



RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: CH086324

Company Well WPX ENERGY FEDERAL NER 443-32

API No: Field RULISON

County GARFIELD State CO

05045217750000

Location

SHL: 161' FNL & 2596' FWL (5 75 93W)

BHL: 1482' FSL & 653' FEL (32 65 93W)

SEC 32 TWP 6S RGE 93W

Other Services

RPM

Permanent Datum GL Elevation 7603 ft

Log Measured From KB 26 ft Above P. D.

Drill Measured From KB Elevations KB 7629 ft DF GL 7603 ft

Date	17/JUN/14	
Run	ONE	
Service Order	US086324	
Depth Driller	10675 ft	
Depth Logger	10640 ft	
Bottom Logged Interval	10630 ft	
Top Logged Interval	26 ft	
Time Started	10:00	
Time Finished	15:30	
Operator Rig Time	5.5 HOURS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	81 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	66 fpm	
Maximum Recorded Temperature	240 degF	
Reference Log	NA	
Reference Log Date	NA	
Equipment No.	4271	GRAND JUNCTION
Recorded By	NEMELL	
Witnessed By	JEFF DUCY	

- 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	1149 ft
8.75 in	1149 ft	10607 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			0 ft	1149 ft
4.5 in	11.6 lbm/ft	P-110	0 ft	10607 ft

Remarks
All data on this log is shifted using the CCL curve to put the wellhead (top CCL mark) on depth with ground level elevation at the client's request.
The amount of linear shift is 10 feet.
Logged with zero PSI at wellhead.
BHT = 240 °F

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	CBL	1426XA	10218496	CENTRALIZED
1	1	GR/CCL	2459XA	10417456	CENTRALIZED

PRIMARY PRESENTATION

0 PSI

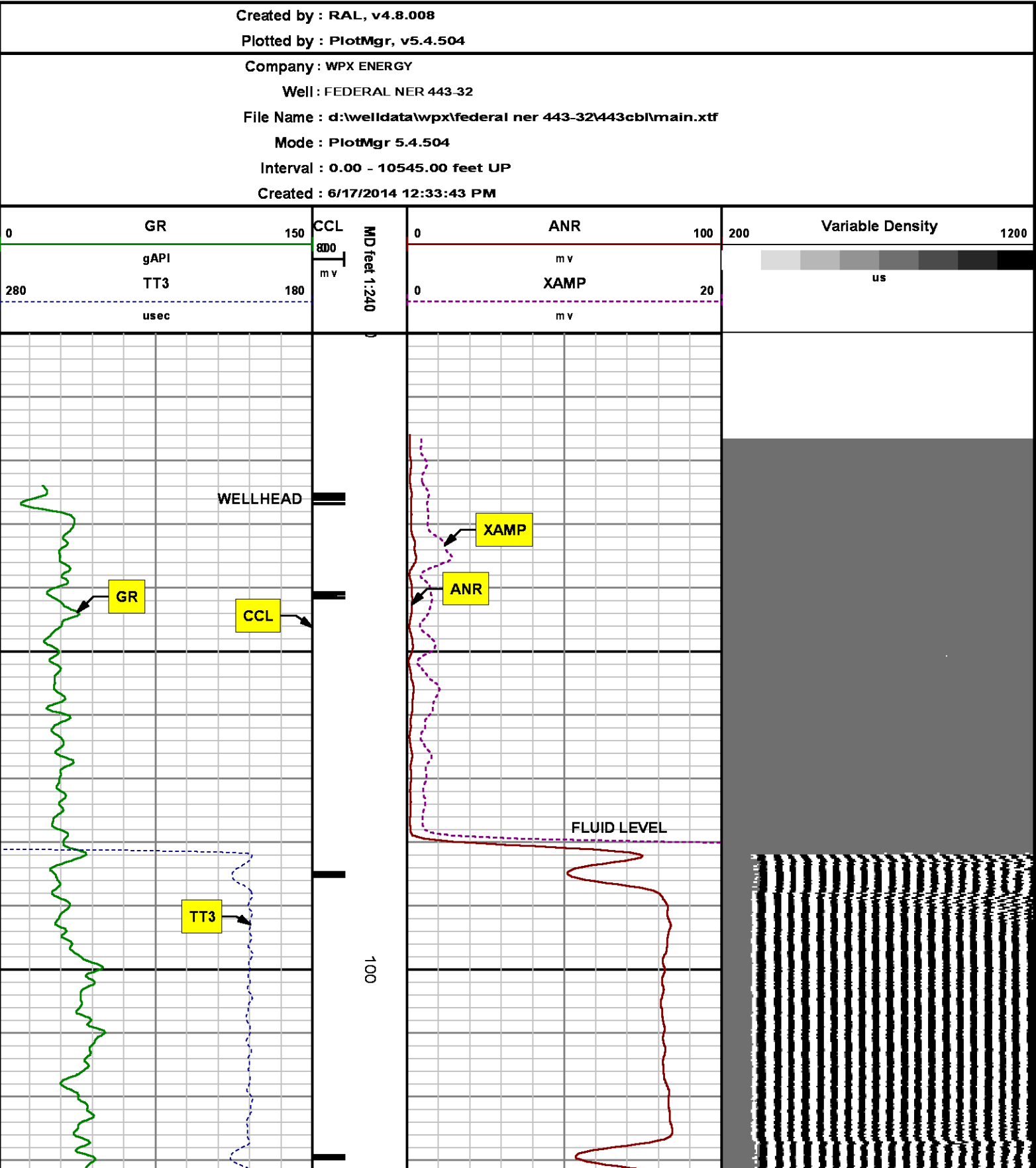
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	32.375	10564.250
RAL	Amp Gate Start Near	195.000	usec	32.375	10564.250
RAL	Amp Gate Start Radial	195.000	usec	32.375	10564.250
RAL	Amp Gate Width Far	25.000	usec	32.375	10564.250
RAL	Amp Gate Width Near	25.000	usec	32.375	10564.250
RAL	Amp Gate Width Radial	25.000	usec	32.375	10564.250
RAL	casing od	4.500	inches	32.375	10564.250
RAL	casing wt	11.600	lbm/ft	32.375	10564.250
RAL	FB Start Far	291.900	usec	32.375	10564.250
RAL	FB Start Near	175.391	usec	32.375	10564.250
RAL	FB Start Radial	175.391	usec	32.375	10564.250
RAL	FB Thresh Far	10.000	mv	32.375	10564.250
RAL	FB Thresh Near	4.000	mv	32.375	10564.250
RAL	FB Thresh Radial	4.000	mv	32.375	10564.250
RAL	Fluid Travel Time	200.000	usec/ft	32.375	10558.250

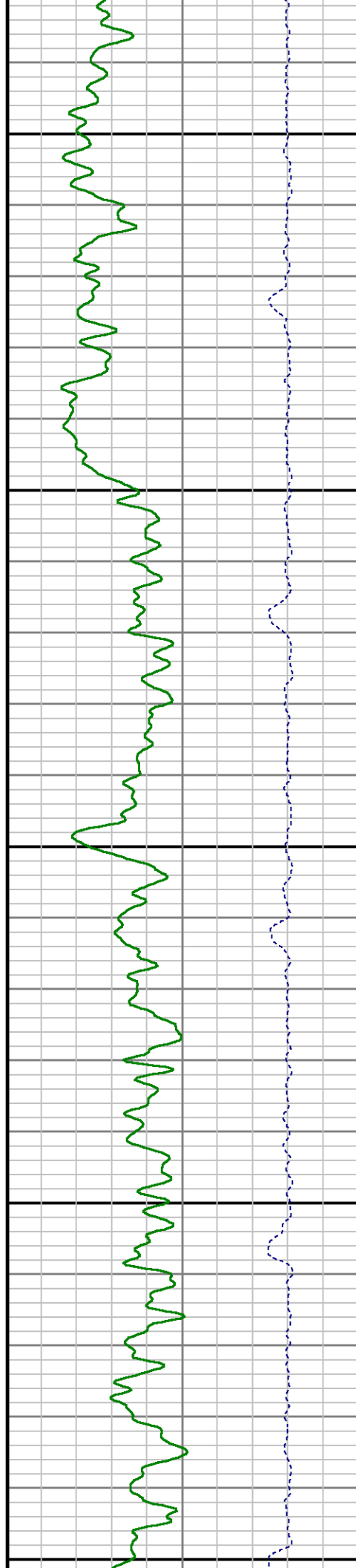
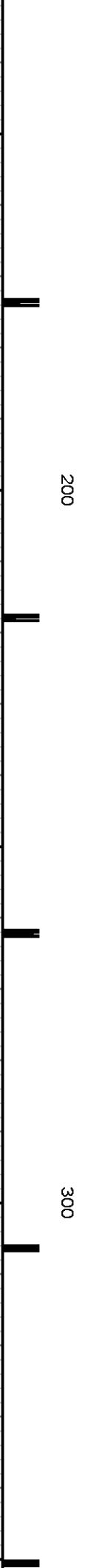
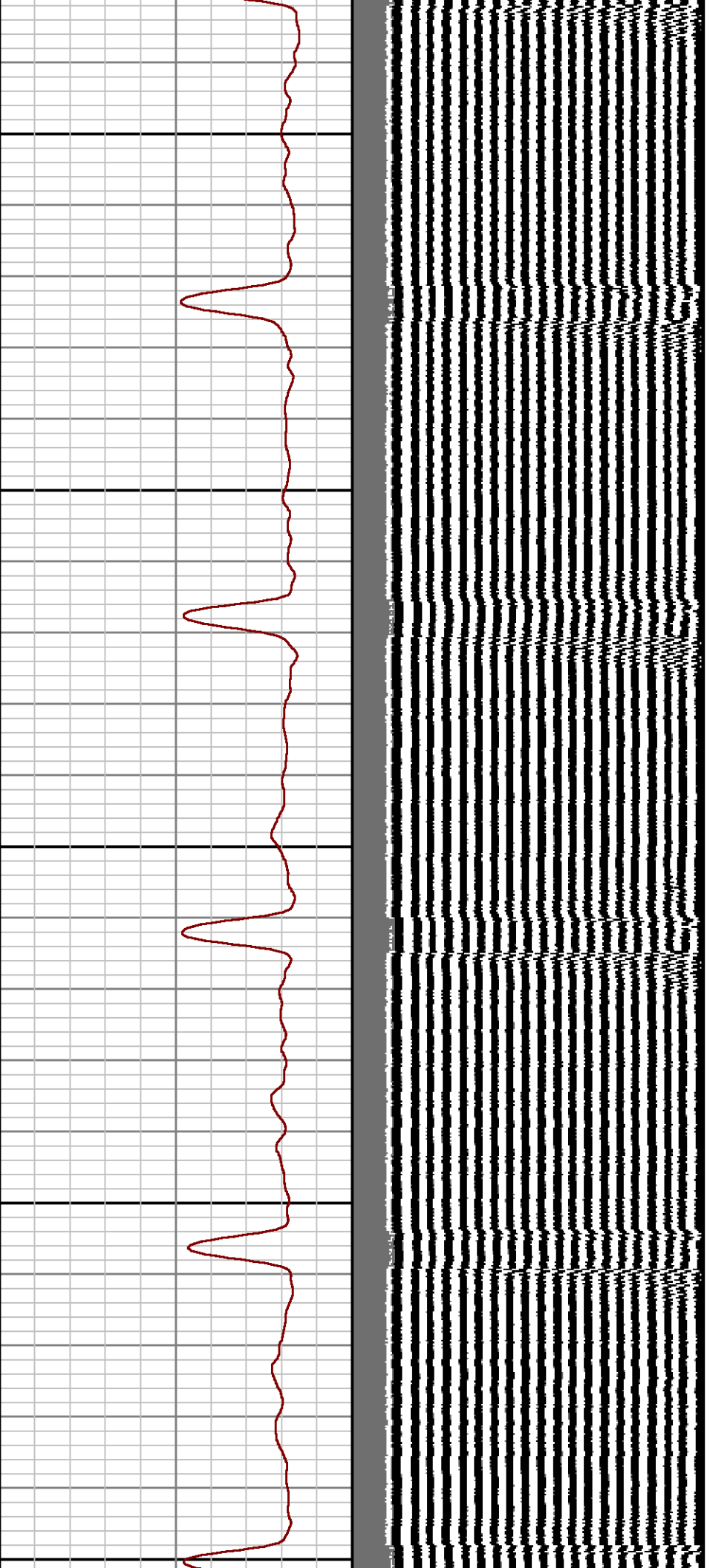
DEPTH OFFSETS

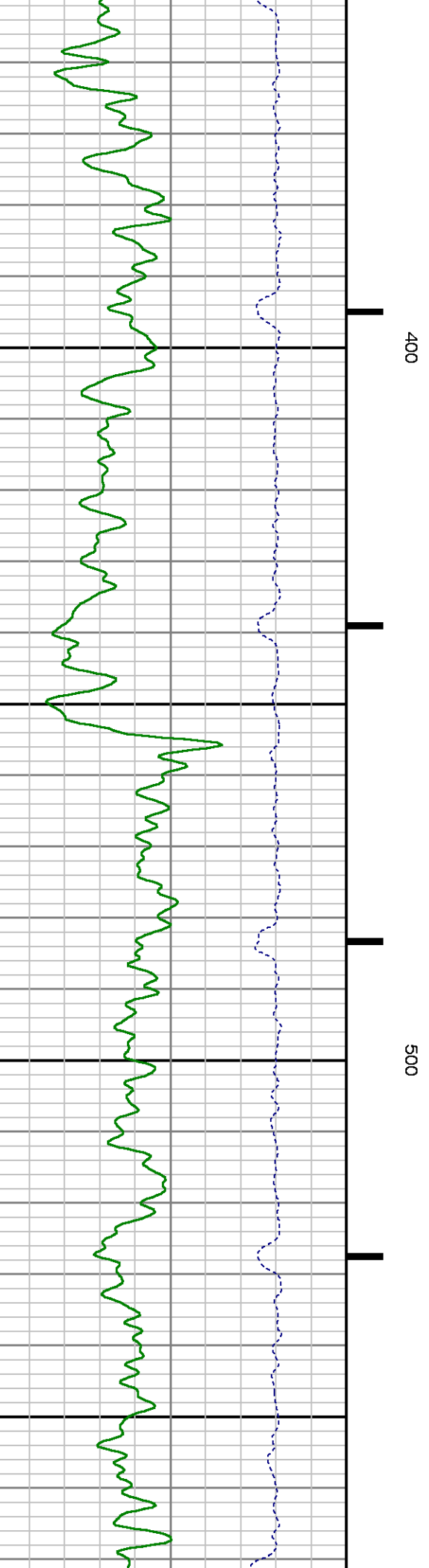
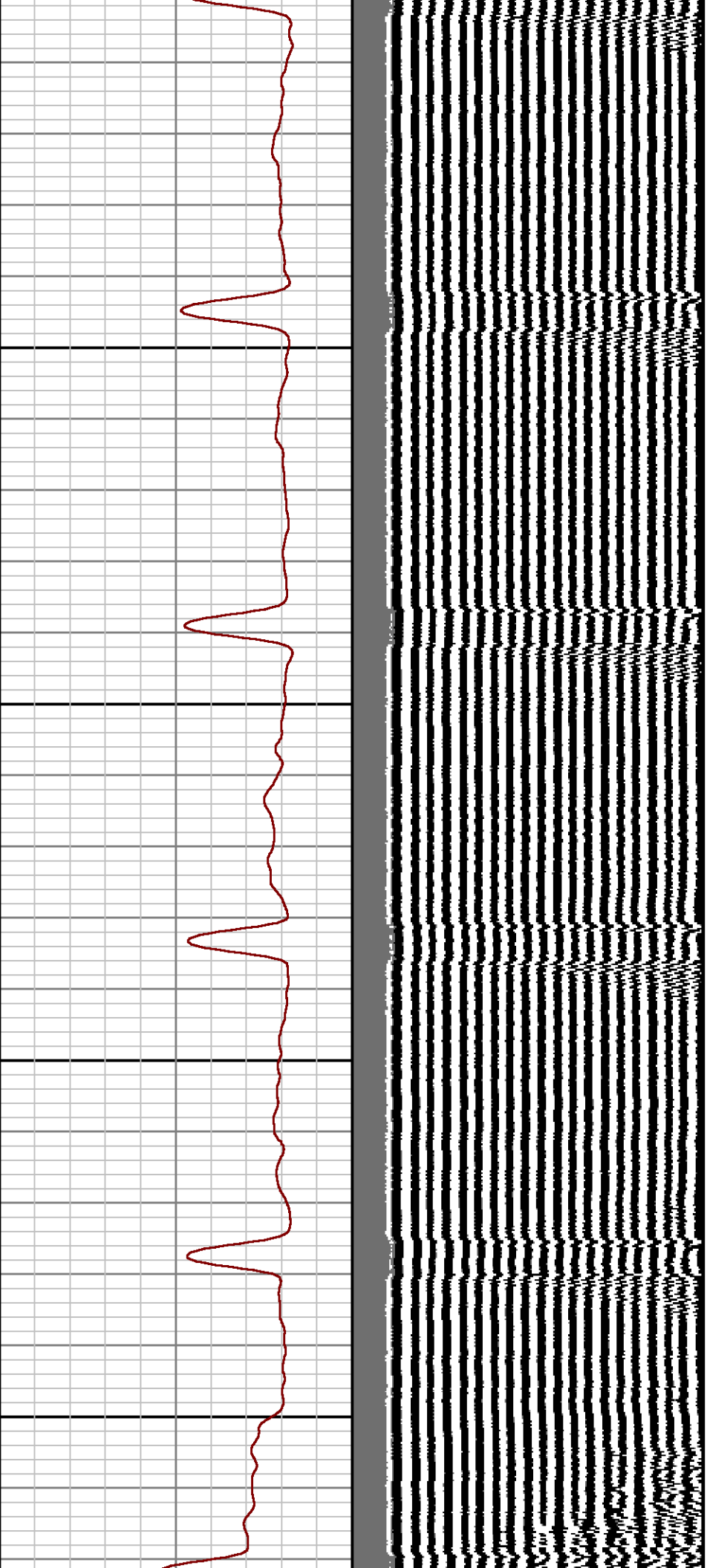
(for Acquired Curves)

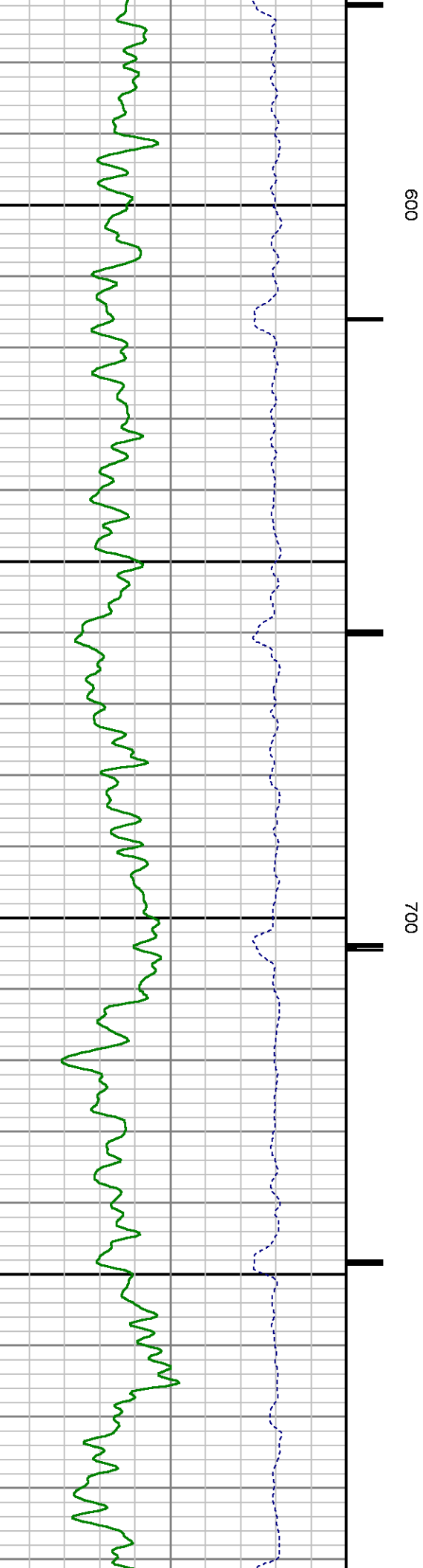
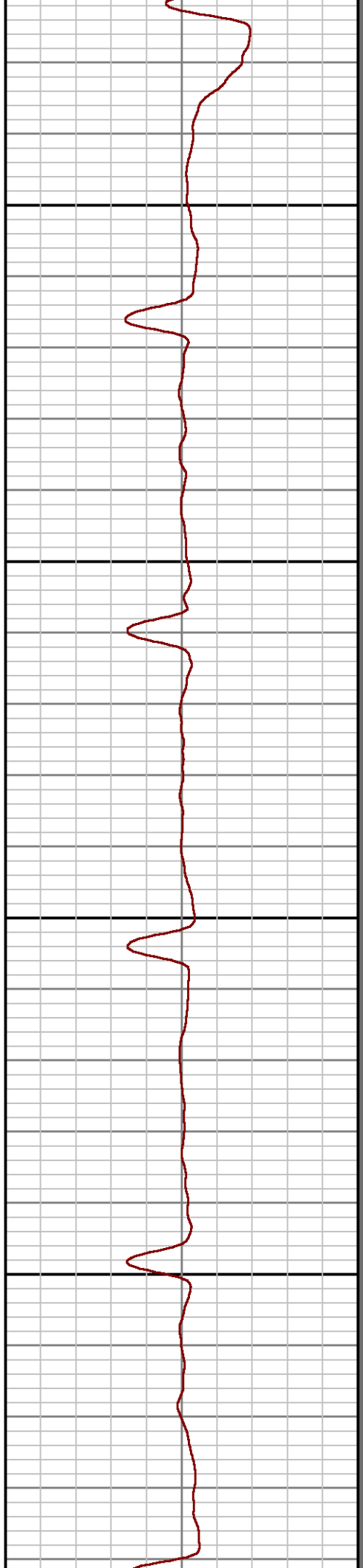
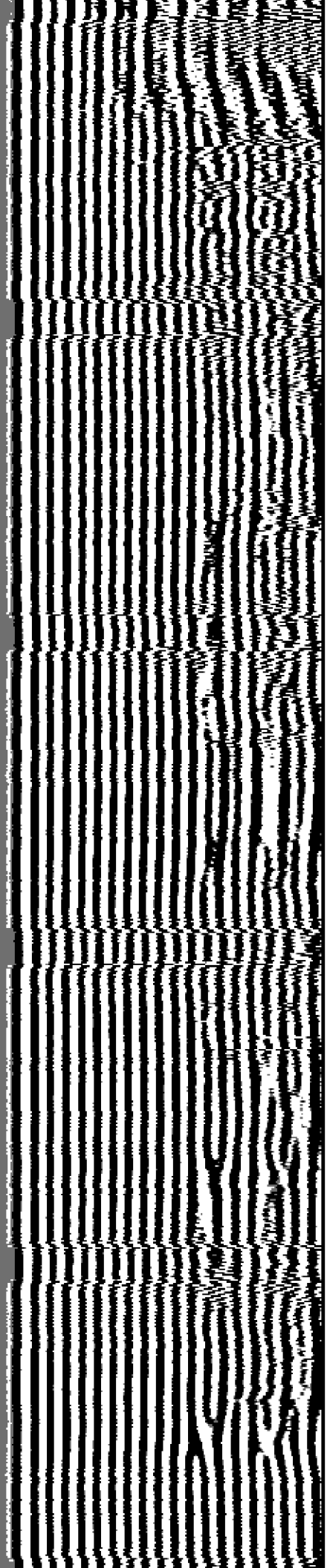
SERIES	DEPTH OFFSET	ACQUIRED CURVES							
1426XA	-16.750	ACAL	ANR	AR1	AR2	AR3	AR4		
		AR5	AR6	AR7	AR8	CHV	FPR2		

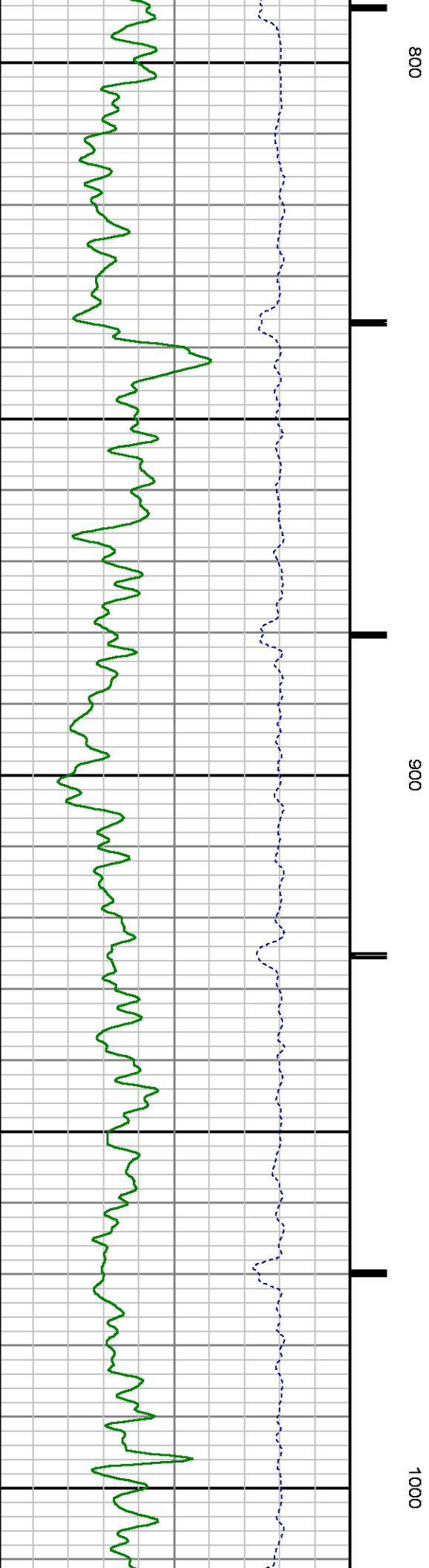
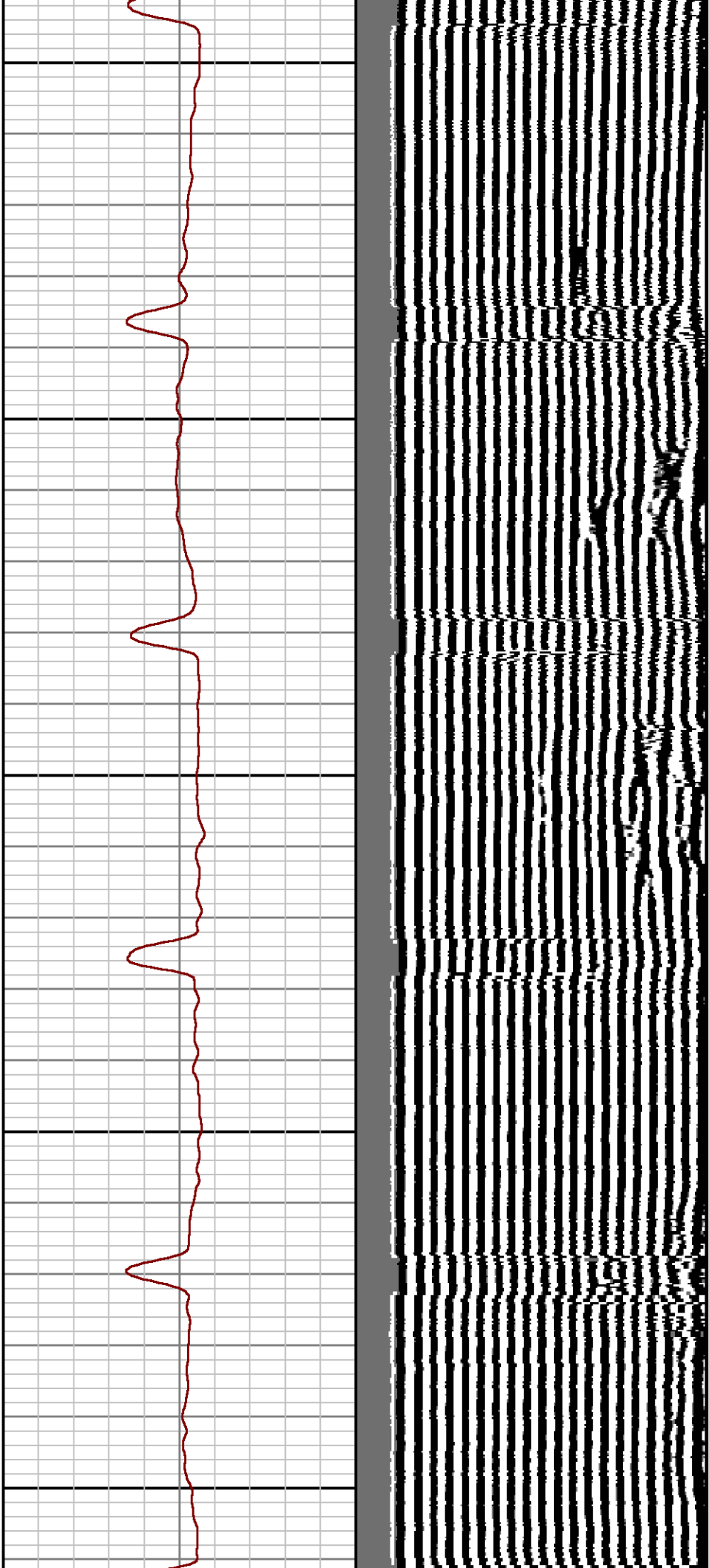
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-15.750	AFAR	SIG	TT5			
2459XA	-11.340	CCL					
2459XA	-9.490	GR					
2459XA	-4.090	NEU					

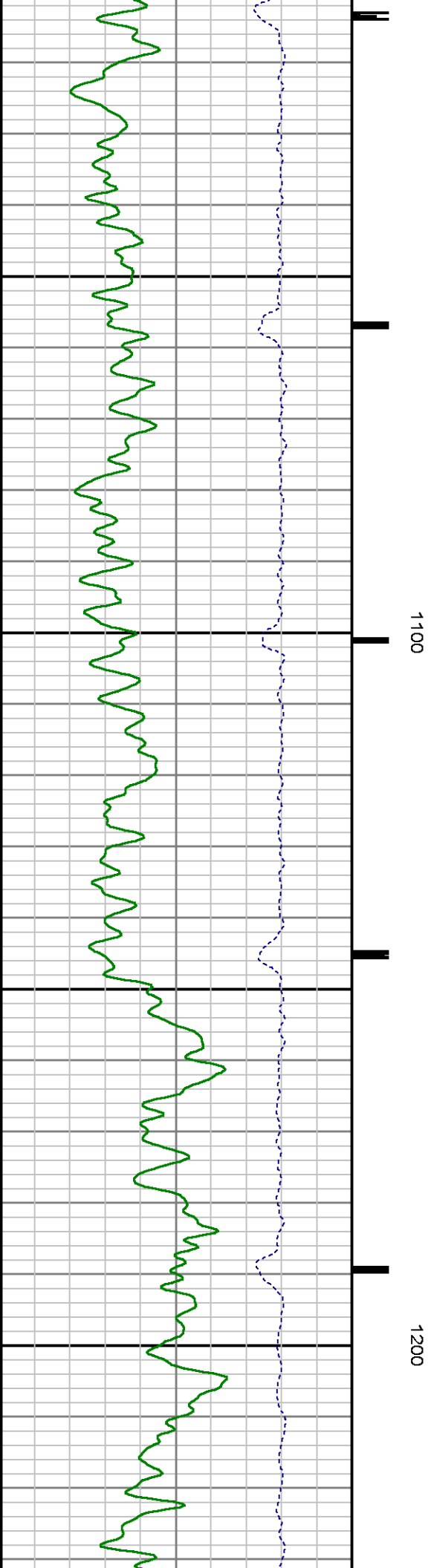
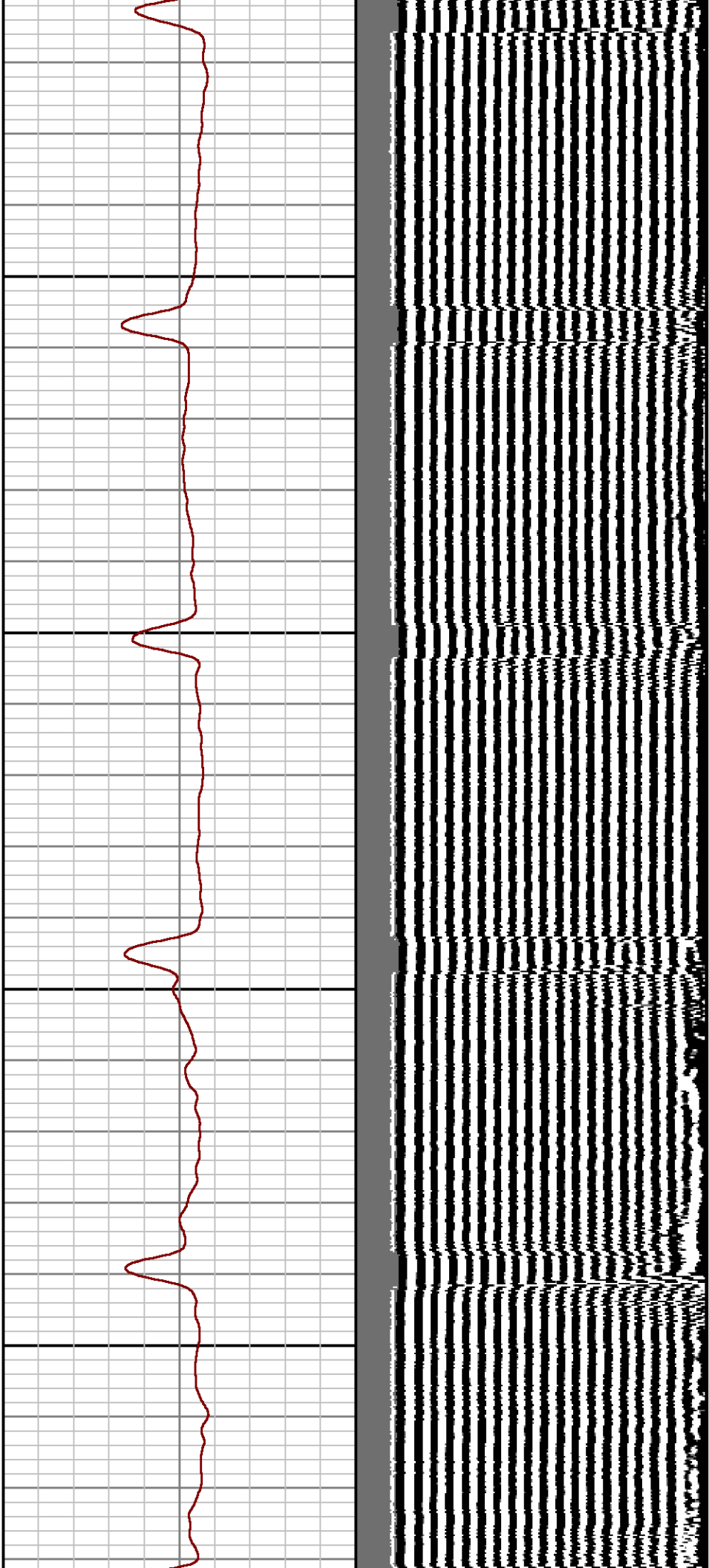


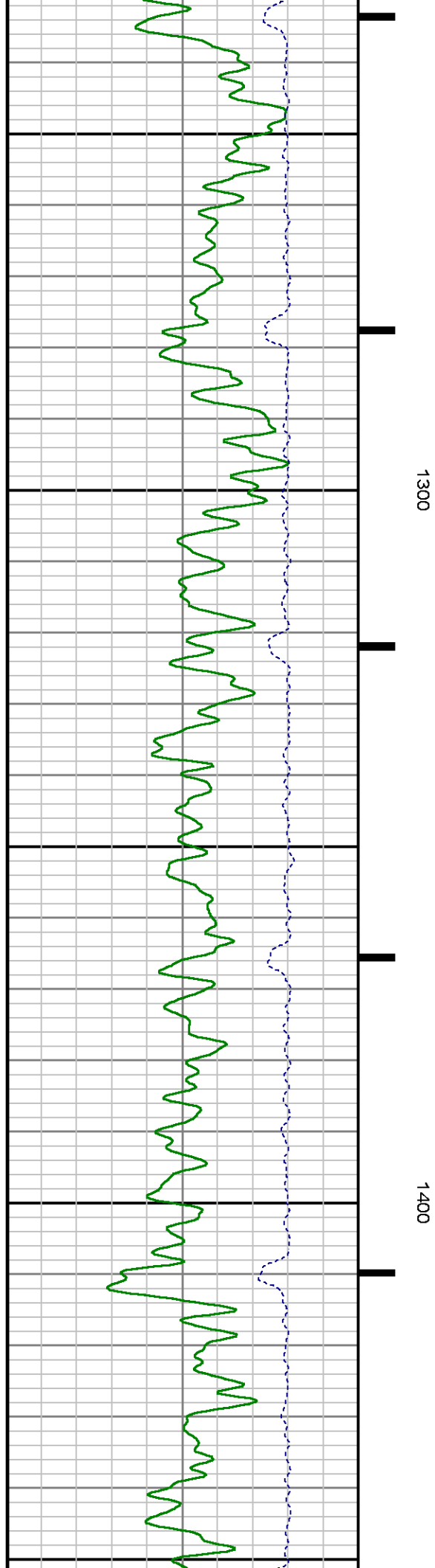
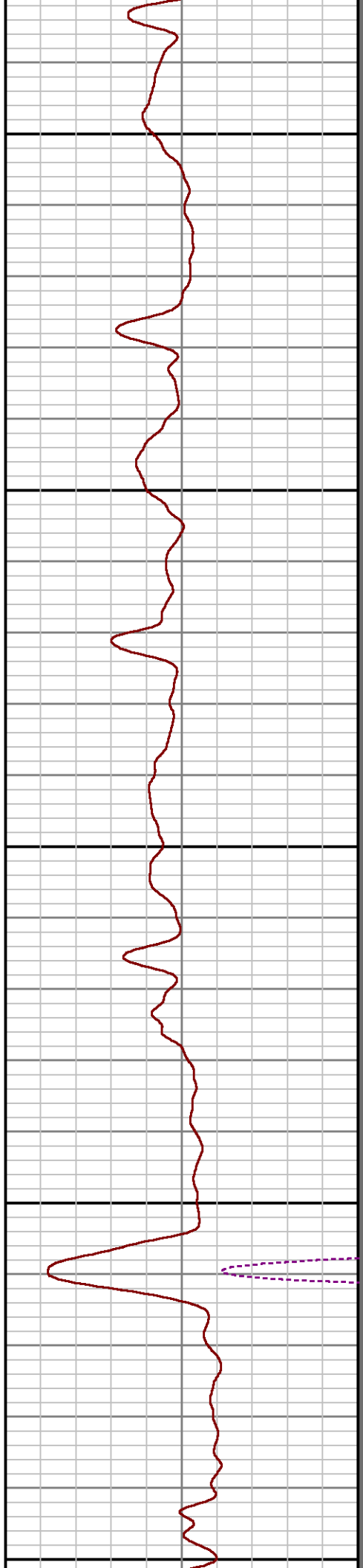
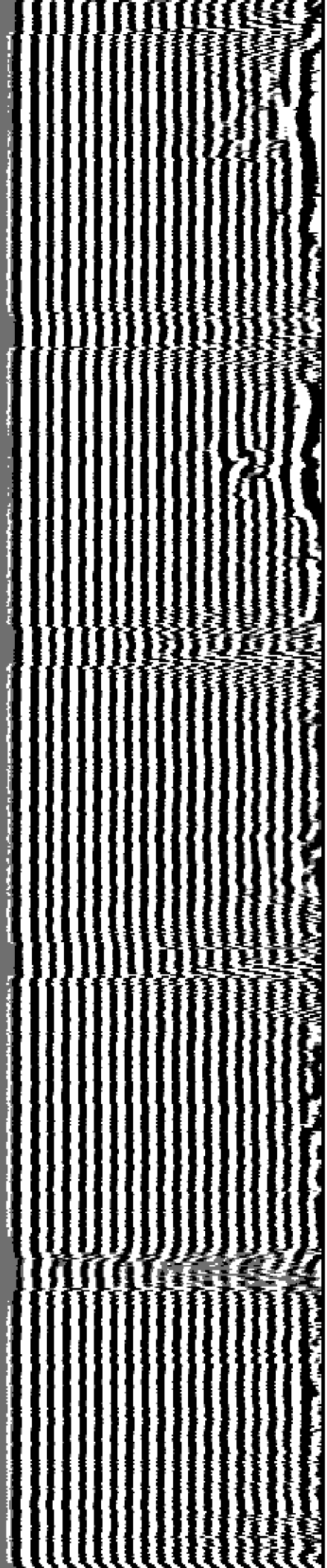


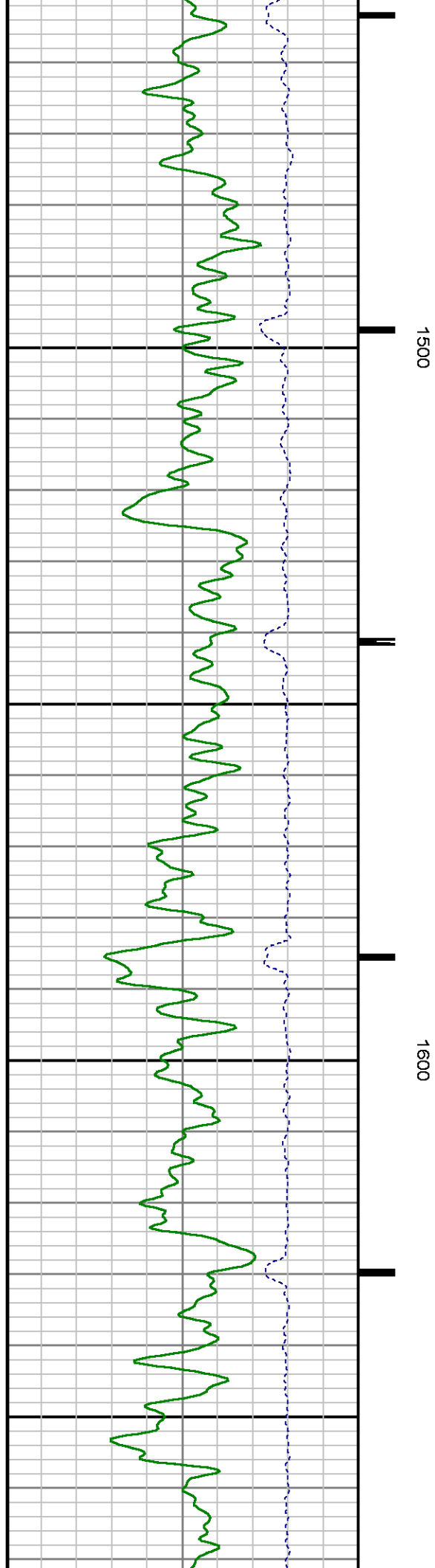
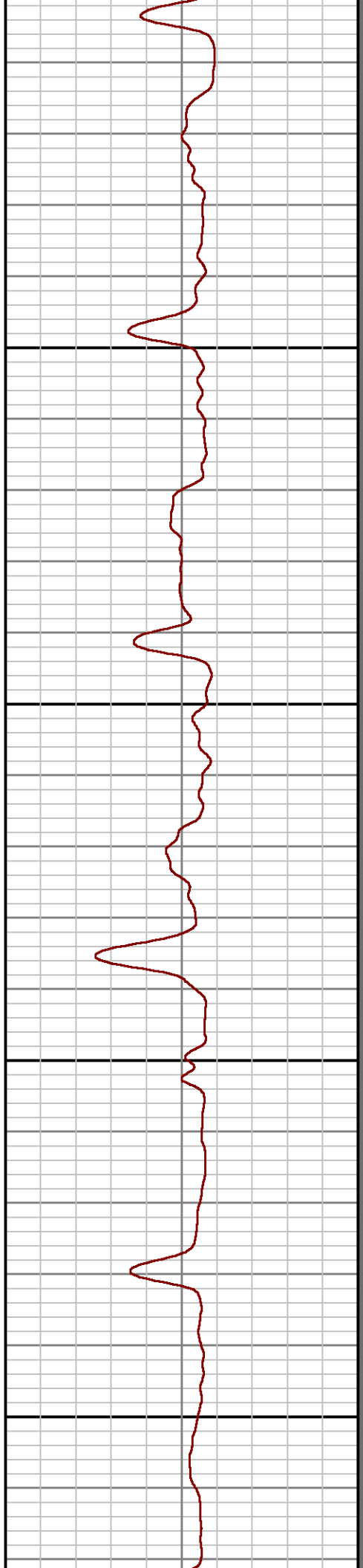
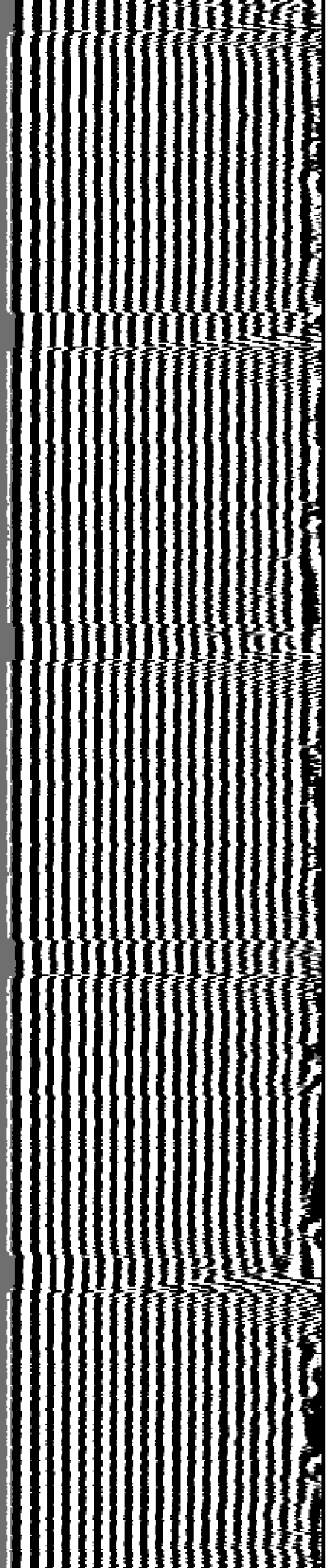


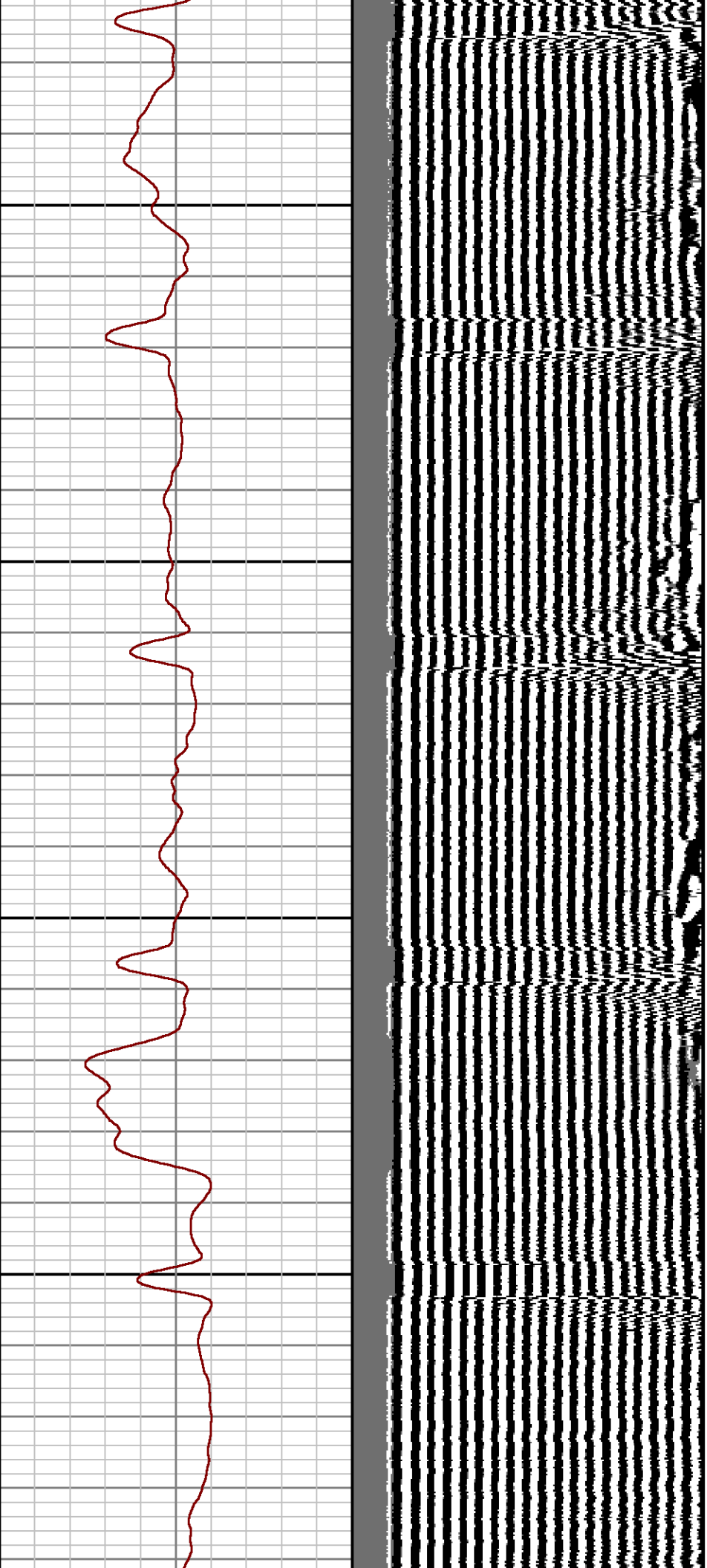






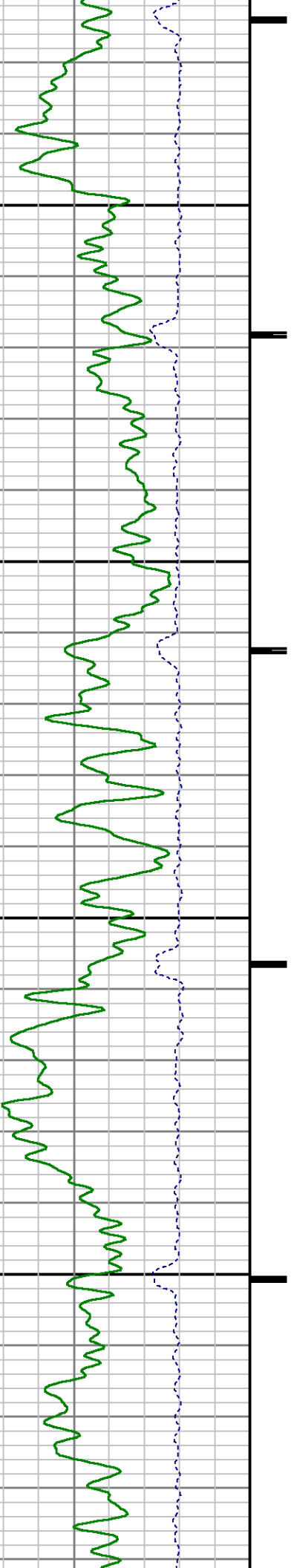


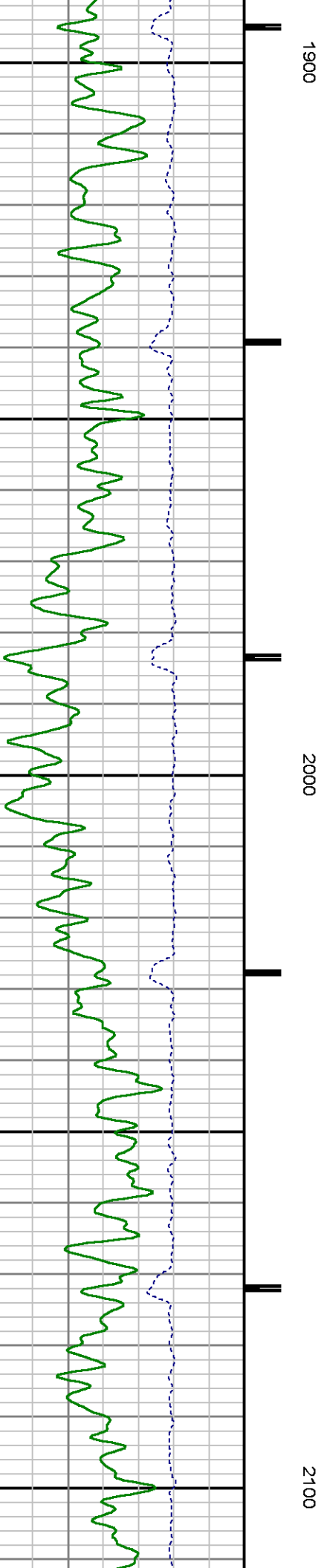
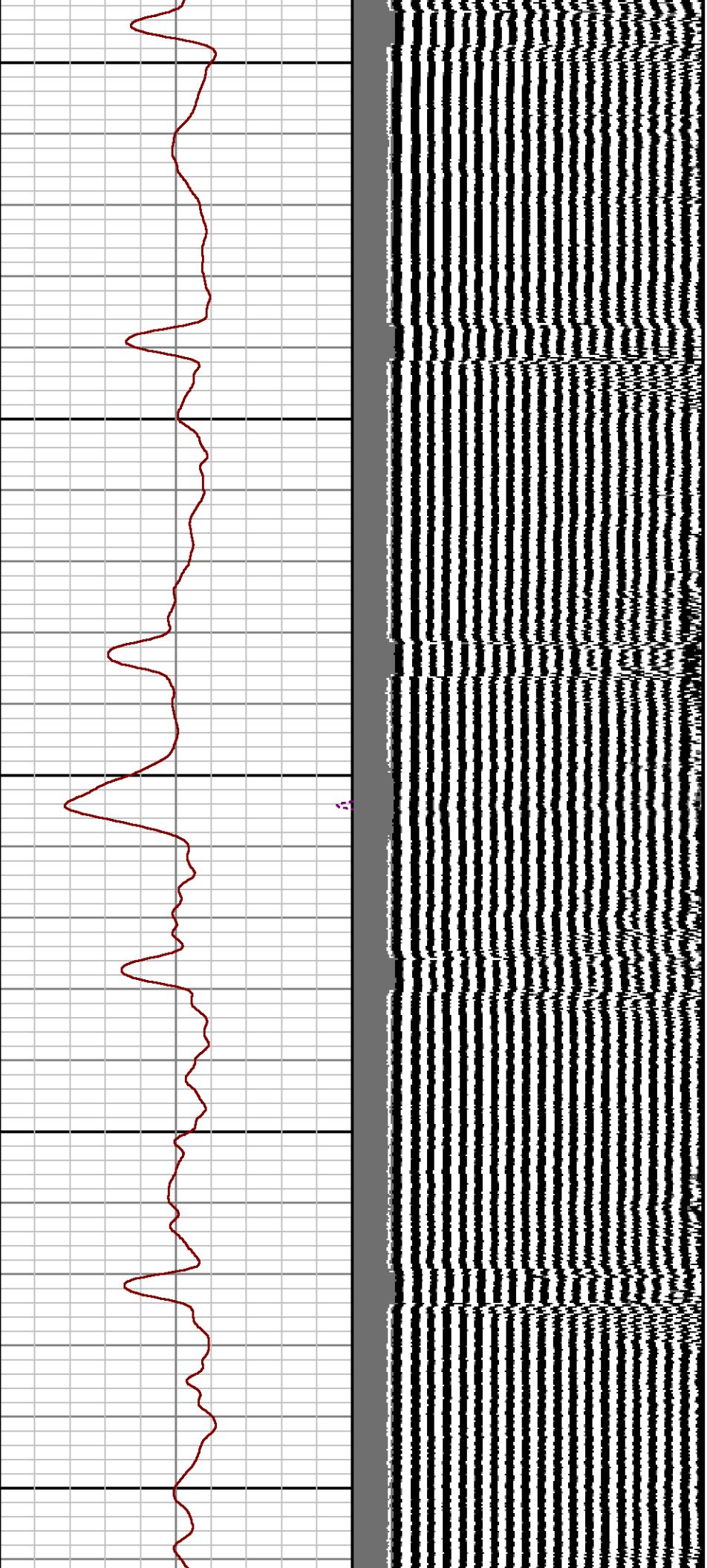


