



# RADIAL ANALYSIS BOND LOG

## Baker Atlas

File No: \_\_\_\_\_ Company: EXXONMOBIL PRODUCTION COMPANY  
 Well: FRU 197-28A6  
 Field: FREEDOM UNIT  
 County: RIO BLANCO State: COLORADO  
 API No: 08103116340000

Location: 2373' FSIL & 235' FILL  
 SEC 28 TWP 15 RGE 97W  
 Other Services: RPA

Permanent Datum: \_\_\_\_\_ G.L. \_\_\_\_\_ Elevation: 6092 ft  
 Log Measured From: \_\_\_\_\_ K.B. \_\_\_\_\_ 27 ft Above P. D.  
 Drill Measured From: KELLY BUSHING Elevations: KB 6108 ft, DF 6108 ft, GL 6092 ft

Date	08-SEPT-2010	
Run	ONE	
Service Order	578648	
Depth Driller	12143 ft	
Depth Logger	12074 ft	
Bottom Logged Interval	12074 ft	
Top Logged Interval	3150 ft	
Time Started	18:00	
Time Finished	20:00	
Operator Rig Time	4 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	N/A	
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	N/A	
Reference Log Date	N/A	
Equipment No.	4271	GRAND JCT, CO
Recorded By	TIM KAUTT	
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.

Bit Size	From	To
8.125 in		

Size	Weight	Grade	From	To
10.75 in	45.5 lbm/ft	J-55	SURFACE	3695 ft
4.5 in	15.1 lbm/ft	P-110	SURFACE	12143 ft

Remarks  
 SHORT JOINTS ARE MARKED ON LOG  
 THE CREW OF 4271 THANKS YOU.

Run	Trip	Tool	Series Number	Serial Number	Position



Created by : RAL, v4.8.007

Plotted by : PlotMgr, v5.4.504

Company : EXXONMOBIL PRODUCTION COMPANY

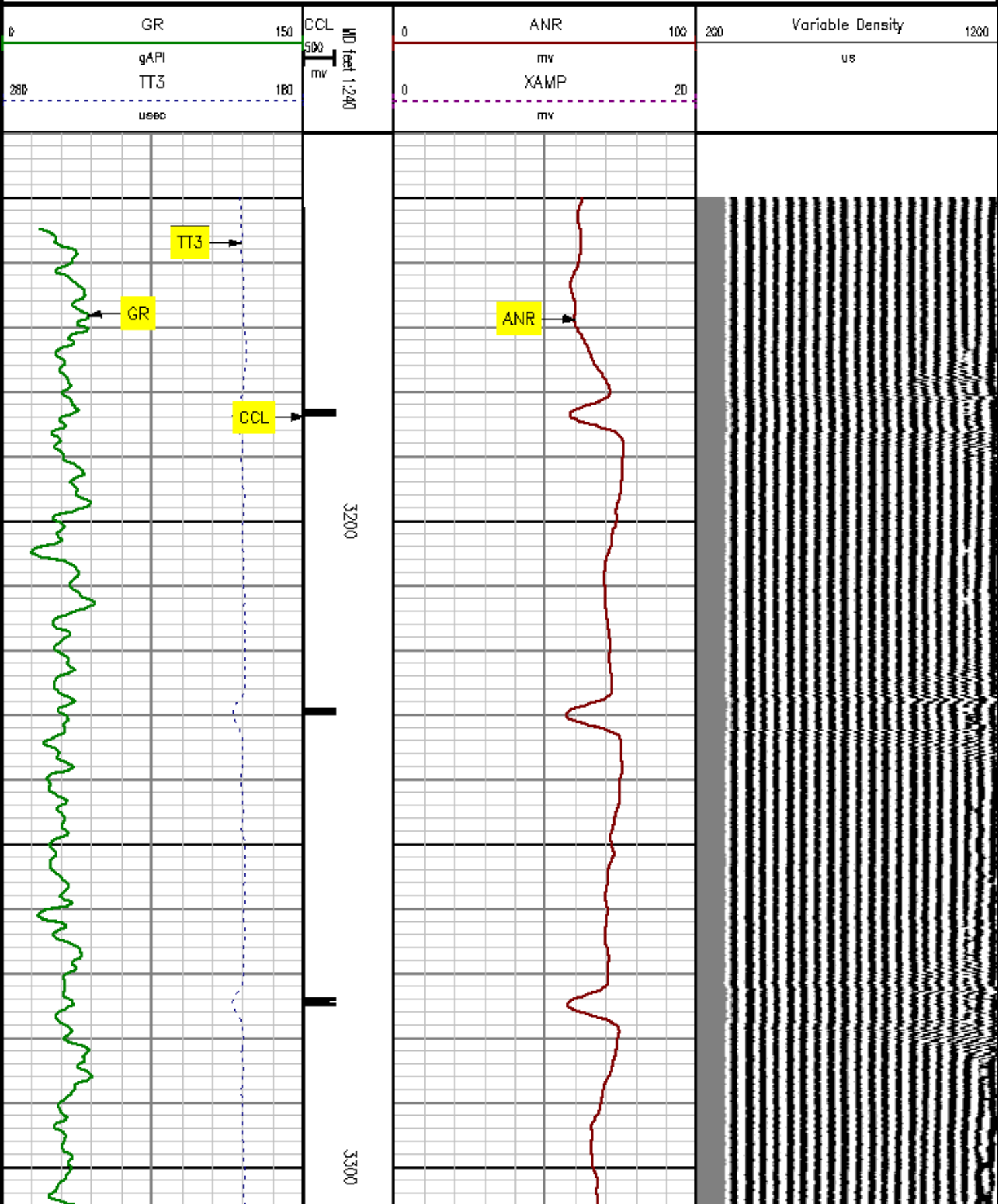
Well : FRU 197-28A6

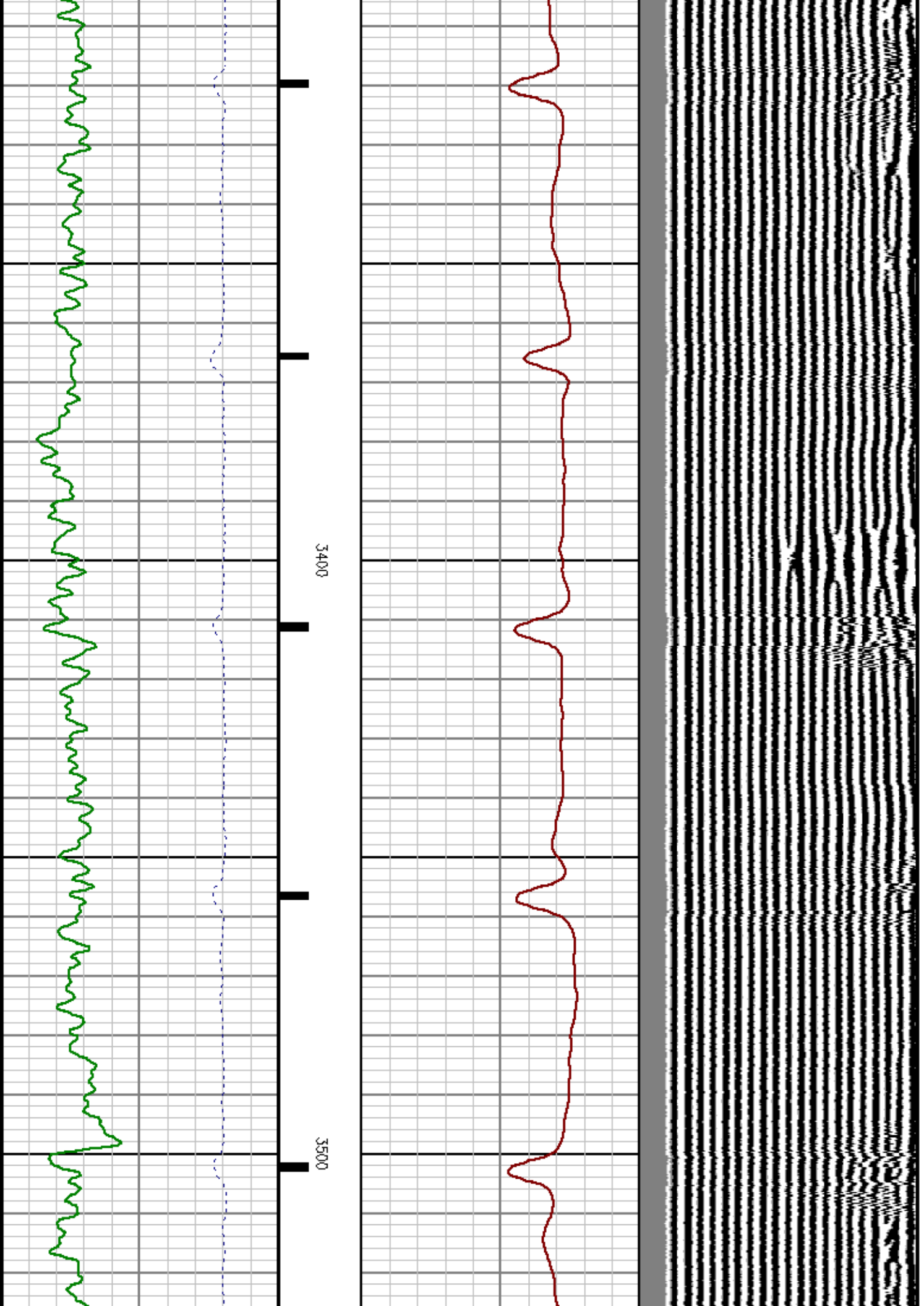
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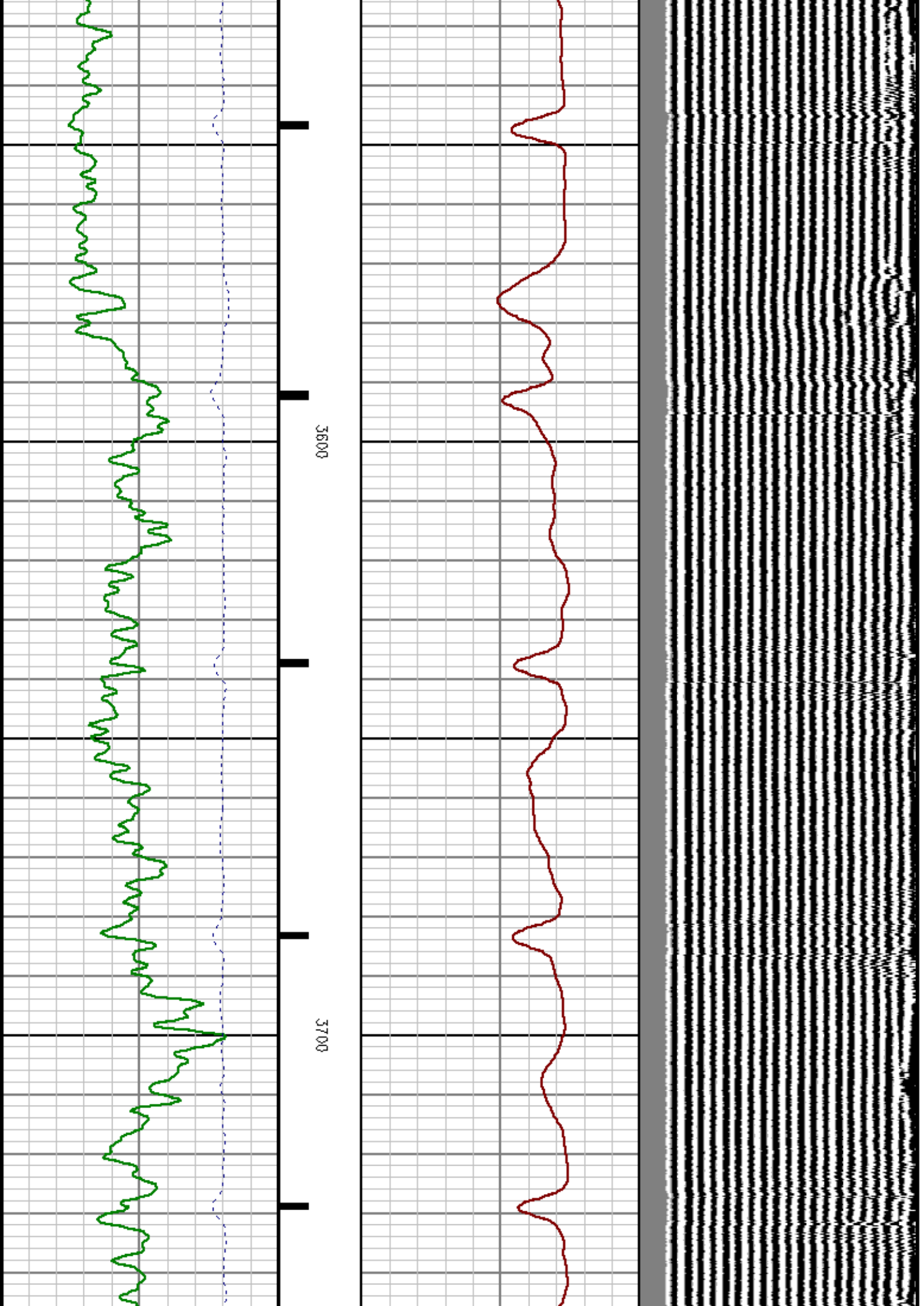
Mode : PlotMgr 5.4.504

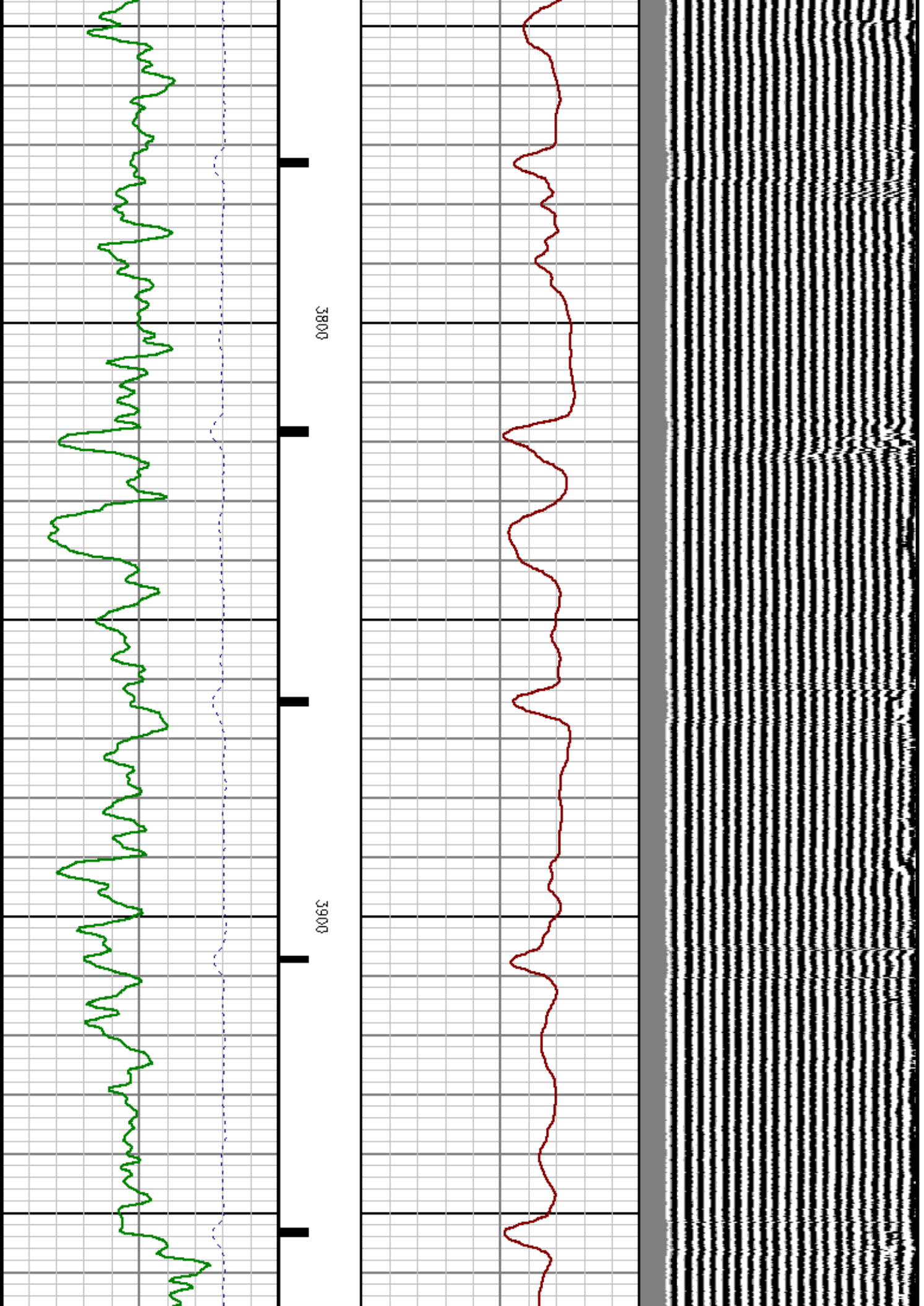
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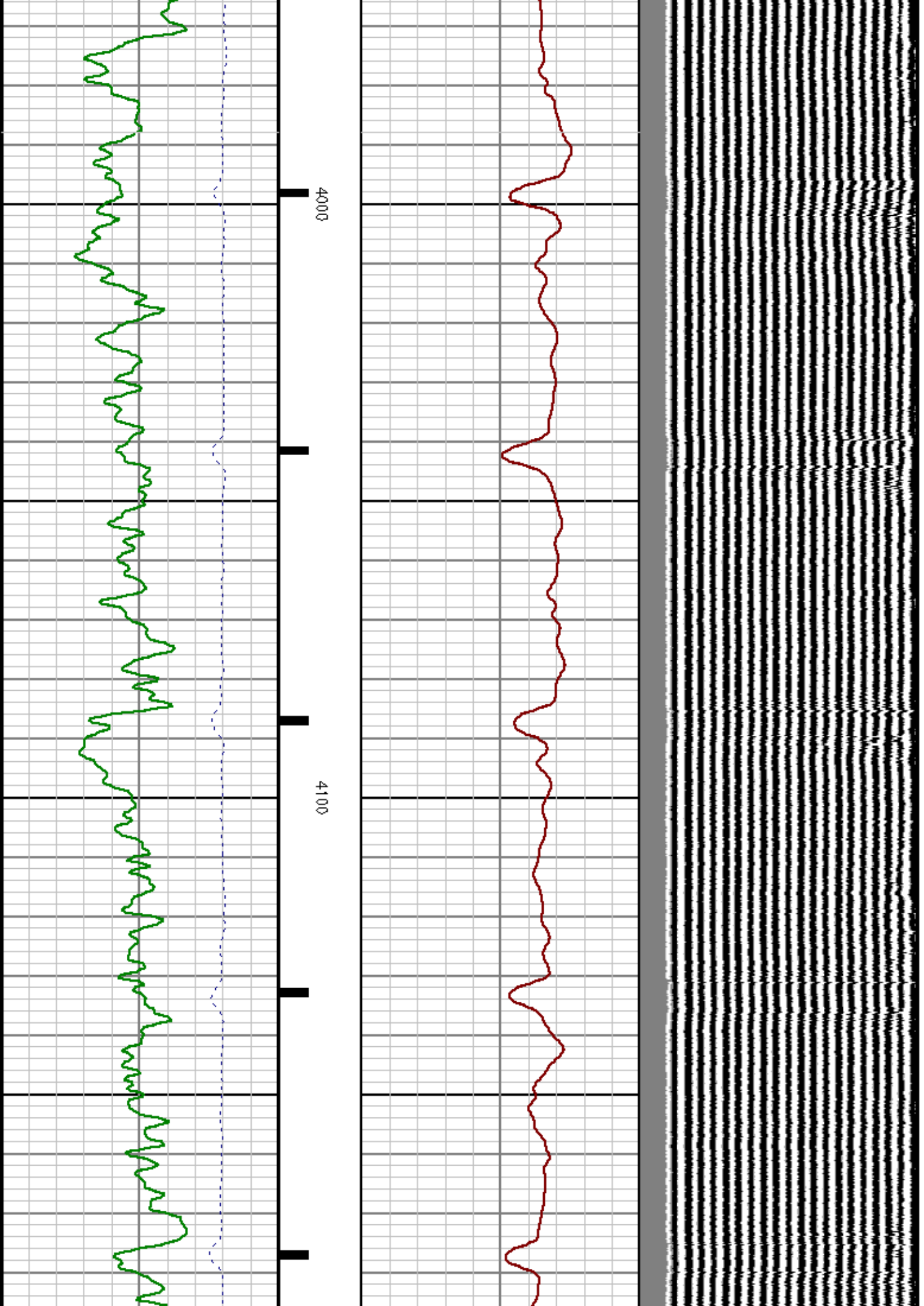
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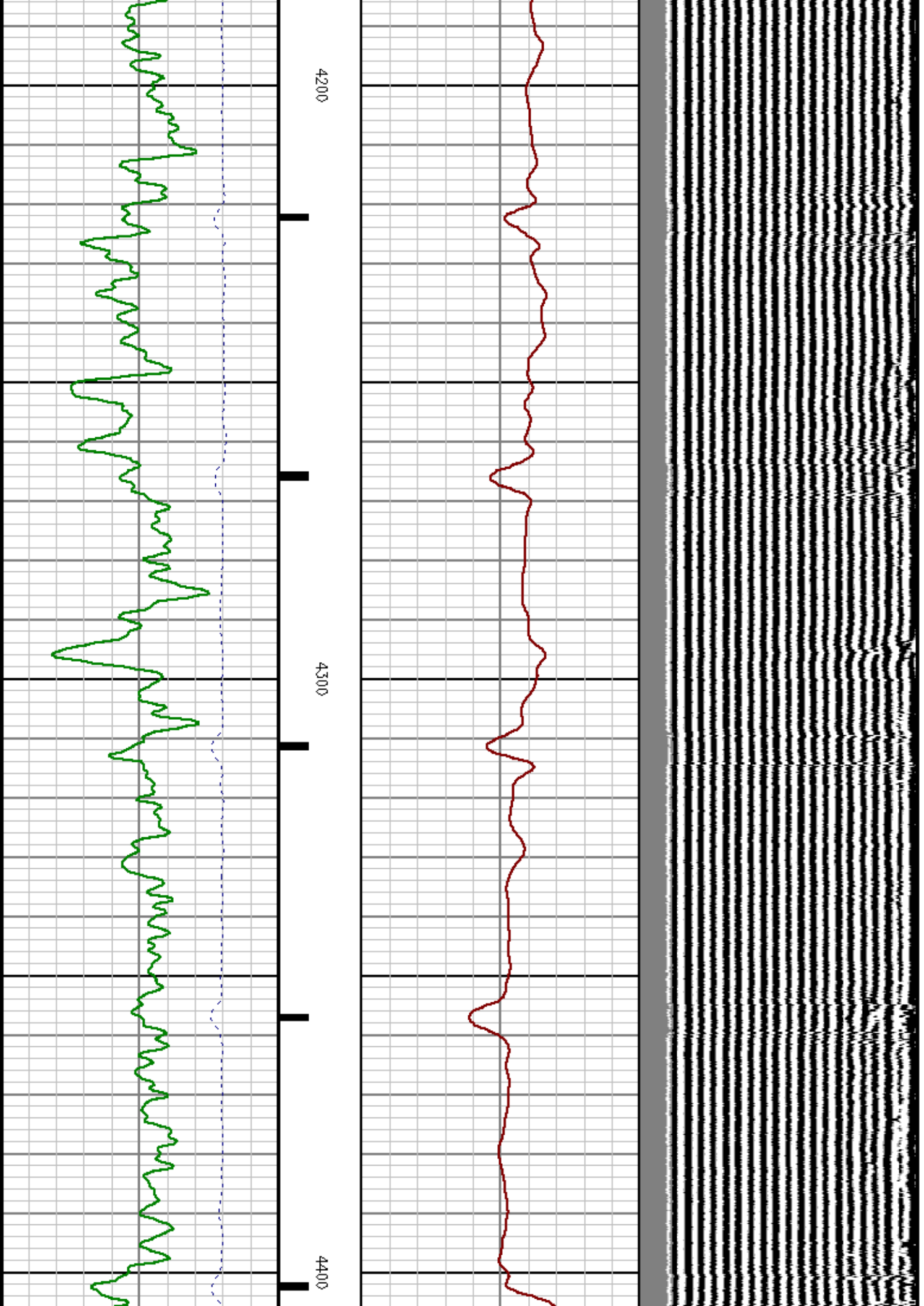


