

Company: BLACK RAVEN

Well: GEYER #B 1

Field: ADENA

County: MORGAN

State: COLORADO

CEMENT BOND  
GAMMA RAY  
CASING COLLAR LOG

County: MORGAN  
Field: ADENA  
Location:  
Well: GEYER #B 1  
Company: BLACK RAVEN

LOCATION

Elev.: K.B. 4479.00 ft  
G.L. 4472.00 ft  
D.F.  
Permanent Datum: GROUND LEVEL  
Log Measured From: KELLY BUSHING  
Drilling Measured From: KELLY BUSHING  
Elev.: 7.00 ft above Perm. Datum

API Serial No.

Section 5

Township 1N

Range 57W

Logging Date 14-Apr-2012

Run Number 1

Depth Driller 5568 ft

Schlumberger Depth 5562 ft

Bottom Log Interval 5554 ft

Top Log Interval 3100 ft

Casing Fluid Type WATER

Salinity

Density 8.4 lbm/gal

Fluid Level

BIT/CASING/TUBING STRING

Bit Size 7.875 in

From

To

Casing/Tubing Size 5.500 in

Weight 15.5 lbm/ft

Grade

From

To

Maximum Recorded Temperatures 177 degF

Logger On Bottom 14-Apr-2012 2:14

Unit Number 354 FORT MORGAN

Recorded By C MARCH

Witnessed By BILLY HATAWAY

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  
Casing String No  
Lead Cement Type  
Volume  
Density  
Water Loss  
Additives  
Tail Cement Type  
Volume  
Density  
Water Loss  
Additives

Expected Cement Top

Logging Date

Run Number

Depth Driller

Schlumberger Depth

Bottom Log Interval

Top Log Interval

Casing Fluid Type

Salinity

Density

Fluid Level

BIT/CASING/TUBING STRING

Bit Size

From

To

Casing/Tubing Size

Weight

Grade

From

To

Maximum Recorded Temperatures

Logger On Bottom

Unit Number

Recorded By

Witnessed By

Run 1

Run 2

Run

## DEPTH SUMMARY LISTING

Date Created: 14-APR-2012 2:14:10

## Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-B/A	Type:	1-25ZT
Serial Number:	4990	Serial Number:	1105	Serial Number:	354
Calibration Date:	28-JUL-2011	Calibration Date:	02-MAR-201	Length:	14800 FT
Calibrator Serial Number:	1	Calibrator Serial Number:	100513		
Calibration Cable Type:	1-25P	Number of Calibration Points:	0	Conveyance Method:	Wireline
Wheel Correction 1:	-2			Rig Type:	LAND
Wheel Correction 2:	-4				

## Depth Control Parameters

Log Sequence:	First Log In the Well
Rig Up Length At Surface:	0.00 FT
Rig Up Length At Bottom:	0.00 FT
Rig Up Length Correction:	0.00 FT
<b>Stretch Correction:</b>	
Tool Zero Check At Surface:	

## Depth Control Remarks

1. IDW WHEELS PRIMARY DEPTH CONTROL
2. DRUM COUNTER USED AS SECONDARY DEPTH CONTROL
- 3.
- 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 RESISTIVITY LOG	
RAN ON 4-20-54 BY SCHLUMBERGER	

REPEAT AND MAIN PASS RAN

SERVICE ORDER #: C170-00021  
PROGRAM VERSION: 19C0-187  
FILE ID LEVEL:

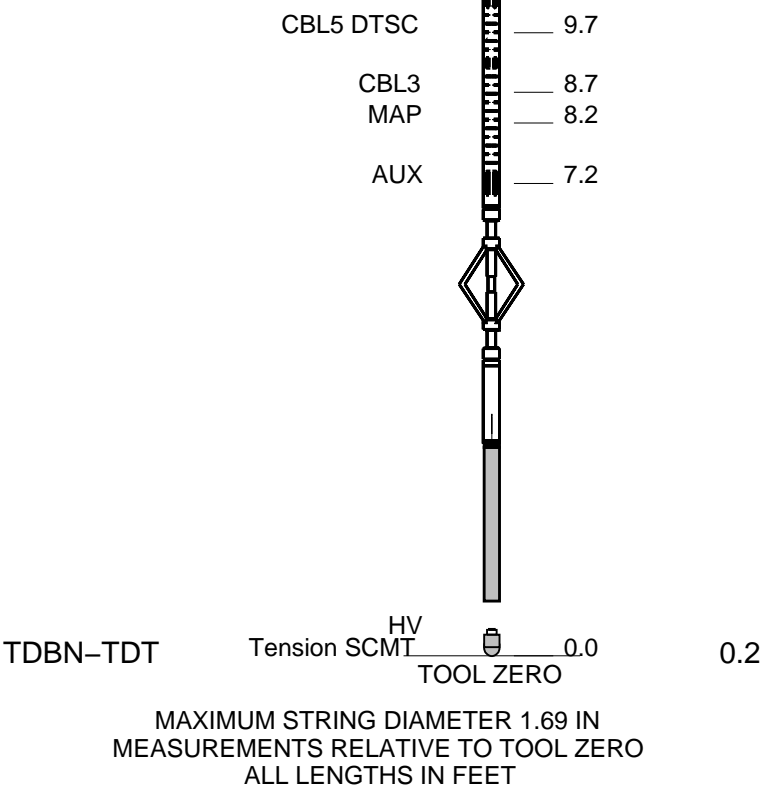
[illegible]

WITM-A  
PSC\_16MHZ

# DOWNHOLE EQUIPMENT

The diagram illustrates the vertical arrangement of downhole equipment. A central vertical bar represents the wellbore, with various tools and sensors indicated by different symbols and labels. Depth markers are provided on both the left and right sides of the bar. The equipment includes a surface tool (MH-22), a detail tool (AH-38), a main tool (PSPT), a well temperature sensor (Well\_Temp Manometer), a CCL, a PBMS PSTC, a SCMT-CB, and a DT at the bottom.

Equipment Name	Depth (m)
MH-22	26.8
MH-22	26.8
Detail MT	25.2
TelStatus	25.2
CTEM	25.2
PSPT	25.0
PSC-A	25.0
PSPT-A 1765	25.0
PSTC-A	25.0
PBMS-A	25.0
10k_Sapphire_Mano	25.0
RTD_Thermometer	25.0
GR	21.3
CCL	18.2
Well_Temp Manometer	18.1
CCL	17.4
PBMS PSTC	16.7
SCMT-CB	16.7
SCMC-CA	16.7
SECH-CA	16.7
SCMS-CB 8258	16.7
SCMX-CA	16.7
DT	11.2



