

Company: Black Raven

Well: Harry Geyer A #2

Field: Adena

County: Morgan

State: Colorado

CEMENT BOND
GAMMA RAY
CASING COLLAR LOG

County: Morgan
Field: Adena
Location: 330 FSL & 952 FWL
Well: Harry Geyer A #2
Company: Black Raven

LOCATION		Elev.:	
330 FSL & 952 FWL		K.B.	4509.00 ft
		G.L.	4500.00 ft
		D.F.	
Permanent Datum:	GROUND LEVEL	Elev.:	4500.00 ft
Log Measured From:	KELLY BUSHING	9.00 ft	above Perm. Datum
Drilling Measured From:	KELLY BUSHING		
API Serial No.	Section	Township	Range
05-087-05410	6	1N	57W

Logging Date 30-Jan-2014

Run Number 1

Depth Driller 5674 ft

Schlumberger Depth 5620 ft

Bottom Log Interval 5600 ft

Top Log Interval 4085 ft

Casing Fluid Type WATER

Salinity

Density 8.6 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

Logger On Bottom 30-Jan-2014 13:00

Unit Number 354 FORT MORGAN

Recorded By S Langford

Witnessed By Billy Hataway

PVT DATA

Oil Density	Run 1	Run 2	Run 3
Water Salinity			
Gas Gravity			
Bo			
Bw			
1/Bq			
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

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

DEPTH SUMMARY LISTING

Date Created: 30-JAN-2014 15:26:13

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-B/A	Type:	1-25P
Serial Number:	6220	Serial Number:	1163	Serial Number:	354
Calibration Date:	27-MAR-2013	Calibration Date:	6-JANUARY-2012	Length:	17000 FT
Calibrator Serial Number:	1	Calibrator Serial Number:	78135		
Calibration Cable Type:	1-25P	Number of Calibration Points:	0	Conveyance Method:	Wireline
Wheel Correction 1:	-4			Rig Type:	LAND
Wheel Correction 2:	-2				

Depth Control Parameters	
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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
Stretch Correction:	
Tool Zero Check At Surface:	0.20 FT

Depth Control Remarks	
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- | |
|---|
| <ol style="list-style-type: none">1. IDW WHEELS PRIMARY DEPTH CONTROL2. DRUM COUNTER USED AS SECONDARY DEPTH CONTROL3.4.5.6. |
|---|

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.

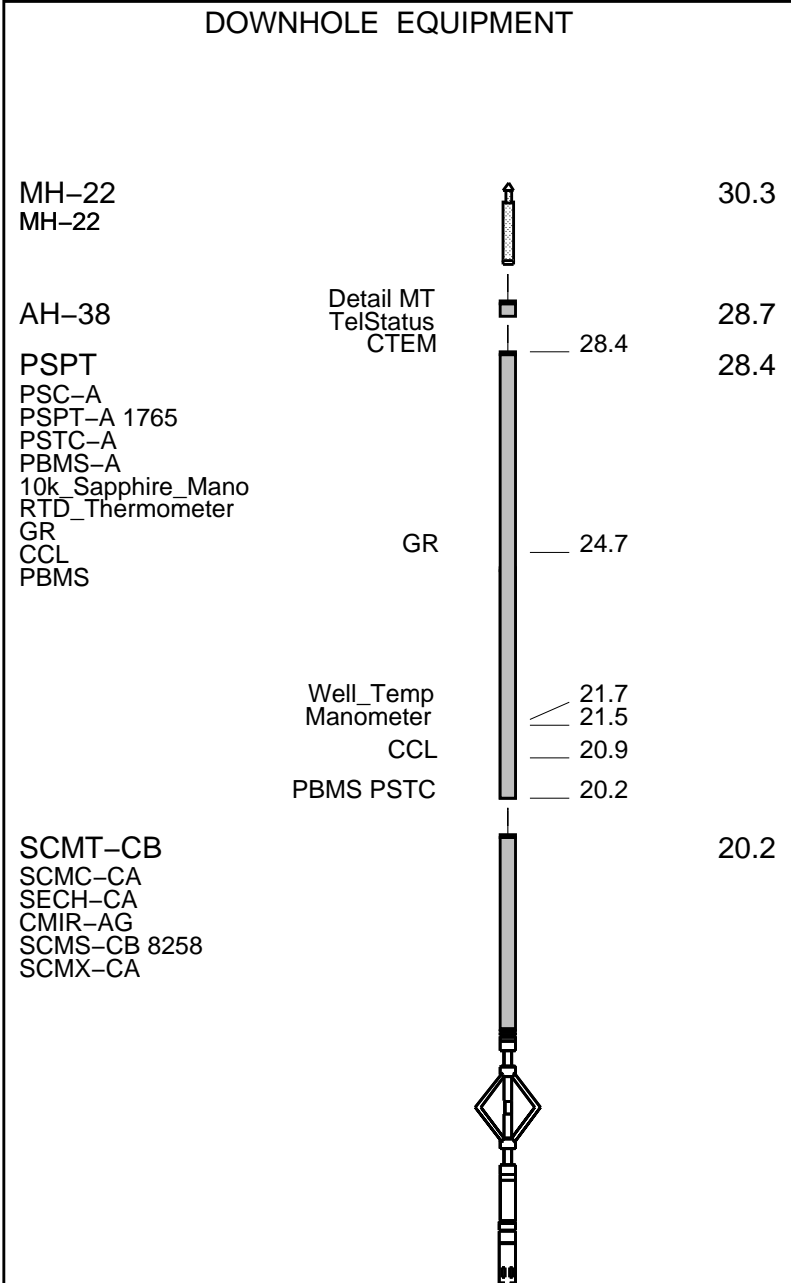
OTHER SERVICES1	OTHER SERVICES2
OS1: NONE	OS1:
OS2:	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
CORRELATED TO OPEN HOLE LOG	
RAN IN 1954 BY SCHLUMBERGER	
REPEAT AND MAIN PASS RAN	

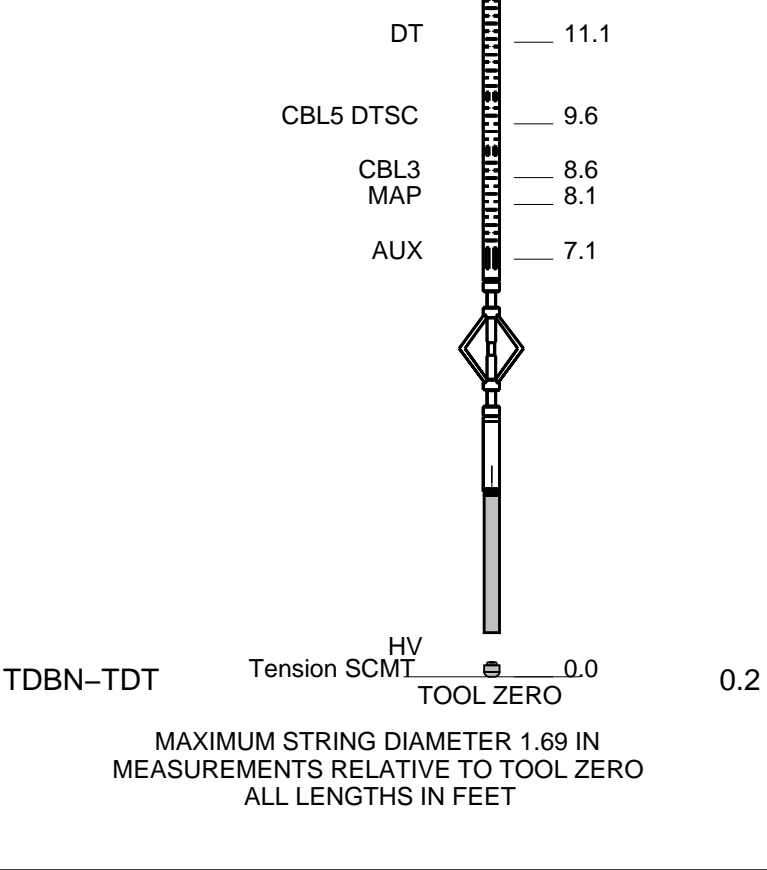
UNDER 0 PSI	
CREW: LANGFORD AND HORTON	
THANK YOU	

RUN 1			RUN 2		
SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:			SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:		
CGEO-00072	19C2-270				
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		

