



# RADIAL ANALYSIS BOND LOG

Baker Atlas

File No:	Company			WILLIAMS PRODUCTION COMPANY		
API No:	Well			GM 34-32		
05045175230000	Field			GRAND VALLEY		
	County			GARFIELD		
				State		
				COLORADO		
Location				Other Services		
32 6S 96W GM 34S-32 PAD HWP 270				SHL: 2621' FUL & 1132' FEL BHL: 987' FSL & 1913' FEL SEC 32 TWP 6S RGE 96W		
Permanent Datum				Elevations		
Log Measured From				KB 5972 ft		
Drill Measured From				DF 5971 ft		
				GL 5948 ft		
GL				Elevation		
KB				24 ft		
KELLY RUSHING				Above P. D.		

Date	8 SEP 2010	
Run	ONE	
Service Order	575249	
Depth Driller	7196 ft	
Depth Logger	7161 ft	
Bottom Logged Interval	7157 ft	
Top Logged Interval	20 ft	
Time Started	10:00	
Time Finished	14:00	
Operator Rig Time	4 hrs	
Type of Fluid in Hole	WATER	
Fluid Density	N/A	
Salinity	N/A	
Fluid Level	FULL	
Logged Cement Top	N/A	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	N/A	
Nominal Logging Speed	45 fpm	
Maximum Recorded Temperature	214 degF	
Reference Log	NONE	
Reference Log Date	N/A	
Equipment No.	Location	
4214	U. DISTLER	GM 34-32, COLORADO
Recorded By		
Witnessed By	MR. MIKE SNOW	

- 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	SURFACE	1039 ft
7.875 in	SURFACE	7196 ft

Casing Record				
Size	Weight	Grade	From	To
9.825 in			SURFACE	1039 ft
4.5 in	11.8 lbm/ft	P-110	SURFACE	7196 ft

Remarks
THIS IS THE FIRST LOG OF THE WELL
WELL WAS LOGGED WITH 0 PSI AT THE WELL HEAD
BHT = 214°F
SHORT JOINT AT 3543' TO 3564'

Equipment Data

Run	Trip	Tool	Series Number	Serial Number	Position
1	1	VDL	1426XA	10218498	CENTRALIZED
1	1	GR/CCL/NEU	2459XA	10404544	CENTRALIZED

*MAIN SECTION*  
*PRIMARY PRESENTATION*  
*0 PSI*

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	306.783	usec	28.688	7196.000
RAL	Amp Gate Start Near	200.391	usec	28.688	7196.000
RAL	Amp Gate Start Radial	200.391	usec	28.688	7196.000
RAL	Amp Gate Width Far	30.000	usec	28.688	7196.000
RAL	Amp Gate Width Near	30.000	usec	28.688	7196.000
RAL	Amp Gate Width Radial	30.000	usec	28.688	7196.000
RAL	casing od	4.500	inches	28.688	7196.000
RAL	casing wt	11.600	lbm/ft	28.688	7196.000
RAL	FB Start Far	291.900	usec	28.688	7196.000
RAL	FB Start Near	175.391	usec	28.688	7196.000
RAL	FB Start Radial	175.391	usec	28.688	7196.000
RAL	FB Thresh Far	15.000	mv	28.688	7196.000
RAL	FB Thresh Near	10.000	mv	28.688	7196.000
RAL	FB Thresh Radial	10.000	mv	28.688	7196.000
RAL	Fluid Travel Time	200.000	usec/ft	28.688	7196.531

DEPTH OFFSETS  
(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-16.450	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPRS	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP

1426XA	-15.450	AFAR	SIG	TT5
2459XA	-11.340	OCL		
2459XA	-9.490	GR		
2459XA	-4.090	NEU		

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WILLIAMS PRODUCTION COMPANY

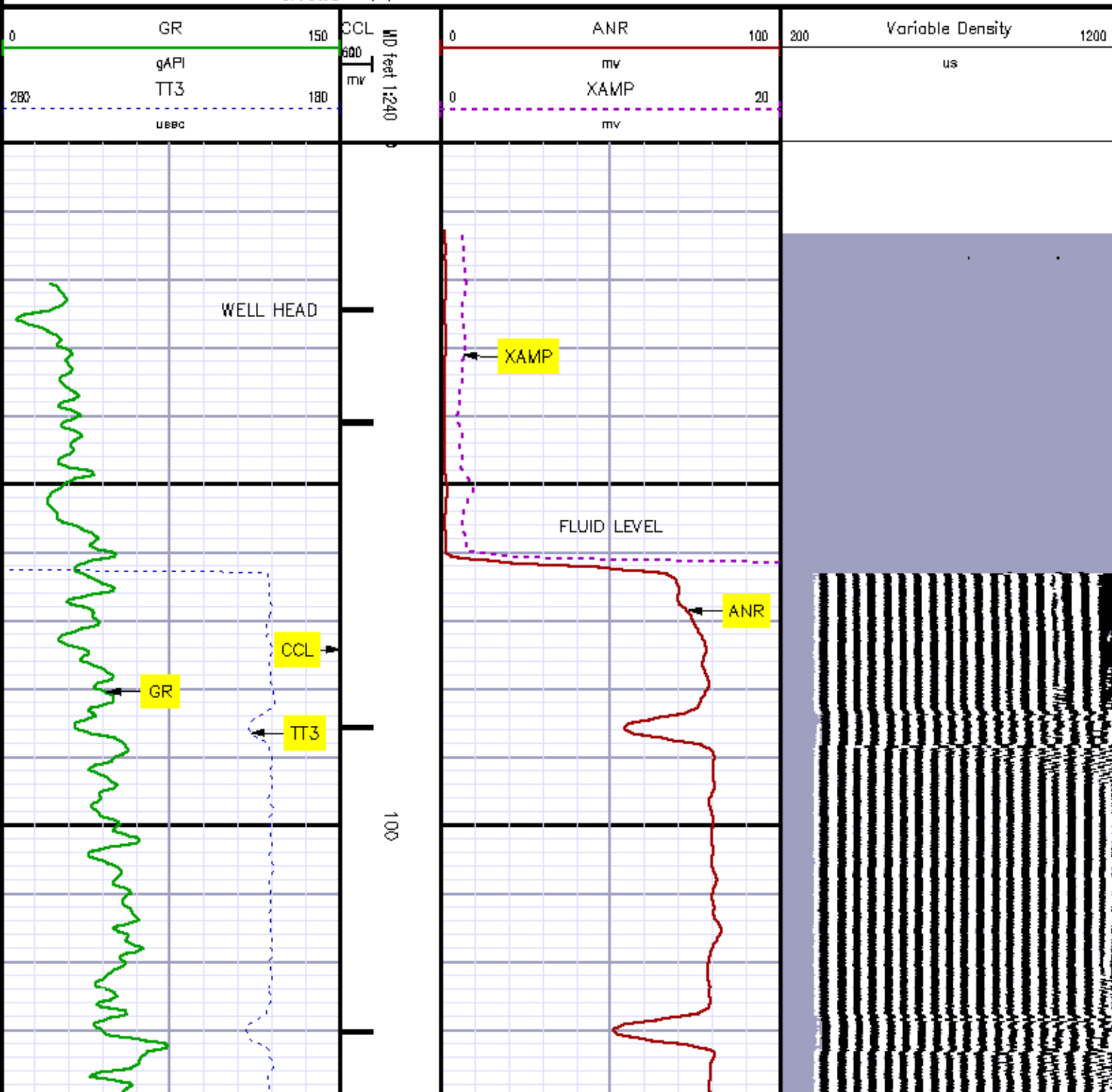
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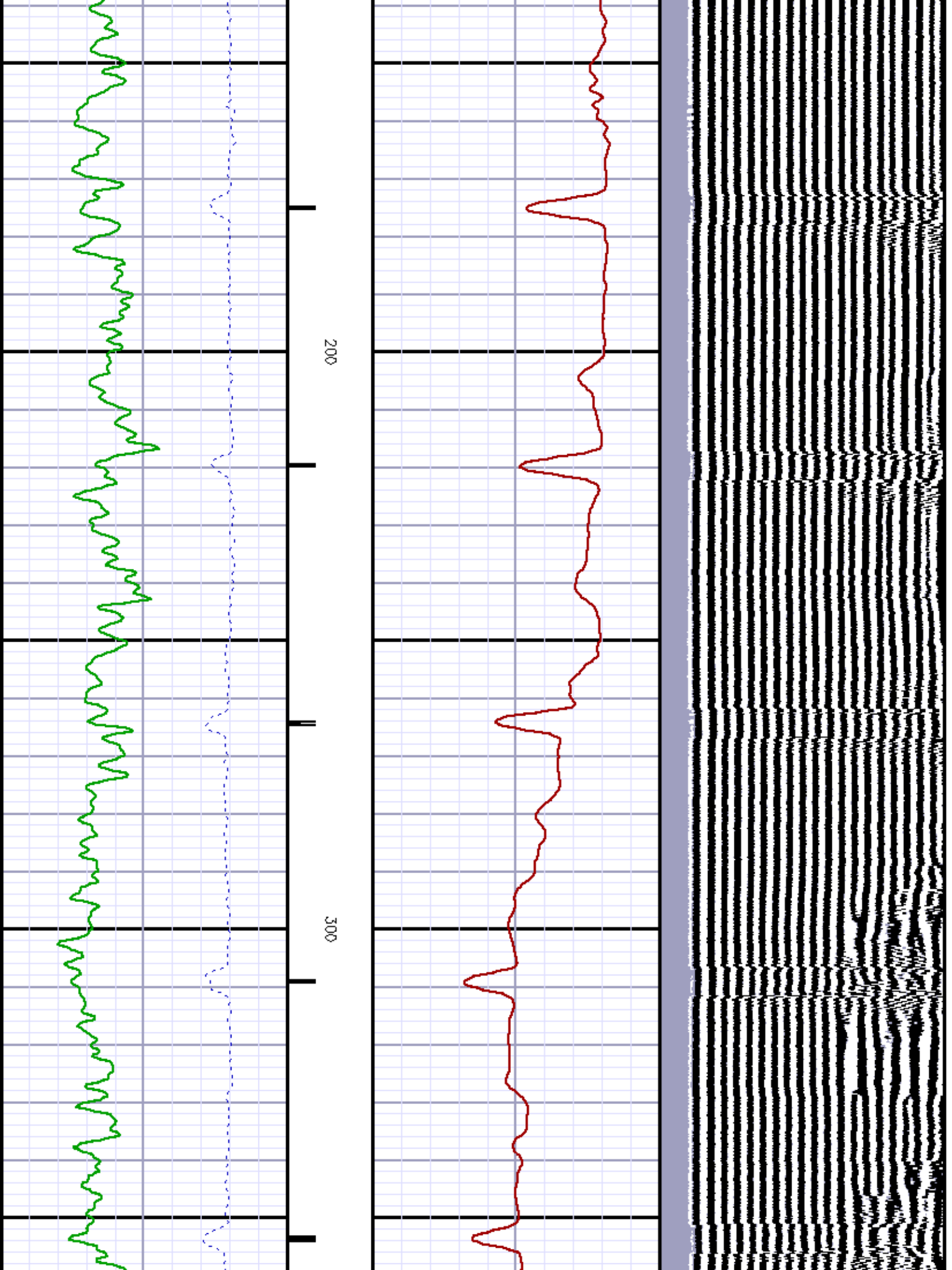
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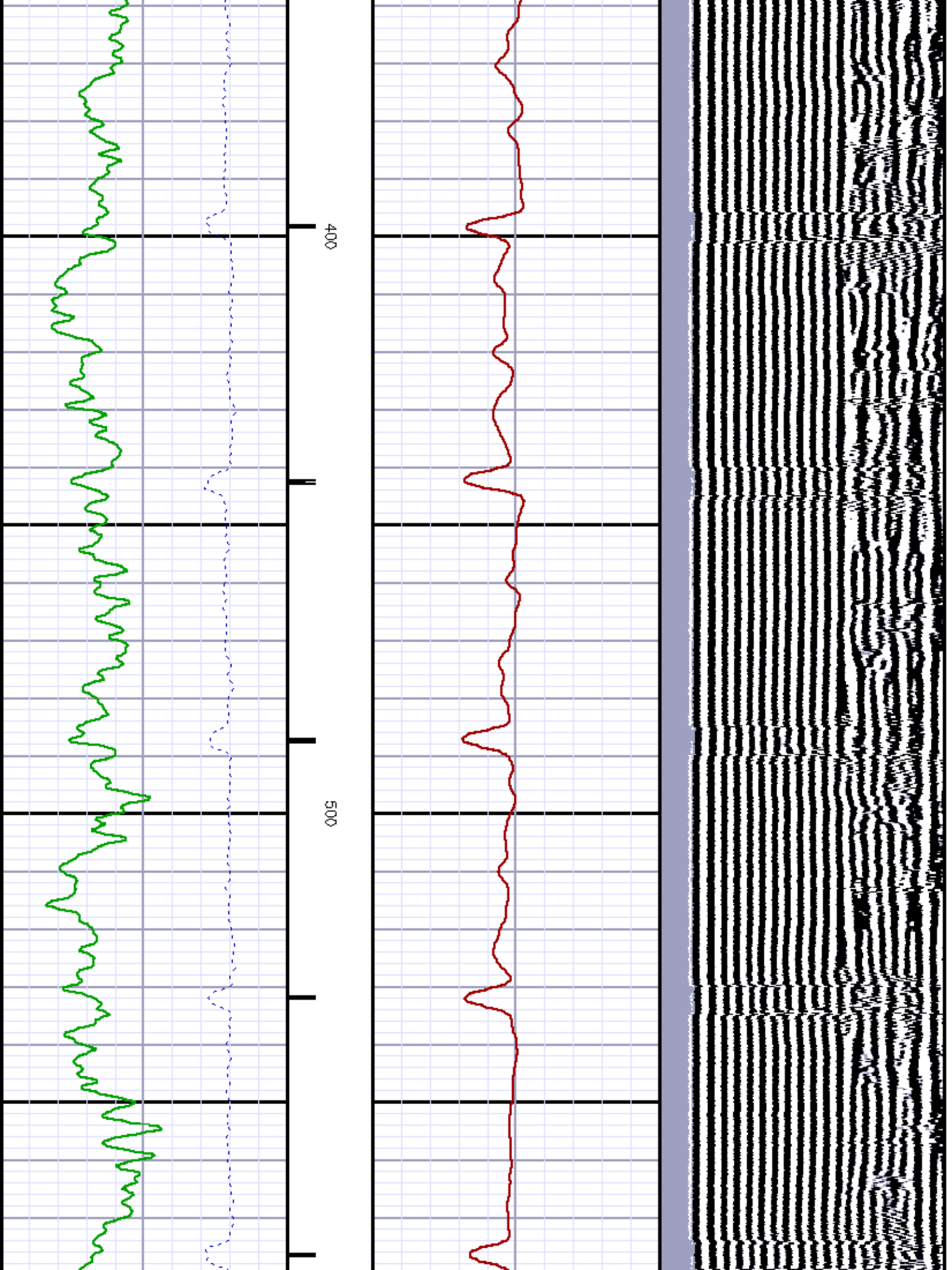
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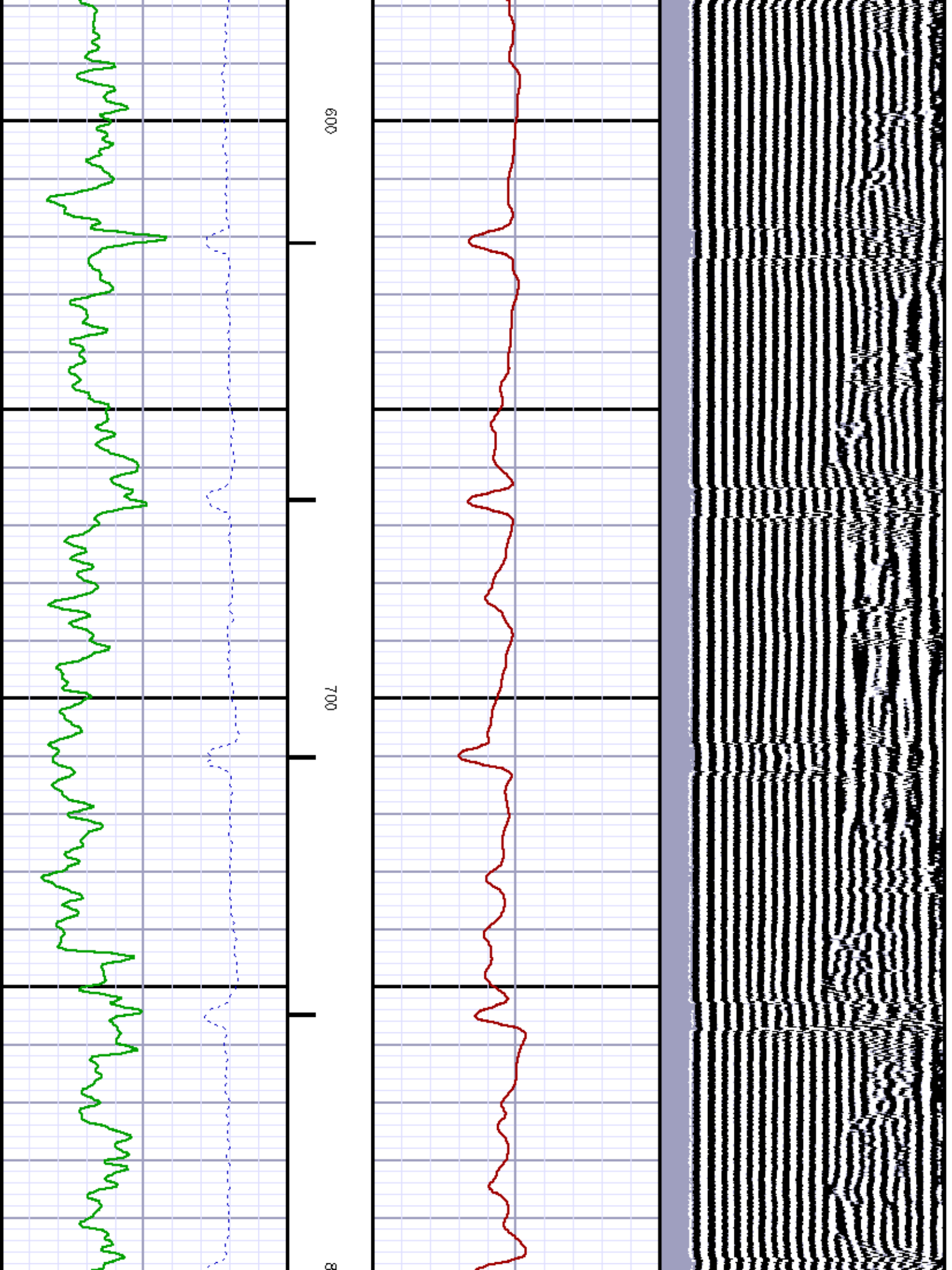
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Created : 9/9/2010 11:54:00 AM

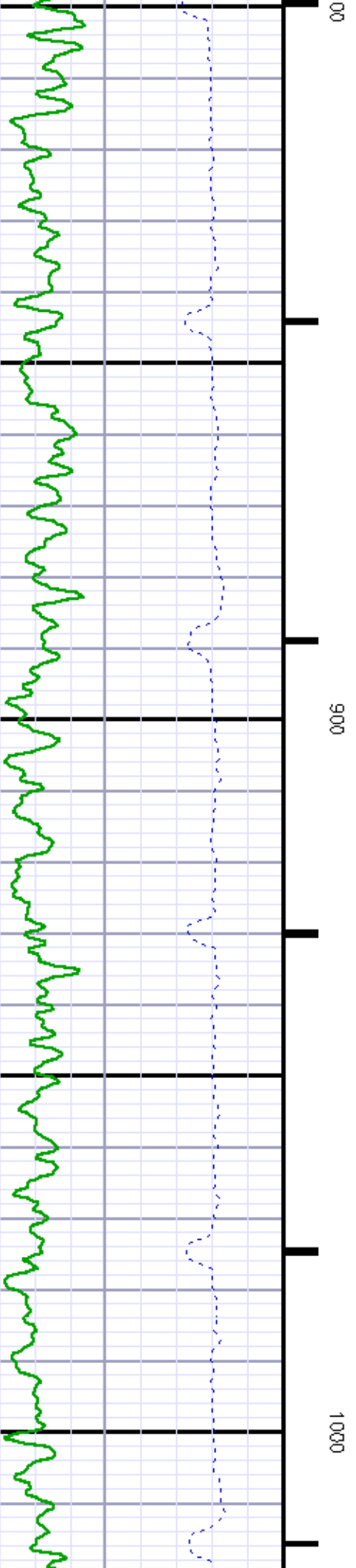
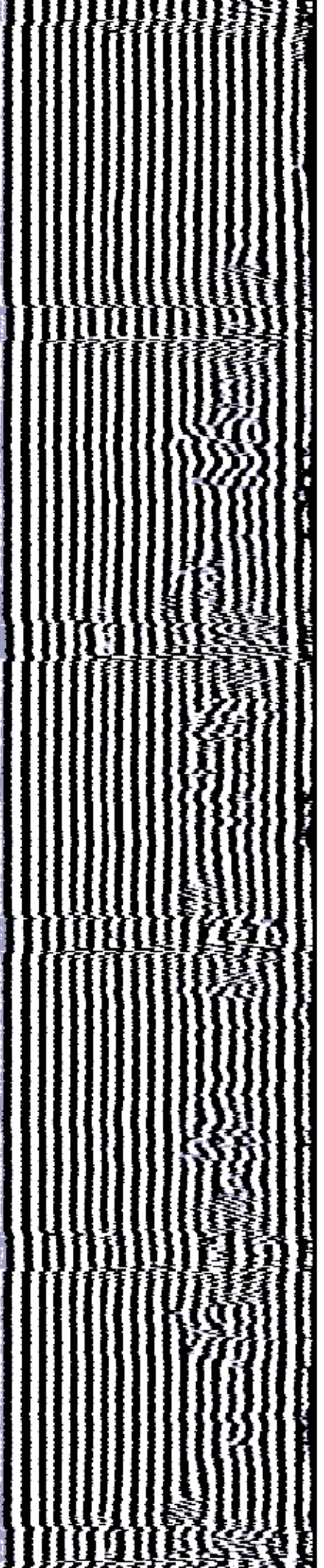


