



# RADIAL ANALYSIS BOND LOG

Baker Atlas

File No:	Company	EXXONMOBIL PRODUCTION COMPANY	
1727	Well	FRU 197-3349	
API No:	Field	PICEANCE CREEK	
00103114000000	County	RIO BLANCO	State
			COLORADO
Location		Other Services	
SHL: 680' PSL & 2366' FEL		RPM	
SEC 33 TWP 1S RGE 87W			
Permanent Datum	GL	Elevation	6388 ft
Log Measured From	KB	29.4 ft	Above P. D.
Drill Measured From	KELLY BUSHING		
		KB	6417.4 ft
		DF	6416.4 ft
		GL	6388 ft

Date	23 APR 2010	
Run	ONE	
Service Order	589777	
Depth Driller	12185 ft	
Depth Logger	12130 ft	
Bottom Logged Interval	12130 ft	
Top Logged Interval	6500 ft	
Time Started	06:30	
Time Finished	09:00	
Operator Rig Time	3.5 hrs	
Type of Fluid in Hole	WATER	
Fluid Density	N/A	
Salinity	N/A	
Fluid Level	PULL	
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	NONE	
Reference Log Date	N/A	
Equipment No.	4271	VERNAL, UT.
Recorded By	J. OSTLER	
Witnessed By	MR. MIKE ROBERTSON	

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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
9.875 in	SURFACE	8507 ft
6.125 in	SURFACE	12185 ft

Casing Record				
Size	Weight	Grade	From	To
7 in	26 lbm/ft	P-110	SURFACE	8507 ft
4.5 in	15.1 lbm/ft	P-110	SURFACE	12185 ft

## Remarks

THIS IS THE FIRST LOG OF THE WELL  
WELL WAS LOGGED WITH 0 PSI AT THE WELL HEAD  
SHORT JOINT TOPS AT 6082', 7106', 8123', 8128', 10186', 11135'

## Equipment Data

Run	Trip	Tool	Series Number	Serial Number	Position

	1	VDL	1426XA	UNKNOWN	CENTRALIZED
1	1	GR/CCL/NEU	2459KA	460	CENTRALIZED

***MAIN SECTION***  
***PRIMARY PRESENTATION***  
*0 PSI*

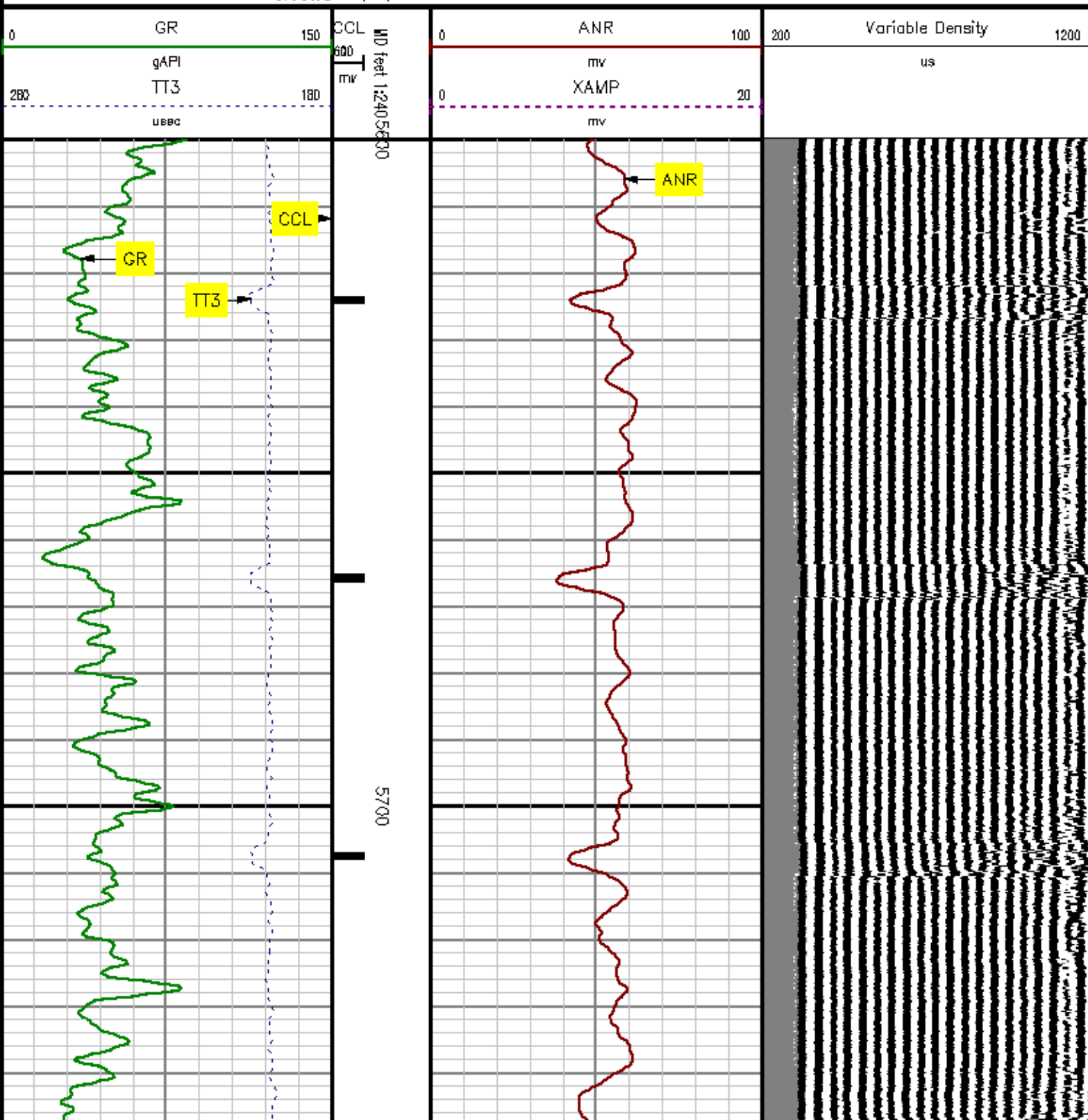
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	314.263	usec	4851.550	12162.800
RAL	Amp Gate Start Near	197.754	usec	4851.550	12162.800
RAL	Amp Gate Start Radial	197.754	usec	4851.550	12162.800
RAL	Amp Gate Width Far	25.000	usec	4851.550	12162.800
RAL	Amp Gate Width Near	25.000	usec	4851.550	12162.800
RAL	Amp Gate Width Radial	25.000	usec	4851.550	12162.800
RAL	casing od	4.500	inches	4851.550	12162.800
RAL	casing wt	15.100	lbm/ft	4851.550	12162.800
RAL	FB Start Far	289.263	usec	4851.550	12162.800
RAL	FB Start Near	172.754	usec	4851.550	12162.800
RAL	FB Start Radial	172.754	usec	4851.550	12162.800
RAL	FB Thresh Far	10.000	mv	4851.550	12162.800
RAL	FB Thresh Near	4.000	mv	4851.550	12162.800
RAL	FB Thresh Radial	4.000	mv	4851.550	12162.800
RAL	Fluid Travel Time	200.000	usec/ft	4851.550	12162.780

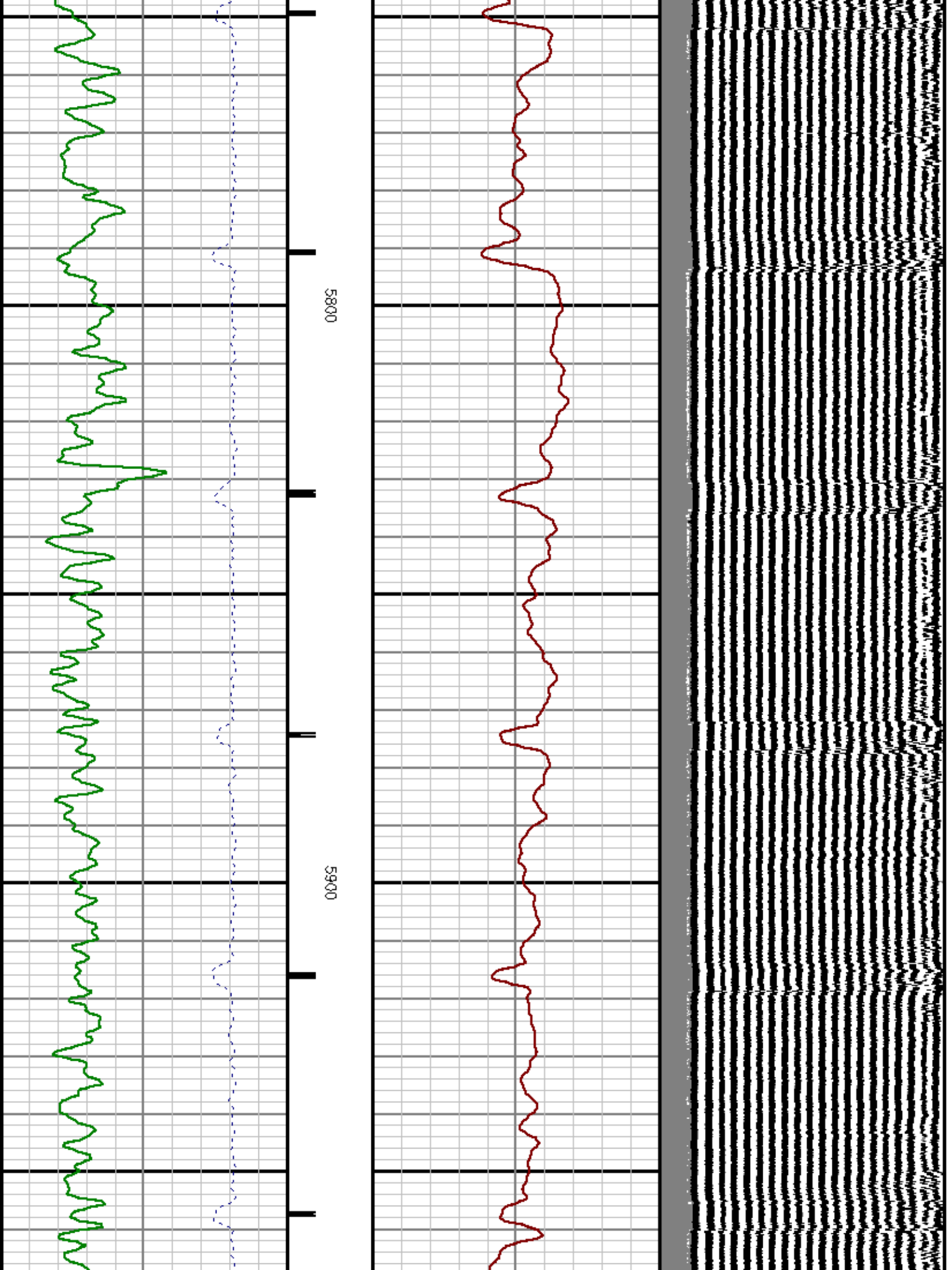
DEPTH OFFSETS  
(for Acquired Curves)

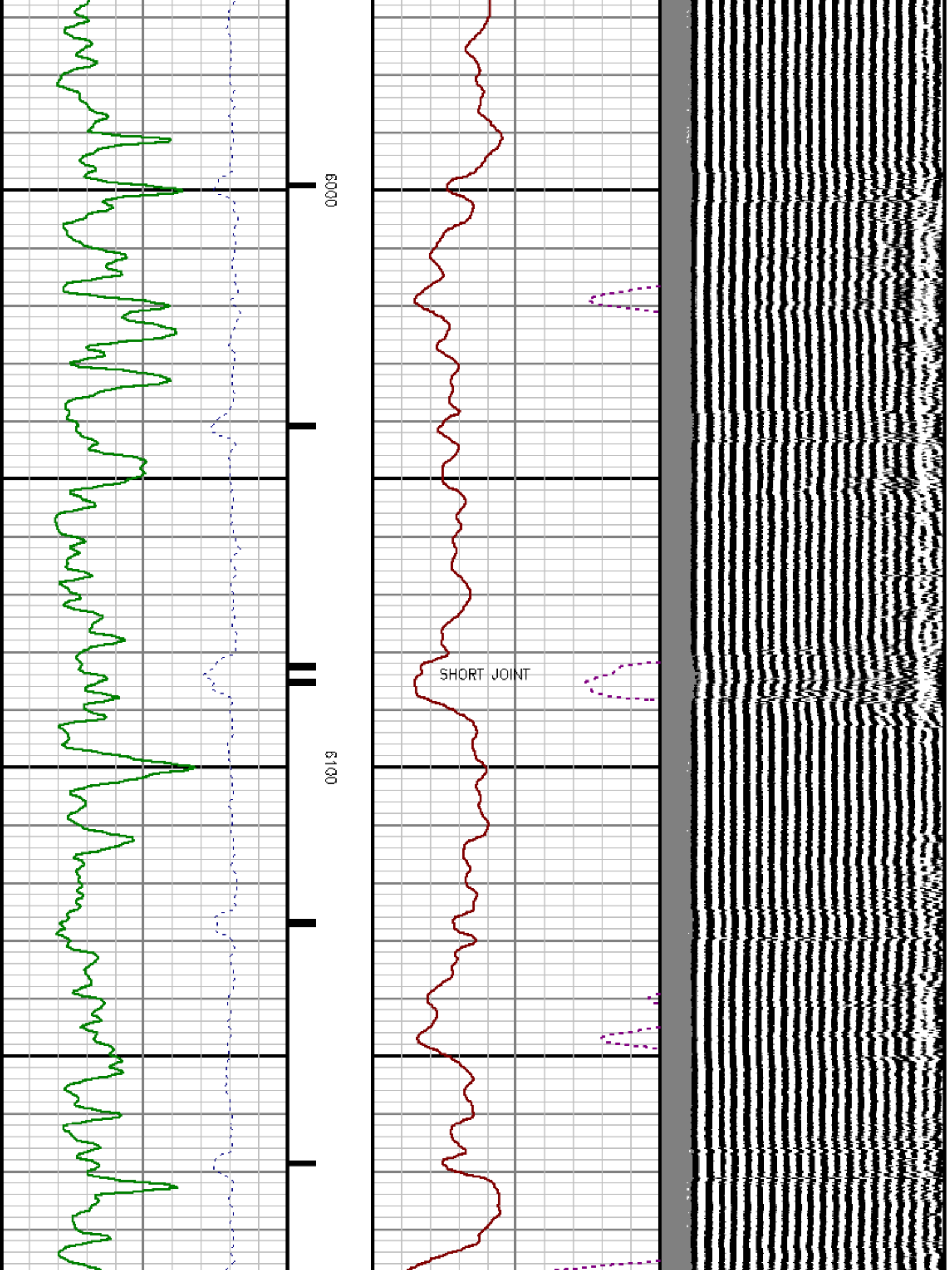
SERIES	DEPTH OFFSET	ACQUIRED CURVES					
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		AR5	AR6	AR7	ARB	CHV	FPR2
		FPR3	FPRS	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-14.360	AFAR	SIG	TT5			
1426XA	-7.250	CCL					

GR  
NEU

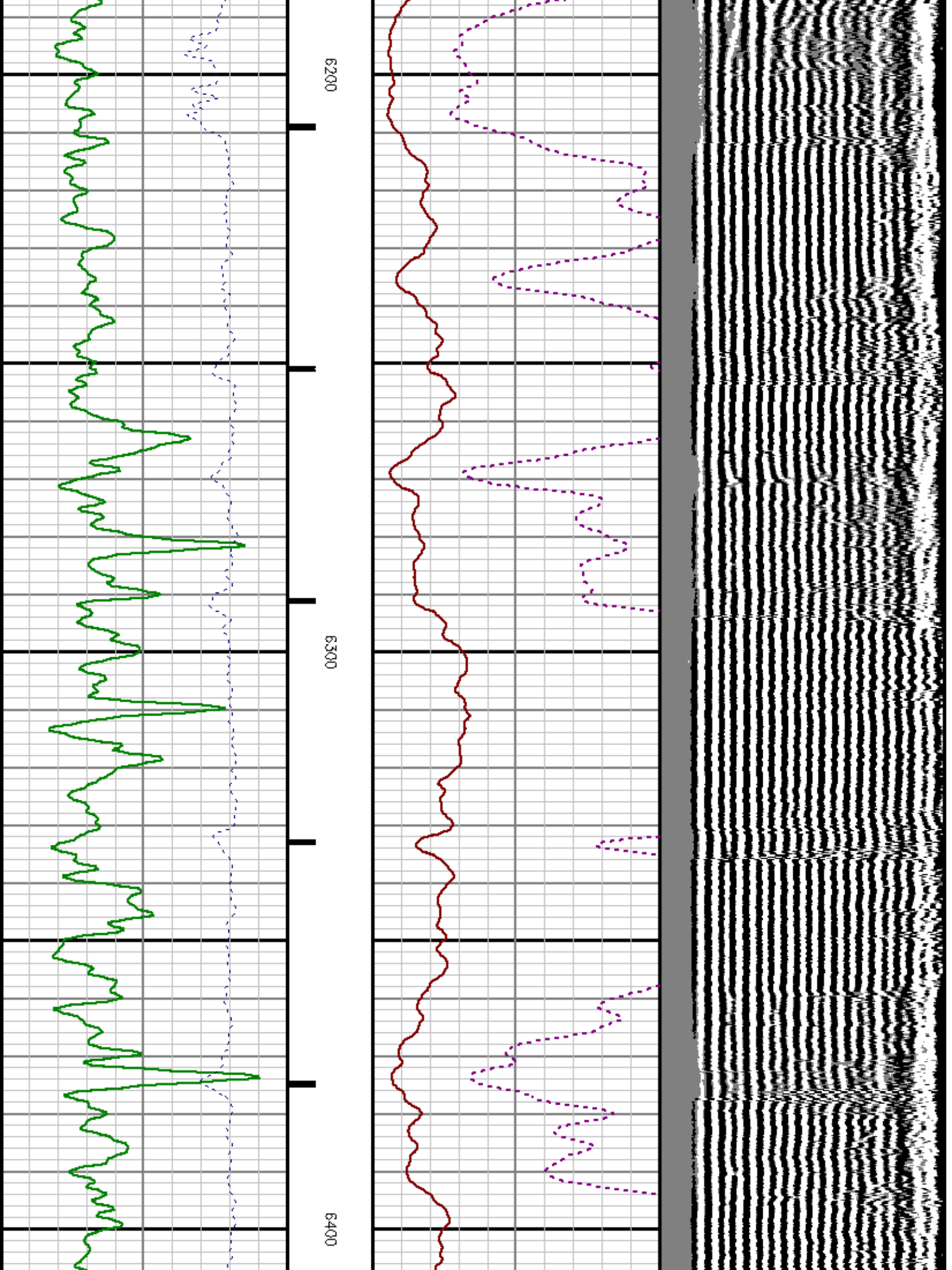
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Plotted by : PlotMgr, v5.4.504
Company : EXXONMOBIL PRODUCTION COMPANY
Well : FRU 197-3349
File Name : d:\welldata\rada9\main.txt
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Interval : 5600.00 - 12136.00 feet UP
Created : 4/23/2010 6:09:42 AM
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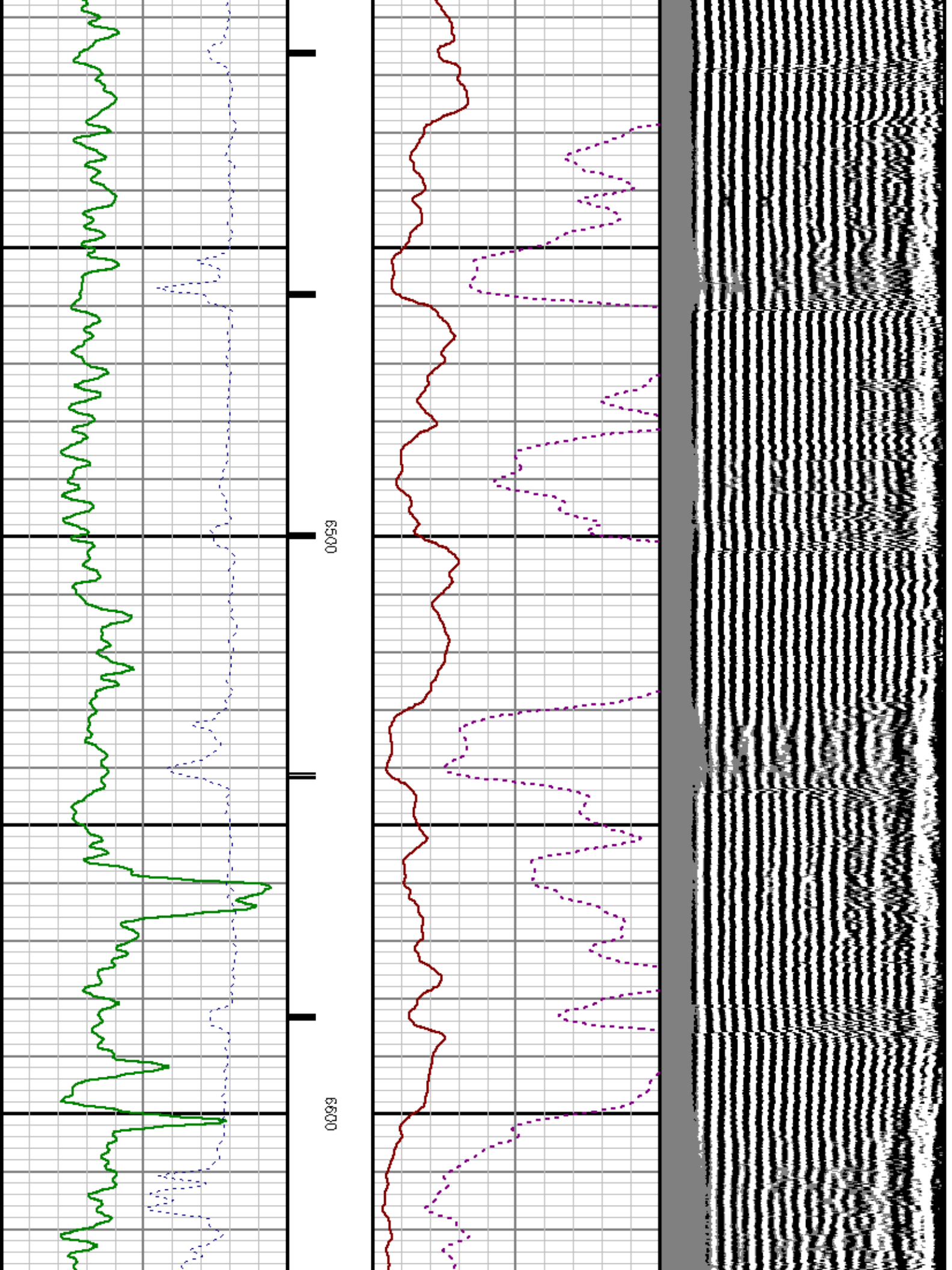


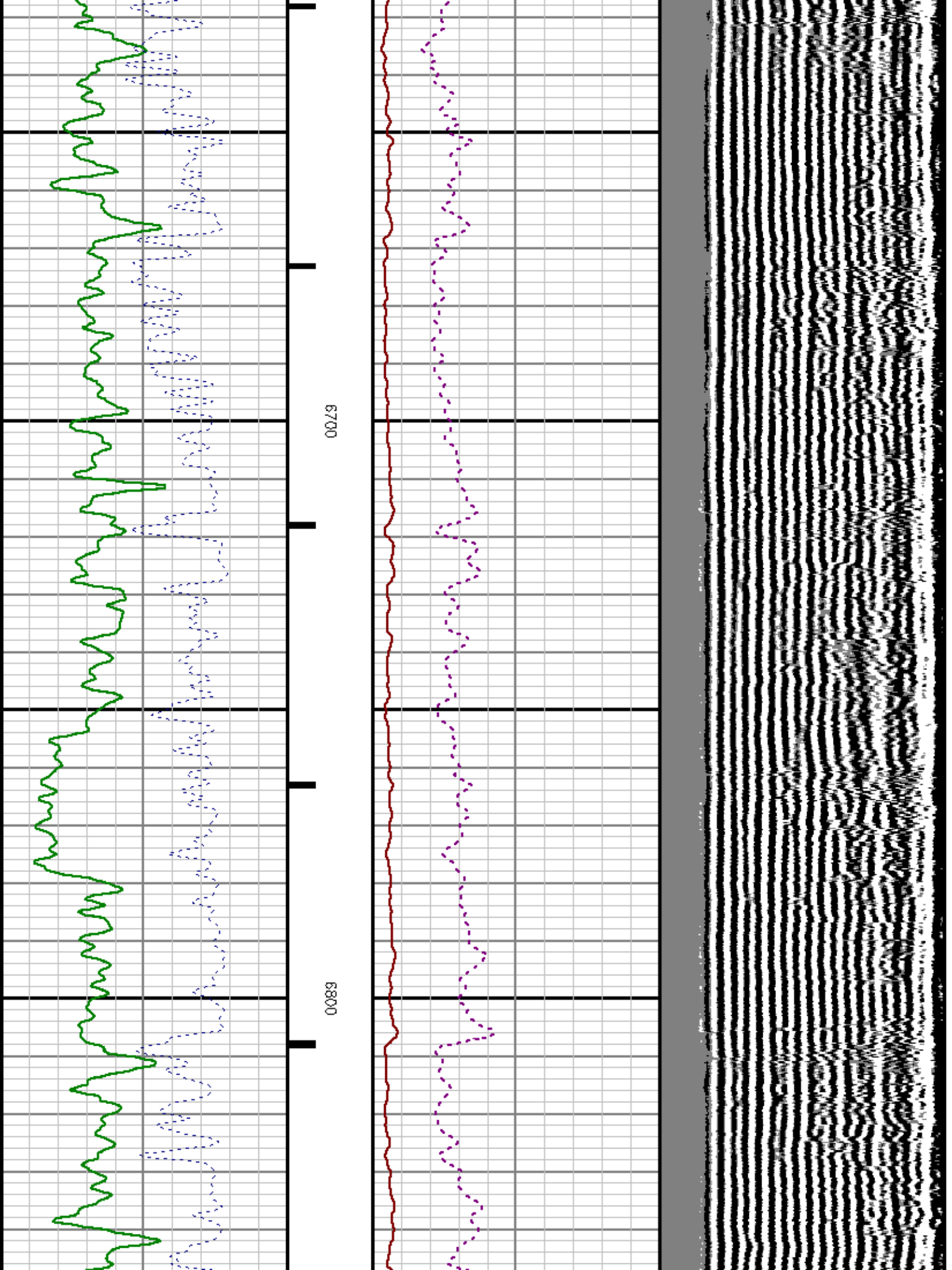




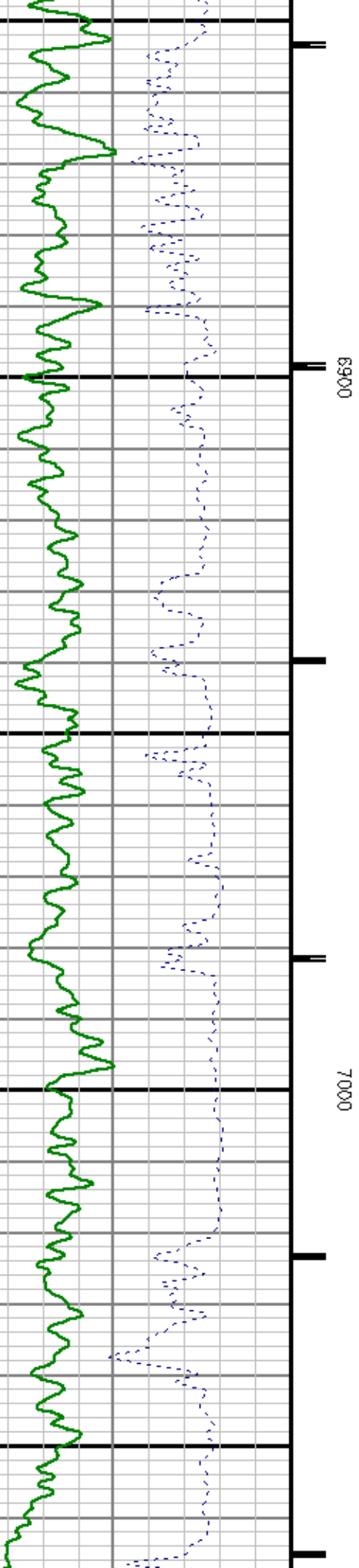
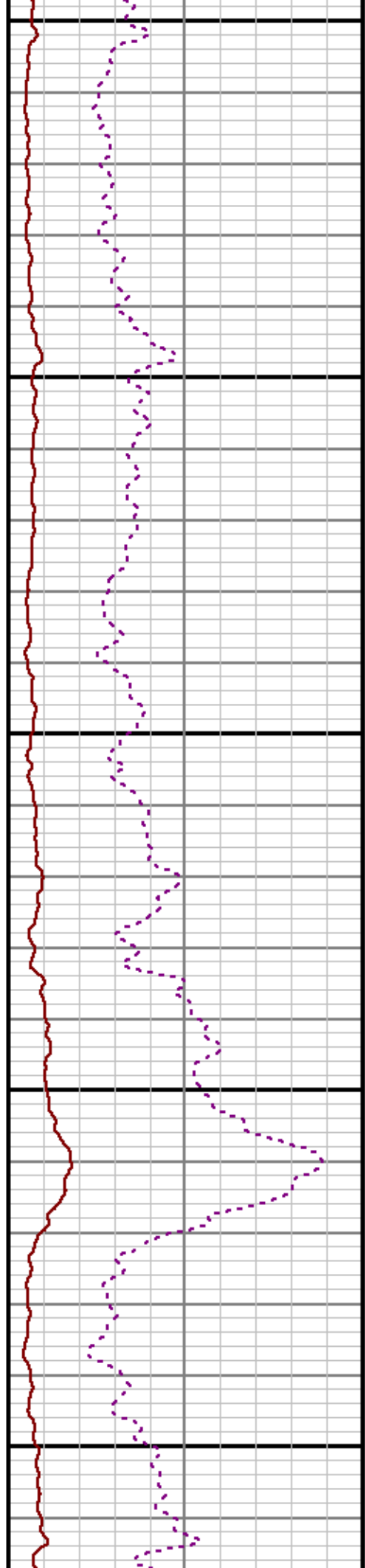
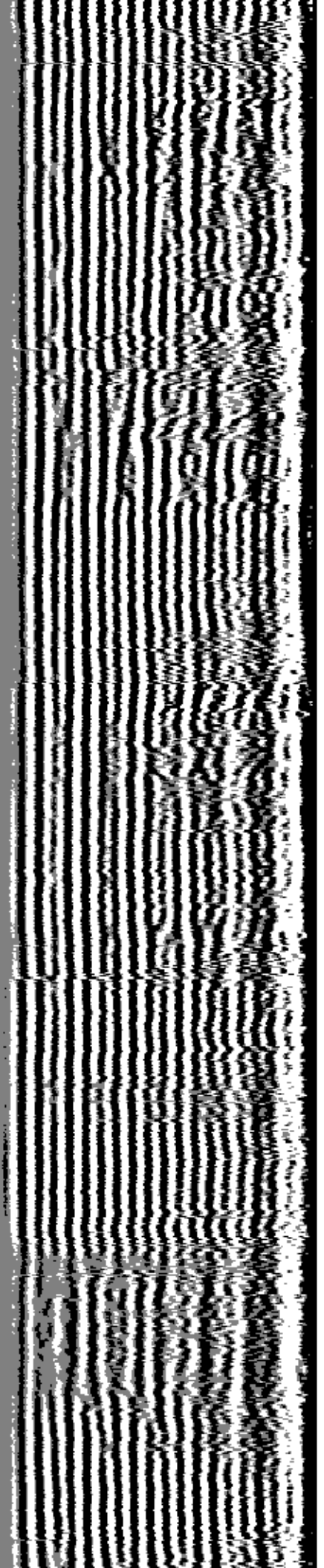


