



RADIAL ANALYSIS BOND LOG

Baker Atlas

File No: EXXONMOBIL PRODUCTION COMPANY

Company Well: FRU 197-33B2

Field: FREEDOM UNIT

County: RIO BLANCO State: COLORADO

API No: 05103114270000

Location: 2378' FNL & 1390' FEL (SWNE)

SEC 33 TWP 15 RGE 97W

Other Services: RPM

G.L. Elevation: 6446 ft

K.B. 30 ft Above P. D.

Elevations: KB 6476 ft

DF 6475 ft

Drill Measured From: KELLY BUSHING

GL 6446 ft

Date: 14/SEP/10

Run: ONE

Service Order: 567931

Depth Driller: 12855 ft

Depth Logger: 12800 ft

Bottom Logged Interval: 12800 ft

Top Logged Interval: 6000 ft

Time Started: 18:30

Time Finished: 22:00

Operator Rig Time: 3.5 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: N/A

Reference Log: NONE

Reference Log Date: N/A

Equipment No.: 4271 Location: GRAND JUNCTION

Recorded By: J. WIESER

Witnessed By: MR. JIM JONES

- 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
14.75 In	SURFACE	4511 ft
8.75 In	4511 ft	11869 ft
7.875 In	11869 ft	12855 ft

Casing Record

Size	Weight	Grade	From	To
10.75 In	45.5 lbm/ft	J-55	SURFACE	4511 ft
4.5 In	15.1 lbm/ft	P-110	SURFACE	11869 ft
4.5 In	15.1 lbm/ft	P-110	11869 ft	12855 ft

Remarks

THIS IS THE FIRST LOG OF THE WELL.
WELL WAS LOGGED WITH 0 psi AT THE WELLHEAD.

Equipment Data

Run	Trip	Tool	Series Number	Serial Number	Position
-----	------	------	---------------	---------------	----------

Run	Trp	Tool	Series Number	Serial Number	Position
1	1	MANDREL	1426XA	10154957	CENTRALIZED
1	1	GR/CCL/TEL	2459XA	10417457	CENTRALIZED

MAIN SECTION

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	314.263	usec	5991.612	12618.000
RAL	Amp Gate Start Near	197.754	usec	5991.612	12618.000
RAL	Amp Gate Start Radial	197.754	usec	5991.612	12618.000
RAL	Amp Gate Width Far	25.000	usec	5991.612	12618.000
RAL	Amp Gate Width Near	25.000	usec	5991.612	12618.000
RAL	Amp Gate Width Radial	25.000	usec	5991.612	12618.000
RAL	casing od	4.500	inches	5991.612	12618.000
RAL	casing wt	15.100	lbm/ft	5991.612	12618.000
RAL	FB Start Far	289.263	usec	5991.612	12618.000
RAL	FB Start Near	172.754	usec	5991.612	12618.000
RAL	FB Start Radial	172.754	usec	5991.612	12618.000
RAL	FB Thresh Far	15.000	mv	5991.612	12618.000
RAL	FB Thresh Near	10.000	mv	5991.612	12618.000
RAL	FB Thresh Radial	10.000	mv	5991.612	12618.000
RAL	Fluid Travel Time	200.000	usec/ft	5991.612	12617.925

DEPTH OFFSETS

(for Acquired Curves)

