

Company: ANADARKO

Well: CHEESE STATE 26C-21HZ

Field: WATTENBERG

County: WELD State: COLORADO

SLIM CEMENT MAPPING LOG  
CBL-VDL  
GR-CCL

County: WELD

Field: WATTENBERG

Location: 429' FNL, 785' FEL, T3N R65W S

Well: CHEESE STATE 26C-21HZ

Company: ANADARKO

LOCATION	
429' FNL, 785' FEL, T3N R65W SEC 28 NENE	Elev.: K.B. 4842.00 ft G.L. 4817.00 ft D.F. 4841.00 ft
Permanent Datum: _____	GROUND LEVEL _____
Log Measured From: _____	KELLY BUSHING _____
Drilling Measured From: _____	KELLY BUSHING _____
API Serial No. 0512340947	Section 28
	Township 3N
	Range 65W

	Run 1	Run 2	Run 3
PVT DATA			
Oil Density			
Water Salinity			
Gas Gravity			
Bo			
Bw			
1/Bg			
Bubble Point Pressure			
Bubble Point Temperature			
Solution GOR			
Maximum Deviation			
CEMENTING DATA			
Primary/Squeeze	Primary		
Casing String No			
Lead Cement Type			
Volume			
Density			
Water Loss			
Additives			
Tail Cement Type			
Volume			
Density			
Water Loss			
Additives			
Expected Cement Top			

Logging Date	16-Jul-2015		
Run Number	1		
Depth Driller	12581 ft		
Schlumberger Depth	7427 ft		
Bottom Log Interval	7418 ft		
Top Log Interval	25 ft		
Casing Fluid Type	WATER		
Salinity			
Density	8.4 lbm/gal		
Fluid Level	25 ft		
BIT/CASING/TUBING STRING			
Bit Size	8.500 in		
From	25 ft		
To	12581 ft		
Casing/Tubing Size	5.500 in		
Weight	17 lbm/ft		
Grade	HCP-110 LTC		
From	25 ft		
To	12575 ft		
Maximum Recorded Temperatures	257 degF		
Logger On Bottom	16-Jul-2015	14:15	
Unit Number	354	PLATTEVILLE	
Recorded By	KIRSTIE BUNTING		
Witnessed By	VAN FRANKE		

## DISCLAIMER

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

OTHER SERVICES1

OS1: NONE

OS2:

OS3:

OS4:

OS5:

## RFMA

П Е Д О Г И Д И К А М - П О Д Р У К

FIRST RUN IN HOLE CORRELATED TO MJ AT 6436 FT  
MAIN PASS LOGGED UNDER 2222 PSAT SURFACE

MAIN PASS LOGGED UNDER 2800 PSI AT SURFACE

ENTRANCE: 13:30

TIME ON BOTTOM: 14:15

EXIT: 16:30

MRT: 257 DEGF

MRP: 5793 PSI

THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY!

CREW: KBUNTING, RWILEY, JJUMP, BKRAL

RUN 1

SERVICE ORDER #:  
PROGRAM VERSION:  
FLUID LEVEL:

CGF9-00258  
19C0-187  
25 ft

LOGGED INTERVAL

START

**STOP**

RUN 2

SERVICE ORDER #:  
PROGRAM VERSION:  
FLUID LEVEL:

LOGGED INTERVAL

START

**STOP**

[illegible]

RUN 1

RUN 2

## SURFACE EQUIPMENT

WITM-A  
PSC 16MHZ

## DOWNHOLE EQUIPMENT

MH-22  
MH-22

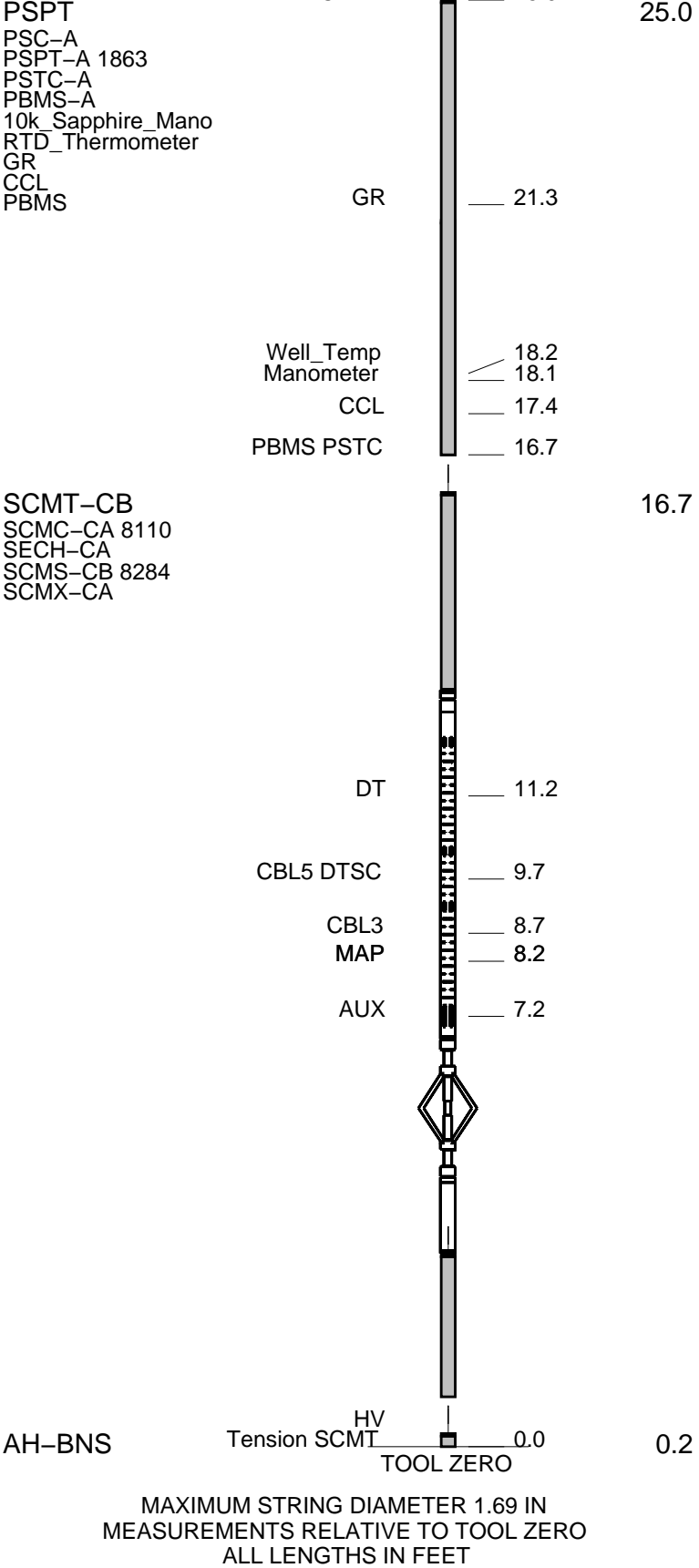
26.8

AH-38

25.2

Detail MT  
TelStatus  
CTEM

25.0





MAIN PASS CBL–VDL 2800PSI

MAXIS Field Log

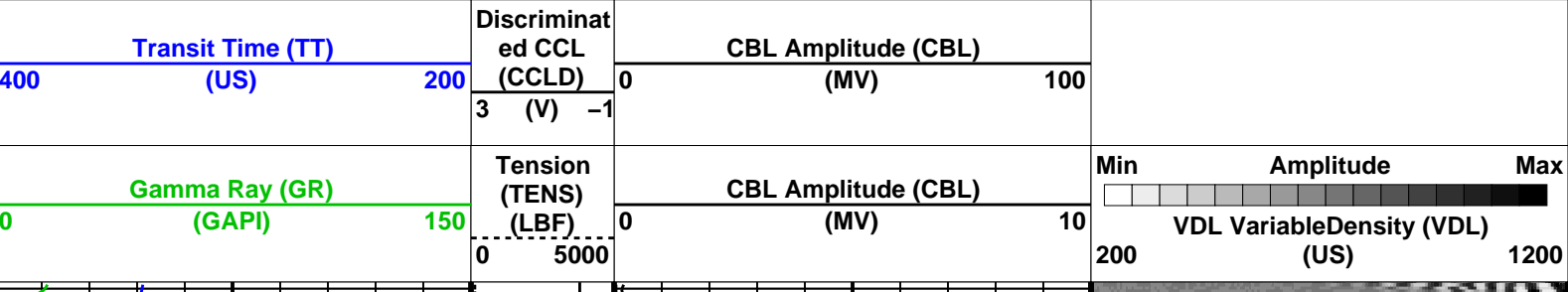
Company: ANADARKO Well: CHEESE STATE 26C–21HZ

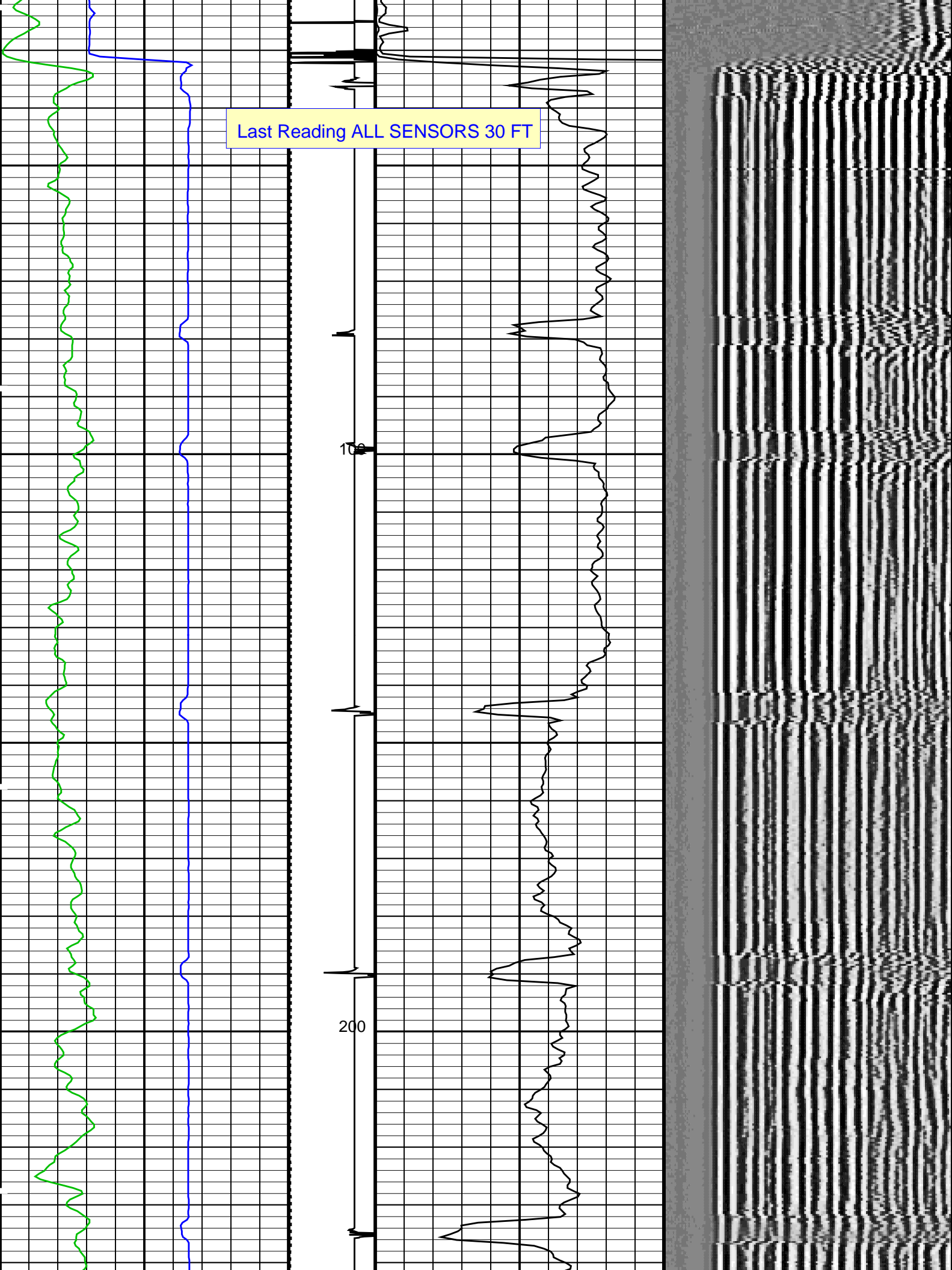
Input DLIS Files						
DEFAULT	SCMT_PSP_048PUP	FN:1	PRODUCER	16–Jul–2015 16:40	7450.0 FT	11.6 FT
Output DLIS Files						
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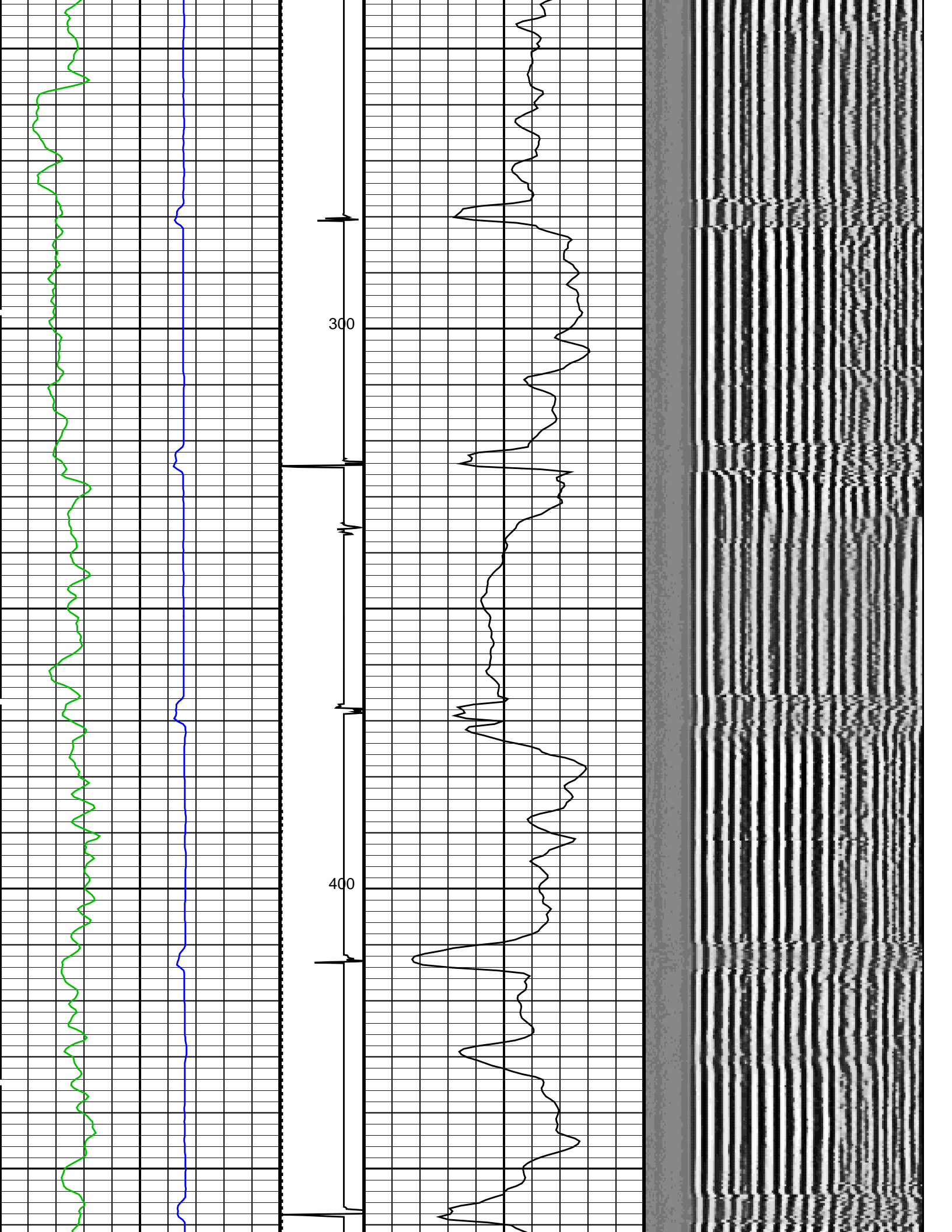
OP System Version: 19C0–187			
SCMT–CB	SRPC–5095–H2–2011–OP19	PSPT	19C0–187

