



# RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: CH082863

Company Well WPX ENERGY SAVAGE RWF 411-25

API No: Field RULISON

County GARFIELD State COLORADO

05045219720000

Location

SHL: 2469' FNL & 1412' FWL

RWF 22-25 PAD BHL: 824' FNL & 775' FWL (NNNN)

25 6S 94W SEC 25 TWP 6S RGE 94W

Other Services

GBL

Permanent Datum GL Elevation 6037 ft

Log Measured From KB 21 ft Above P. D.

Drill Measured From KELLY BUSHING KB 6058 ft DF GL 6037 ft

Date	23/FEB/14	
Run	ONE	
Service Order	US628293	
Depth Driller	8868 ft	
Depth Logger	8842 ft	
Bottom Logged Interval	8832 ft	
Top Logged Interval	21 ft	
Time Started	0930	
Time Finished	1330	
Operator Rig Time	4 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	65 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	66 fpm	
Maximum Recorded Temperature	234 degF	
Reference Log	Baker Hughes HDIL/ZDL/CN/GR	
Reference Log Date	01/FEB/14	
Equipment No.	4271	GRAND JCT
Recorded By	FLOYD RENEAU	
Witnessed By	COLLEAPLE GATE	

- FOLD HERE

In making interpretations of logs, our employees will give the customer the benefit of their best judgement. But since all interpretations are opinions based on inferences from electrical or other measurements, we cannot, and we do not guarantee the accuracy or correctness of any interpretation. We shall not be liable or responsible for any loss, cost, damages, or expenses whatsoever incurred or sustained by the customer resulting from any interpretation made by any of our employees.

Borehole Record		
Bit Size	From	To
13.5 in	0 ft	1135 ft
8.75 in	1135 ft	8856 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			0 ft	1135 ft
4.5 in	11.6 lbm/ft	I-80	0 ft	8856 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes HDIL/ZDL/CN/GR open hole log dated 2/1/2014 at the clients request.
The amount of linear shift is 12 feet.
The depth matching process creates potential for collar lengths to vary from those recorded on other cased hole wireline units without a Gamma Ray reference.
Logged with zero PSI at wellhead.

BHT = 234°F

SJ = 5249'-5273'

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	VDL	1426XA	10218496	CENT
1	1	GRICCL	2459XA	10124121	CENT

PRIMARY PRESENTATION

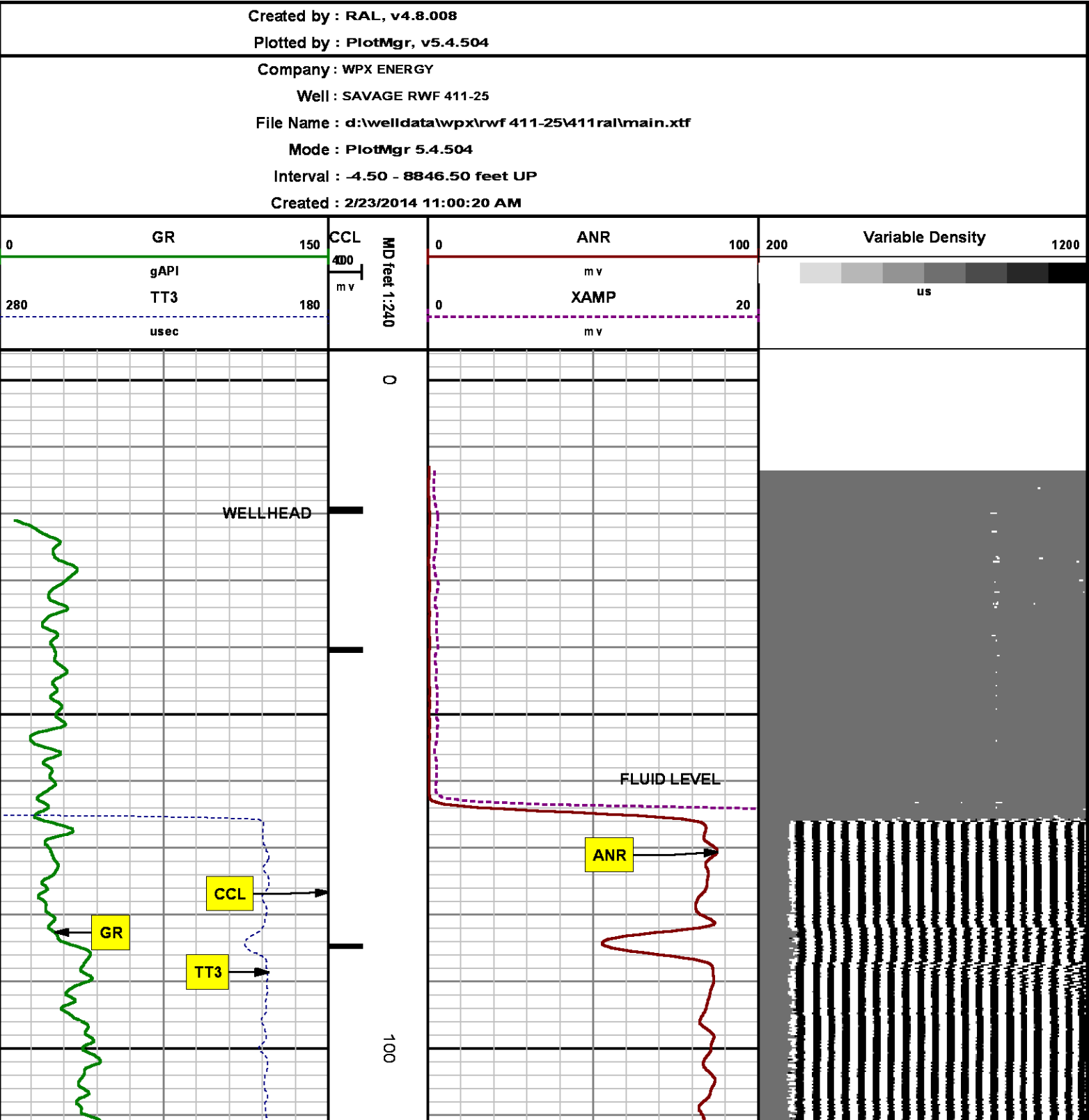
0 PSI

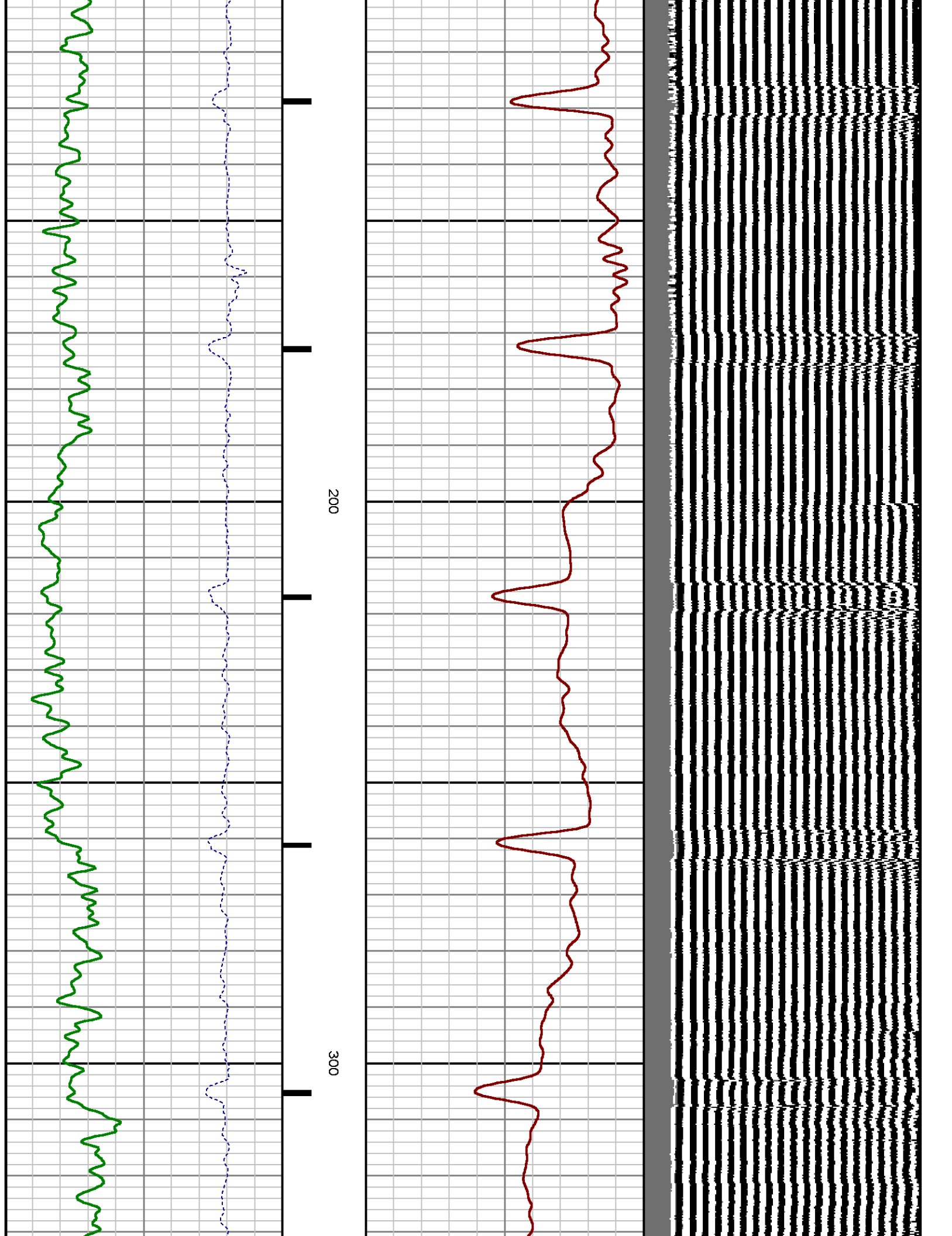
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	32.129	8846.500
RAL	Amp Gate Start Near	195.000	usec	32.129	8846.500
RAL	Amp Gate Start Radial	195.000	usec	32.129	8846.500
RAL	Amp Gate Width Far	25.000	usec	32.129	8846.500
RAL	Amp Gate Width Near	25.000	usec	32.129	8846.500
RAL	Amp Gate Width Radial	25.000	usec	32.129	8846.500
RAL	casing od	4.500	inches	32.129	8846.500
RAL	casing wt	11.600	lbm/ft	32.129	8846.500
RAL	FB Start Far	291.900	usec	32.129	8846.500
RAL	FB Start Near	180.000	usec	32.129	8846.500
RAL	FB Start Radial	180.000	usec	32.129	8846.500
RAL	FB Thresh Far	10.000	mv	32.129	8846.500
RAL	FB Thresh Near	4.000	mv	32.129	8846.500
RAL	FB Thresh Radial	4.000	mv	32.129	8846.500
RAL	Fluid Travel Time	200.000	usec/ft	32.129	8846.316

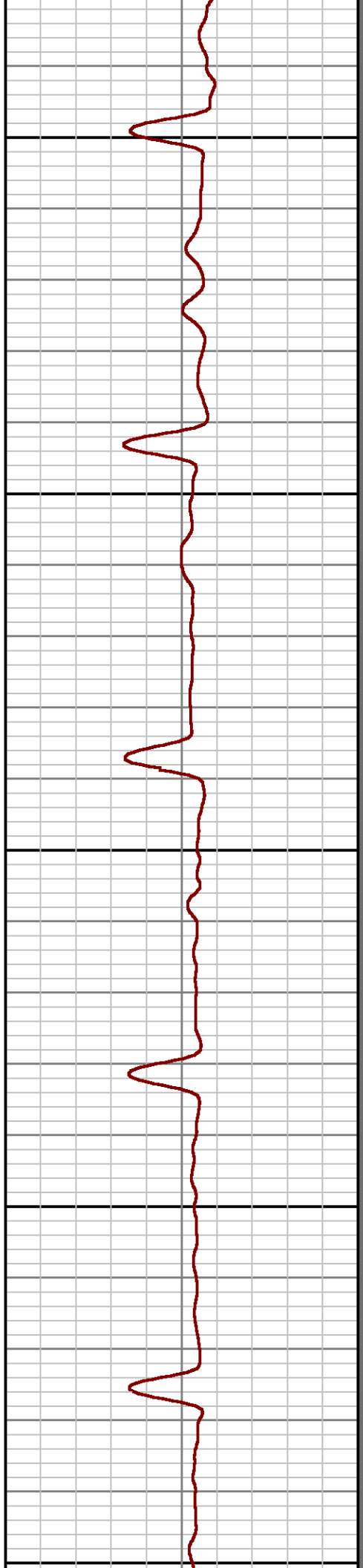
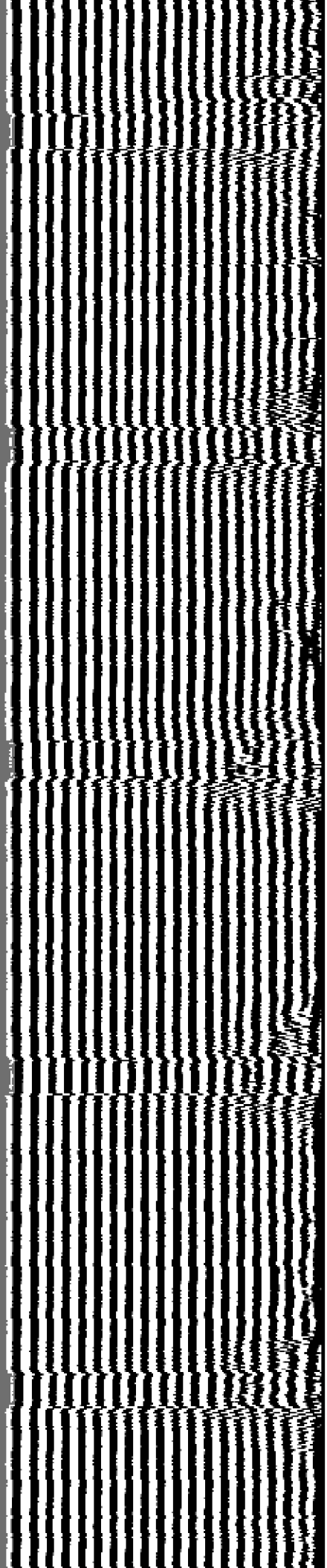
DEPTH OFFSETS

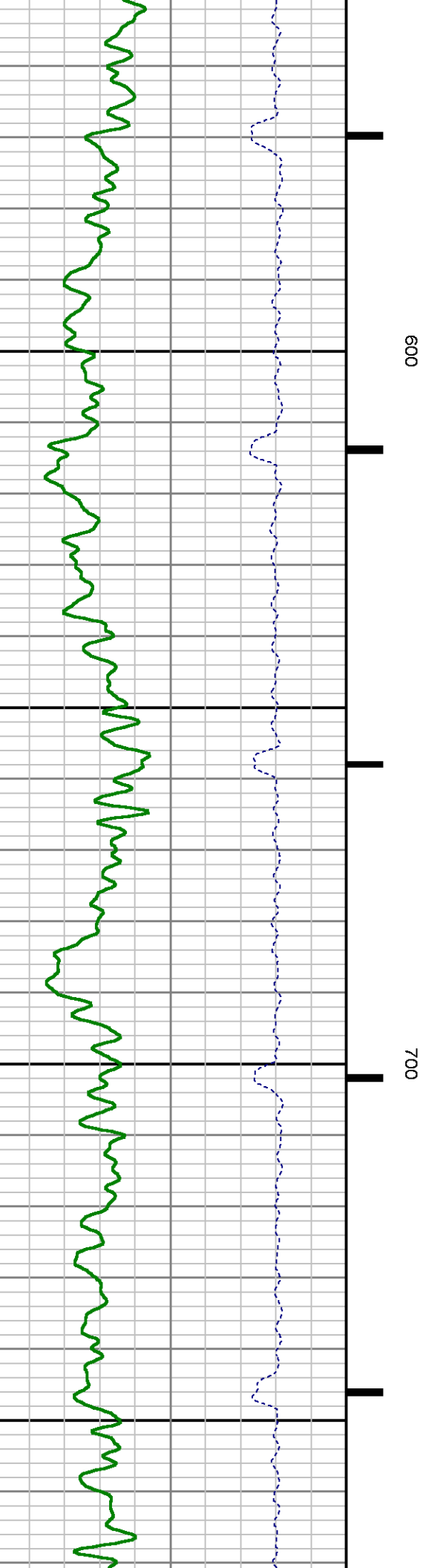
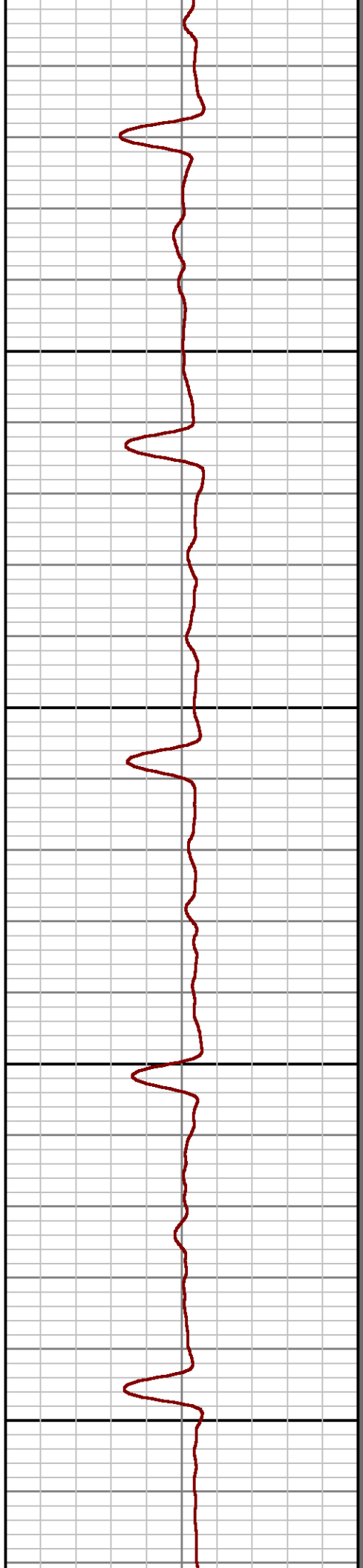
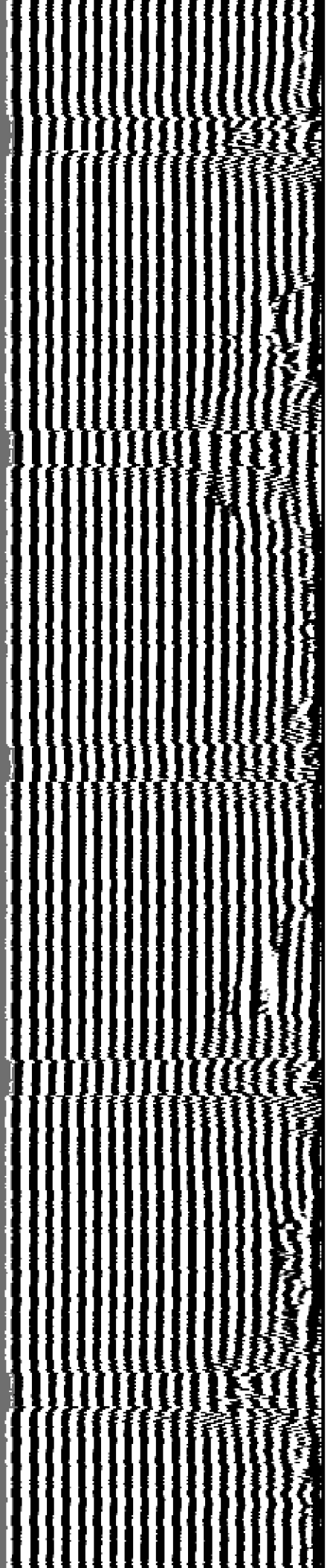
(for Acquired Curves)

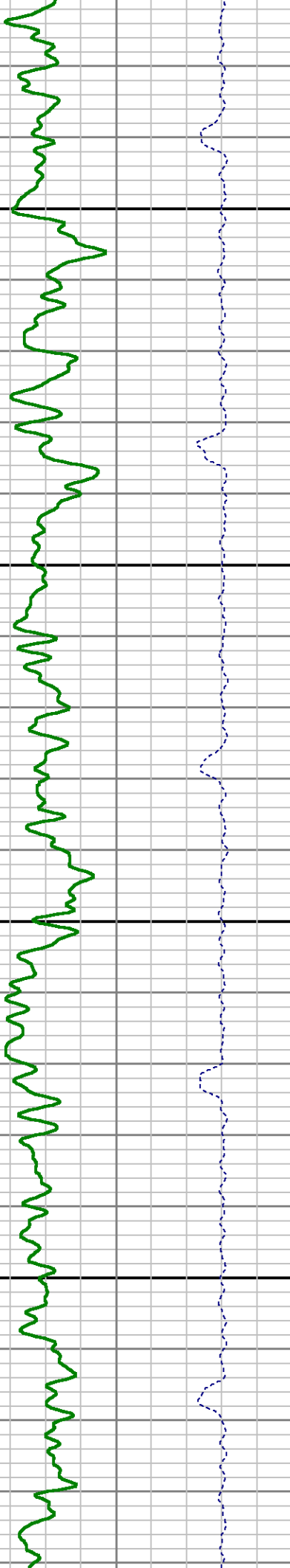
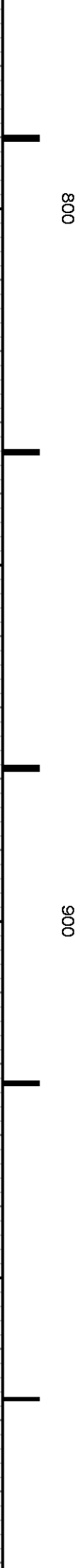
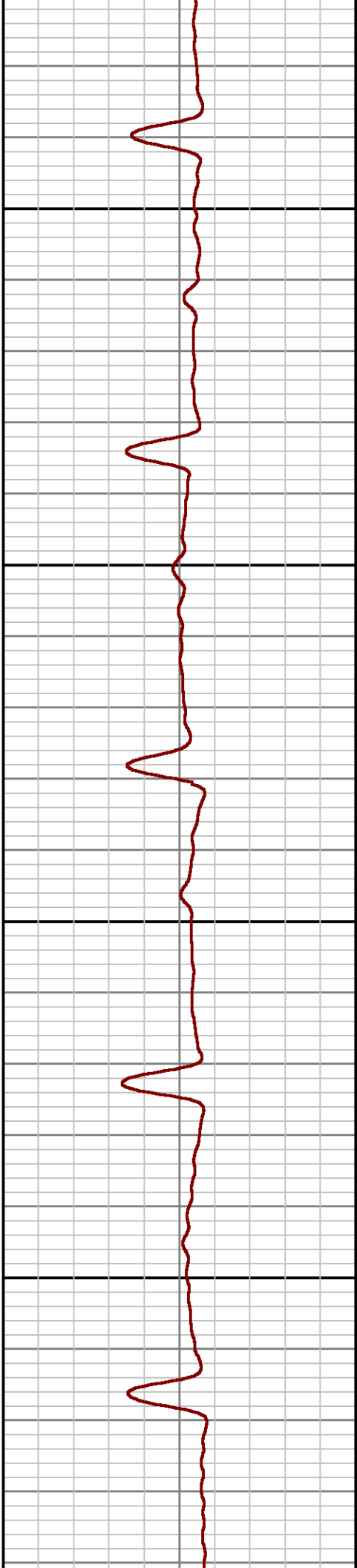
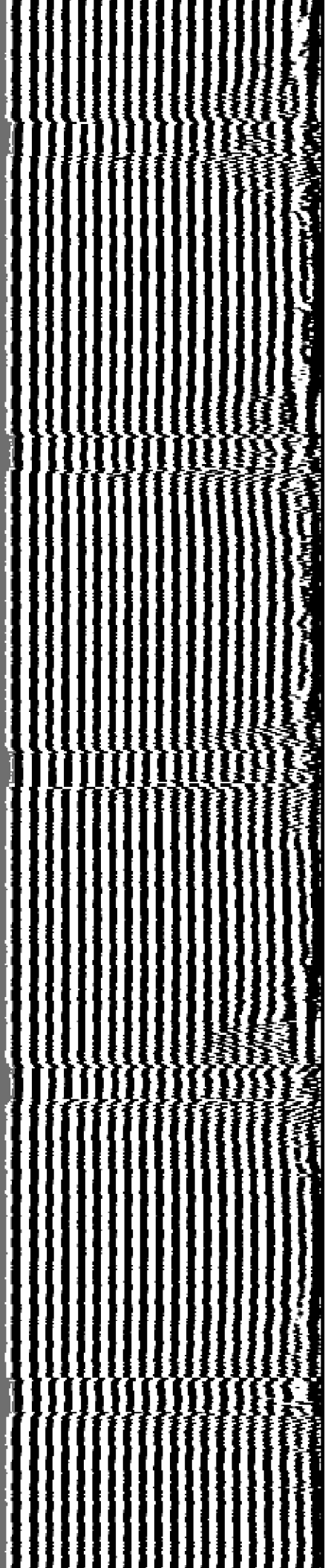
SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-16.750	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-15.750	AFAR	SIG	TT5			
2459XA	-11.340	CCL					
2459XA	-9.490	GR					
2459XA	-4.090	NEU					

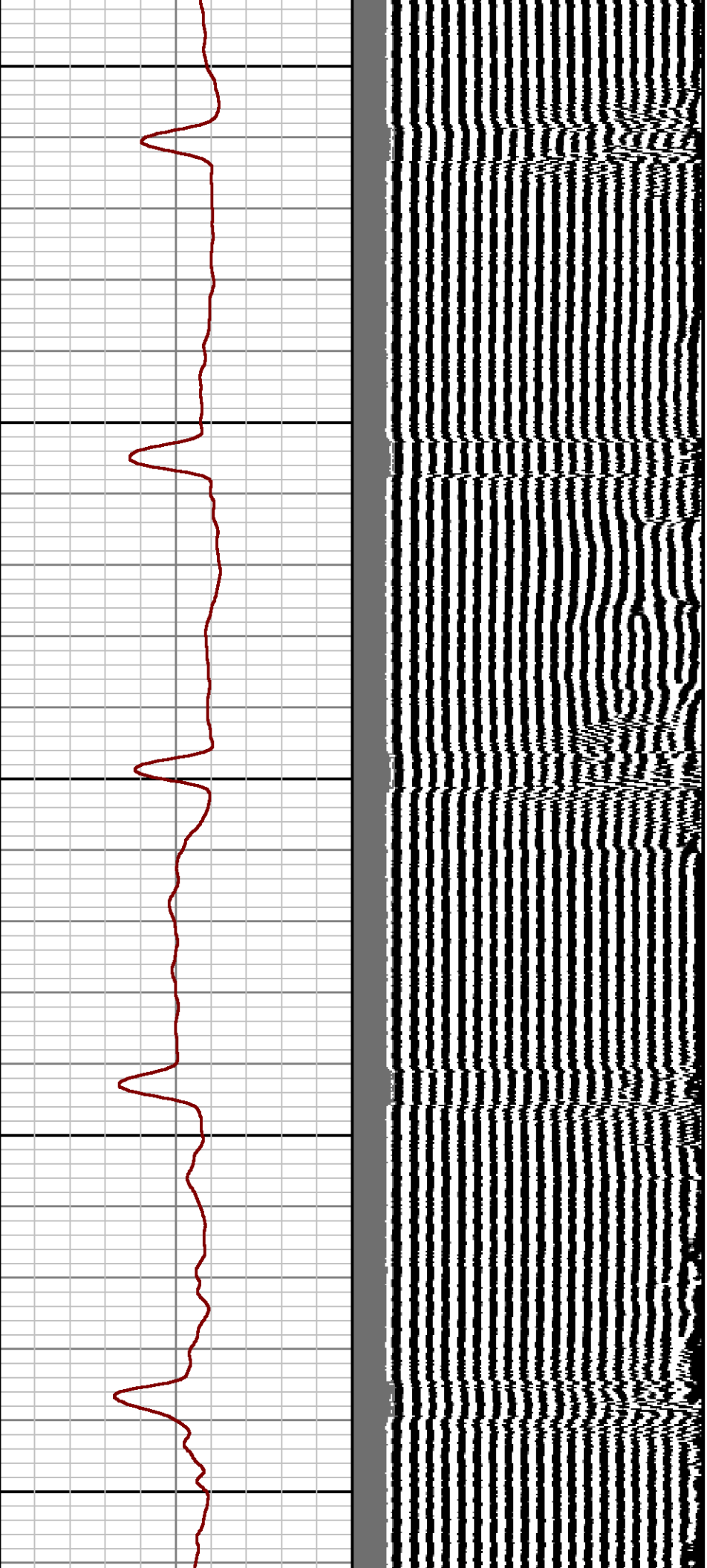








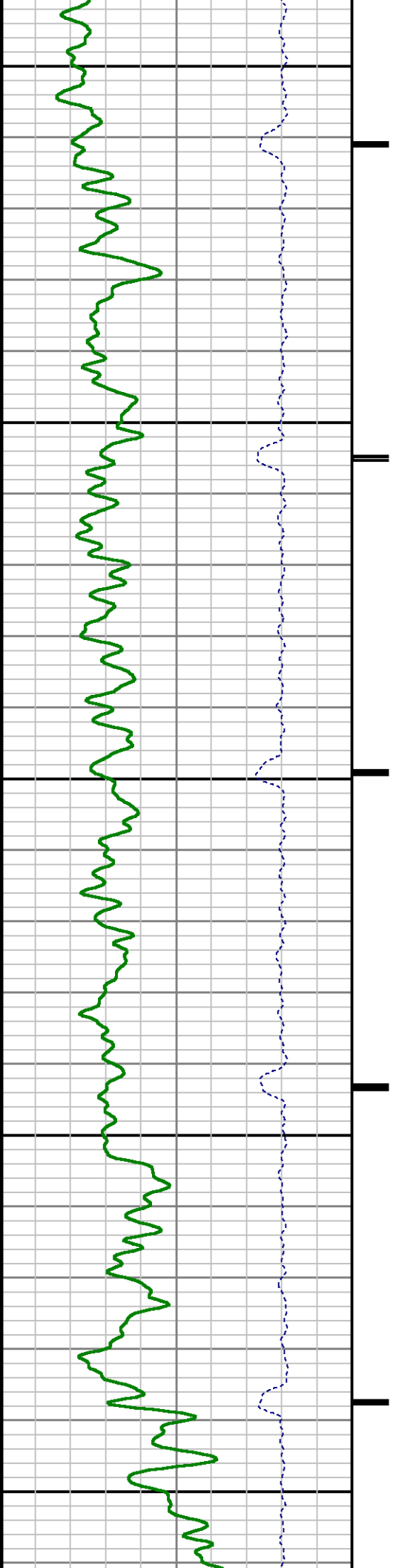




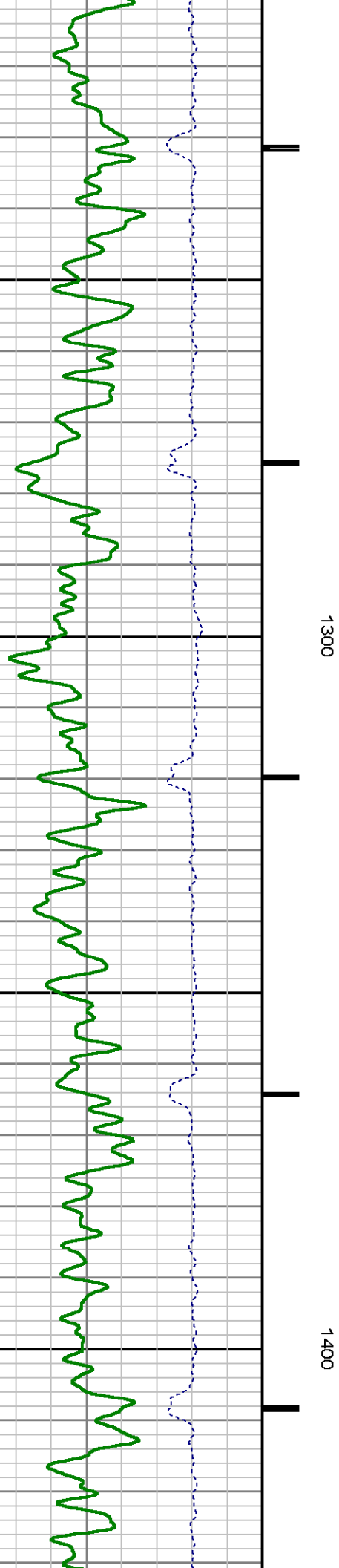
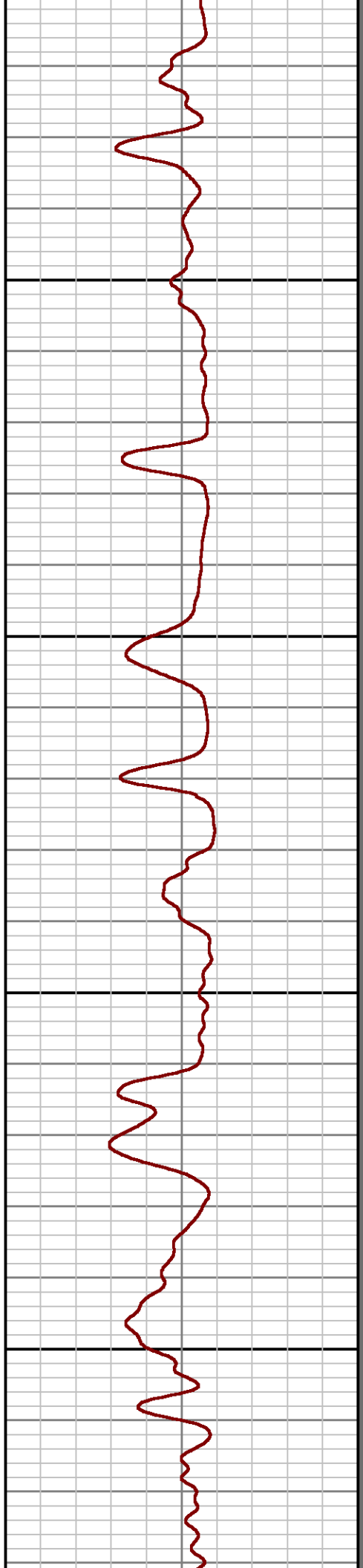
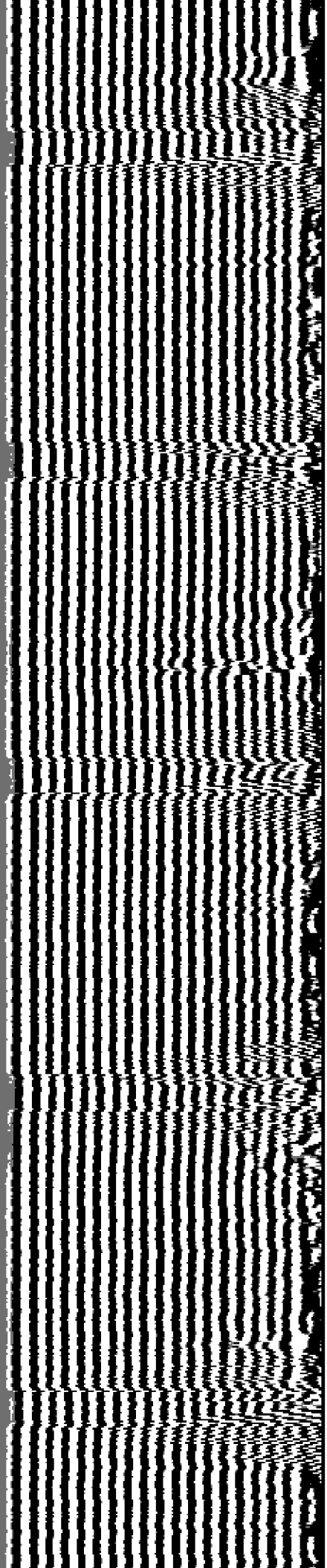
1000

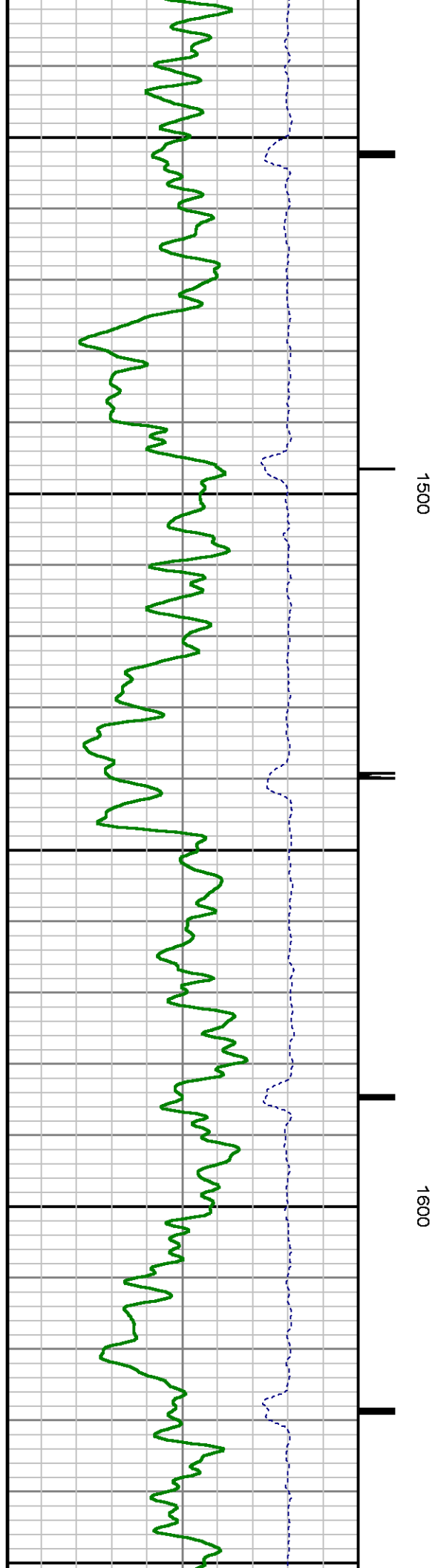
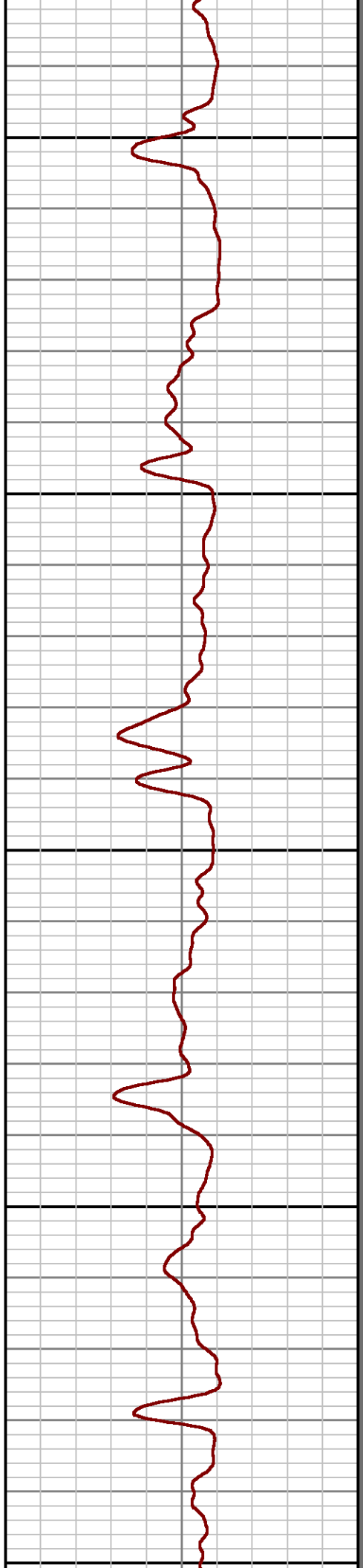
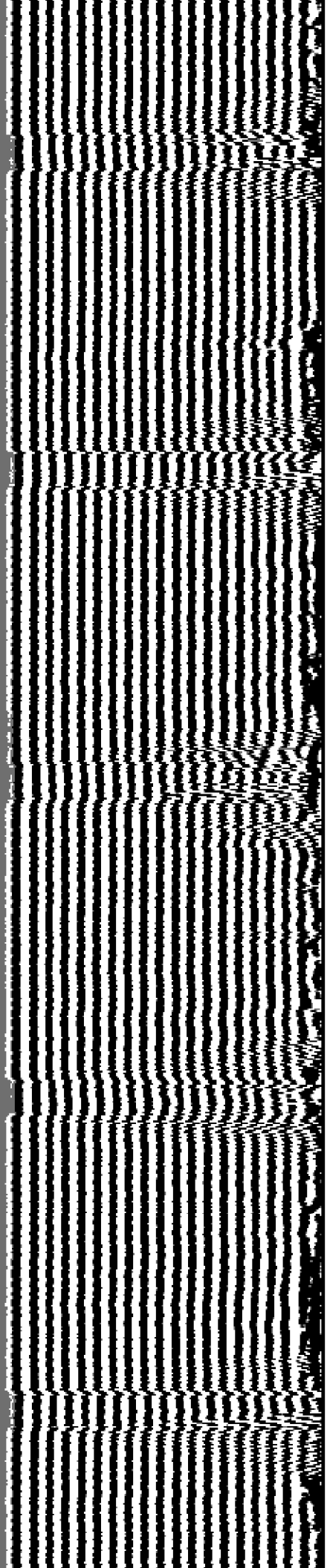
1100

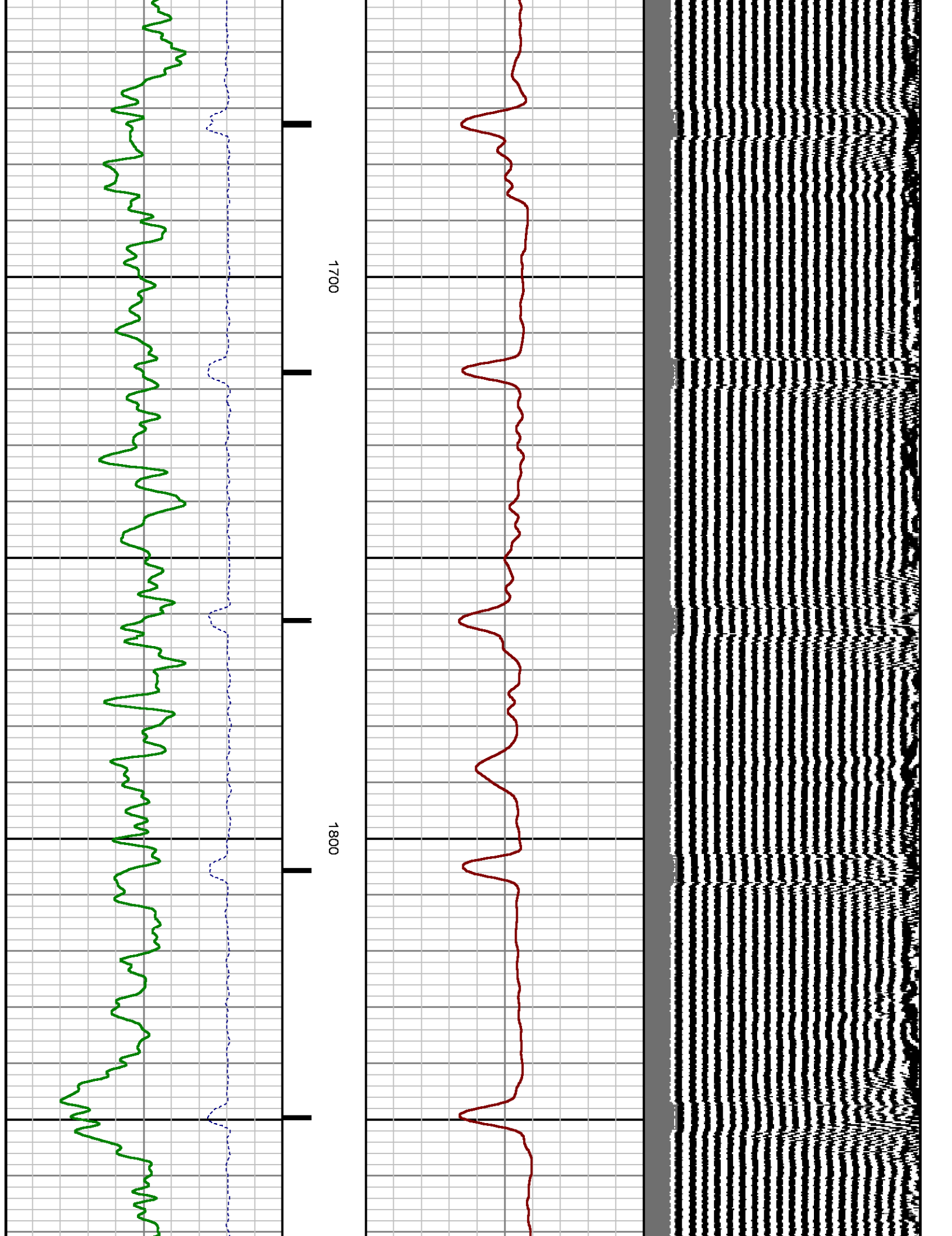
1200

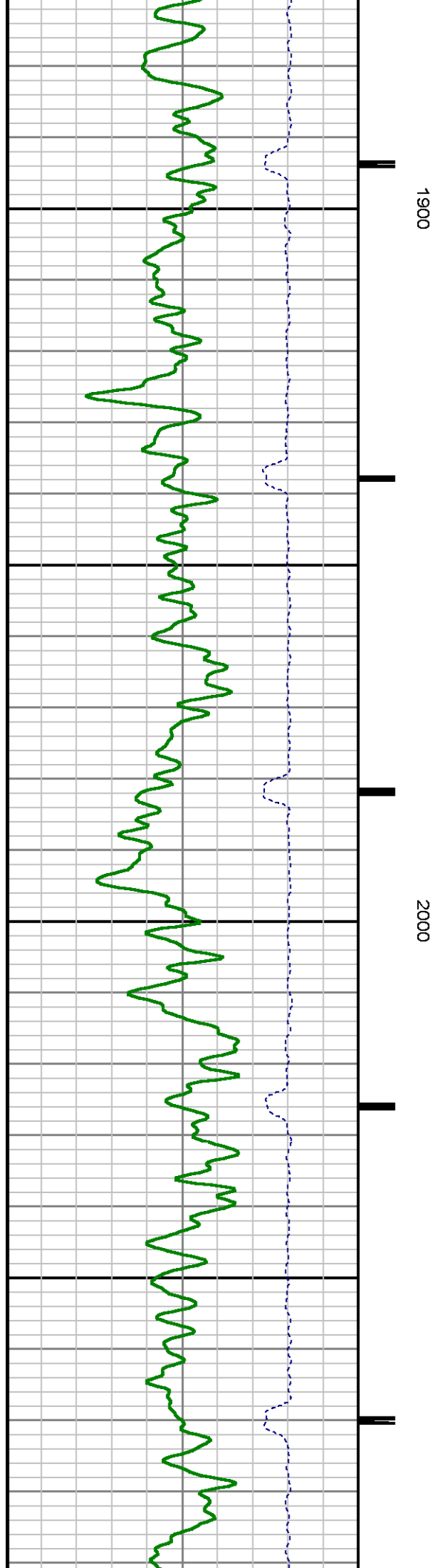
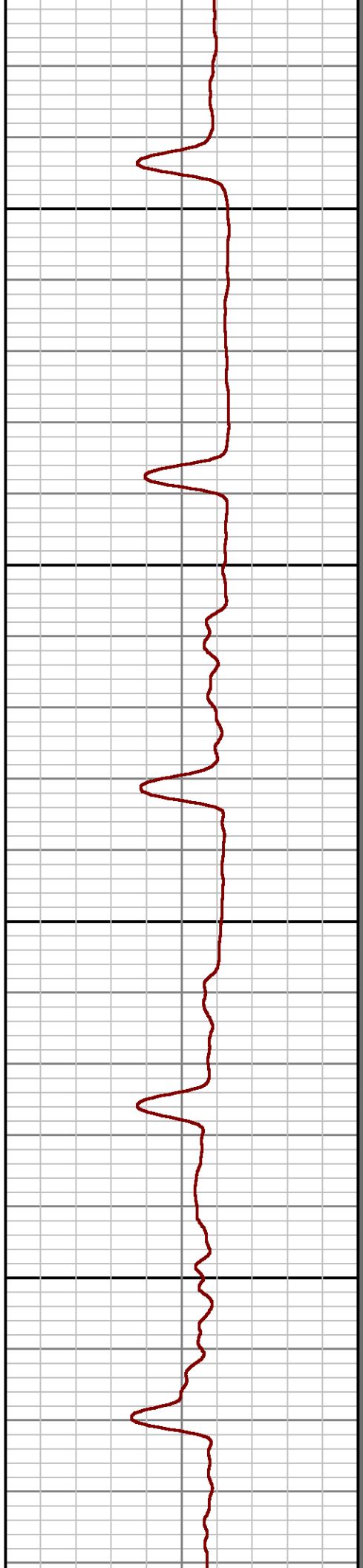
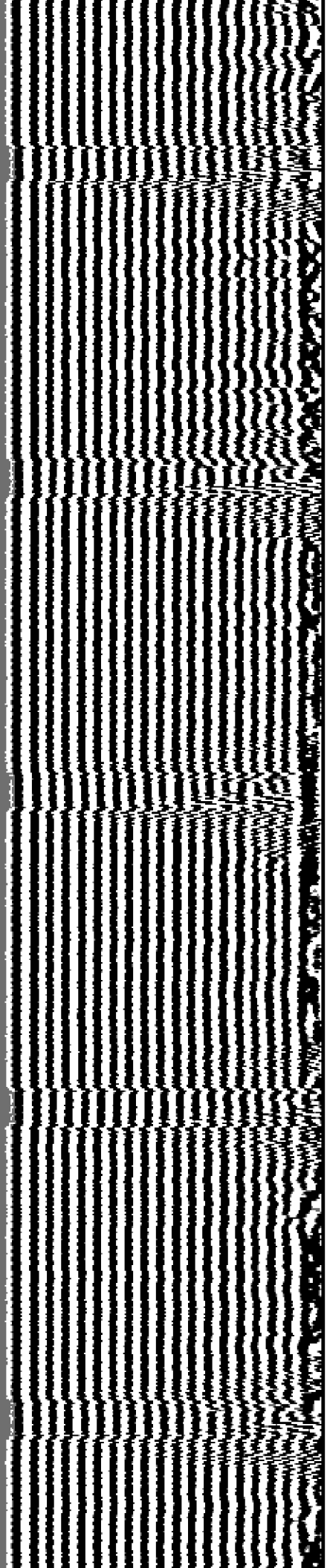