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

Created by : RAL, v4.8.007

Plotted by : PlotMgr, v5.4.504

Company : EXXONMOBIL PRODUCTION COMPANY

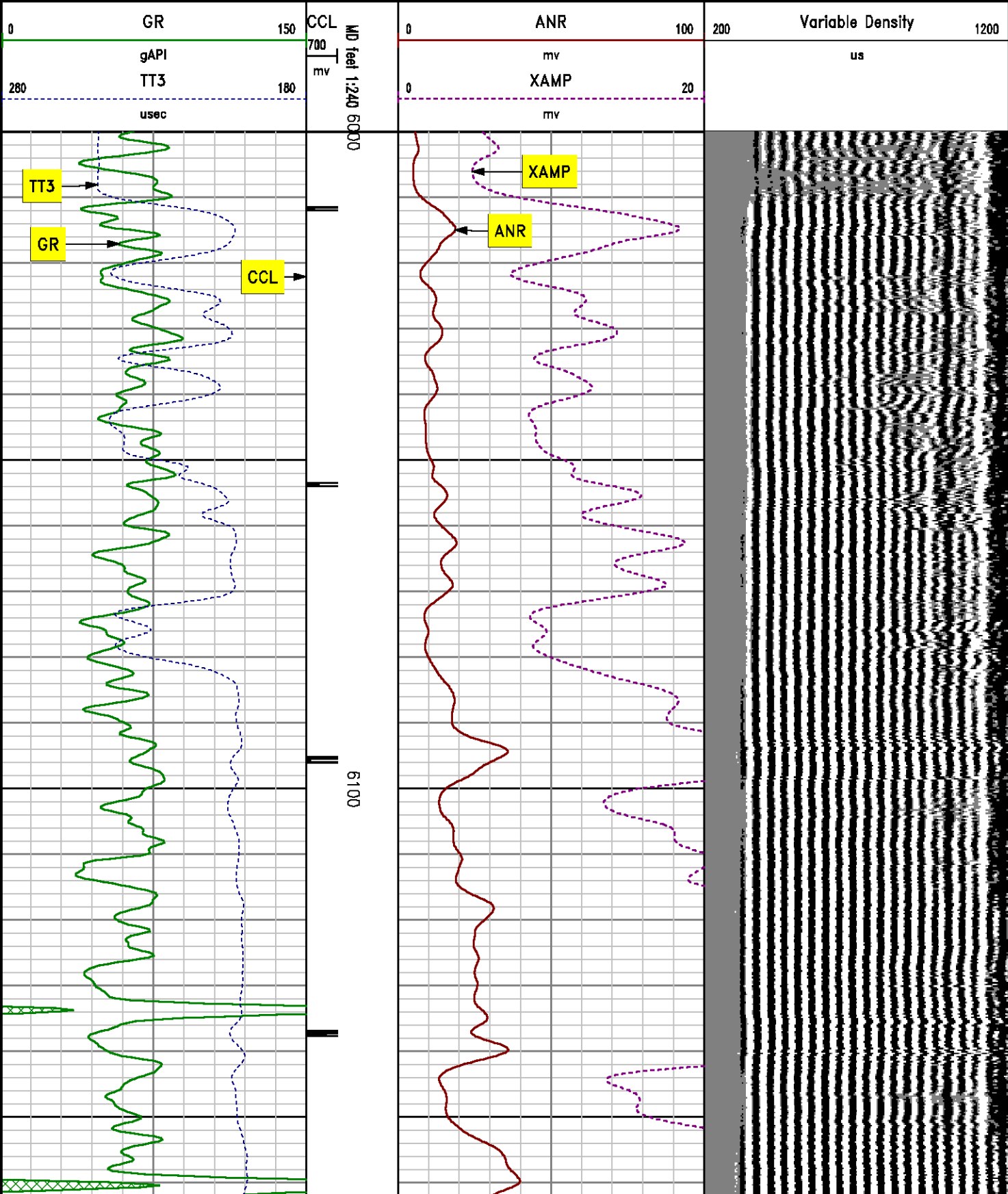
Well : FRU 197-33B2

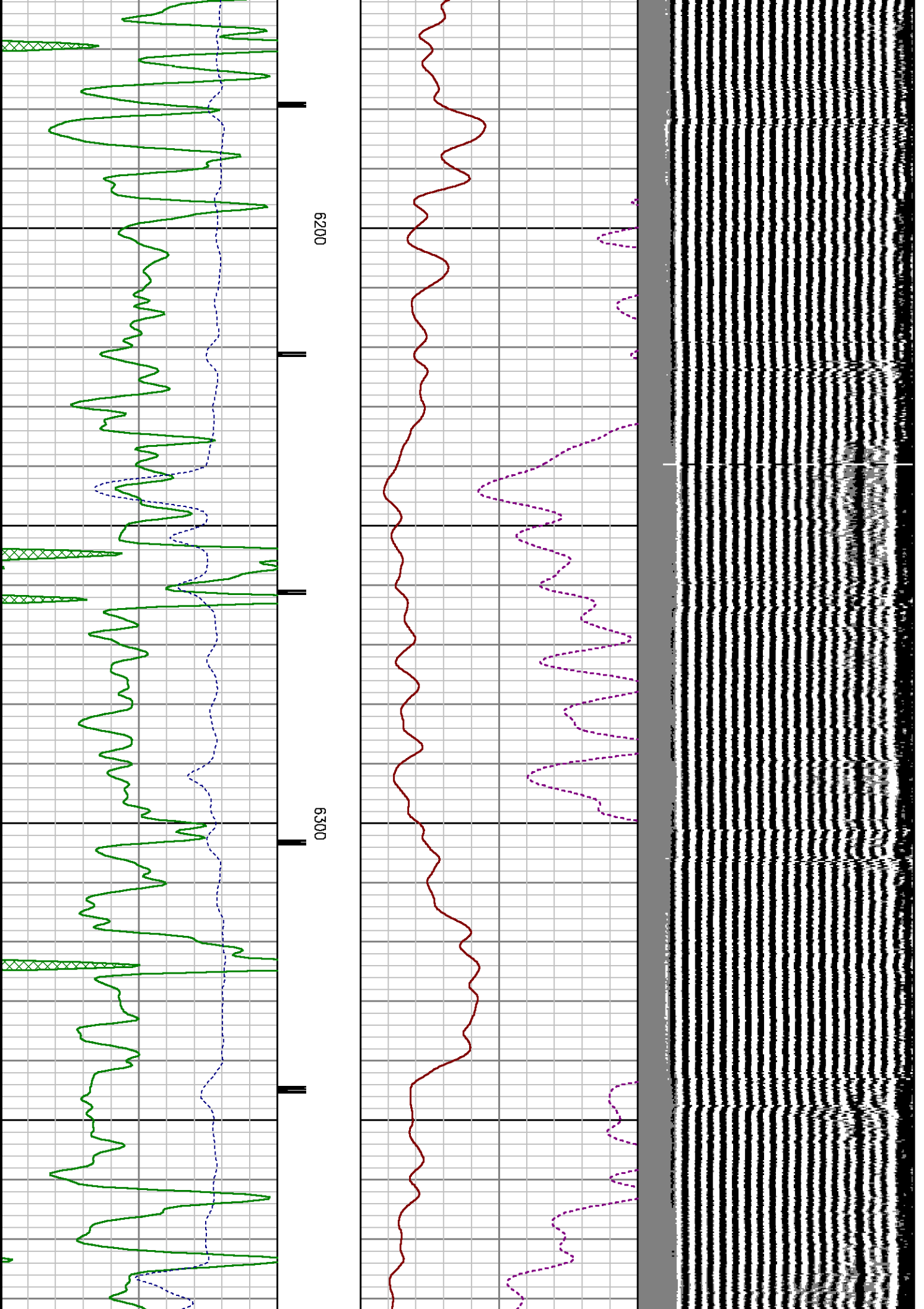
File Name : D:\WELLDATA\B2CBL\MAIN.XTF

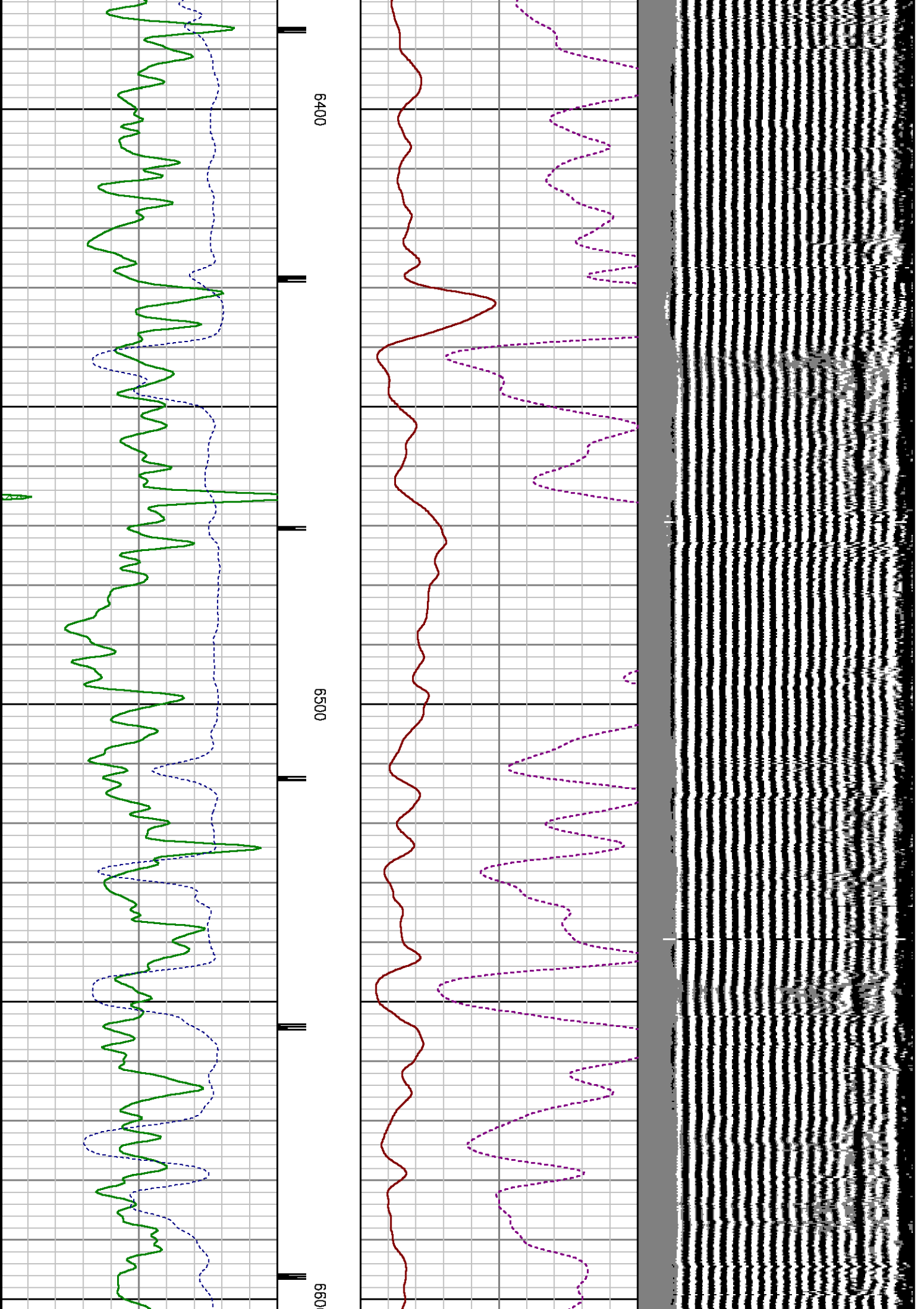