SURFACE EQUIPMENT
 WITM-A
 PSC_16MHZ





MAIN PASS

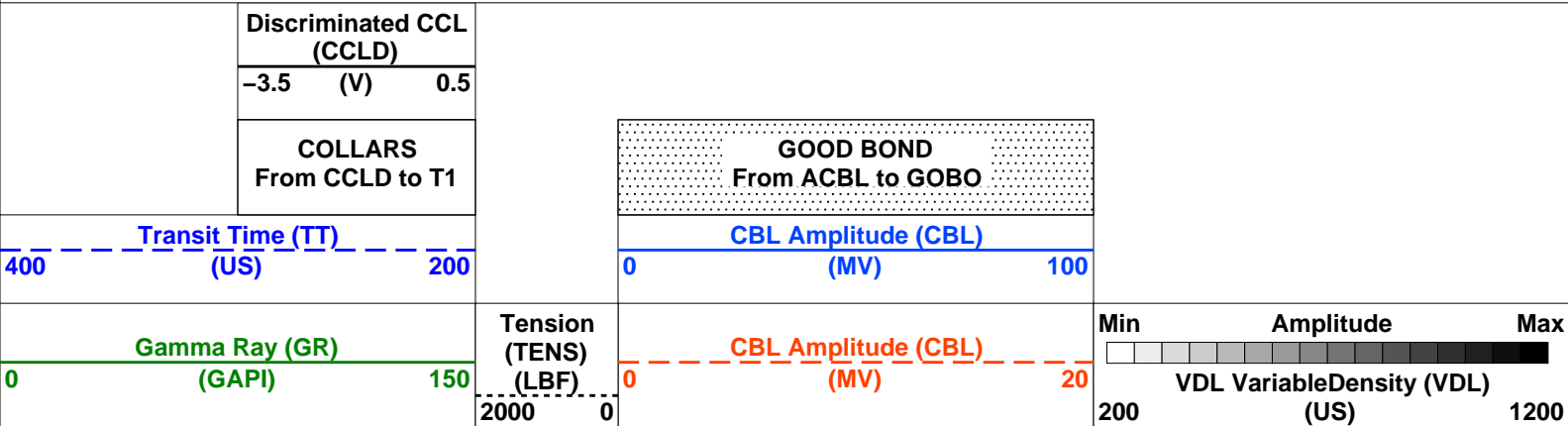
MAXIS Field Log

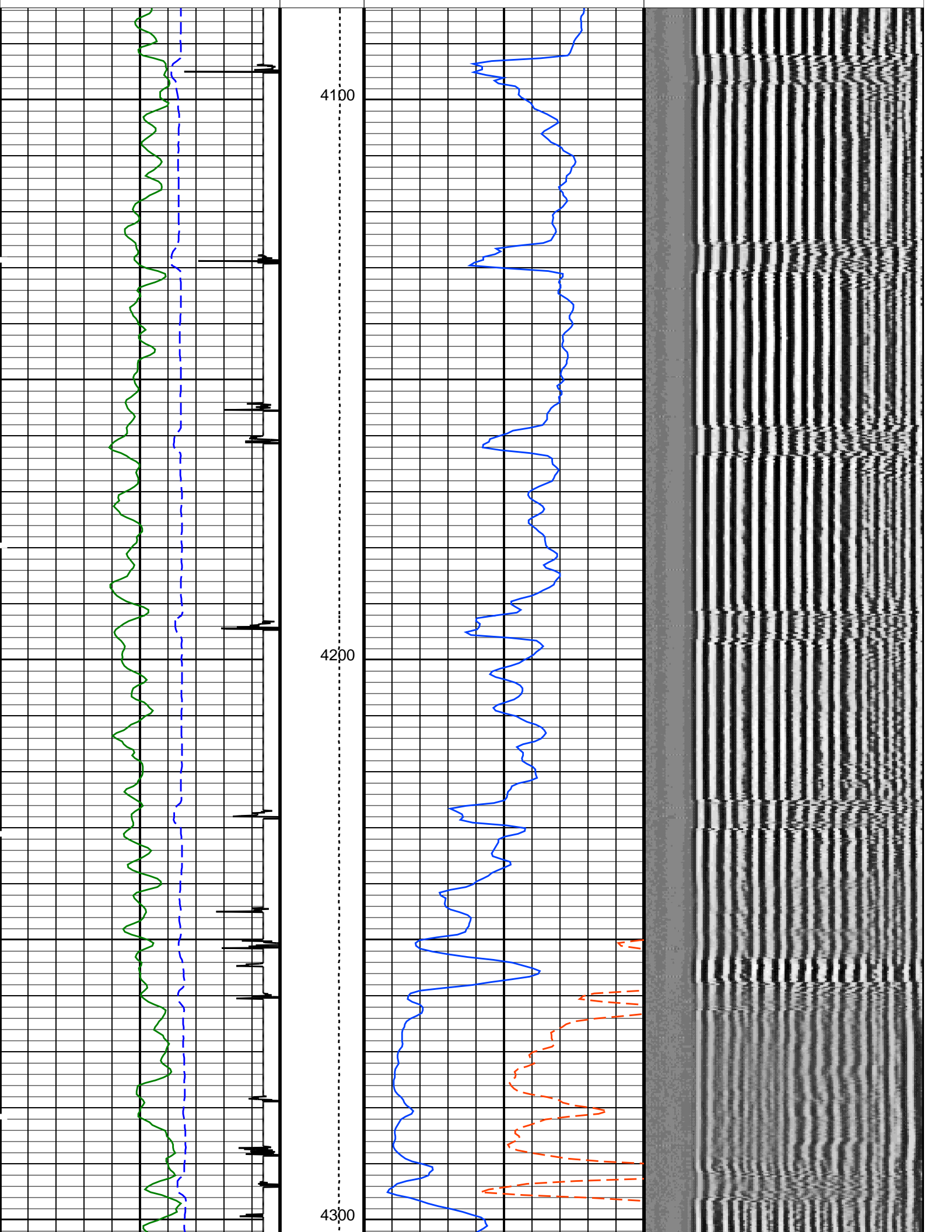
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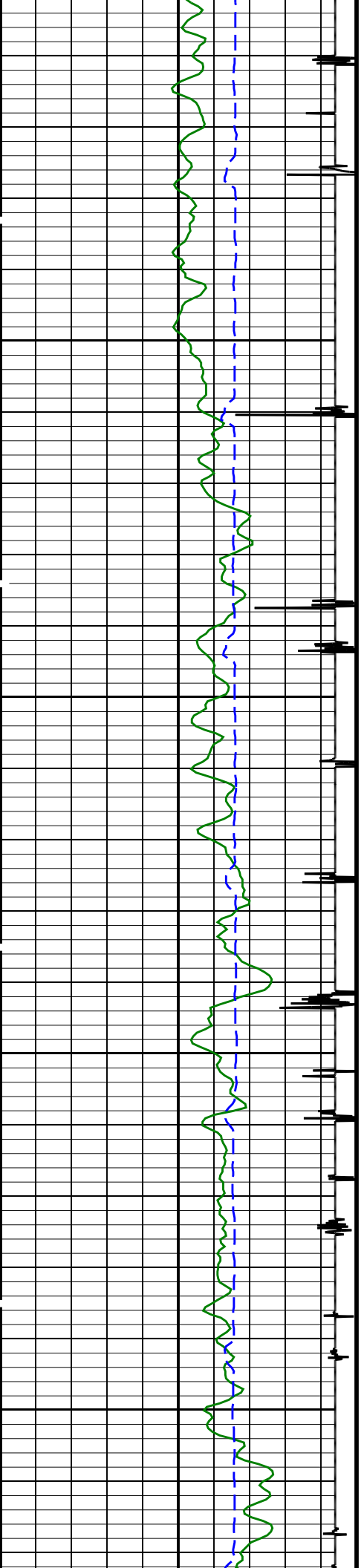
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DEFAULT	SCMT_PSP_004LUP	FN:3	PRODUCER	30-Jan-2014 13:13

OP System Version: 19C2-270				
SCMT-CB	19C2-270	PSPT	19C2-270	

PIP SUMMARY

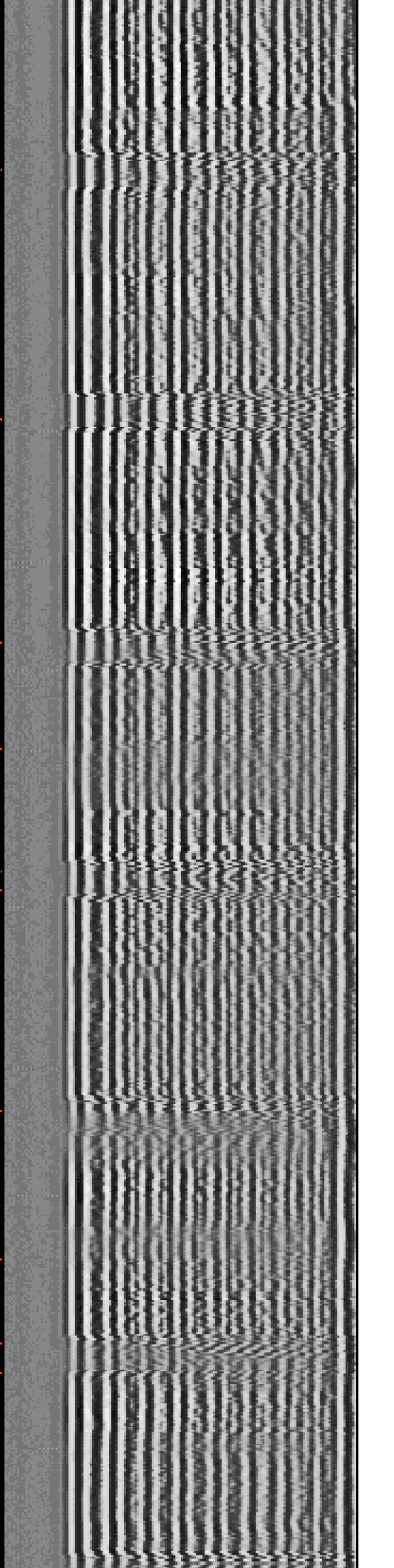
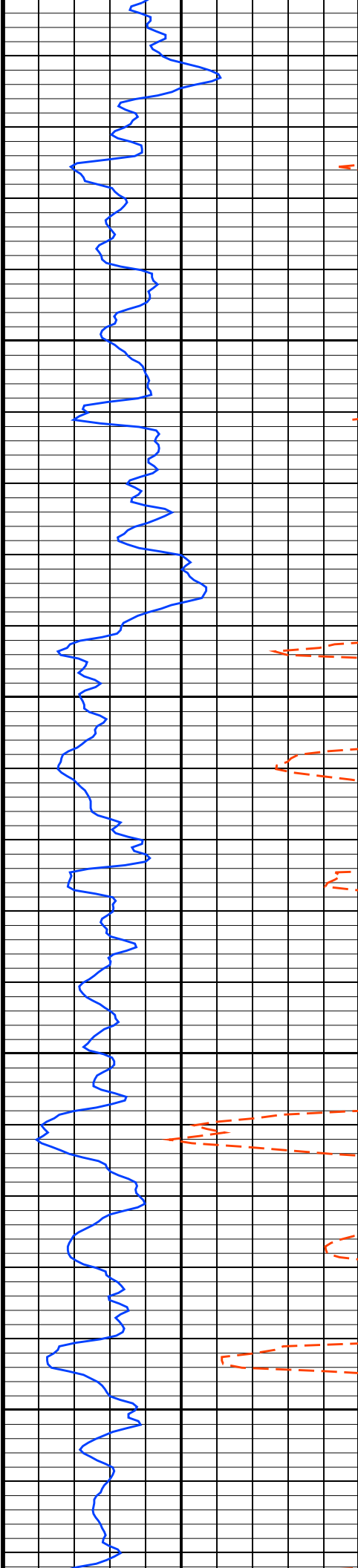