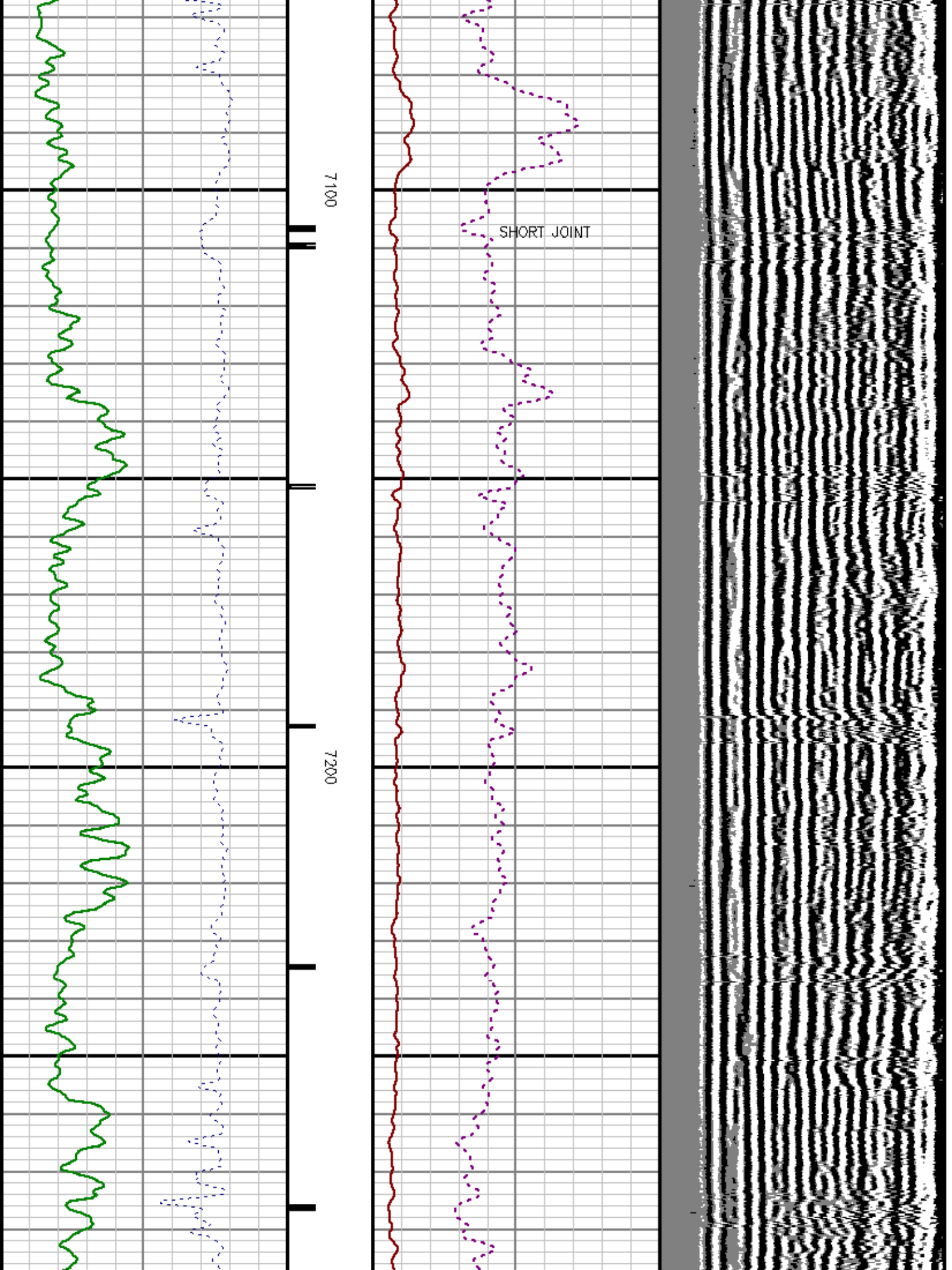


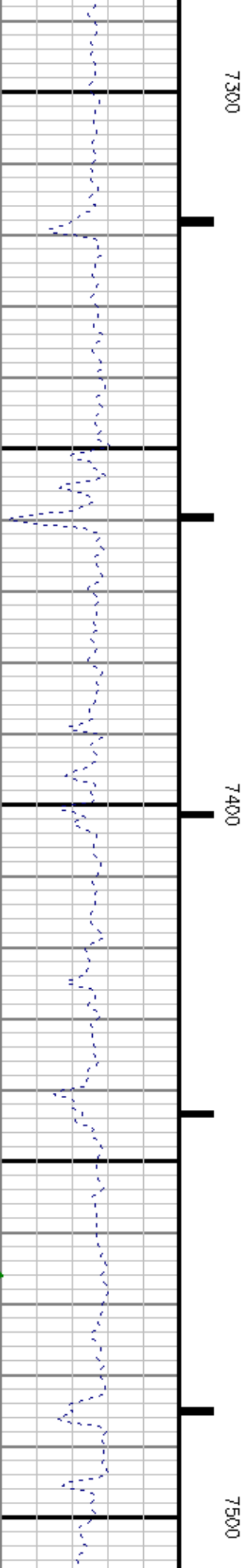
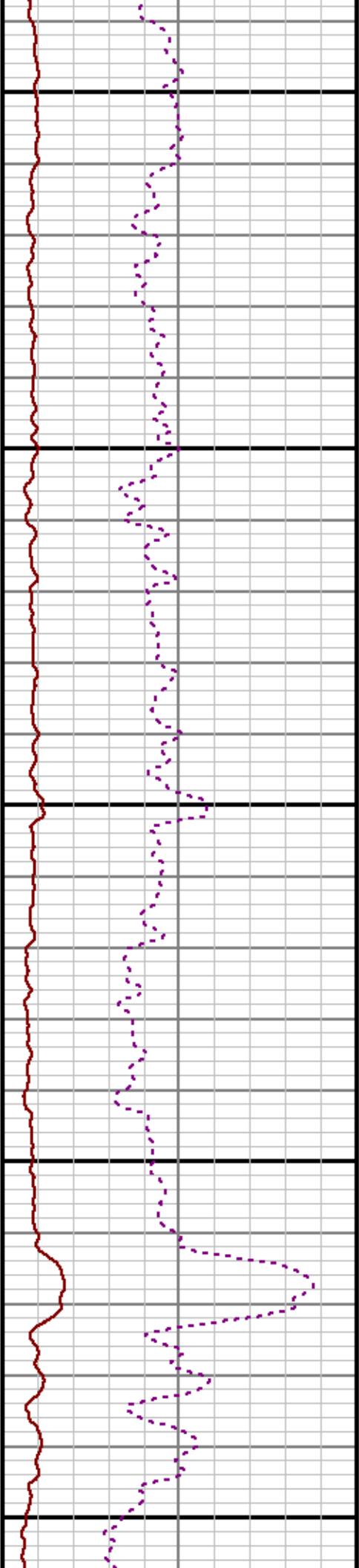
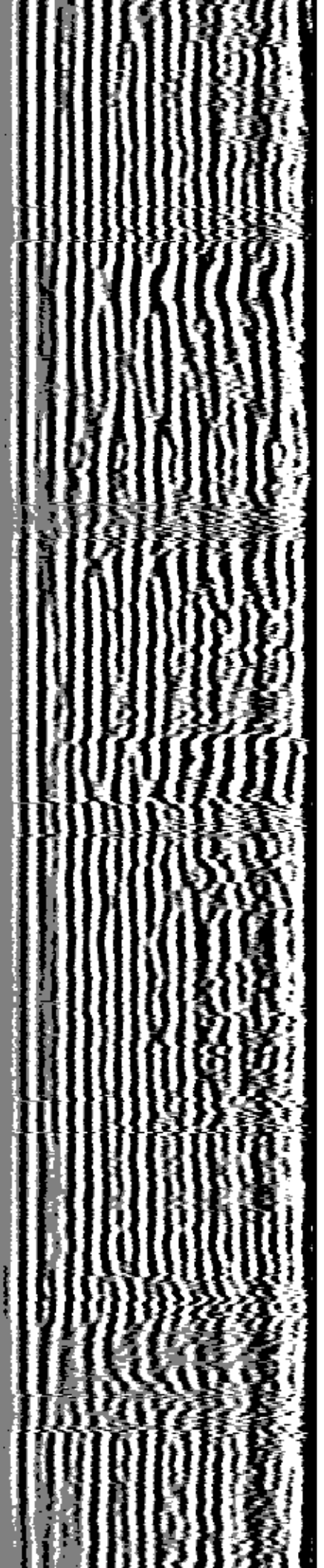




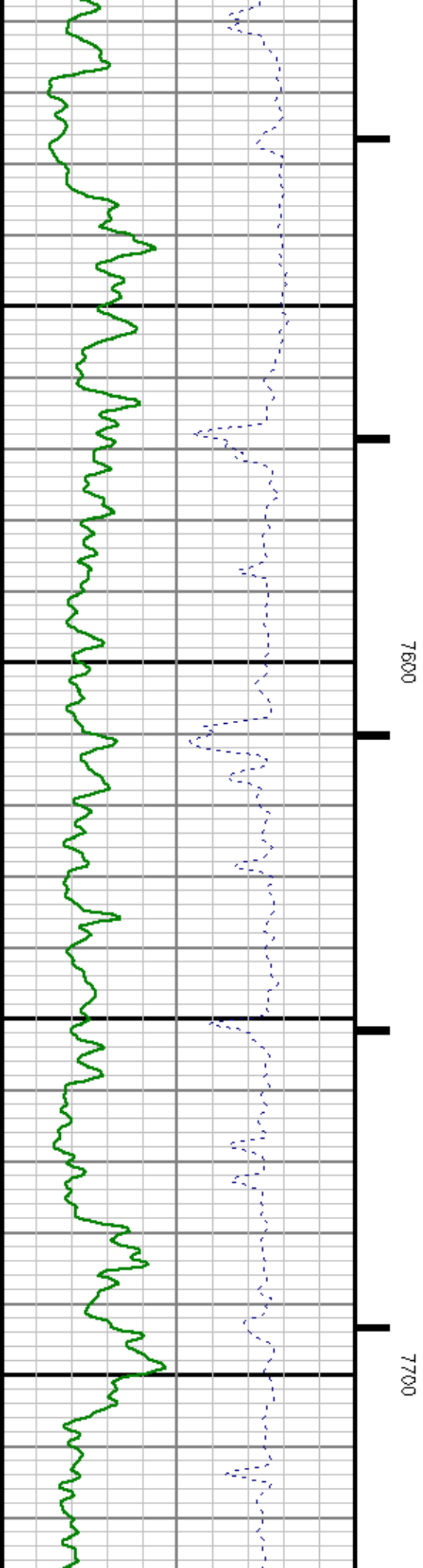
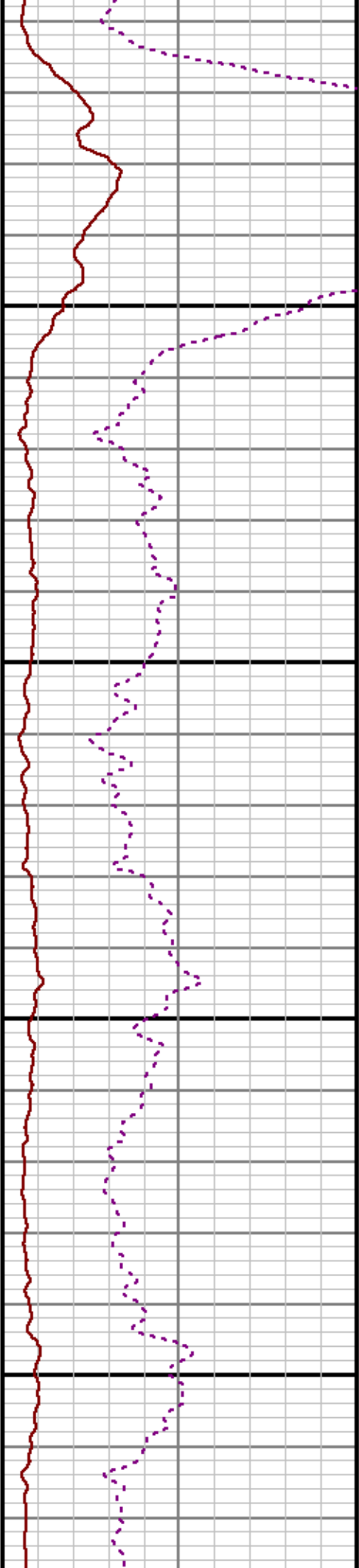
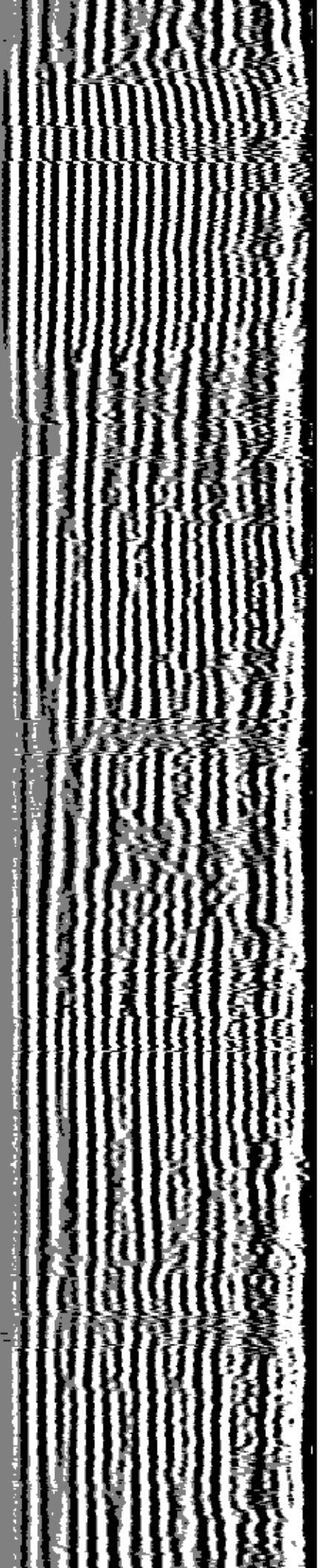


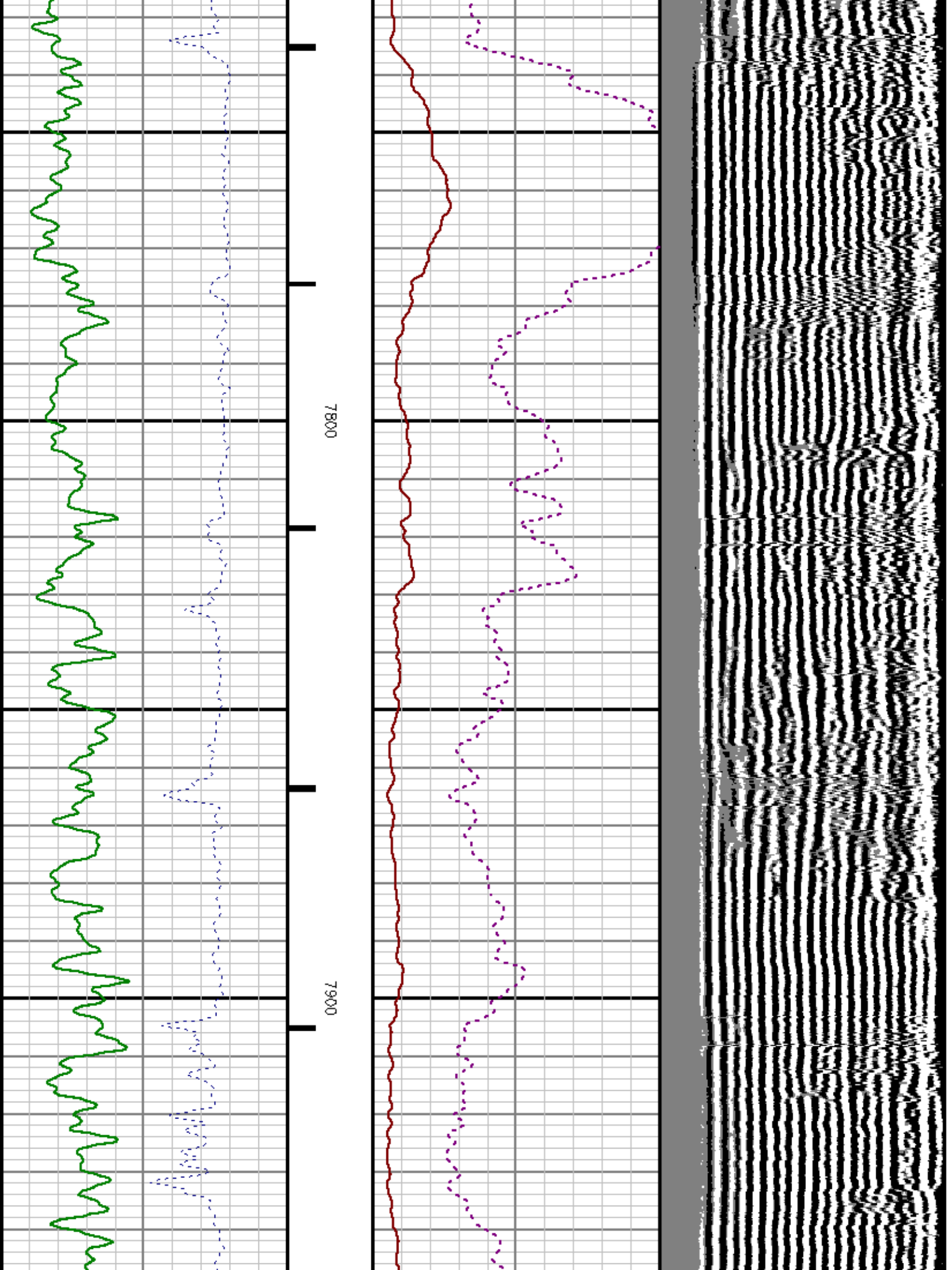




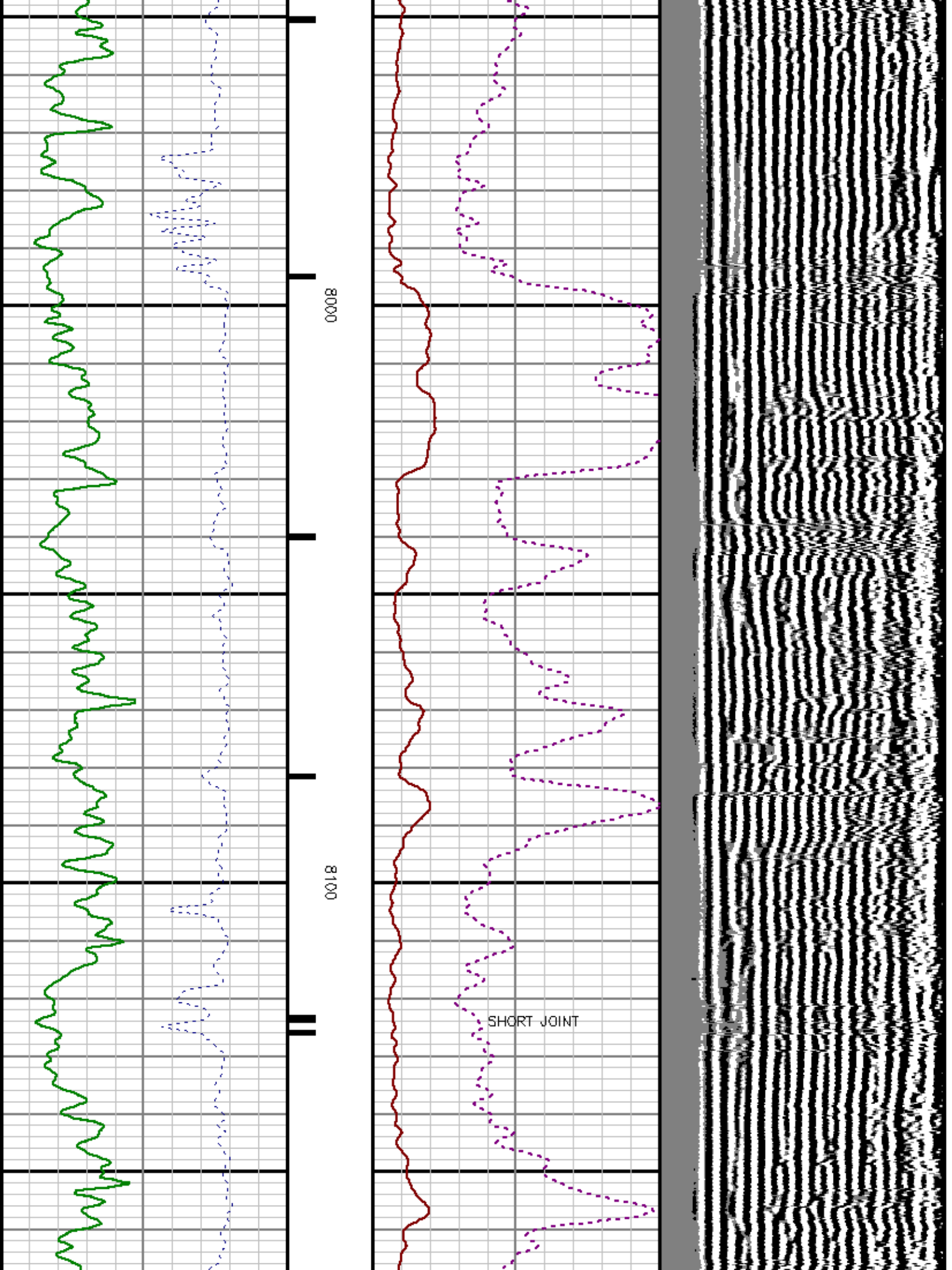


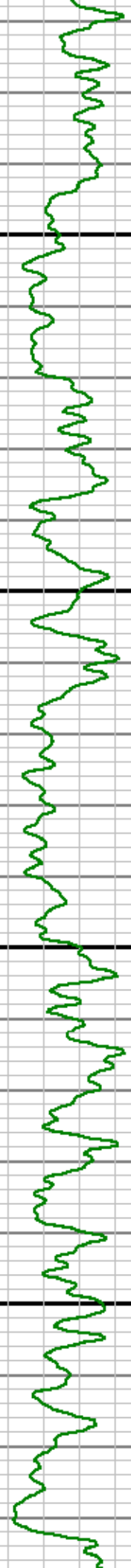
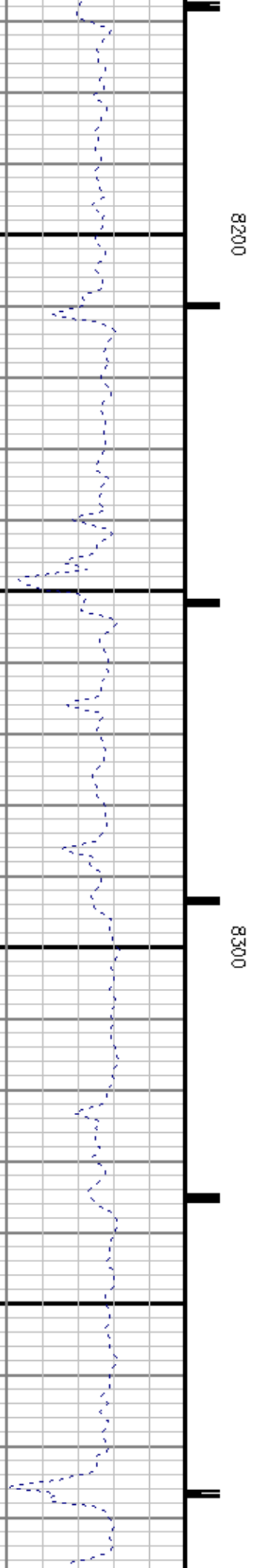
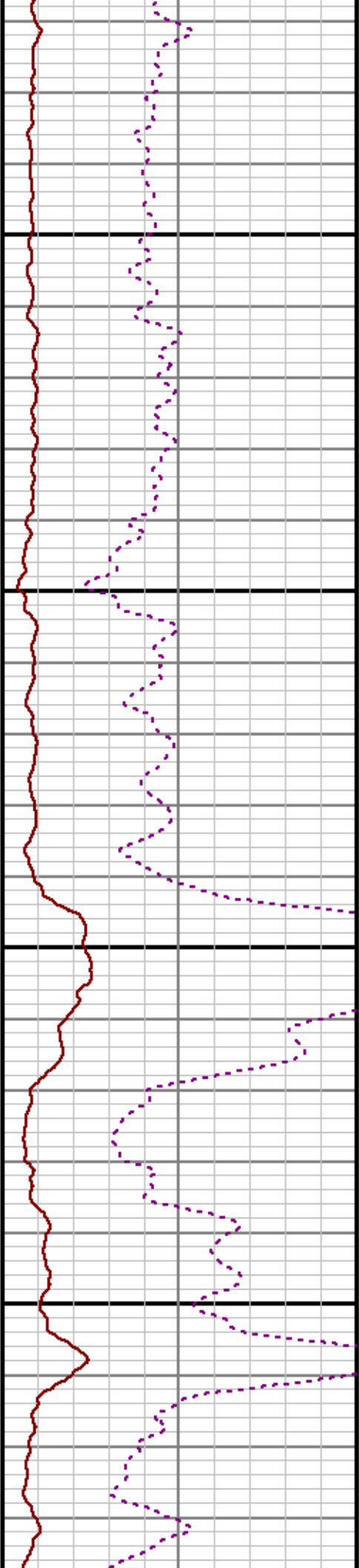
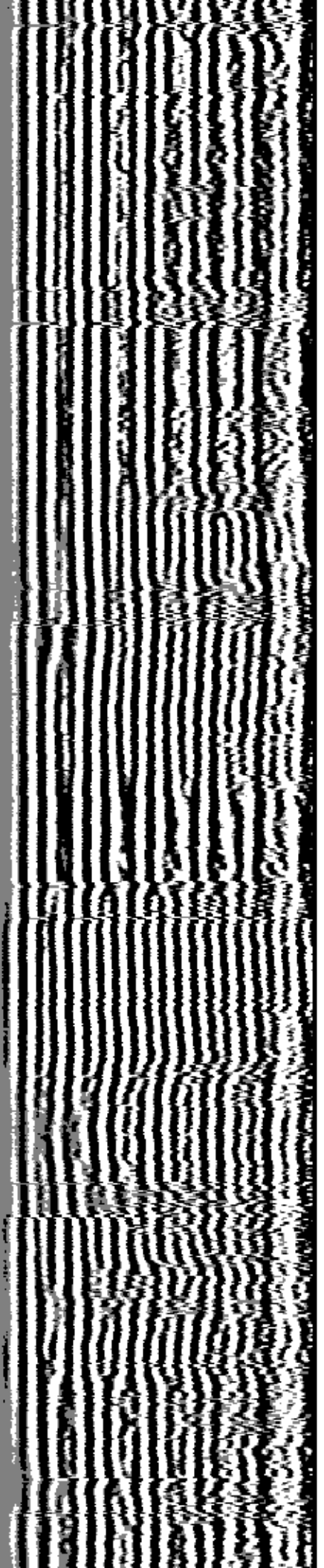