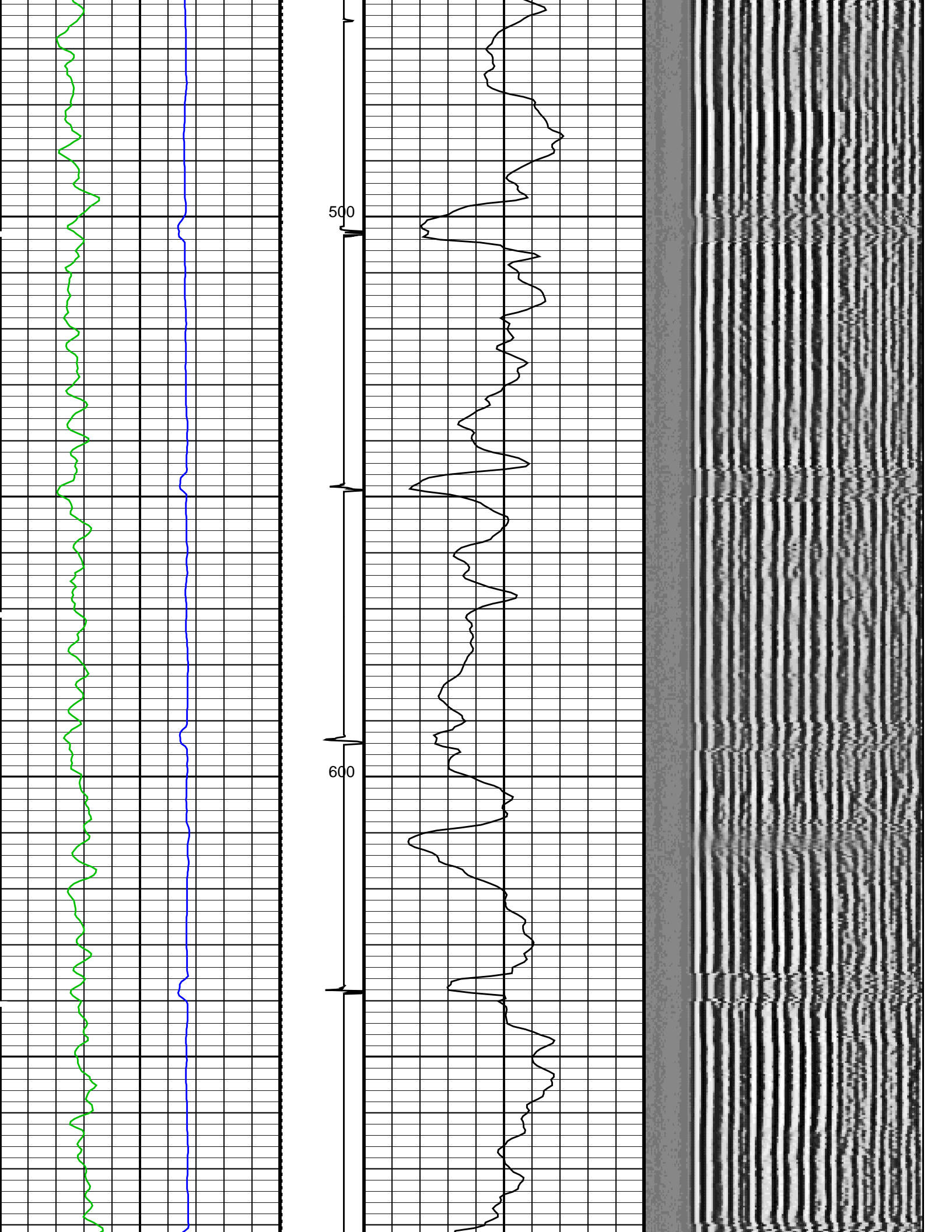
PIP SUMMARY

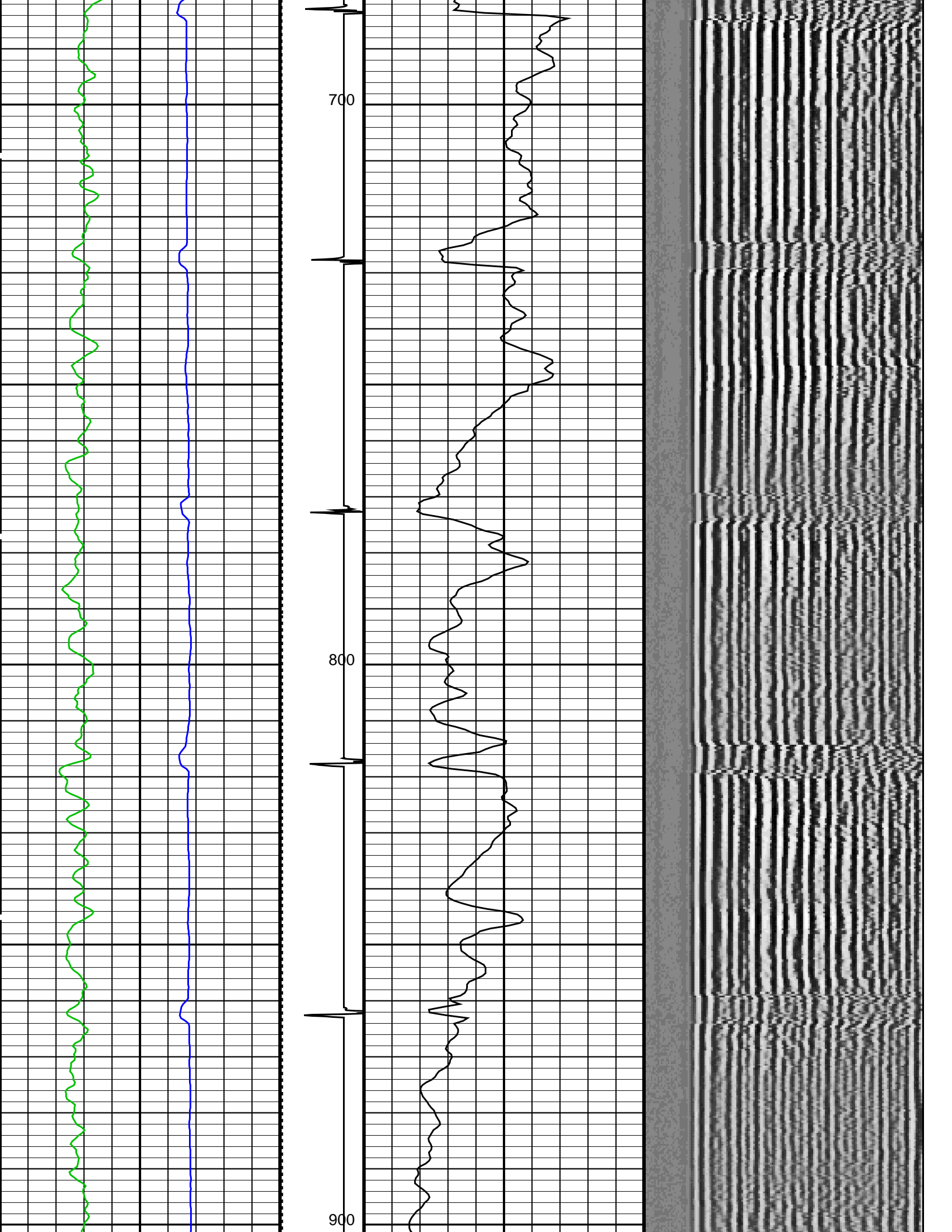
☐ Time Mark Every 60 S

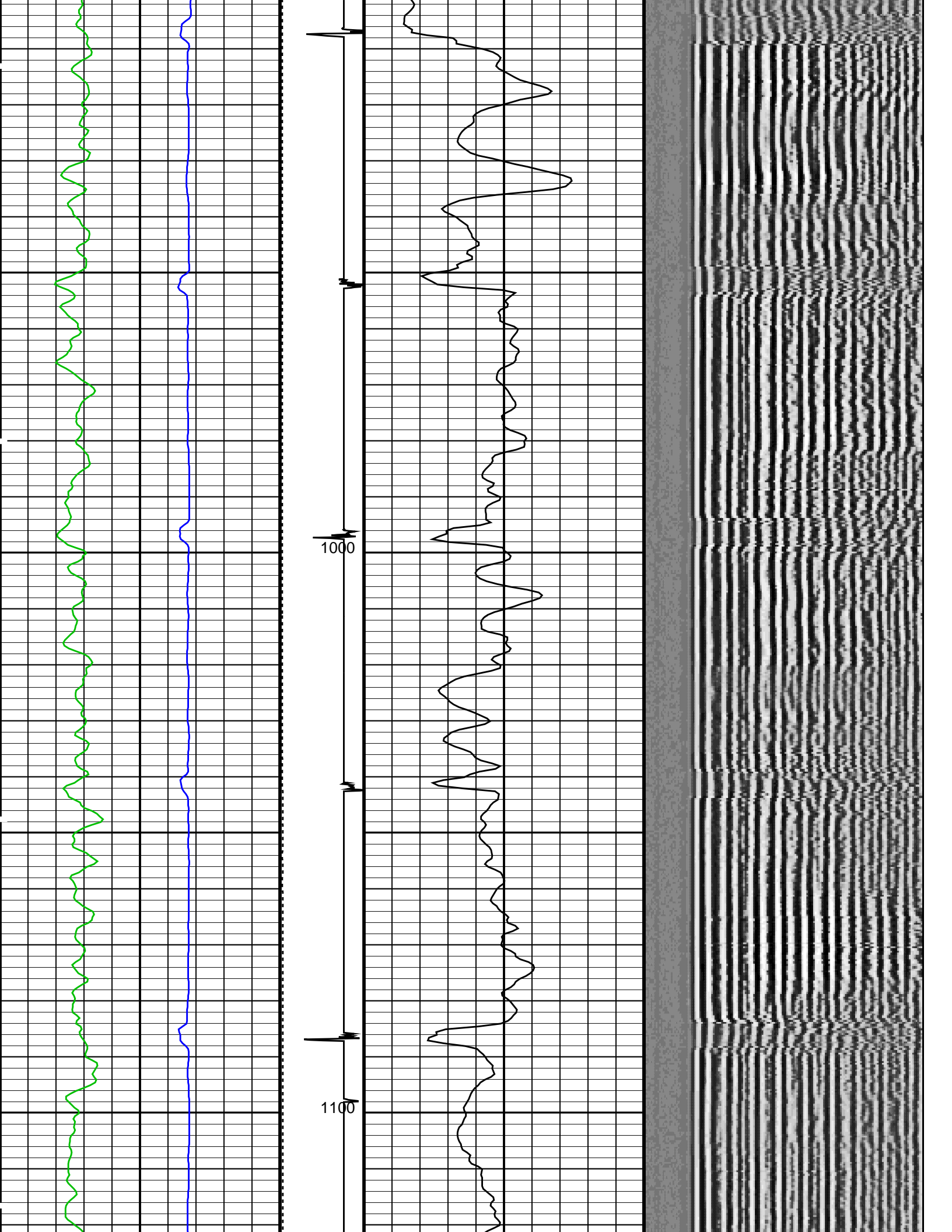


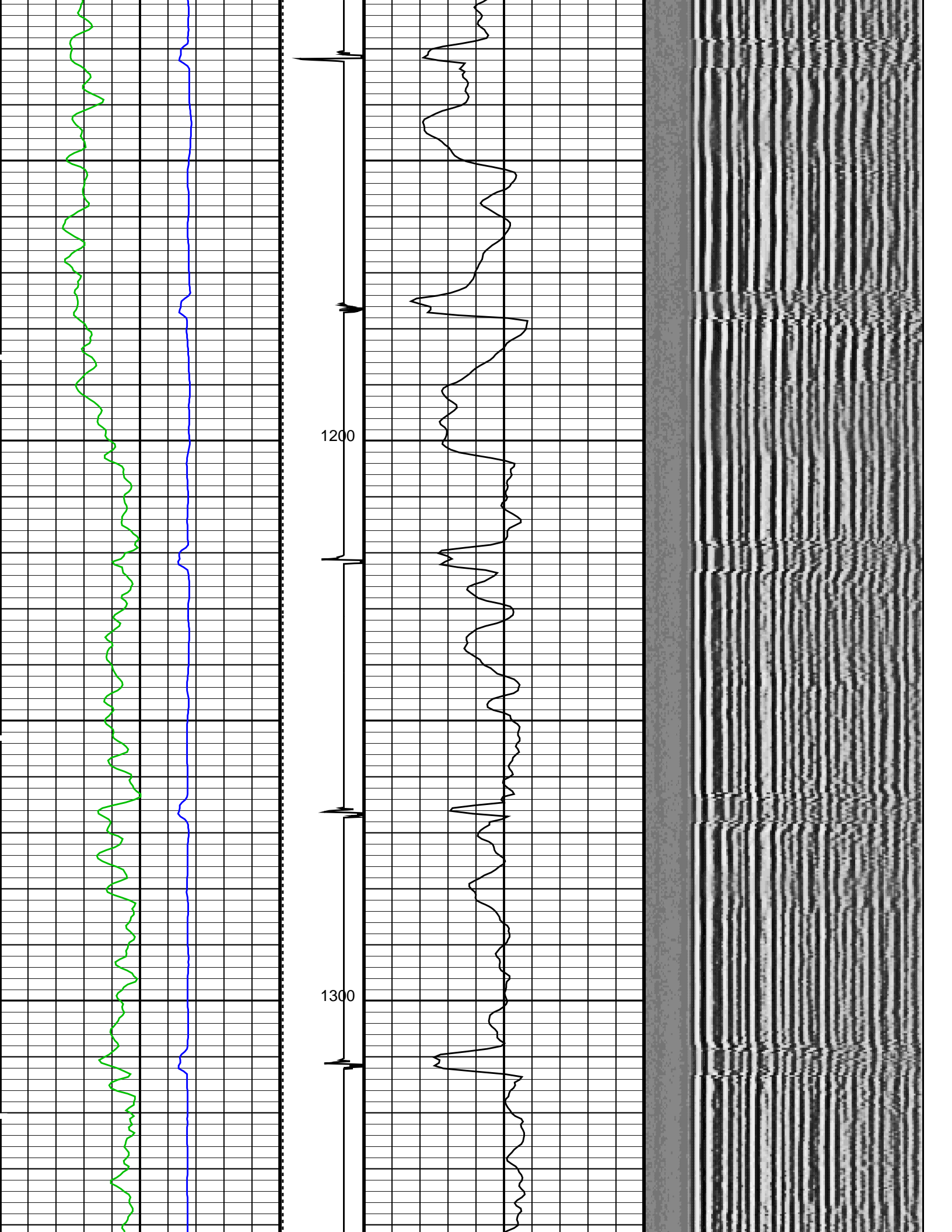


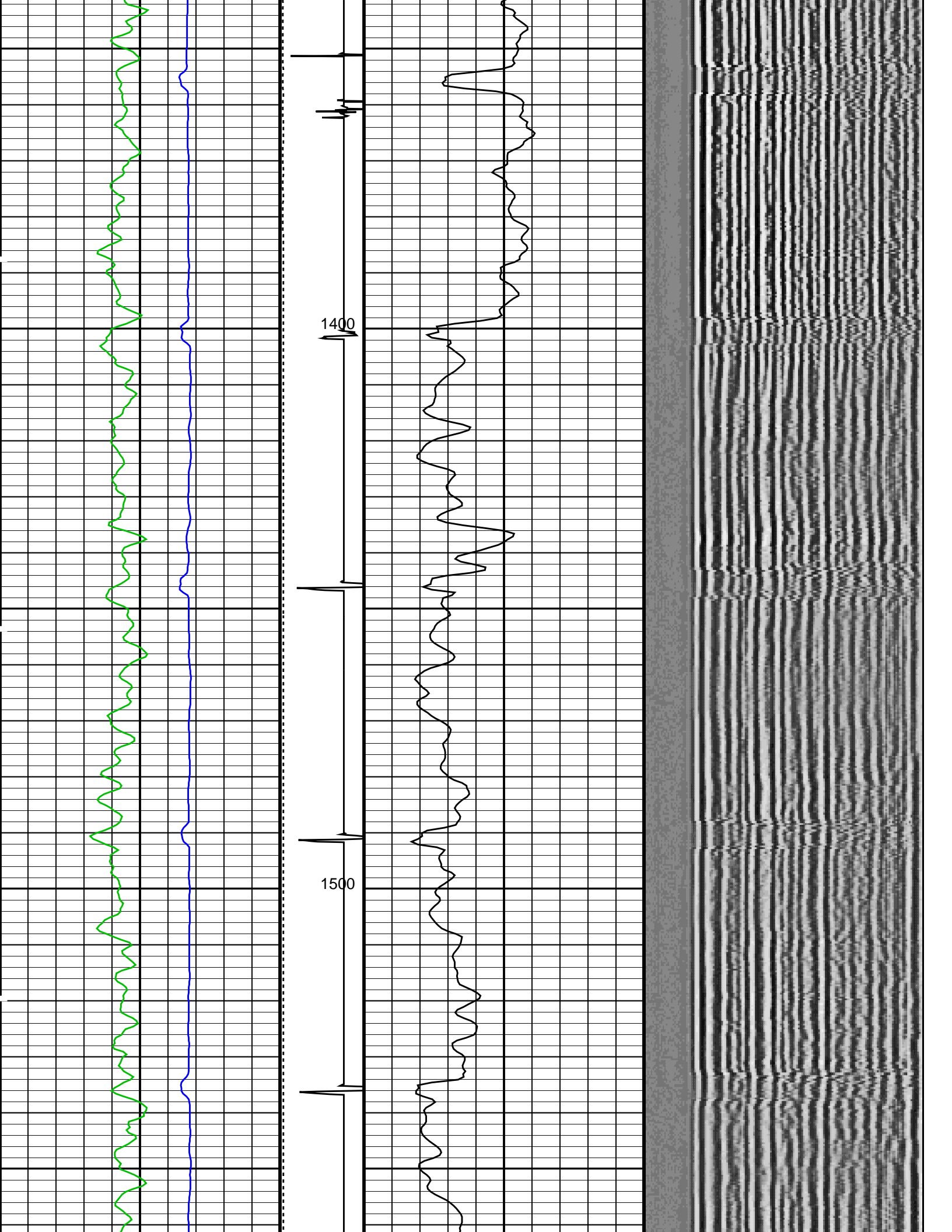