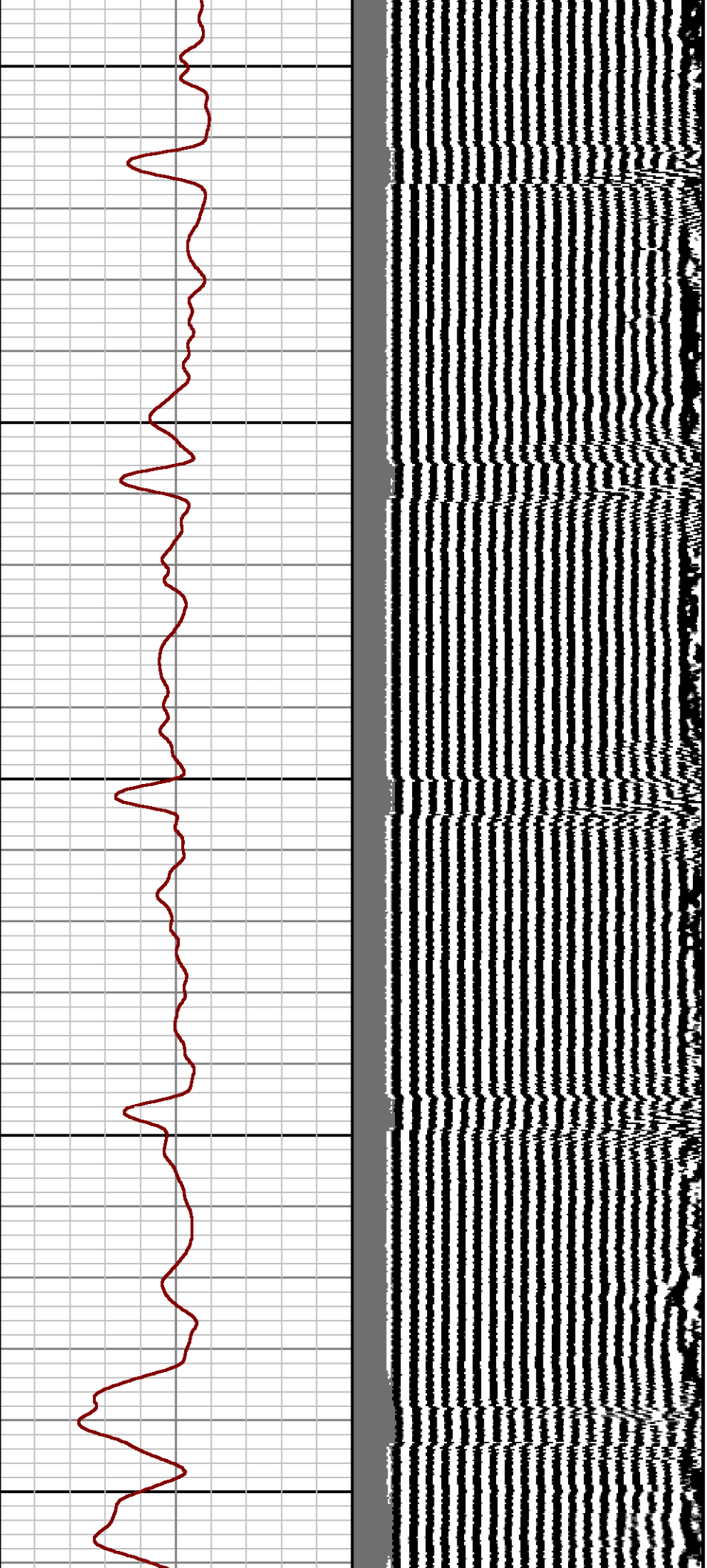








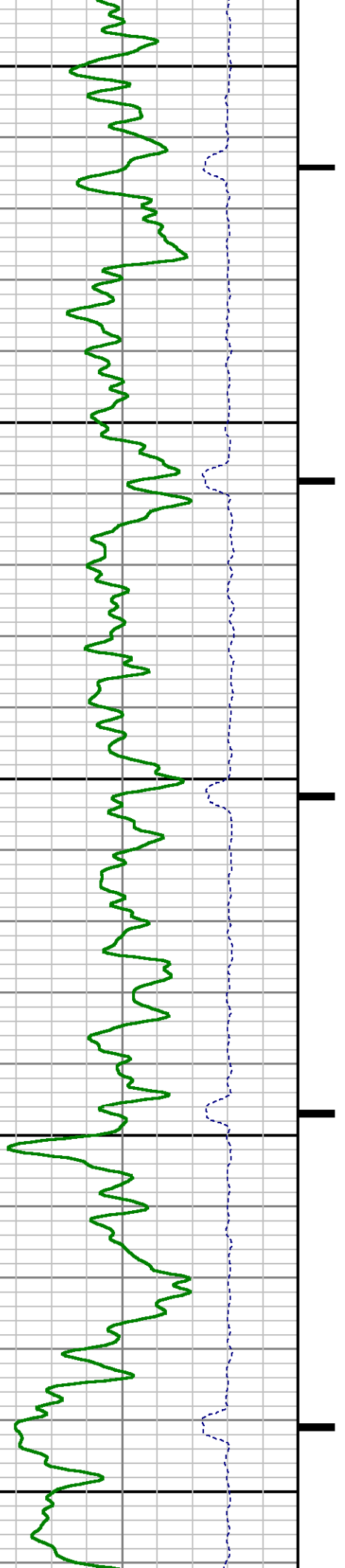


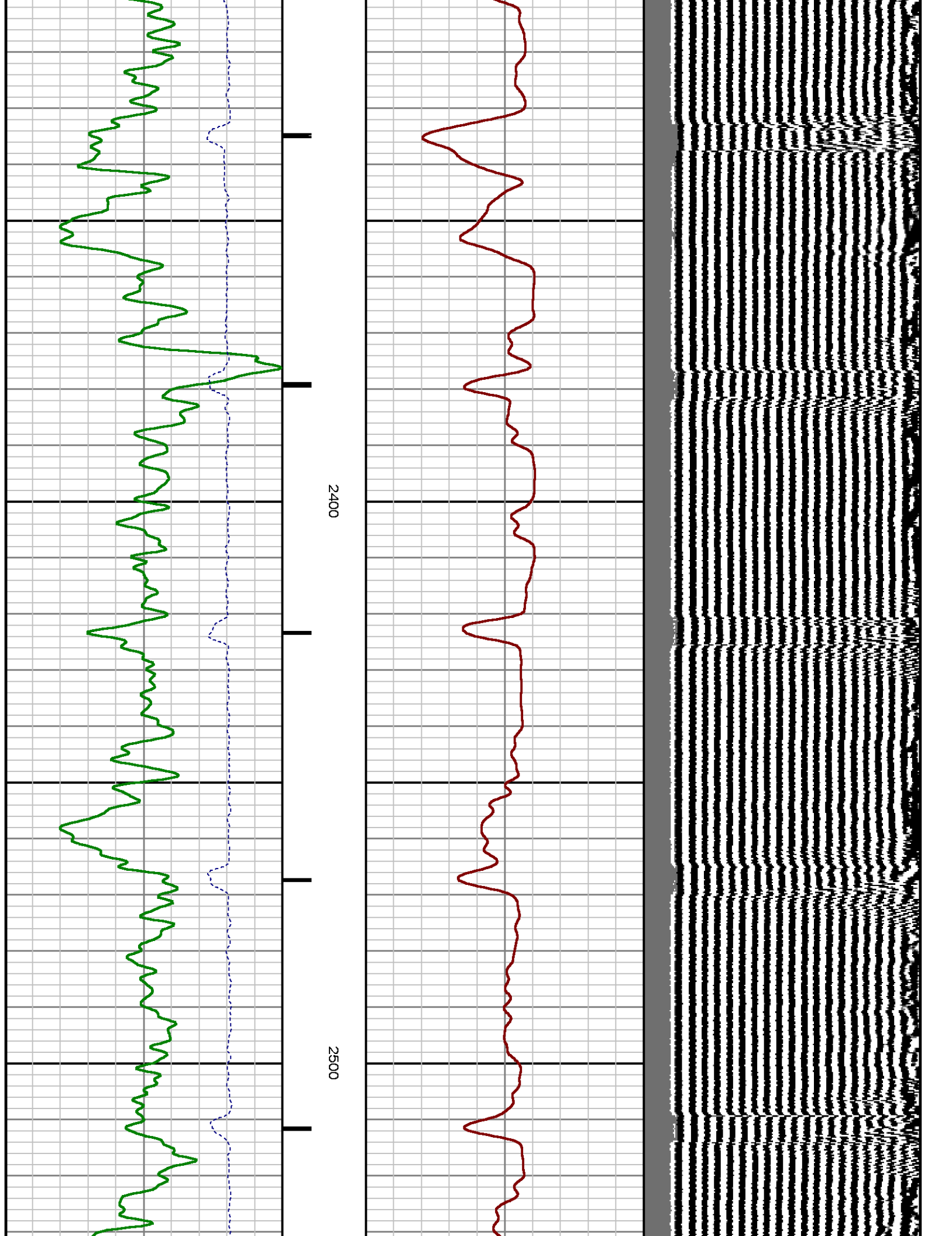


2100

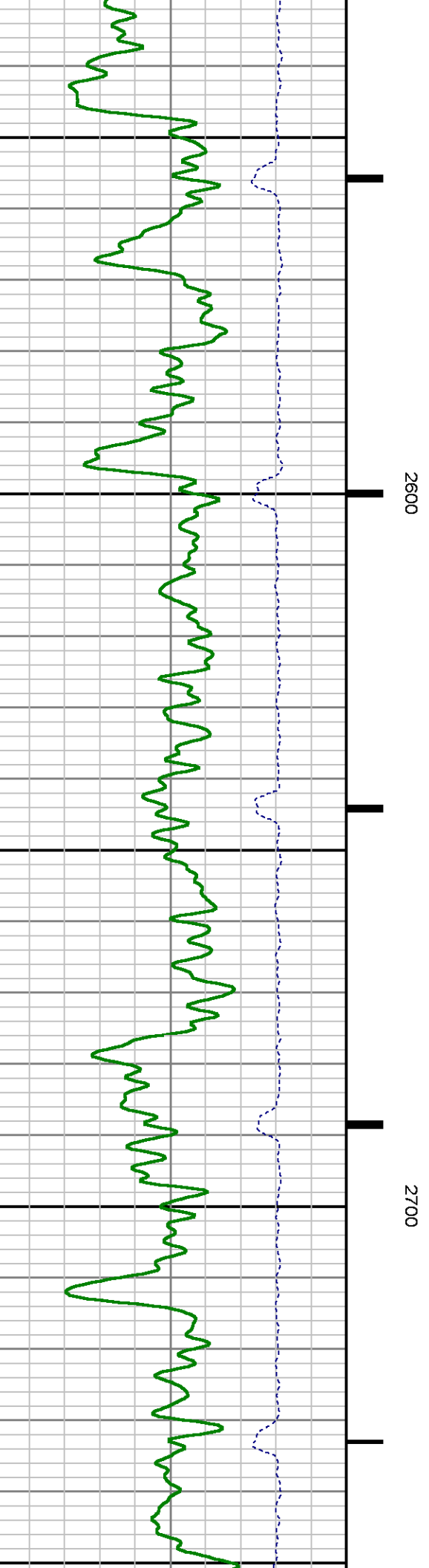
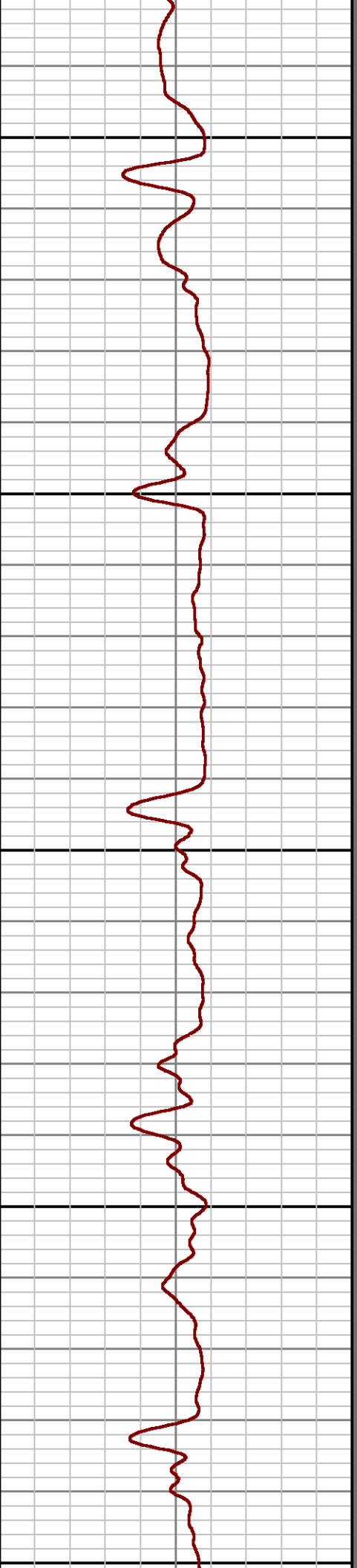
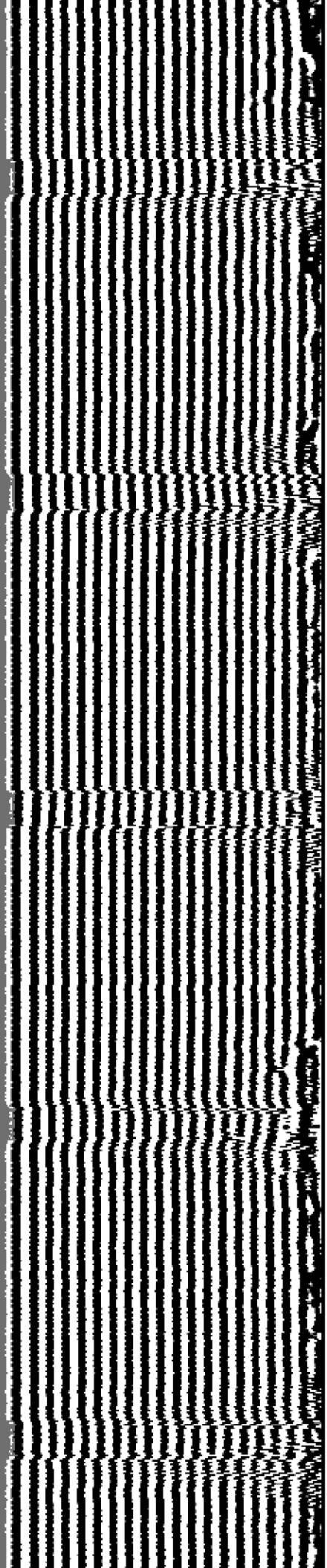
2200

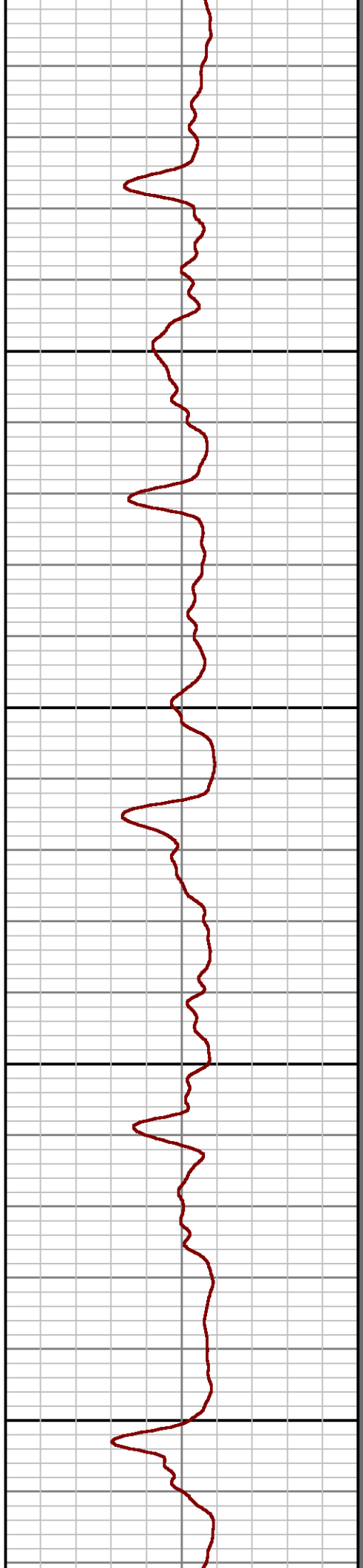
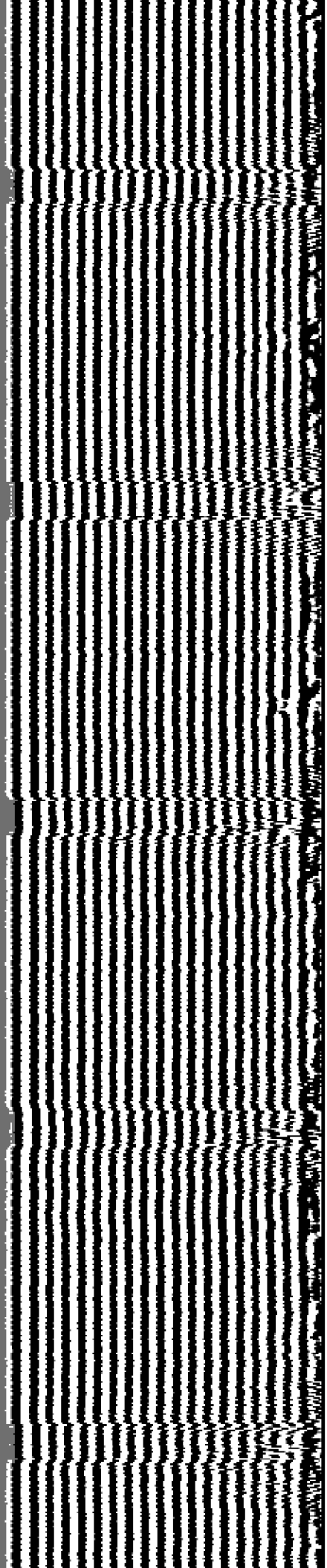
2300





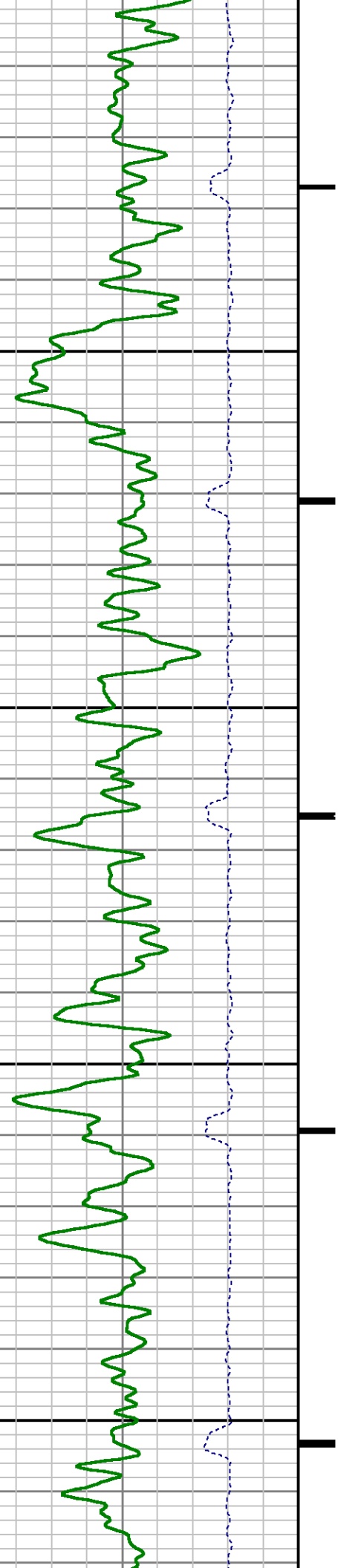




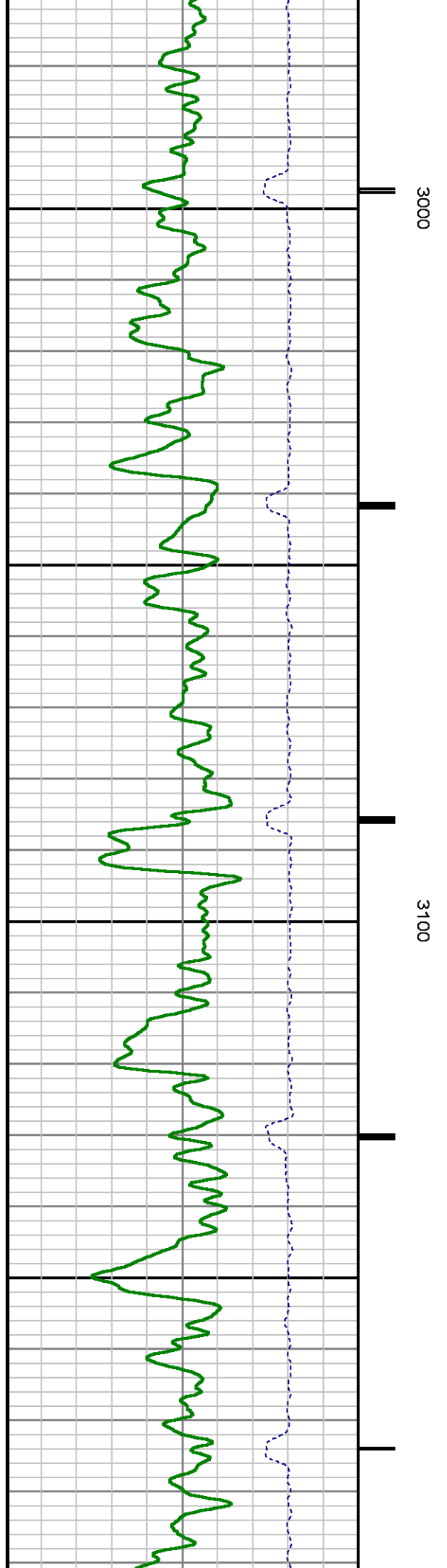
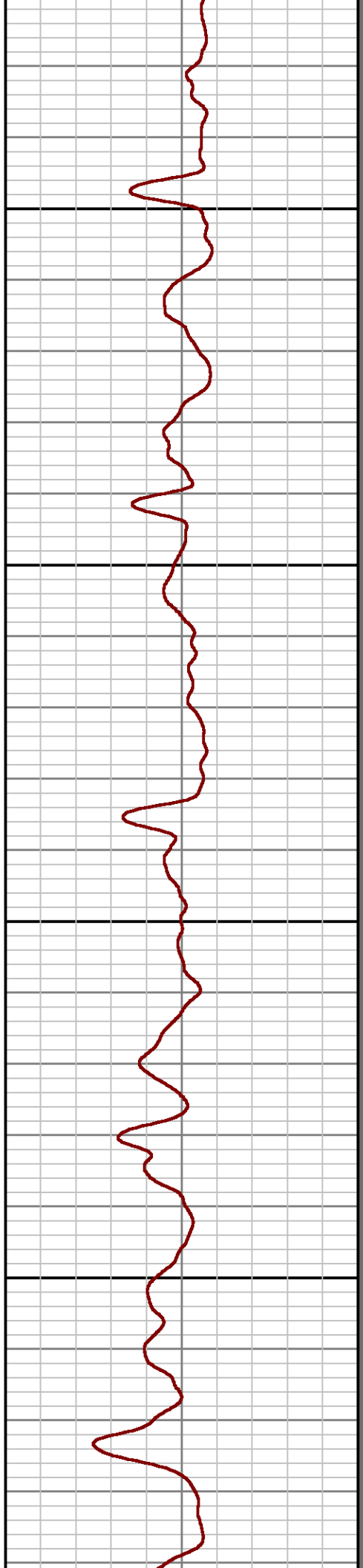
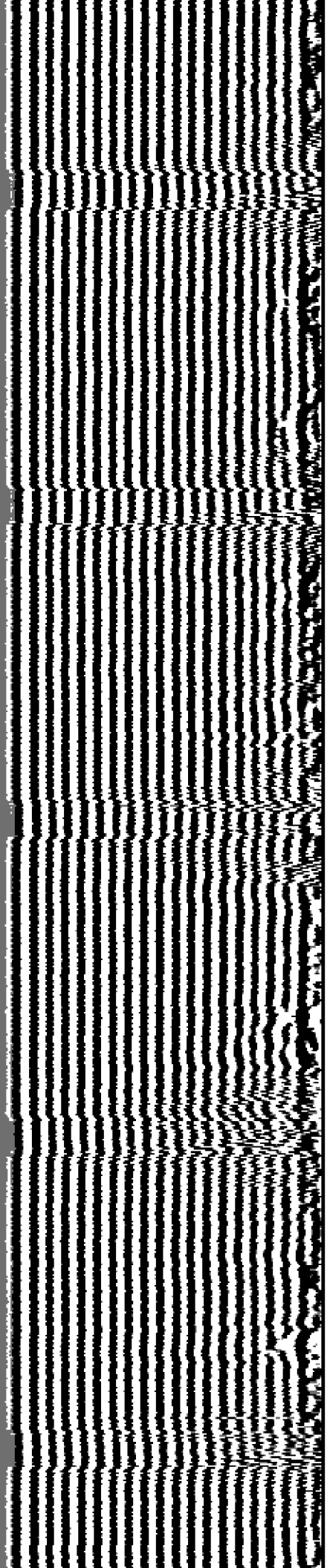


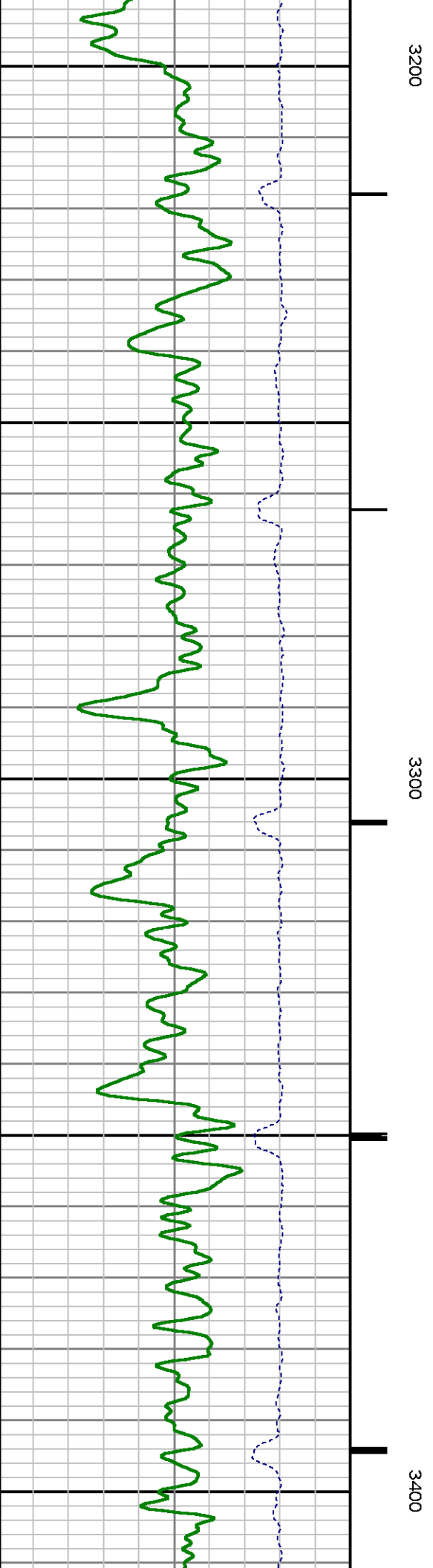
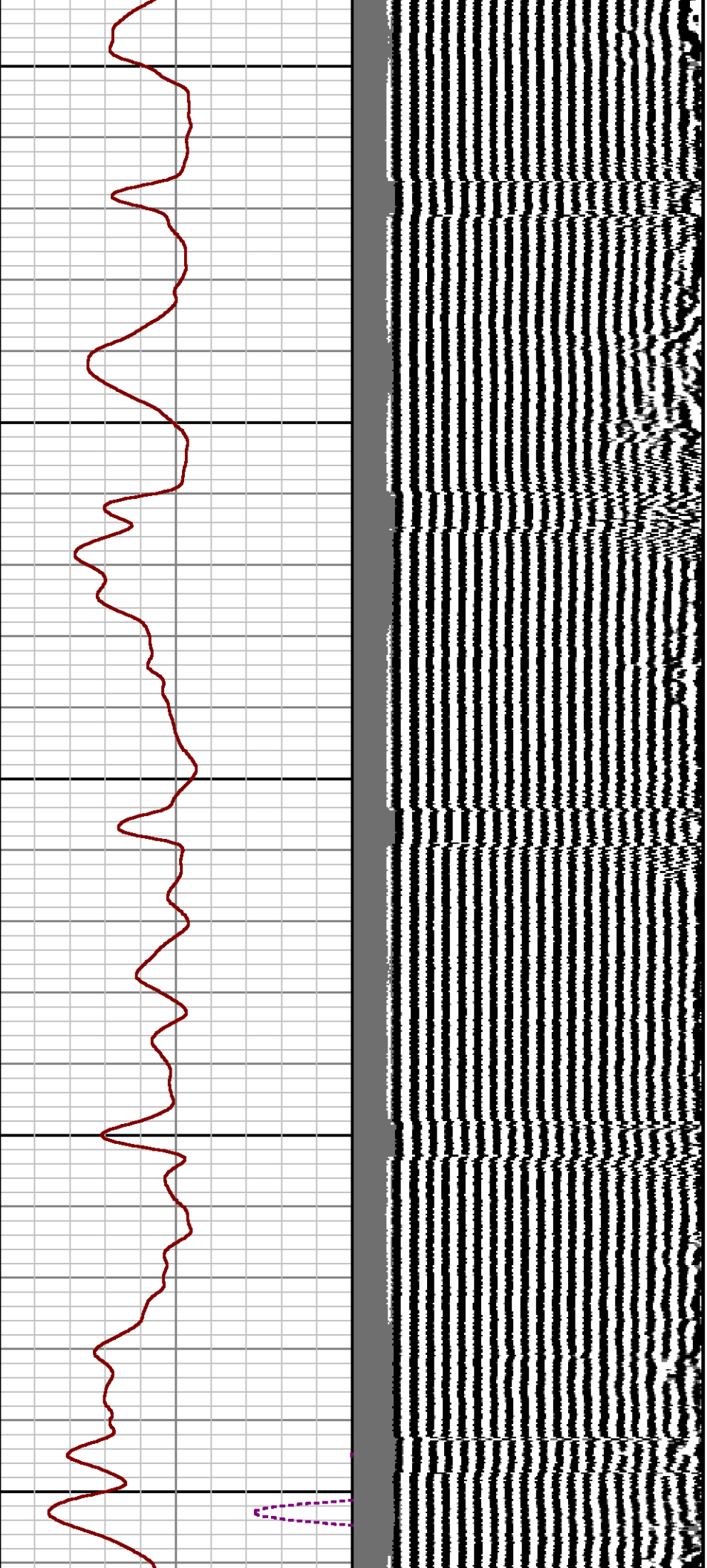
2800

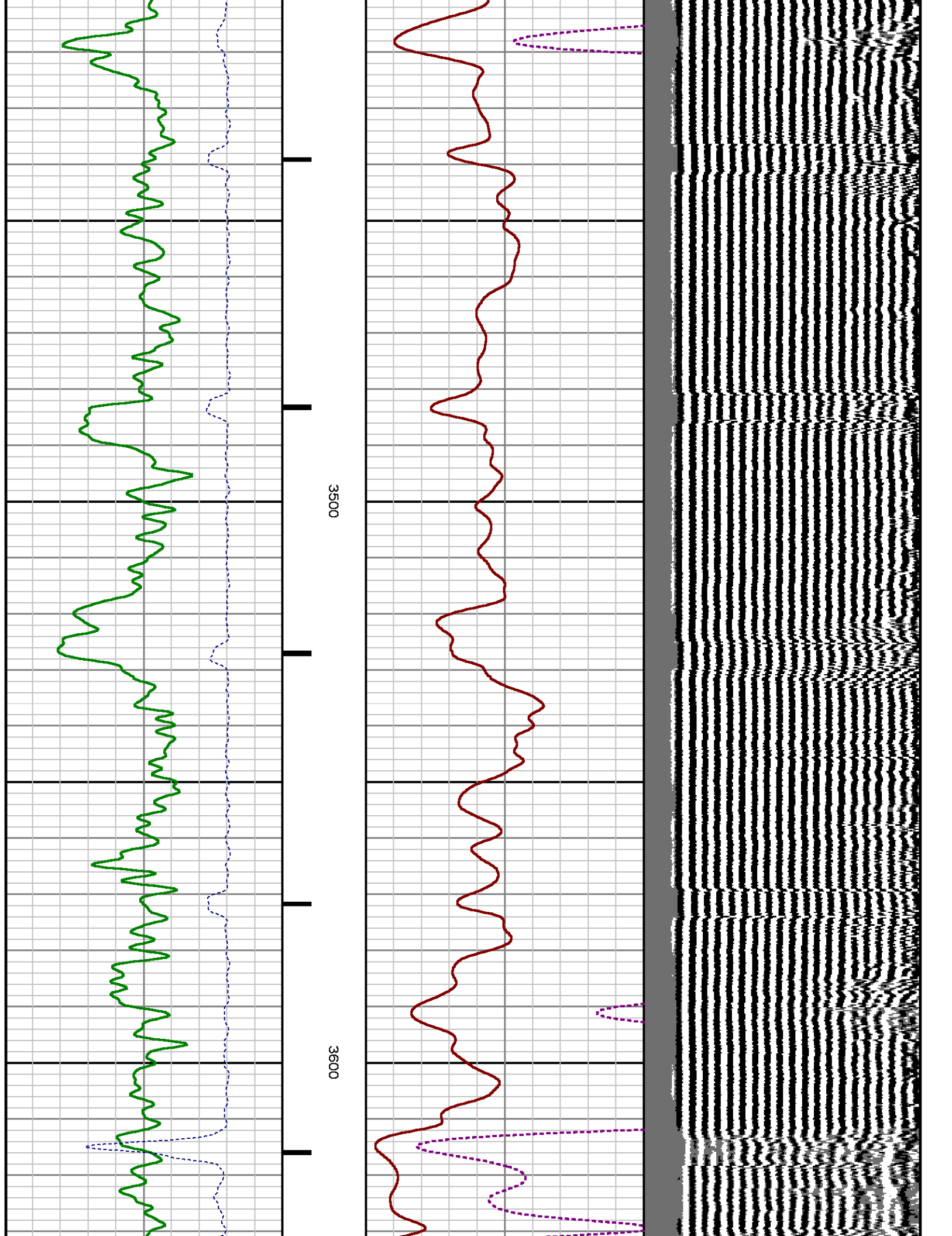
2900

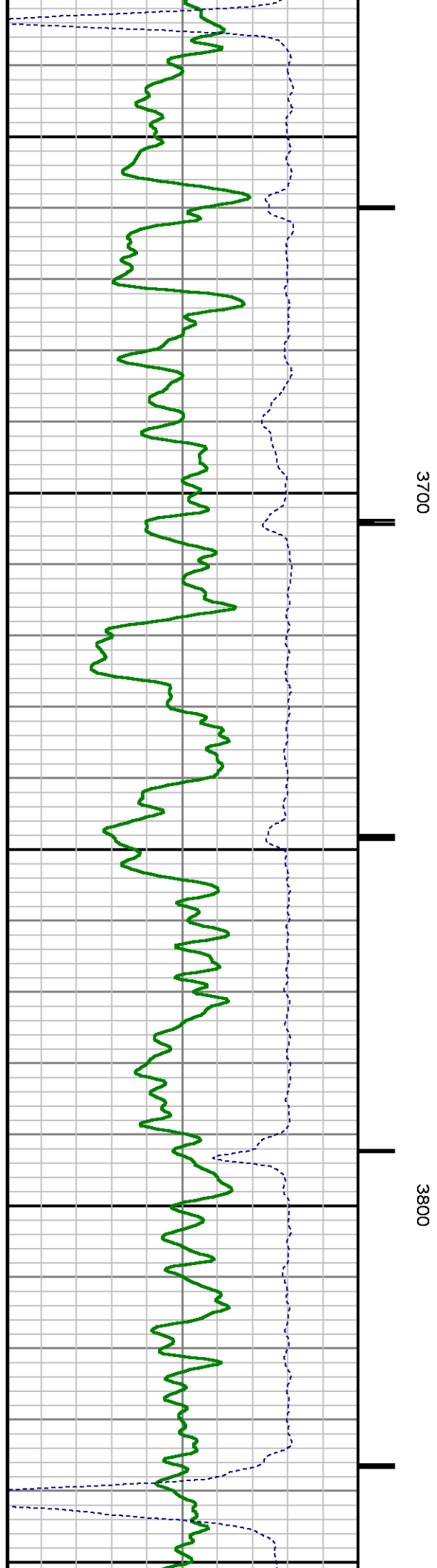
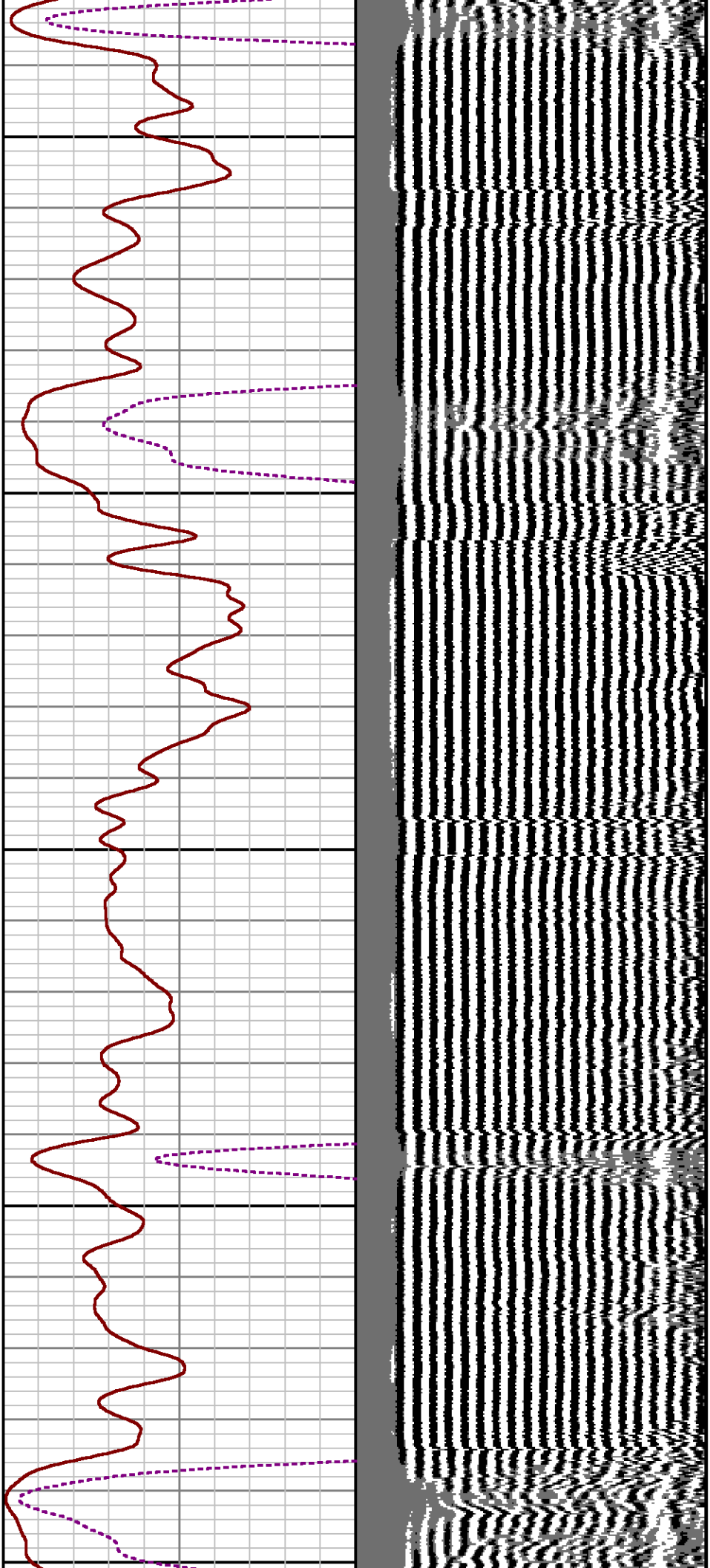


