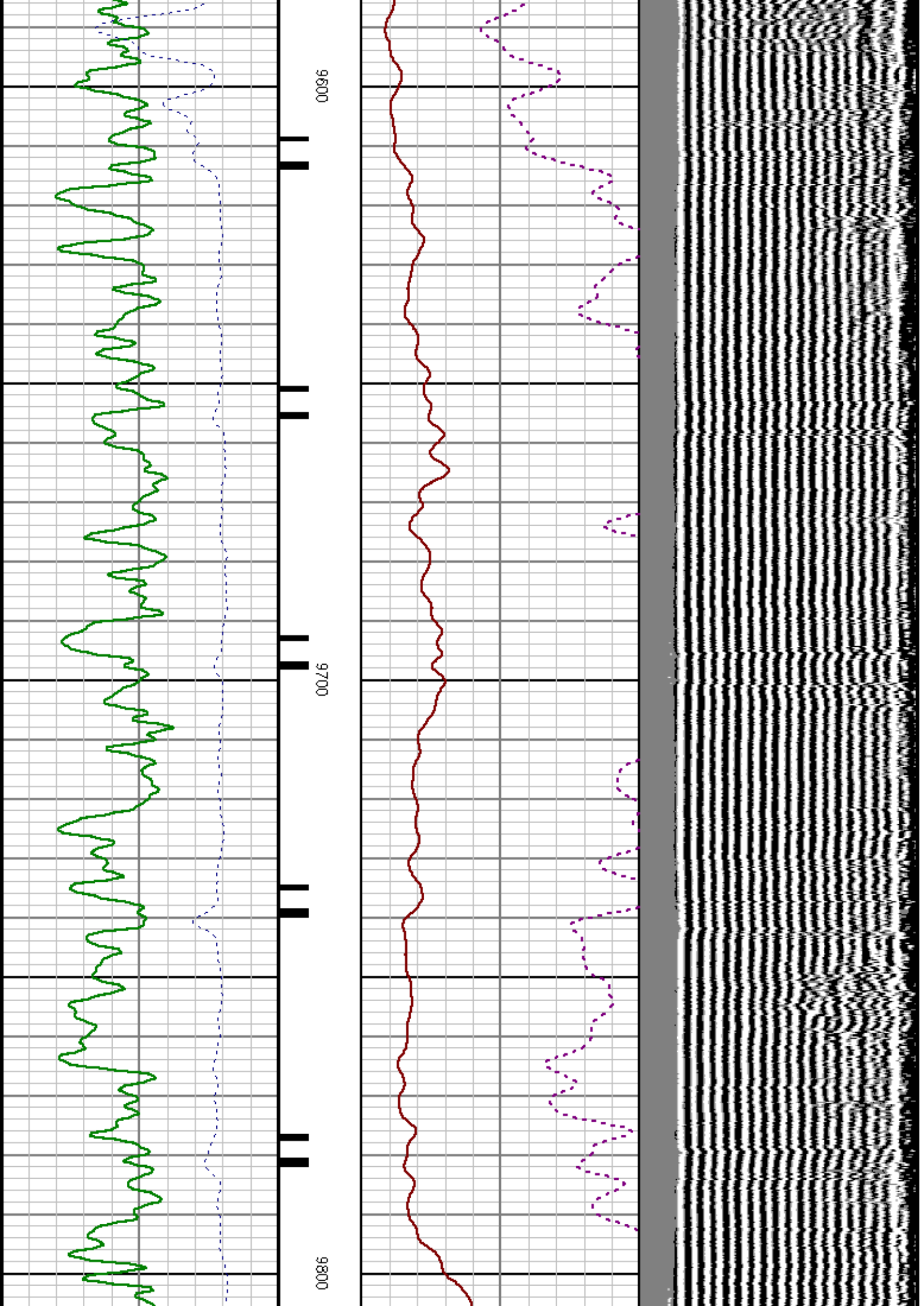


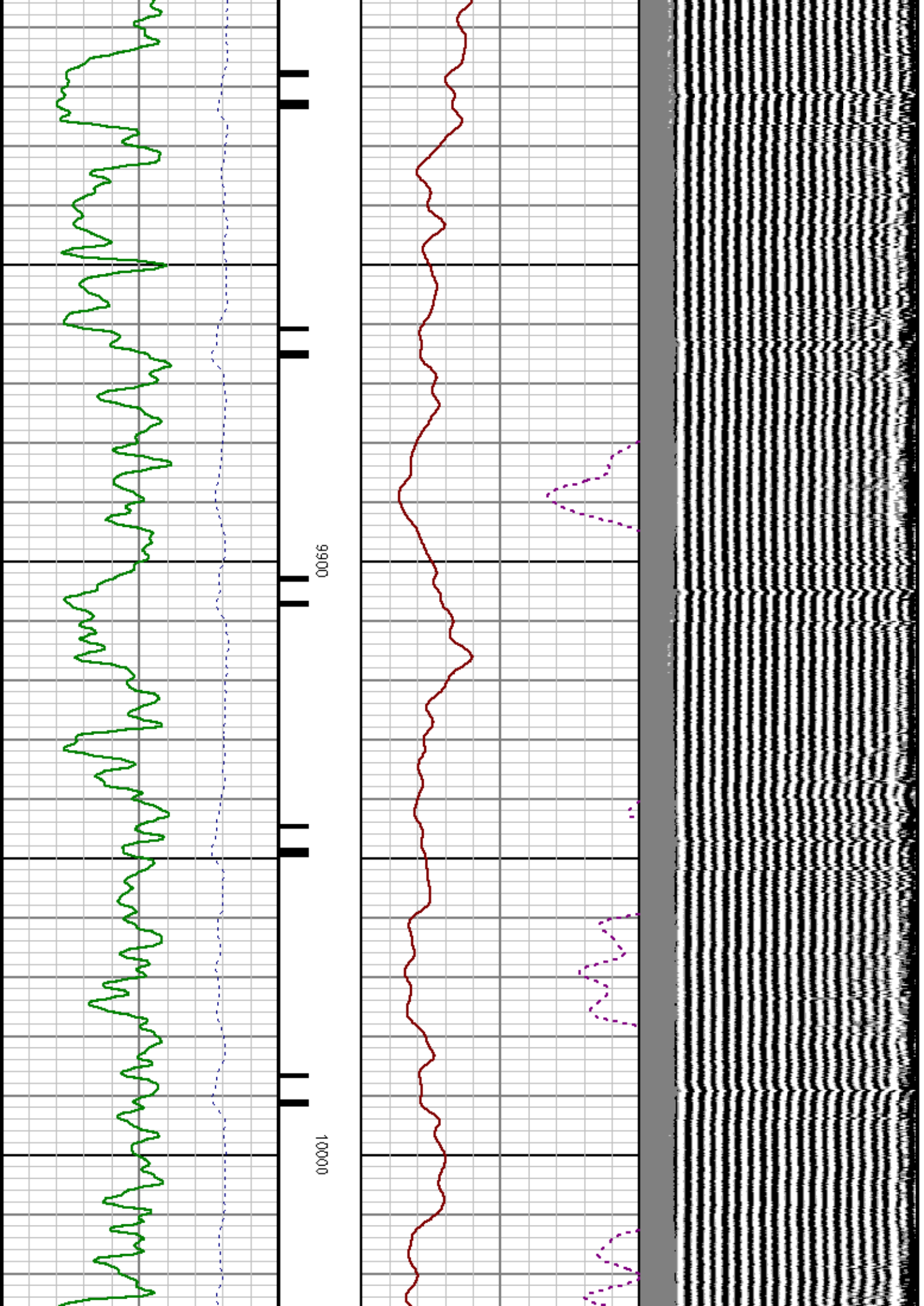


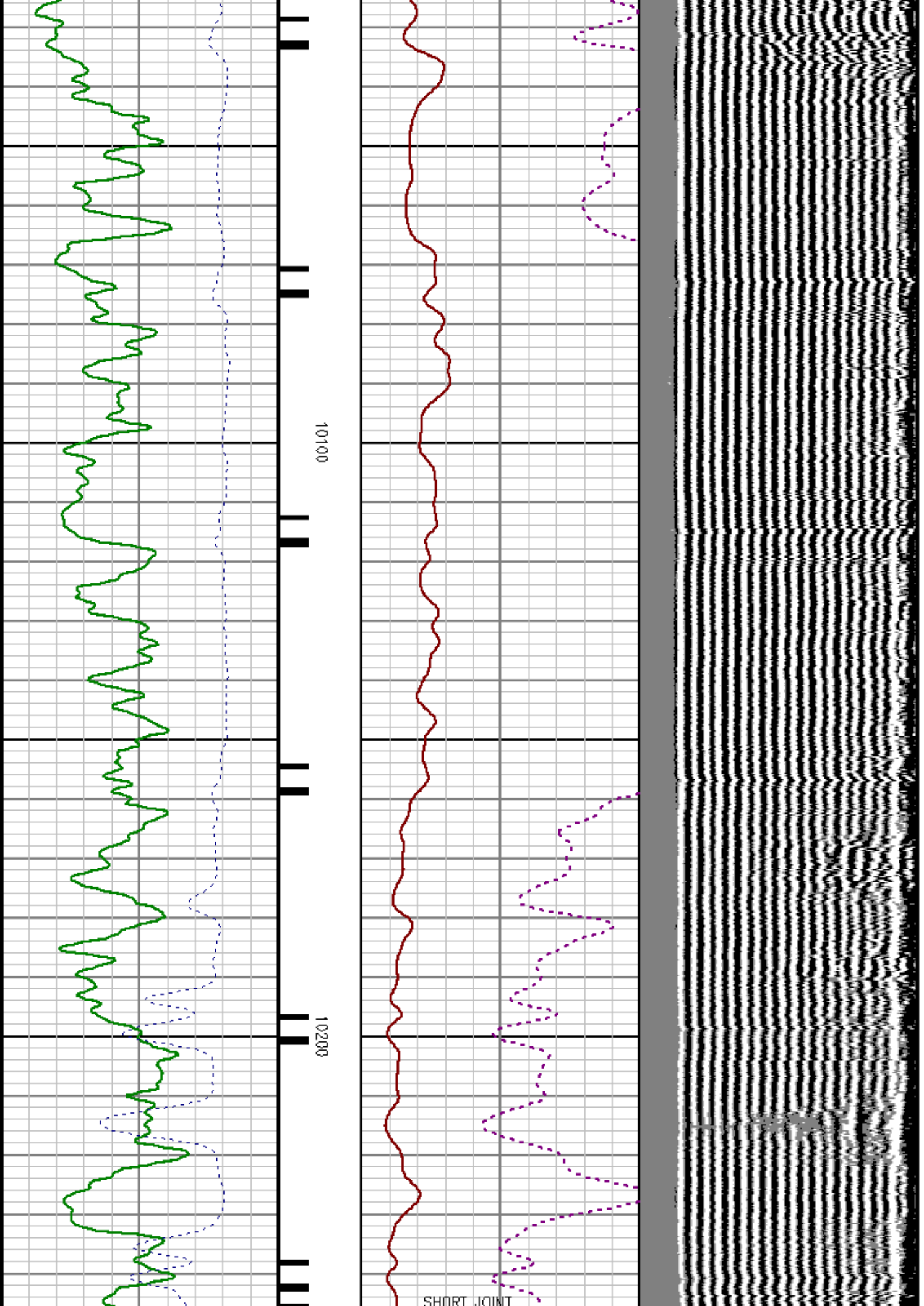


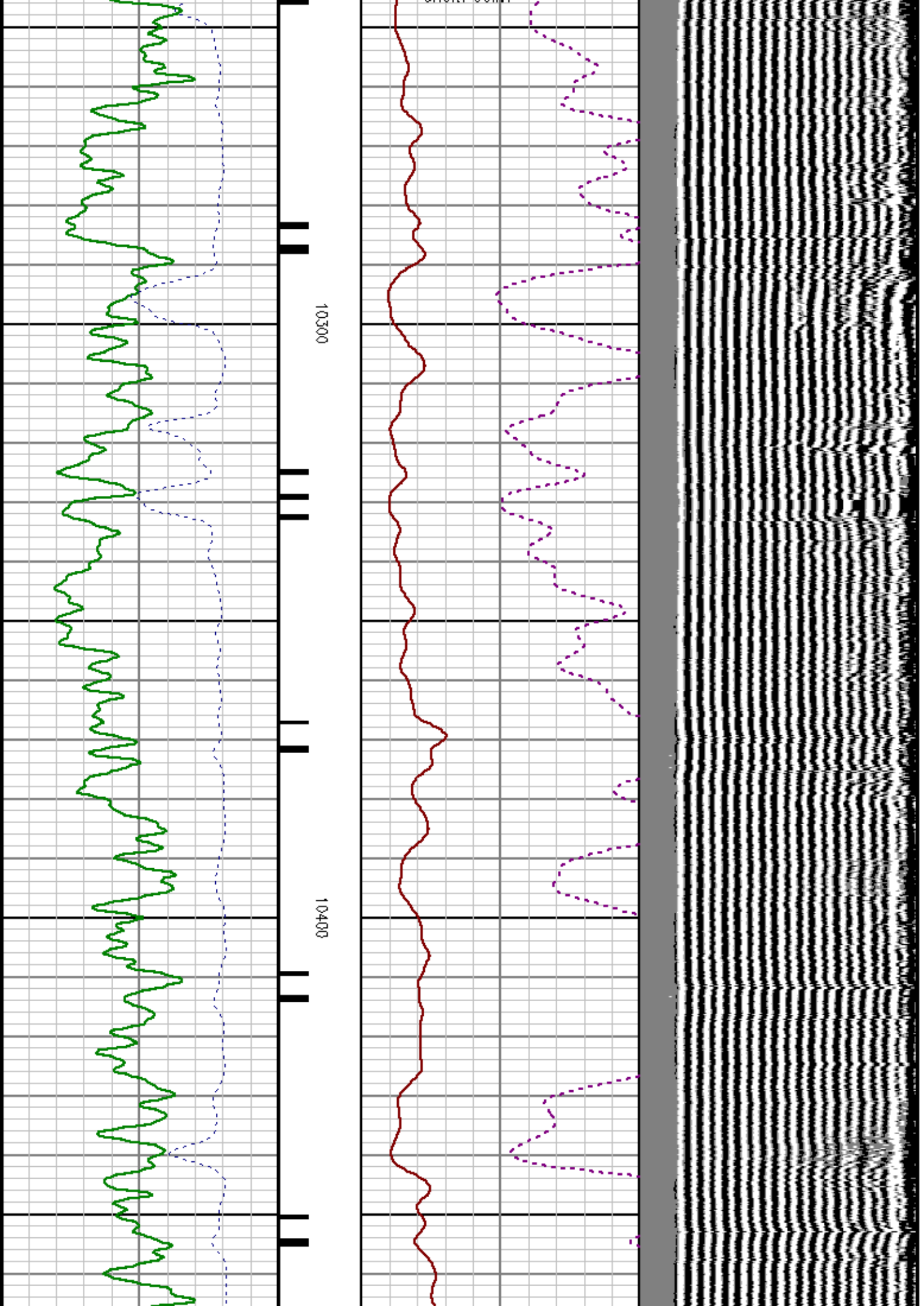


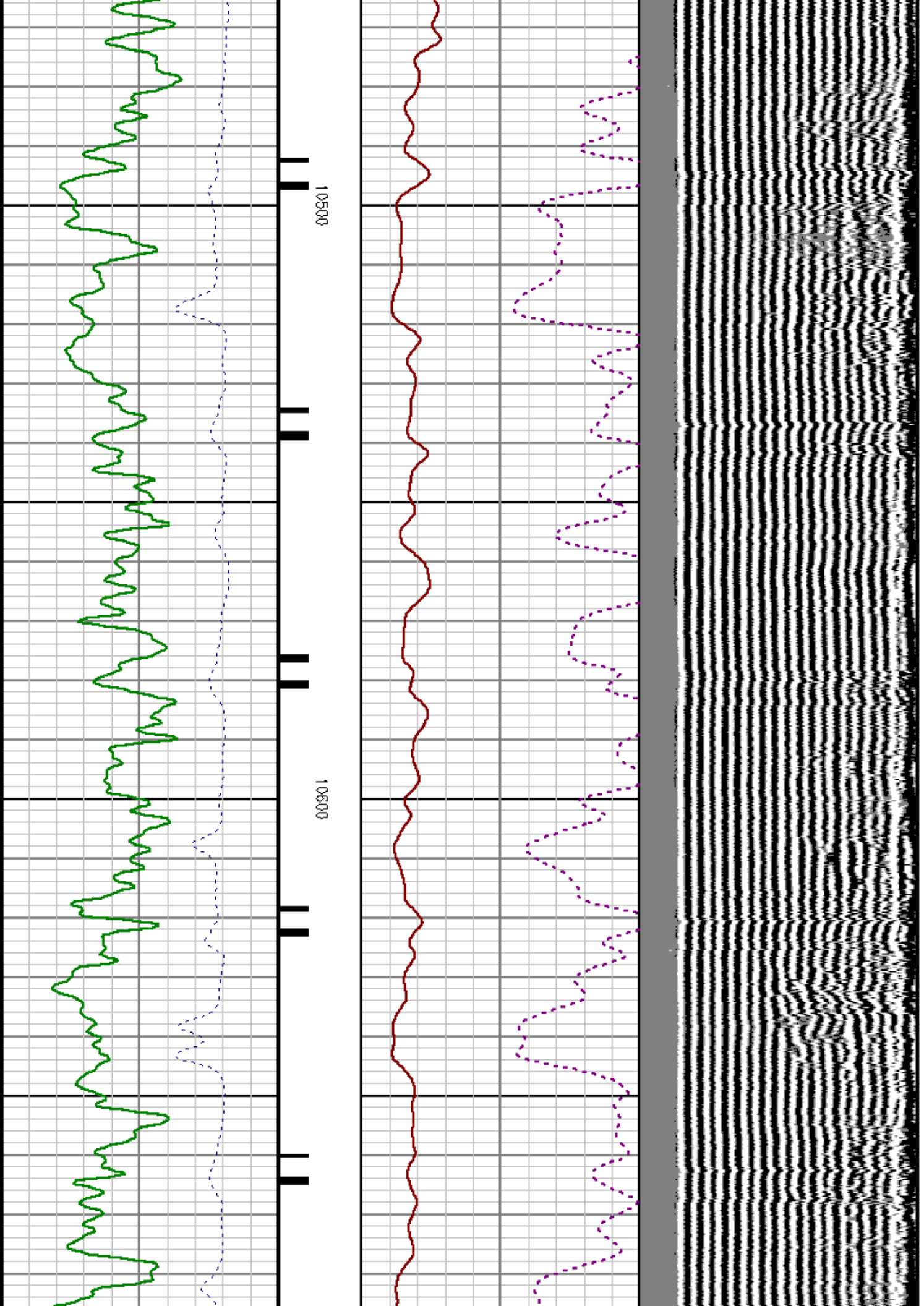


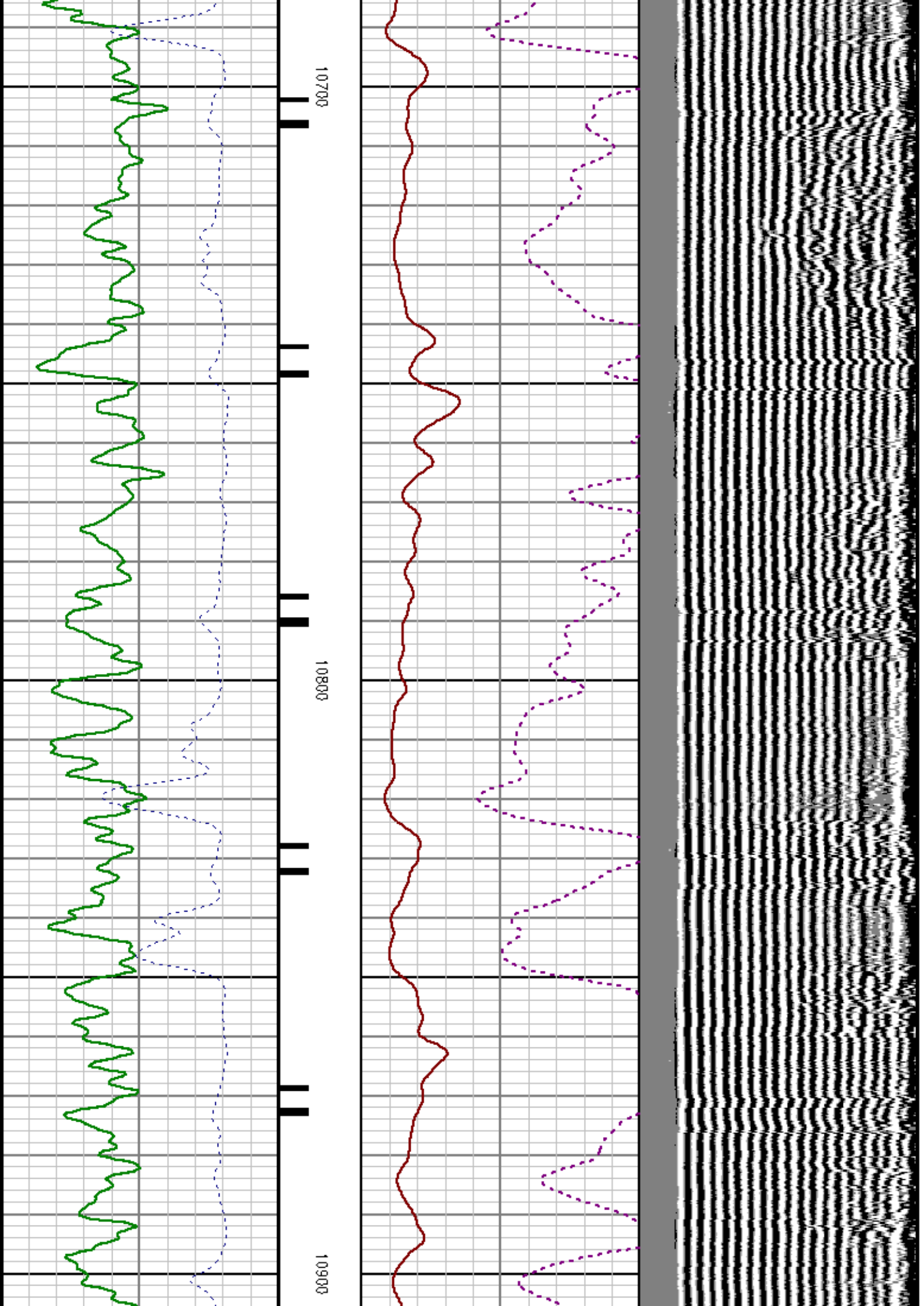


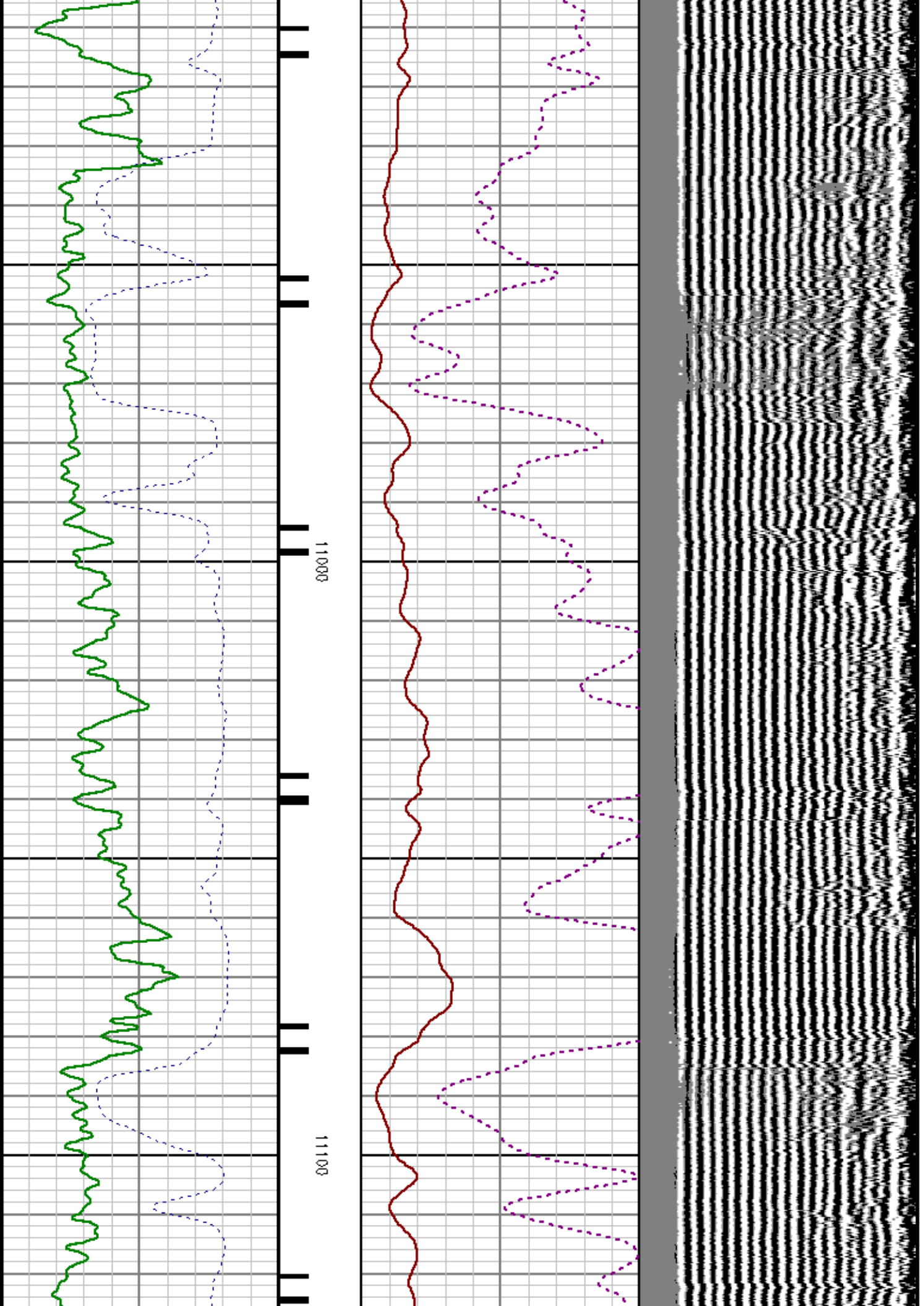