Company: BLACK RAVEN Well: GEYER #B 1

Input DLIS Files

DEFAULT Splice\_SCMT\_PSP\_029CUP FN:1 PRODUCER 17-Apr-2012 01:33 5568.5 FT 3074.1 FT

Output DLIS Files

DEFAULT SCMT\_PSP\_031PUP FN:23 PRODUCER 17-Apr-2012 01:39 5568.5 FT 3074.5 FT

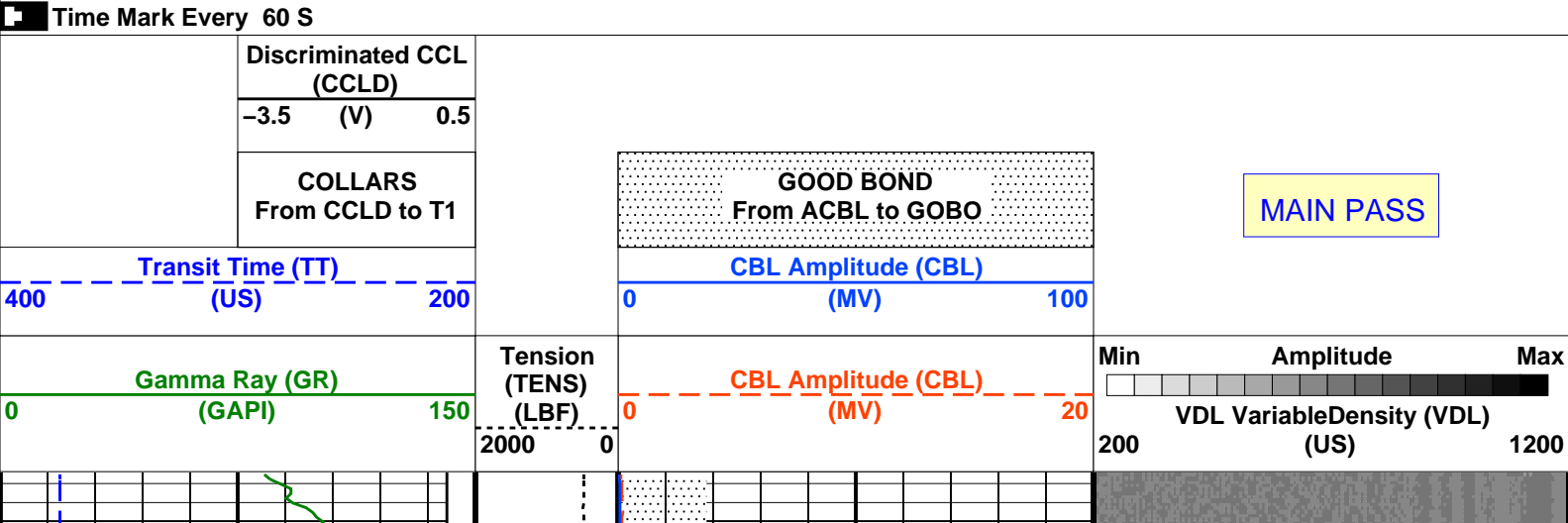
OP System Version: 19C0-187

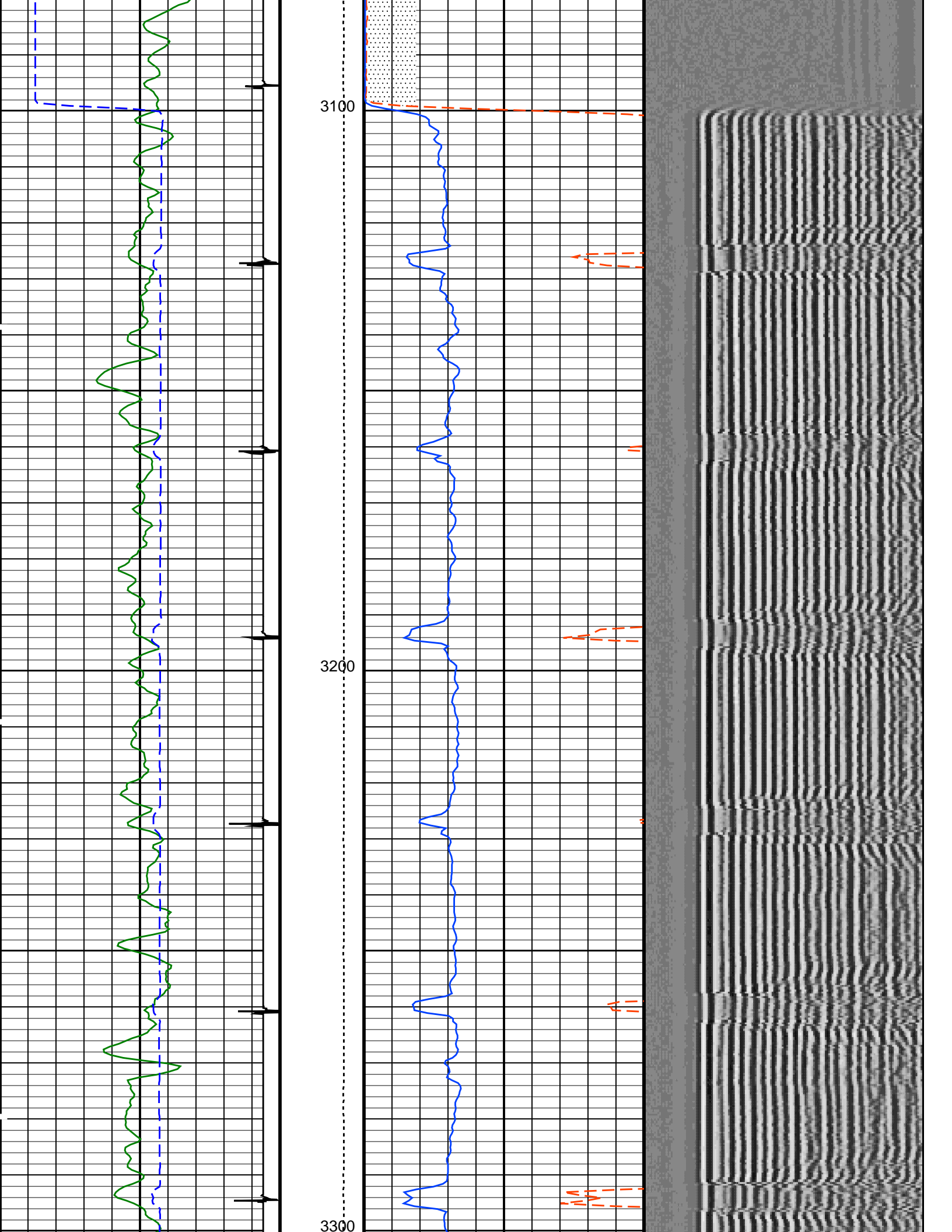