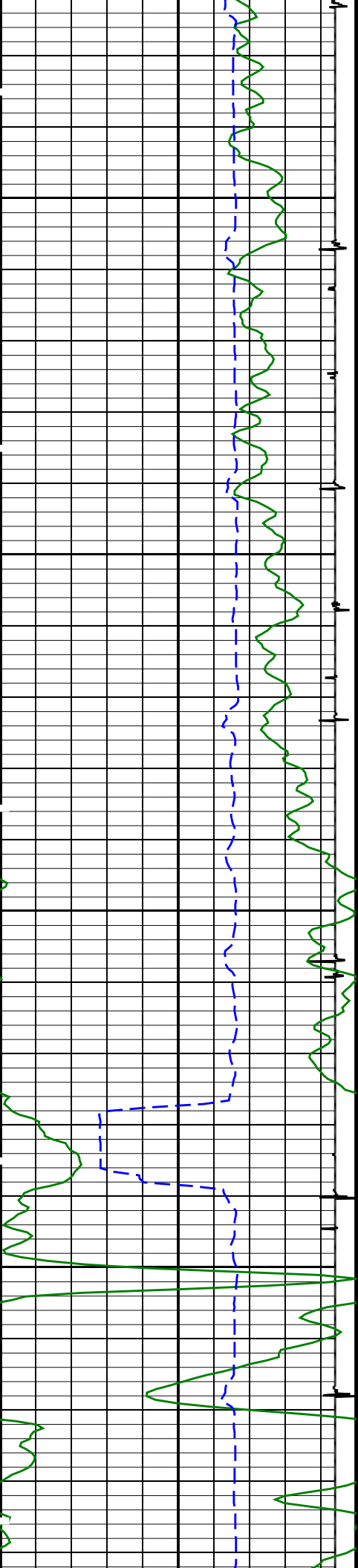




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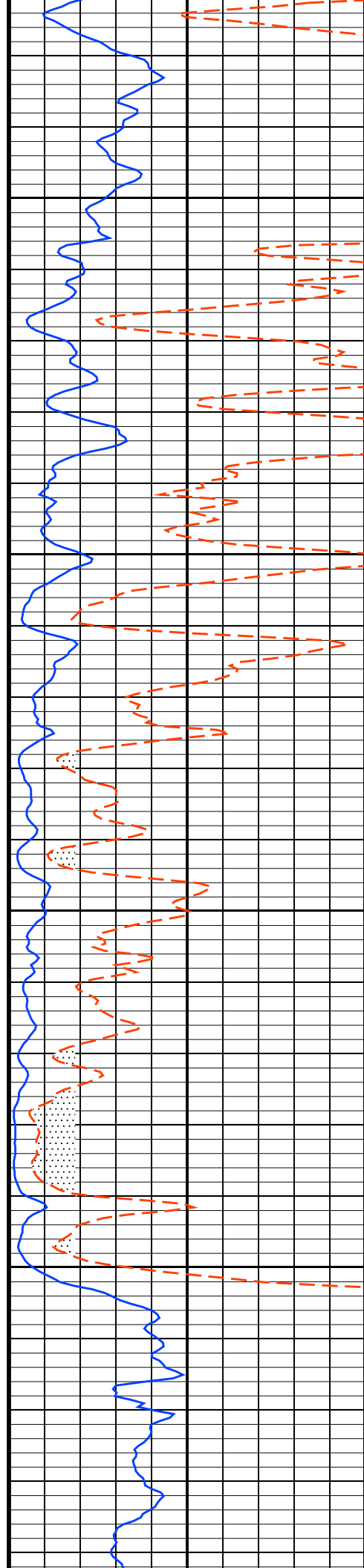
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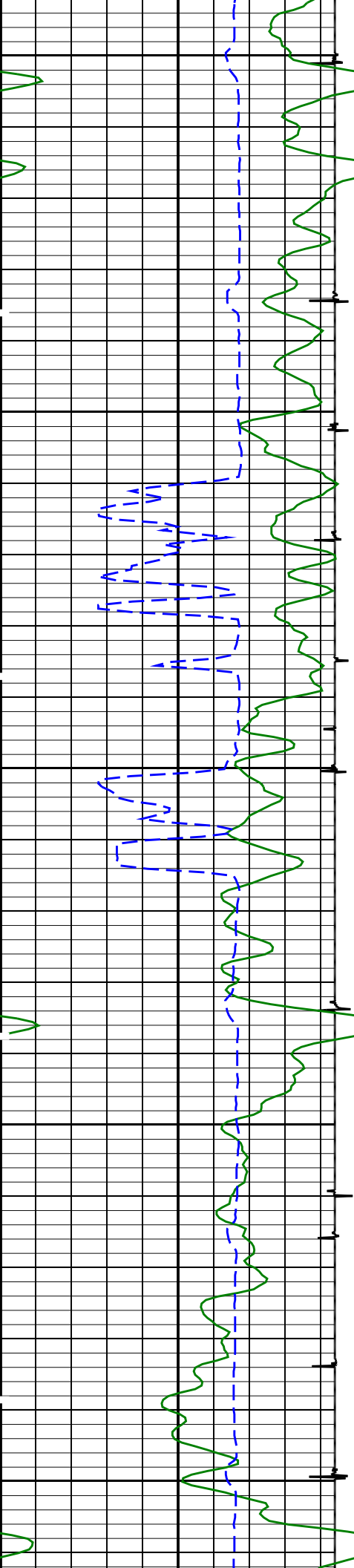




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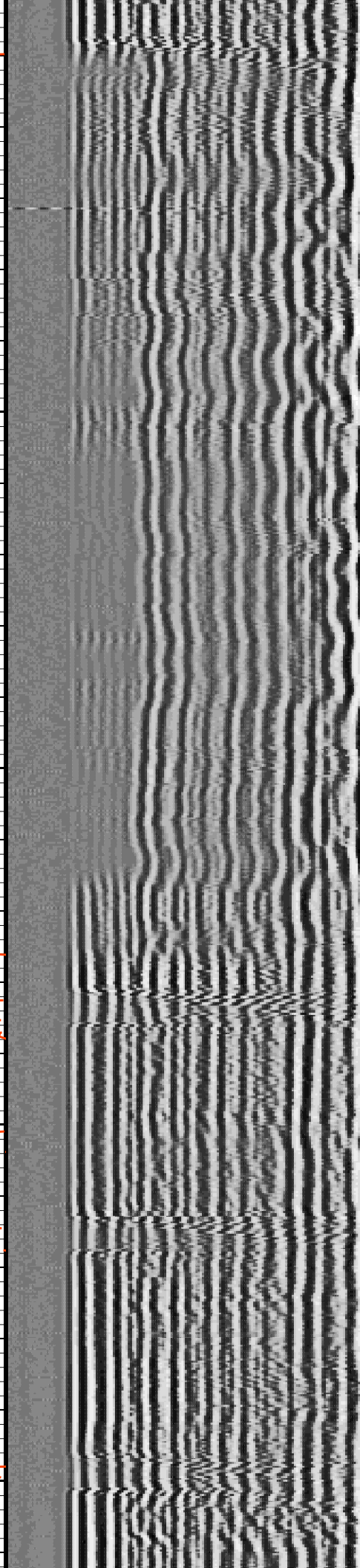
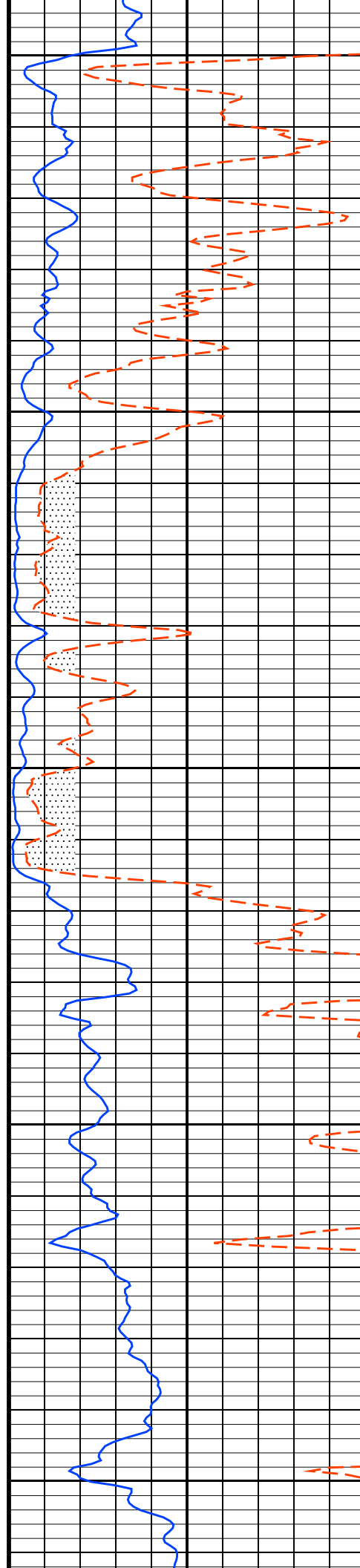
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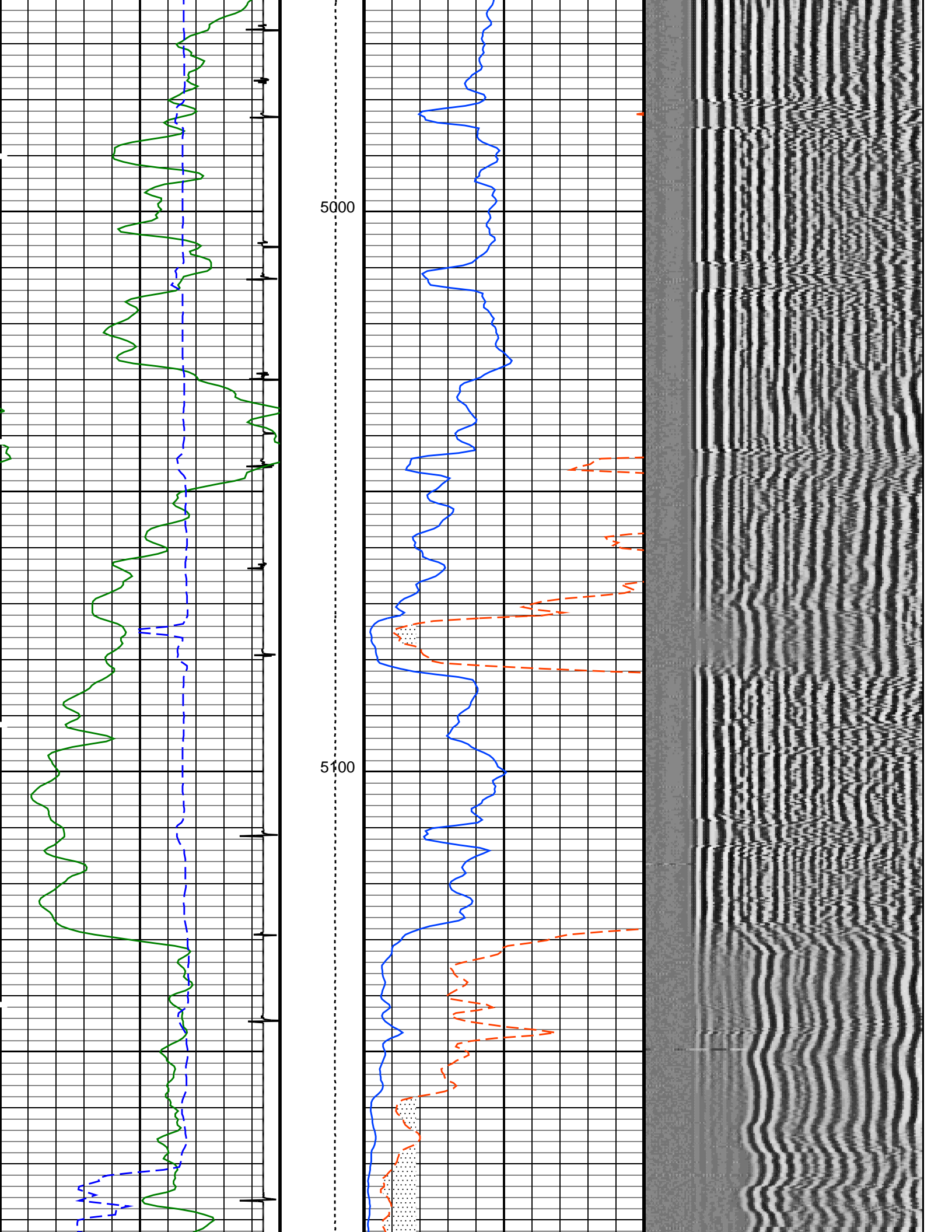