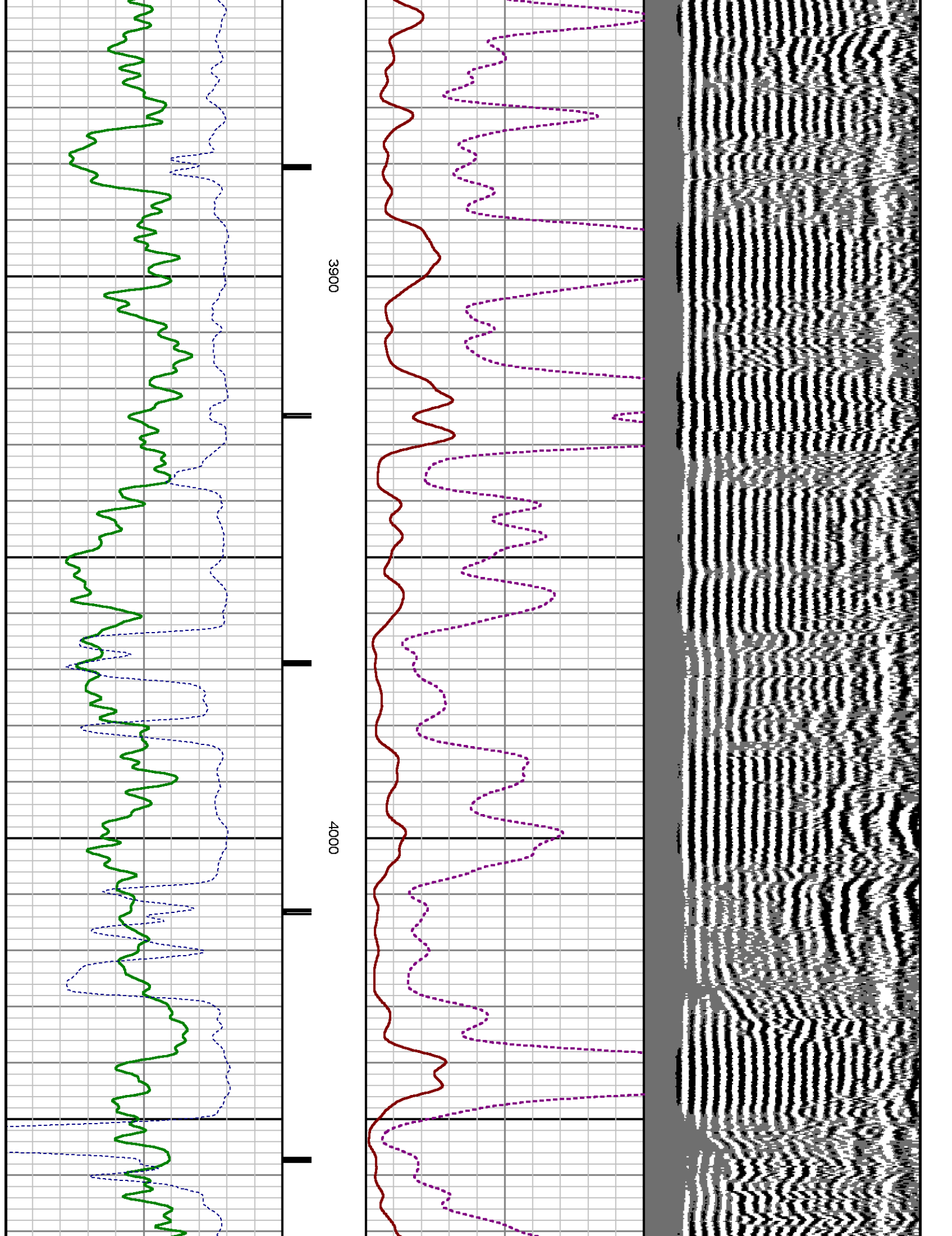




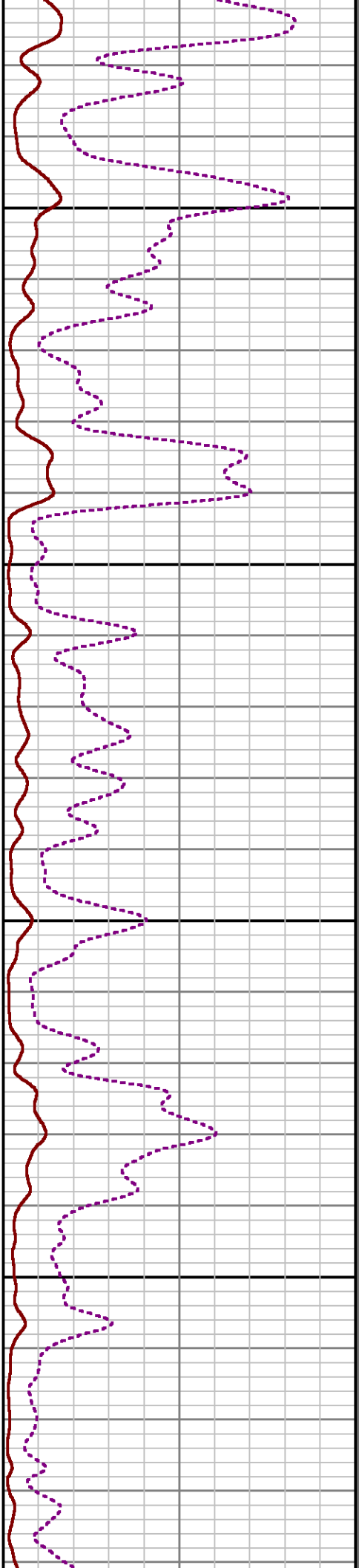
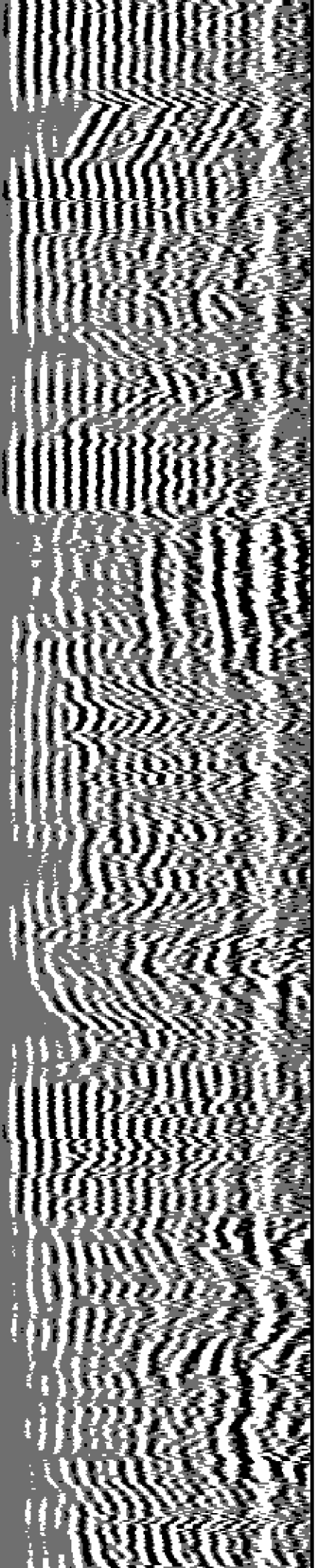






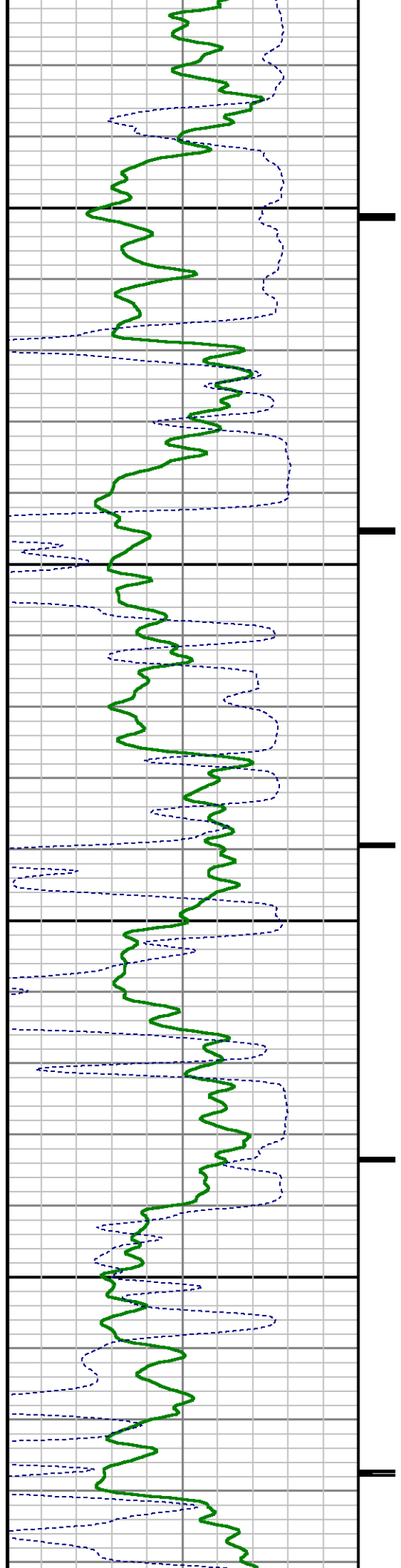


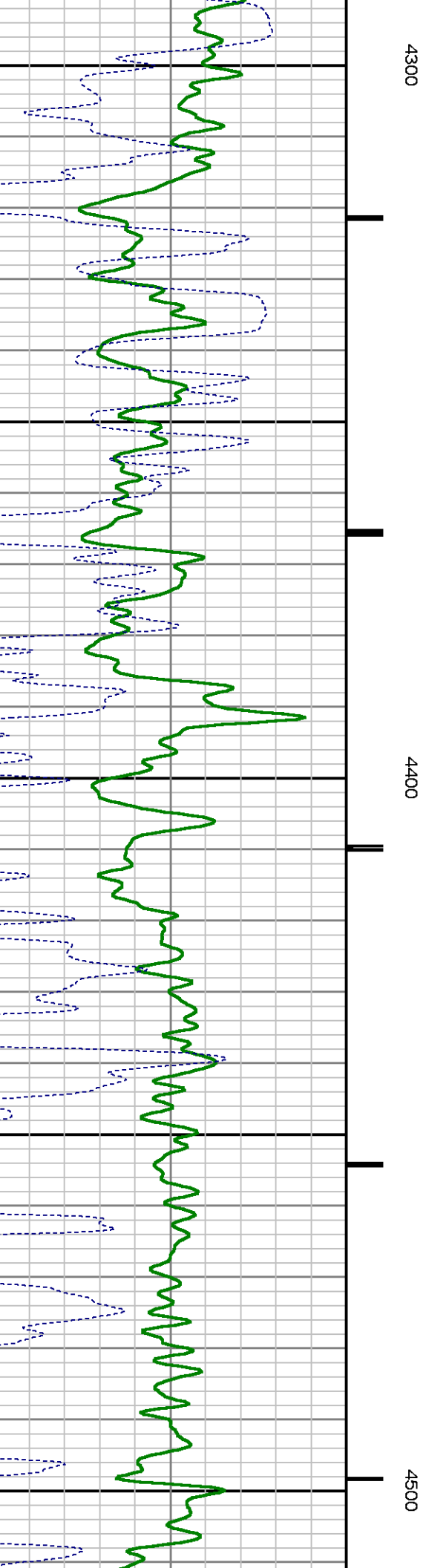
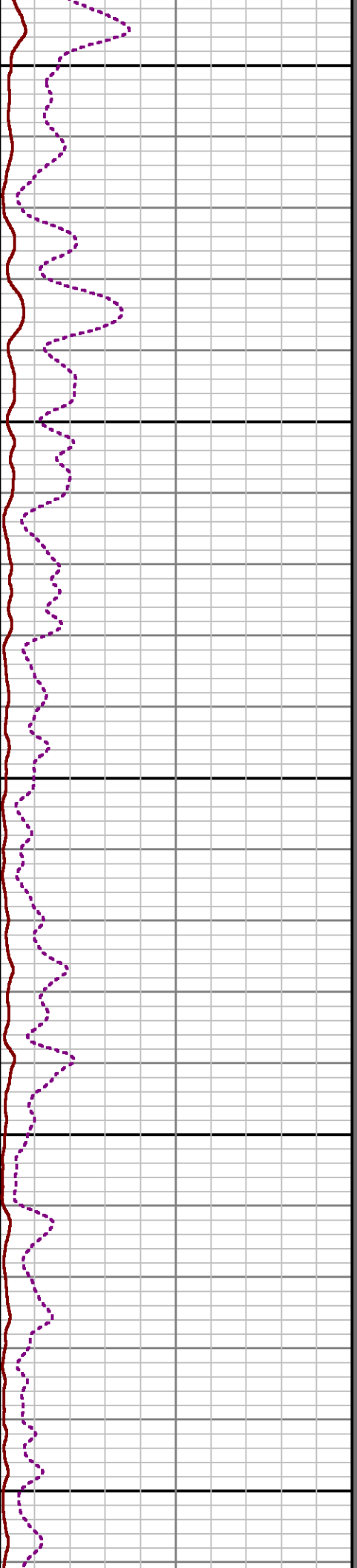
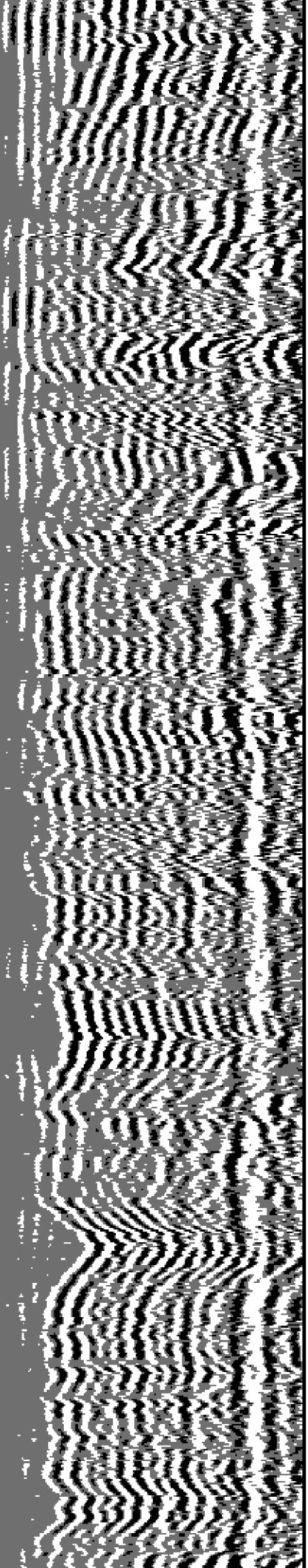


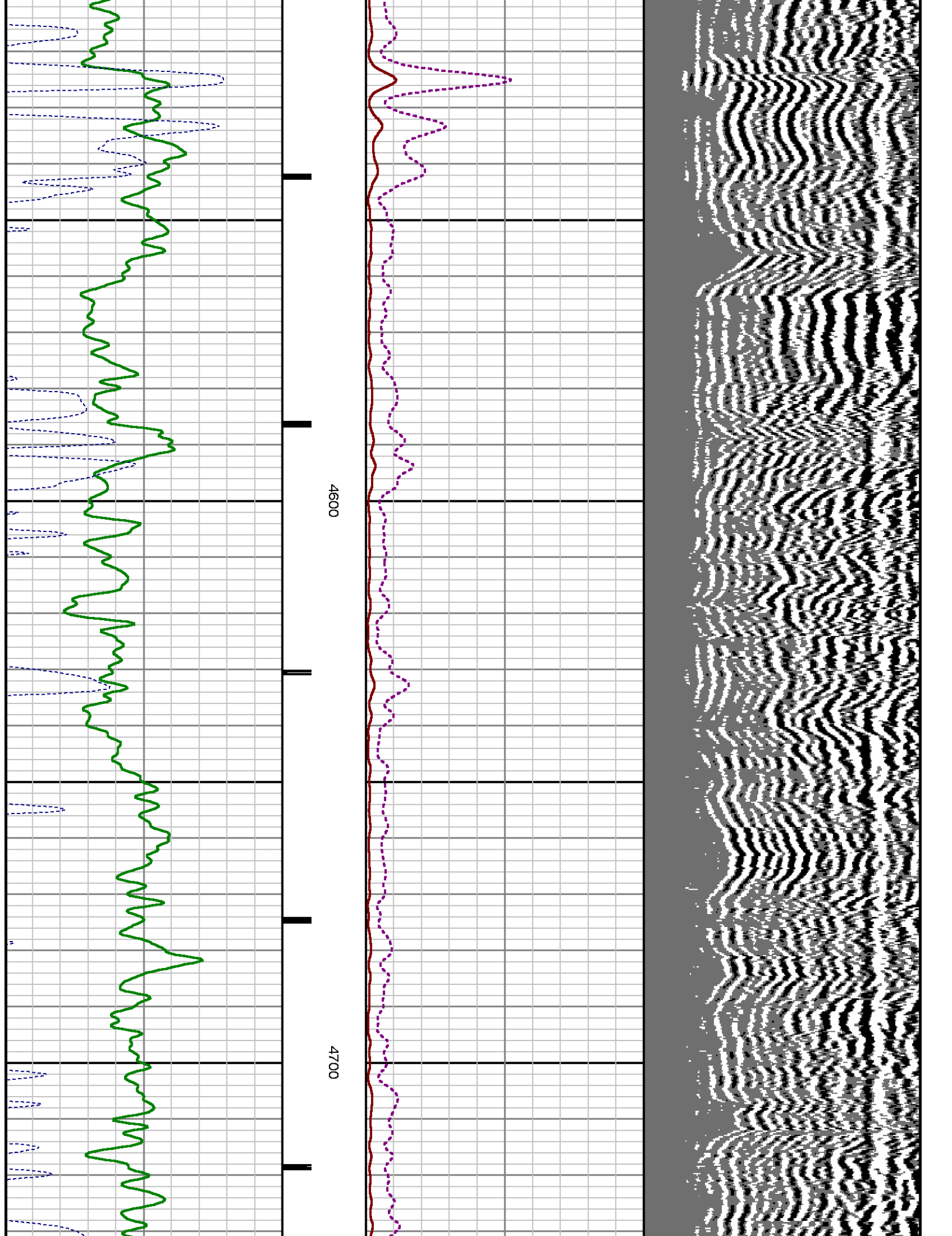


4100

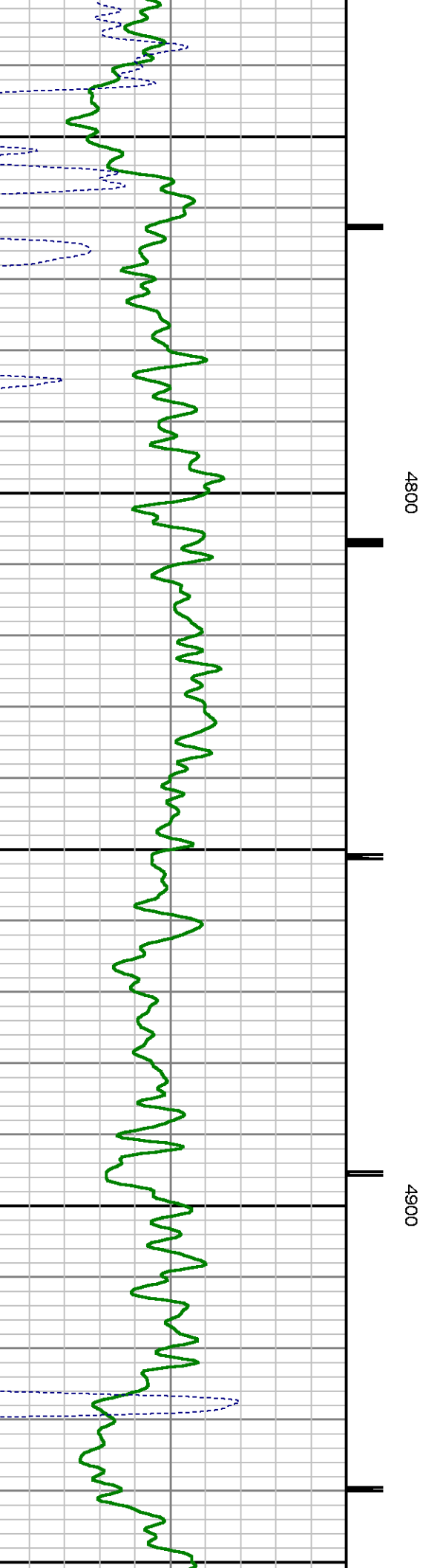
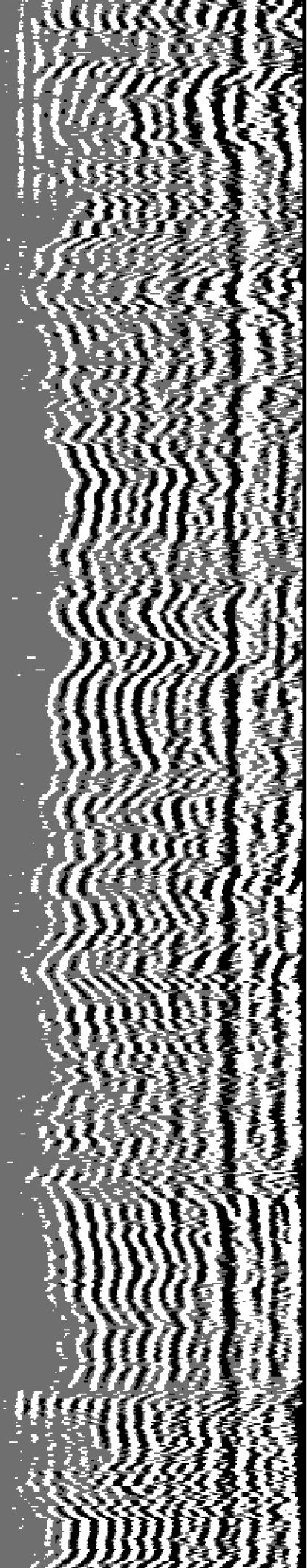
4200

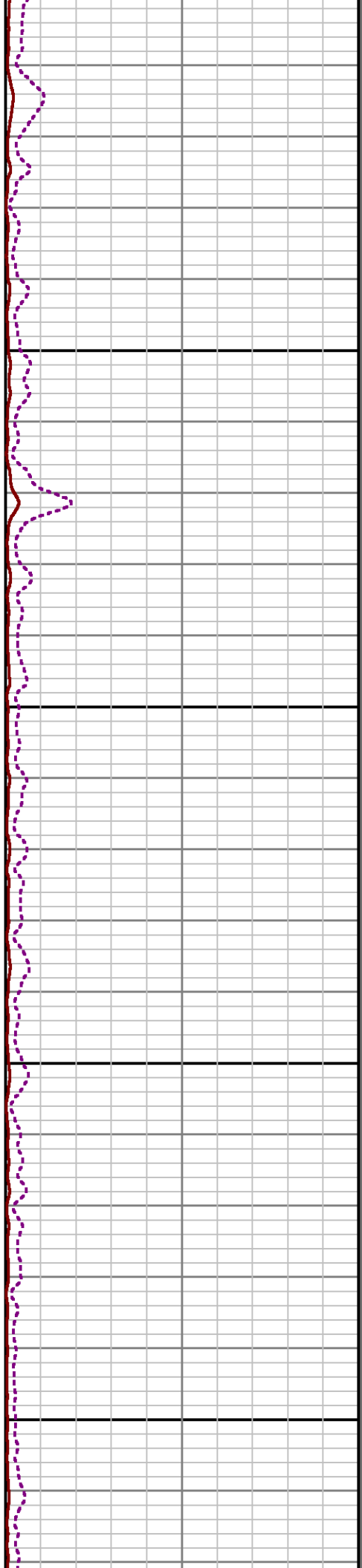
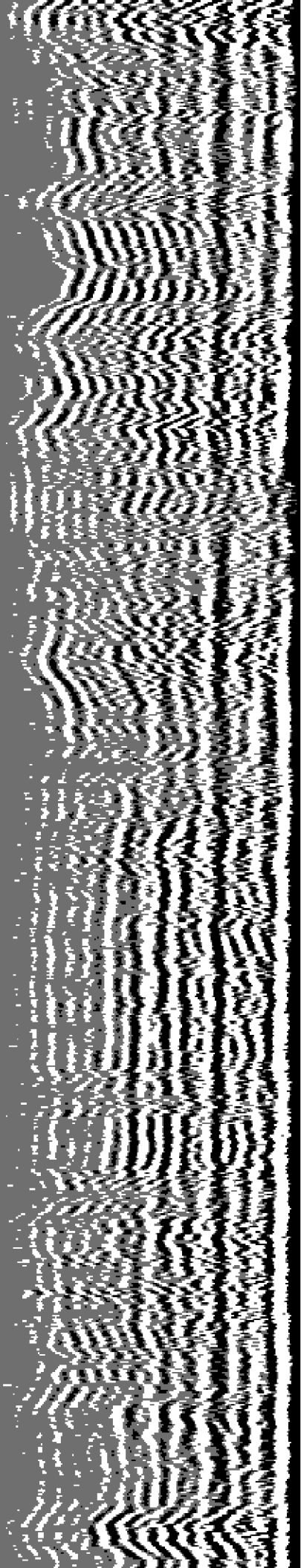






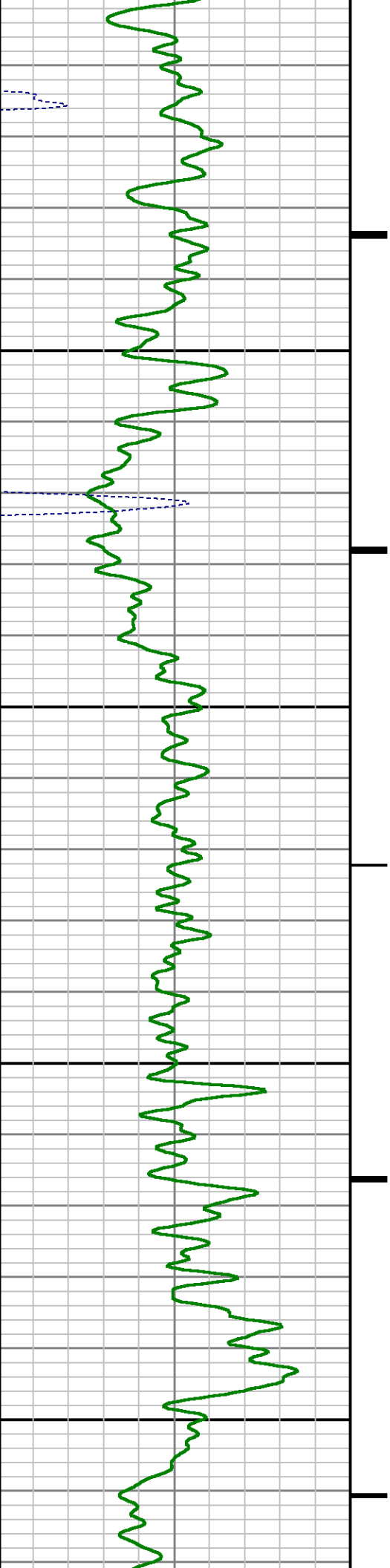


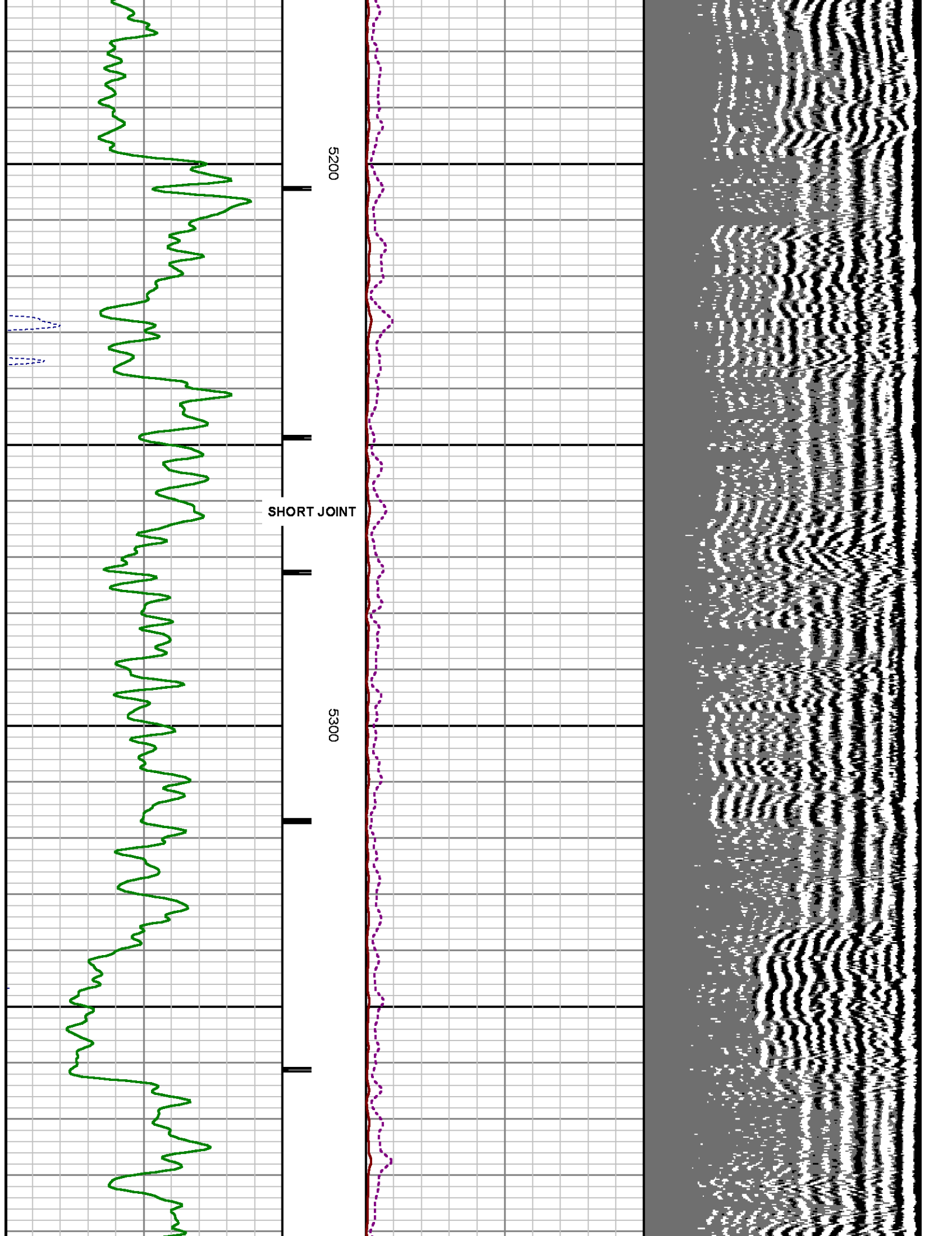


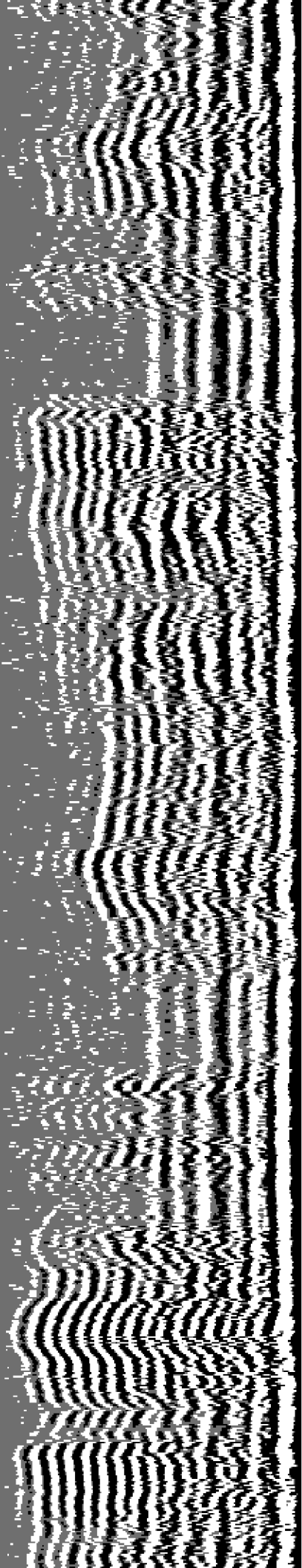


5000

5100



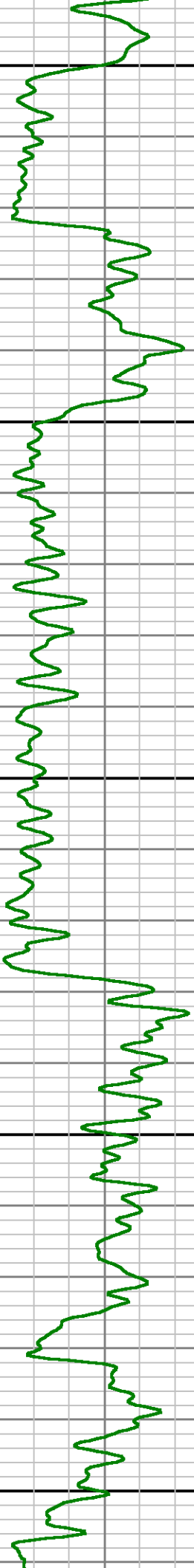


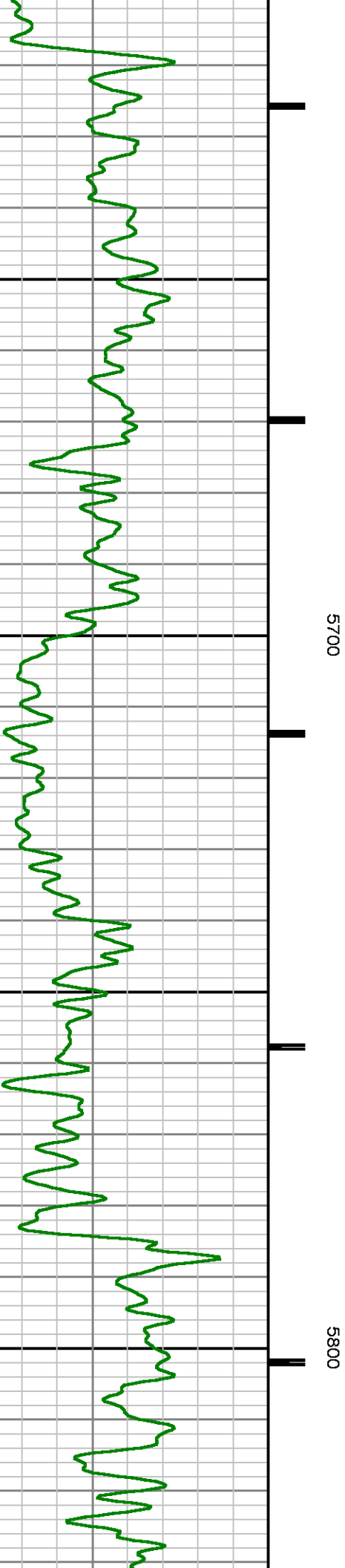
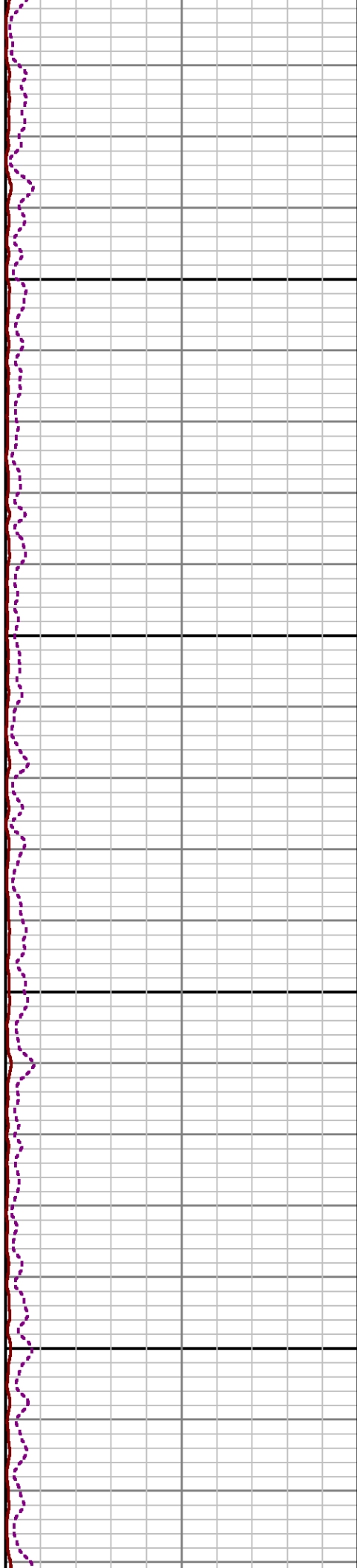
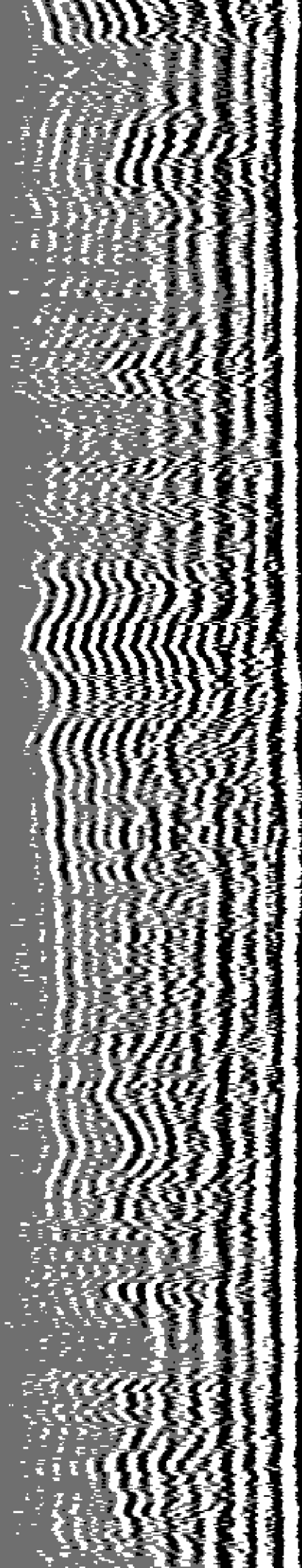


5400

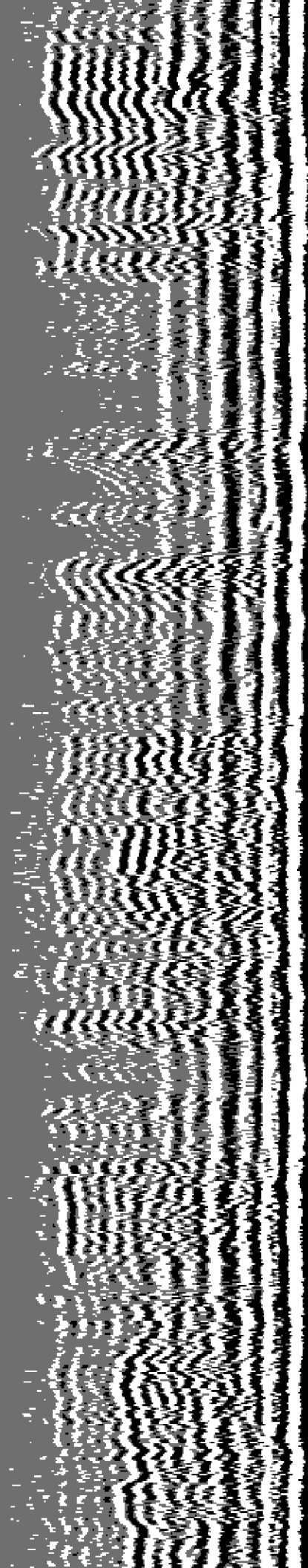
5500

5600



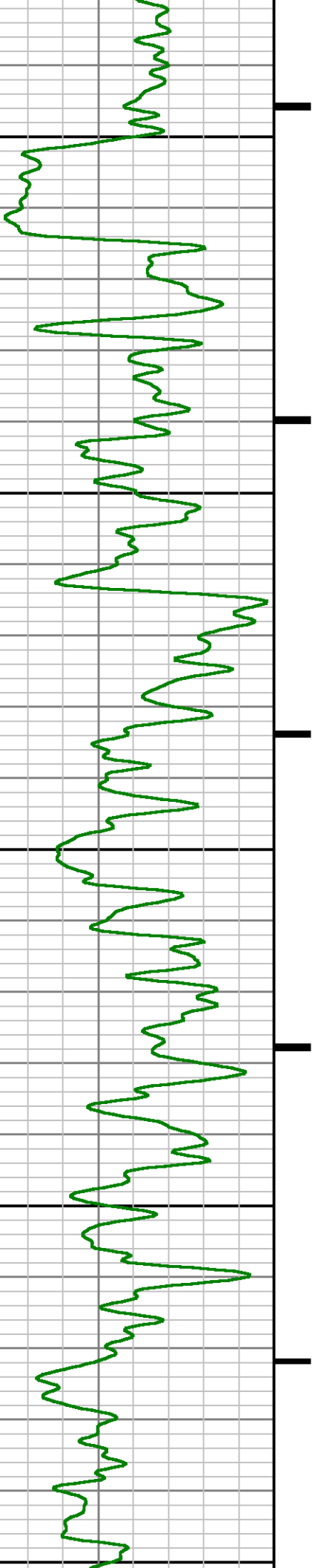


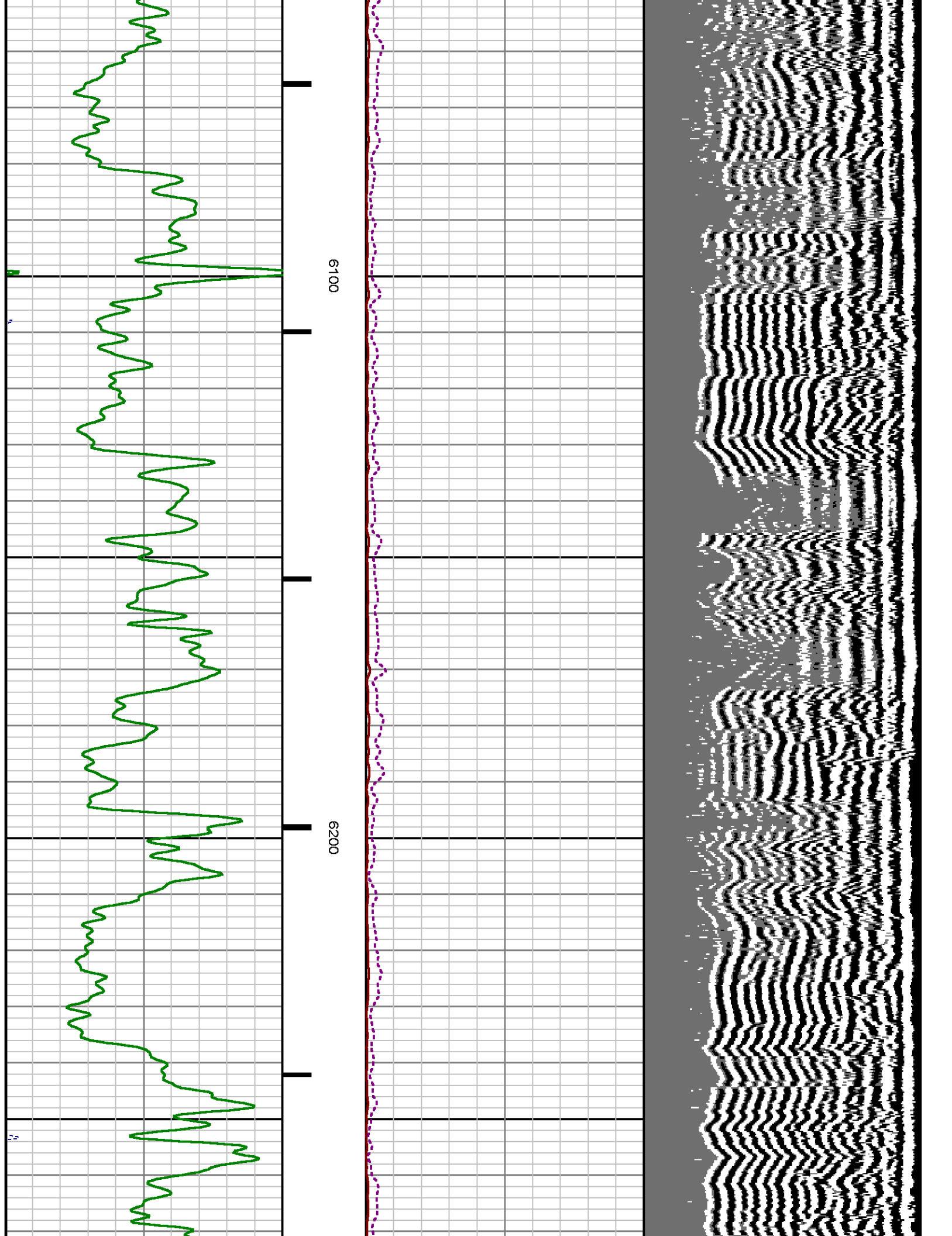


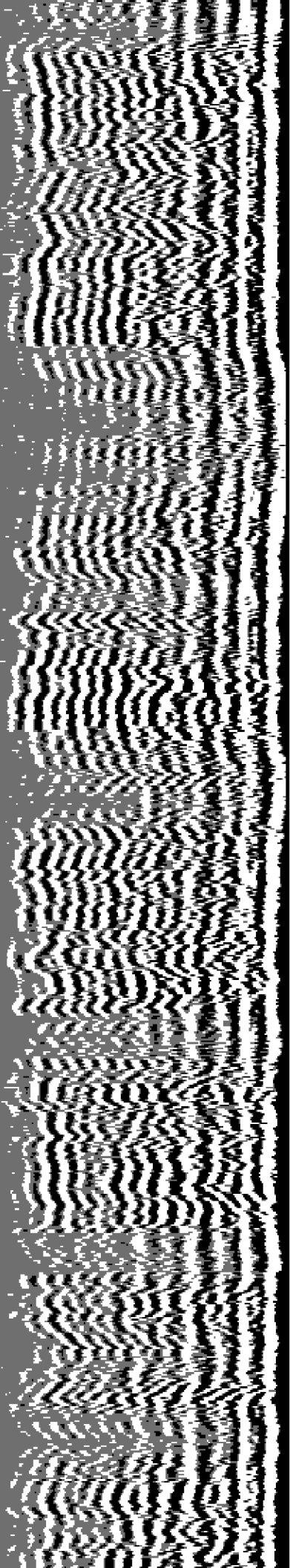


5900

6000

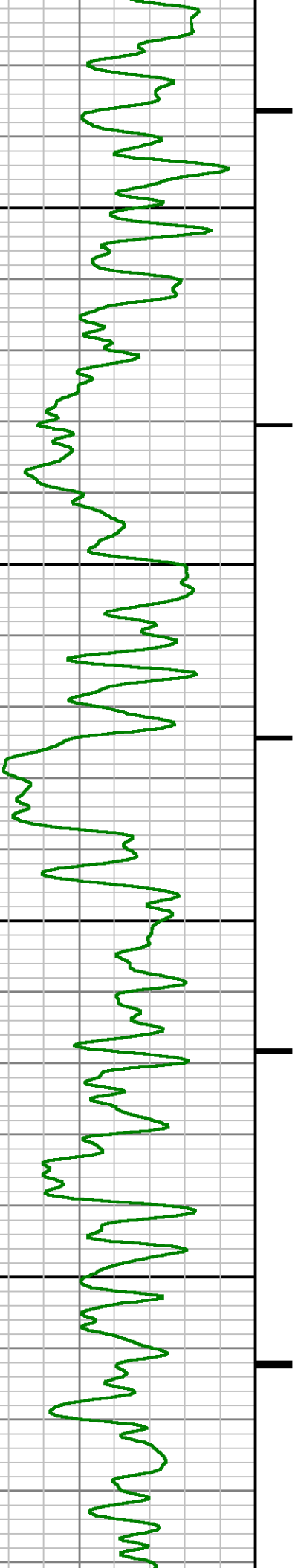




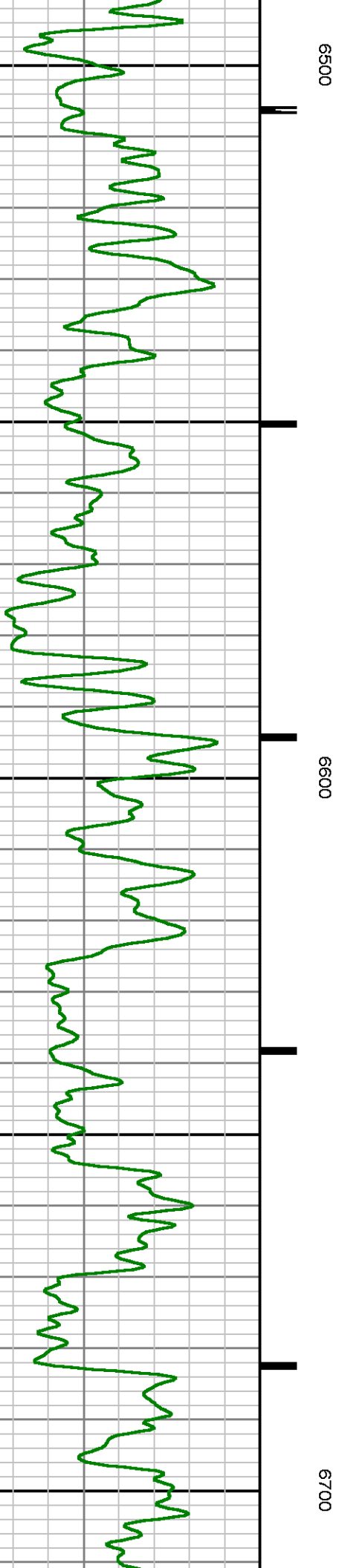
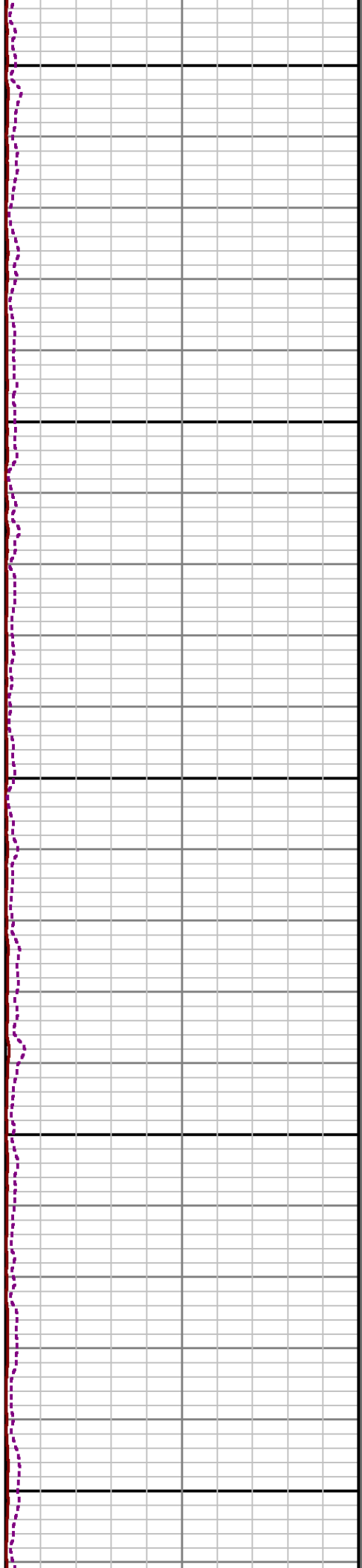
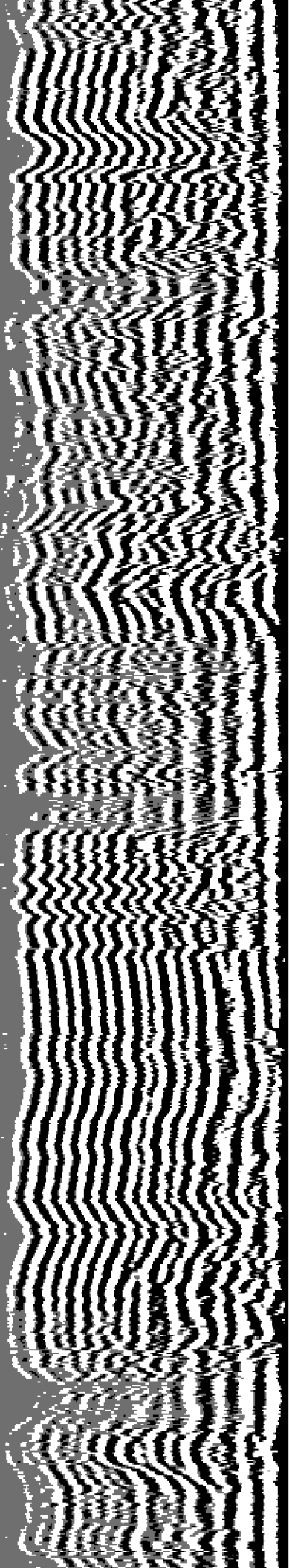


