



RESERVOIR PERFORMANCE MONITOR

Baker Atlas

File No: _____ Company **WPX ENERGY**

CH081737 Well **FEDERAL RG 512-14-298**

API No: _____ Field **SULPHUR CREEK**

05103117980000 County **RIO BLANCO** State **COLORADO**

Location

14 2S 98W SHL: 1669' FNL & 491' FWL

RG 12-14-298 PAD BHL: 2632' FNL & 640' FWL (SW/4 NW/4)

SEC 14 TWP 25 RGE 98W

Other Services

RPM

TEMP

Permanent Datum GL _____ Elevation **6560 ft**

Log Measured From KB _____ **21 ft** Above P. D.

Drill Measured From KELLY BUSHING

Elevations

KB **6581 ft**

DF

GL **6560 ft**

Date	21/JAN/14	
Run	ONE	
Service Order	US62E091	
Depth Driller	10928 ft	
Depth Logger	10850 ft	
Bottom Logged Interval	10840 ft	
Top Logged Interval	3406 ft	
Time Started	1500	
Time Finished	0230	
Operator Rig Time	11.5 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	70 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	10 fpm	
Maximum Recorded Temperature	262 degF	
Reference Log	BAKER HUGHES HDL-ZDL-CN-GR	
Reference Log Date	29/DEC/13	
Equipment No.	Location	
4271	GRAND UCT	
Recorded By	FLOYD RENEAU	
Witnessed By	WAYNE MARGOTTE	

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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
30 in	0 ft	80 ft
14.75/13.5	80 ft	3406 ft
8.75/7.875	3406 ft	10928 ft

Casing Record				
Size	Weight	Grade	From	To
18 in			0 ft	80 ft
9.625 in			0 ft	3406 ft
4.5 in	11.6 lbm/ft	P-110	0 ft	10928 ft

Remarks

All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes HDIL/ZDL/CN/GR open hole log dated 12/29/2013 at the clients request.

The amount of linear shift is -1 feet.

The depth matching process creates potential for collar lengths to vary from those recorded on other cased hole wireline units without a Gamma Ray reference.

BHT = 262°F

SJ = 5751'-5774'

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	RPM	8281FA	10401926	FREE
1	1	RPM	8281PA	10160383	FREE
1	1	RPM	8281EA	10273848	FREE
1	1	GR	2812LA	10274385	FREE
1	1	TEL/CCL	8248ED	10590814	FREE
1	1	PCM	8250EA	10408796	FREE

MAIN SECTION

PNC 3-D MODE

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		3015.000	9056.874
PNC Porosity	Borehole Size	8.750	inch	3015.000	9056.874
PNC Porosity	Casing Size	4.500	inch	3015.000	9056.874
PNC Porosity	Gas Filled	Non Gas Filled		3015.000	9056.874
PNC Porosity	Matrix	Sandstone		3015.000	9056.874

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES							
8248ED	-14.478	FLTM							
8248ED	-12.478	CCL	CHV						
2812LA	-9.928	GR							
8281XA	-0.662	HVC3Q0	SEQ3	AMA3	AML3	BKX	CXS		

8281XA

-0.250

8281XA

0.000

SYSTEM

0.000

CPT3Q0 CPT3Q2 CPT3Q3 CPT3Q4 ET3 IXS
MCS3 MCS3Q0 QCAL3 RGN3 RICX SDA3
SDL3 SGA3 SGL3 STA3 XS ASPEC3
AMB3 AMF3 CHF3 IXSC IXSN RATO23
RICXC RIN13C RIN23 RIN23C SD3D SG3D
SGB3 SGF3 WDT3 CXSR IXSR XSR
RICXR
HVC2Q0 SEQ2 AMA2 AMB2 AMF2 AML2
BKL CHF2 CLS CPT2Q0 CPT2Q2 CPT2Q3
CPT2Q4 ET2 ILS LS MCS2 MCS2Q0
QCAL2 RGN2 RICL RONE23 RTWO23 SDA2
SDL2 SGA2 SGB2 SGF2 SGK2 SGL2
STA2 ASPEC2 ILSC ILSN WDT2 RICLC
CLSR ILSR LSR RICLR
CPRS HVC1Q0 MV SEQ SEQ1 AMA1
AMB1 AME1 AMF1 AML1 BKS CHF1
CSS CORB CORF CPT1Q0 CPT1Q2 CPT1Q2A
CPT1Q2B CPT1Q2C CPT1Q3 CPT1Q4 CPT1Q5 ET1
G1 G2 GE1S GE2S ISS MCS1
MCS1Q0 QA1 QCAL1 QM1 RATO RATO13
RBOR RGN1 RICS RIN RONE RPOR
RTWO RIN13 RONE13 RTWO13 SALB SC1
SDA1 SDL1 SGA1 SGB1 SGB C SGE1
SGF1 SGFC SGK1 SGL1 SS SS2
STA1 PD1S PD2S PD3S MD1S MD2S
MD3S DG1S DG2S DG3S PD1M PD2M
PD3M MD1M MD2M MD3M DG1M DG2M
DG3M MVS MA MVM FILV IAM
TA PVM PVS IAS SSTAT QPD1
QPD2 QPD3 QMD1 QMD2 QMD3 QDG1
QDG2 QDG3 QMA QTA QFILV QMV
QPV QIA DERR DCNT QPK1 QSA1
PKS1 ASPEC1 H0C FE2XC ISSC RINC
ISSN RDN WDT1 RICSC CSSR G1R
G2R ISSR SSR SS2R RATOR RATO13R
RBORR RICSR RINR RIN13R RONE RPORR
RTWOR
TEN TTEN

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

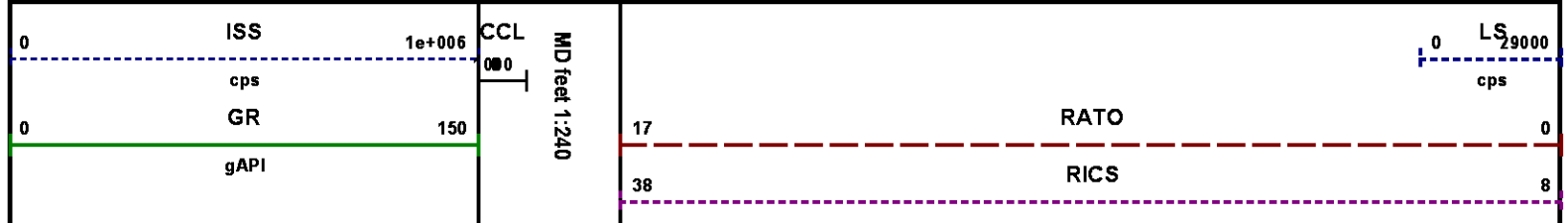
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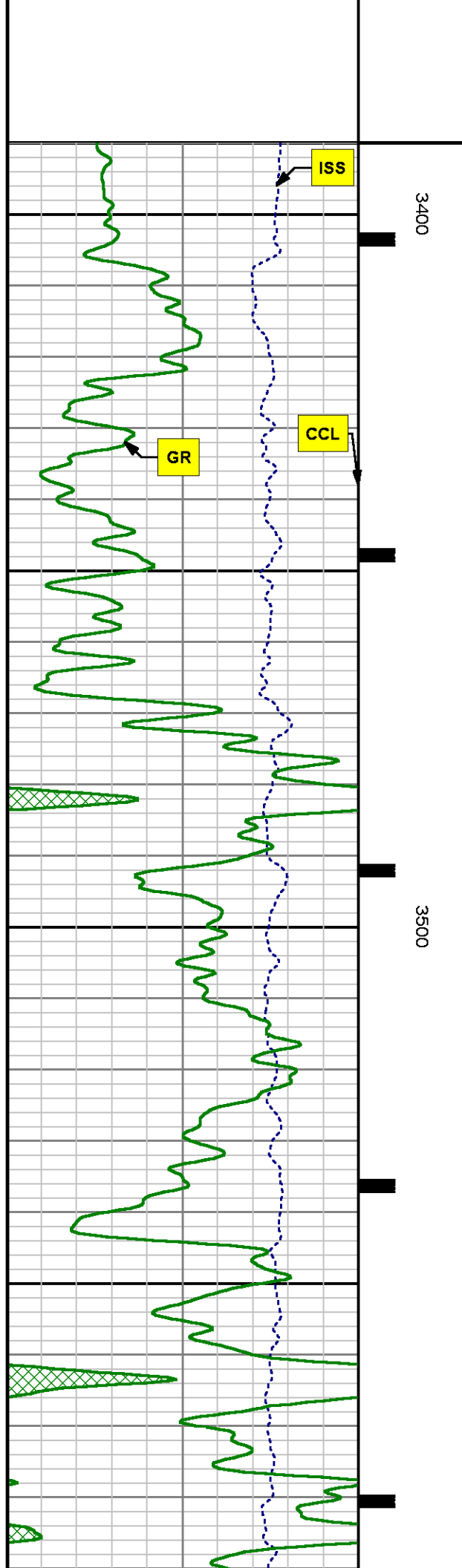
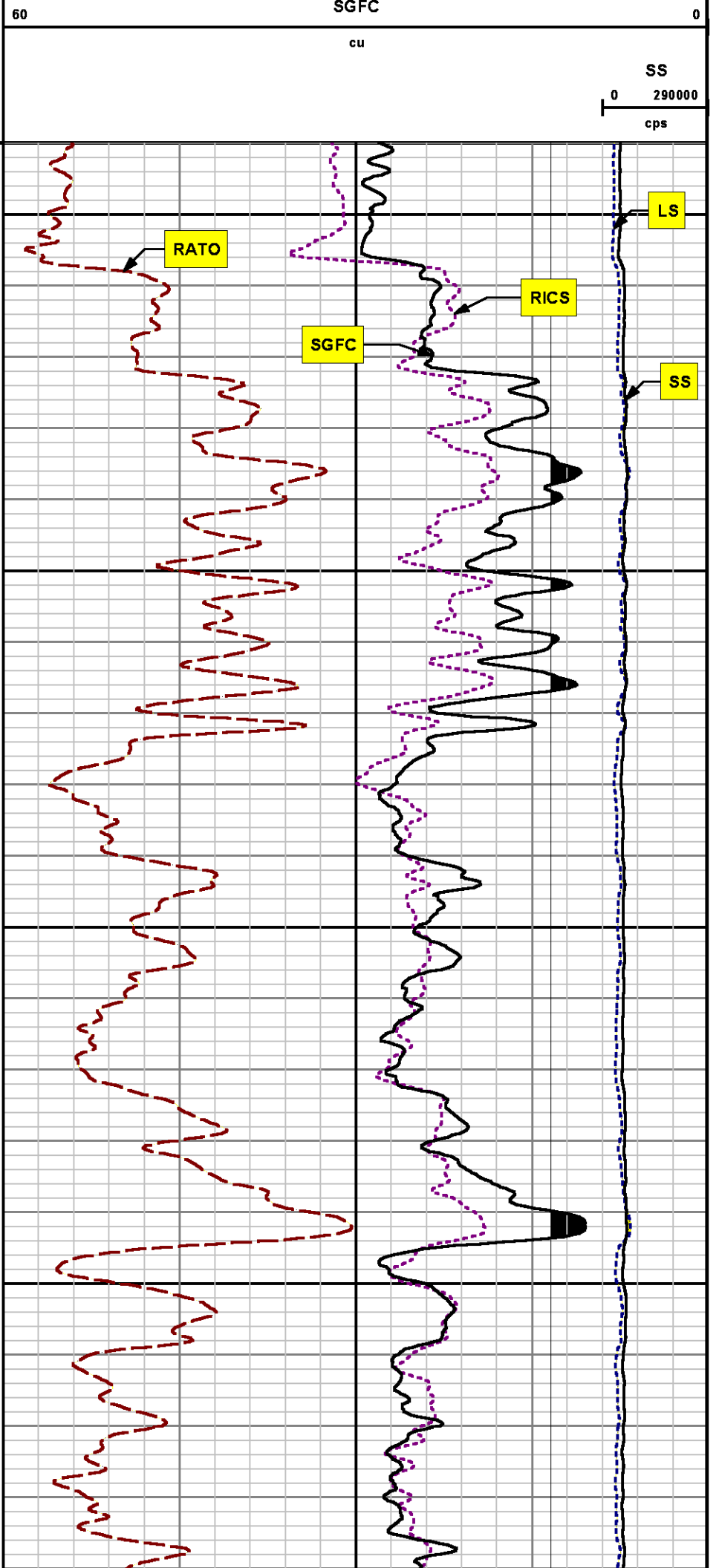
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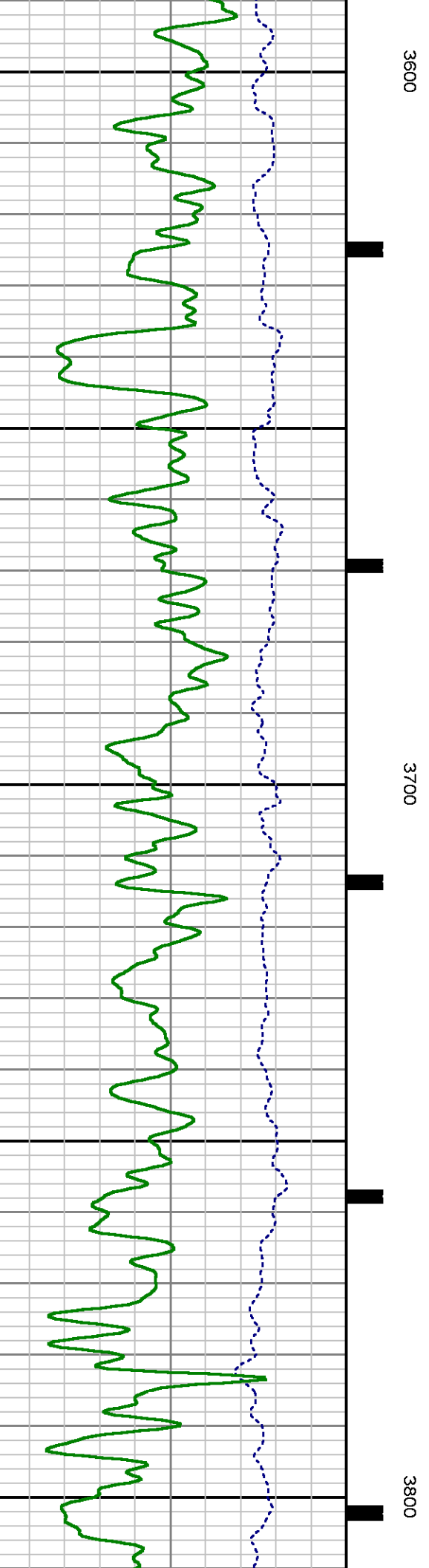
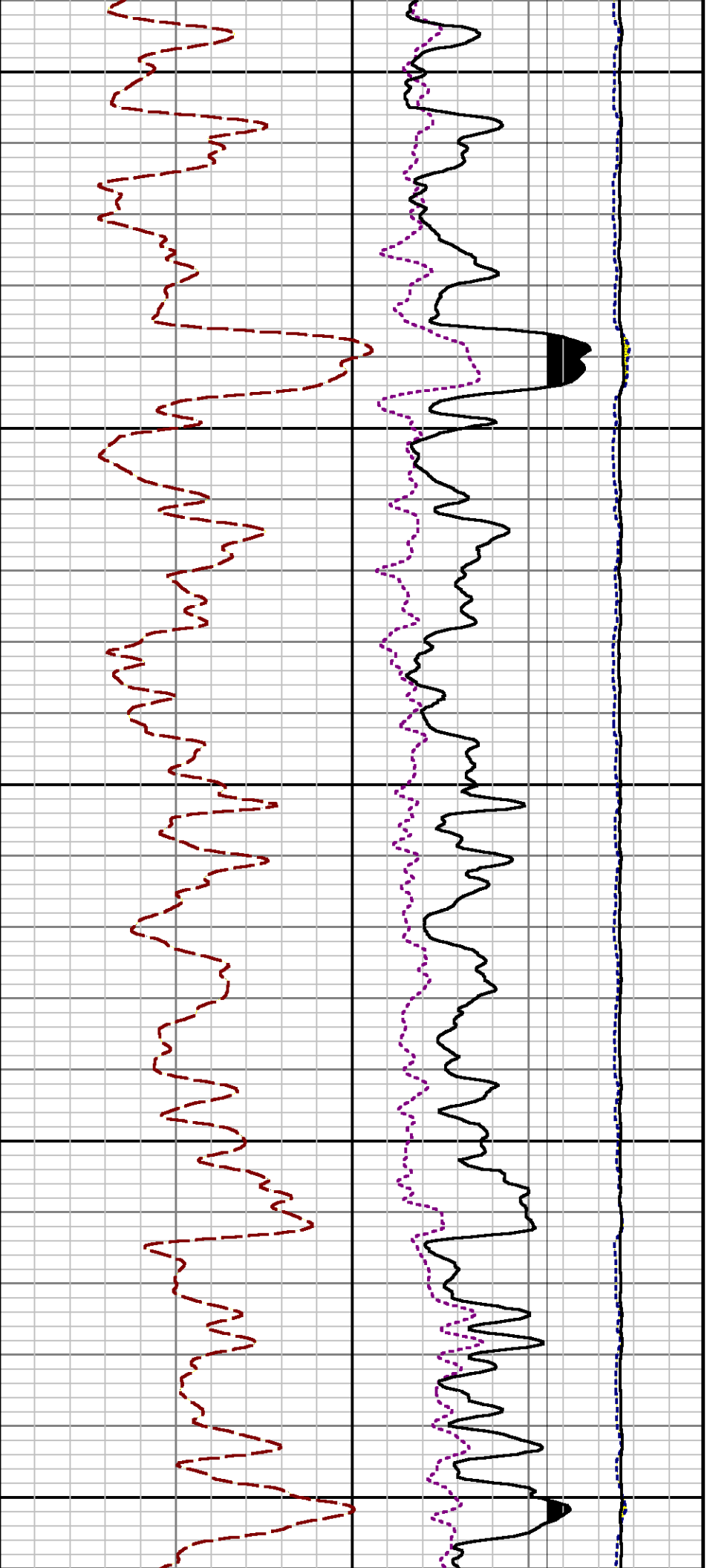
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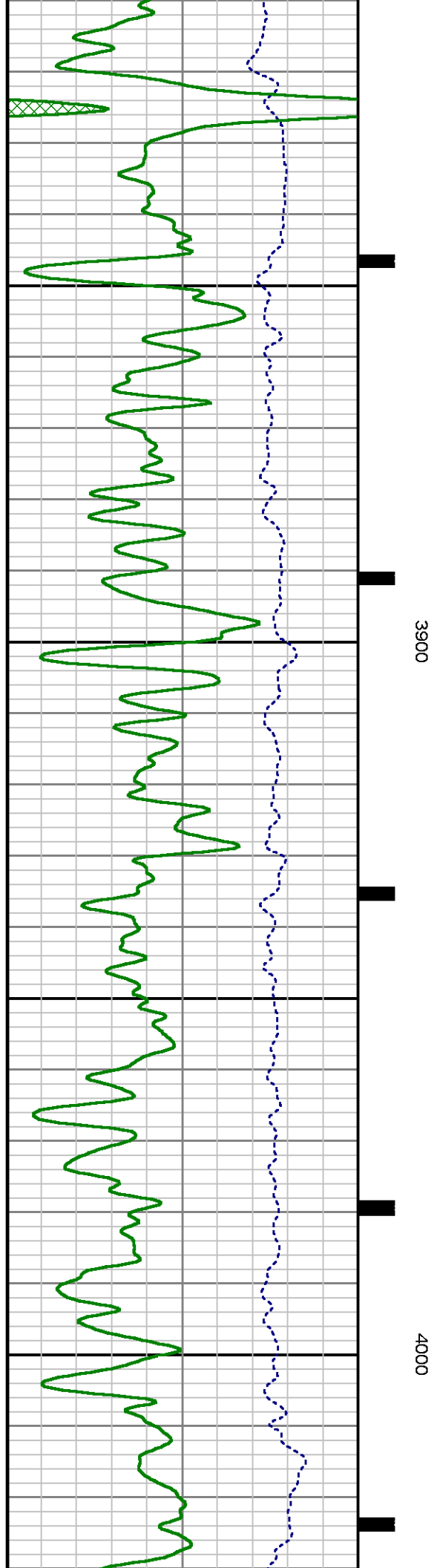
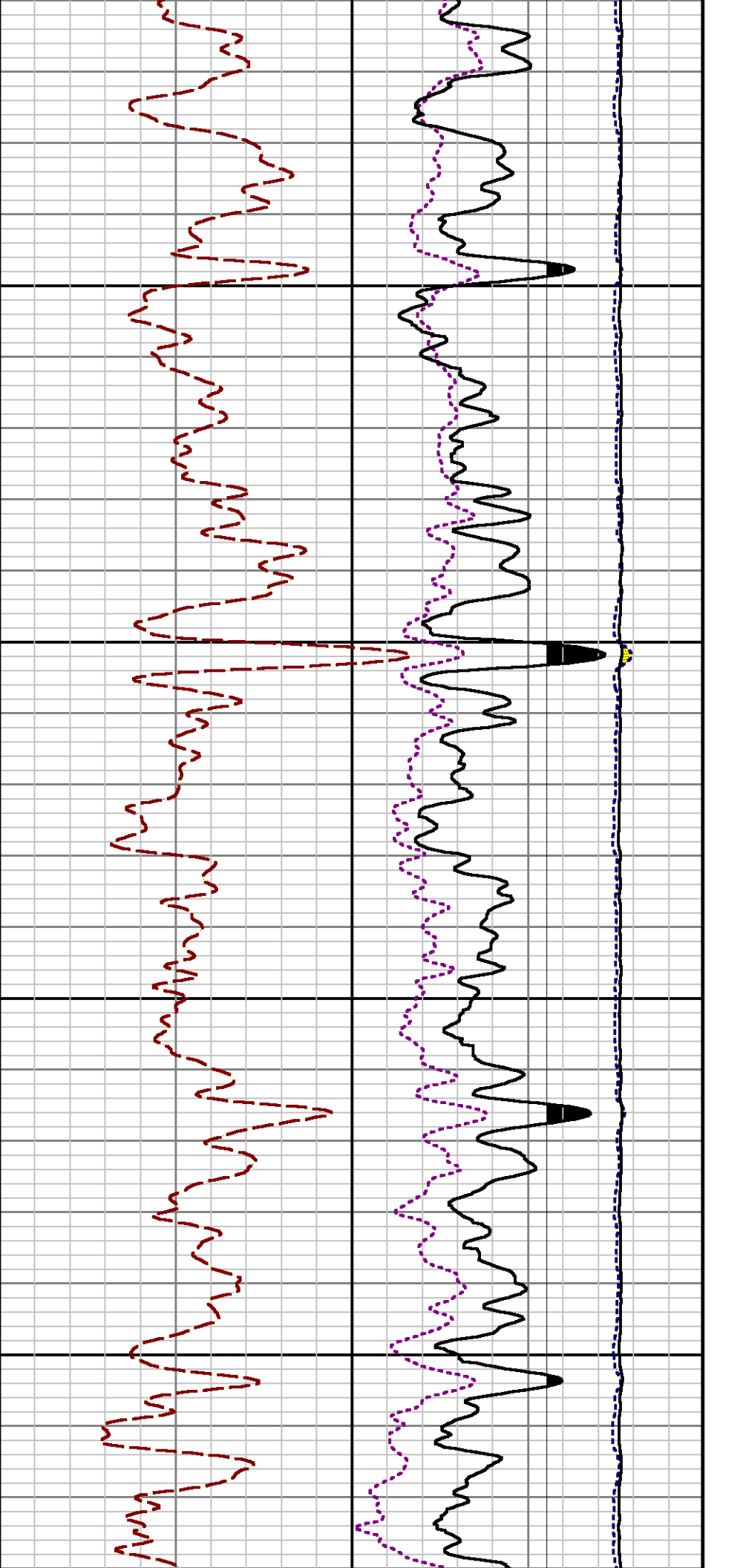
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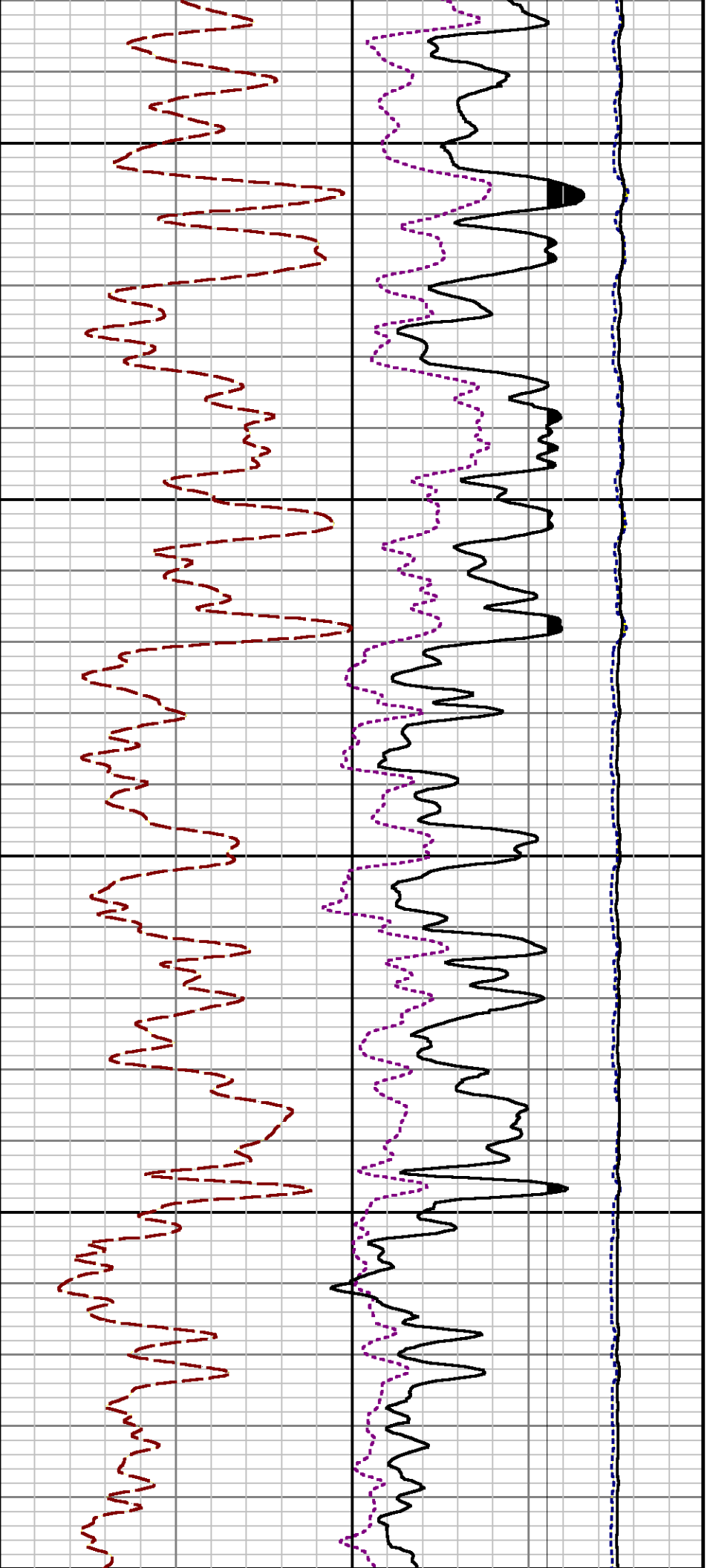
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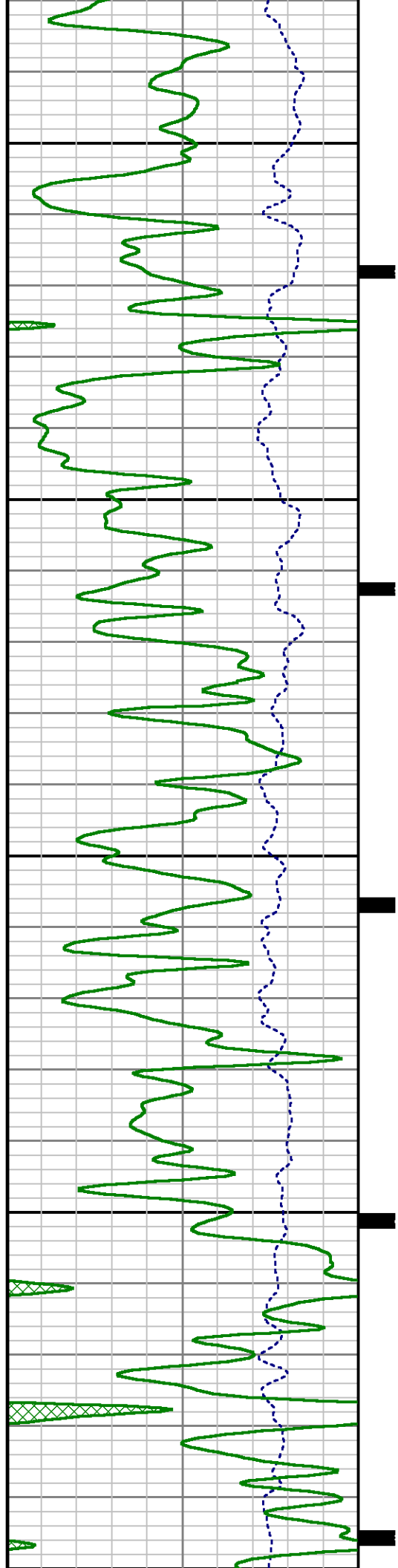