SCMT-CB 19C0-187 PSPT 19C0-187

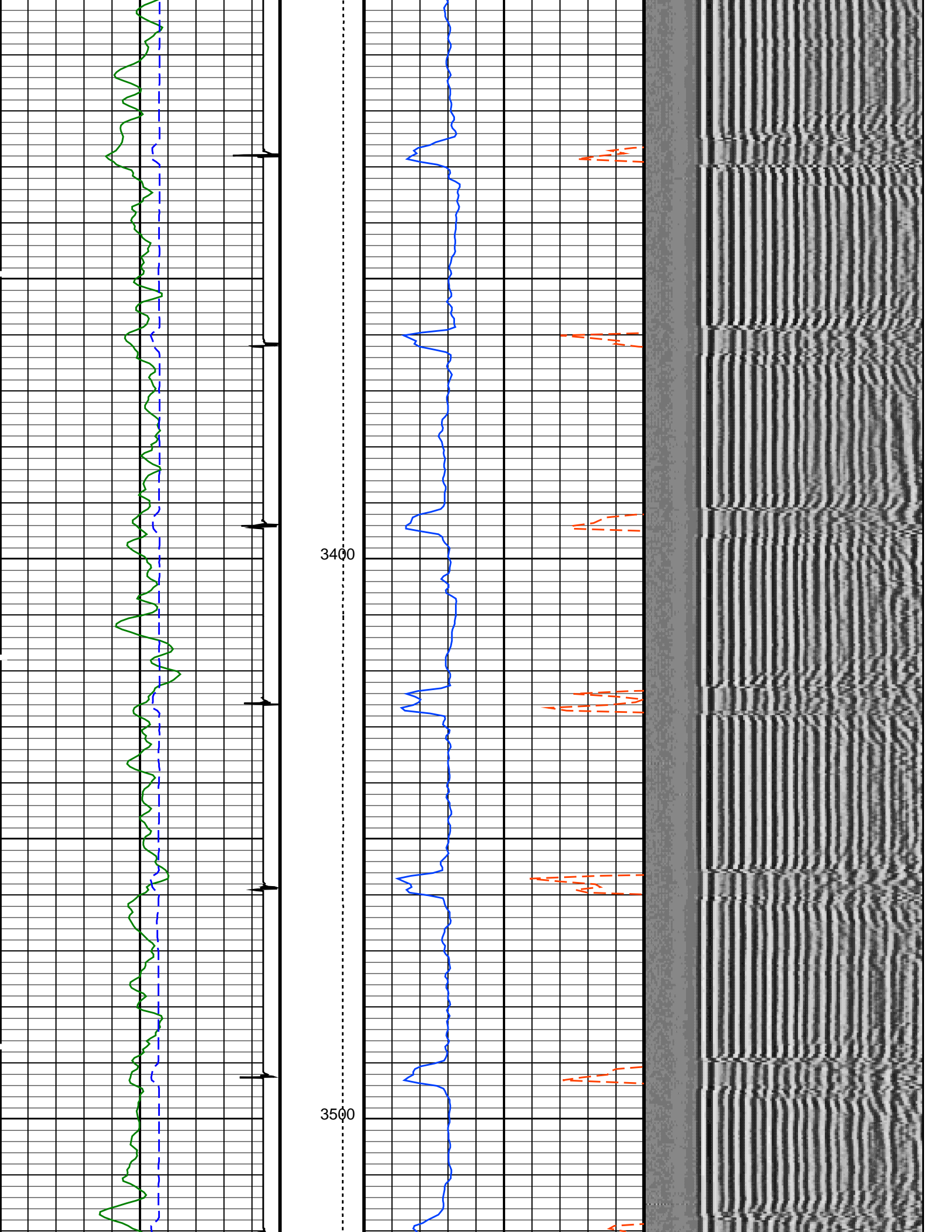
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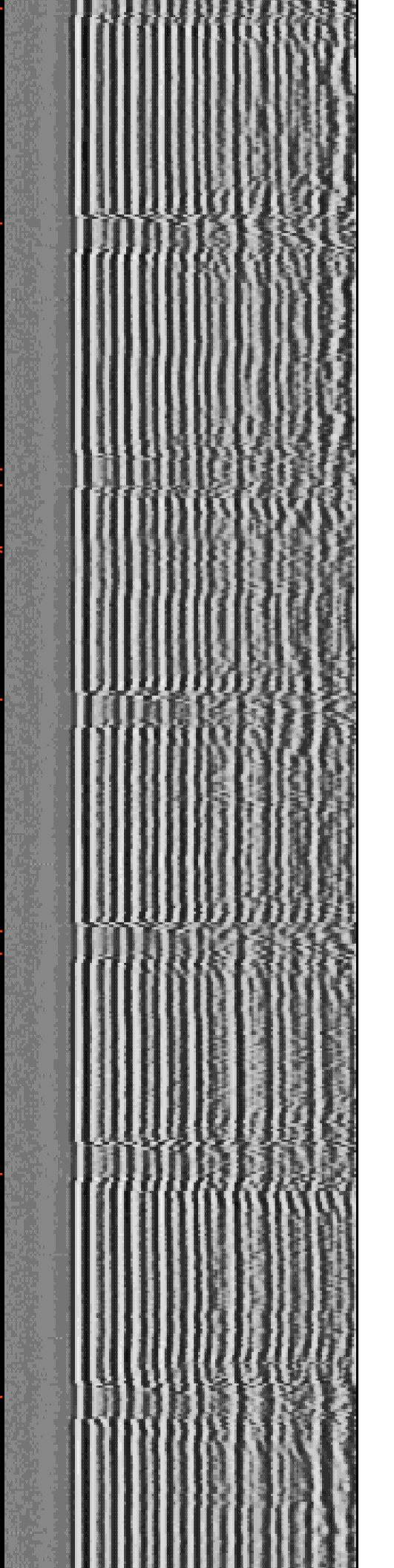
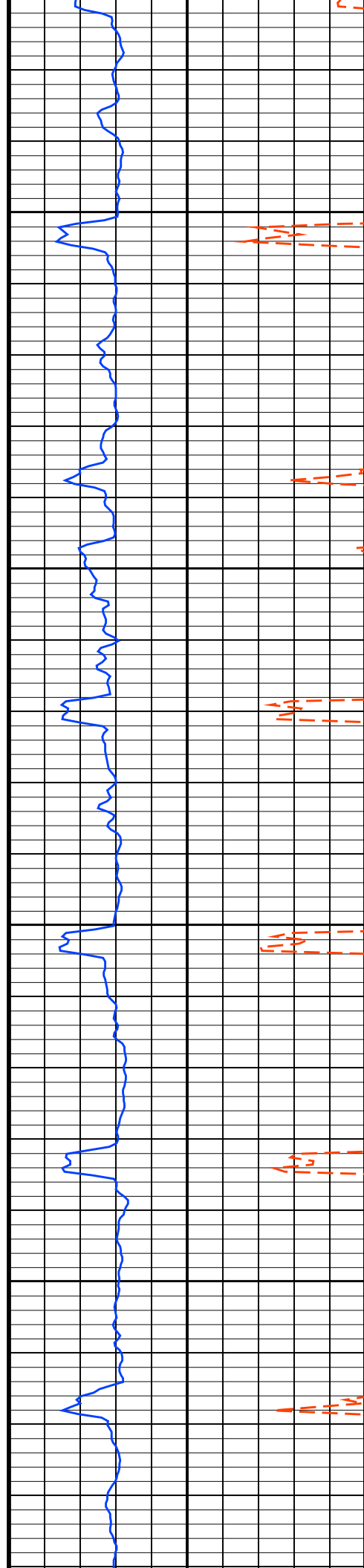
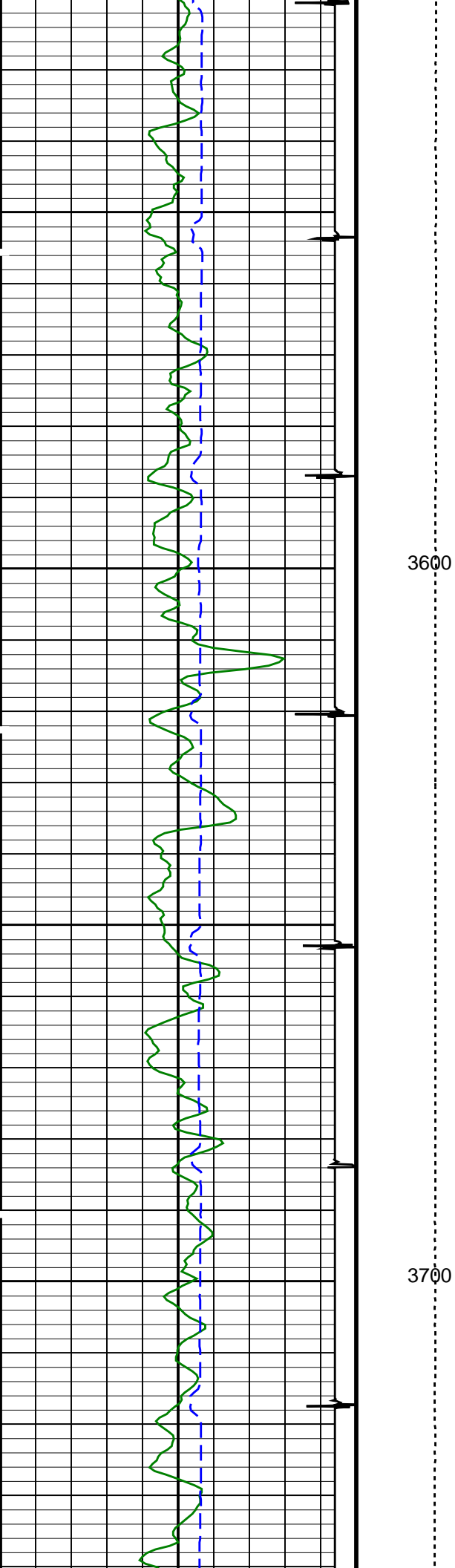
DLIS Name	New Value	Previous Value	Depth & Time
CB3G	275 US	244 US	4335.5 01:43:49
CB5G	388 US	358 US	4315.5 01:43:53

