



RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: GH073689	Company Well Field County	WPX ENERGY HOEPPLI RWF 433-36 RULISON GARFIELD	State COLORADO
API No: 06046215510000			
Location 36 6S 94W RWF 33-36 EAST PAD NABORS 676	SHL: 2601' FNL, 2536' FEL BHL: 1717' FSL, 1667' FEL (NWSE) SEC 36 TWP 6S RGE 94W		Other Services NONE
Permanent Datum Log Measured From Drill Measured From	OL _____ Elevation 6528 ft KB _____ 26 ft KELLY BUSHING _____ Above P. D.		Elevations KB 6564 ft DF GL 6528 ft

Date	25/JUN/13	
Run	ONE	
Service Order	624430	
Depth Driller	8969 ft	
Depth Logger	8942 ft	
Bottom Logged Interval	8932 ft	
Top Logged Interval	26 ft	
Time Started	1015	
Time Finished	1345	
Operator Rig Time	3.5 hrs	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	66 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	45 fpm	
Maximum Recorded Temperature	231 degF	
Reference Log	BAKER-HUGHES	
Reference Log Date	31/MAY/2013	
Equipment No.	4271	GRAND JCT
Recorded By	FLOYD RENEAU	
Witnessed By	BOB CADY	

- 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	1118 ft
8.75 in	1118 ft	8968 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in	32 lbm/ft		0 ft	1118 ft
4.5 in	11.6 lbm/ft	I-80	0 ft	8968 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes HDIL/ZDL/CN/GR open hole log dated 5/31/2013 at the clients request.
The amount of linear shift is -6.5 feet.
Logged with zero PSI at wellhead.
The depth matching process creates potential for collar lengths to vary from those recorded on other cased hole wireline units without a Gamma Ray reference.

BHT = 231°F

SJ = 5406'-5430'

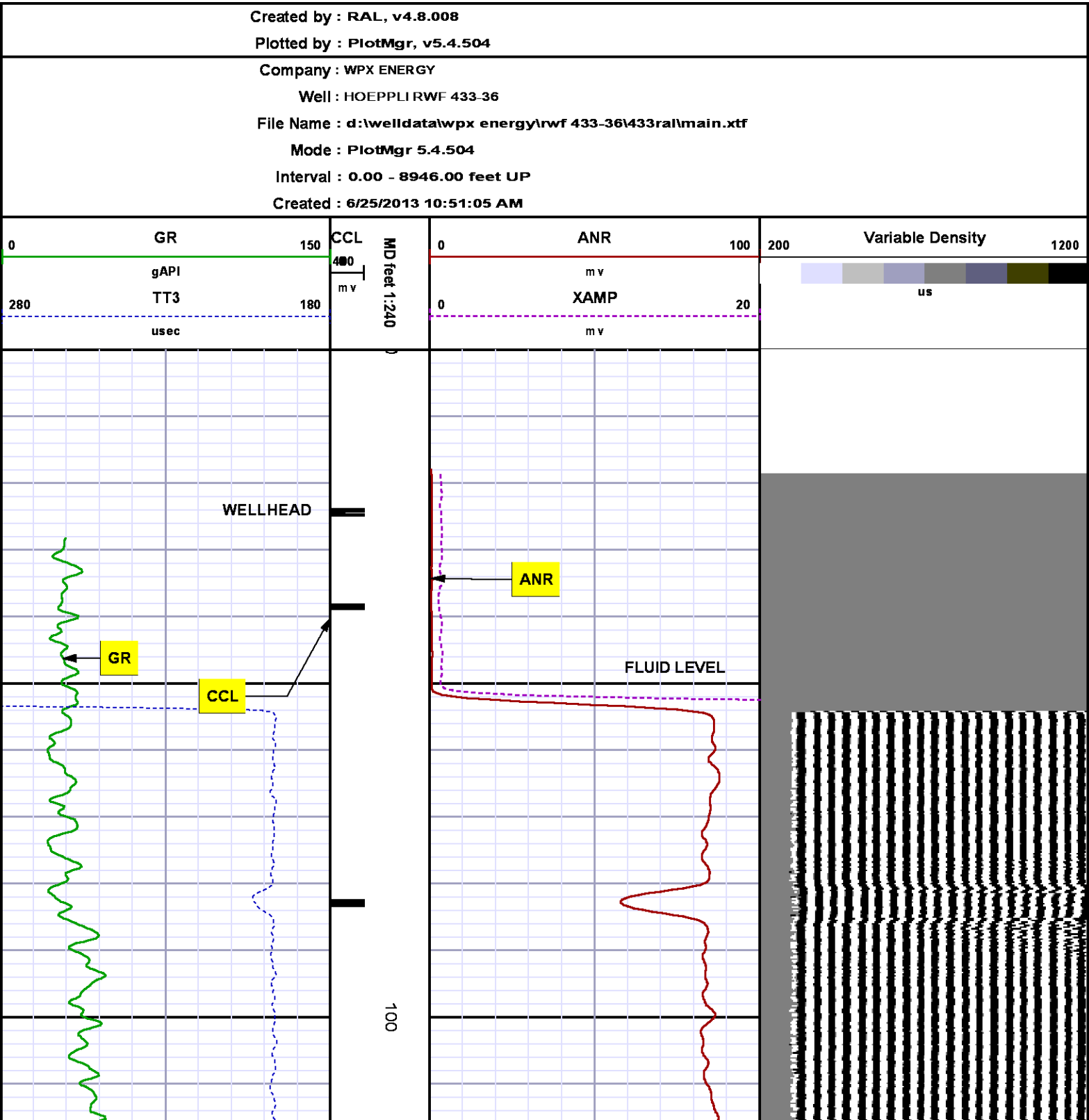
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1	1	GRICCL	1355XA	10580209	CENT

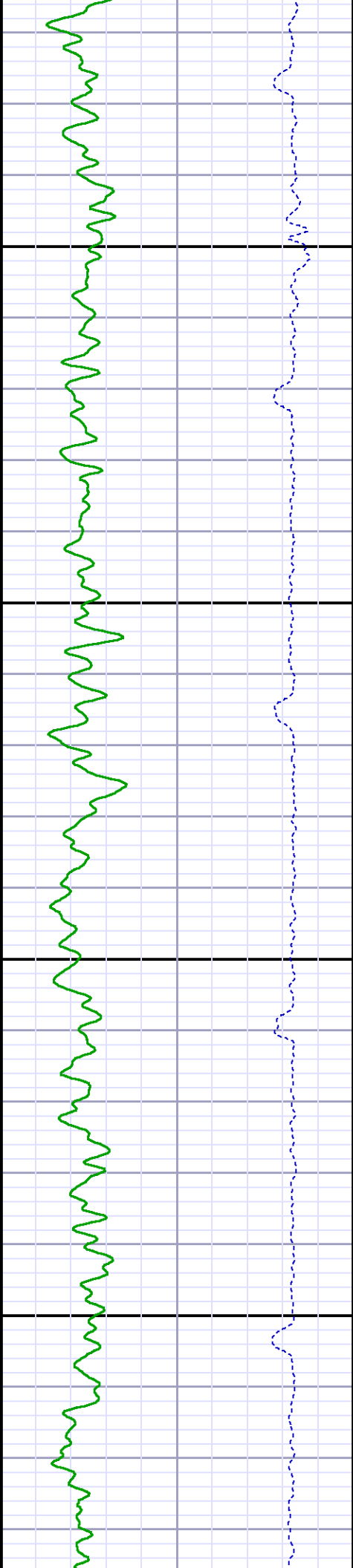
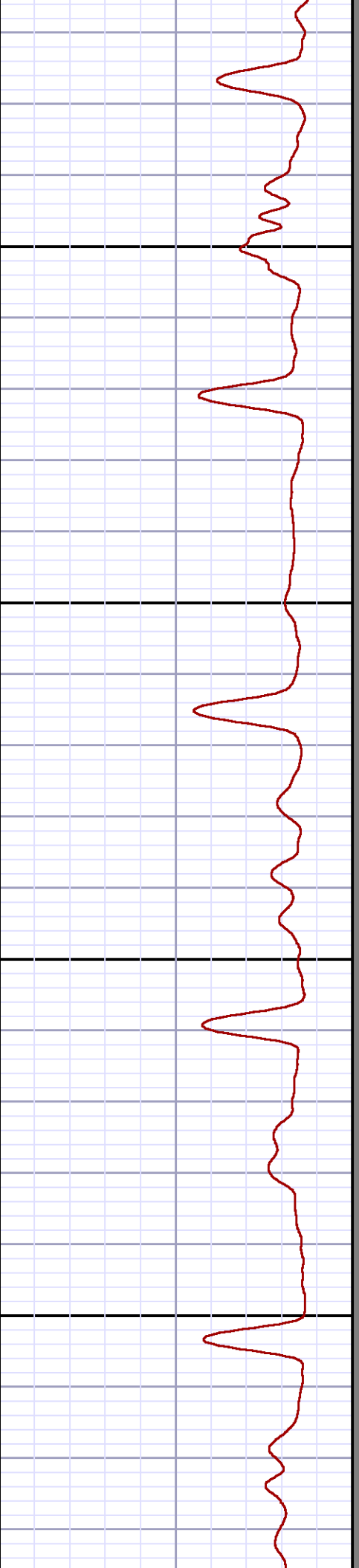
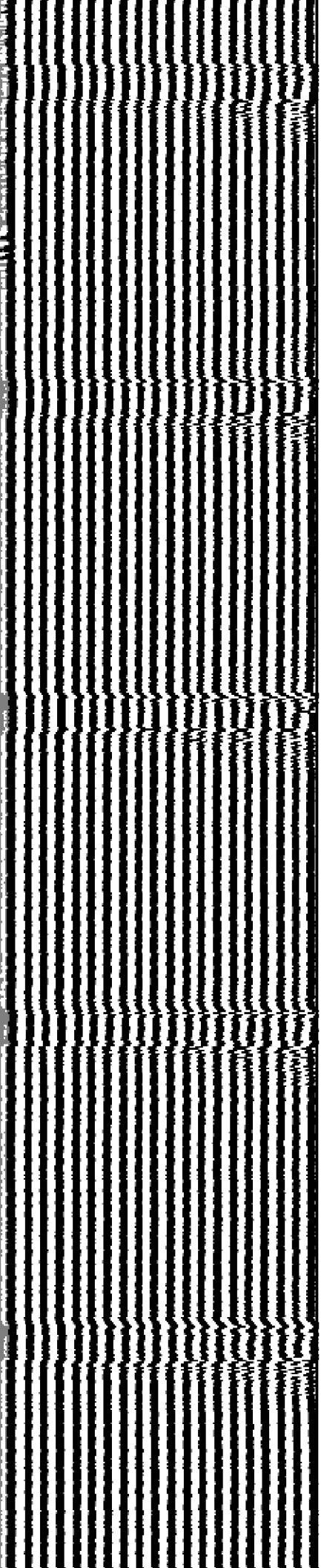
PRIMARY PRESENTATION
0 PSI

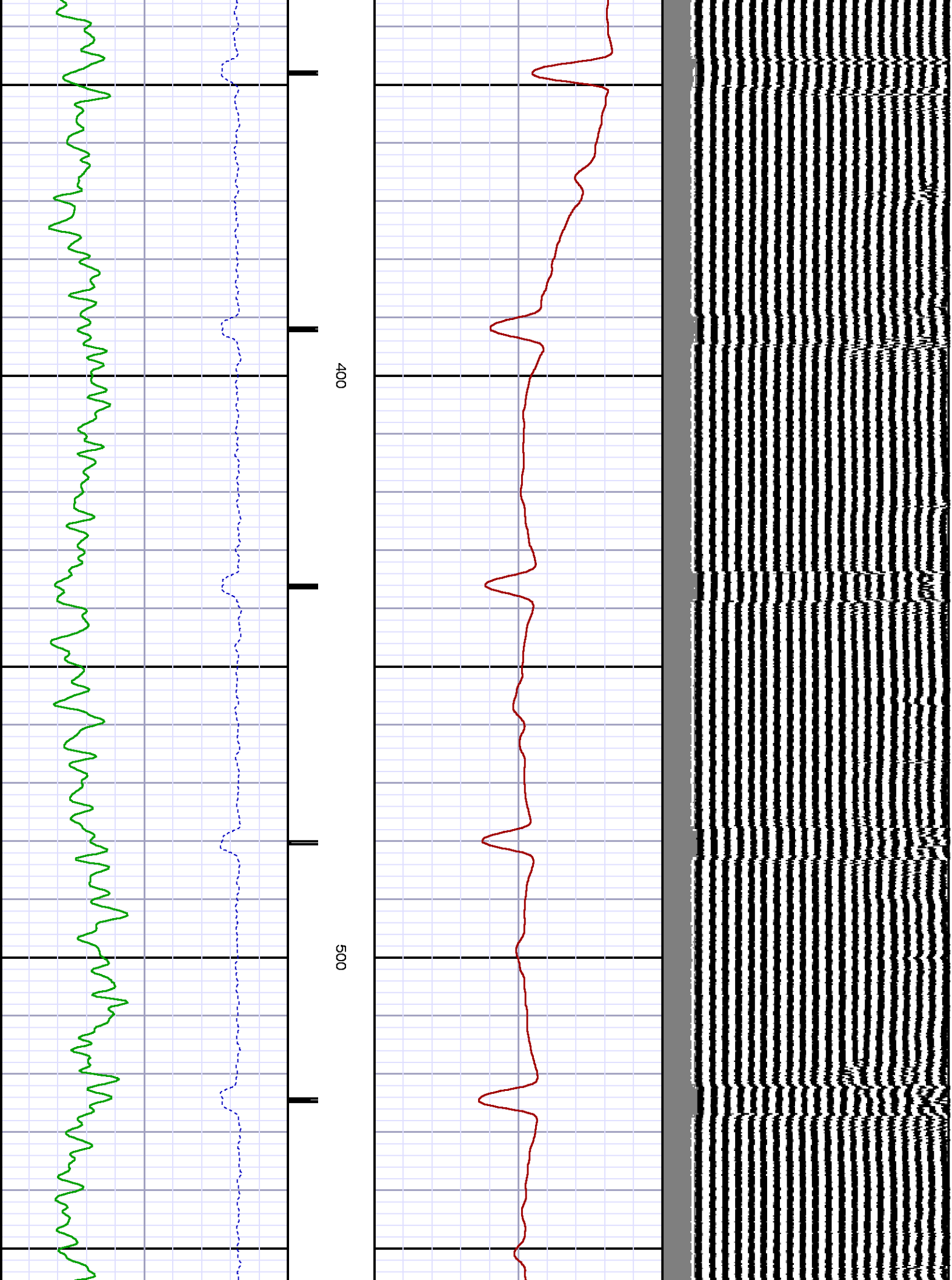
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RAL	Amp Gate Start Near	195.000	usec	27.155	8949.000
RAL	Amp Gate Start Radial	195.000	usec	27.155	8949.000
RAL	Amp Gate Width Far	25.000	usec	27.155	8949.000
RAL	Amp Gate Width Near	25.000	usec	27.155	8949.000
RAL	Amp Gate Width Radial	25.000	usec	27.155	8949.000
RAL	casing od	4.500	inches	27.155	8949.000
RAL	casing wt	11.600	lbm/ft	27.155	8949.000
RAL	FB Start Far	291.900	usec	27.155	8949.000
RAL	FB Start Near	180.000	usec	27.155	8949.000
RAL	FB Start Radial	180.000	usec	27.155	8949.000
RAL	FB Thresh Far	10.000	mv	27.155	8949.000
RAL	FB Thresh Near	4.000	mv	27.155	8949.000
RAL	FB Thresh Radial	4.000	mv	27.155	8949.000
RAL	Fluid Travel Time	200.000	usec/ft	27.155	8948.530

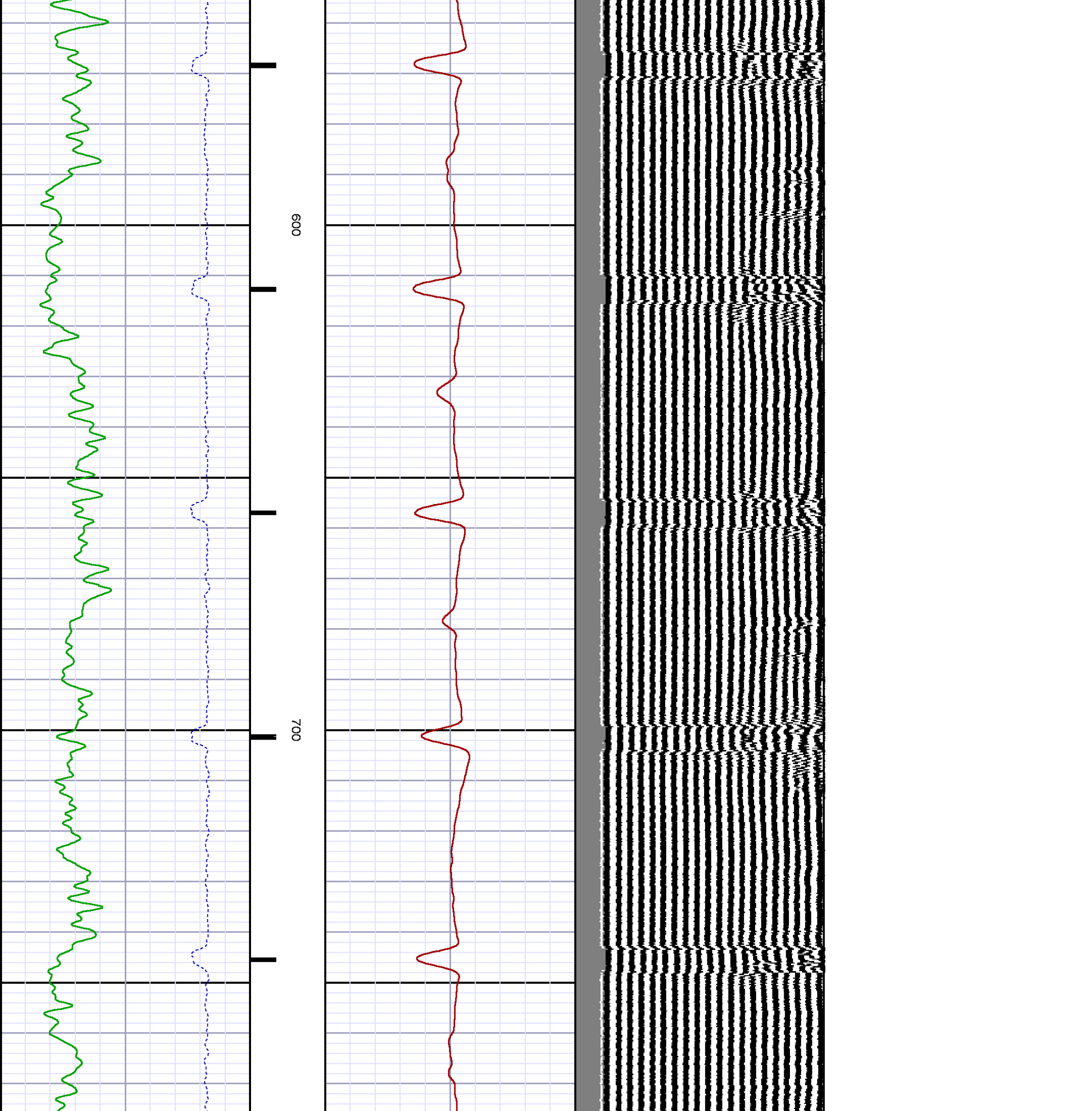
DEPTH OFFSETS
(for Acquired Curves)

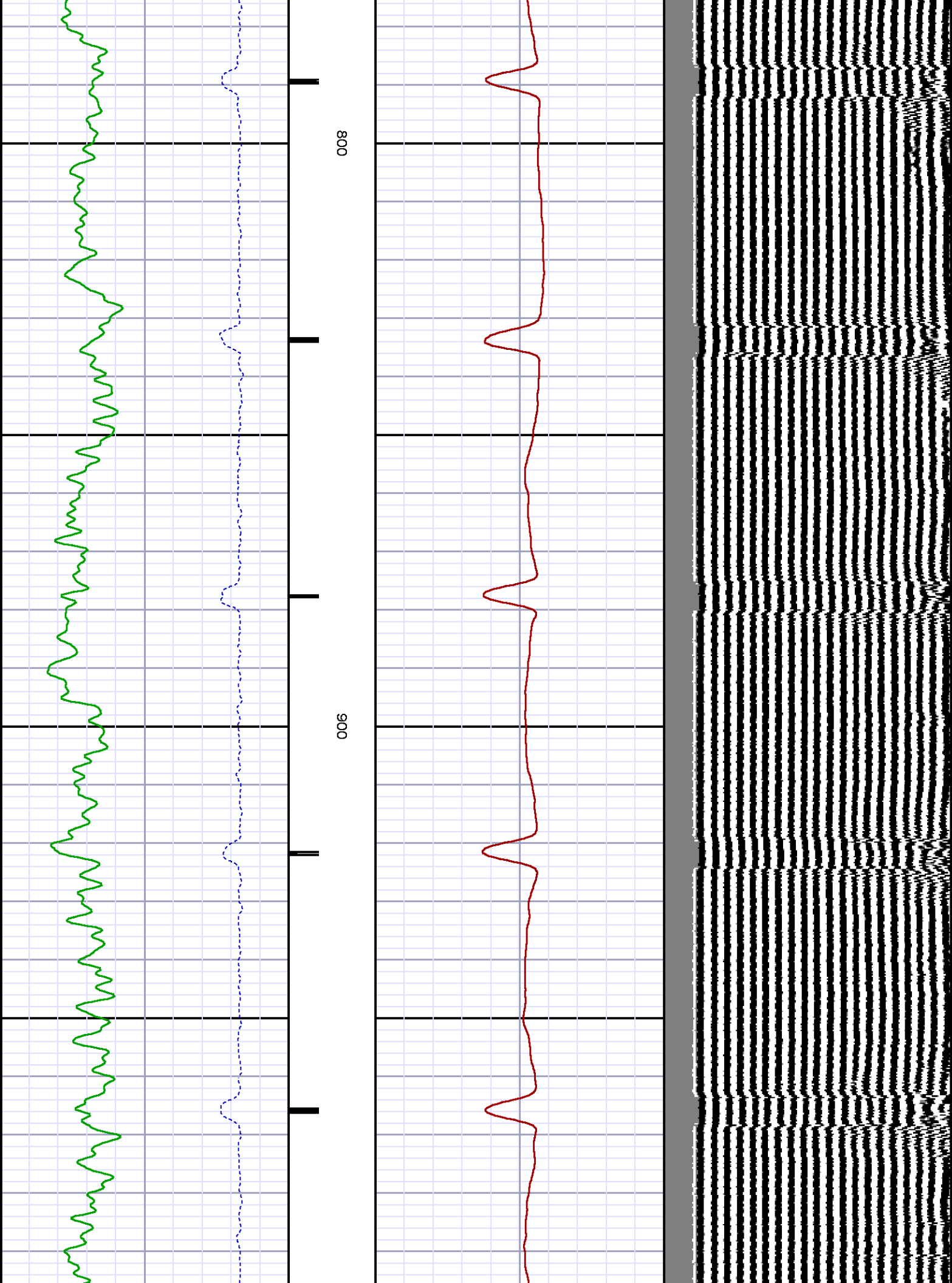
SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-11.000	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-10.040	AFAR	SIG	TT5			
1355XA	-5.620	CCL					
1355XA	-1.500	GR					
1355XA	0.000	TEMP					

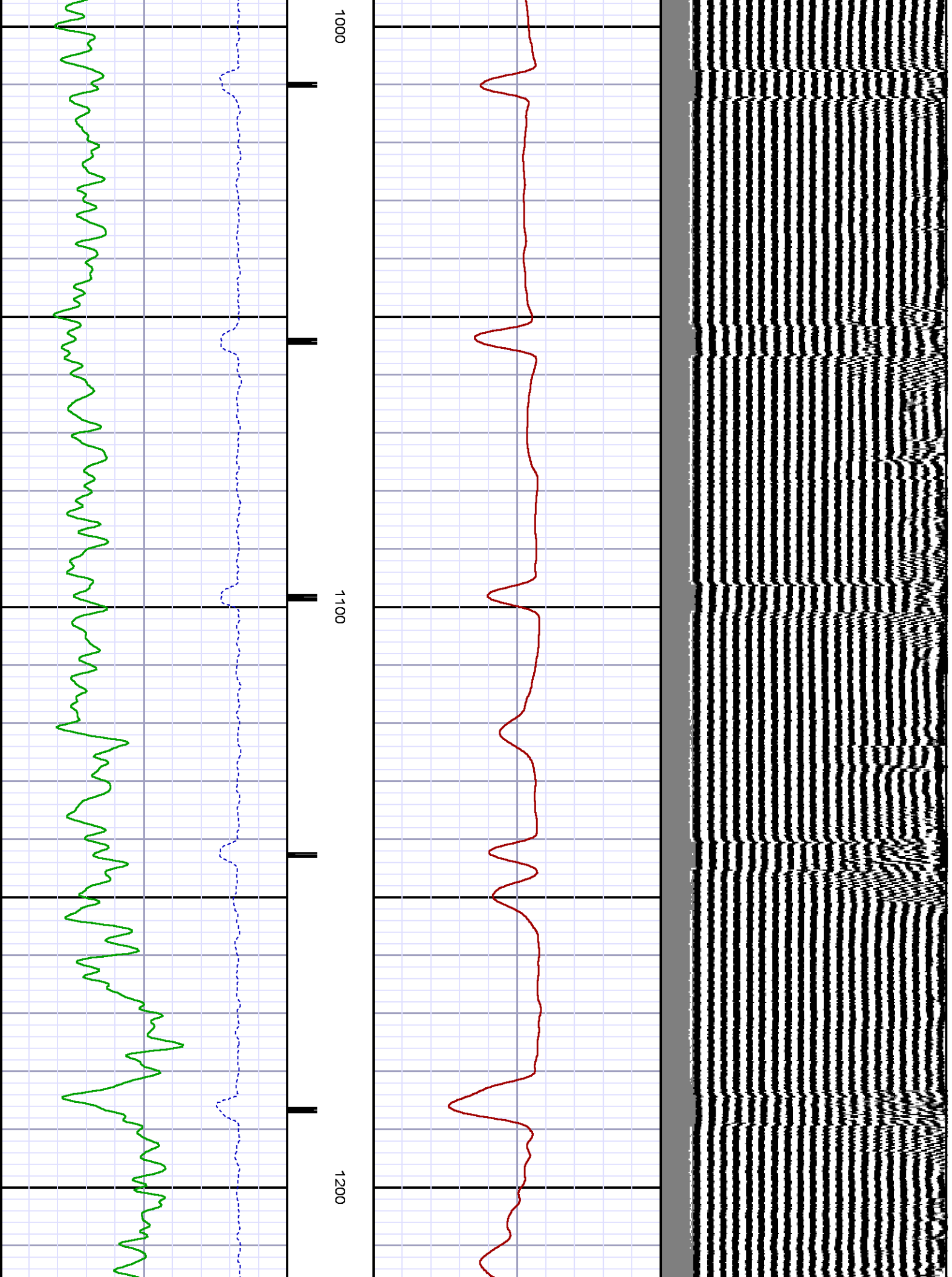


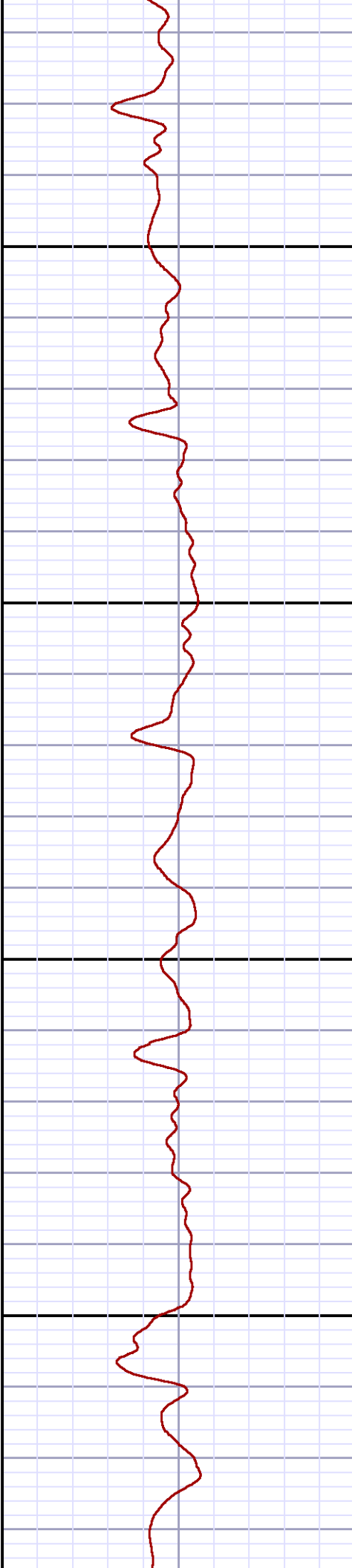
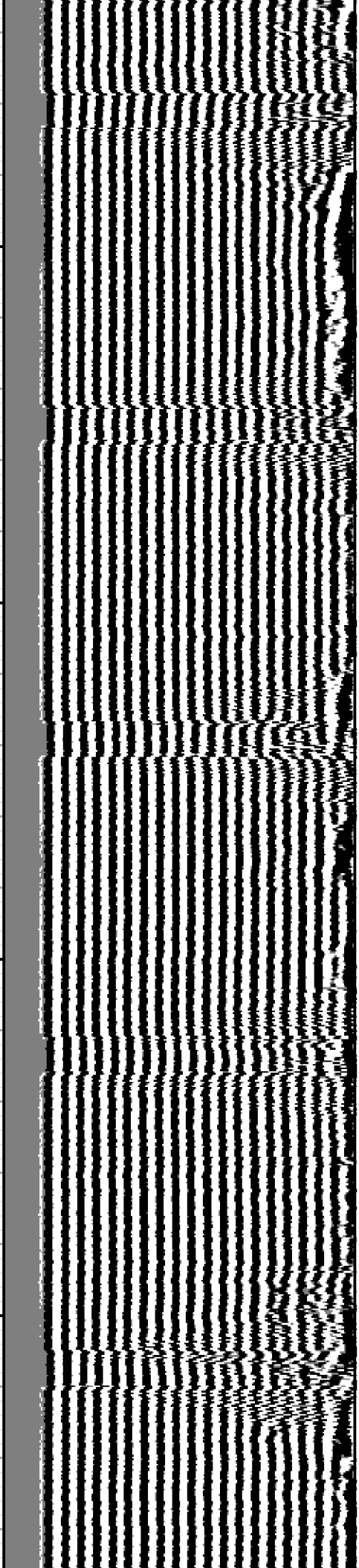






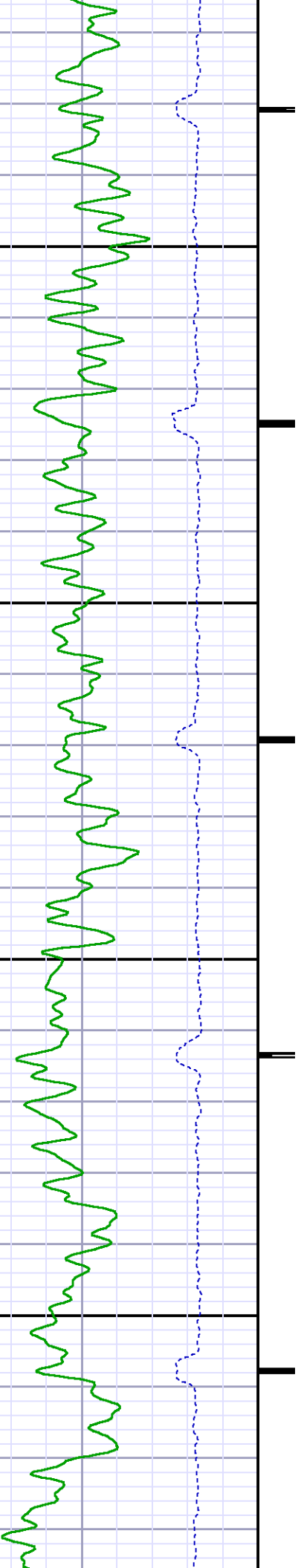


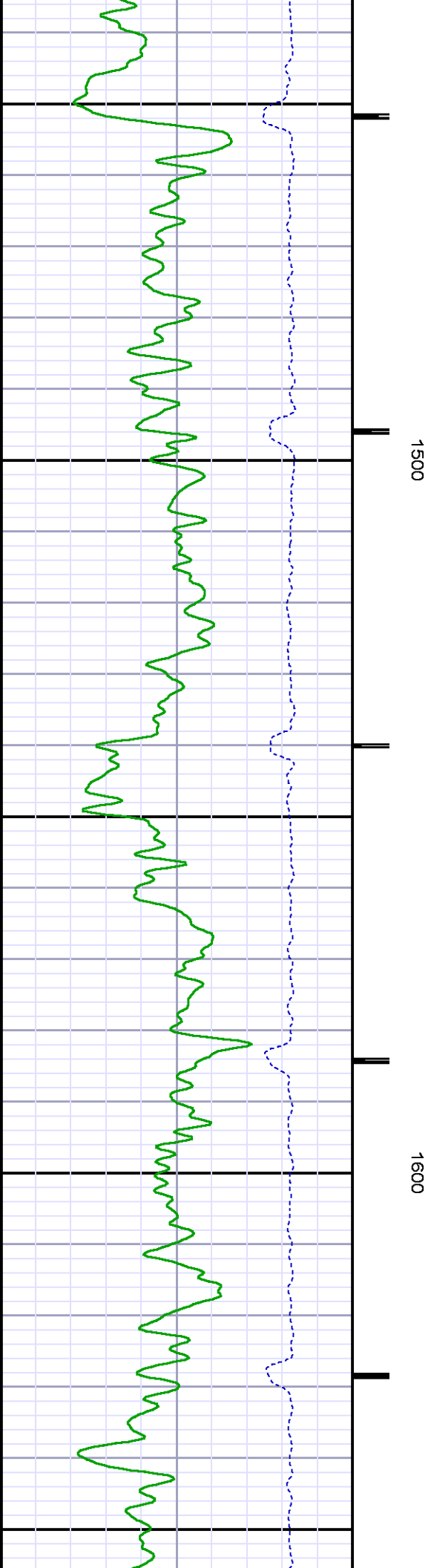
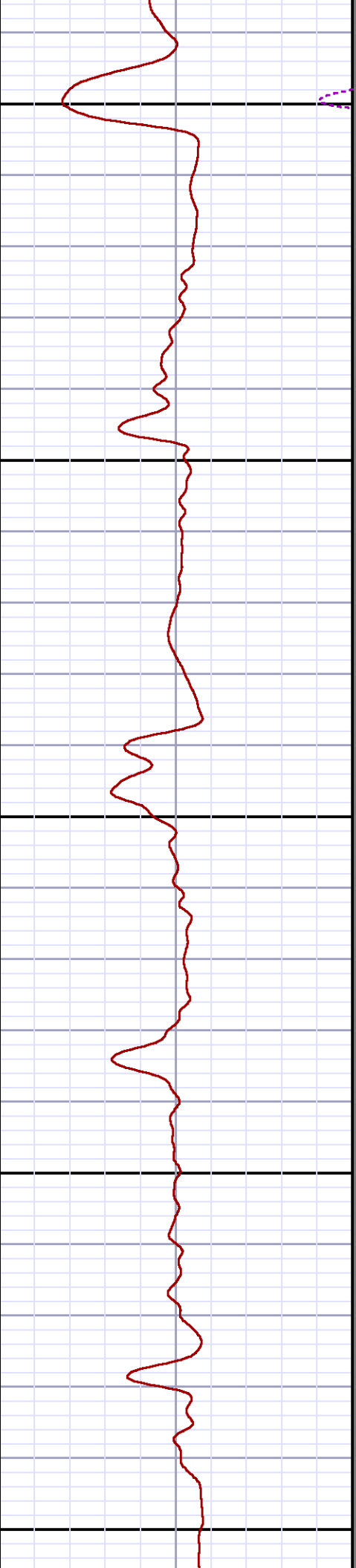
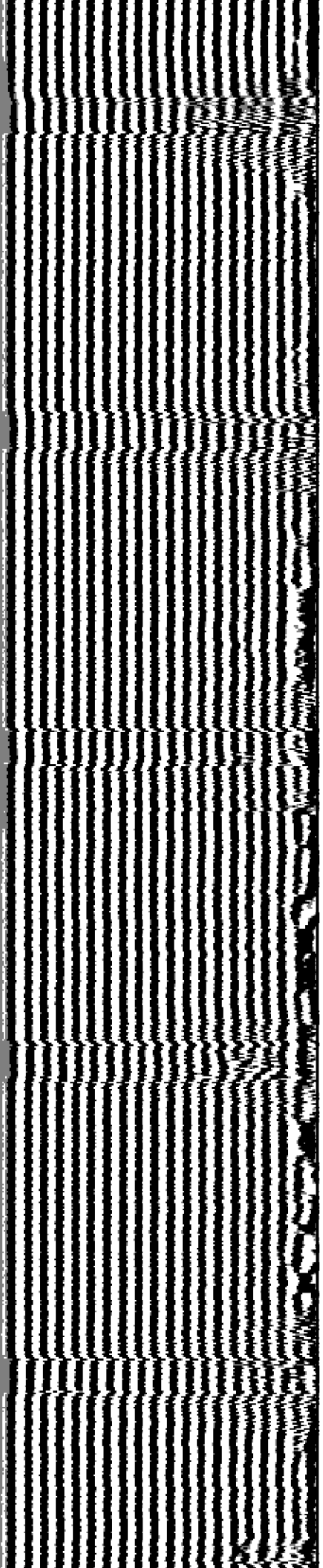


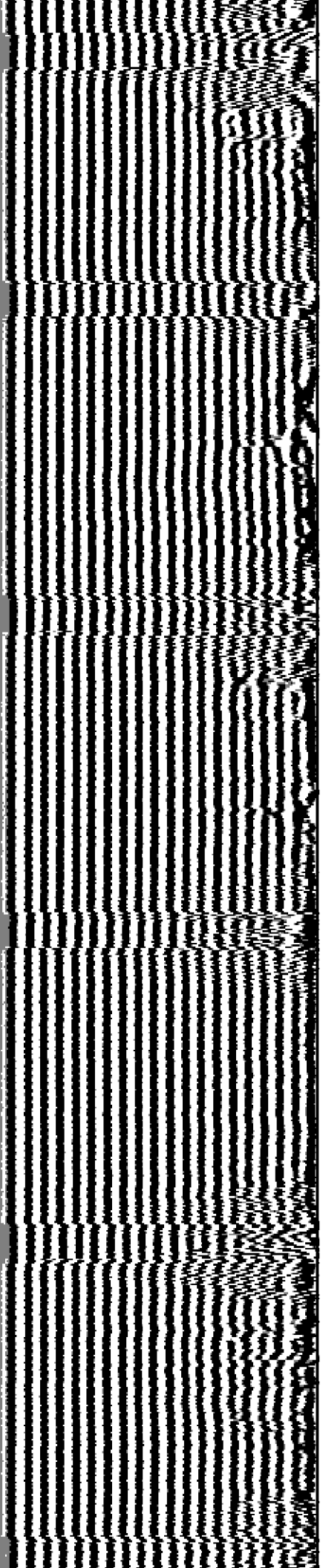


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1400

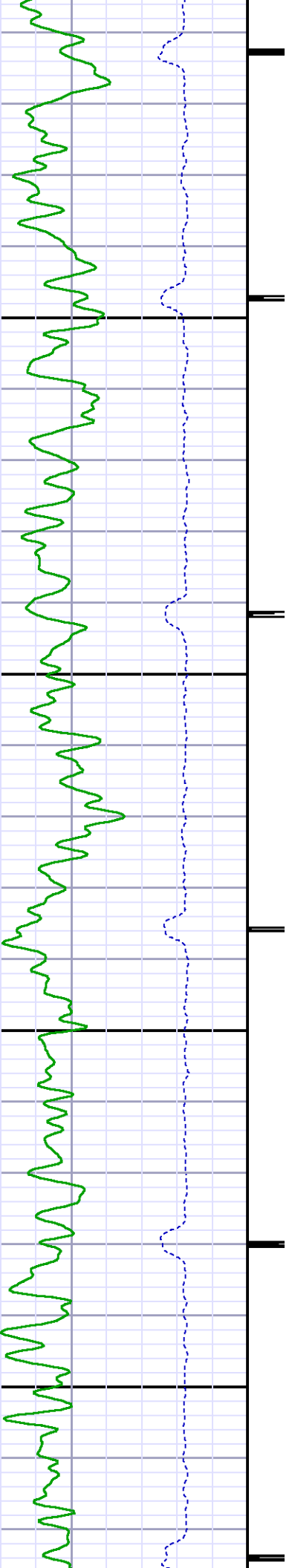


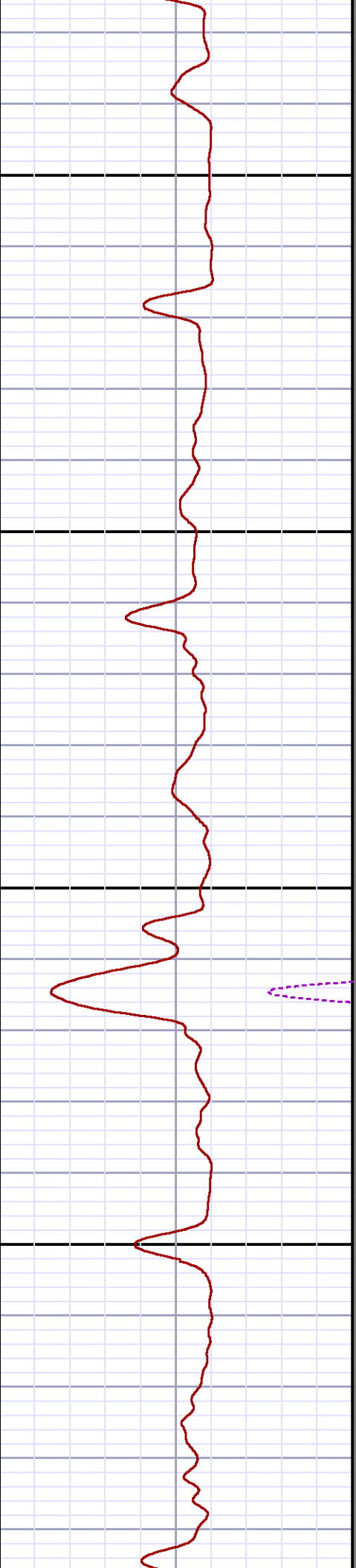
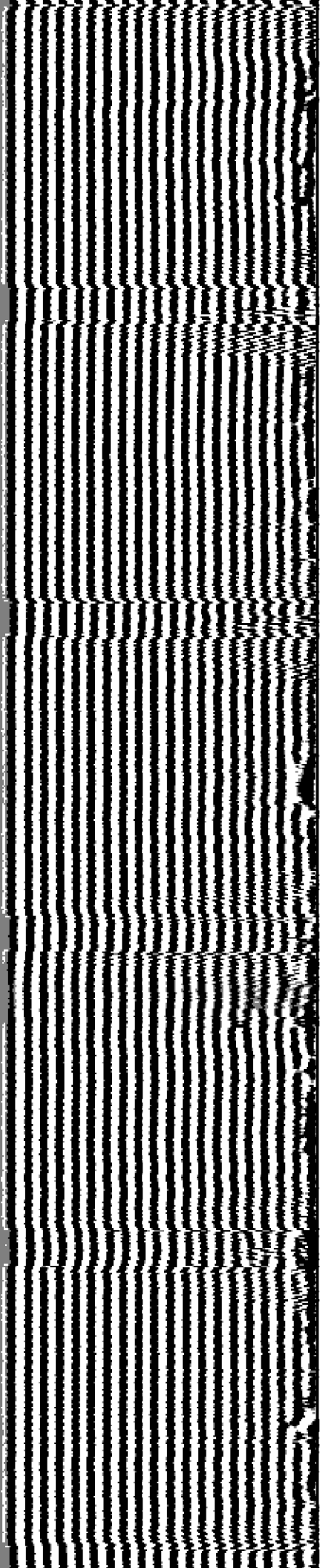




1700

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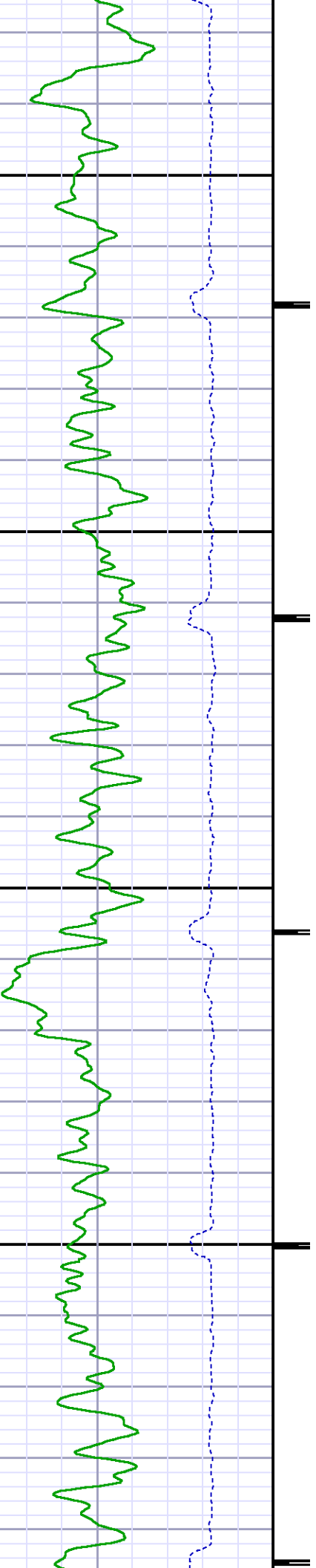