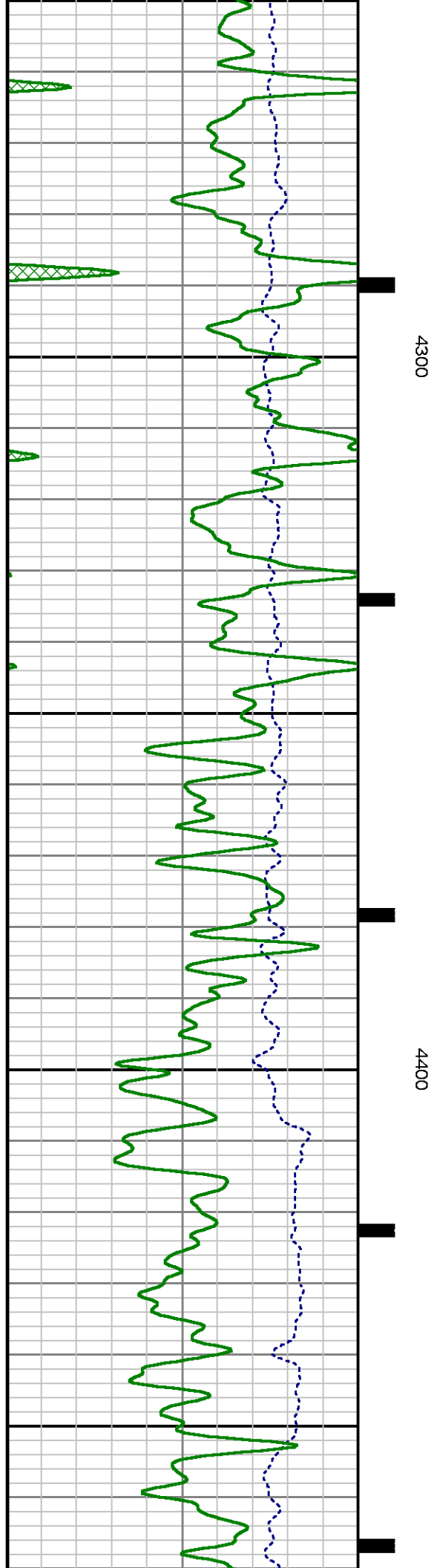
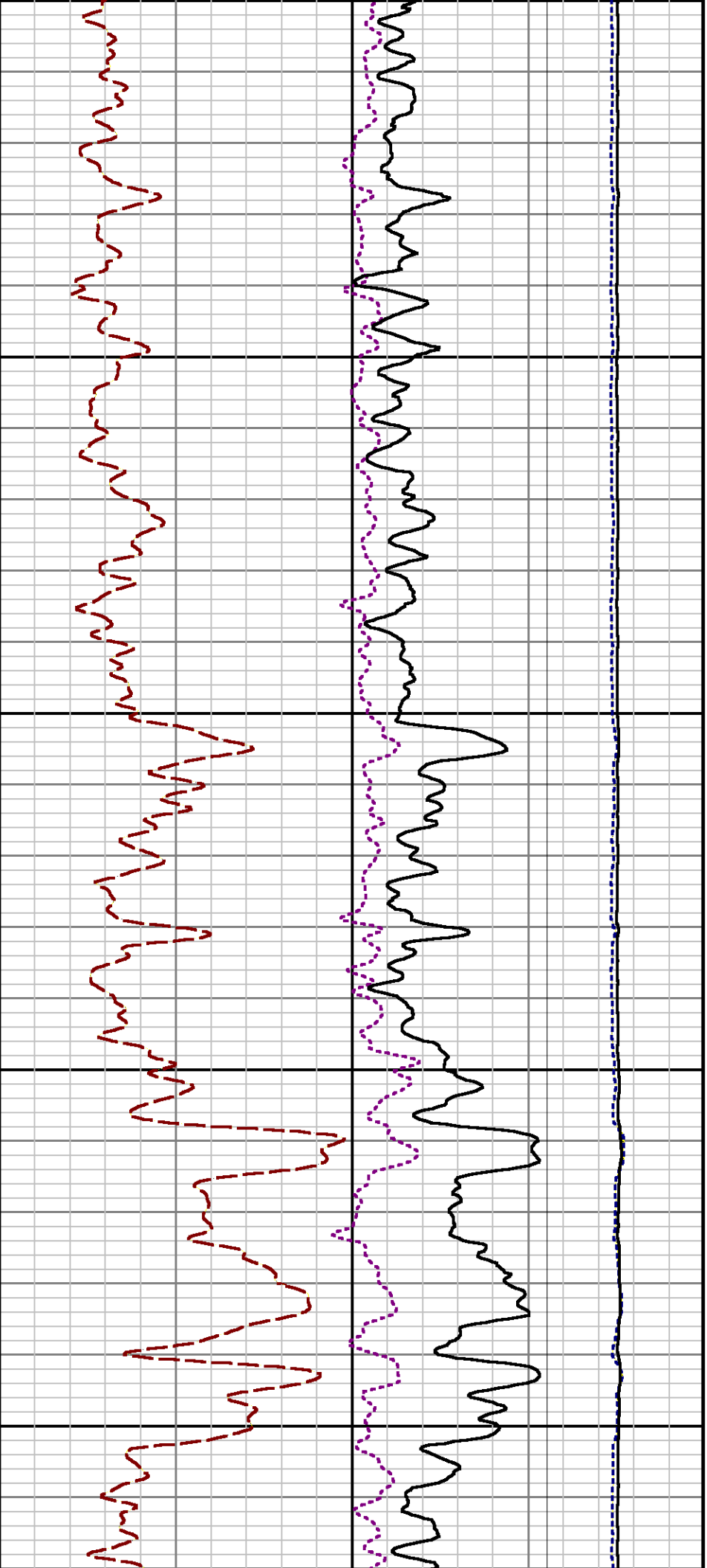


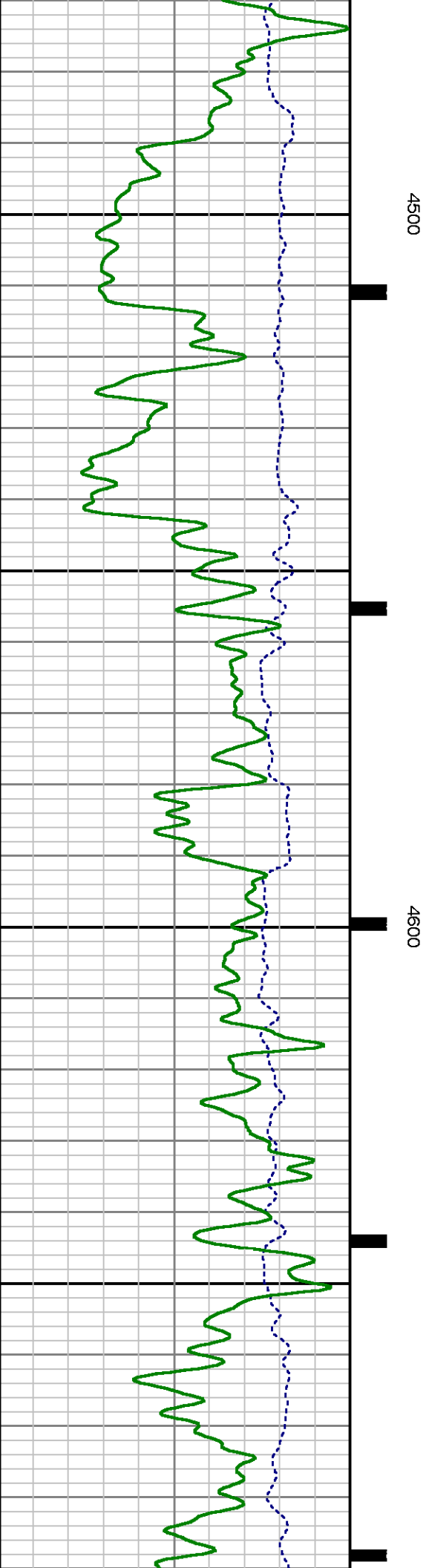
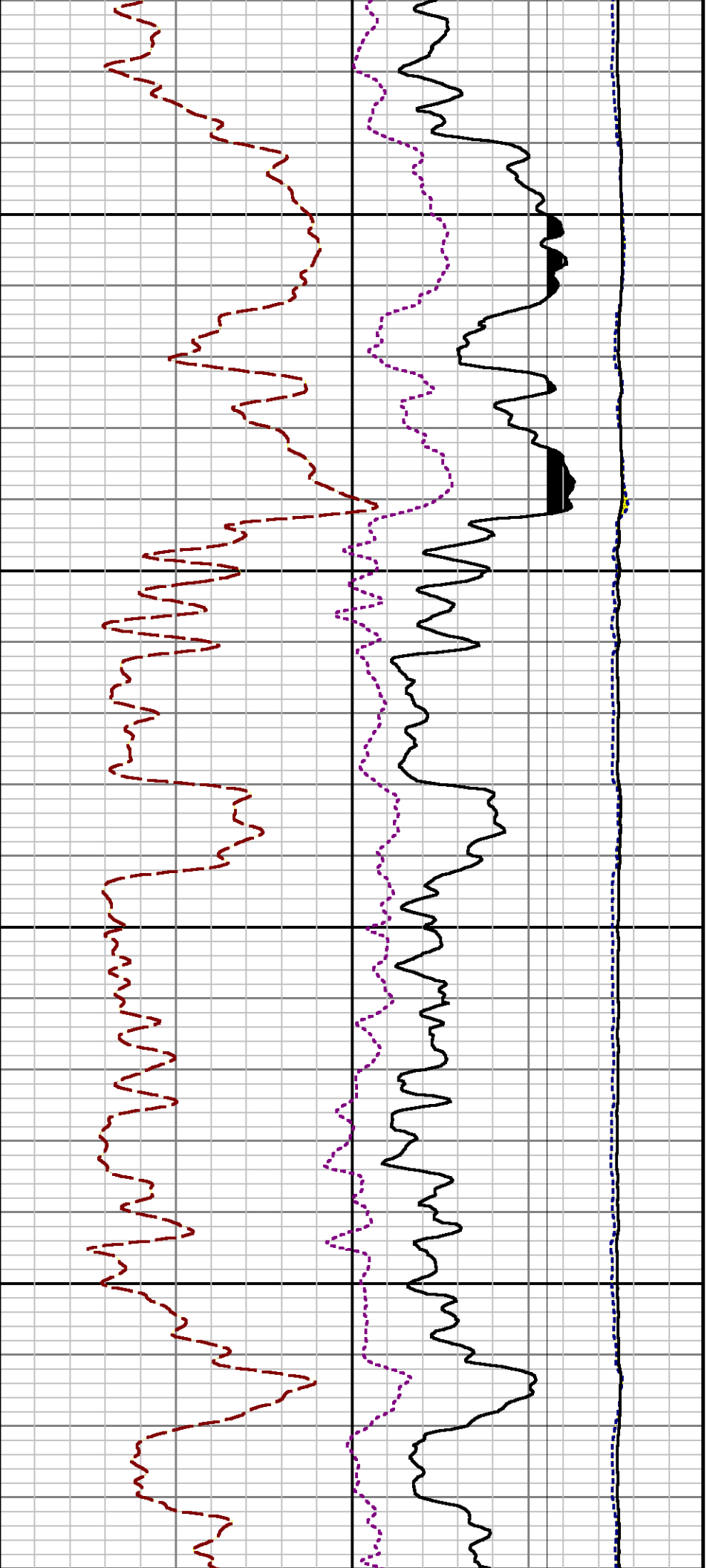


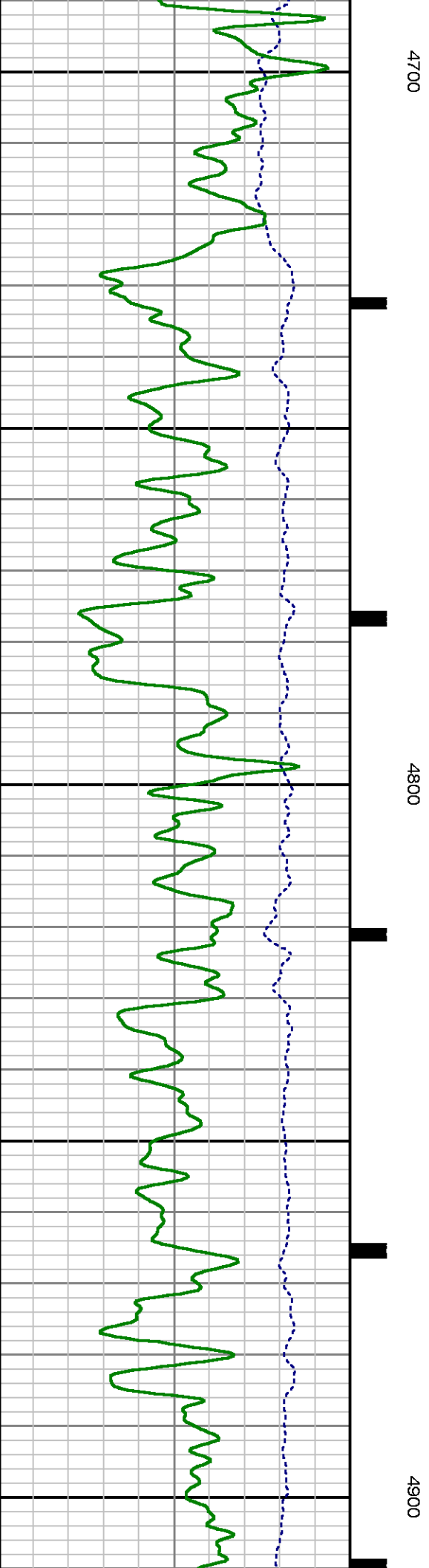
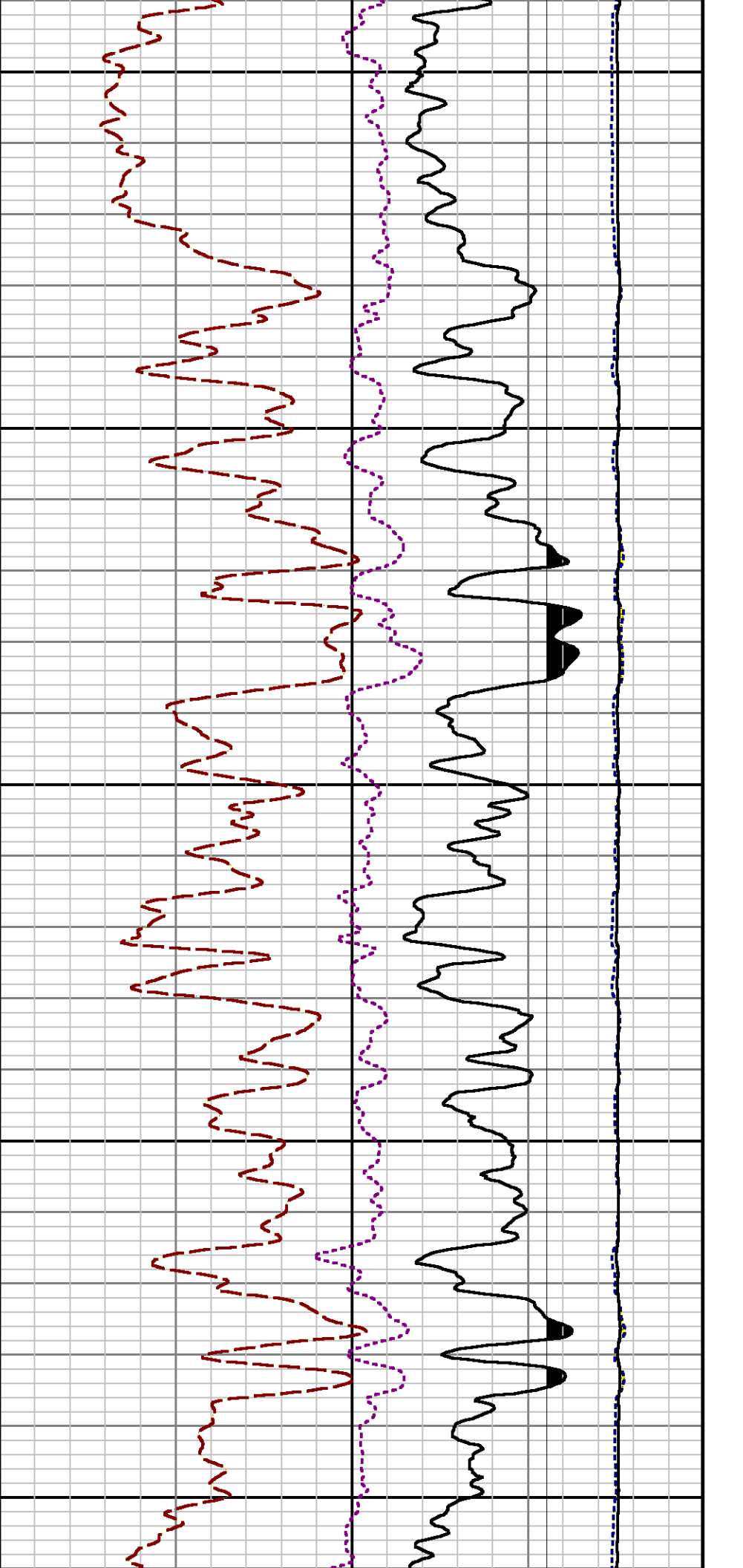
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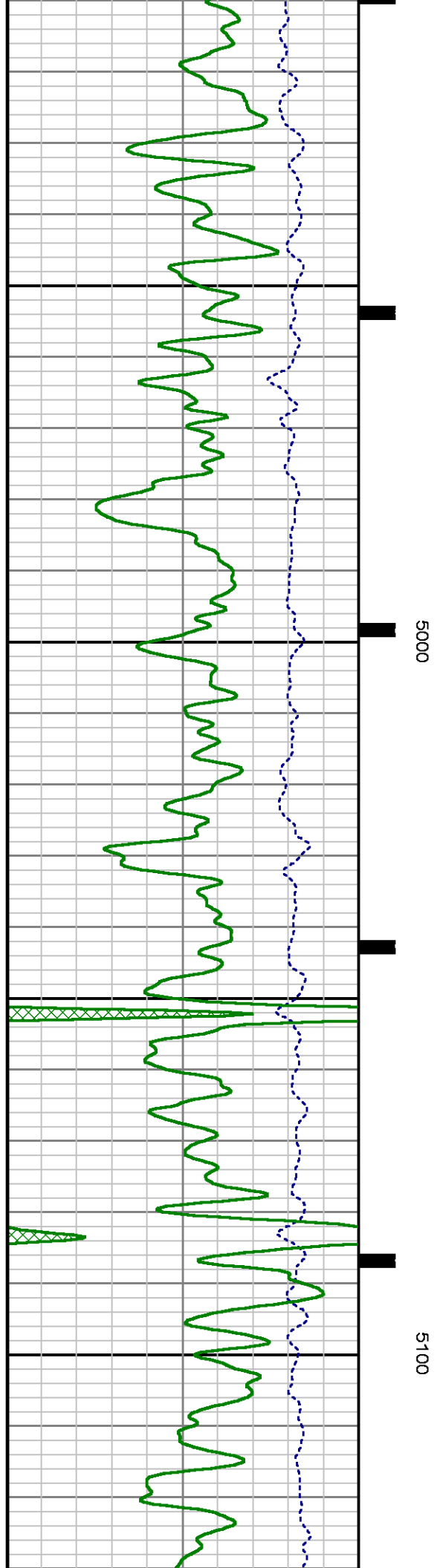
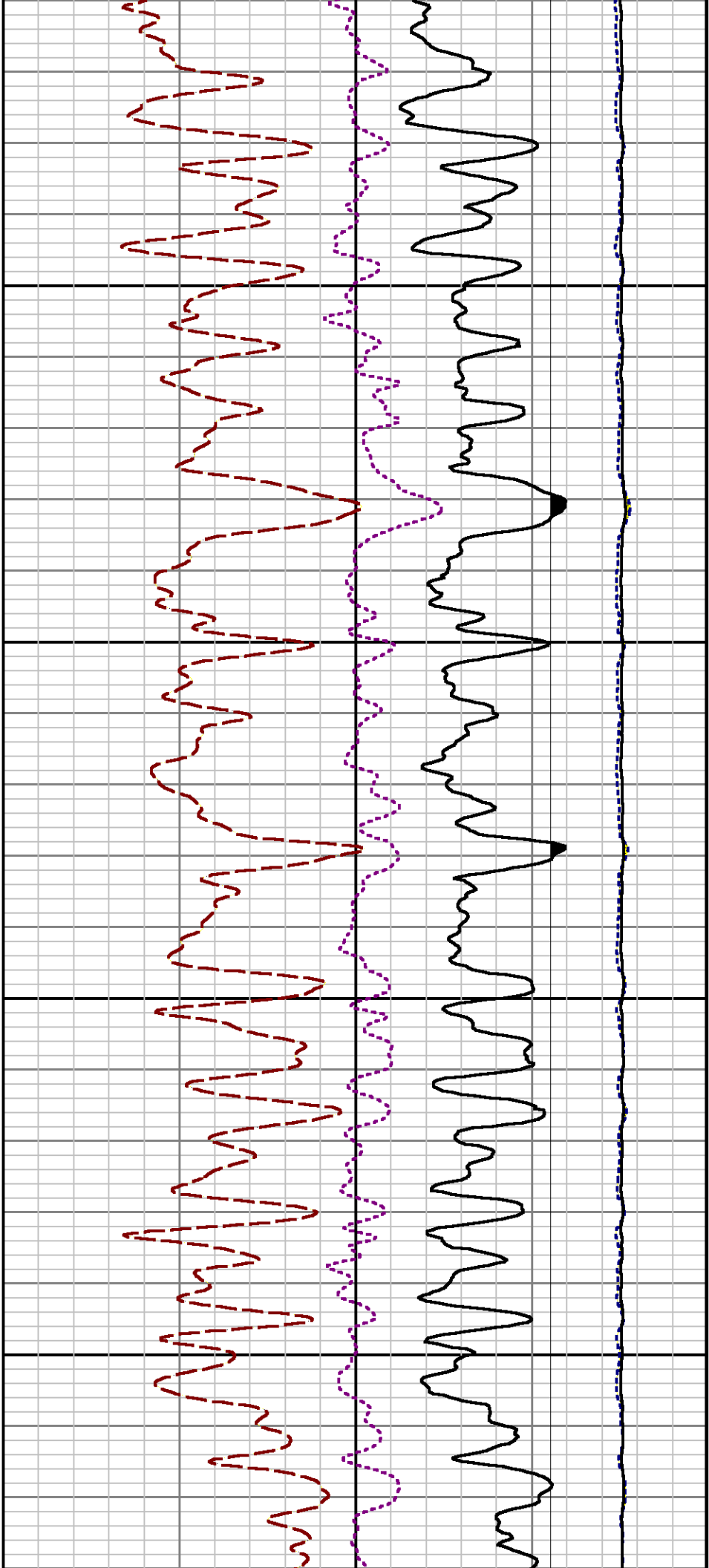
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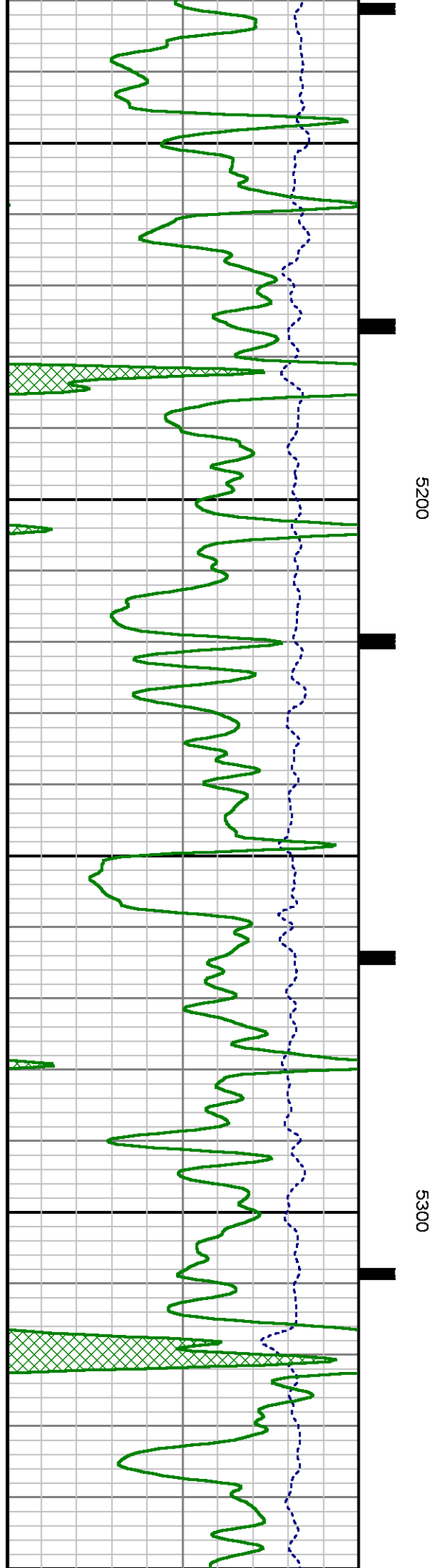
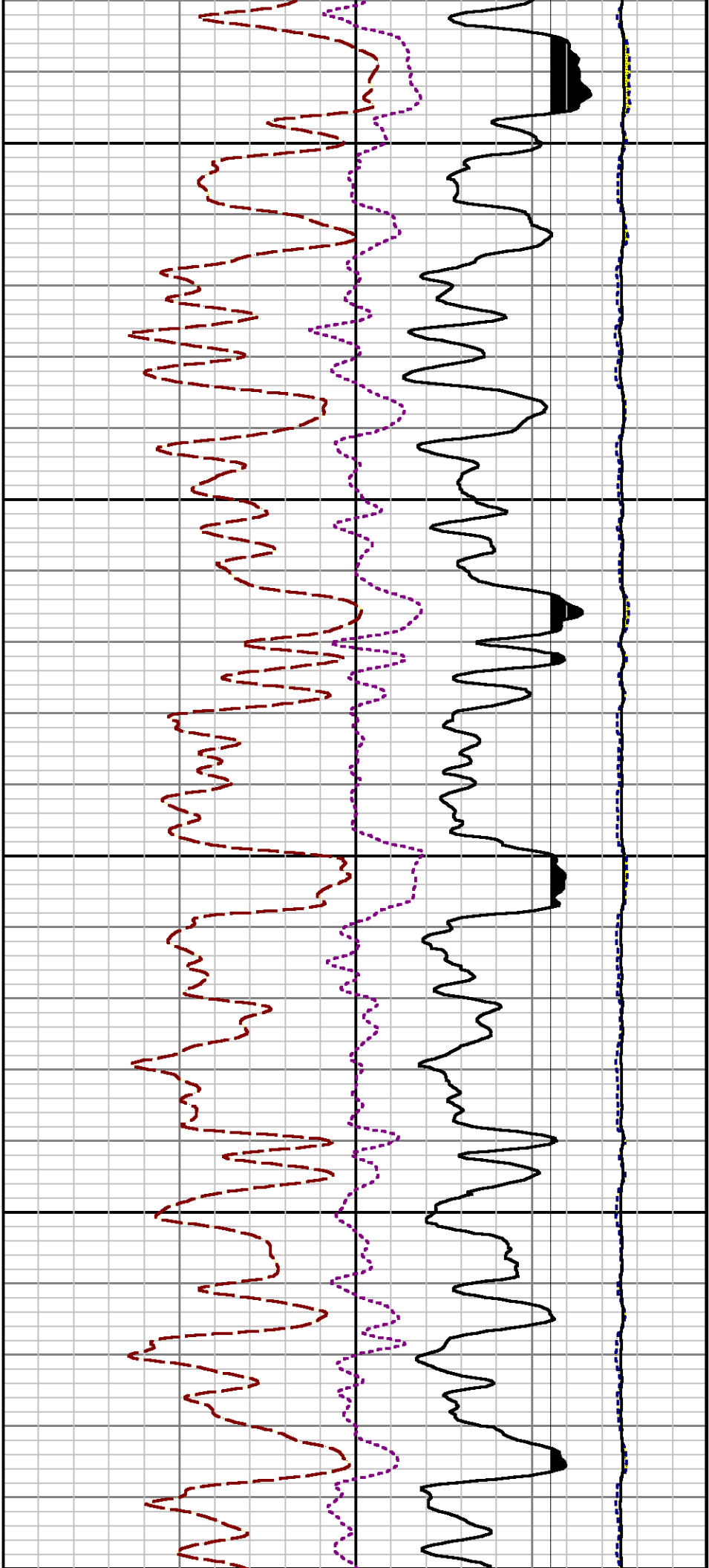