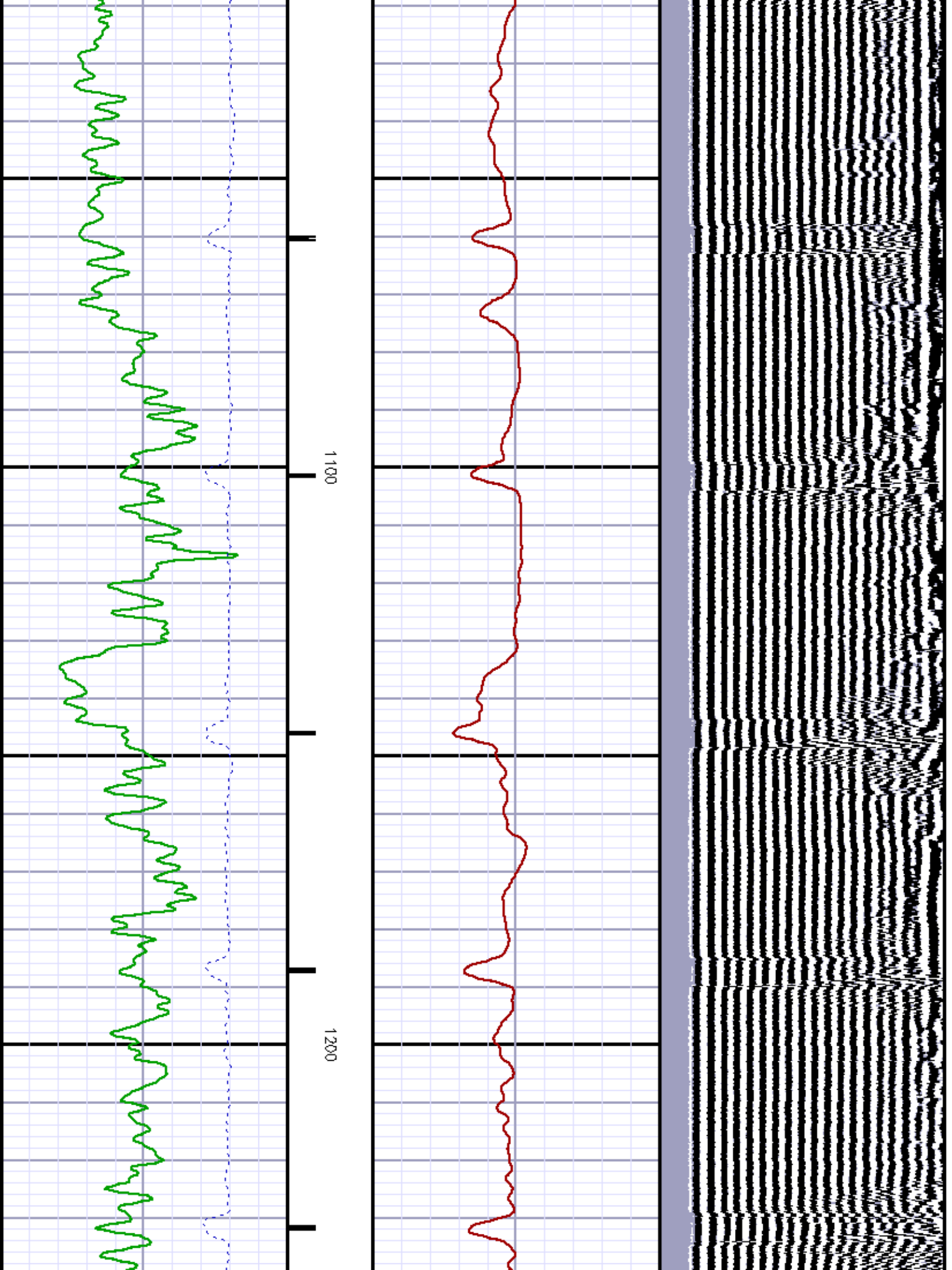




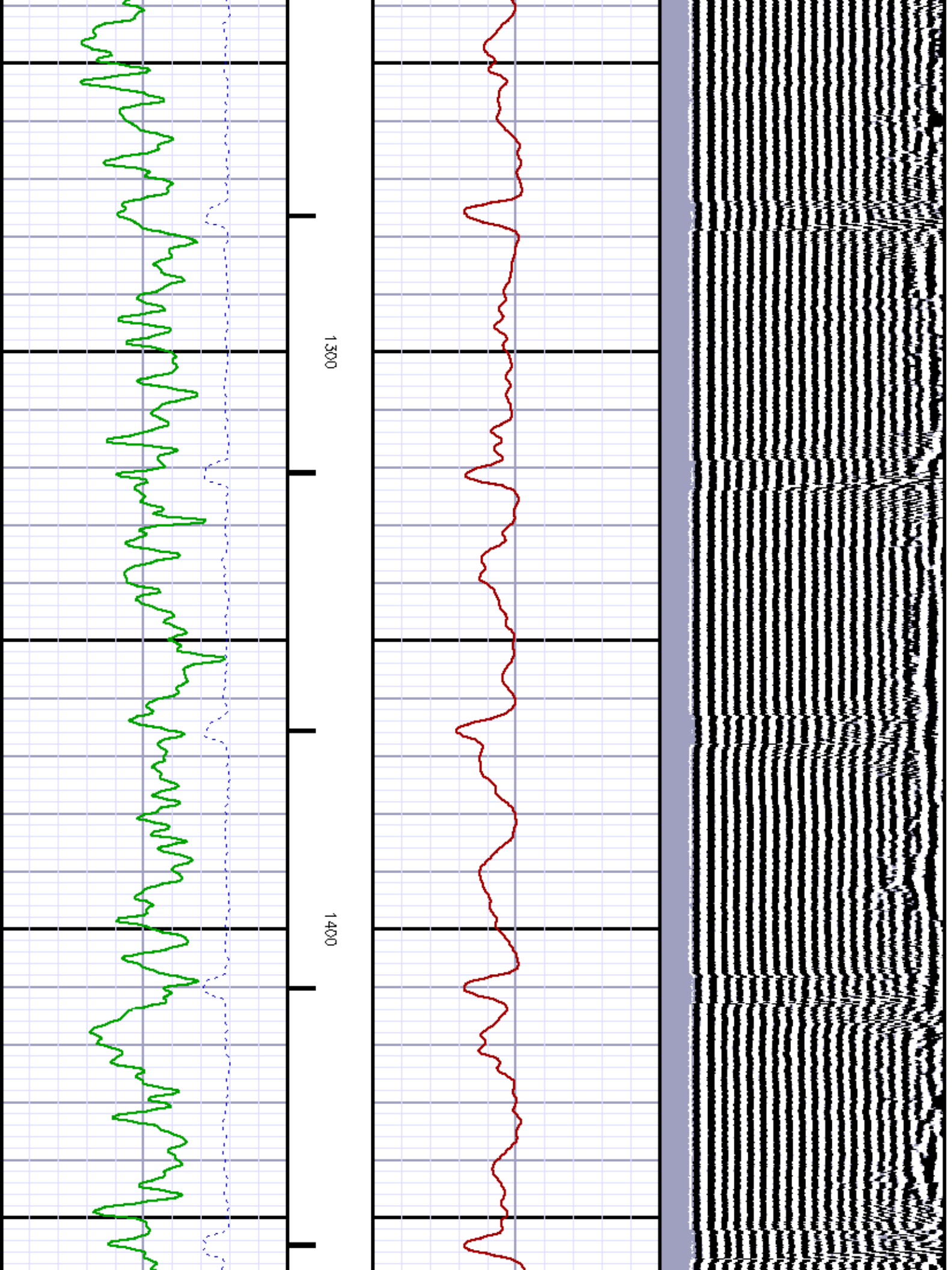


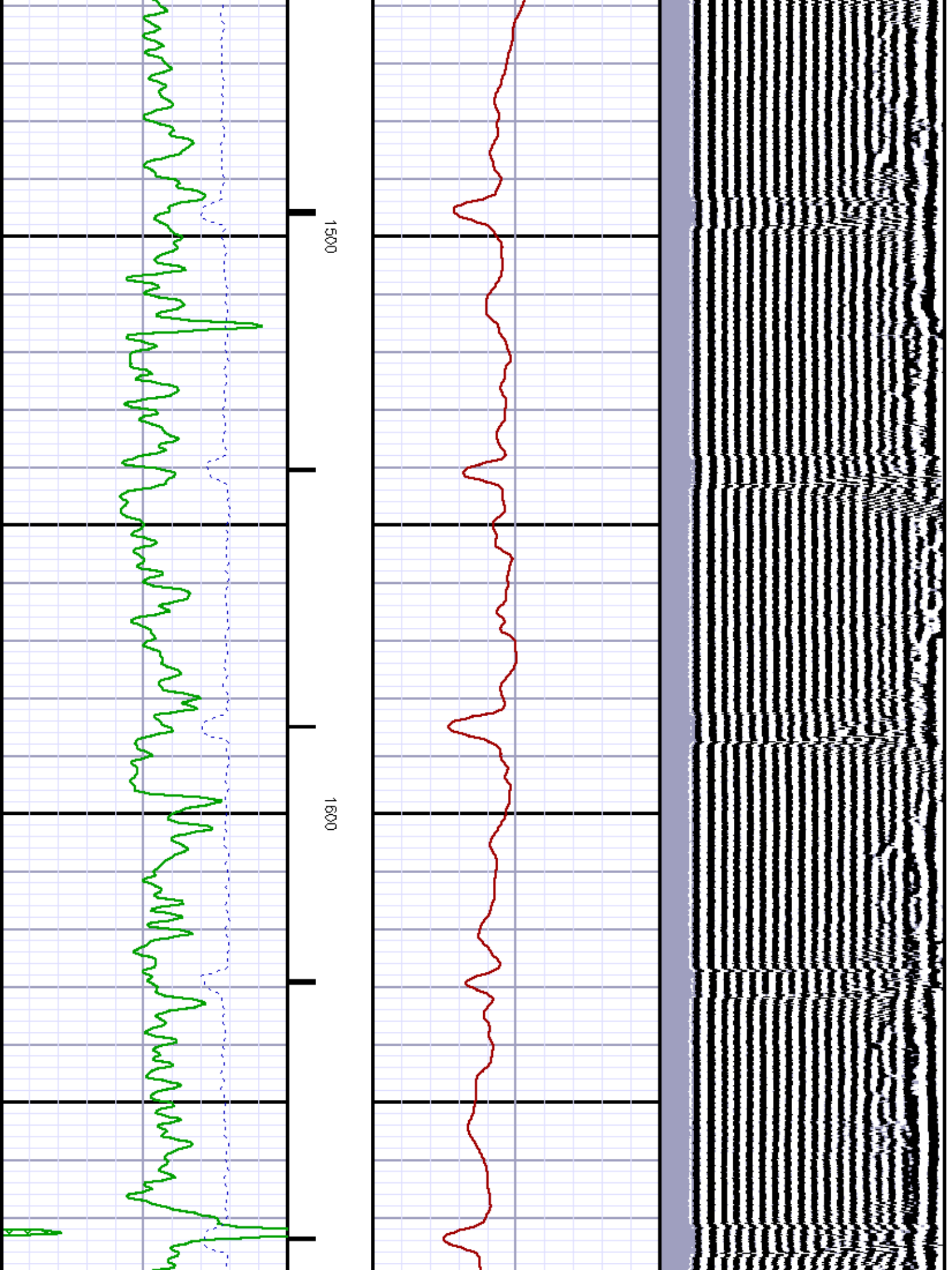


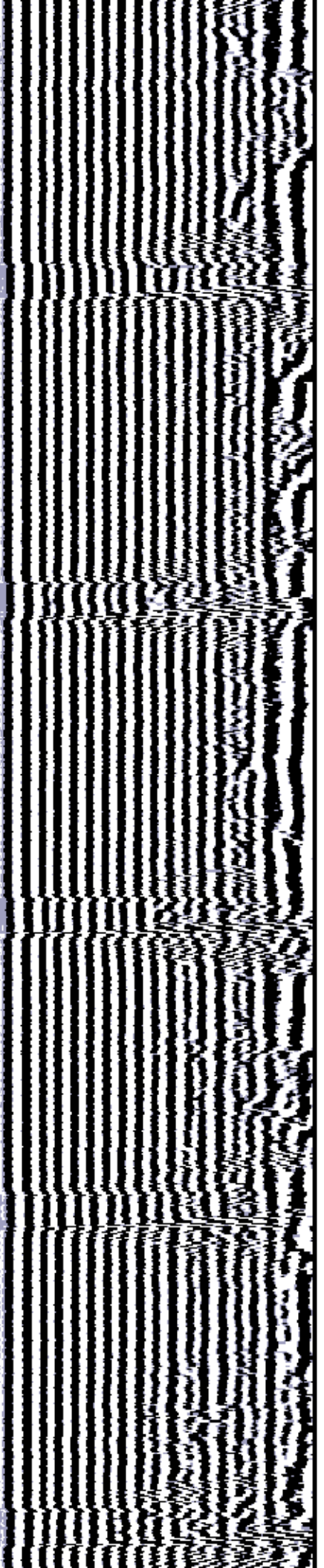








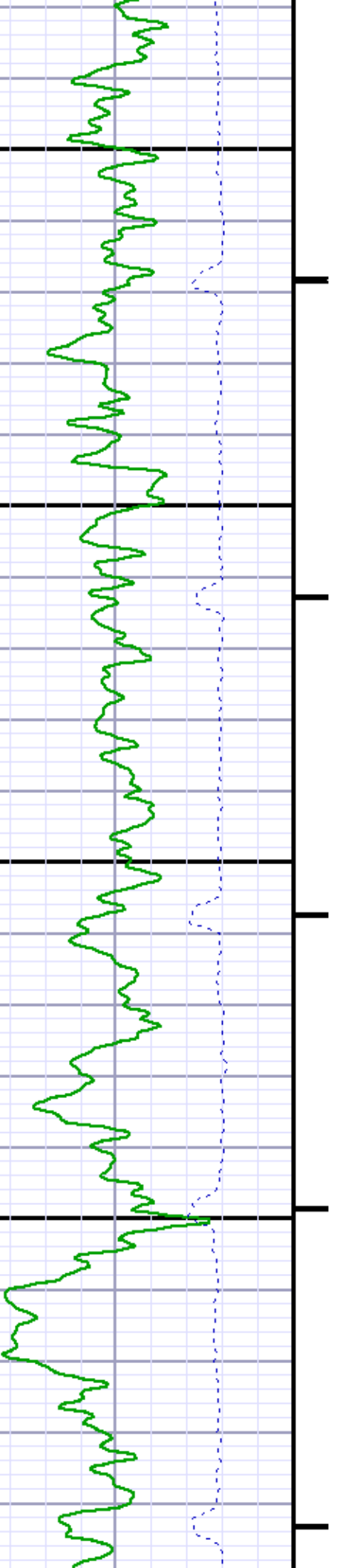


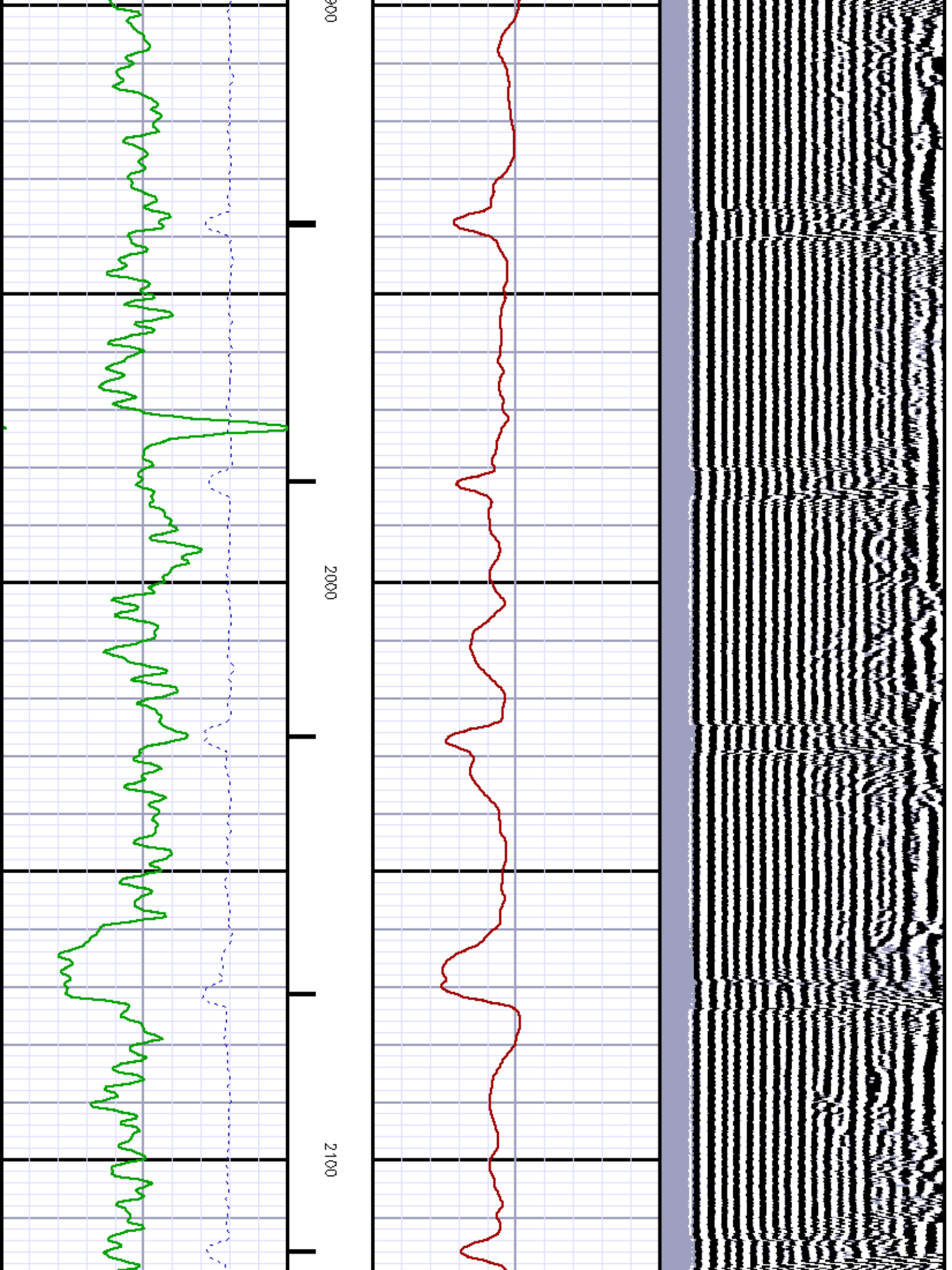


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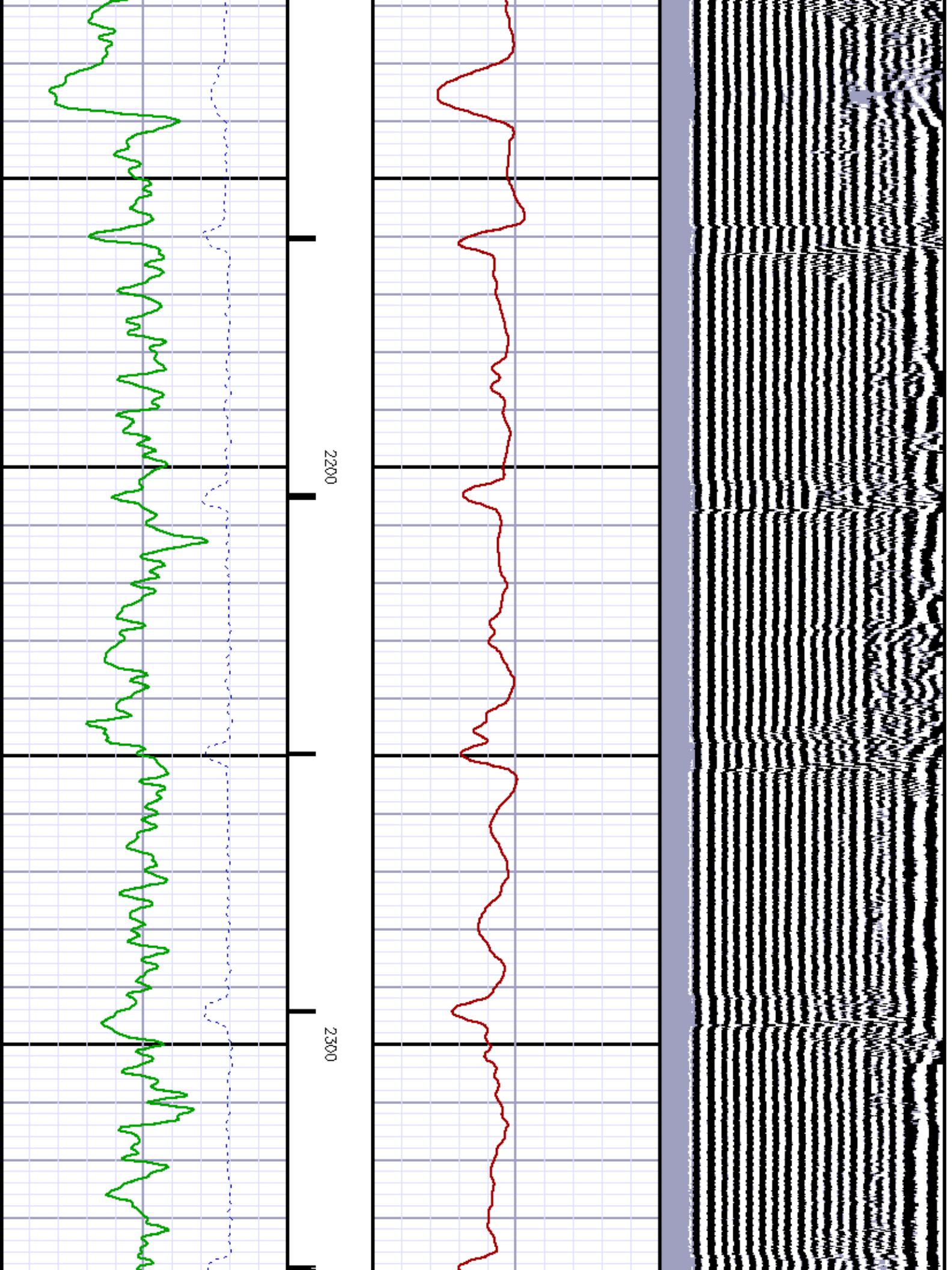
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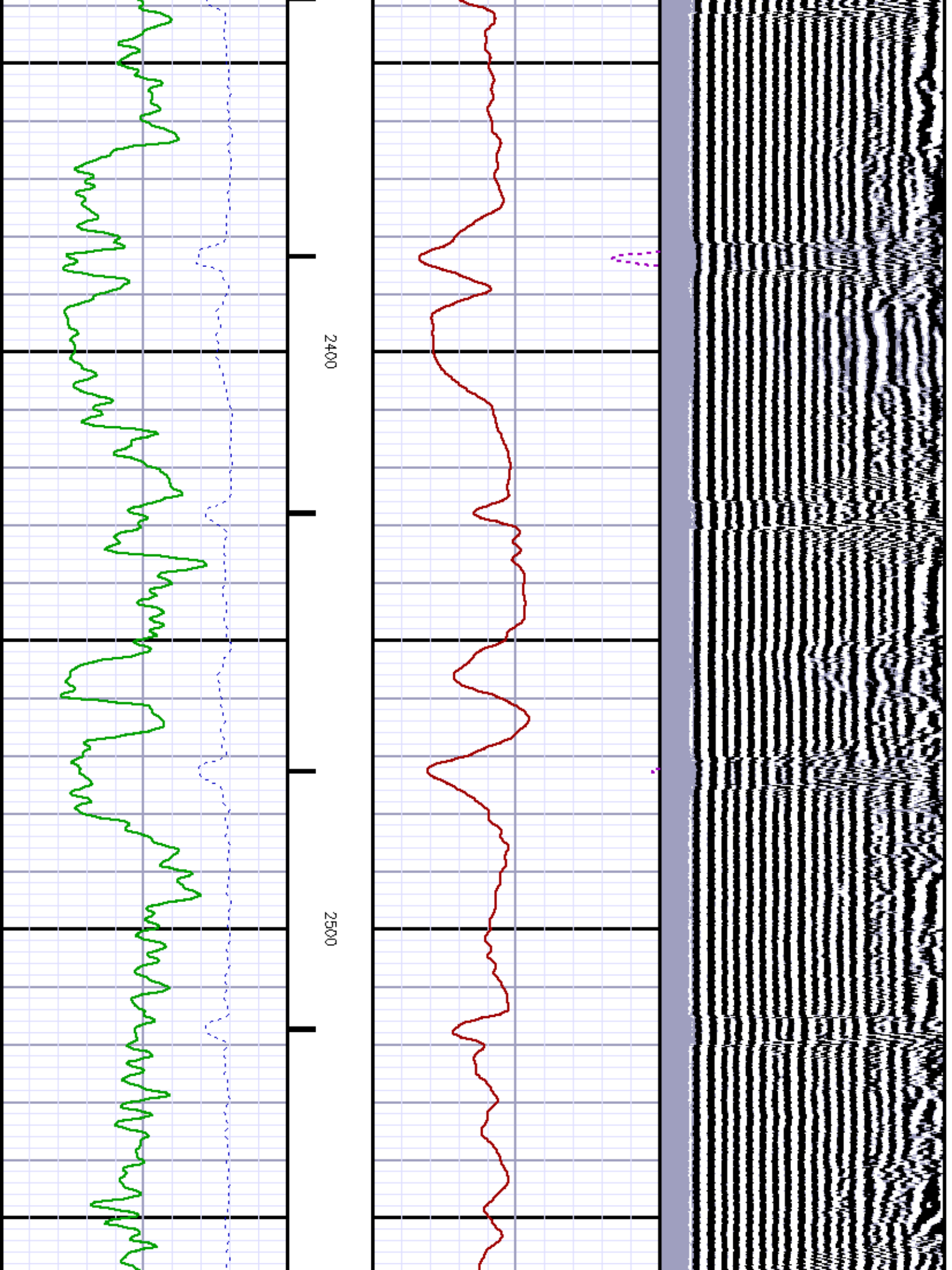