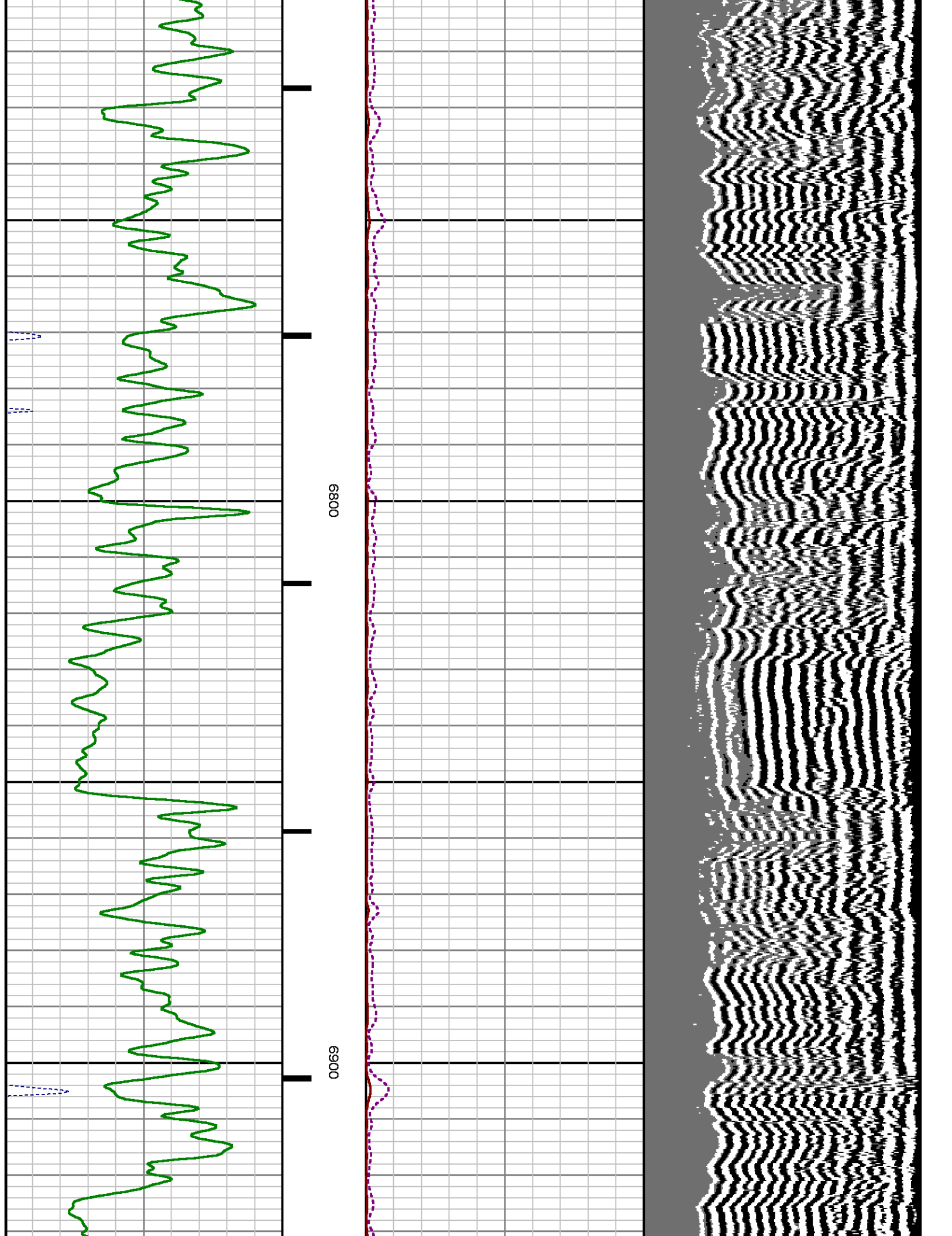
6300

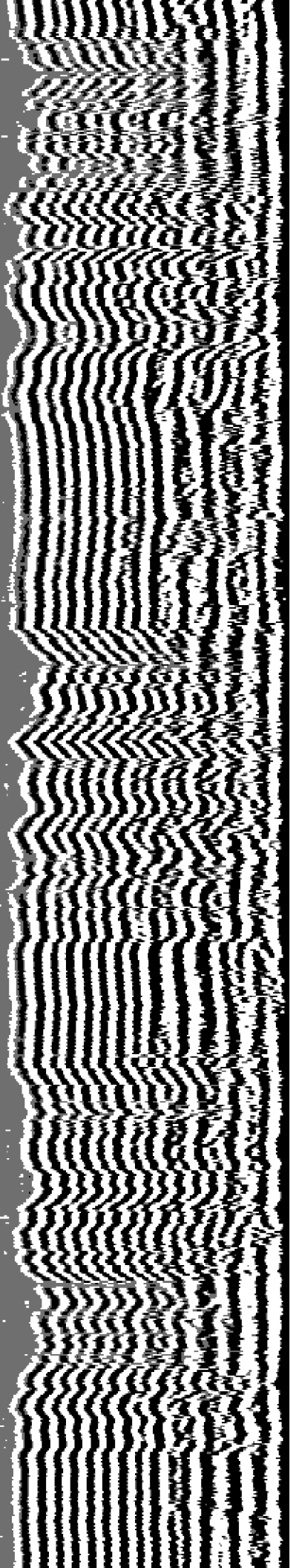
6400





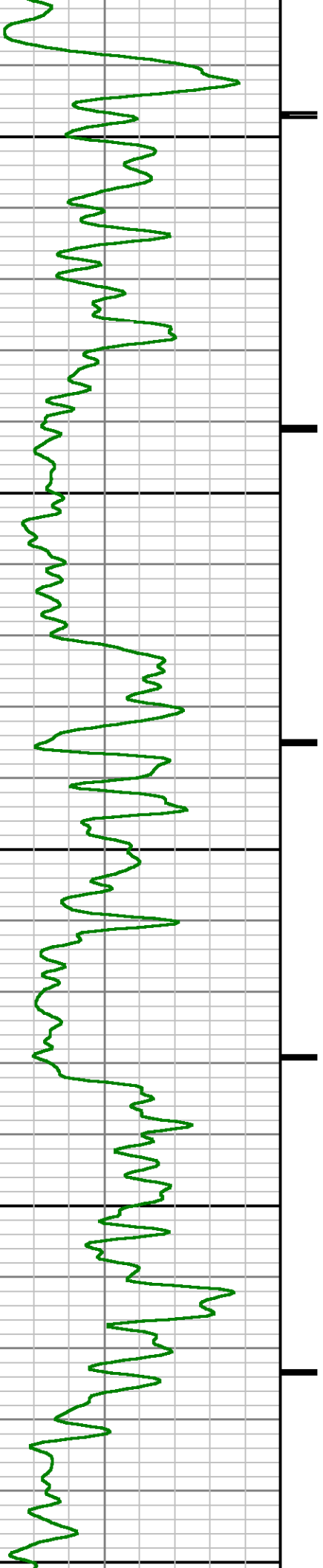


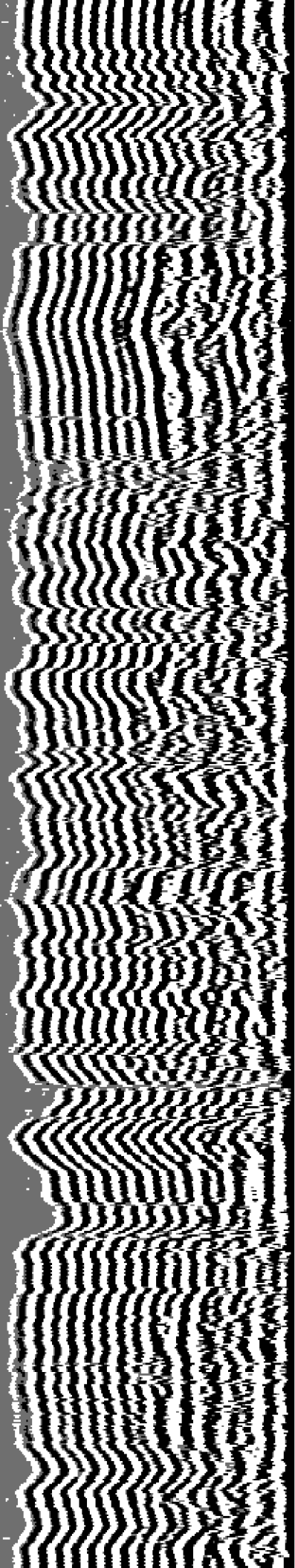




7000

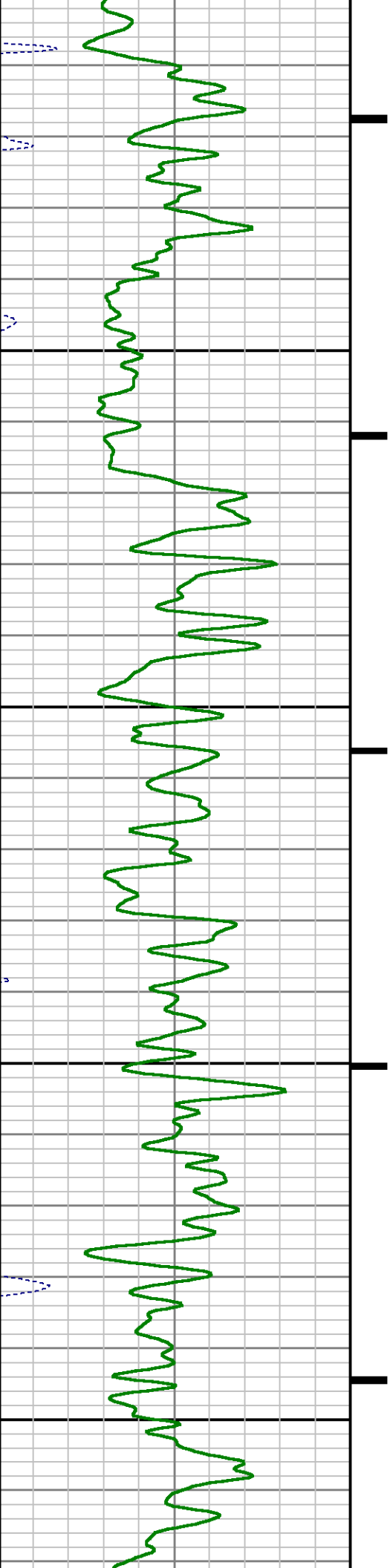
7100

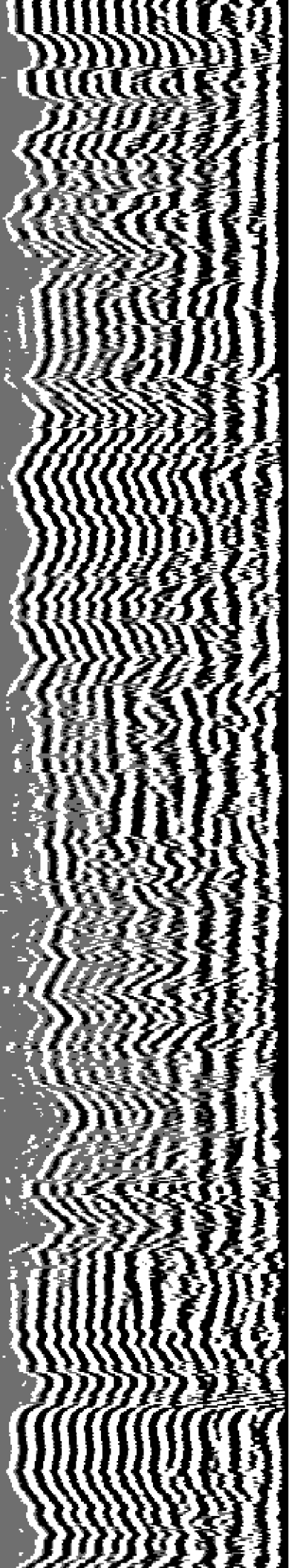




7200

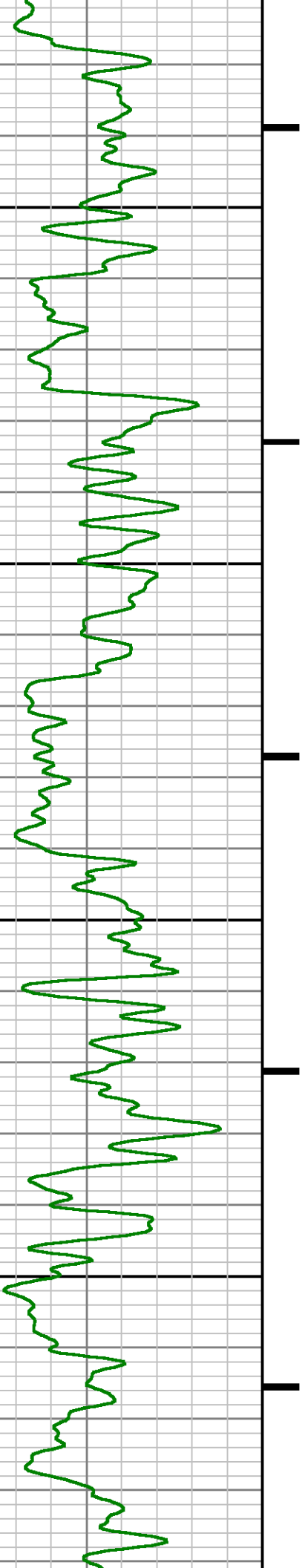
7300



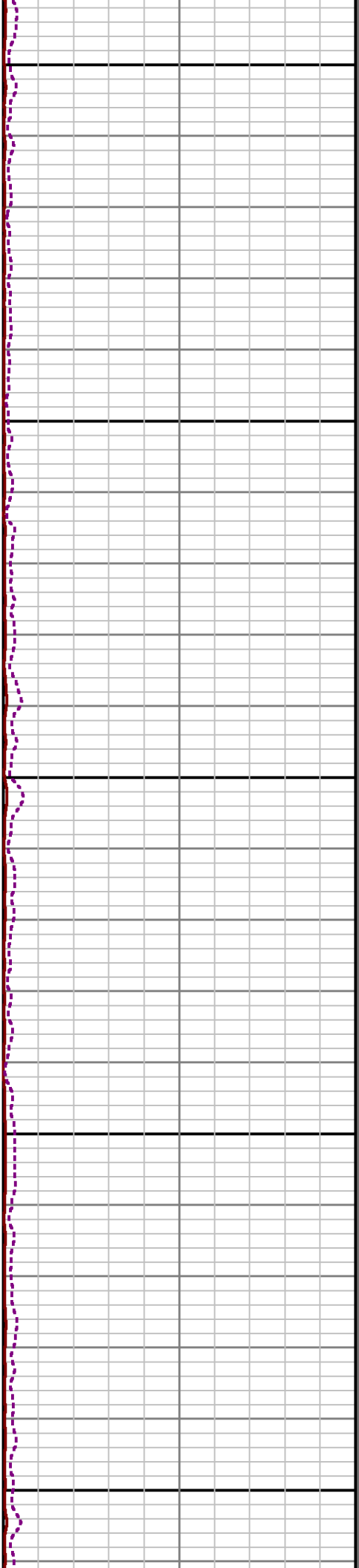
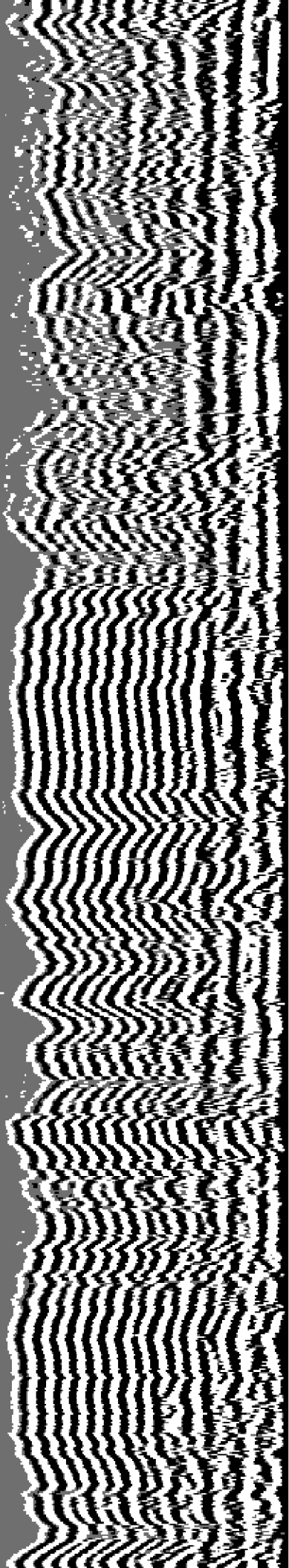


7400

7500



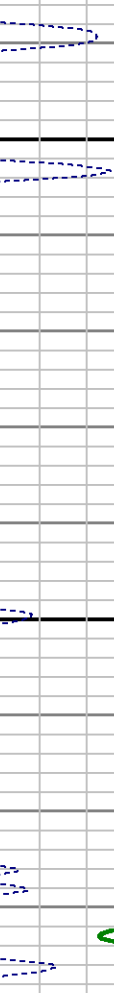


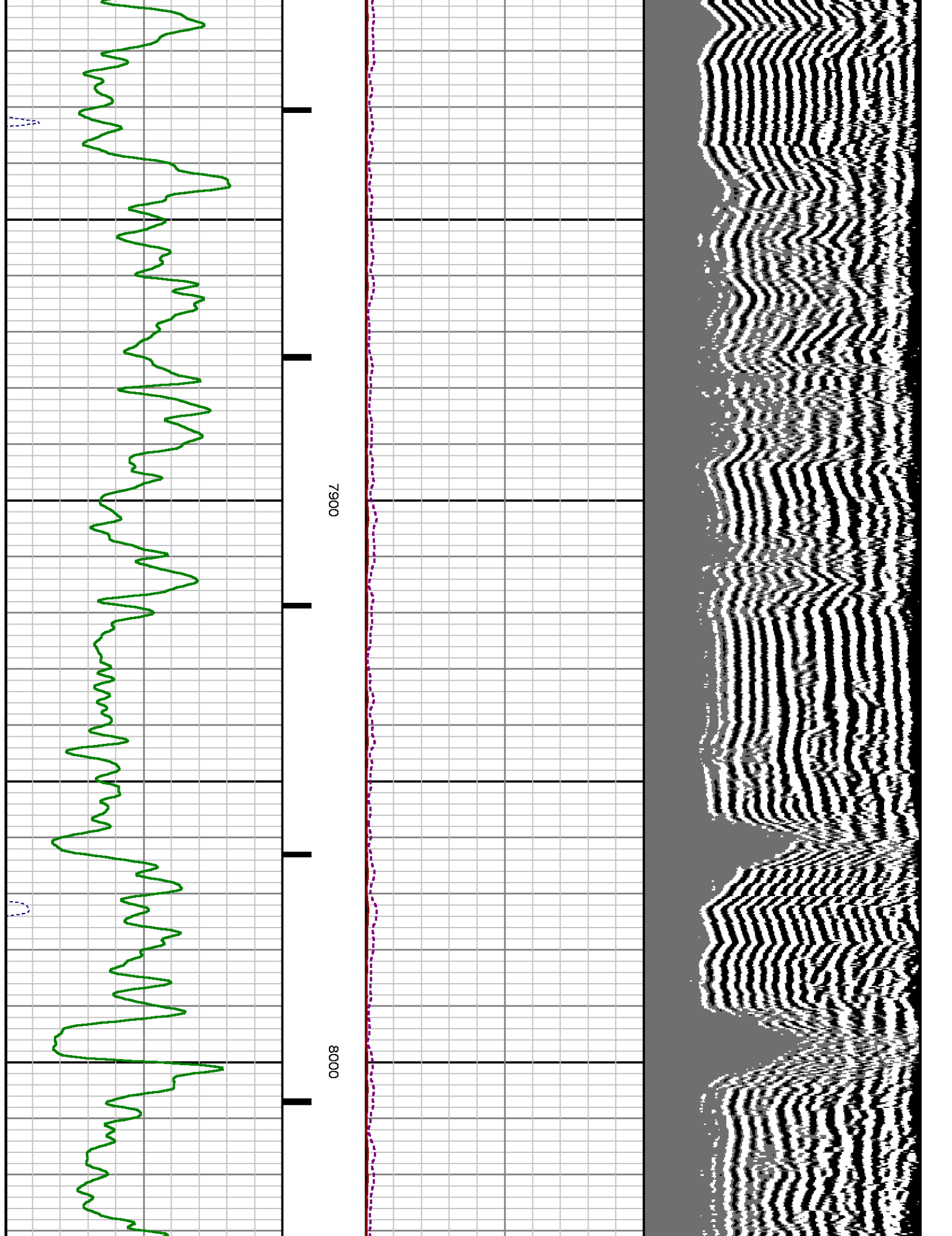


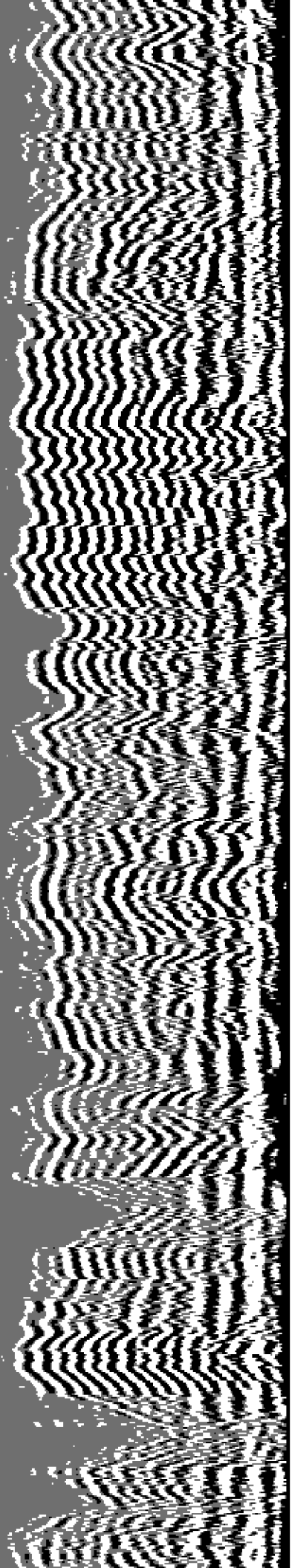
7600

7700

7800

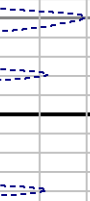




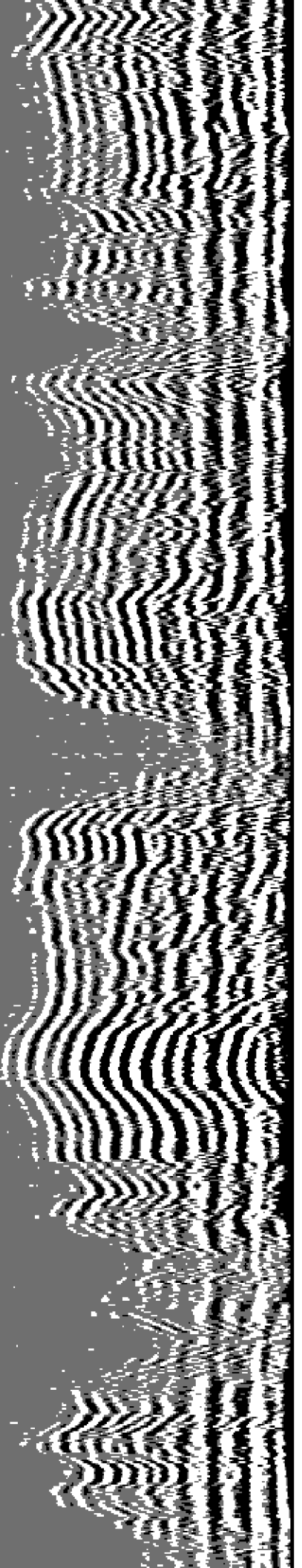


8100

8200

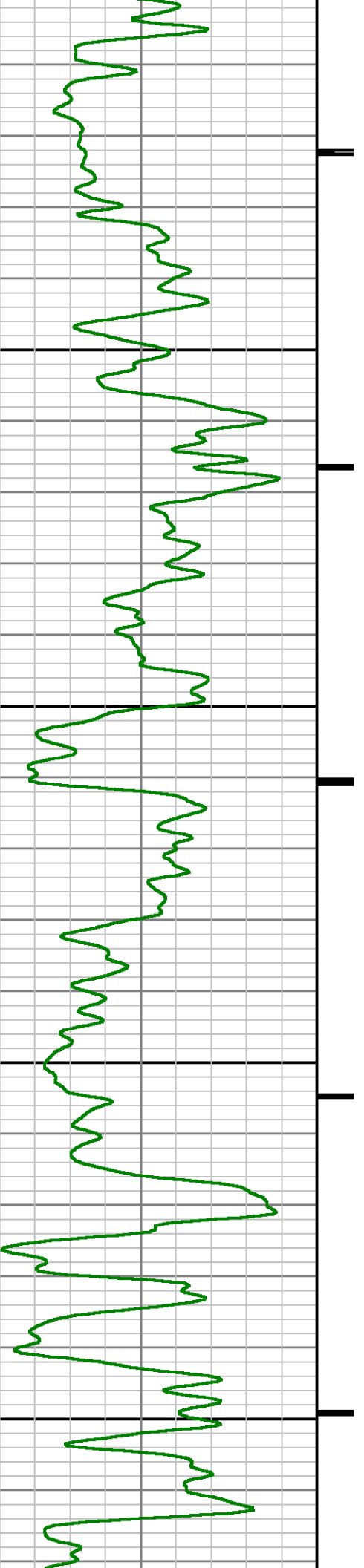


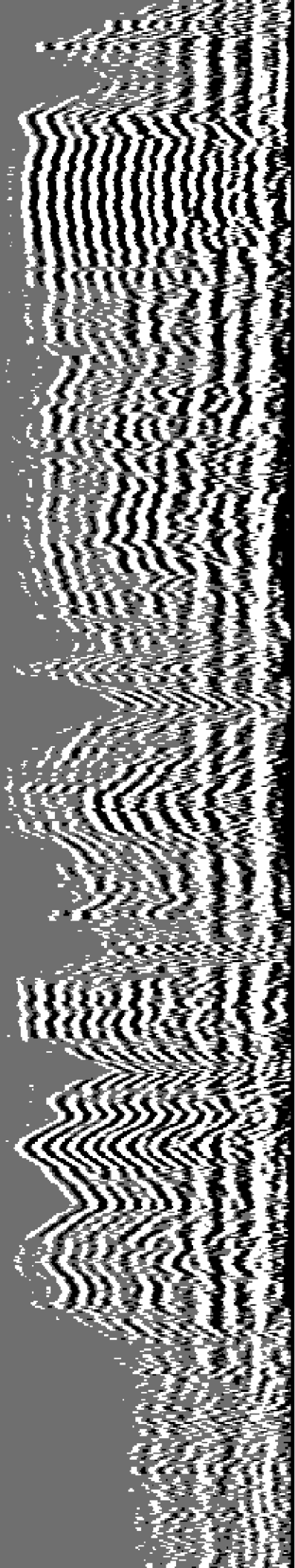




8300

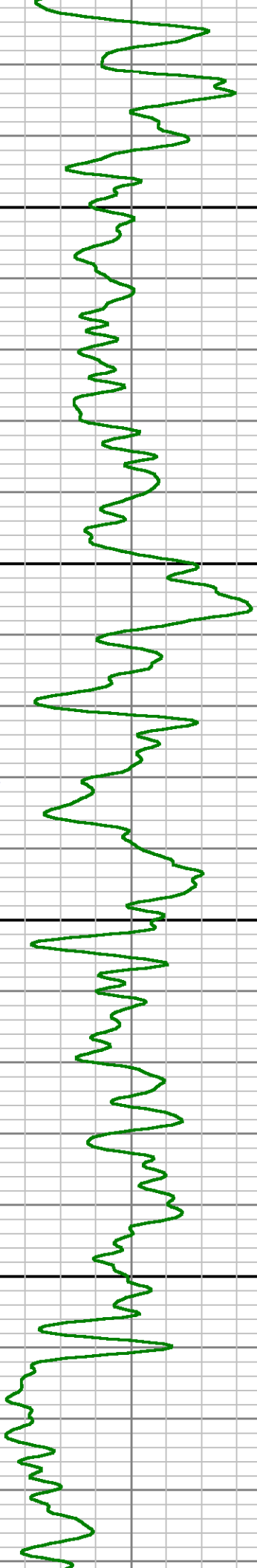
8400

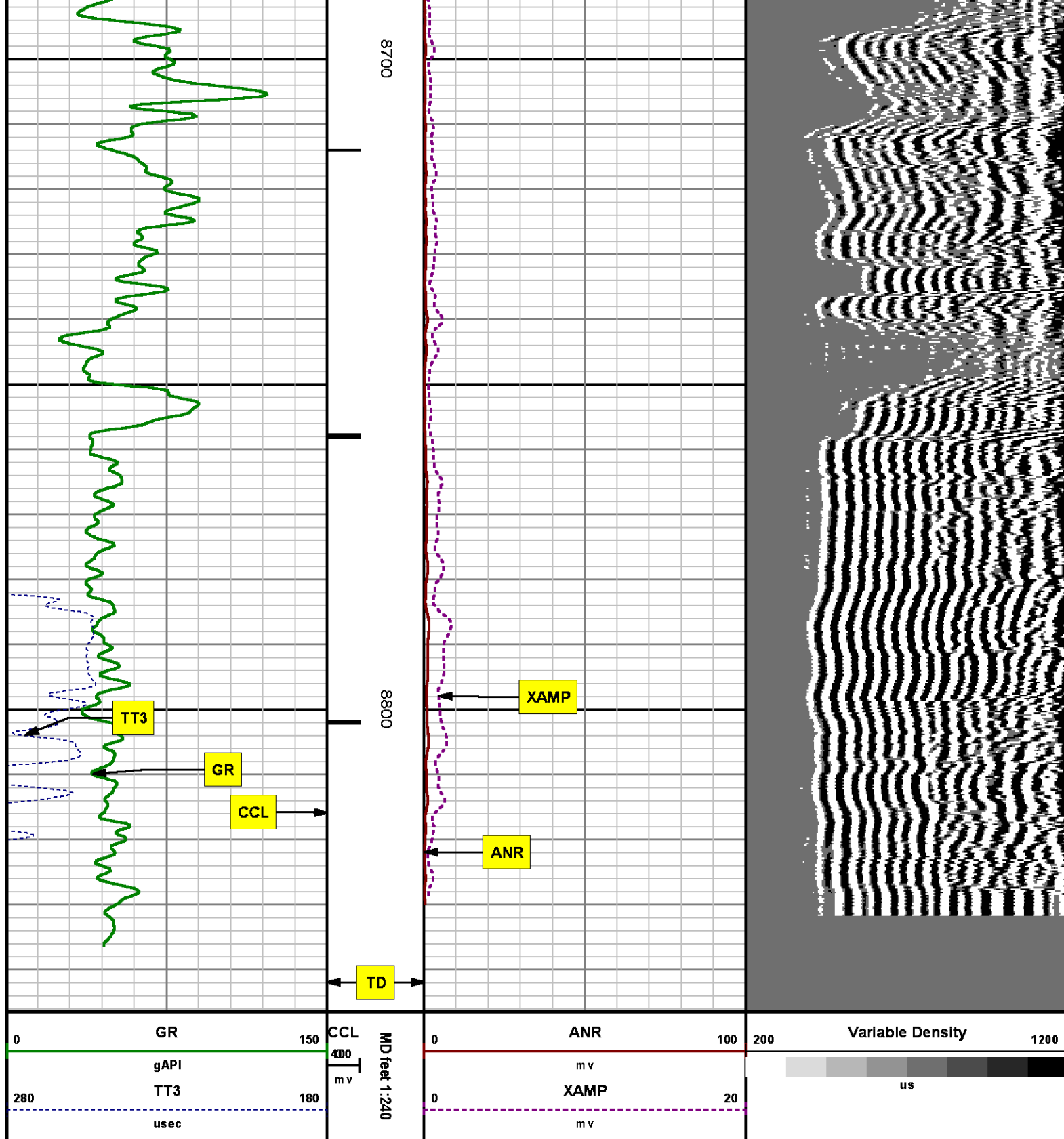




8500

8600





SECONDARY PRESENTATION  
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	32.129	8846.500
RAL	Amp Gate Start Near	195.000	usec	32.129	8846.500
RAL	Amp Gate Start Radial	195.000	usec	32.129	8846.500
RAL	Amp Gate Width Far	25.000	usec	32.129	8846.500
RAL	Amp Gate Width Near	25.000	usec	32.129	8846.500
RAL	Amp Gate Width Radial	25.000	usec	32.129	8846.500
RAL	casing od	4.500	inches	32.129	8846.500
RAL	casing wt	11.600	lbm/ft	32.129	8846.500
RAL	FB Start Far	291.900	usec	32.129	8846.500
RAL	FB Start Near	180.000	usec	32.129	8846.500
RAL	FB Start Radial	180.000	usec	32.129	8846.500
RAL	FB Thresh Far	10.000	mv	32.129	8846.500
RAL	FB Thresh Near	4.000	mv	32.129	8846.500
RAL	FB Thresh Radial	4.000	mv	32.129	8846.500
RAL	Fluid Travel Time	200.000	usec/ft	32.129	8846.316

### DEPTH OFFSETS (for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-16.750	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-15.750	AFAR	SIG	TT5			
2459XA	-11.340	CCL					
2459XA	-9.490	GR					
2459XA	-4.090	NEU					

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

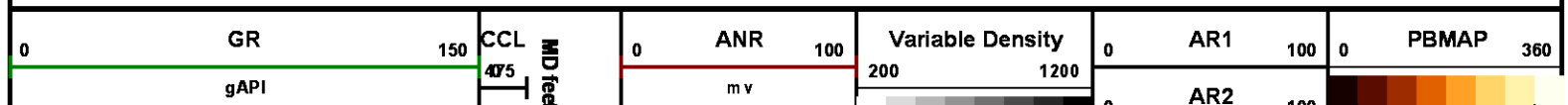
Well : SAVAGE RWF 411-25

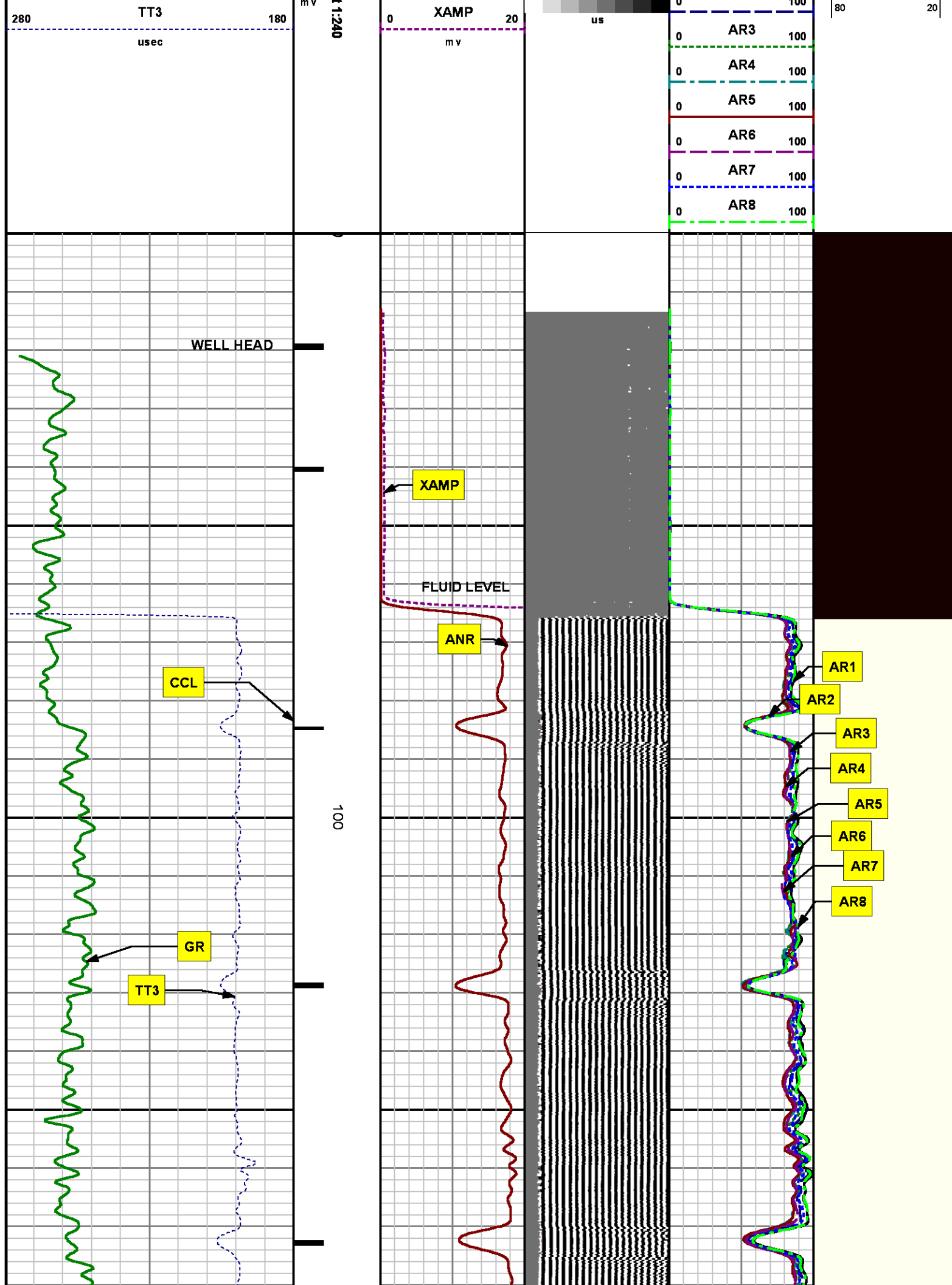
File Name : d:\welldata\wpx\rwf 411-25\411 ral\main.xtf

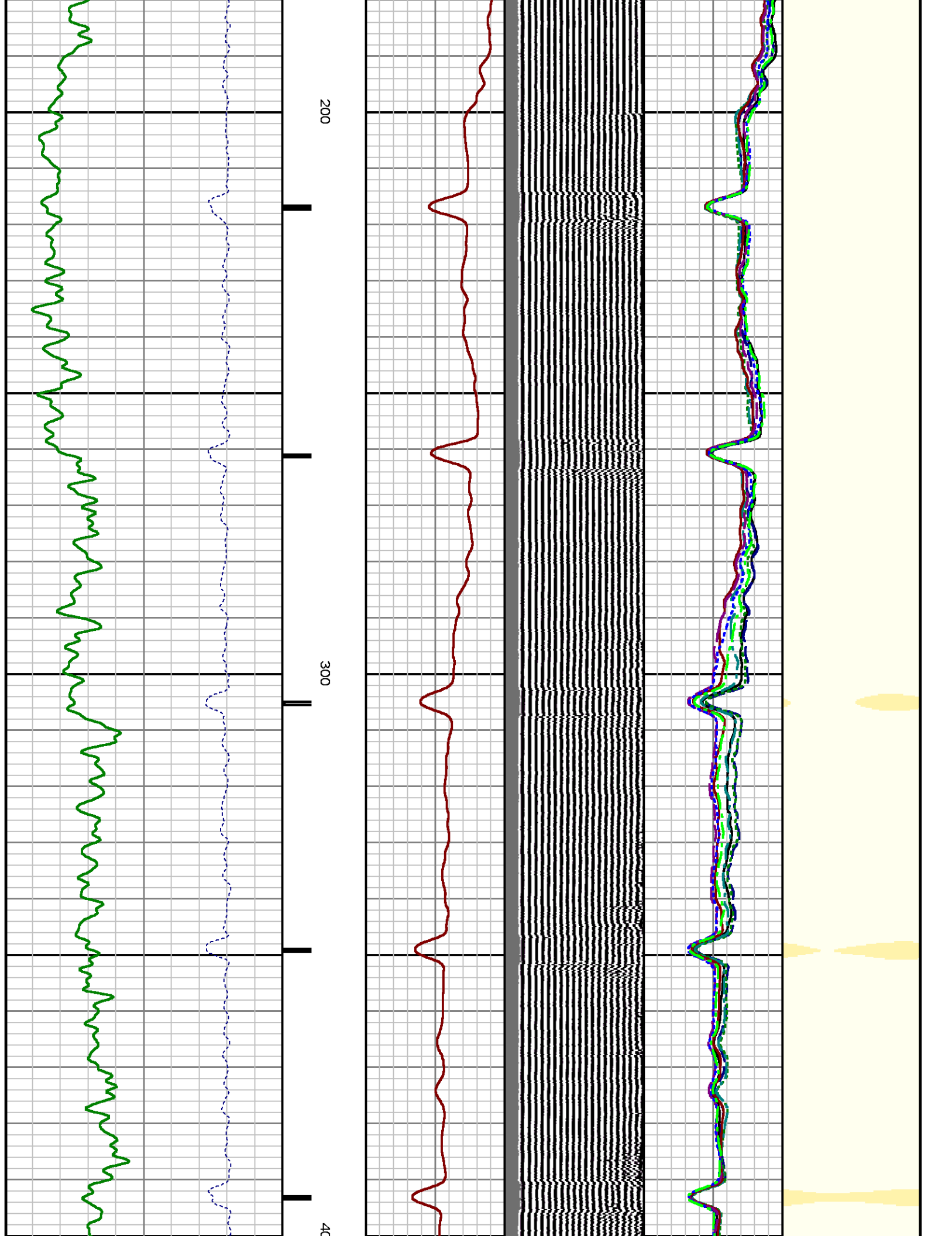
Mode : PlotMgr 5.4.504

Interval : 0.00 - 8846.00 feet UP

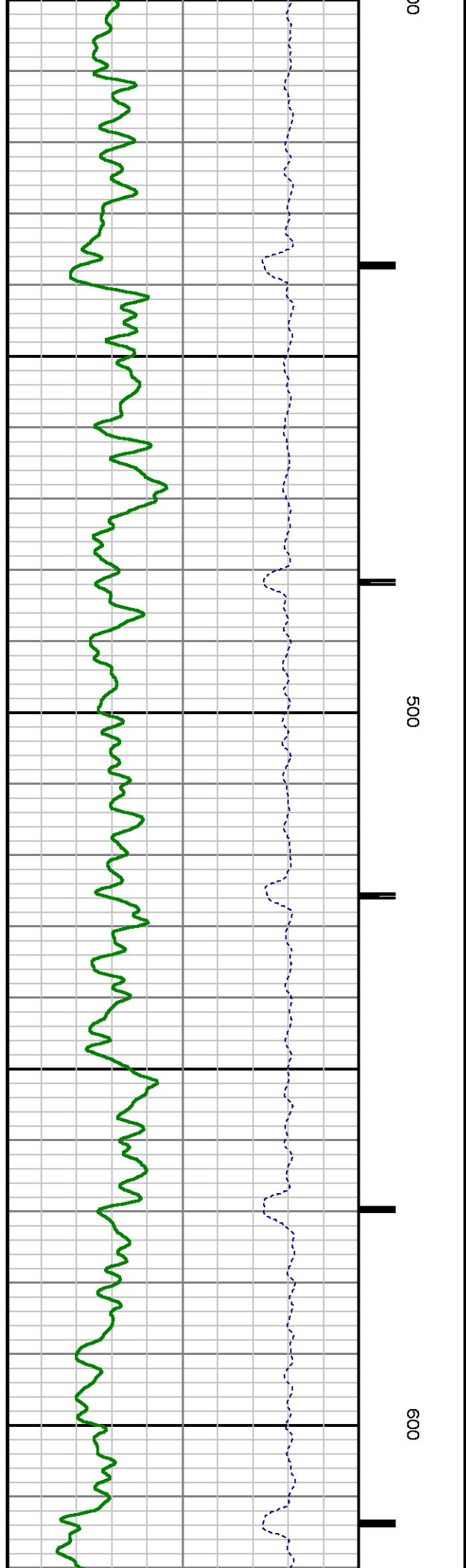
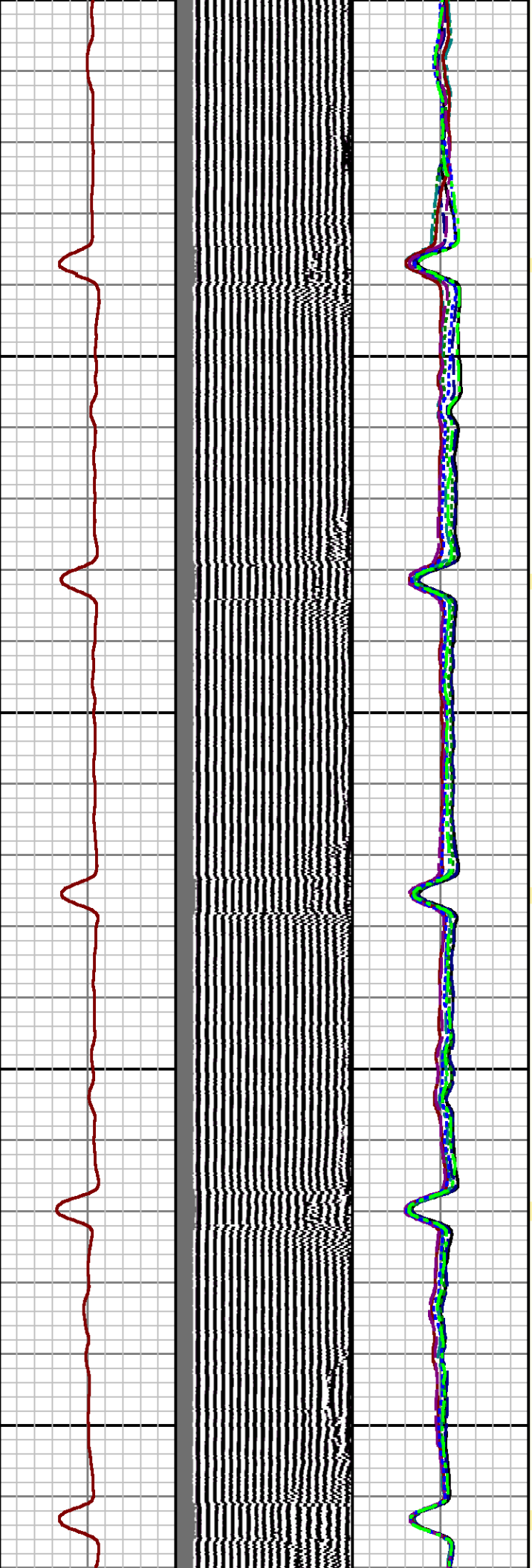
Created : 2/23/2014 11:00:20 AM