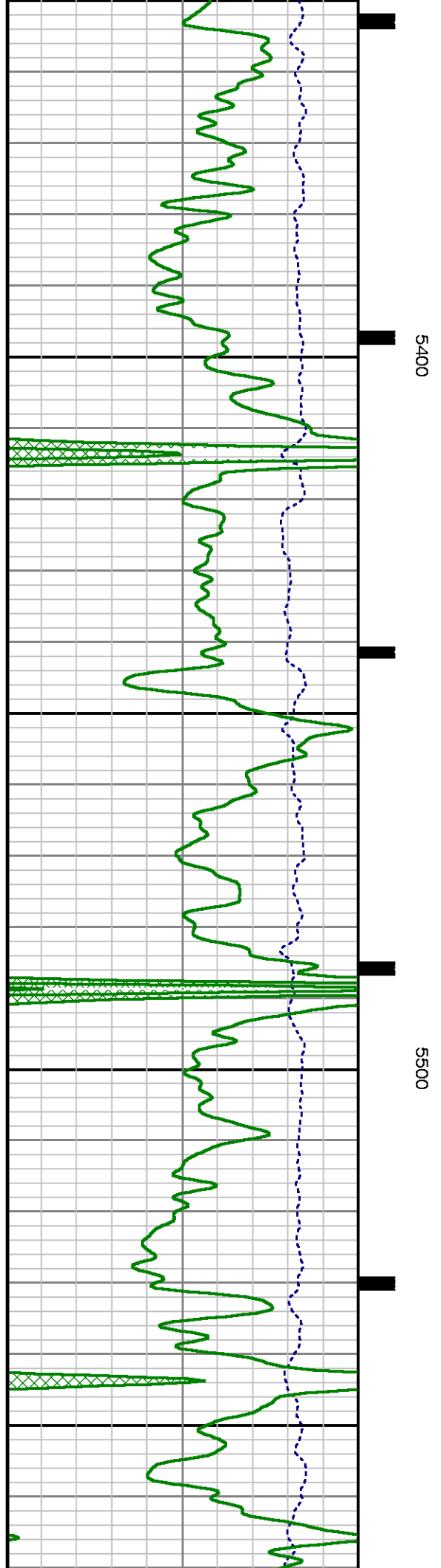
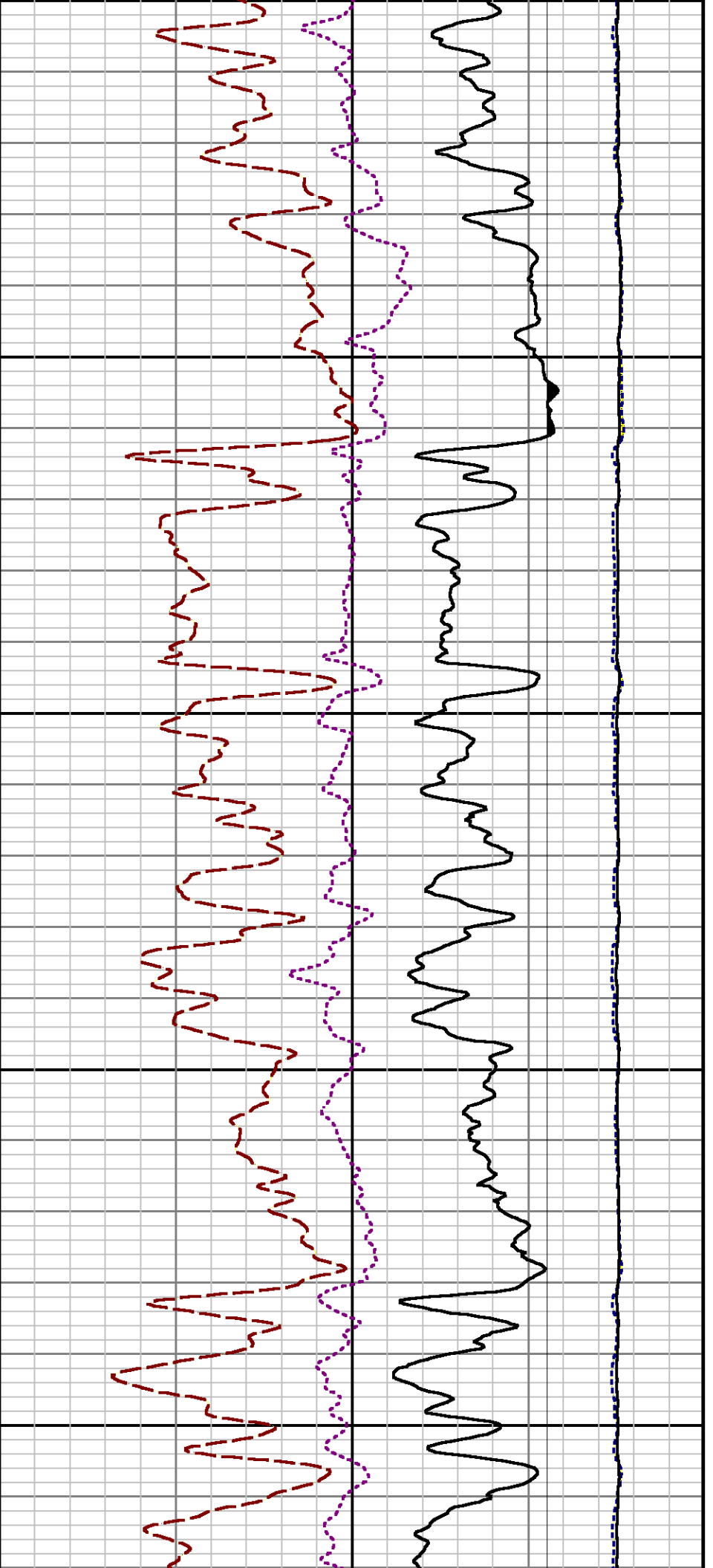


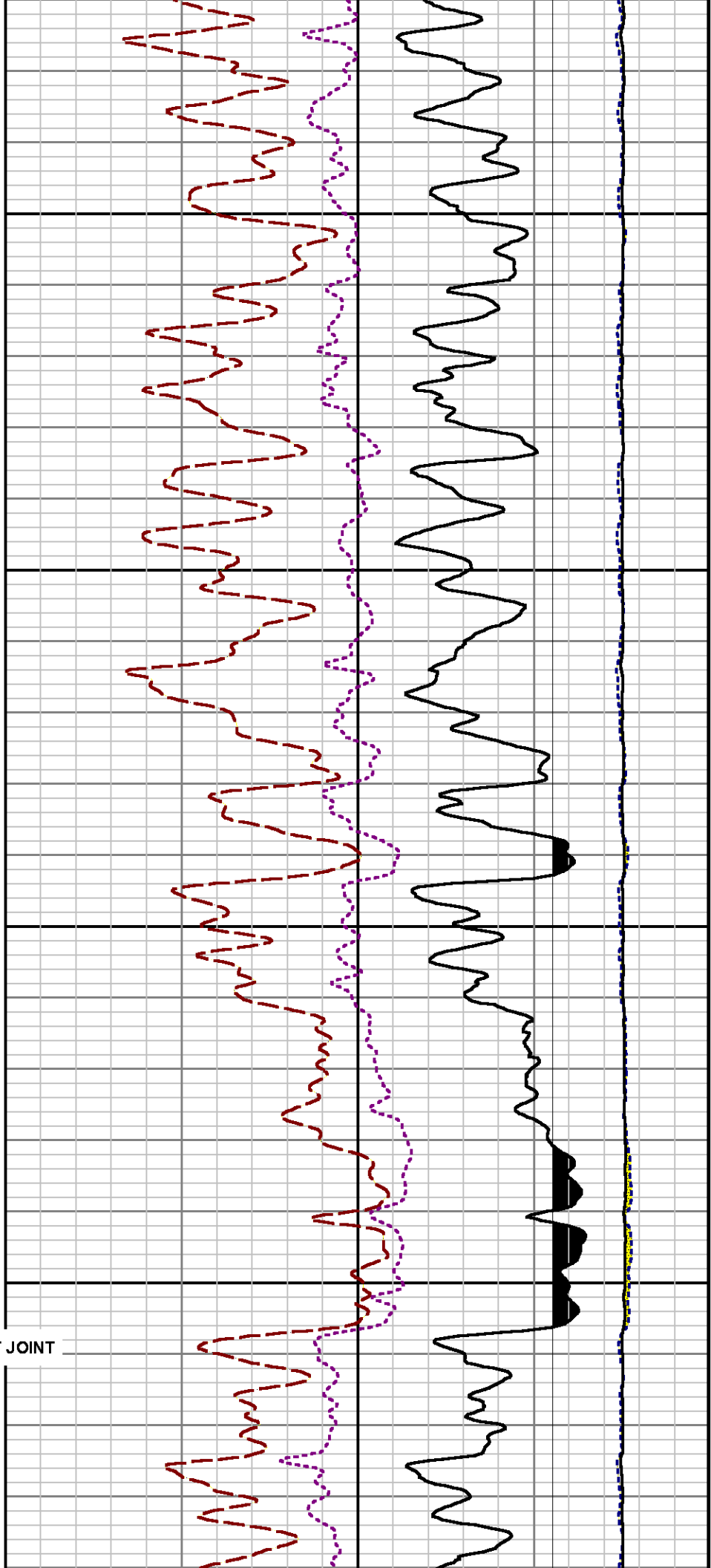








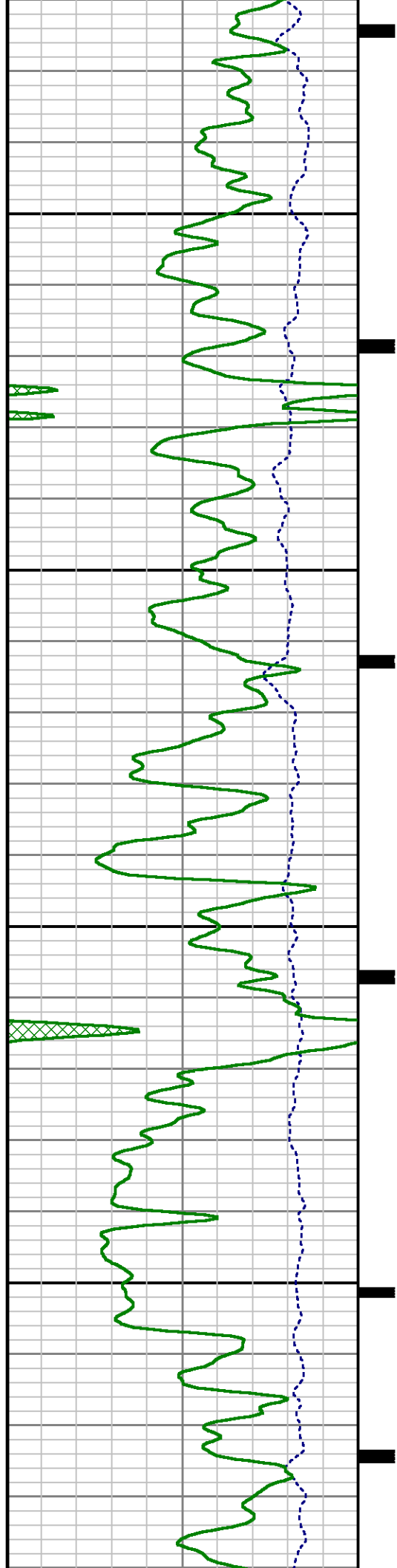


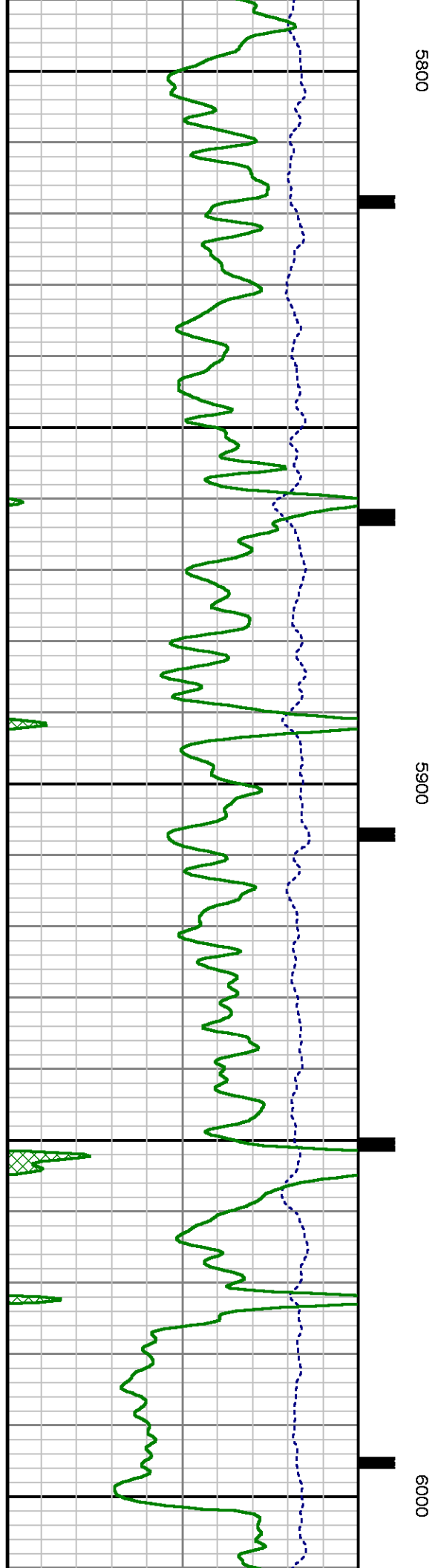
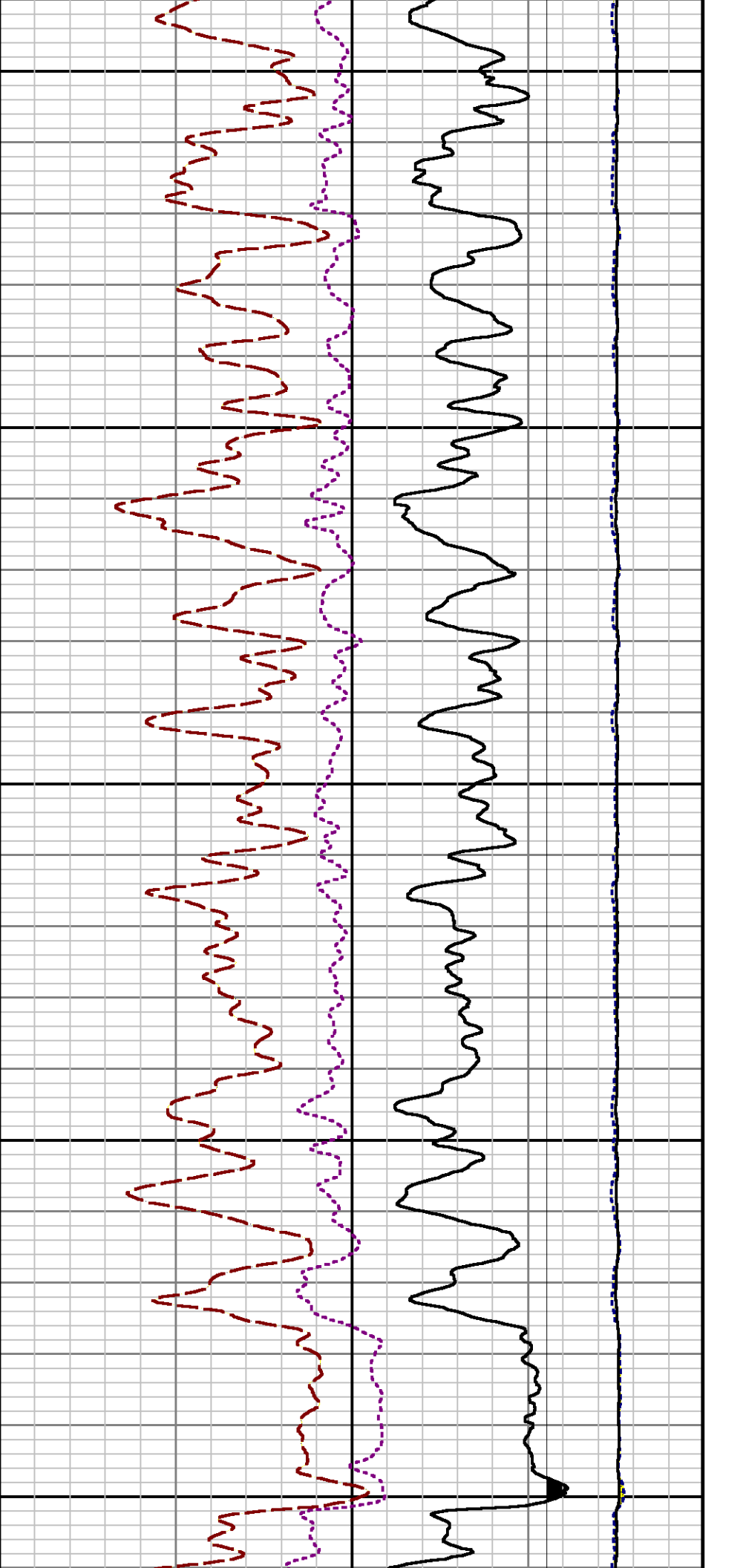


