



RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: CH04537	Company Well	WILLIAMS PRODUCTION COMPANY FEDERAL SP 431-14	
API No: 05045197040000	Field County	PARACHUTE GARFIELD	
	State	COLORADO	
14 7S 95W SP 32-14 H&P 271	Location SHL: 2520' FNL & 2610' FEL BHL: 845' FNL & 1964' FEL	Other Services NONE	
	SEC 14 TWP 7S RGE 95W		
Permanent Datum Log Measured From Drill Measured From	GL KB KELLY BUSHING	Elevation 24 ft Above P. D.	Elevations KB 7663 ft DF GL 7639 ft

Date	25/NOV/11	
Run	ONE	
Service Order	575367	
Depth Driller	2413 ft	
Depth Logger	2316 ft	
Bottom Logged Interval	2306 ft	
Top Logged Interval	24 ft	
Time Started	1400	
Time Finished	1730	
Operator Rig Time	1.5 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	NA	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	16.5 deg	
Nominal Logging Speed	45 fpm	
Maximum Recorded Temperature	NA	
Reference Log	NONE	
Reference Log Date	NA	
Equipment No.	4214	GRAND JCT
Recorded By	FLOYD RENEAU	
Witnessed By	MIKE OLSEN	

- 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	2413 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in	32.3 lbm/ft		0 ft	2413 ft

Remarks
All data on this log is shifted using the CCL curve to put the wellhead (top CCL mark) on depth with ground level elevation at the client's request.
The amount of linear shift is 0 feet.
Logged with zero PSI at wellhead.
MAX DEV = 16.5°

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	VDL	1426XA	10163028	CENT
1	1	GR/CCL	2459XA	10817456	CENT

PRIMARY PRESENTATION
0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	390.000	usec	28.844	2350.000
RAL	Amp Gate Start Near	290.000	usec	28.844	2350.000
RAL	Amp Gate Start Radial	290.000	usec	28.844	2350.000
RAL	Amp Gate Width Far	25.000	usec	28.844	2350.000
RAL	Amp Gate Width Near	25.000	usec	28.844	2350.000
RAL	Amp Gate Width Radial	25.000	usec	28.844	2350.000
RAL	casing od	9.625	inches	28.844	2350.000
RAL	casing wt	32.200	lbm/ft	28.844	2350.000
RAL	FB Start Far	371.648	usec	28.844	2350.000
RAL	FB Start Near	255.139	usec	28.844	2350.000
RAL	FB Start Radial	255.139	usec	28.844	2350.000
RAL	FB Thresh Far	10.000	mv	28.844	2350.000
RAL	FB Thresh Near	4.000	mv	28.844	2350.000
RAL	FB Thresh Radial	4.000	mv	28.844	2350.000
RAL	Fluid Travel Time	200.000	usec/ft	28.844	2349.875

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-19.625	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	-18.620	AFAR	SIG	TT5			
2459XA	-11.746	COI					