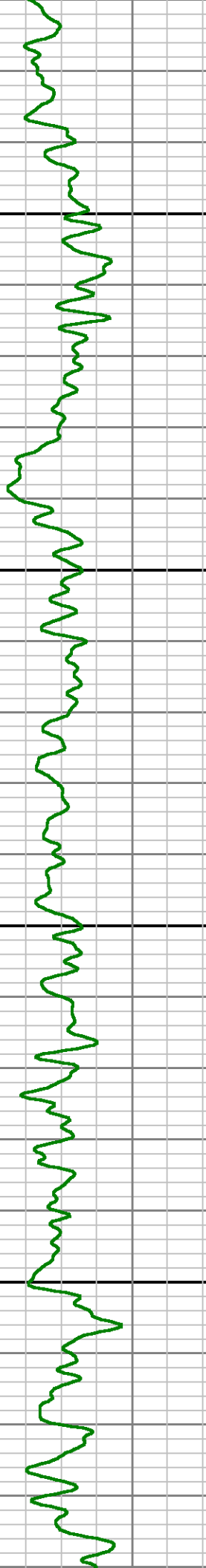
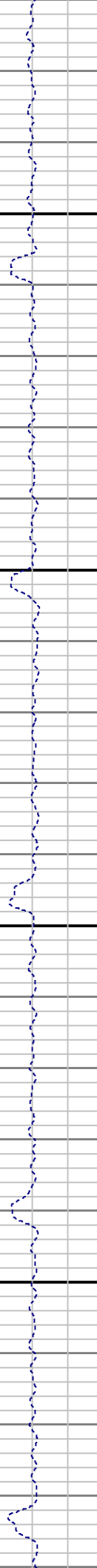
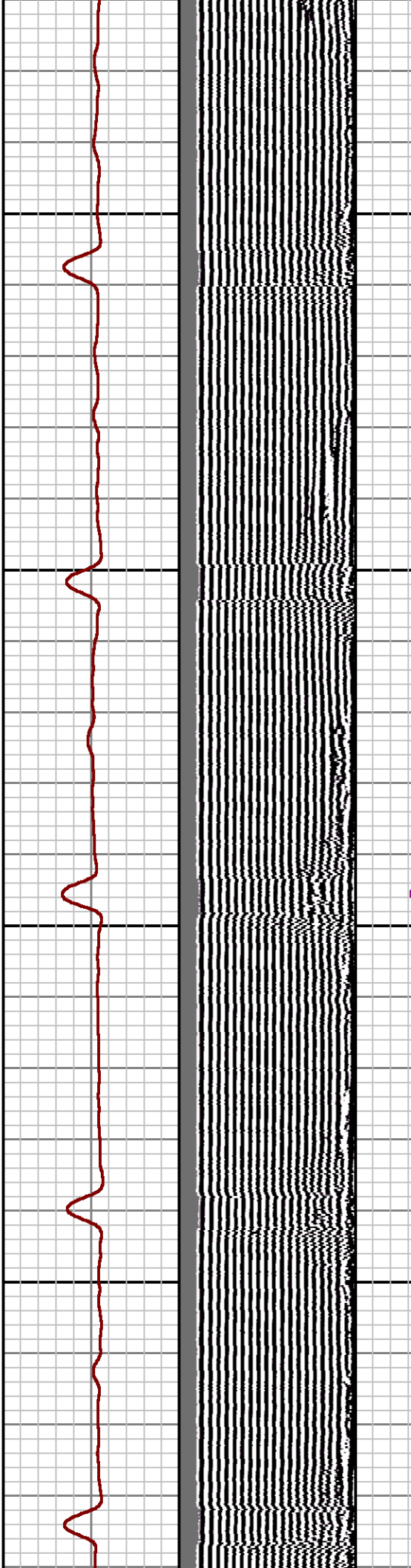
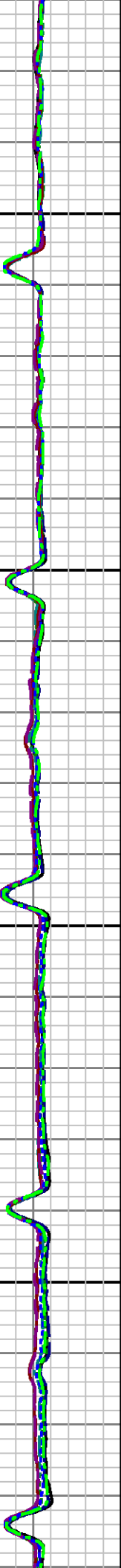
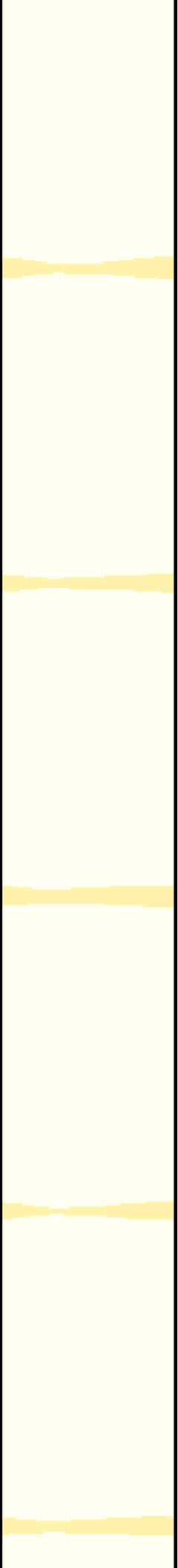






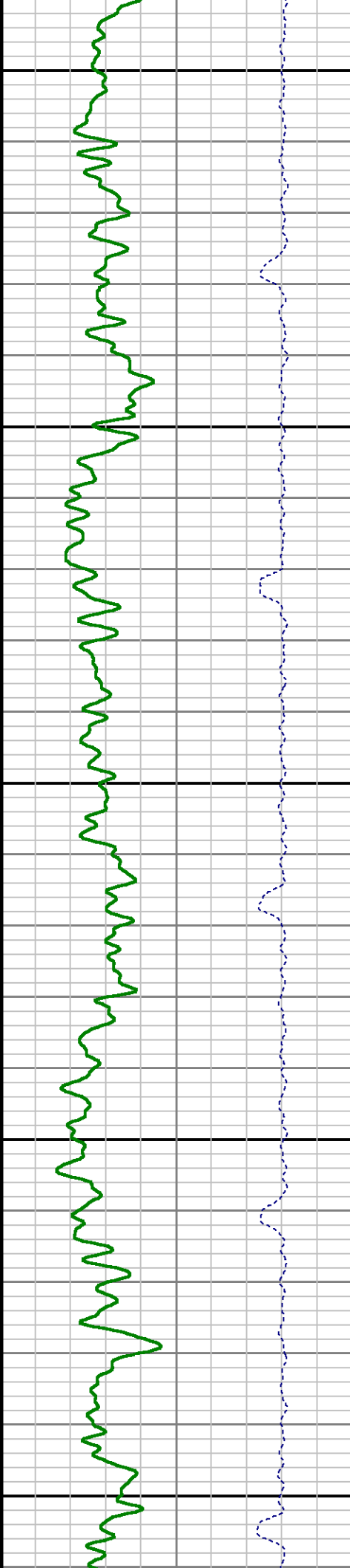
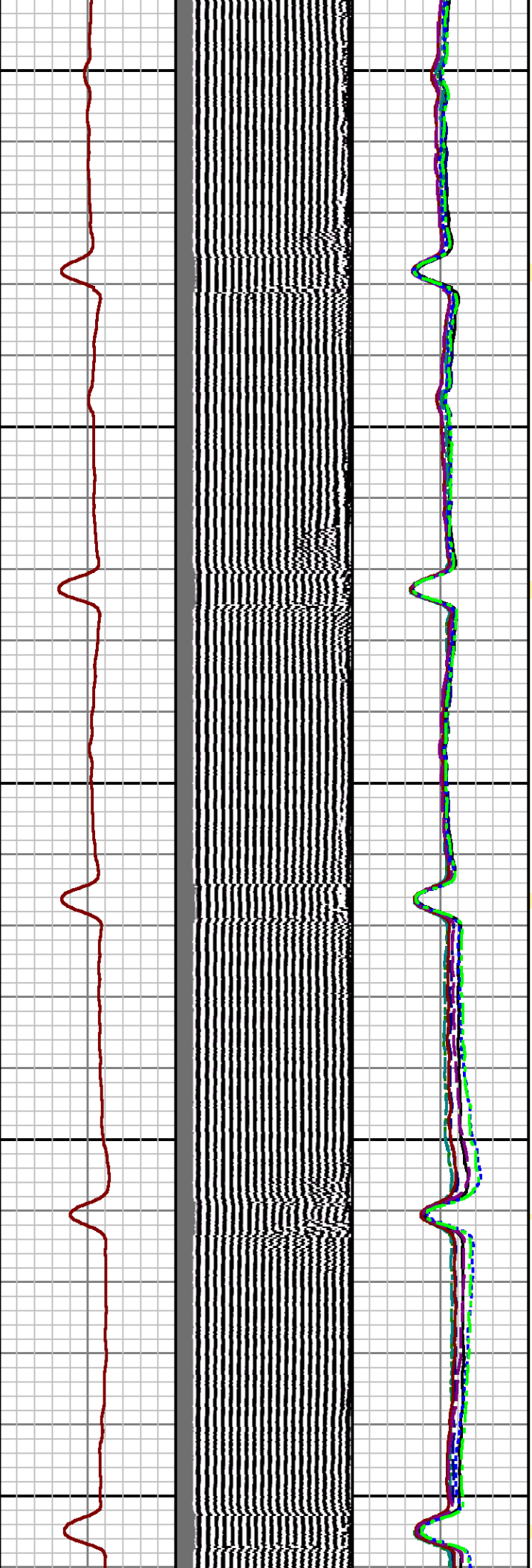


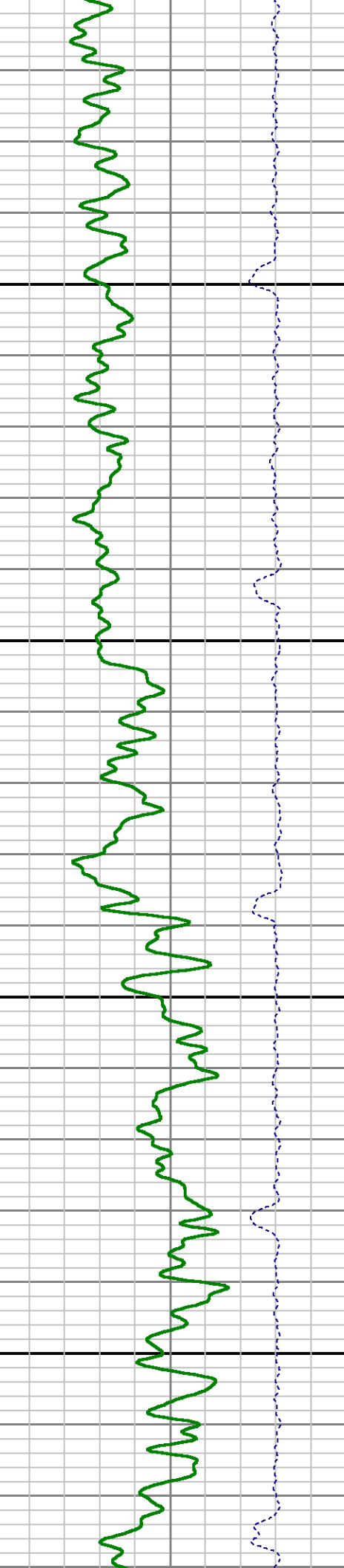
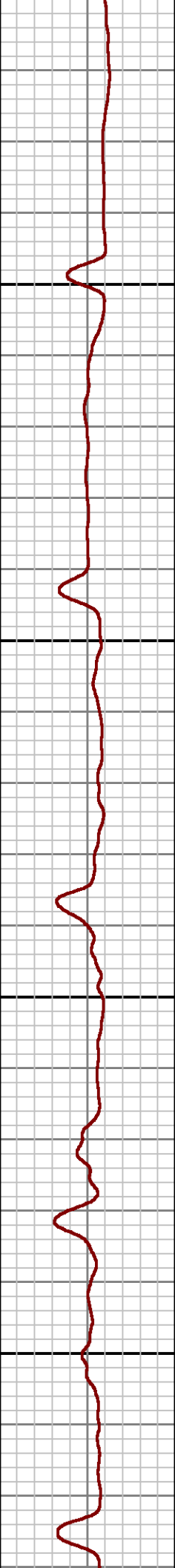
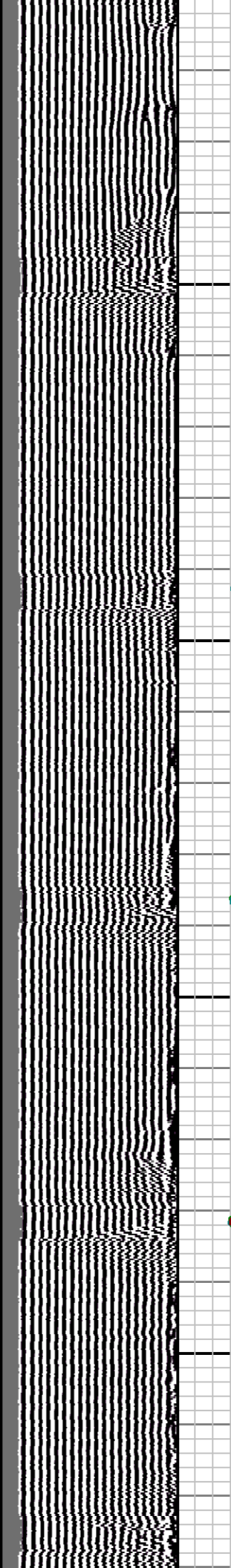
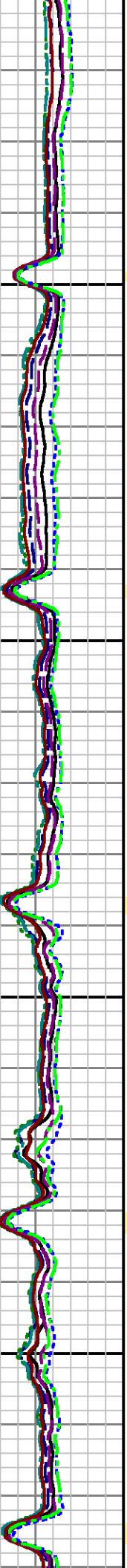
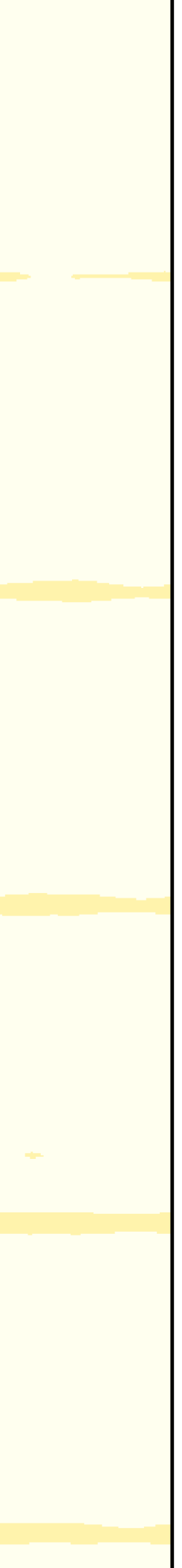


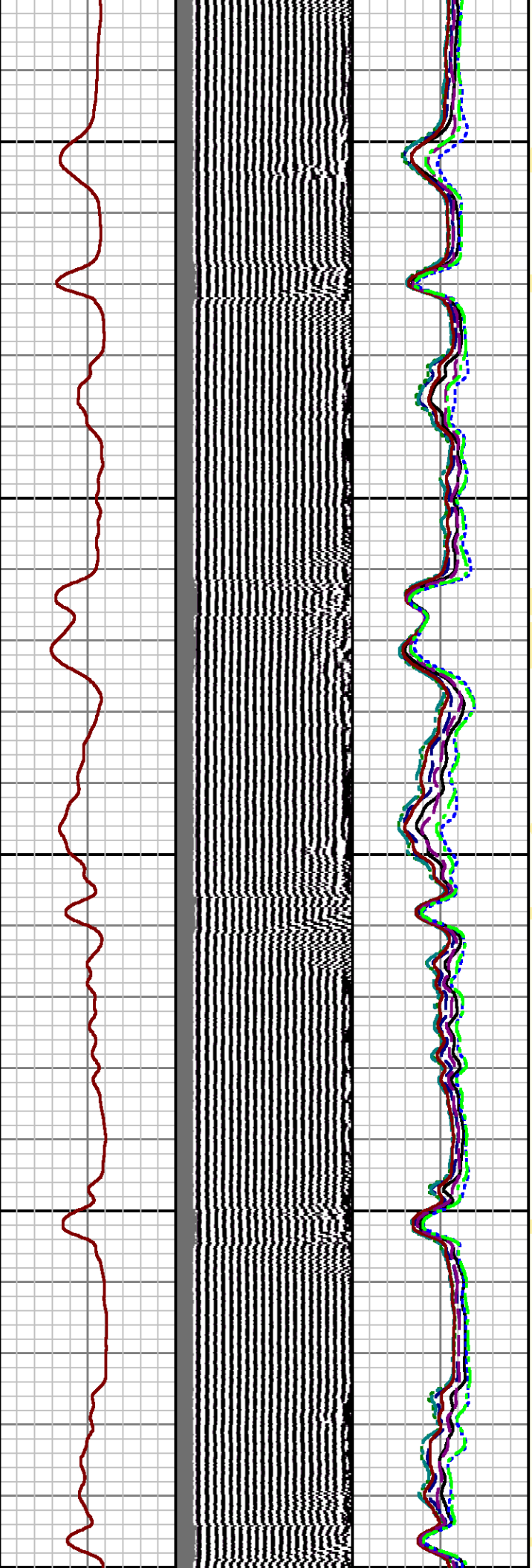


700

800



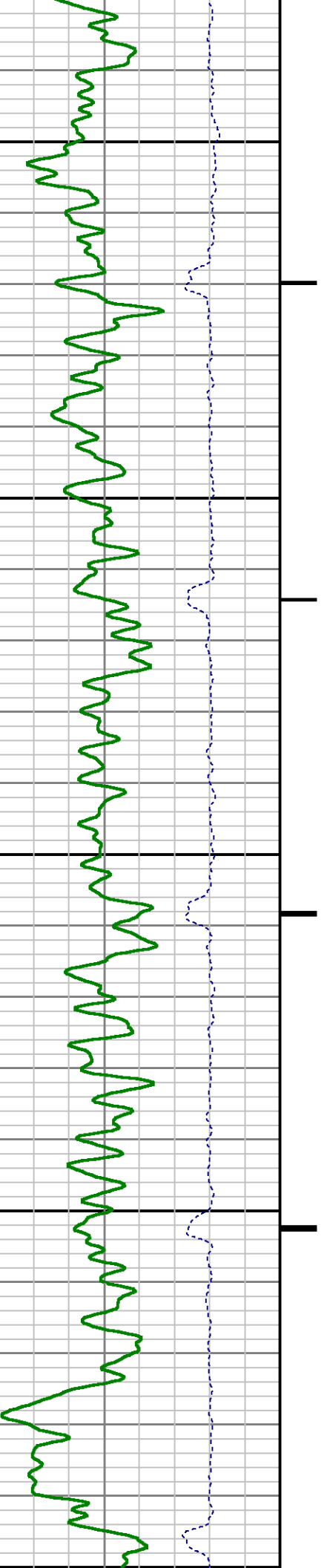


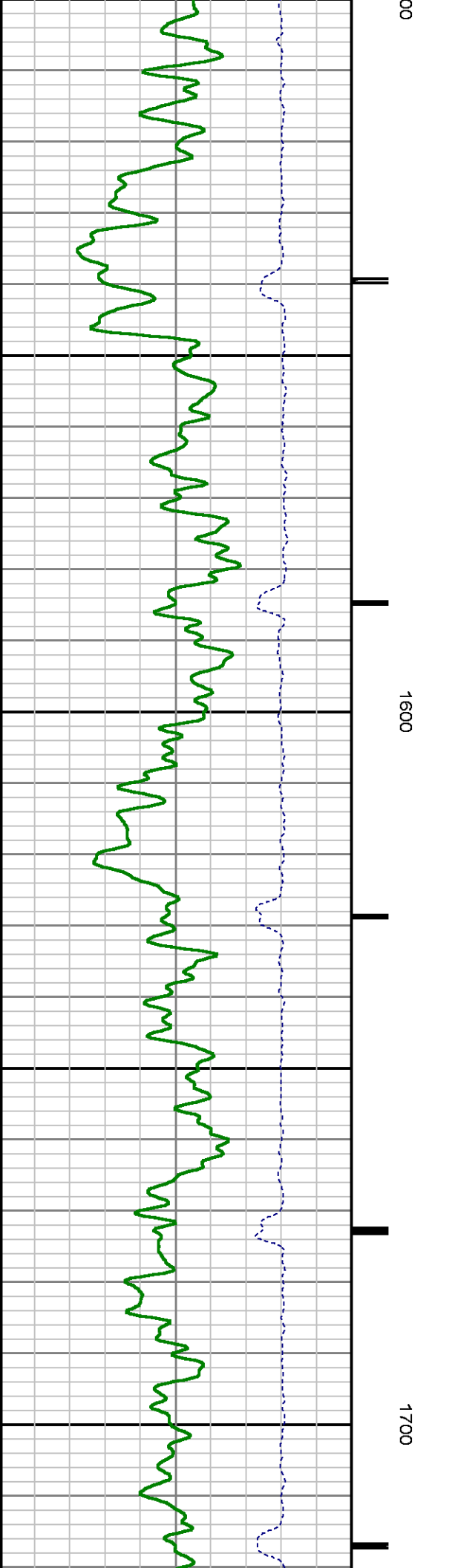
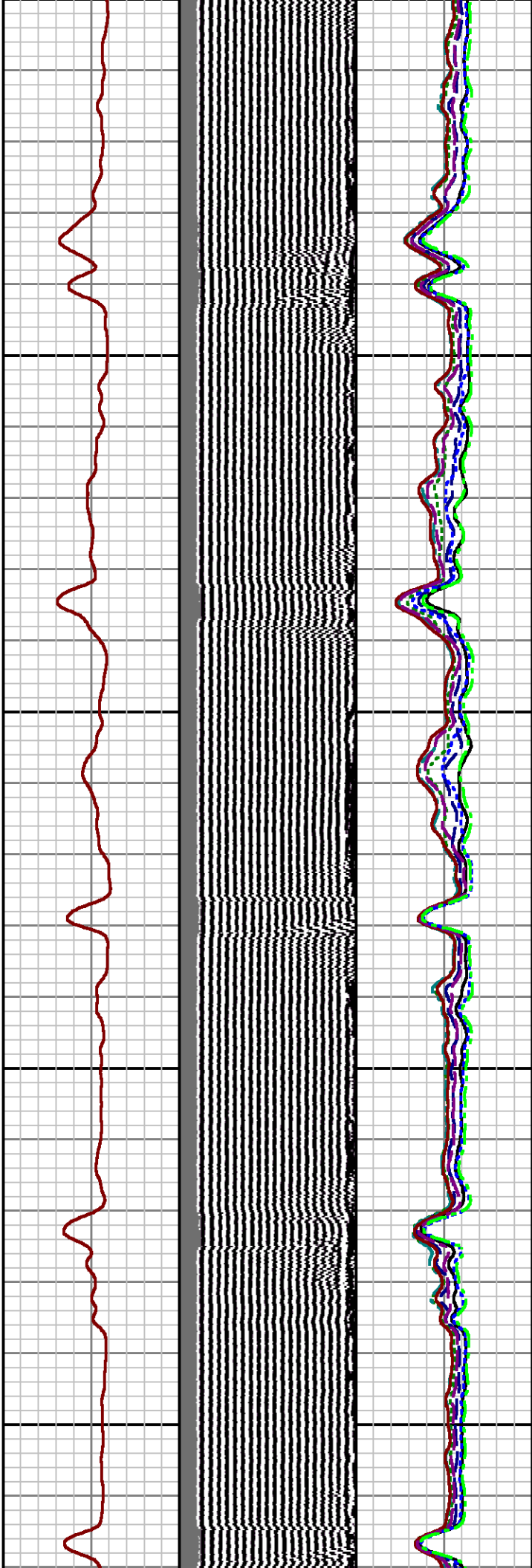
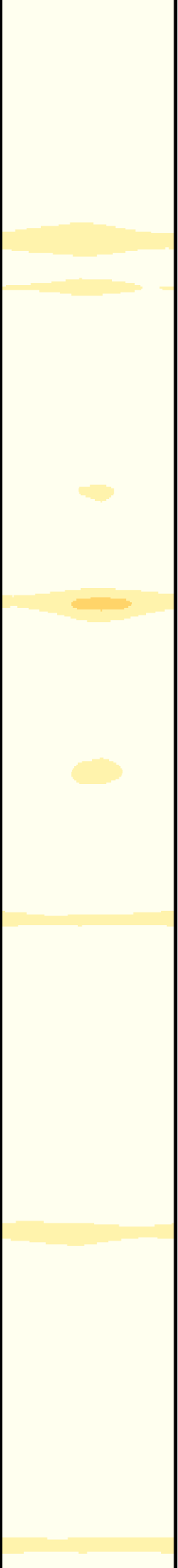


1300

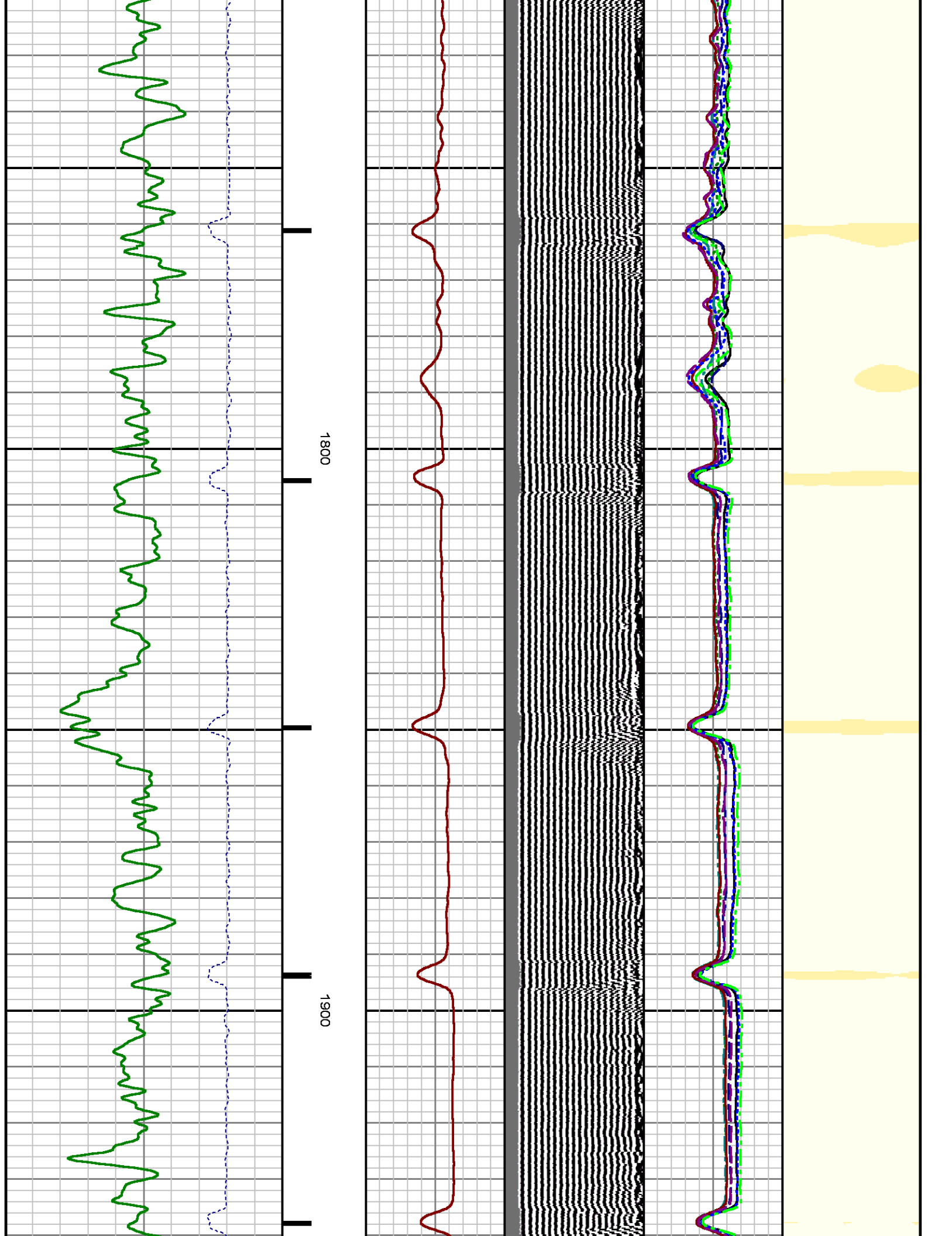
1400

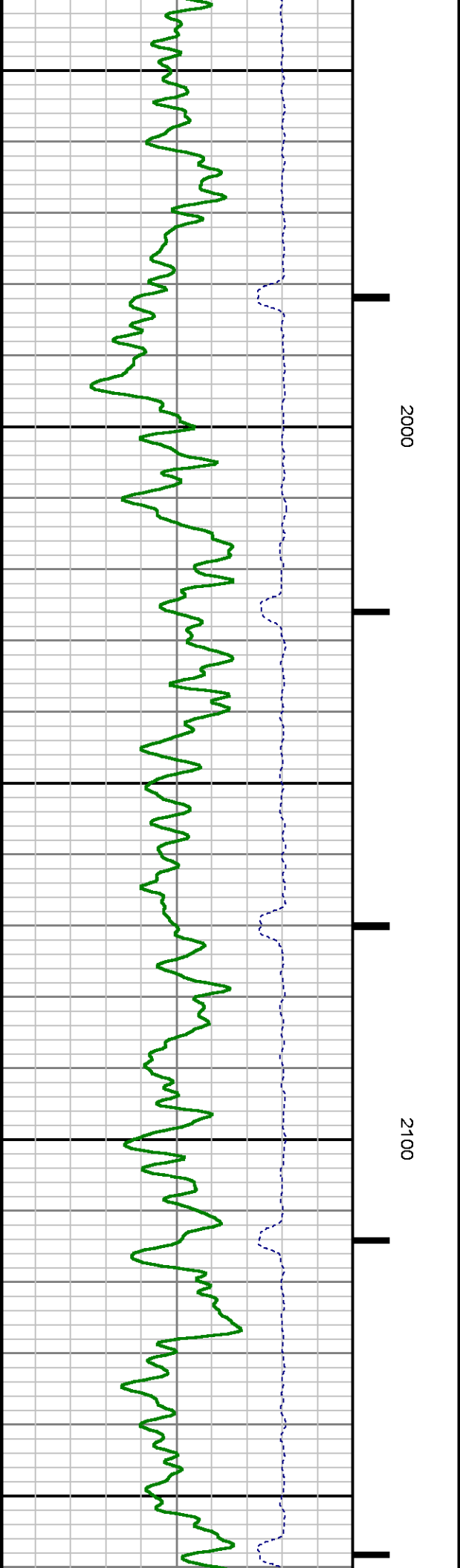
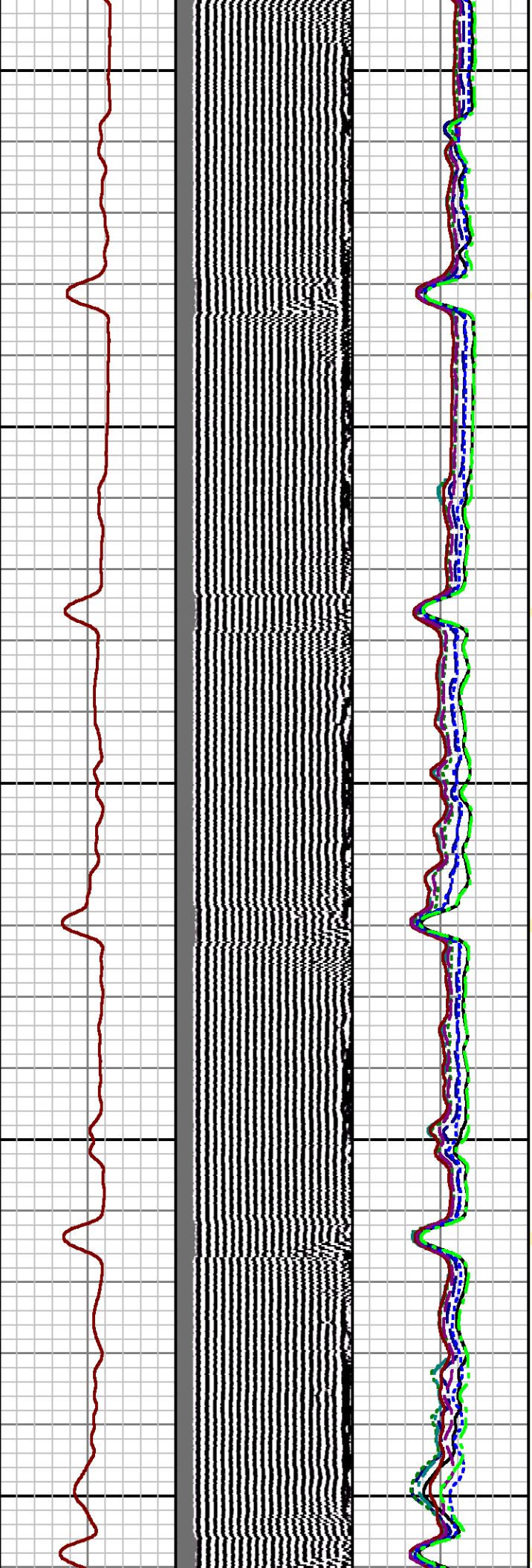
15

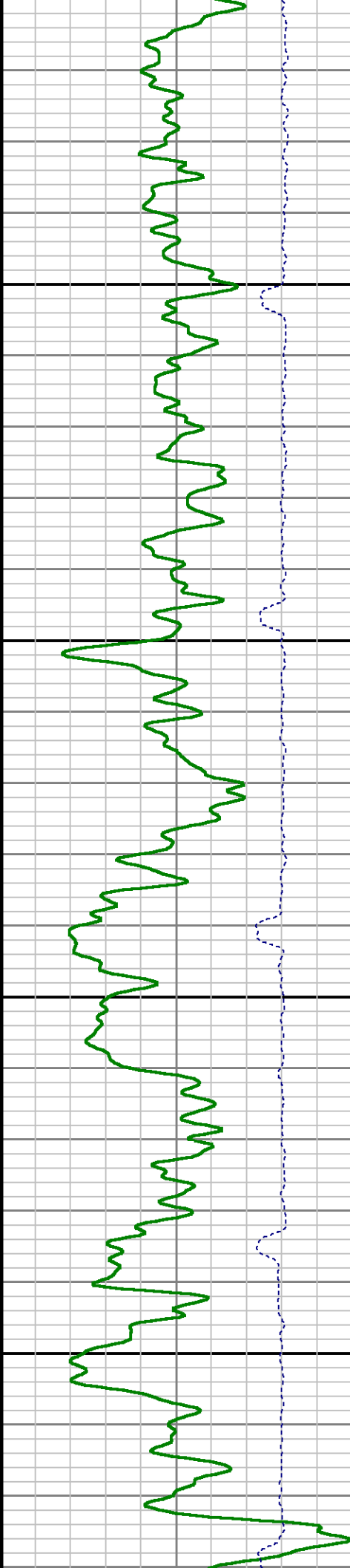
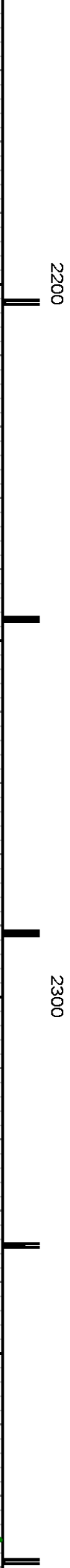
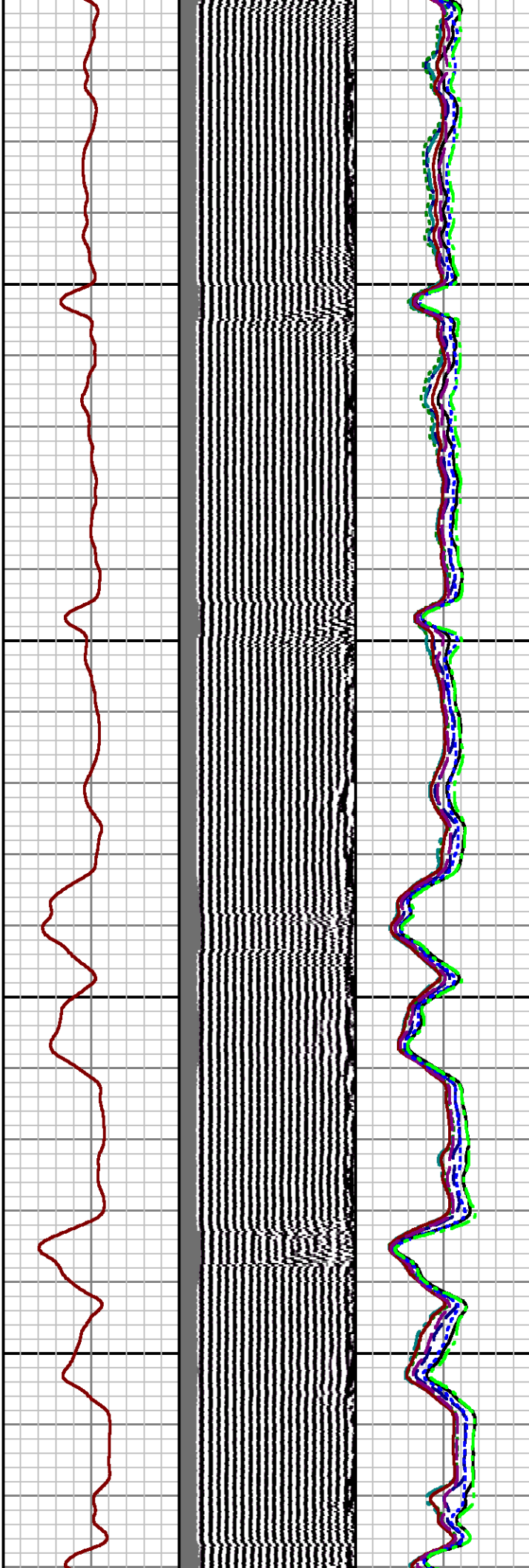
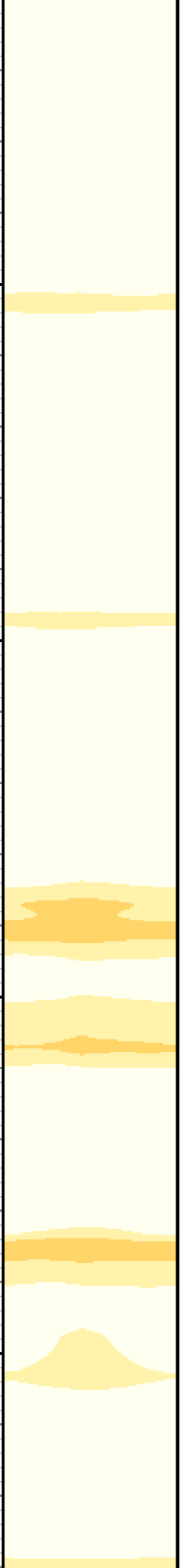


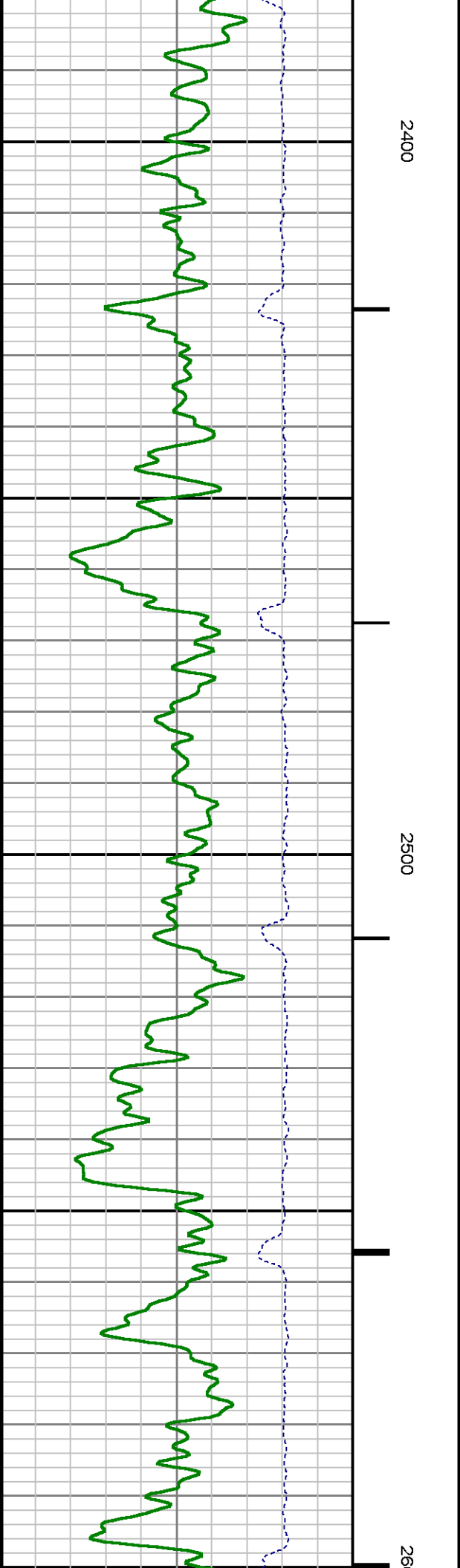
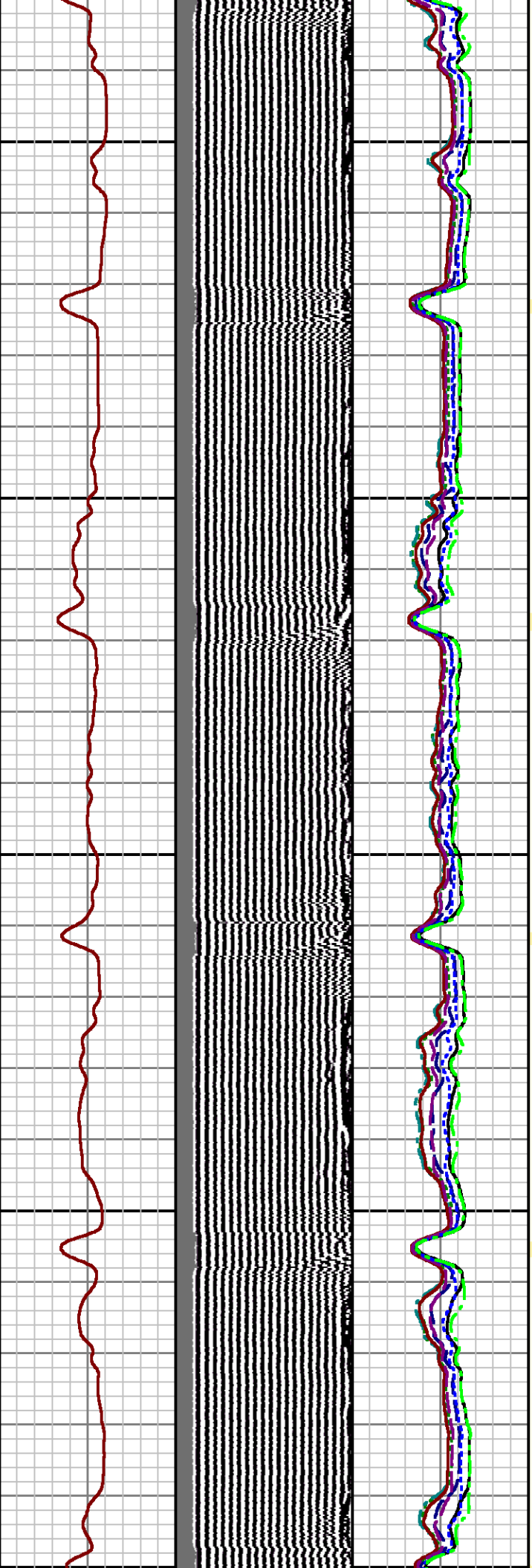
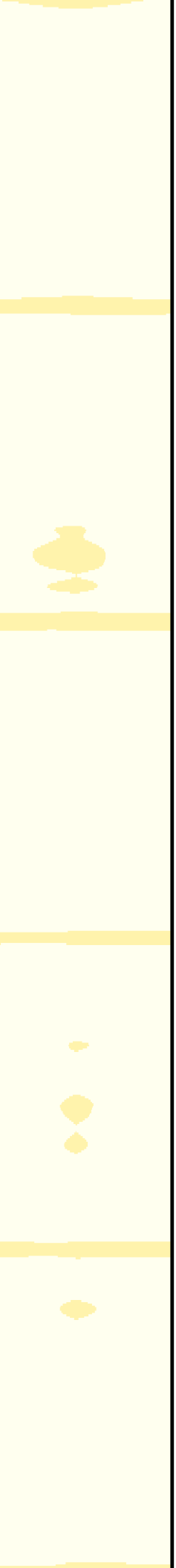


