



RADIAL ANALYSIS BOND LOG

File No: **Company** **WPX ENERGY**

CH092008

Well

FEDERAL SG 412-27

API No: **Field** **GRAND VALLEY**

05045219480000
County GARFIELD State CO

Location

27 75 96W

SHL: 2291' FSL & 496' FEL (28 75 96W)

BHL: 1476' FNL & 296' FWL (27 75 96W)

H&P 318

Other Services

RPN

Permanent Datum

GL	Elevation	5119
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Log Measured From

KB **24** **Above P. D.**

Elevations

5143 KB

Df

GL 5119

- FOI D HFRF

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.

Casing Record				
Size	Weight	Grade	From	To
9.625			0	1316
4.5	11.6	I-80	0	5607

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 1 foot.

Logged with zero PSI at wellhead.

BHT = 192 °F

SJ = 3223' - 3245'

There are tool spikes at 1773' and 4131' causing invalid VDL and Cement Map data at those depths.

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	CBL	1426XA	10218495	CENTRALIZED
1	1	GRICCL	2459XA	10218503	CENTRALIZED

PRIMARY PRESENTATION

0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	25.598	5560.250
RAL	Amp Gate Start Near	195.000	usec	25.598	5560.250
RAL	Amp Gate Start Radial	195.000	usec	25.598	5560.250
RAL	Amp Gate Width Far	25.000	usec	25.598	5560.250
RAL	Amp Gate Width Near	25.000	usec	25.598	5560.250
RAL	Amp Gate Width Radial	25.000	usec	25.598	5560.250
RAL	casing od	4.500	inches	25.598	5560.250
RAL	casing wt	11.600	lbm/ft	25.598	5560.250
RAL	FB Start Far	291.900	usec	25.598	5560.250
RAL	FB Start Near	175.391	usec	25.598	5560.250
RAL	FB Start Radial	175.391	usec	25.598	5560.250
RAL	FB Thresh Far	10.000	mv	25.598	5560.250
RAL	FB Thresh Near	4.000	mv	25.598	5560.250
RAL	FB Thresh Radial	4.000	mv	25.598	5560.250
RAL	Fluid Travel Time	200.000	usec/ft	25.598	5560.250

DEPTH OFFSETS

(for Acquired Curves)

SERIES

DEPTH OFFSET

ACQUIRED CURVES

SERIES

DEPTH OFFSET

ACQUIRED CURVES

1426XA -12.360
1426XA -11.360
2459XA -7.250
2459XA -5.390
2459XA 0.000

ACAL ANR AR1 AR2 AR3 AR4
AR5 AR6 AR7 AR8 CHV FPR2
FPR3 FPR5 TT3 TTR1 TTR2 TTR3
TTR4 TTR5 TTR6 TTR7 TTR8 XAMP
AFAR SIG TT5
CCL
GR
NEU

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

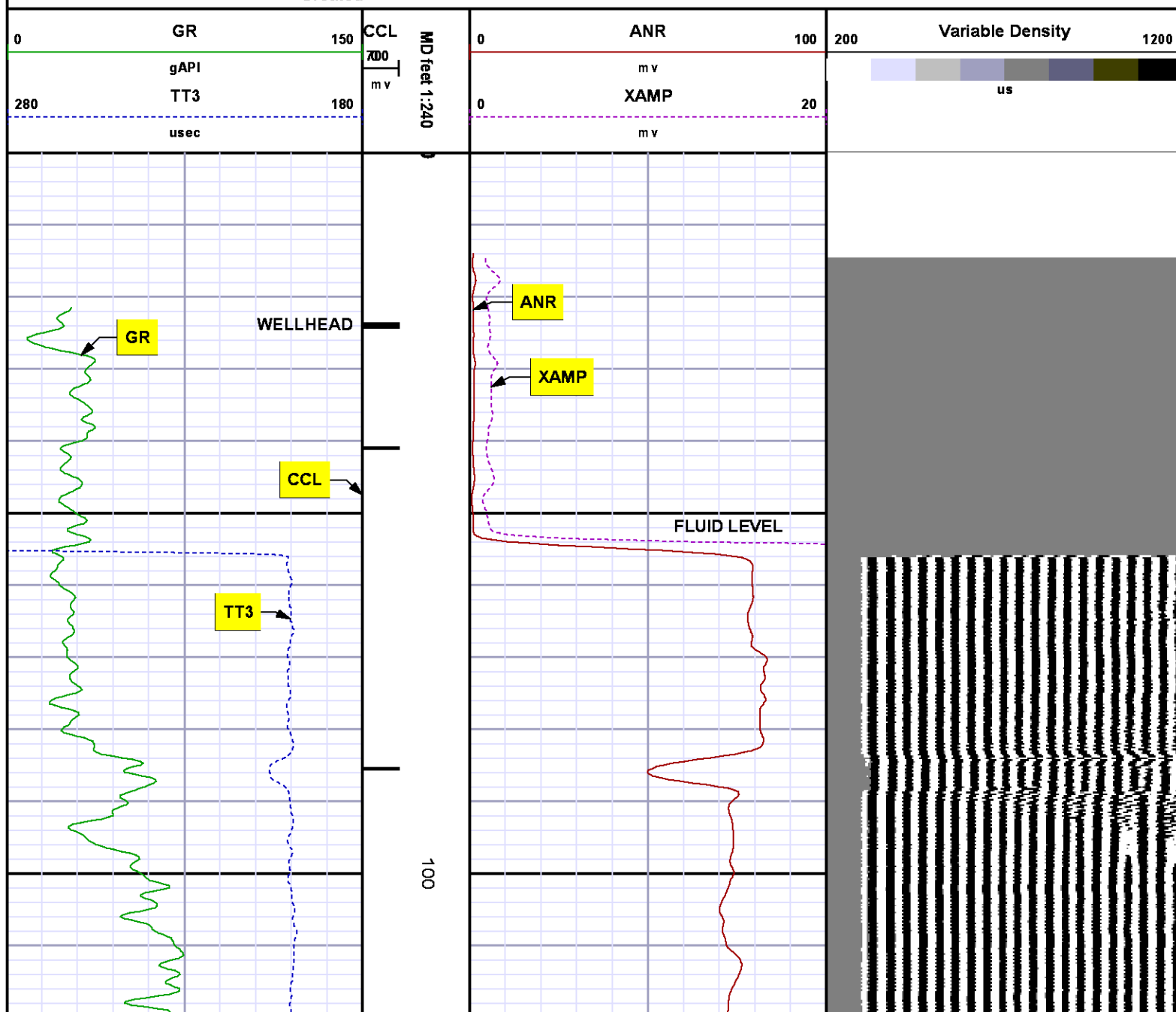
Well : FEDERAL SG 412-27

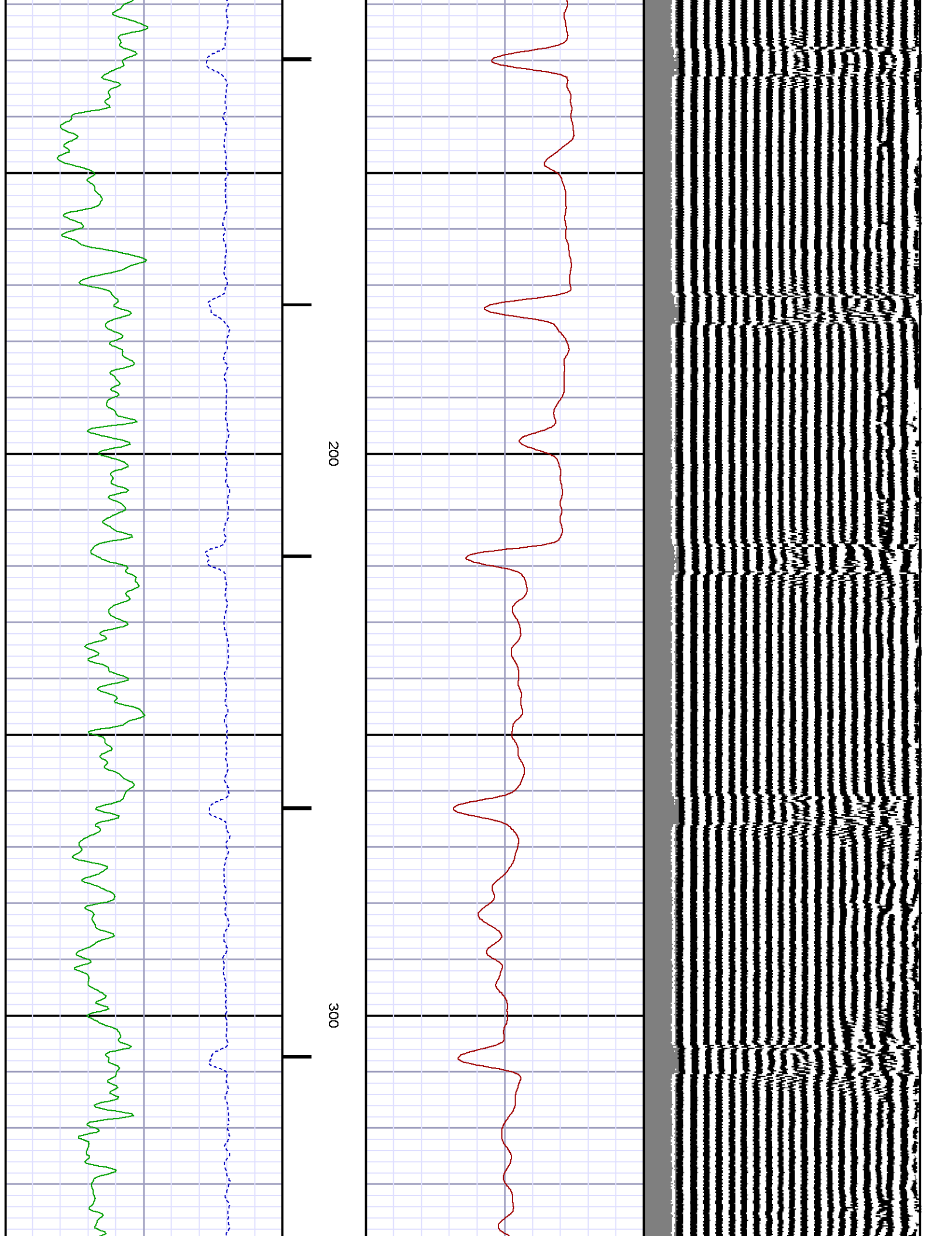
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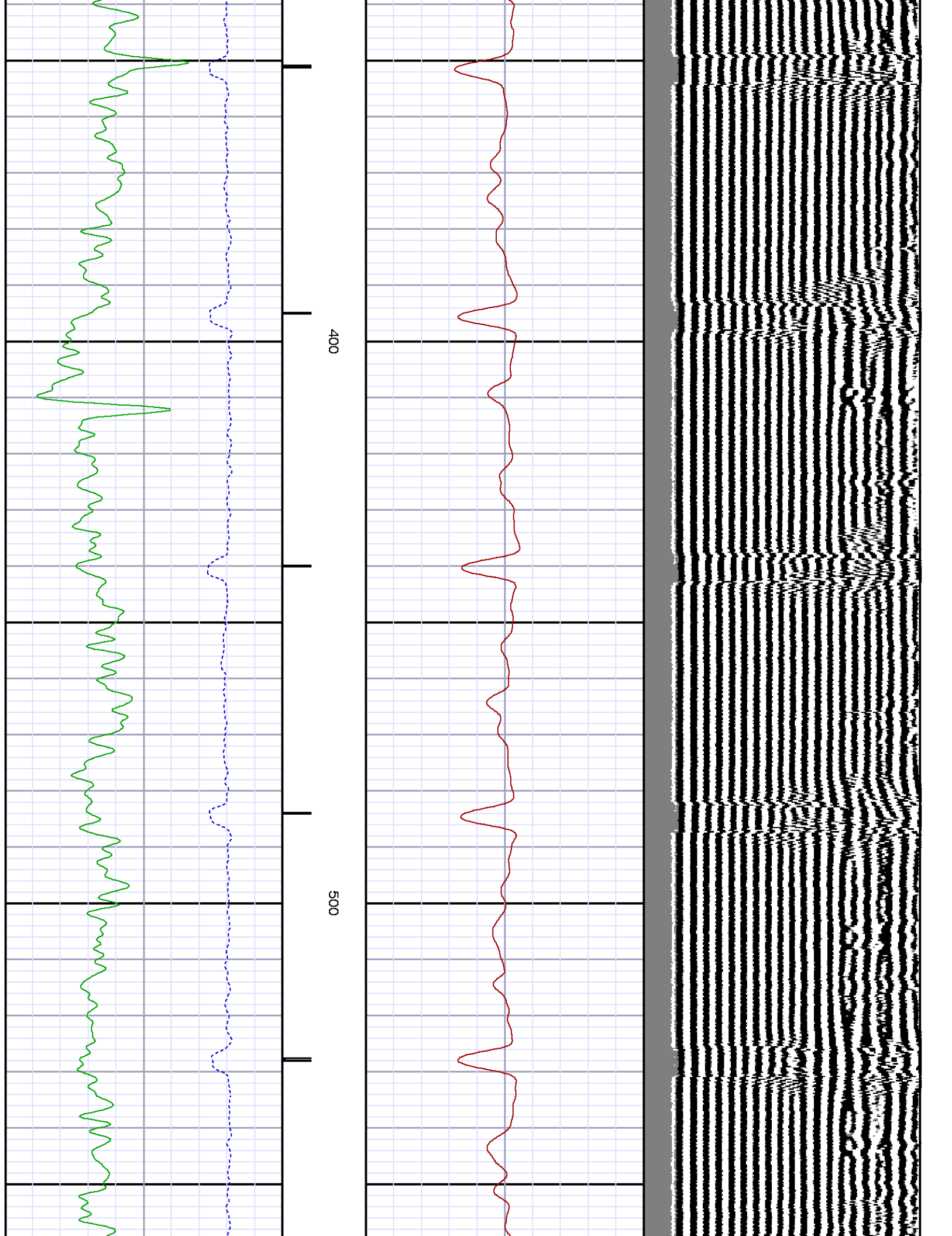
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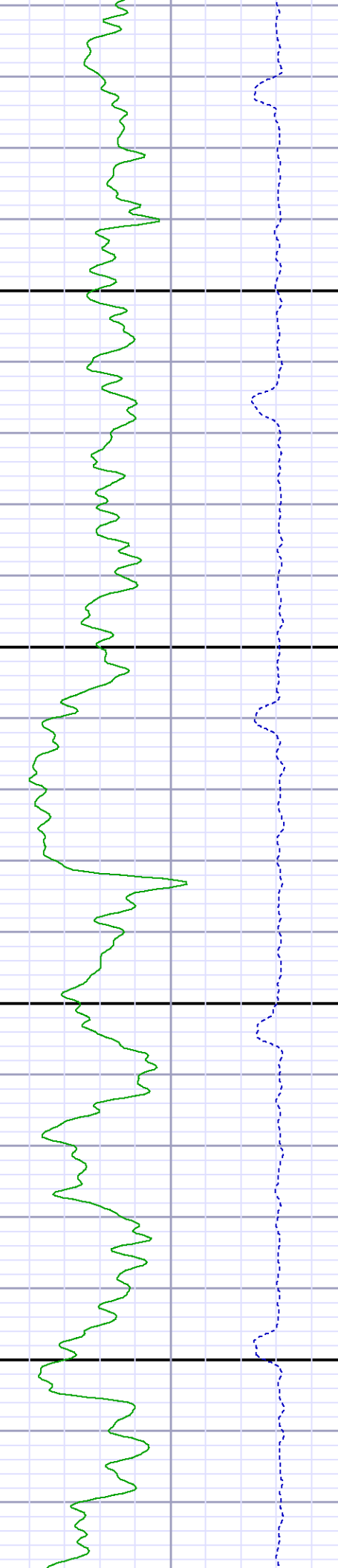
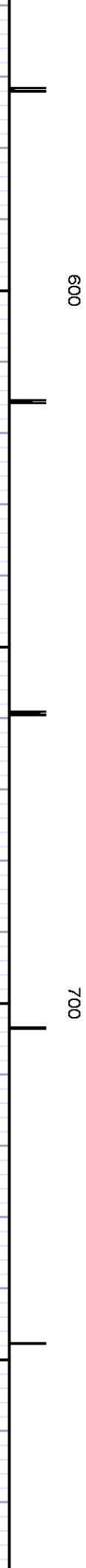
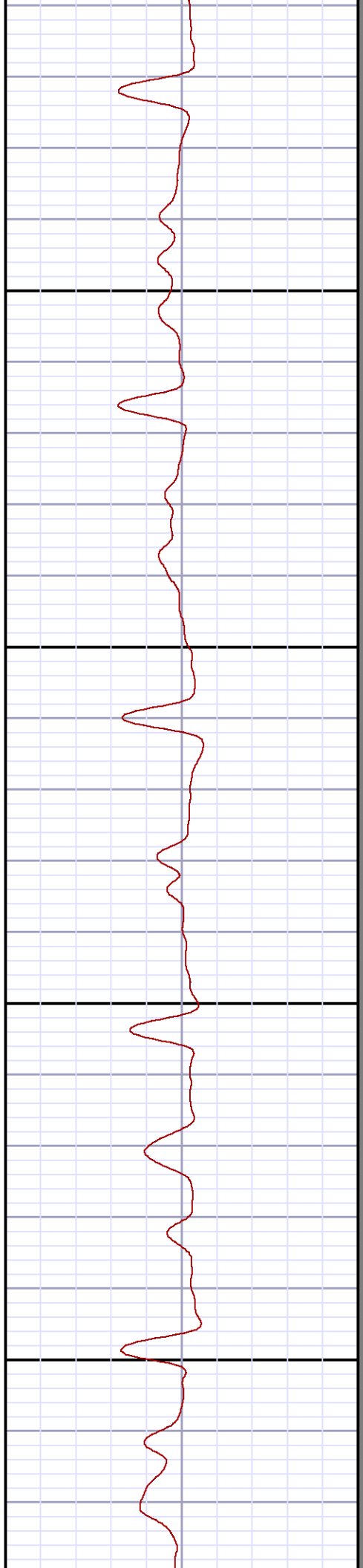
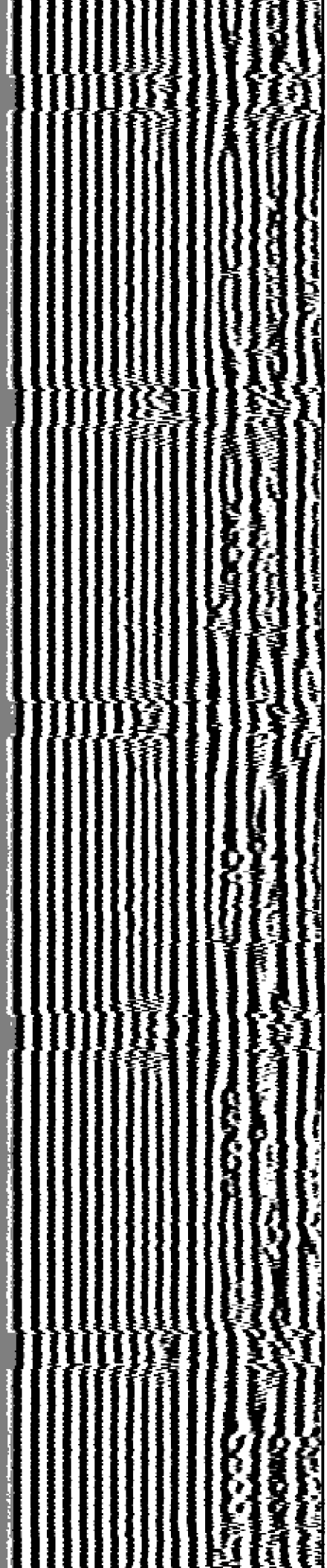
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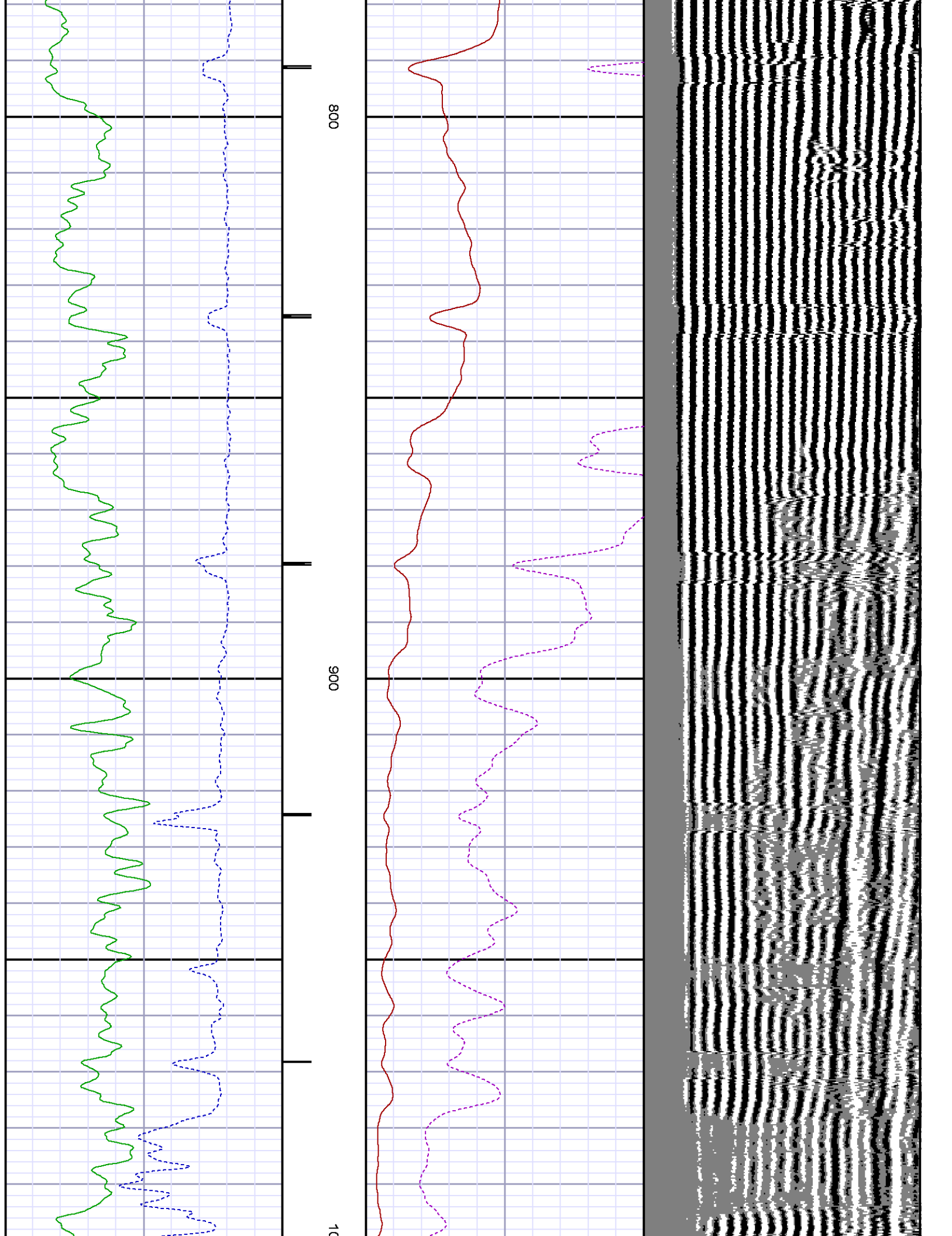
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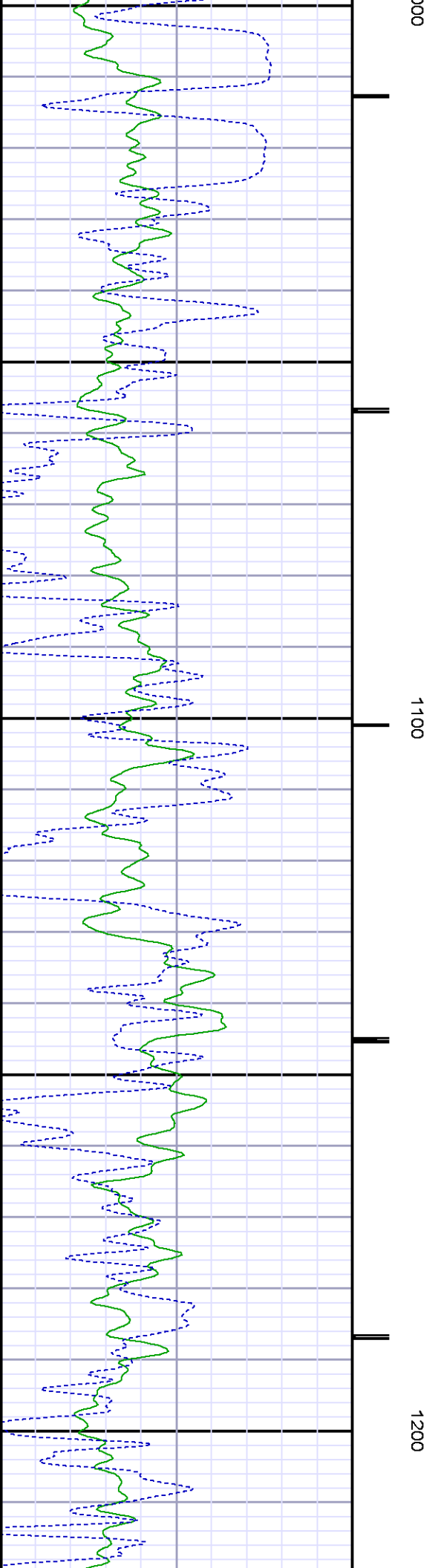
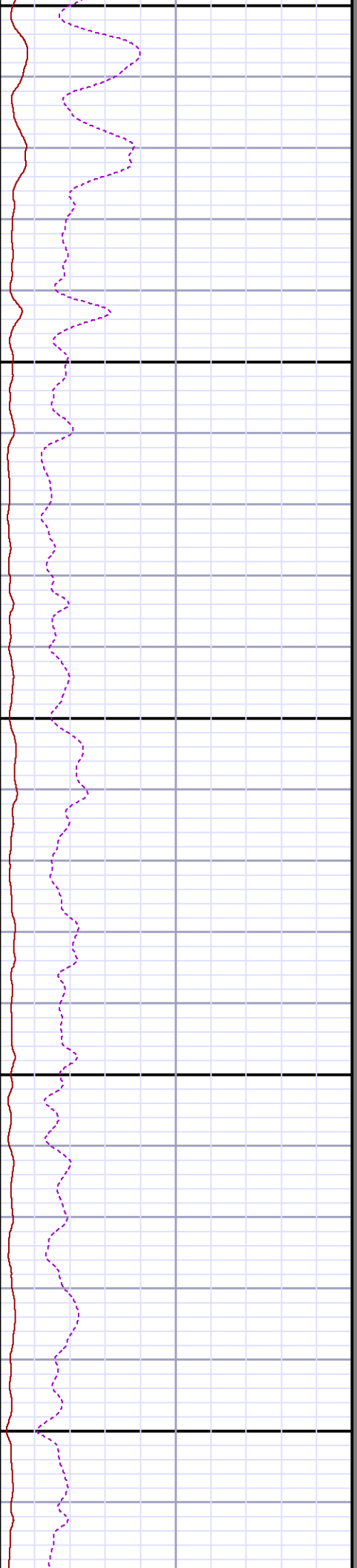
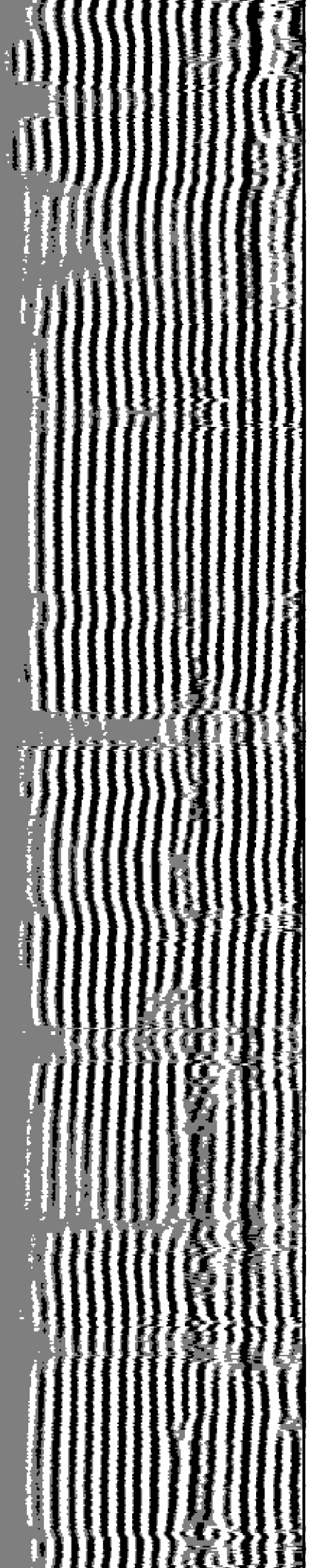


