



Company: **ENCANA OIL & GAS (USA) INC.**

Well: **FEDERAL 25-8BB (PH25)**

Field: **PARACHUTE**

County: **GARFIELD** State: **COLORADO**

**CEMENT BOND LOG**  
**CBL- VDL**  
**GAMMA RAY - CCL**

County: **GARFIELD**  
Field: **PARACHUTE**  
Location: **SHL: SENE 1963' FNL 636' FEL**  
Well: **FEDERAL 25-8BB (PH25)**  
Company: **ENCANA OIL & GAS (USA) INC.**

LOCATION			
SHL: SENE 1963' FNL 636' FEL BHL: SENE 2470' FNL 660 FEL		Elev.:    K.B.    6086.00 ft G.L.    6064.00 ft D.F.    6085.00 ft	
Permanent Datum:	GROUND LEVEL	Elev.:    6064.00 ft	
Log Measured From:	KELLY BUSHING	22.00 ft    above Perm. Datum	
Drilling Measured From:	KELLY BUSHING		
API Serial No. 05-045-19124-000C	Section 25	Township 7S	Range 96W

PVT DATA				Run 1	Run 2	Run 3
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 1-Apr-2011

Run Number 2

Depth Driller 6570 ft

Schlumberger Depth 6451 ft

Bottom Log Interval 5143 ft

Top Log Interval 200 ft

Casing Fluid Type WATER

Salinity

Density 8.4 lbm/gal

Fluid Level 200 ft

BIT/CASING/TUBING STRING

Bit Size 8.750 in

From 22 ft

To 6570 ft

Casing/Tubing Size 4.500 in

Weight 11.6 lbm/ft

Grade E-80

From 22 ft

To 6570 ft

Maximum Recorded Temperatures 190 degF

Logger On Bottom 1-Apr-2011 9:52

Unit Number 3017 Location GRAND JUNCTION

Recorded By DAVID PATE

Witnessed By UNATTENDED

## DEPTH SUMMARY LISTING

Date Created: 1-APR-2011 11:00:29

## Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-C	Type:	1-25ZT
Serial Number:	57835784	Serial Number:	1155	Serial Number:	3017
Calibration Date:	09-NOV-2011	Calibration Date:	27-MAR-201	Length:	24000 FT
Calibrator Serial Number:	33	Calibrator Serial Number:	100518	Conveyance Method: Wireline Rig Type: LAND	
Calibration Cable Type:	1-25ZT	Number of Calibration Points:	10		
Wheel Correction 1:	-3	Calibration RMS:	10		
Wheel Correction 2:	-3	Calibration Peak Error:	19		

## Depth Control Parameters

Log Sequence:	Subsequent Log In the Well
Reference Log Name:	RESERVOIR SATURATION TOOL
Reference Log Run Number:	1
Reference Log Date:	26-JAN-2011

### Depth Control Remarks

1. ALL SCHLUMBERGER DEPTH CONTROL PROCEDURES FOLLOWED
2. IDW USED AS PRIMARY DEPTH CONTROL.
3. Z-CHZRT USED AS SECONDARY DEPTH CONTROL
- 4.
- 5.
- 6.

## 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	OTHER SERVICES2
OS1: NONE	OS1:
OS2:	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
CORRELATED TO RESERVOIR SATURATION TOOL RAN ON 26-JAN-2011 BY SCHLUMBERGER	
TOOL RAN AS PER TOOL SKETCH.	
TD TAGGED AT: 6451 FT	
MAXIMUM RECORDED PRESSURE AT TD: 2734 PSIA	
MAXIMUM RECORDED TEMPERATURE AT TD: 190 DEGF	

SHORT JOINTS: 4550 FT & 5520 FT

PURPOSE OF THIS LOG IS TO DETERMINE TOP OF CEMENT.

CBL VALUE USED AS REFERENCE ONLY DUE TO LOW ACOUSTIC IMPEDENCE OF CEMENT.

AFE: 9130756

THANK YOU FOR CHOOSING SCHLUMBERGER!

YOUR CREW: DAVID P. & WALEED A.

RUN 1			RUN 2		
SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:			BIHS-00094 18C0-147 200 ft		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1

RUN 2

SURFACE EQUIPMENT

WITM-A 234  
PSC\_16MHZ 1921

DOWNHOLE EQUIPMENT

MH-22  
MH-22 3017

30.3

AH-38  
Detail MT  
TelStatus  
CTEM

28.8

PSPT  
PSC-A 1921  
PSPT-A 3779  
PSTC-A 3779  
PBMS-A 3779  
10k\_Sapphire\_Mano 3779  
RTD\_Thermometer 3779  
GR 34552  
CCL 3779  
PBMS 3779

28.5

28.5

GR

24.8

Well\_Temp  
Manometer

21.7  
21.6

CCL


21.0

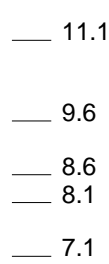
PBMS PSTC

20.2

SCMT-CB  
SCMC-CA 8248  
SECH-CA 8248  
CMIR-AG 2  
SCMS-CB 8303  
SCMX-CA 8251

20.2






0.2

AH-BNS

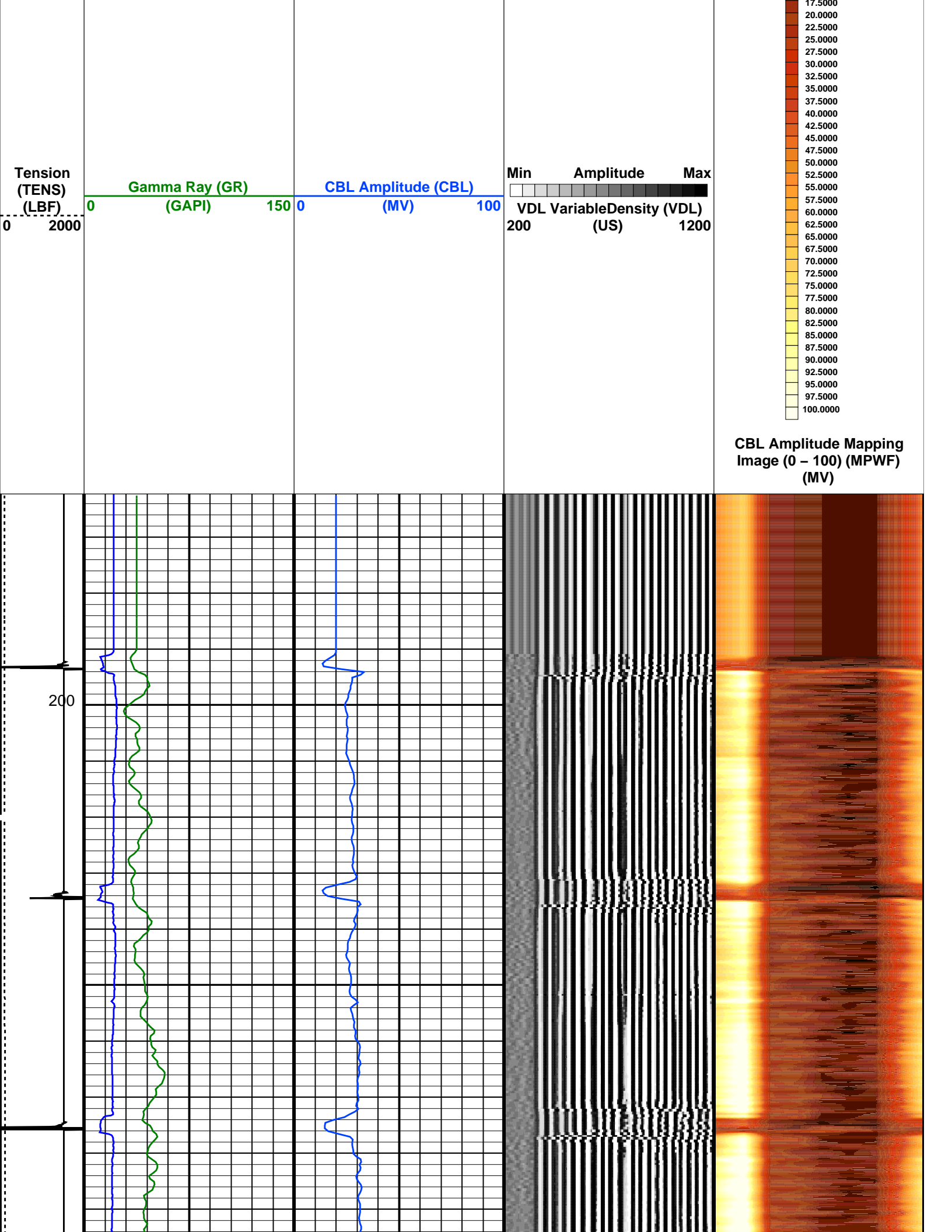


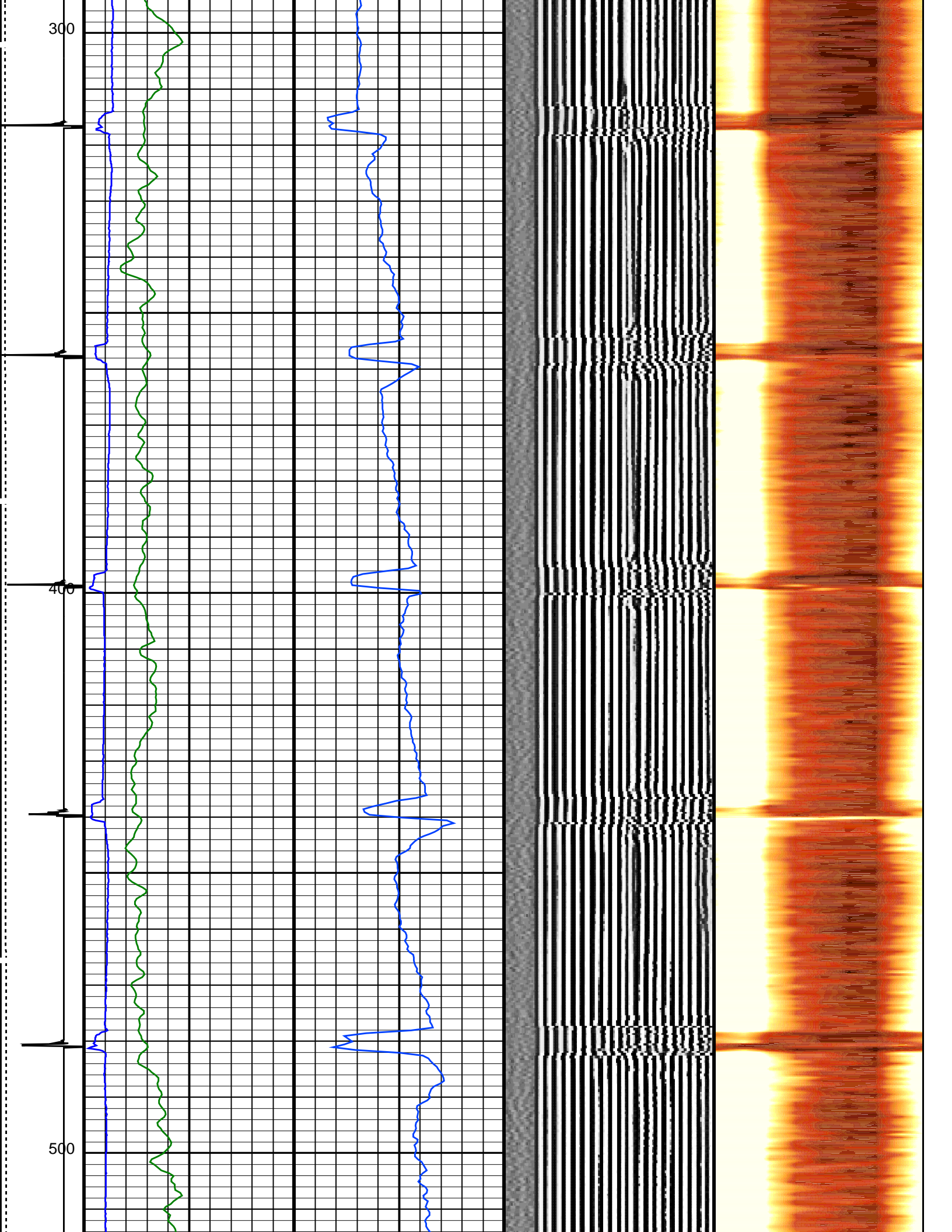
MAXIS Field Log

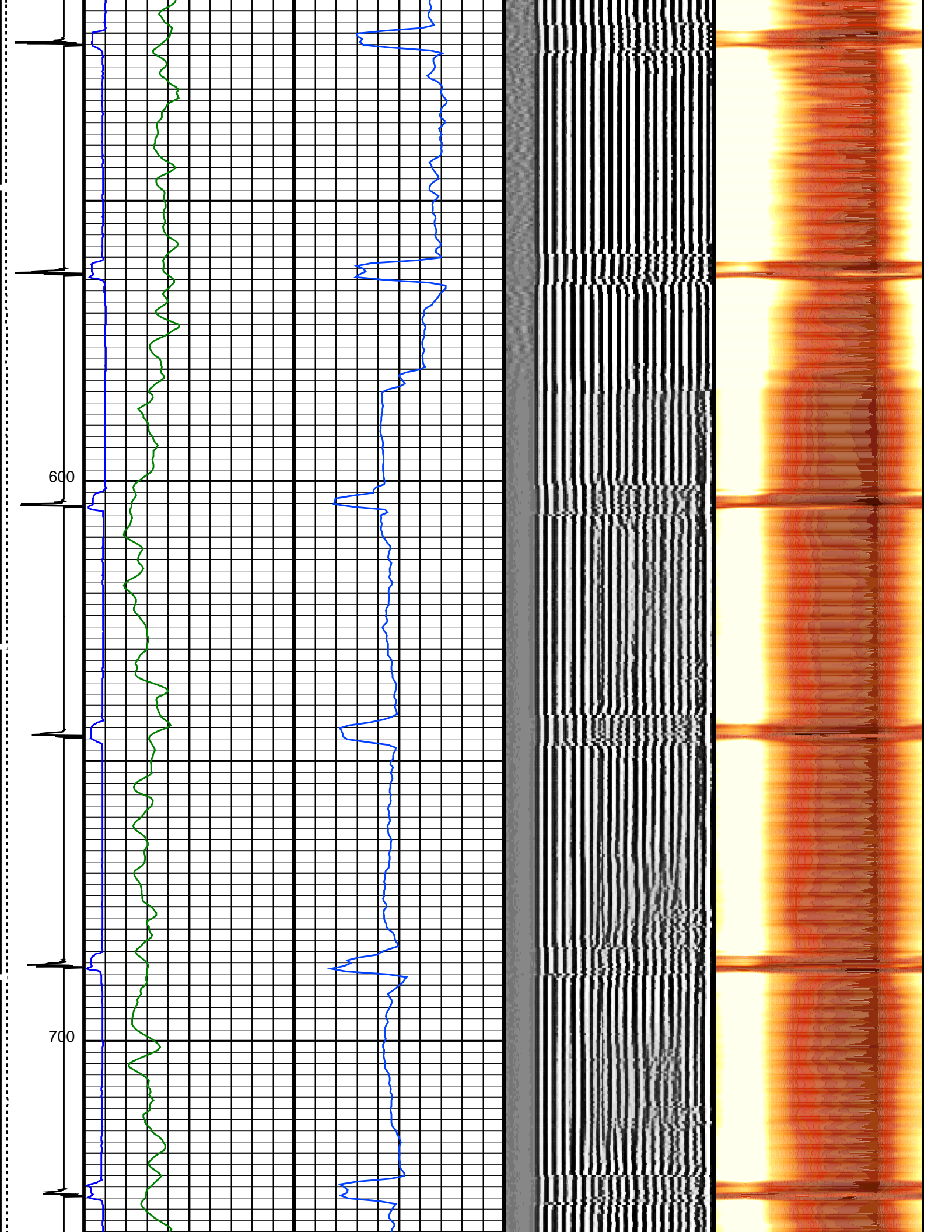
Well: FEDERAL 25-7 (PH25)

Discriminated CCL (CCLD)	Transit Time (TT)		CBL Amplitude (CBL)	
	260 (US)	160	0 (MV)	10
3 (V) -1				
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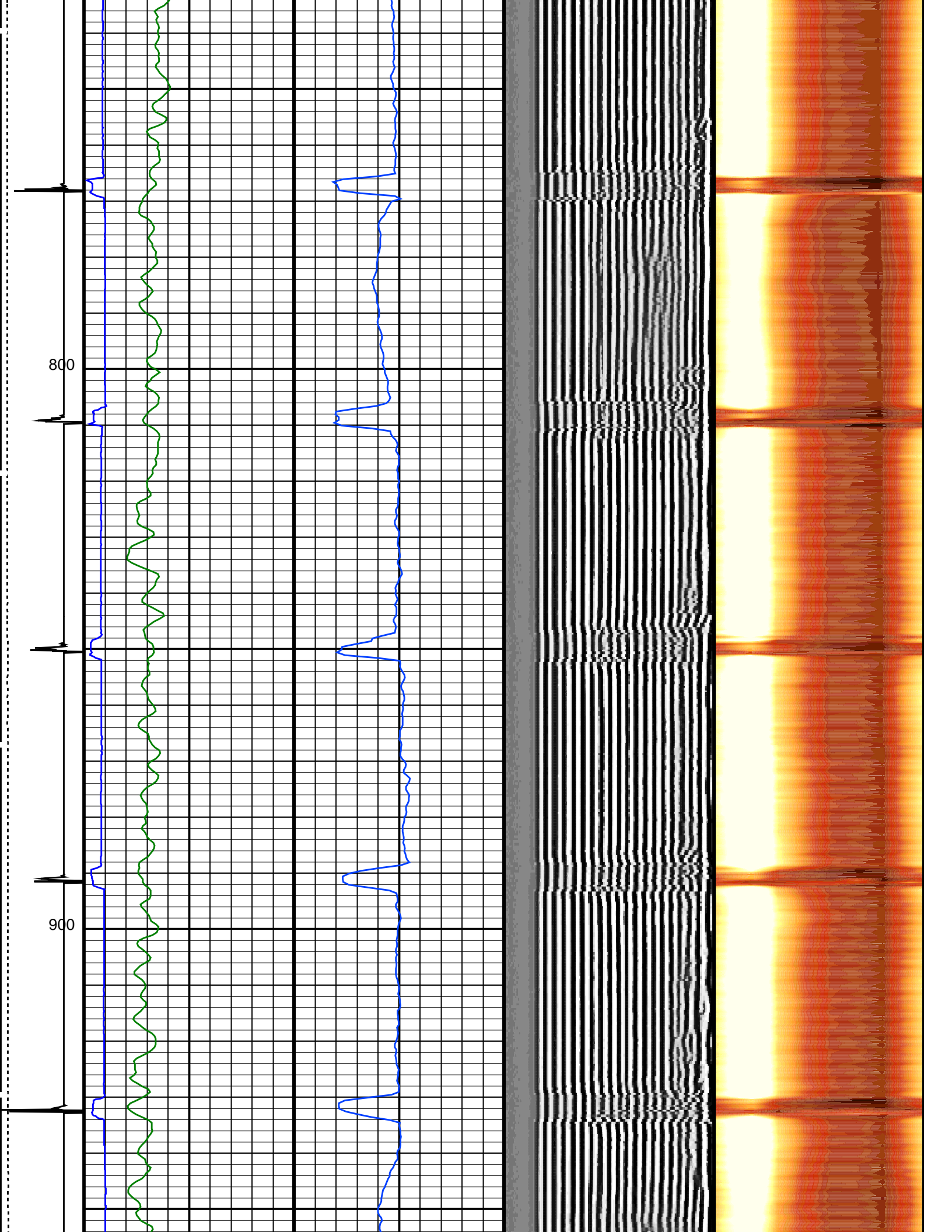