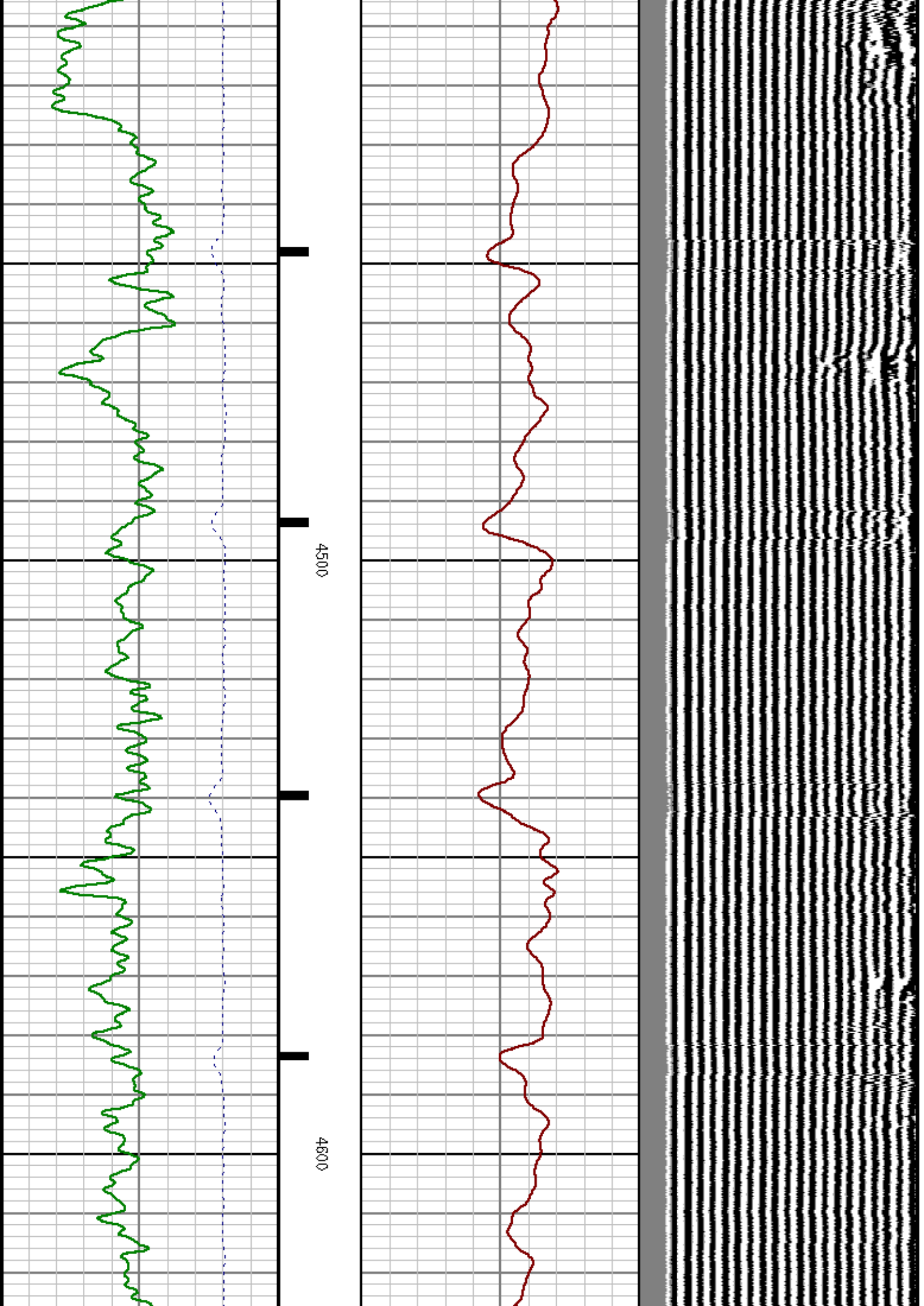


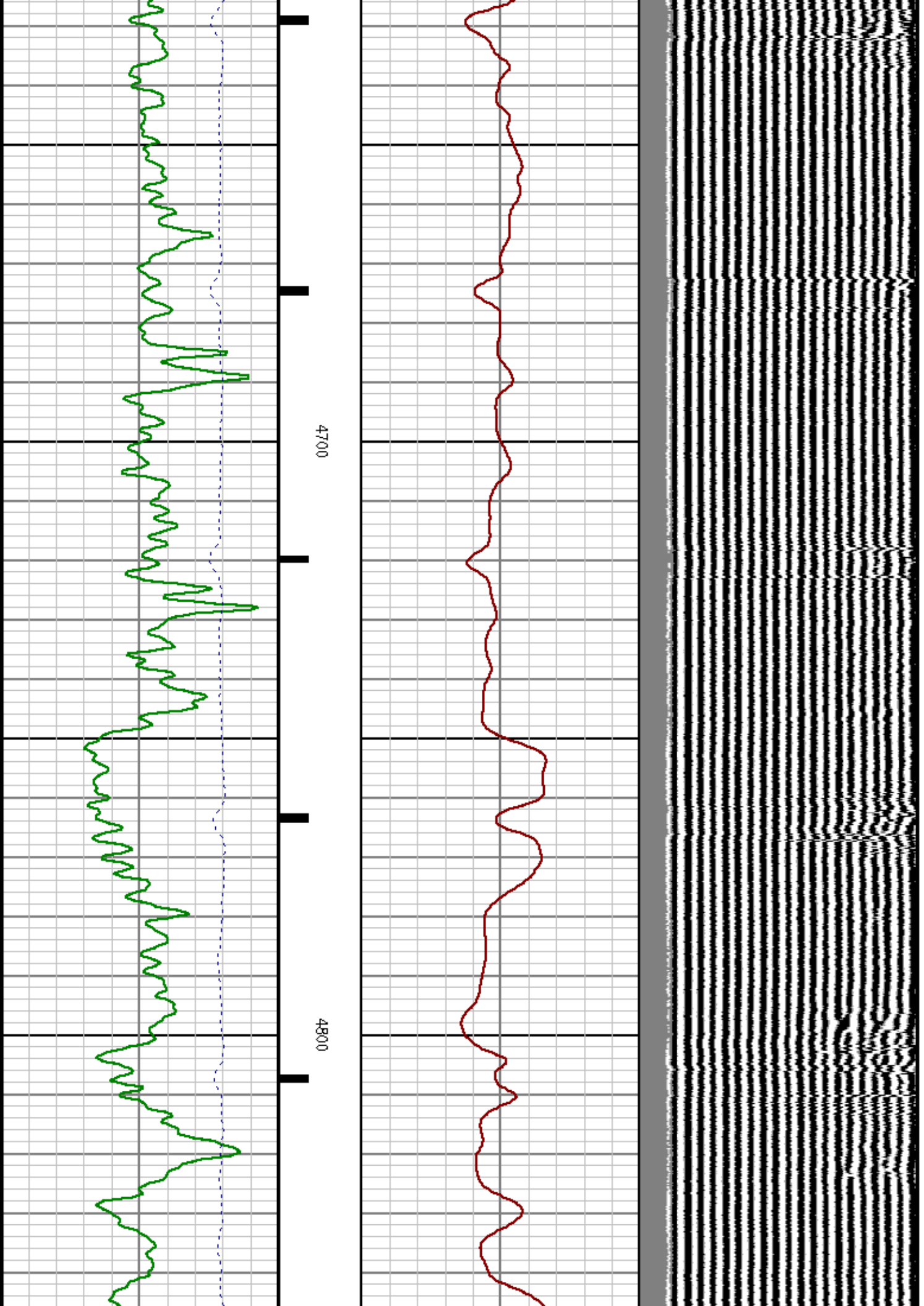


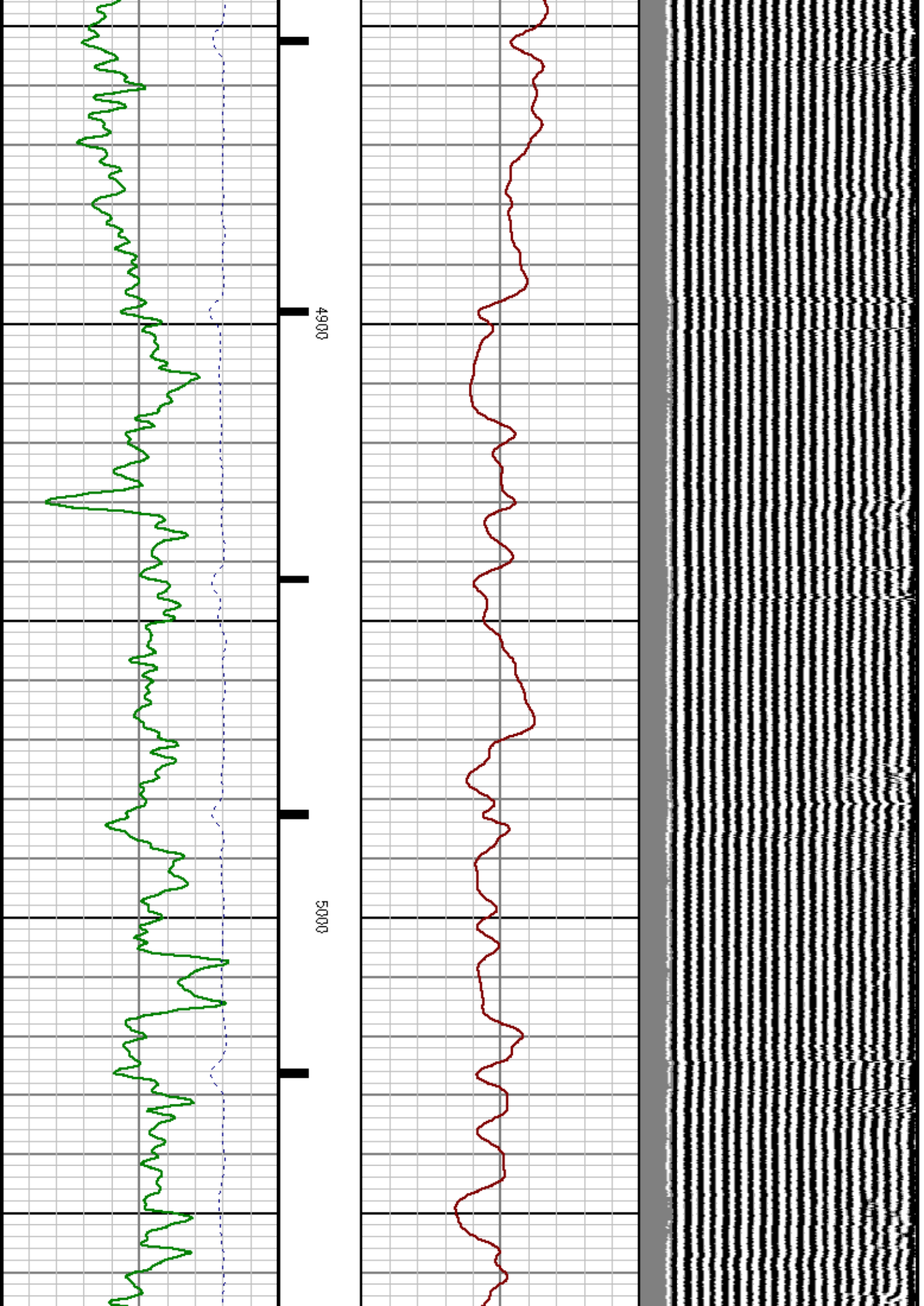


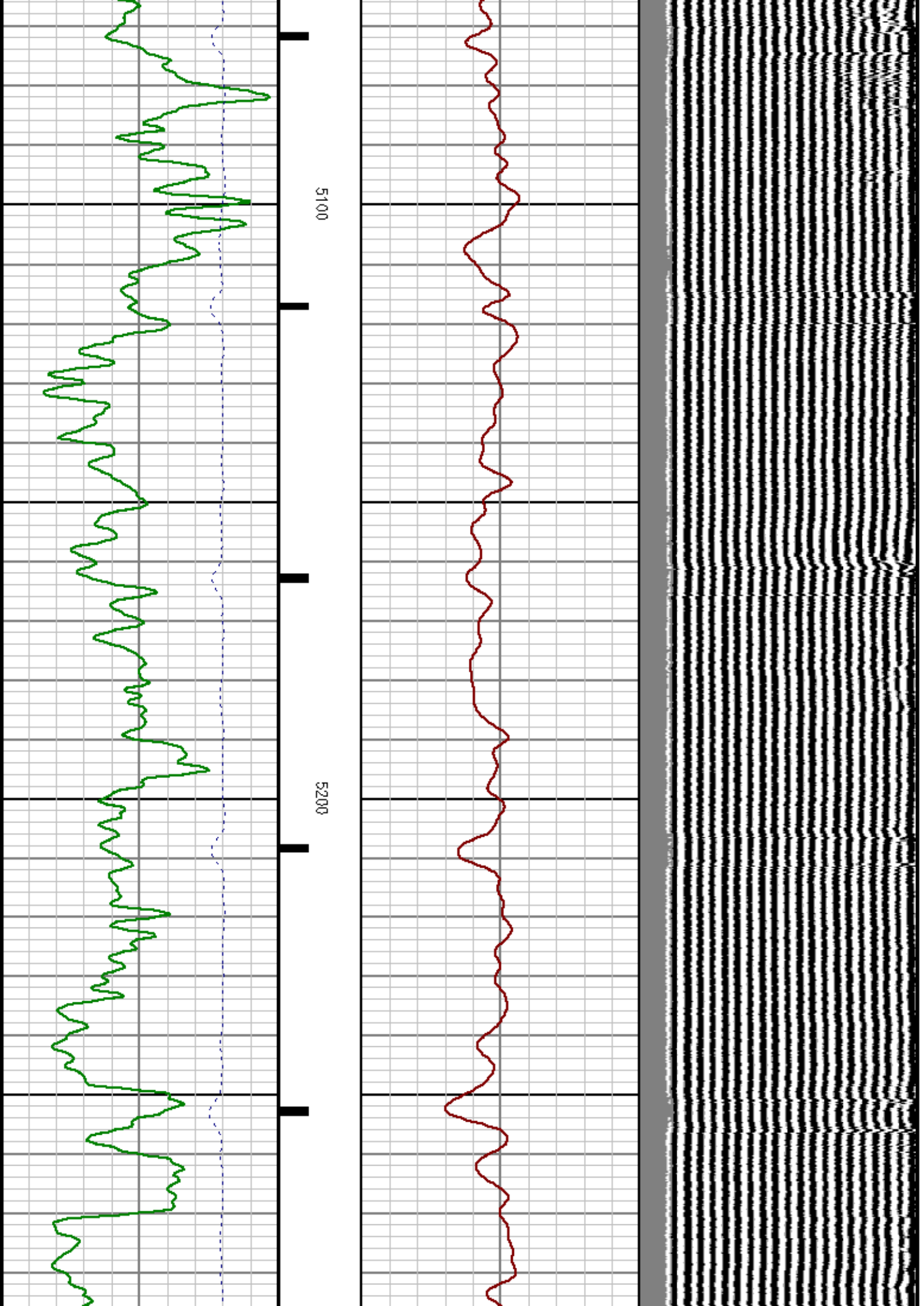


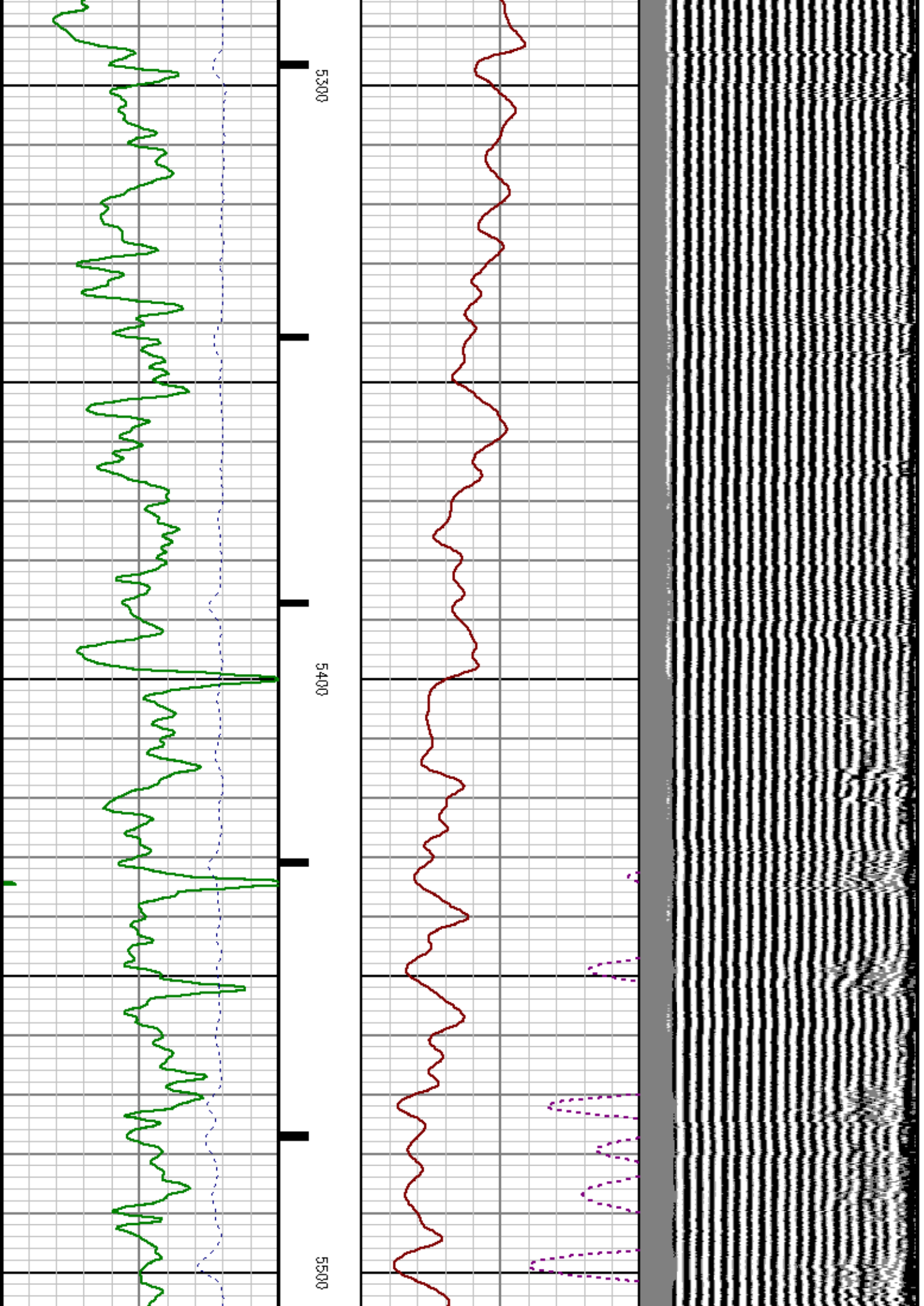


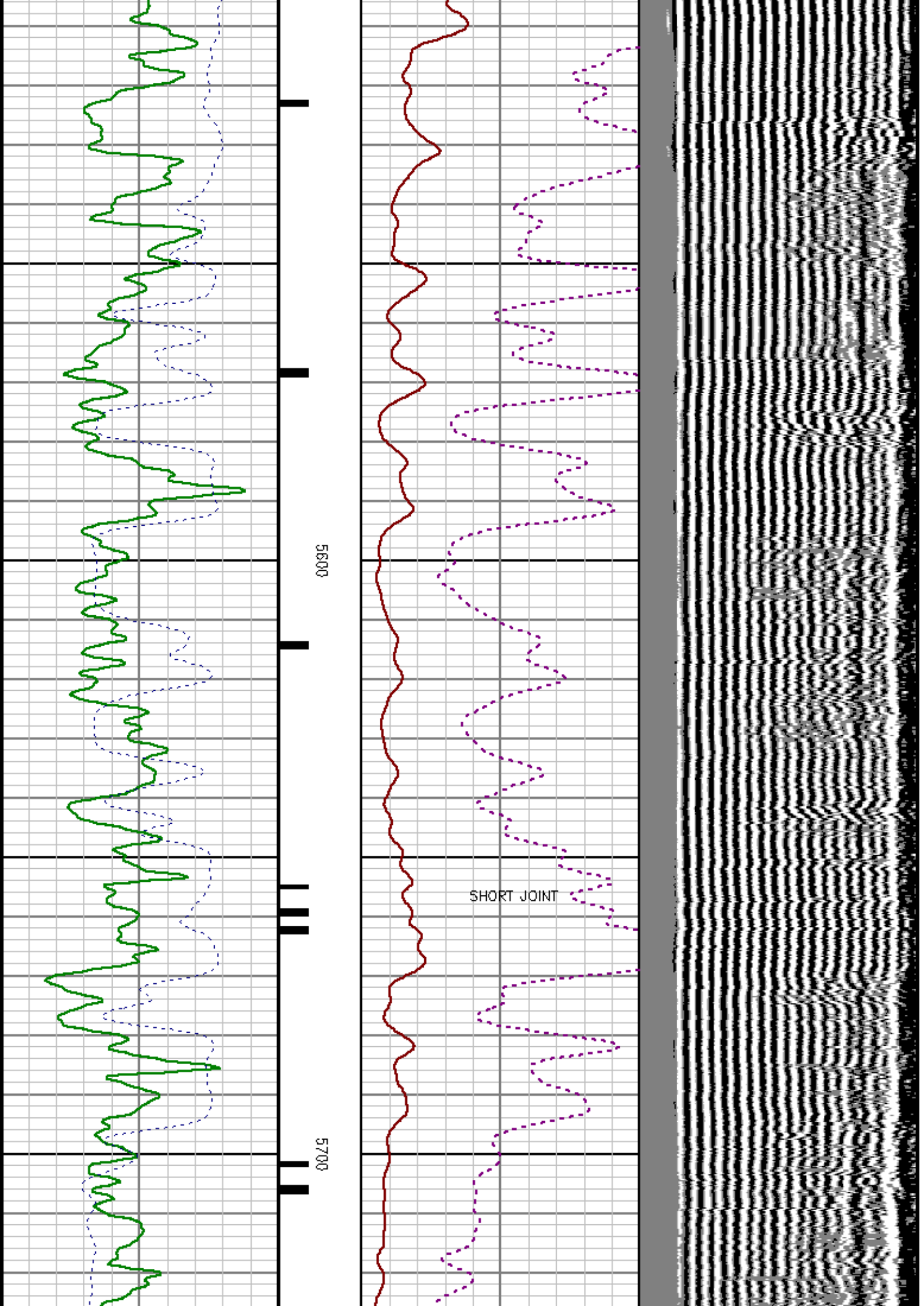


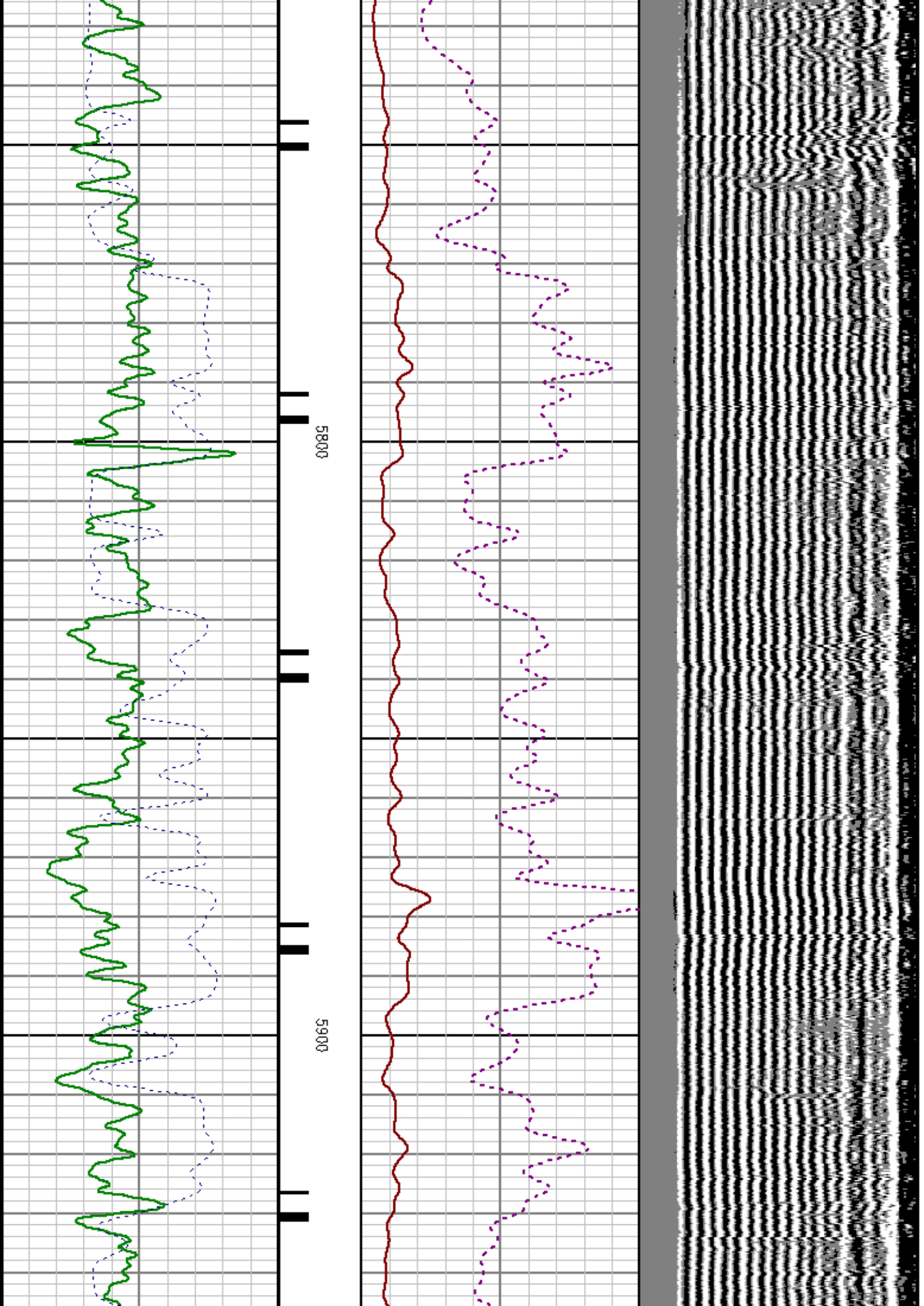


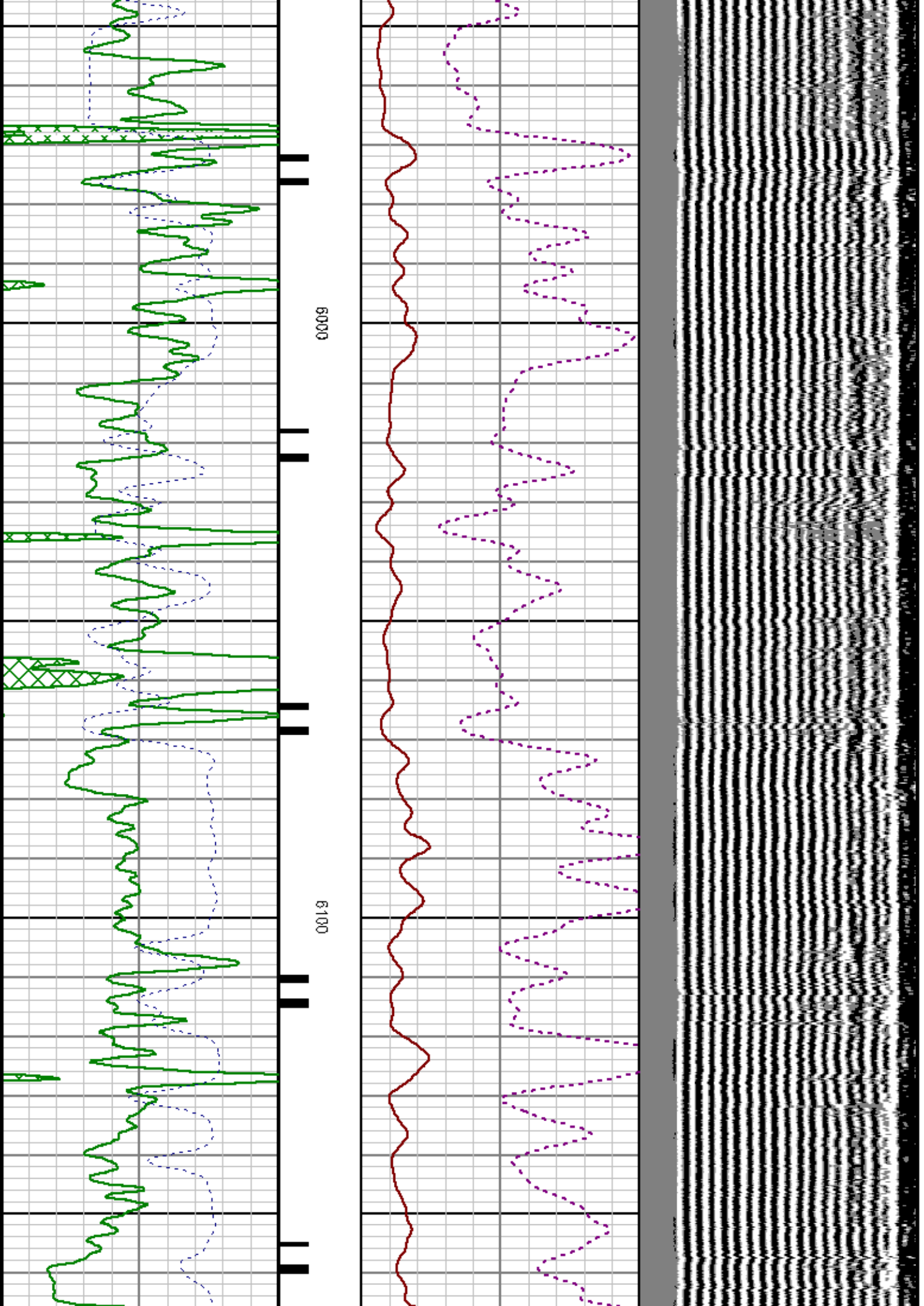


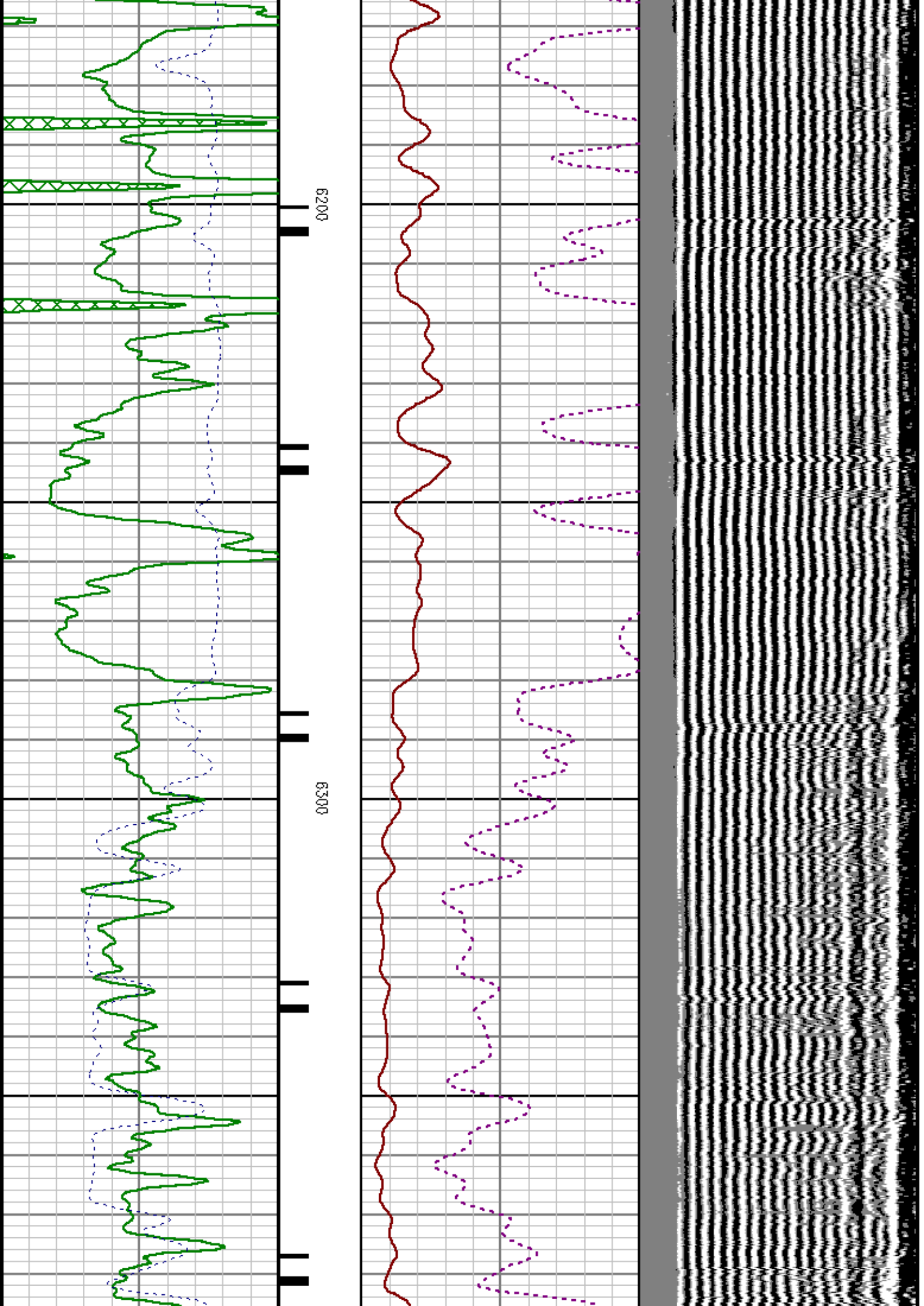