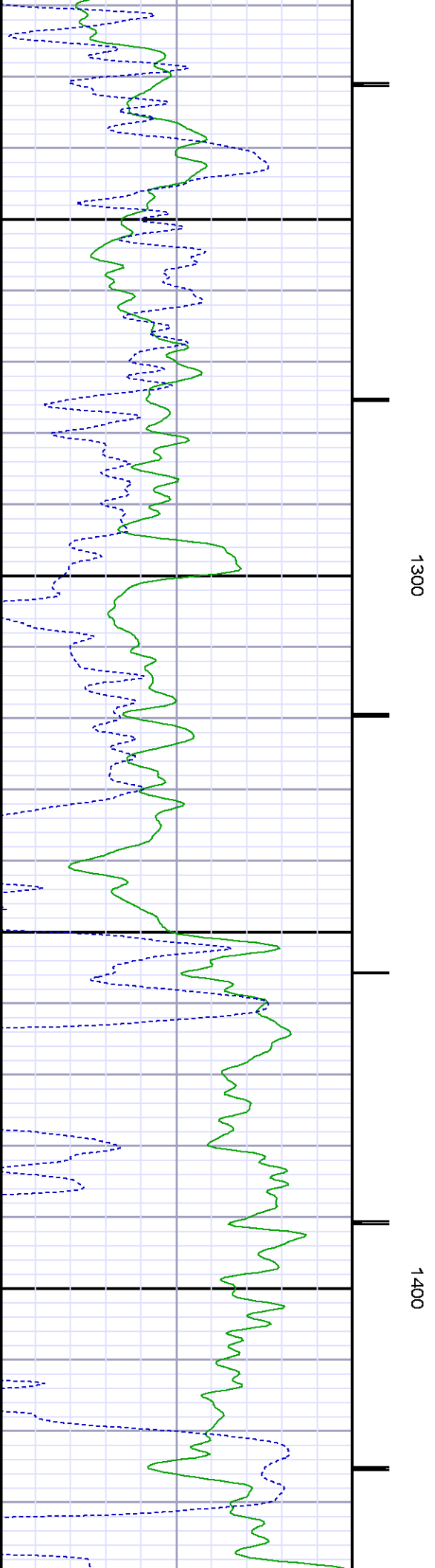
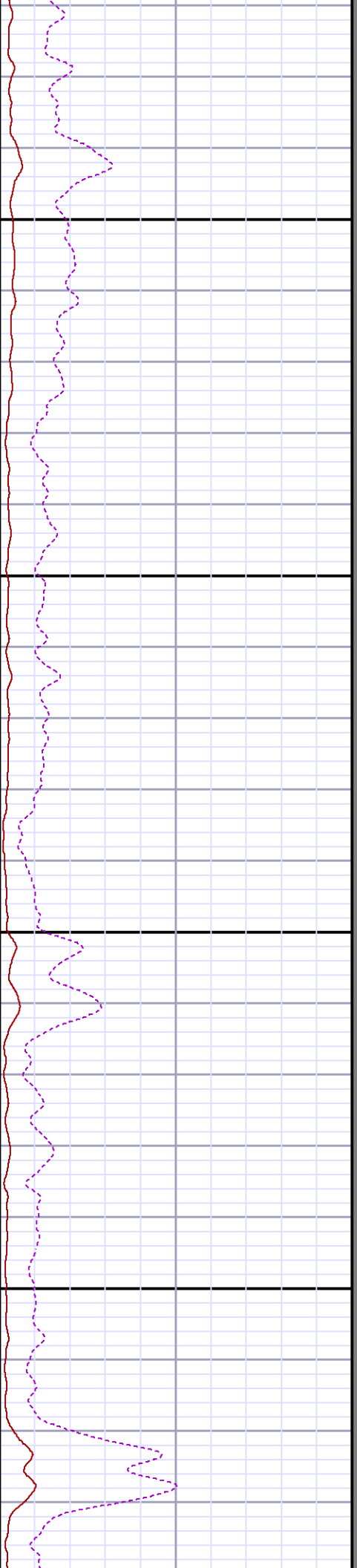
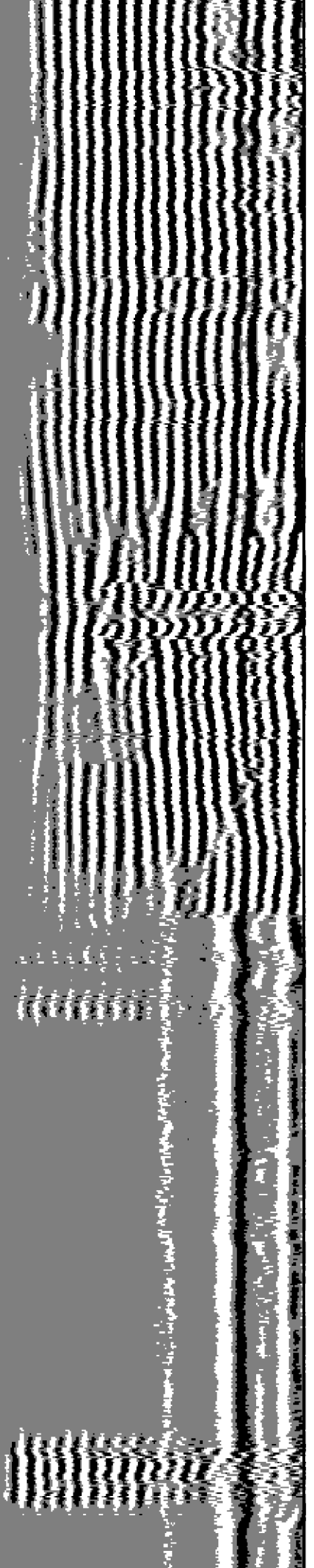


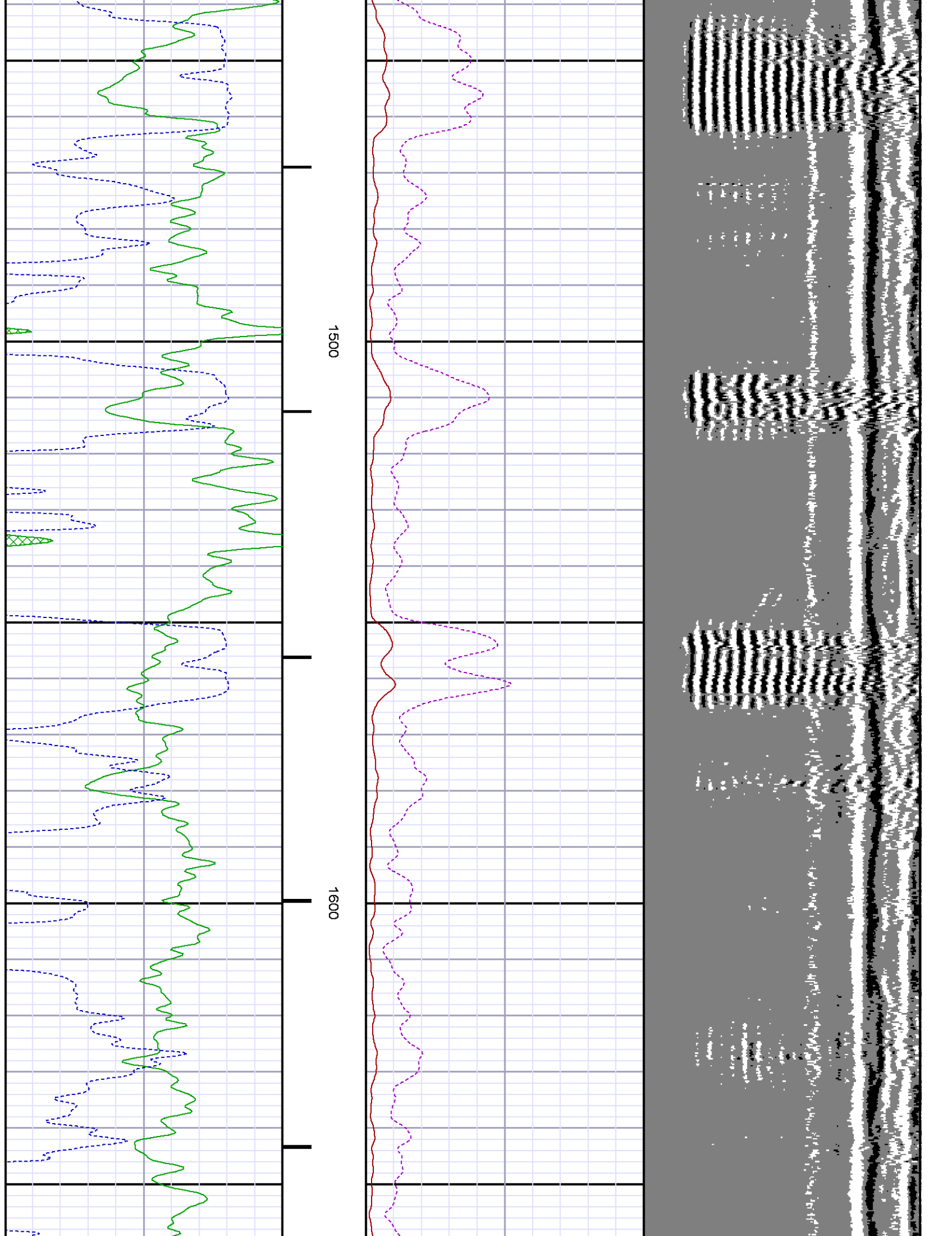


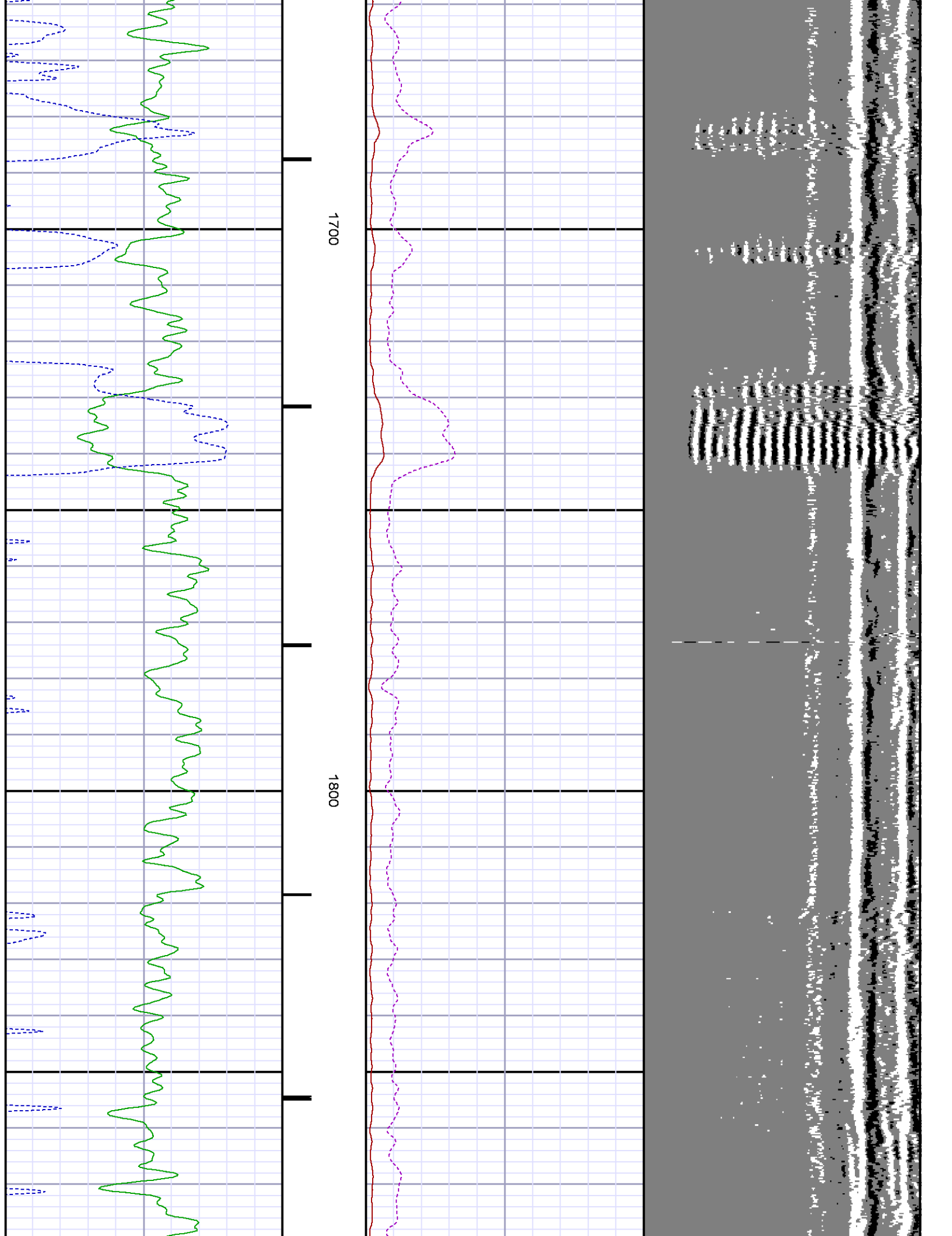


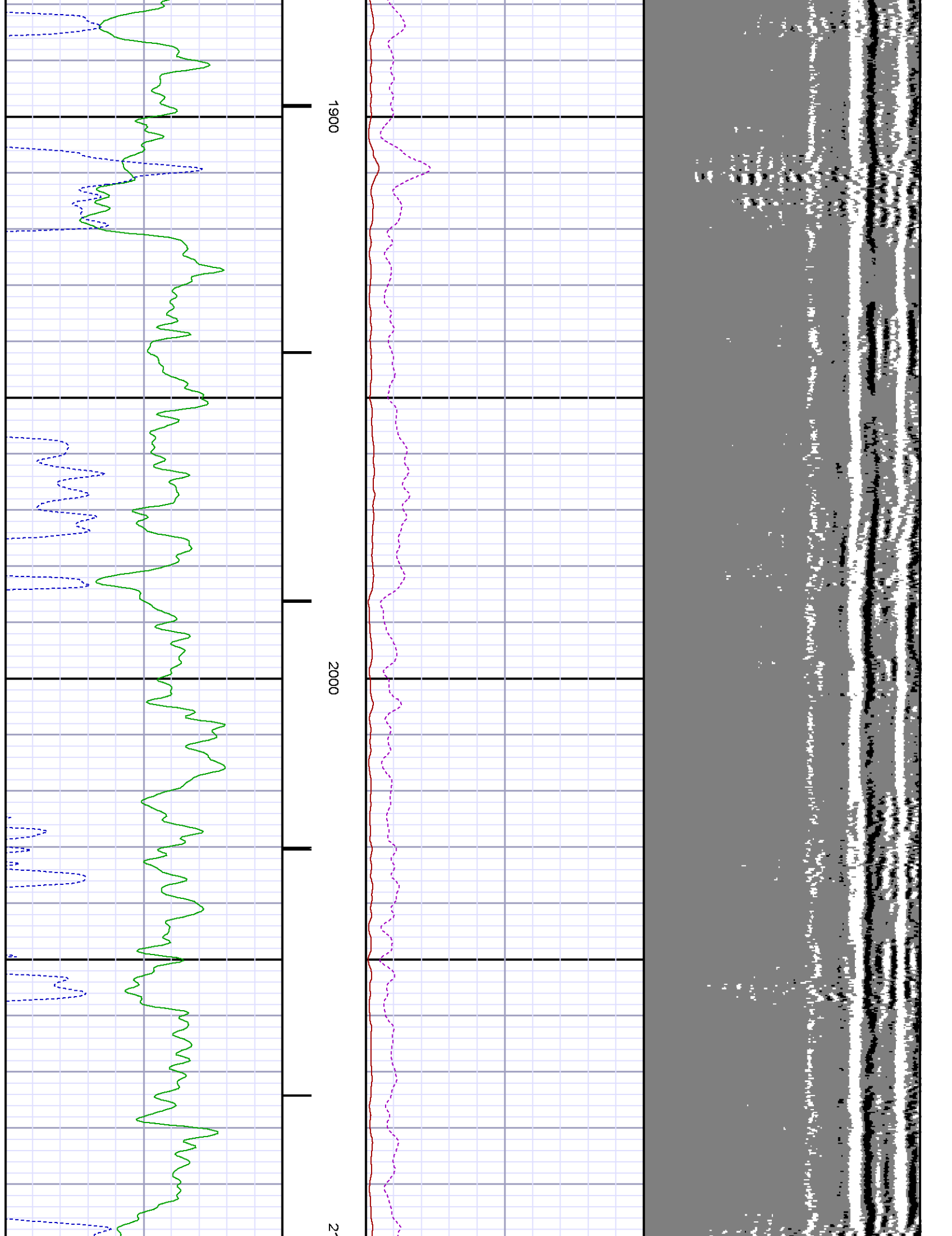


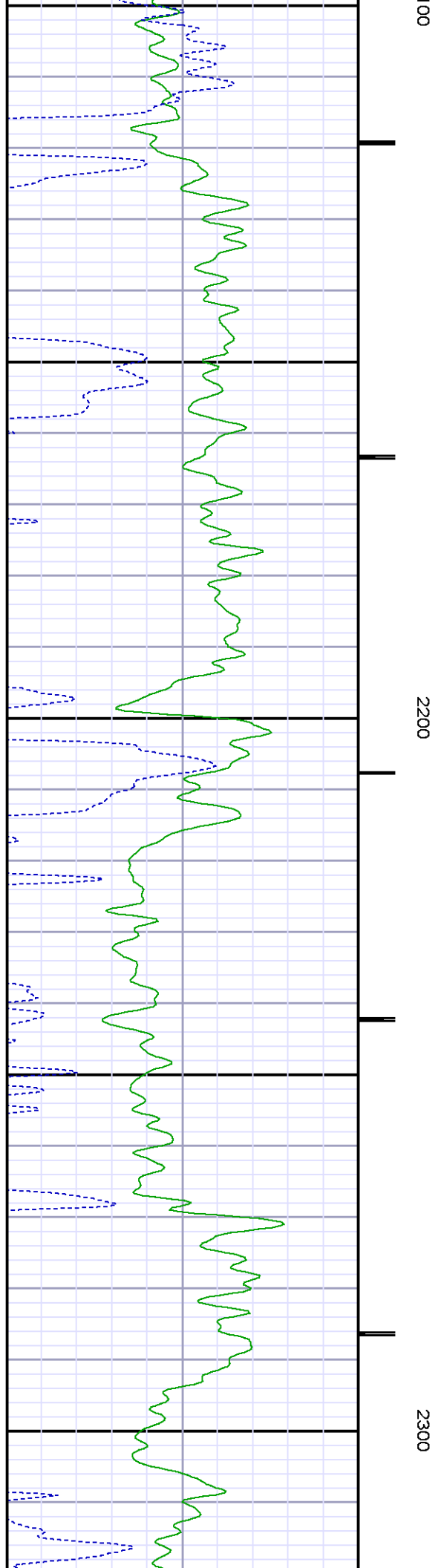
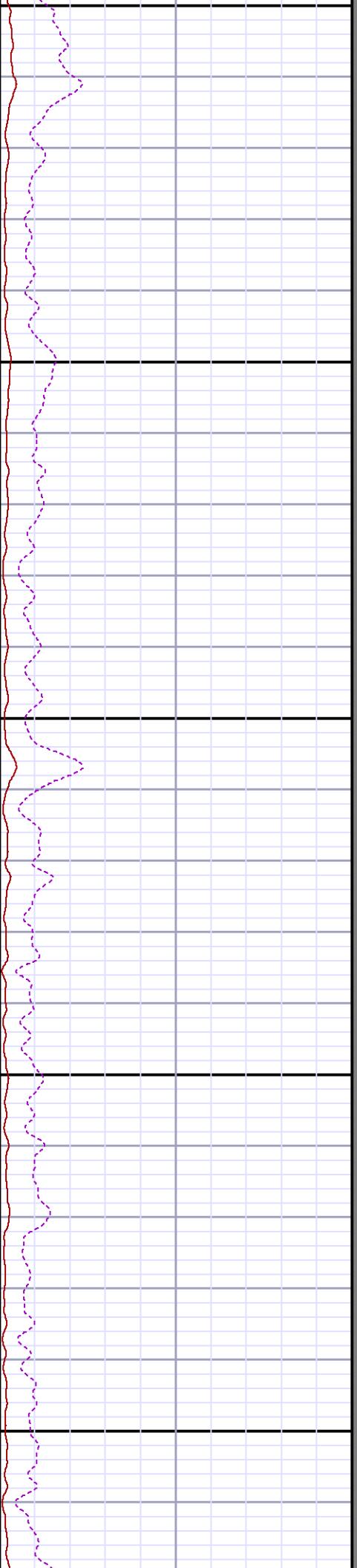
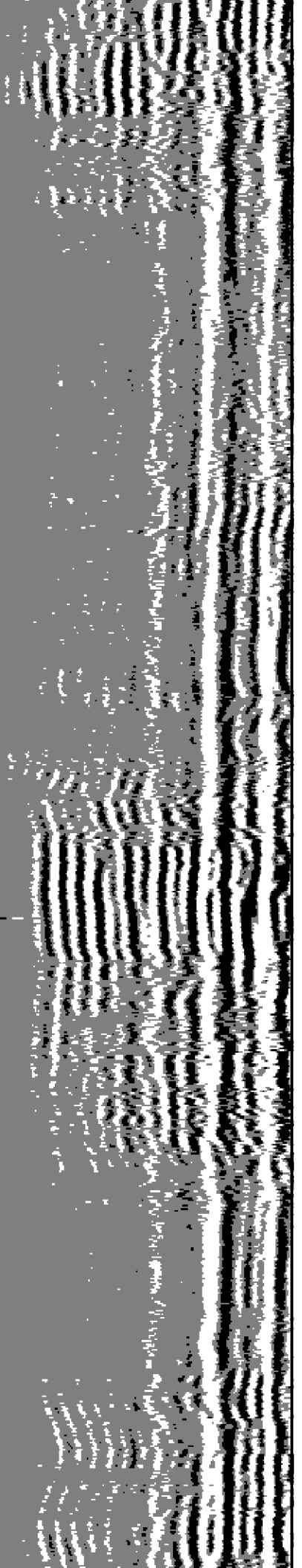