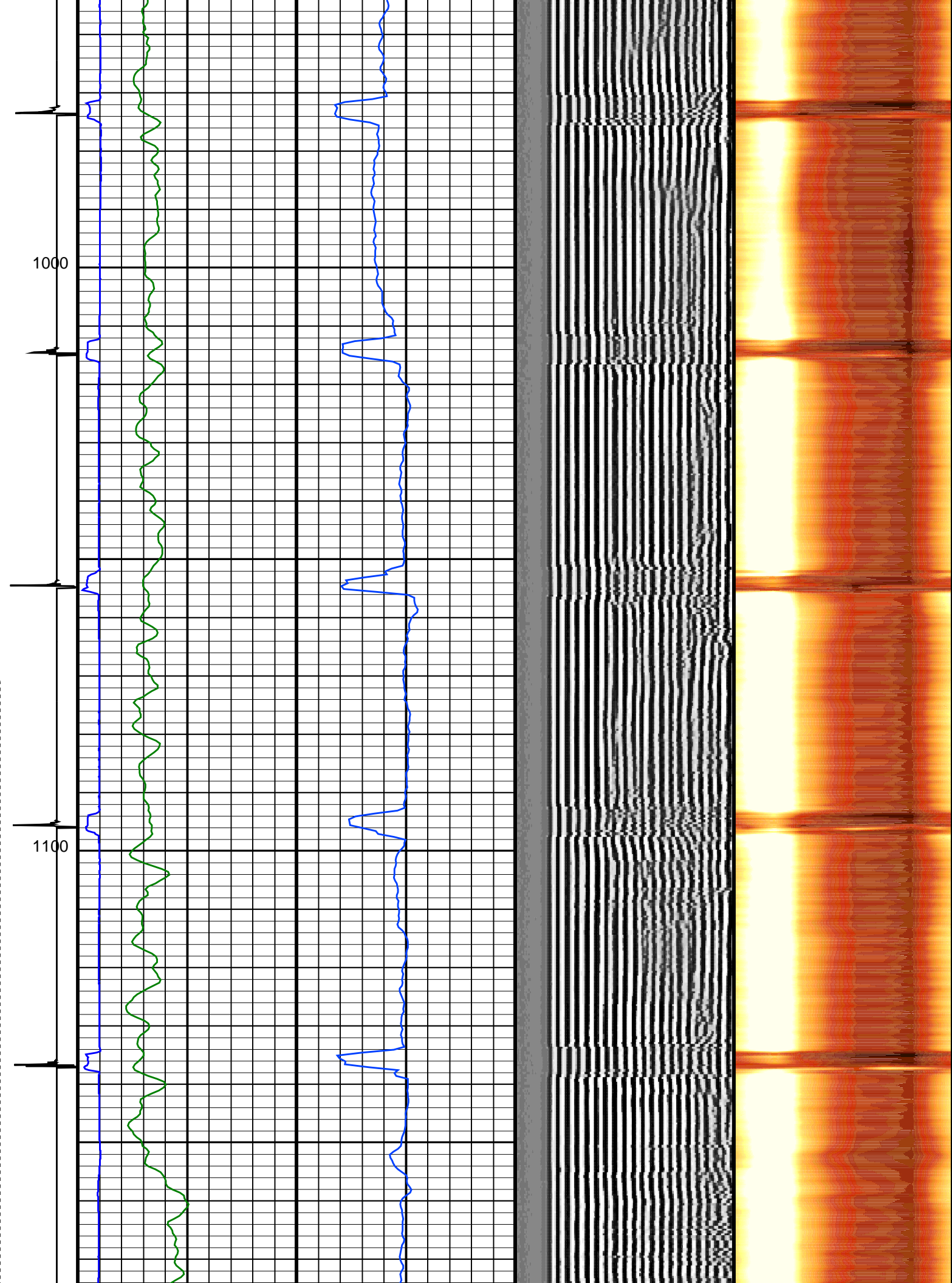




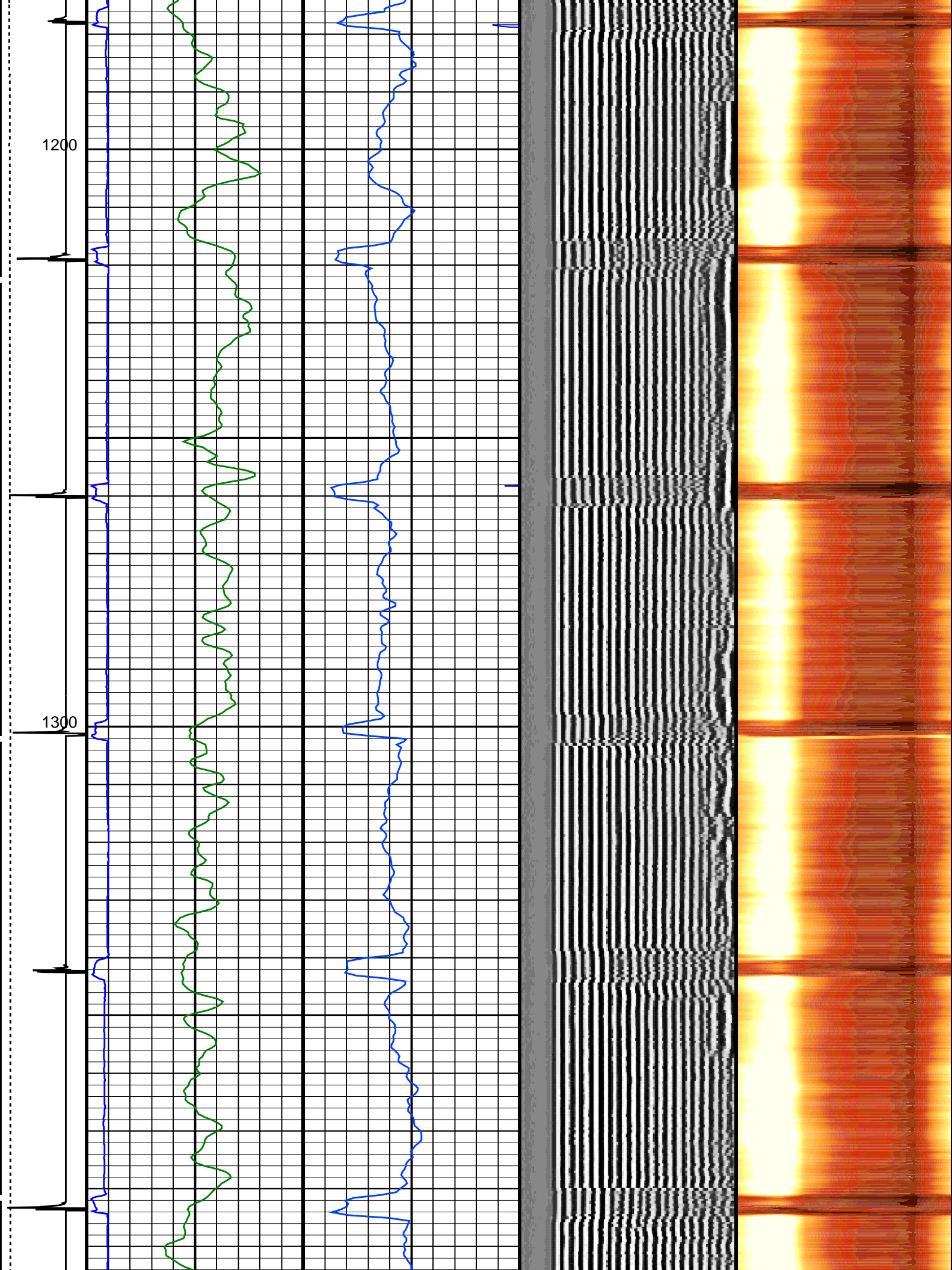


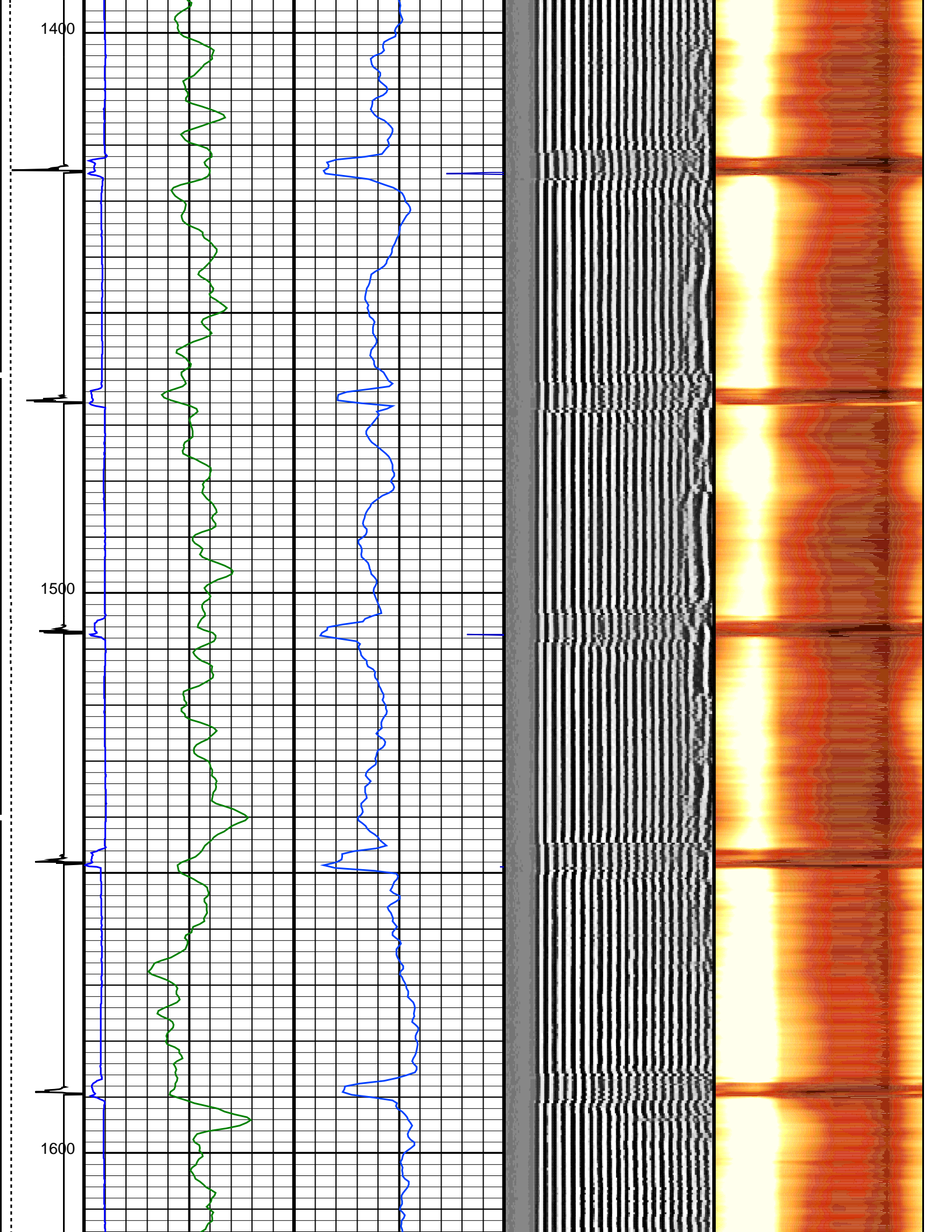




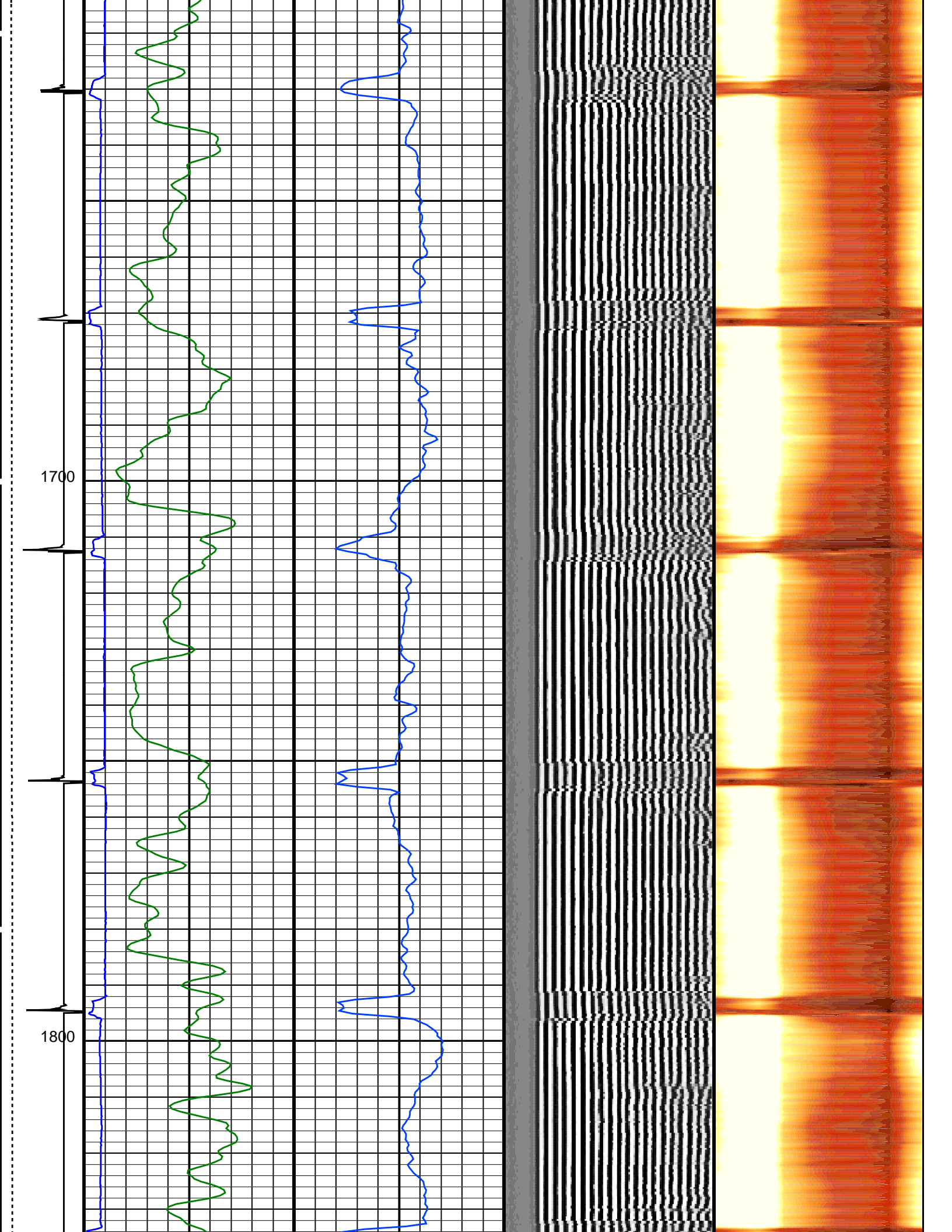




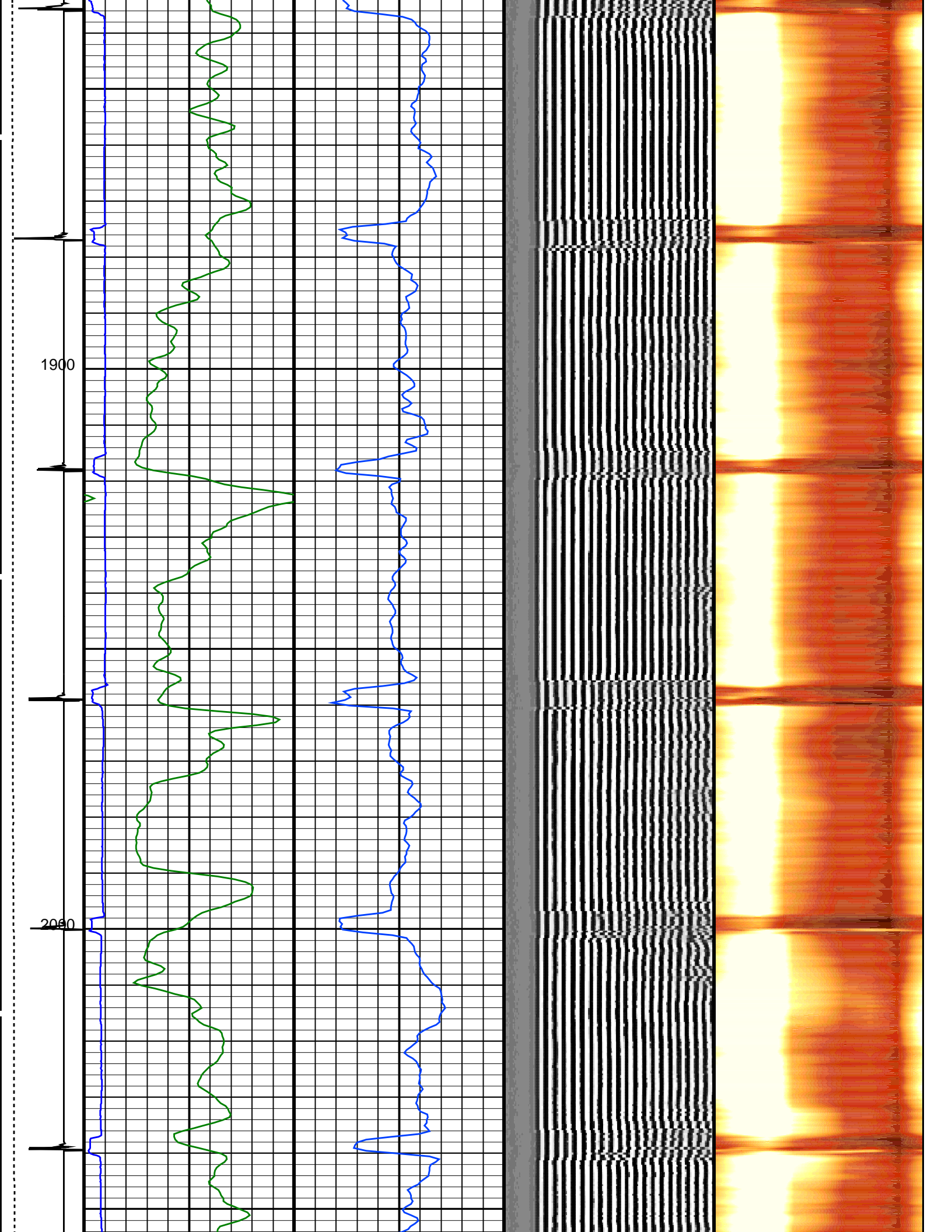