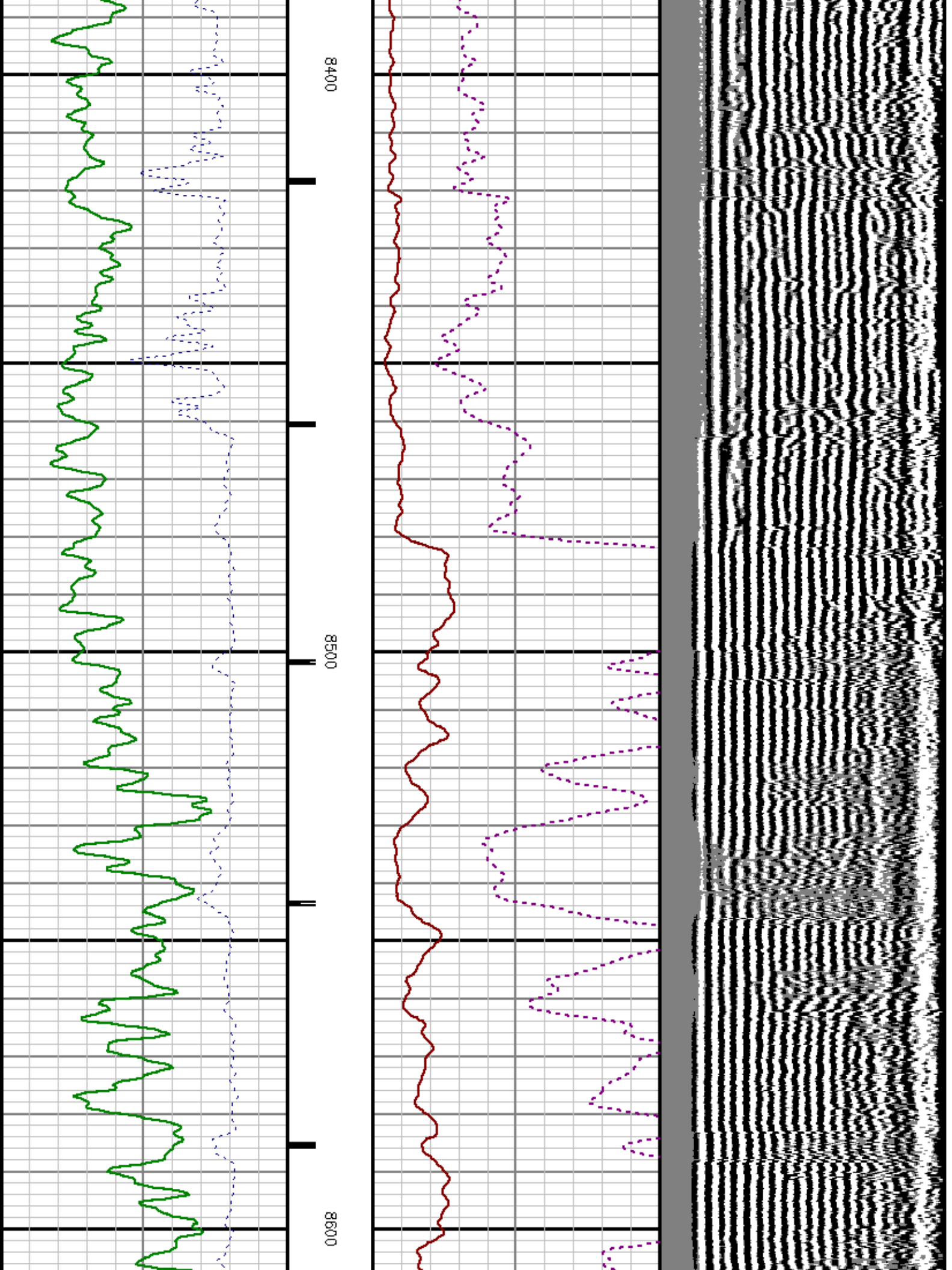




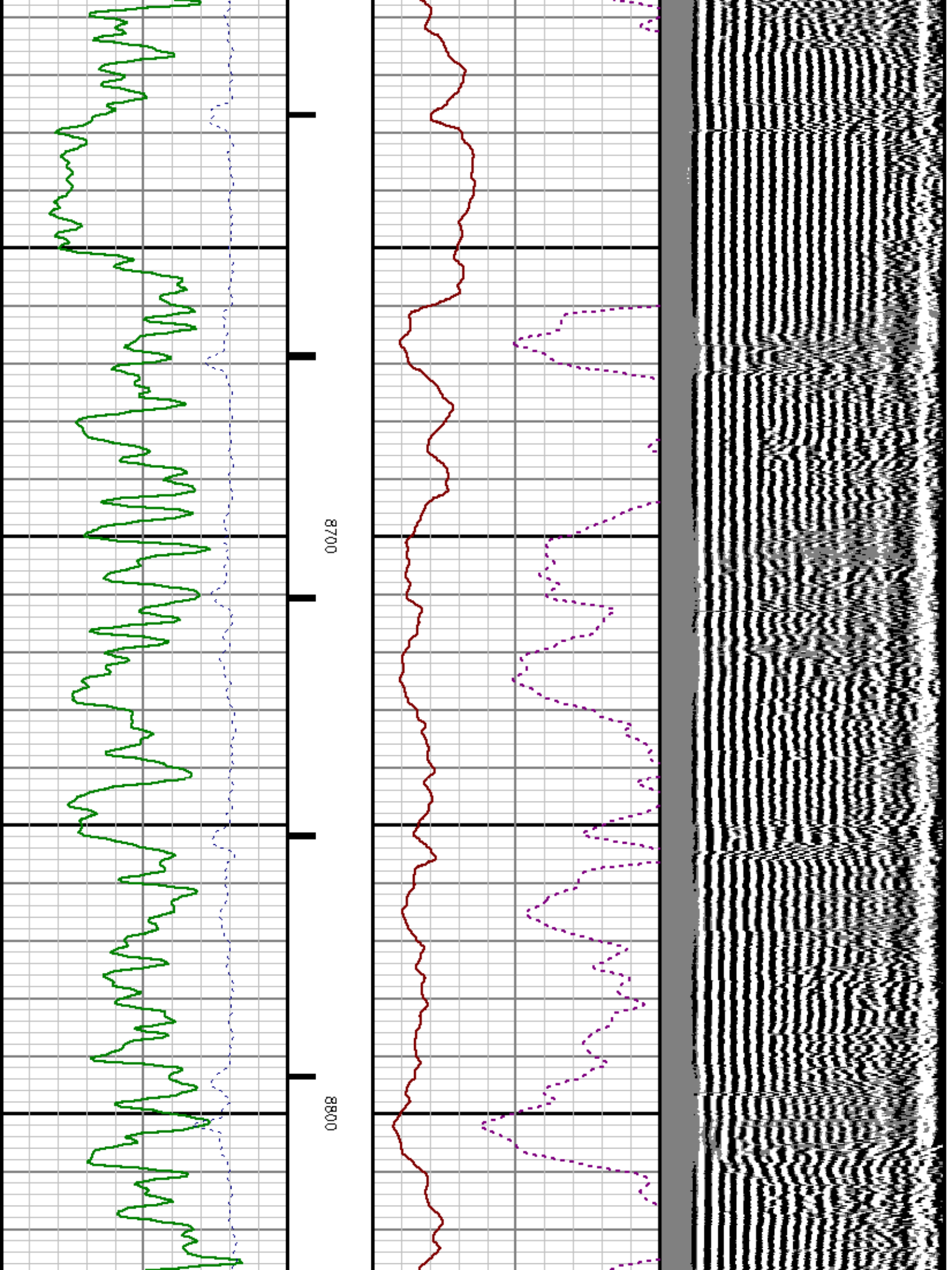


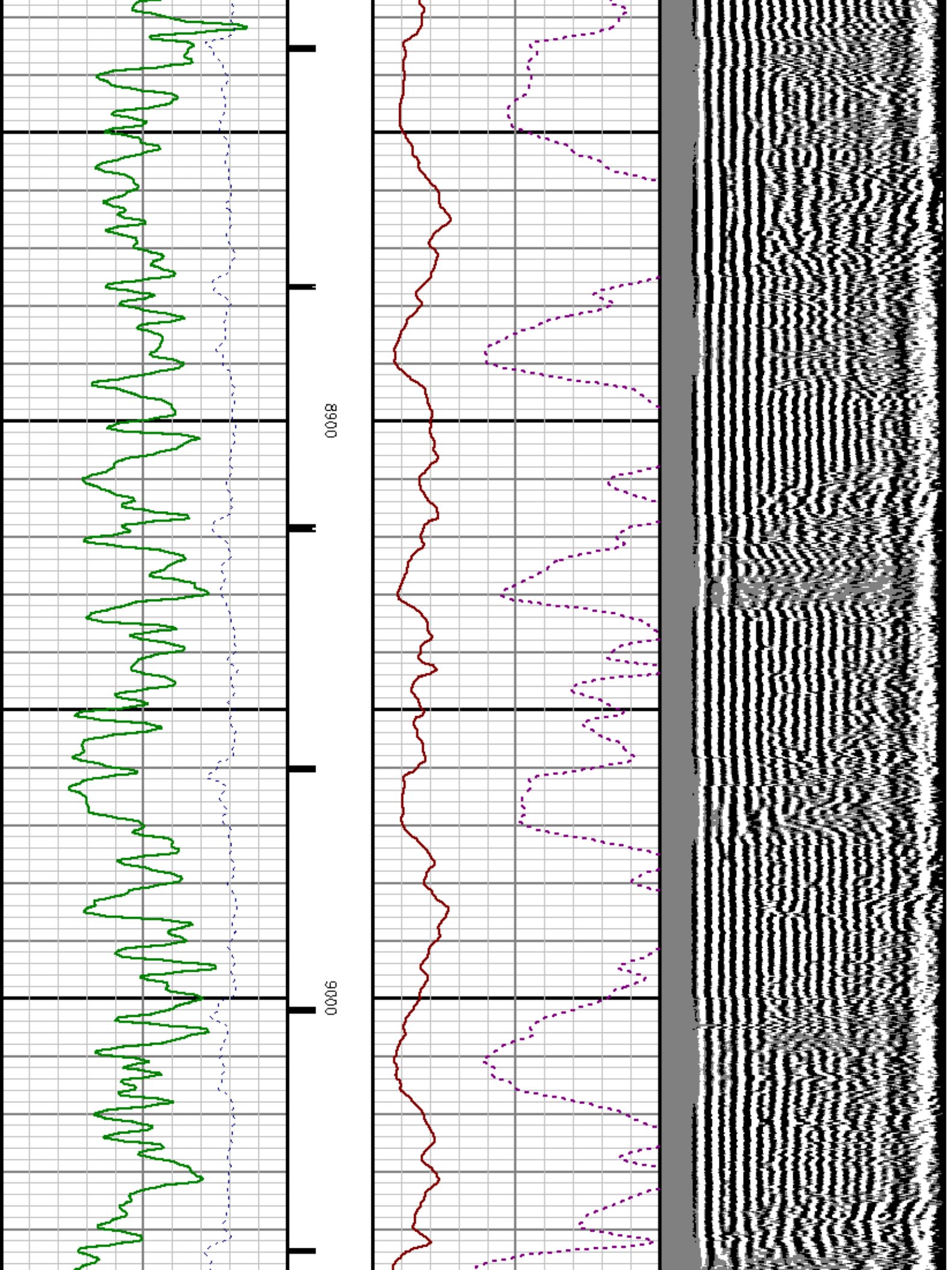




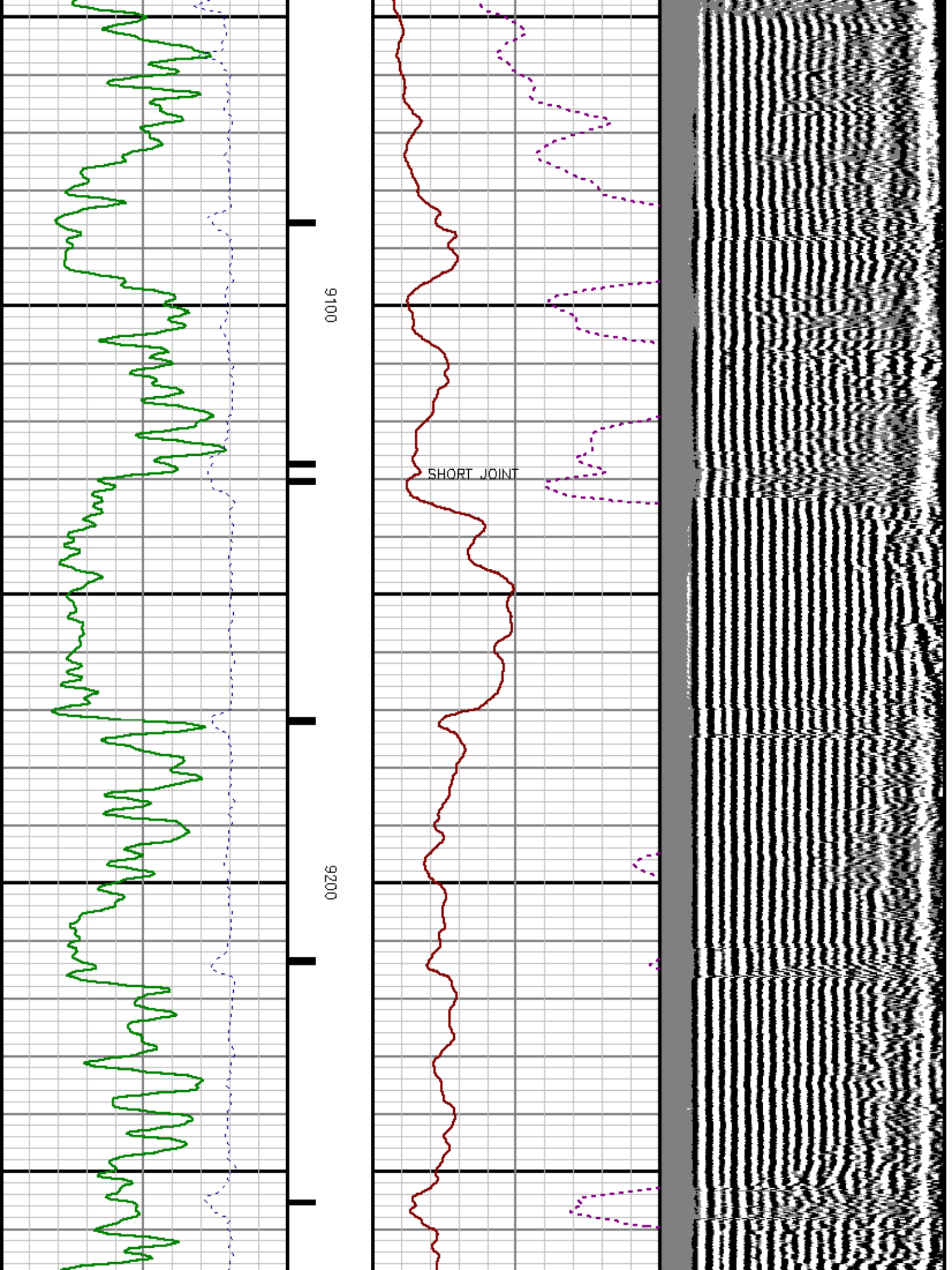


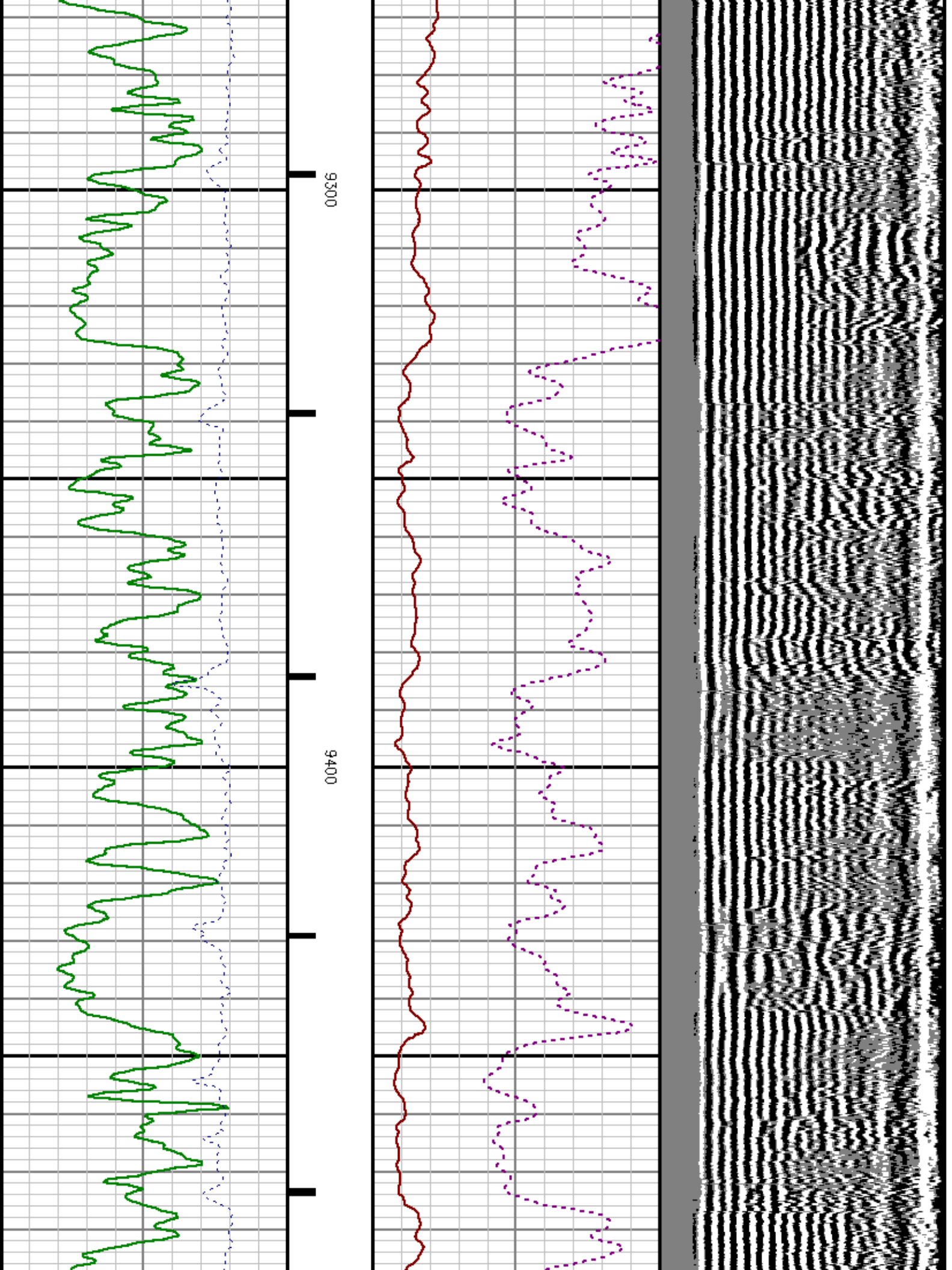


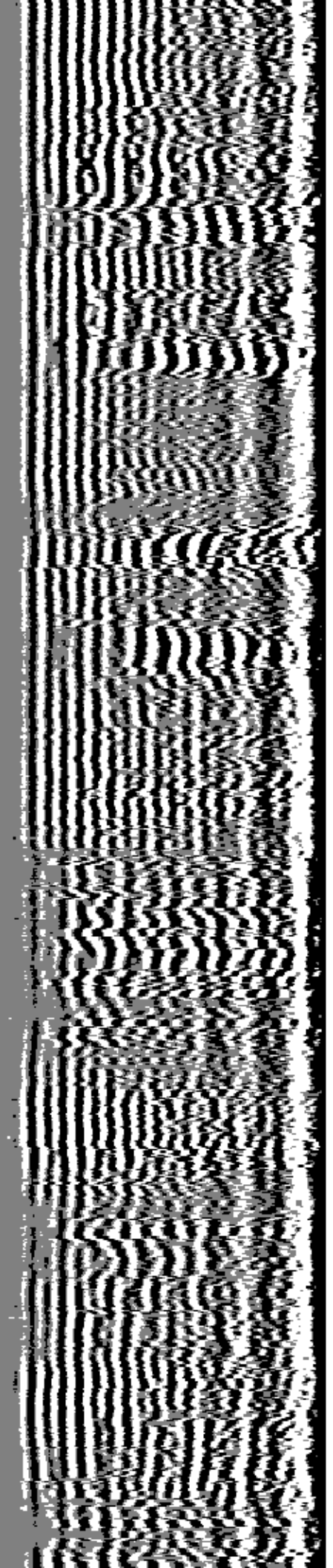
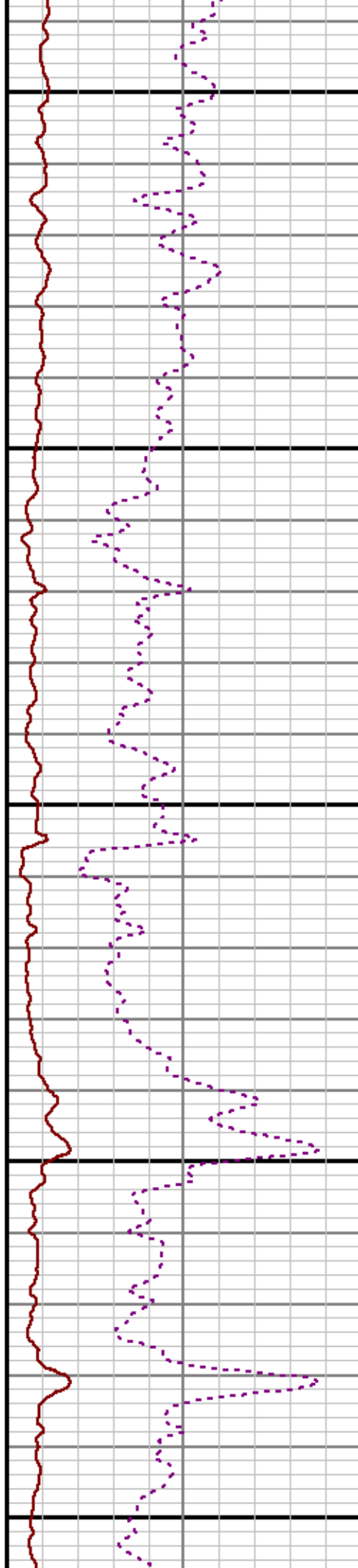
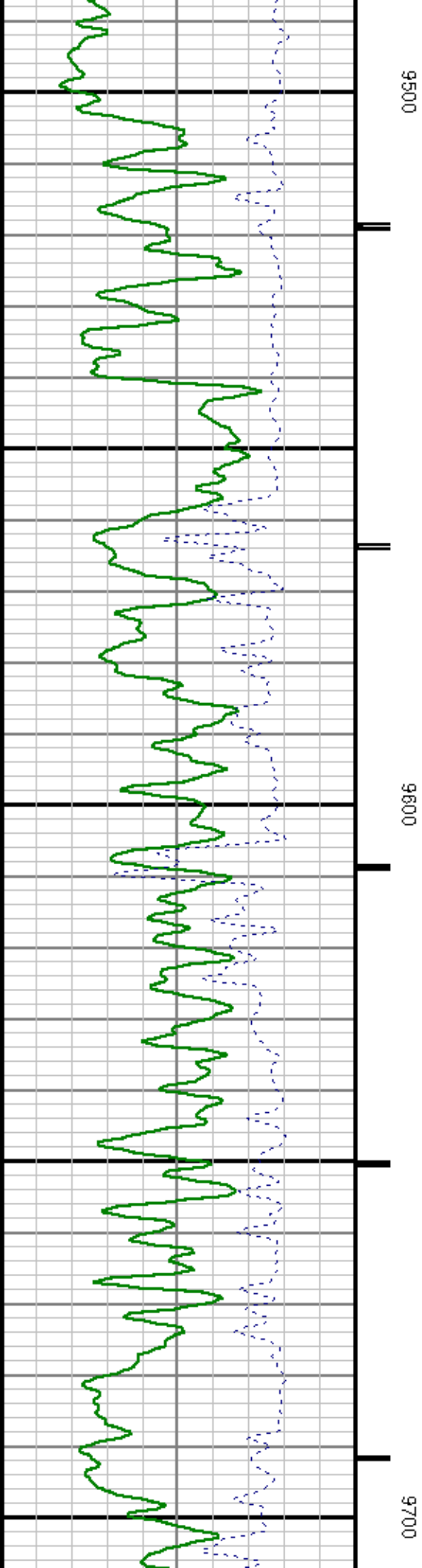




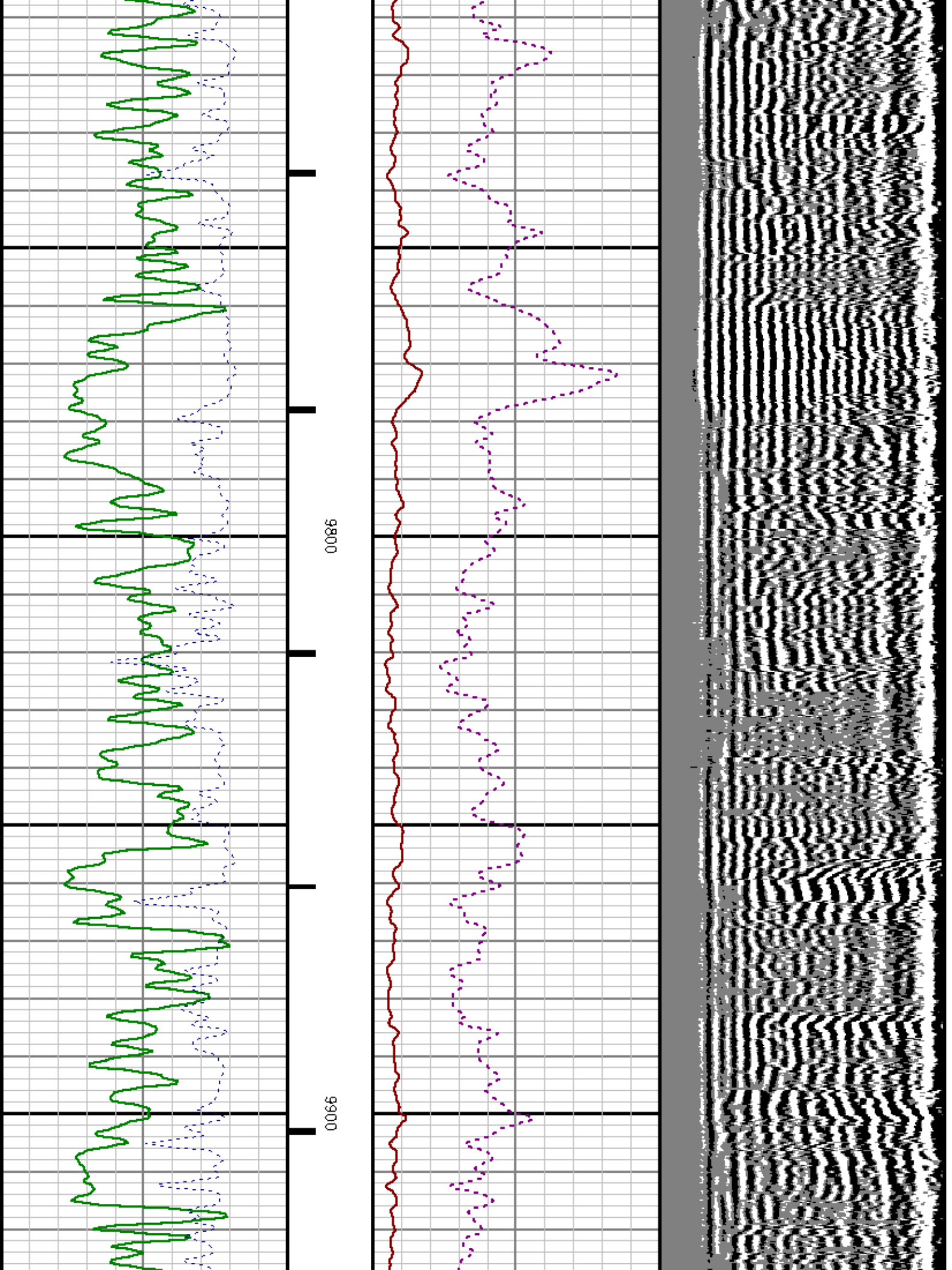


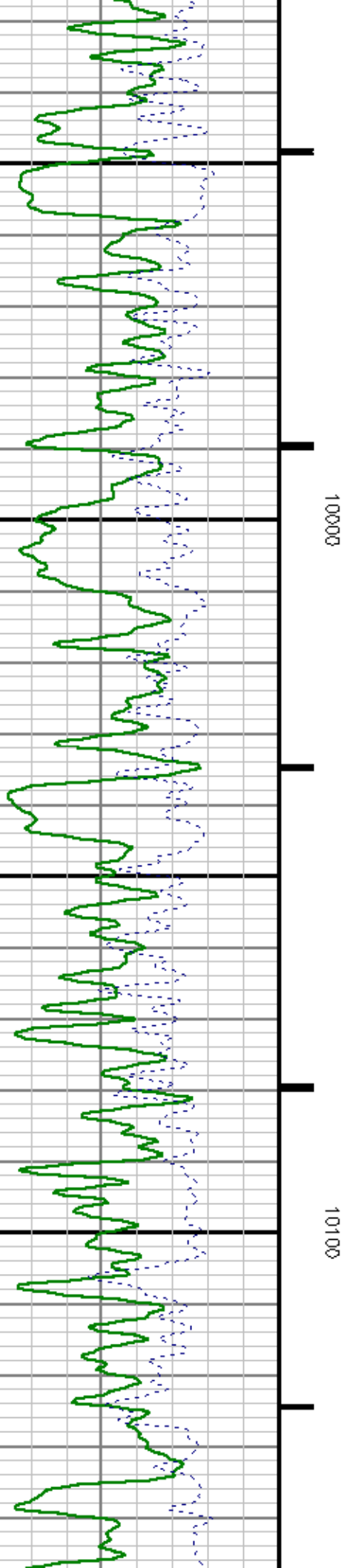
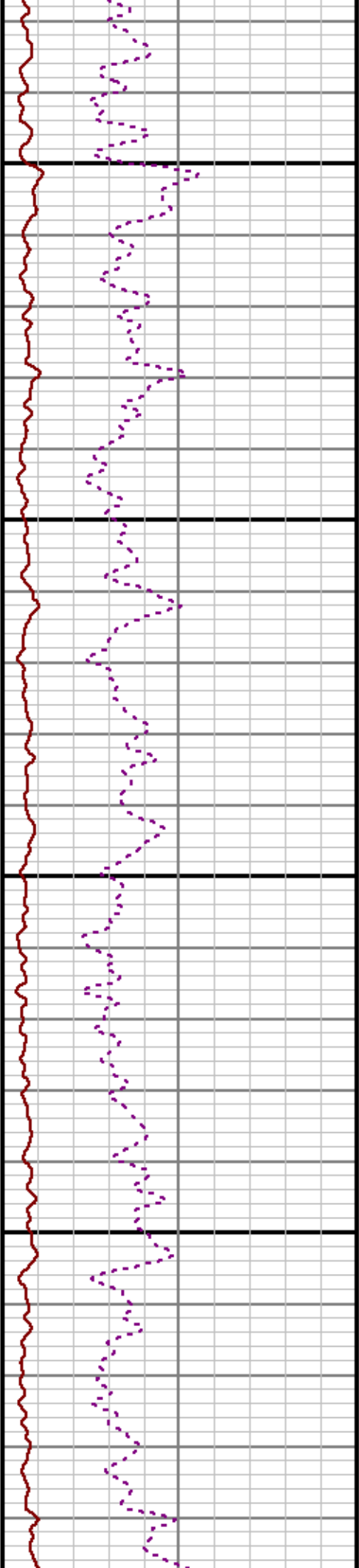
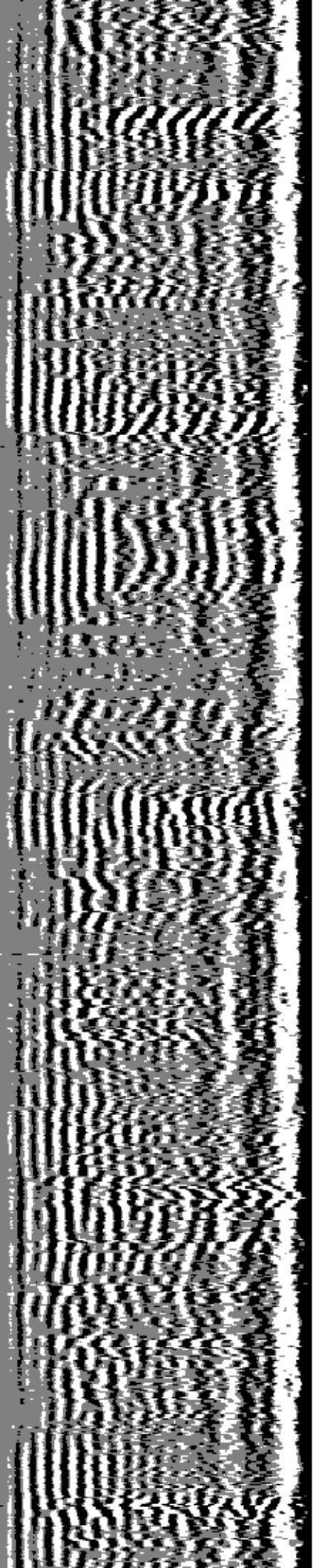




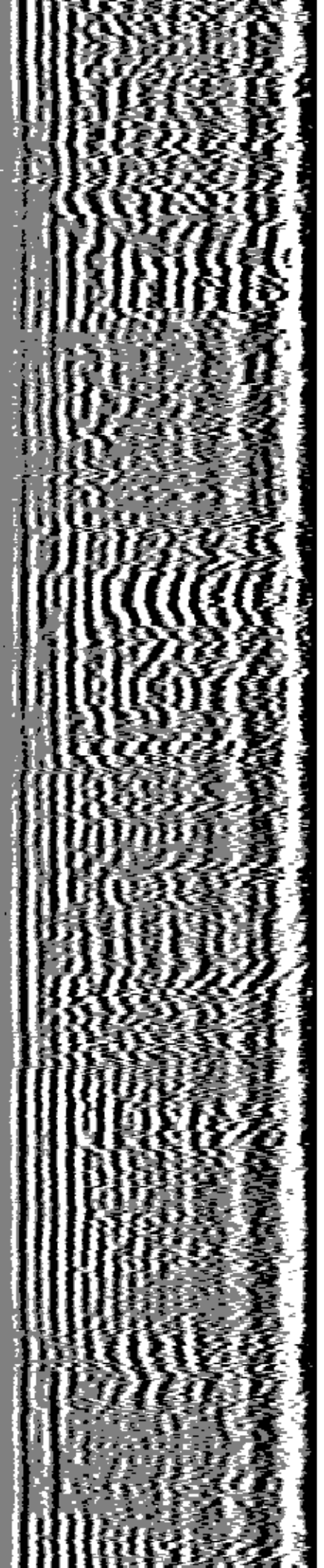




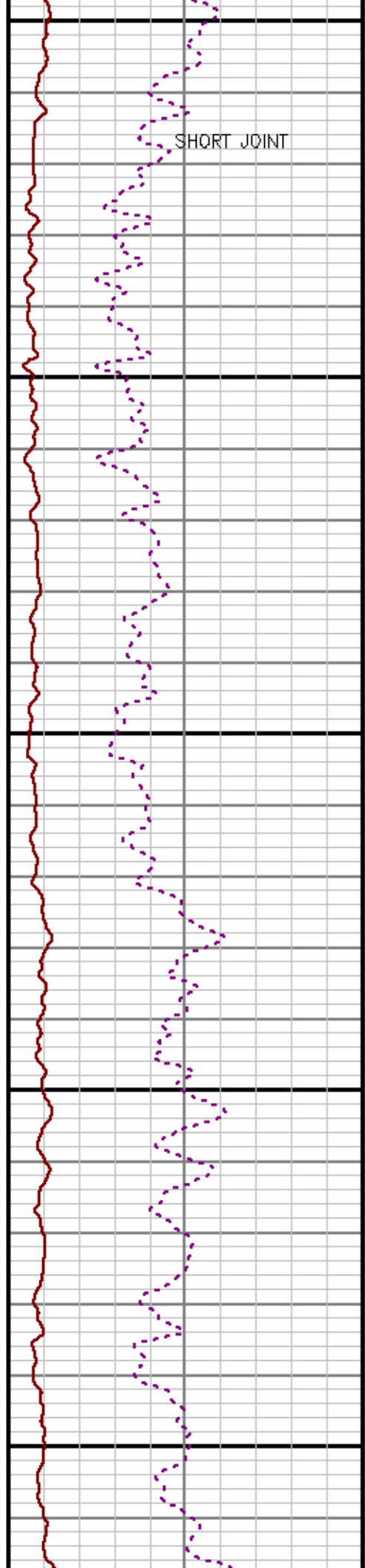






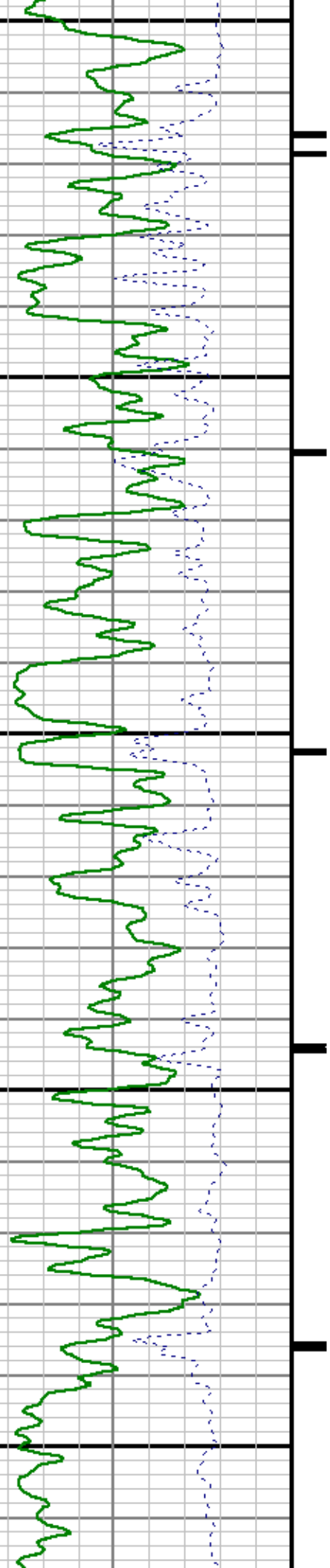


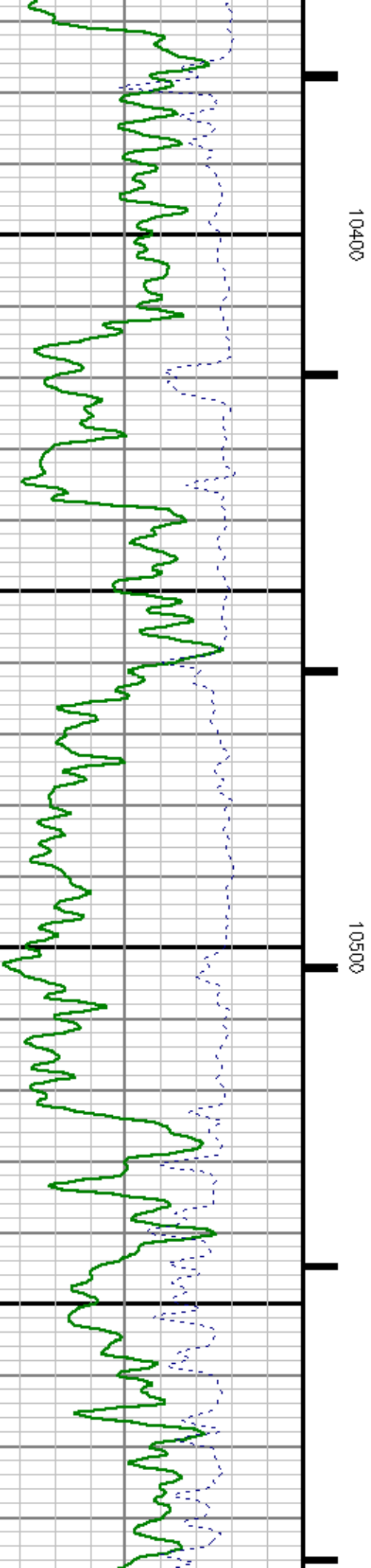
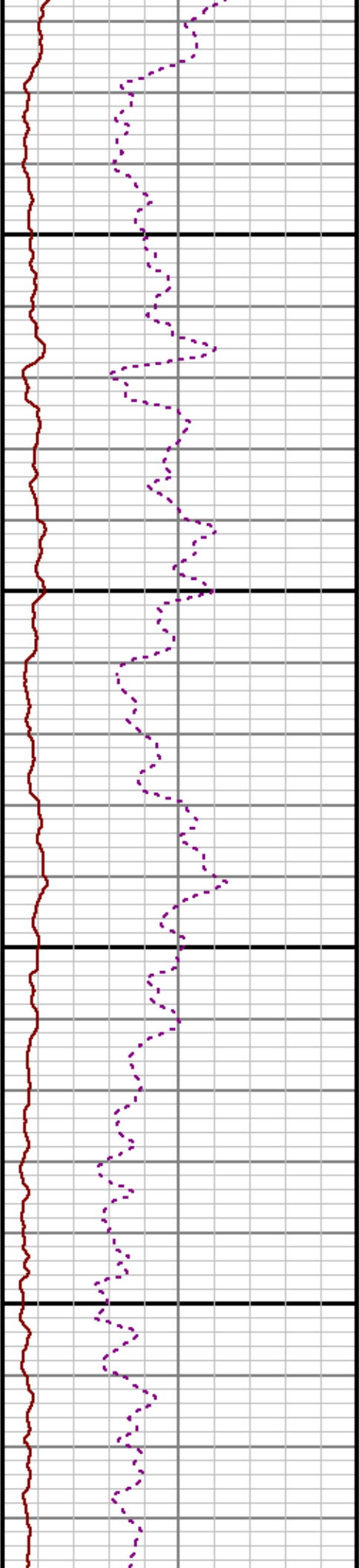
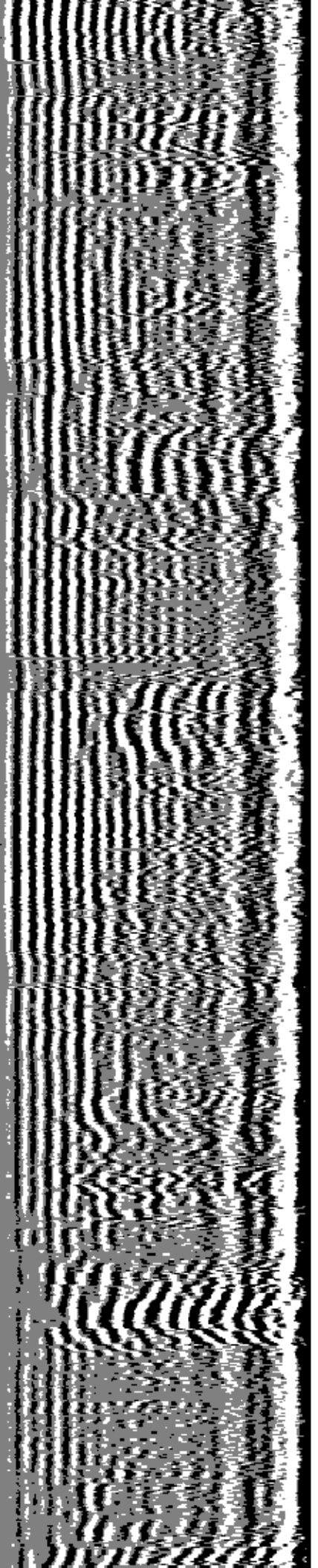
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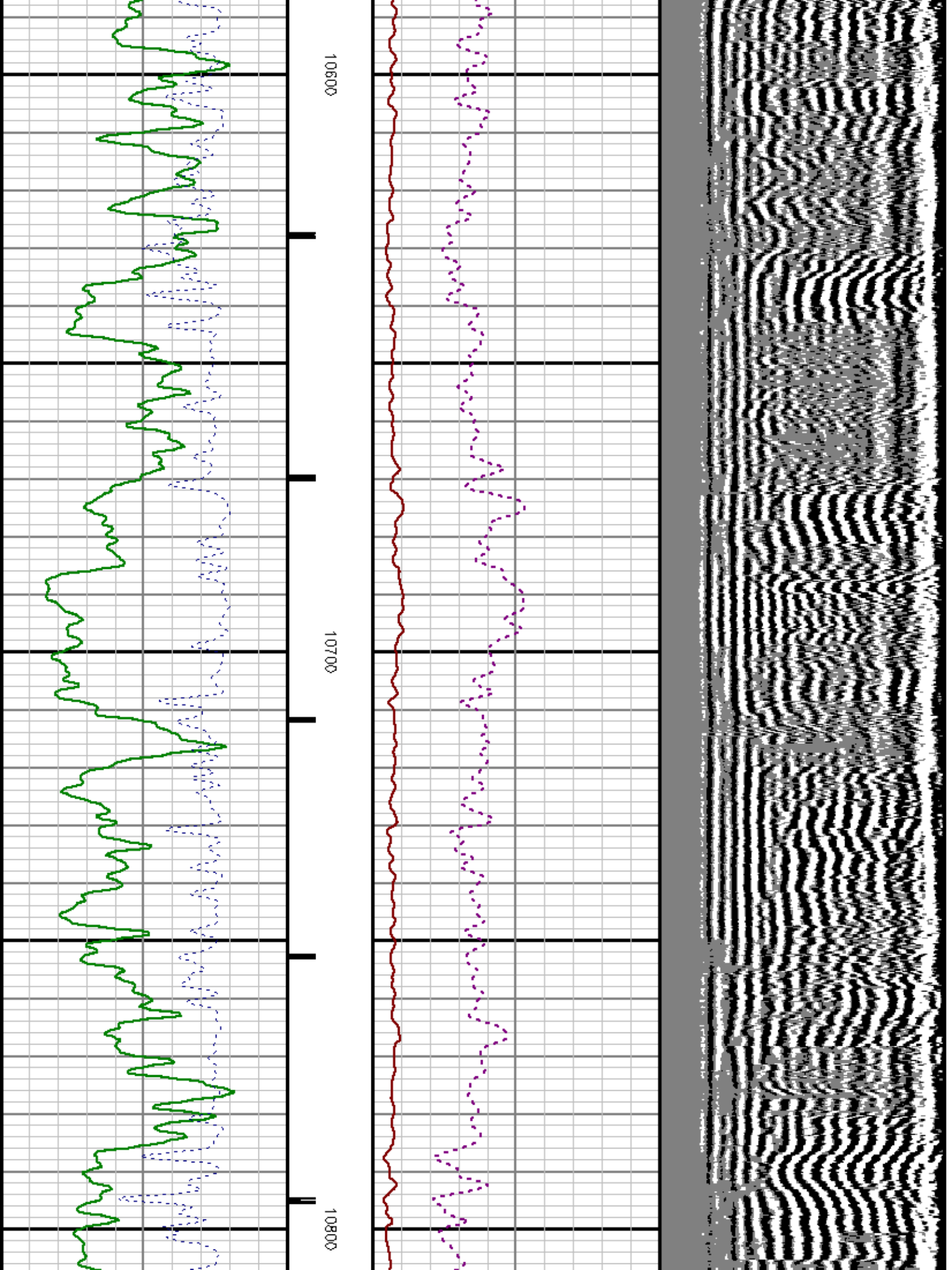