Mode : PlotMgr 5.4.504

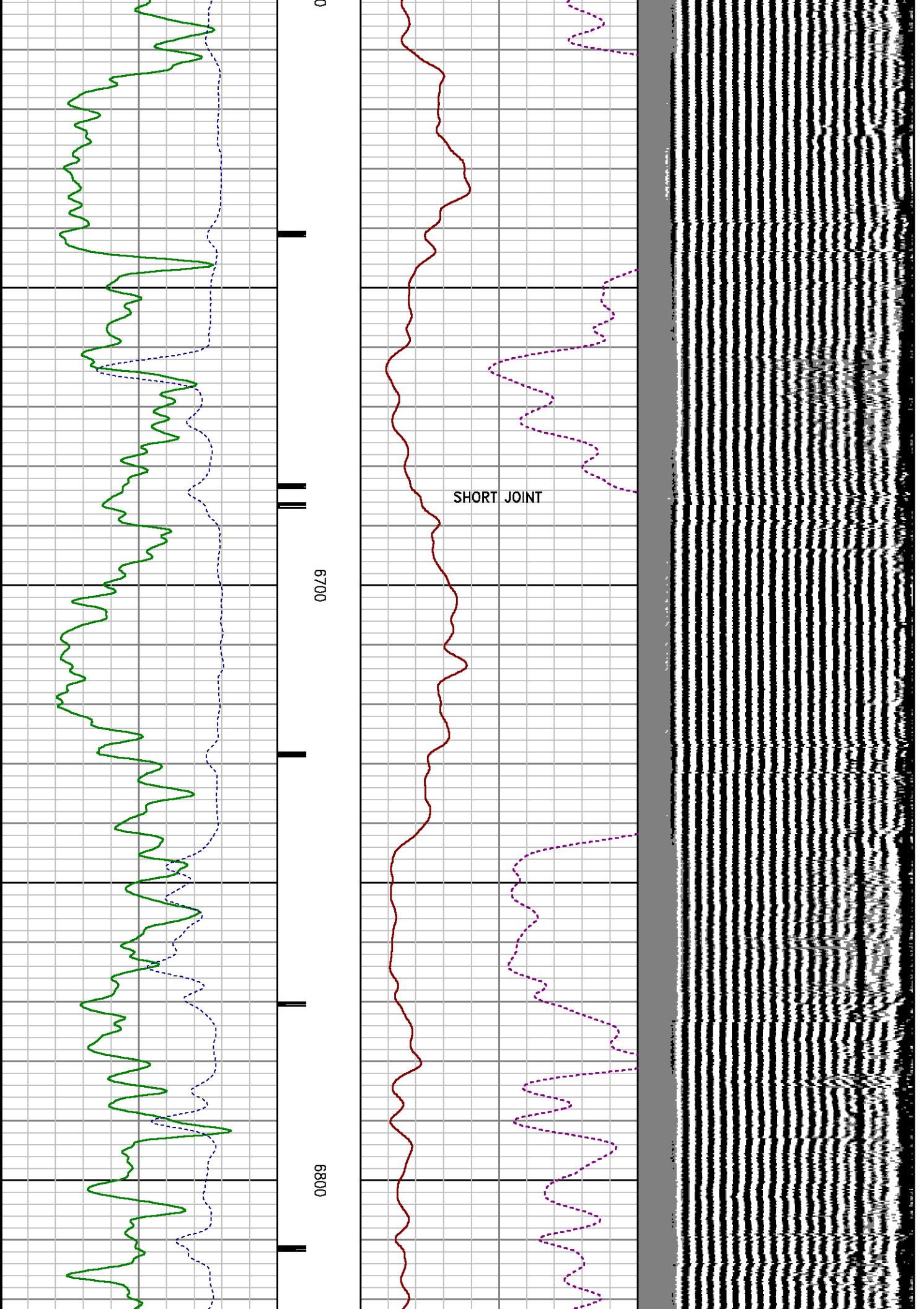
Interval : 6000.00 - 12606.00 feet UP

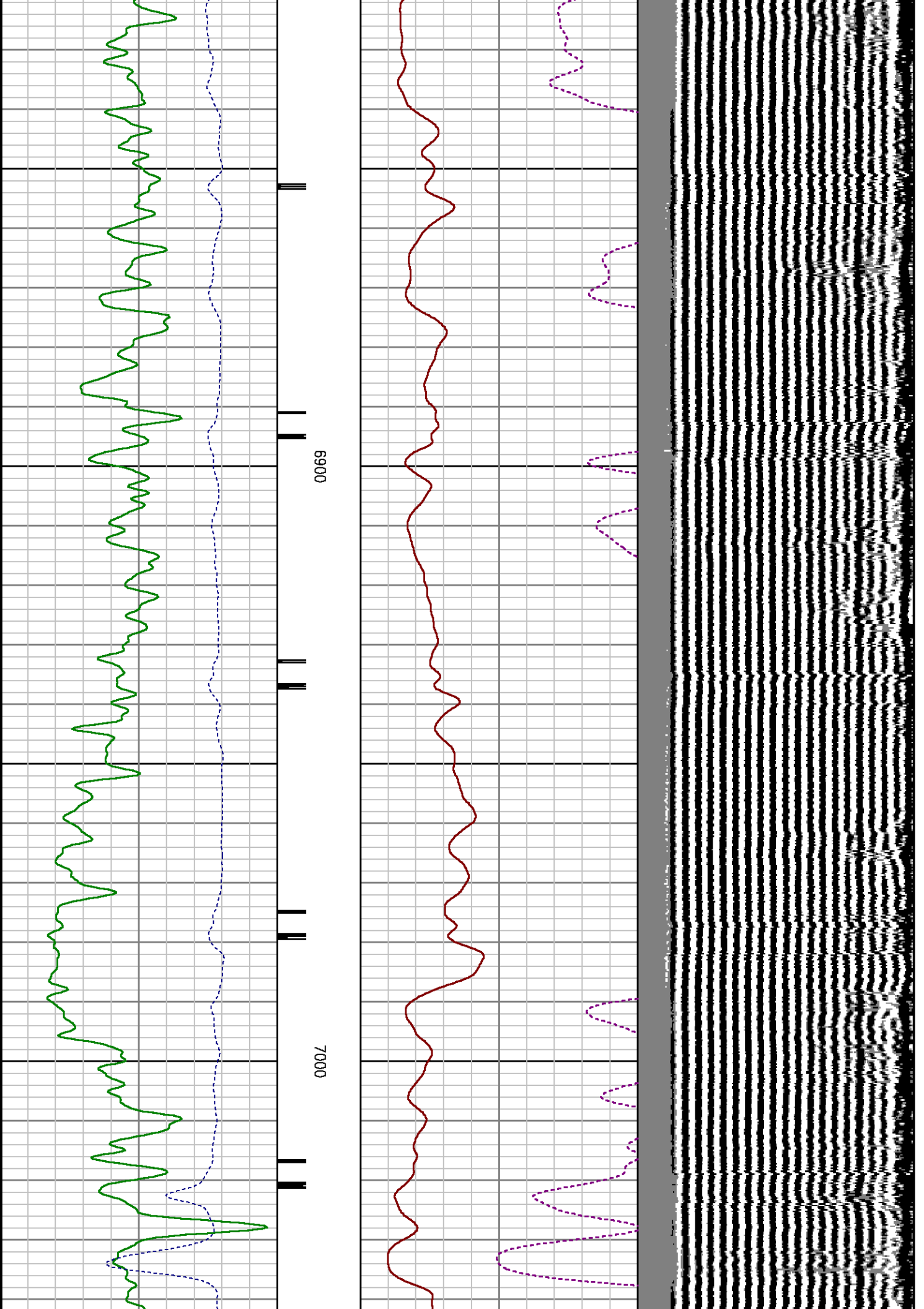
Created : 9/14/2010 7:48:09 PM

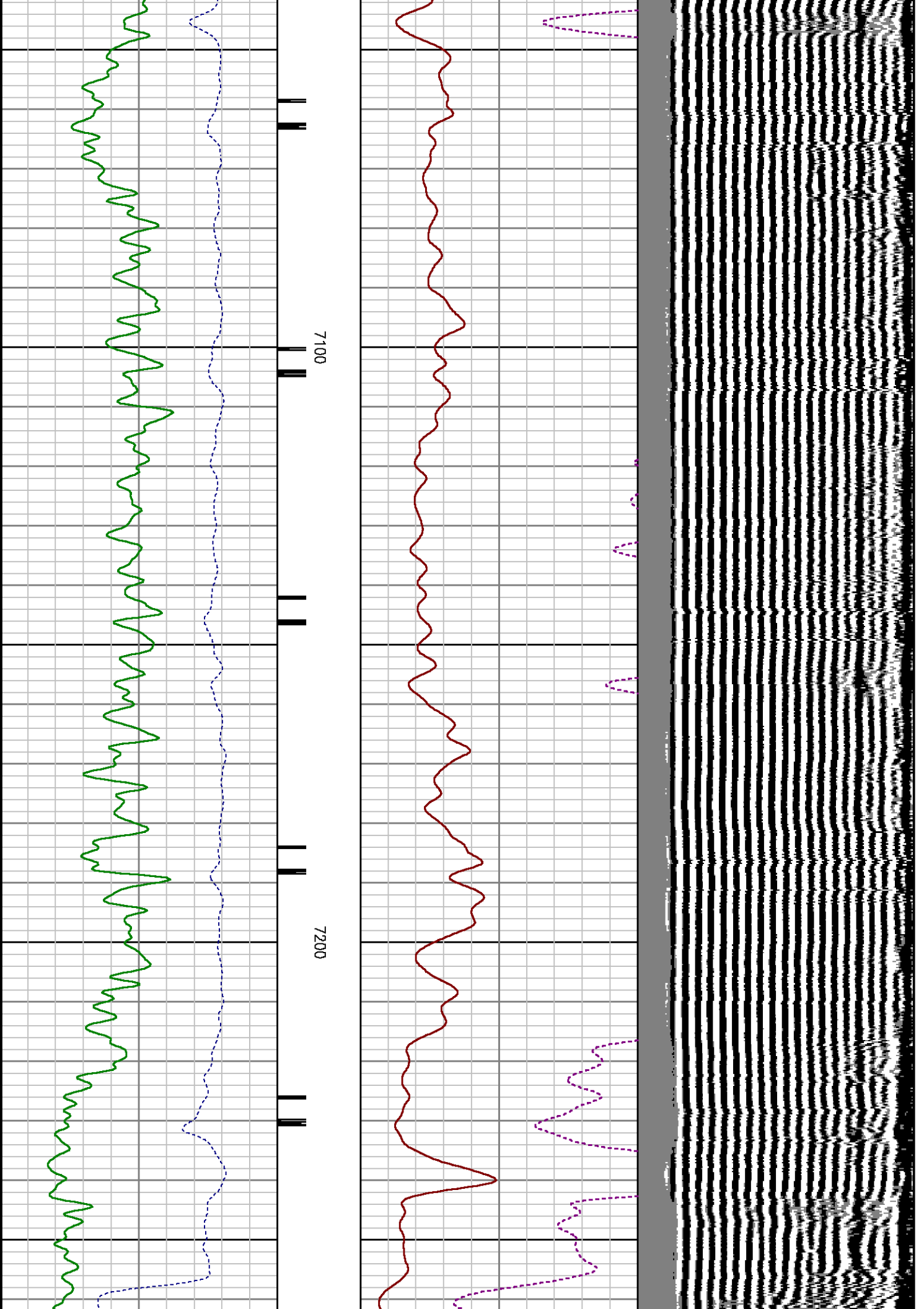


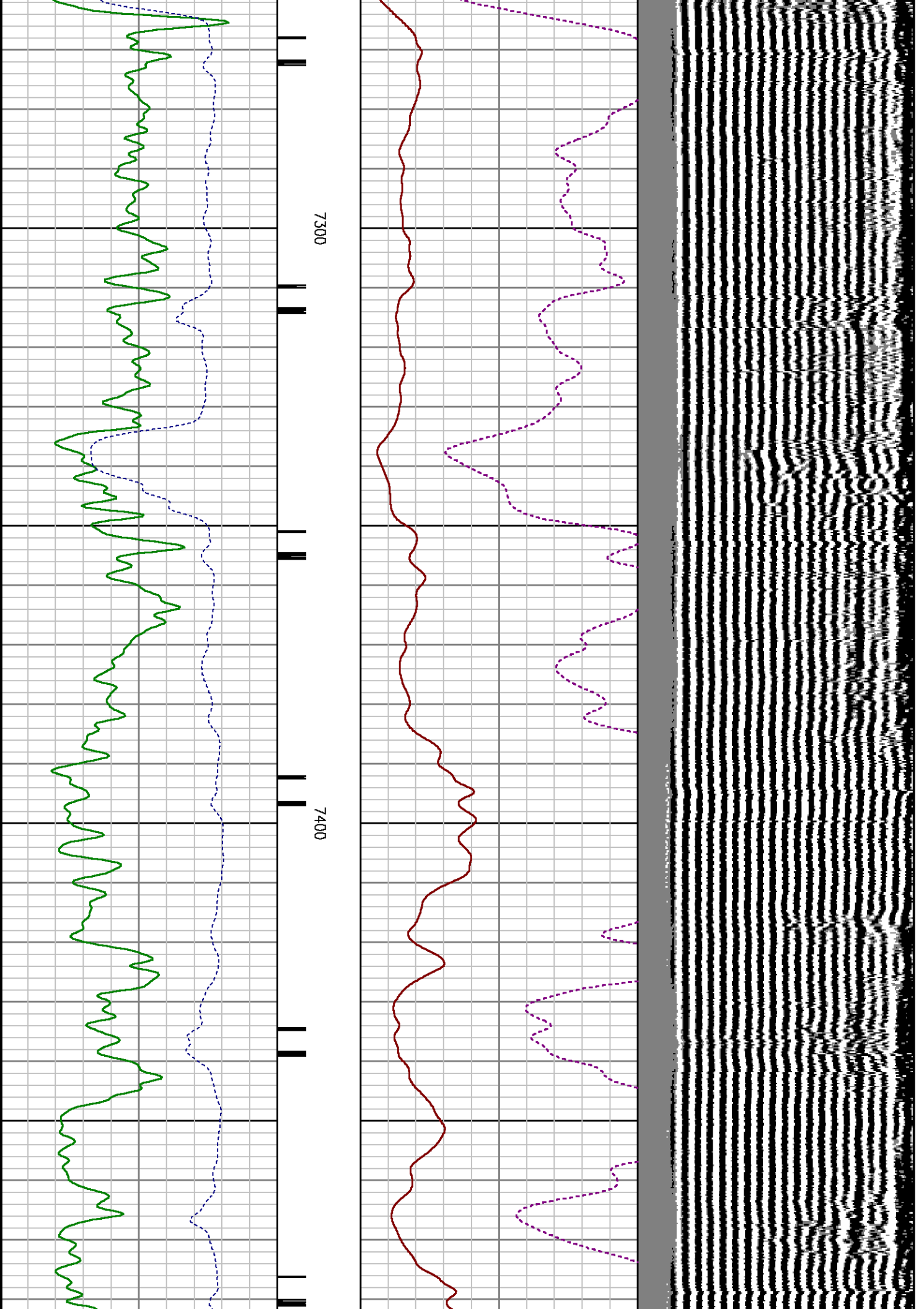


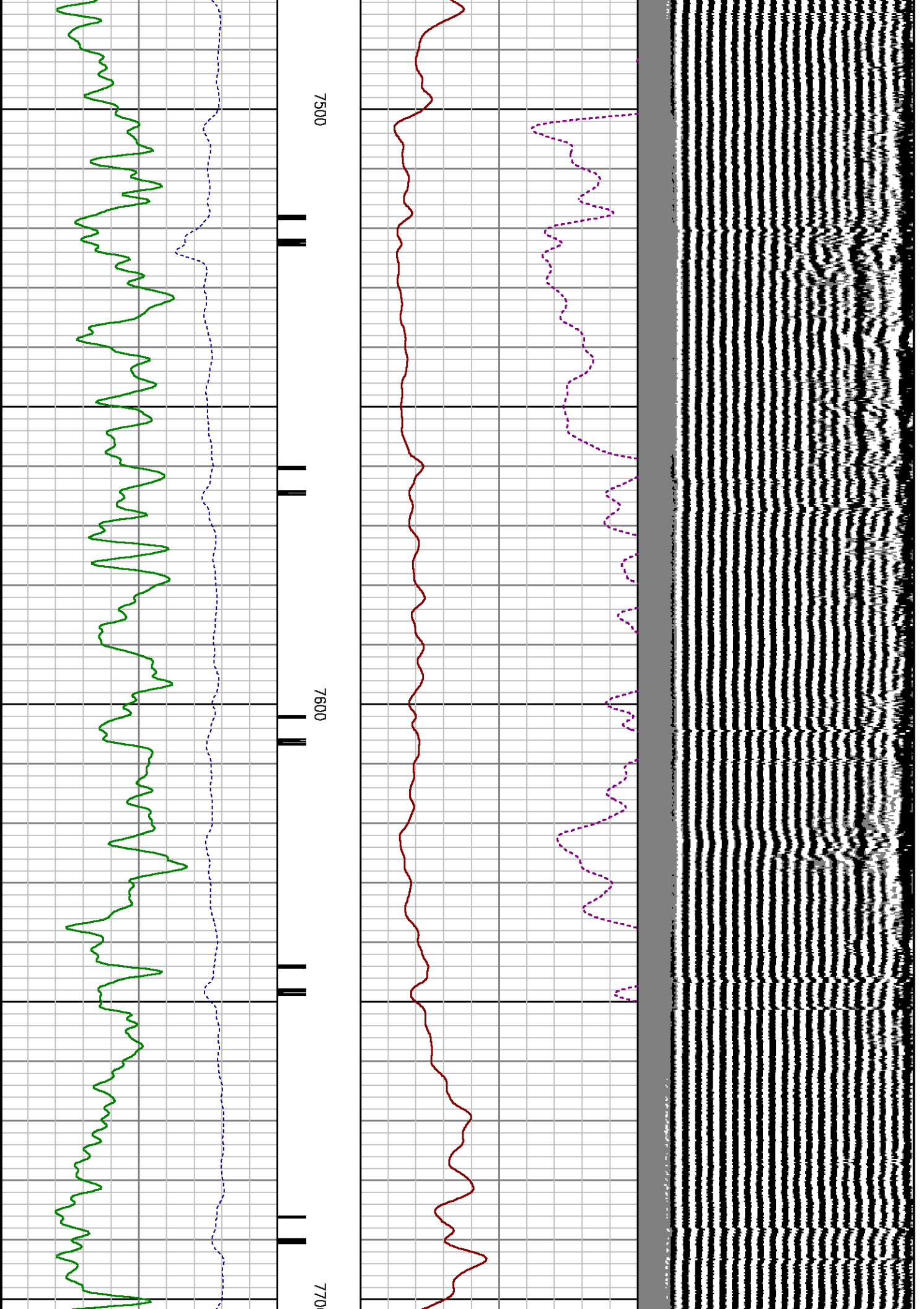