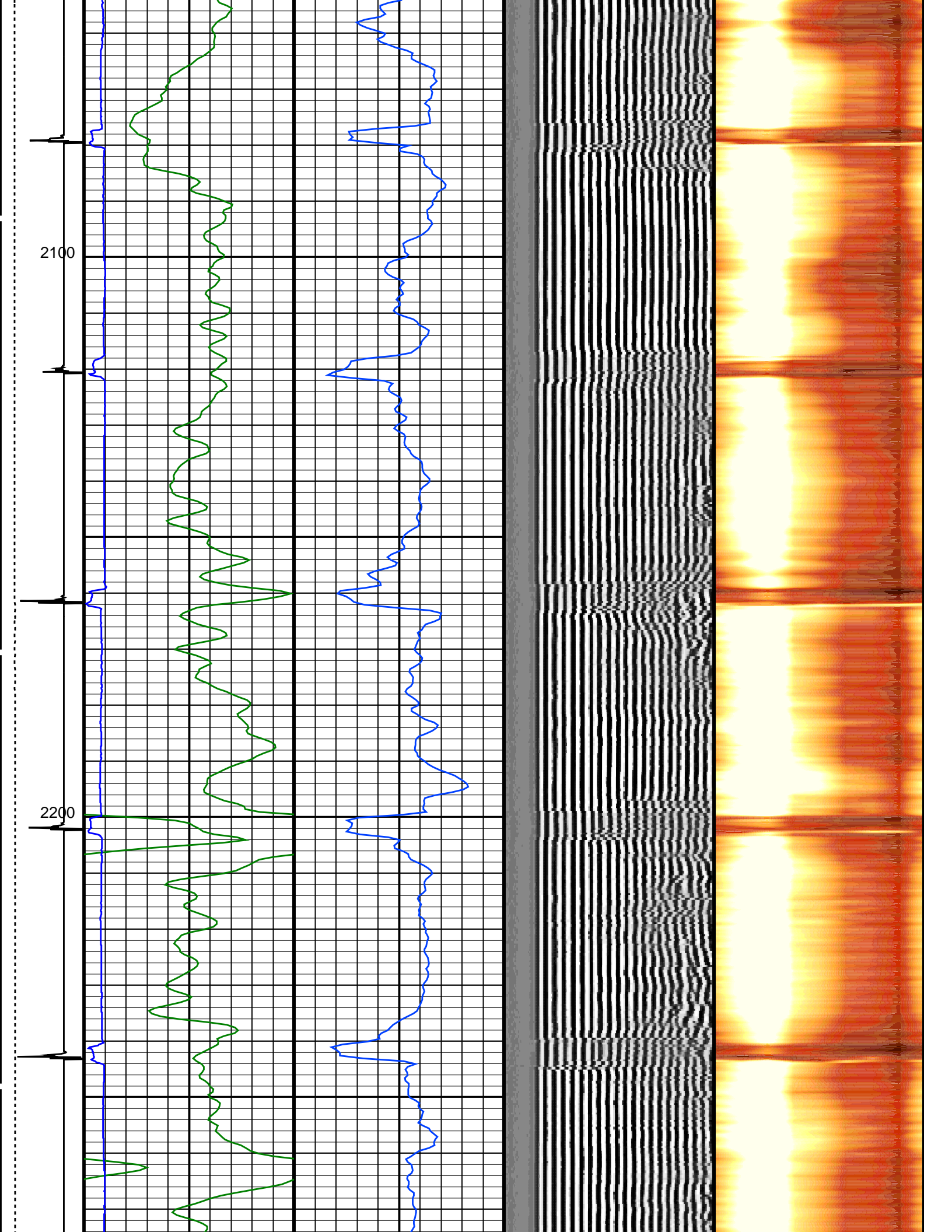




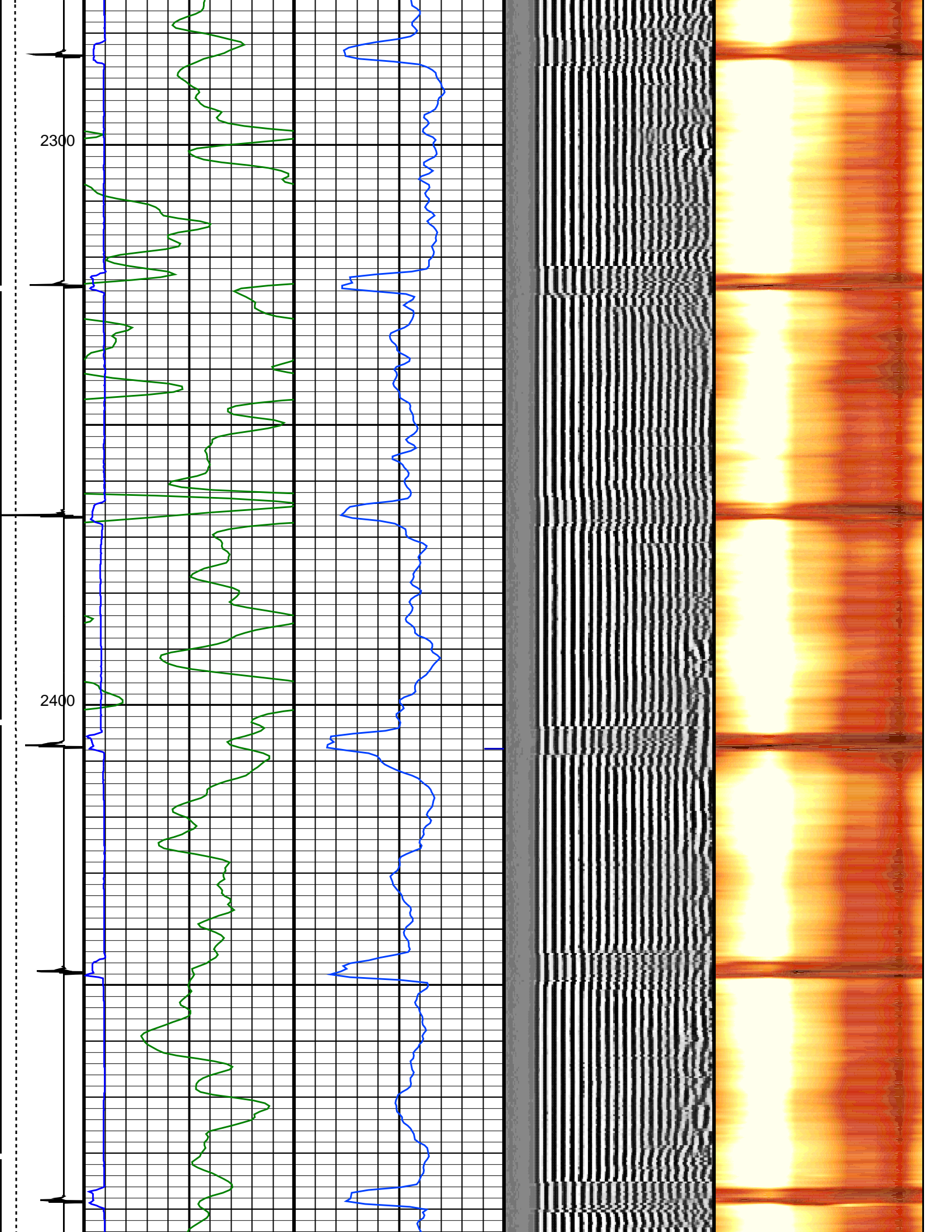


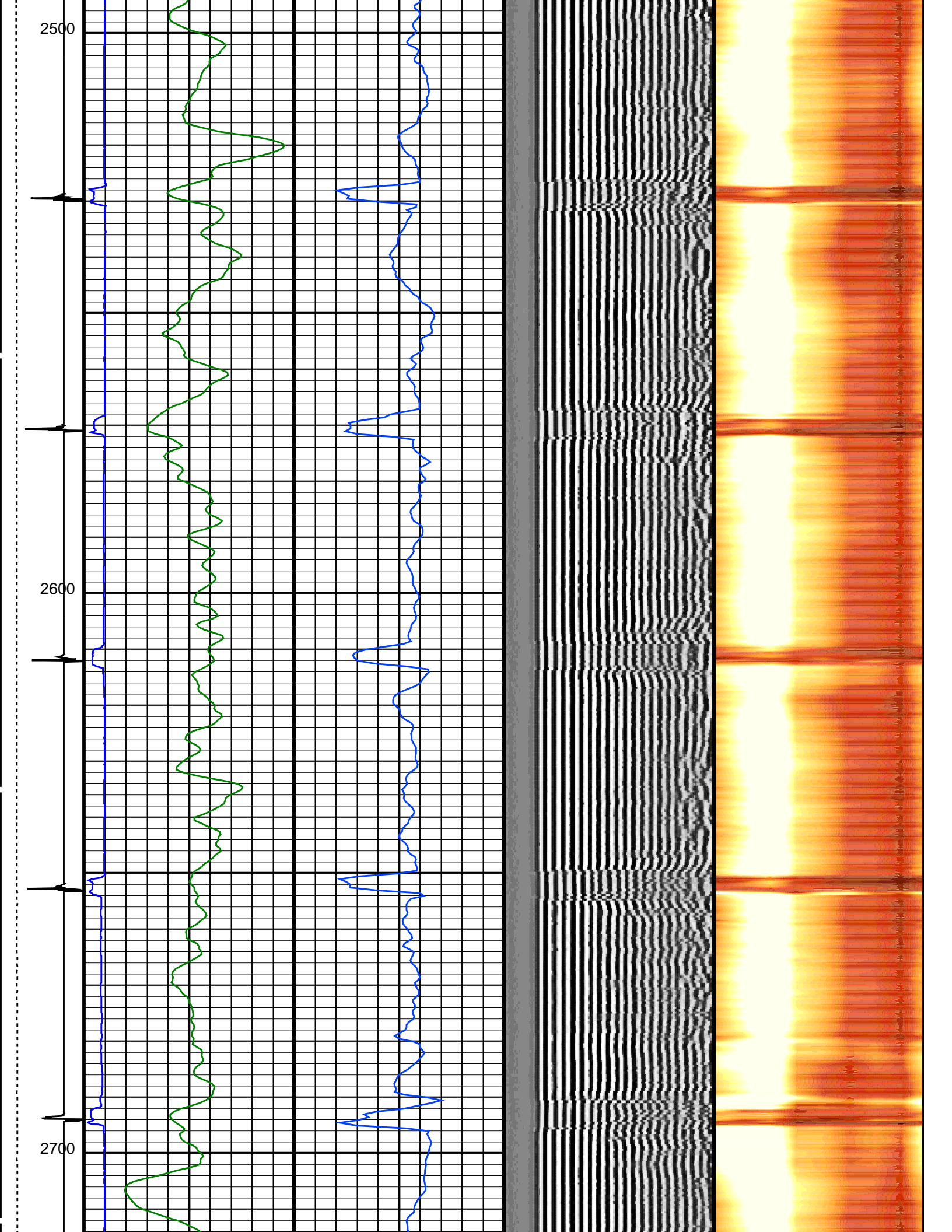




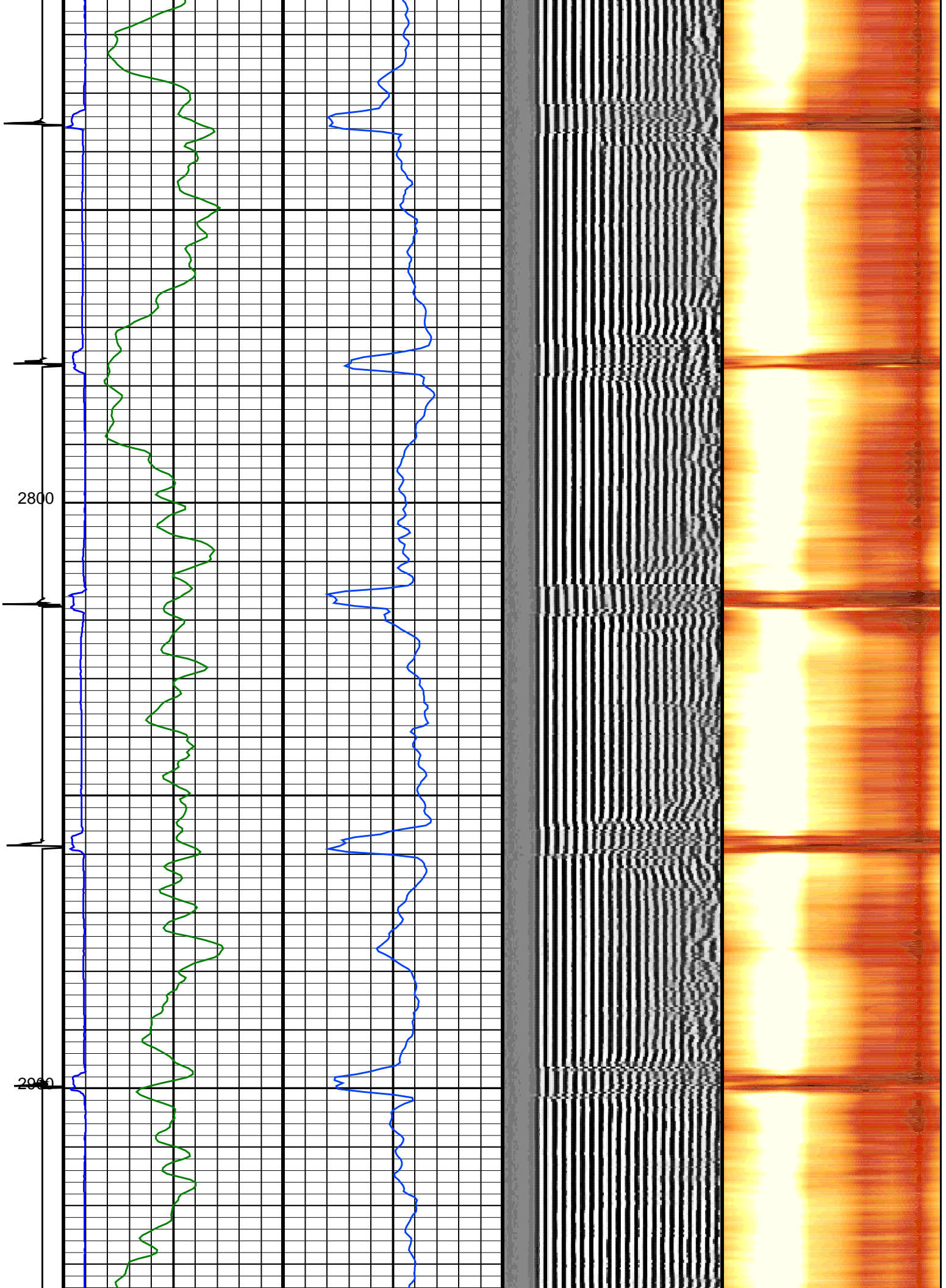


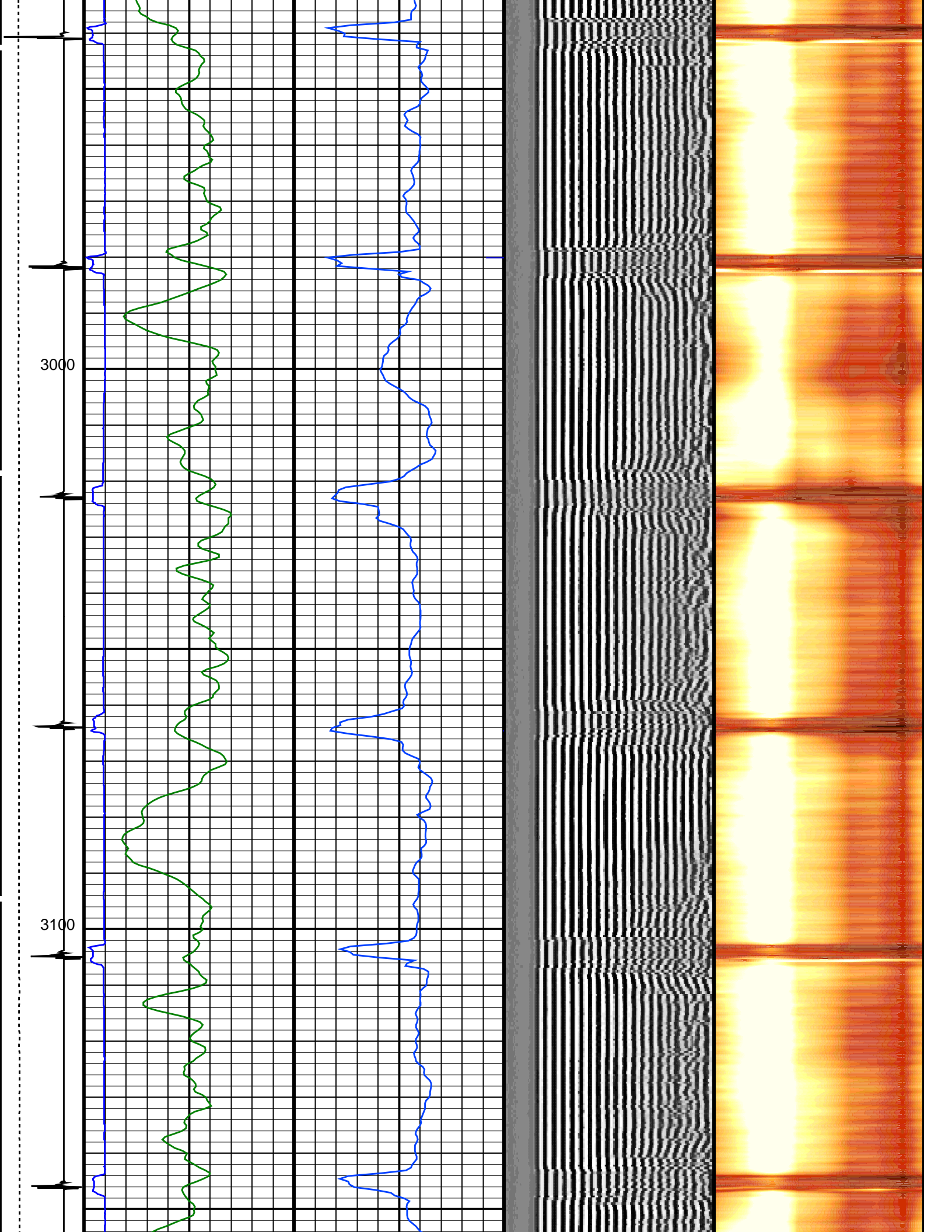




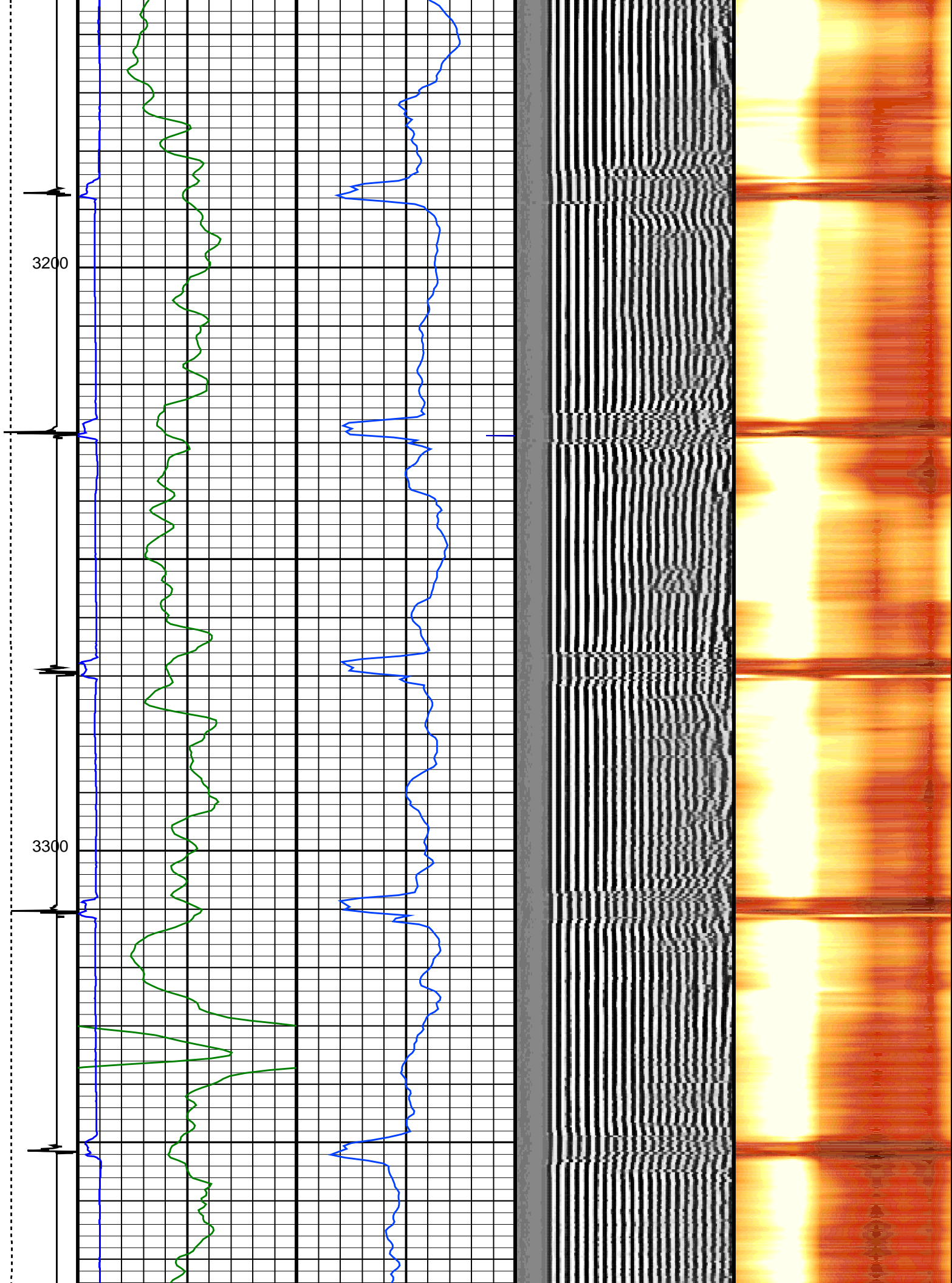