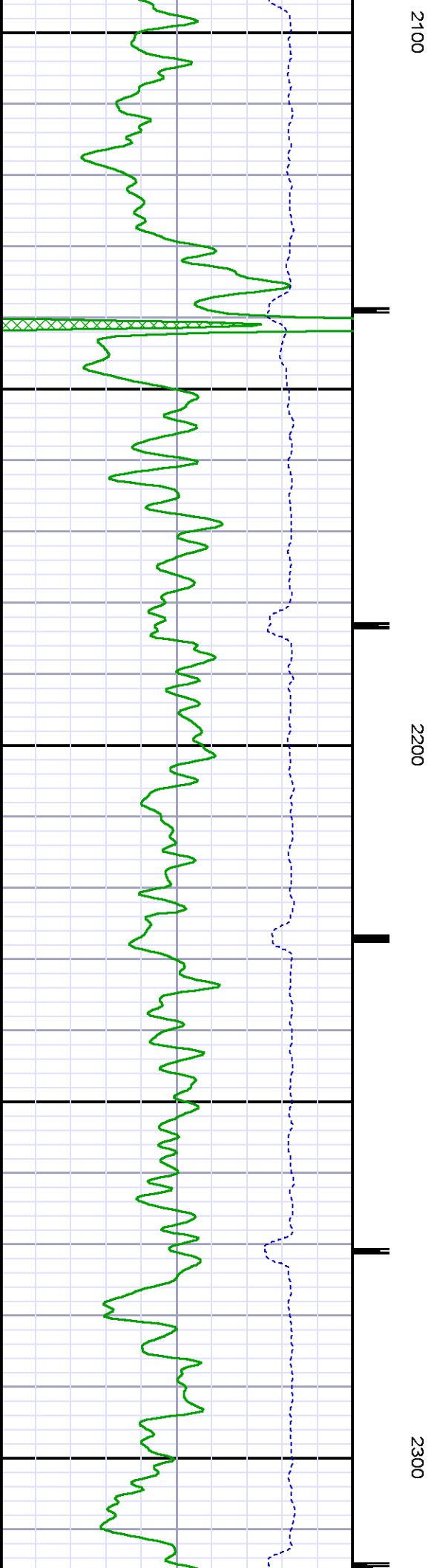
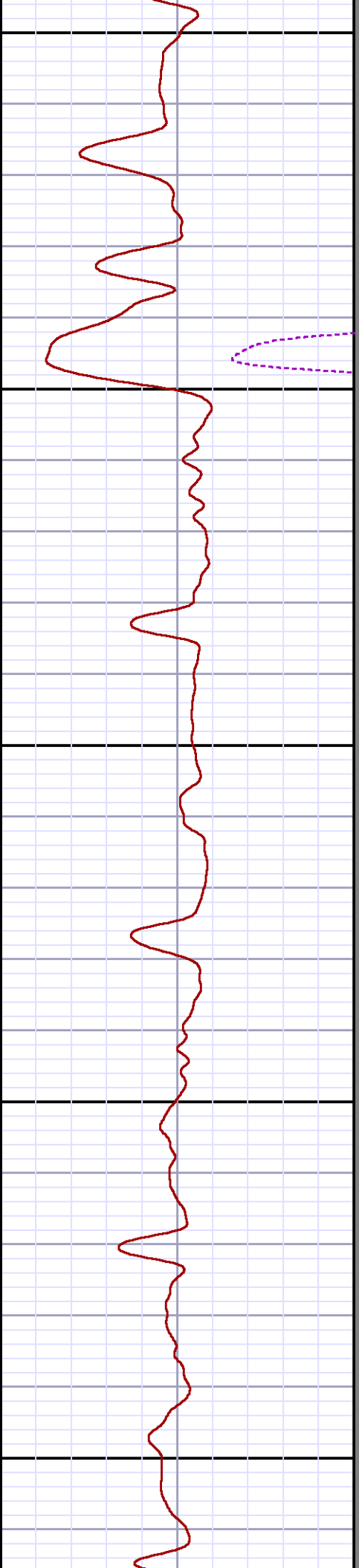
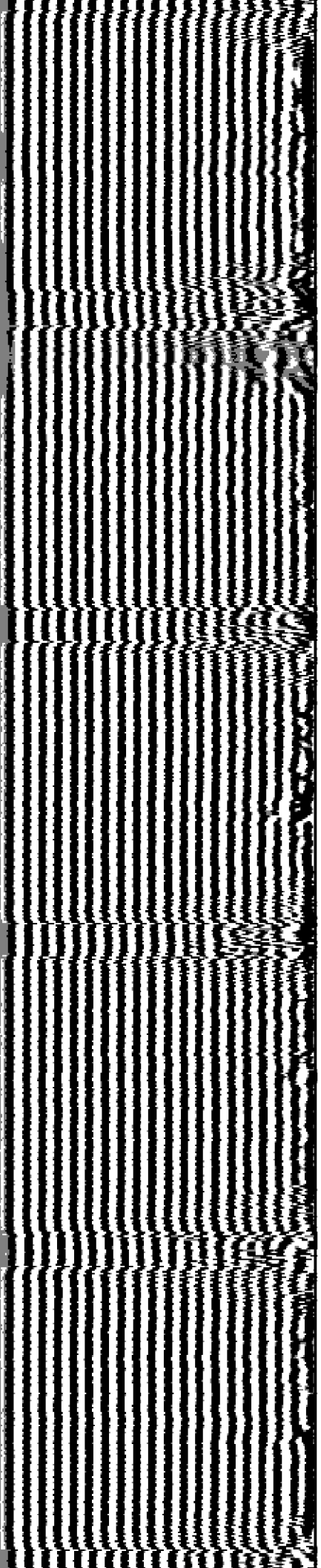


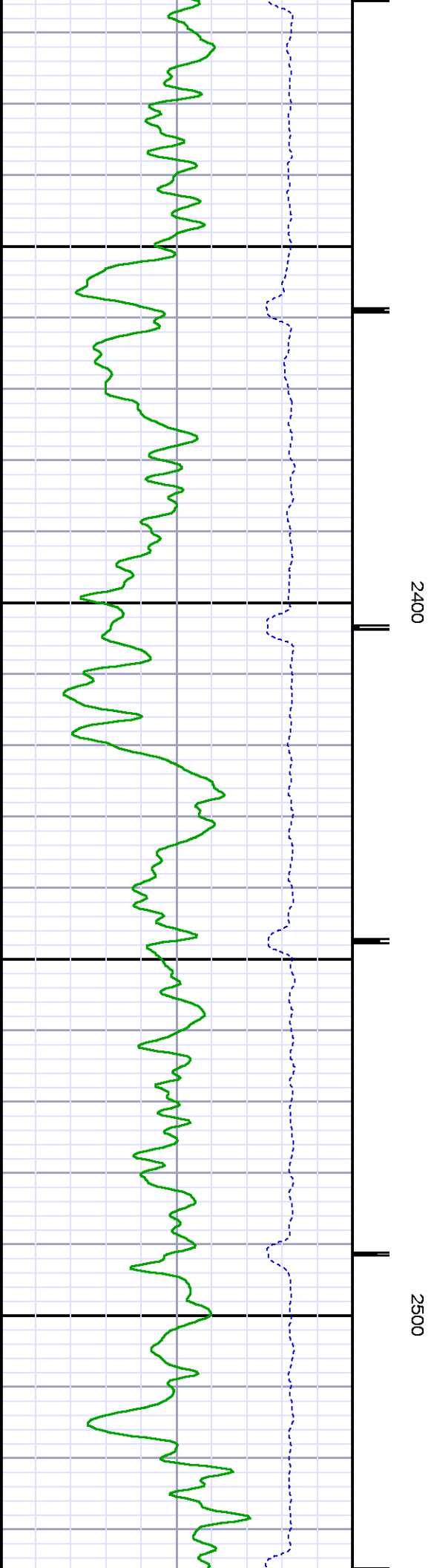
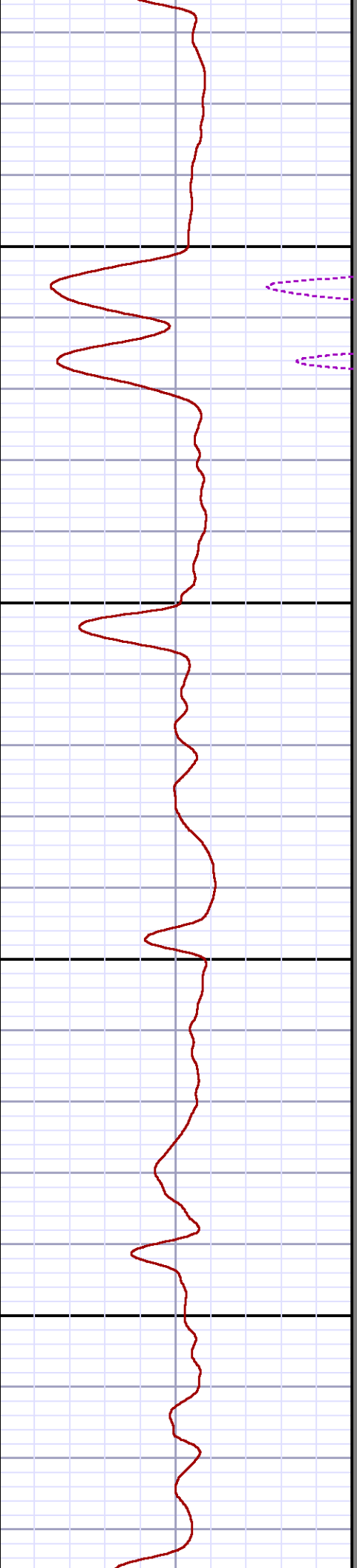
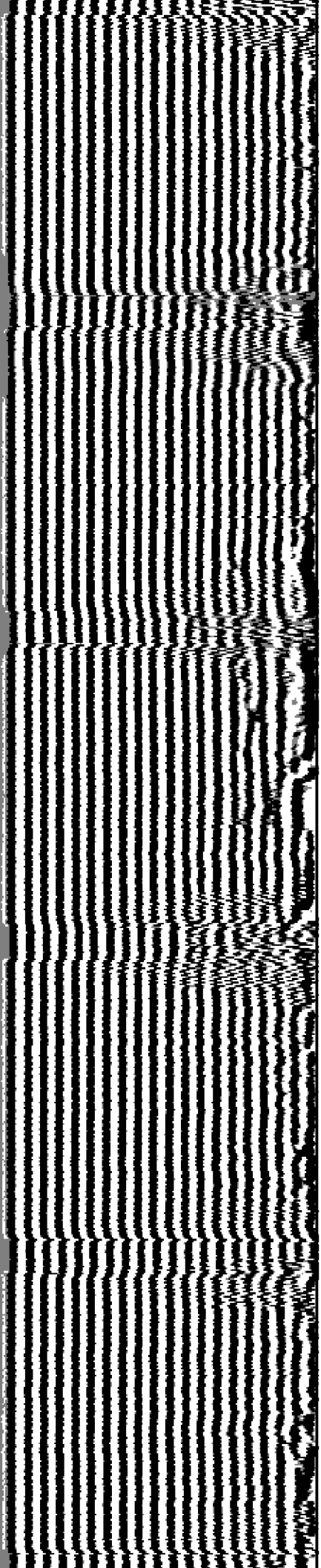
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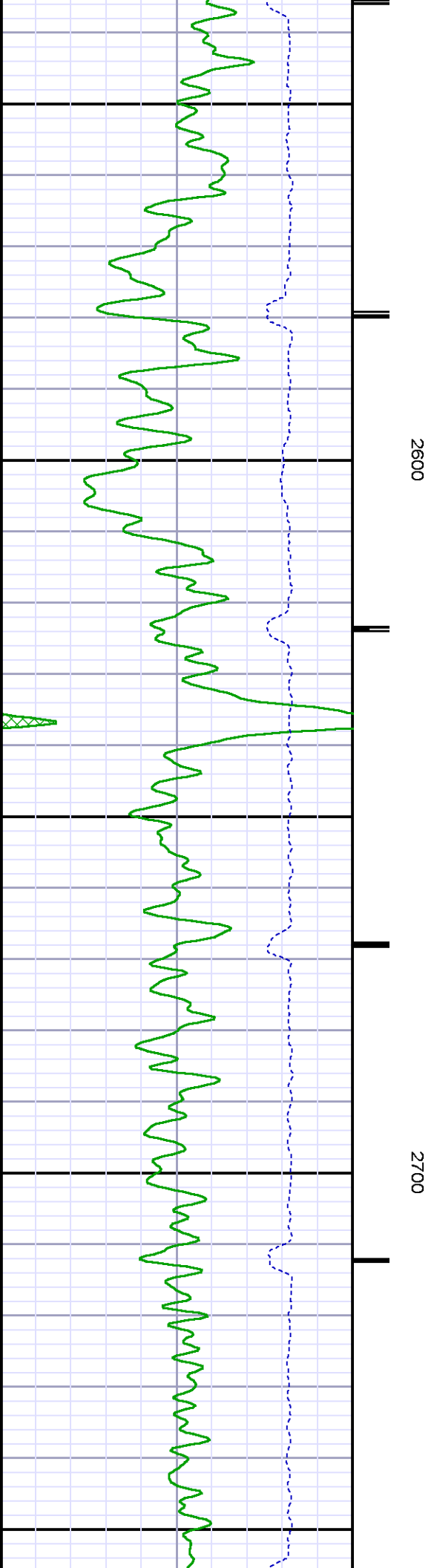
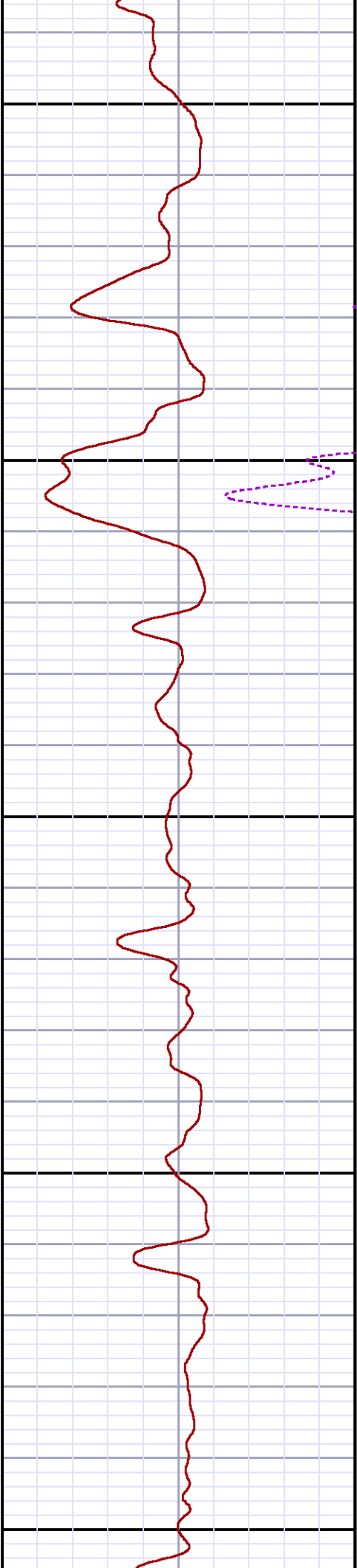
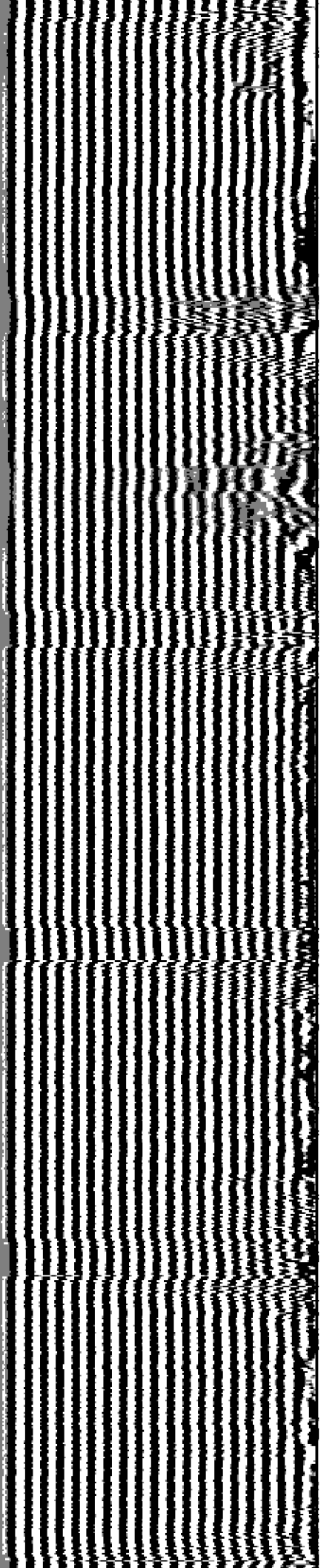
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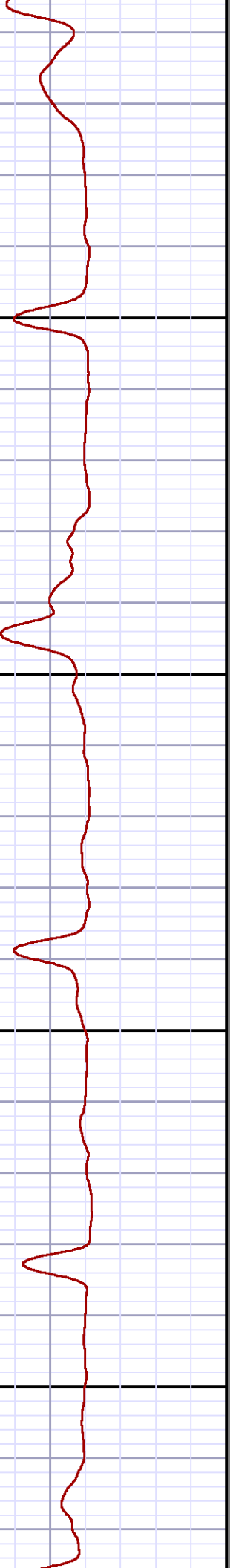
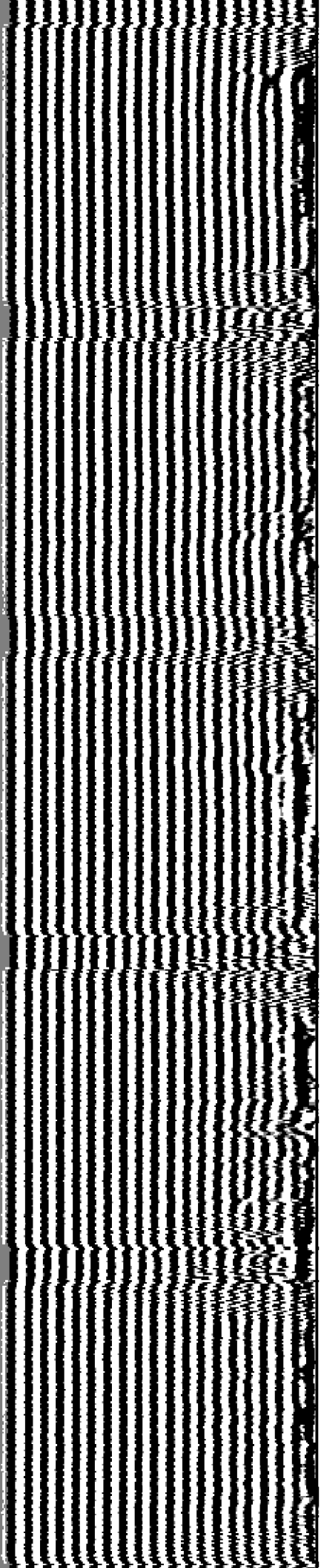
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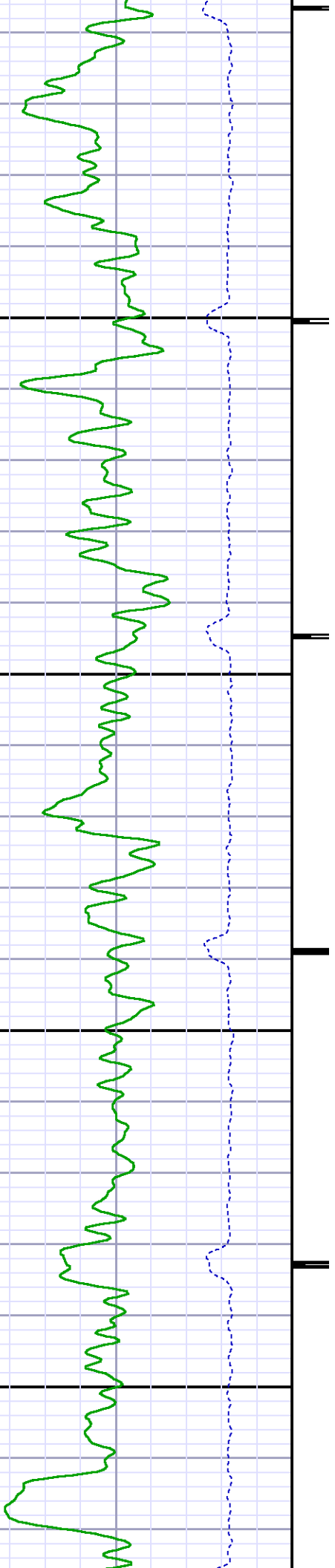


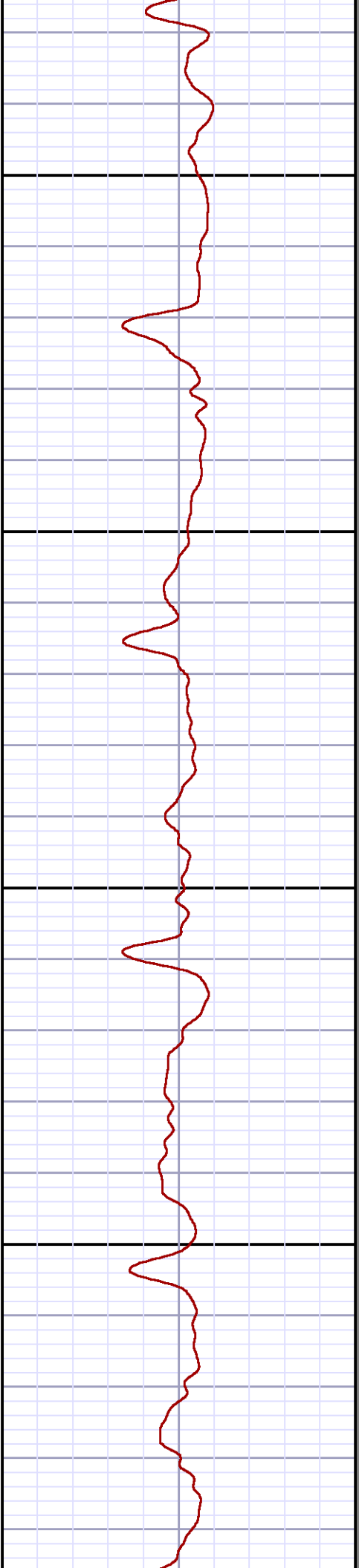
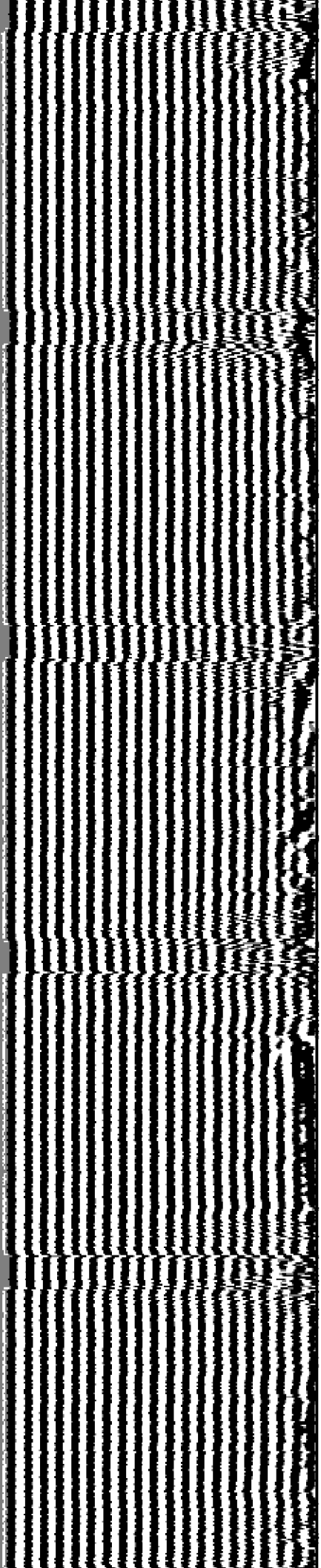




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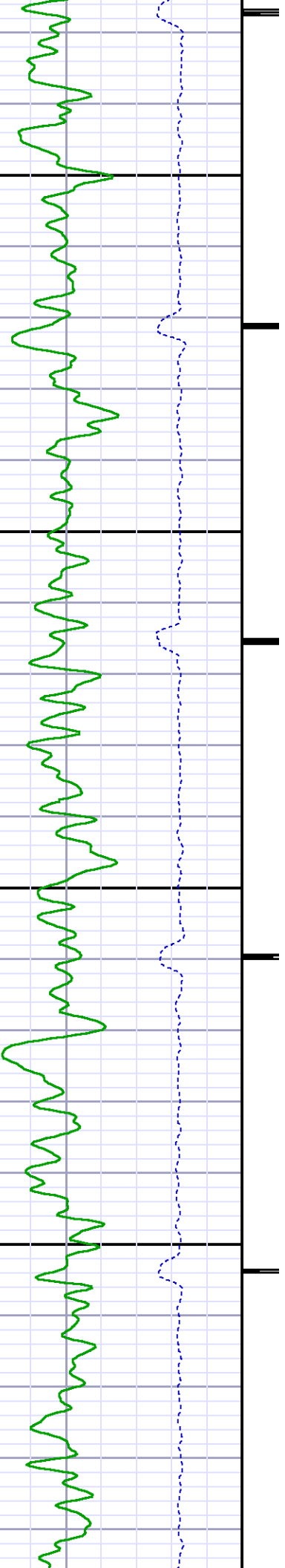
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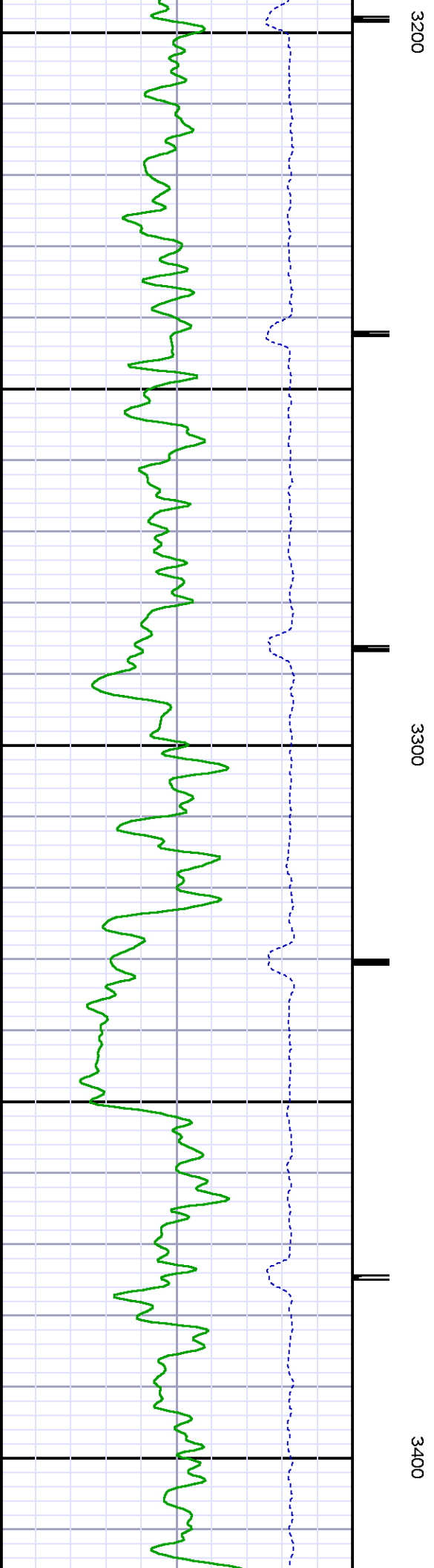
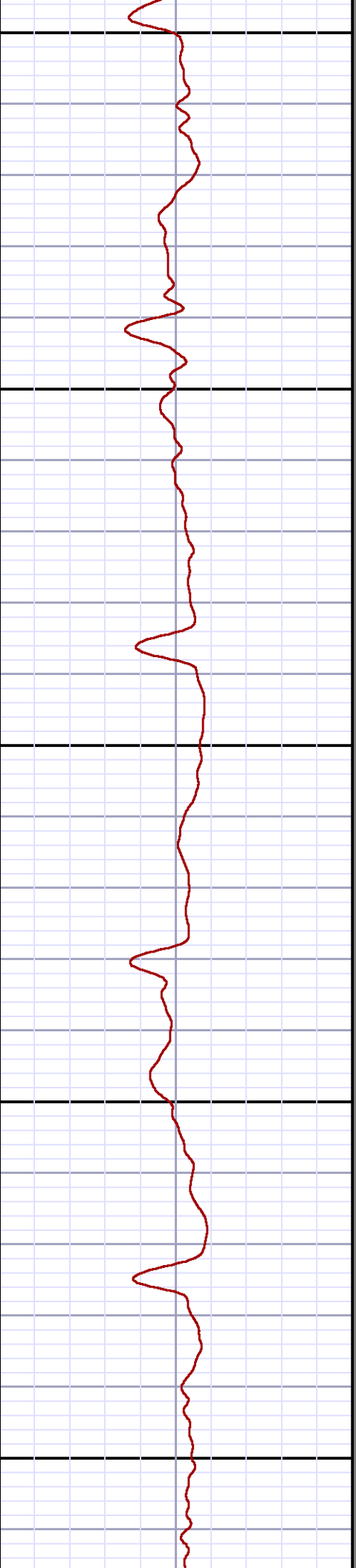
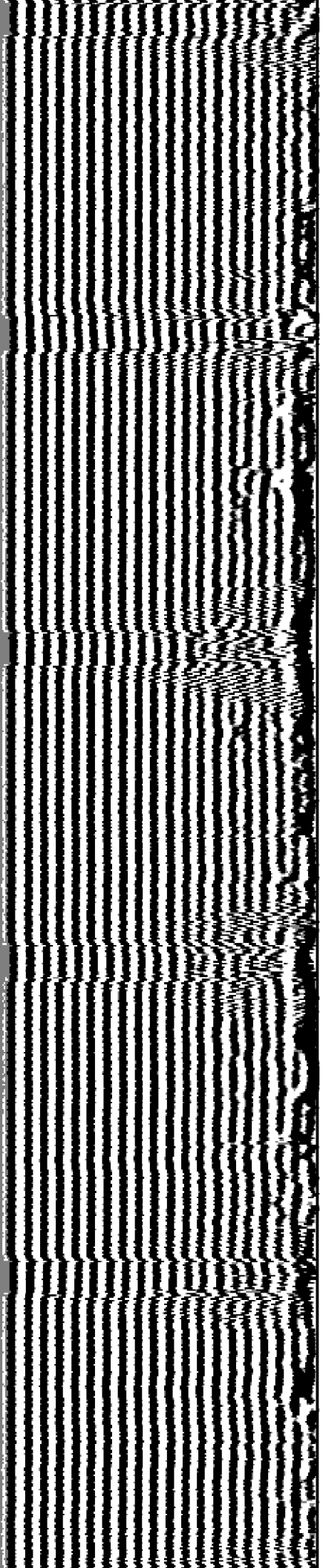


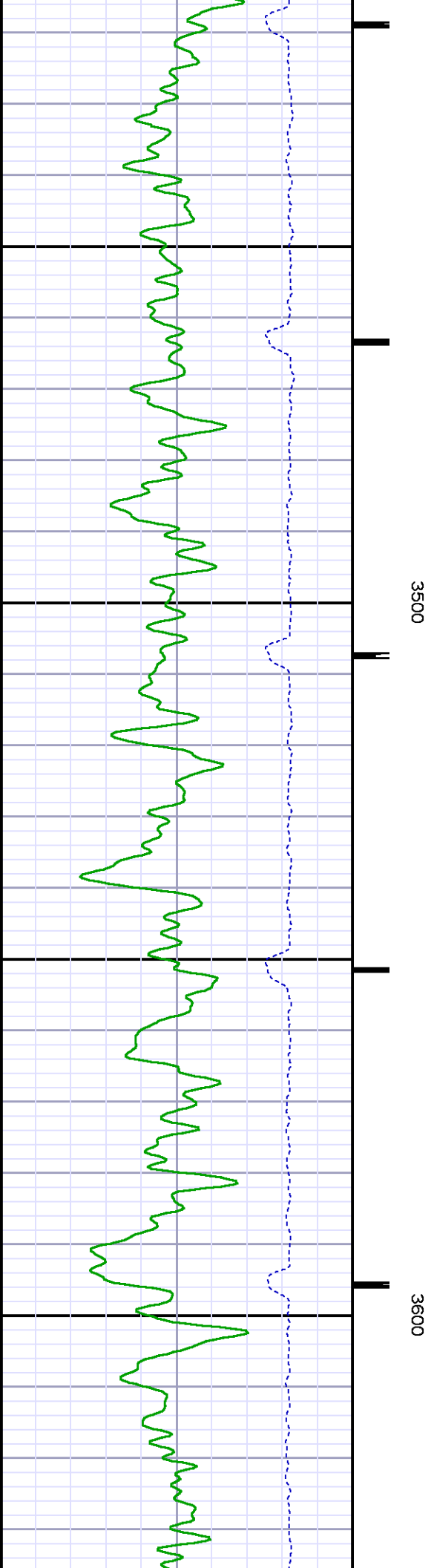
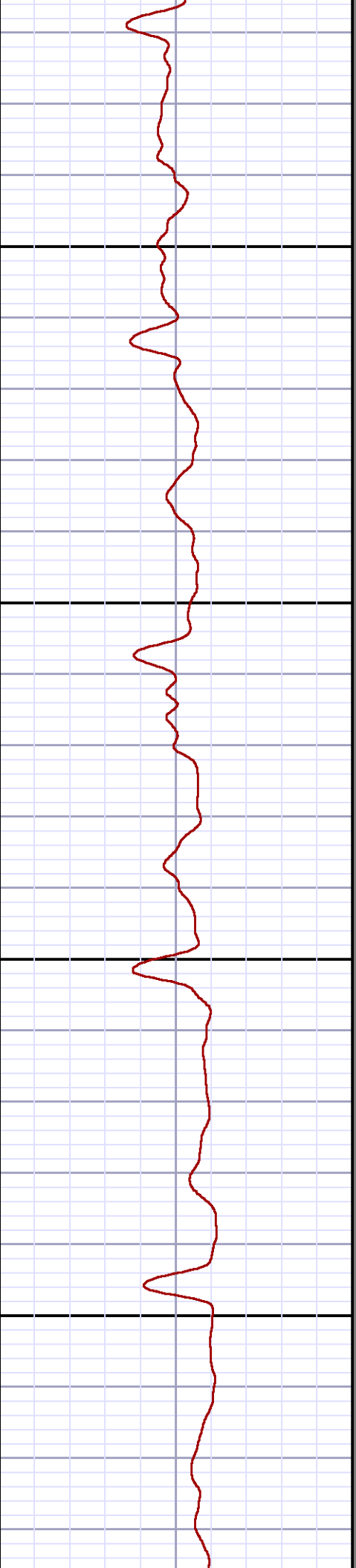
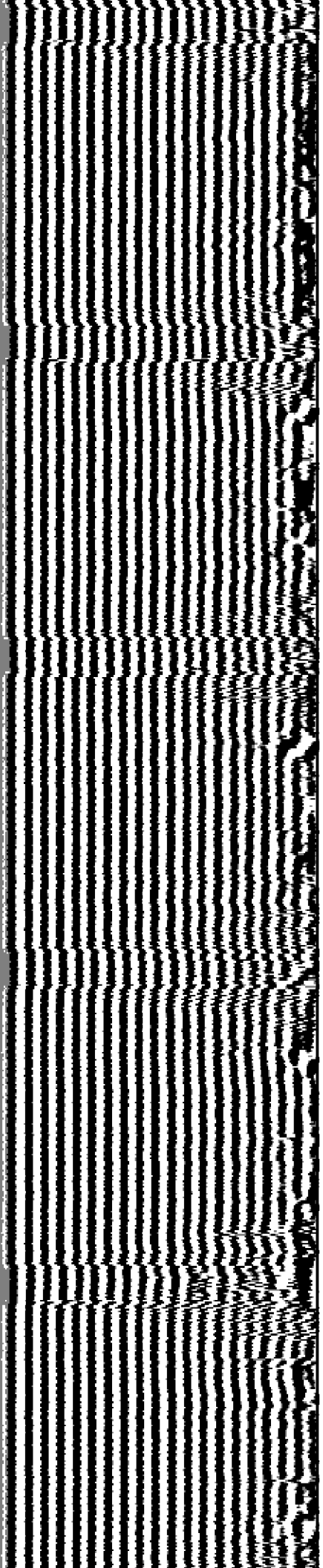


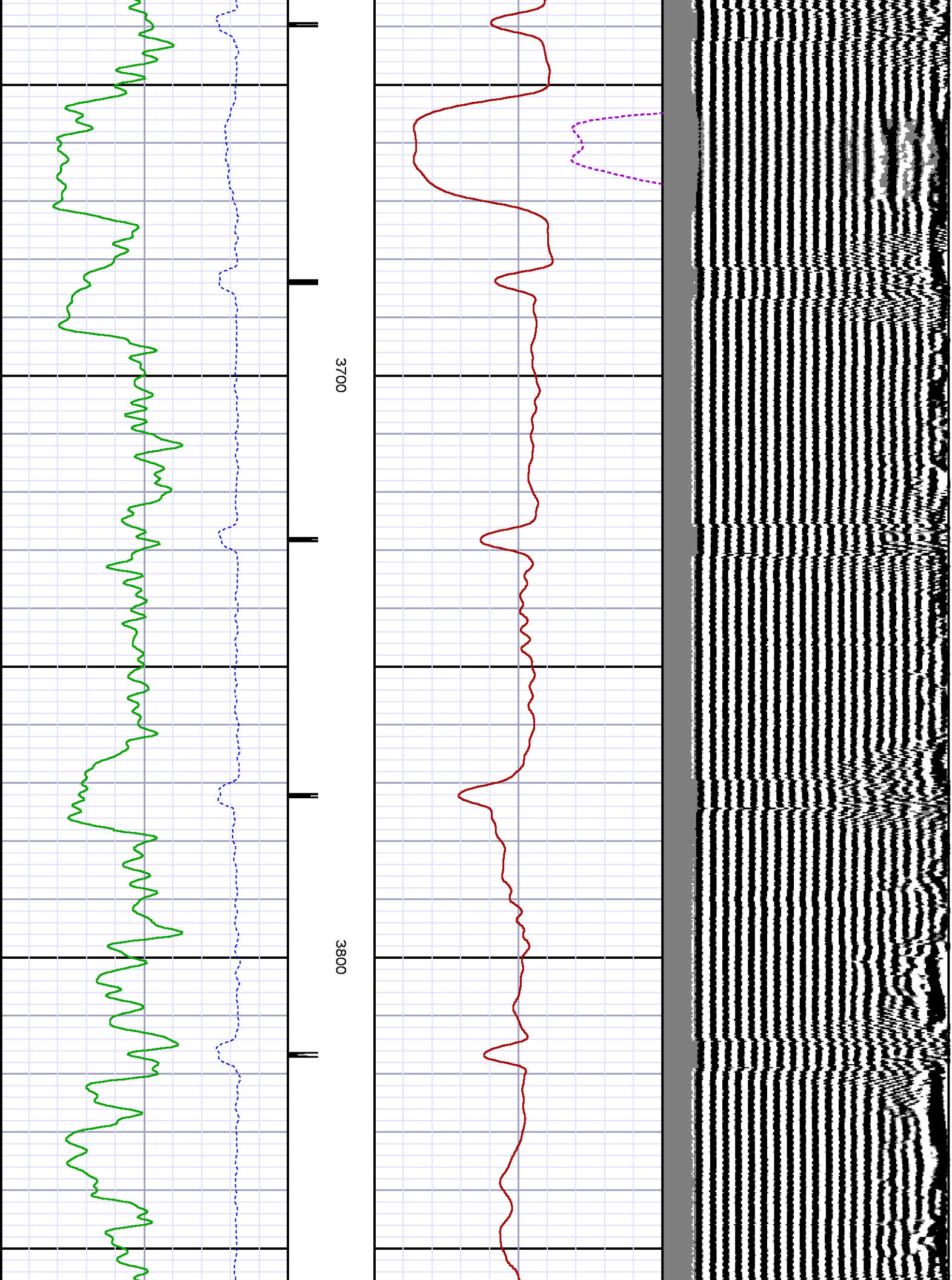
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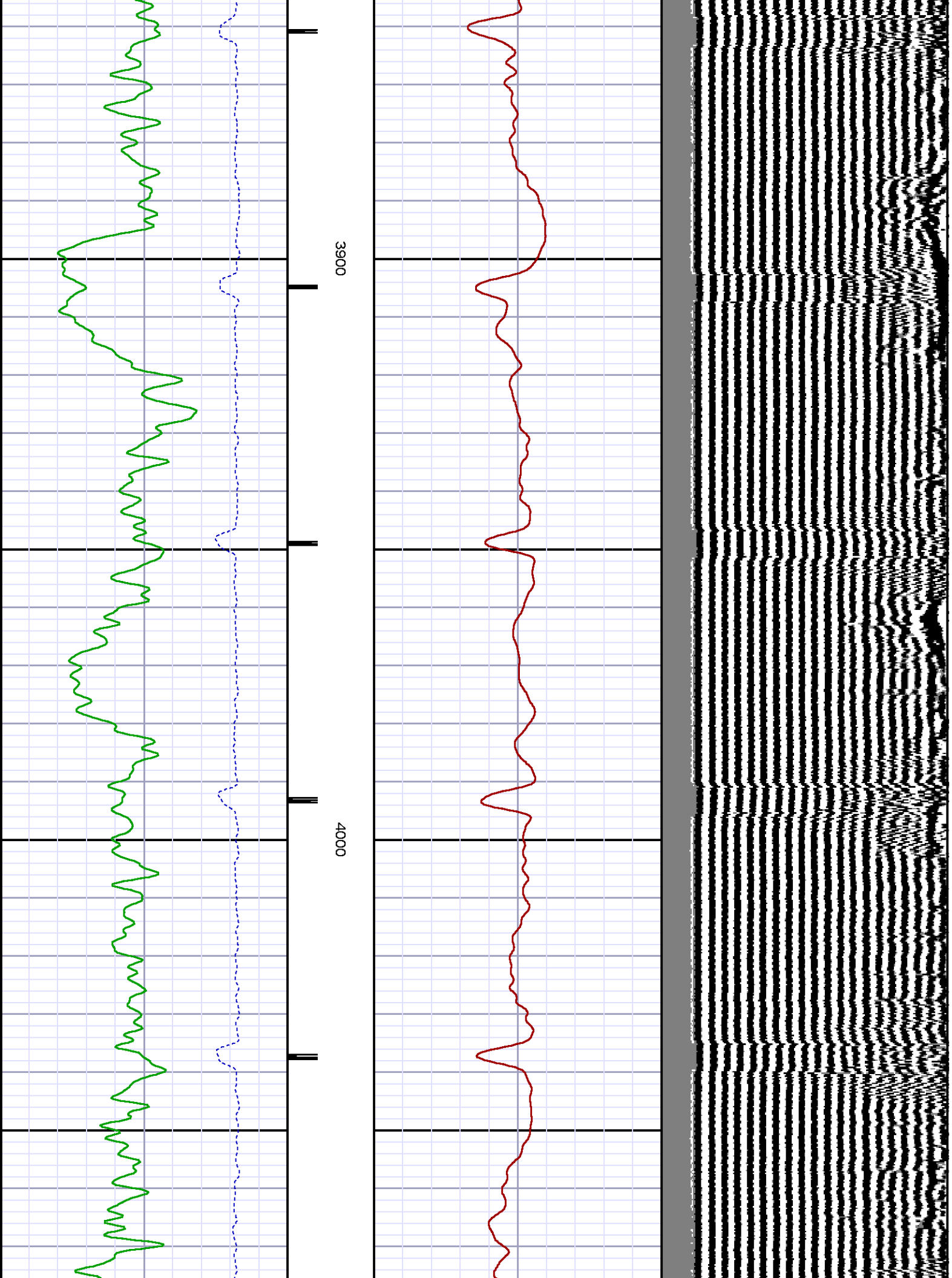
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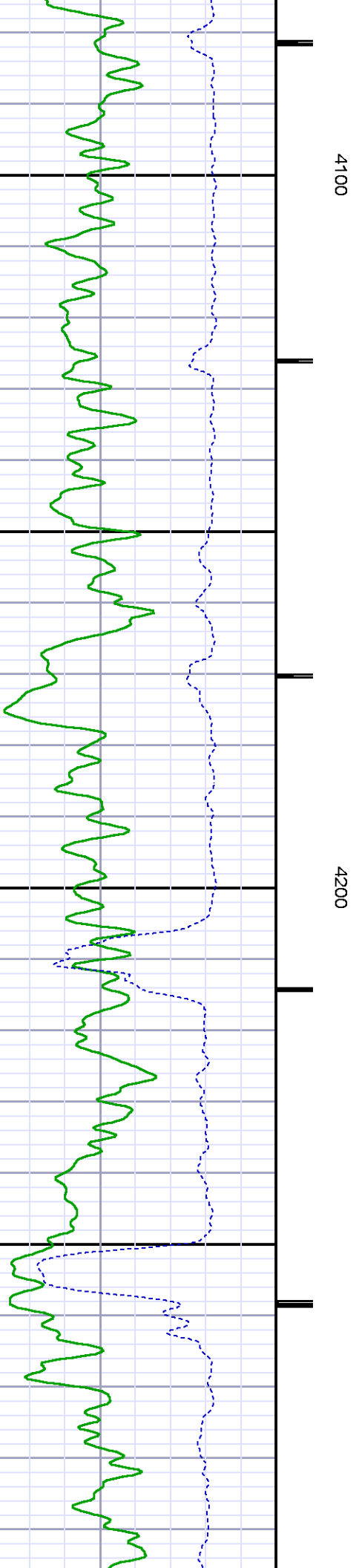
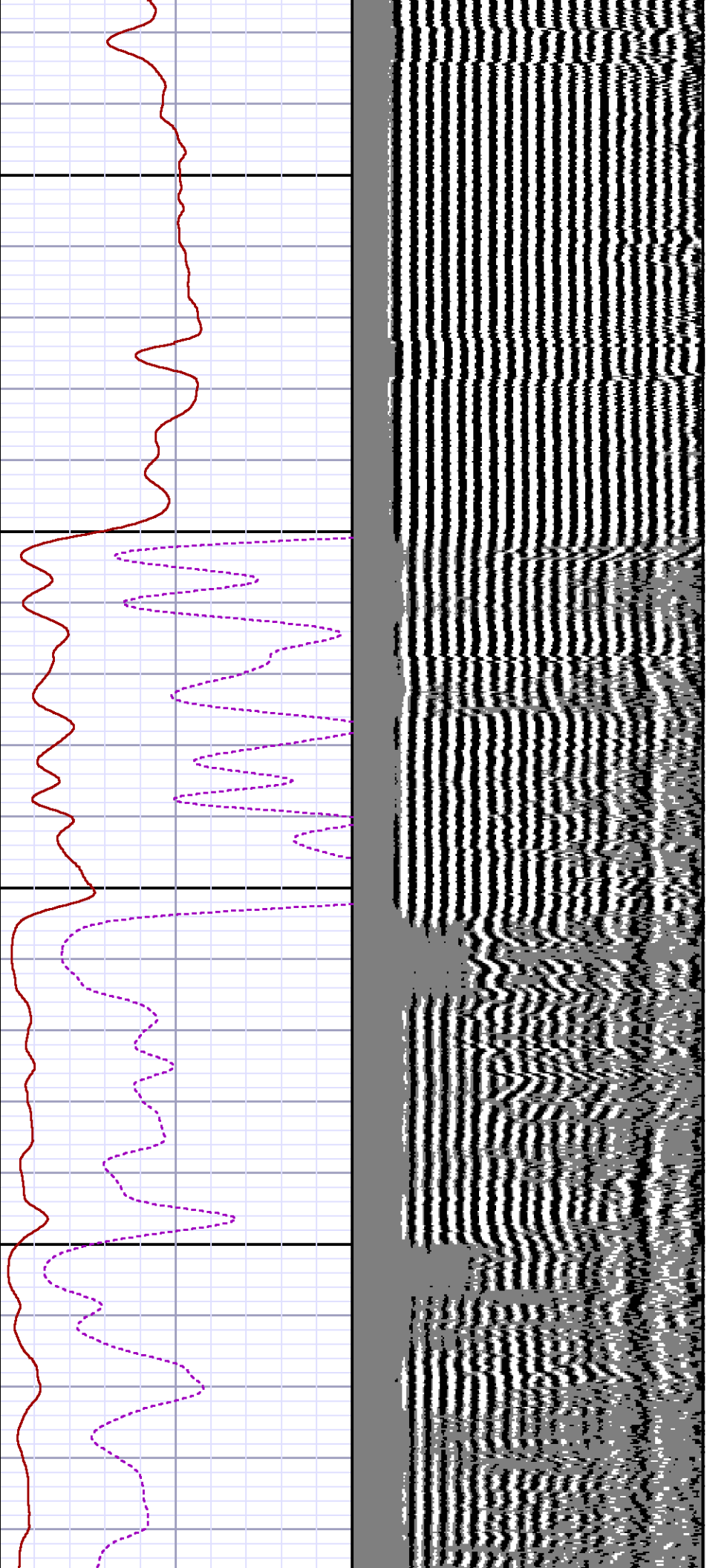