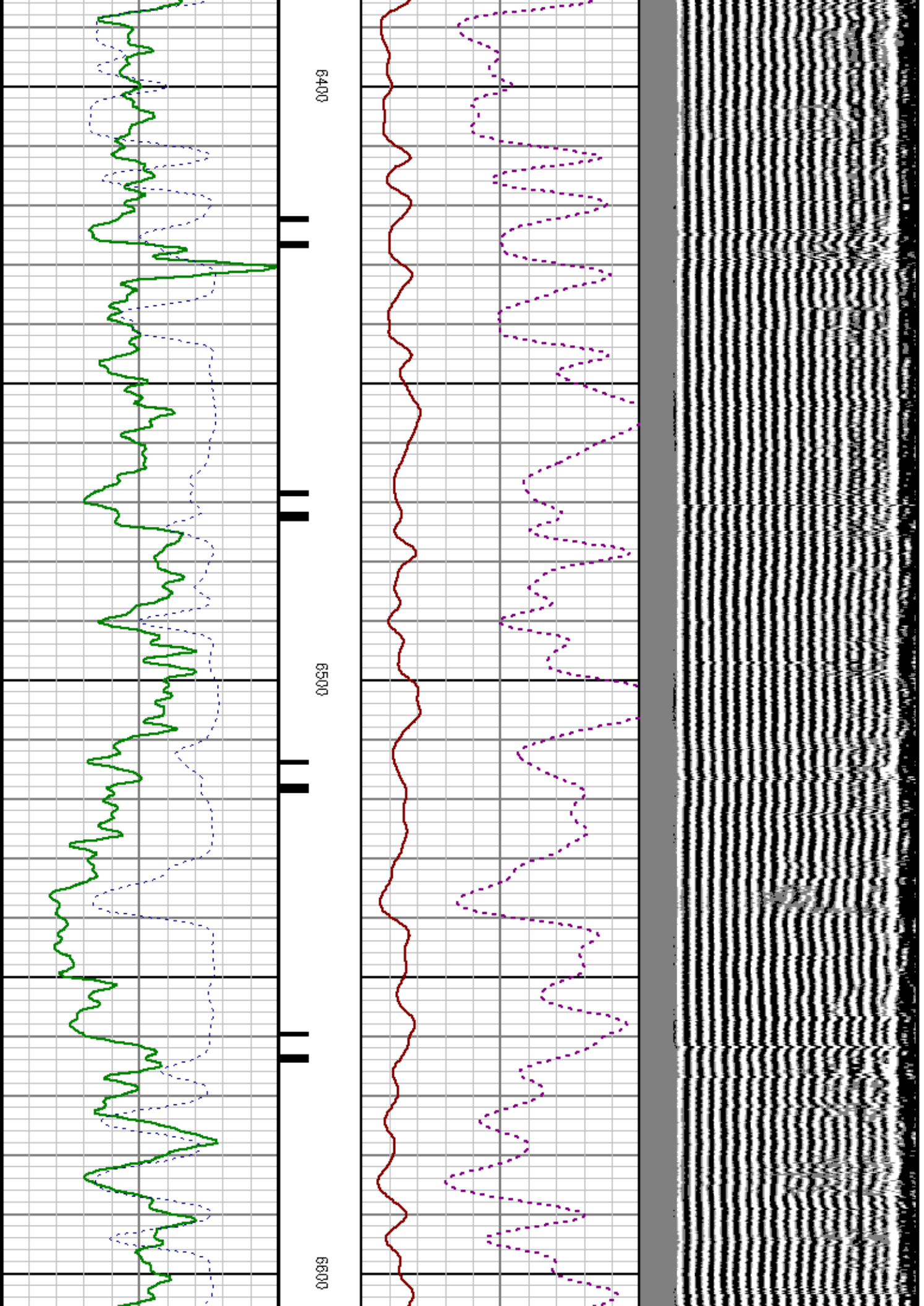


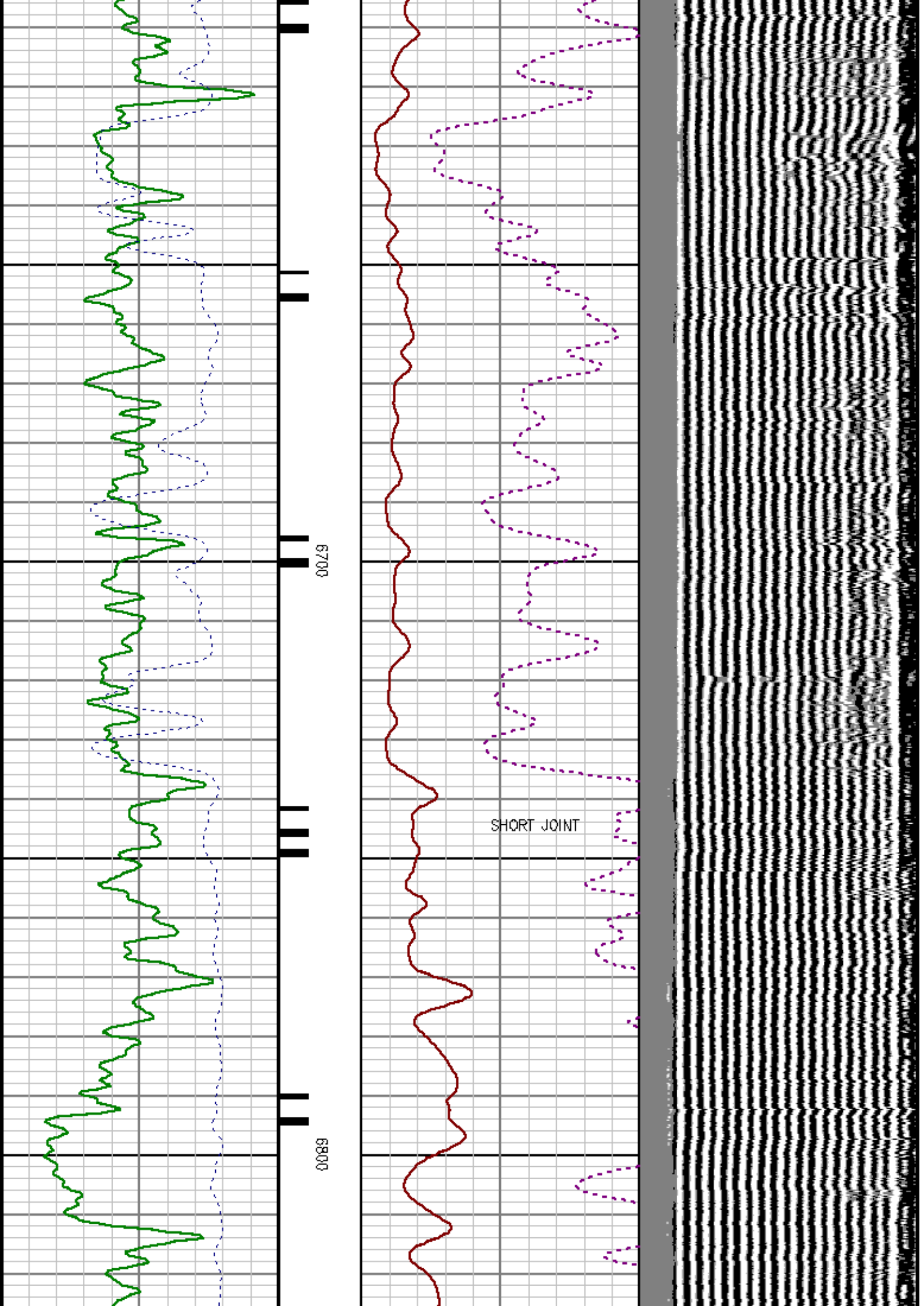


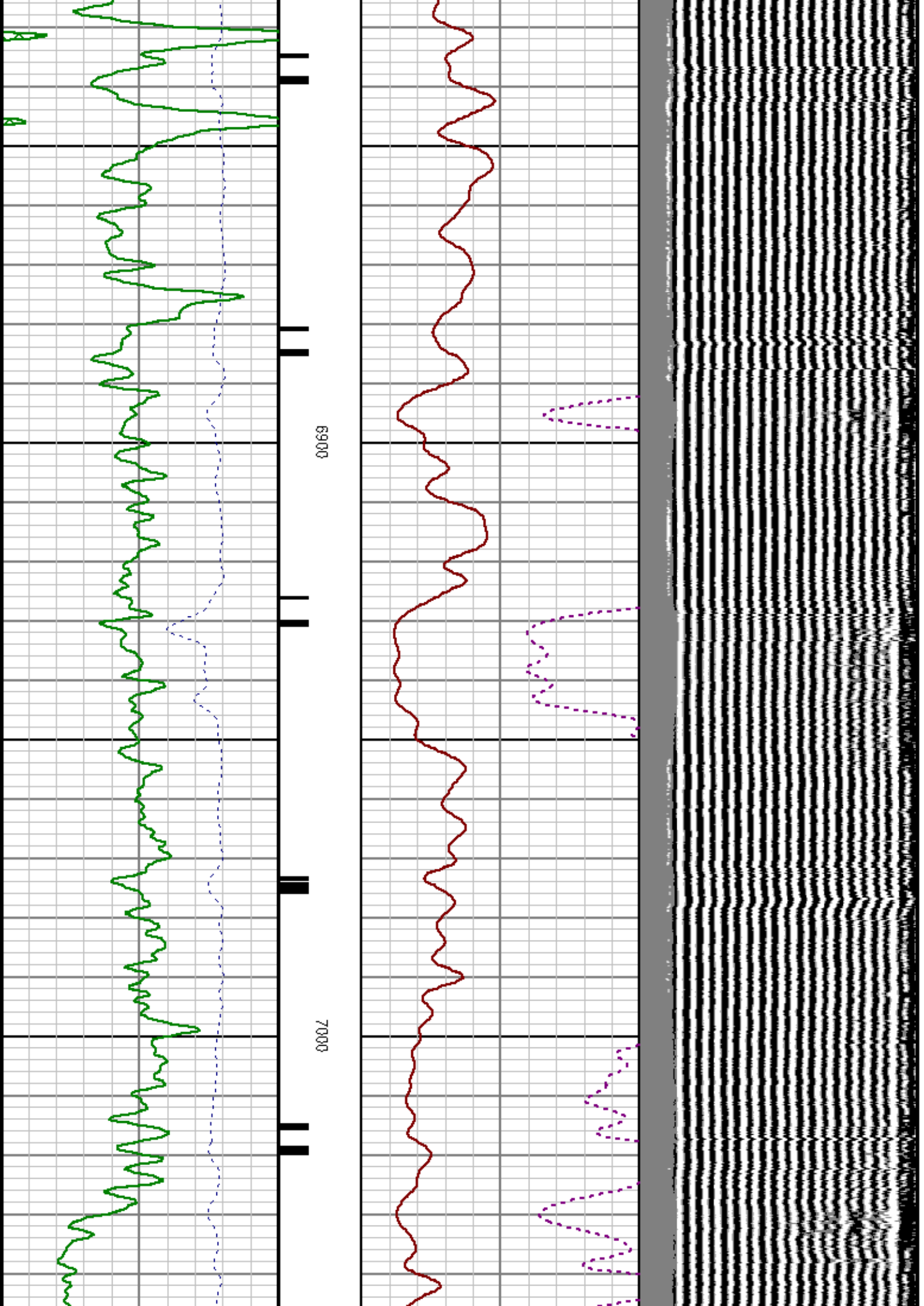


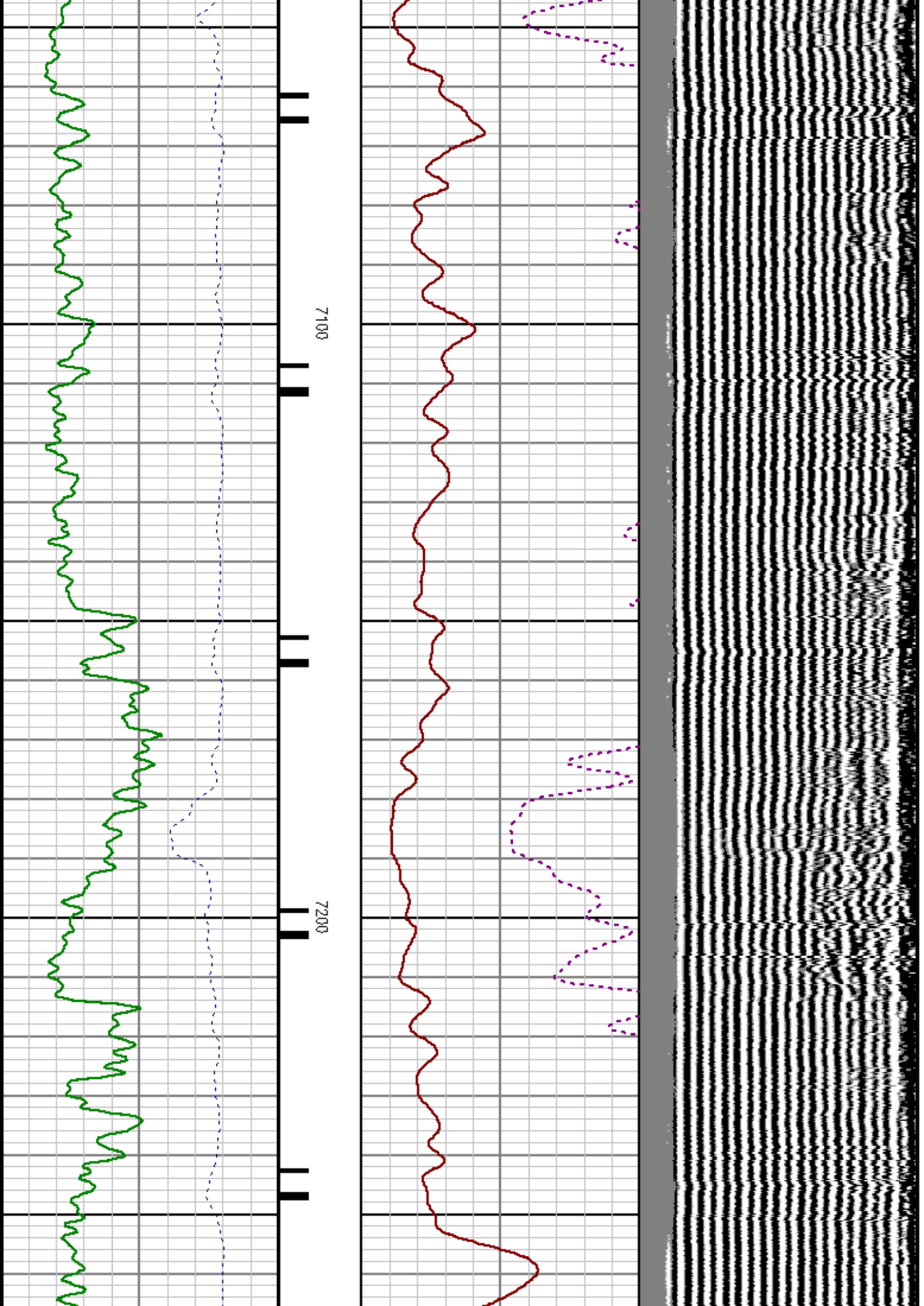


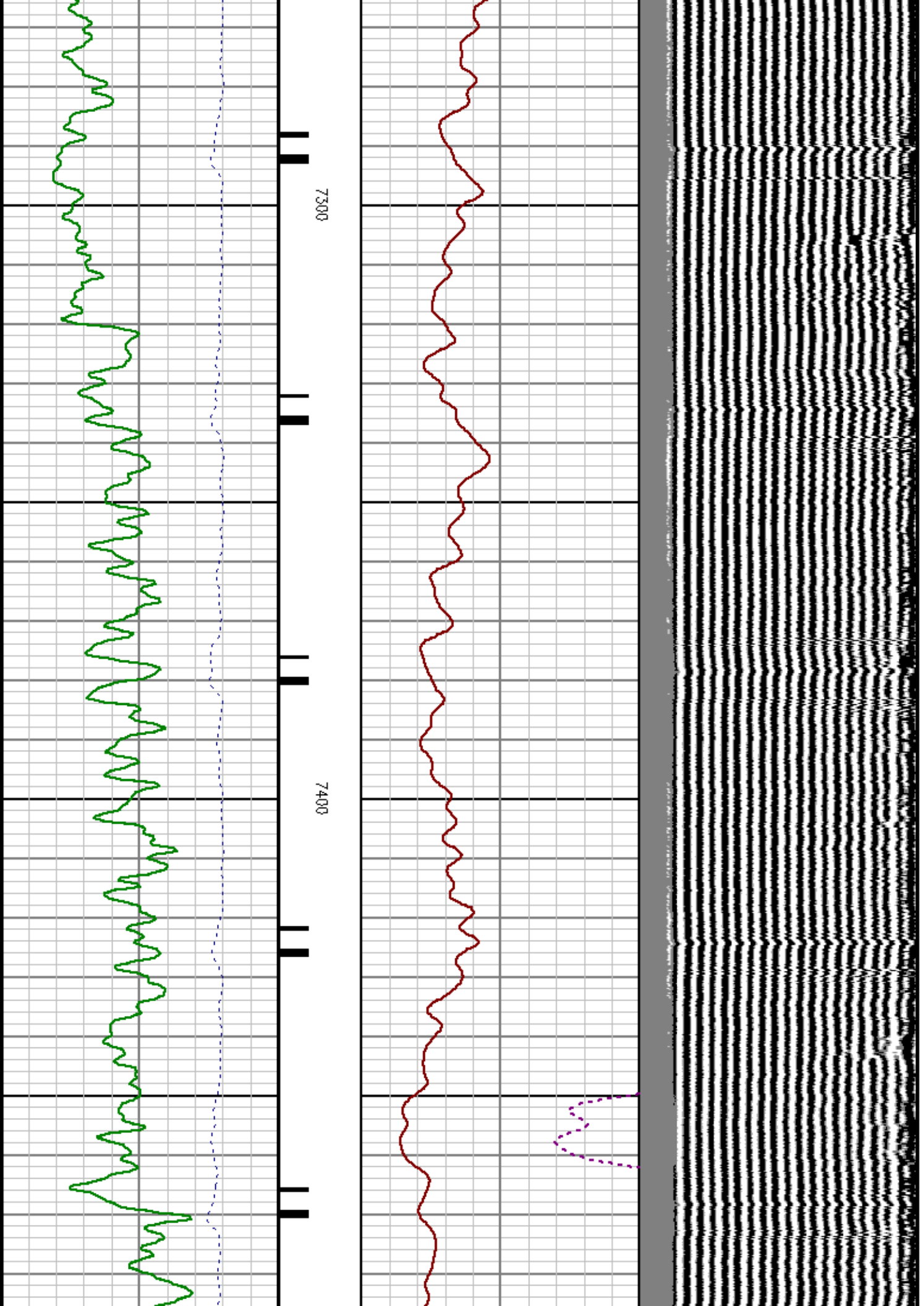


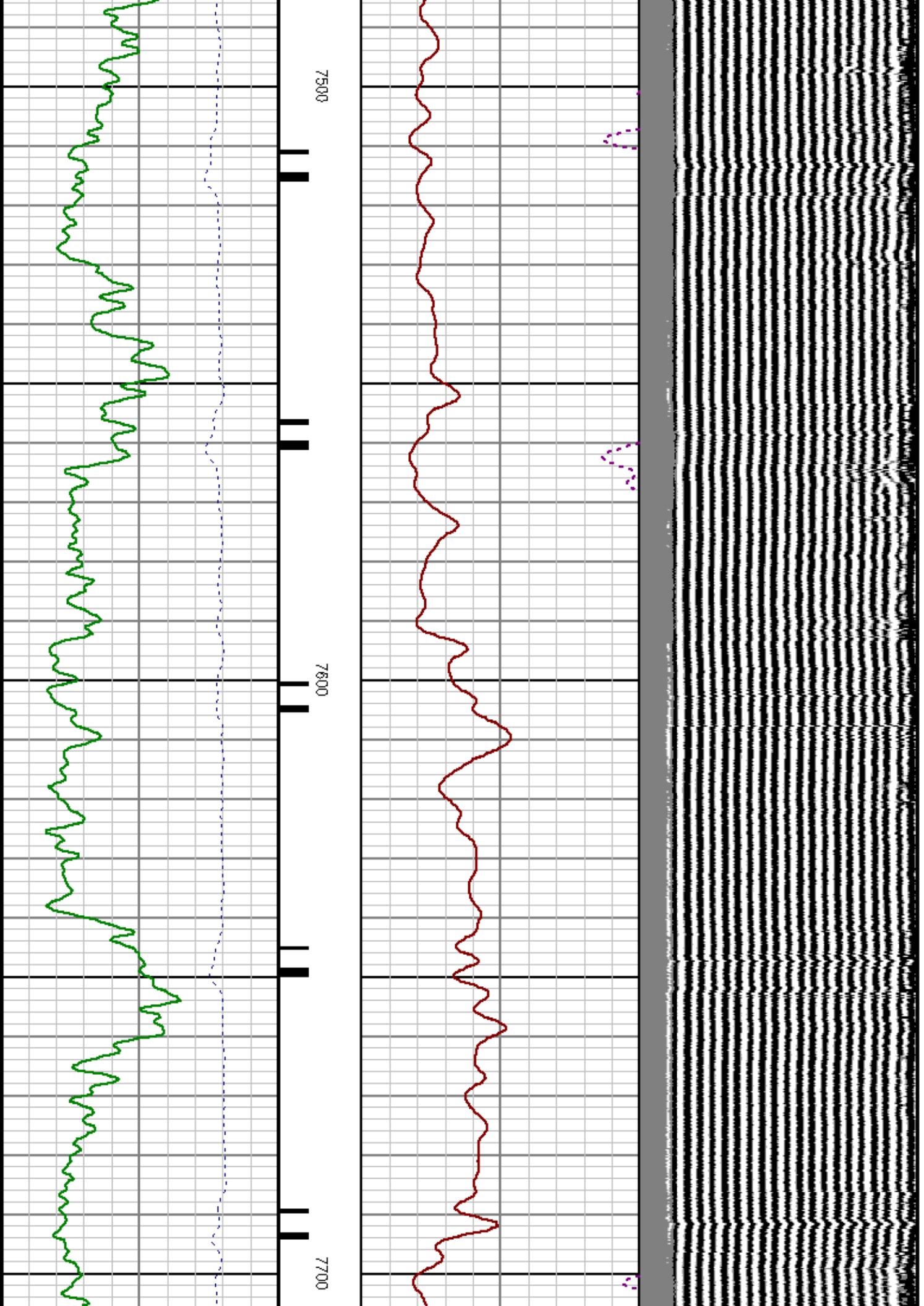


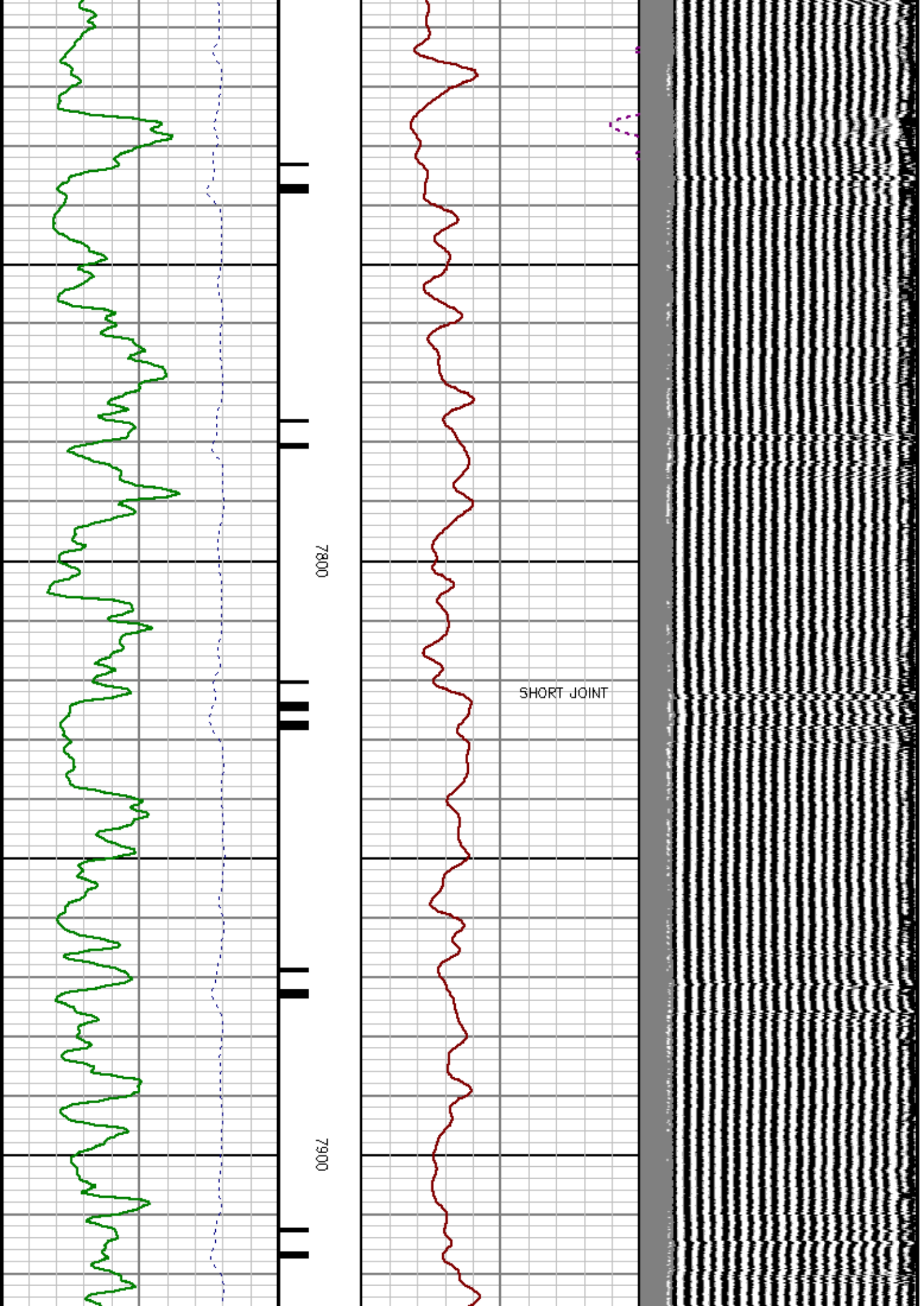


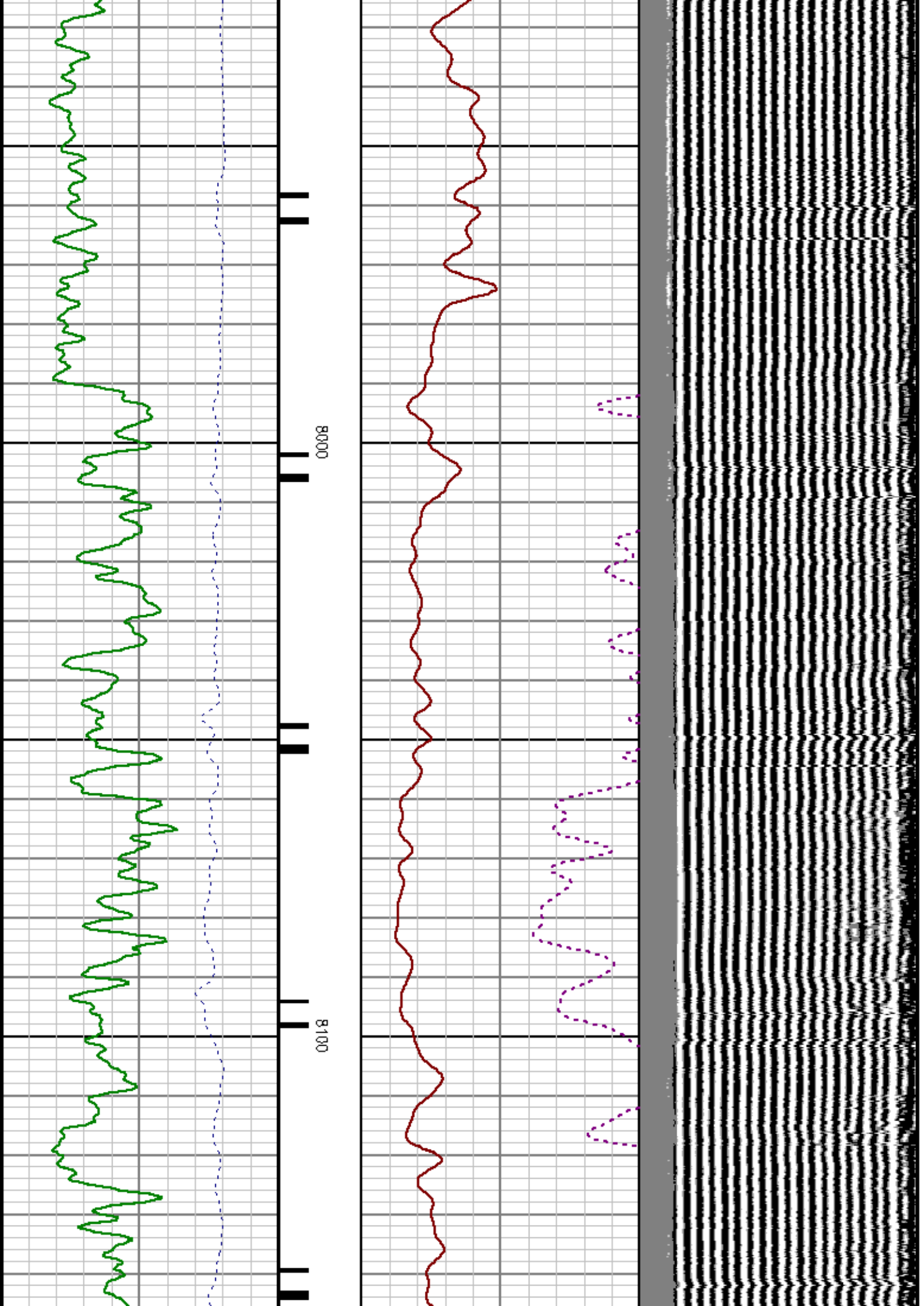


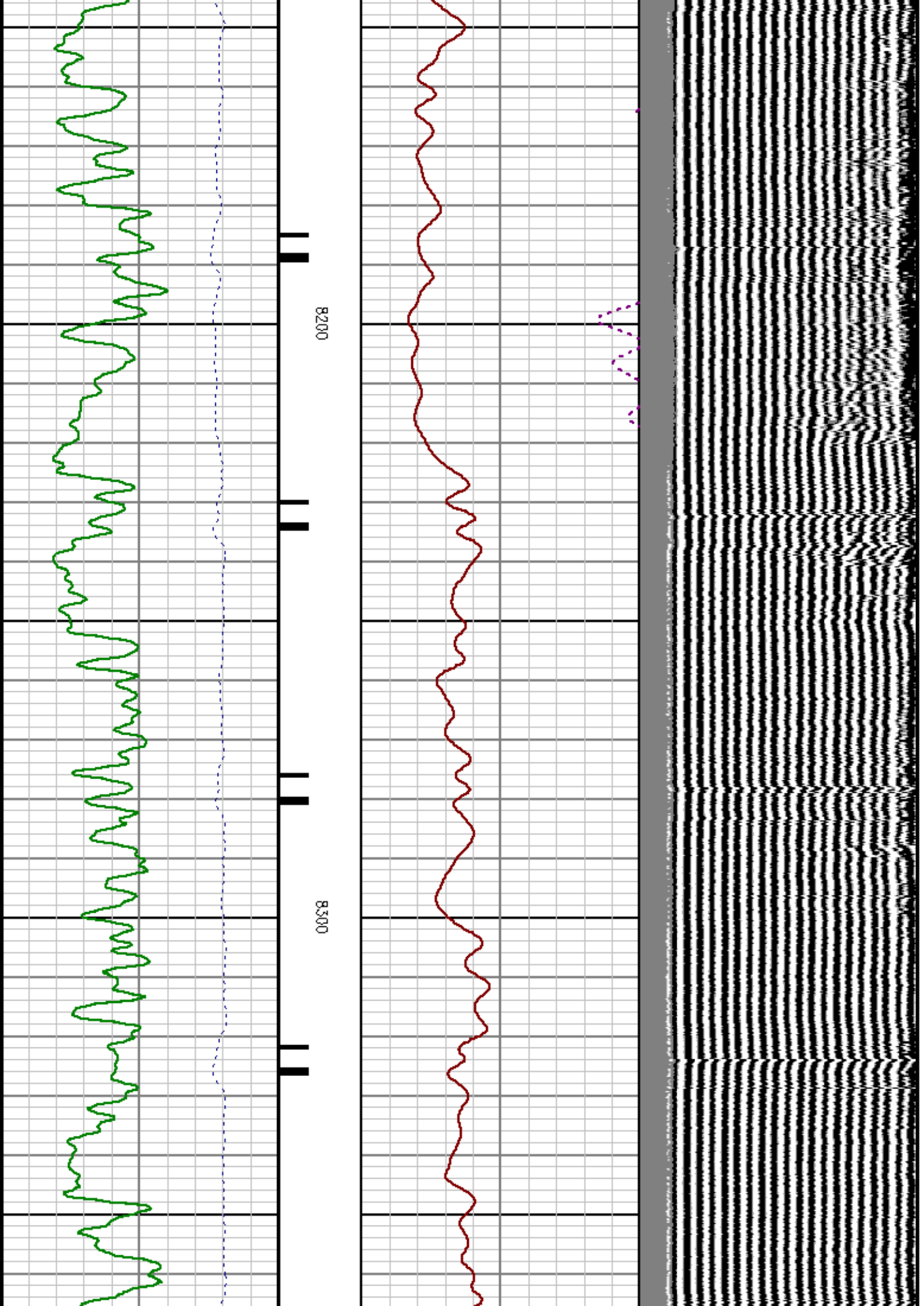


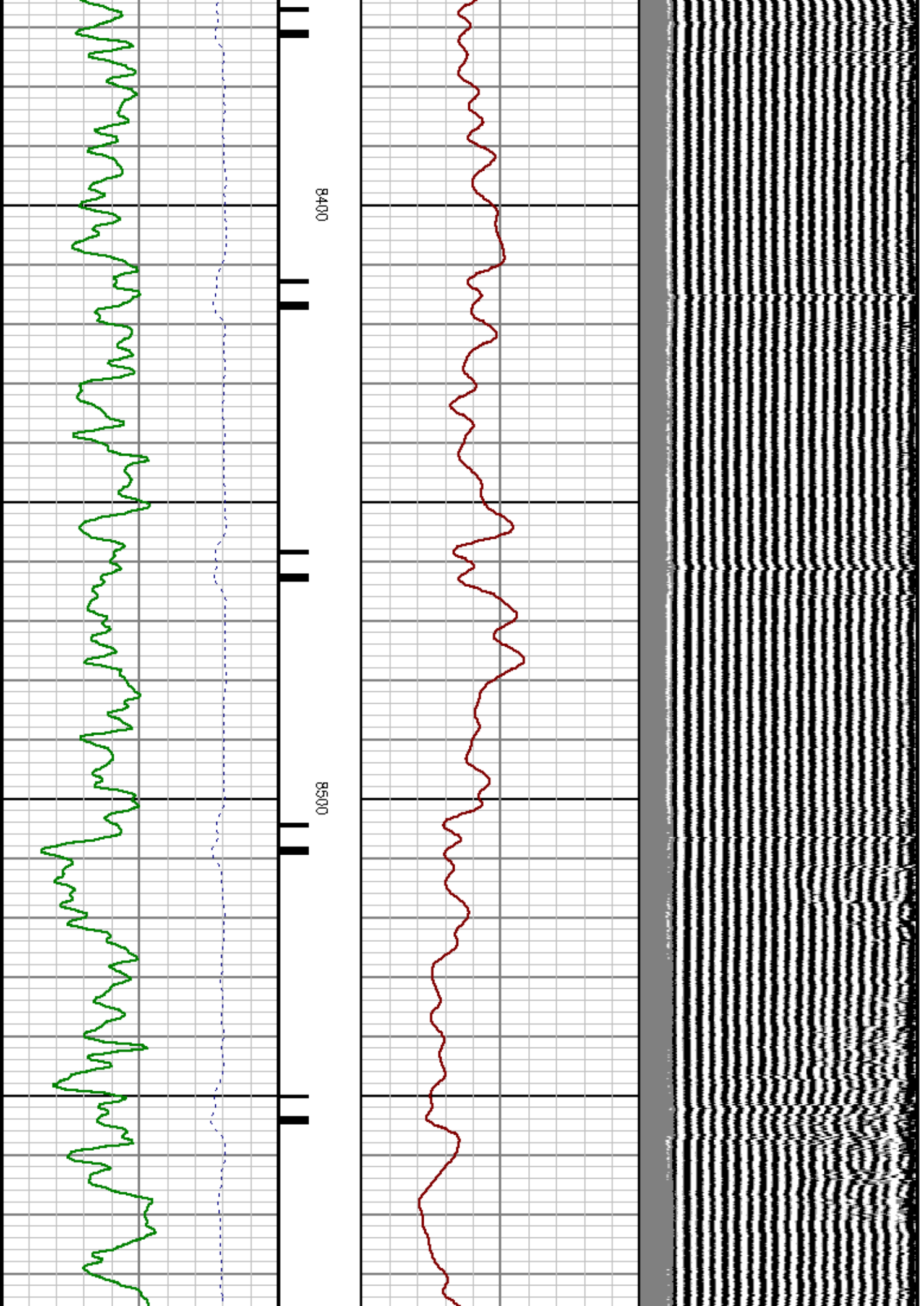