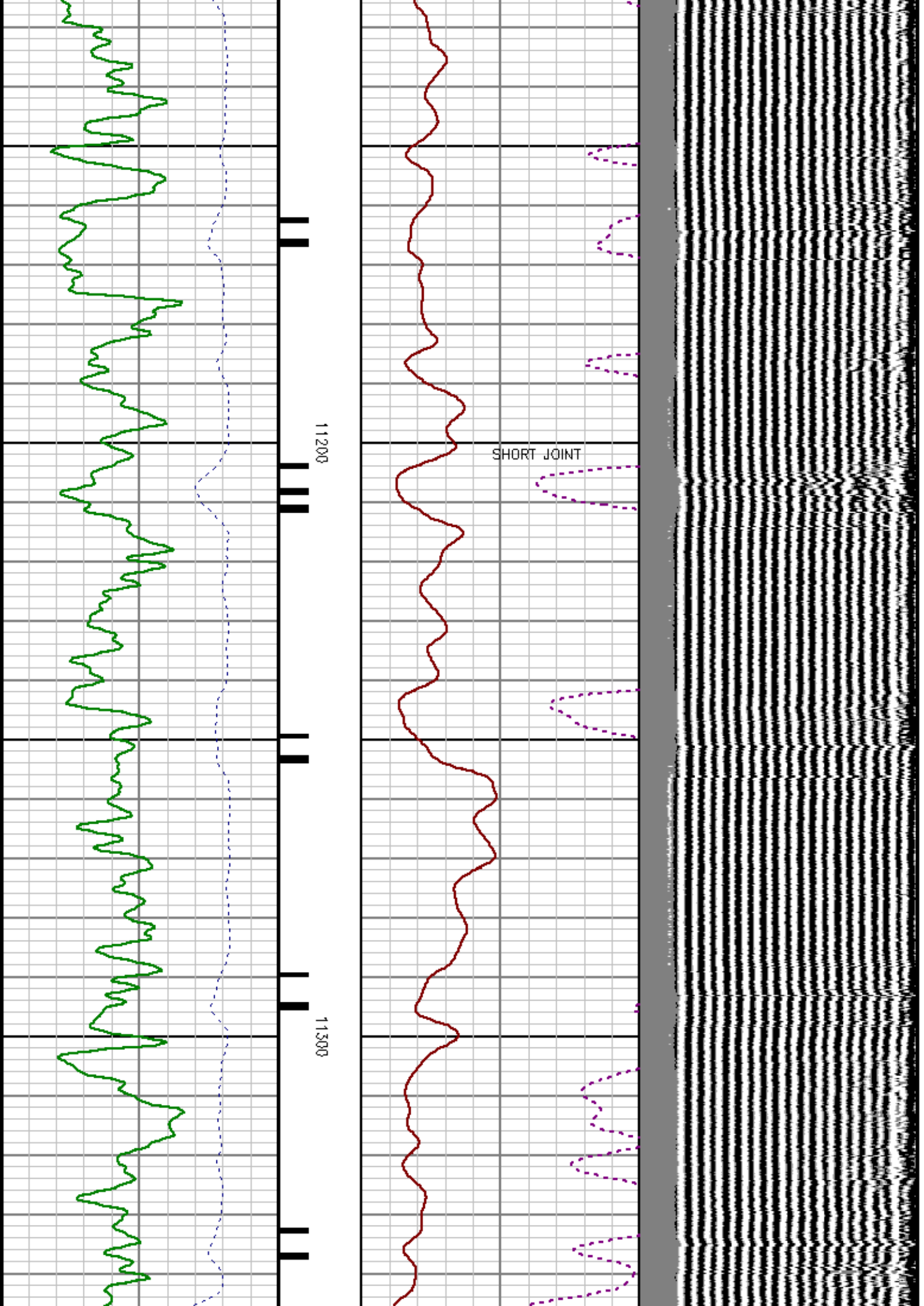


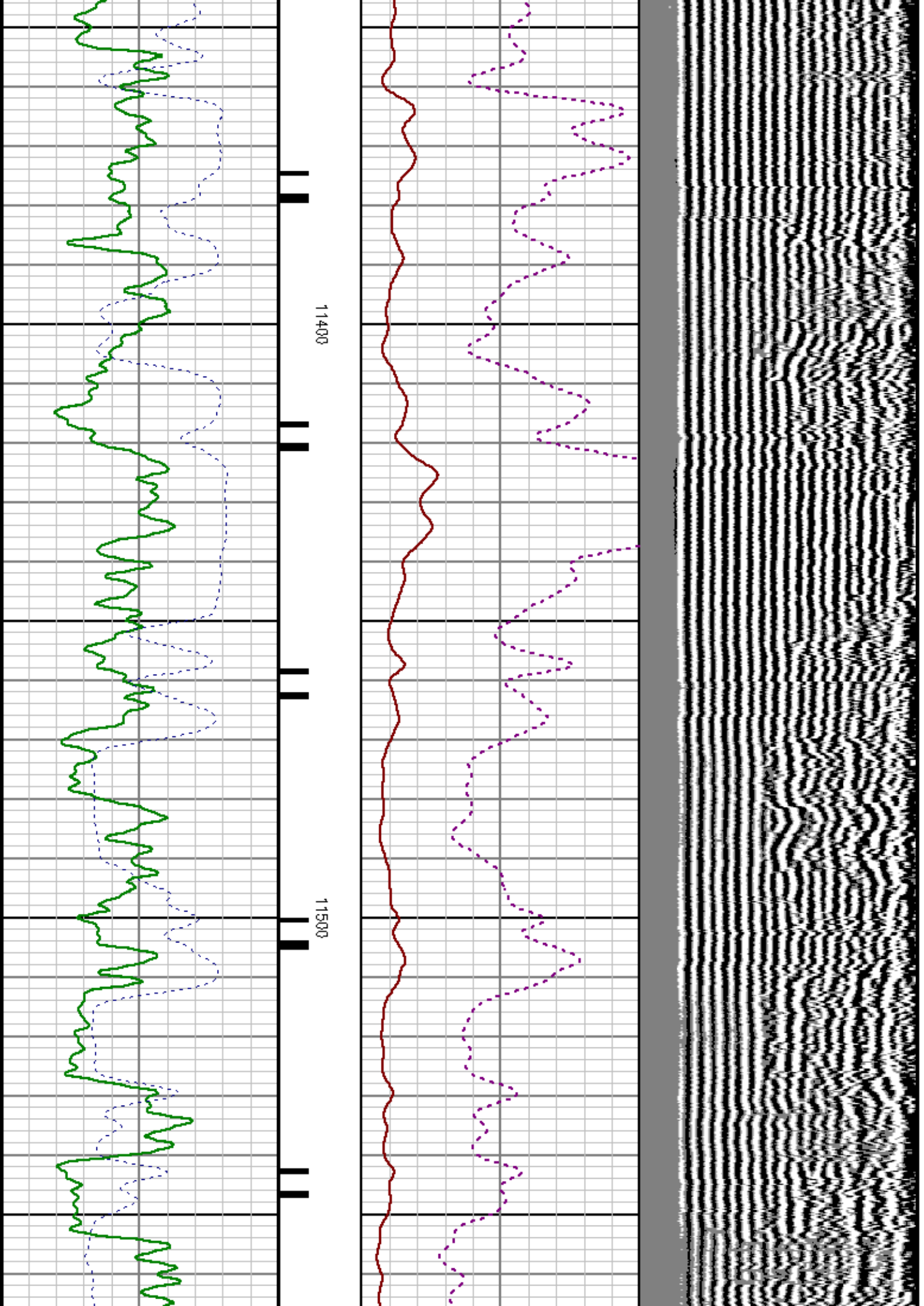


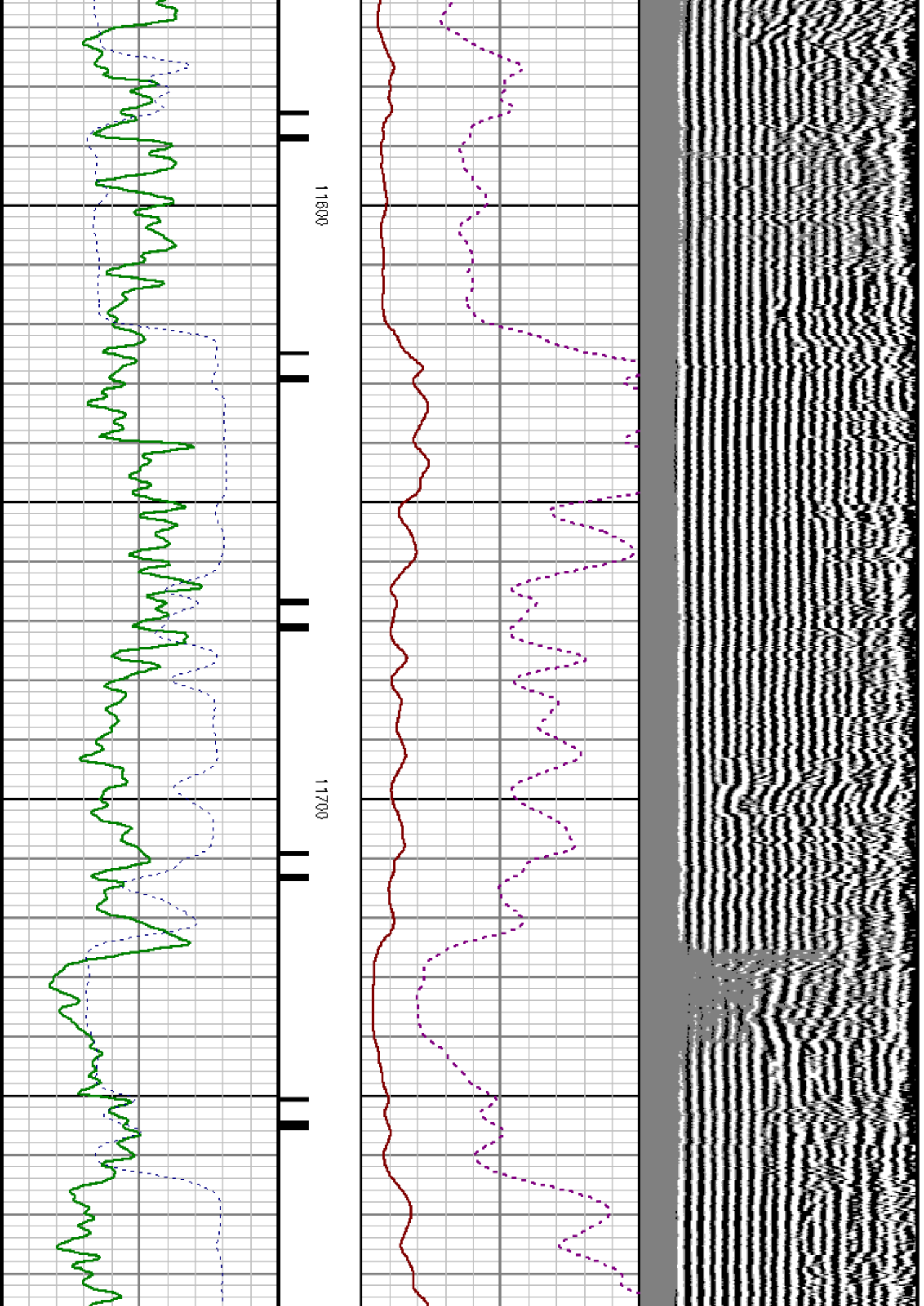


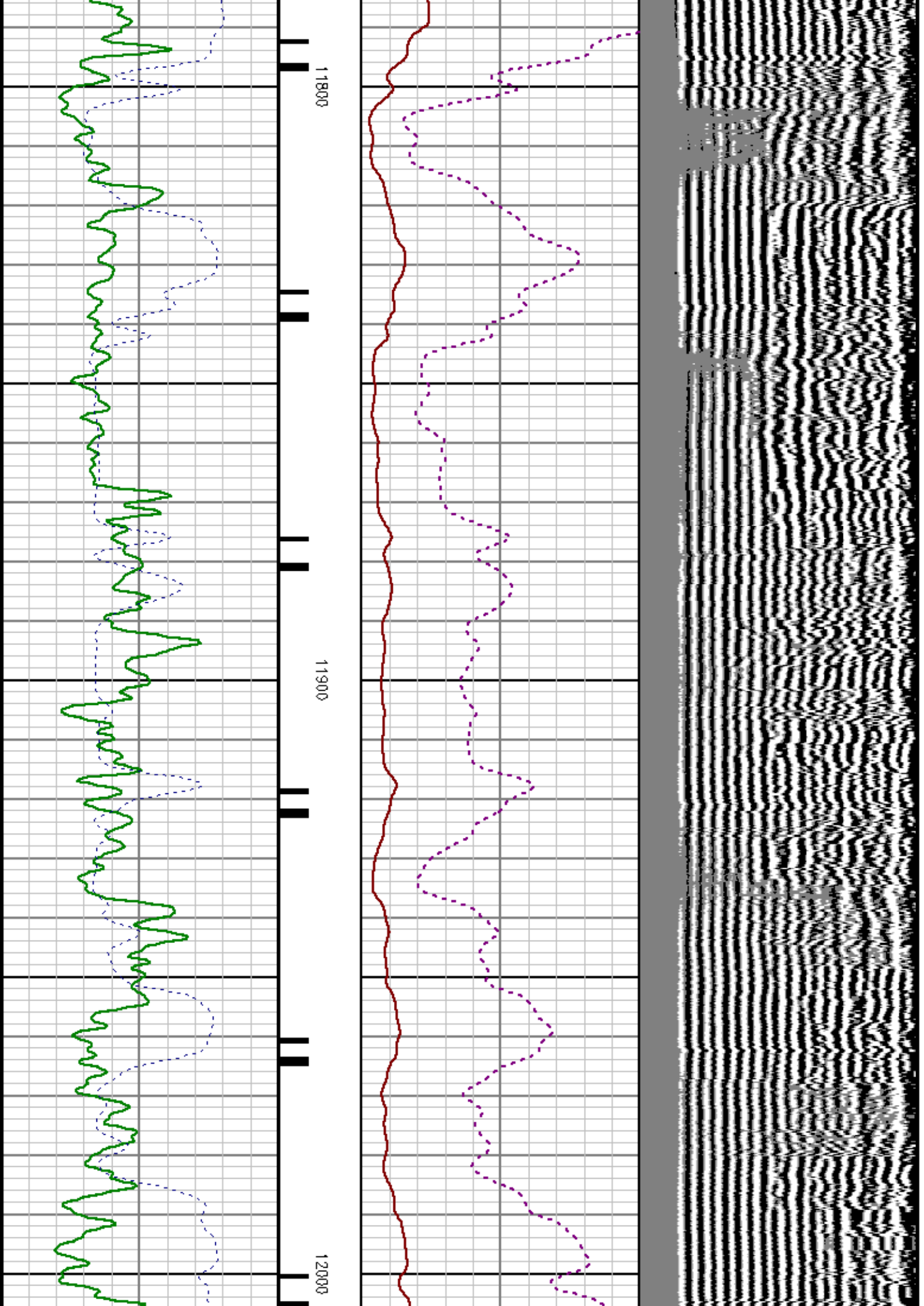


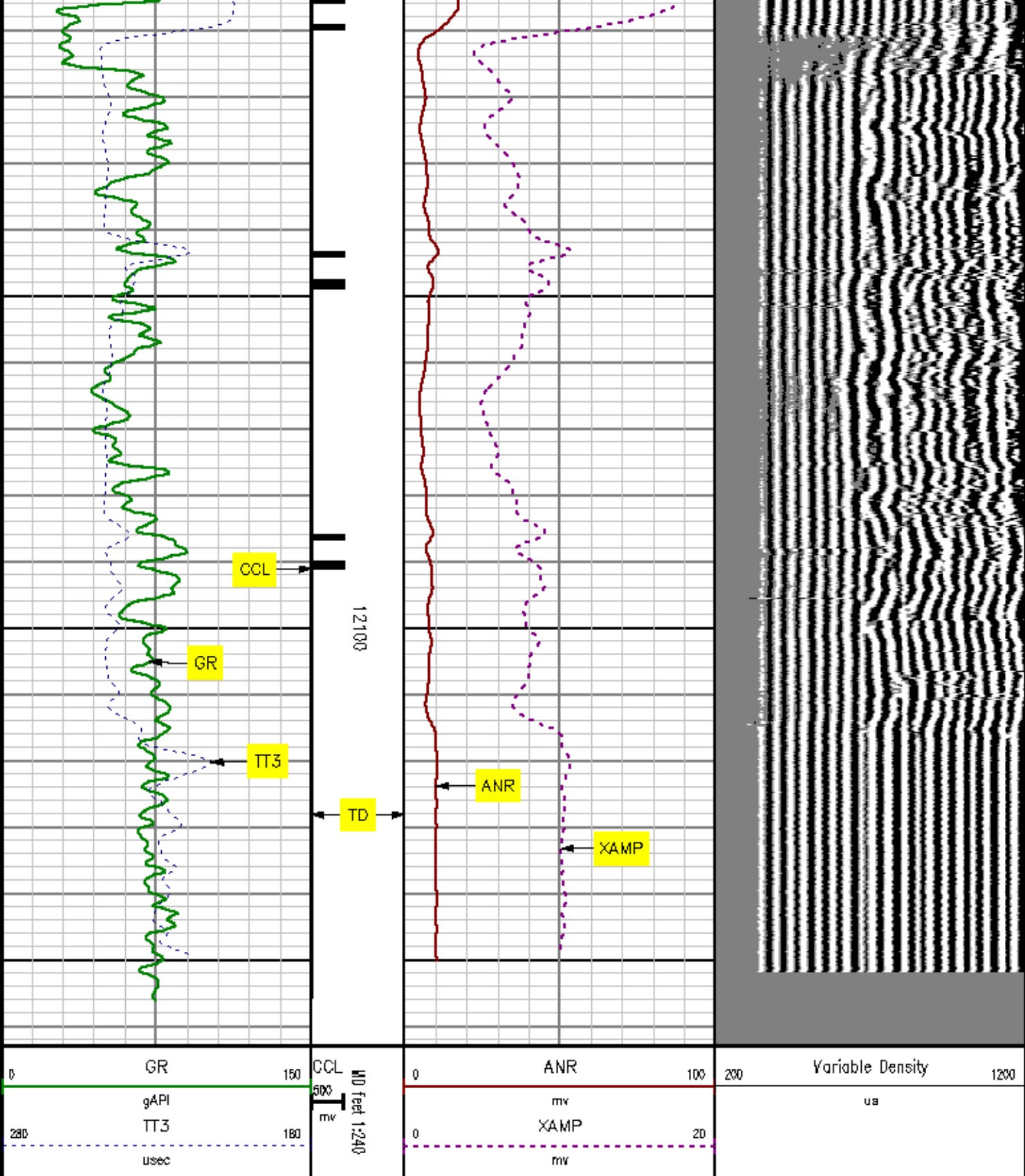












REPEAT SECTION