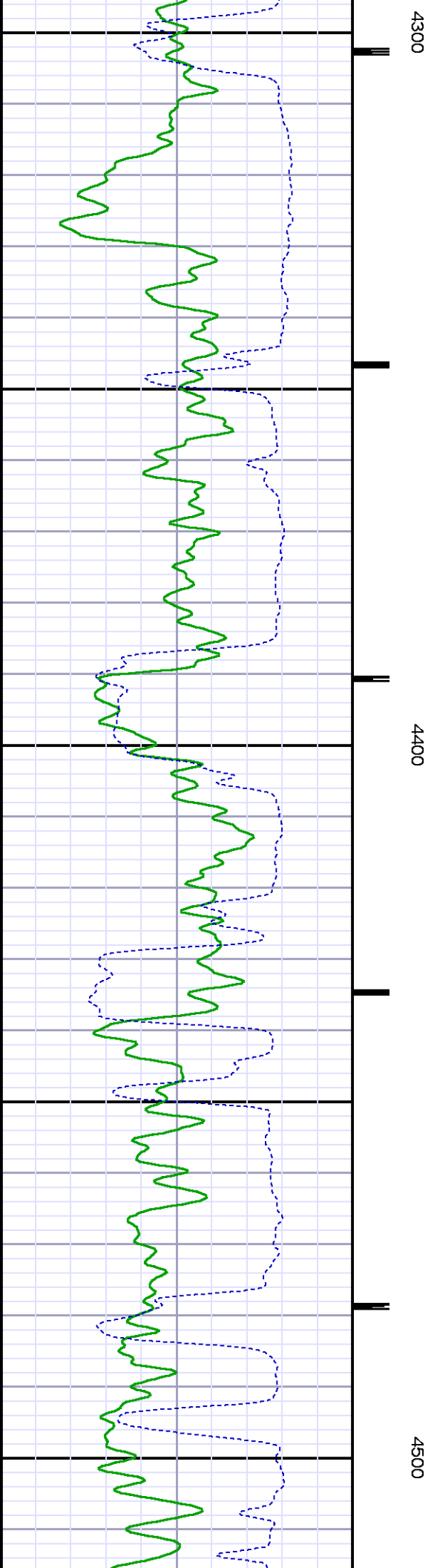
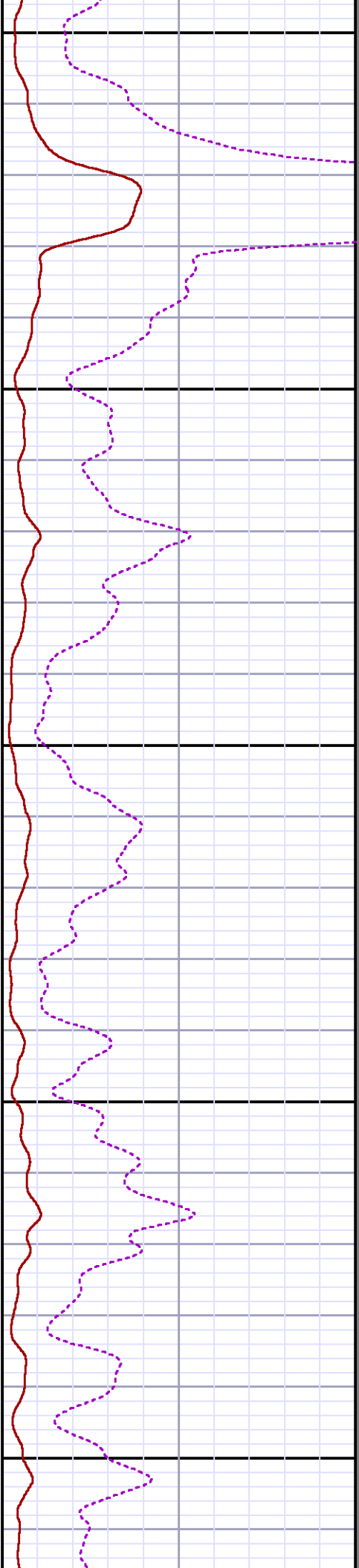
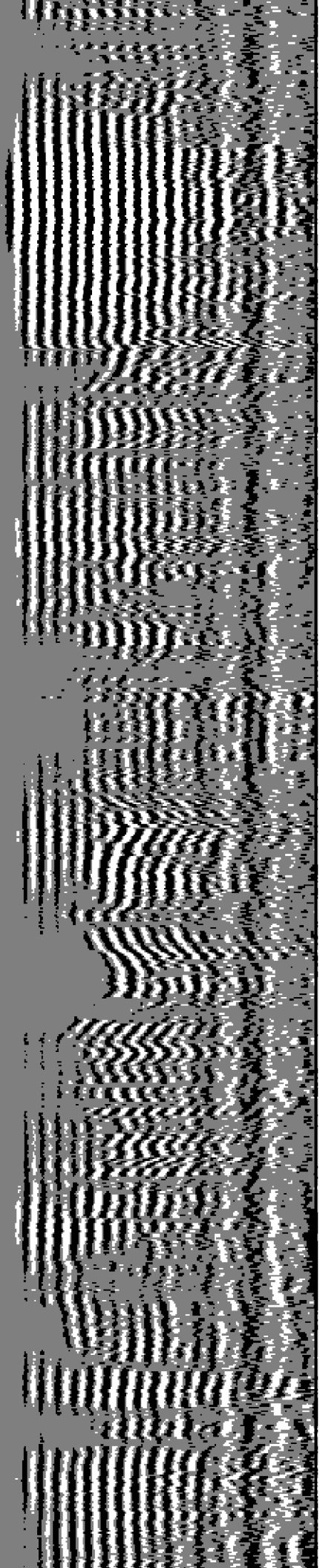


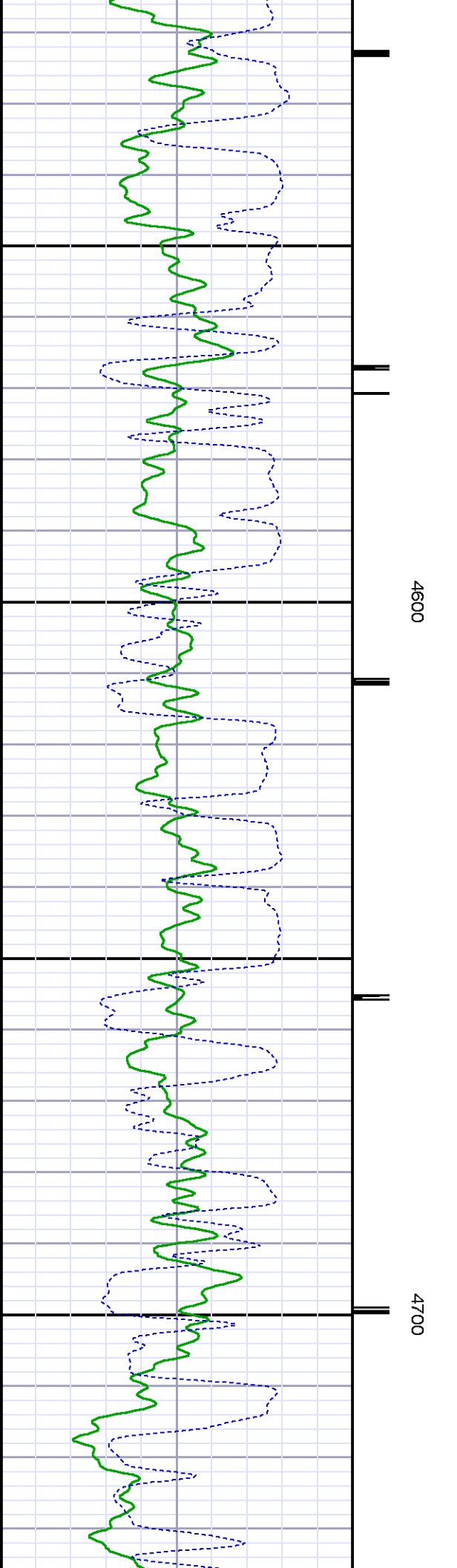
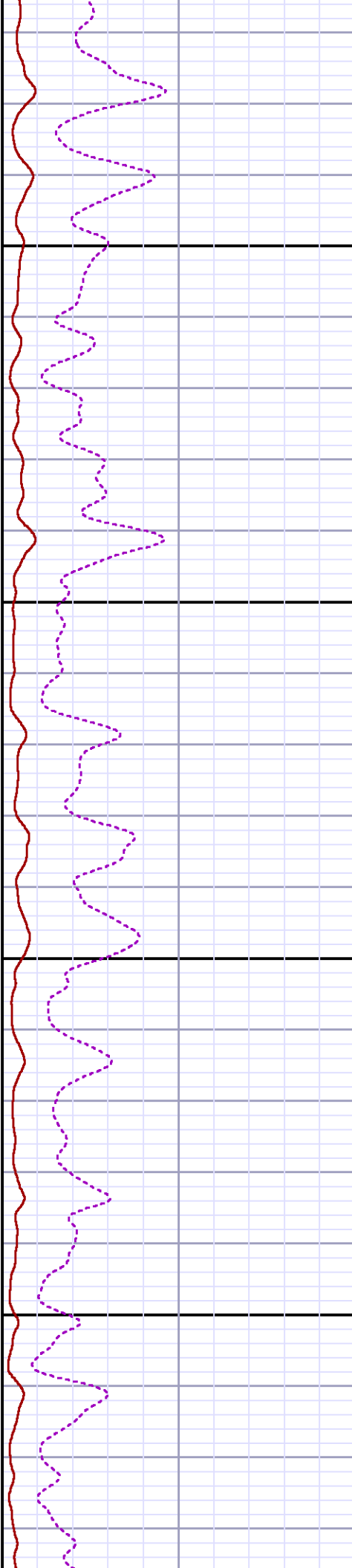
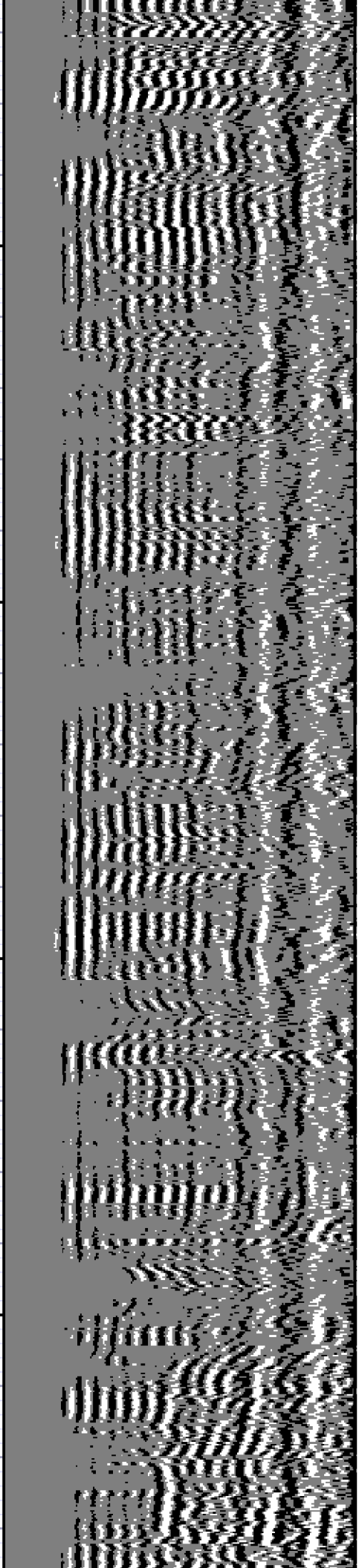


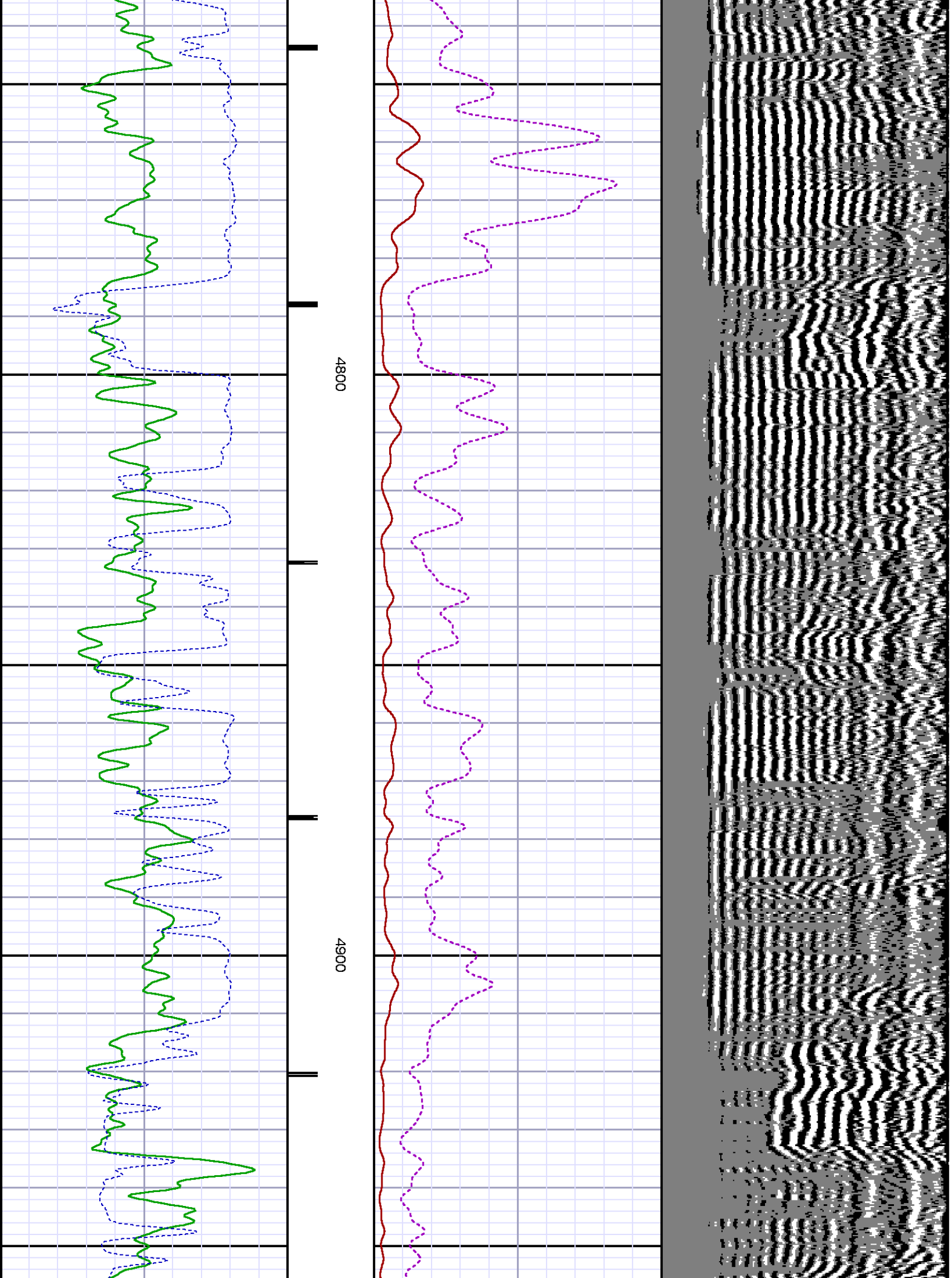


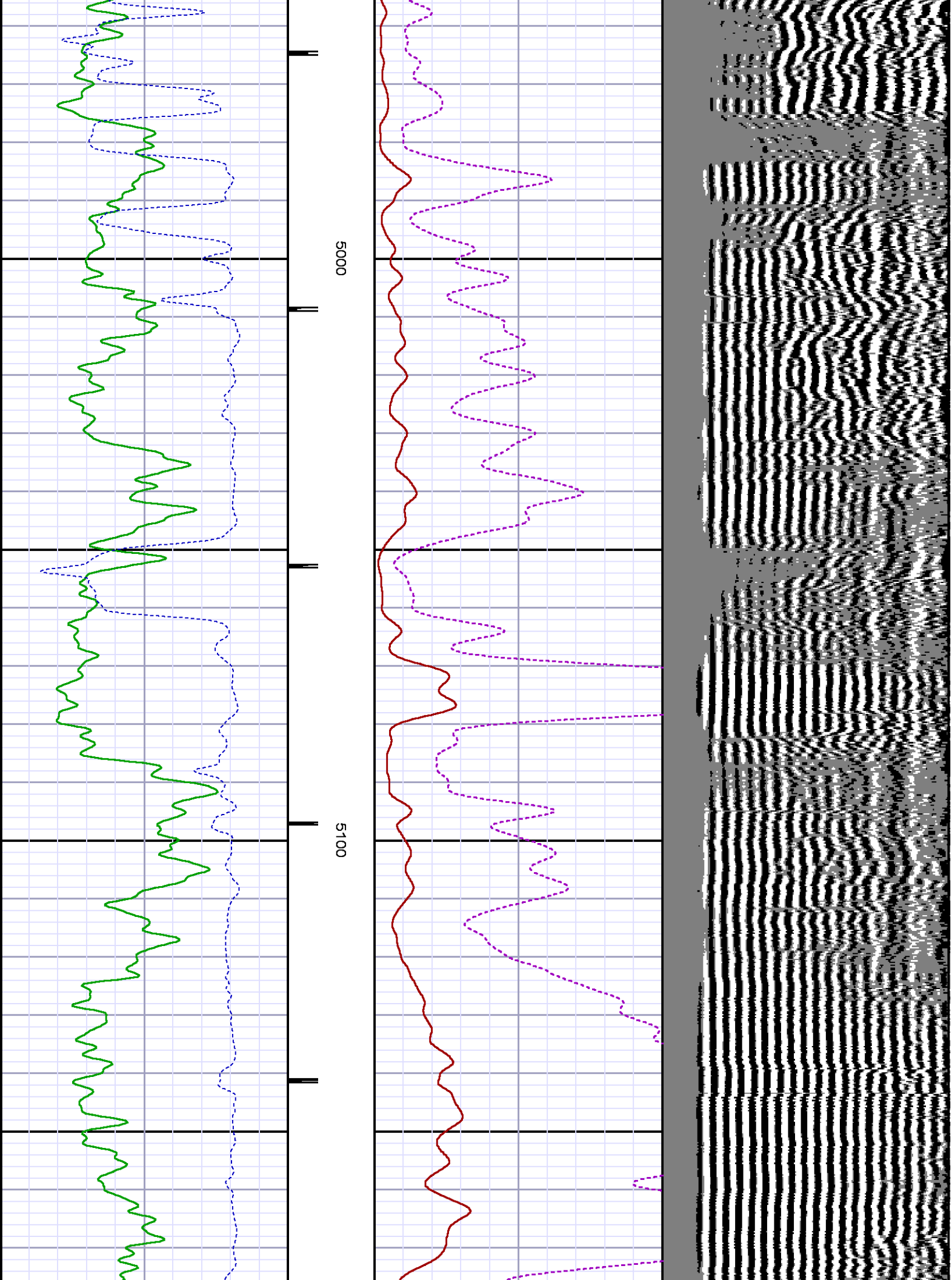


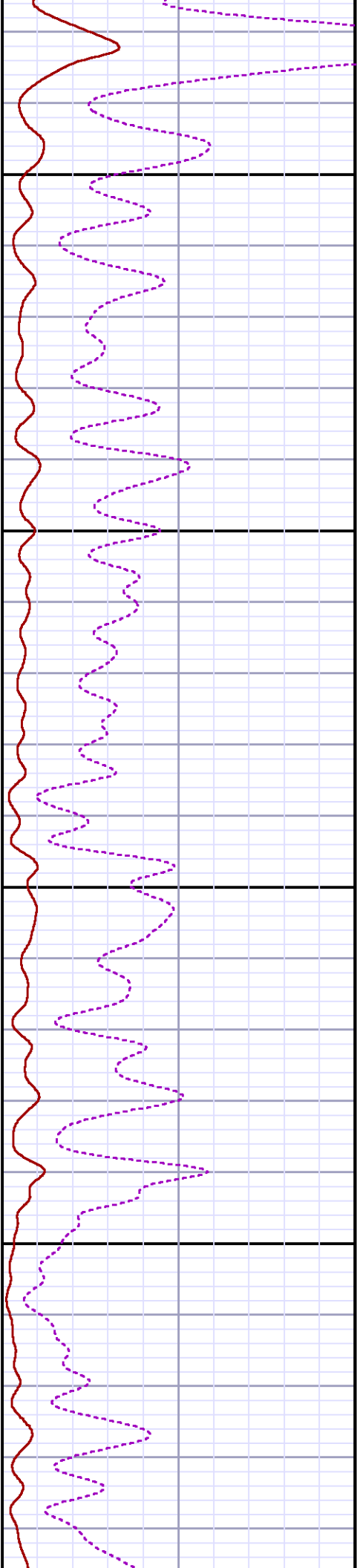
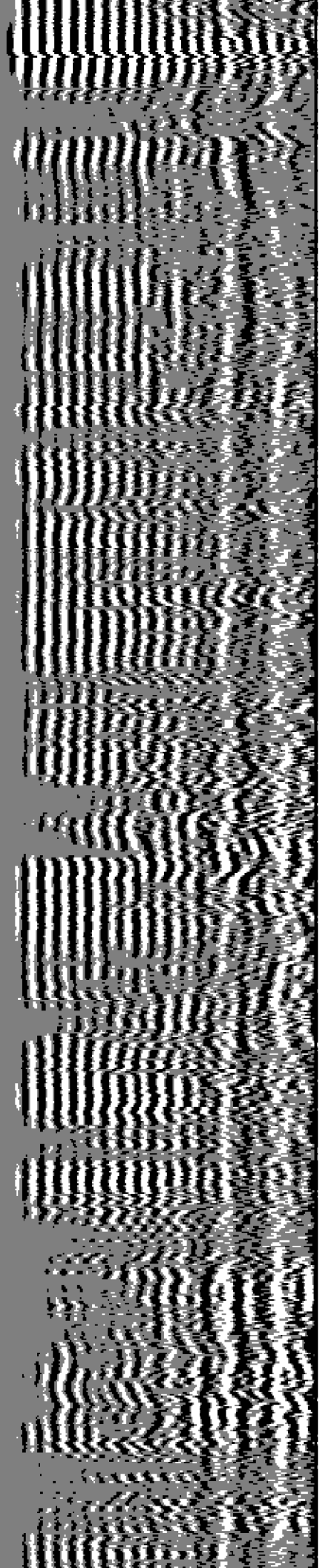






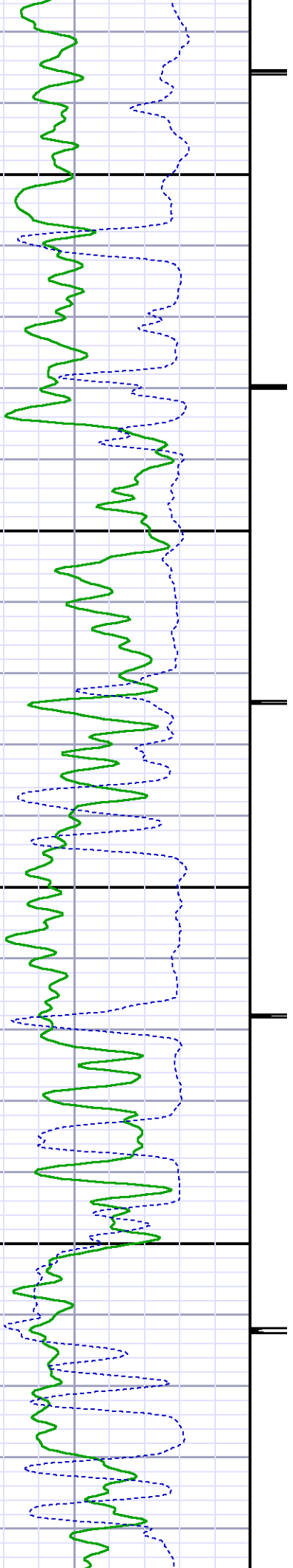


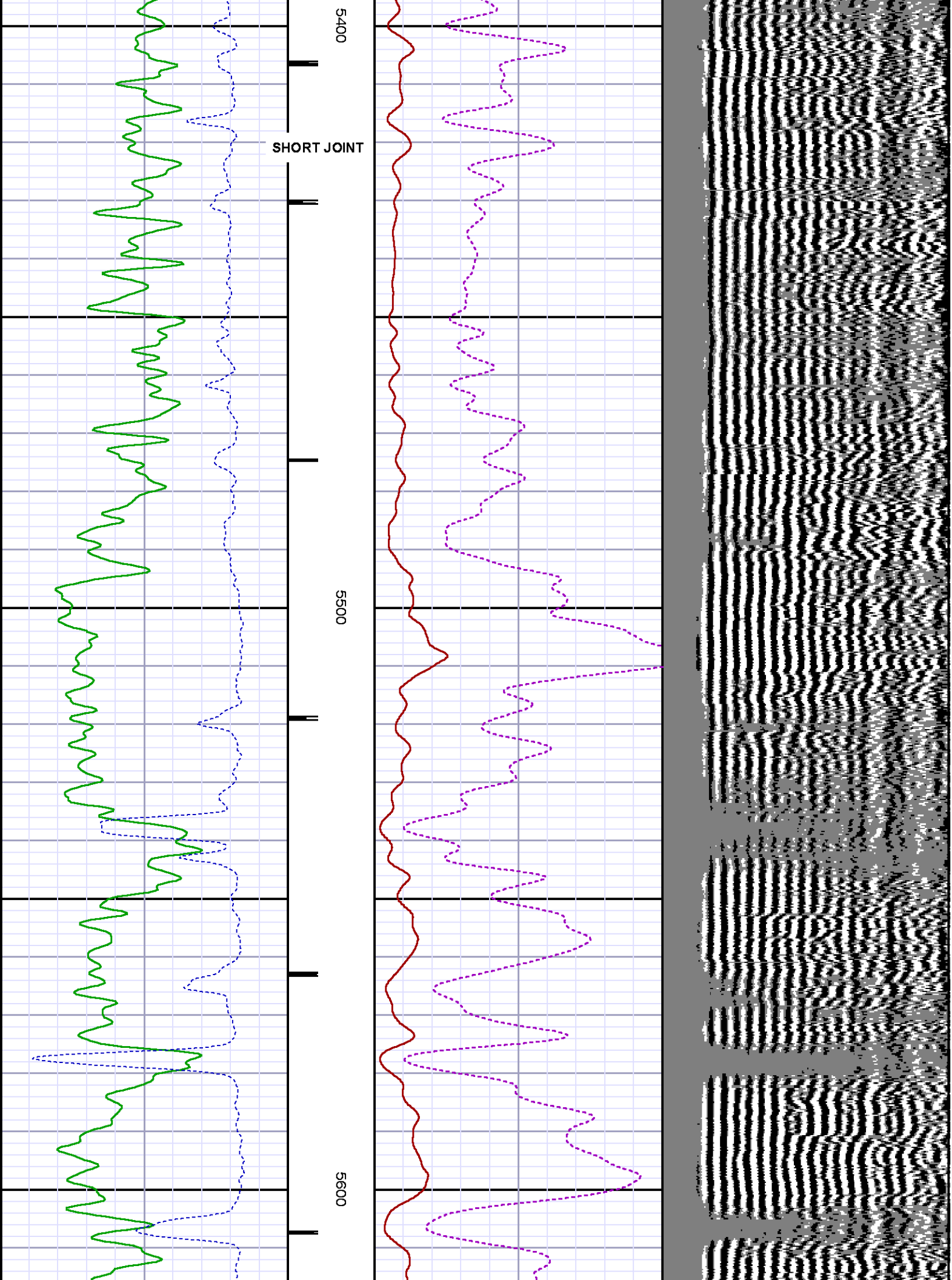


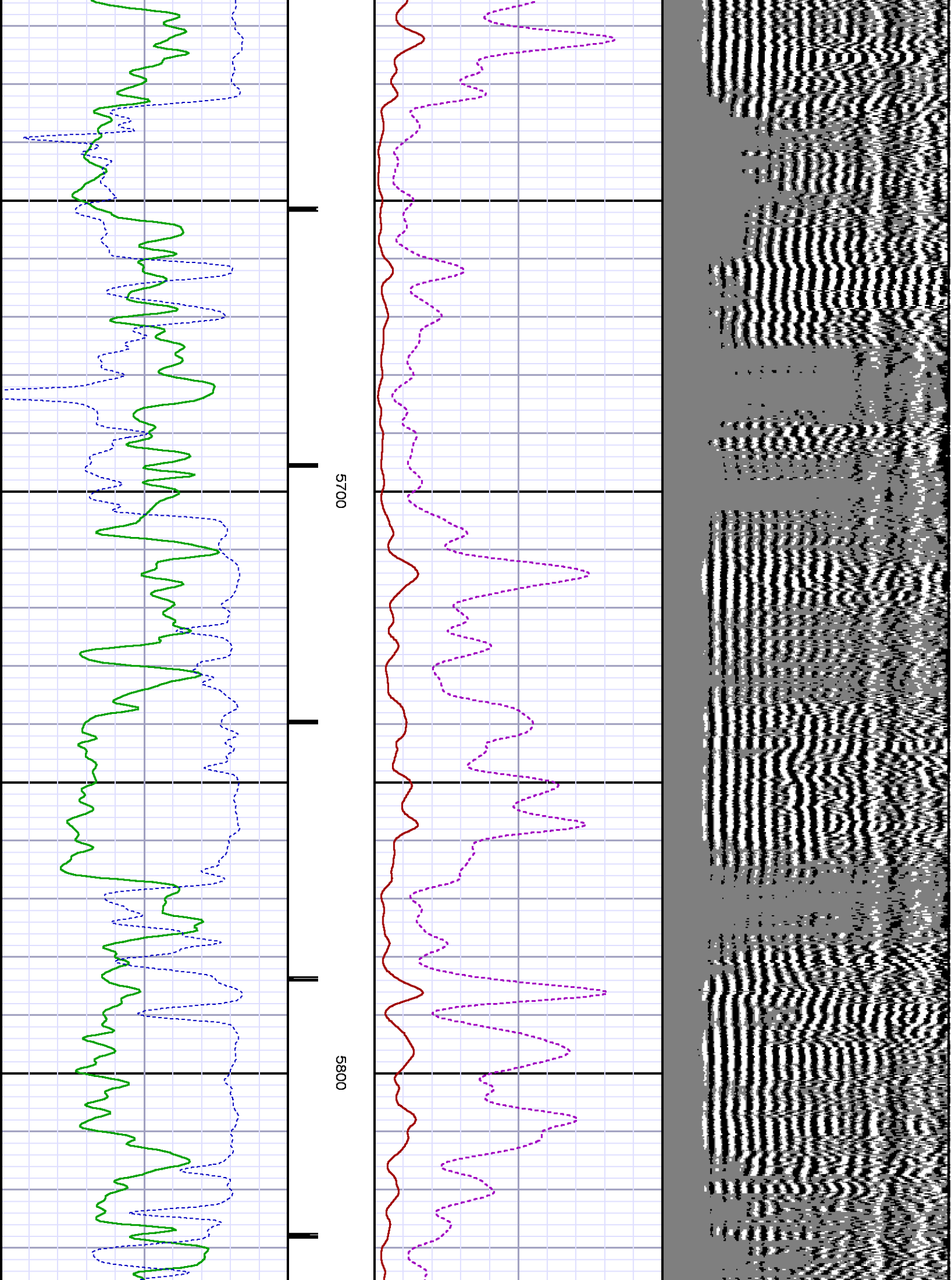


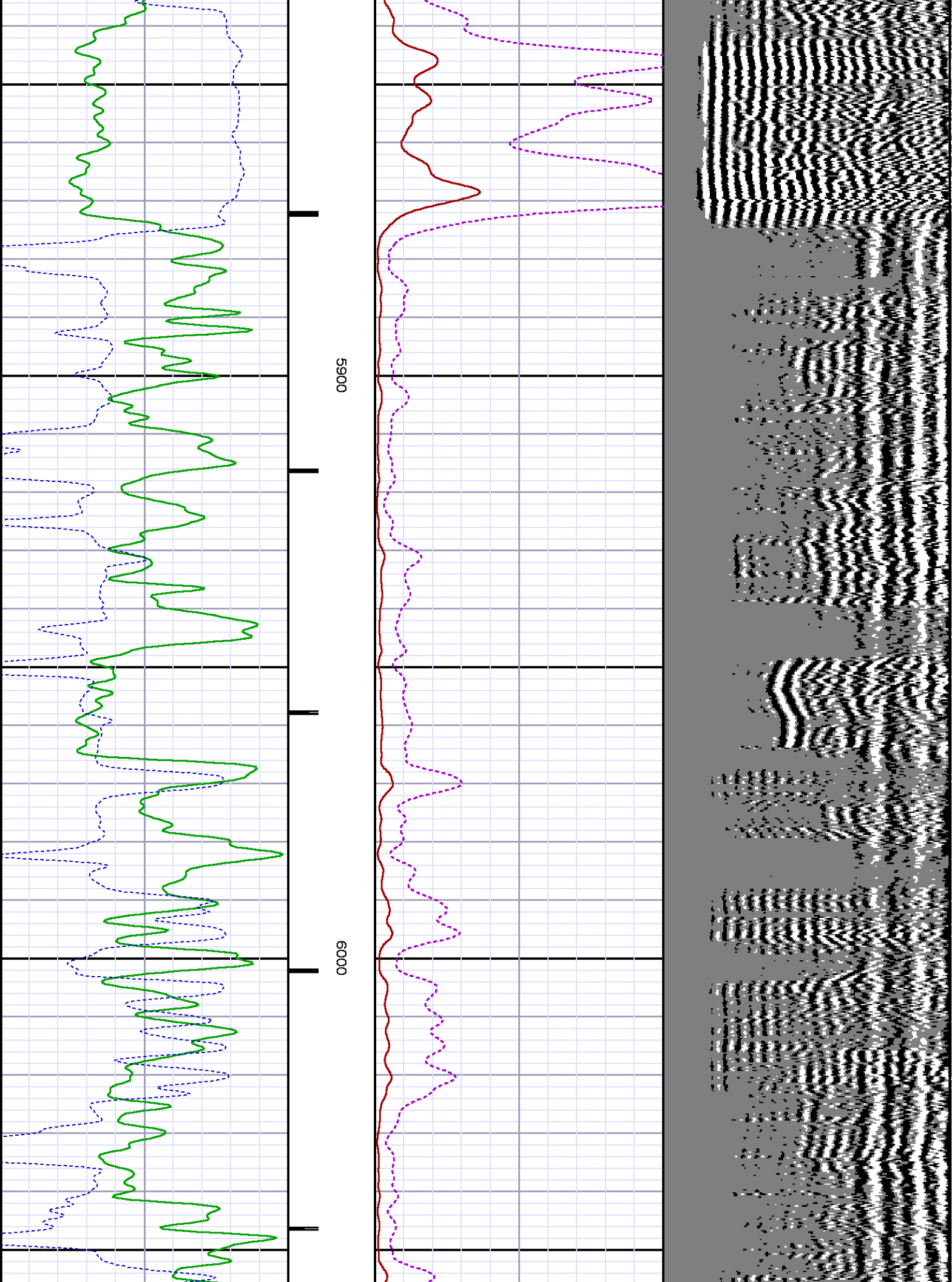
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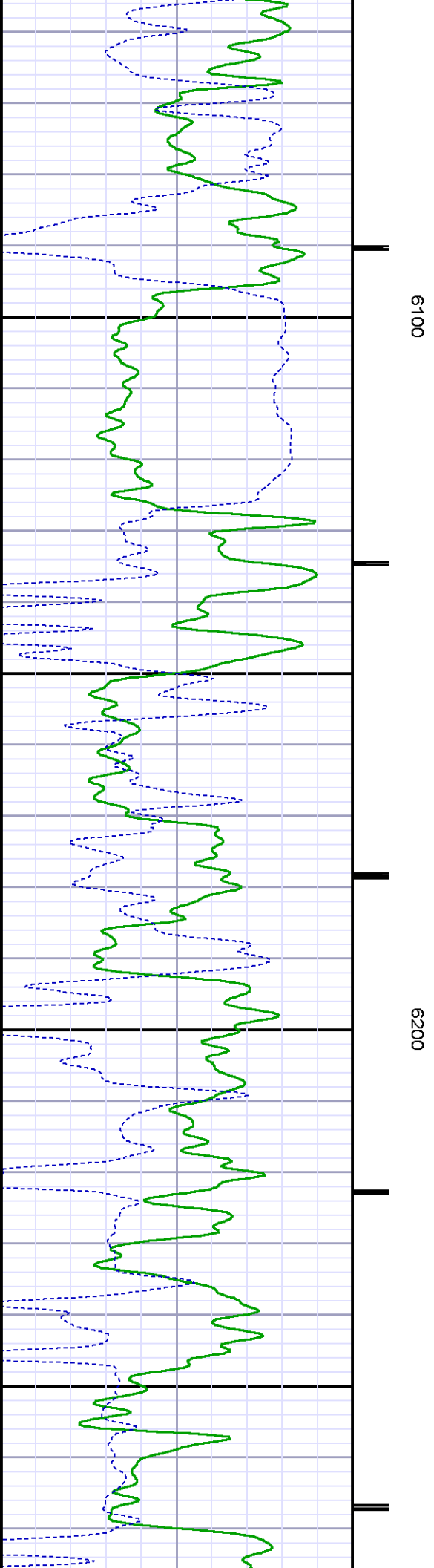
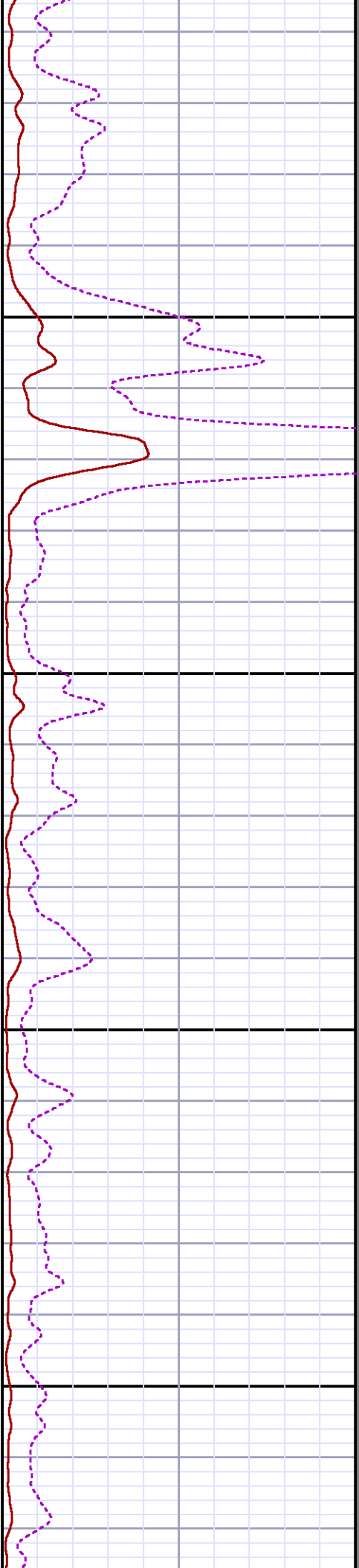
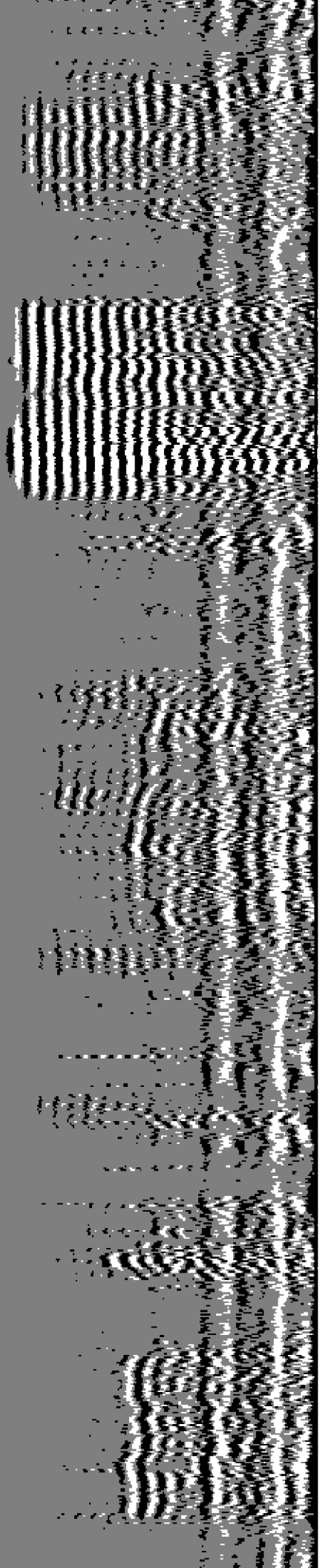
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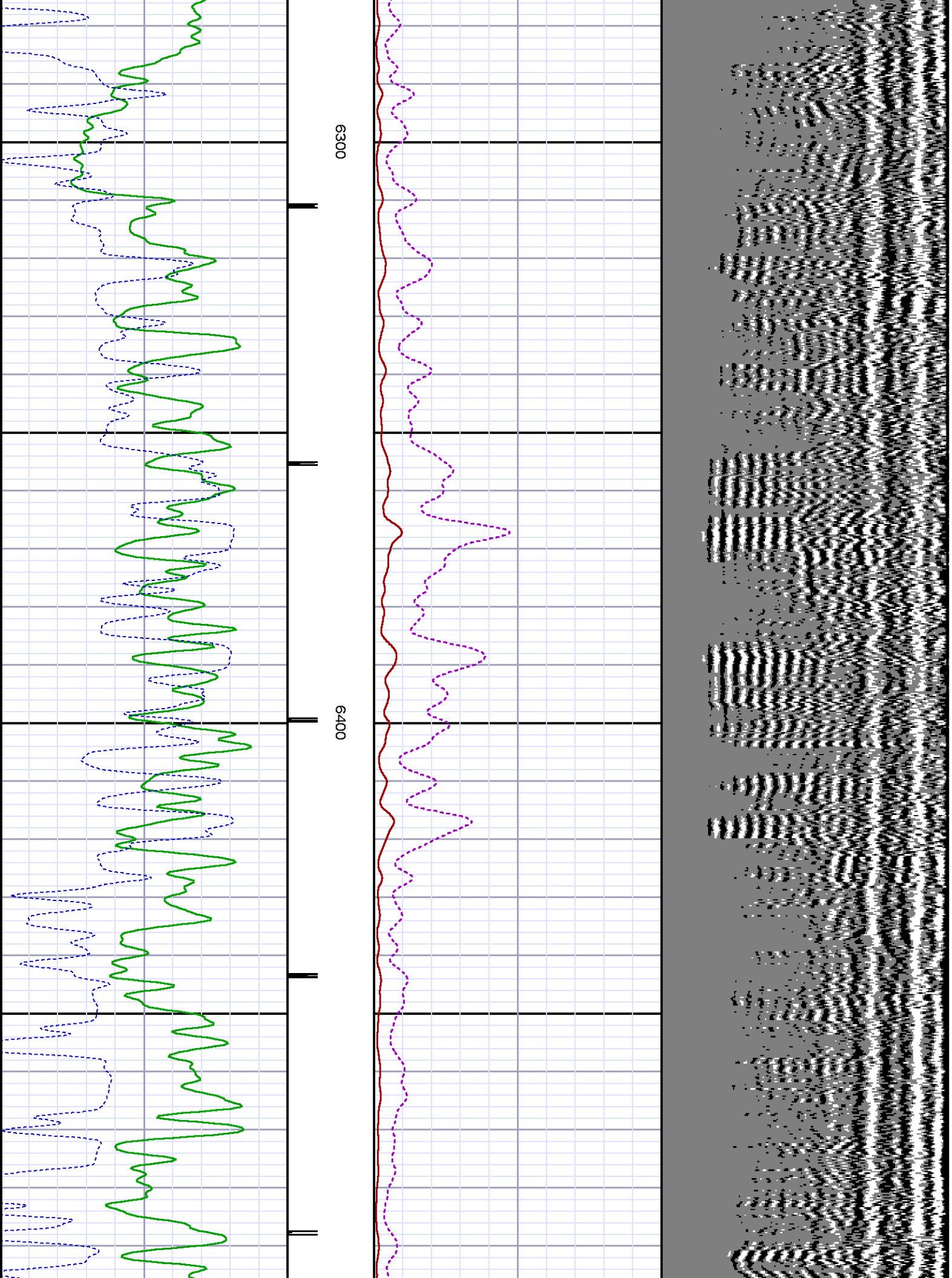