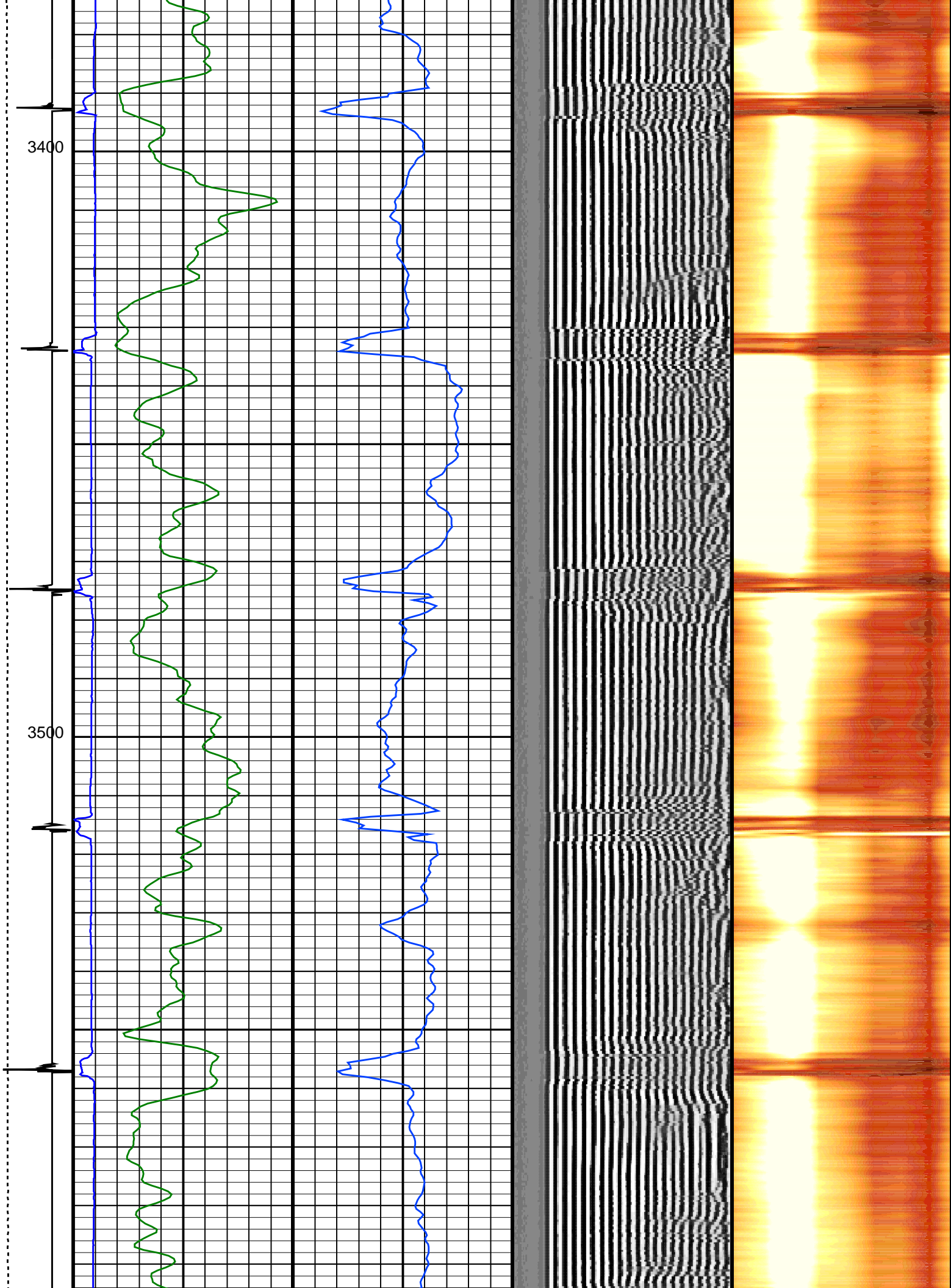




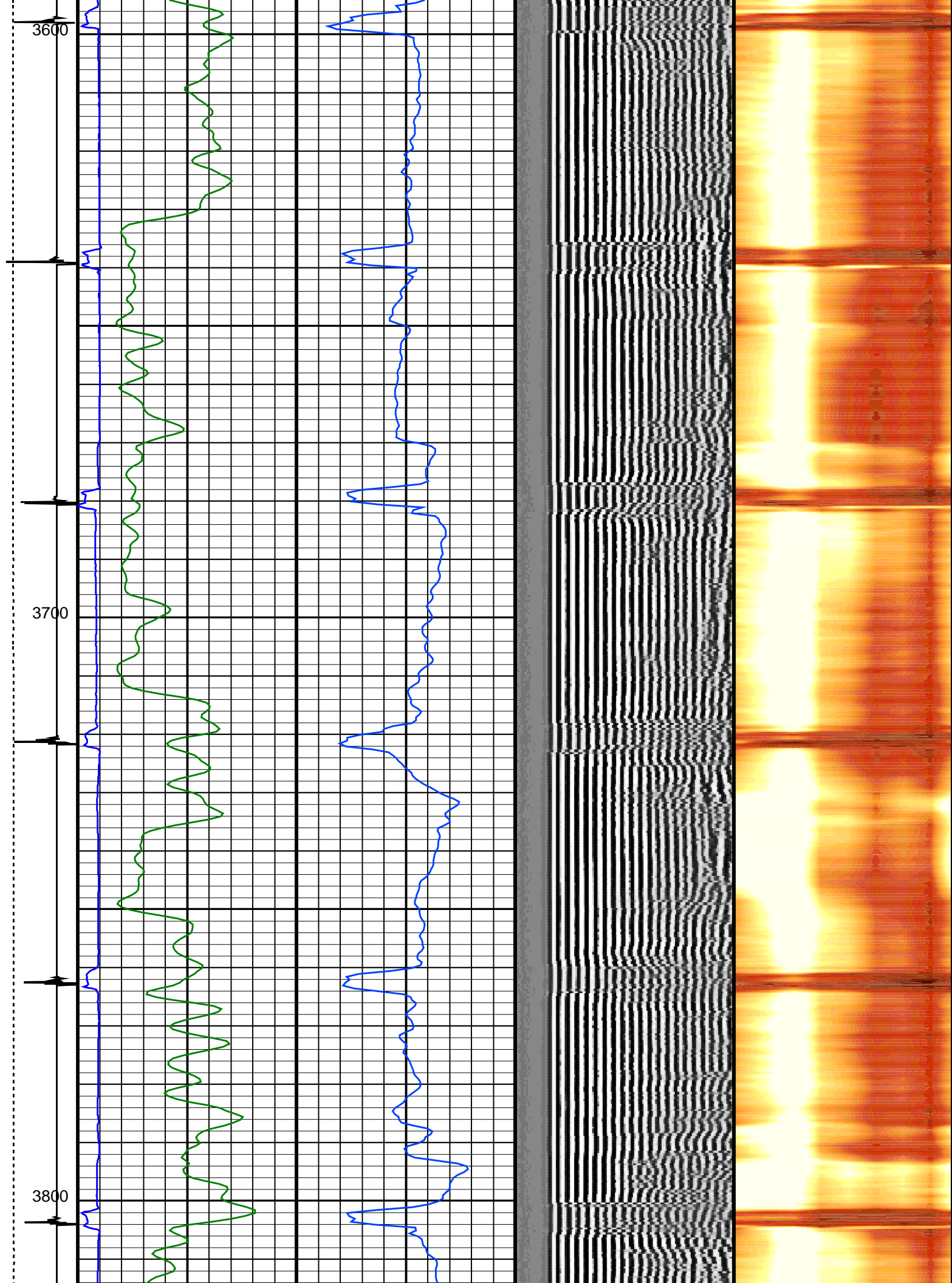


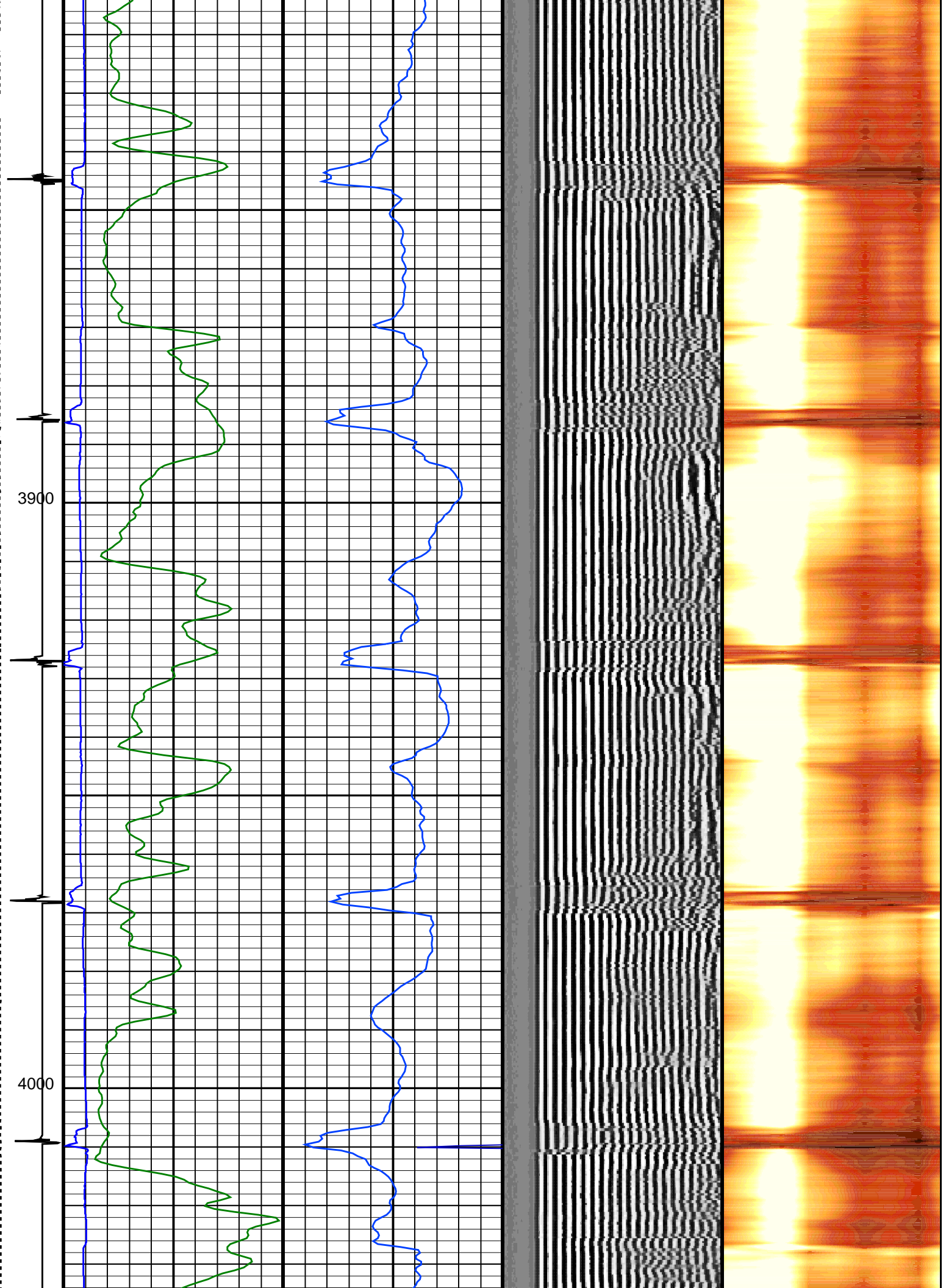




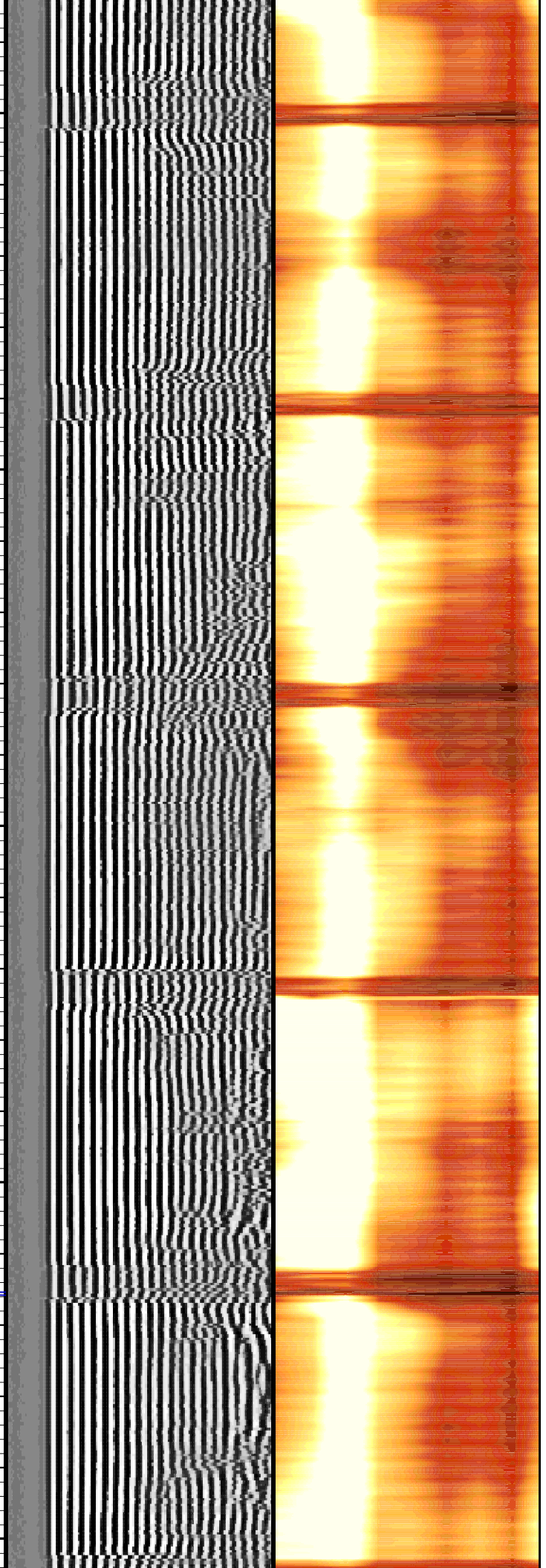
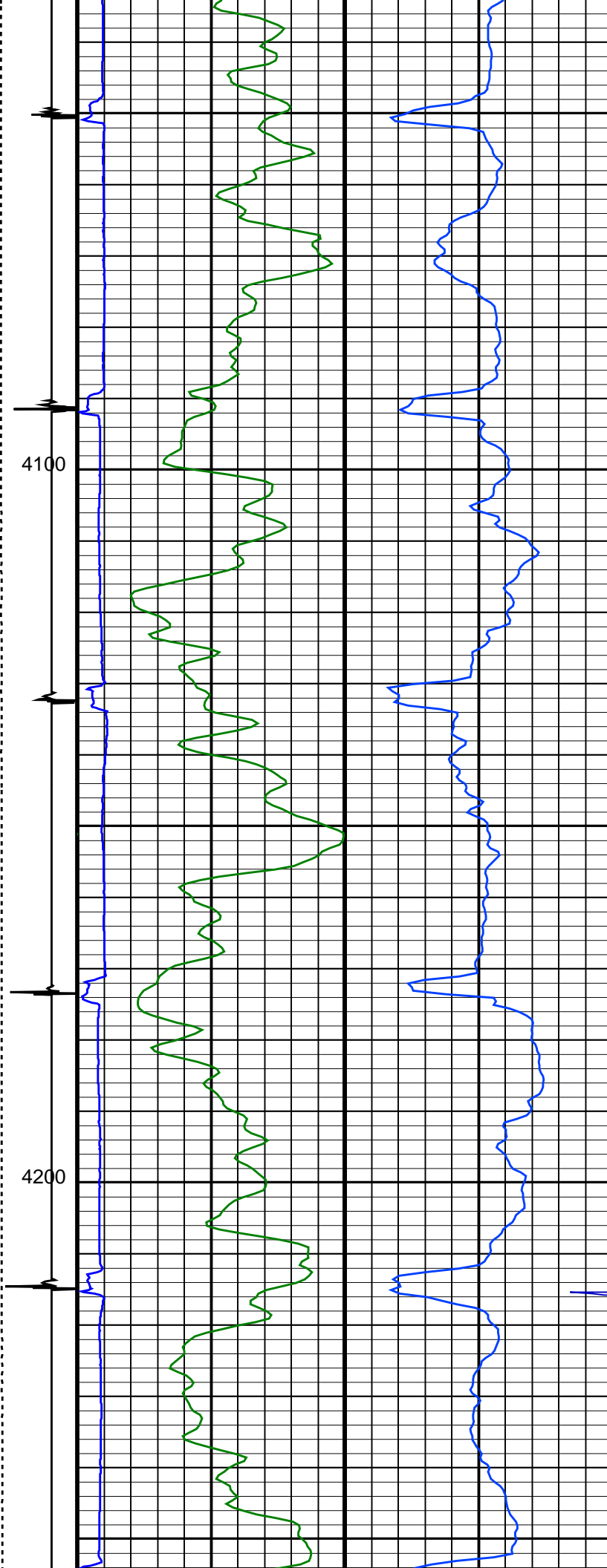