PIP SUMMARY

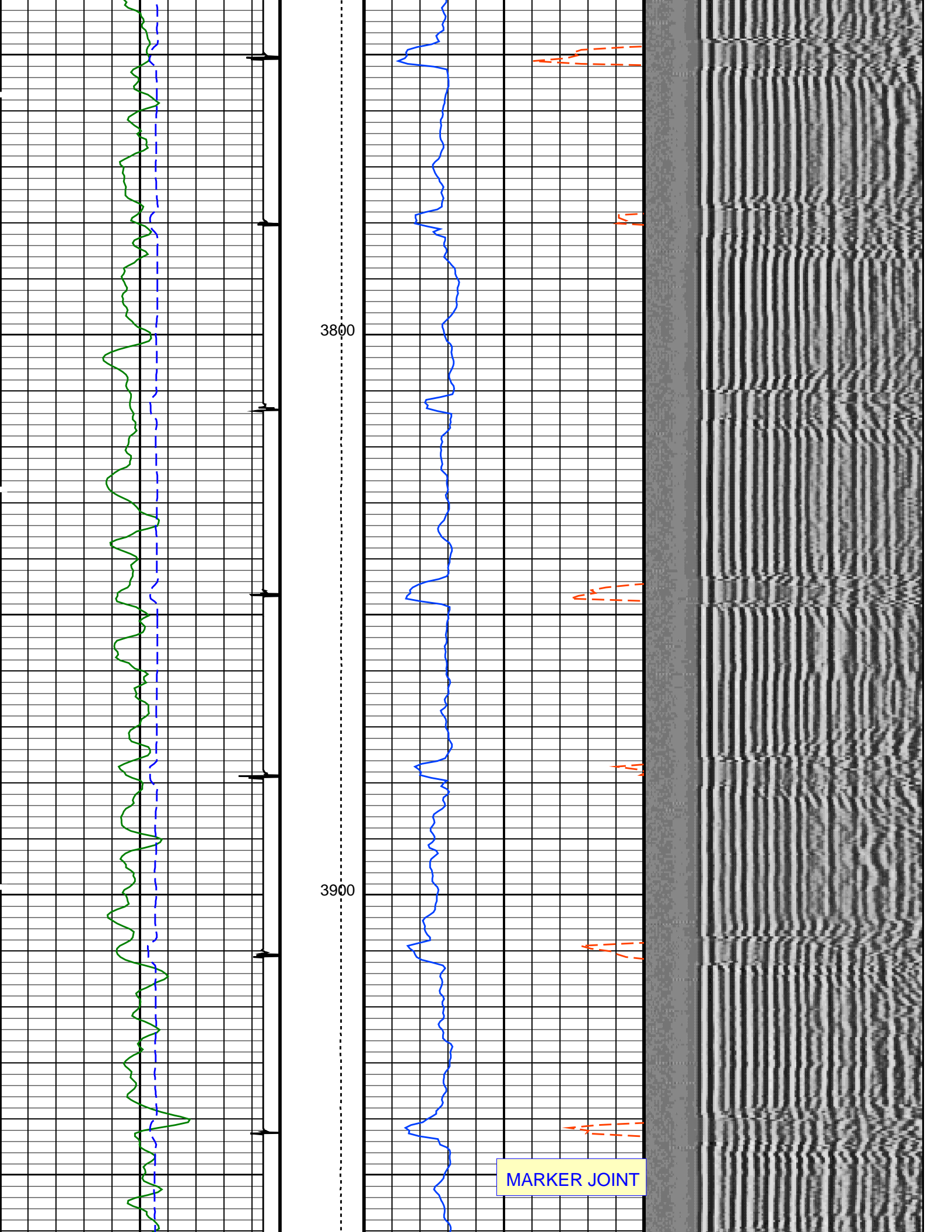




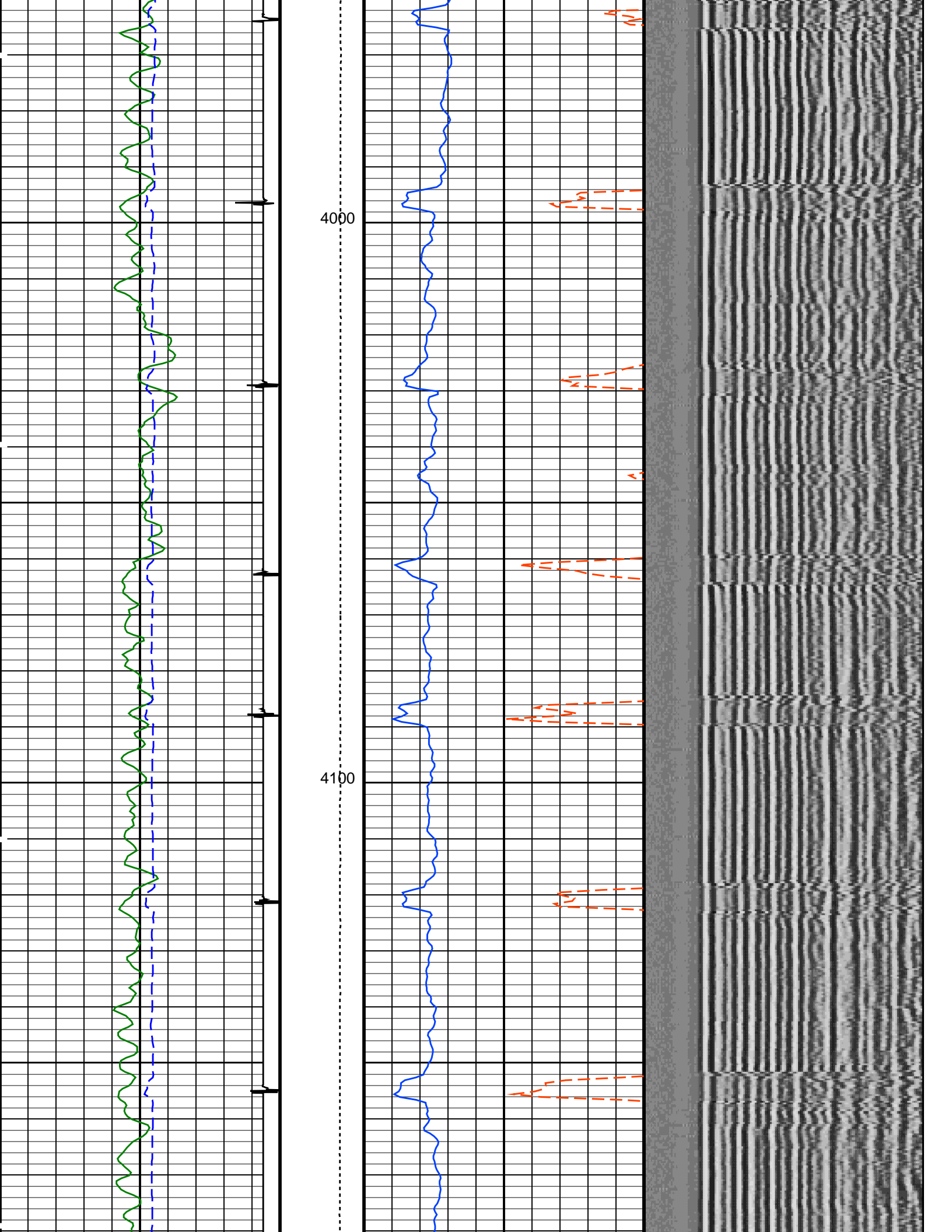


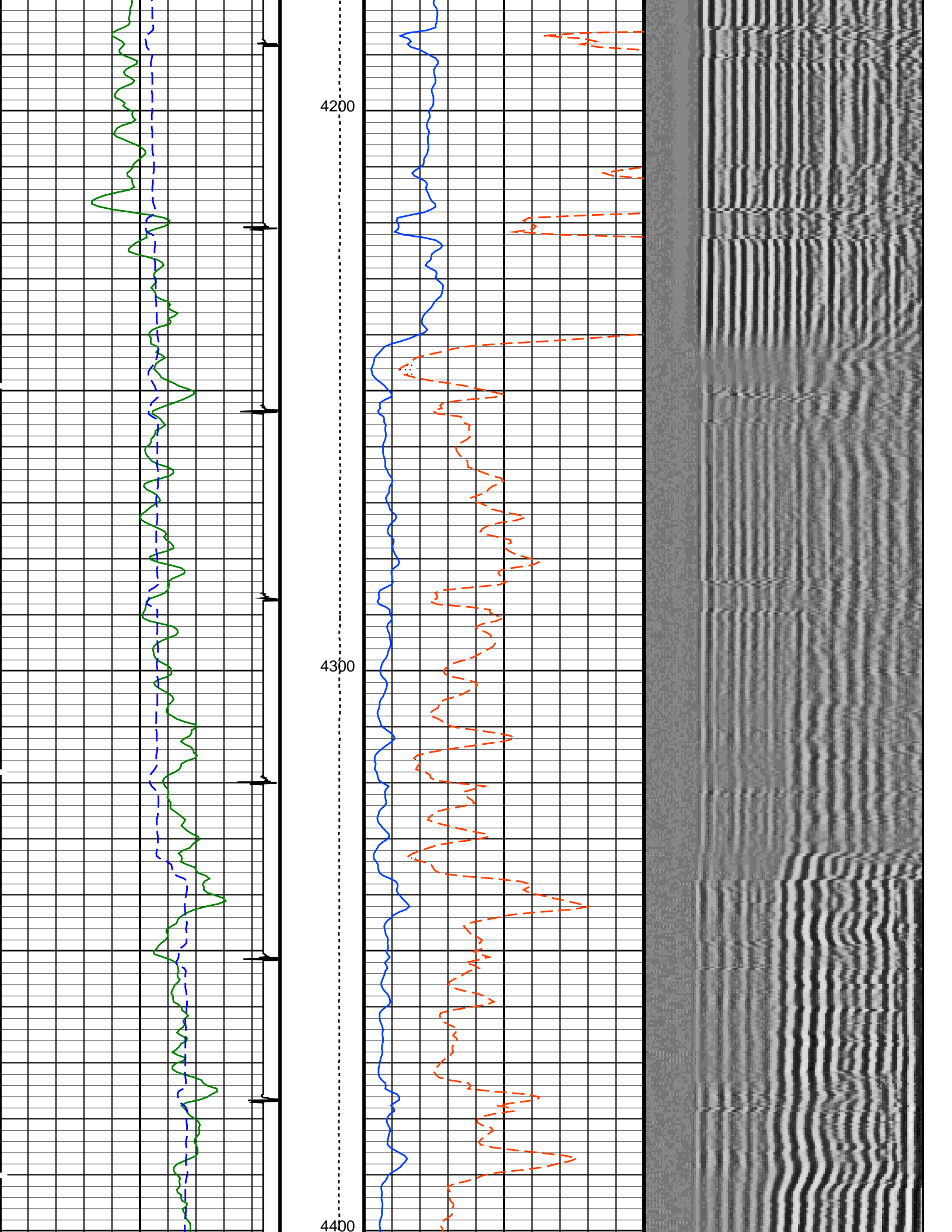


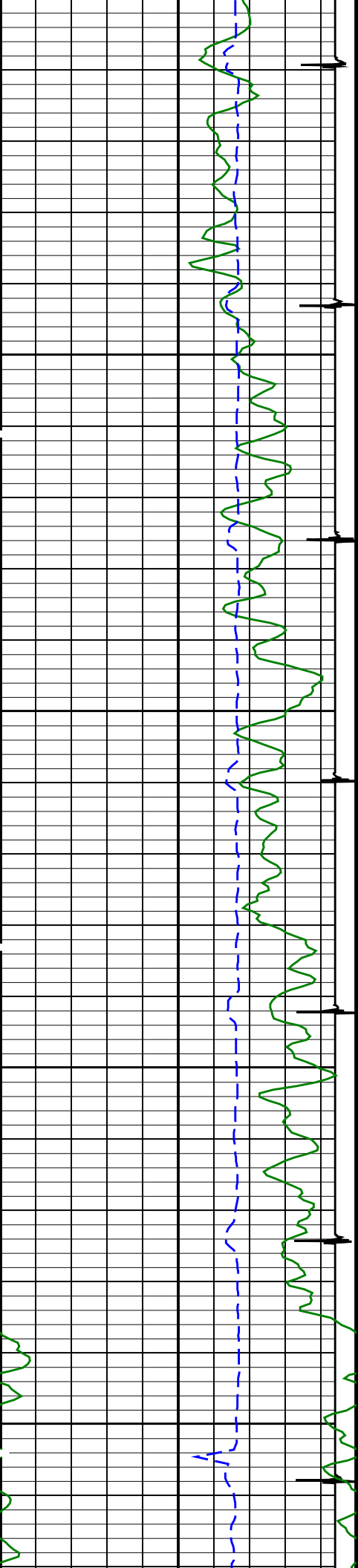






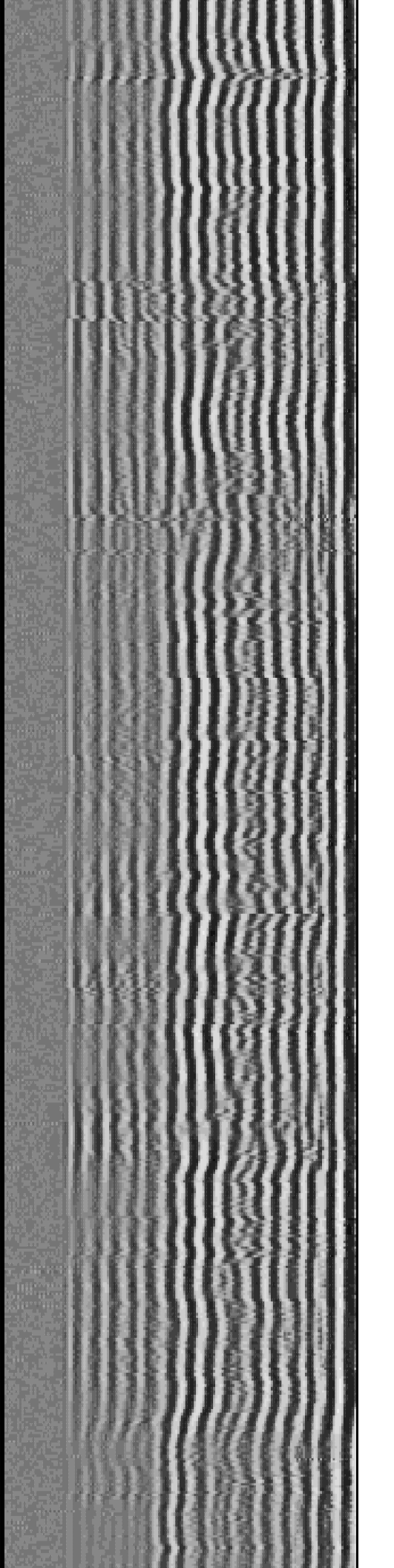
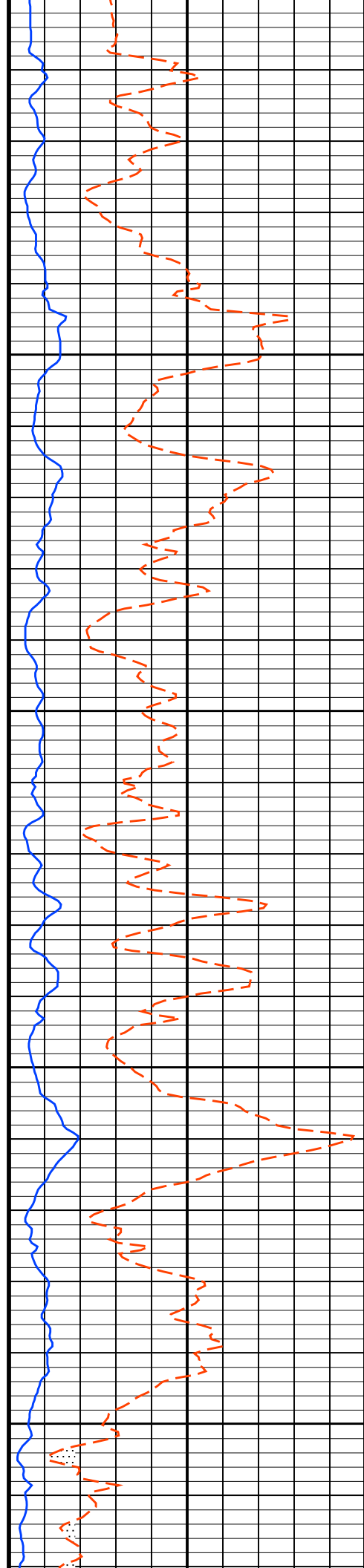