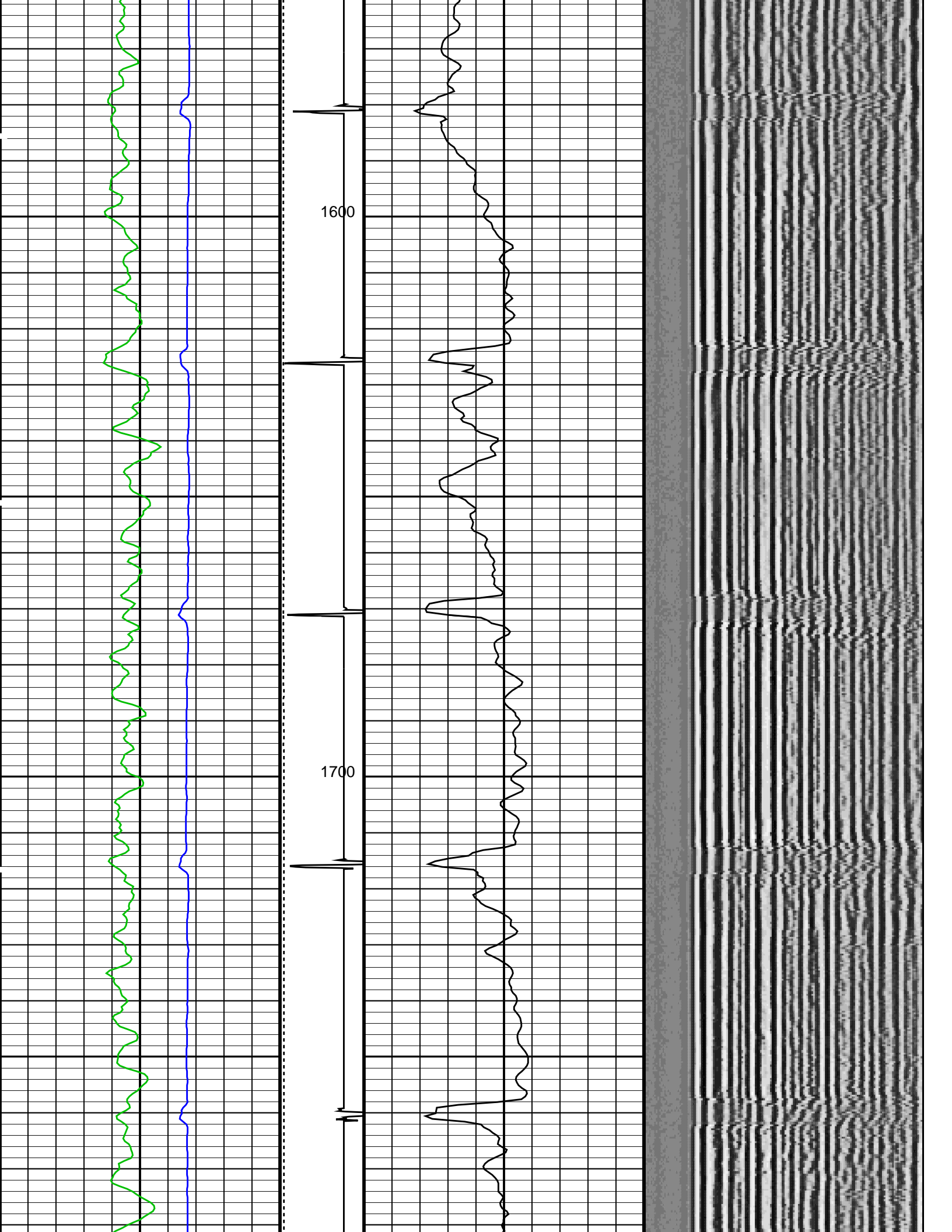


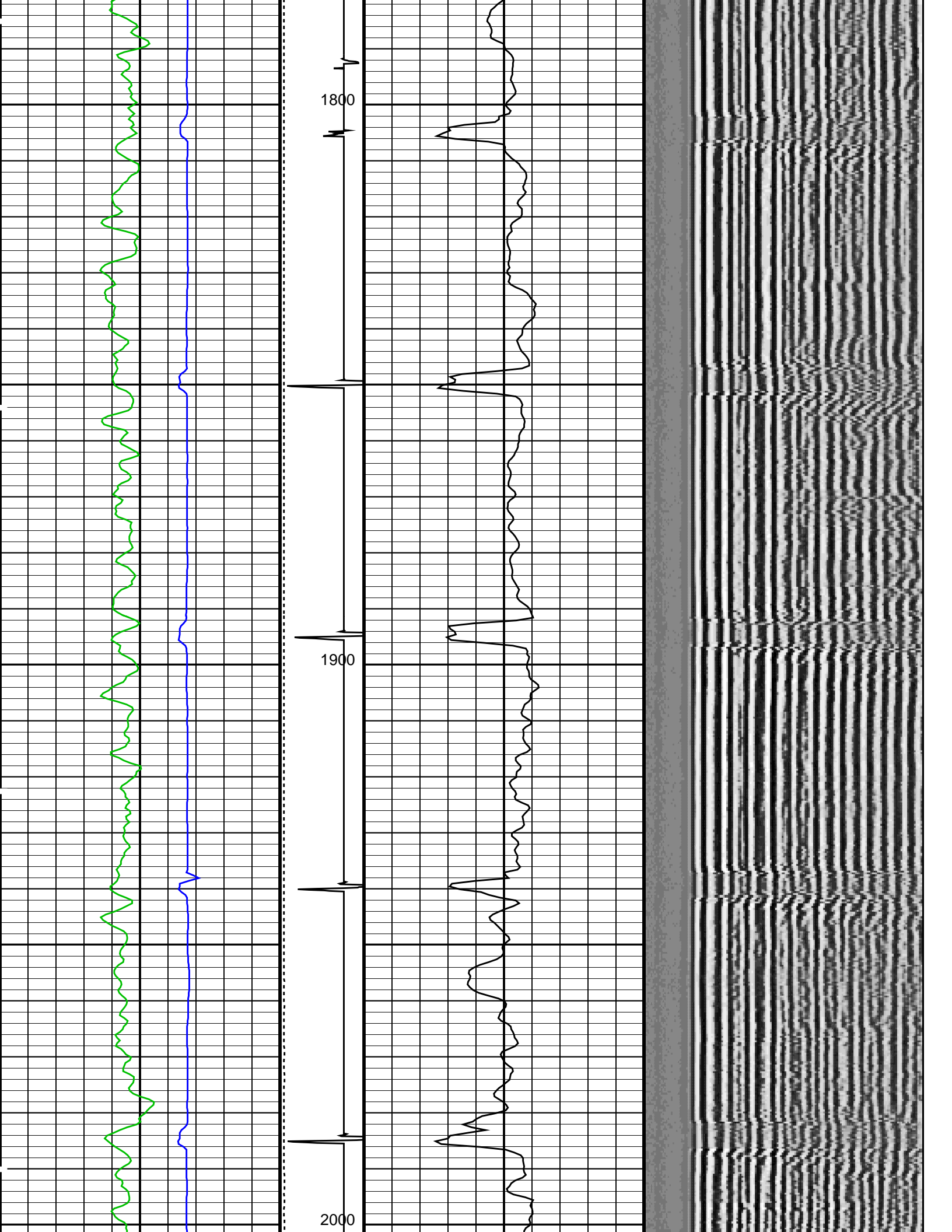


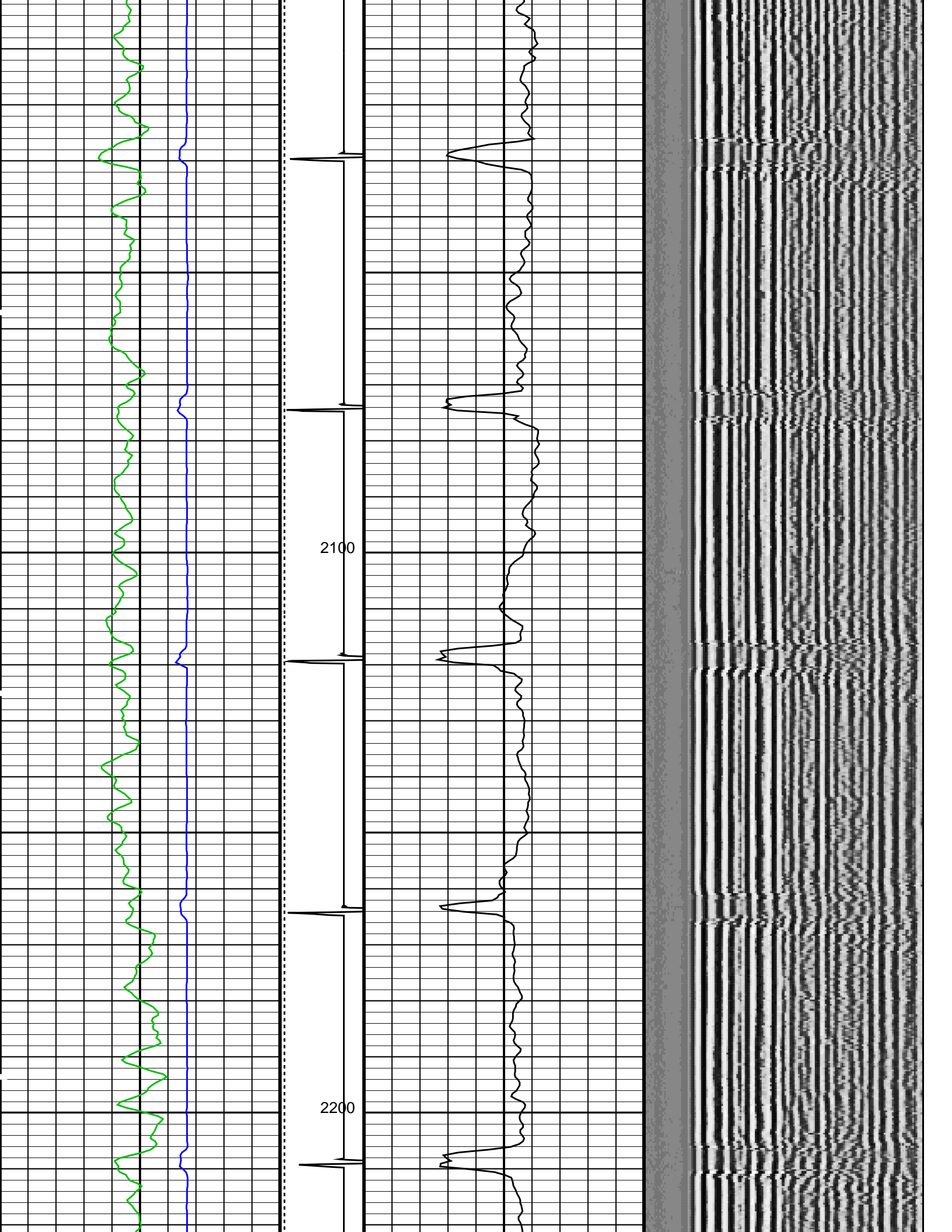


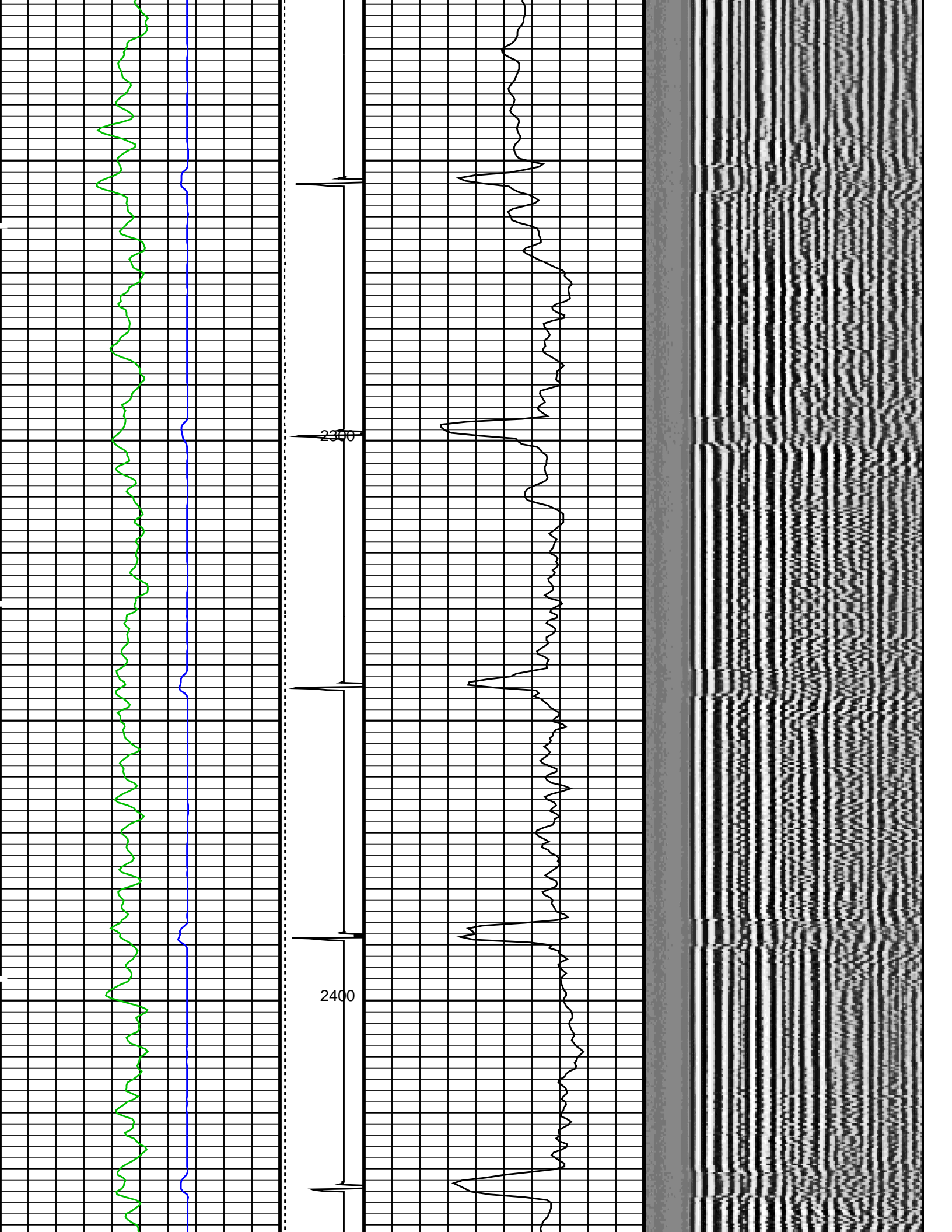


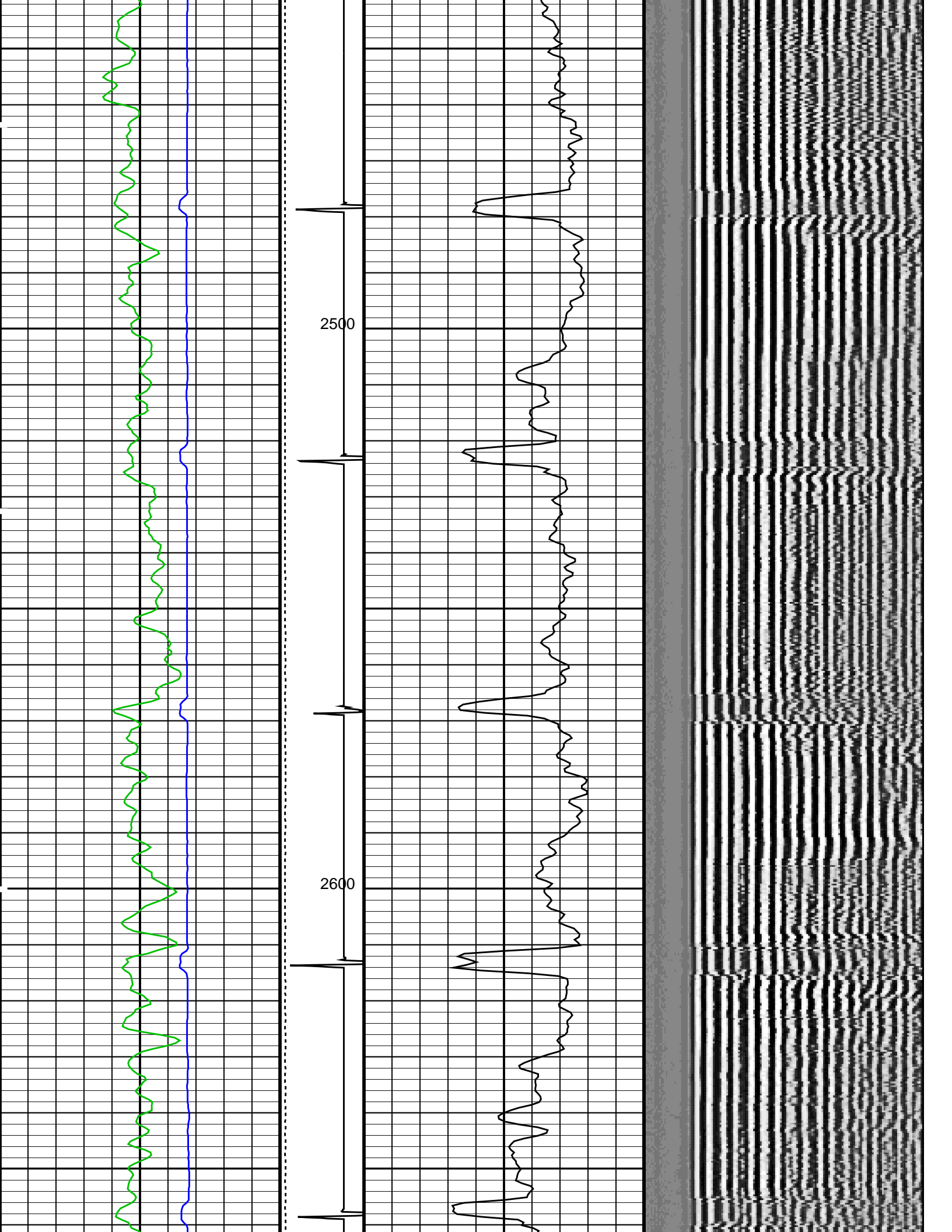


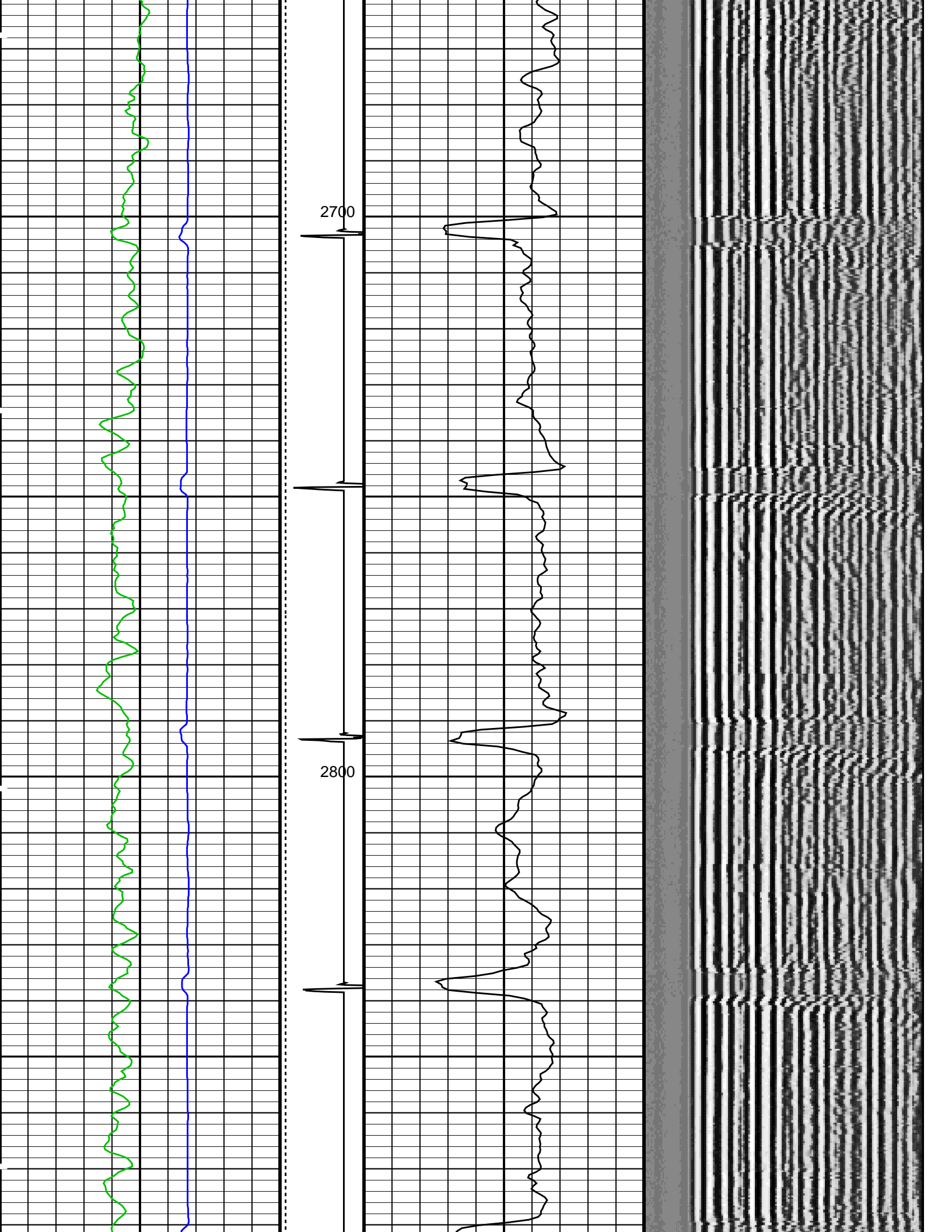