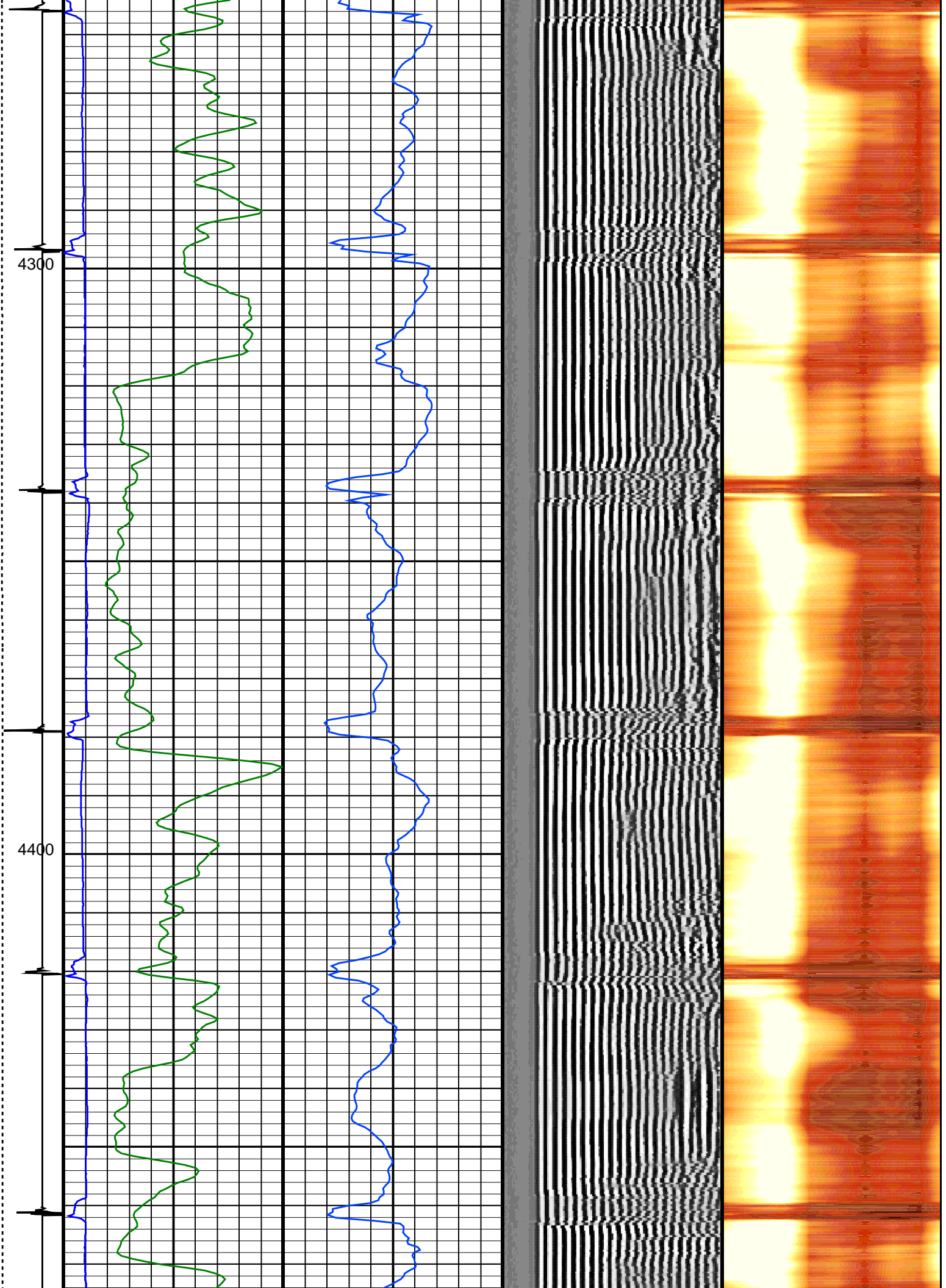




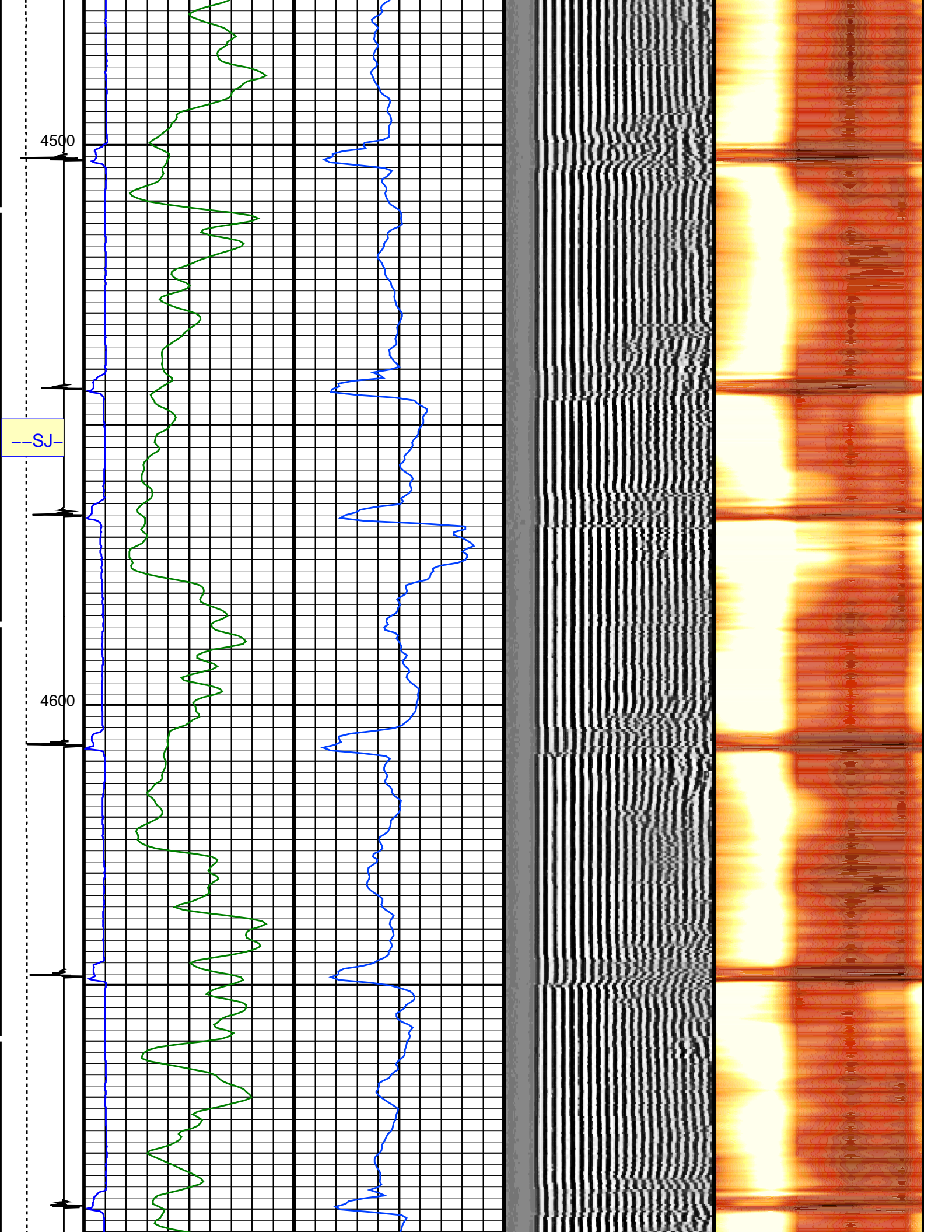


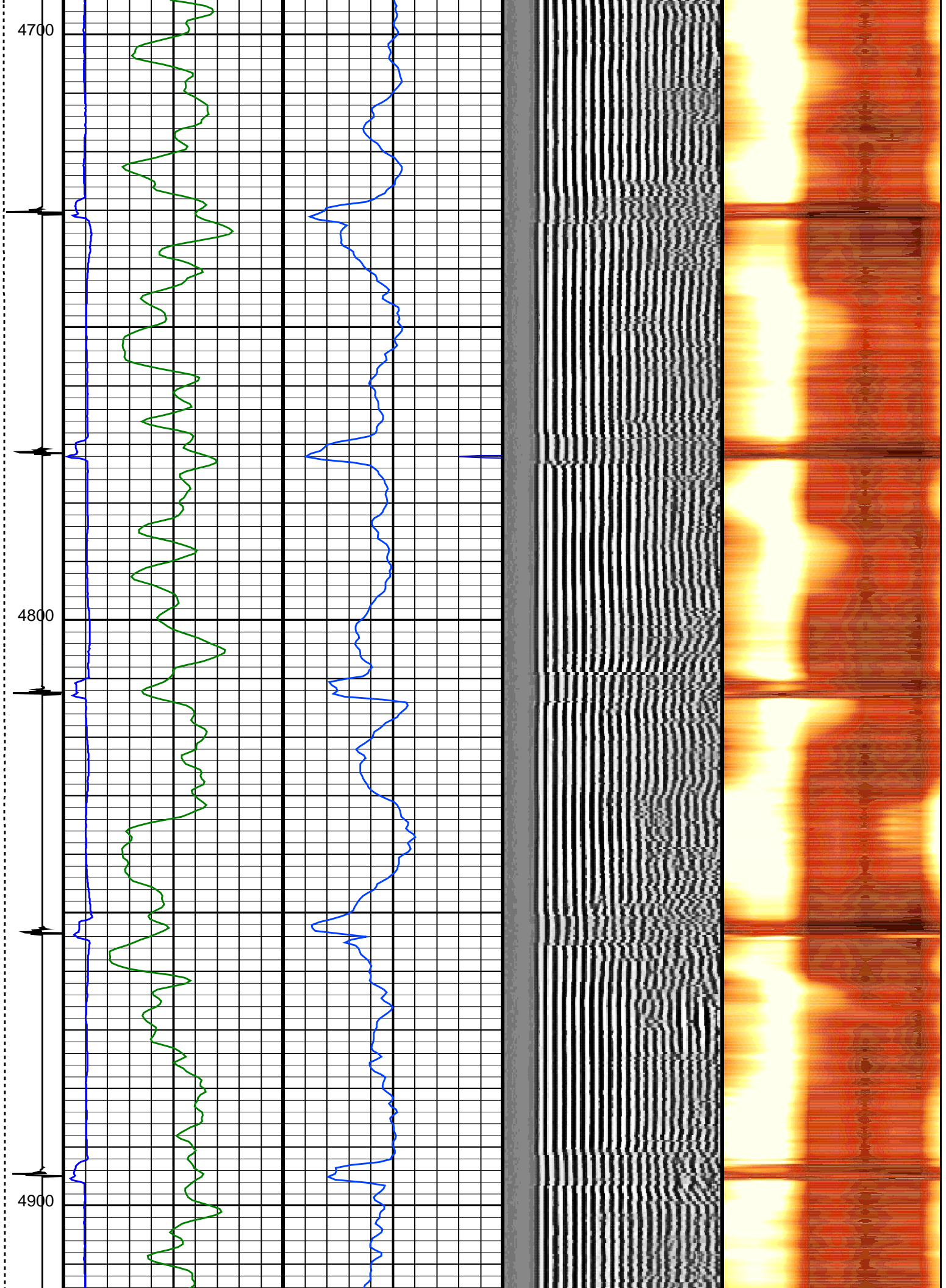




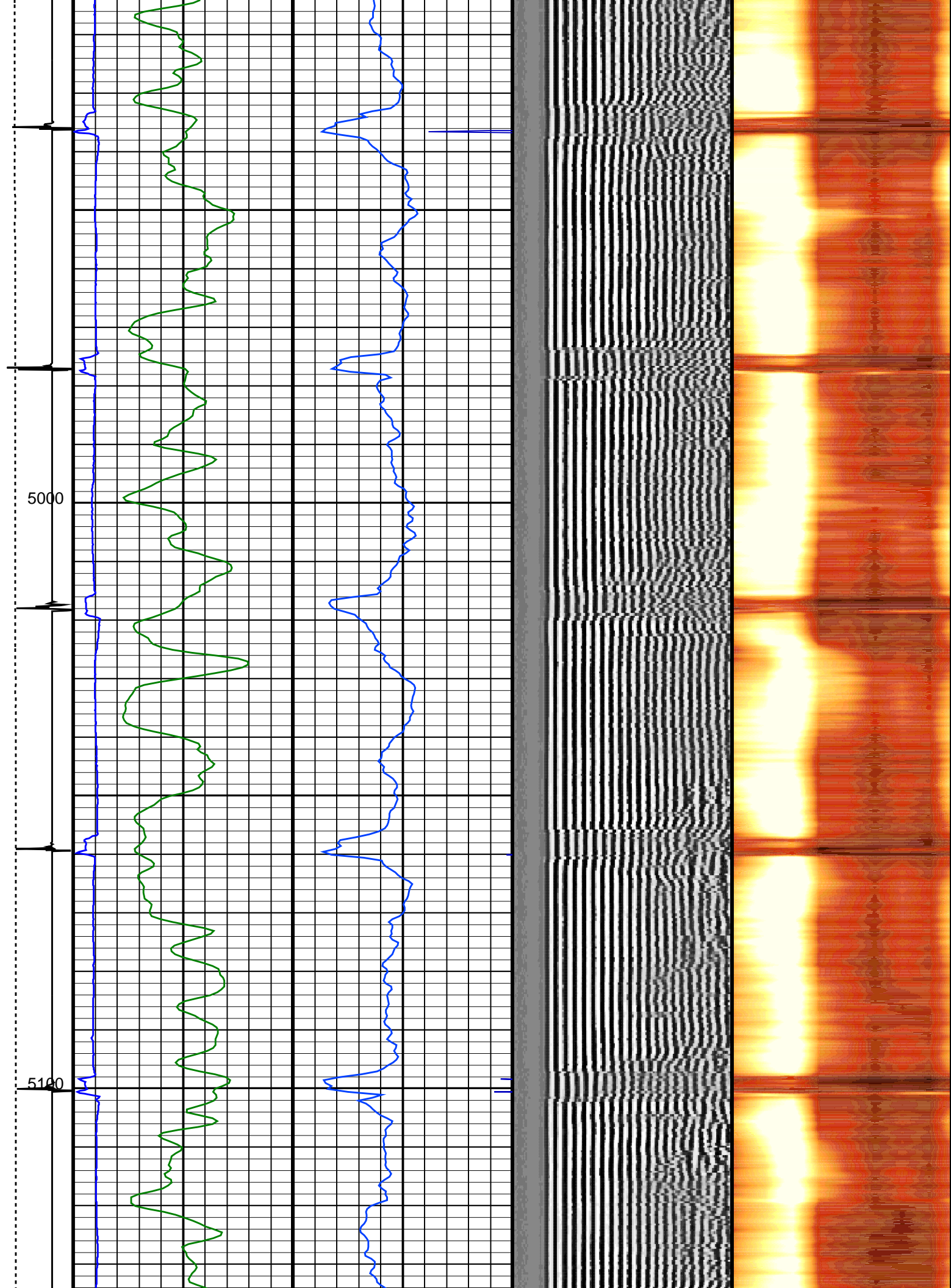


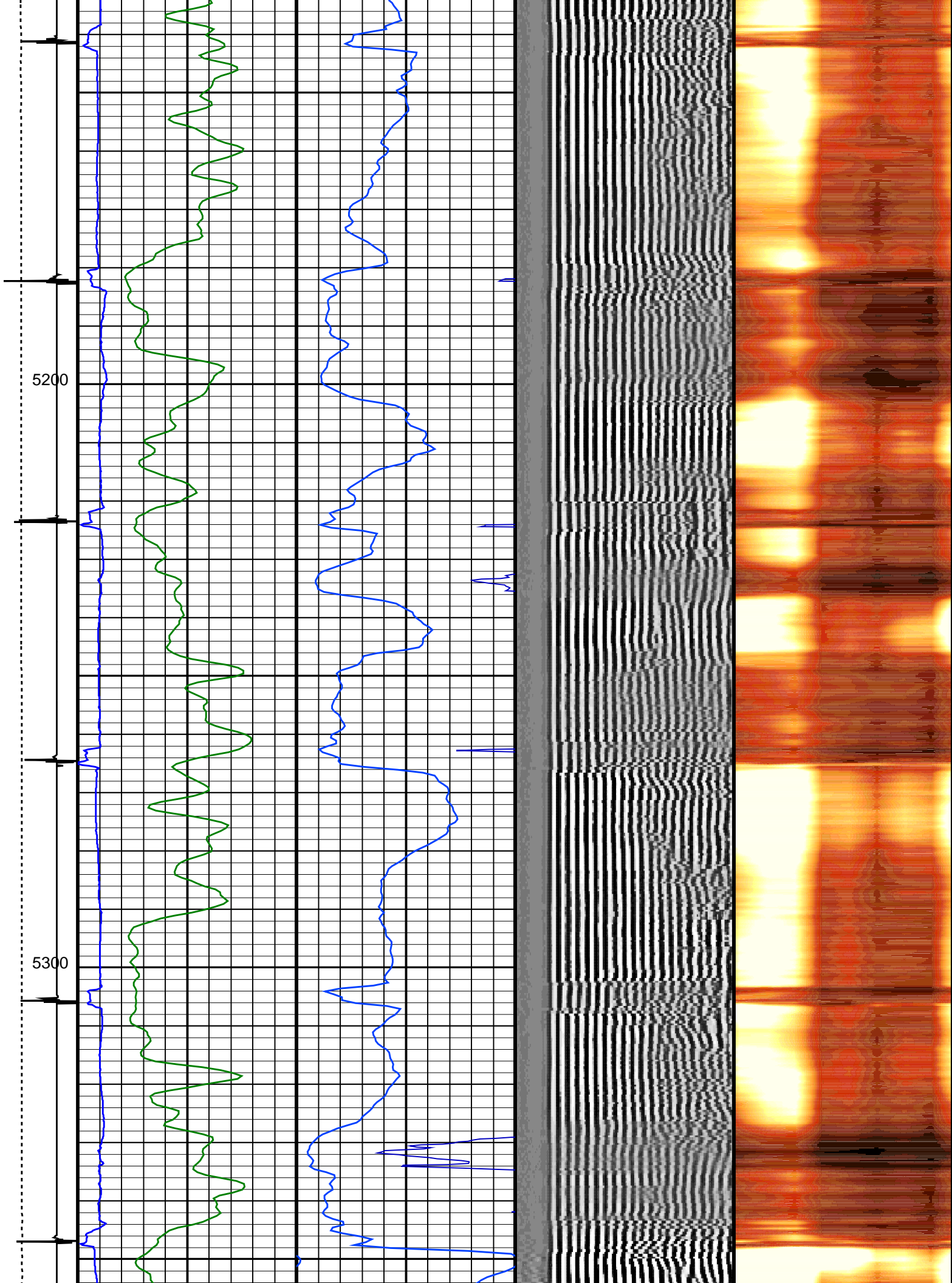




