



RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: CH073165	Company Well Field County	WPX ENERGY DUGGAN RWF 414-29 RULISON GARFIELD	State COLORADO
API No: 05045216590000	Location SHL: 534' FSL & 590' FWL RWF: 14-29 BHL: 876' FWL & 665' FWL SEC 29 TWP 6S RGE 94W	Other Services RPM Elevations KB 5445.2 ft DF GL 5419.2 ft	
29 6S 94W RWF 14-29 NABORS SSD 573			
Permanent Datum Log Measured From Drill Measured From	G.L. _____ Elevation 5419.2 ft K.B. 26 ft Above P. D. KELLY BUSHING		

Date	10/JUN/15	
Run	ONE	
Service Order	575097	
Depth Driller	7866 ft	
Depth Logger	7836 ft	
Bottom Logged Interval	7826 ft	
Top Logged Interval	26 ft	
Time Started	7:30	
Time Finished	12:30	
Operator Rig Time	5 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	N/A	
Salinity	N/A	
Fluid Level	80 ft	
Logged Cement Top	N/A	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	N/A	
Nominal Logging Speed	45 fpm	
Maximum Recorded Temperature	224 degF	
Reference Log	N/A	
Reference Log Date	N/A	
Equipment No.	4271	GRAND JUNCTION
Recorded By	W. KINSEL	9721
Witnessed By	MR. BOB CADY	GRAND JUNCTION

- 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	1102 ft
8.75 in	0 ft	7917 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in	N/A	N/A	0 ft	1100 ft
4.5 in	11.6 lbm/ft	1-80	0 ft	7866 ft

Remarks
ALL DATA IN THIS LOG WAS DEPTH SHIFTED TO MATCH THE TOP CCL MARK WITH KB LEVEL
AT THE CLIENT'S REQUEST. THE AMOUNT OF LINEAR SHIFT WAS 9 FEET DOWN.
SHORT JOINT: 4631' - 4655'
BHT: 224 degF
LOG DONE WITH 0 PSI ON WELLHEAD

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	VDL	1426XA	10124106	CENTRALIZED
1	1	GAMMA RAY/CCL	1355XA	10580209	CENTRALIZED

MAIN LOG PRIMARY PRESENTATION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	307.182	usec	30.781	7858.000
RAL	Amp Gate Start Near	198.906	usec	30.781	7858.000
RAL	Amp Gate Start Radial	198.906	usec	30.781	7858.000
RAL	Amp Gate Width Far	25.000	usec	30.781	7858.000
RAL	Amp Gate Width Near	25.000	usec	30.781	7858.000
RAL	Amp Gate Width Radial	25.000	usec	30.781	7858.000
RAL	casing od	4.500	inches	30.781	7858.000
RAL	casing wt	11.600	lbm/ft	30.781	7858.000
RAL	FB Start Far	291.900	usec	30.781	7858.000
RAL	FB Start Near	175.391	usec	30.781	7858.000
RAL	FB Start Radial	175.391	usec	30.781	7858.000
RAL	FB Thresh Far	10.000	mv	30.781	7858.000
RAL	FB Thresh Near	4.000	mv	30.781	7858.000
RAL	FB Thresh Radial	4.000	mv	30.781	7858.000
RAL	Fluid Travel Time	200.000	usec/ft	30.781	7858.562

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-11.000	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2

1426XA -10.040
1355XA -5.620
1355XA -1.500
1355XA 0.000

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

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

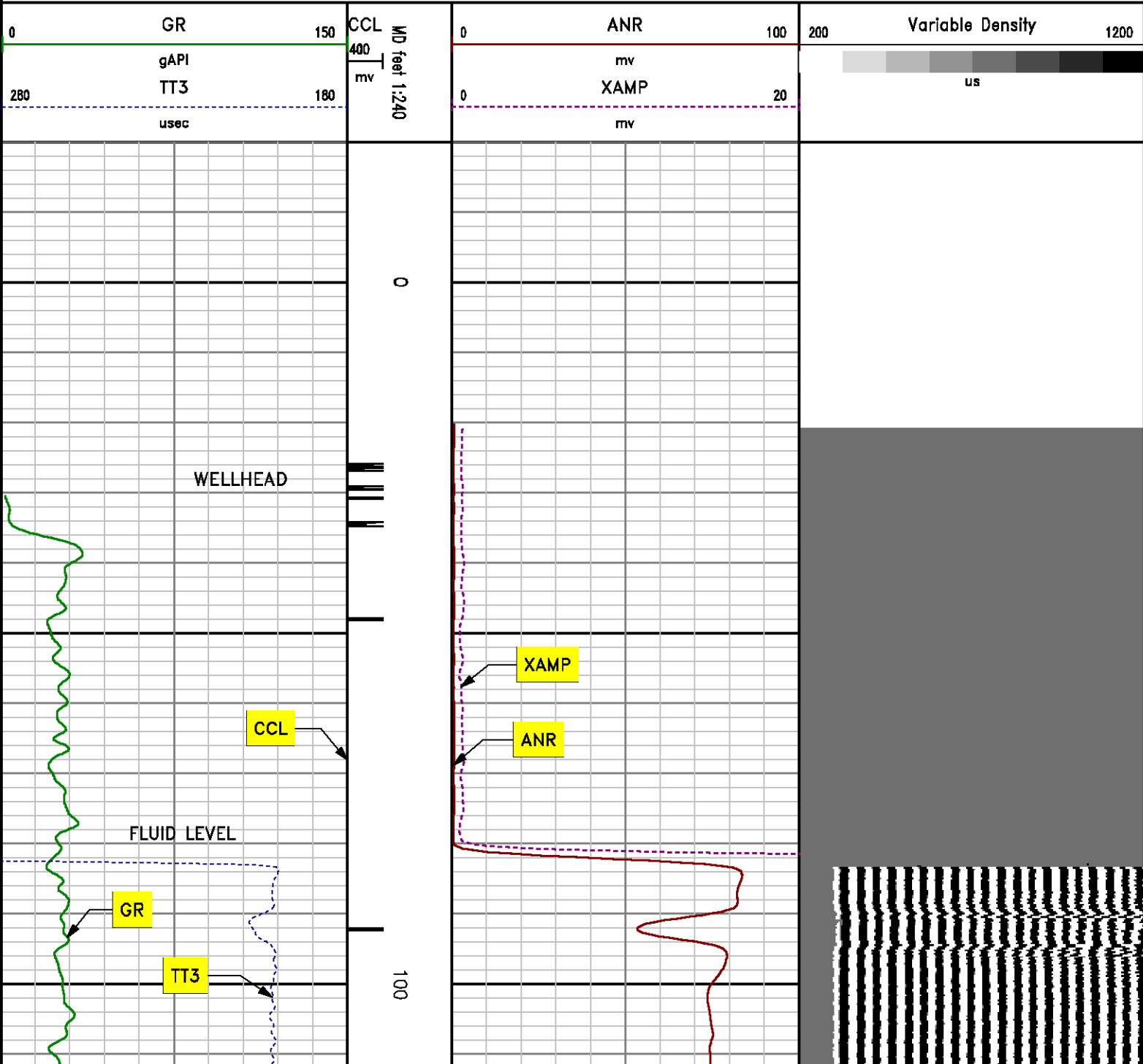
Well : DUGGAN RWF 414-29

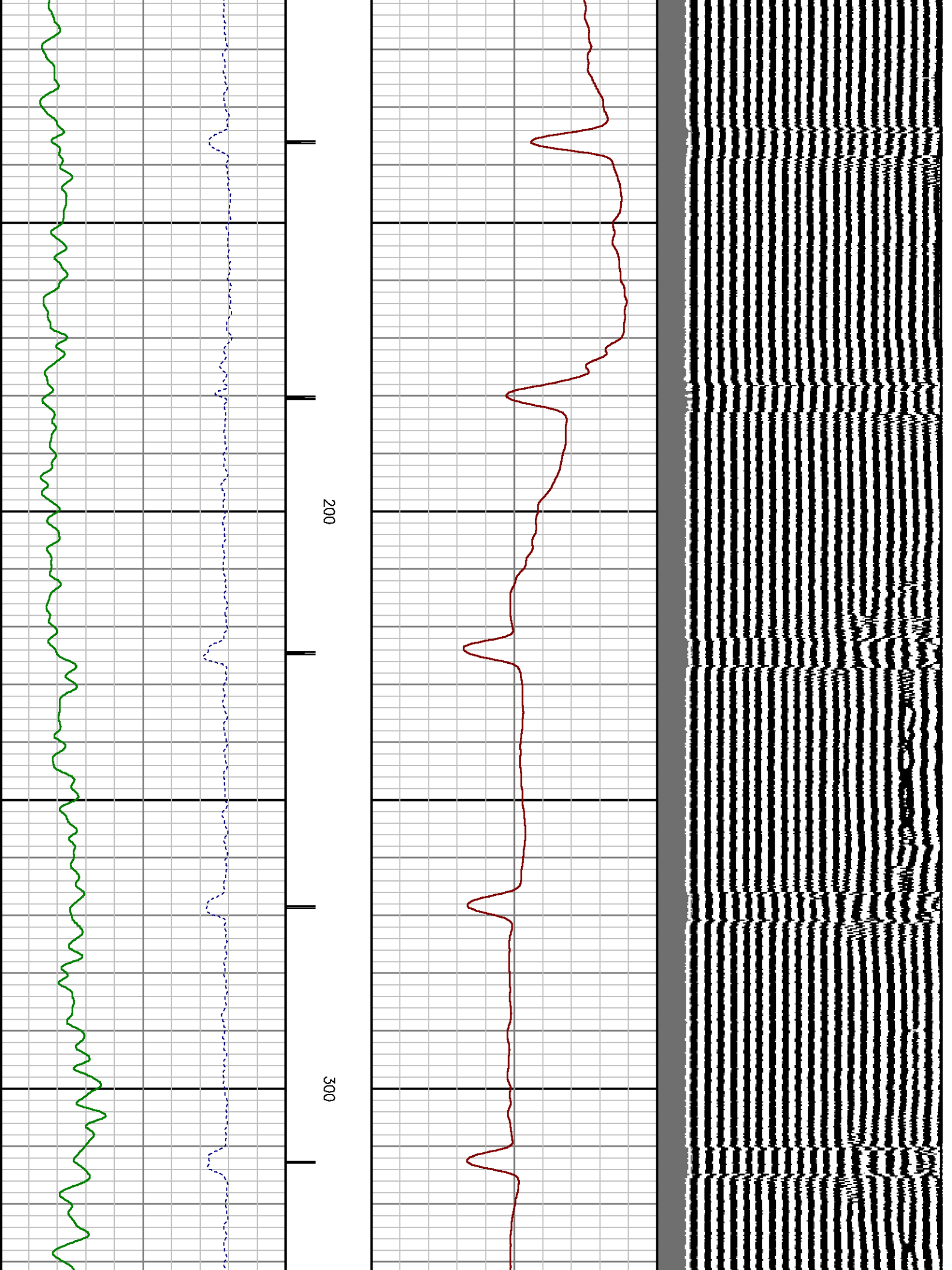
File Name : d:\welldata\414cbl\main_rdrd.xtf