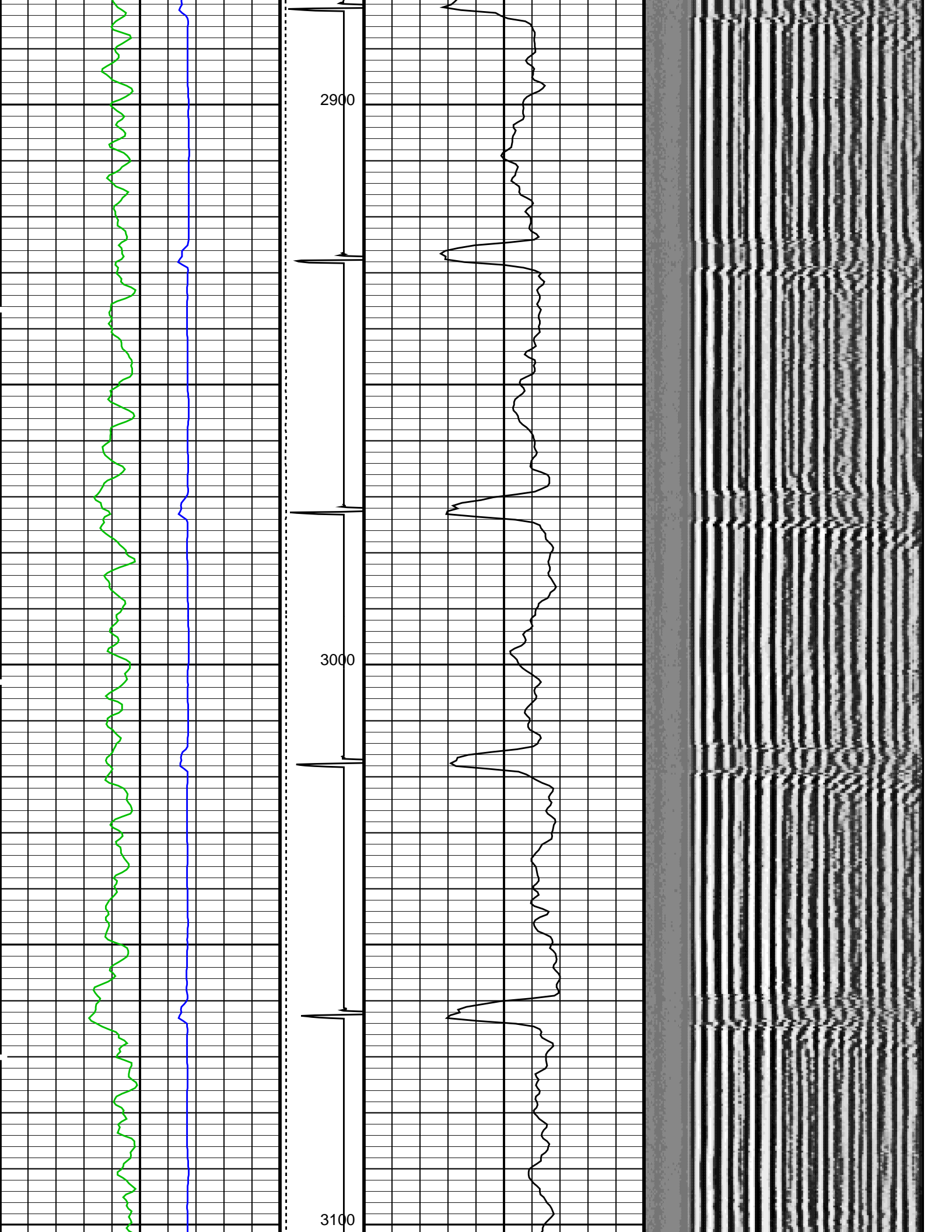


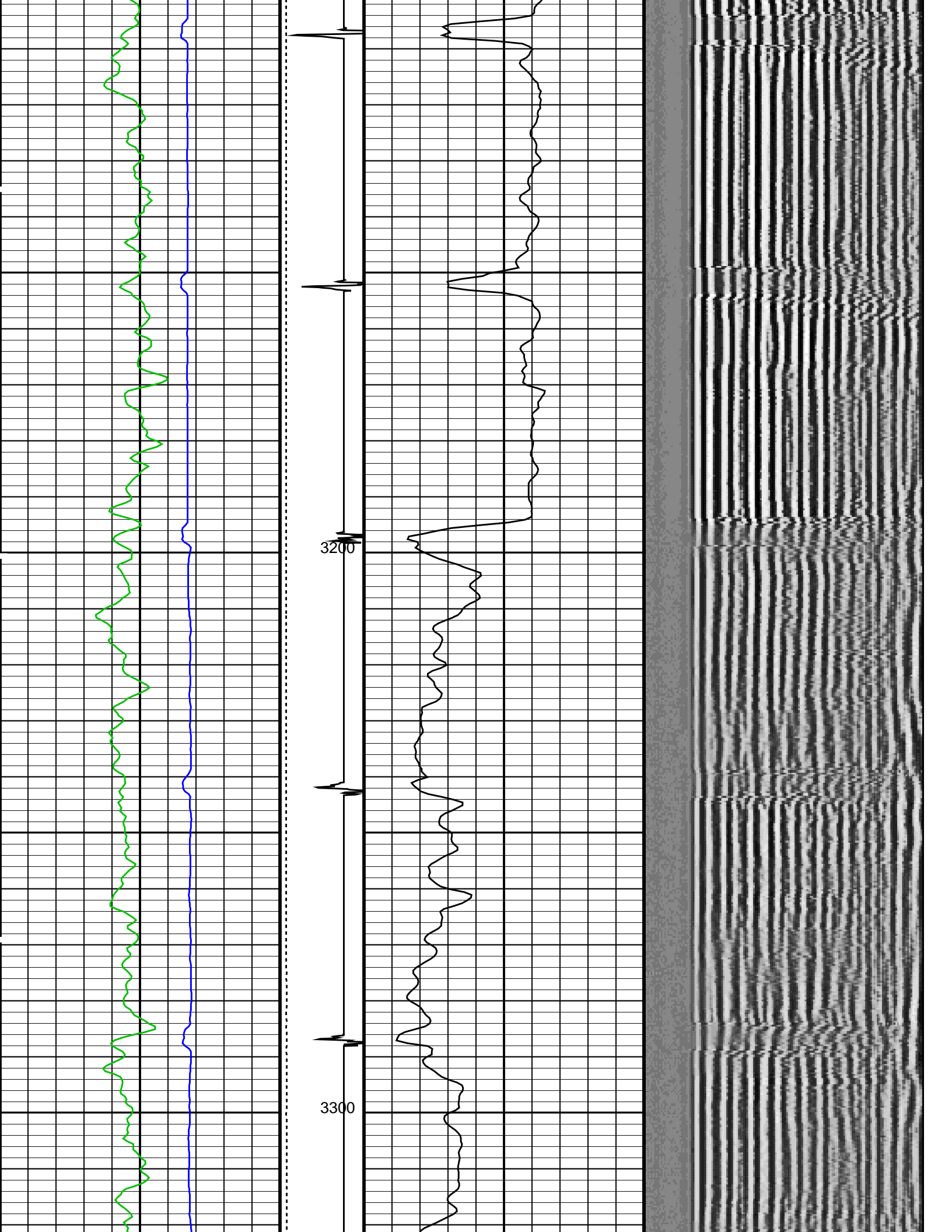


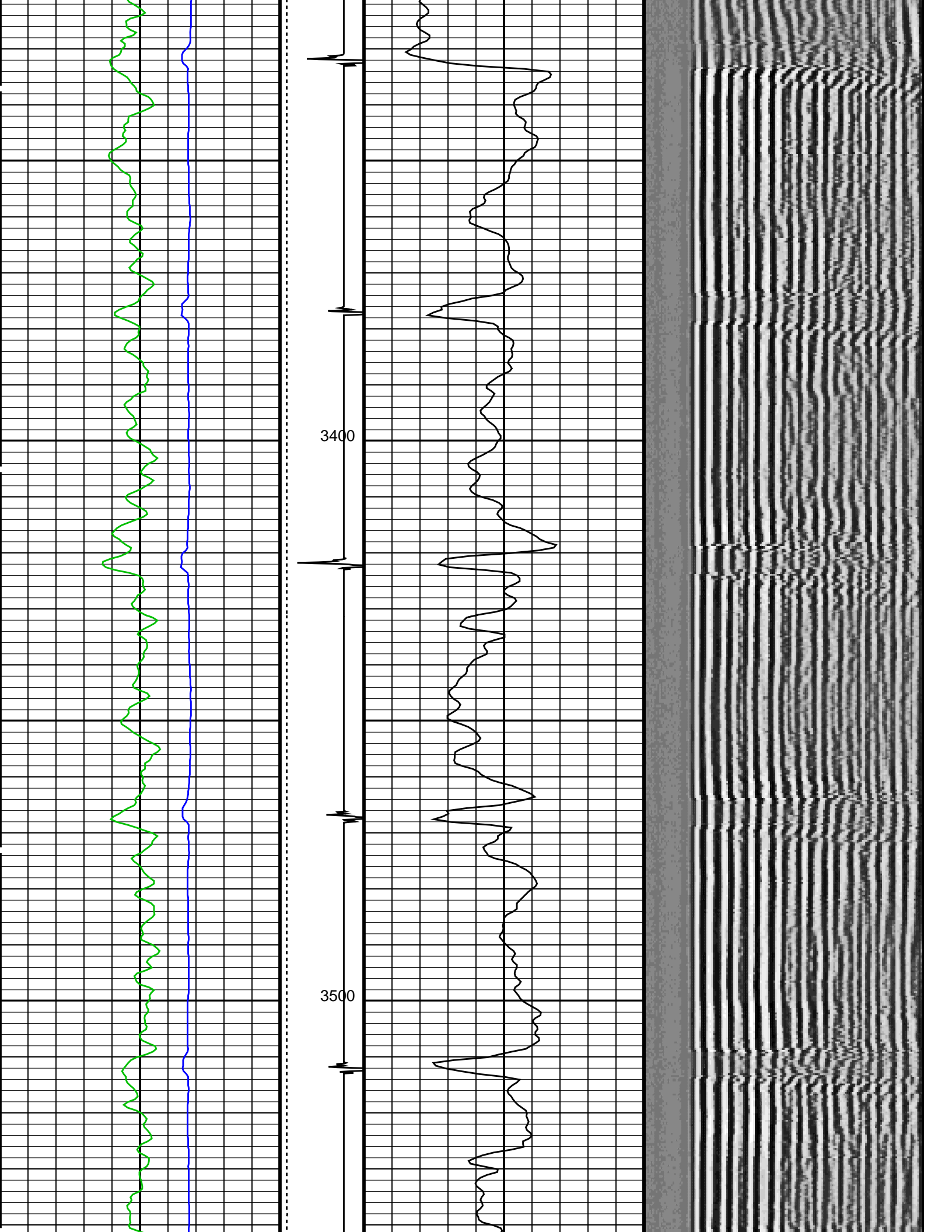


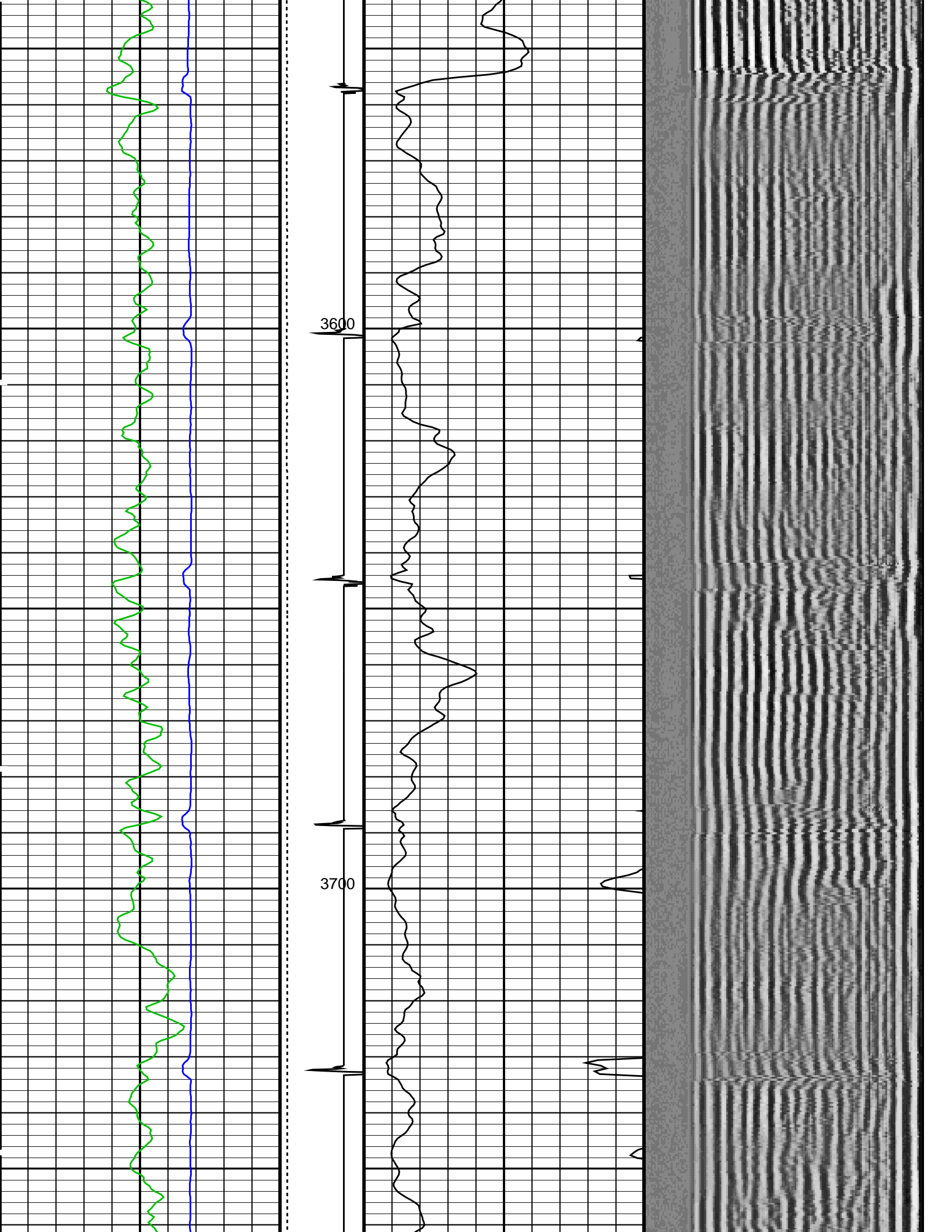


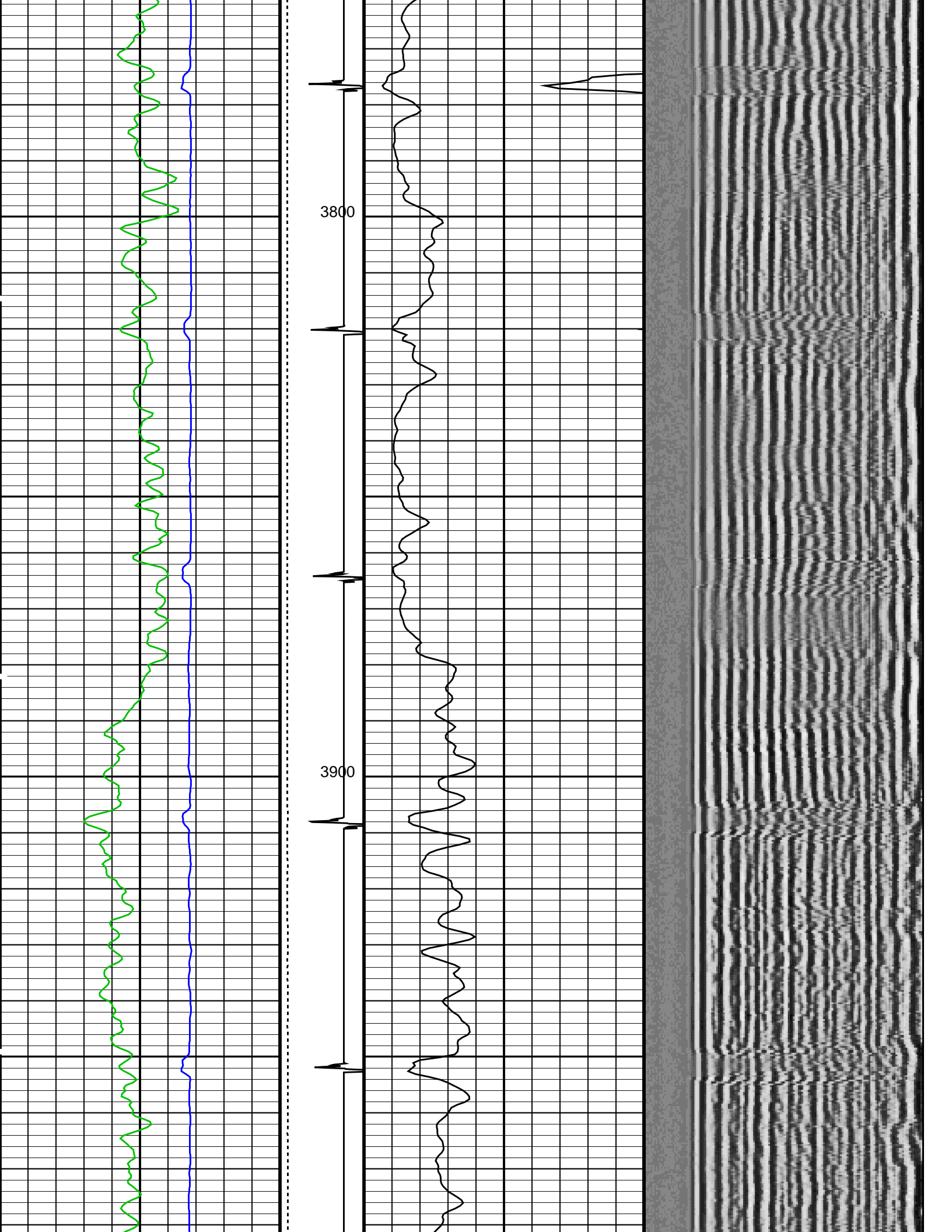


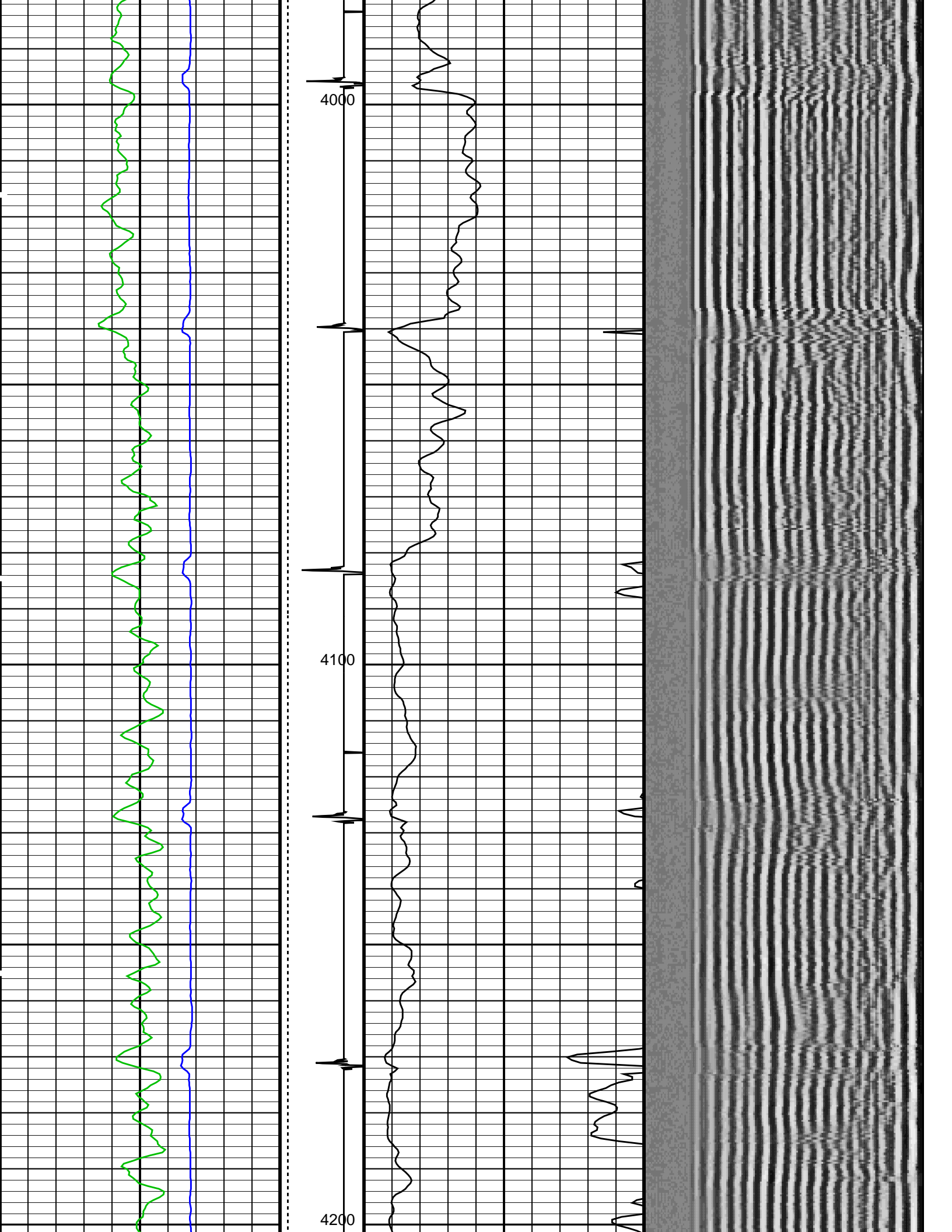