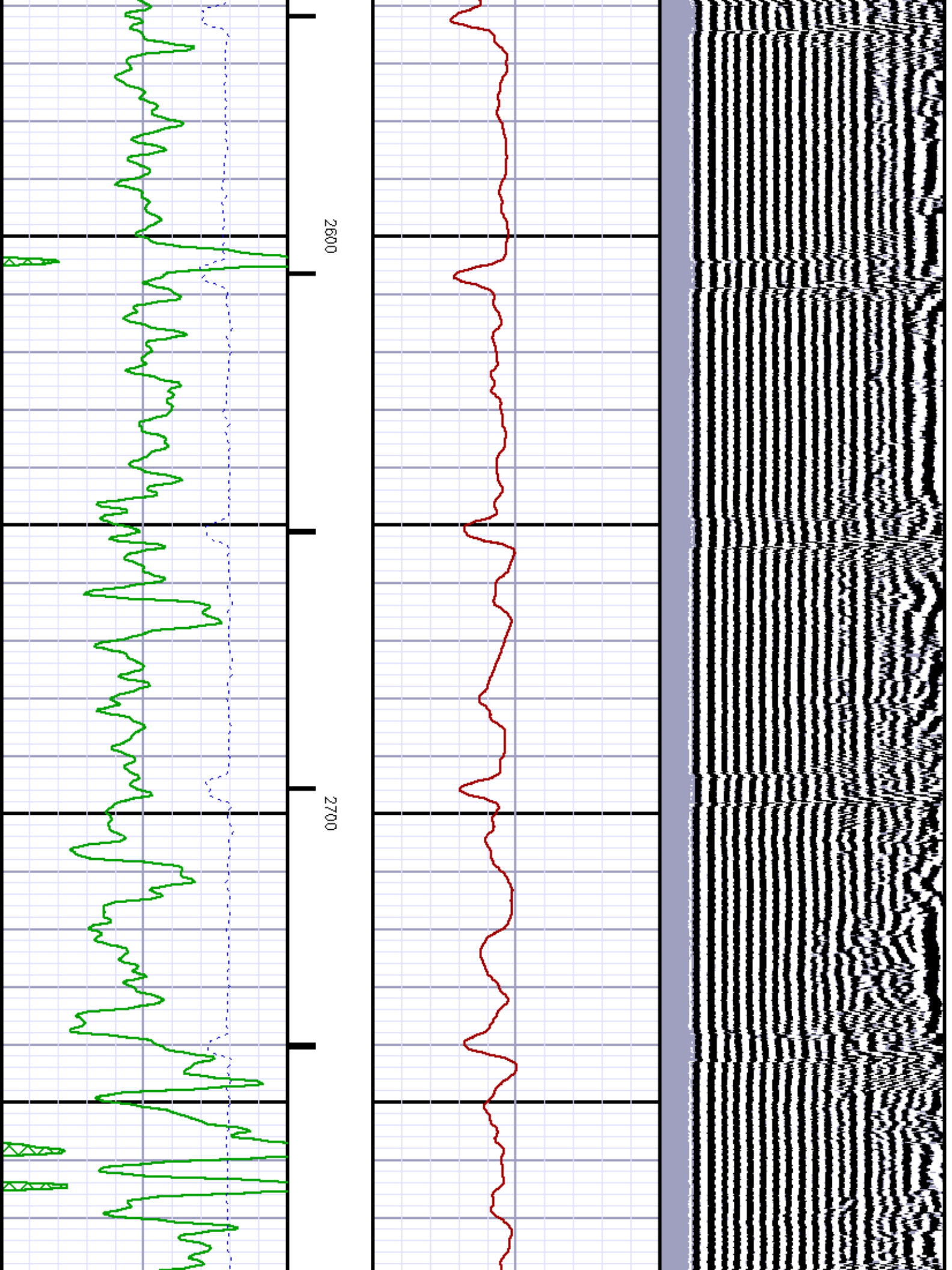


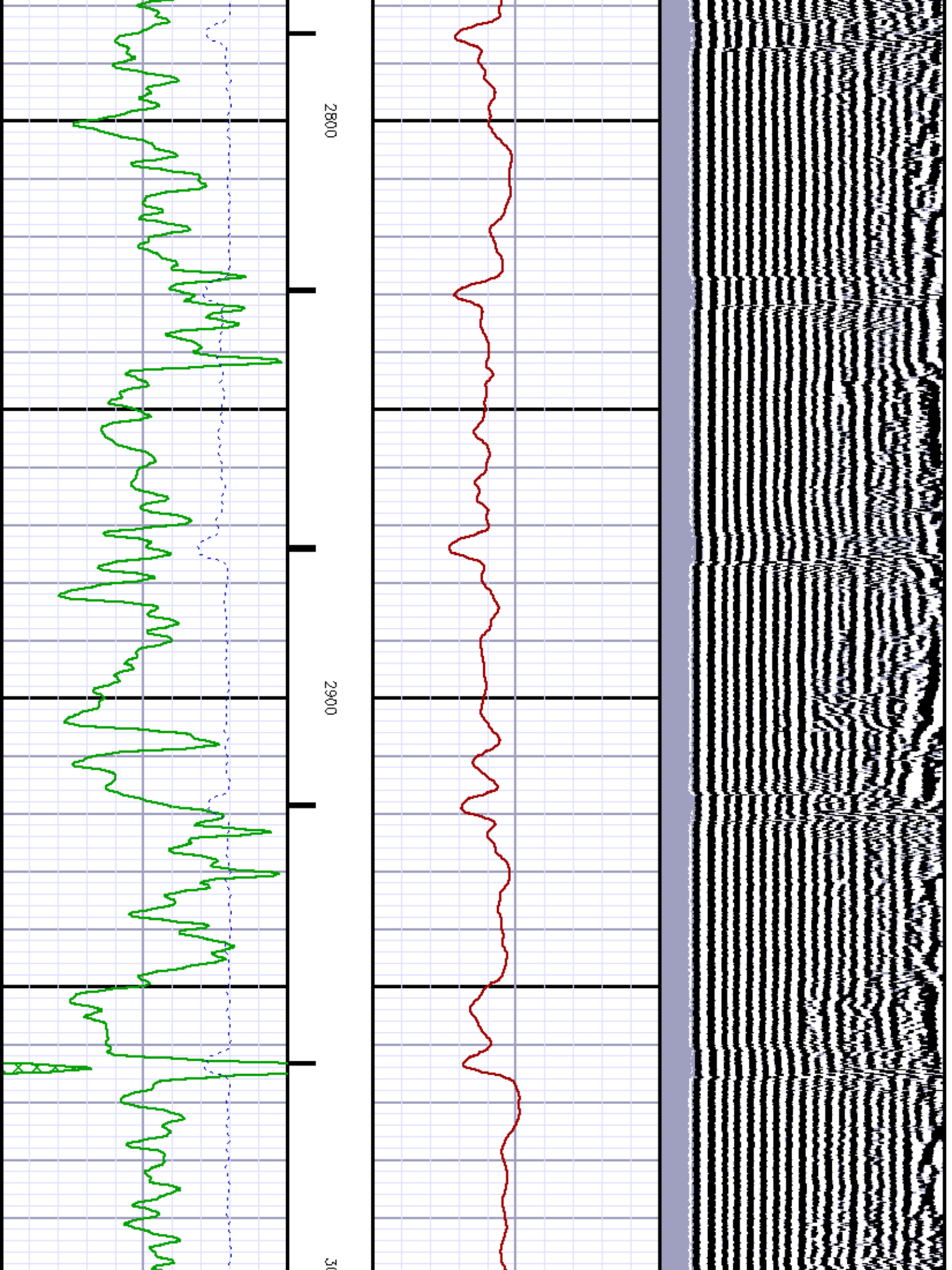




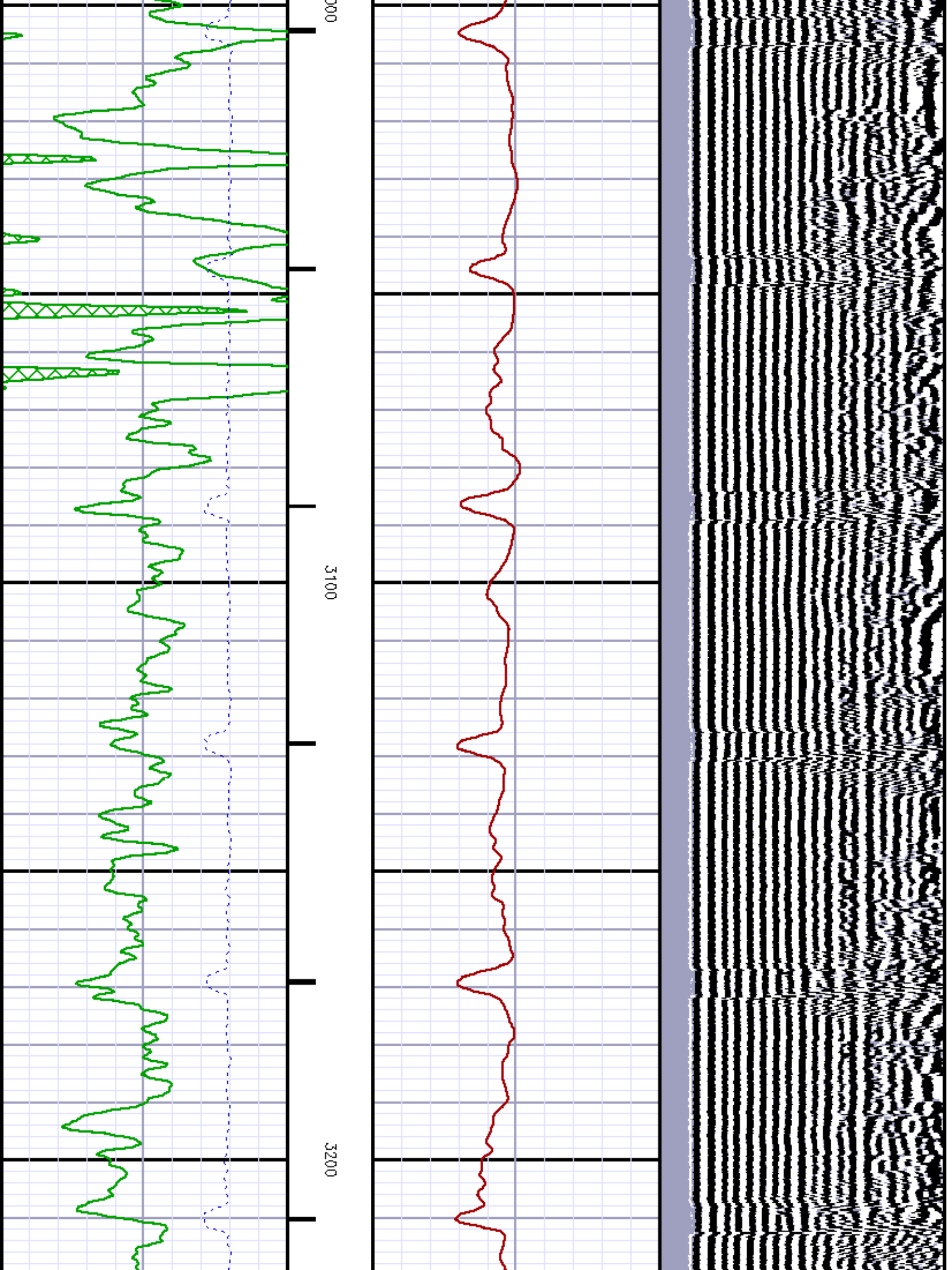


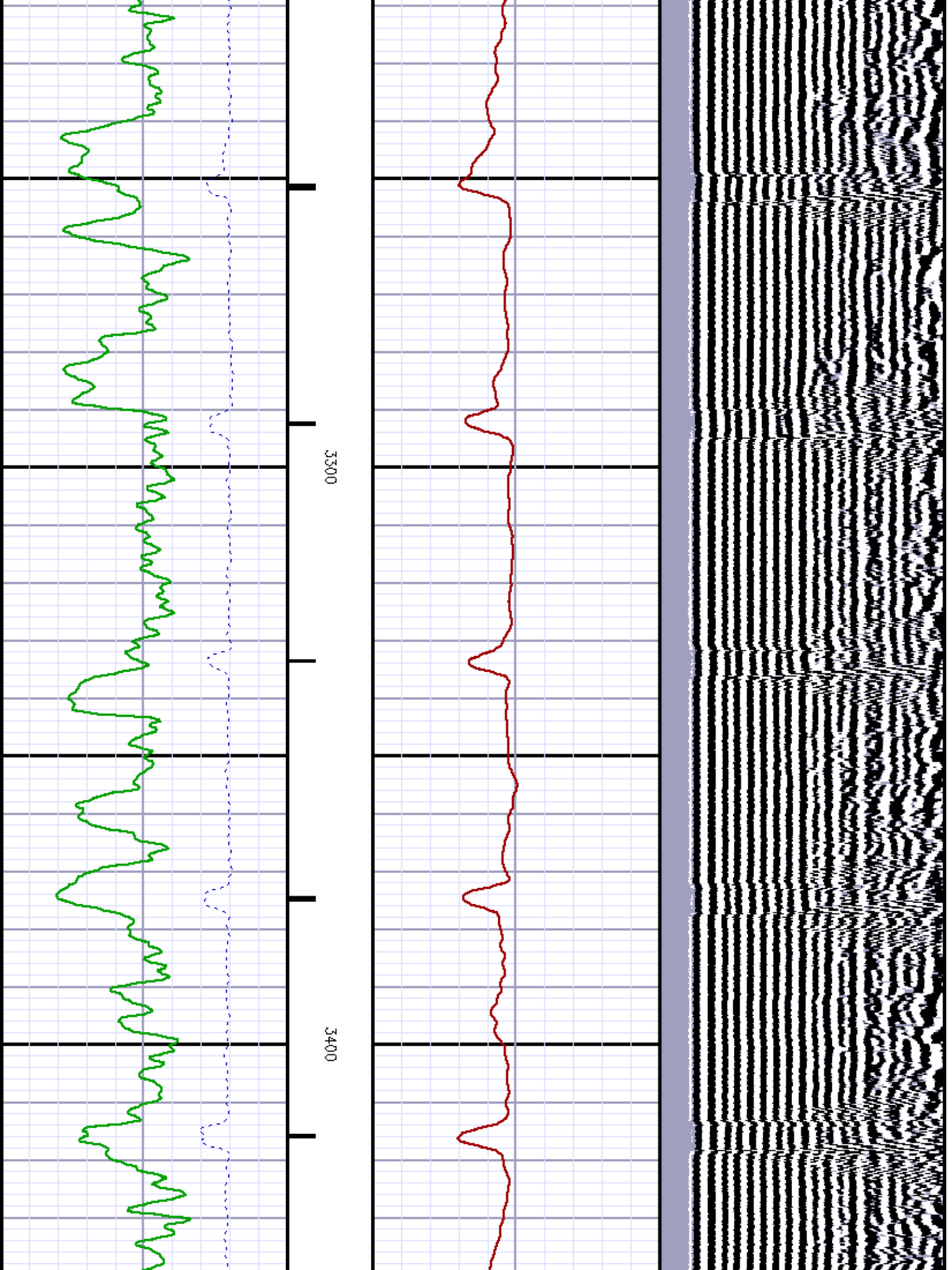




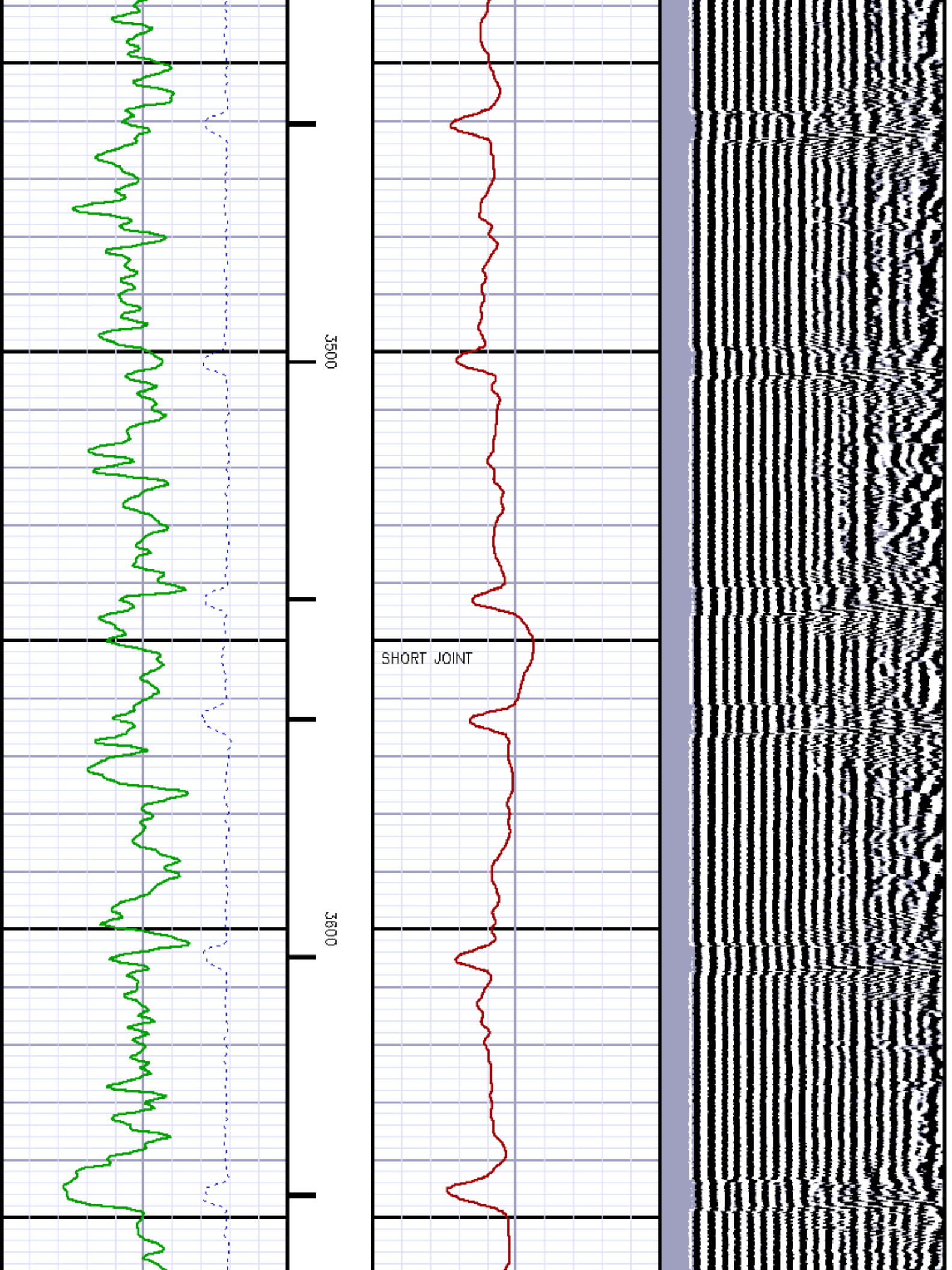


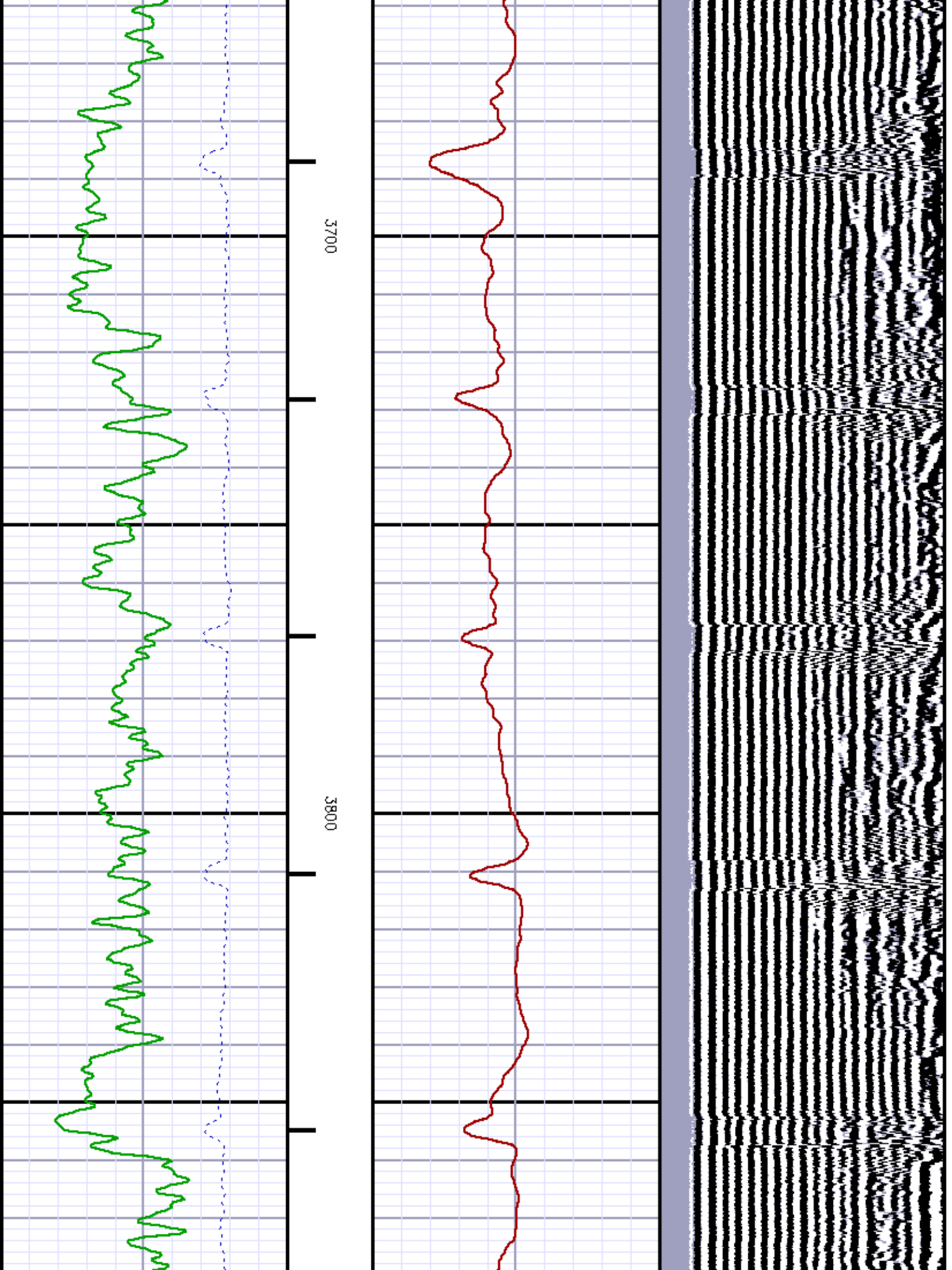


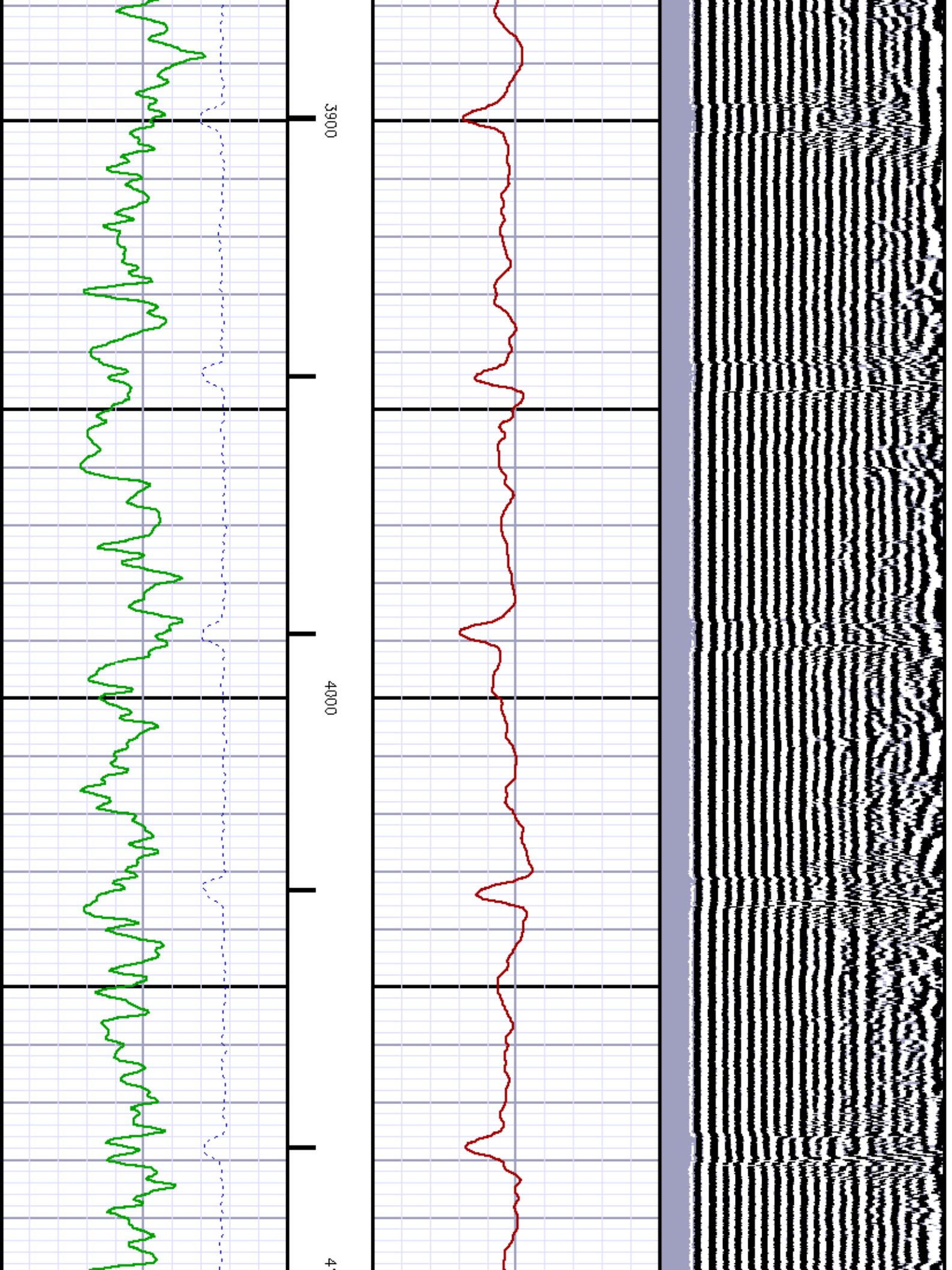




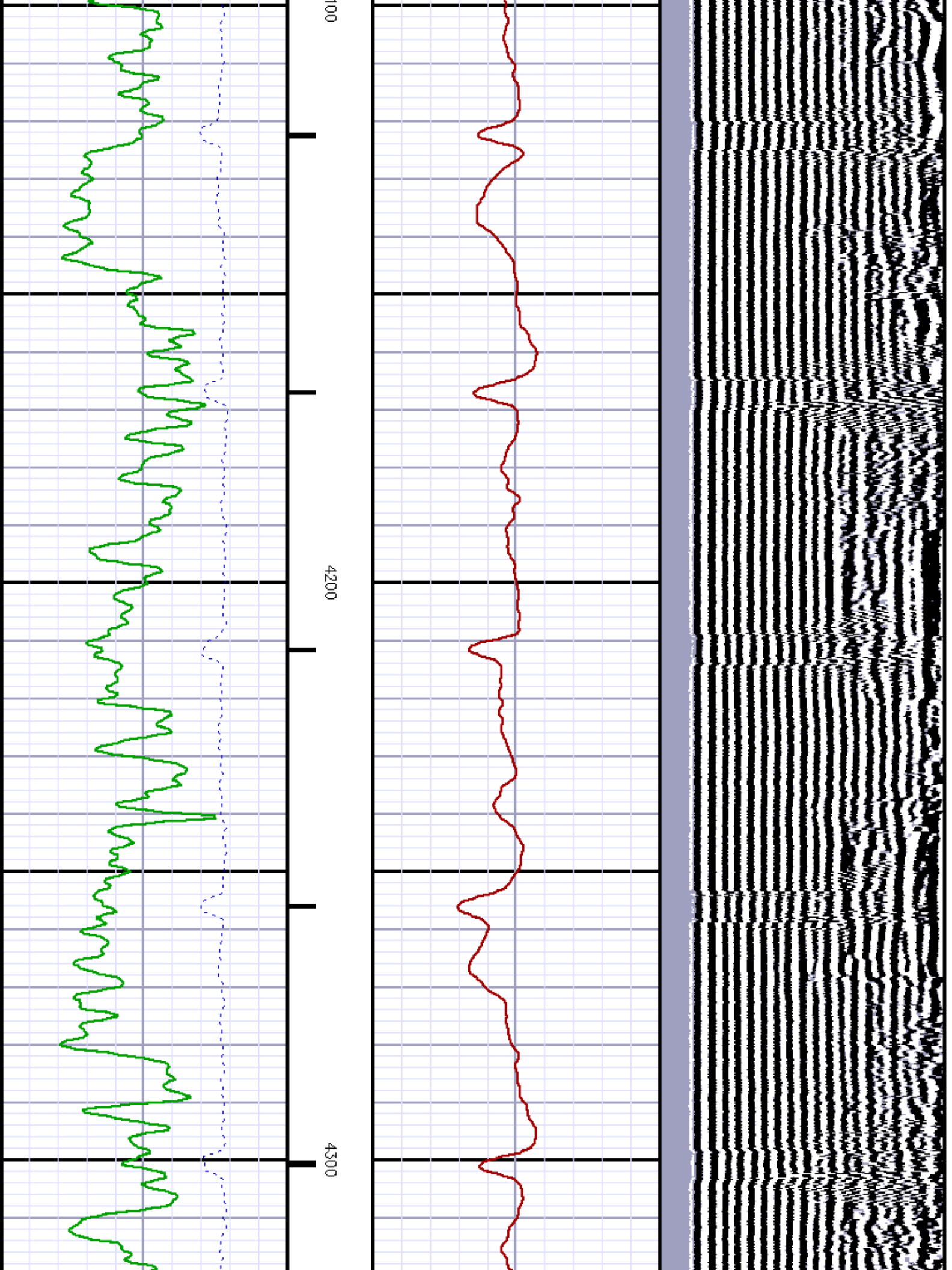


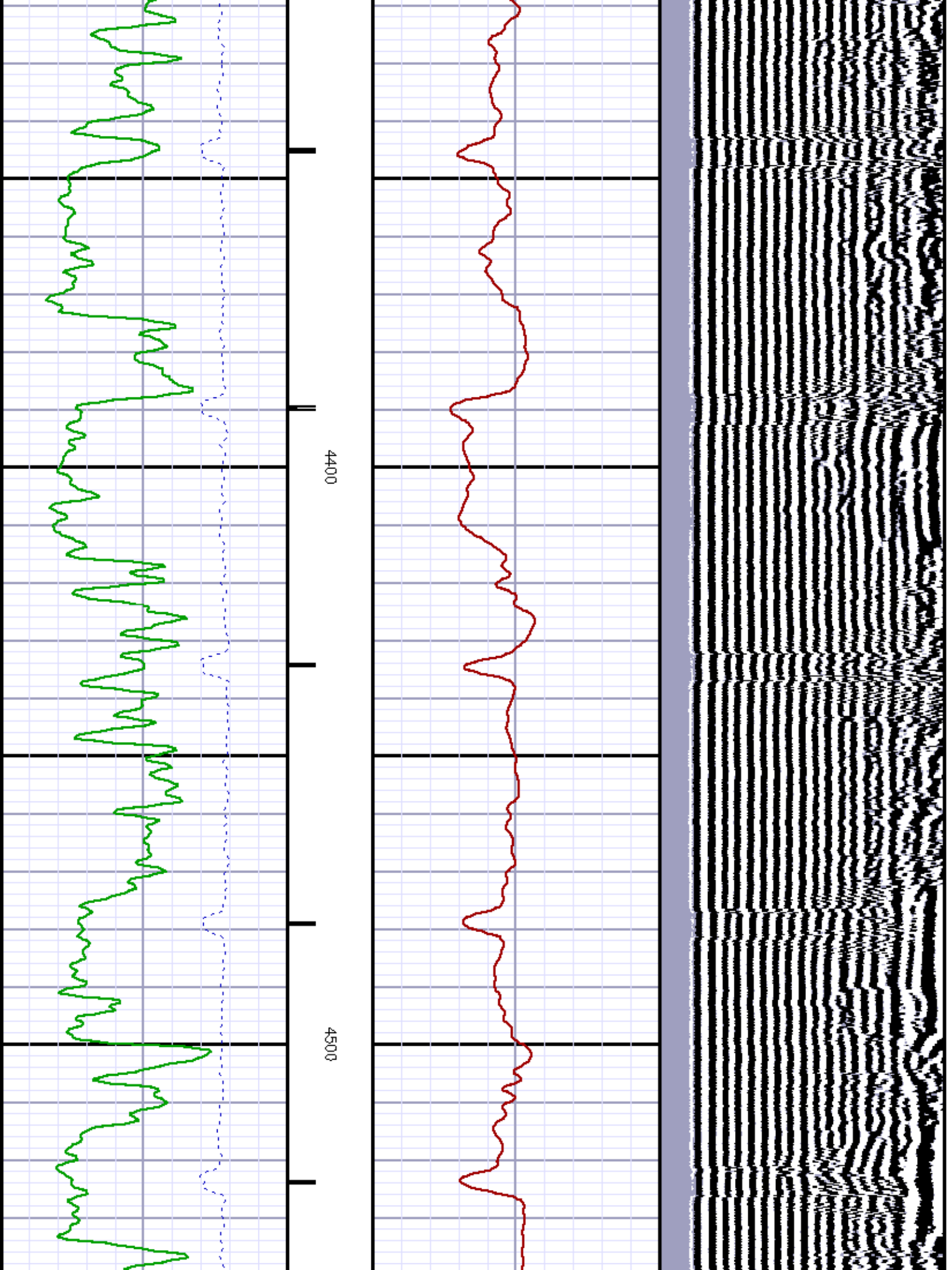




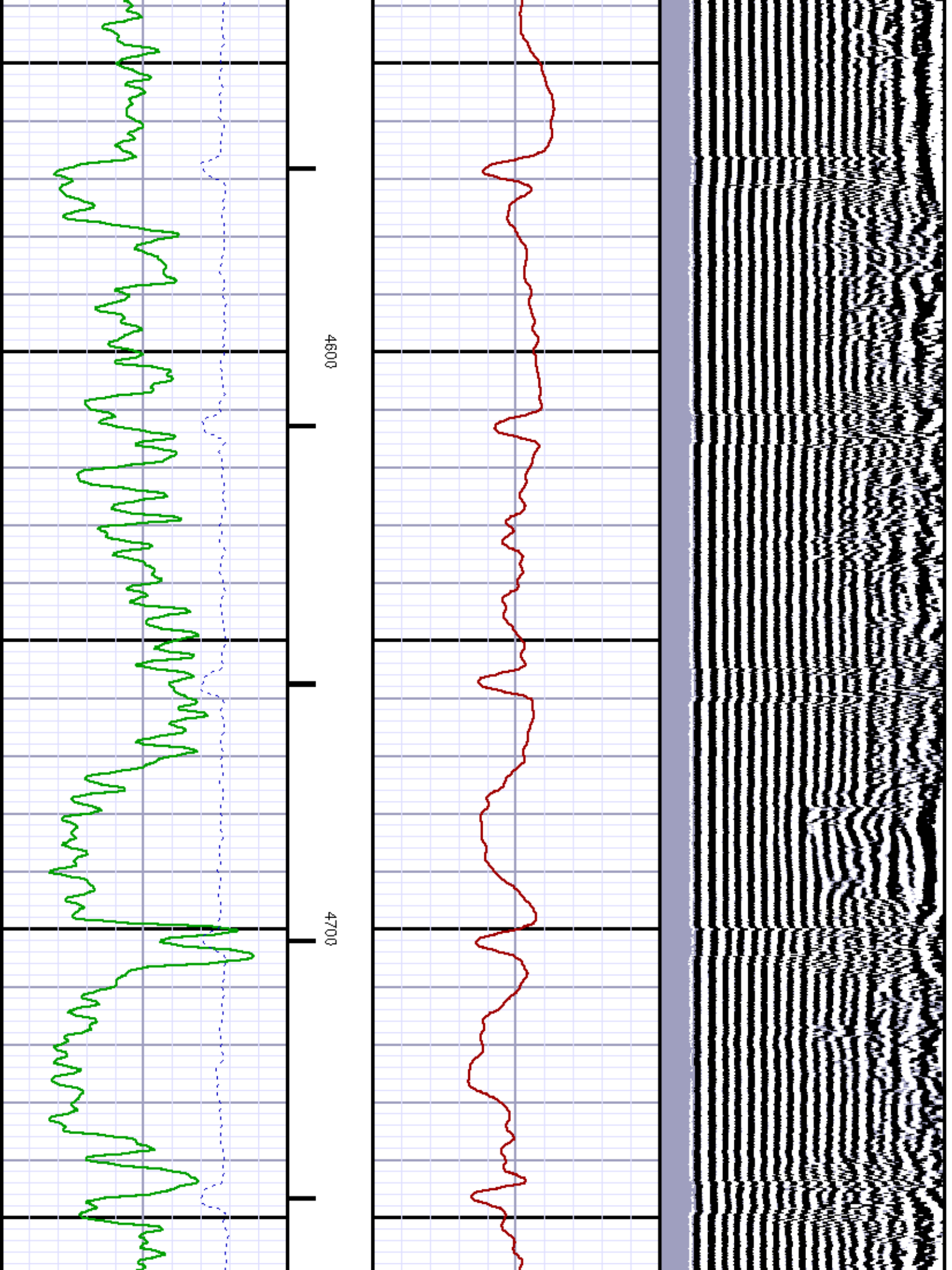


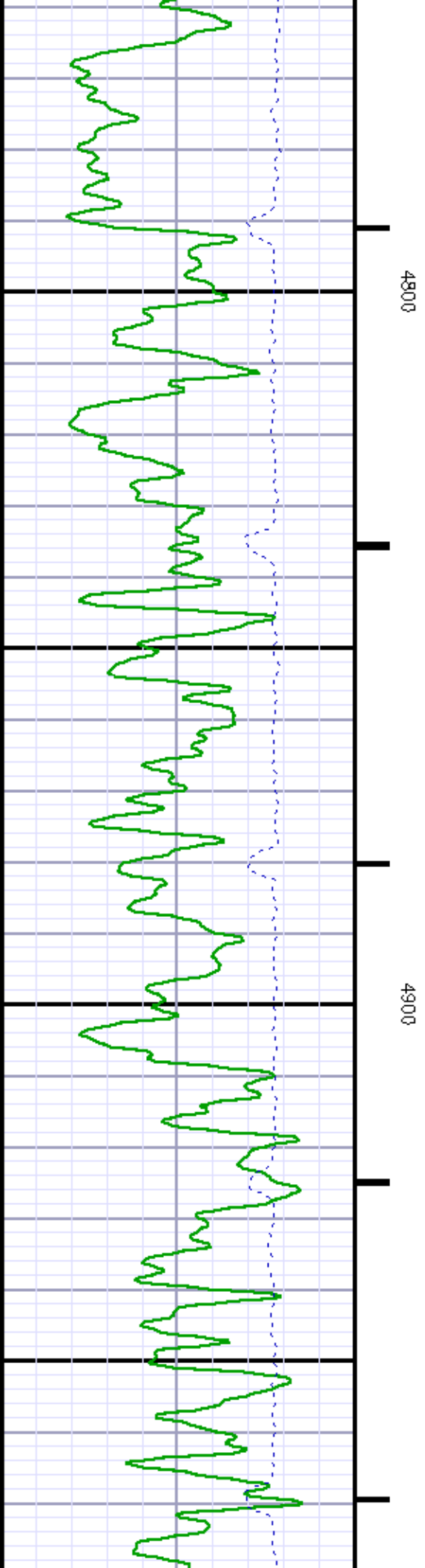
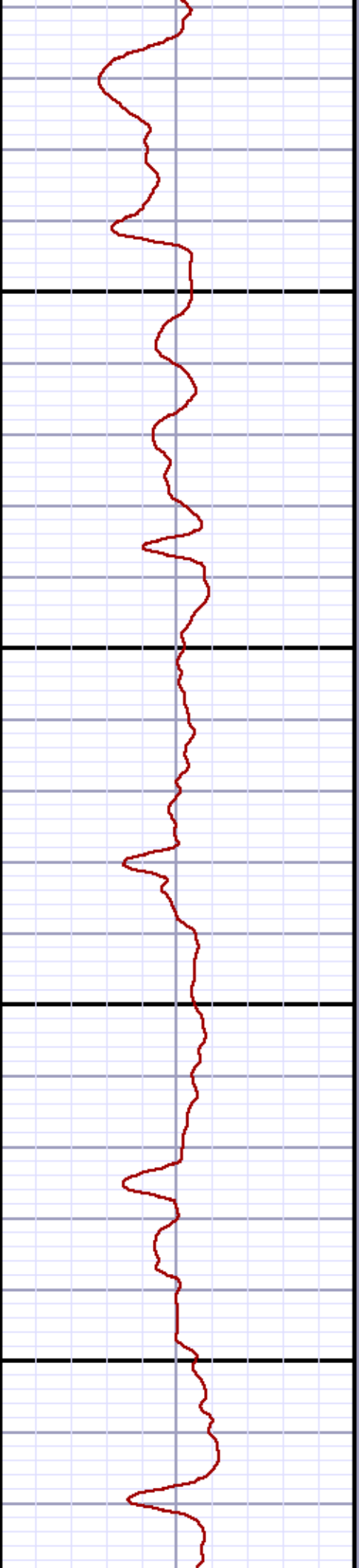
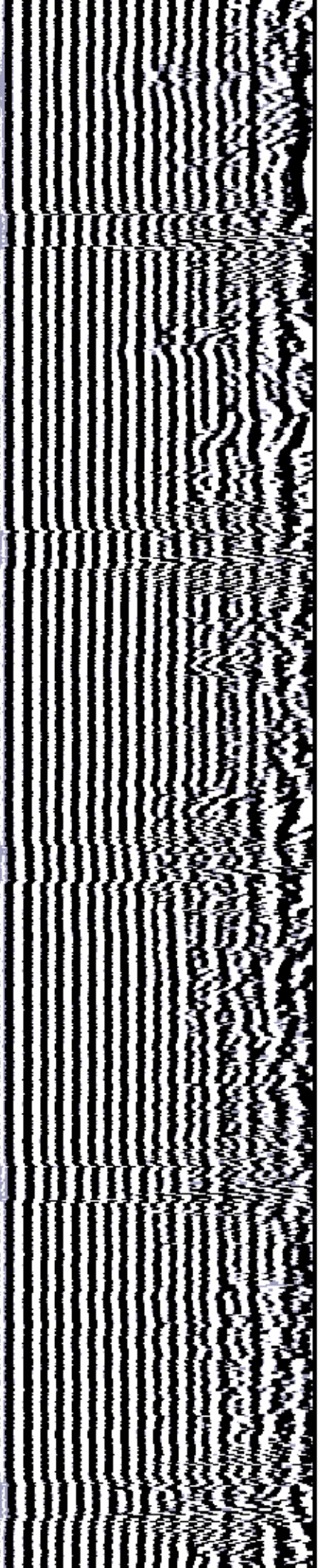