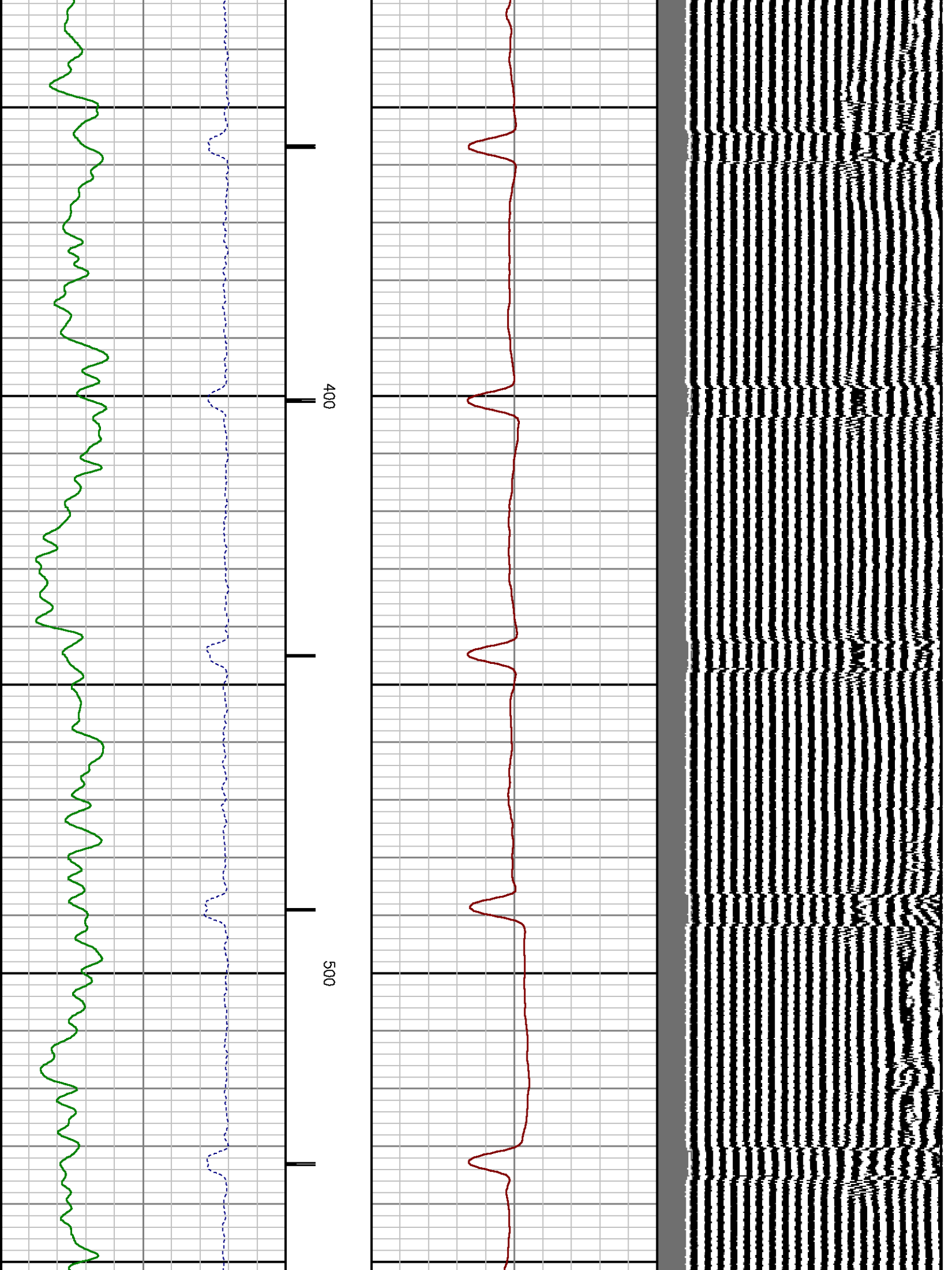
Mode : PlotMgr 5.4.504

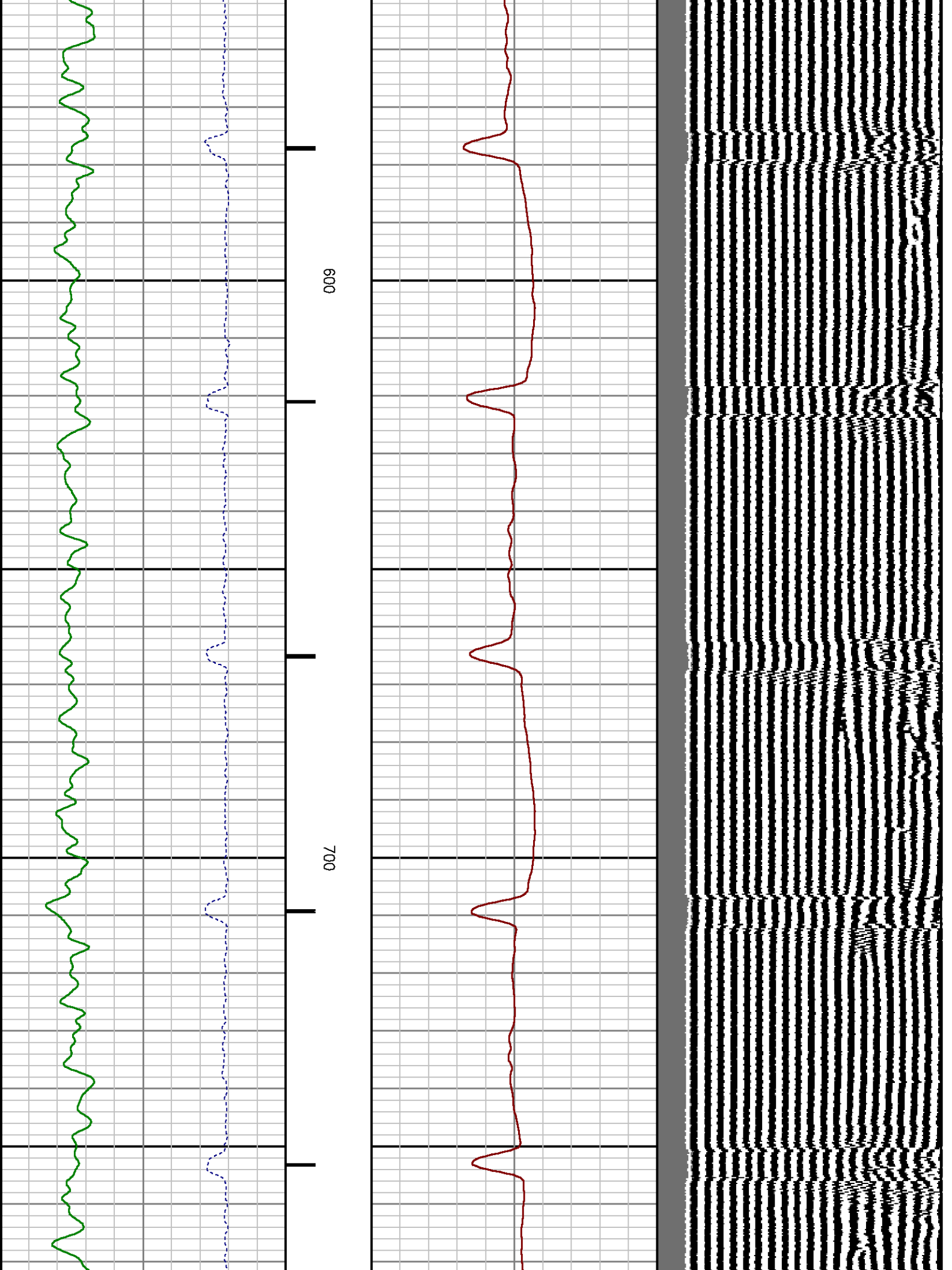
Interval : -20.00 - 7840.00 feet UP

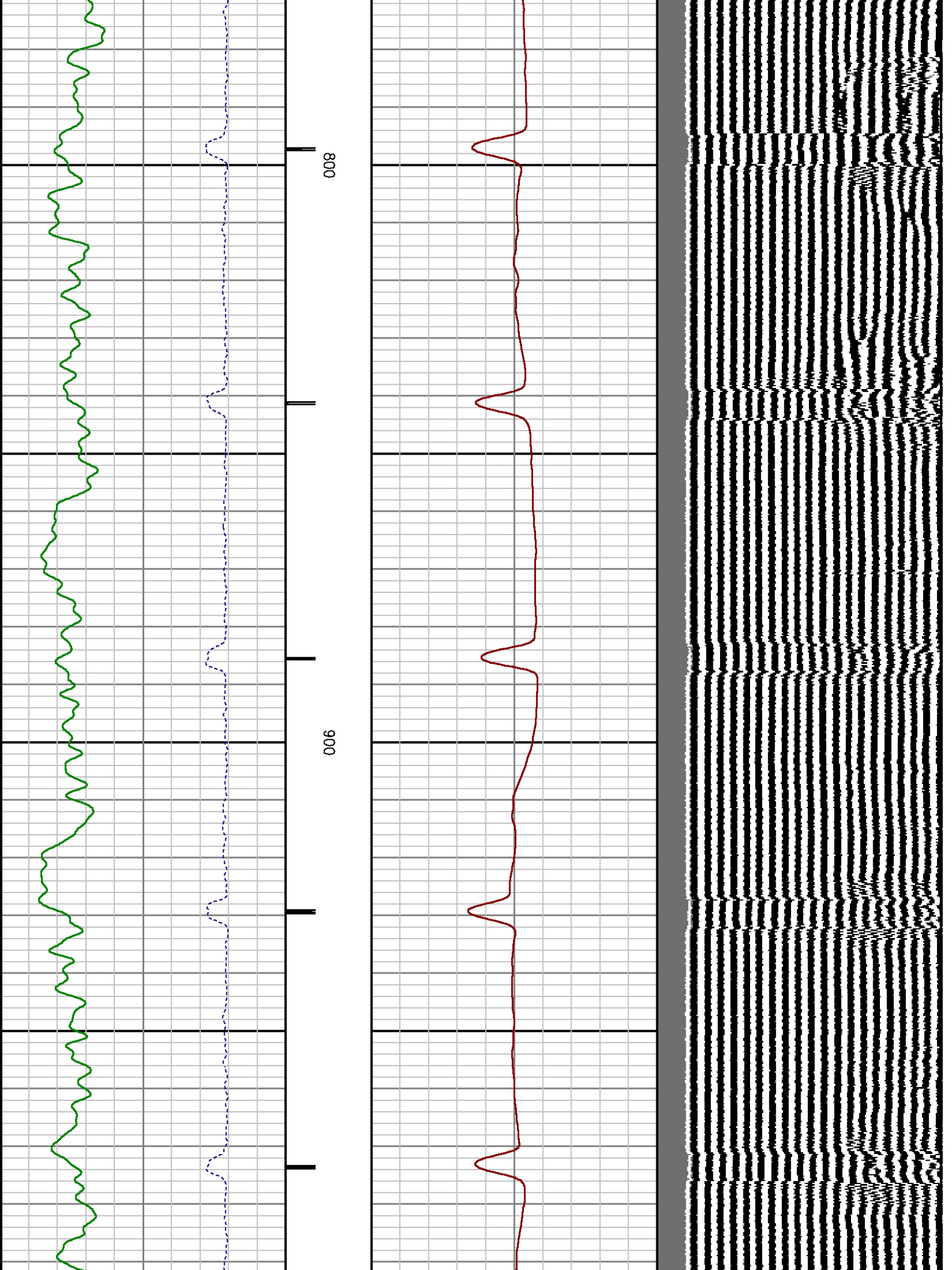
Created : 6/10/2013 12:57:44 PM

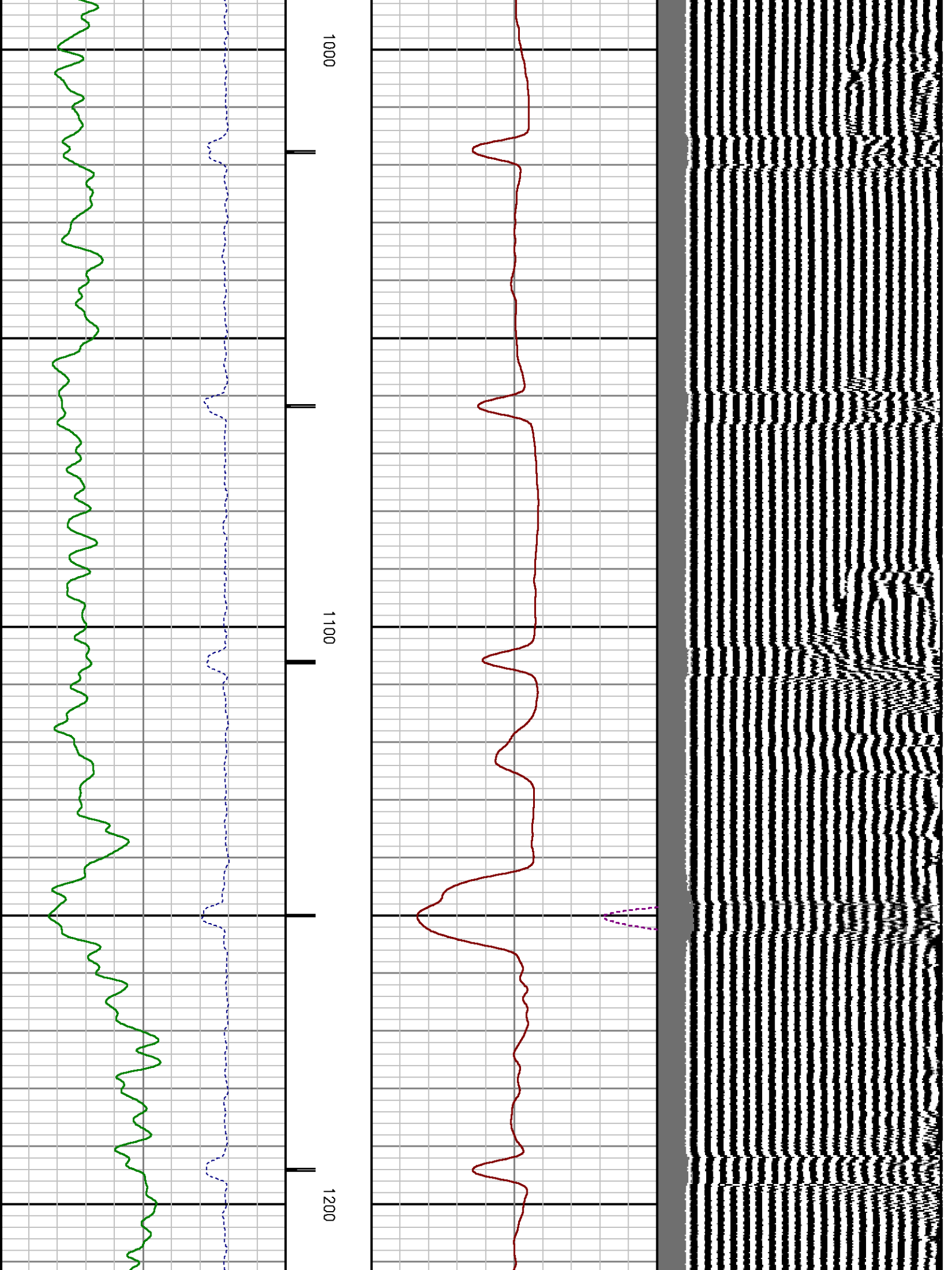


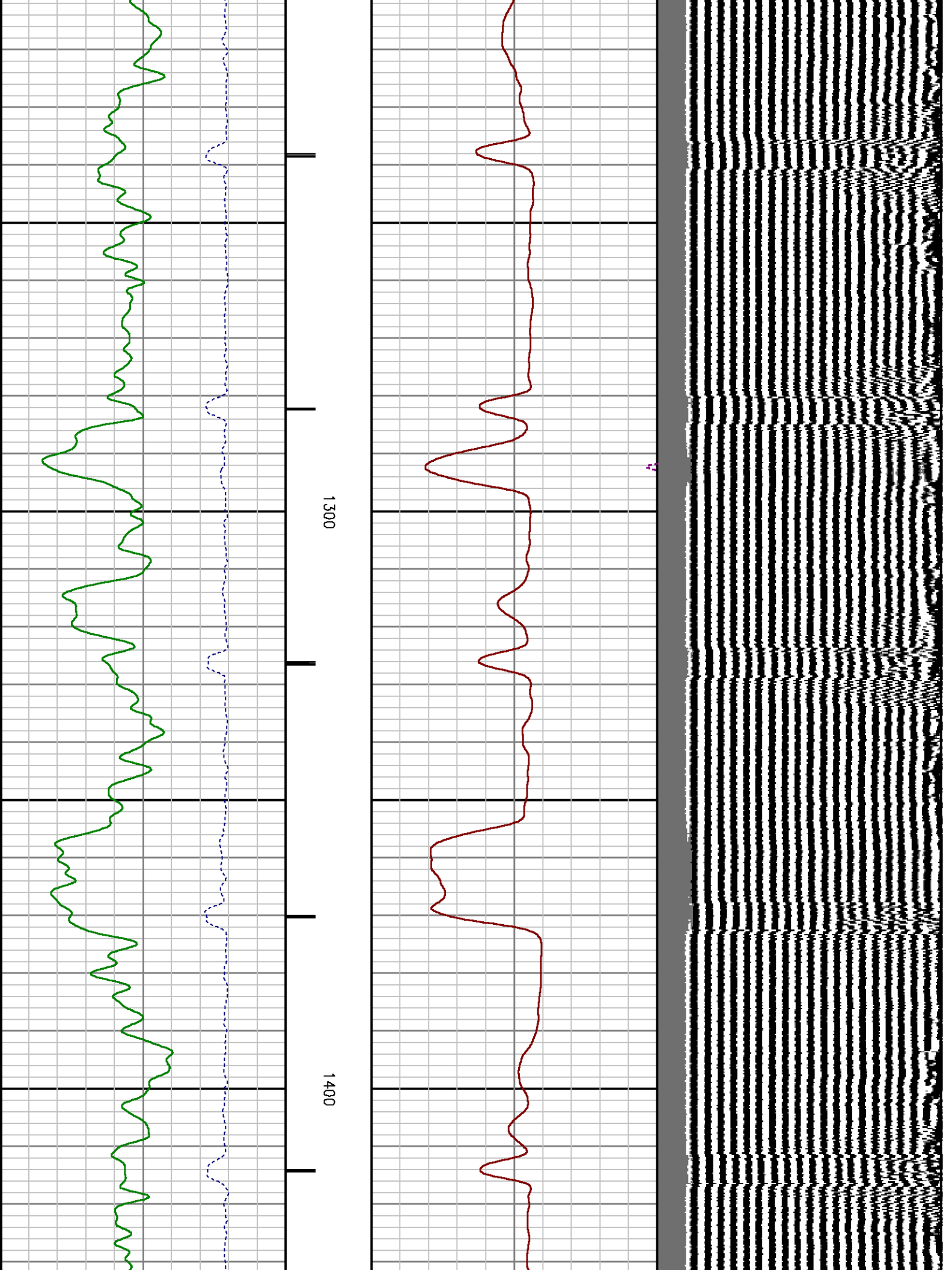


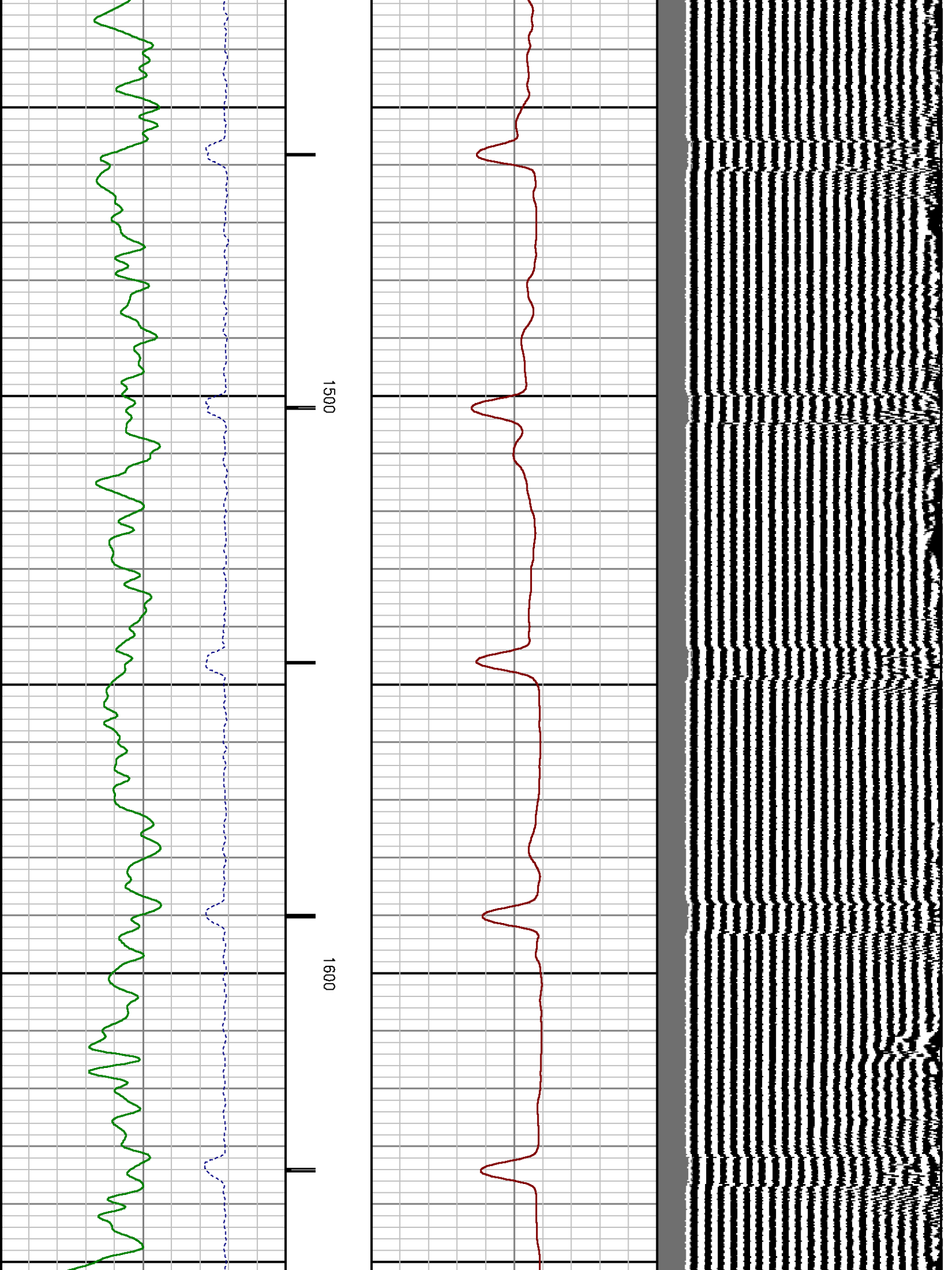


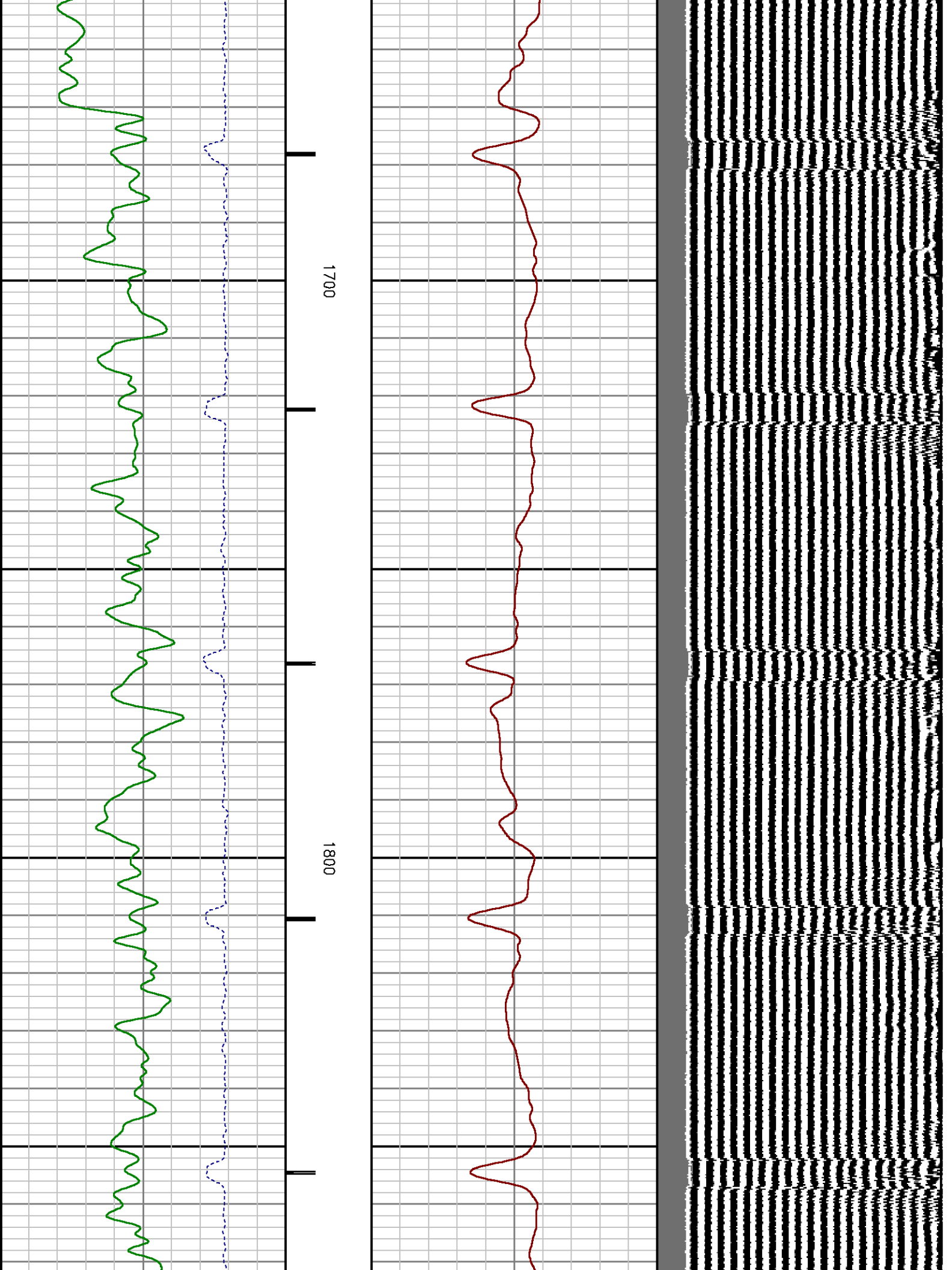


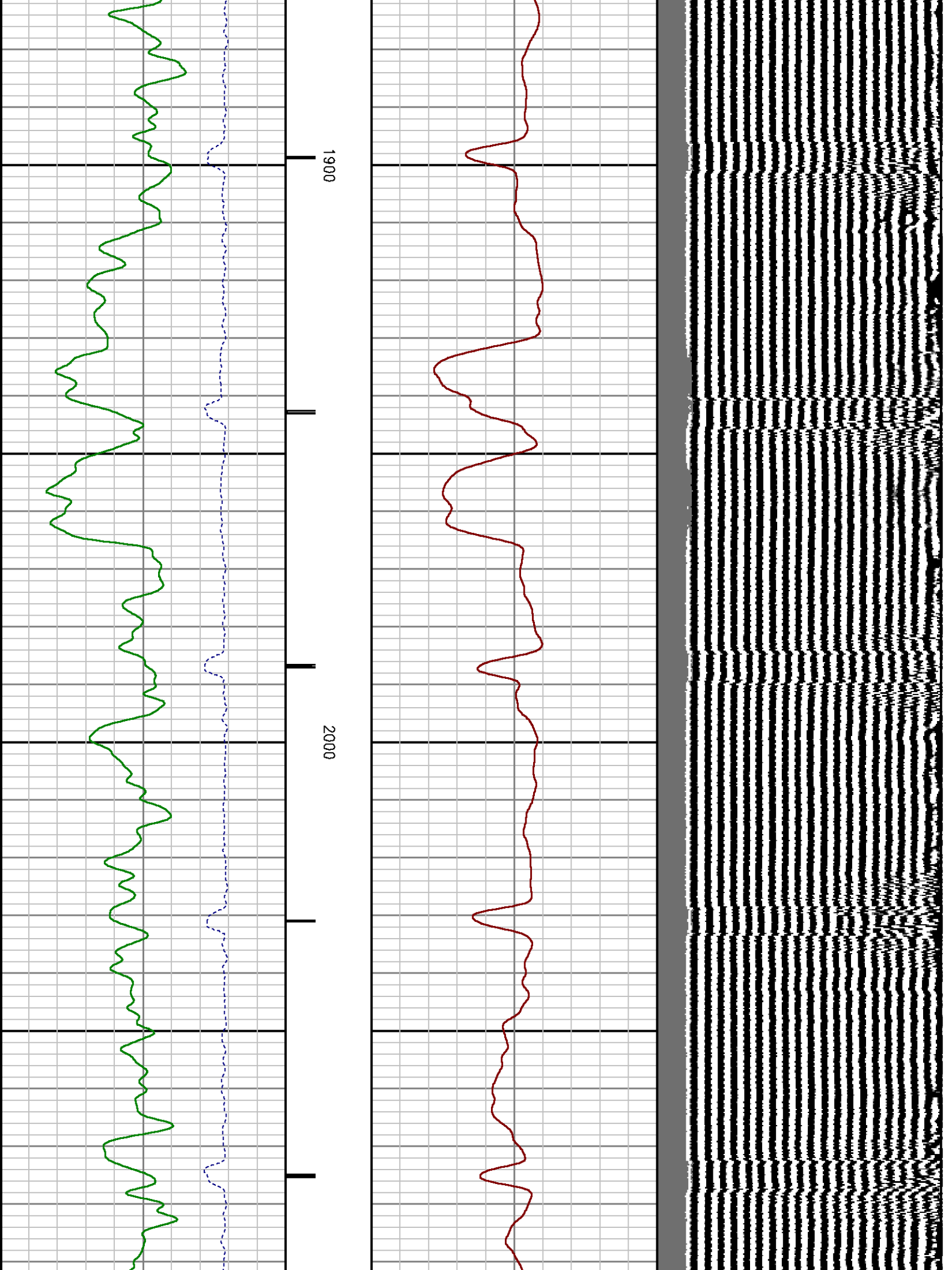


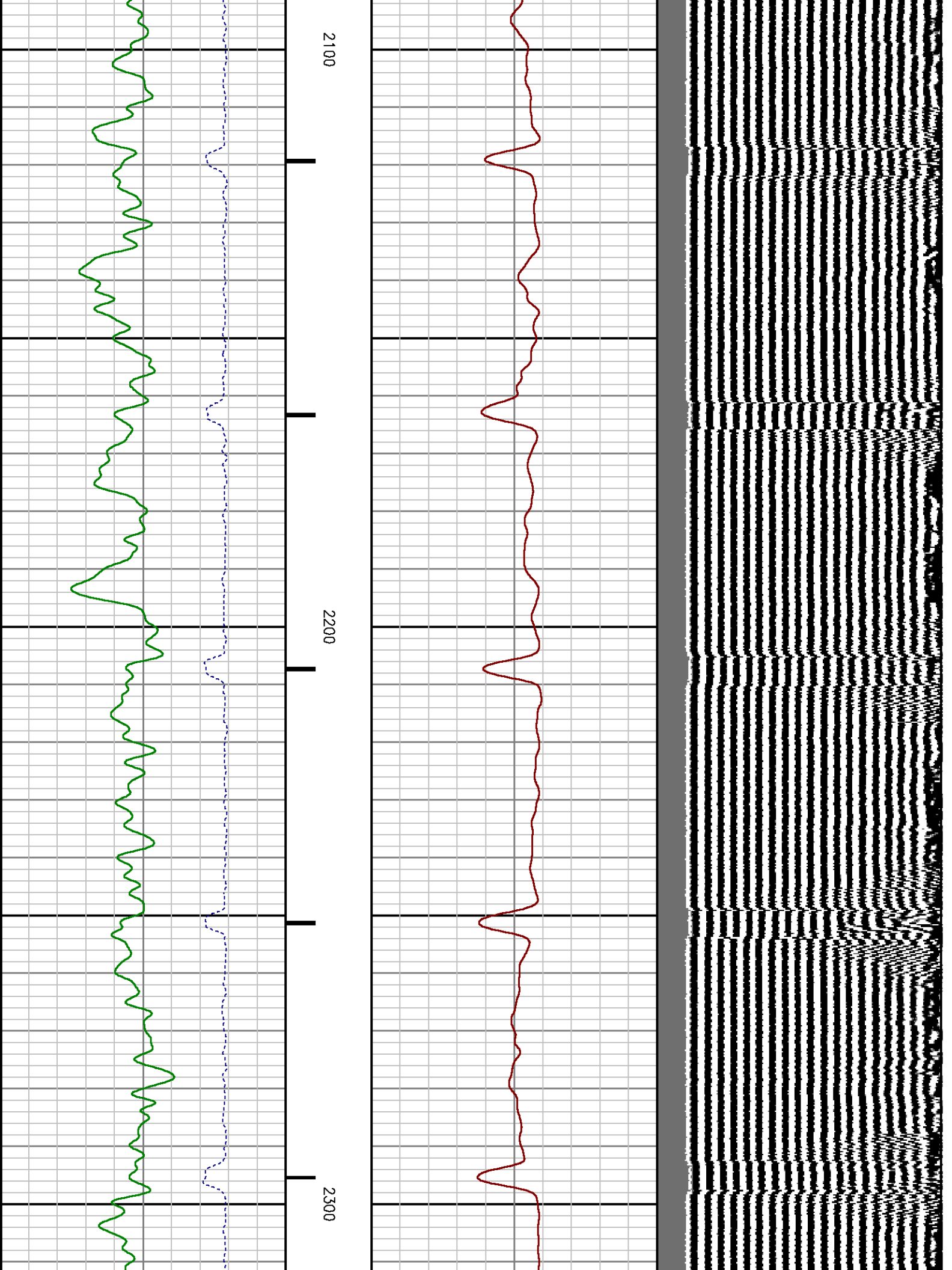


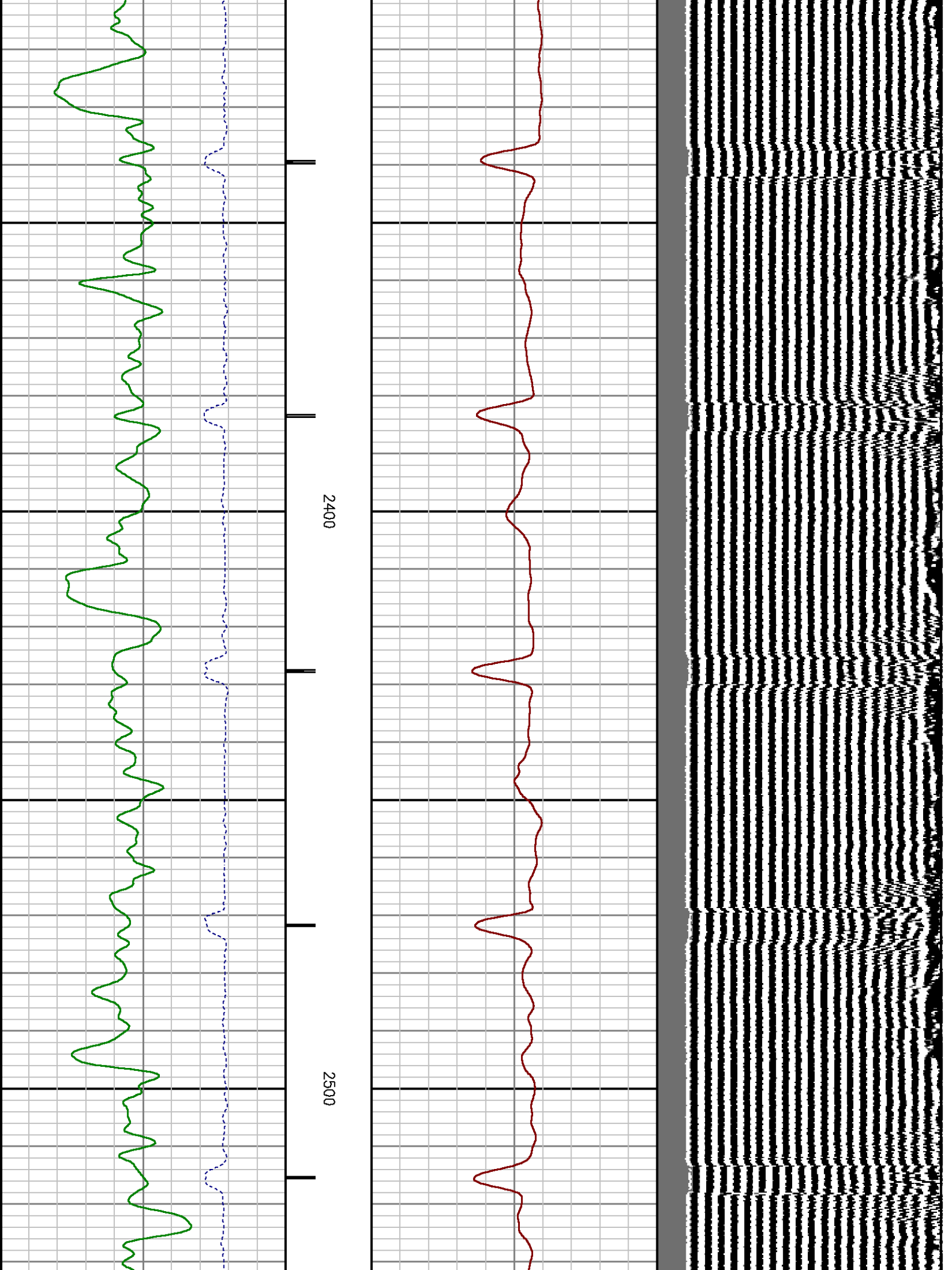


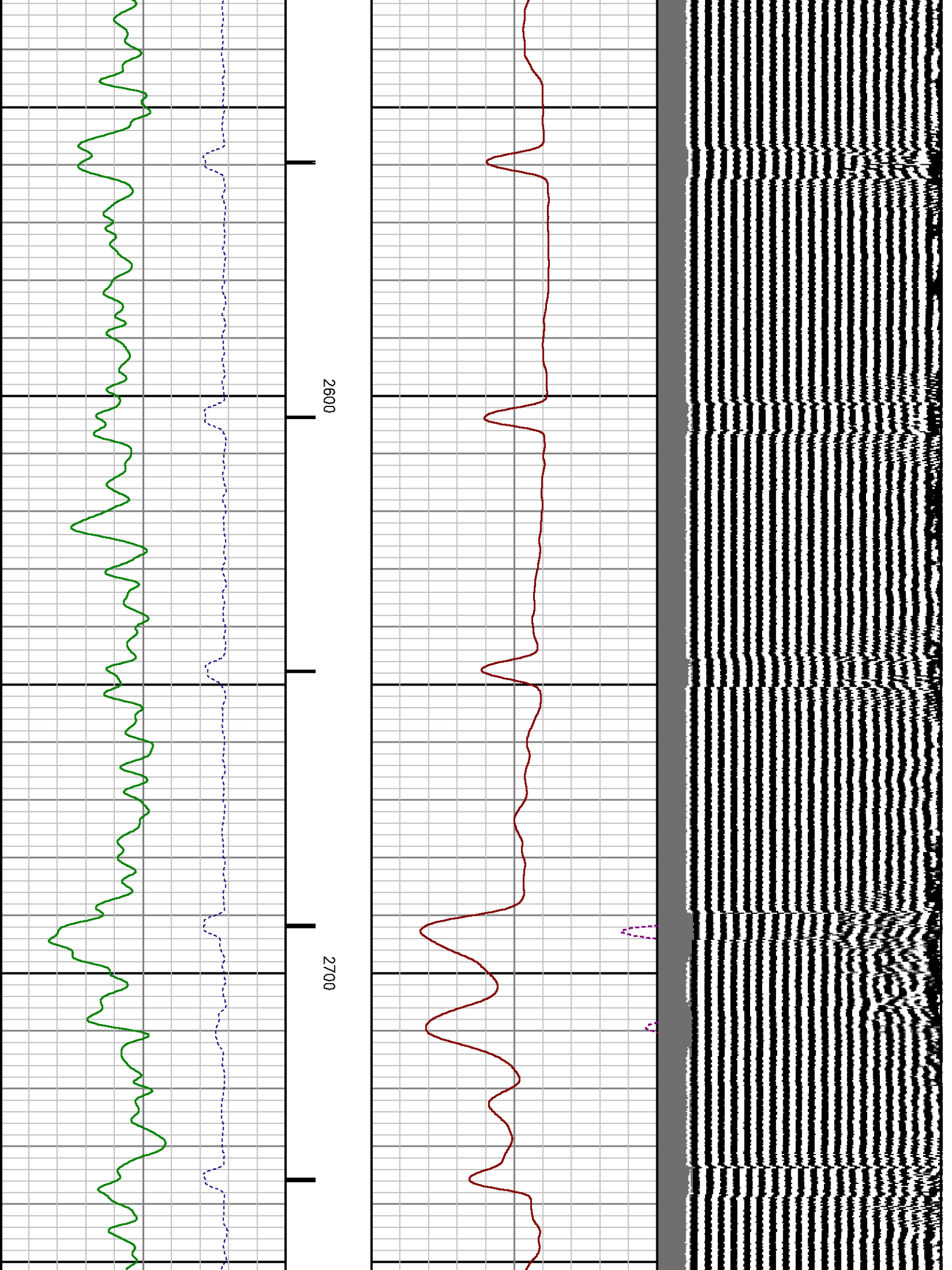


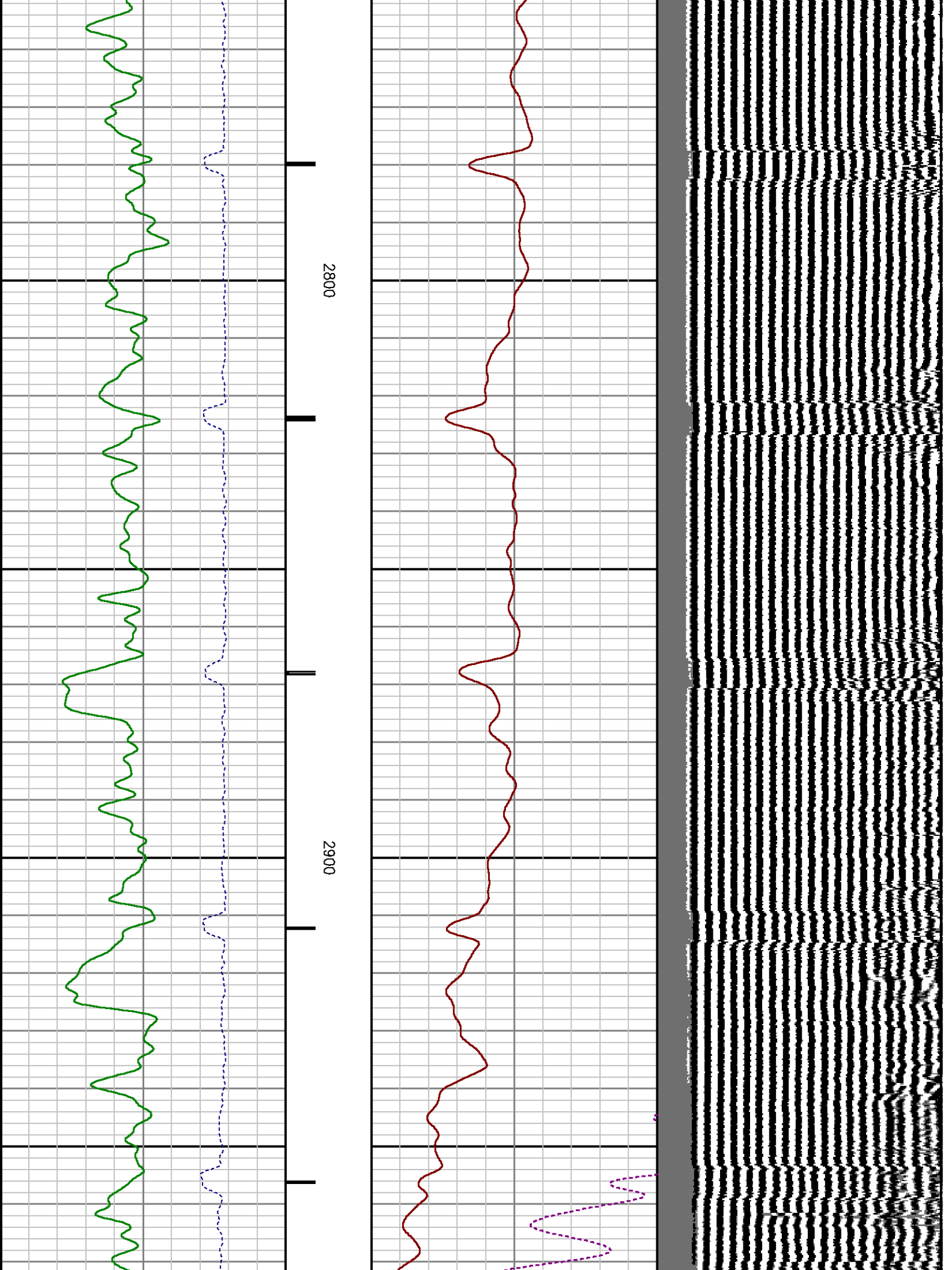


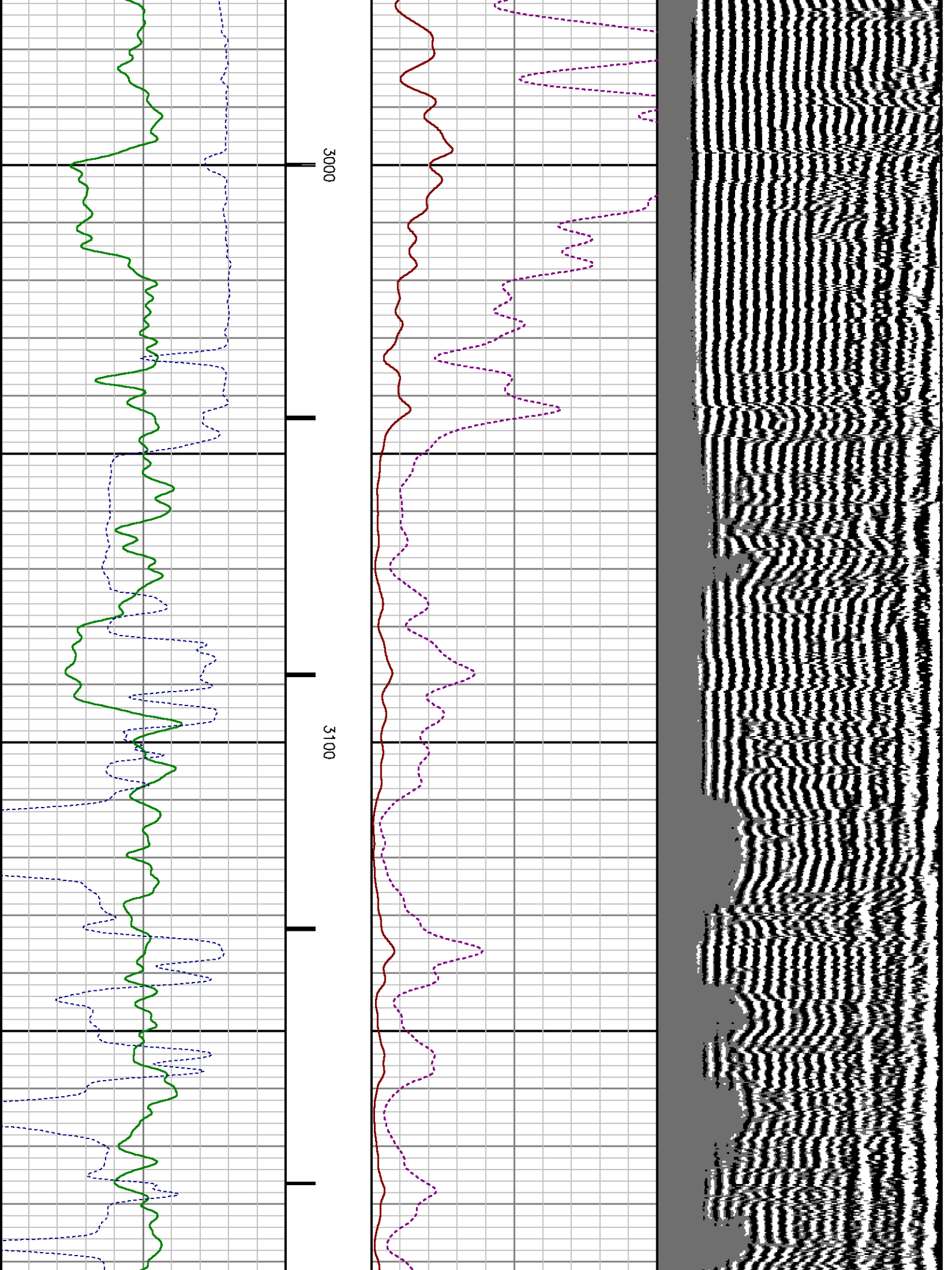


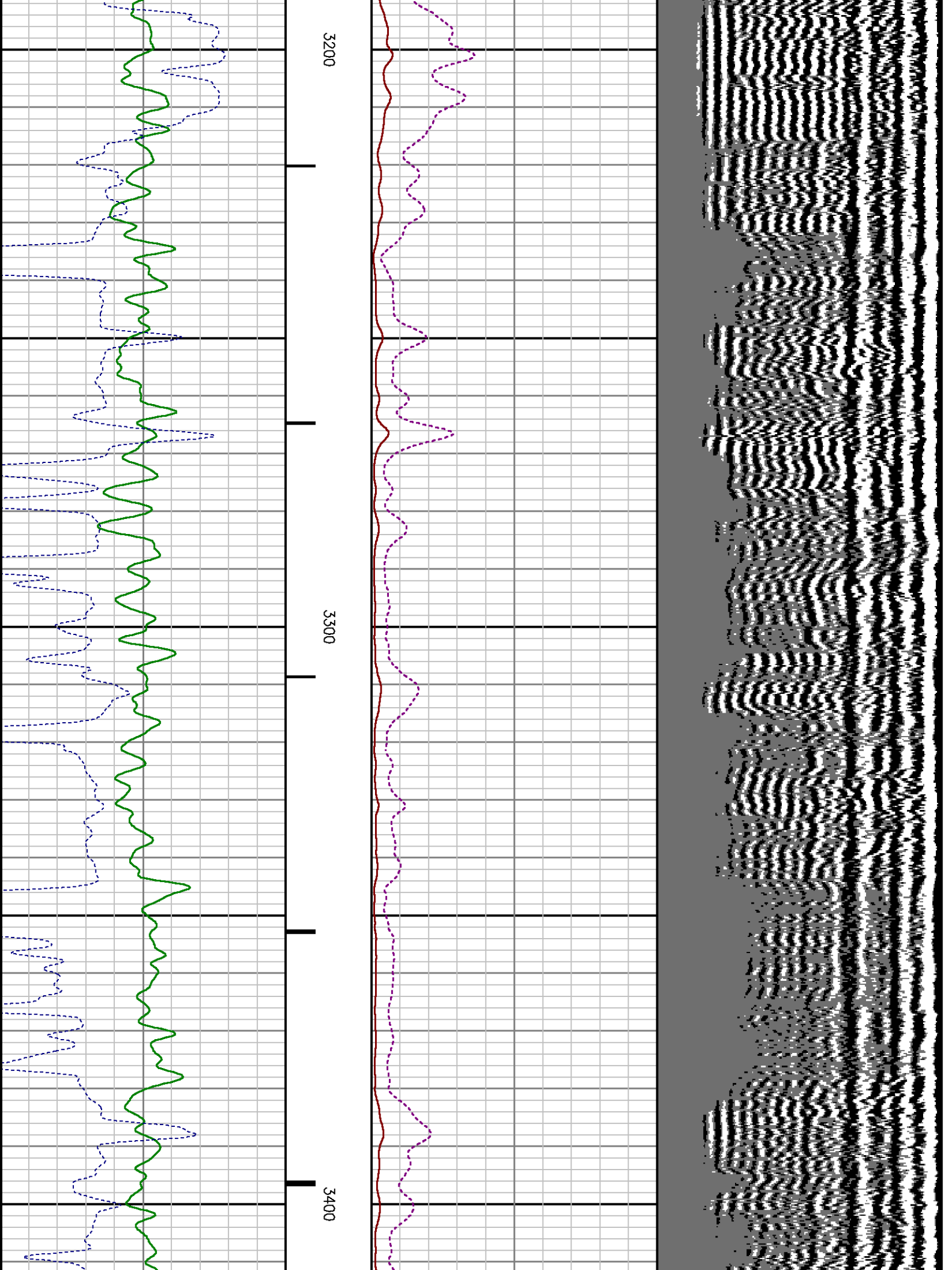


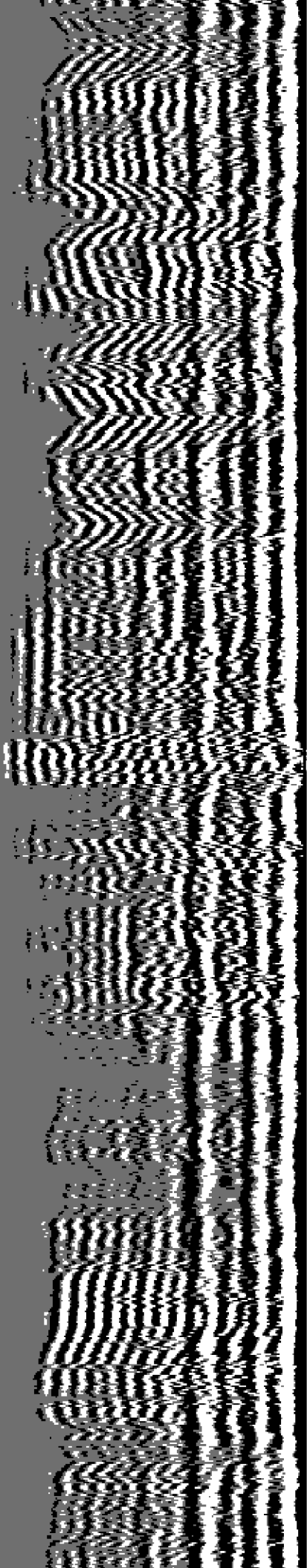






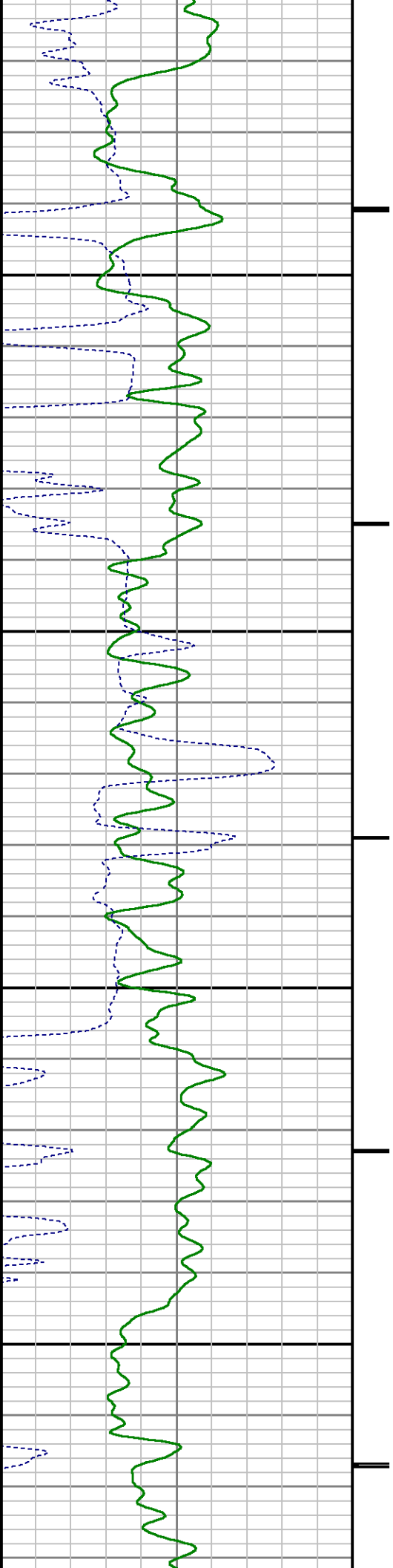


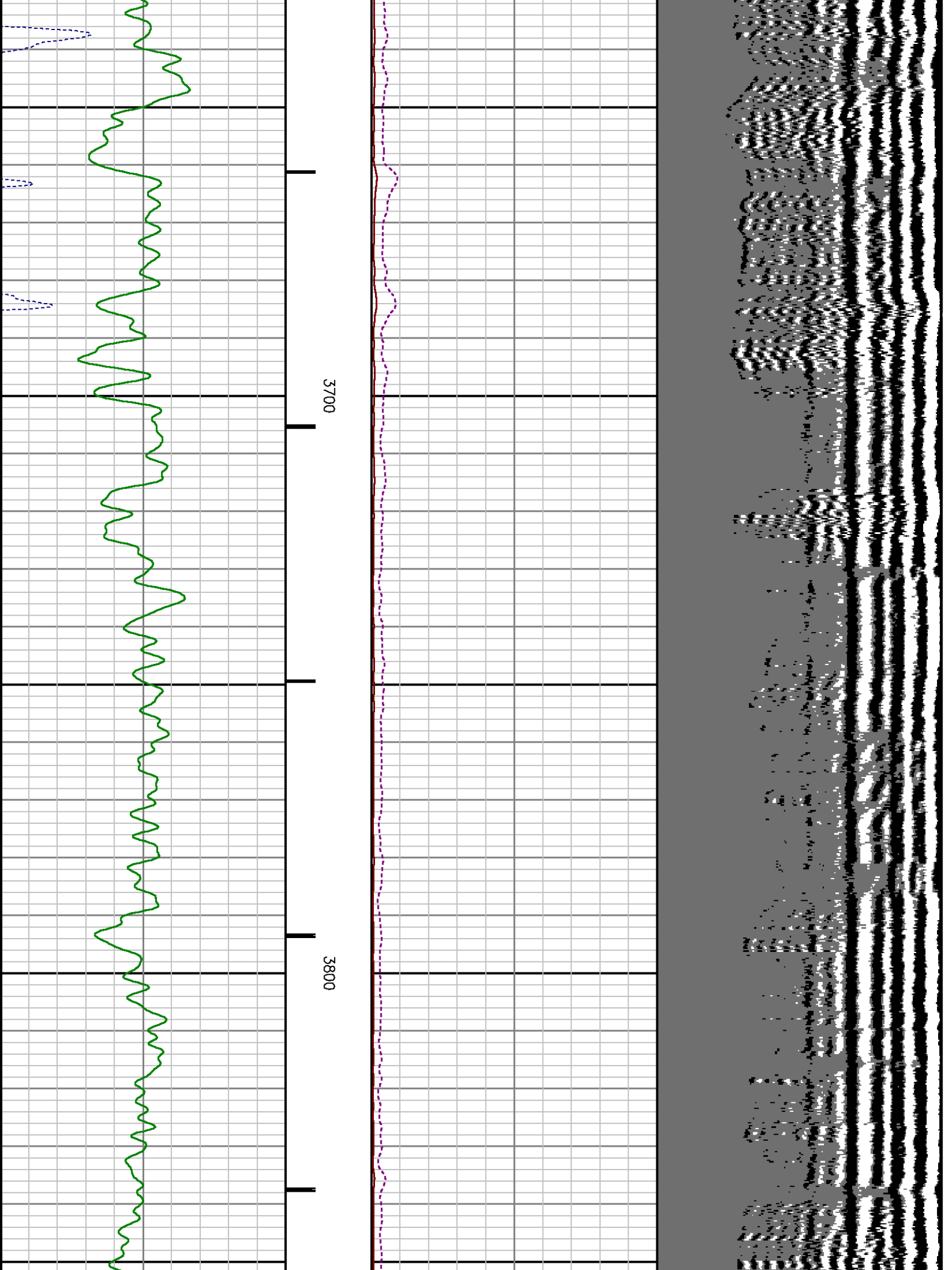


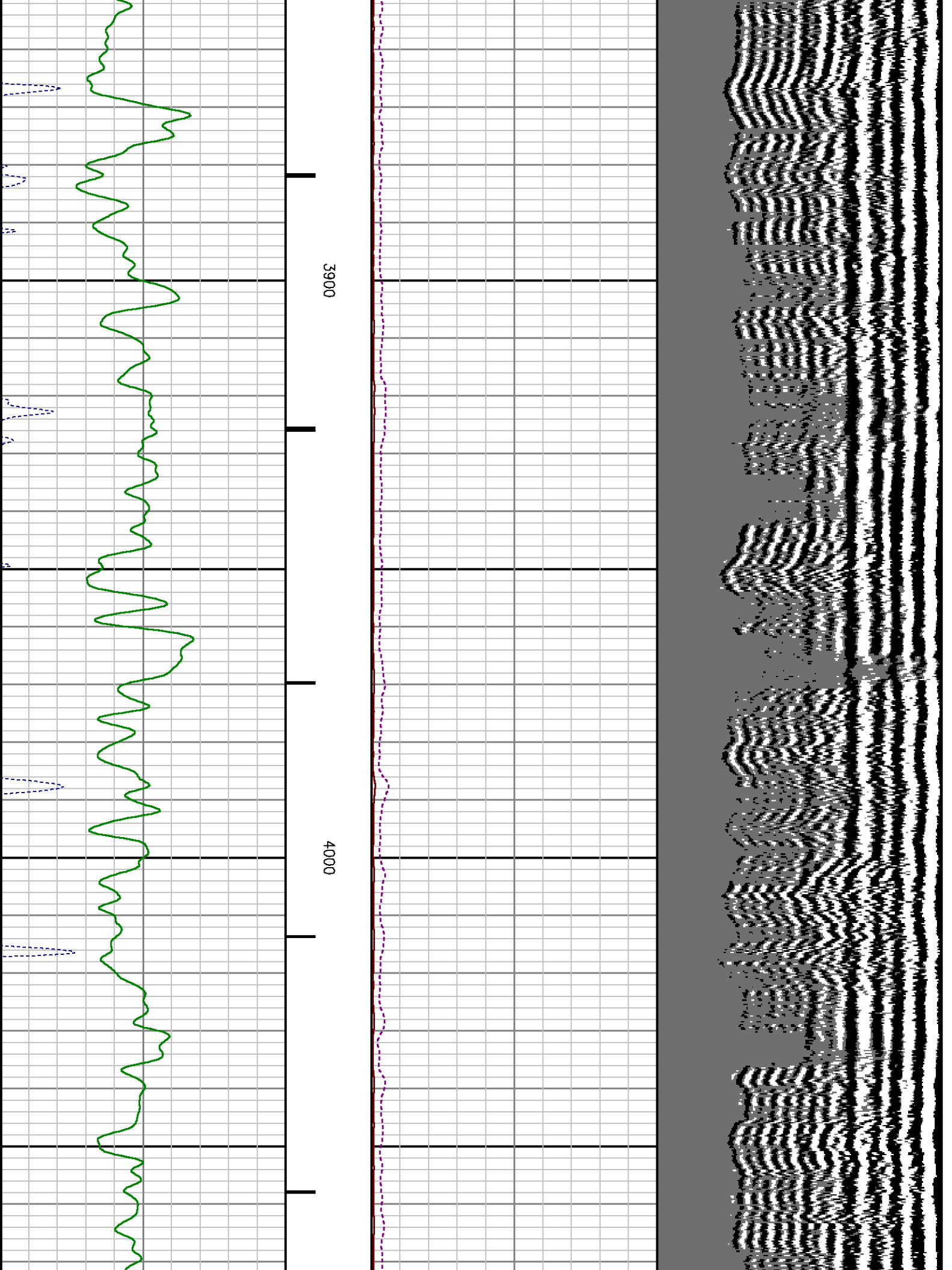


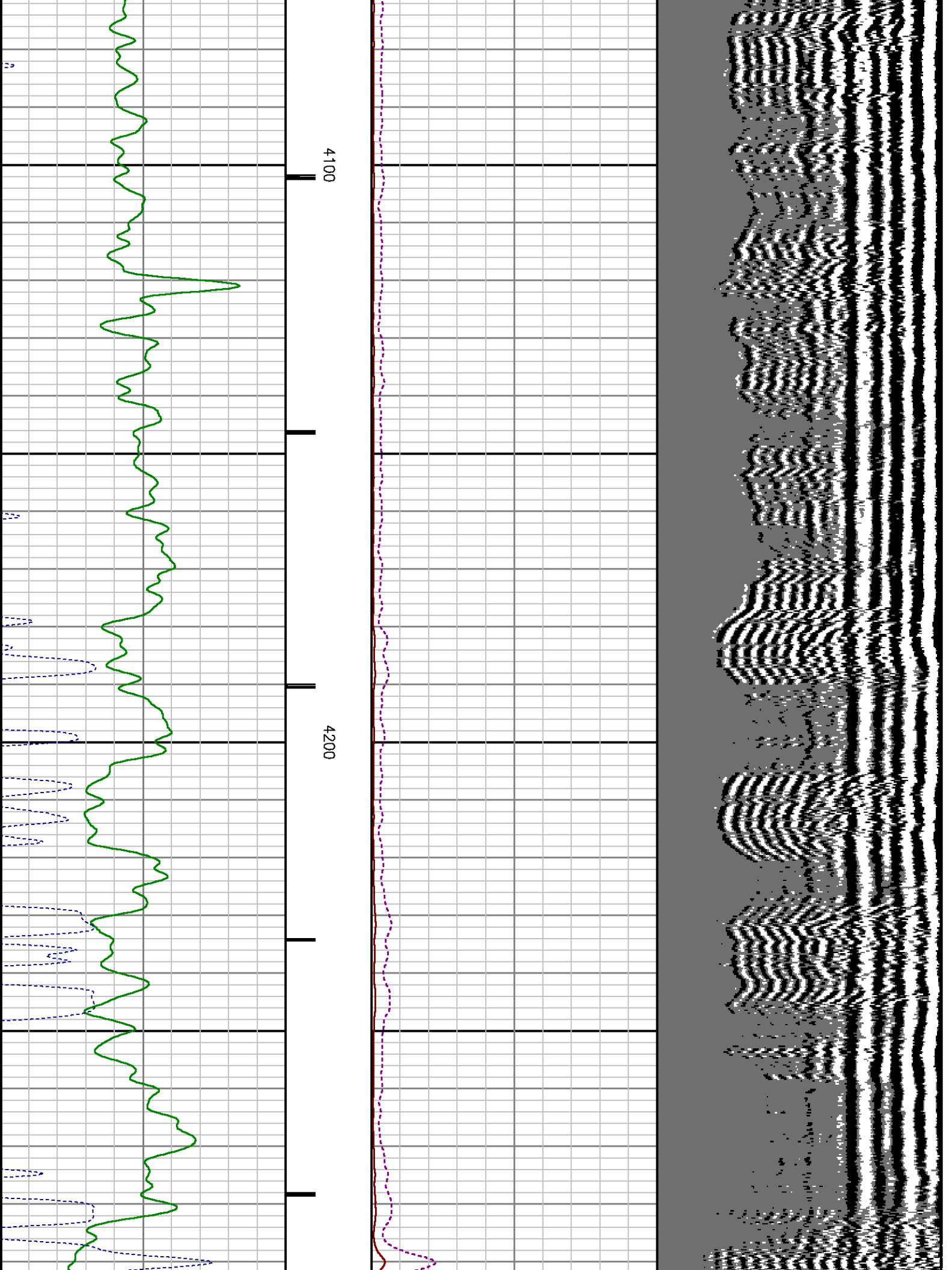