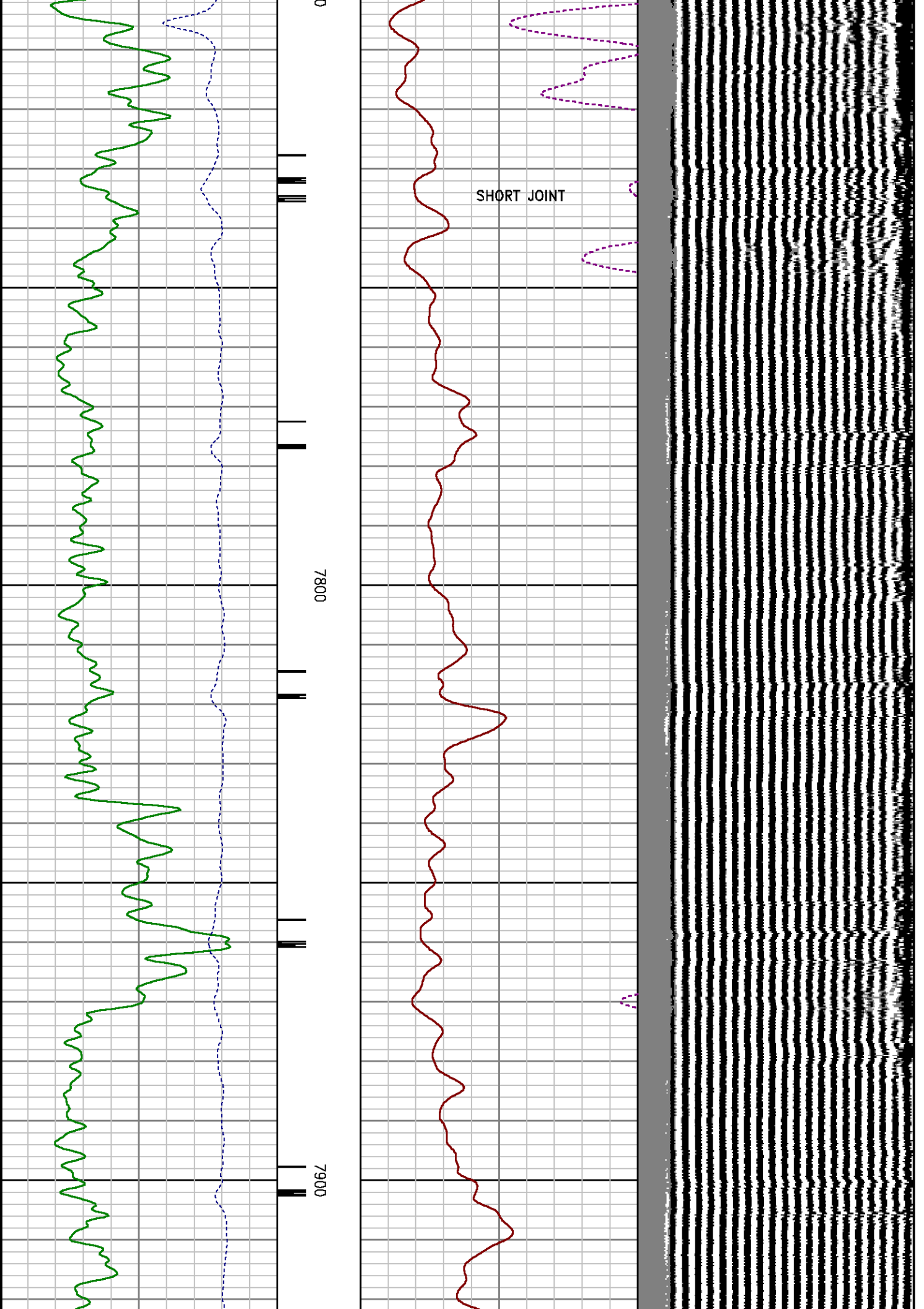


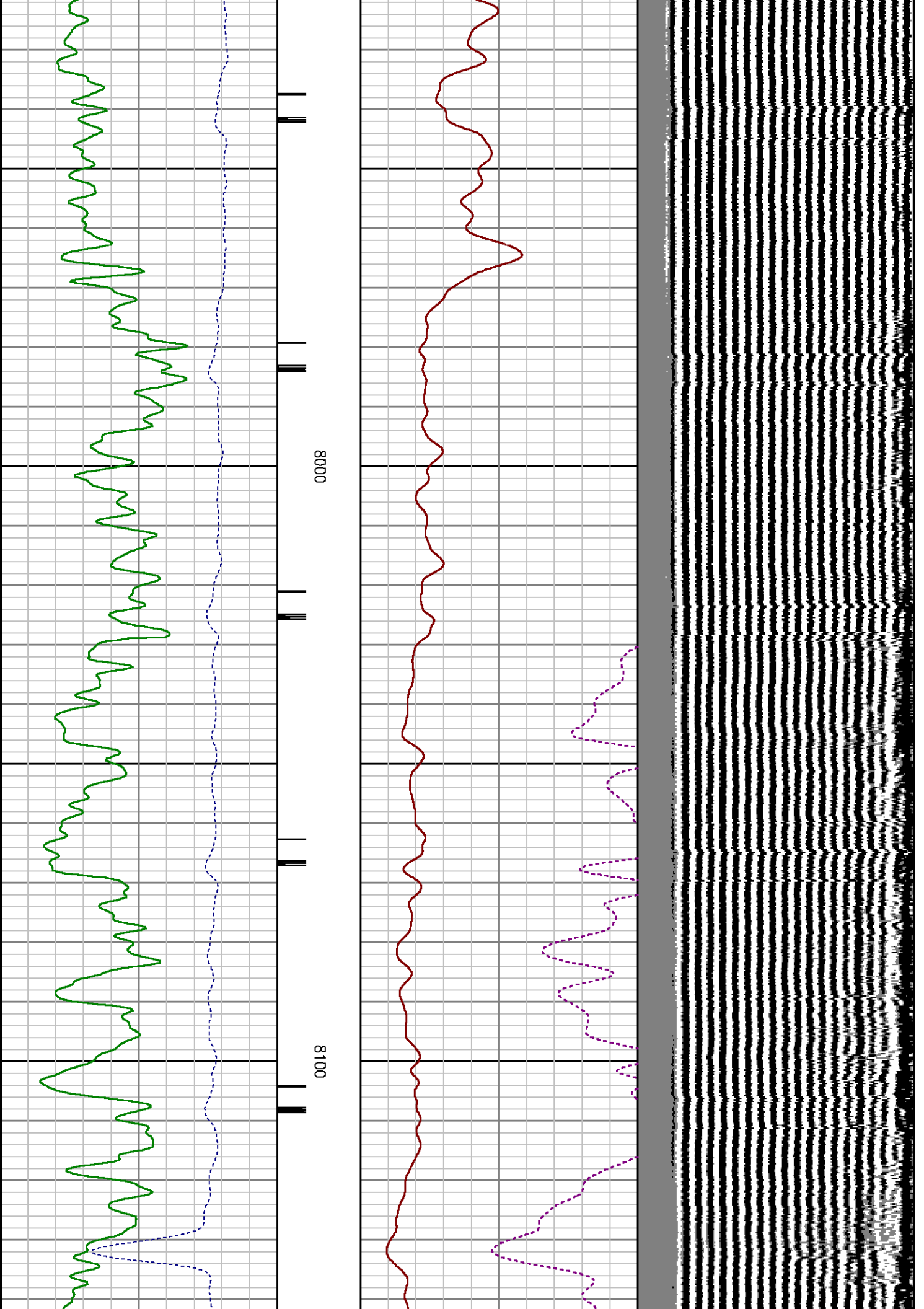


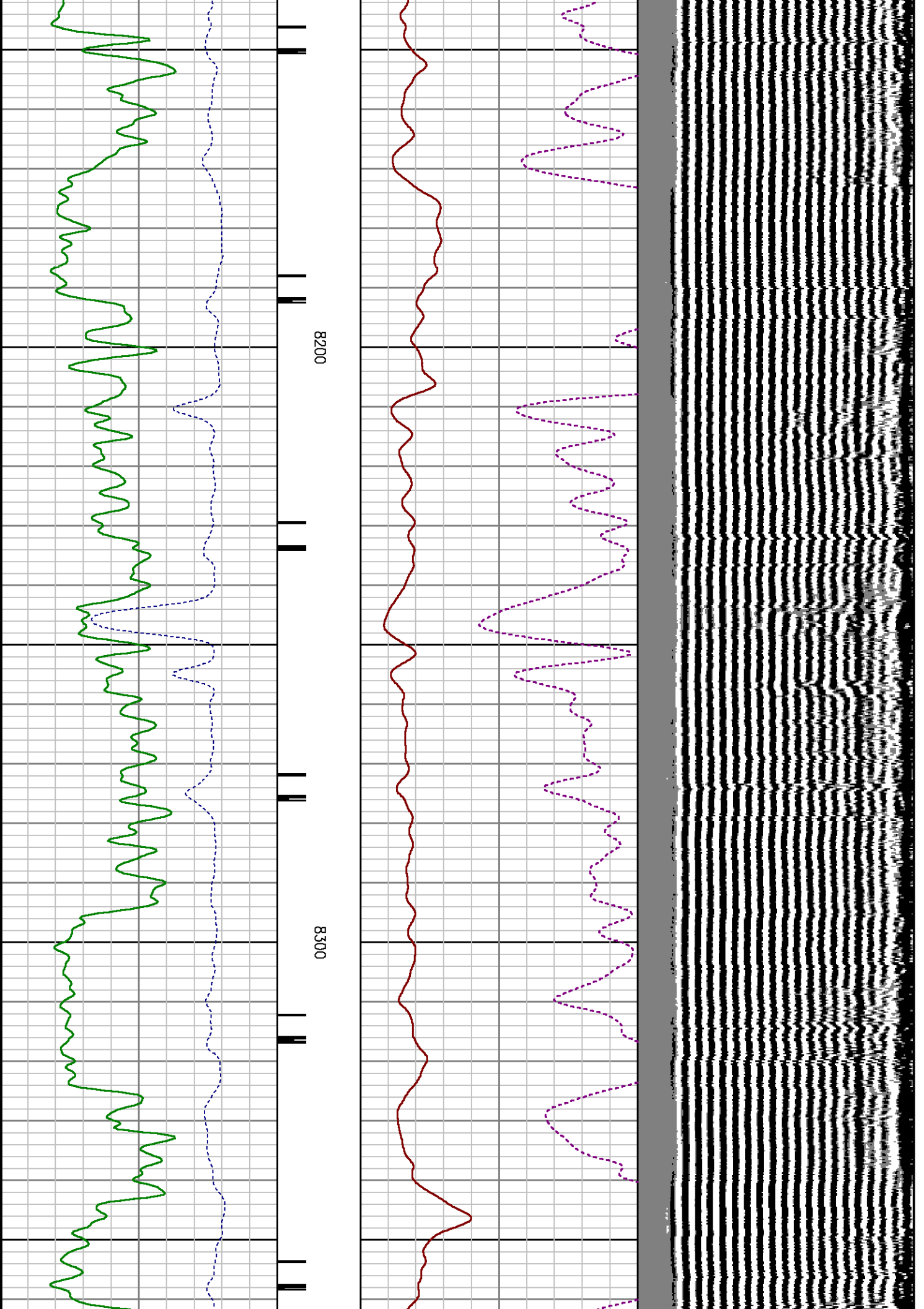


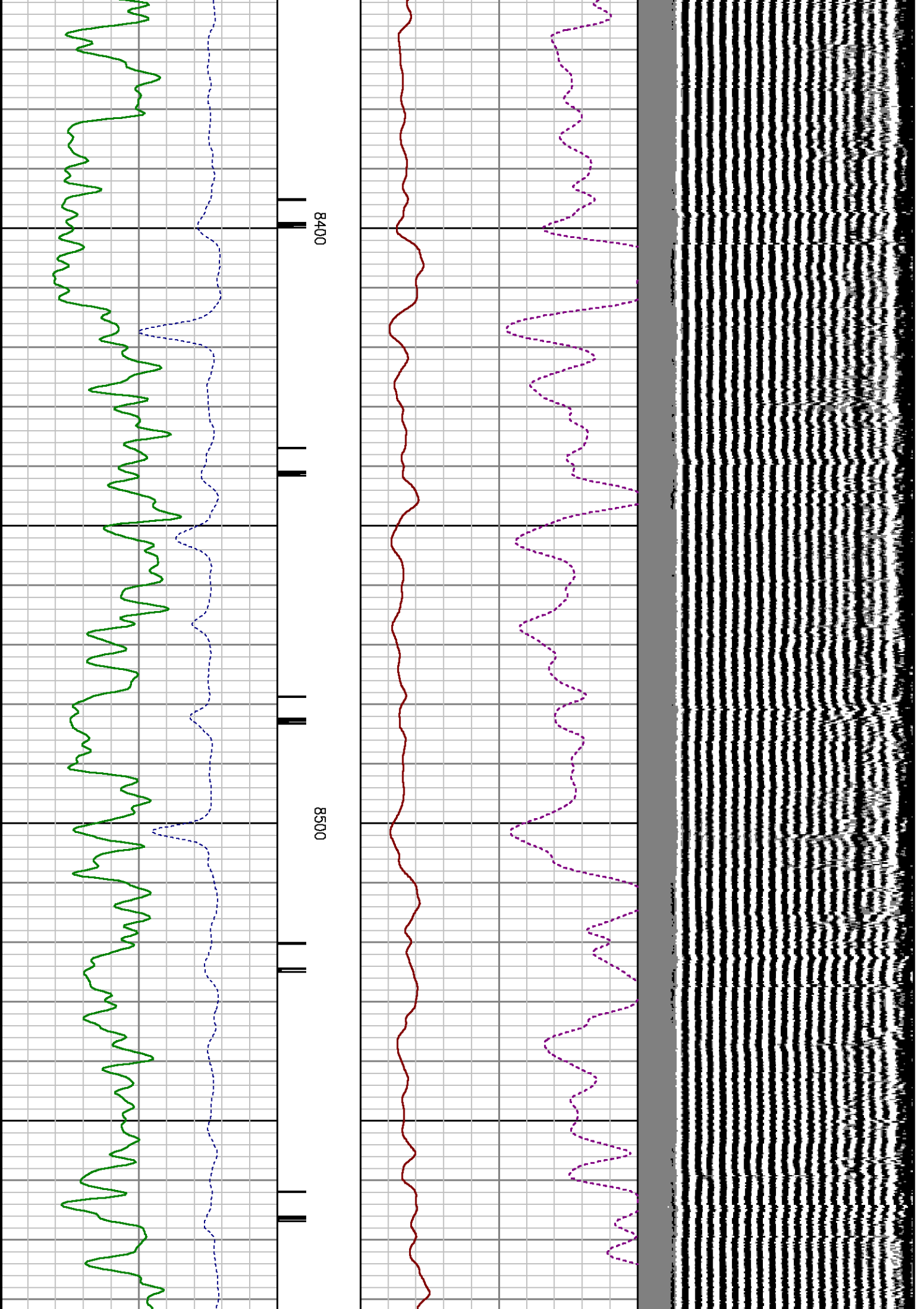


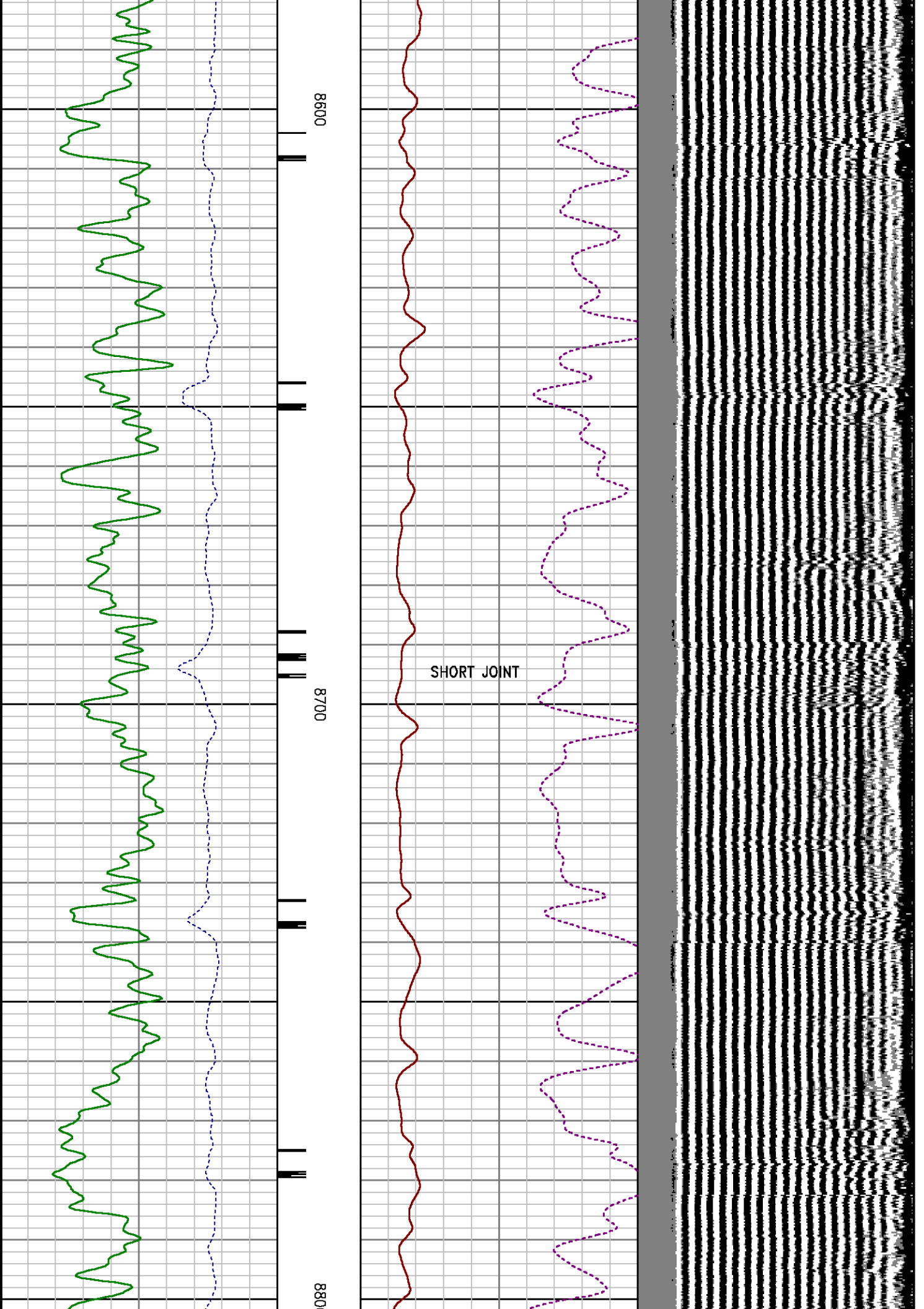


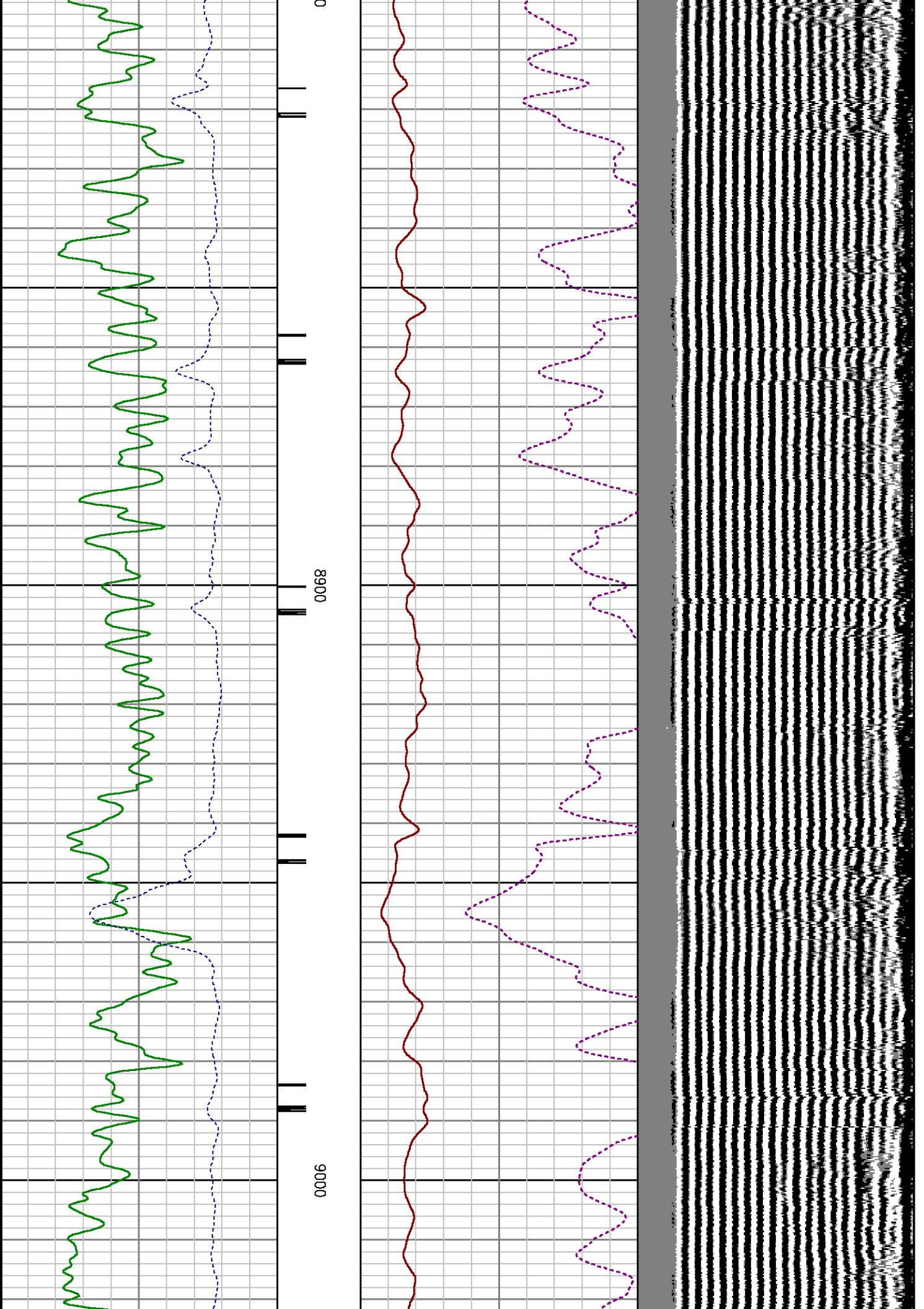


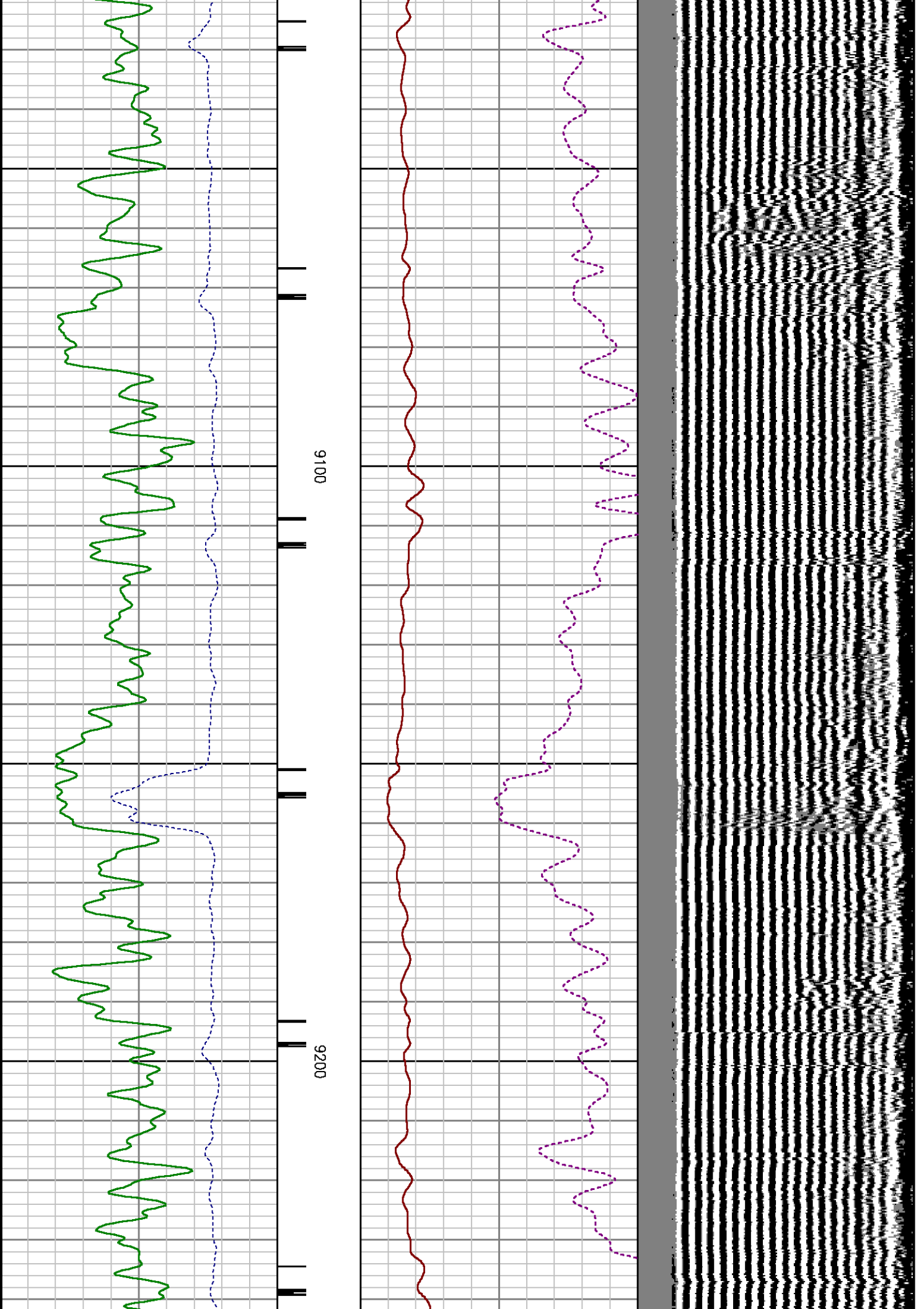


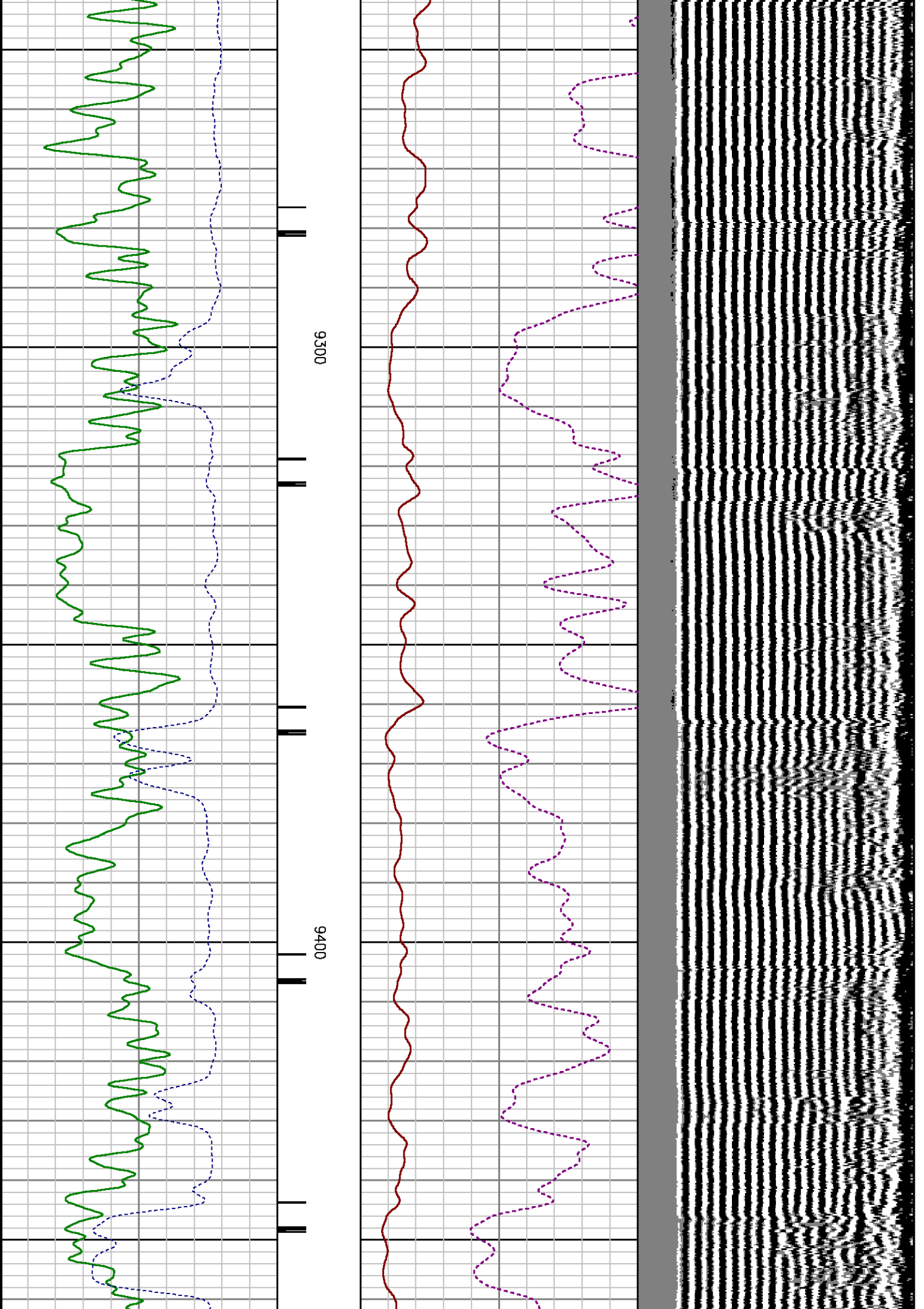