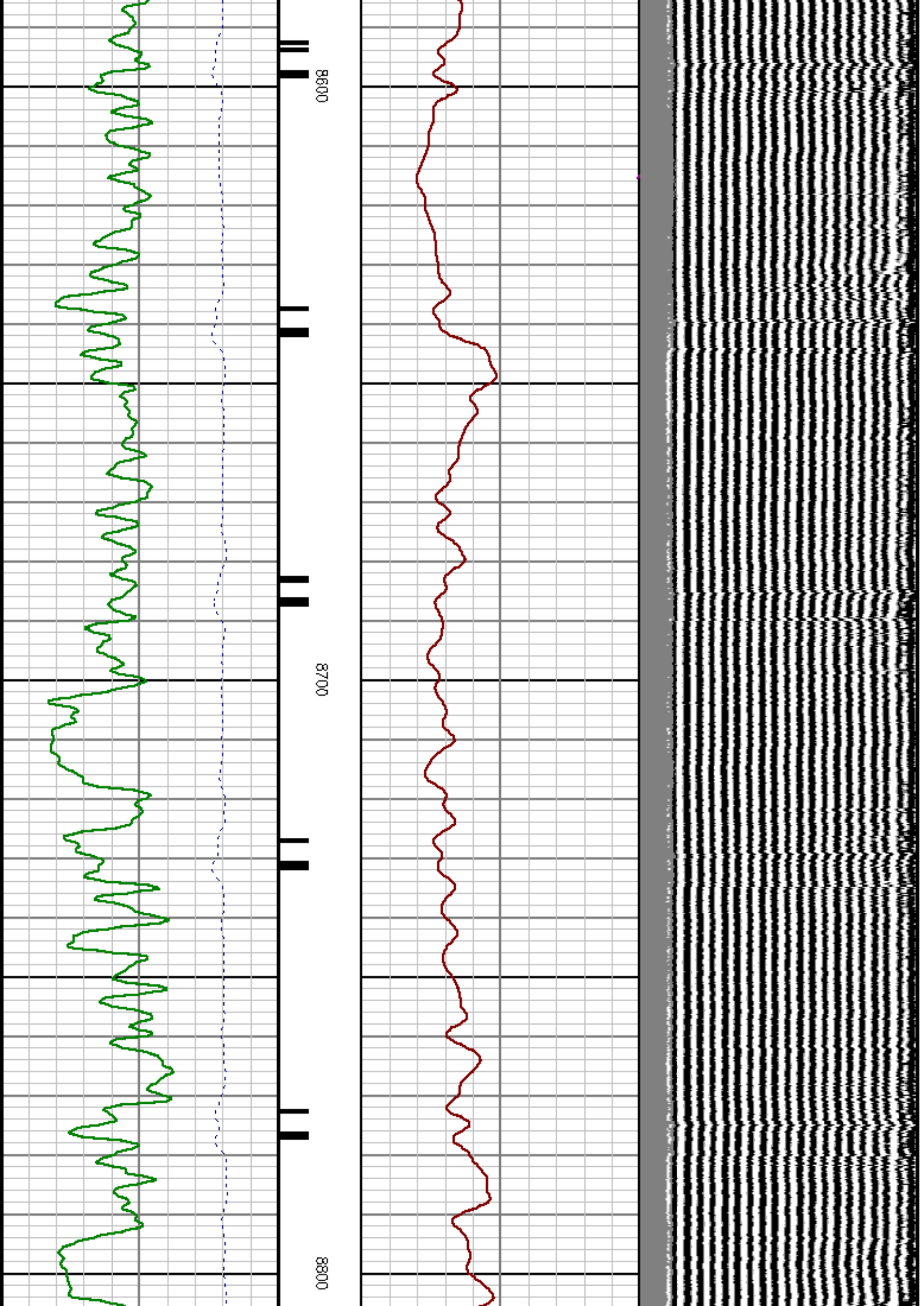


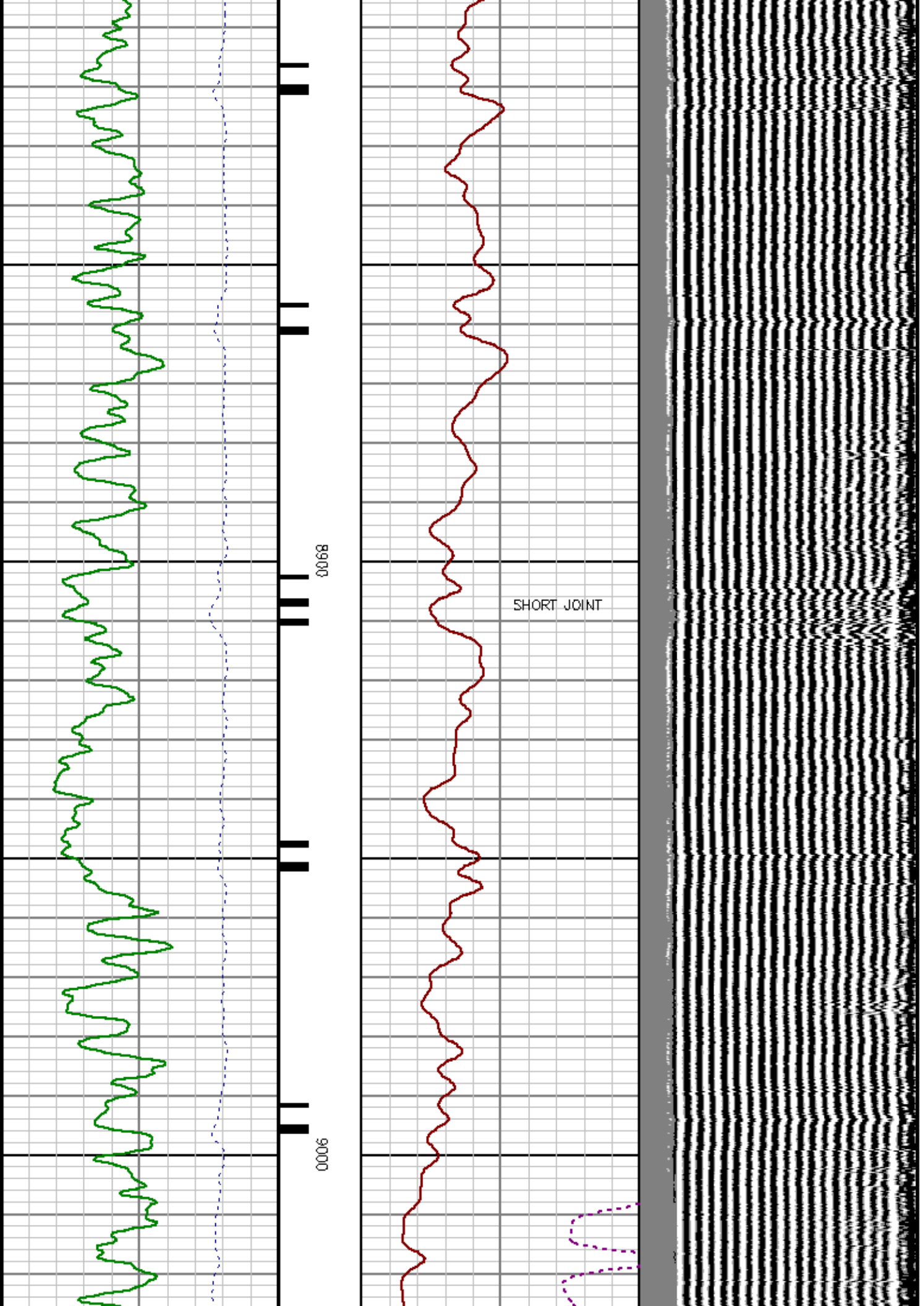


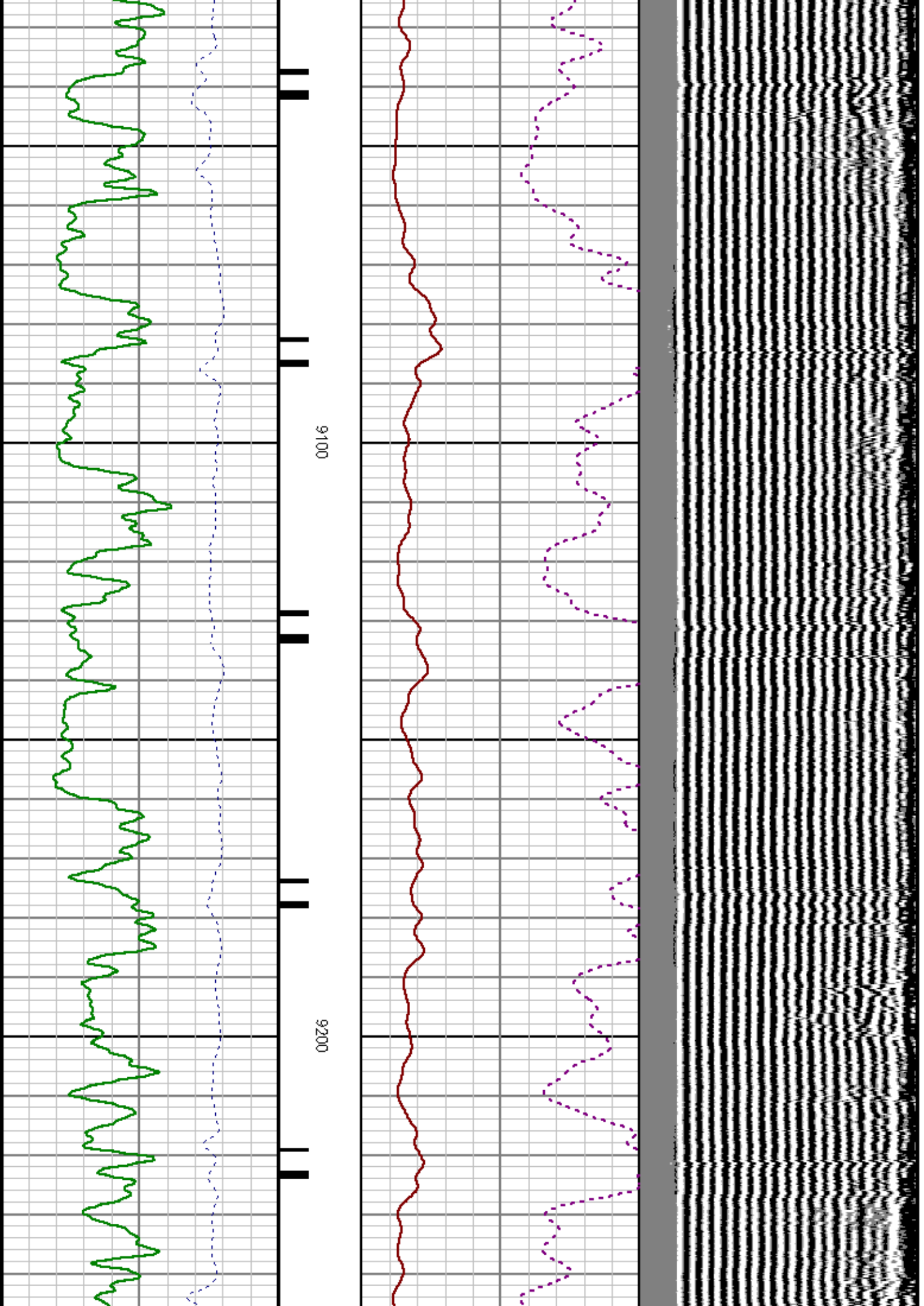


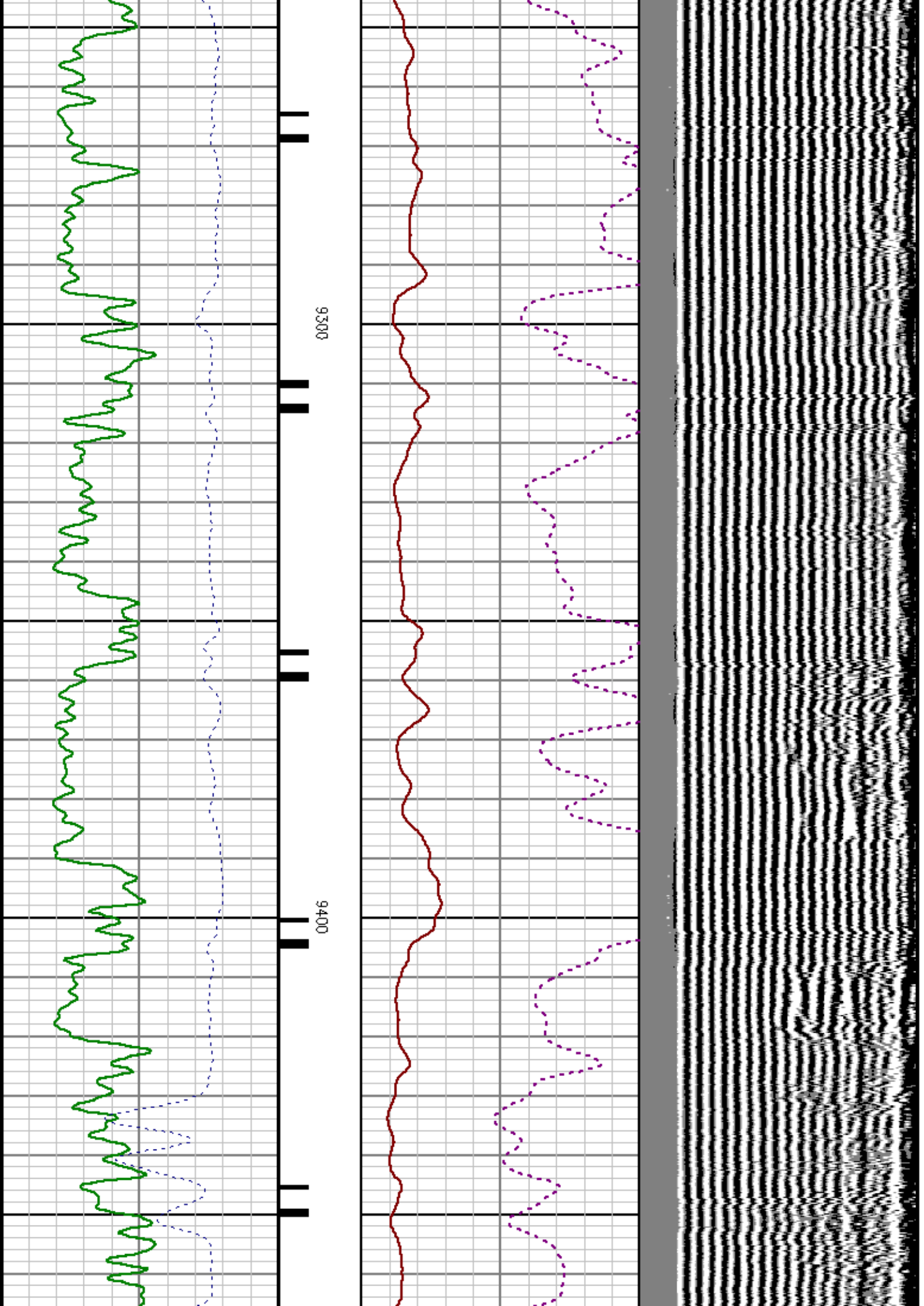


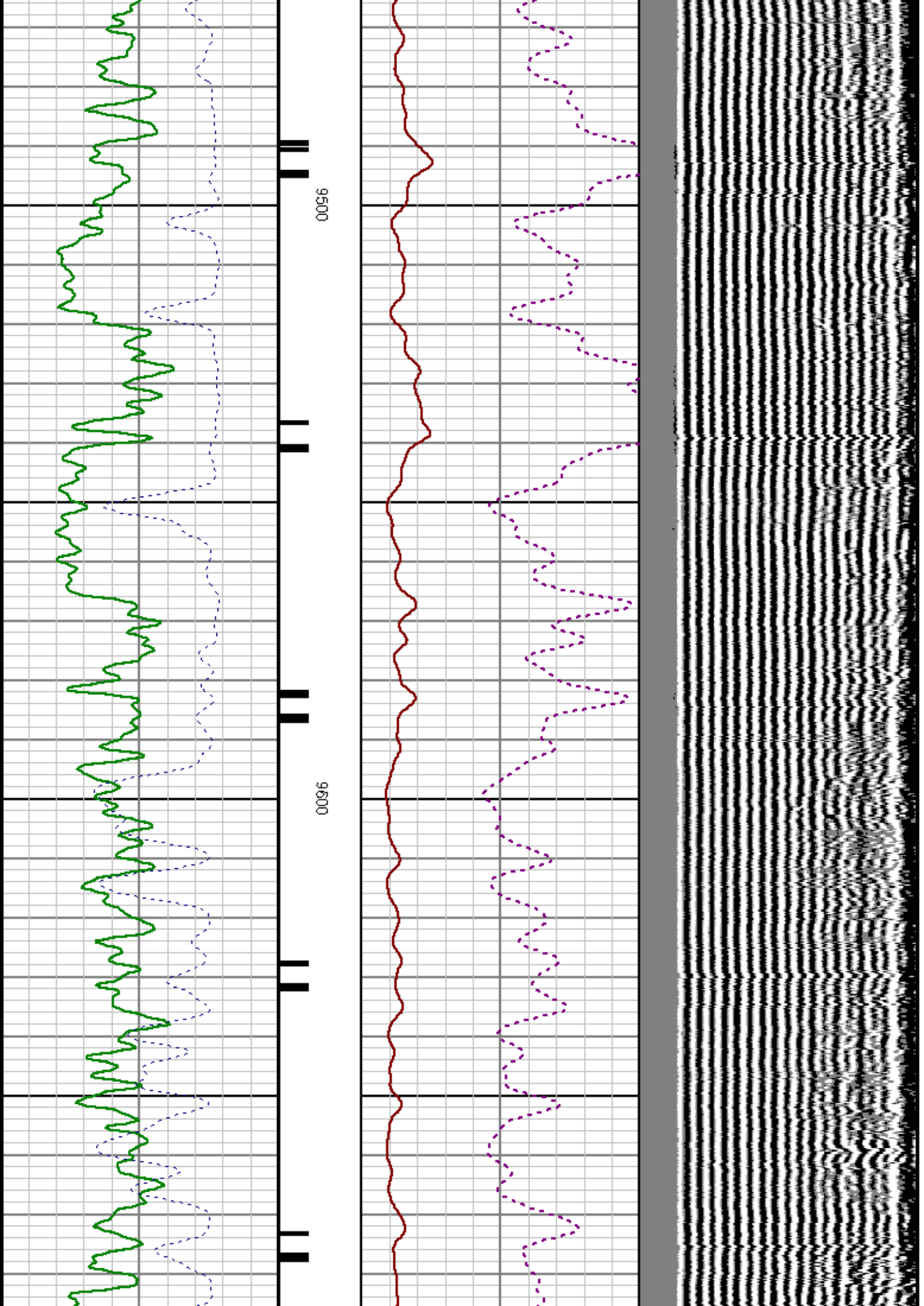


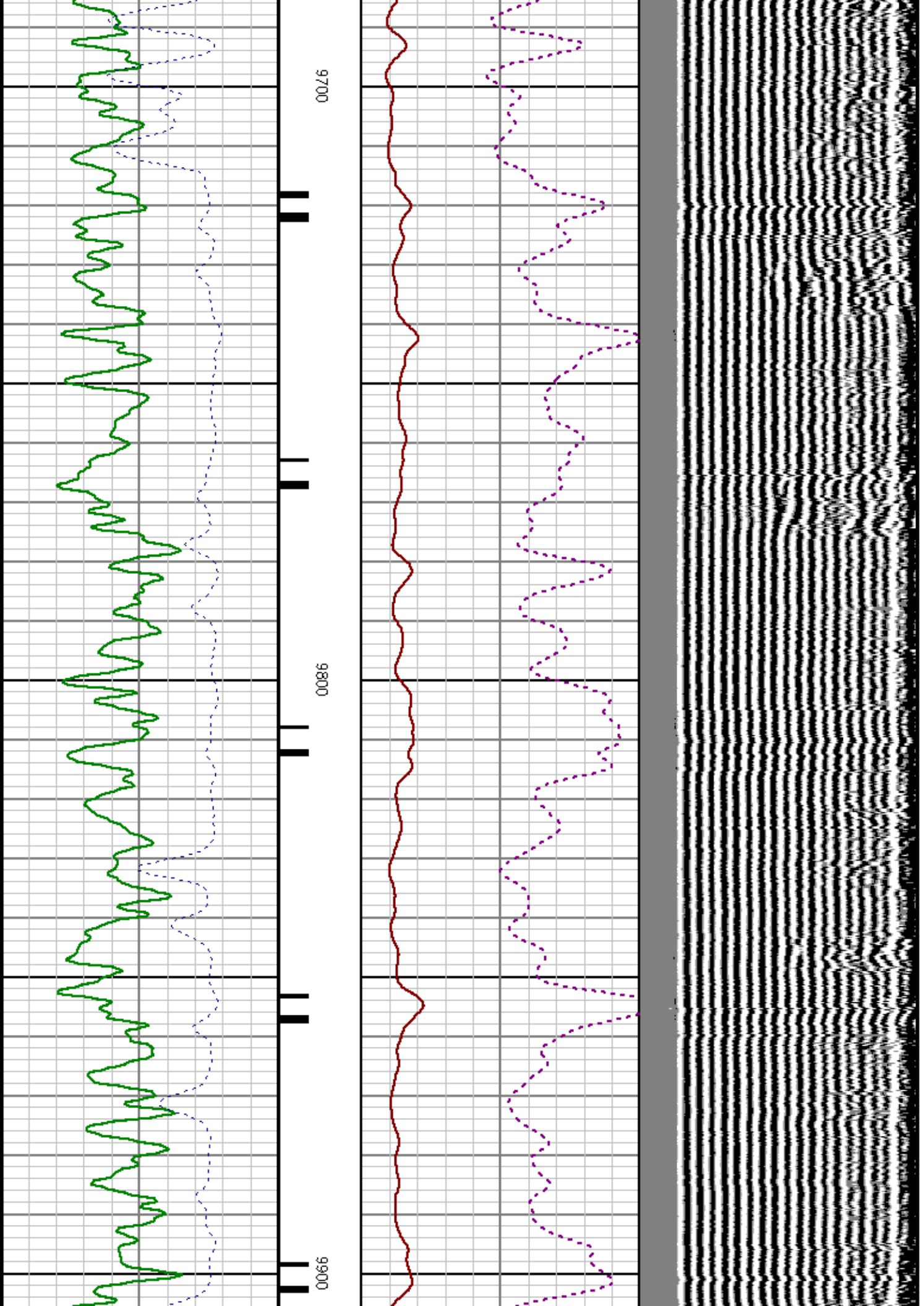


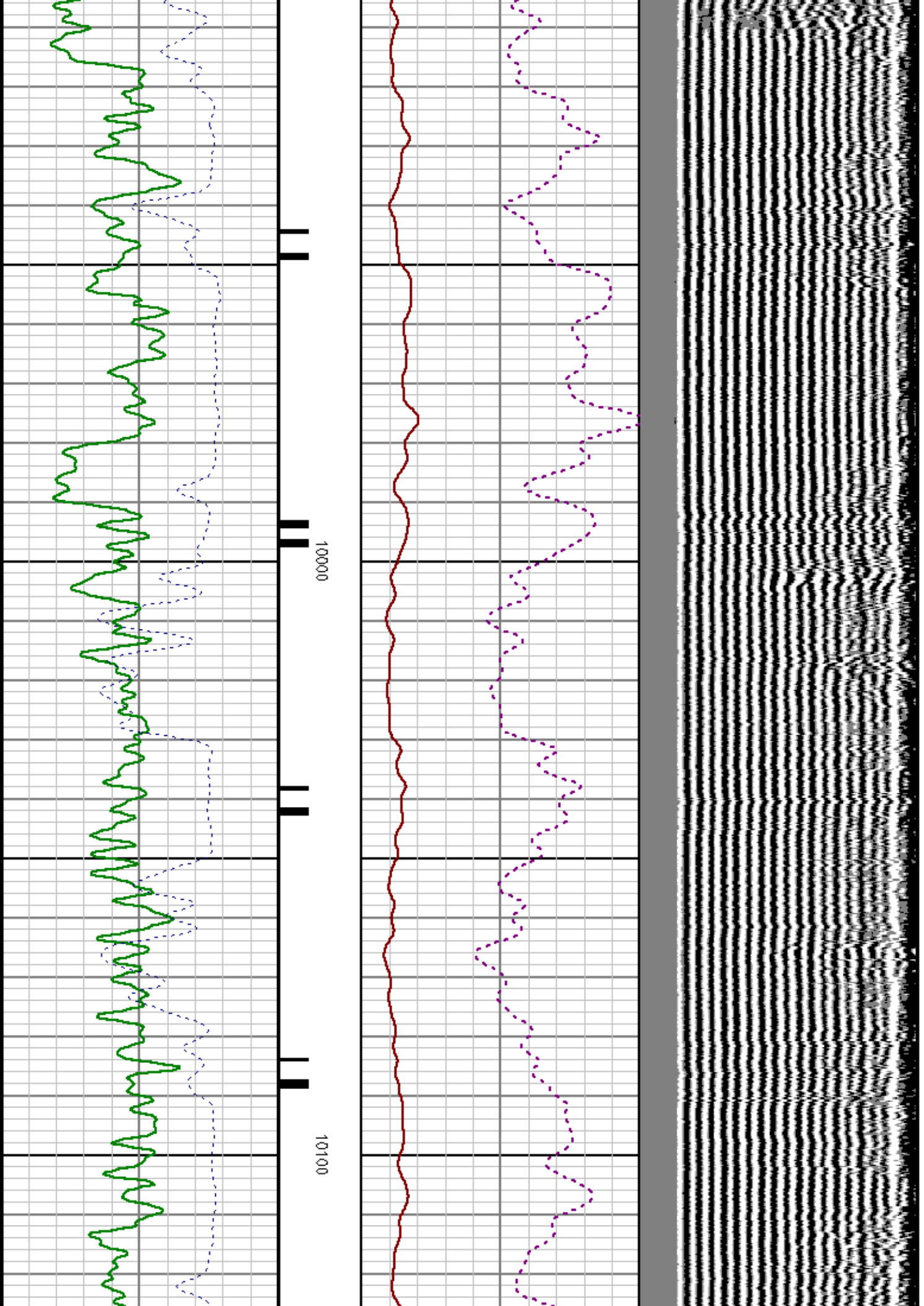


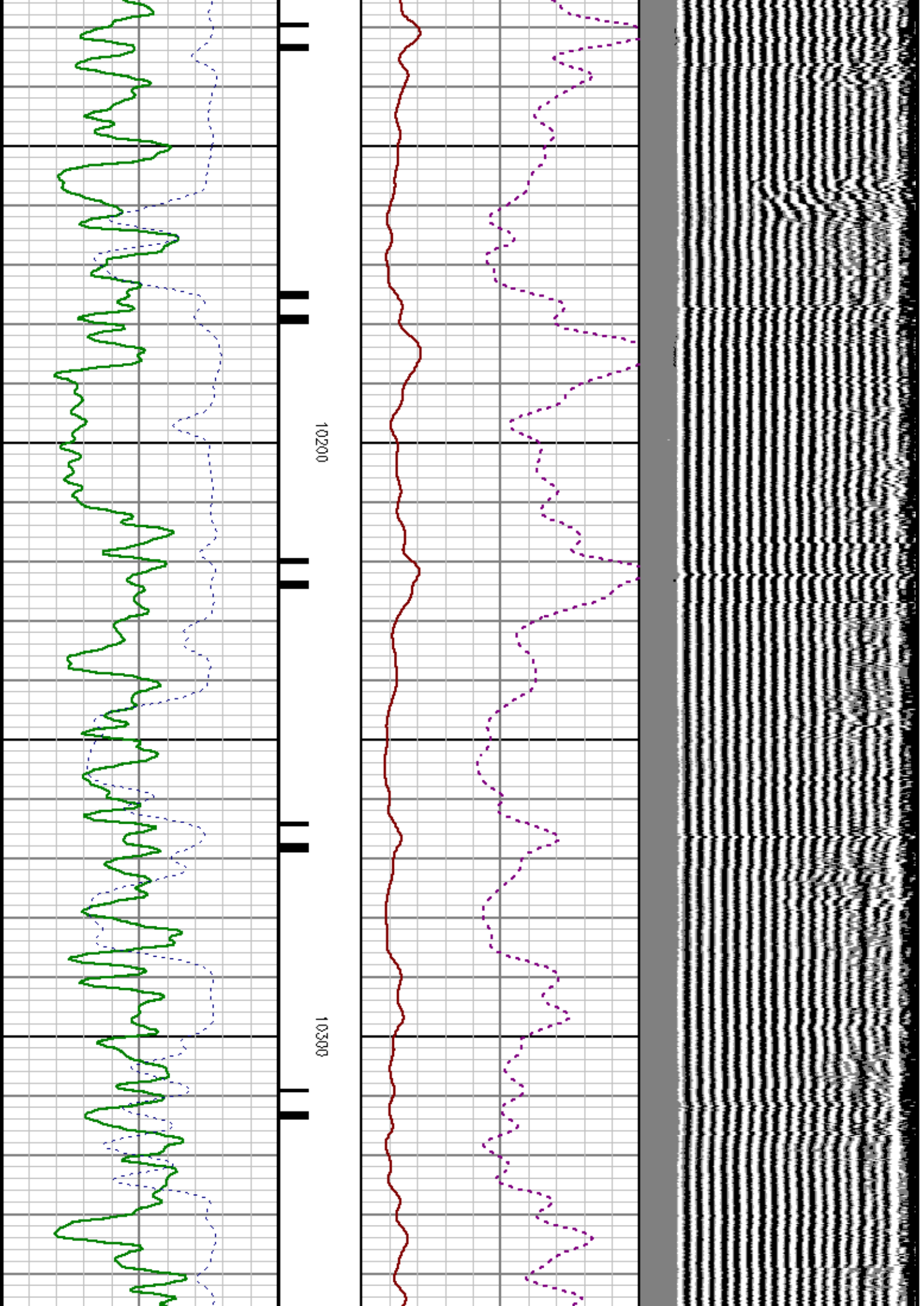


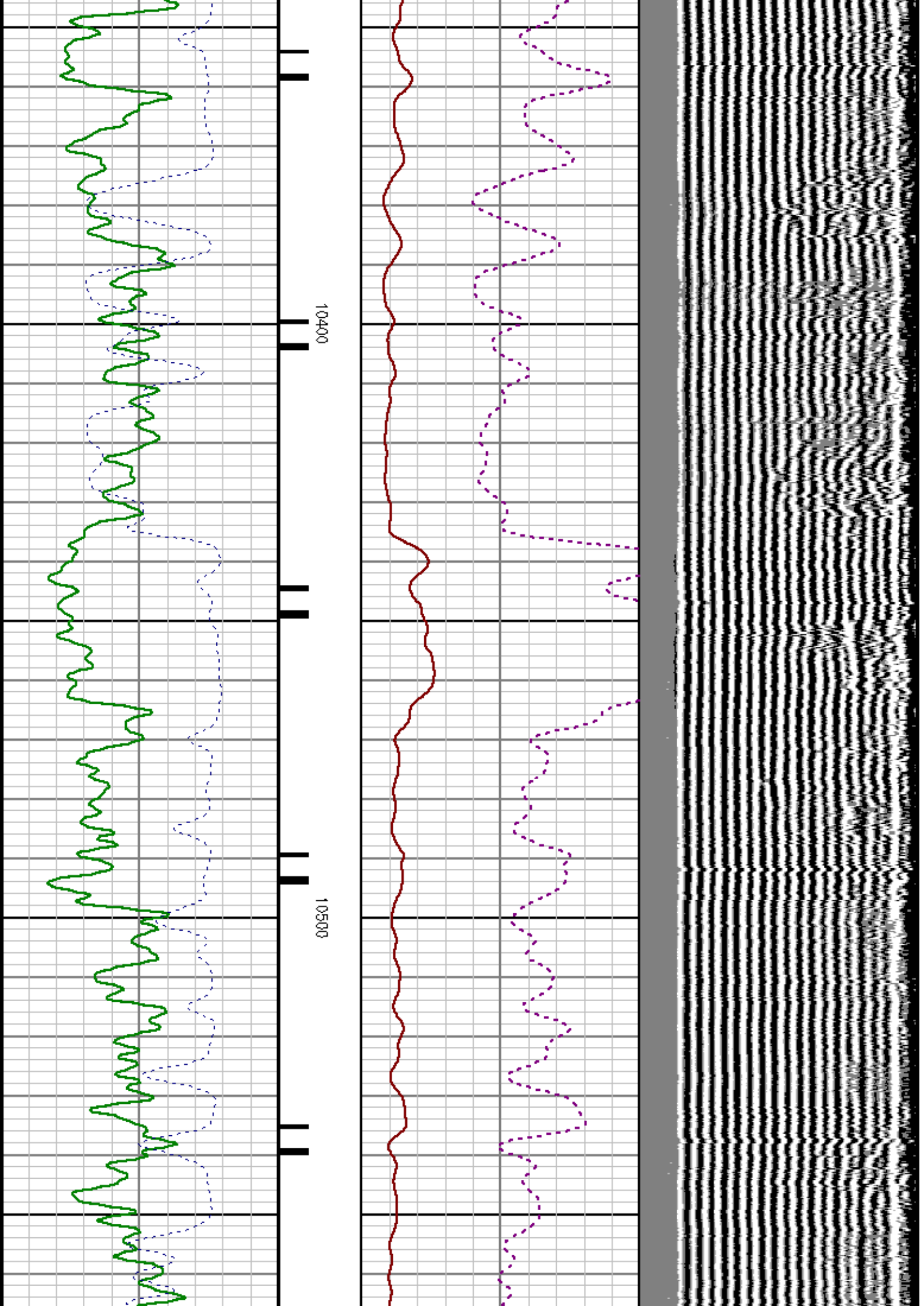