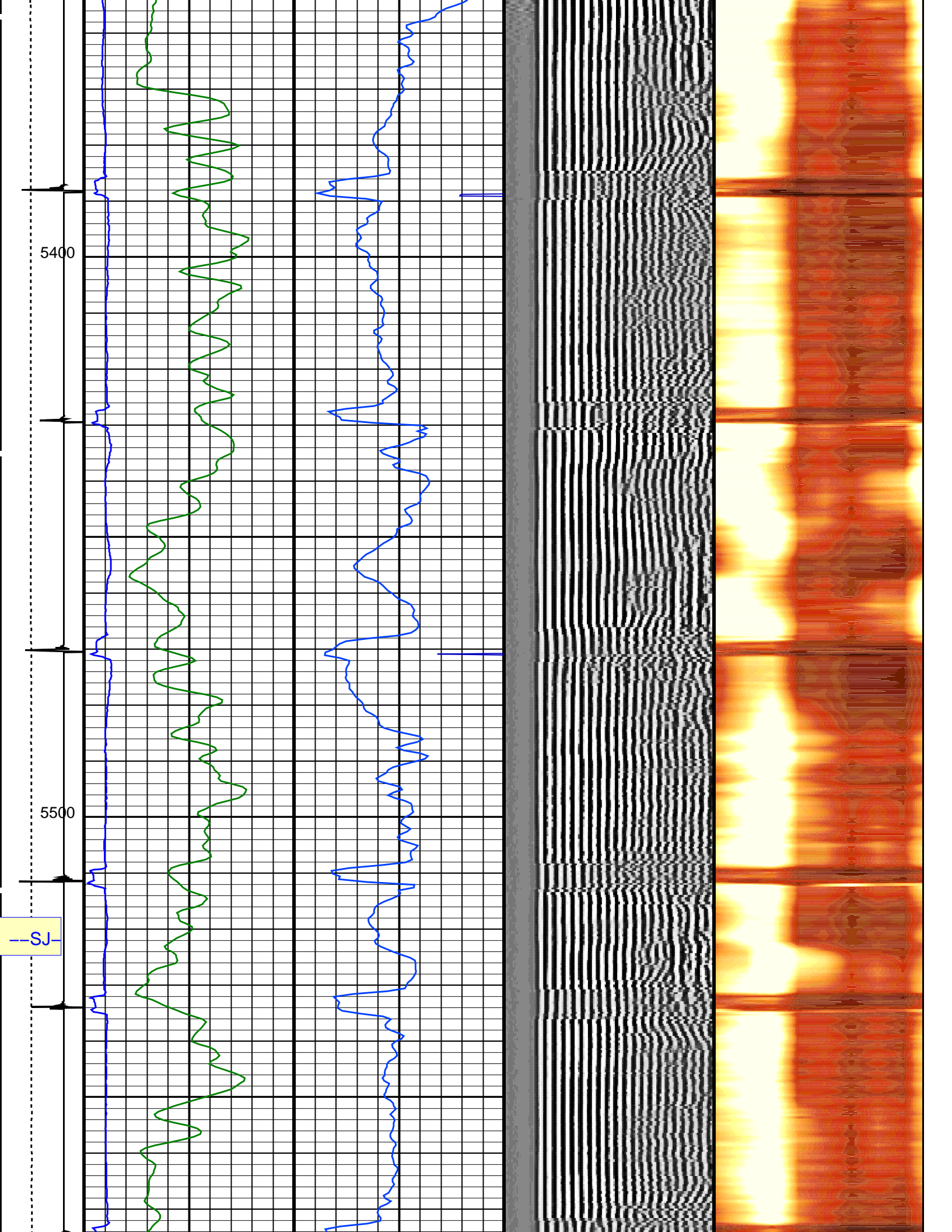


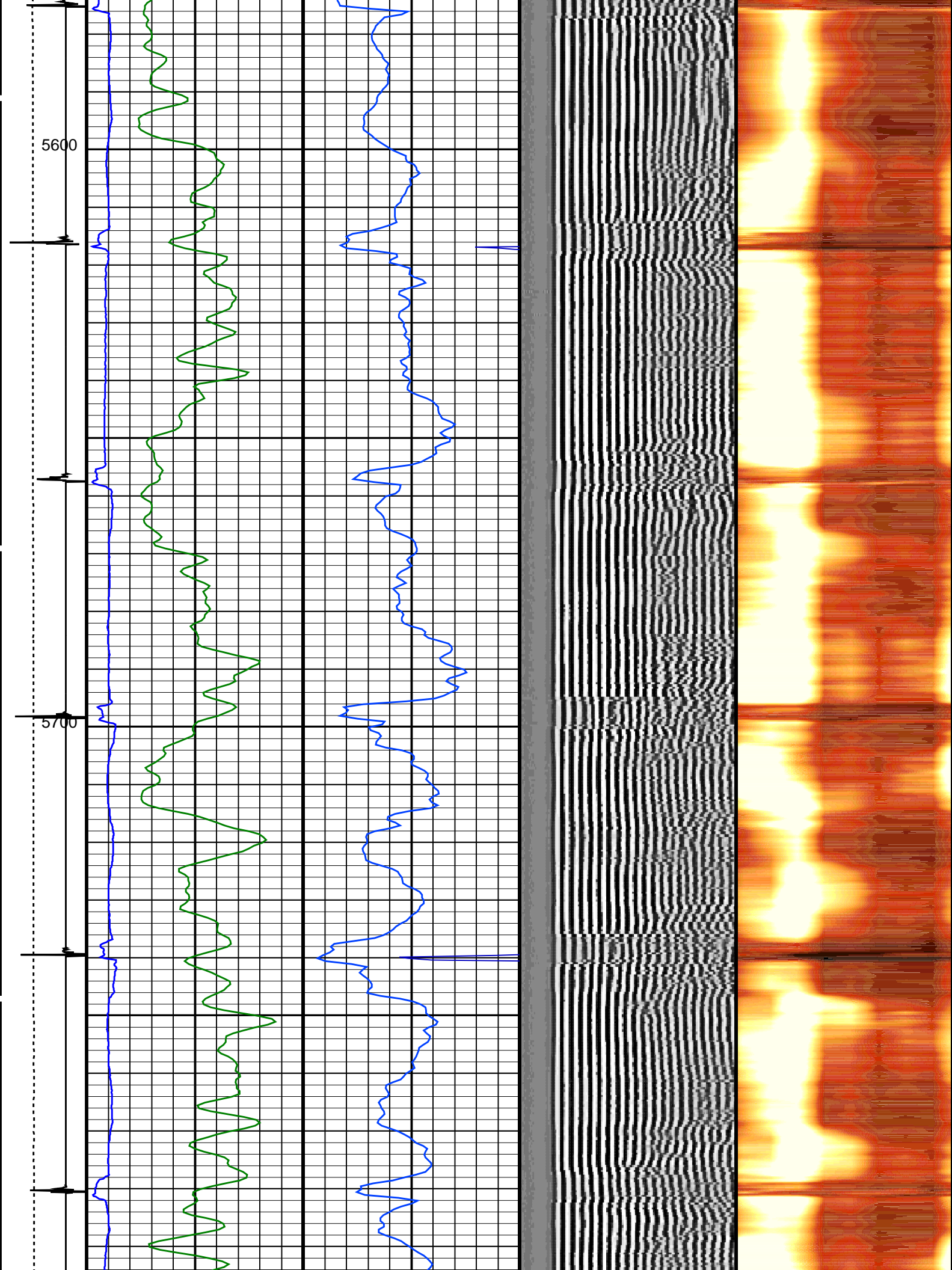




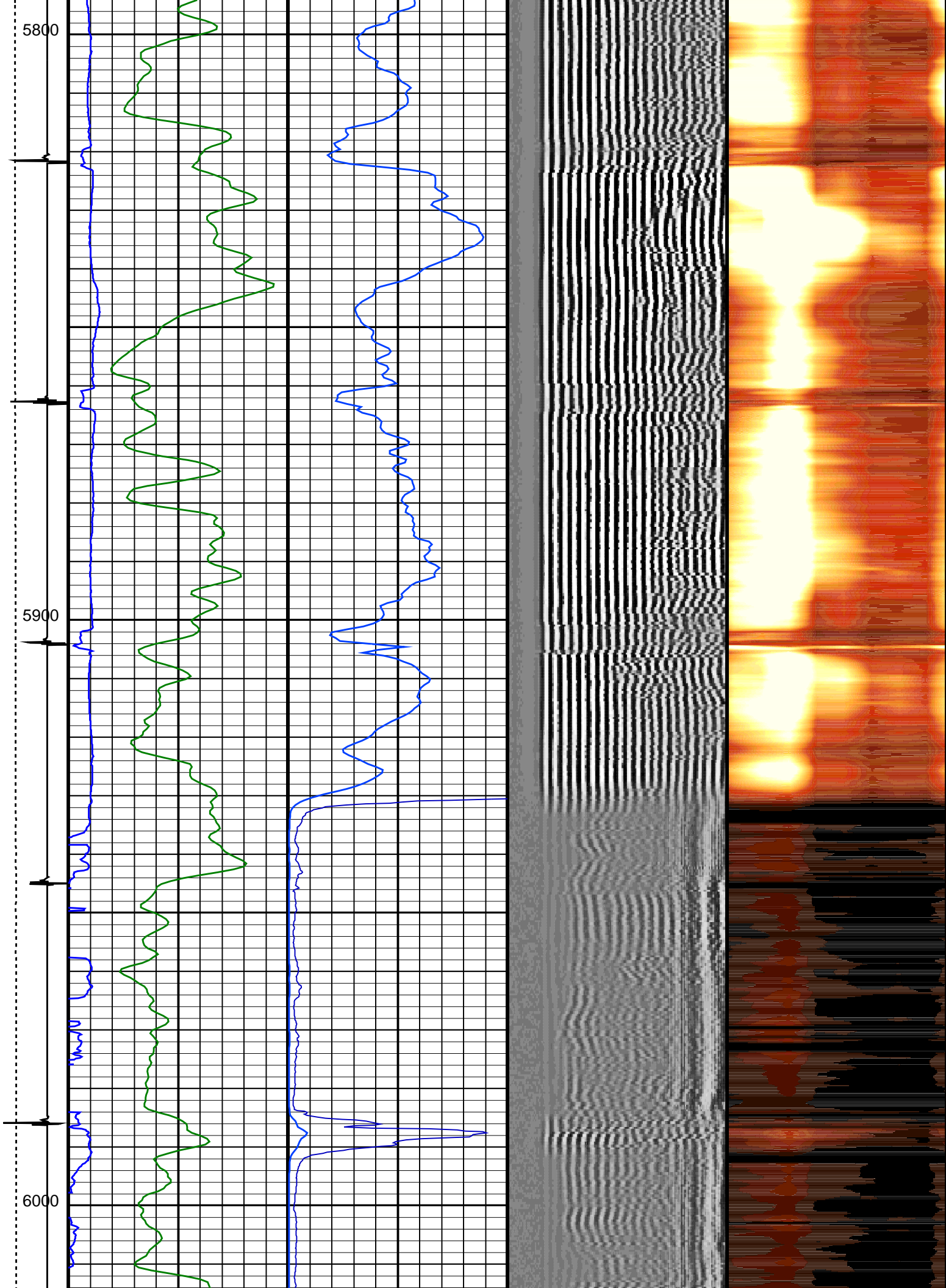


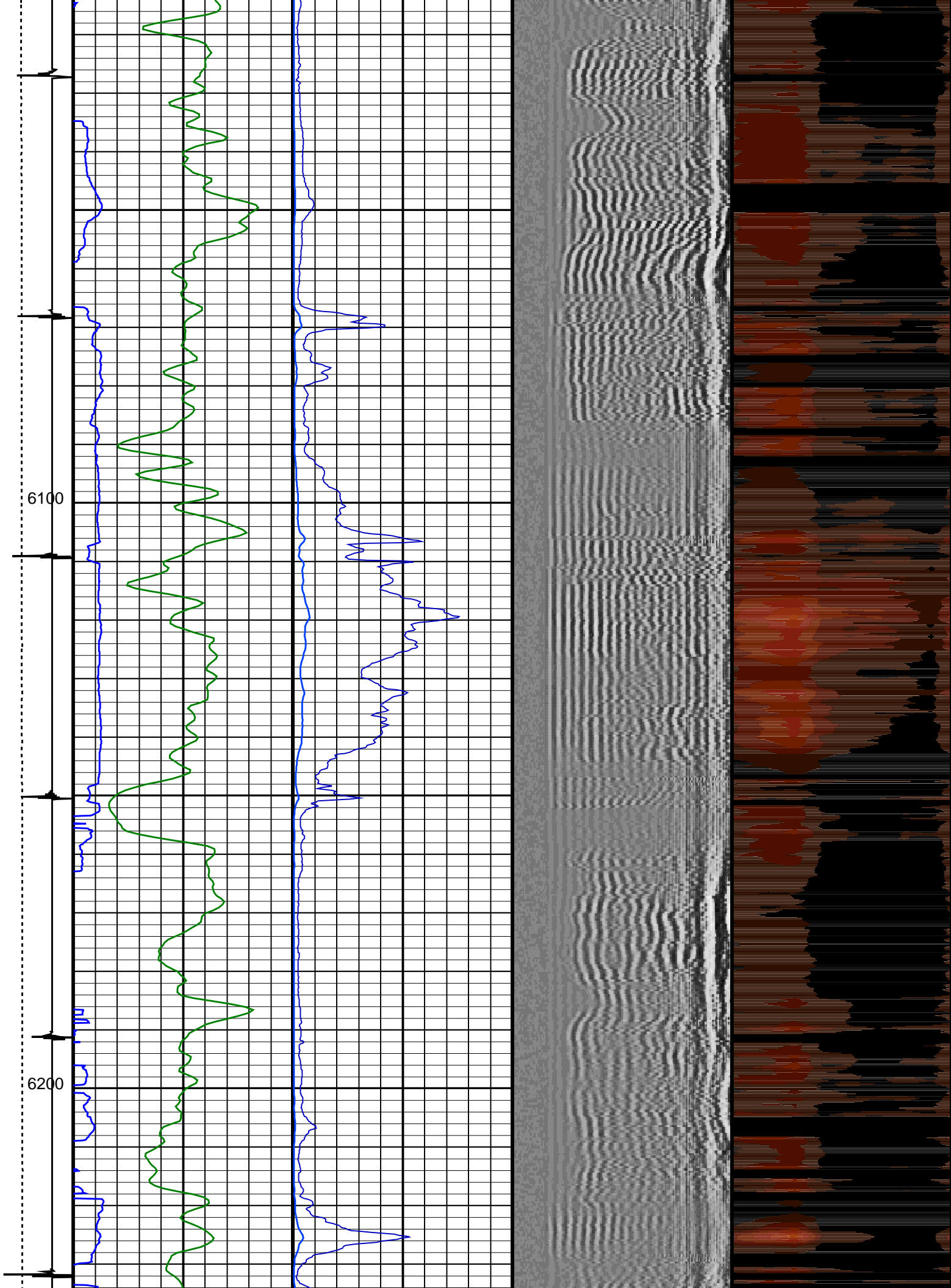


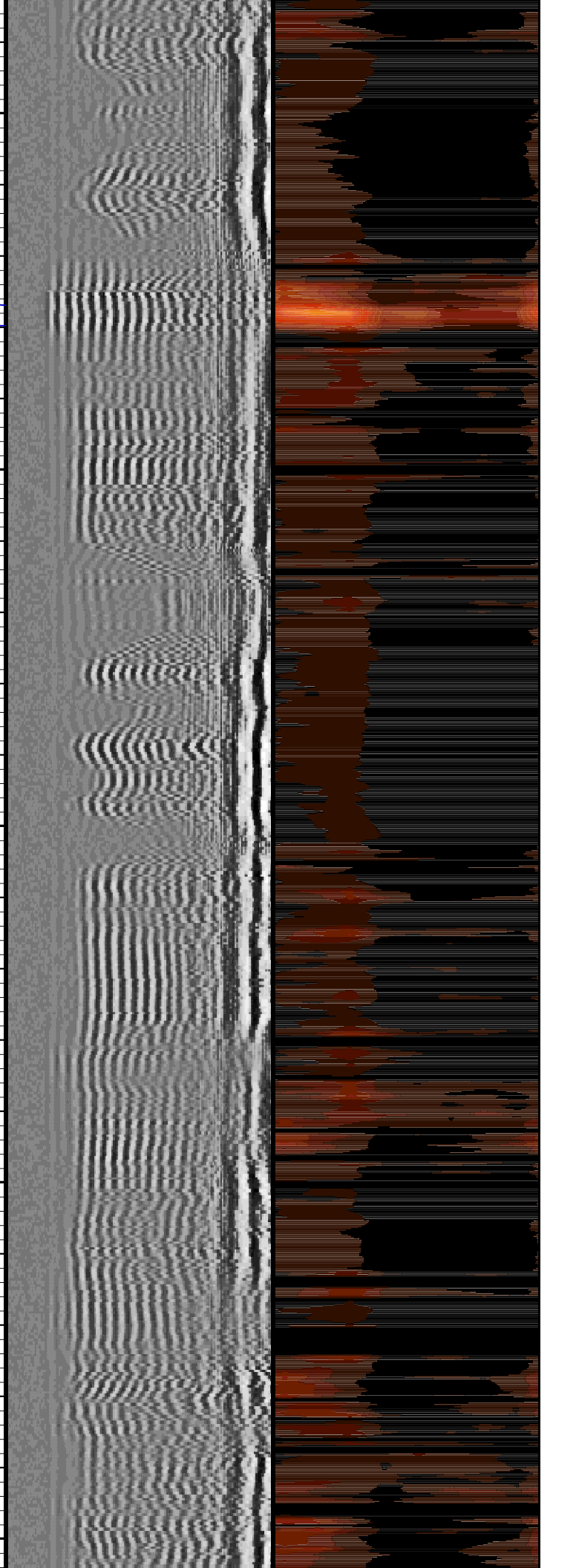
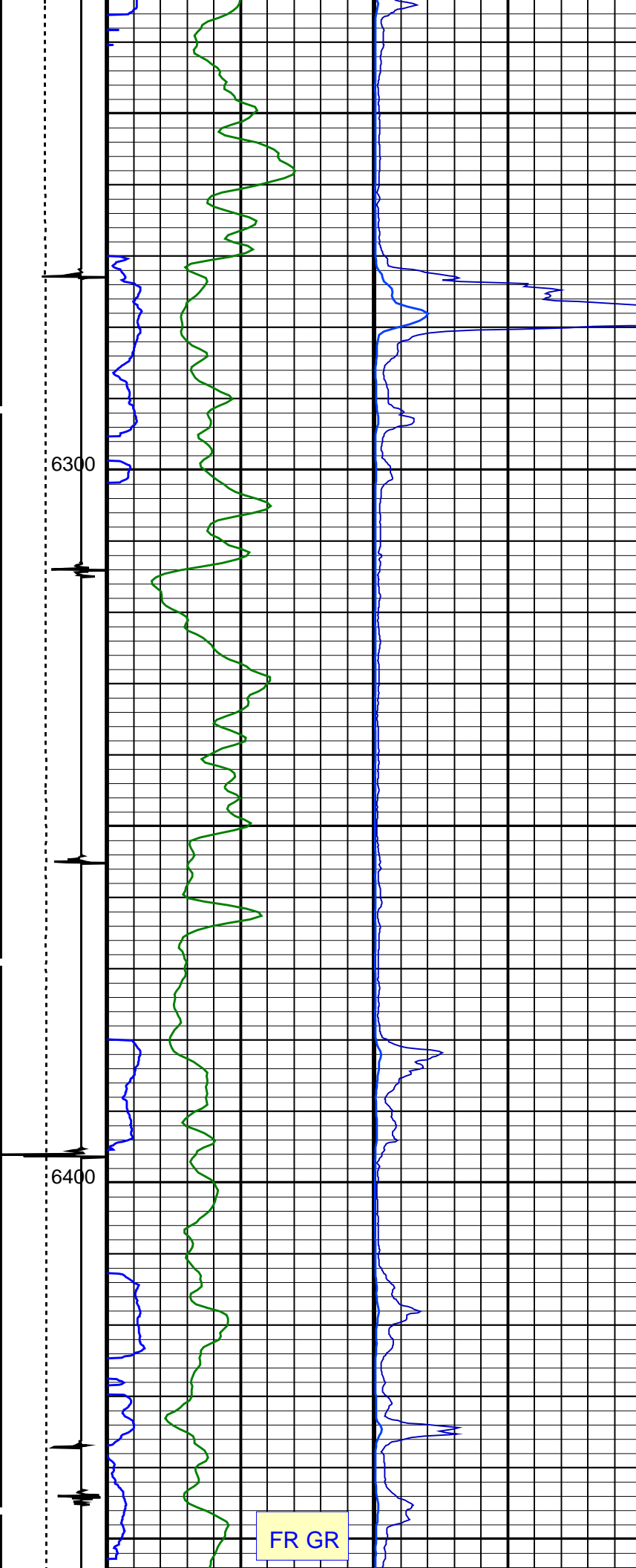