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	314.263	usec	11749.750	12013.000
RAL	Amp Gate Start Near	197.754	usec	11749.750	12013.000
RAL	Amp Gate Start Radial	197.754	usec	11749.750	12013.000
RAL	Amp Gate Width Far	25.000	usec	11749.750	12013.000
RAL	Amp Gate Width Near	25.000	usec	11749.750	12013.000
RAL	Amp Gate Width Radial	25.000	usec	11749.750	12013.000
RAL	casing od	4.500	inches	11749.750	12013.000
RAL	casing wt	15.100	lbm/ft	11749.750	12013.000
RAL	FB Start Far	289.263	usec	11749.750	12013.000
RAL	FB Start Near	172.754	usec	11749.750	12013.000
RAL	FB Start Radial	172.754	usec	11749.750	12013.000
RAL	FB Thresh Far	15.000	mv	11749.750	12013.000
RAL	FB Thresh Near	10.000	mv	11749.750	12013.000
RAL	FB Thresh Radial	10.000	mv	11749.750	12013.000
RAL	Fluid Travel Time	200.000	usec/ft	11749.750	12012.937

DEPTH OFFSETS
(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES									
		ACAL	ANR	AR1	AR2	AR3	AR4	AR5	AR6		
1426XA	-12.360	AR7	ARB	CHV	FPR2	FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP				
		AFAR	SIG	TT5							
1426XA	-11.360										
1426XA	-7.250										
1426XA	-5.390										
1426XA	0.000										