2459XA	-11.340	CCL
2459XA	-9.490	GR
2459XA	-4.090	NEU

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WILLIAMS PRODUCTION COMPANY

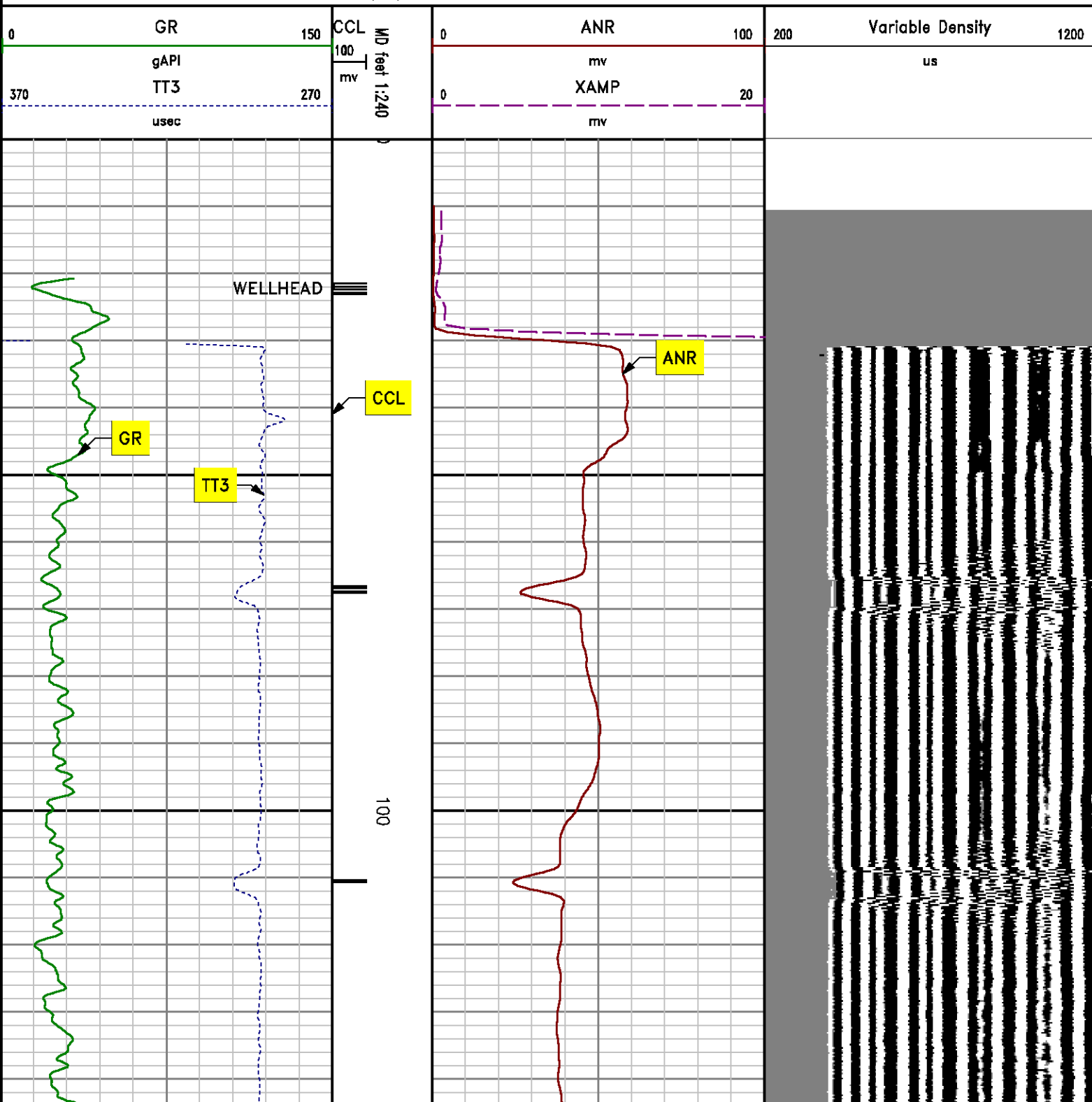
Well : FEDERAL SP 431-14

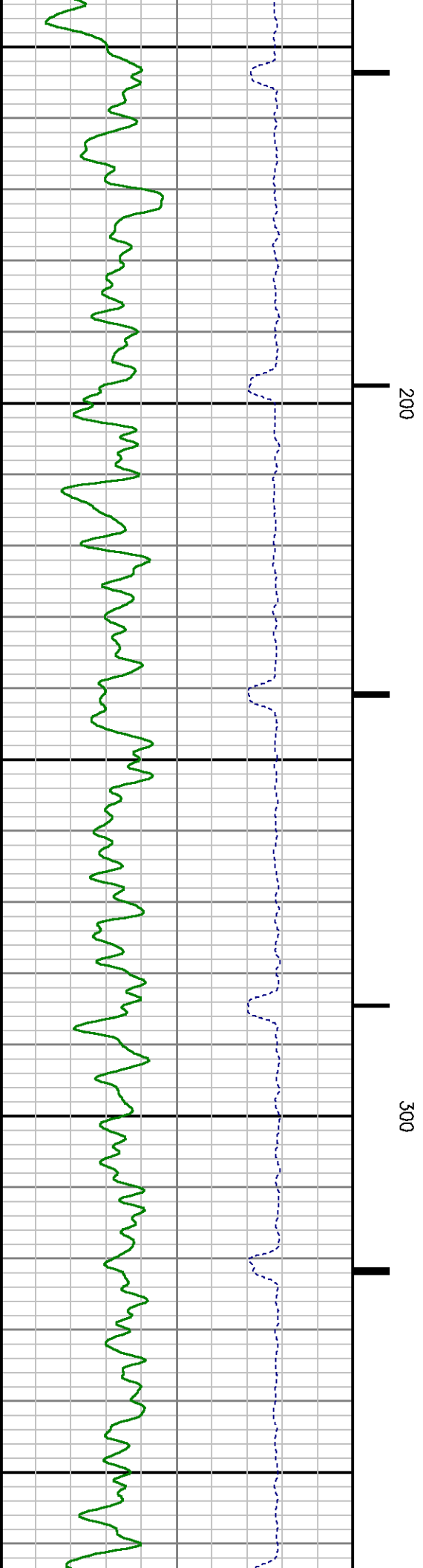
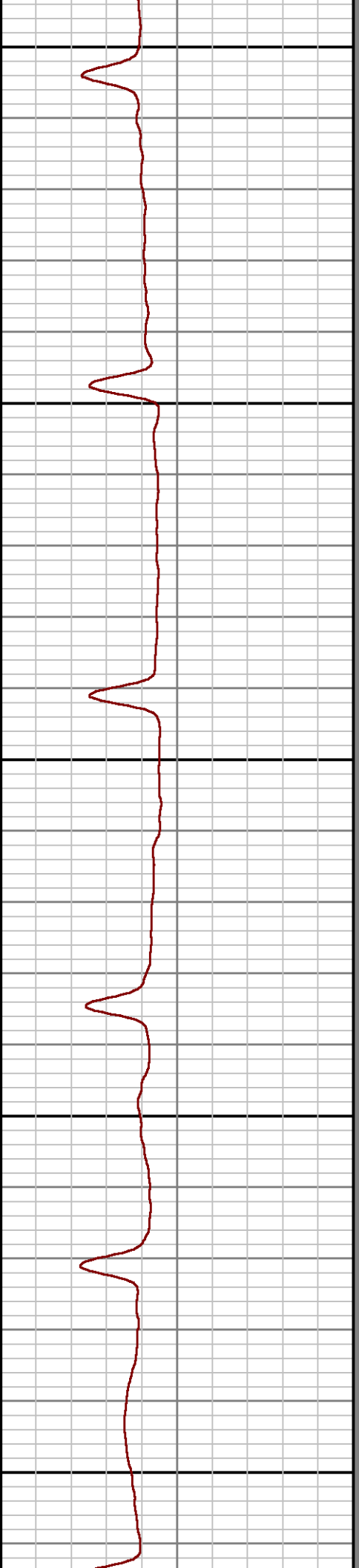
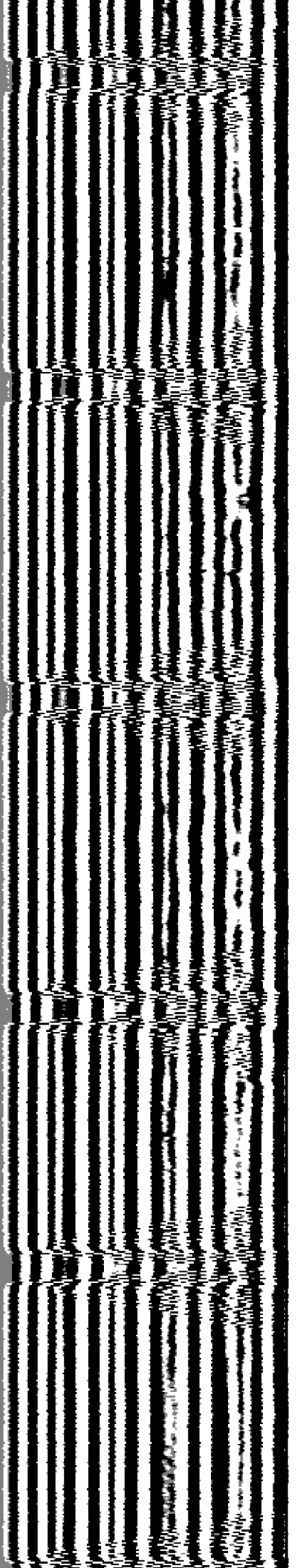