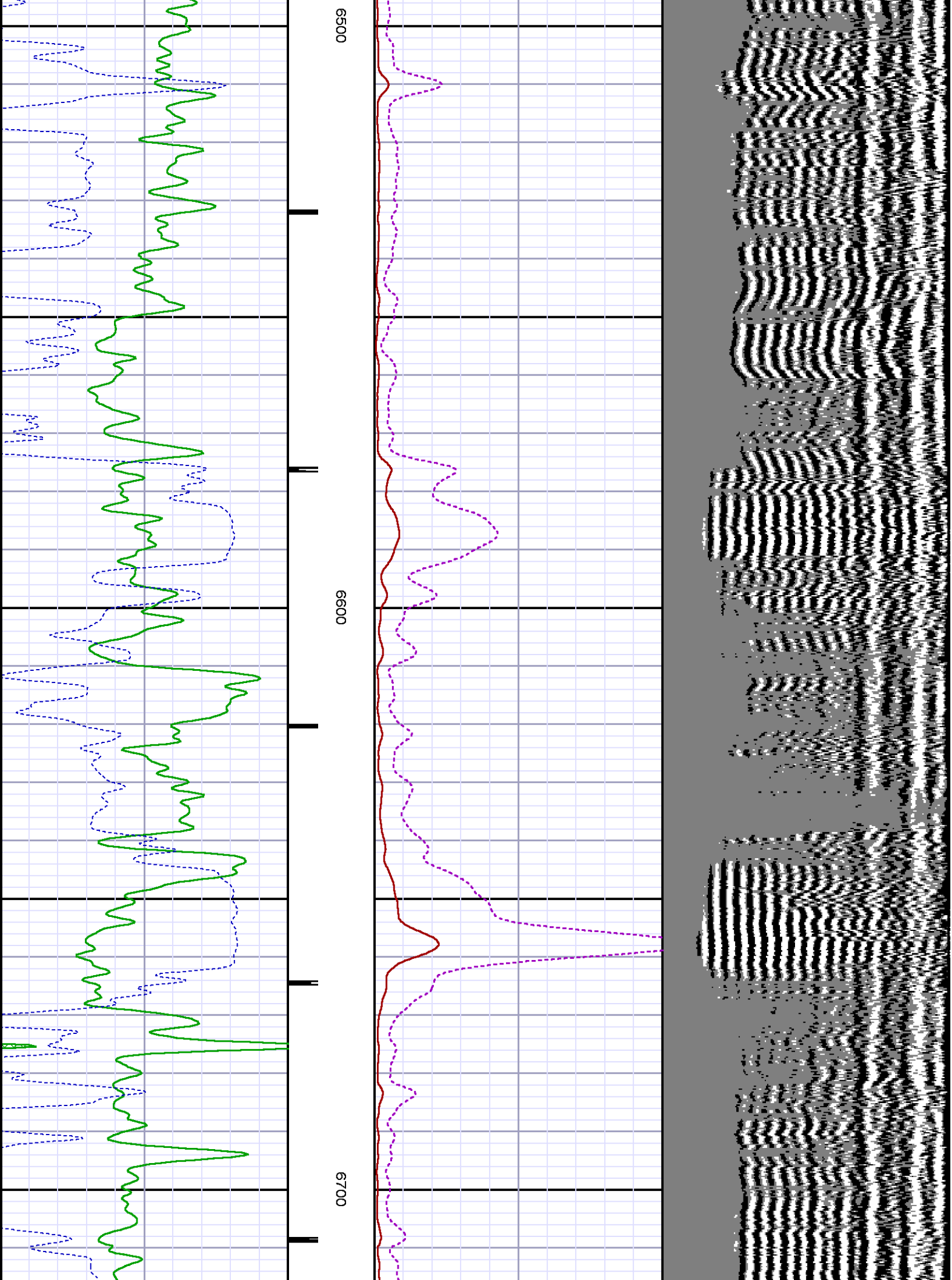


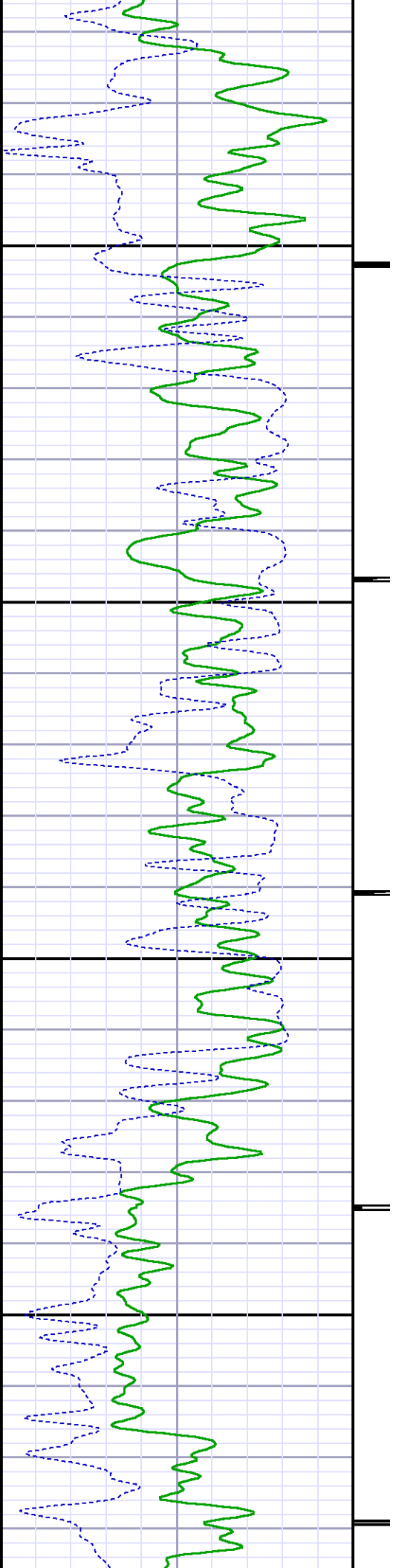






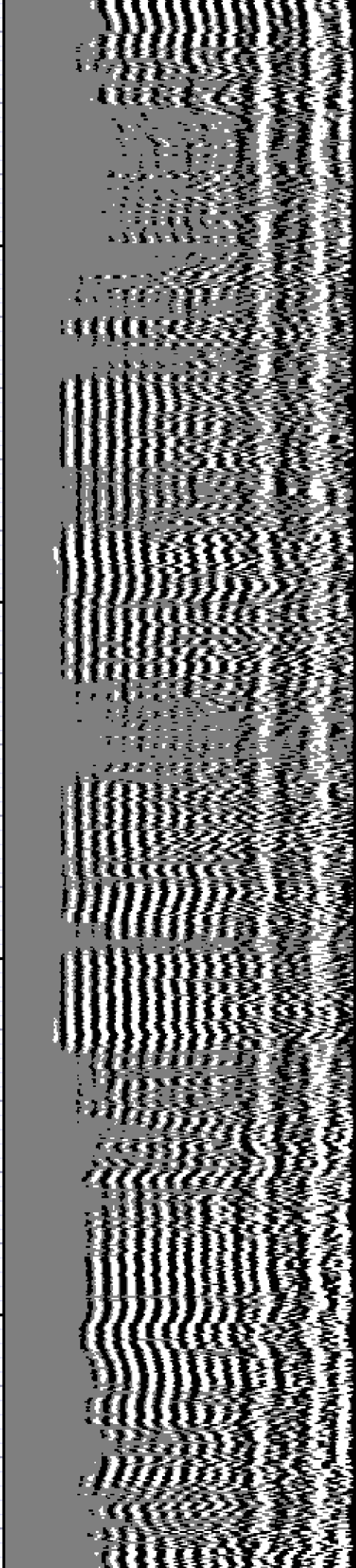
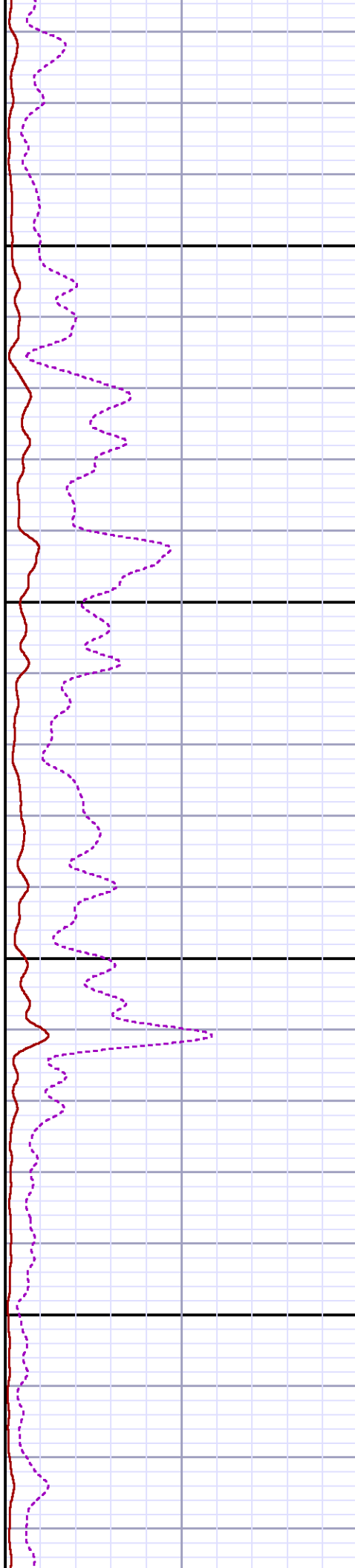


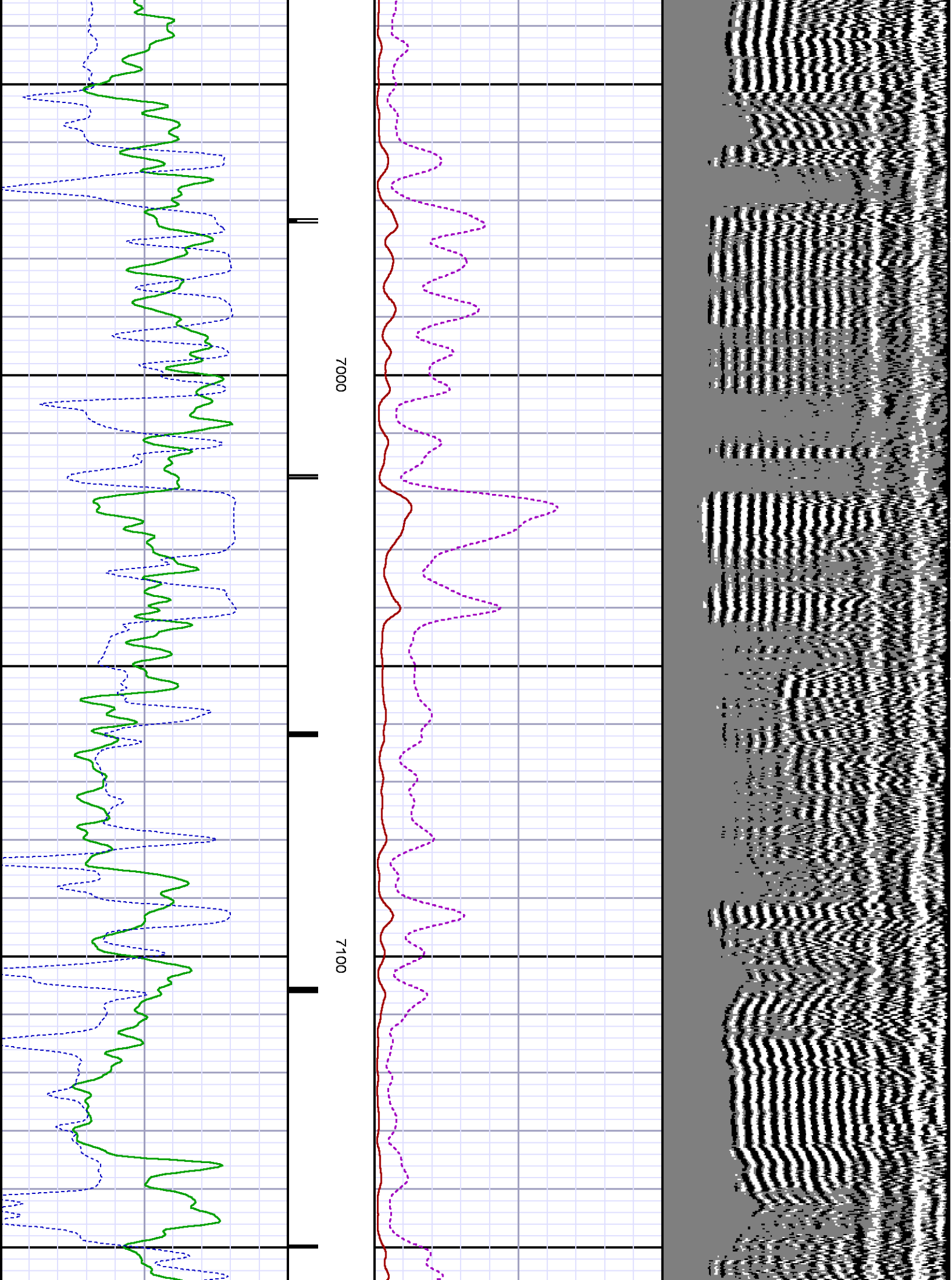


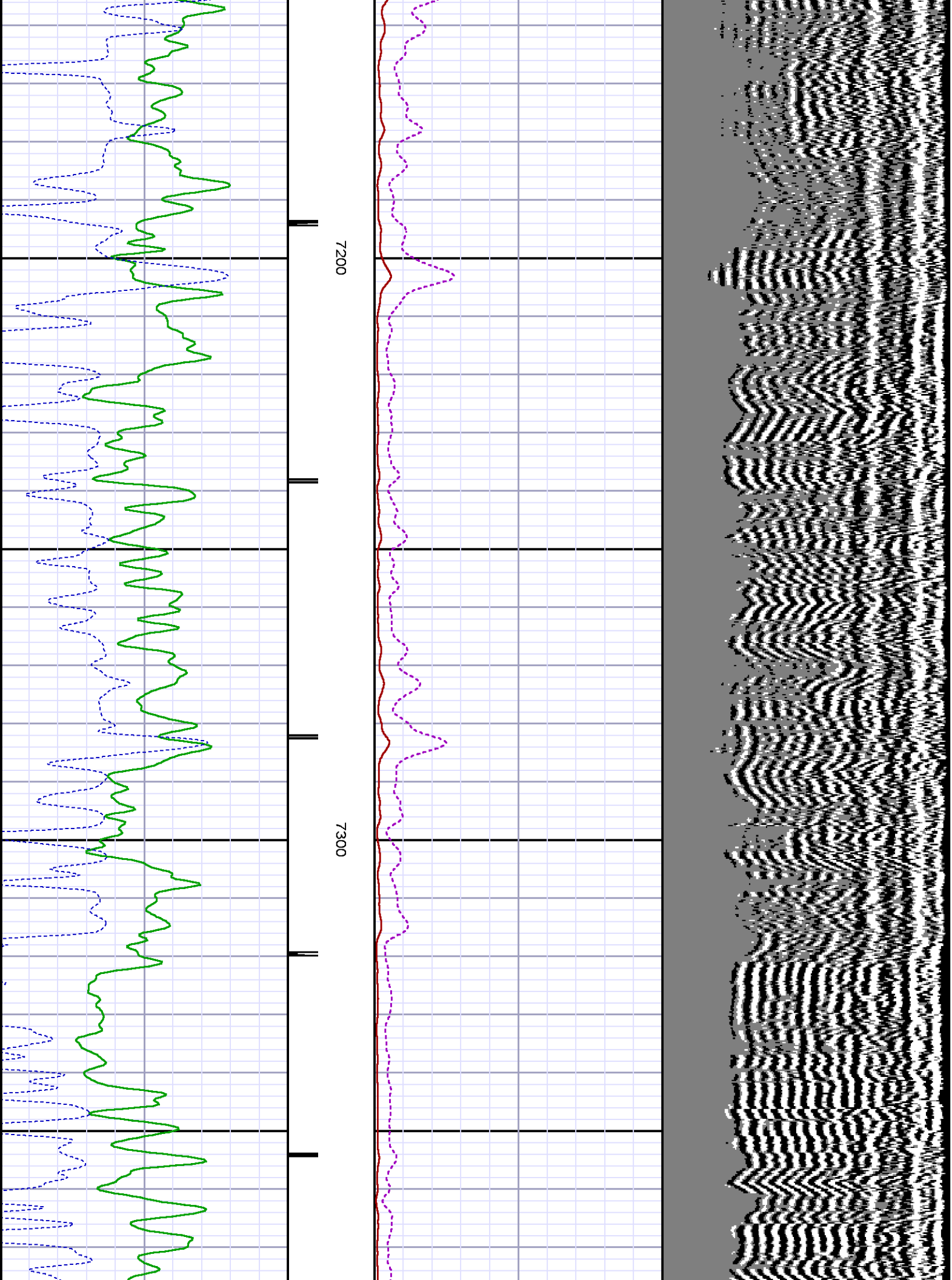


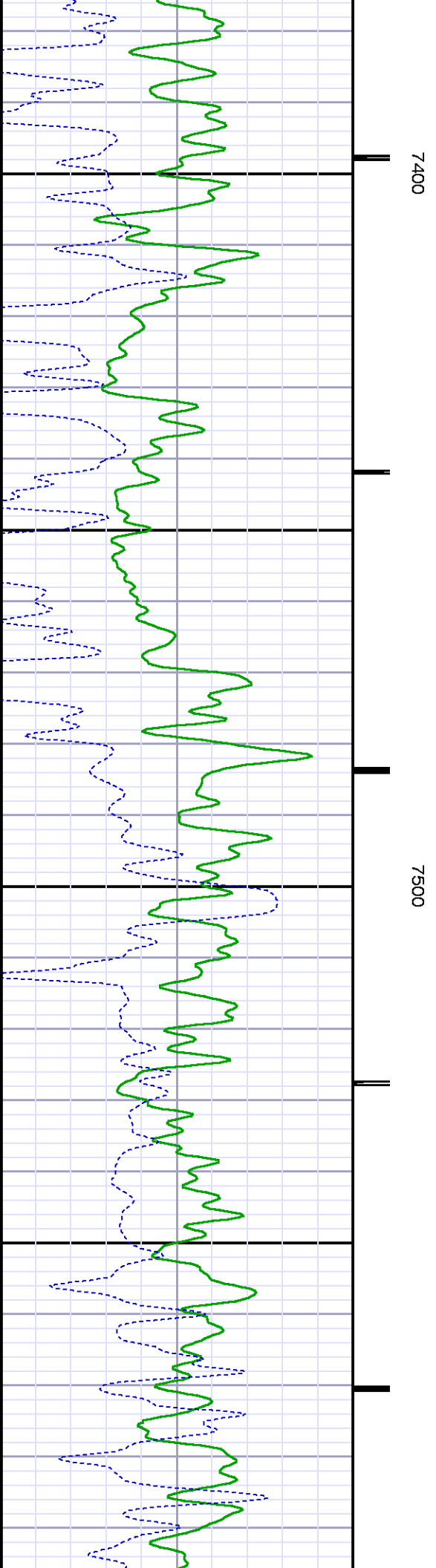
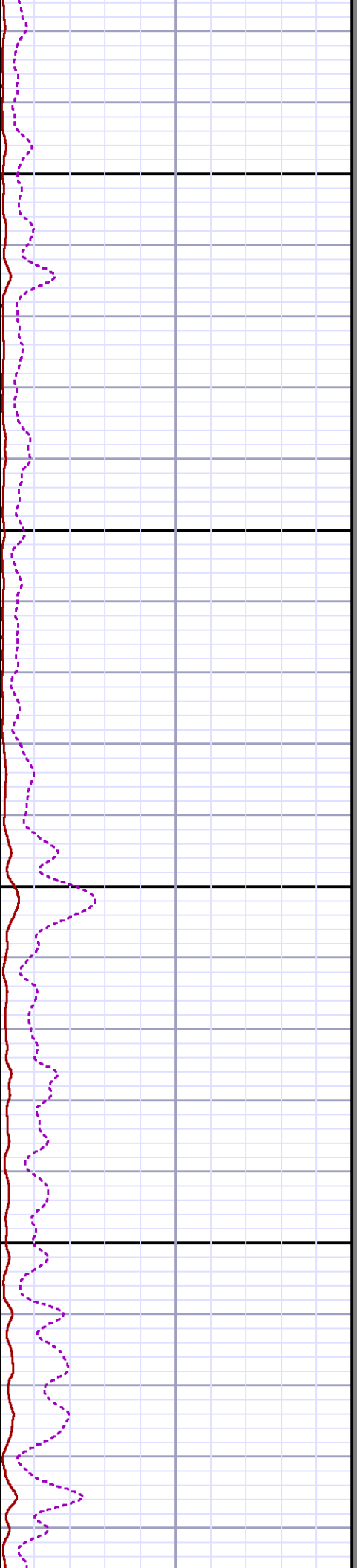
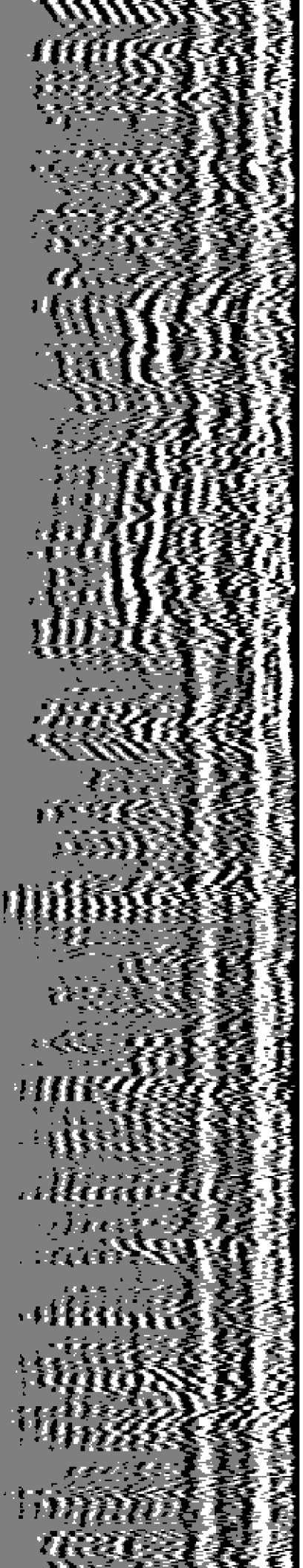
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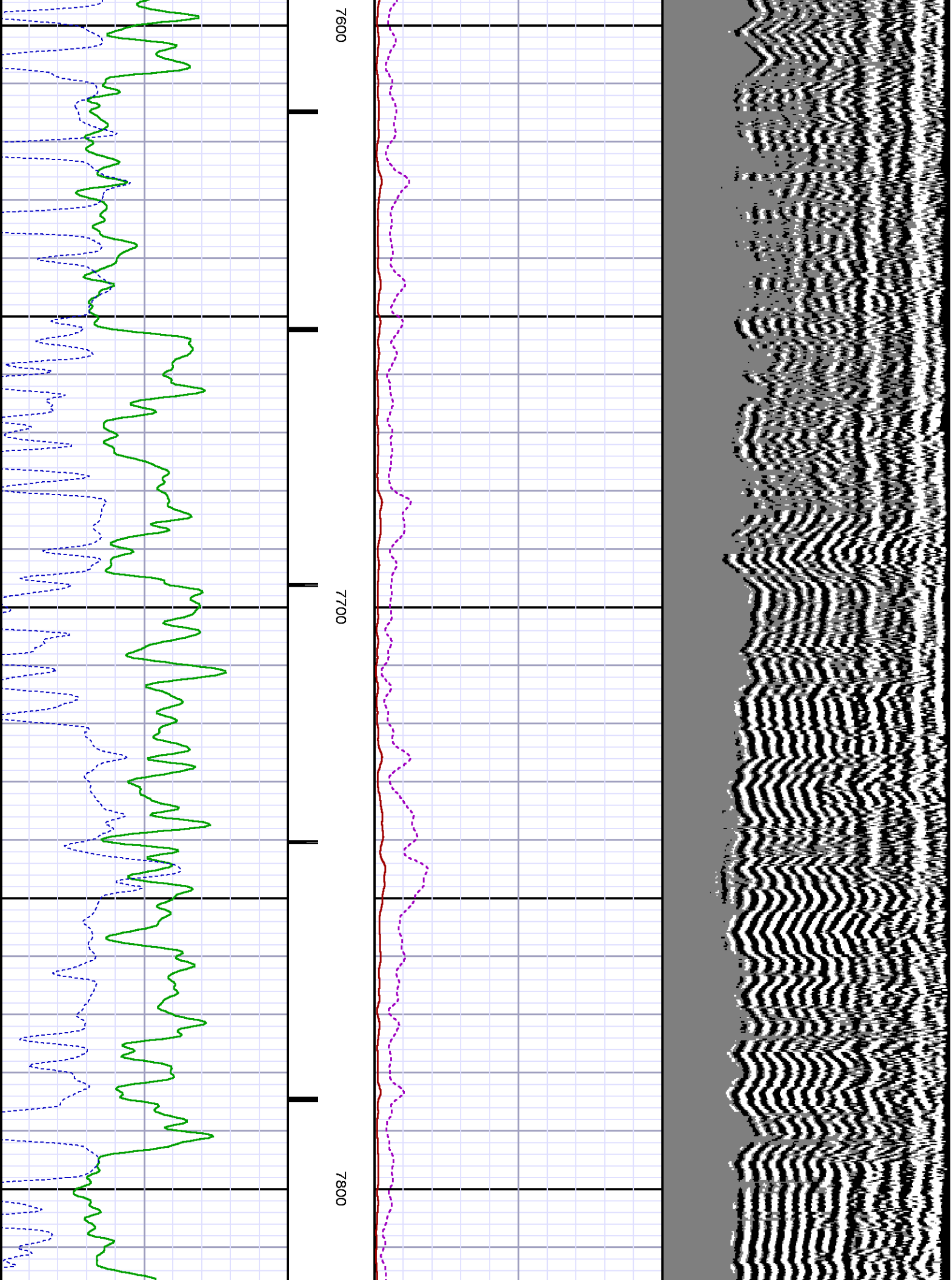
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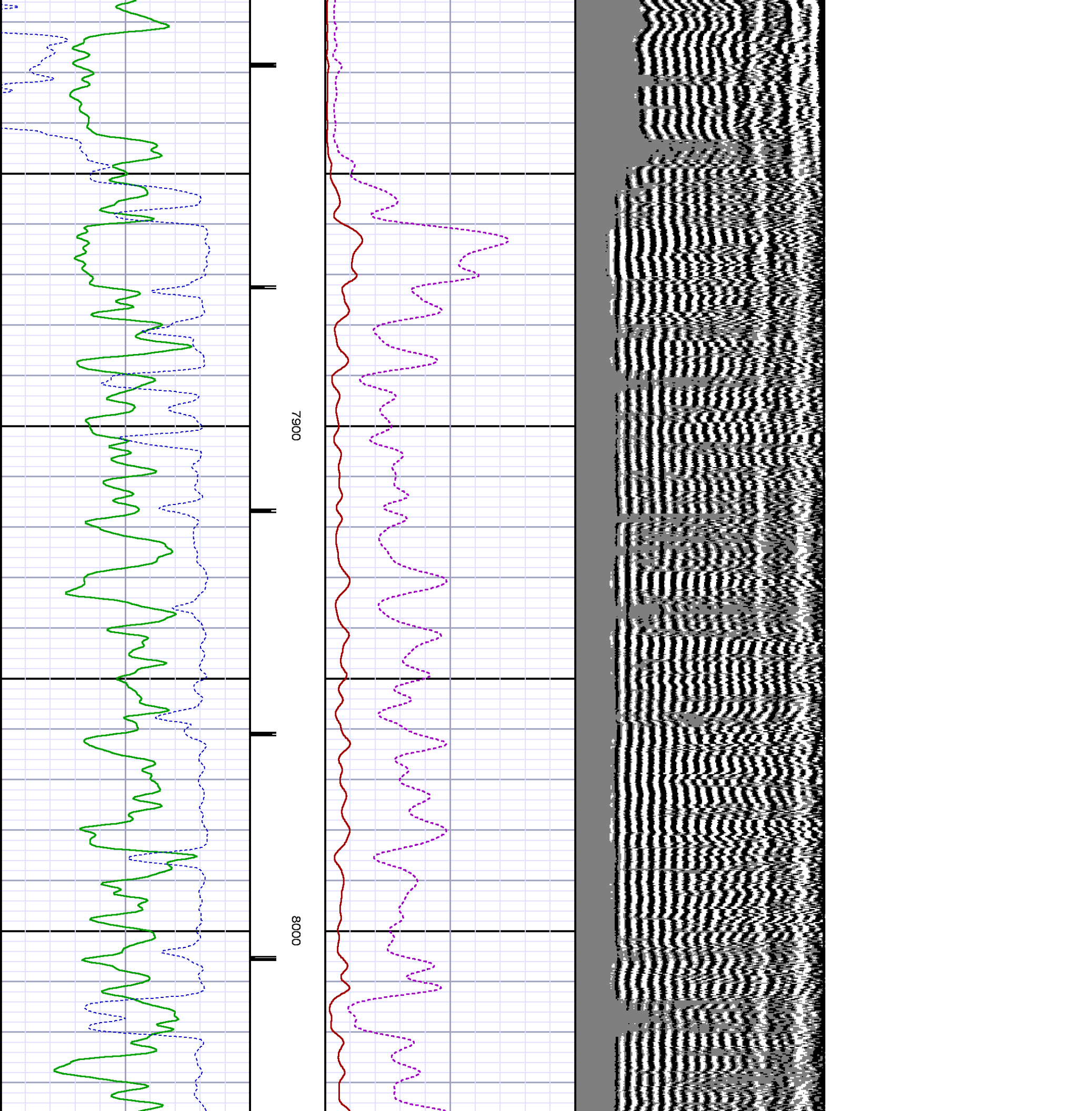


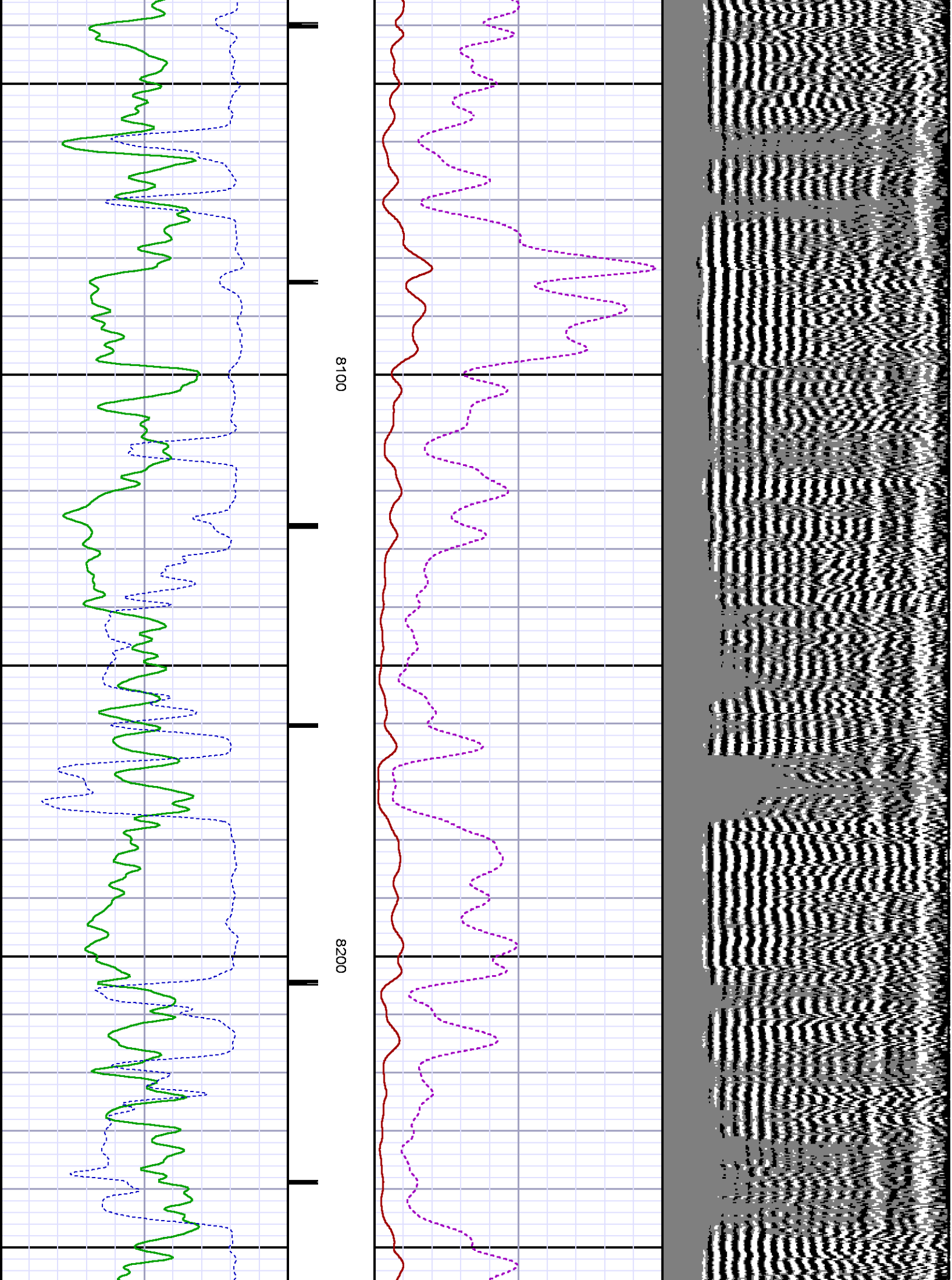


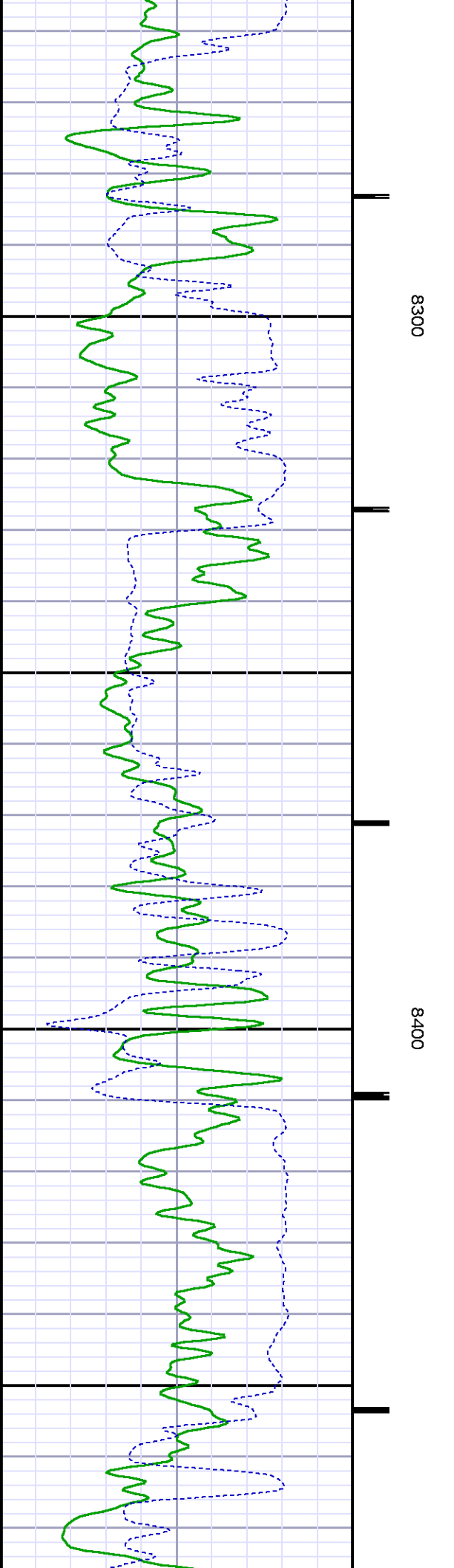
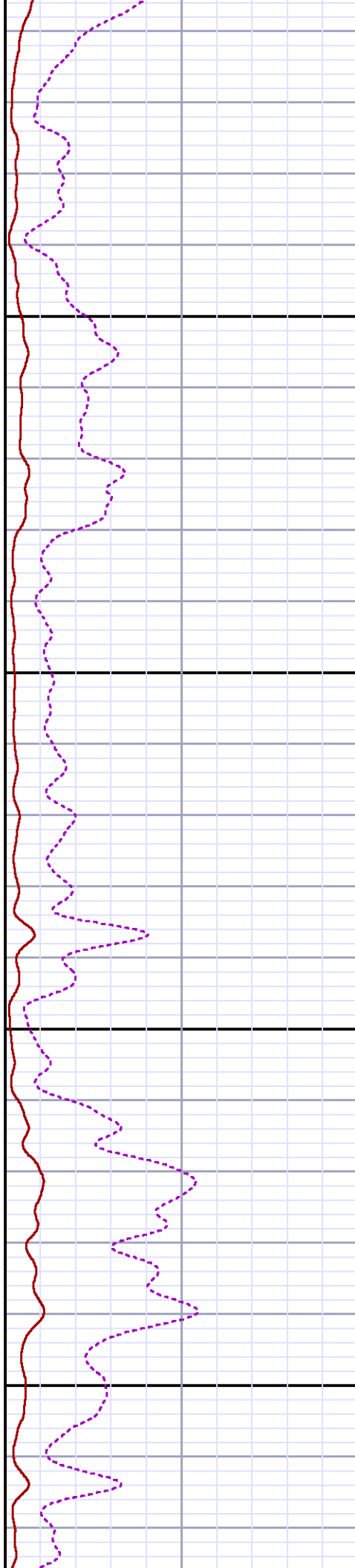
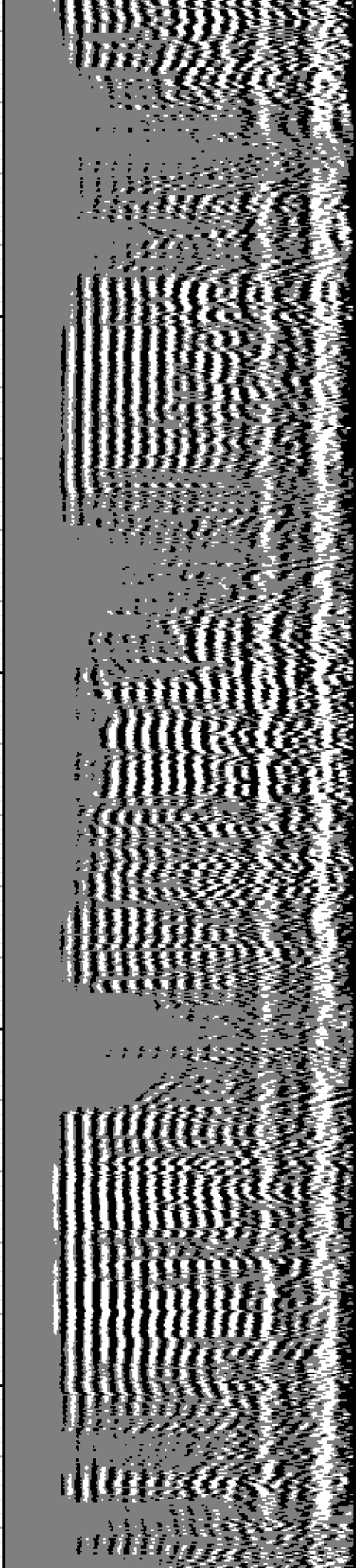