3500

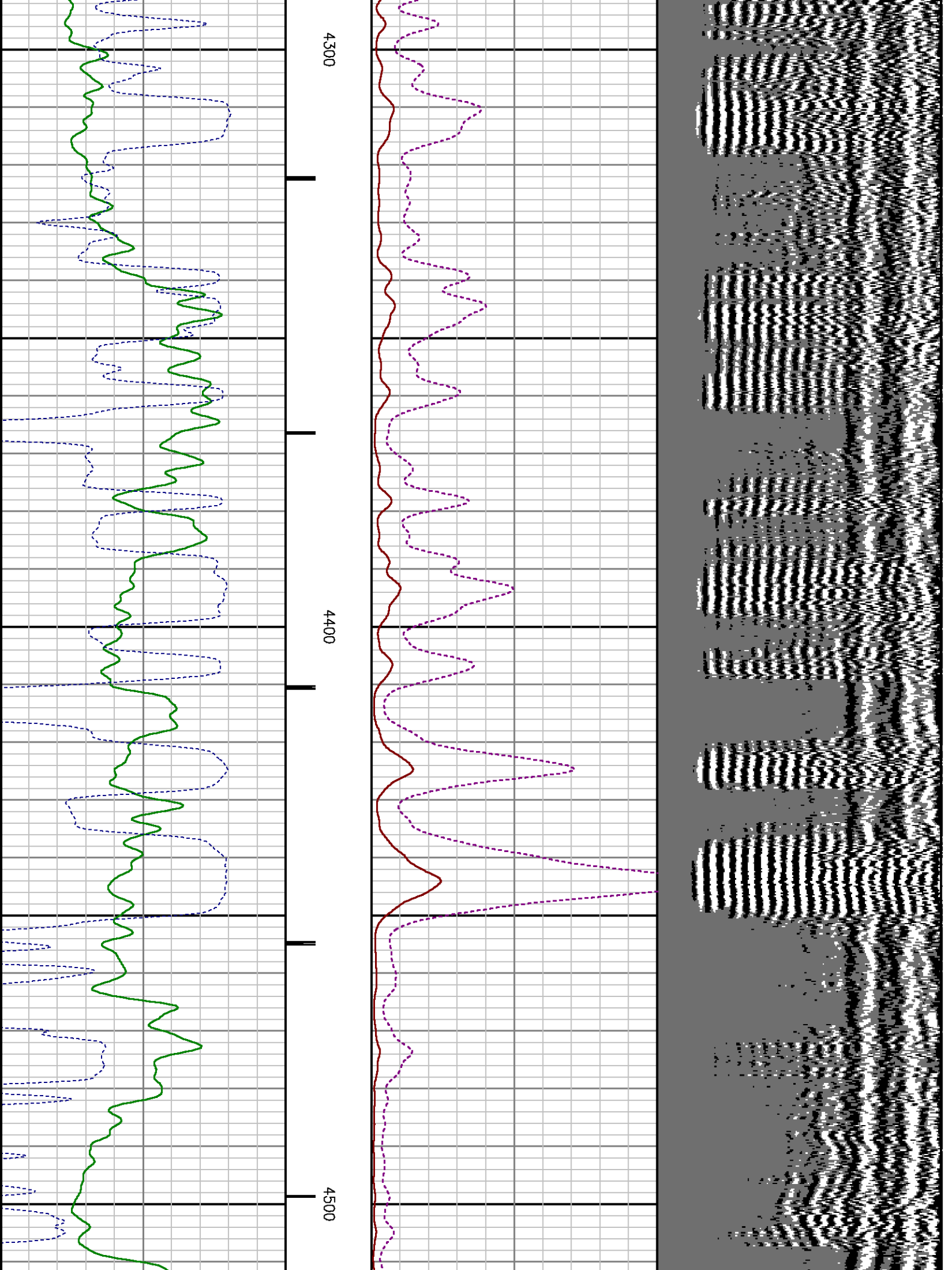
3600

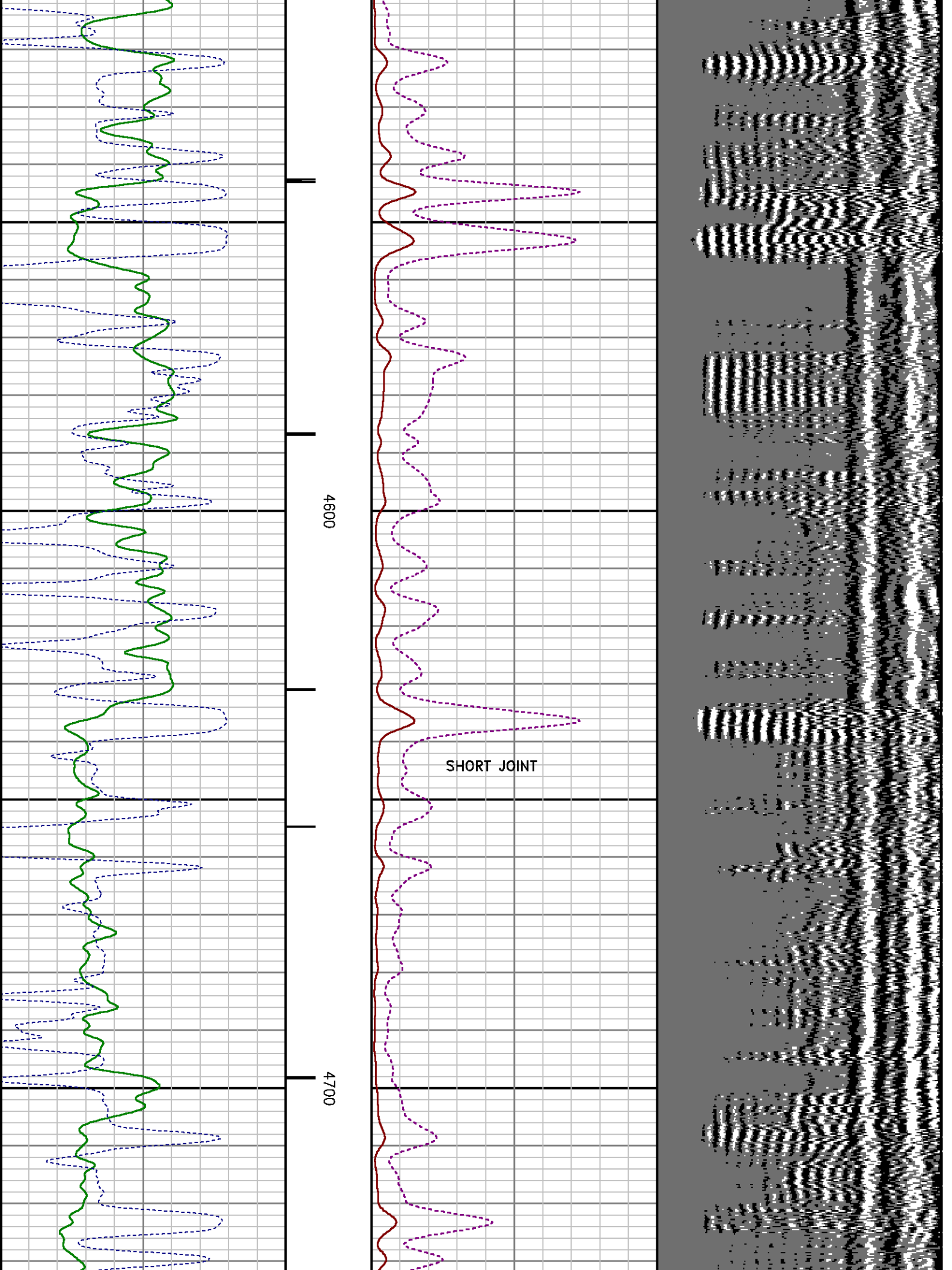


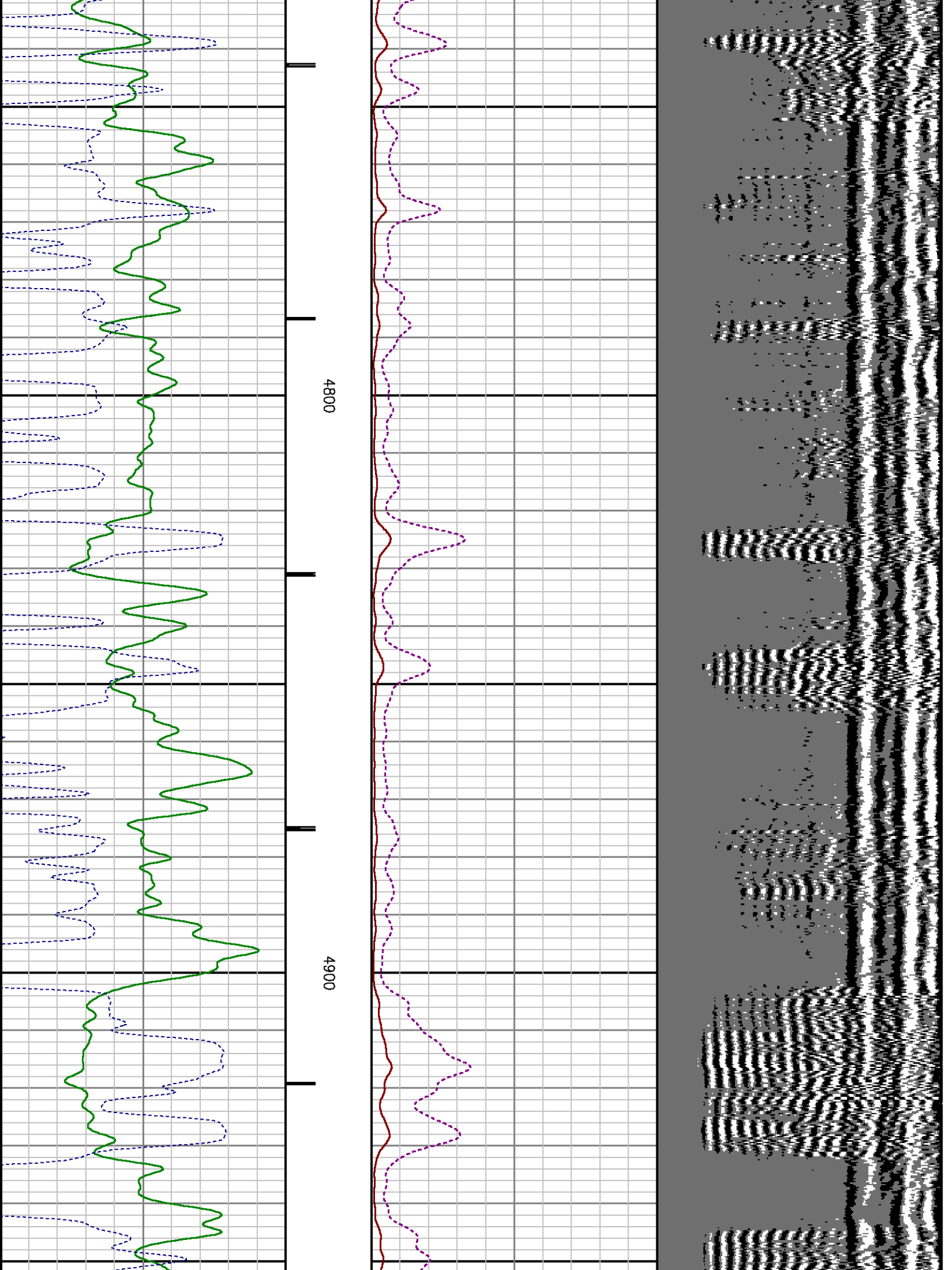


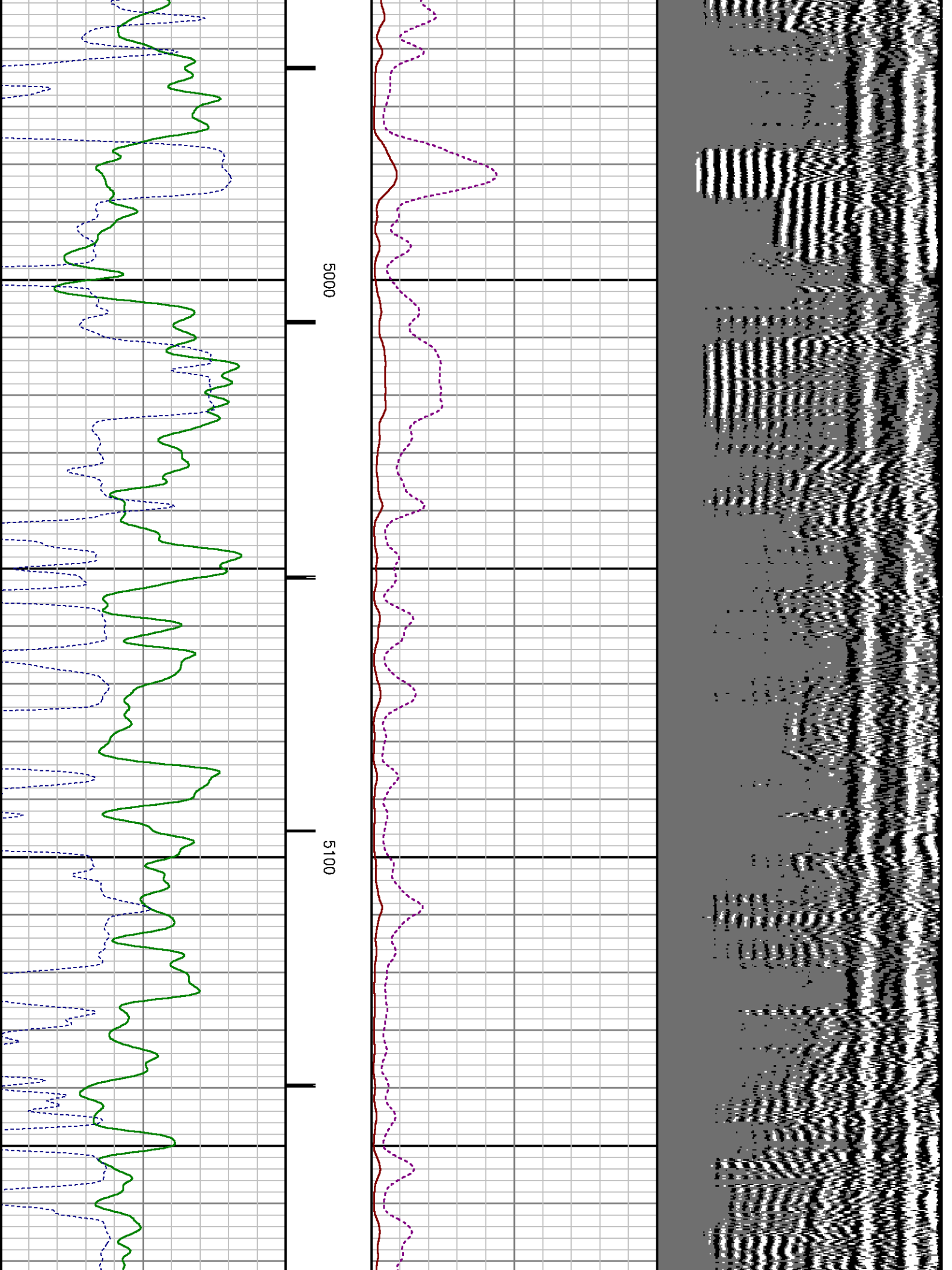


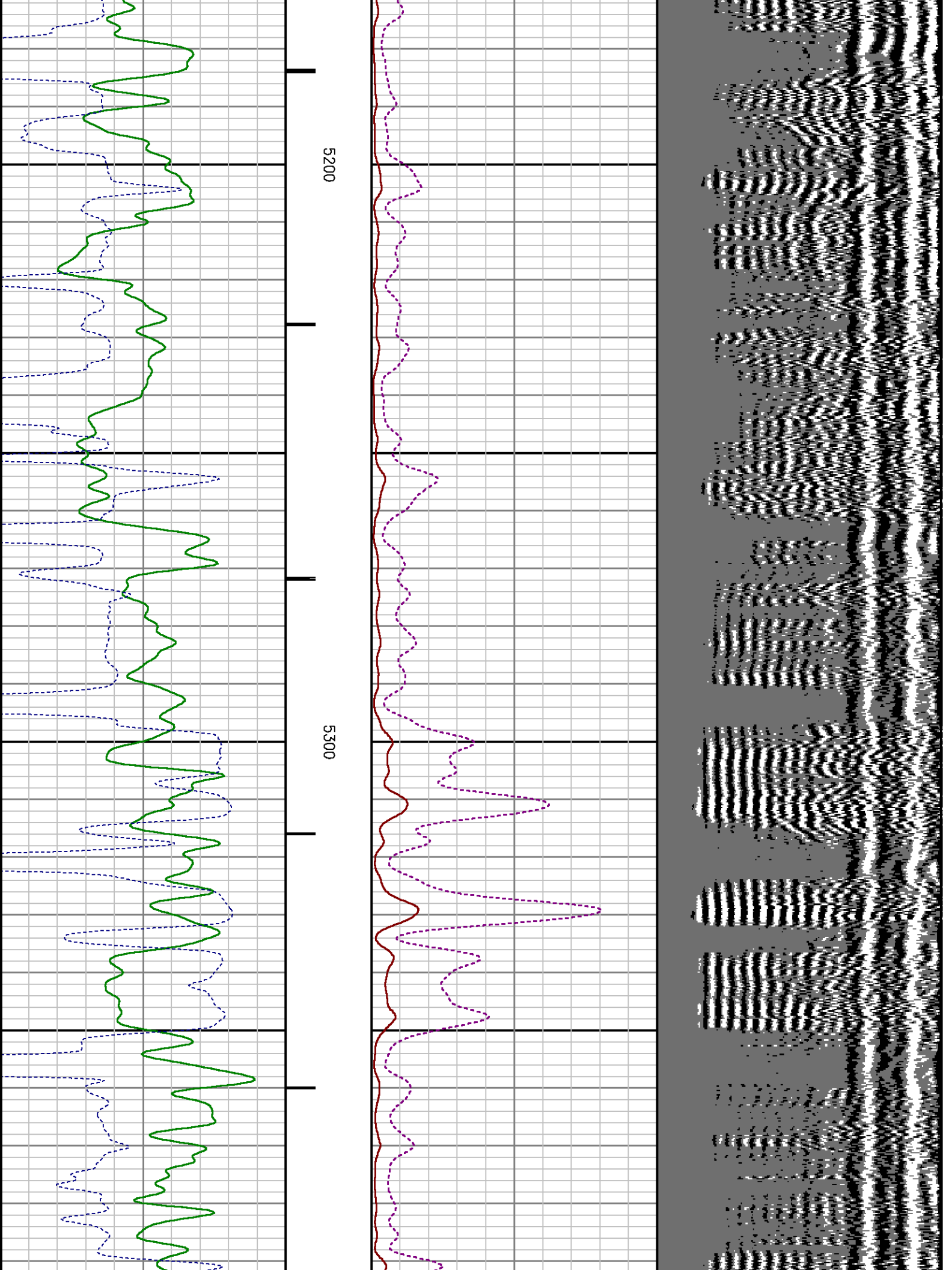


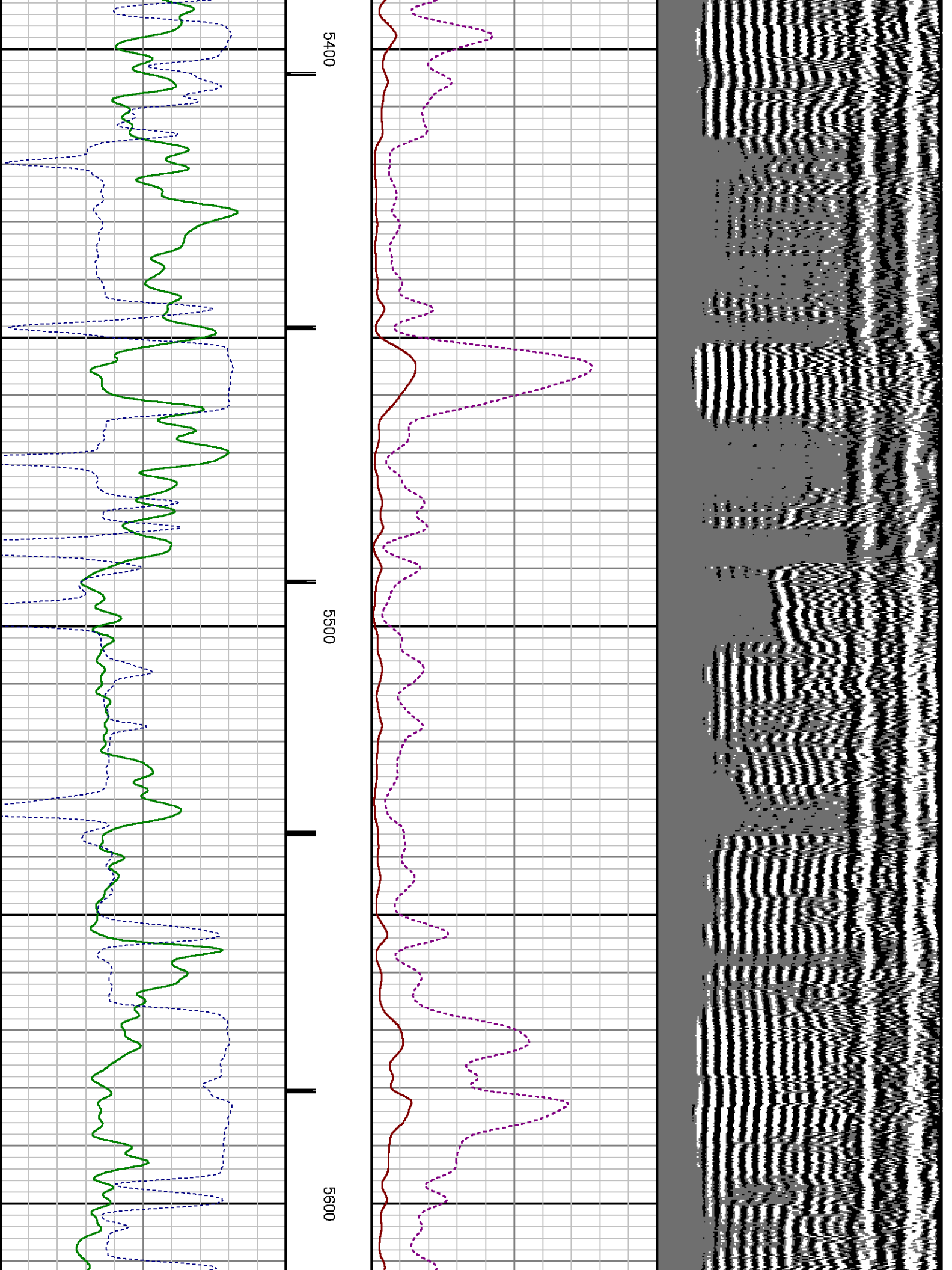


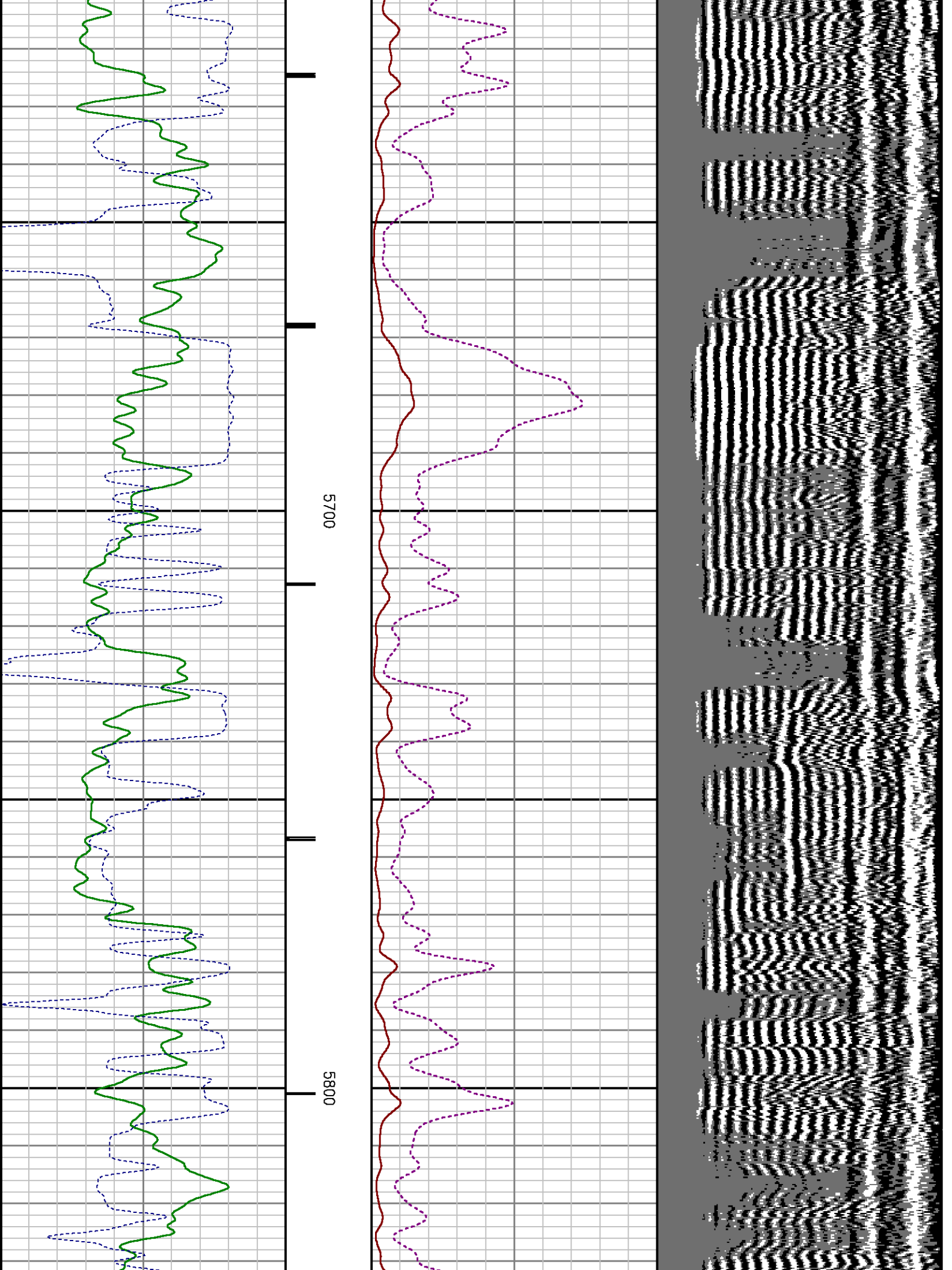


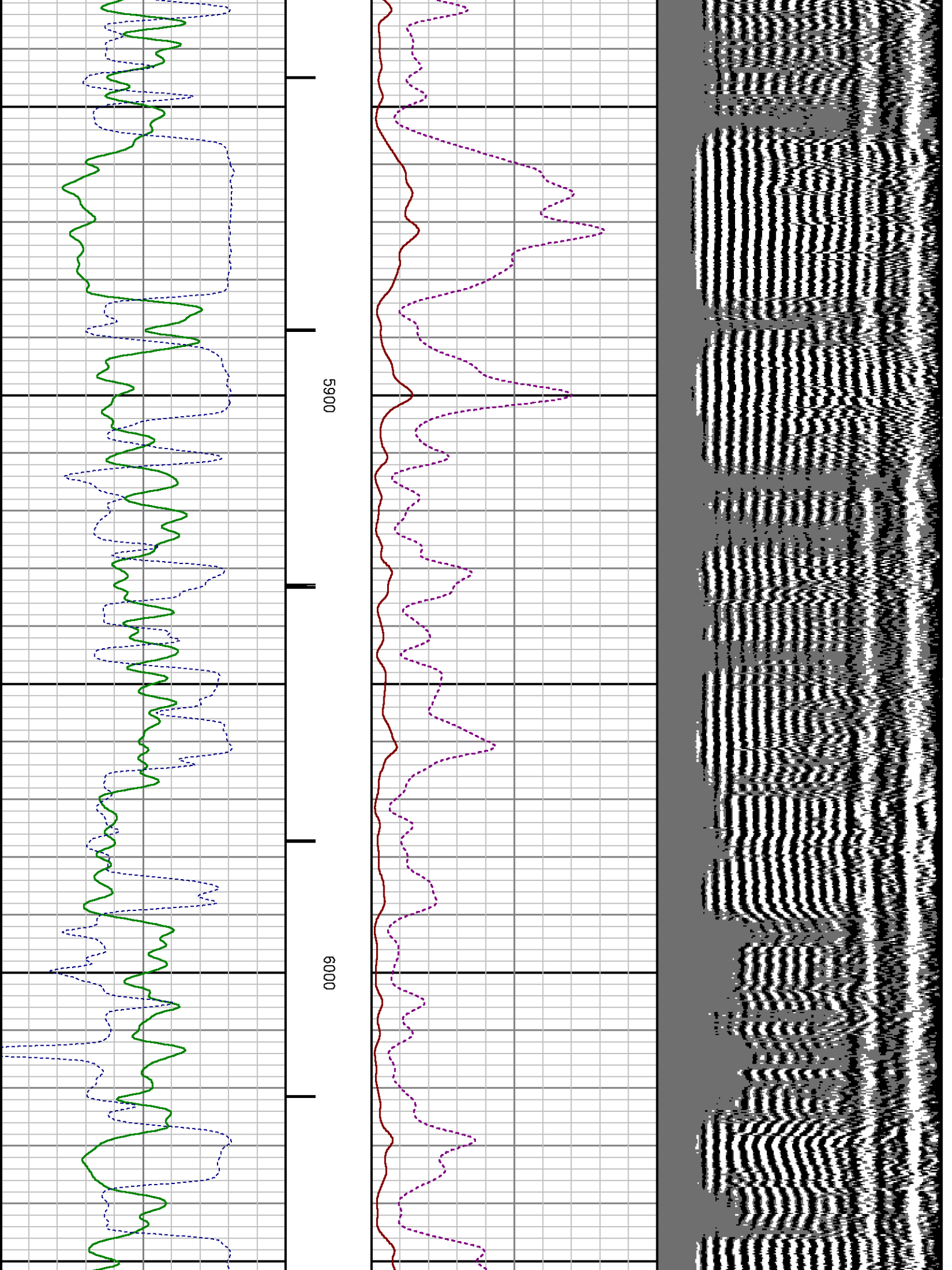


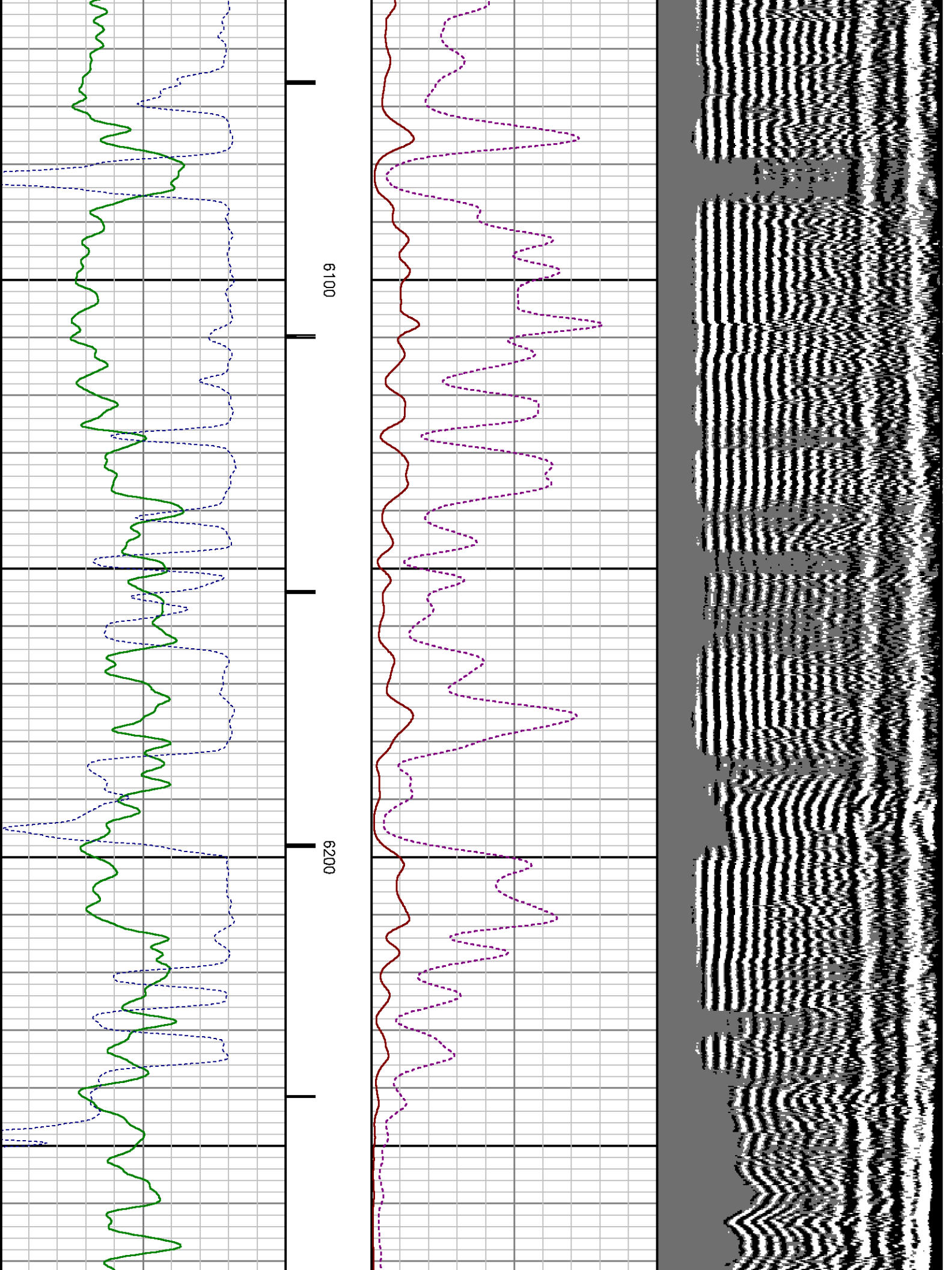


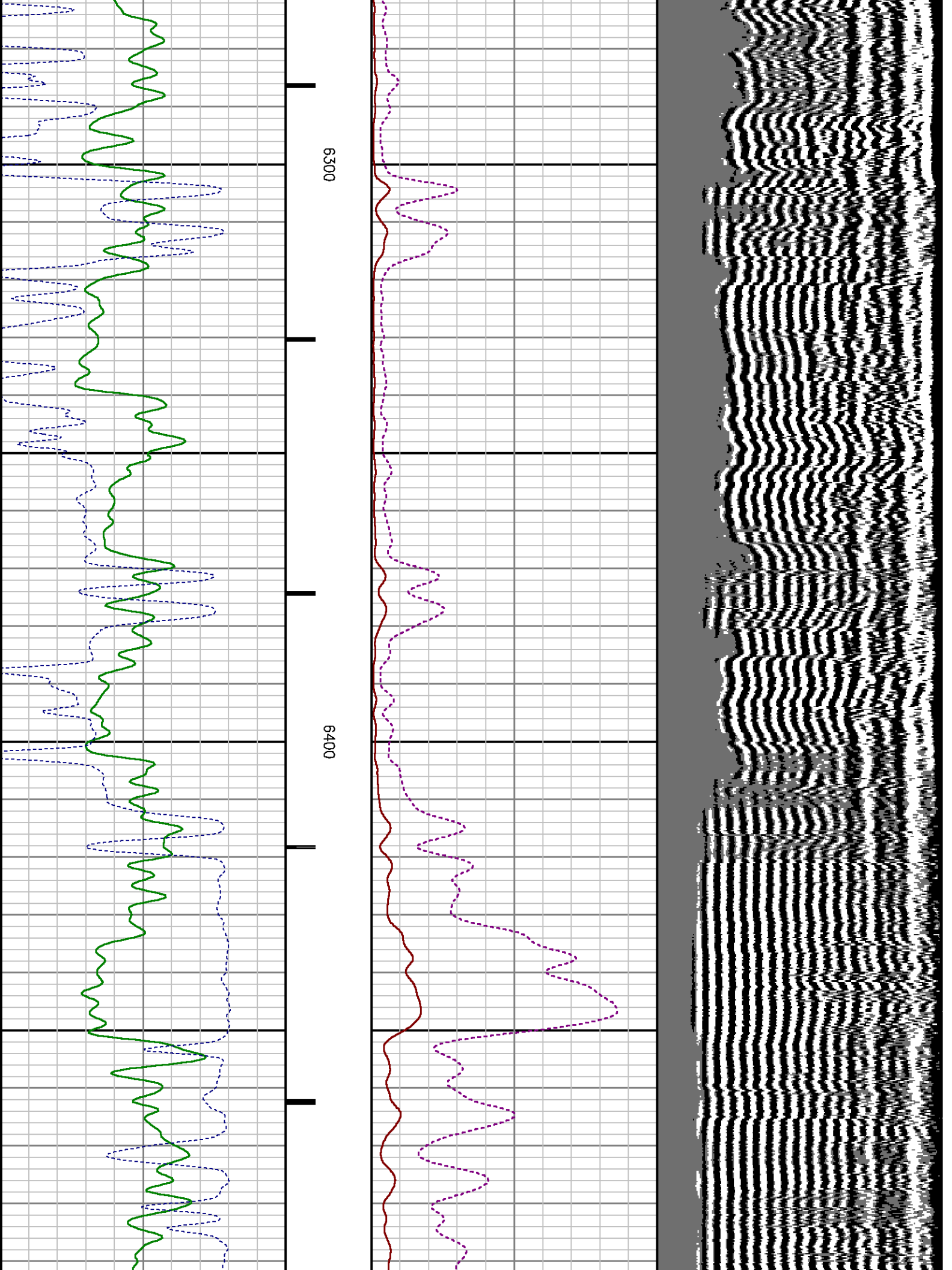


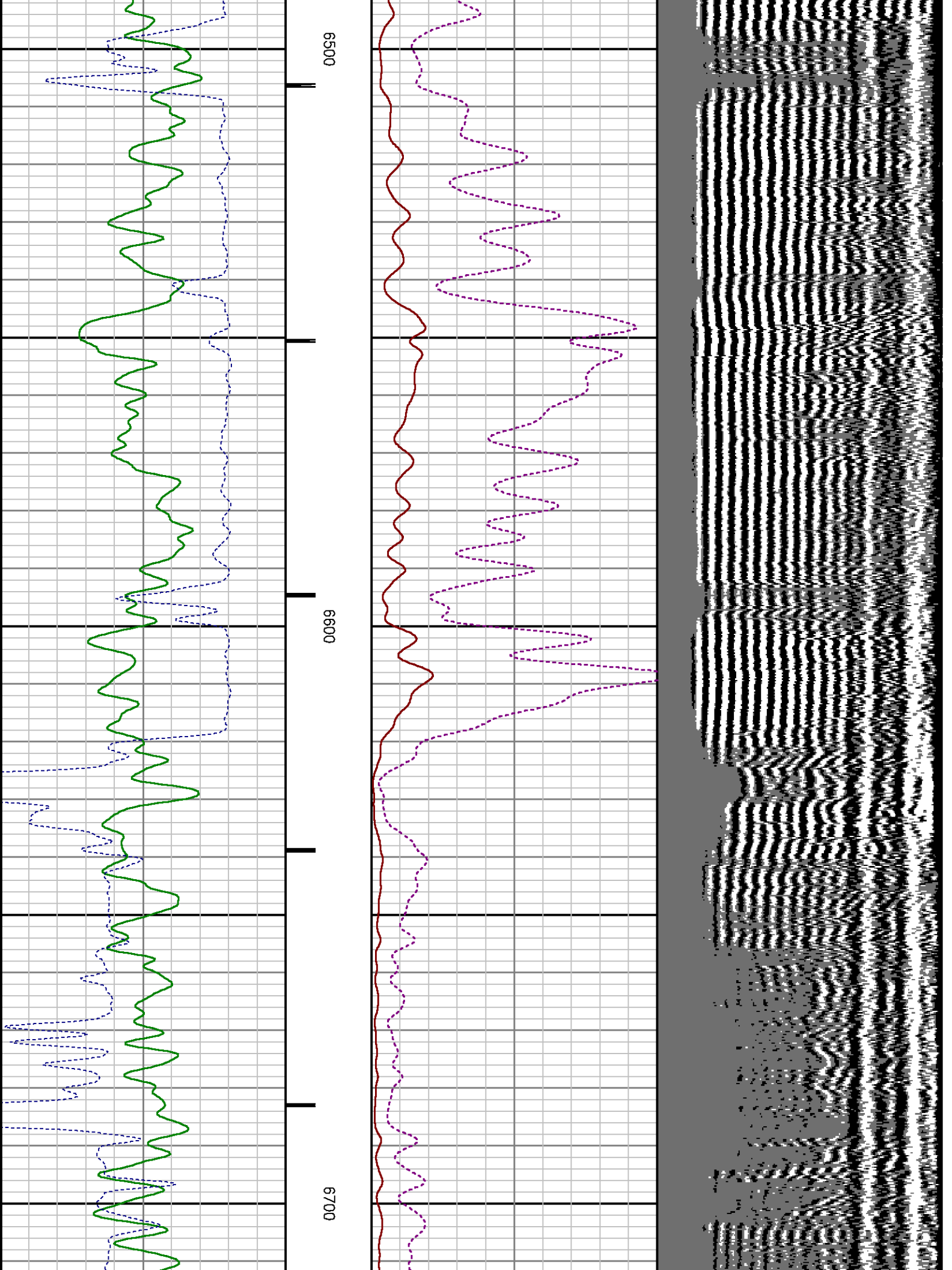


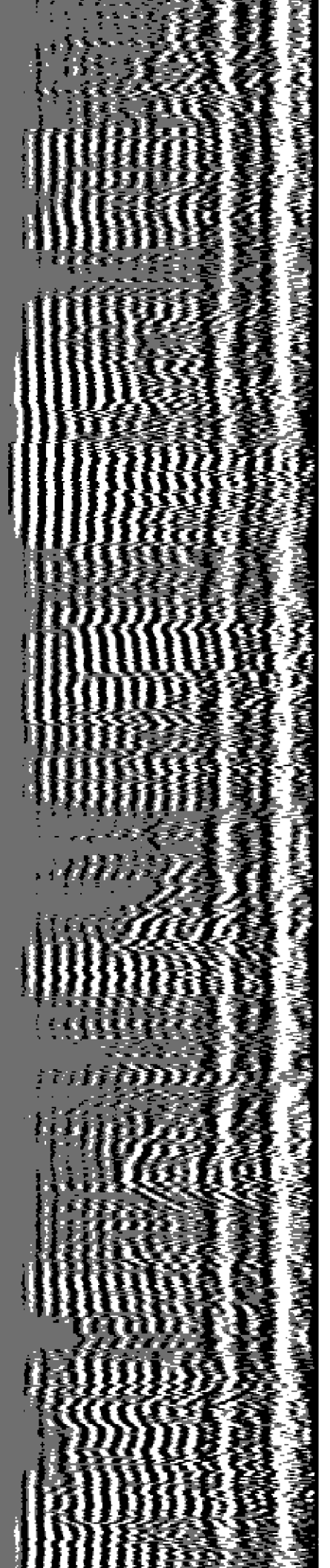
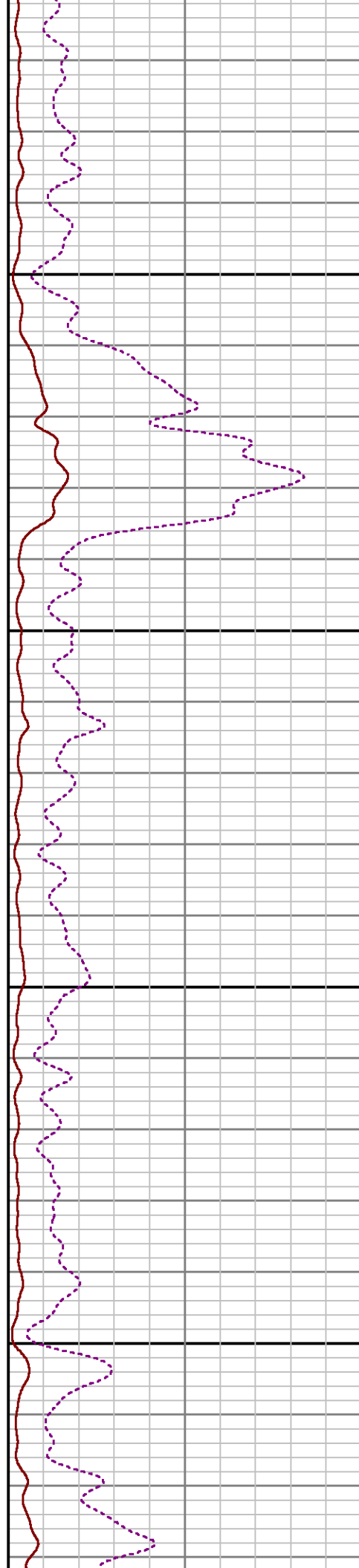
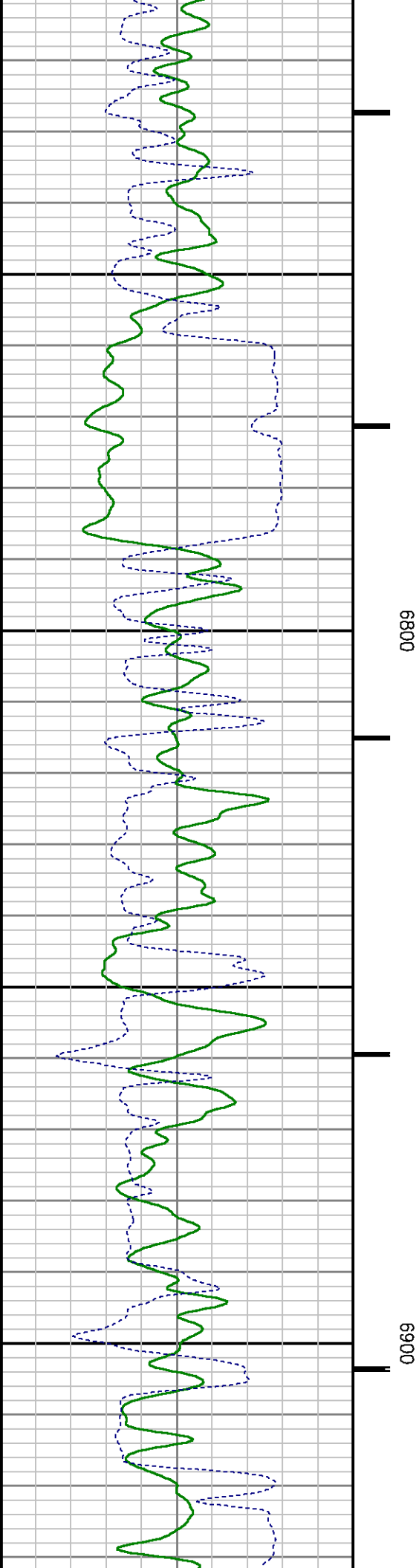


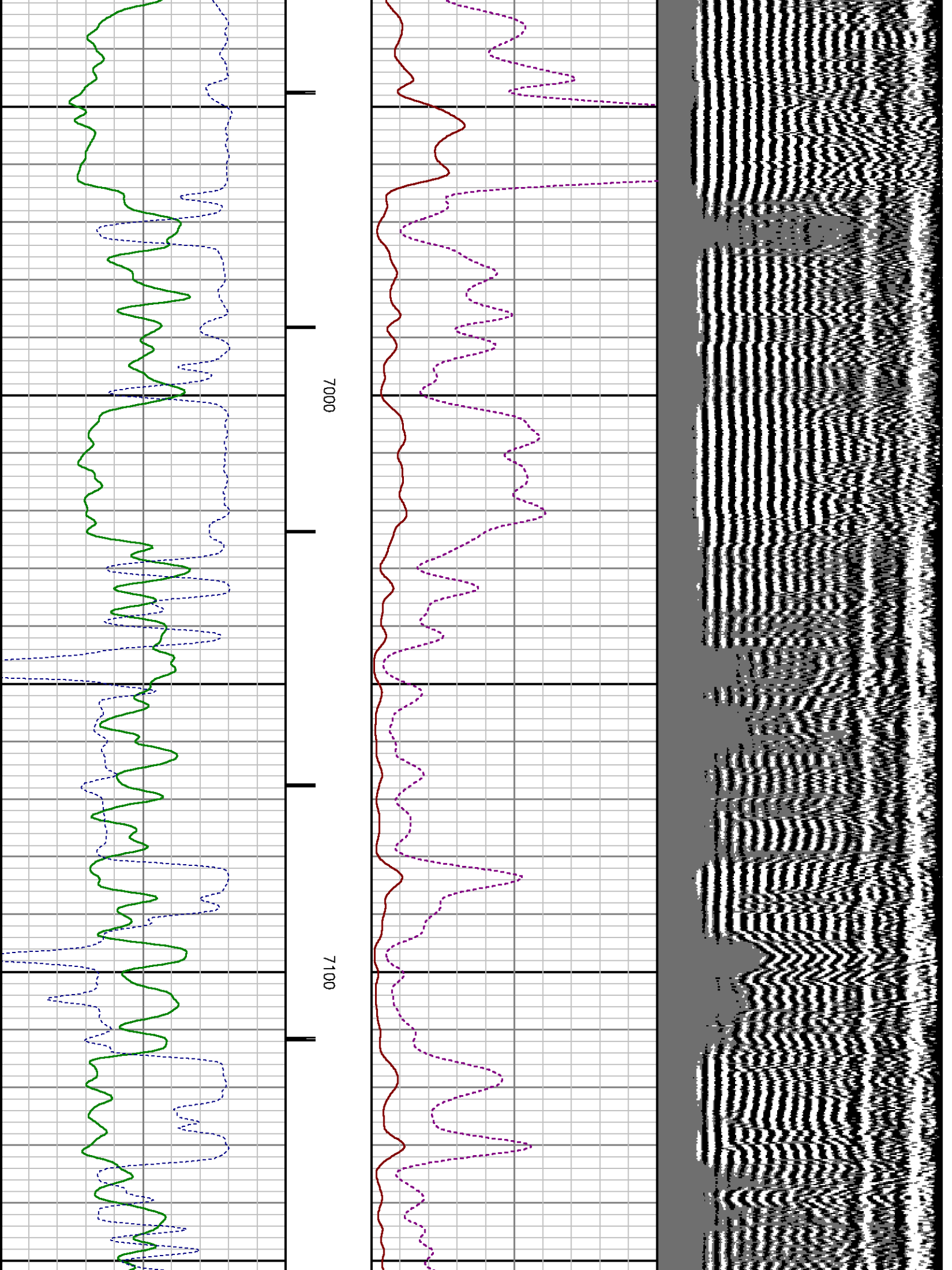


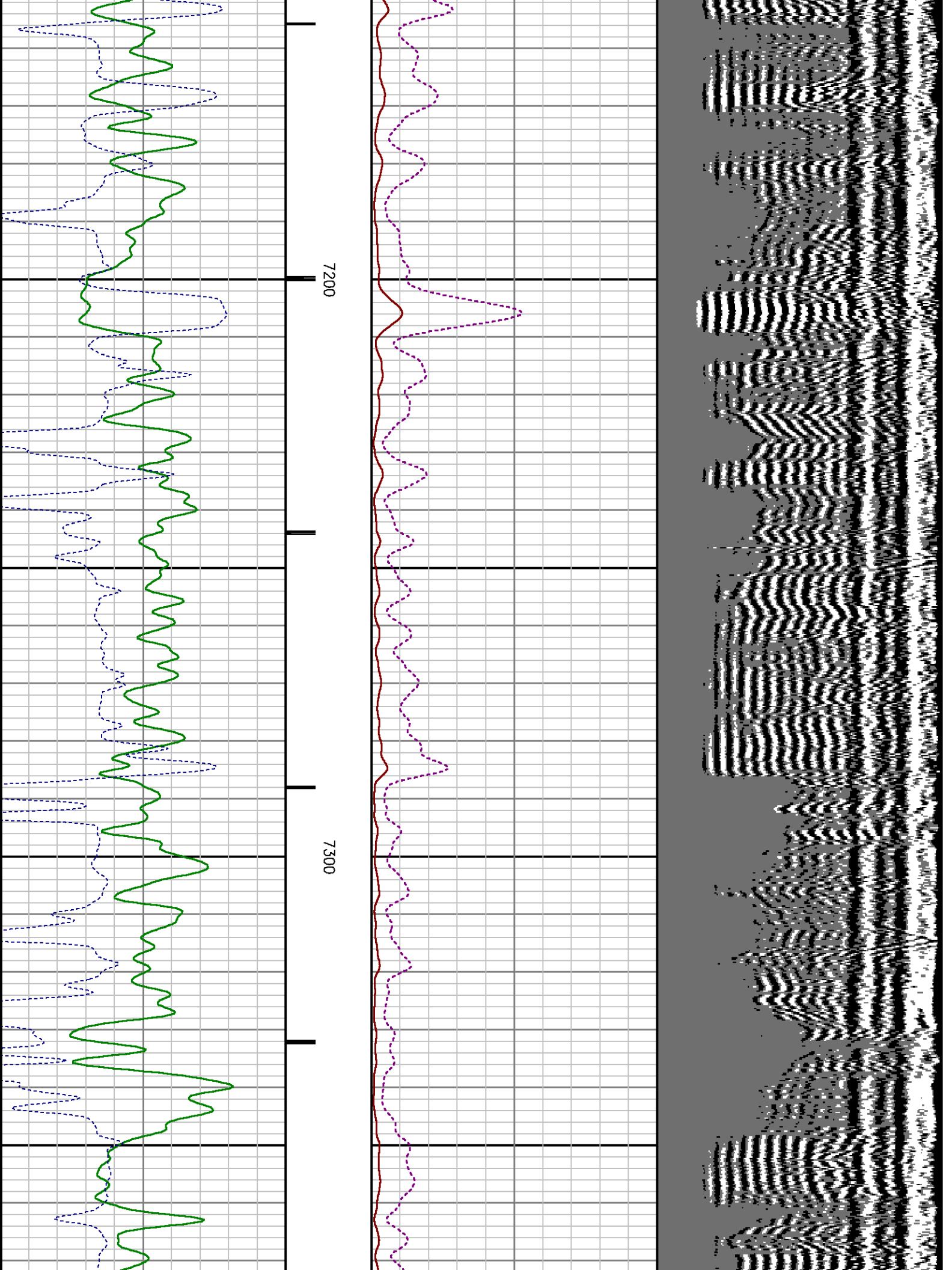


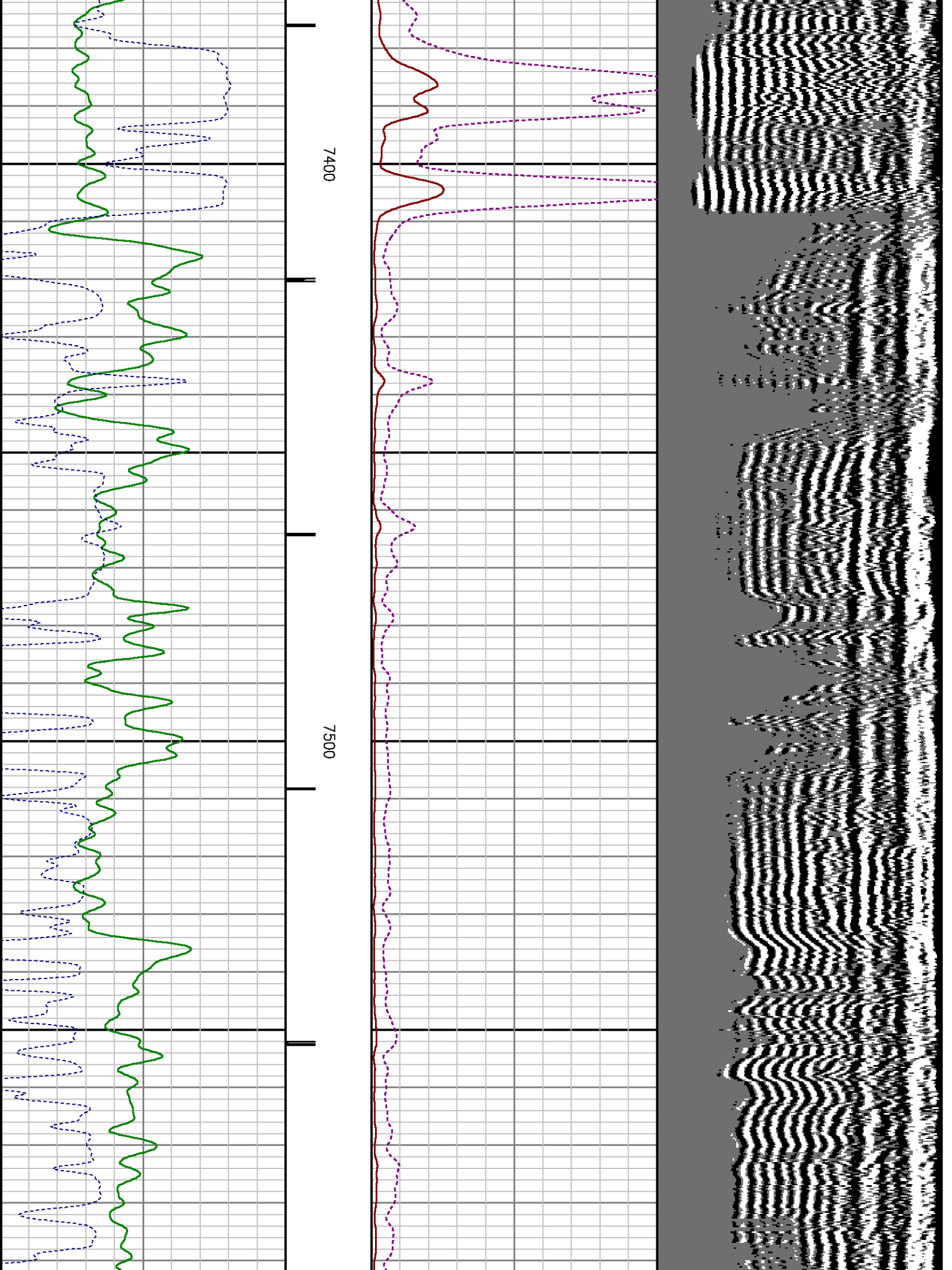


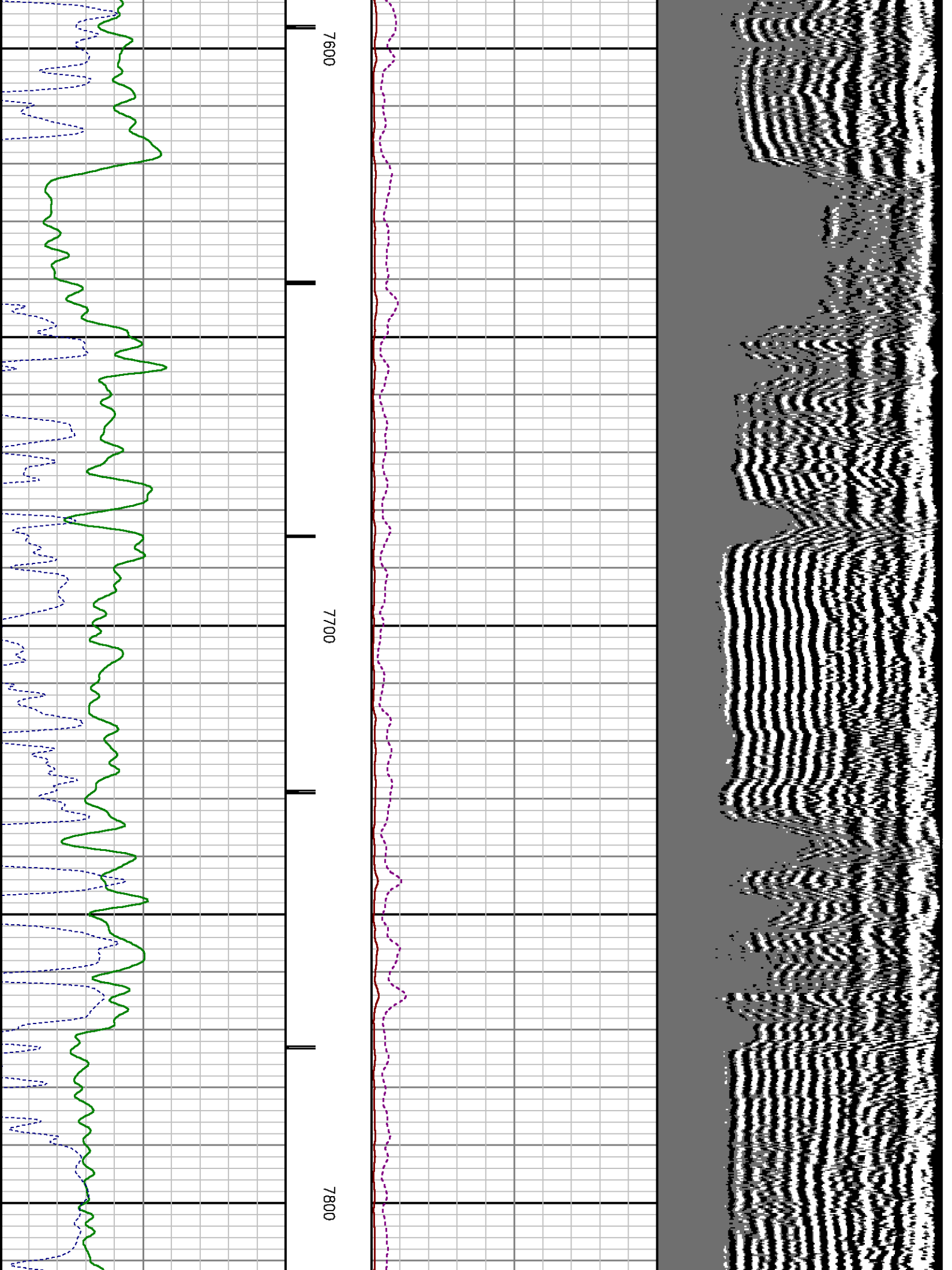


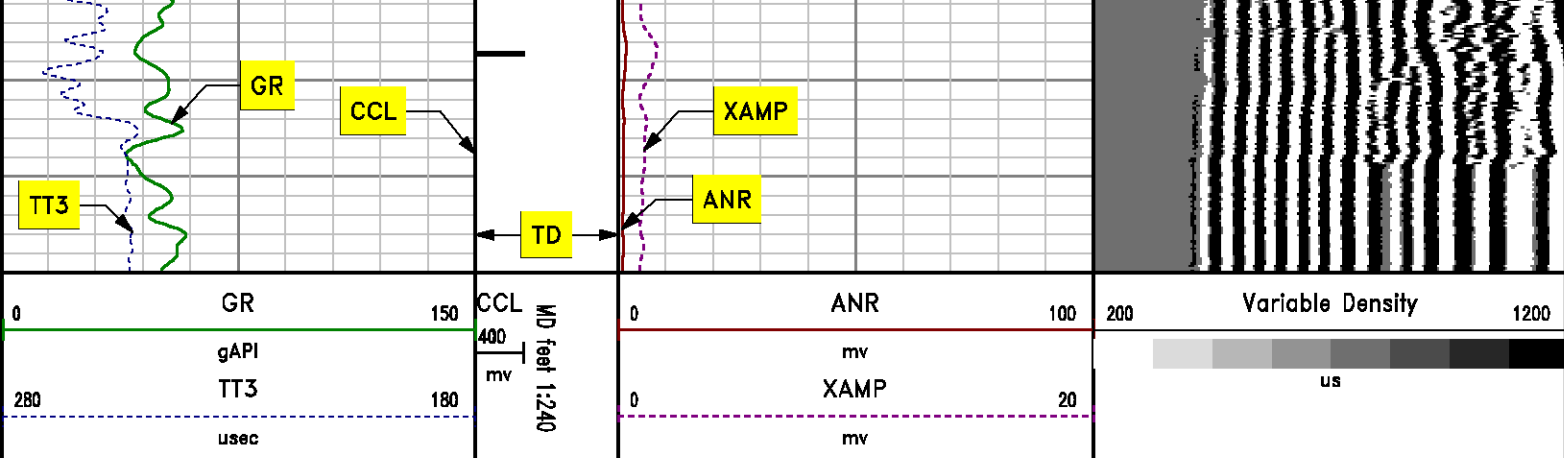












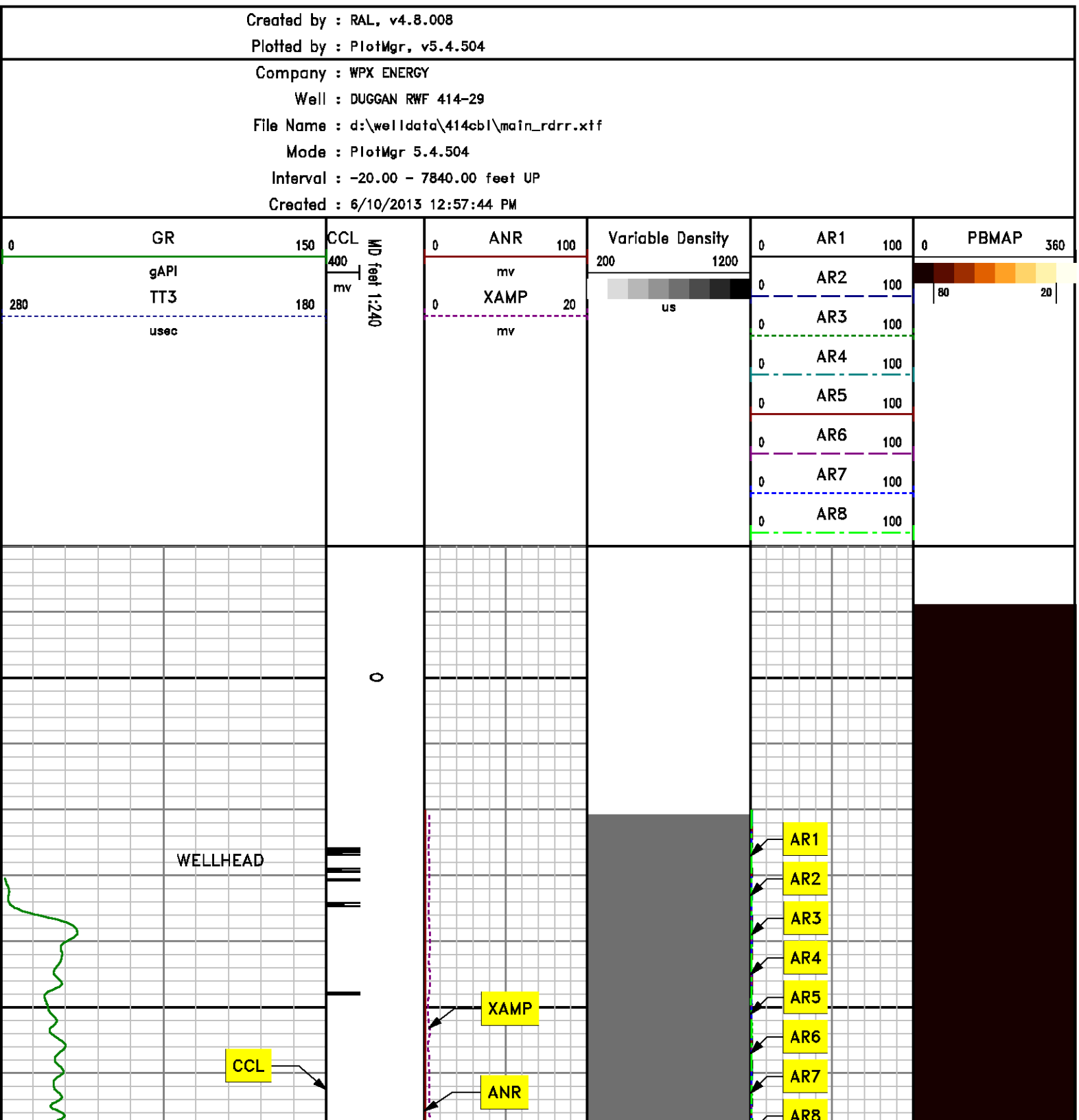