Created by : RAL, v4.8.007

Plotted by : PlotMgr, v5.4.504

Company : EXXONMOBIL PRODUCTION COMPANY

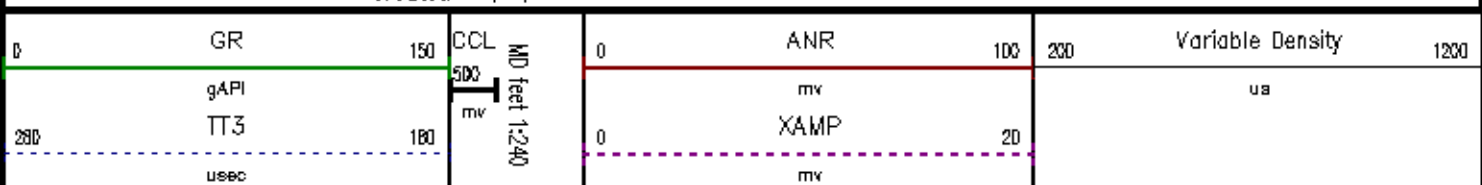
Well : FRU 197-28A8

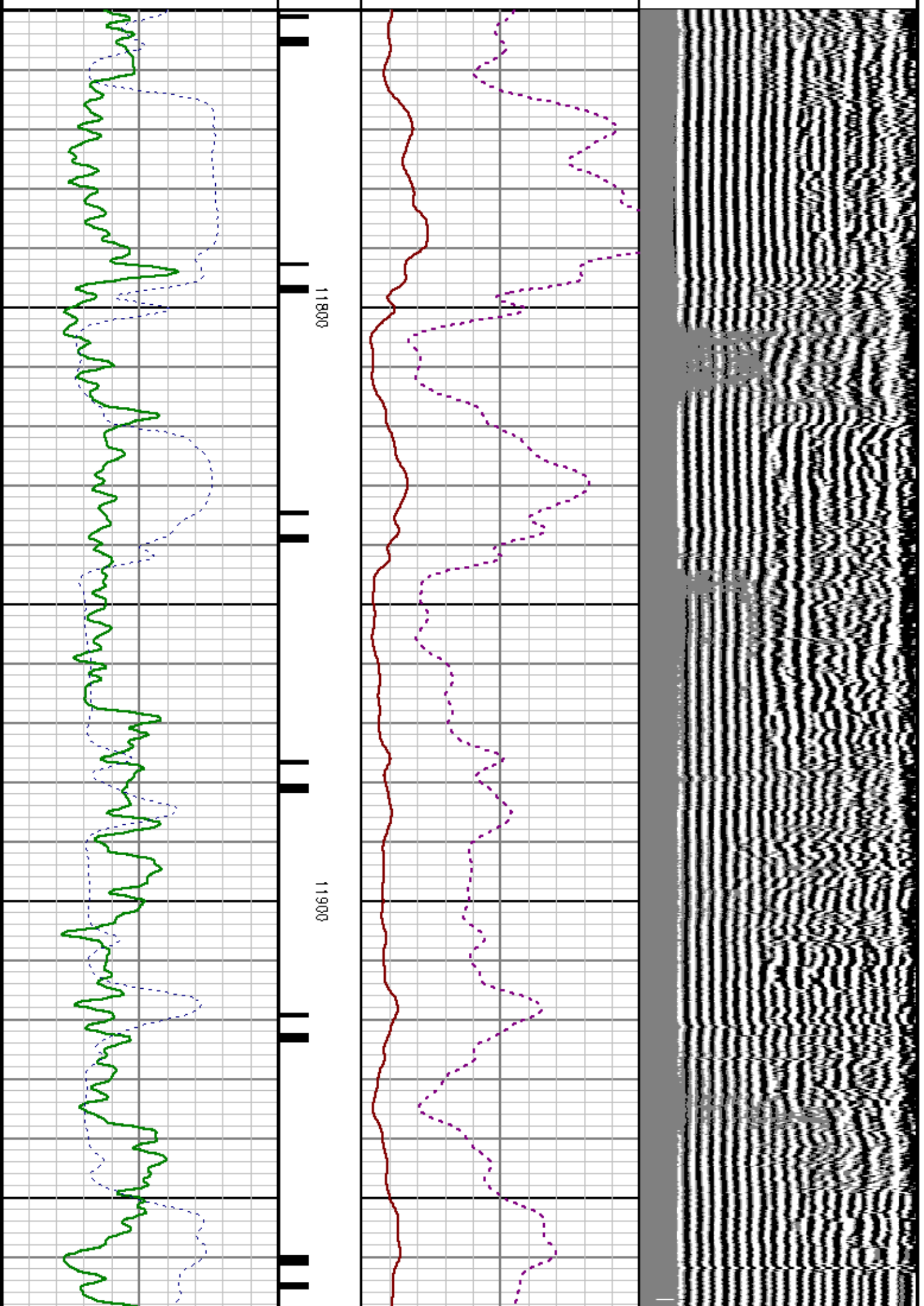
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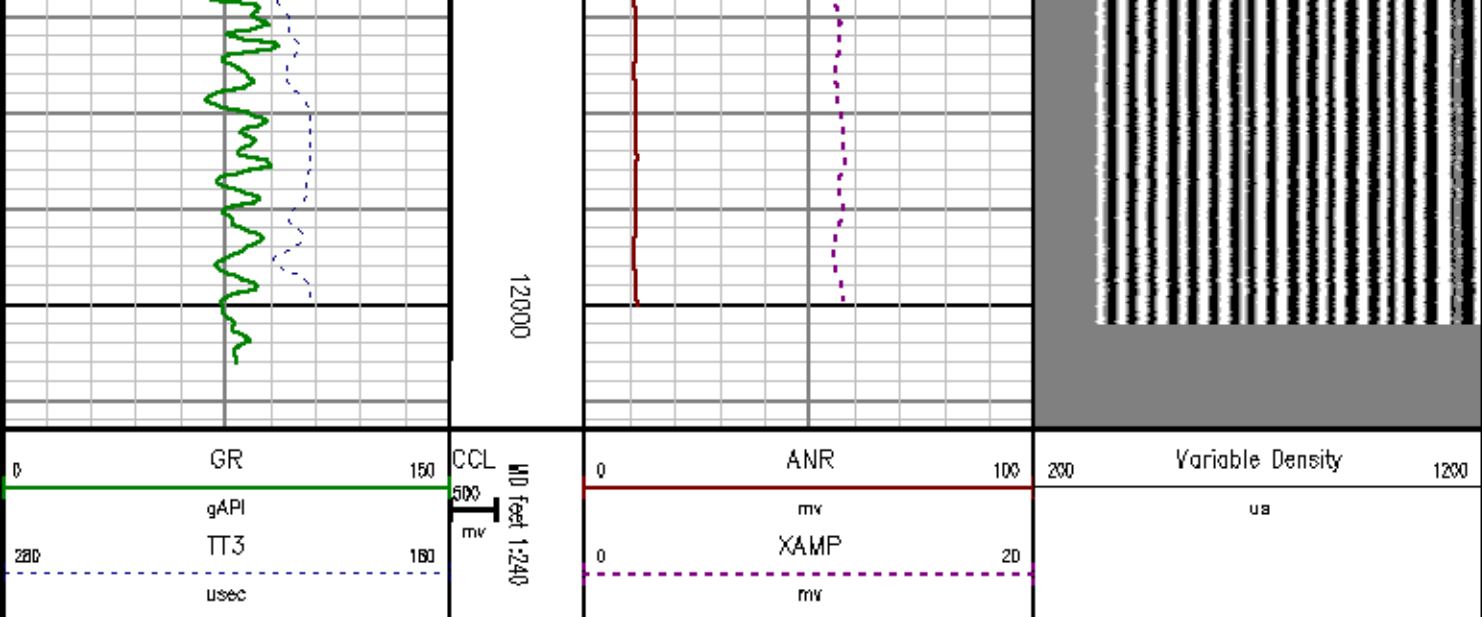
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Interval : 11750.00 - 12013.00 feet UP

Created : 9/10/2010 4:29:16 AM







FREE PIPE SECTION

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	314.263	usec	139.000	259.187
RAL	Amp Gate Start Near	197.754	usec	139.000	259.187
RAL	Amp Gate Start Radial	197.754	usec	139.000	259.187
RAL	Amp Gate Width Far	25.000	usec	139.000	259.187
RAL	Amp Gate Width Near	25.000	usec	139.000	259.187
RAL	Amp Gate Width Radial	25.000	usec	139.000	259.187
RAL	casing od	4.500	inches	139.000	259.187
RAL	casing wt	15.100	lbm/ft	139.000	259.187
RAL	FB Start Far	289.263	usec	139.000	259.187
RAL	FB Start Near	172.754	usec	139.000	259.187
RAL	FB Start Radial	172.754	usec	139.000	259.187
RAL	FB Thresh Far	15.000	mv	139.000	259.187
RAL	FB Thresh Near	10.000	mv	139.000	259.187
RAL	FB Thresh Radial	10.000	mv	139.000	259.187
RAL	Fluid Travel Time	200.000	usec/ft	139.281	259.187