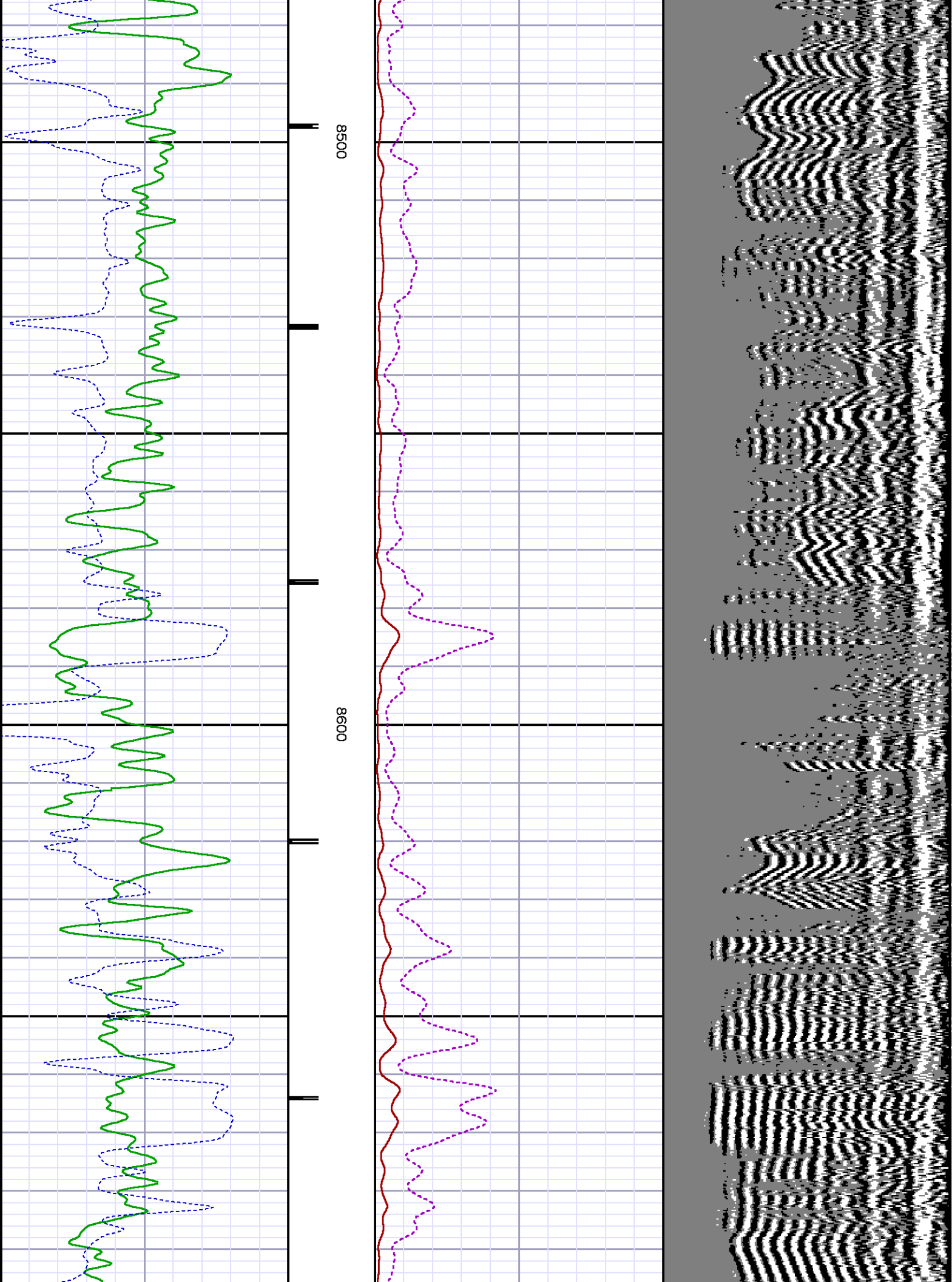


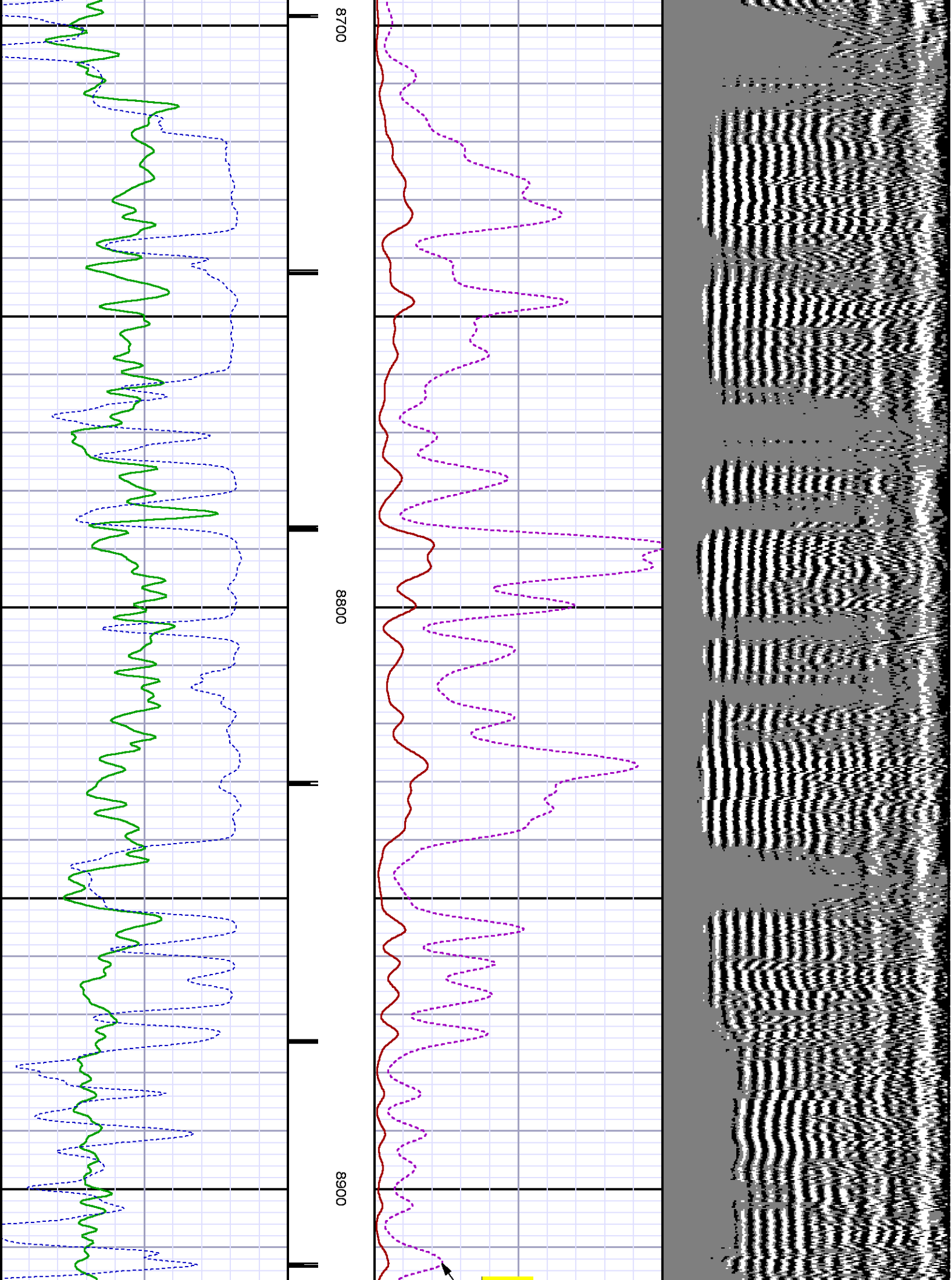


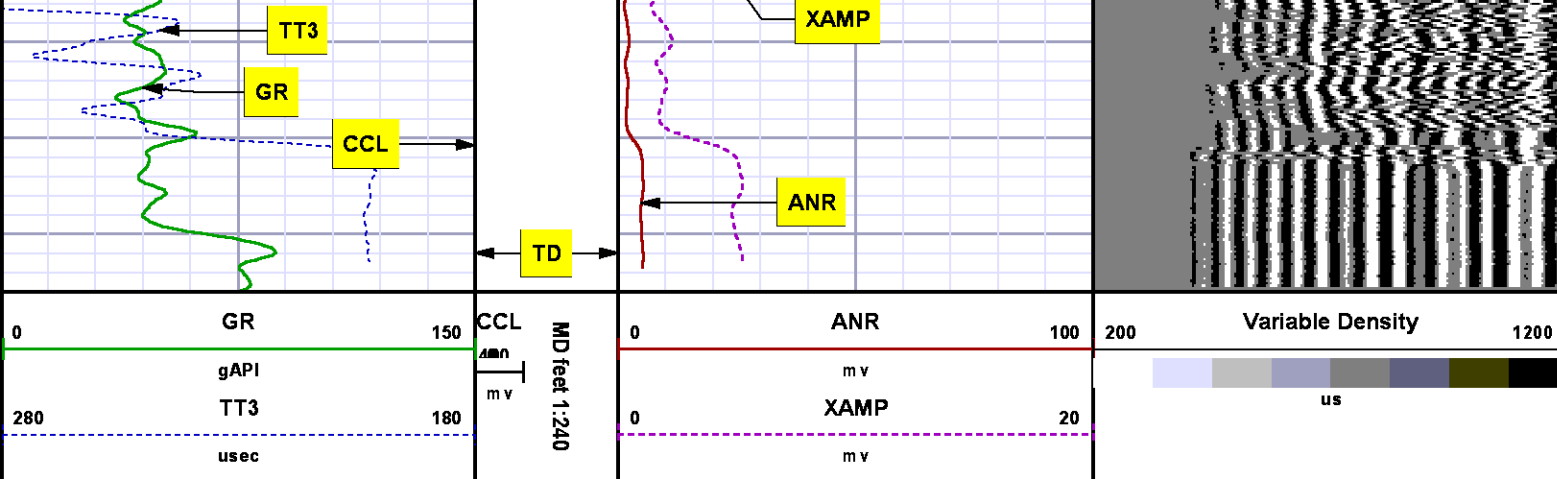










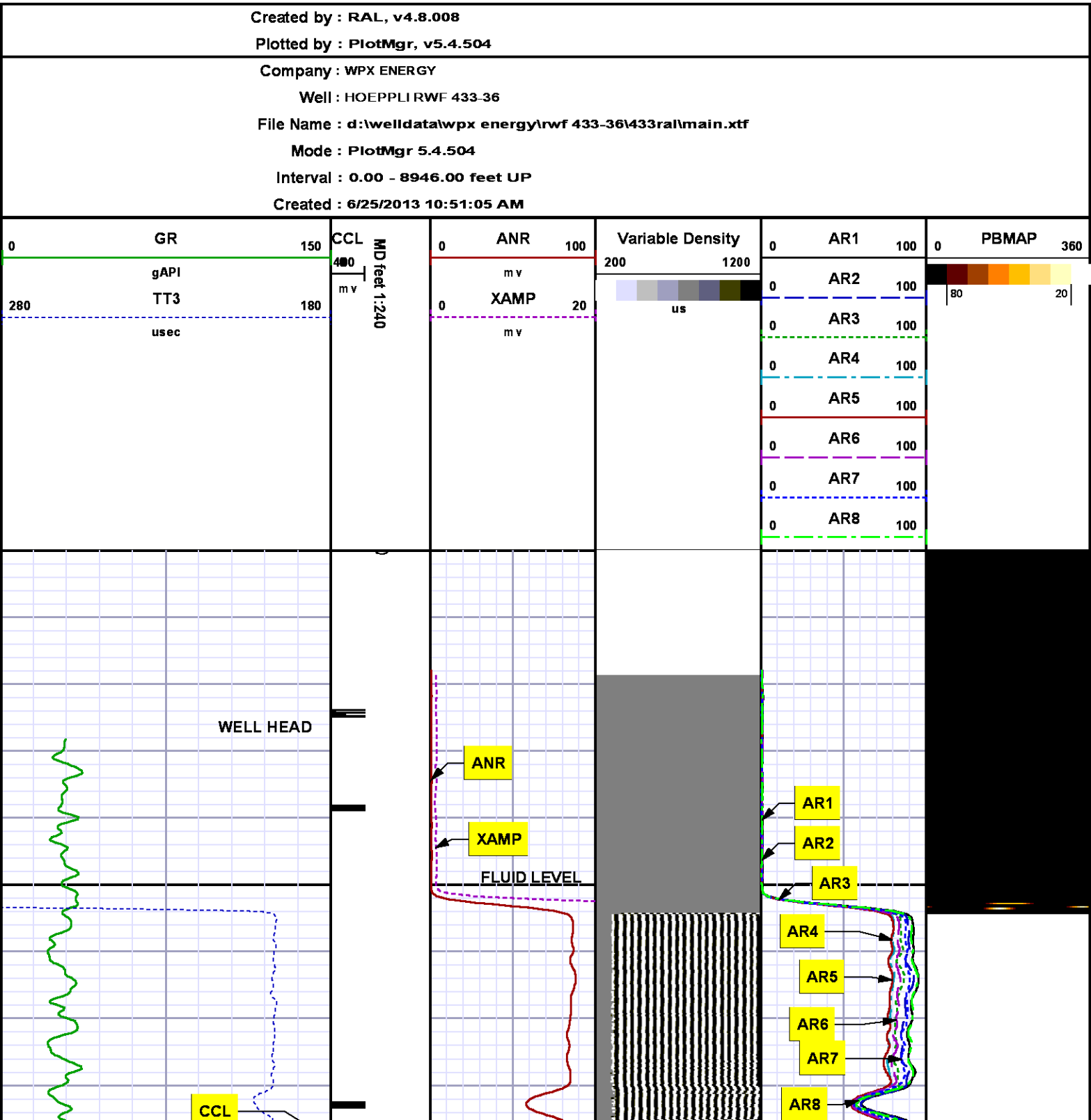


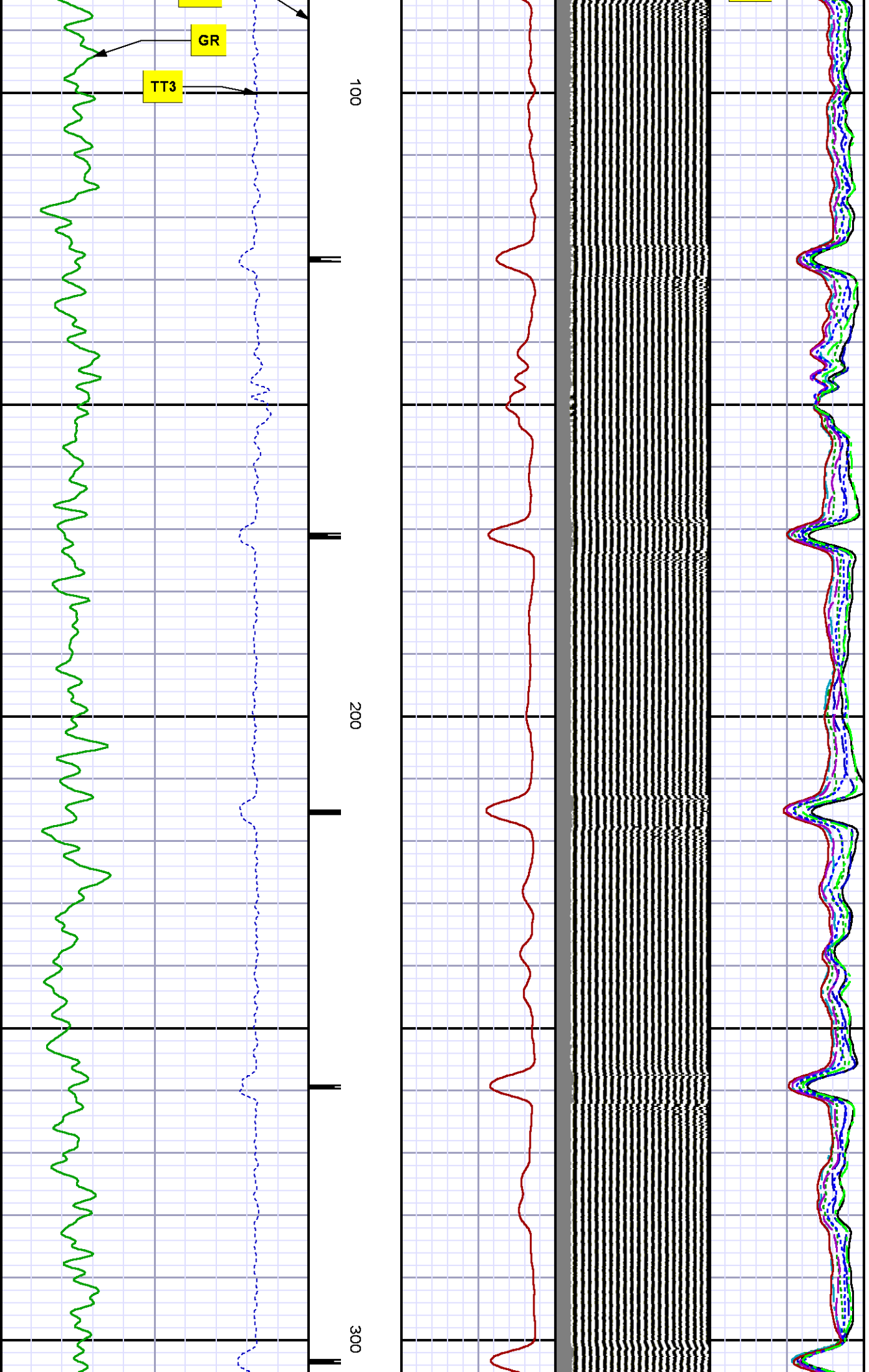
SECONDARY PRESENTATION 0 PSI

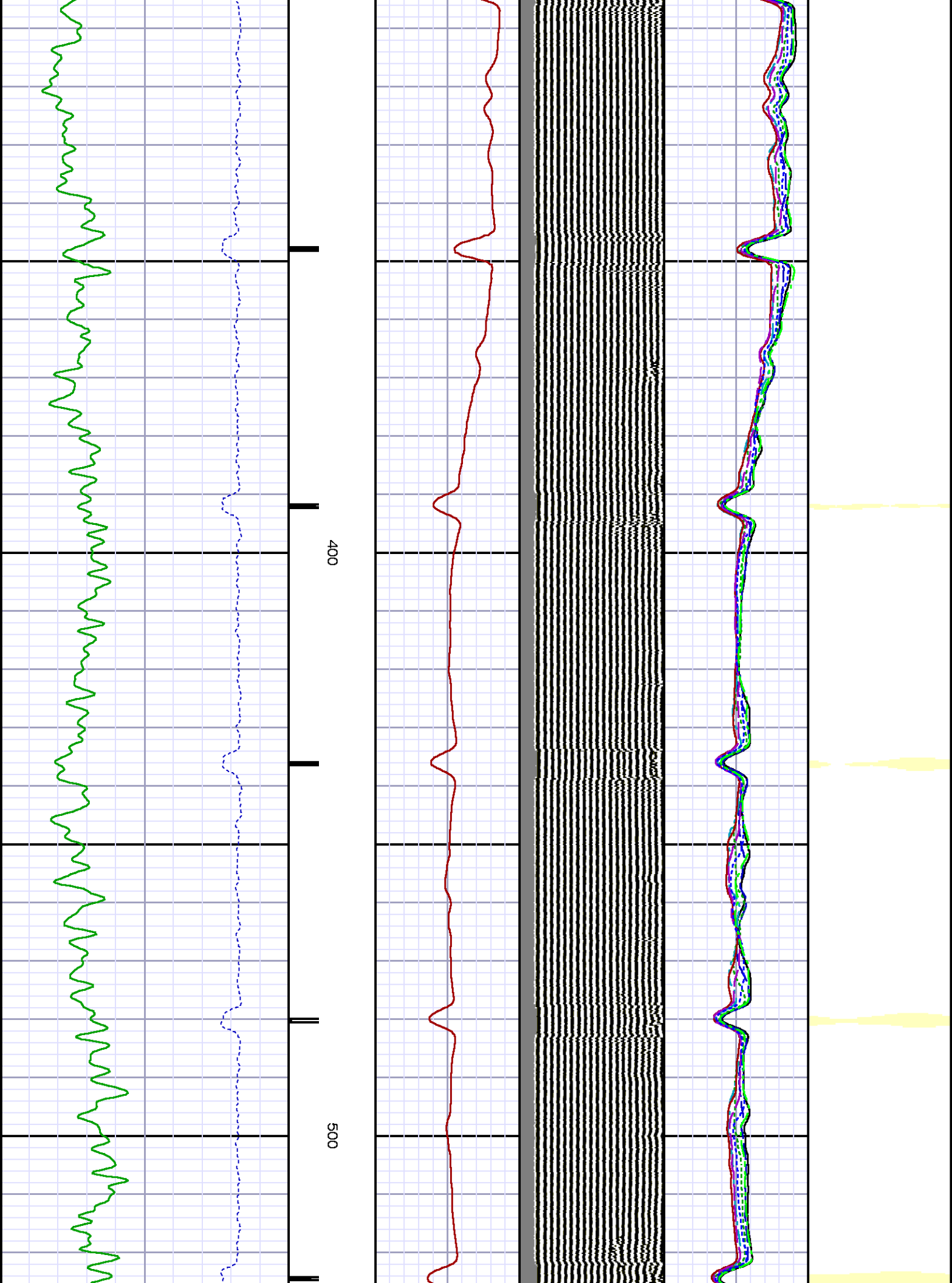
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	27.155	8949.000
RAL	Amp Gate Start Near	195.000	usec	27.155	8949.000
RAL	Amp Gate Start Radial	195.000	usec	27.155	8949.000
RAL	Amp Gate Width Far	25.000	usec	27.155	8949.000
RAL	Amp Gate Width Near	25.000	usec	27.155	8949.000
RAL	Amp Gate Width Radial	25.000	usec	27.155	8949.000
RAL	casing od	4.500	inches	27.155	8949.000
RAL	casing wt	11.600	lbm/ft	27.155	8949.000
RAL	FB Start Far	291.900	usec	27.155	8949.000
RAL	FB Start Near	180.000	usec	27.155	8949.000
RAL	FB Start Radial	180.000	usec	27.155	8949.000
RAL	FB Thresh Far	10.000	mV	27.155	8949.000
RAL	FB Thresh Near	4.000	mV	27.155	8949.000
RAL	FB Thresh Radial	4.000	mV	27.155	8949.000
RAL	Fluid Travel Time	200.000	usec/ft	27.155	8948.530

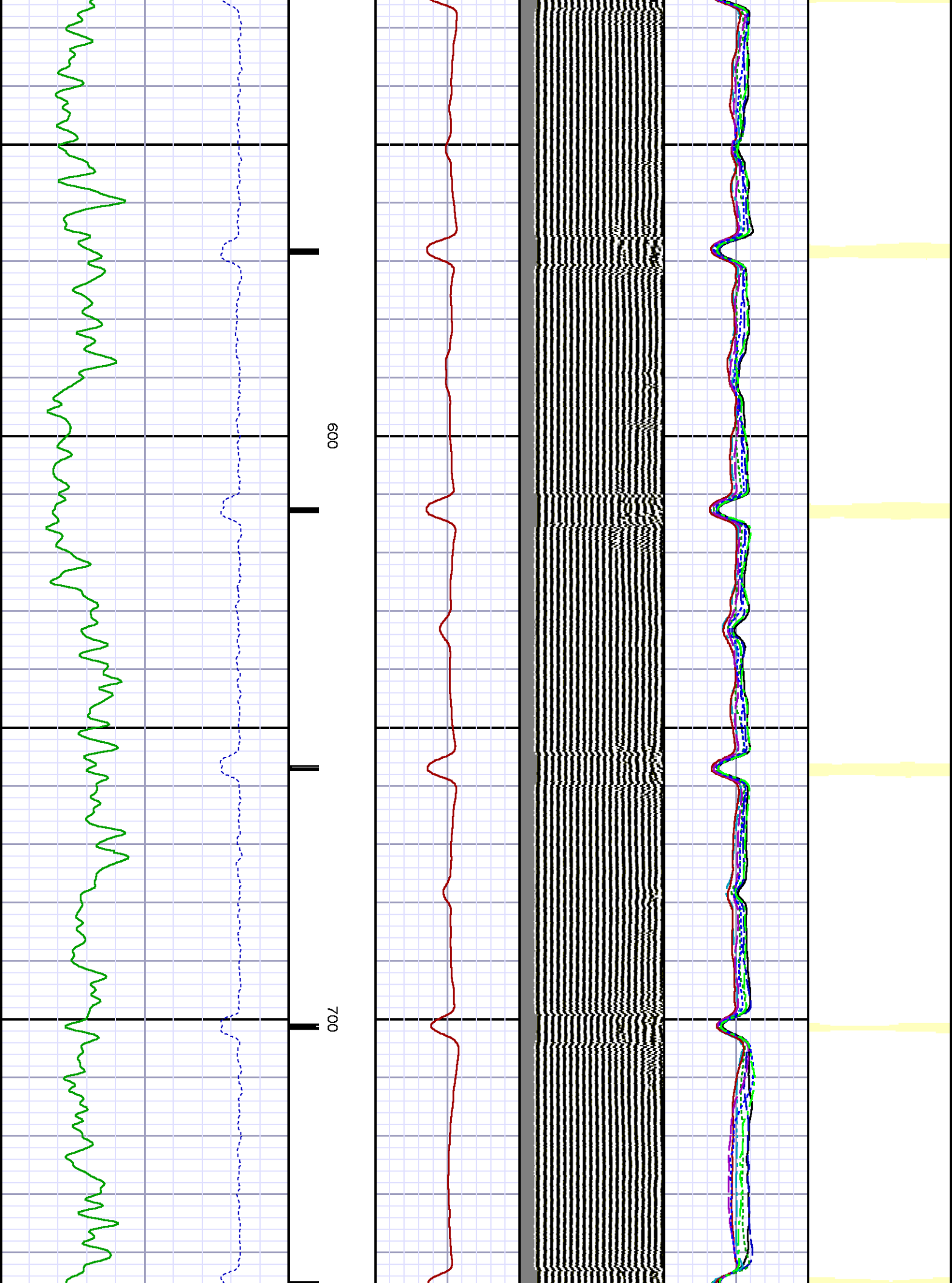
DEPTH OFFSETS
(for Acquired Curves)

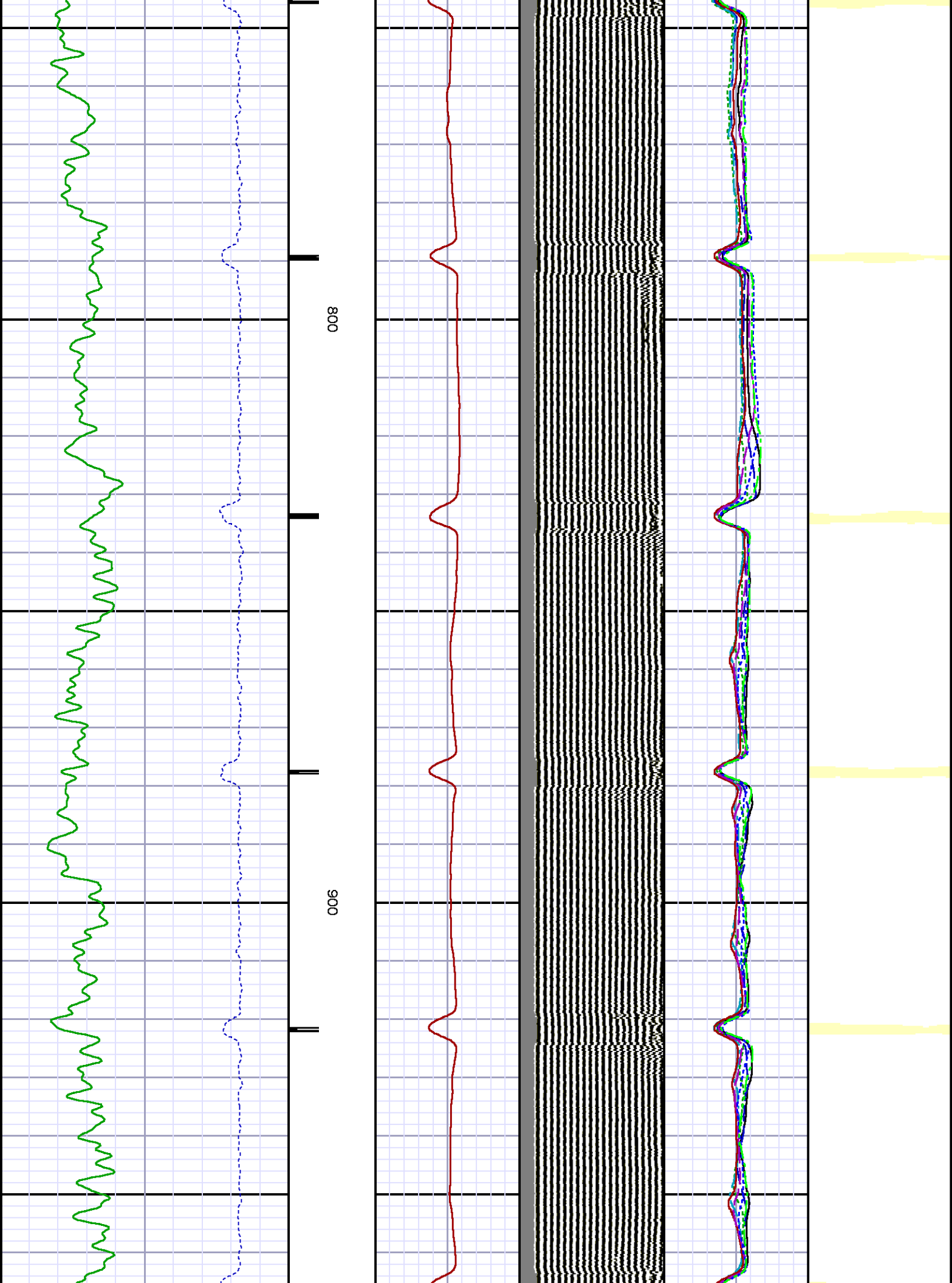
SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-11.000	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-10.040	AFAR	SIG	TT5			
1355XA	-5.620	CCL					
1355XA	-1.500	GR					
1355XA	0.000	TEMP					