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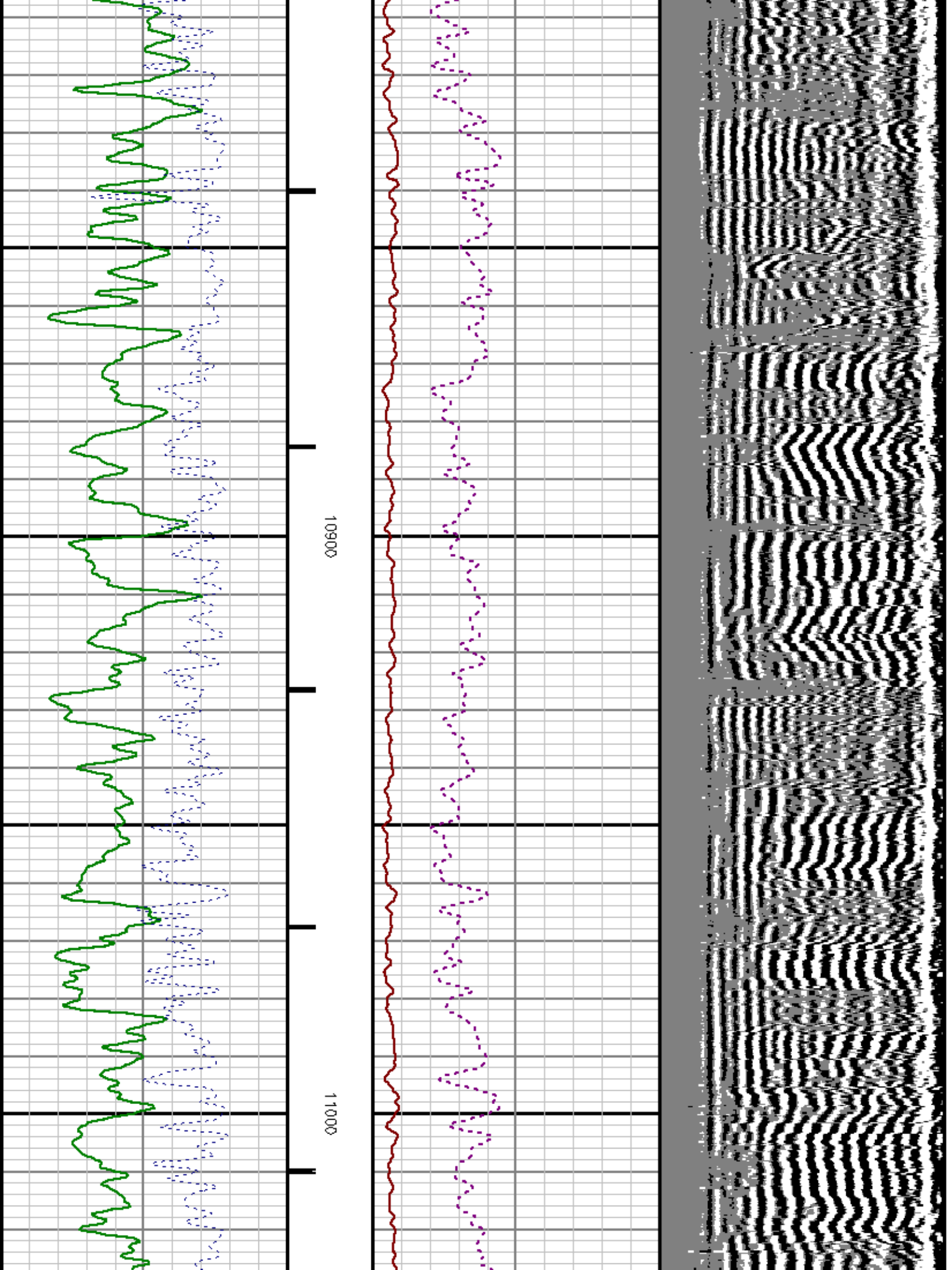
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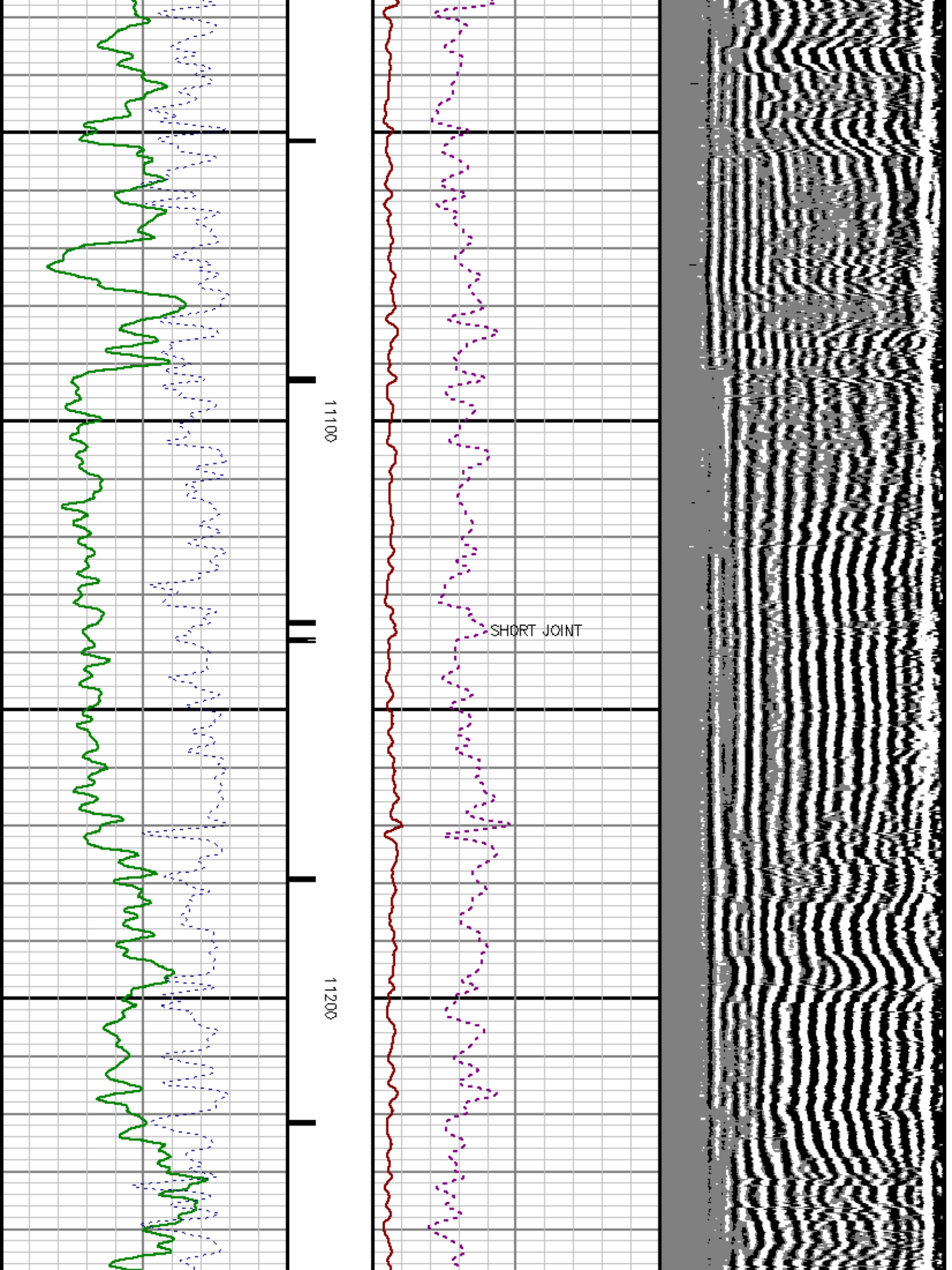




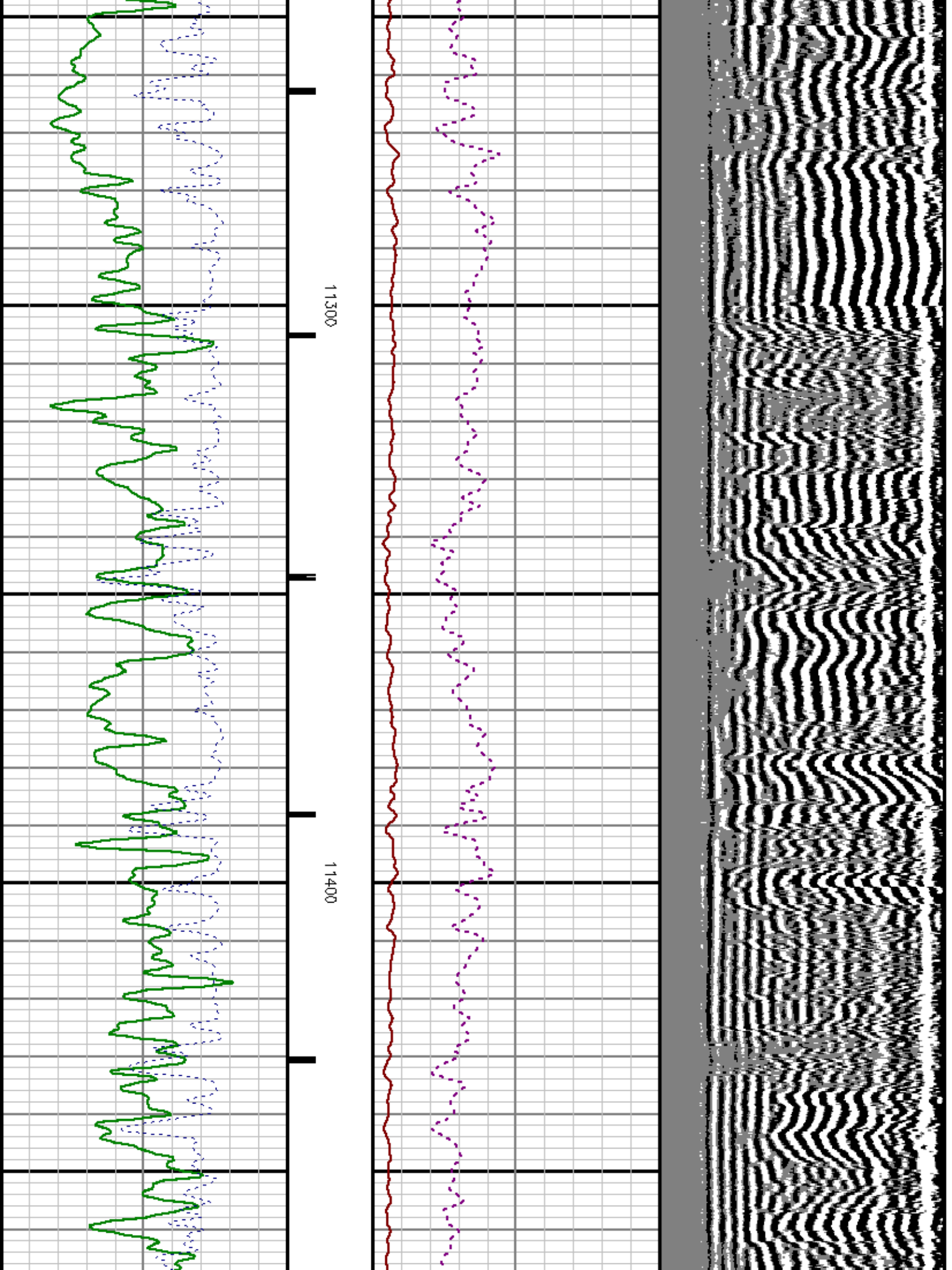


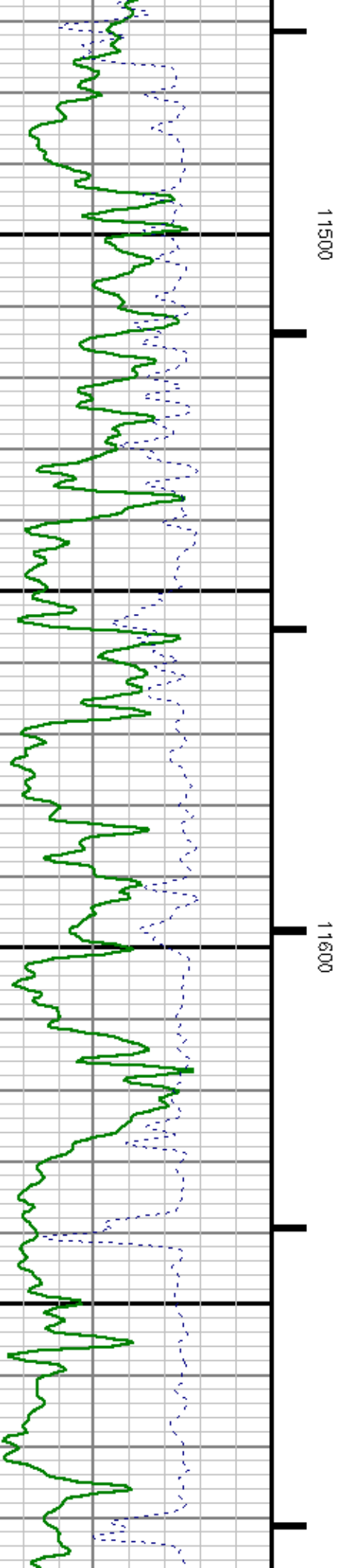
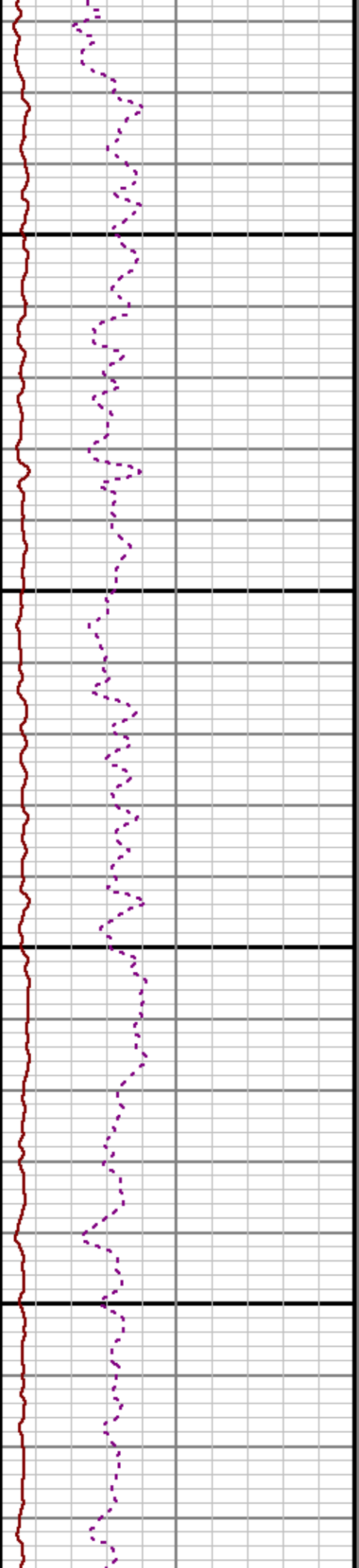
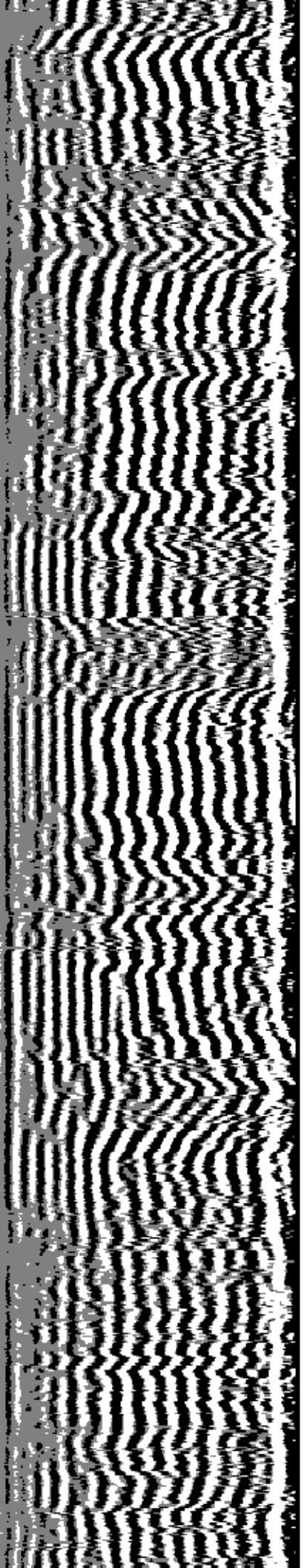


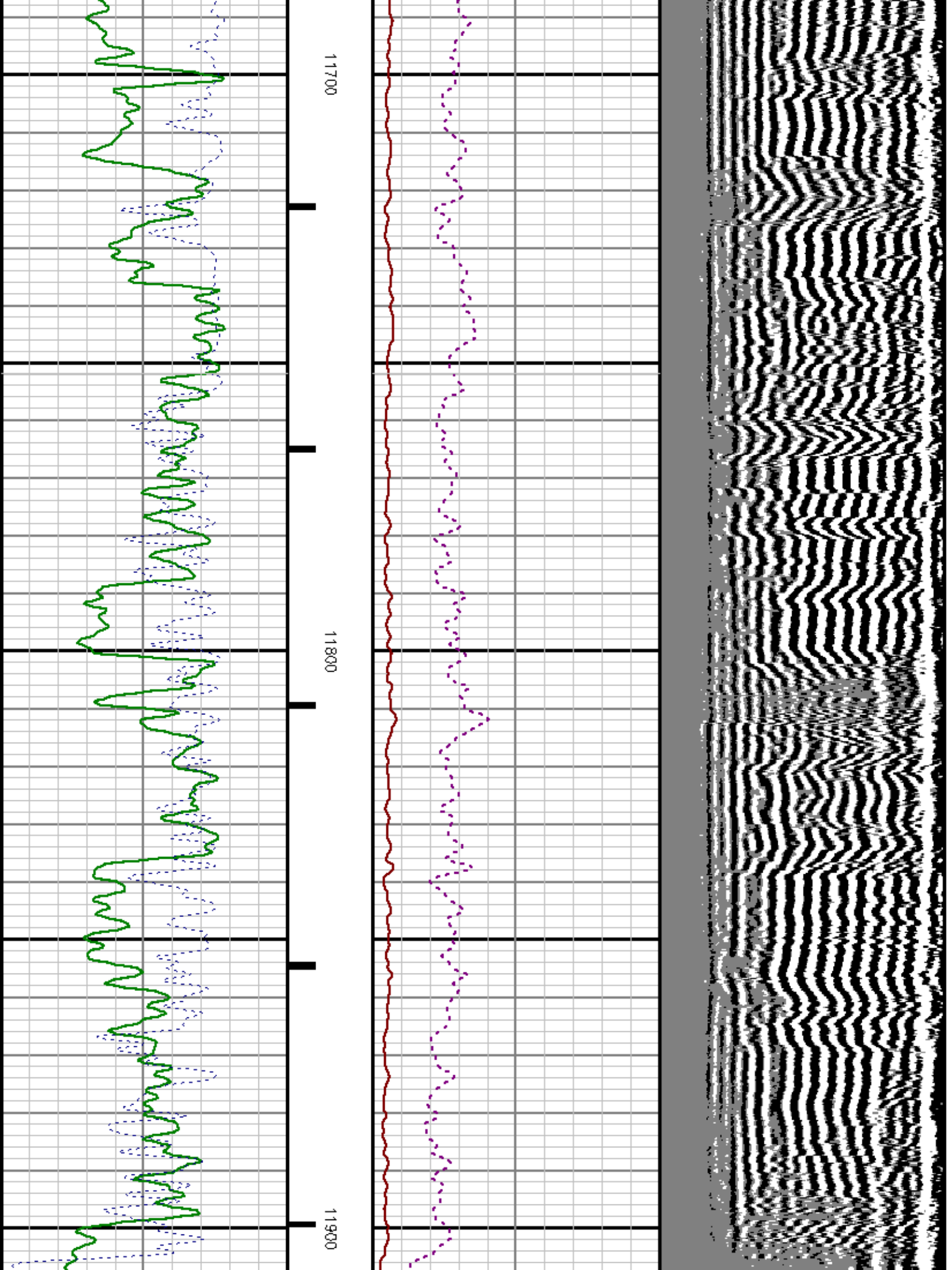




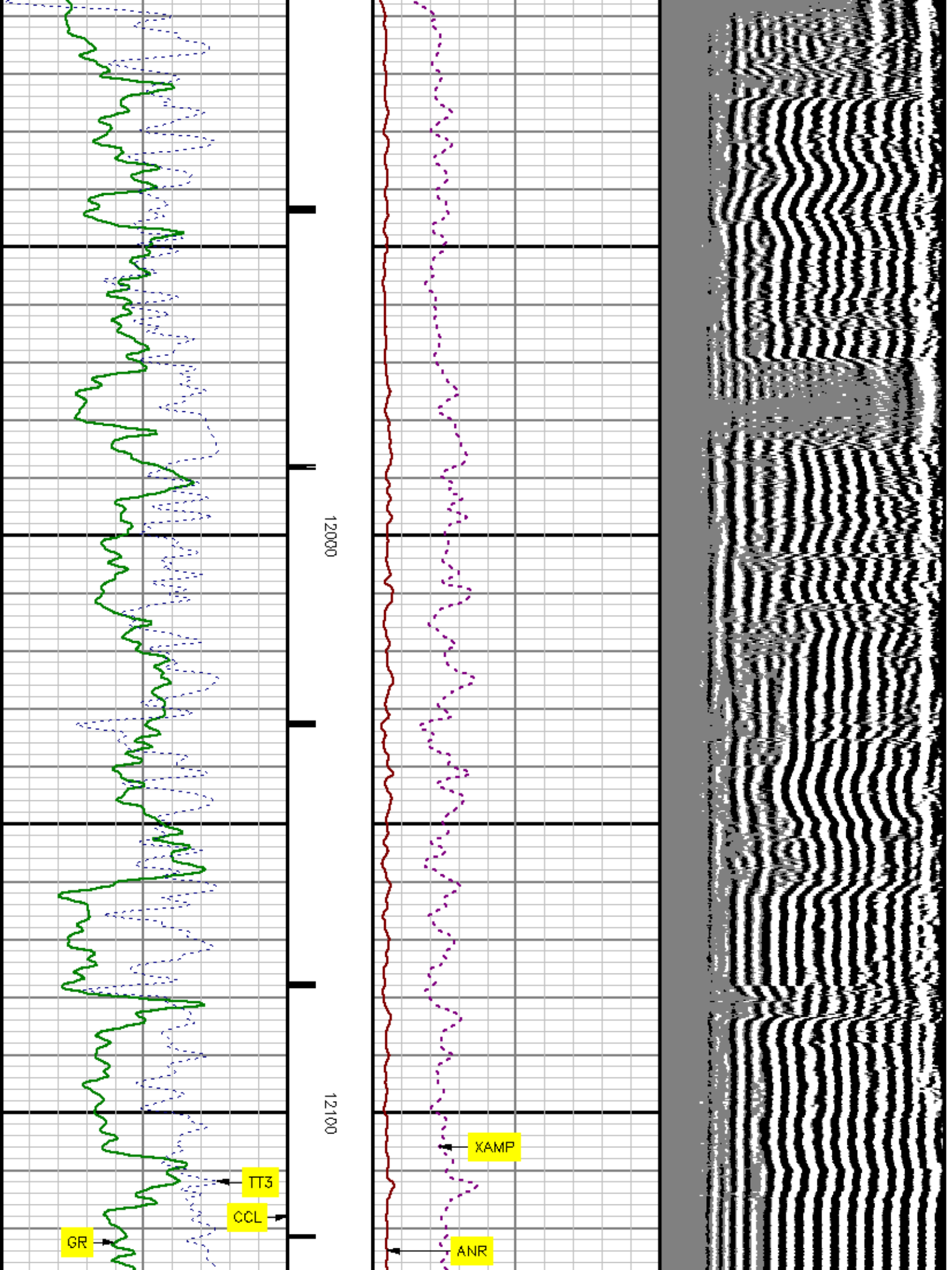




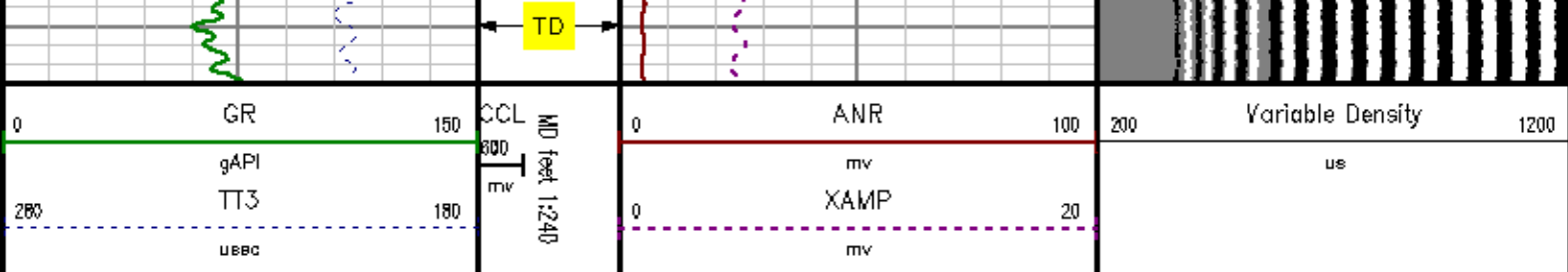












*MAIN SECTION*  
*SECONDARY PRESENTATION*  
*0 PSI*

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	314.263	usec	4851.550	12162.800
RAL	Amp Gate Start Near	197.754	usec	4851.550	12162.800
RAL	Amp Gate Start Radial	197.754	usec	4851.550	12162.800
RAL	Amp Gate Width Far	25.000	usec	4851.550	12162.800
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RAL	casing wt	15.100	lbm/ft	4851.550	12162.800
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RAL	FB Thresh Near	4.000	mv	4851.550	12162.800
RAL	FB Thresh Radial	4.000	mv	4851.550	12162.800
RAL	Fluid Travel Time	200.000	usec/ft	4851.550	12162.780

DEPTH OFFSETS  
(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-15.360	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	ARR	CHV	FPR2

1426XA -14.360  
 1426XA -7.250  
 1426XA -5.390  
 1426XA 0.000

FPR3	FPR5	TT3	TTR1	TTR2	TTR3
TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
AFAR	SIG	TT5			
CCL					
GR					
NEU					