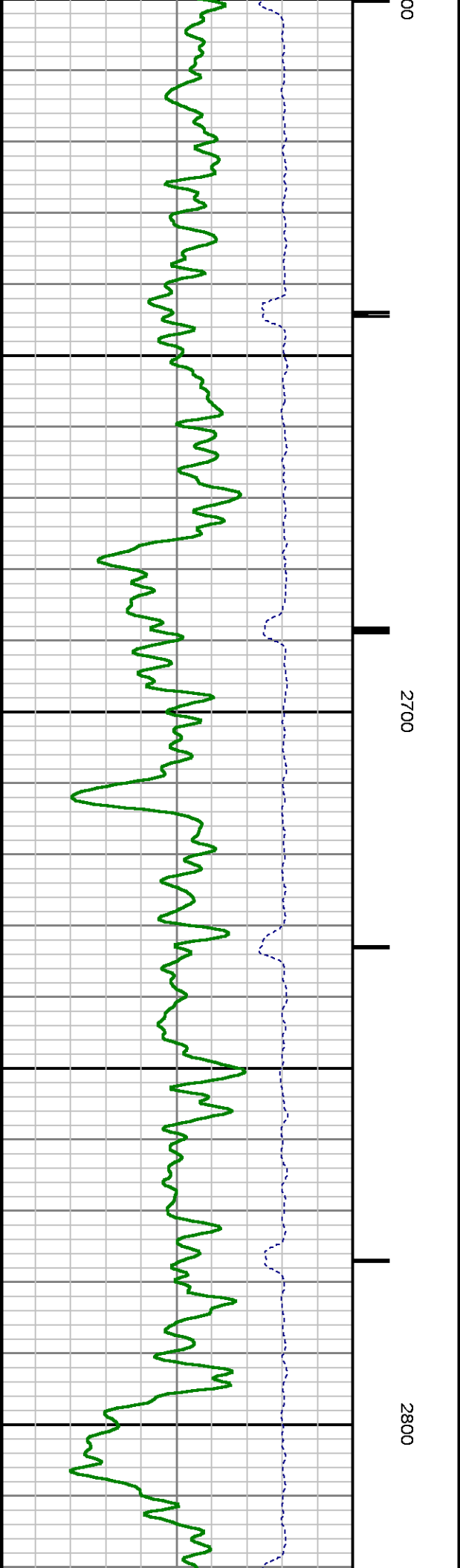
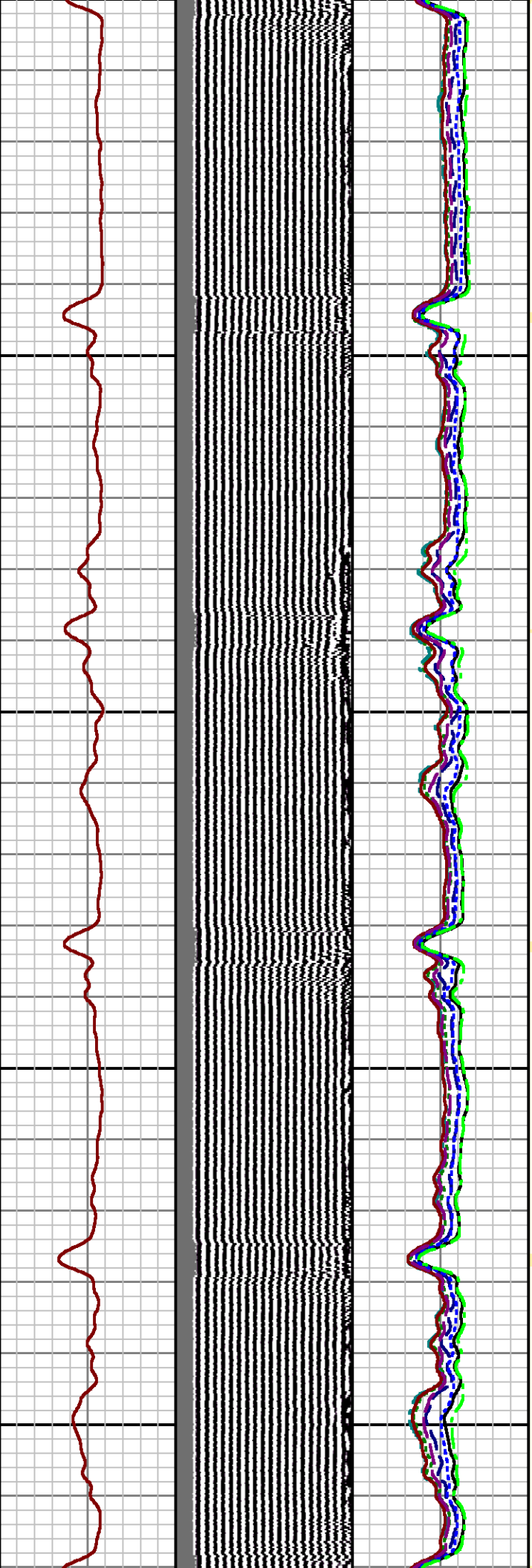
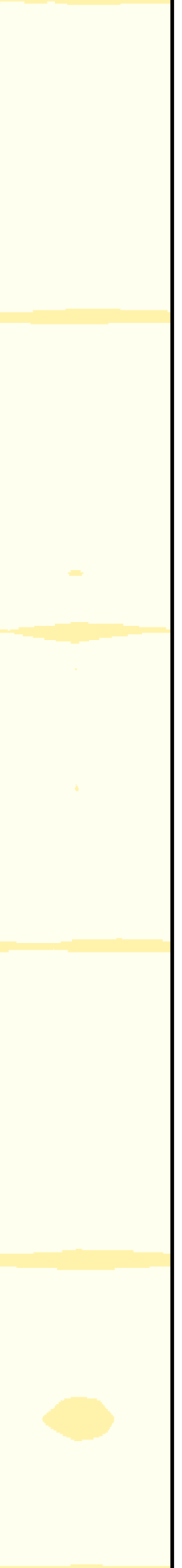




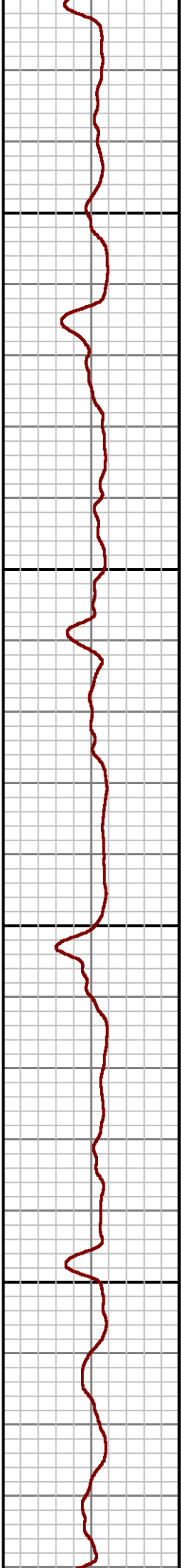
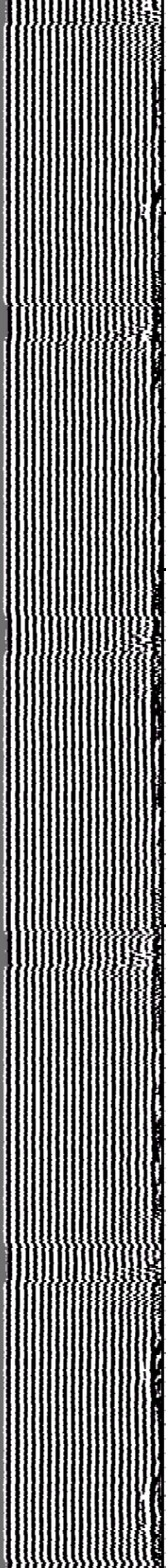
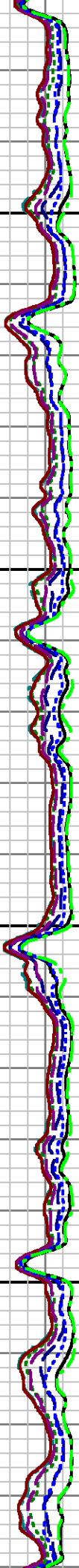
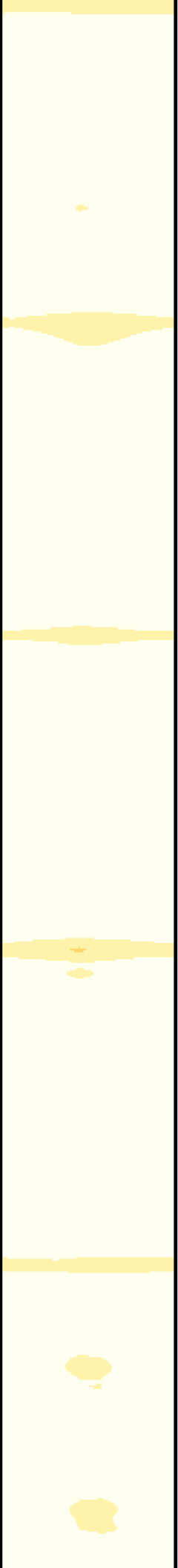






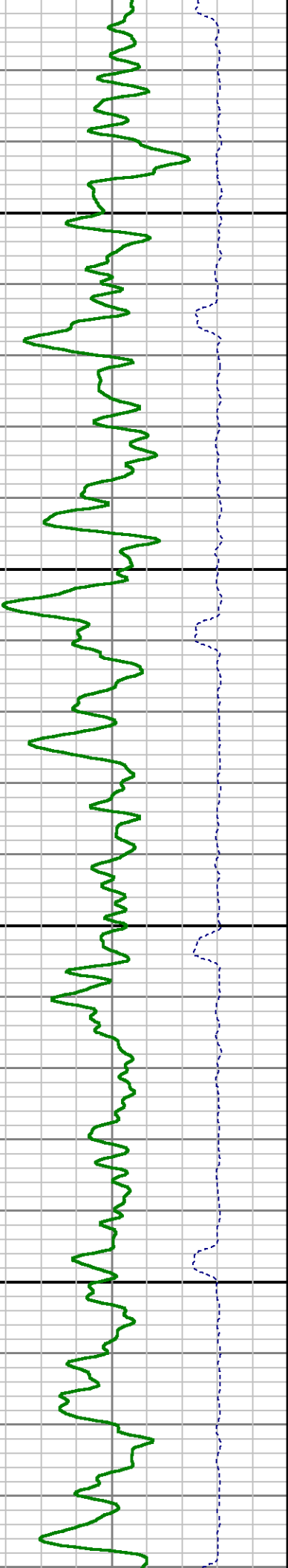




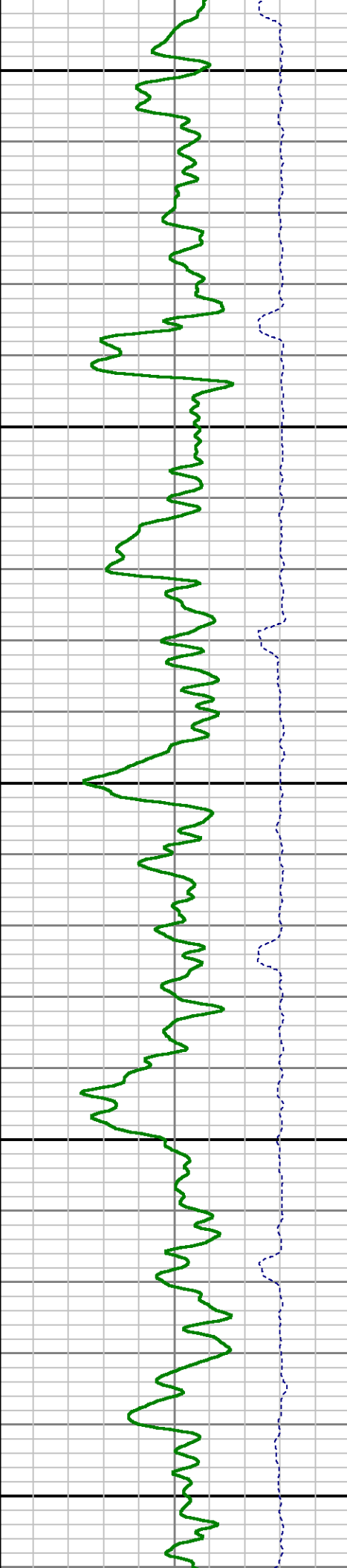
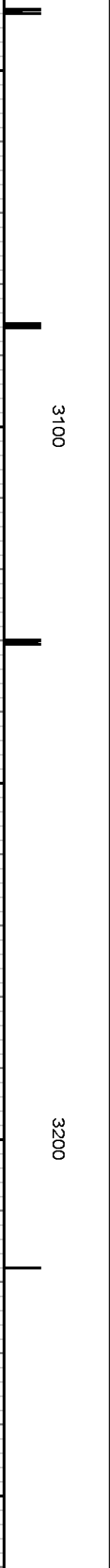
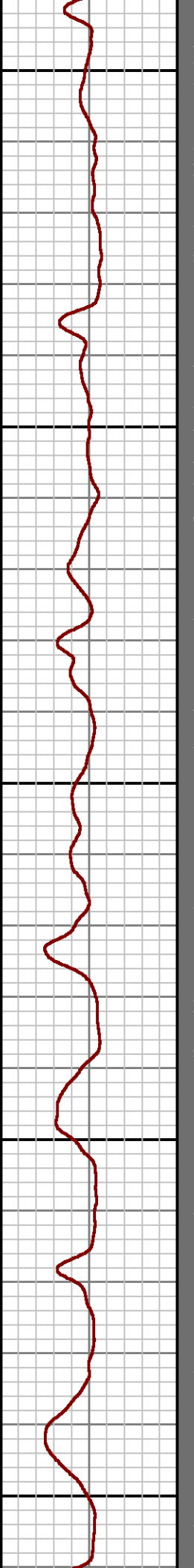
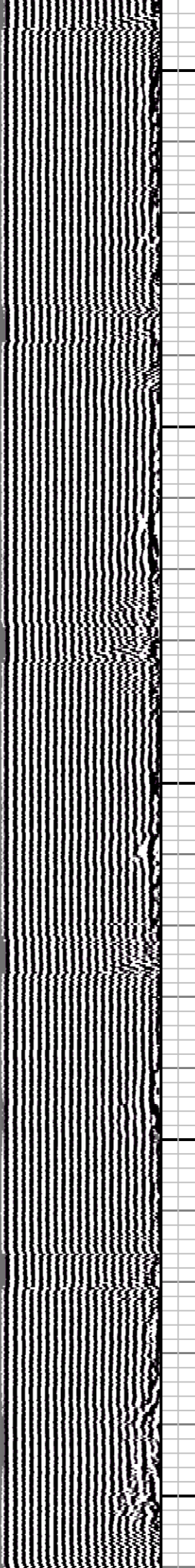
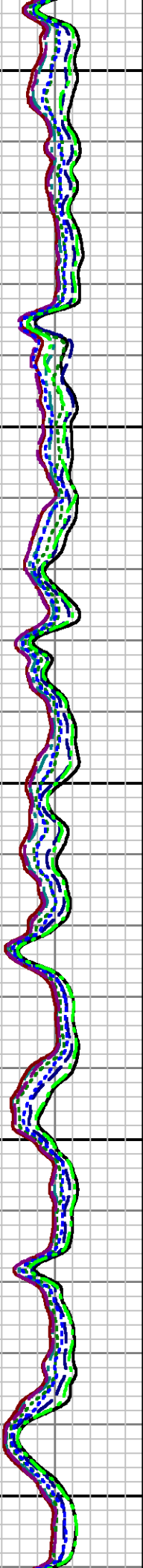
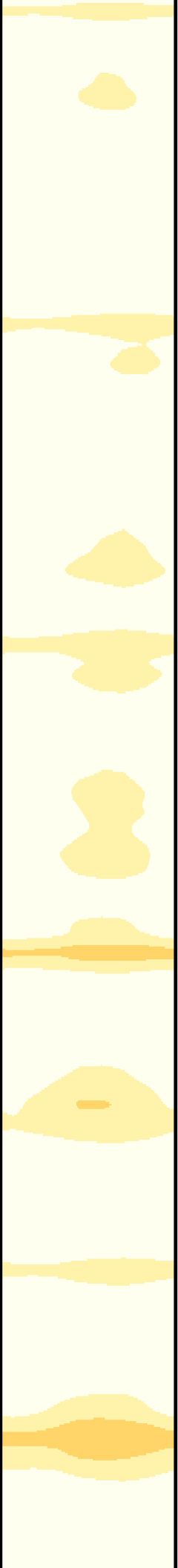


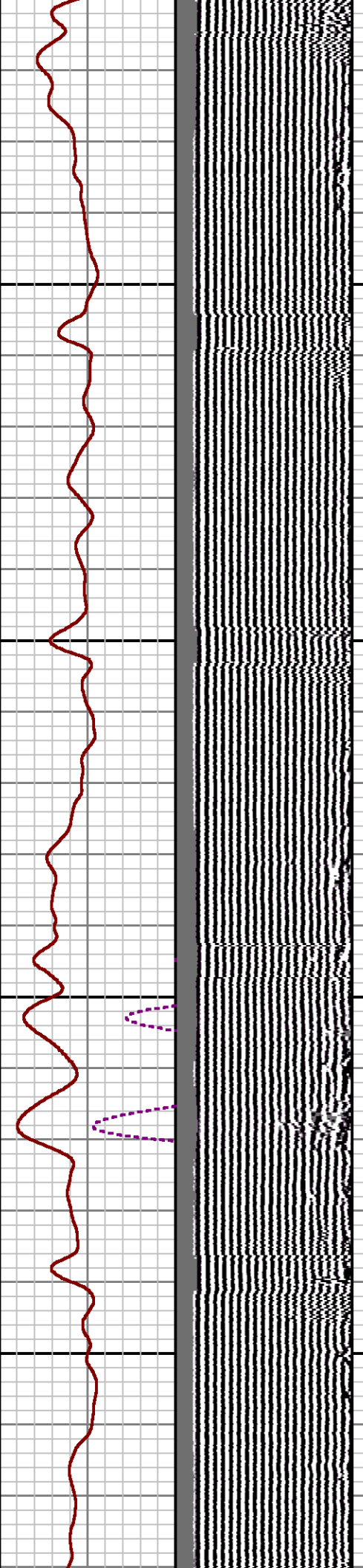
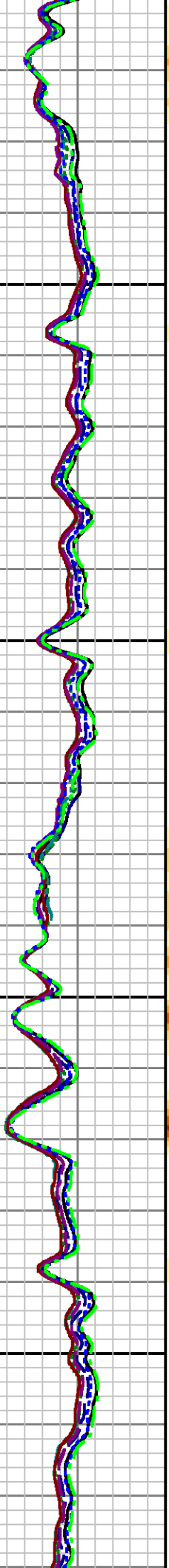
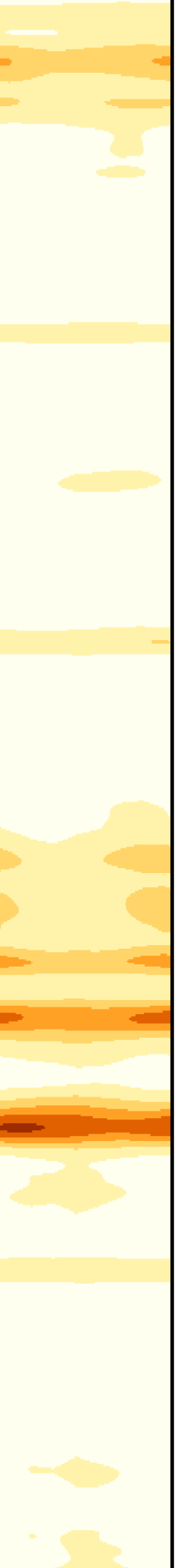
2900

3000



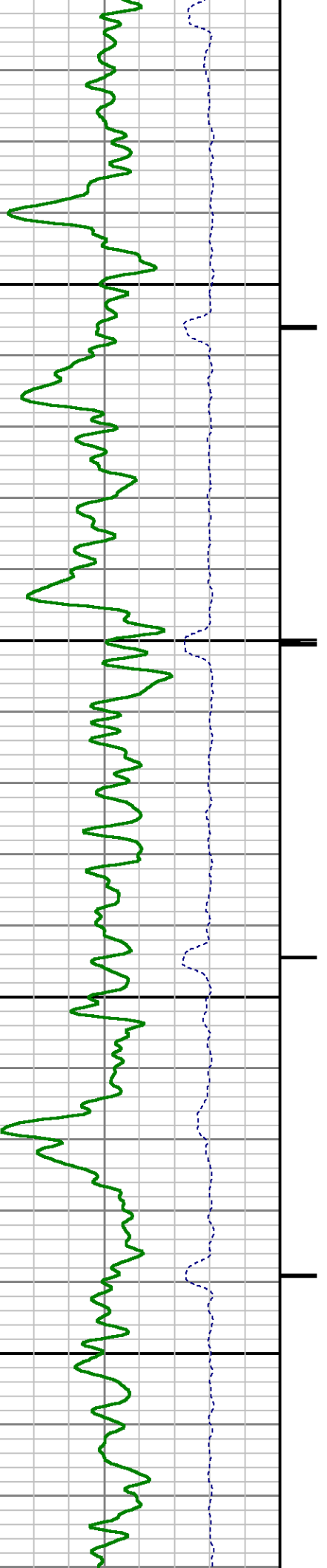


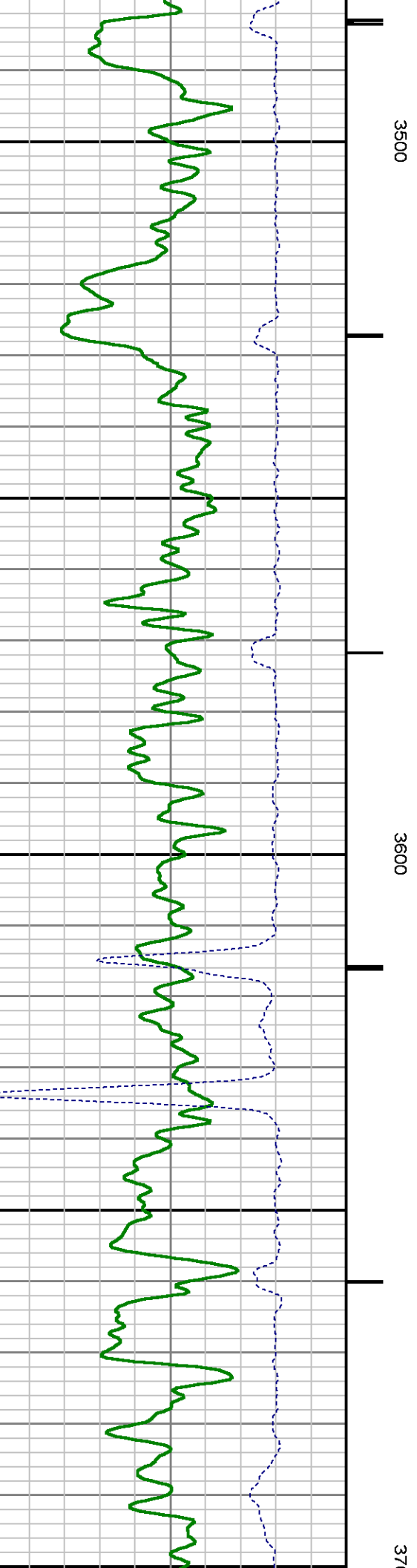
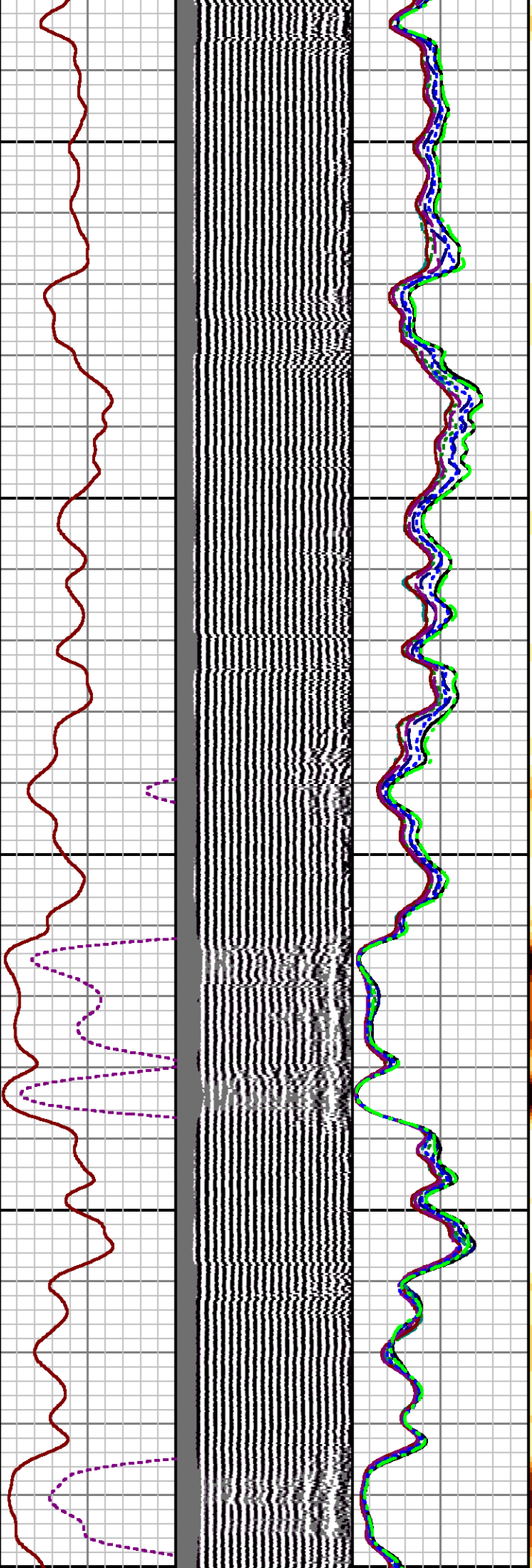
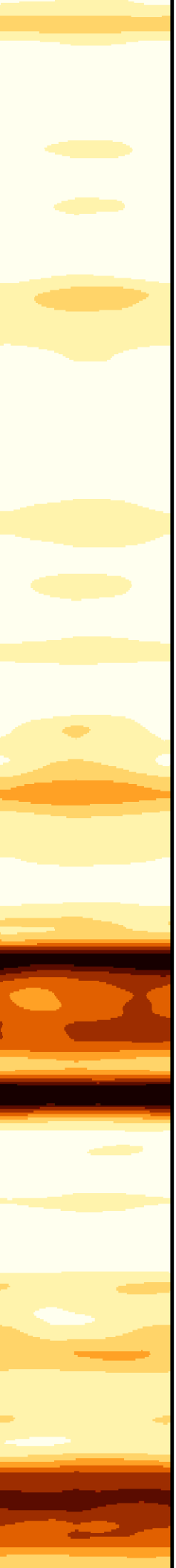


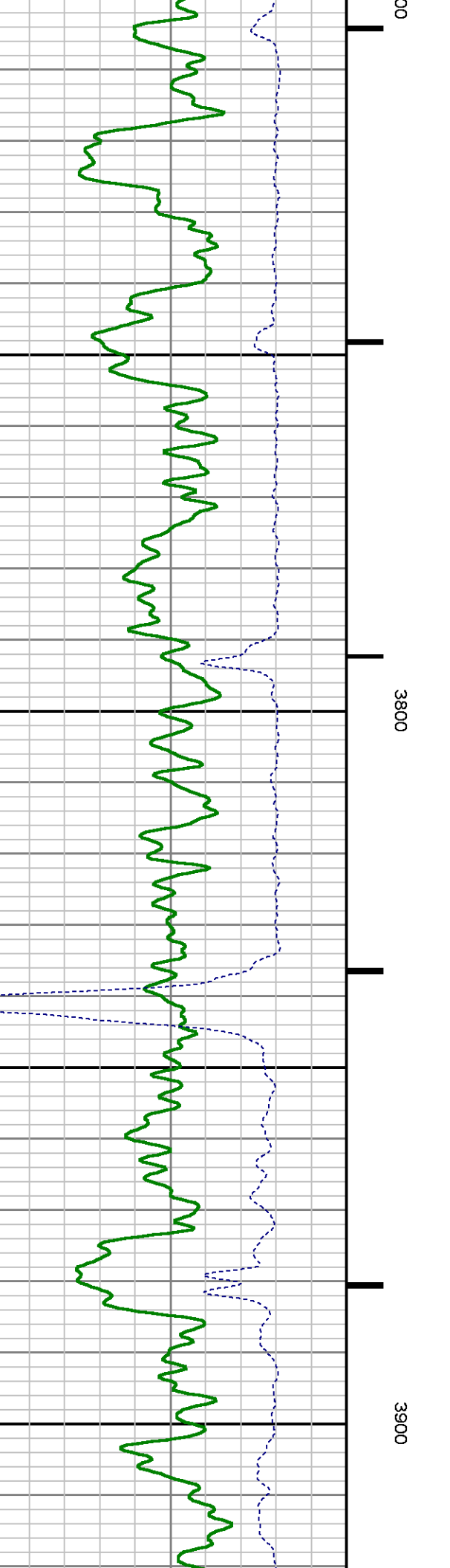
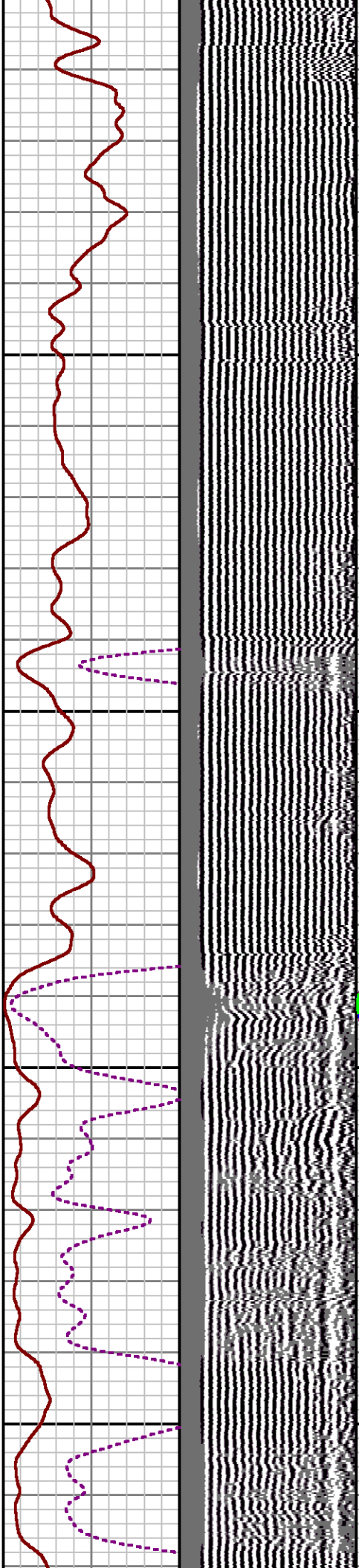
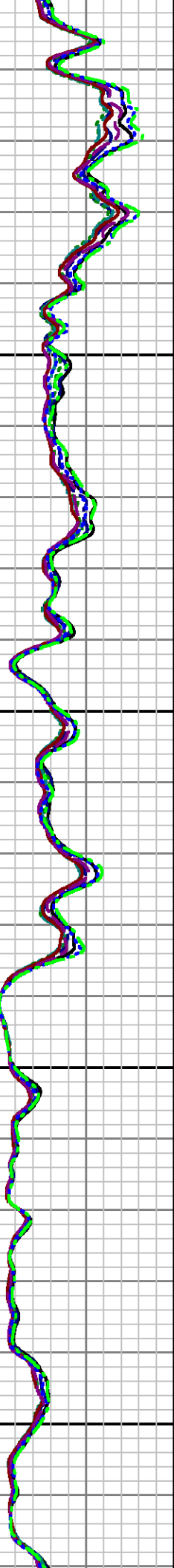
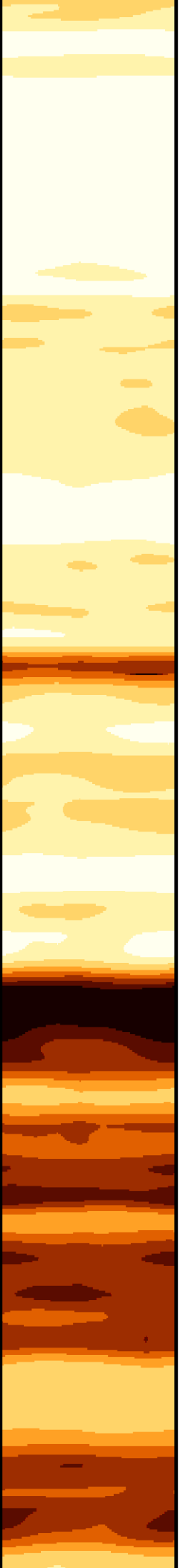


3300

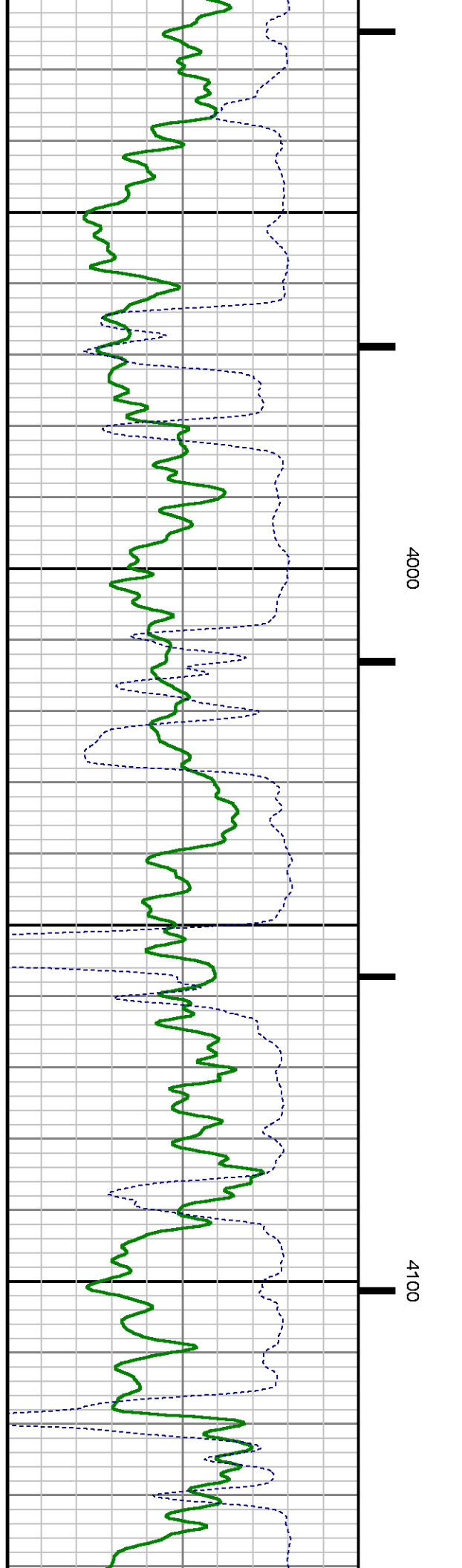
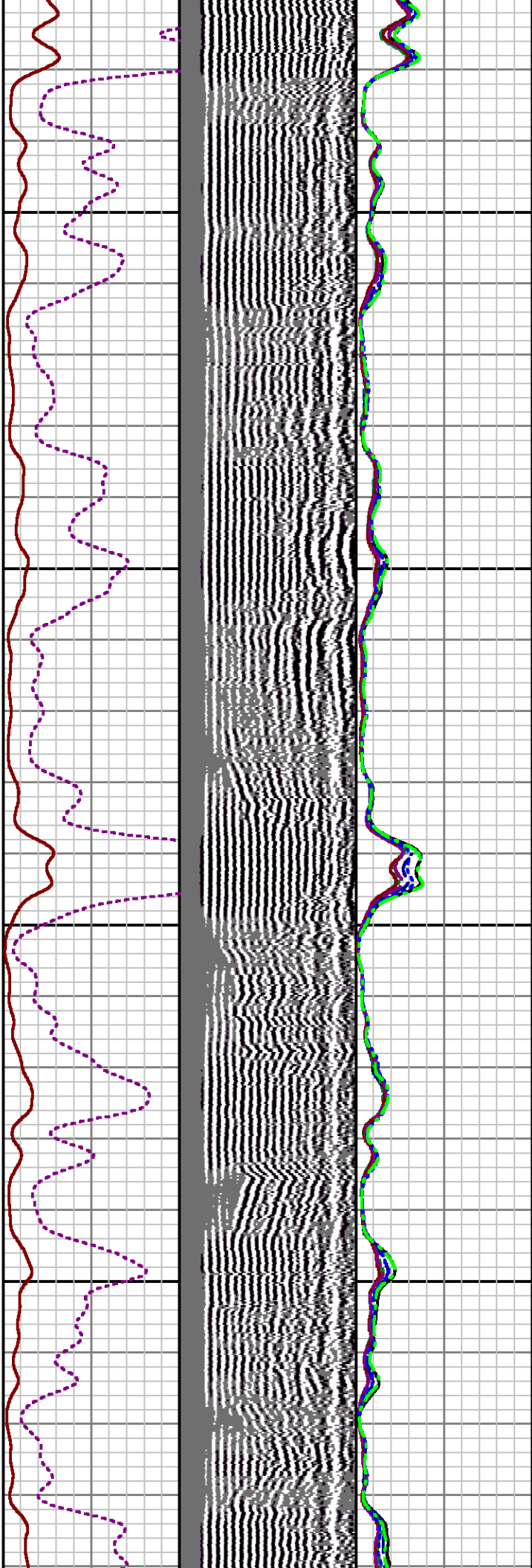
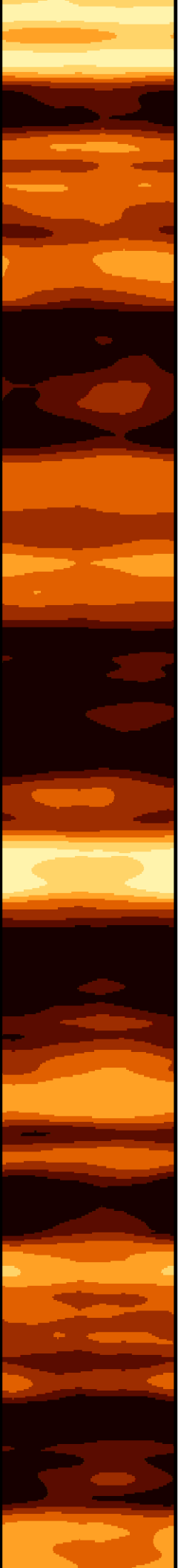
3400

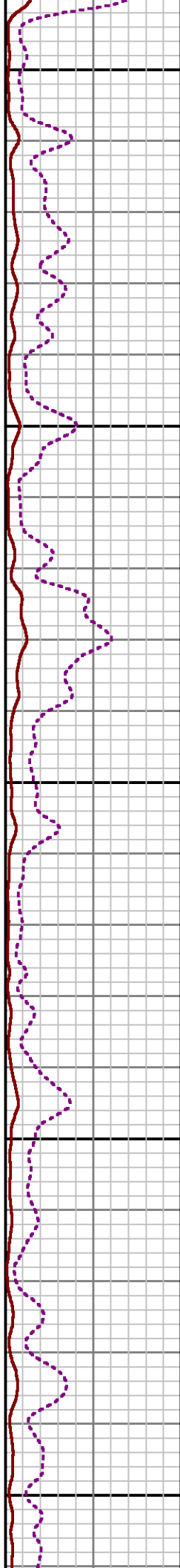
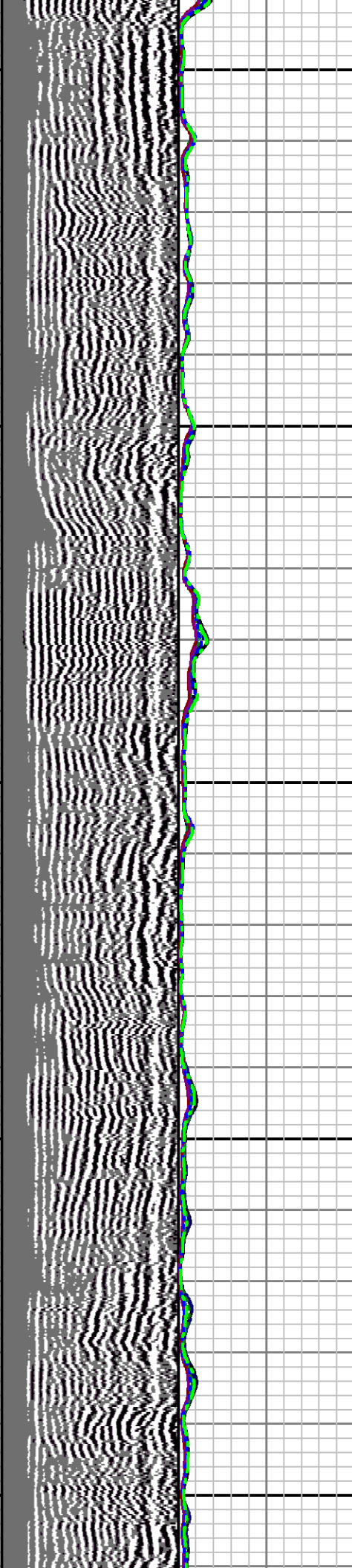
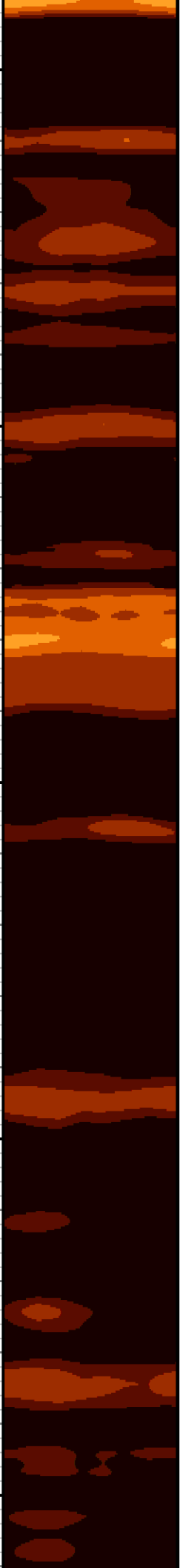