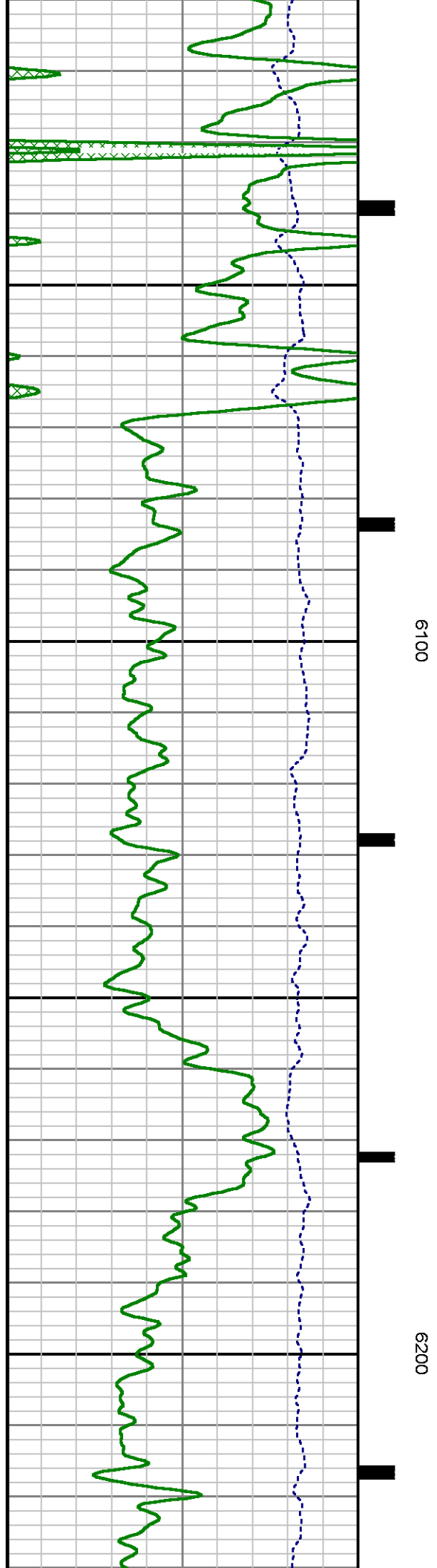
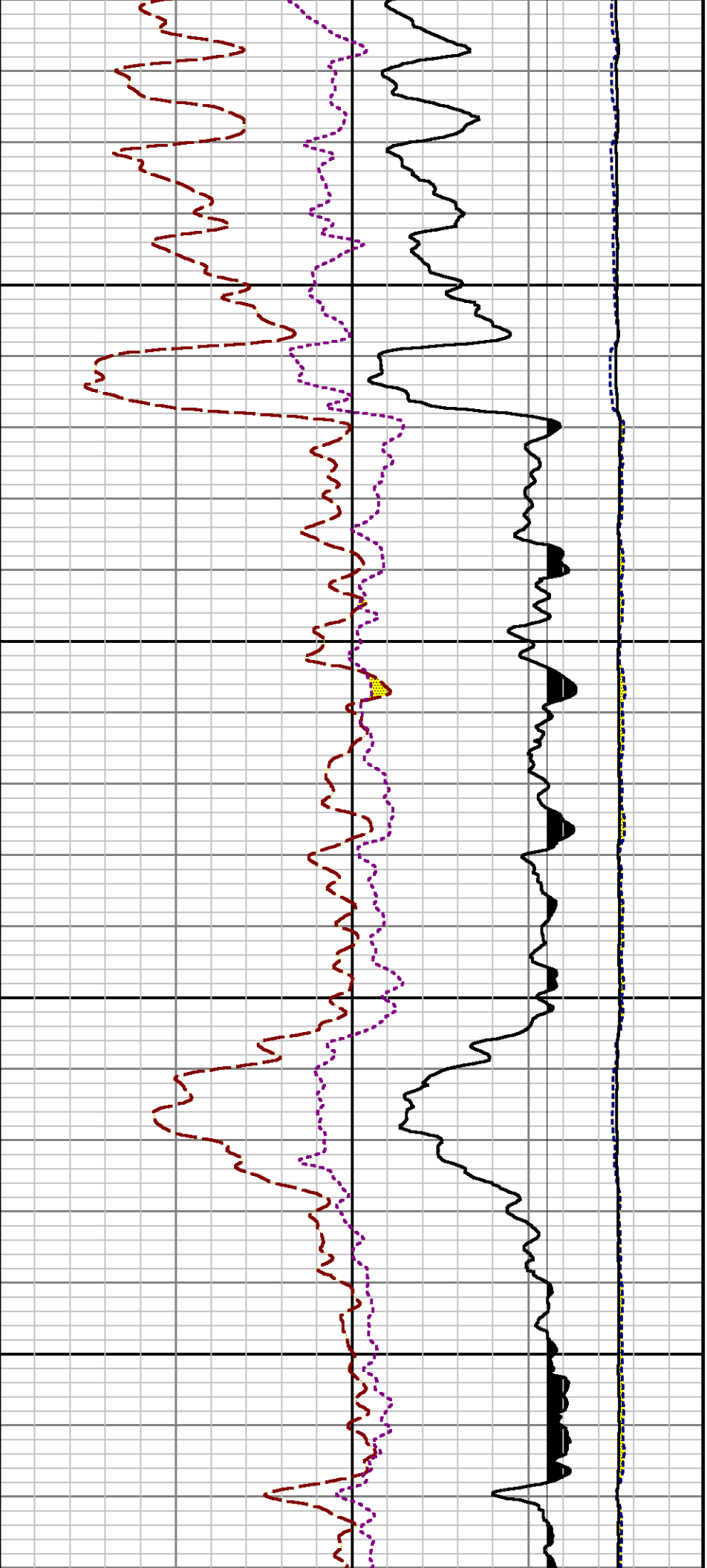
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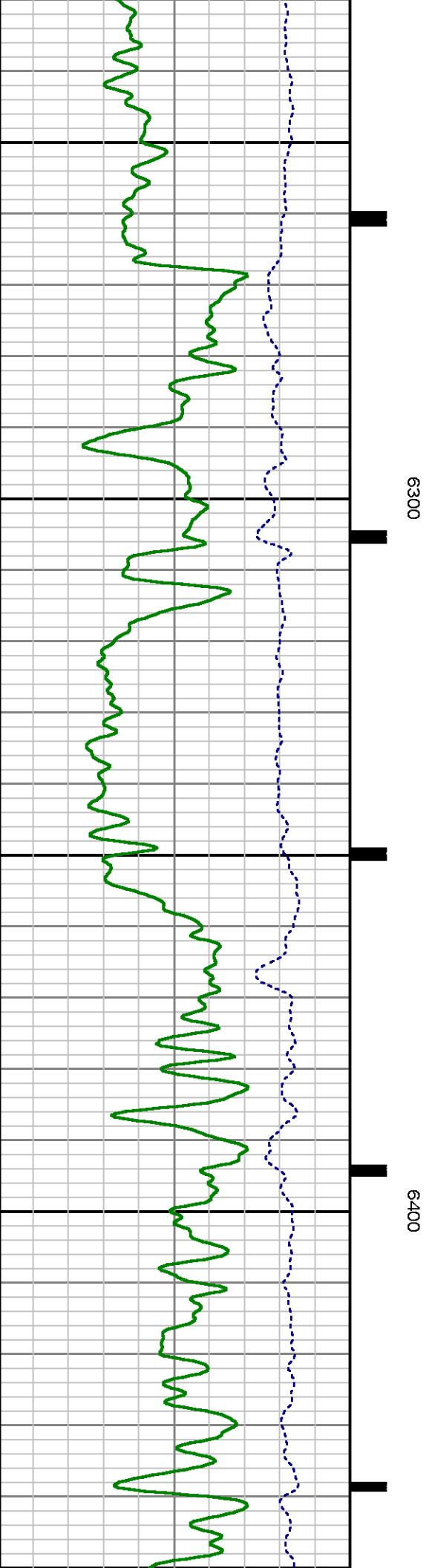
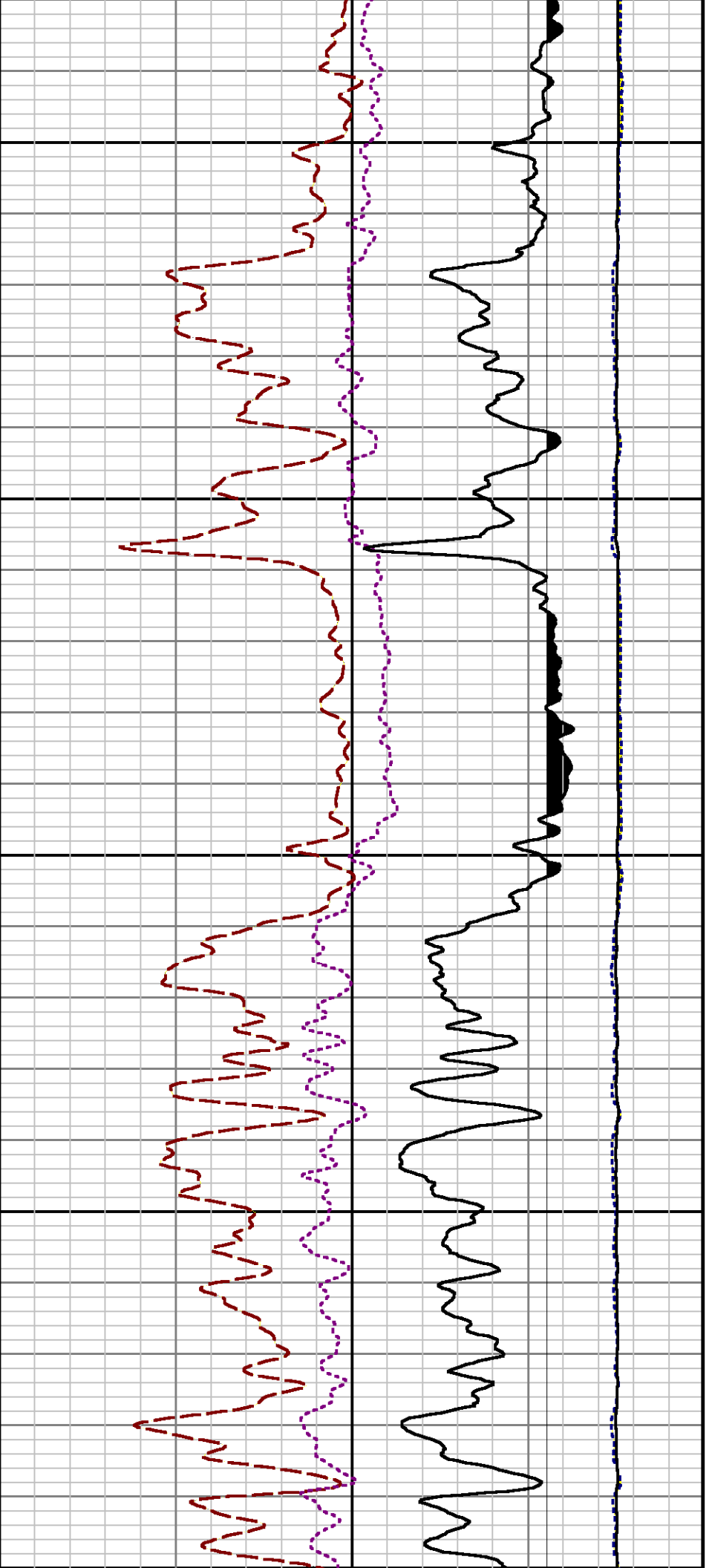
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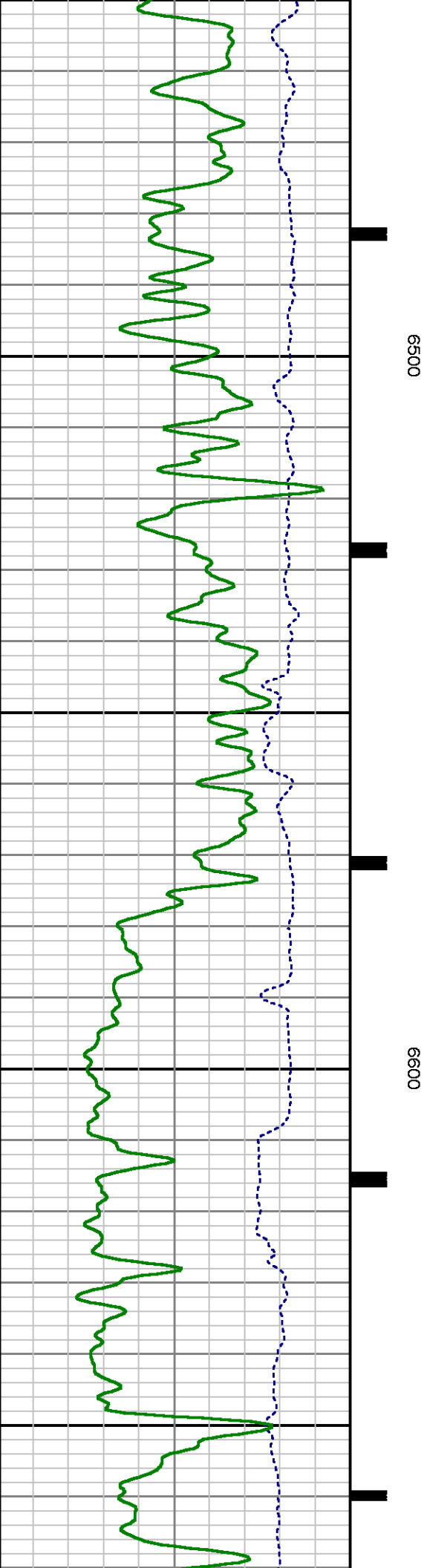
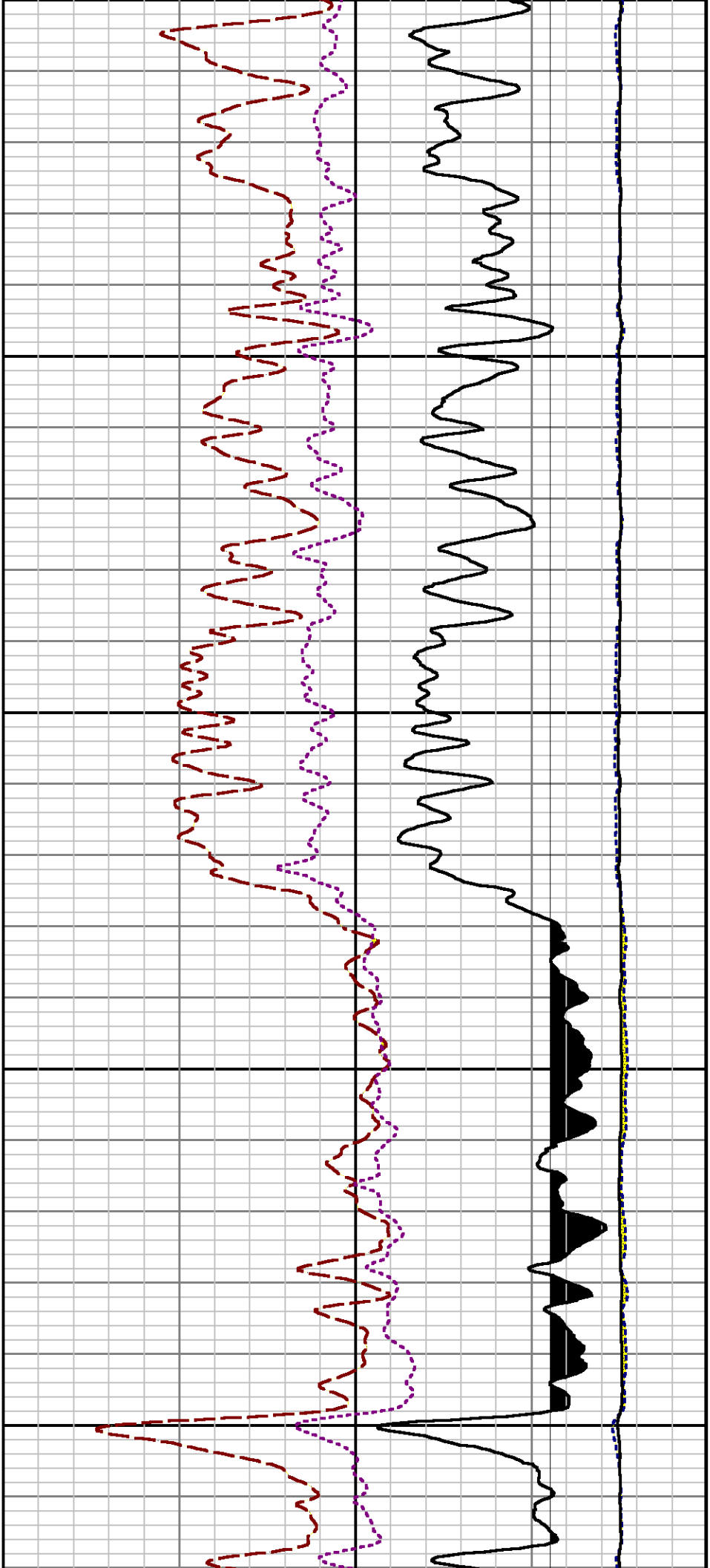
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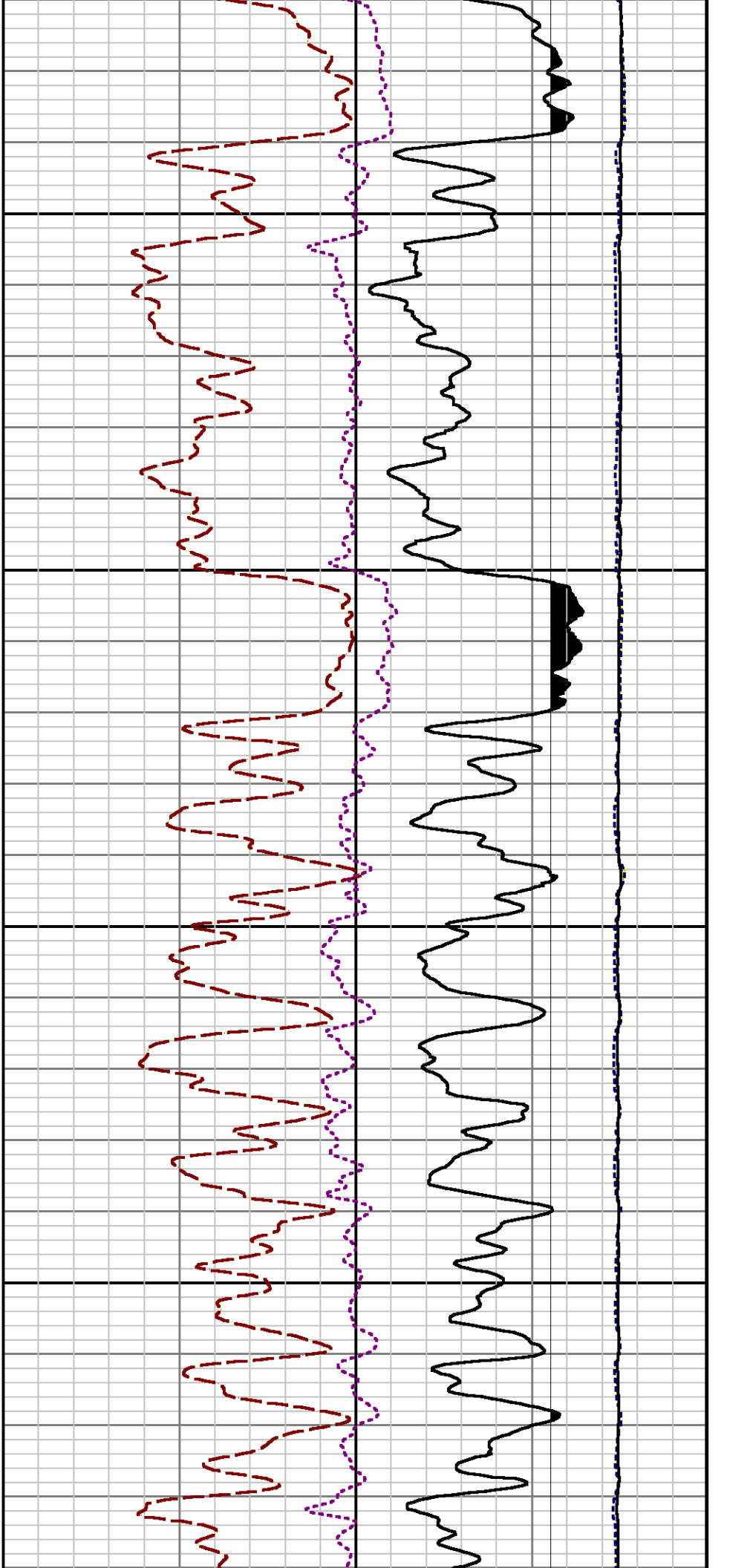






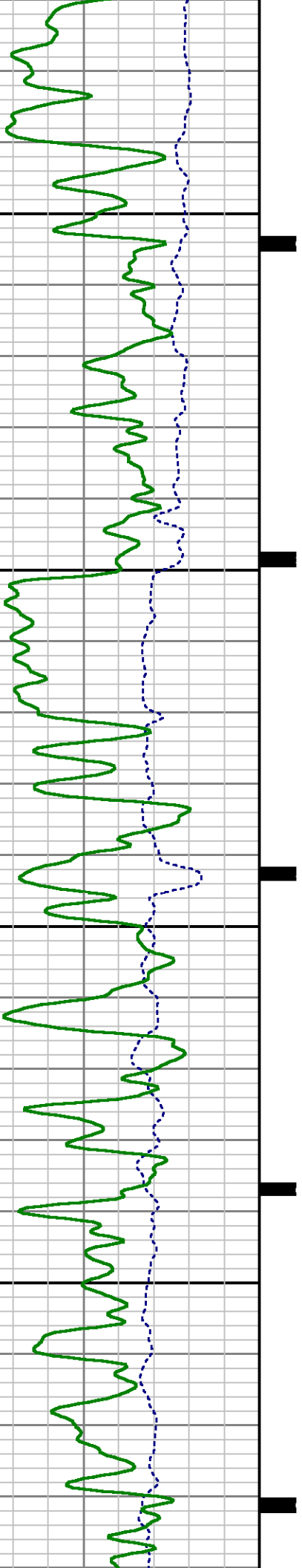


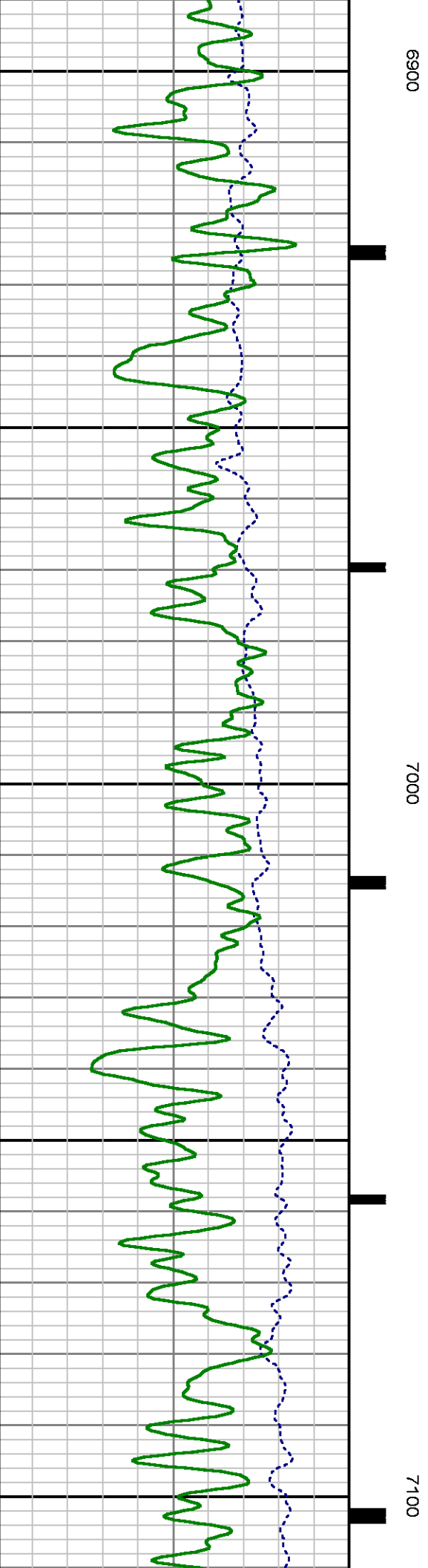
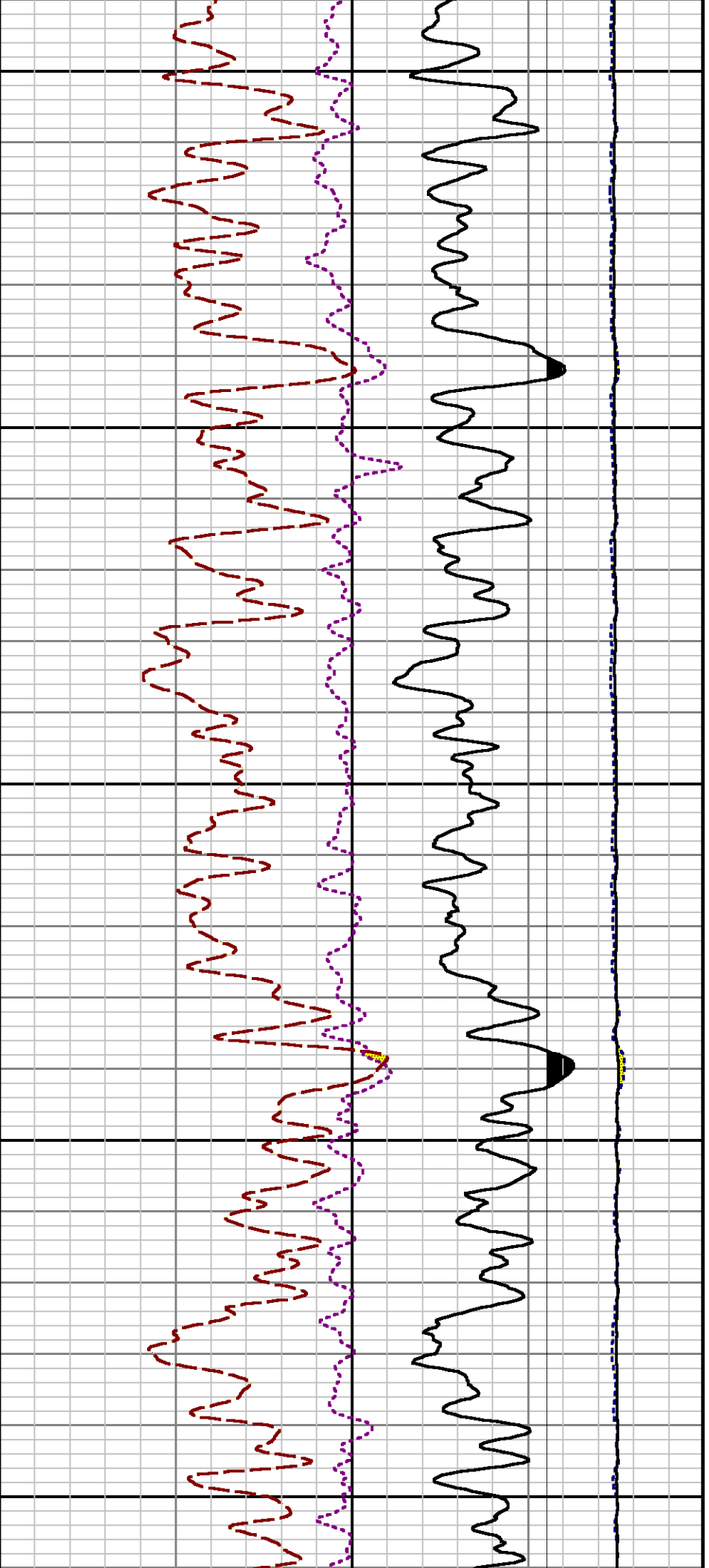


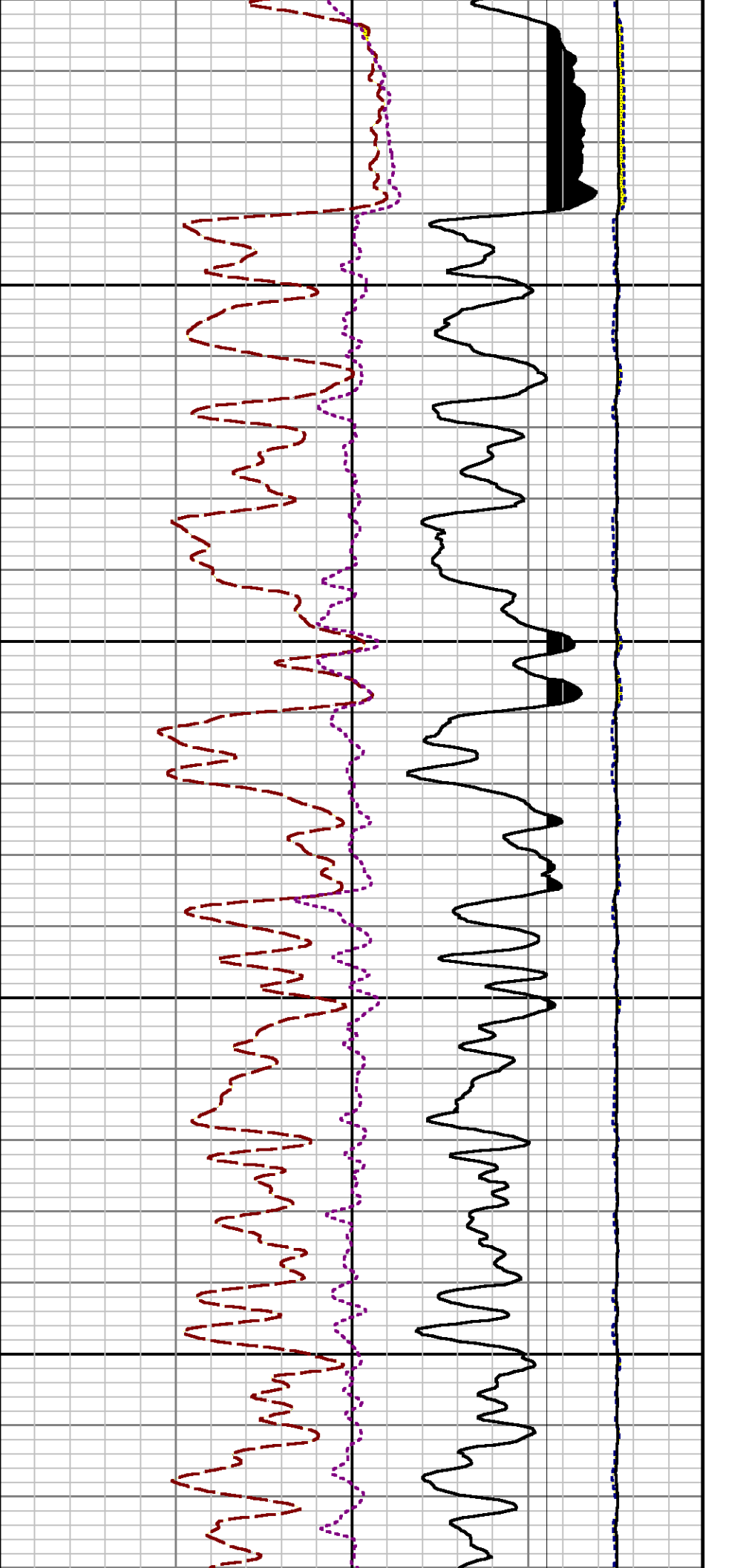


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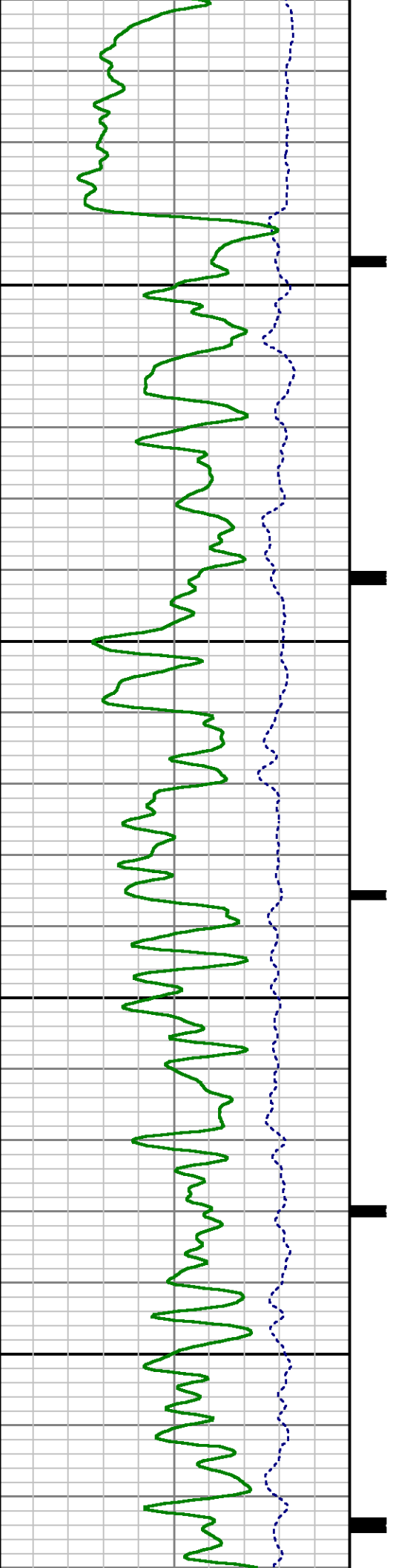