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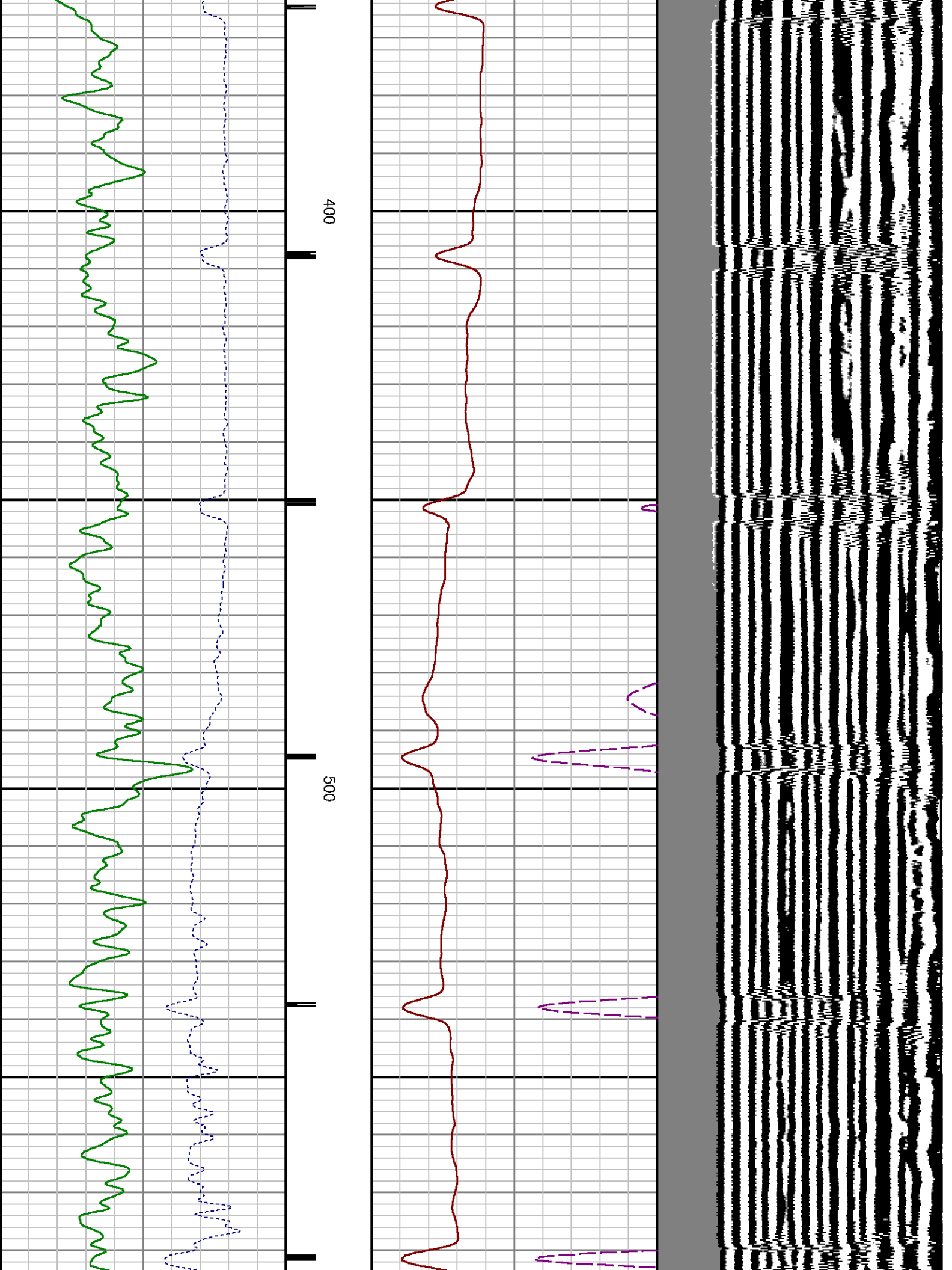
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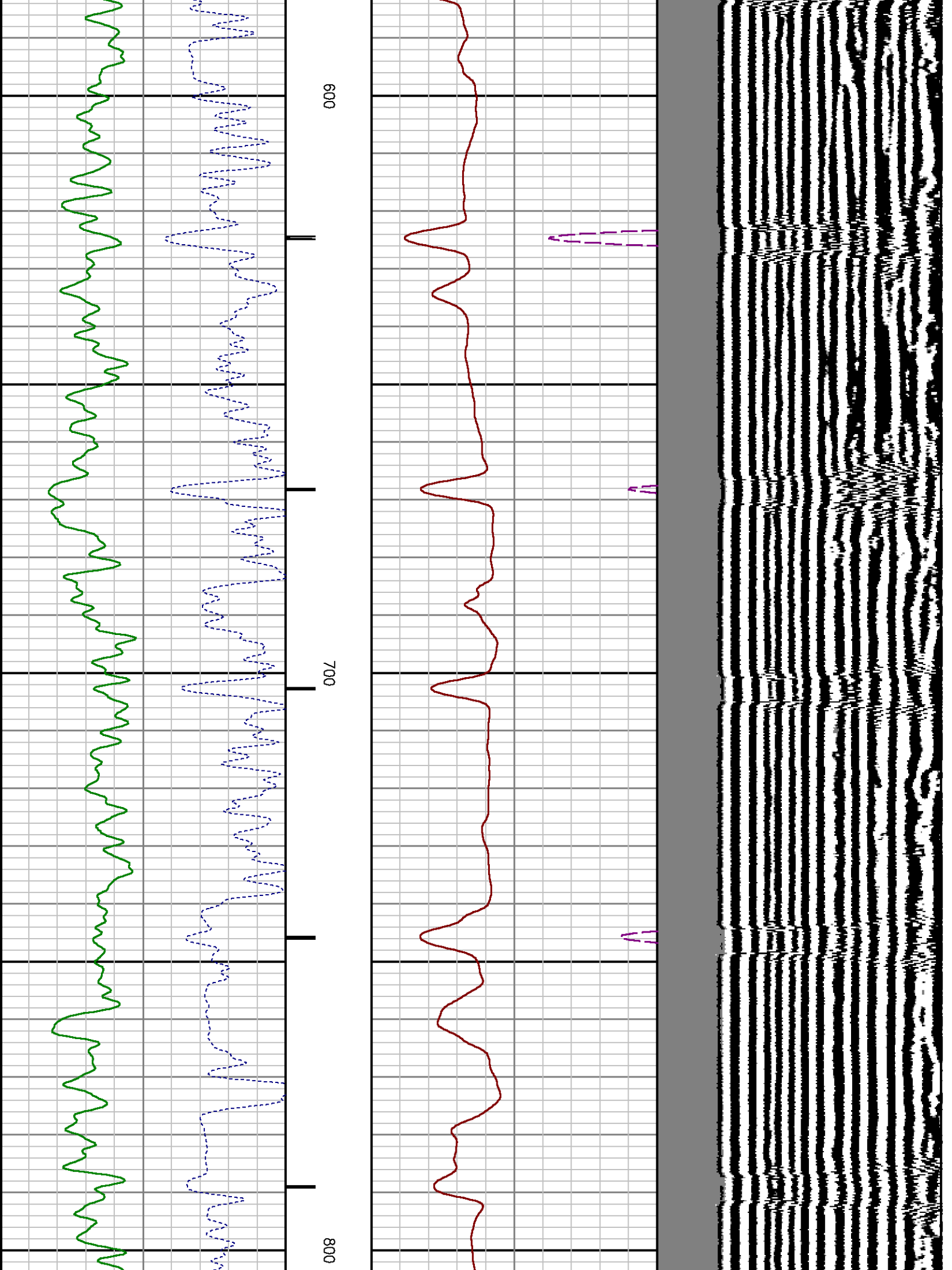
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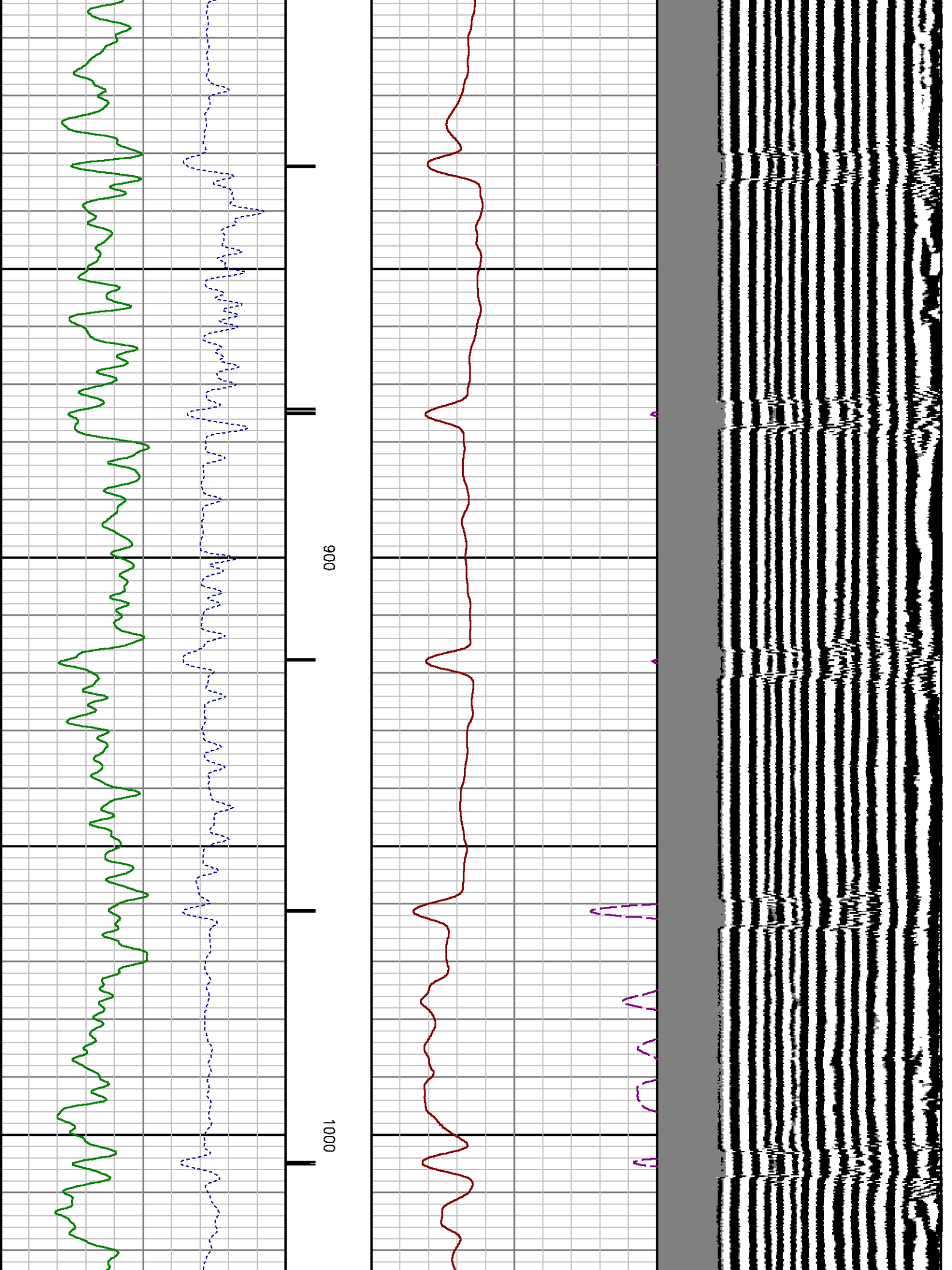
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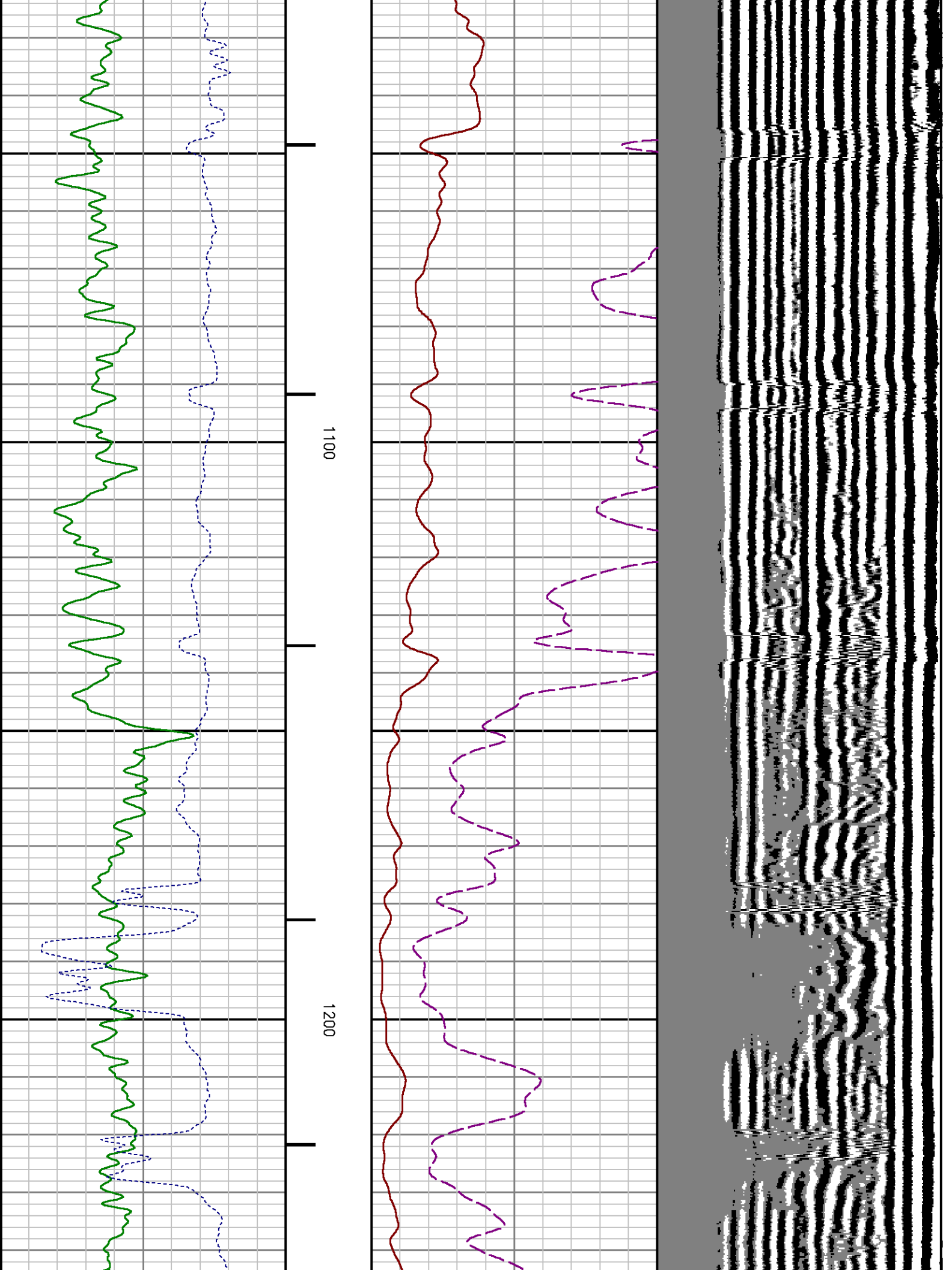