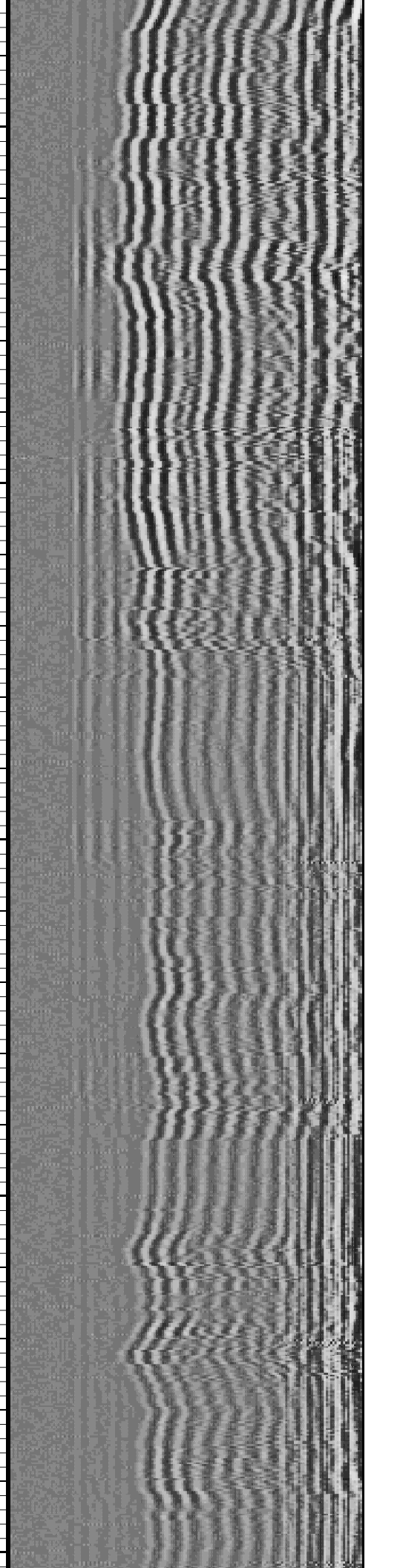
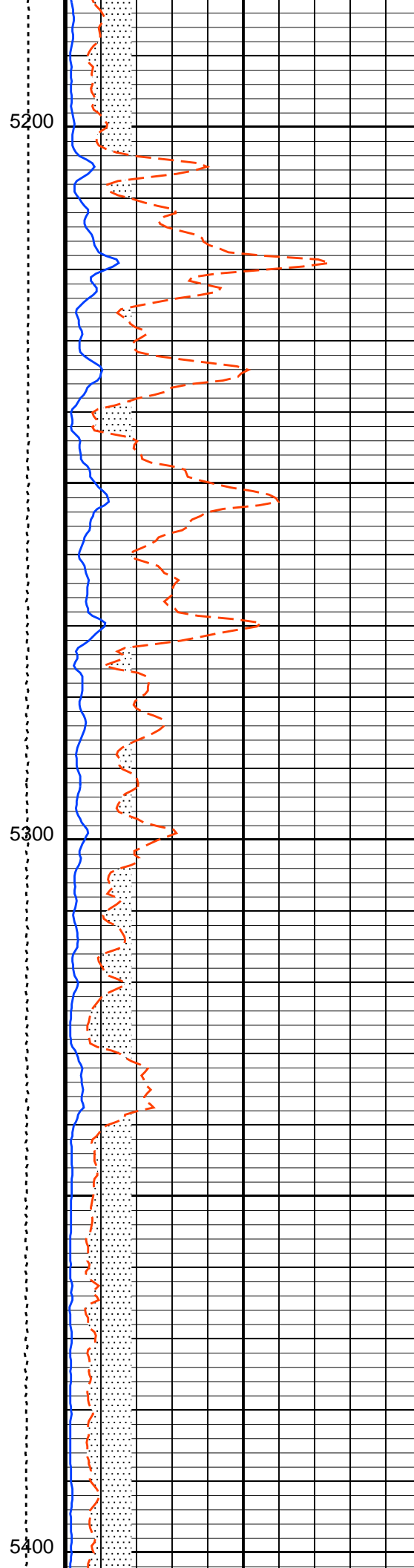
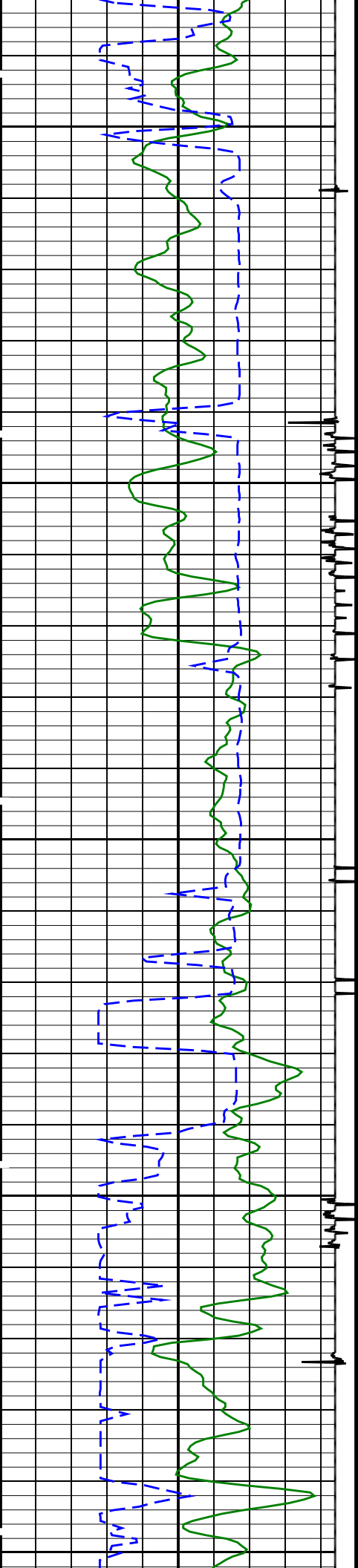