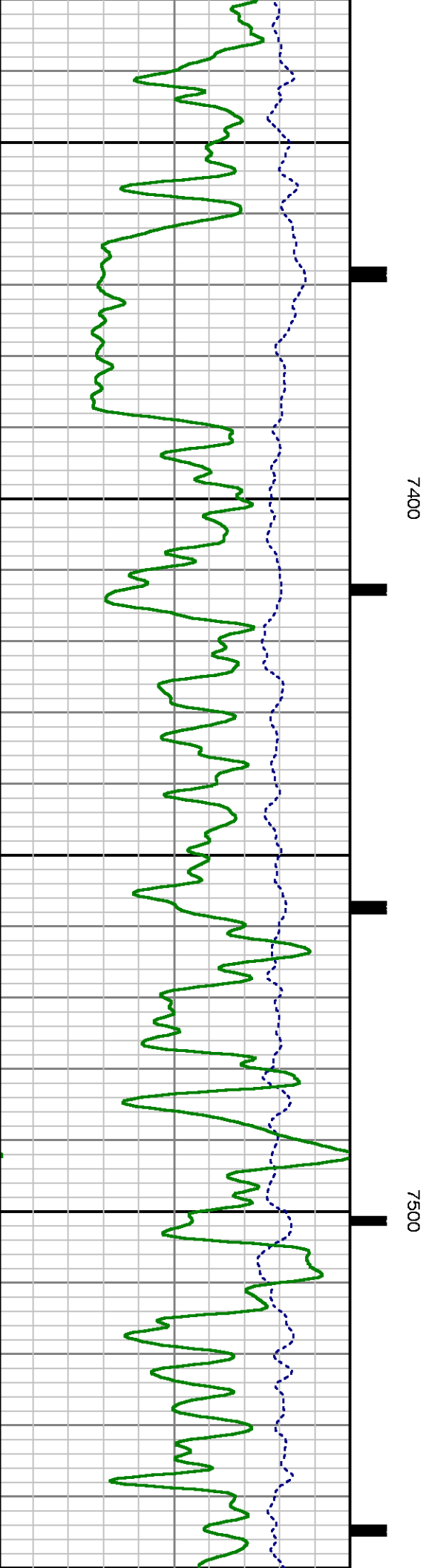
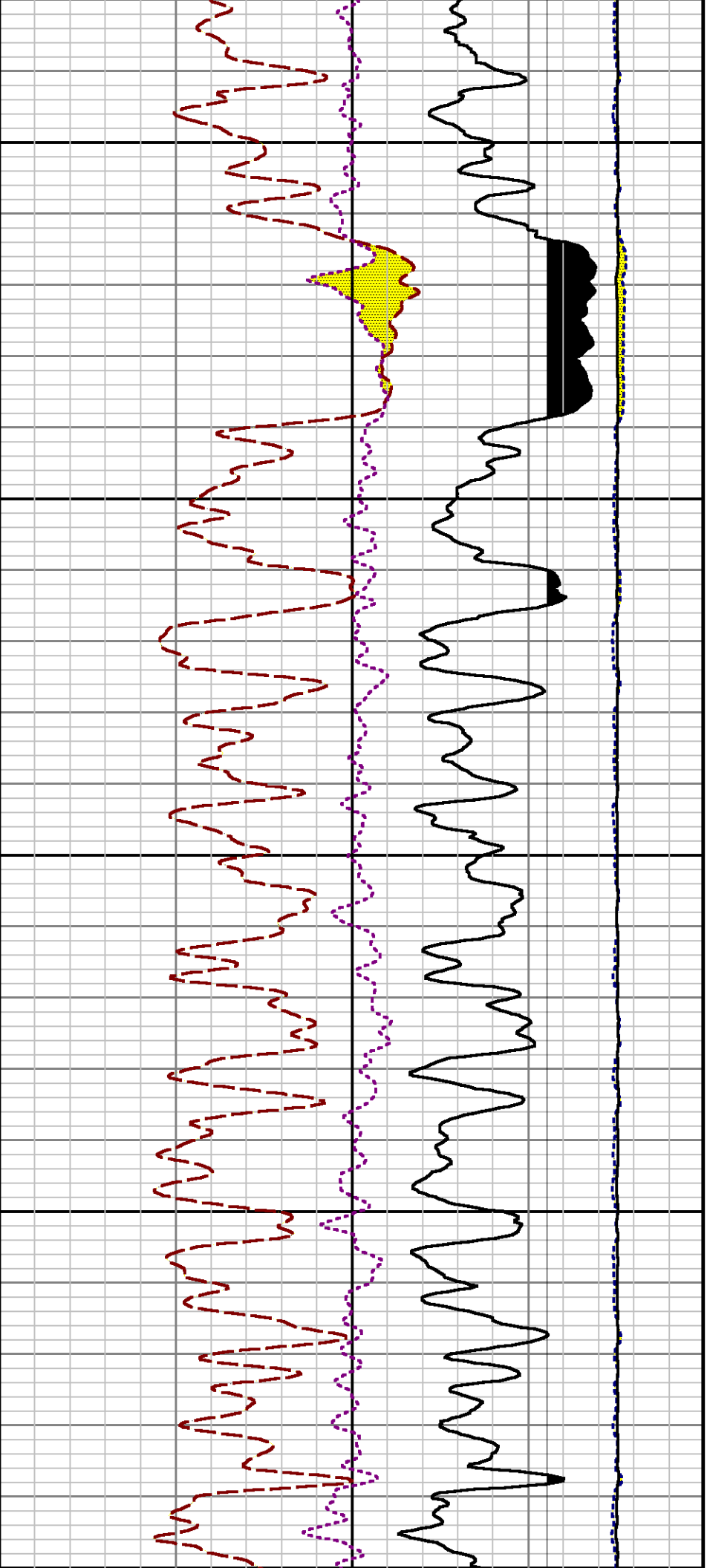


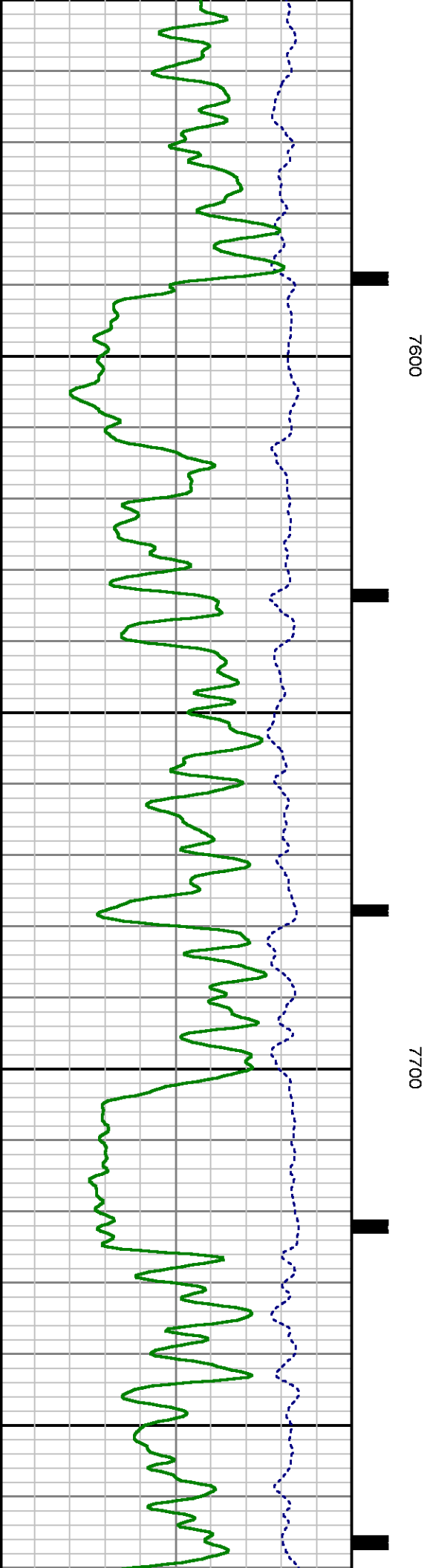
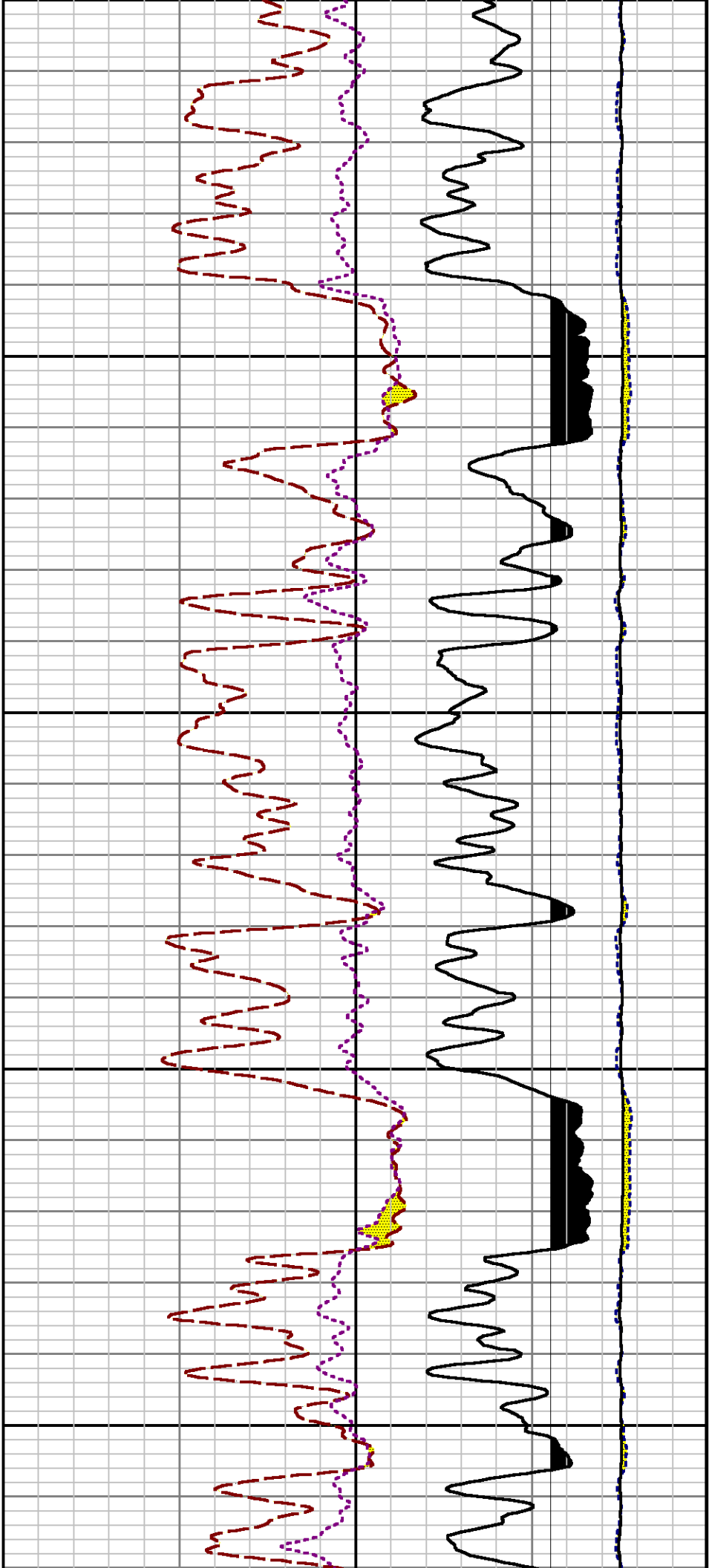


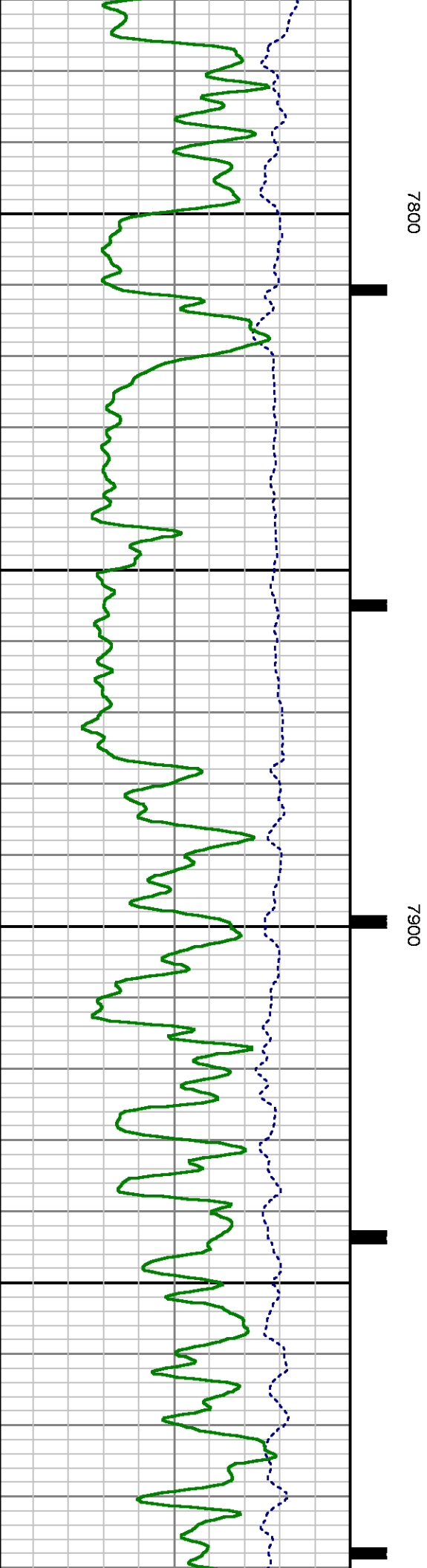
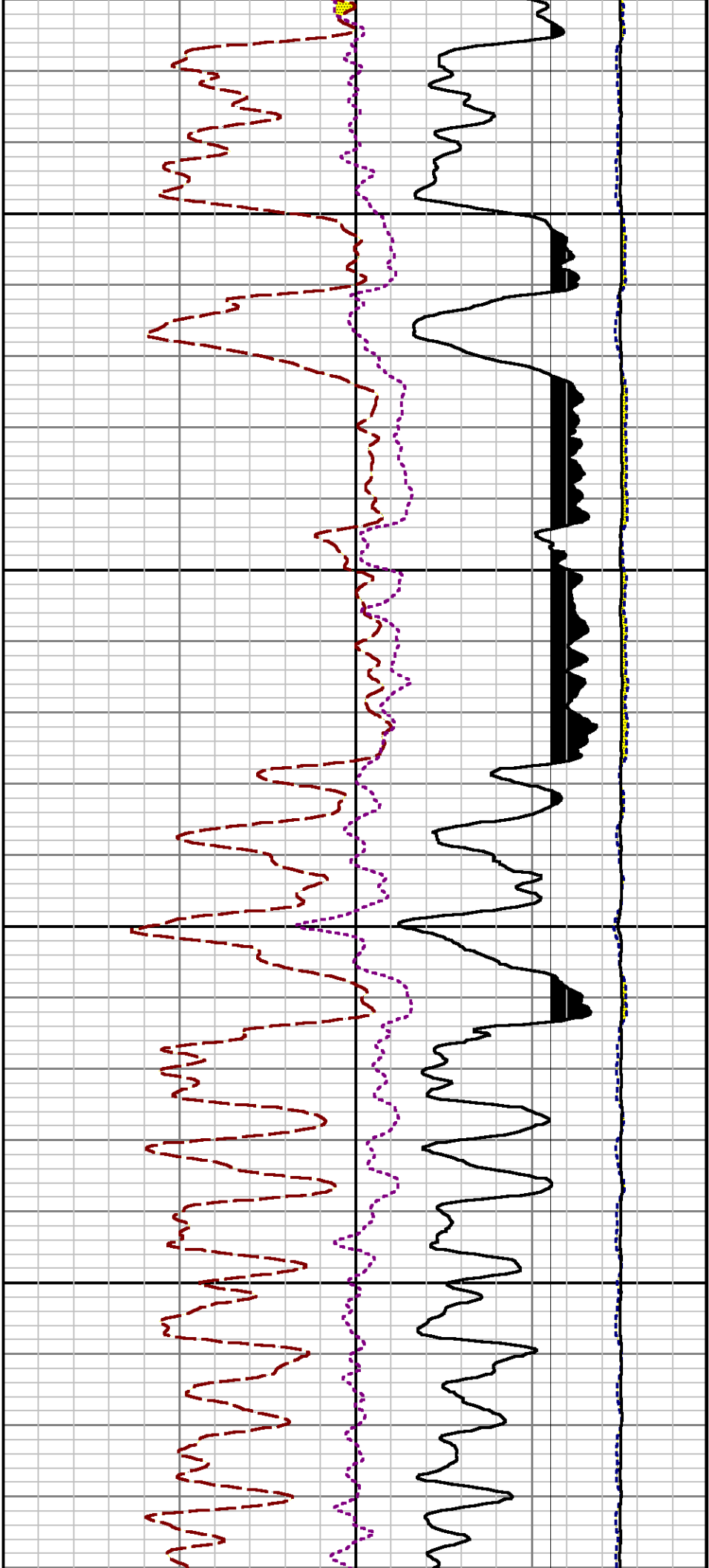
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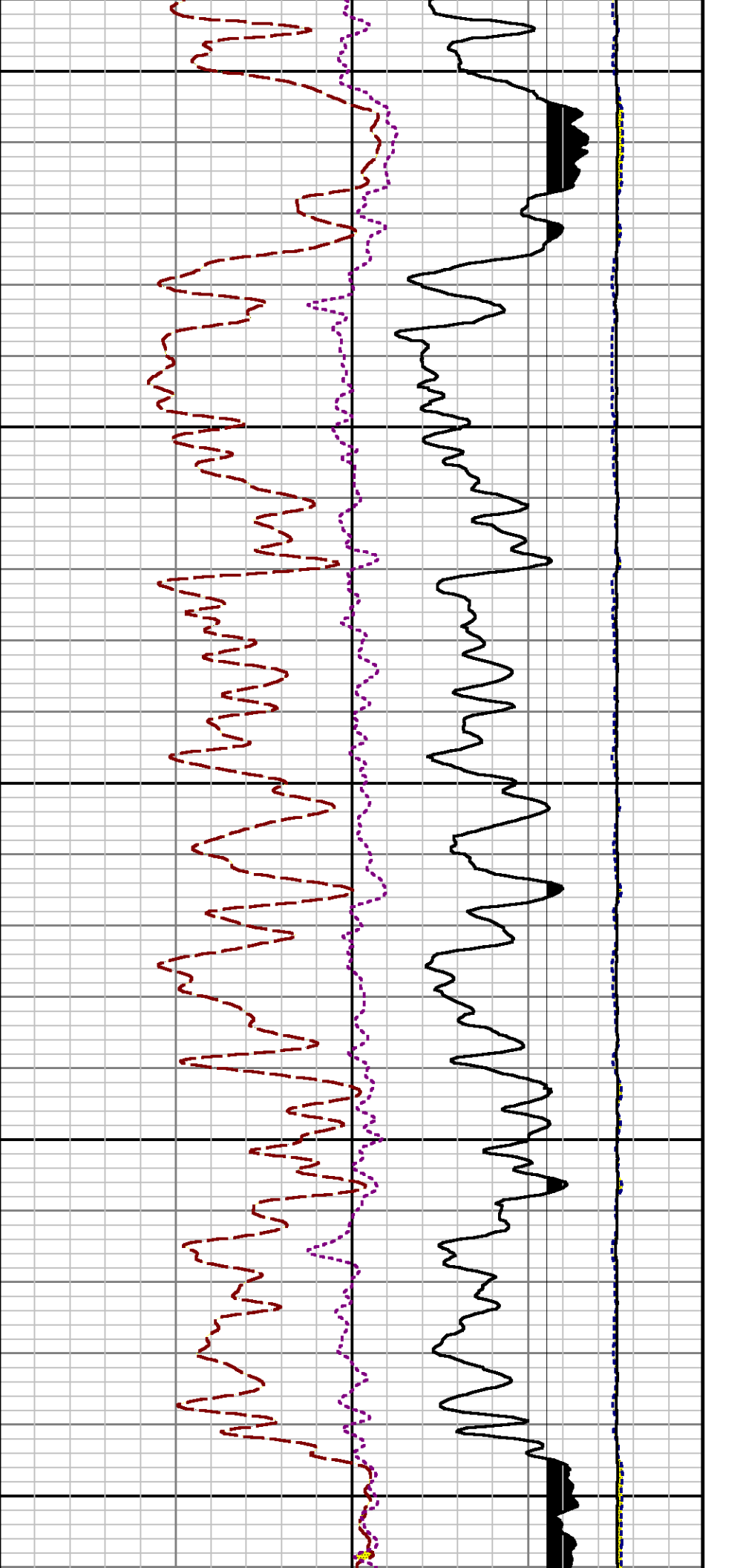
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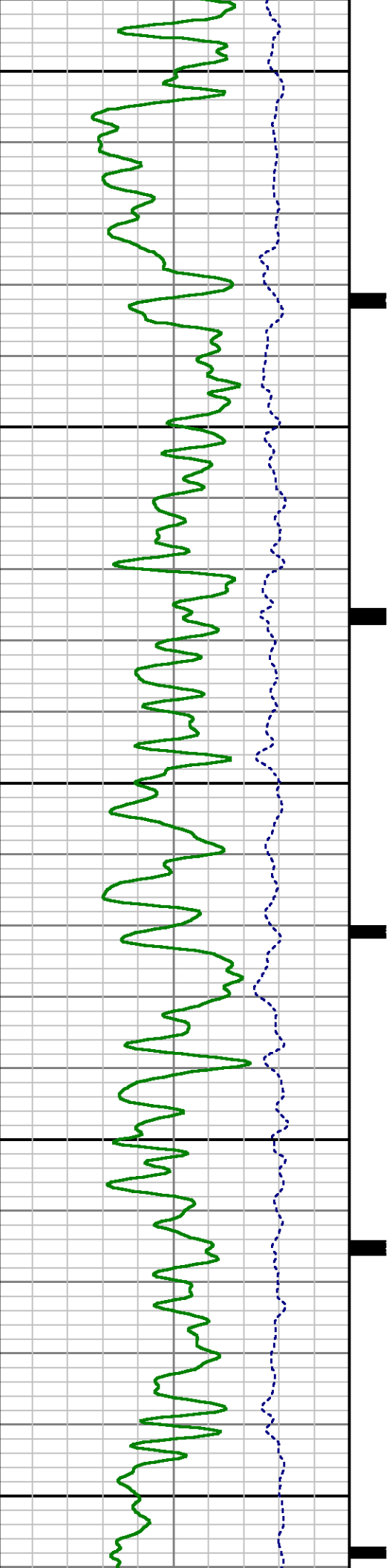