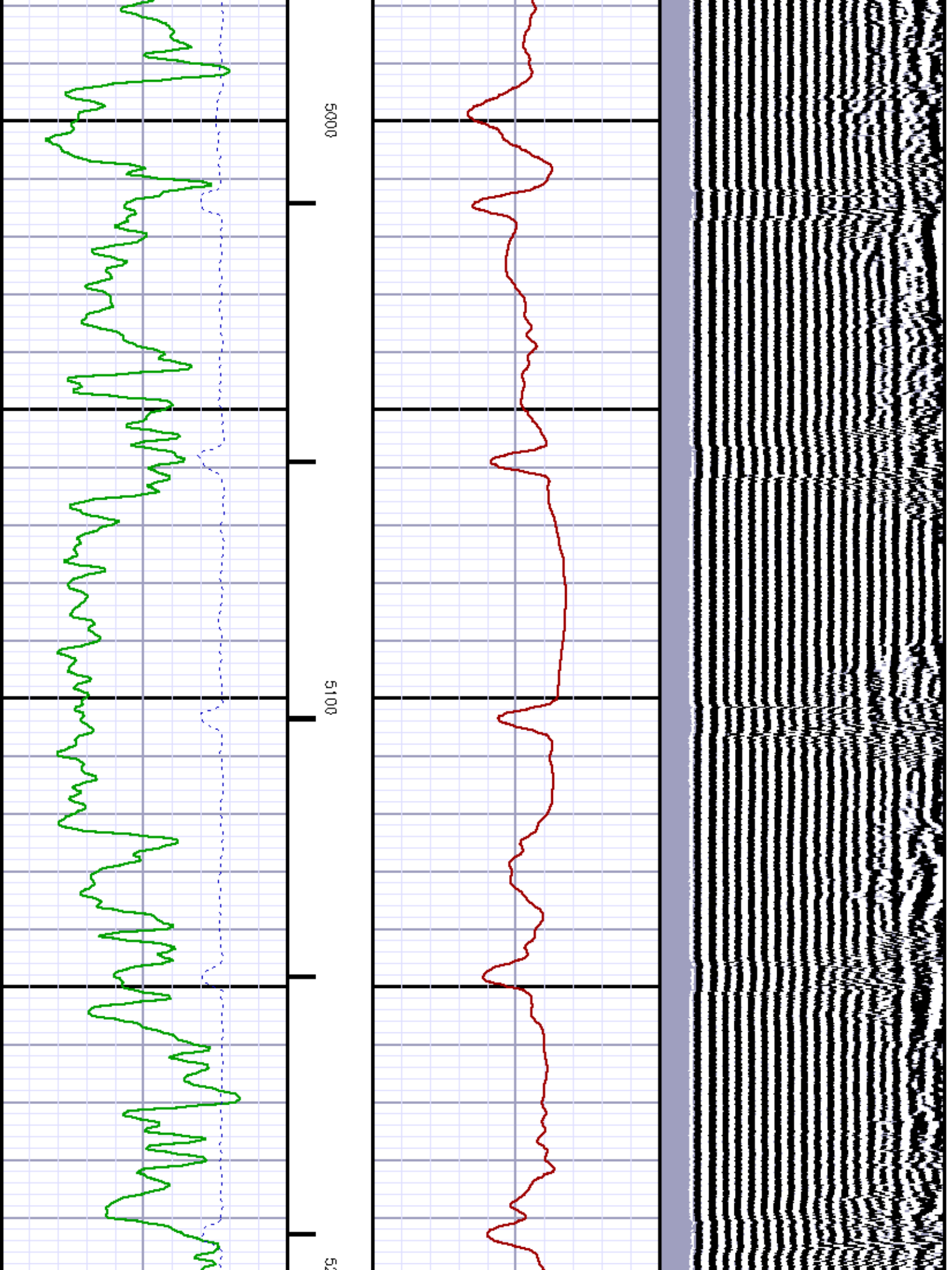




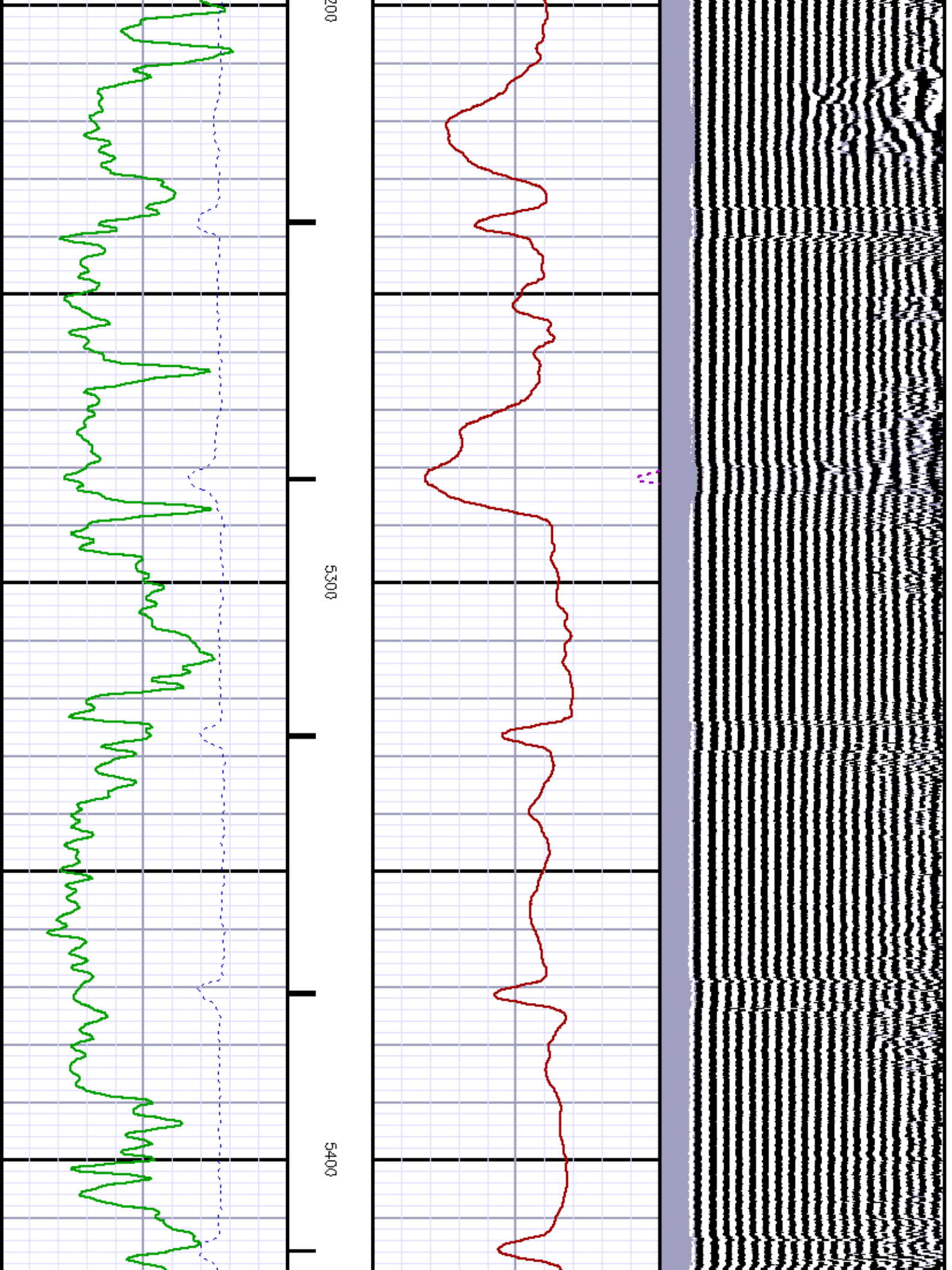


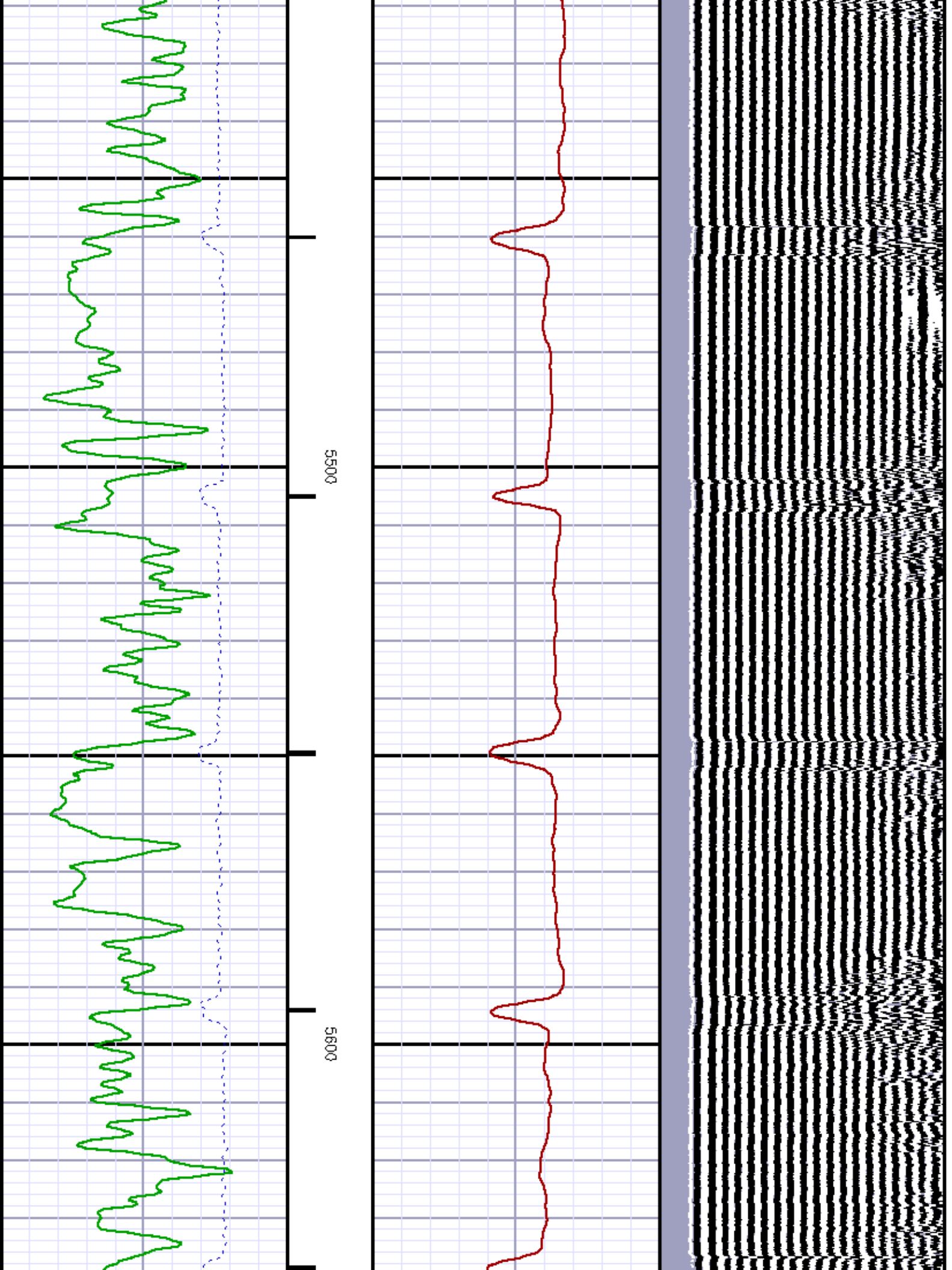




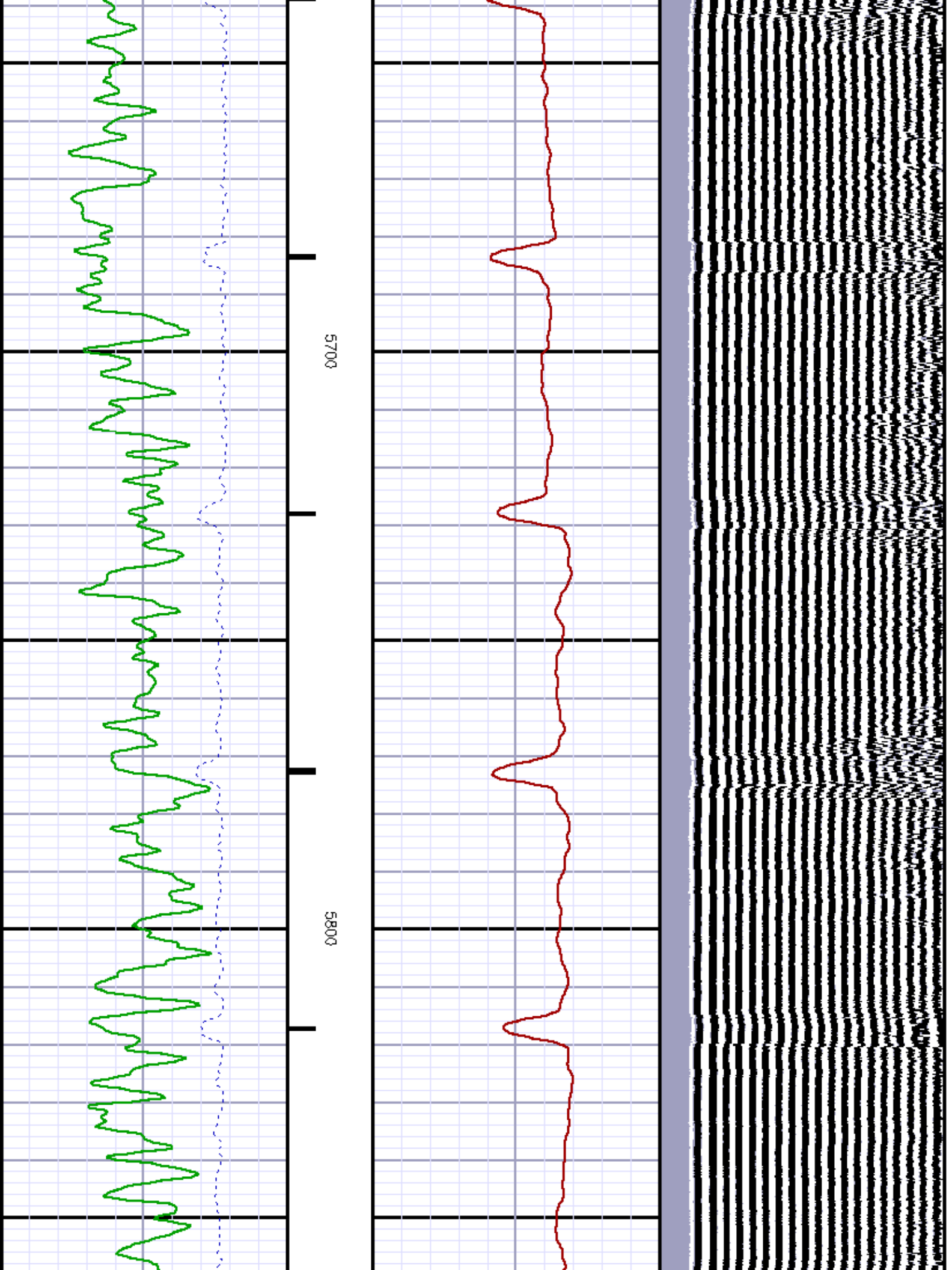


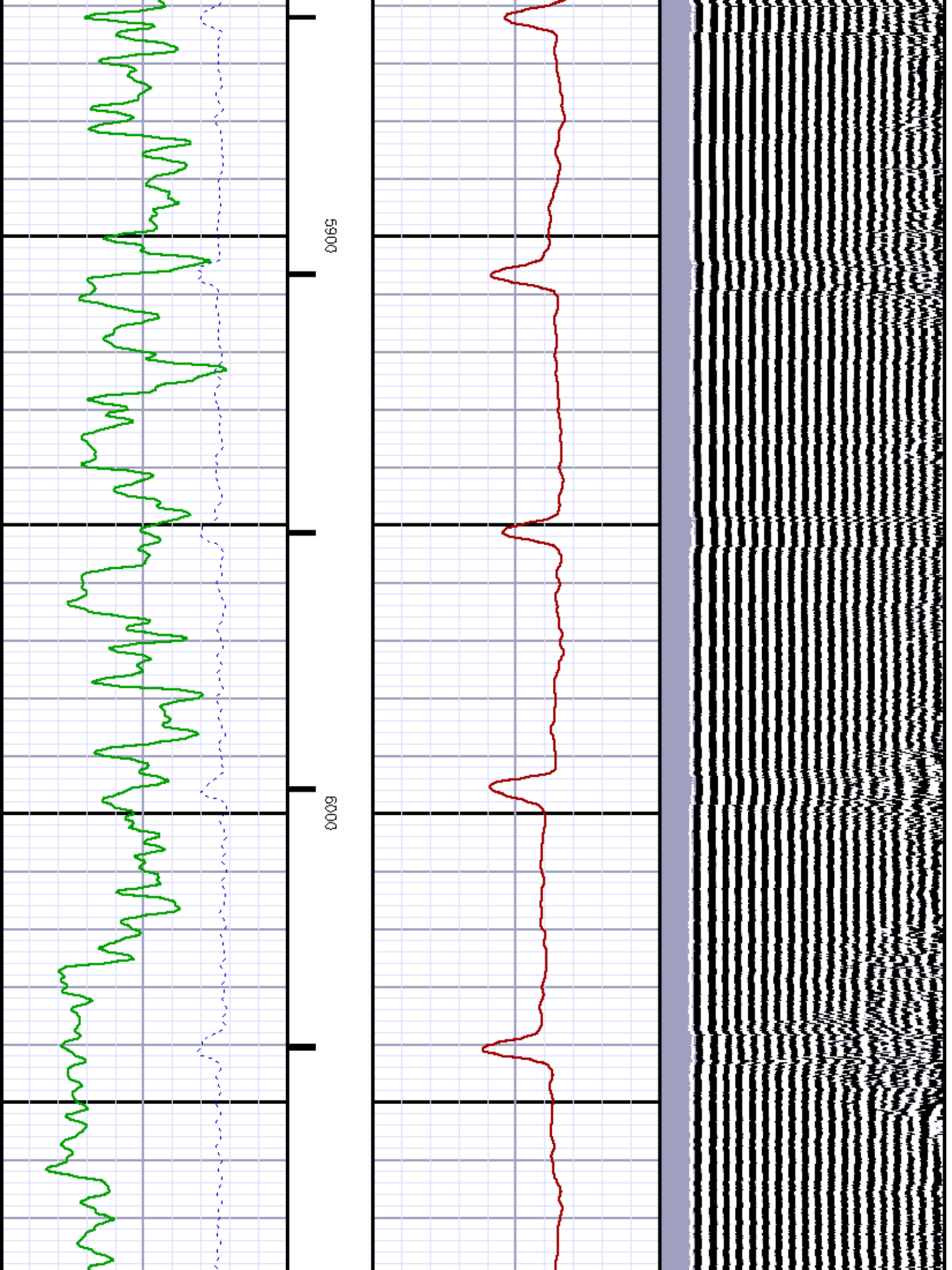


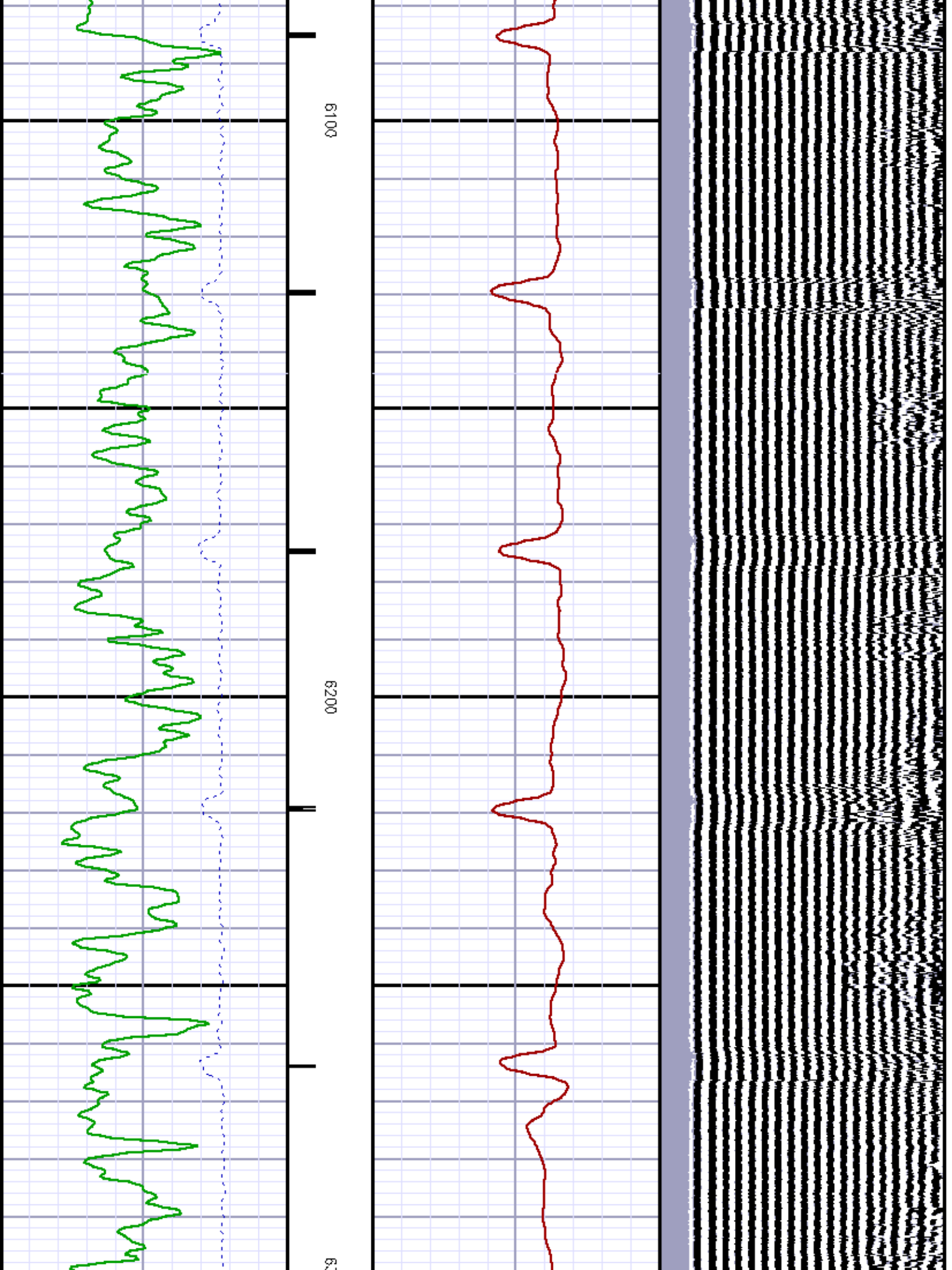


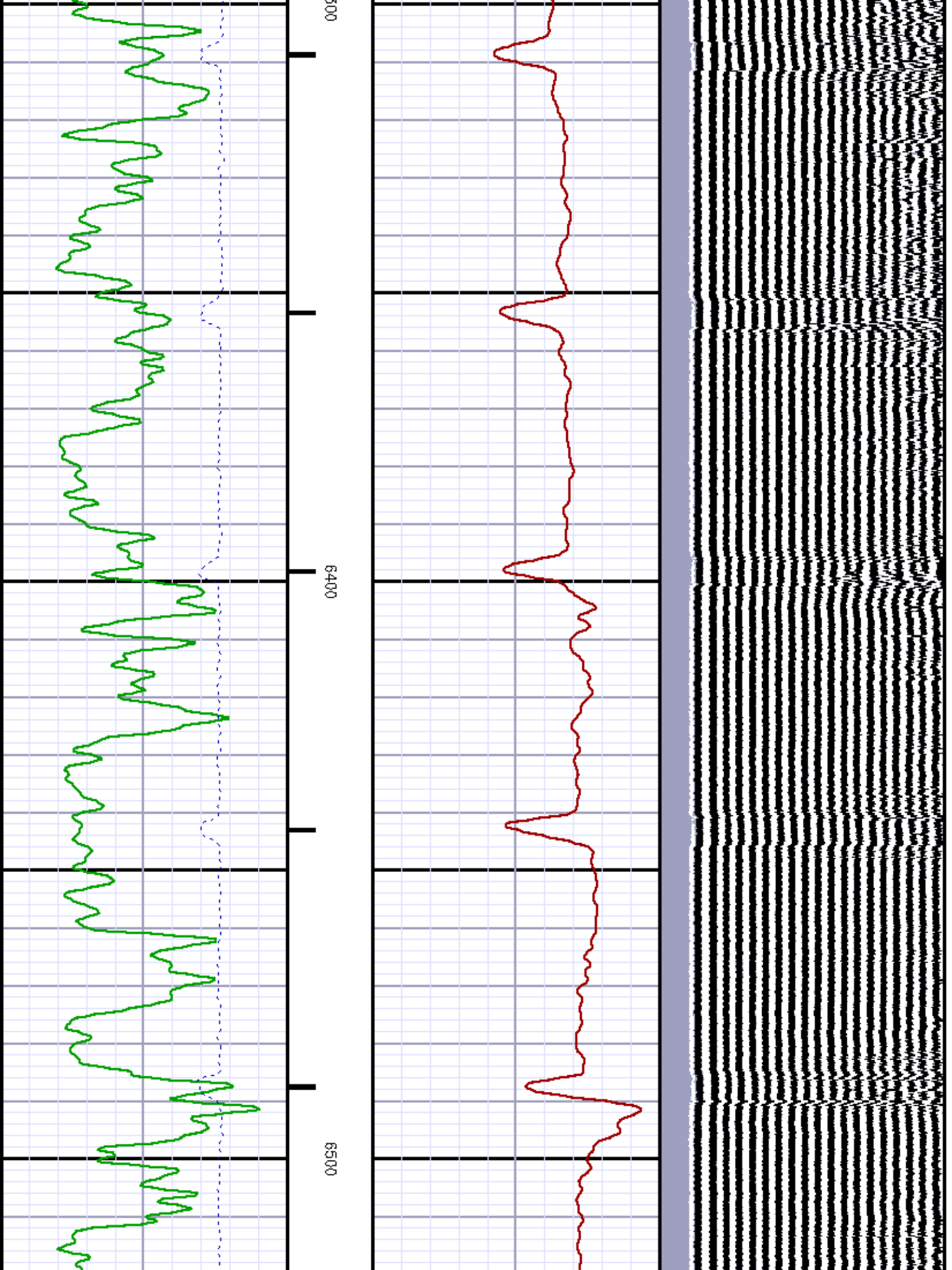




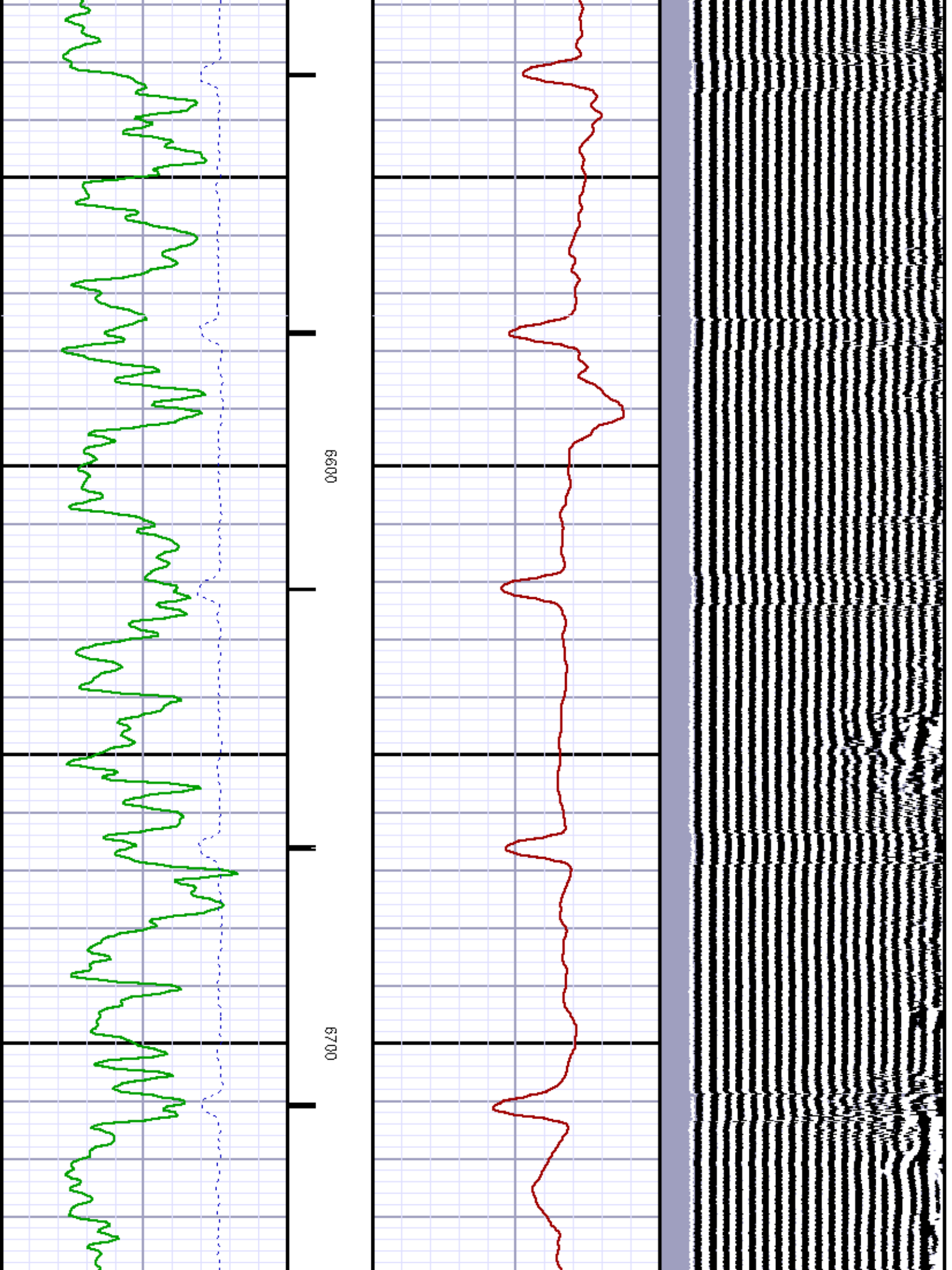


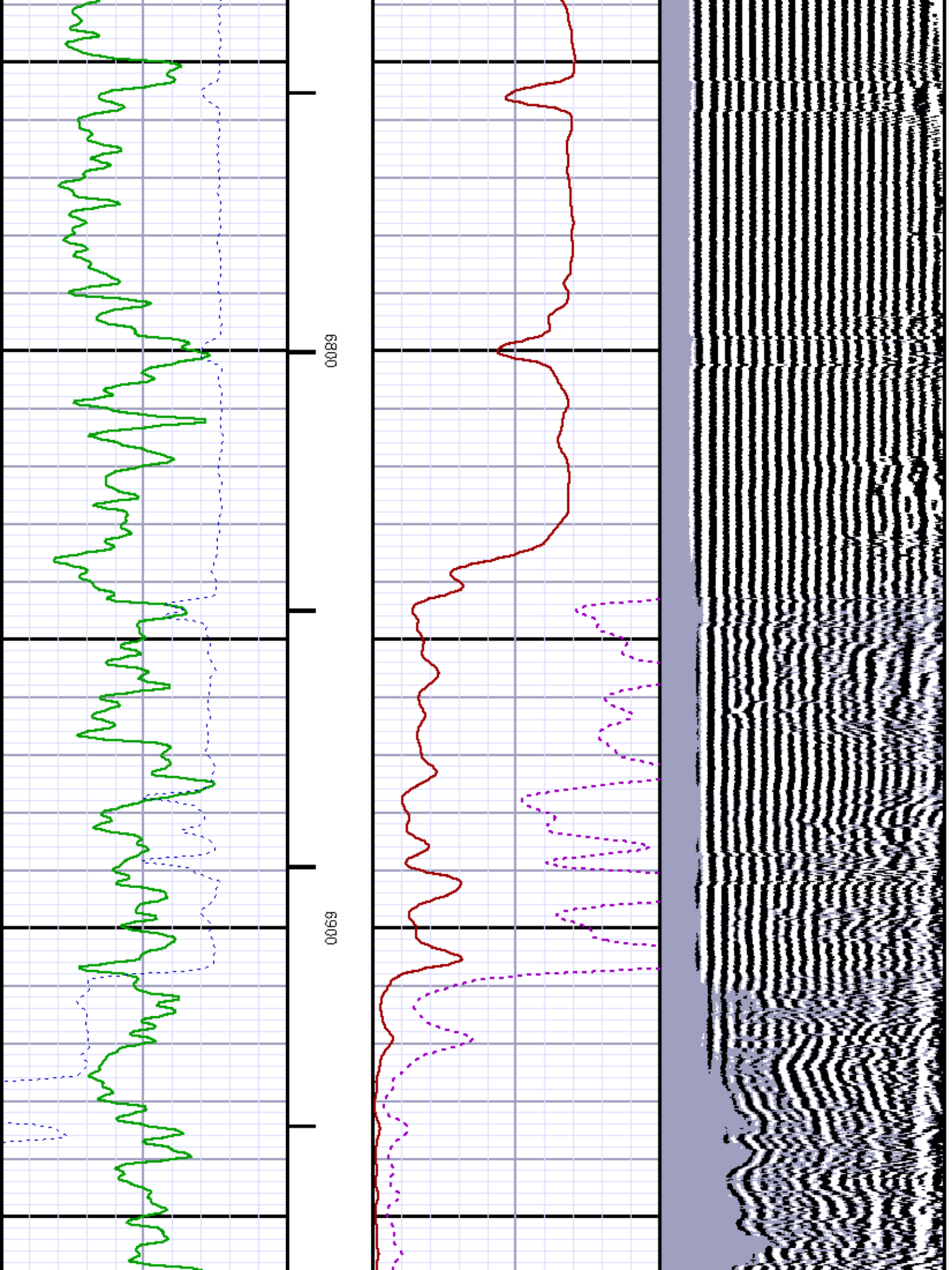


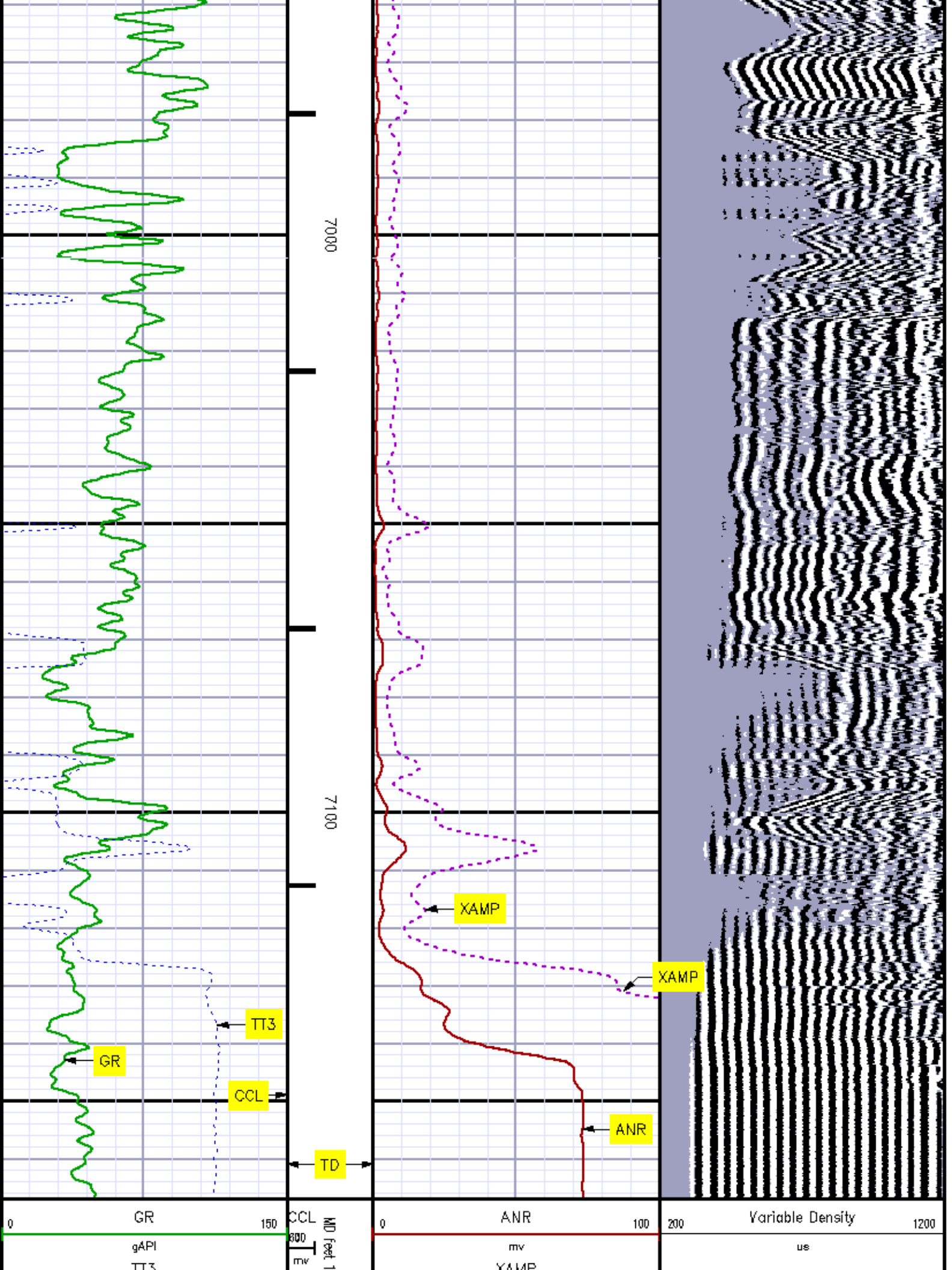












280	TT3	180	240	0	7.62m	20
	UBBG				mv	

***MAIN SECTION***  
***SECONDARY PRESENTATION***  
*0 PSI*

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		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-15.450	AFAR	SIG	TT5			
2459XA	-11.340	CCL					
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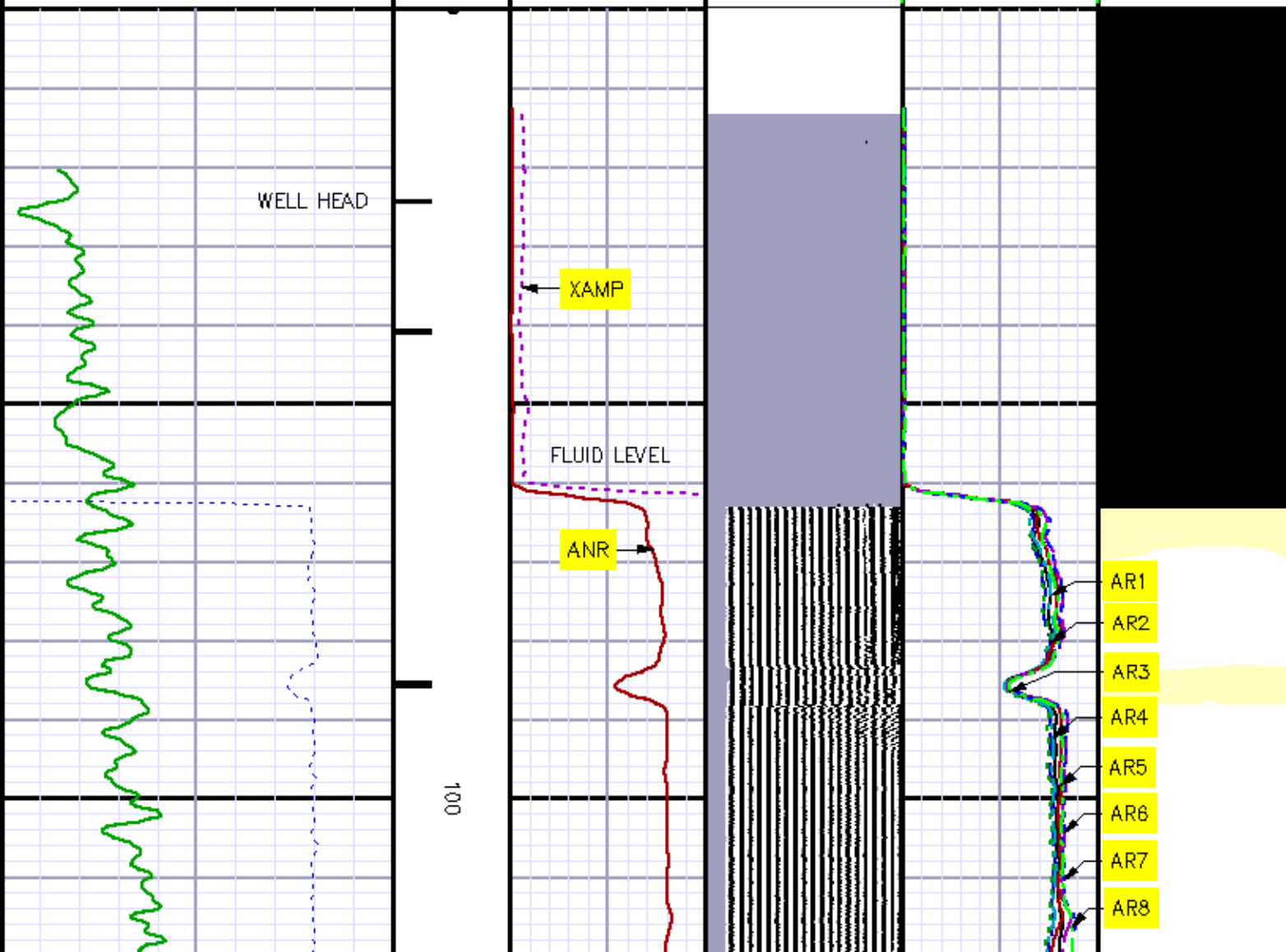
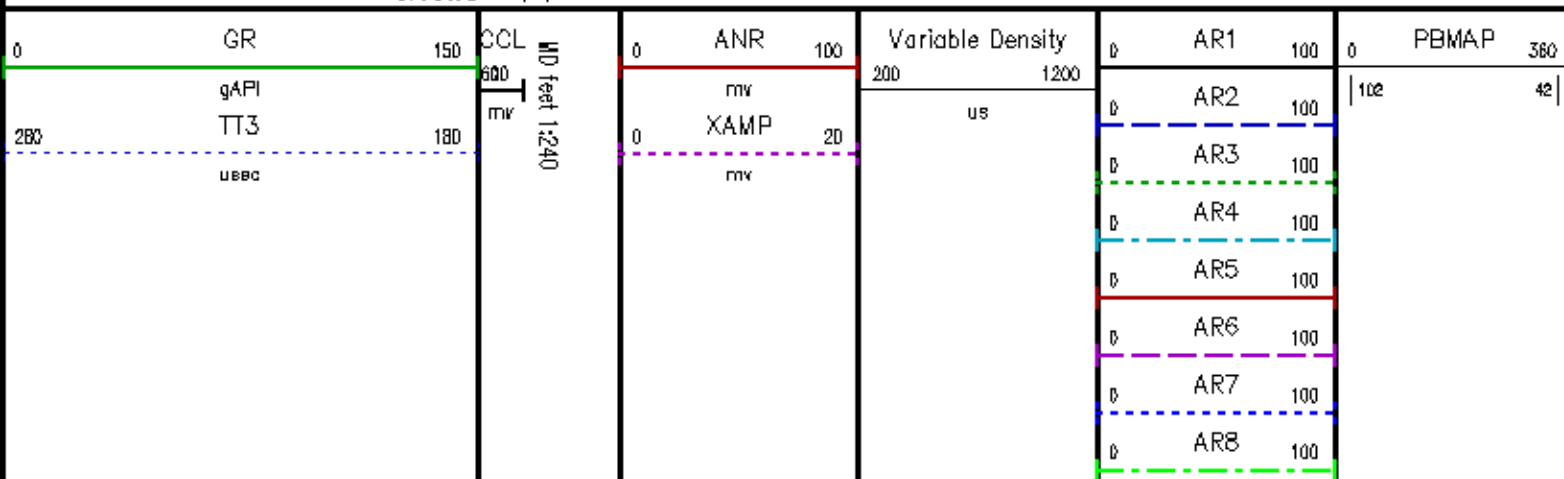
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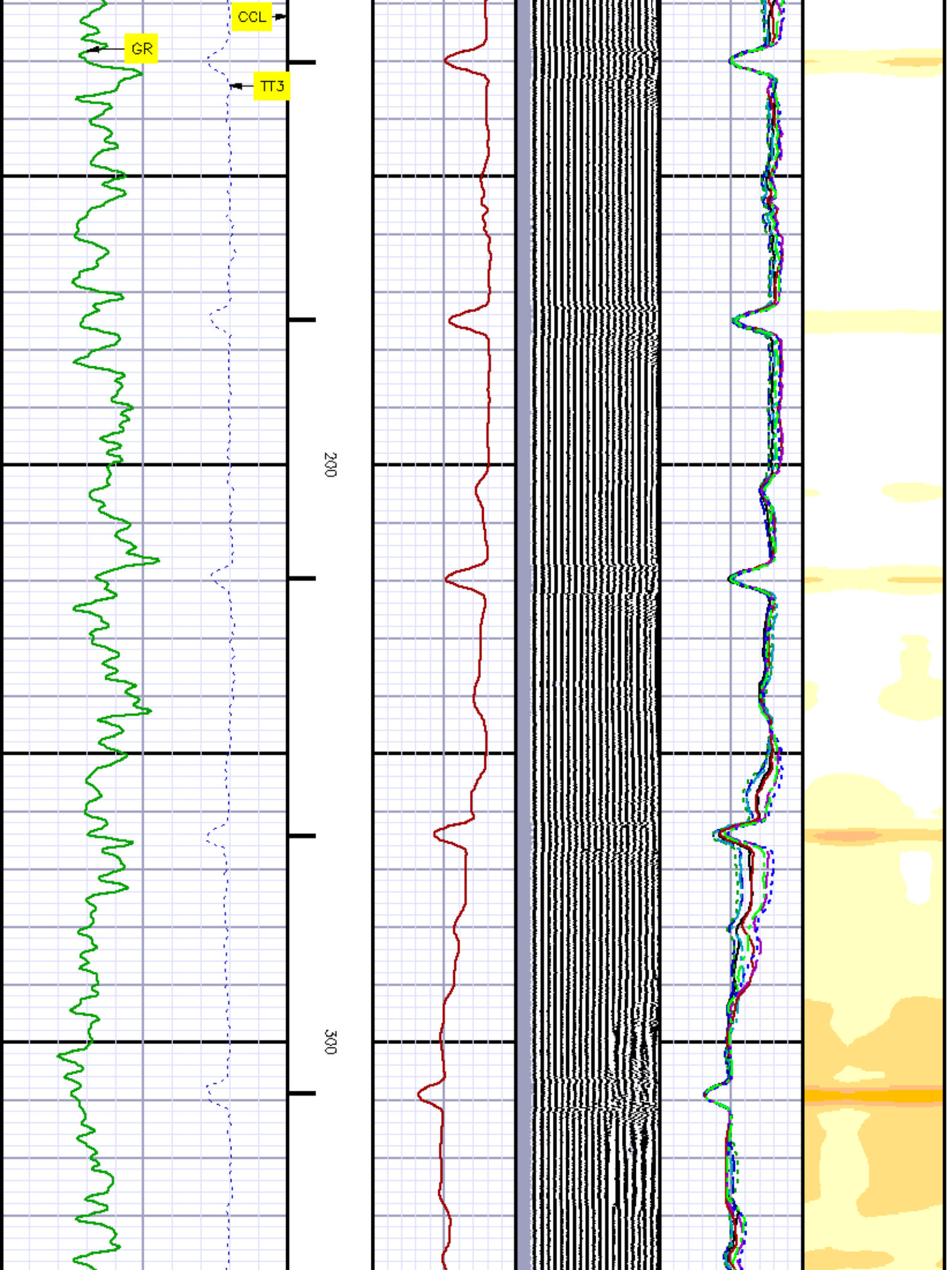
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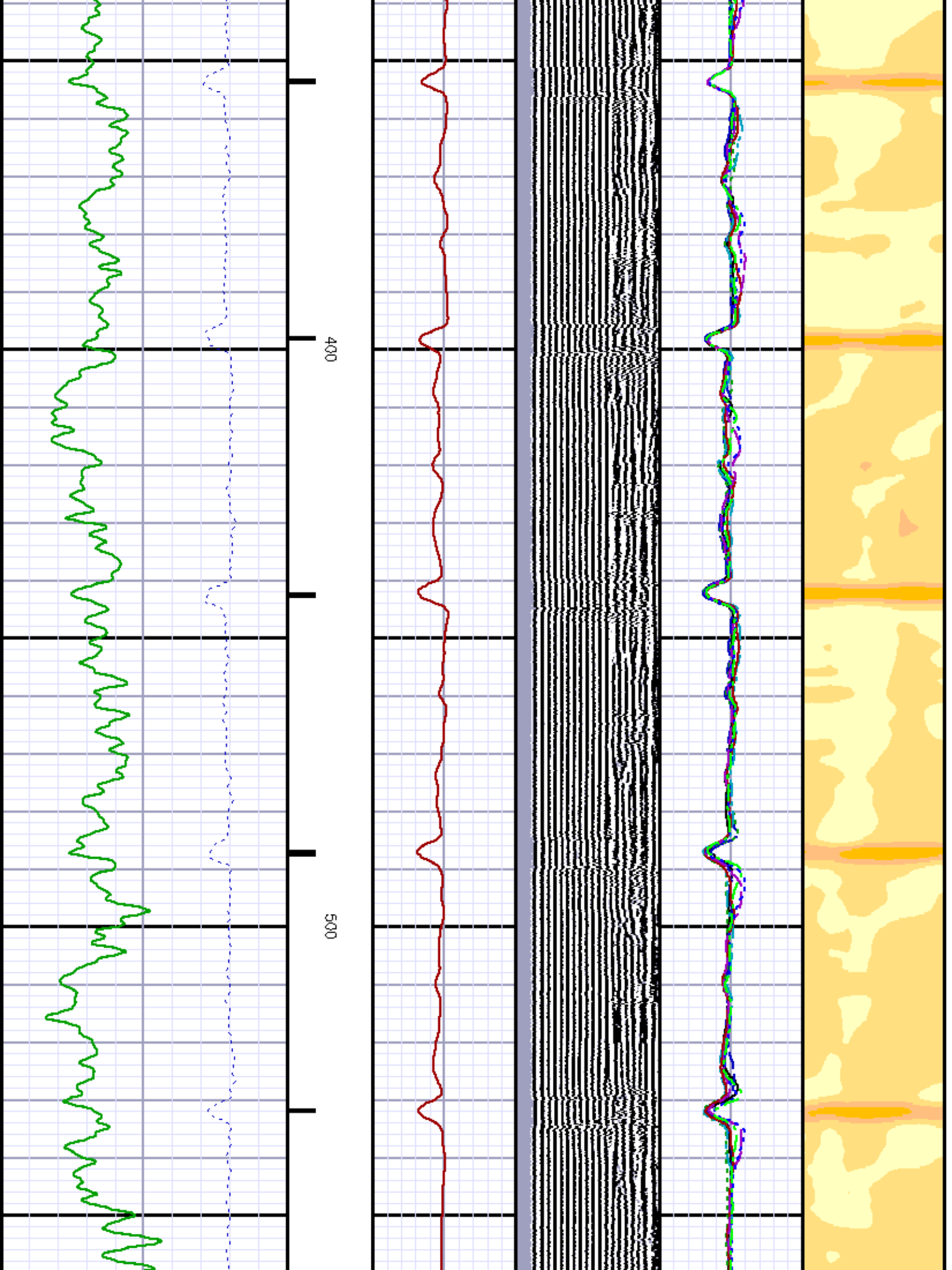
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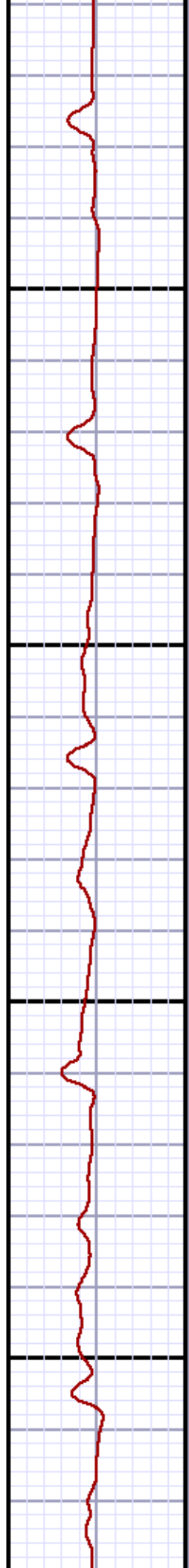
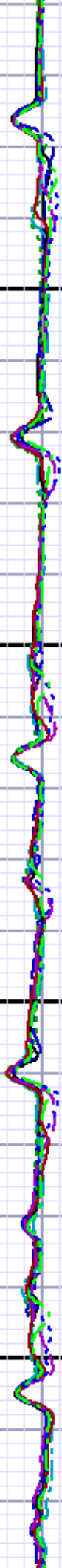
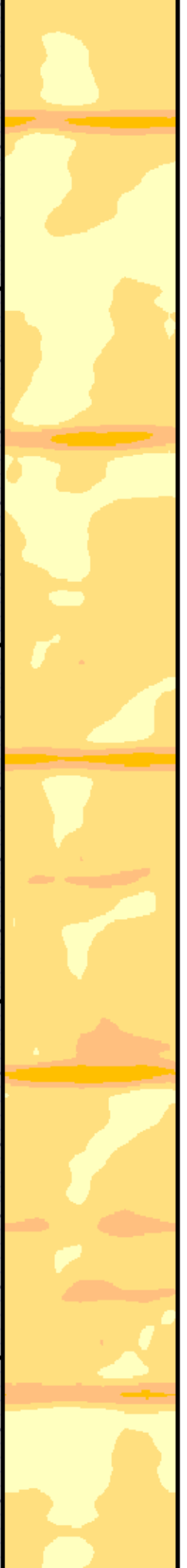
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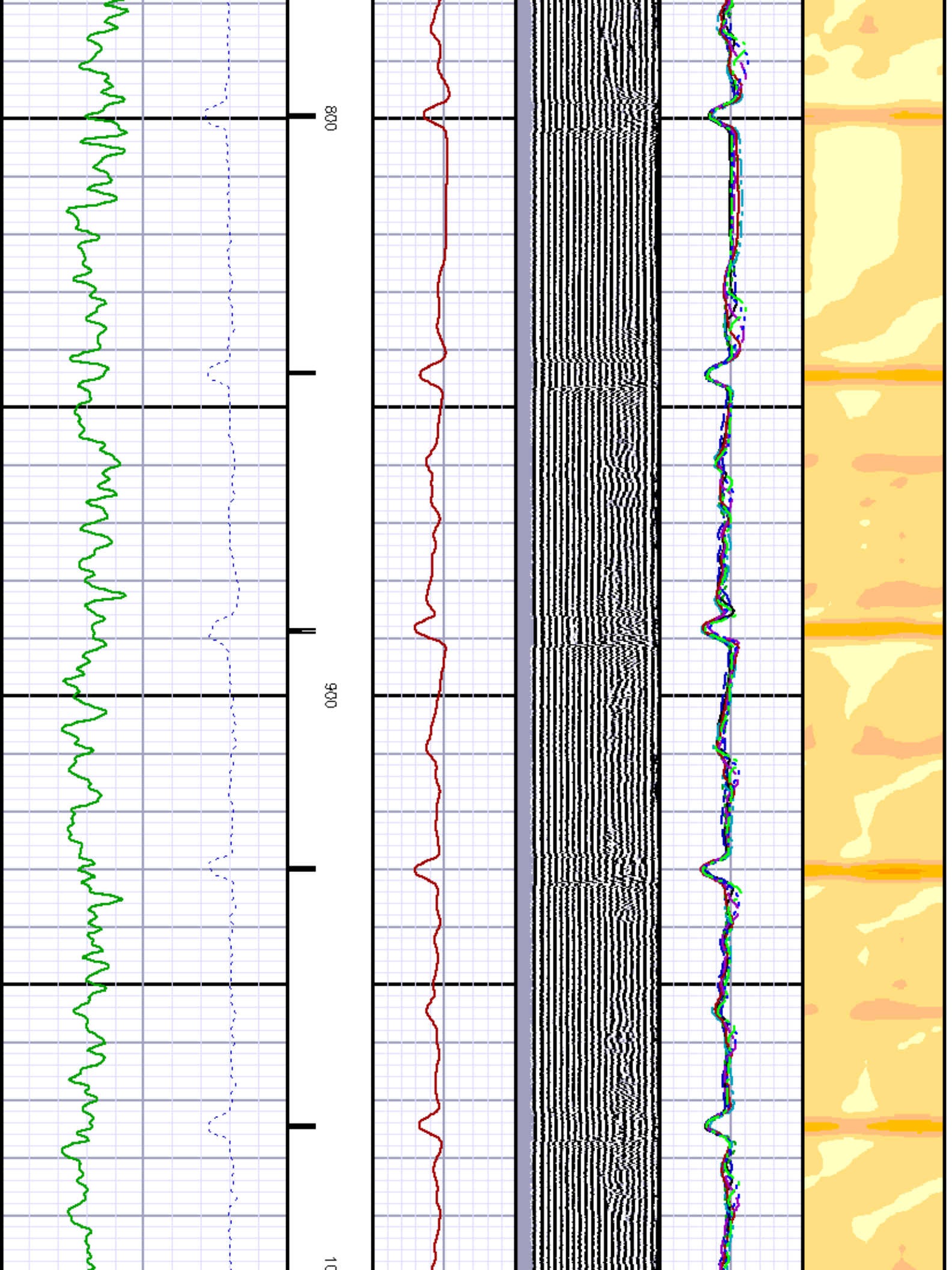