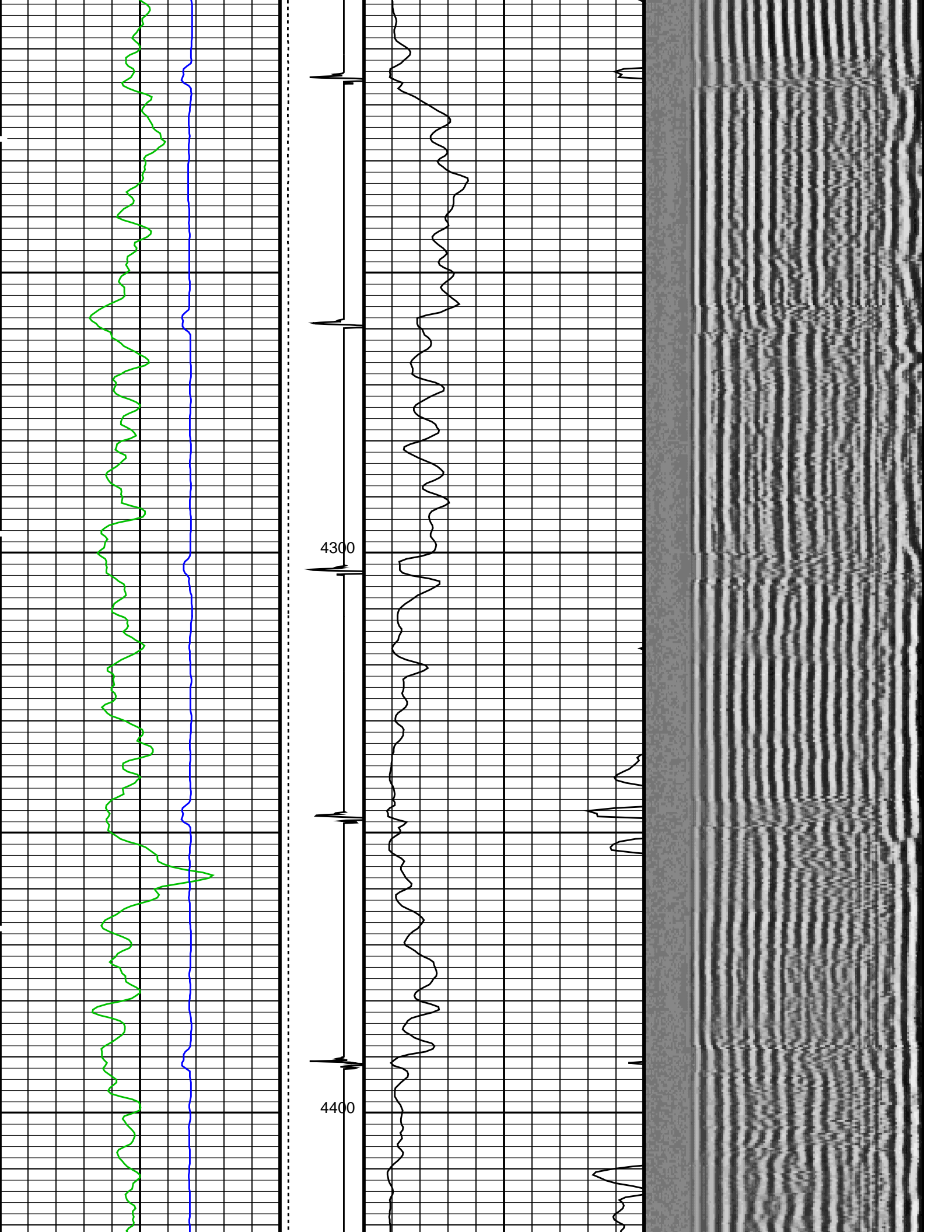


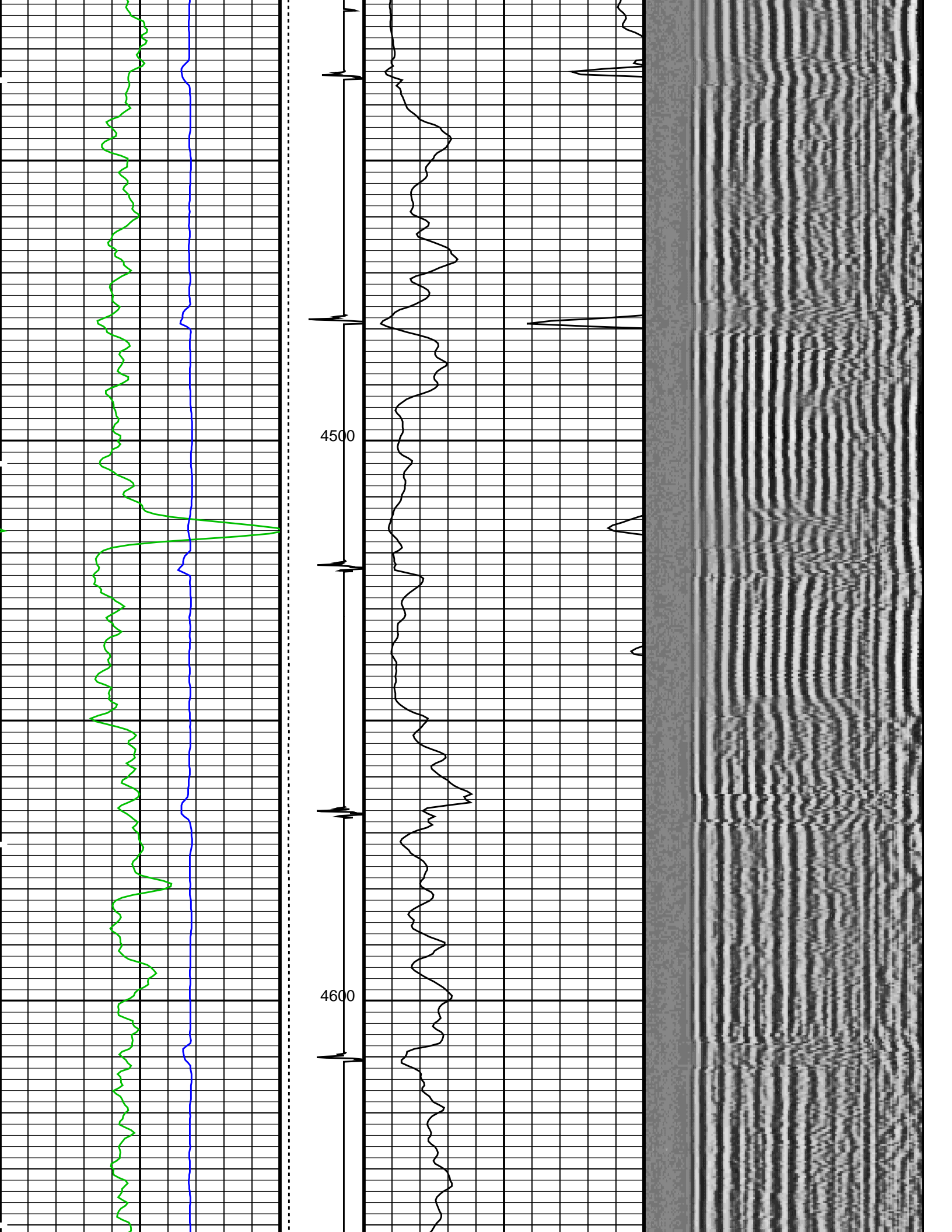


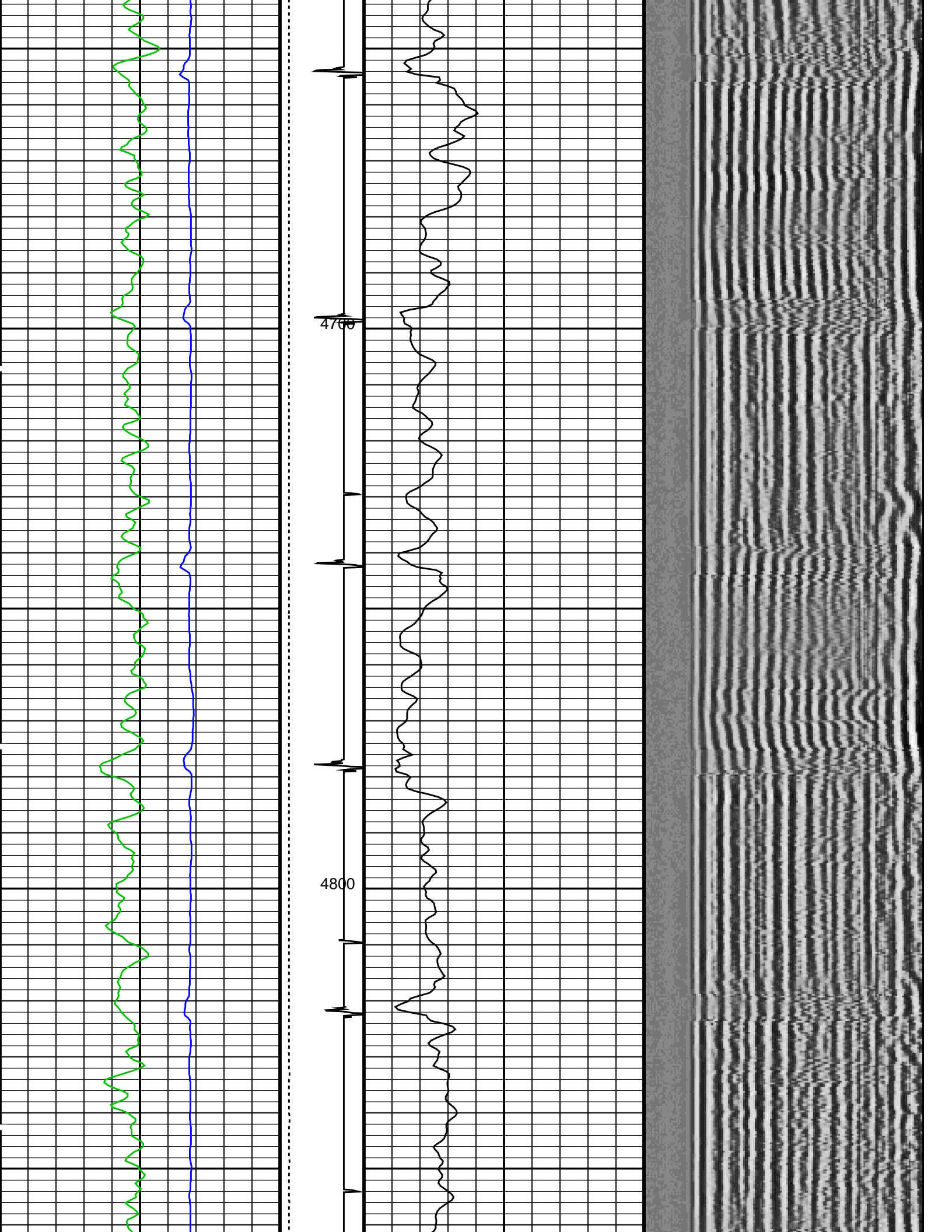


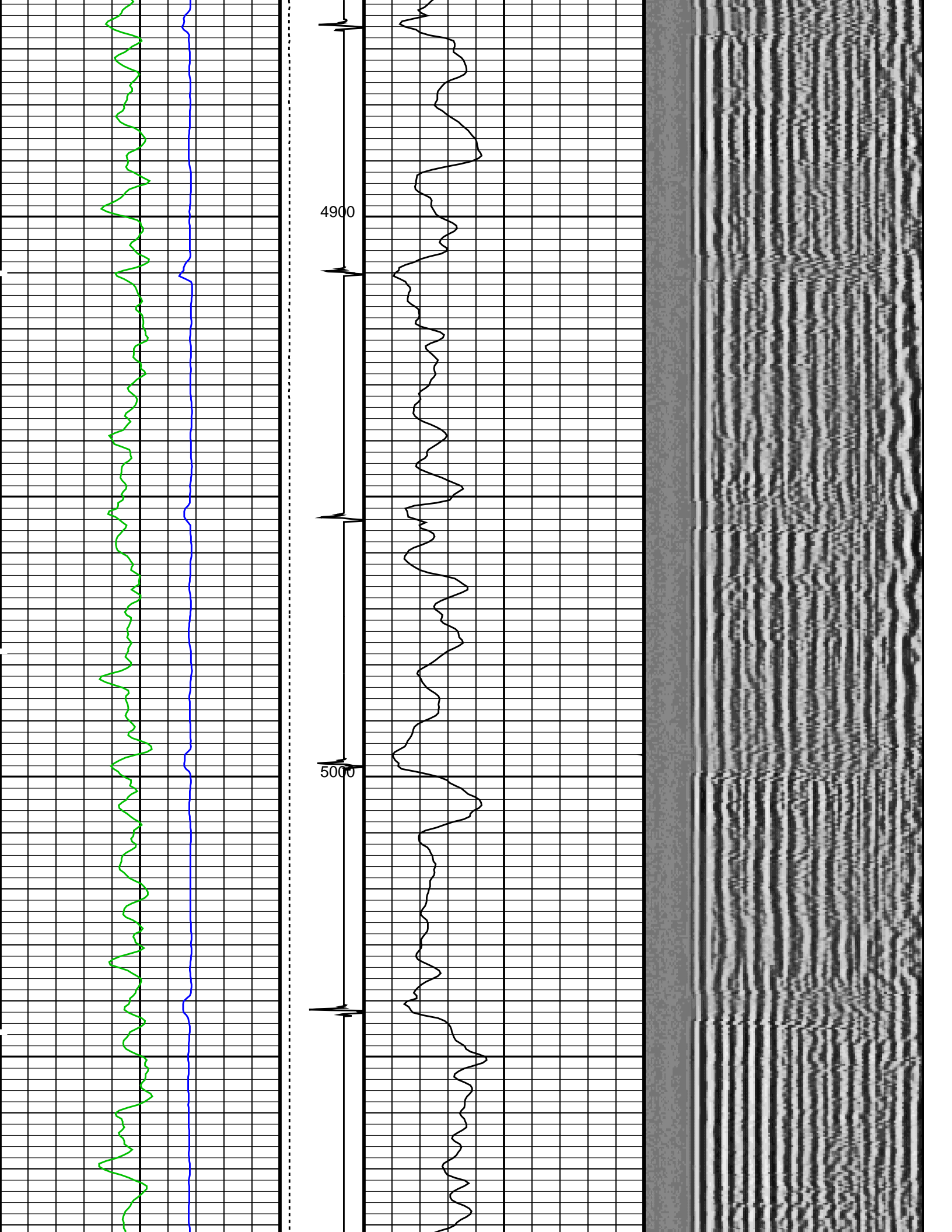


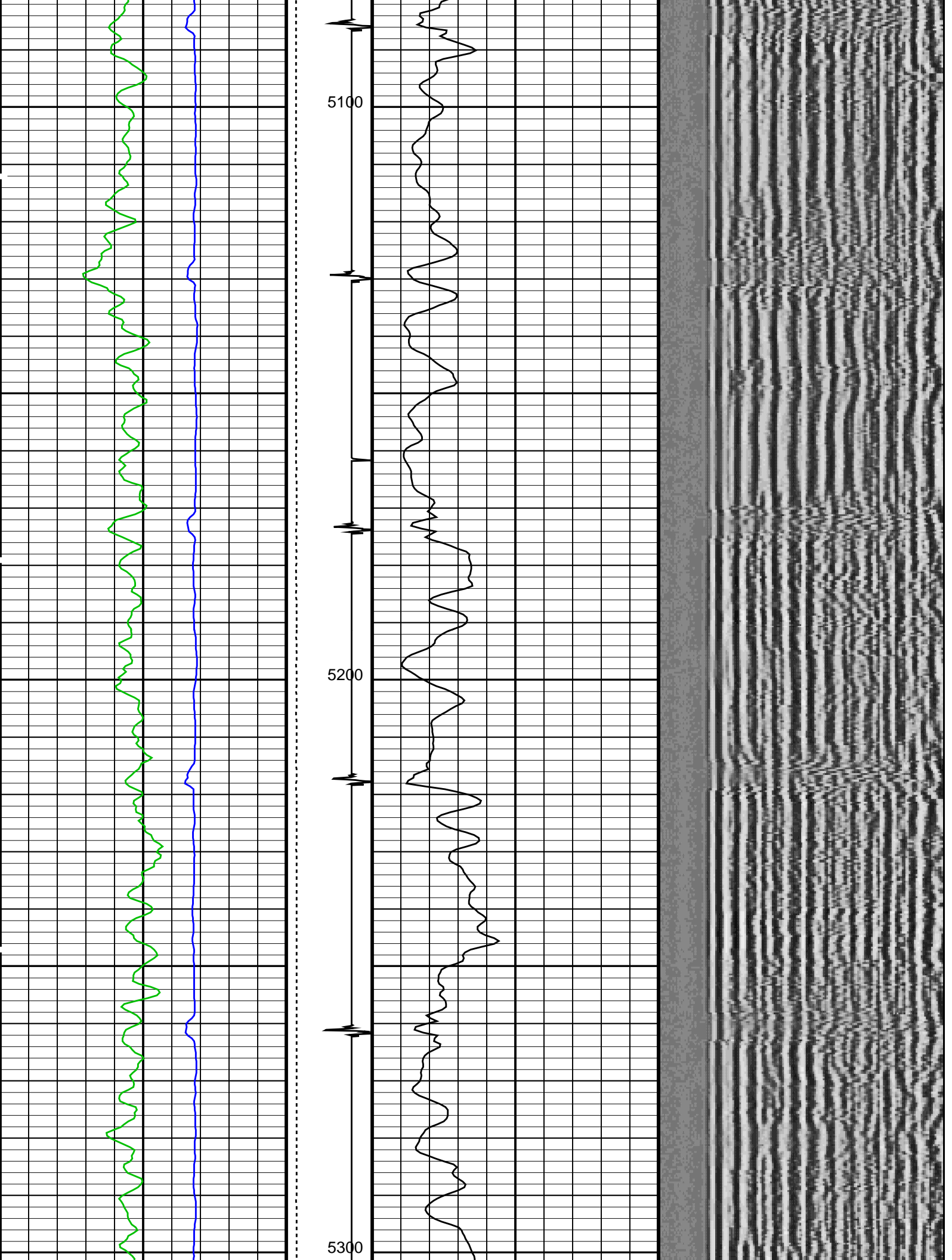


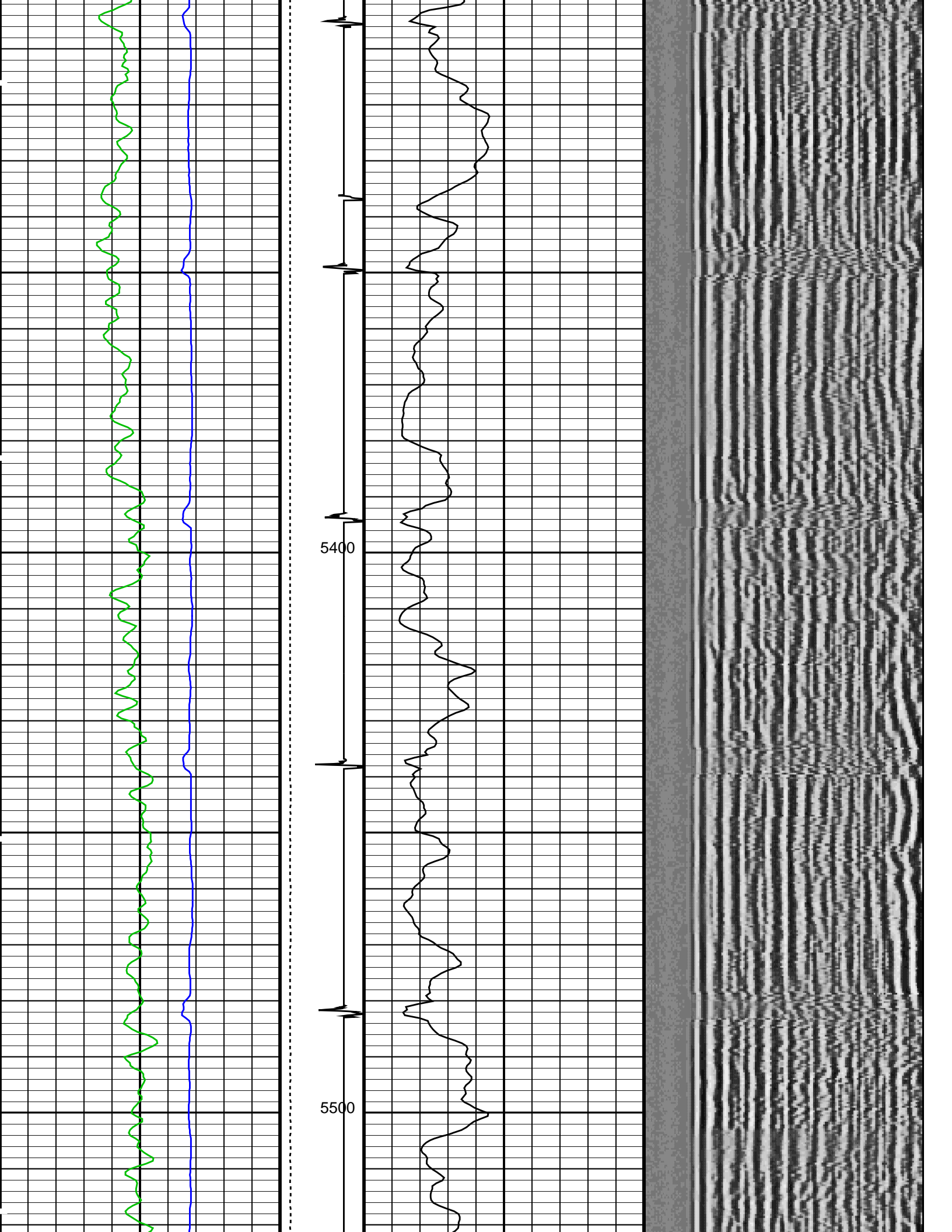


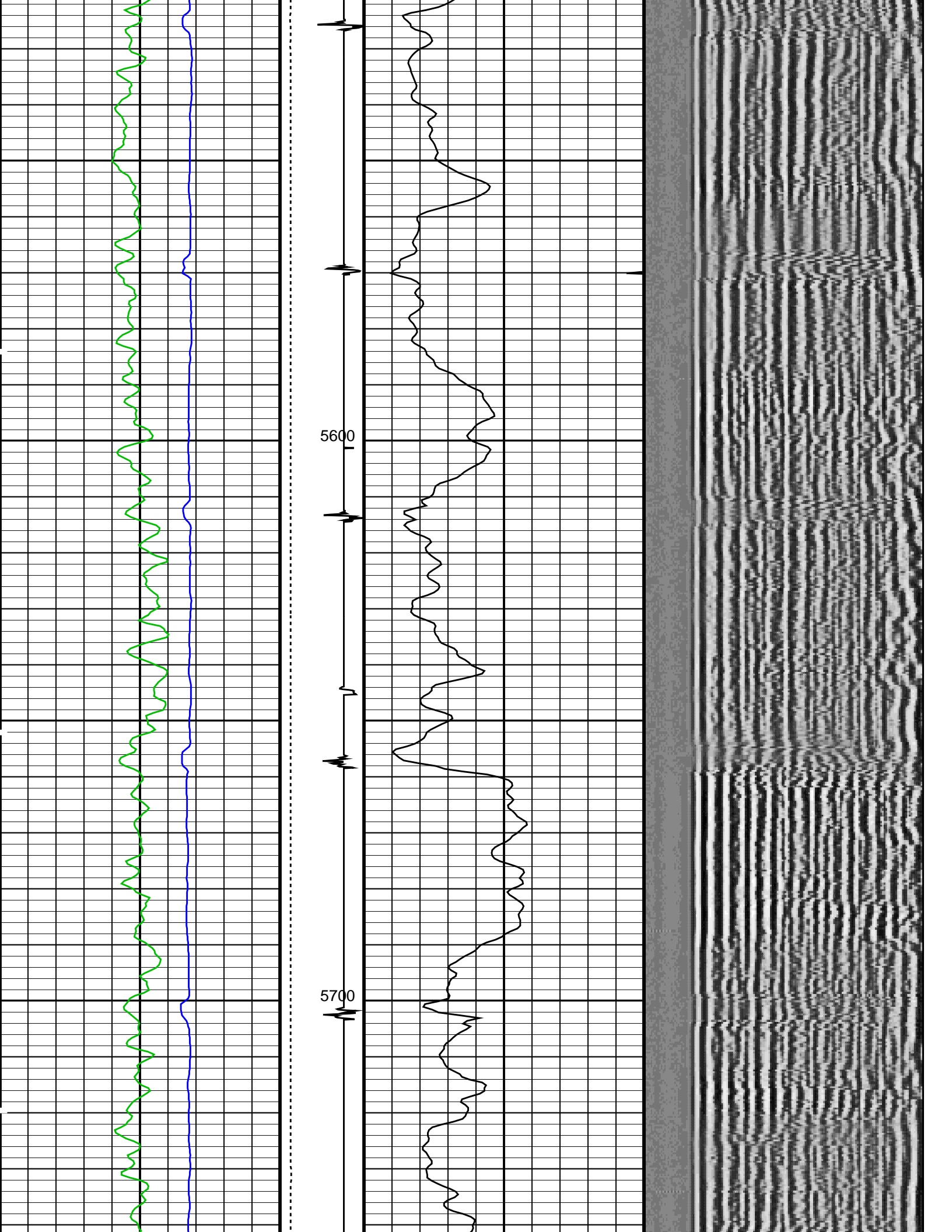