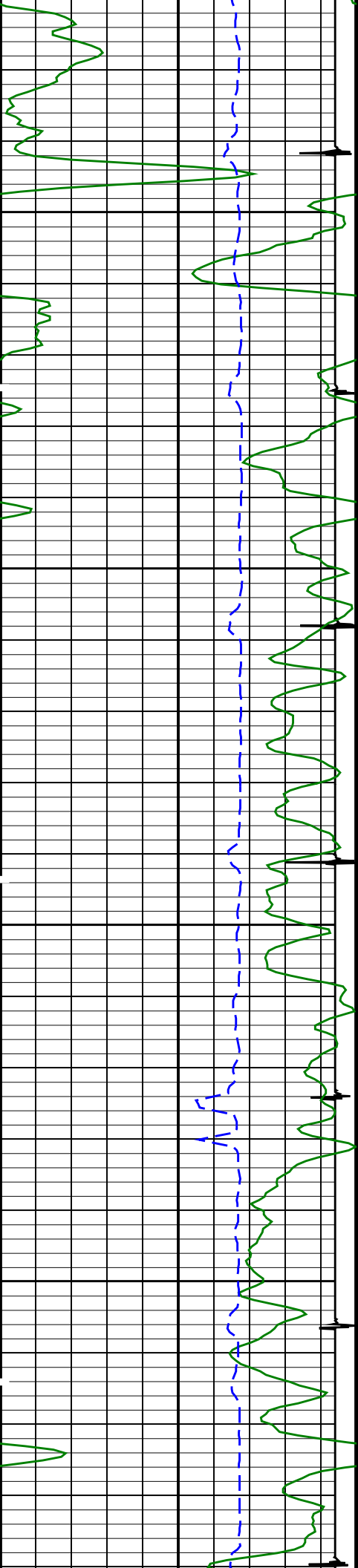




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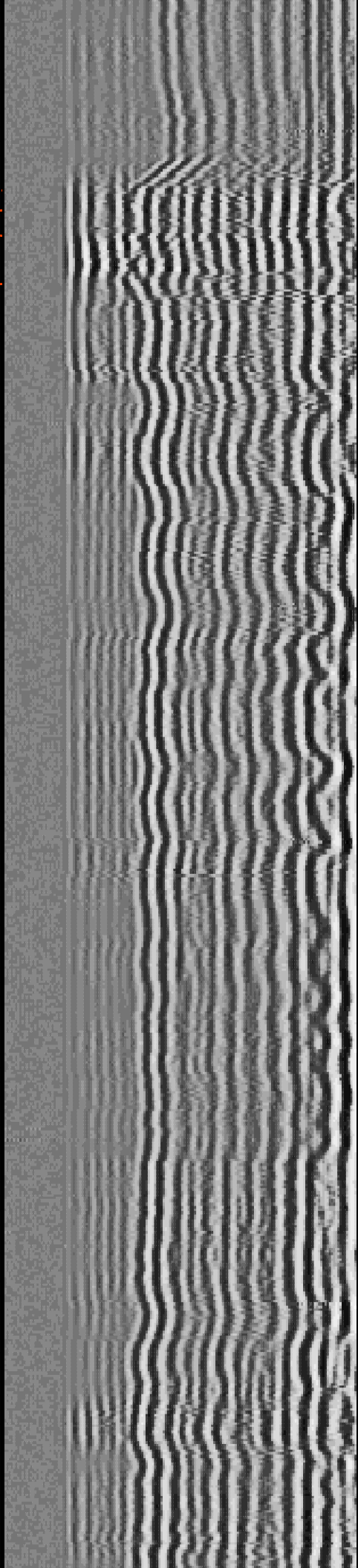
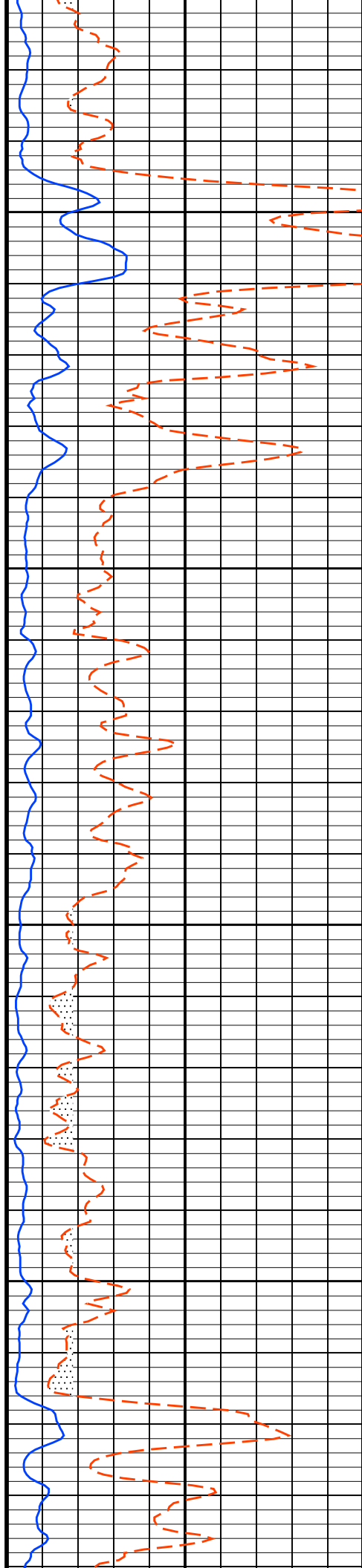
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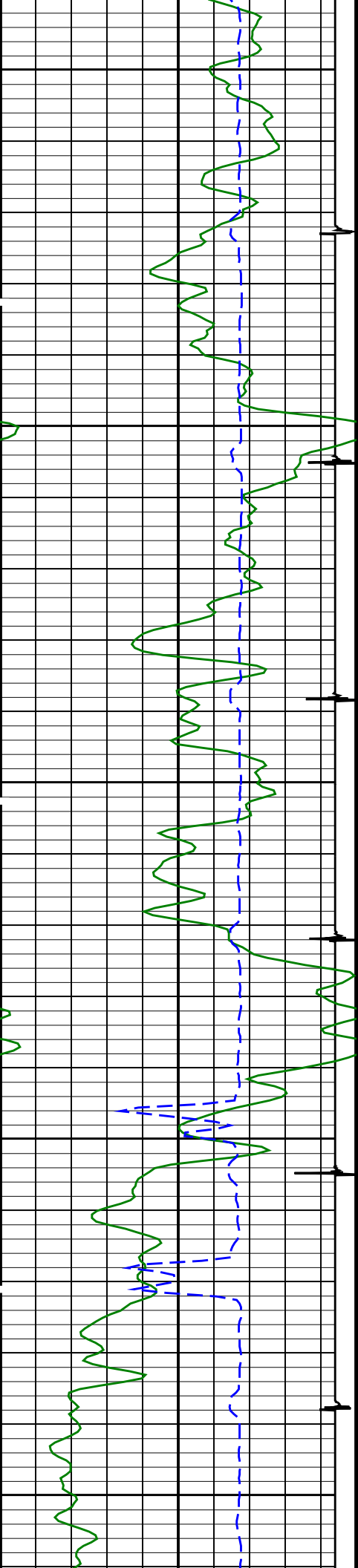