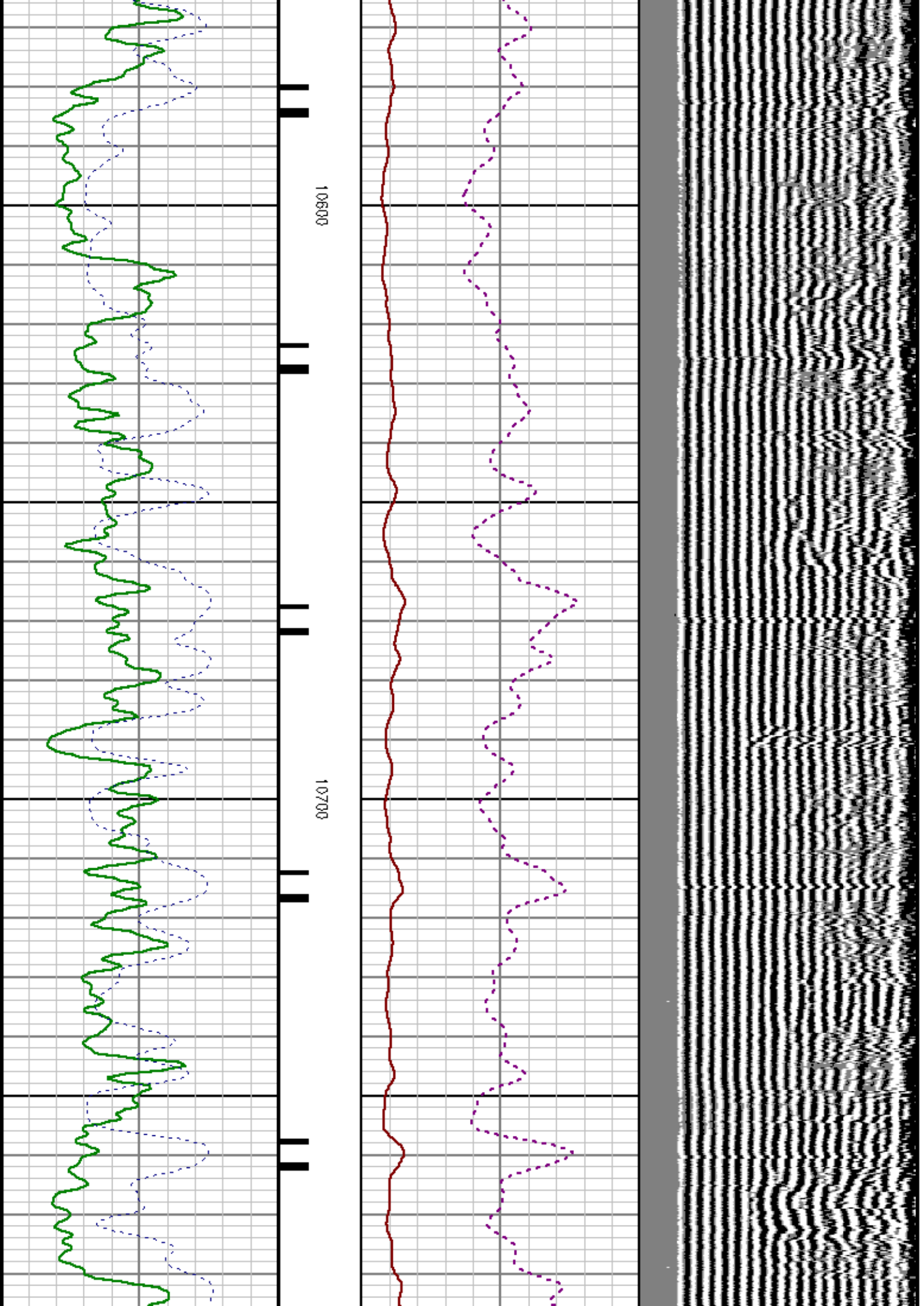


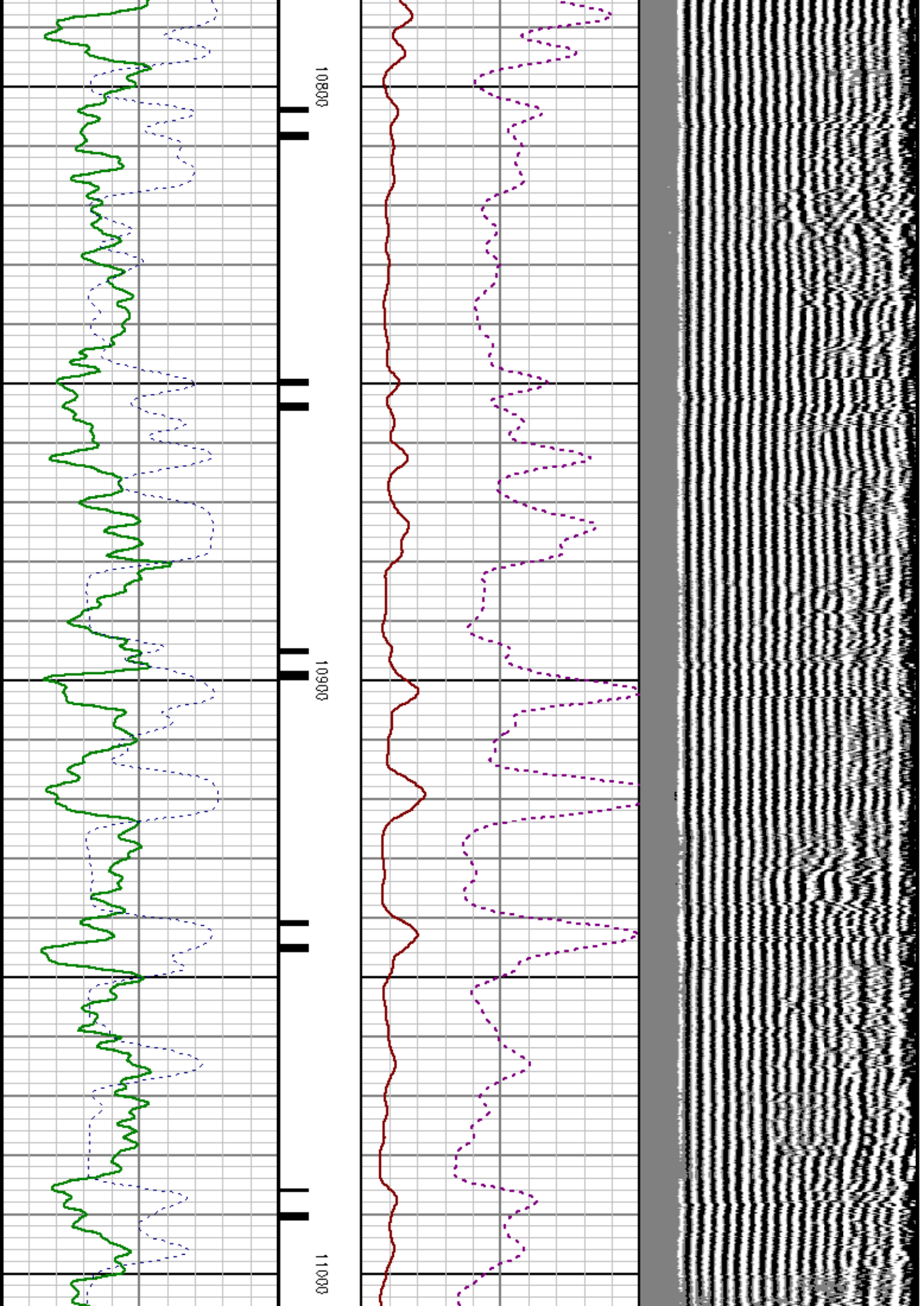


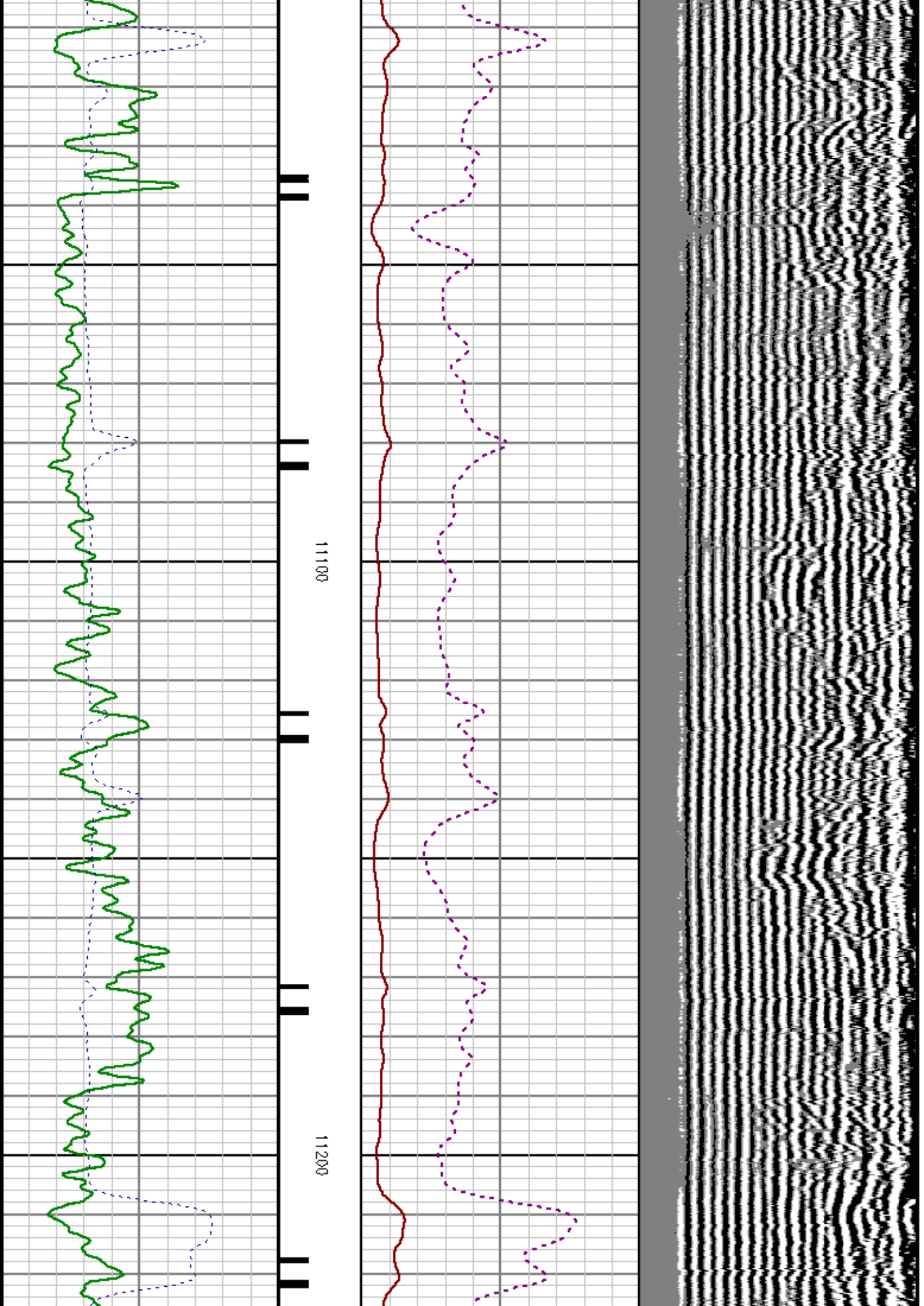


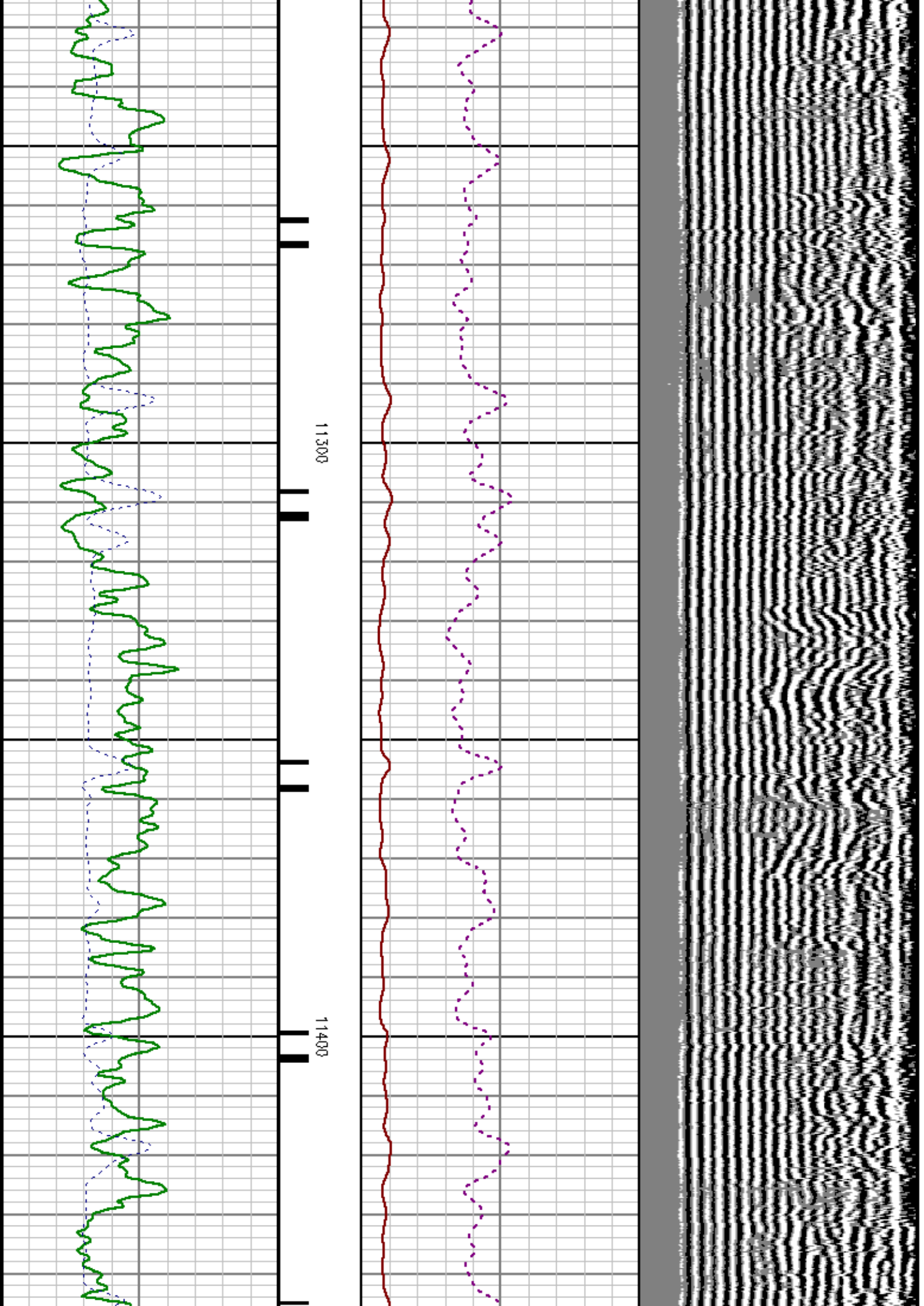


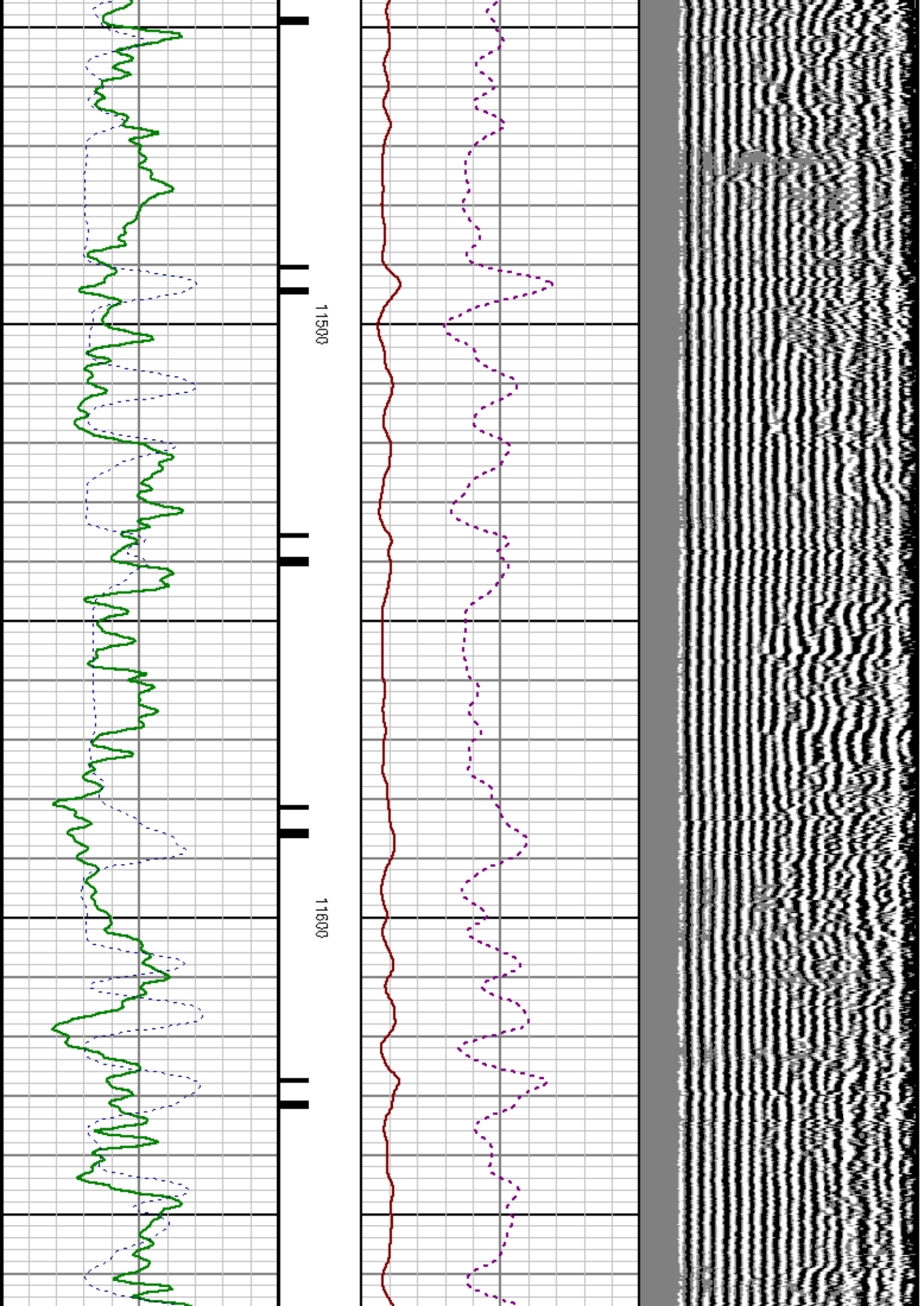


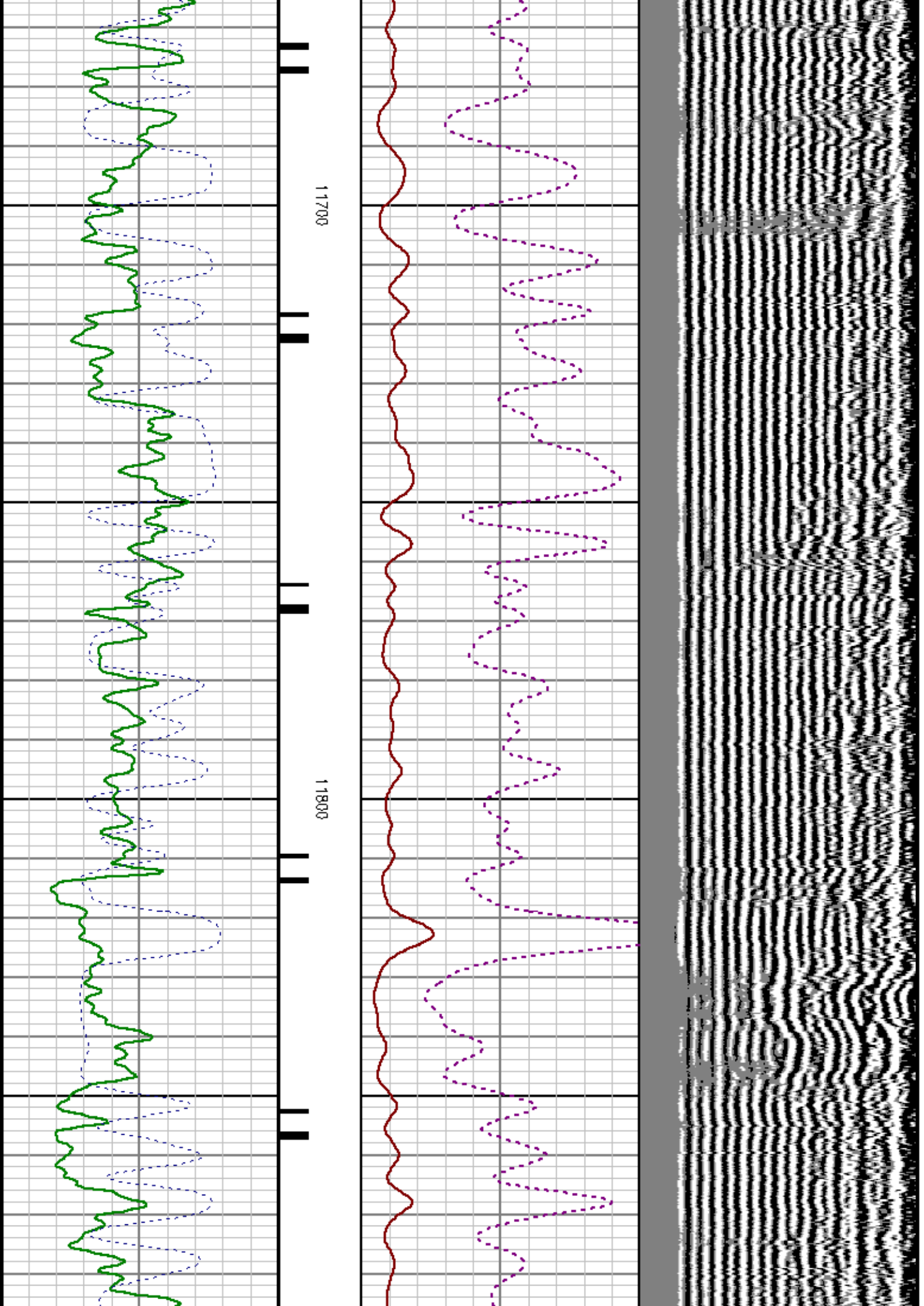


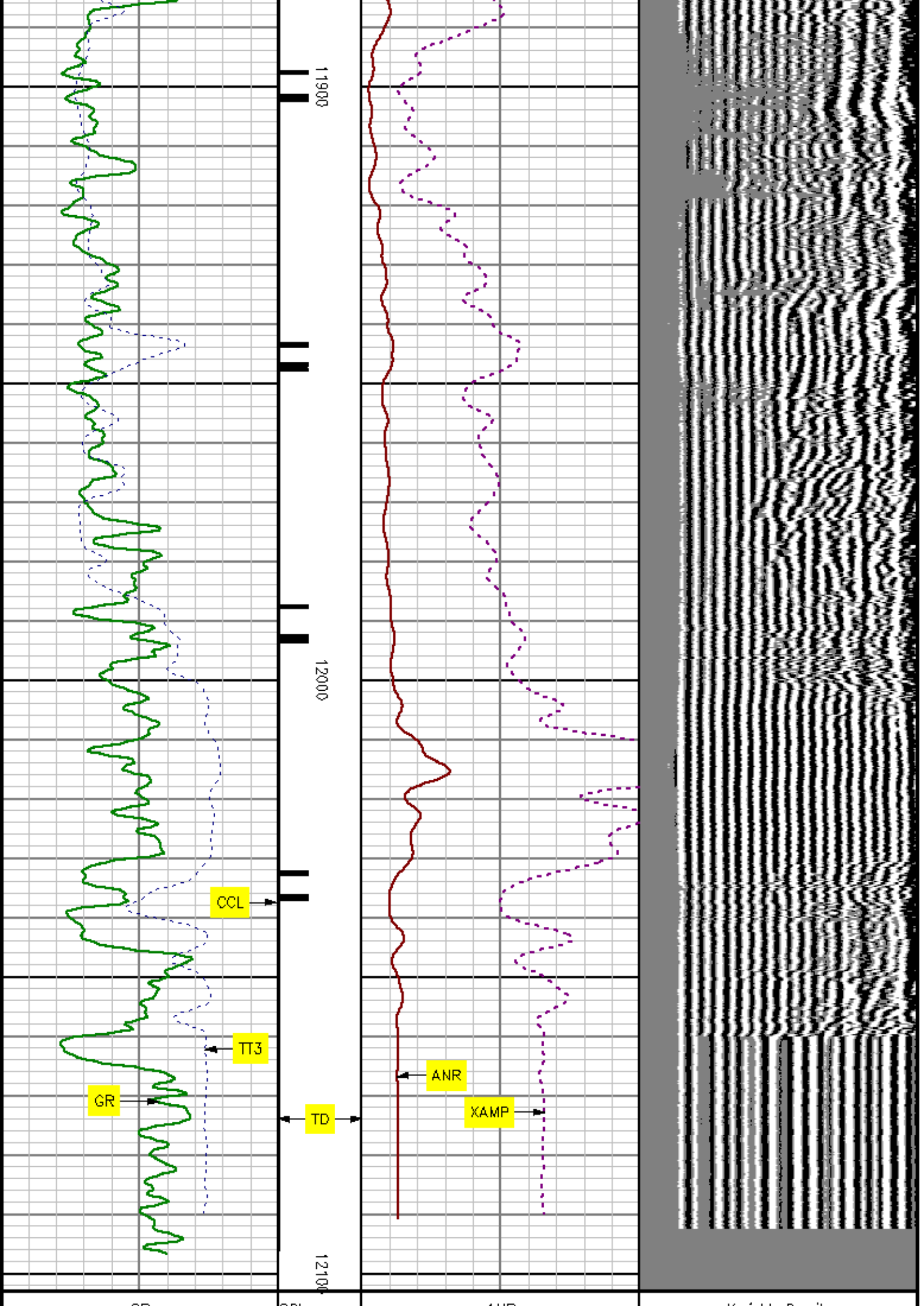


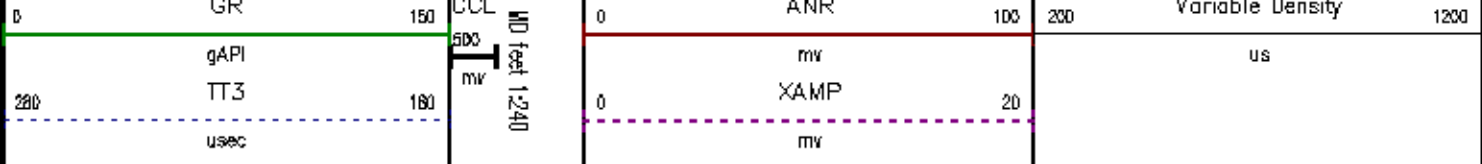












*REPEAT SECTION*

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	314.263	usec	11847.405	12104.000
RAL	Amp Gate Start Near	197.754	usec	11847.405	12104.000
RAL	Amp Gate Start Radial	197.754	usec	11847.405	12104.000
RAL	Amp Gate Width Far	25.000	usec	11847.405	12104.000
RAL	Amp Gate Width Near	25.000	usec	11847.405	12104.000
RAL	Amp Gate Width Radial	25.000	usec	11847.405	12104.000
RAL	casing od	4.500	inches	11847.405	12104.000
RAL	casing wt	15.100	lbm/ft	11847.405	12104.000
RAL	FB Start Far	289.263	usec	11847.405	12104.000
RAL	FB Start Near	172.754	usec	11847.405	12104.000
RAL	FB Start Radial	172.754	usec	11847.405	12104.000
RAL	FB Thresh Far	15.000	mv	11847.405	12104.000
RAL	FB Thresh Near	10.000	mv	11847.405	12104.000
RAL	FB Thresh Radial	10.000	mv	11847.405	12104.000
RAL	Fluid Travel Time	200.000	usec/ft	11847.405	12103.905