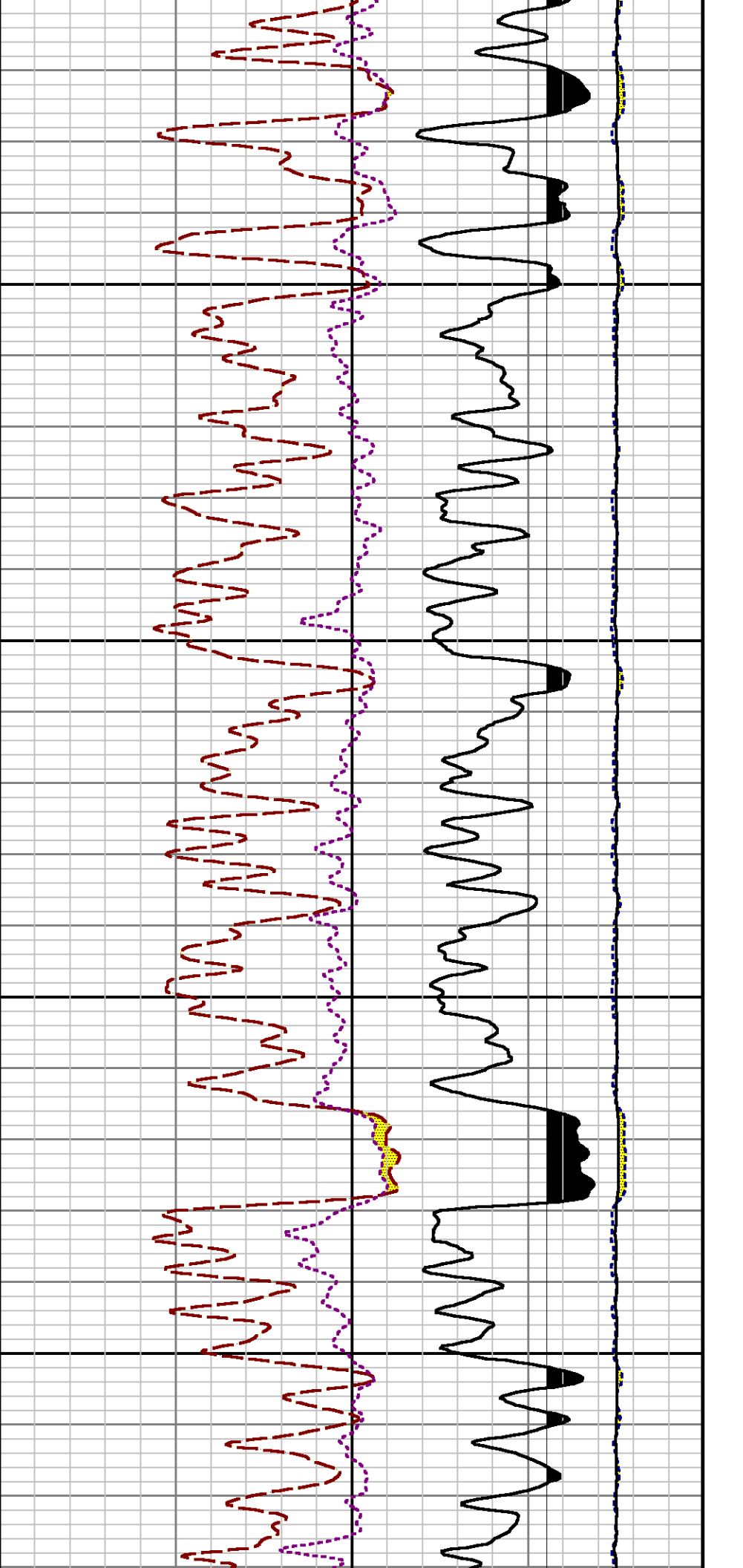


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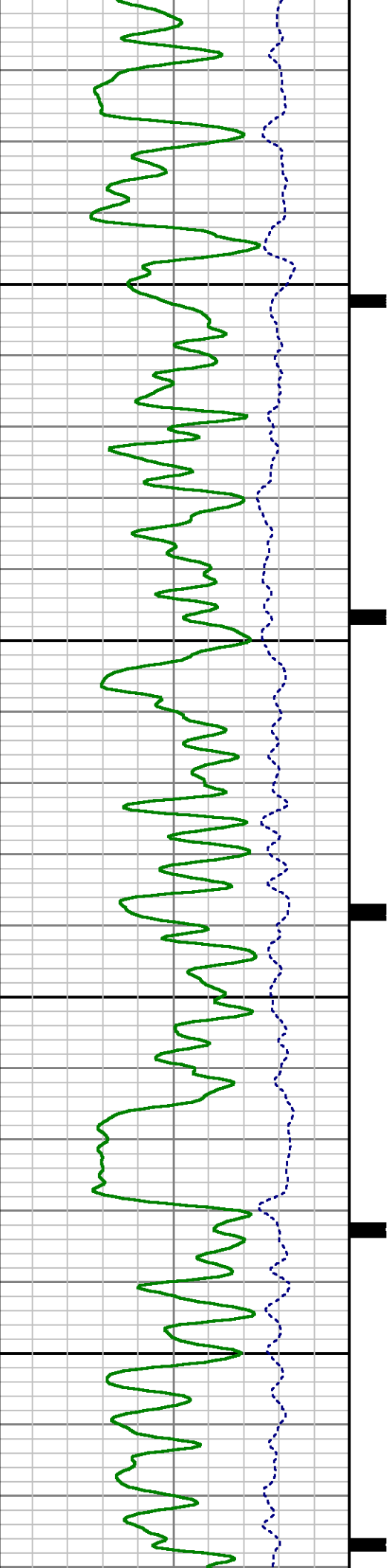
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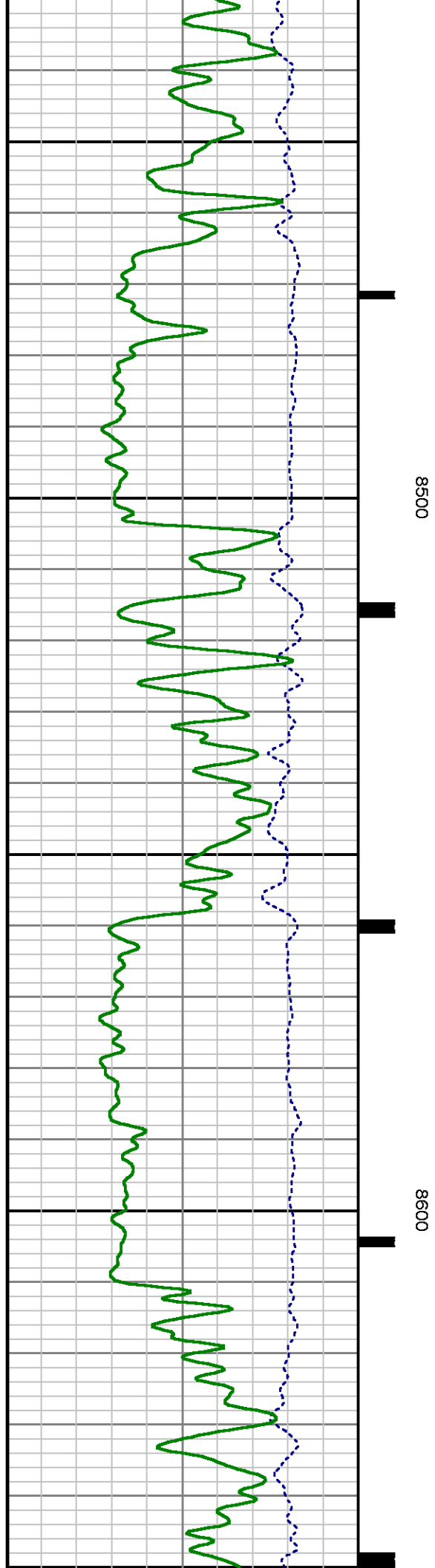
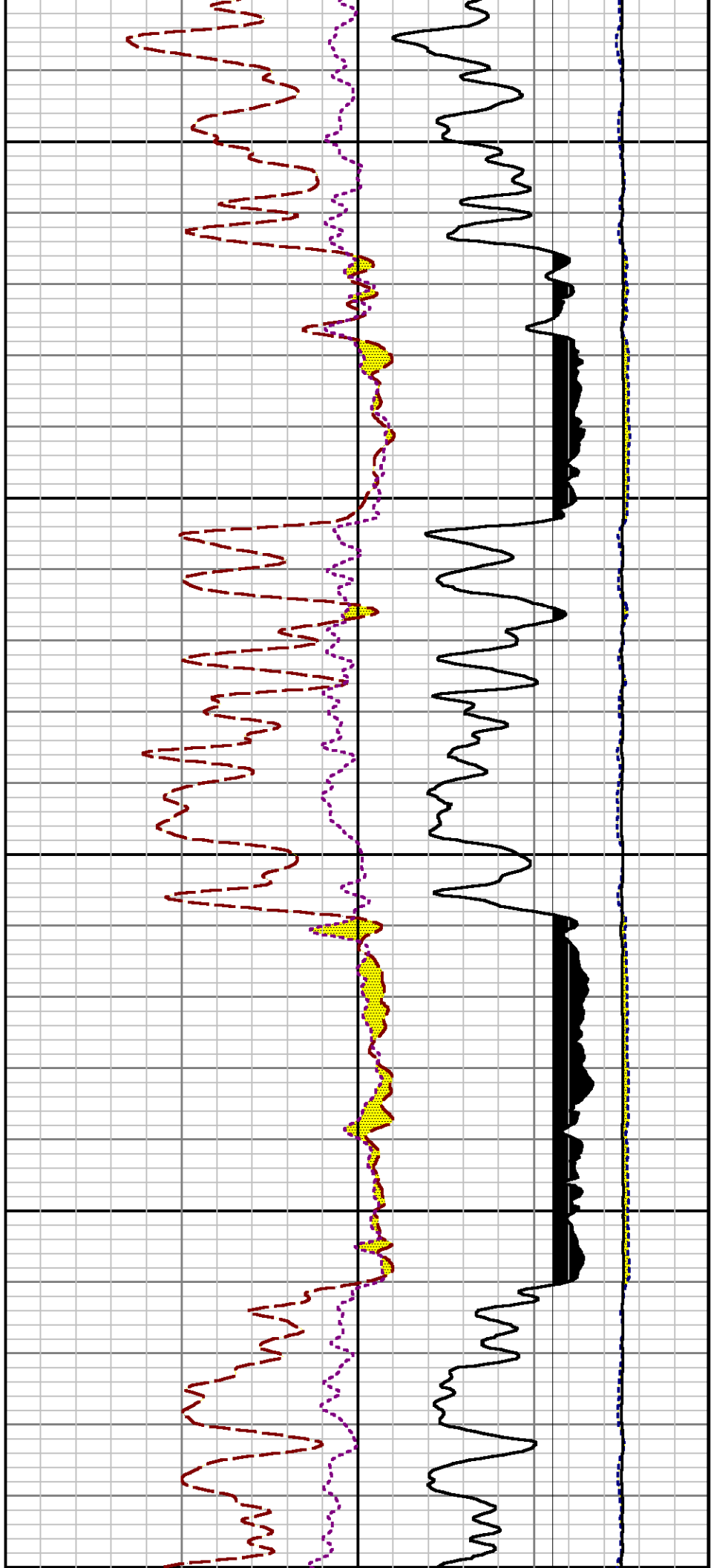


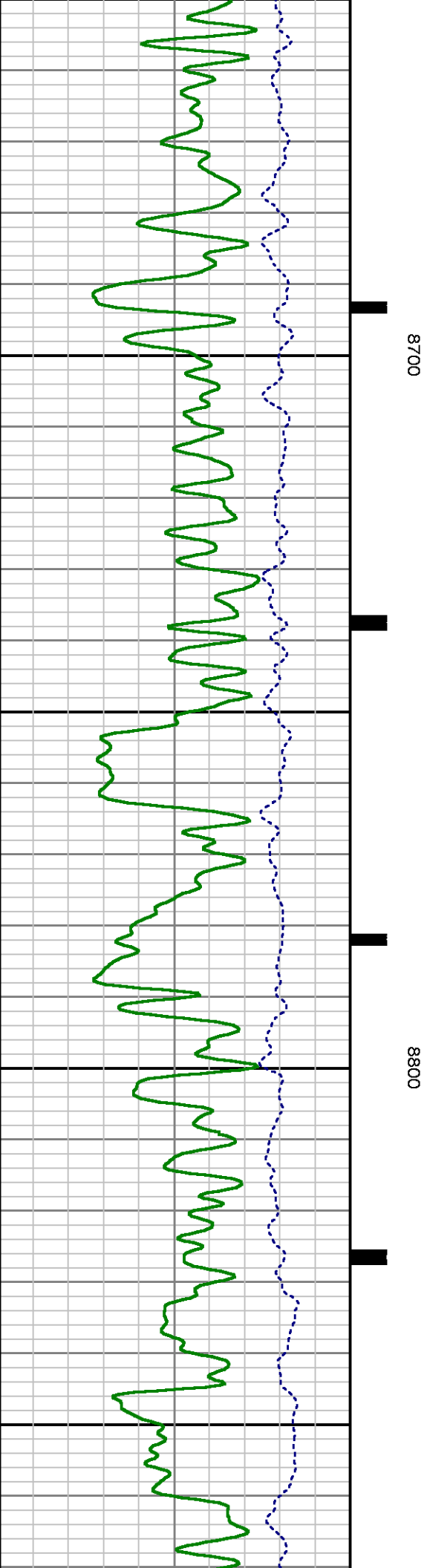
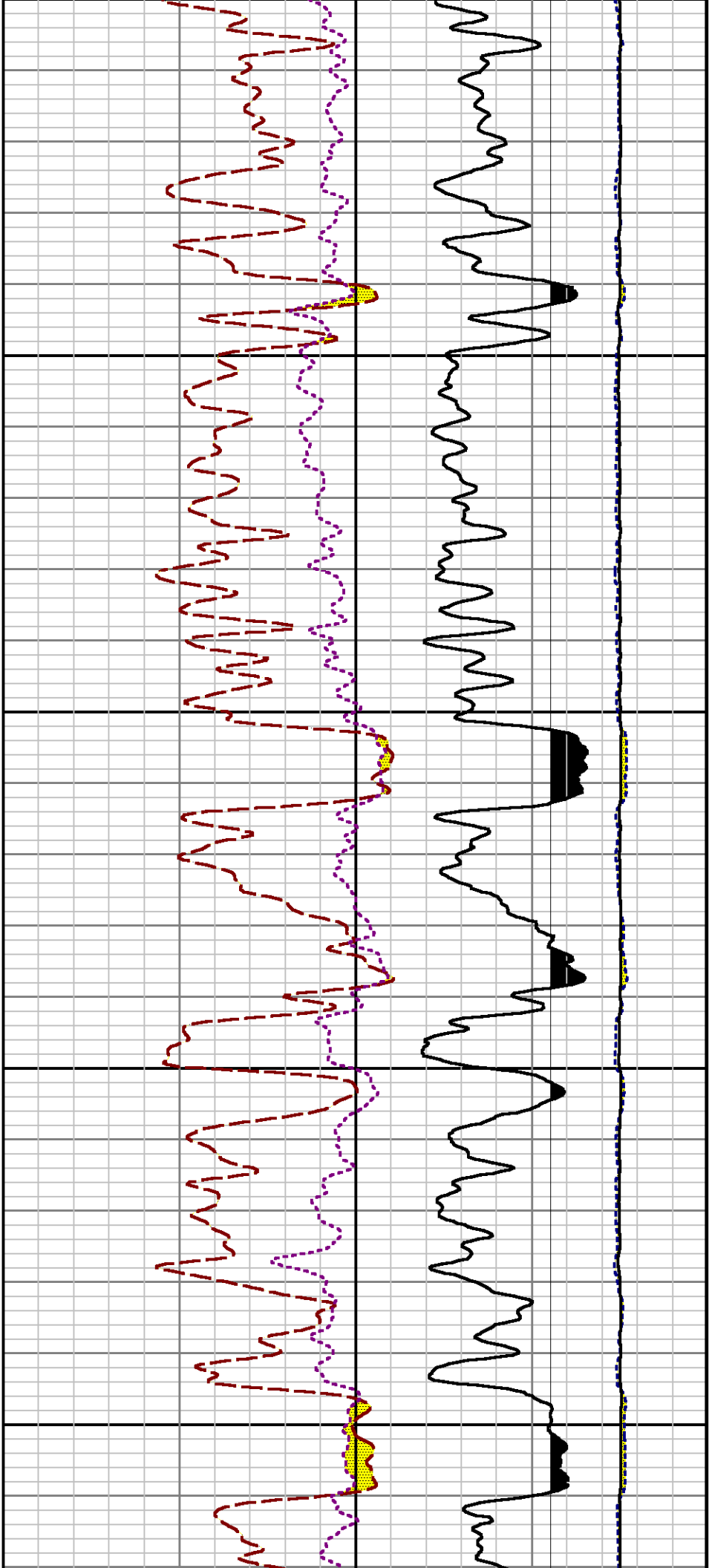


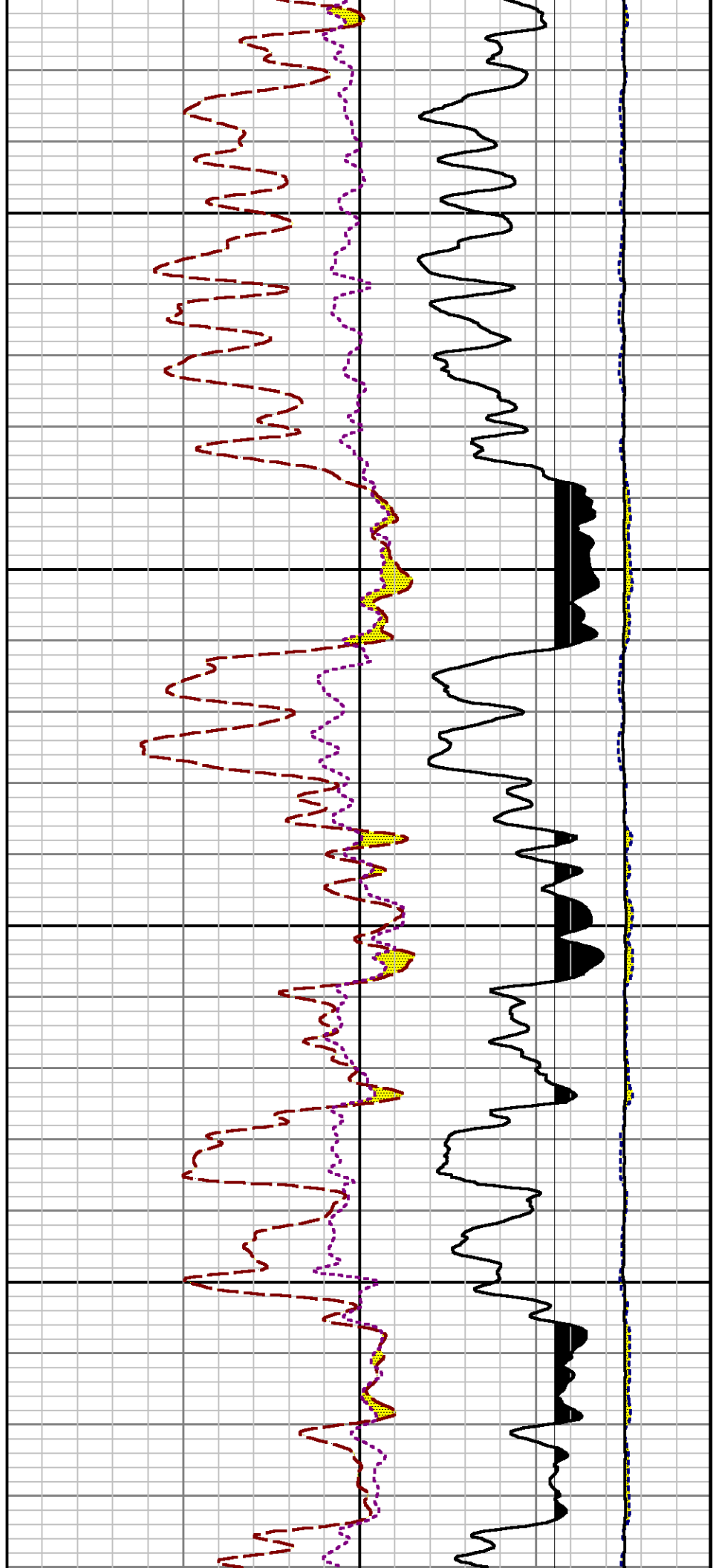
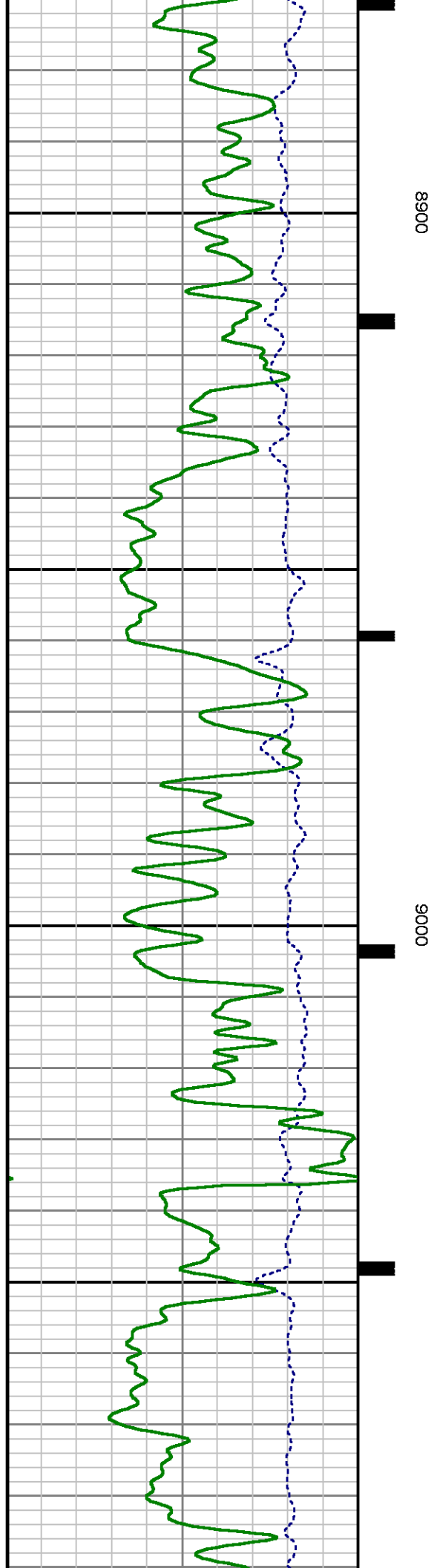
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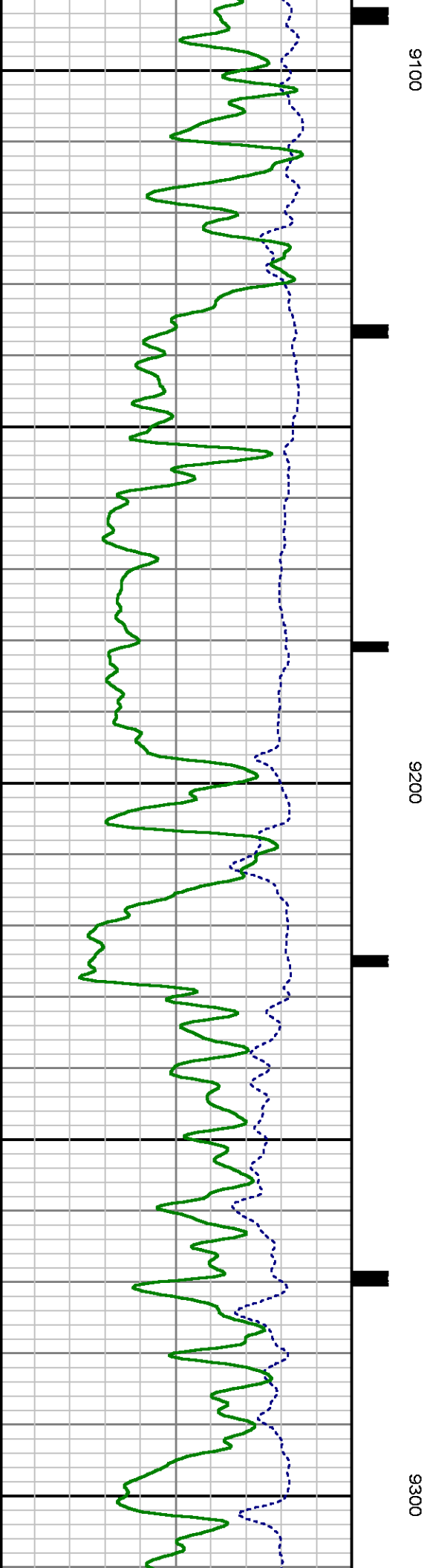
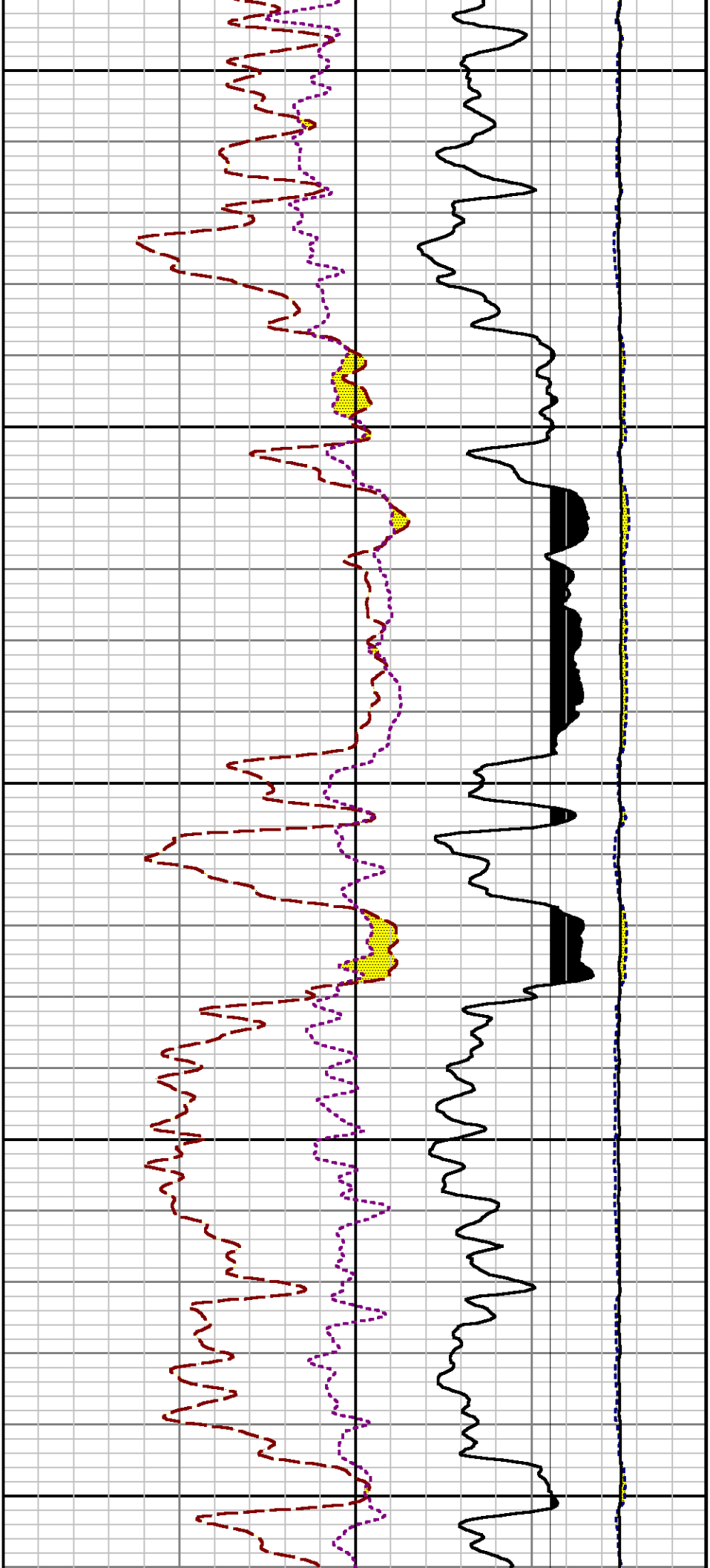
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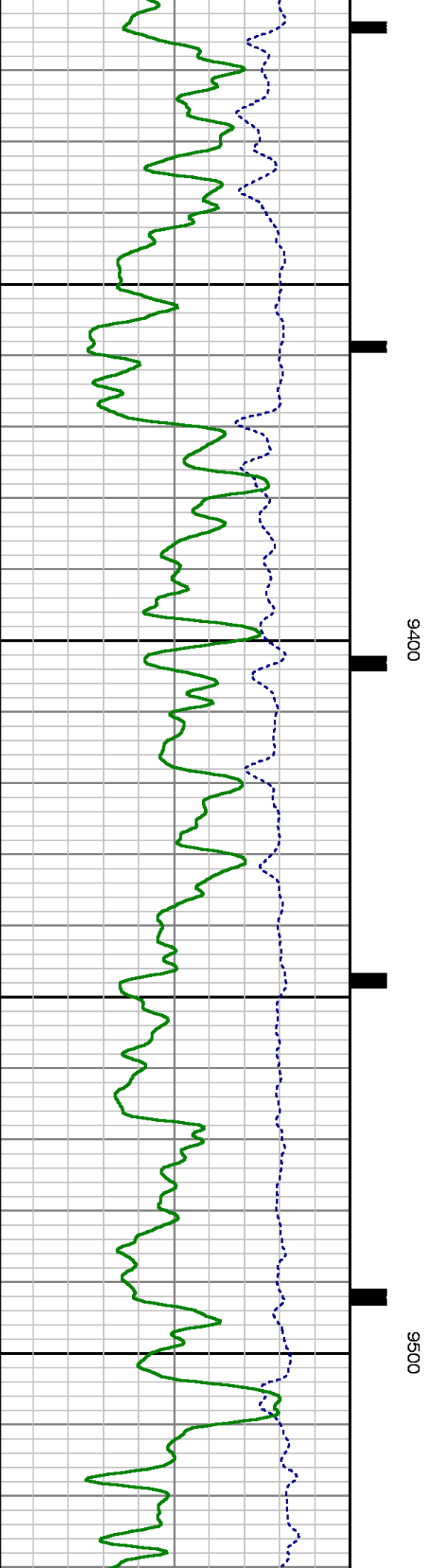
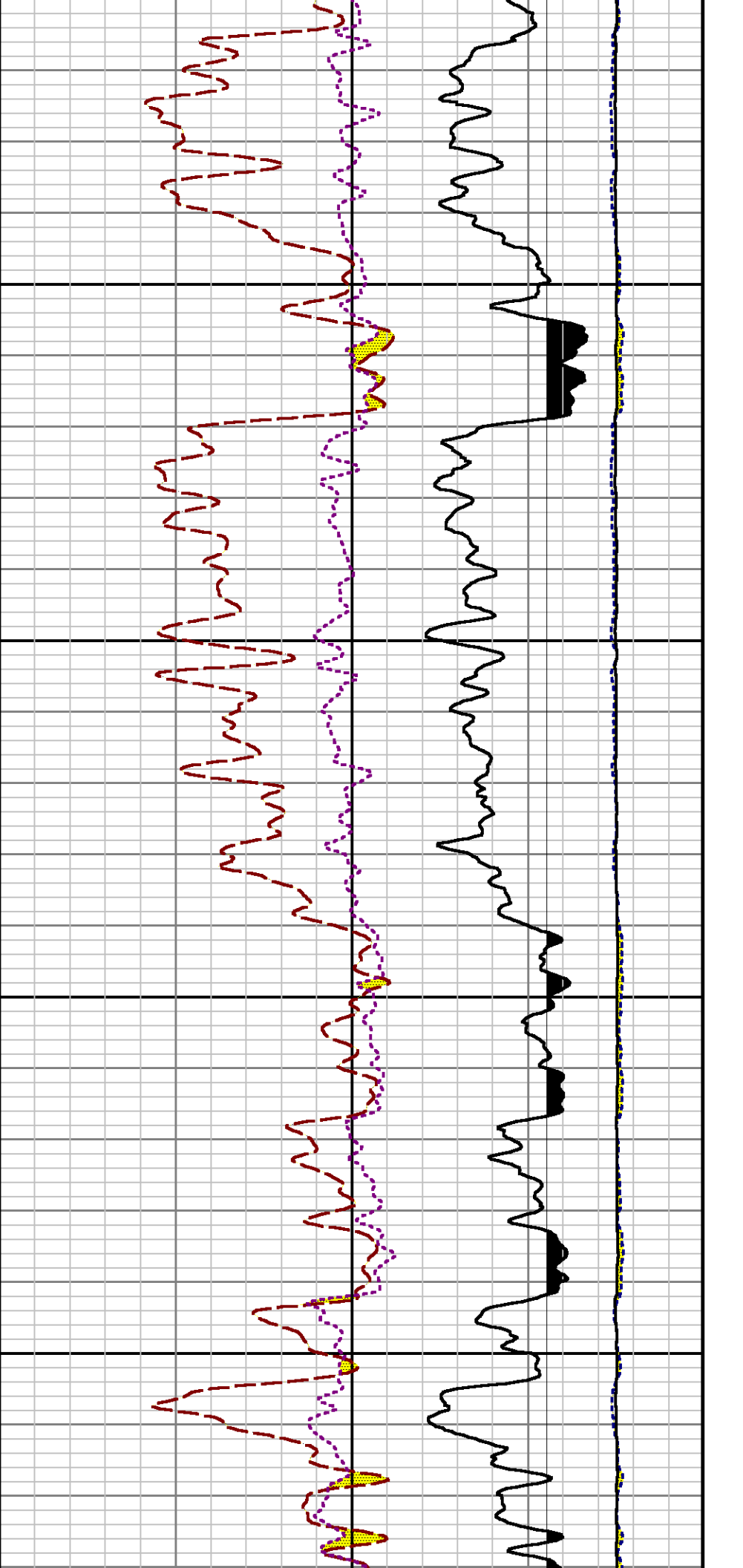