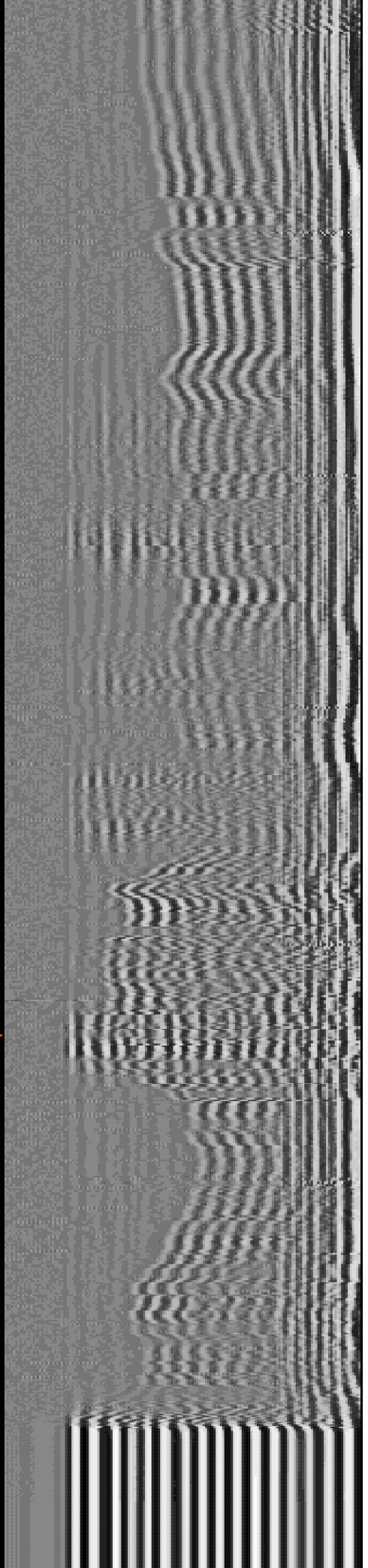
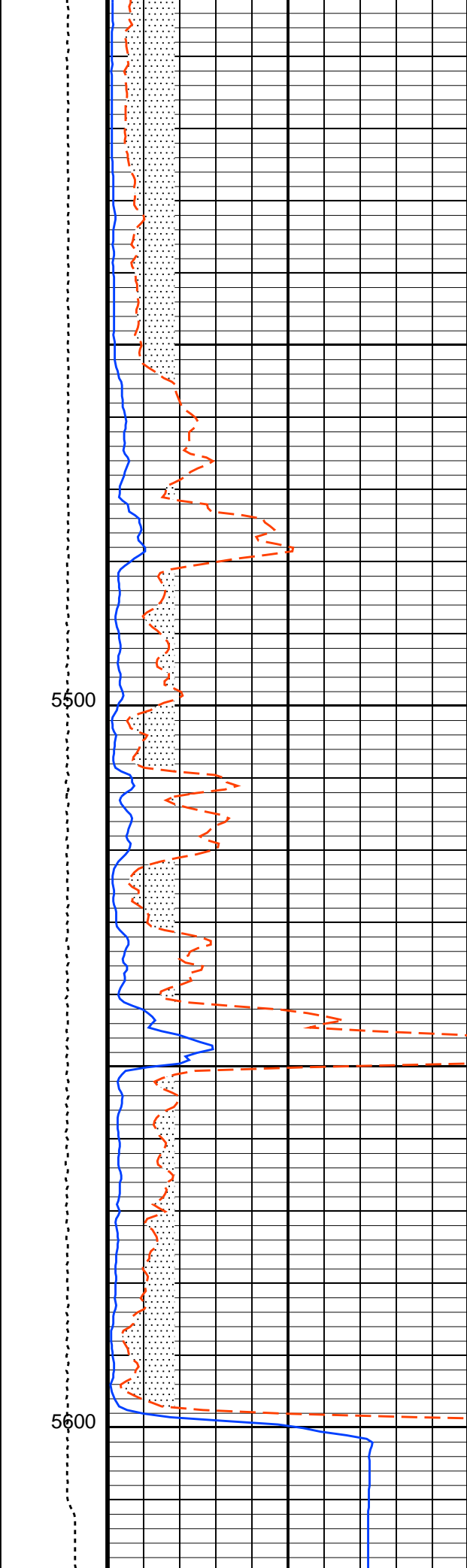
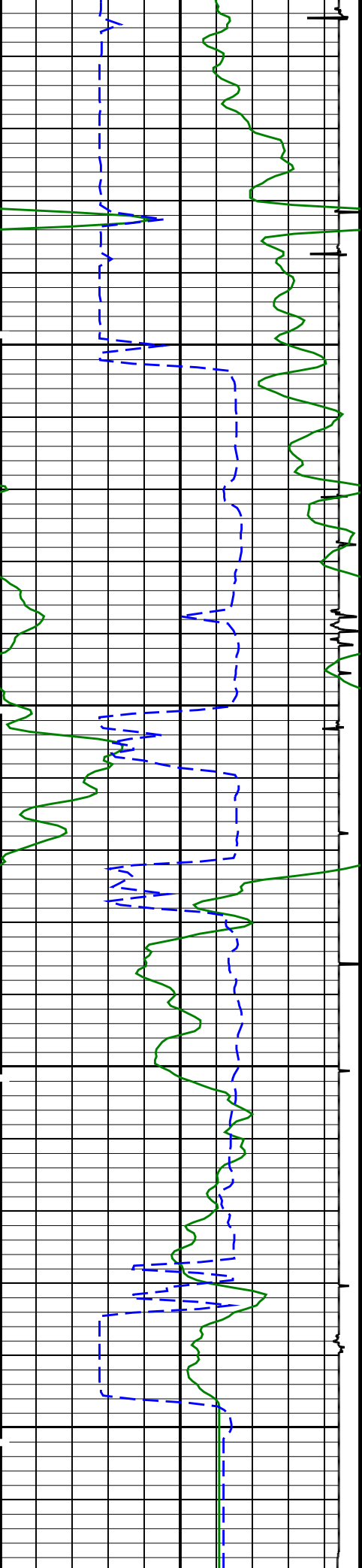
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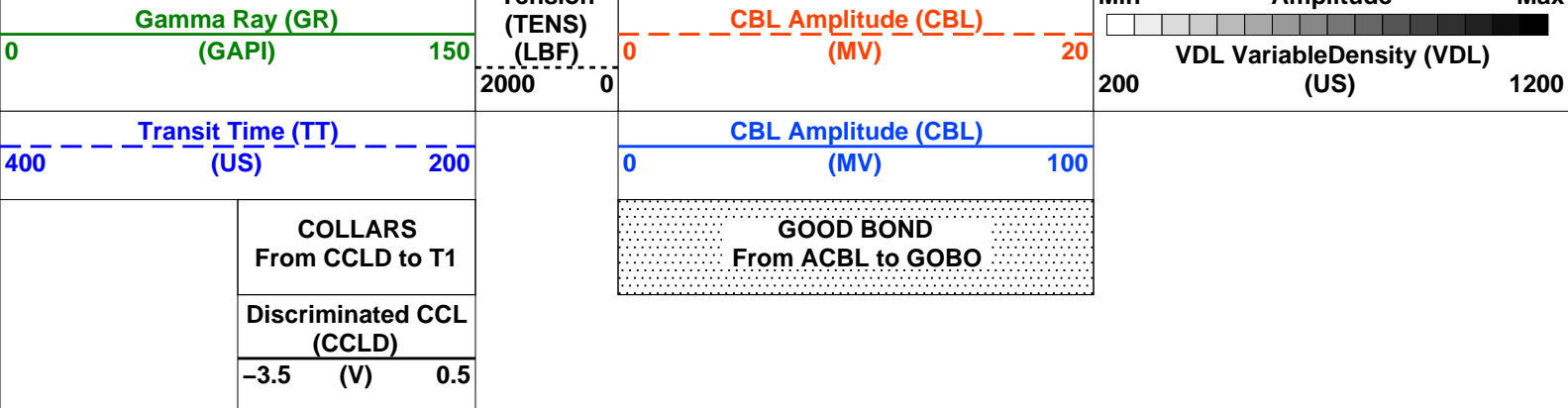


Tension

Min

Amplitude

Max



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	244.071	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	358.071	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	
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	0.97682	
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	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	15.50	LB/F
DFD	Drilling Fluid Density	8.60	LB/G
TD	Total Depth	-50000	FT

Format: CBL_VDL Vertical Scale: 5" per 100' Graphics File Created: 30-Jan-2014 13:13