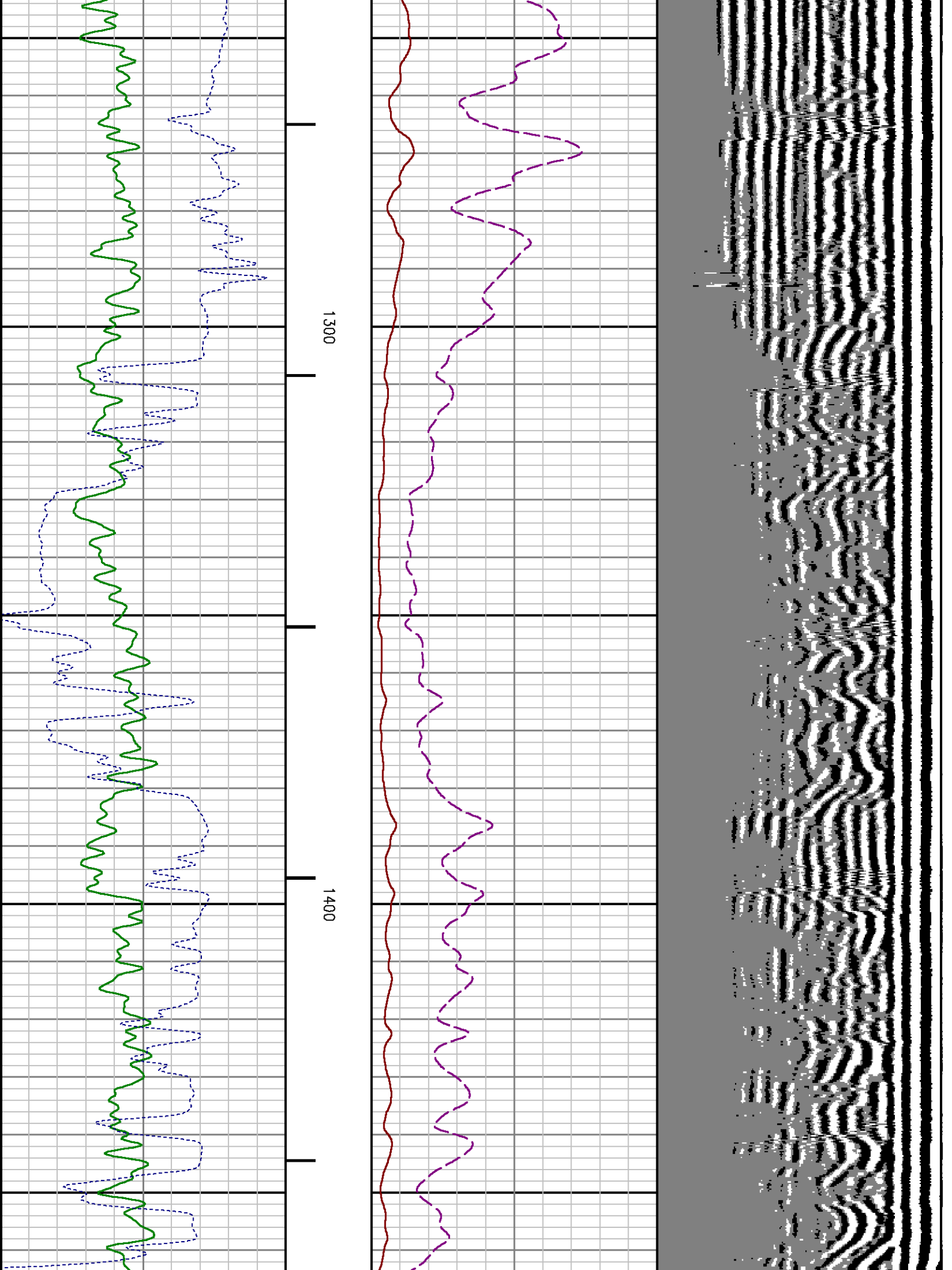


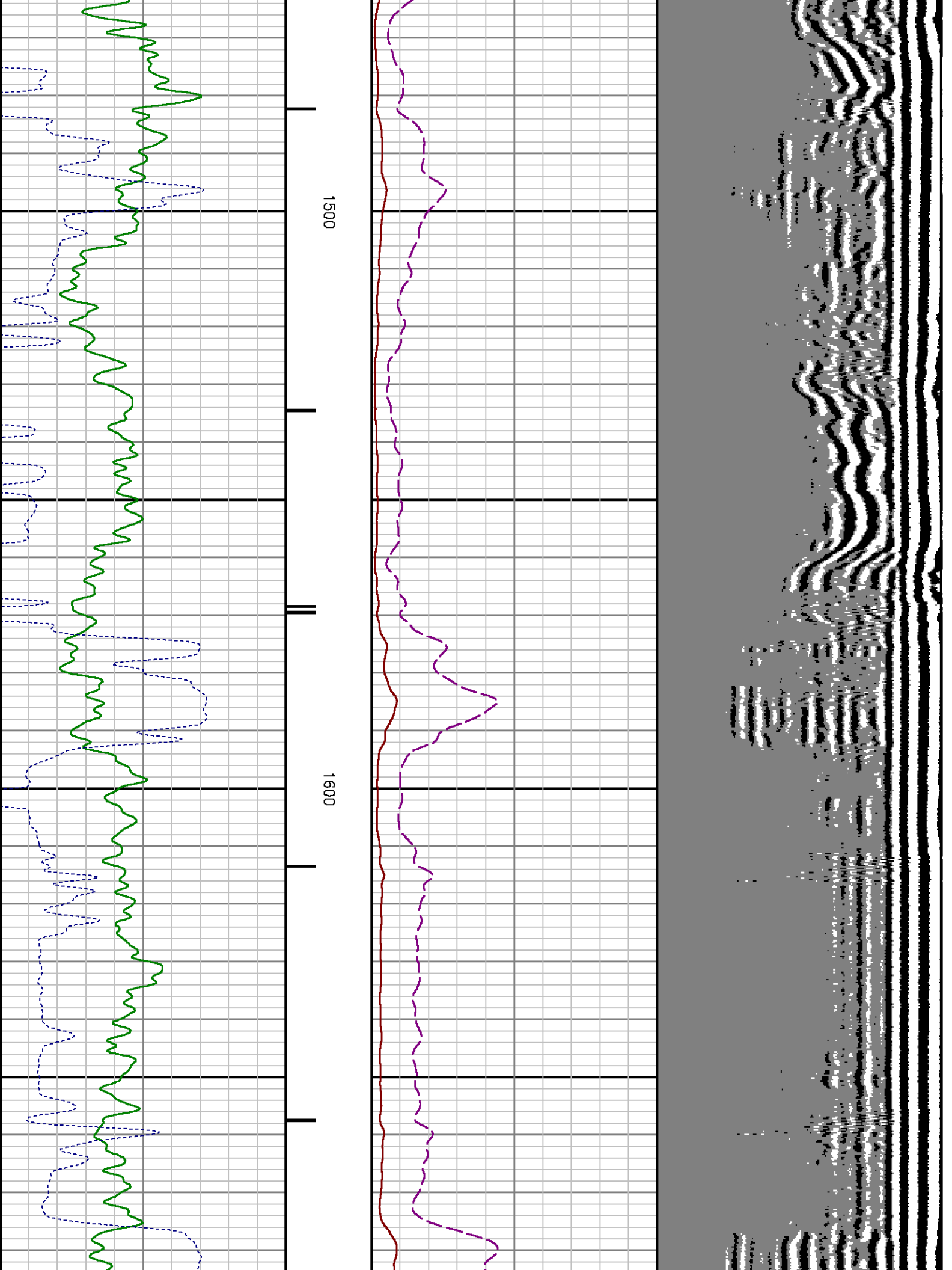


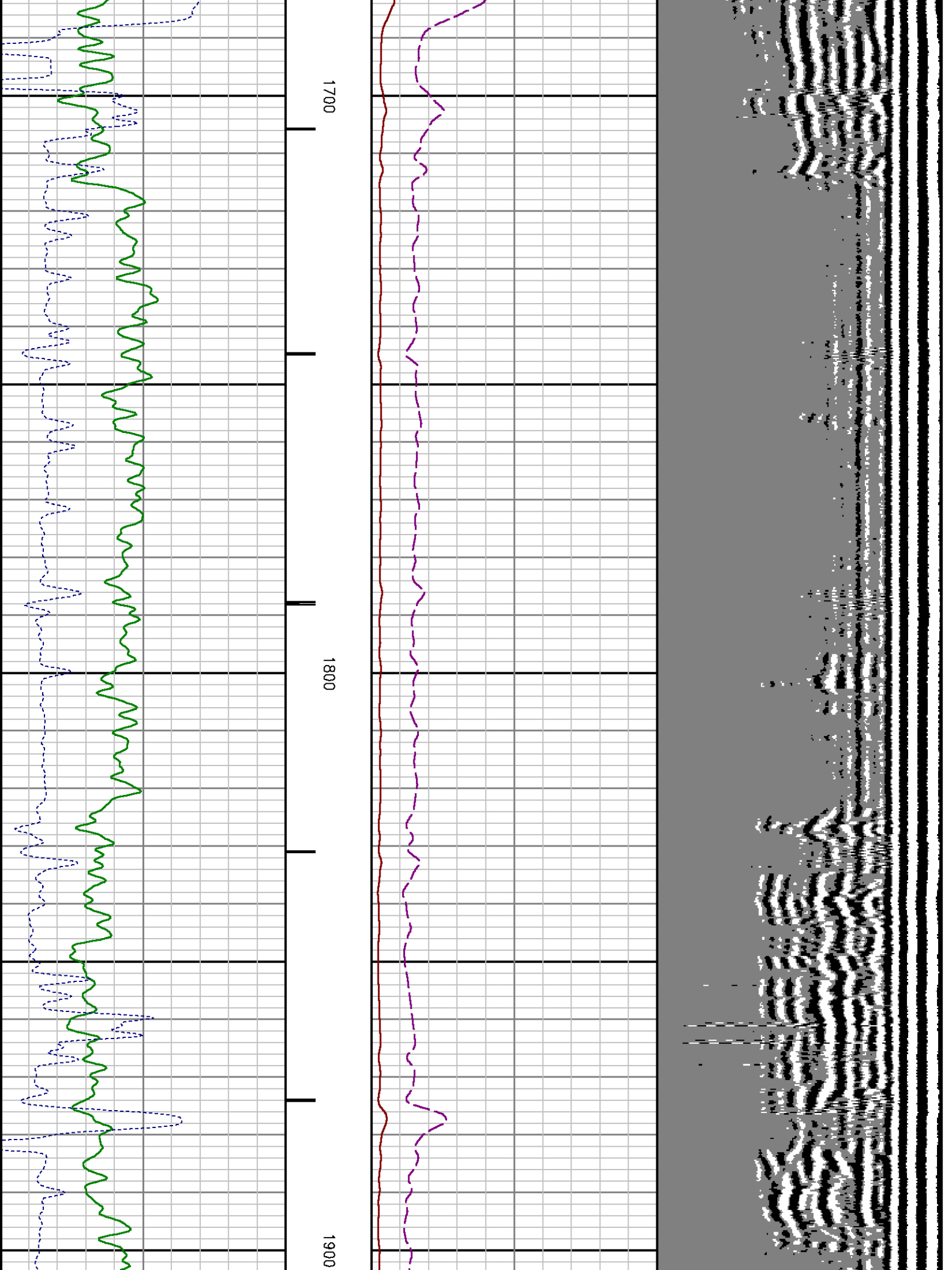


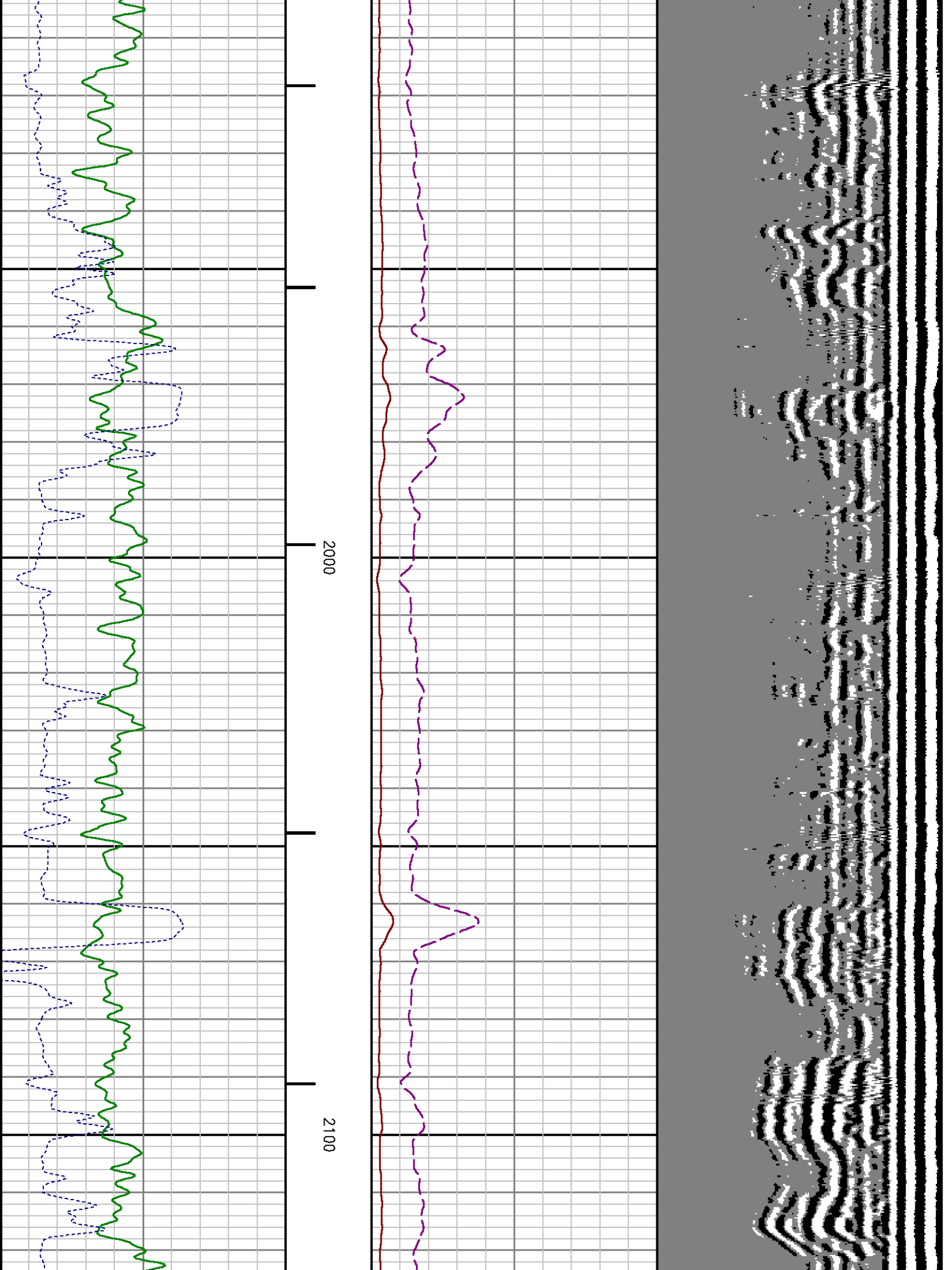


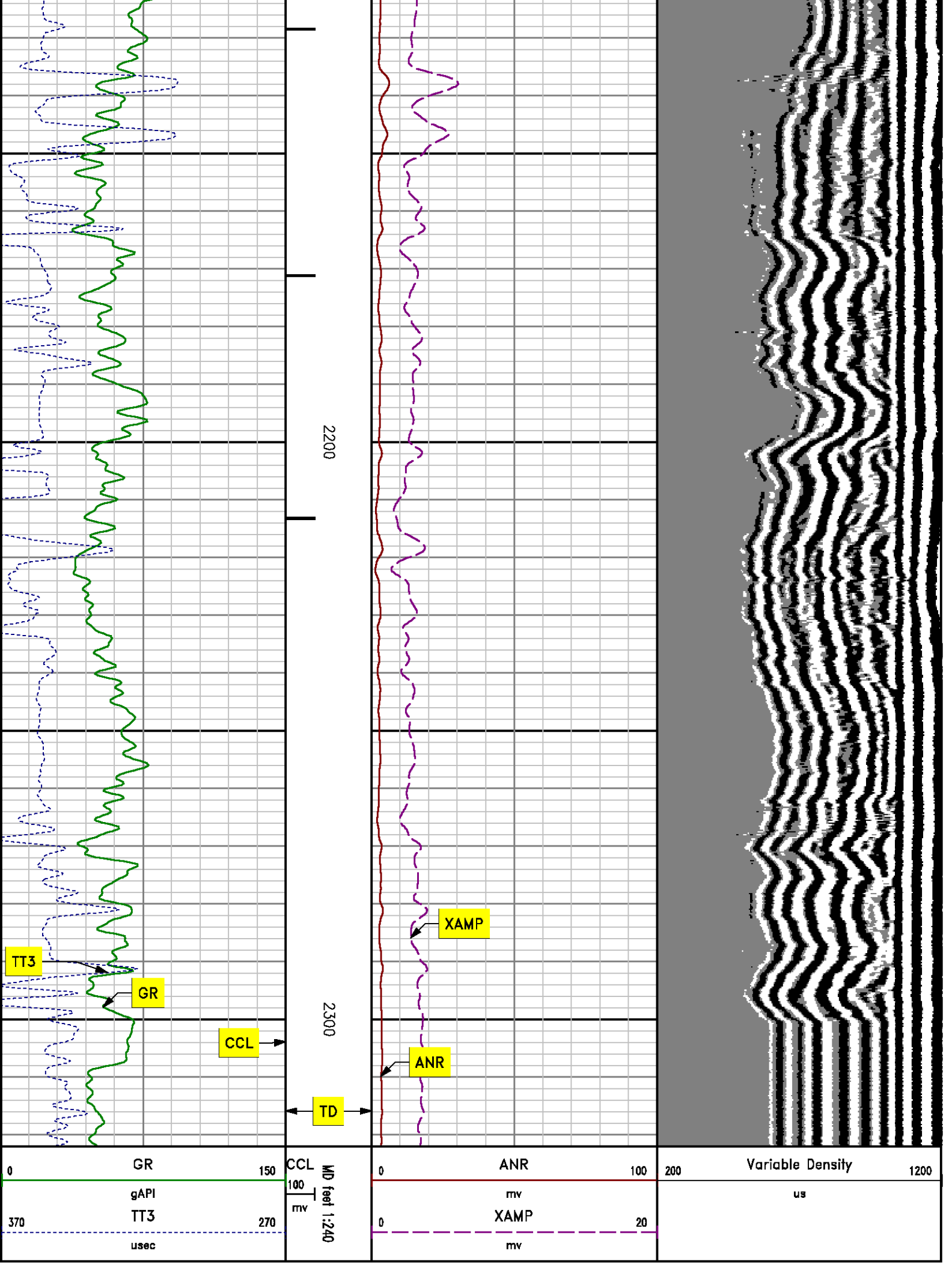












0	GR	150
370	gAPI	270
	TT3	
	uSec	

CCL	MD feet 1:240	100
		mv
0	ANR	100
	mv	
0	XAMP	20
	mv	

200	Variable Density	1200
	us	

SECONDARY PRESENTATION

0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	390.000	usec	28.844	2350.000
RAL	Amp Gate Start Near	290.000	usec	28.844	2350.000
RAL	Amp Gate Start Radial	290.000	usec	28.844	2350.000
RAL	Amp Gate Width Far	25.000	usec	28.844	2350.000
RAL	Amp Gate Width Near	25.000	usec	28.844	2350.000
RAL	Amp Gate Width Radial	25.000	usec	28.844	2350.000
RAL	casing od	9.625	inches	28.844	2350.000
RAL	casing wt	32.200	lbm/ft	28.844	2350.000
RAL	FB Start Far	371.648	usec	28.844	2350.000
RAL	FB Start Near	255.139	usec	28.844	2350.000
RAL	FB Start Radial	255.139	usec	28.844	2350.000
RAL	FB Thresh Far	10.000	mv	28.844	2350.000
RAL	FB Thresh Near	4.000	mv	28.844	2350.000
RAL	FB Thresh Radial	4.000	mv	28.844	2350.000
RAL	Fluid Travel Time	200.000	usec/ft	28.844	2349.875

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-19.625	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	-18.620	AFAR	SIG	TT5			
2459XA	-11.340	CCL					
2459XA	-9.490	GR					
2459XA	-4.090	NEU					

Created by : RAL, v4.8.008

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Company : WILLIAMS PRODUCTION COMPANY