Created by : MIXED

Plotted by : PlotMgr, v5.4.504

Company : EXXONMOBIL PRODUCTION COMPANY

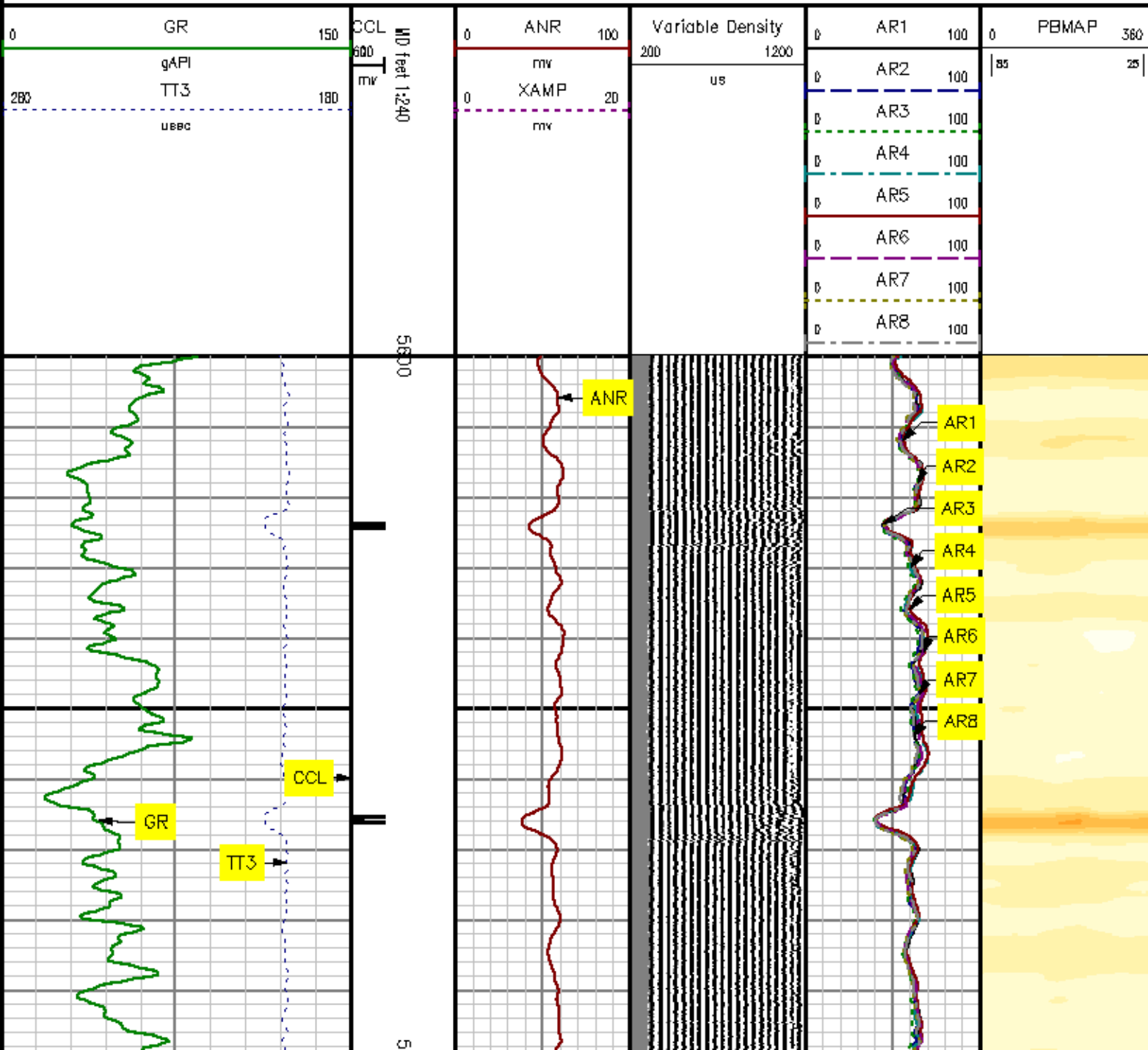
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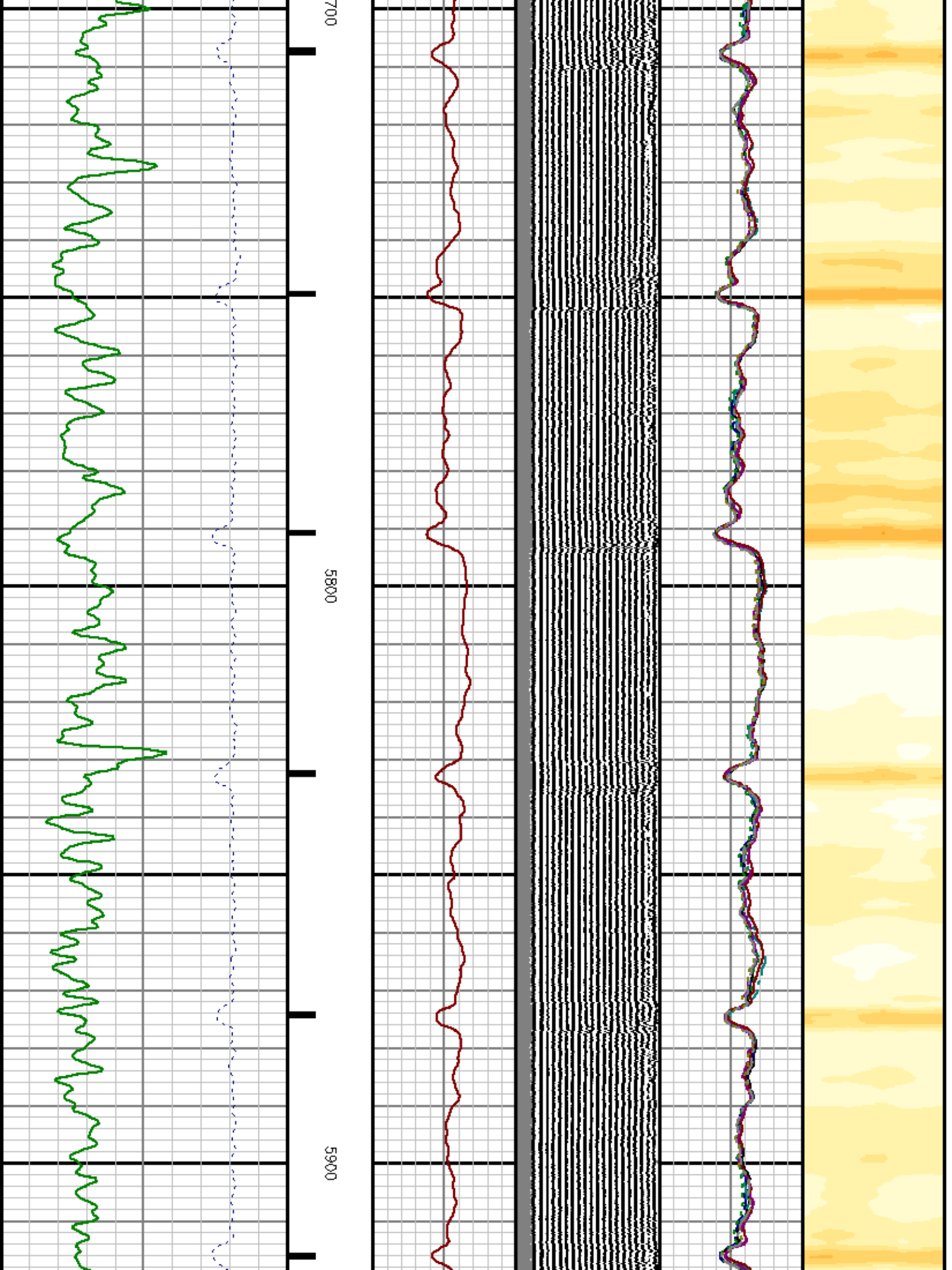
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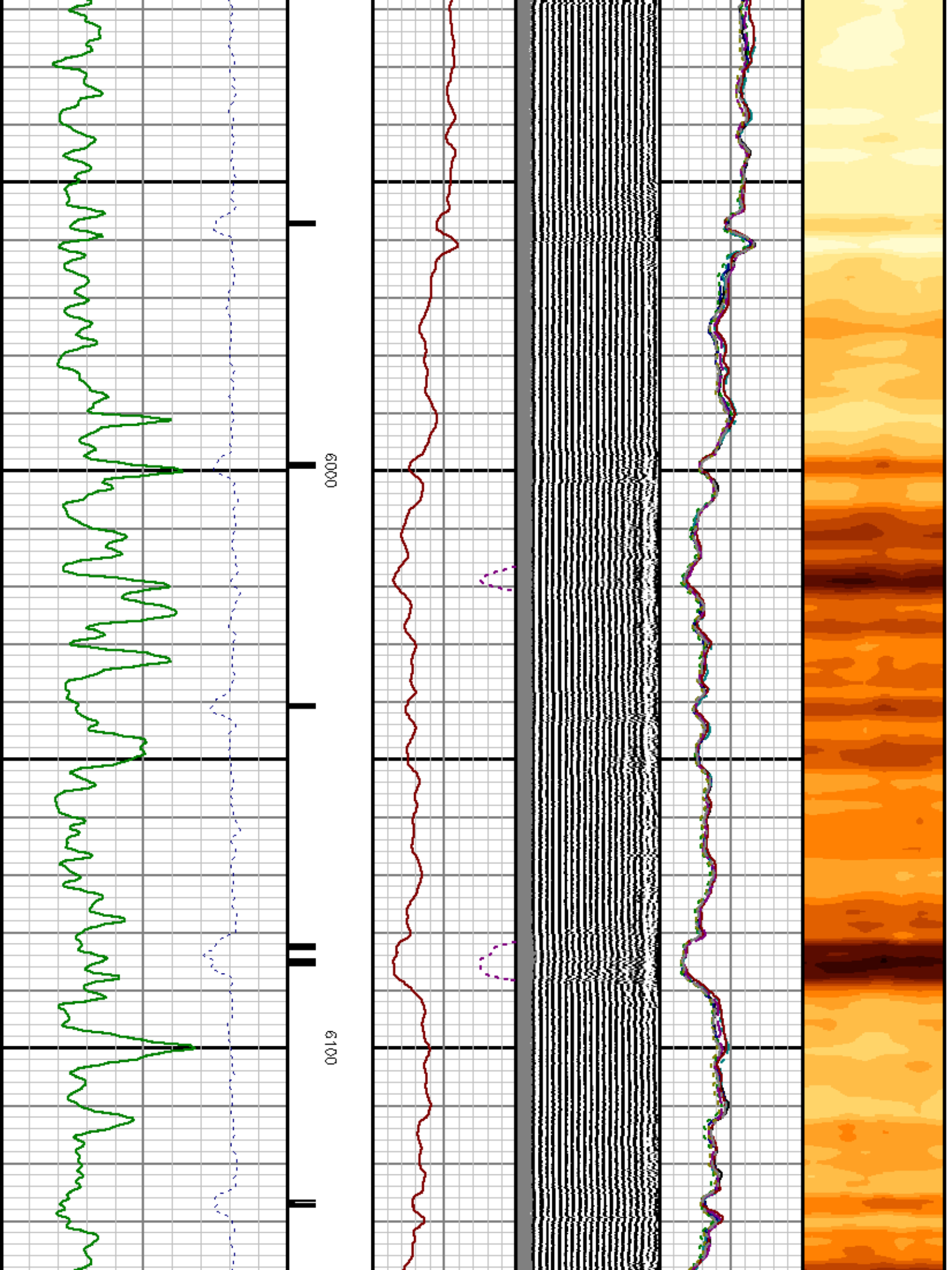
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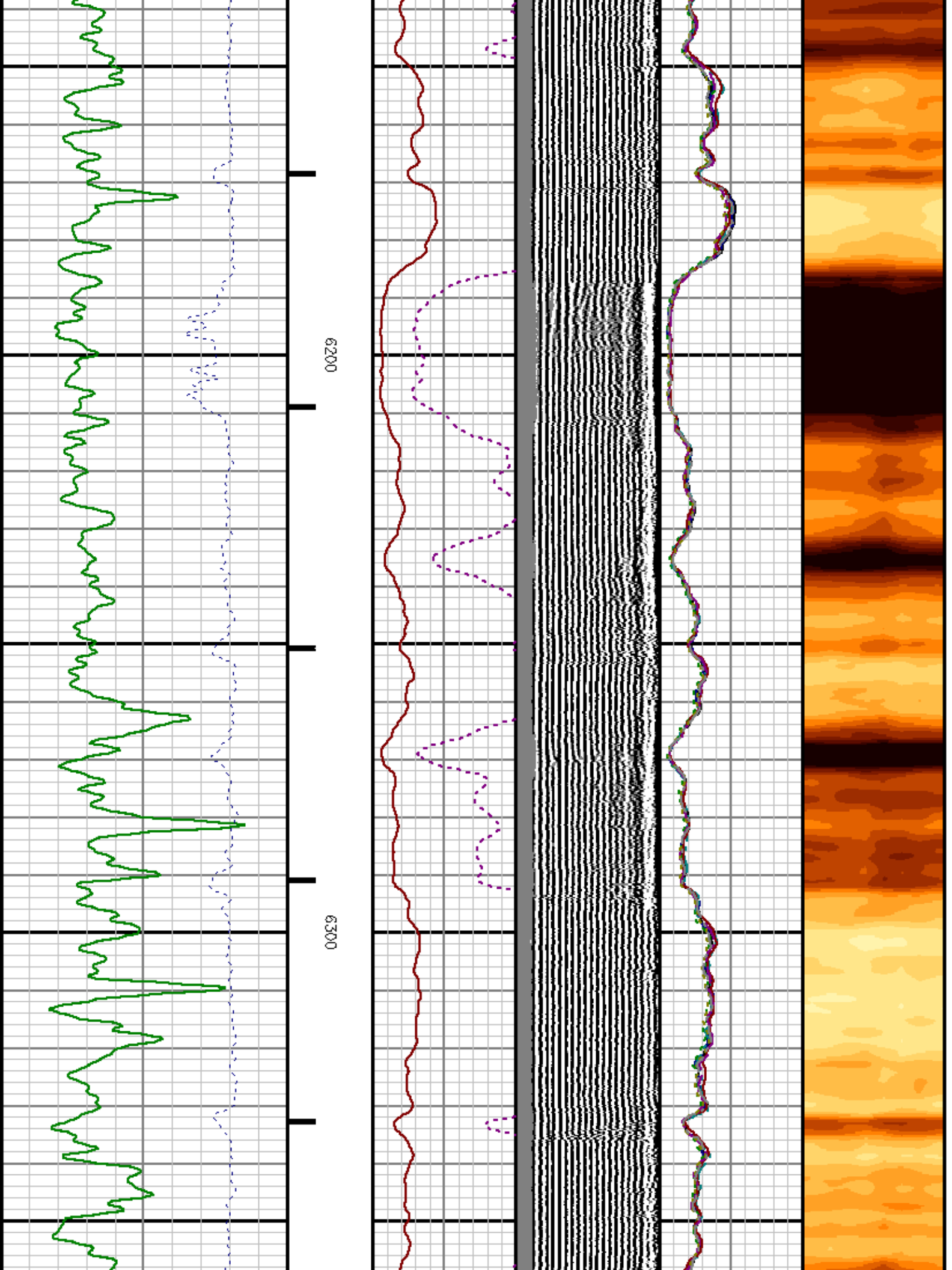
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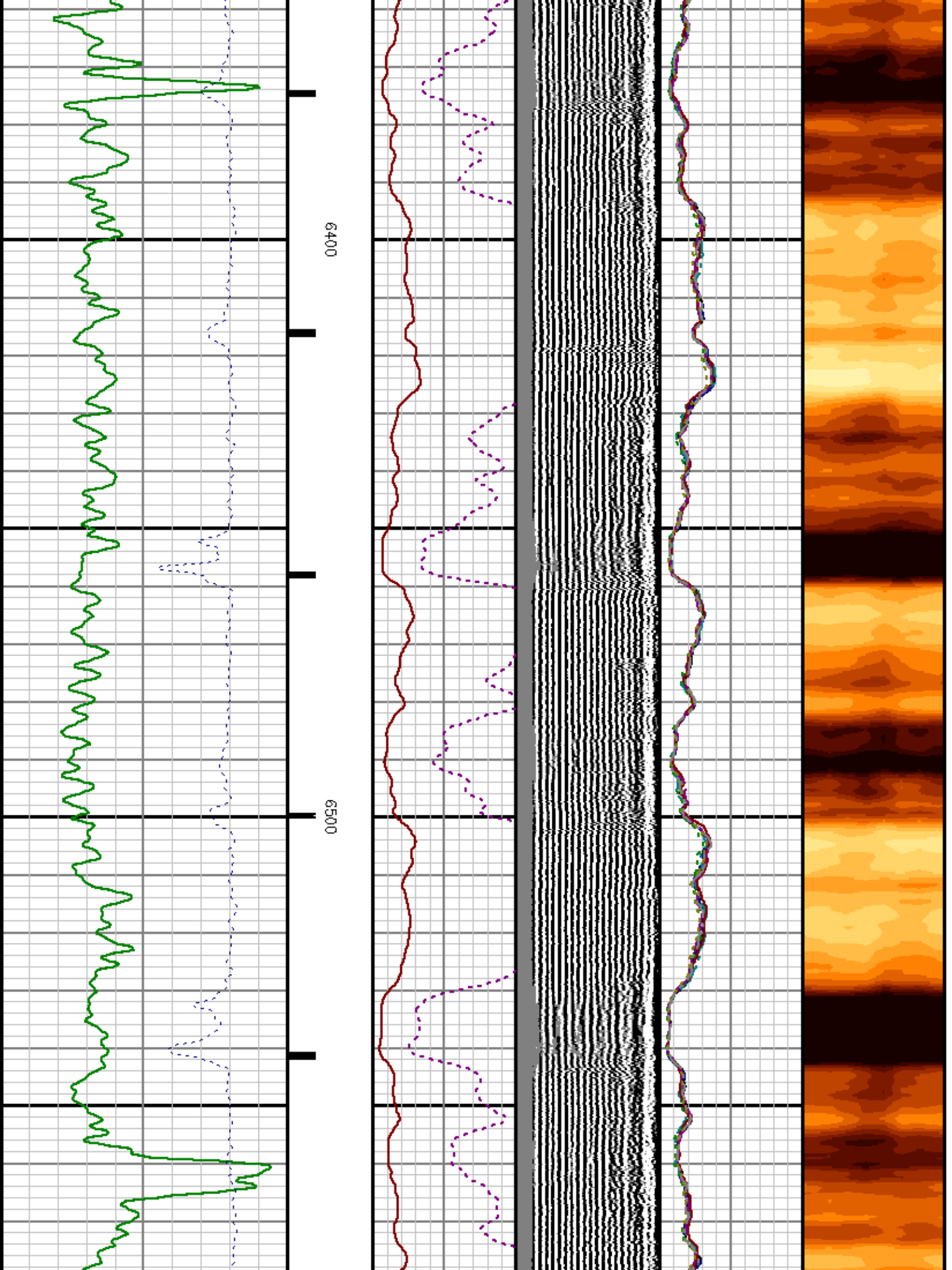


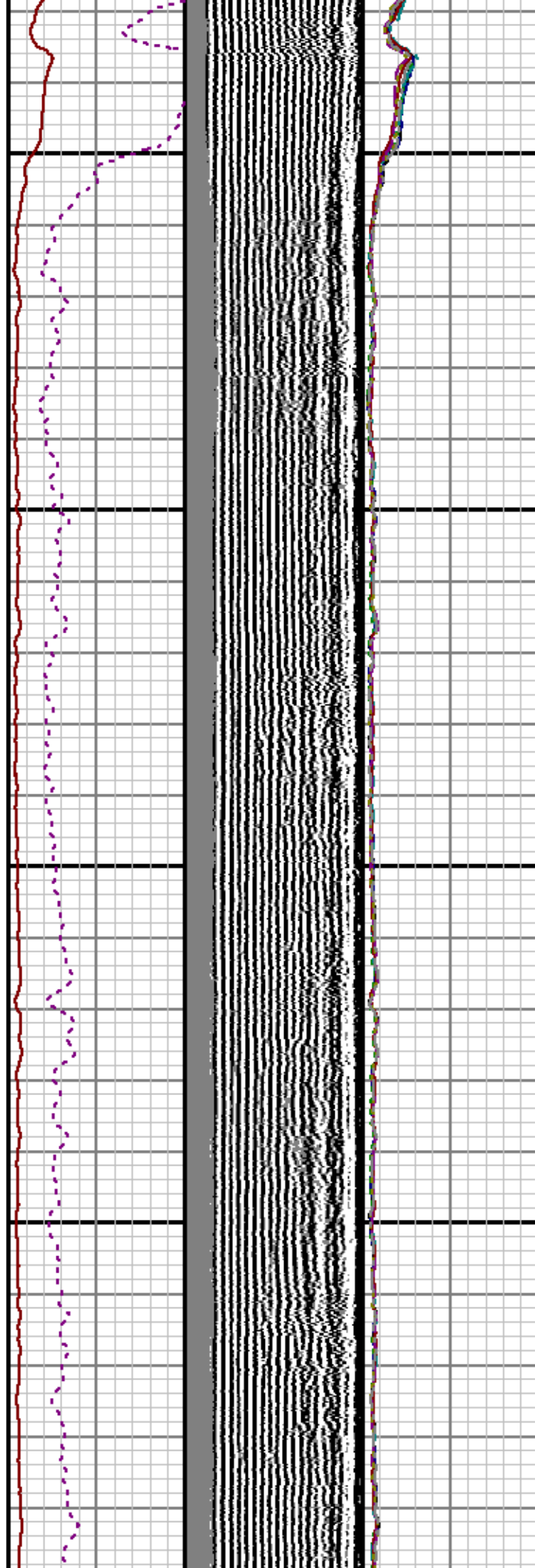
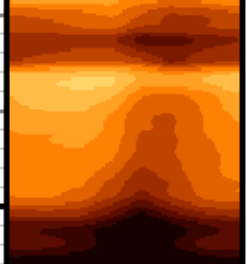








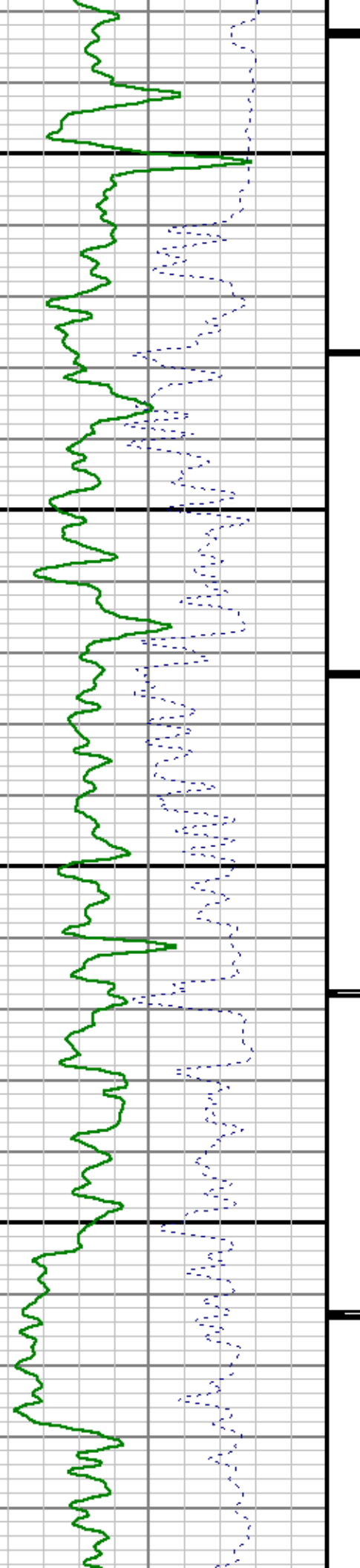


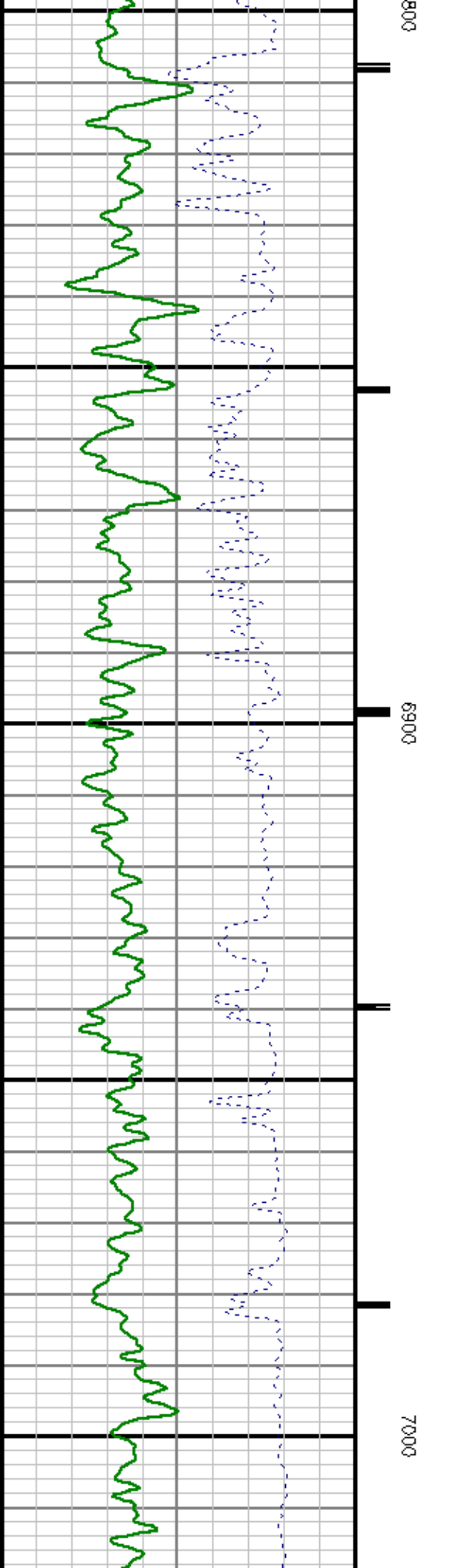
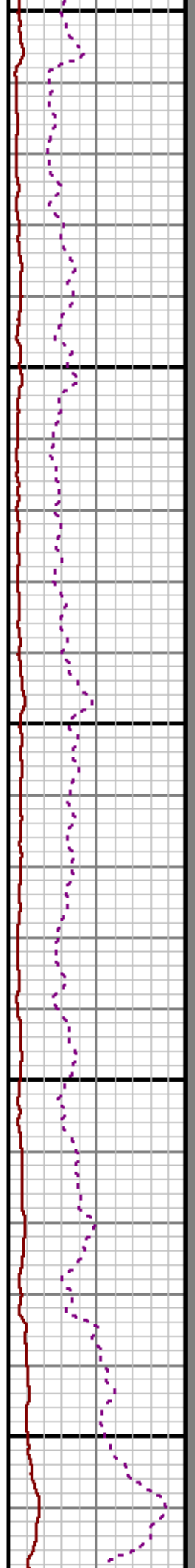
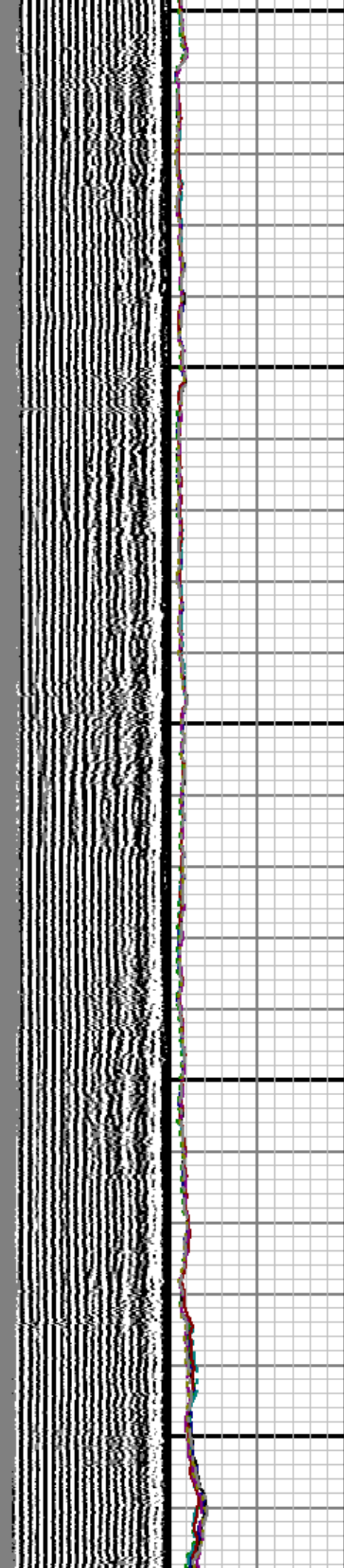


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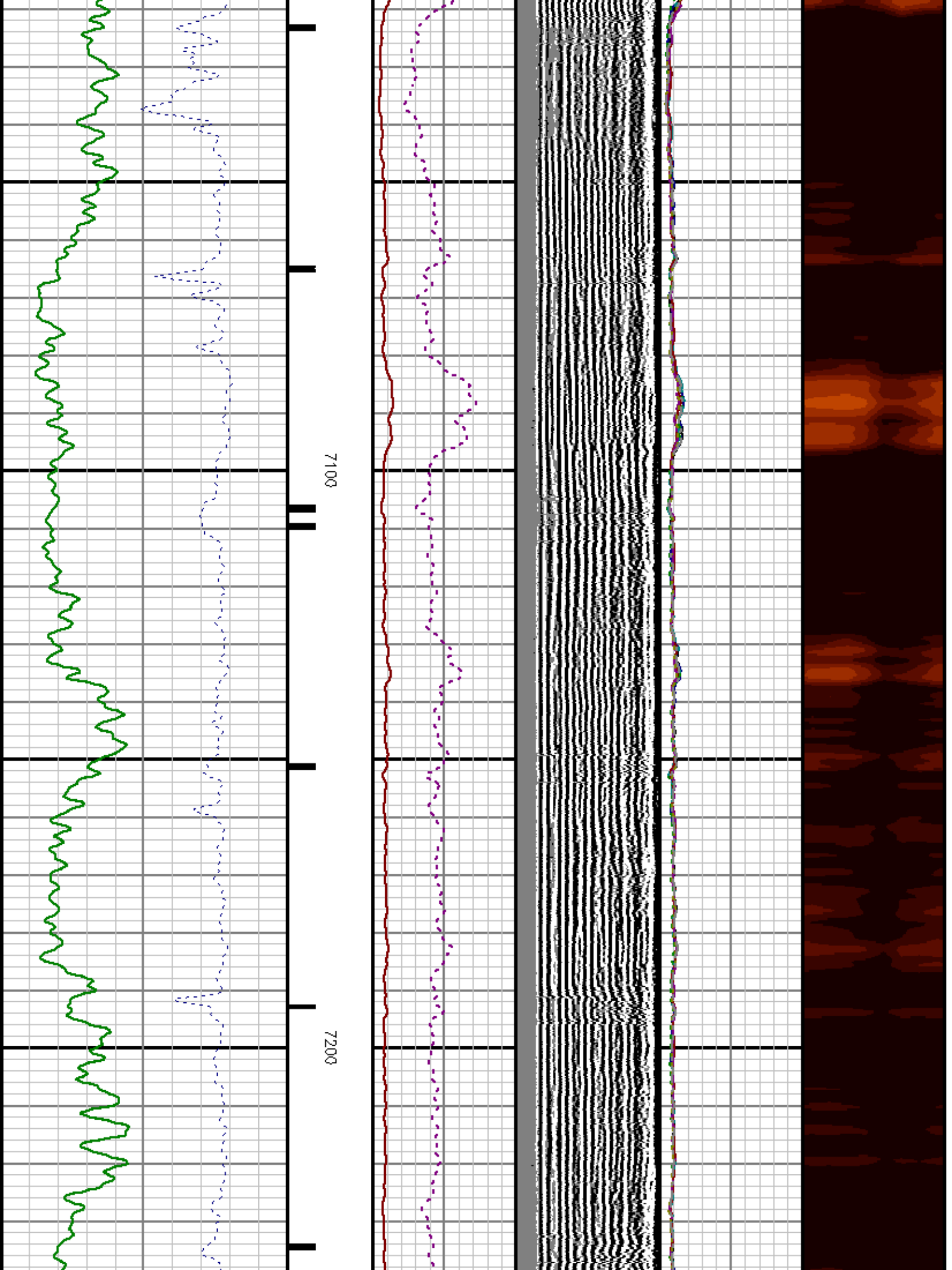
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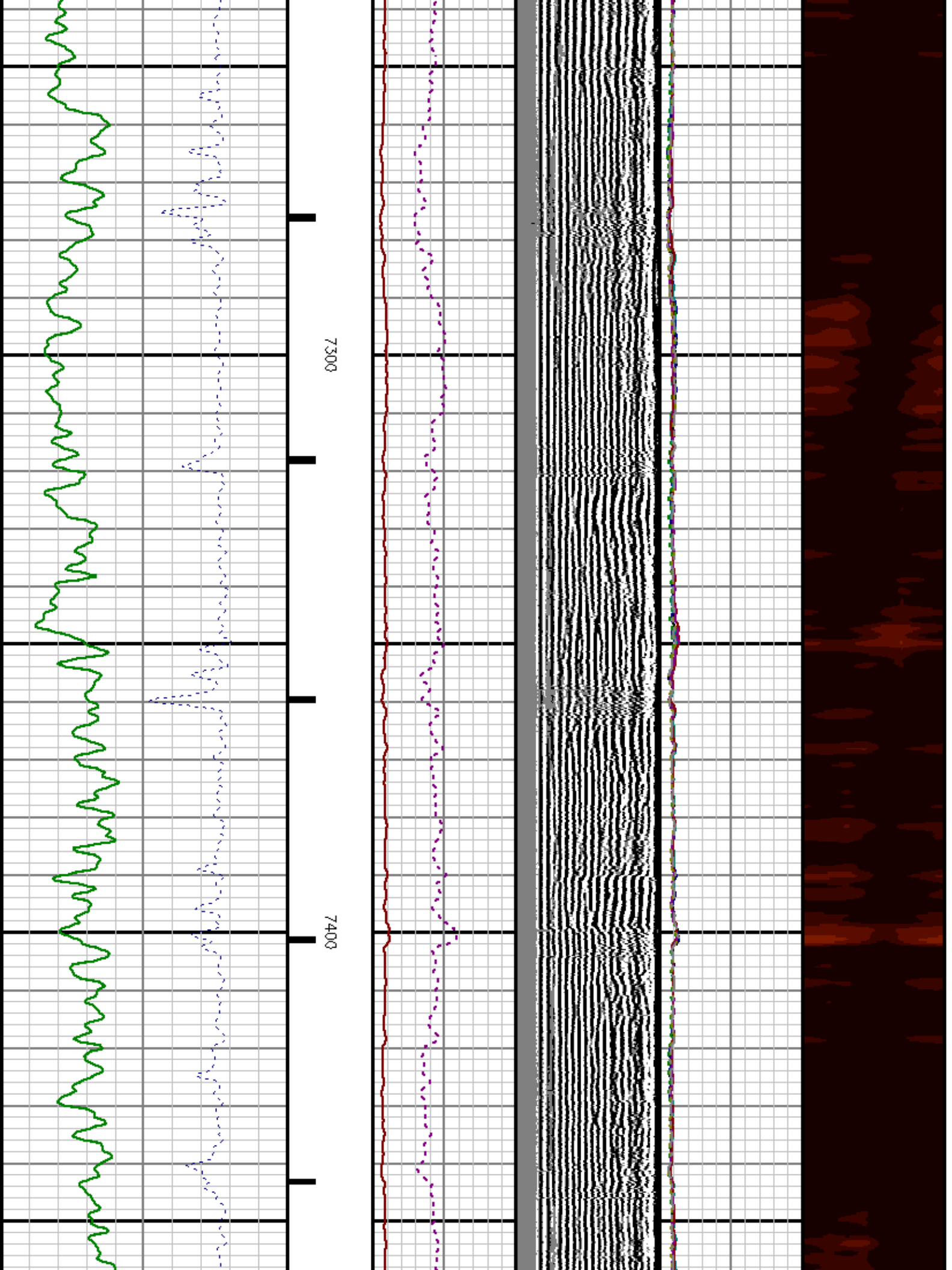
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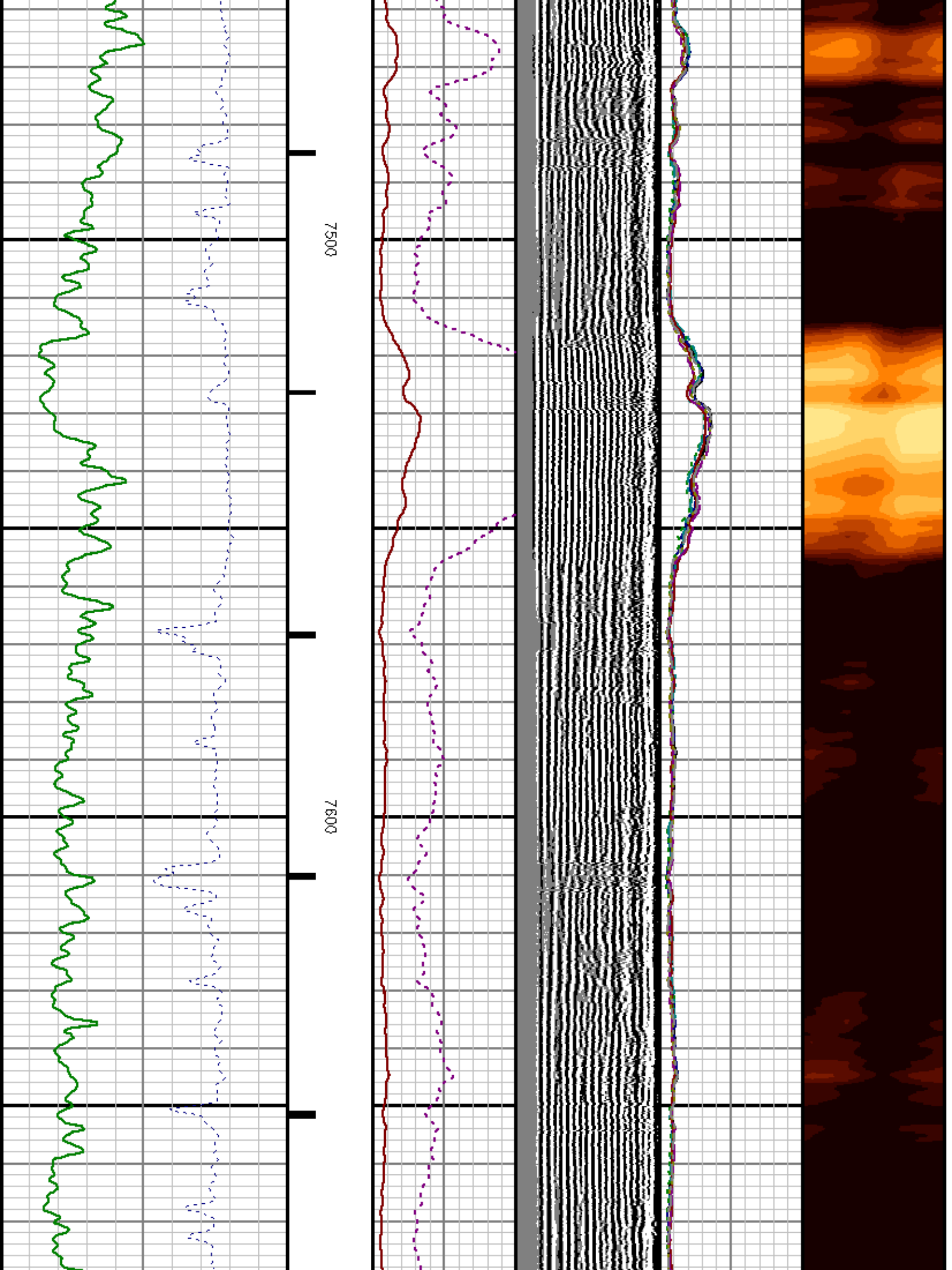


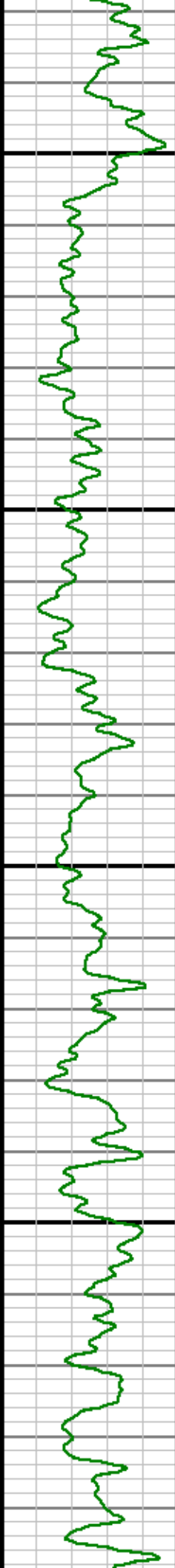
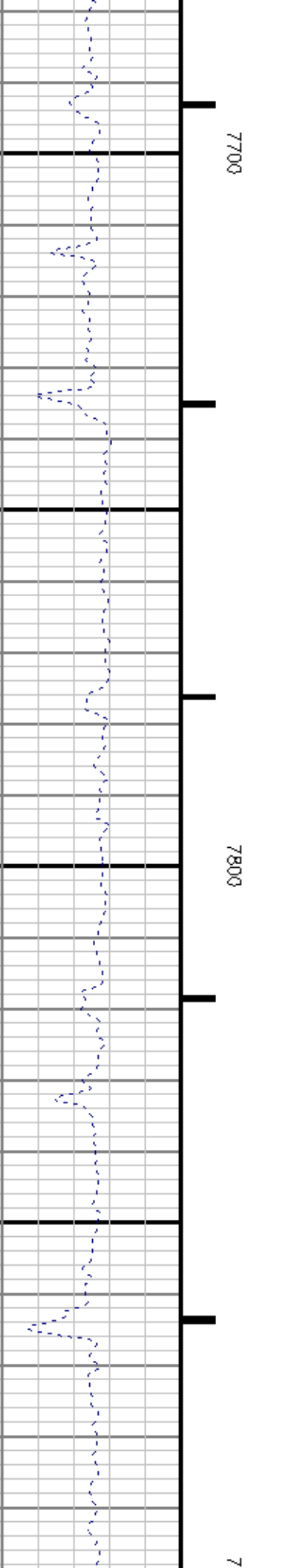
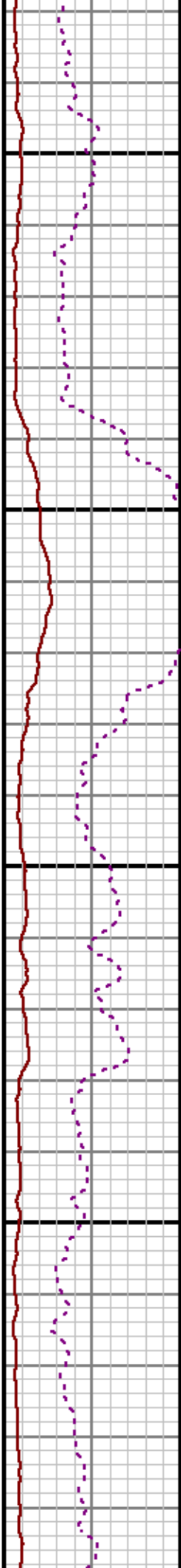
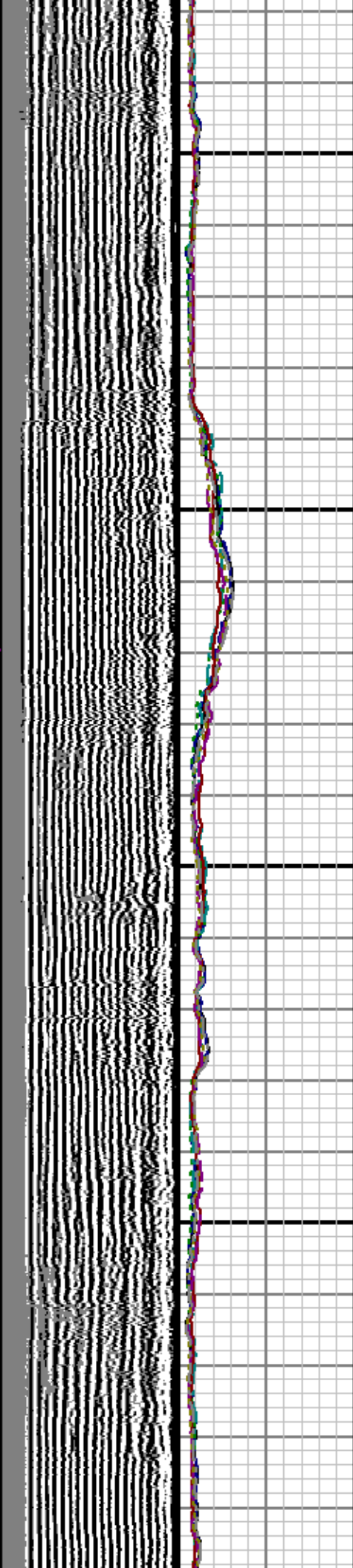
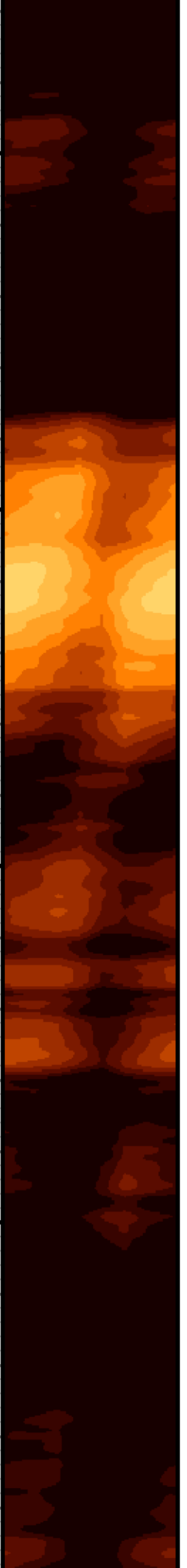