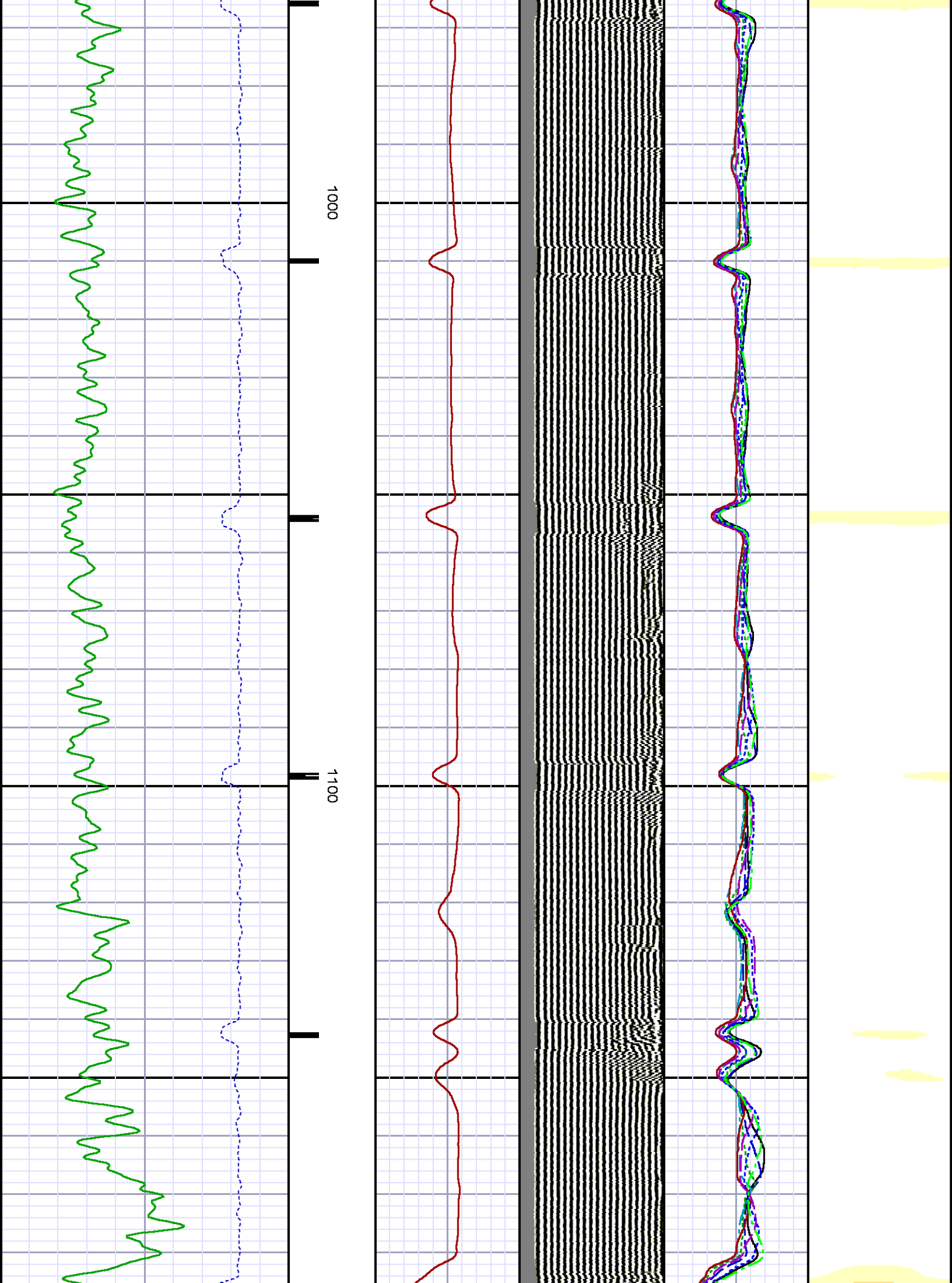


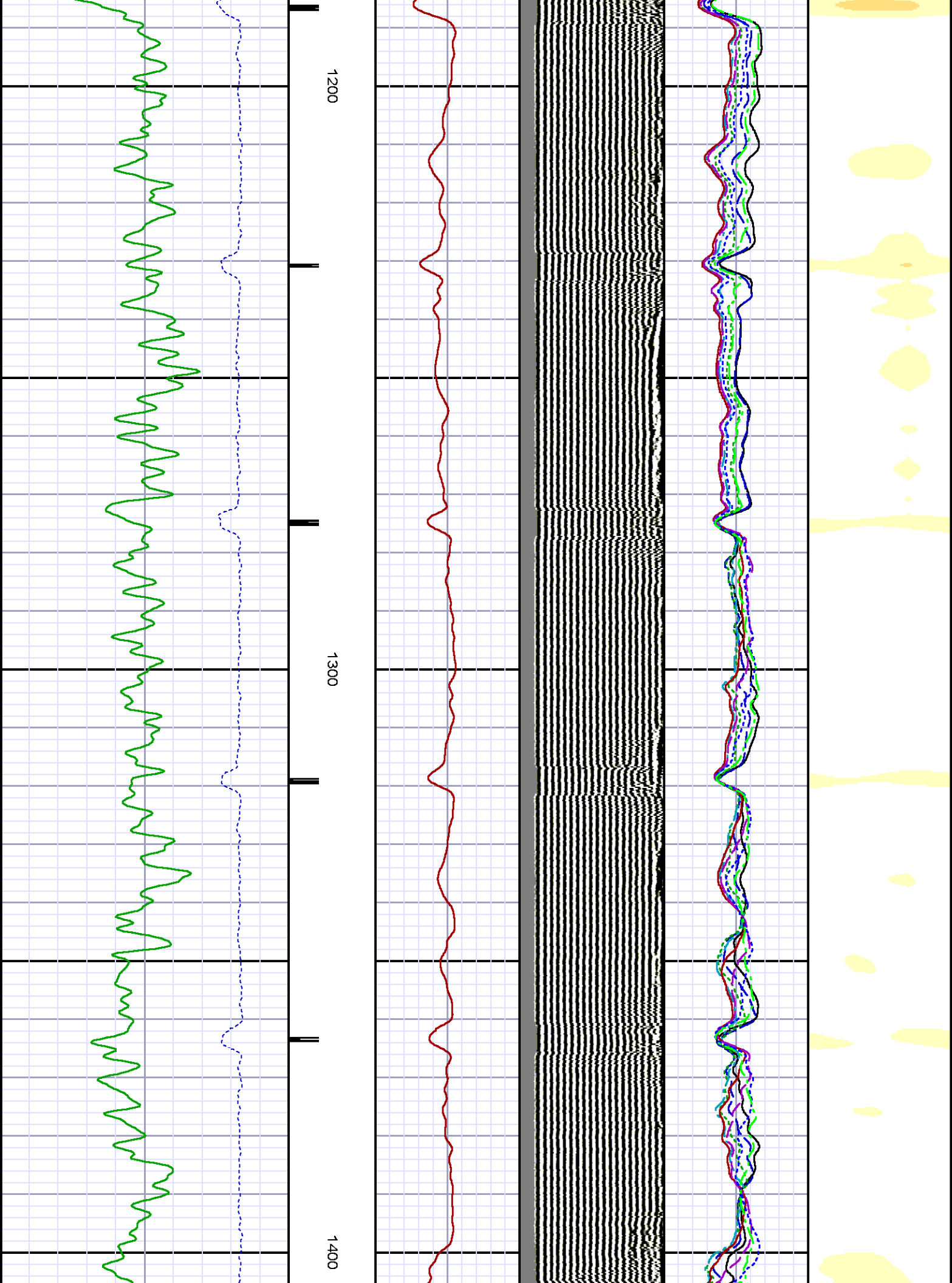


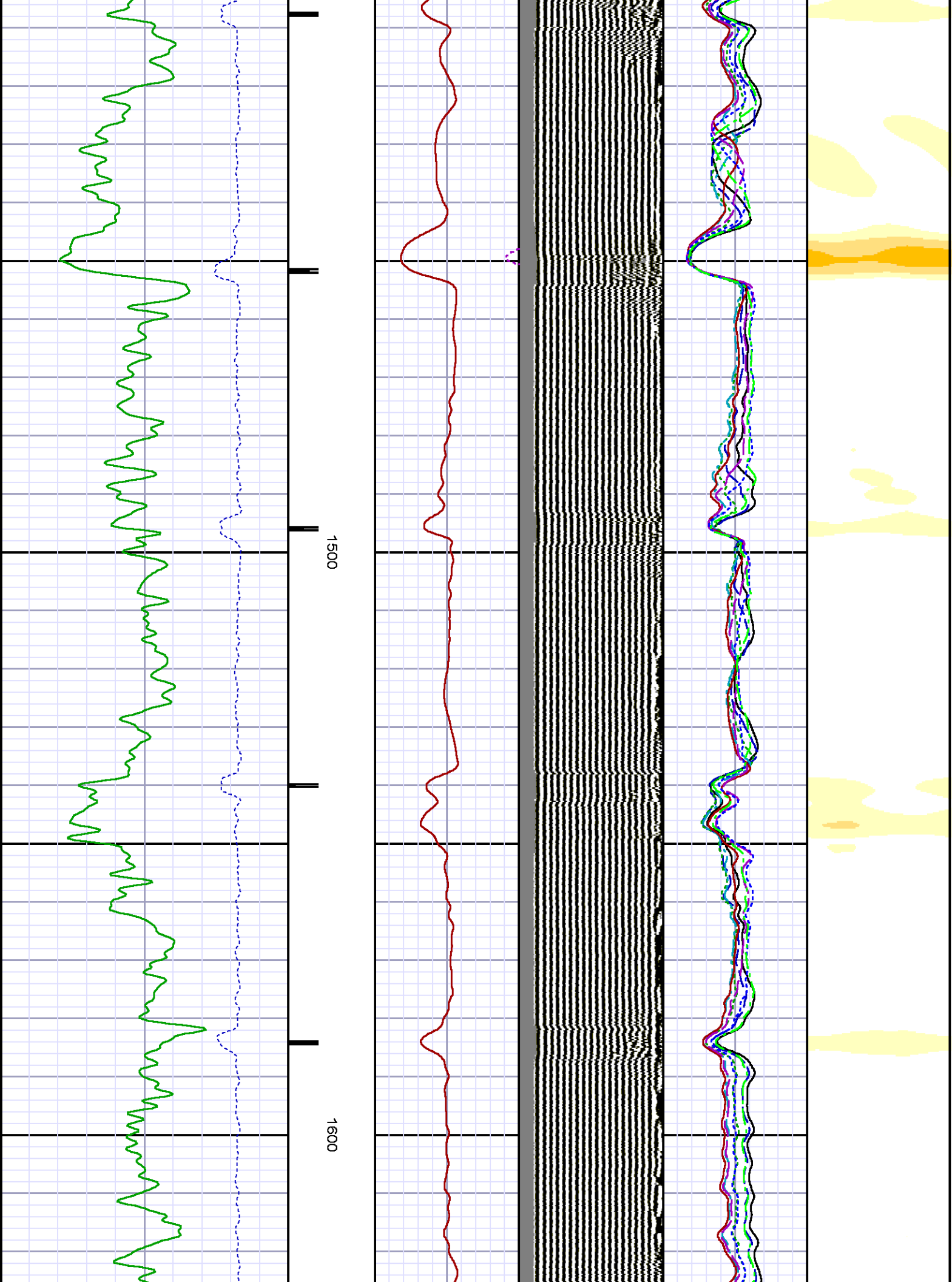


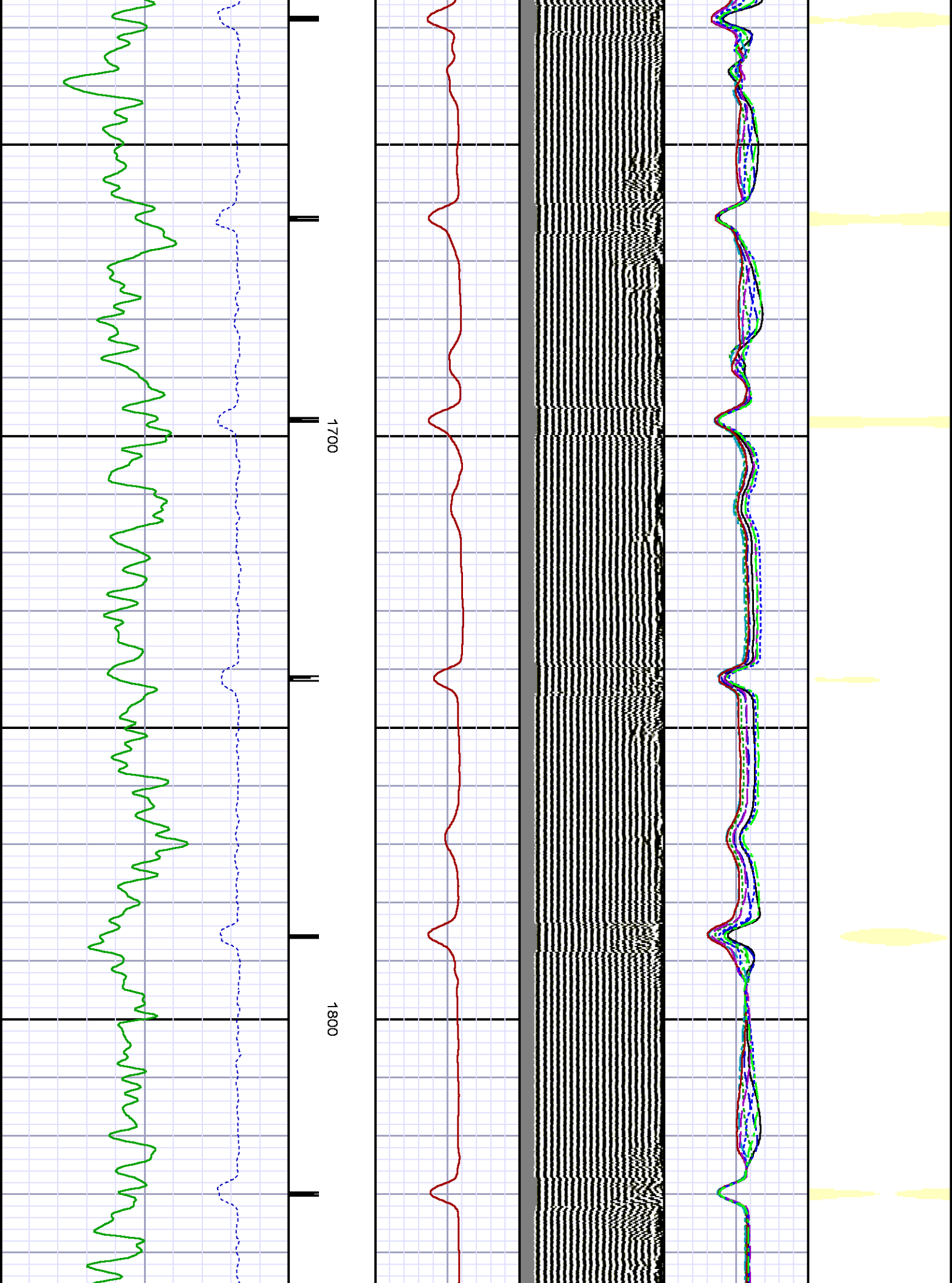


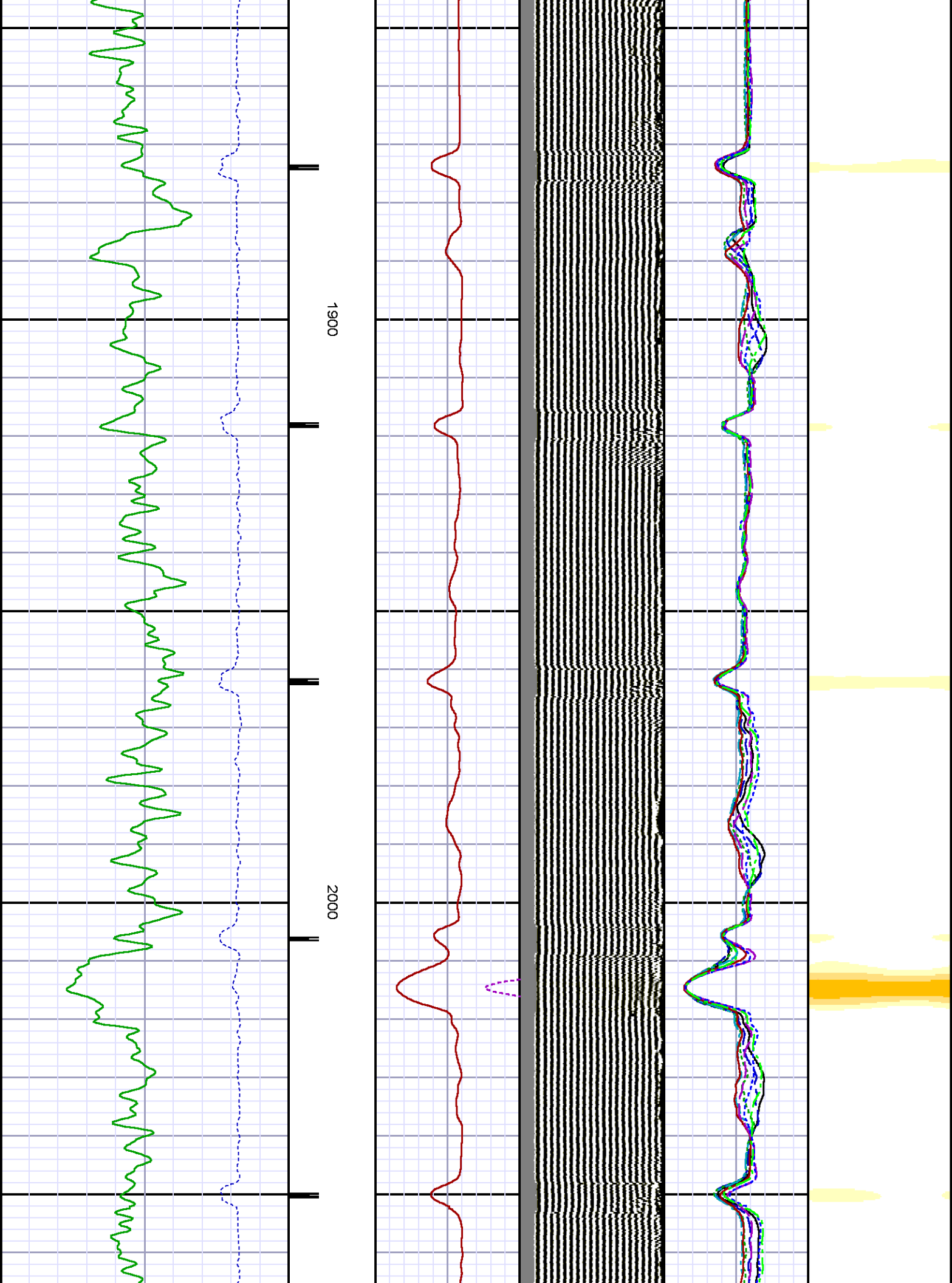


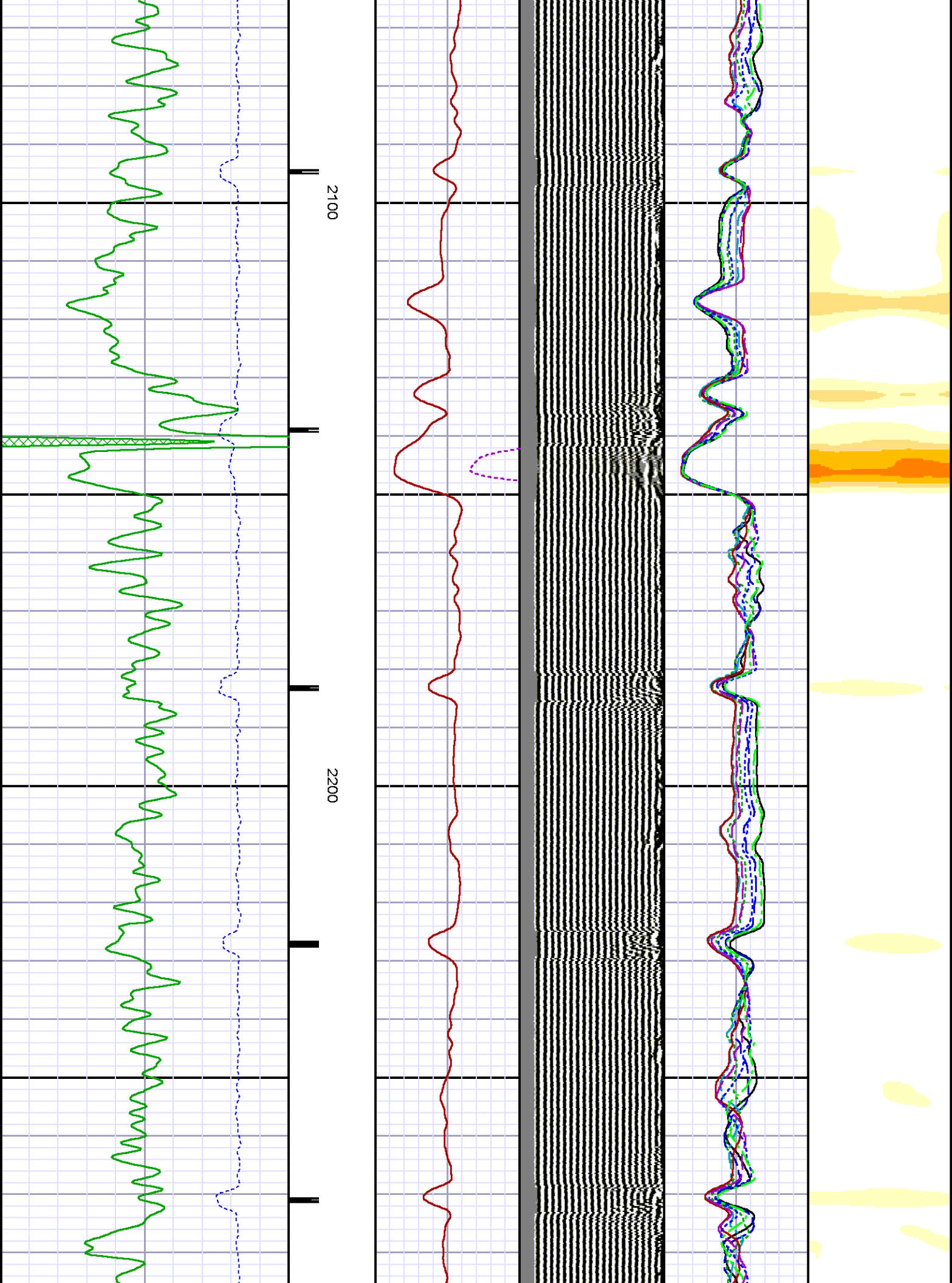


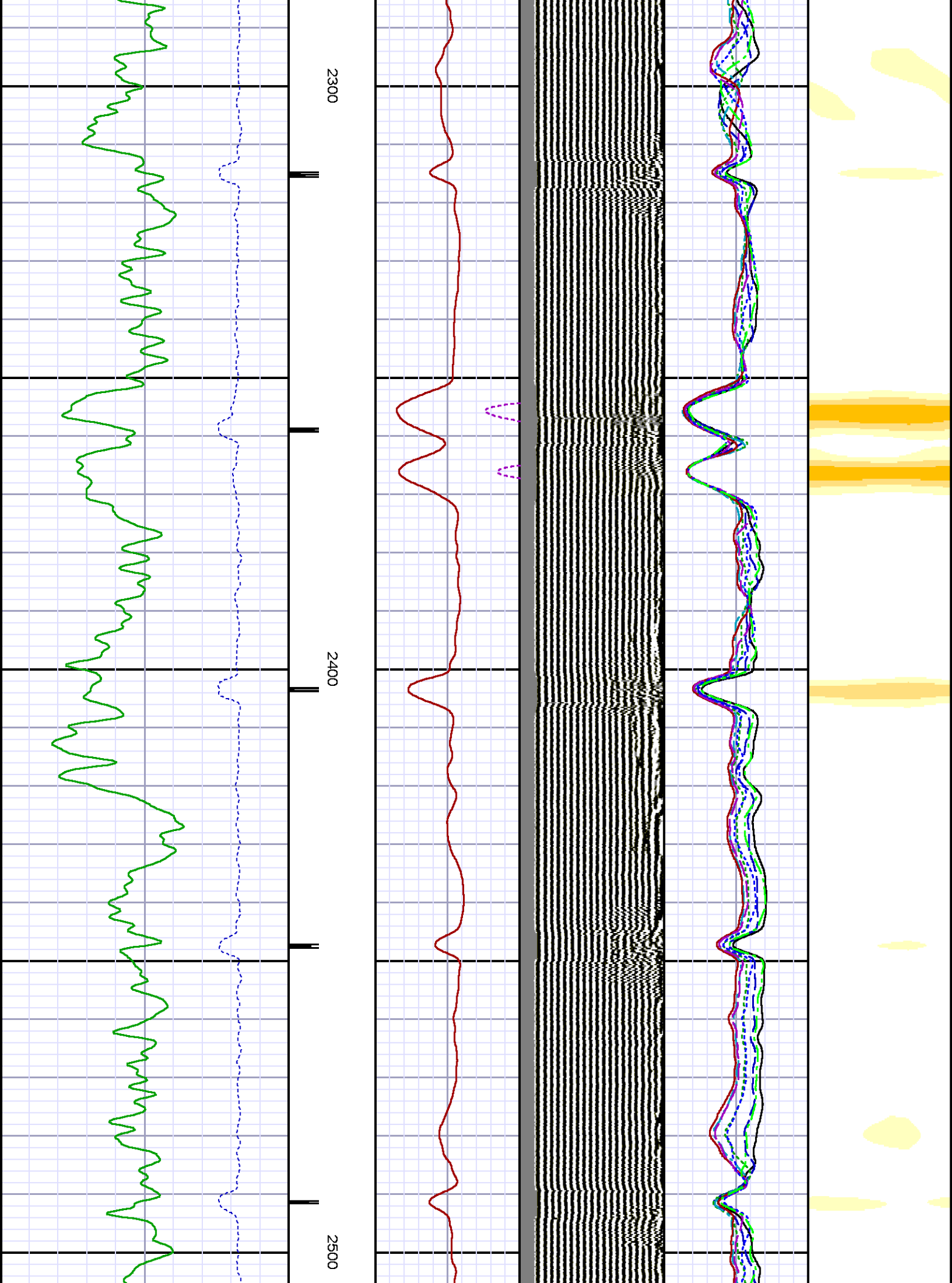


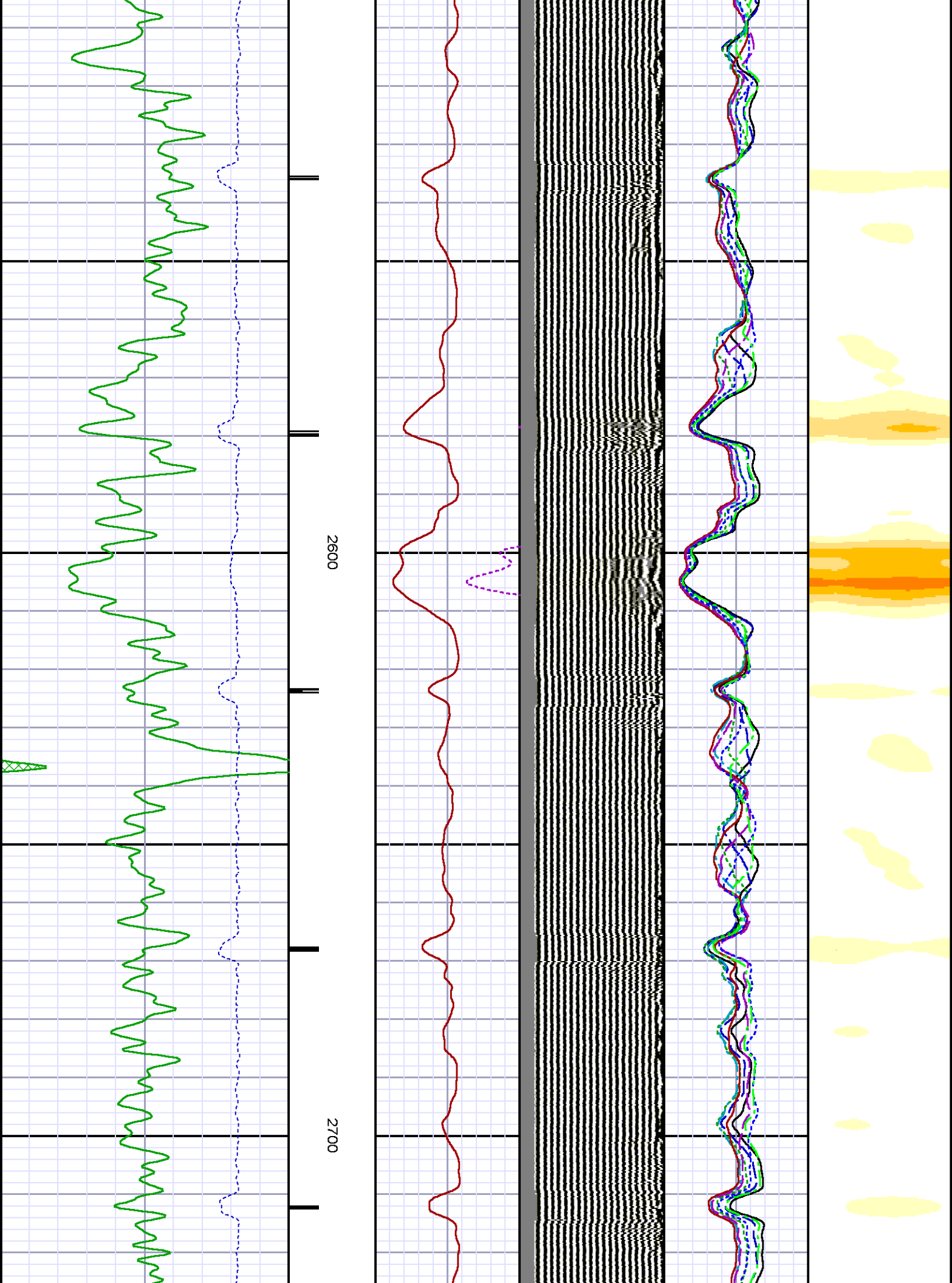


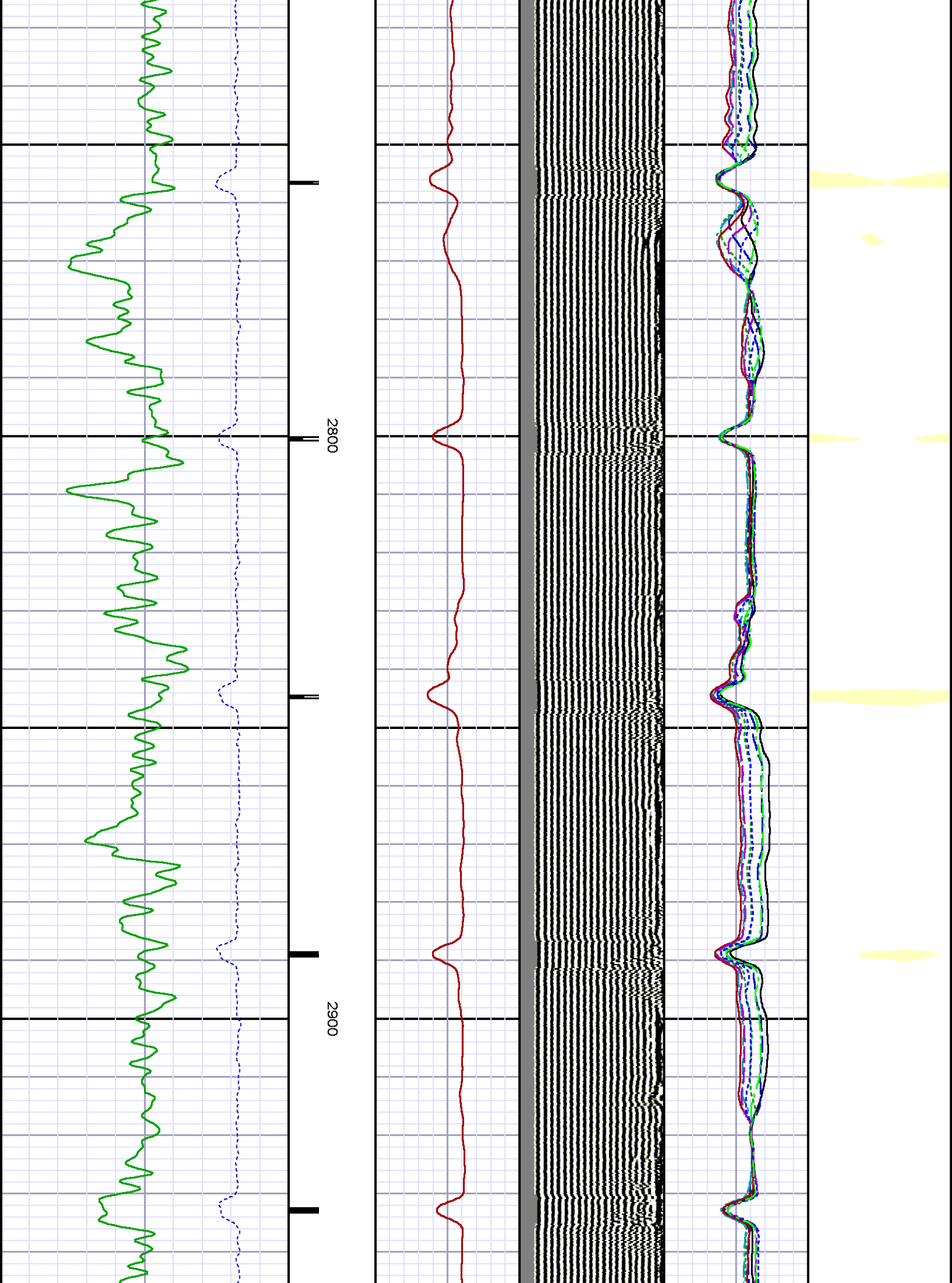


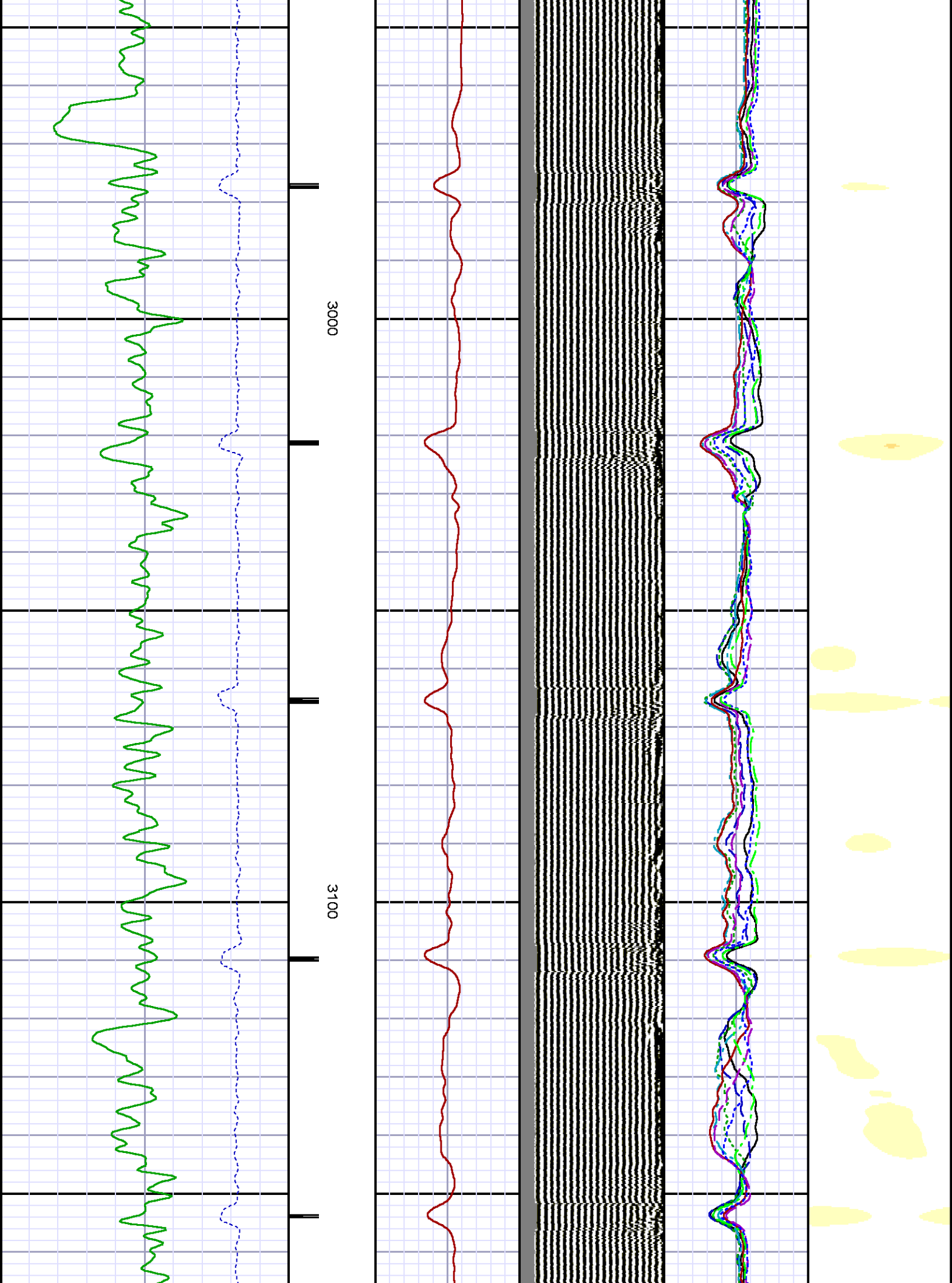


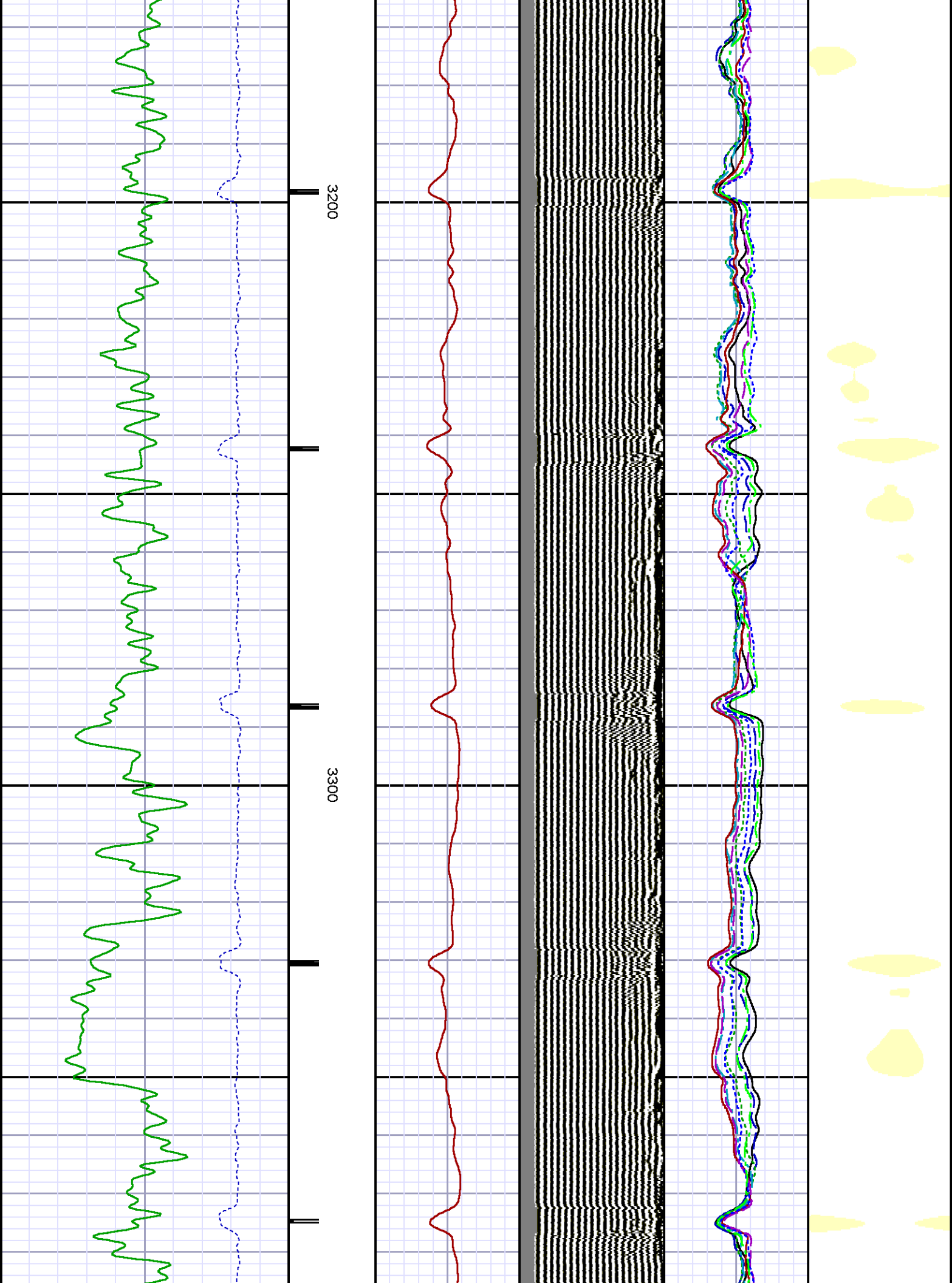


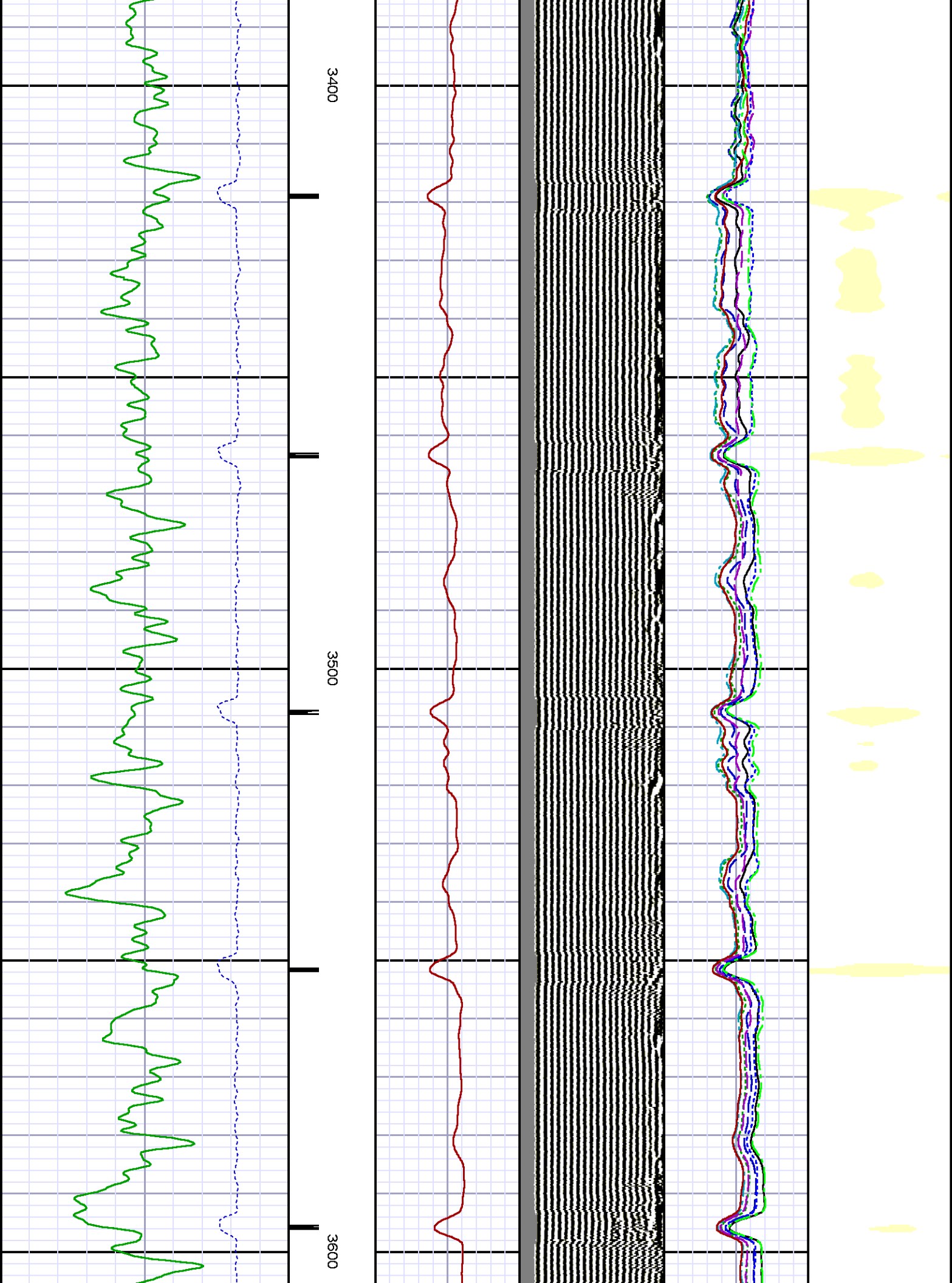


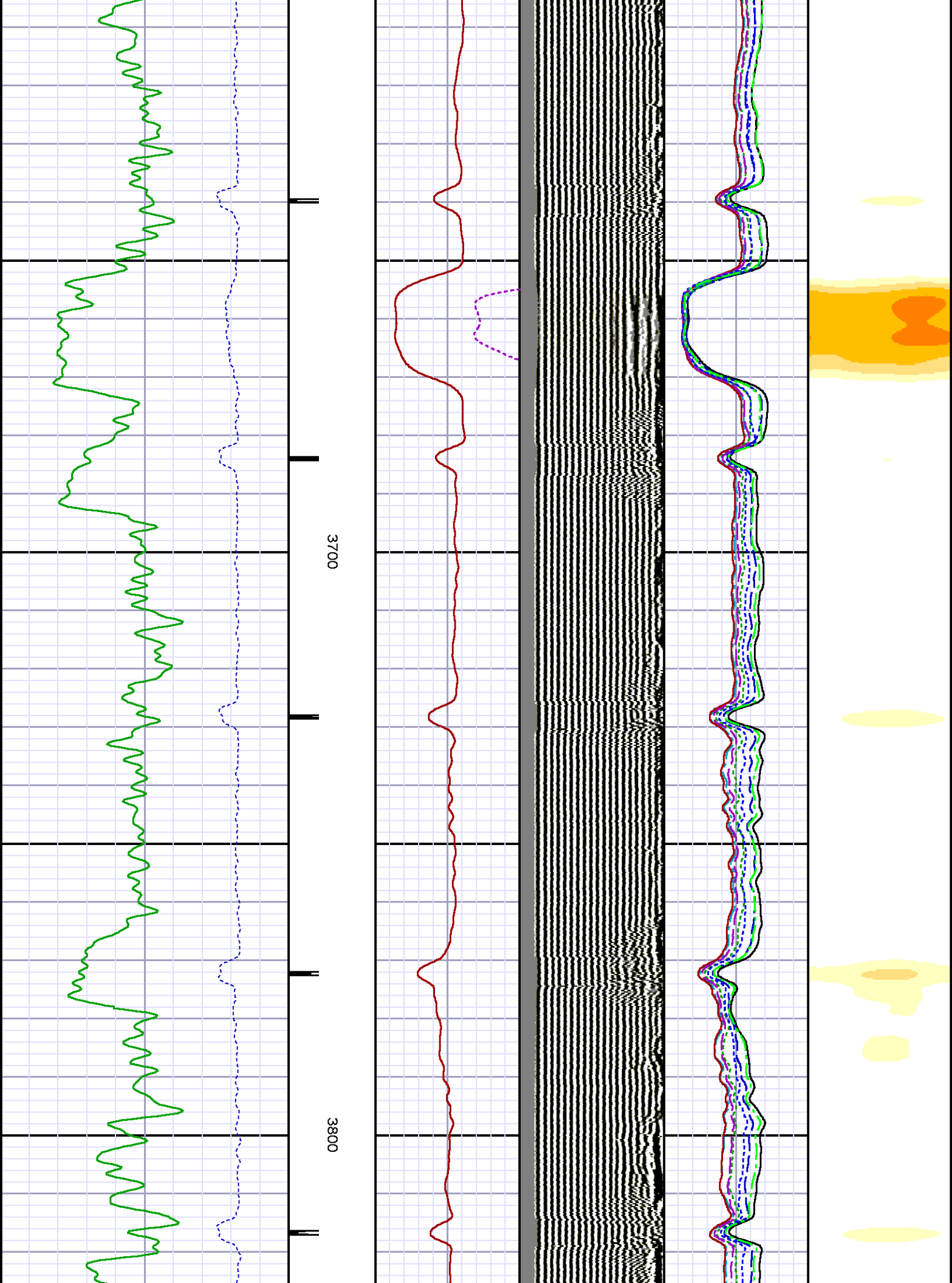


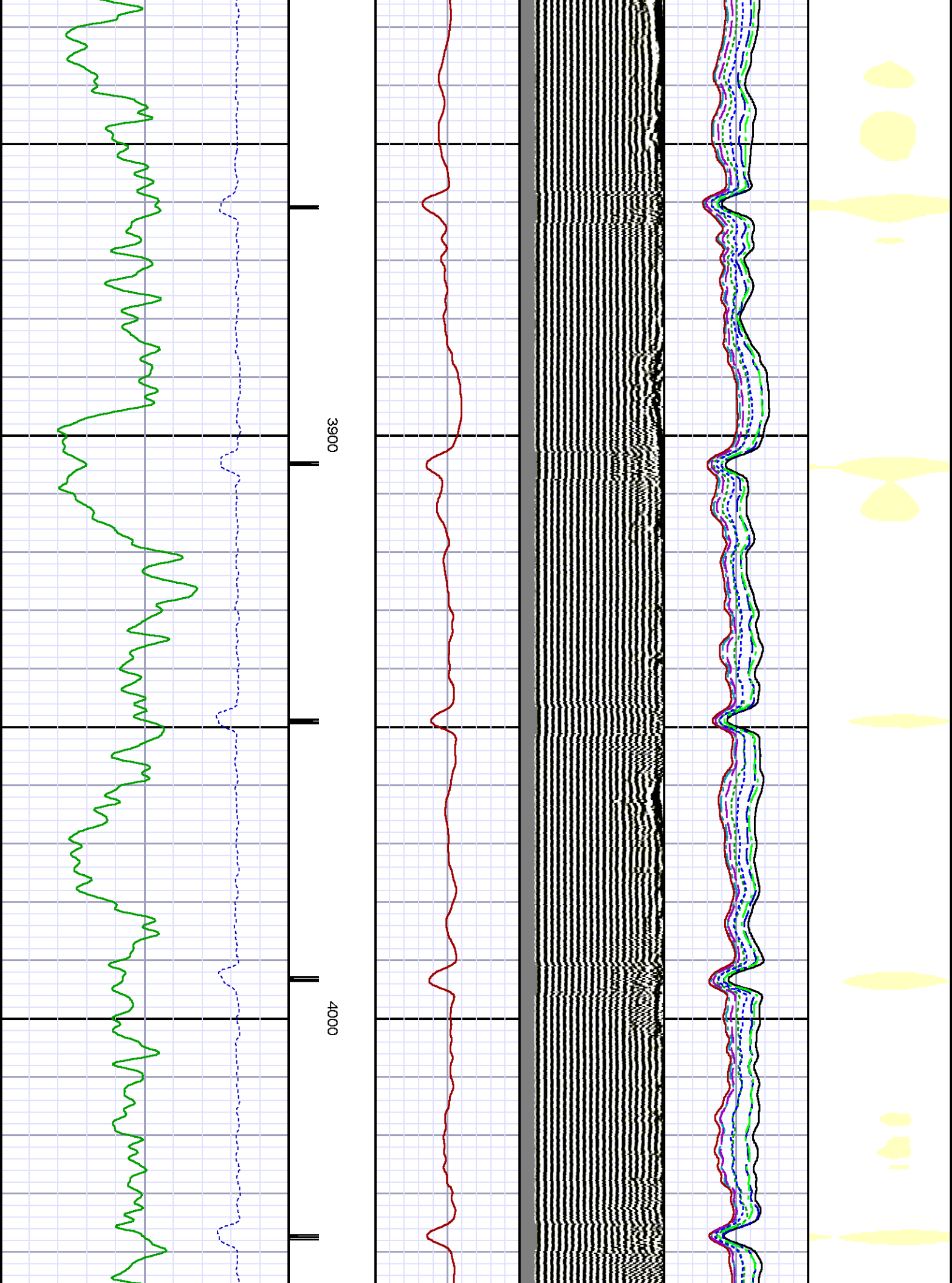


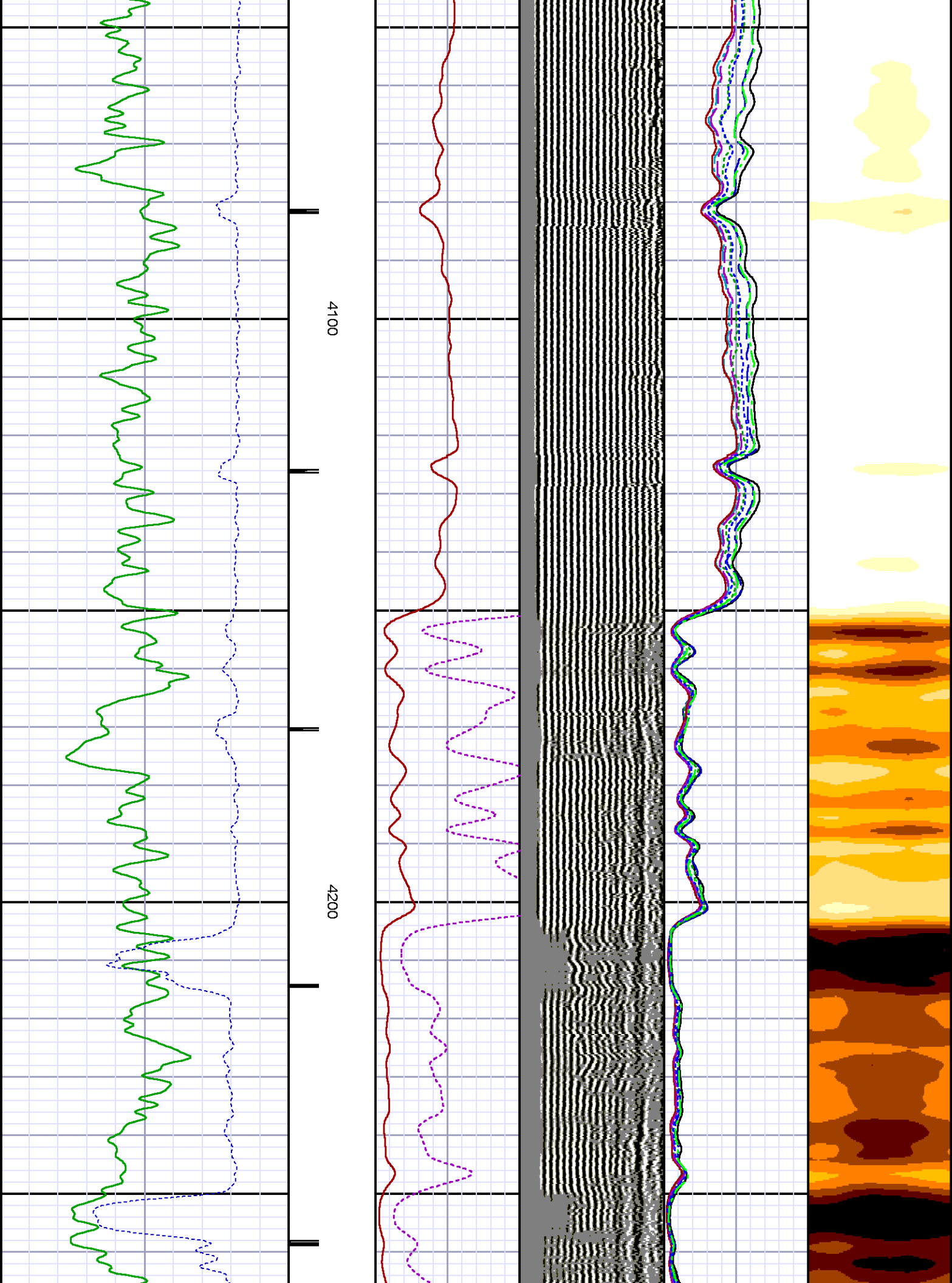


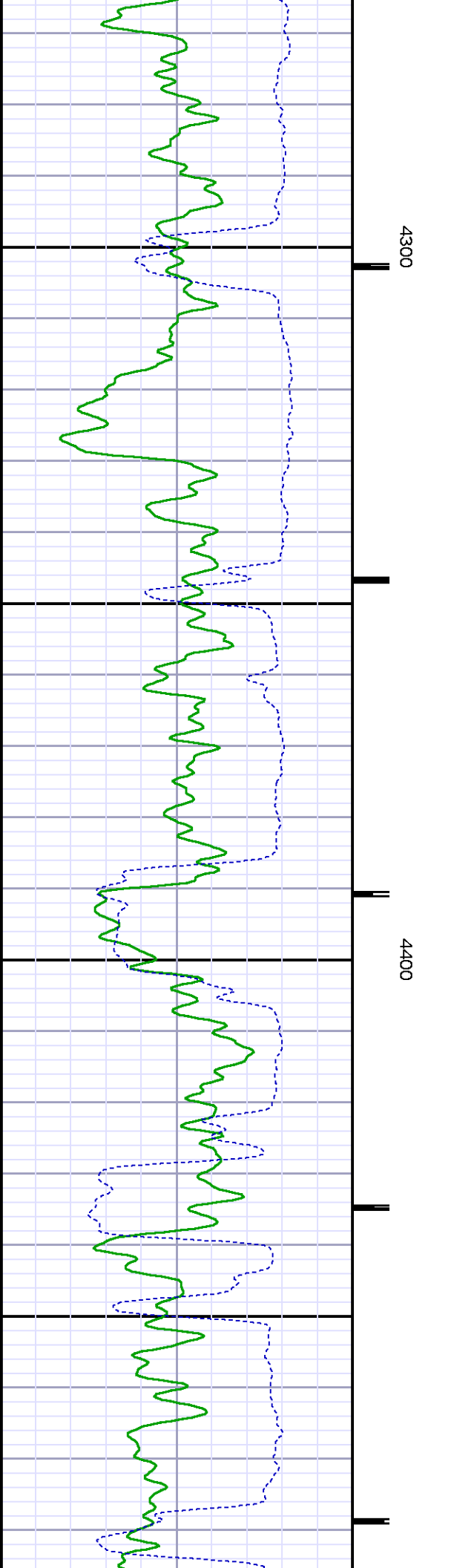
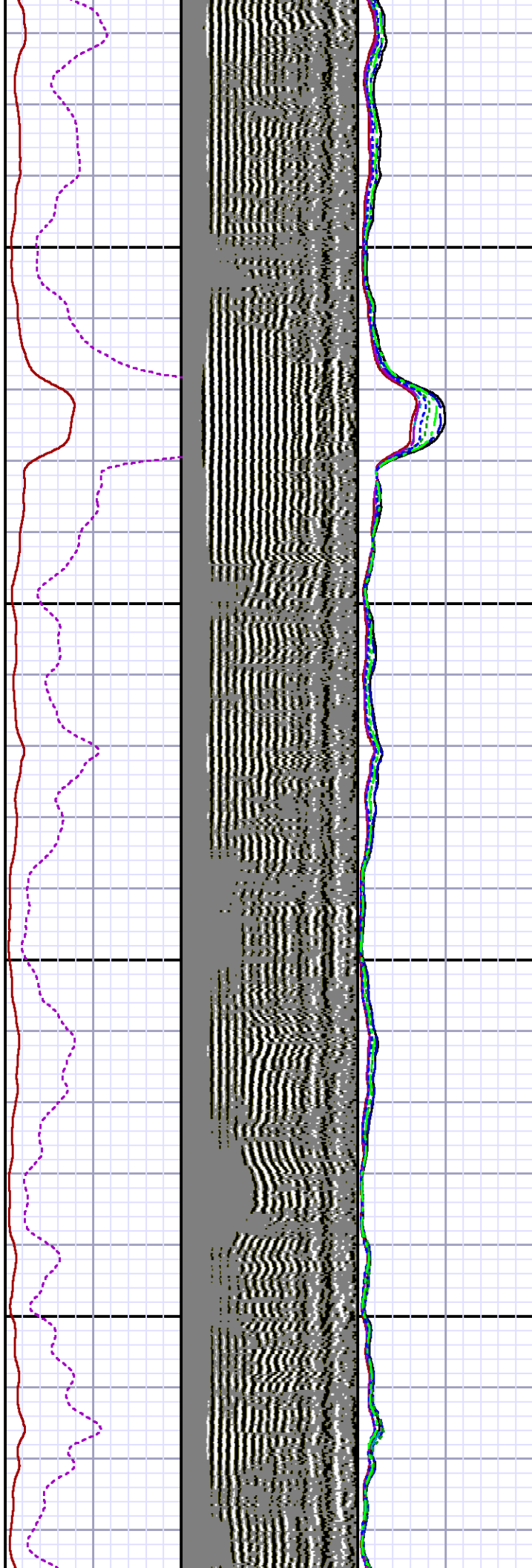
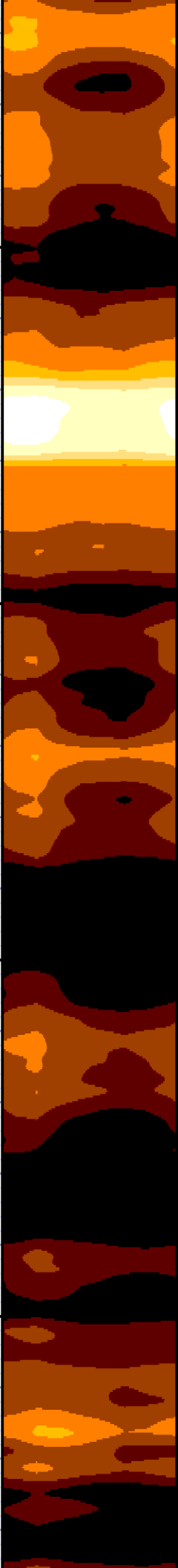


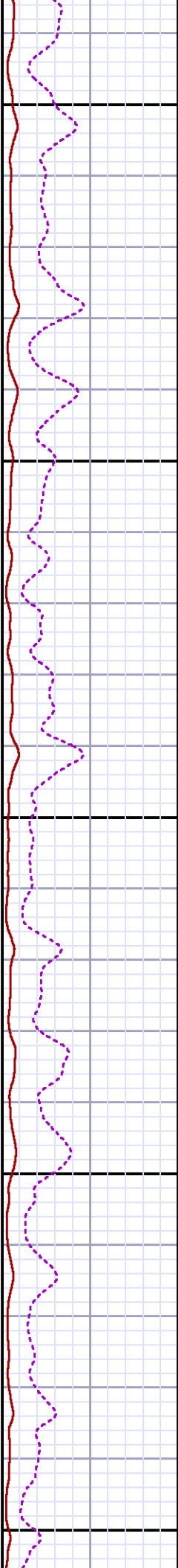
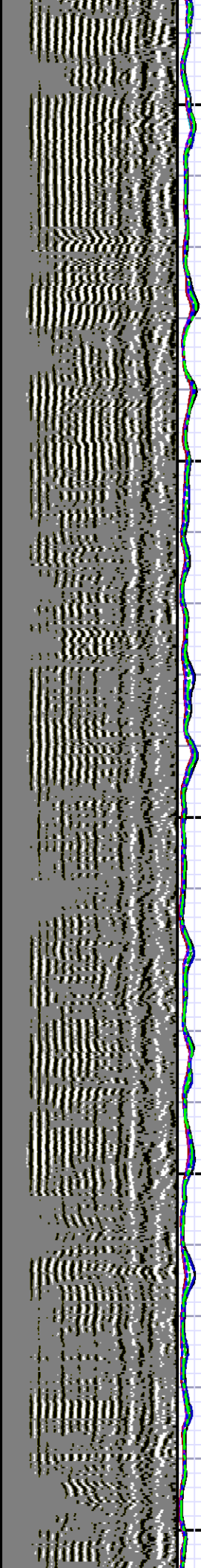