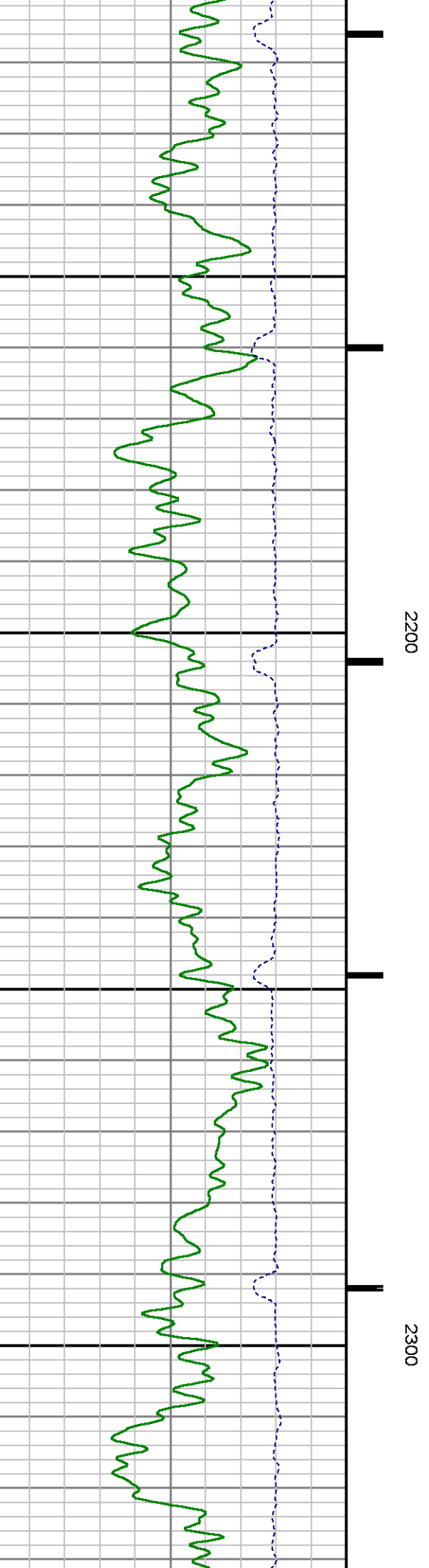
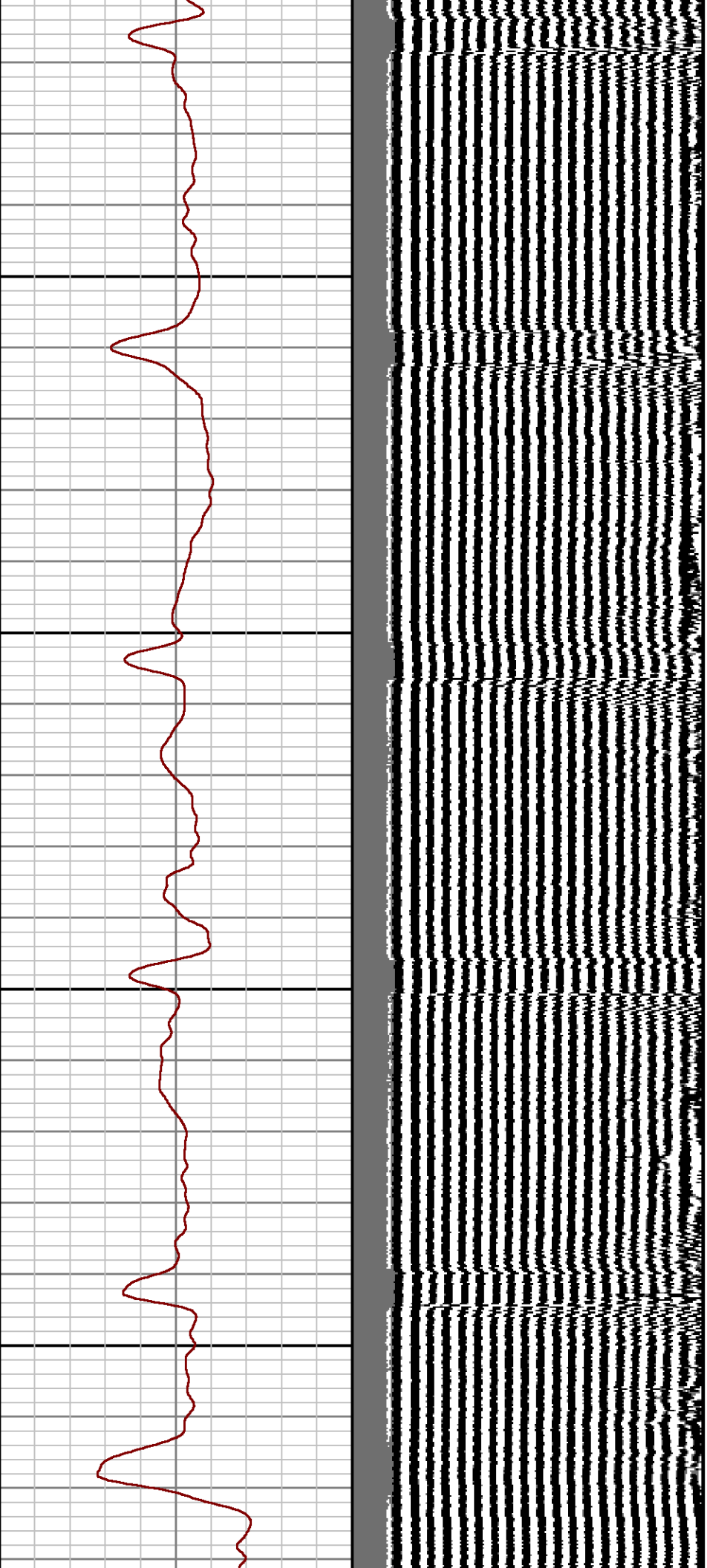


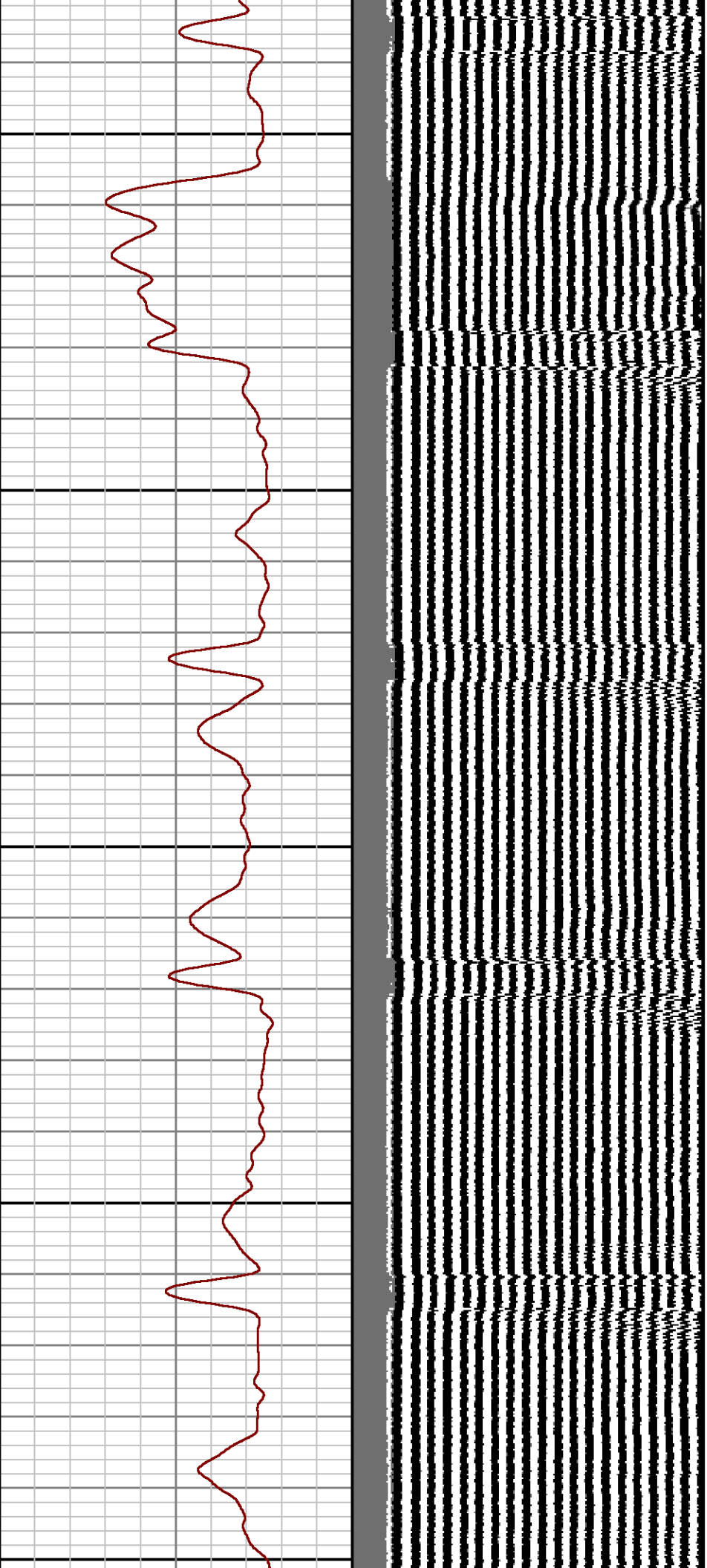
1700

1800



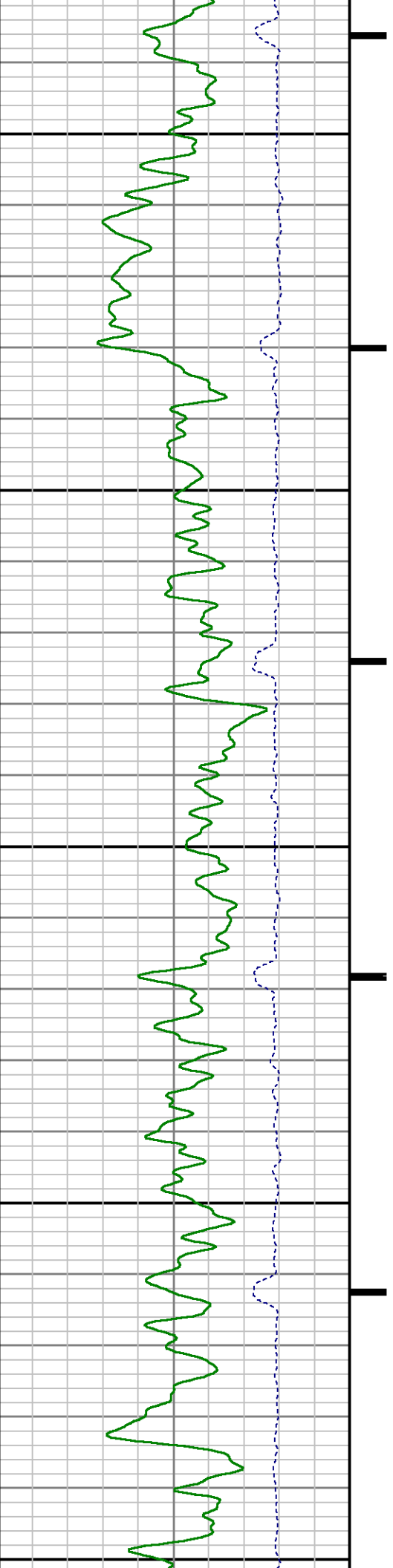


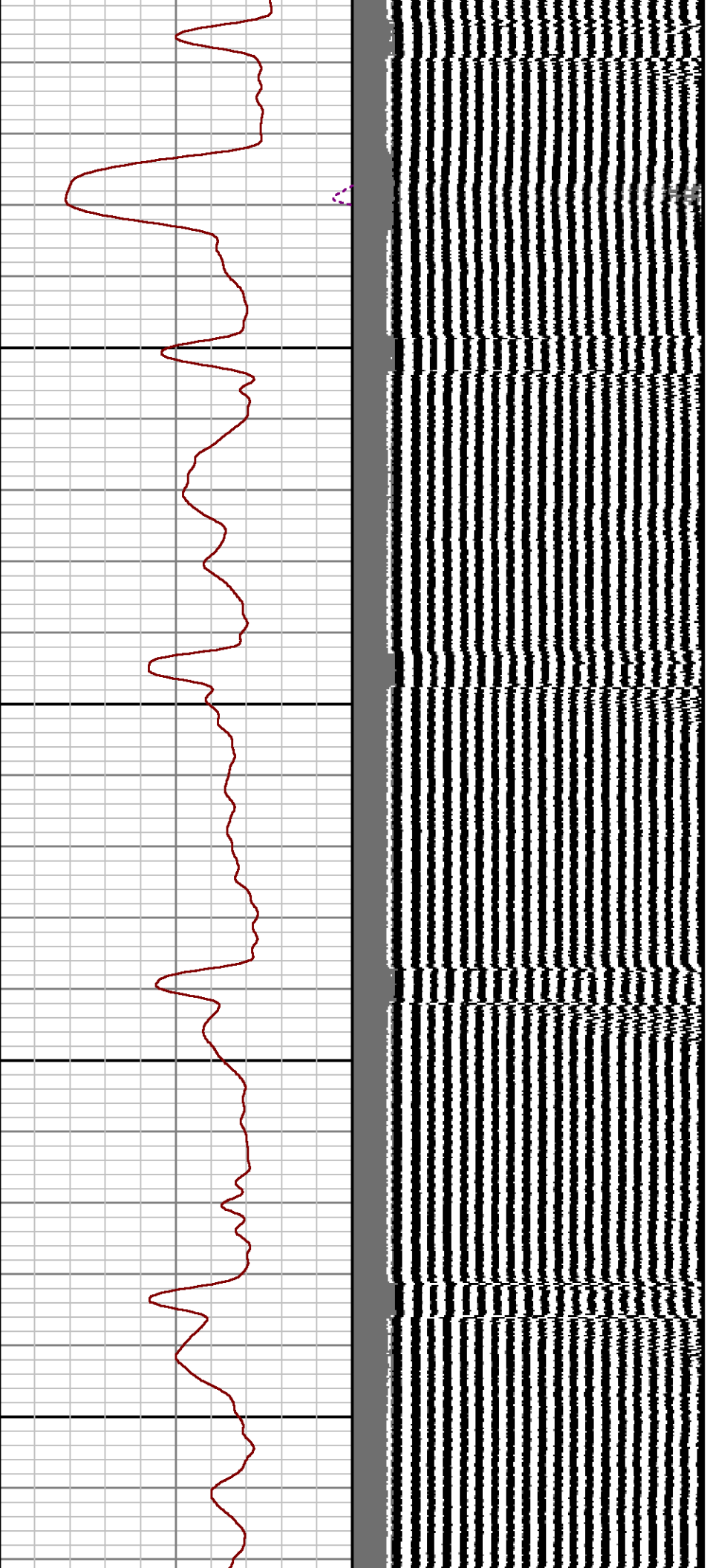




2400

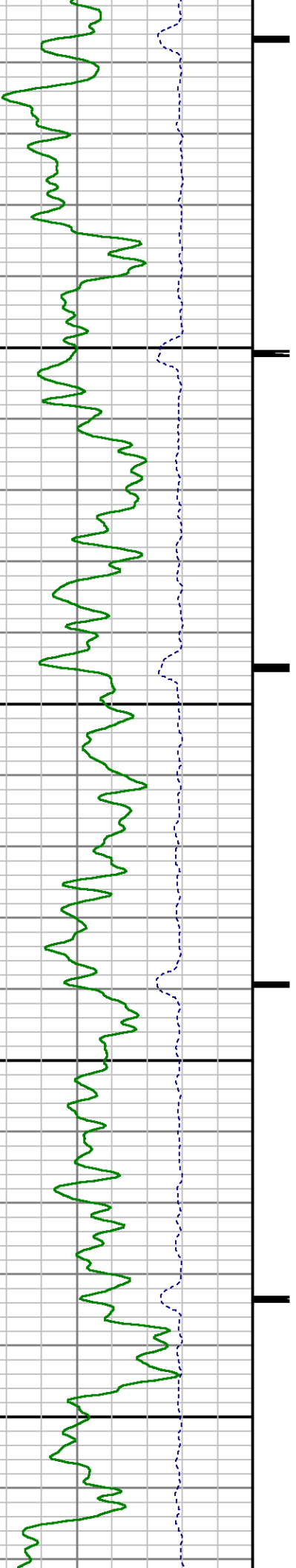
2500

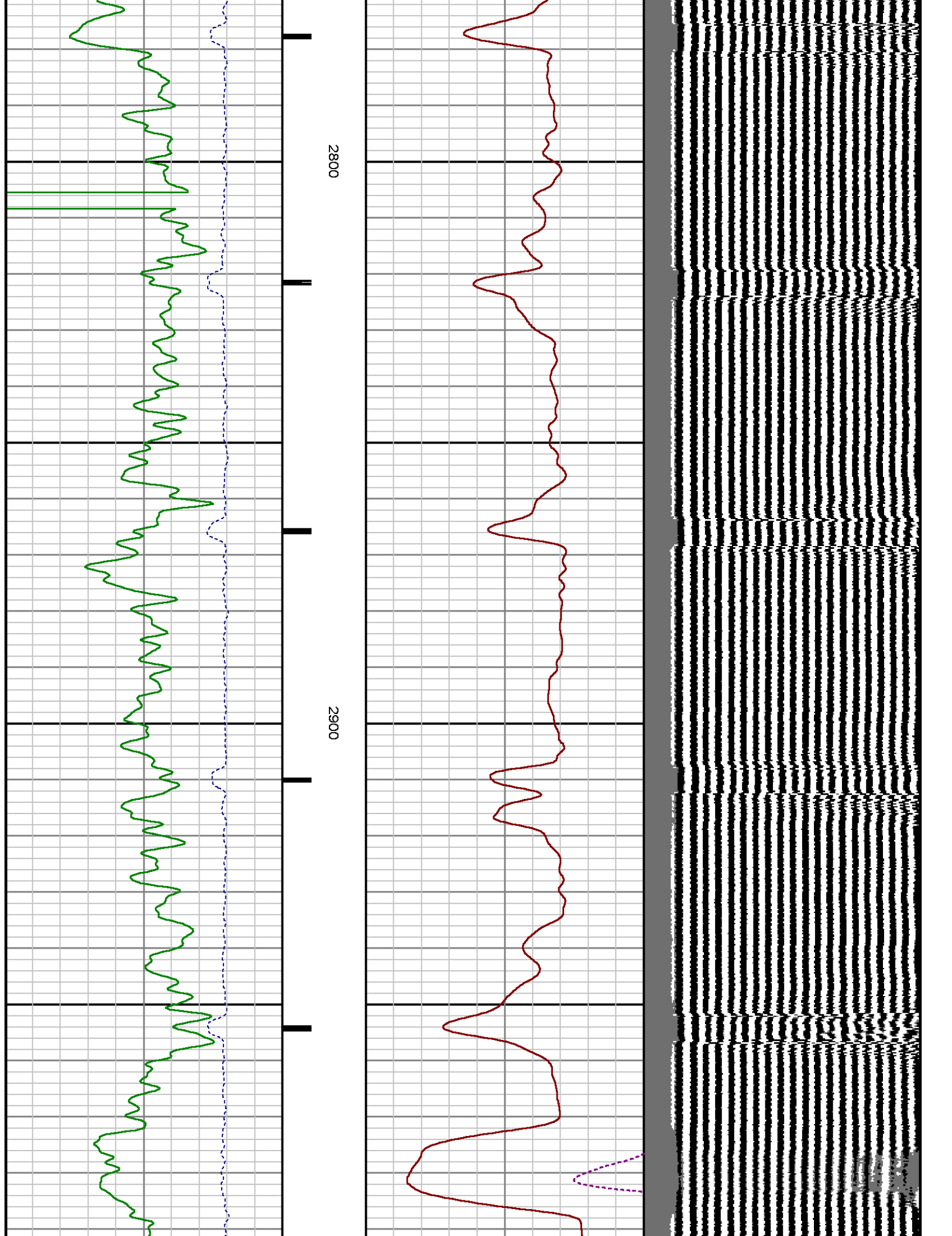


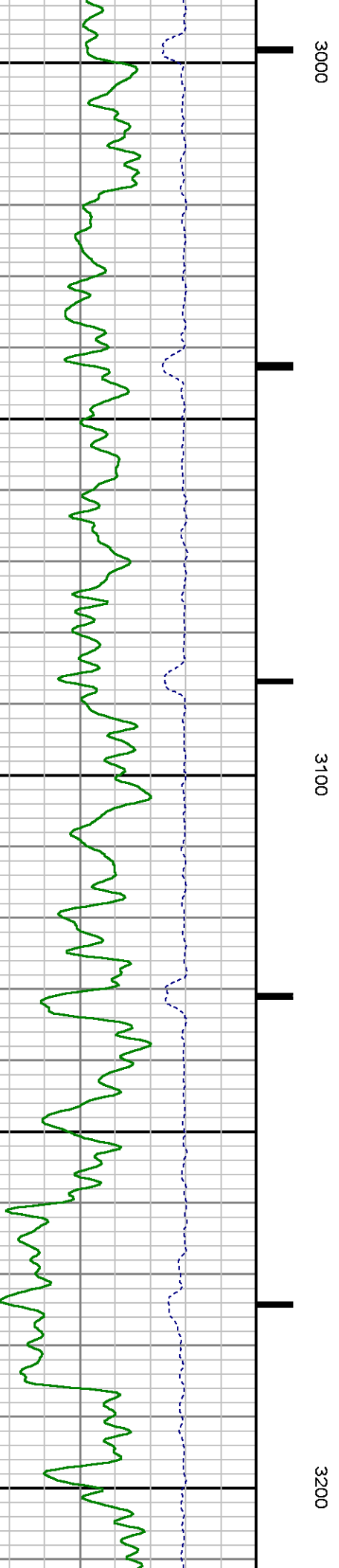
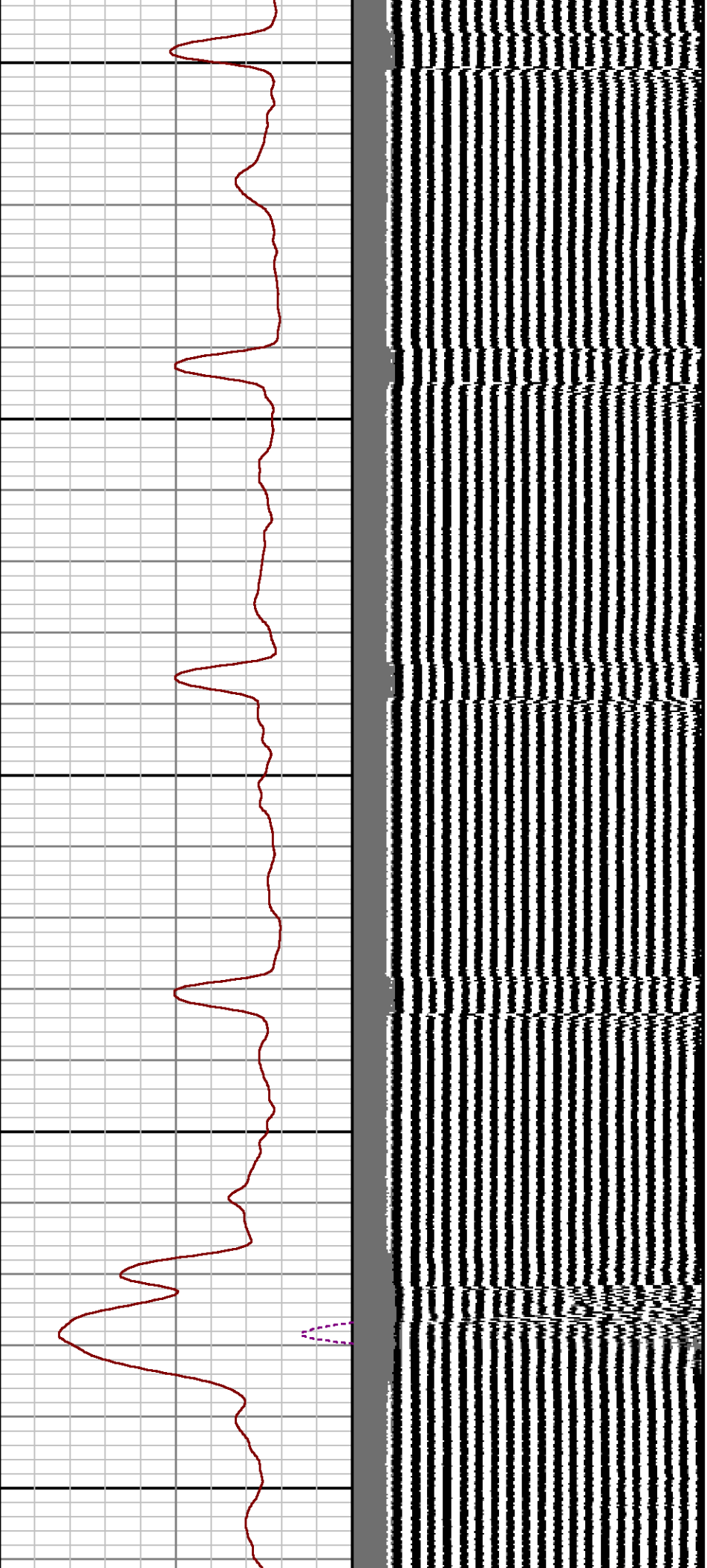


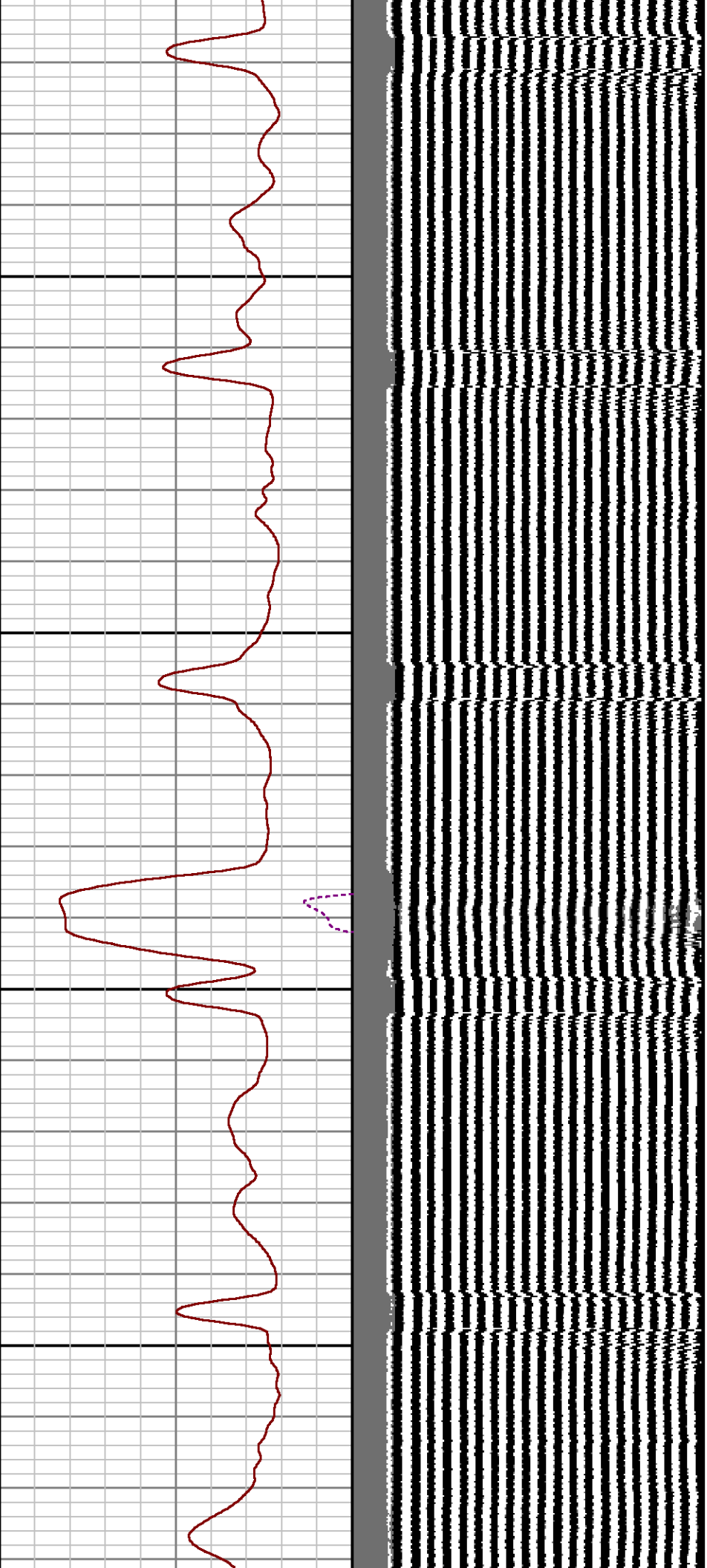
2600

2700



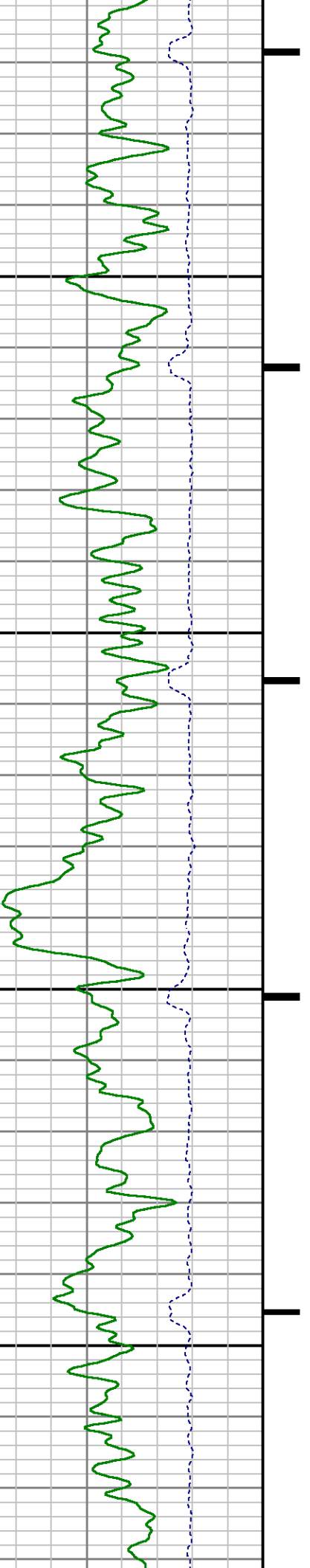


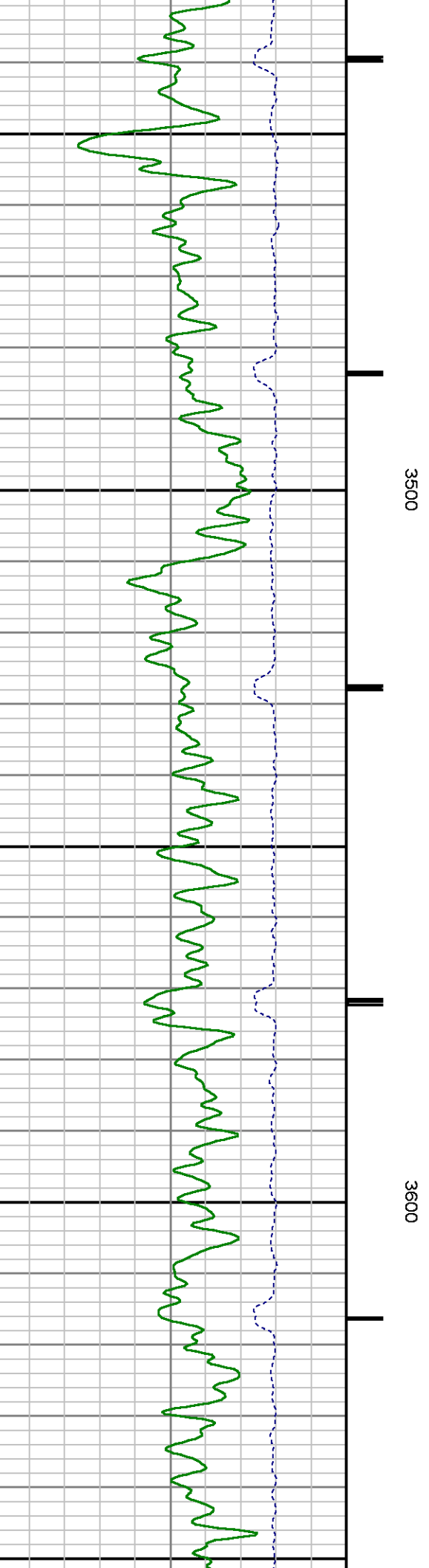
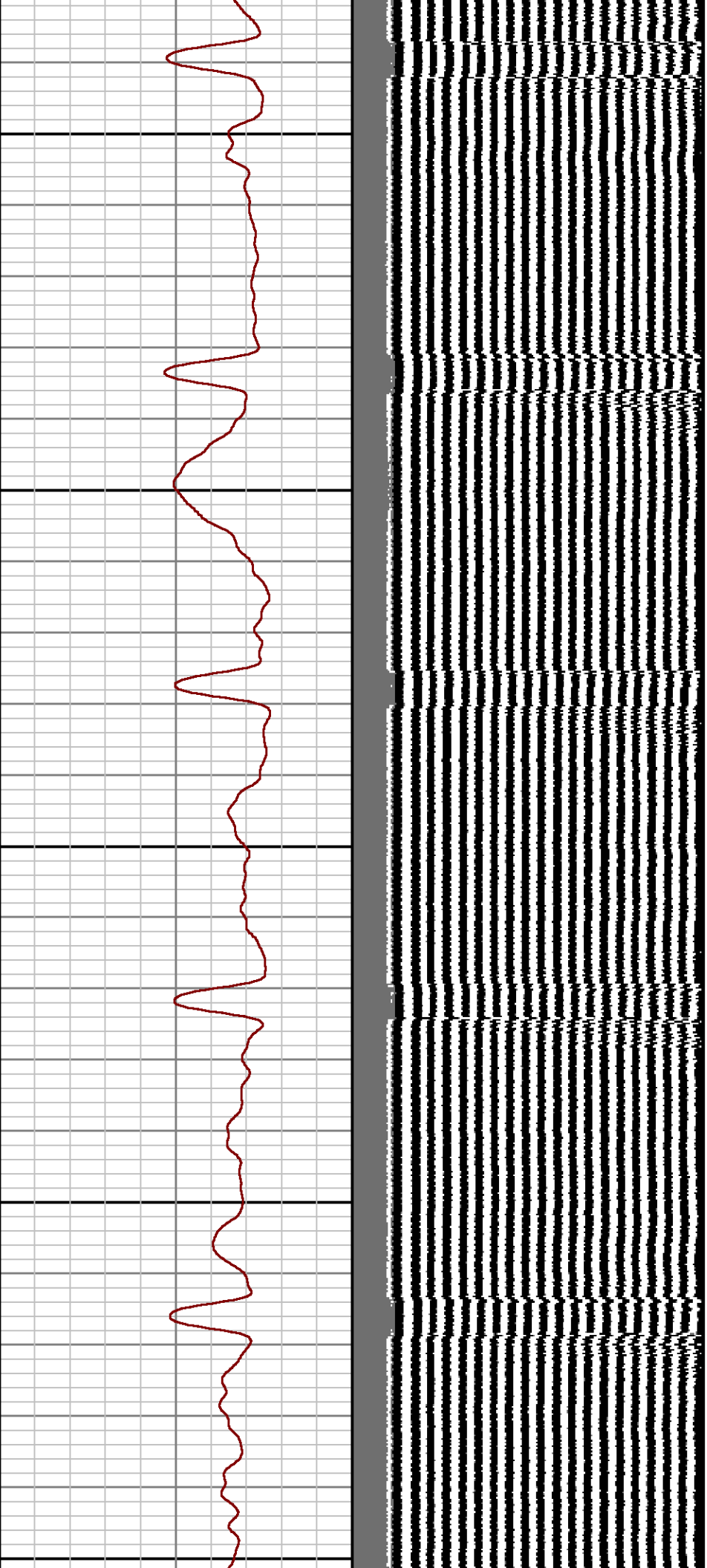


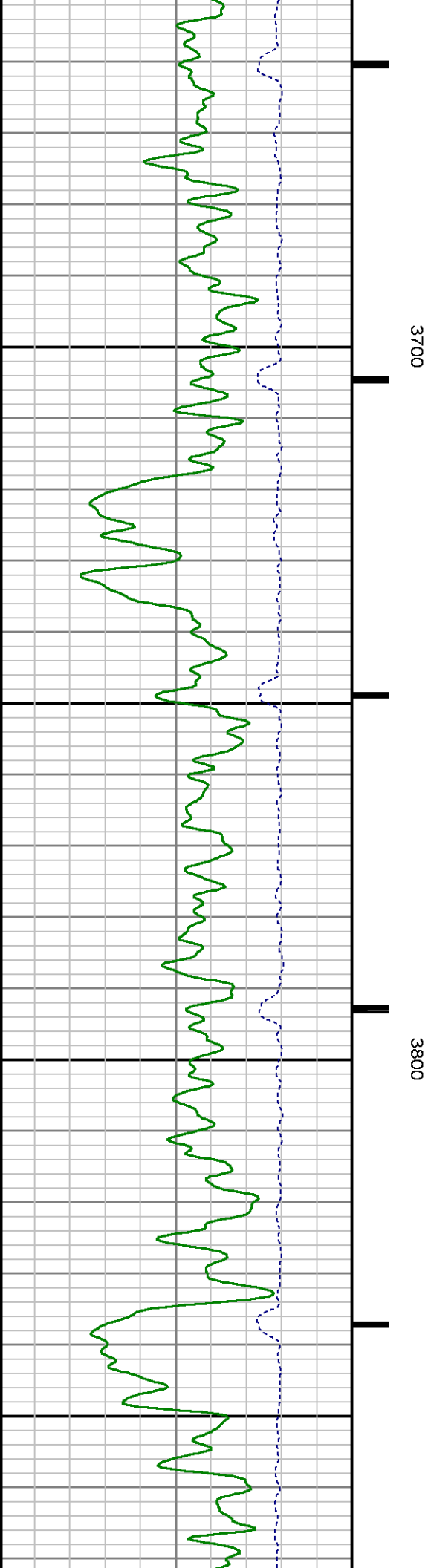
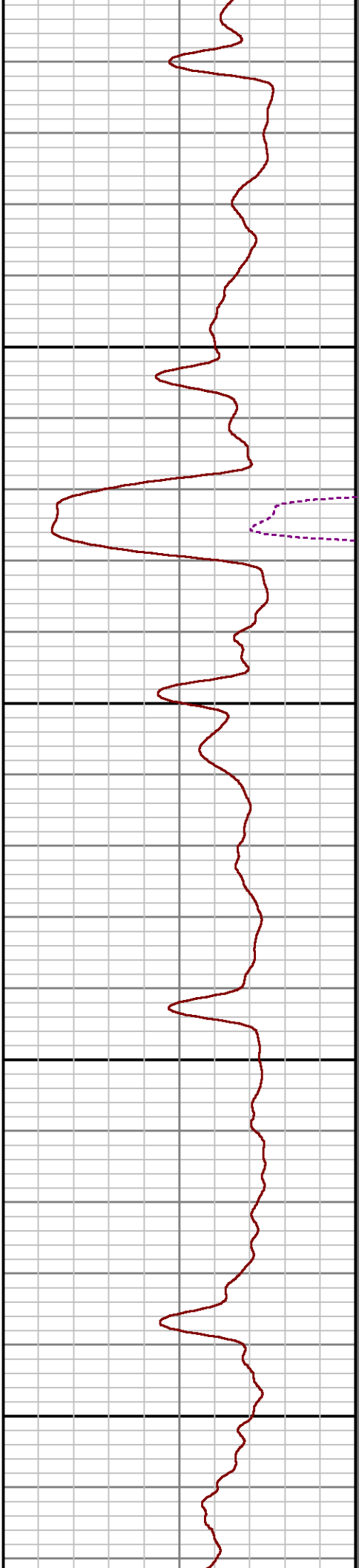
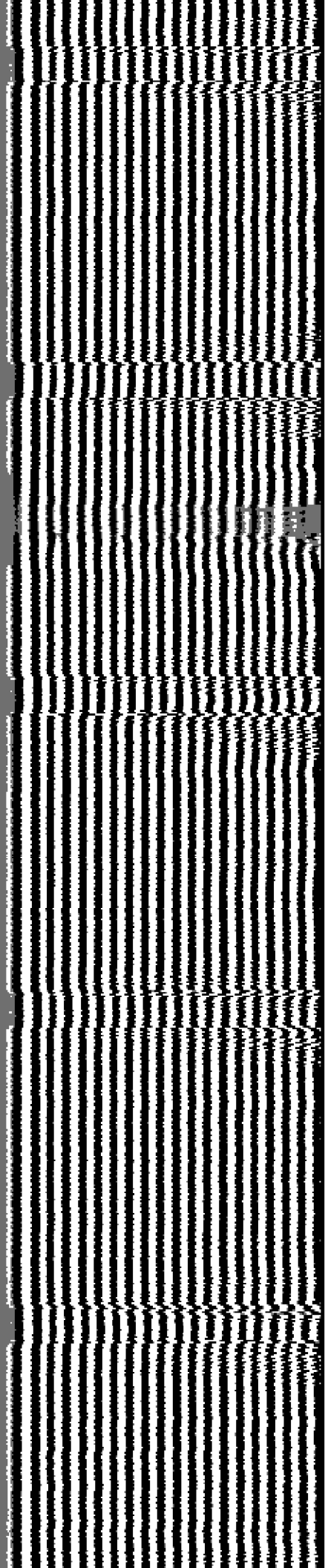


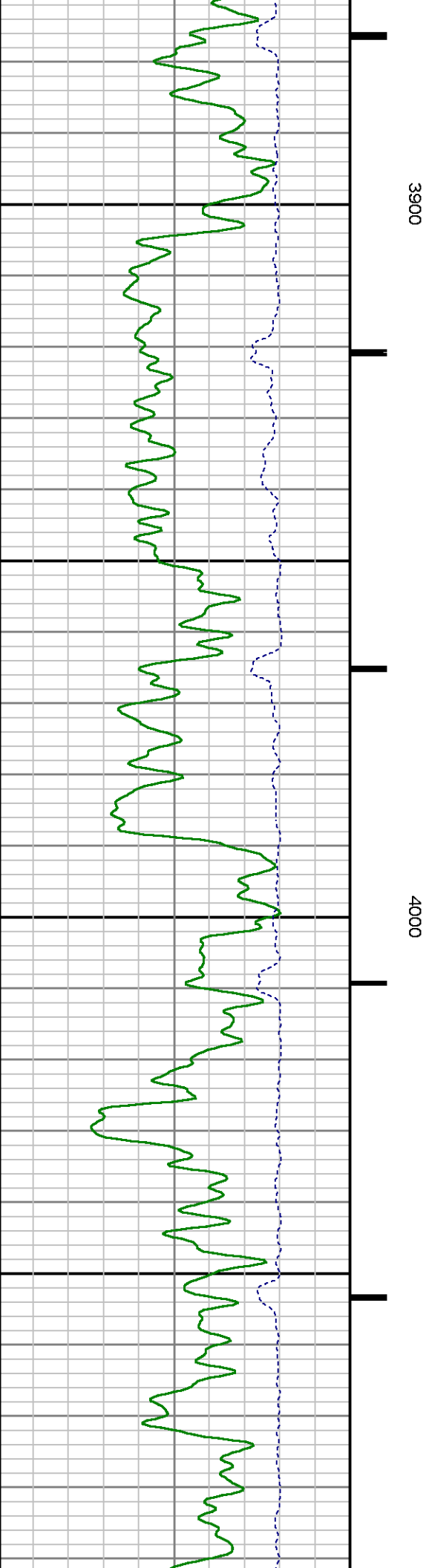
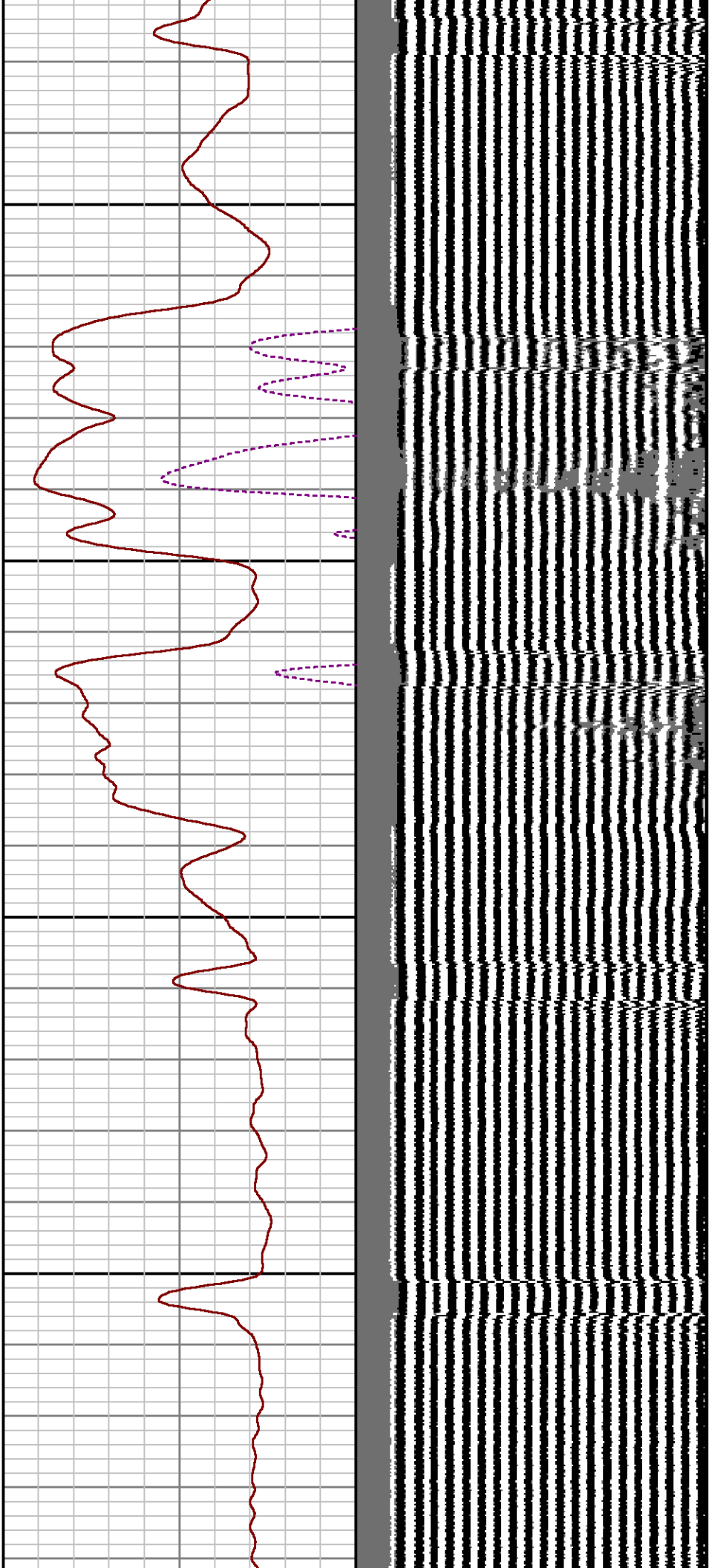
3300

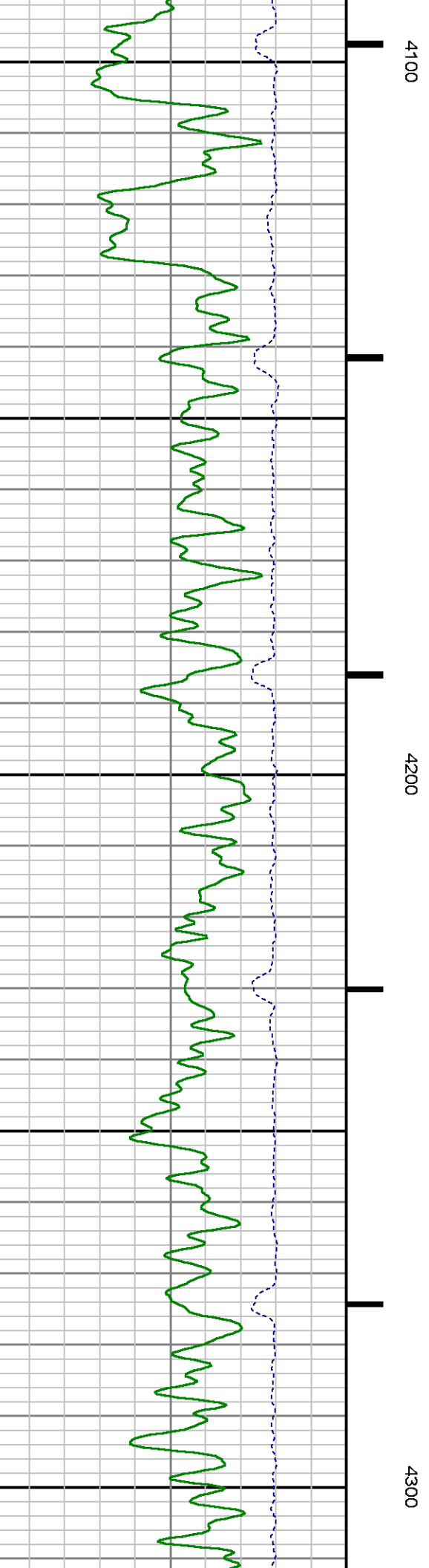
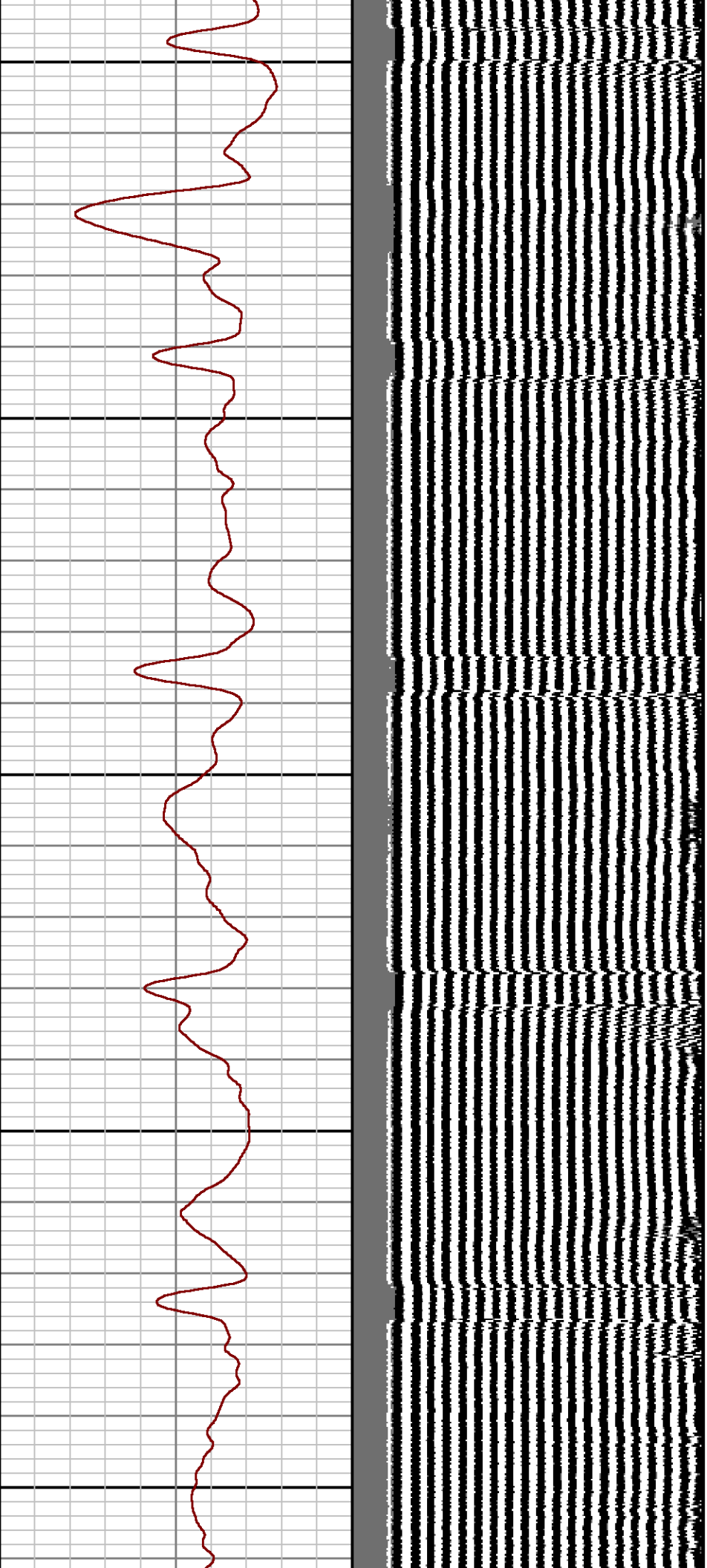
3400

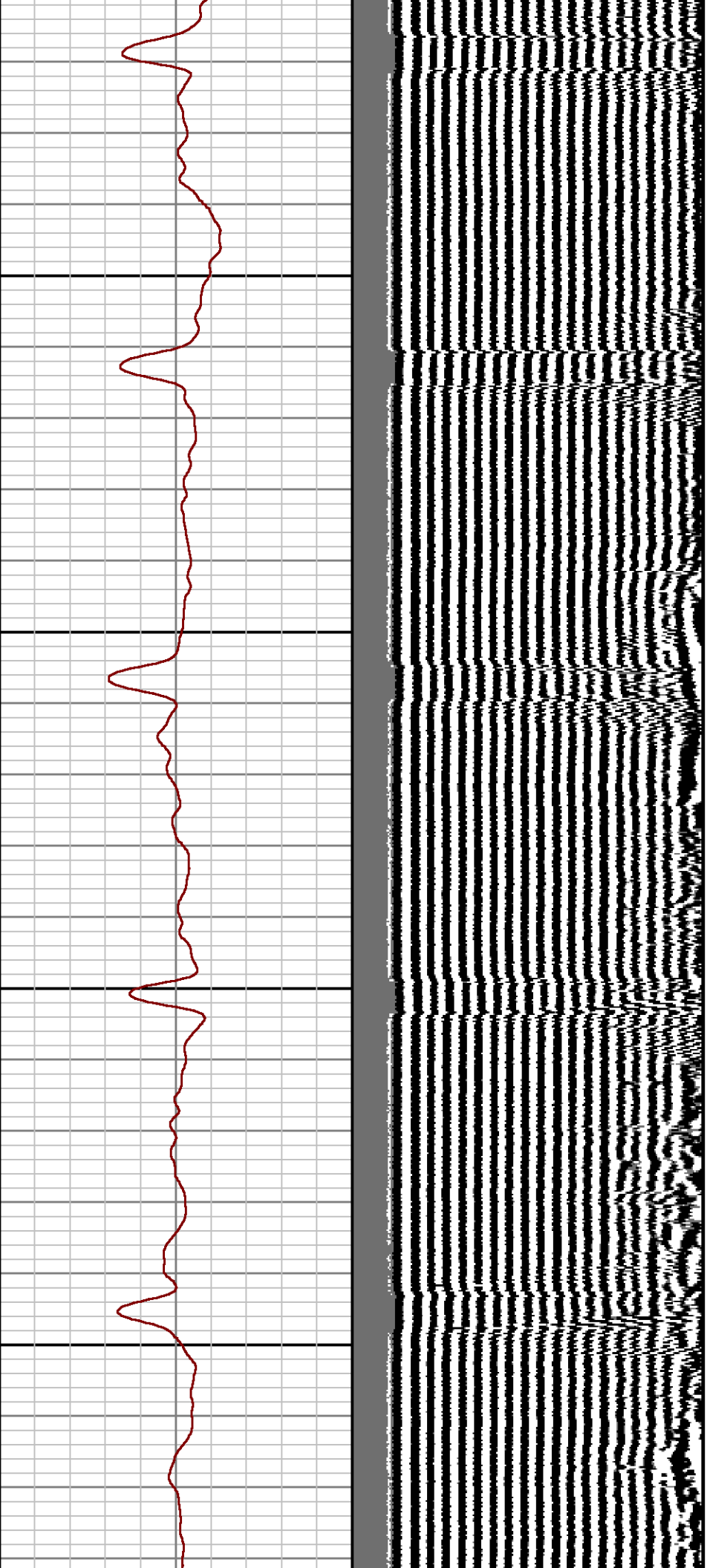






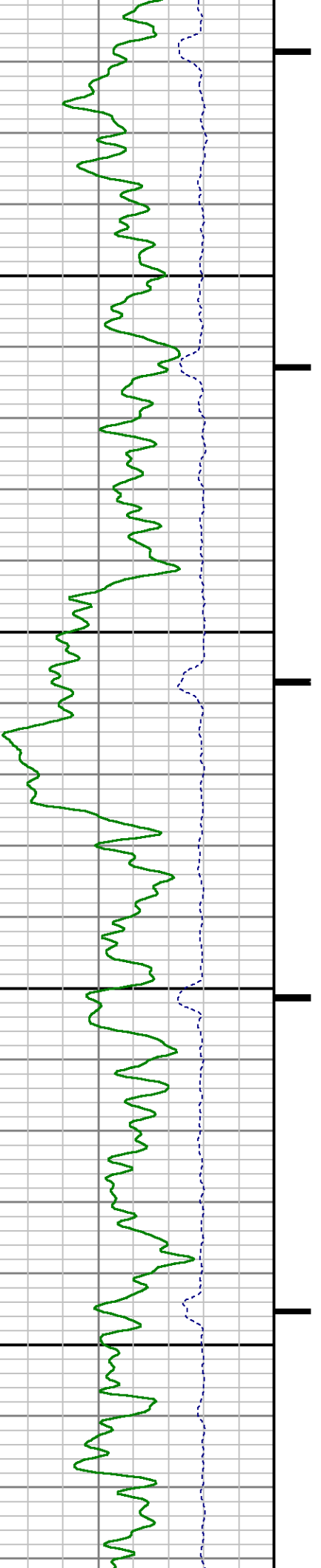


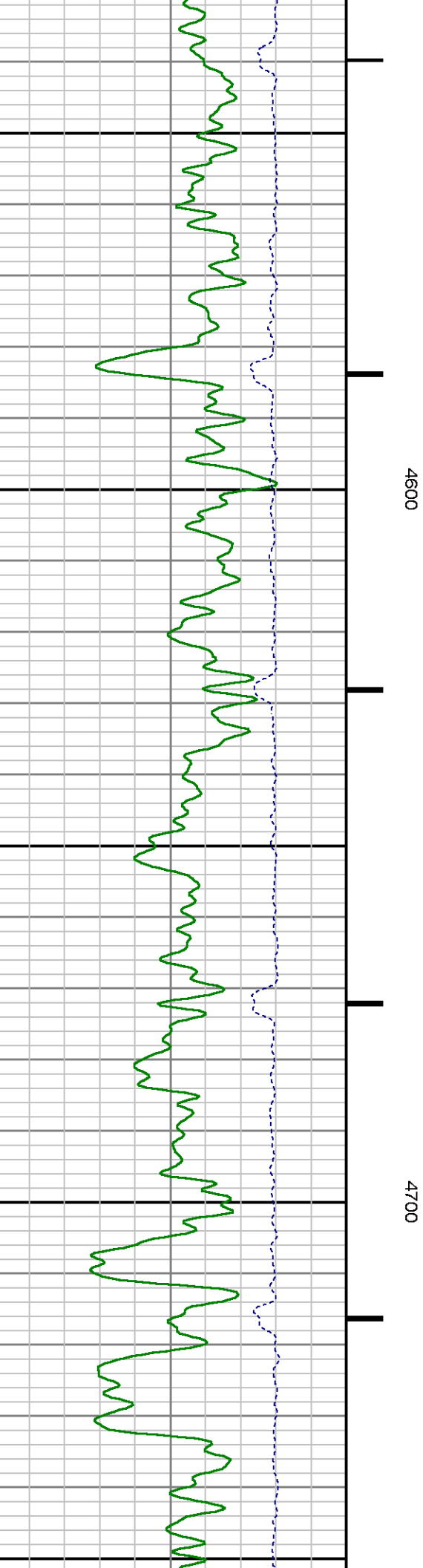
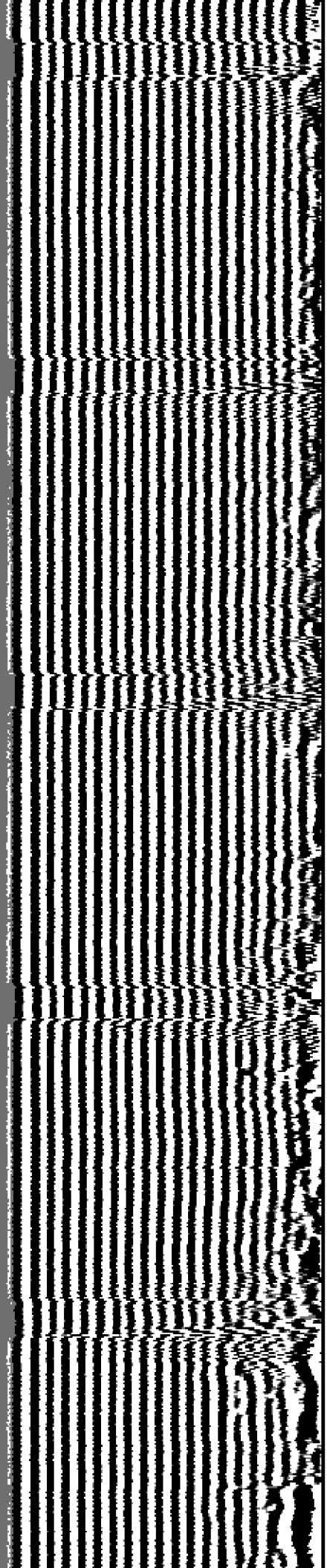