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4800

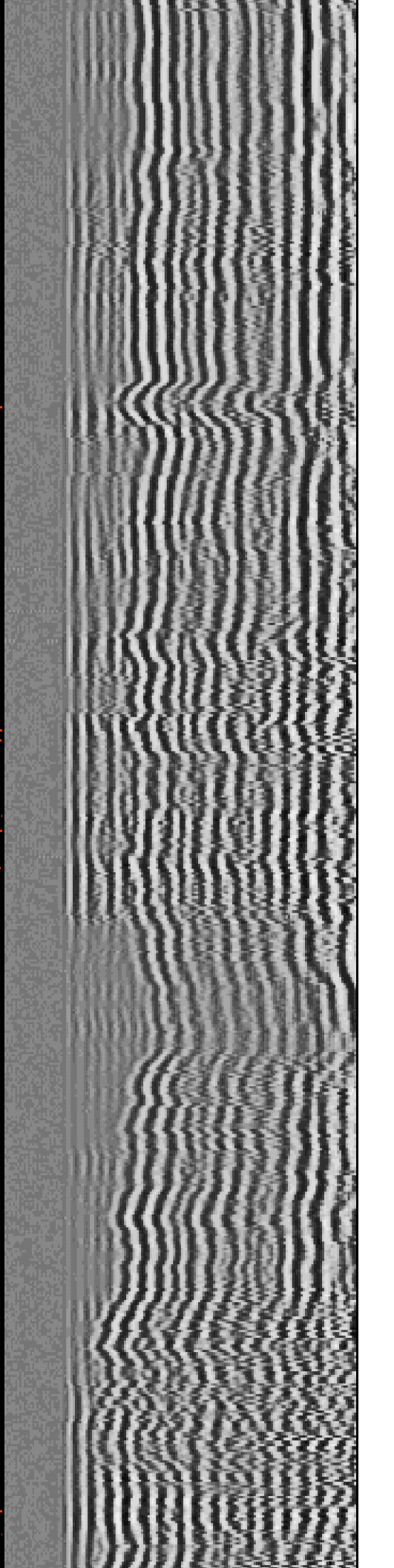
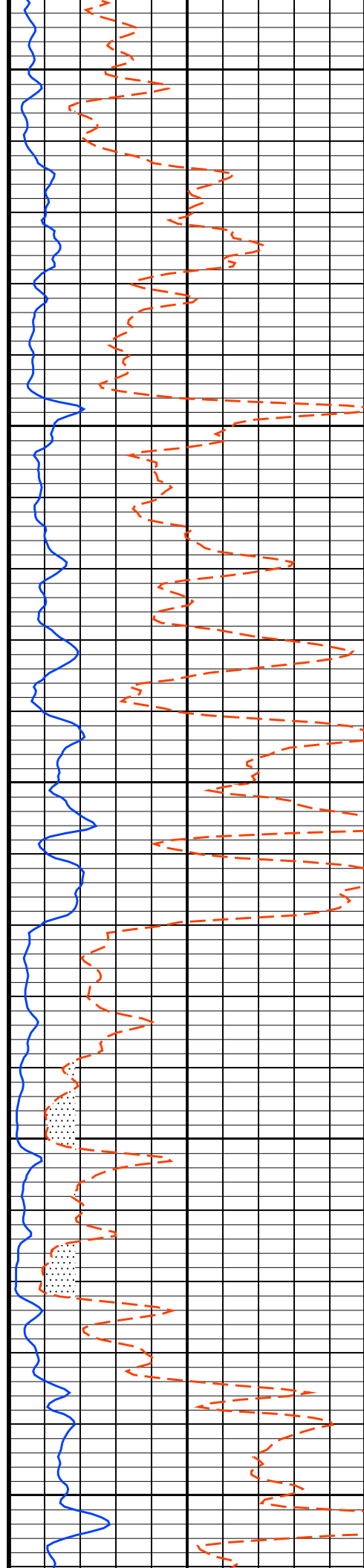