OP System Version: 19C2-270

SCMT-CB

19C2-270

PSPT

19C2-270

Output DLIS Files

DEFAULT

SCMT_PSP_004LUP

FN:3

PRODUCER

30-Jan-2014 13:13

Company: Black Raven

Well: Harry Geyer A #2

Output DLIS Files

DEFAULT

SCMT_PSP_003LUP

FN:2

PRODUCER

30-Jan-2014 13:01

5617.0 FT

5375.7 FT

OP System Version: 19C2-270

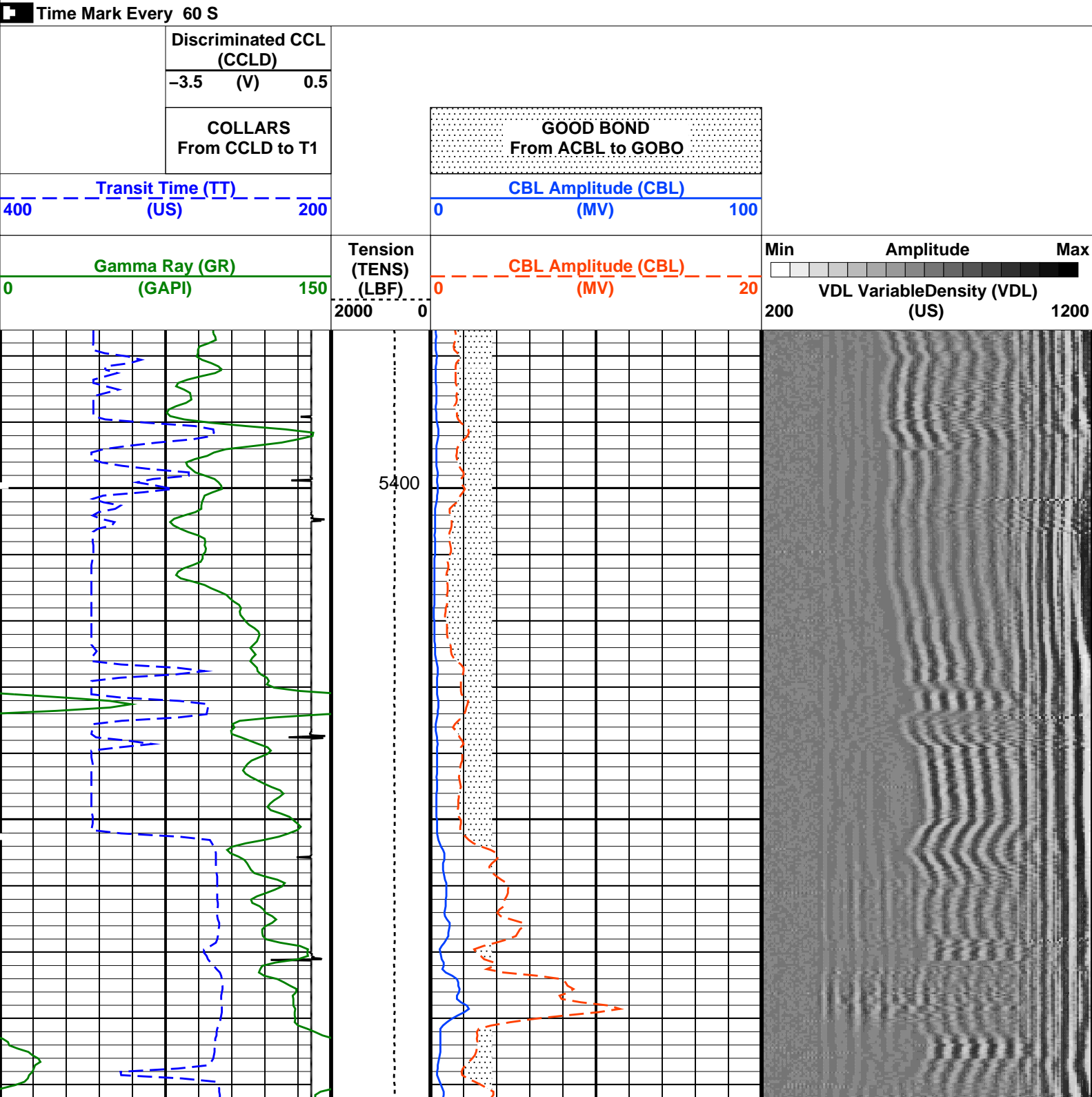
SCMT-CB

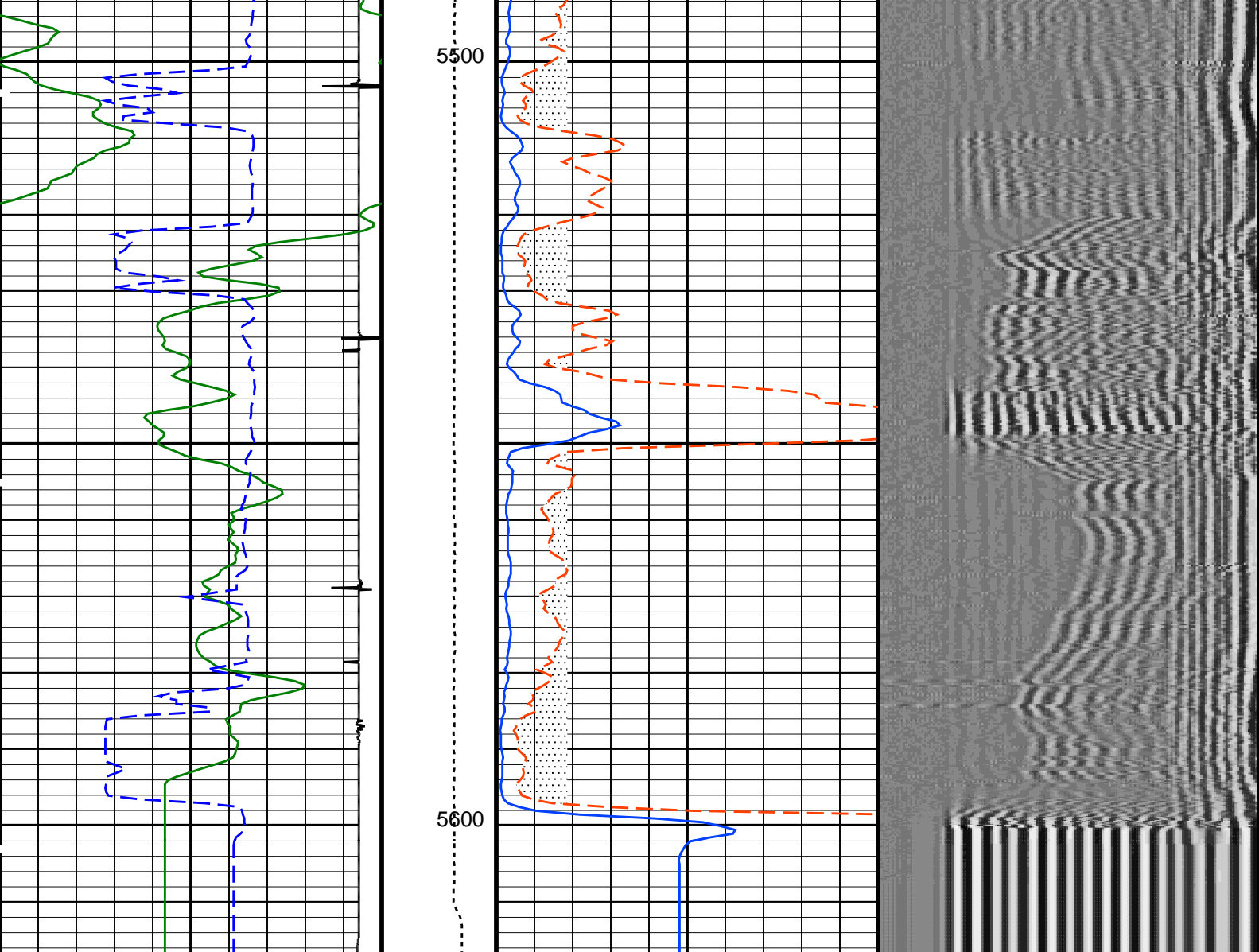
19C2-270

PSPT

19C2-270

PIP SUMMARY





Gamma Ray (GR) (GAPI)		Tension (TENS) (LBF)	CBL Amplitude (CBL) (MV)	Min Amplitude Max VDL Variable Density (VDL) (US)
0	150	2000	0	200
Transit Time (TT) (US)		0	100	1200
400	200			
Collars From CCLD to T1		GOOD BOND From ACBL to GOBO		
Discriminated CCL (CCLD) -3.5 (V) 0.5				

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	244.071	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	358.071	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	SCAN
CMTM	SCMT Slow Channel Multiplexer Mode	LOG	
CSCS	SCMT Operating Mode	VCC	
CTHI	SCMT Slow Channel Index	0.277592	IN
DTF	Casing Thickness	204.5	US/F
FATT	Delta-T Fluid	0	DB/F
FCF	Acoustic Attenuation due to Fluid	0.97682	
GOBO	CBL Fluid Compensation Factor	1.83761	MV
MAPD	Good Bond	PEAK	
MAPG	SCMT MAP Peak Detection Mode	187.071	US
MAPT	SCMT MAP Peak Detection T0 Delay and Noise Gate	30	MV
MATT	SCMT MAP Fixed Threshold Level	15.2359	DB/F
MCCF	Maximum Attenuation	1	
MCI	MAP Cement Type Compensation Factor	4.75	FT
MMSA	Minimum Cemented Interval for Isolation	5.49522	MV
MSA	MAP Minimum Sonic Amplitude	0.737057	MV
PEDE	Minimum Sonic Amplitude	OFF	
VDLG	Peak Detection On/Off Switch in Playback	5	
ZCMT	VDL Manual Gain	6.8	MRAY
	Acoustic Impedance of Cement		
	System and Miscellaneous		
CSIZ	Current Casing Size	5.500	IN
CWEI	Casing Weight	15.50	LB/F
DFD	Drilling Fluid Density	8.60	LB/G
TD	Total Depth	-50000	FT

Format: CBL_VDL

Vertical Scale: 5" per 100'