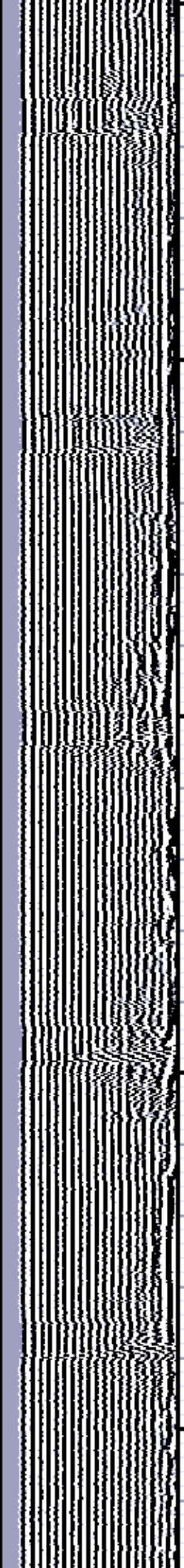
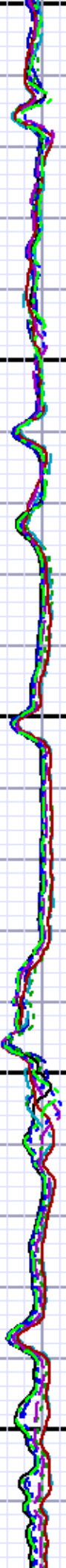
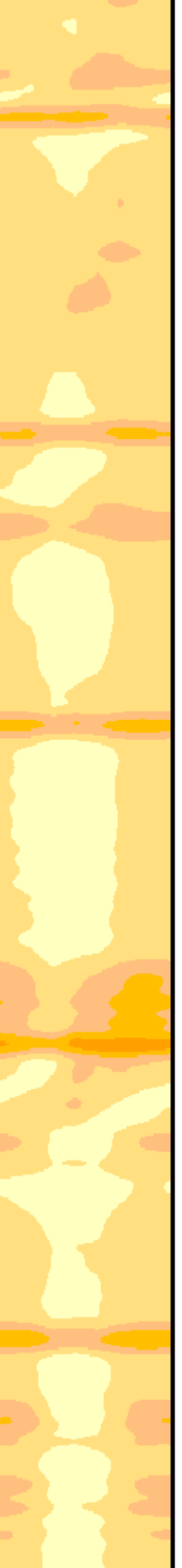
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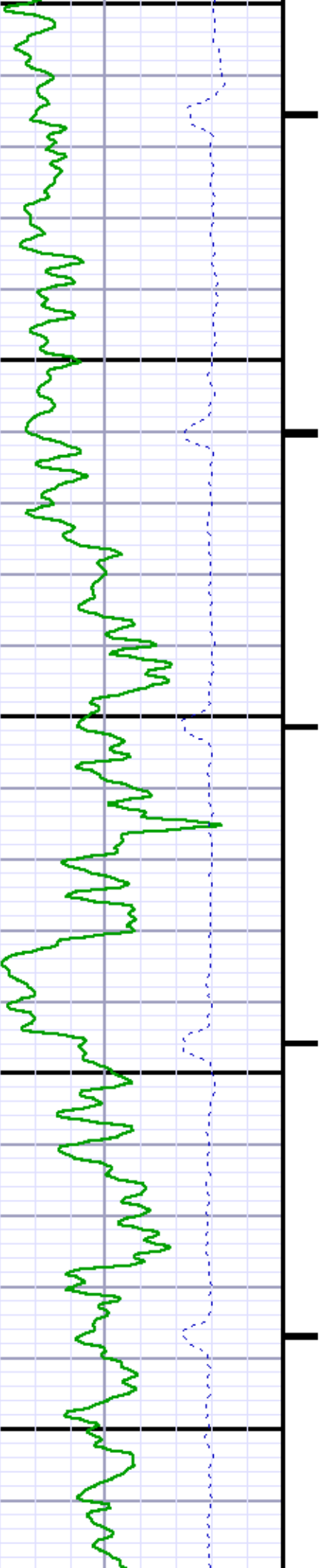


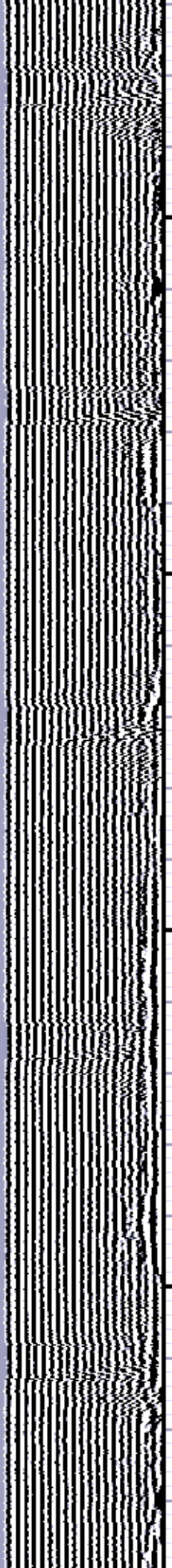
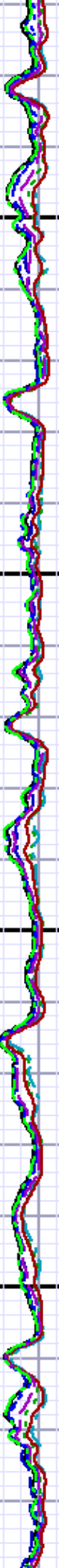


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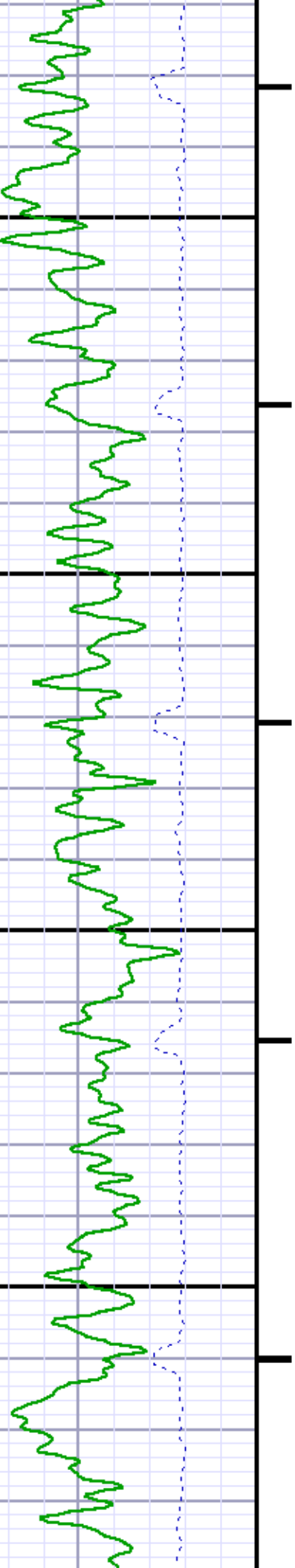
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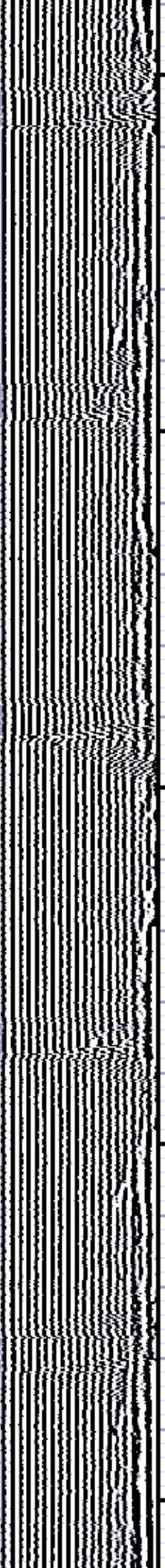
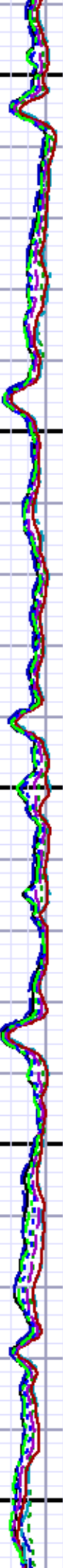
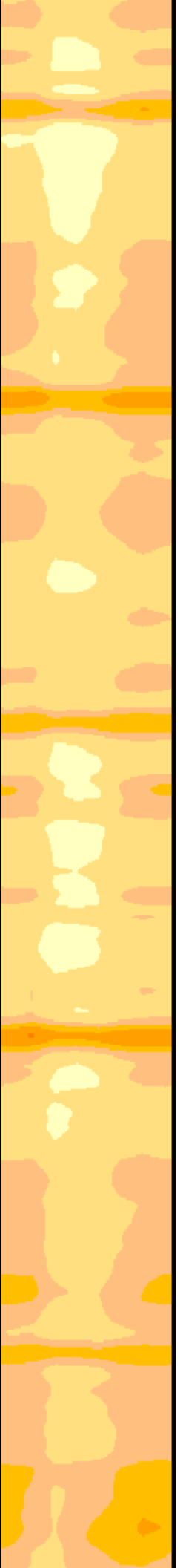




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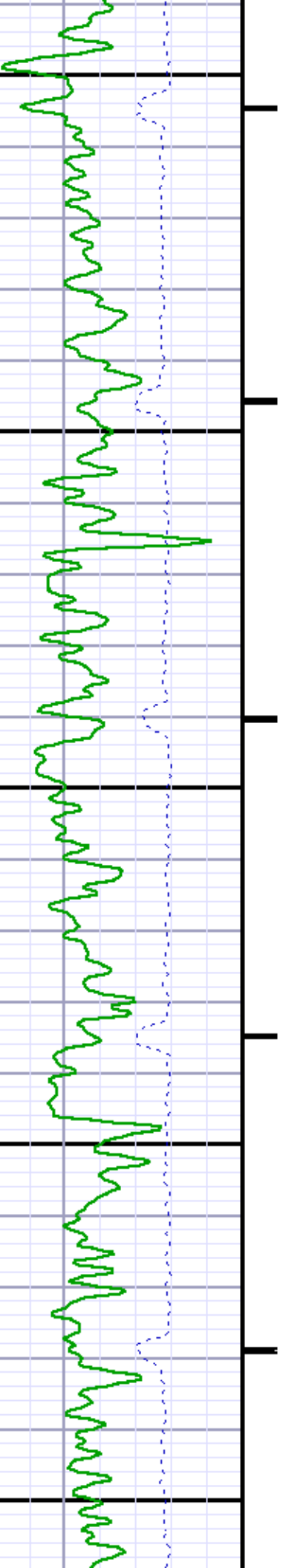
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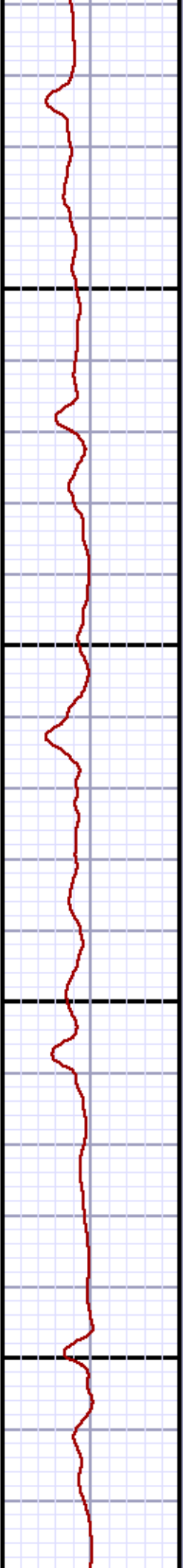
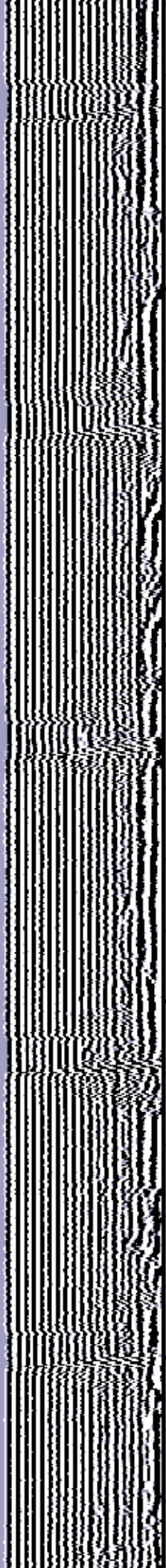
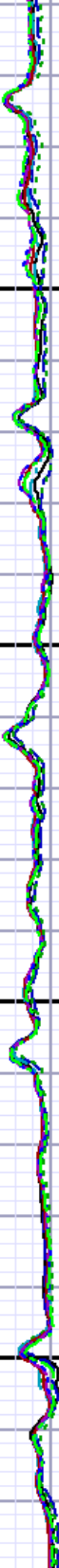
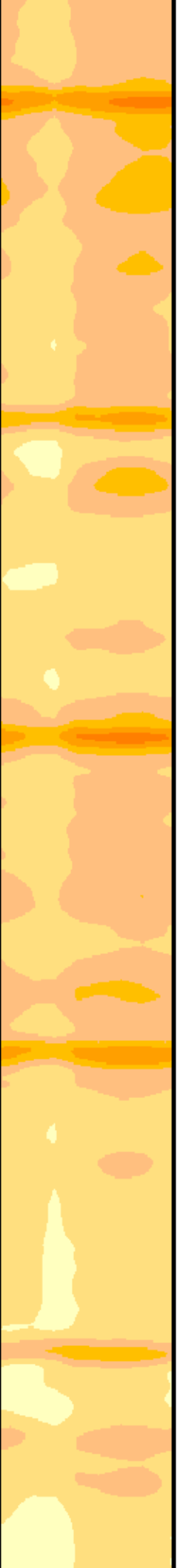


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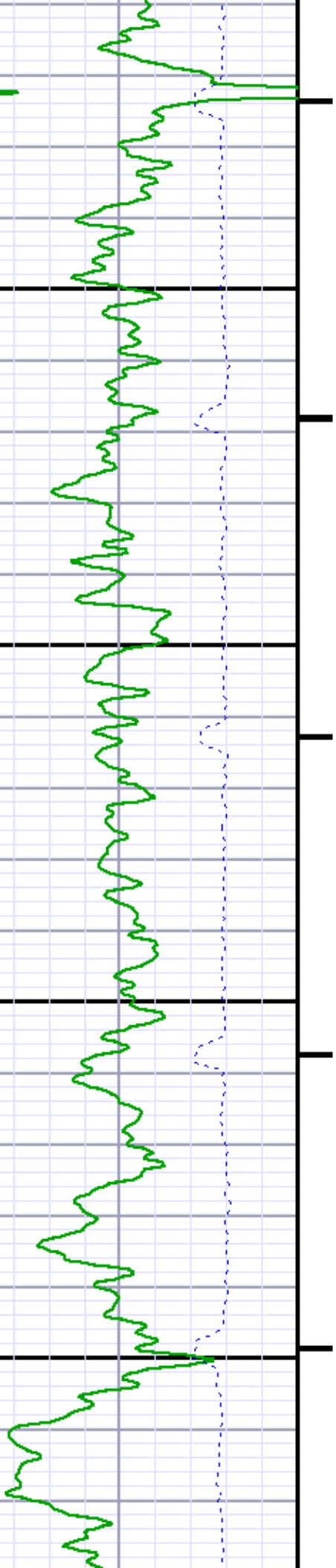


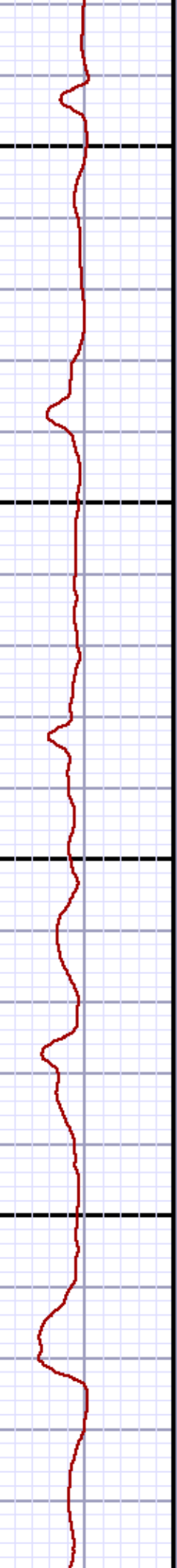
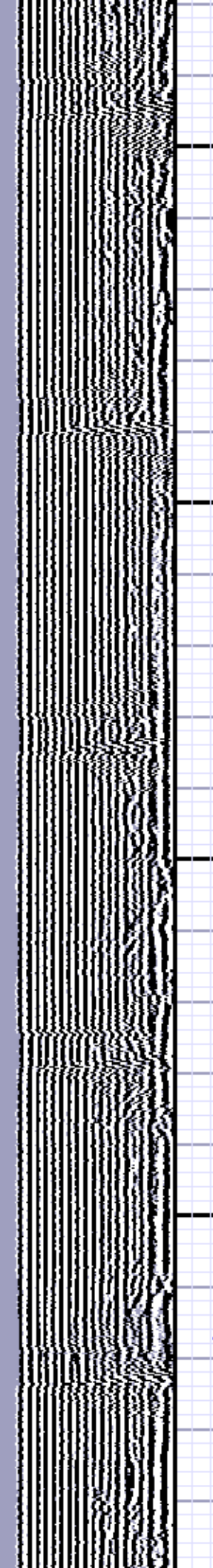
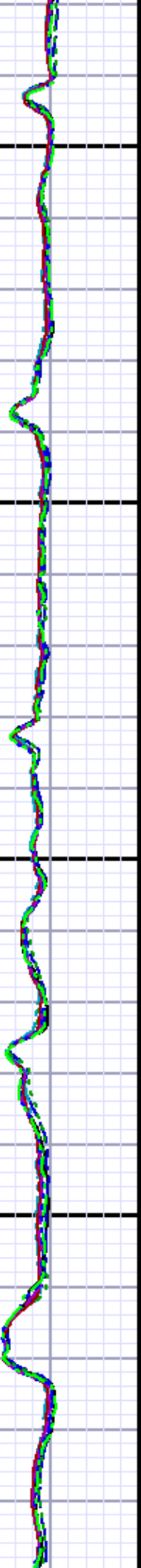
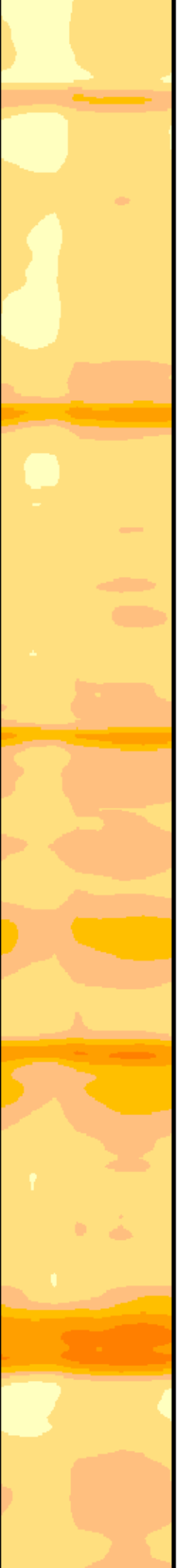




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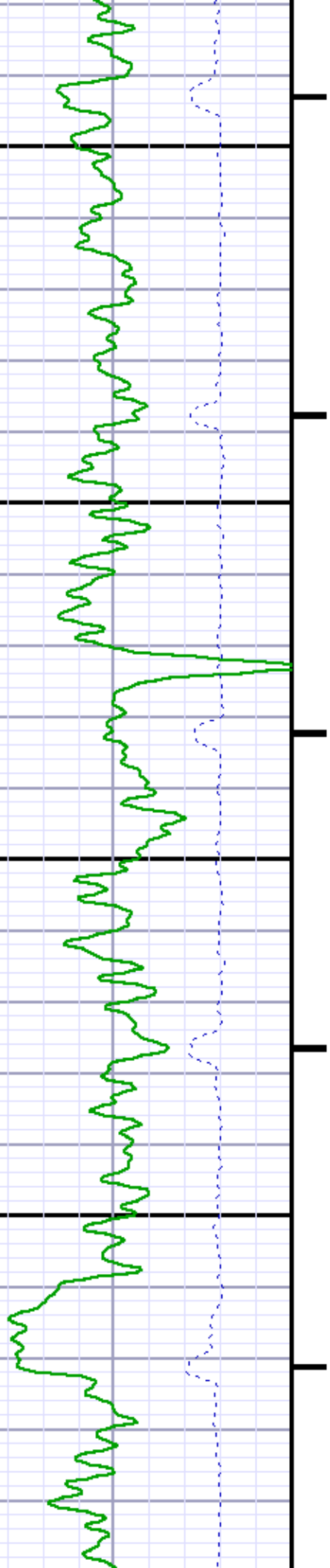


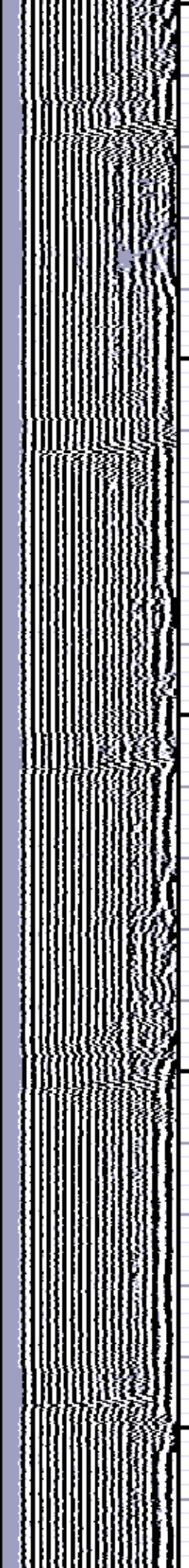
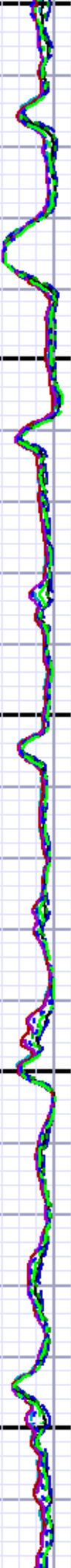
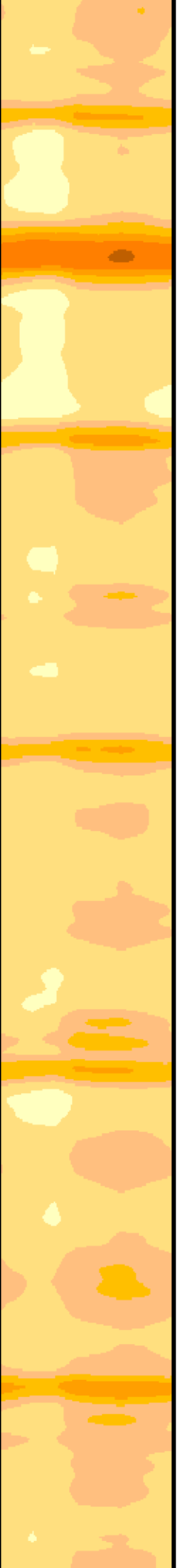


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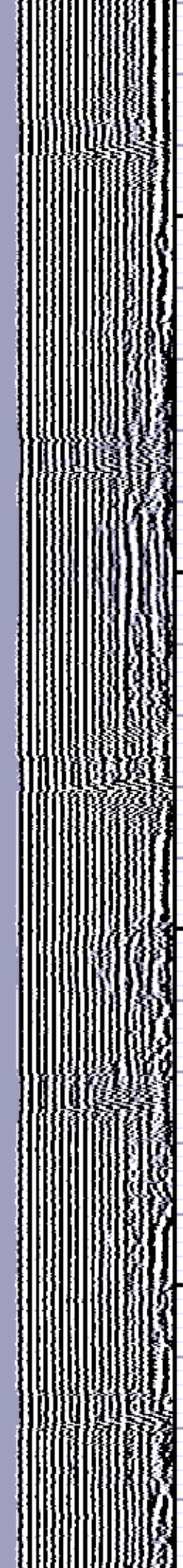
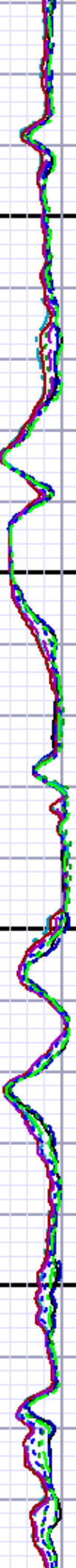