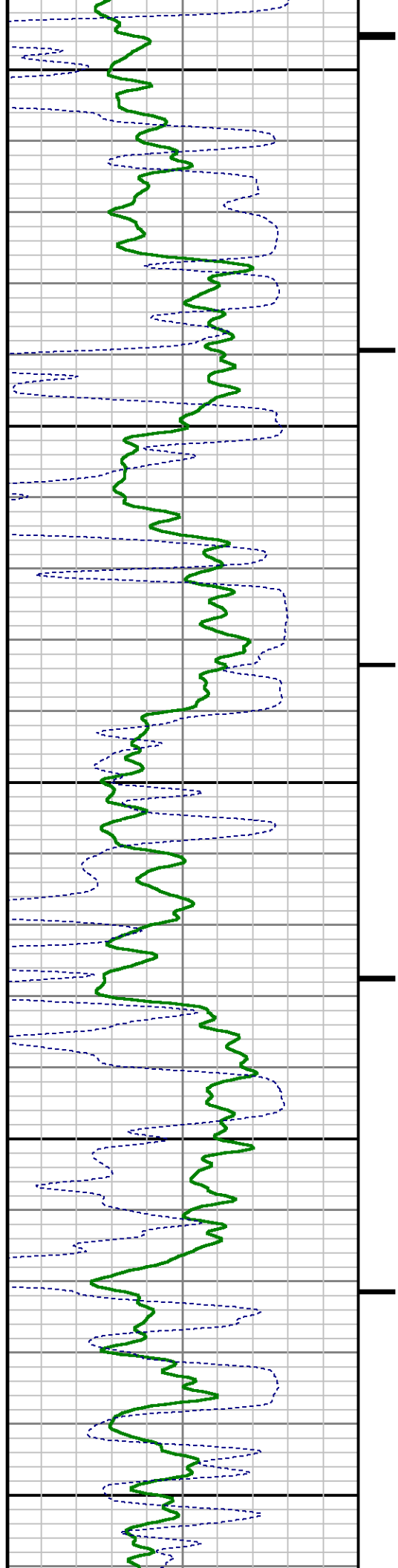




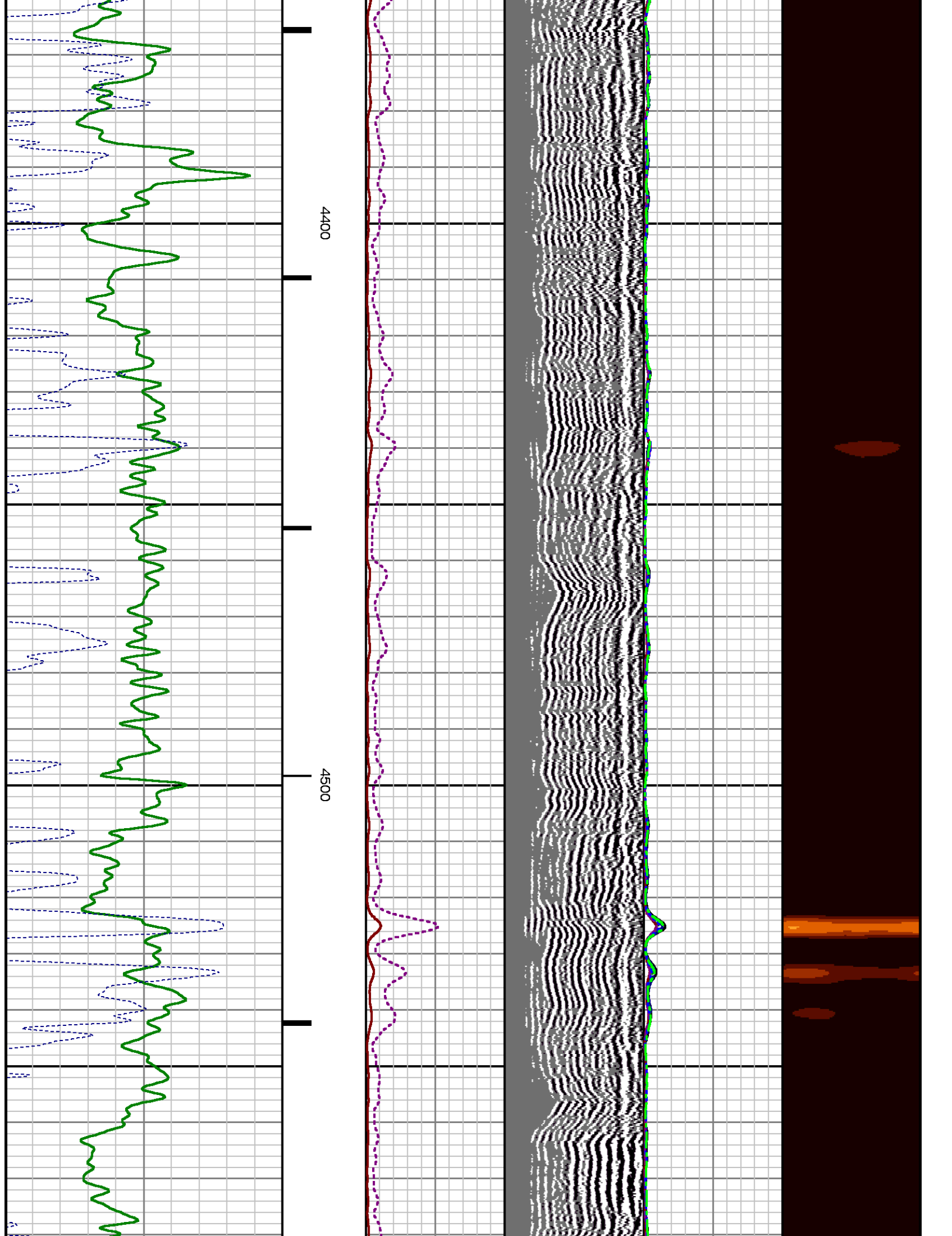


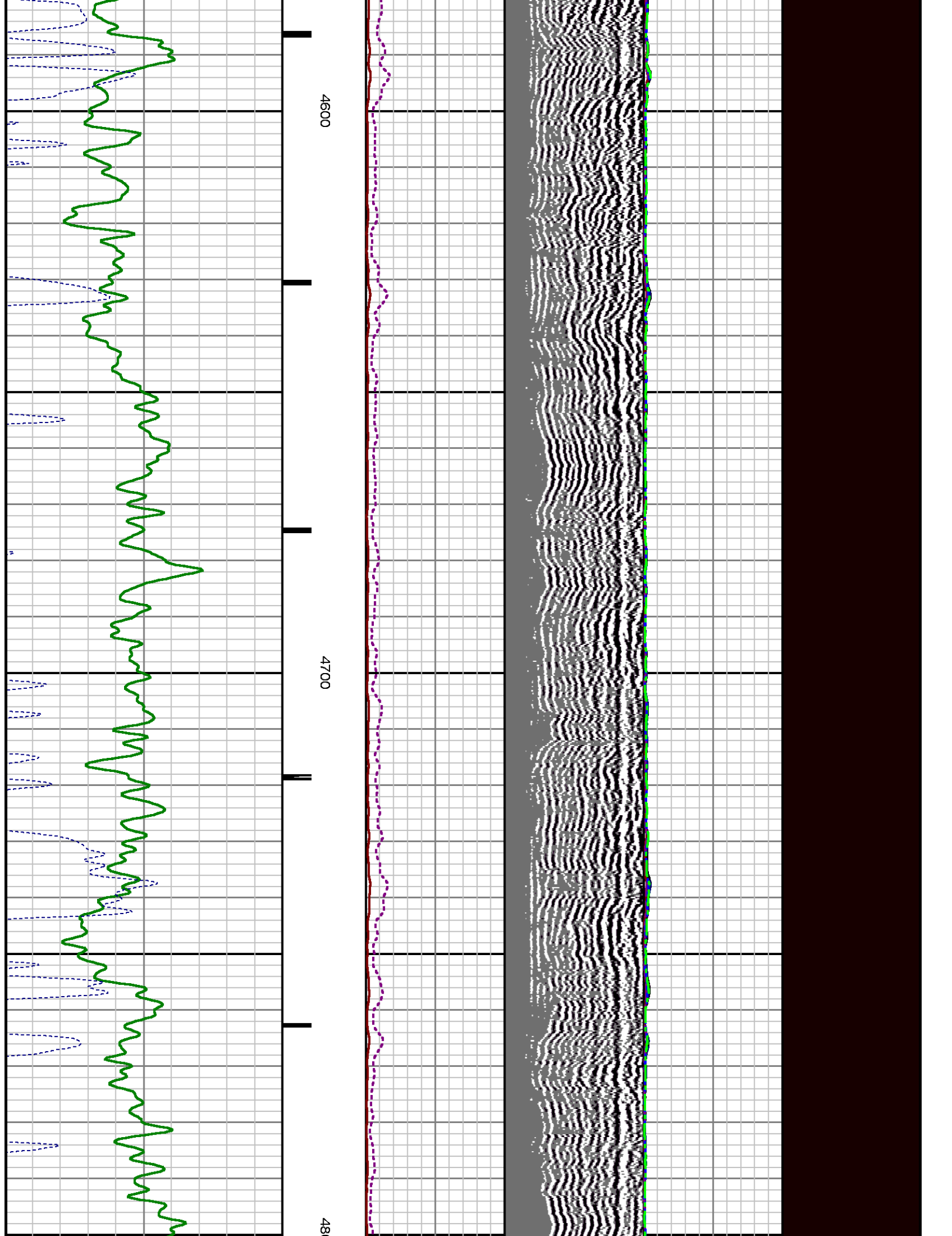
4200

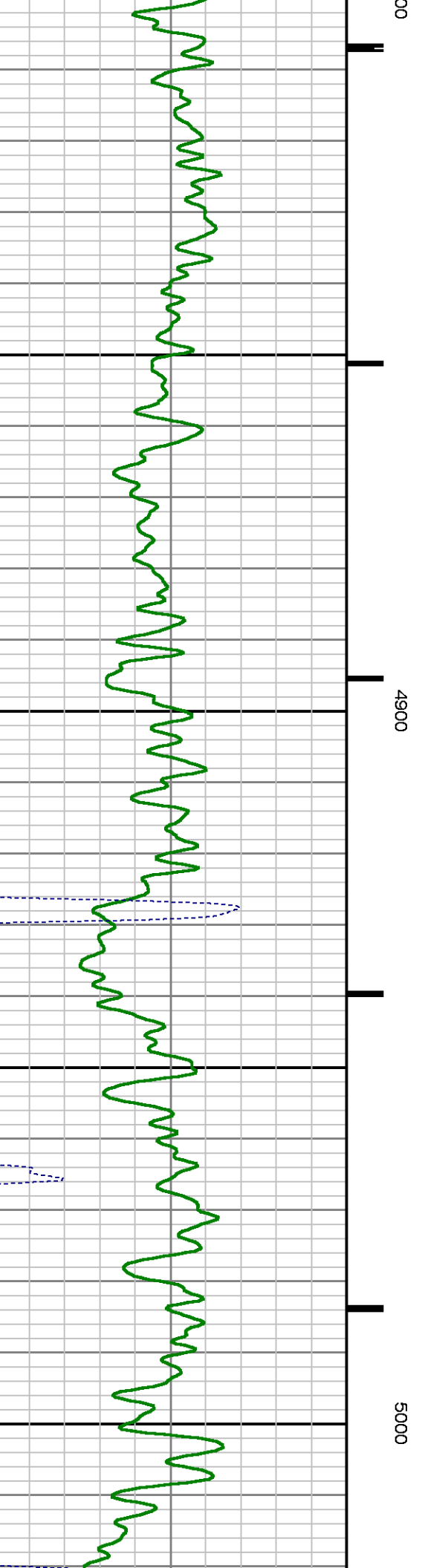
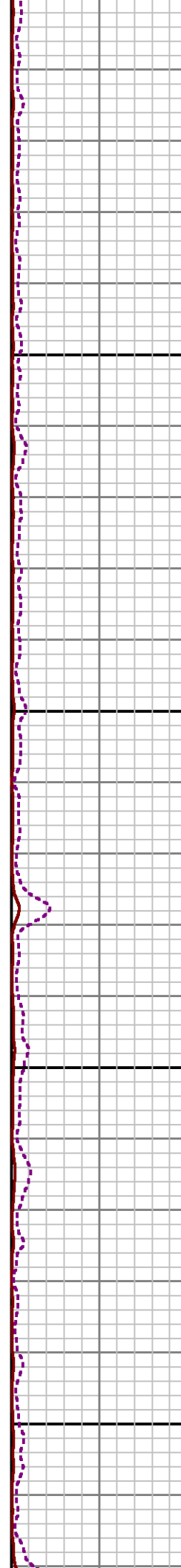
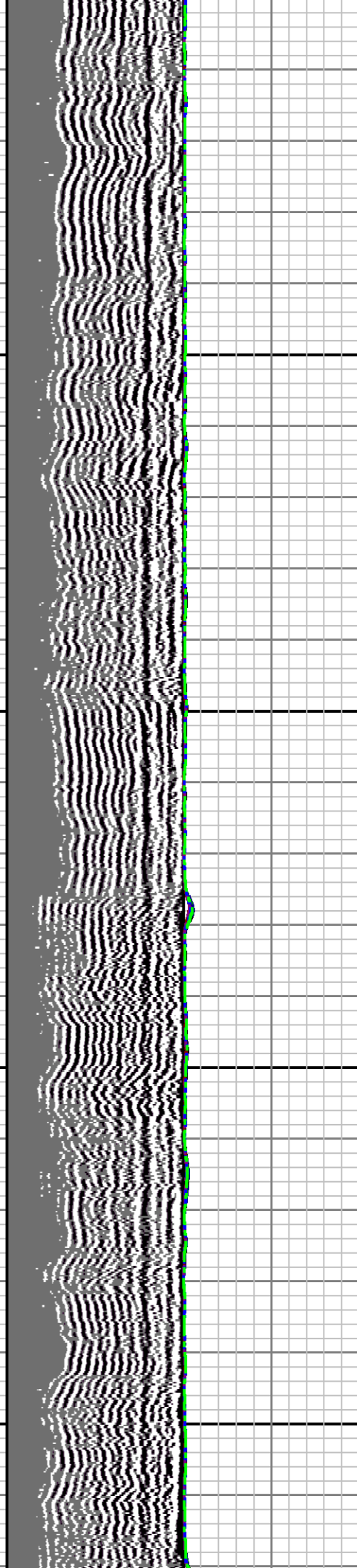
4300

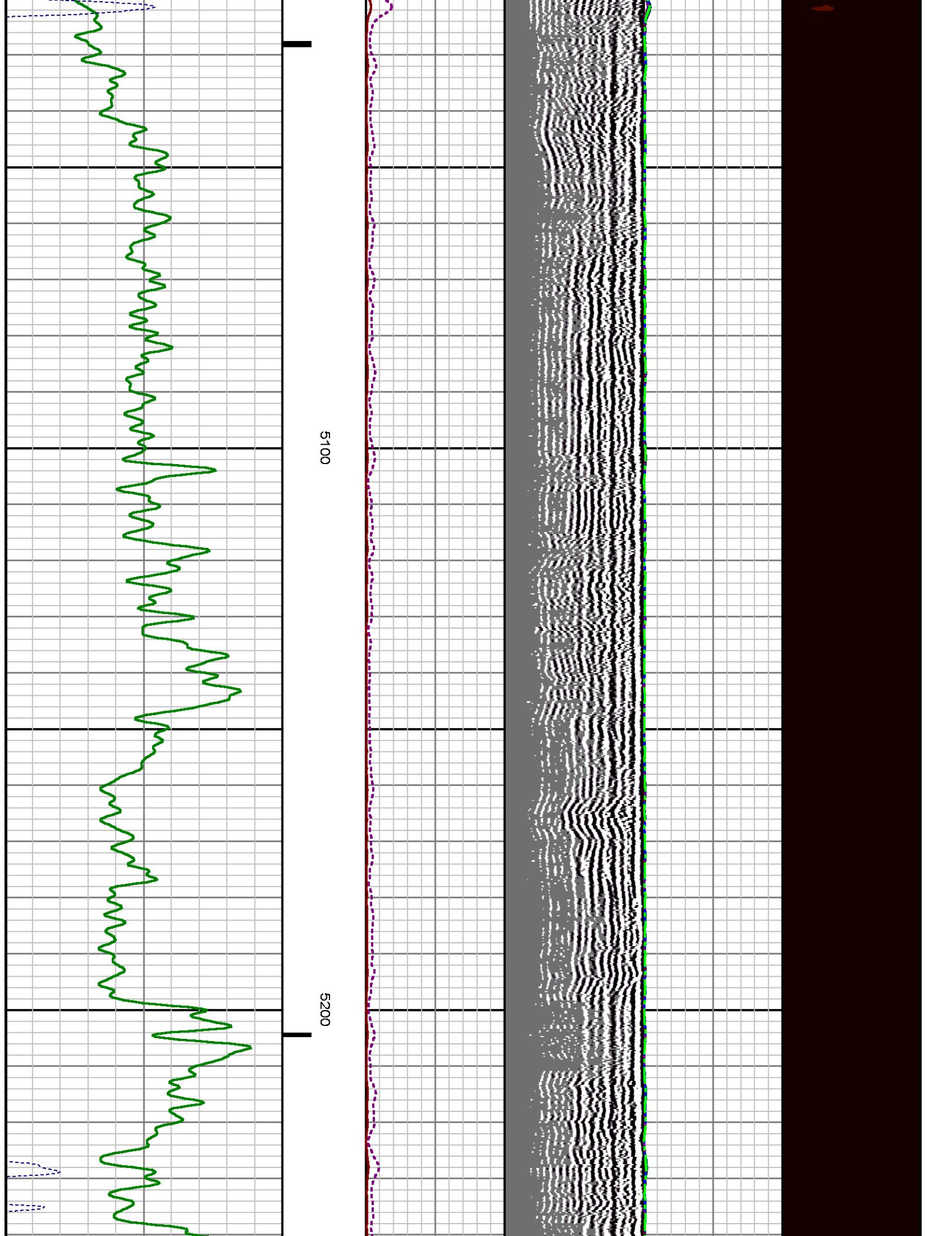


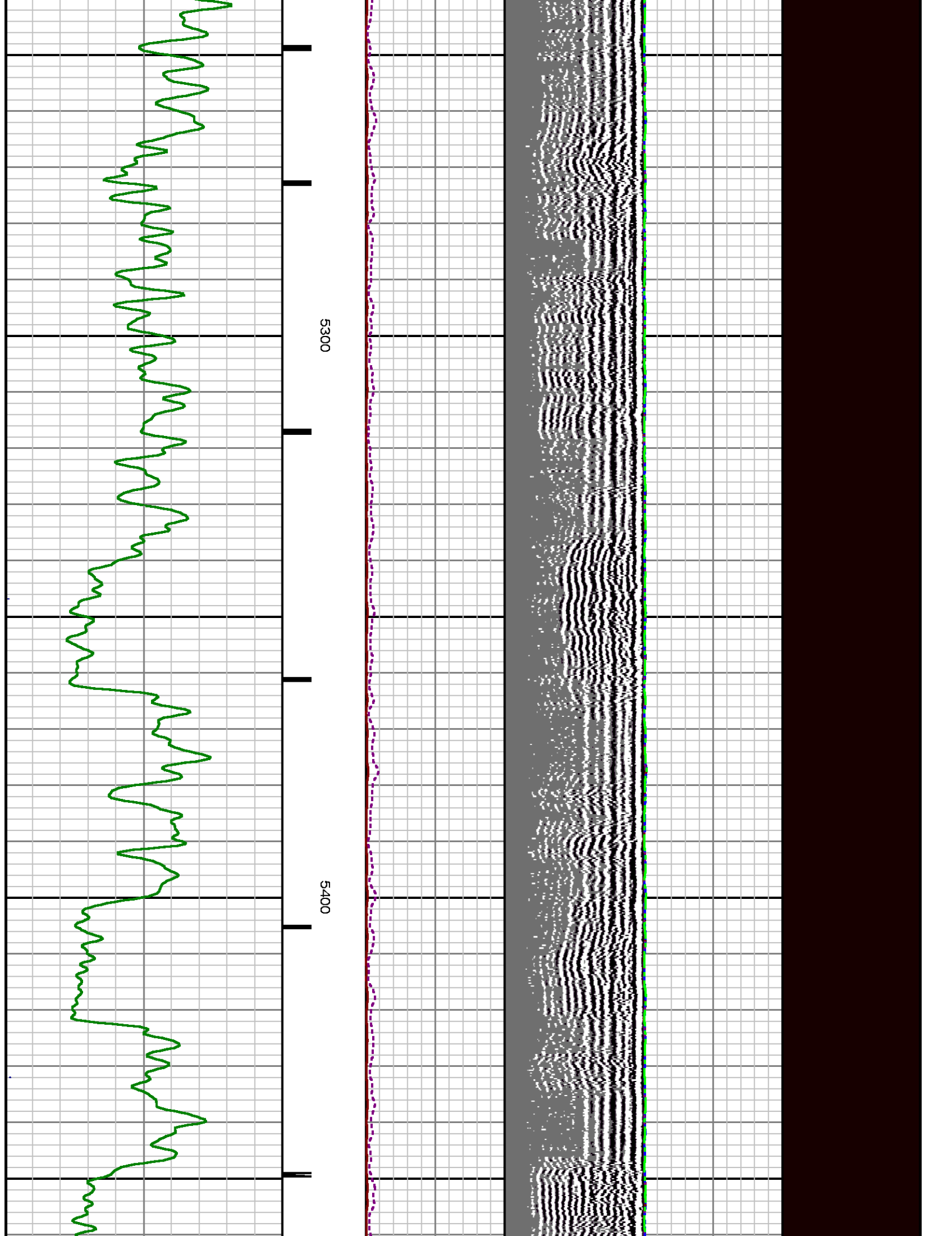




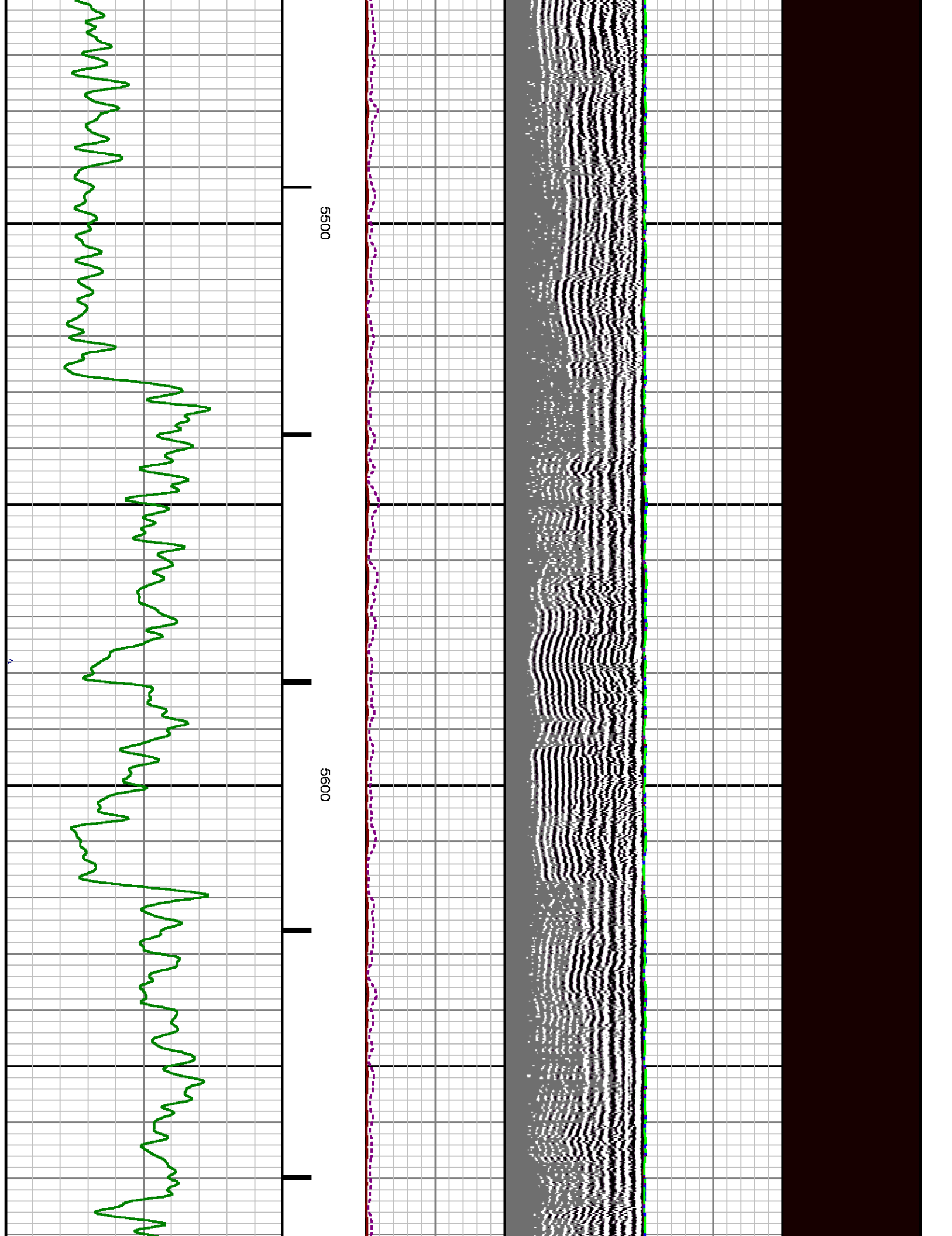




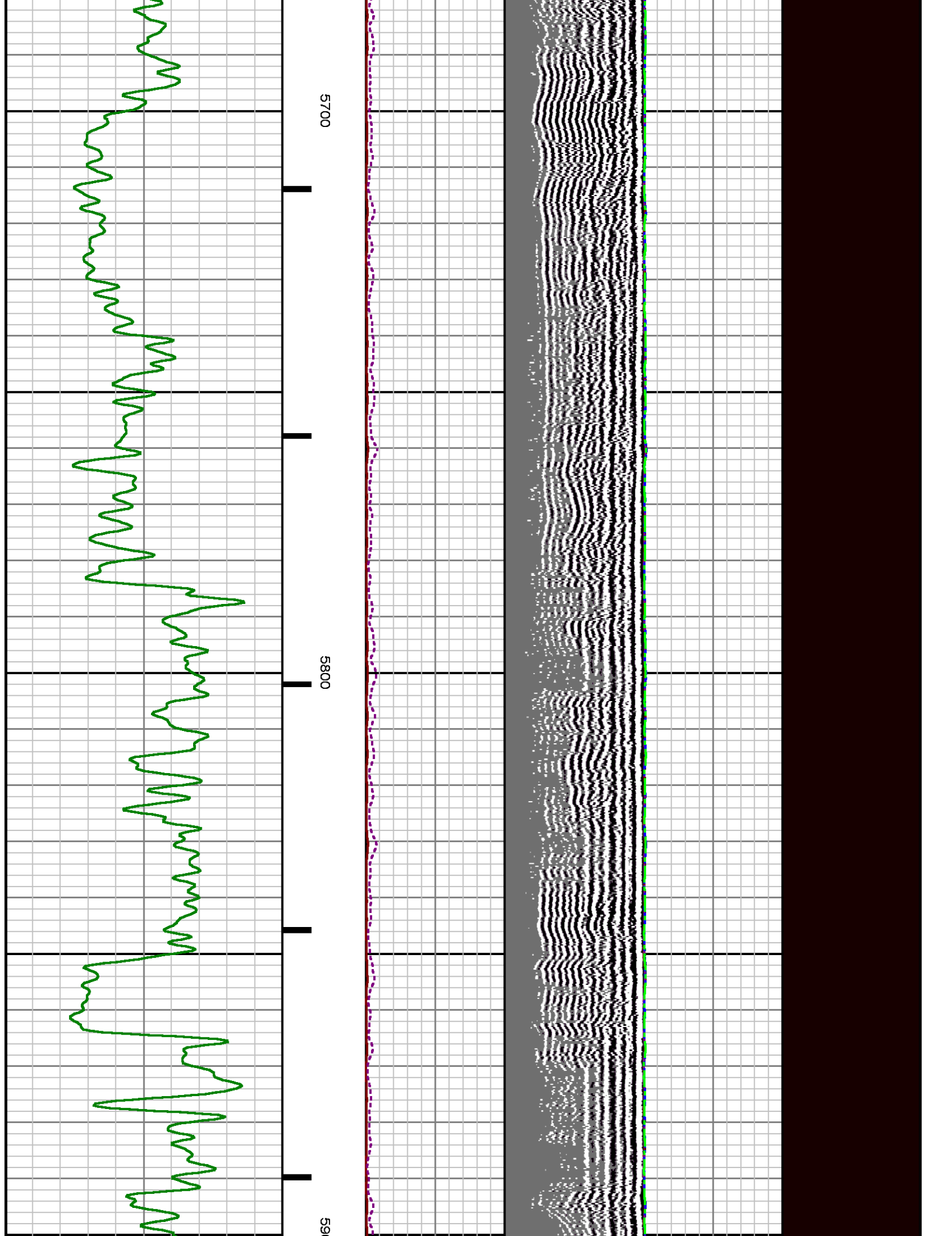


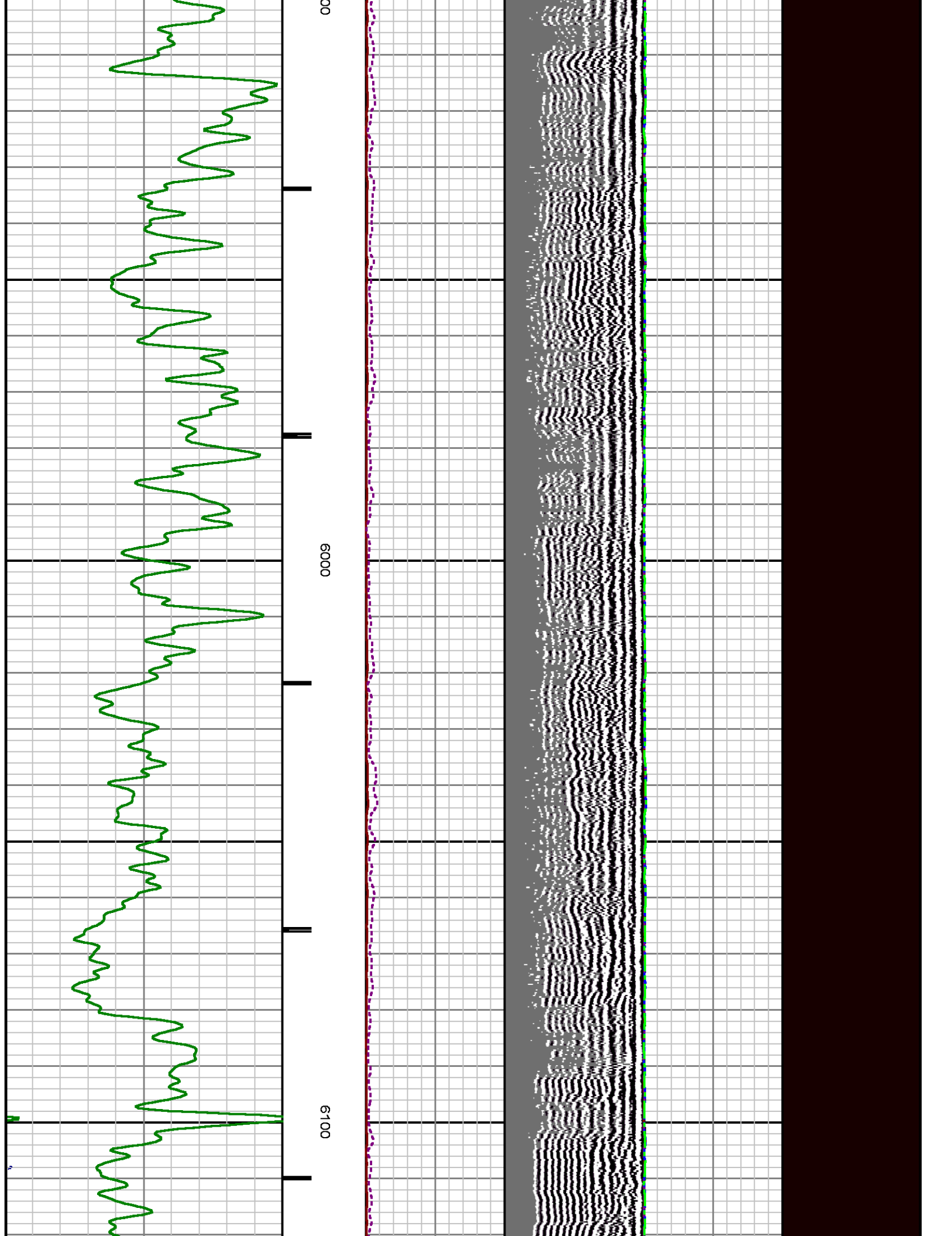


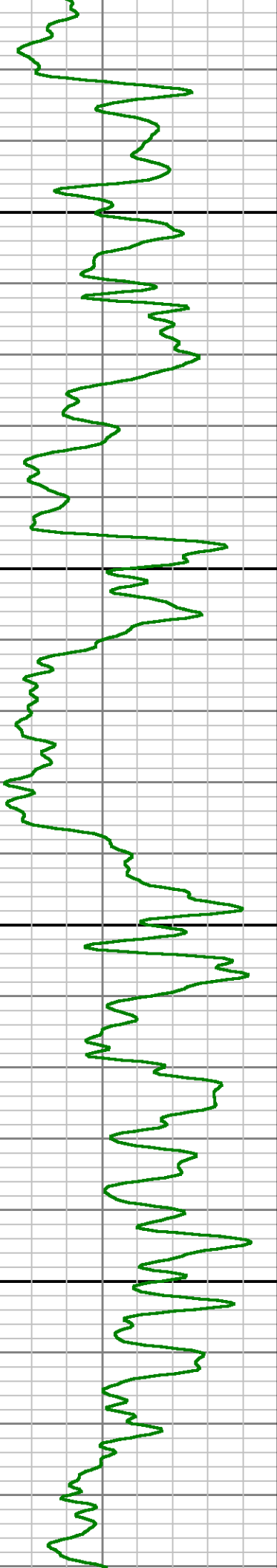
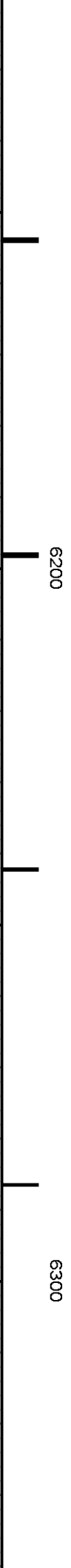
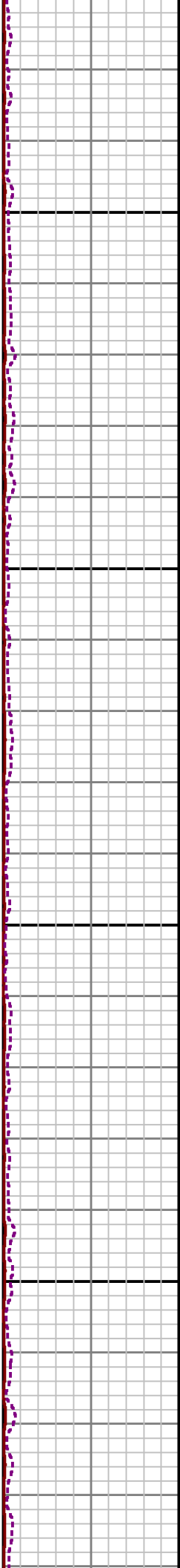
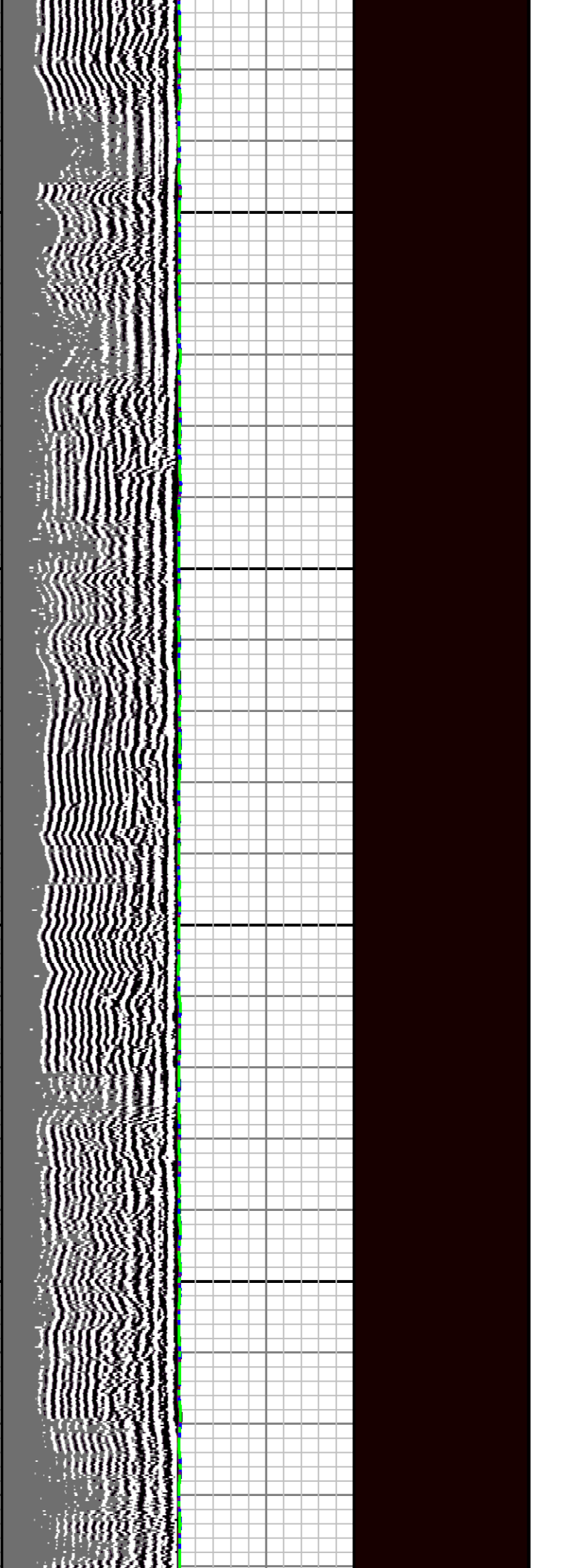






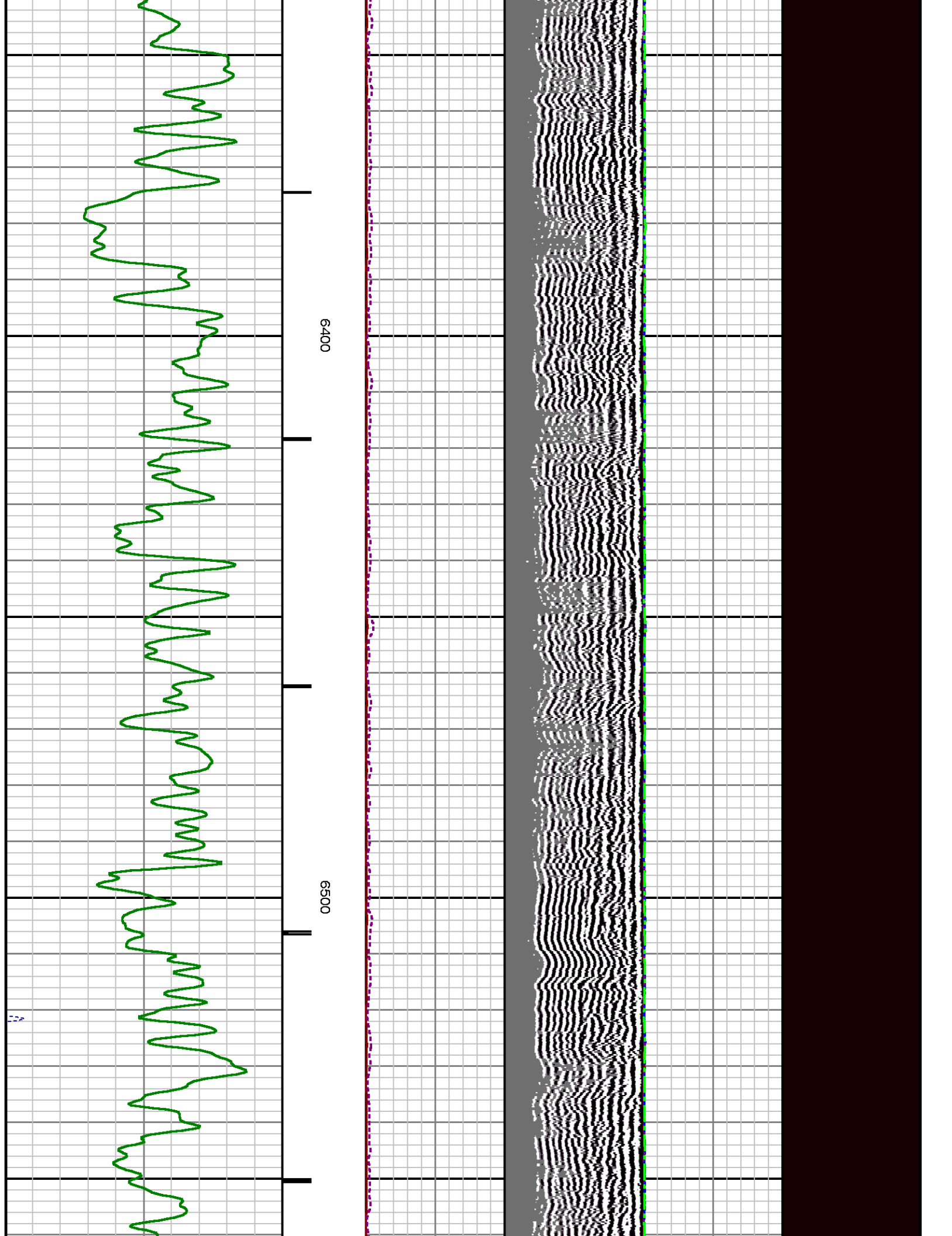


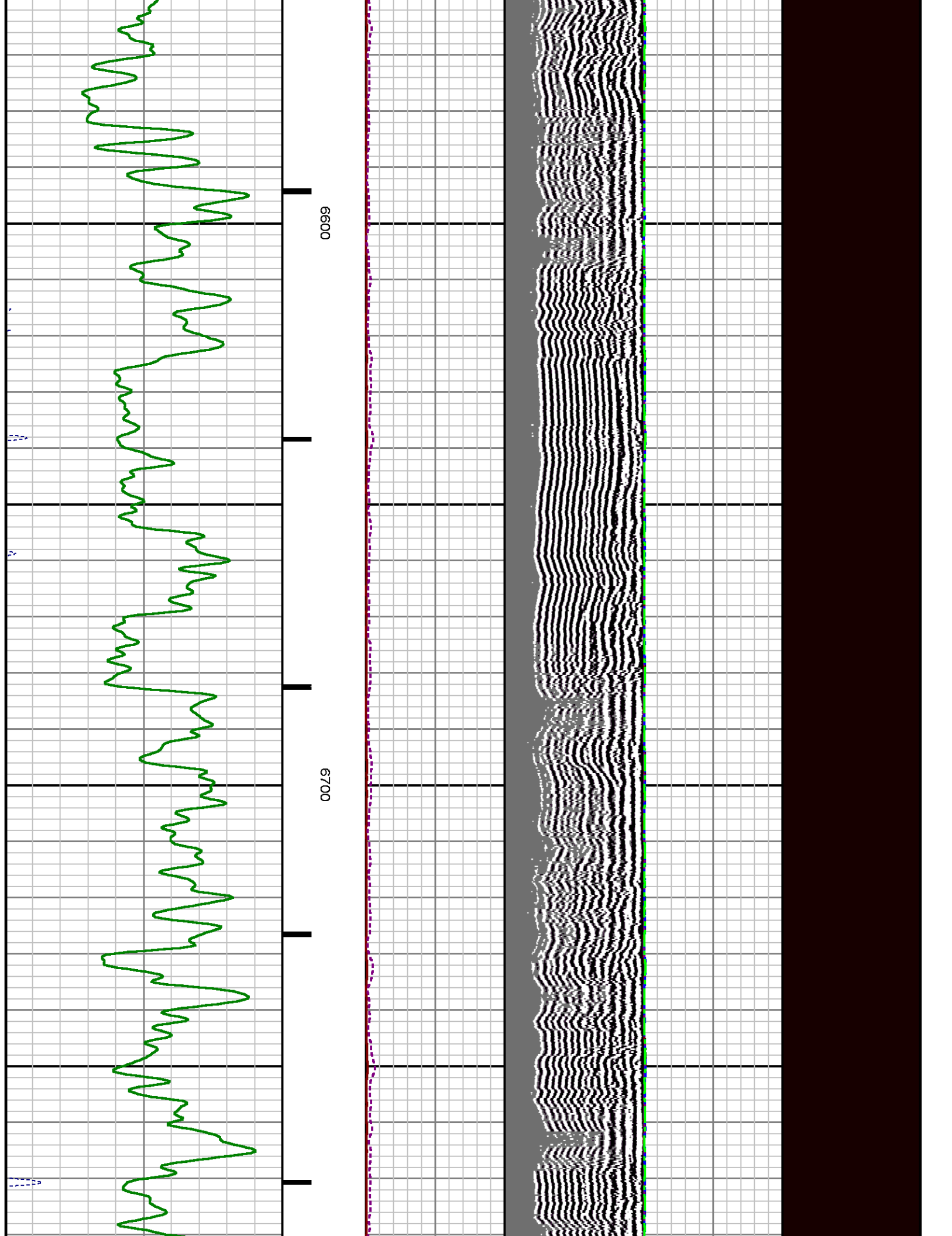




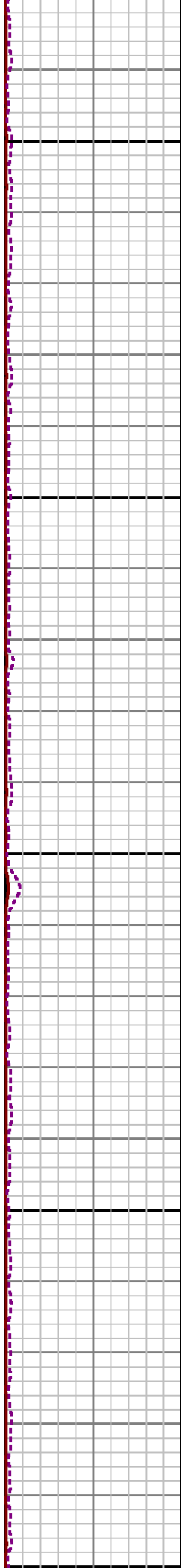
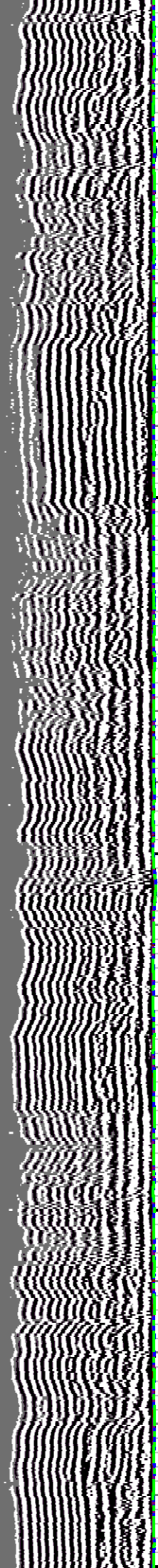
6200