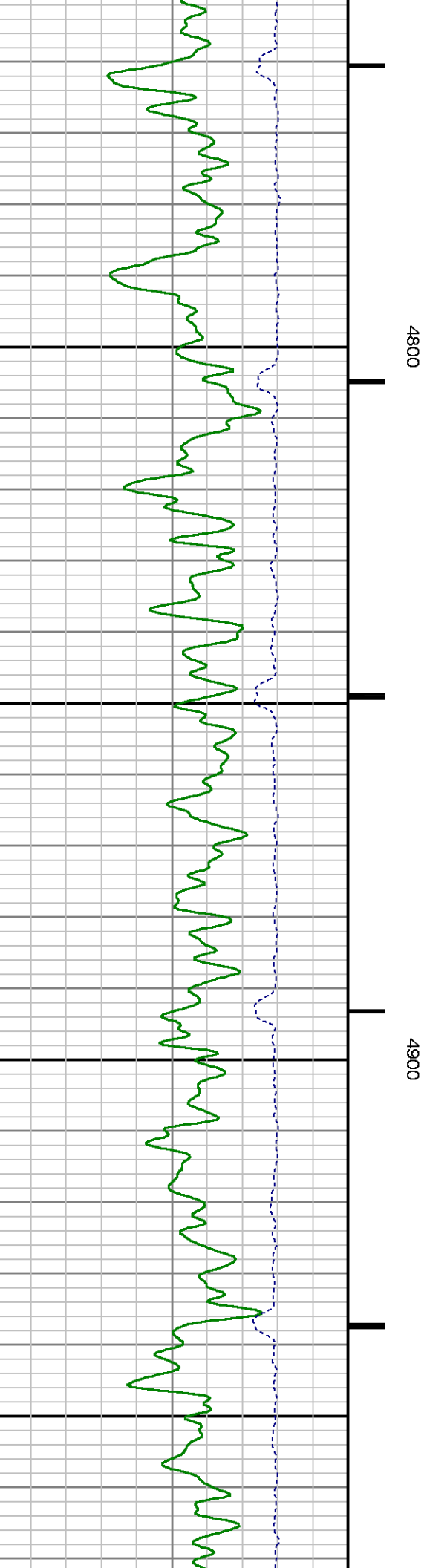
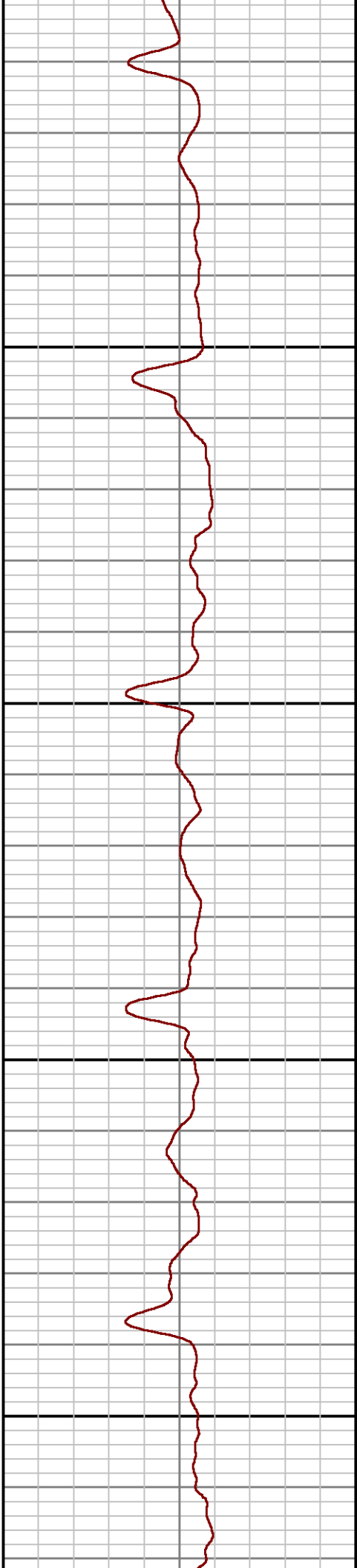
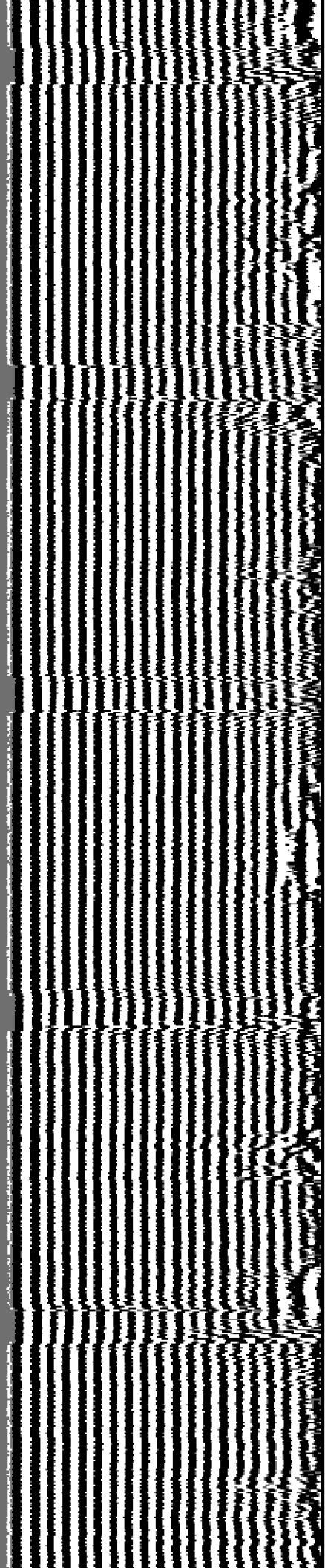


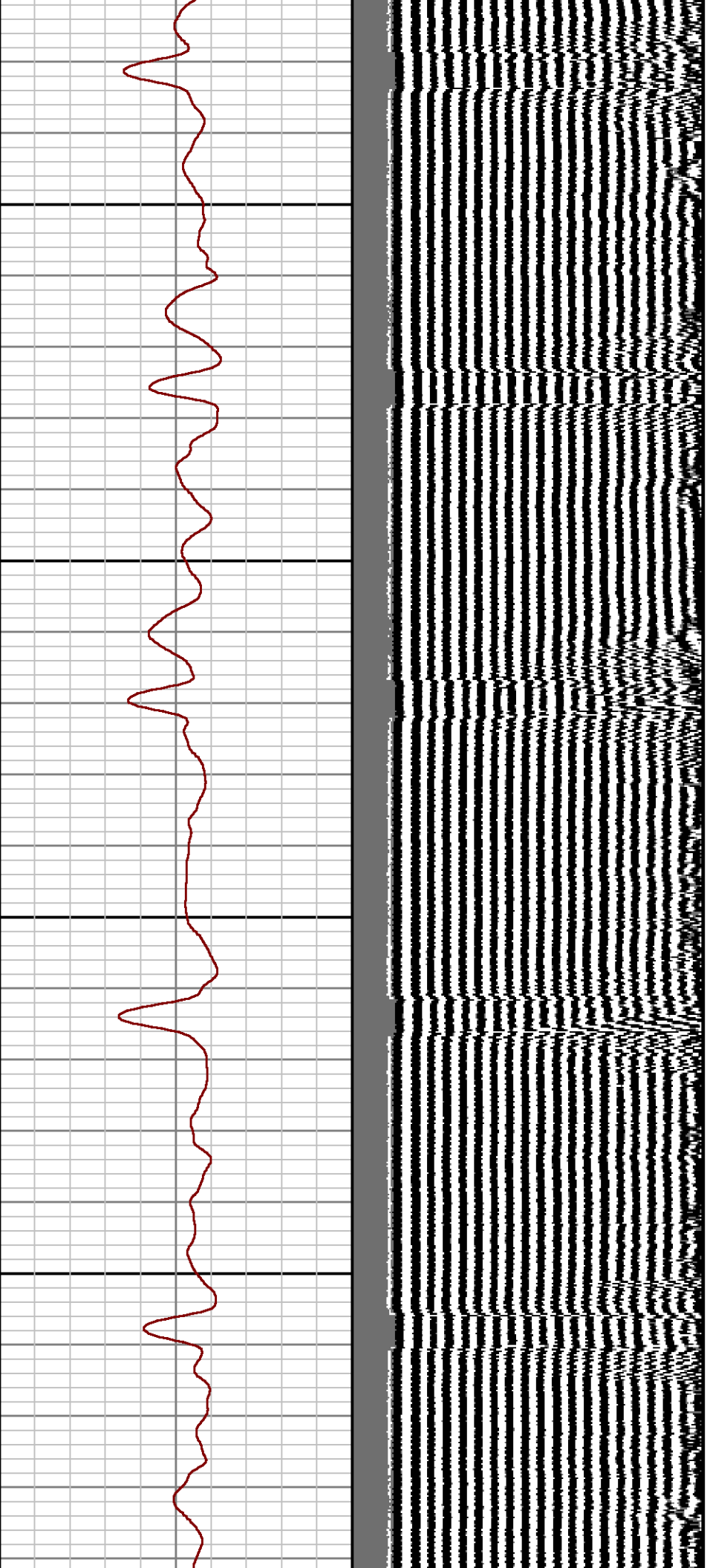
4400

4500



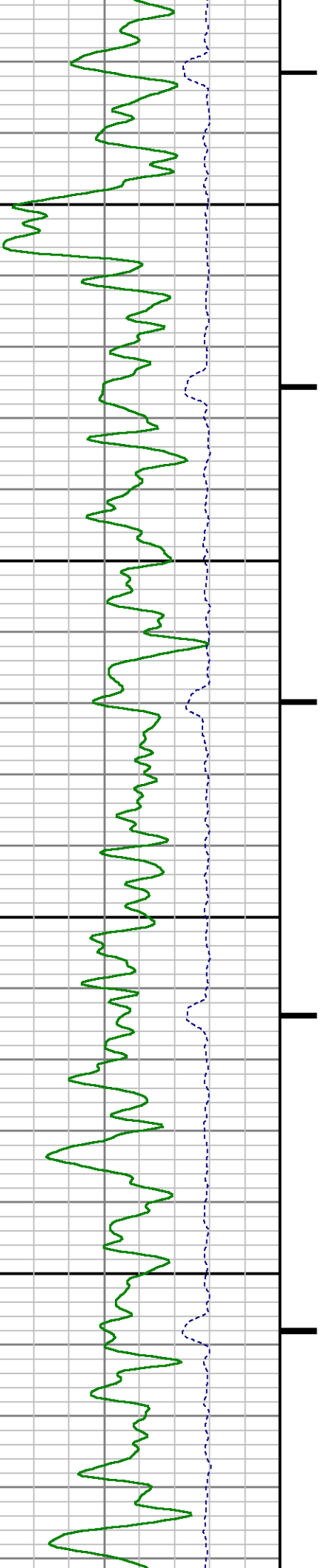


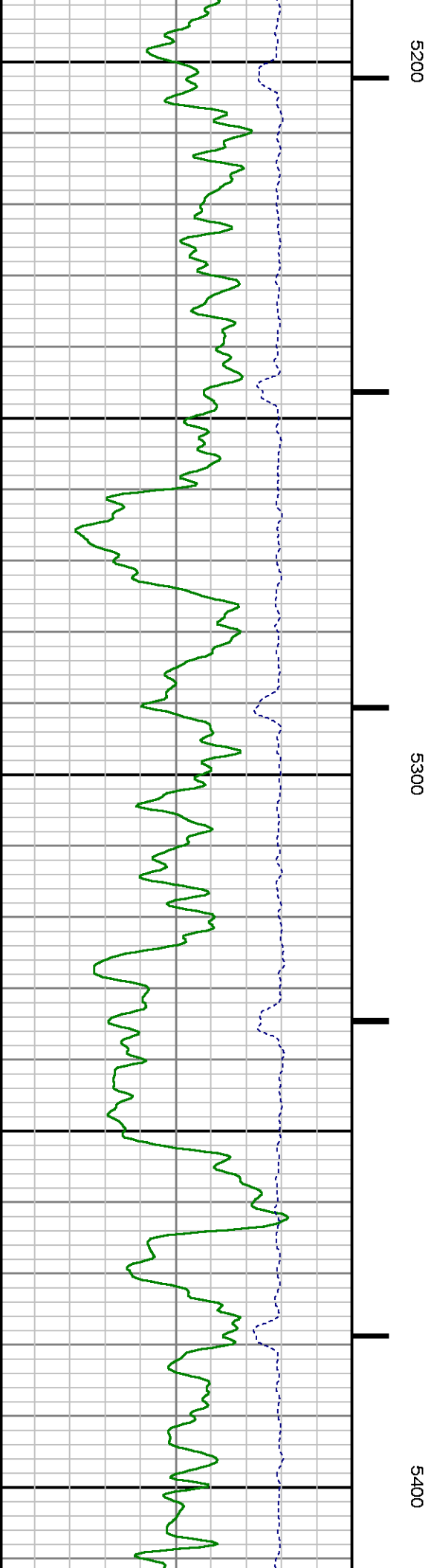
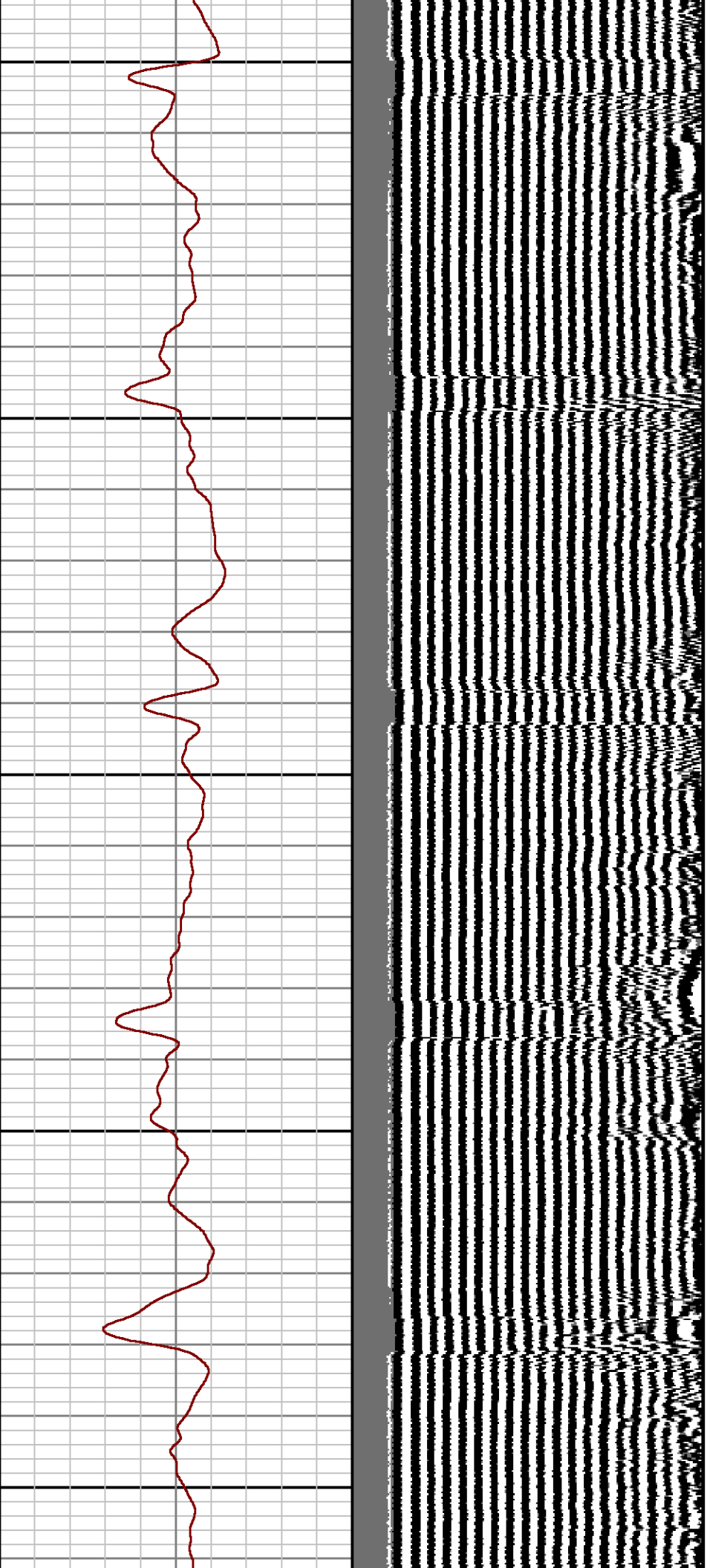


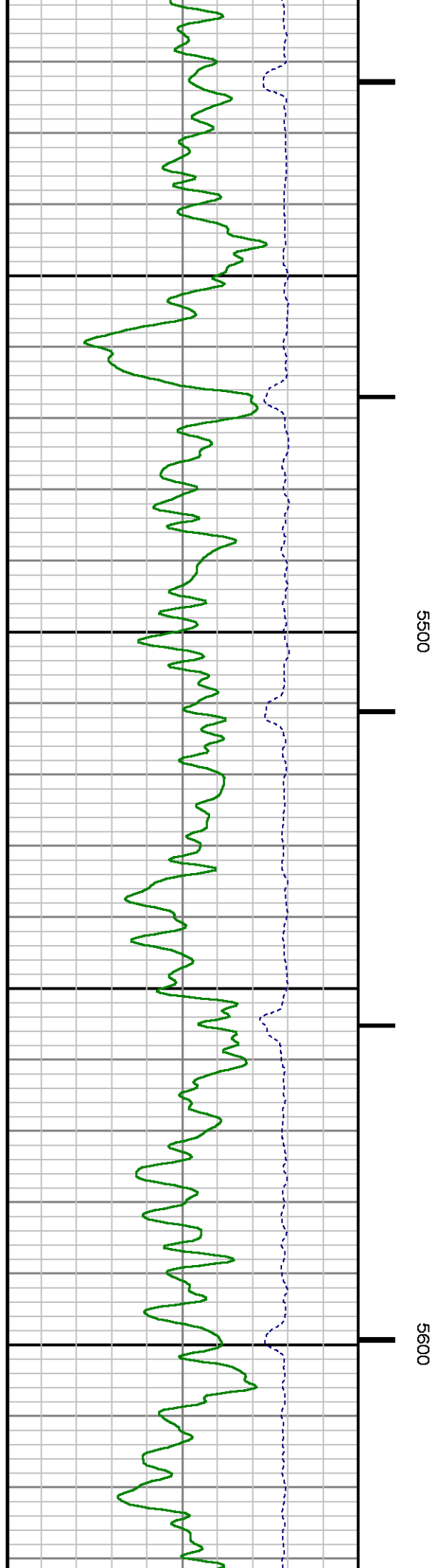
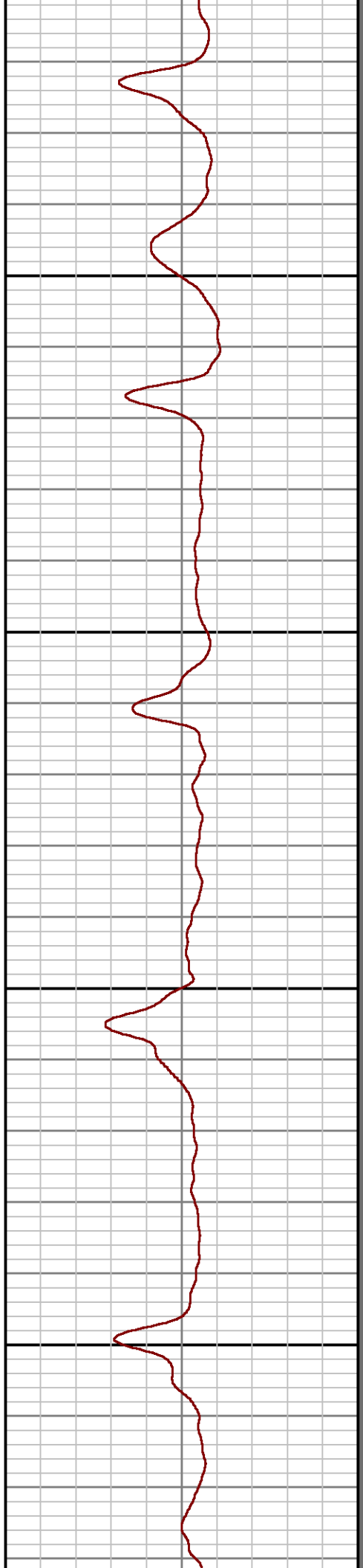
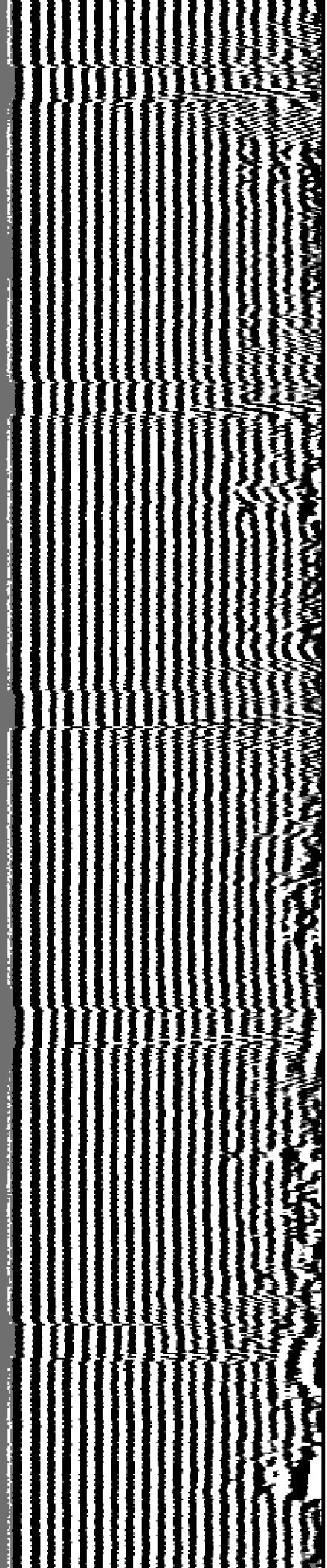


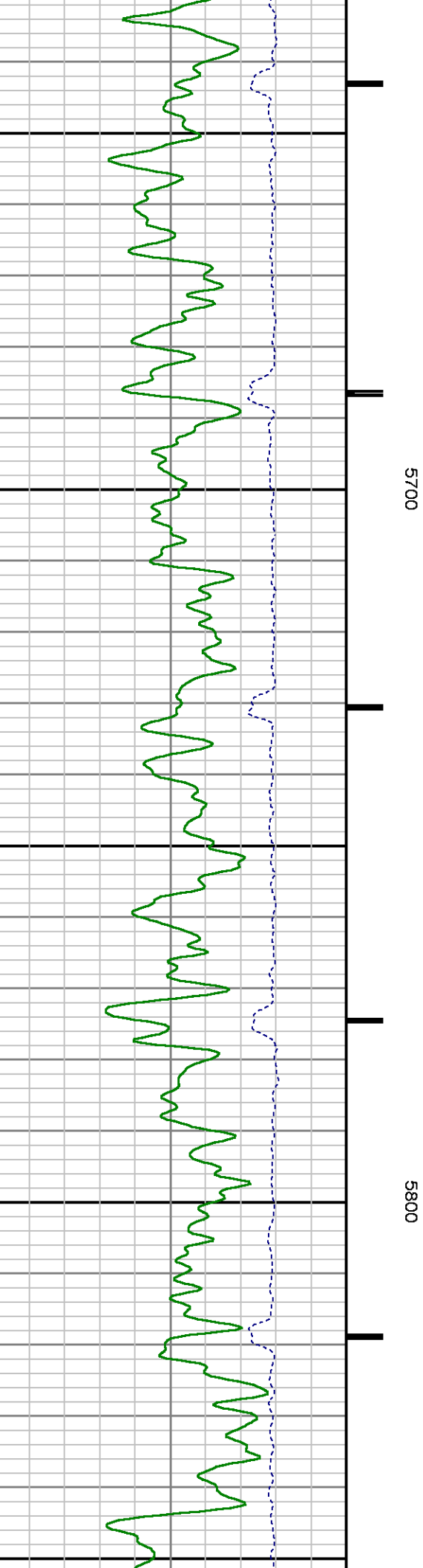
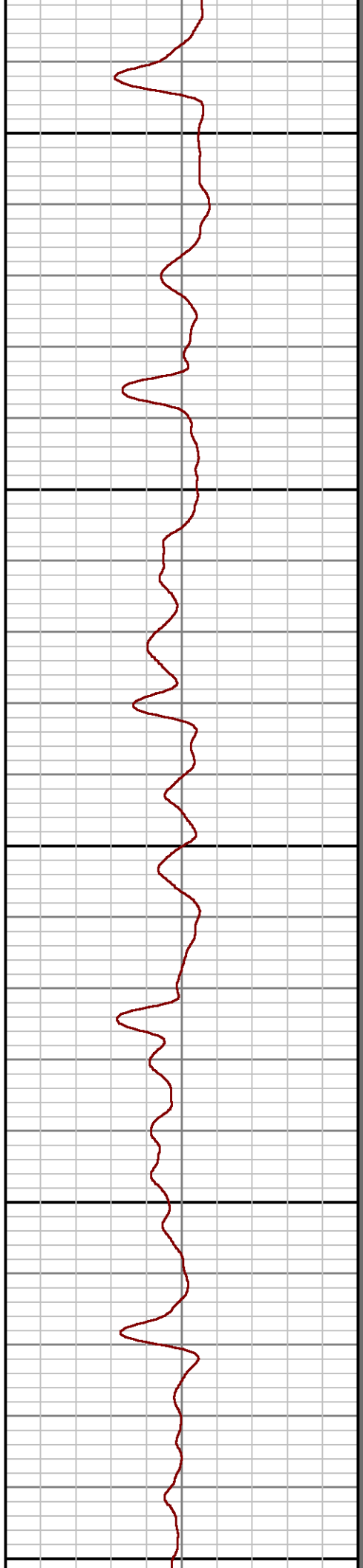
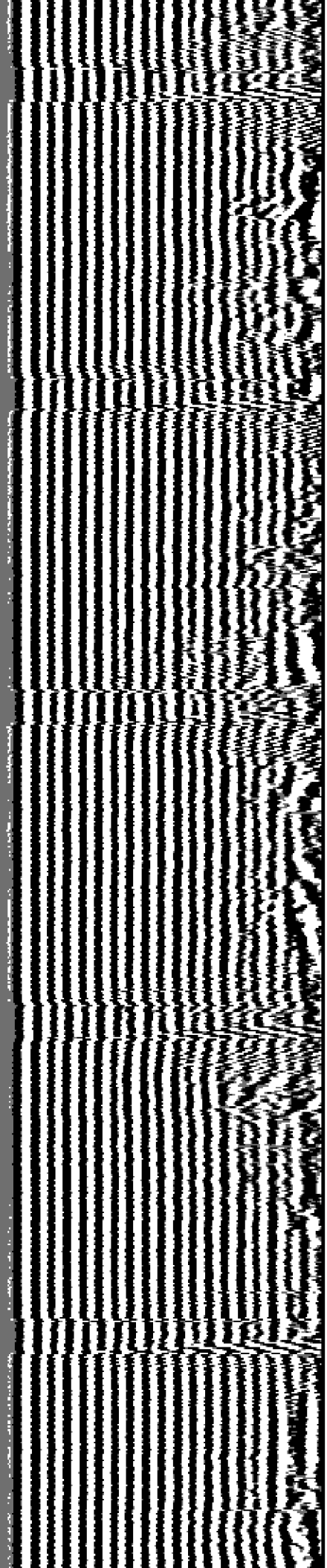
5000

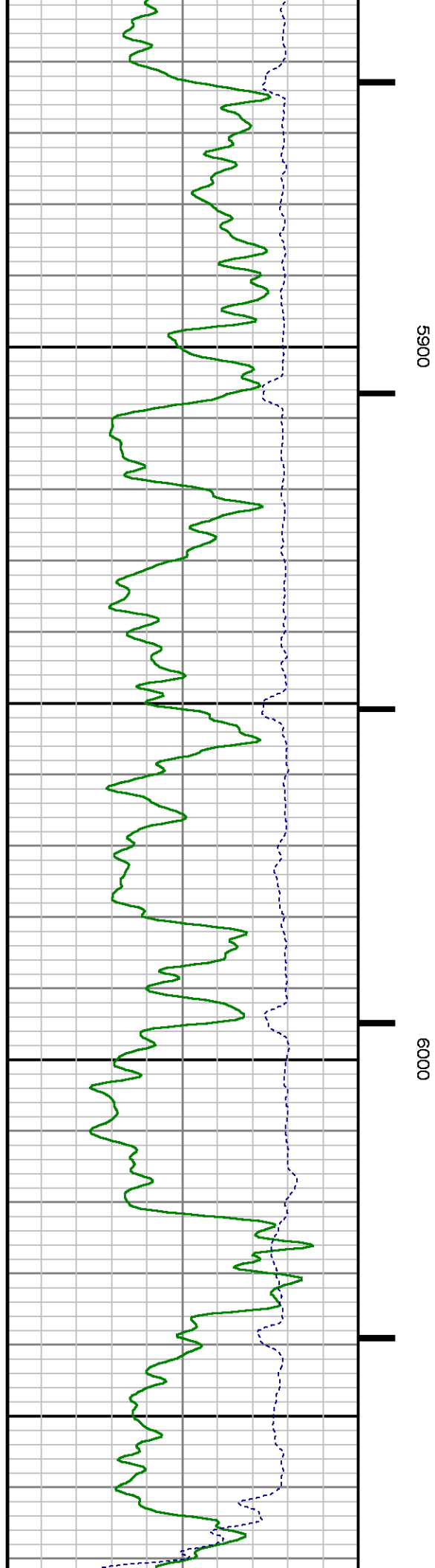
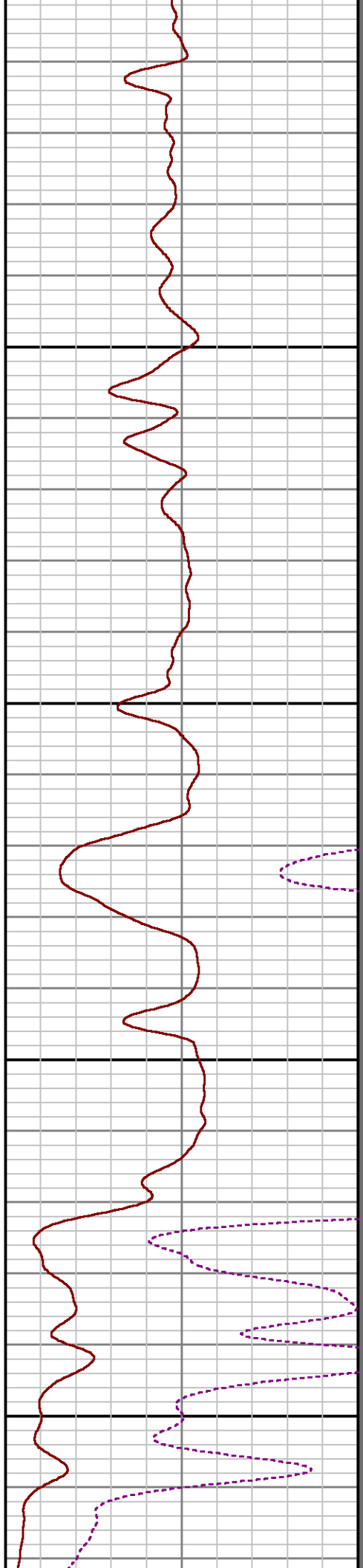
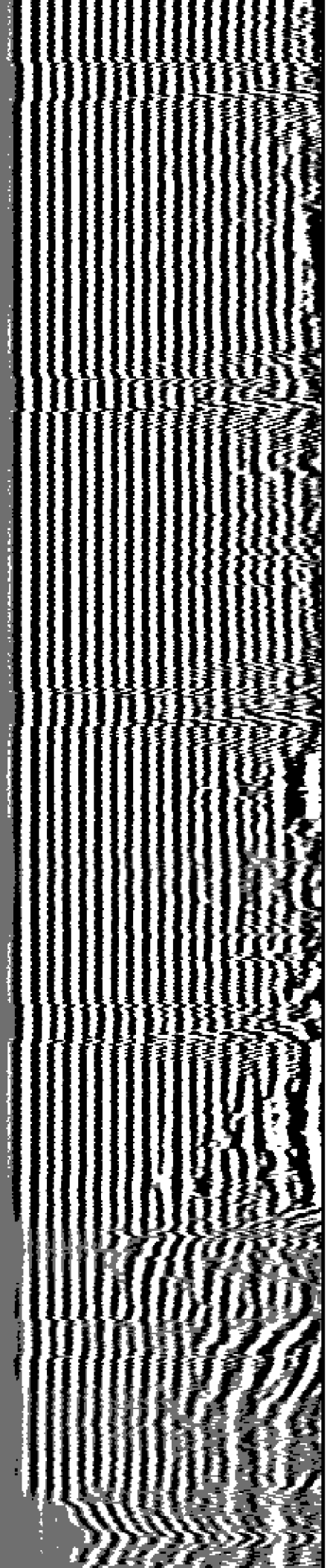
5100

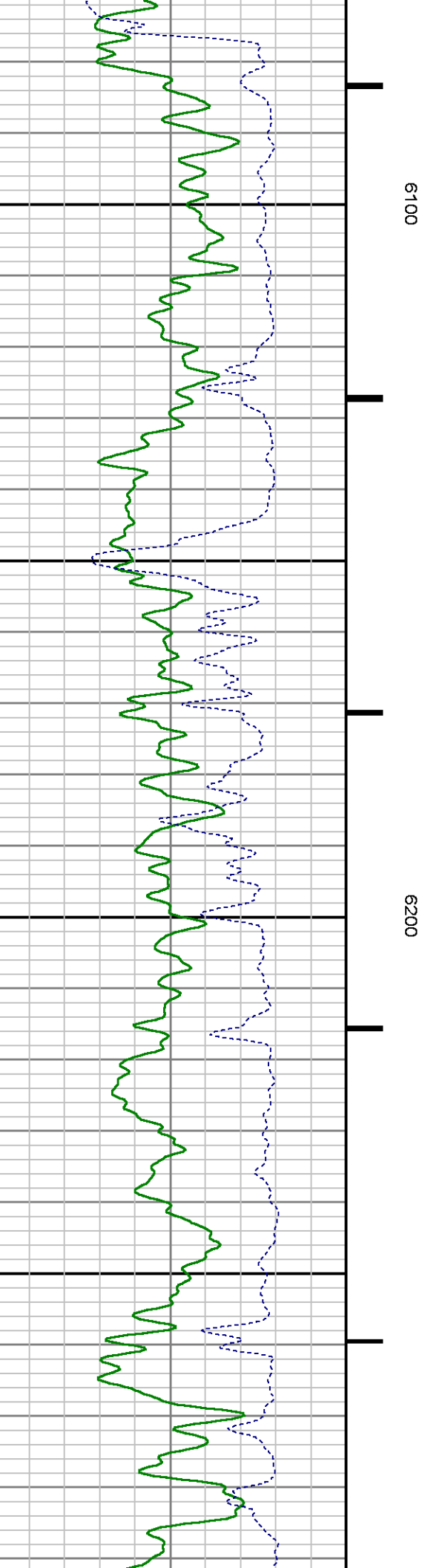
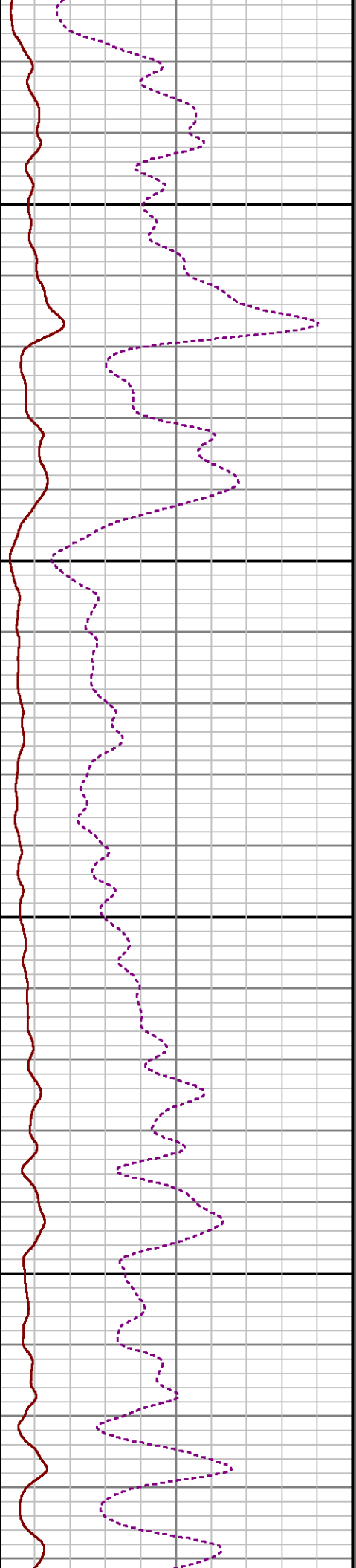
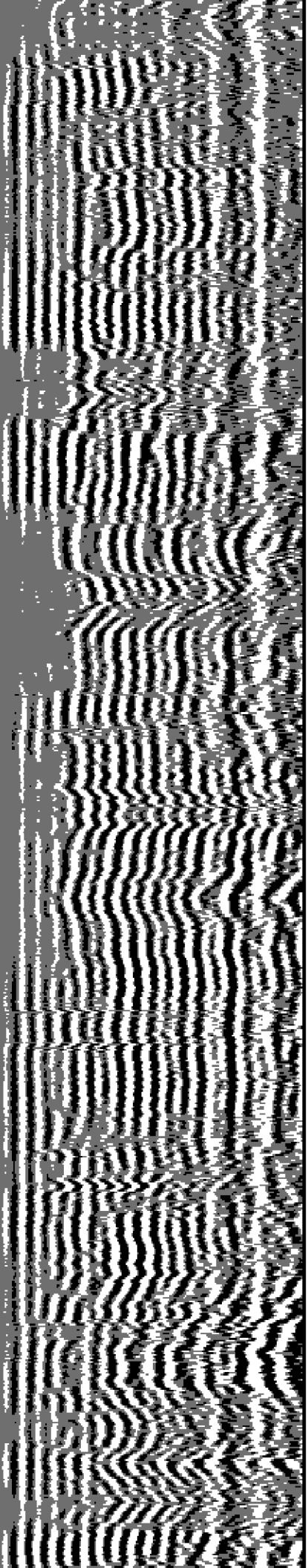


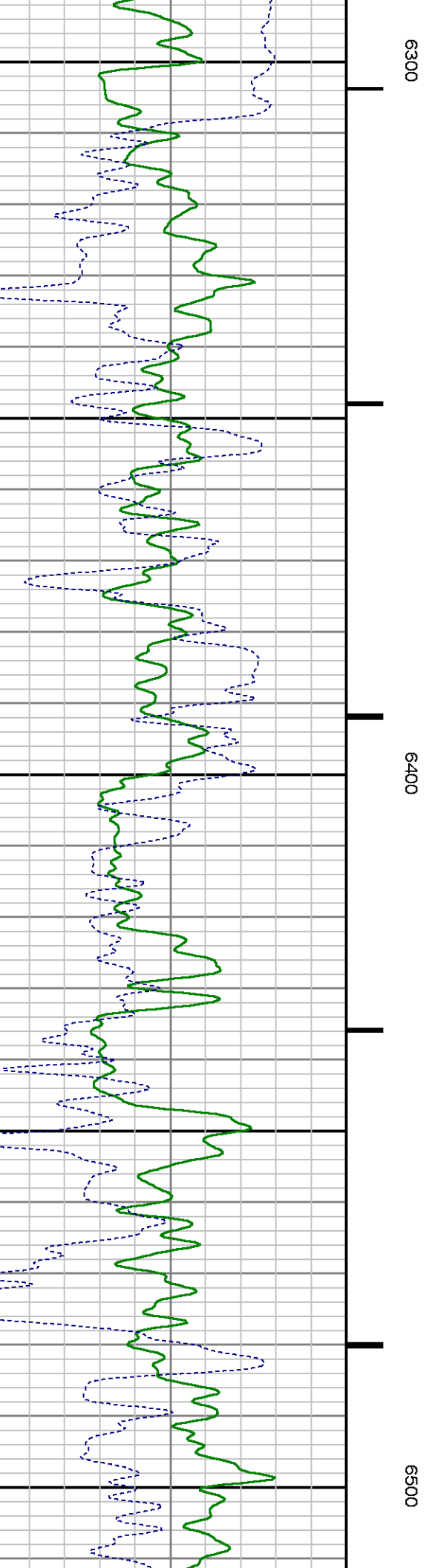
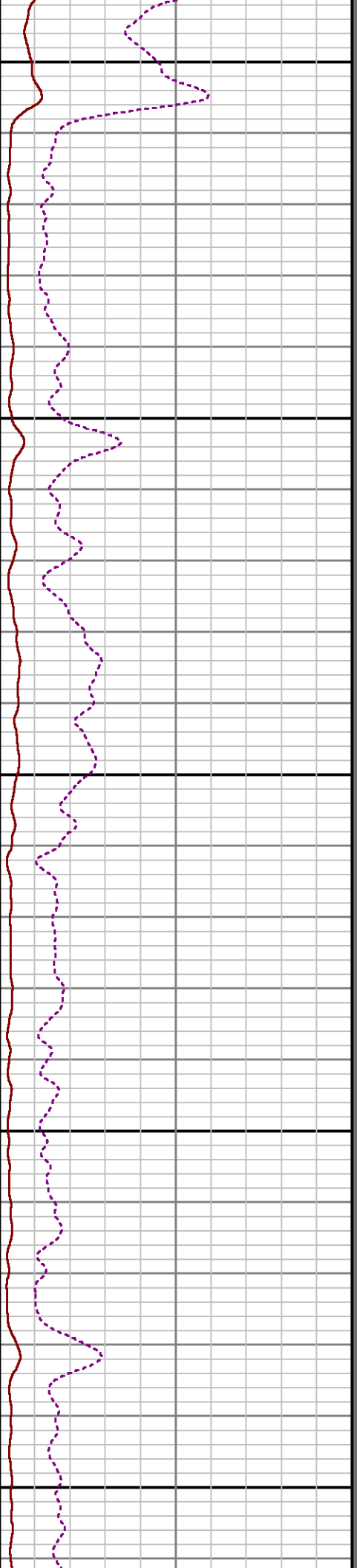
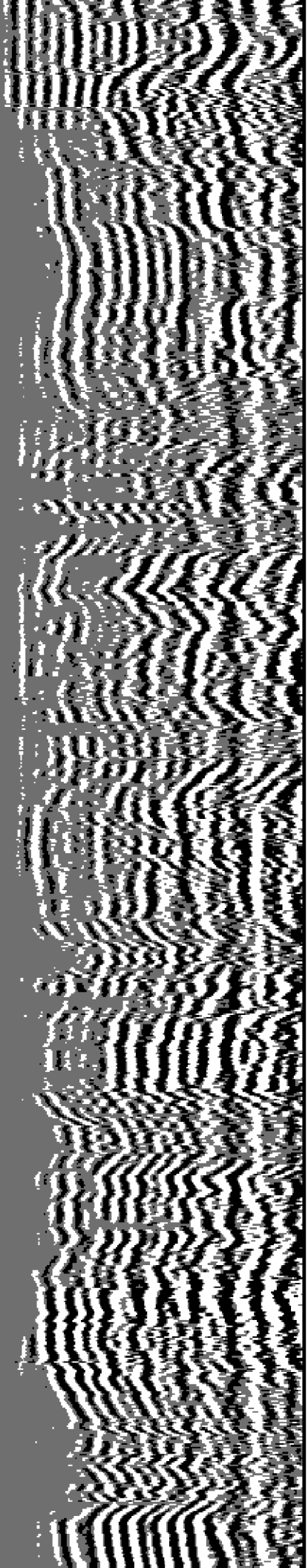


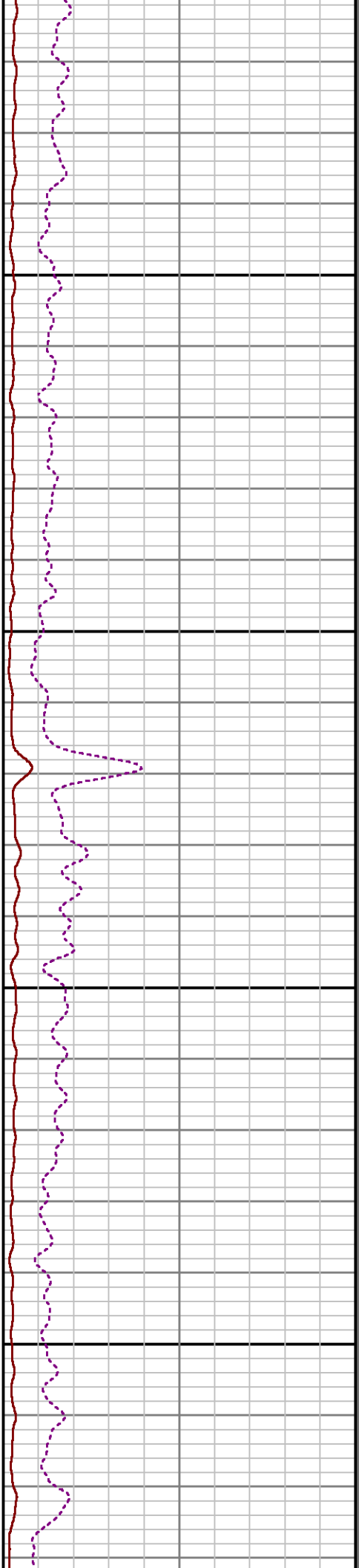
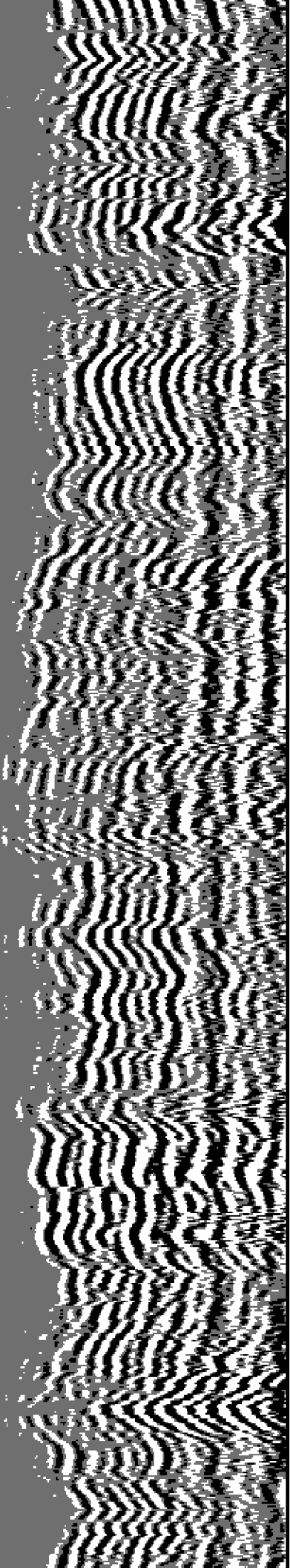






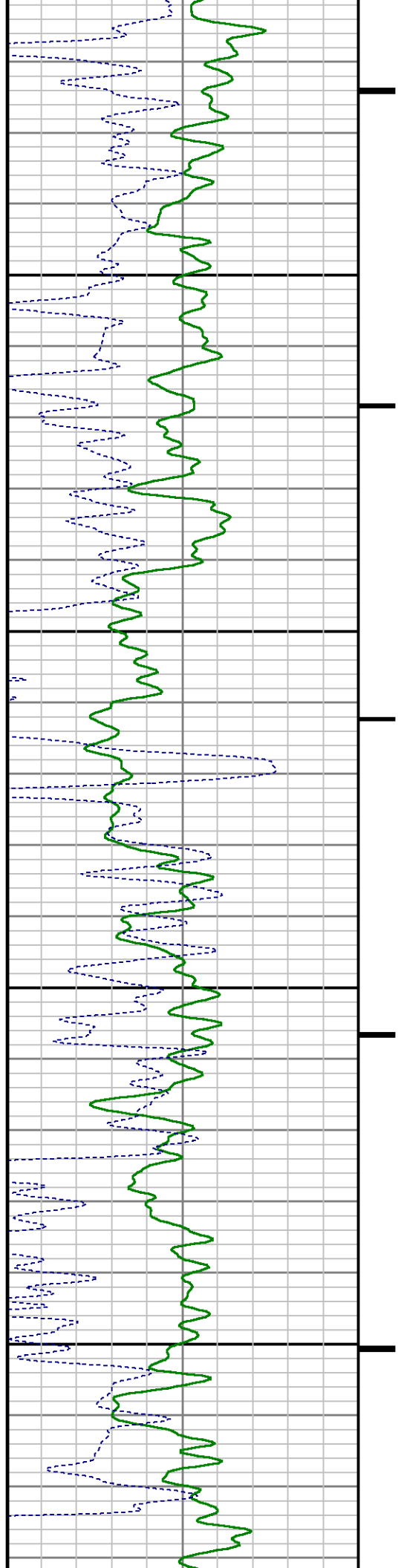


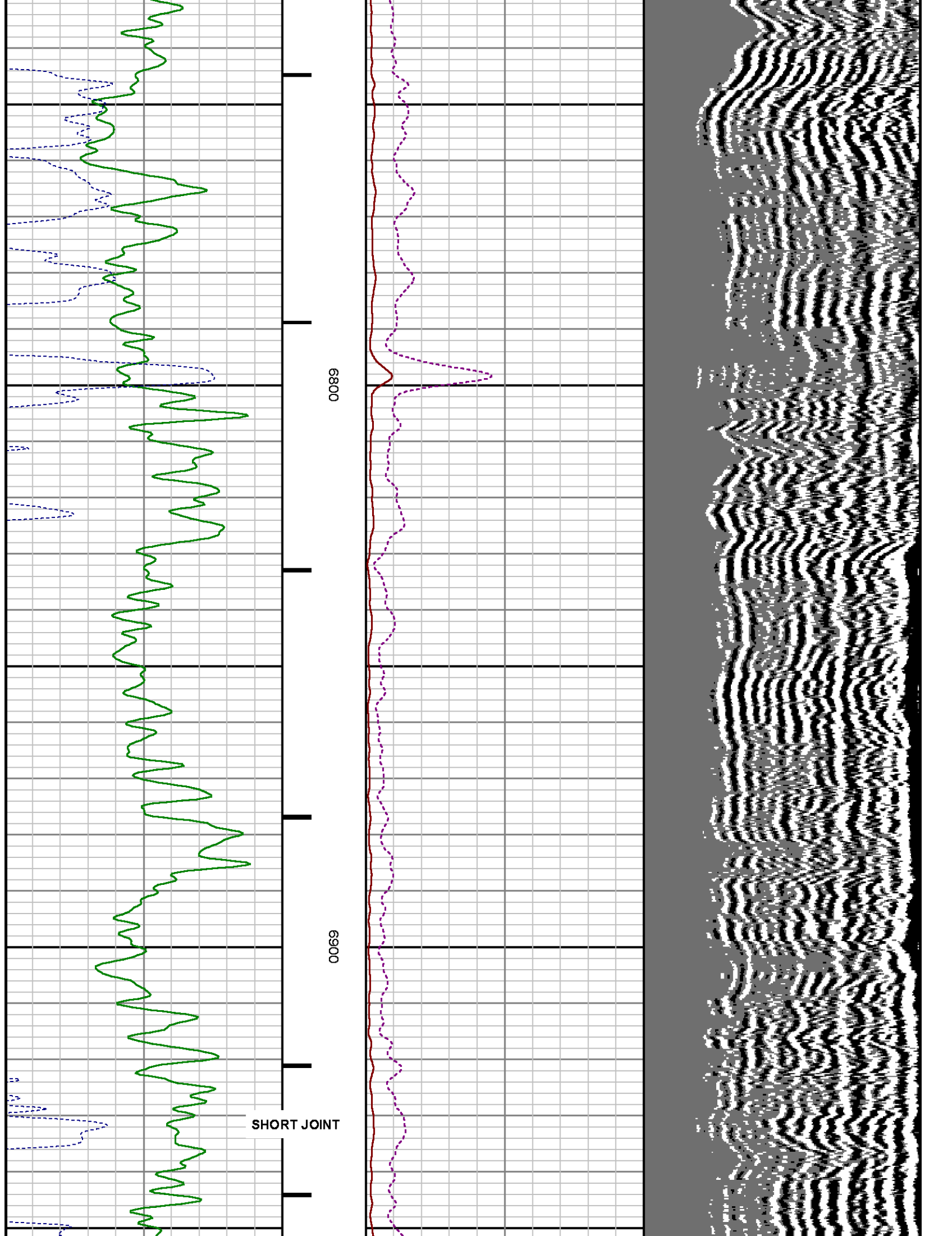


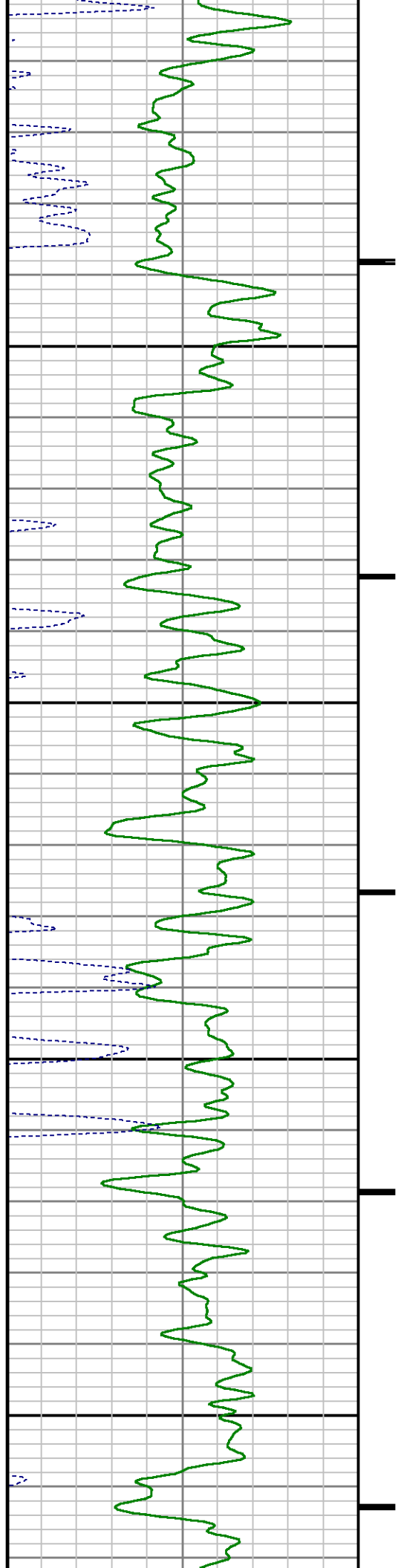
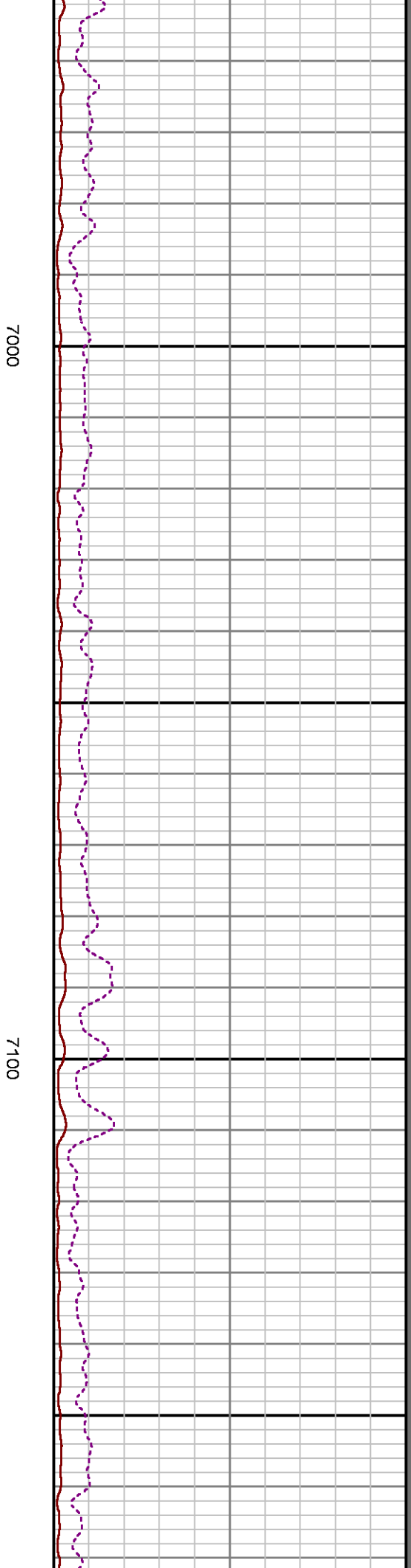
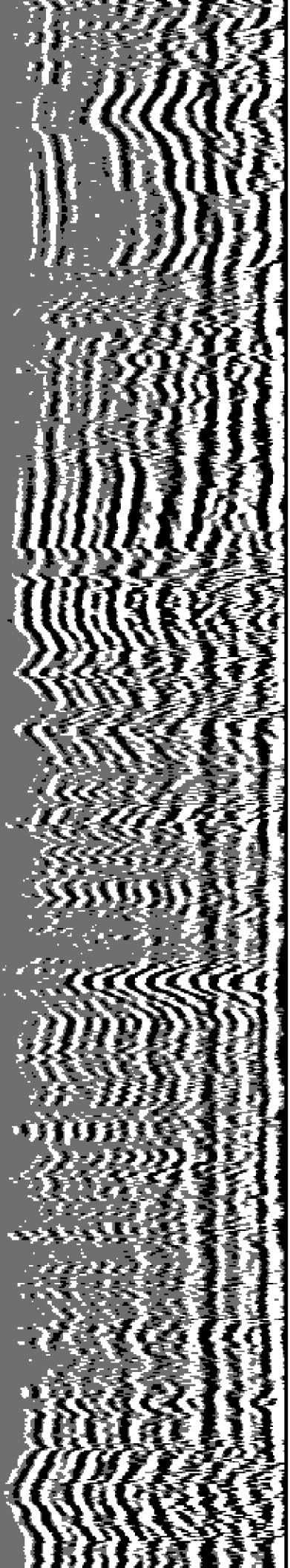