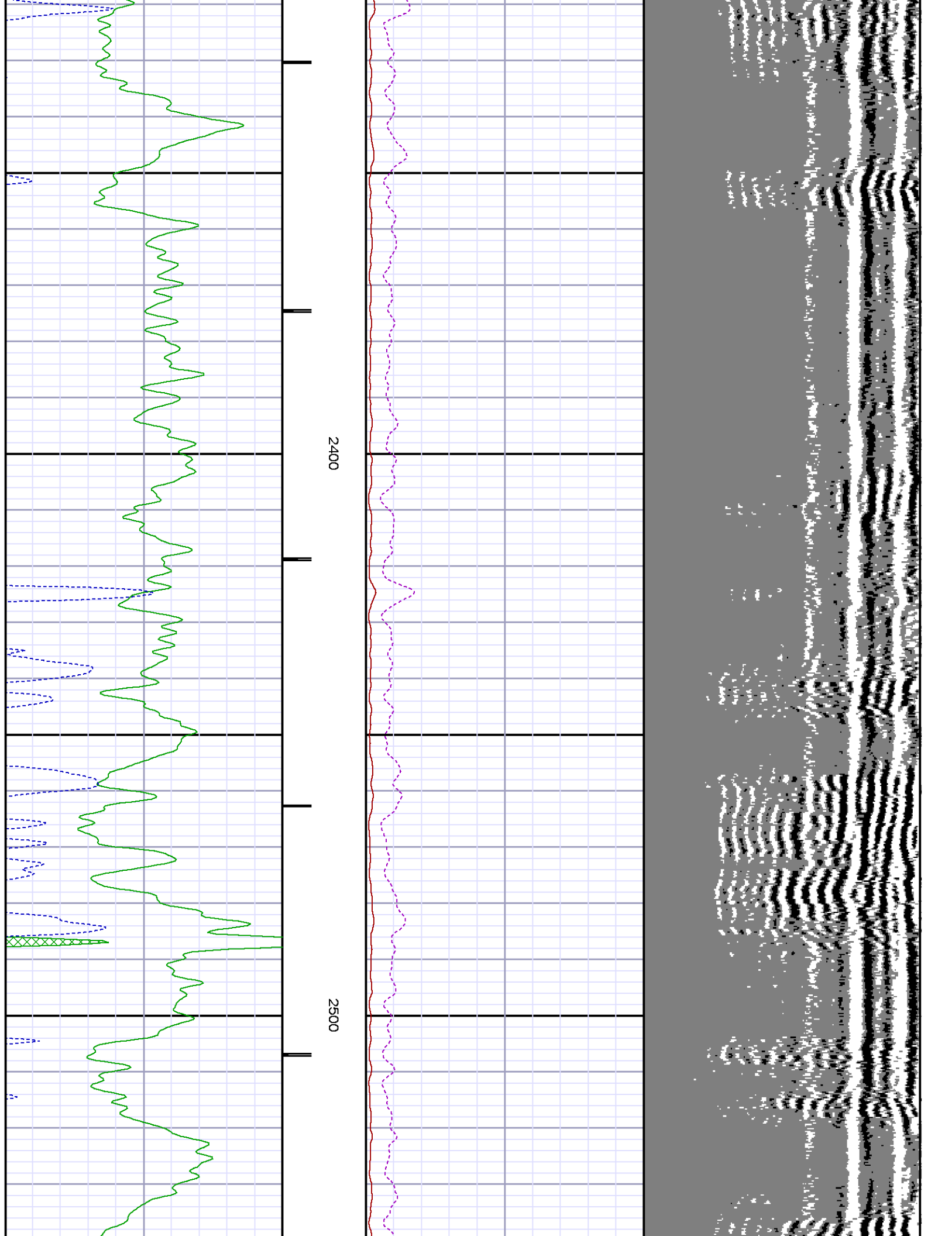


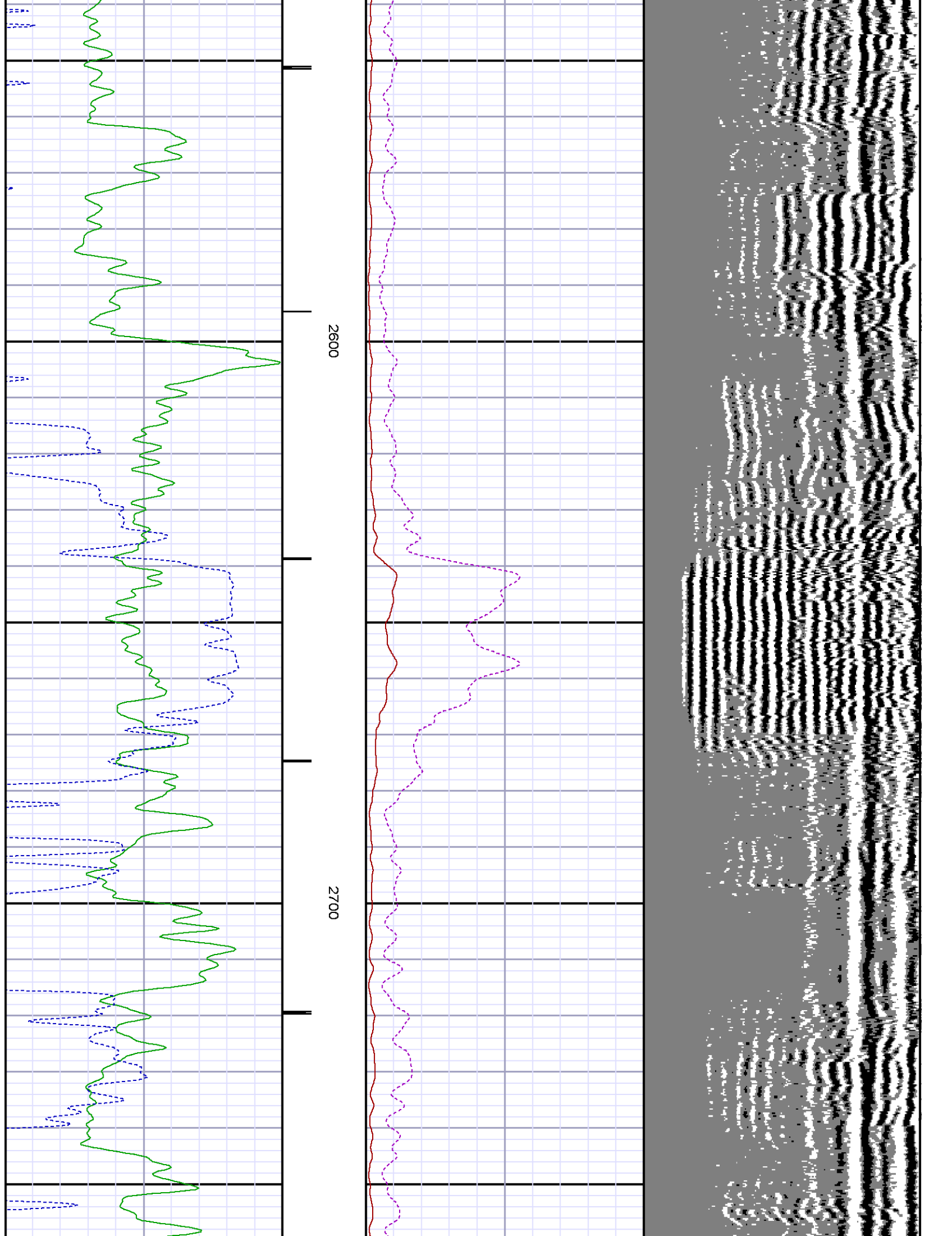


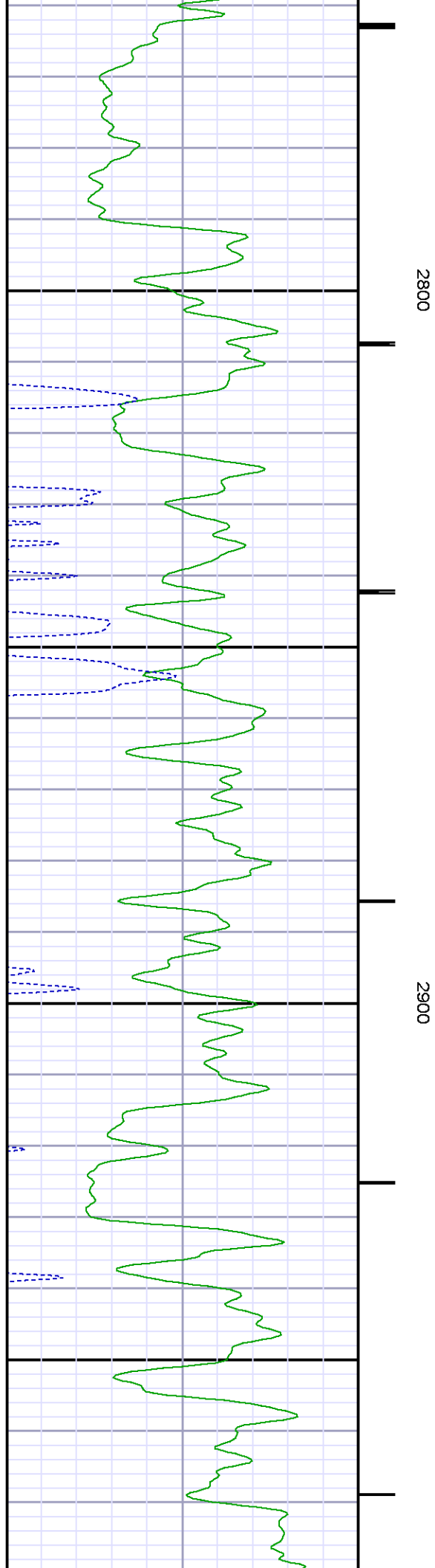
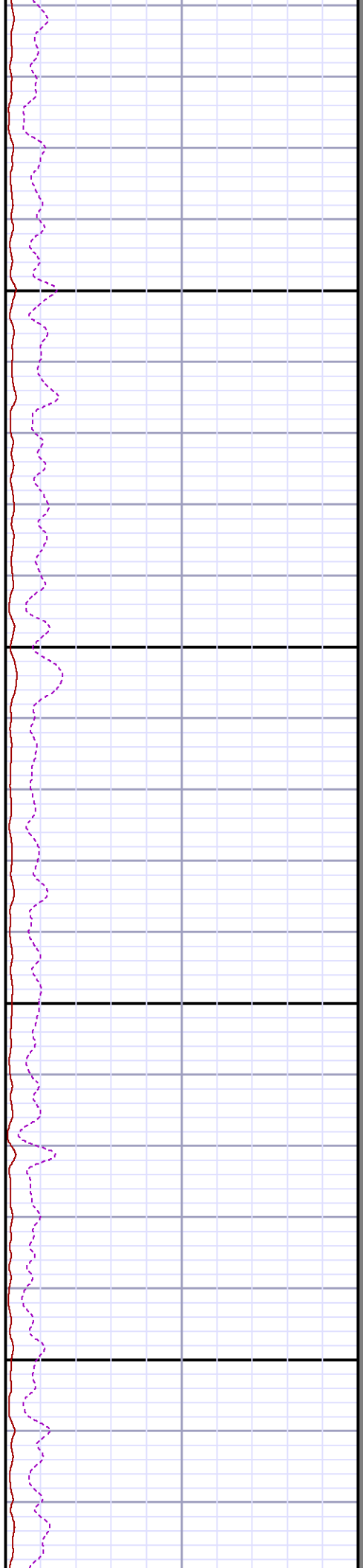
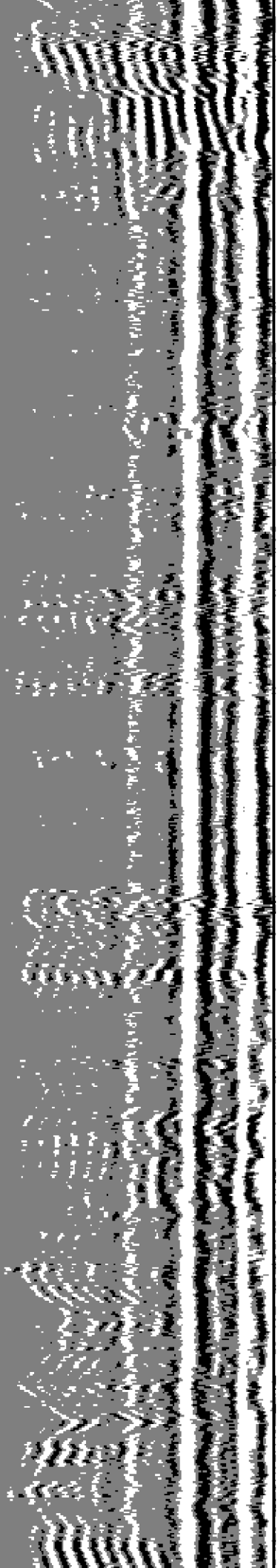


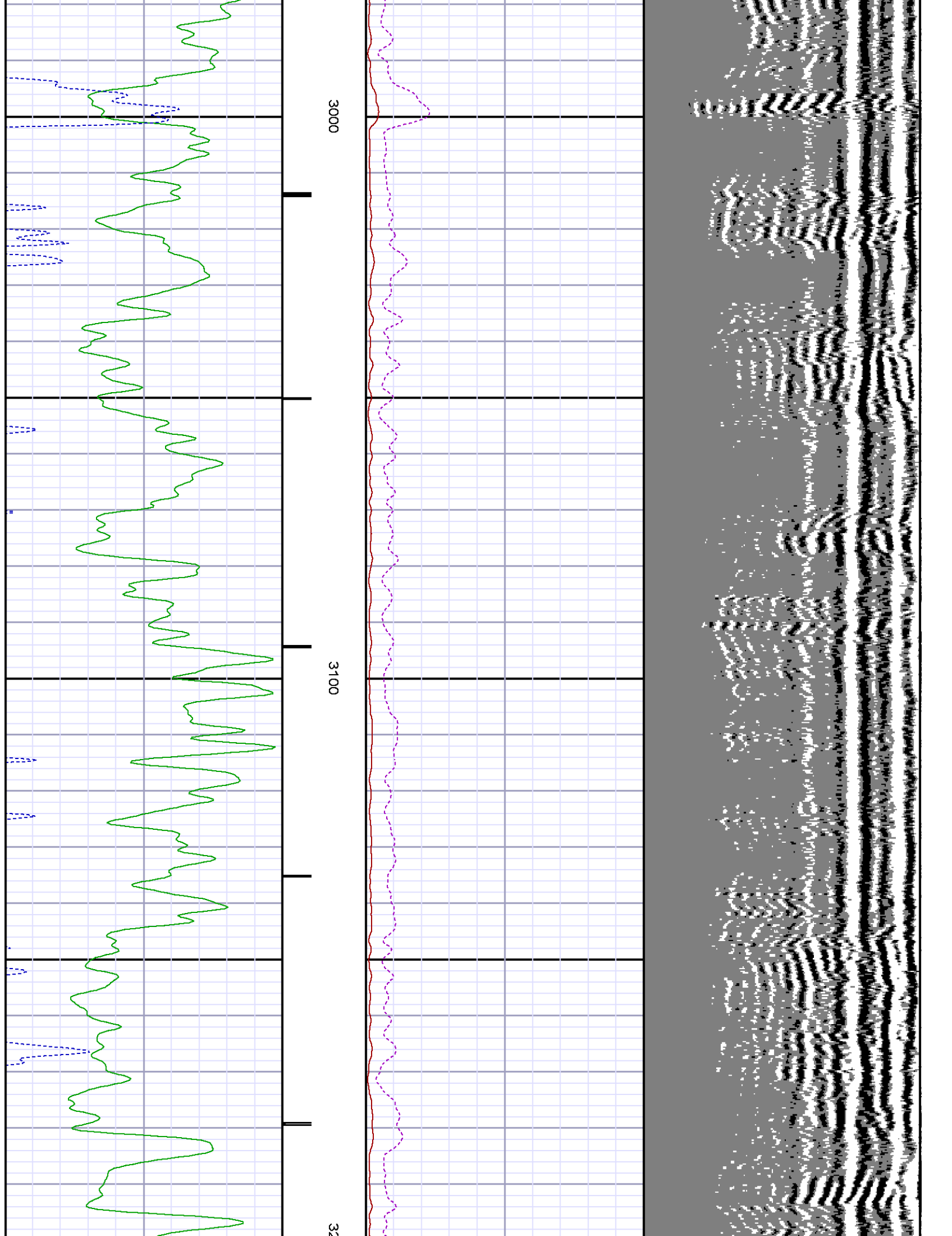


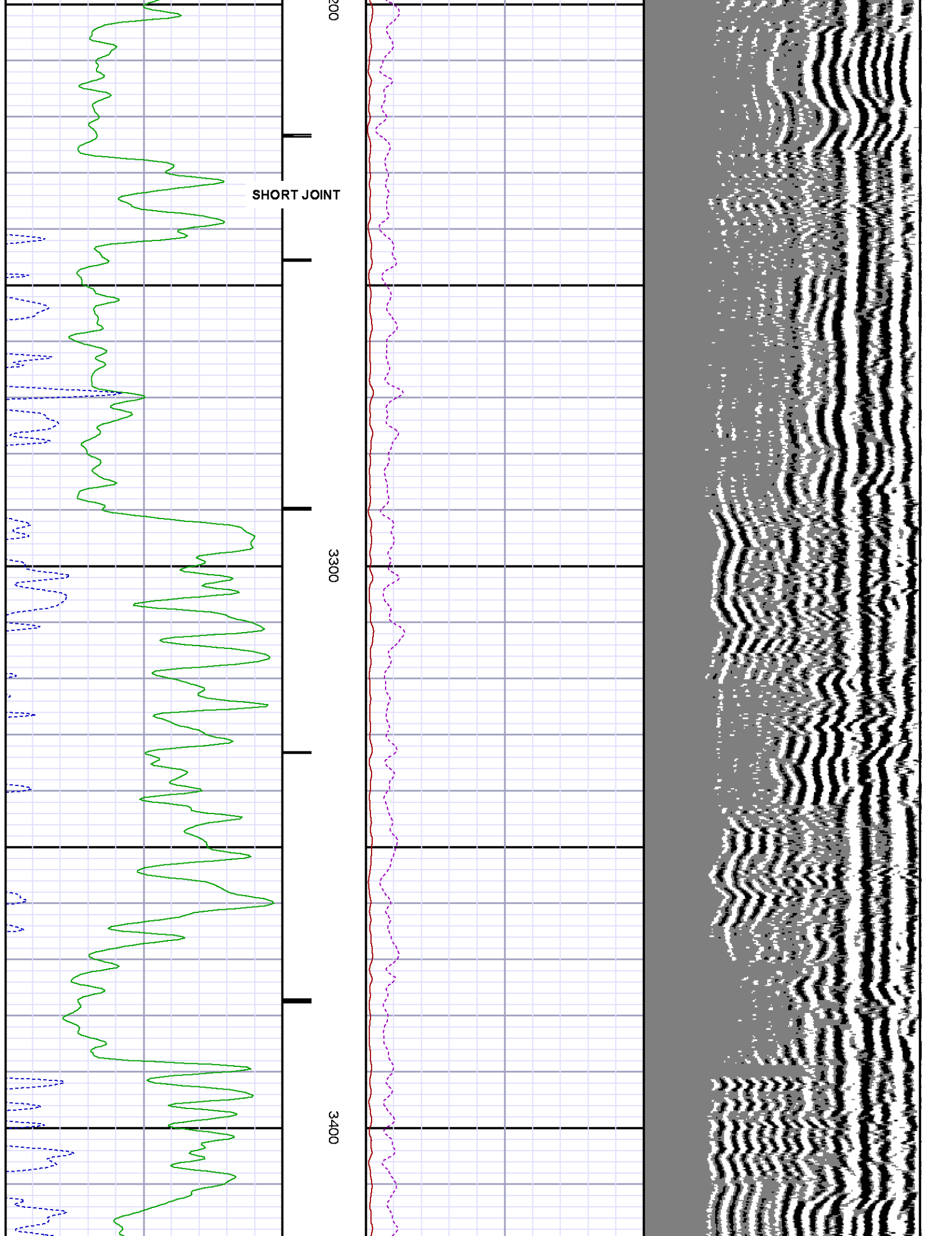


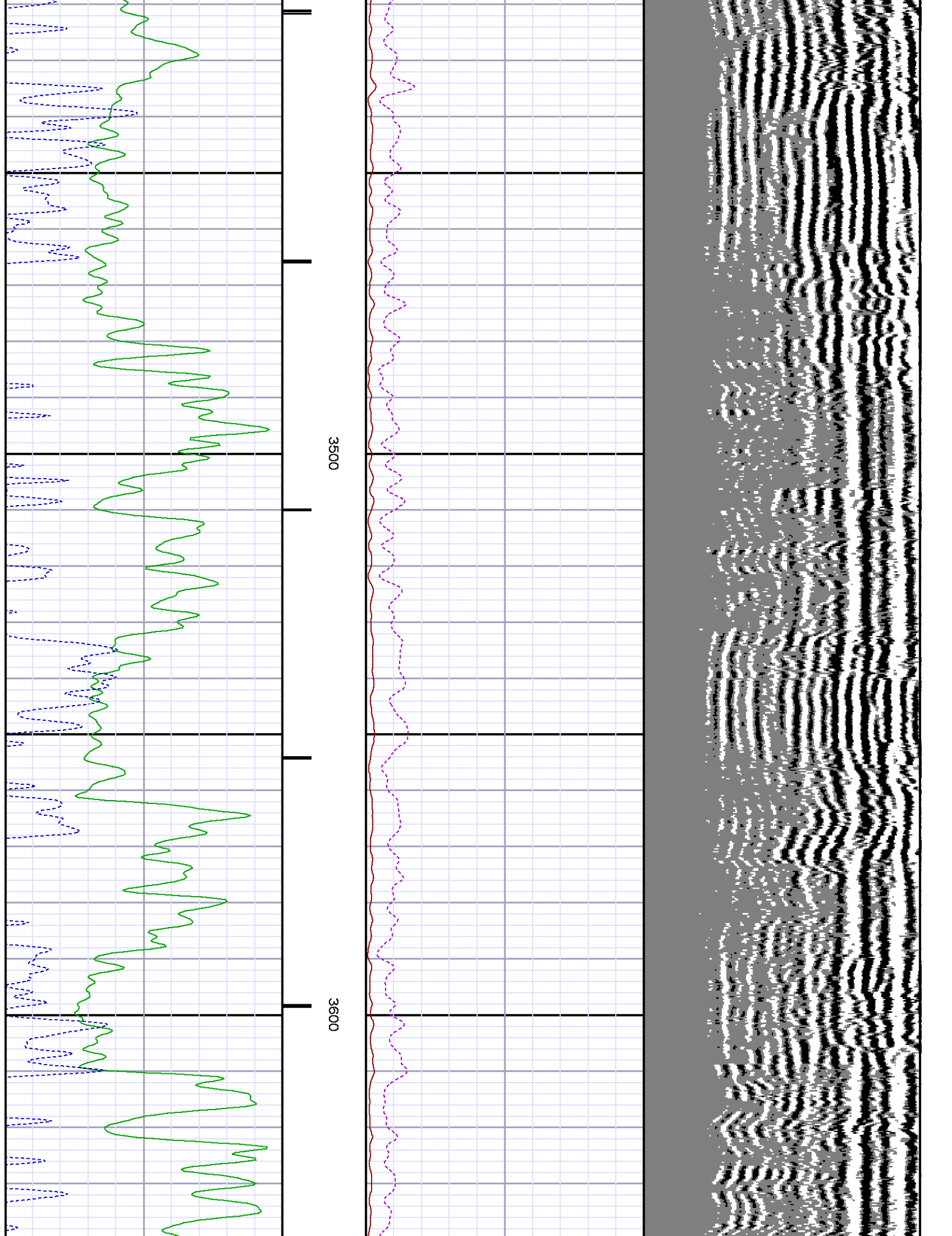


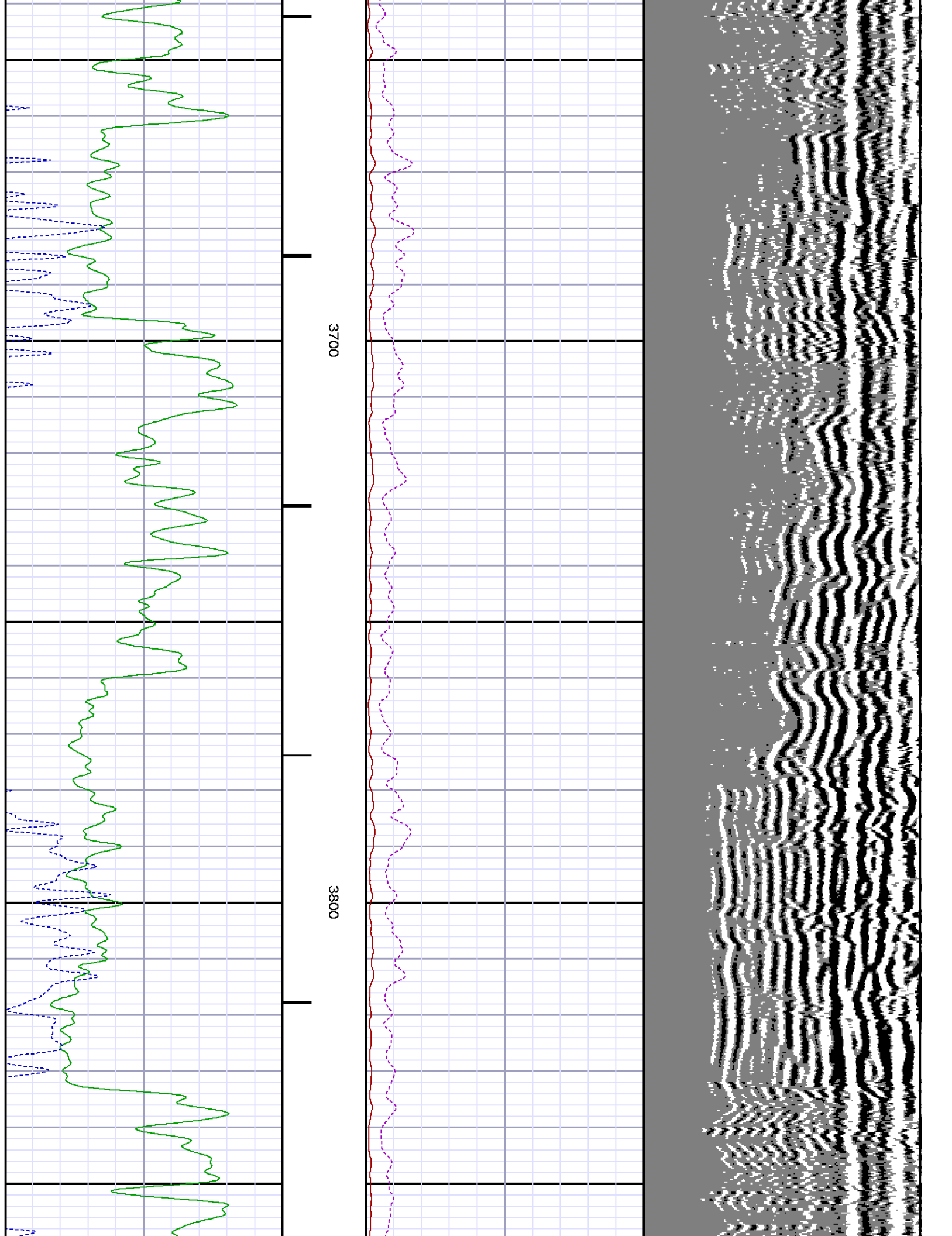


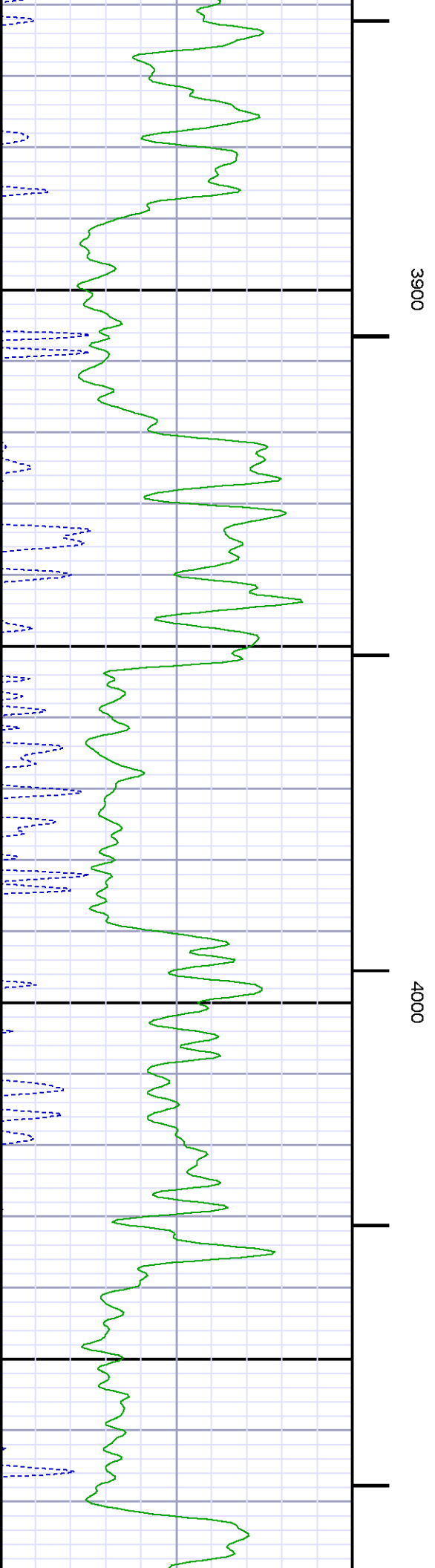
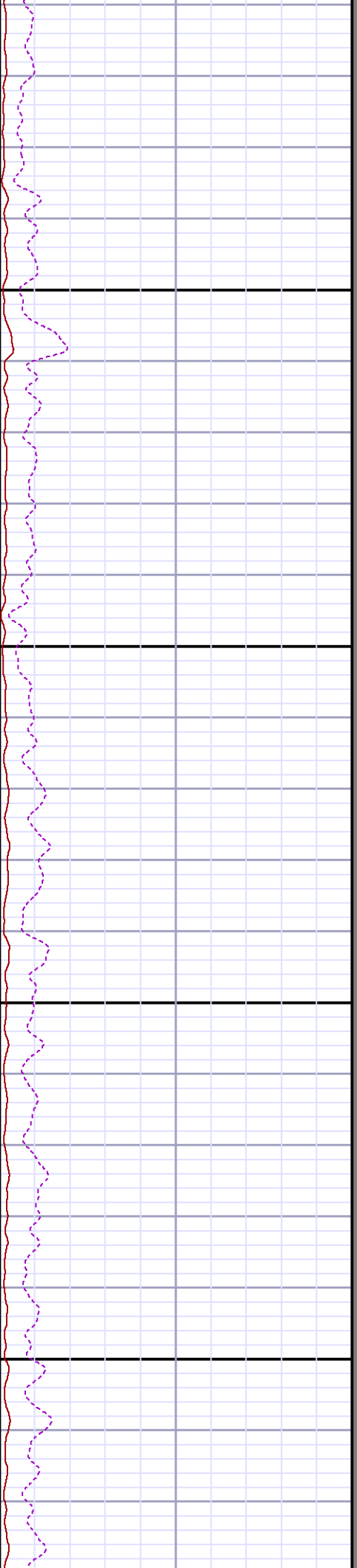
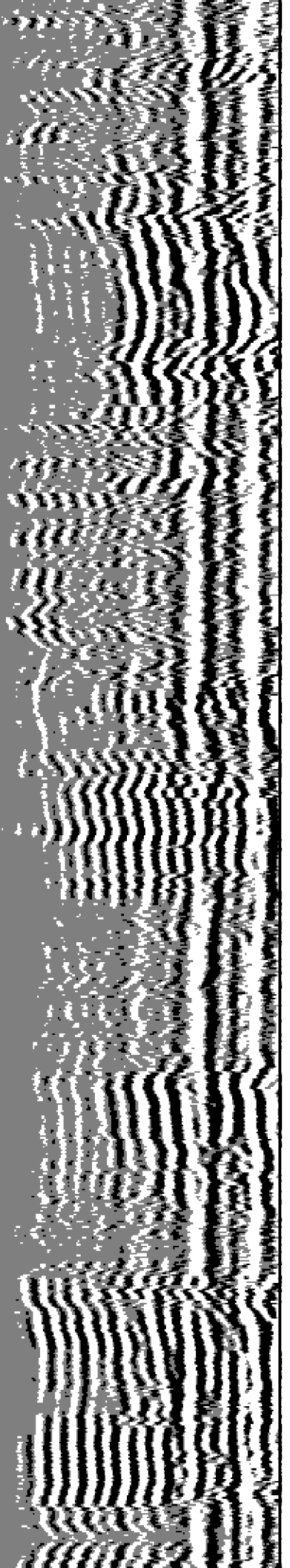