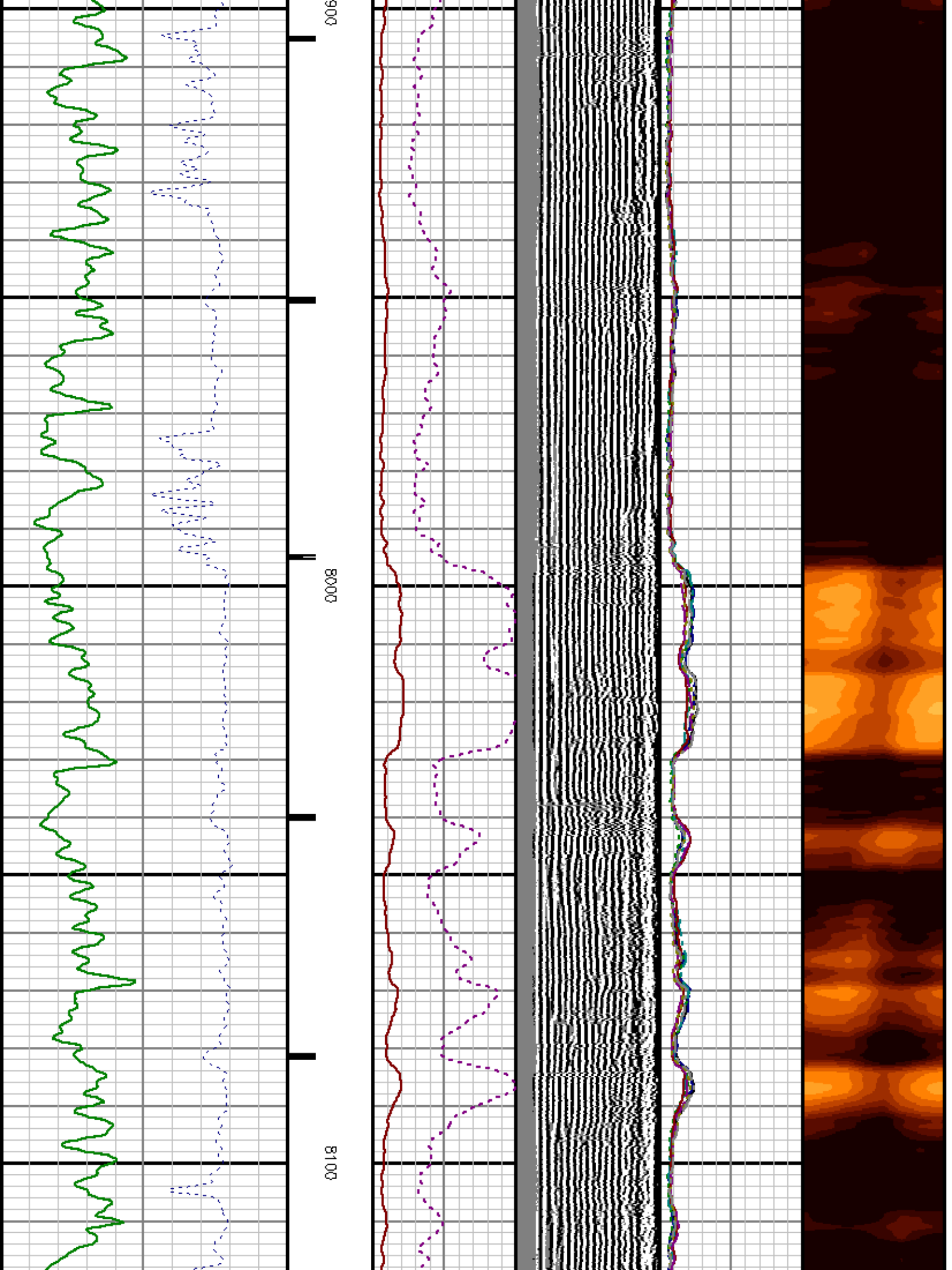


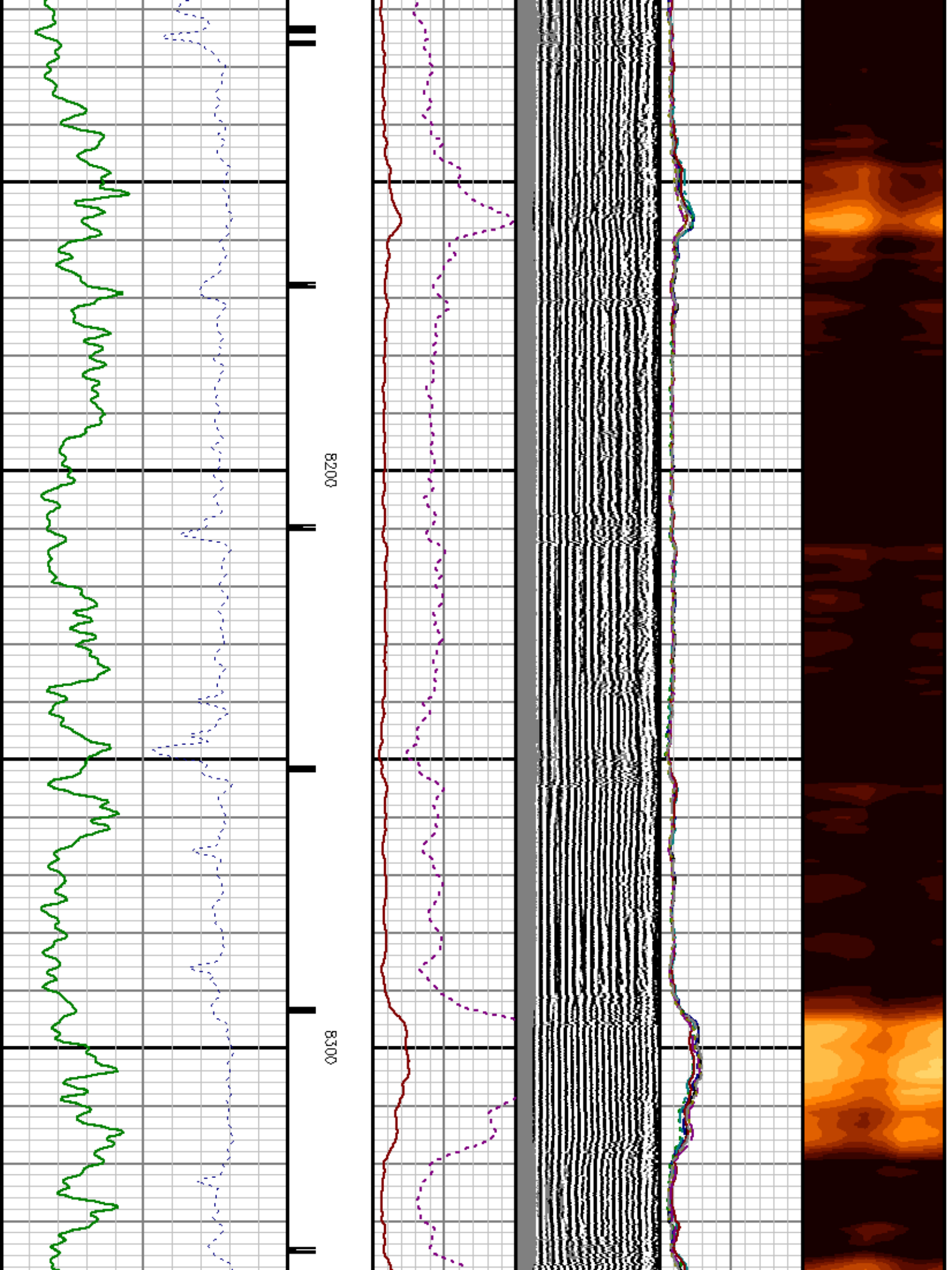


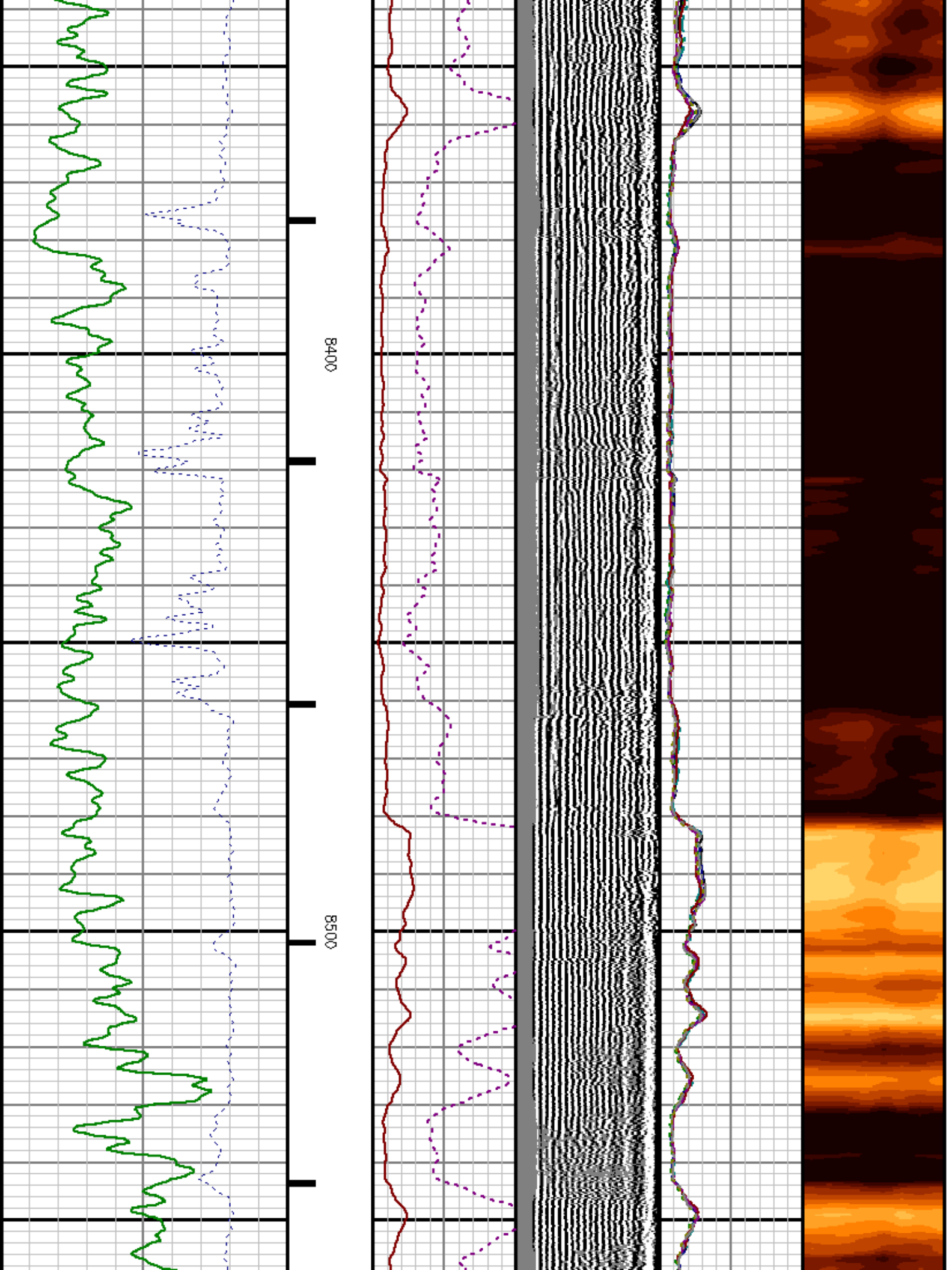


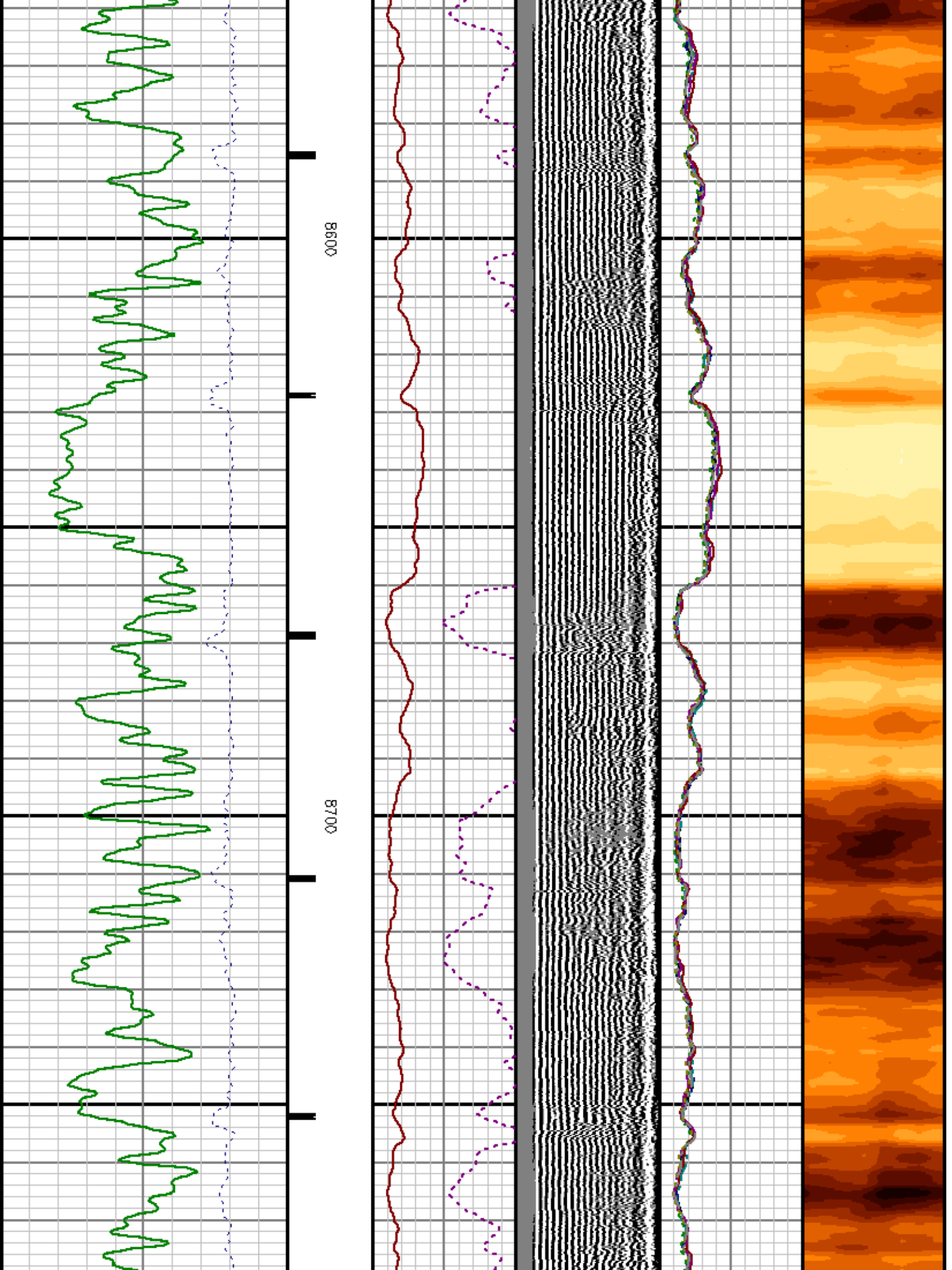




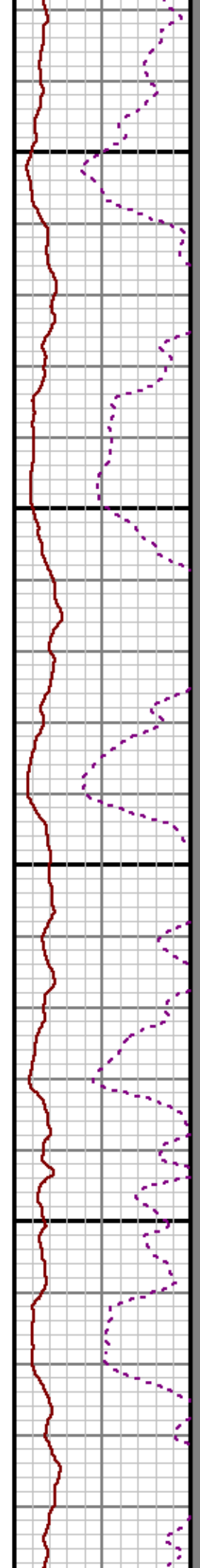
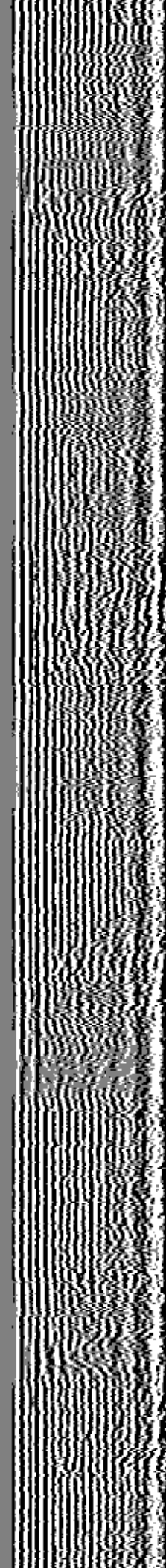
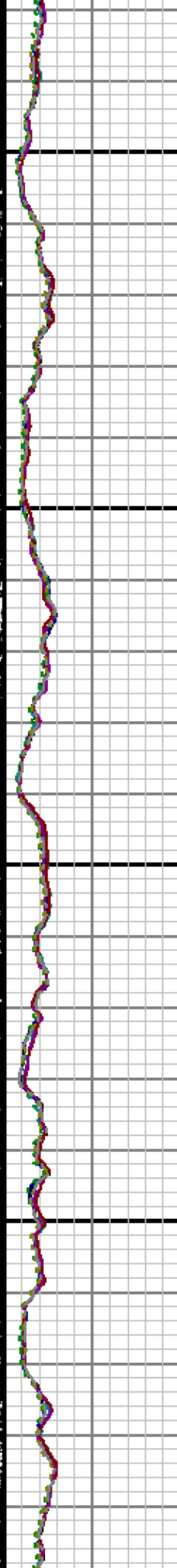
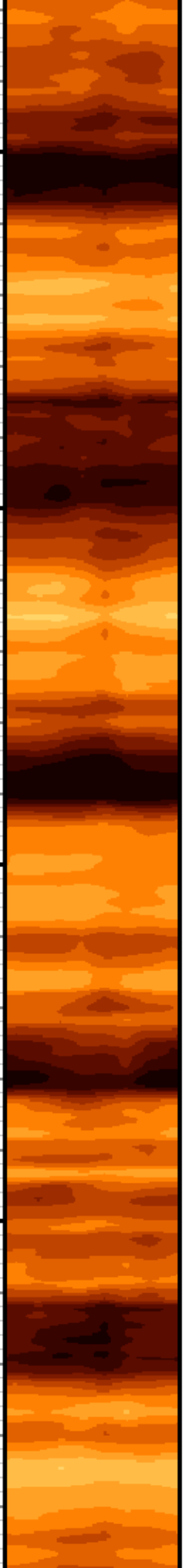








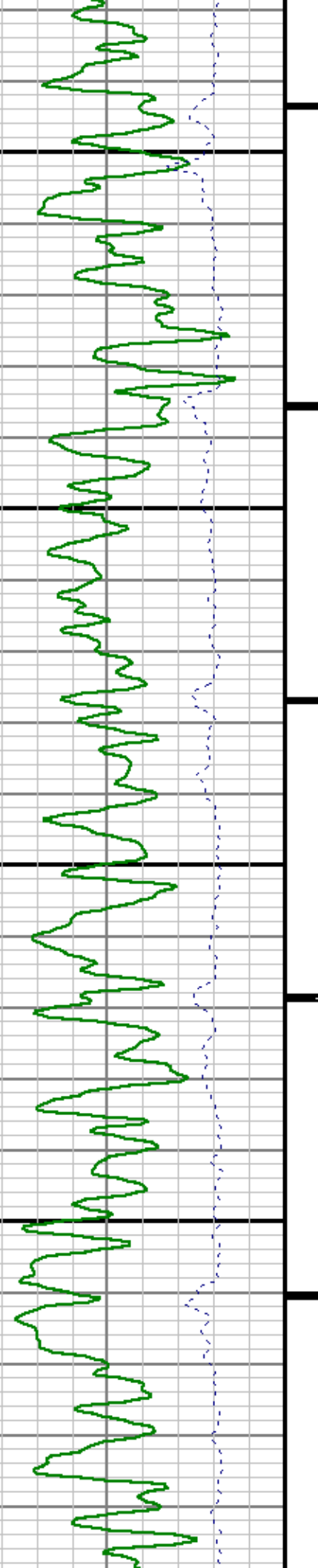


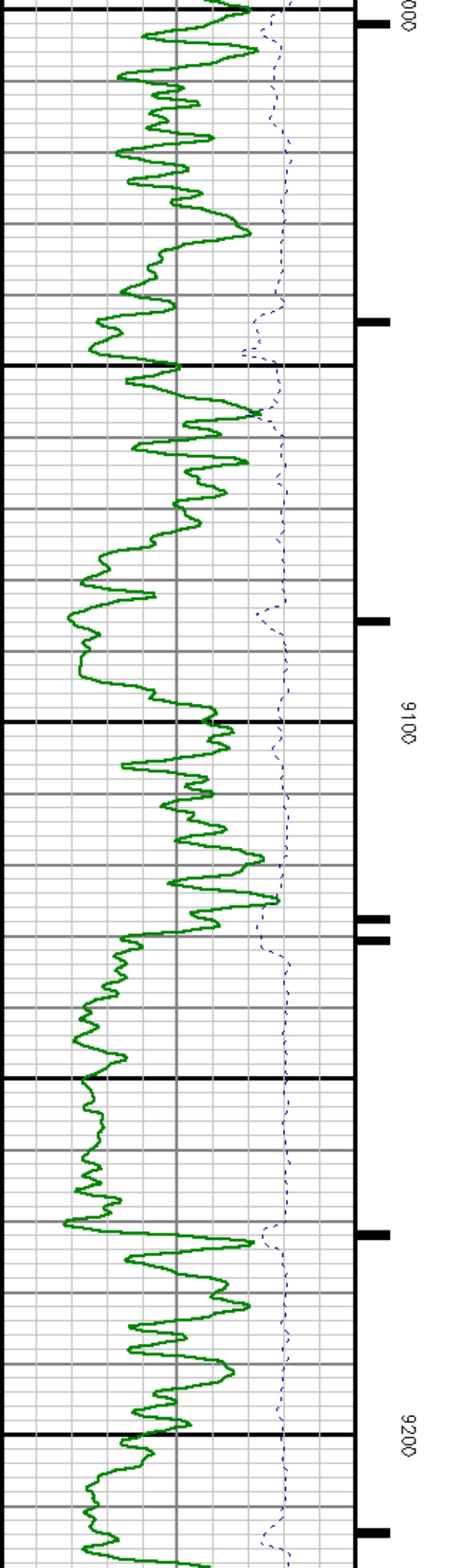
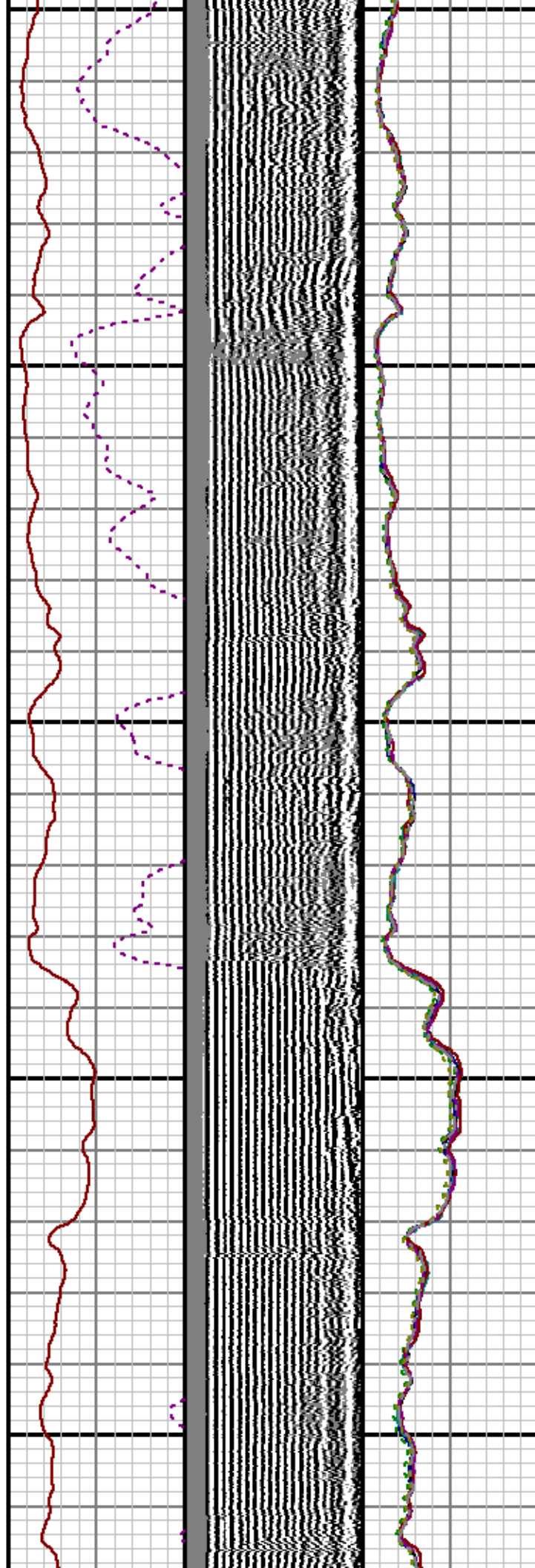
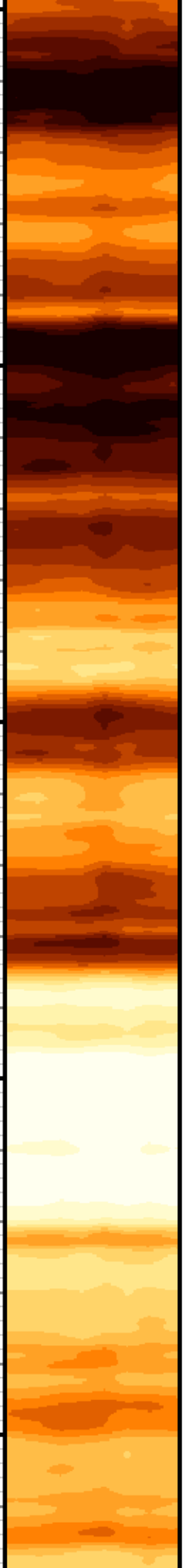