Graphics File Created: 30-Jan-2014 13:01

OP System Version: 19C2-270			
SCMT-CB	19C2-270	PSPT	19C2-270

Output DLIS Files			
DEFAULT	SCMT_PSP_003LUP	FN:2	PRODUCER 30-Jan-2014 13:01

Schlumberger

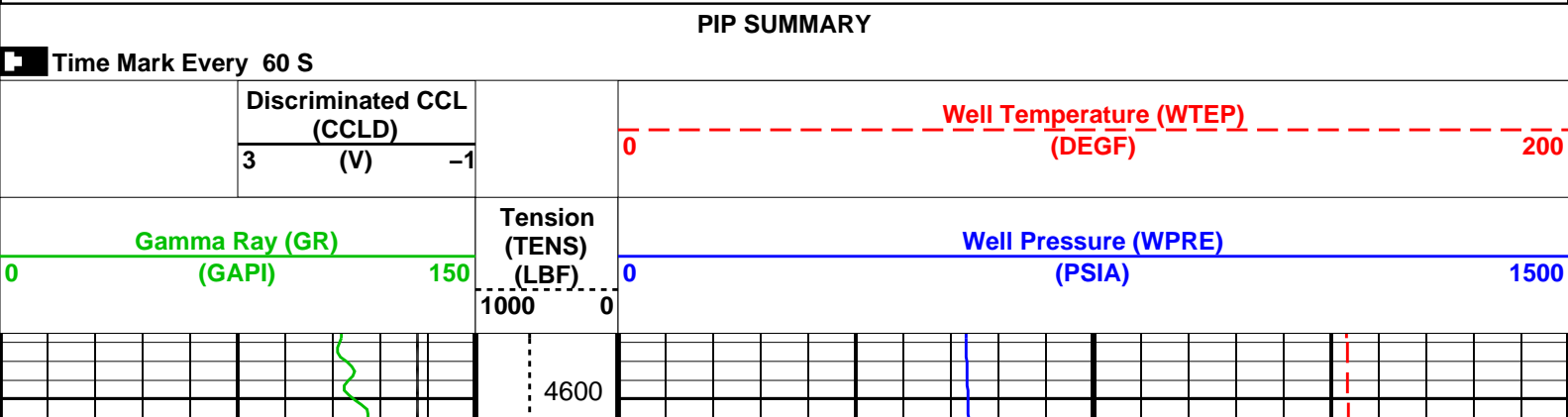
PBMS PASS

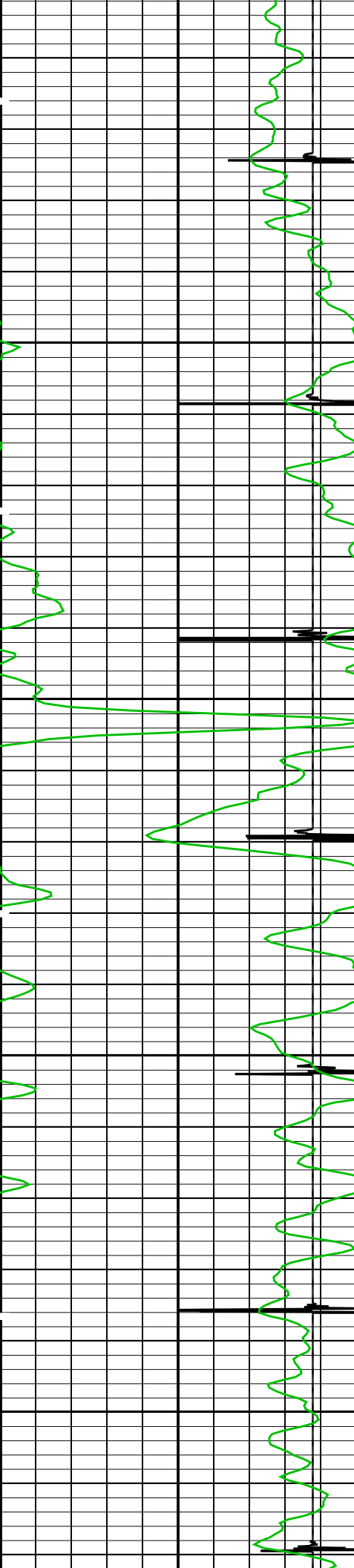
MAXIS Field Log

Company: Black Raven	Well: Harry Geyer A #2
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Output DLIS Files			
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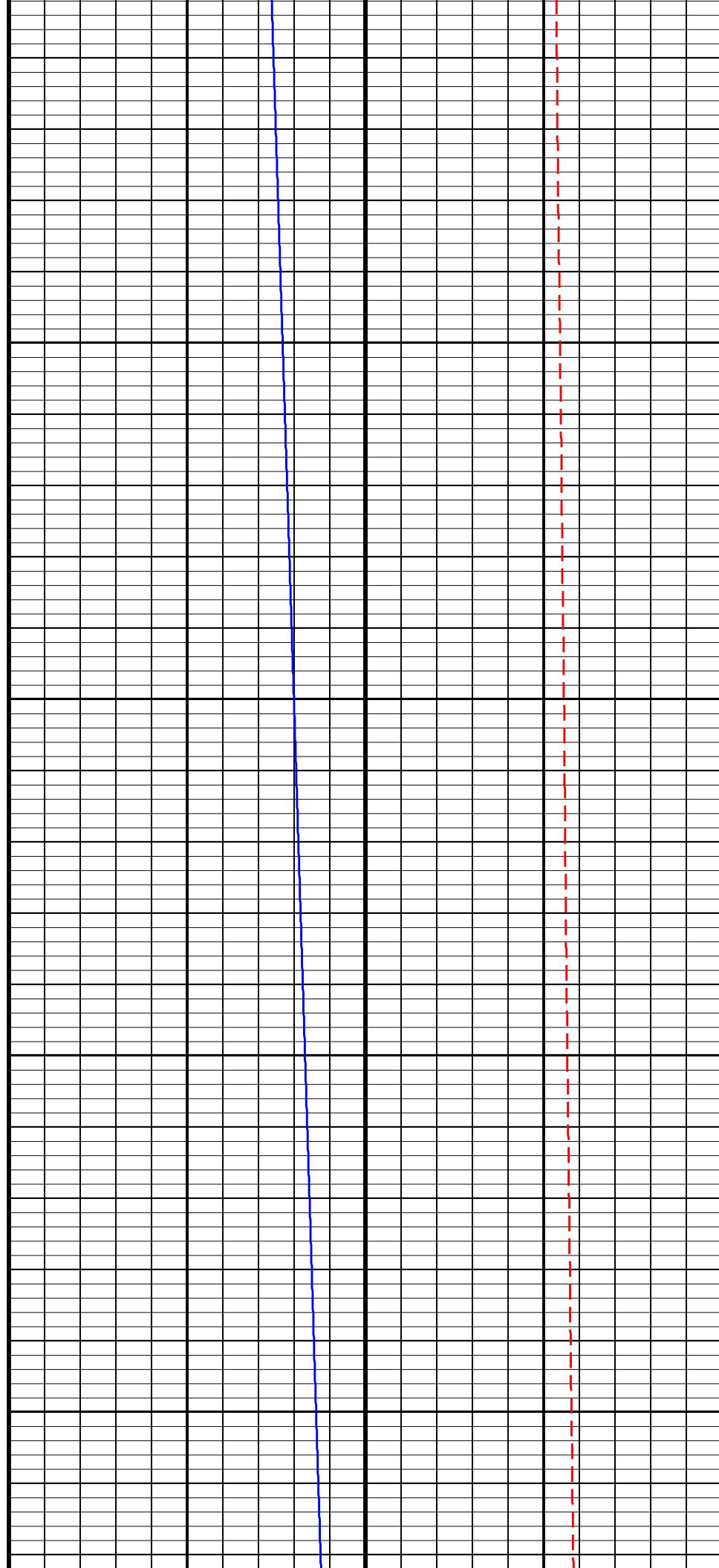
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PSPT	19C2-270

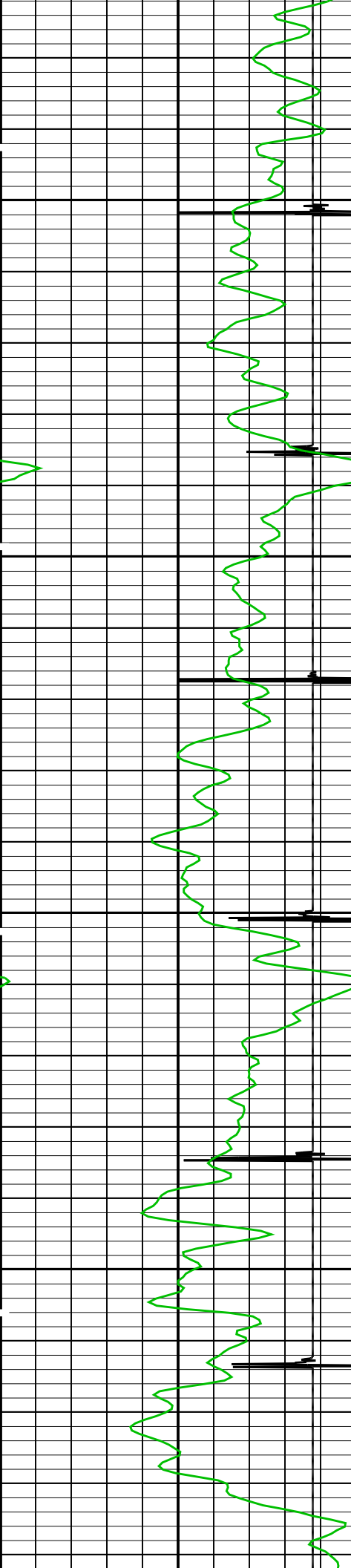




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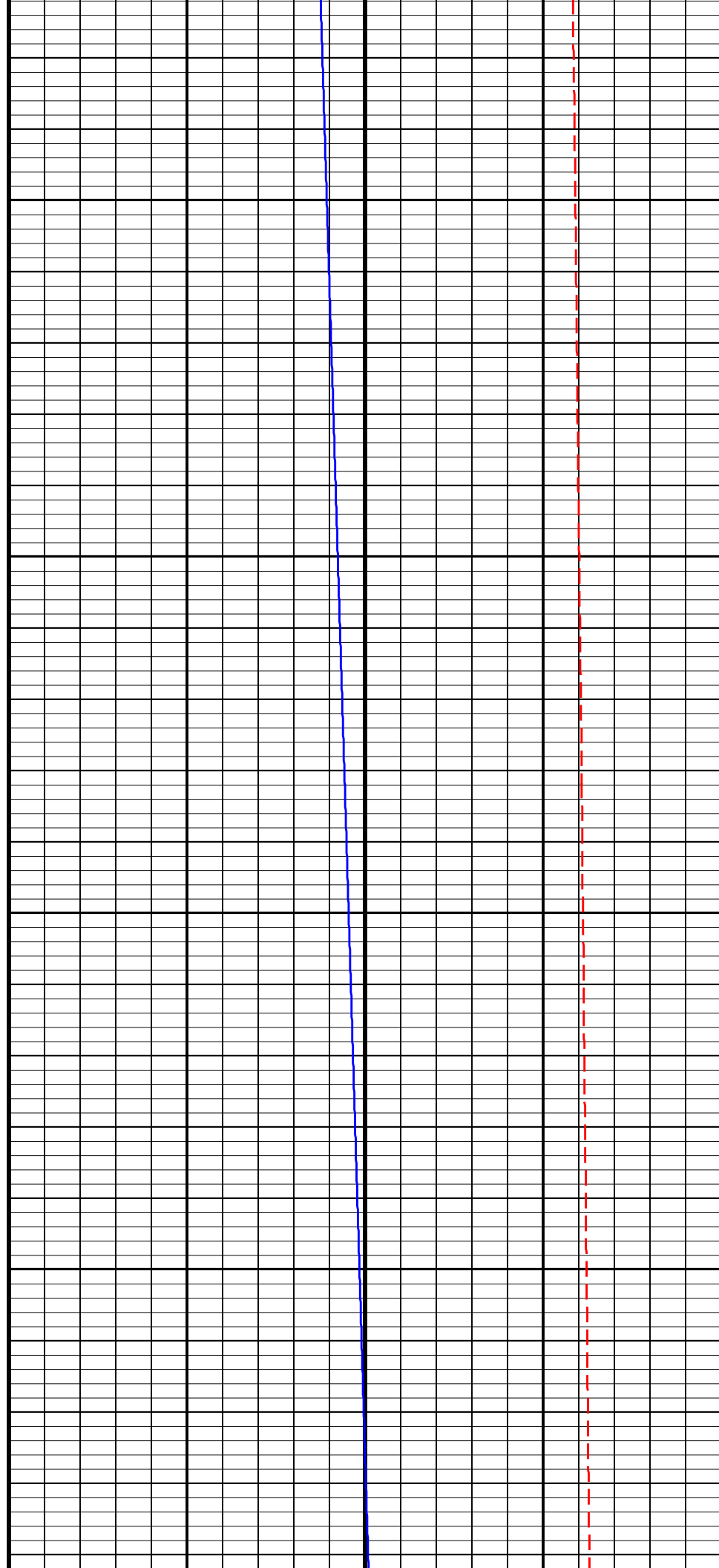
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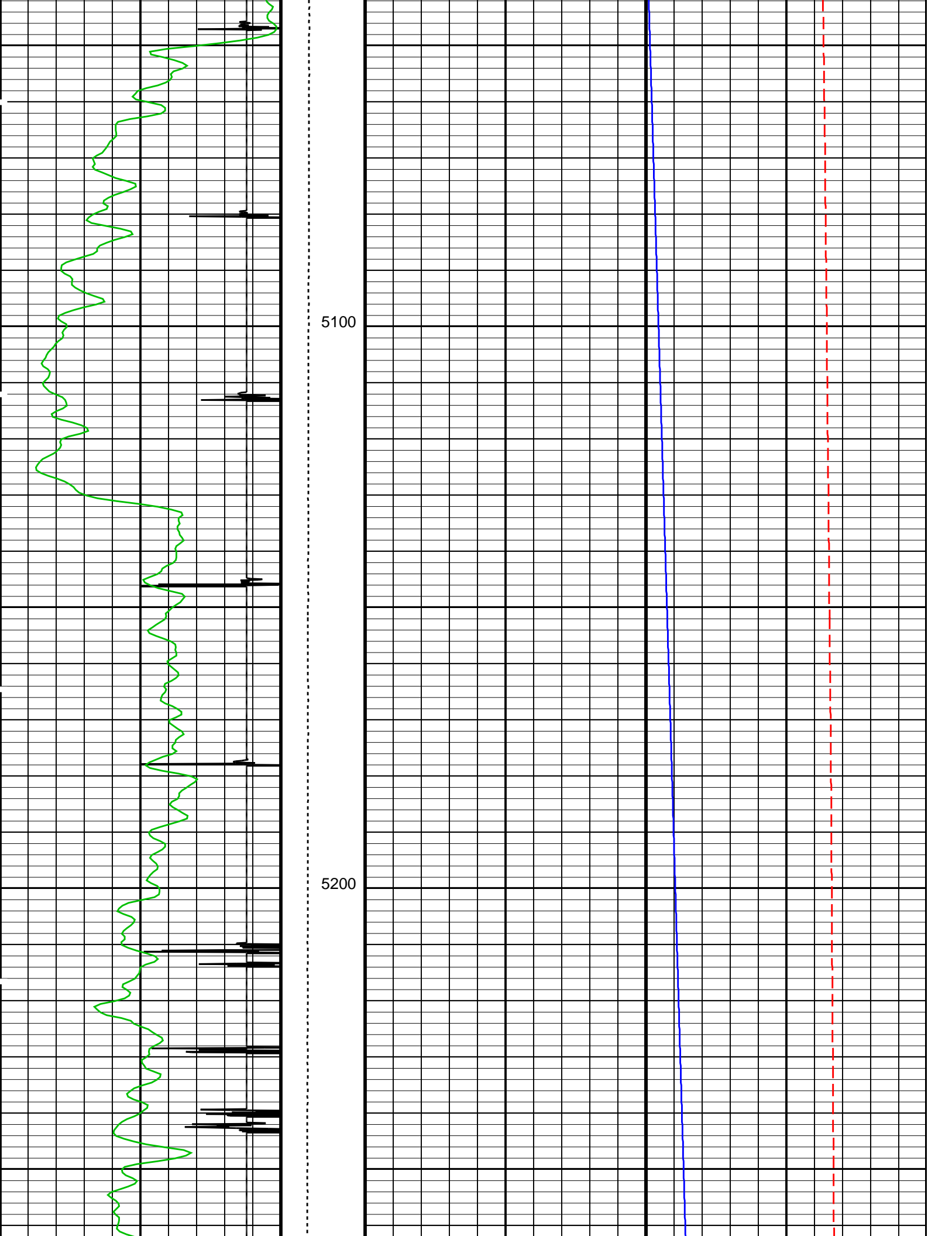