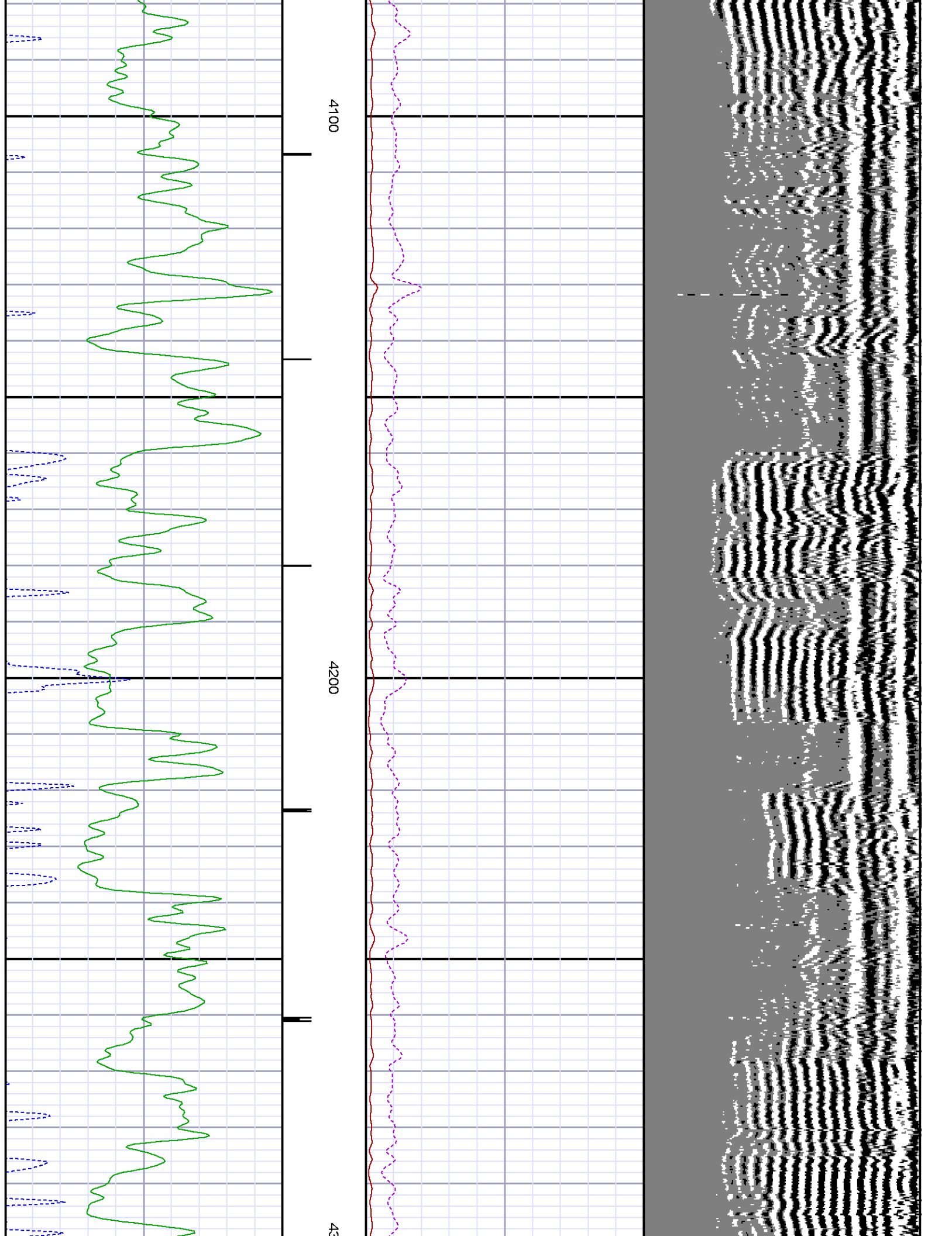


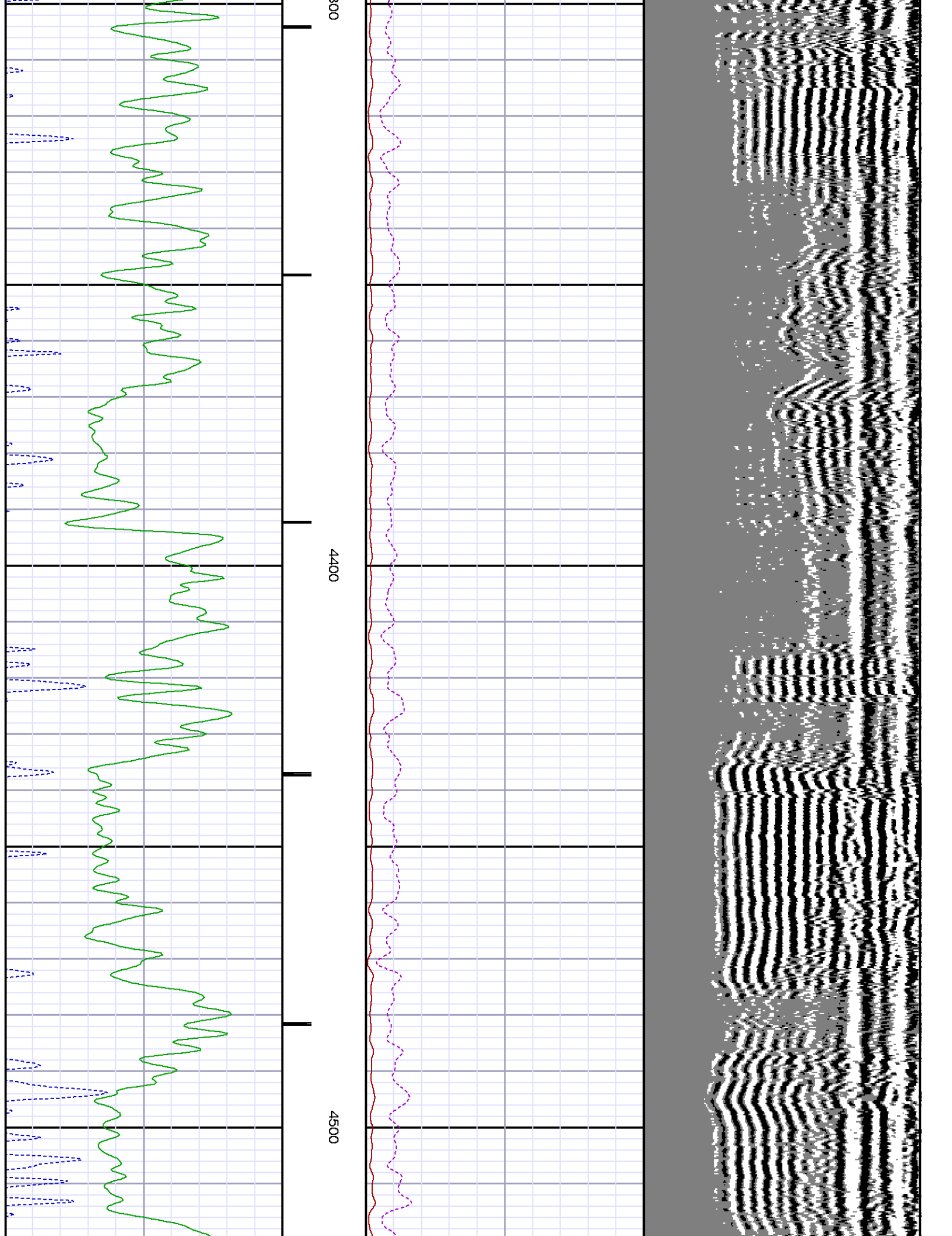


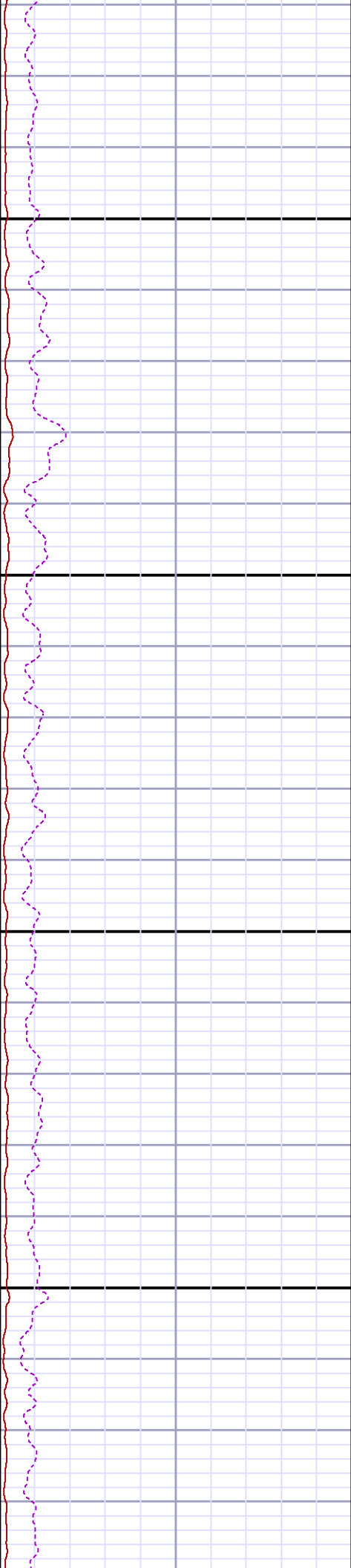
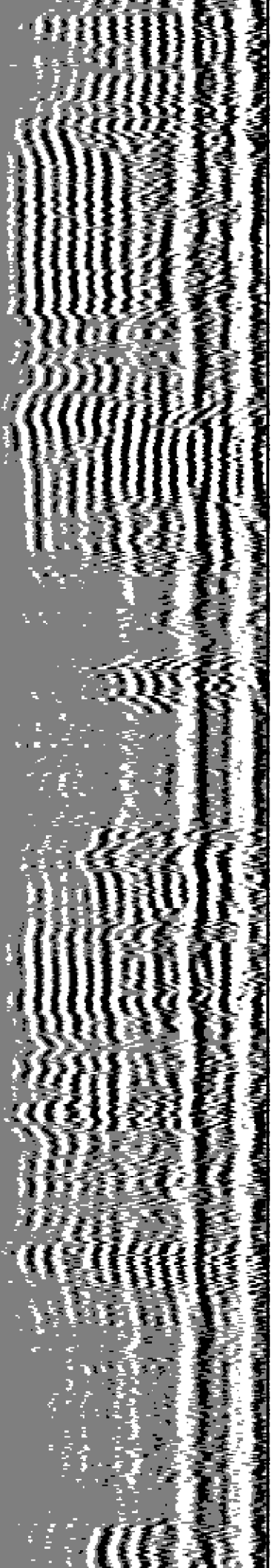






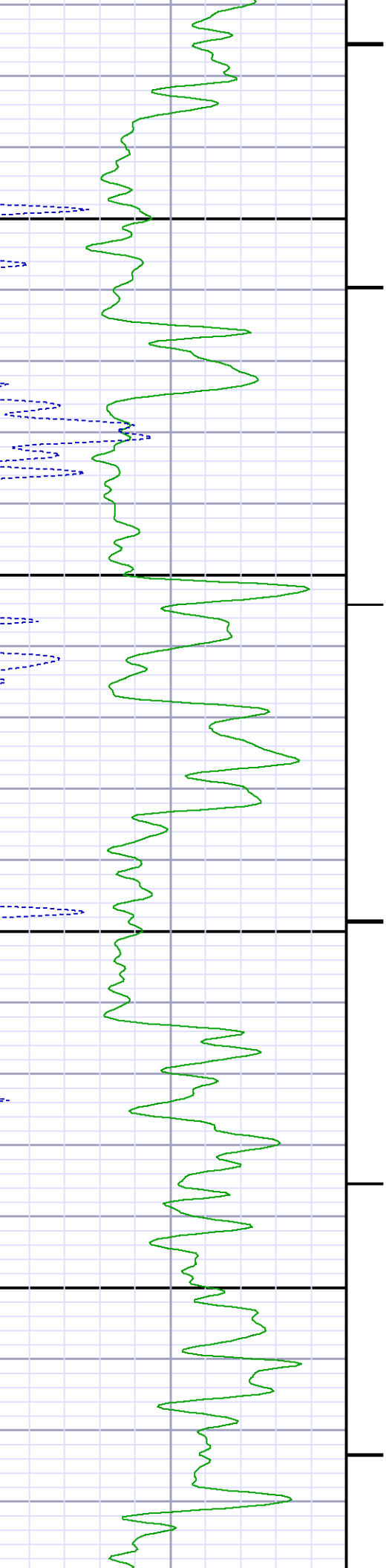


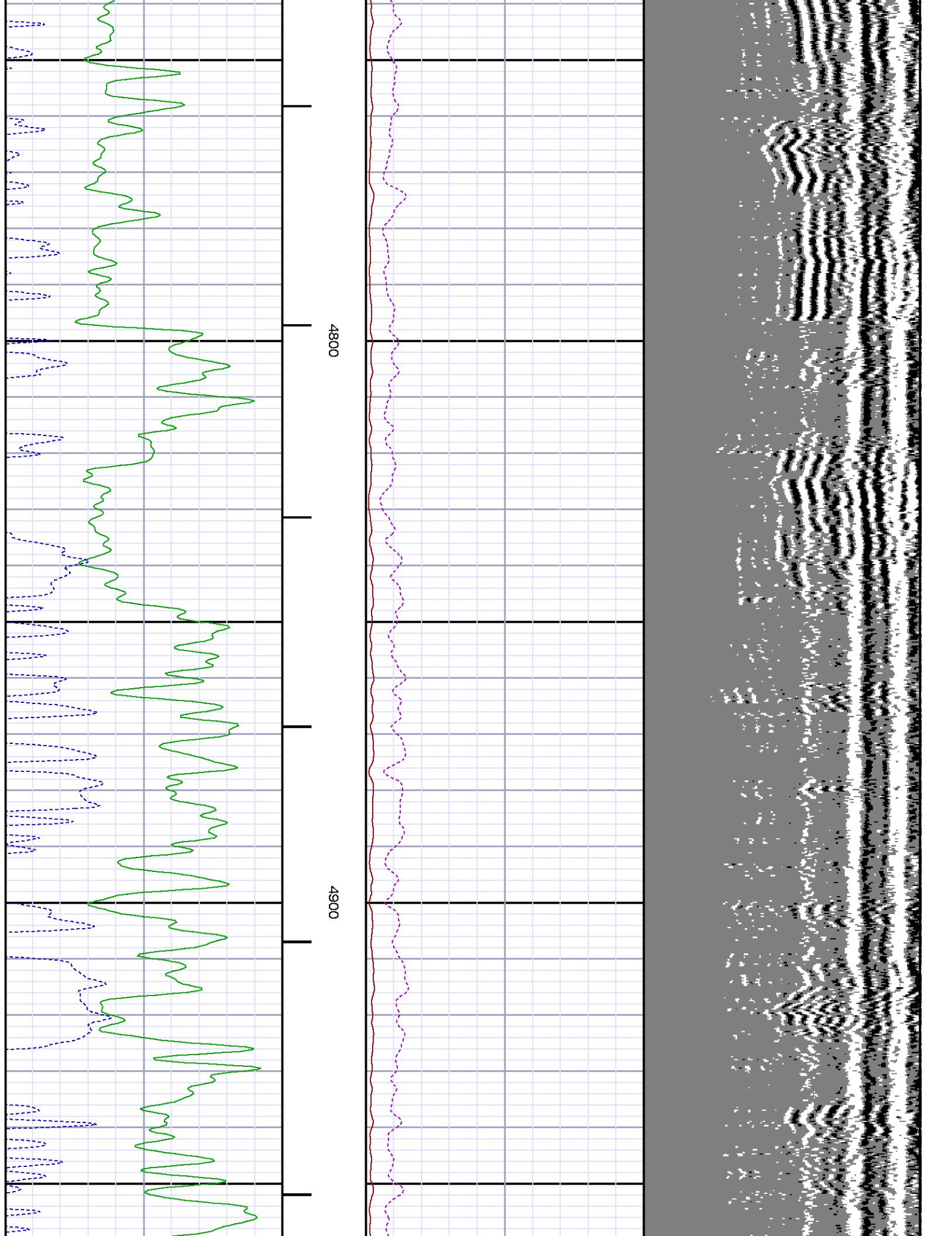


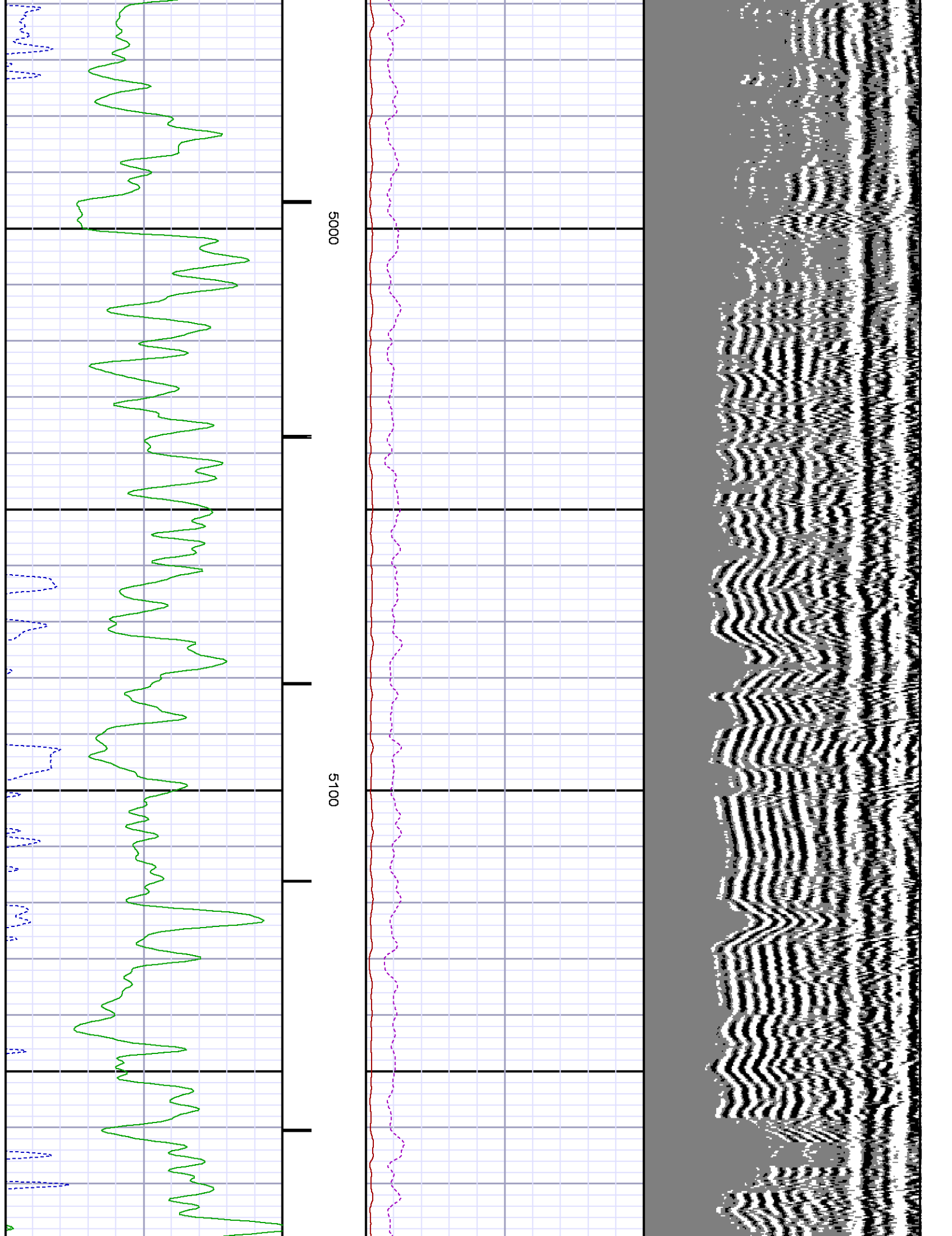


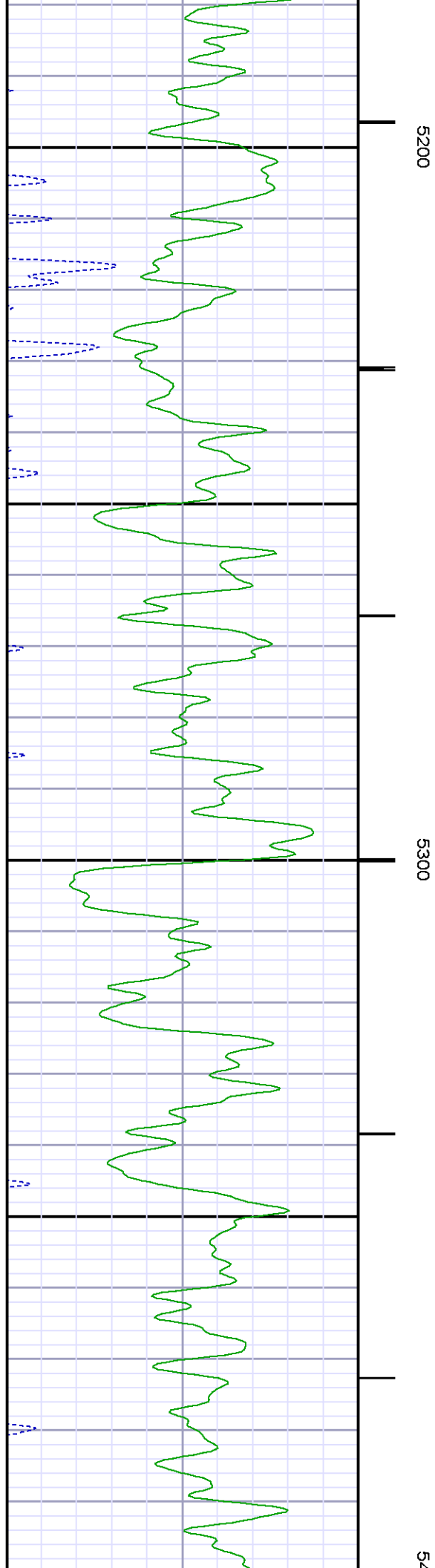
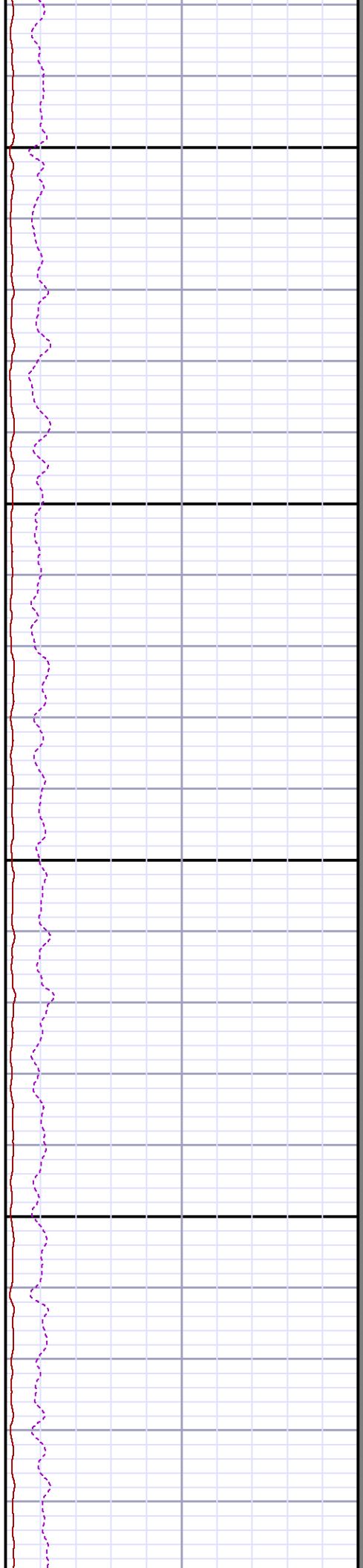
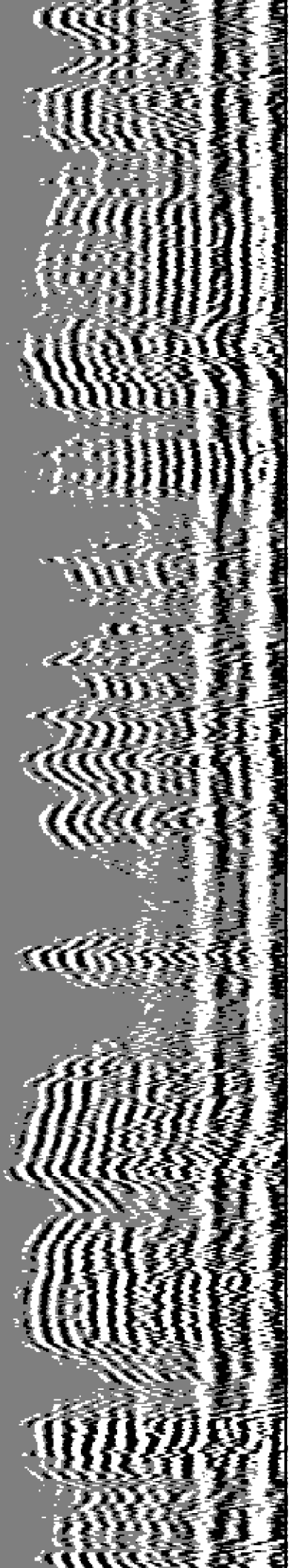
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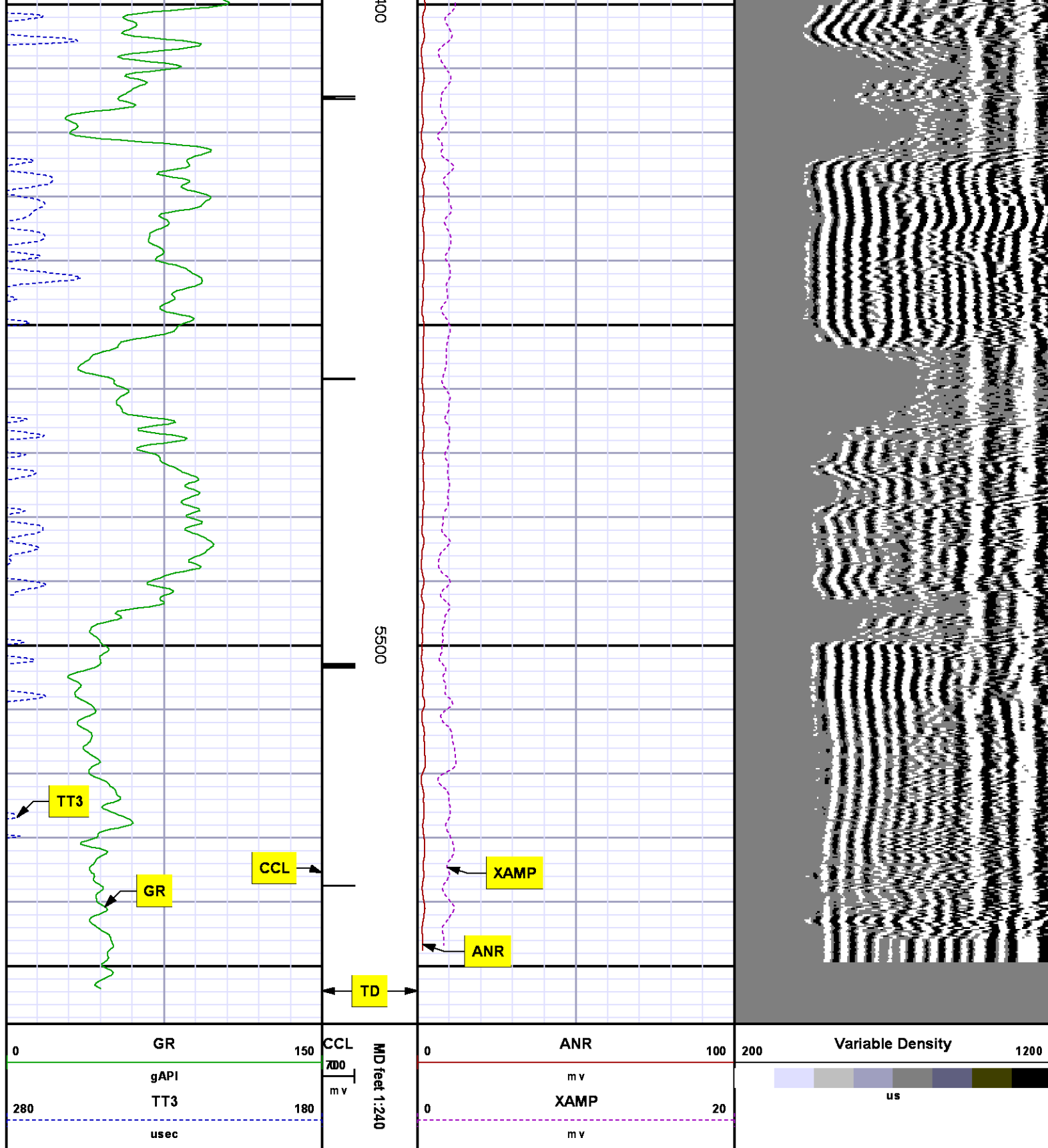
4700











SECONDARY PRESENTATION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	25.598	5560.250
RAL	Amp Gate Start Near	195.000	usec	25.598	5560.250
RAL	Amp Gate Start Radial	195.000	usec	25.598	5560.250
RAL	Amp Gate Width Far	25.000	usec	25.598	5560.250
RAL	Amp Gate Width Near	25.000	usec	25.598	5560.250
RAL	Amp Gate Width Radial	25.000	usec	25.598	5560.250
RAL	casing od	4.500	inches	25.598	5560.250
RAL	casing wt	11.600	lbm/ft	25.598	5560.250
RAL	FB Start Far	291.900	usec	25.598	5560.250
RAL	FB Start Near	175.391	usec	25.598	5560.250
RAL	FB Start Radial	175.391	usec	25.598	5560.250
RAL	FB Thresh Far	10.000	mV	25.598	5560.250
RAL	FB Thresh Near	4.000	mV	25.598	5560.250
RAL	FB Thresh Radial	4.000	mV	25.598	5560.250
RAL	Fluid Travel Time	200.000	usec/ft	25.598	5560.250

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-12.360	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-11.360	AFAR	SIG	TT5			
2459XA	-7.250	CCL					
2459XA	-5.390	GR					
2459XA	0.000	NEU					