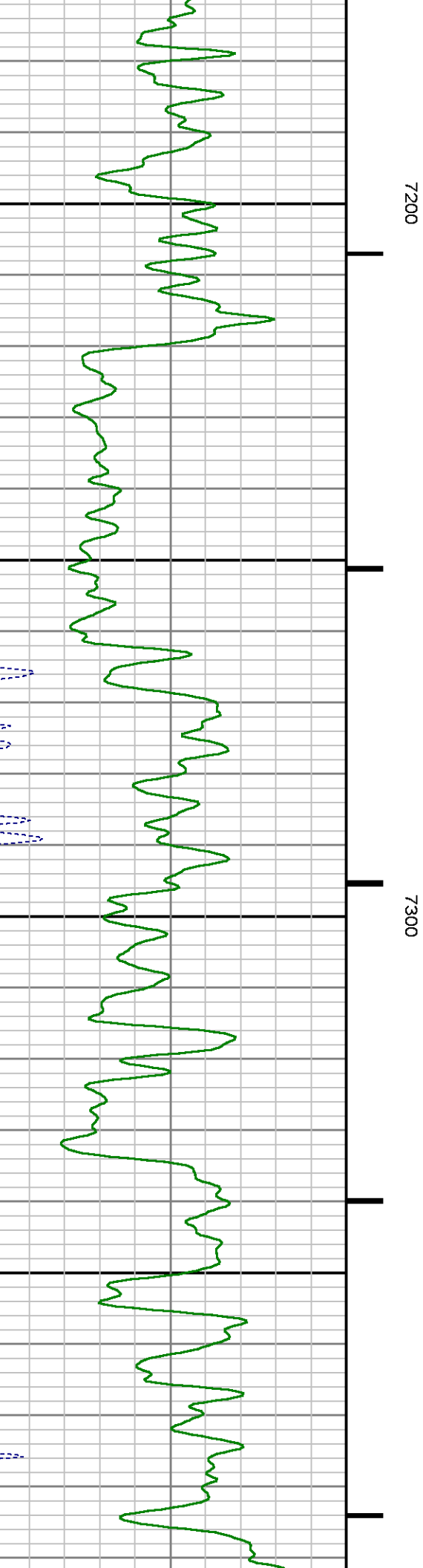
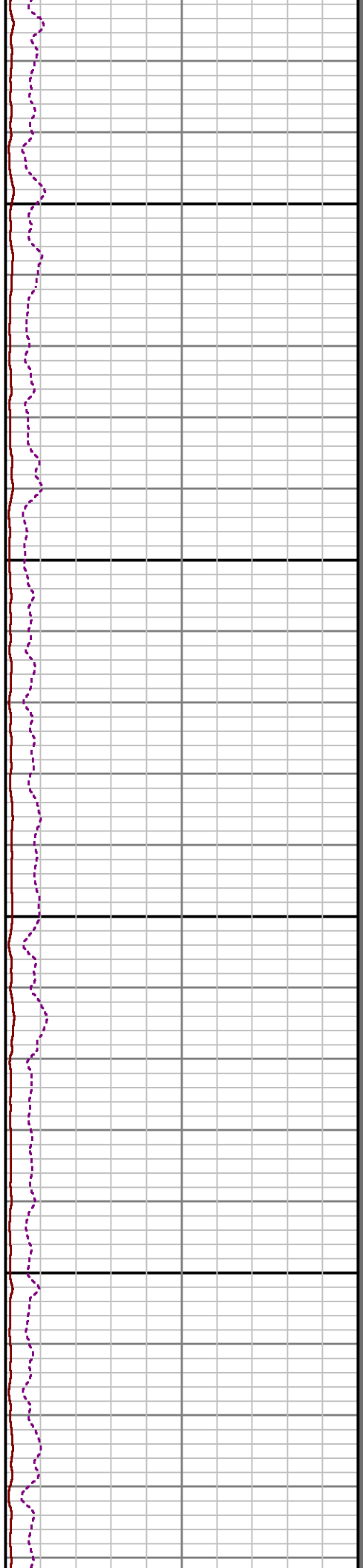
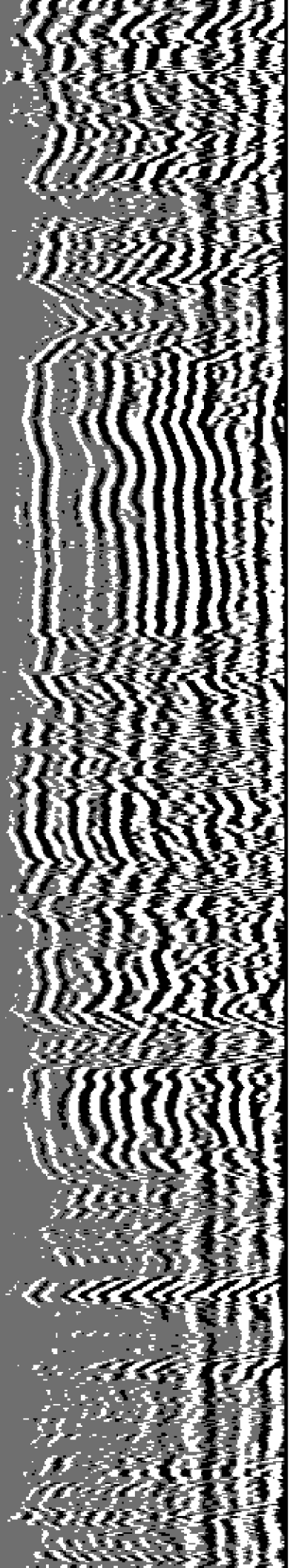
0099

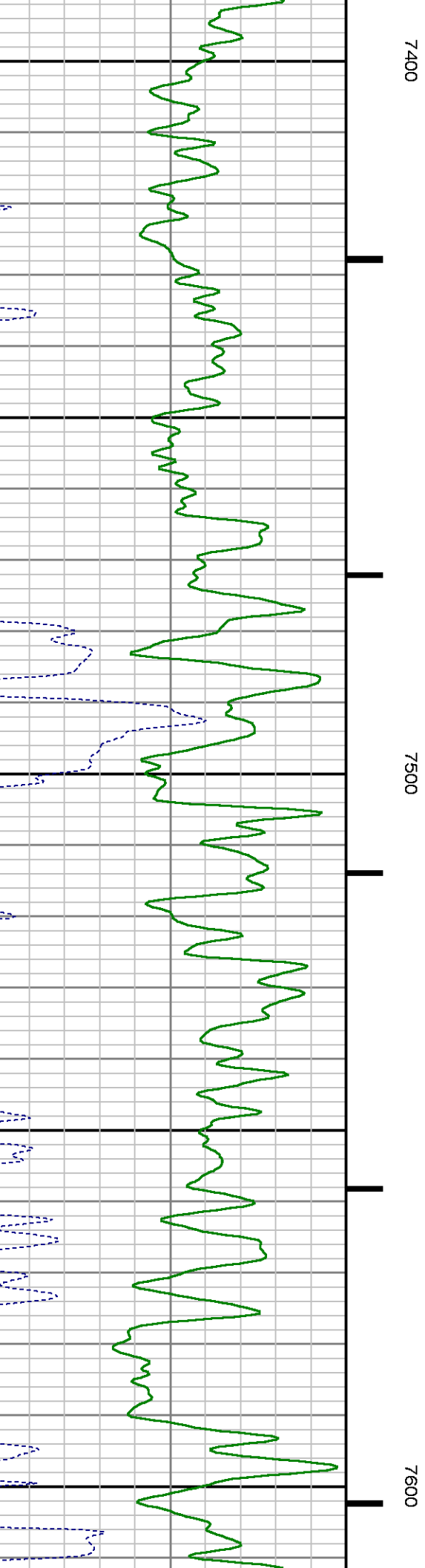
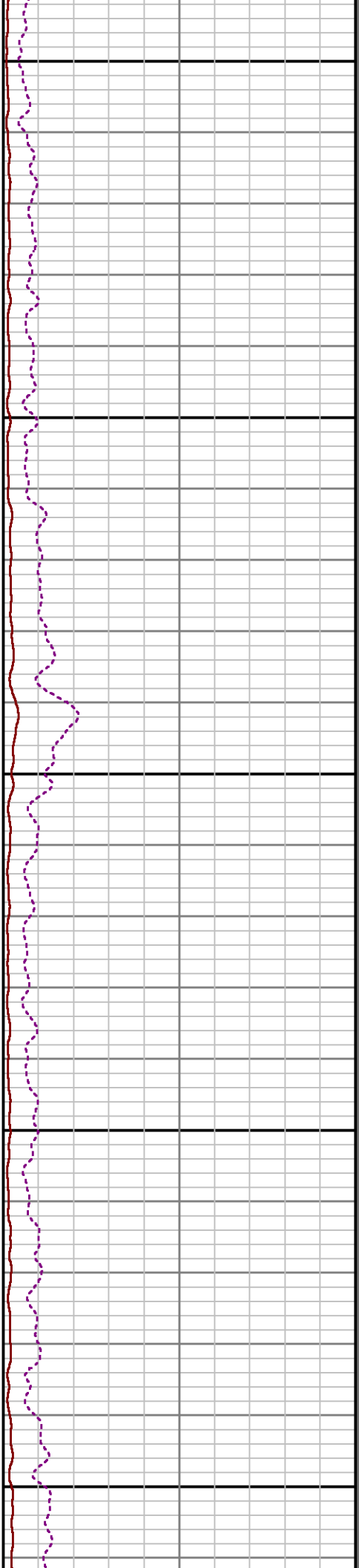
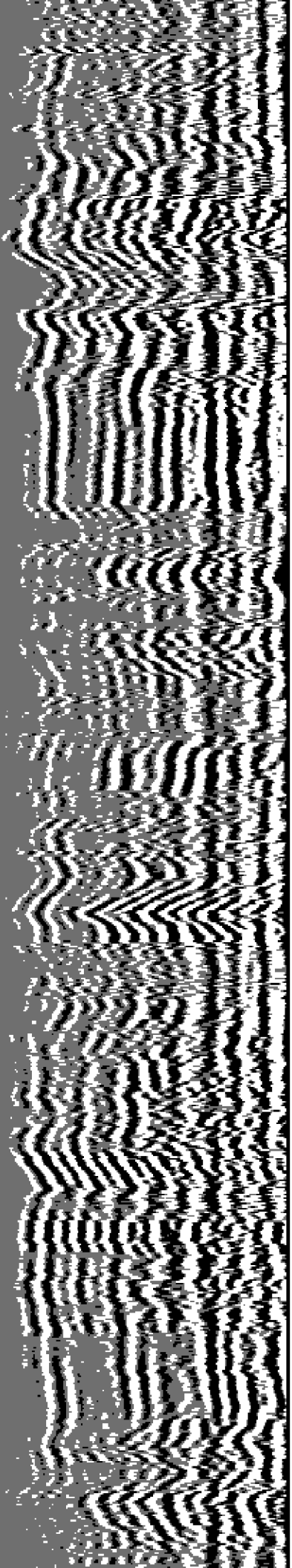
6700

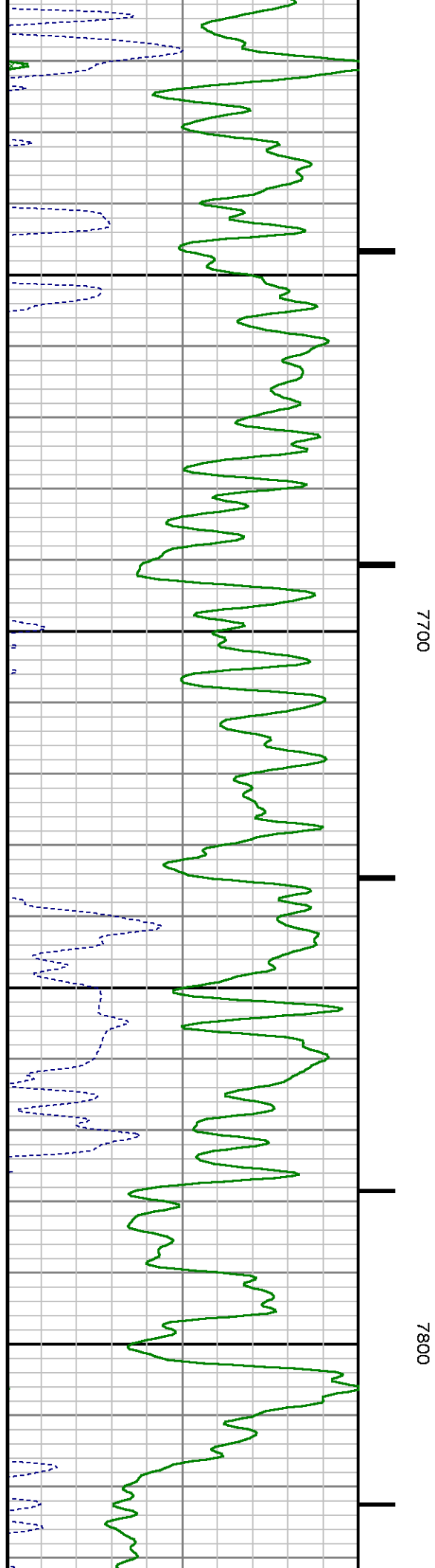
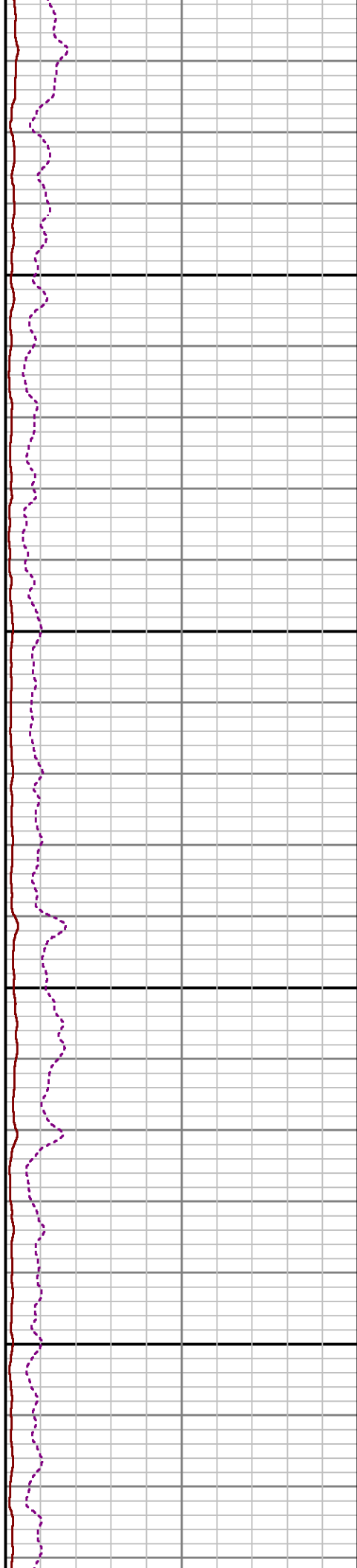
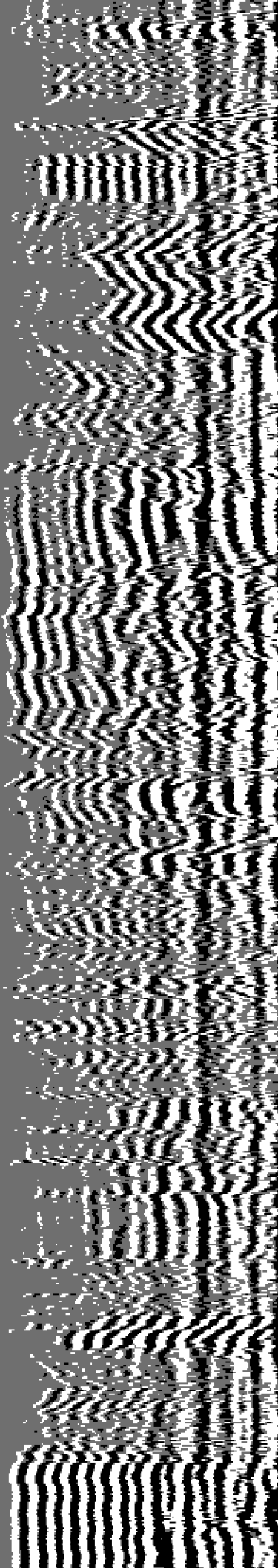


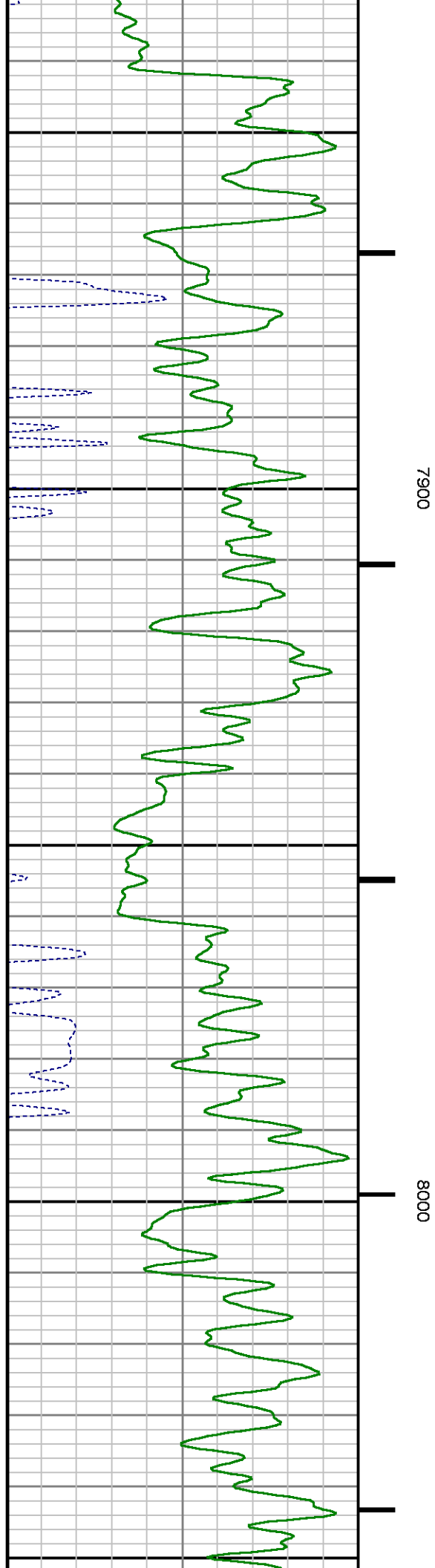
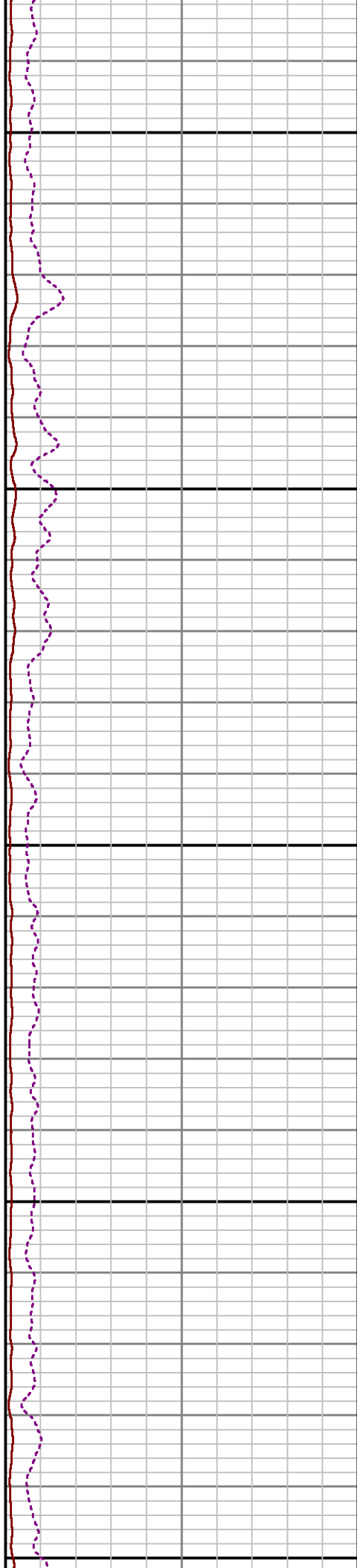
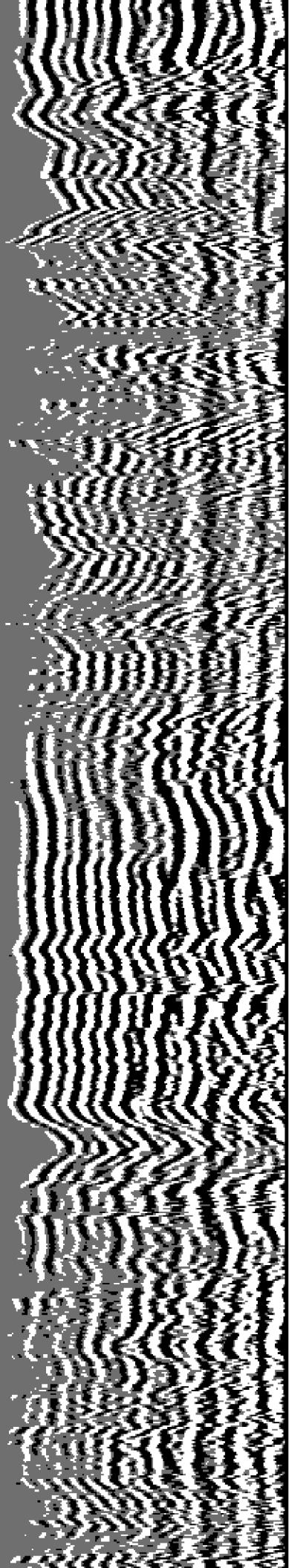


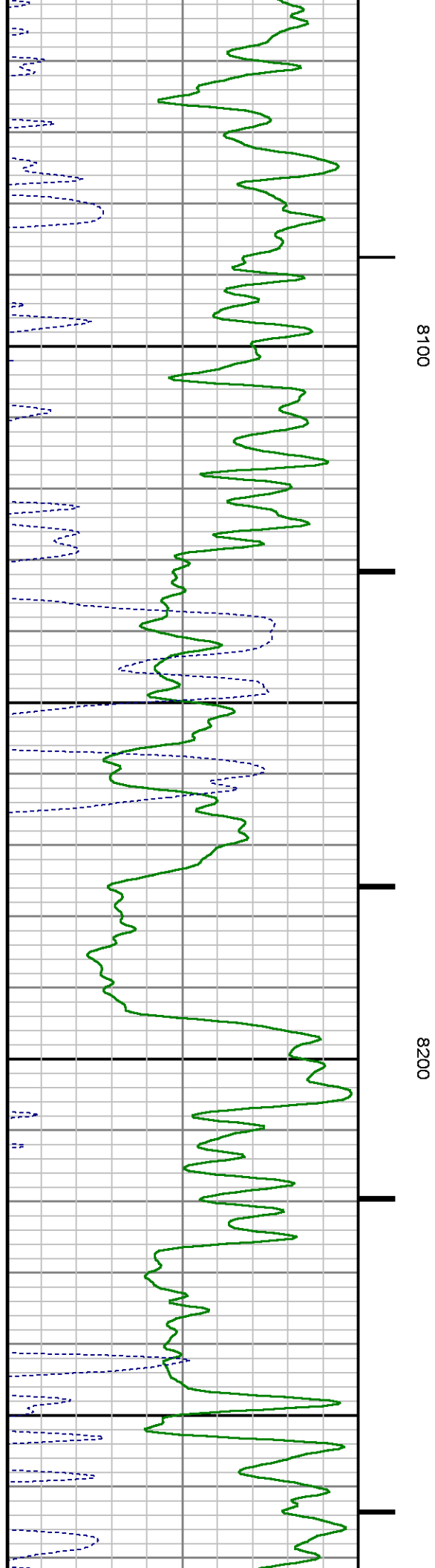
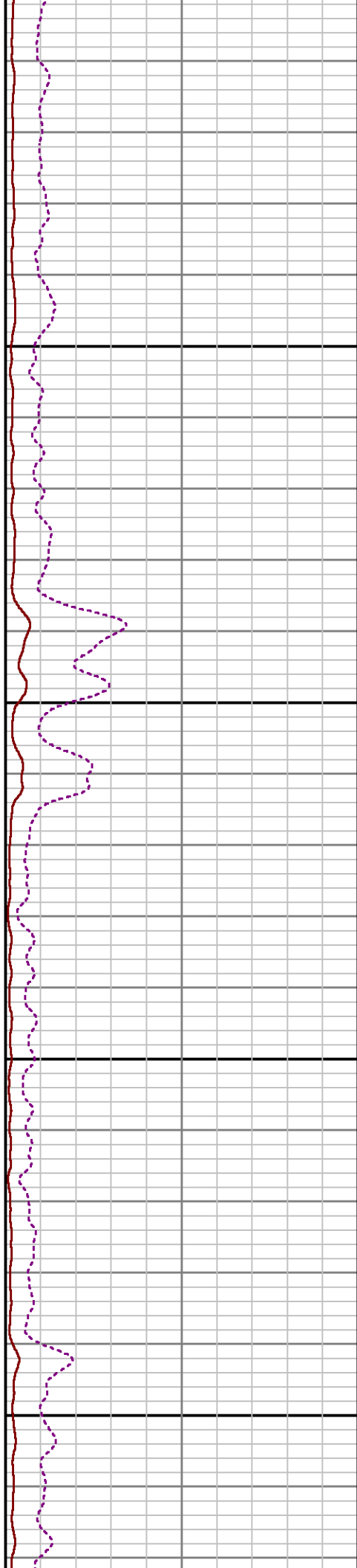
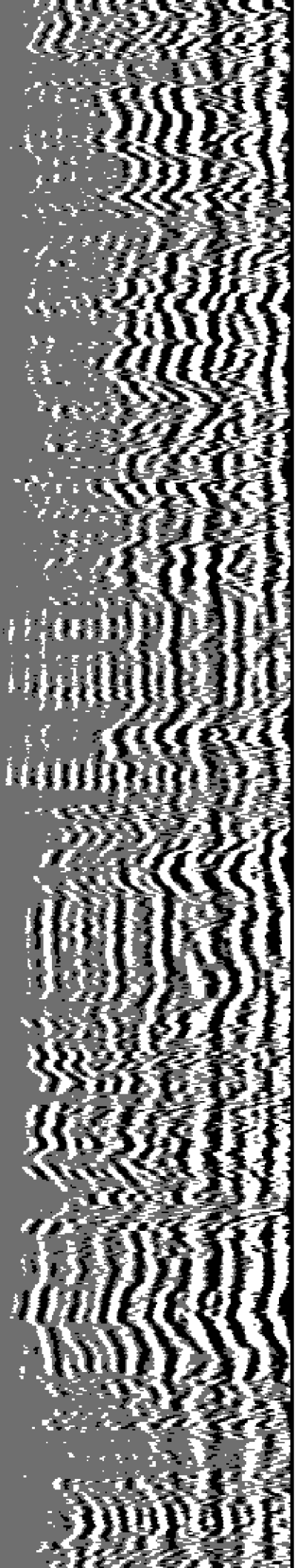


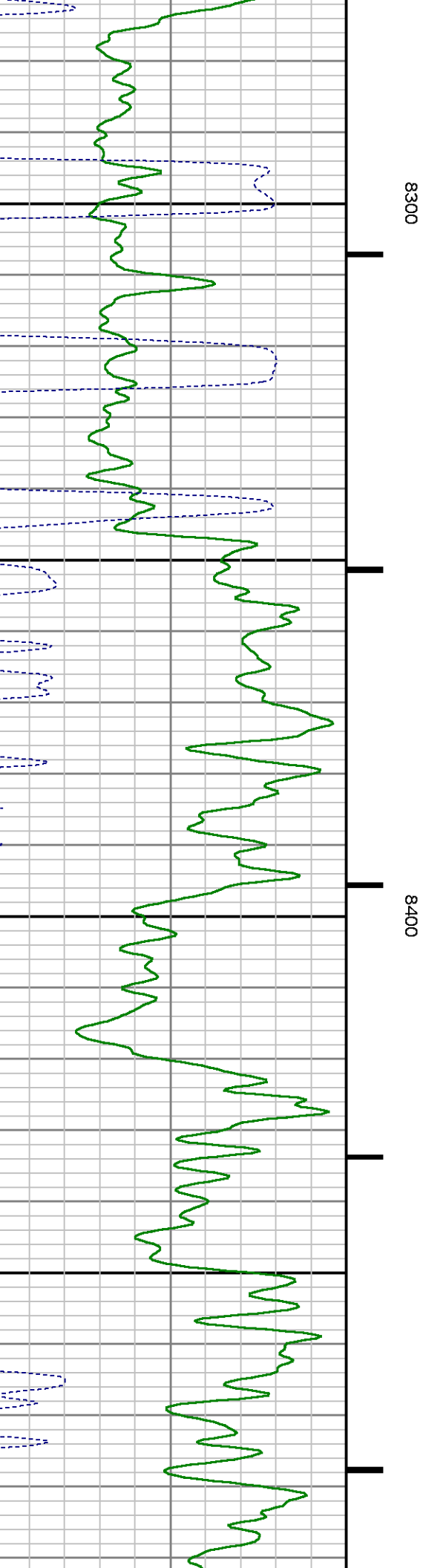
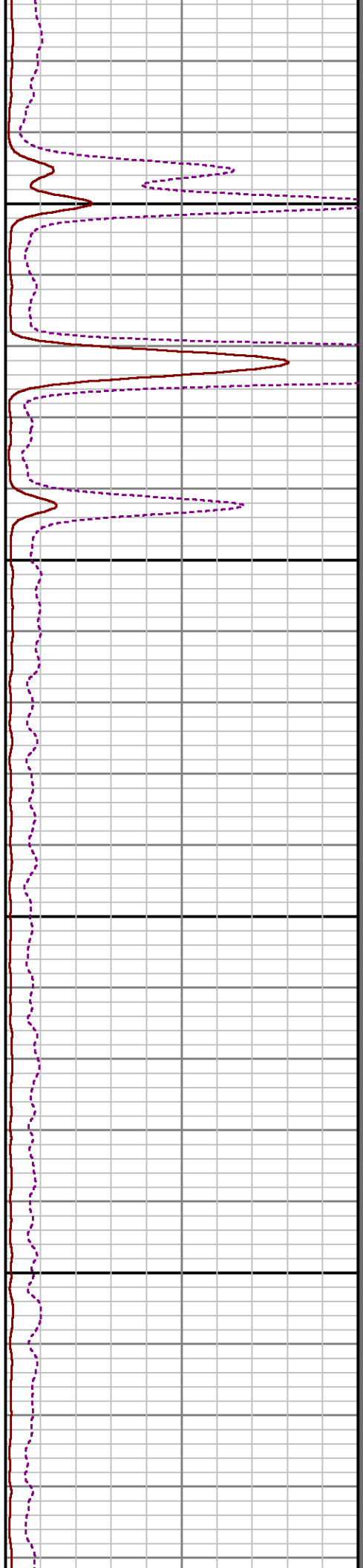
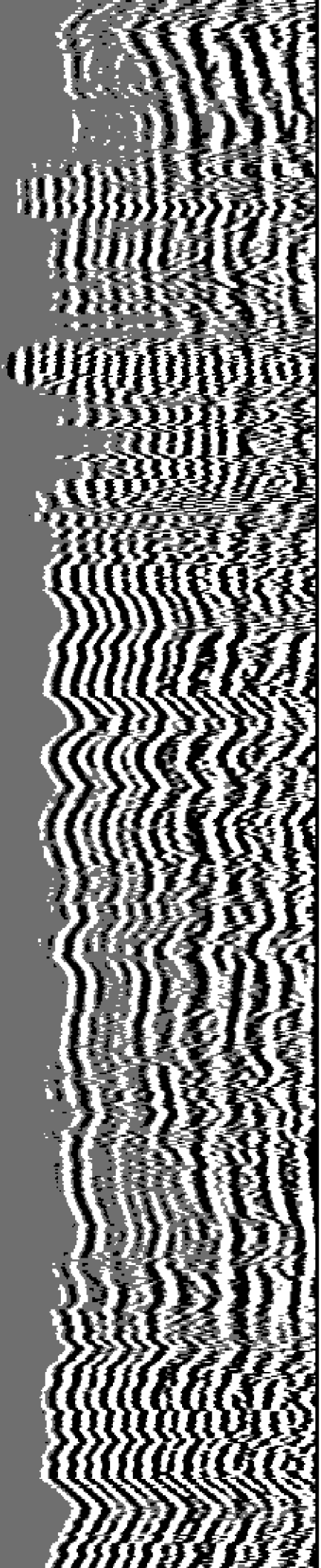


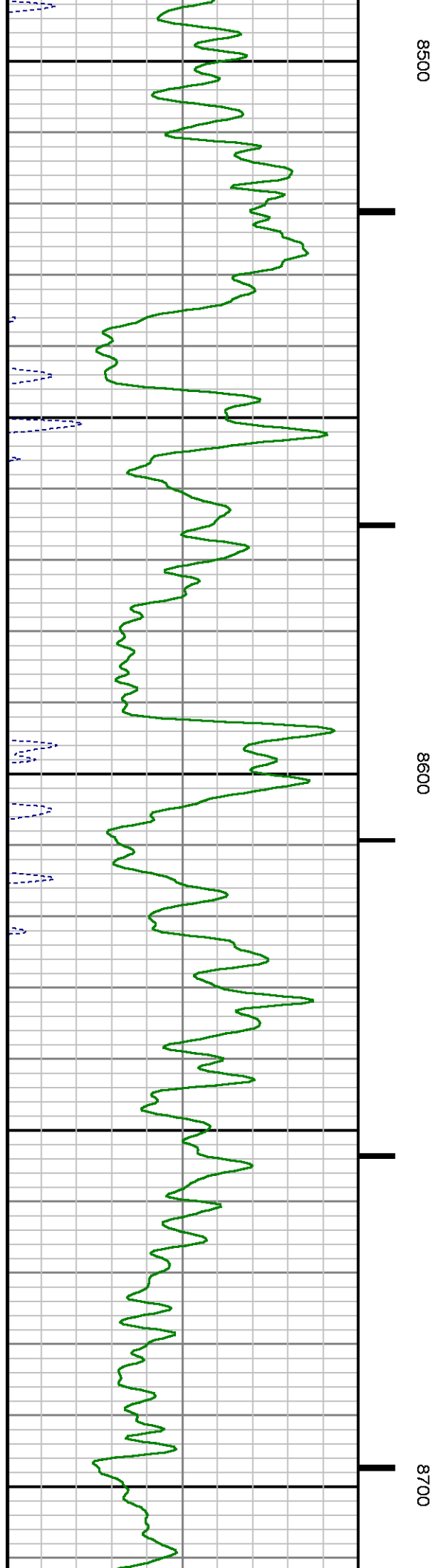
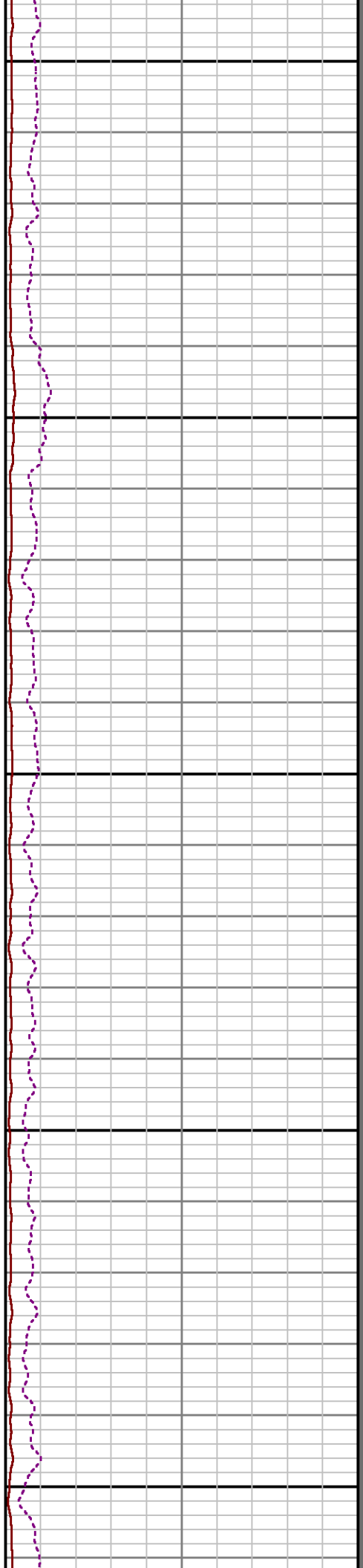
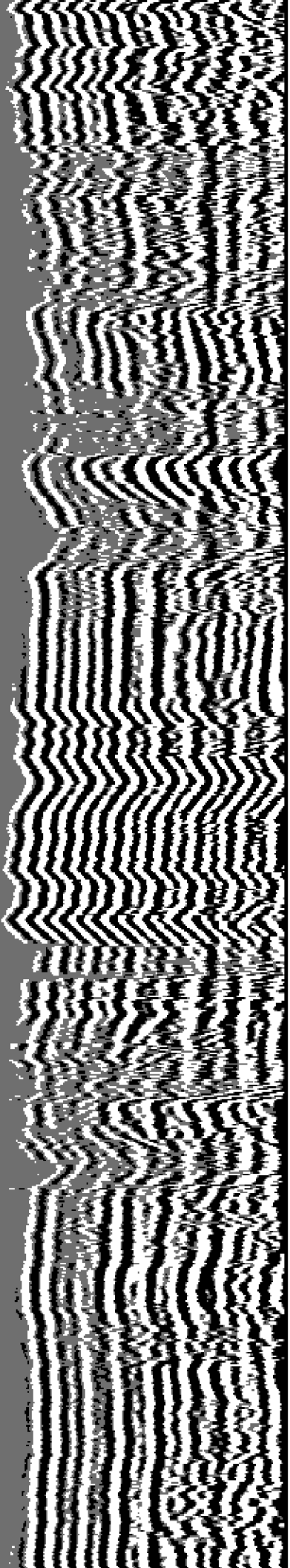


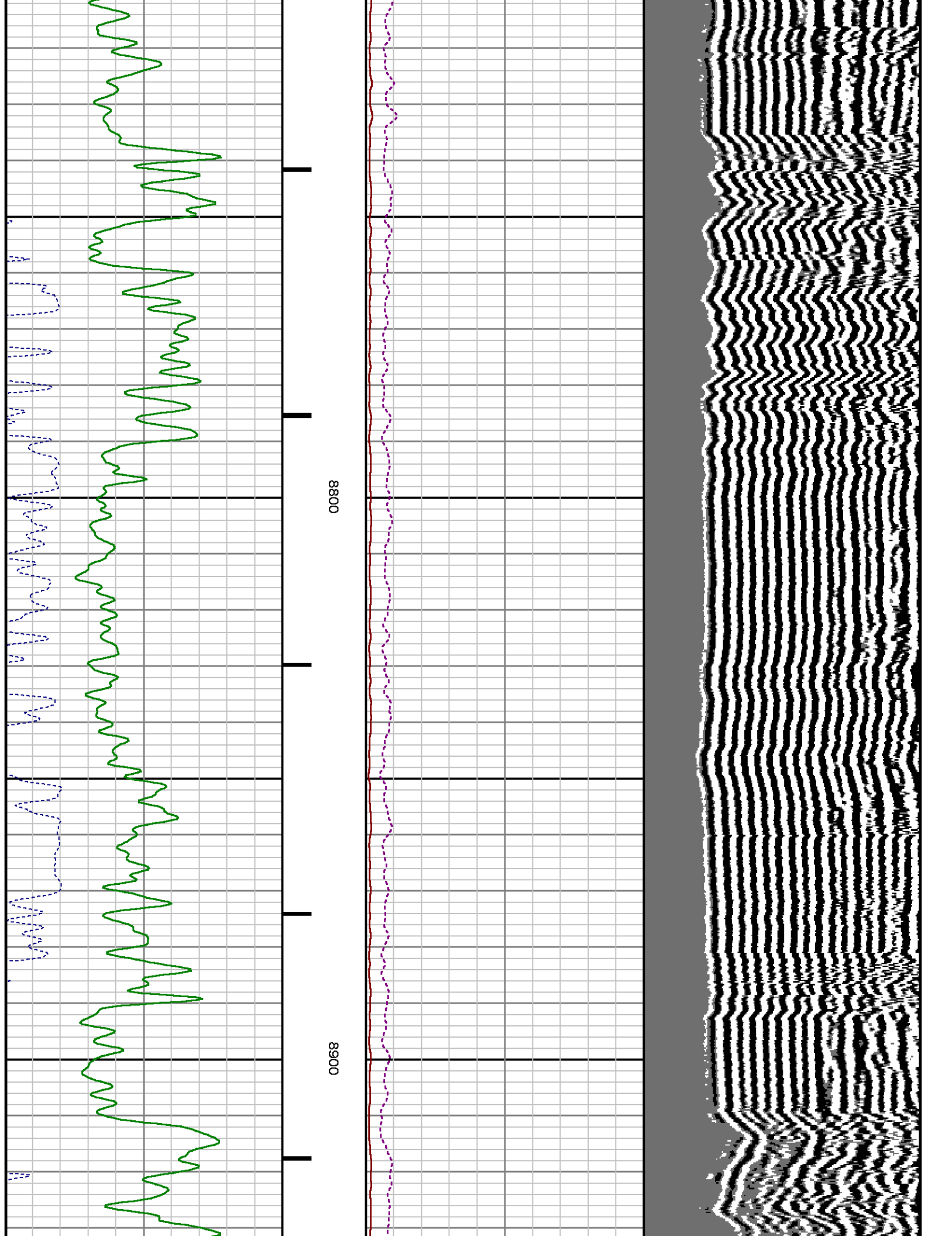


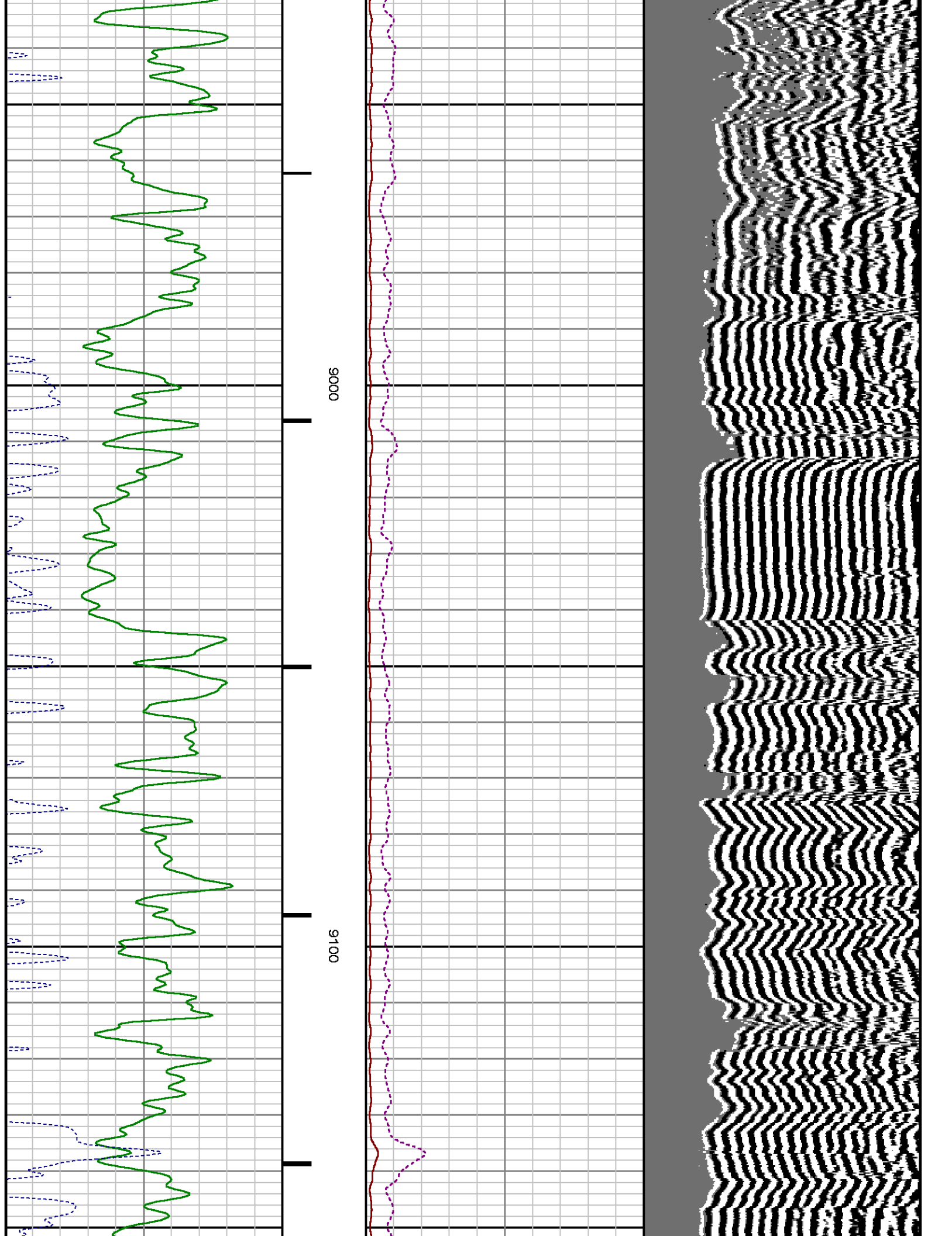


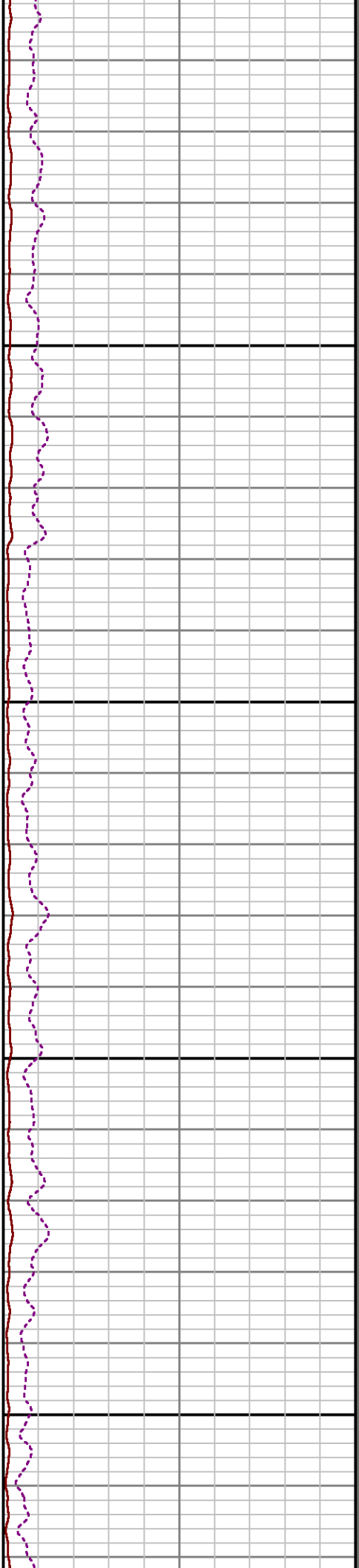
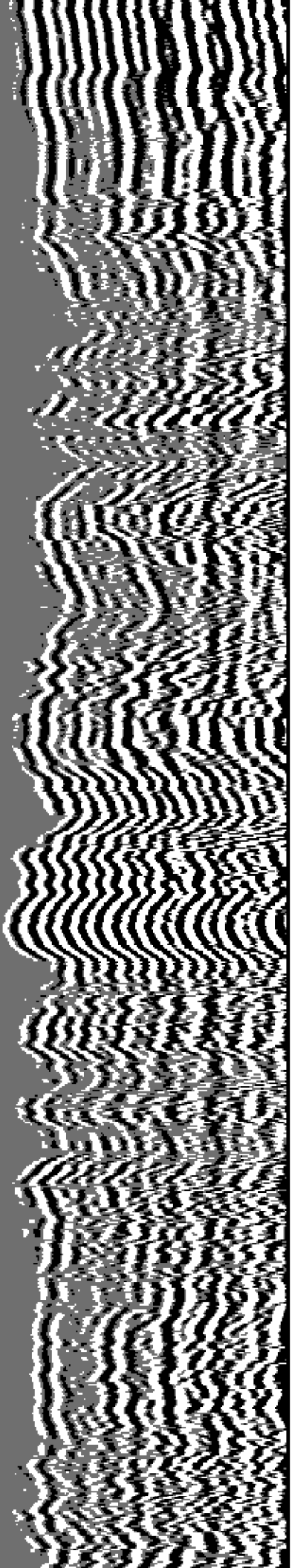






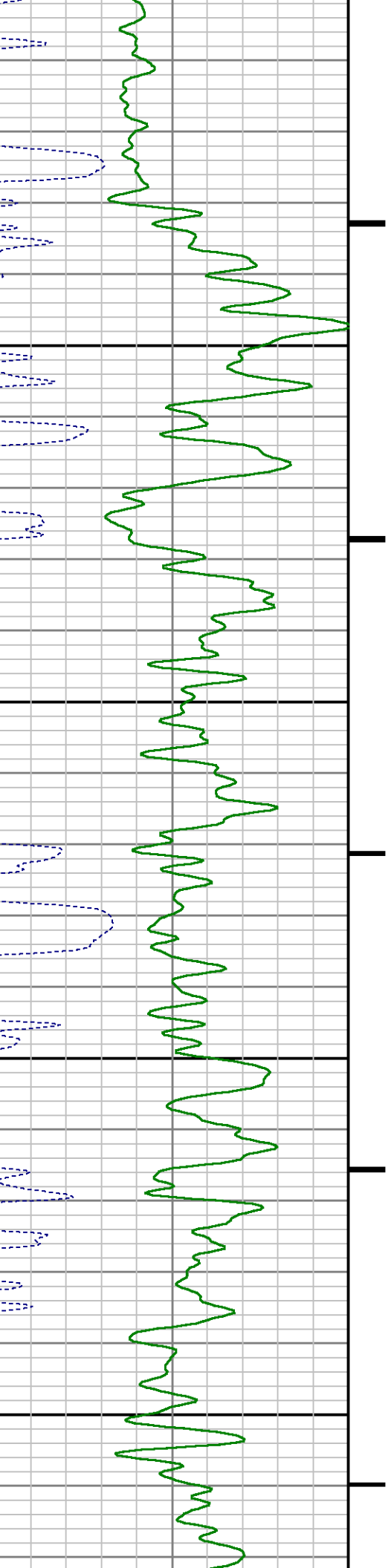


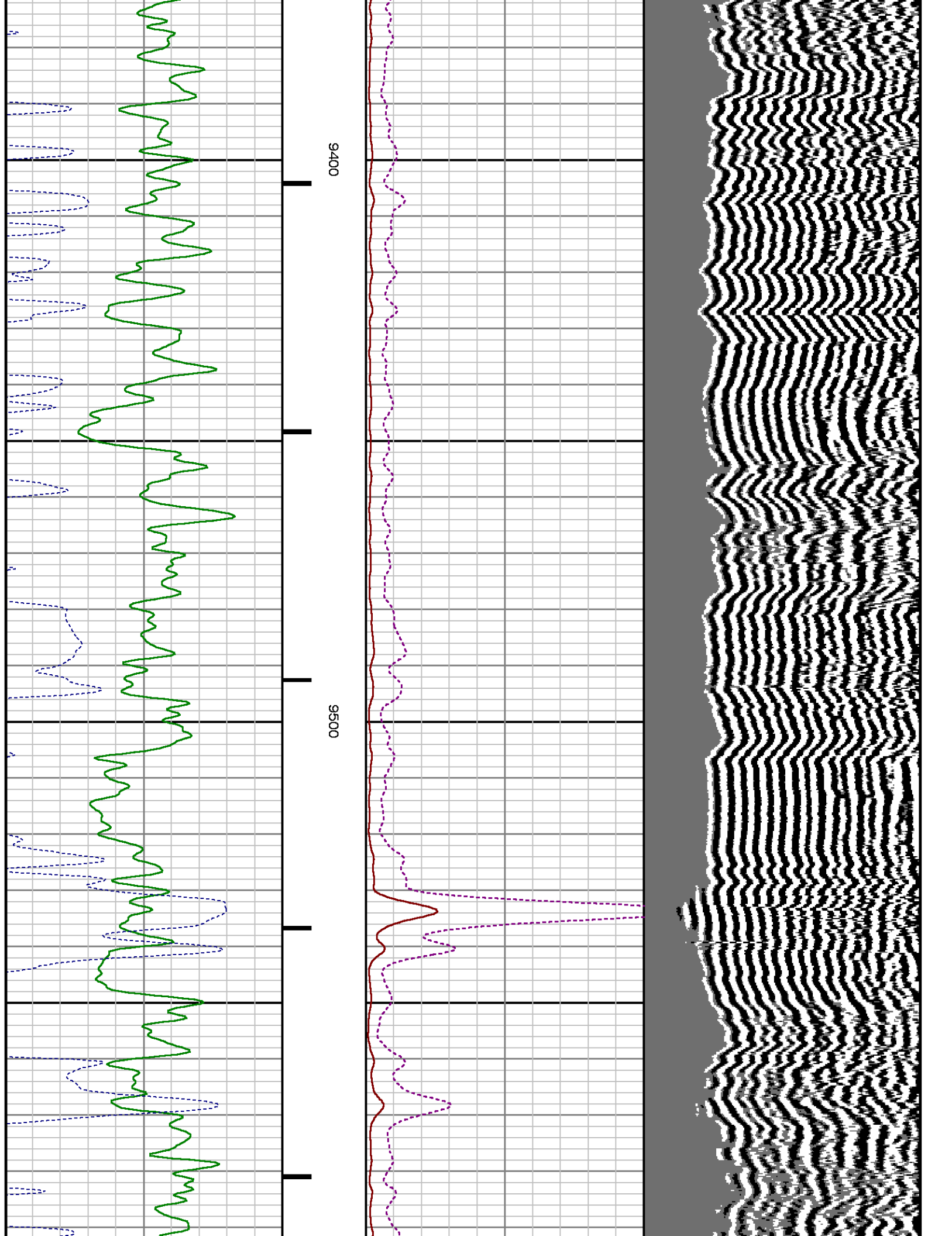


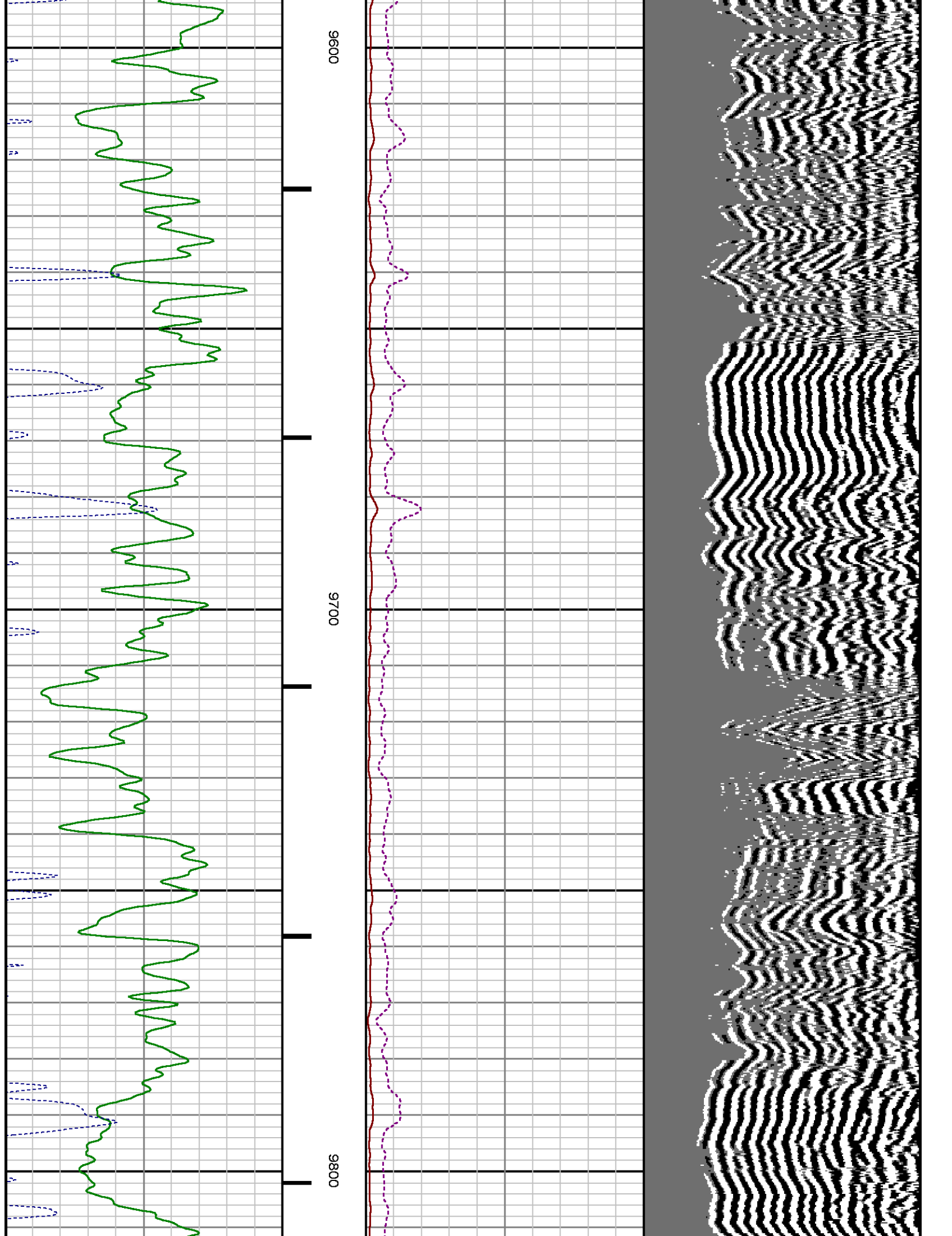


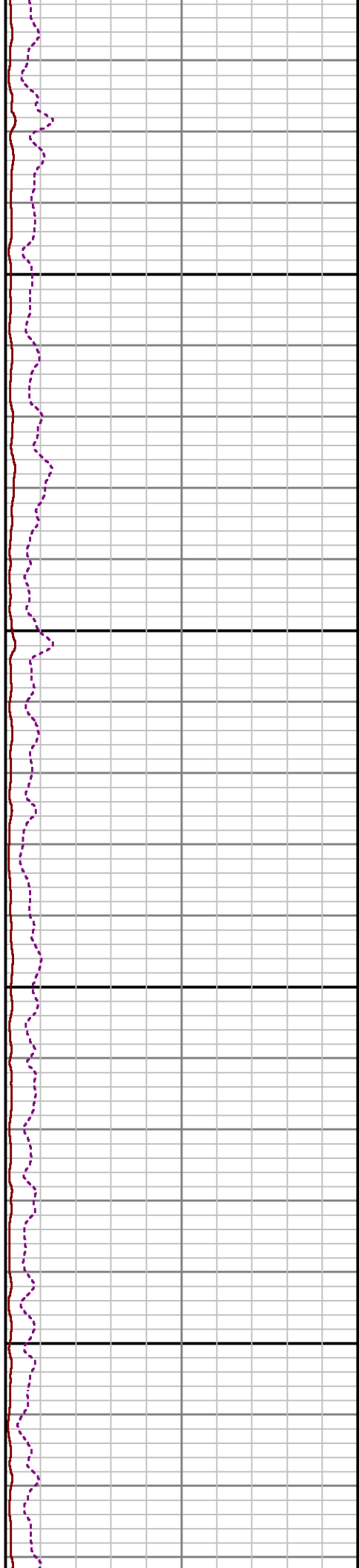
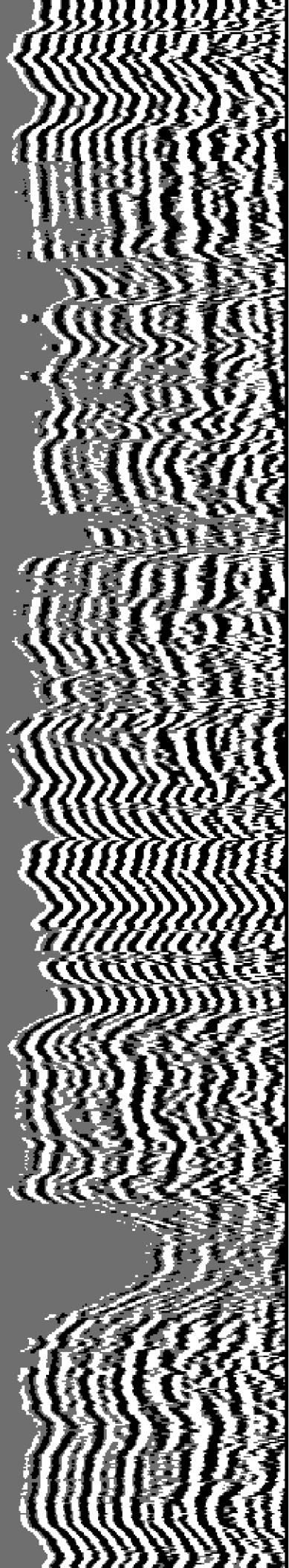
9200