MAIN LOG SECONDARY PRESENTATION

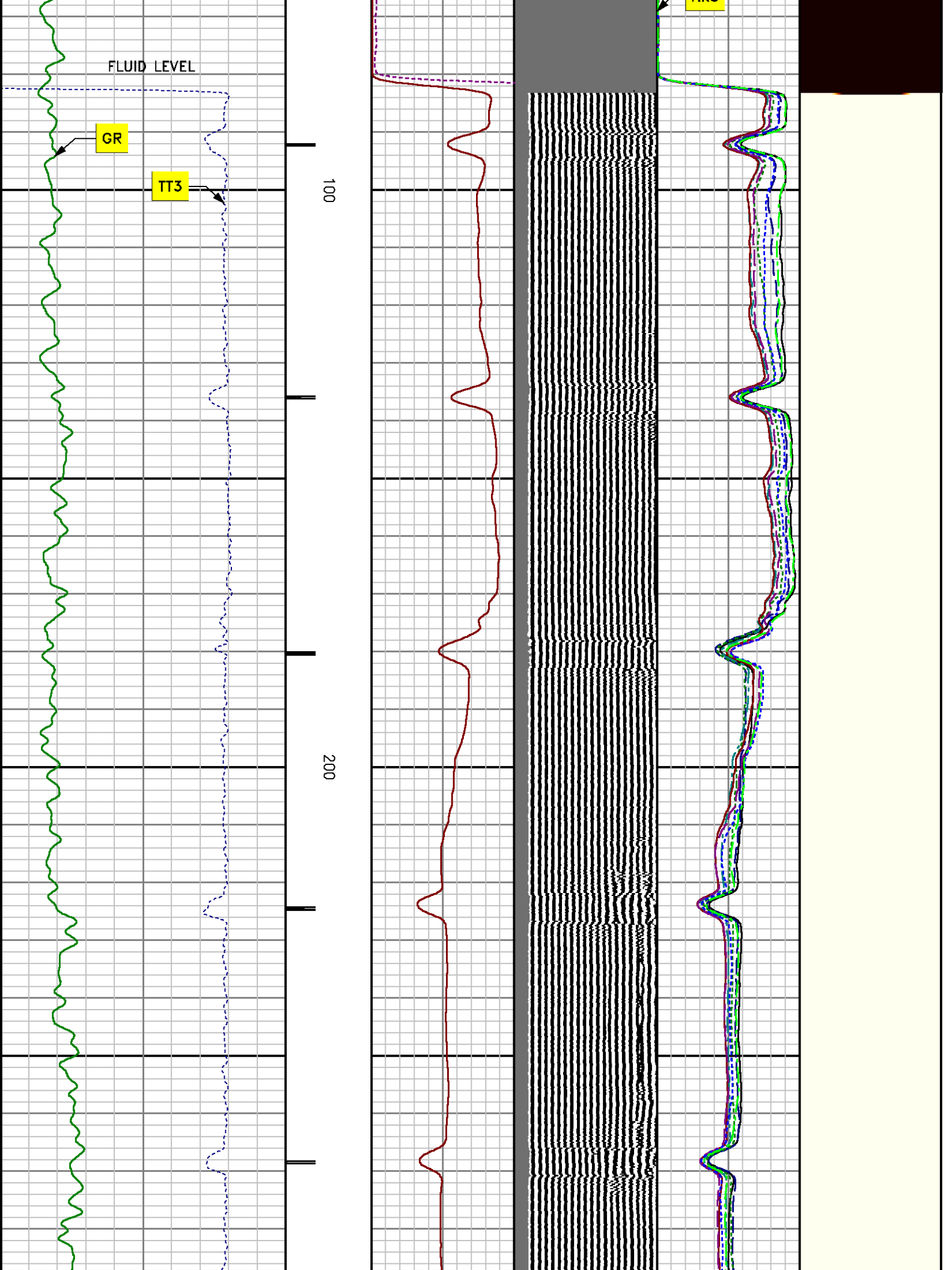
0 PSI

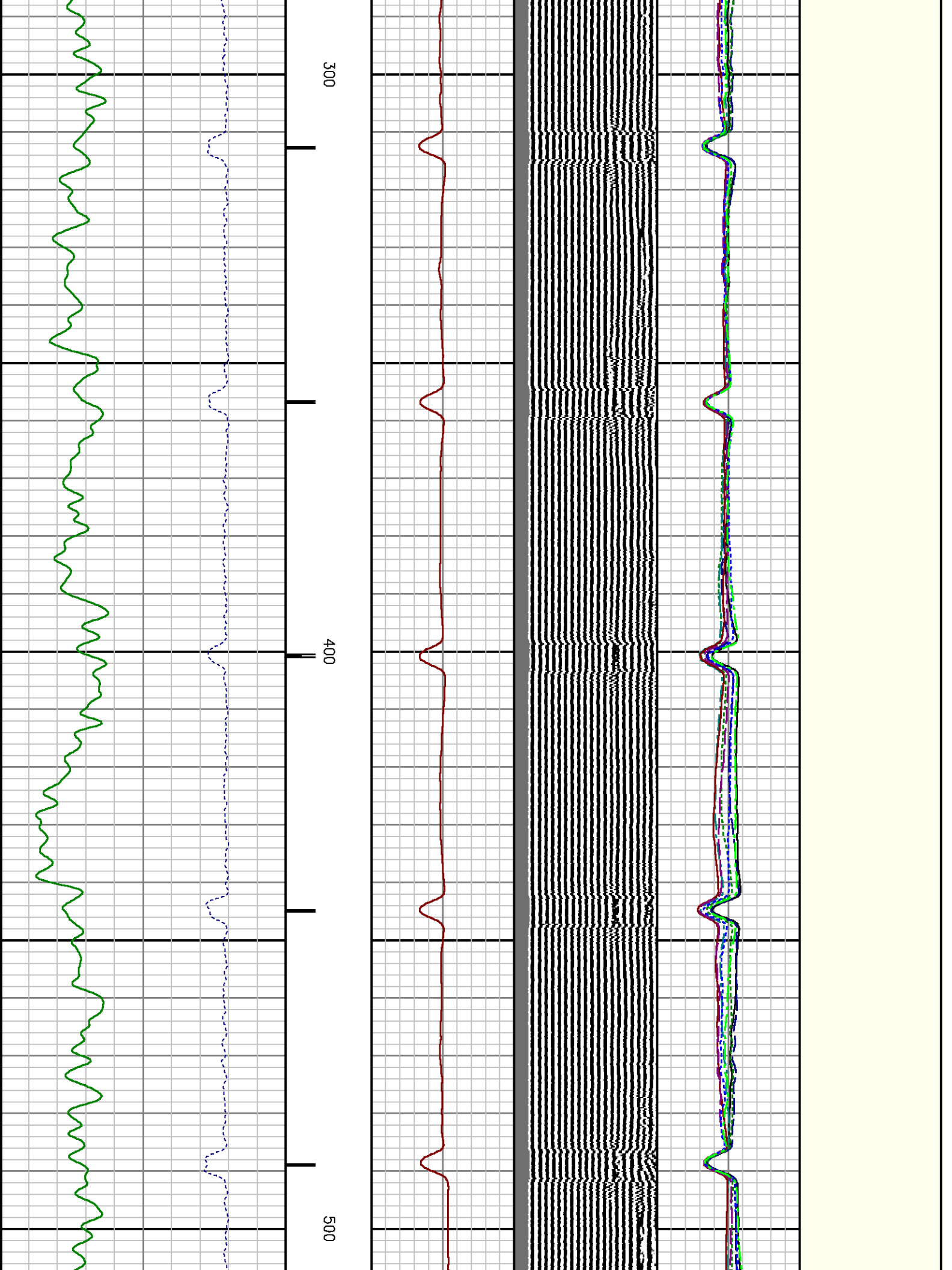
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	307.182	u sec	30.781	7858.000
RAL	Amp Gate Start Near	198.906	u sec	30.781	7858.000
RAL	Amp Gate Start Radial	198.906	u sec	30.781	7858.000
RAL	Amp Gate Width Far	25.000	u sec	30.781	7858.000
RAL	Amp Gate Width Near	25.000	u sec	30.781	7858.000
RAL	Amp Gate Width Radial	25.000	u sec	30.781	7858.000
RAL	casing od	4.500	inches	30.781	7858.000
RAL	casing wt	11.600	lbm/ft	30.781	7858.000
RAL	FB Start Far	291.900	u sec	30.781	7858.000
RAL	FB Start Near	175.391	u sec	30.781	7858.000
RAL	FB Start Radial	175.391	u sec	30.781	7858.000
RAL	FB Thresh Far	10.000	mv	30.781	7858.000
RAL	FB Thresh Near	4.000	mv	30.781	7858.000
RAL	FB Thresh Radial	4.000	mv	30.781	7858.000
RAL	Fluid Travel Time	200.000	u sec/ft	30.781	7858.562