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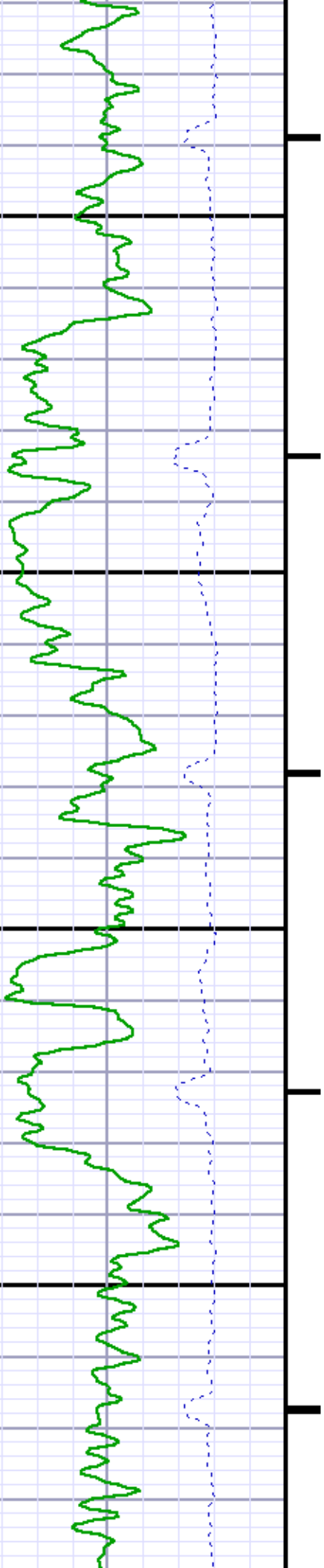
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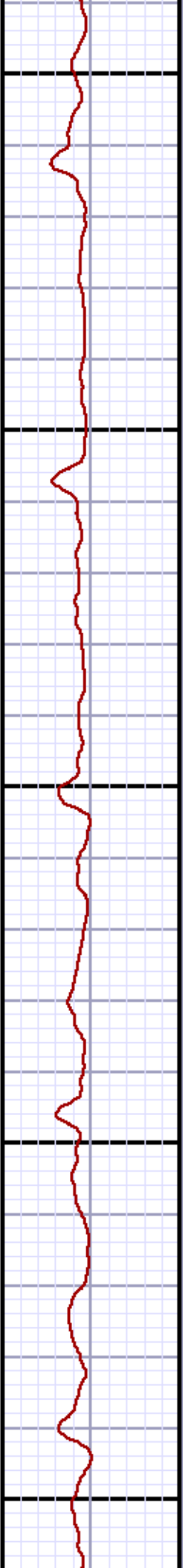
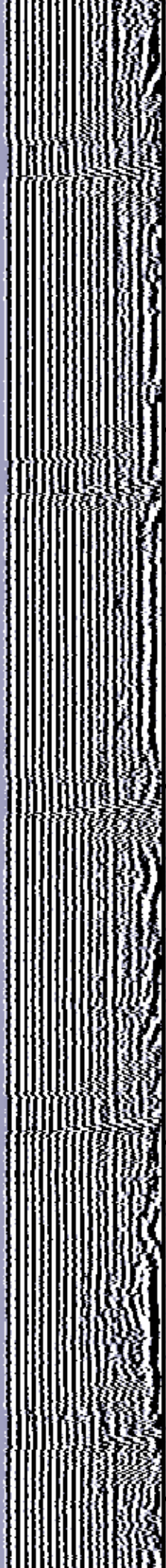
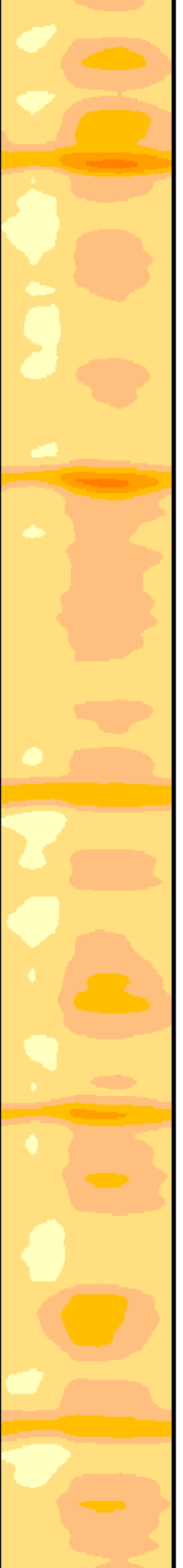


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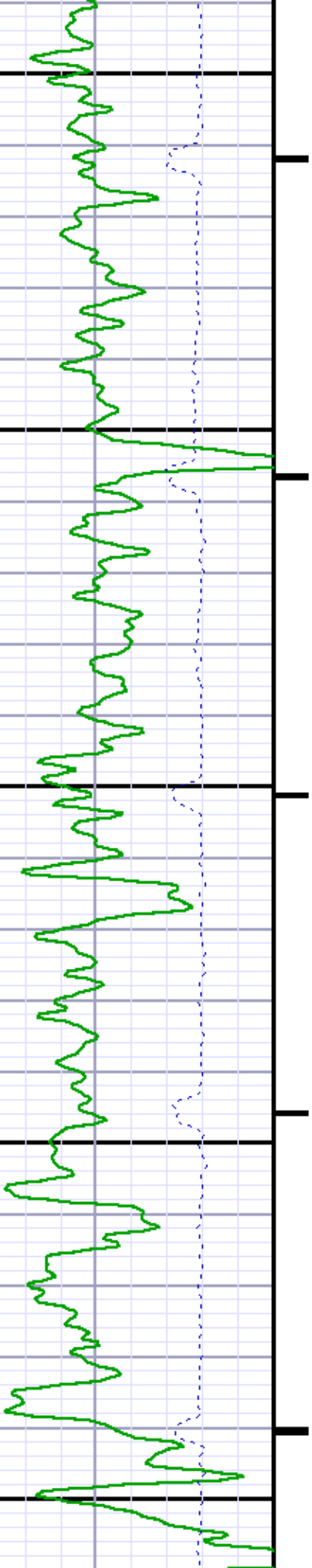


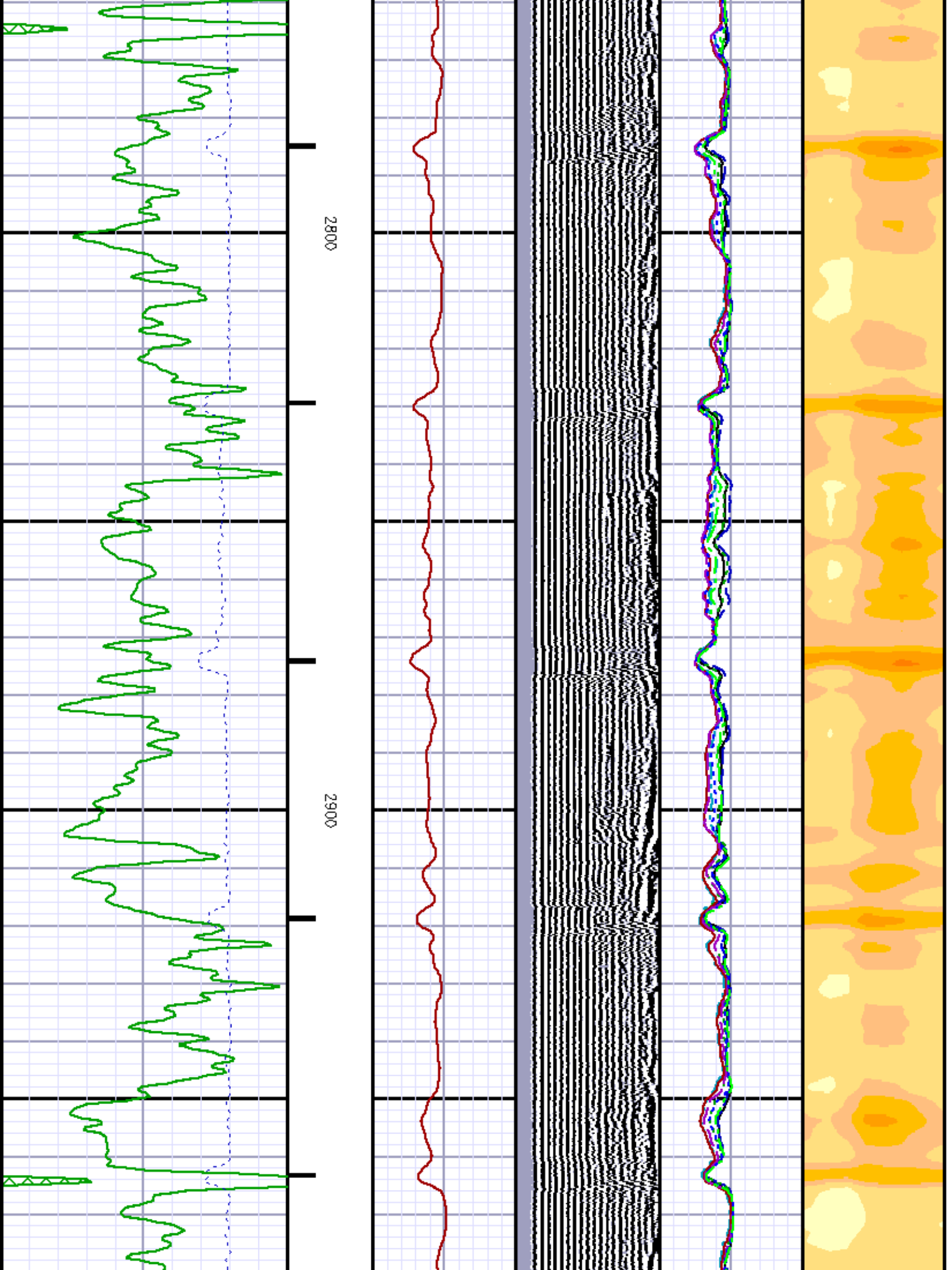


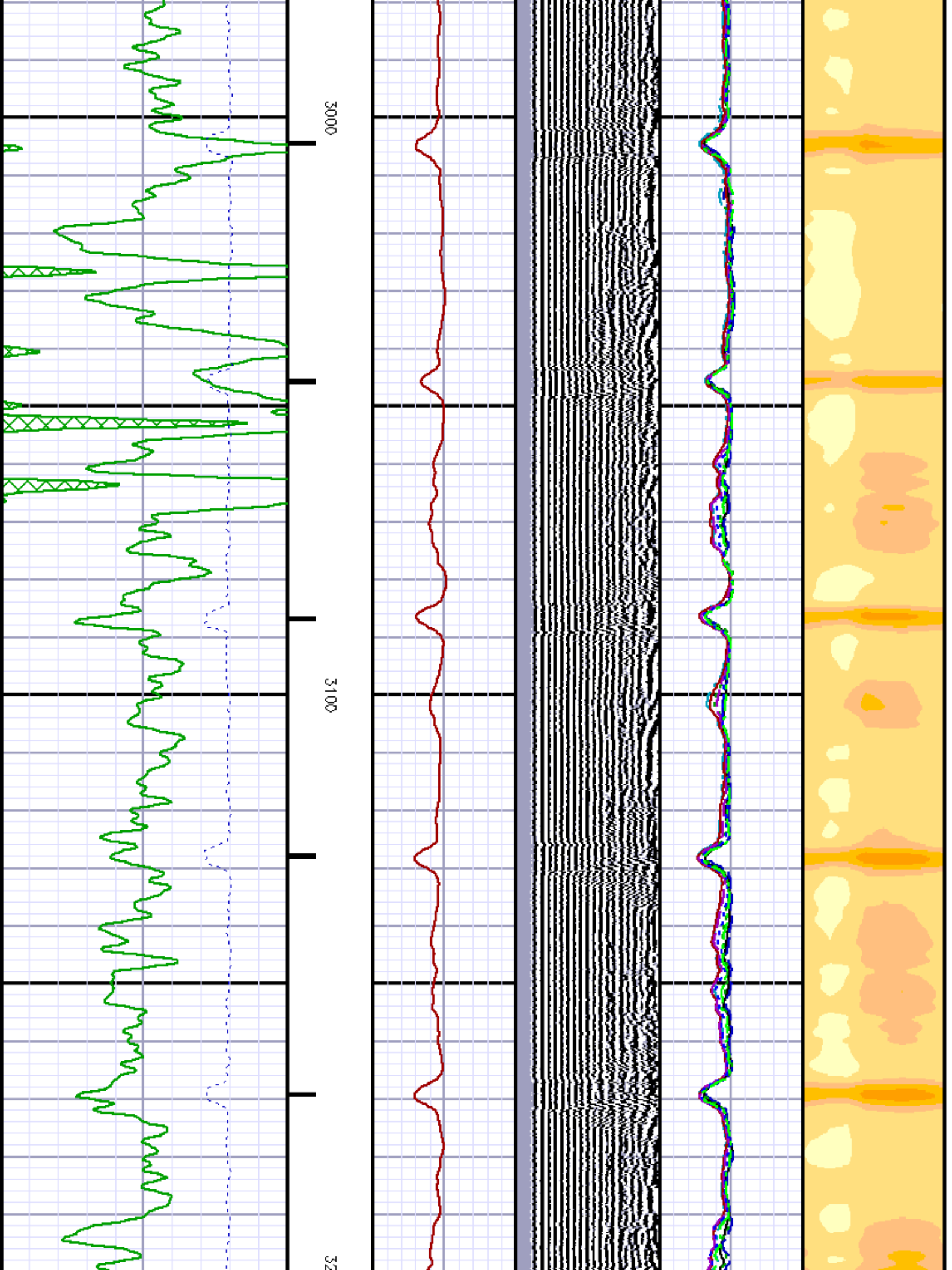


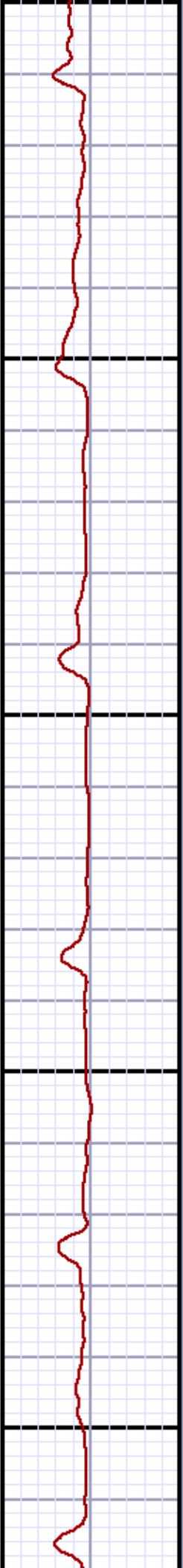
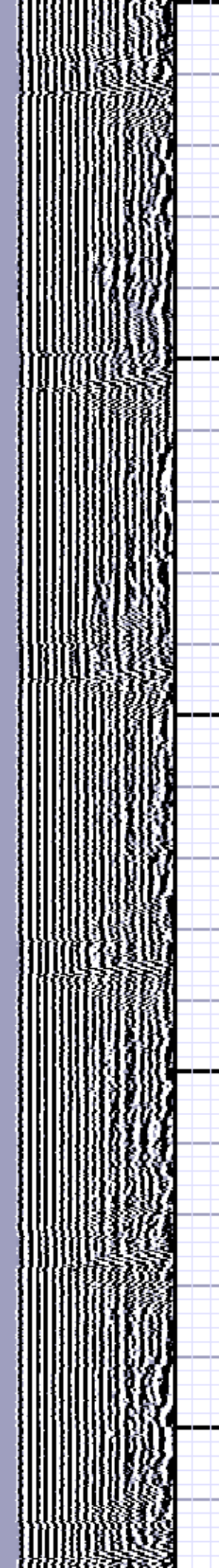
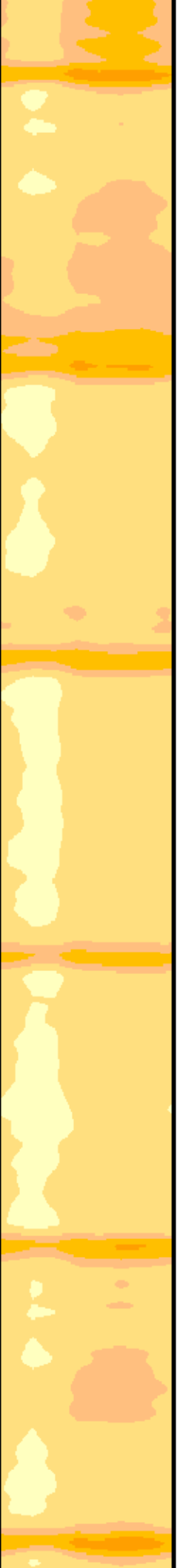
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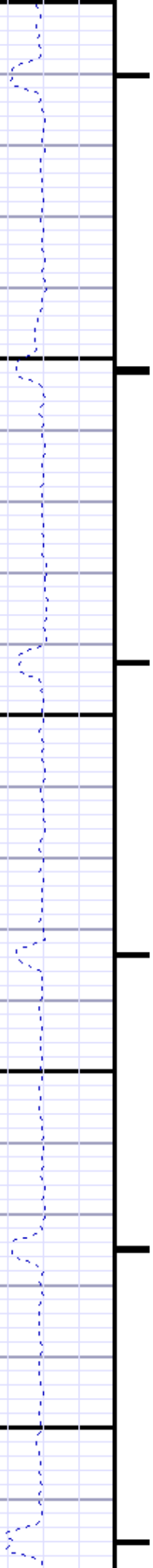
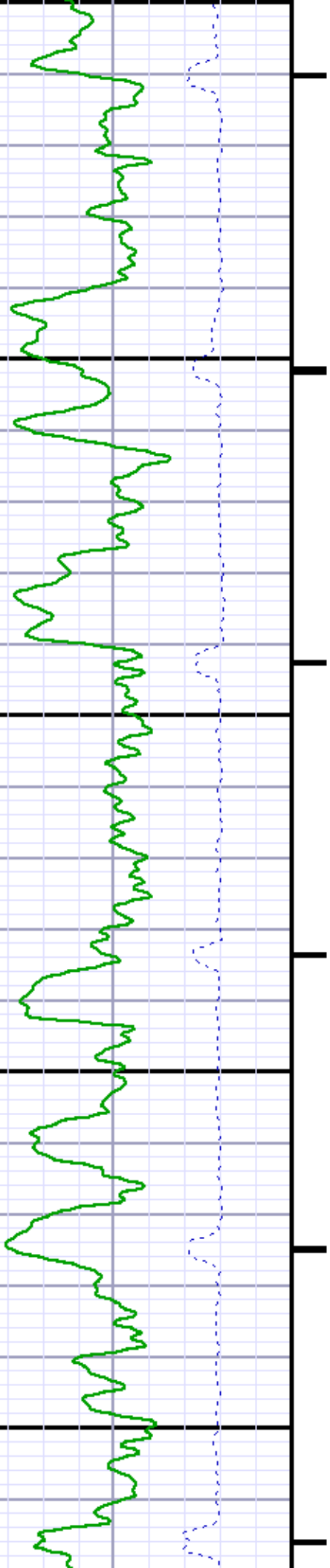




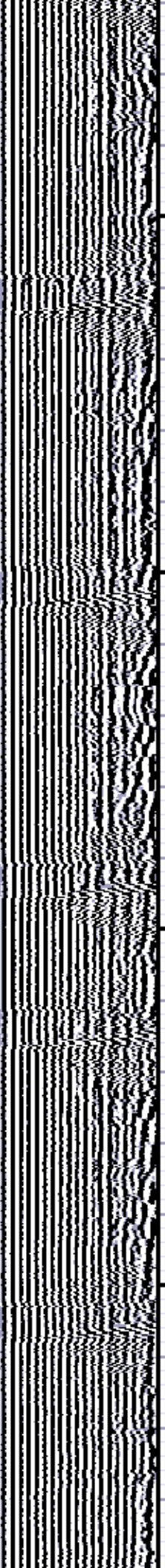
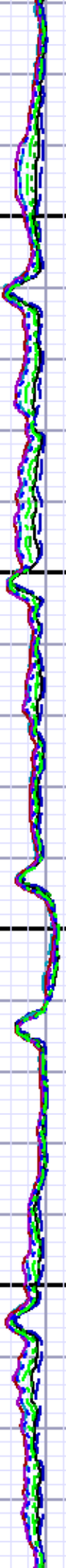




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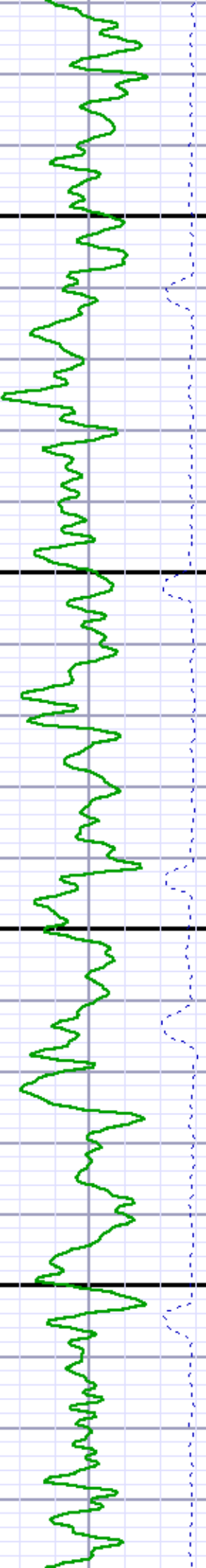


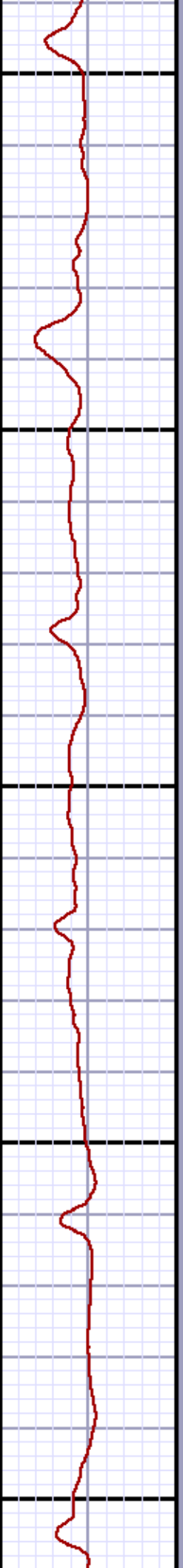
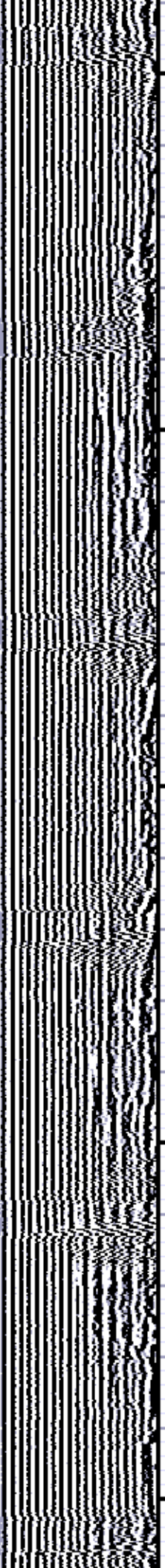
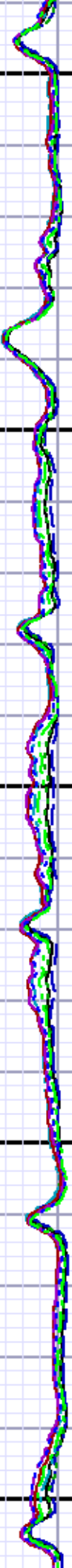
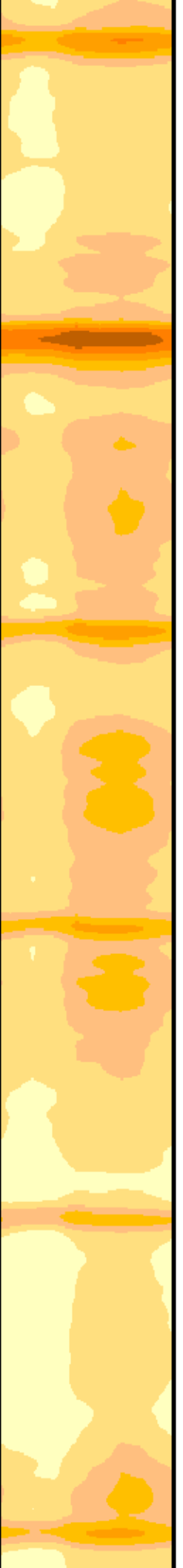




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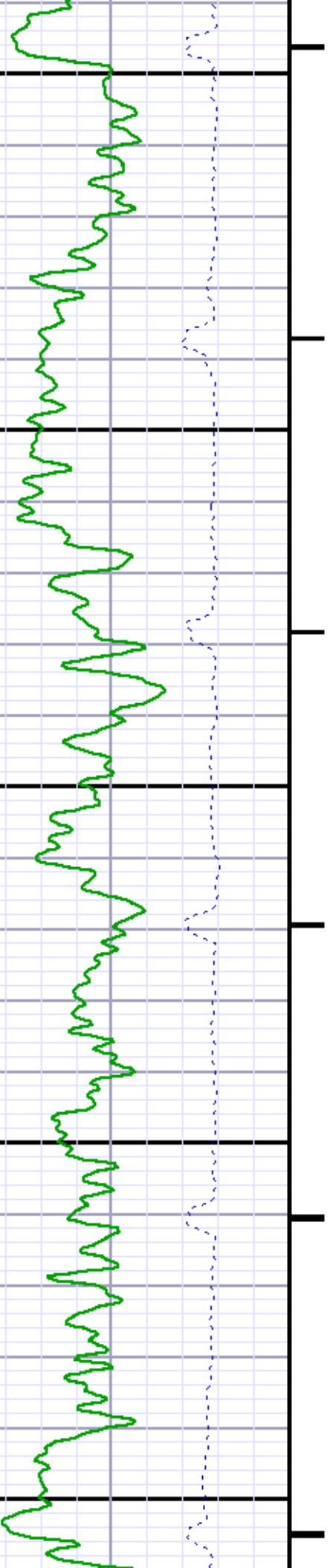
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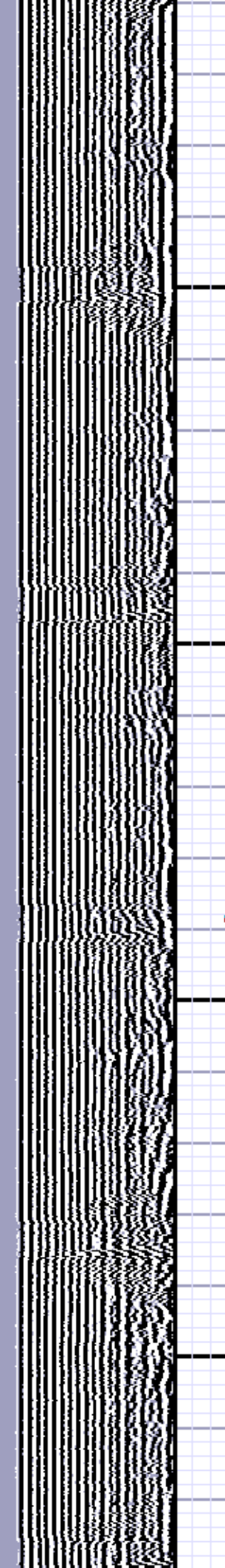
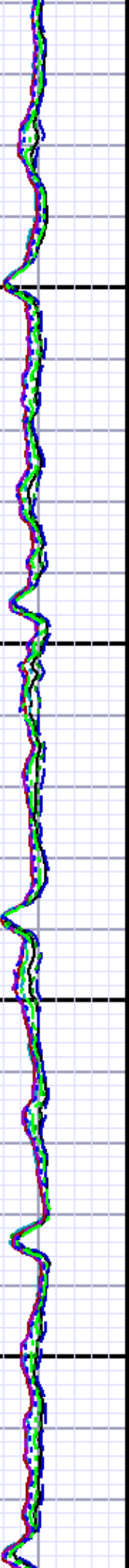
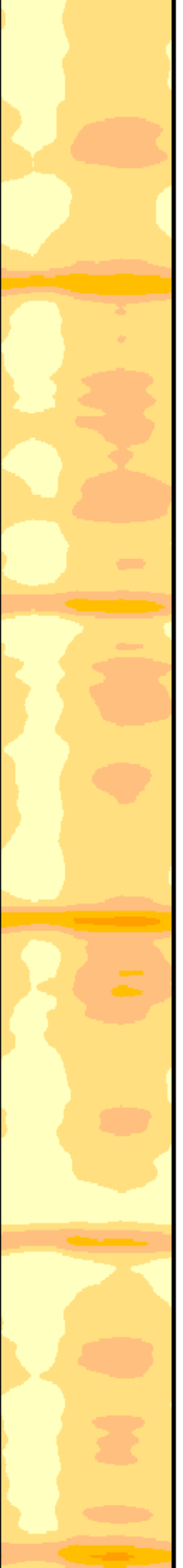




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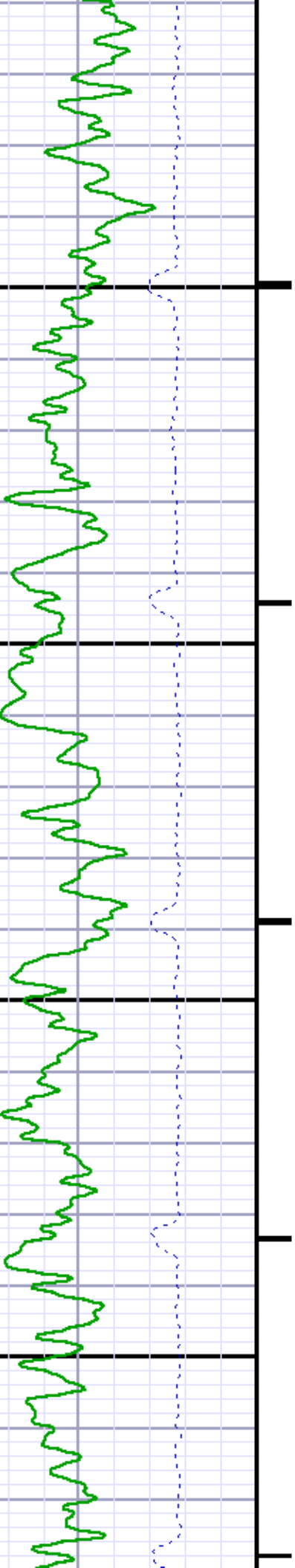
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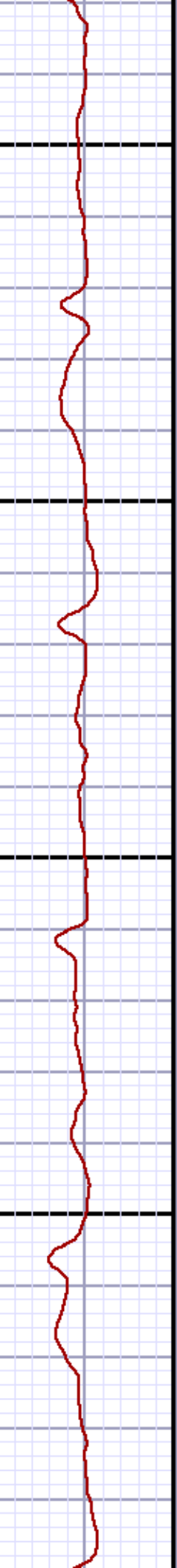
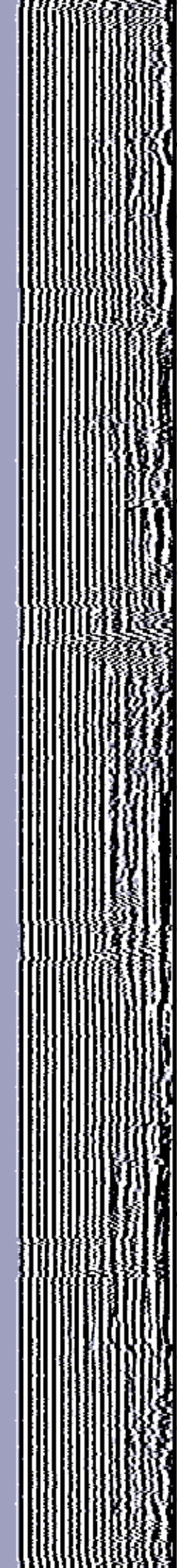
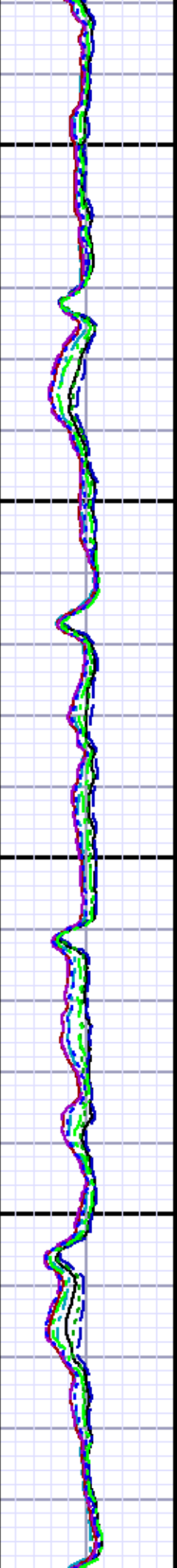
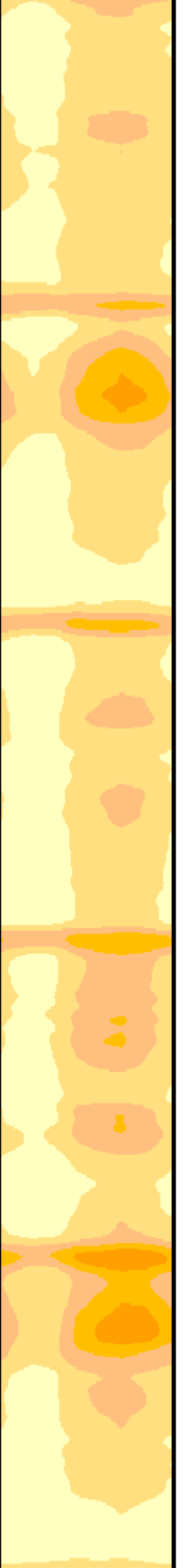




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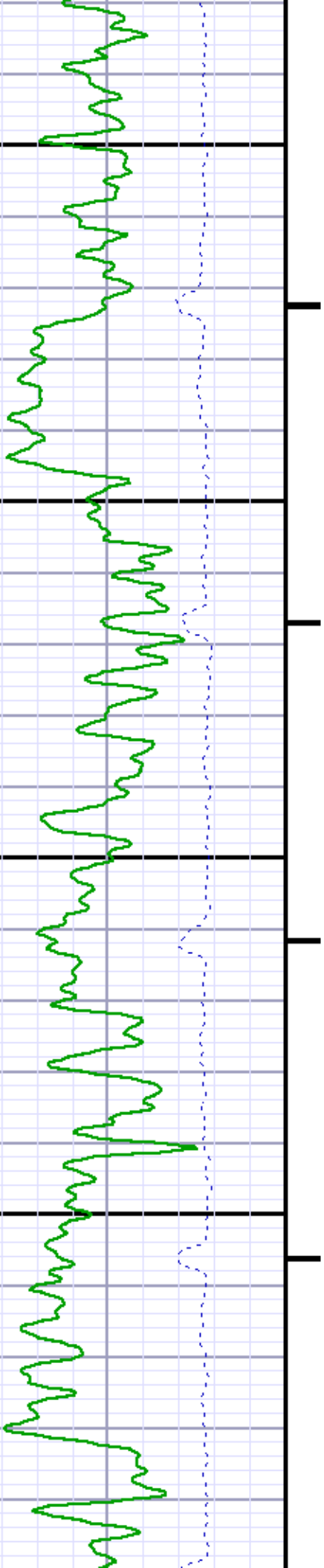