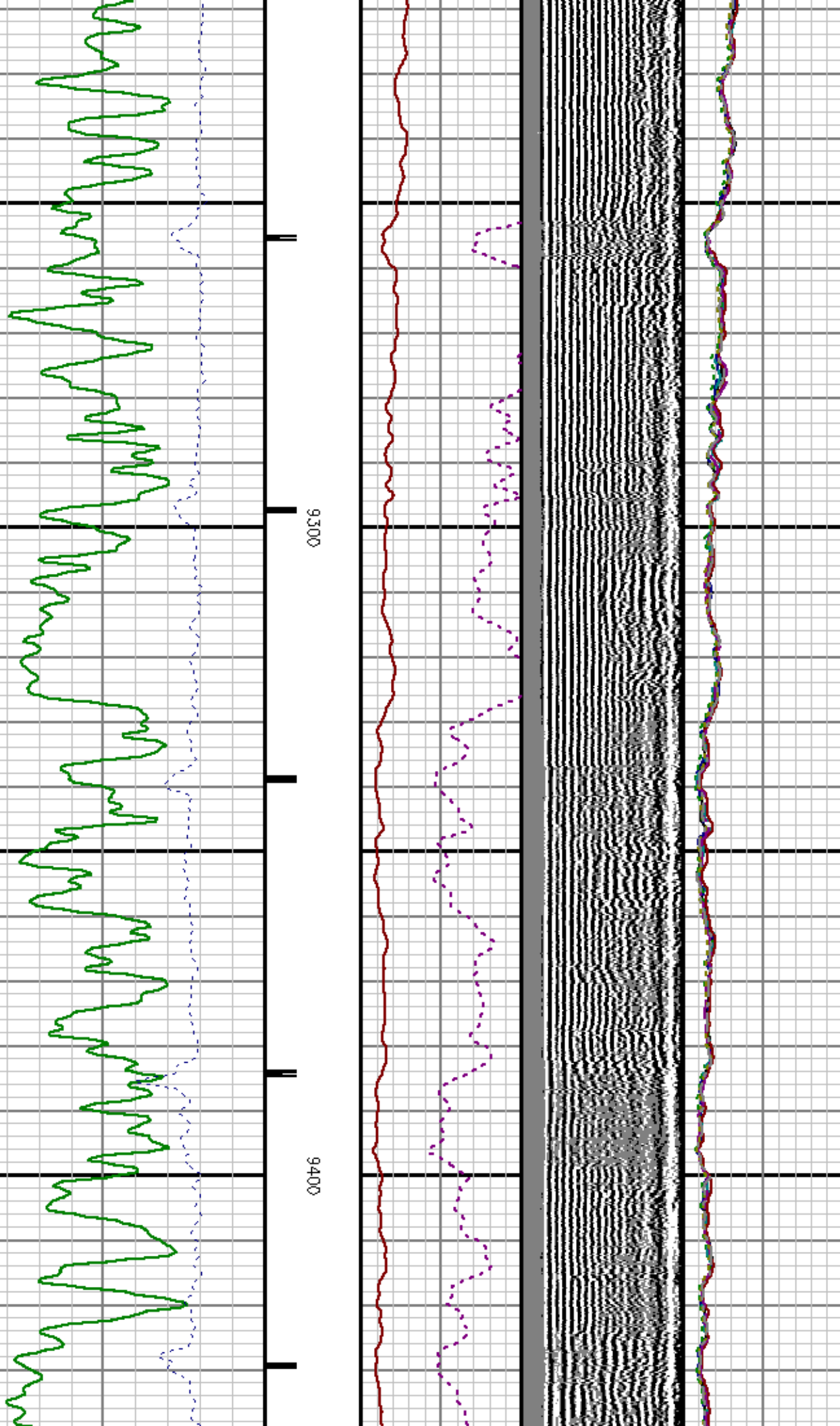
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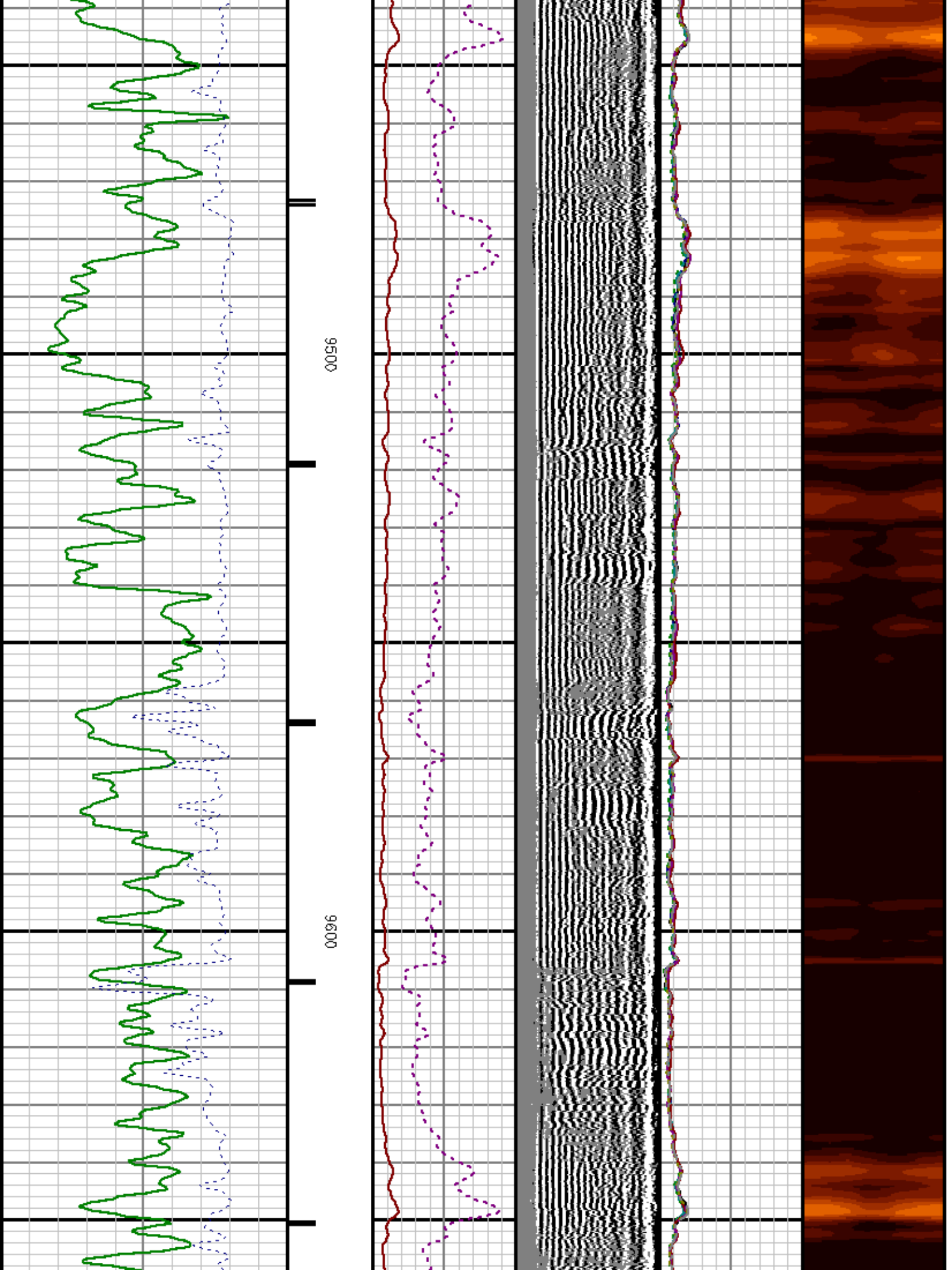
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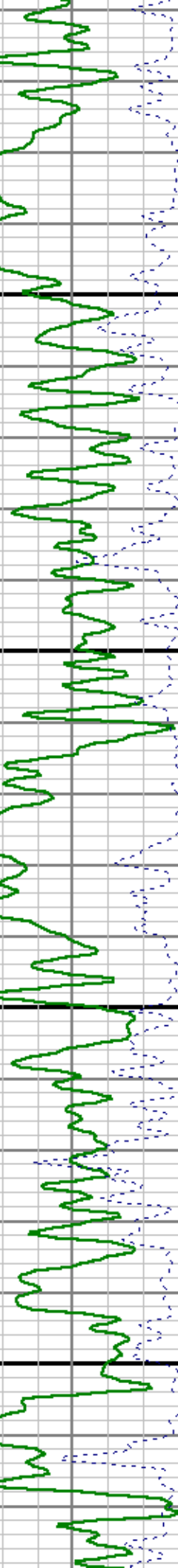
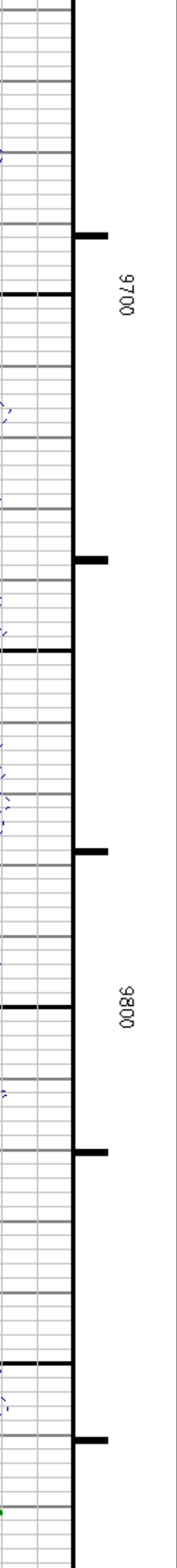
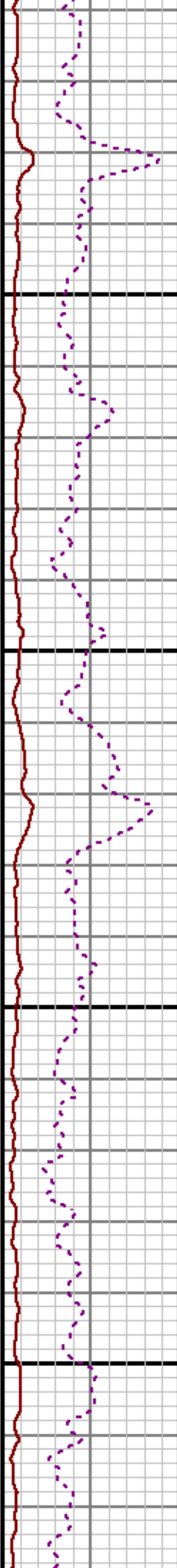
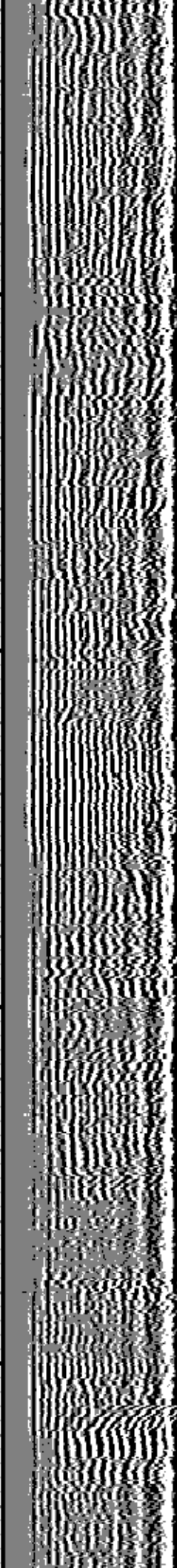
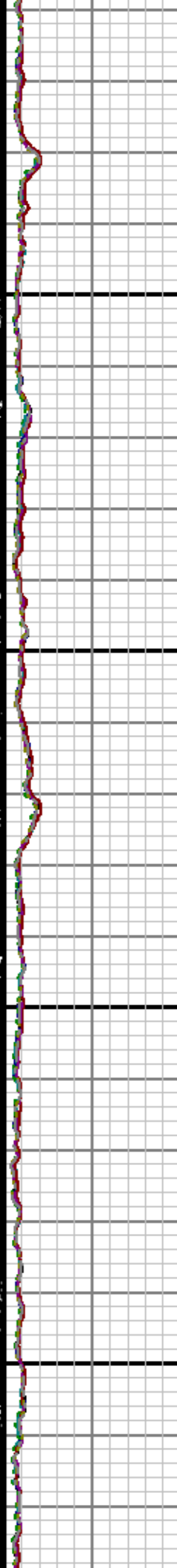
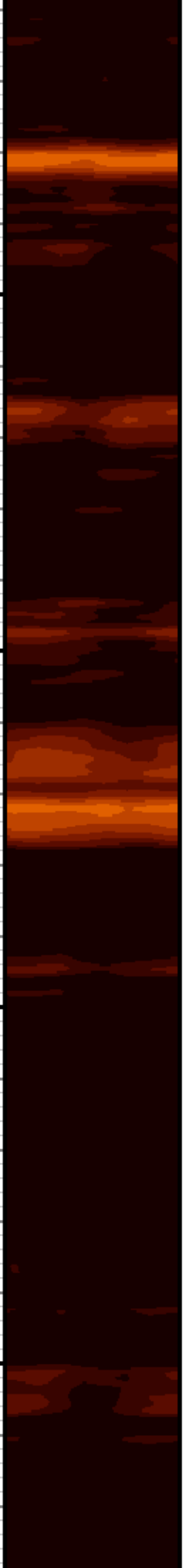


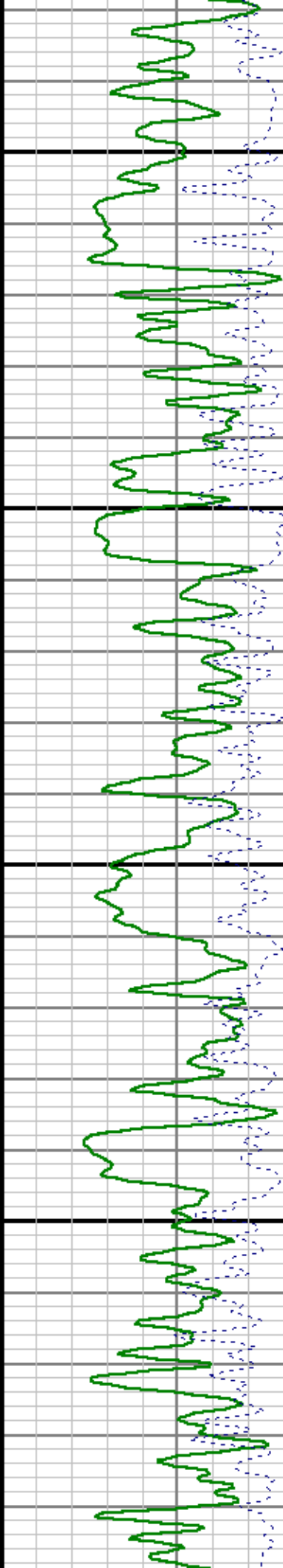
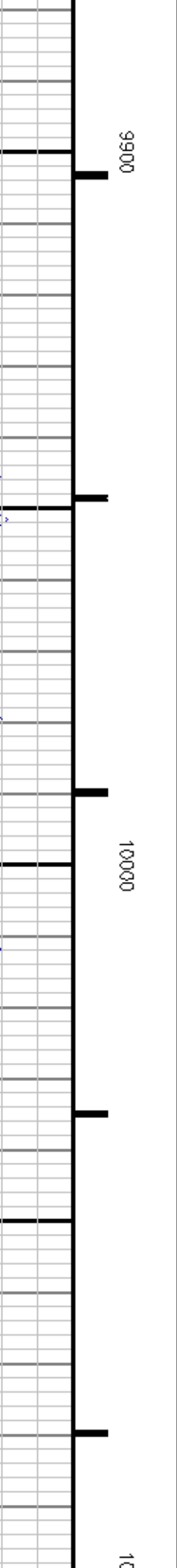
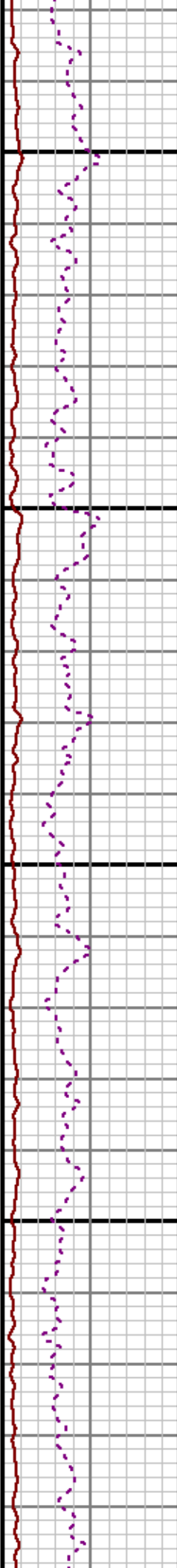
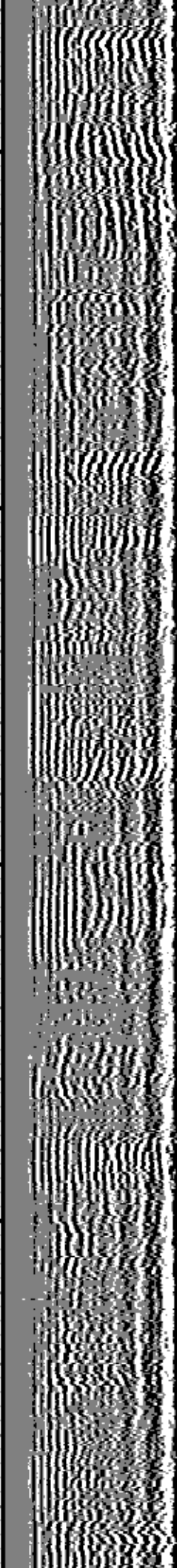
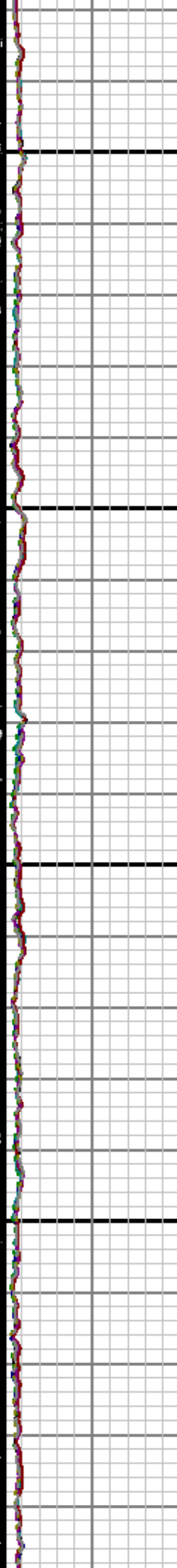


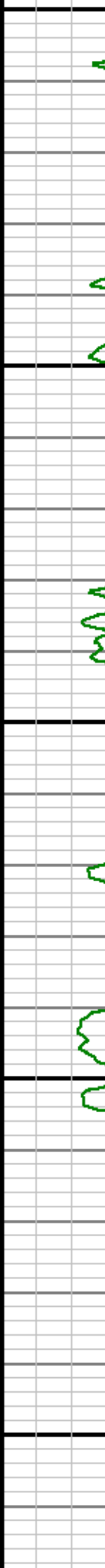
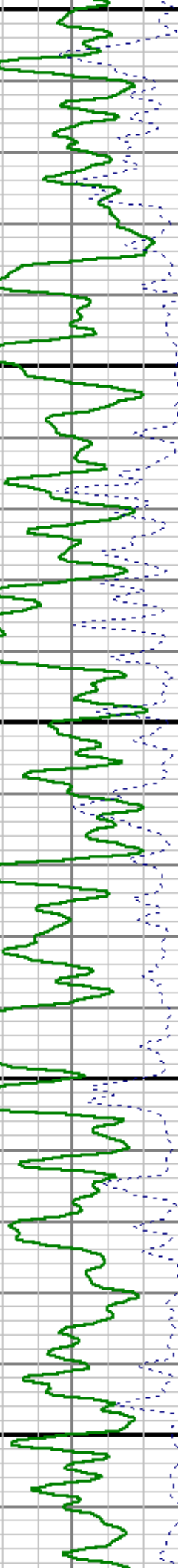
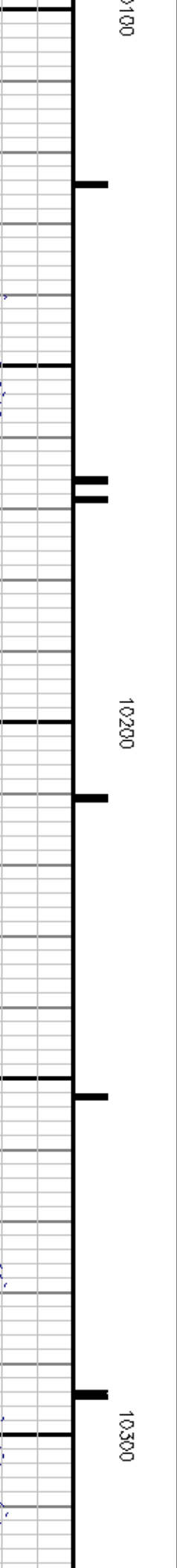
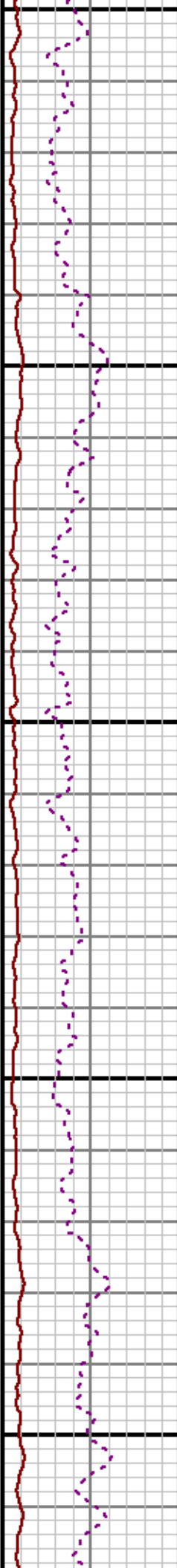
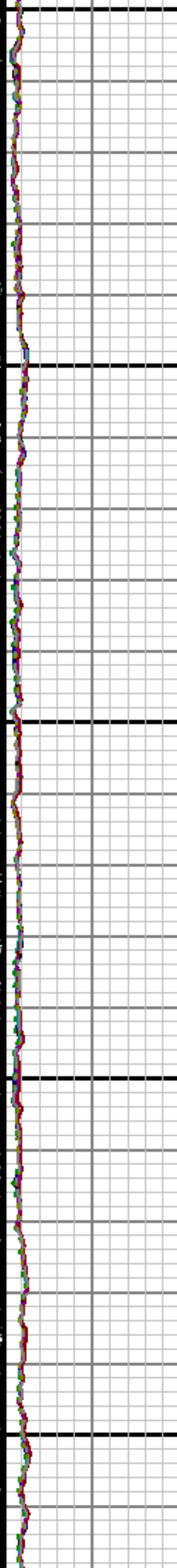
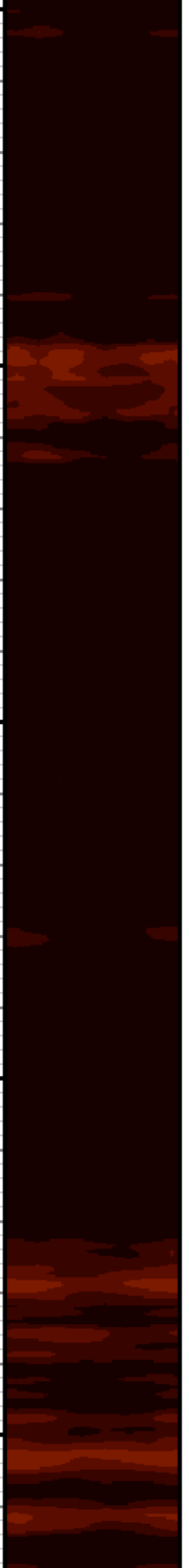