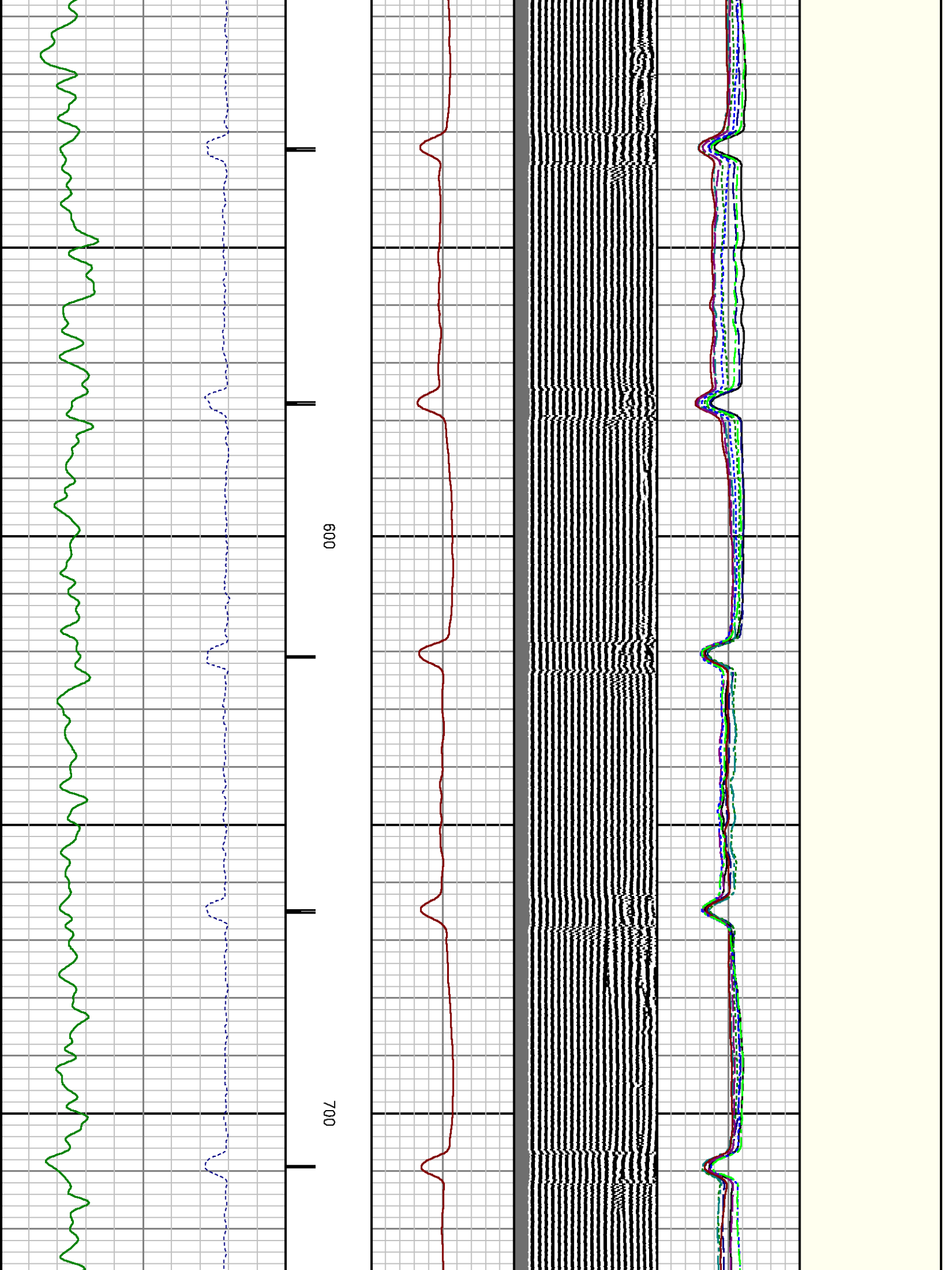
DEPTH OFFSETS
(for Acquired Curves)

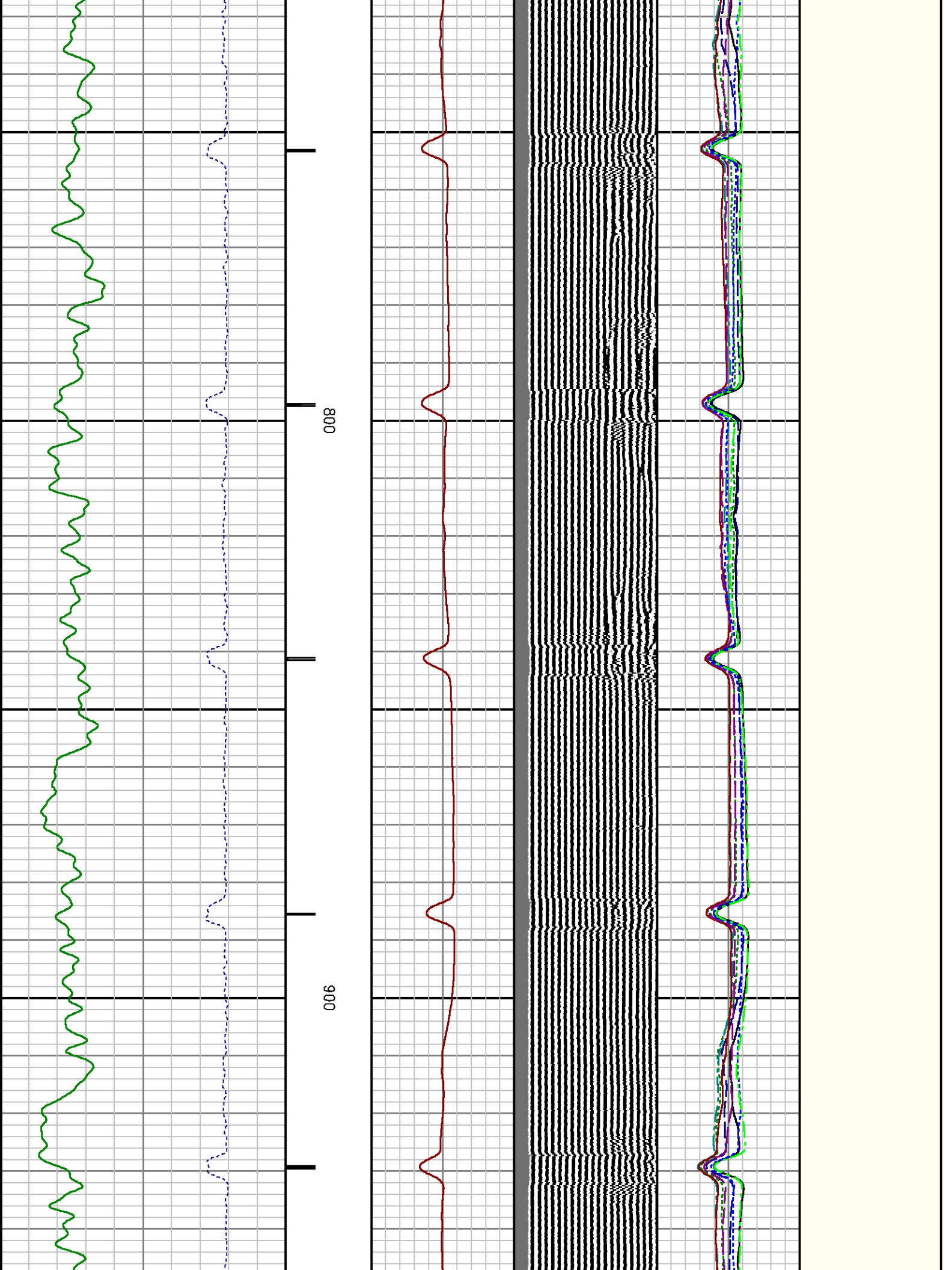
SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-11.000	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-10.040	AFAR	SIG	TT5			
1355XA	-5.620	CCL					
1355XA	-1.500	GR					
1355XA	0.000	TEMP					