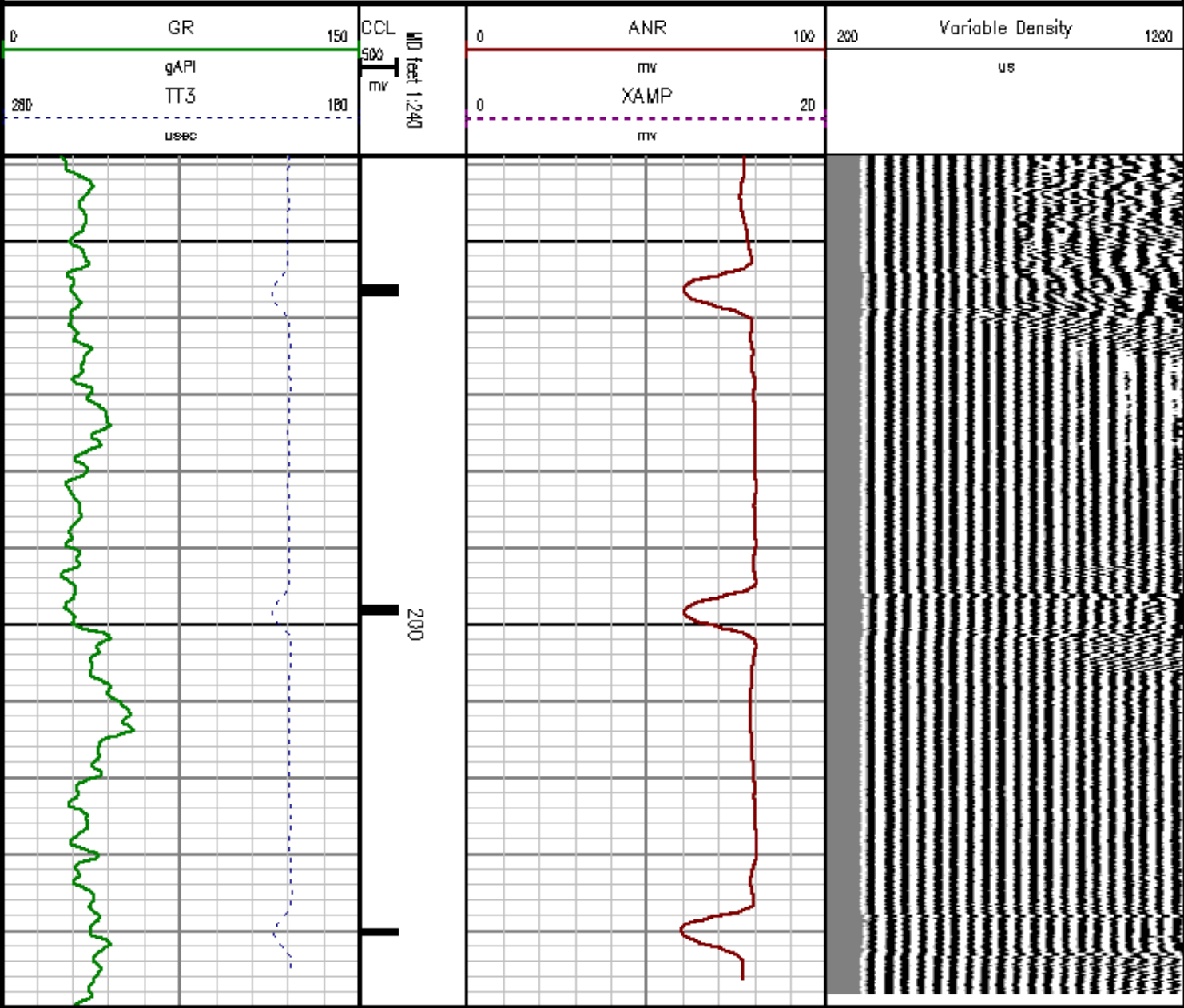
DEPTH OFFSETS

(for Acquired Curves)

(not required curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES							
1426XA	-12.360	ACAL	ANR	AR1	AR2	AR3	AR4		
		AR5	AR6	AR7	ARB	CHV	FPR2		
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3		
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP		
1426XA	-11.360	AFAR	SIG	TT5					
1426XA	-7.250	GCL							
1426XA	-5.390	GR							
1426XA	0.000	NEU							

Created by : RAL, v4.8.007
 Plotted by : PlotMgr, v5.4.504
 Company : EXXONMOBIL PRODUCTION COMPANY
 Well : FRU 197-28A8
 File Name : D:\WELLDATA\A8RAD\FREE.XTF
 Mode : PlotMgr 5.4.504
 Interval : 139.00 - 250.00 feet DOWN
 Created : 9/10/2010 3:36:43 AM



0	GR	150	CCL	0	ANR	100	200	Variable Density	1200
	gAPI		500		mv			ua	
200	TT3	180	mv	0	XAMP	20			
	usec				mv				

CALIBRATION SUMMARY

RALSHP

Shop Calibration: C:\case\calver\RALSHP\957S11_shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Wed Sep 08 12:19:53 2010 TOOL SERIES: 1426XA ASSET: 957 SEQ: S11

Tool Delay [usec]	<input type="text" value="-54.00"/>	Tank OD in	<input type="text" value="5.50"/>	Tank Wt lbm/ft	<input type="text" value="15.50"/>	Tank ID in	<input type="text" value="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	<input type="text" value="217"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="166"/>	<input type="text" value="25"/>	<input type="text" value="-0.274"/>	<input type="text" value="100.00"/>	<input type="text" value="0.24"/>
3 Ft. Receiver	<input type="text" value="217"/>	<input type="text" value="216"/>	<input type="text" value="25"/>	<input type="text" value="148"/>	<input type="text" value="25"/>	<input type="text" value="-0.001"/>	<input type="text" value="100.00"/>	<input type="text" value="0.23"/>
5 Ft. Receiver	<input type="text" value="325"/>	<input type="text" value="324"/>	<input type="text" value="25"/>	<input type="text" value="252"/>	<input type="text" value="25"/>	<input type="text" value="0.069"/>	<input type="text" value="150.00"/>	<input type="text" value="0.26"/>
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Radial #2	<input type="text" value="220"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="155"/>	<input type="text" value="25"/>	<input type="text" value="-0.294"/>	<input type="text" value="100.00"/>	<input type="text" value="0.23"/>
Radial #3	<input type="text" value="219"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="155"/>	<input type="text" value="25"/>	<input type="text" value="-0.216"/>	<input type="text" value="100.00"/>	<input type="text" value="0.23"/>
Radial #4	<input type="text" value="217"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="155"/>	<input type="text" value="25"/>	<input type="text" value="0.152"/>	<input type="text" value="100.00"/>	<input type="text" value="0.23"/>
Radial #5	<input type="text" value="215"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="155"/>	<input type="text" value="25"/>	<input type="text" value="0.090"/>	<input type="text" value="100.00"/>	<input type="text" value="0.23"/>
Radial #6	<input type="text" value="214"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="155"/>	<input type="text" value="25"/>	<input type="text" value="0.236"/>	<input type="text" value="100.00"/>	<input type="text" value="0.23"/>
Radial #7	<input type="text" value="215"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="155"/>	<input type="text" value="25"/>	<input type="text" value="0.100"/>	<input type="text" value="100.00"/>	<input type="text" value="0.23"/>
Radial #8	<input type="text" value="217"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="155"/>	<input type="text" value="25"/>	<input type="text" value="0.022"/>	<input type="text" value="100.00"/>	<input type="text" value="0.23"/>

RALFLD

Well Site Calibration: C:\case\calver\RALFLD\957S11 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Wed Sep 08 12:21:13 2010 TOOL SERIES: 1426XA ASSET: 957 SEQ: S11

Tool Delay [usec]	<input type="text" value="-54.00"/>	Casing OD in	<input type="text" value="4.50"/>	Casing Wt lbm/ft	<input type="text" value="15.10"/>	Casing ID in	<input type="text" value="3.83"/>
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RECEIVER	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Full Amp. [mV]	Wellsite Factor	Amp. Ref [mV]
CAL Pulse	166	25	-0.050	0.000	1.00	100.000
3 Ft. Receiver	168	25	-0.377			
5 Ft. Receiver	280	25	-0.143			
Radial #1	164	25	-0.328			
Radial #2	164	25	-0.321			
Radial #3	164	25	-0.096			
Radial #4	164	25	-0.197			
Radial #5	164	25	-0.110			
Radial #6	164	25	-0.120			
Radial #7	164	25	-0.198			
Radial #8	164	25	-0.157			

GAMMA RAY

Calibration File: C:\case\calver\GR\45751.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Mon Aug 30 10:46:45 2010 TOOL SERIES: 1426XA ASSET: 457 SEQ: S1

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K DA612	94.49	353.29	0.715	67.54	252.54	185.00

Verification File: C:\case\calver\GR\45751.VP

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Mon Aug 30 10:48:09 2010 TOOL SERIES: 1426XA ASSET: 457 SEQ: S1

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K DA612	96.62	354.81	0.715	69.07	253.64	184.57

TOOL DIAGRAM

OTA SHORT CABLE HEAD

CENTRALIZER

Series	RALCENT
Mnemonic	CENT
Diameter	3.12"
Weight	20.00 lb



27.12'

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

XMIT 18.05'

NEAR RCVR 14.97'

FAR RCVR 13.05'

CCL 11.34'

GR 9.49'

NEU 4.09'

0.00'

Probe GR/CCL/NEU

Series 2459XA
Mnemonic PROB
Diameter 2.75"
Length 9.42'
Measure Point 1.21' NEU
Measure Point 6.80' GR
Measure Point 8.48' CCL

CENTRALIZER

Series RALCENT
Mnemonic CENT
Diameter 3.12"
Weight 20.00 lb

Total Length: 27.12'
Total Weight: Not Available
Max Diameter: 0' 3.12"



Company EXXONMOBIL PRODUCTION COMPANY
Well FRU 197-2BAB
Field FREEDOM UNIT
County RIO BLANCO State COLORADO

File No:
API No:
0510511631000

Location:

2402' FSL & 240' FWL

Elevations

KB 5109 ft
DF 5108 ft
GL 5082 ft

SEC: 28 TWP: 1S RGE: 97W

Baker Atlas