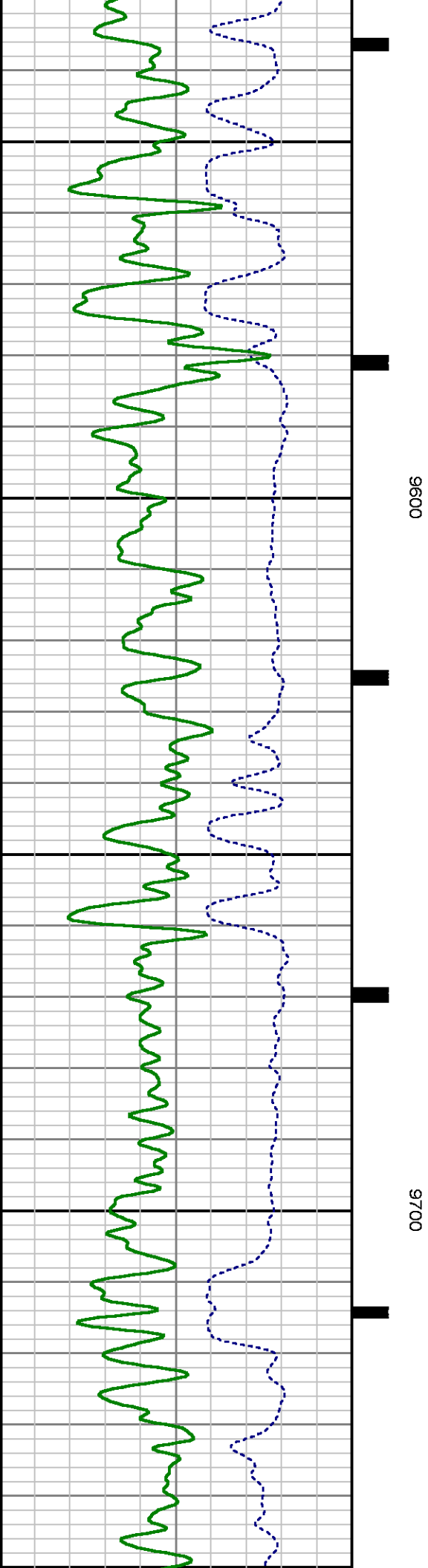
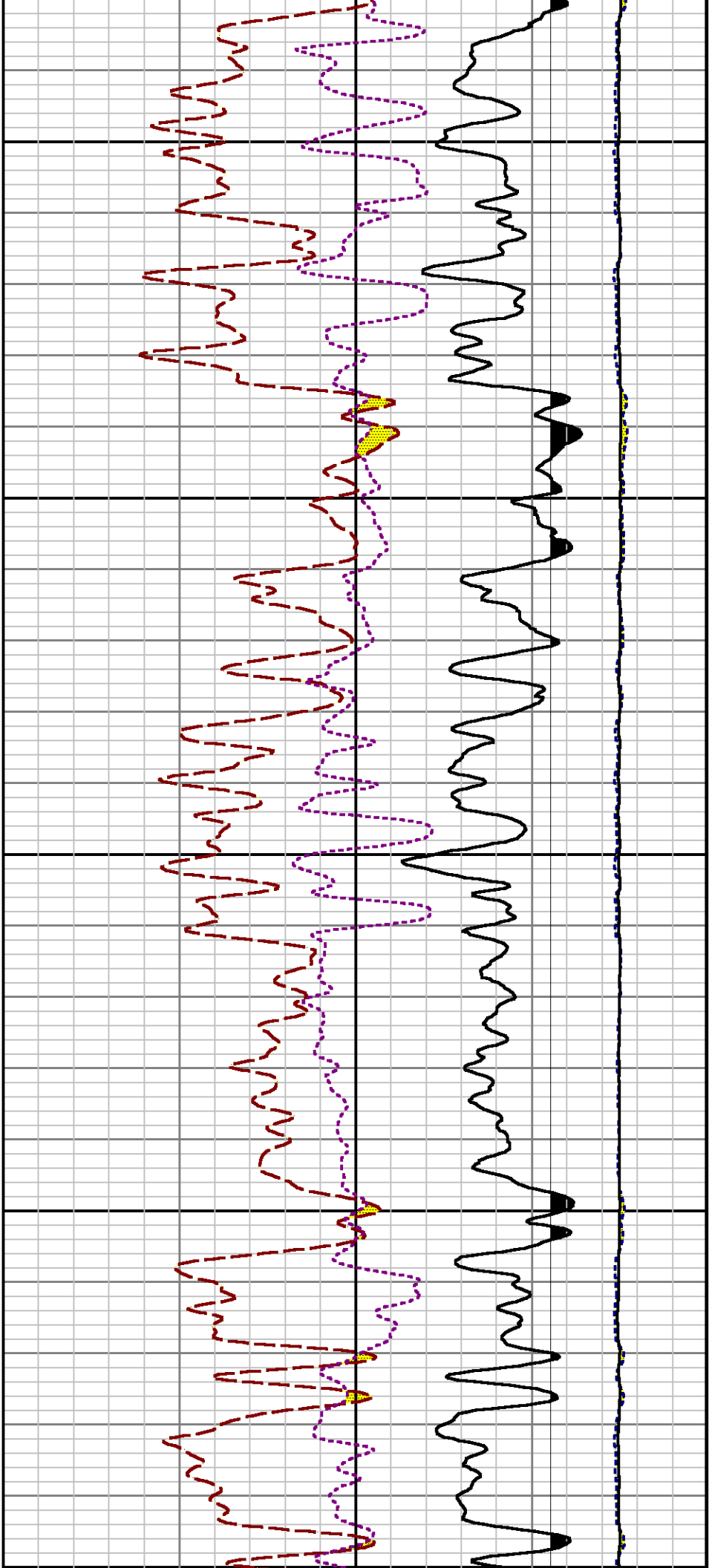


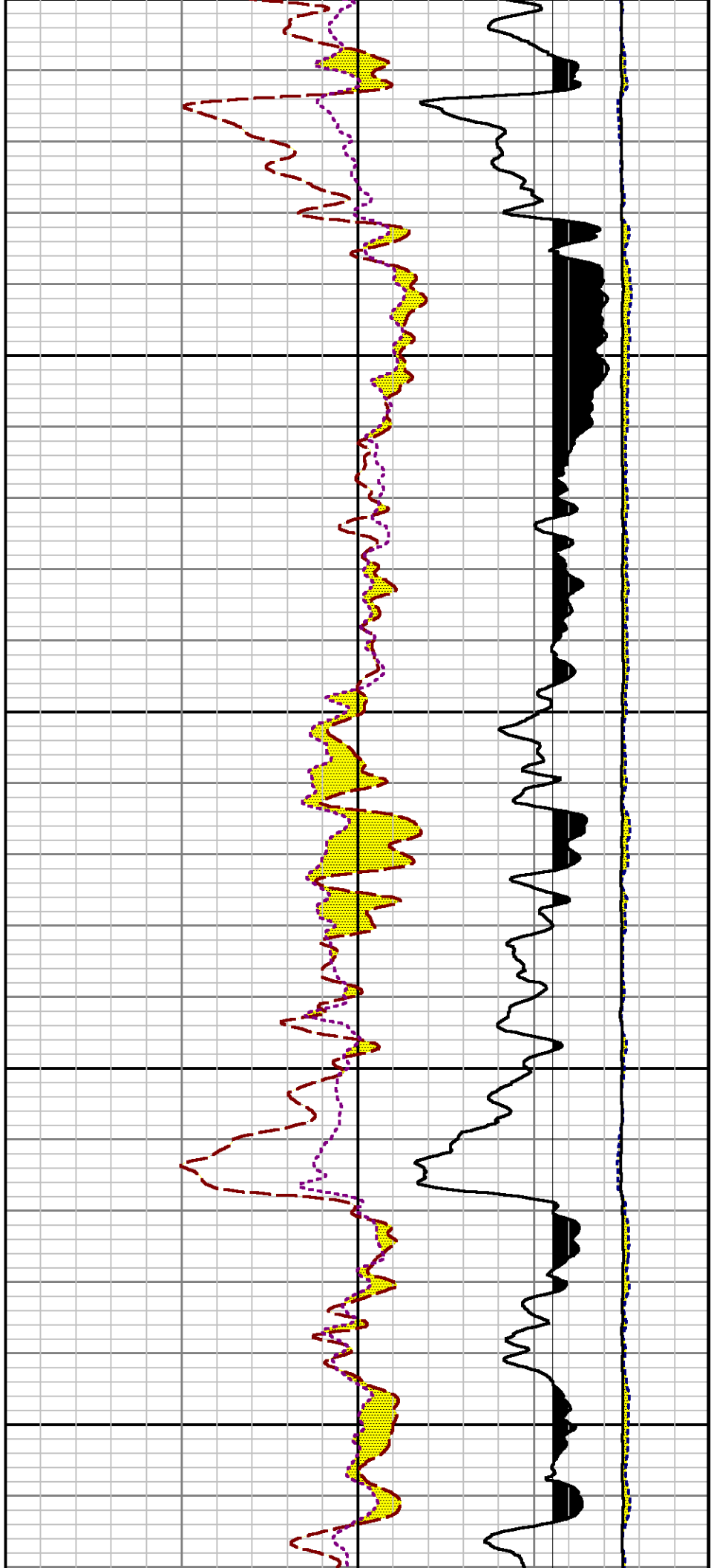






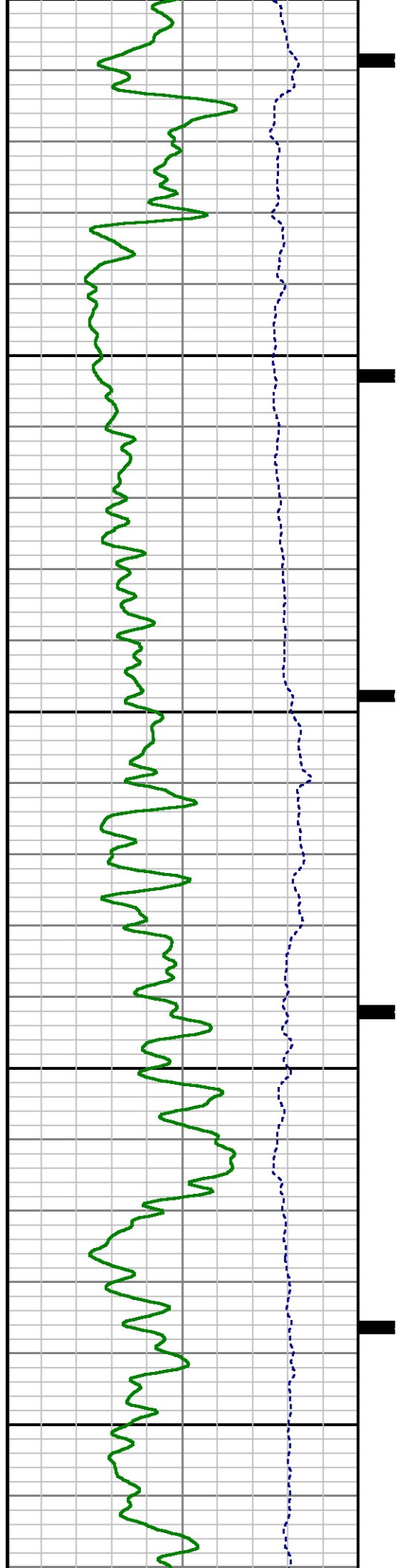


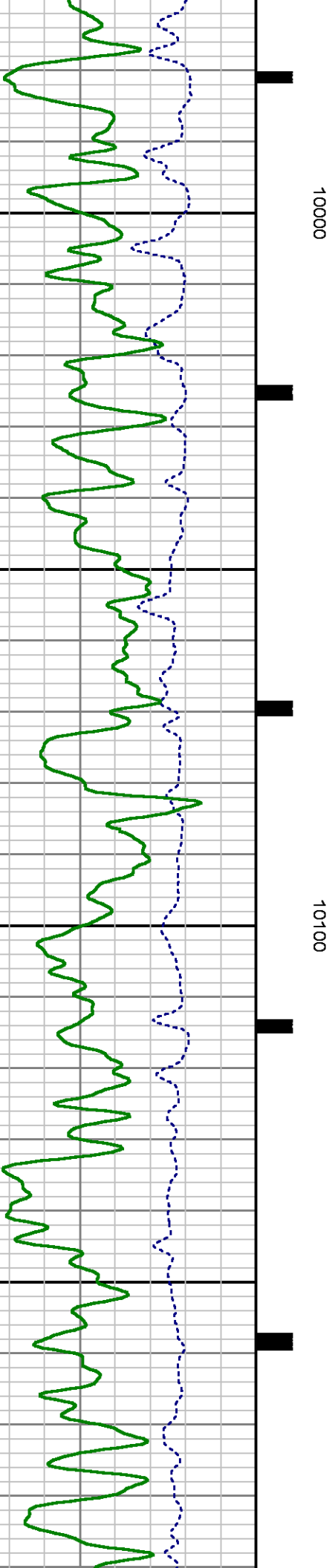
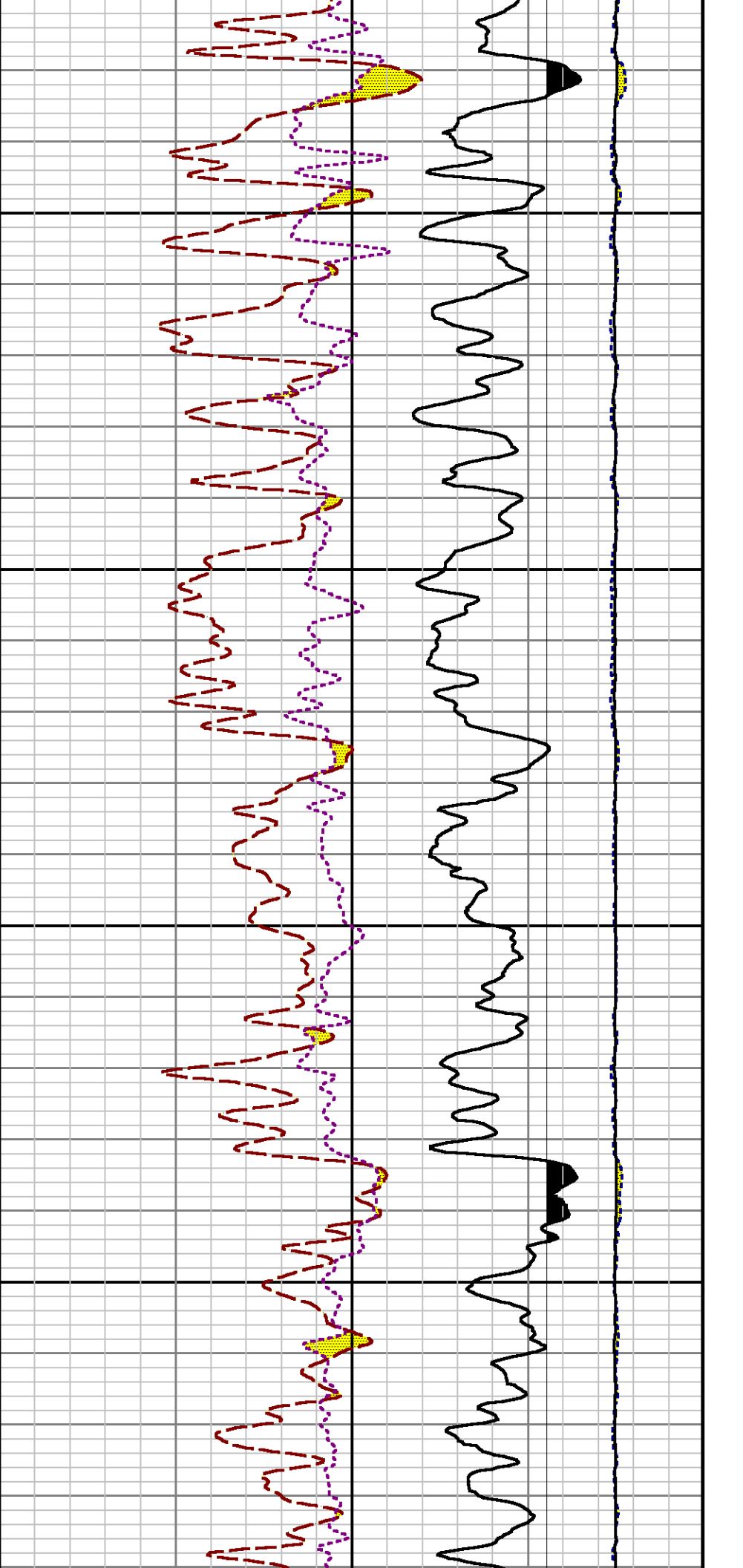


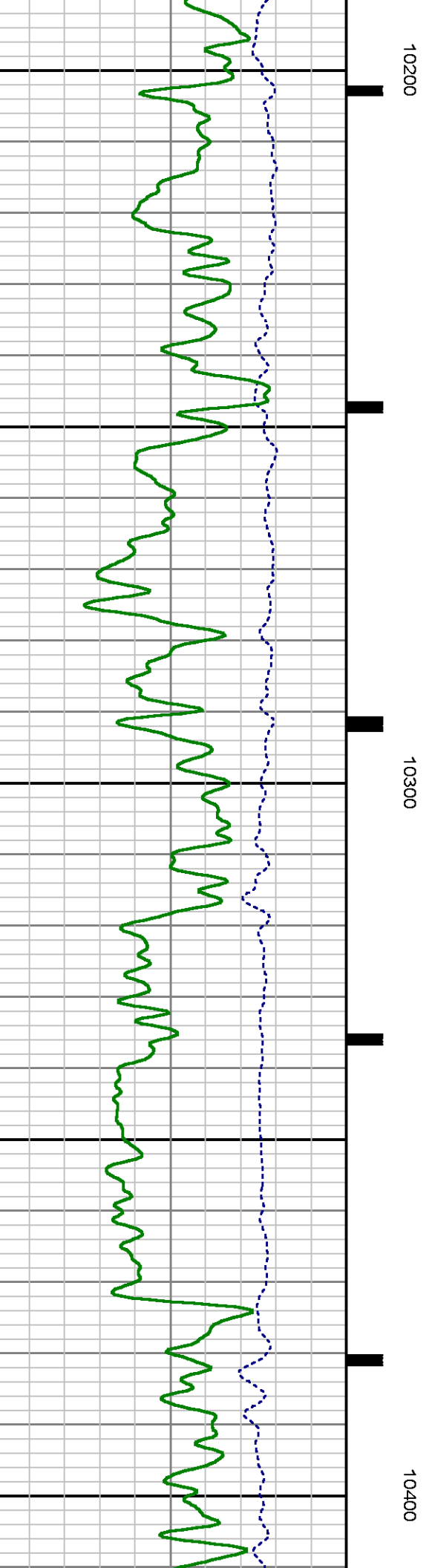
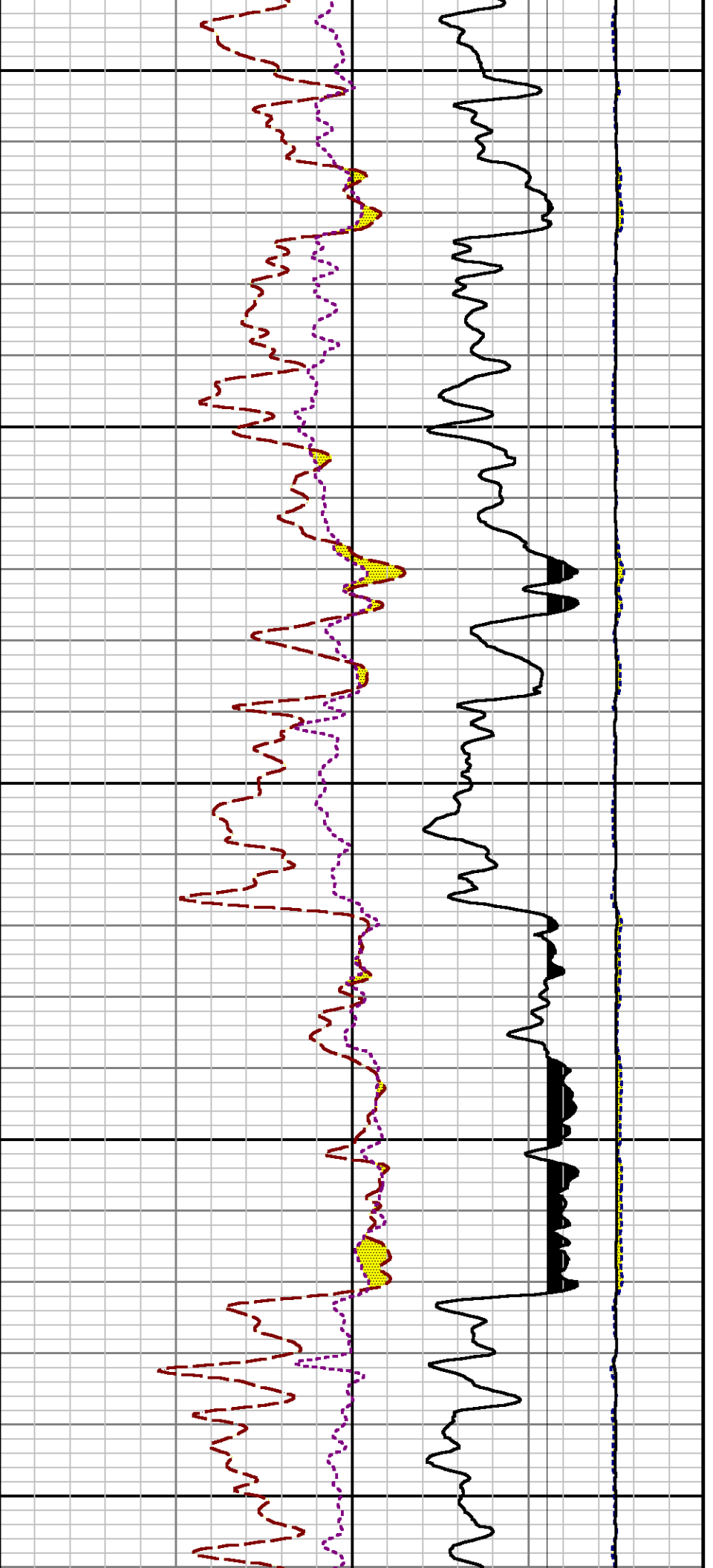