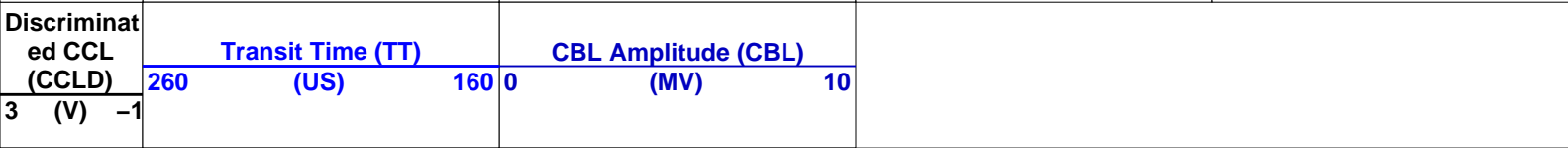
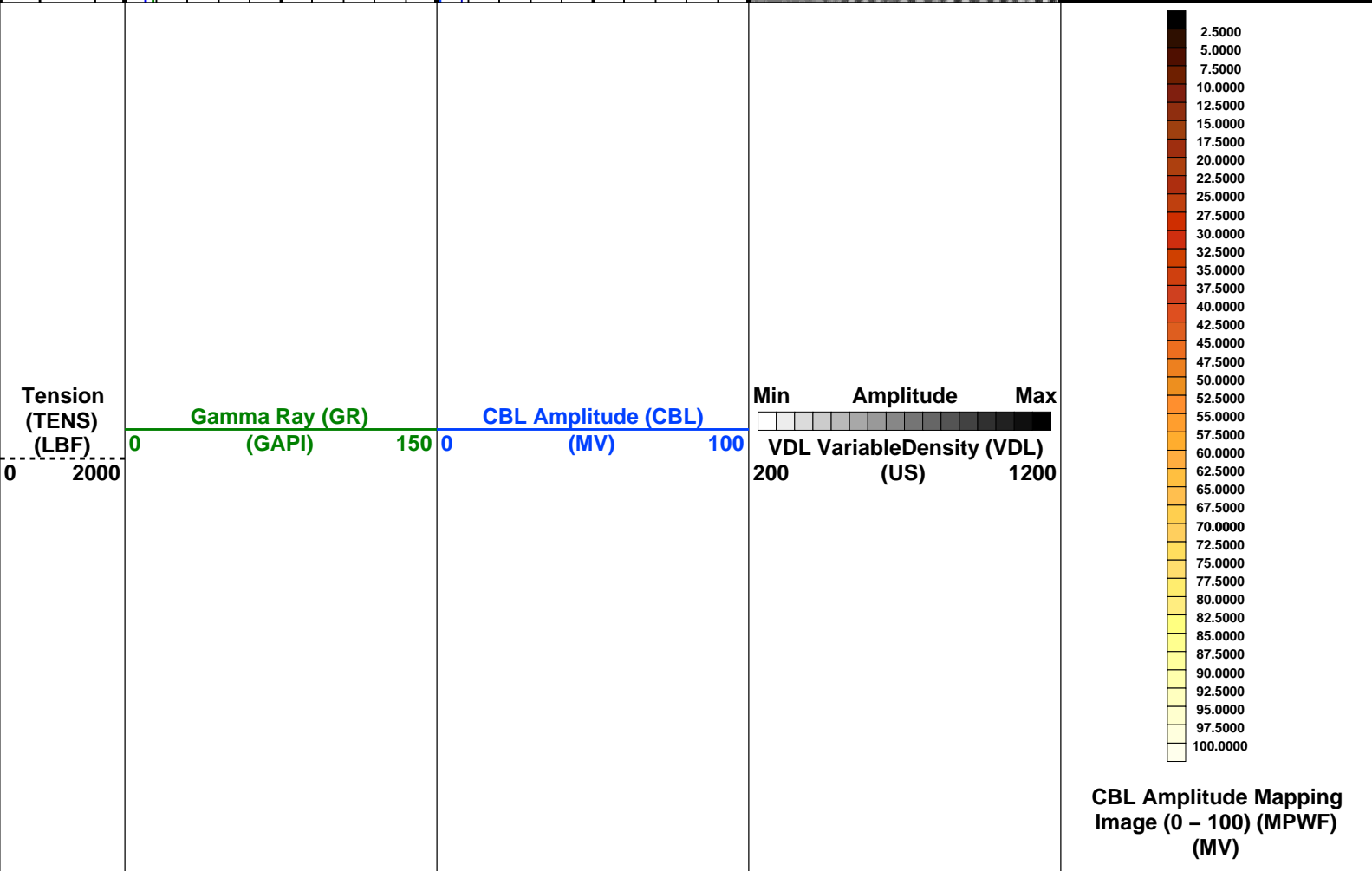
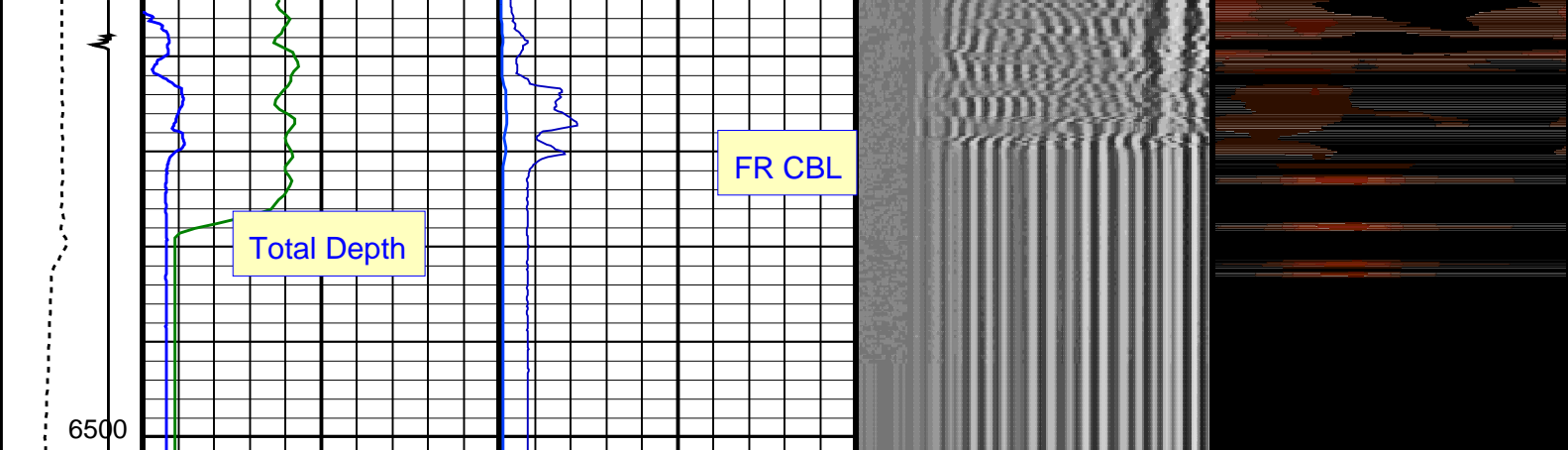












PIP SUMMARY

Time Mark Every 60 S			
Format: Scmt_VDL_Image		Vertical Scale: 5" per 100'	Graphics File Created: 01-Apr-2011 14:03
OP System Version: 18C0-147			
SCMT-CB	18C0-147	PSPT	18C0-147

<<<SCMT Cement Evaluation Information Summary>>>

Sonde Serial Number	SCMS-CB 8303
Current Casing Size	4.50000 IN
Casing Weight	11.6000 LB/F
Expected CBL Amplitude	80 MV
Minimum Sonic Amplitude	0.578744 MV (100% Cement)



Expected CBL Amplitude	Minimum Sonic Amplitude	0.572744 MV (100% Cement)
in Free Pipe Section		1.53811 MV (80% Cement)
	MAP Minimum Sonic Amplitude	4.27504 MV (100% Cement)
		8.03067 MV (80% Cement)

Master Calibration (Normalization)		Before Calibration (Adjustment)	
Date of Master Calibration	17-JAN-2011		
CBL Correction Factor	0.0743637	CBL Adjustment Factor (CBAF)	1.0
MAP 1 Correction Factor	0.165722	MAP Adjustment Factor (MPAF)	1.0
MAP 2 Correction Factor	0.192039		
MAP 3 Correction Factor	0.132977		
MAP 4 Correction Factor	0.175062		
MAP 5 Correction Factor	0.161562		
MAP 6 Correction Factor	0.177685		
MAP 7 Correction Factor	0.144065		
MAP 8 Correction Factor	0.233552		

### 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	228.424	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	342.424	US
CB5T	SCMT CBL 5 ft Fixed Threshold Level	20	MV
CBLG	CBL Gate Width	40	US
CBRA	CBL LQC Reference Amplitude in Free Pipe	80	MV
CMCF	CBL Cement Type Compensation Factor	0.168596	
CMTC	SCMT Slow Channel Multiplexer Mode	SCAN	
CMTM	SCMT Operating Mode	LOG	
CSCS	SCMT Slow Channel Index	VCC	
CTHI	Casing Thickness	0.255617	IN
DTF	Delta-T Fluid	204.5	US/F
FATT	Acoustic Attenuation due to Fluid	0	DB/F
FCF	CBL Fluid Compensation Factor	1	
GOBO	Good Bond	1.53811	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	171.424	US
MAPT	SCMT MAP Fixed Threshold Level	30	MV
MATT	Maximum Attenuation	10.9507	DB/F
MCCF	MAP Cement Type Compensation Factor	0.321041	
MCI	Minimum Cemented Interval for Isolation	1.25	FT
MMSA	MAP Minimum Sonic Amplitude	4.27504	MV
MSA	Minimum Sonic Amplitude	0.572744	MV
PEDE	Peak Detection On/Off Switch in Playback	OFF	
RBC	Relative Bearing Correction Allow/Disallow	ALLOW	
VDLG	VDL Manual Gain	5	
ZCMT	Acoustic Impedance of Cement	3.9	MRAY
System and Miscellaneous			
CSIZ	Current Casing Size	4.500	IN
DFD	Drilling Fluid Density	8.40	LB/G
DO	Depth Offset for Playback	0.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
PP	Playback Processing	NORMAL	
TD	Total Depth	7798	FT

### Input DLIS Files

DEFAULT	Splice_SCMT_PSP_027CUP	FN:1	PRODUCER	01-Apr-2011 13:55	6501.5 FT	190.5 FT
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### Output DLIS Files

DEFAULT	SCMT_PSP_029PUP	FN:27	PRODUCER	01-Apr-2011 14:03
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MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC.

Well: FEDERAL 25-7 (PH25)

Input DLIS Files

DEFAULT

SCMT\_PSP\_012PUP

FN:11

PRODUCER

01-Apr-2011 09:58

6503.0 FT

6160.0 FT

Output DLIS Files

DEFAULT

SCMT\_PSP\_029PUP

FN:27

PRODUCER

01-Apr-2011 14:03

OP System Version: 18C0-147

SCMT-CB

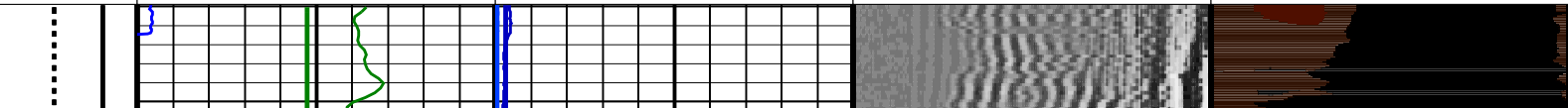
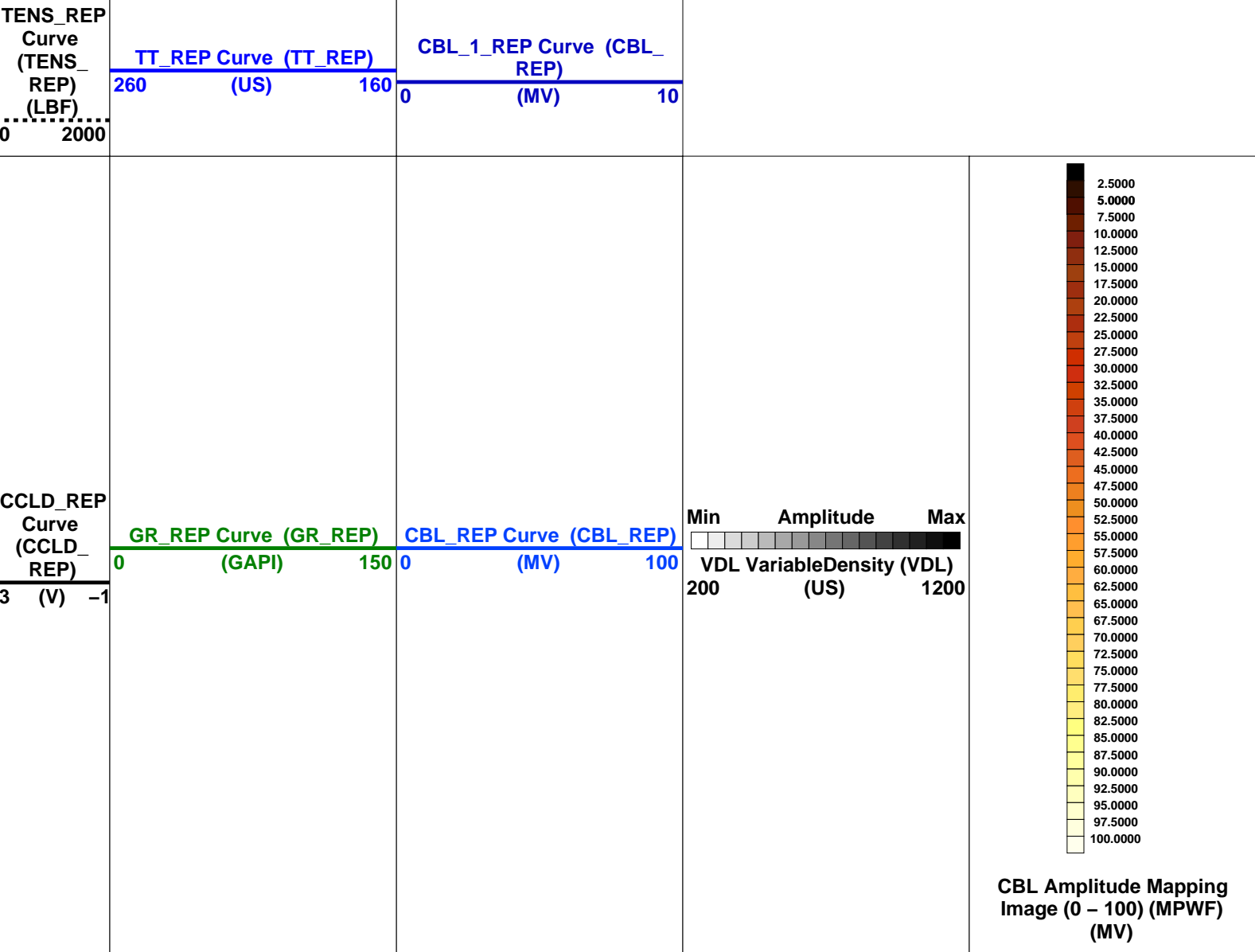
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PSPT