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

Well : FEDERAL SG 412-27

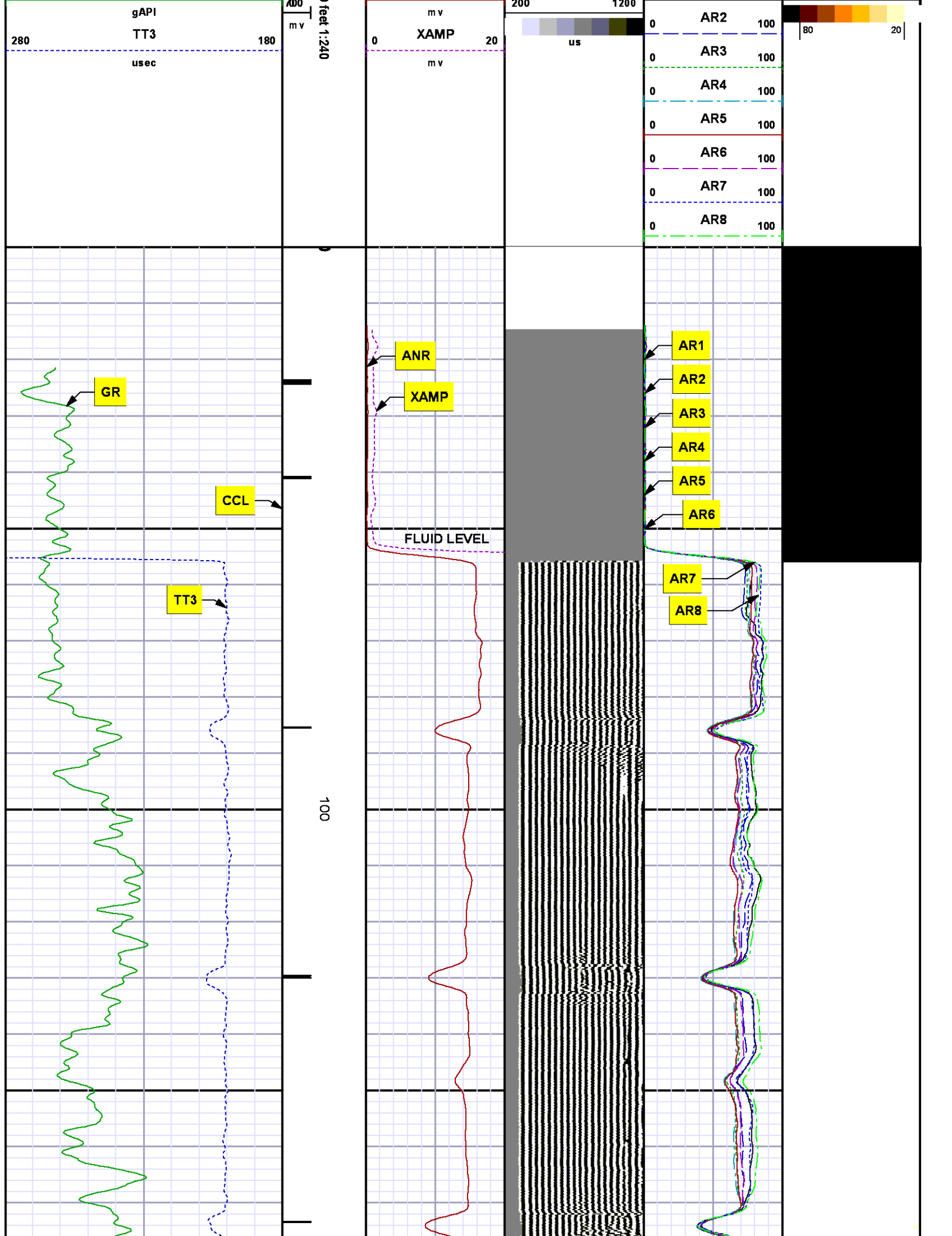
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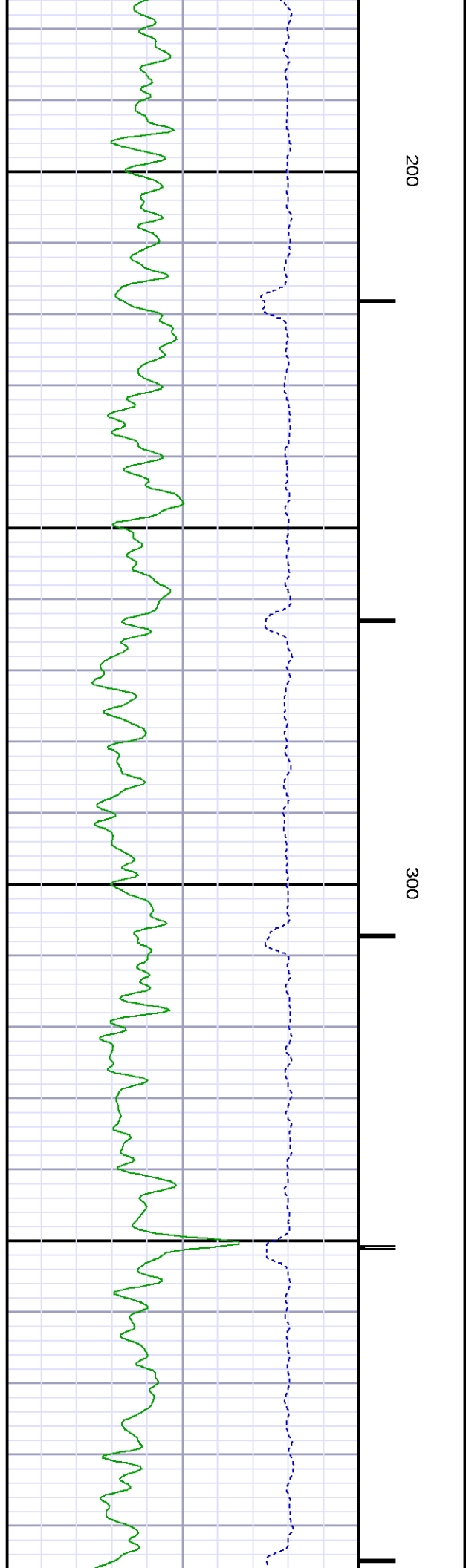
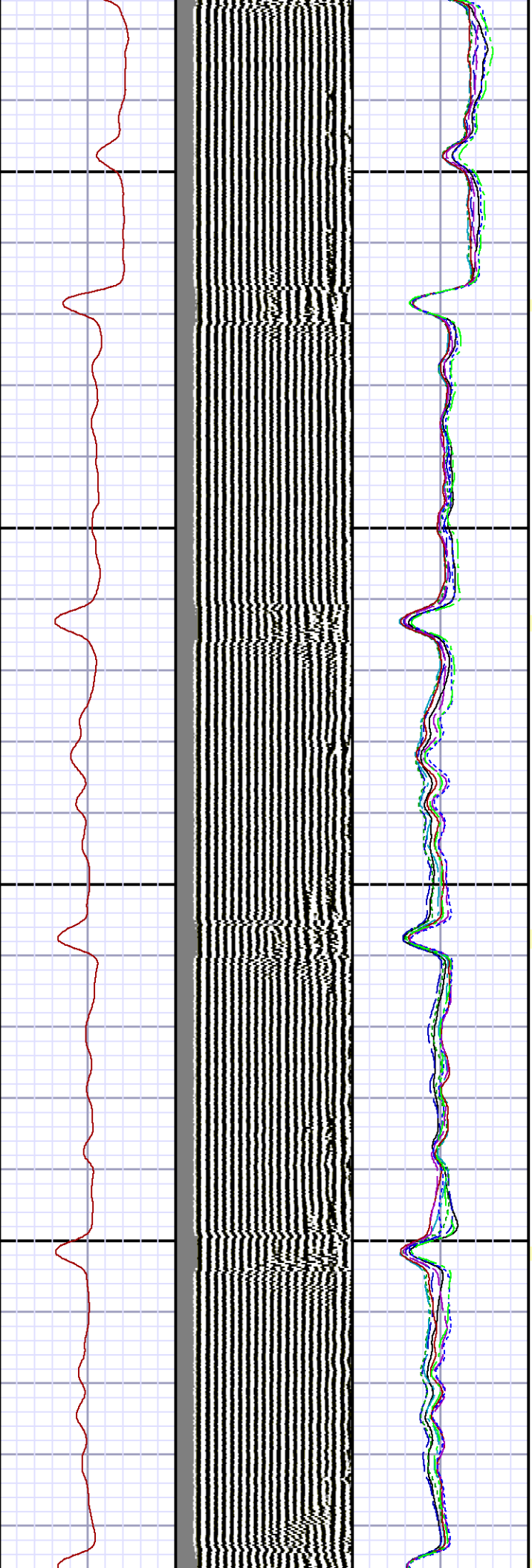
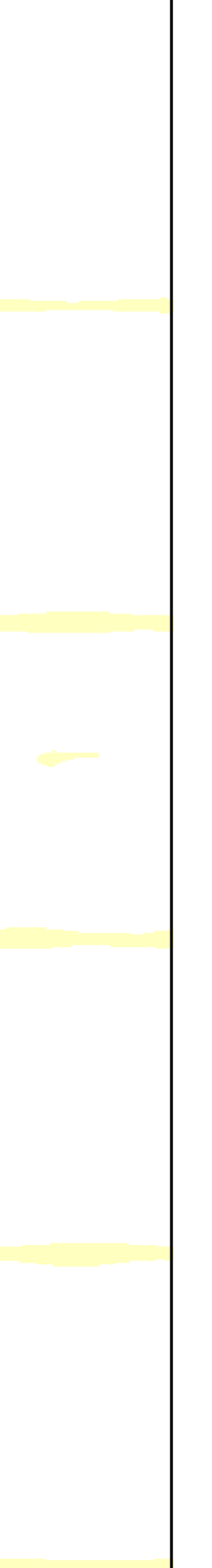
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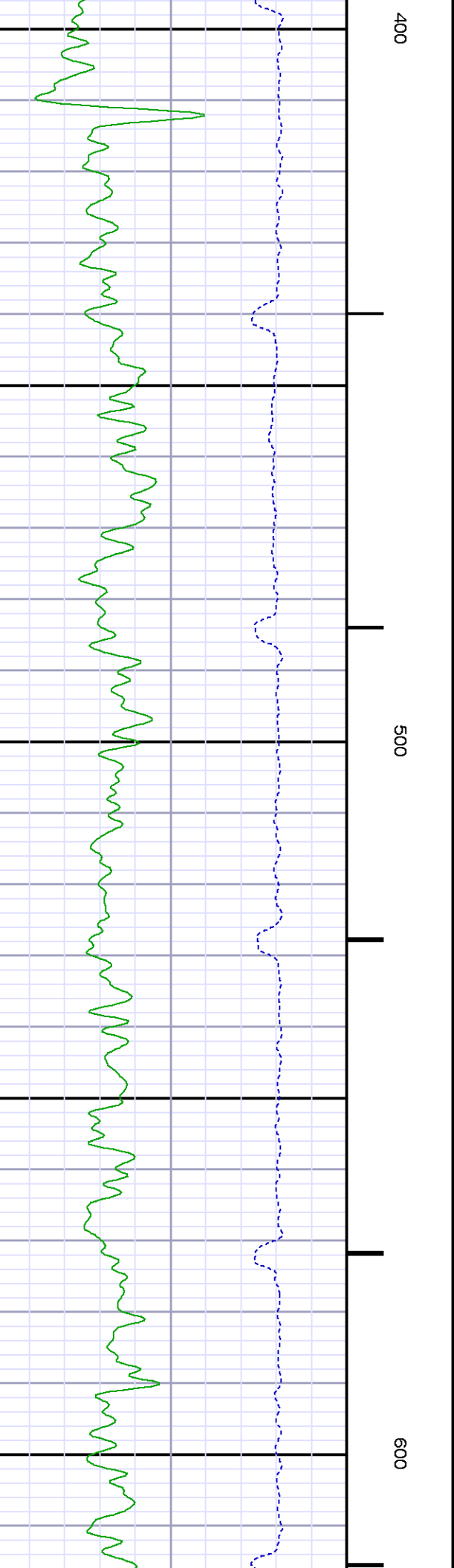
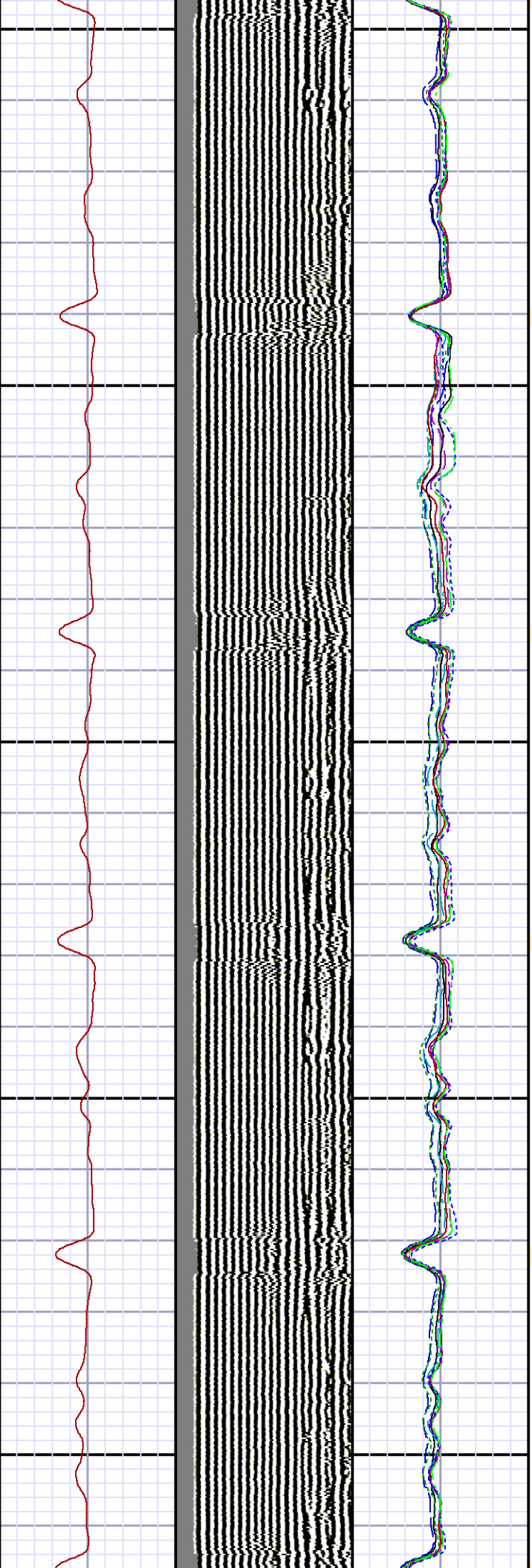
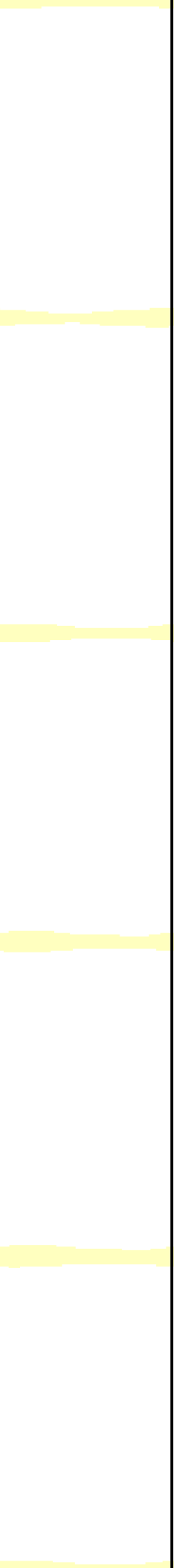
Interval : 0.00 - 5559.00 feet UP

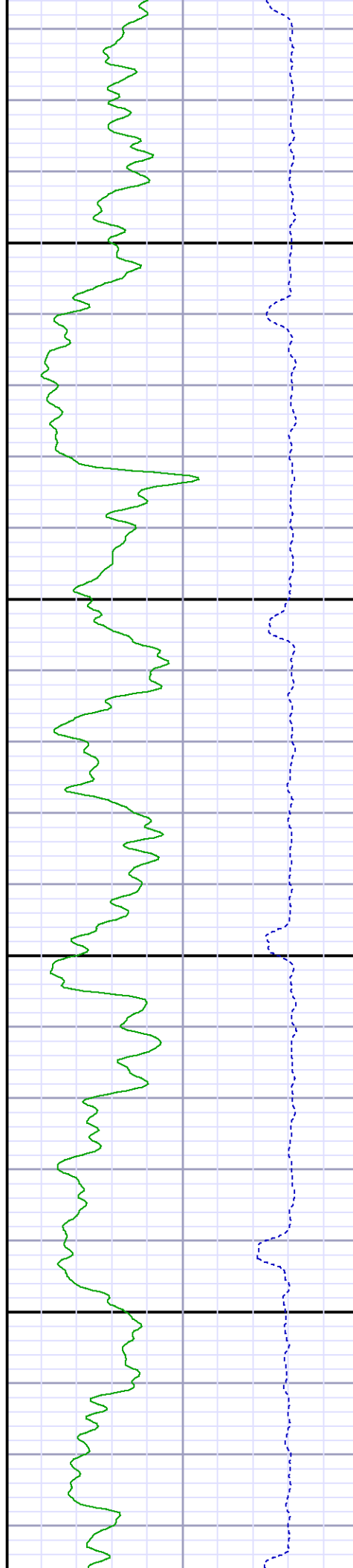
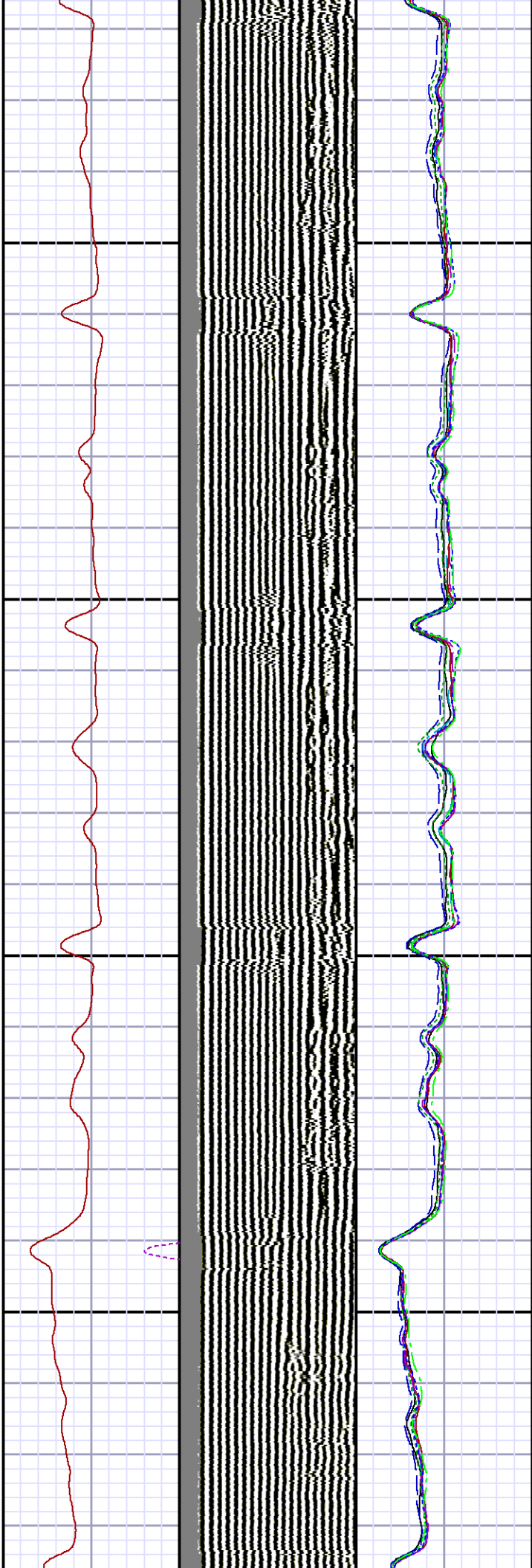
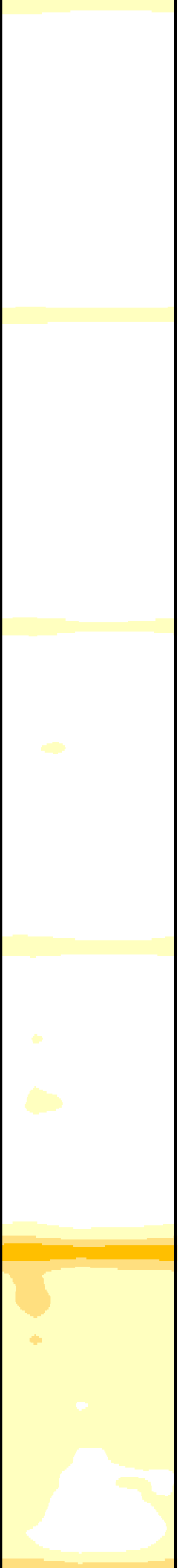
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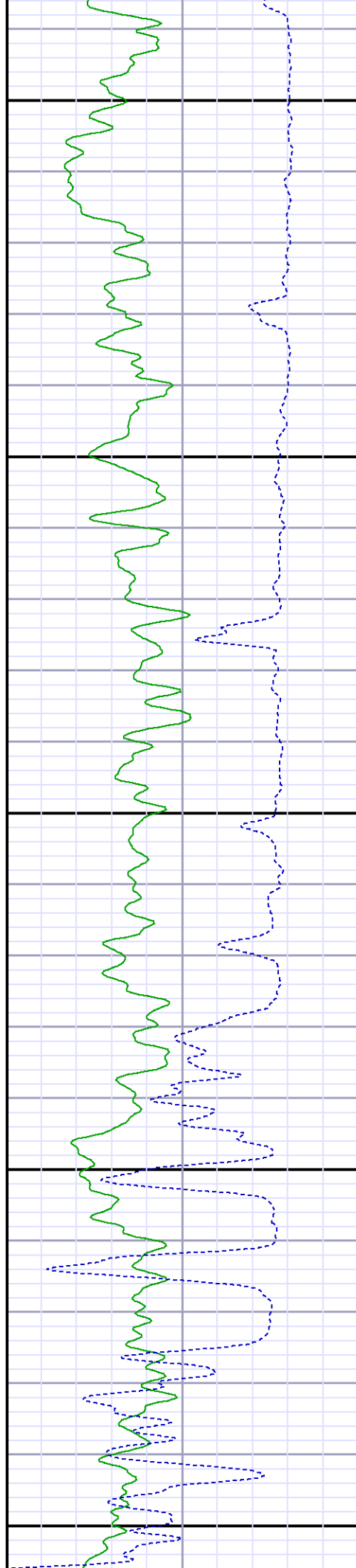
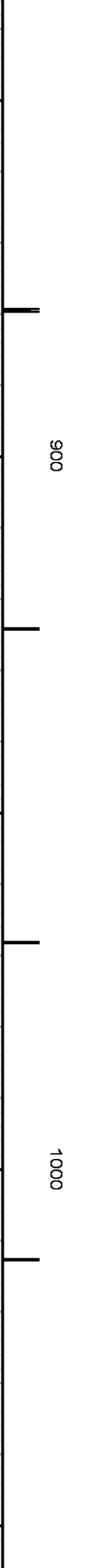
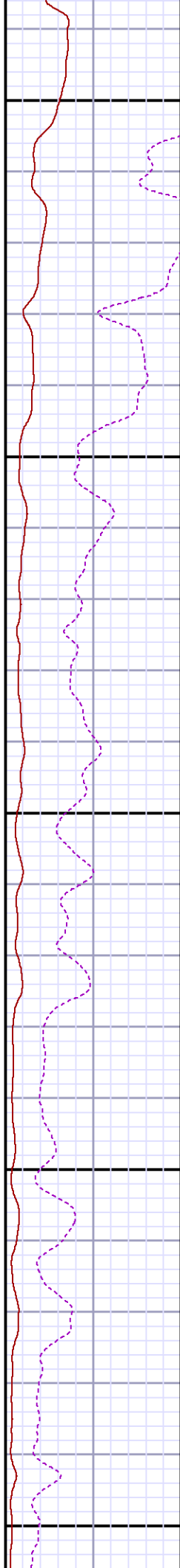
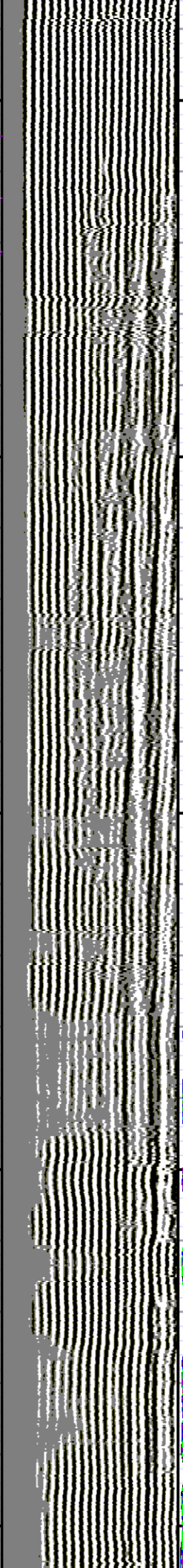
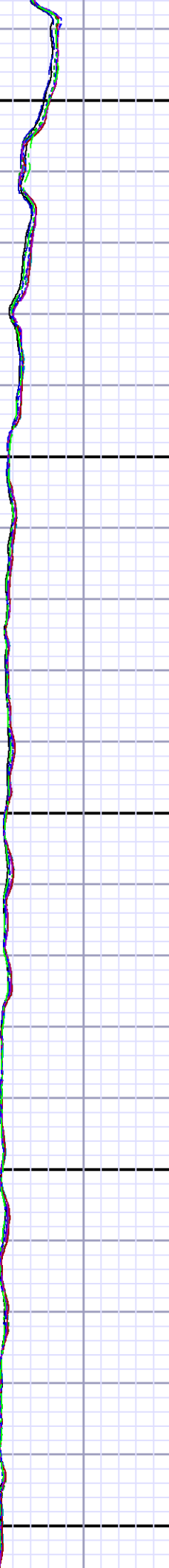
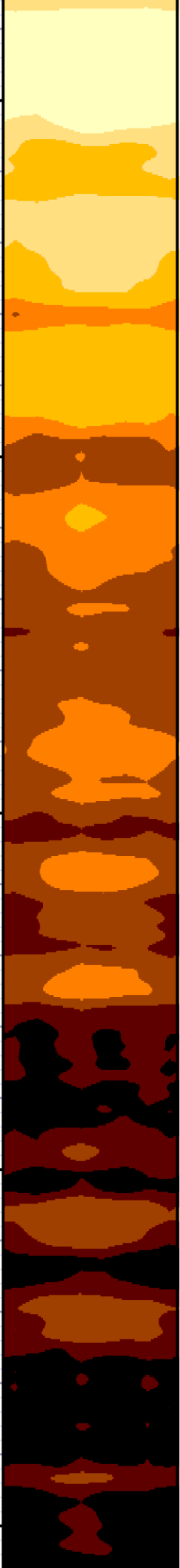
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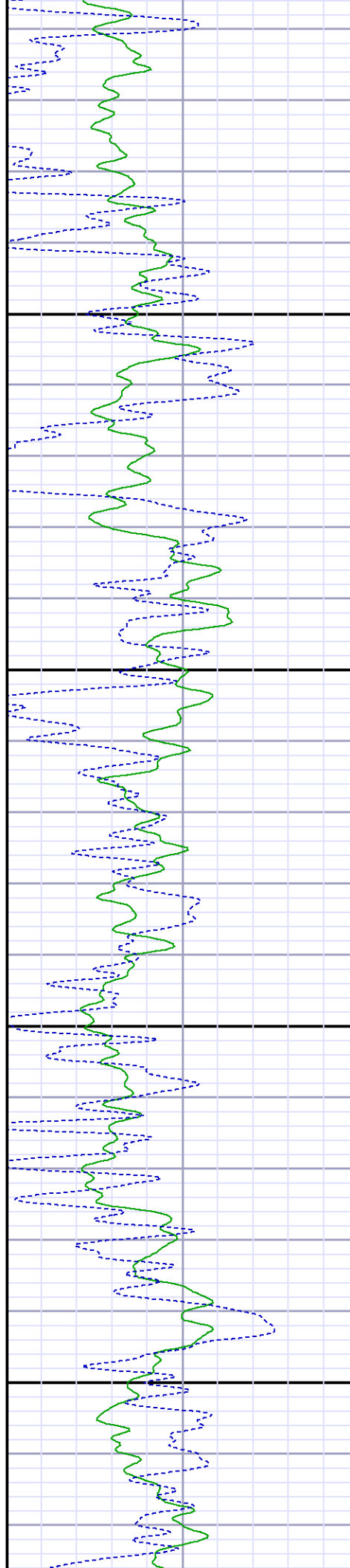
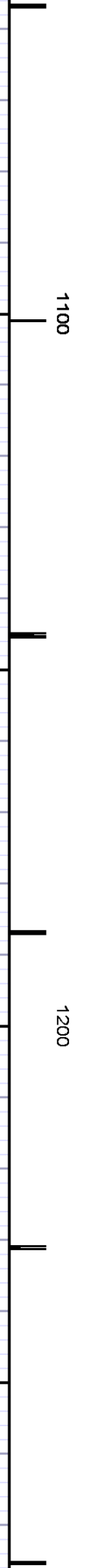
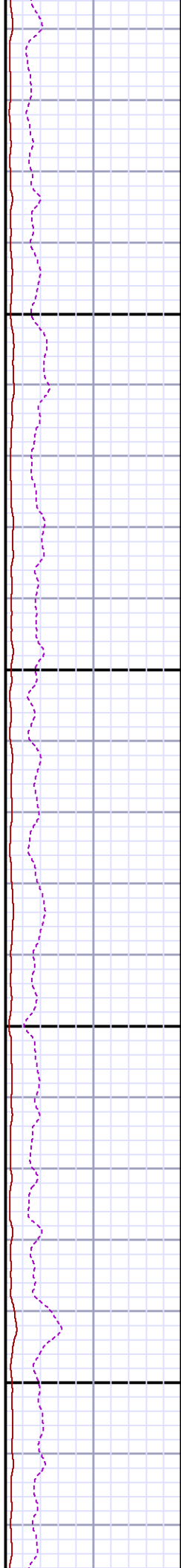
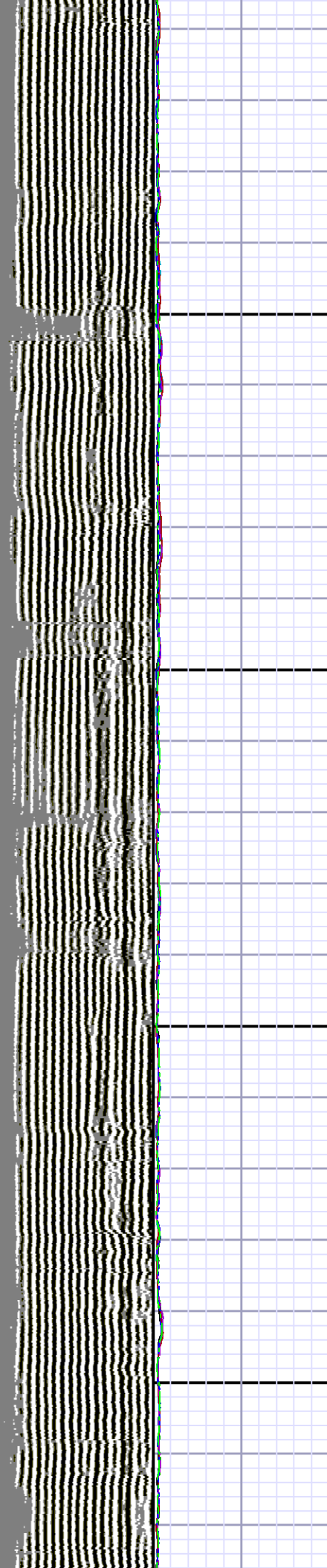
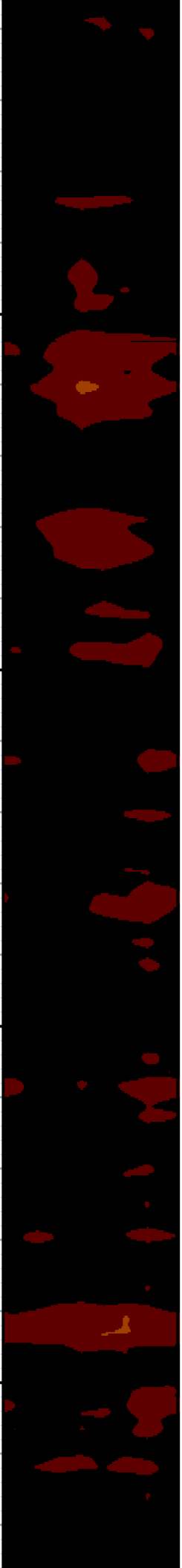