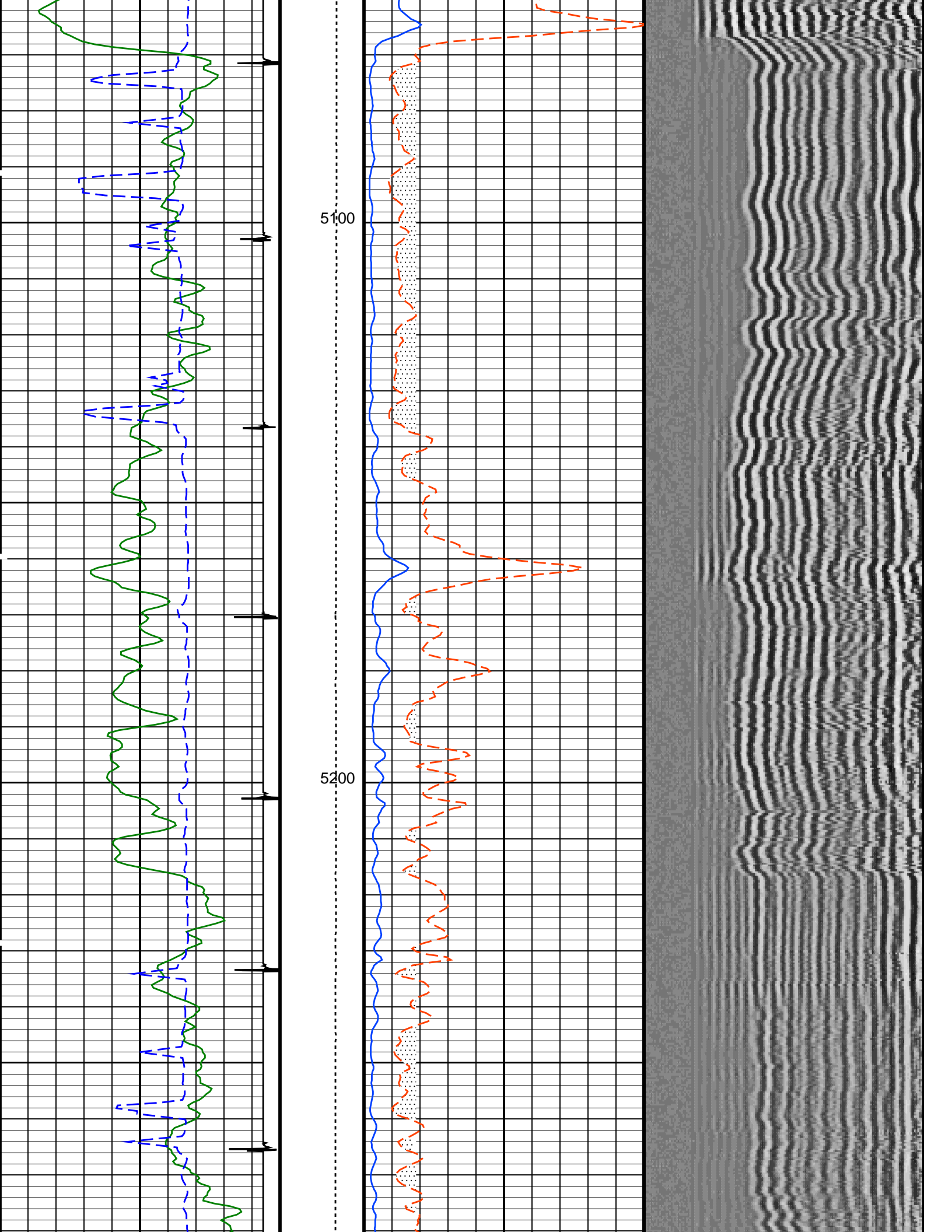


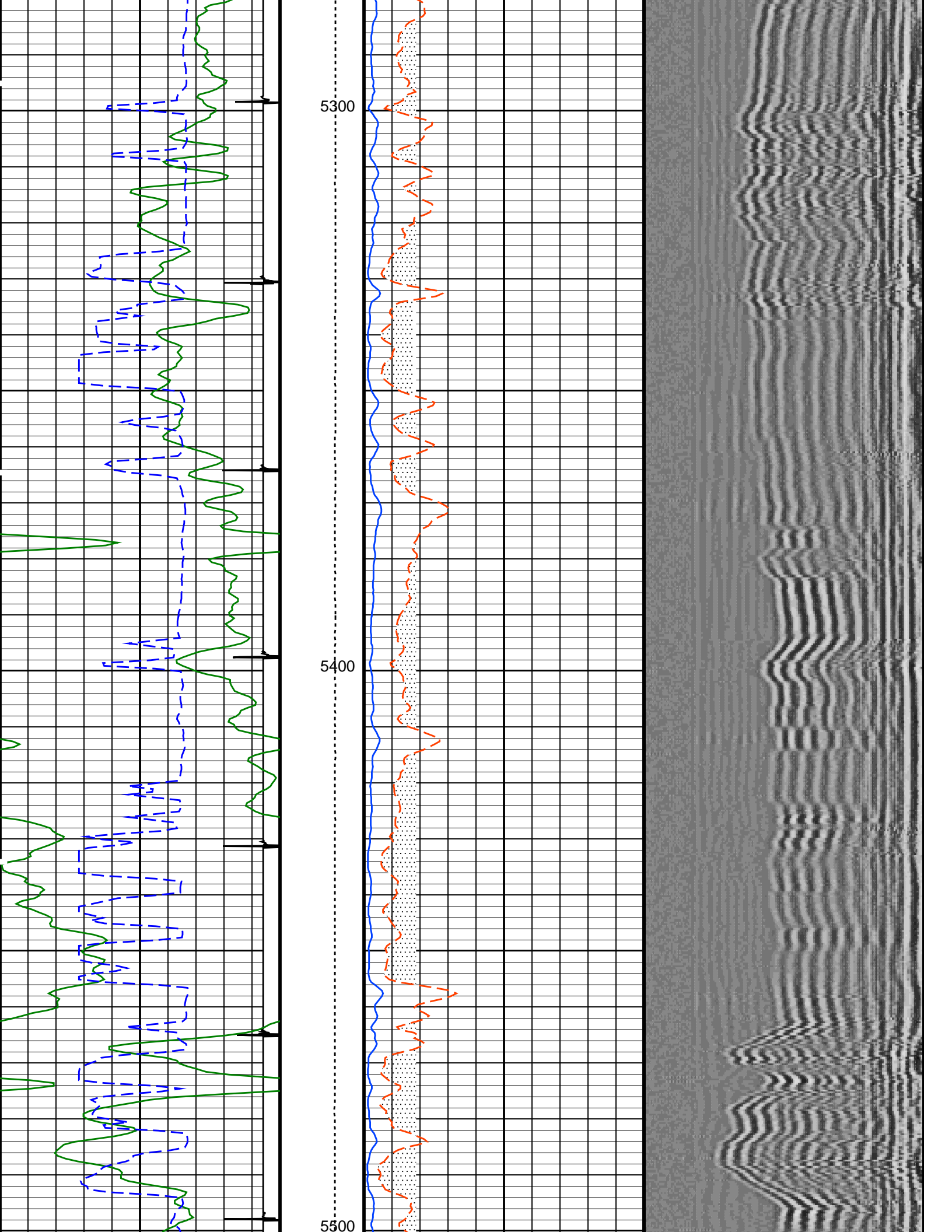


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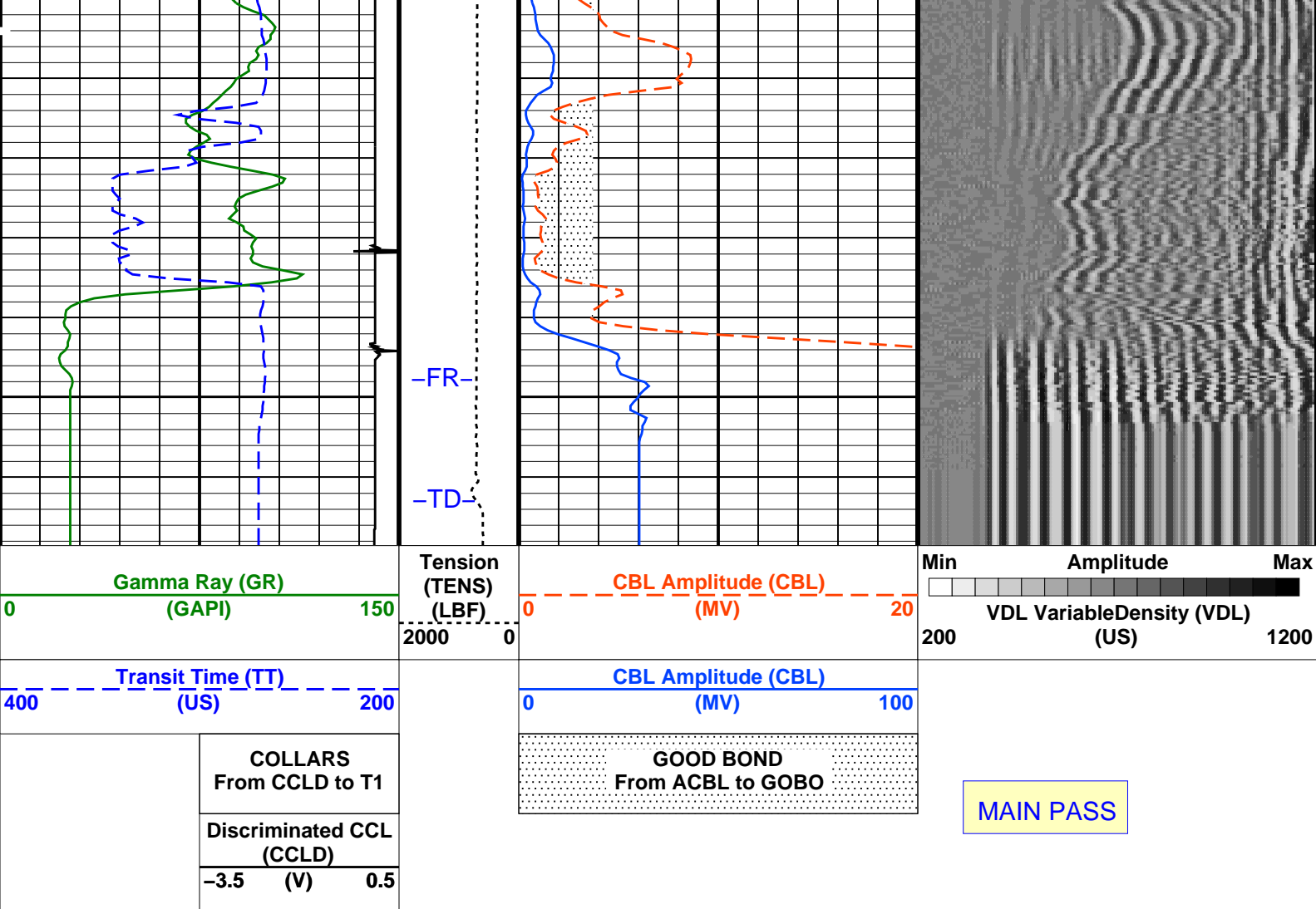
5000











#### PIP SUMMARY

Time Mark Every 60 S

### 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	244	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	358	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	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	0.277592	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	1.83761	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	187.071	US
MAPT	SCMT MAP Fixed Threshold Level	30	MV
MATT	Maximum Attenuation	15.2359	DB/F
MCCF	MAP Cement Type Compensation Factor	1	
MCI	Minimum Cemented Interval for Isolation	4.75	FT
MMSA	MAP Minimum Sonic Amplitude	5.49522	MV
MSA	Minimum Sonic Amplitude	0.737057	MV
PEDE	Peak Detection On/Off Switch in Playback	ON	
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	15.50	LB/F
DFD	Drilling Fluid Density	8.40	LB/G
DO	Depth Offset for Playback	0.0	FT
PP	Playback Processing	NORMAL	
TD	Total Depth	-50000	FT

Format: CBL_VDL	Vertical Scale: 5" per 100'	Graphics File Created: 17-Apr-2012 01:39
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OP System Version: 19C0-187			
SCMT-CB	19C0-187	PSPT	19C0-187

Input DLIS Files					
DEFAULT	Splice_SCMT_PSP_029CUP	FN:1	PRODUCER	17-Apr-2012 01:33	5568.5 FT 3074.1 FT
Output DLIS Files					
DEFAULT	SCMT_PSP_031PUP	FN:23	PRODUCER	17-Apr-2012 01:39	