6300









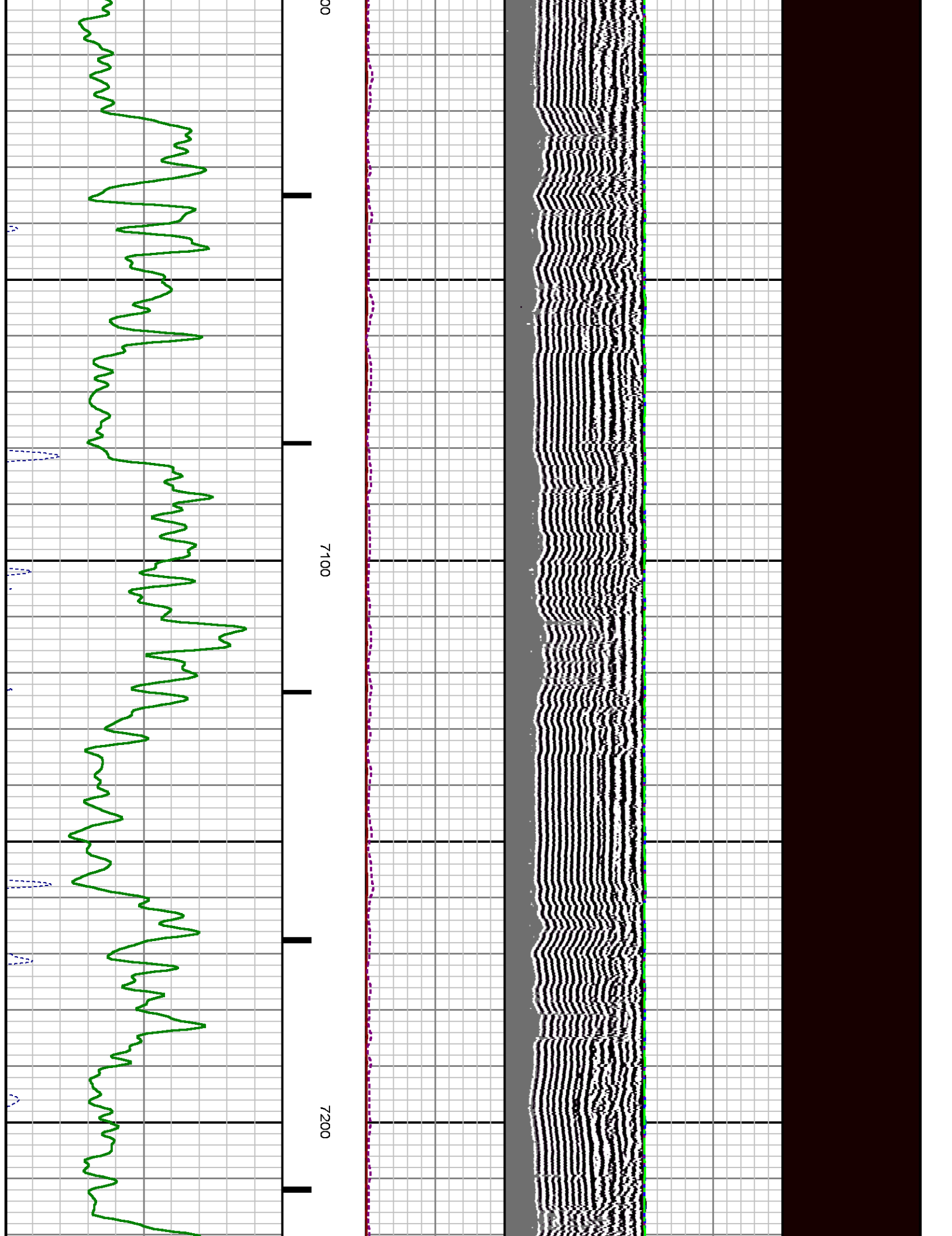
6800

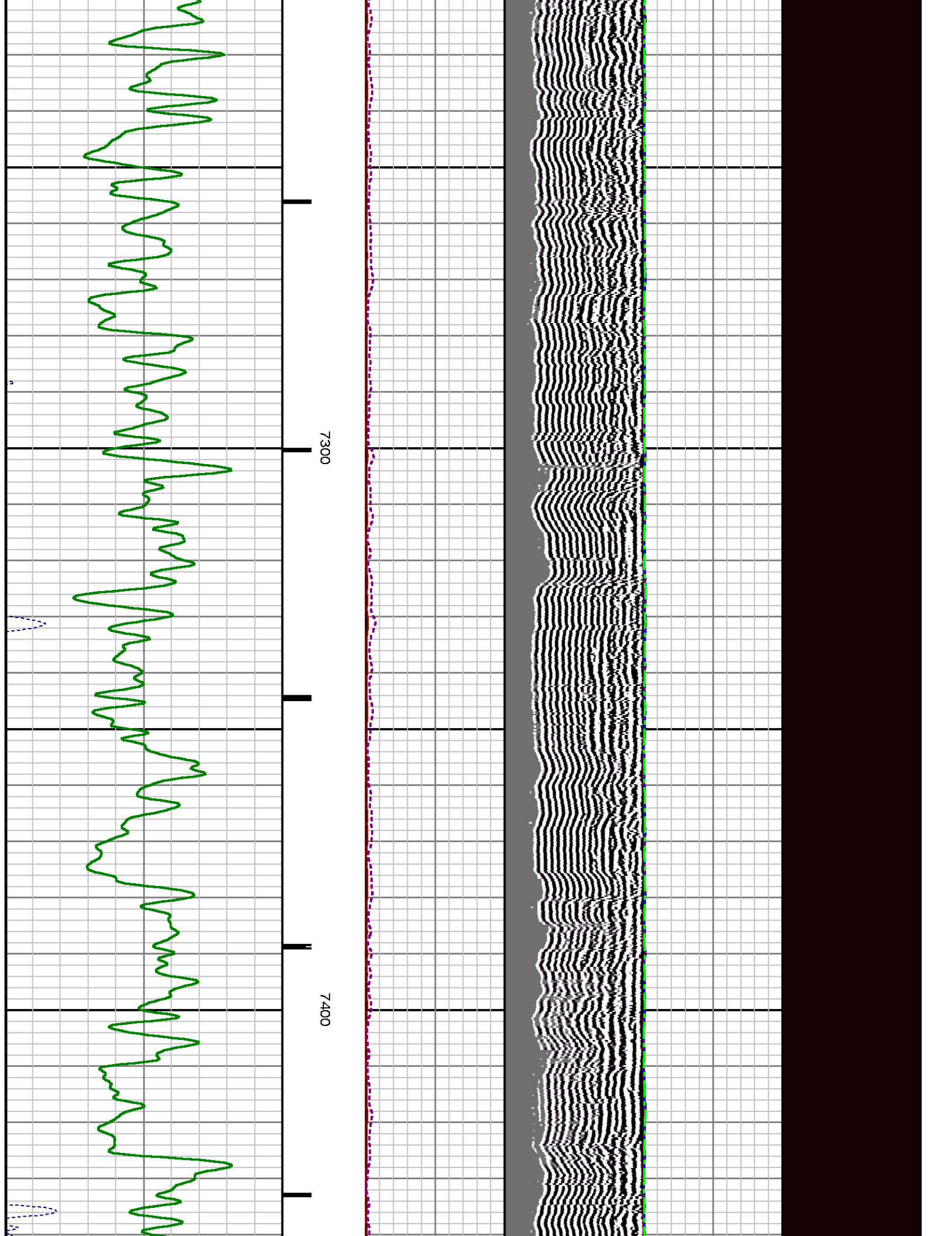
6900

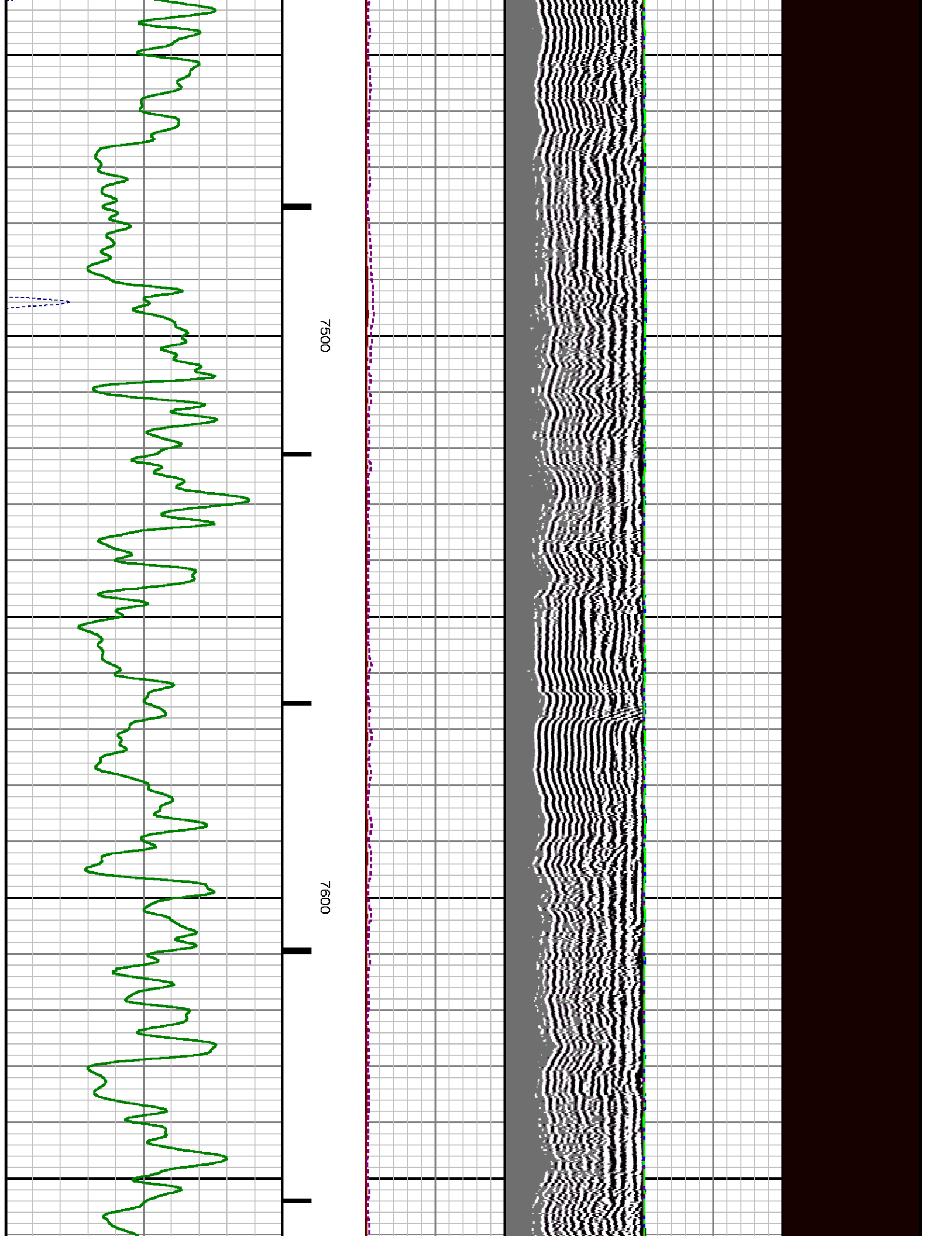
7000

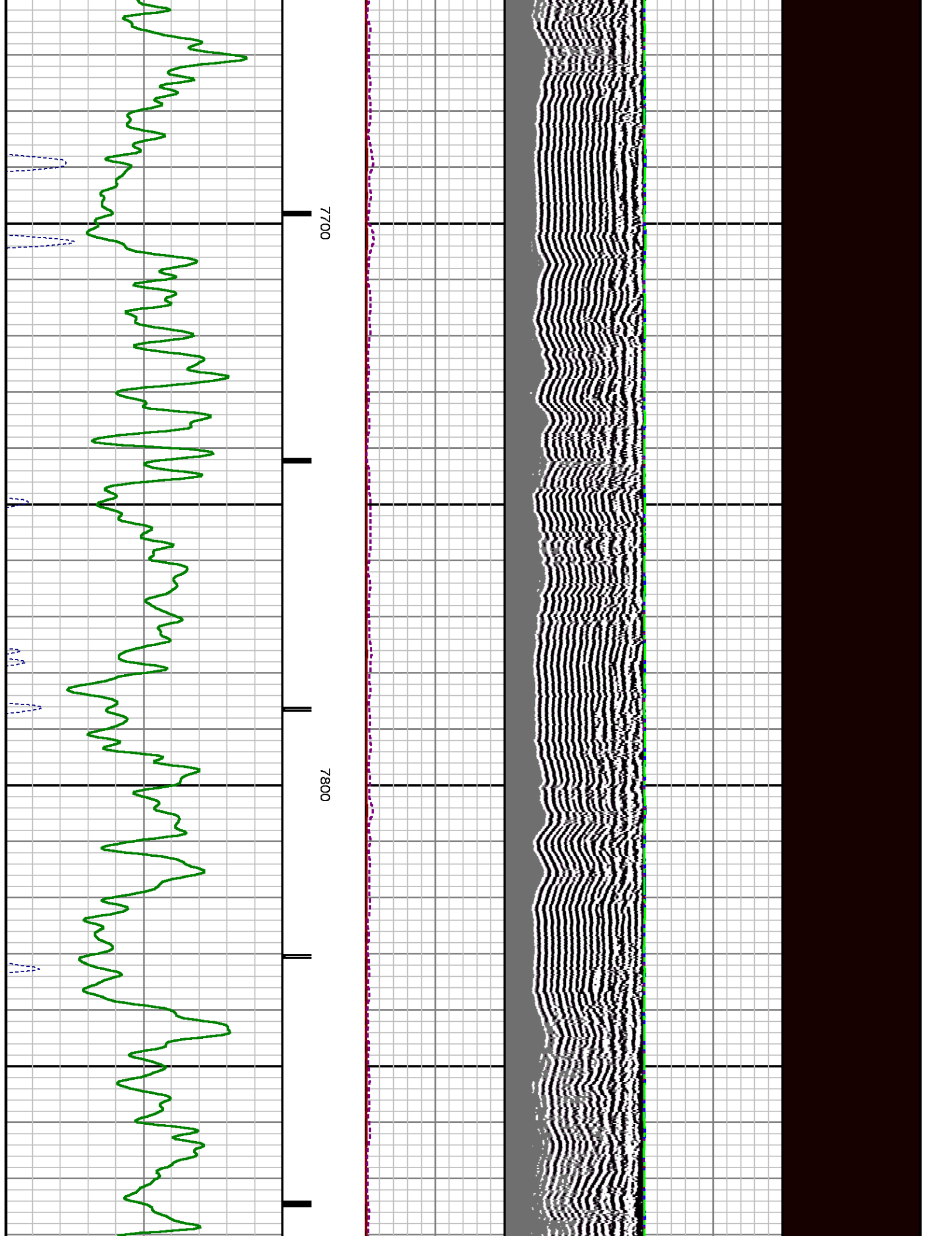


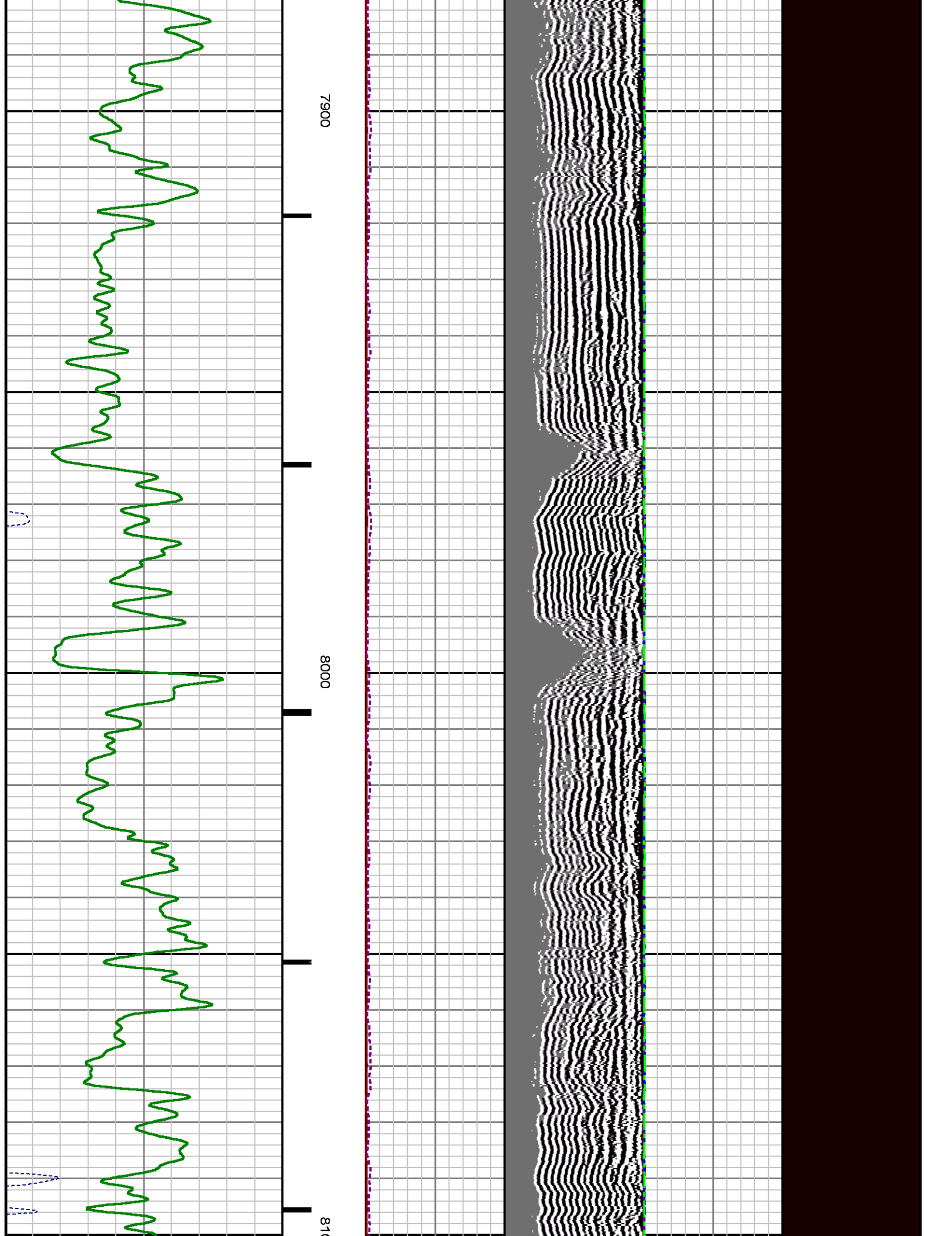




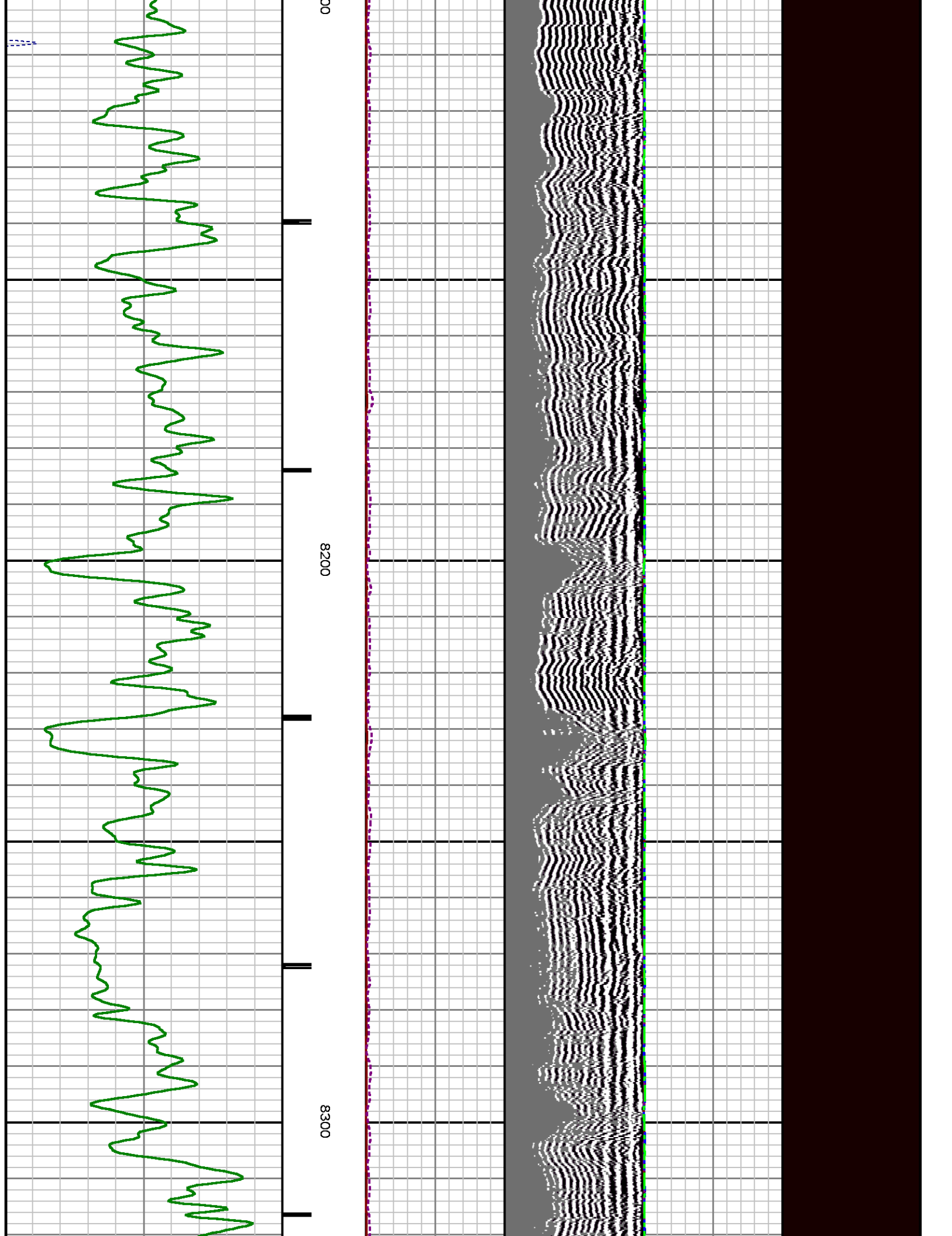




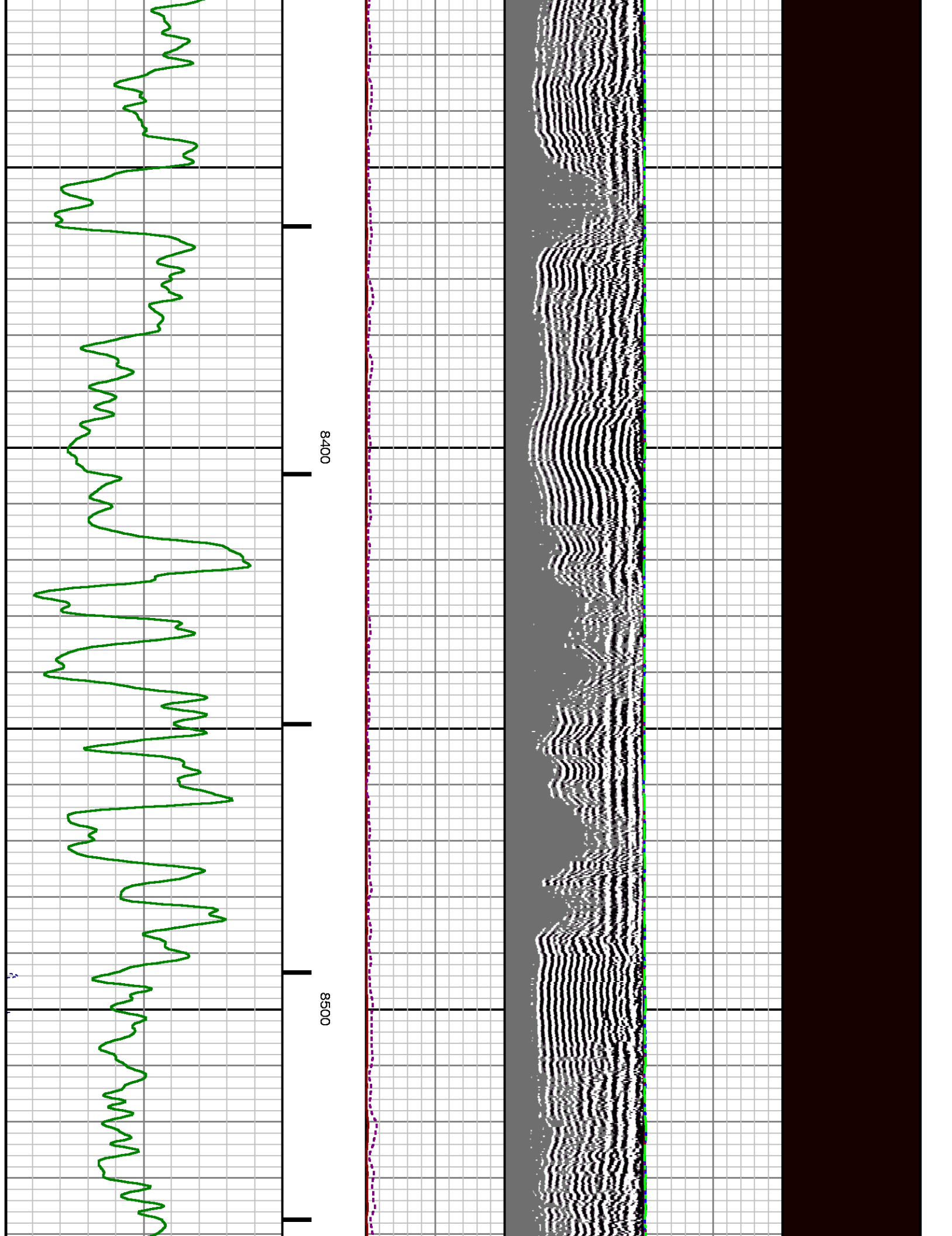


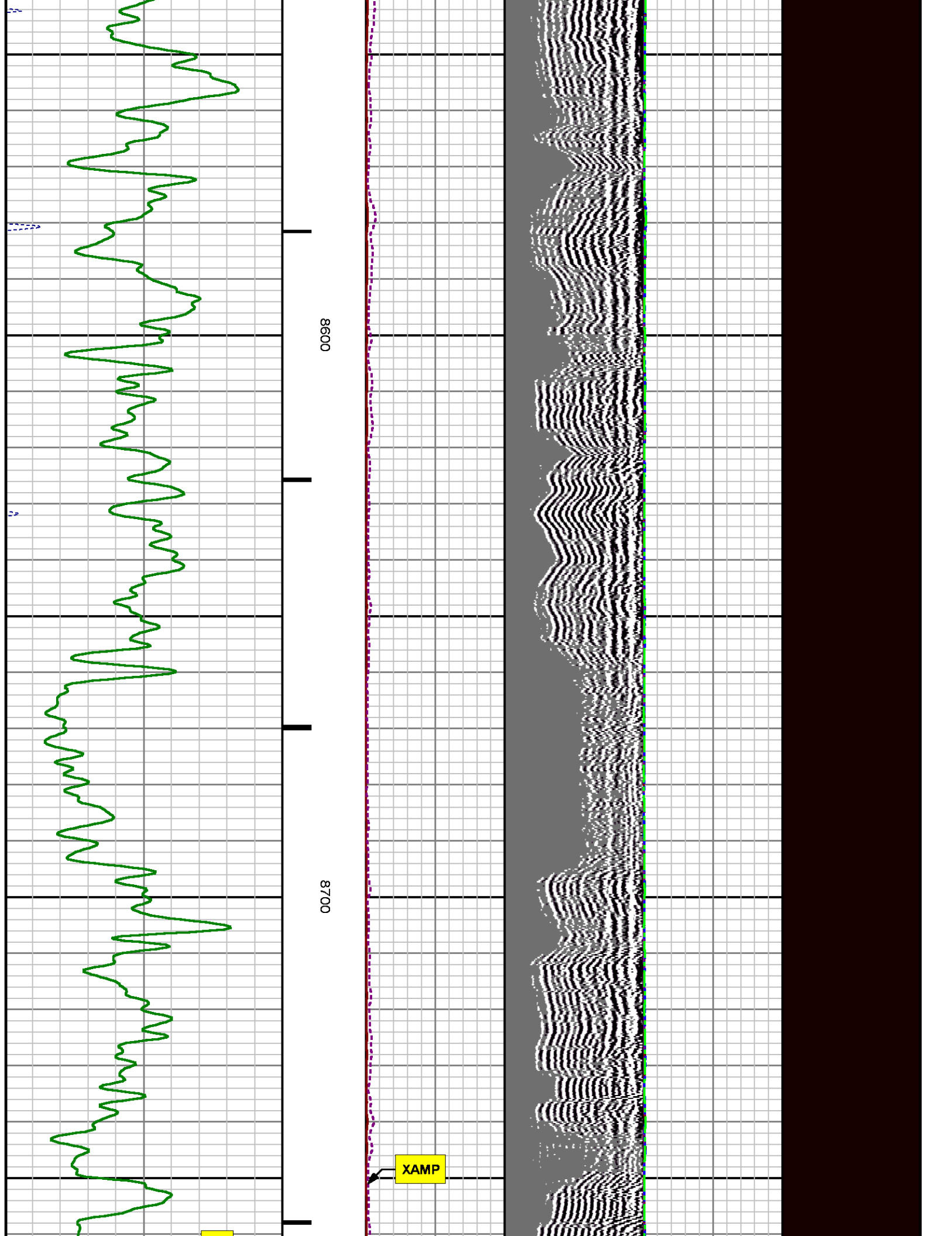


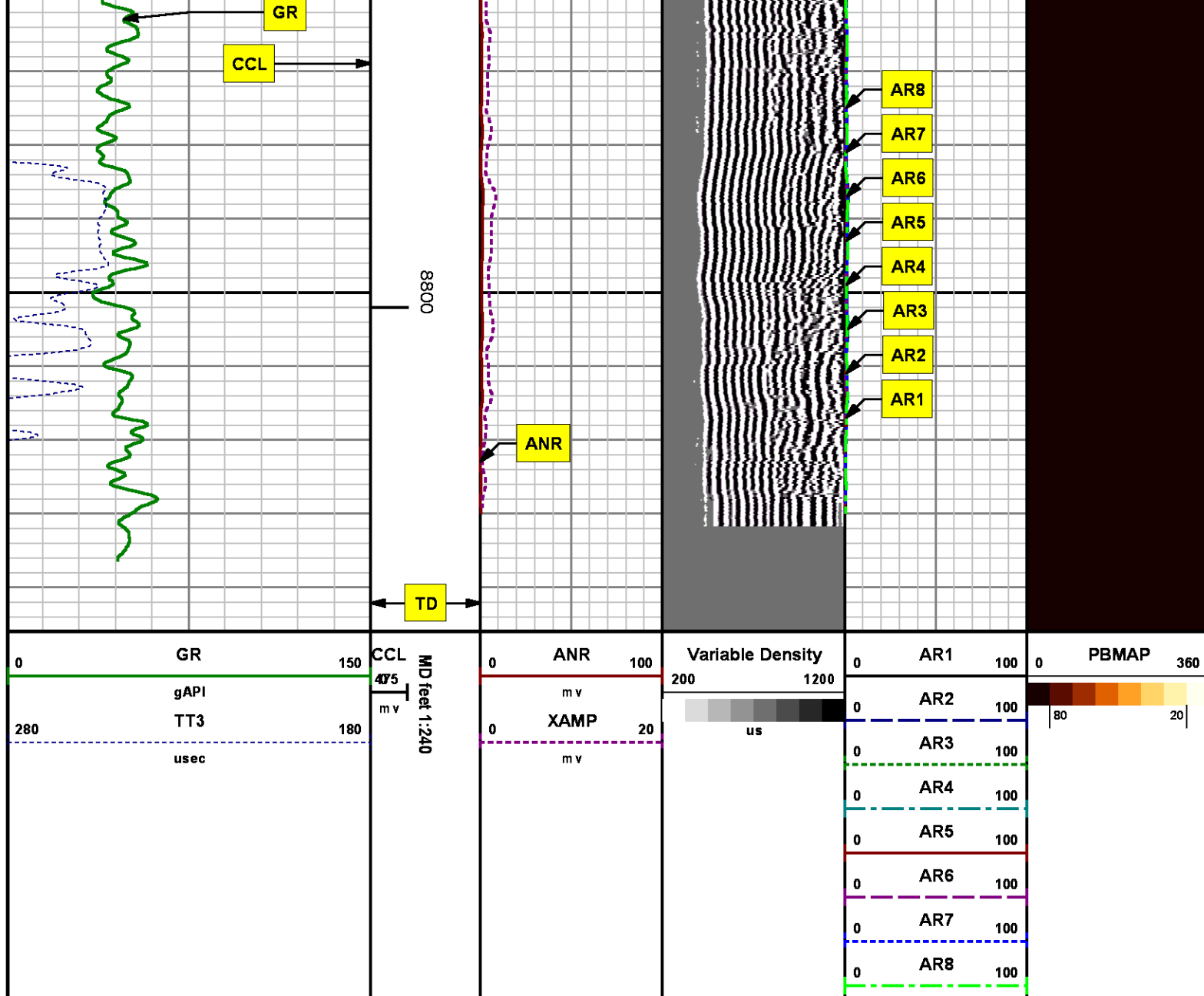












MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	8515.604	8846.850
RAL	Amp Gate Start Near	195.000	usec	8515.604	8846.850

RAL	Amp Gate Start Radial	195.000	usec	8515.604	8846.850
RAL	Amp Gate Width Far	25.000	usec	8515.604	8846.850
RAL	Amp Gate Width Near	25.000	usec	8515.604	8846.850
RAL	Amp Gate Width Radial	25.000	usec	8515.604	8846.850
RAL	casing od	4.500	inches	8515.604	8846.850
RAL	casing wt	11.600	lbm/ft	8515.604	8846.850
RAL	FB Start Far	291.900	usec	8515.604	8846.850
RAL	FB Start Near	180.000	usec	8515.604	8846.850
RAL	FB Start Radial	180.000	usec	8515.604	8846.850
RAL	FB Thresh Far	10.000	mV	8515.604	8846.850
RAL	FB Thresh Near	4.000	mV	8515.604	8846.850
RAL	FB Thresh Radial	4.000	mV	8515.604	8846.850
RAL	Fluid Travel Time	200.000	usec/ft	8515.604	8846.697

## DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-16.750	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-15.750	AFAR	SIG	TT5			
2459XA	-11.340	CCL					
2459XA	-9.490	GR					
2459XA	-4.090	NEU					

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

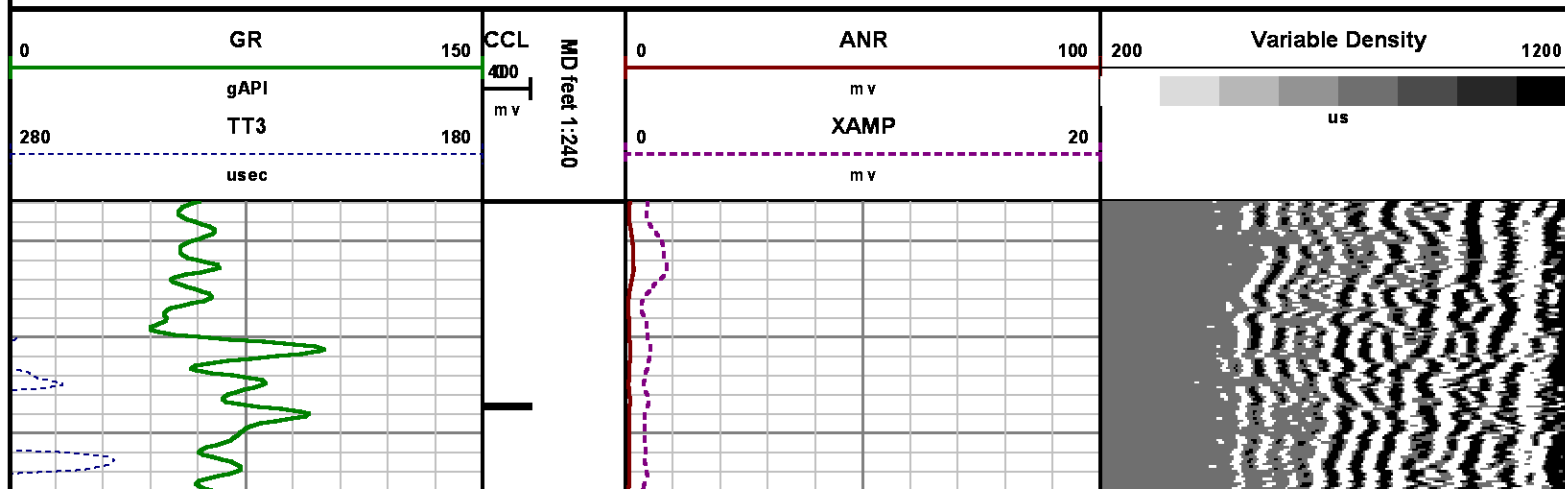
Well : SAVAGE RWF 411-25

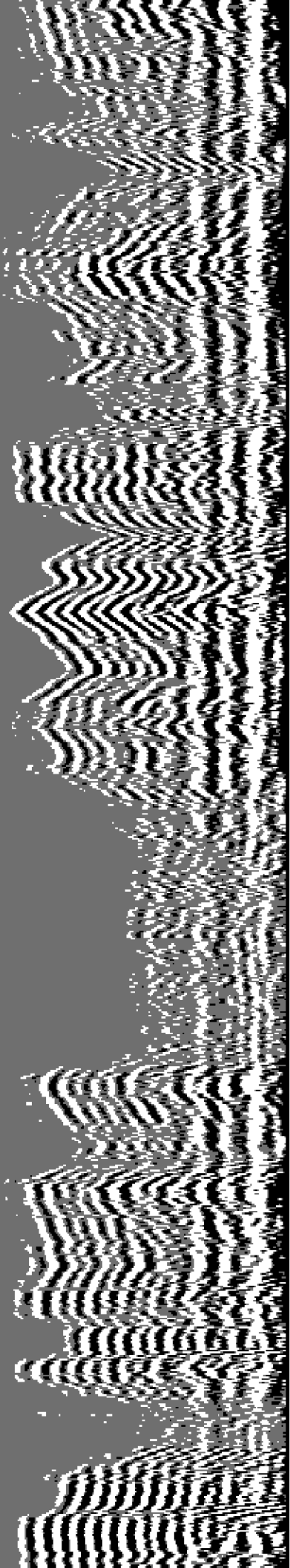
File Name : d:\welldata\wpx\rwf 411-25\411ral\repeat.xtf

Mode : PlotMgr 5.4.504

Interval : 8515.85 - 8846.85 feet UP

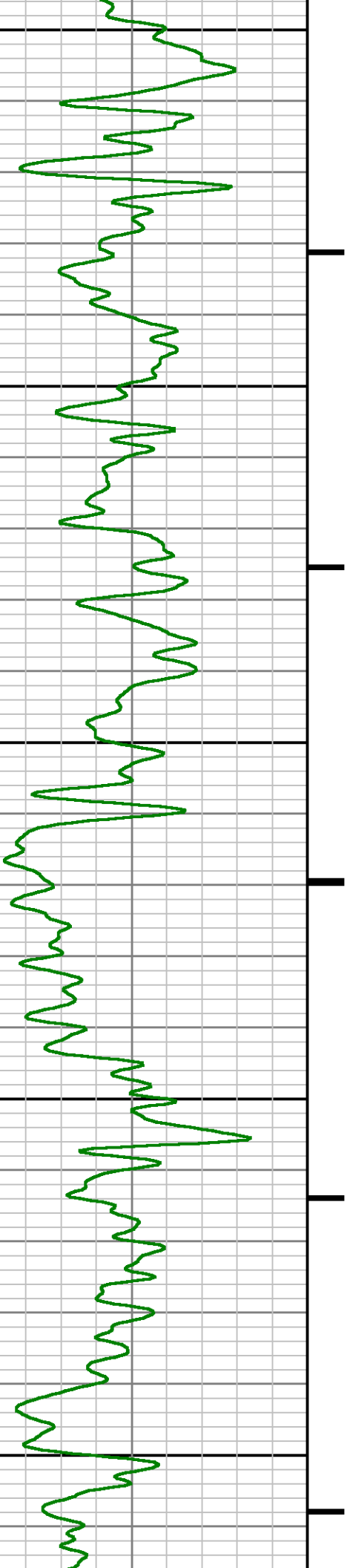
Created : 2/23/2014 10:52:37 AM

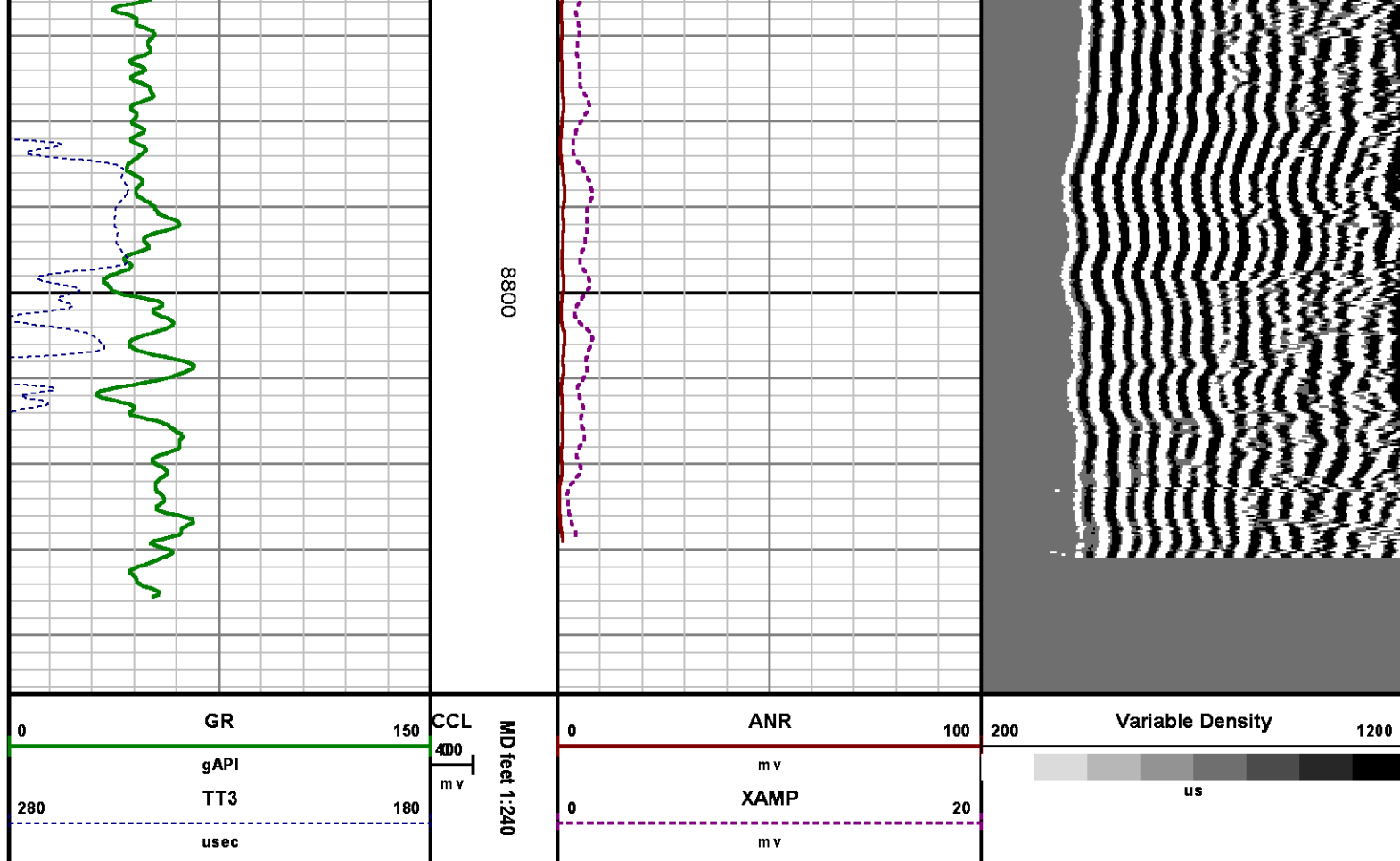




8600

8700





## CALIBRATION SUMMARY

*RALSHP*

Shop Calibration: C:\case\calver\RALSHP\496F23\_shp.cal

### SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun Feb 23 10:13:45 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: F23

Tool Delay [usec] -56.00 Tank OD in 5.50 Tank Wt lbm/ft 15.50 Tank ID in 4.95

RECEIVER	Travel Time [usec]	Amp. Gate Start [usec]	Amp. Gate Width [usec]	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Amp Ref. [mV]	Shop Factor
CAL Pulse	218	216	30	166	25	-0.197	100.00	0.16
3 Ft. Receiver	218	216	30	149	25	-0.050	100.00	0.16
5 Ft. Receiver	327	325	30	239	25	-0.076	150.00	0.17
Radial #1	218	216	30	148	25	-0.312	100.00	0.15
Radial #2	218	216	30	148	25	-0.235	100.00	0.15
Radial #3	218	216	30	148	25	-0.242	100.00	0.16



Radial #4	218	216	30	148	25	-0.069	100.00	0.16
Radial #5	218	216	30	148	25	-0.051	100.00	0.16
Radial #6	217	216	30	148	25	-0.126	100.00	0.16
Radial #7	216	216	30	148	25	-0.273	100.00	0.15
Radial #8	218	216	30	148	25	-0.158	100.00	0.15

## RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\496F23 fld.cal

### WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun Feb 23 10:15:30 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: F23

Tool Delay [usec] -56.00 Casing OD in 4.50 Casing Wt lbm/ft 11.60 Casing ID in 4.00

RECEIVER	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Full Amp. [mV]	Wellsite Factor	Amp. Ref [mV]
CAL Pulse	166	25	0.024	0.000	1.00	100.000
3 Ft. Receiver	195	25	2.661			
5 Ft. Receiver	305	25	3.489			
Radial #1	195	25	2.493			
Radial #2	195	25	2.517			
Radial #3	195	25	2.604			
Radial #4	195	25	2.641			
Radial #5	195	25	2.977			
Radial #6	195	25	3.135			
Radial #7	195	25	2.397			
Radial #8	195	25	2.435			

## GAMMA RAY

Calibration File: C:\case\calver\GR\1012412122.cal

### CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sat Feb 22 12:18:15 2014 TOOL SERIES: 2459XA ASSET: 10124121 SEQ: 22

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA-612	36.22	291.56	0.725	26.24	211.24	185.00

Verification File: C:\case\calver\GR\1012412122.VP

### PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Sat Feb 22 12:19:23 2014 TOOL SERIES: 2459XA ASSET: 10124121 SEQ: 22

Calibrator #	Background	Calibrator On	Multiplicative	Background	Calibrator On	Differential
--------------	------------	---------------	----------------	------------	---------------	--------------

[cps]

[cps]

[api]

[api]

[api]

S2K

WA-612

41.96

293.60

0.725

30.40

212.73

182.33

# TOOL DIAGRAM

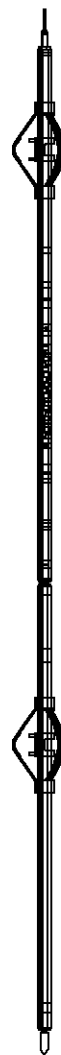
## OTA SHORT CABLE HEAD

## PROBE 2 3/4 DUAL RECEIVER RADII

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

## Probe GR/CCL/NEU

Series 2459XA  
 Mnemonic PROB  
 Diameter 2.75"  
 Length 9.42'  
     Measure Point 1.21' NEU  
     Measure Point 6.60' GR  
     Measure Point 8.46' CCL



Total Length: 21.81'  
 Total Weight: Not Available  
 Max Diameter: 0' 2.75"



Baker Atlas

Company  
 Well  
 Field  
 County

WPX ENERGY  
 SAVAGE RWF 411-25  
 RULISON  
 GARFIELD

State

COLORADO

File No:

CH082863

API No:

05045219720000

CASE

Location

SHL: 2465' FNL & 1412' FWL

BHL: 824' FNL & 775' FWL (NWNW)

SEC 25 TWP 6S RGE 94W

Elevations

KB 6058 ft

DF

GL 6037 ft

25 6S 94W

RWF 22-25 PAD

CYCLONE 17