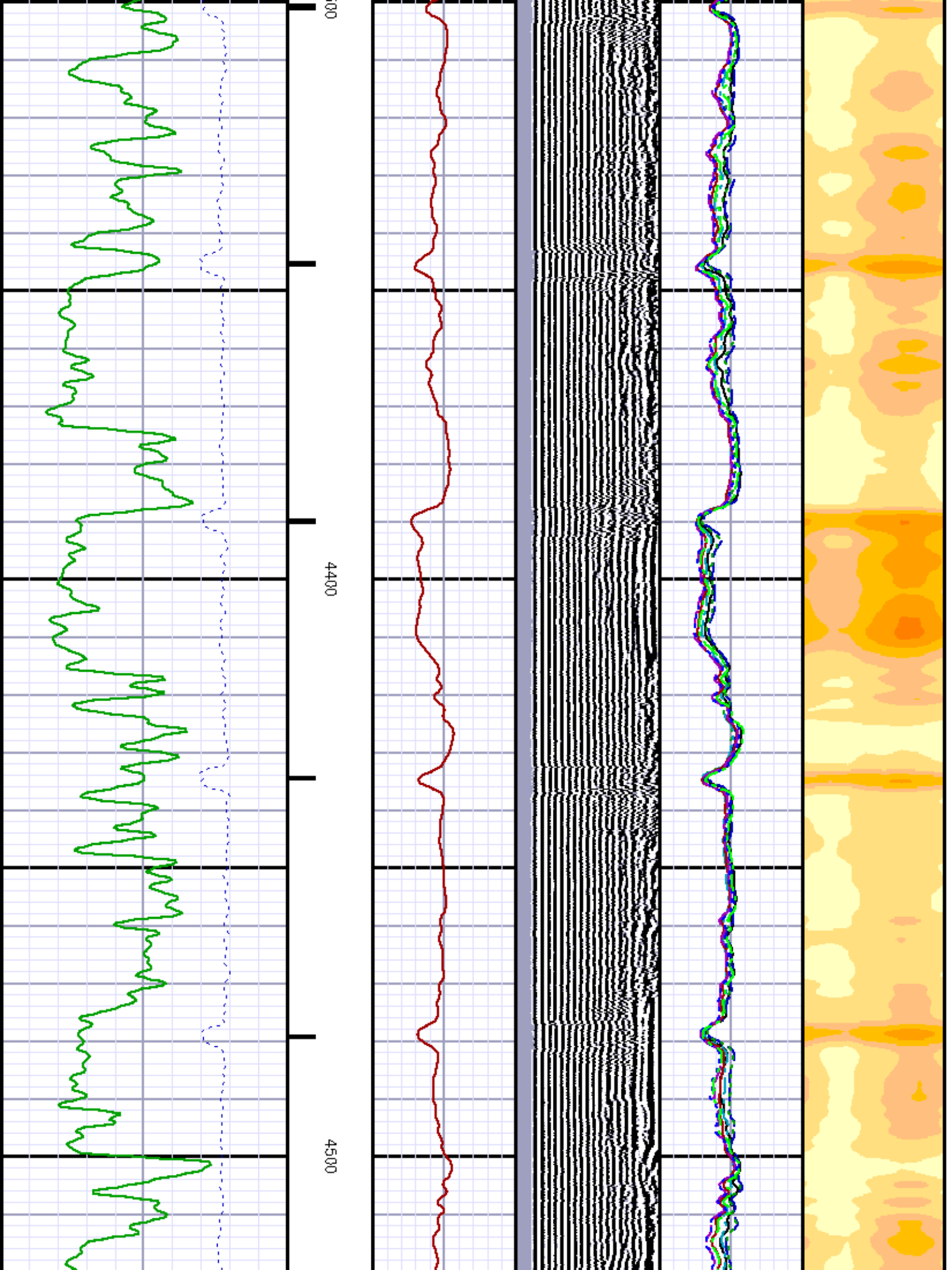
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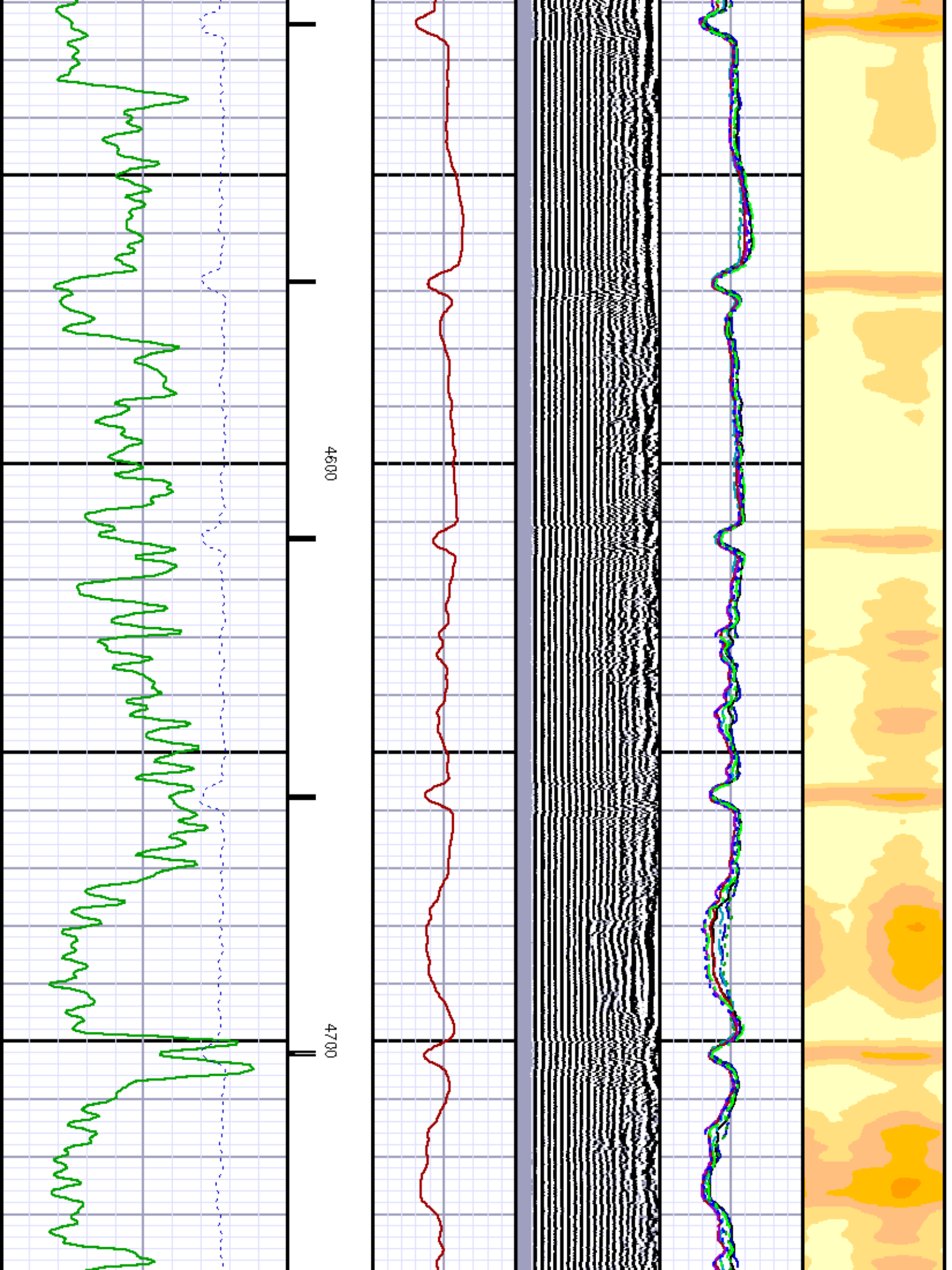
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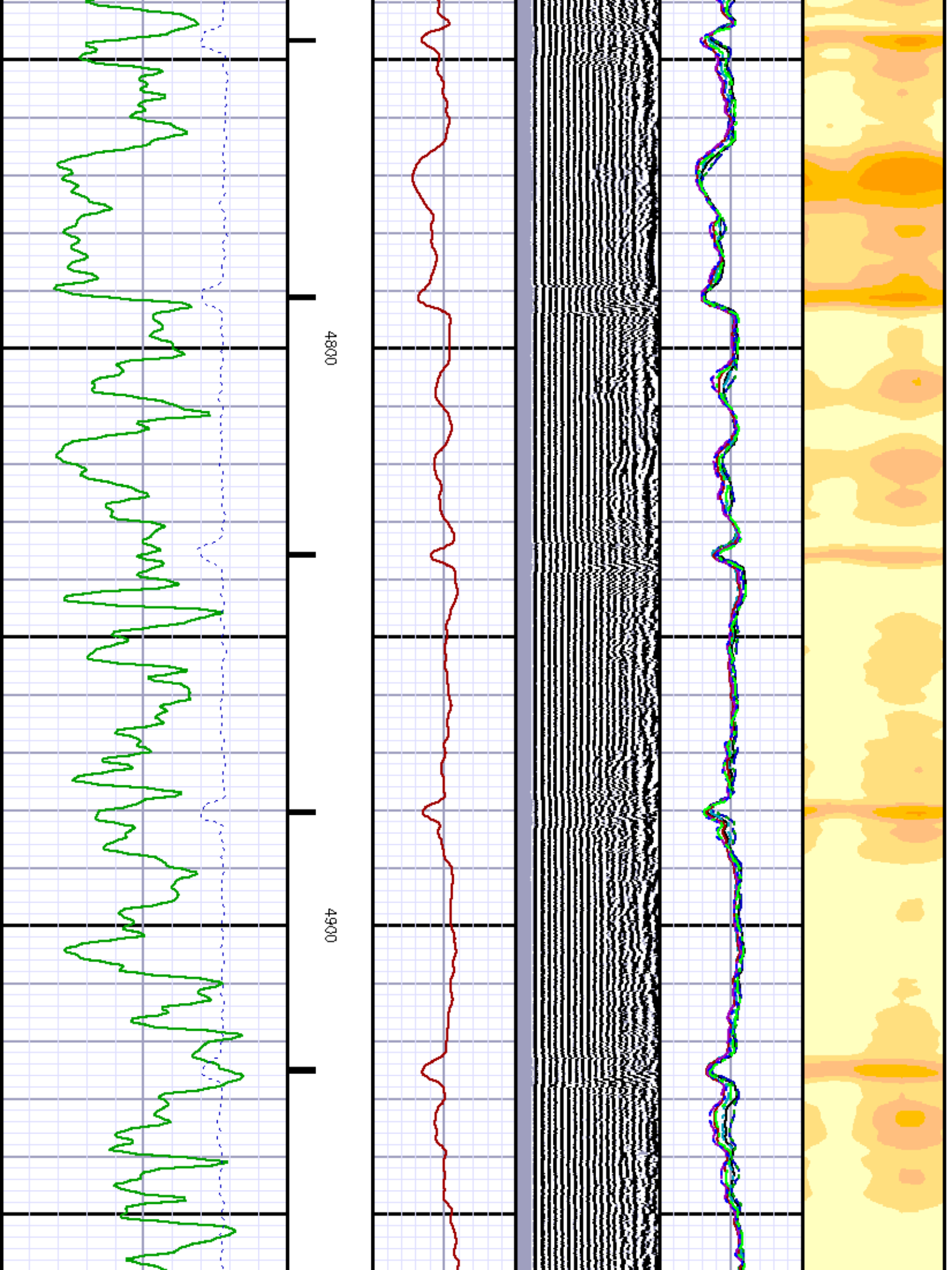
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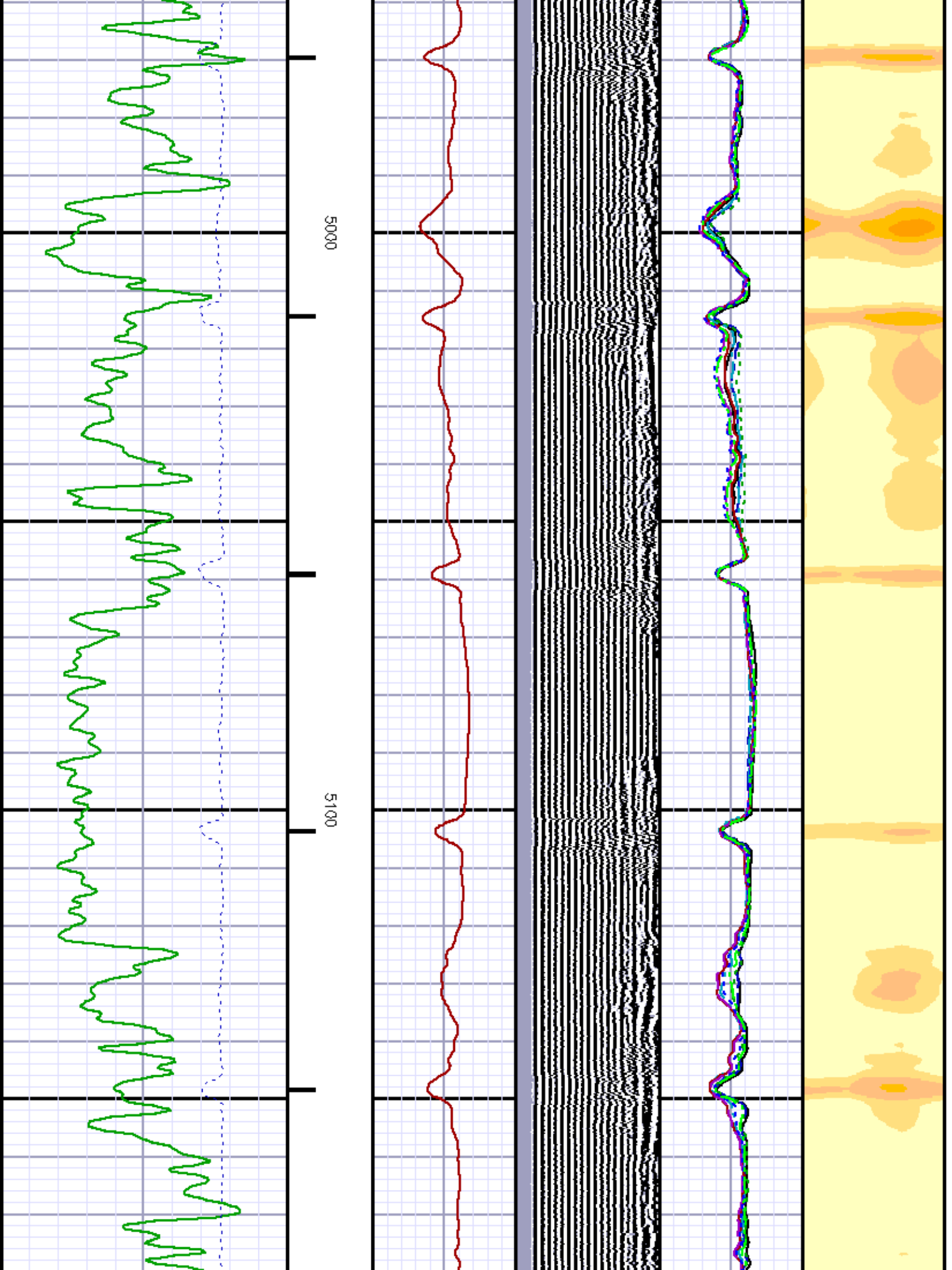