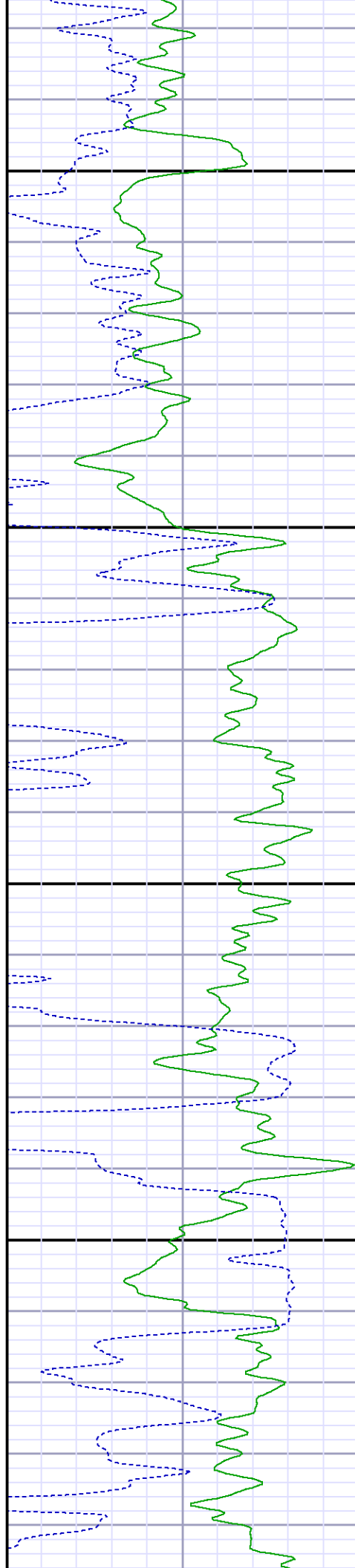
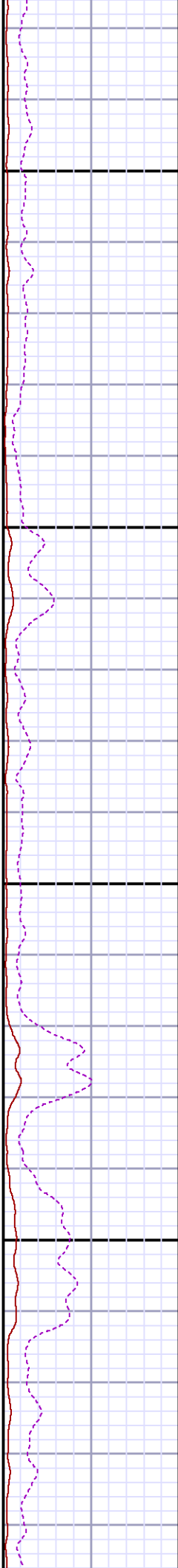
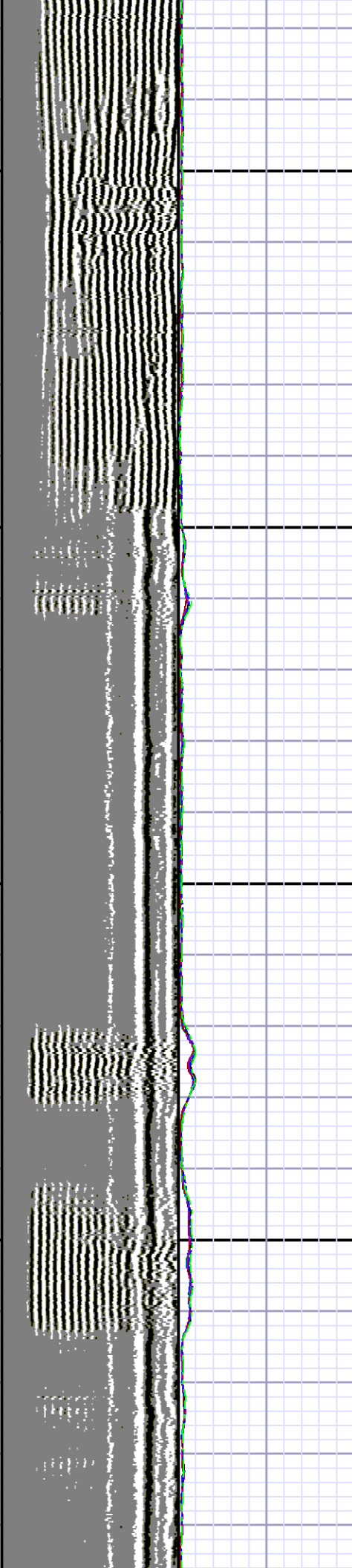


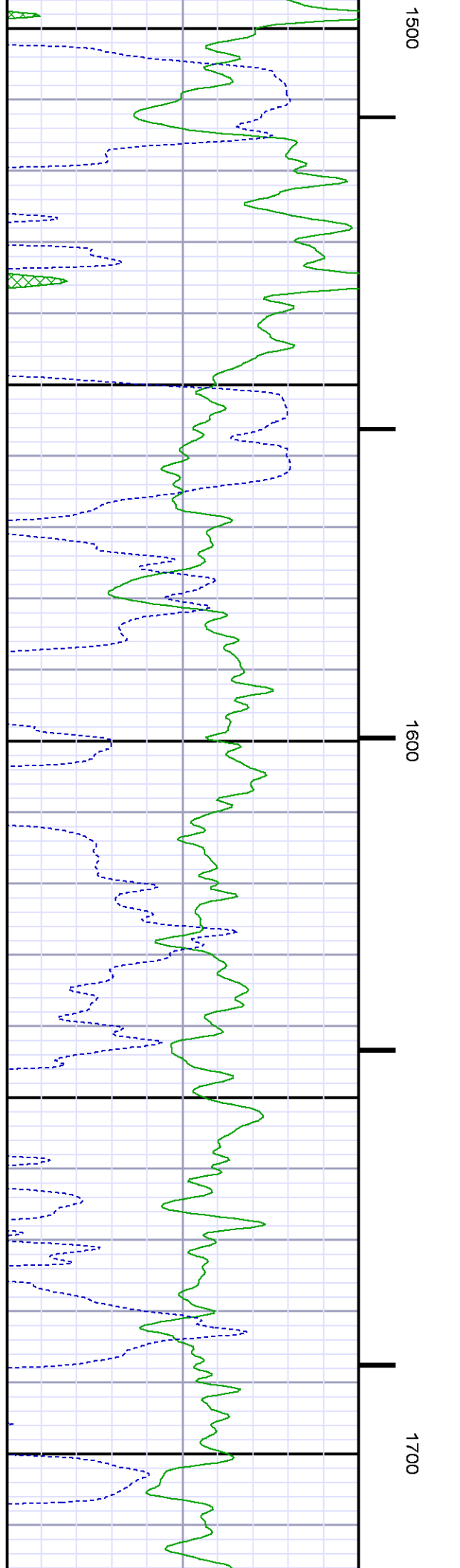
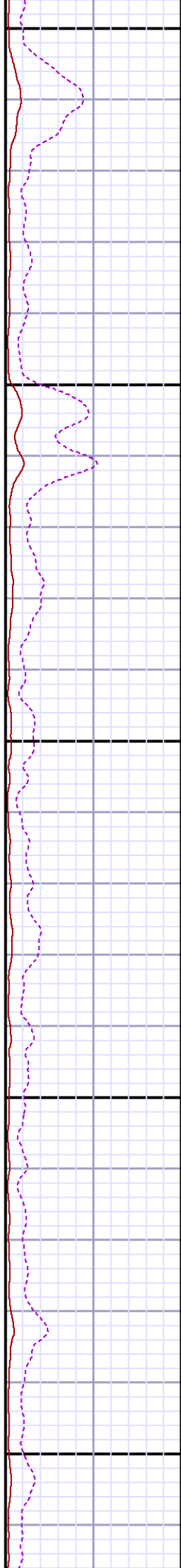
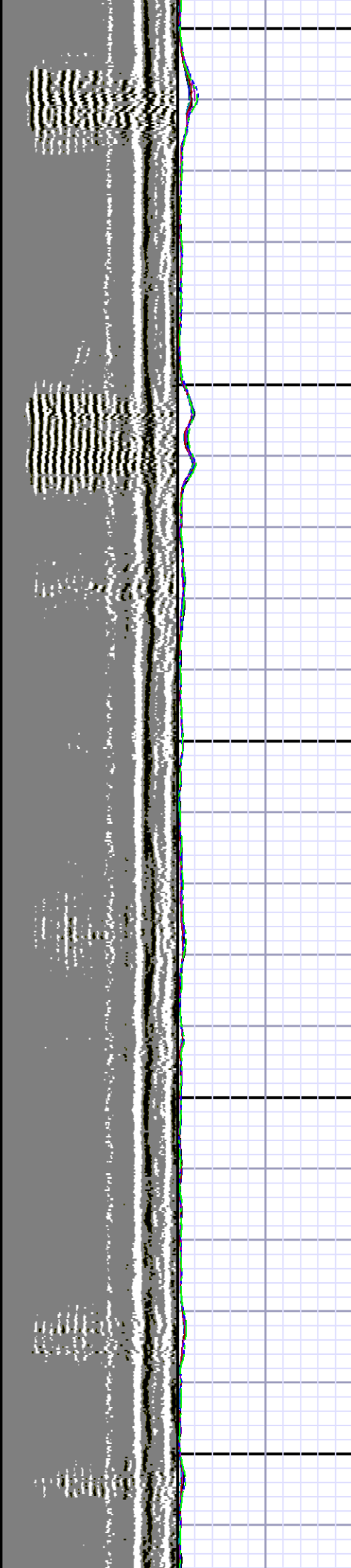


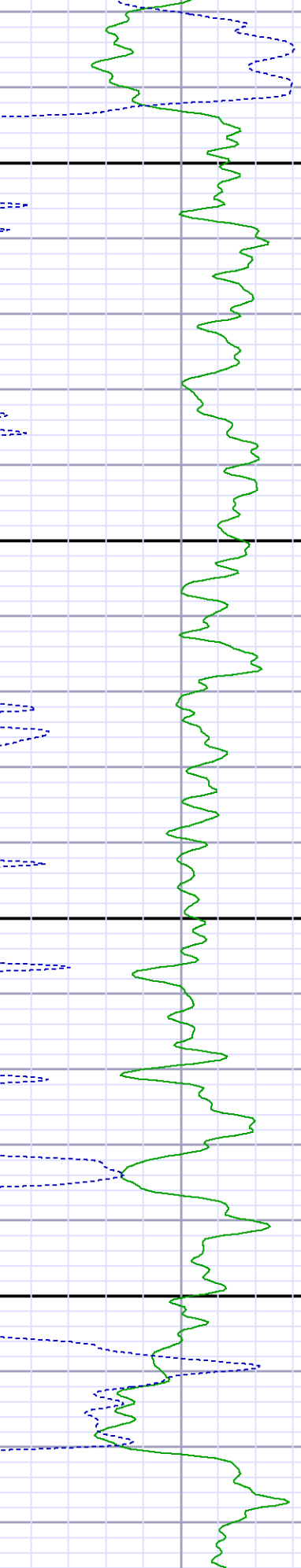


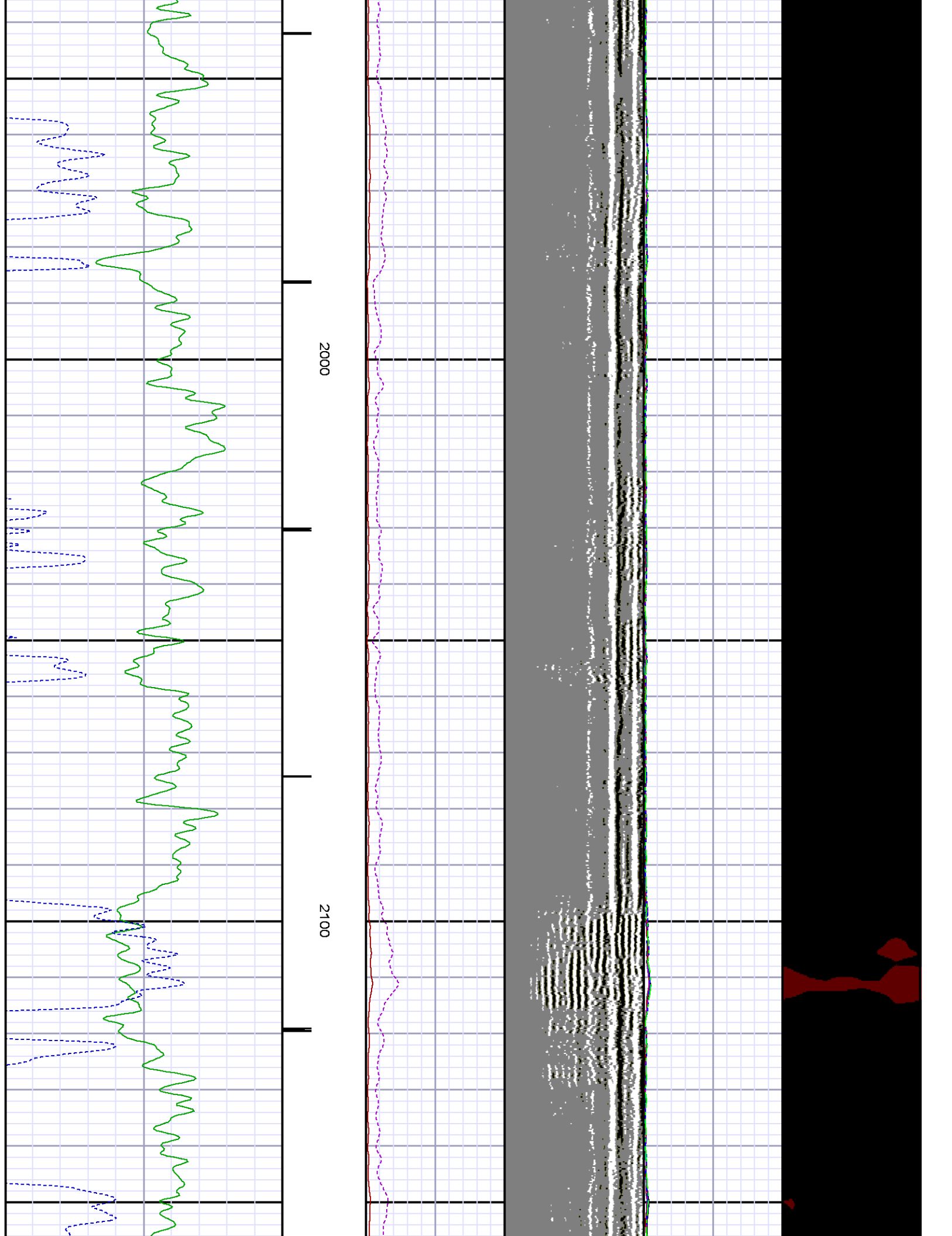


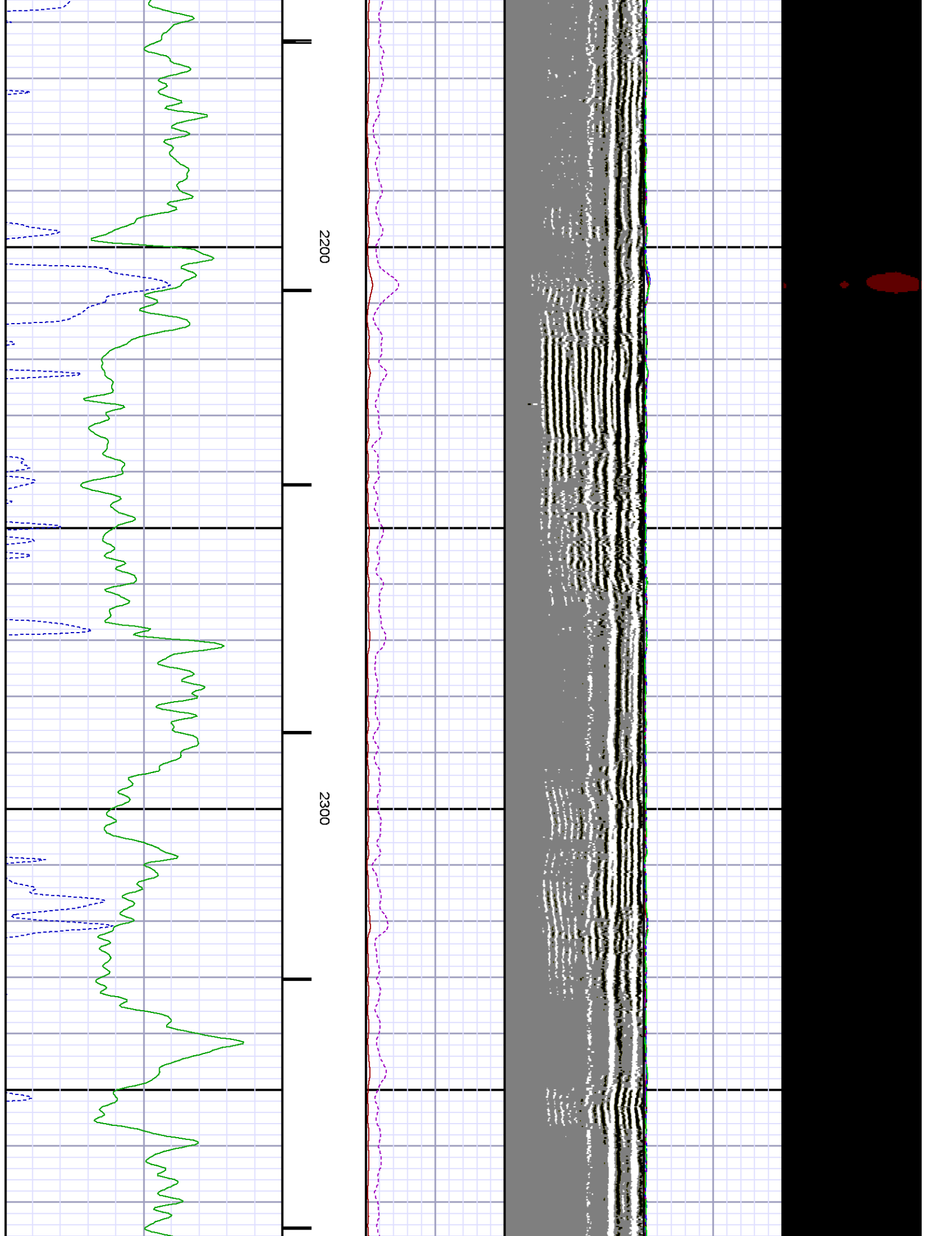


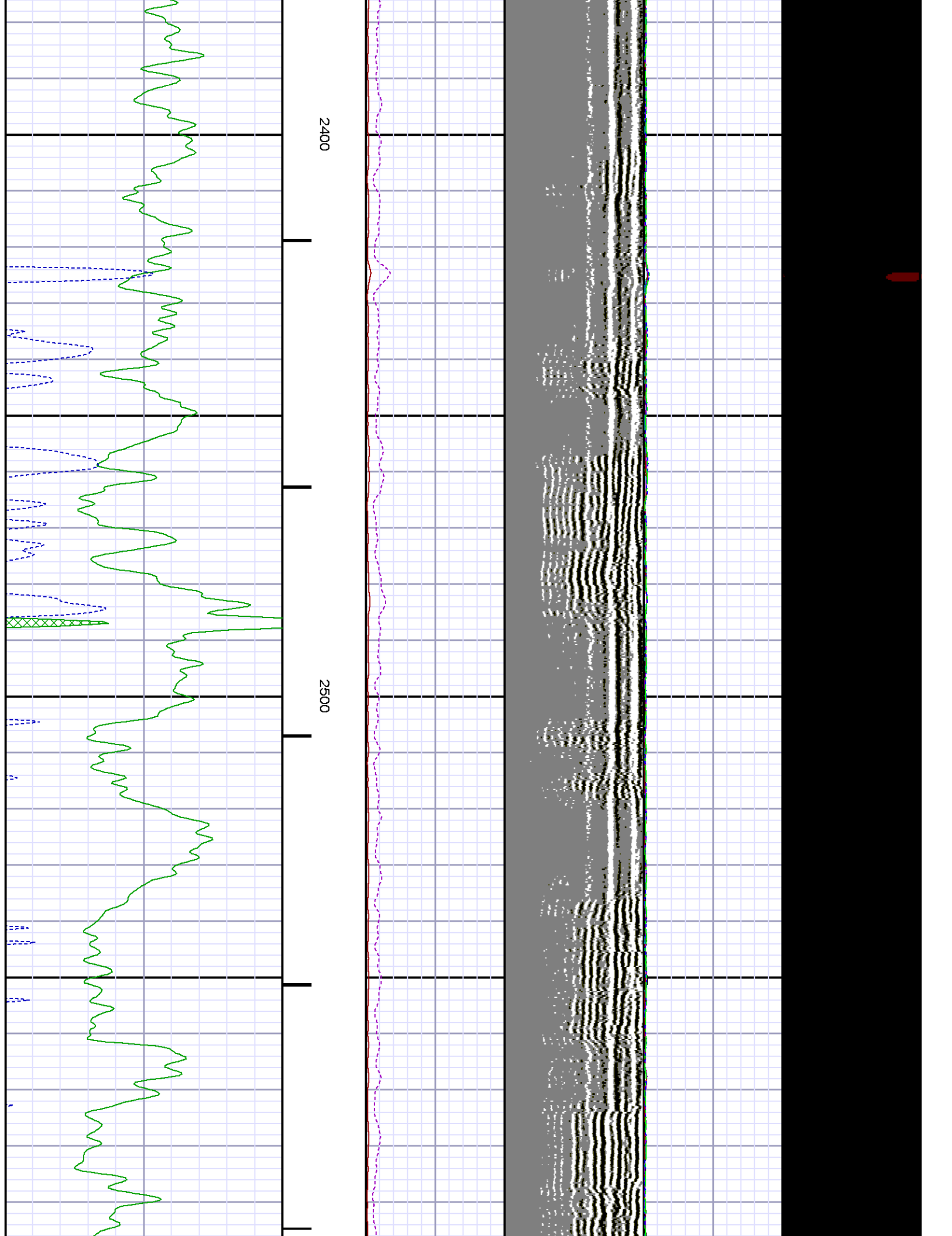


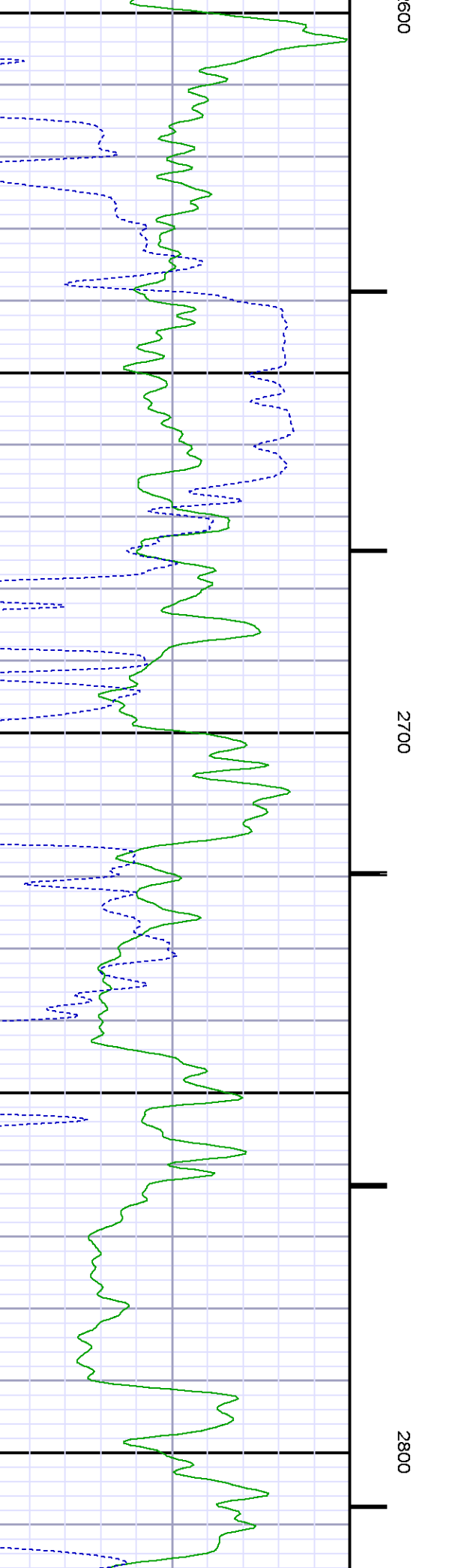
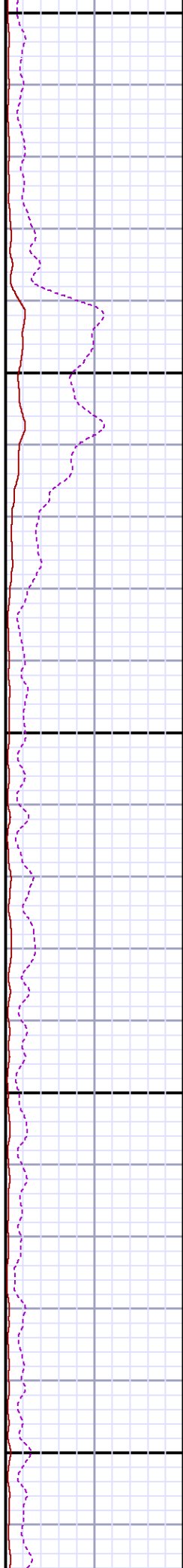
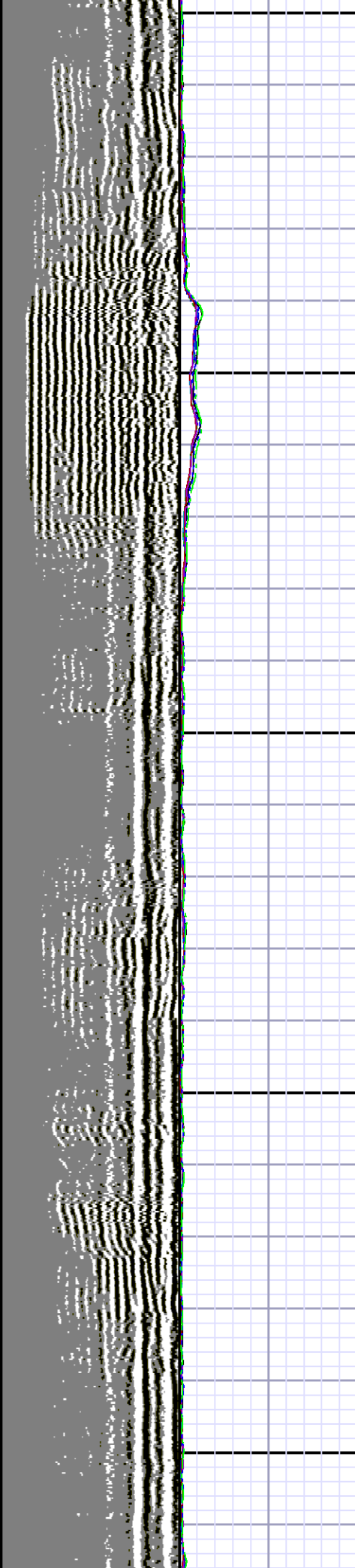