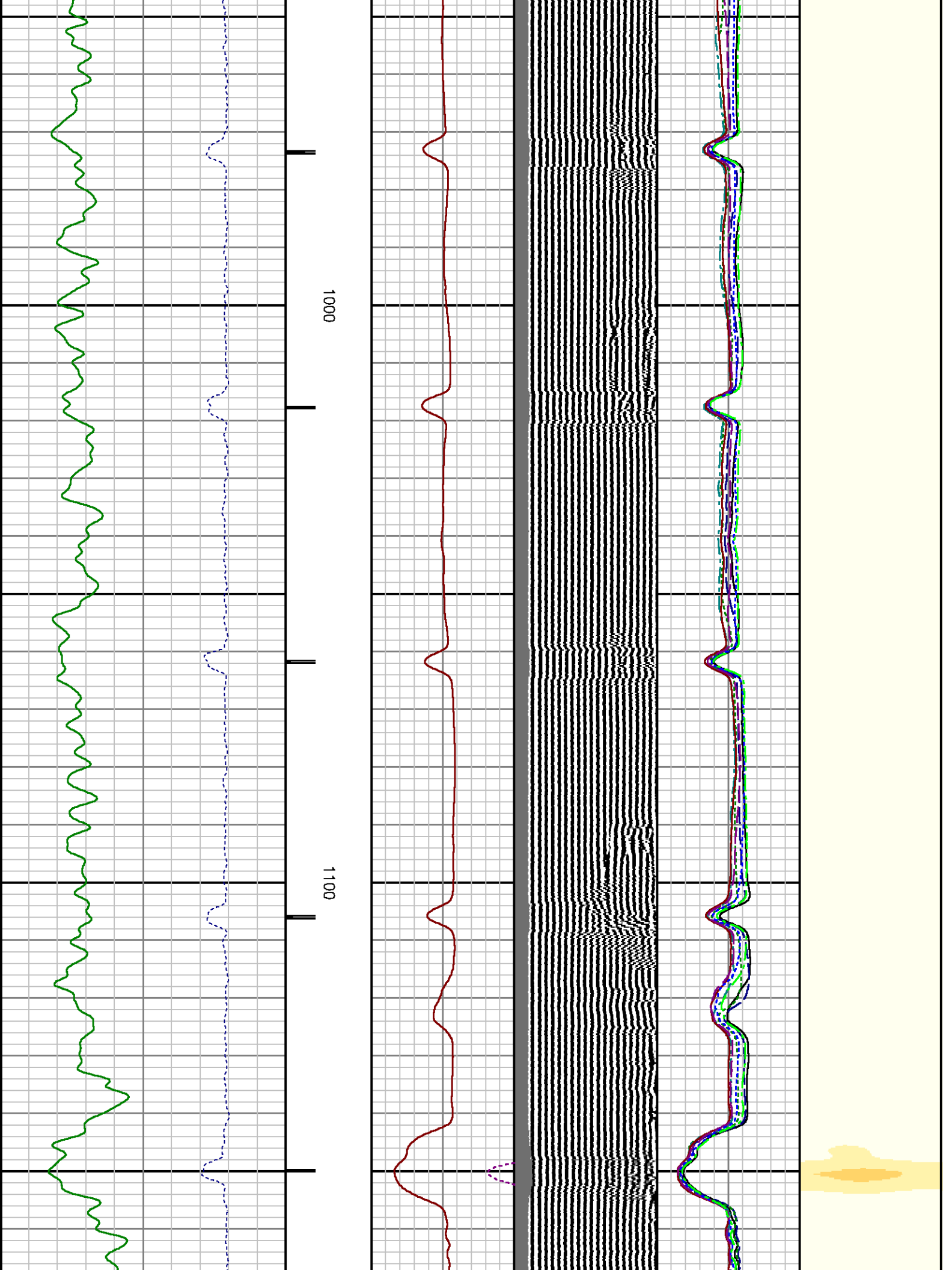


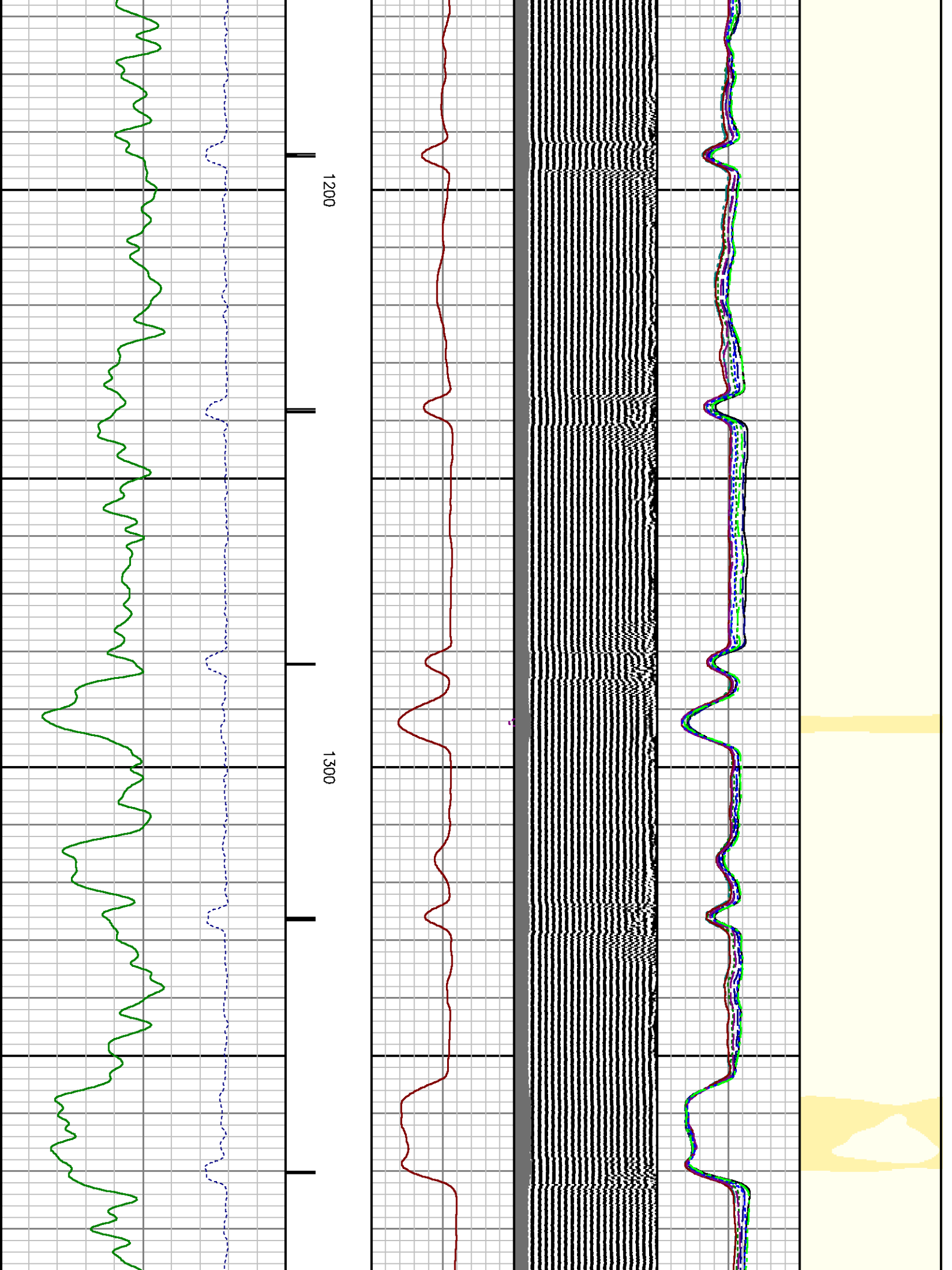


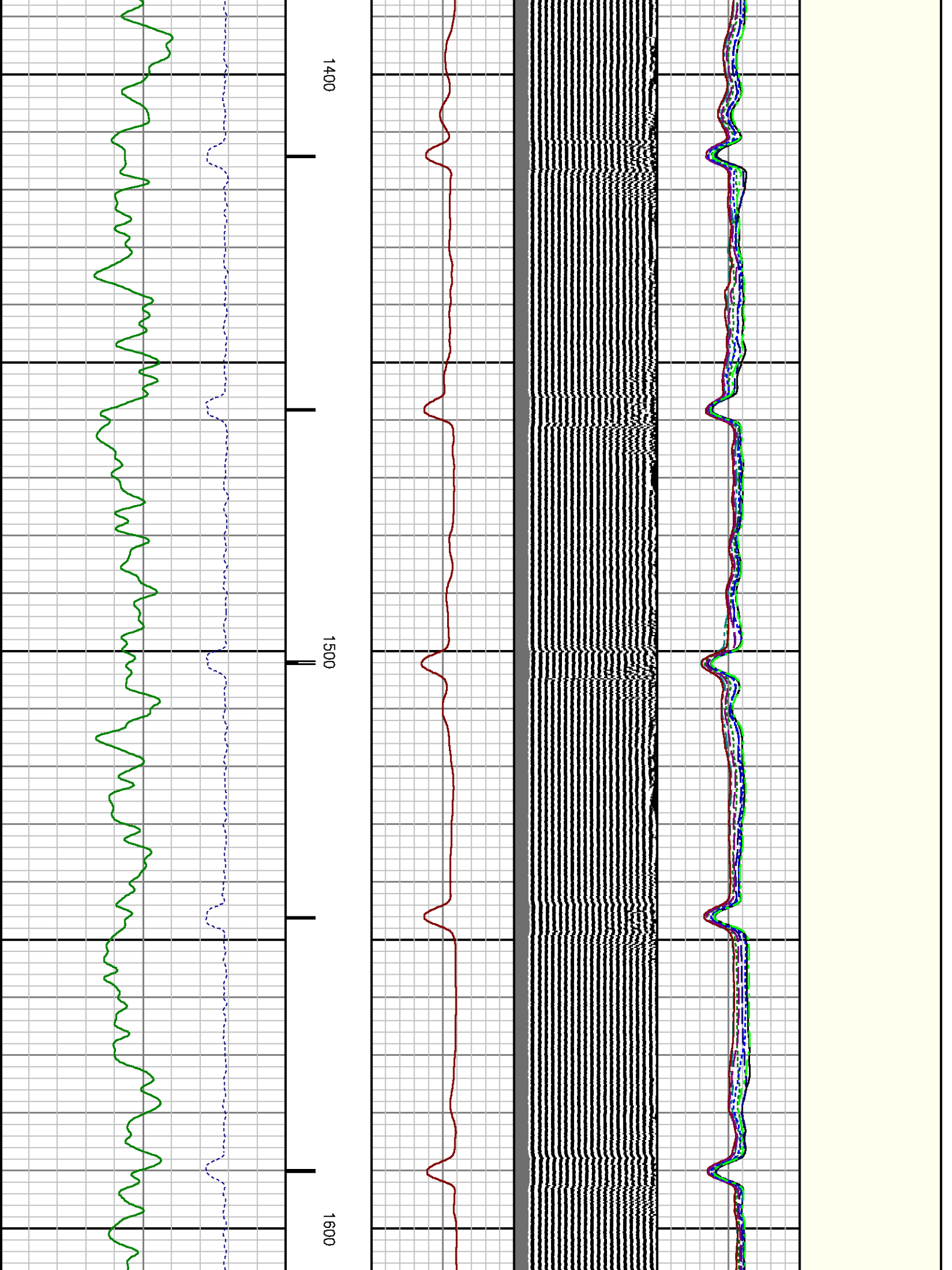


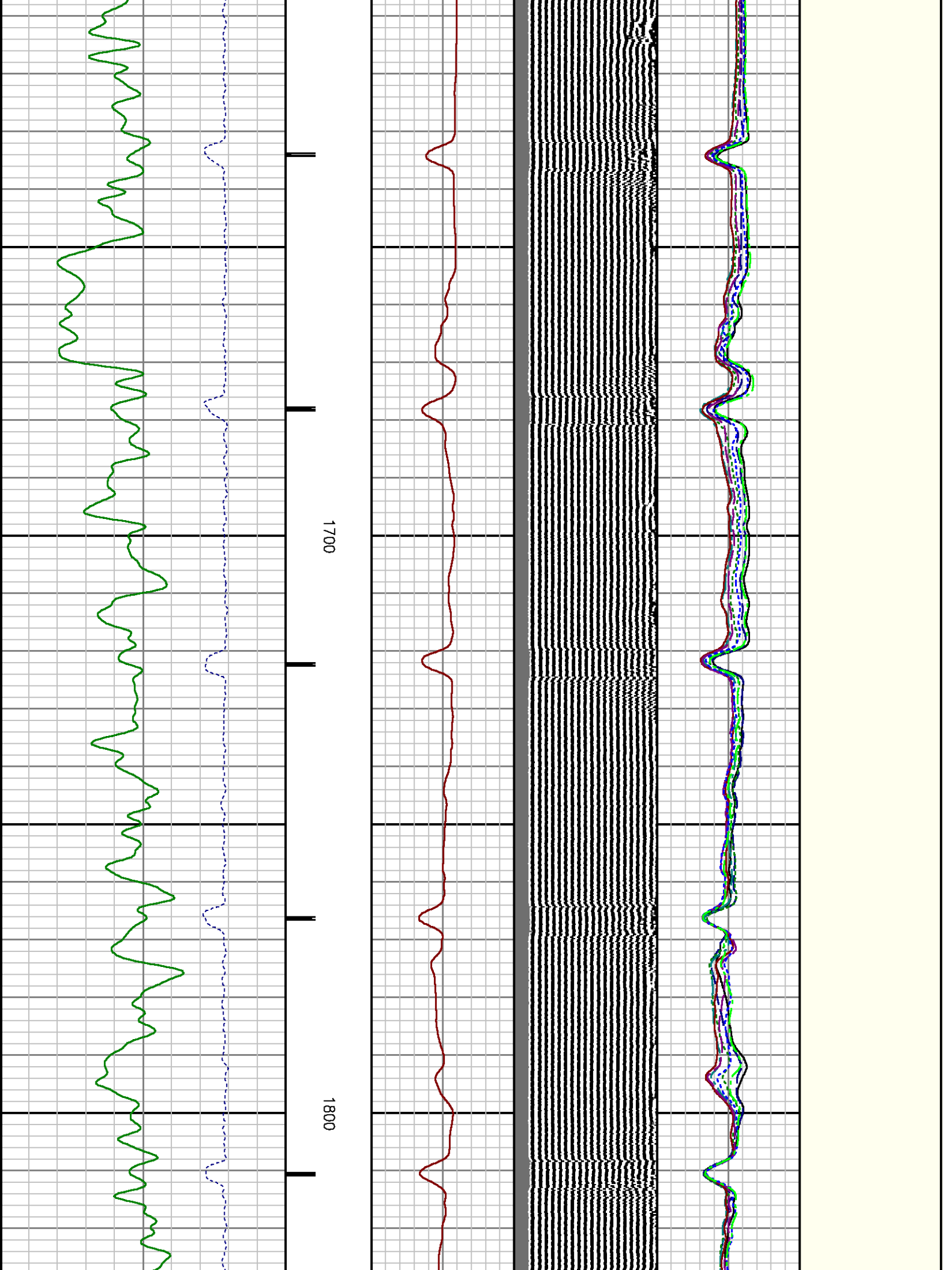


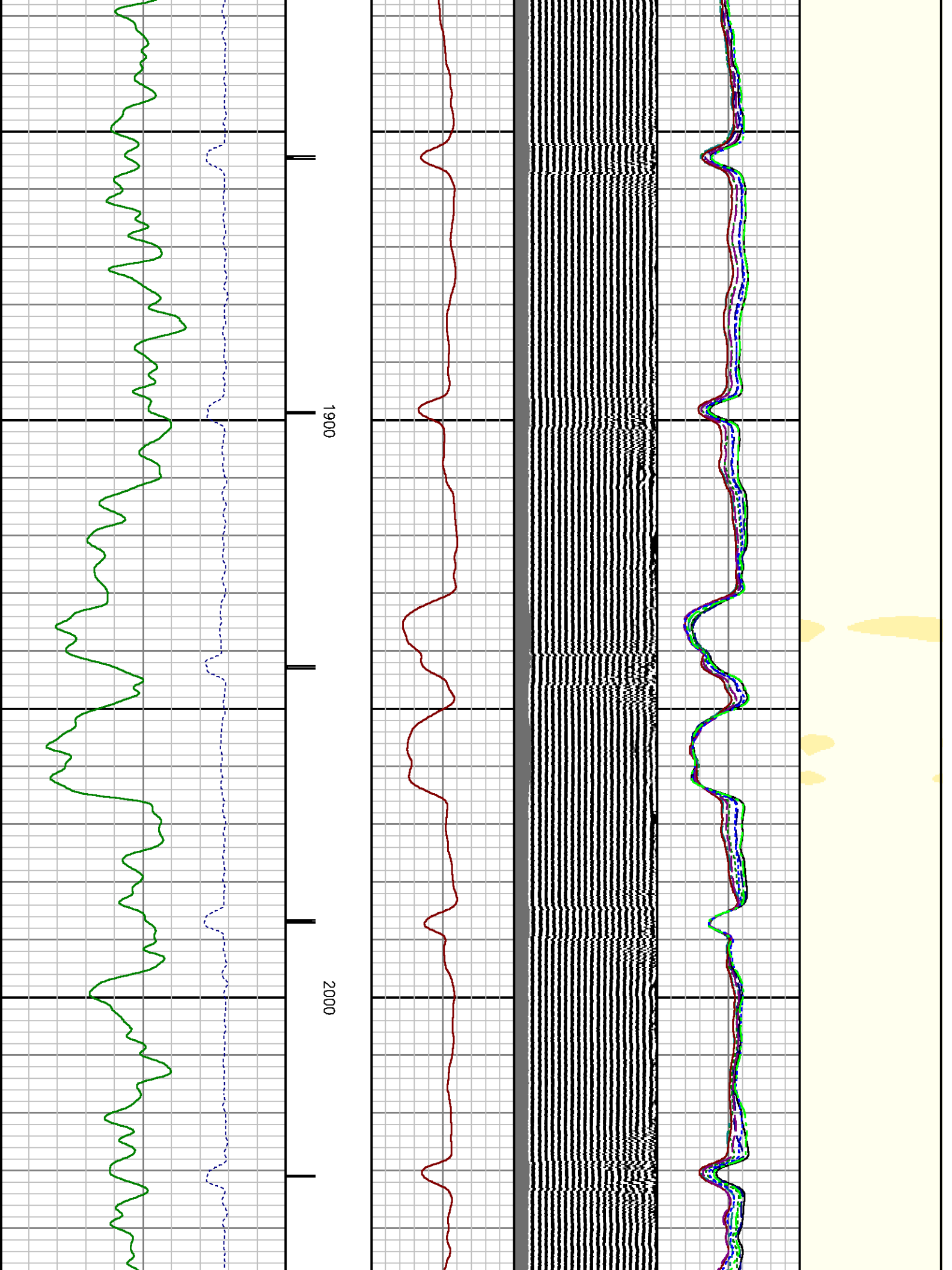


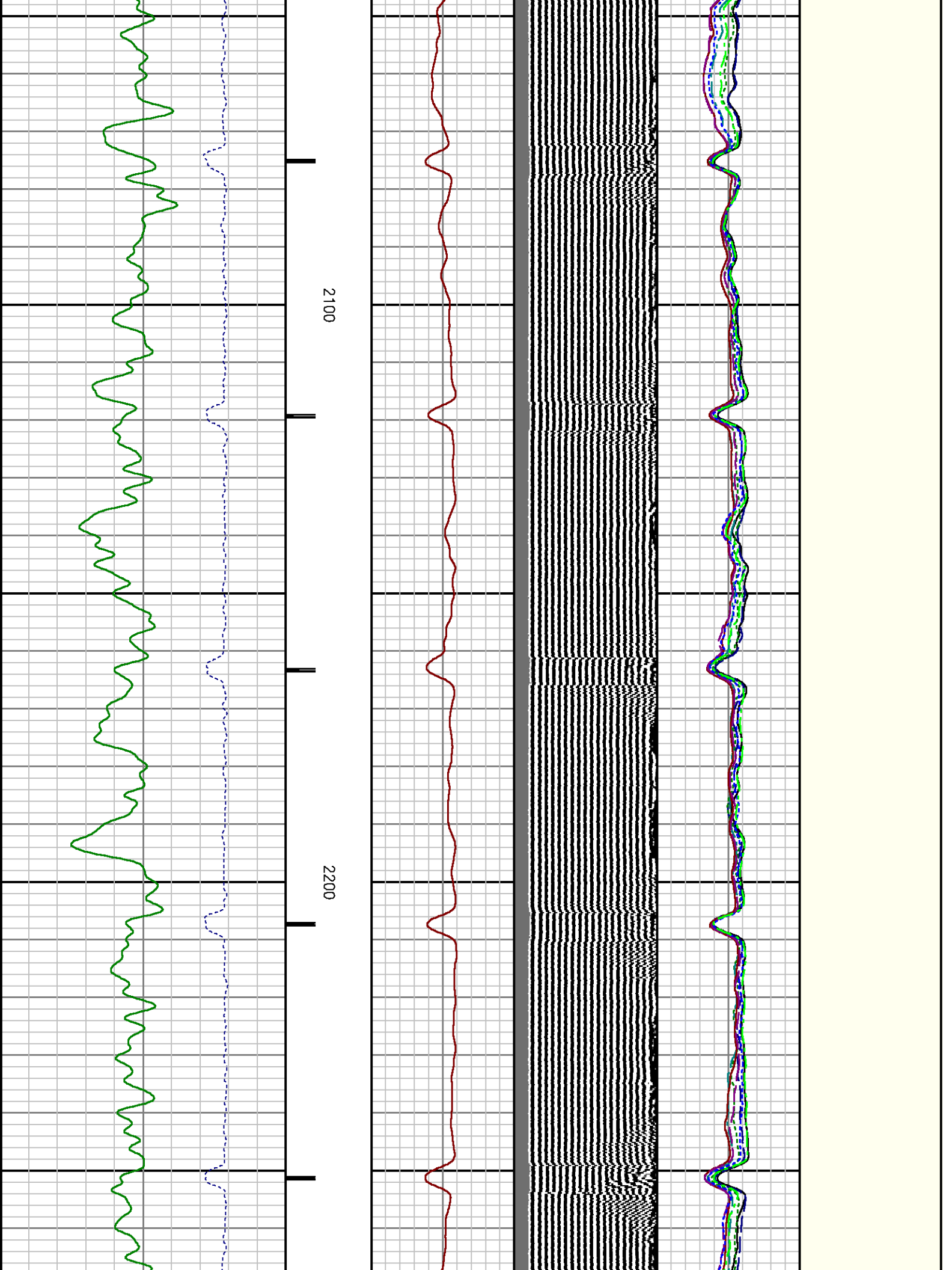


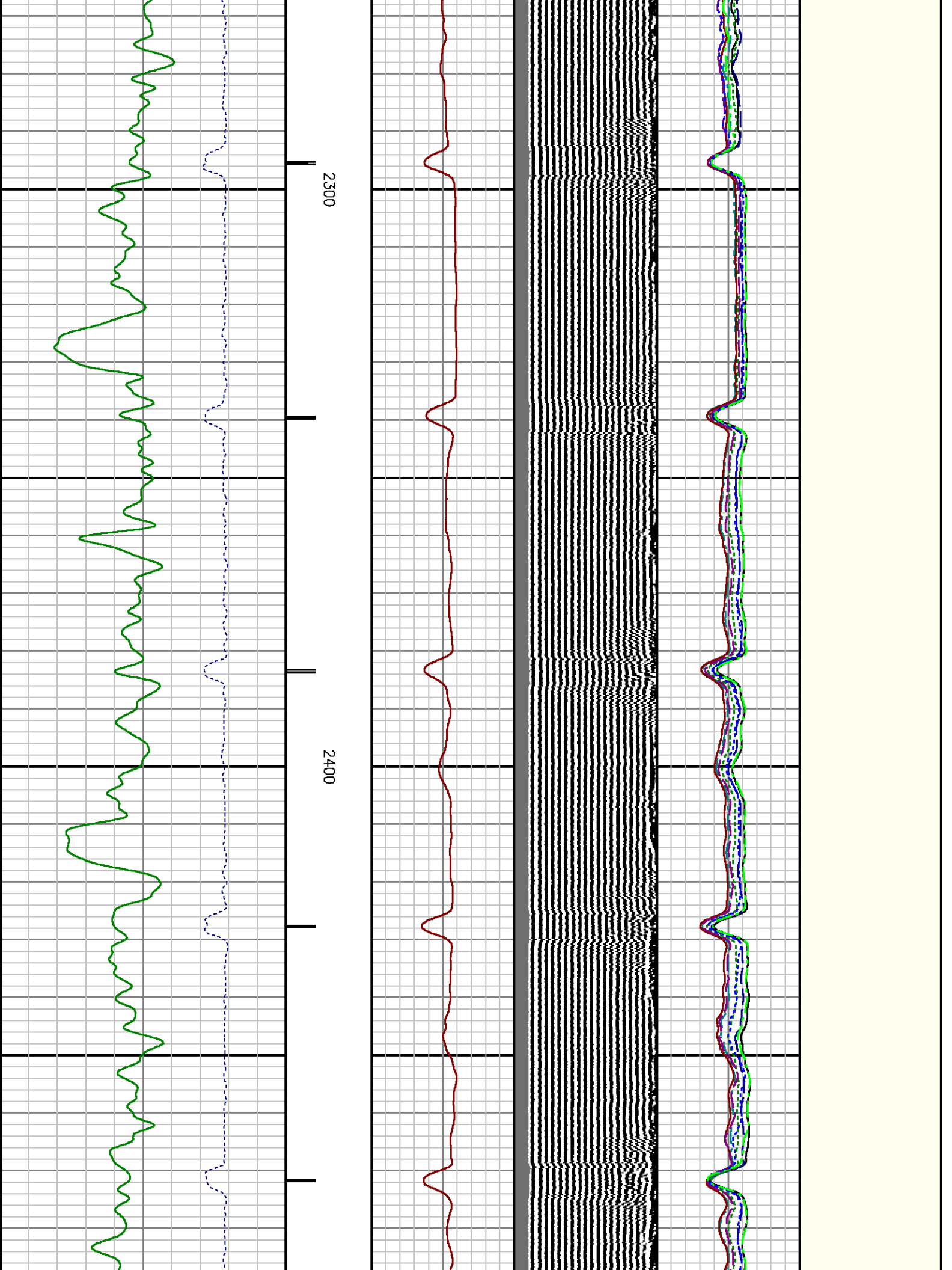


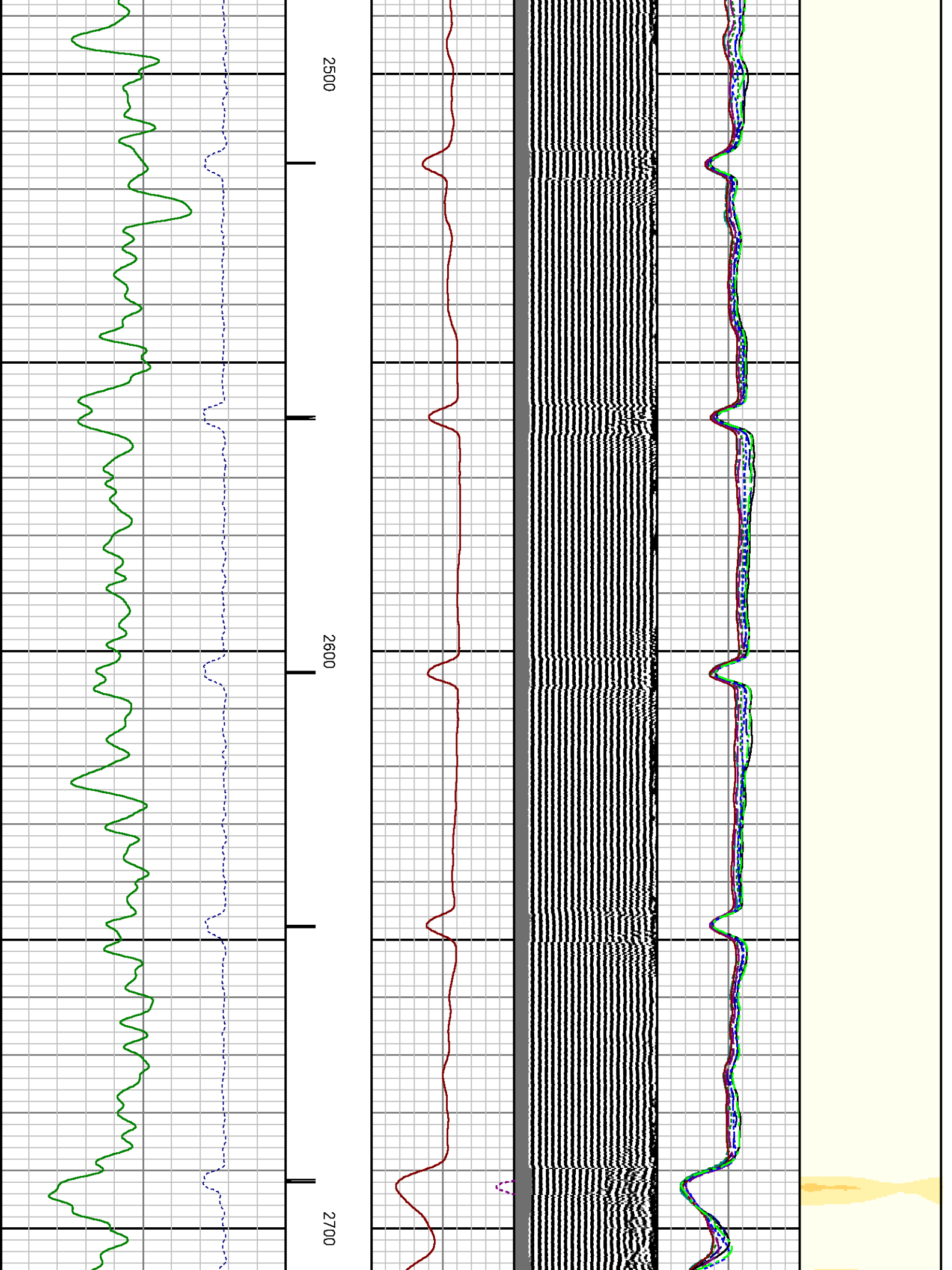


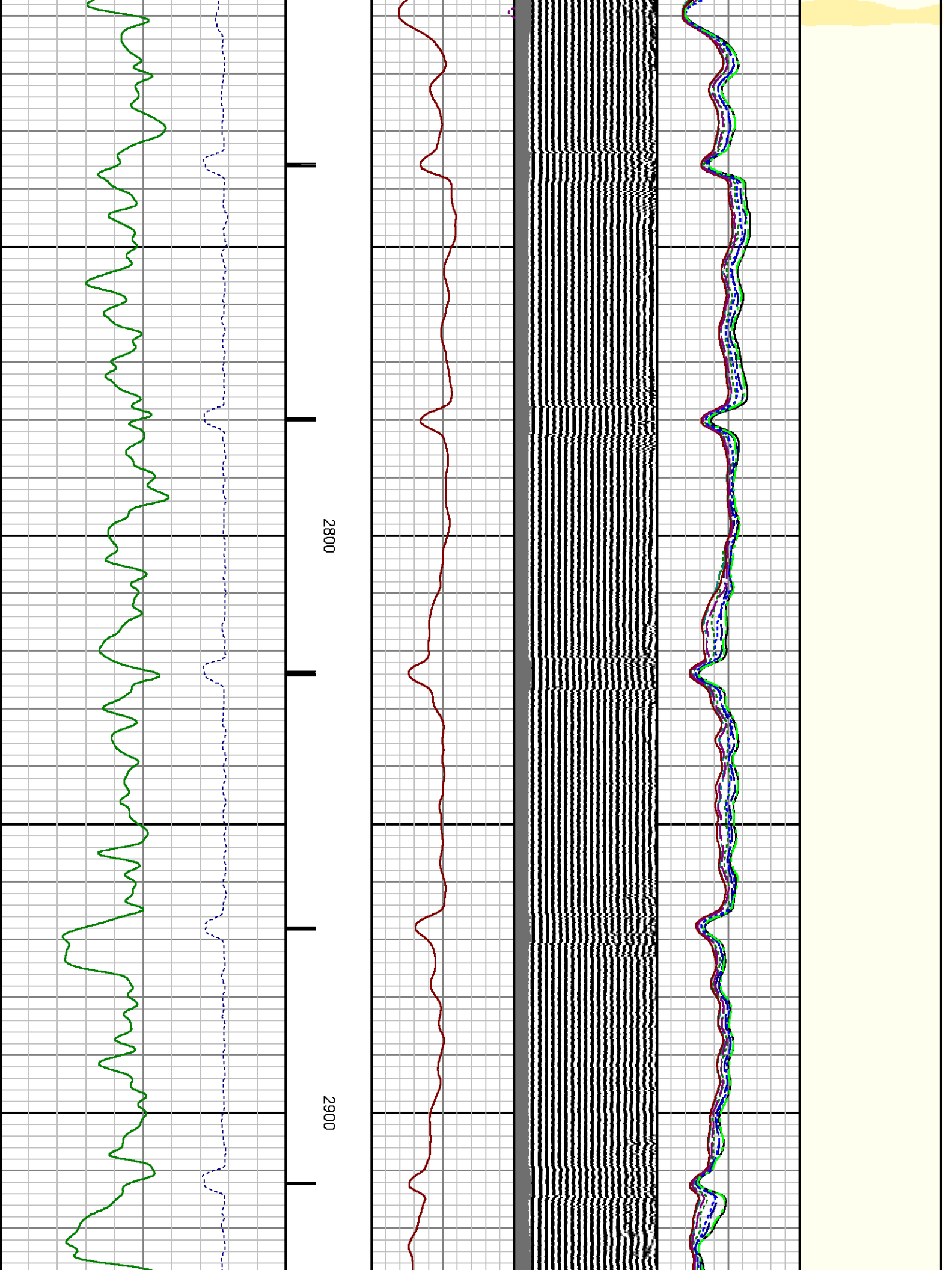


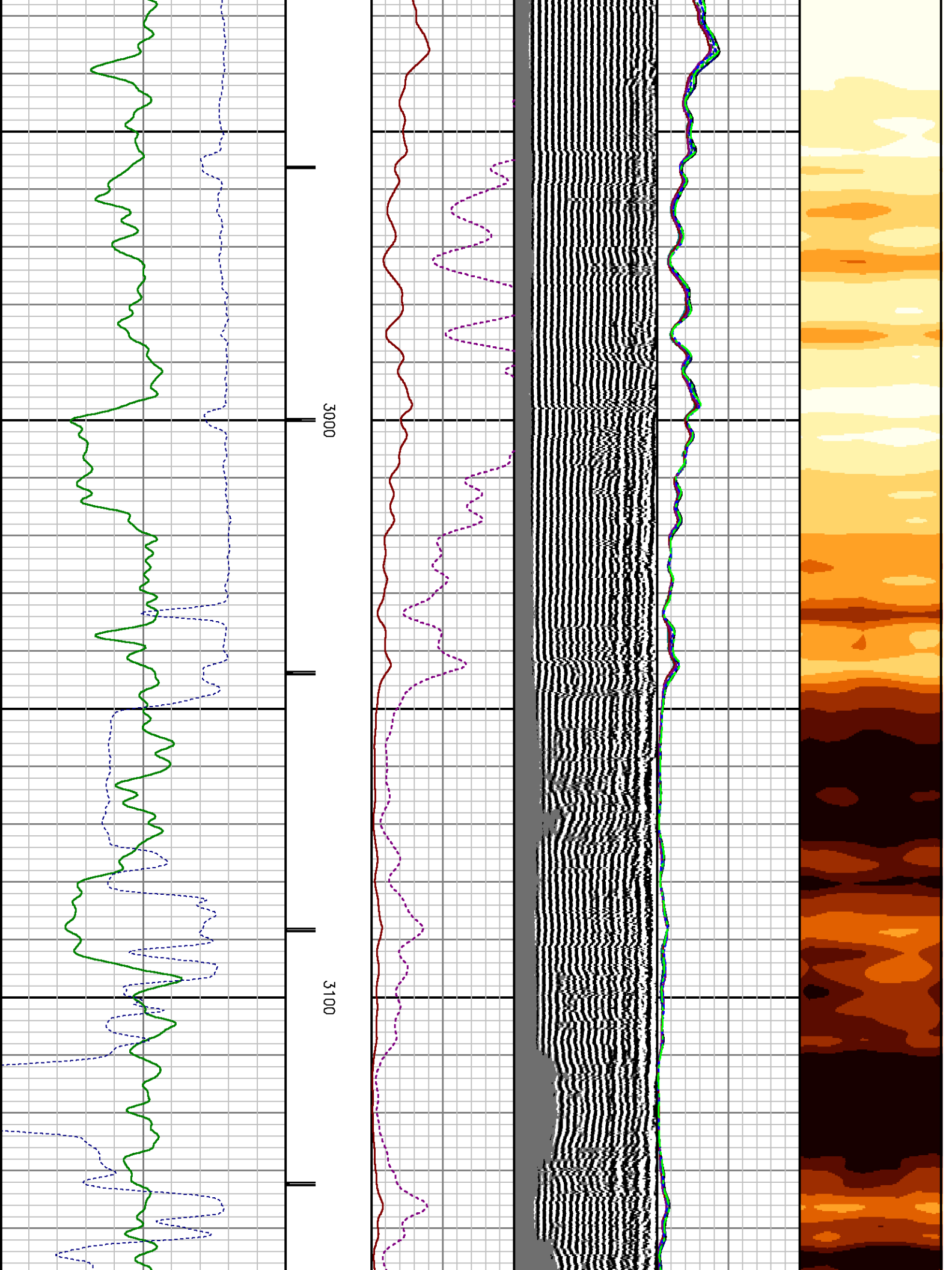


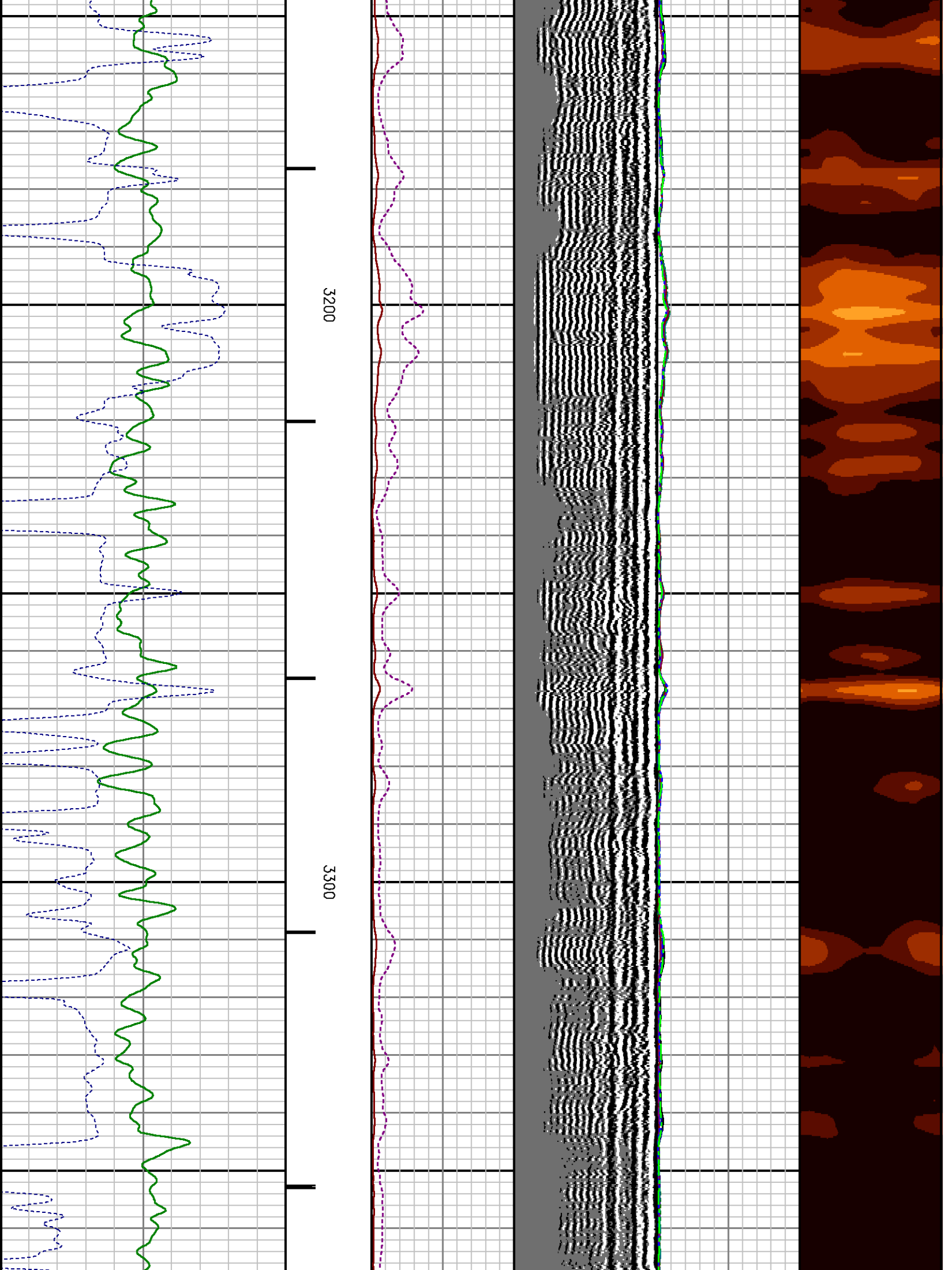


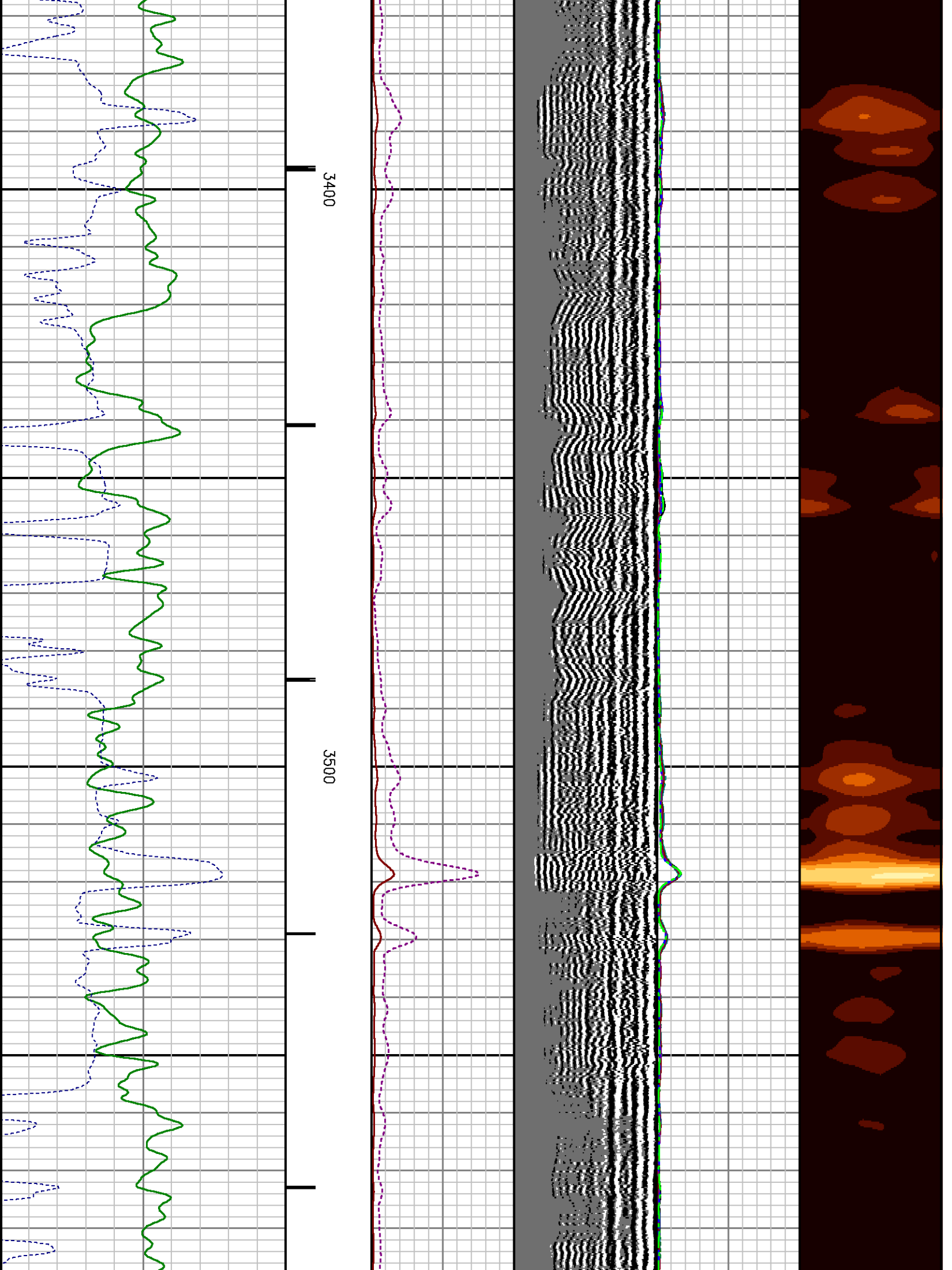


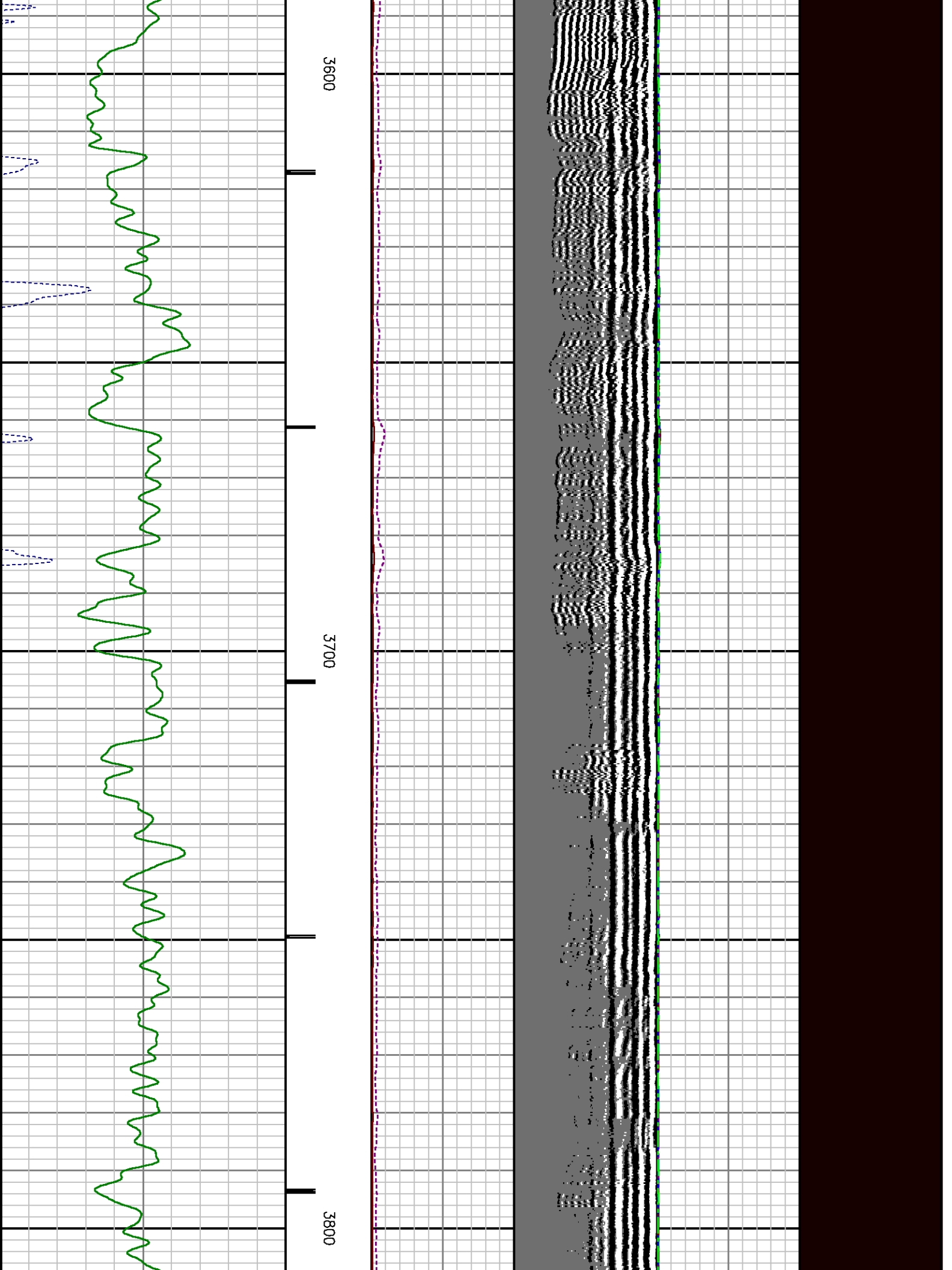


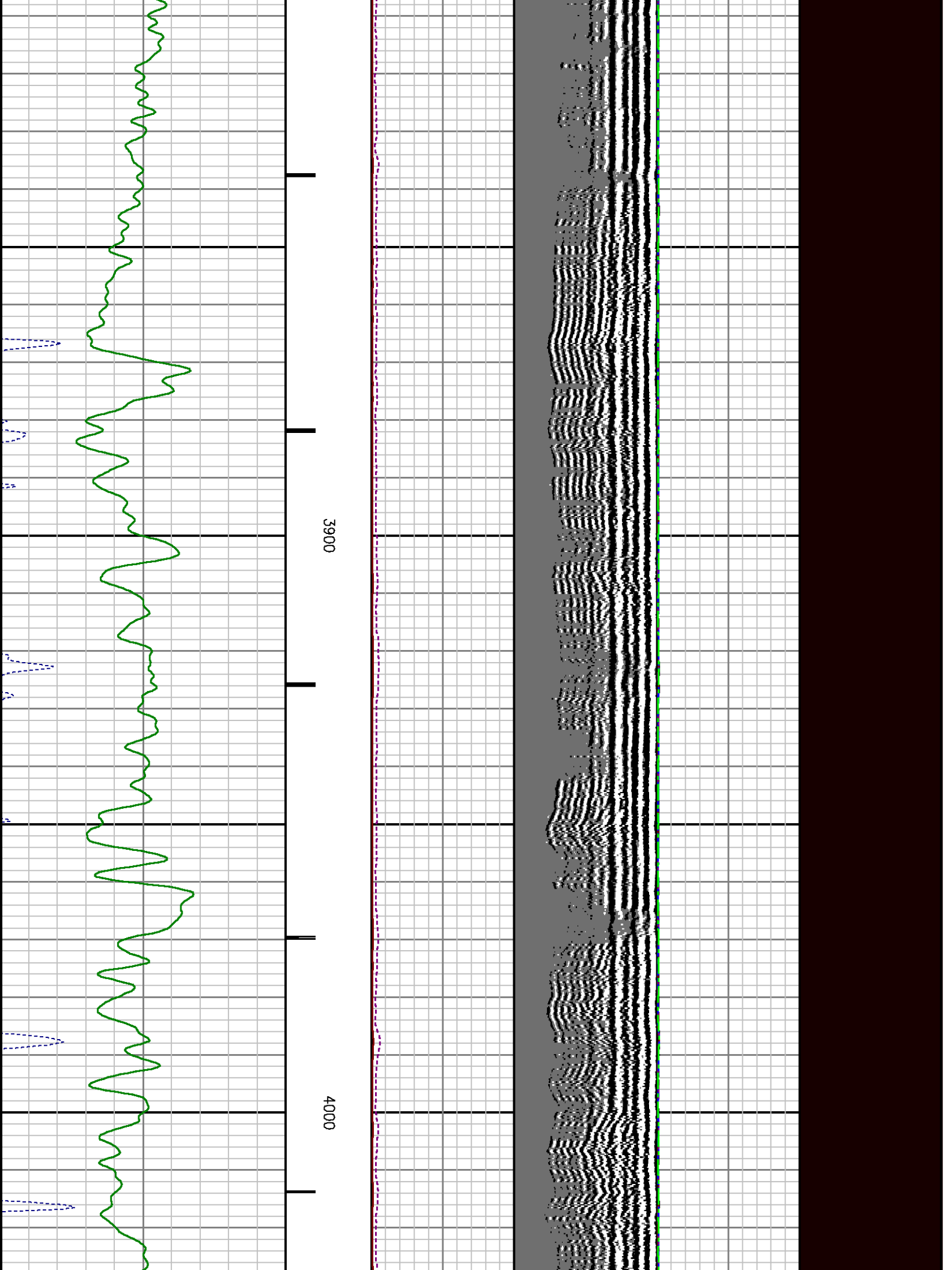


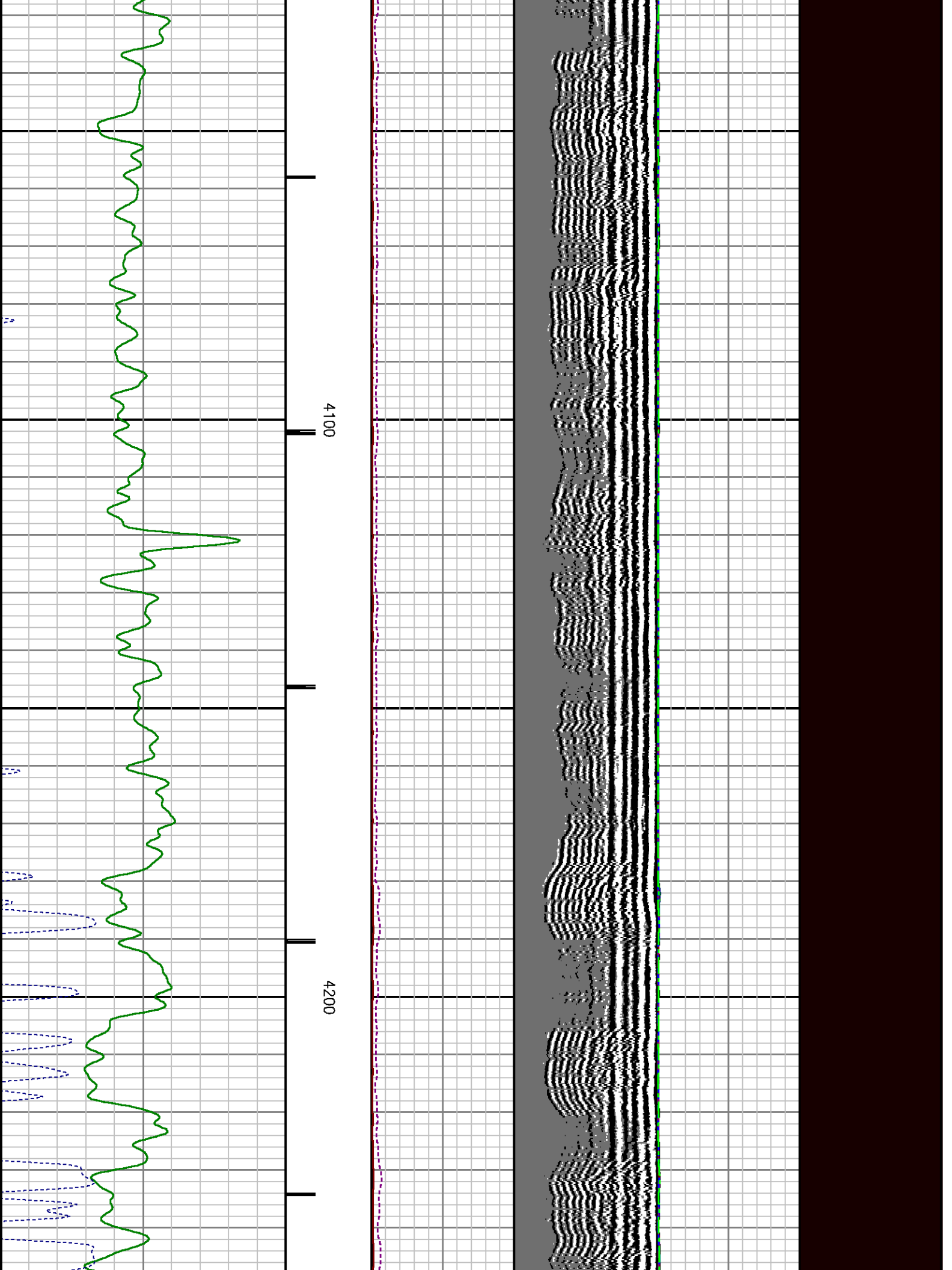


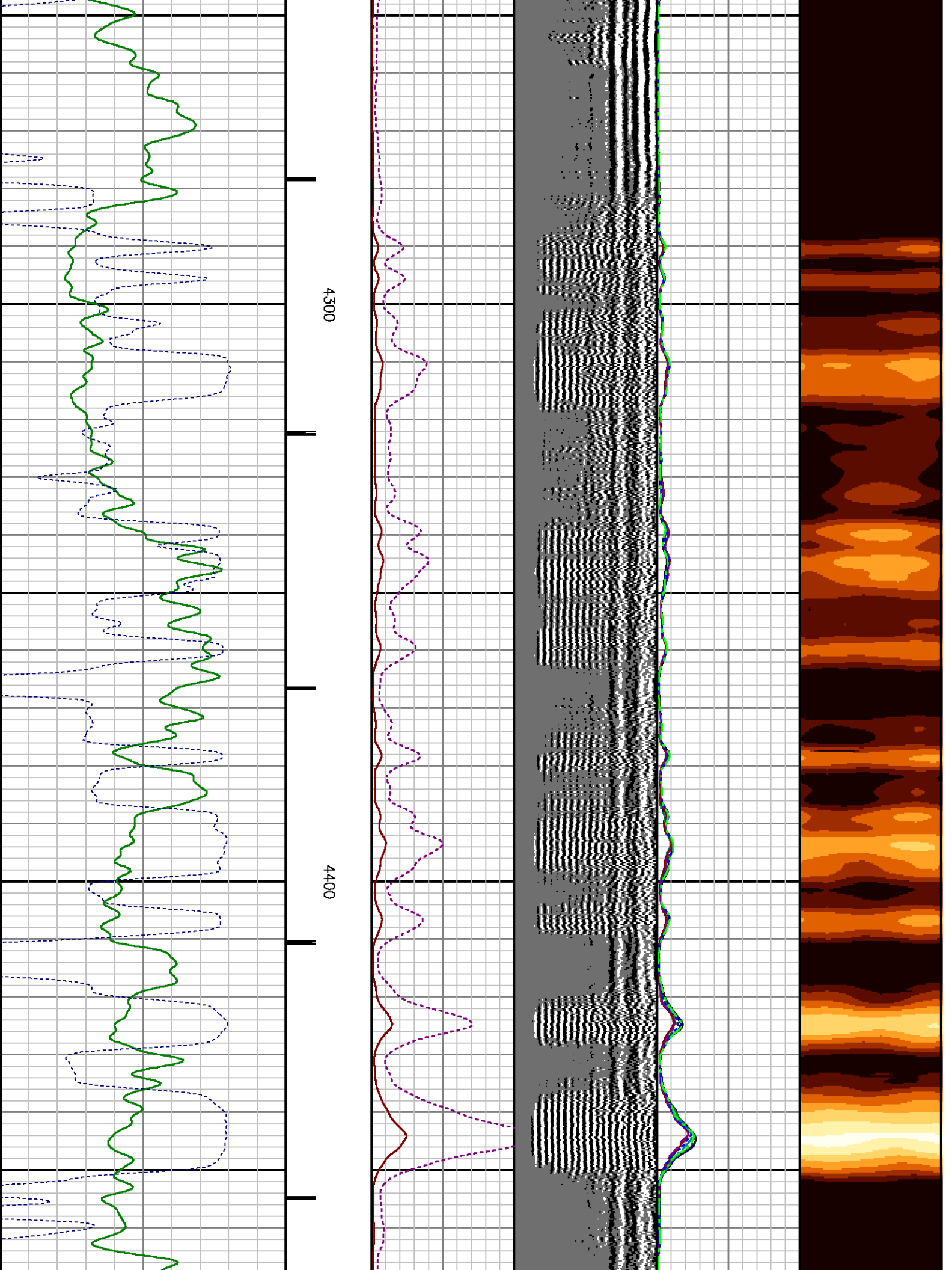


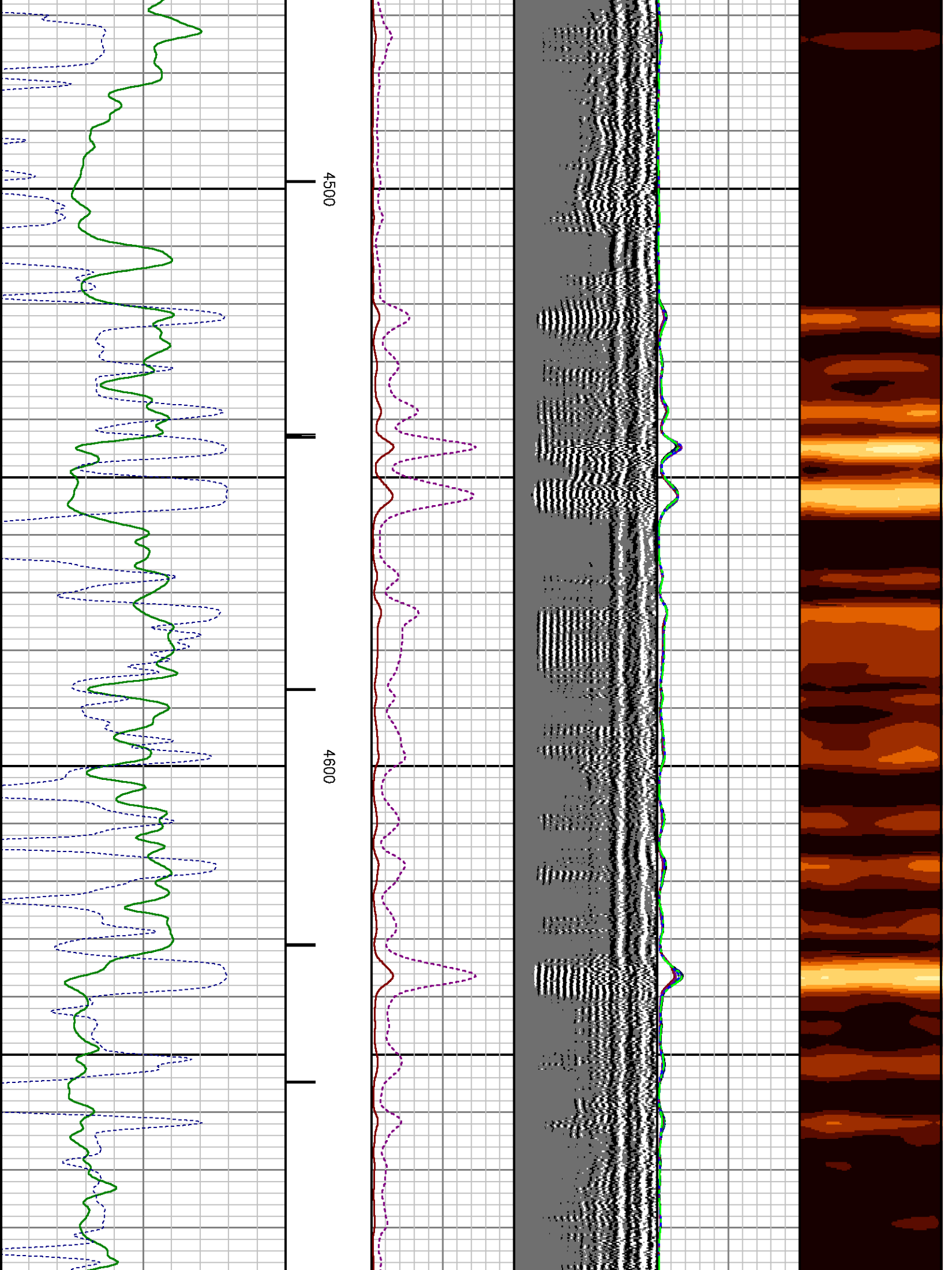


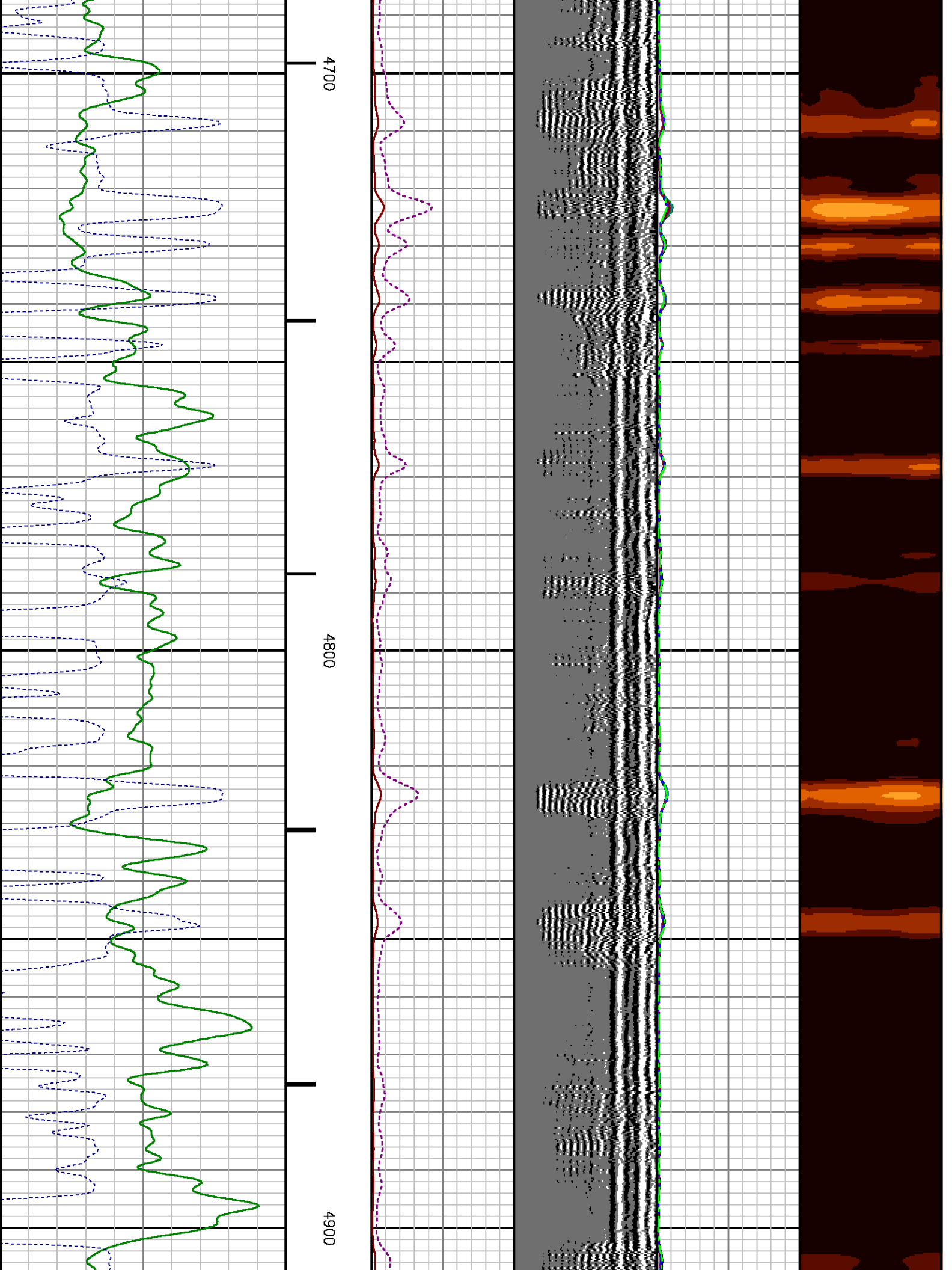


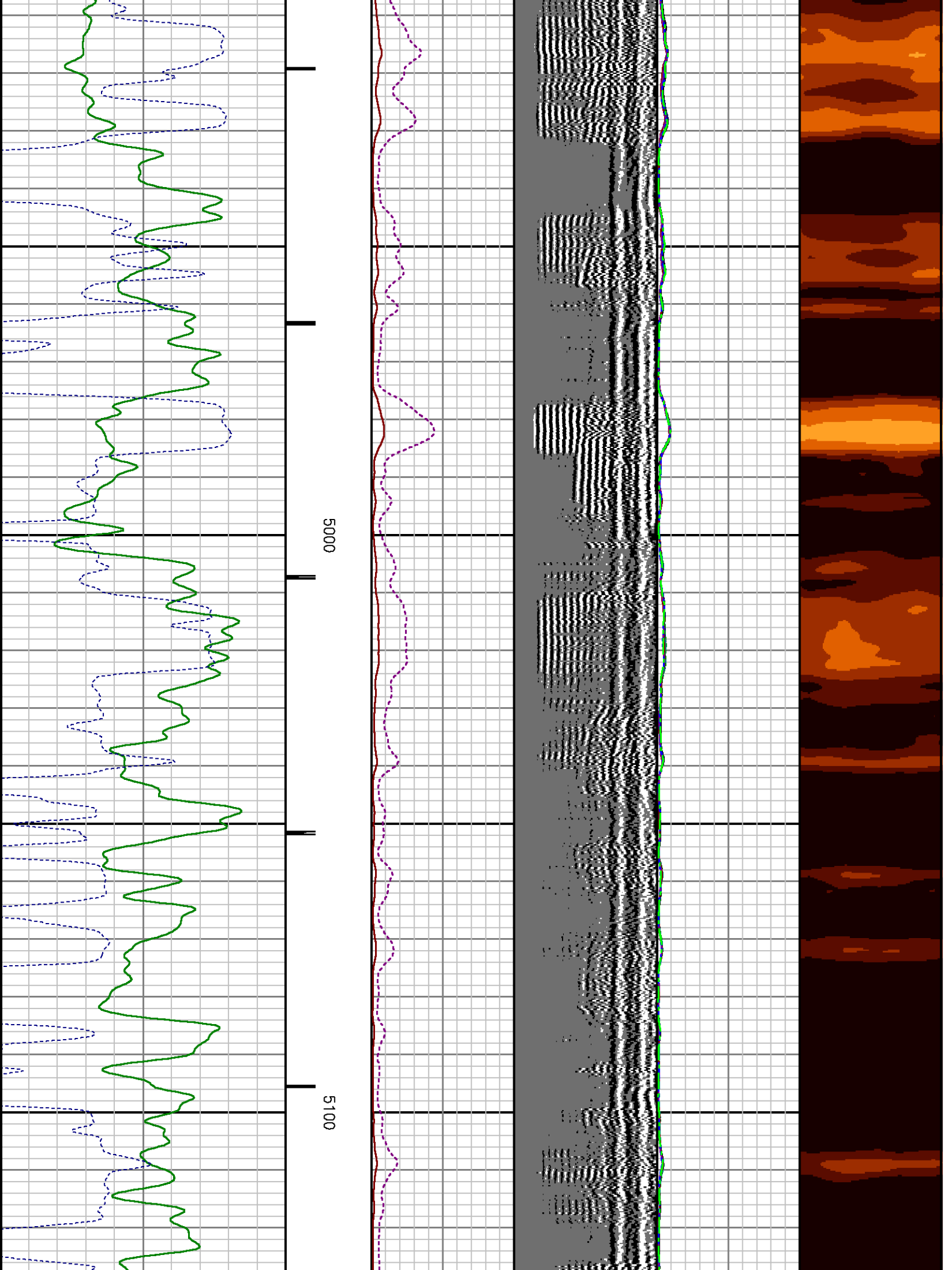


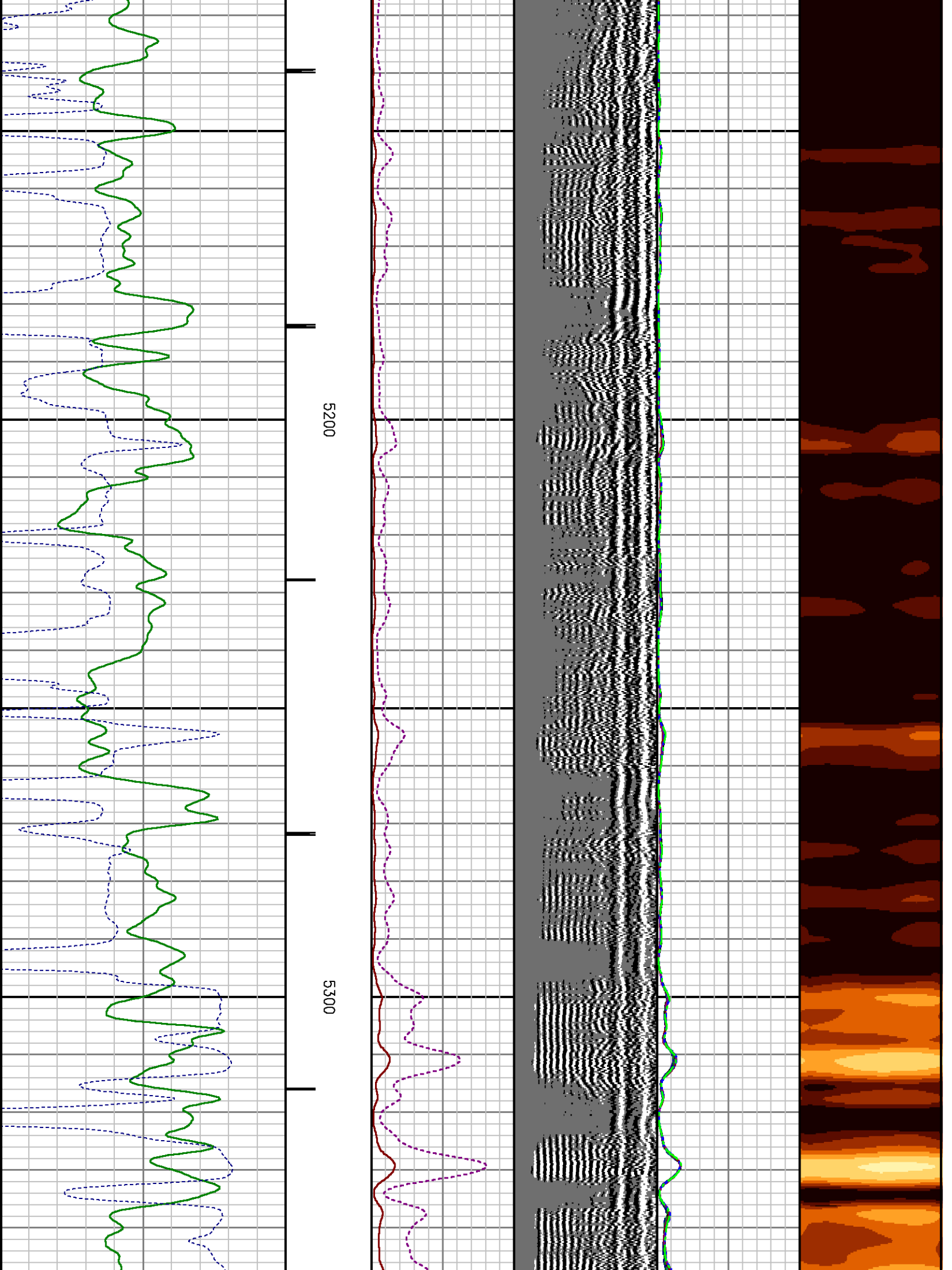


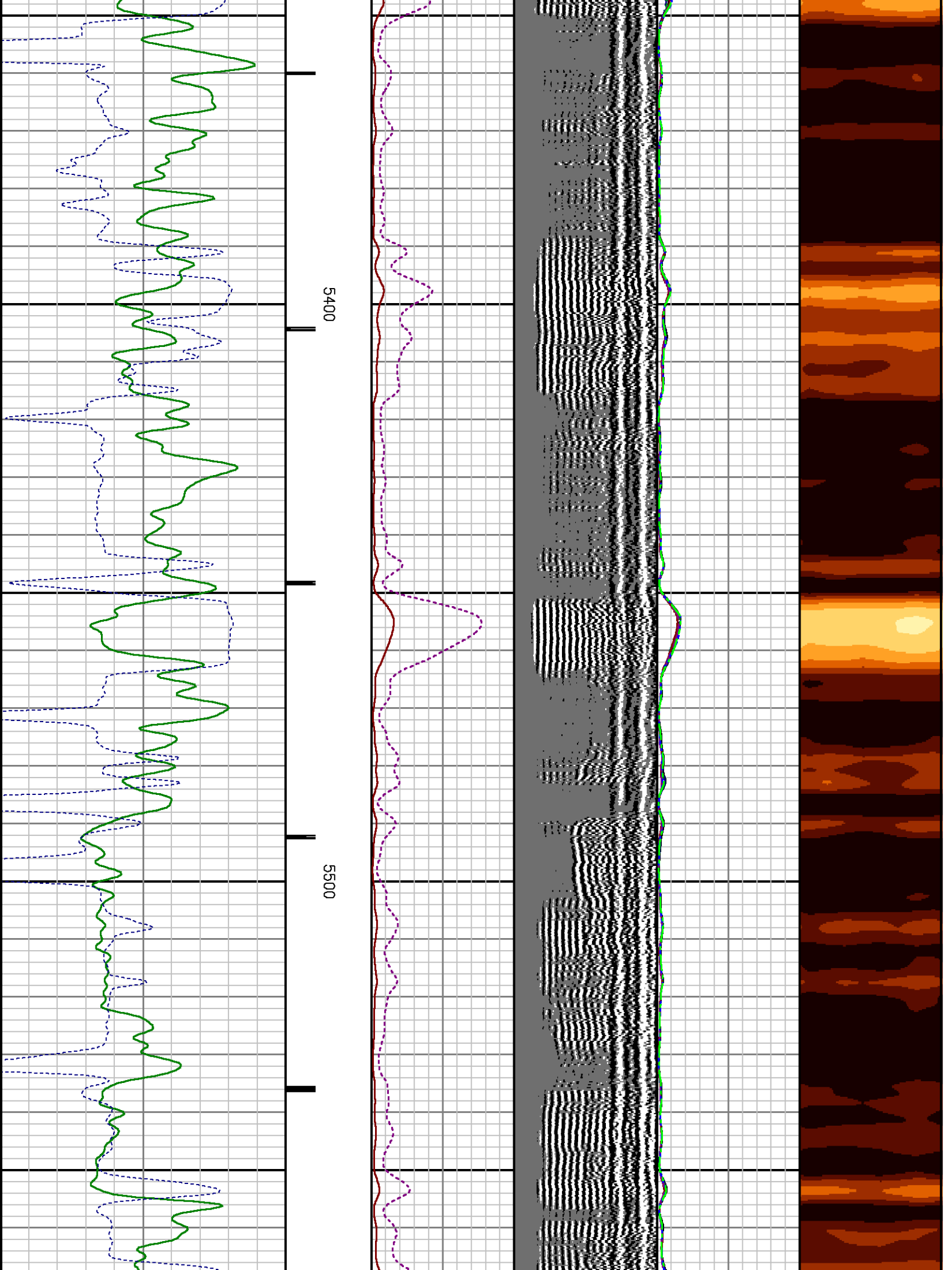


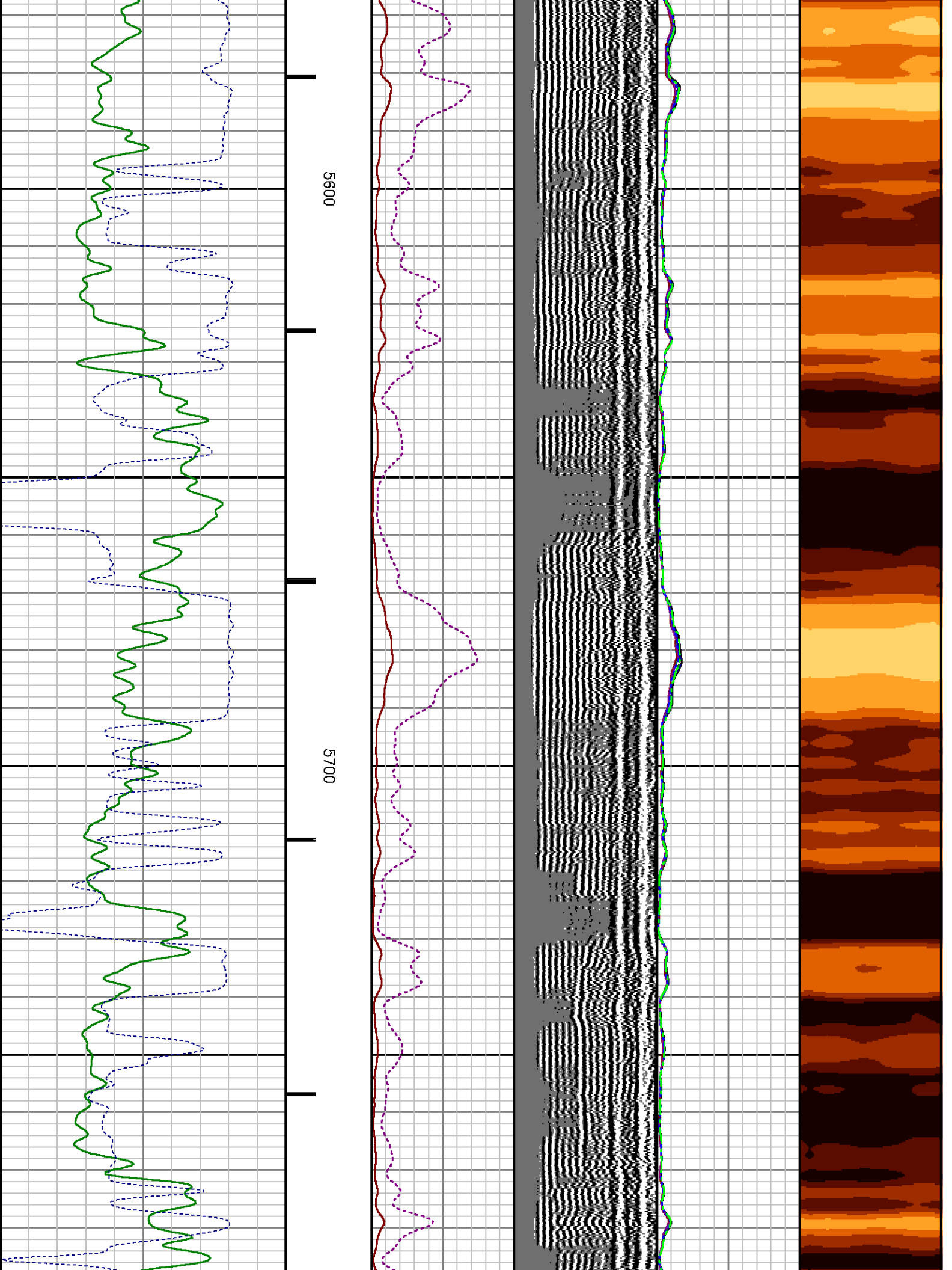


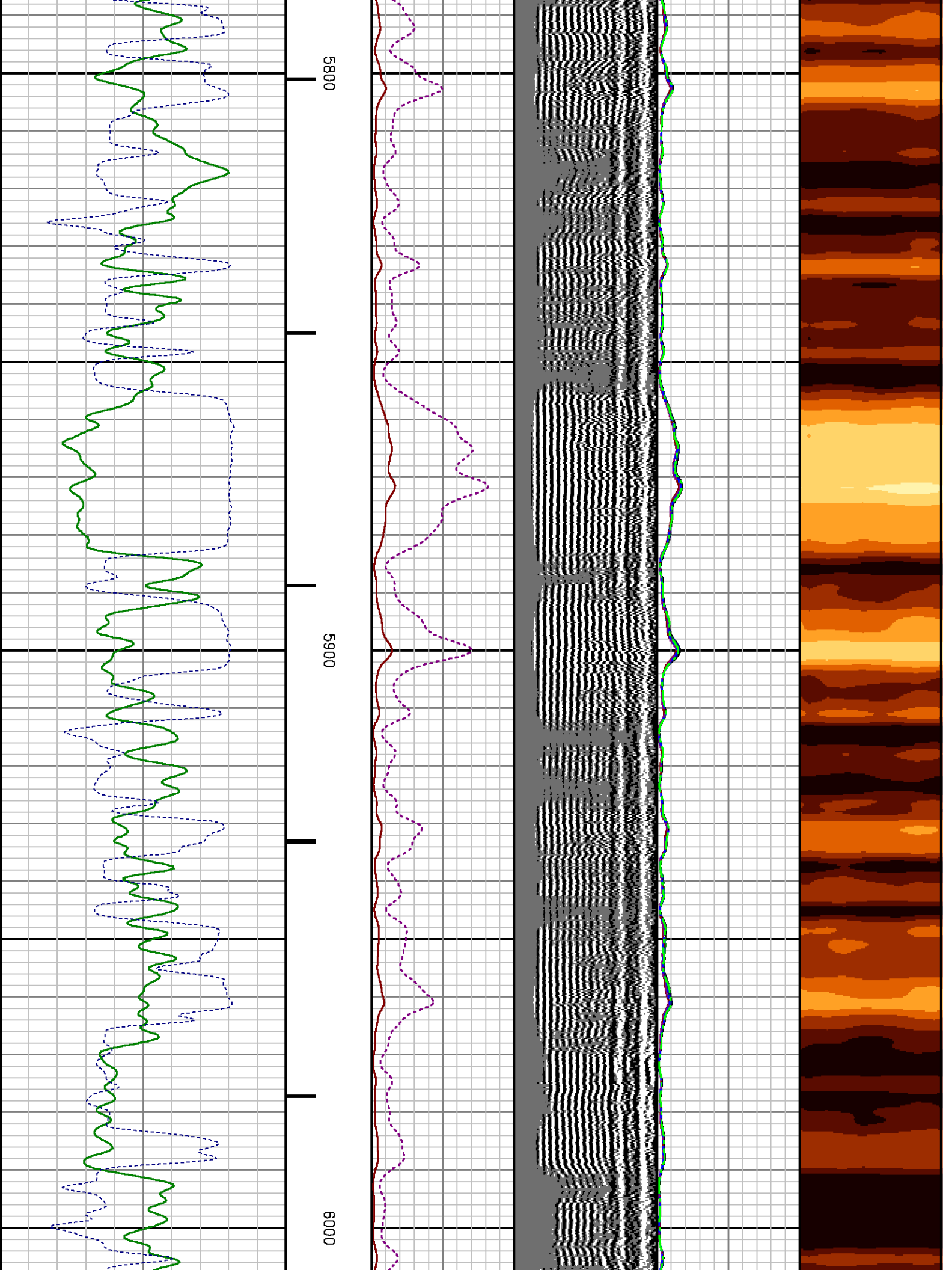


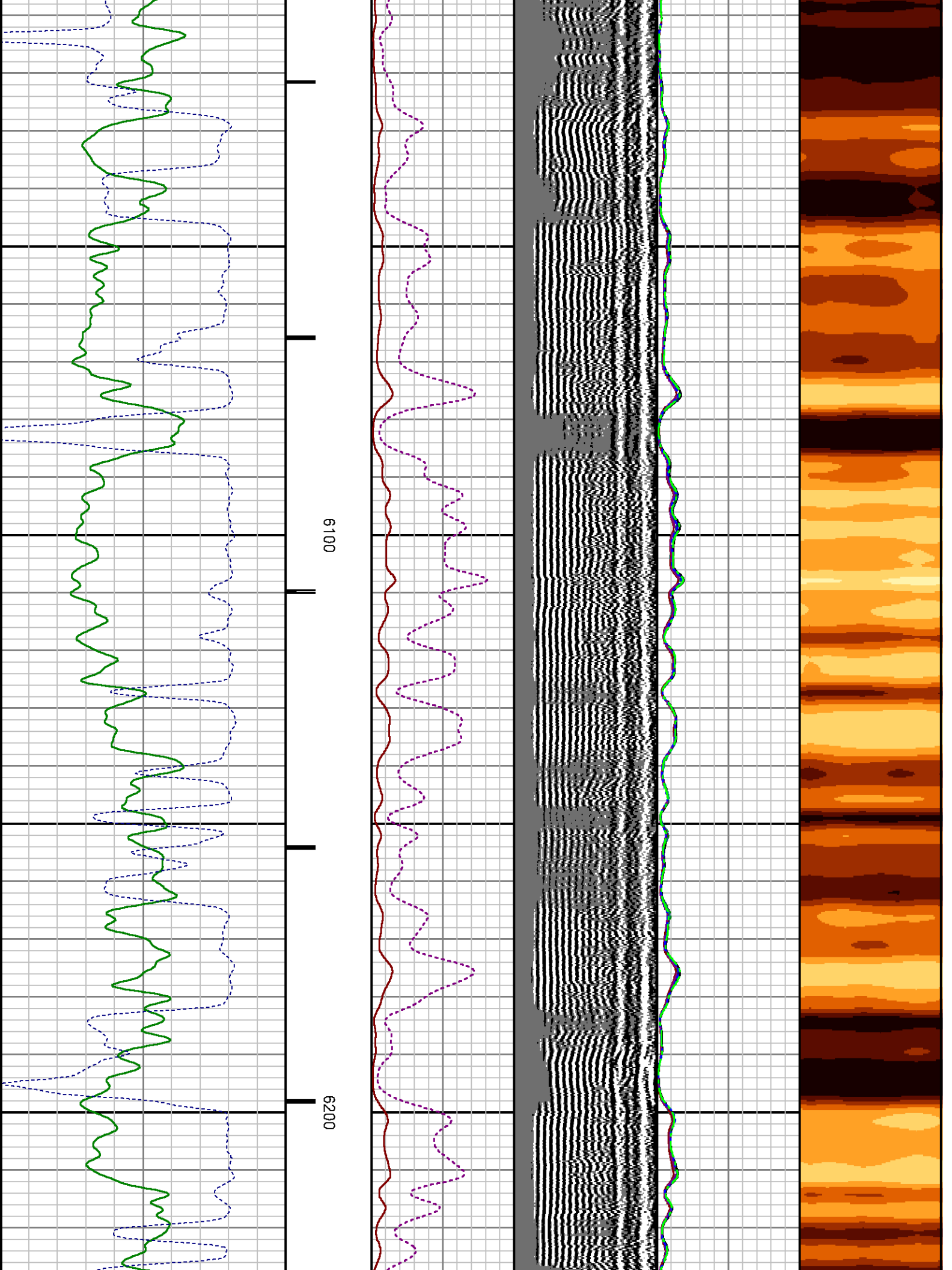


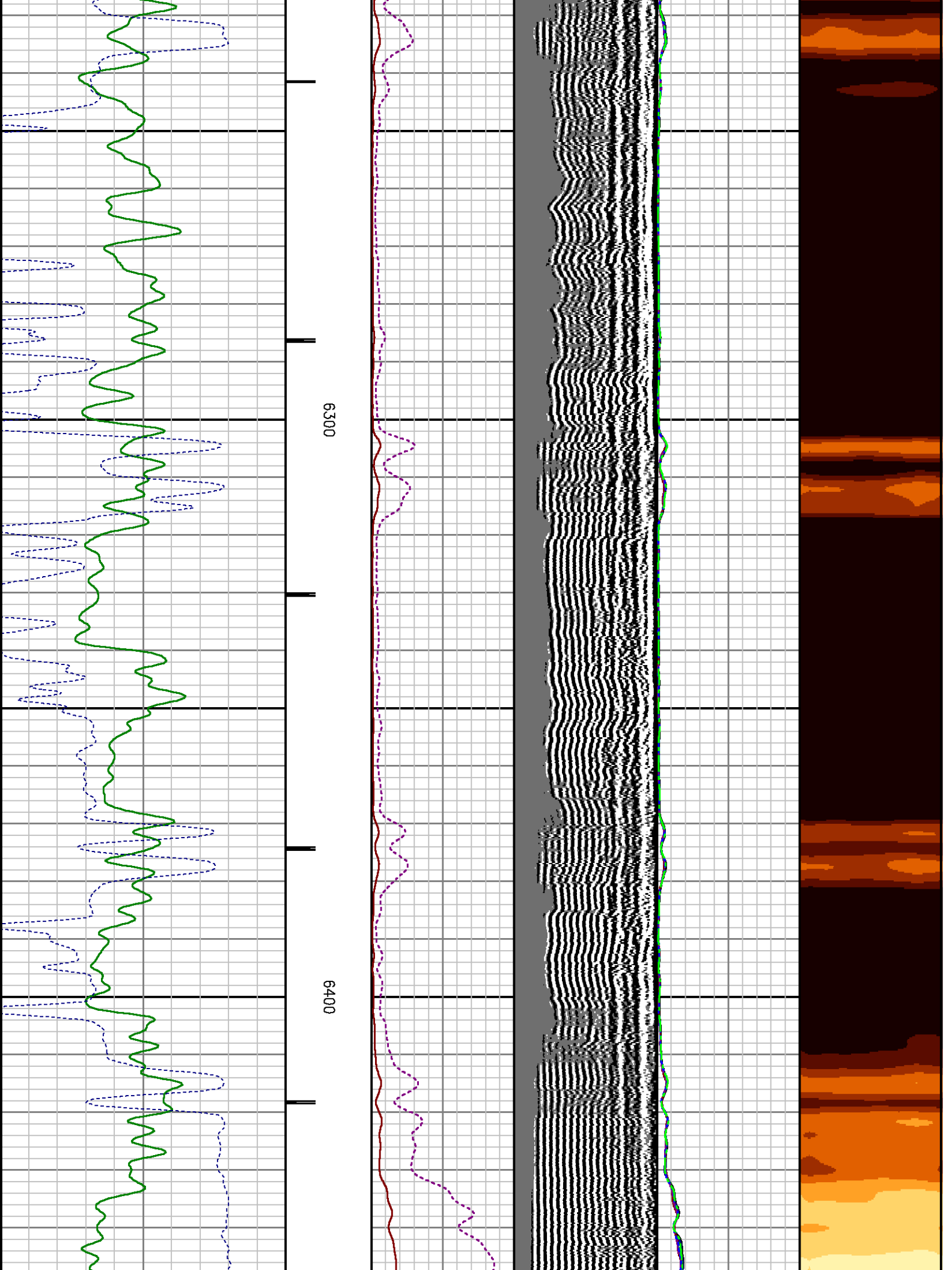


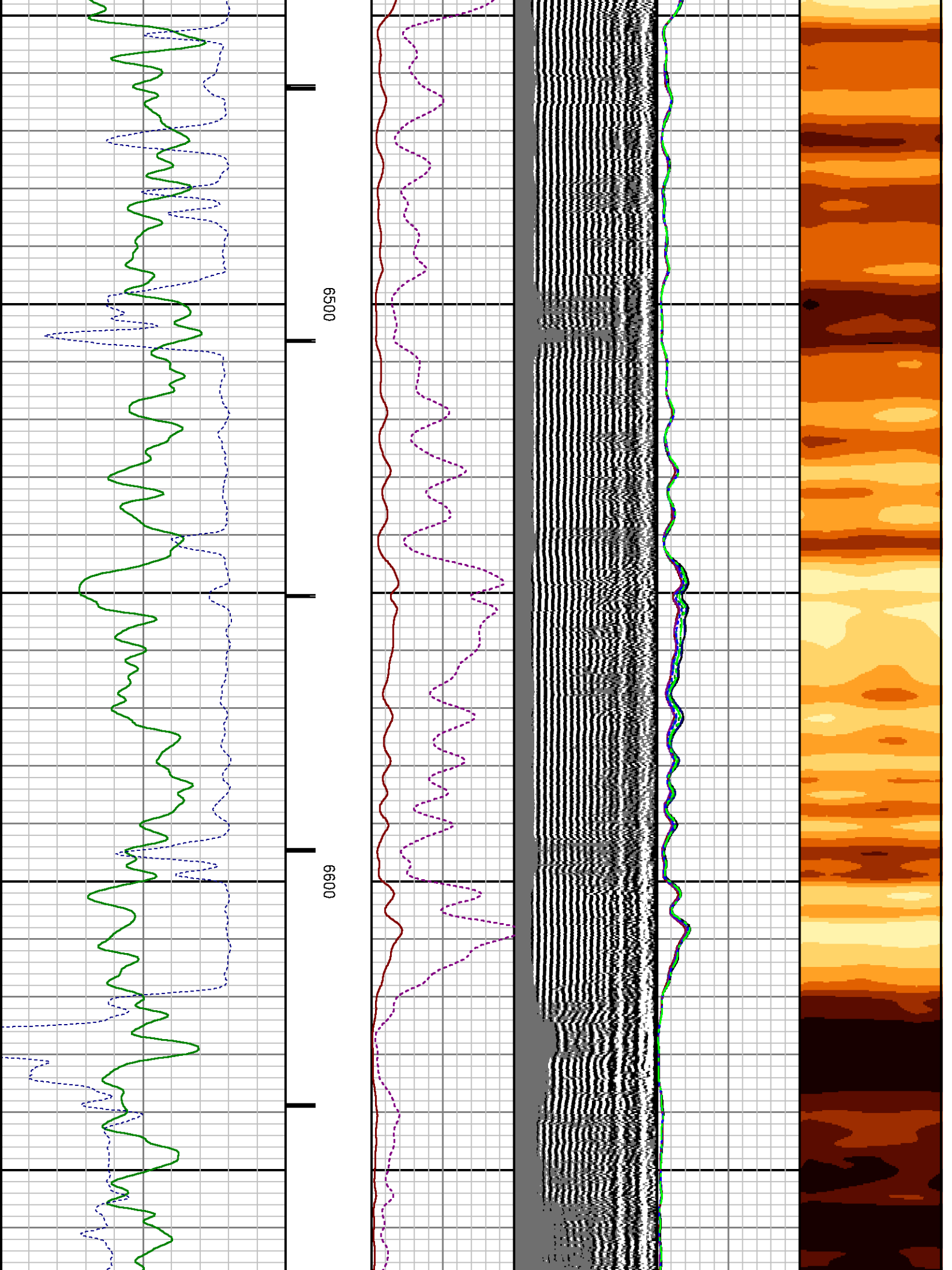


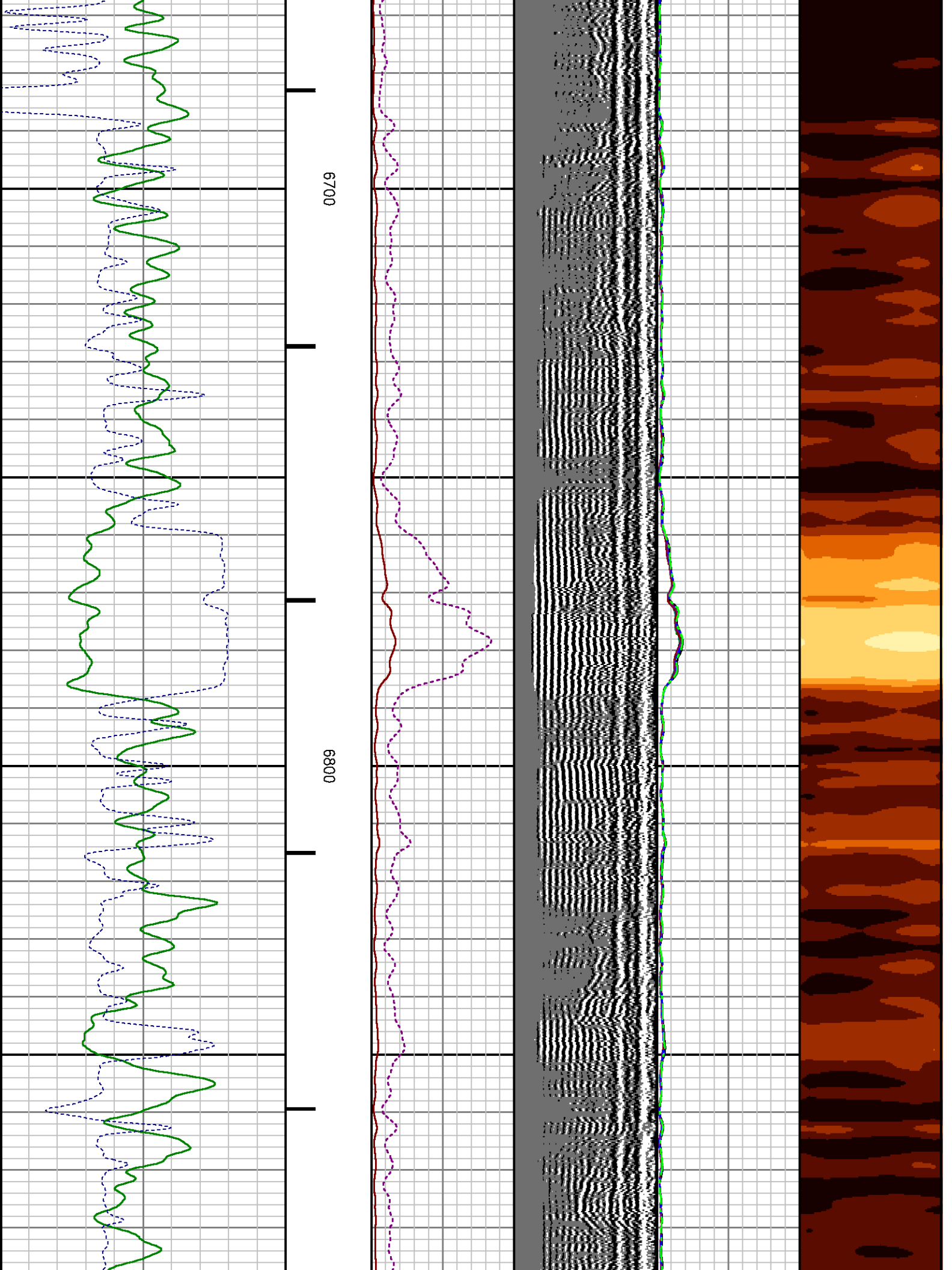


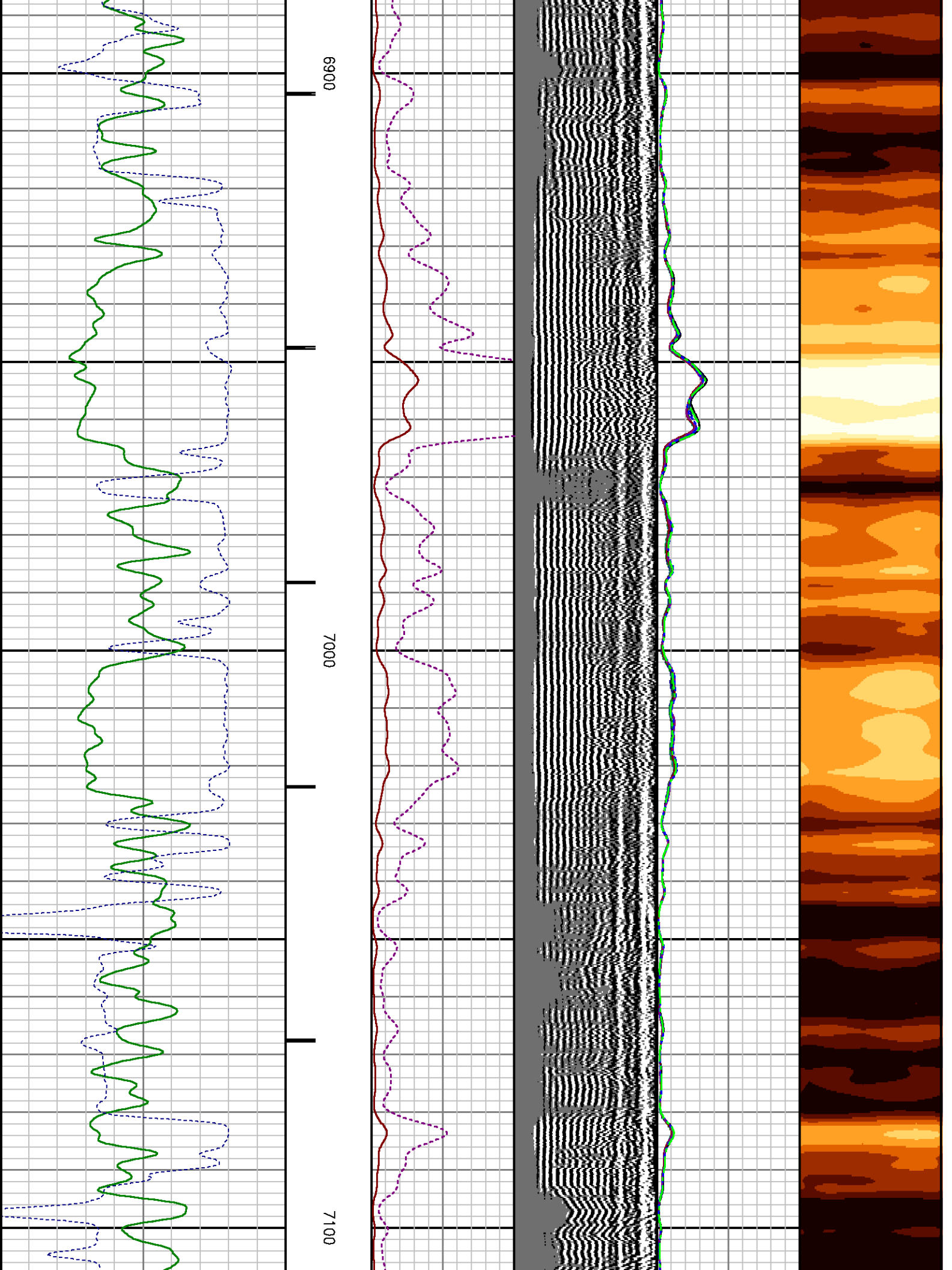


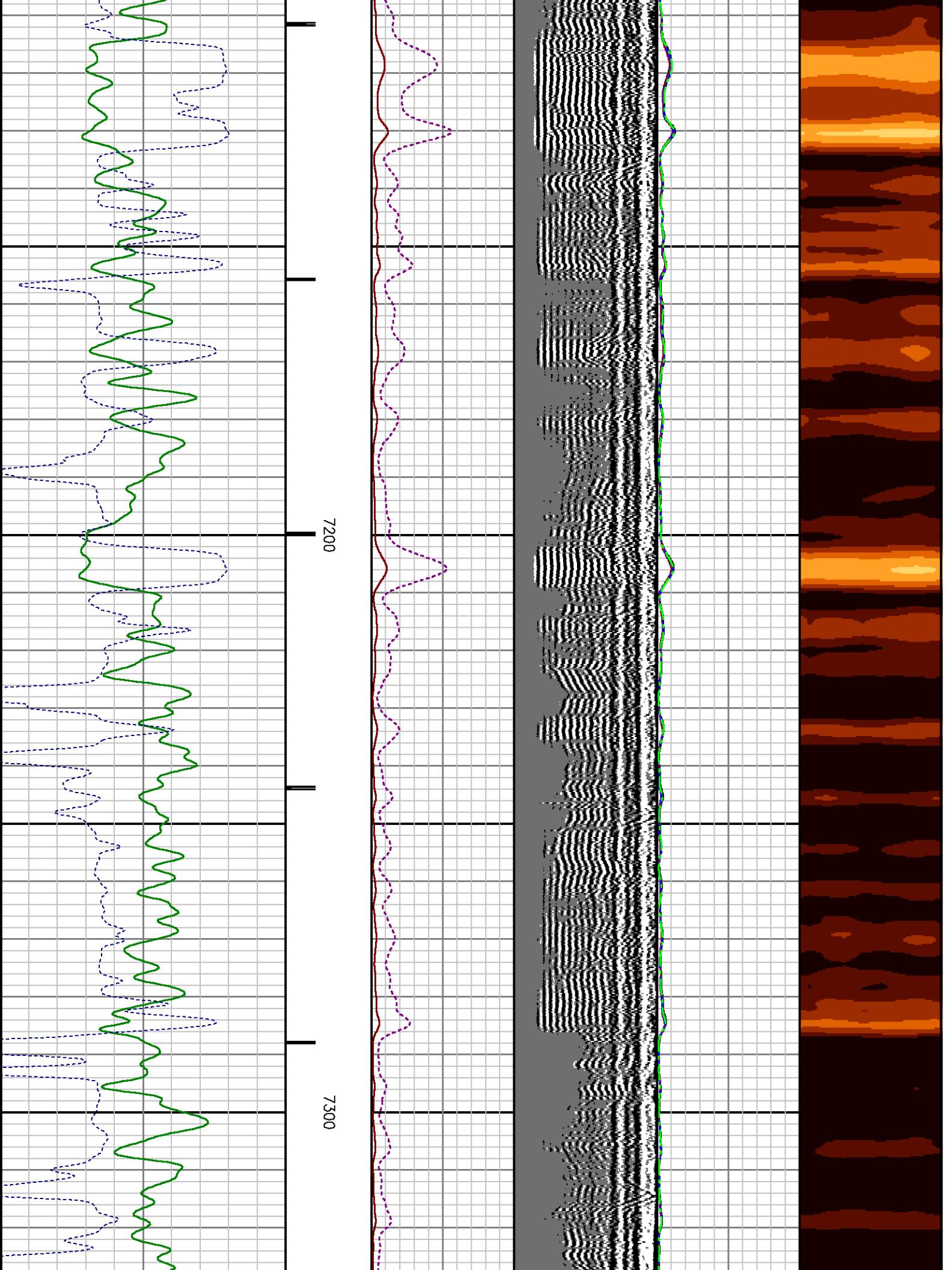


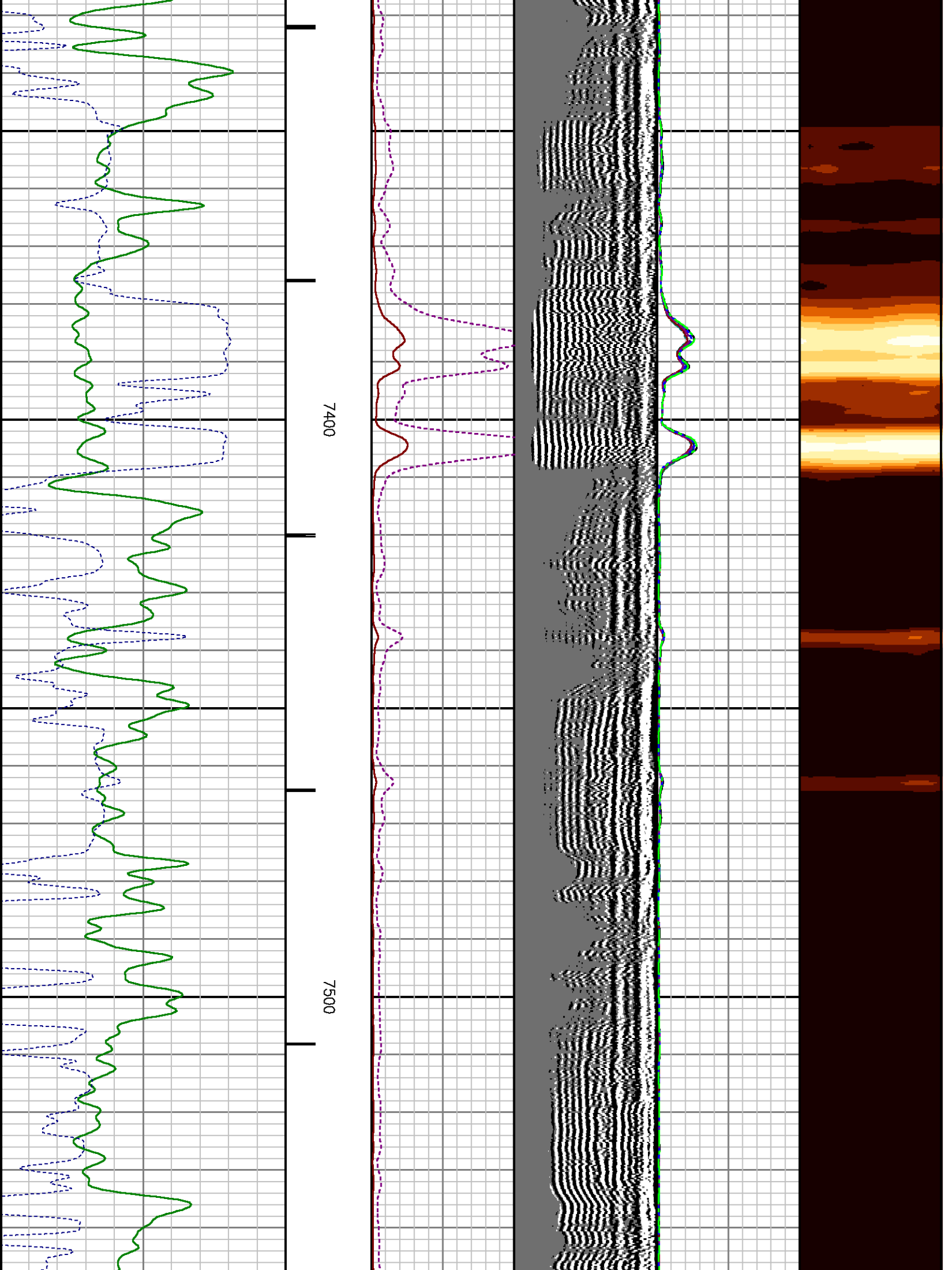


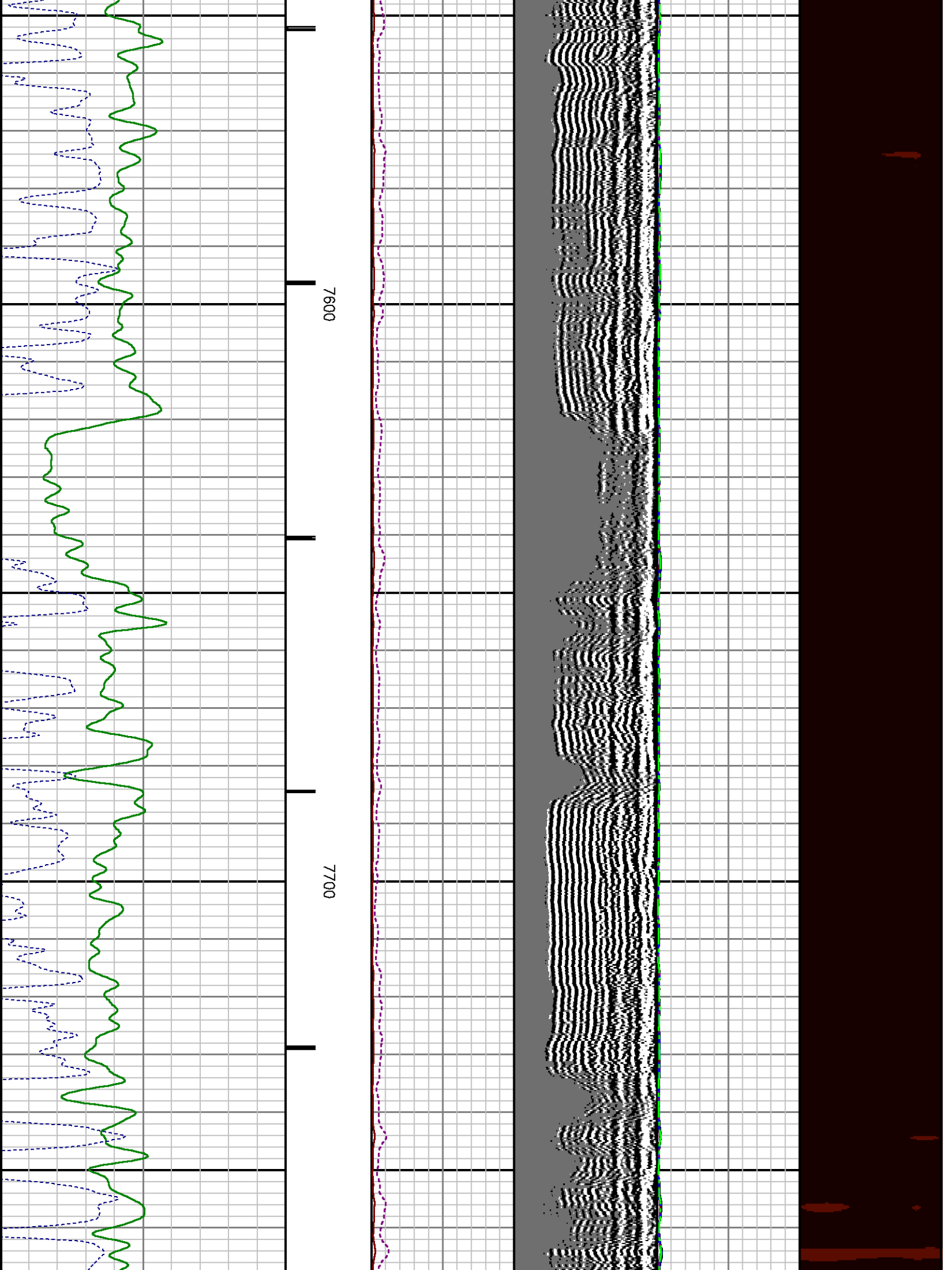


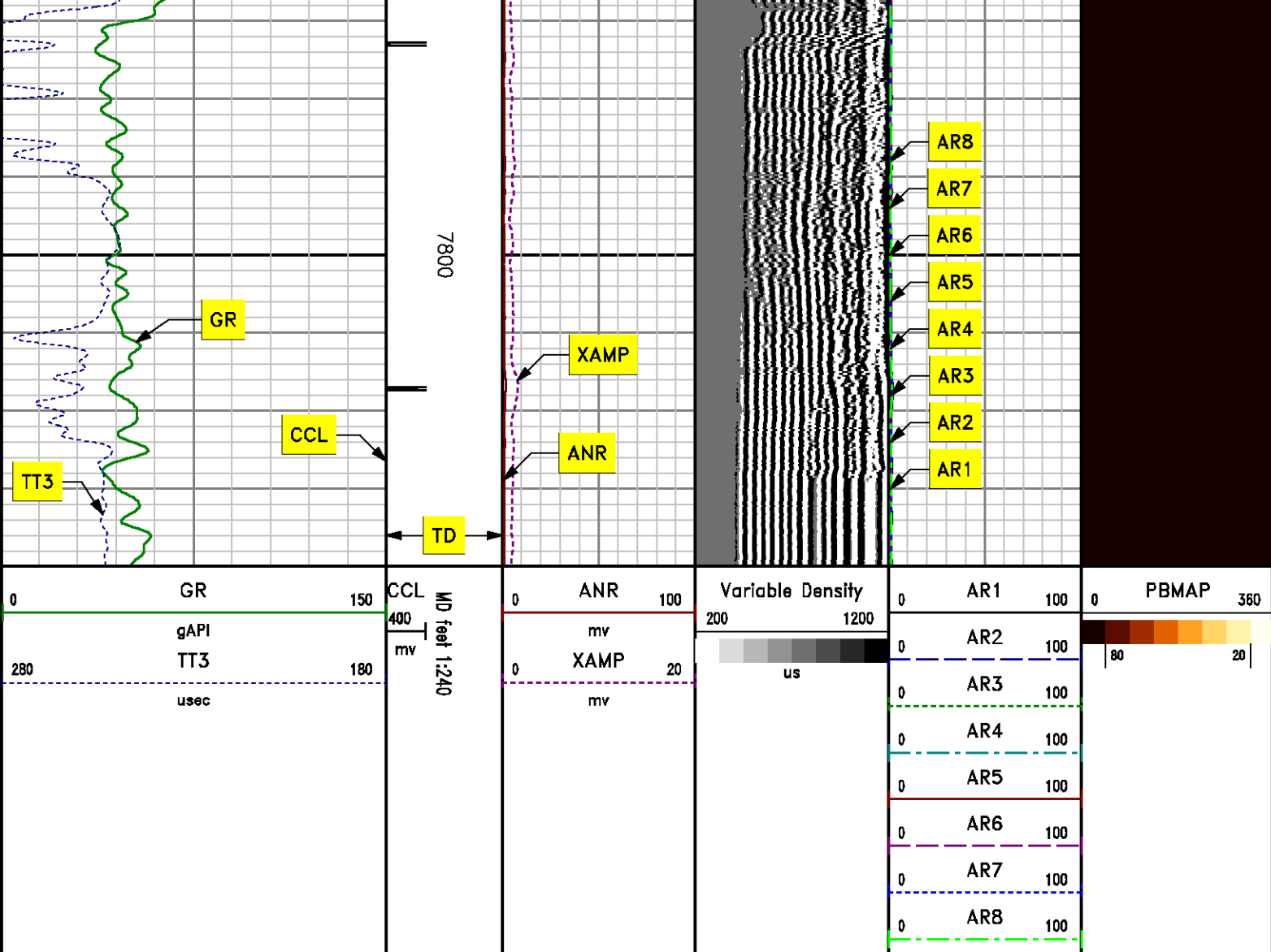












REPEAT PASS
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	307.182	usec	7520.000	7854.000
RAL	Amp Gate Start Near	198.906	usec	7520.000	7854.000
RAL	Amp Gate Start Radial	198.906	usec	7520.000	7854.000
RAL	Amp Gate Width Far	25.000	usec	7520.000	7854.000
RAL	Amp Gate Width Near	25.000	usec	7520.000	7854.000

RAL	Amp Gate Width Radial	25.000	usec	7520.000	7854.000
RAL	casing od	4.500	inches	7520.000	7854.000
RAL	casing wt	11.600	lbm/ft	7520.000	7854.000