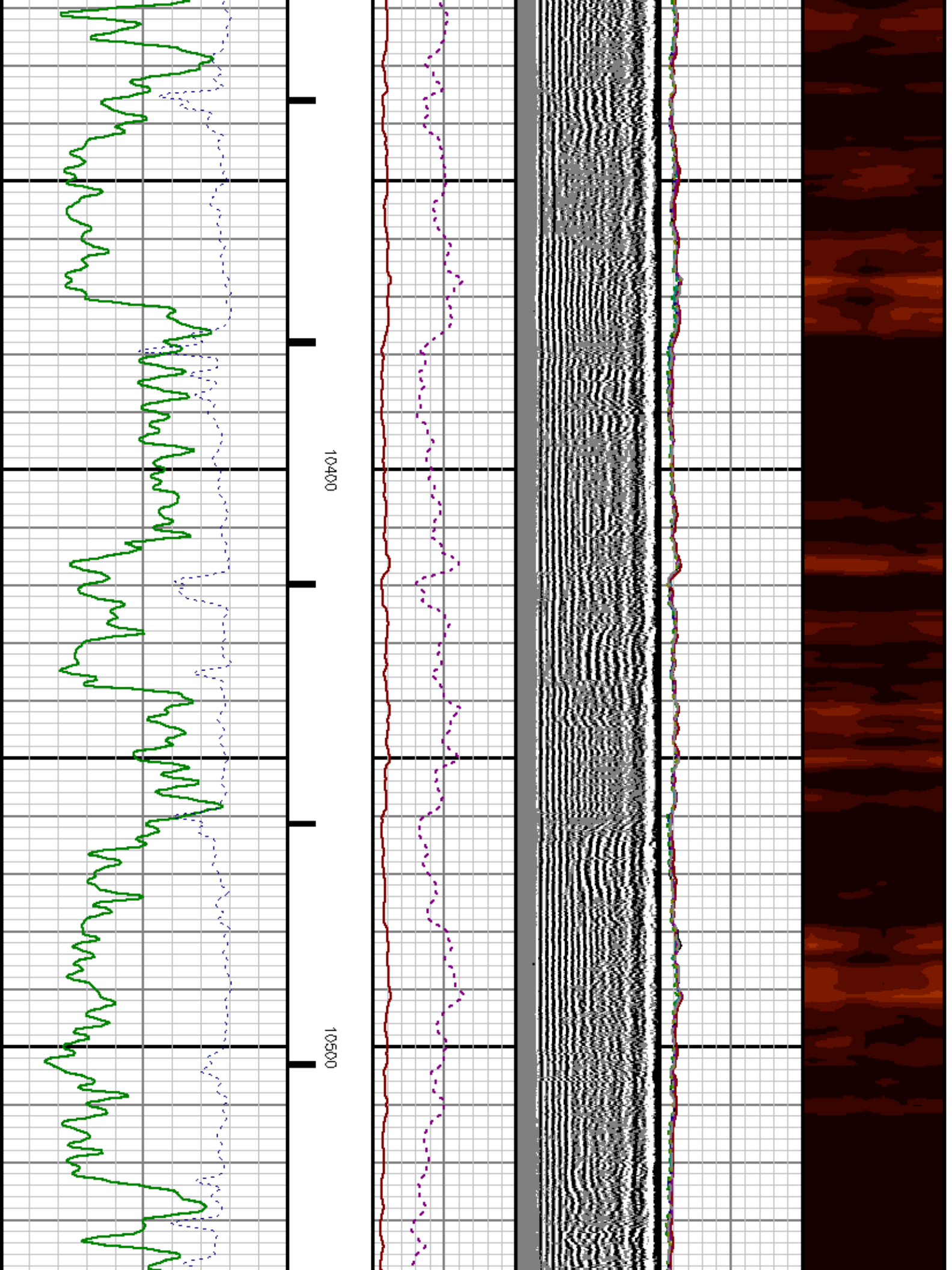




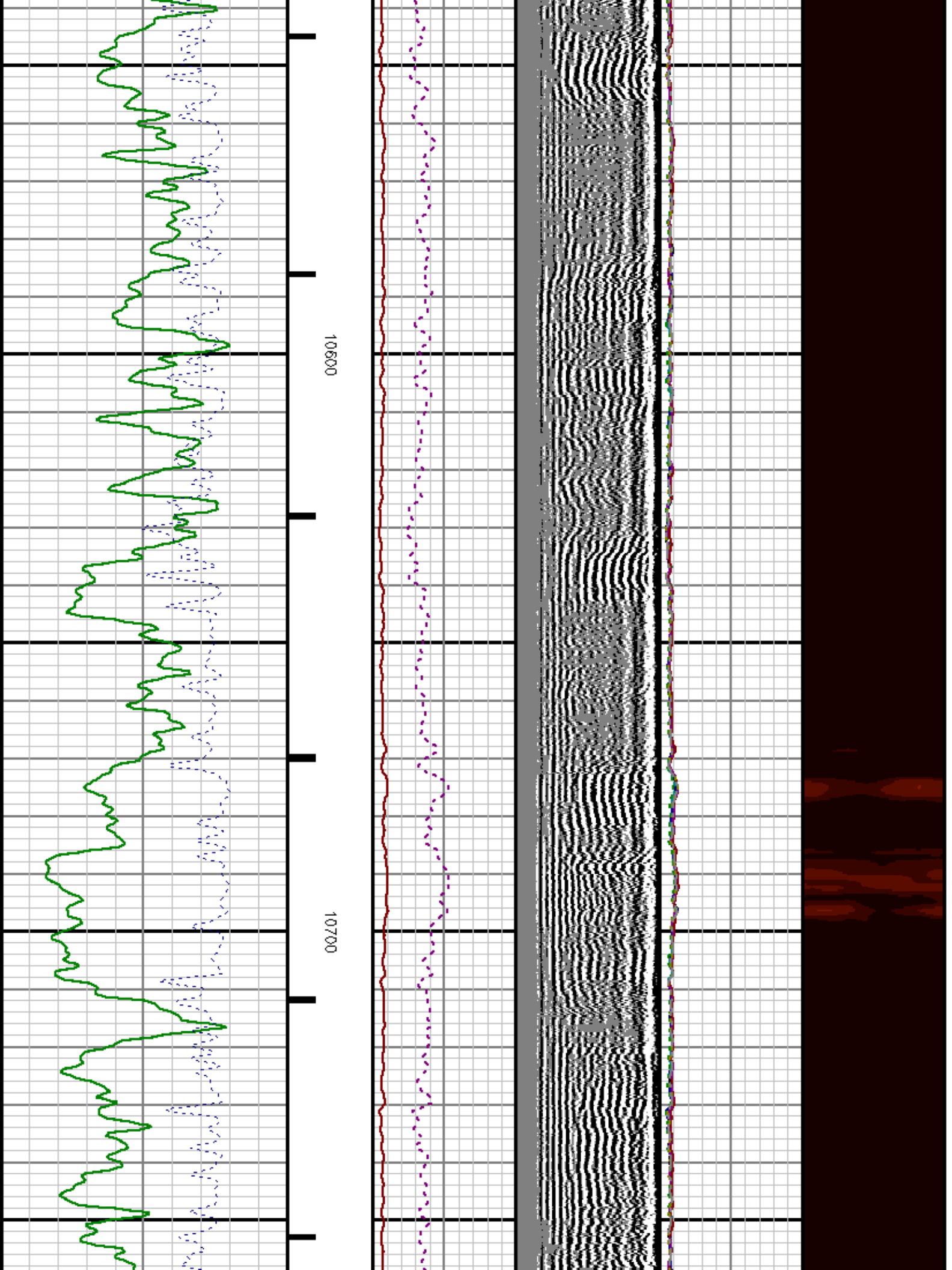


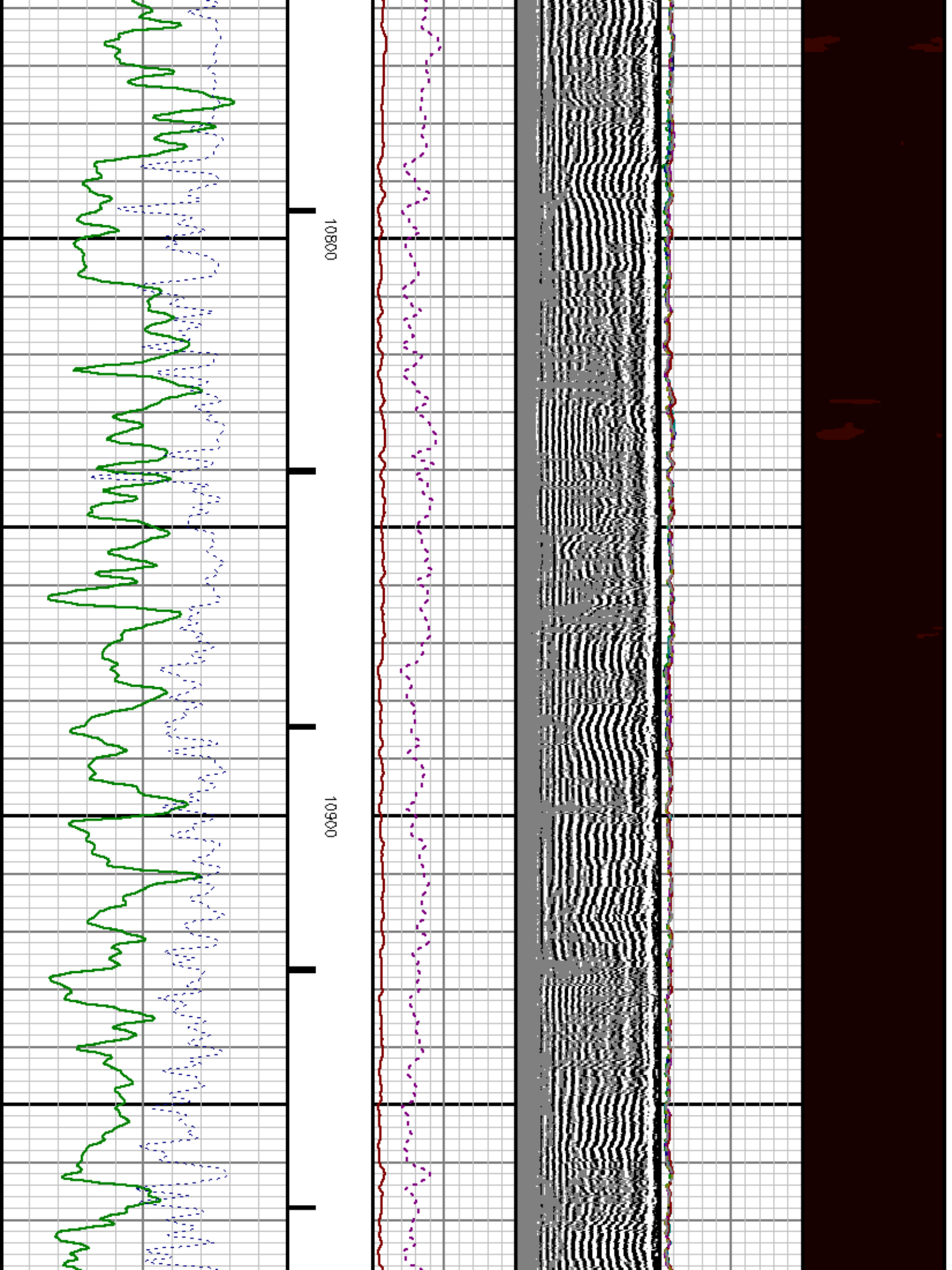


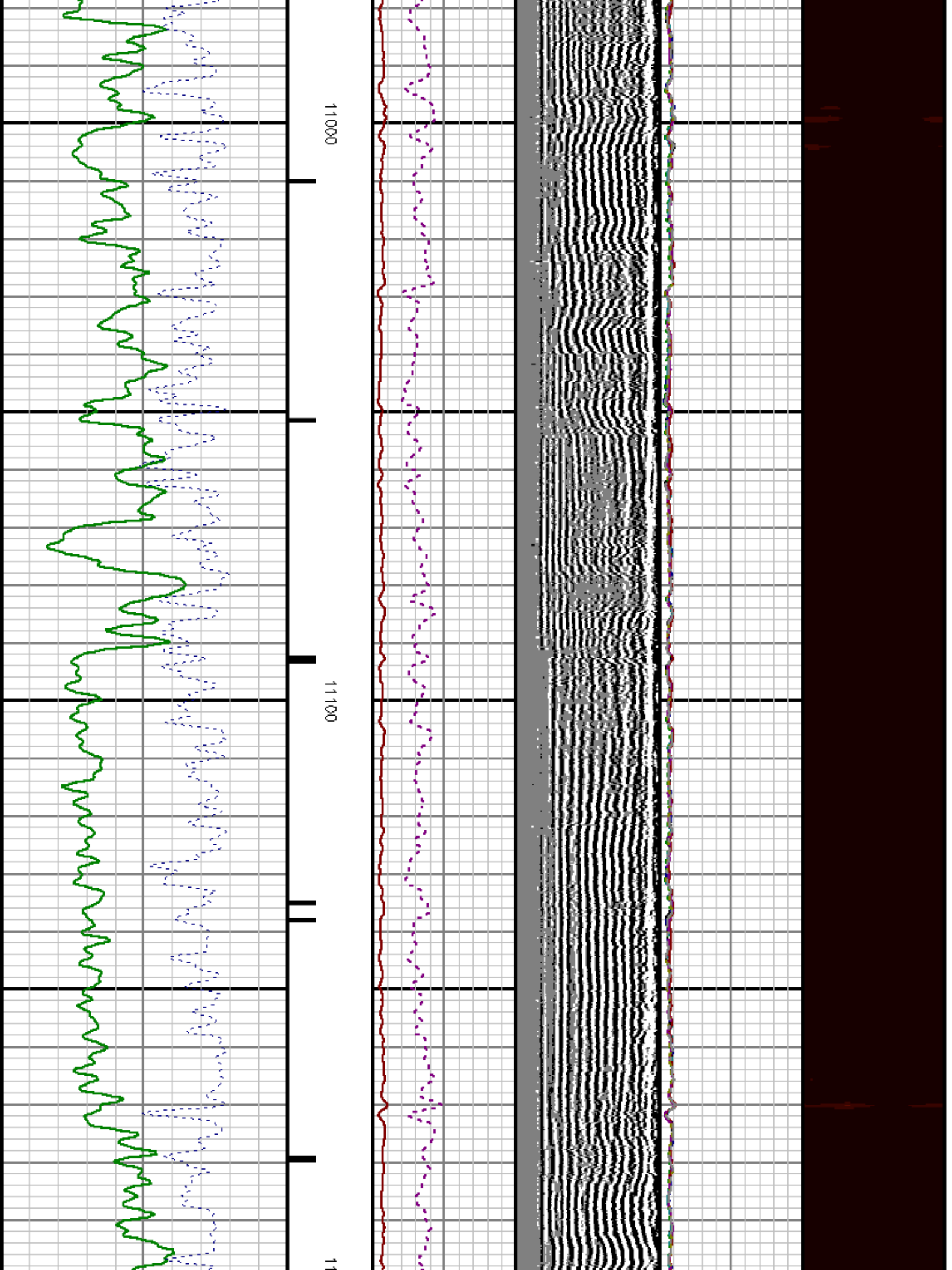


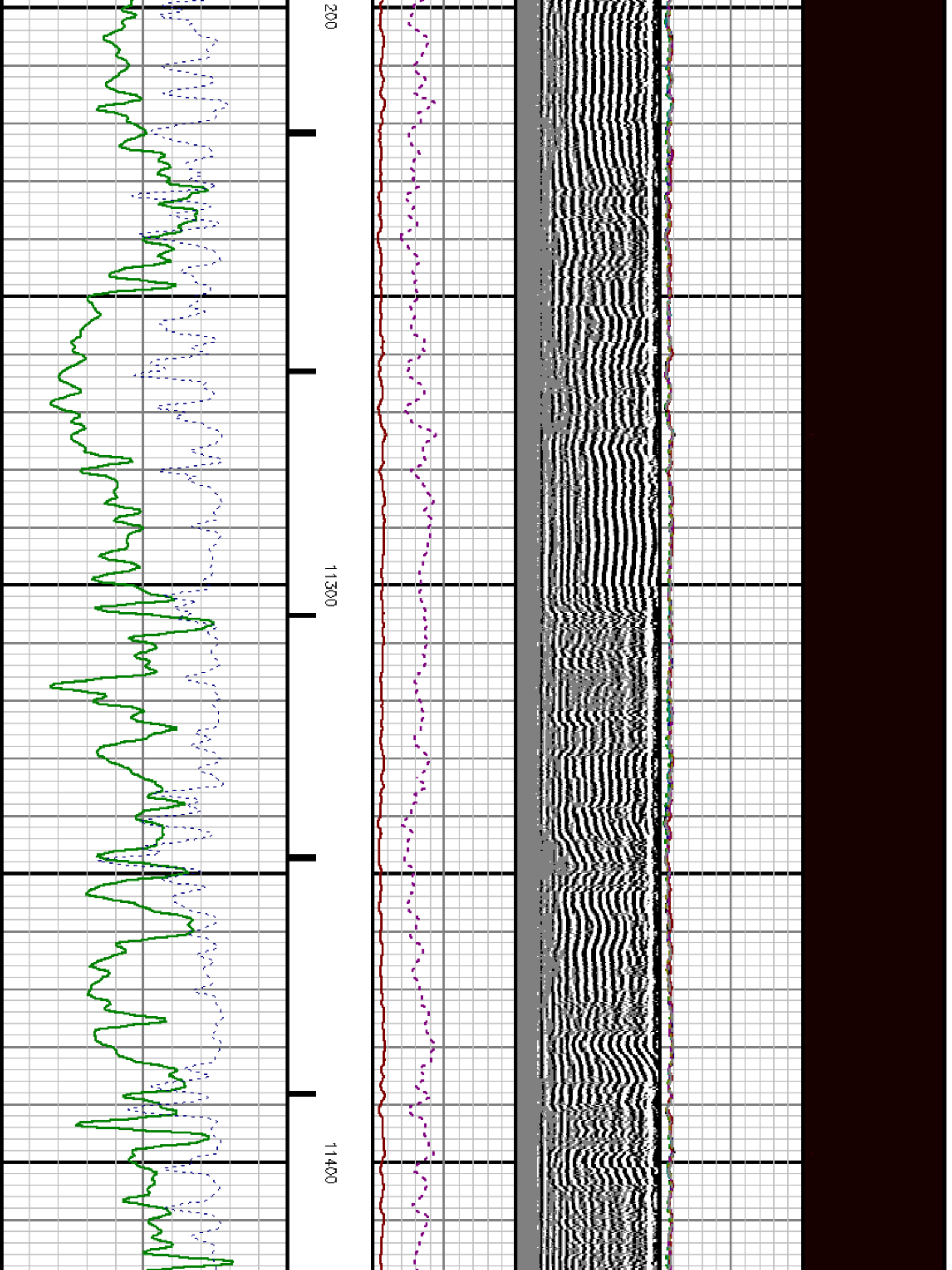




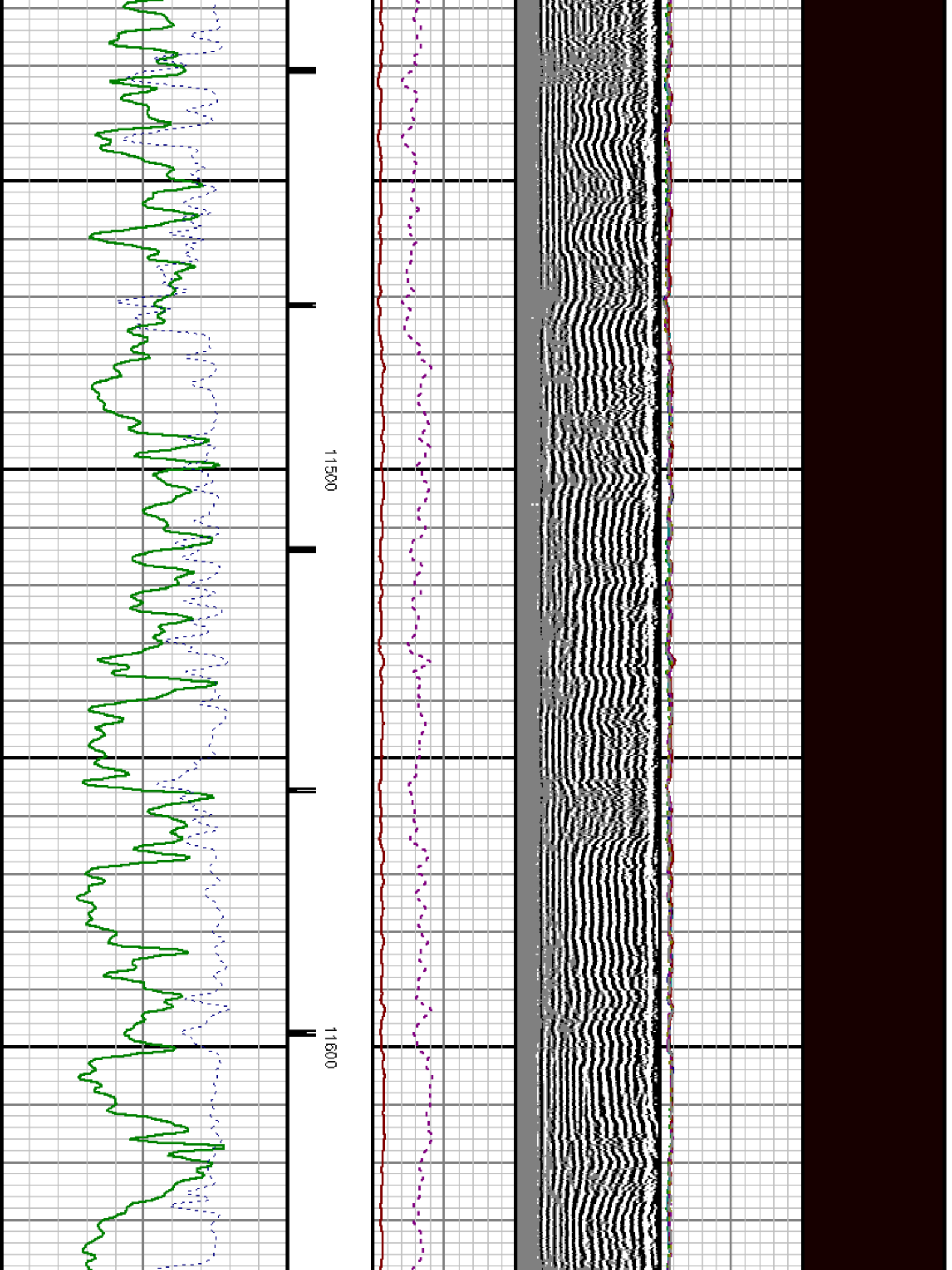


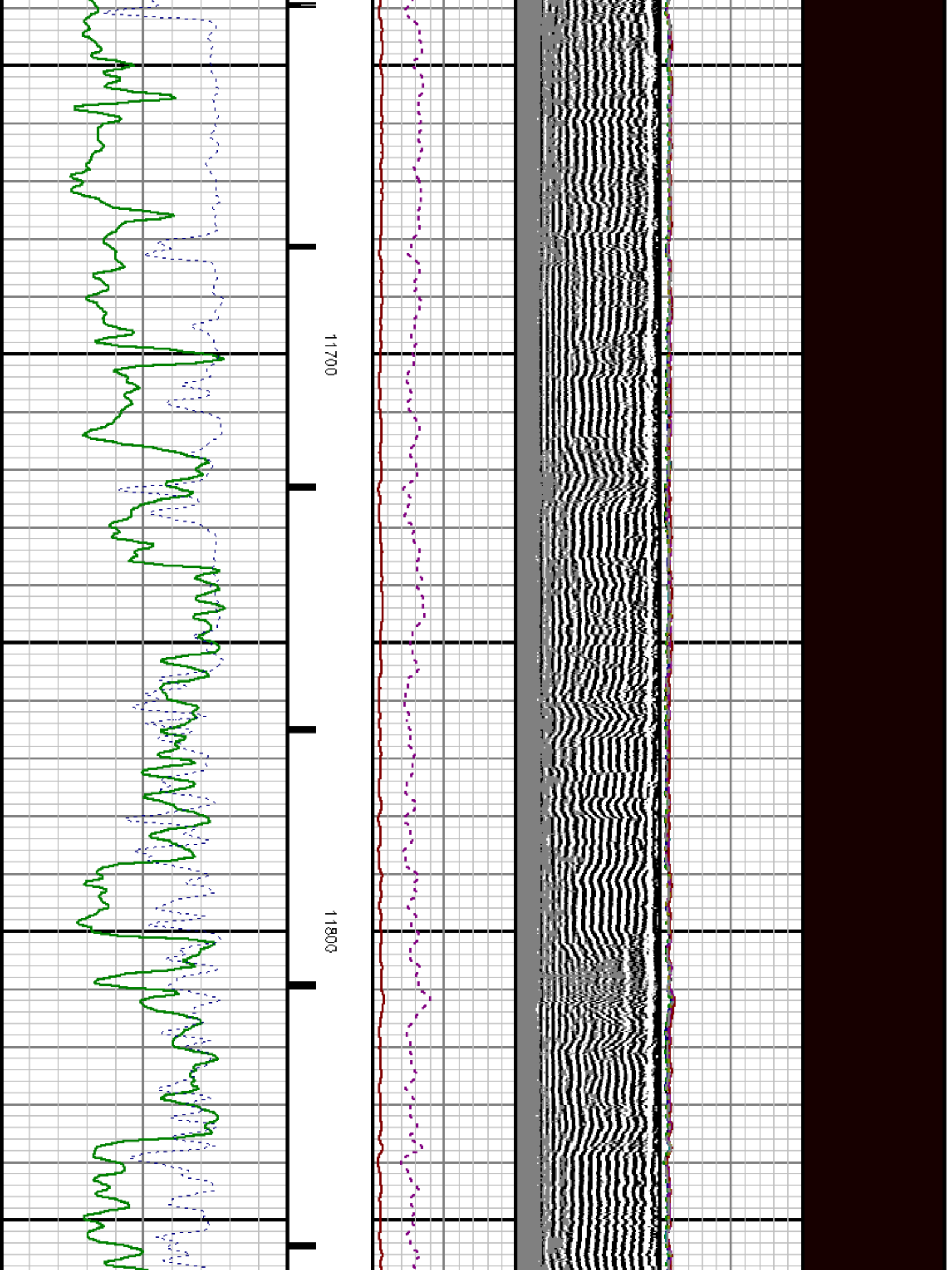


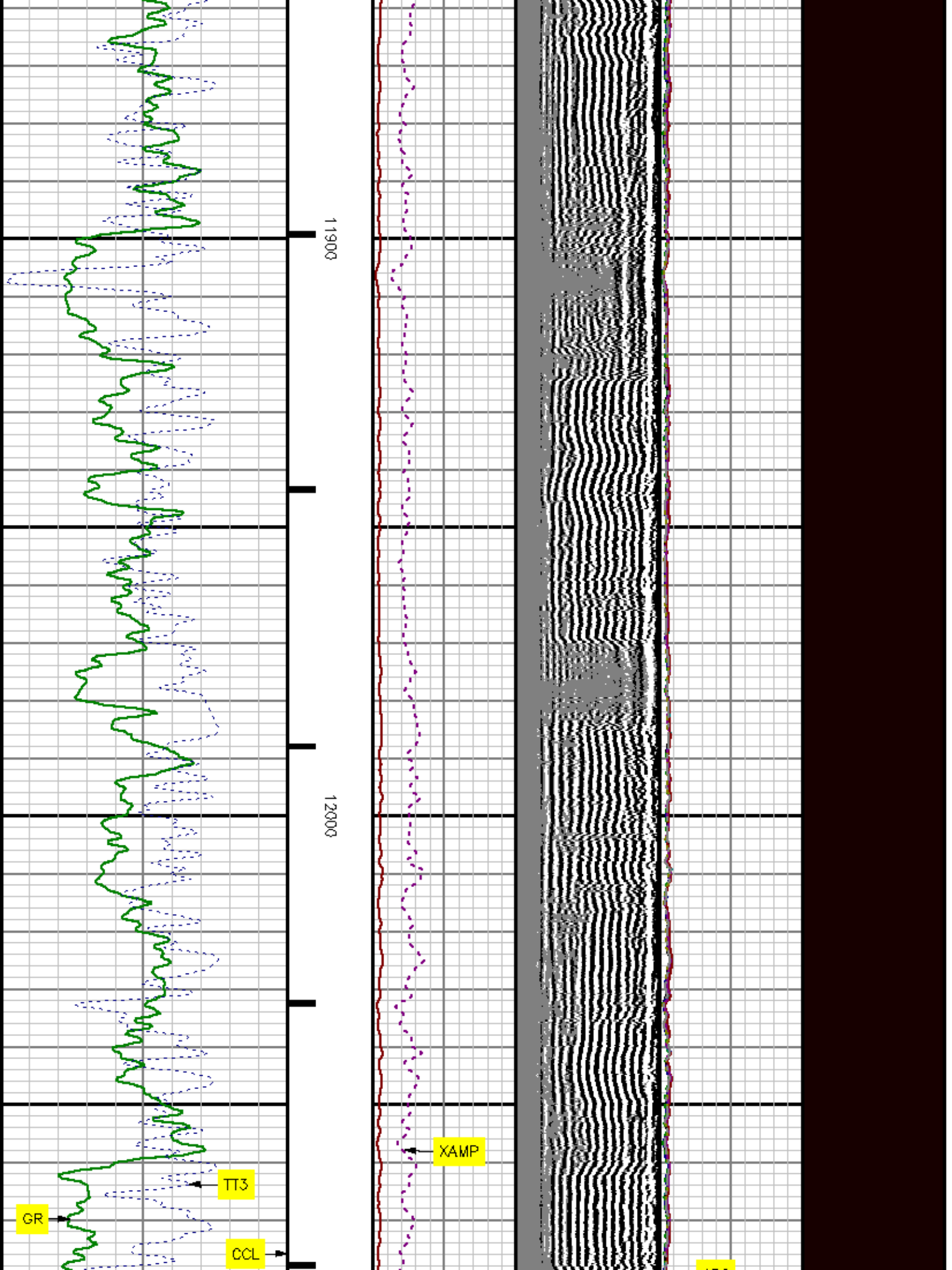


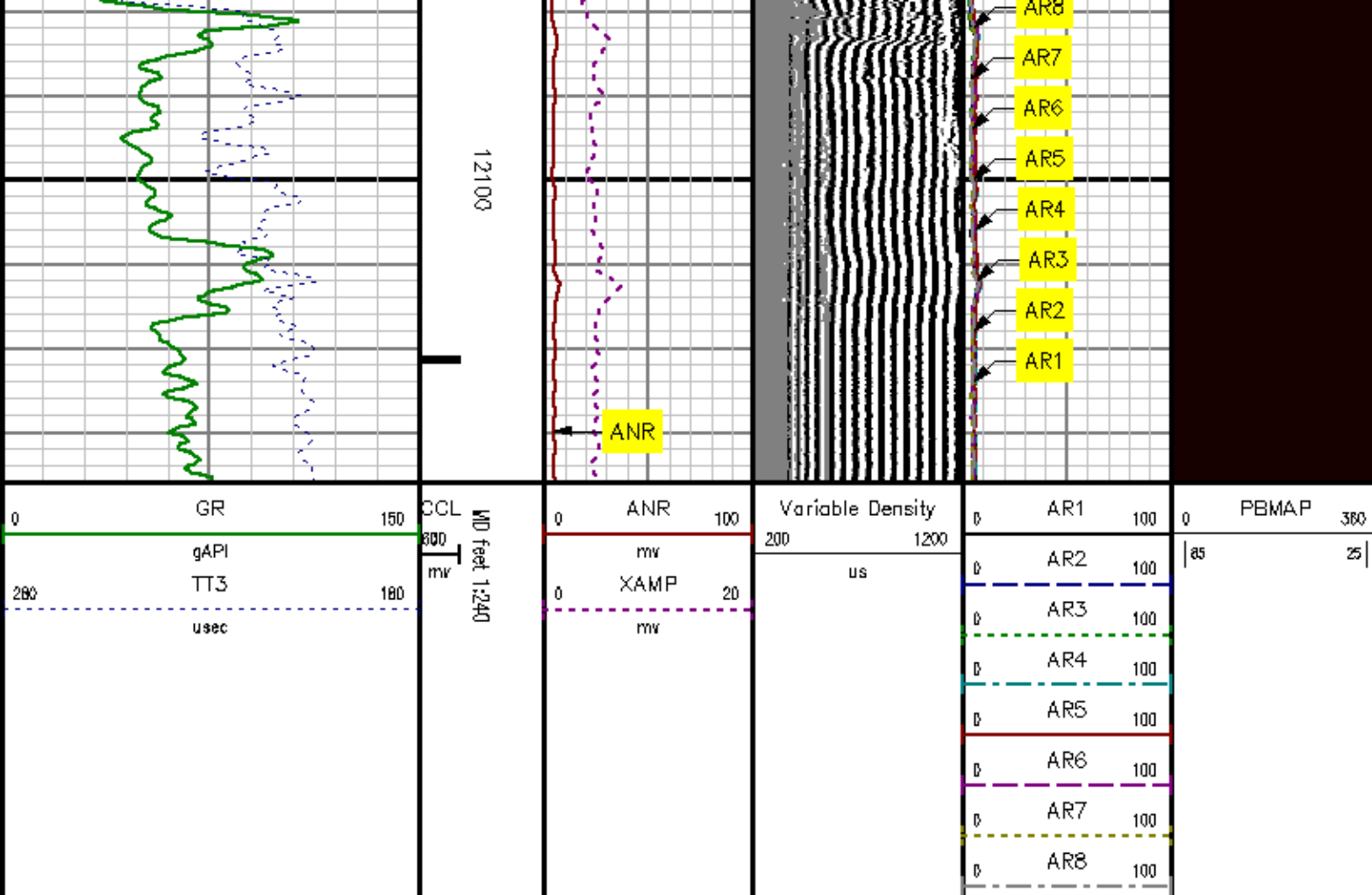












*REPEAT SECTION*  
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	314.263	usec	11749.750	12176.000
RAL	Amp Gate Start Near	197.754	usec	11749.750	12176.000
RAL	Amp Gate Start Radial	197.754	usec	11749.750	12176.000
RAL	Amp Gate Width Far	25.000	usec	11749.750	12176.000
RAL	Amp Gate Width Near	25.000	usec	11749.750	12176.000
RAL	Amp Gate Width Radial	25.000	usec	11749.750	12176.000
RAL	casing od	4.500	inches	11749.750	12176.000
RAL	casing wt	15.100	lbm/ft	11749.750	12176.000
RAL	FB Start Far	289.263	usec	11749.750	12176.000



RAL	FB Start Near	172.754	usec	11749.750	12176.000
RAL	FB Start Radial	172.754	usec	11749.750	12176.000
RAL	FB Thresh Far	10.000	mv	11749.750	12176.000
RAL	FB Thresh Near	4.000	mv	11749.750	12176.000
RAL	FB Thresh Radial	4.000	mv	11749.750	12176.000
RAL	Fluid Travel Time	200.000	usec/ft	11749.750	12175.512

## 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 : EXXONMOBIL PRODUCTION COMPANY

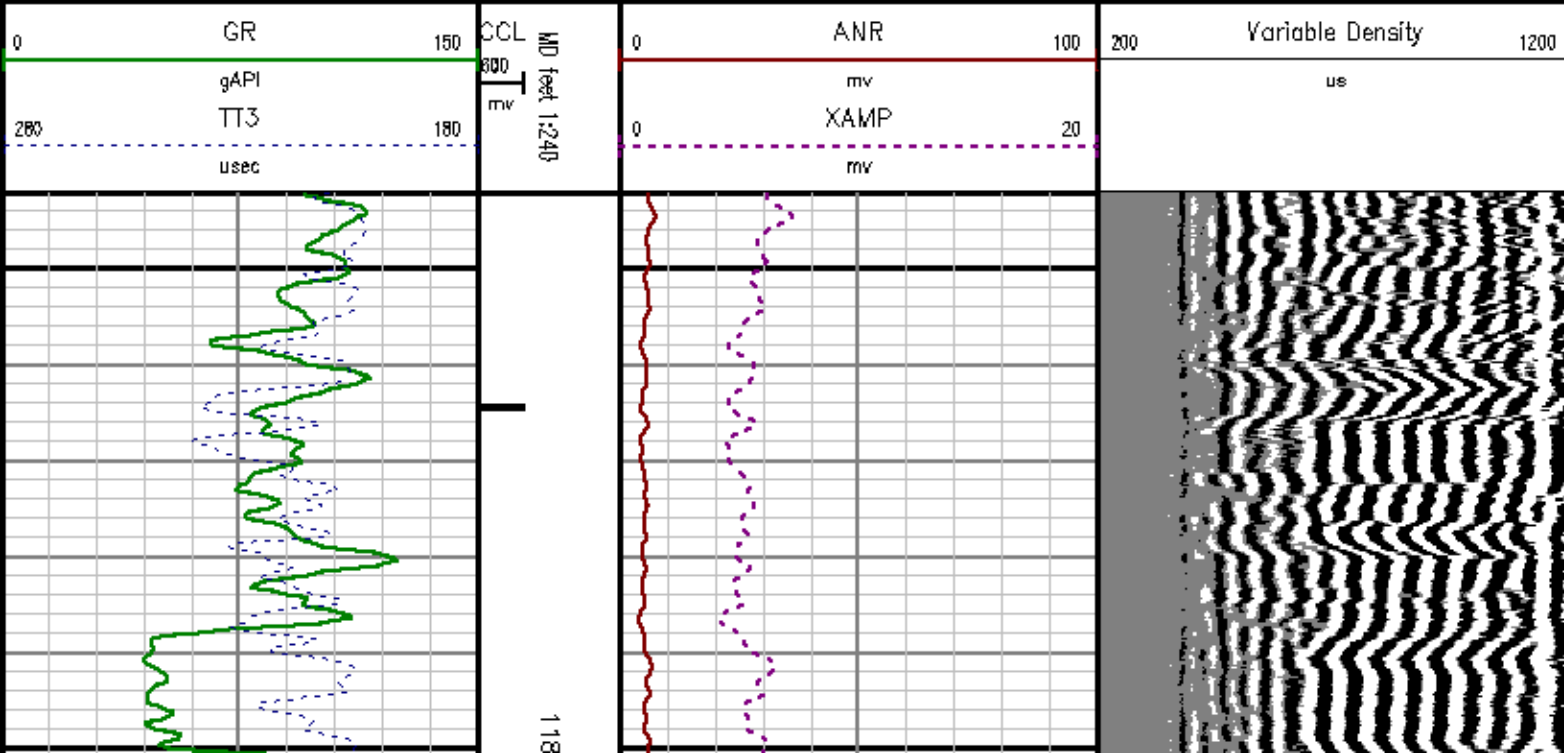
Well : FRU 197-33A9

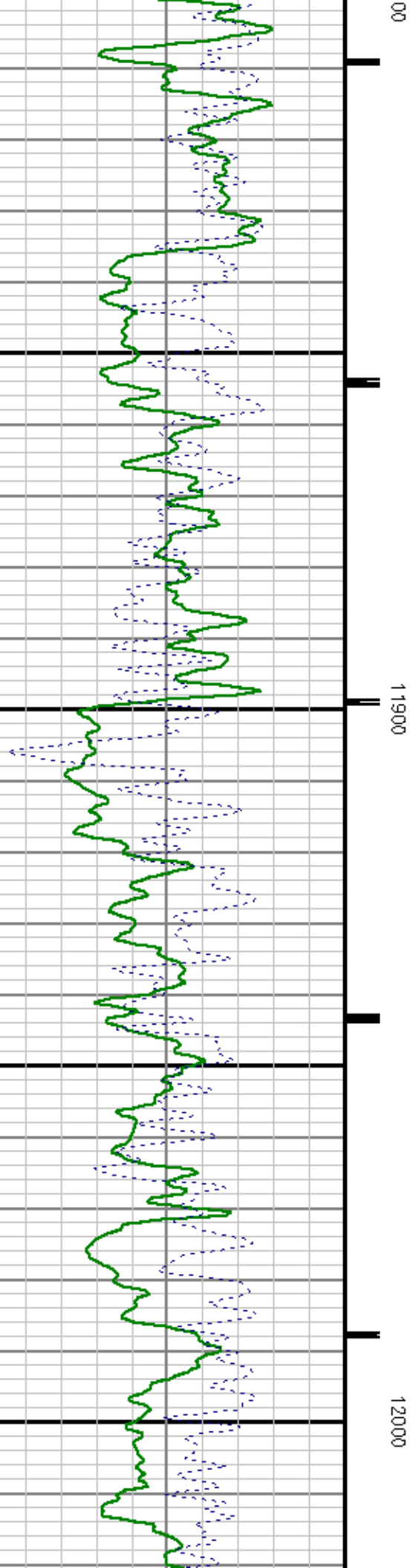
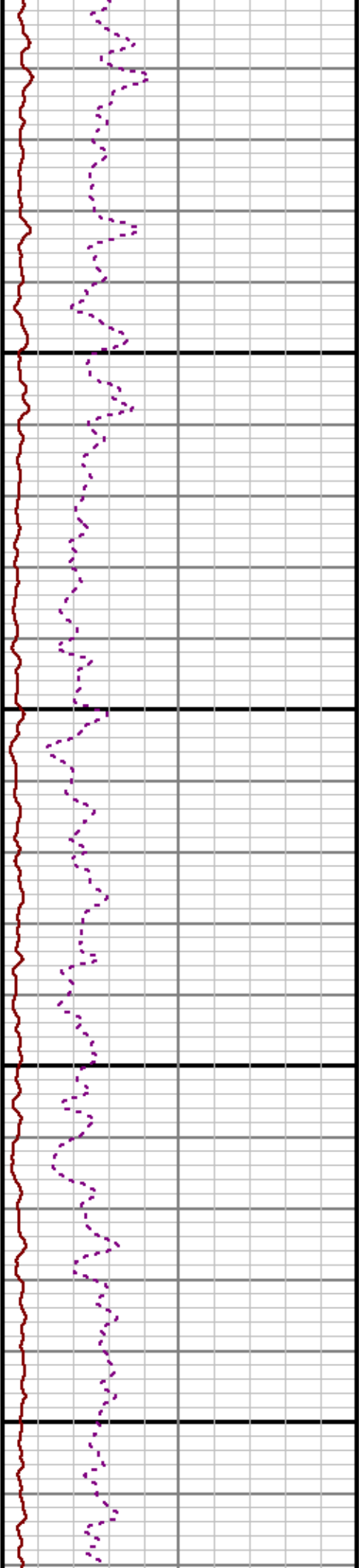
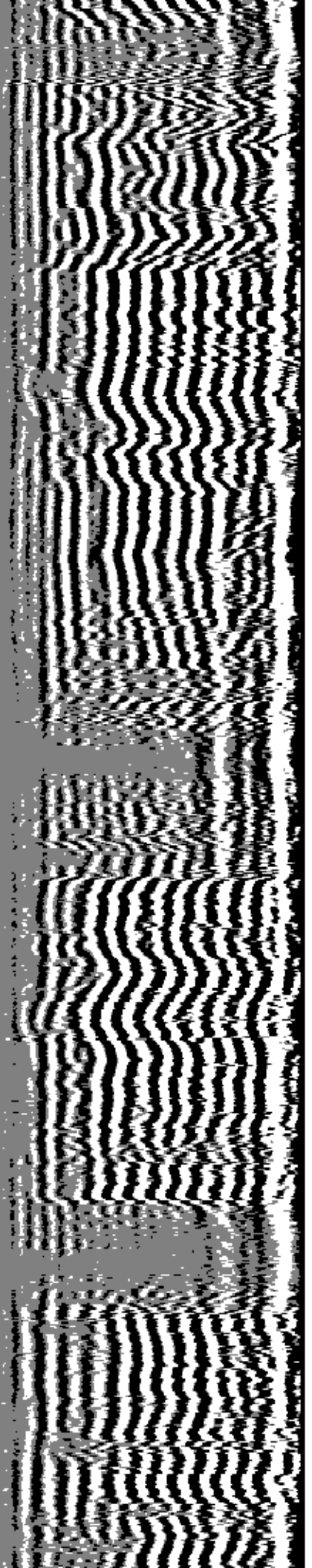
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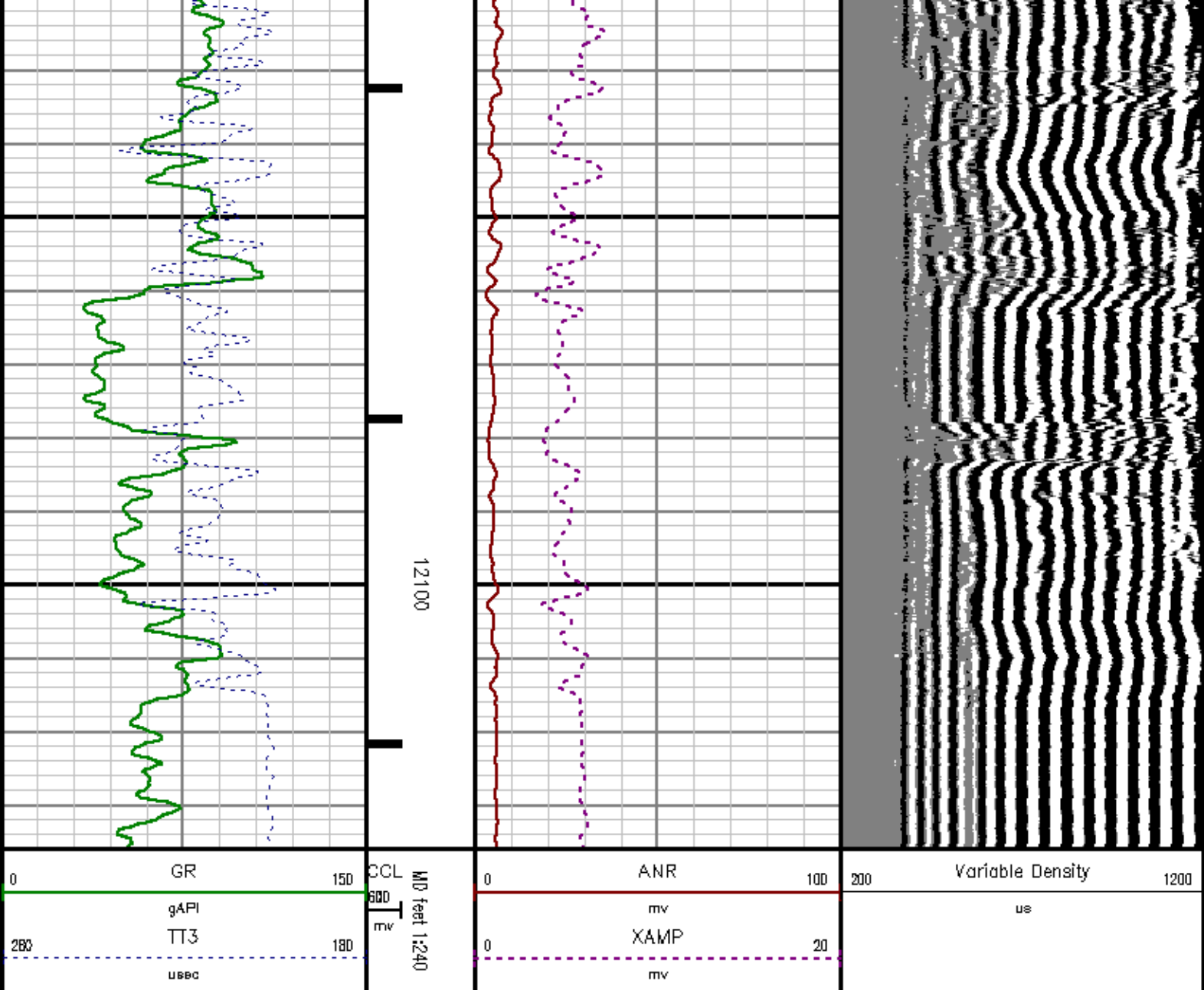
Mode : PlotMgr 5.4.504

Interval : 11742.25 - 12136.00 feet UP

Created : 4/23/2010 5:56:43 AM







## CALIBRATION SUMMARY

## GAMMA RAY

Calibration File: C:\case\calver\GR\450A1.cal

### CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Apr 08 03:38:58 2010

TOOL SERIES:

2459XA

ASSET:

450

SEQ:

A1

Calibrator #

Background

[cps]

Calibrator On

[cps]

Multiplicative

Background

[api]

Calibrator On

[api]

Differential

[api]

S2K	DA9D5	59.82	301.96	0.784	45.71	230.71	185.00
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Verification File: C:\case\calver\GR\450A1.VP

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED:		Thu Apr 08 03:43:20 2010		TOOL SERIES:		2459XA	ASSET:	450	SEQ:	A1
Calibrator #	Background	Calibrator On		Multiplicative	Background	Calibrator On	Differential			
	[cps]	[cps]			[api]	[api]	[api]			
S2K	DA9D5	58.82	302.13	0.784	44.79	230.84	186.06			

***RALSHP***

Shop Calibration: C:\case\calver\RALSHP\1000A21\_shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED:		Wed Apr 21 17:54:02 2010		TOOL SERIES:		1426XA	ASSET:	1000	SEQ:	A21
Tool Delay	-54.00	Tank OD	5.50	Tank Wt	15.50	Tank ID	4.95			
[usec]		in		lbm/ft		in				
RECEIVER	Travel Time	Amp. Gate	Amp. Gate	Zero Gate	Zero Gate	Zero Amp.	Amp Ref.	Shop Factor		
	[usec]	Start	Width	Start	Width	[mV]	[mV]			
		[usec]	[usec]	[usec]	[usec]					
CAL Pulse	217	216	30	147	25	0.012	100.00	0.21		
3 Ft. Receiver	219	216	30	158	25	0.106	100.00	0.20		
5 Ft. Receiver	327	326	30	264	25	1.039	150.00	0.22		
Radial #1	218	216	30	158	25	0.143	100.00	0.20		
Radial #2	218	216	30	158	25	0.233	100.00	0.20		
Radial #3	219	216	30	158	25	0.321	100.00	0.20		
Radial #4	220	216	30	158	25	-0.023	100.00	0.20		
Radial #5	220	216	30	158	25	-0.483	100.00	0.20		
Radial #6	219	216	30	158	25	-0.106	100.00	0.20		
Radial #7	218	216	30	158	25	0.014	100.00	0.20		
Radial #8	218	216	30	158	25	-0.018	100.00	0.20		

***RALFLD***

Wellsite Calibration: C:\case\calver\RALFLD\1000A21 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED:		Wed Apr 21 18:00:25 2010		TOOL SERIES:		1426XA	ASSET:	1000	SEQ:	A21
Tool Delay	-54.00	Casing OD	4.50	Casing Wt	15.10	Casing ID	3.83			
[usec]		in		lbm/ft		in				
RECEIVER	Zero Gate	Zero Gate	Zero Amp.	Full Amp.	Wellsite Factor	Amp. Ref				
	Start	Width	[mV]	[mV]		[mV]				
	[usec]	[usec]								
CAL Pulse	147	25	0.061	0.000	1.00	100.000				
3 Ft. Receiver	198	25	-0.489							
5 Ft. Receiver	311	25	-0.150							



5 Ft. Receiver	314	25	-0.058
Radial #1	198	25	-0.921
Radial #2	198	25	-0.848
Radial #3	198	25	-0.863
Radial #4	198	25	-1.019
Radial #5	198	25	-1.079
Radial #6	198	25	-1.000
Radial #7	198	25	-1.100
Radial #8	198	25	-0.934

## 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

Series	1426KA
Mnemonic	PROB
Diameter	2.75"
Length	11.17'
Measure Point	0.75' FAR RCVR
Measure Point	2.87' NEAR RCVR
Measure Point	5.75' XMIT
Temp Rating	350.00 °F
Press Rating	18000.00 PSI

#### CENTRALIZER

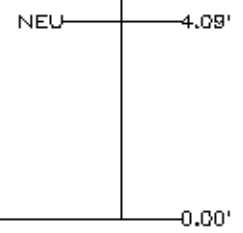
Series	RALCENT
Mnemonic	CENT
Diameter	3.12"
Weight	20.00 lb

### Probe GR/CCL/NEU

Series	2459KA
Mnemonic	PROB
Diameter	2.75"
Length	9.42'
Measure Point	1.21' NEU
Measure Point	6.80' GR
Measure Point	8.46' CCL



	30.00'
XMIT	20.94'
NEAR RCVR	17.85'
FAR RCVR	15.94'
CCL	11.34'
GR	9.49'

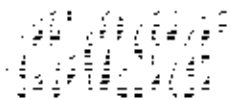


CENTRALIZER	
Series	RALCENT
Mnemonic	CENT
Diameter	3.12"
Weight	20.00 lb

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



Baker Atlas



Company	EXXONMOBIL PRODUCTION COMPANY			File No:	1727
Well	FRU 197-33A9				
Field	PICEANCE CREEK			API No:	05103114000000
County	RIO BLANCO	State	COLORADO		
Location				Elevations	
SHL: 860' FSL & 2358' FEL				KB	6417.4 ft
				DF	6416.4 ft
				GL	6388 ft
SEC	33	TWP	1S	RGE	97W