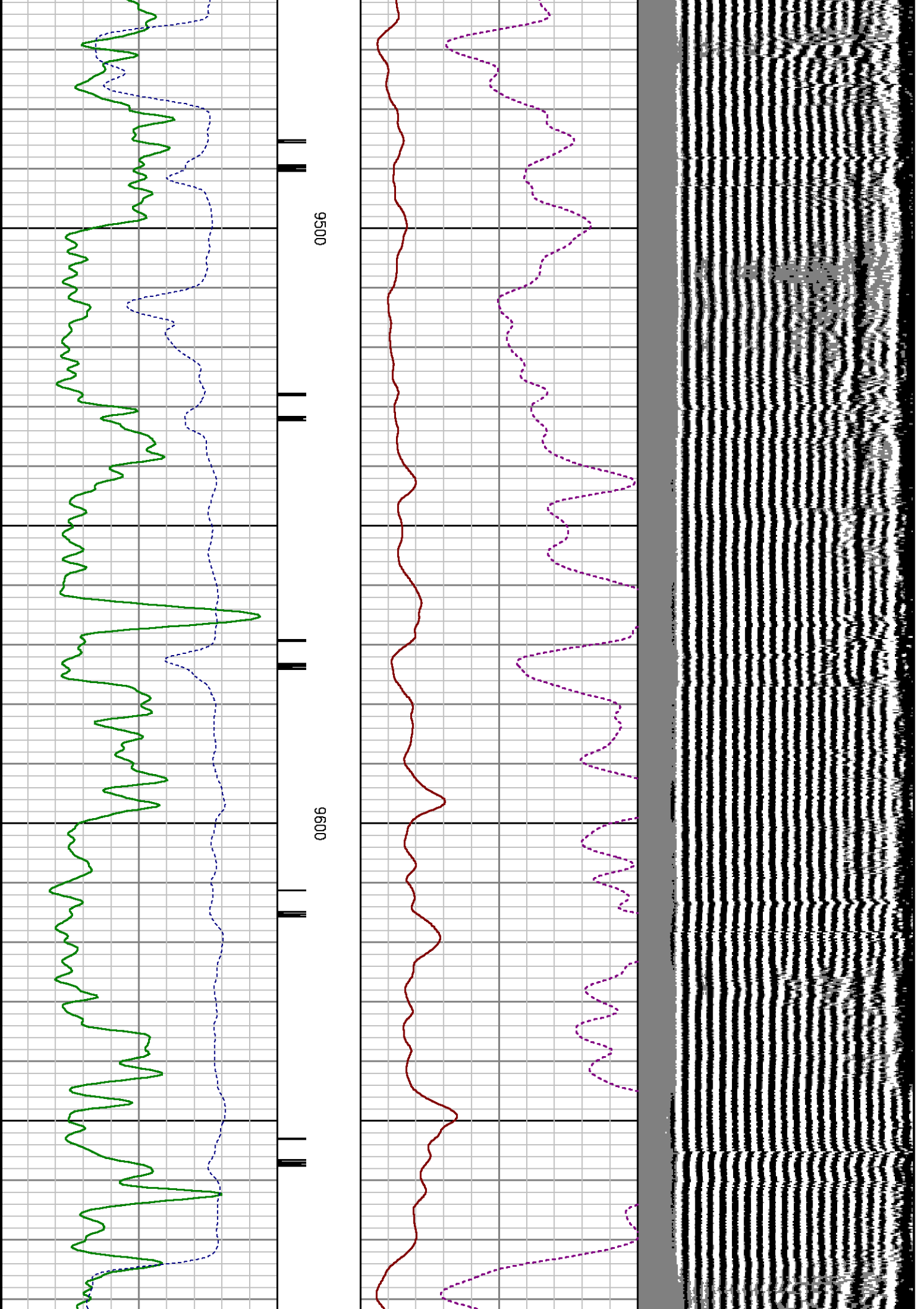


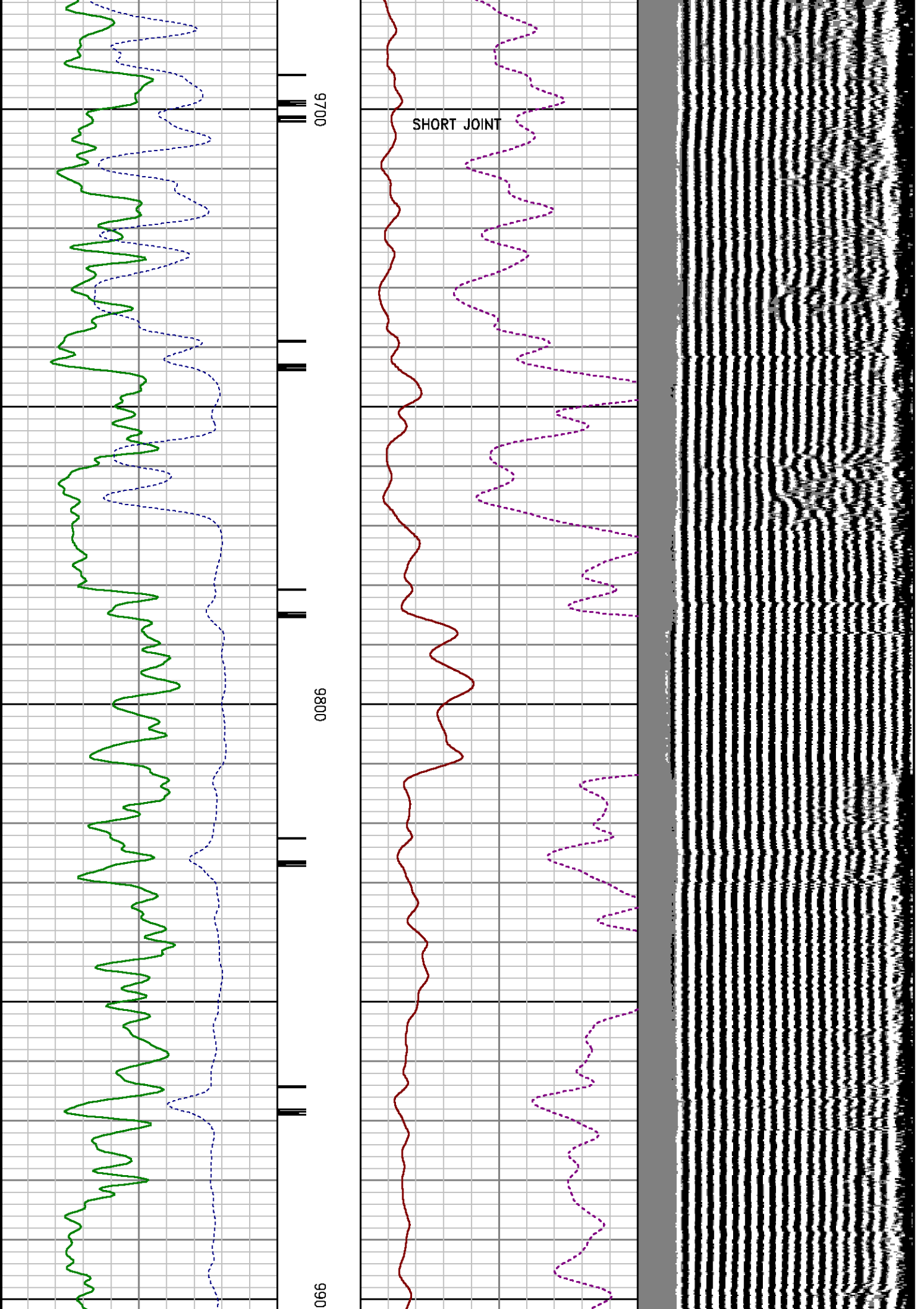


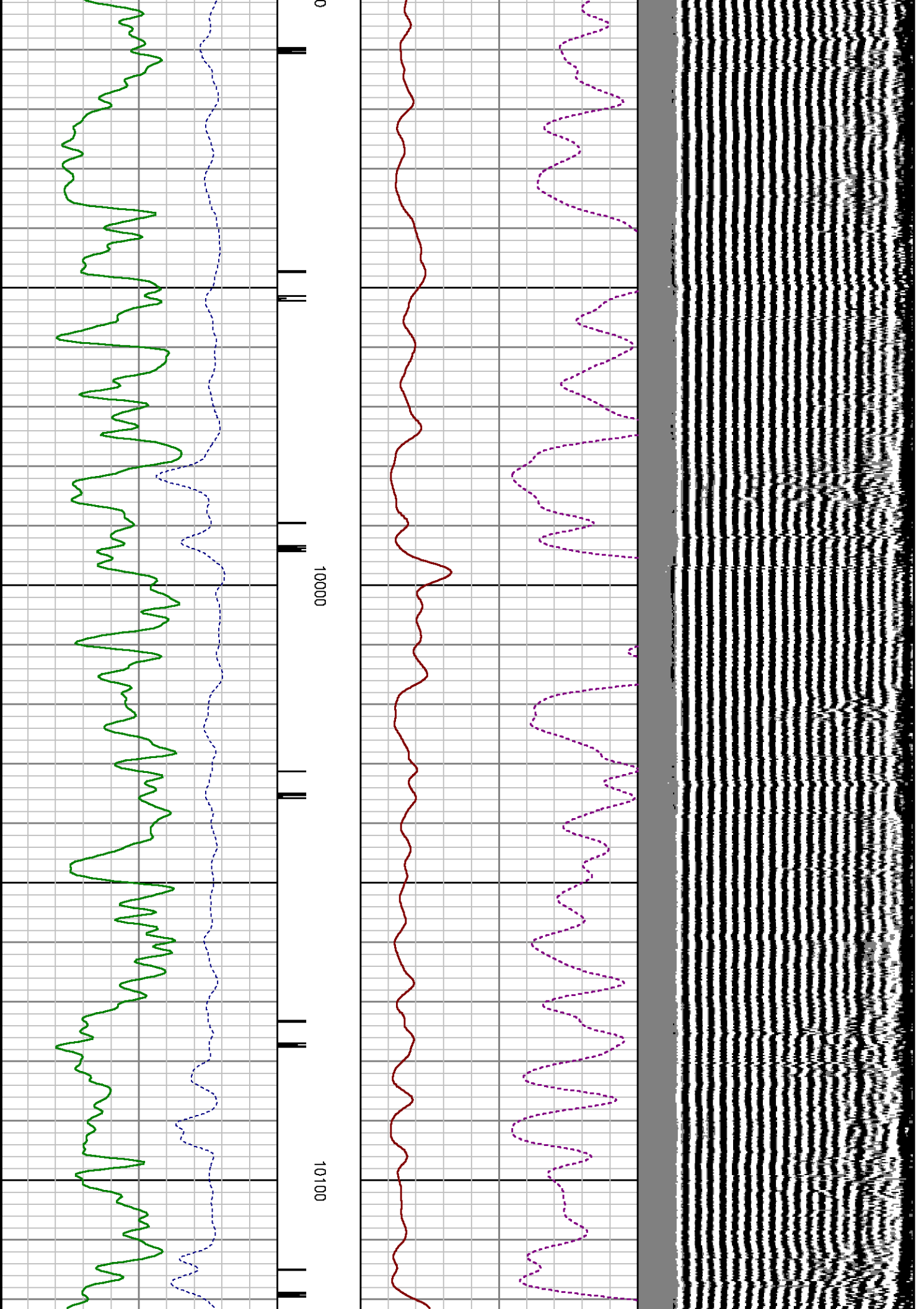


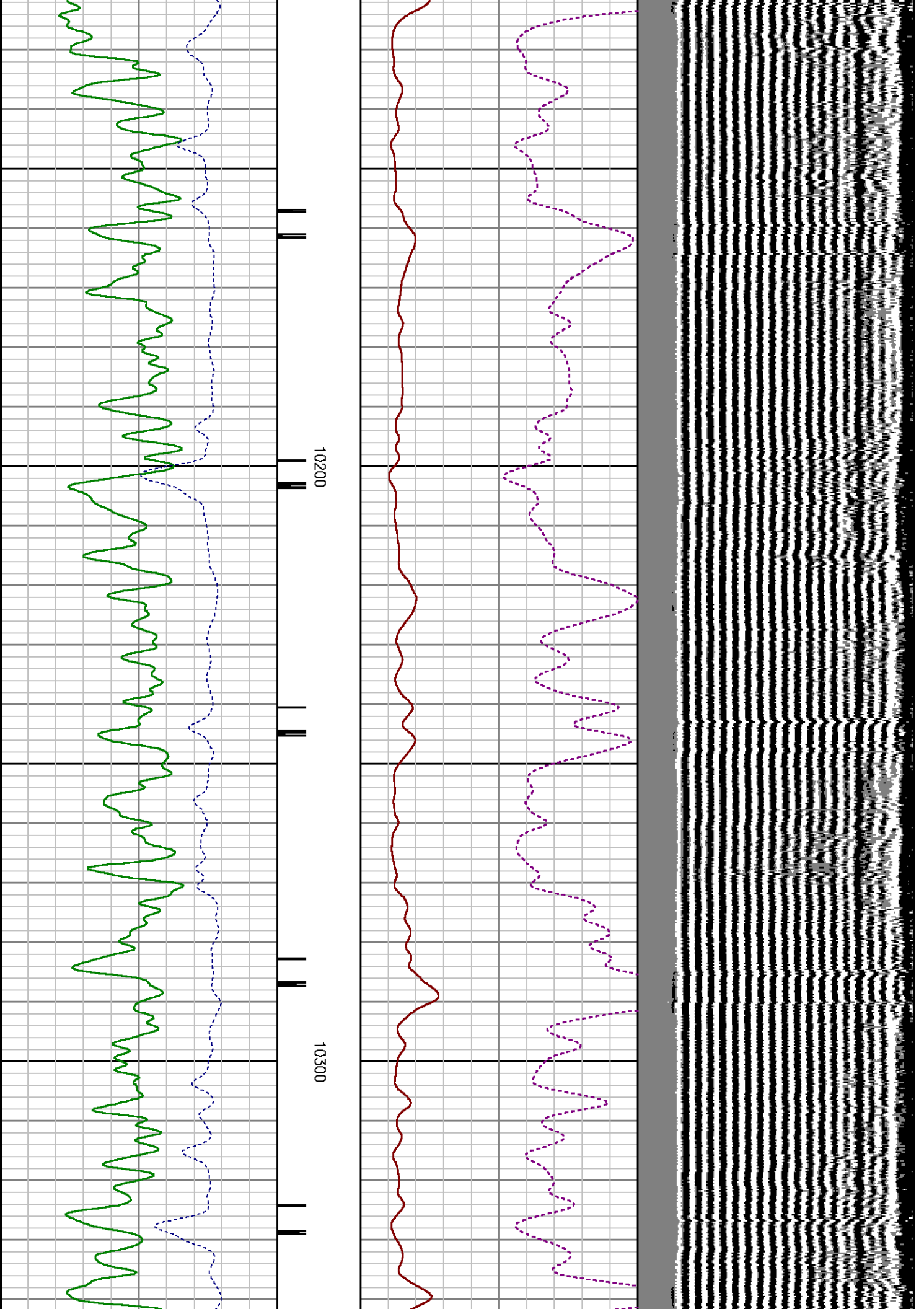


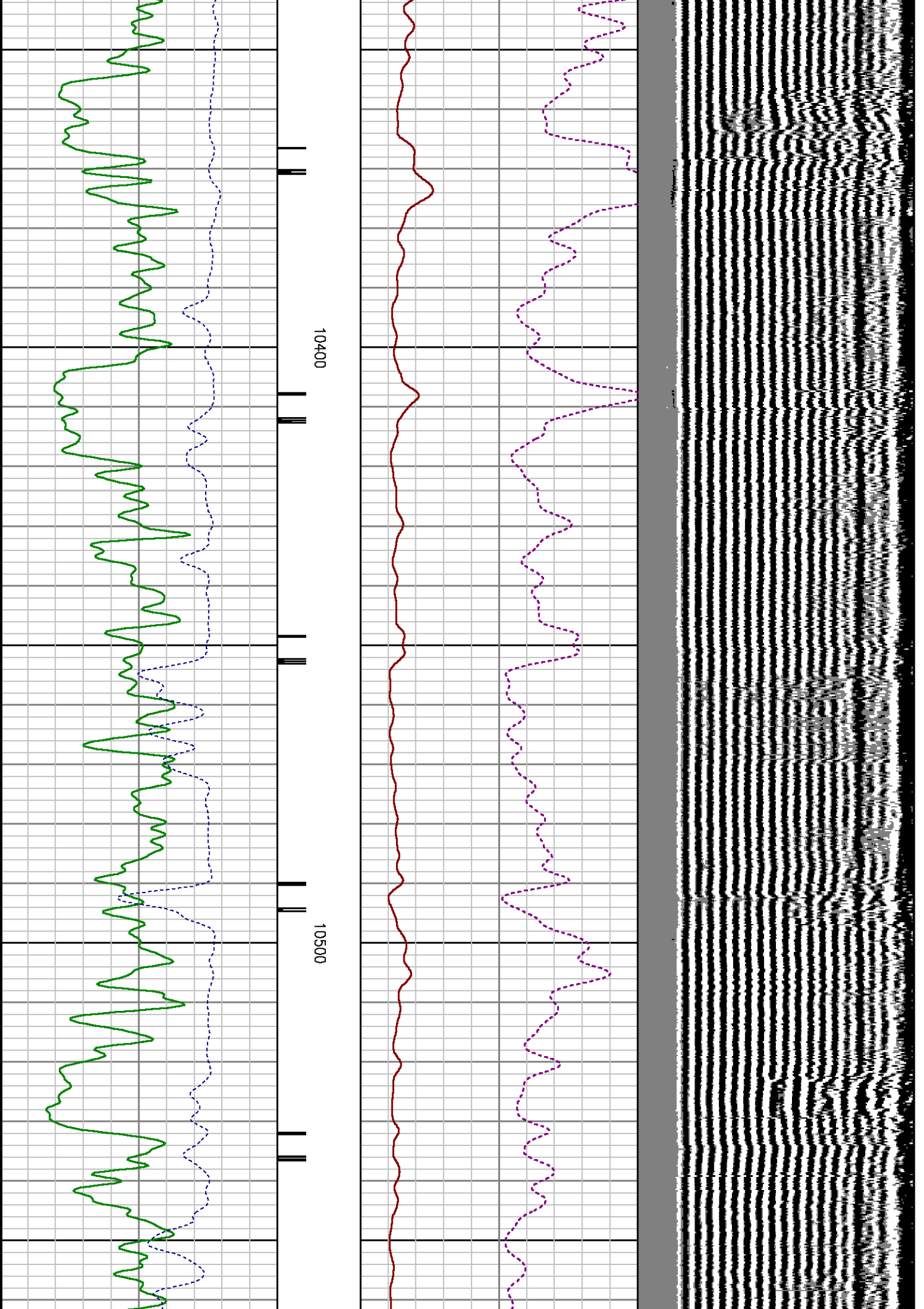


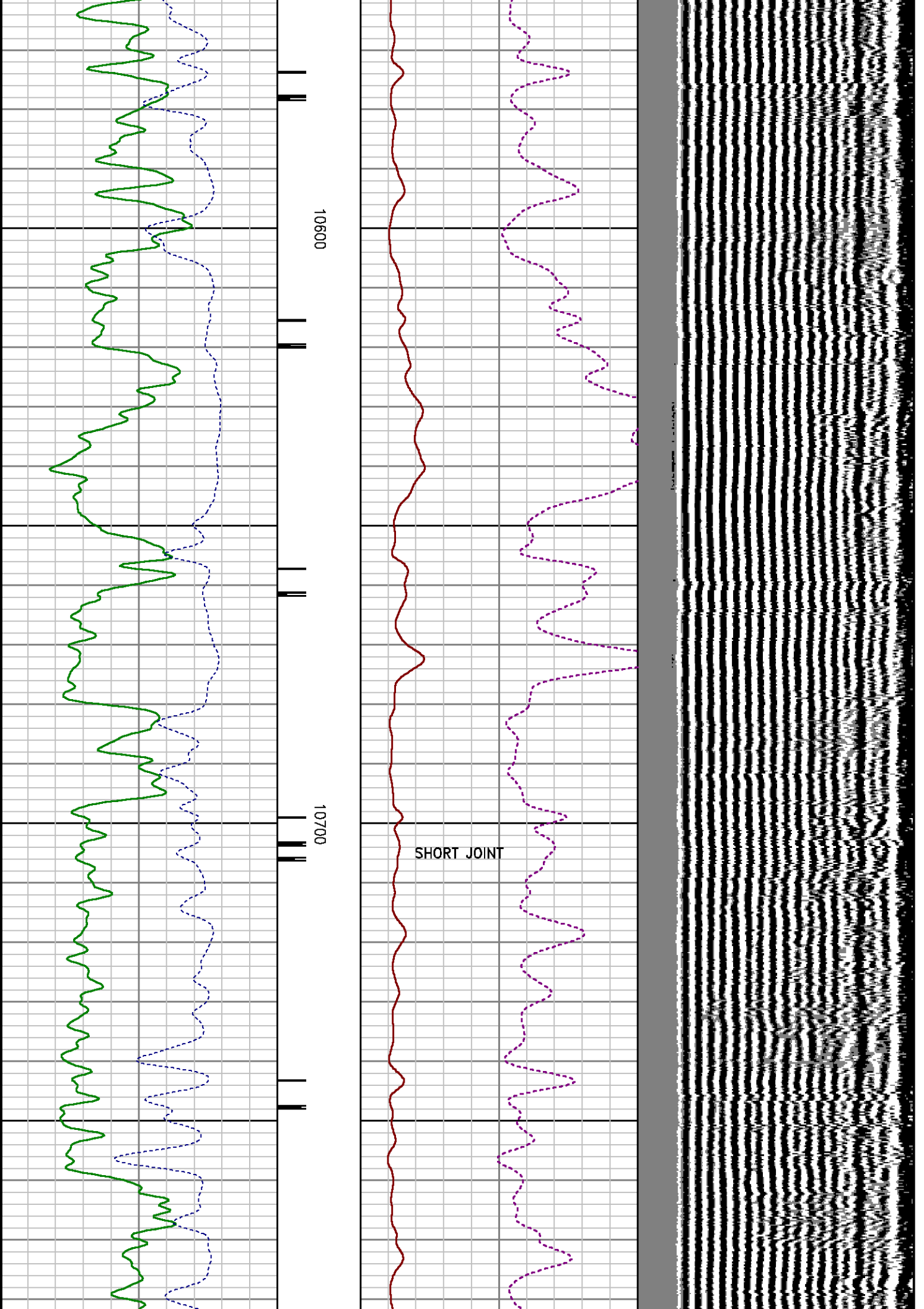


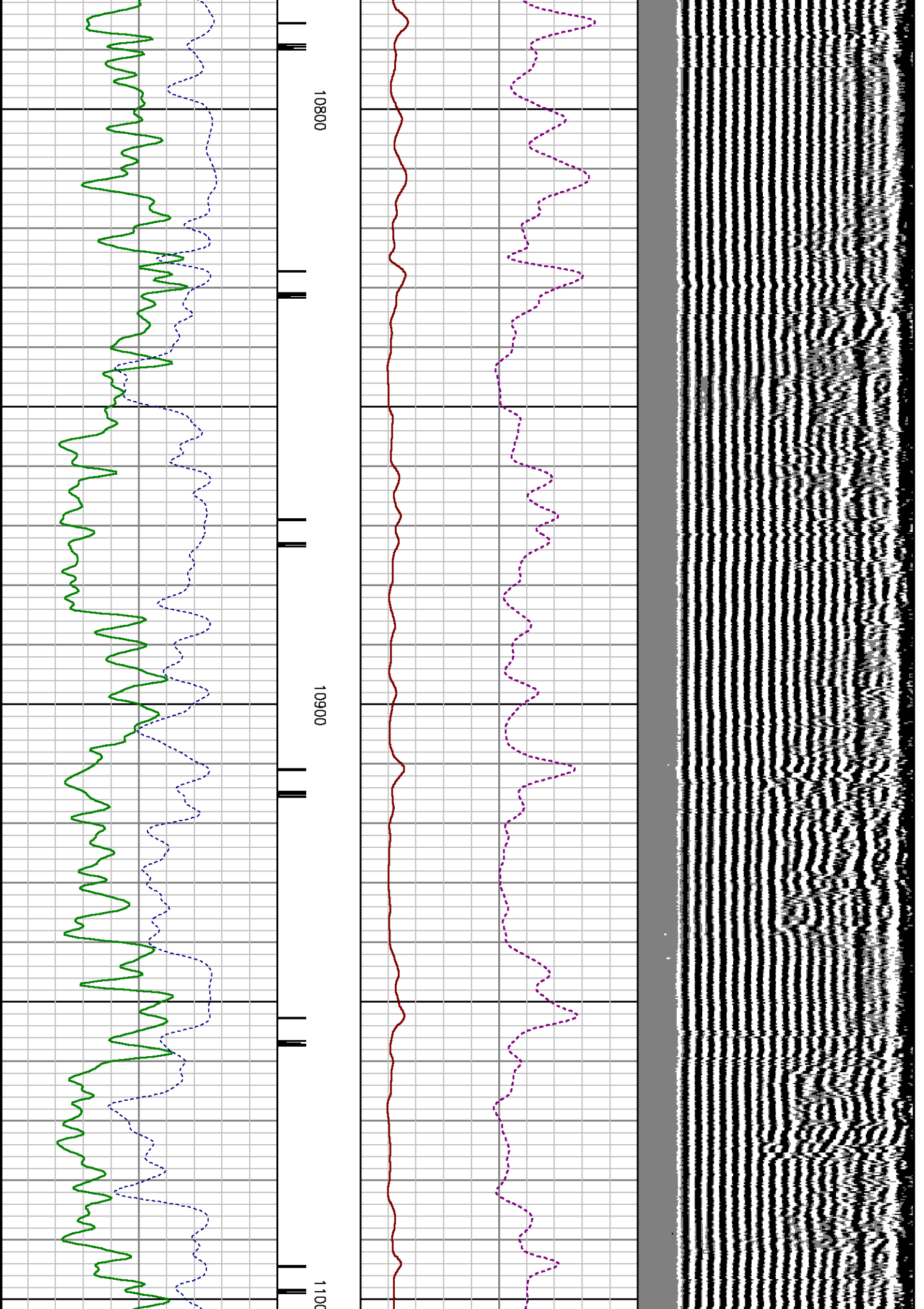