RAL	FB Start Far	291.900	usec	7520.000	7854.000
RAL	FB Start Near	175.391	usec	7520.000	7854.000
RAL	FB Start Radial	175.391	usec	7520.000	7854.000
RAL	FB Thresh Far	10.000	mv	7520.000	7854.000
RAL	FB Thresh Near	4.000	mv	7520.000	7854.000
RAL	FB Thresh Radial	4.000	mv	7520.000	7854.000
RAL	Fluid Travel Time	200.000	usec/ft	7520.000	7854.000

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES							
1426XA	-11.000	ACAL	ANR	AR1	AR2	AR3	AR4		
		AR5	AR6	AR7	AR8	CHV	FPR2		
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3		
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP		
1426XA	-10.040	AFAR	SIG	TT5					
1355XA	-5.620	CCL							
1355XA	-1.500	GR							
1355XA	0.000	TEMP							

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

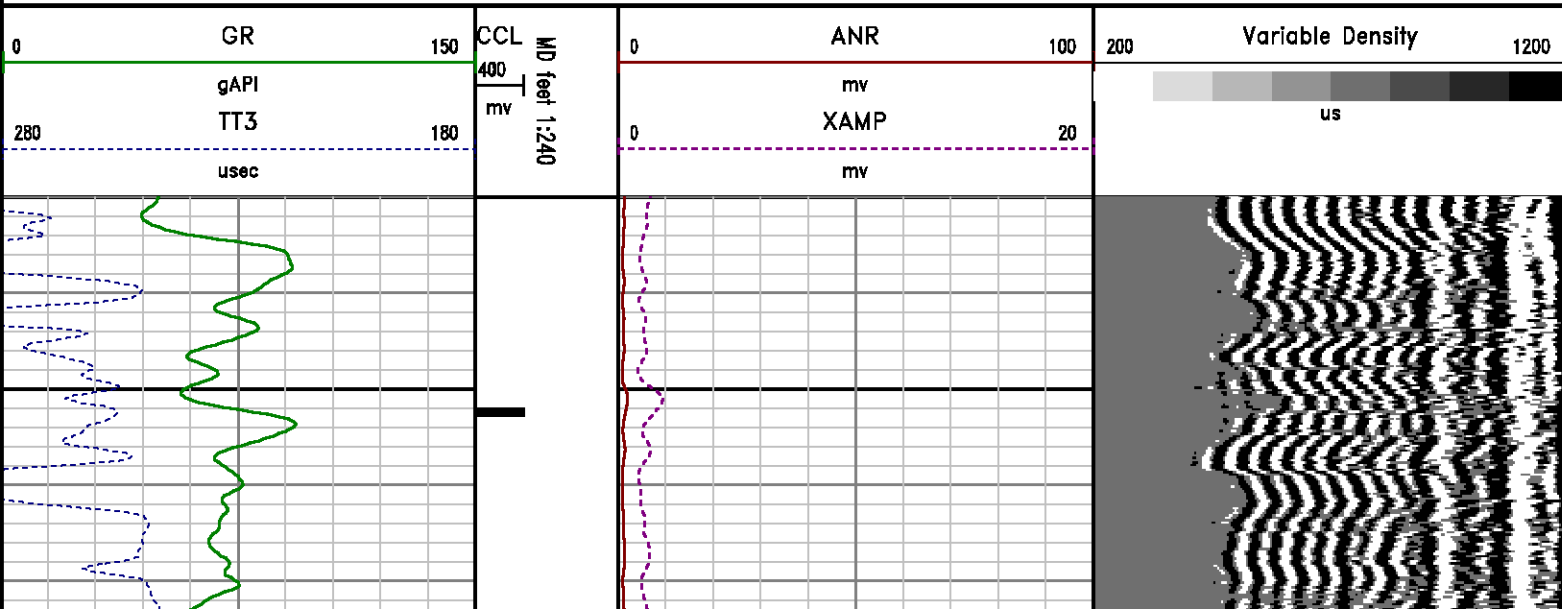
Well : DUGGAN RWF 414-29

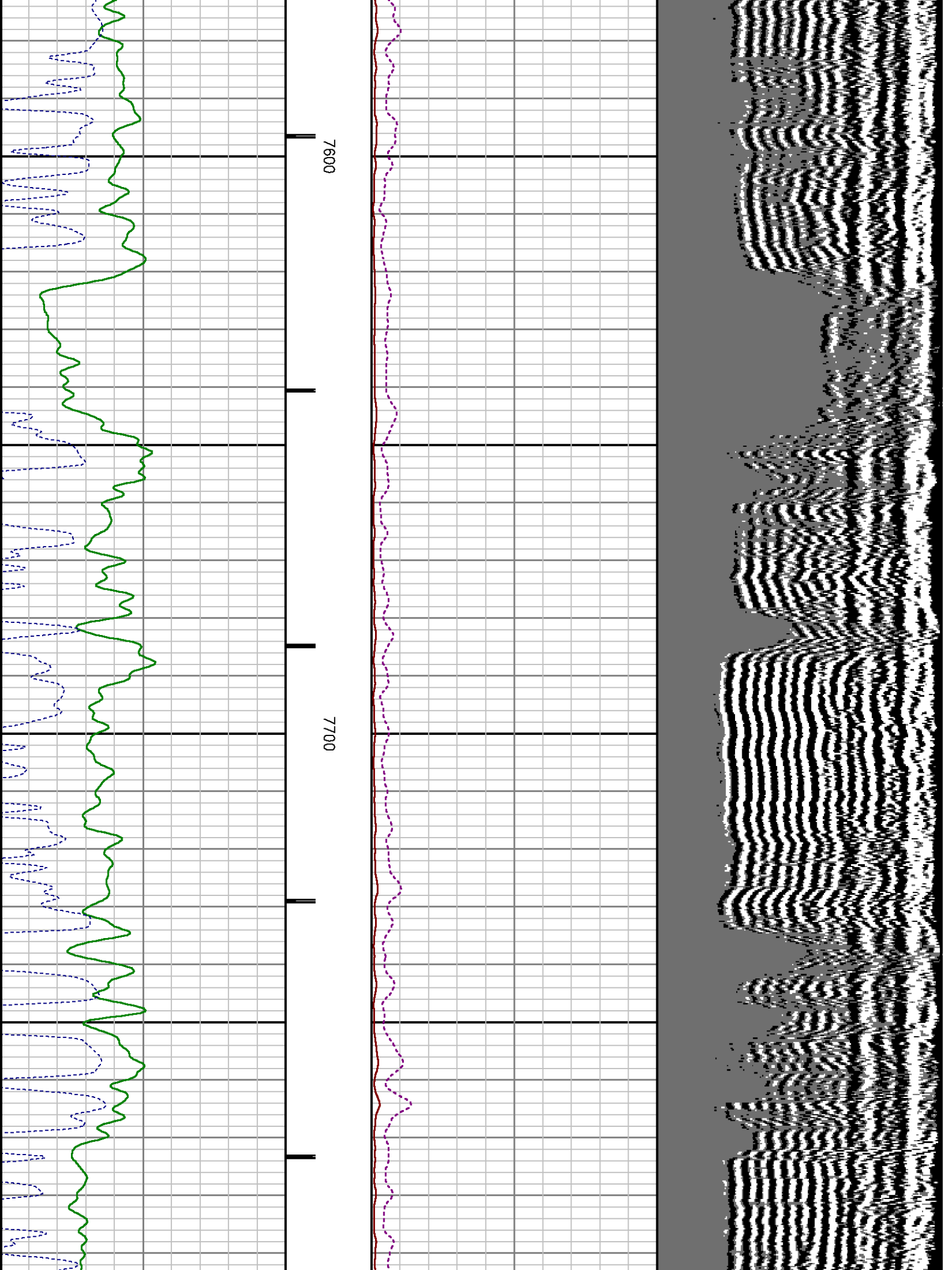
File Name : d:\welldata\414cbl\repeat_rdrd.xtf

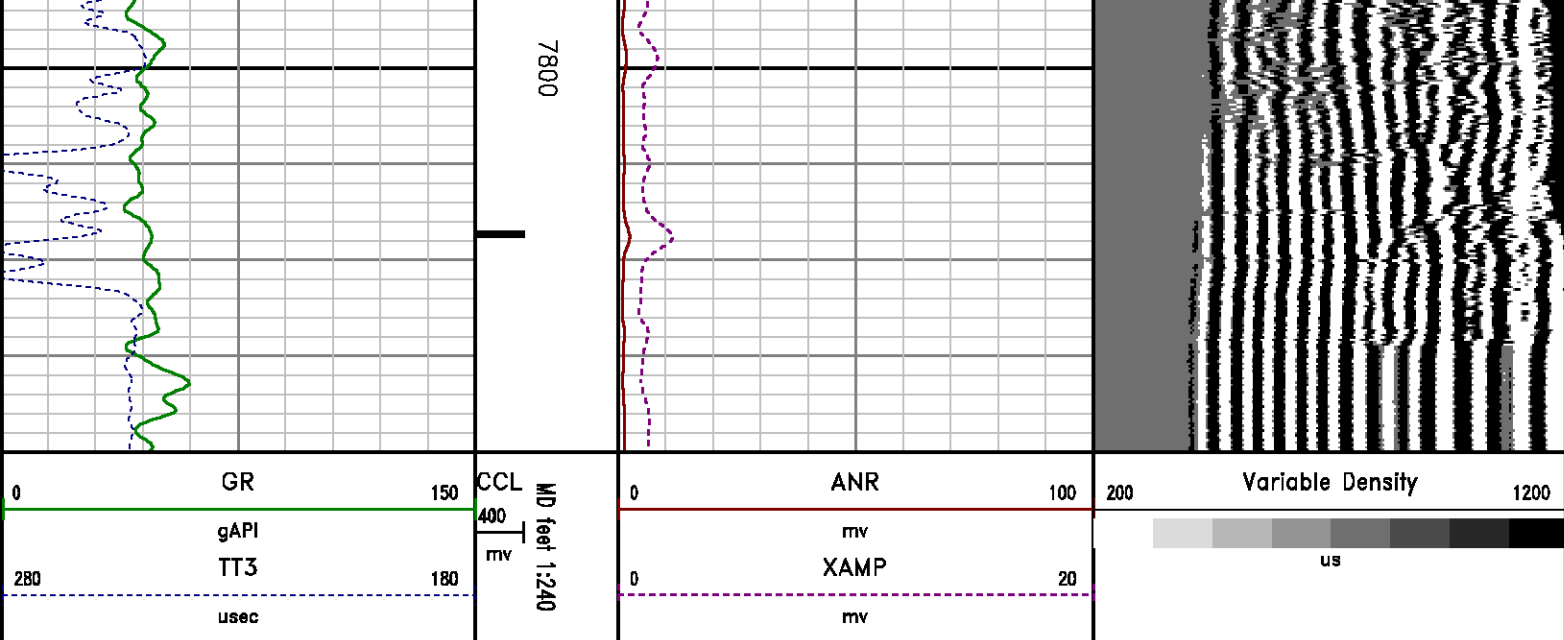
Mode : PlotMgr 5.4.504

Interval : 7530.00 - 7840.00 feet UP

Created : 6/10/2013 12:57:06 PM







CALIBRATION SUMMARY

GAMMA RAY

Calibration File: C:\case\calver\GR\209J1.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Mon Jun 03 09:09:02 2013

TOOL SERIES: 1355XA ASSET: 209 SEQ: J1

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	149.24	605.69	0.405	60.49	245.49	185.00

Verification File: C:\case\calver\GR\209J1.VP

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Mon Jun 03 09:10:36 2013

TOOL SERIES: 1355XA ASSET: 209 SEQ: J1

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	150.93	617.24	0.405	61.17	250.17	189.00

RALSHP

Shop Calibration: C:\case\calver\RALSHP\106JUN10 shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Mon Jun 10 12:26:25 2013 TOOL SERIES: 1426XA ASSET: 106 SEQ: JUN10

Tool Delay [usec]	-58.00	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	220	216	30	166	25	-0.531	100.00	0.12