9300



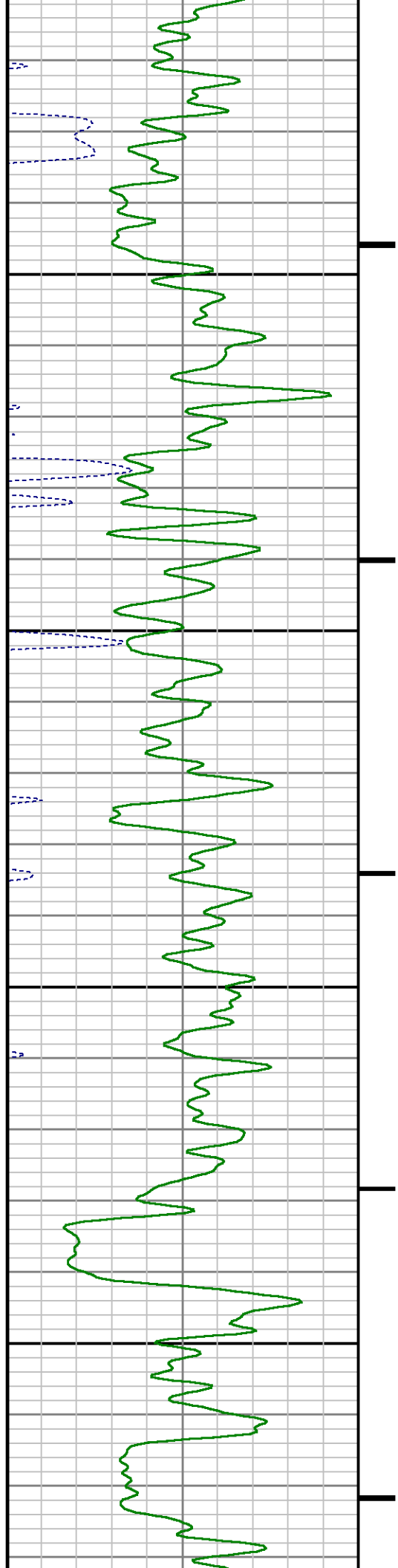


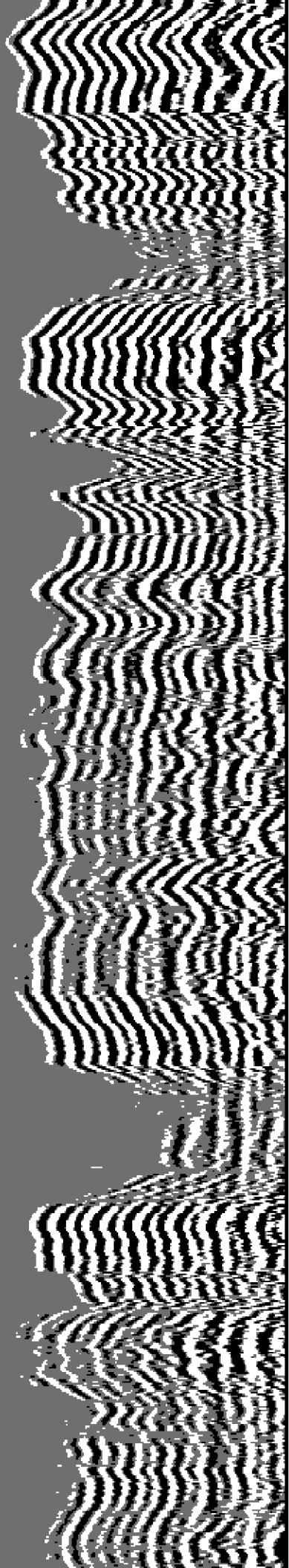




9900

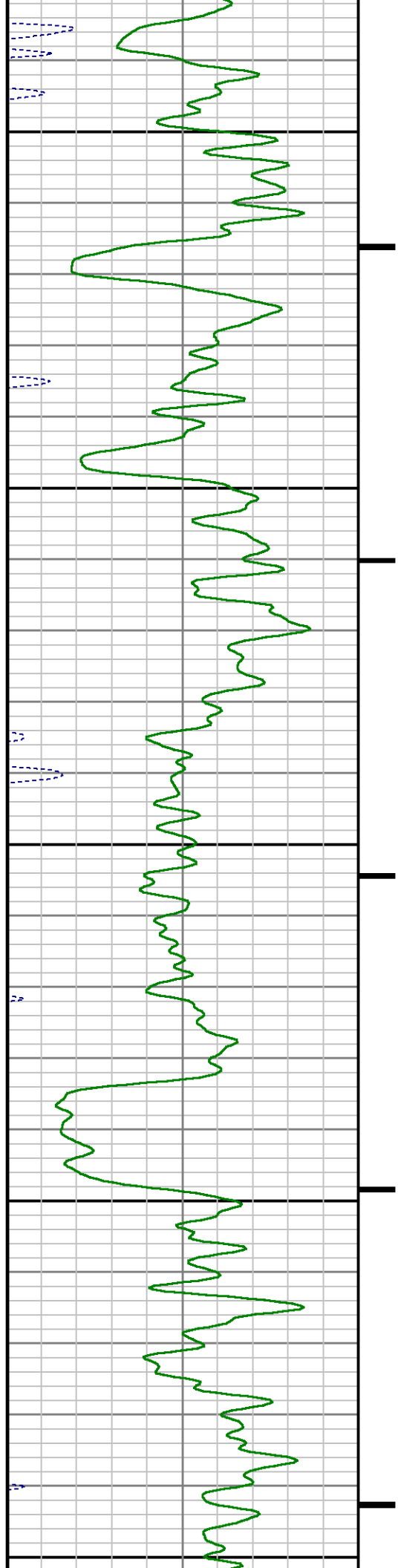
10000

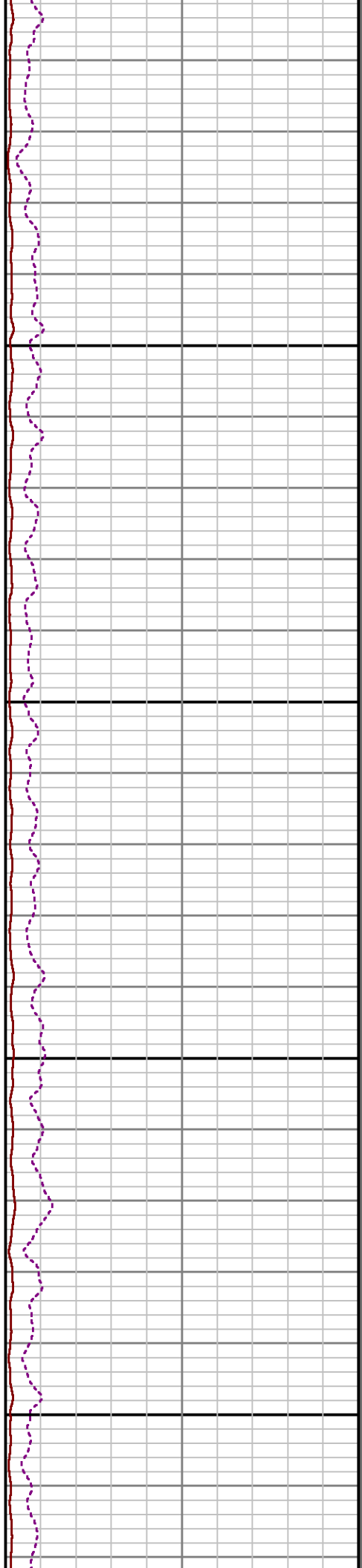
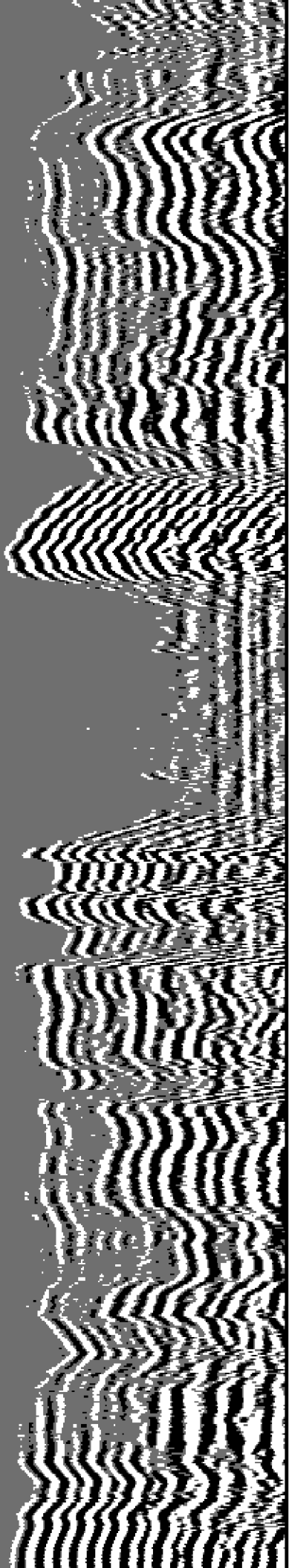




10100

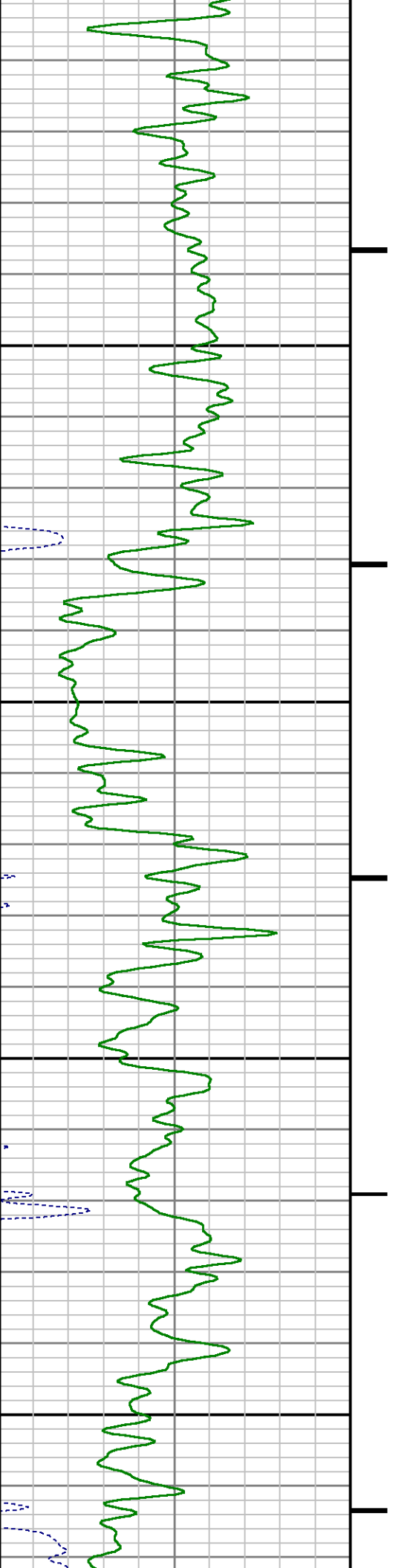
10200

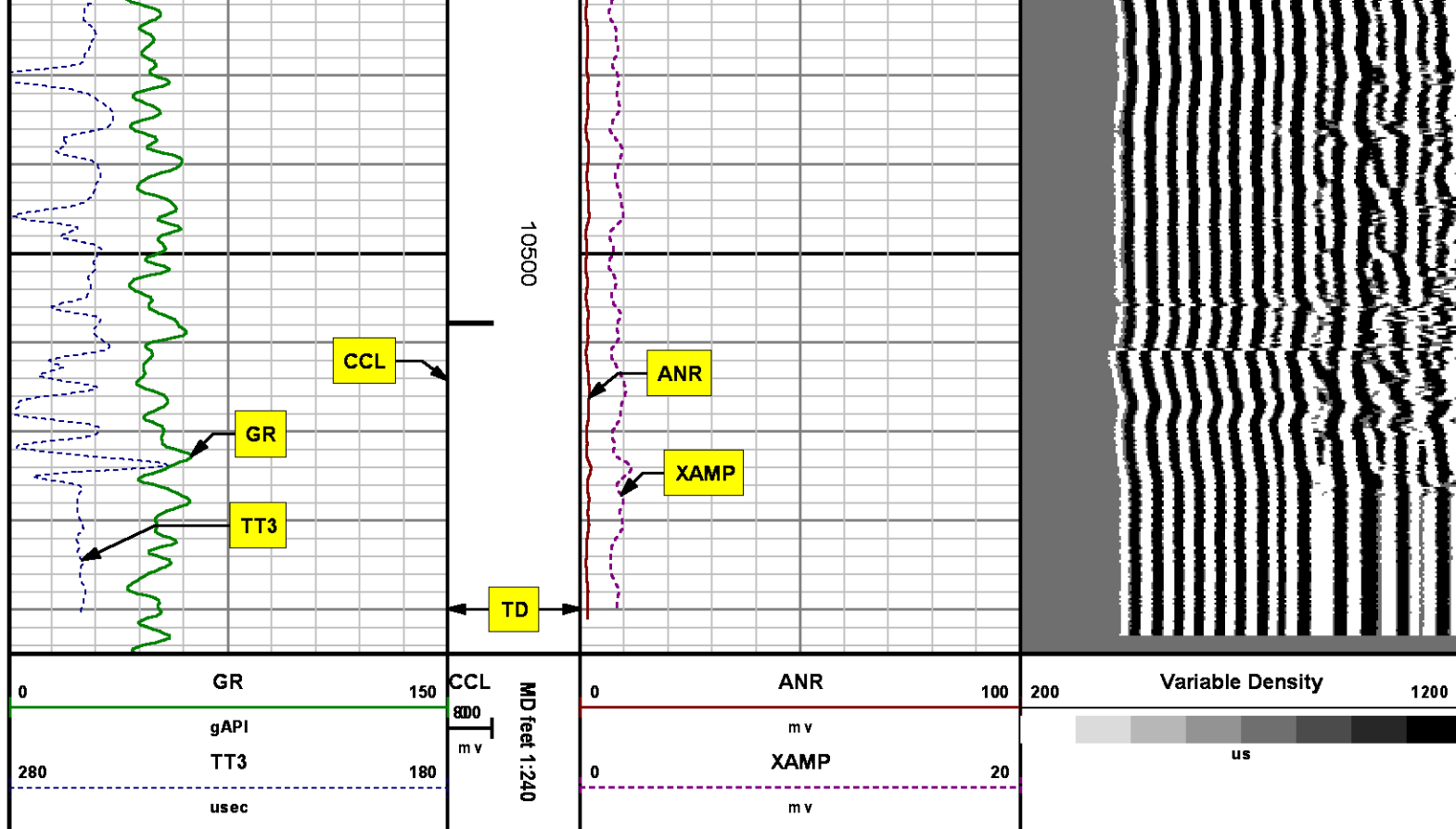




10300

10400





SECONDARY PRESENTATION

0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	32.375	10564.250
RAL	Amp Gate Start Near	195.000	usec	32.375	10564.250
RAL	Amp Gate Start Radial	195.000	usec	32.375	10564.250
RAL	Amp Gate Width Far	25.000	usec	32.375	10564.250
RAL	Amp Gate Width Near	25.000	usec	32.375	10564.250
RAL	Amp Gate Width Radial	25.000	usec	32.375	10564.250
RAL	casing od	4.500	inches	32.375	10564.250
RAL	casing wt	11.600	lbm/ft	32.375	10564.250
RAL	FB Start Far	291.900	usec	32.375	10564.250
RAL	FB Start Near	175.391	usec	32.375	10564.250
RAL	FB Start Radial	175.391	usec	32.375	10564.250
RAL	FB Thresh Far	10.000	mV	32.375	10564.250
RAL	FB Thresh Near	4.000	mV	32.375	10564.250

RAL	FB Thresh Radial	4.000	mv	32.375	10564.250
RAL	Fluid Travel Time	200.000	usec/ft	32.375	10558.250

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

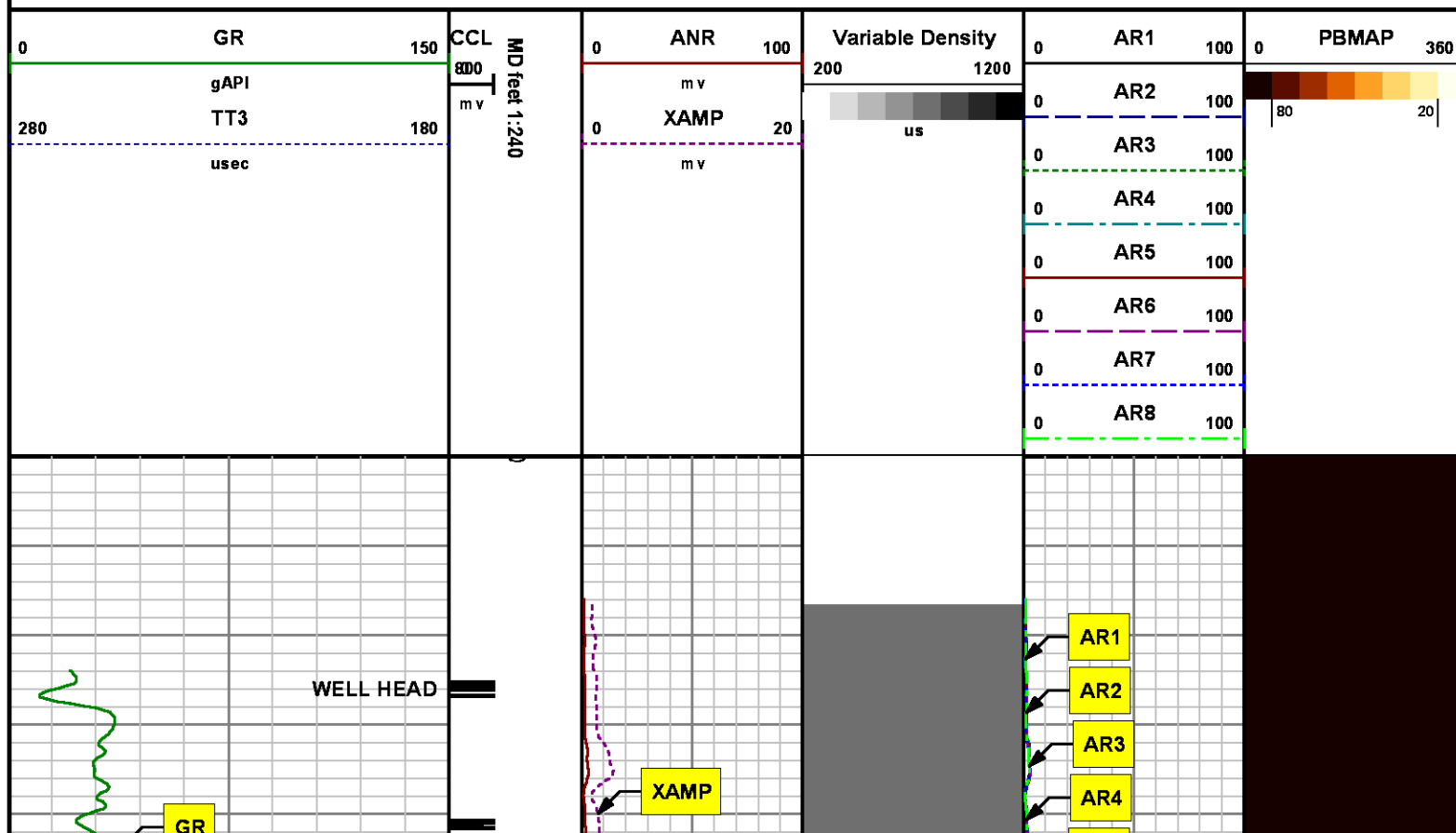
Well : FEDERAL NER 443-32

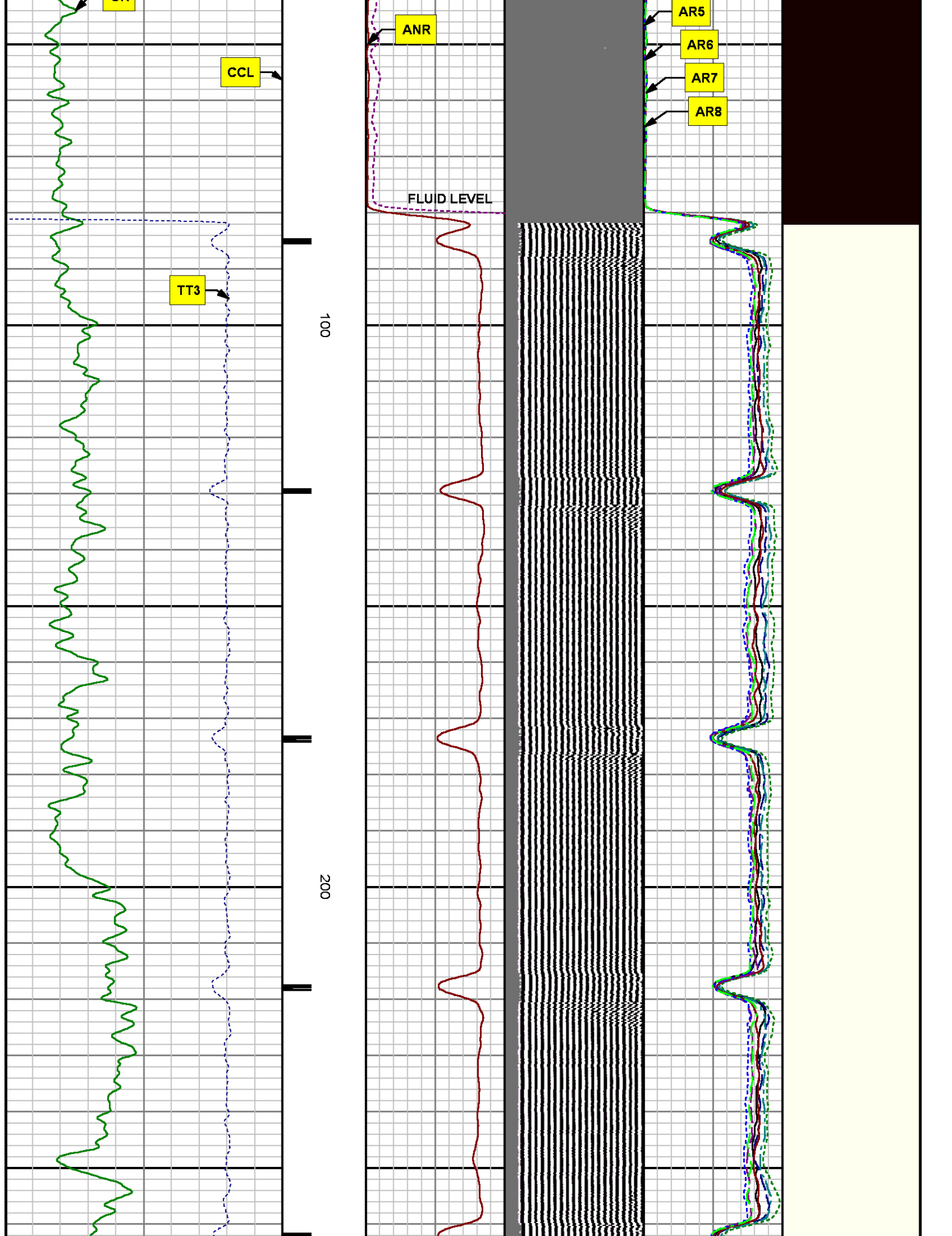
File Name : d:\welldata\wpx\federal ner 443-32\443cbl\main.xtf

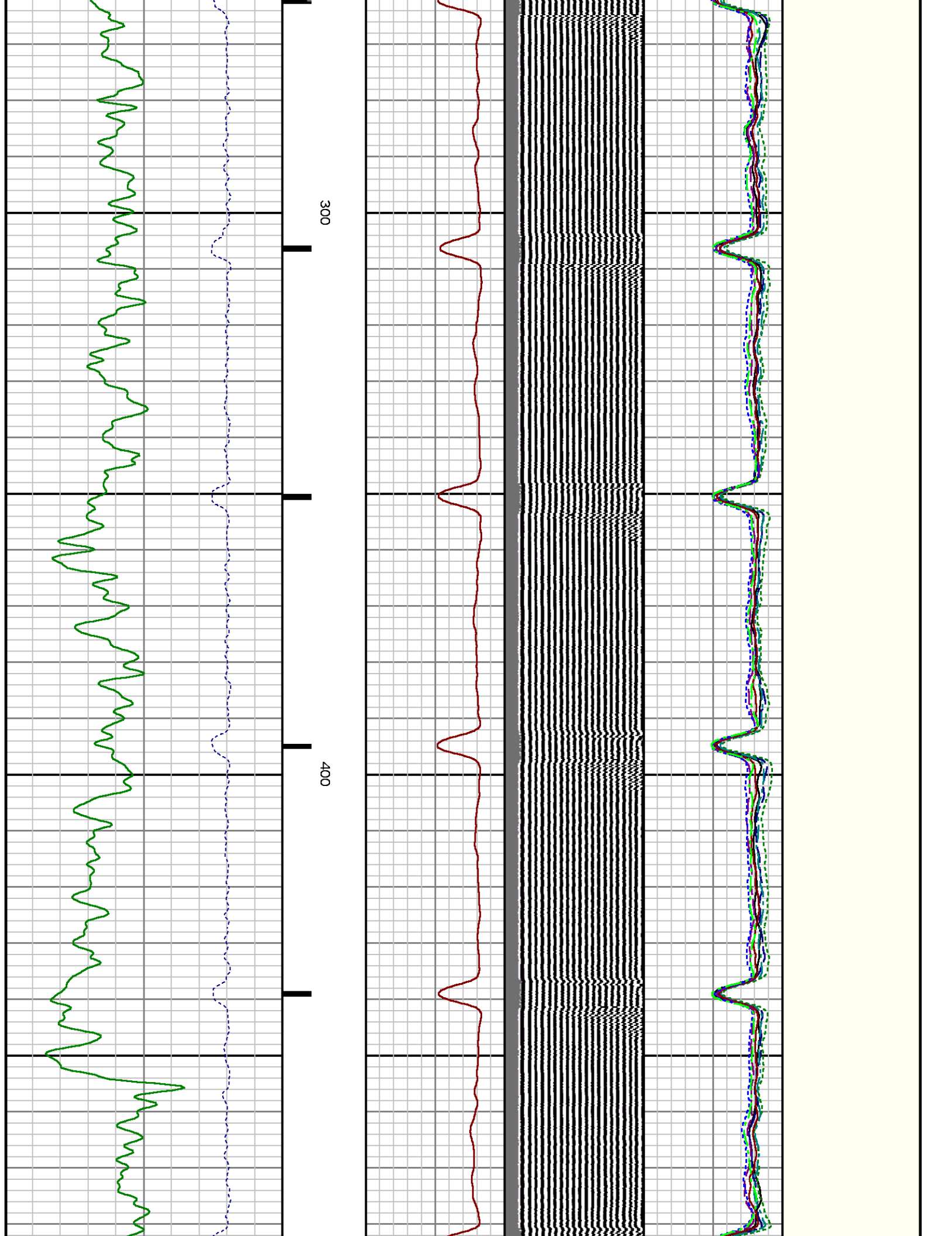
Mode : PlotMgr 5.4.504

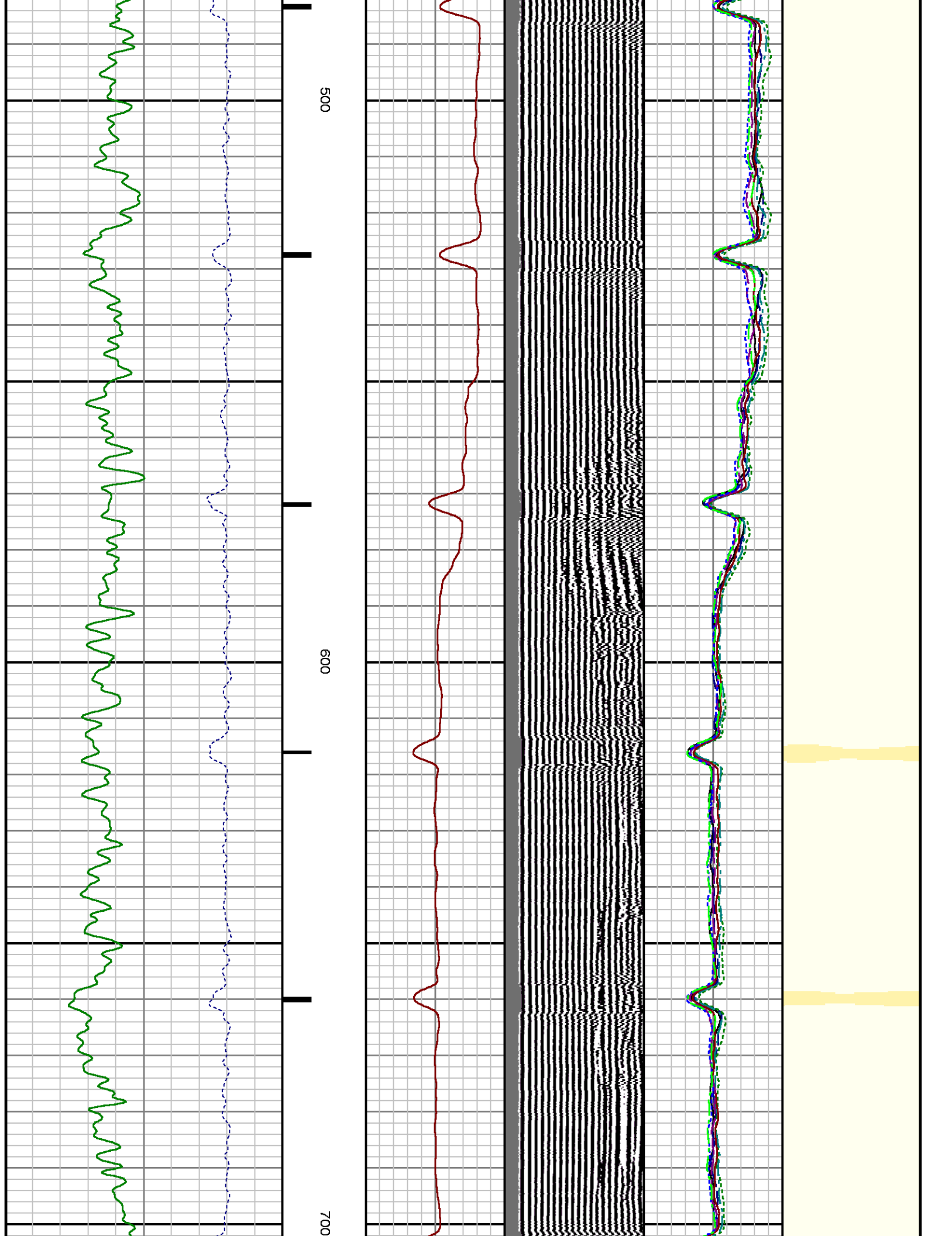
Interval : 0.00 - 10545.00 feet UP

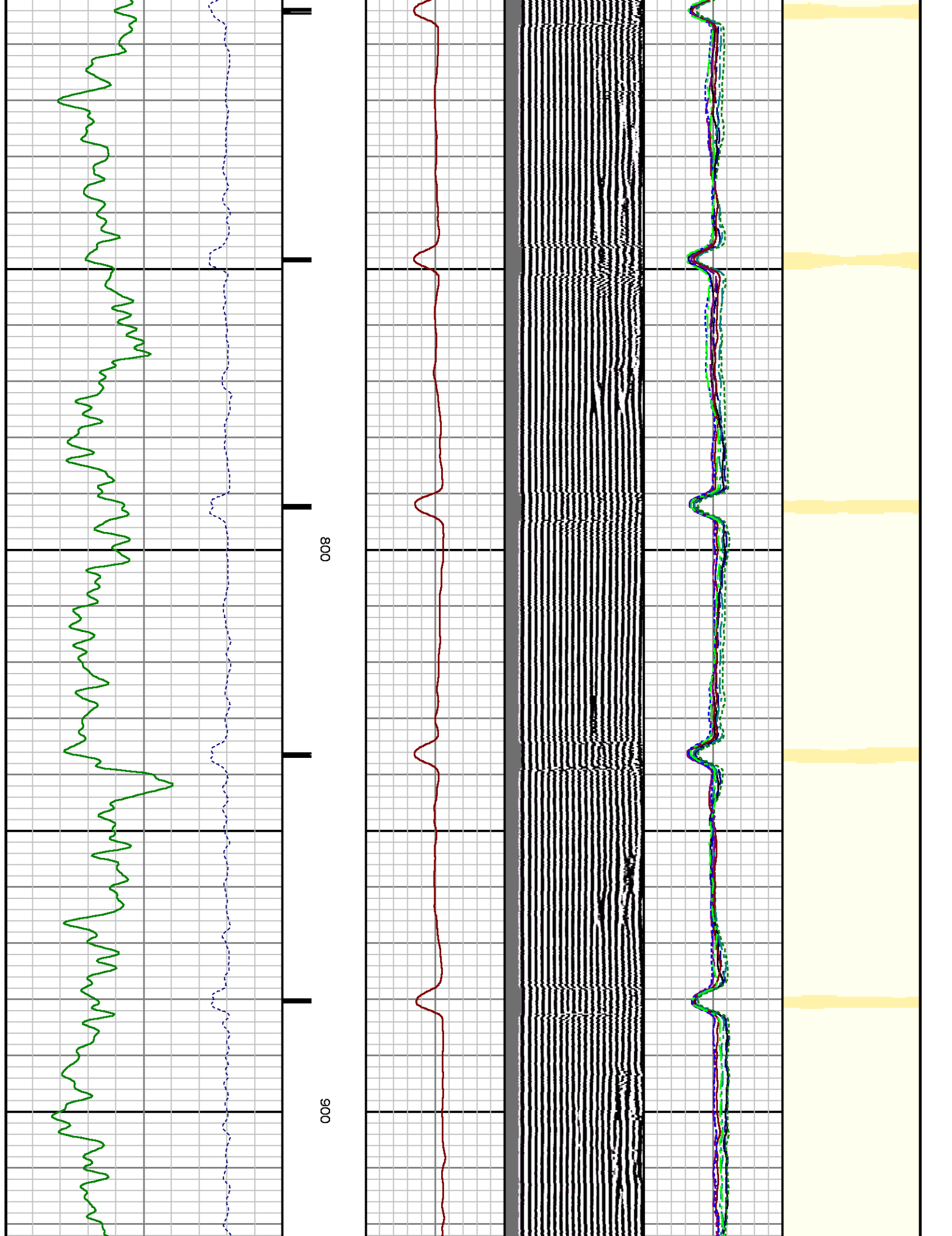
Created : 6/17/2014 12:33:43 PM

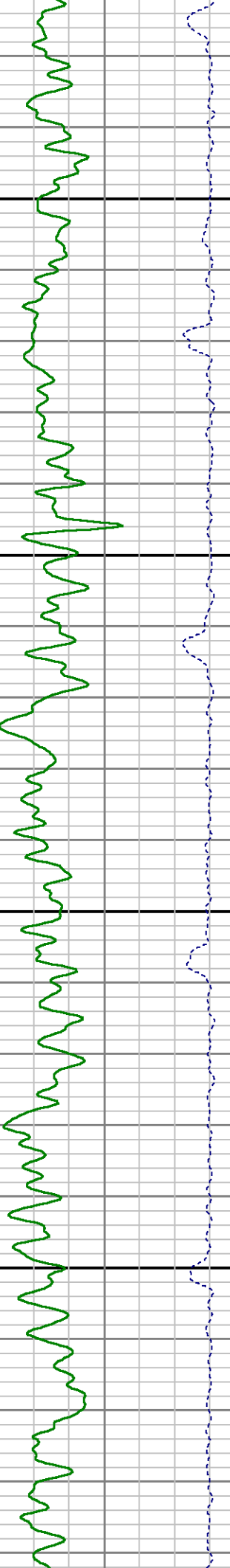
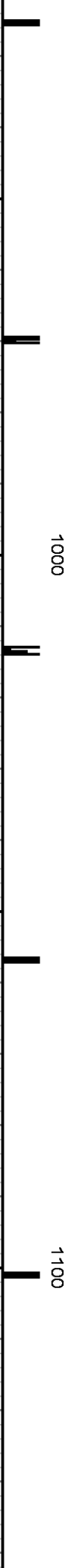
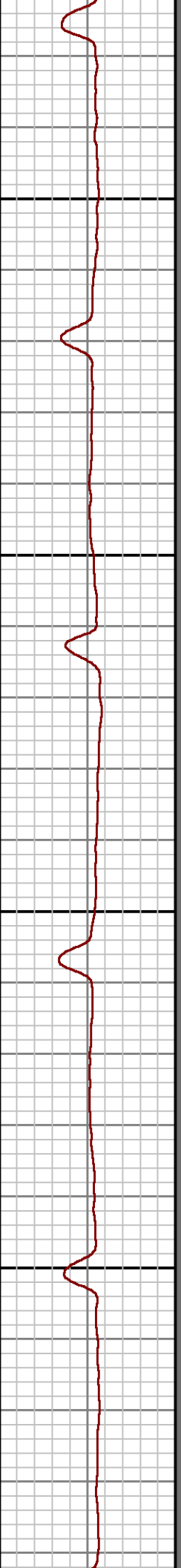
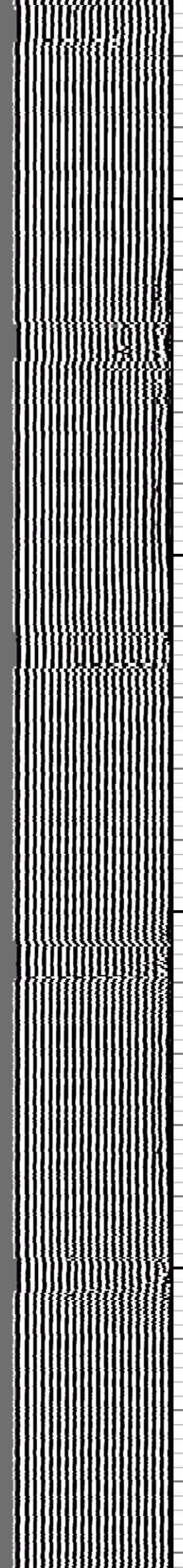
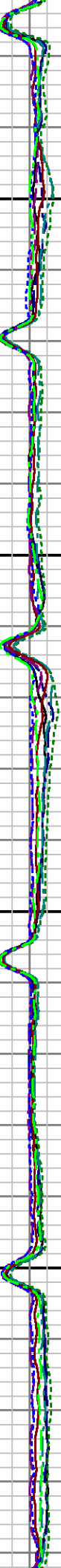






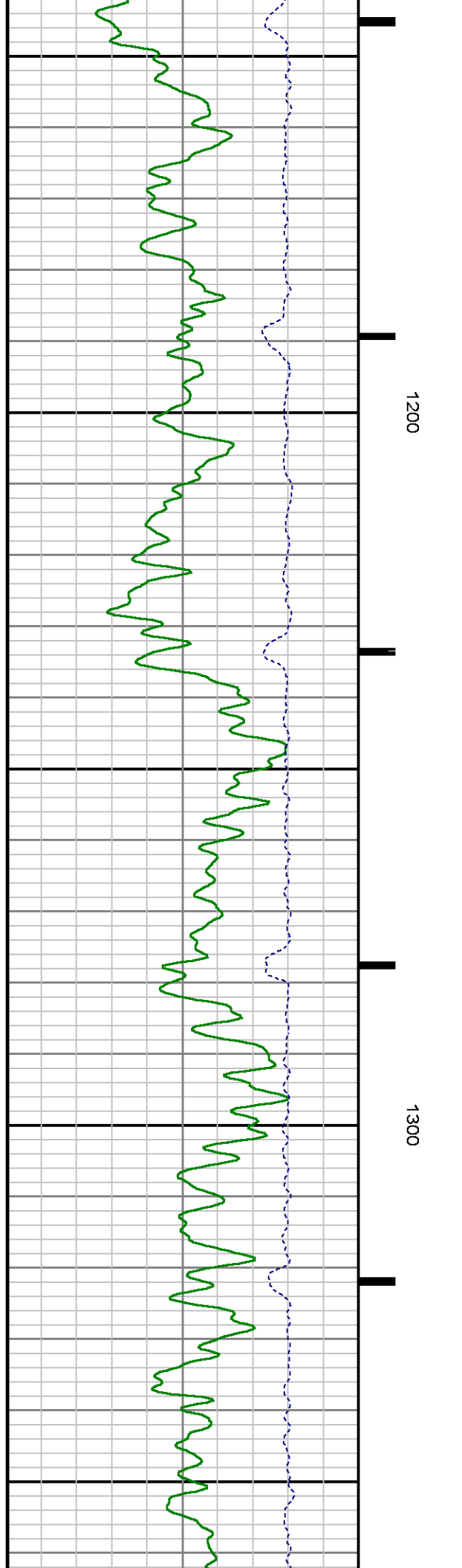
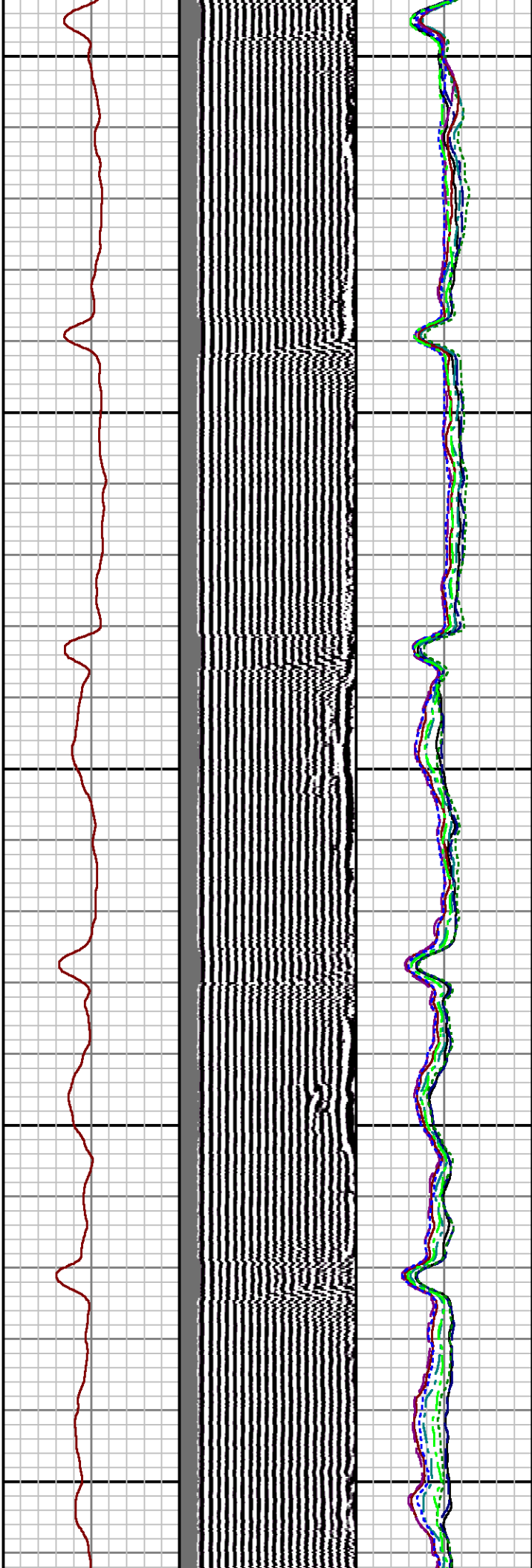
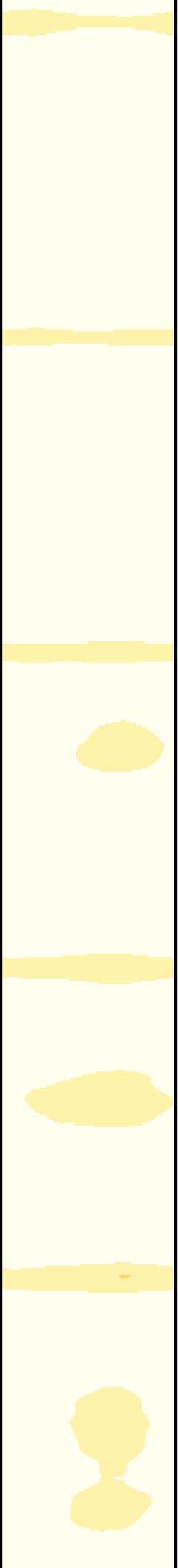


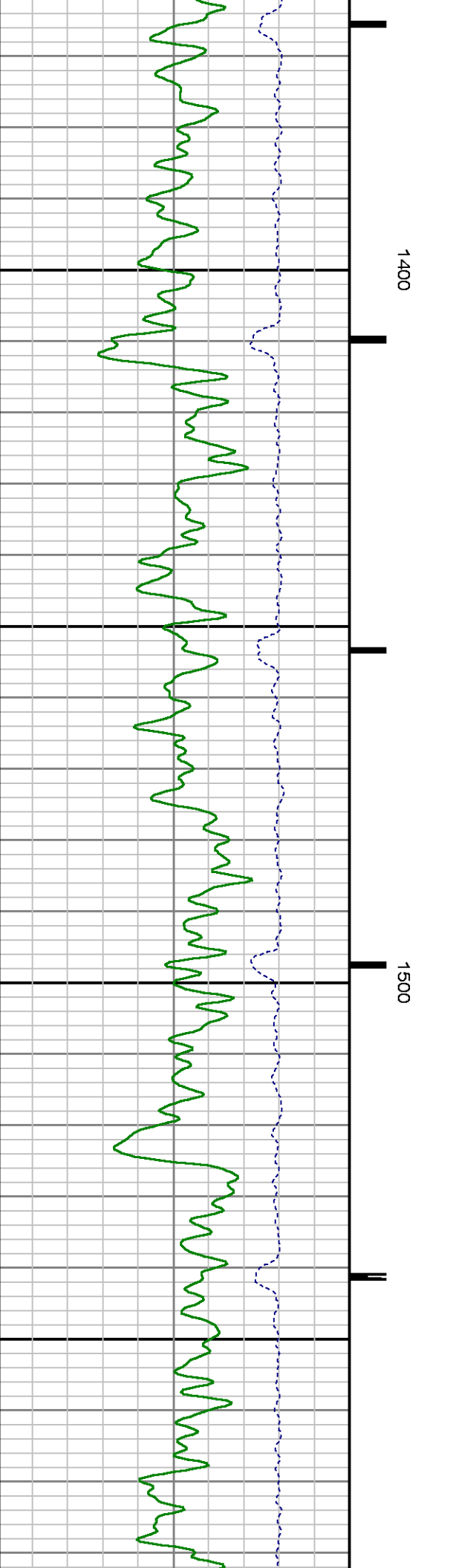
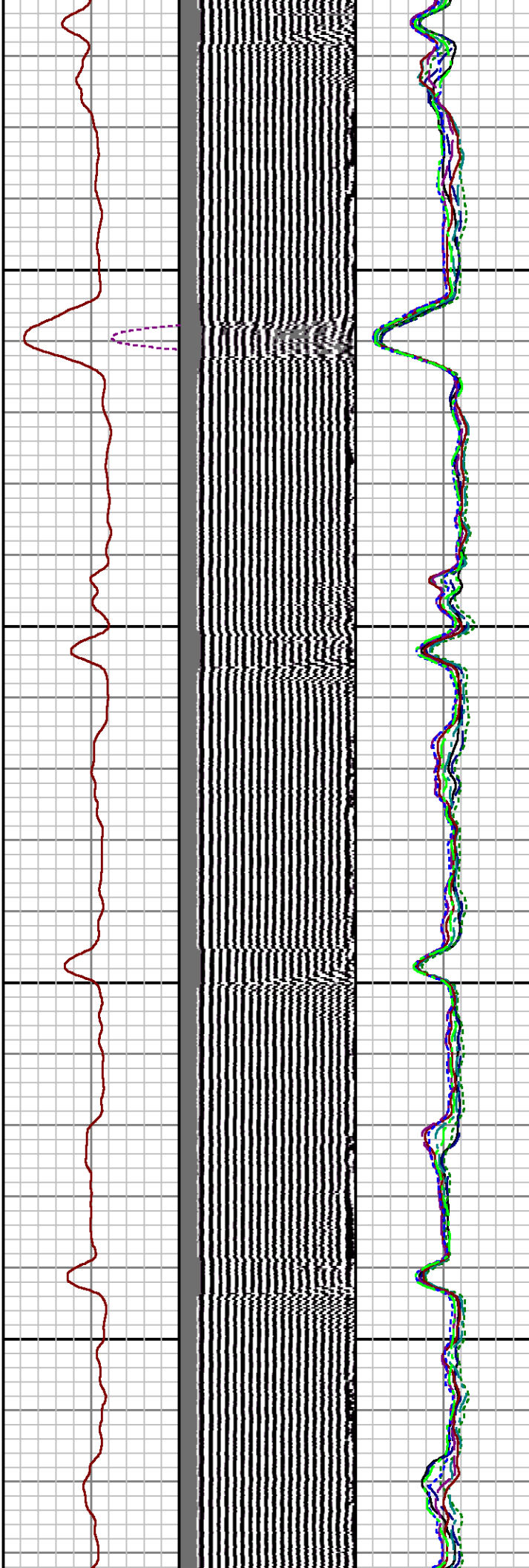
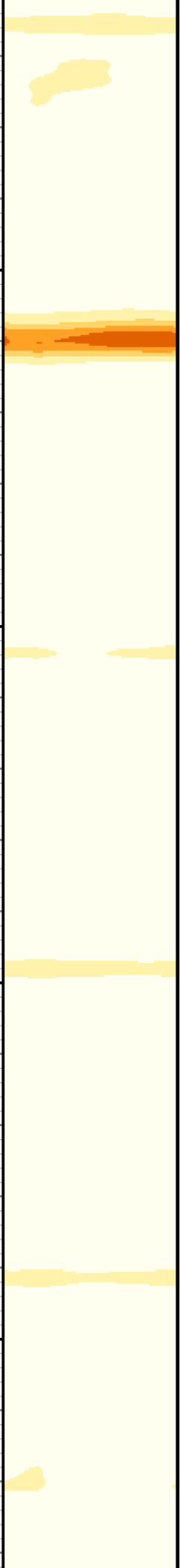


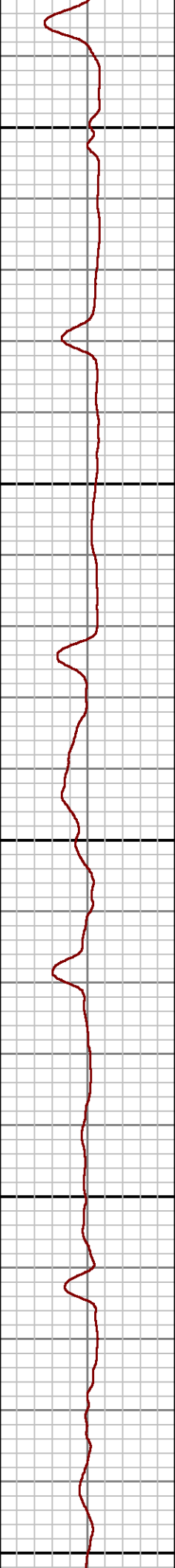
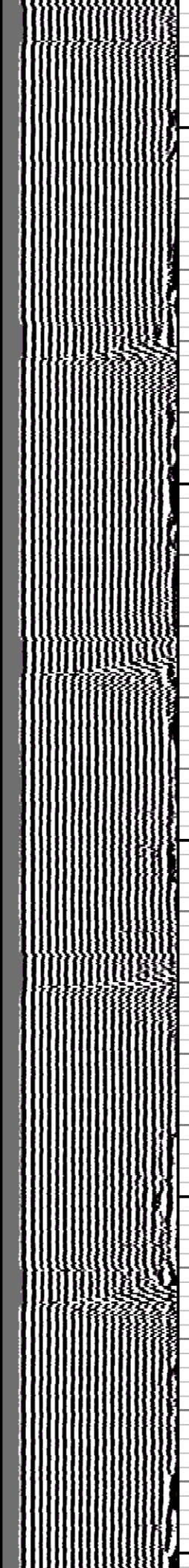
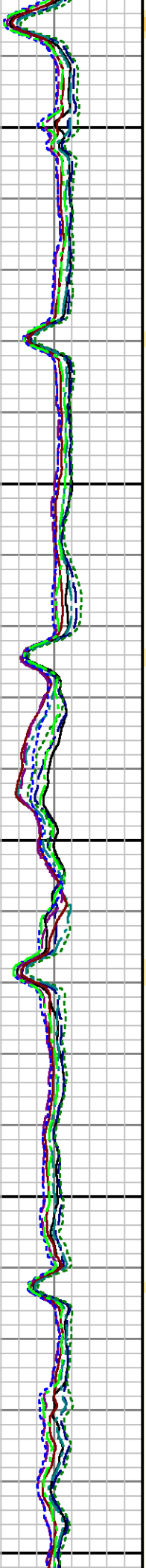
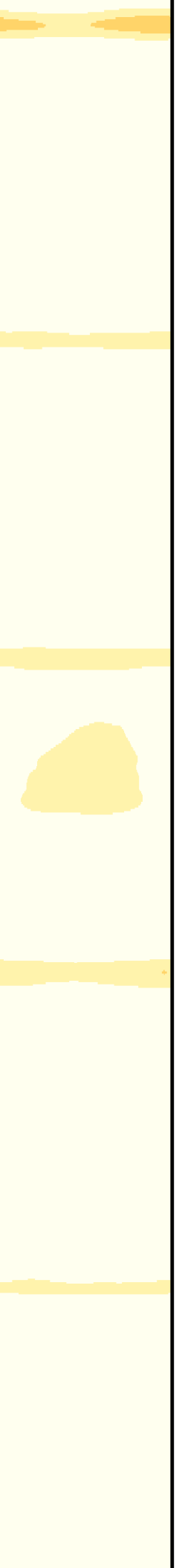


1000

1100



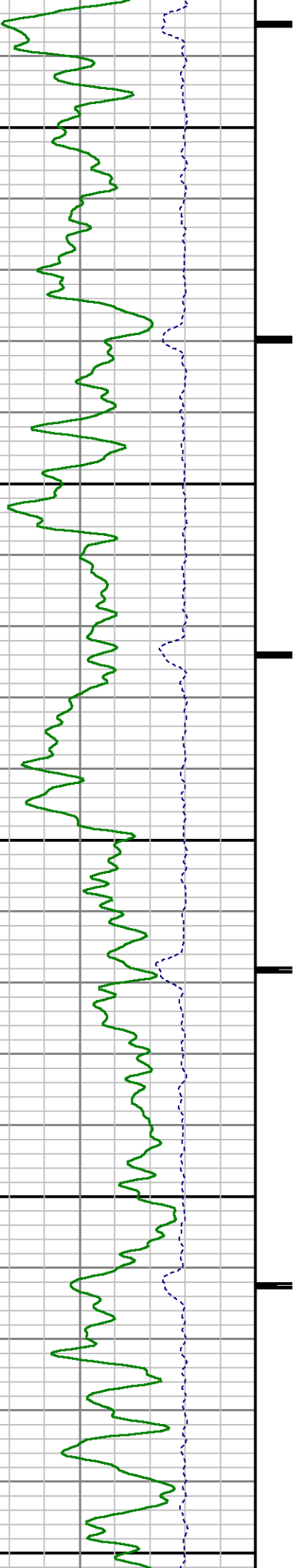


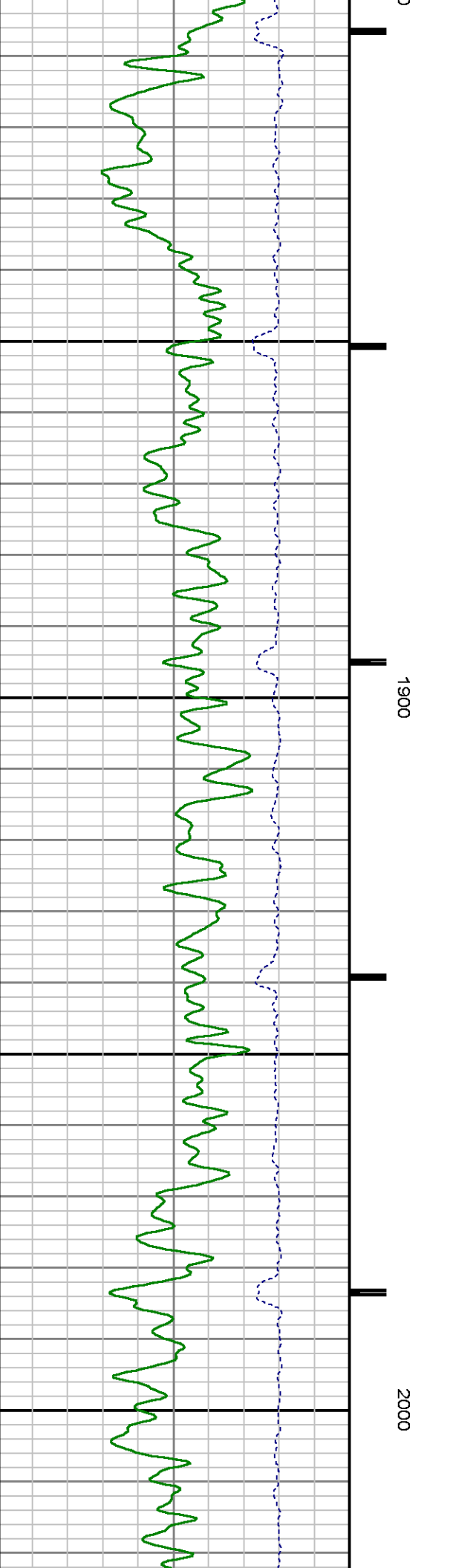
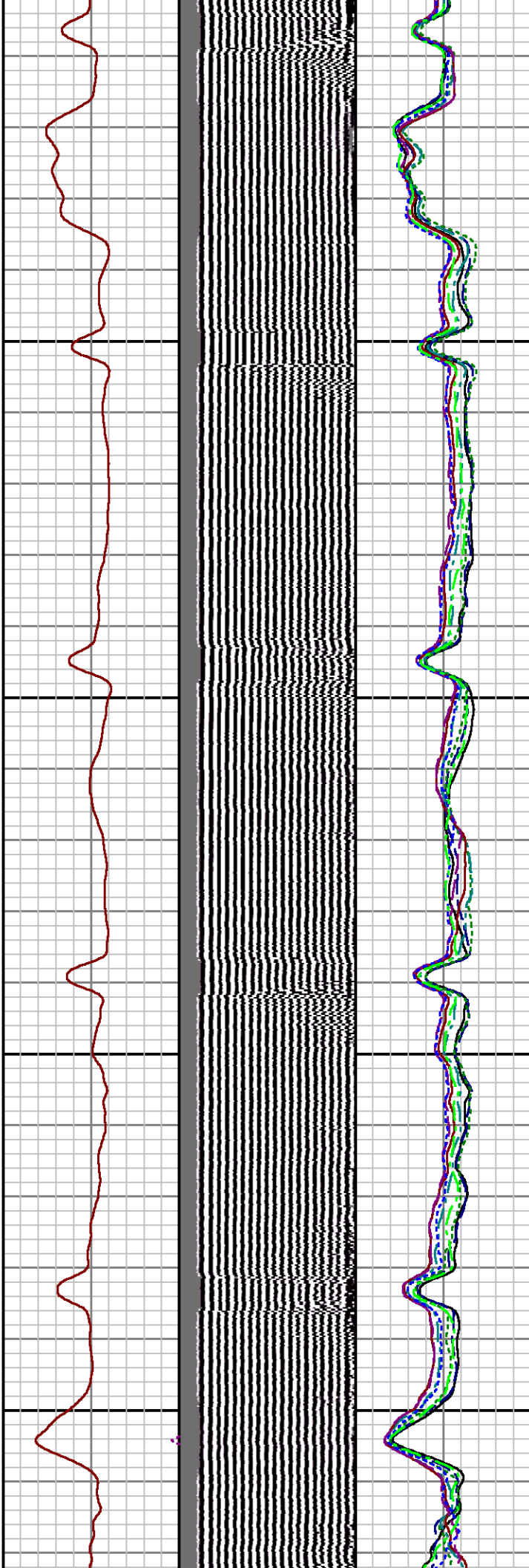
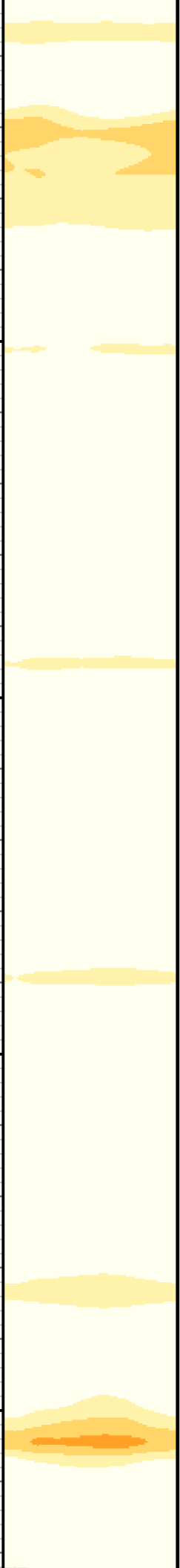