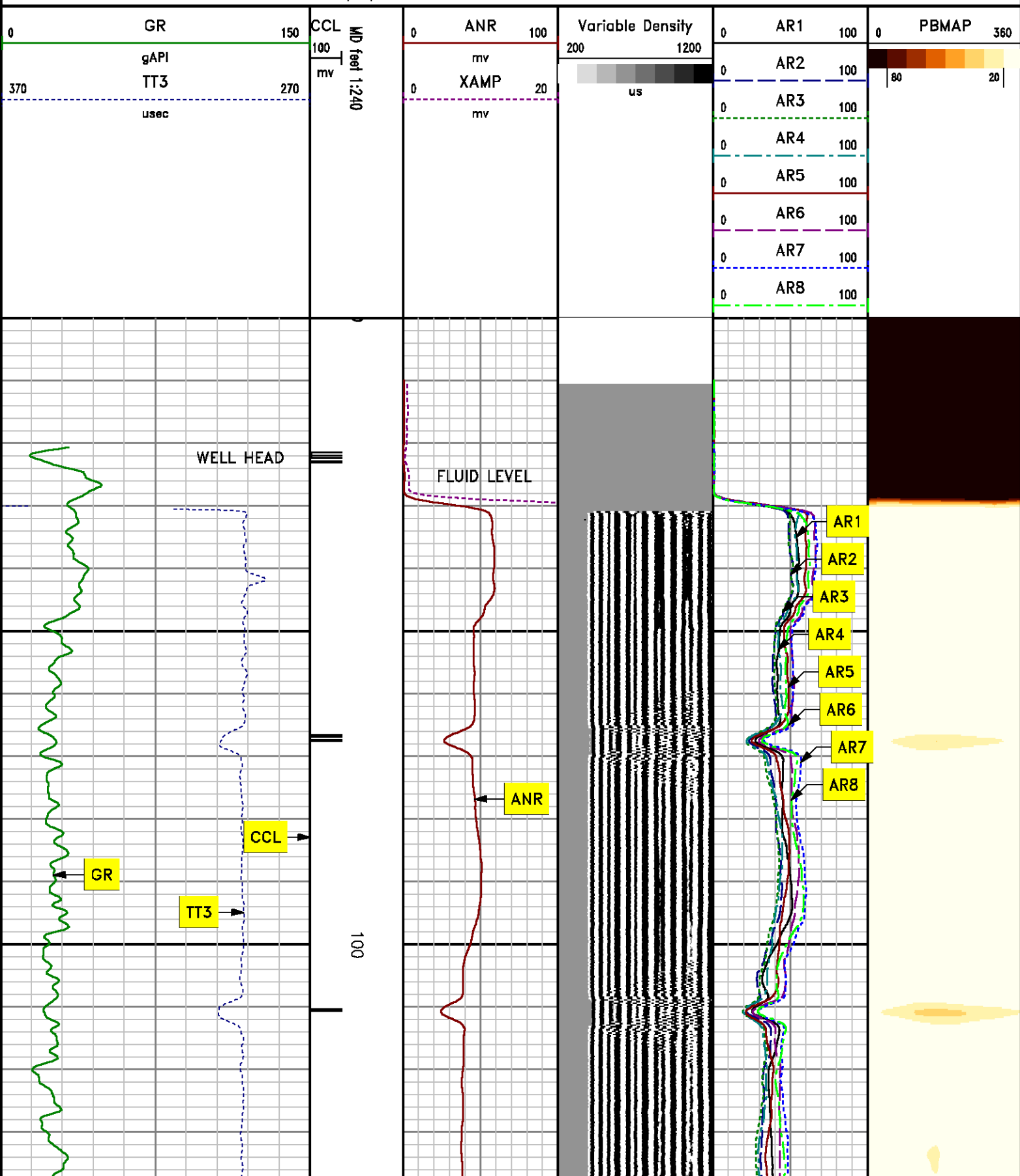
Well : FEDERAL SP 431-14

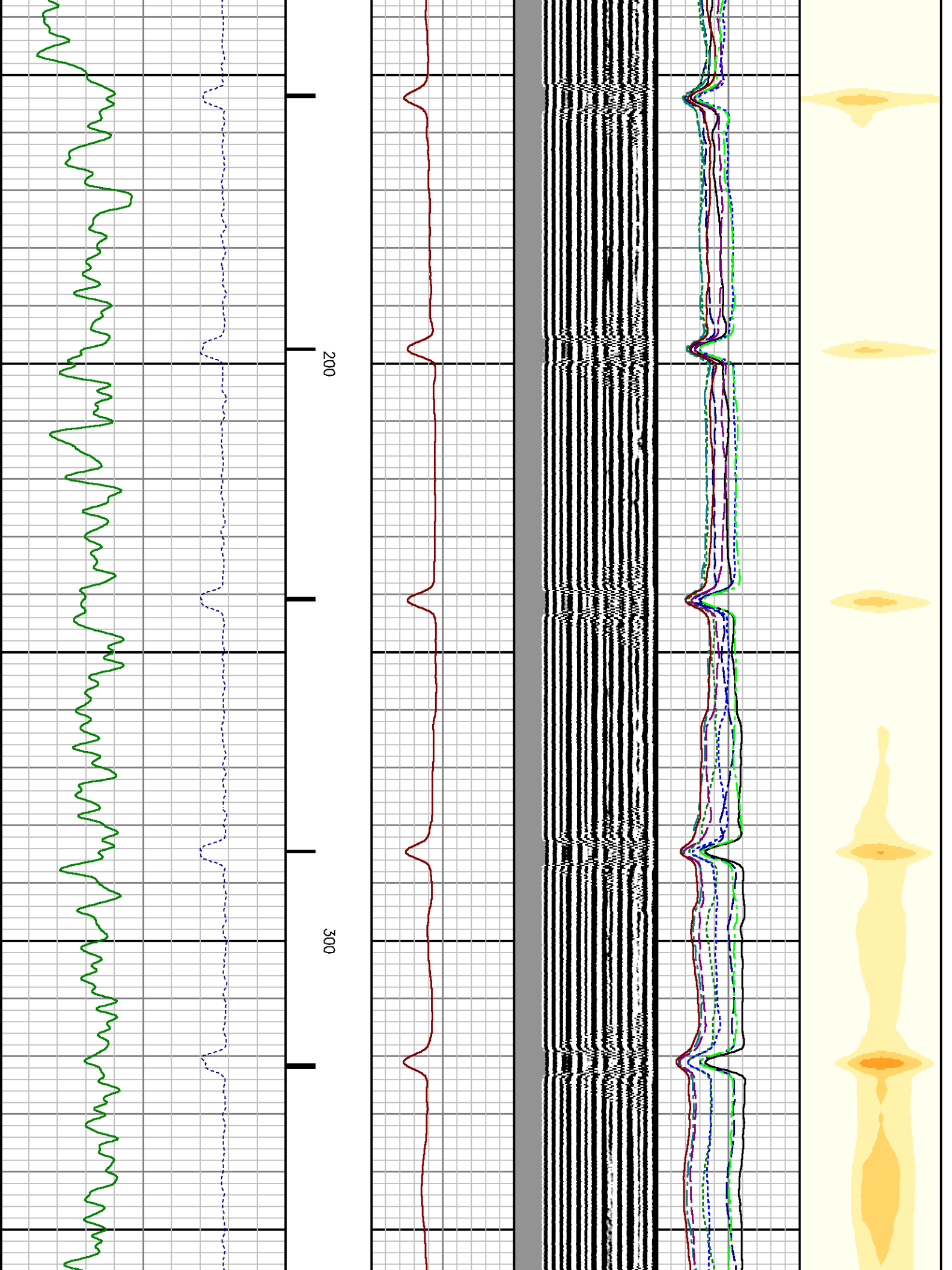
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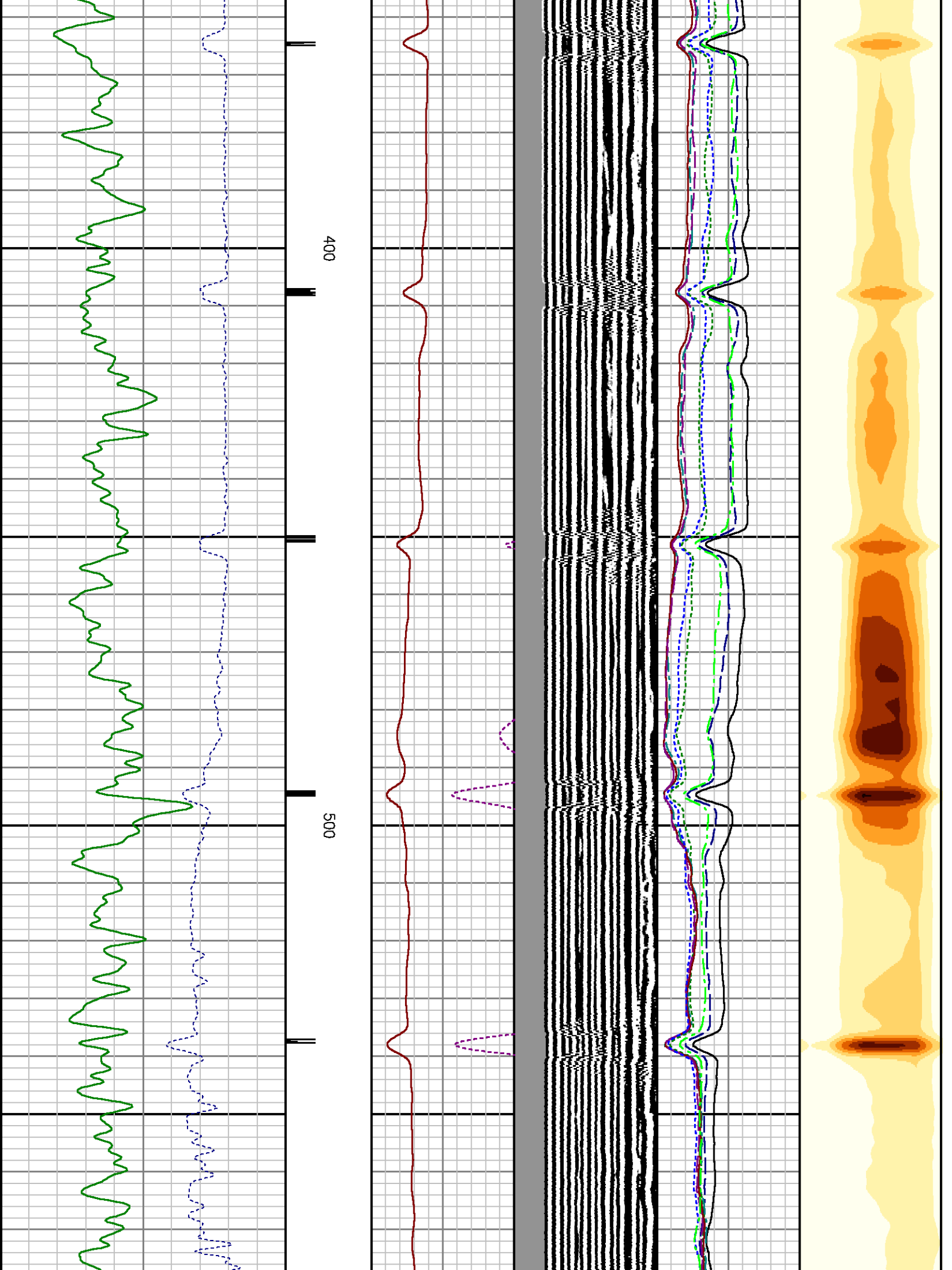
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