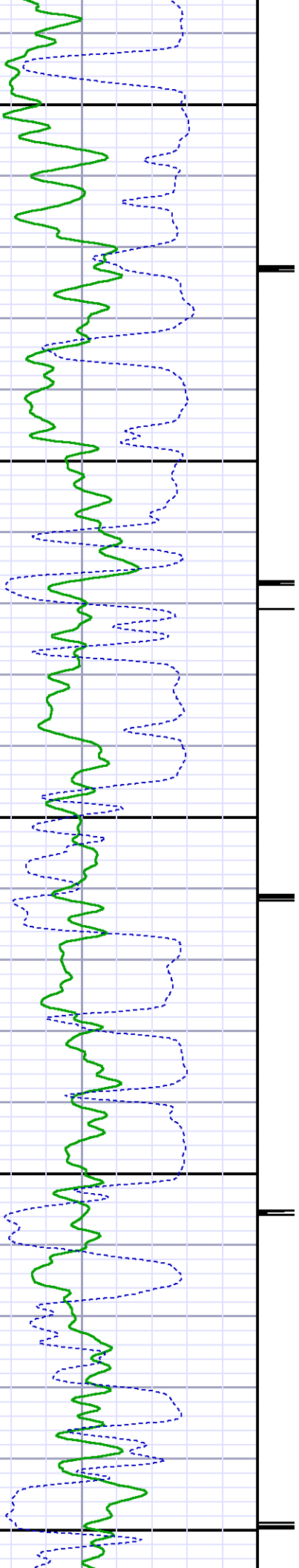


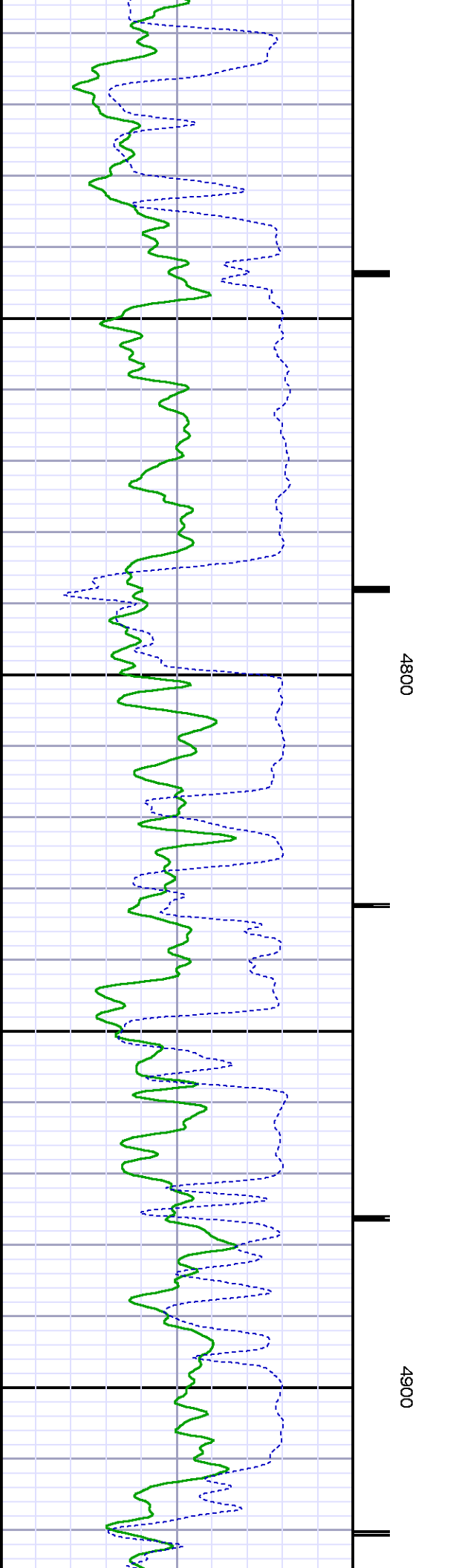
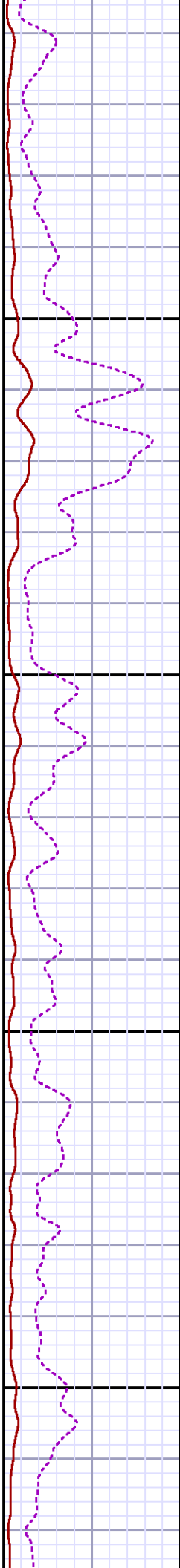
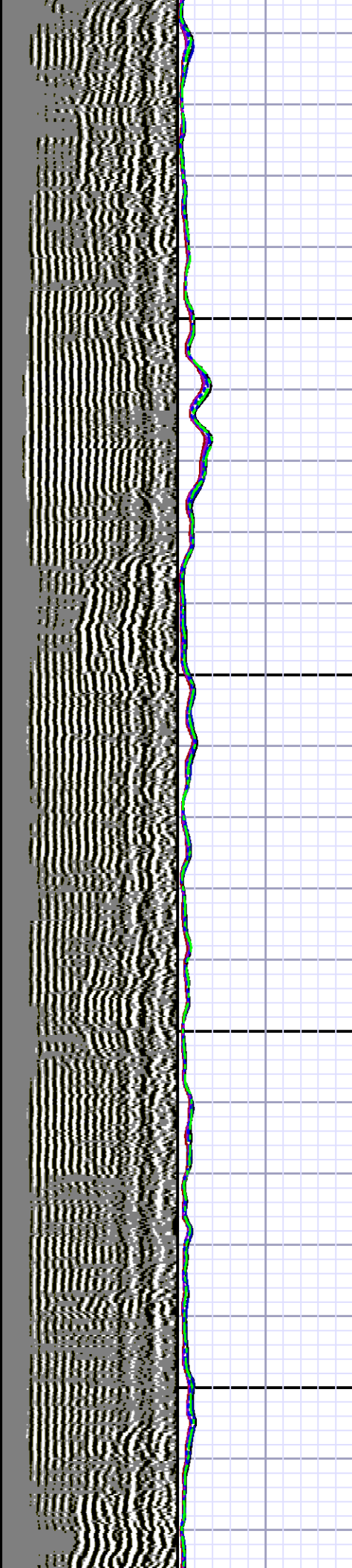


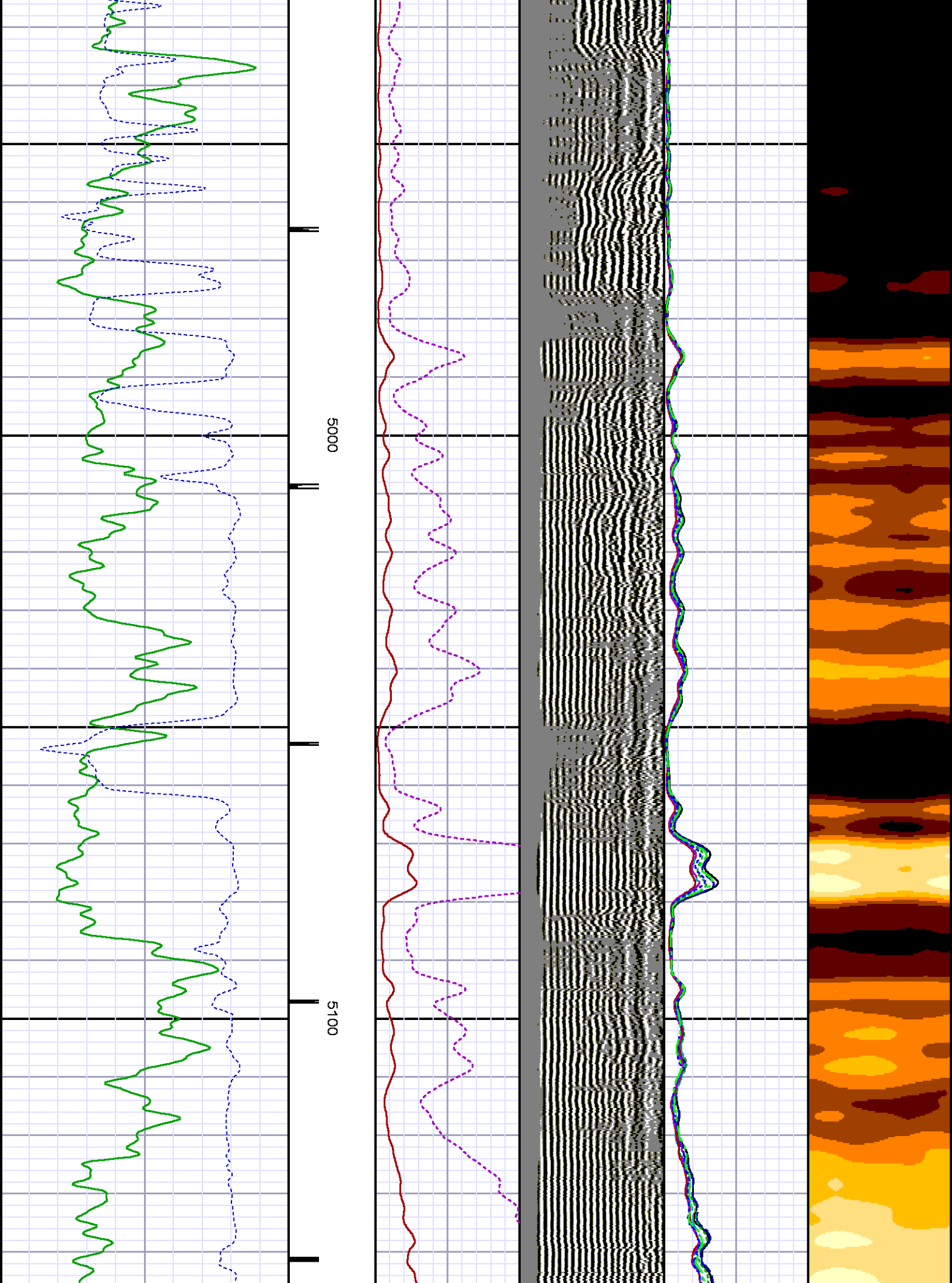
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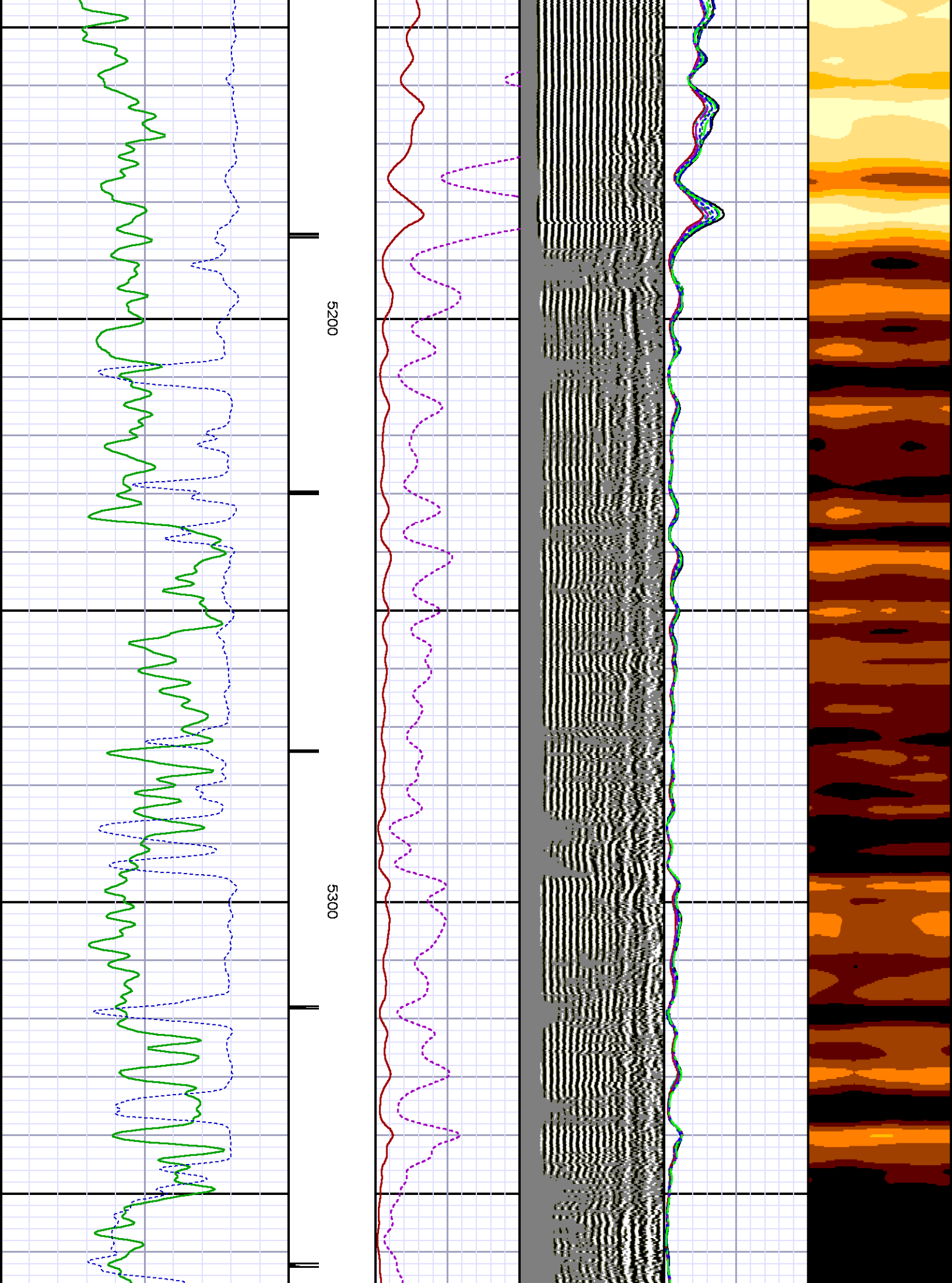
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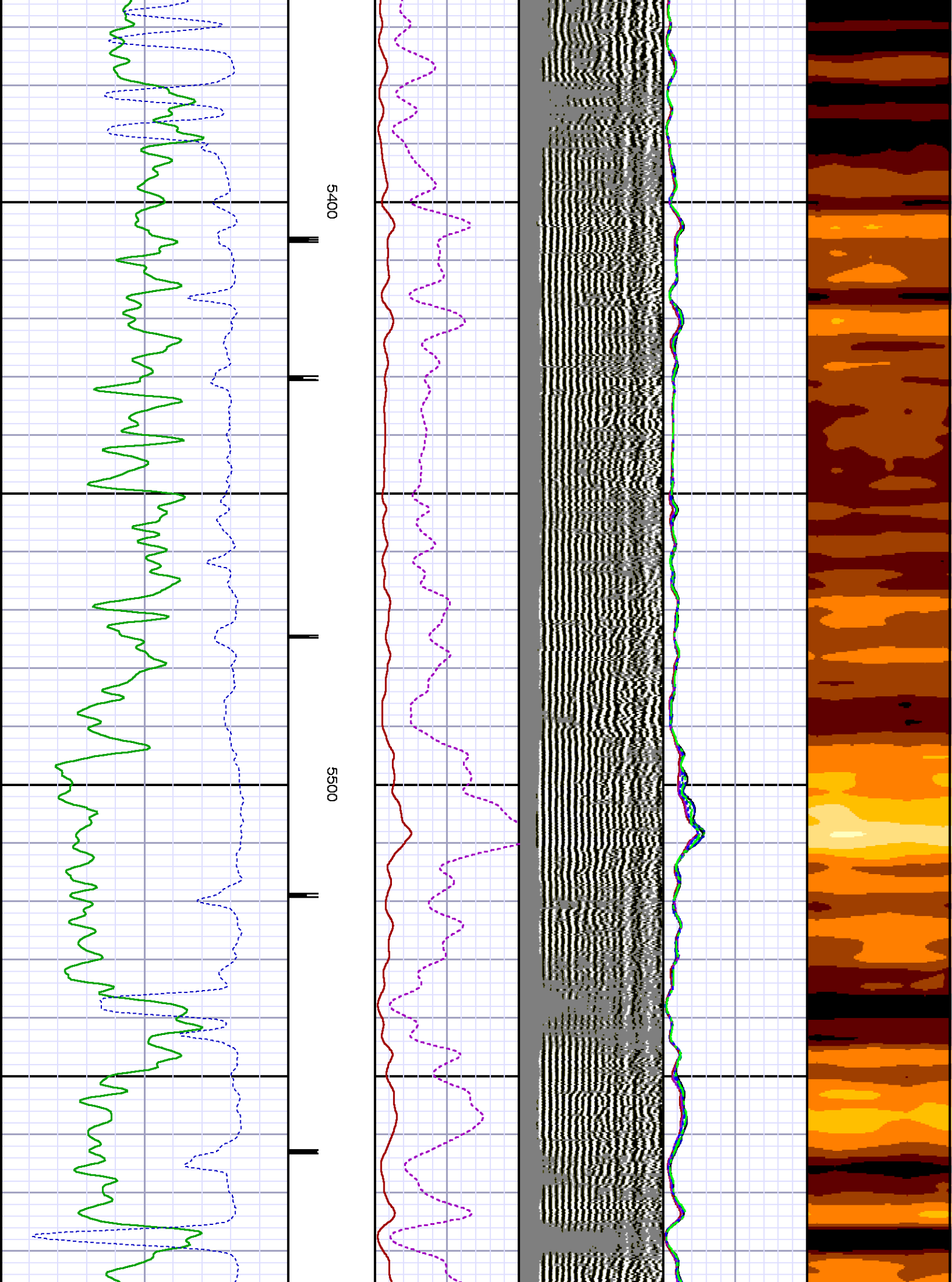
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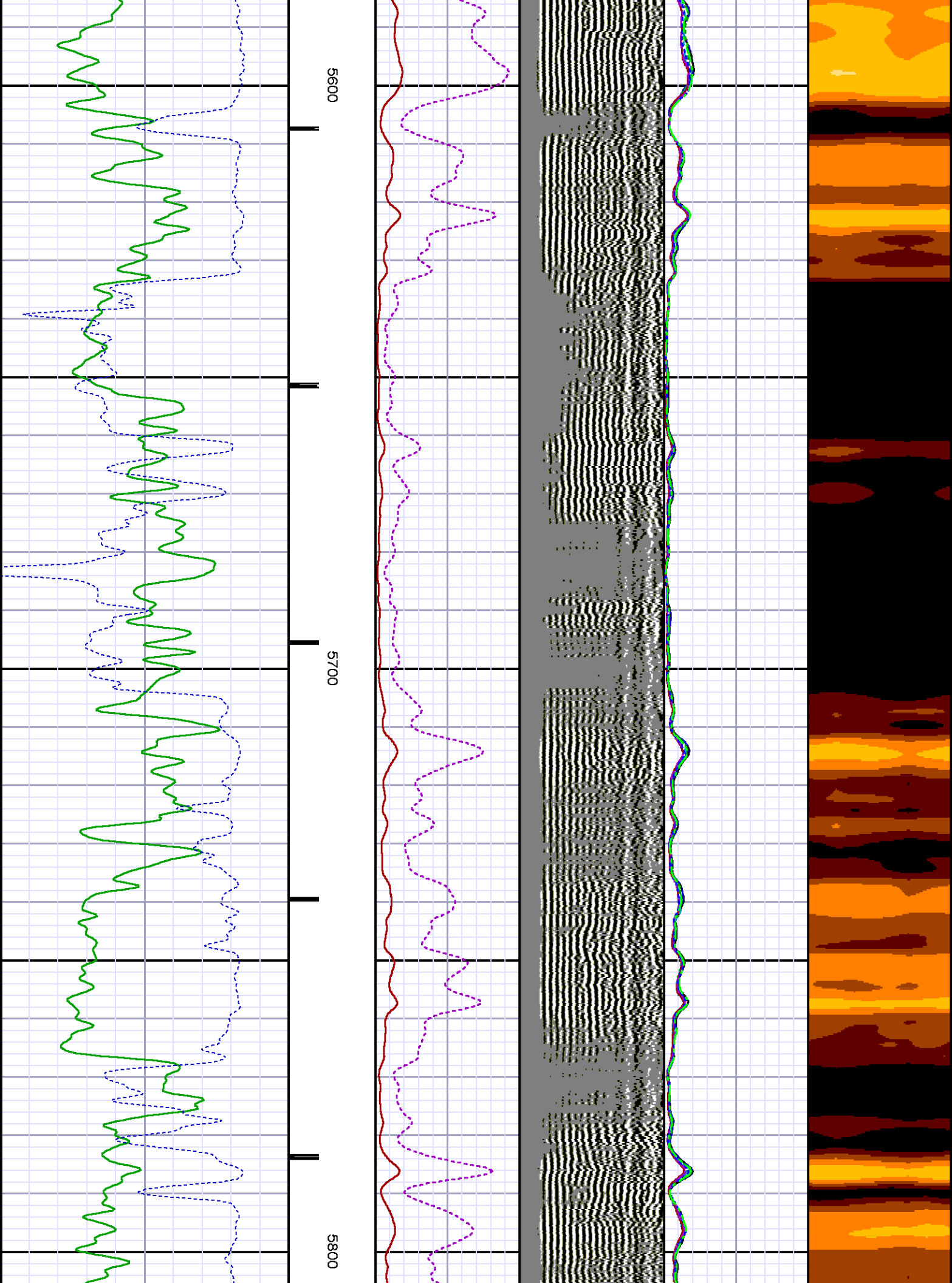