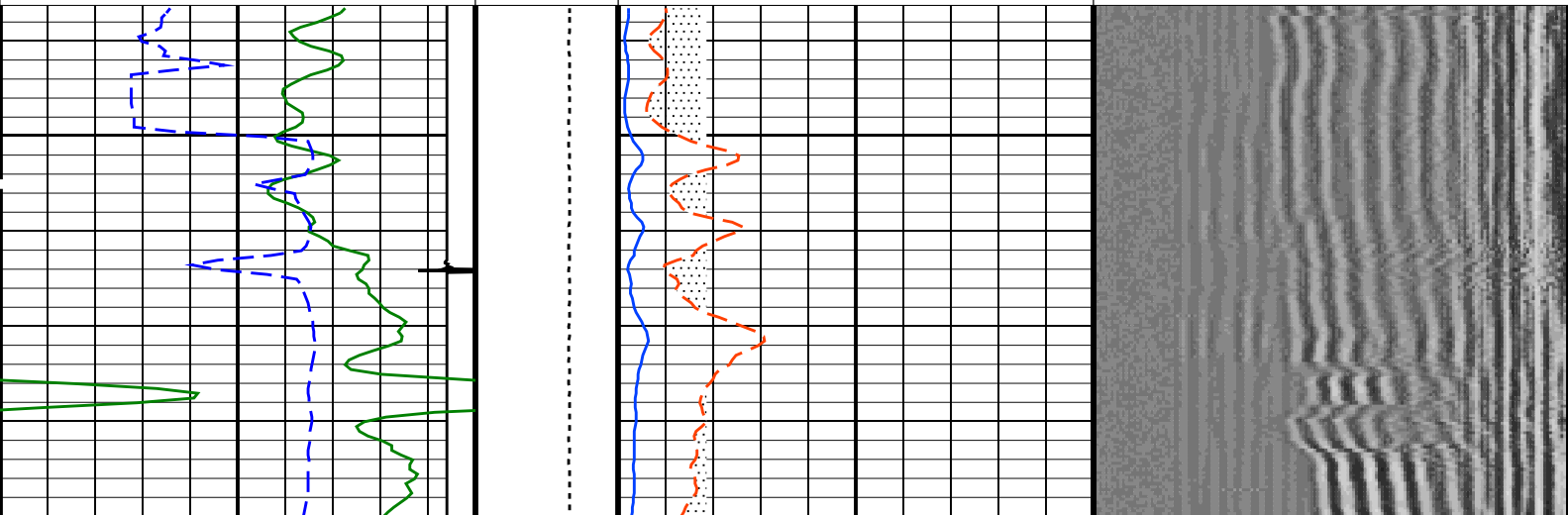
Company: BLACK RAVEN	Well: GEYER #B 1
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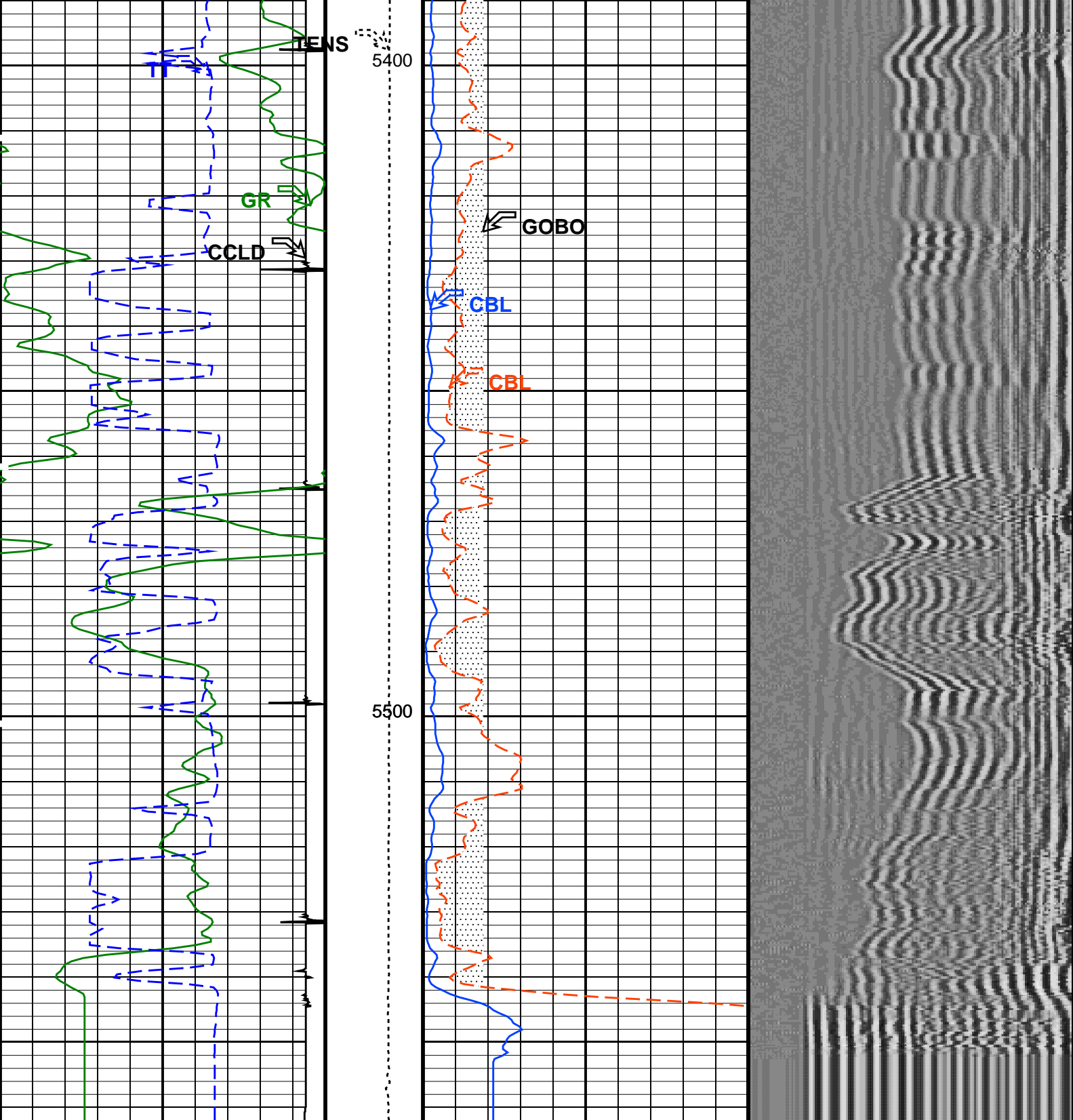
Input DLIS Files					
DEFAULT	SCMT_PSP_006LUP	FN:5	PRODUCER	14-Apr-2012 04:03	5552.5 FT 5326.5 FT
Output DLIS Files					
DEFAULT	SCMT_PSP_010PUP	FN:9	PRODUCER	14-Apr-2012 05:18	5562.0 FT 5336.0 FT

OP System Version: 19C0-187			
SCMT-CB	19C0-187	PSPT	19C0-187

PIP SUMMARY	
Time Mark Every 60 S	

<div>Discriminated CCL (CCLD)</div> <div>-3.5 (V) 0.5</div> <div>COLLARS From CCLD to T1</div>	<div>CASING PRESSURE 0 PSI</div> <div>GOOD BOND From ACBL to GOBO</div> <div>REPEAT SECTION</div>	
	<div>Transit Time (TT) (US)</div> <div>400 200</div>	<div>CBL Amplitude (CBL) (MV)</div> <div>0 100</div>
<div>Gamma Ray (GR) (GAPI)</div> <div>0 150</div>	<div>Tension (TENS) (LBF)</div> <div>2000 0</div>	<div>CBL Amplitude (CBL) (MV)</div> <div>0 20</div>
		<div>Min Amplitude Max</div> <div>VDL VariableDensity (VDL) (US)</div> <div>200 1200</div>





Gamma Ray (GR) (GAPI)	
0	150
Transit Time (TT) (US)	
400	200
COLLARS From CCLD to T1	
Discriminated CCLD (CCLD)	
-3.5 (V)	0.5

Tension (TENS) (LBF)	CBL Amplitude (CBL) (MV)
2000	0
0	20
GOOD BOND From ACBL to GOBO	

CASING PRESSURE 0 PSI

Min	Amplitude	Max
200	VDL VariableDensity (VDL) (US)	1200

REPEAT SECTION

Time Mark Every 60 S

PIP SUMMARY

Parameters

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CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	244.071	US
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CB5G	SCMT CBL 5 ft Peak Detection T0_Delay and Noise Gate	358.071	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	71	MV
CMCF	CBL Cement Type Compensation Factor	1	
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CMTM	SCMT Operating Mode	LOG	
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MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	187.071	US
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MATT	Maximum Attenuation	15.2359	DB/F
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MSA	Minimum Sonic Amplitude	0.737057	MV
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CWEI	Casing Weight	15.50	LB/F
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DO	Depth Offset for Playback	9.7	FT
PP	Playback Processing	NORMAL	
TD	Total Depth	-50000	FT

Format: CBL\_VDL    Vertical Scale: 5" per 100'    Graphics File Created: 14-Apr-2012 05:18

OP System Version: 19C0-187

SCMT-CB	19C0-187	PSPT	19C0-187
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Input DLIS Files

DLIS Name	Description	FN	PRODUCER	DATE	TIME	DEPTH
DEFAULT	SCMT_PSP_006LUP	FN:5	PRODUCER	14-Apr-2012 04:03	5552.5 FT	5326.5 FT

Output DLIS Files

DEFAULT	SCMT_PSP_010PUP	FN:9	PRODUCER	14-Apr-2012 05:18		
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Company: BLACK RAVEN

Well: GEYER #B 1

Field: ADENA

County: MORGAN

State: COLORADO

Schlumberger

CEMENT BOND

GAMMA RAY

CASING COLLAR LOG