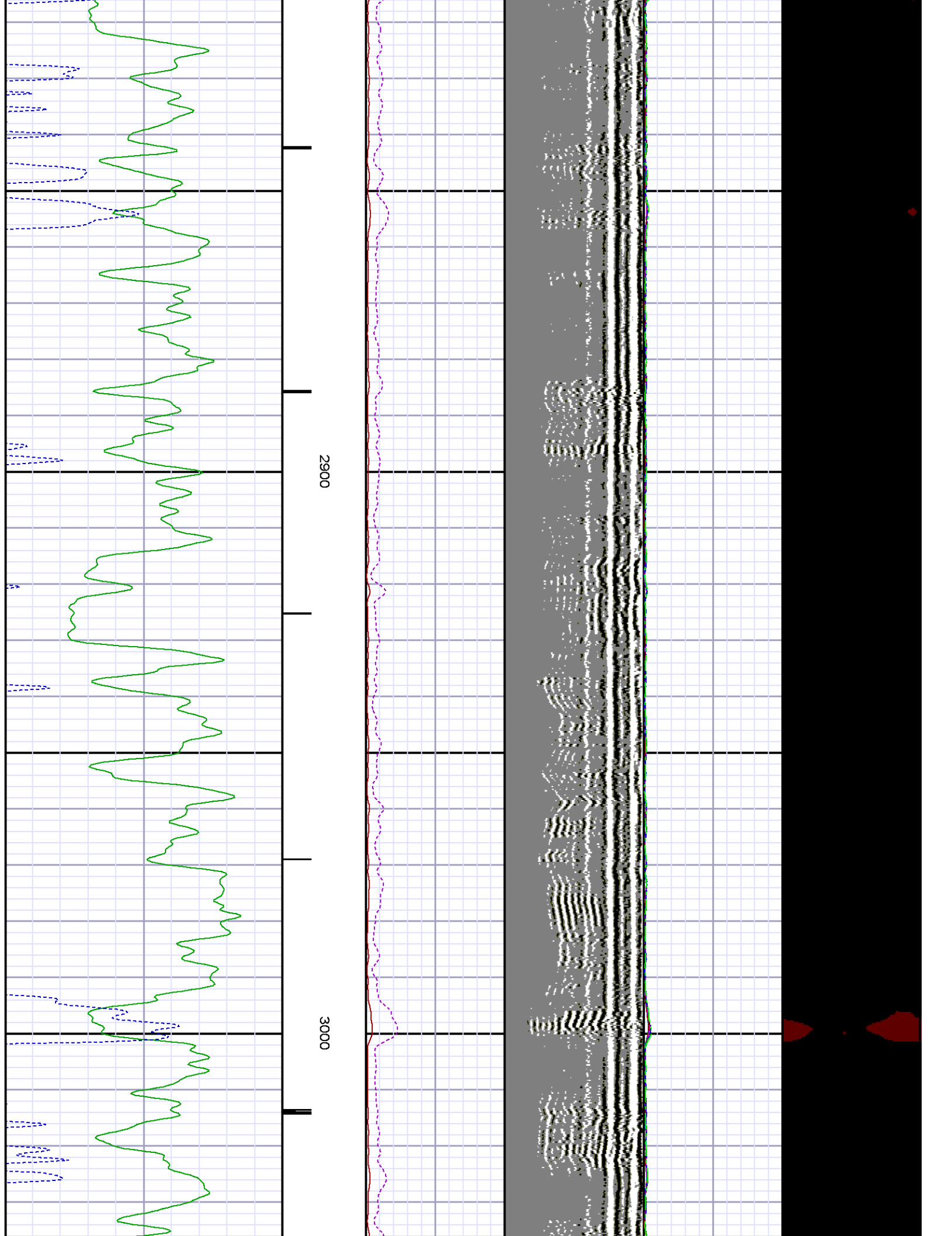


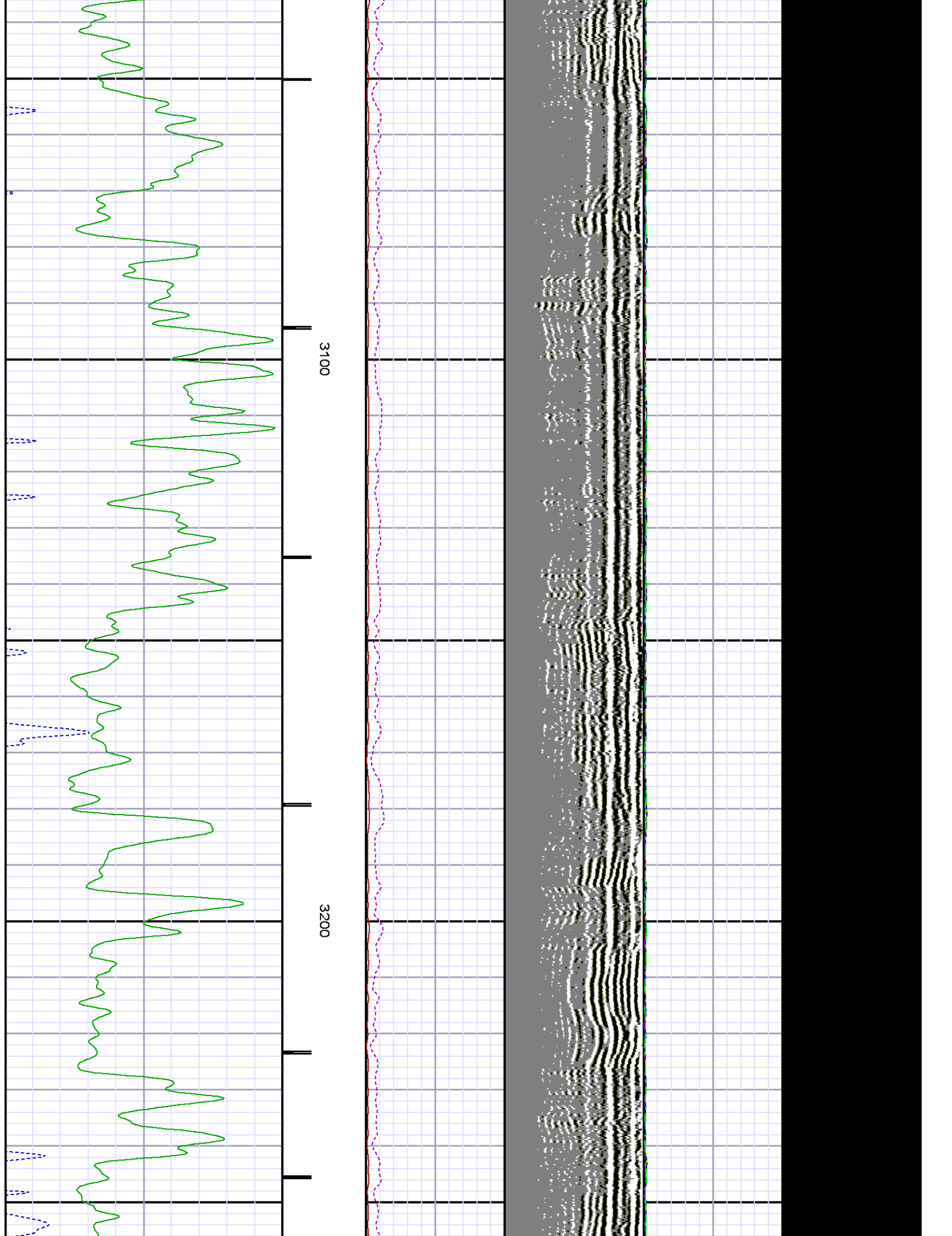


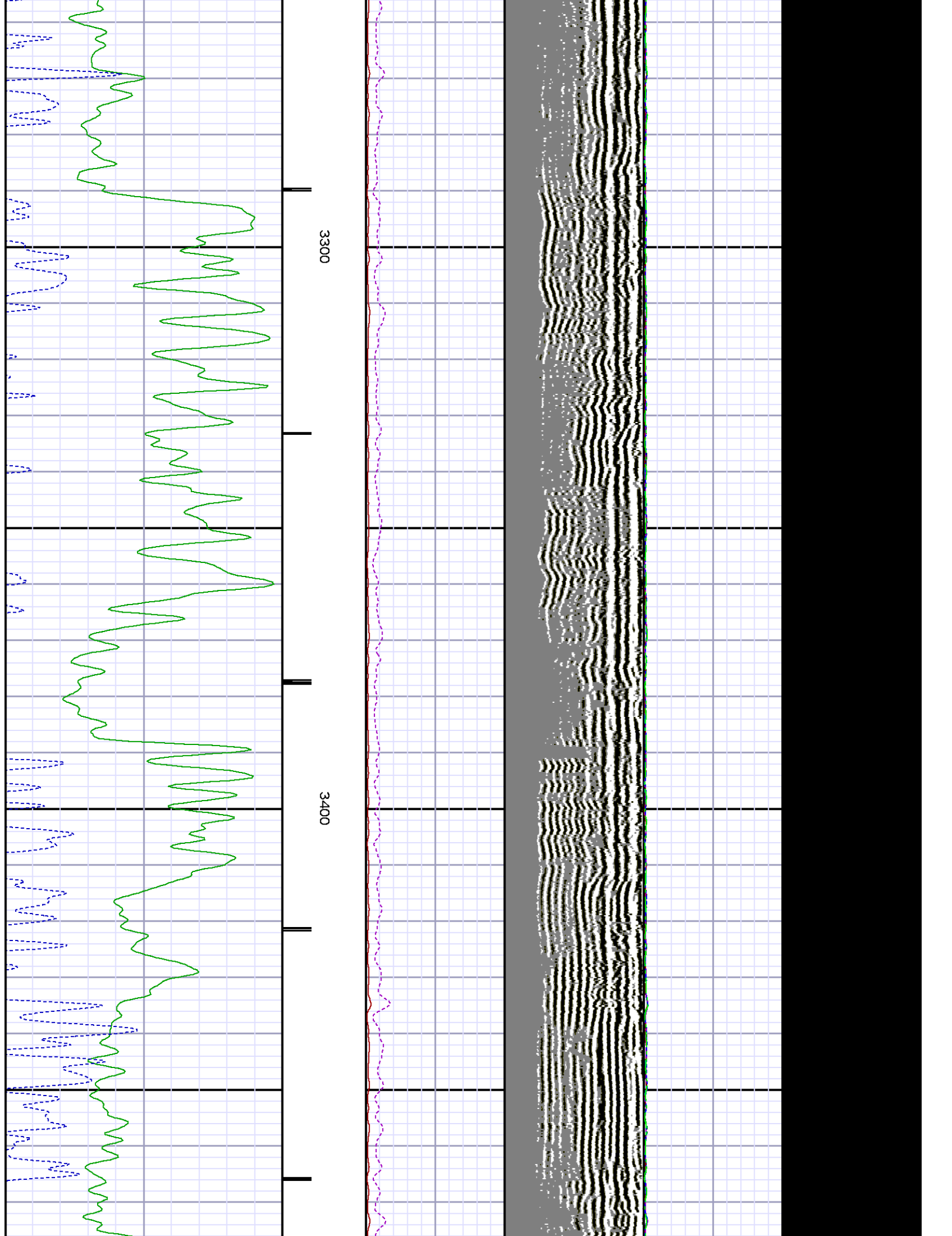


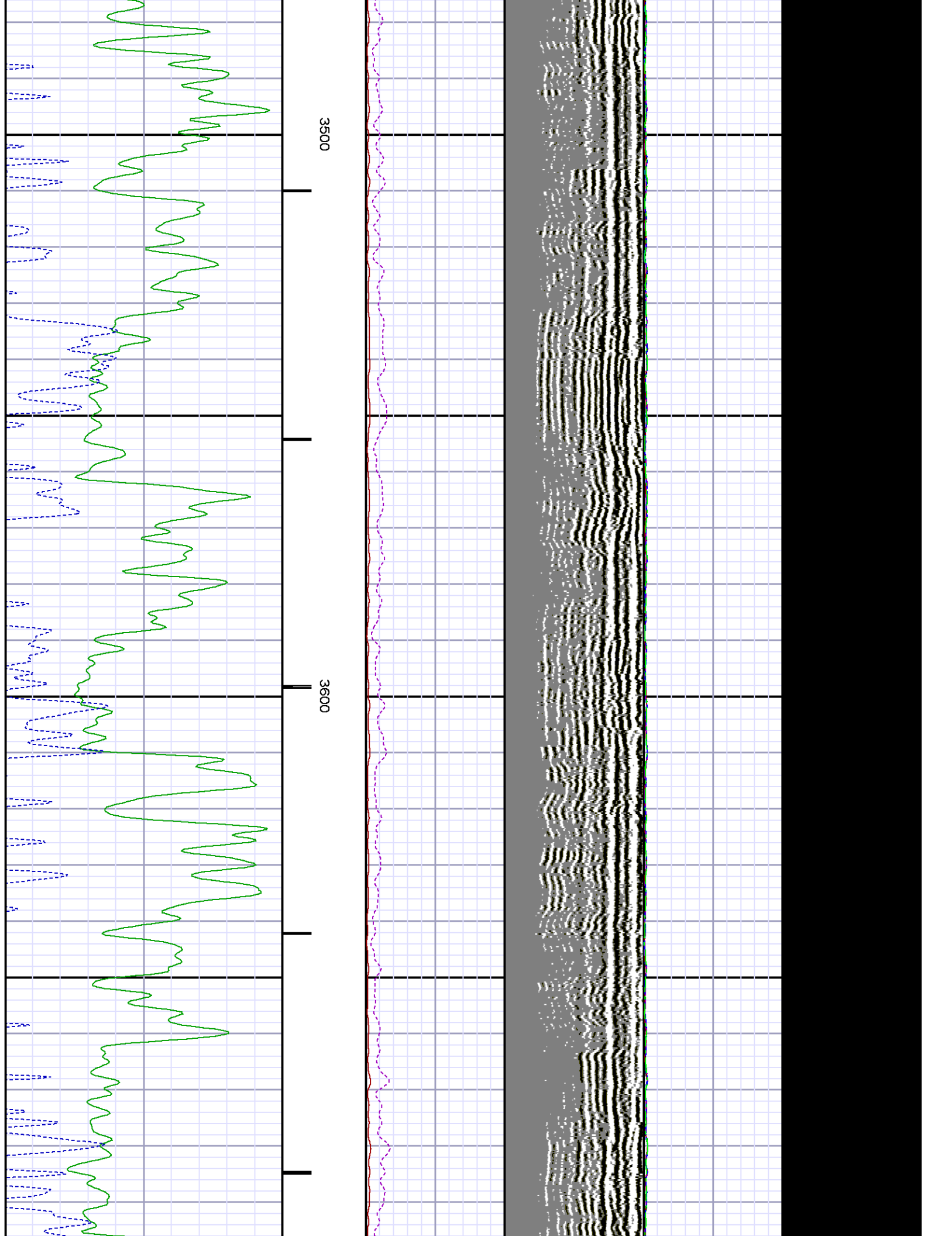


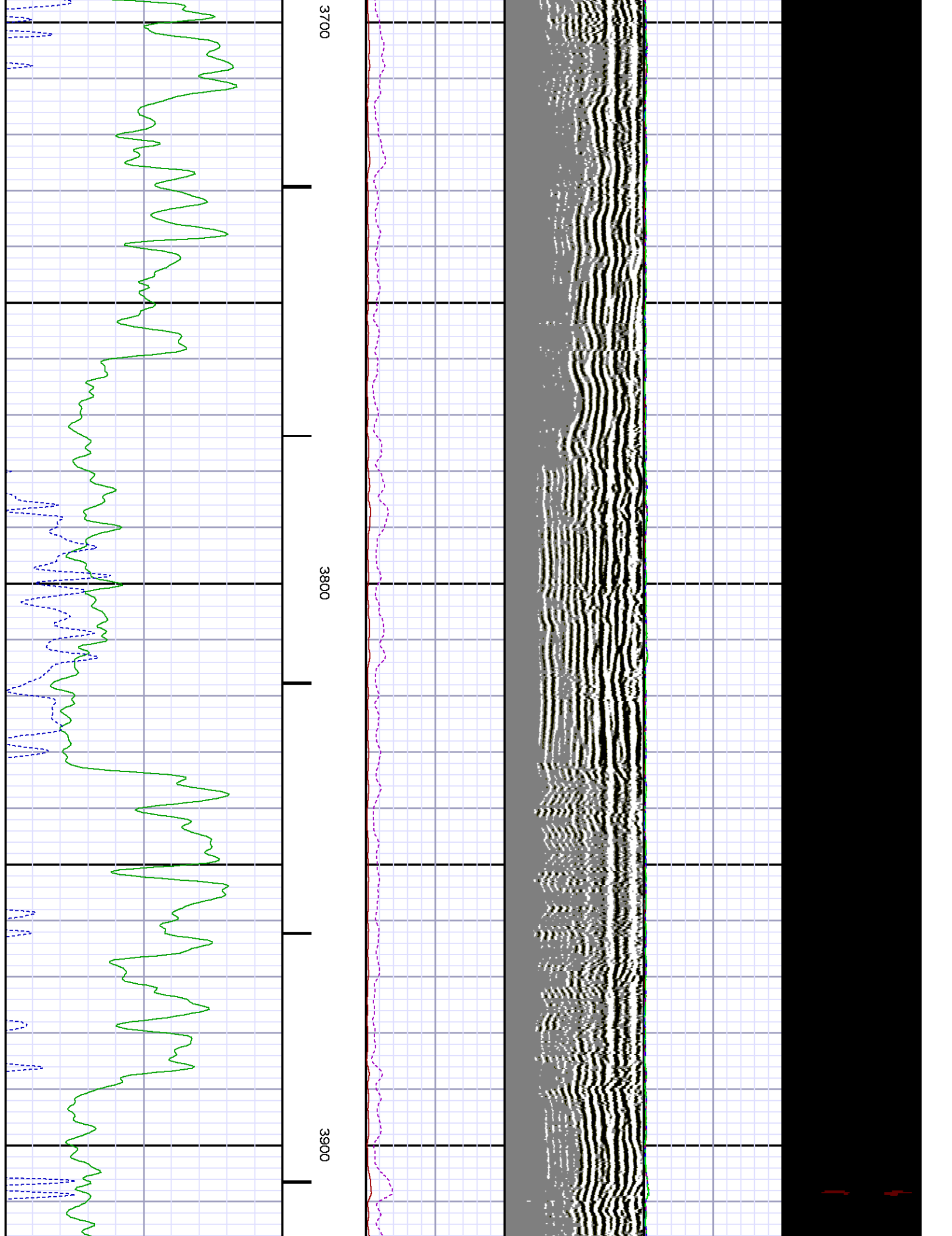


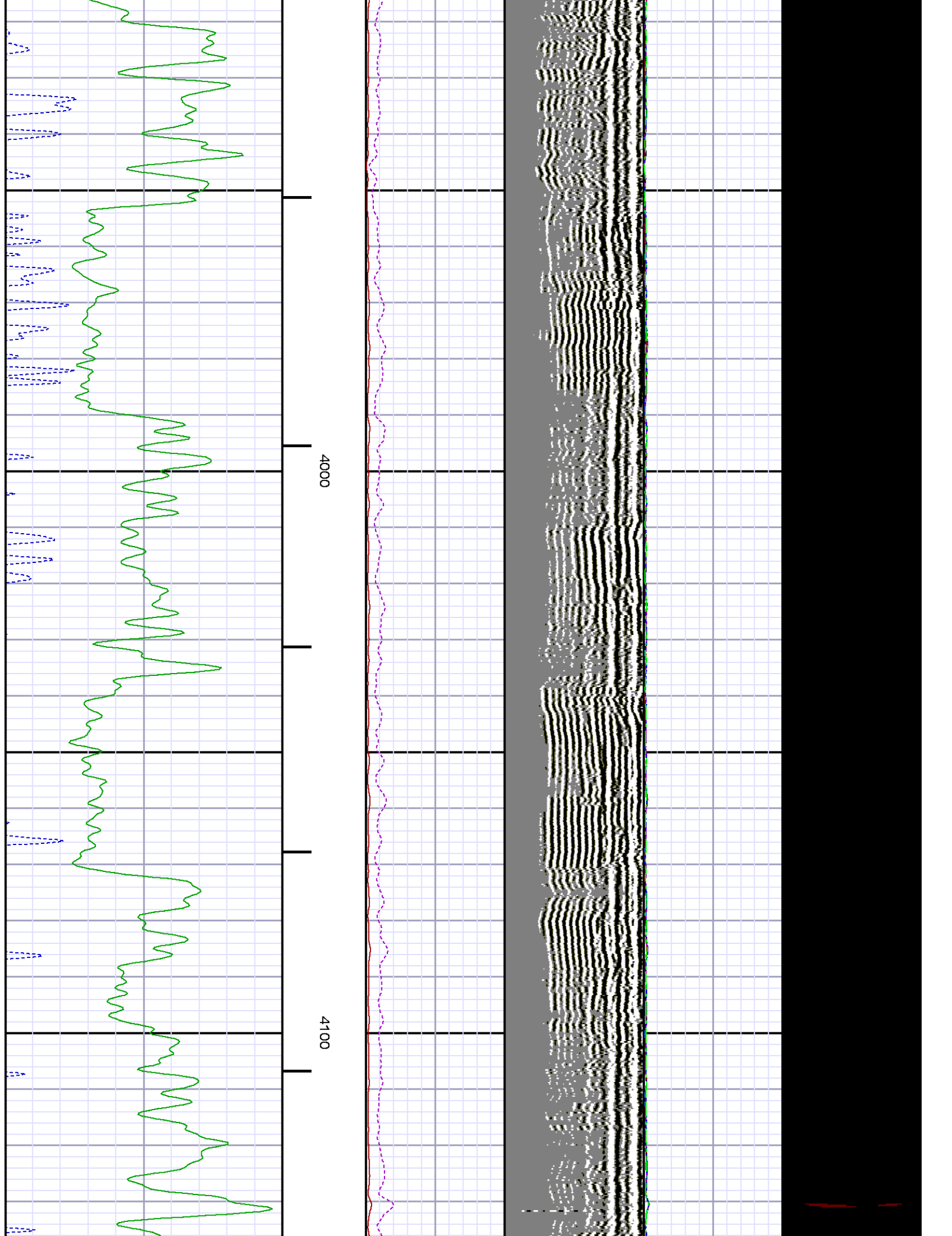


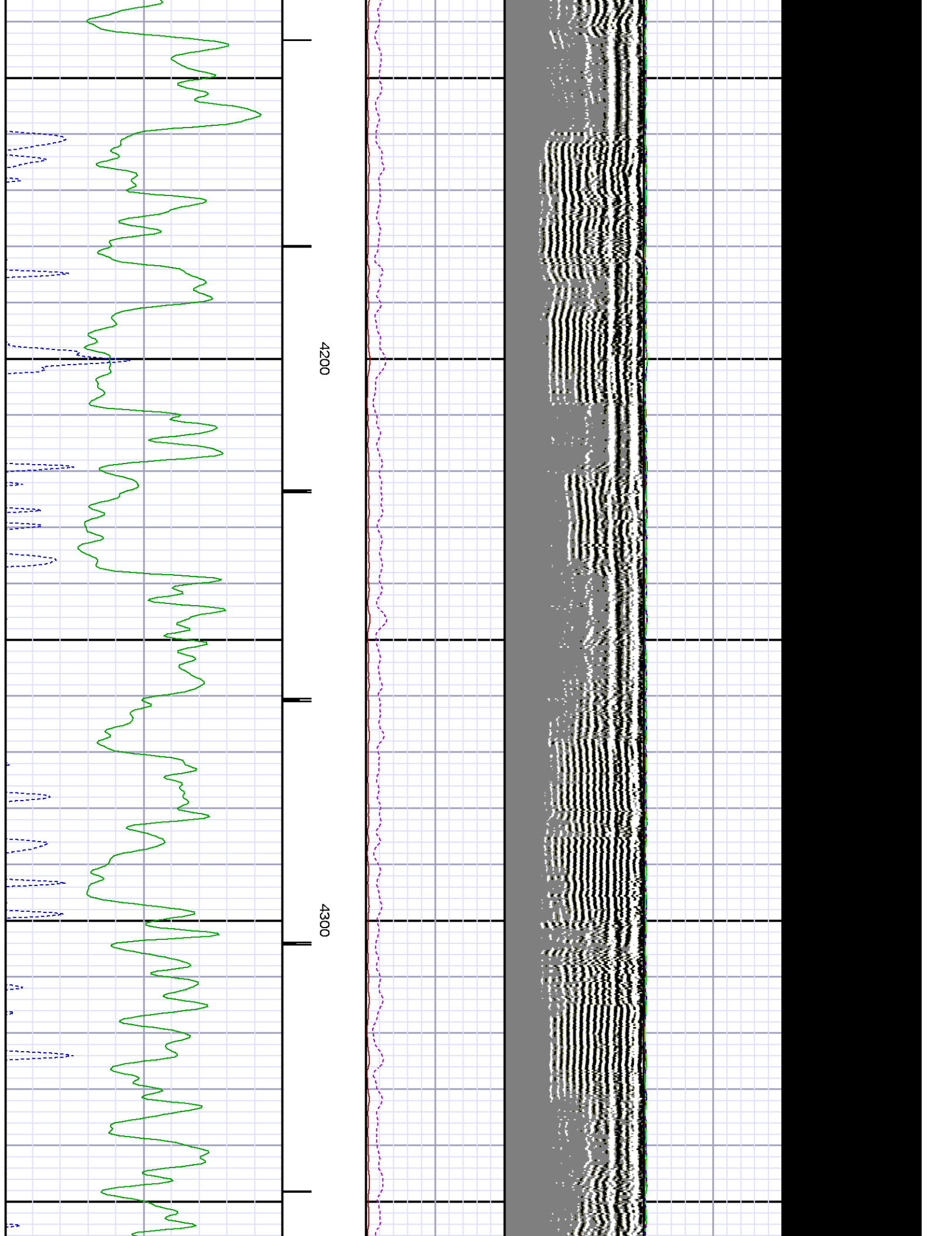


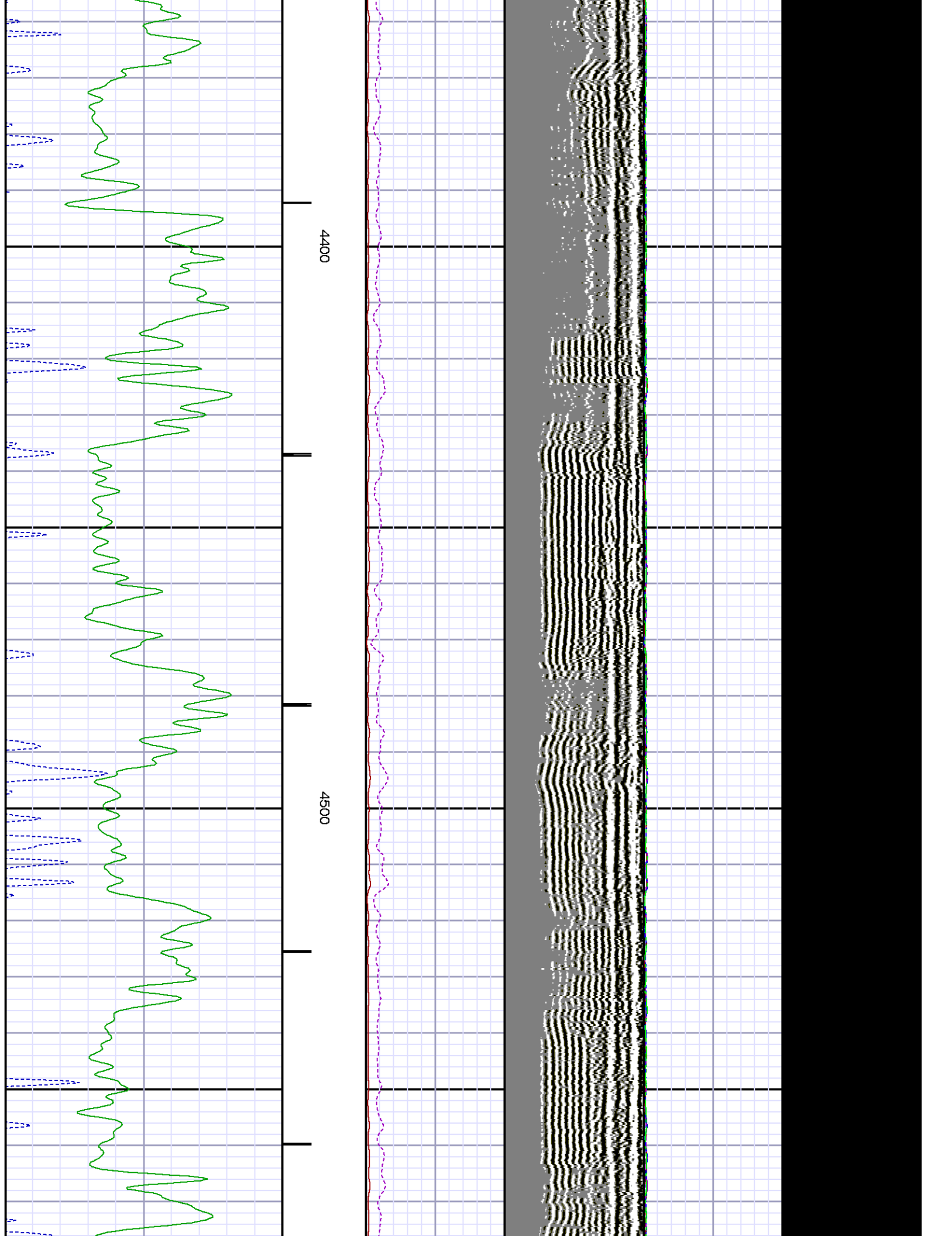


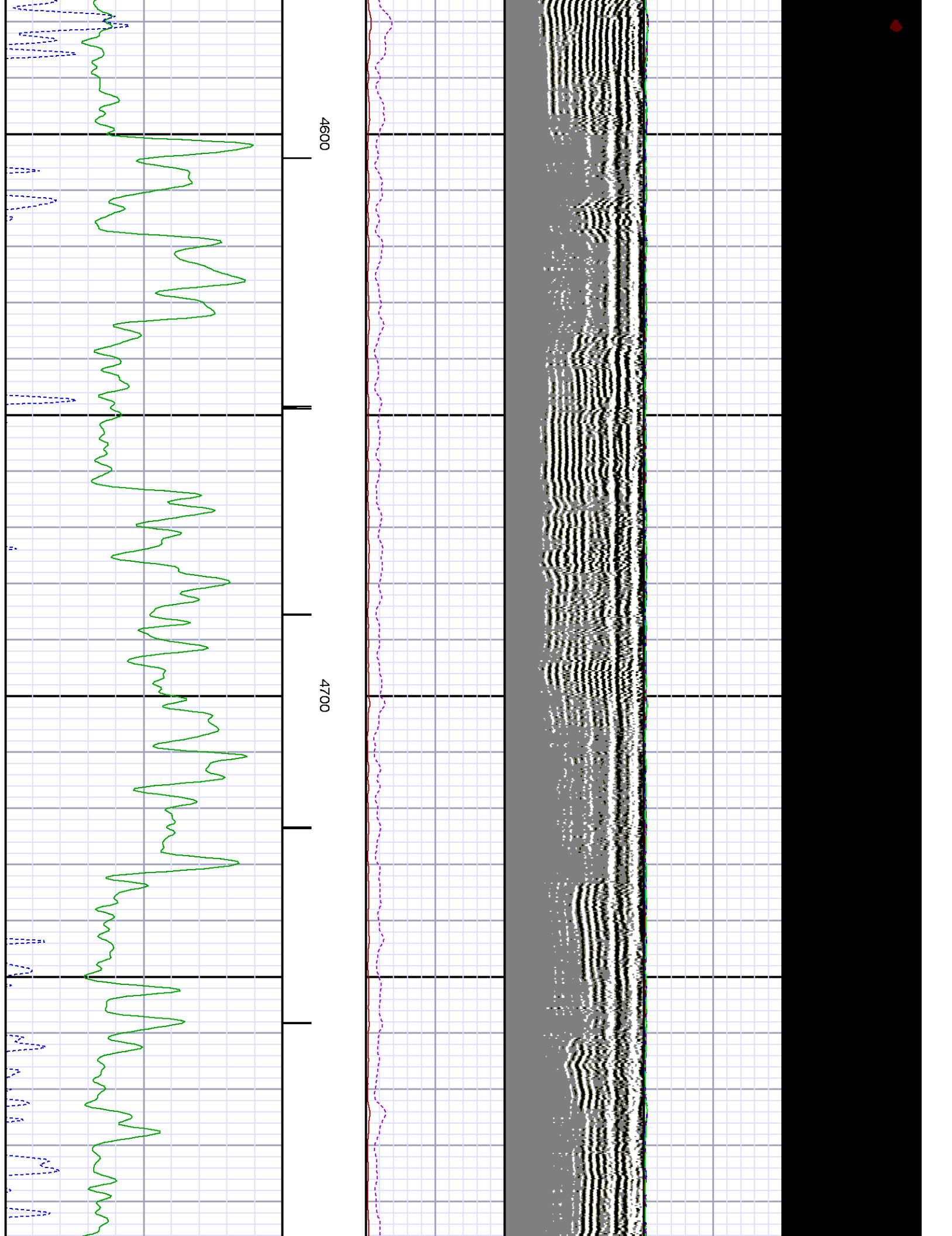


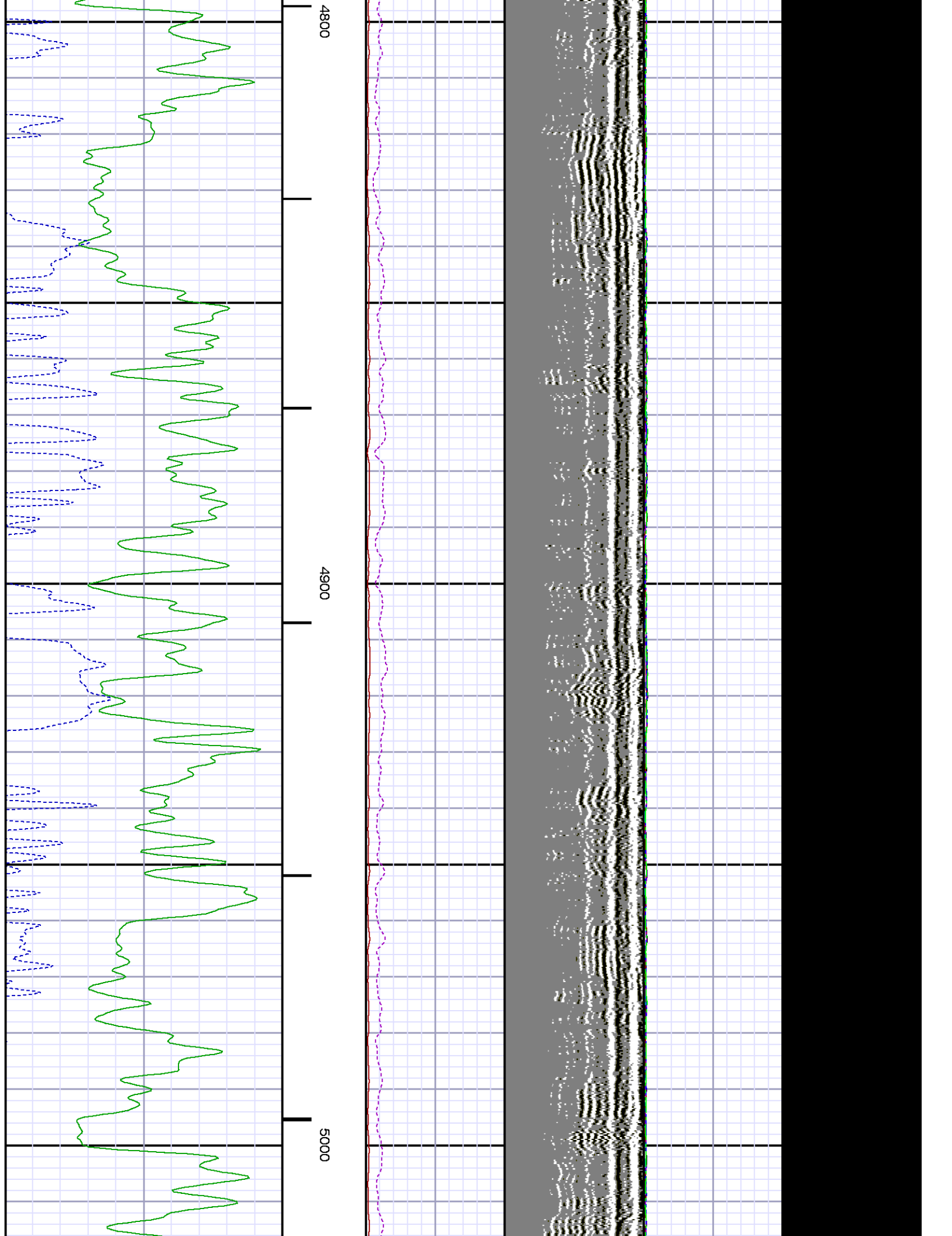


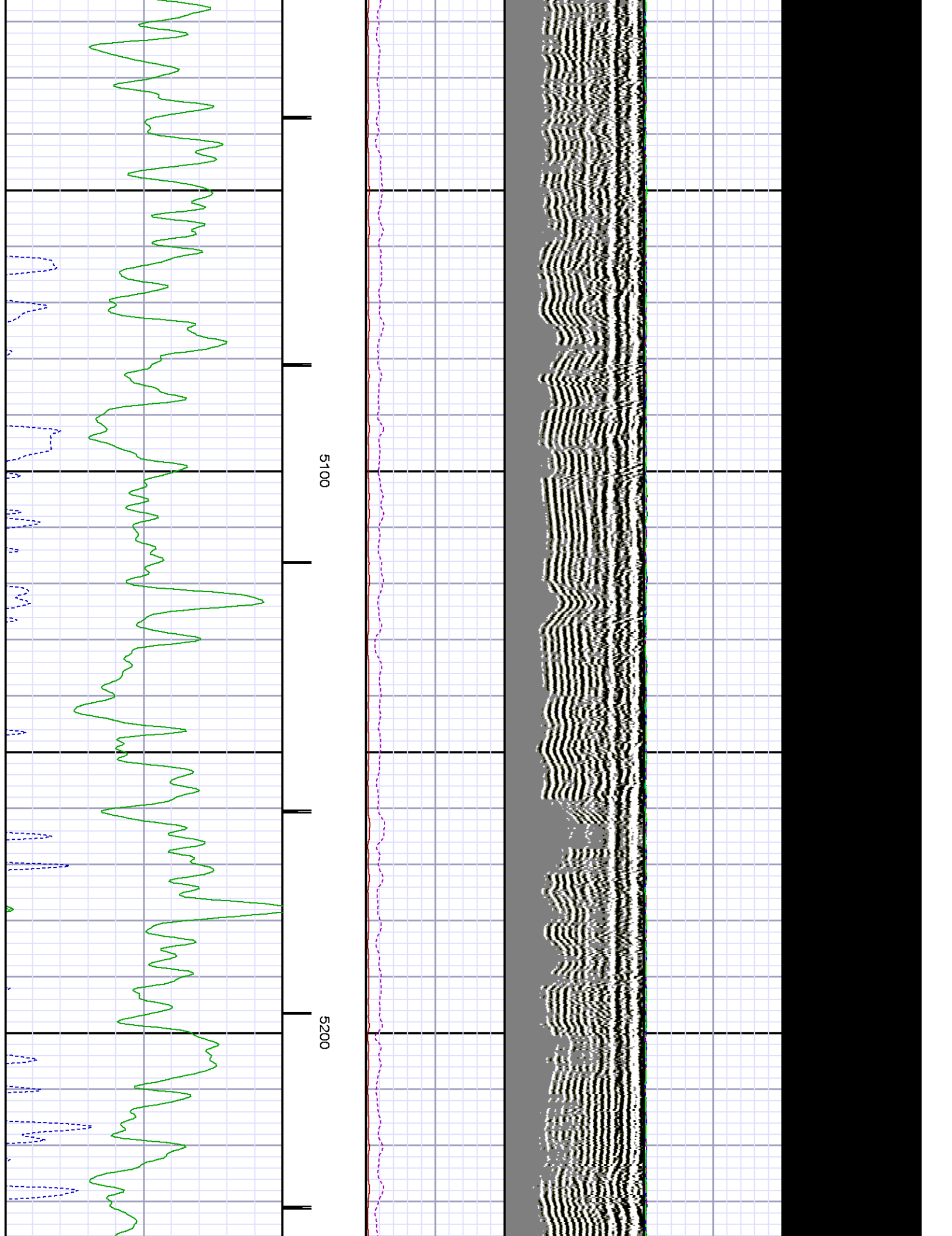


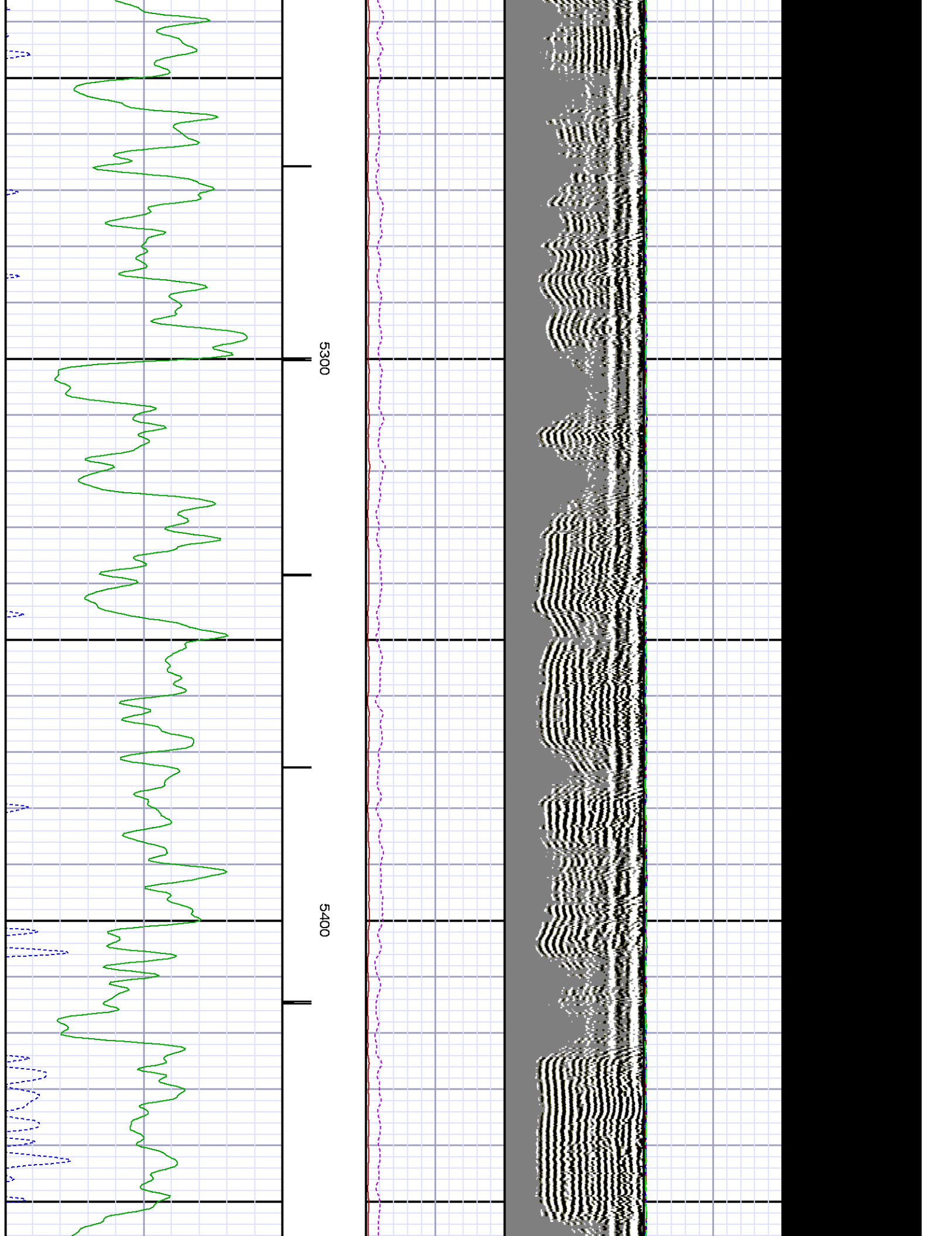


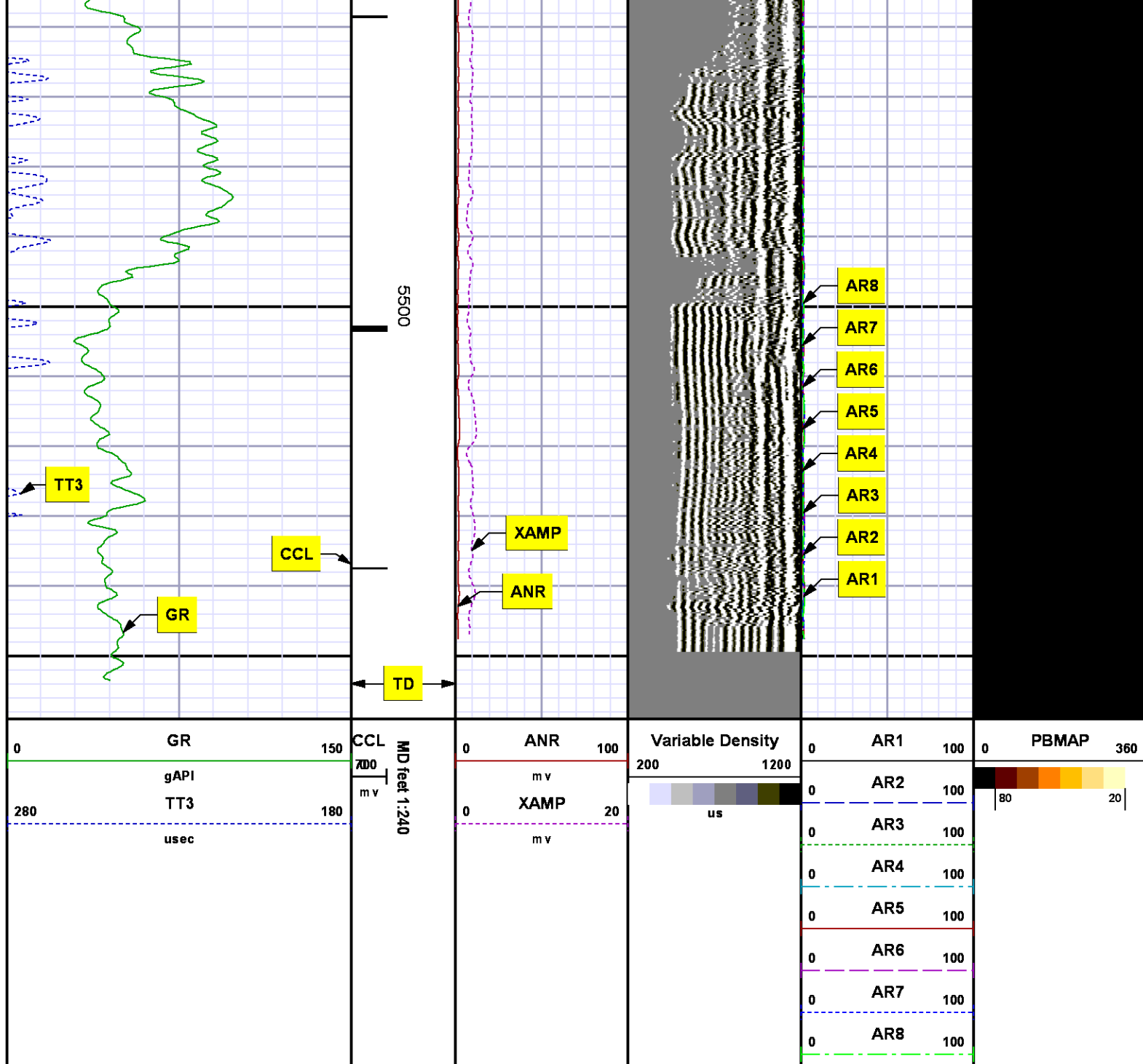












MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	5230.394	5562.640
RAL	Amp Gate Start Near	195.000	usec	5230.394	5562.640
RAL	Amp Gate Start Radial	195.000	usec	5230.394	5562.640
RAL	Amp Gate Width Far	25.000	usec	5230.394	5562.640
RAL	Amp Gate Width Near	25.000	usec	5230.394	5562.640
RAL	Amp Gate Width Radial	25.000	usec	5230.394	5562.640
RAL	casing od	4.500	inches	5230.394	5562.640
RAL	casing wt	11.600	lbm/ft	5230.394	5562.640
RAL	FB Start Far	291.900	usec	5230.394	5562.640
RAL	FB Start Near	175.391	usec	5230.394	5562.640
RAL	FB Start Radial	175.391	usec	5230.394	5562.640
RAL	FB Thresh Far	10.000	mv	5230.394	5562.640
RAL	FB Thresh Near	4.000	mv	5230.394	5562.640
RAL	FB Thresh Radial	4.000	mv	5230.394	5562.640
RAL	Fluid Travel Time	200.000	usec/ft	5230.394	5562.612

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-12.360	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-11.360	AFAR	SIG	TT5			
2459XA	-7.250	CCL					
2459XA	-5.390	GR					
2459XA	0.000	NEU					

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

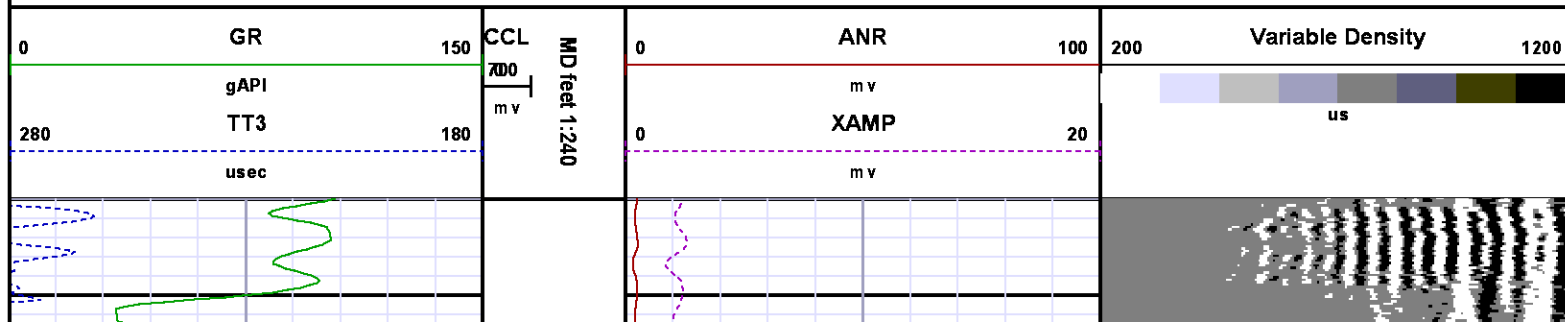
Well : FEDERAL SG 412-27

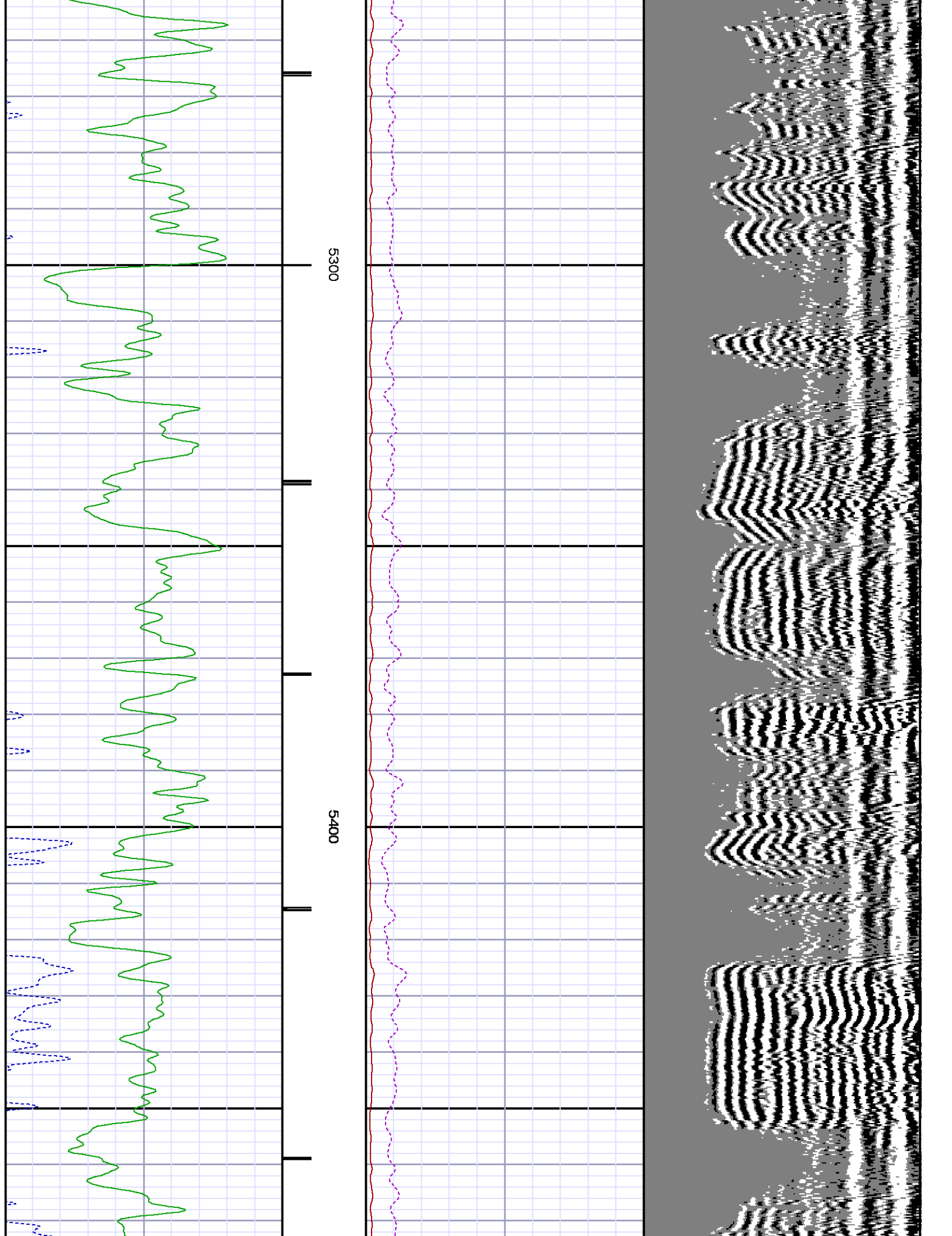
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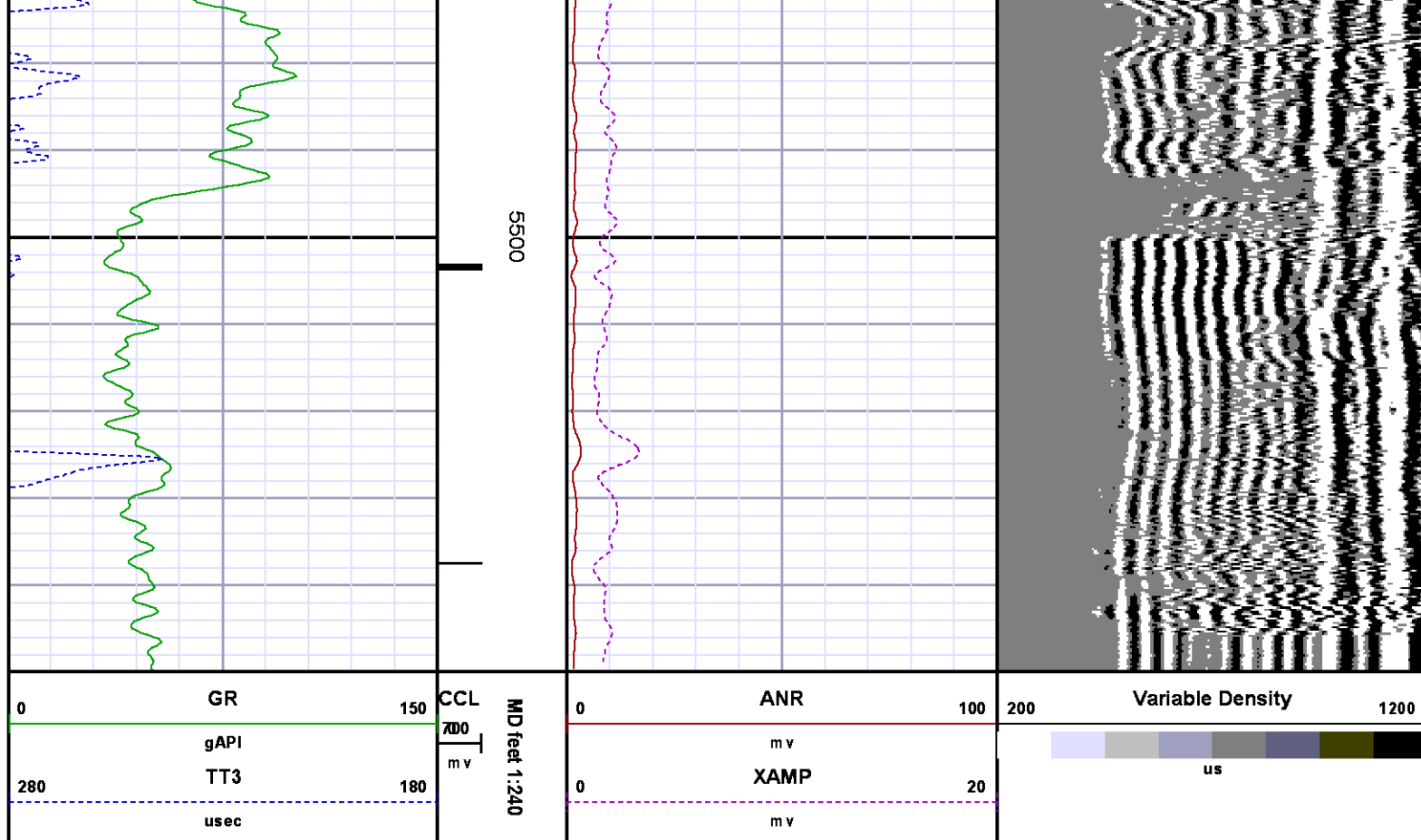
Mode : PlotMgr 5.4.504

Interval : 5240.00 - 5550.00 feet UP

Created : 10/26/2014 10:30:00 AM







CALIBRATION SUMMARY

RALSHP

Shop Calibration: C:\case\calver\RALSHP\49525_shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sat Oct 25 09:39:22 2014 TOOL SERIES: 1426XA ASSET: 495 SEQ: 25