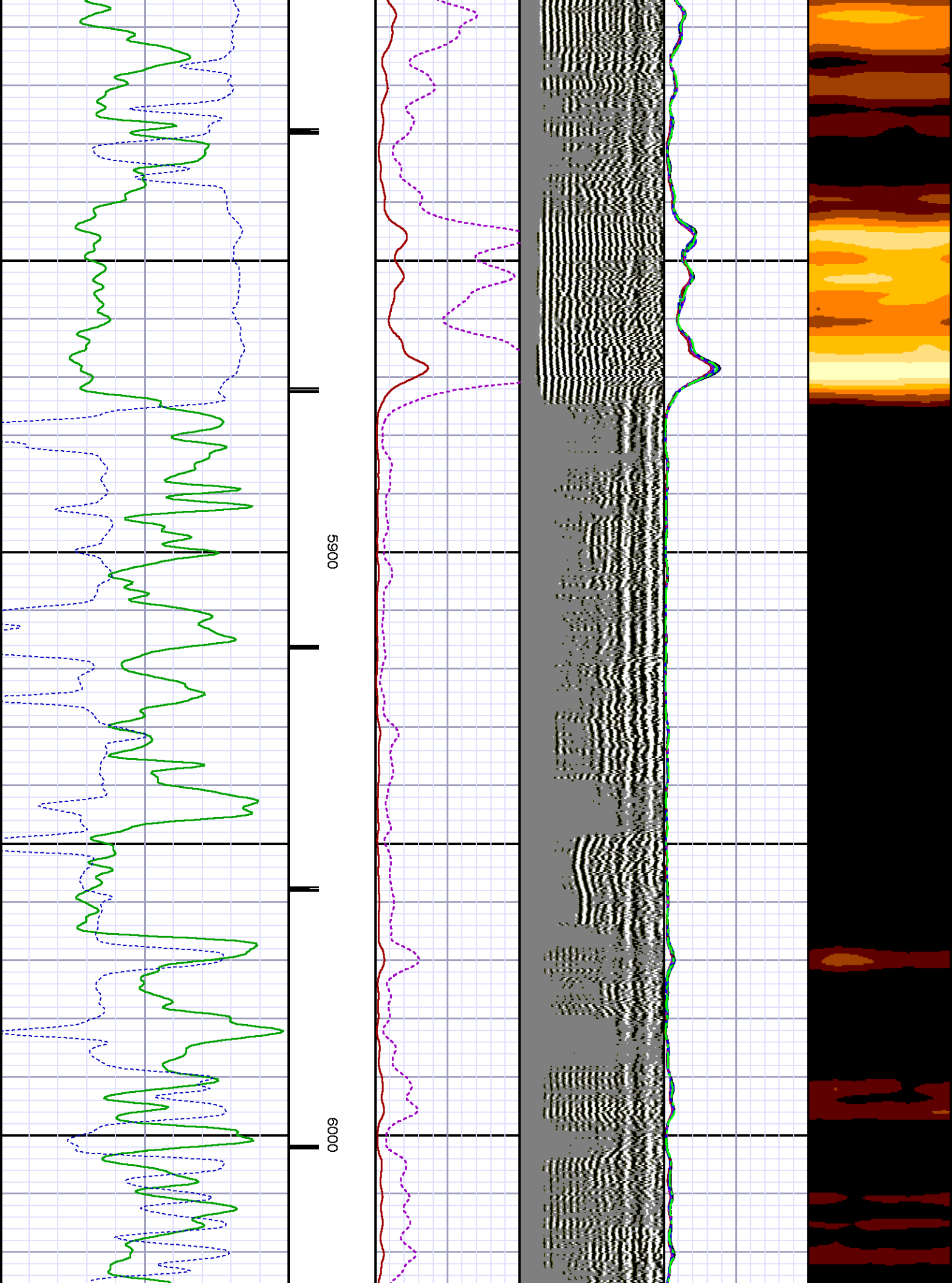


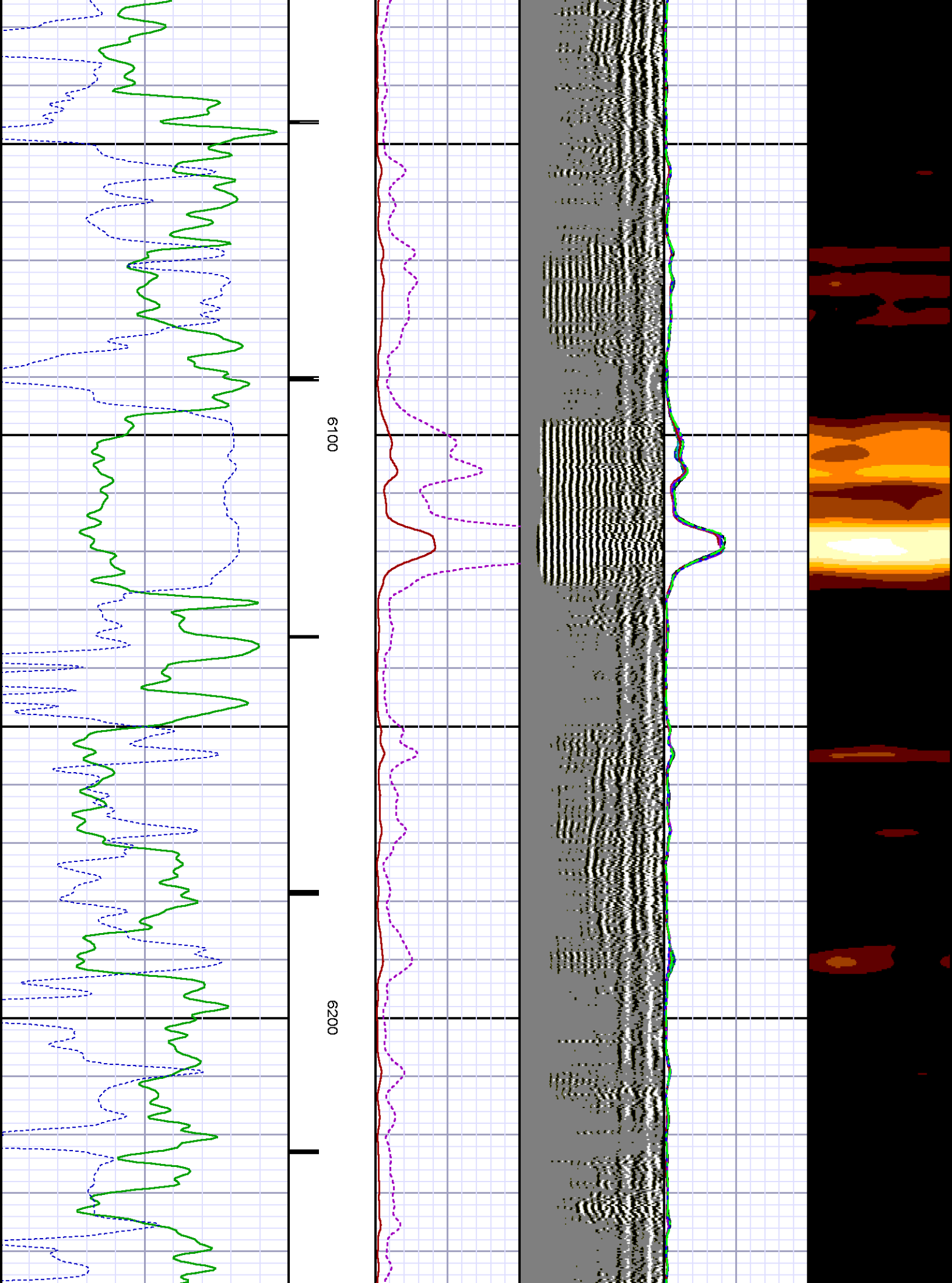


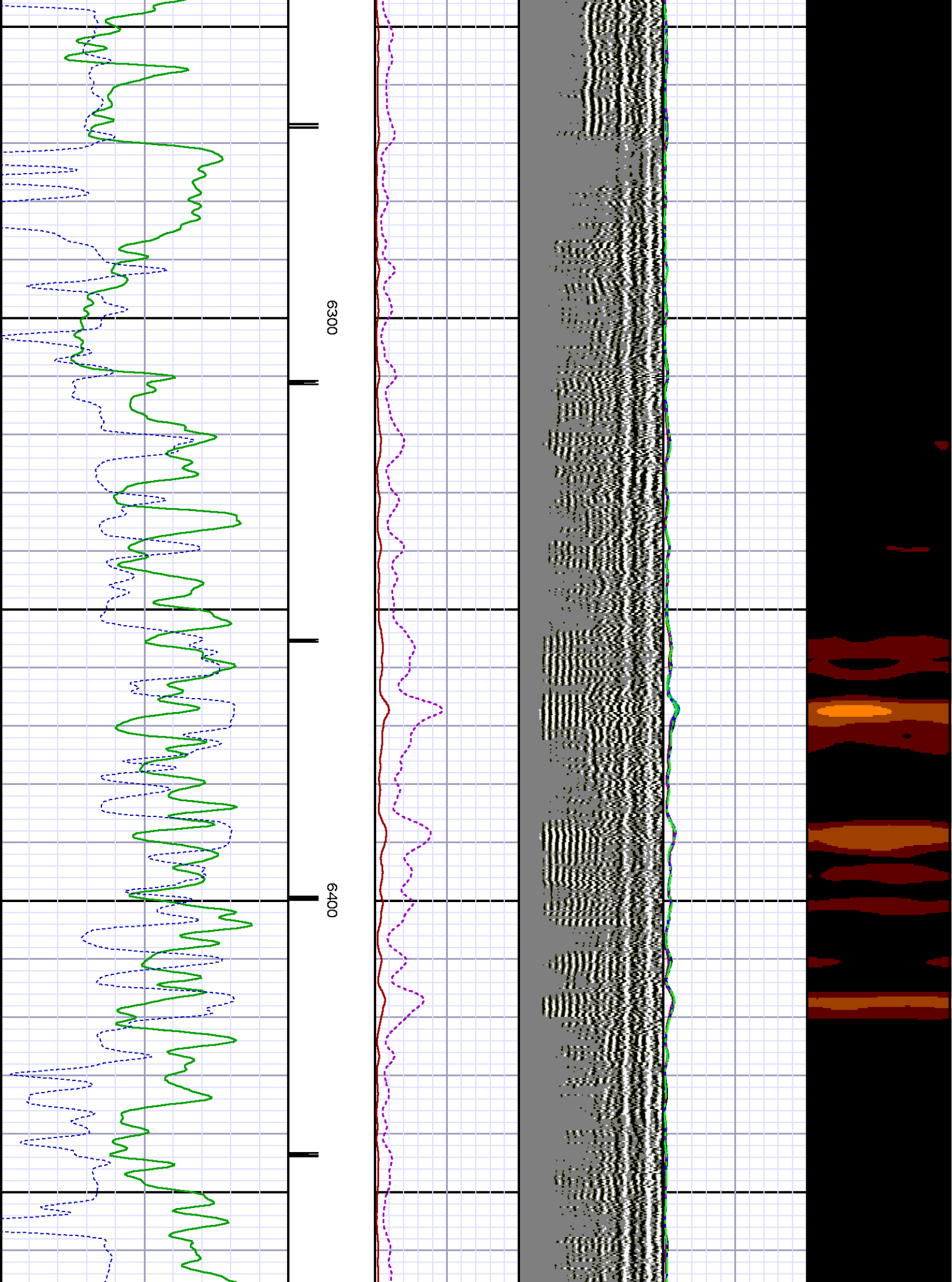


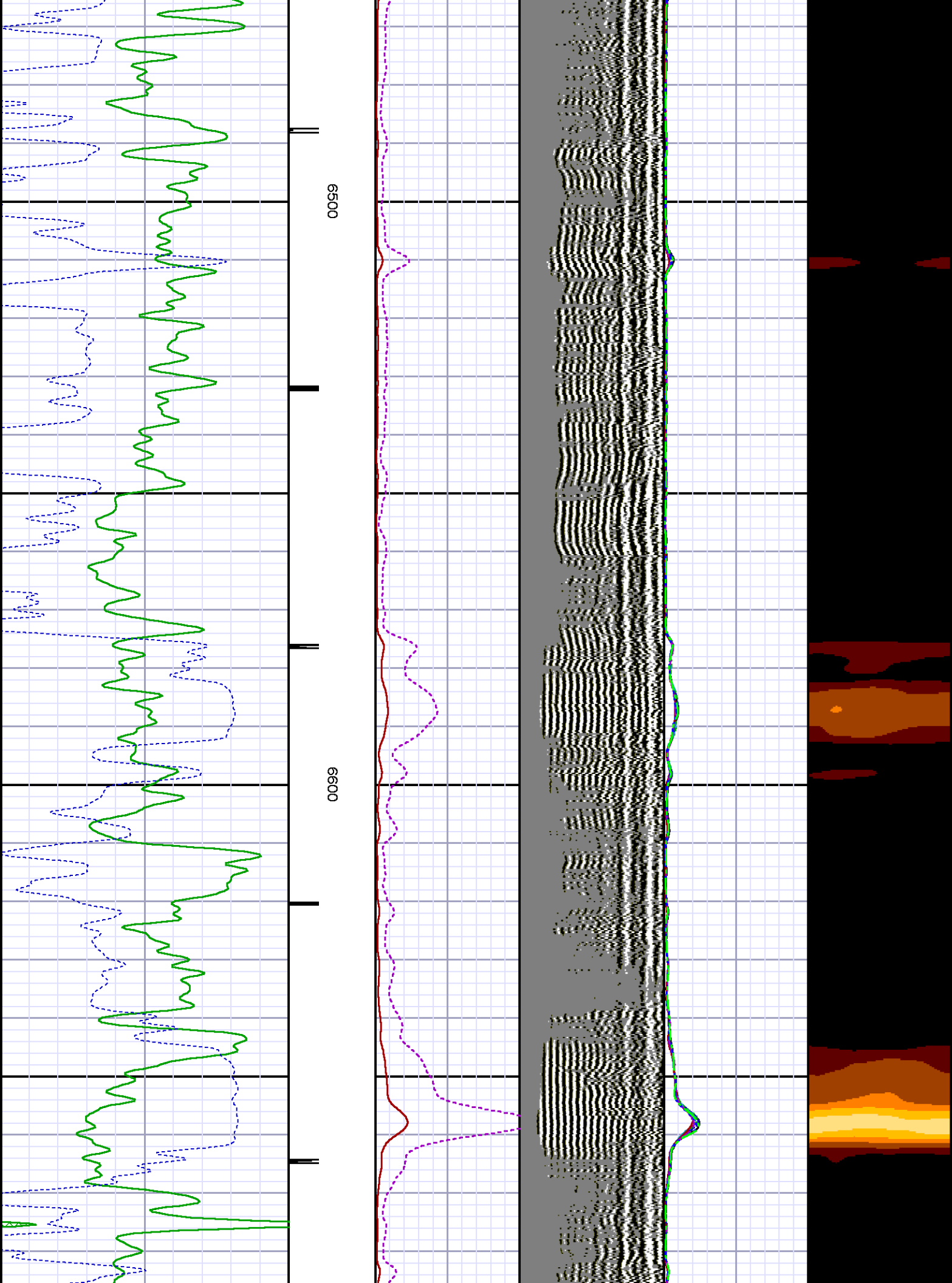


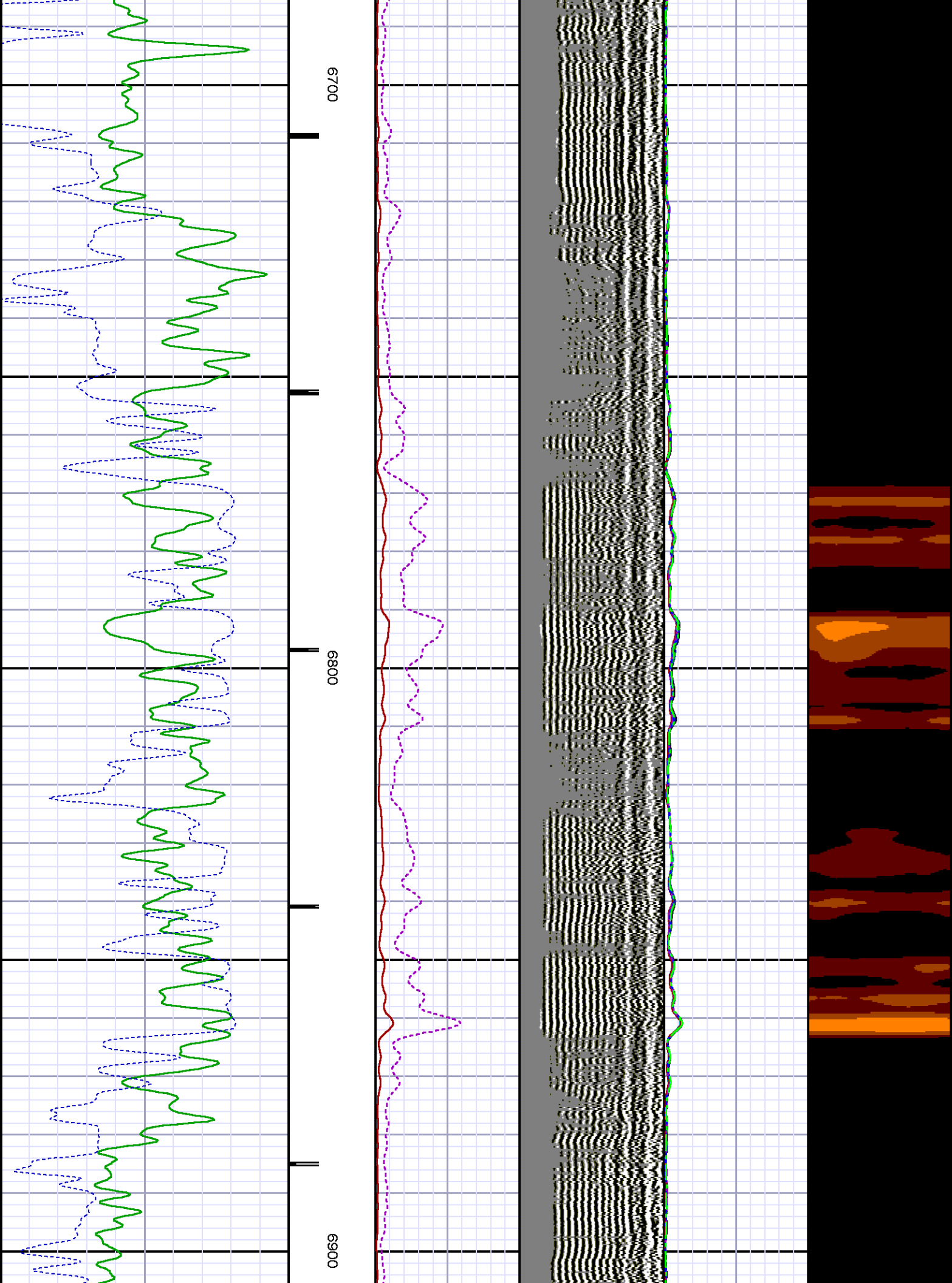


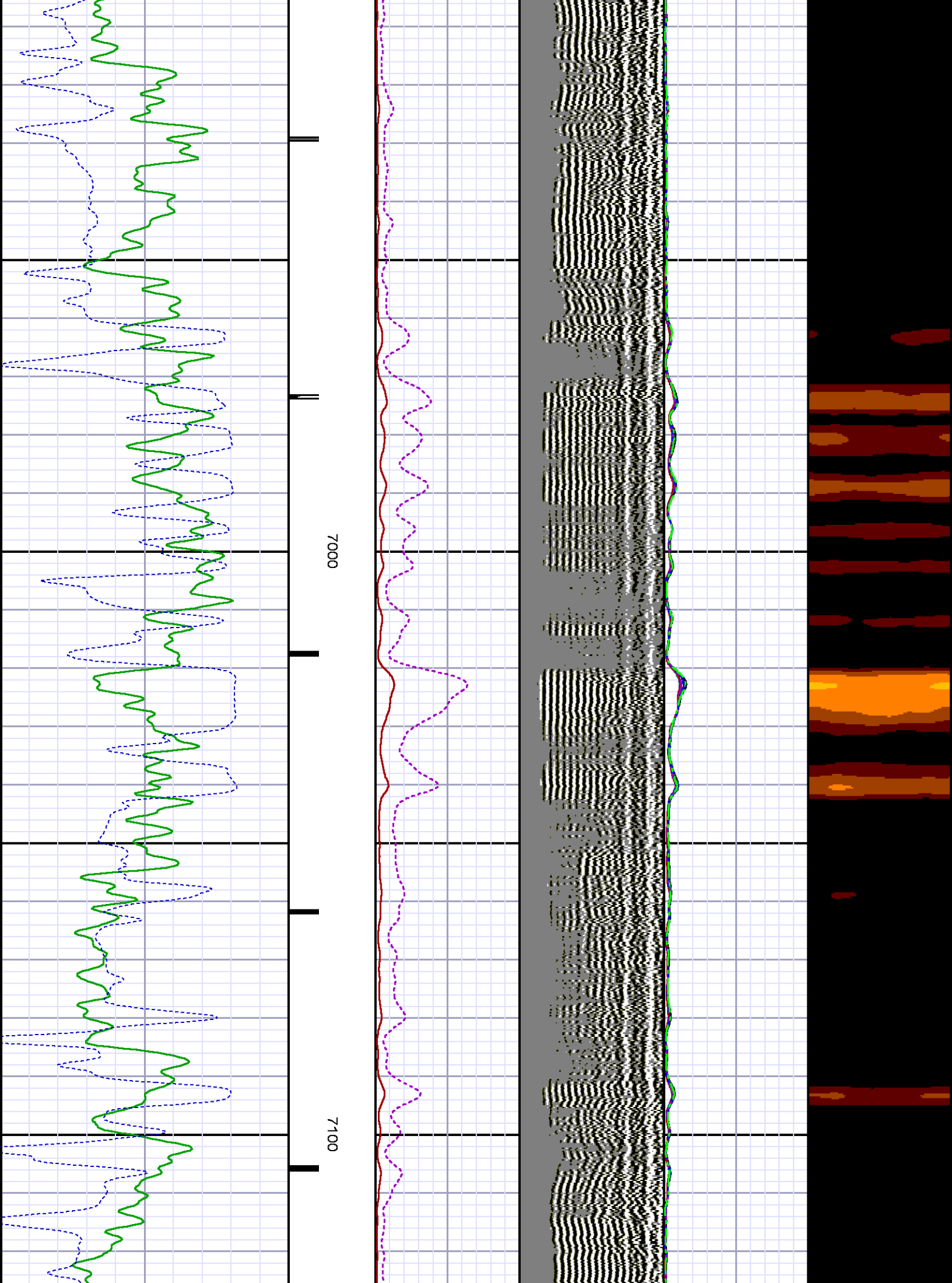


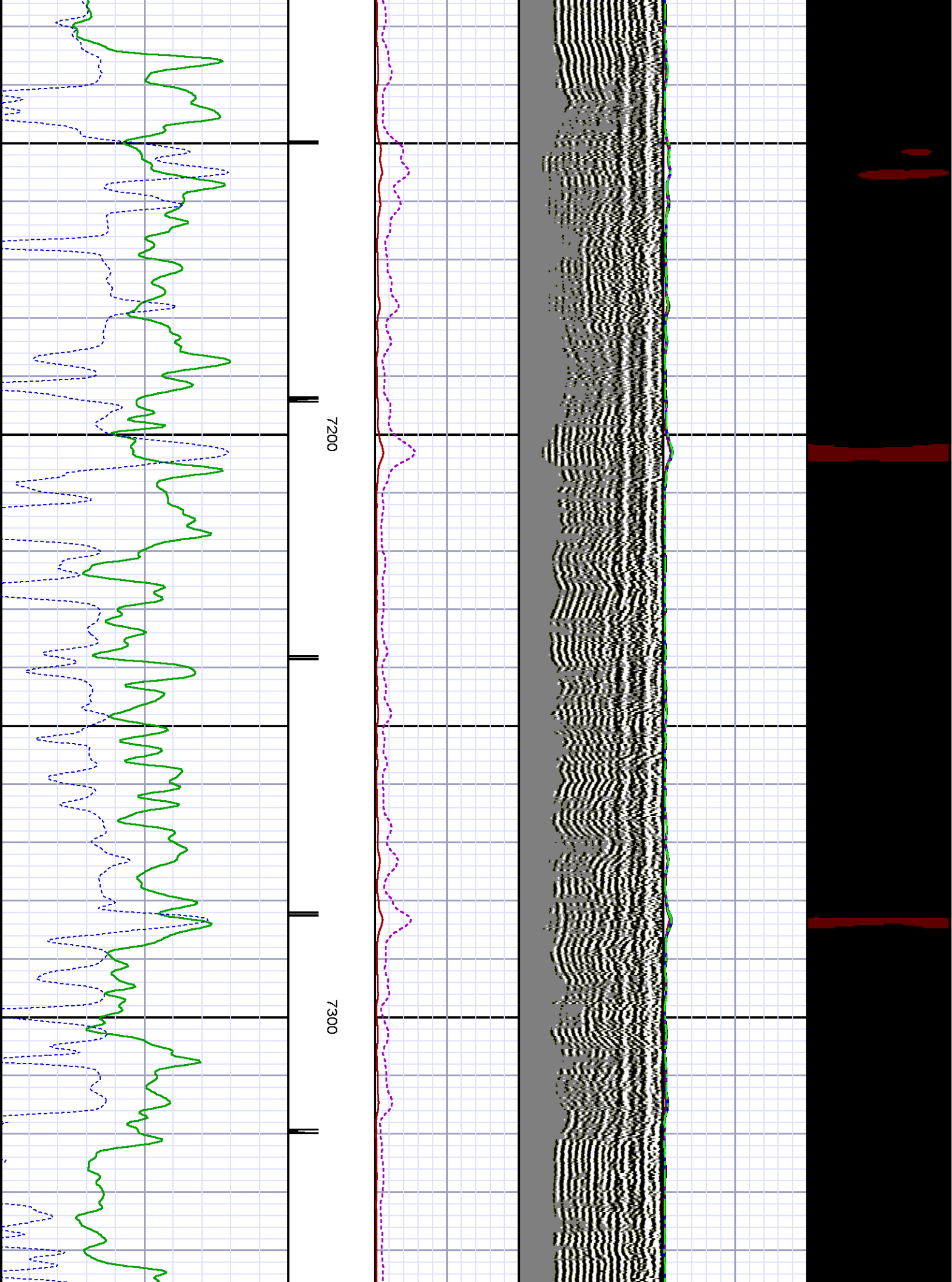


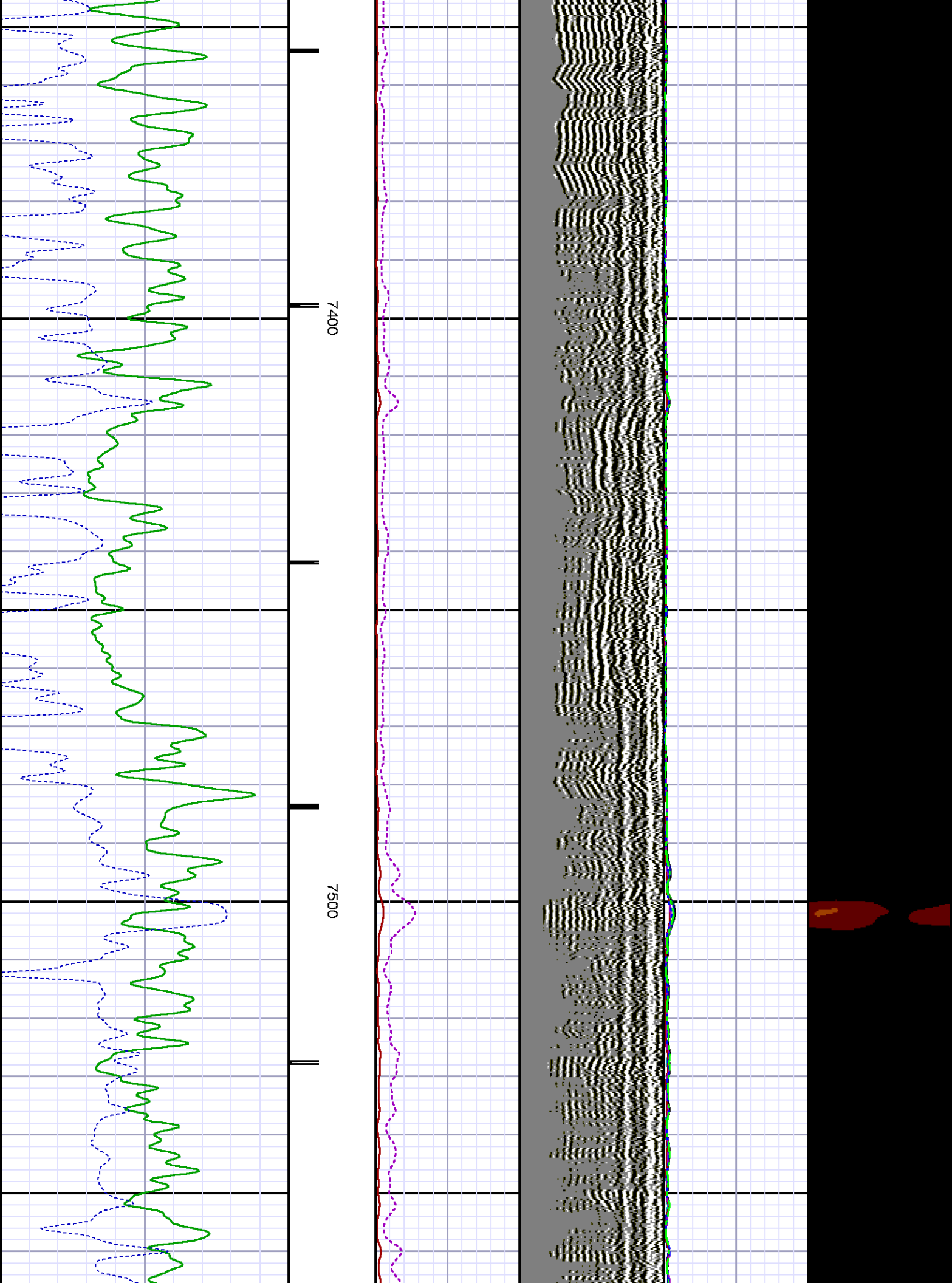


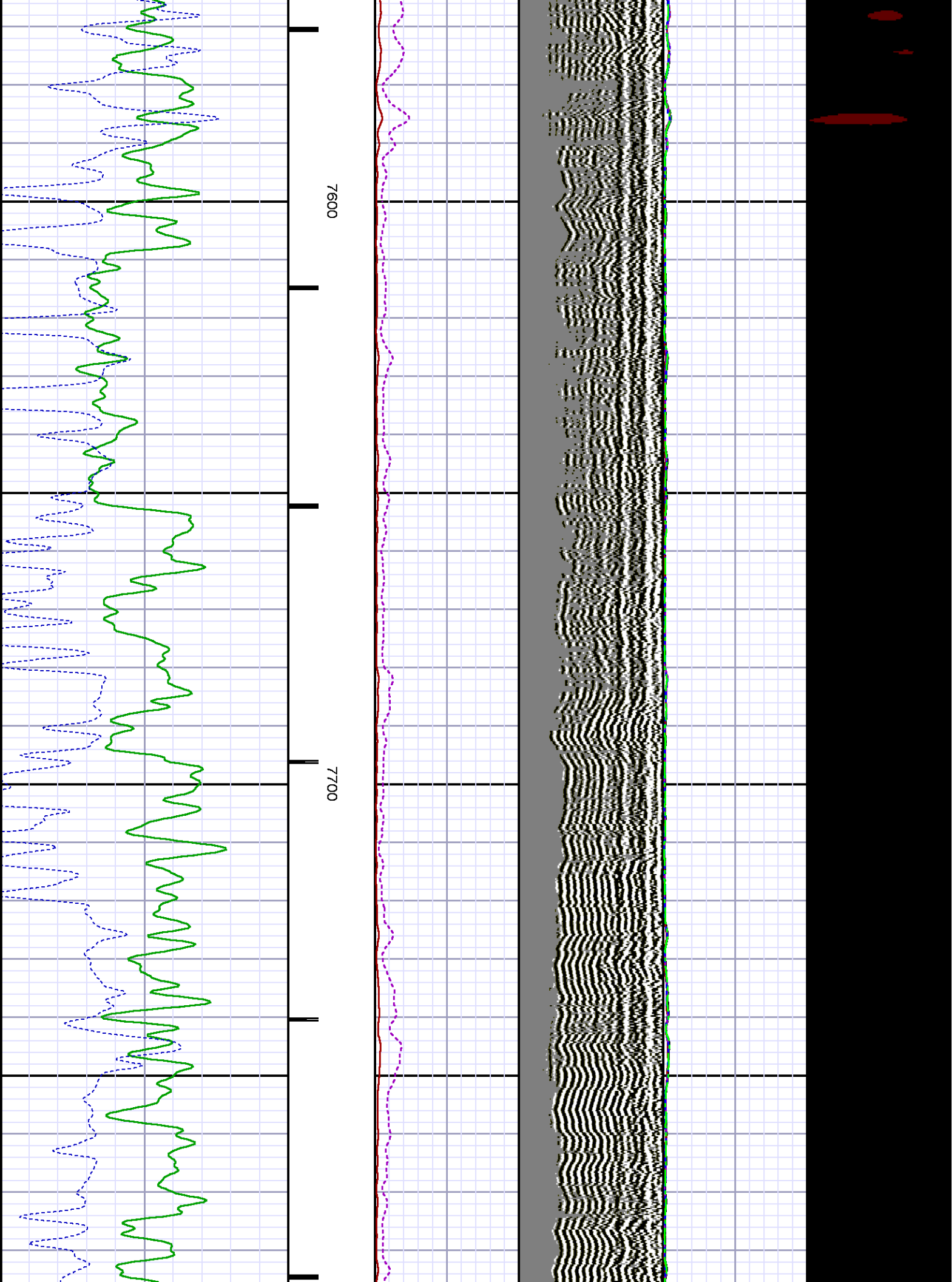


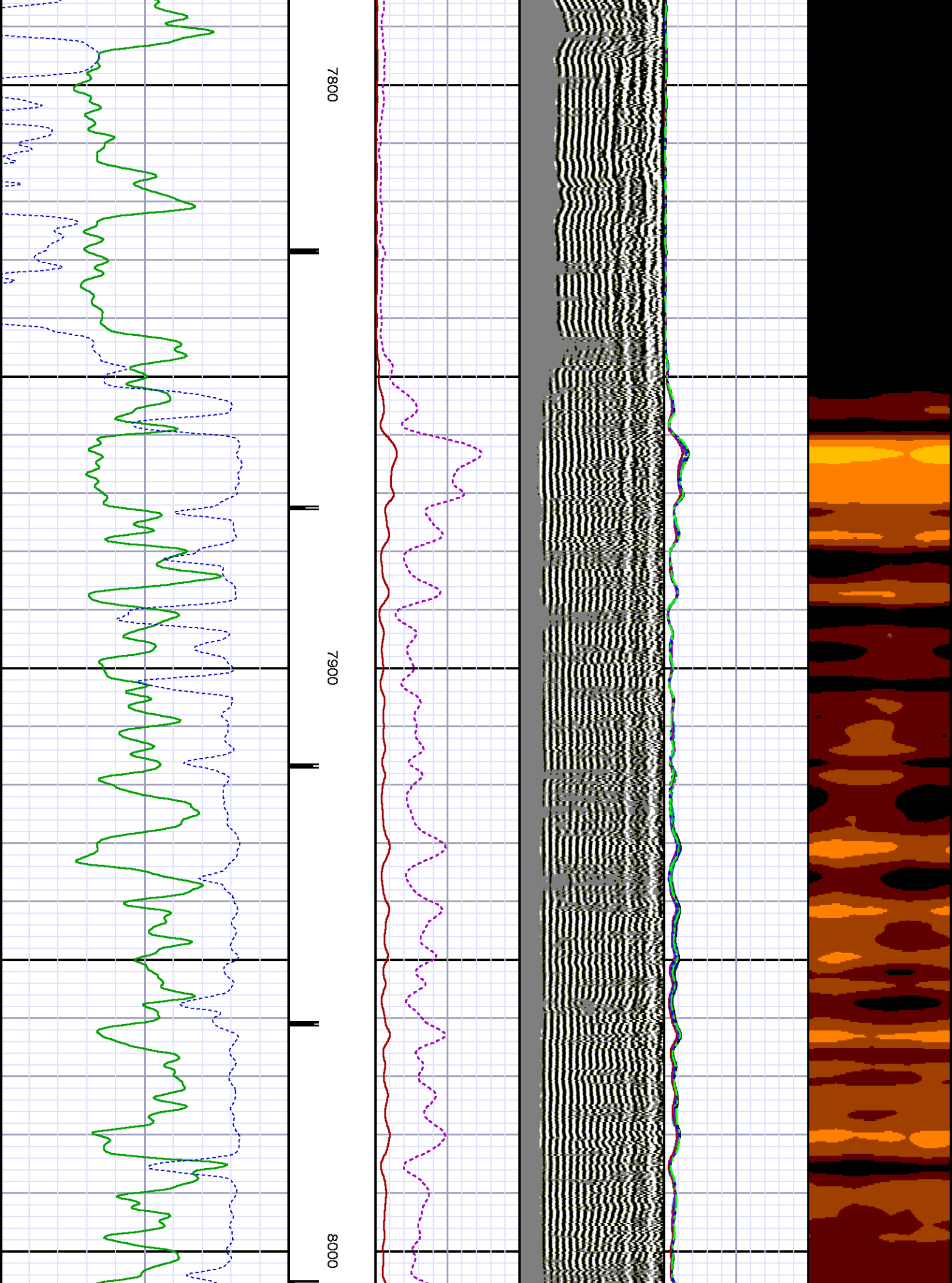


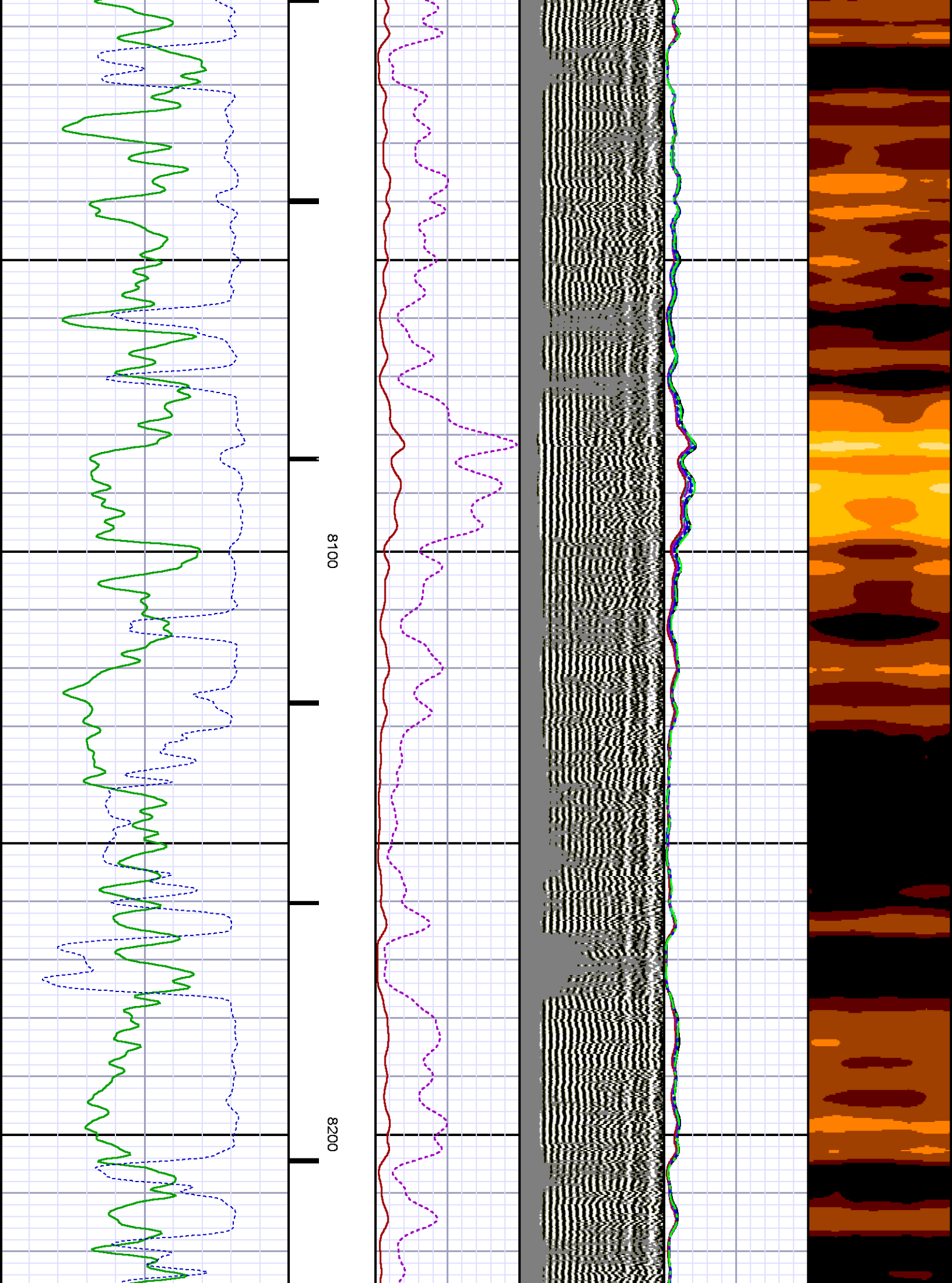


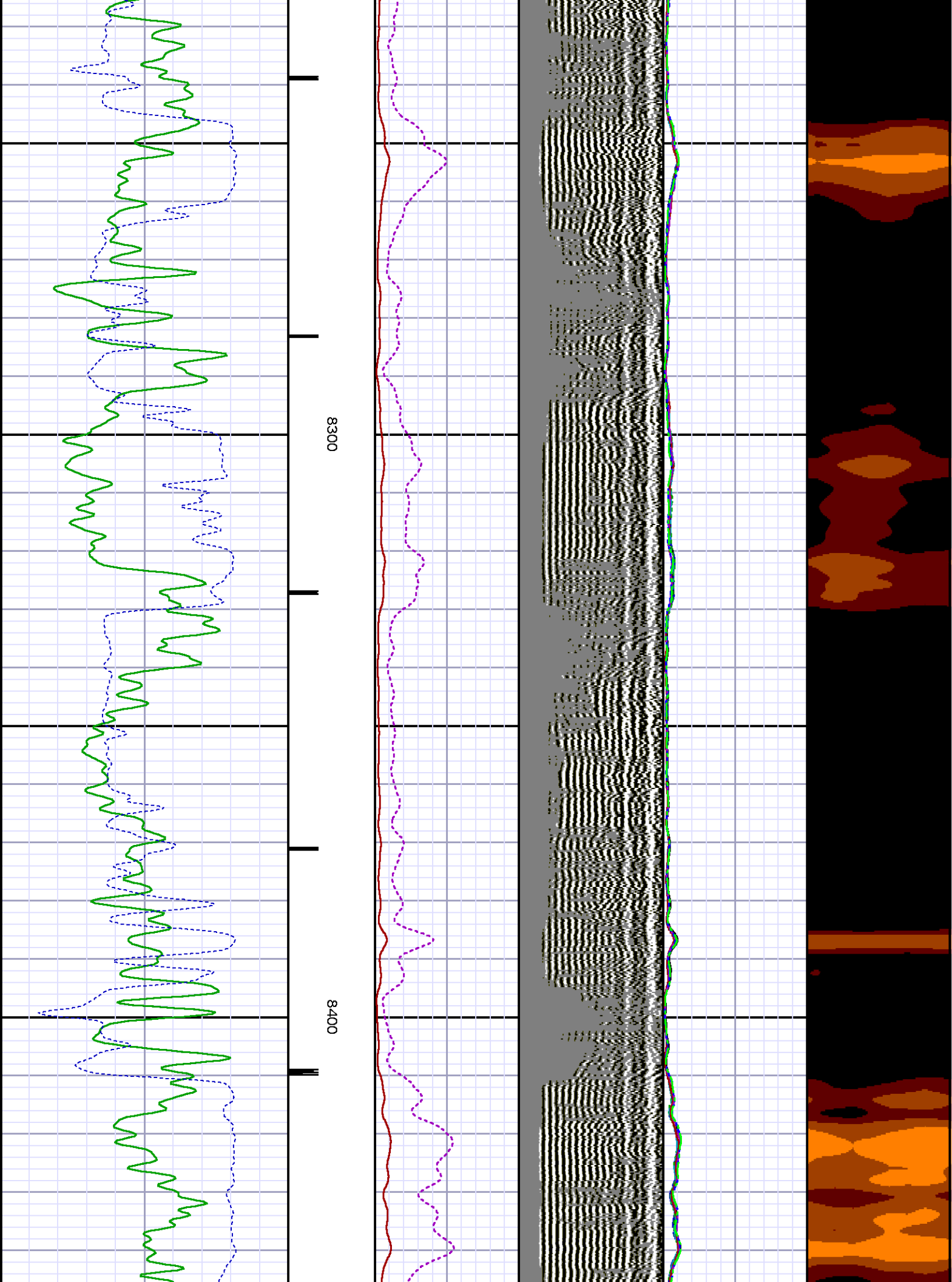


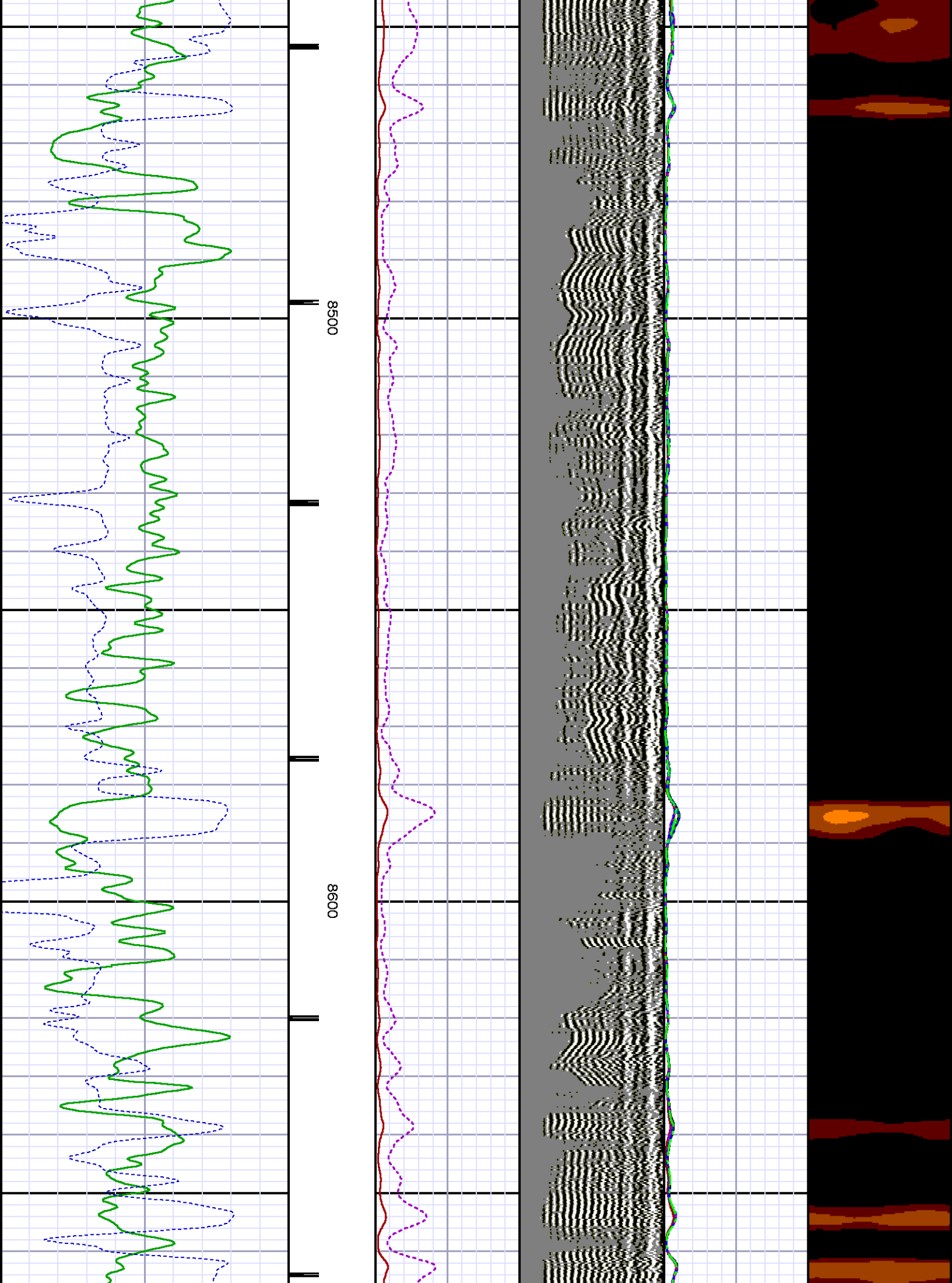


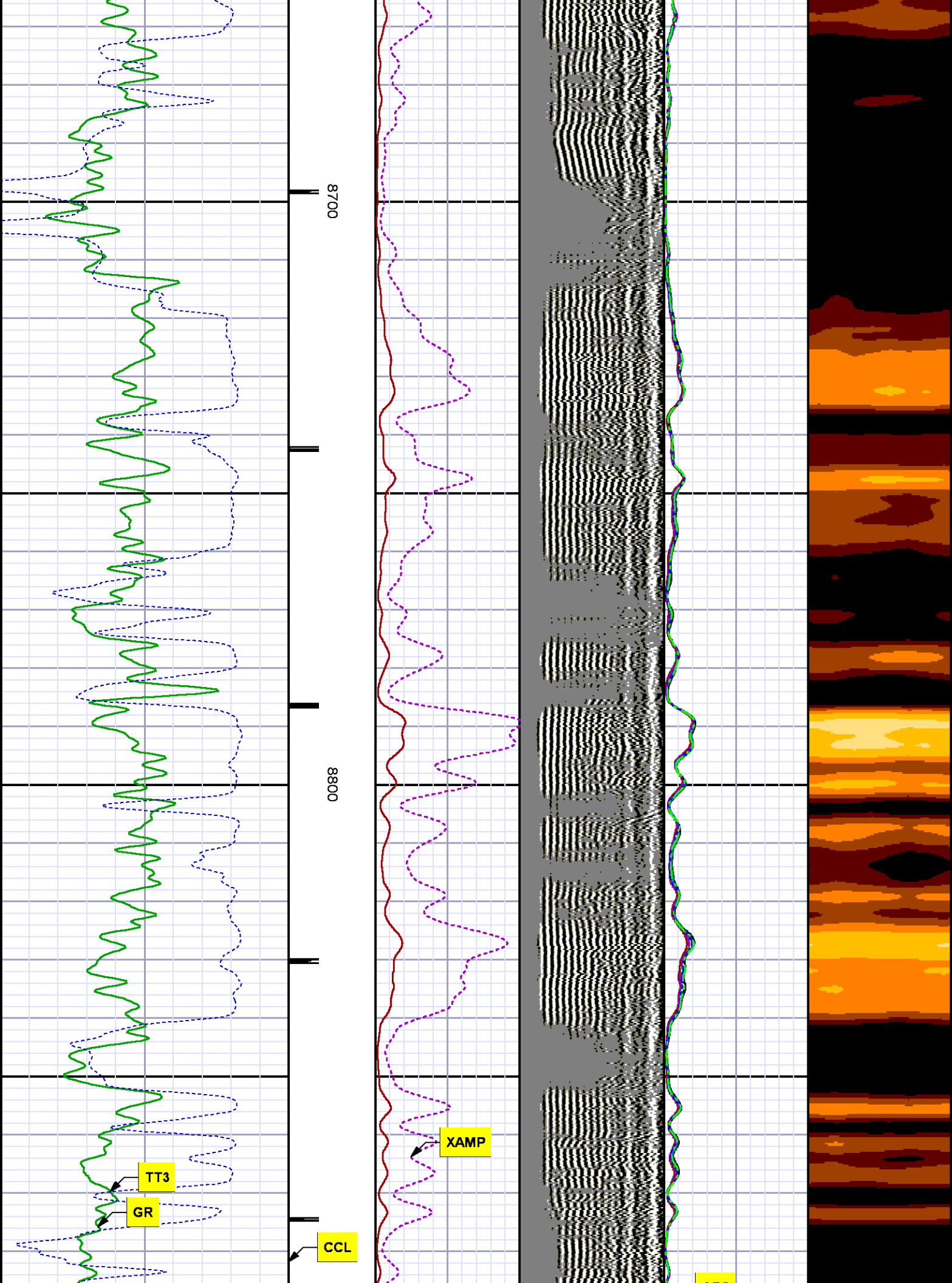


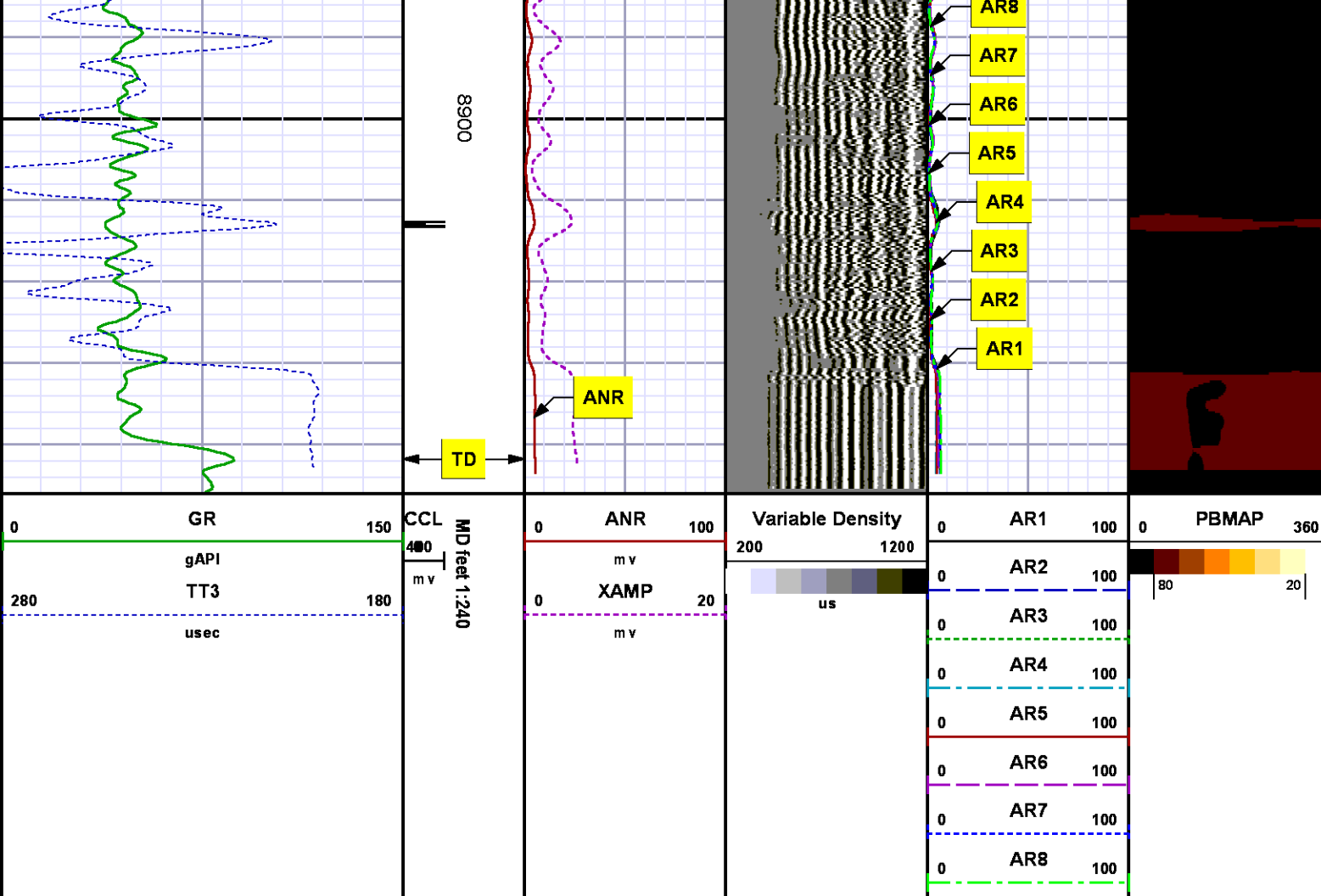










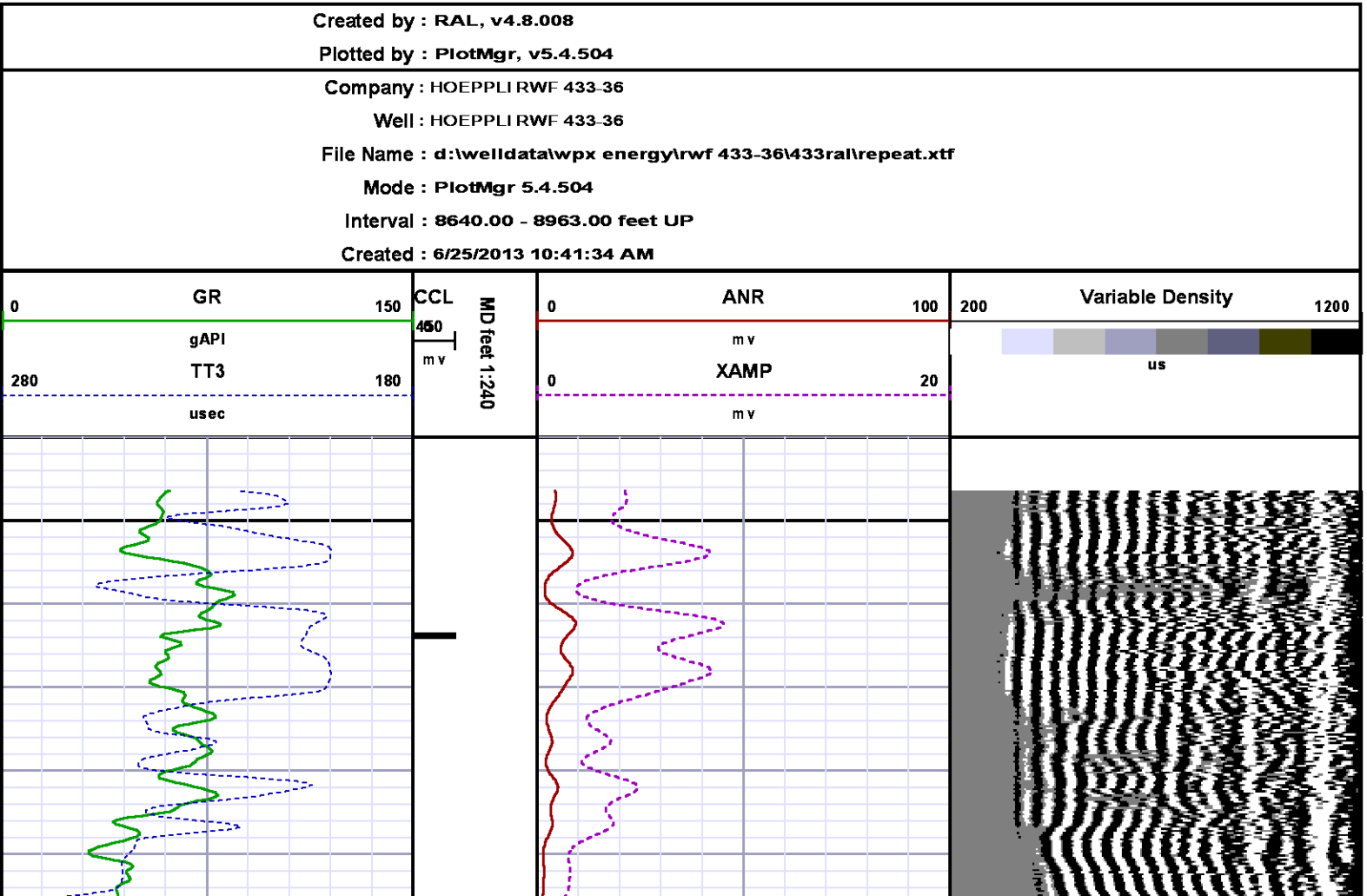


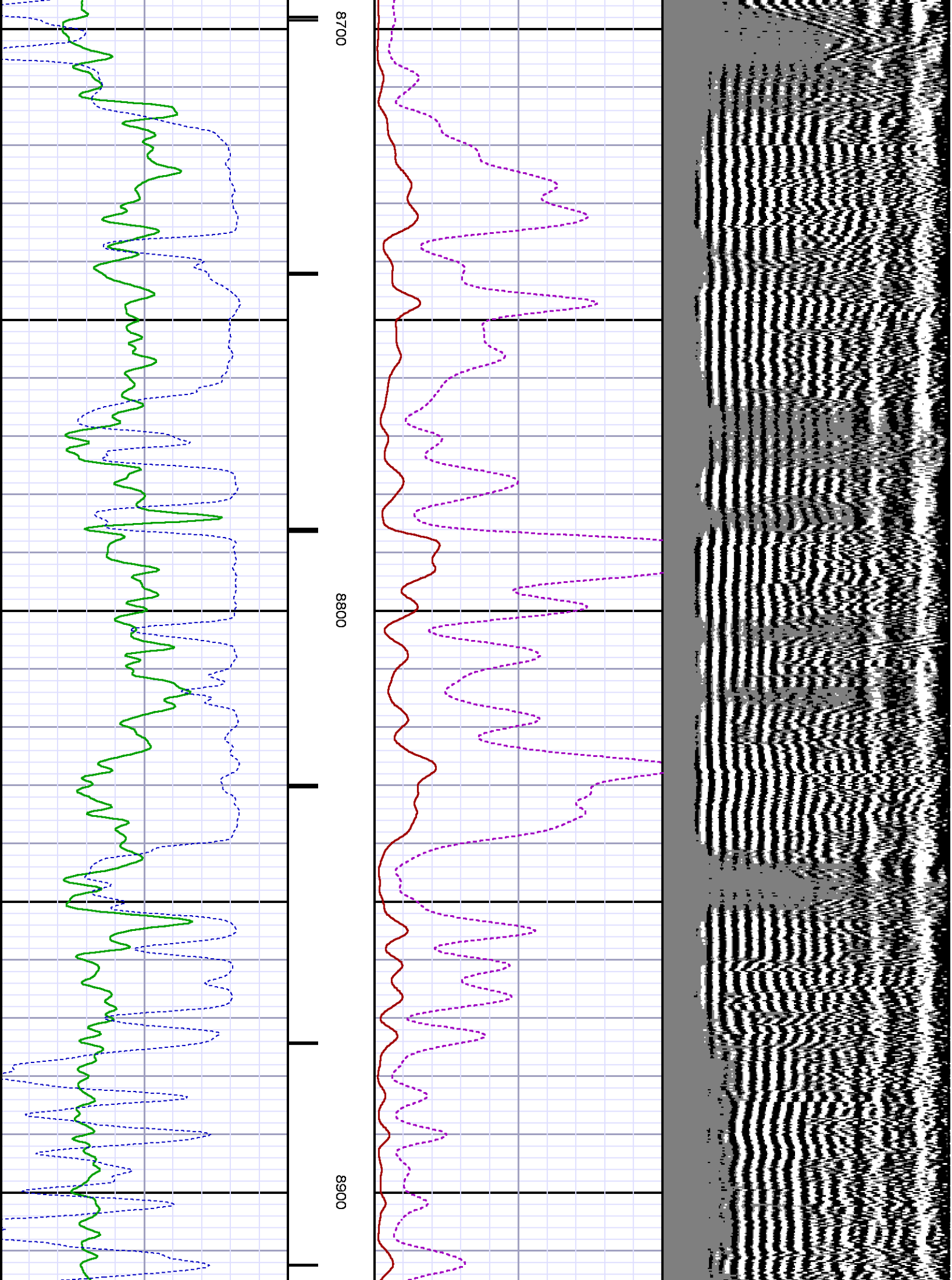
*REPEAT SECTION
0 PSI*

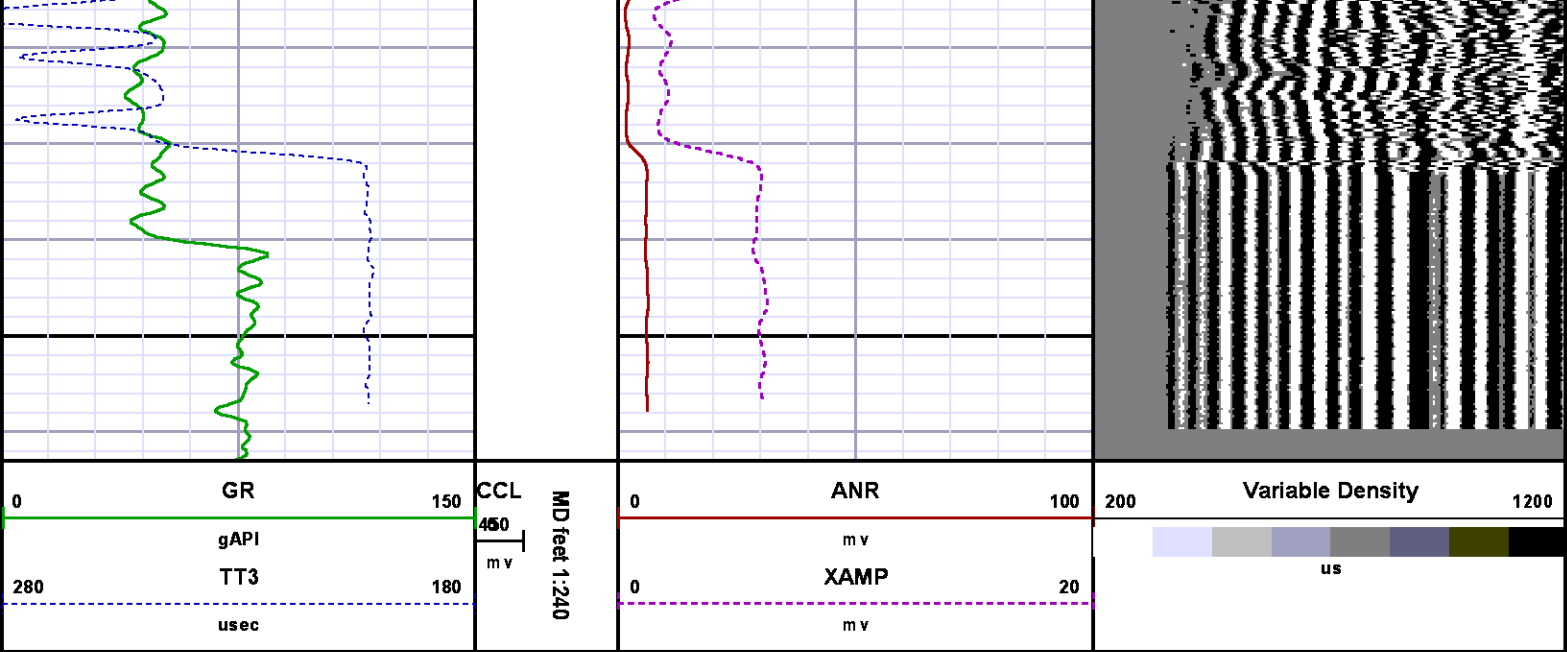
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	305.000	usec	8639.780	8963.000
RAL	Amp Gate Start Near	195.000	usec	8639.780	8963.000
RAL	Amp Gate Start Radial	195.000	usec	8639.780	8963.000
RAL	Amp Gate Width Far	25.000	usec	8639.780	8963.000
RAL	Amp Gate Width Near	25.000	usec	8639.780	8963.000
RAL	Amp Gate Width Radial	25.000	usec	8639.780	8963.000
RAL	casing od	4.500	inches	8639.780	8963.000
RAL	casing wt	11.600	lbm/ft	8639.780	8963.000

RAL	FB Start Far	291.900	u sec	8639.780	8963.000
RAL	FB Start Near	180.000	u sec	8639.780	8963.000
RAL	FB Start Radial	180.000	u sec	8639.780	8963.000
RAL	FB Thresh Far	10.000	m v	8639.780	8963.000
RAL	FB Thresh Near	4.000	m v	8639.780	8963.000
RAL	FB Thresh Radial	4.000	m v	8639.780	8963.000
RAL	Fluid Travel Time	200.000	u sec/ft	8639.780	8962.937

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







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\106JU25_shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Jun 25 09:59:04 2013 TOOL SERIES: 1426XA ASSET: 106 SEQ: JU25

Tool Delay [usec] -62.00 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	217	216	30	166	25	-0.612	100.00	0.11
3 Ft. Receiver	217	216	30	160	25	-0.136	100.00	0.11
5 Ft. Receiver	325	323	30	222	25	0.524	150.00	0.13
Radial #1	217	216	30	149	25	0.858	100.00	0.11
Radial #2	217	216	30	149	25	-0.304	100.00	0.11
Radial #3	217	216	30	149	25	-0.368	100.00	0.11
Radial #4	217	216	30	149	25	0.612	100.00	0.11
Radial #5	217	216	30	149	25	-0.878	100.00	0.11
Radial #6	217	216	30	149	25	0.211	100.00	0.11
Radial #7	215	216	30	149	25	0.135	100.00	0.11
Radial #8	217	216	30	149	25	-0.699	100.00	0.11

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\106JU25_fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Jun 25 10:01:34 2013 TOOL SERIES: 1426XA ASSET: 106 SEQ: JU25

Tool Delay [usec] -62.00 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	0.076	0.000	0.99	100.000
3 Ft. Receiver	195	25	-1.177			
5 Ft. Receiver	305	25	-2.078			
Radial #1	195	25	-1.934			
Radial #2	195	25	-1.512			
Radial #3	195	25	-1.409			
Radial #4	195	25	-1.359			
Radial #5	195	25	-1.137			
Radial #6	195	25	-1.433			
Radial #7	195	25	-0.881			
Radial #8	195	25	-1.194			

TOOL DIAGRAM

OTA SHORT CABLE HEAD

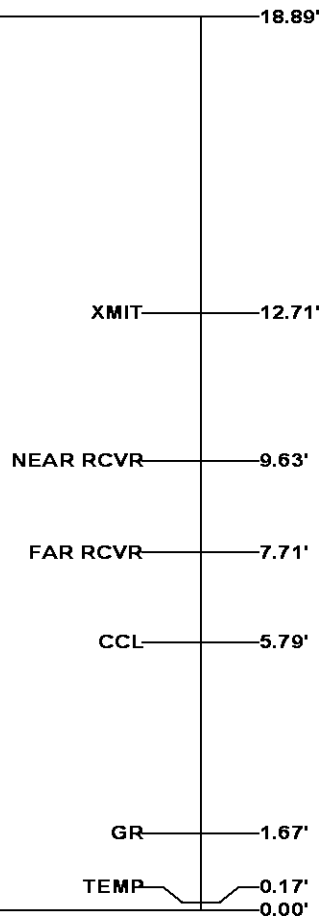
PROBE 2 3/4 DUAL RECEIVER RADII

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

HOEPPLI RWF 433-36

Field

RULISON

County

GARFIELD

State

COLORADO

Location

SHL: 2601' FNL, 2596' FEL

BHL: 1717' FSL, 1667' FEL (NWSE)

Elevations

KB 6554 ft

DF

GL 6528 ft

File No:

CH073689

API No:

05045215510000

36 6S 94W

RWF 33-36 EAST PAD

NABORS 576

SEC

36

TWP

6S

RGE

94W

Baker Atlas

CASE