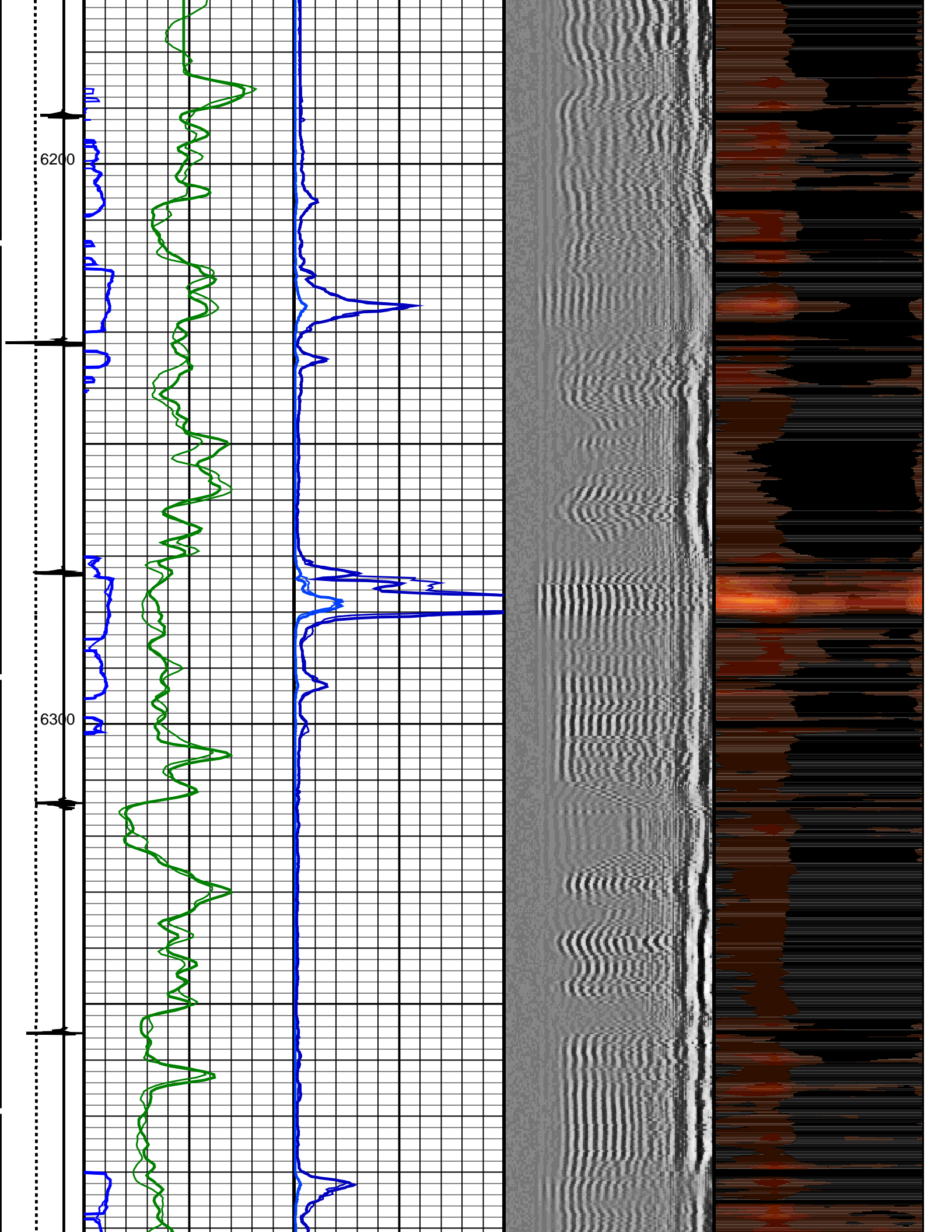
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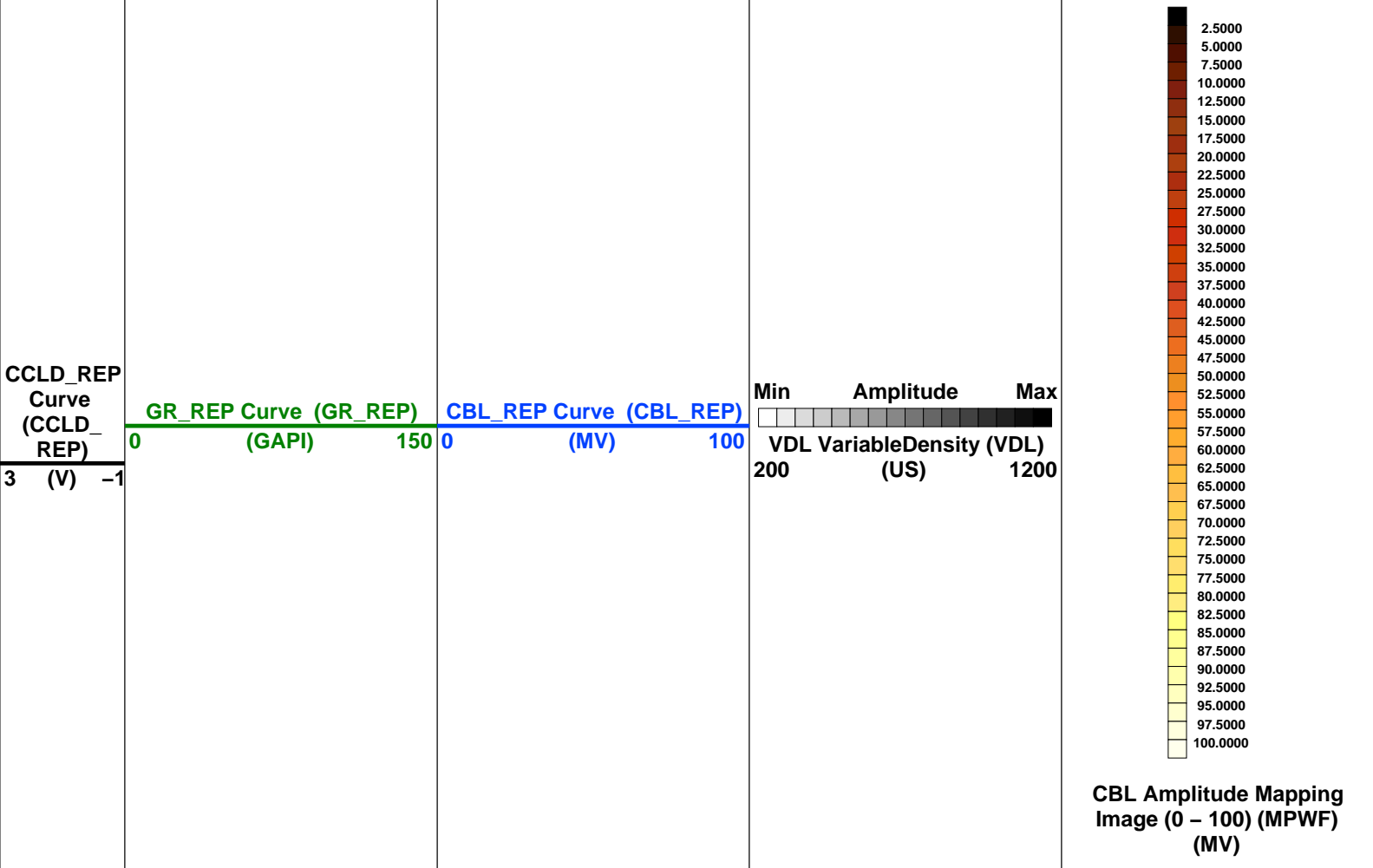
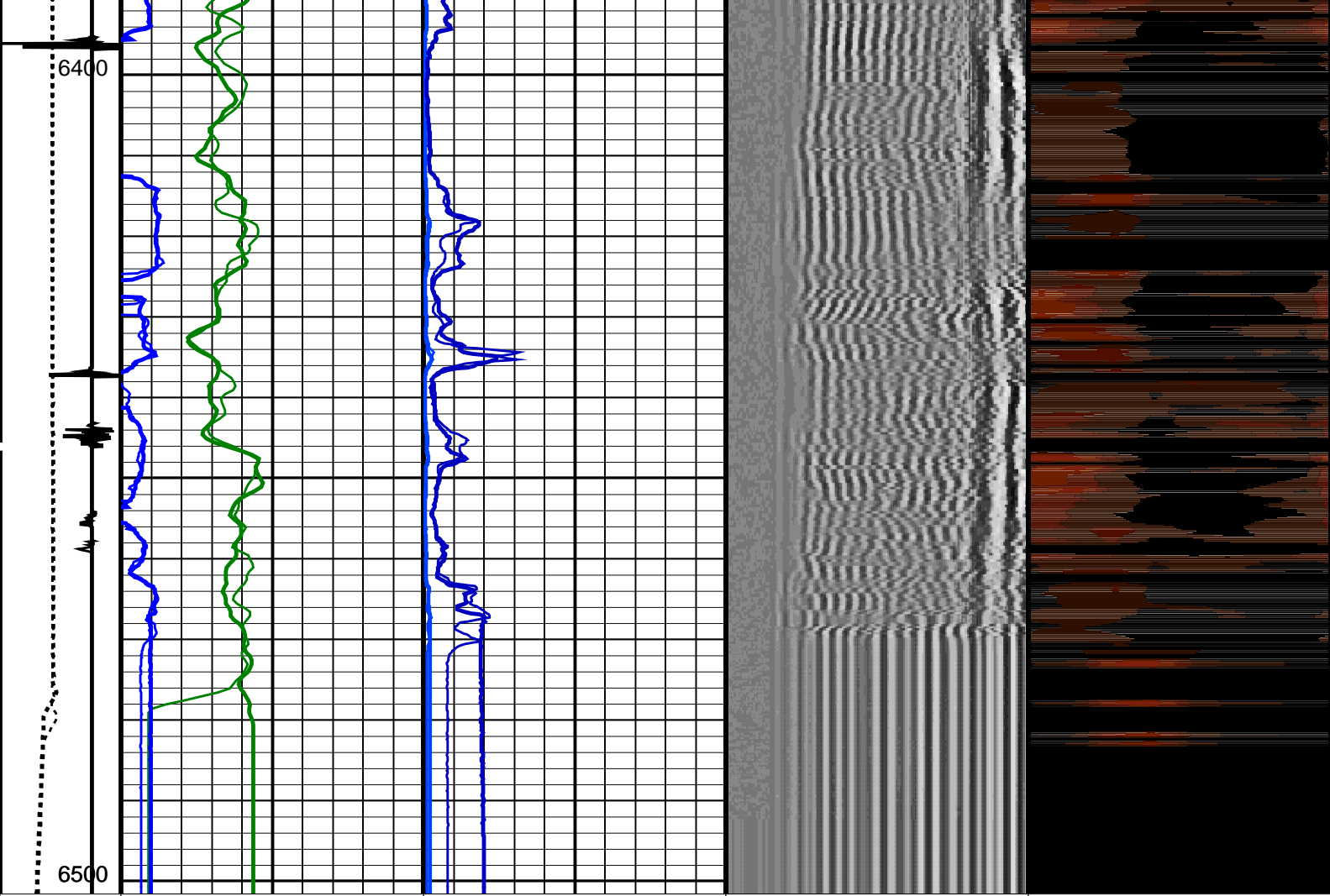
PIP SUMMARY

 Time Mark Every 60 S









Curve (TENS_ REP) (LBF)	TT_REP Curve (TT_REP) 260 (US) 160	CBL_1_REP Curve (CBL_ REP) 0 (MV) 10	
0	2000		
PIP SUMMARY			
Time Mark Every 60 S			
Format: Scmt_VDL_Image_REP		Vertical Scale: 5" per 100'	Graphics File Created: 01-Apr-2011 14:03
OP System Version: 18C0-147			
SCMT-CB	18C0-147	PSPT	18C0-147
<<<SCMT Cement Evaluation Information Summary>>>			
Sonde Serial Number	SCMS-CB 8303		
Current Casing Size	4.50000 IN		
Casing Weight	11.6000 LB/F		
Expected CBL Amplitude in Free Pipe Section	80 MV	Minimum Sonic Amplitude	0.572744 MV (100% Cement) 1.53811 MV (80% Cement)
		MAP Minimum Sonic Amplitude	4.27504 MV (100% Cement) 8.03067 MV (80% Cement)
Master Calibration (Normalization)	Before Calibration (Adjustment)		
Date of Master Calibration	17-JAN-2011		
CBL Correction Factor	0.0743637	CBL Adjustment Factor (CBAF)	1.0
MAP 1 Correction Factor	0.165722	MAP Adjustment Factor (MPAF)	1.0
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MAP 7 Correction Factor	0.144065		
MAP 8 Correction Factor	0.233552		
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	228.424	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	342.424	US
CB5T	SCMT CBL 5 ft Fixed Threshold Level	20	MV
CBLG	CBL Gate Width	40	US
CBRA	CBL LQC Reference Amplitude in Free Pipe	80	MV
CMCF	CBL Cement Type Compensation Factor	0.168596	
CMTC	SCMT Slow Channel Multiplexer Mode	SCAN	
CMTM	SCMT Operating Mode	LOG	
CSCS	SCMT Slow Channel Index	VCC	
CTHI	Casing Thickness	0.255617	IN
DTF	Delta-T Fluid	204.5	US/F
FATT	Acoustic Attenuation due to Fluid	0	DB/F
FCF	CBL Fluid Compensation Factor	1	
GOBO	Good Bond	1.53811	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	171.424	US
MAPT	SCMT MAP Fixed Threshold Level	30	MV
MATT	Maximum Attenuation	10.9507	DB/F
MCCF	MAP Cement Type Compensation Factor	0.321041	
MCI	Minimum Cemented Interval for Isolation	1.25	FT
MMSA	MAP Minimum Sonic Amplitude	4.27504	MV
MSA	Minimum Sonic Amplitude	0.572744	MV
PEDE	Peak Detection On/Off Switch in Playback	OFF	

RBC	Relative Bearing Correction Allow/Disallow	ALLOW	
VDLG	VDL Manual Gain	5	
ZCMT	Acoustic Impedance of Cement	3.9	MRAY
System and Miscellaneous			
CSIZ	Current Casing Size	4.500	IN
DFD	Drilling Fluid Density	8.40	LB/G
DO	Depth Offset for Playback	0.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
PP	Playback Processing	NORMAL	
TD	Total Depth	7798	FT

Input DLIS Files

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Output DLIS Files

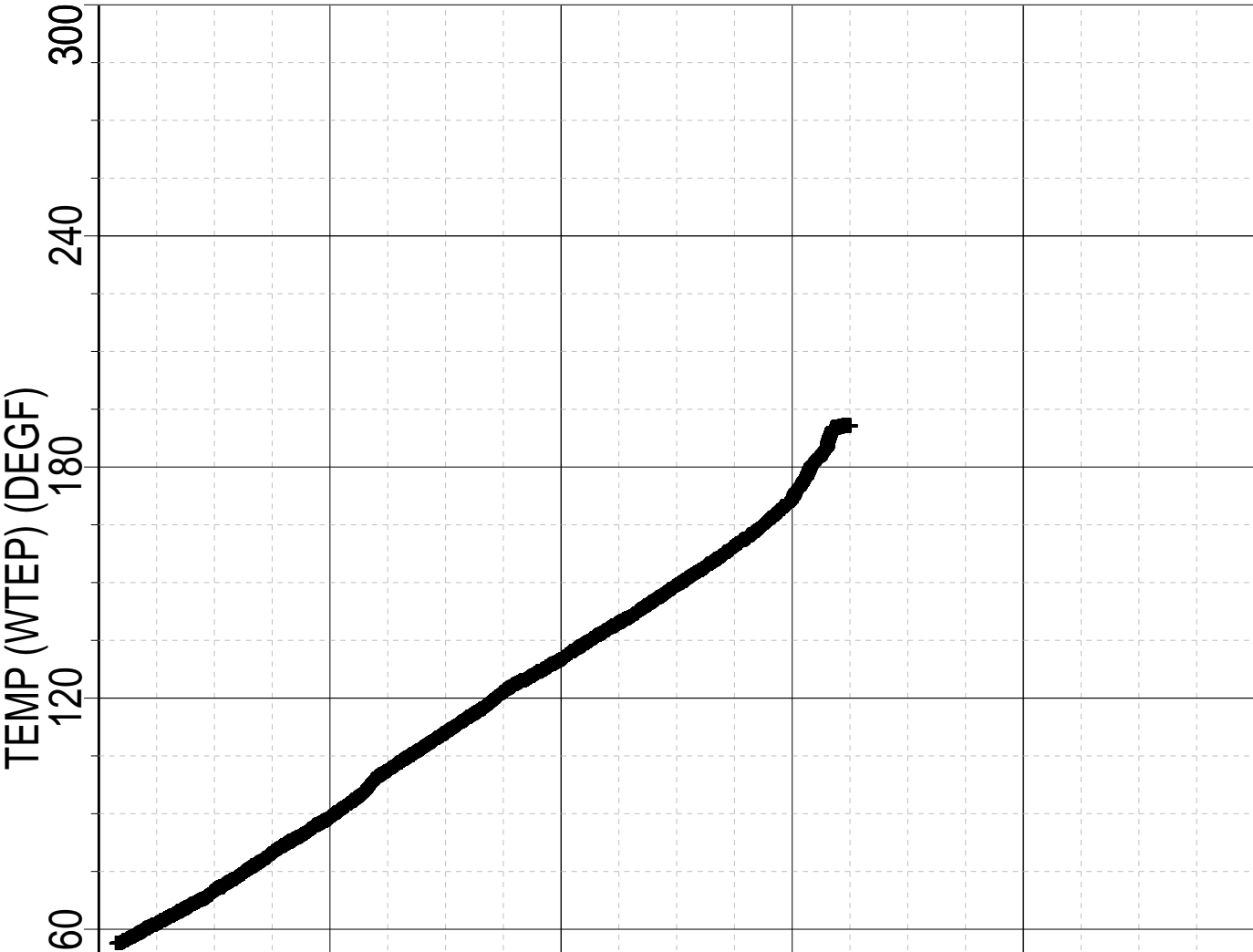
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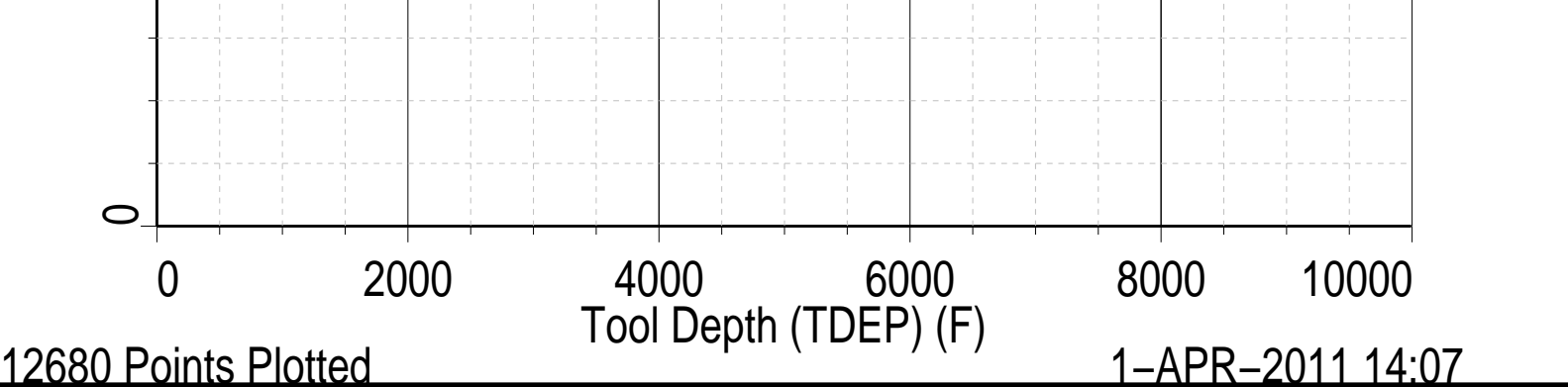


TEMPERATURE PLOT

MAXIS Field Log

Index: 6501.5 – 162.0 FT





# COEFFICIENTS

MAXIS Field Log

Client:	ENCANA OIL & GAS (USA) INC.	Tool:	PSP
Field:	PARACHUTE	Sub Type:	PBMS
Well:	FEDERAL 25-7BB (PH25)	Sensor:	Clock Model
Run date:	1-Apr-2011		

## PBMS Digitalization Clock

Sonde Serial NB	
Sensor Serial NB	3779
Calib Date ddmmyy	090107
Matrix Size	16
Coeff CRC	D285

## Clock Coeff

	Temp**0	Temp**1	Temp**2
Temp**0	-.210501098404E+03	-.537713340627E+01	-.752421519422E-01
	Temp**3	Temp**4	Temp**5
Temp**0	+.630273975887E-03	+.266728381738E-05	0.0



PBMS Sapphire 10kPsi Gauge

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

COEFFICIENTS FOR SAPPHIRE PBMS-A.3779 S/N:

3779

090107

66

4C82

Pres Coeff

	Tt**0	Tt**1	Tt**2
Tp**0	-.611876617639E+04	+.471061007964E+04	-.216447354932E+04
Tp**1	+.371836126905E+04	-.234756196935E+04	+.129149325686E+04
Tp**2	+.193143980957E+02	-.189348218853E+01	-.341812471126E+01
Tp**3	-.568815065386E+01	+.200079683569E+01	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	+.380249508124E+03	-.247683004908E+02	0.0
Tp**1	-.227135245080E+03	+.146352372057E+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

:

3779

090107

66

C39E

Temp Coeff

	Tp**0	Tp**1	Tp**2
Tt**0	-.278275571347E+03	+.251216271916E+01	-.820715649824E+00
Tt**1	+.598349067015E+02	-.107326373545E+01	+.652890183203E-01
Tt**2	+.109160002120E+02	+.262812193556E+00	-.450134240377E-02
Tt**3	-.673302171285E+00	-.213772918779E-01	0.0
Tt**4	0.0	0.0	0.0

Tt**1	0.0	0.0	0.0
Tt**5	0.0	0.0	0.0
	<div>Tp**3</div>	<div>Tp**4</div>	<div>Tp**5</div>
Tt**0	+151507143209E+00	−.592670012996E−02	0.0
Tt**1	+127486538512E−01	−.437897076104E−02	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:	ENCANA OIL & GAS (USA) INC.	Tool:	PSP
Field:	PARACHUTE	Sub Type:	PBMS
Well:	FEDERAL 25−7BB (PH25)	Sensor:	GR
Run date:	1−Apr−2011		

PBMS Gamma Ray	
Sonde Serial NB	RESISTORS FOR GR SENSOR N.34552,TOOL PBMS−AA3779. SENSOR S/N:
Sensor Serial NB	34552
Calib Date ddmmyy	030606
Matrix Size	12
Coeff CRC	3AE5
GR HV Rt	
	<div> <div>Rt**0</div> <div>Rt**1</div> </div>
Rt**0	<div> <div>+200000000000e+04</div> <div>+214000000000e+04</div> </div>

Client:	ENCANA OIL & GAS (USA) INC.	Tool:	PSP
Field:	PARACHUTE	Sub Type:	PBMS
Well:	FEDERAL 25−7BB (PH25)	Sensor:	WellTemp RTD
Run date:	1−Apr−2011		

PBMS RTD Well Thermometer

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

COEFFICIENTS FOR RTD THERMOMETER PBMS-A.3779 S/N:

3779

090107

16

3846

WTemp Coeff

	Tt**0	Tt**1	Tt**2
Tt**0	+.492135102627E+02	-.278827553804E+03	+.142867554561E+03
	Tt**3	Tt**4	Tt**5
Tt**0	-.233378392336E+02	+.145553494493E+01	0.0

Company: ENCANA OIL & GAS (USA) INC.



Well:

Field:

County:

State:

FEDERAL 25-8BB (PH25)

PARACHUTE

GARFIELD

COLORADO

CEMENT BOND LOG

CBL- VDL

GAMMA RAY - CCL