Tool Delay [usec] -51.00 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	-0.532	100.00	0.27
3 Ft. Receiver	218	216	30	166	25	1.304	100.00	0.26
5 Ft. Receiver	328	325	30	256	44	3.245	150.00	0.29
Radial #1	218	216	30	166	19	0.913	100.00	0.26
Radial #2	218	216	30	166	19	0.085	100.00	0.26
Radial #3	217	216	30	166	19	0.431	100.00	0.26
Radial #4	216	216	30	166	19	0.297	100.00	0.26

Radial #5	216	216	30	166	19	0.620	100.00	0.26
Radial #6	216	216	30	166	19	0.310	100.00	0.26
Radial #7	217	216	30	166	19	0.285	100.00	0.26
Radial #8	219	216	30	166	19	0.647	100.00	0.26

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\49526 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun Oct 26 10:05:26 2014 TOOL SERIES: 1426XA ASSET: 495 SEQ: 26

Tool Delay [usec] -51.00 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	-0.037	0.000	0.97	100.000
3 Ft. Receiver	200	30	2.123			
5 Ft. Receiver	317	30	3.554			
Radial #1	200	30	1.876			
Radial #2	200	30	1.842			
Radial #3	200	30	1.891			
Radial #4	200	30	2.018			
Radial #5	200	30	1.935			
Radial #6	200	30	1.927			
Radial #7	200	30	1.922			
Radial #8	200	30	1.821			

GAMMA RAY

Calibration File: C:\case\calver\GR\503O5.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Wed Oct 15 10:27:26 2014 TOOL SERIES: 2459XA ASSET: 503 SEQ: 05

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	94.67	359.07	0.700	66.24	251.24	185.00

Verification File: C:\case\calver\GR\503O5.VP

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Wed Oct 15 10:29:17 2014 TOOL SERIES: 2459XA ASSET: 503 SEQ: 05

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]

TOOL DIAGRAM

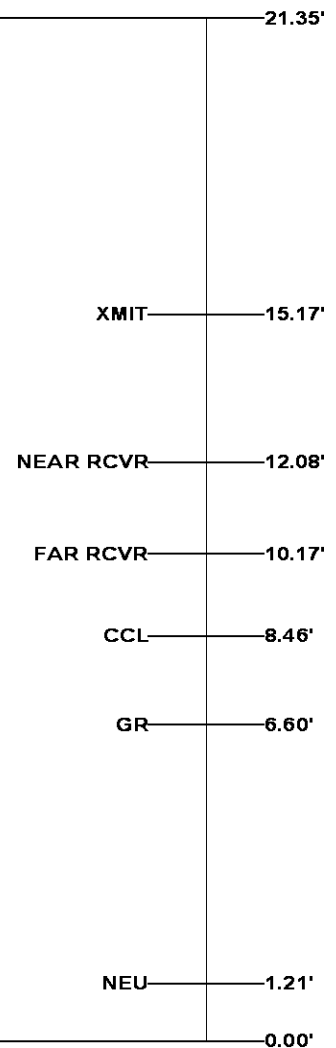
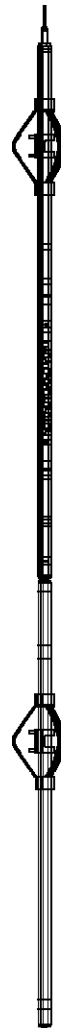
OTA SHORT CABLE HEAD

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: 21.35'
Total Weight: Not Available
Max Diameter: 0' 2.75"



Baker Atlas

Company
Well
Field
County

WPX ENERGY
FEDERAL SG 412-27
GRAND VALLEY
GARFIELD

State

CO

Location

SHL: 2291' FSL & 496' FEL (28 7S 96W)

Elevations

KB 5143

File No:

CH092008

API No:

05045219480000

27 7S 96W

CASE

BHL: 1476' FNL & 296' FWL (27 7S 96W)

DF

SG 43-28 PAD

GL 5119

H&P 318

SEC 27 TWP 7S RGE 96W