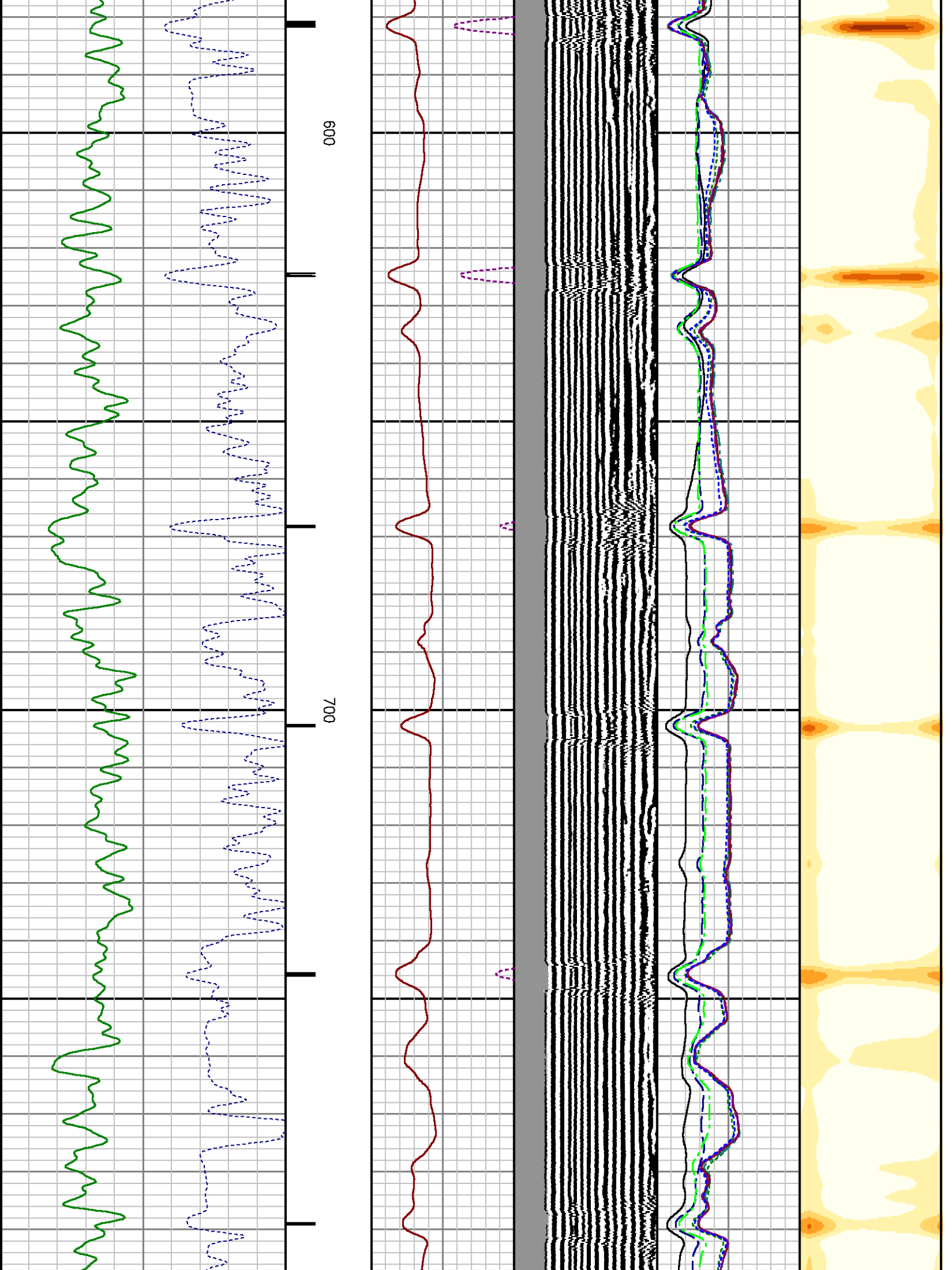
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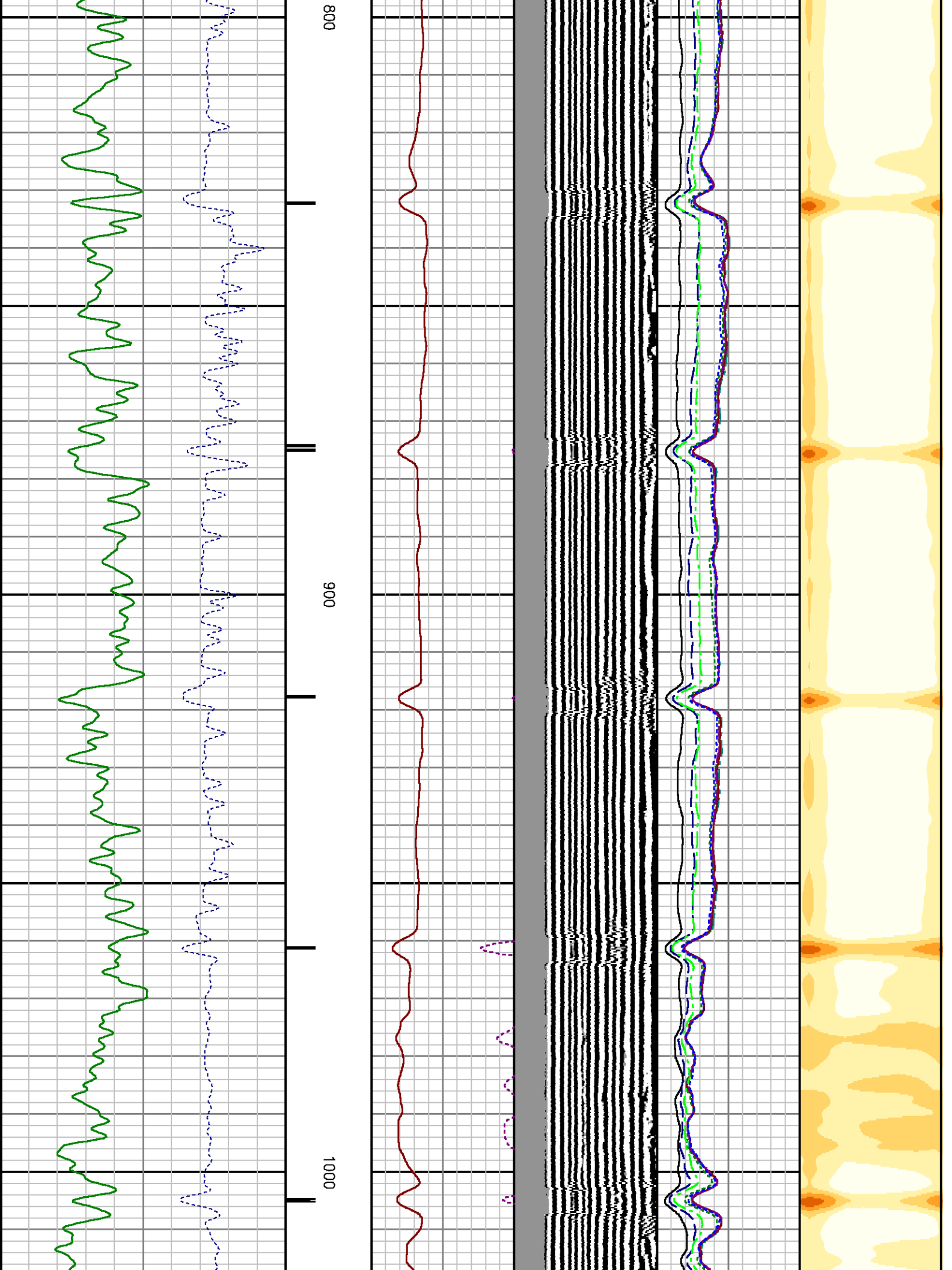
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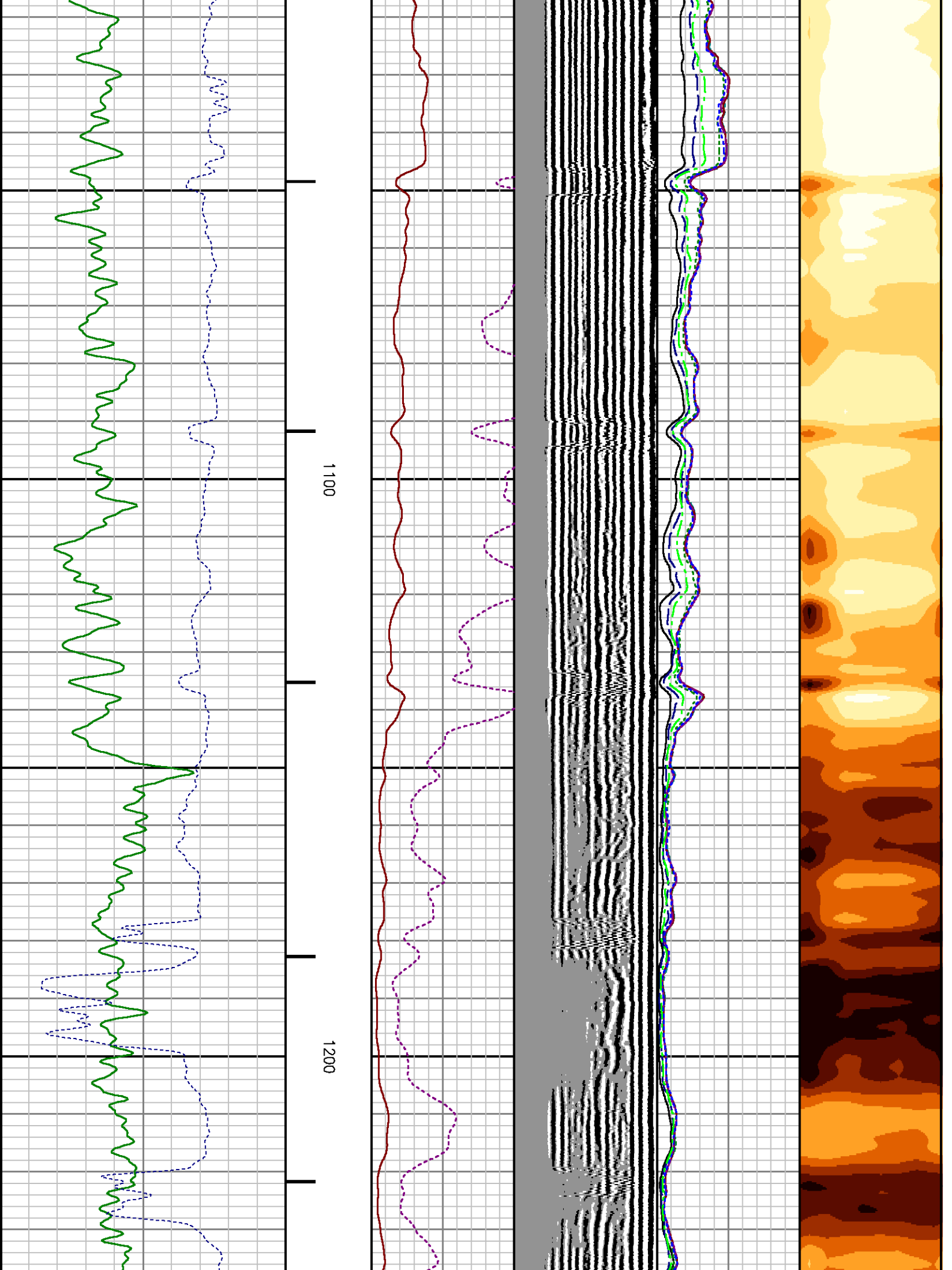