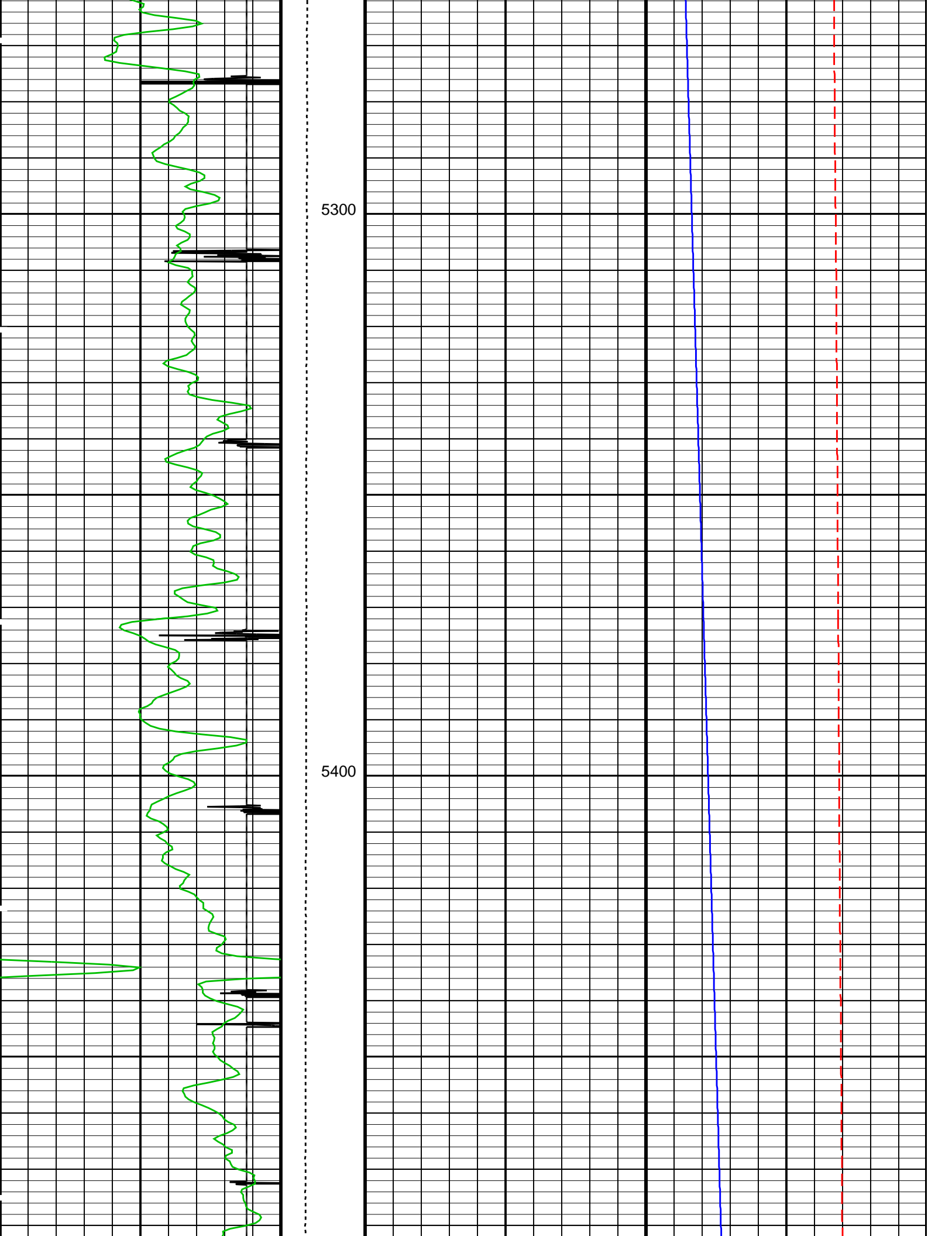


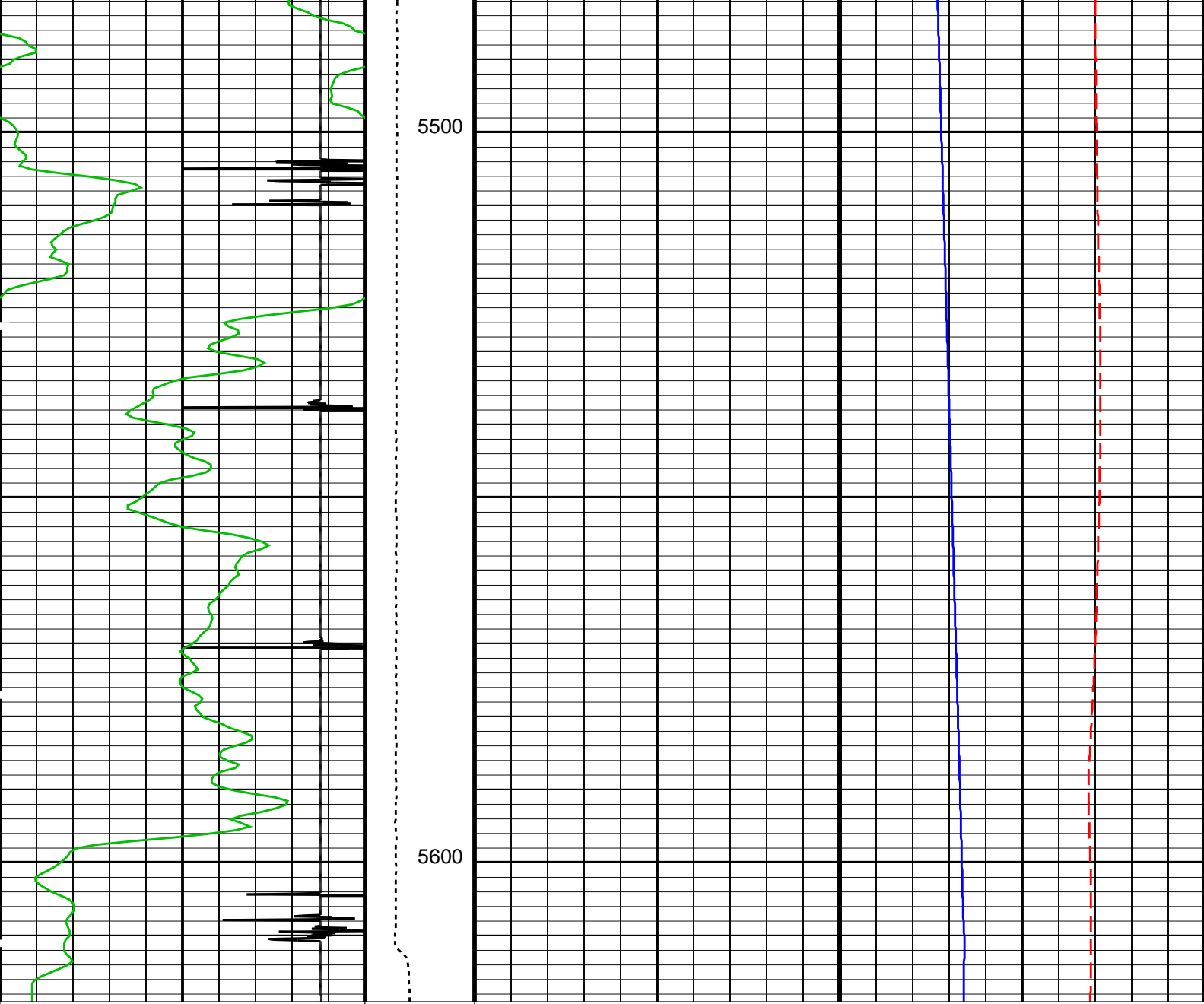
4900

5000









Gamma Ray (GR) (GAPI)		0	150
Discriminated CCL (CCLD)		3	-1
(V)			
Tension (TENS) (LBF)		0	1000
Well Pressure (WPRE) (PSIA)		0	1500
Well Temperature (WTEP) (DEGF)		0	200

PIP SUMMARY

<div><div></div></div> Time Mark Every 60 S				
Format: Empty3TrackLog		Vertical Scale: 5" per 100'		Graphics File Created: 30-Jan-2014 14:40
OP System Version: 19C2-270				
PSPT	19C2-270			
Output DLIS Files				
DEFAULT	PSP_007LUP	FN:6	PRODUCER	30-Jan-2014 14:40

Company: Black Raven

Schlumberger

Well: Harry Cover A #2

Well: **Harry Geyer A #2**
Field: **Adena**
County: **Morgan**
State: **Colorado**

CEMENT BOND
GAMMA RAY
CASING COLLAR LOG