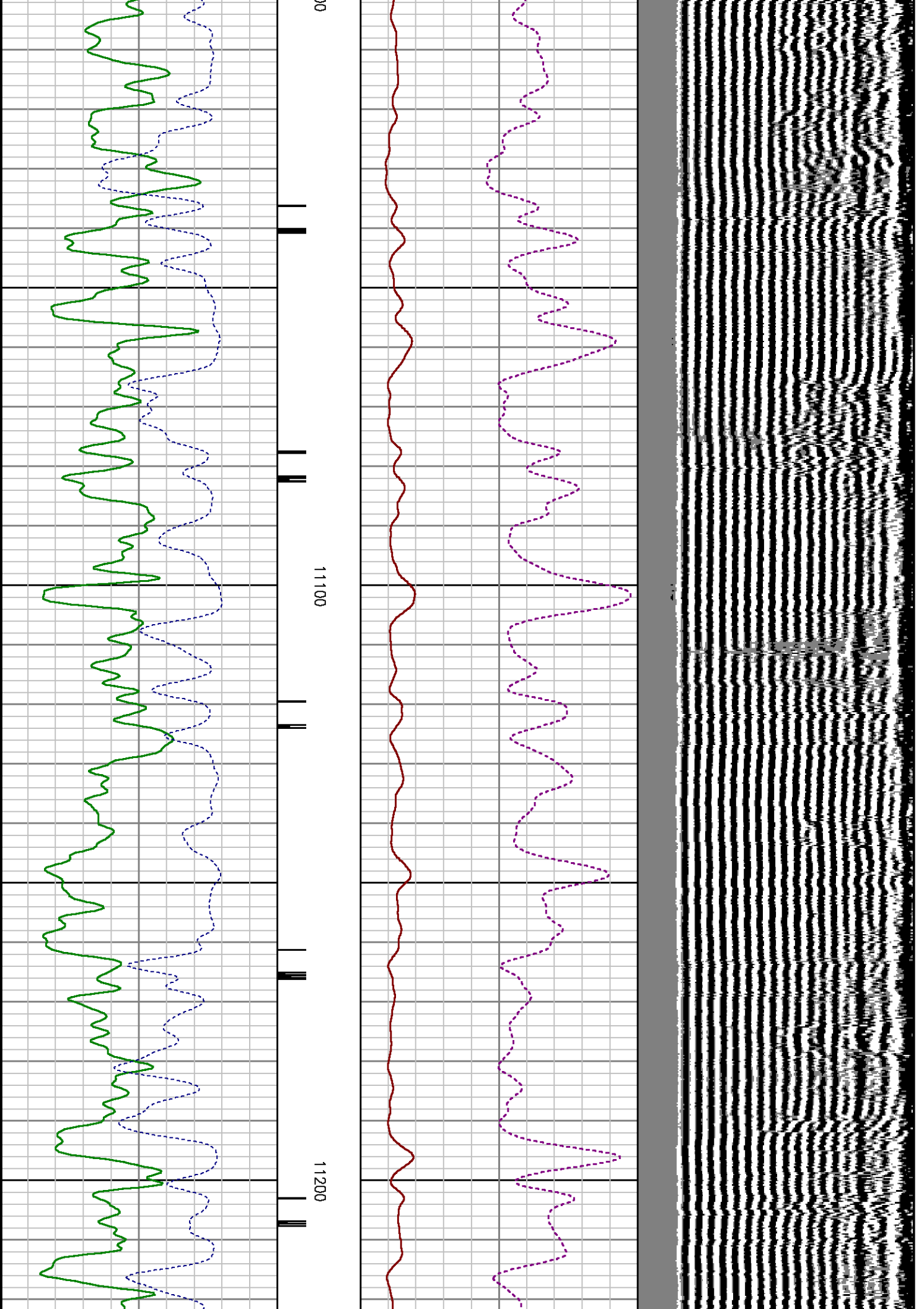


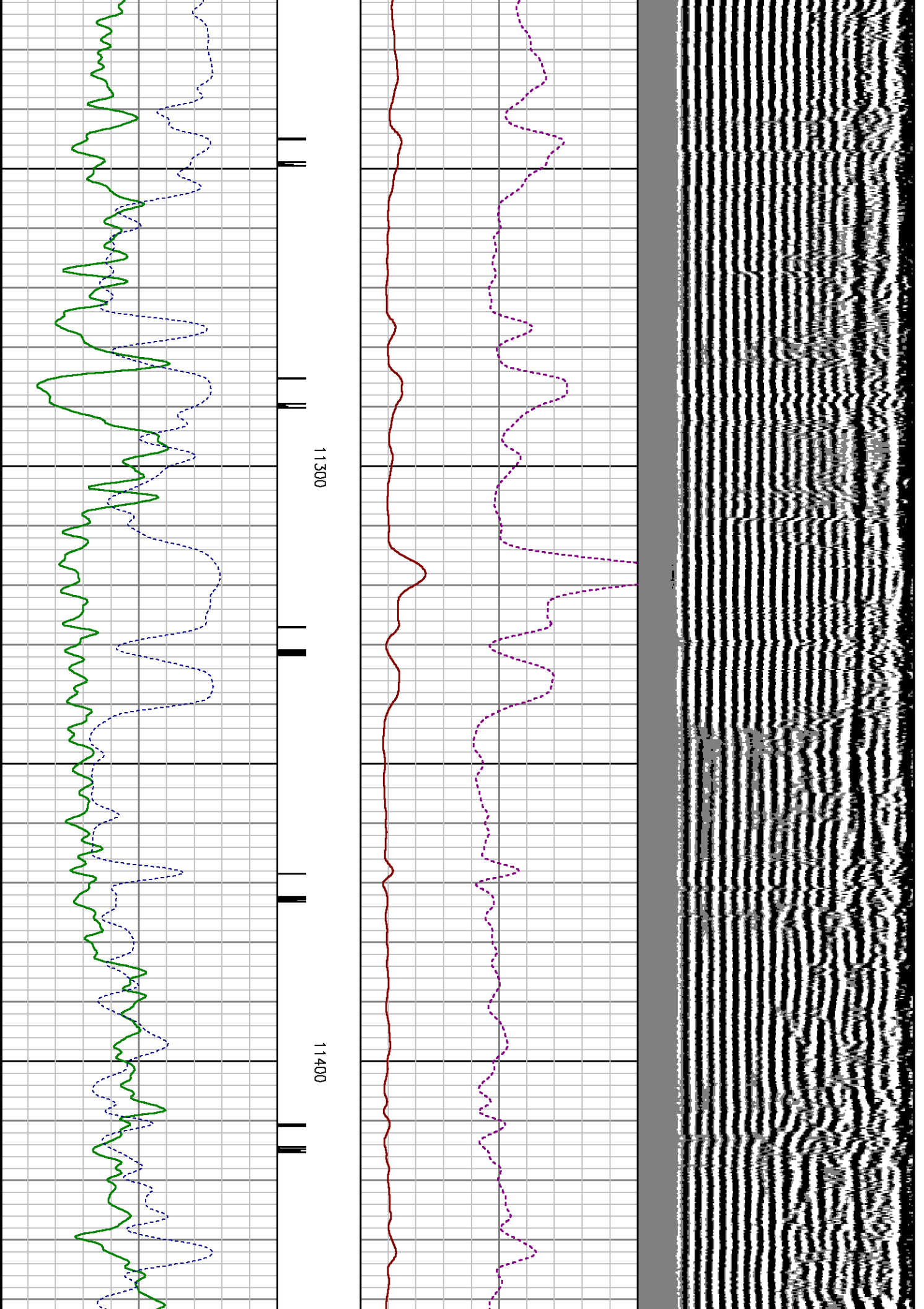


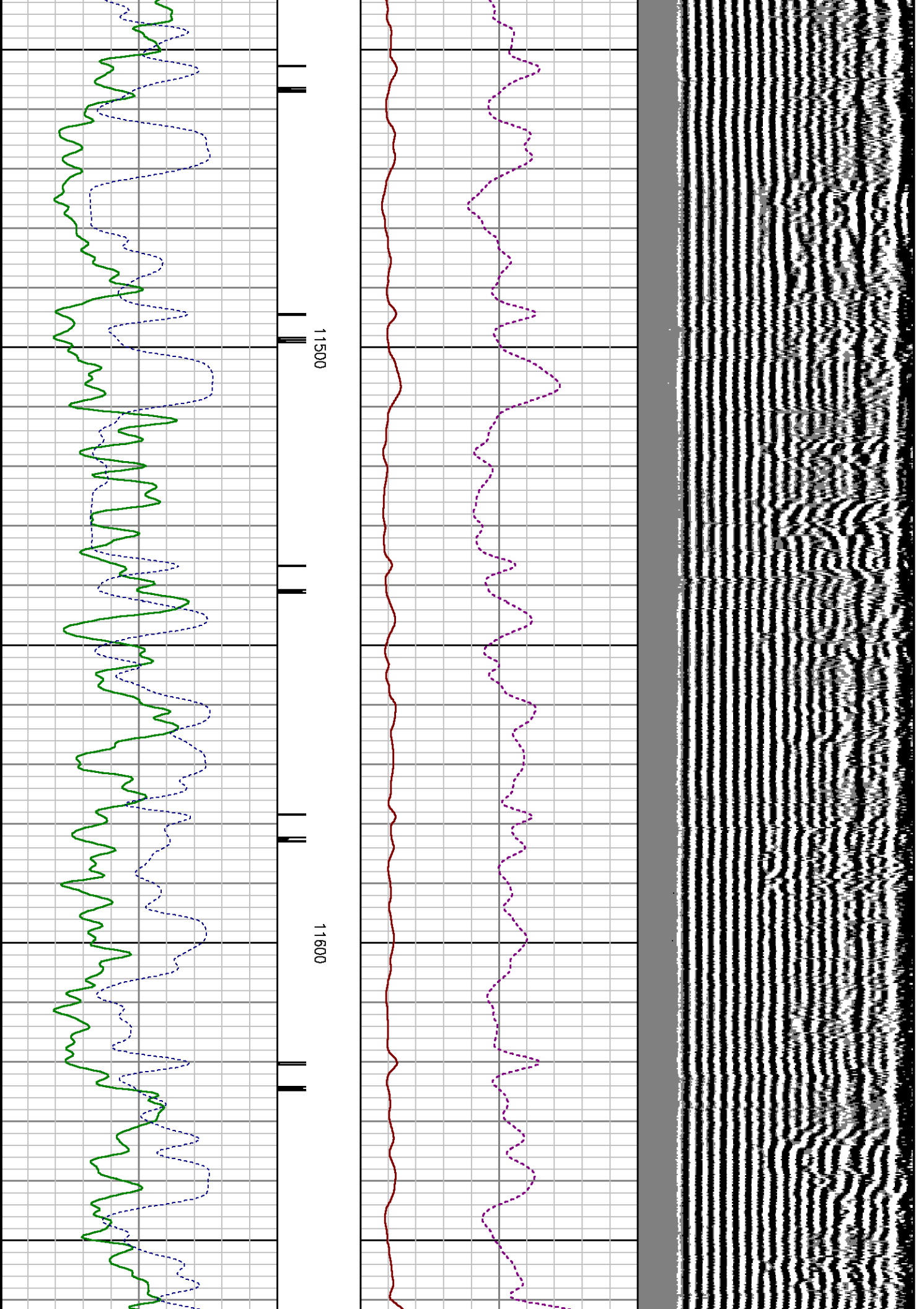


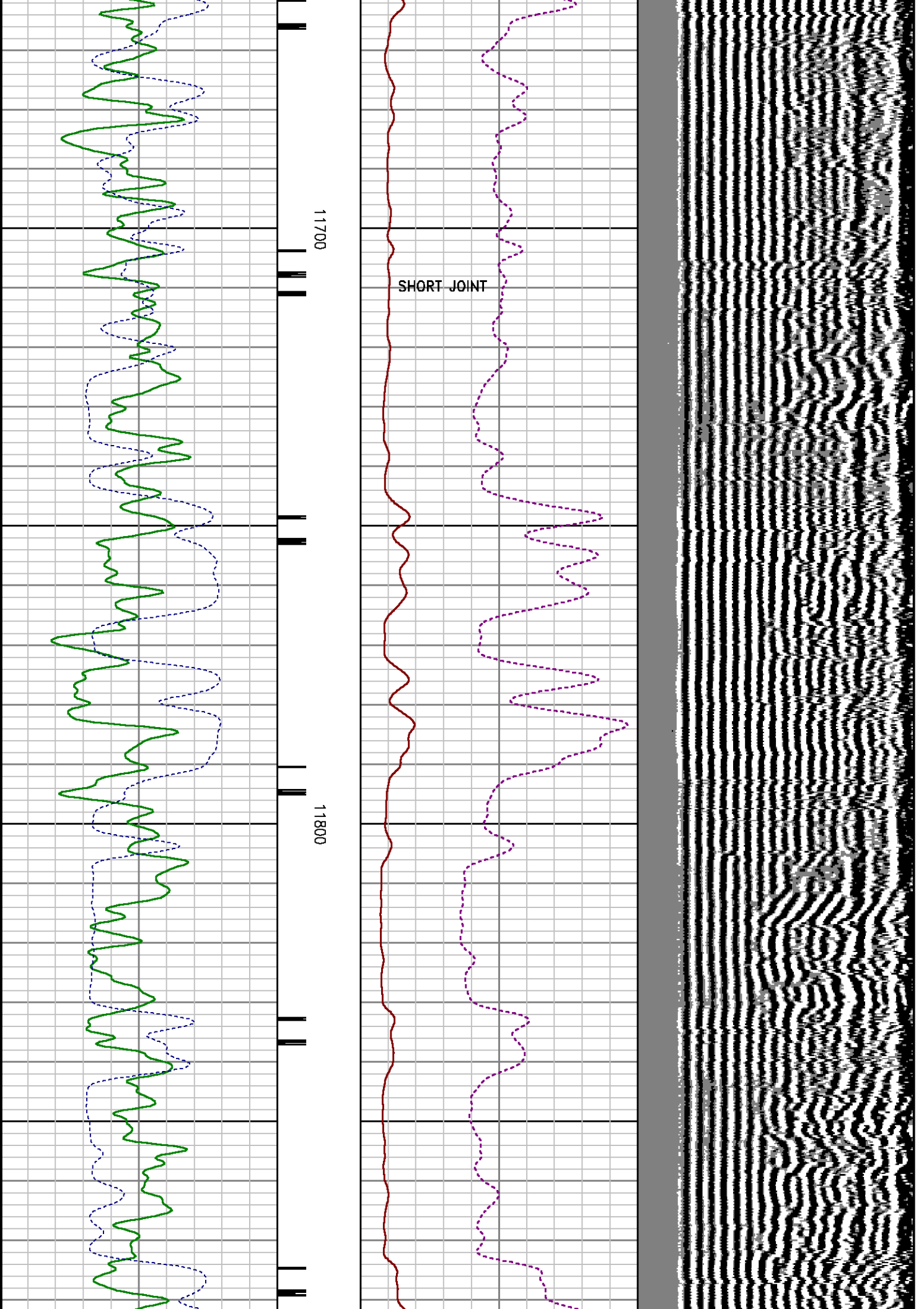


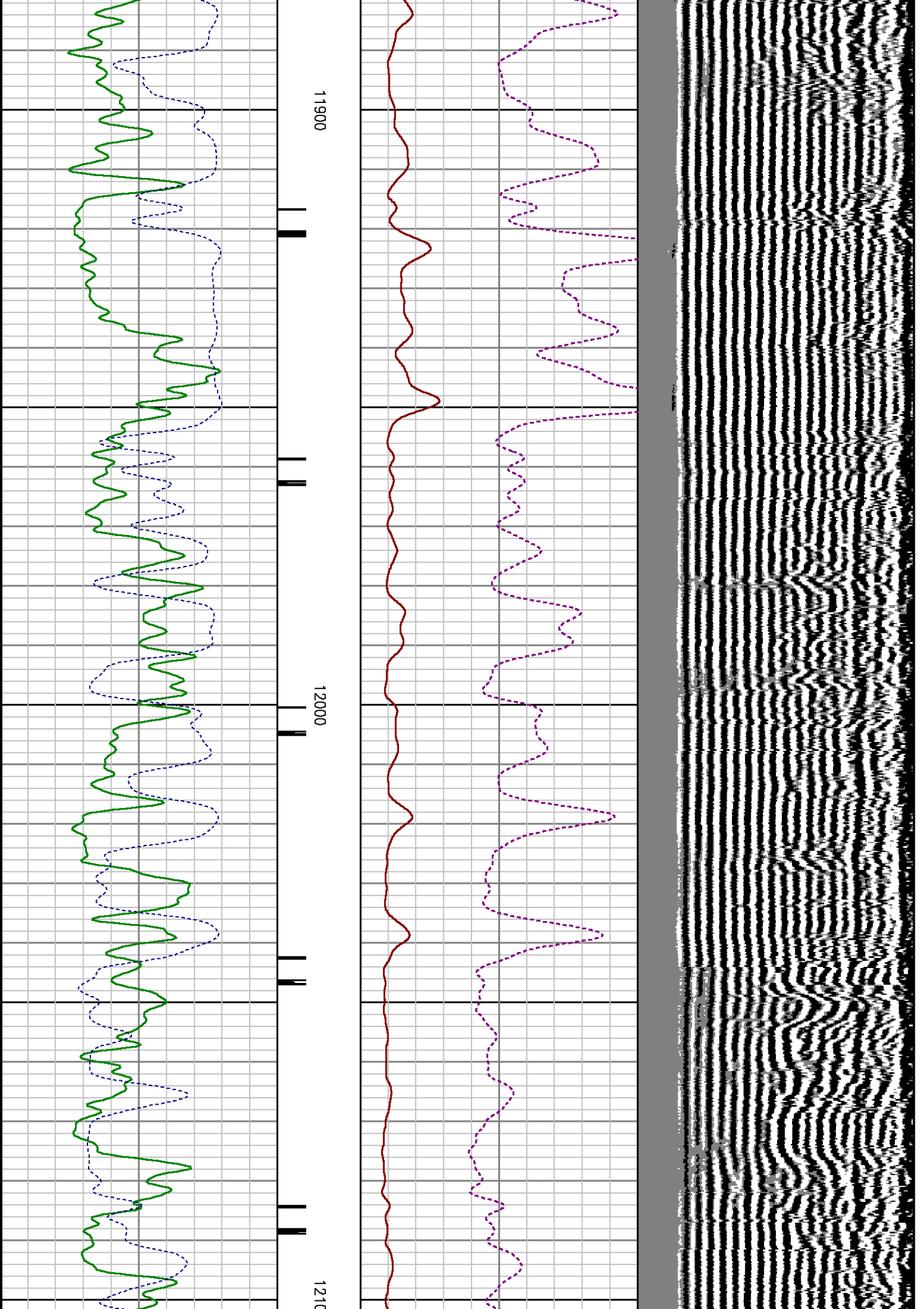


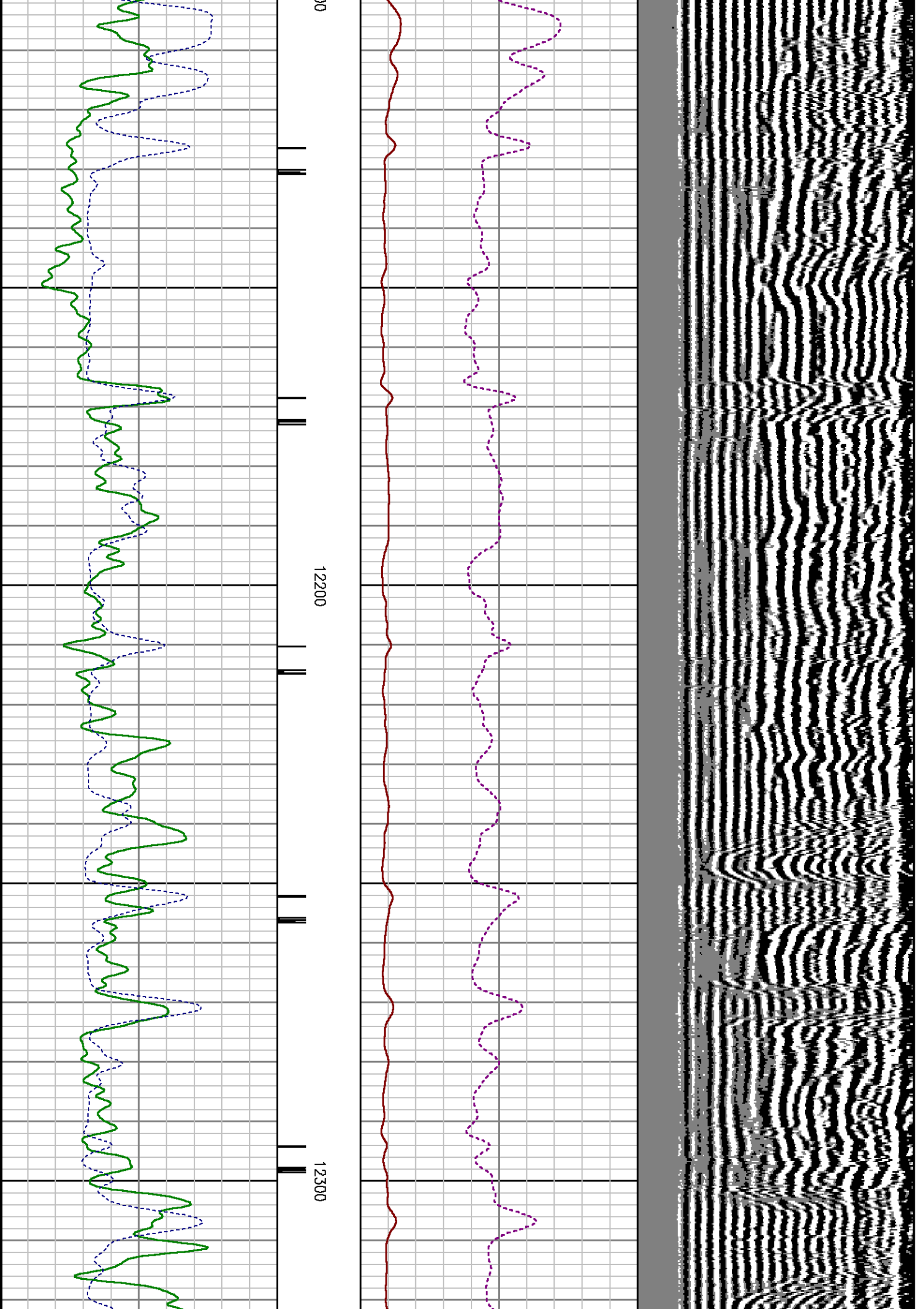


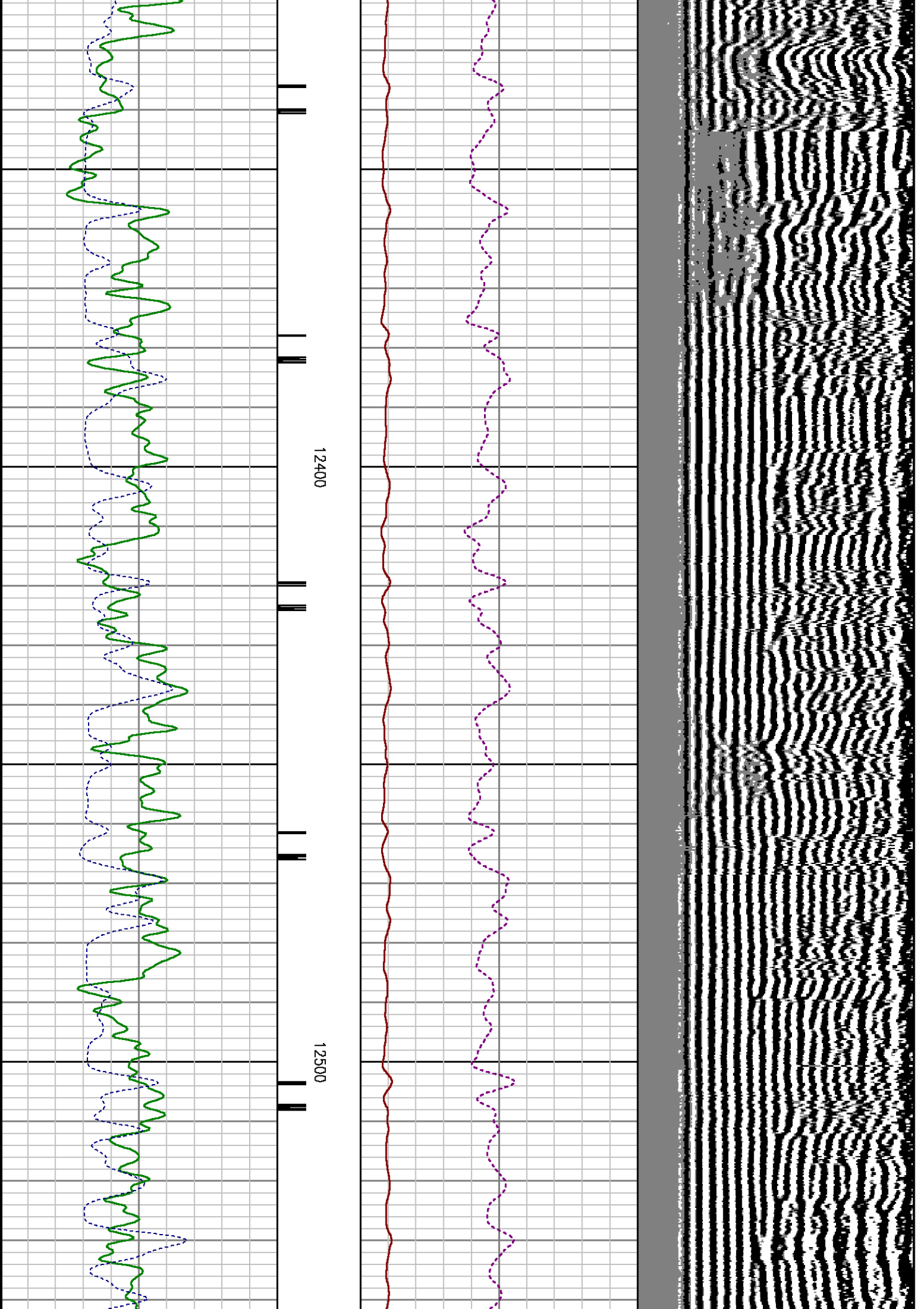












DEPTH OFFSETS

(for Acquired Curves)