DEPTH OFFSETS  
(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES							
1426XA	-12.360	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	-11.360	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 : EXXONMOBIL PRODUCTION COMPANY

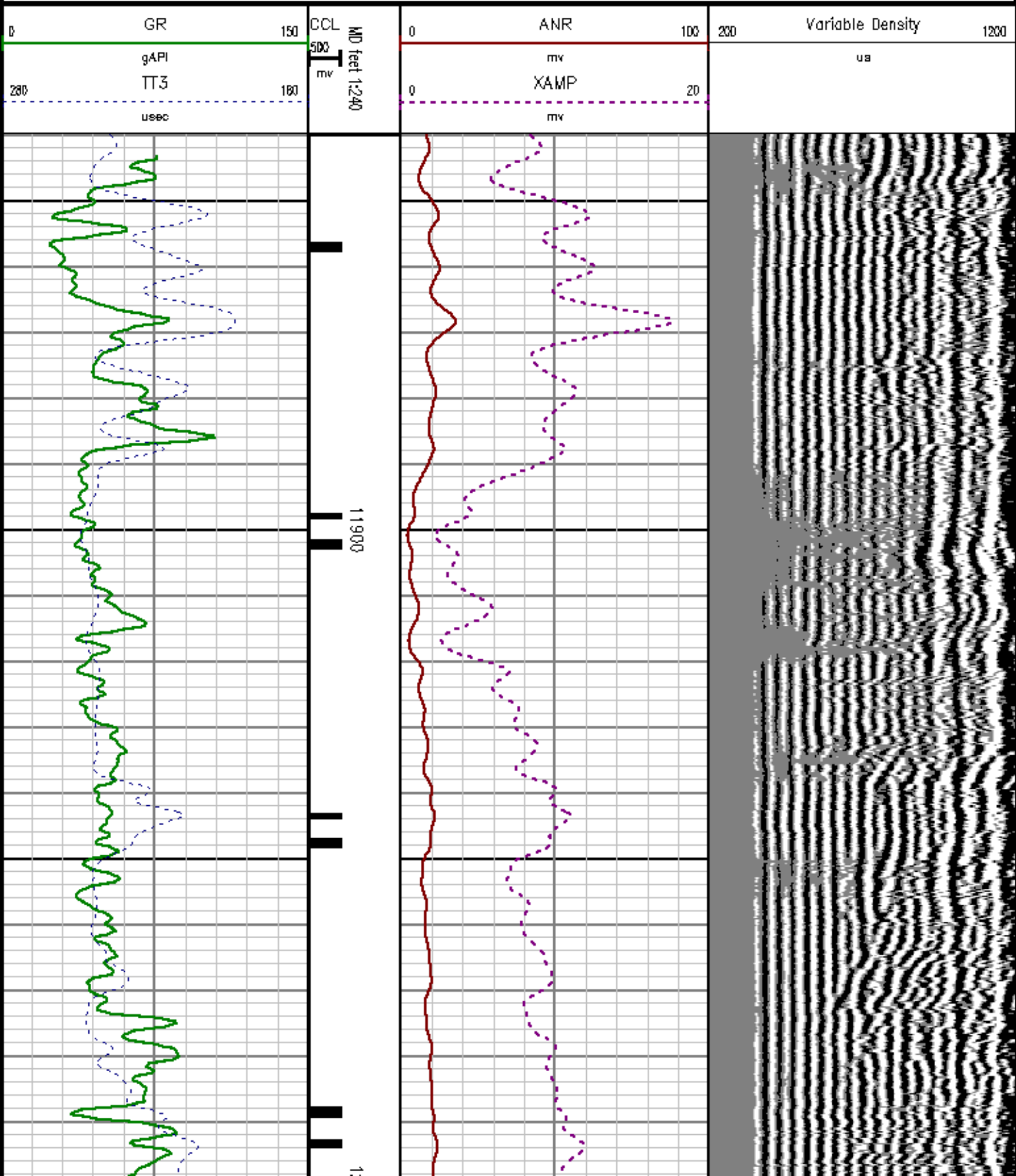
Well : FRU 197-28A6

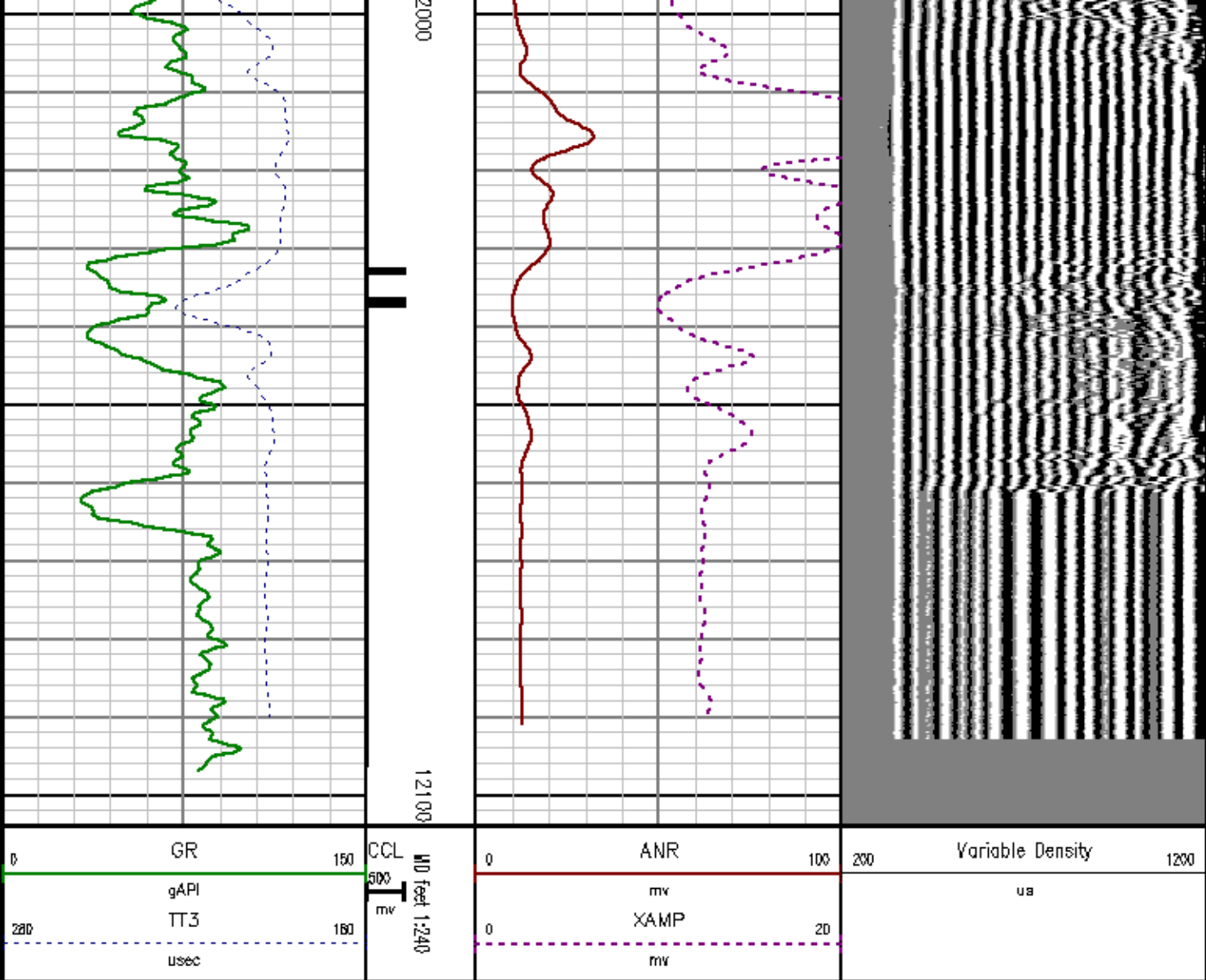
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Mode : PlotMgr 5.4.504

Interval : 11840.00 - 12104.00 feet UP

Created : 9/8/2010 4:43:53 PM





FREE PIPE SECTION

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	314.263	usec	62.000	193.031
RAL	Amp Gate Start Near	197.754	usec	62.000	193.031
RAL	Amp Gate Start Radial	197.754	usec	62.000	193.031
RAL	Amp Gate Width Far	25.000	usec	62.000	193.031
RAL	Amp Gate Width Near	25.000	usec	62.000	193.031
RAL	Amp Gate Width Radial	25.000	usec	62.000	193.031
RAL	casing od	4.500	inches	62.000	193.031

RAL	casing wt	15.100	lbm/ft	62.000	193.031
RAL	FB Start Far	289.263	usec	62.000	193.031
RAL	FB Start Near	172.754	usec	62.000	193.031
RAL	FB Start Radial	172.754	usec	62.000	193.031
RAL	FB Thresh Far	15.000	mv	62.000	193.031
RAL	FB Thresh Near	10.000	mv	62.000	193.031
RAL	FB Thresh Radial	10.000	mv	62.000	193.031
RAL	Fluid Travel Time	200.000	usec/ft	62.000	193.031

DEPTH OFFSETS  
(for Acquired 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	CCL							
1426XA	-5.390	GR							
1426XA	0.000	NEU							

Created by : RAL, v4.8.007

Plotted by : PlotMgr, v5.4.504

Company : EXXONMOBIL PRODUCTION COMPANY

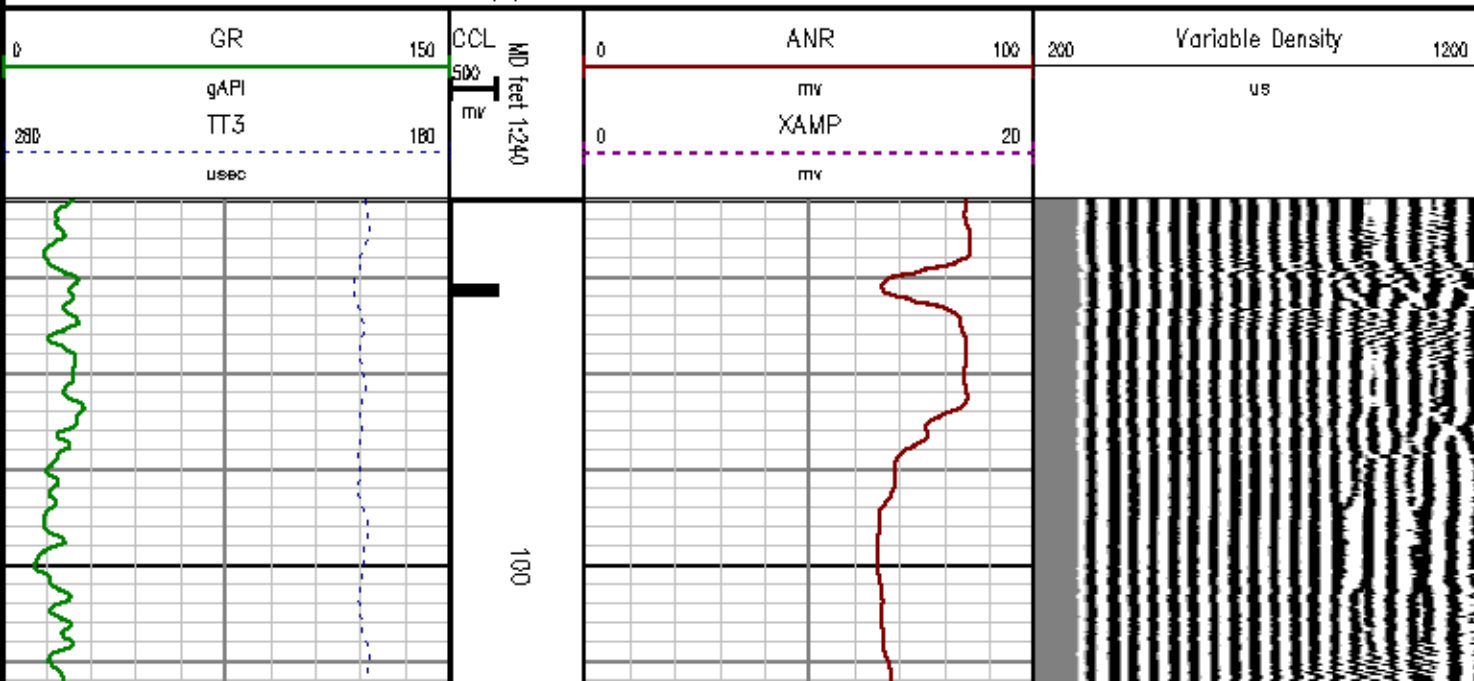
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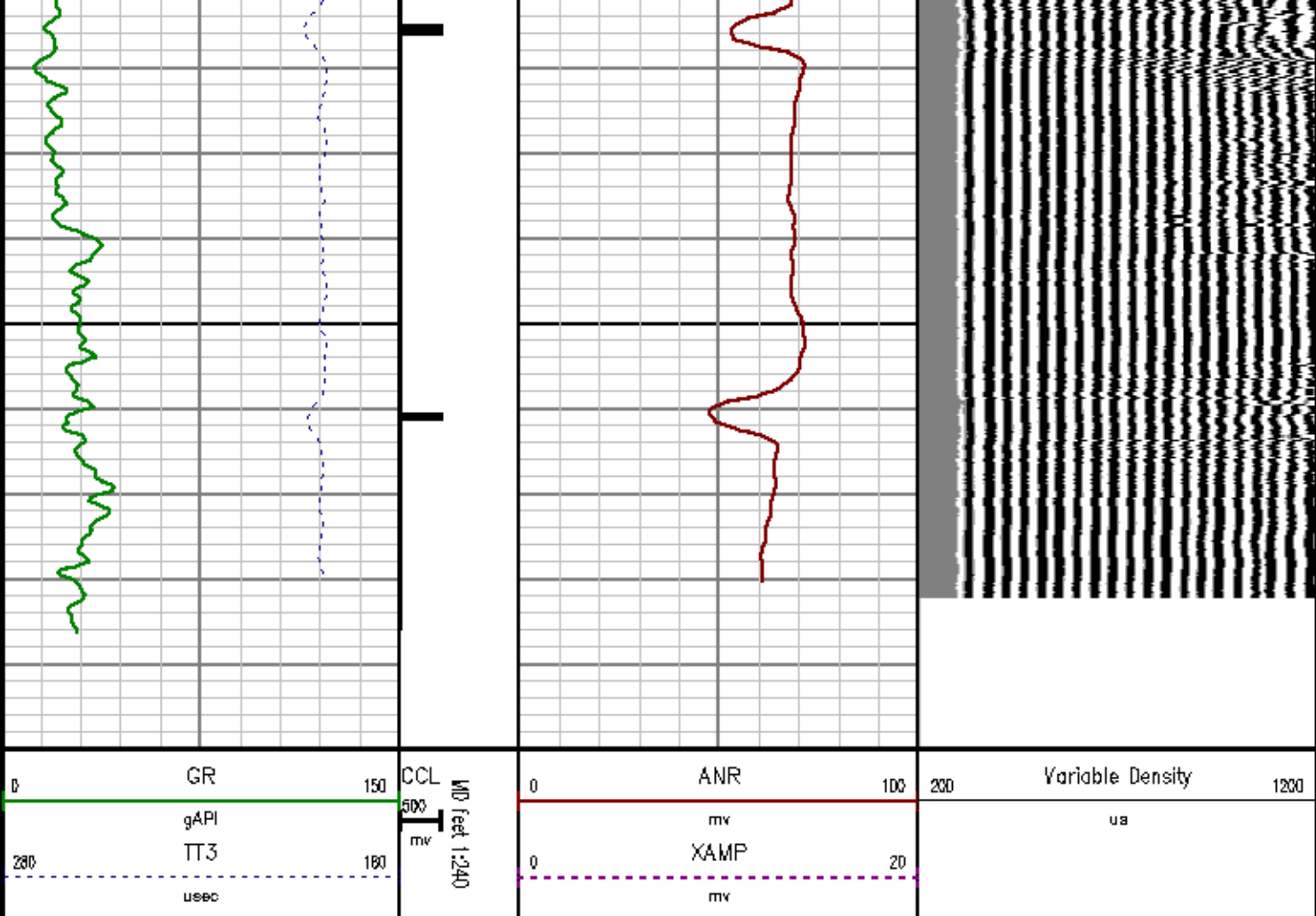
File Name : D:\WELLDATA\A6RAD\FREE.XTF

Mode : PlotMgr 5.4.504

Interval : 62.00 - 200.00 feet DOWN

Created : 9/8/2010 3:48:08 PM





## 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]  Tank OD [in]  Tank Wt [lbm/ft]  Tank ID [in]

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	217	216	30	166	25	-0.274	100.00	0.24
3 Ft. Receiver	217	216	25	148	25	-0.001	100.00	0.23
5 Ft. Receiver	325	324	25	252	25	0.069	150.00	0.26
Radial #1	219	216	30	155	25	-0.557	100.00	0.23
Radial #2	220	216	30	155	25	-0.594	100.00	0.23

Radial #2	220	216	30	155	25	-0.294	100.00	0.23
Radial #3	219	216	30	155	25	-0.216	100.00	0.23
Radial #4	217	216	30	155	25	0.152	100.00	0.23
Radial #5	215	216	30	155	25	0.090	100.00	0.23
Radial #6	214	216	30	155	25	0.236	100.00	0.23
Radial #7	215	216	30	155	25	0.100	100.00	0.23
Radial #8	217	216	30	155	25	0.022	100.00	0.23

## GAMMA RAY

Calibration File: C:\case\calver\GR\457S1.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\457S1.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	

## RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\857S11 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]       Casing OD [in]       Casing Wt [lbm/ft]       Casing ID [in]

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

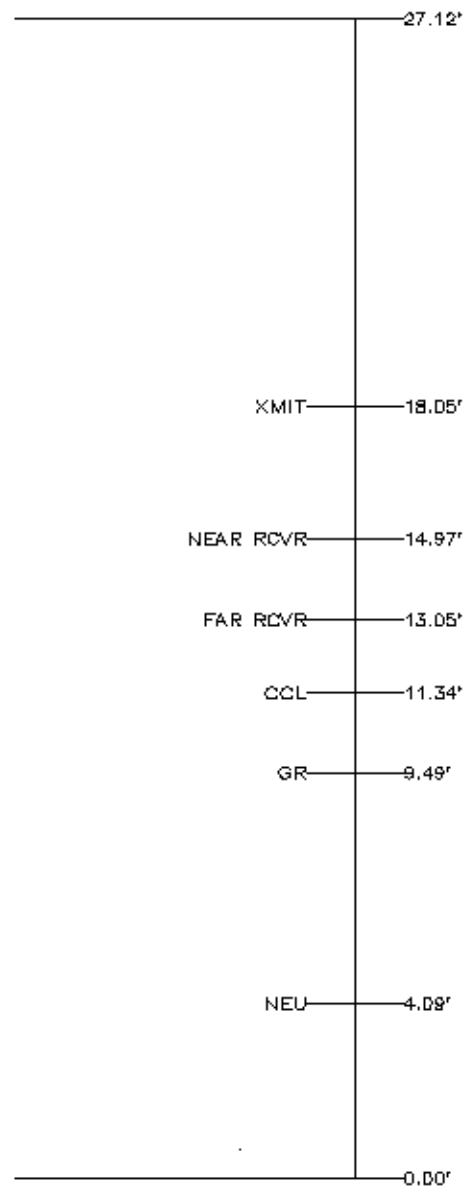
# TOOL DIAGRAM

<i>OTA SHORT CABLE HEAD</i>	
<i>CENTRALIZER</i>	
Series	RALCENT
Mnemonic	CENT
Diameter	3.12"
Weight	20.00 lb

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

<i>Probe GR/CCL/NEU</i>	
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

<i>CENTRALIZER</i>	
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 197-2BA6  
Field FREEDOM UNIT  
County RIO BLANCO State COLORADO

File No:  
API No:  
0510311634000

Baker Atlas



Location  
2372' FSL & 235' FWL  
SEC 28 TWP 1S RGE 97W

Elevations  
KB 6108 ft  
DF 6108 ft  
GL 6082 ft