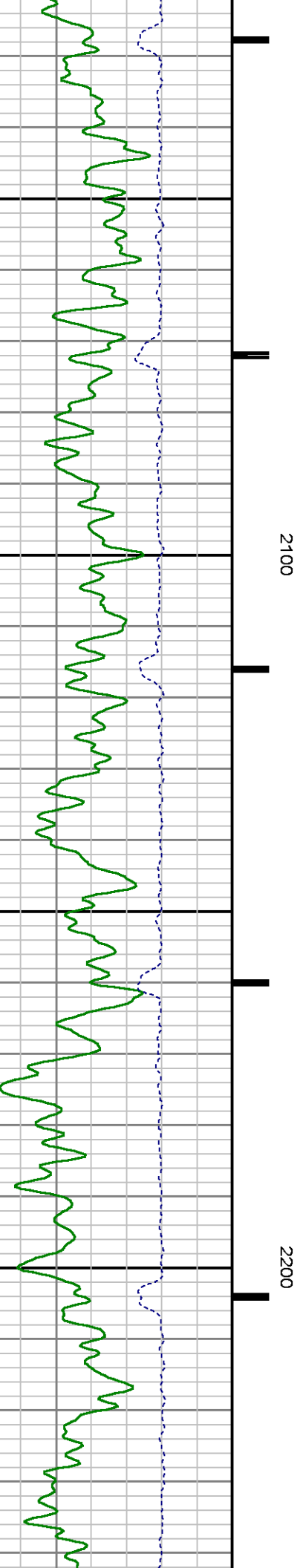
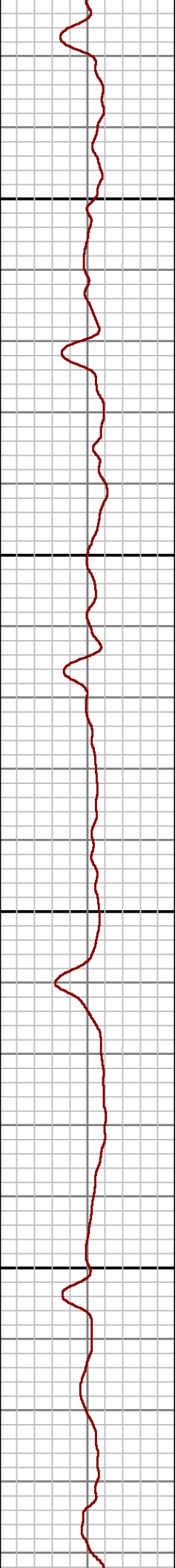
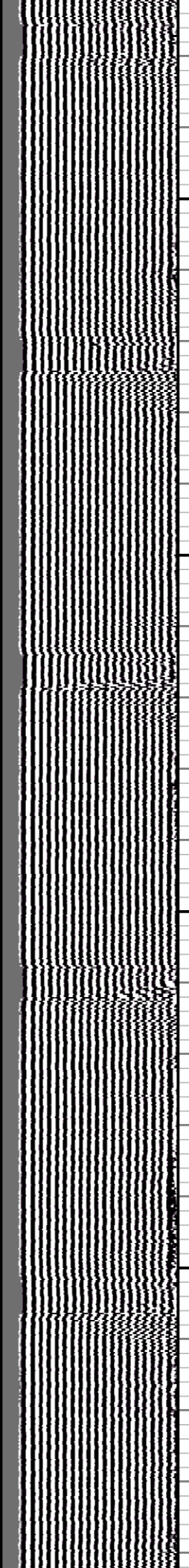
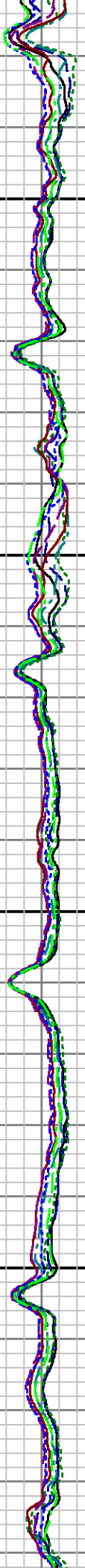
1600

1700

1800

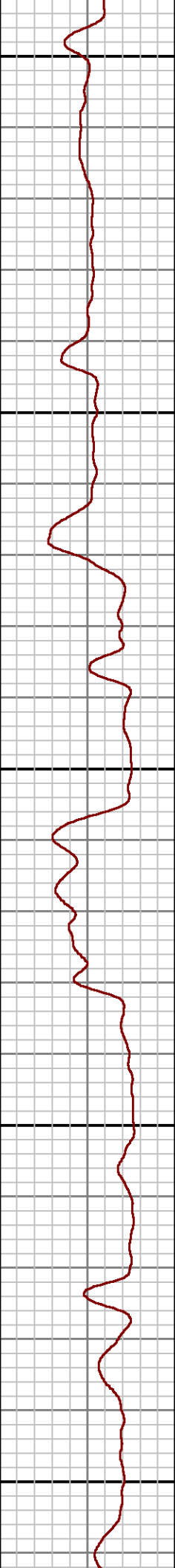
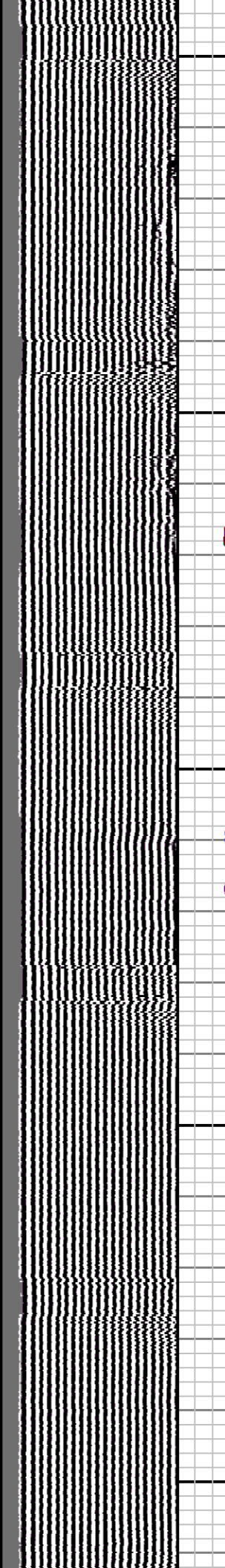
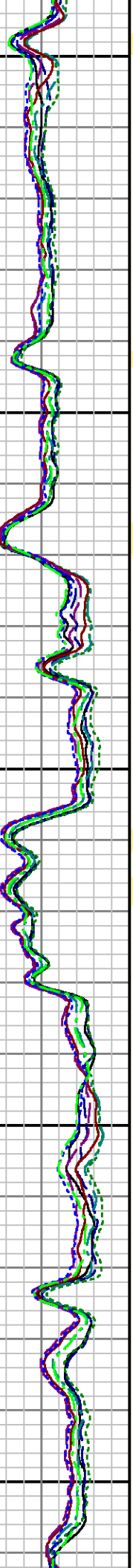






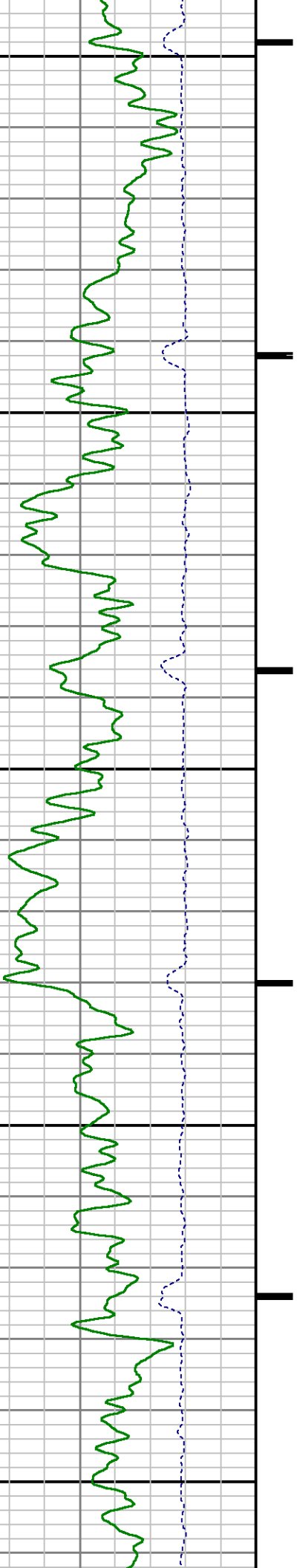
2100

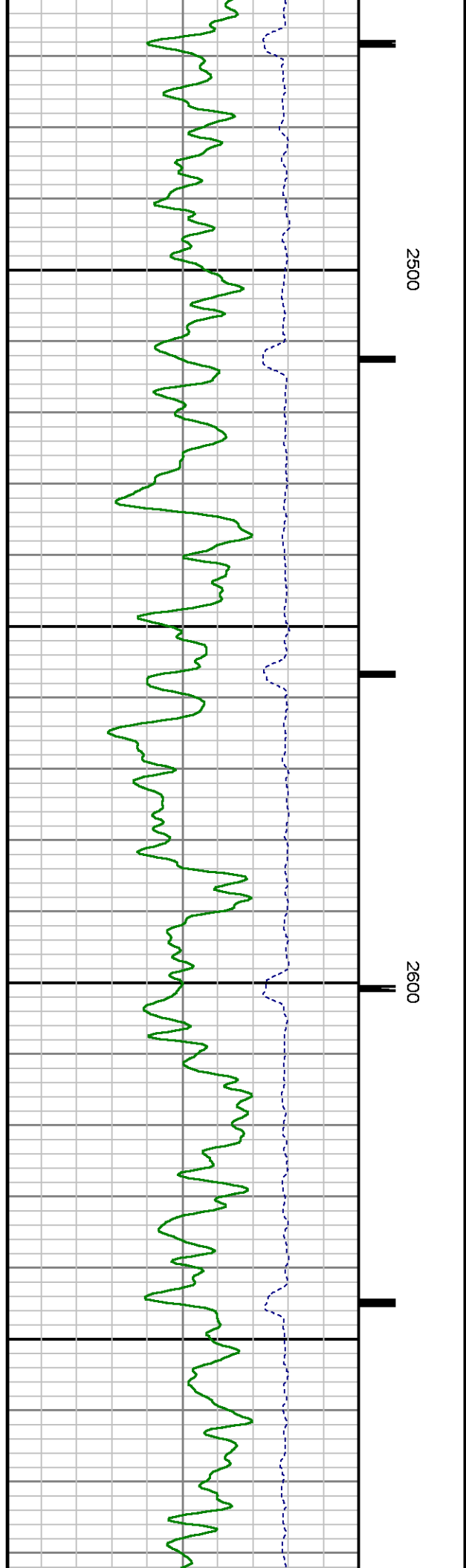
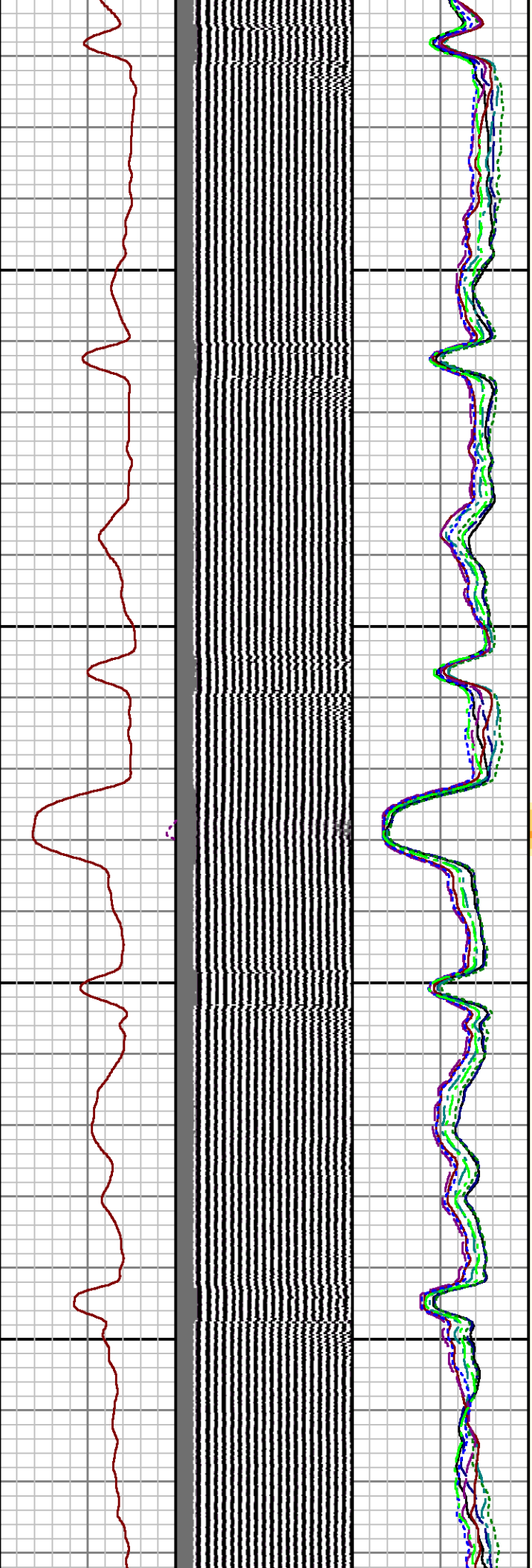
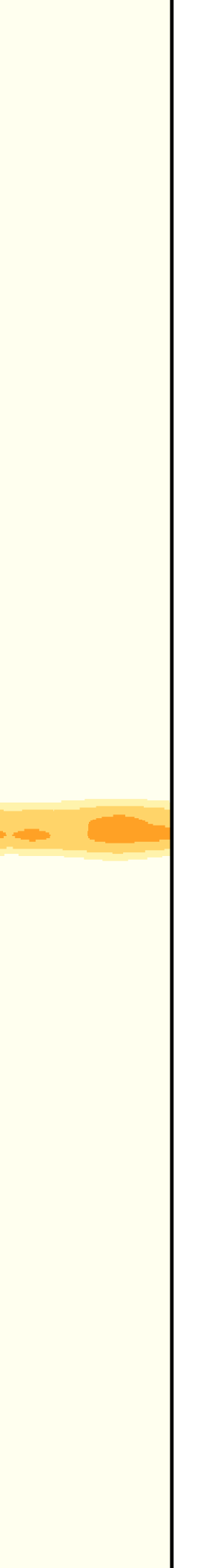
2200

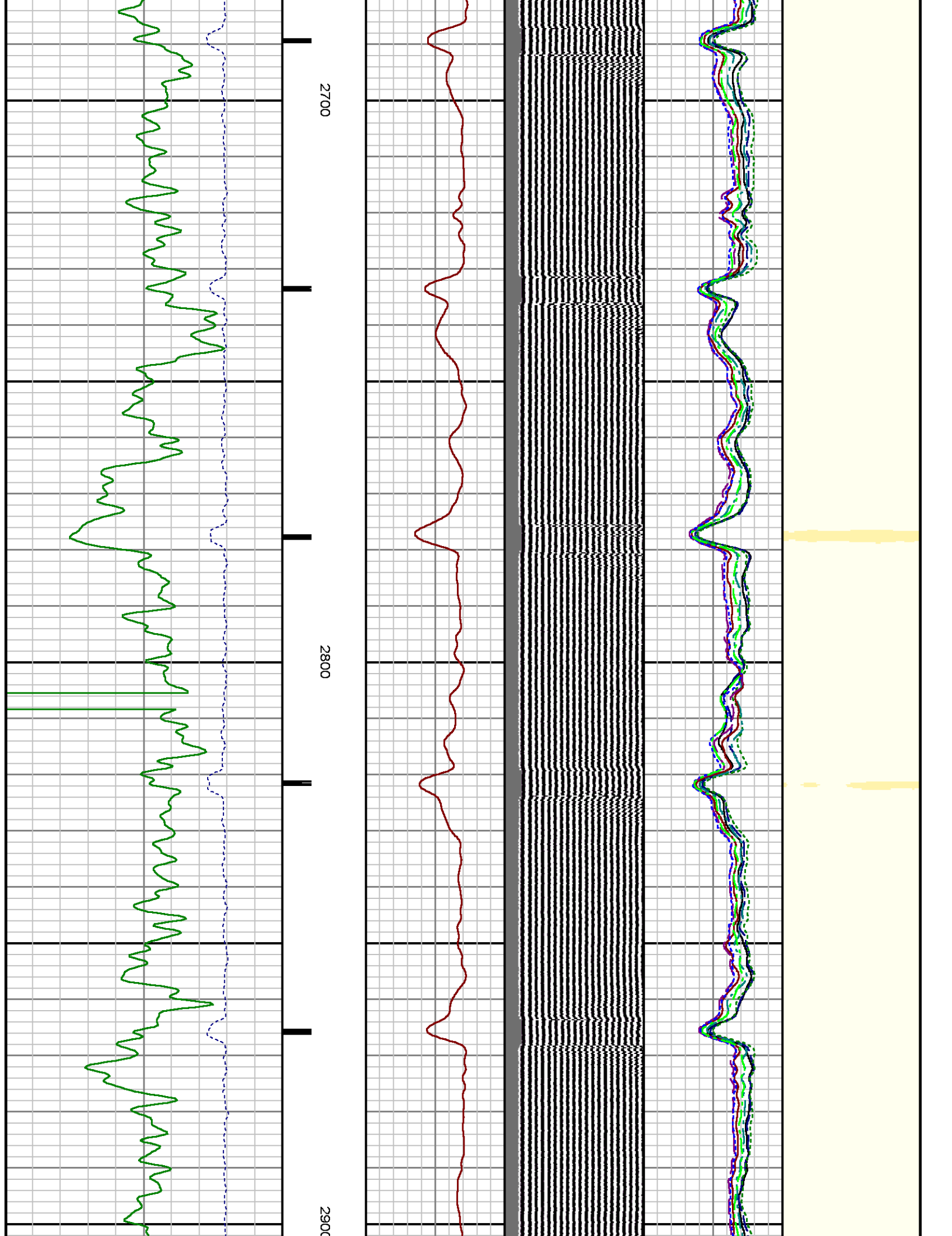


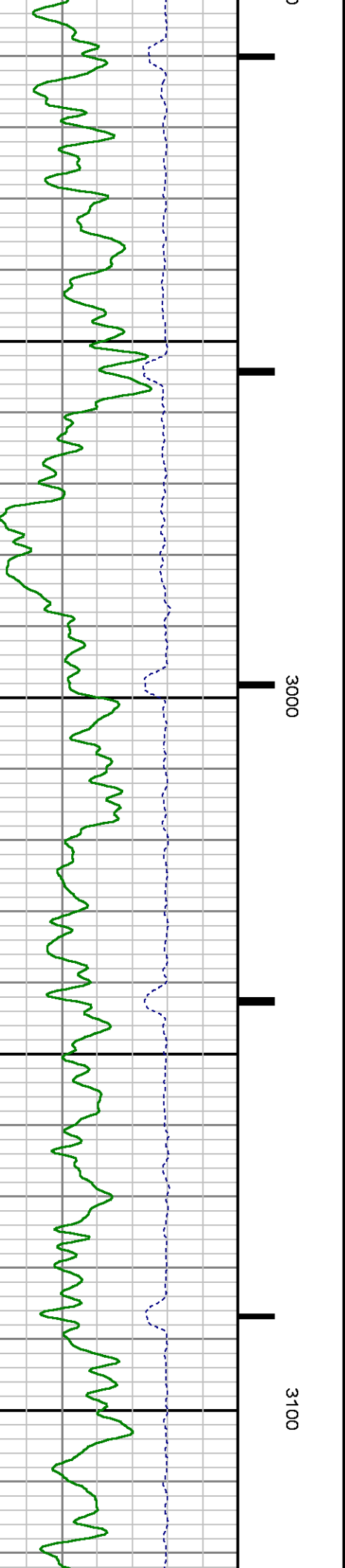
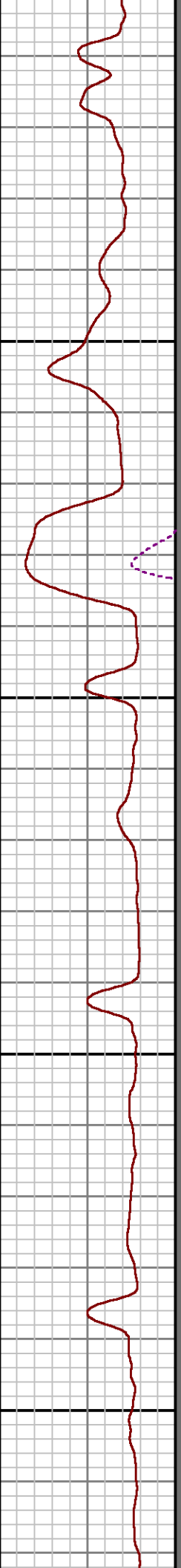
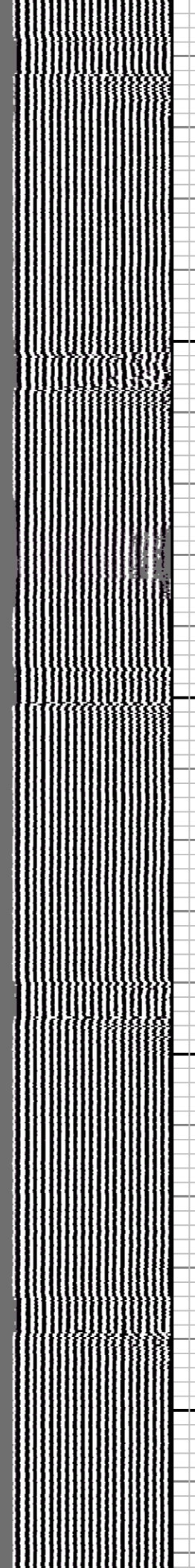
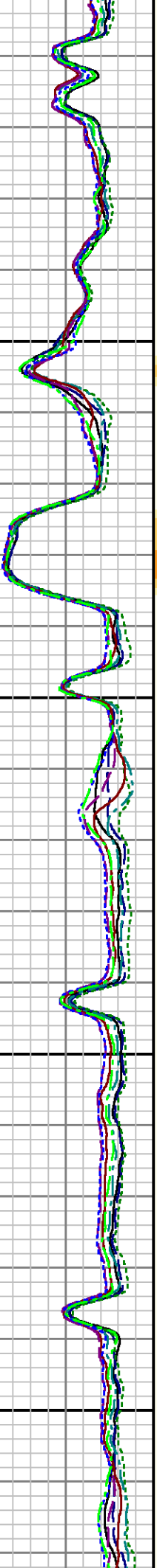
2300

2400



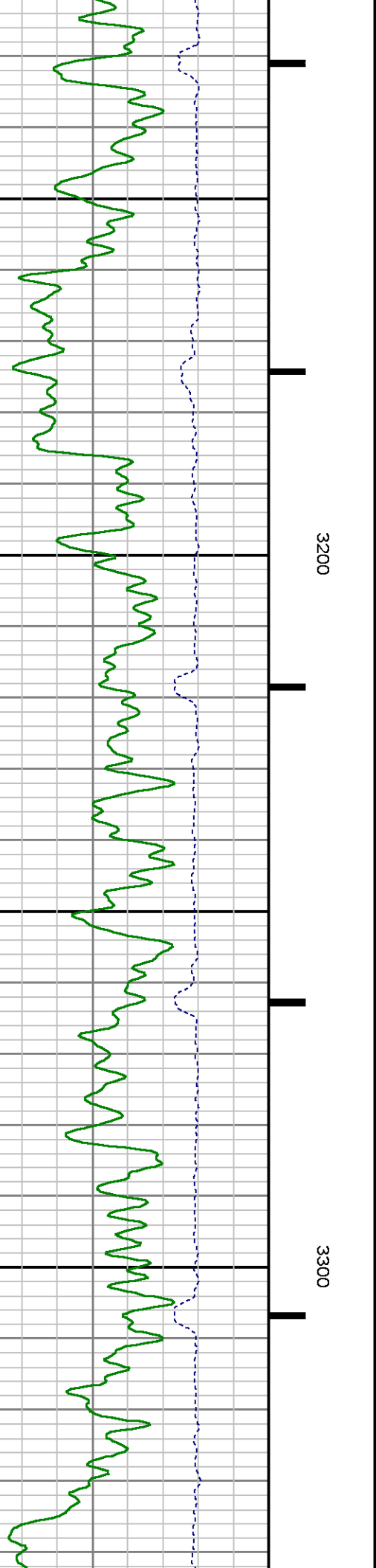
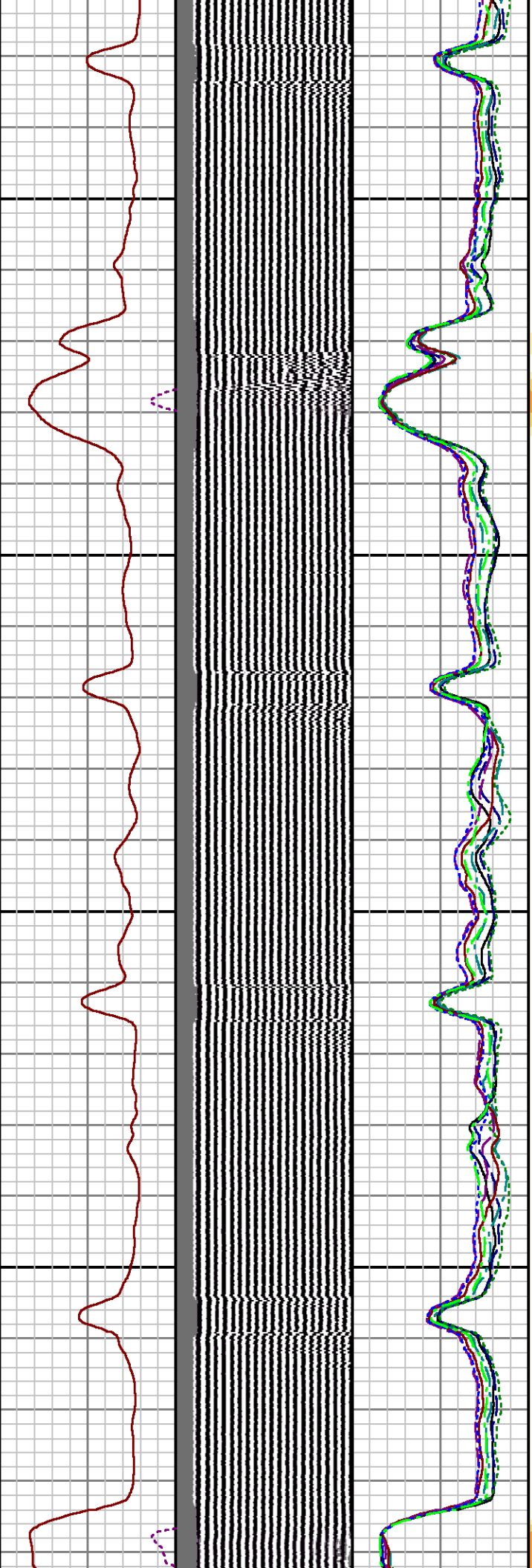
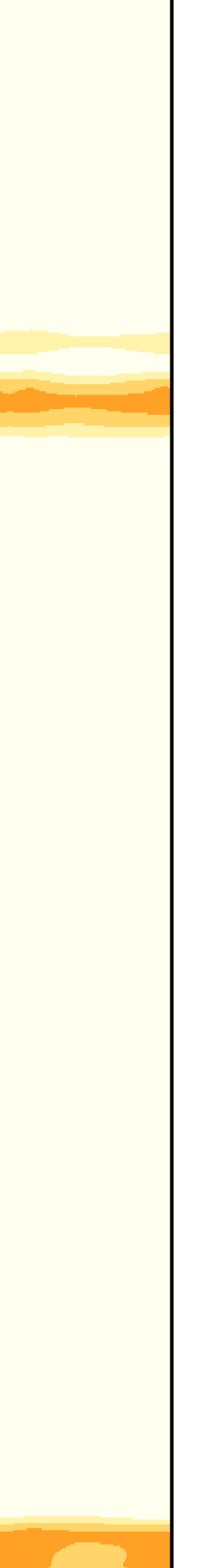


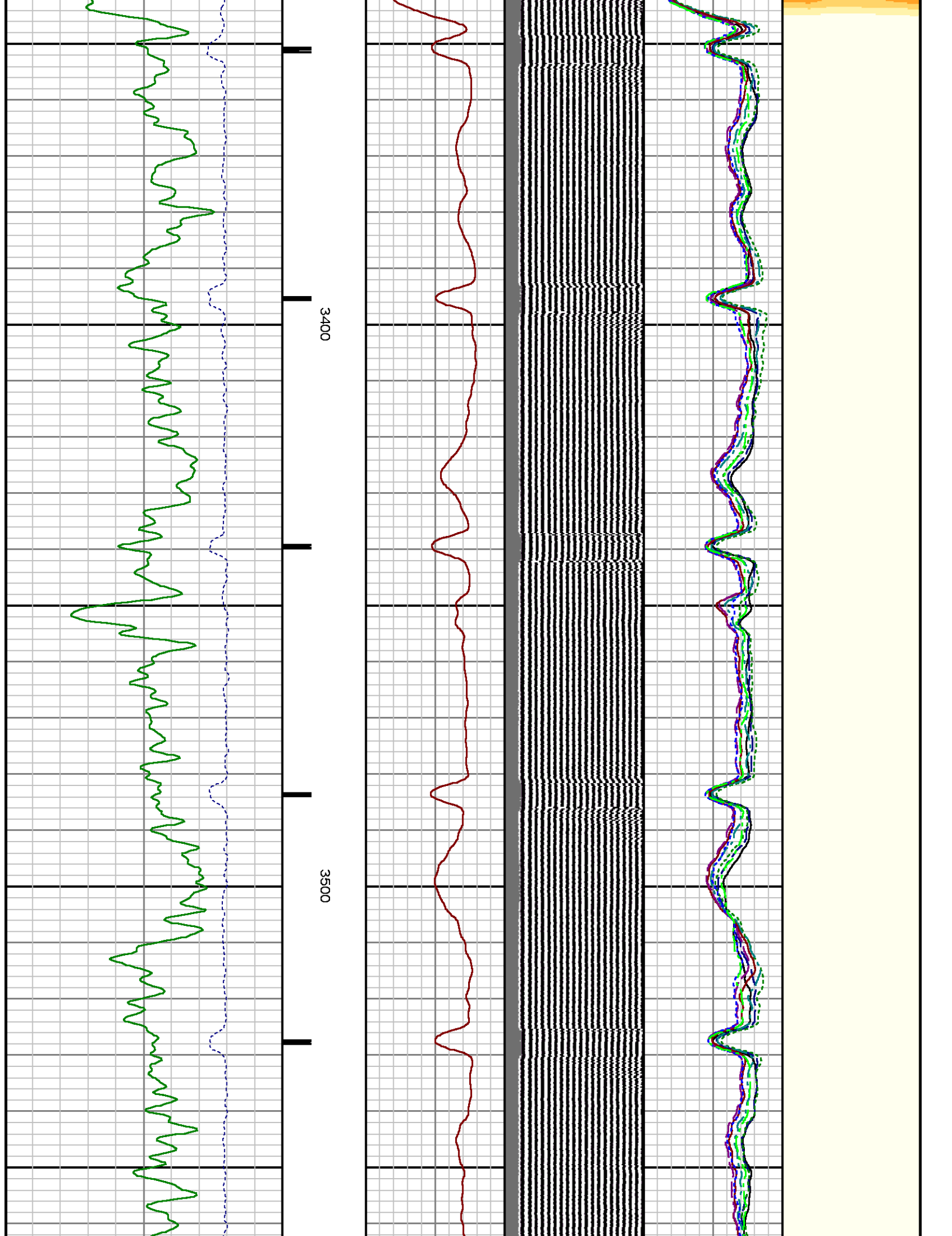


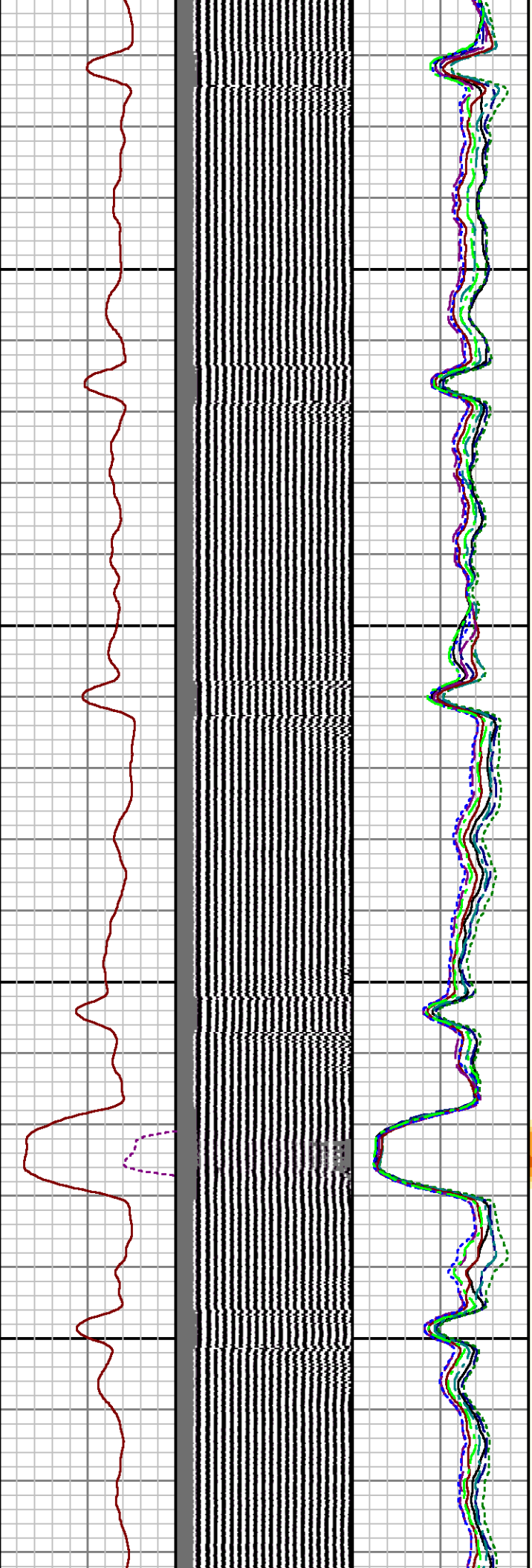
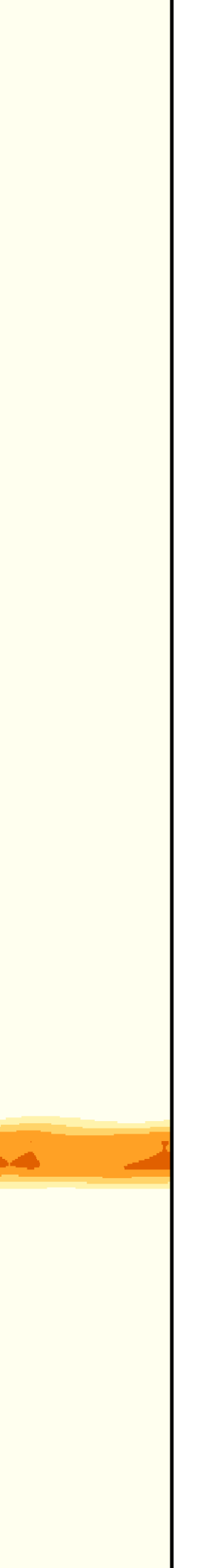


3000

3100

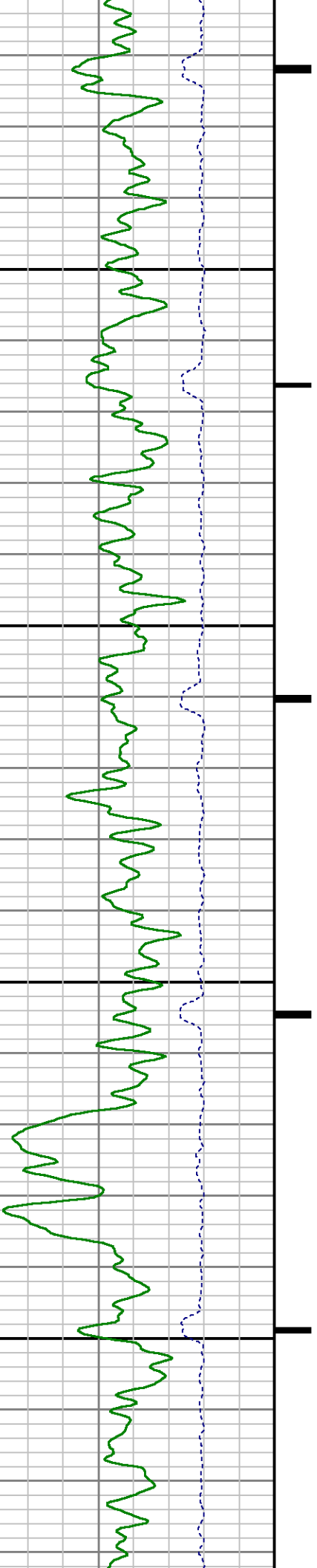


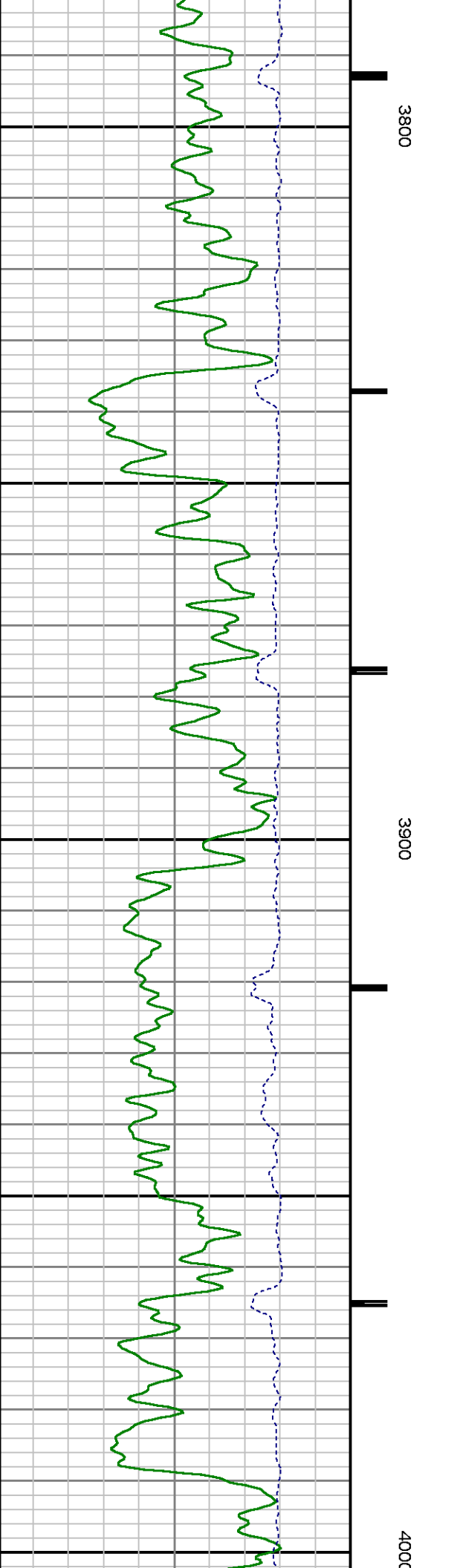
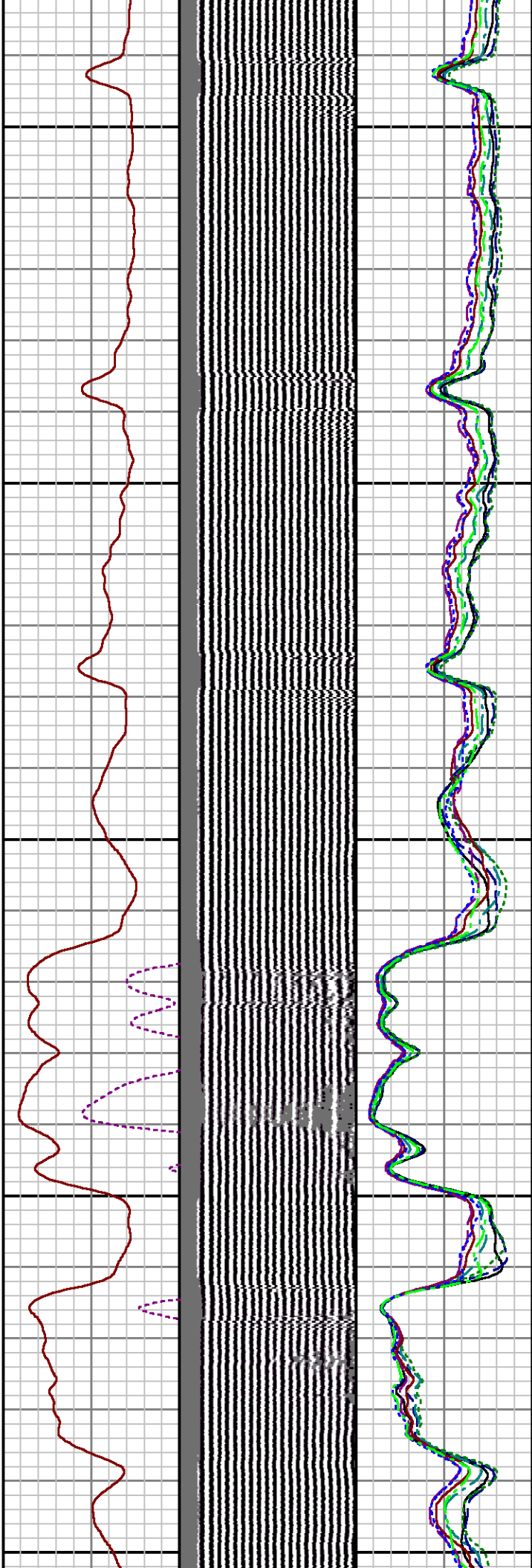
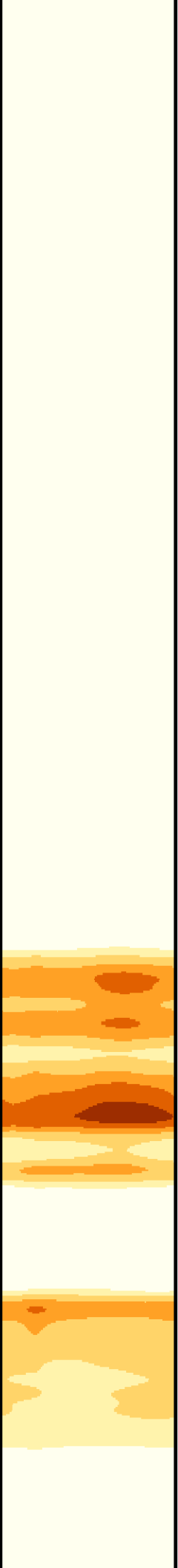


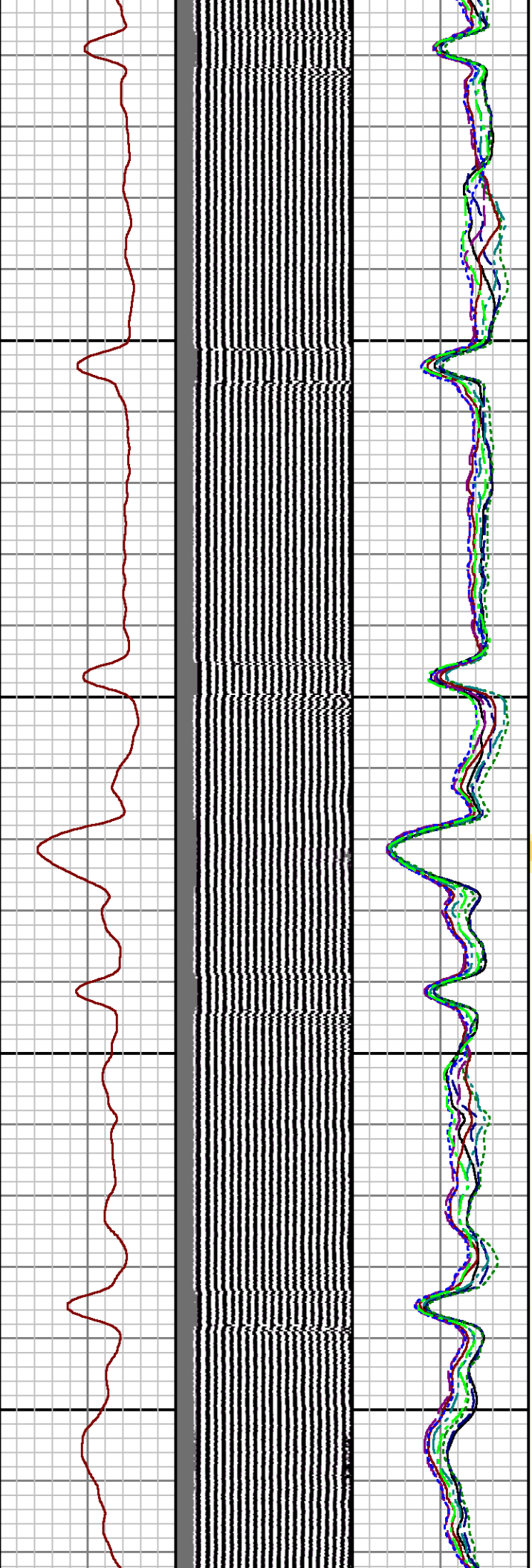


3600

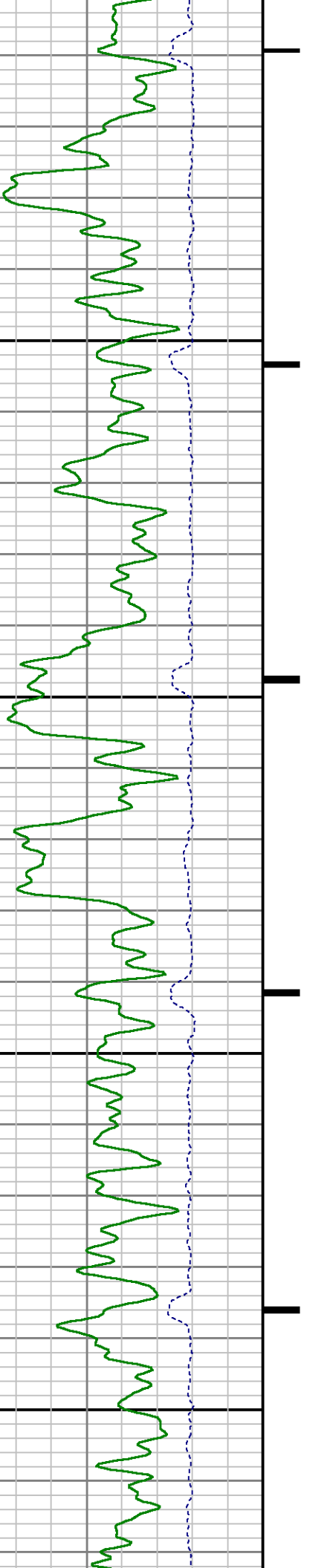
3700

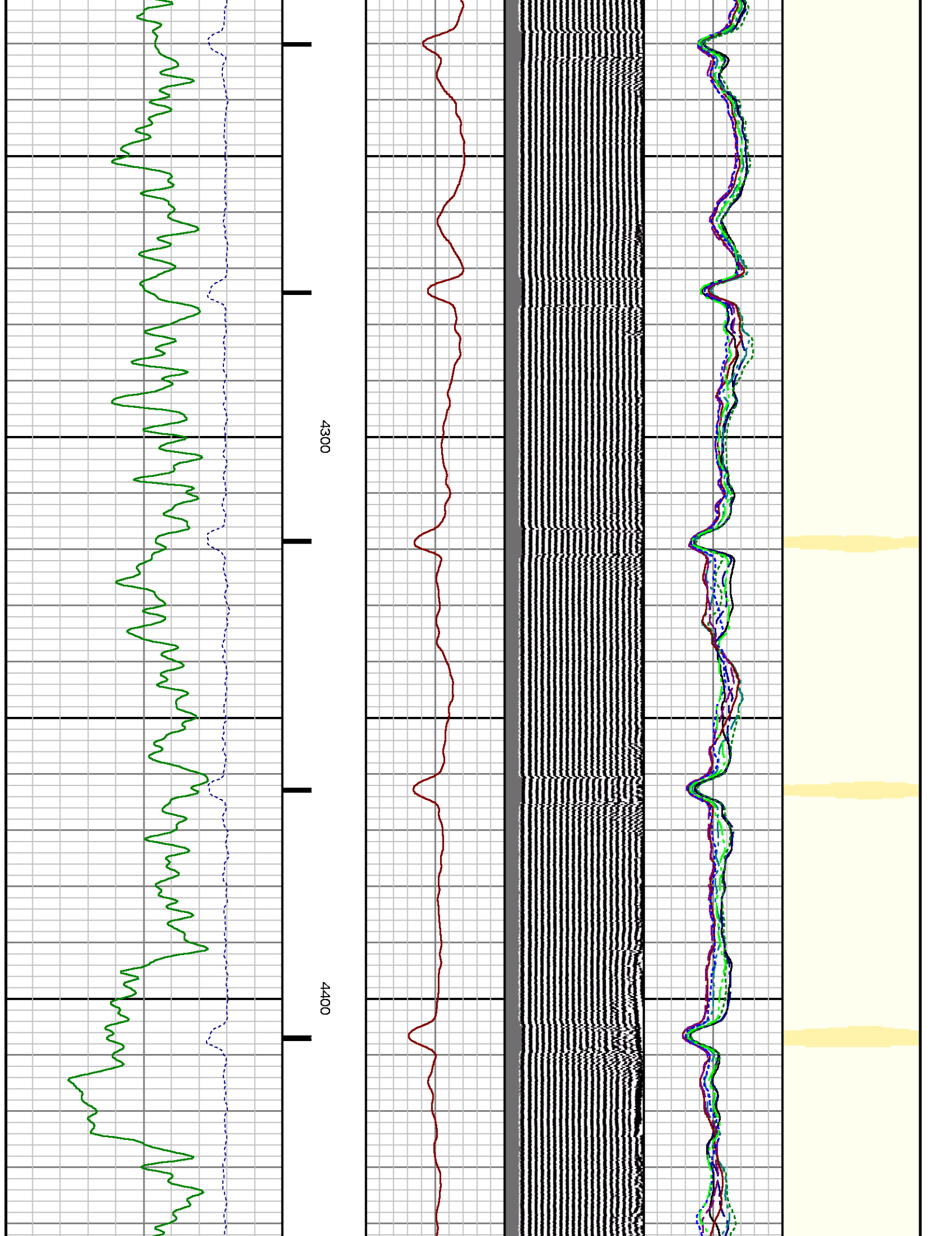


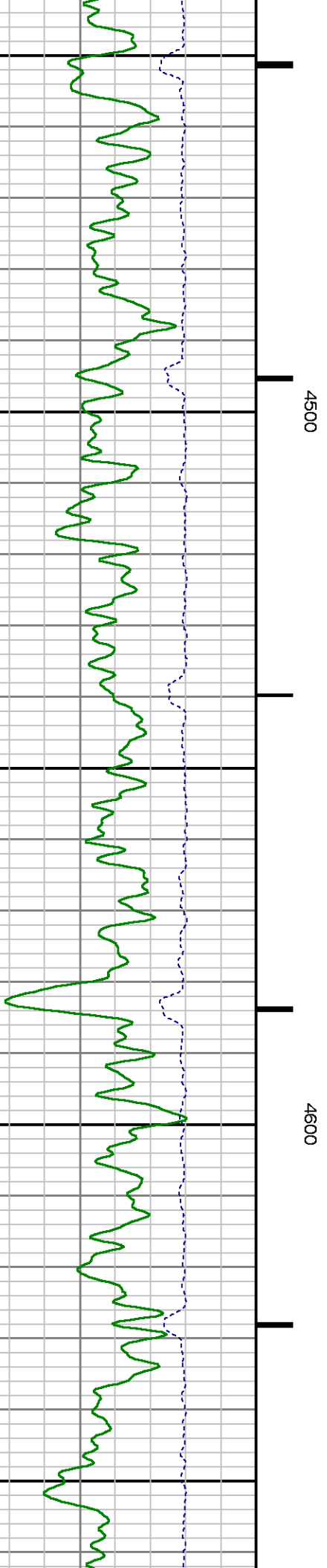
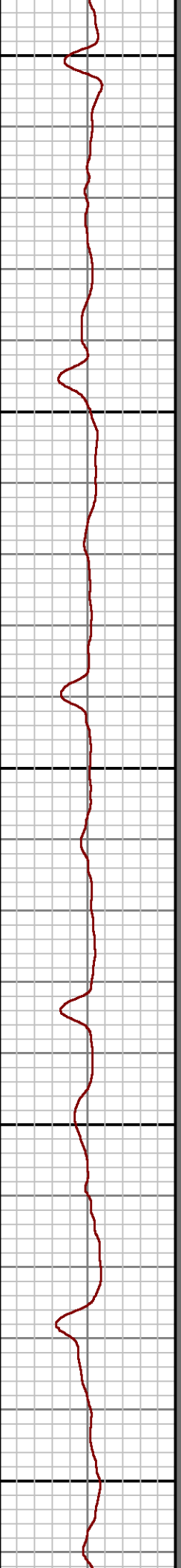
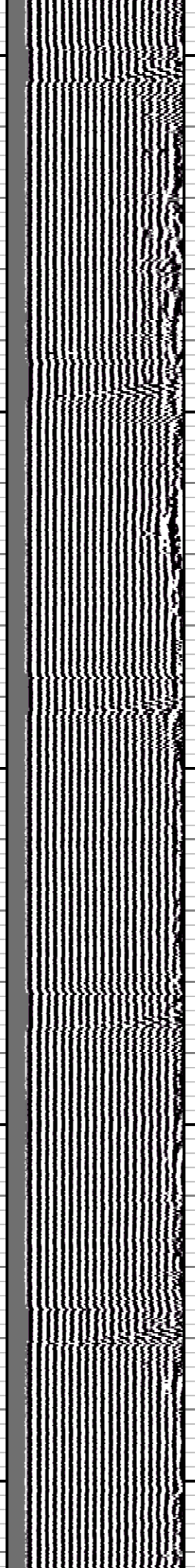
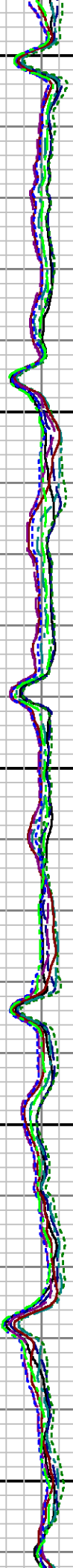


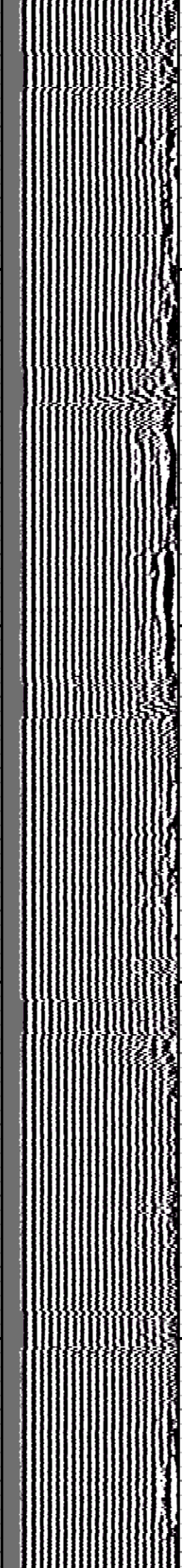
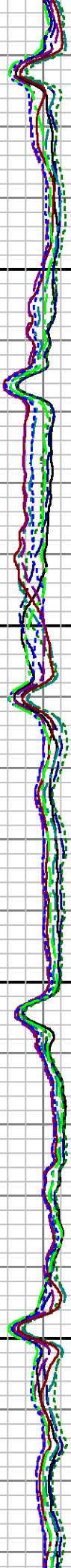
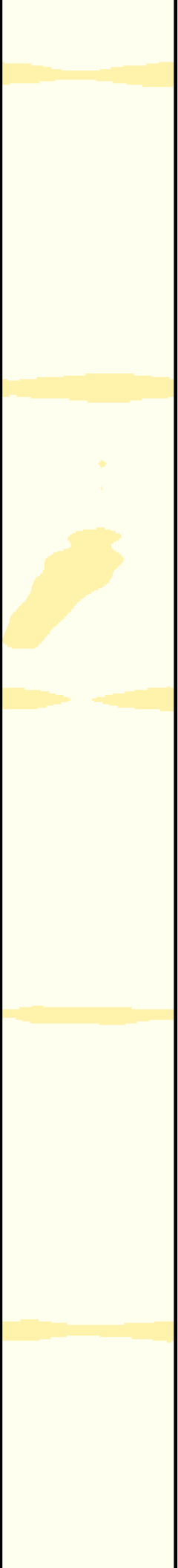