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

Created by : RAL, v4.8.007

Plotted by : PlotMgr, v5.4.504

Company : EXXONMOBIL PRODUCTION COMPANY

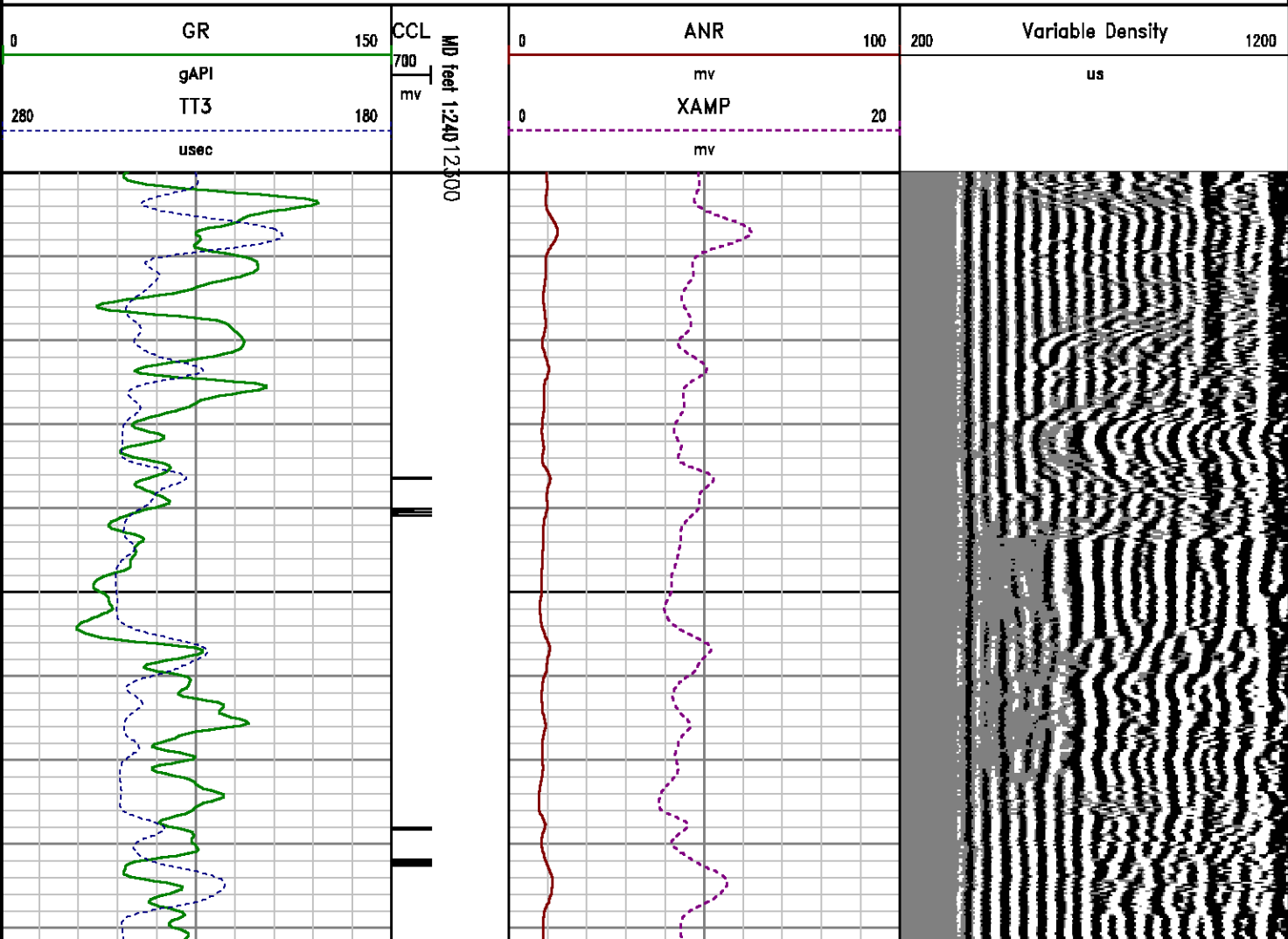
Well : FRU 197-3382

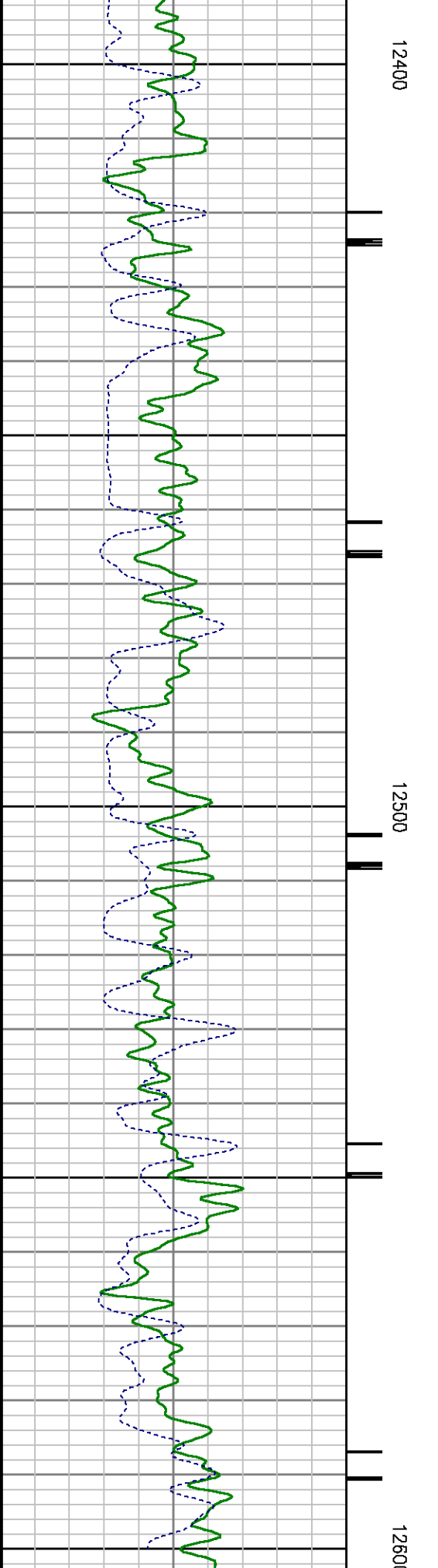
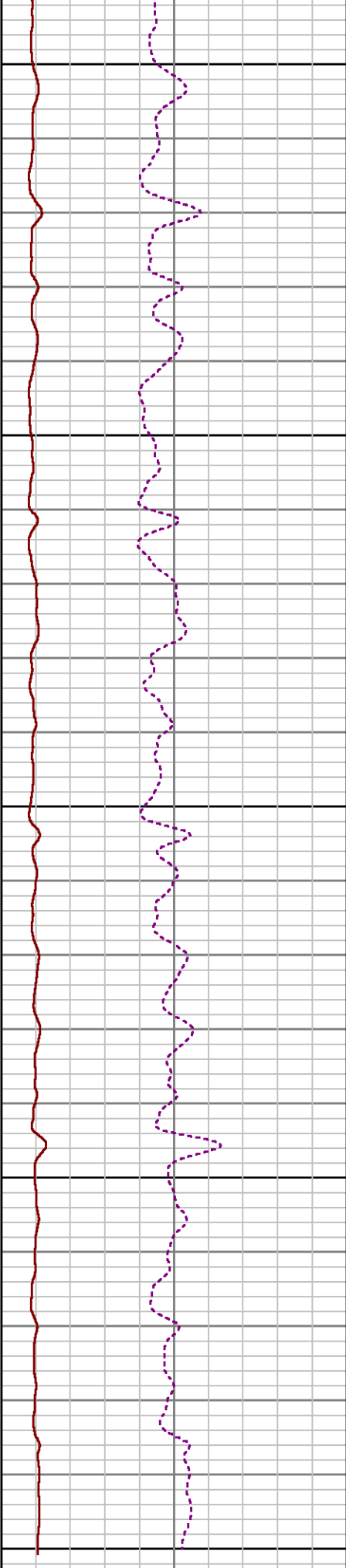
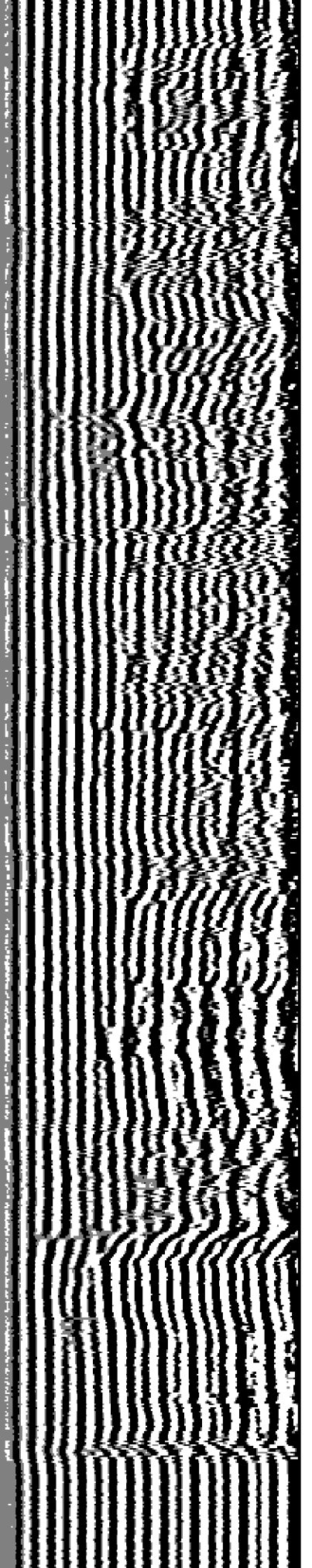
File Name : d:\welldata\b2cbl\repeat.xtf

Mode : PlotMgr 5.4.504

Interval : 12300.00 - 12614.00 feet UP

Created : 9/14/2010 7:37:59 PM





0	GR	150	CCL	0	ANR	100	200	Variable Density	1200
	gAPI		700		mv			us	
280	TT3	180	MD feet 1:240	0	XAMP	20			
	usec		mv		mv				

SURFACE CASING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	314.263	usec	4299.750	4701.000
RAL	Amp Gate Start Near	197.754	usec	4299.750	4701.000
RAL	Amp Gate Start Radial	197.754	usec	4299.750	4701.000
RAL	Amp Gate Width Far	25.000	usec	4299.750	4701.000
RAL	Amp Gate Width Near	25.000	usec	4299.750	4701.000
RAL	Amp Gate Width Radial	25.000	usec	4299.750	4701.000
RAL	casing od	4.500	inches	4299.750	4701.000
RAL	casing wt	15.100	lbm/ft	4299.750	4701.000
RAL	FB Start Far	289.263	usec	4299.750	4701.000
RAL	FB Start Near	172.754	usec	4299.750	4701.000
RAL	FB Start Radial	172.754	usec	4299.750	4701.000
RAL	FB Thresh Far	15.000	mv	4299.750	4701.000
RAL	FB Thresh Near	10.000	mv	4299.750	4701.000
RAL	FB Thresh Radial	10.000	mv	4299.750	4701.000
RAL	Fluid Travel Time	200.000	usec/ft	4299.750	4700.894

DEPTH OFFSETS

(for Acquired Curves)

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

Created by : RAL, v4.8.007

Plotted by : PlotMgr, v5.4.504

Company : EXXONMOBIL PRODUCTION COMPANY

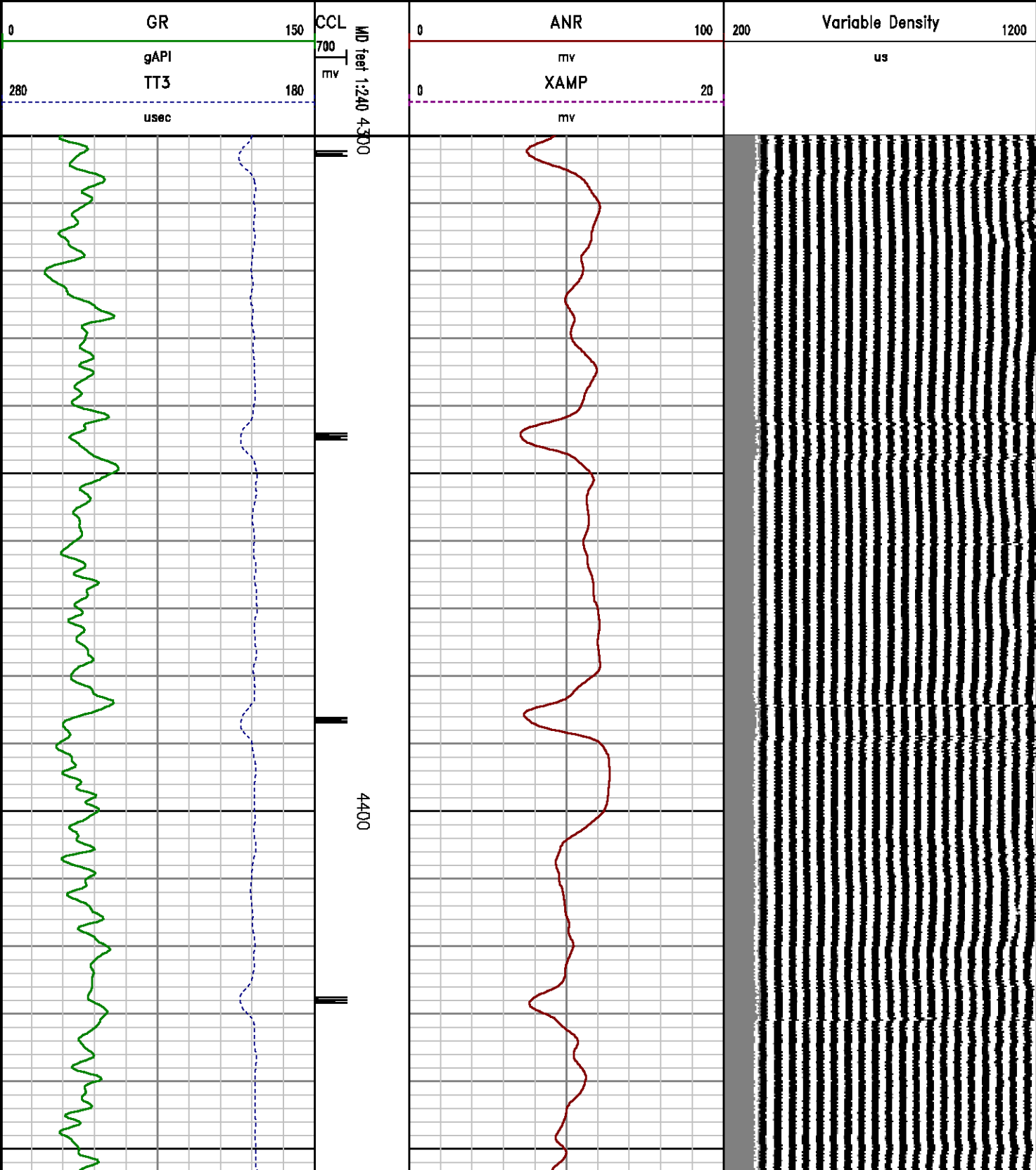
Well : FRU 197-33B2

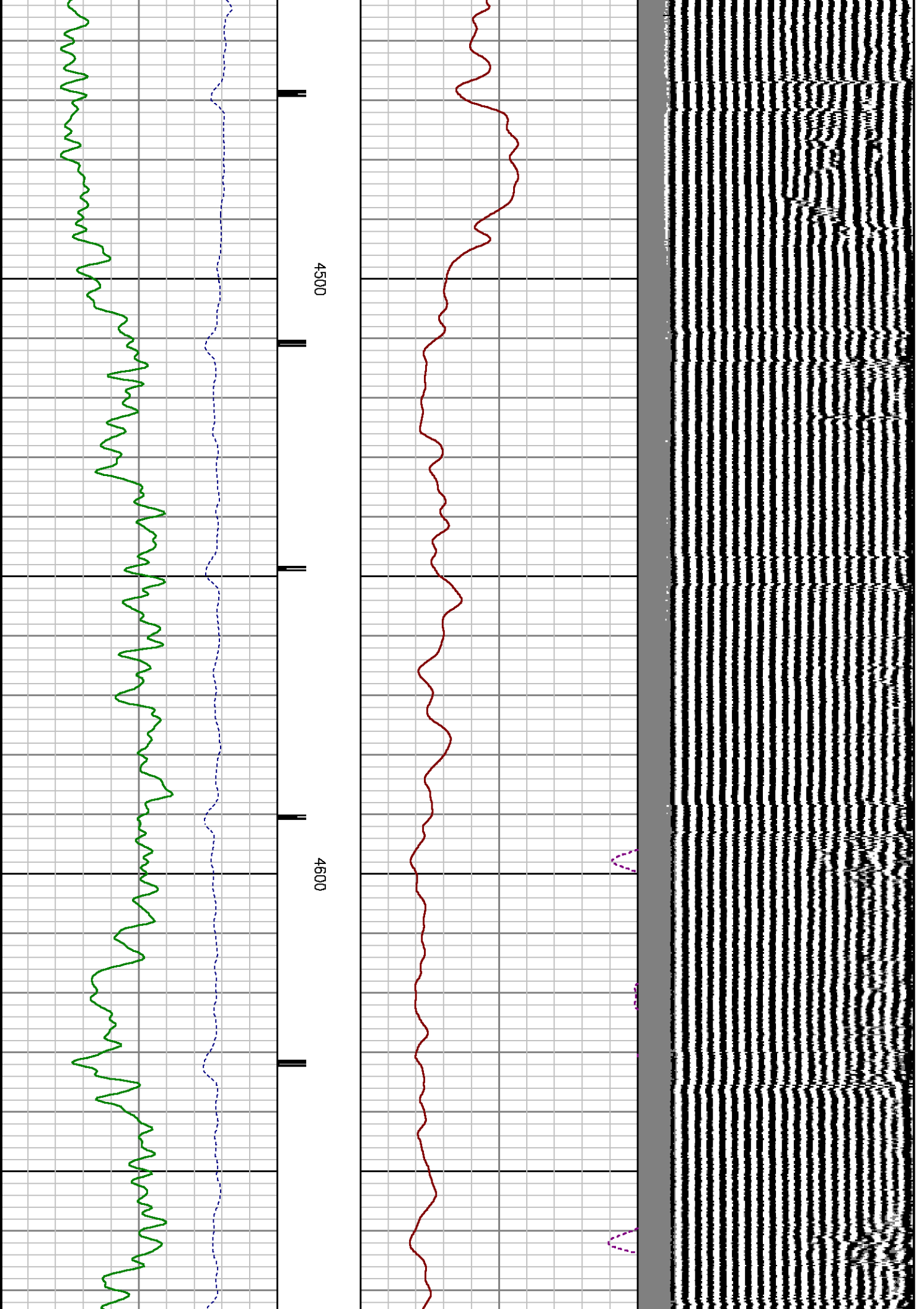
File Name : D:\WELLDATA\B2CBL\SHOE.XTF

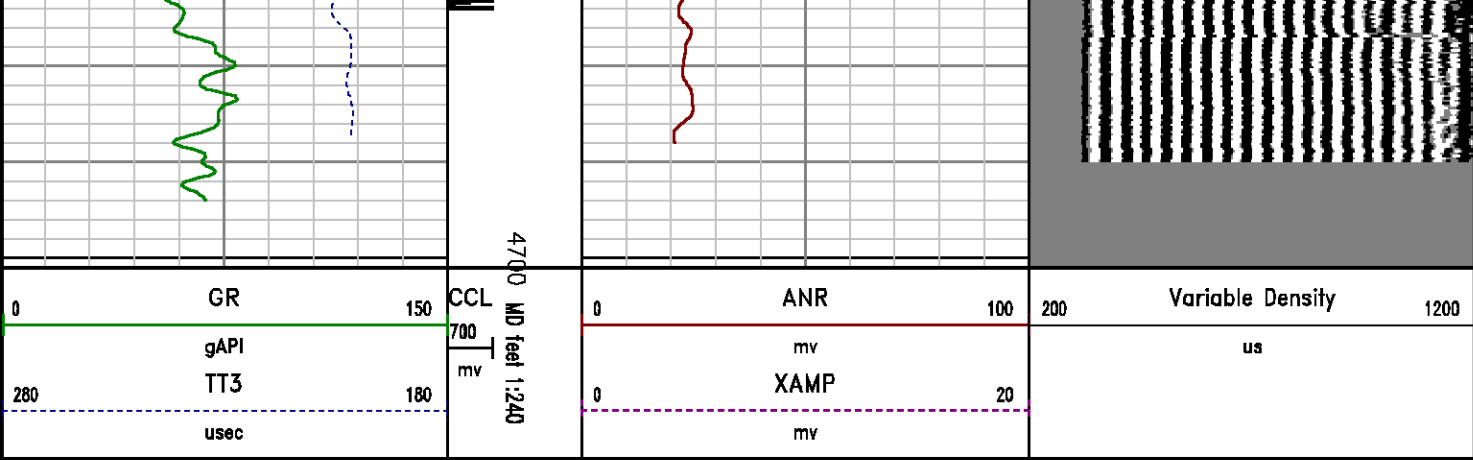
Mode : PlotMgr 5.4.504

Interval : 4300.00 - 4701.00 feet UP

Created : 9/14/2010 9:50:21 PM







FREE PIPE SECTION

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	314.263	usec	1249.750	1451.000
RAL	Amp Gate Start Near	197.754	usec	1249.750	1451.000
RAL	Amp Gate Start Radial	197.754	usec	1249.750	1451.000
RAL	Amp Gate Width Far	25.000	usec	1249.750	1451.000
RAL	Amp Gate Width Near	25.000	usec	1249.750	1451.000
RAL	Amp Gate Width Radial	25.000	usec	1249.750	1451.000
RAL	casing od	4.500	inches	1249.750	1451.000
RAL	casing wt	15.100	lbm/ft	1249.750	1451.000
RAL	FB Start Far	289.263	usec	1249.750	1451.000
RAL	FB Start Near	172.754	usec	1249.750	1451.000
RAL	FB Start Radial	172.754	usec	1249.750	1451.000
RAL	FB Thresh Far	15.000	mv	1249.750	1451.000
RAL	FB Thresh Near	10.000	mv	1249.750	1451.000
RAL	FB Thresh Radial	10.000	mv	1249.750	1451.000
RAL	Fluid Travel Time	200.000	usec/ft	1249.750	1450.706