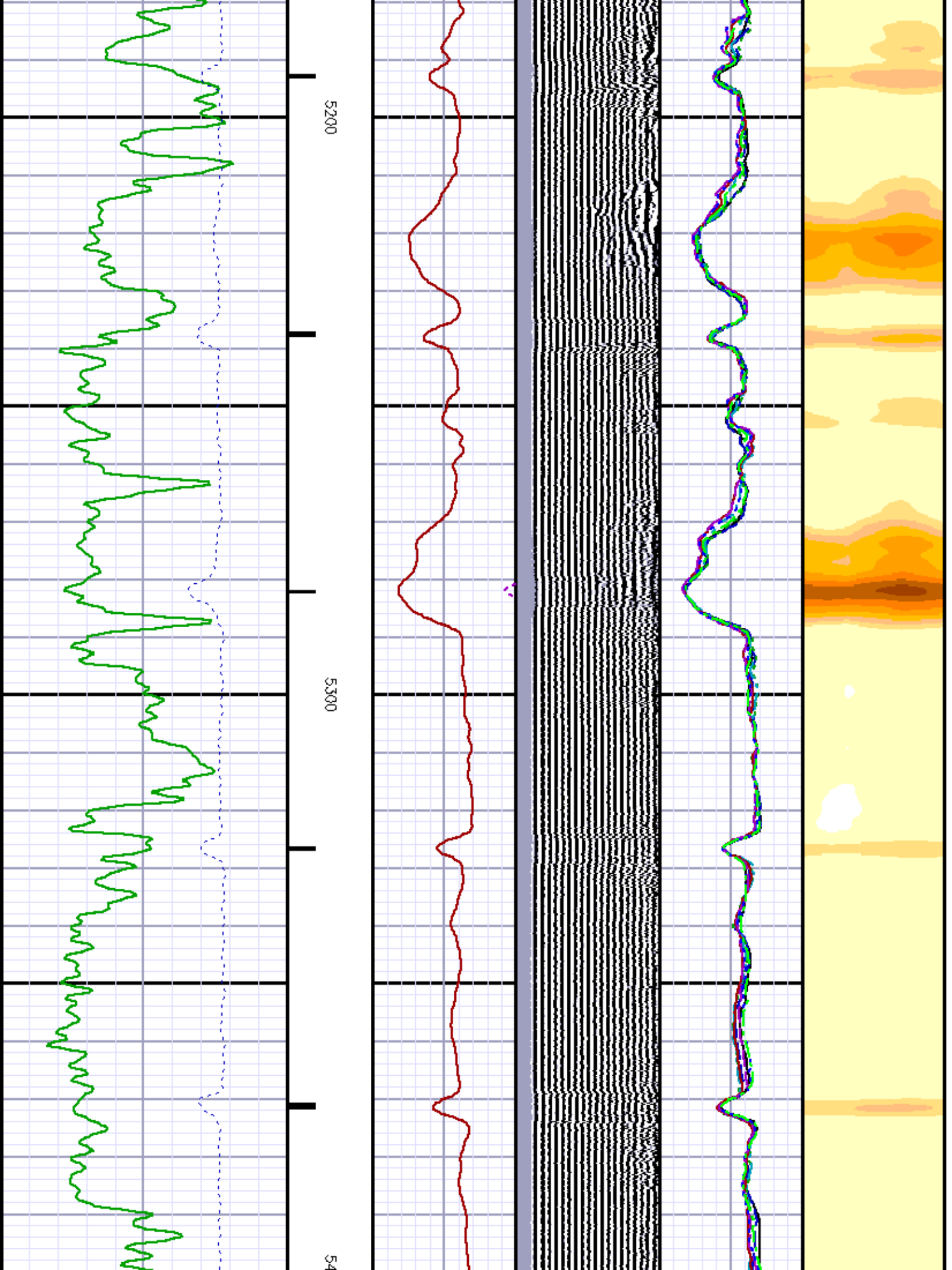


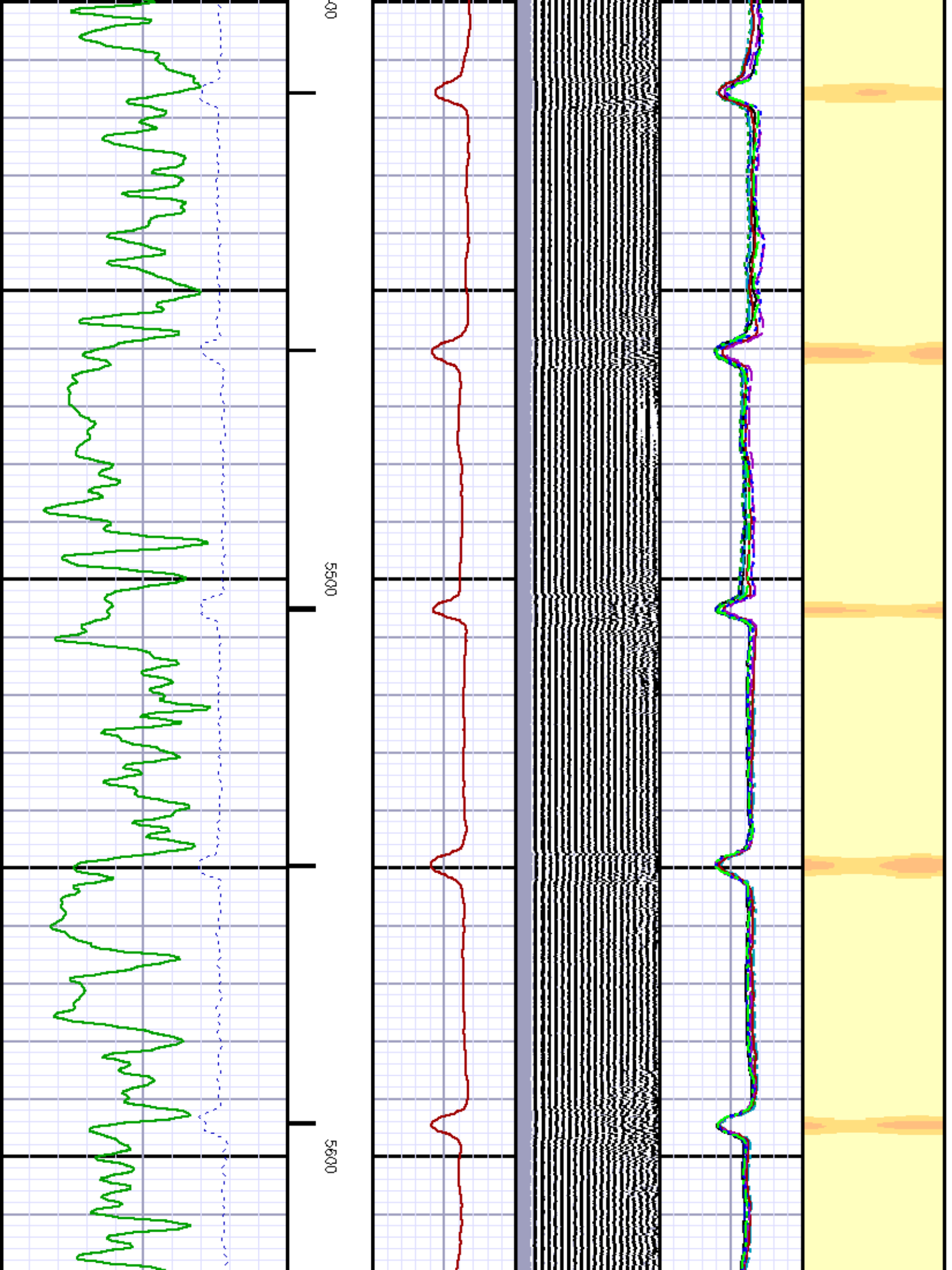


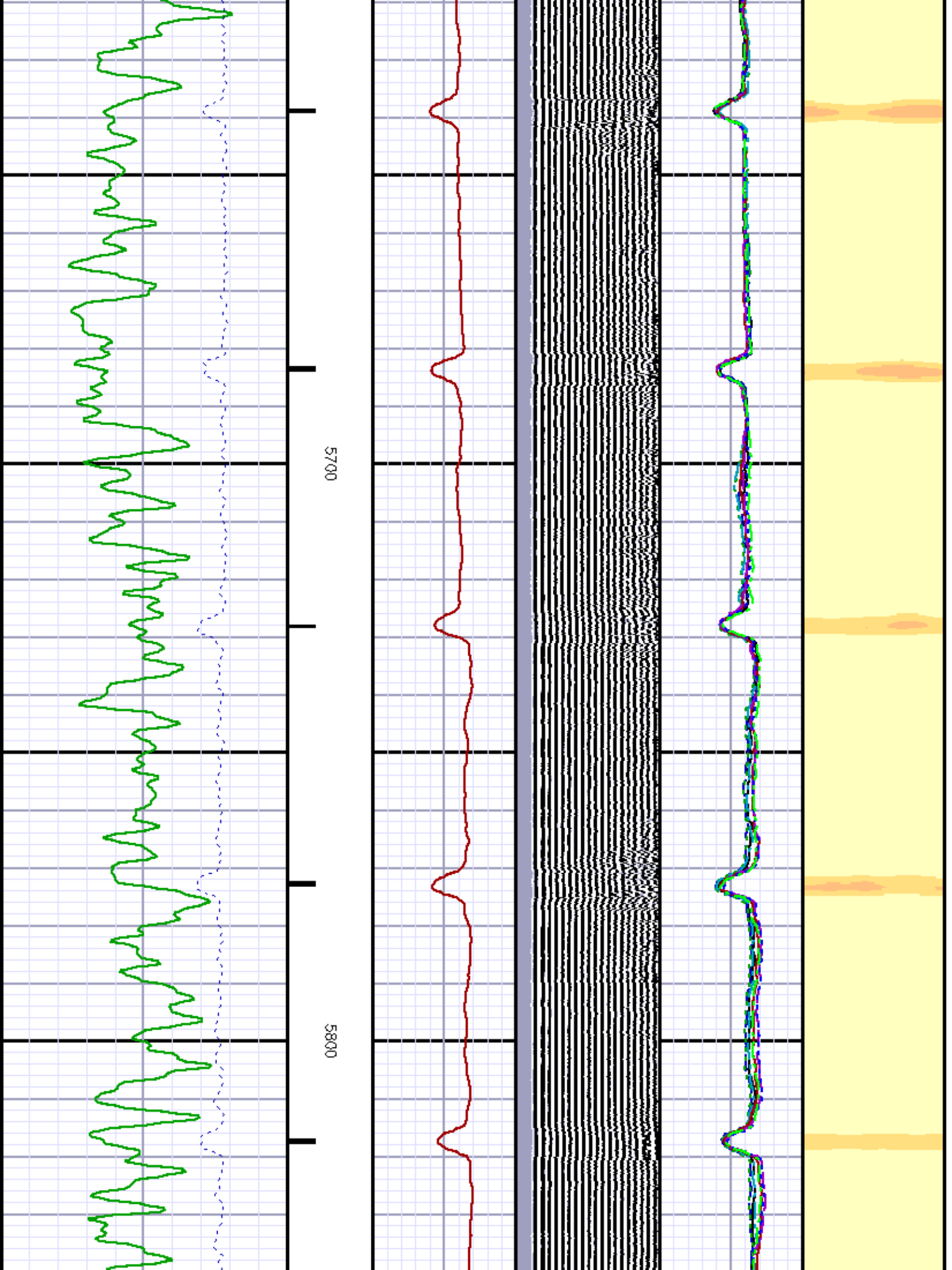


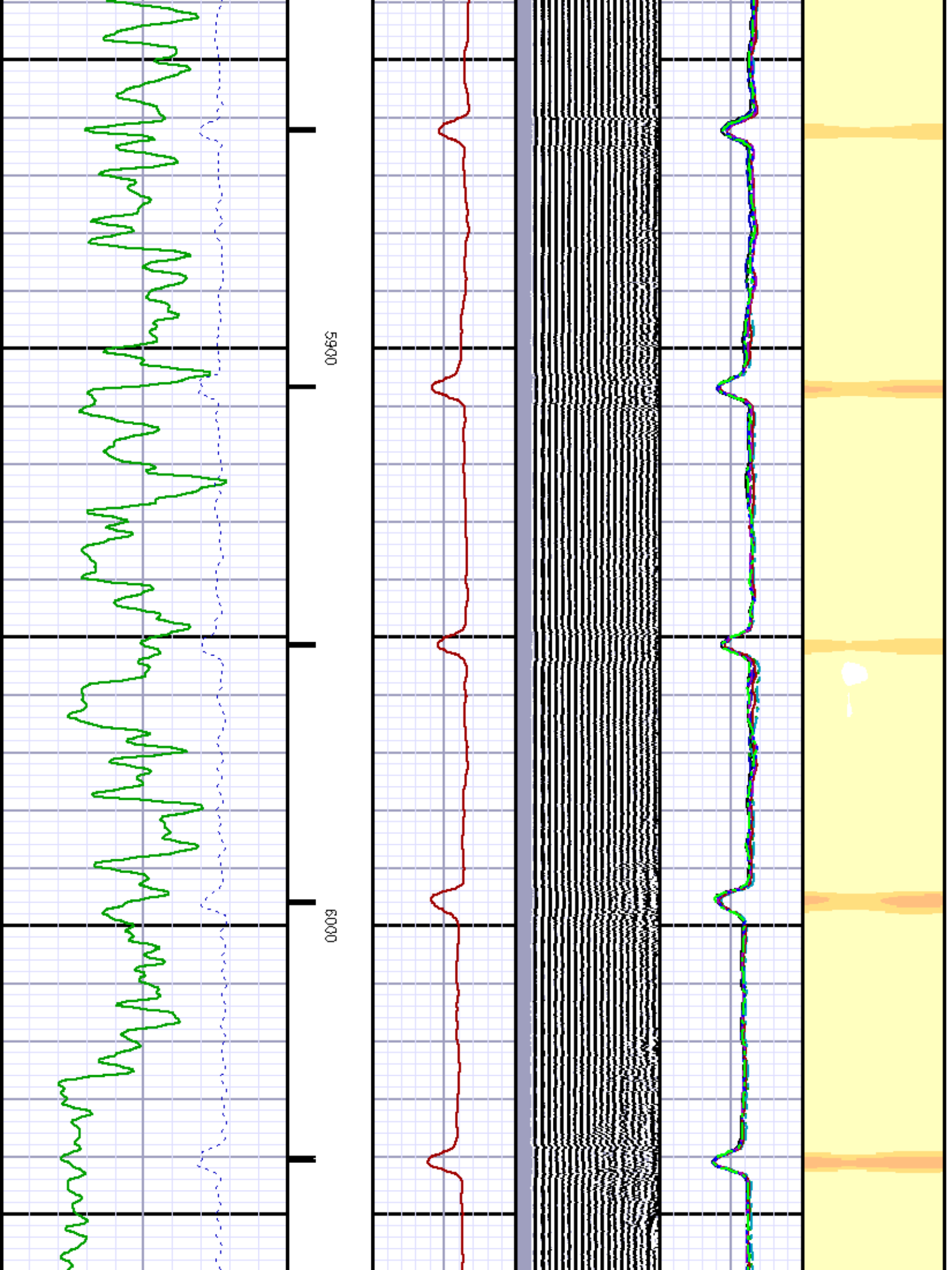




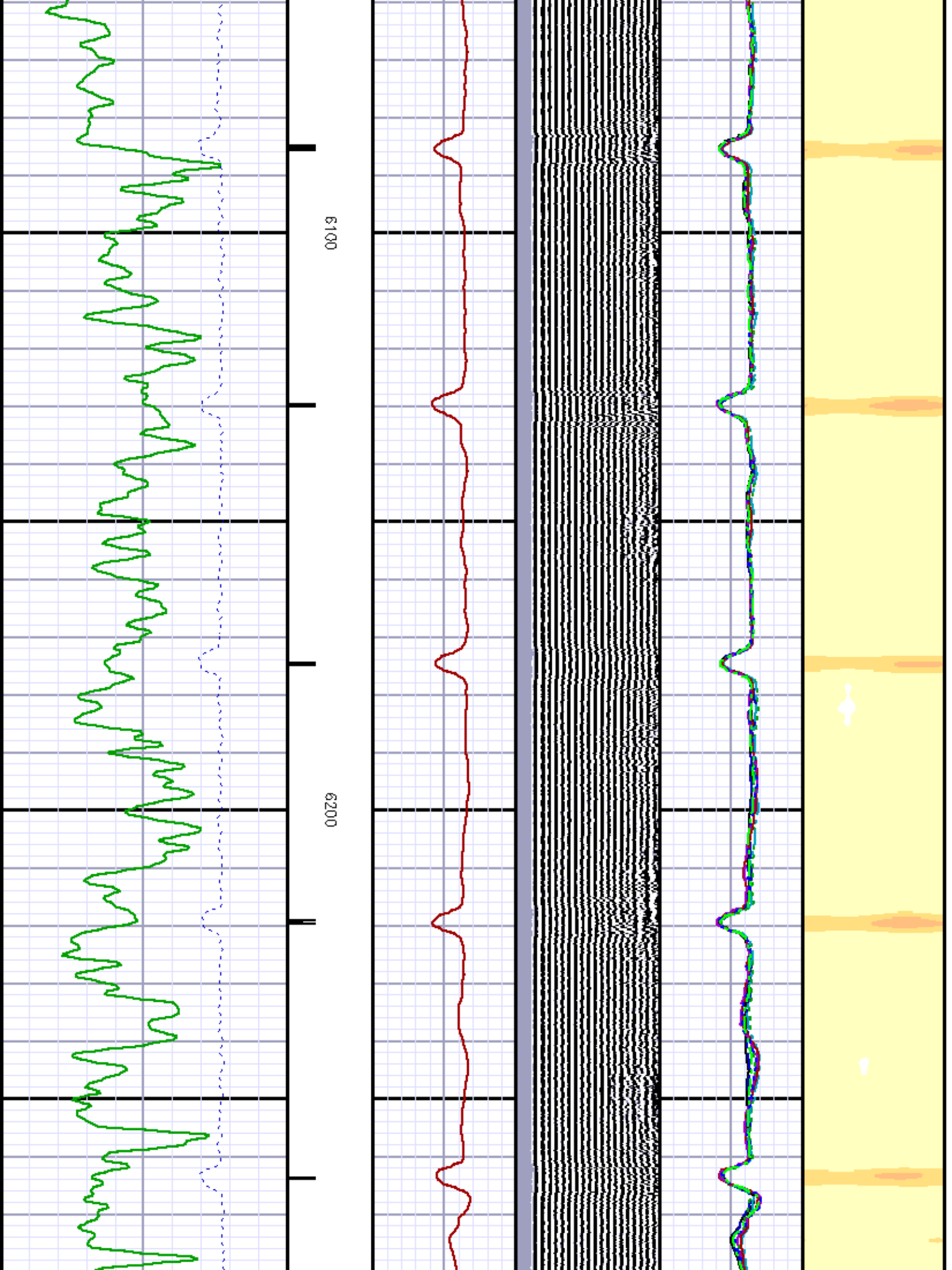


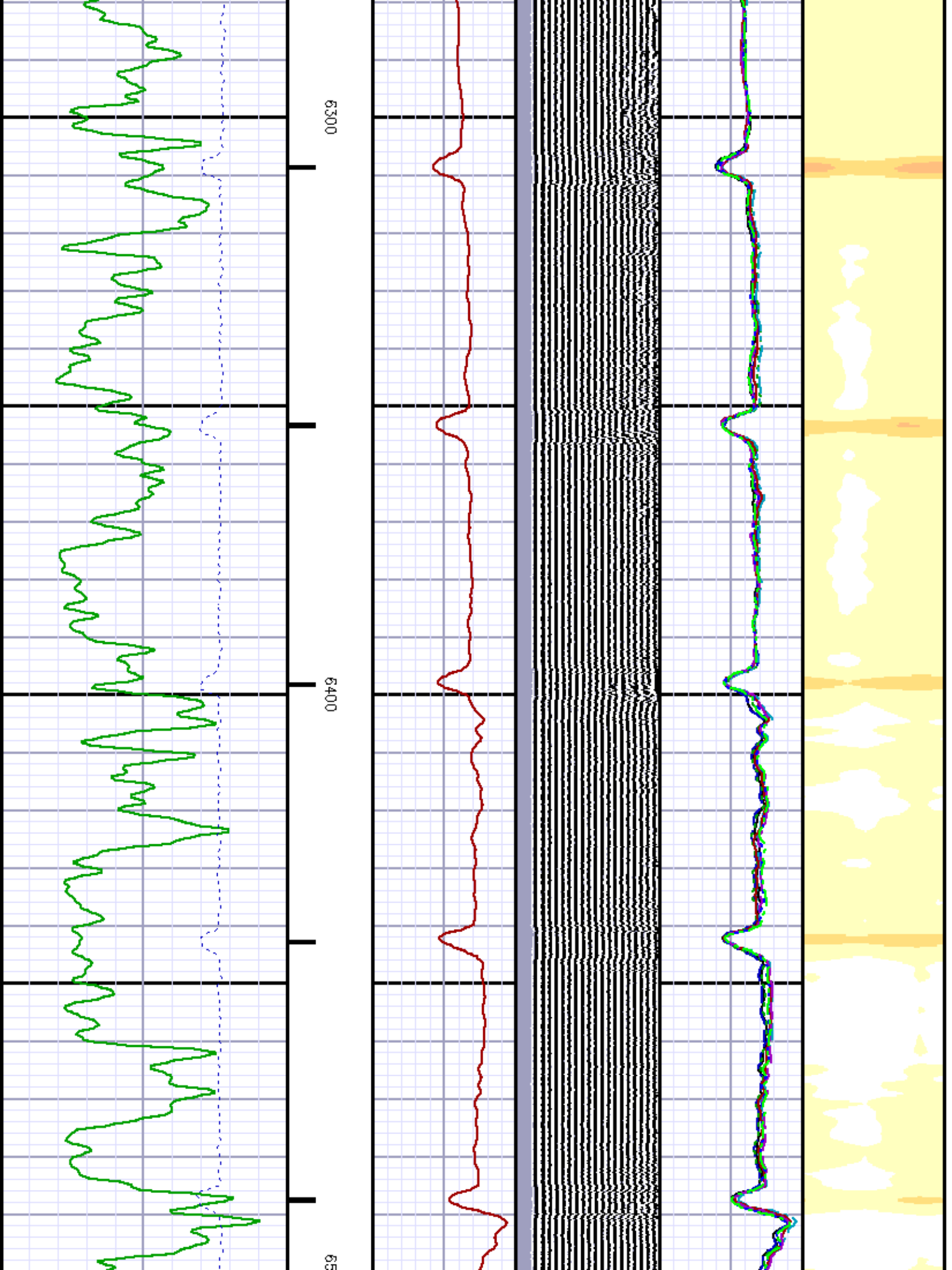


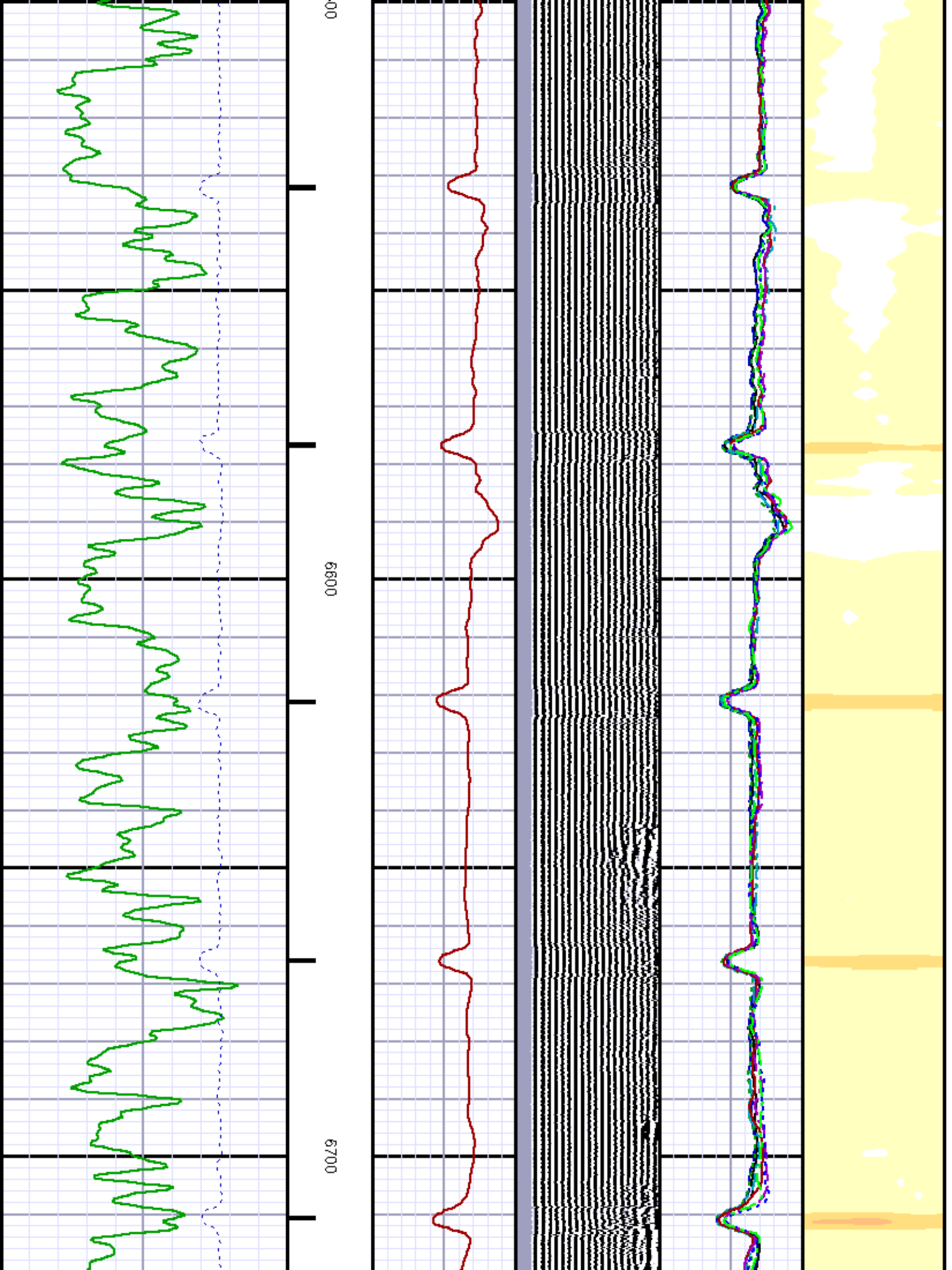


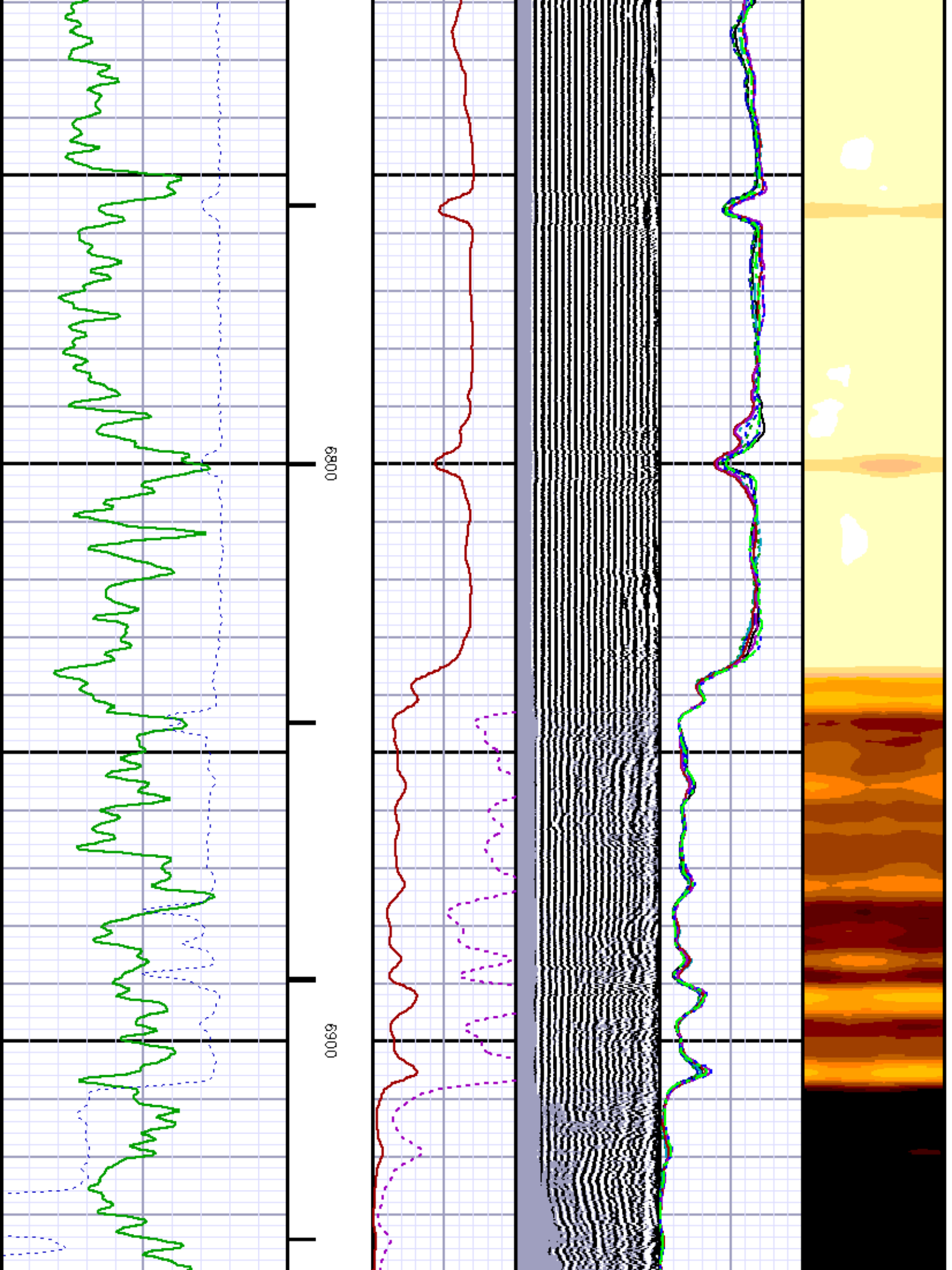




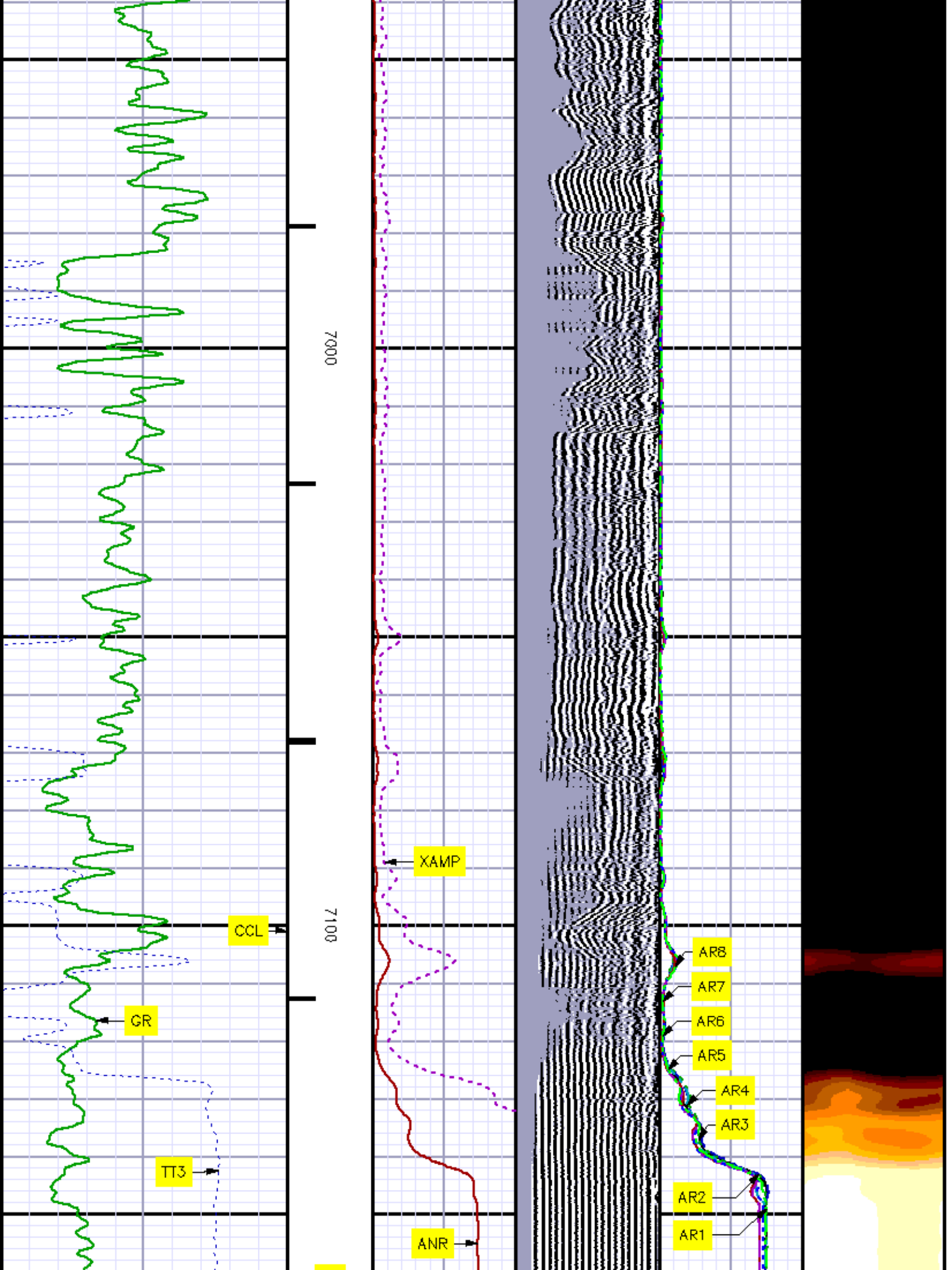


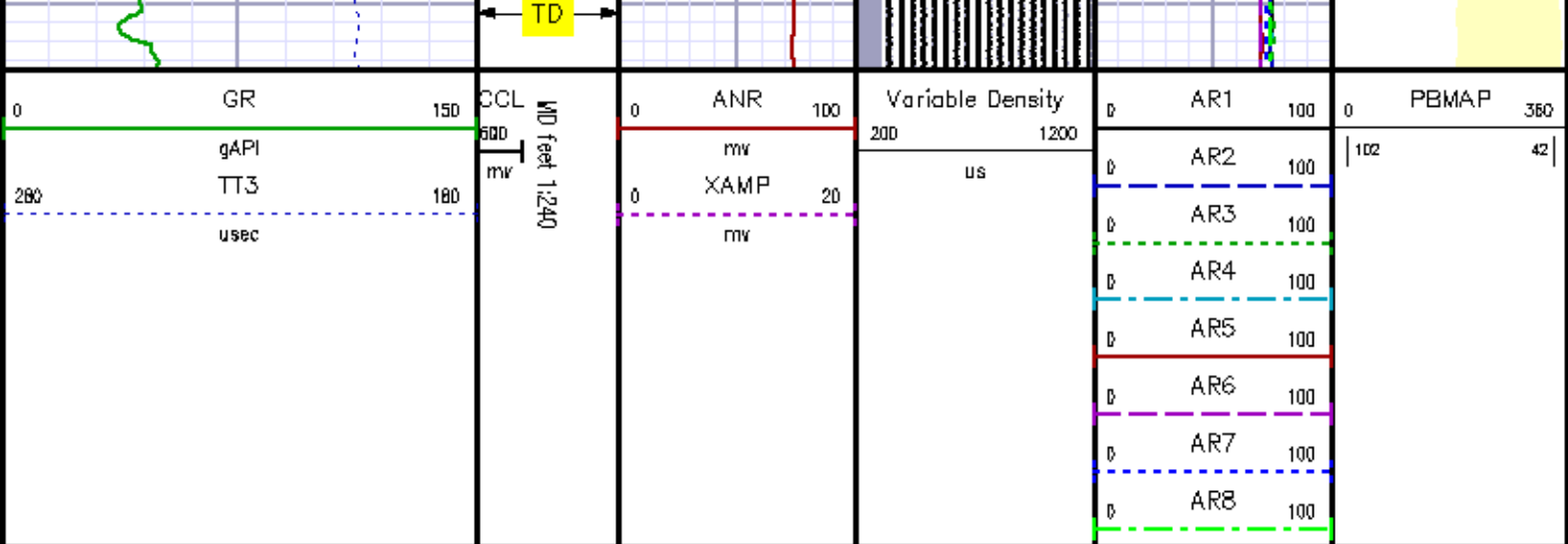












## REPEAT SECTION

0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	306.783	usec	6759.000	7200.000
RAL	Amp Gate Start Near	200.391	usec	6759.000	7200.000
RAL	Amp Gate Start Radial	200.391	usec	6759.000	7200.000
RAL	Amp Gate Width Far	30.000	usec	6759.000	7200.000
RAL	Amp Gate Width Near	30.000	usec	6759.000	7200.000
RAL	Amp Gate Width Radial	30.000	usec	6759.000	7200.000
RAL	casing od	4.500	inches	6759.000	7200.000
RAL	casing wt	11.600	lbm/ft	6759.000	7200.000
RAL	FB Start Far	291.900	usec	6759.000	7200.000
RAL	FB Start Near	175.391	usec	6759.000	7200.000
RAL	FB Start Radial	175.391	usec	6759.000	7200.000
RAL	FB Thresh Far	15.000	mv	6759.000	7200.000
RAL	FB Thresh Near	10.000	mv	6759.000	7200.000
RAL	FB Thresh Radial	10.000	mv	6759.000	7200.000
RAL	Fluid Travel Time	200.000	usec/ft	6759.000	7200.500

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES							
1426XA	-16.450	ACAL	ANR	AR1	AR2	AR3	AR4		
		AR5	AR6	AR7	AR8	CHV	FPR2		
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3		
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP		
1426XA	-15.450	AFAR	SIG	TT5					
2459XA	-11.340	CCL							
2459XA	-9.490	GR							
2459XA	-4.090	NEU							

Created by : RAL, v4.8.DDB

Plotted by : PlotMgr, v5.4.5D4

Company : WILLIAMS PRODUCTION COMPANY

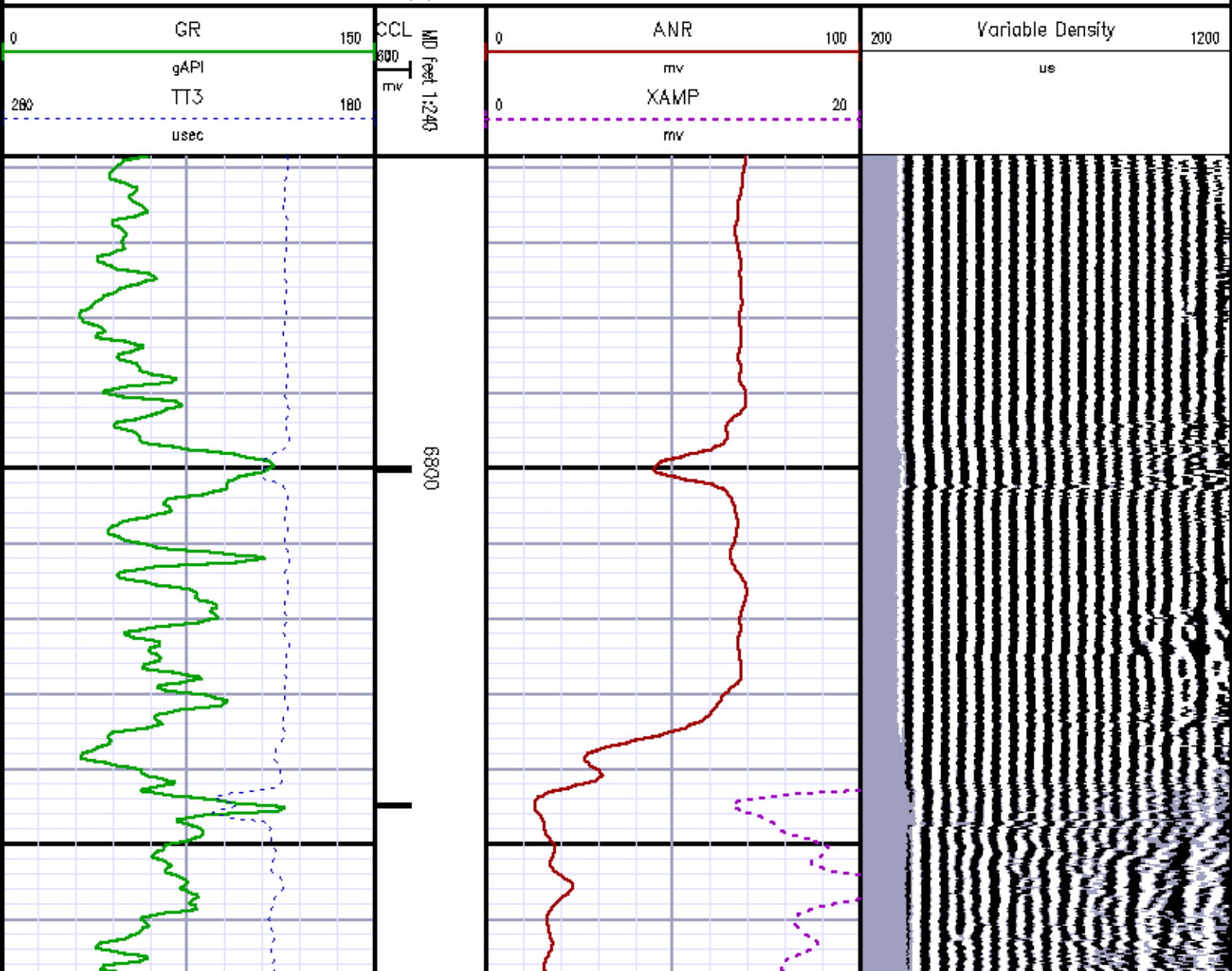
Well : GM 34-32

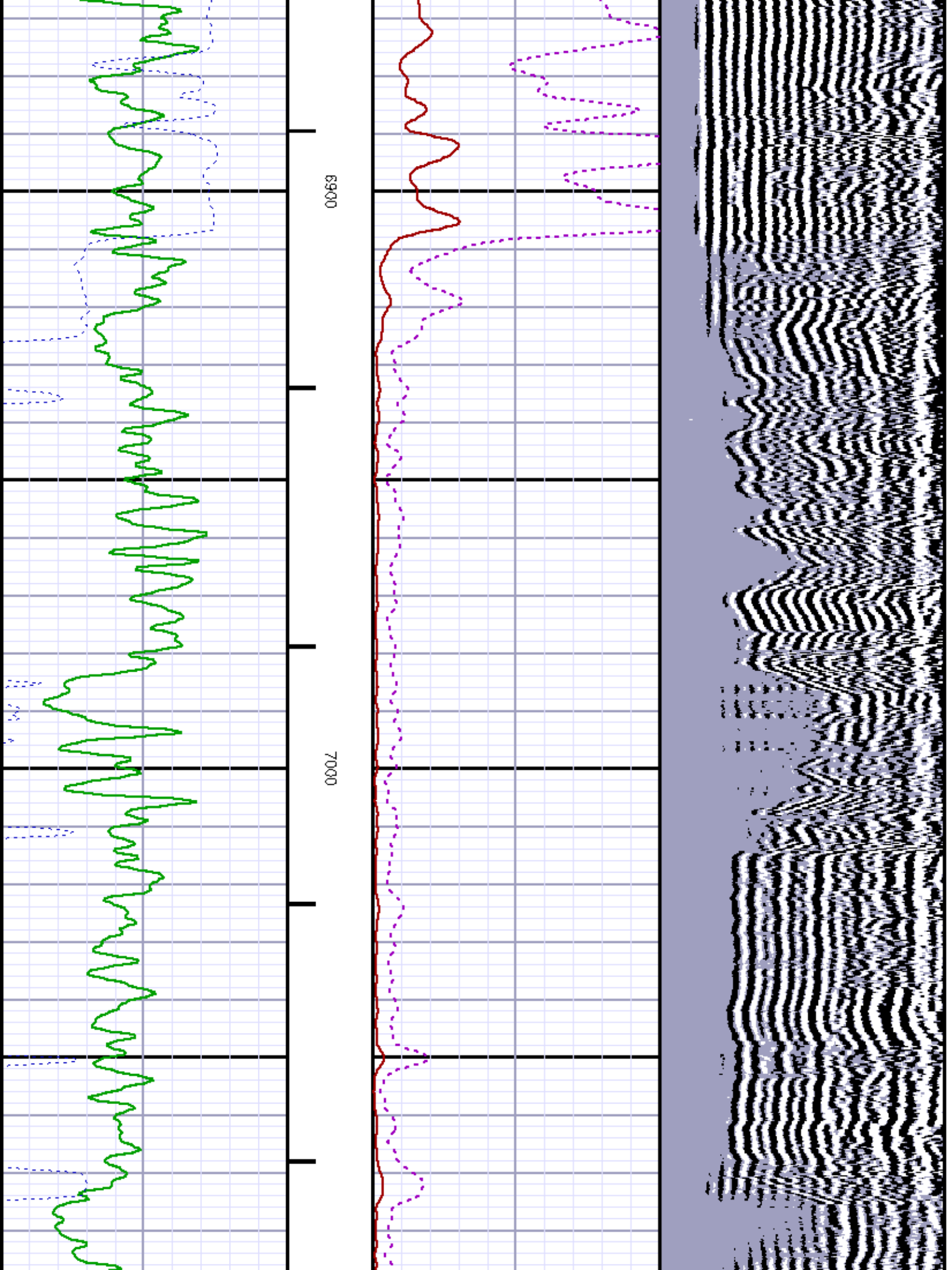
File Name : d:\well\data\rod34\repeatrdrn.xtf

Mode : PlotMgr 5.4.5D4

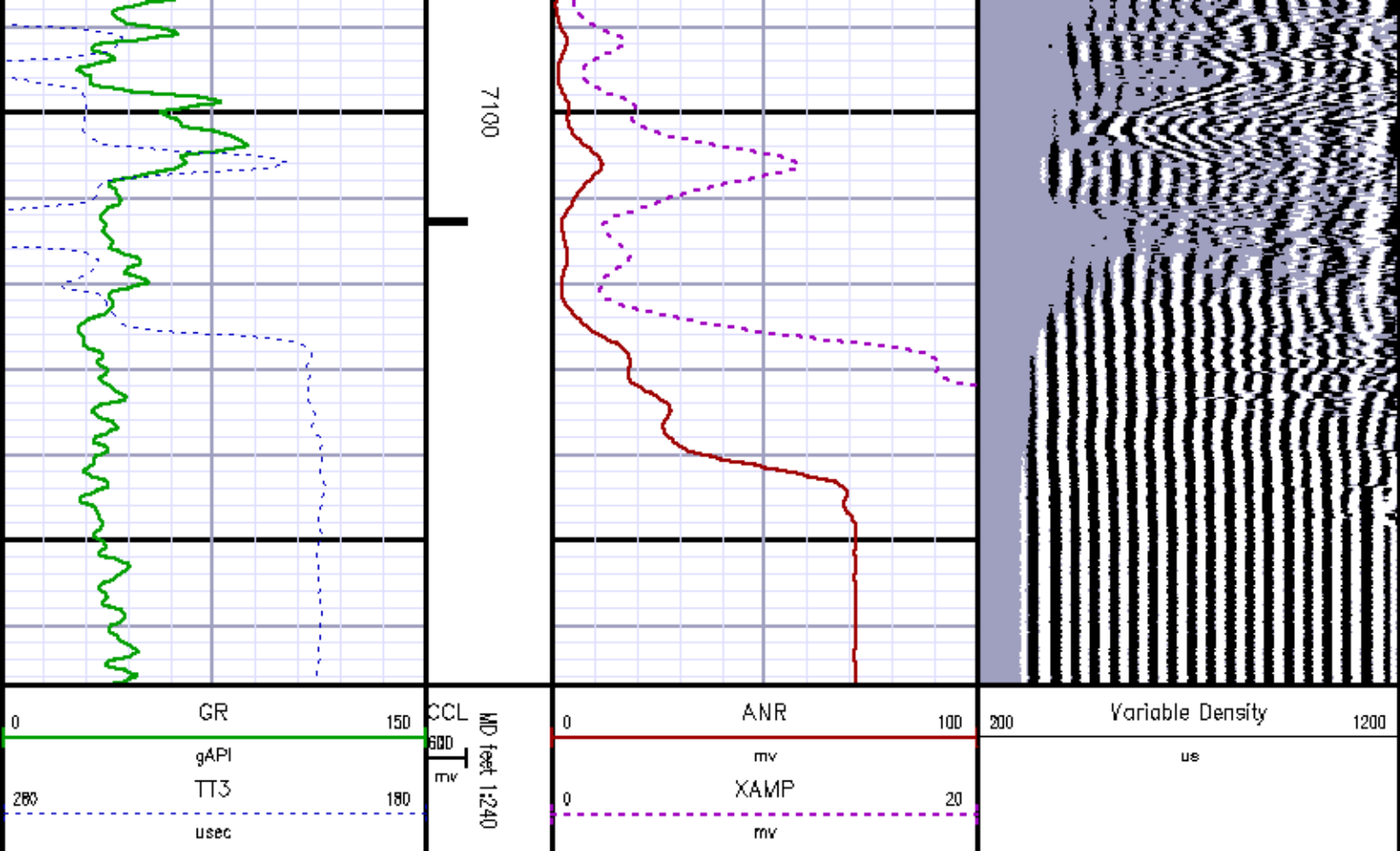
Interval : 6756.50 - 7167.00 feet UP

Created : 9/9/2010 11:53:16 AM









## CALIBRATION SUMMARY

## GAMMA RAY

Calibration File: C:\case\calver\GR\544S1.cal

### CALIBRATION SUMMARY

DATE/TIME PERFORMED:		Sat Sep 04 10:05:21 2010		TOOL SERIES:		2459XA	ASSET:	544	SEQ:	S1
Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]				
S2K SHOP	69.69	254.84	0.999	69.63	254.63	185.00				

Verification File: C:\case\calver\GR\544S1.VP

### PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED:		Sat Sep 04 10:06:50 2010		TOOL SERIES:		2459XA	ASSET:	544	SEQ:	S1
Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]				
S2K SHOP	69.69	254.84	0.999	69.63	254.63	185.00				

# RALSHP

Shop Calibration: C:\case\calver\RALSHP\496S9\_shp.cal

## SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Sep 09 10:54:57 2010 TOOL SERIES: 1426XA ASSET: 496 SEQ: S9

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	220	216	30	166	25	0.114	100.00	0.31
3 Ft. Receiver	220	216	30	121	66	-0.221	100.00	0.30
5 Ft. Receiver	328	332	30	282	25	-8.725	150.00	0.32
Radial #1	220	216	30	166	25	-0.567	100.00	0.30
Radial #2	220	216	30	166	25	-0.621	100.00	0.30
Radial #3	220	216	30	166	25	-0.689	100.00	0.30
Radial #4	220	216	30	166	25	-0.550	100.00	0.30
Radial #5	220	216	30	166	25	-0.336	100.00	0.30
Radial #6	220	216	30	166	25	-0.283	100.00	0.30
Radial #7	220	216	30	166	25	-0.054	100.00	0.30
Radial #8	221	216	30	166	25	0.061	100.00	0.31

# RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\496S9 fld.cal

## WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Sep 09 11:06:28 2010 TOOL SERIES: 1426XA ASSET: 496 SEQ: S9

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	-0.029	0.000	1.00	100.000		
3 Ft. Receiver	200	30	-1.988					
5 Ft. Receiver	317	30	-1.931					
Radial #1	200	30	-2.111					
Radial #2	200	30	-2.006					
Radial #3	200	30	-2.127					
Radial #4	200	30	-2.298					
Radial #5	200	30	-2.217					
Radial #6	200	30	-2.217					
Radial #7	200	30	-2.439					
Radial #8	200	30	-2.067					

# TOOL DIAGRAM

## OTA SHORT CABLE HEAD

### PROBE 2 3/4 DUAL RECEIVER RADII

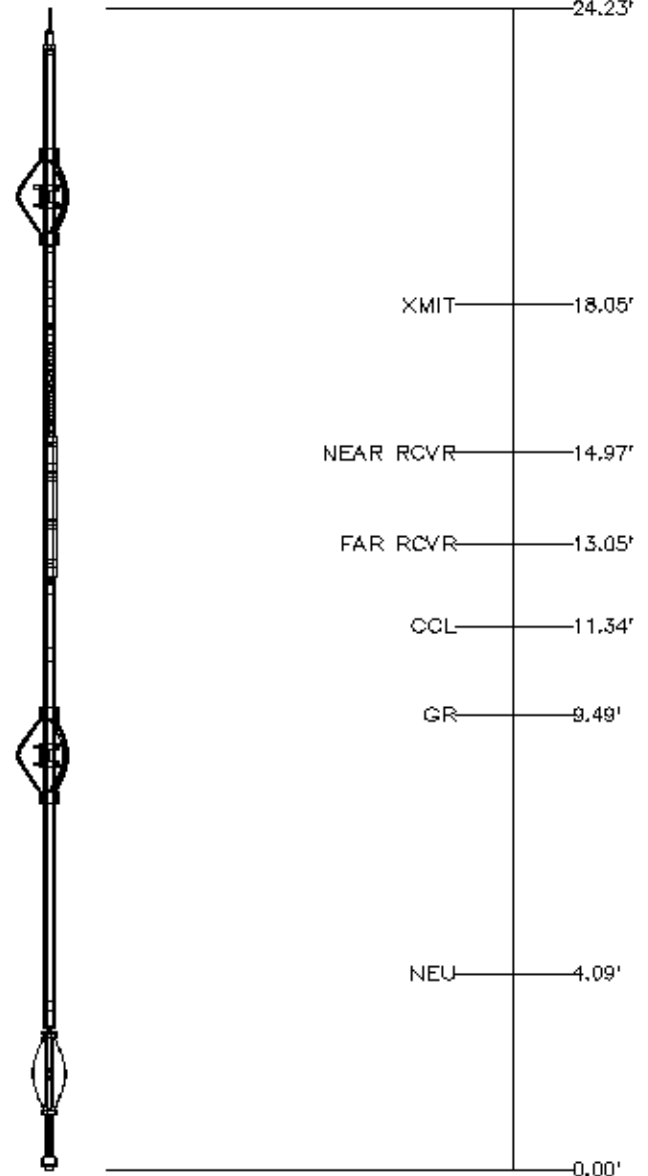
Series	1426XA
Mnemonic	PROB
Diameter	2.75"
Length	11.17'
Measure Point	0.75' FAR RCVR
Measure Point	2.67' NEAR RCVR
Measure Point	5.75' XMIT
Temp Rating	350.00 °F
Press Rating	18000.00 PSI

### Probe GR/CCL/NEU

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

### CENTRALIZER

Series	RALCENT
Mnemonic	CENT
Diameter	3.12"
Weight	20.00 lb



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

Baker Atlas

CASE

Field GRAND VALLEY

County GARFIELD State COLORADO

API No:  
05045178290000

Location

SHL: 2621' FNL & 1132' FEL  
BHL: 987' FSL & 1913' FEL

Elevations

KB 5872 ft  
DF 5871 ft  
GL 5848 ft

32 6S 96W  
GN 343-32 PAD  
H&P 27B

SEC 32 TWP 6S RGE 96W