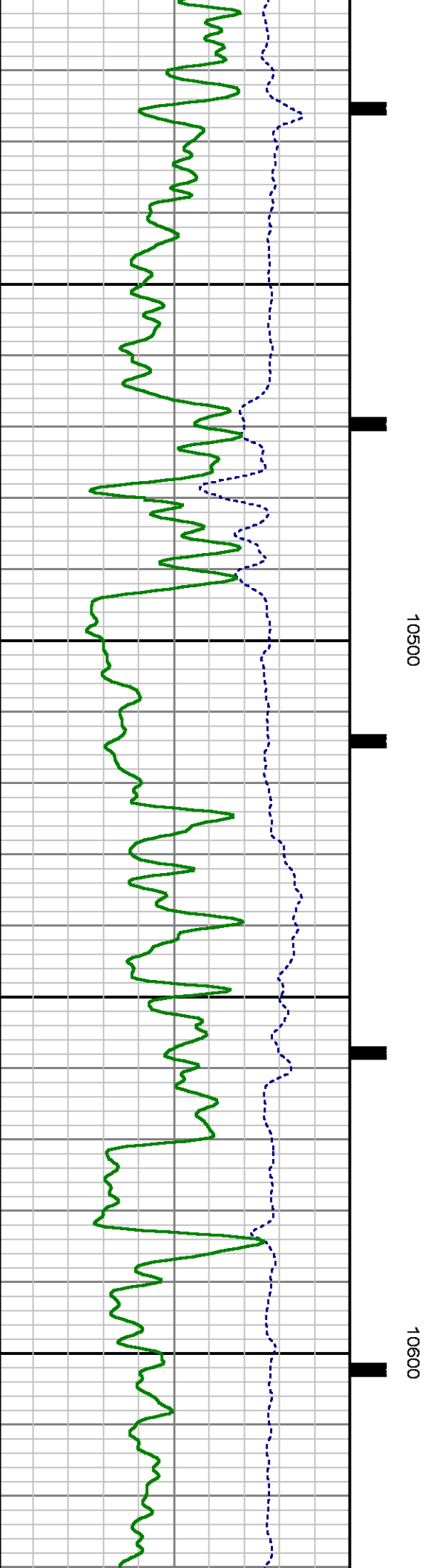
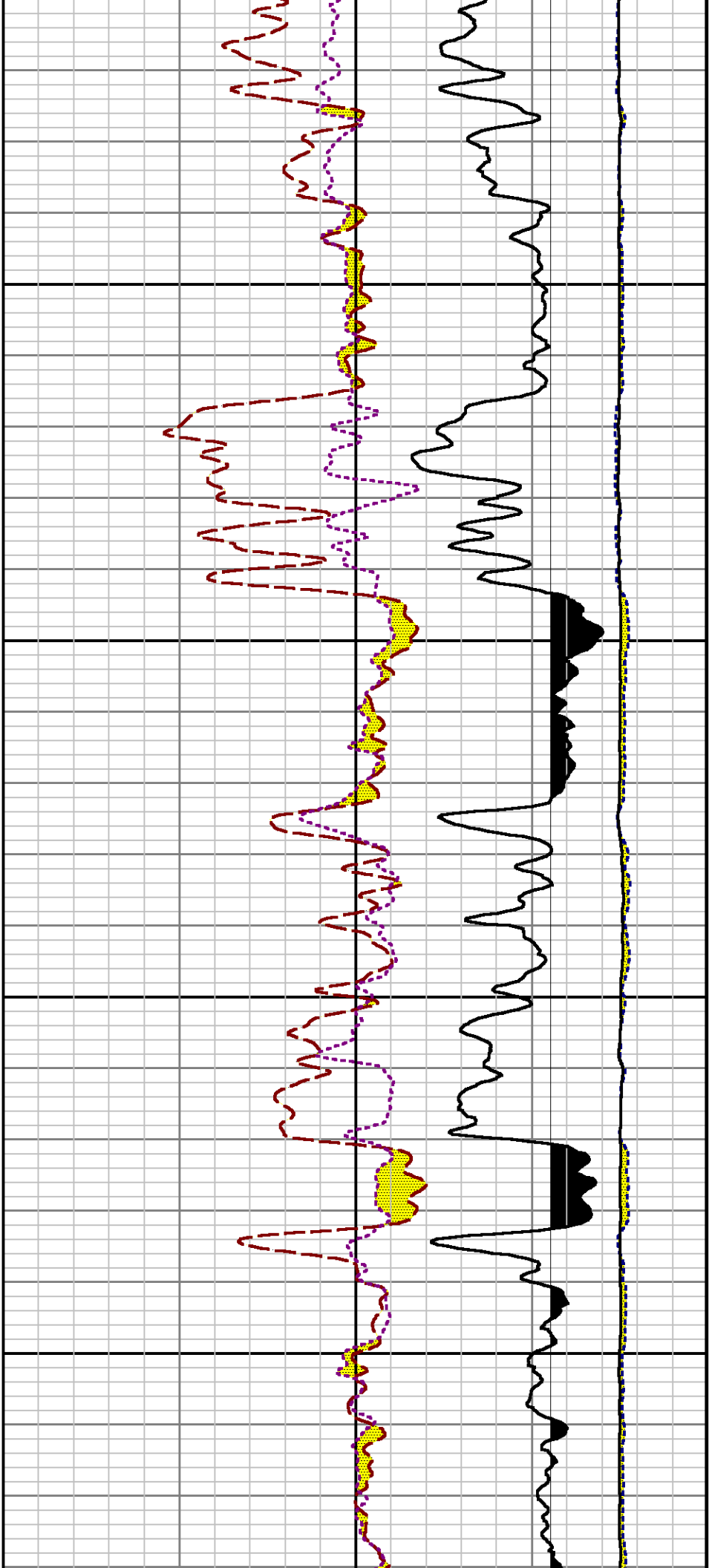
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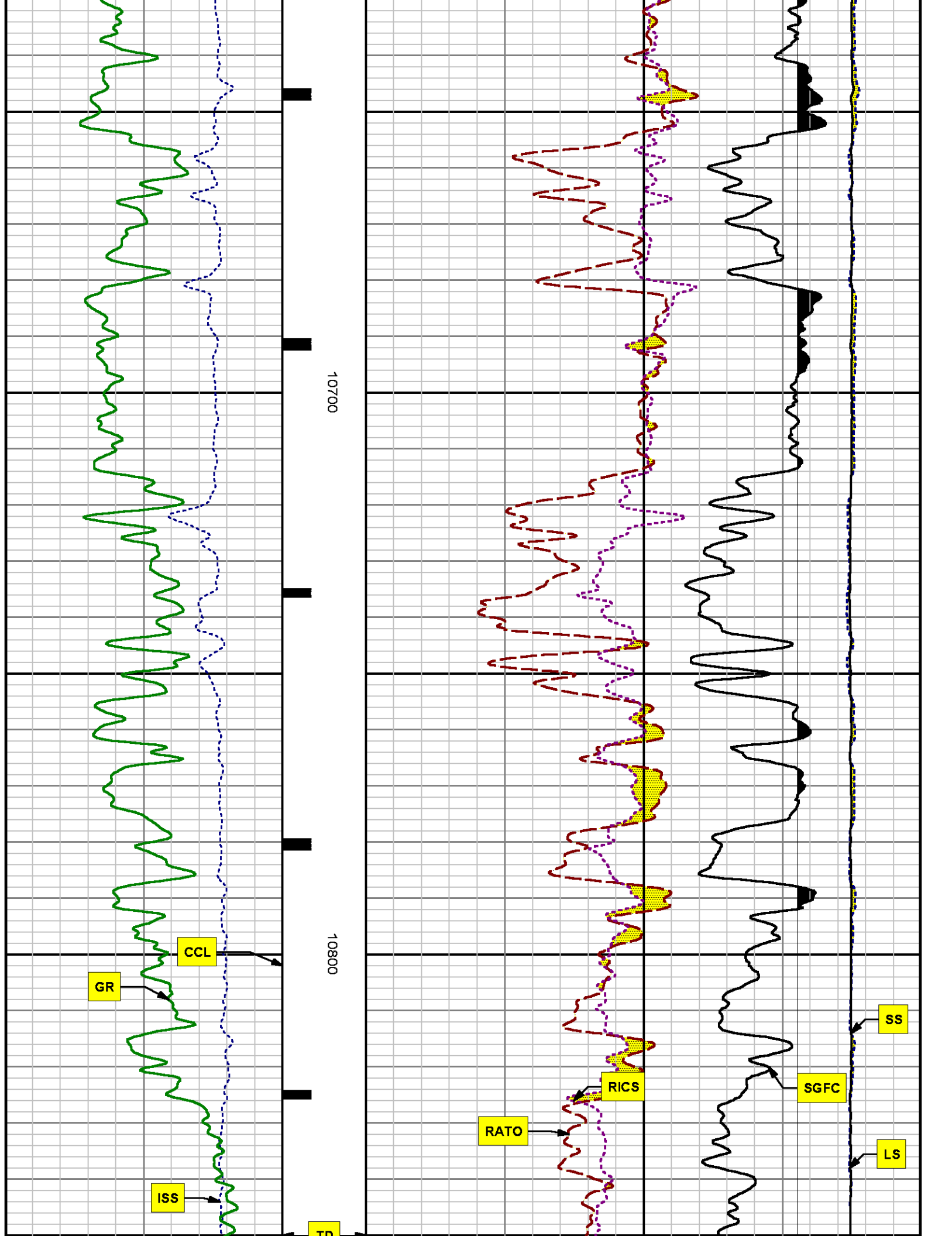
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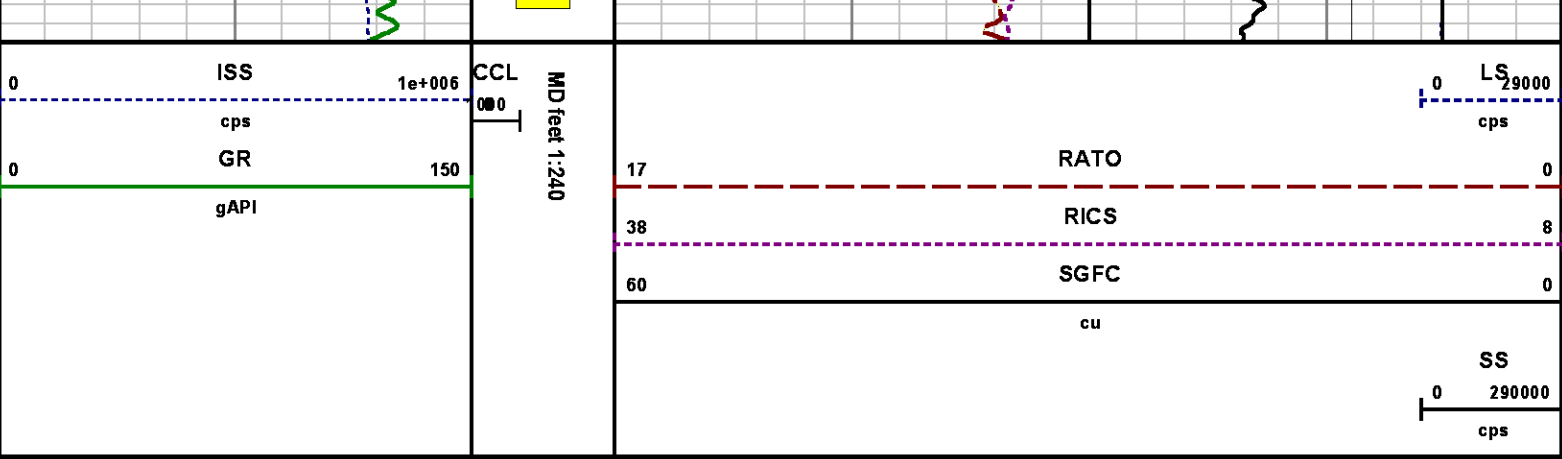












*REPEAT SECTION
PNC 3-D MODE*

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		9950.380	10282.130
PNC Porosity	Borehole Size	8.750	inch	9950.380	10282.130
PNC Porosity	Casing Size	4.500	inch	9950.380	10282.130
PNC Porosity	Gas Filled	Non Gas Filled		9950.380	10282.130
PNC Porosity	Matrix	Sandstone		9950.380	10282.130

DEPTH OFFSETS
(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES
8248ED	-14.478	FLTM
8248ED	-12.478	CCL CHV
2812LA	-9.928	GR
8281XA	-0.662	HVC3Q0 SEQ3 AMA3 AML3 BKX CXS CPT3Q0 CPT3Q2 CPT3Q3 CPT3Q4 ET3 IXS MCS3 MCS3Q0 QCAL3 RGN3 RICX SDA3 SDL3 SGA3 SGL3 STA3 XS ASPEC3 AMB3 AMF3 CHF3 IXSC IXSN RATO23 RICXC RIN13C RIN23 RIN23C SD3D SG3D

8281XA

-0.250

SGB3 SGF3 WDT3 CXSR IXSR XSR
RICXR
HVC2Q0 SEQ2 AMA2 AMB2 AMF2 AML2
BKL CHF2 CLS CPT2Q0 CPT2Q2 CPT2Q3
CPT2Q4 ET2 ILS LS MCS2 MCS2Q0
QCAL2 RGN2 RICL RONE23 RTWO23 SDA2
SDL2 SGA2 SGB2 SGF2 SGK2 SGL2
STA2 ASPEC2 ILSC ILSN WDT2 RICLC
CLSR ILSR LSR RICLR

8281XA

0.000

CPRS HVC1Q0 MV SEQ SEQ1 AMA1
AMB1 AME1 AMF1 AML1 BKS CHF1
CSS CORB CORF CPT1Q0 CPT1Q2 CPT1Q2A
CPT1Q2B CPT1Q2C CPT1Q3 CPT1Q4 CPT1Q5 ET1
G1 G2 GE1S GE2S ISS MCS1
MCS1Q0 QA1 QCAL1 QM1 RATO RATO13
RBOR RGN1 RICS RIN RONE RPOR
RTWO RIN13 RONE13 RTWO13 SALB SC1
SDA1 SDL1 SGA1 SGB1 SGBC SGE1
SGF1 SGFC SGK1 SGL1 SS SS2
STA1 PD1S PD2S PD3S MD1S MD2S
MD3S DG1S DG2S DG3S PD1M PD2M
PD3M MD1M MD2M MD3M DG1M DG2M
DG3M MVS MA MVM FILV IAM
TA PVM PVS IAS SSTAT QPD1
QPD2 QPD3 QMD1 QMD2 QMD3 QDG1
QDG2 QDG3 QMA QTA QFILV QMV
QPV QIA DERR DCNT QPK1 QSA1
PKS1 ASPEC1 H0C FE2XC ISSC RINC
ISSN RDEN WDT1 RICSC CSSR G1R
G2R ISSR SSR SS2R RATOR RATO13R
RBORR RICSR RINR RIN13R RONE RPORR
RTWOR

SYSTEM

0.000

TEN TTEN

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

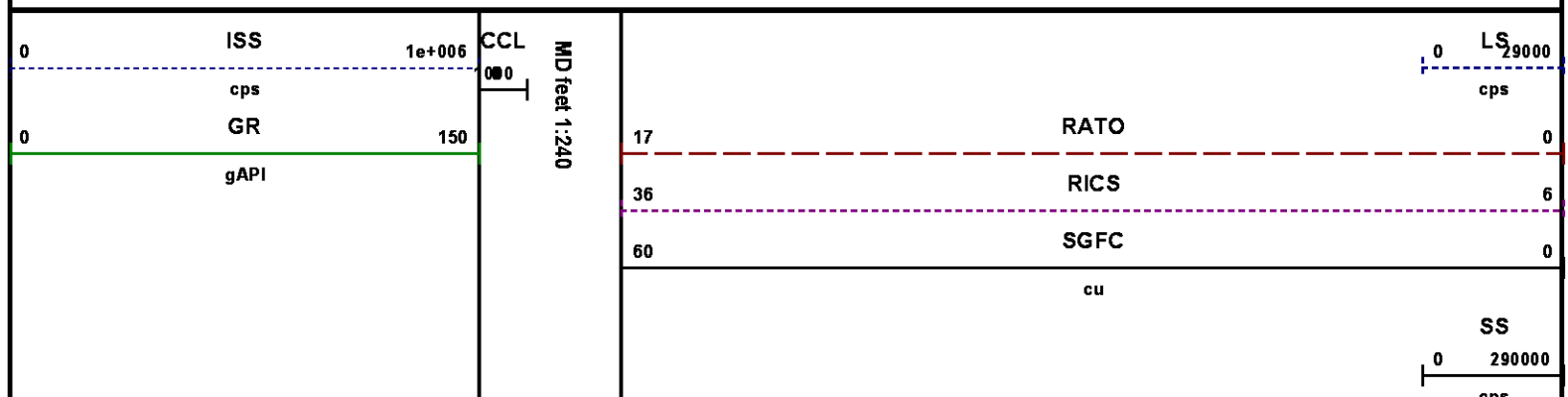
Well : FEDERAL RG 512-14-298

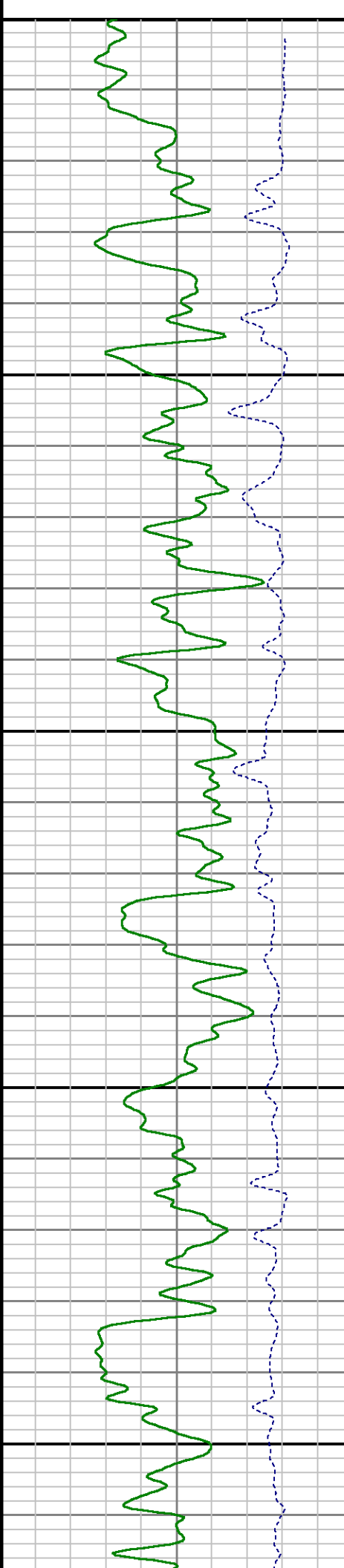
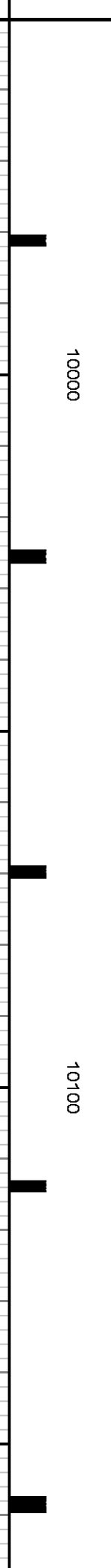
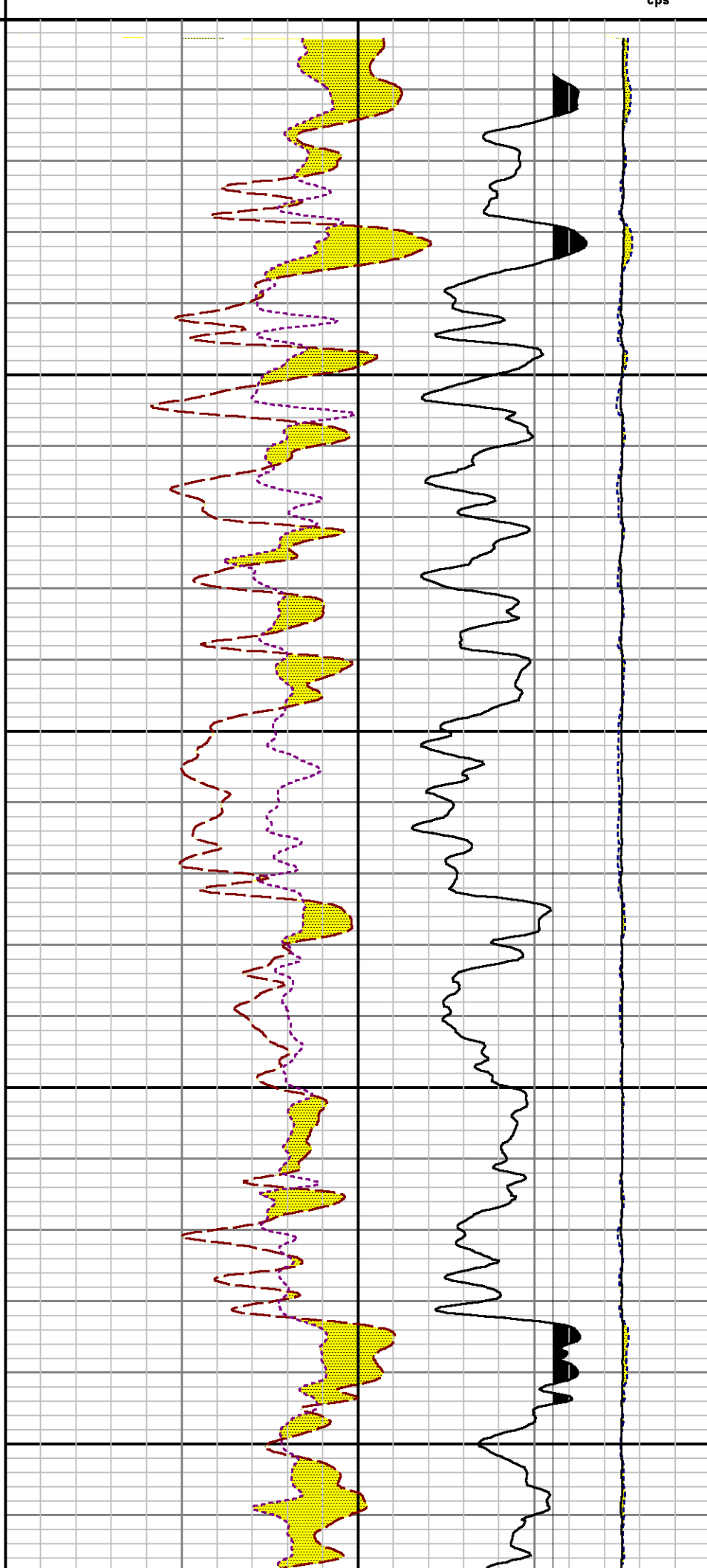
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Mode : PlotMgr 5.4.504

Interval : 9950.13 - 10282.13 feet UP

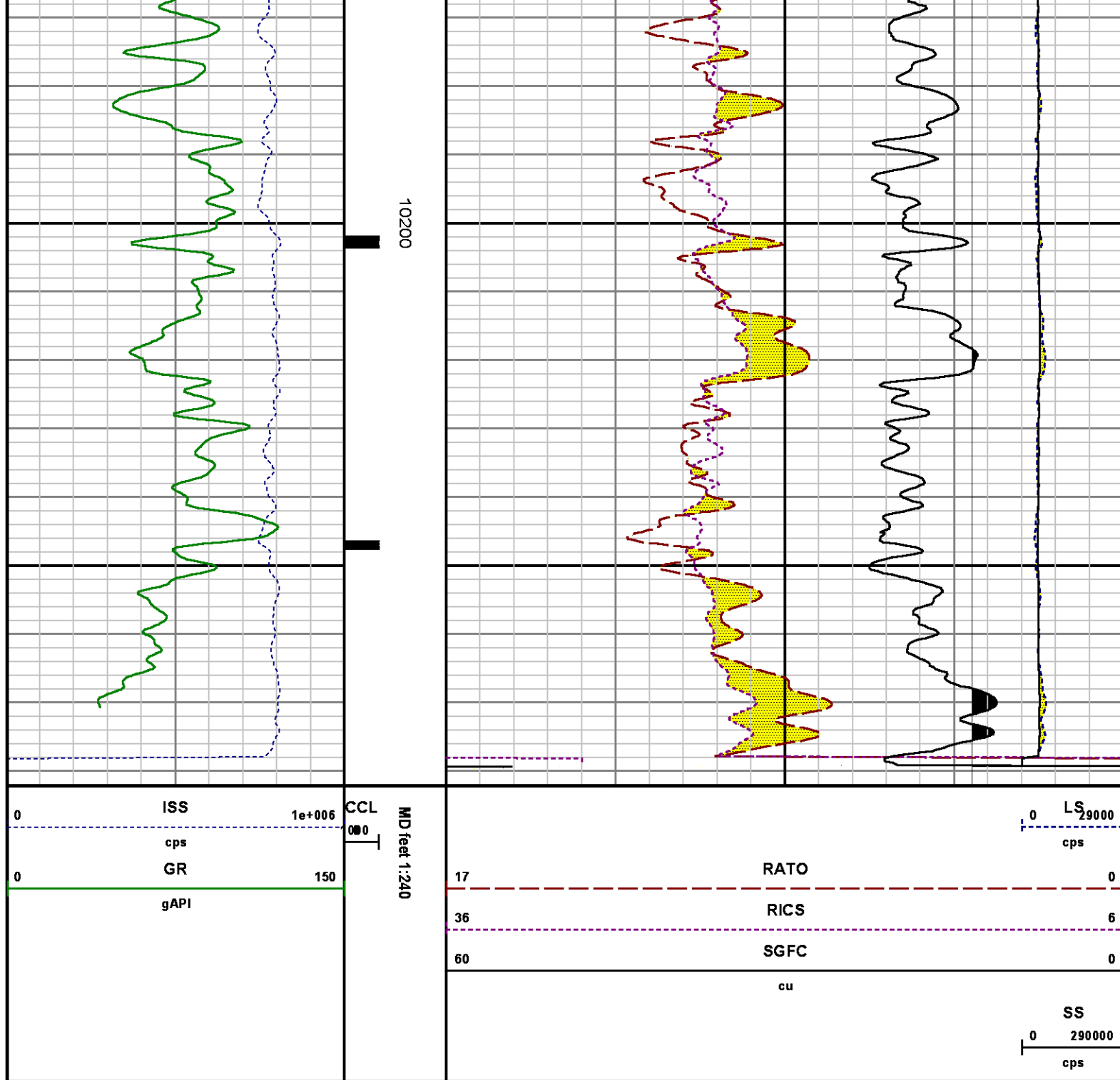
Created : 1/22/2014 11:39:23 AM





10000

10100



CALIBRATION SUMMARY

GAMMA RAY

Calibration File: C:\case\calver\GR1385J9.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Jan 09 15:25:11 2014 TOOL SERIES: 2812LA ASSET: 385 SEQ: J9

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	62.82	283.64	0.951	59.74	269.74	210.00

Verification File: C:\case\calver\GR1385J9.VP

PRIMARY VERIFICATION

DATE/TIME PERFORMED: Thu Jan 09 15:29:10 2014 TOOL SERIES: 2812LA ASSET: 385 SEQ: J9

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	63.02	280.18	0.951	59.93	266.45	206.51

TEMPERATURE

Calibration File: C:\case\calver\TEMP17697330.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: DEC 30 2013 14:00 TOOL SERIES: 8255XA ASSET: 176973 SEQ: 30

	T(0)	T(1)	T(2)	T(3)	T(4)	T(5)
Coefficients	-1.950580e+001	1.007993e-001	9.960555e-007	-1.008402e-010	0.000000e+000	0.000000e+000

PNC

Calibration File: C:\case\calver\PNC\383J7.cal

PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Fri Jan 17 14:45:45 2014 TOOL SERIES: 8281XA ASSET: 383 SEQ: J7

Calibrator #

gj shop

Source #

8281AA 10160601

	ISS	Mtr Vlt (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	813732	129.00	2186.00	2253.00	2214.00	102.25	7.00	0.9976
Interpolated	1300000	152.88	2183.97	2239.94	2207.92			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	813732	6611.93	1055.83	146.56	25.82	0.14	24.39	0.27
					25.35 26.40	0.00 0.20	23.60 24.80	0.00 0.40

	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
Raw Data	813732	178243.73	27579.47	92675.66	32979.46	8738.46	56027.18	14002.62
Fit Quality %		0.47	0.52	0.93	0.91	0.54	0.86	0.52

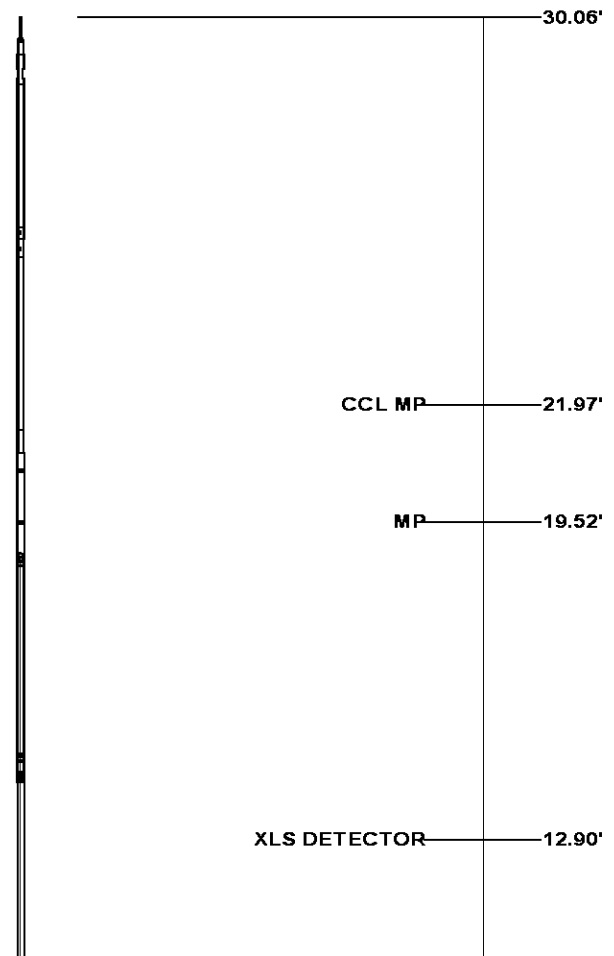
	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	813732	1.43	4.57	29.51	14.52	10.61	3.77	4.00
		1.42 1.45	3.55 5.52	22.20 32.70	10.99 16.34	10.06 11.10	3.57 3.95	3.76 4.22
Fit Quality %		0.07	0.27	0.24	0.14	0.24	0.23	0.21
Reduced	1403031	1.43	4.59	29.68	14.59	10.62	3.78	4.00
		1.42 1.45	4.33 5.52	27.60 32.70	13.70 16.34	10.06 11.10	3.57 3.95	3.76 4.22

TOOL DIAGRAM

OTA SHORT CABLE HEAD	
PCM POWER SUPPLY	
Series	8250EA
Mnemonic	PCM
Diameter	1.70"
Weight	18.00 lb
Length	3.86'
Temp Rating	350.00 °F
TELEMETRY / CCL	
Series	8248EA
Mnemonic	PCM
Diameter	1.70"
Weight	20.00 lb
Length	4.46'
Measure Point	1.00' CCL MP
Temp Rating	350.00 °F
Press Rating	15000.00 PSI
SONDEX GAMMA RAY	
Series	2812LA
Mnemonic	SNDX
Diameter	1.69"

RESERVOIR PERFORMANCE MONITOR

Series	8281XA
Mnemonic	RPM
Diameter	1.70"



Weight	75.00 lb
Length	18.58'
Measure Point	9.49' SS DETECTOR
Measure Point	9.72' LS DETECTOR
Measure Point	12.69' XLS DETECTOR
Temp Rating	350.00 °F
Press Rating	20000.00 PSI

LS DETECTOR	9.93'
SS DETECTOR	9.70'



0.00'

Total Length: 30.06'
Total Weight: Not Available
Max Diameter: 0' 1.70"



Baker Atlas



Company	WPX ENERGY		
Well	FEDERAL RG 512-14-298		
Field	SULPHUR CREEK		
County	RIO BLANCO	State	COLORADO

File No:
CH081737
API No:
05103117980000

Location	Elevations
SHL: 1669' FNL & 491' FWL	KB 6581 ft
BHL: 2632' FNL & 640' FWL (SW/4 NW/4)	DF
	GL 6560 ft
SEC 14 TWP 2S RGE 98W	

14 2S 98W
RG 12-14-298 PAD
CYCLONE 29