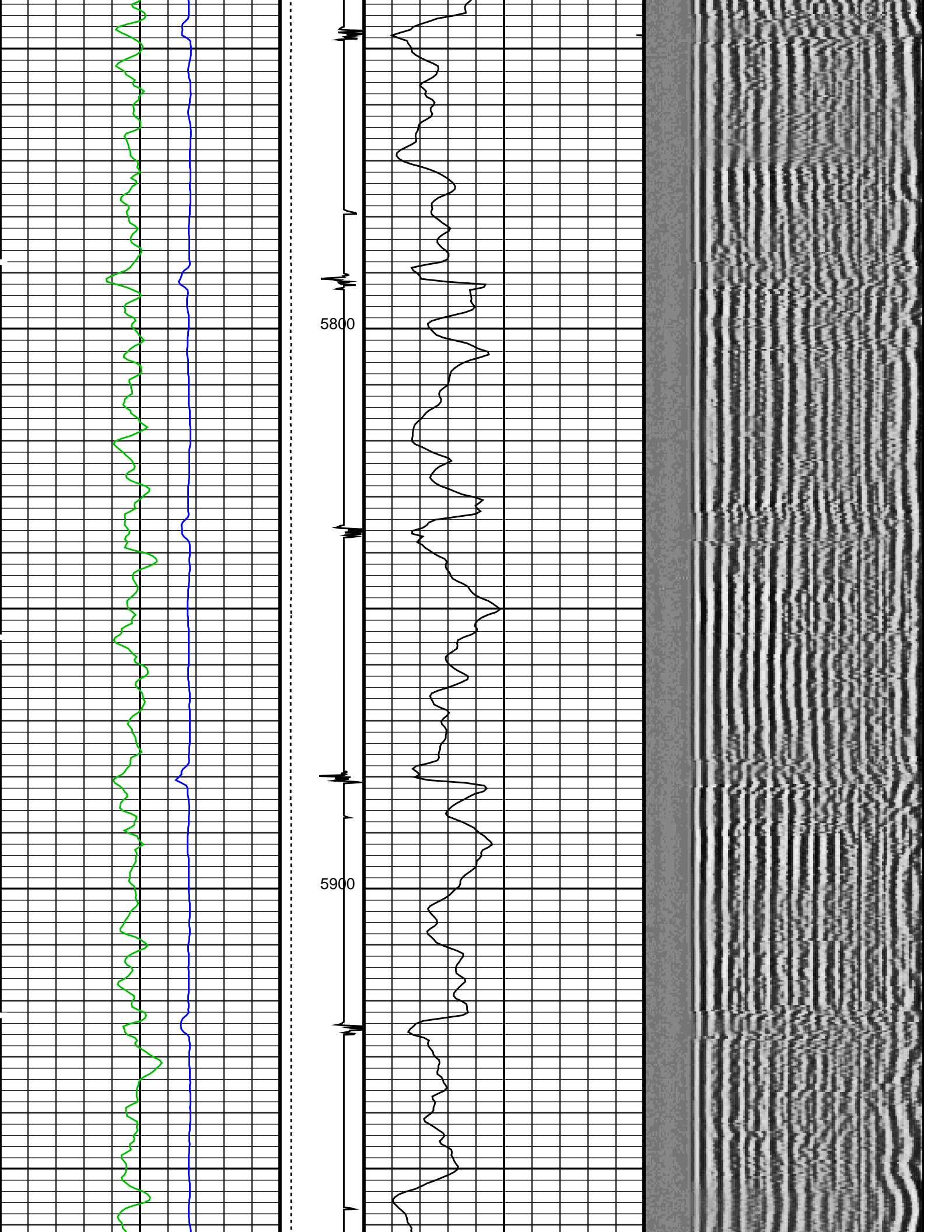


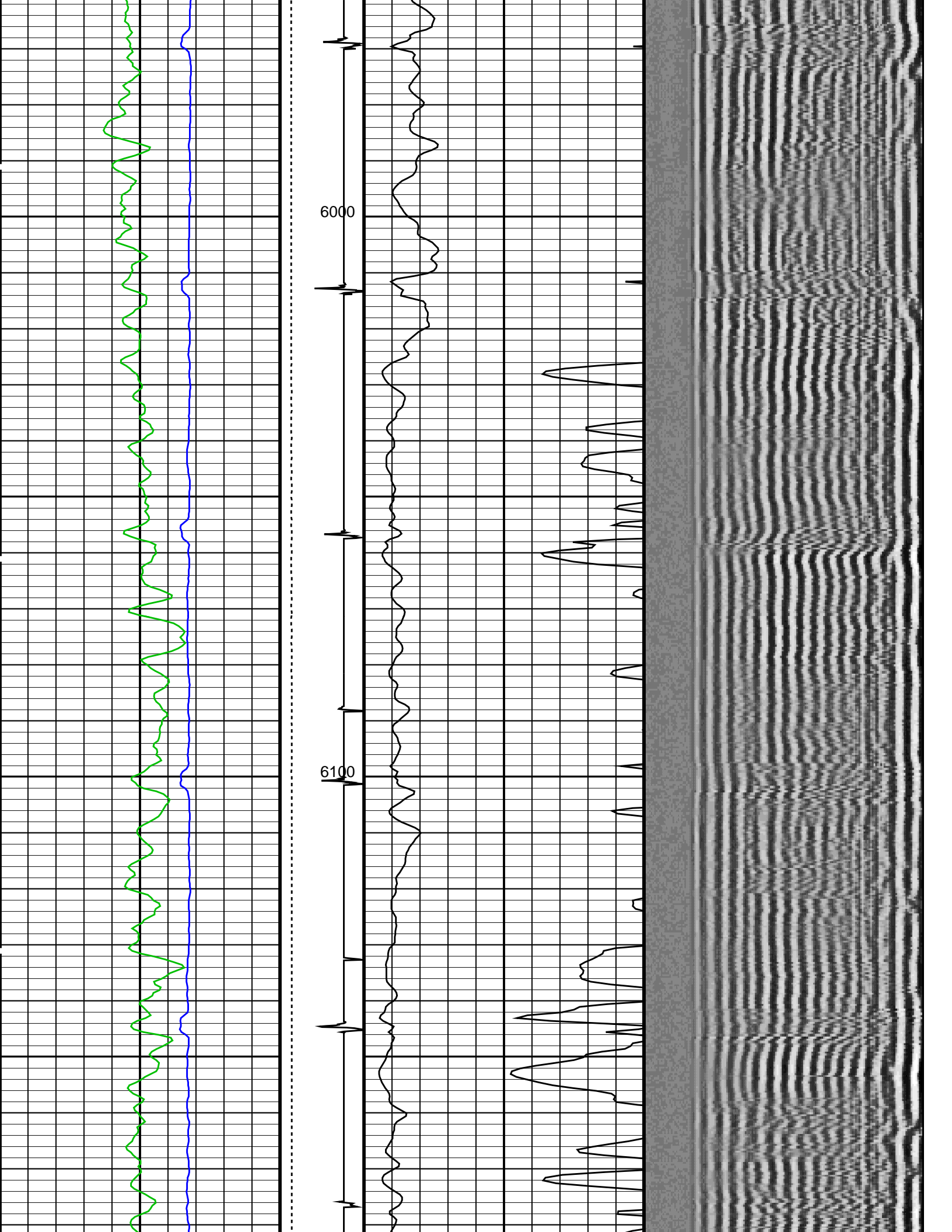


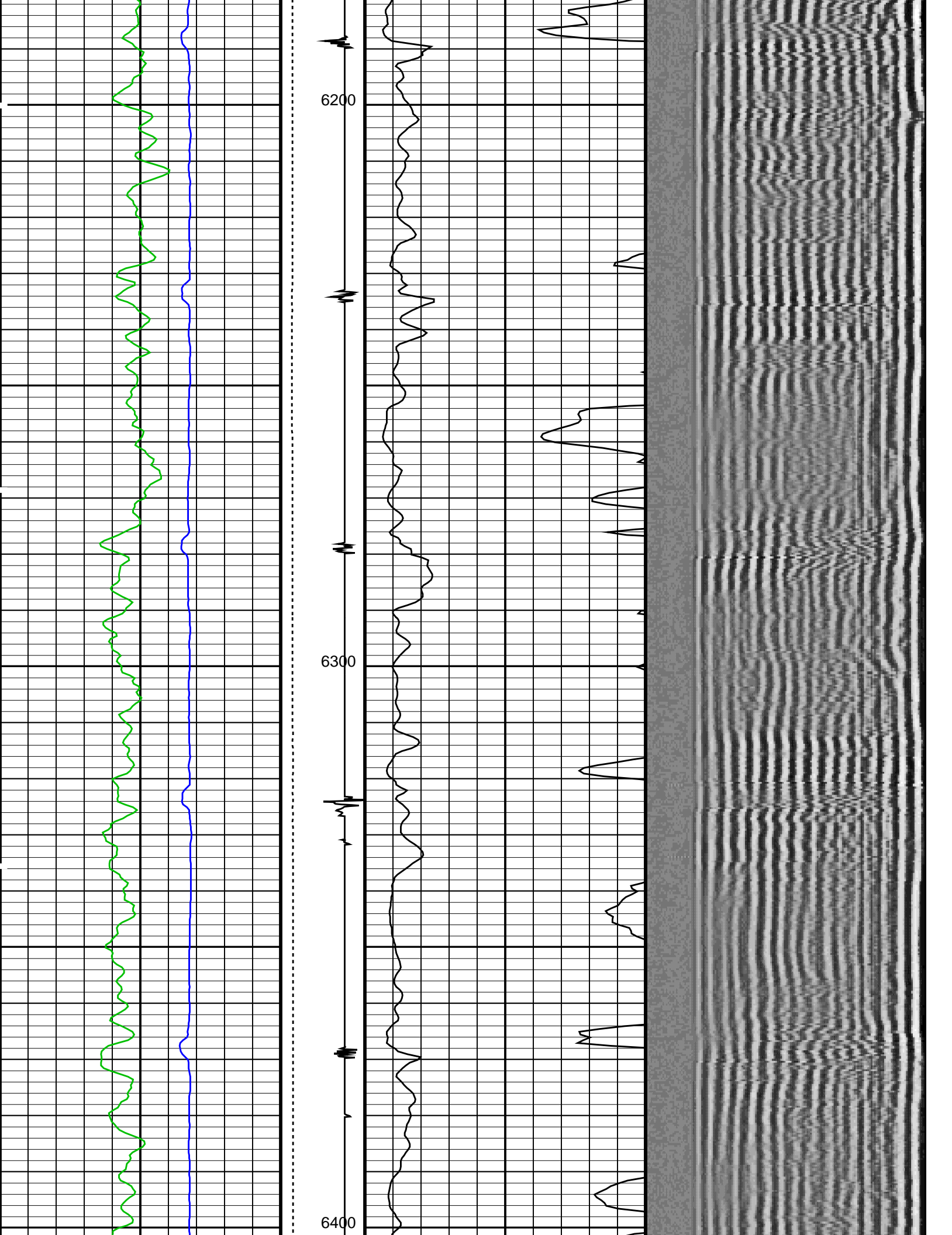


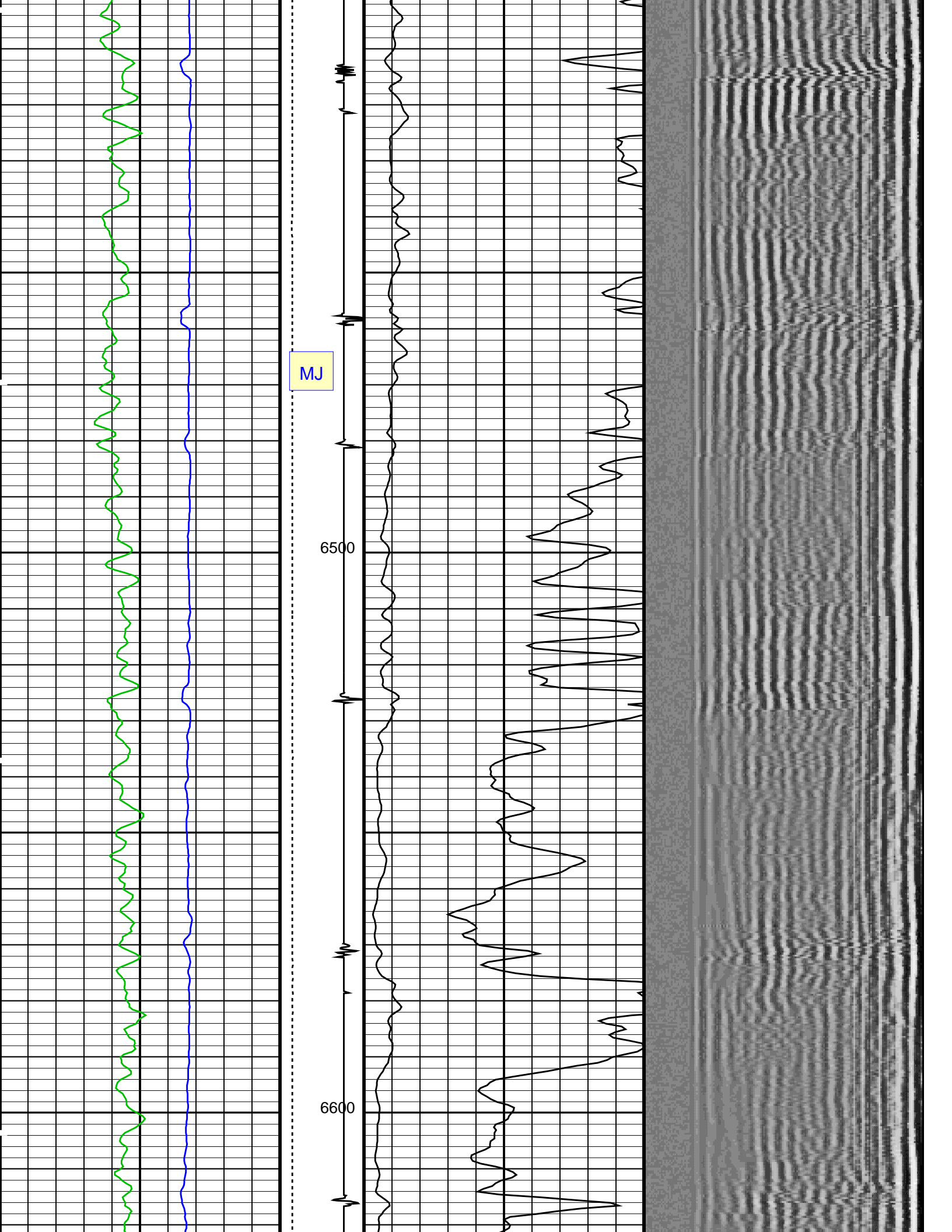


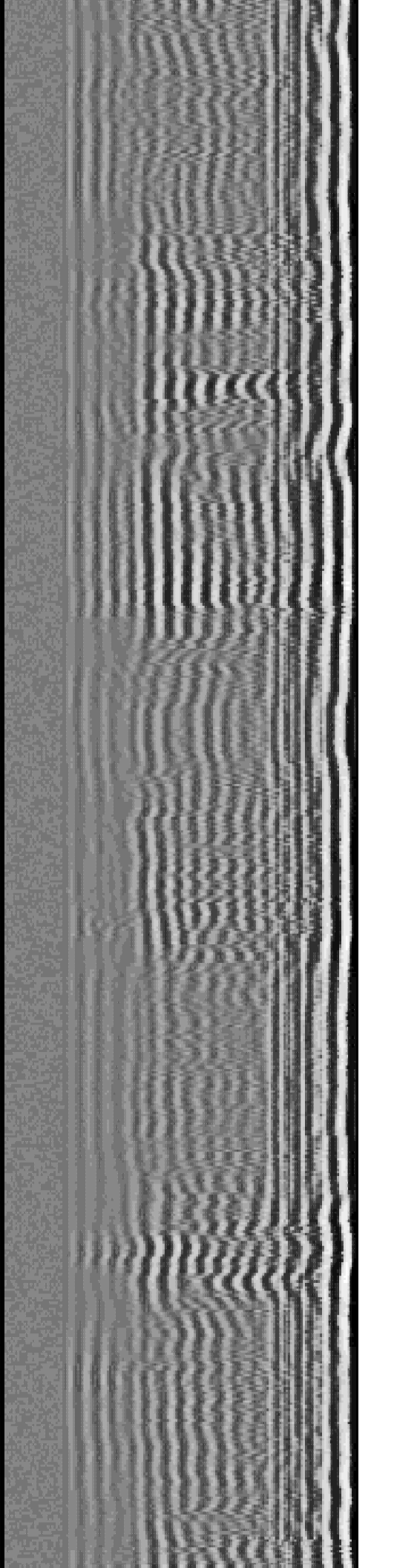
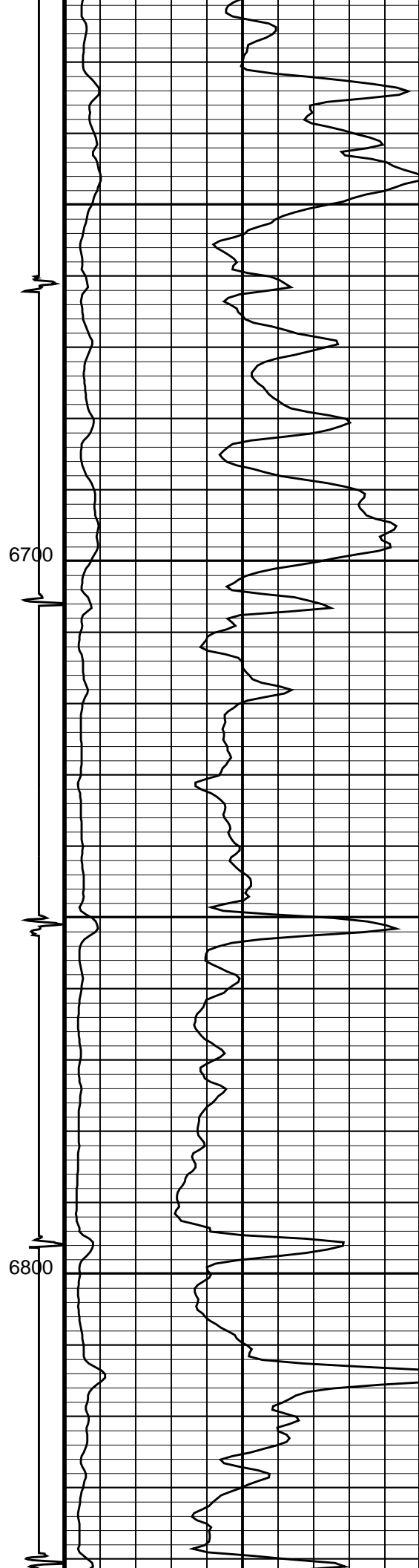