4100 4200



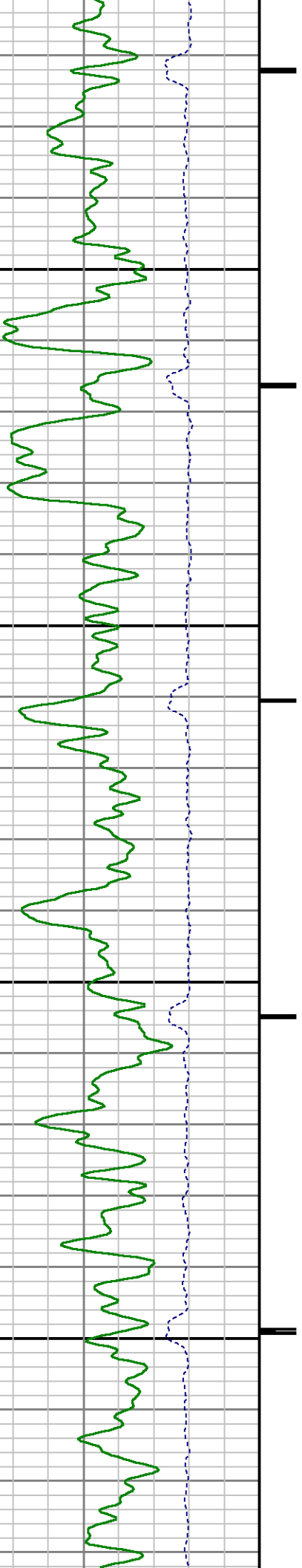


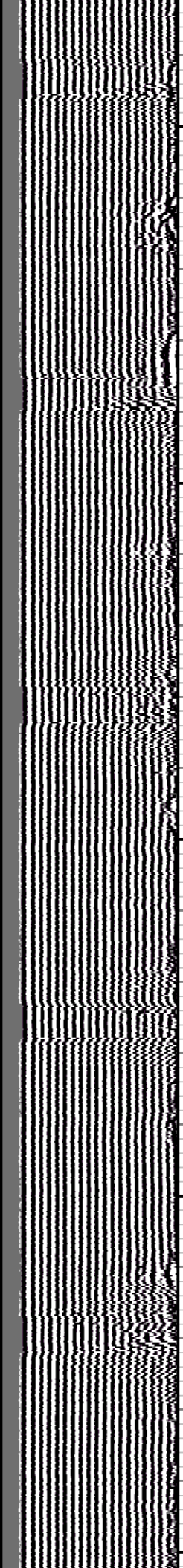
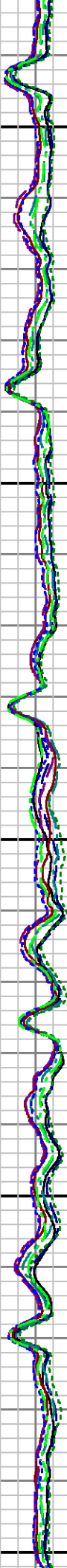




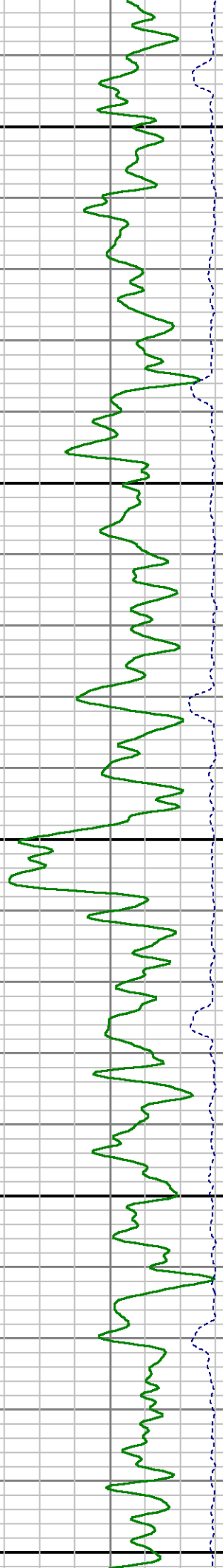
4700

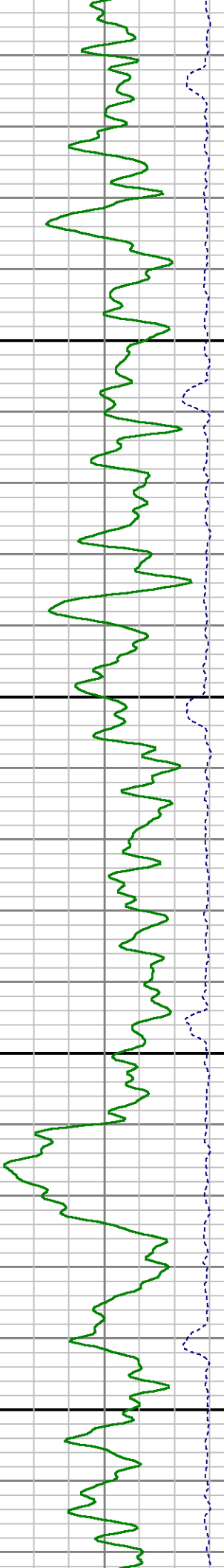
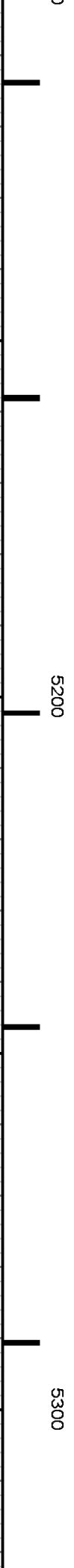
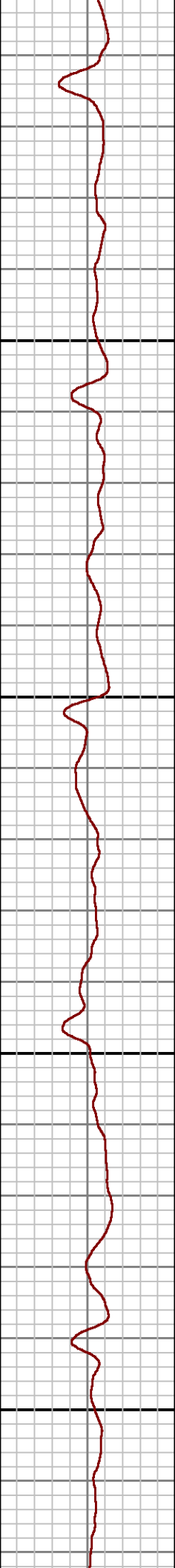
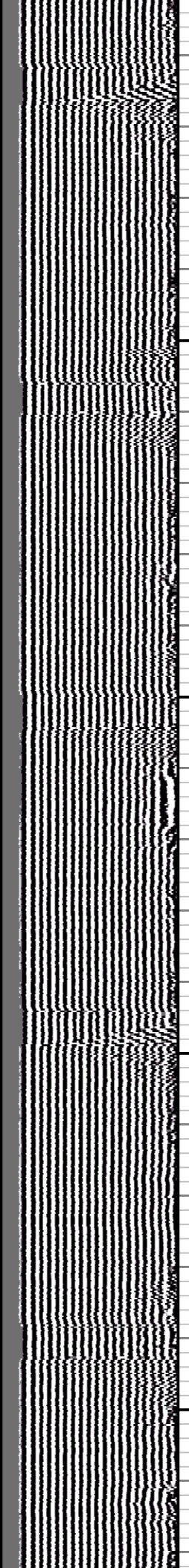
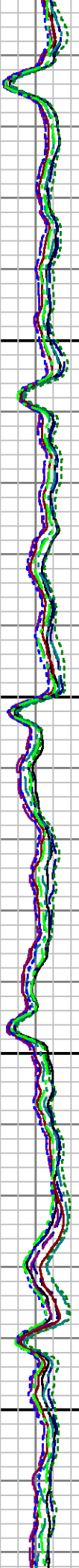
4800

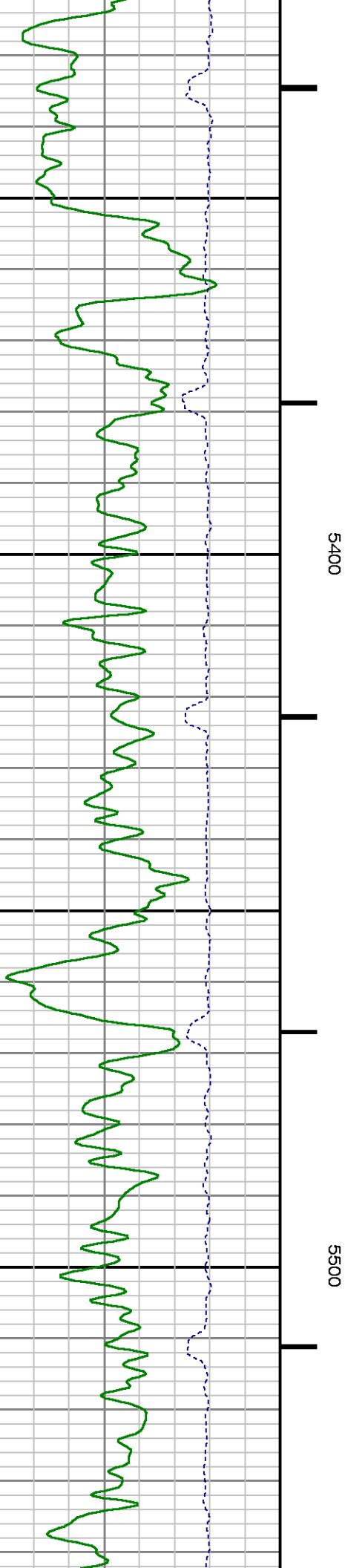
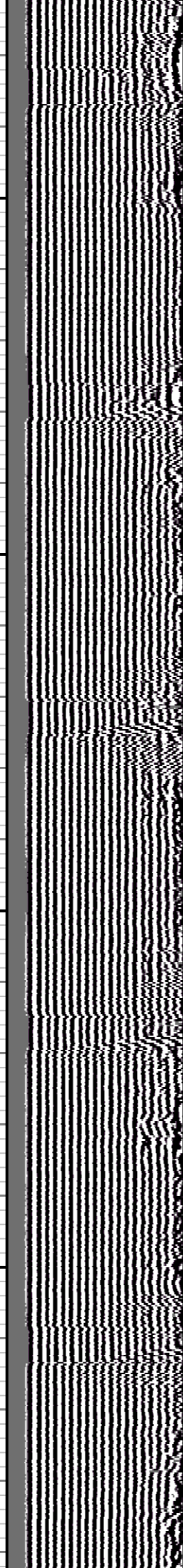
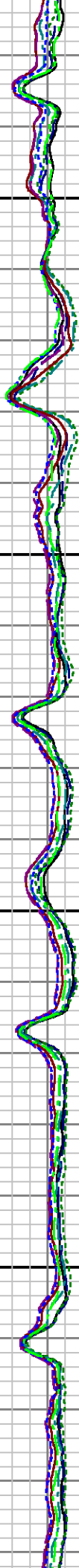
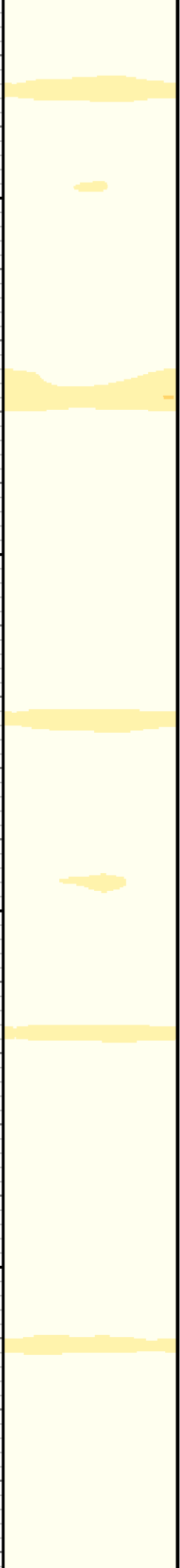


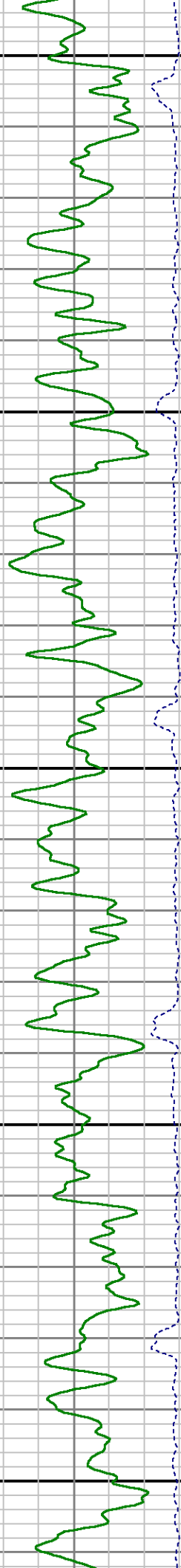
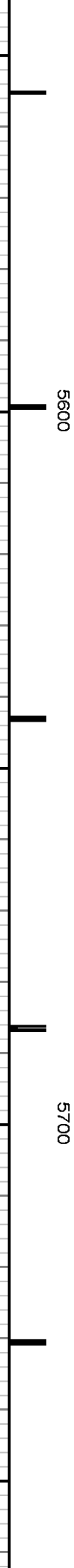
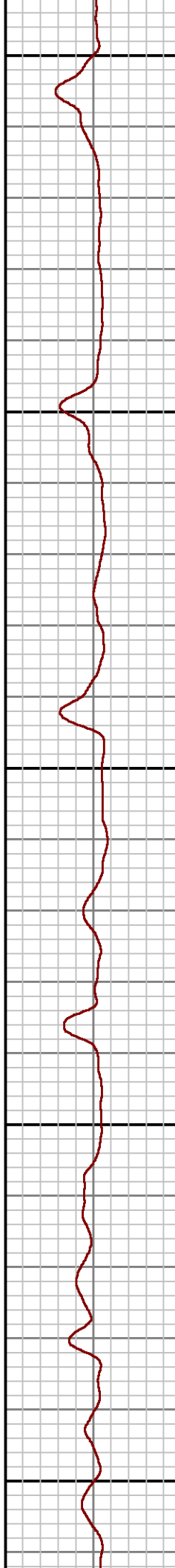
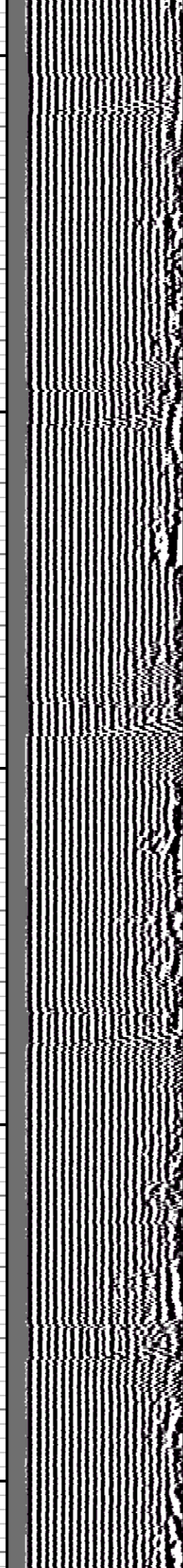
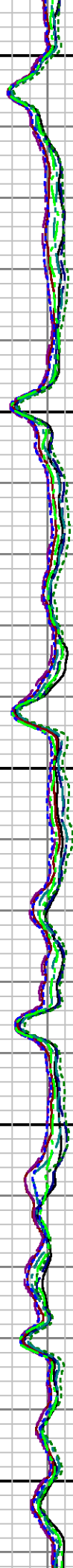


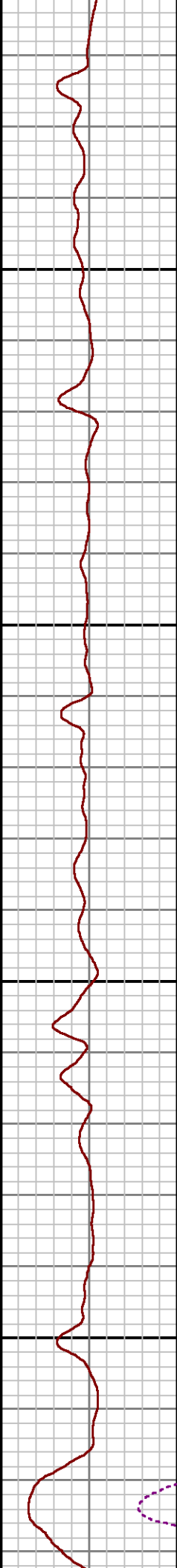
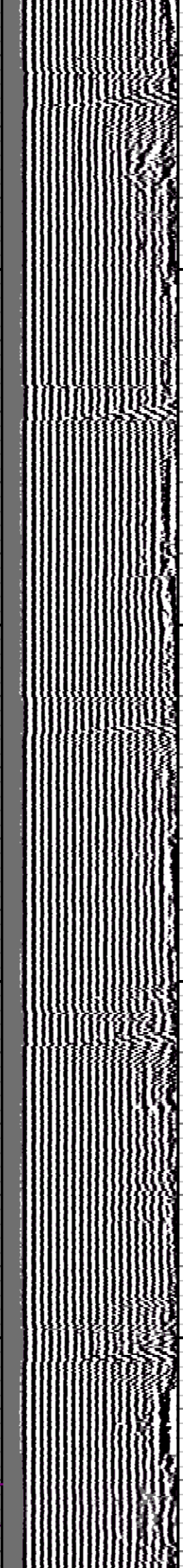
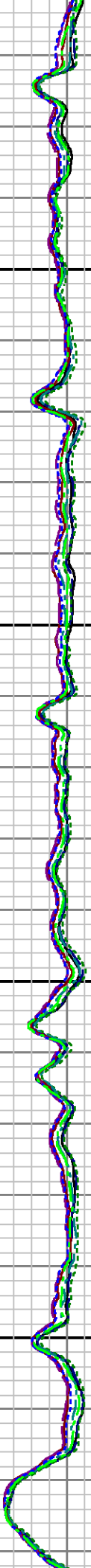
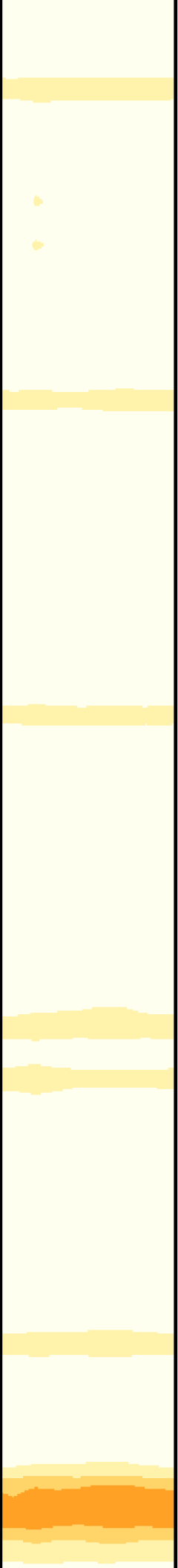
4900 5000 5100





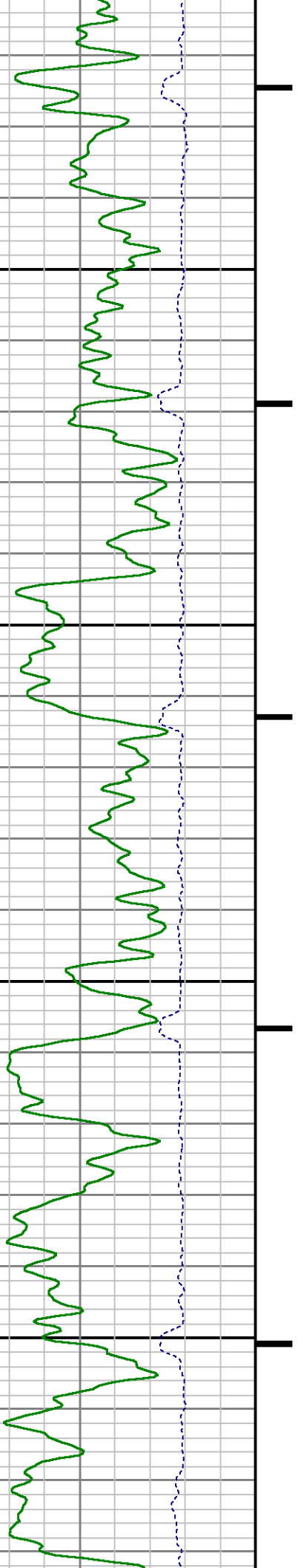


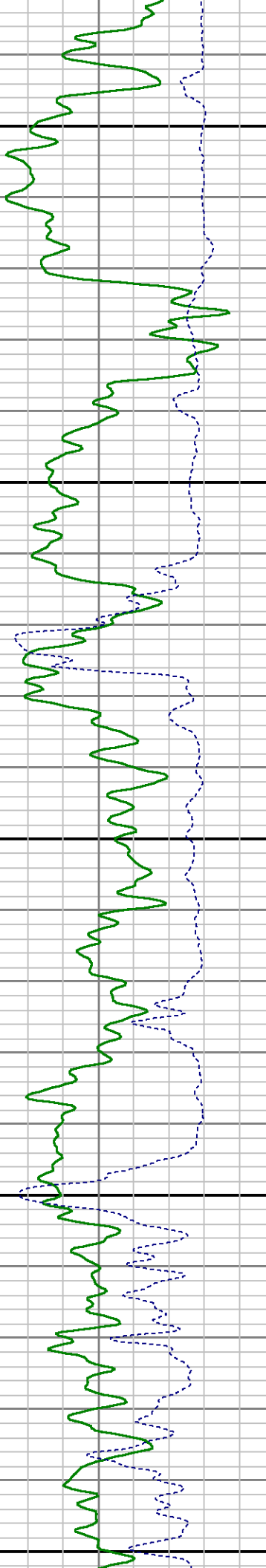
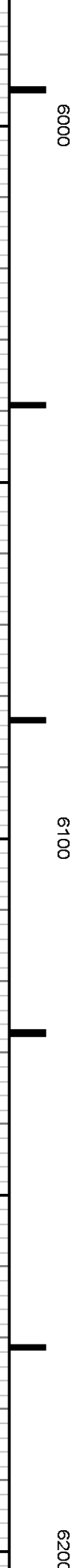
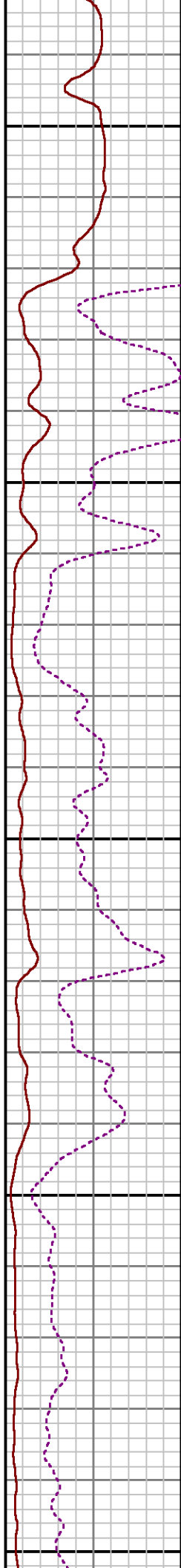
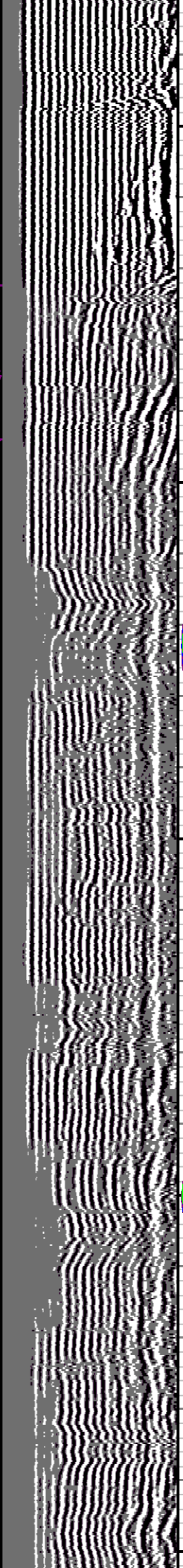
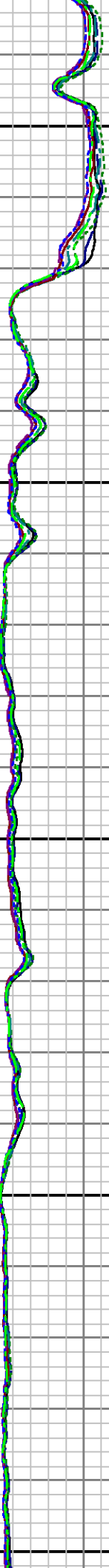
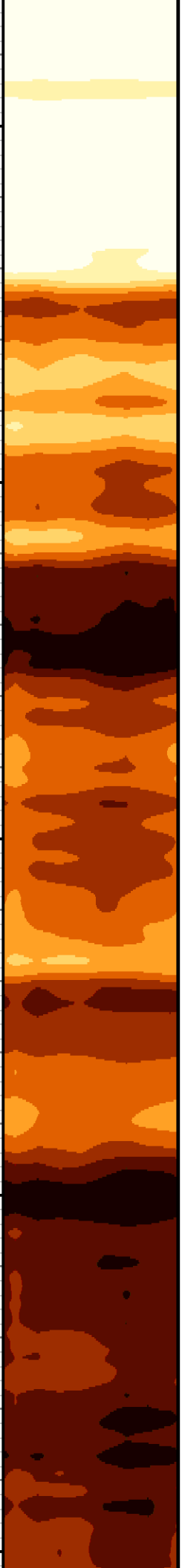


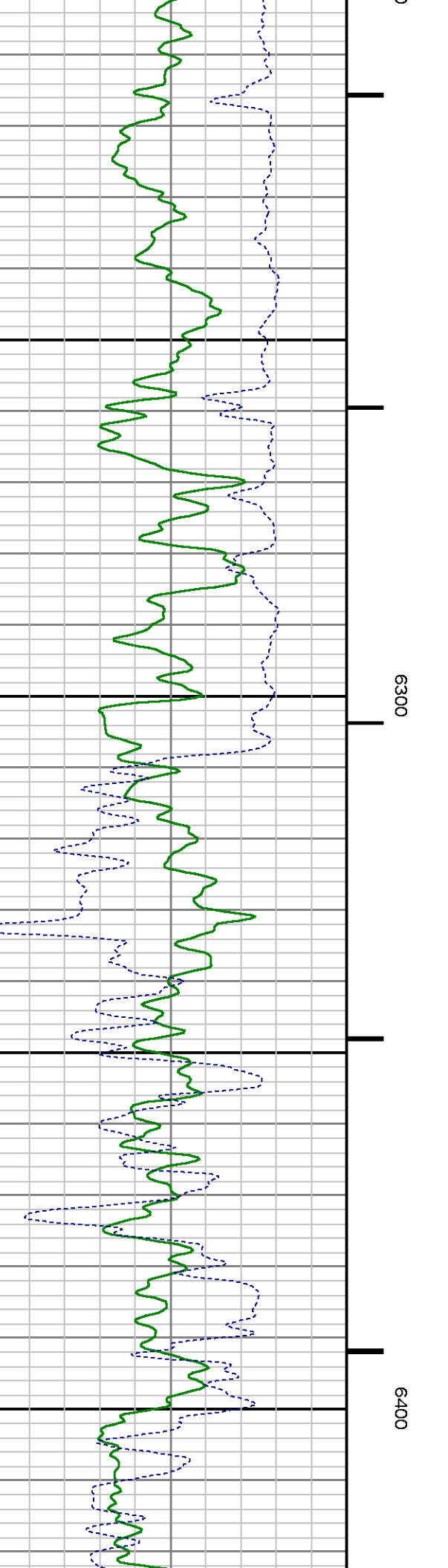
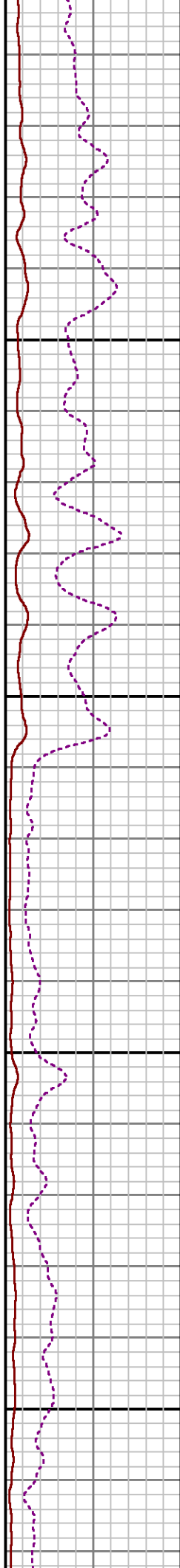
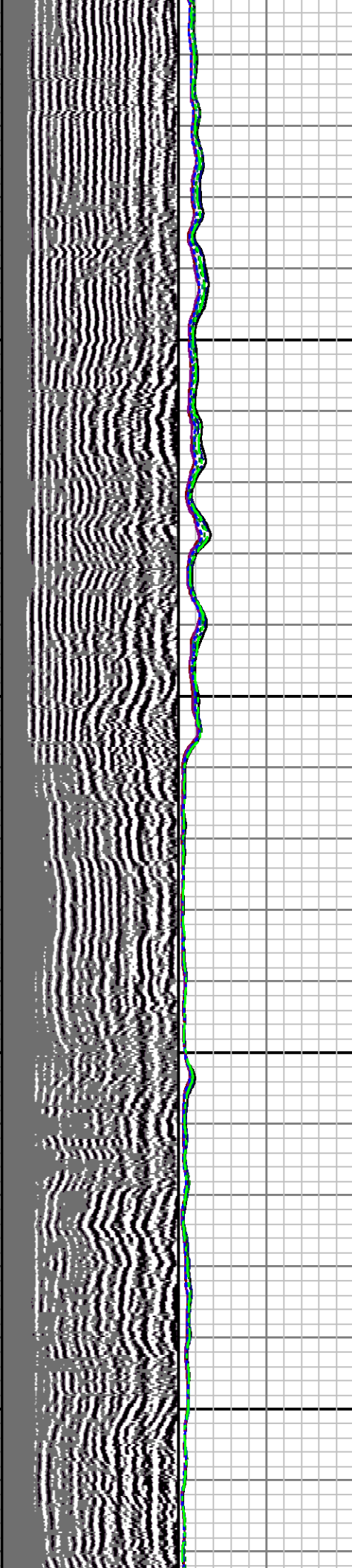


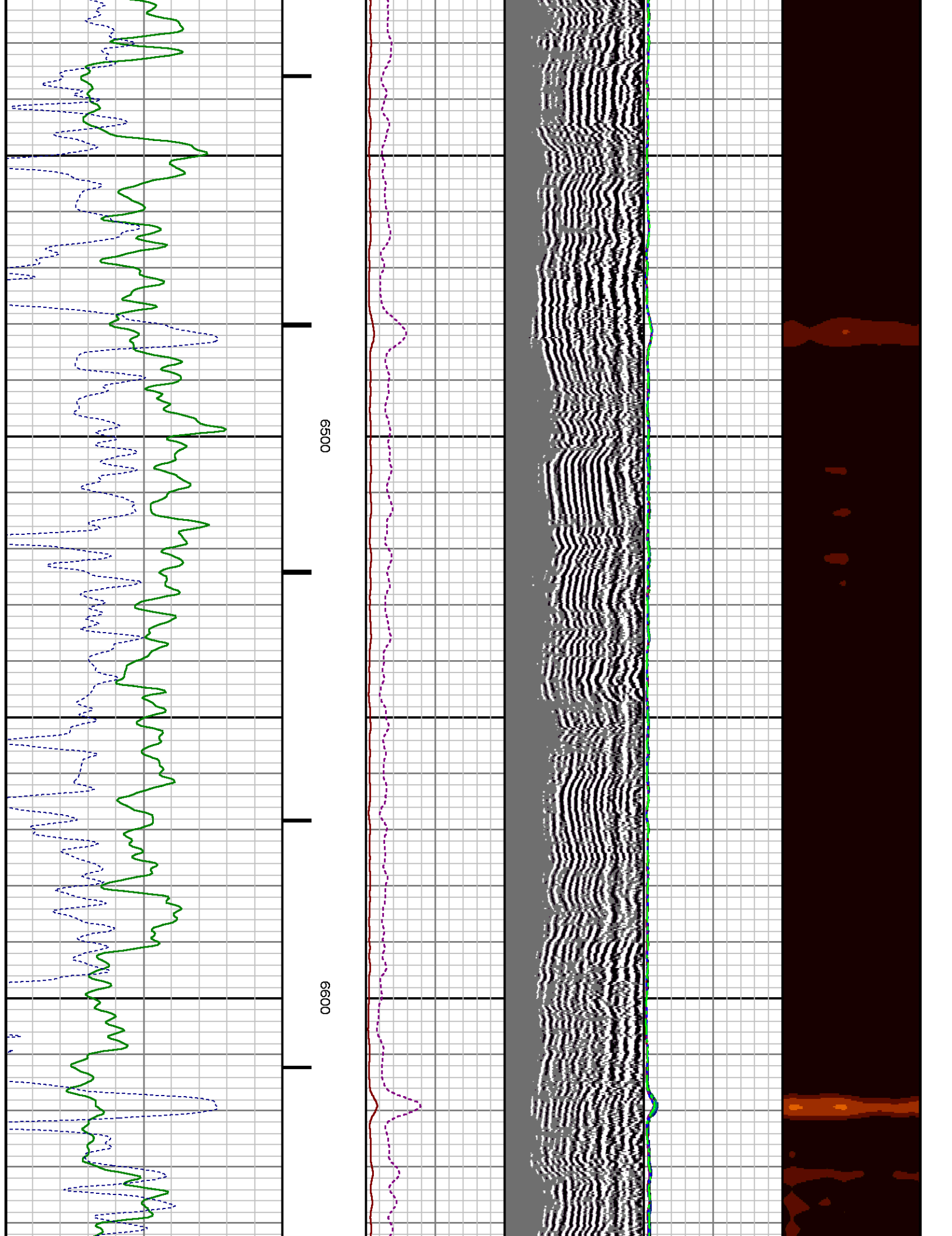
5800

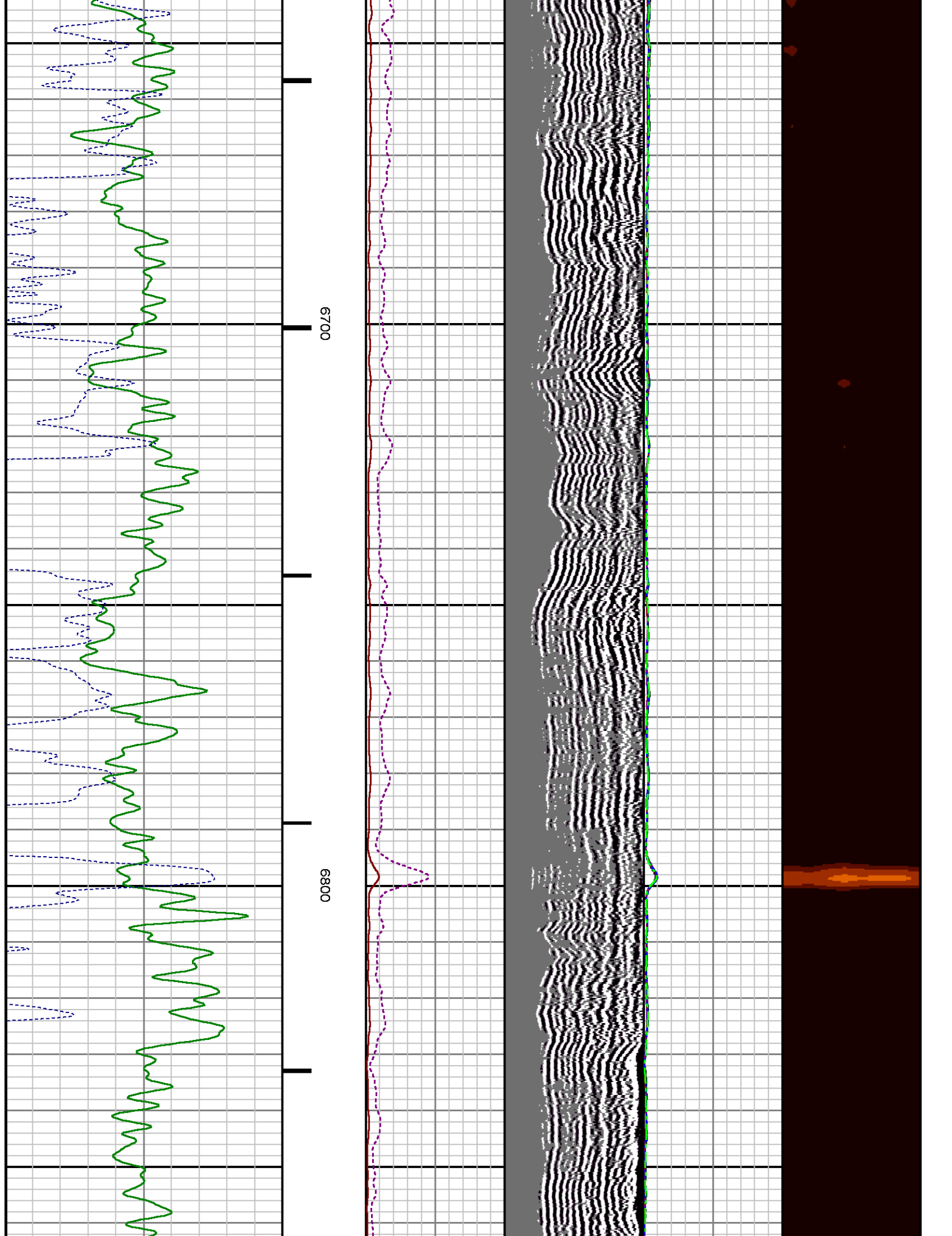
5900

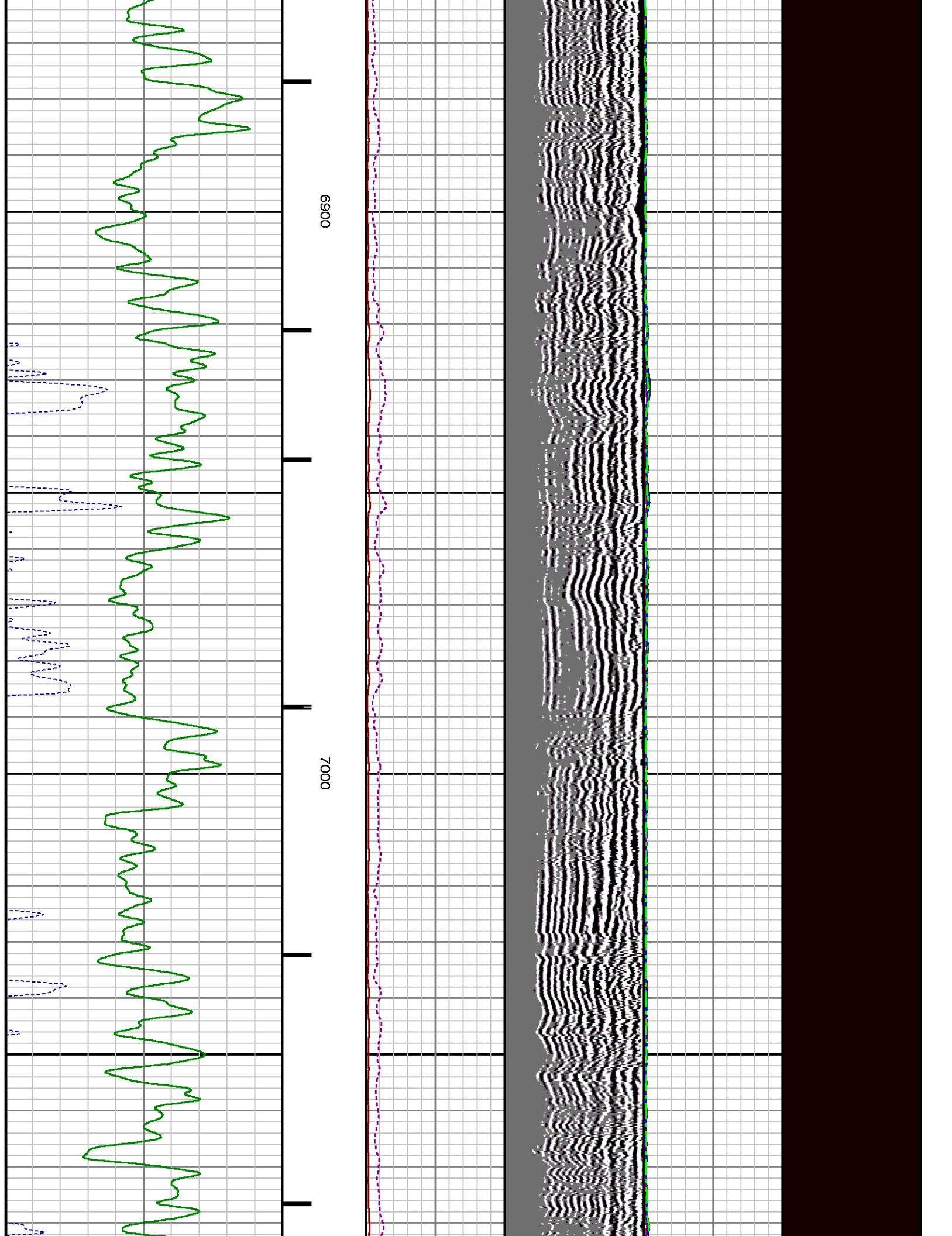


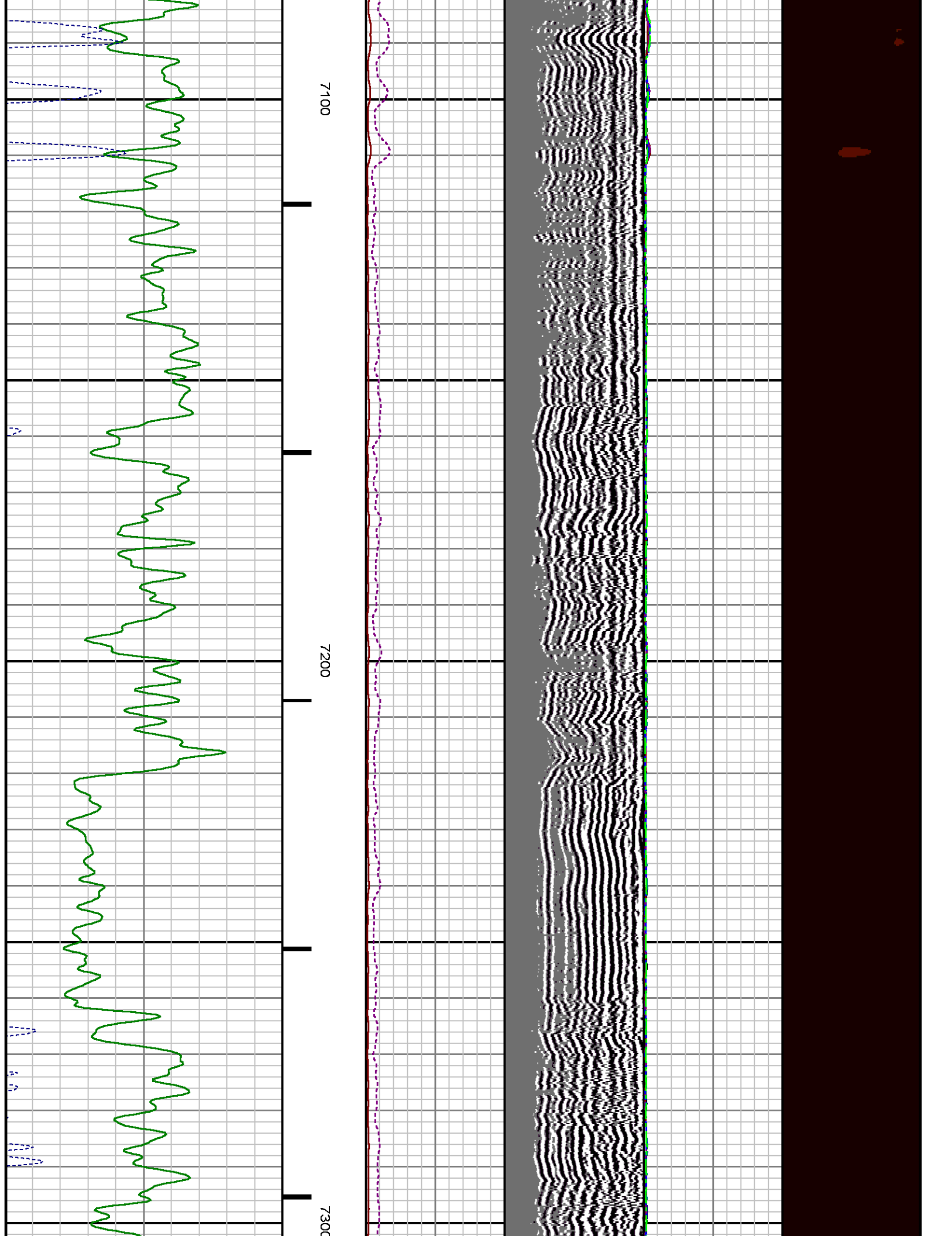


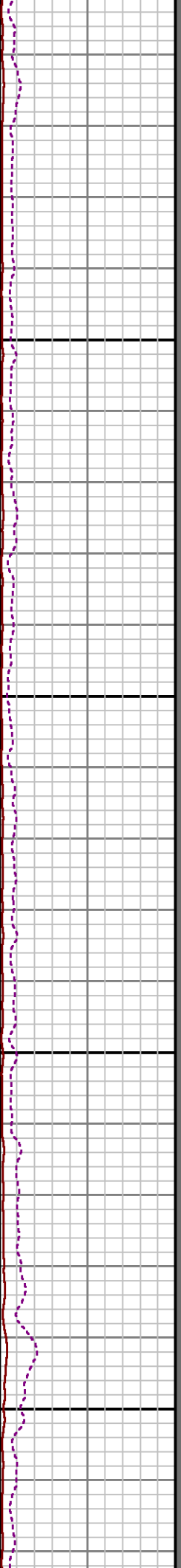
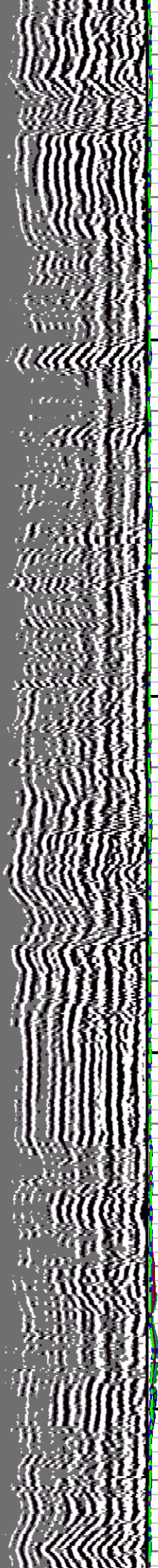






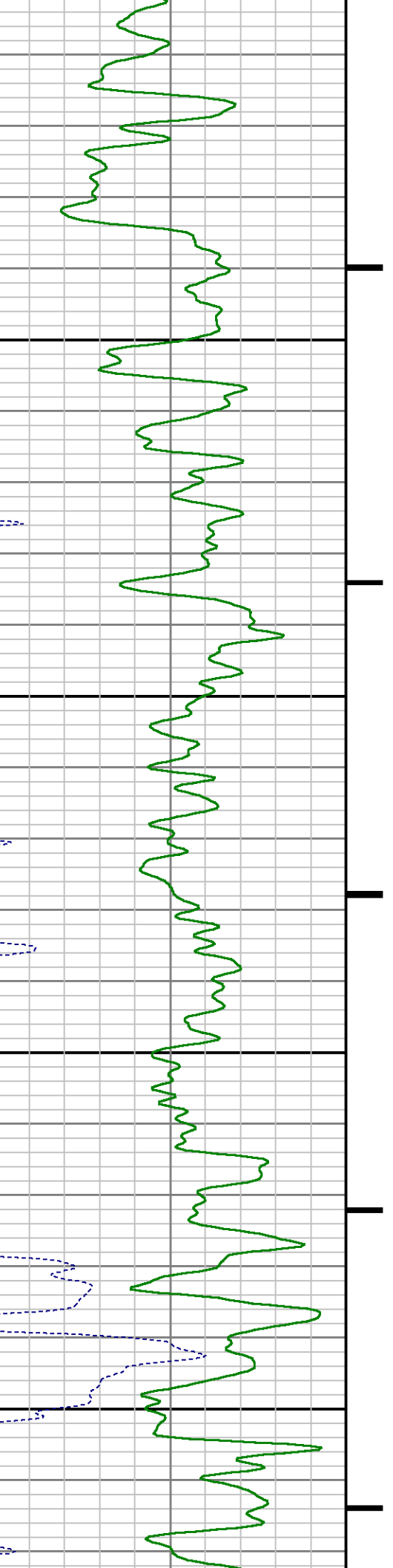


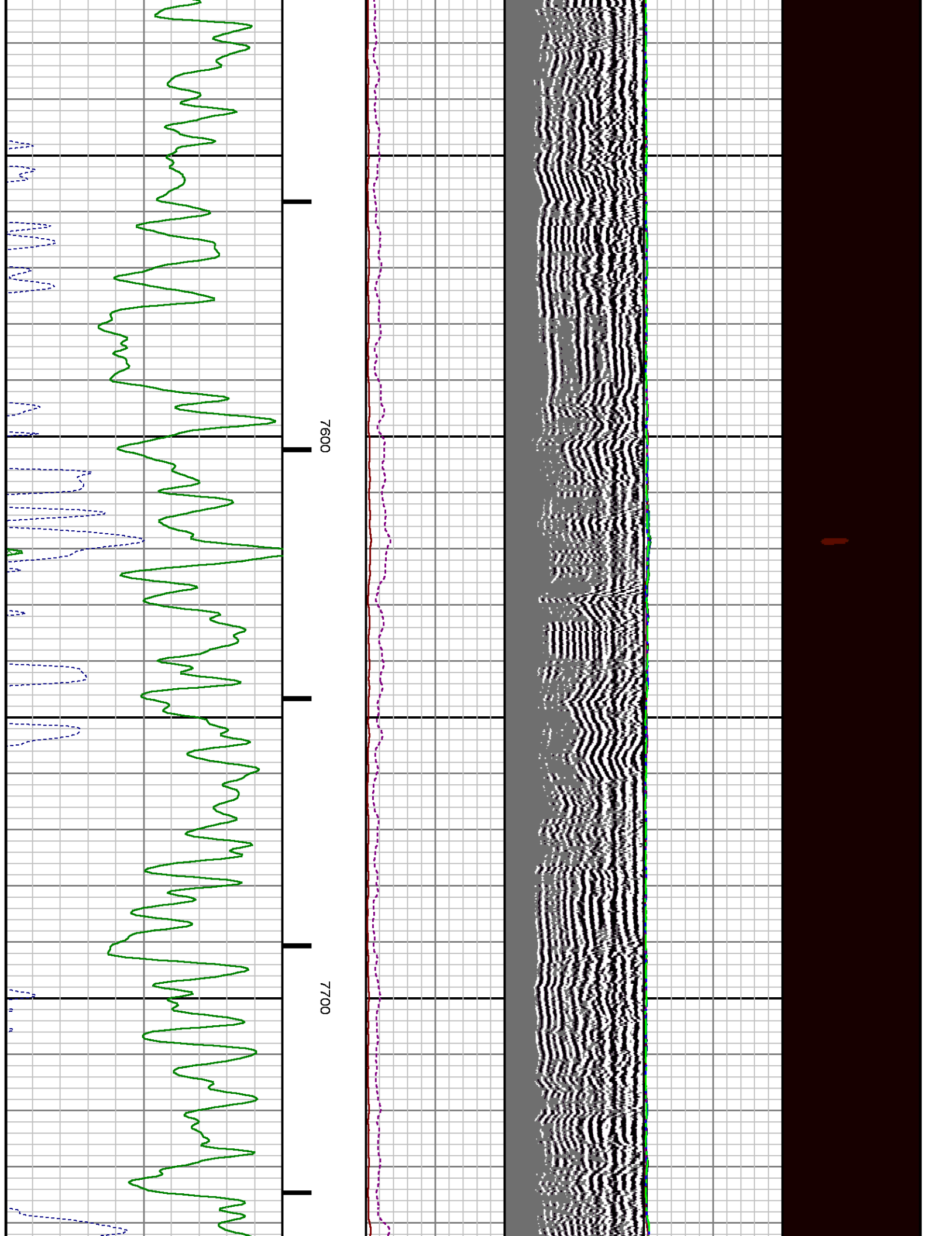


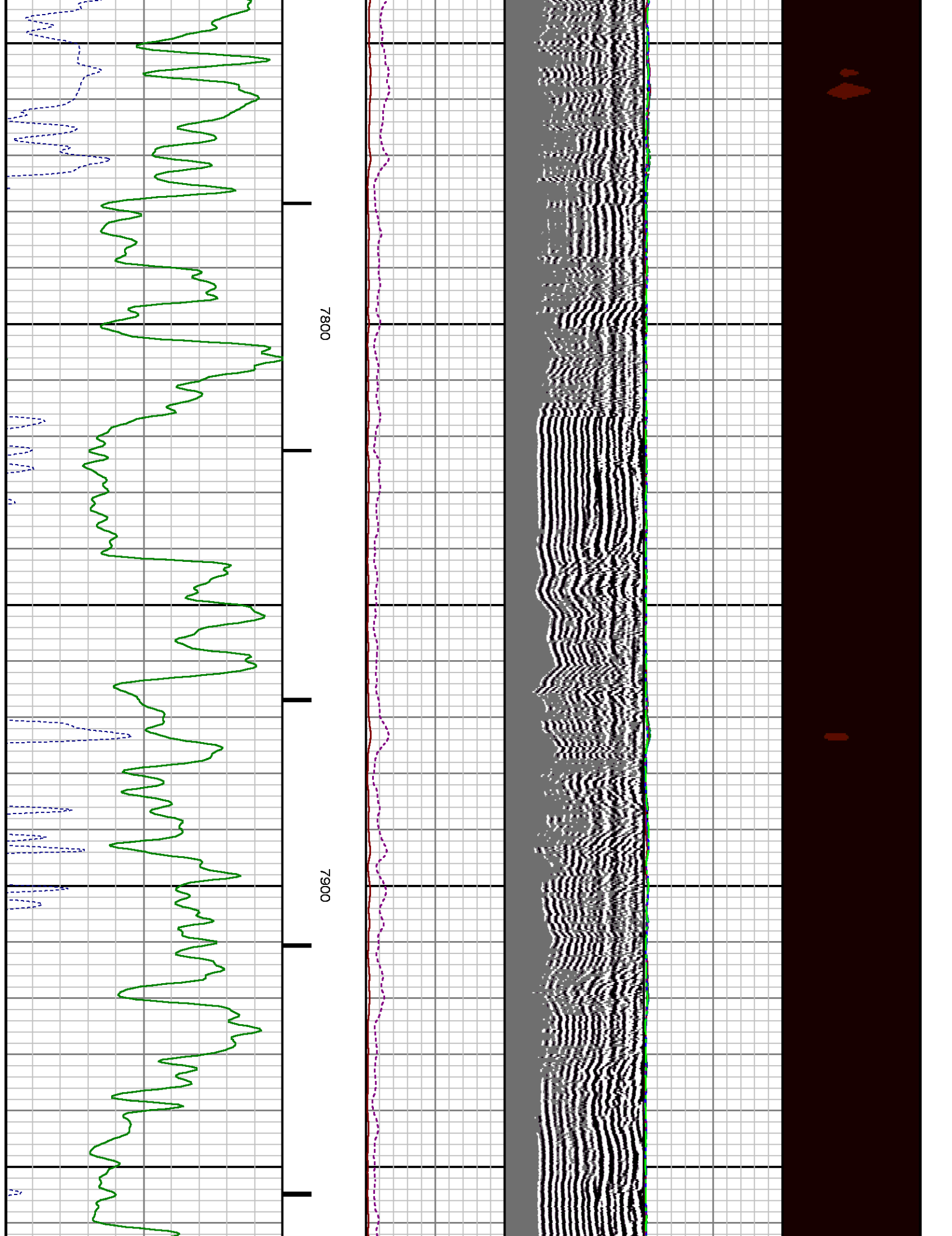


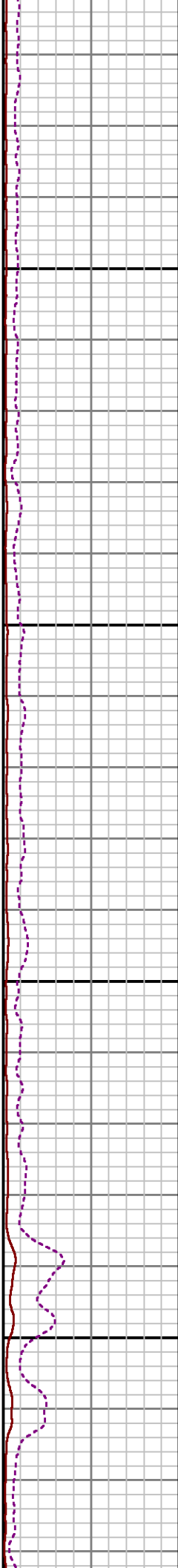
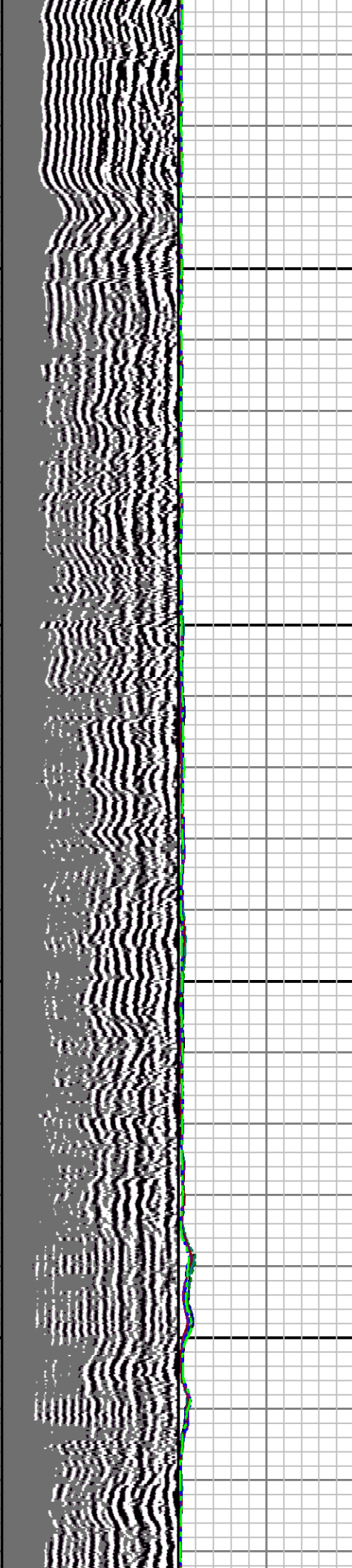
7400