DEPTH OFFSETS

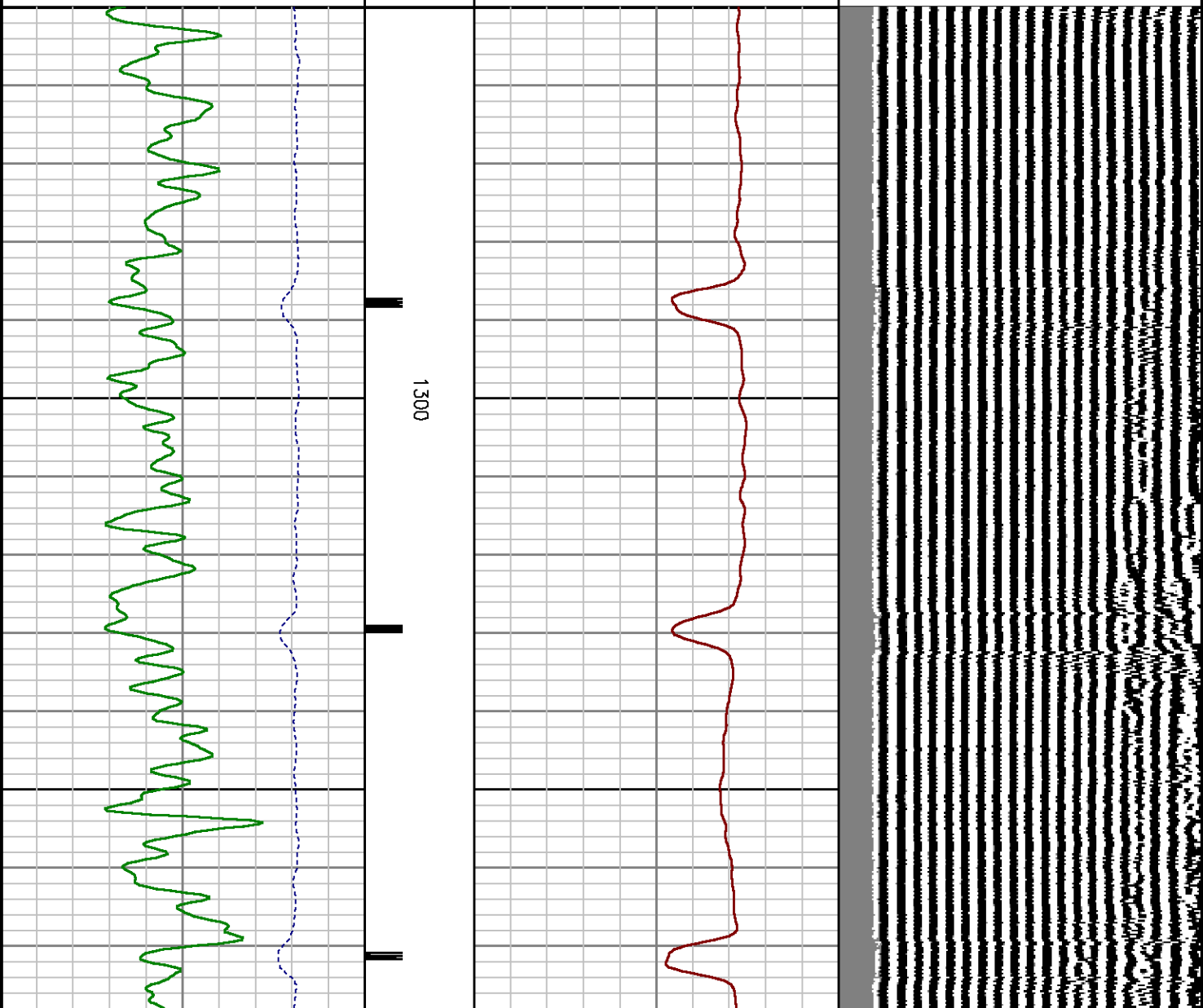
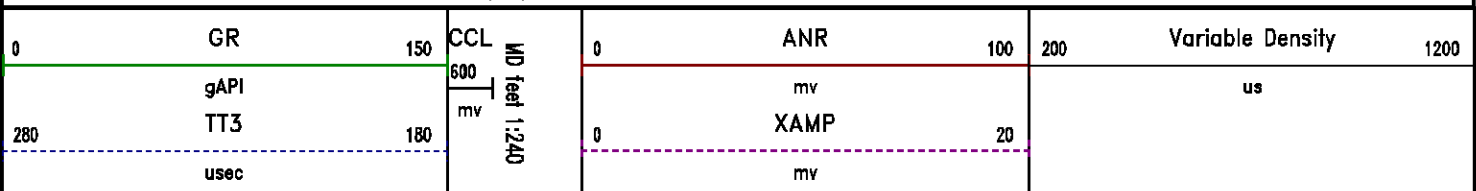
(for Acquired Curves)

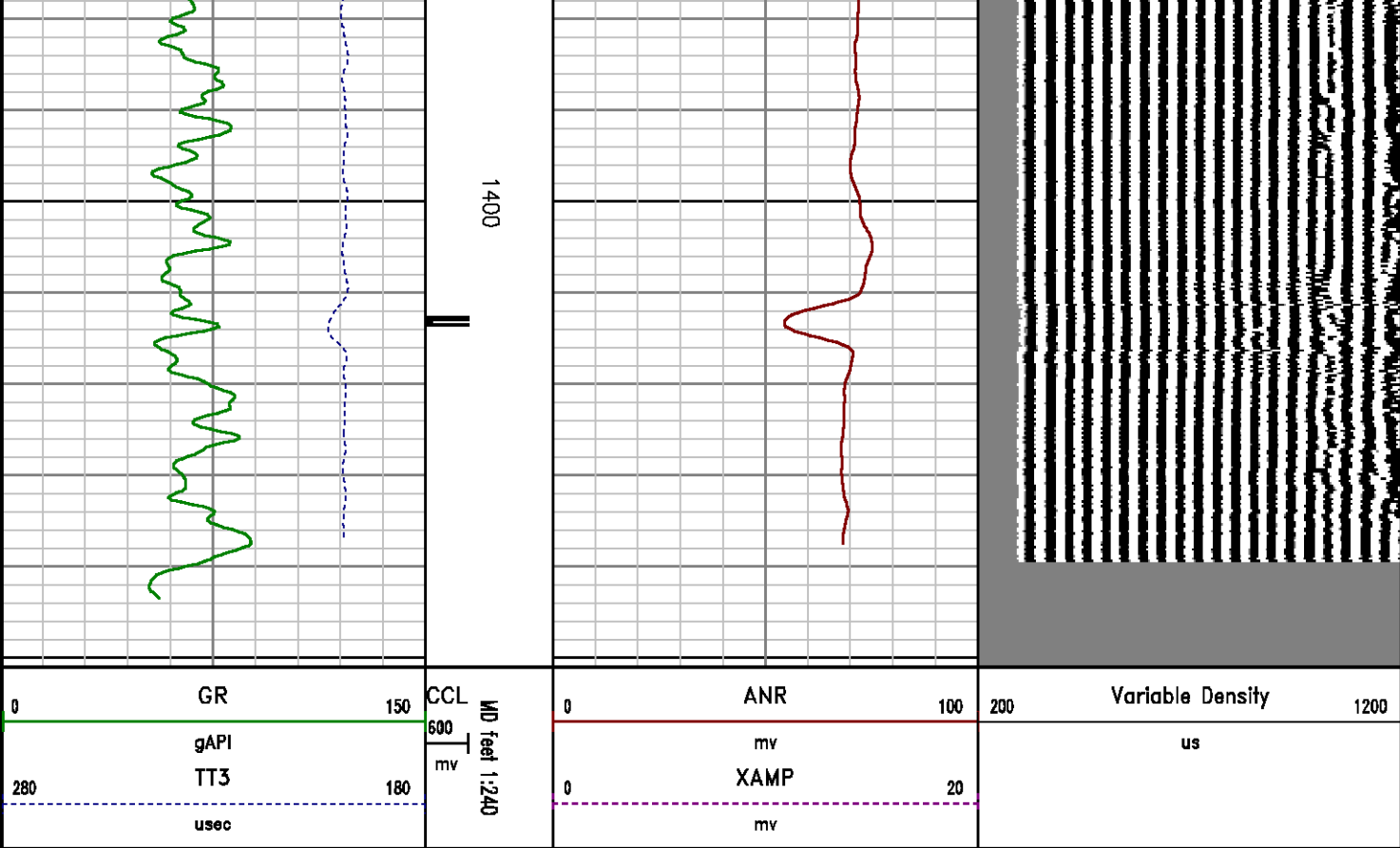
SERIES	DEPTH OFFSET	ACQUIRED CURVES							
1426XA	-12.360	ACAL	ANR	AR1	AR2	AR3	AR4	AR5	AR6
		AR7	AR8	CMV	EDP2				

1426XA -11.360
 1426XA -7.250
 1426XA -5.390
 1426XA 0.000

AR3	AR6	AR7	AR8	ARV	FPR2
FPR3	FPR5	TT3	TTR1	TTR2	TTR3
TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
AFAR	SIG	TT5			
CCL					
GR					
NEU					

Created by : RAL, v4.8.007
 Plotted by : PlotMgr, v5.4.504
 Company : EXXONMOBIL PRODUCTION COMPANY
 Well : FRU 197-33B2
 File Name : D:\WELLDATA\B2CBL\FREE.XTF
 Mode : PlotMgr 5.4.504
 Interval : 1250.00 - 1451.00 feet UP
 Created : 9/14/2010 6:45:25 PM





CALIBRATION SUMMARY

GAMMA RAY

Calibration File: C:\case\calver\GR\456S1.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Mon Aug 30 11:15:38 2010		TOOL SERIES: 1426XA		ASSET: 456		SEQ: S1	
Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]	
S2K DA612	79.82	235.87	1.186	94.63	279.63	185.00	

Verification File: C:\case\calver\GR\456S1.VP

PRIMARY LOG VERIFICATION

DATE/TIME PERFORMED: Mon Aug 30 11:17:50 2010		TOOL SERIES: 1426XA		ASSET: 456		SEQ: S1	
Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]	
S2K DA612	73.36	240.09	1.186	86.98	284.64	197.66	

RALSHP

Shop Calibration: C:\case\calver\RALSHP\957S14.shp.cal

SHOP CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Sep 14 18:35:56 2010 TOOL SERIES: 1426XA ASSET: 957 SEQ: S14

Tool Delay [usec] Tank OD Tank Wt Tank ID

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	<input type="text" value="219"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="58"/>	<input type="text" value="117"/>	<input type="text" value="-0.127"/>	<input type="text" value="100.00"/>	<input type="text" value="0.24"/>
3 Ft. Receiver	<input type="text" value="219"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="83"/>	<input type="text" value="101"/>	<input type="text" value="-0.248"/>	<input type="text" value="100.00"/>	<input type="text" value="0.23"/>
5 Ft. Receiver	<input type="text" value="327"/>	<input type="text" value="326"/>	<input type="text" value="30"/>	<input type="text" value="131"/>	<input type="text" value="158"/>	<input type="text" value="0.266"/>	<input type="text" value="150.00"/>	<input type="text" value="0.26"/>
Radial #1	<input type="text" value="221"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="112"/>	<input type="text" value="74"/>	<input type="text" value="-0.591"/>	<input type="text" value="100.00"/>	<input type="text" value="0.23"/>
Radial #2	<input type="text" value="222"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="112"/>	<input type="text" value="74"/>	<input type="text" value="-0.496"/>	<input type="text" value="100.00"/>	<input type="text" value="0.23"/>
Radial #3	<input type="text" value="220"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="112"/>	<input type="text" value="74"/>	<input type="text" value="0.061"/>	<input type="text" value="100.00"/>	<input type="text" value="0.23"/>
Radial #4	<input type="text" value="219"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="112"/>	<input type="text" value="74"/>	<input type="text" value="0.156"/>	<input type="text" value="100.00"/>	<input type="text" value="0.23"/>
Radial #5	<input type="text" value="218"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="112"/>	<input type="text" value="74"/>	<input type="text" value="0.282"/>	<input type="text" value="100.00"/>	<input type="text" value="0.23"/>
Radial #6	<input type="text" value="216"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="112"/>	<input type="text" value="74"/>	<input type="text" value="0.108"/>	<input type="text" value="100.00"/>	<input type="text" value="0.23"/>
Radial #7	<input type="text" value="216"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="112"/>	<input type="text" value="74"/>	<input type="text" value="0.262"/>	<input type="text" value="100.00"/>	<input type="text" value="0.23"/>
Radial #8	<input type="text" value="219"/>	<input type="text" value="216"/>	<input type="text" value="30"/>	<input type="text" value="112"/>	<input type="text" value="74"/>	<input type="text" value="0.076"/>	<input type="text" value="100.00"/>	<input type="text" value="0.23"/>

RALFLD

Wellsite Calibration: C:\case\calver\RALFLD\957S14 fld.cal

WELLSITE CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Sep 14 18:37:33 2010 TOOL SERIES: 1426XA ASSET: 957 SEQ: S14

Tool Delay [usec] Casing OD Casing Wt Casing ID

RECEIVER	Zero Gate Start [usec]	Zero Gate Width [usec]	Zero Amp. [mV]	Full Amp. [mV]	Wellsite Factor	Amp. Ref [mV]
CAL Pulse	<input type="text" value="58"/>	<input type="text" value="117"/>	<input type="text" value="-0.024"/>	<input type="text" value="0.000"/>	<input type="text" value="1.00"/>	<input type="text" value="100.000"/>
3 Ft. Receiver	<input type="text" value="198"/>	<input type="text" value="25"/>	<input type="text" value="-1.853"/>			
5 Ft. Receiver	<input type="text" value="314"/>	<input type="text" value="25"/>	<input type="text" value="-0.690"/>			
Radial #1	<input type="text" value="198"/>	<input type="text" value="25"/>	<input type="text" value="-2.251"/>			
Radial #2	<input type="text" value="198"/>	<input type="text" value="25"/>	<input type="text" value="-2.471"/>			
Radial #3	<input type="text" value="198"/>	<input type="text" value="25"/>	<input type="text" value="-0.727"/>			
Radial #4	<input type="text" value="198"/>	<input type="text" value="25"/>	<input type="text" value="-1.159"/>			
Radial #5	<input type="text" value="198"/>	<input type="text" value="25"/>	<input type="text" value="-0.752"/>			
Radial #6	<input type="text" value="198"/>	<input type="text" value="25"/>	<input type="text" value="-0.746"/>			
Radial #7	<input type="text" value="198"/>	<input type="text" value="25"/>	<input type="text" value="-1.190"/>			
Radial #8	<input type="text" value="198"/>	<input type="text" value="25"/>	<input type="text" value="-0.880"/>			

TOOL DIAGRAM

OTA SHORT CABLE HEAD

PROBE 2 3/4 DUAL RECEIVER RADII

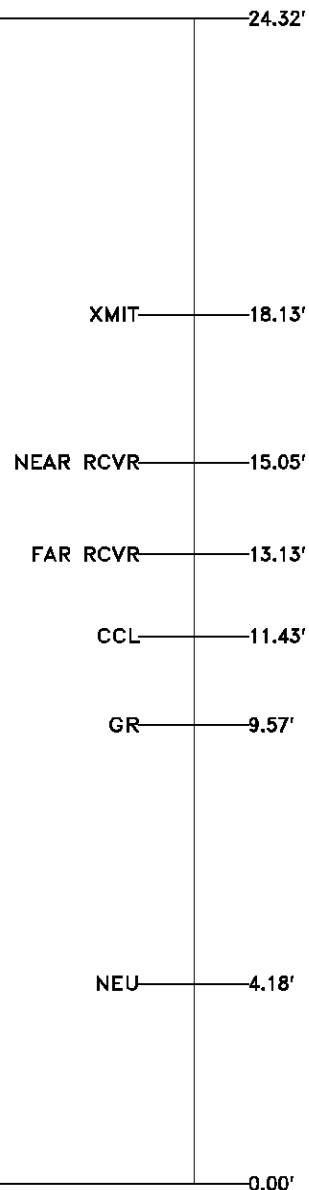
Series	1426XA
Mnemonic	PROB
Diameter	2.75"
Length	11.17'
Measure Point	0.75' FAR RCVR
Measure Point	2.67' NEAR RCVR
Measure Point	5.75' XMIT
Temp Rating	350.00 °F
Press Rating	18000.00 PSI

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: 24.32'
 Total Weight: Not Available
 Max Diameter: 0' 3.12"



Company

EXXONMOBIL PRODUCTION COMPANY

Well

FRU 197-33B2

Field

FREEDOM UNIT

County

RIO BLANCO

State

COLORADO

File No:

API No:

05103114270000

Baker Atlas

County KIT CARSON	State NEBRASKA	Elevations KB 6476 ft DF 6475 ft GL 6446 ft	
Location 2576' FNL & 1390' FEL (SWNE)			
SEC 33	TWP 1S	RGE 97W	