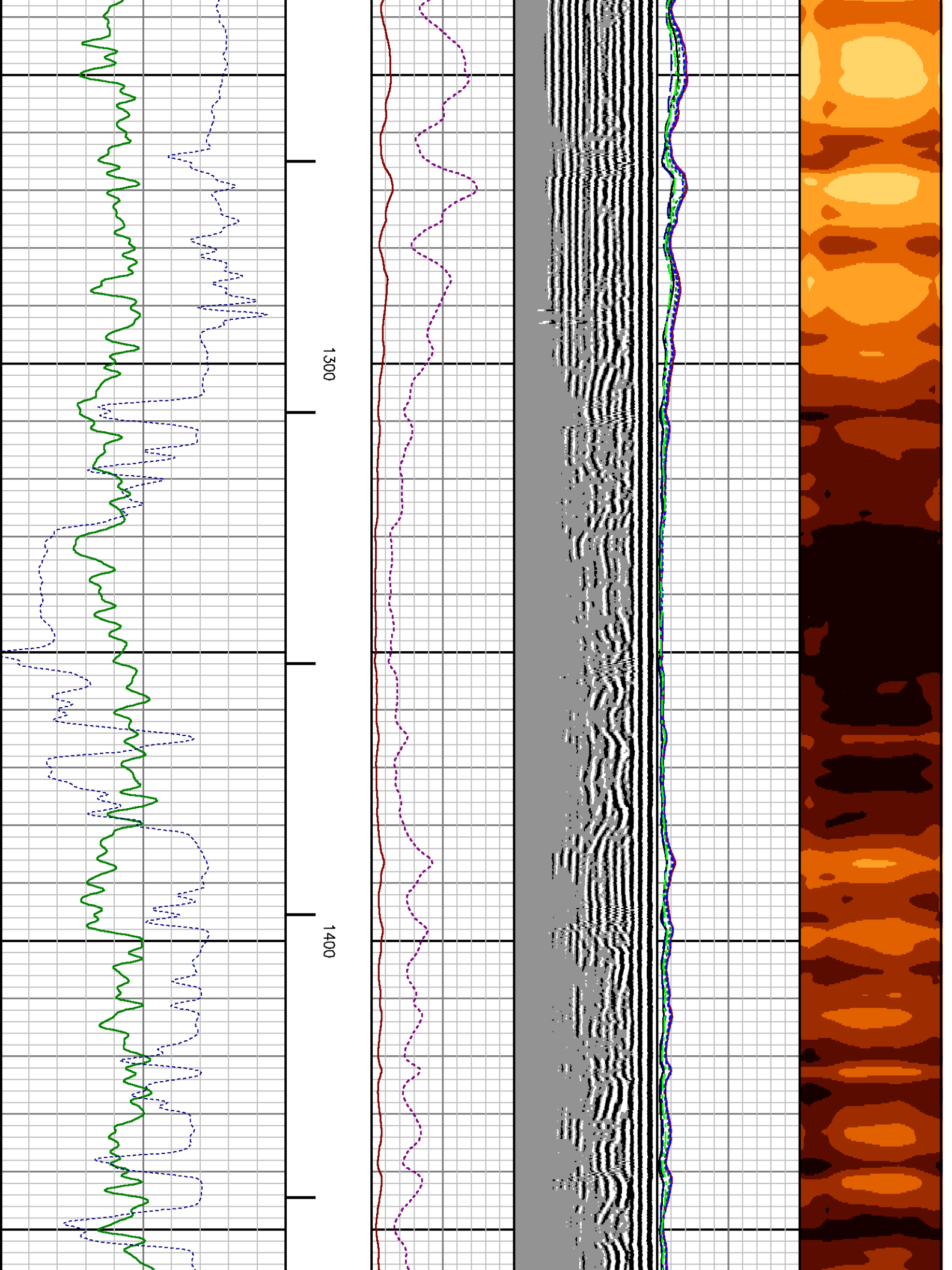


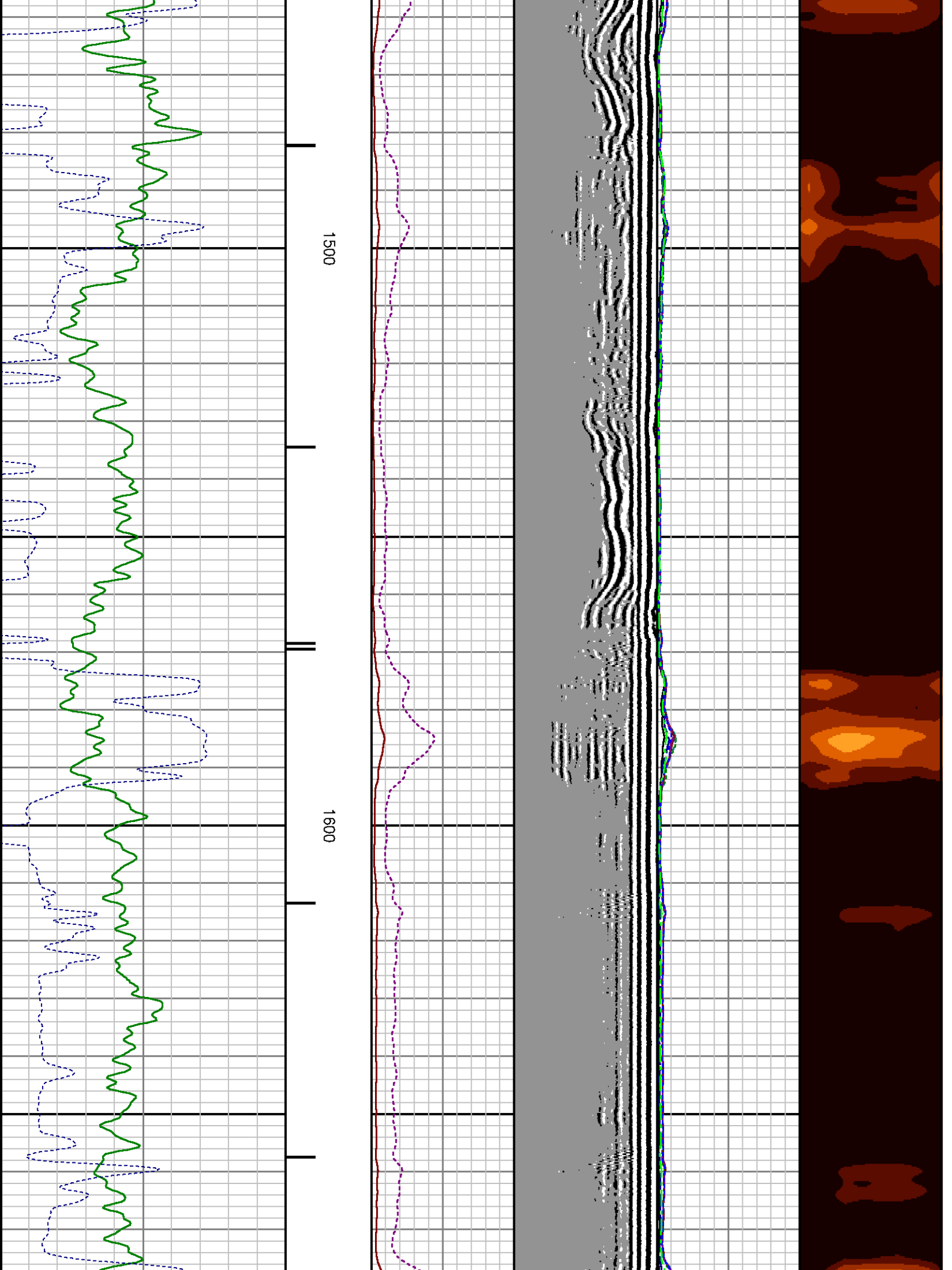


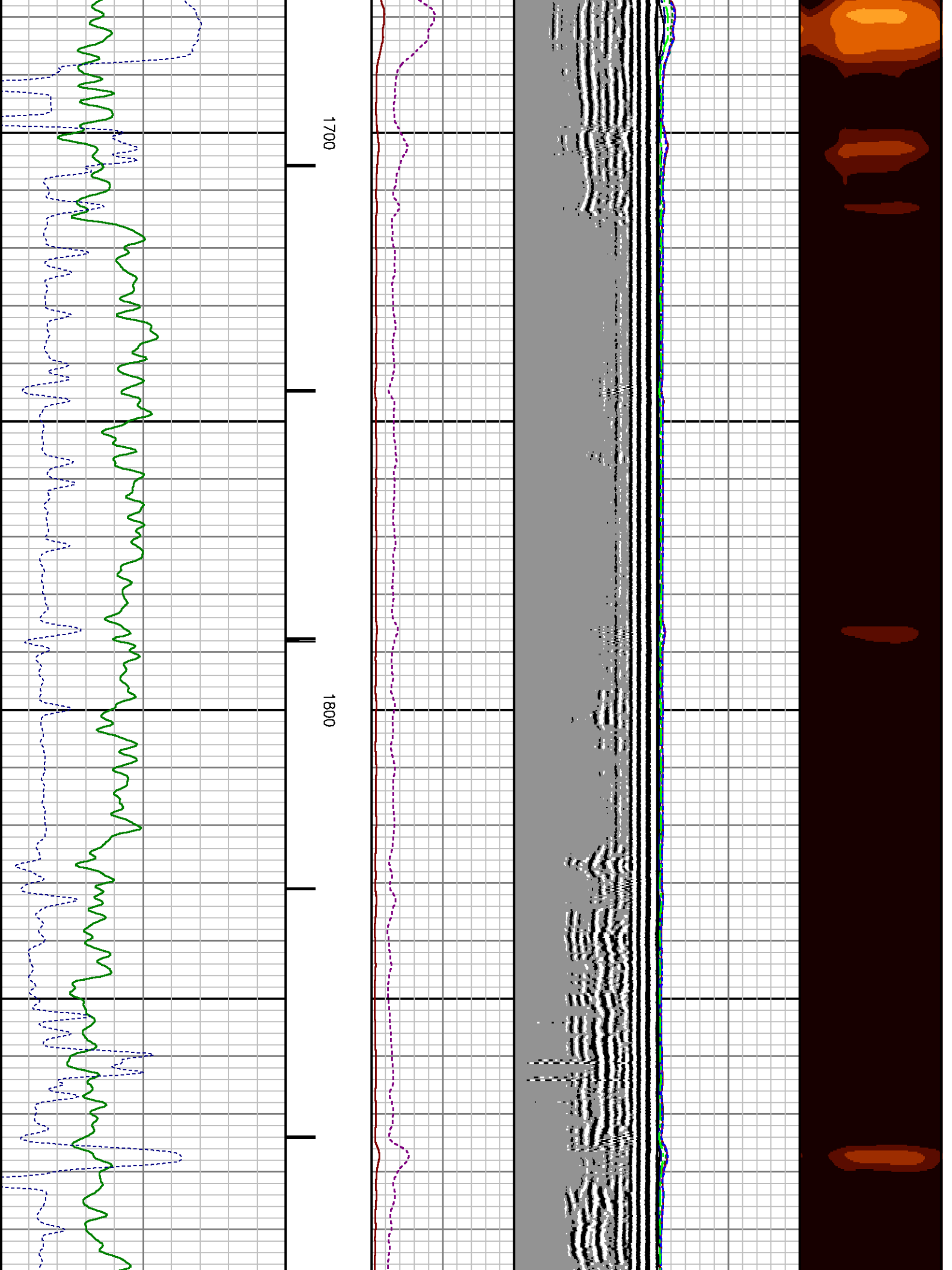




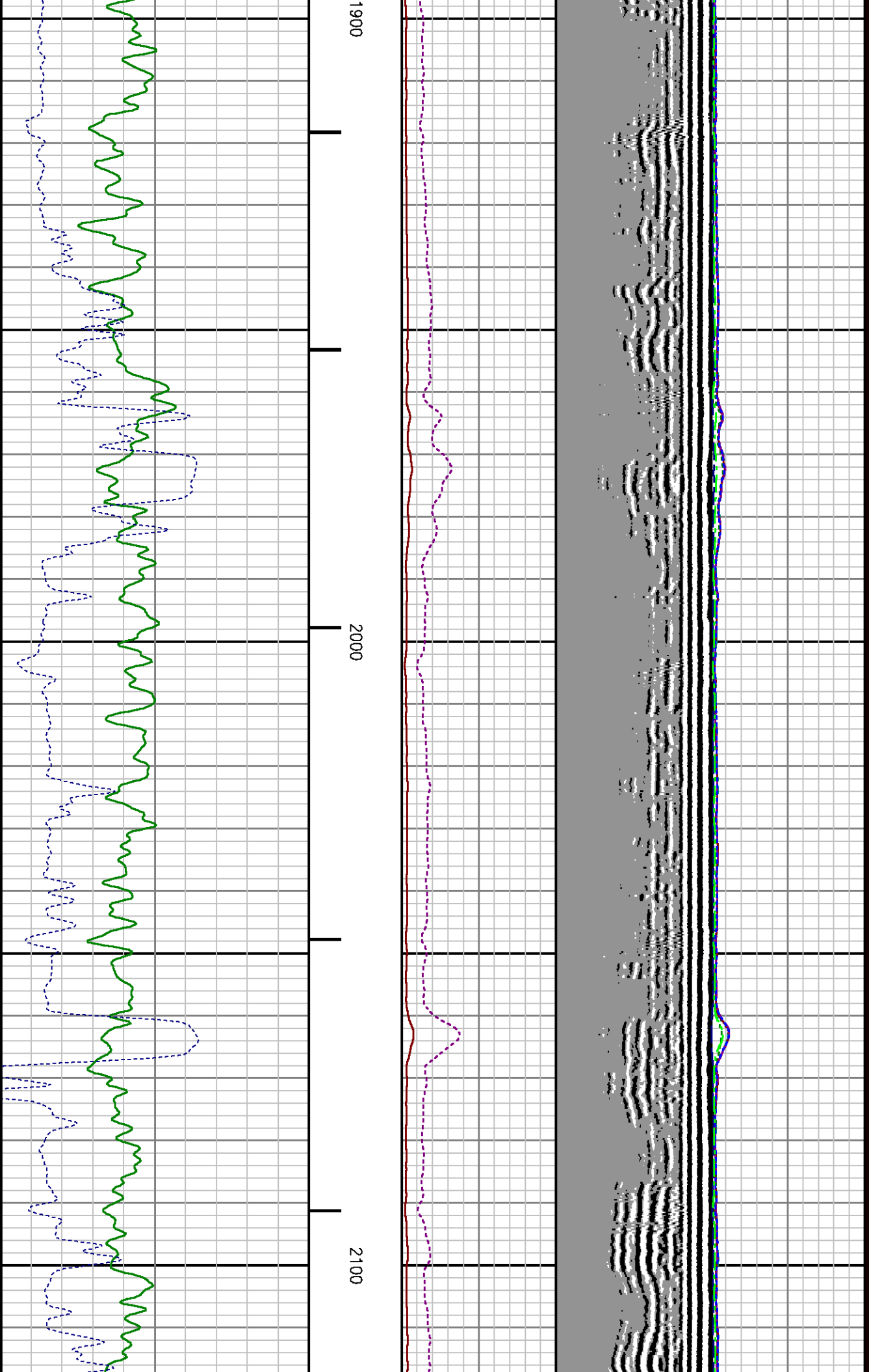


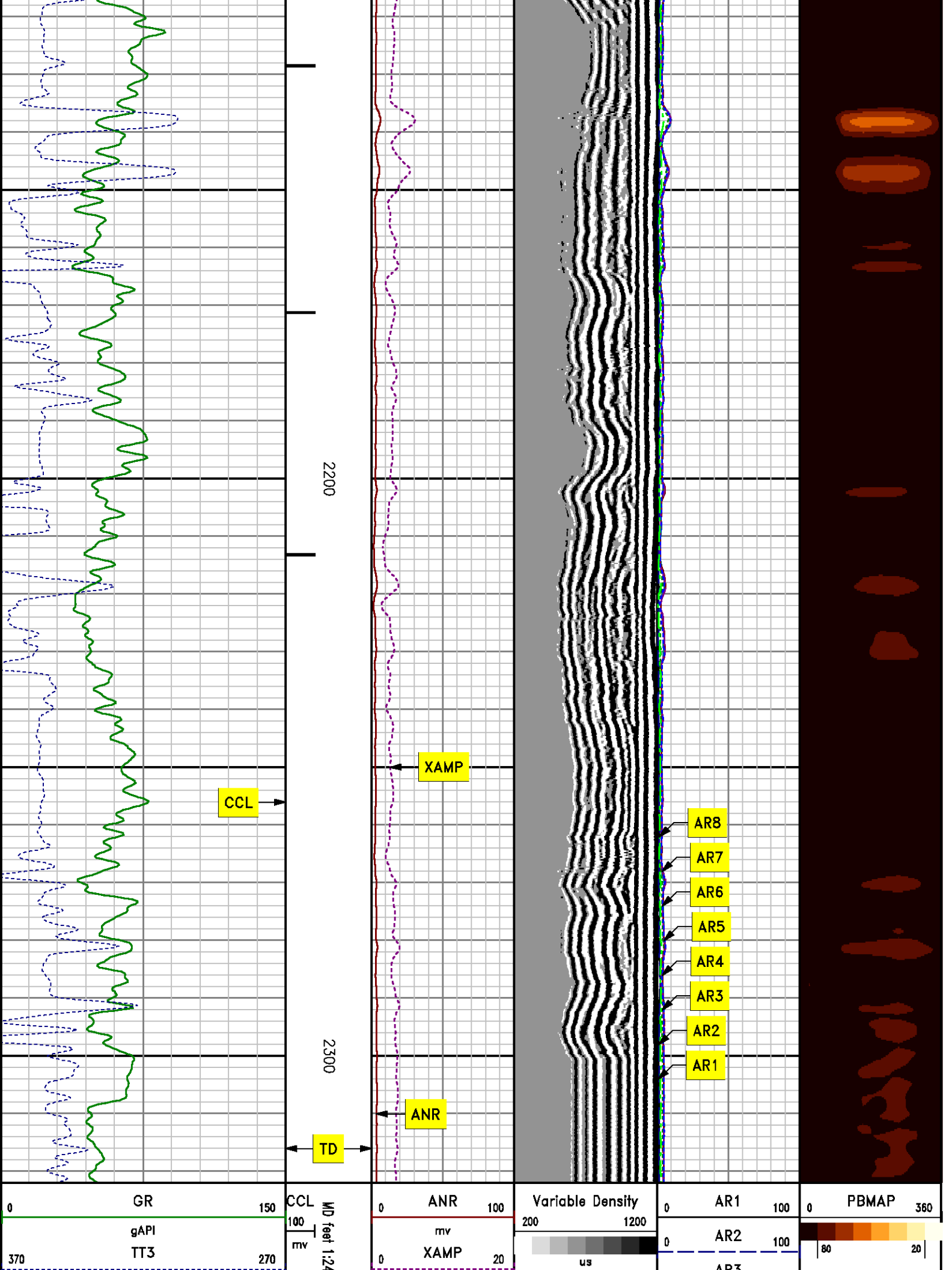






1100





u sec	0	mv	0	AR3	100
			0	AR4	100
			0	AR5	100
			0	AR6	100
			0	AR7	100
			0	AR8	100