3 Ft. Receiver	220	216	30	166	25	-1.172	100.00	0.11
5 Ft. Receiver	328	326	30	270	25	0.273	150.00	0.13
Radial #1	220	216	30	166	25	-0.555	100.00	0.11
Radial #2	219	216	30	166	25	0.132	100.00	0.11
Radial #3	220	216	30	166	25	-0.716	100.00	0.11
Radial #4	221	216	30	166	25	-0.902	100.00	0.11
Radial #5	221	216	30	166	25	-0.066	100.00	0.12
Radial #6	220	216	30	166	25	-0.678	100.00	0.12
Radial #7	219	216	30	166	25	0.243	100.00	0.11
Radial #8	220	216	30	166	25	-0.228	100.00	0.11

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\106JUN10 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Mon Jun 10 12:27:40 2013 TOOL SERIES: 1426XA ASSET: 106 SEQ: JUN10

Tool Delay [usec]	-58.00	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	-0.045	0.000	1.00	100.000
3 Ft. Receiver	200	30	-1.412			
5 Ft. Receiver	317	30	-1.545			
Radial #1	200	30	-2.315			
Radial #2	200	30	-1.883			
Radial #3	200	30	-1.669			
Radial #4	200	30	-1.824			
Radial #5	200	30	-1.620			
Radial #6	200	30	-1.560			
Radial #7	200	30	-1.158			
Radial #8	200	30	-1.461			

TOOL DIAGRAM

TOOL DIAGRAM

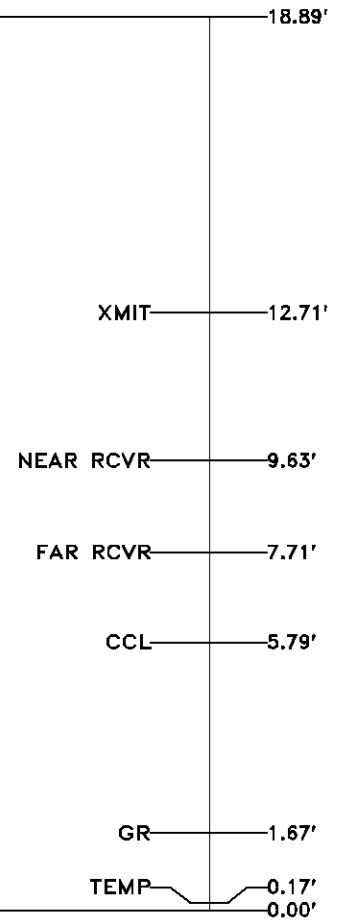
OTA SHORT CABLE HEAD

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

RAL GR/TEMP/CCL/CHV DETECTOR

Series	1355XA
Mnemonic	RAL
Diameter	2.75"
Weight	85.00 lb
Length	6.96'
Measure Point	0.17' TEMP
Measure Point	1.67' GR
Measure Point	5.79' CCL
Temp Rating	400.00 °F
Press Rating	20000.00 PSI



Total Length: 18.89'
Total Weight: Not Available
Max Diameter: 0' 2.75"



Company

WPX ENERGY

Well

DUGGAN RWF 414-29

Field

RULISON

County

GARFIELD

State

COLORADO

Location

SHL: 534' FSL & 590' FWL

BHL: 876' FWL & 665' FWL

Elevations

KB 5445.2 ft

DF

GL 5419.2 ft

File No:

CH073165

API No:

05045216560000

29 6S 94W

RWF 14-29

NABORS SSD 573

SEC 29

TWP 6S

RGE 94W

Baker Atlas