7500



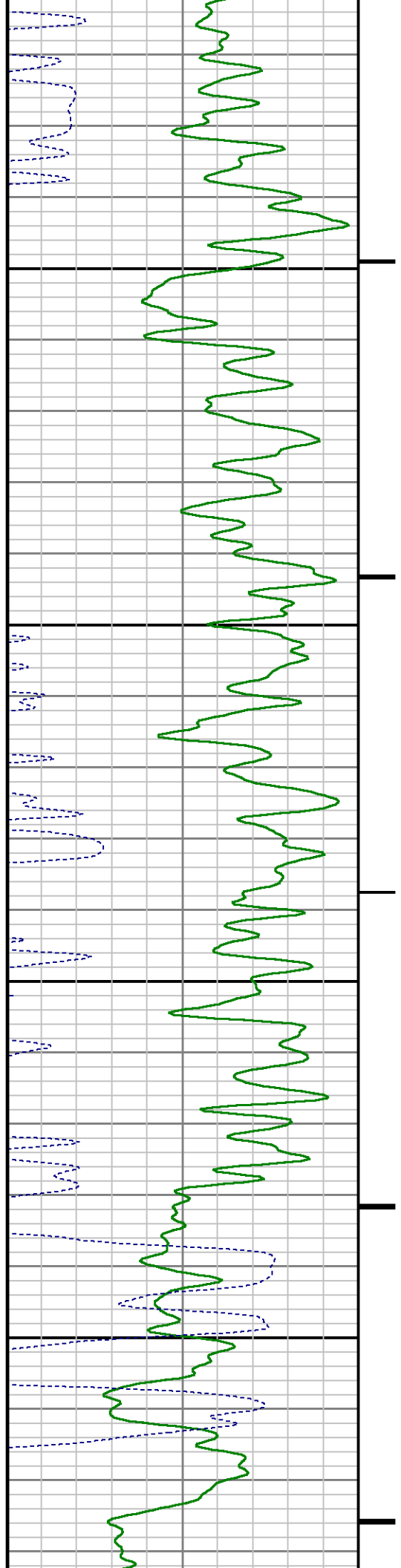


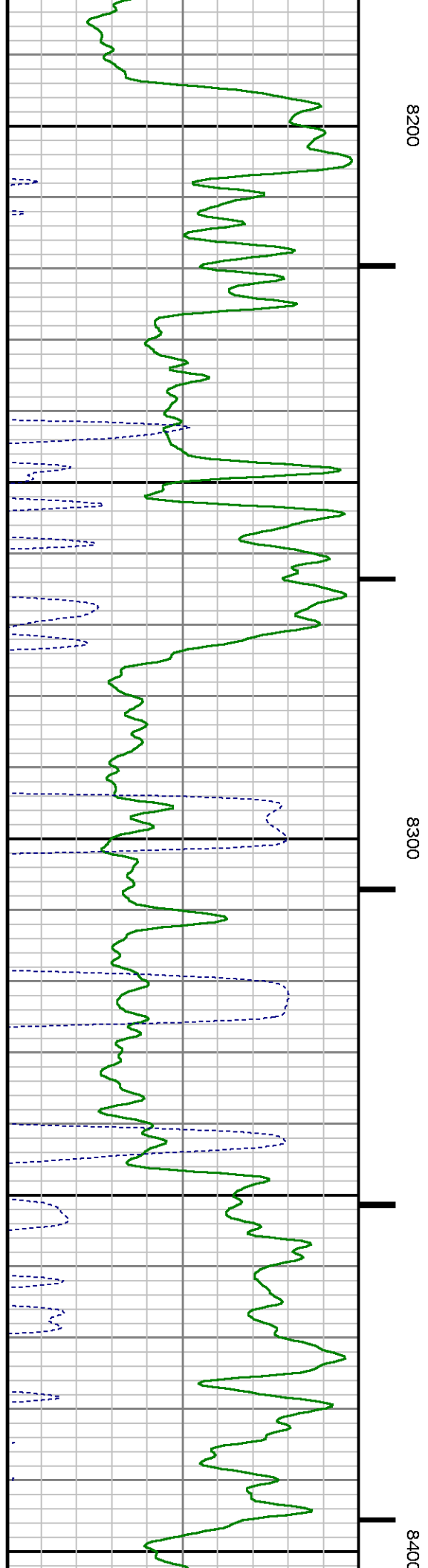
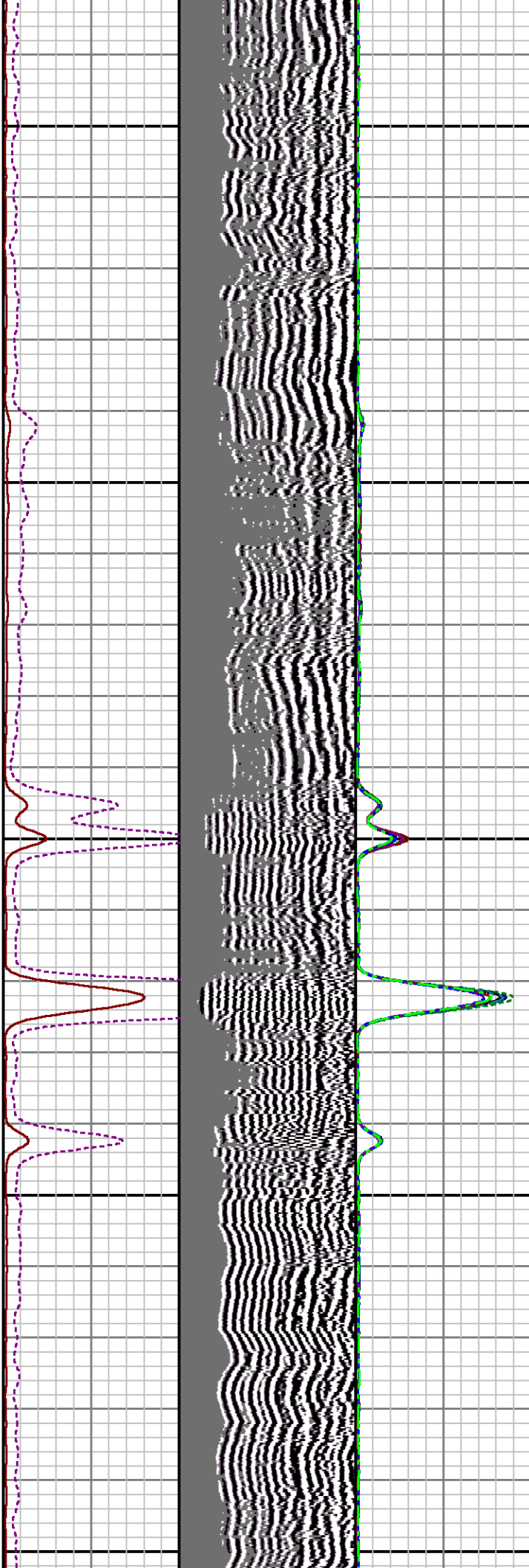
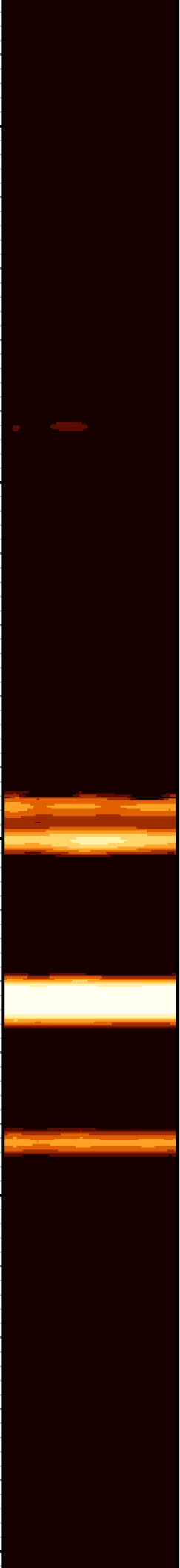


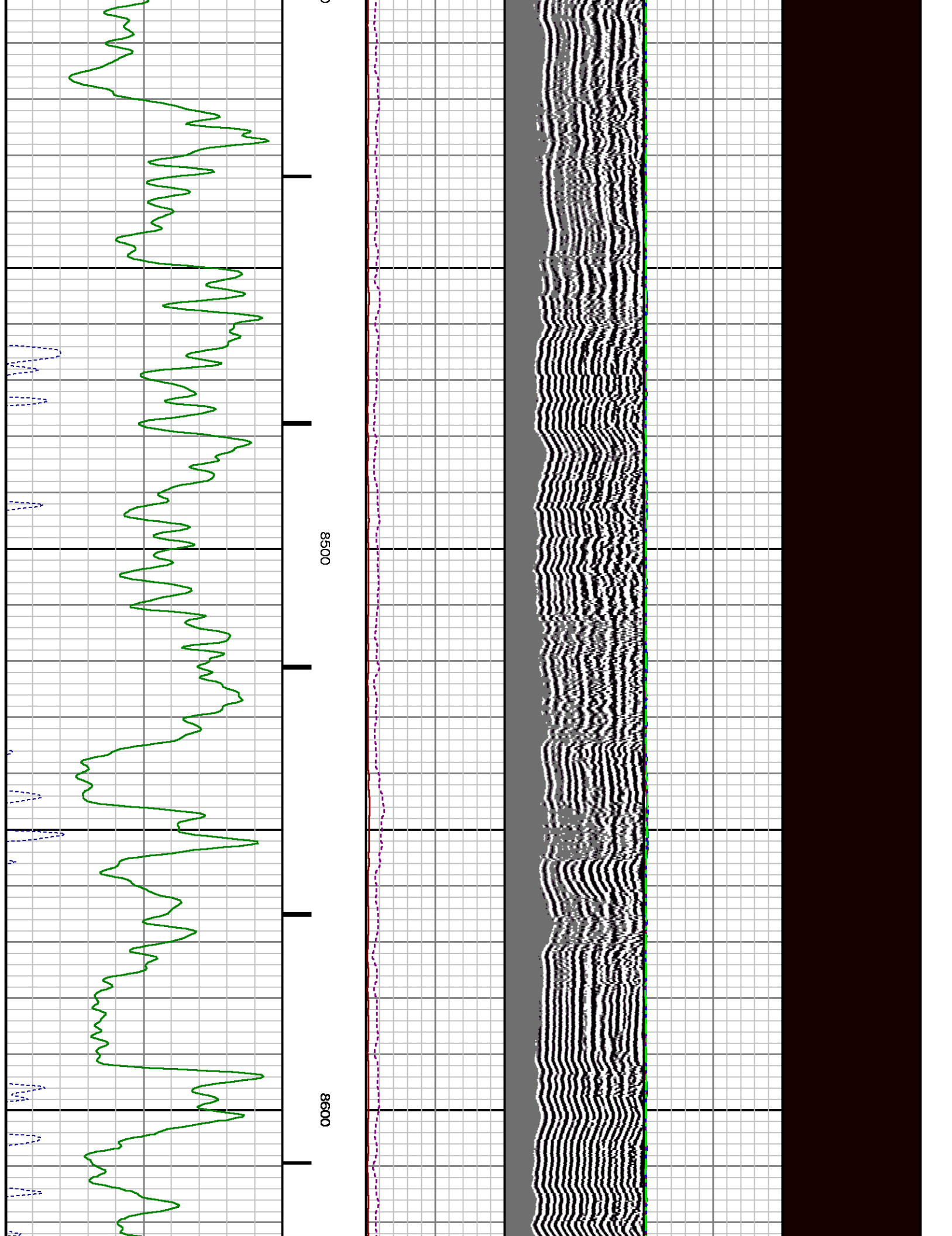


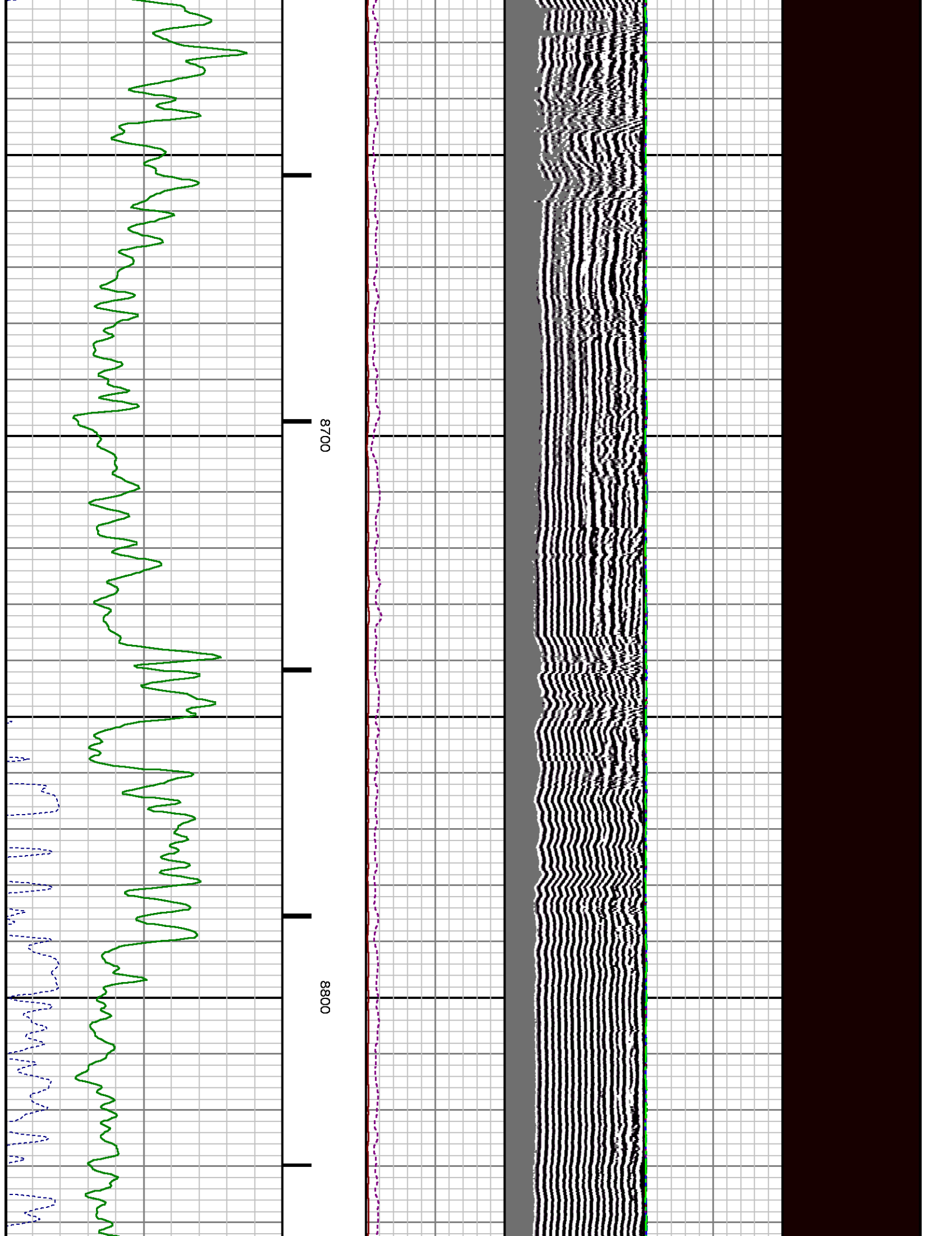
8000

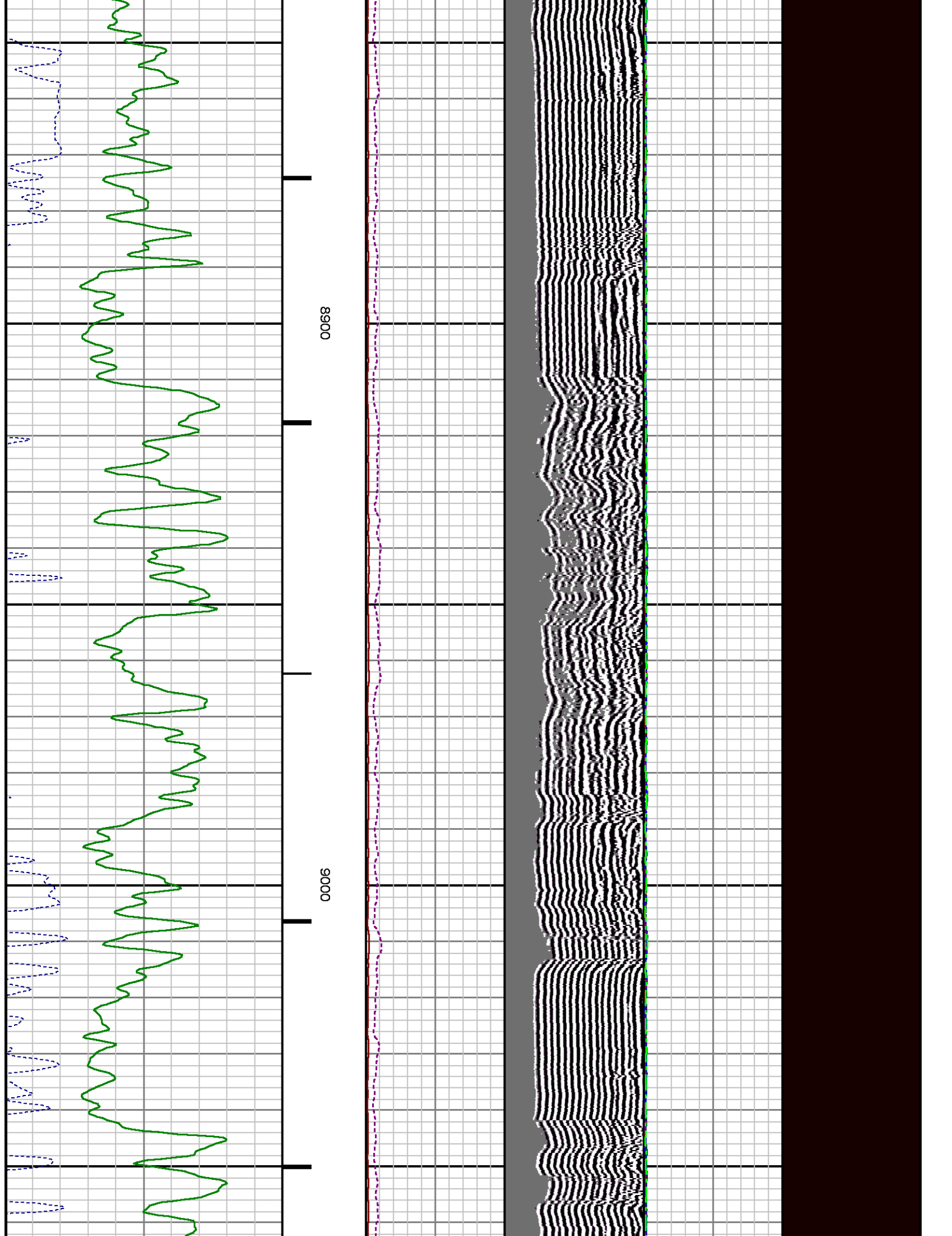
8100

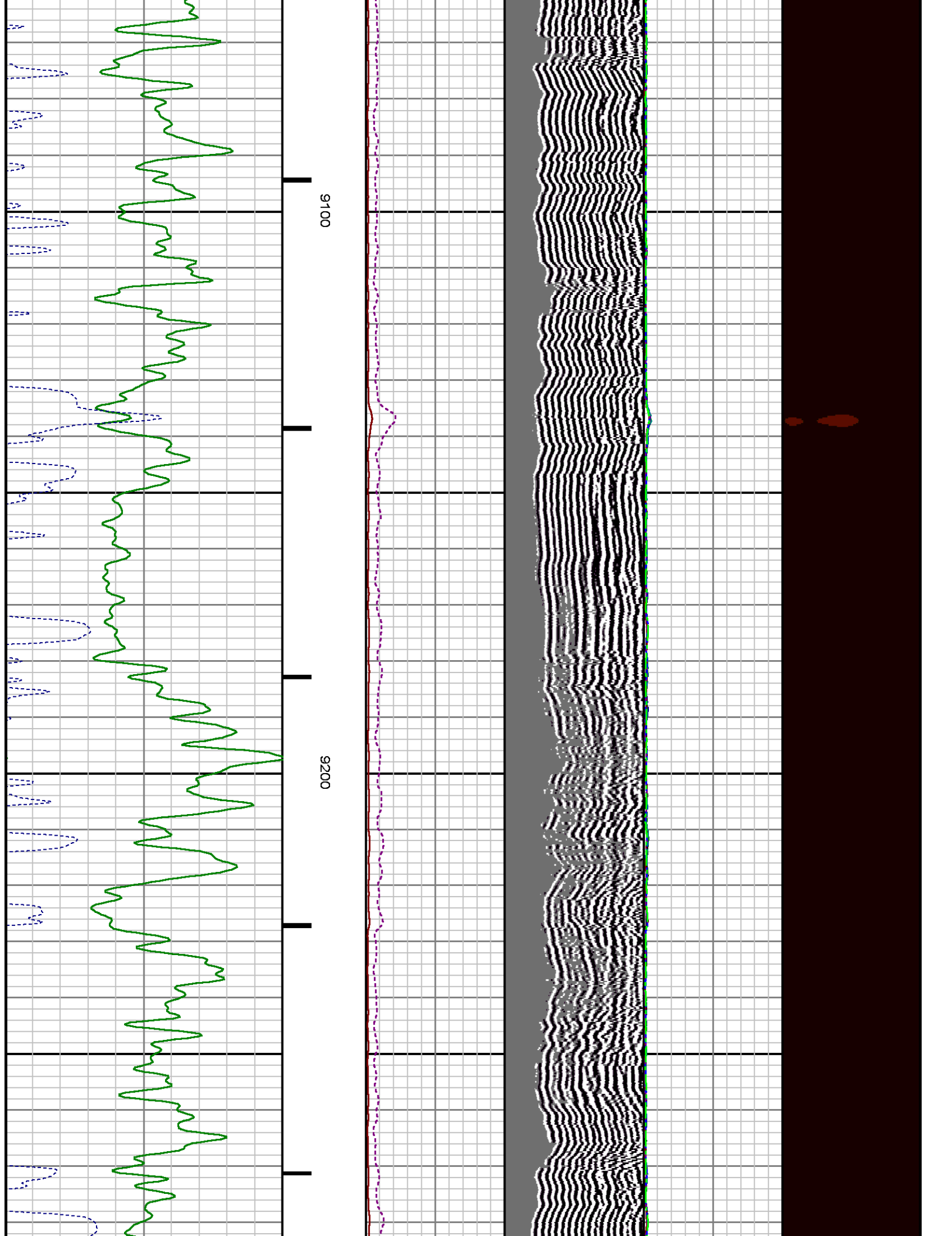


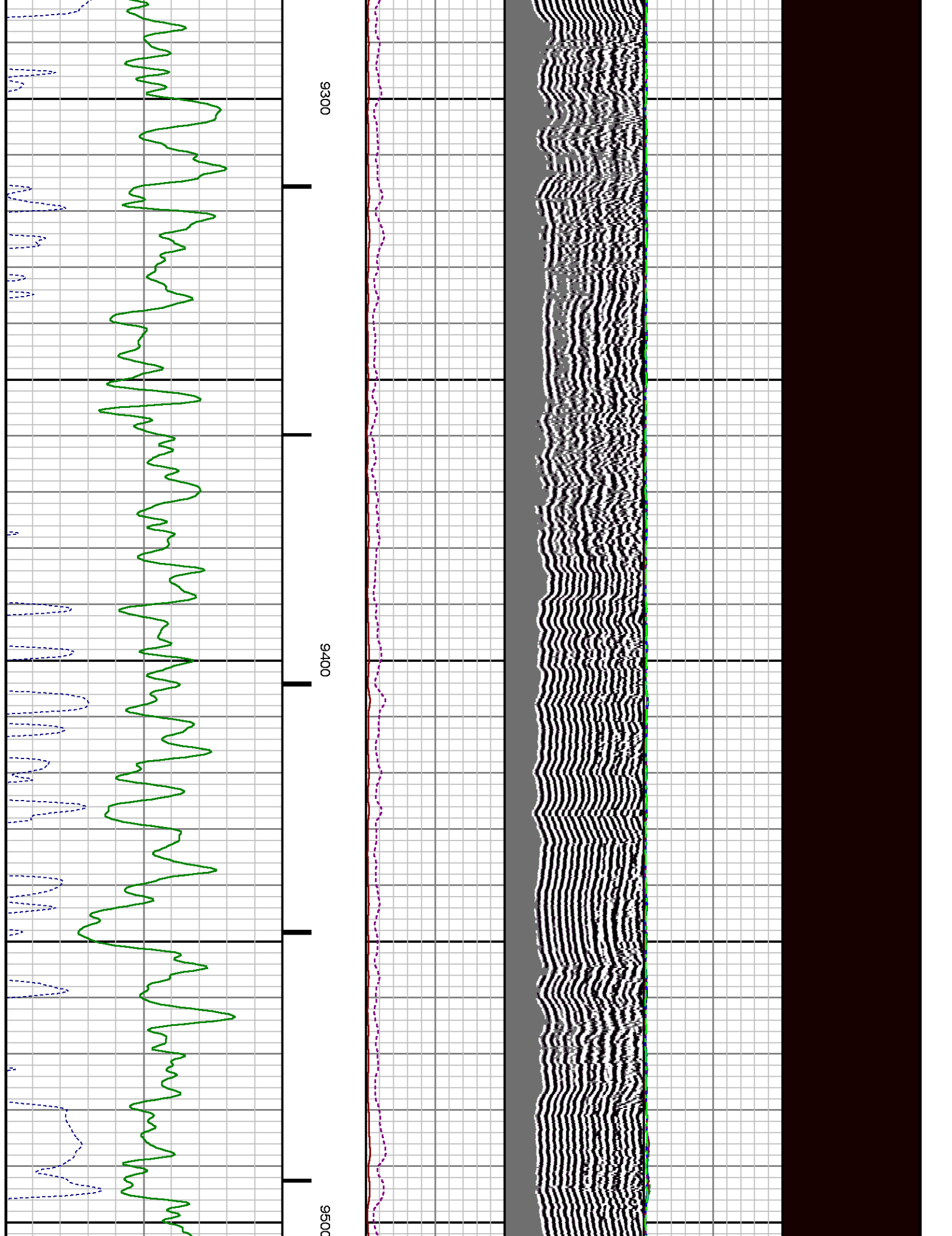


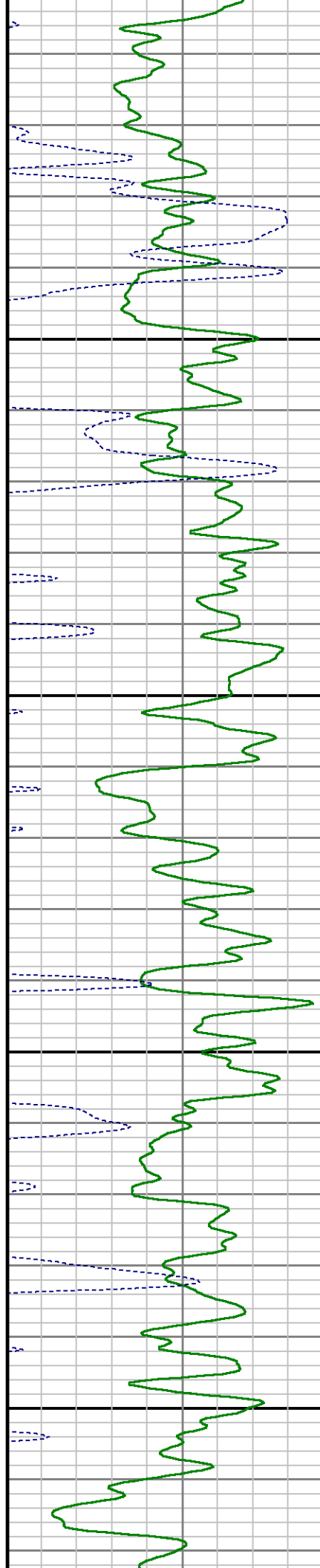
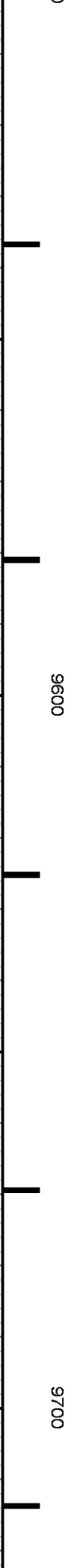
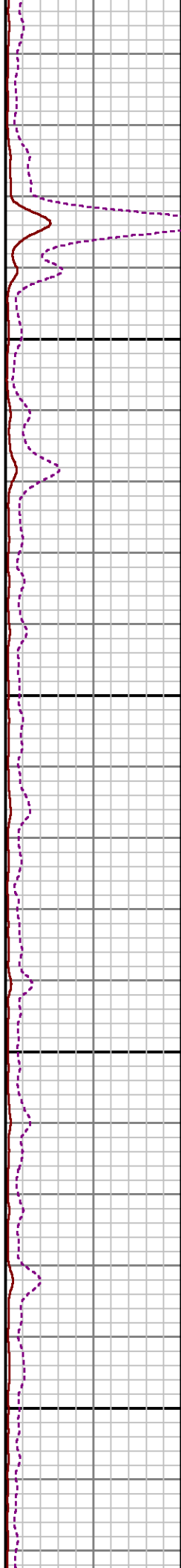
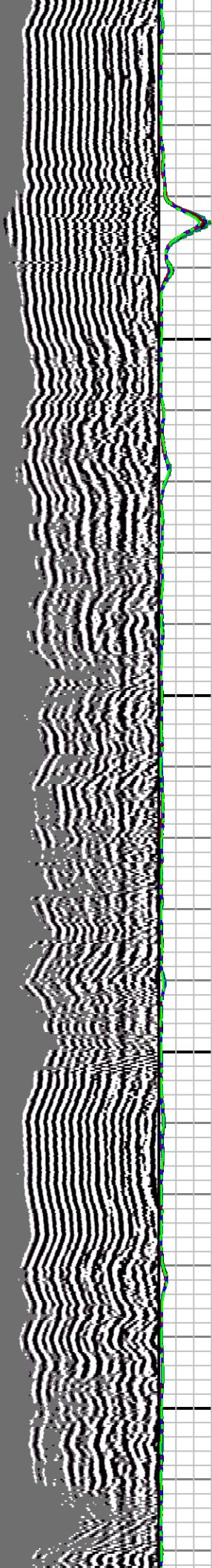
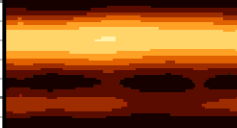


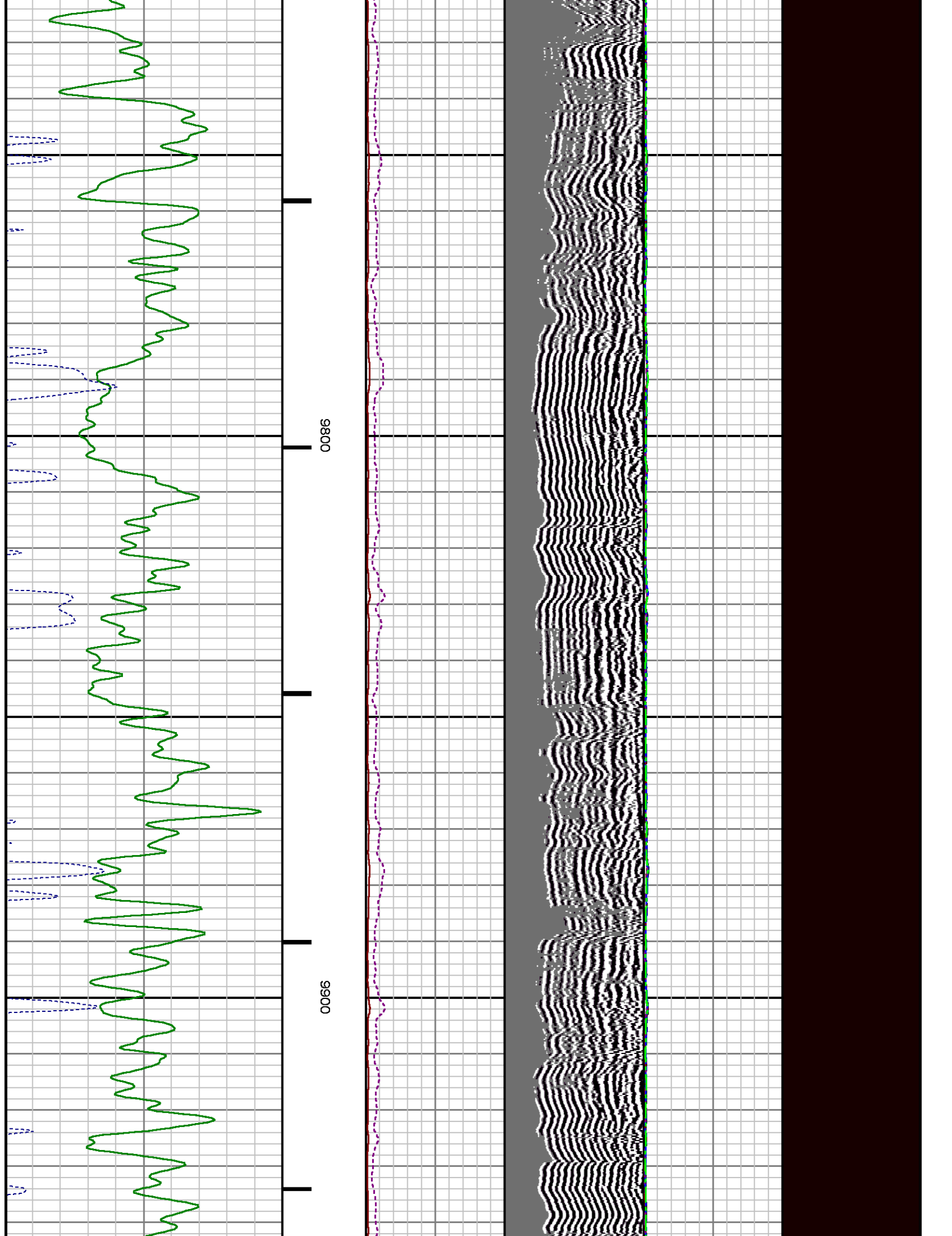


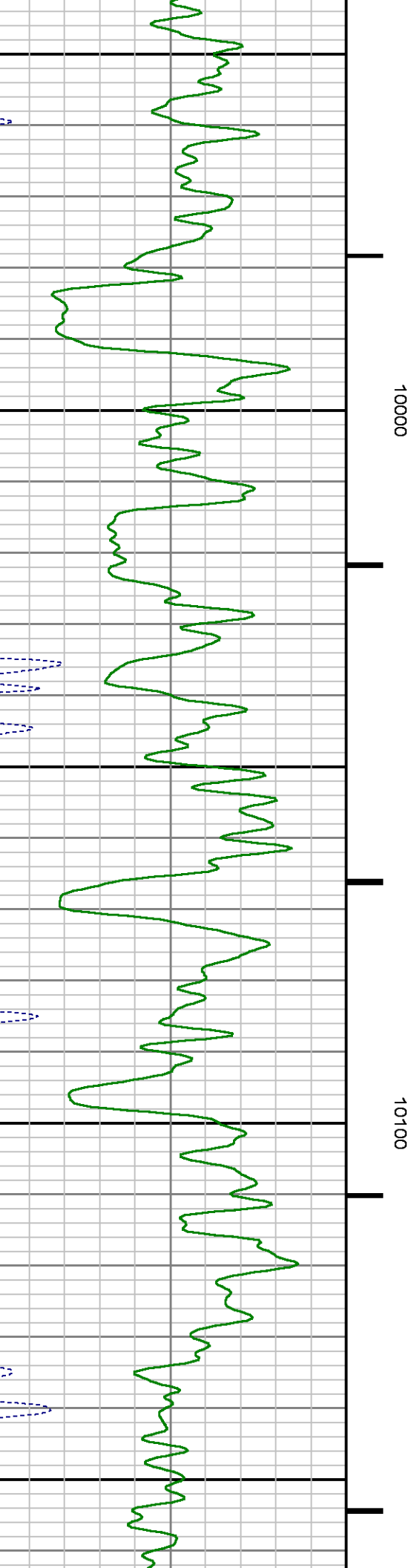
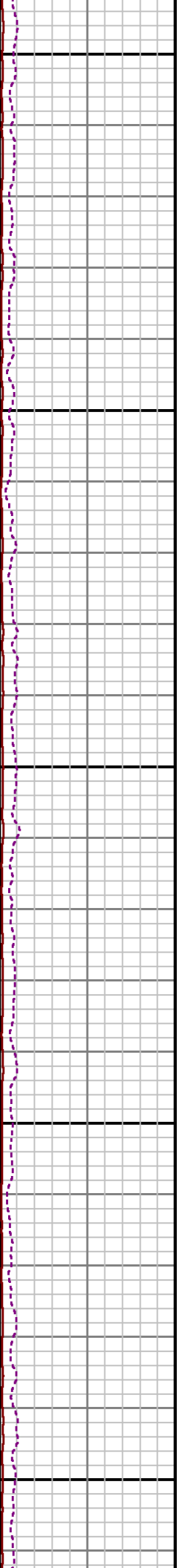
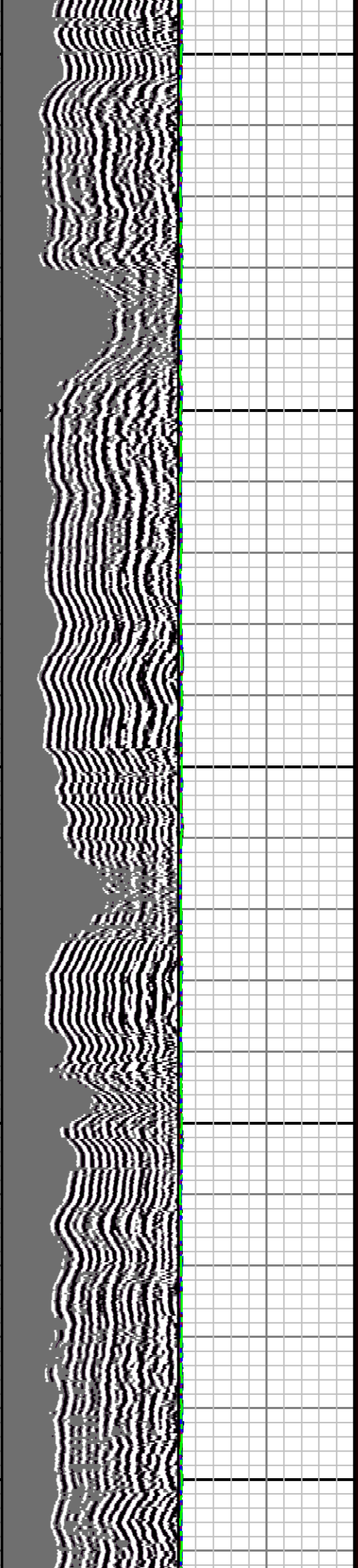


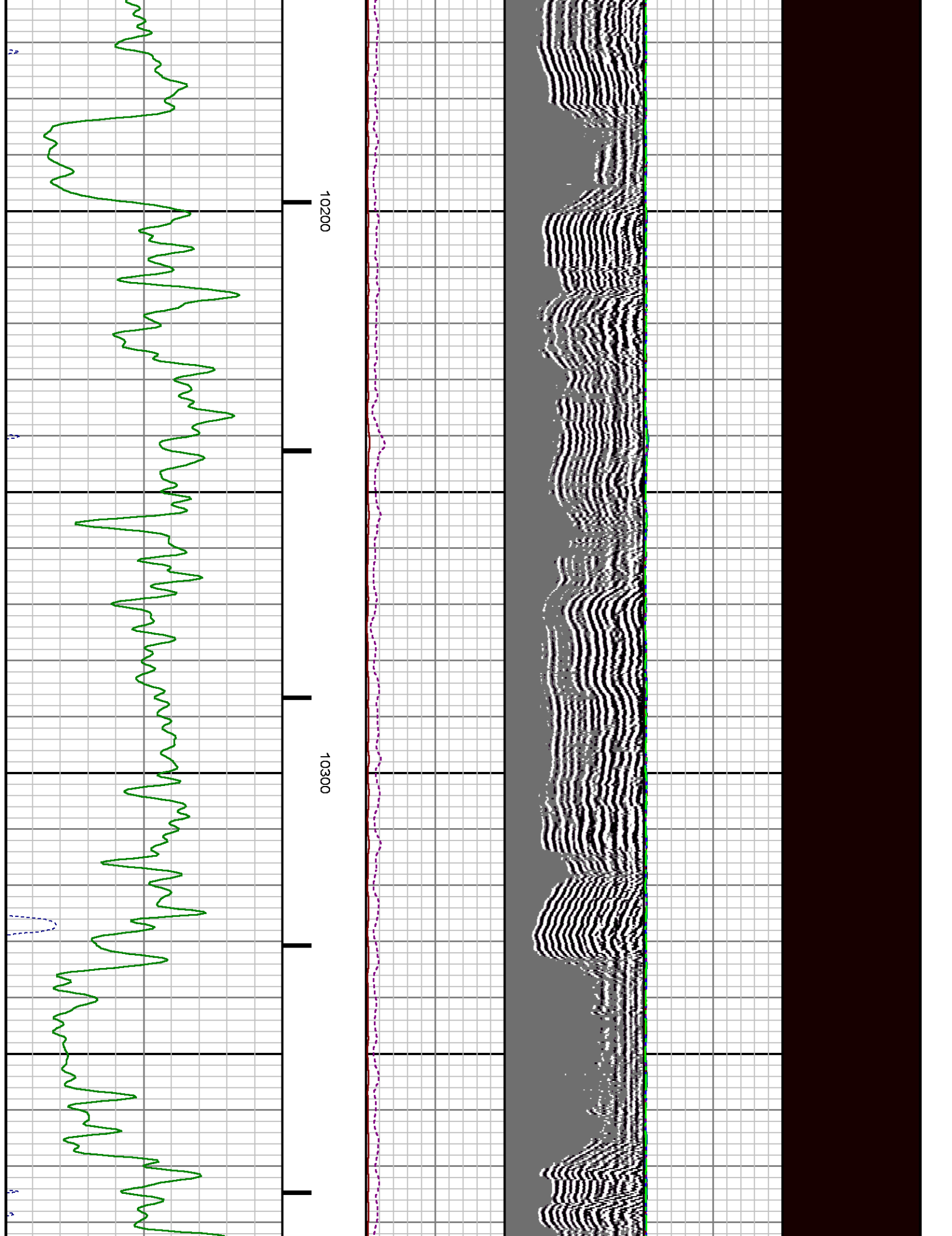


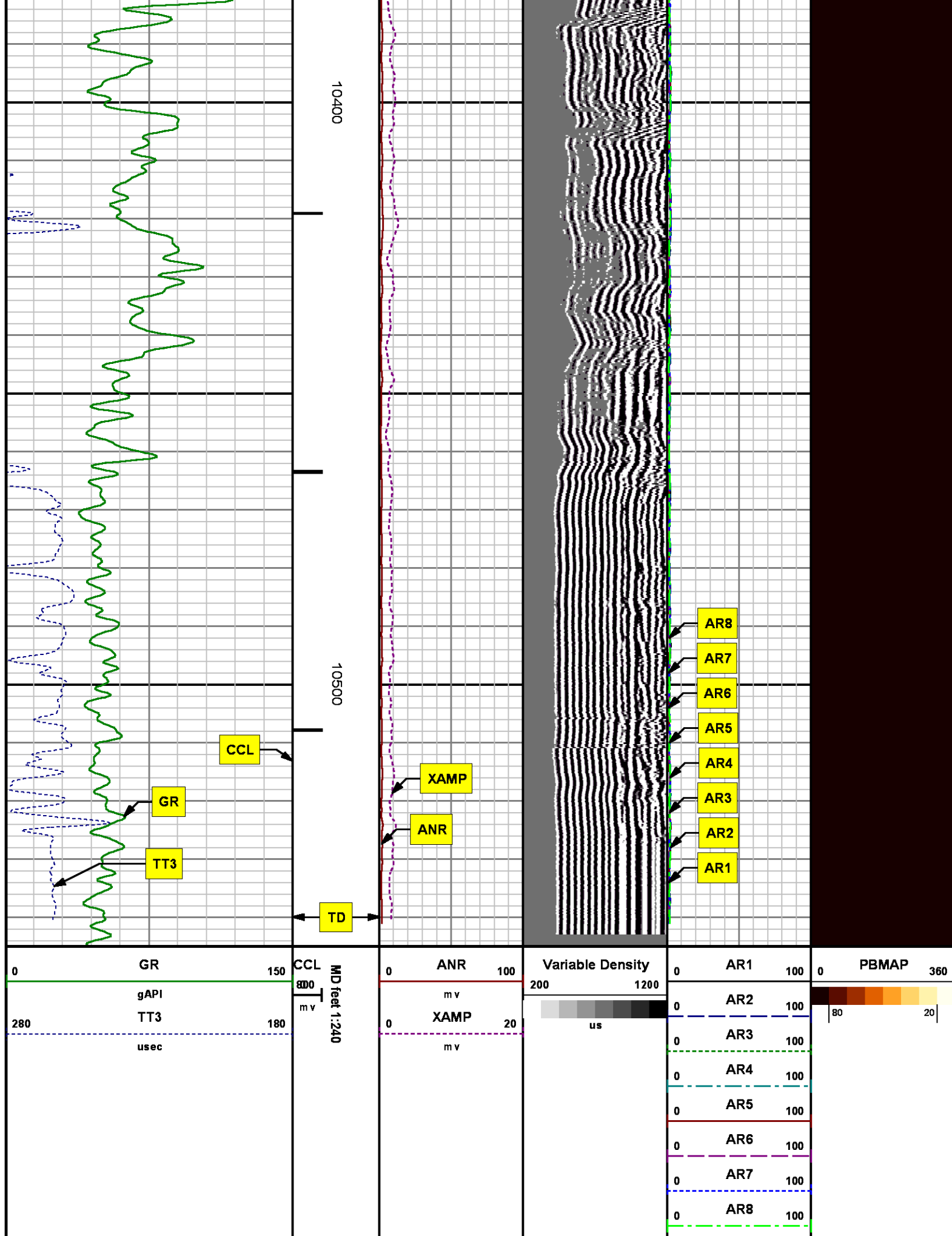












REPEAT SECTION

0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	10211.669	10539.700
RAL	Amp Gate Start Near	195.000	usec	10211.669	10539.700
RAL	Amp Gate Start Radial	195.000	usec	10211.669	10539.700
RAL	Amp Gate Width Far	25.000	usec	10211.669	10539.700
RAL	Amp Gate Width Near	25.000	usec	10211.669	10539.700
RAL	Amp Gate Width Radial	25.000	usec	10211.669	10539.700
RAL	casing od	4.500	inches	10211.669	10539.700
RAL	casing wt	11.600	lbm/ft	10211.669	10539.700
RAL	FB Start Far	291.900	usec	10211.669	10539.700
RAL	FB Start Near	175.391	usec	10211.669	10539.700
RAL	FB Start Radial	175.391	usec	10211.669	10539.700
RAL	FB Thresh Far	10.000	mv	10211.669	10539.700
RAL	FB Thresh Near	4.000	mv	10211.669	10539.700
RAL	FB Thresh Radial	4.000	mv	10211.669	10539.700
RAL	Fluid Travel Time	200.000	usec/ft	10211.669	10539.700

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					

Company : WPX ENERGY

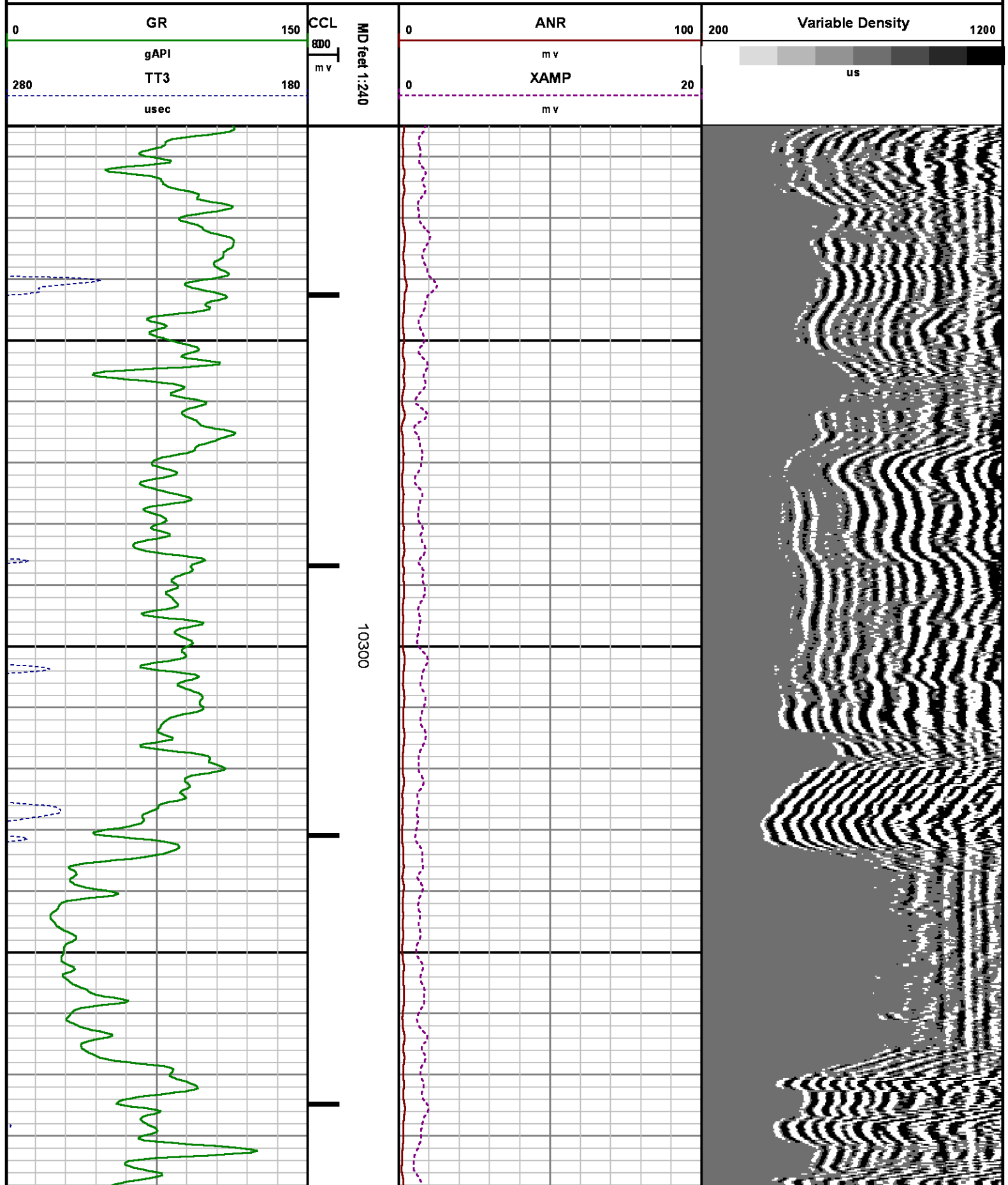
Well : FEDERAL NER 443-32

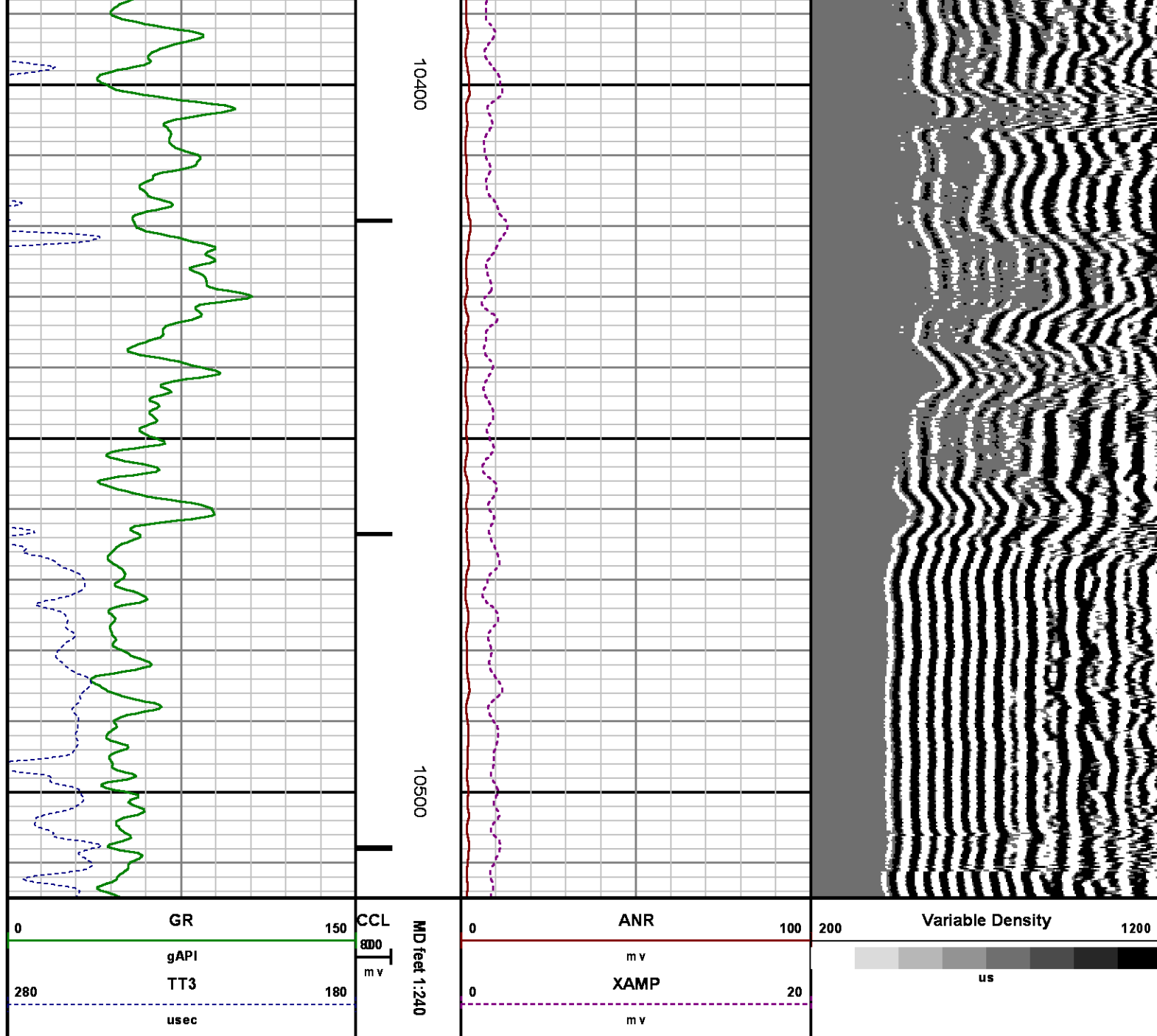
File Name : d:\welldata\wpx\federal ner 443-32\443cb\repeat.xtf

Mode : PlotMgr 5.4.504

Interval : 10215.00 - 10515.00 feet UP

Created : 6/17/2014 12:24:35 PM





CALIBRATION SUMMARY

GAMMA RAY

Calibration File: C:\case\calver\GRV456J1.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Jun 10 11:37:19 2014 TOOL SERIES: 2459XA ASSET: 456 SEQ: J1

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	93.20	369.51	0.670	62.40	247.40	185.00

Verification File: C:\case\calver\AGR456J1.VP

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Tue Jun 10 11:38:30 2014 TOOL SERIES: 2459XA ASSET: 456 SEQ: J1

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	101.16	371.24	0.670	67.73	248.56	180.83

RALSHP

Shop Calibration: C:\case\calver\RALSHP49617_shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Jun 17 11:33:48 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: 17

Tool Delay [usec] -52.00 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	219	216	30	166	25	-0.166	100.00	0.33
3 Ft. Receiver	218	216	30	166	16	0.286	100.00	0.32
5 Ft. Receiver	327	325	30	258	25	0.824	150.00	0.37
Radial #1	218	216	30	166	17	0.885	100.00	0.33
Radial #2	217	216	30	166	17	0.406	100.00	0.32
Radial #3	217	216	30	166	17	0.842	100.00	0.32
Radial #4	217	216	30	166	17	0.766	100.00	0.32
Radial #5	217	216	30	166	17	0.521	100.00	0.32
Radial #6	217	216	30	166	17	0.629	100.00	0.33
Radial #7	218	216	30	166	17	0.776	100.00	0.33
Radial #8	220	216	30	166	17	0.402	100.00	0.33

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD49617 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Jun 17 11:47:41 2014 TOOL SERIES: 1426XA ASSET: 496 SEQ: 17

Tool Delay [usec] -52.00 Casing OD in 4.50 Casing Wt lbm/ft 11.60 Casing ID in 4.00

RECEIVER Zero Gate Start Zero Gate Width Zero Amp. Full Amp. Wellsite Factor Amp. Ref

	[usec]	[usec]	[mV]	[mV]	[mV]	[mV]
CAL Pulse	166	25	0.015	0.000	1.00	100.000
3 Ft. Receiver	200	30	2.229			
5 Ft. Receiver	317	30	2.484			
Radial #1	200	30	1.381			
Radial #2	200	30	1.572			
Radial #3	200	30	1.966			
Radial #4	200	30	2.019			
Radial #5	200	30	2.136			
Radial #6	200	30	2.071			
Radial #7	200	30	1.676			
Radial #8	200	30	1.619			

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

CENTRALIZER

Series	RALCENT
Mnemonic	CENT
Diameter	3.42"




	24.23'
XMIT	18.05'
NEAR RCVR	14.97'
FAR RCVR	13.05'
CCL	11.34'
GR	9.49'
NEU	4.09'

Diameter	3.12
Weight	20.00 lb

		0.00'
--	--	-------

Total Length: 24.23'
Total Weight: Not Available
Max Diameter: 0' 3.12"

<div>  <div> <div>BAKER</div> <div>HUGHES</div> </div> </div> <div> <div>Baker Atlas</div> <div>CASE</div> </div>	<div>Company</div> <div>WPX ENERGY</div>	<div>File No:</div> <div>CH086324</div>	
	<div>Well</div> <div>FEDERAL NER 443-32</div>	<div>API No:</div> <div>05045217750000</div>	
	<div>Field</div> <div>RULISON</div>		
	<div>County</div> <div>GARFIELD</div> <div>State</div> <div>CO</div>		
	<div>Location</div> <div>SHL: 161' FNL & 2596' FWL (5 7S 93W)</div> <div>BHL: 1482' FSL & 653' FEL (32 6S 93W)</div> <div> <div>SEC</div> <div>32</div> <div>TWP</div> <div>6S</div> <div>RGE</div> <div>93W</div> </div>	<div>Elevations</div> <div>KB 7629 ft</div> <div>DF</div> <div>GL 7603 ft</div>	<div>32 6S 93W</div> <div>RU 23-5 PAD</div> <div>NABORS 576</div>