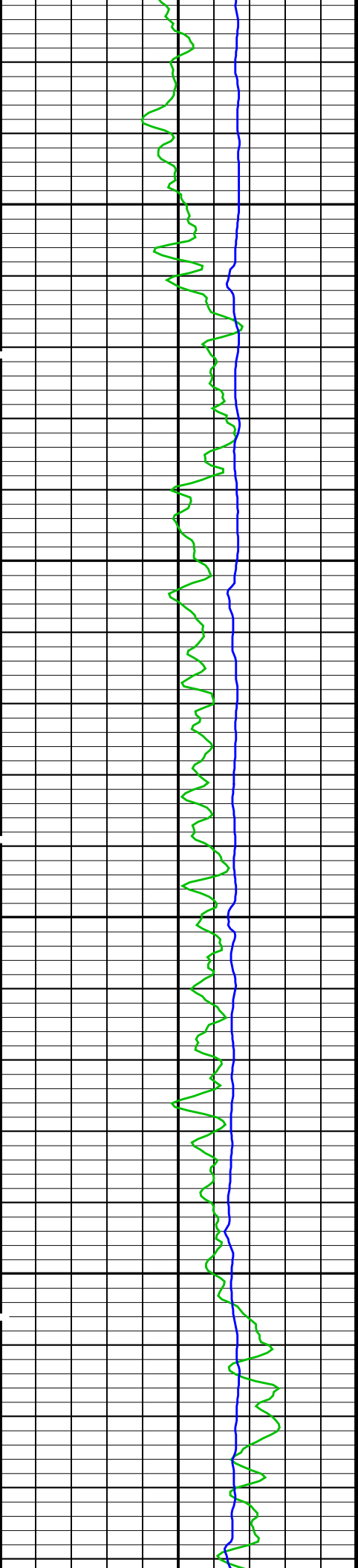


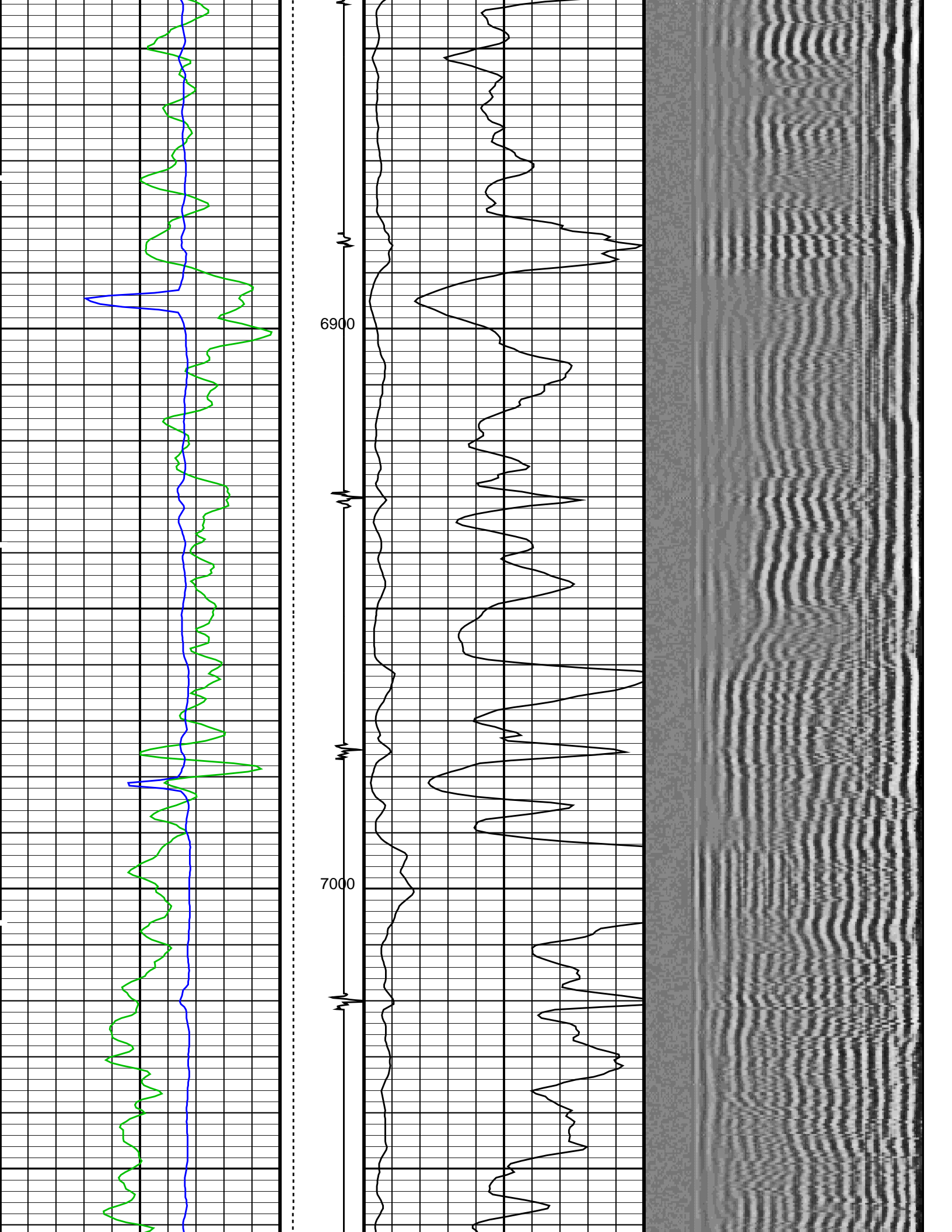


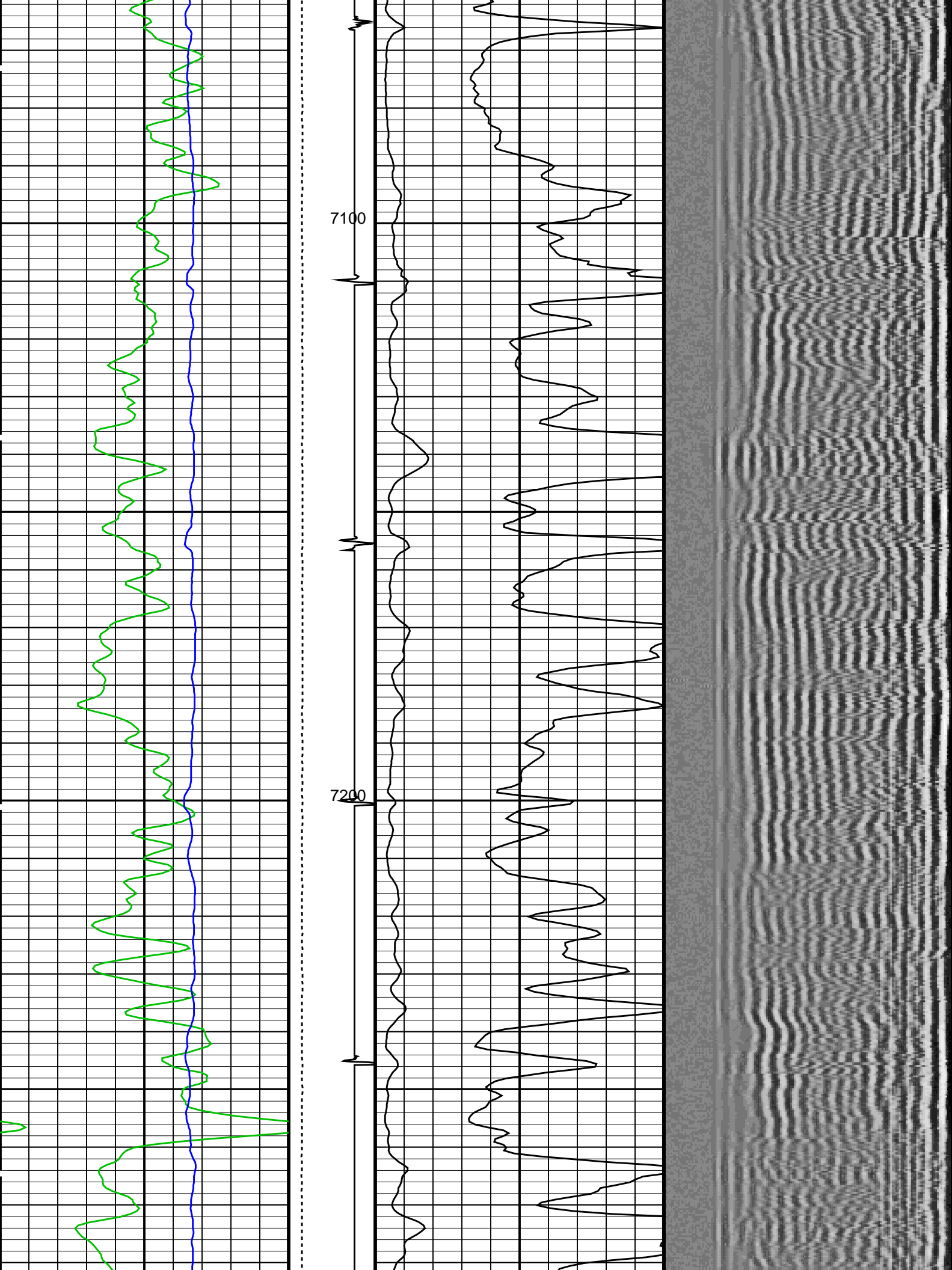


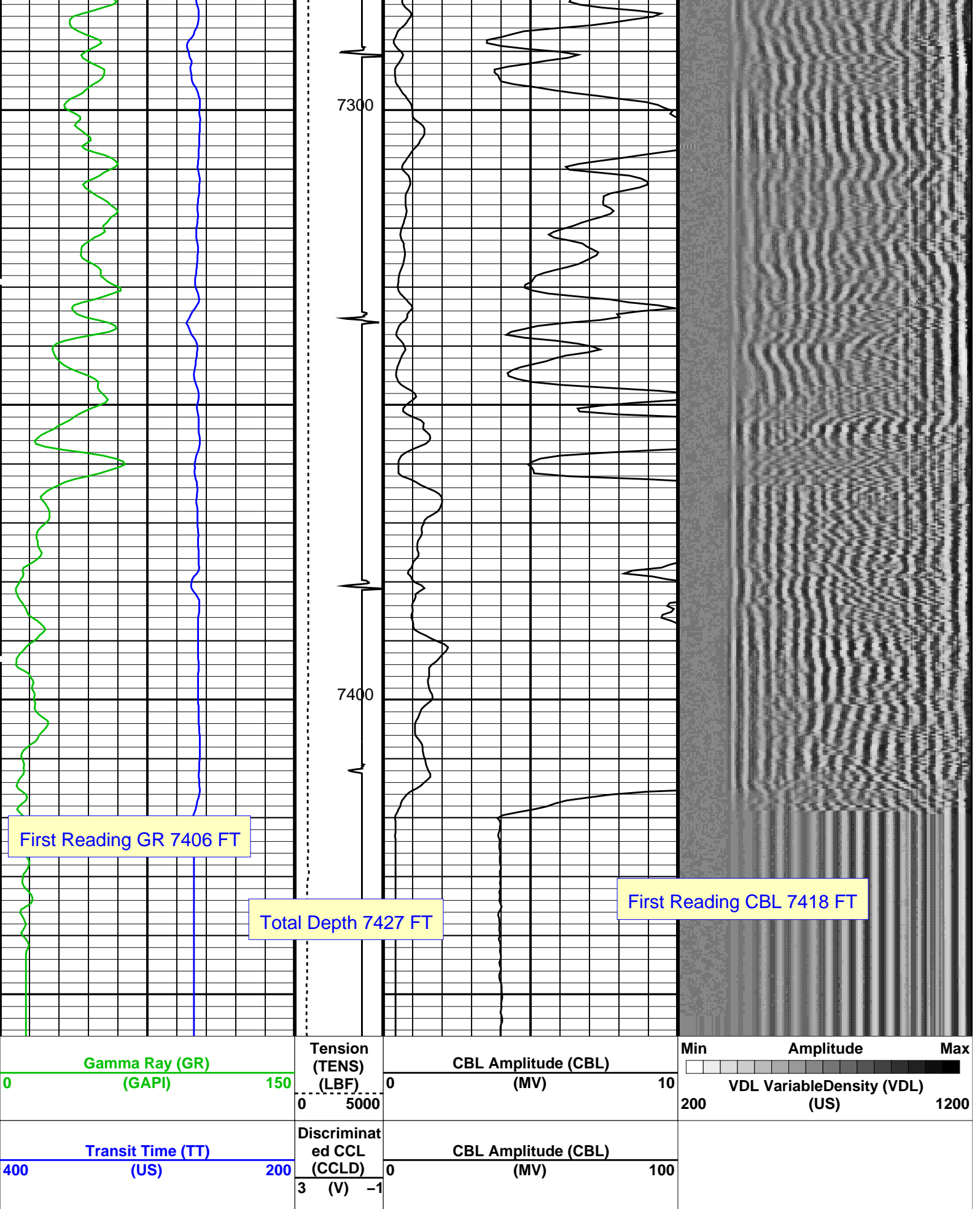












Time Mark Every 60 S

Format: CBL\_VDL Vertical Scale: 5" per 100'