REPEAT SECTION

0 PSI

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	390.000	u sec	1999.875	2326.000
RAL	Amp Gate Start Near	290.000	u sec	1999.875	2326.000
RAL	Amp Gate Start Radial	290.000	u sec	1999.875	2326.000
RAL	Amp Gate Width Far	25.000	u sec	1999.875	2326.000
RAL	Amp Gate Width Near	25.000	u sec	1999.875	2326.000
RAL	Amp Gate Width Radial	25.000	u sec	1999.875	2326.000
RAL	casing od	9.625	inches	1999.875	2326.000
RAL	casing wt	32.200	lbm/ft	1999.875	2326.000
RAL	FB Start Far	371.648	u sec	1999.875	2326.000
RAL	FB Start Near	255.139	u sec	1999.875	2326.000
RAL	FB Start Radial	255.139	u sec	1999.875	2326.000
RAL	FB Thresh Far	10.000	mv	1999.875	2326.000
RAL	FB Thresh Near	4.000	mv	1999.875	2326.000
RAL	FB Thresh Radial	4.000	mv	1999.875	2326.000
RAL	Fluid Travel Time	200.000	u sec/ft	1999.875	2325.687

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-19.625	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2

1426XA -18.620
2459XA -11.340
2459XA -9.490
2459XA -4.090

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

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : WILLIAMS PRODUCTION COMPANY

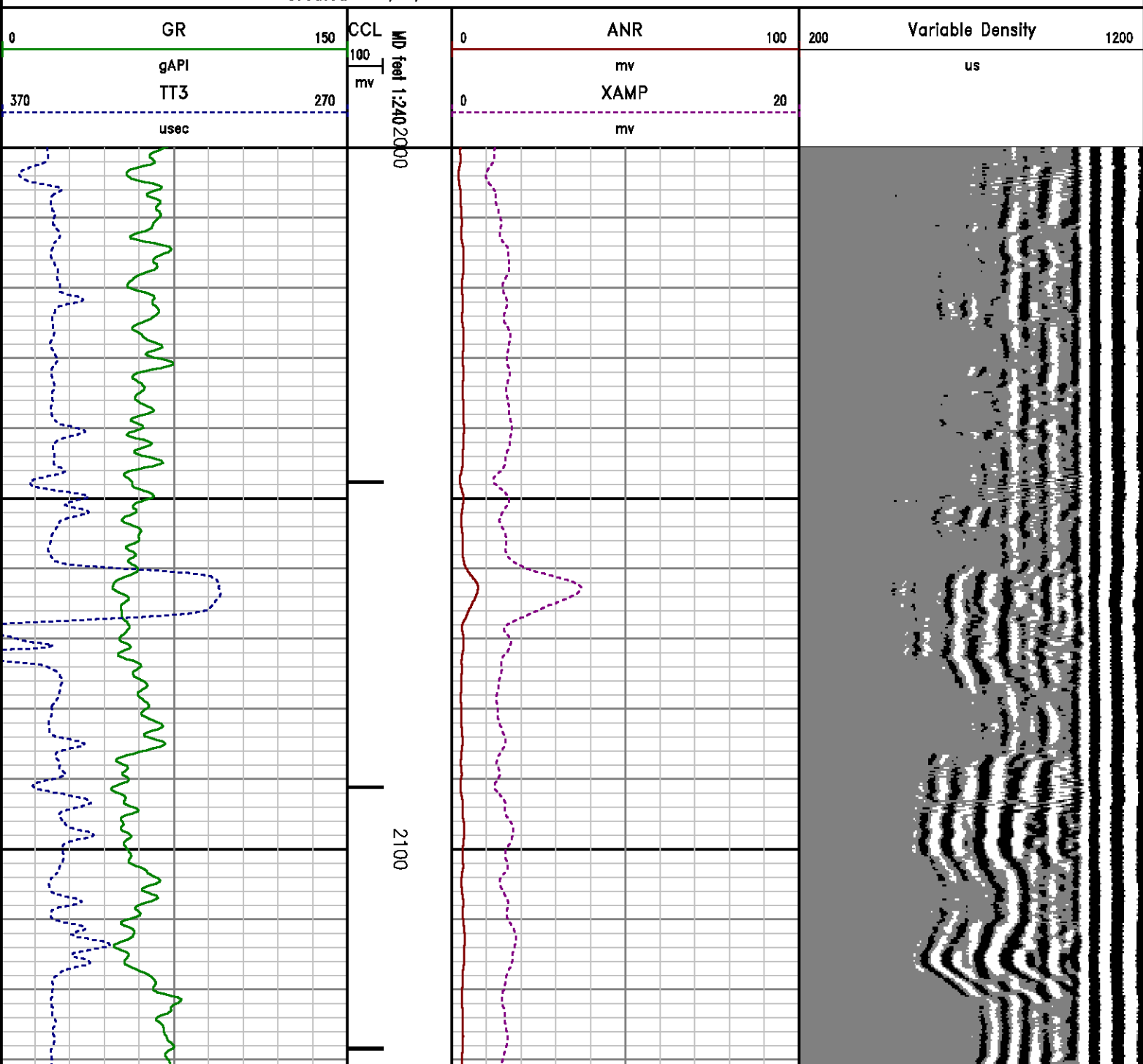
Well : FEDERAL SP 431-14

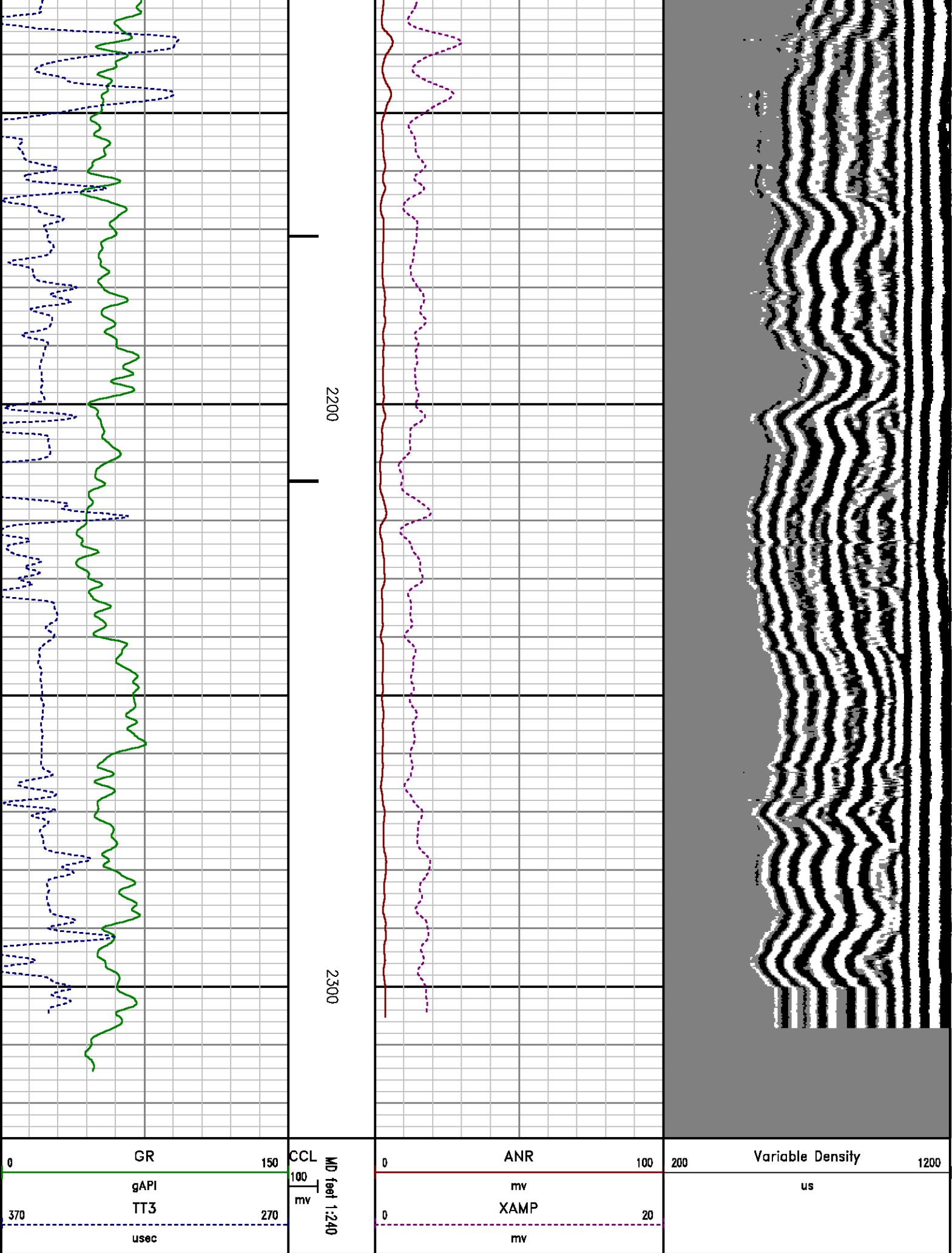
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Mode : PlotMgr 5.4.504

Interval : 2000.00 - 2326.00 feet UP

Created : 11/26/2011 3:32:15 PM





CALIBRATION SUMMARY

RALSHP

Shop Calibration: C:\case\calver\RALSHP\028N25_shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Fri Nov 25 08:58:49 2011 TOOL SERIES: 1426XA ASSET: 028 SEQ: N25

Tool Delay [usec] -55.00 Tank OD 5.50 Tank Wt 15.50 Tank ID 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	216	216	30	166	25	-0.387	100.00	0.22
3 Ft. Receiver	216	216	30	158	25	-0.122	100.00	0.21
5 Ft. Receiver	326	322	30	241	25	0.343	150.00	0.22
Radial #1	216	216	30	154	25	0.037	100.00	0.21
Radial #2	216	216	30	154	25	-0.015	100.00	0.21
Radial #3	216	216	30	154	25	-0.121	100.00	0.21
Radial #4	217	216	30	154	25	-0.285	100.00	0.21
Radial #5	217	216	30	154	25	-0.176	100.00	0.21
Radial #6	216	216	30	154	25	0.340	100.00	0.21
Radial #7	216	216	30	154	25	-0.151	100.00	0.21
Radial #8	216	216	30	154	25	-0.232	100.00	0.21

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\028N25 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Fri Nov 25 09:03:34 2011 TOOL SERIES: 1426XA ASSET: 028 SEQ: N25

Tool Delay [usec] -55.00 Casing OD 9.63 Casing Wt 40.00 Casing ID 8.82

RECEIVER	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Full Amp. [mV]	Wellsite Factor	Amp. Ref [mV]
CAL Pulse	166	25	-0.064	0.000	1.00	100.000
3 Ft. Receiver	275	25	0.076			
5 Ft. Receiver	390	25	-0.208			
Radial #1	275	25	0.149			
Radial #2	275	25	0.155			

Radial #2	275	25	0.084
Radial #3	275	25	0.125
Radial #4	275	25	0.119
Radial #5	275	25	0.181
Radial #6	275	25	0.099
Radial #7	275	25	0.145
Radial #8	275	25	

GAMMA RAY

Calibration File: C:\case\calver\GR\456NO.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED:	Wed Nov 09 14:32:40 2011	TOOL SERIES:	2459XA	ASSET:	456	SEQ:	NO
Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]	
S2K BA-905	82.84	354.93	0.680	56.33	241.33	185.00	

Verification File: C:\case\calver\GR\456NO.VP

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED:	Wed Nov 09 14:34:55 2011	TOOL SERIES:	2459XA	ASSET:	456	SEQ:	NO
Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]	
S2K BA-905	84.53	345.78	0.680	57.48	235.10	177.63	

TOOL DIAGRAM

OTA SHORT CABLE HEAD

CENTRALIZER

Series	RALCENT
Mnemonic	CENT
Diameter	3.12"
Weight	20.00 lb

PROBE 2 3/4 DUAL RECEIVER RADII

Series	1426XA
Mnemonic	PROB
Diameter	2.75"
Length	11.17'
Measure Point	0.75' FAB PCVR



30.00'

XMIT 20.94'

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

CENTRALIZER

Series	RALCENT
Mnemonic	CENT
Diameter	3.12"
Weight	20.00 lb

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

NEAR RCVR	17.85'
FAR RCVR	15.94'
CCL	11.34'
GR	9.49'
NEU	4.09'
	0.00'

Total Length: 30.00'
Total Weight: Not Available
Max Diameter: 0' 3.12"



Company

WILLIAMS PRODUCTION COMPANY

Well

FEDERAL SP 431-14

Field

PARACHUTE

County

GARFIELD

State

COLORADO

File No:

CH046537

API No:

05045197040000

Location

SHL: 2520' FNL & 2610' FEL

BHL: 845' FNL & 1964' FEL

Elevations

KB 7663 ft

DF

GL 7639 ft

14 7S 95W

SP 32-14

H&P 271

SEC

14

TWP

7S

RGE

95W

Baker Atlas