Graphics File Created: 16-Jul-2015 16:42

SCMT-CB      SRPC-5095-H2-2011-OP19      PSPT      19C0-187

## &lt;&lt;&lt;SCMT Cement Evaluation Information Summary&gt;&gt;&gt;

Sonde Serial Number	SCMS-CB 8284		
Current Casing Size	5.50000 IN		
Casing Weight	17.0 LB/F		
Expected CBL Amplitude in Free Pipe Section	71 MV	Minimum Sonic Amplitude	1.15842 MV (100% Cement)
			2.63842 MV (80% Cement)
		MAP Minimum Sonic Amplitude	7.35072 MV (100% Cement)
			12.3898 MV (80% Cement)
Master Calibration (Normalization)	Before Calibration (Adjustment)		
Date of Master Calibration	21-JUN-2013		
CBL Correction Factor	0.0743795	CBL Adjustment Factor (CBAF)	1.0
MAP 1 Correction Factor	0.105721	MAP Adjustment Factor (MPAF)	1.0
MAP 2 Correction Factor	0.132315		
MAP 3 Correction Factor	0.146735		
MAP 4 Correction Factor	0.109791		
MAP 5 Correction Factor	0.114089		
MAP 6 Correction Factor	0.110732		
MAP 7 Correction Factor	0.116601		
MAP 8 Correction Factor	0.0804110		

## Parameters

DLIS Name	Description	Value	
SCMT-CB: Slim Cement Mapping Tool, 1-11/16 OD			
BILI	Bond Index Level for Zone Isolation	0.8	
CB3D	SCMT CBL 3 ft Peak Detection Mode	PEAK	
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	238.059	US
CB3T	SCMT CBL 3 ft Fixed Threshold Level	20	MV
CB5D	SCMT CBL 5 ft Peak Detection Mode	PEAK	
CB5G	SCMT CBL 5 ft Peak Detection T0_Delay and Noise Gate	352.059	US
CB5T	SCMT CBL 5 ft Fixed Threshold Level	20	MV
CBLG	CBL Gate Width	50	US
CBRA	CBL LQC Reference Amplitude in Free Pipe	71	MV
CMCF	CBL Cement Type Compensation Factor	1	
CMTC	SCMT Slow Channel Multiplexer Mode	SCAN	
CMTM	SCMT Operating Mode	LOG	
CSCS	SCMT Slow Channel Index	VCC	
CTHI	Casing Thickness	0.306128	IN
DTF	Delta-T Fluid	189	US/F
FATT	Acoustic Attenuation due to Fluid	0	DB/F
FCF	CBL Fluid Compensation Factor	0.924277	
GOBO	Good Bond	2.63842	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	181.059	US
MAPT	SCMT MAP Fixed Threshold Level	30	MV
MATT	Maximum Attenuation	13.848	DB/F
MCCF	MAP Cement Type Compensation Factor	1	
MCI	Minimum Cemented Interval for Isolation	4.75	FT
MMSA	MAP Minimum Sonic Amplitude	7.35072	MV
MSA	Minimum Sonic Amplitude	1.15842	MV
PEDE	Peak Detection On/Off Switch in Playback	OFF	
VDLG	VDL Manual Gain	5	
ZCMT	Acoustic Impedance of Cement	6.8	MRAY
System and Miscellaneous			
CSIZ	Current Casing Size	5.500	IN
CWEI	Casing Weight	17.00	LB/F
DO	Depth Offset for Playback	7.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	7427	FT

## Input DLIS Files

Schlumberger

REPEAT PASS CBL-VDL 0PSI

MAXIS Field Log

Company: ANADARKO

Well: CHEESE STATE 26C-21HZ

Input DLIS Files

SCMT\_PSP\_042LUP

FN:41

16-Jul-2015 14:04

7446.0 FT

7168.0 FT

Output DLIS Files

DEFAULTSCMT\_PSP\_050PUP

FN:48

PRODUCER

16-Jul-2015 16:47

7451.0 FT

7173.0 FT

OP System Version: 19C0-187

SCMT-CB

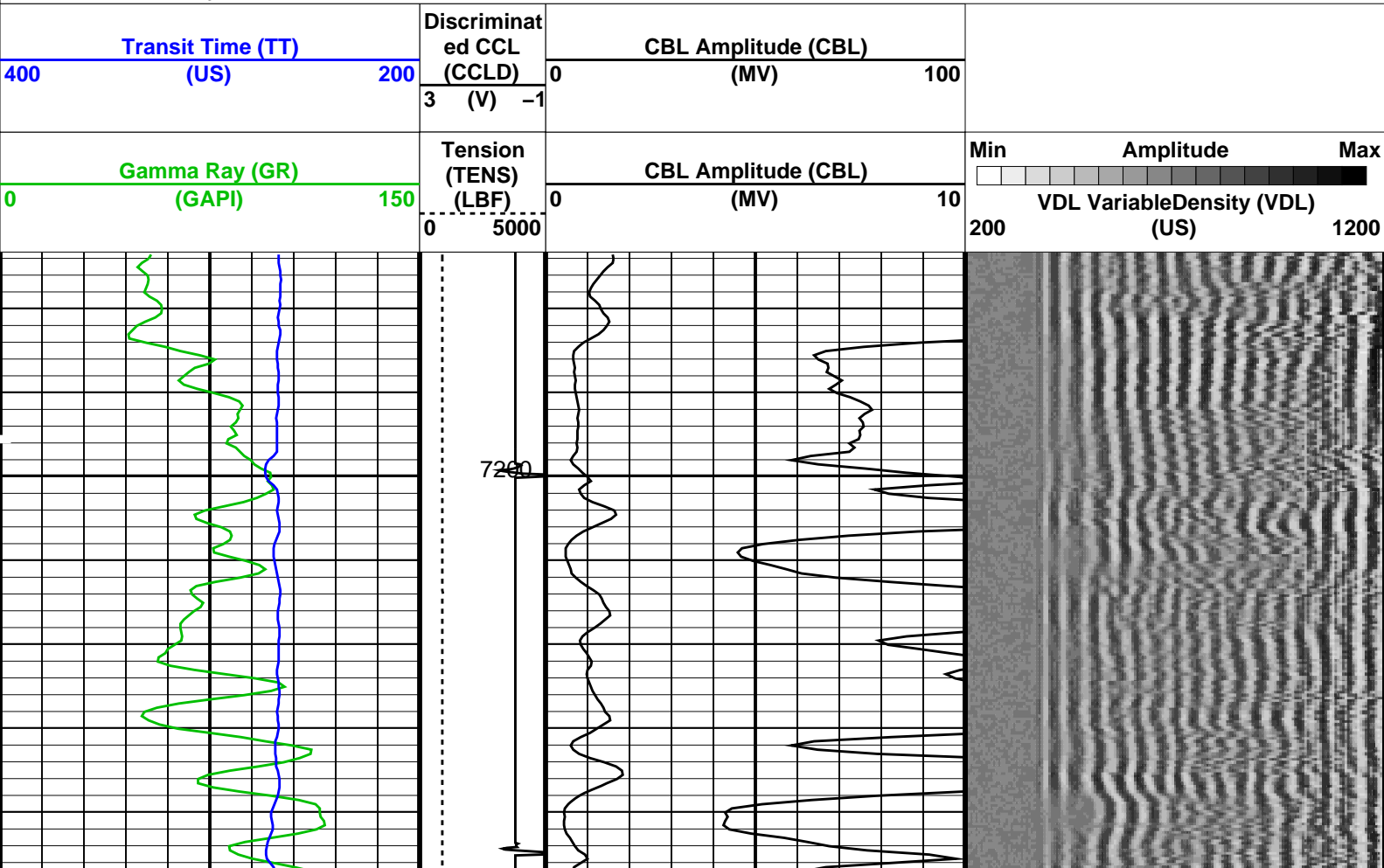
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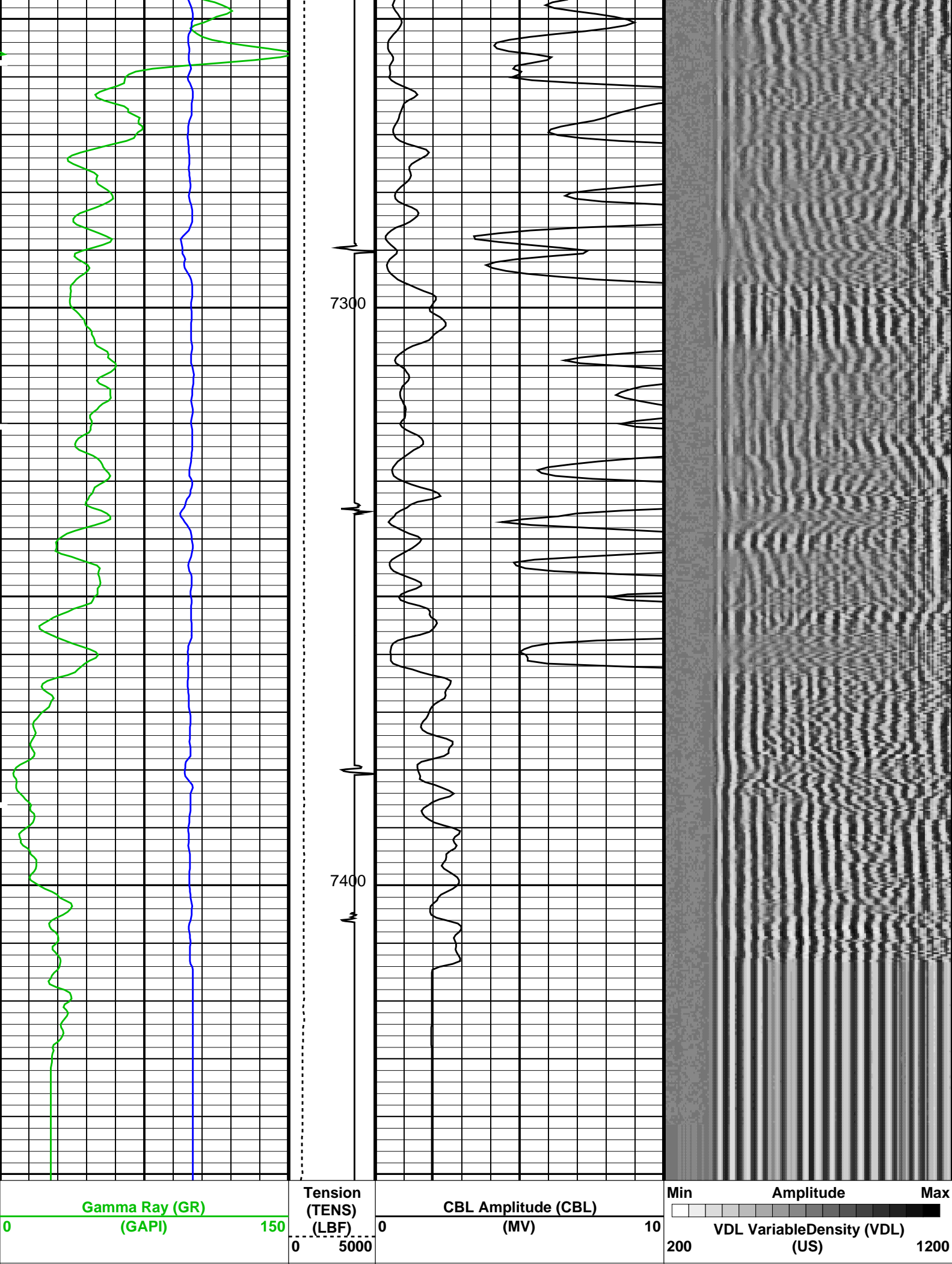
PSPT

19C0-187

PIP SUMMARY

Time Mark Every 60 S





Transit Time (TT)		Discriminat	CBL Amplitude (CBL)	
400	(US)	200	0	100
		3 (V) -1		

PIP SUMMARY				
Time Mark Every 60 S				
Format: CBL_VDL		Vertical Scale: 5" per 100'		Graphics File Created: 16-Jul-2015 16:47

OP System Version: 19C0-187				
SCMT-CB	SRPC-5095-H2-2011-OP19	PSPT	19C0-187	

<<<SCMT Cement Evaluation Information Summary>>>			
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Casing Weight	17.0 LB/F		
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			2.63842 MV (80% Cement)
		MAP Minimum Sonic Amplitude	7.35072 MV (100% Cement)
			12.3898 MV (80% Cement)
Master Calibration (Normalization)		Before Calibration (Adjustment)	
Date of Master Calibration	21-JUN-2013		
CBL Correction Factor	0.0743795	CBL Adjustment Factor (CBAF)	1.0
MAP 1 Correction Factor	0.105721	MAP Adjustment Factor (MPAF)	1.0
MAP 2 Correction Factor	0.132315		
MAP 3 Correction Factor	0.146735		
MAP 4 Correction Factor	0.109791		
MAP 5 Correction Factor	0.114089		
MAP 6 Correction Factor	0.110732		
MAP 7 Correction Factor	0.116601		
MAP 8 Correction Factor	0.0804110		

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CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	238.059	US	
CB3T	SCMT CBL 3 ft Fixed Threshold Level	20	MV	
CB5D	SCMT CBL 5 ft Peak Detection Mode	PEAK		
CB5G	SCMT CBL 5 ft Peak Detection T0_Delay and Noise Gate	352.059	US	
CB5T	SCMT CBL 5 ft Fixed Threshold Level	20	MV	
CBLG	CBL Gate Width	50	US	
CBRA	CBL LQC Reference Amplitude in Free Pipe	71	MV	
CMCF	CBL Cement Type Compensation Factor	1		
CMTC	SCMT Slow Channel Multiplexer Mode	SCAN		
CMTM	SCMT Operating Mode	LOG		
CSCS	SCMT Slow Channel Index	VCC		
CTHI	Casing Thickness	0.306128	IN	
DTF	Delta-T Fluid	189	US/F	
FATT	Acoustic Attenuation due to Fluid	0	DB/F	
FCF	CBL Fluid Compensation Factor	0.924277		
GOBO	Good Bond	2.63842	MV	
MAPD	SCMT MAP Peak Detection Mode	PEAK		
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	181.059	US	
MAPT	SCMT MAP Fixed Threshold Level	30	MV	
MATT	Maximum Attenuation	13.848	DB/F	
MCCF	MAP Cement Type Compensation Factor	1		
MCI	Minimum Cemented Interval for Isolation	4.75	FT	
MMSA	MAP Minimum Sonic Amplitude	7.35072	MV	
MSA	Minimum Sonic Amplitude	1.15842	MV	
PEDE	Peak Detection On/Off Switch in Playback	OFF		
VPLG	VPL Manual Gain	5		

VDEG	VDE Manual Gain	5	
ZCMT	Acoustic Impedance of Cement	6.8	MRAY
	System and Miscellaneous		
CSIZ	Current Casing Size	5.500	IN
CWEI	Casing Weight	17.00	LB/F
DO	Depth Offset for Playback	5.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	7427	FT
Input DLIS Files			
	SCMT_PSP_042LUP	FN:41	16-Jul-2015 14:04 7446.0 FT 7168.0 FT
Output DLIS Files			
DEFAULT	SCMT_PSP_050PUP	FN:48 PRODUCER	16-Jul-2015 16:47

Schlumberger

PBMS COEFFICIENTS

MAXIS Field Log

Client: ANADARKO  
Field: WATTENBERG  
Well: CHEESE STATE 26C-21HZ  
Run date: 16-Jul-2015

Tool: PSP  
Sub Type: PBMS  
Sensor: Clock Model

PBMS Digitalization Clock

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

1863

261007

16

3AB0

Clock Coeff

	Temp**0	Temp**1	Temp**2
Temp**0	-.151788334201E+03	-.102873785445E+01	-.167225792957E+00
	Temp**3	Temp**4	Temp**5
Temp**0	+.136689035753E-02	+.538068013029E-06	0.0

PBMS Sapphire 10kPsi Gauge

Sonde Serial NB  
Sensor Serial NB  
Calib Date ddmmyy  
Matrix Size  
Coeff CRC

COEFFICIENTS FOR SAPPHIRE PBMS-A.1863 S/N:  
1863  
261007  
66  
F756

Pres Coeff

	Tt**0	Tt**1	Tt**2
Tp**0	-.359590231743E+05	+.299188234803E+05	-.107446687531E+05
Tp**1	+.237648969480E+05	-.186021128720E+05	+.671109848596E+04
Tp**2	-.149422117989E+03	+.596502883584E+02	-.652553761493E+01
Tp**3	+.143644323931E+01	-.305754161348E+00	0.0
Tp**4	0.0	0.0	0.0
Tp**5	0.0	0.0	0.0

	Tt**3	Tt**4	Tt**5
Tp**0	+.180759727775E+04	-.117082497700E+03	0.0
Tp**1	-.113521285304E+04	+.740106734909E+02	0.0
Tp**2	0.0	0.0	0.0
Tp**3	0.0	0.0	0.0
Tp**4	0.0	0.0	0.0
Tp**5	0.0	0.0	0.0

PBMS Sapphire 10kPsi Gauge

Sonde Serial NB  
Sensor Serial NB  
Calib Date ddmmyy  
Matrix Size  
Coeff CRC

:  
1863  
261007  
66  
89EB

Temp Coeff

	Tp**0	Tp**1	Tp**2
Tt**0	+.196657284828E+04	+.100051500932E+02	-.971524337955E+01
Tt**1	-.124071500899E+04	-.116824853877E+00	+.270298401768E+01
Tt**2	+.276001008305E+03	-.113239508435E+01	-.340525434373E-01

Tt**3	-.216436996942E+02	+.118632399044E+00	0.0
Tt**4	0.0	0.0	0.0
Tt**5	0.0	0.0	0.0
	Tp**3	Tp**4	Tp**5
Tt**0	+.255739855736E+01	-.250107203346E+00	0.0
Tt**1	-.674177192949E+00	+.655237399131E-01	0.0
Tt**2	0.0	0.0	0.0
Tt**3	0.0	0.0	0.0
Tt**4	0.0	0.0	0.0
Tt**5	0.0	0.0	0.0

Client:	ANADARKO	Tool:	PSP
Field:	WATTENBERG	Sub Type:	PBMS
Well:	CHEESE STATE 26C-21HZ	Sensor:	GR
Run date:	16-Jul-2015		

PBMS Gamma Ray

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

RESISTORS FOR GR SENSOR N.33499,TOOL PBMS-AA1863. SENSOR S/N:

33499

100402

12

DFA9

GR HV Rt

	Rt**0	Rt**1
Rt**0	+.150000000000e+04	+.241000000000e+04

Client:	ANADARKO	Tool:	PSP
Field:	WATTENBERG	Sub Type:	PBMS

Well:CHEESE STATE 26C-21HZ

Sensor:

WellTemp RTD

Run date: 16-Jul-2015

PBMS RTD Well Thermometer

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

COEFFICIENTS FOR RTD THERMOMETER PBMS-A.1863 S/N:

1863

261007

16

3DE3

WTemp Coeff

Tt\*\*0

Tt\*\*1

Tt\*\*2

Tt\*\*0

- .445369658202E+03

+ .231013910229E+03

- .562860354452E+02

Tt\*\*3

Tt\*\*4

Tt\*\*5

Tt\*\*0

+ .107489365785E+02

- .720697242025E+00

0.0

Company:ANADARKO

Schlumberger

Well:CHEESE STATE 26C-21HZ

Field:WATTENBERG

County:WELD

State:COLORADO

SLIM CEMENT MAPPING LOG

CBL-VDL

GR-CCL