



RESERVOIR PERFORMANCE MONITOR

Baker Atlas

File No: CH089587 WPX ENERGY

Well FEDERAL RGU 43-24-198

API No: Field SULPHUR CREEK

County RIO BLANCO State COLORADO

05103120760000

24 1'S 98W Location

SHL: 2140' FSL & 1685' FEL

BHL: 2303' FSL & 647' FEL (NESE)

SEC 24 TWP 1S RGE 98W

CYCLONE 29

Other Services

RPM

Permanent Datum GL Elevation 6596 ft

Log Measured From KB 21 ft Above P. D.

Drill Measured From KELLY BUSHING KB 6617 ft DF 6596 ft GL

Date	27/AUG/14	
Run	ONE	
Service Order	US089587J	
Depth Driller	12804 ft	
Depth Logger	12751 ft	
Bottom Logged Interval	12761 ft	
Top Logged Interval	7200 ft	
Time Started	1400	
Time Finished	2130	
Operator Rig Time	7.5 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	80 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	10 fpm	
Maximum Recorded Temperature	288 degF	
Reference Log	BAKER HUGHES BOND LOG	
Reference Log Date	27/AUG/14	
Equipment No.	4271	GRAND UCT
Recorded By	FLOYD RENEAU	
Witnessed By	WAYNE MARGOTTE	

- FOLD HERE

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	21 ft	80 ft
14.73/13.5	80 ft	3910 ft
8.75/7.875	3910 ft	12804 ft

Casing Record				
Size	Weight	Grade	From	To
18 in			21 ft	80 ft
9.625 in			21 ft	3910 ft
4.5 in	11.6 lbm/ft	P-110	21 ft	12804 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 8/27/2014 at the client's request.
The amount of linear shift is 2 feet.
Logged in PNC-3D mode.
BHT = 288°F

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	TEMP	8255XA	Z120516	FREE
1	1	RPM	8281FA	10460082	FREE
1	1	RPM	8281PA	10414354	FREE
1	1	RPM	8281EA	10190954	FREE
1	1	GR	2812LA	10274382	FREE
1	1	TEL/CCL	8248ED	10460262	FREE
1	1	PCM	8250EA	10586851	FREE

MAIN SECTION

PNC 3-D MODE

SPL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		7181.575	12757.606
PNC Porosity	Borehole Size	8.750	inch	7181.575	12757.606
PNC Porosity	Casing Size	4.500	inch	7181.575	12757.606
PNC Porosity	Gas Filled	Non Gas Filled		7181.575	12757.606
PNC Porosity	Matrix	Sandstone		7181.575	12757.606
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	7181.575	12757.606

DEPTH OFFSETS						
(for Acquired Curves)						
SERIES	DEPTH OFFSET	ACQUIRED CURVES				
8248ED	-26.519	FLTM				
8248ED	-24.519	CCL	CHV			
2812LA	-21.969	GR				
8281XA	-12.702	HVC3Q0	SEQ3	AMA3	AML3	BKX CXS
		CPT3Q0	CPT3Q2	CPT3Q3	CPT3Q4	ET3 IXS
		MCS3	MCS3Q0	QCAL3	RGN3	RICX SDA3
		SDA3	SDA3	SDA3	SDA3	SDA3

8281XA -12.291

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

8281XA -12.041

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

8255XA -0.792

PTFS PTMS

8255XA -0.775

SPF1 SPFQ TSCP TSDP

8255XA 0.000

DTEM TEMP TNF

SYSTEM 0.000

TEN TTEN

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

Well : FEDERAL RGU 43-24-198

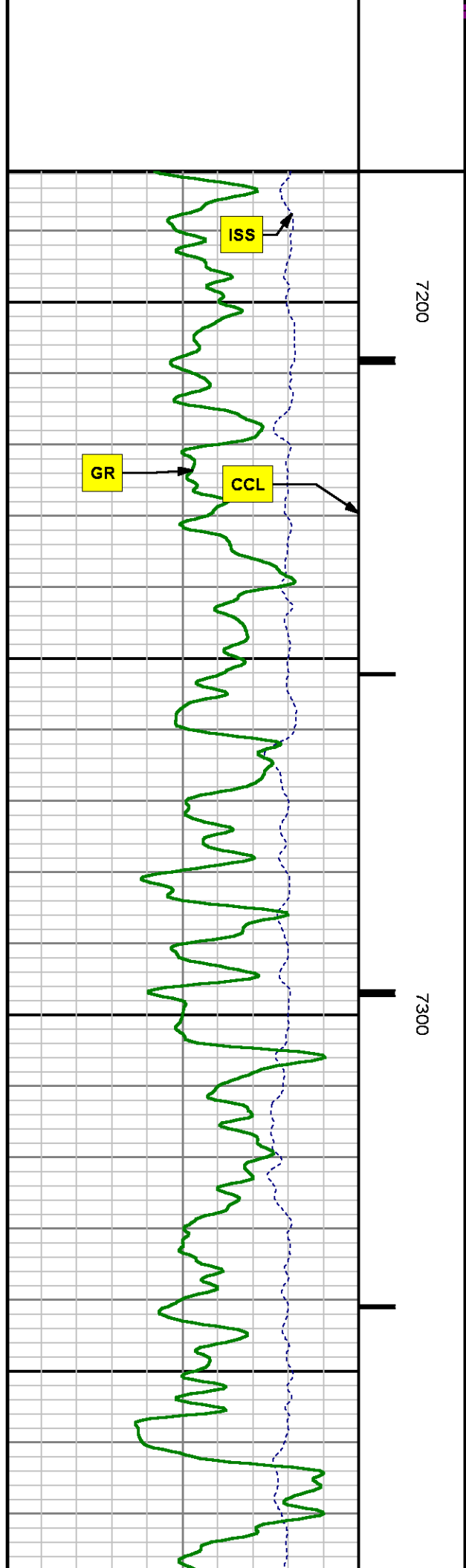
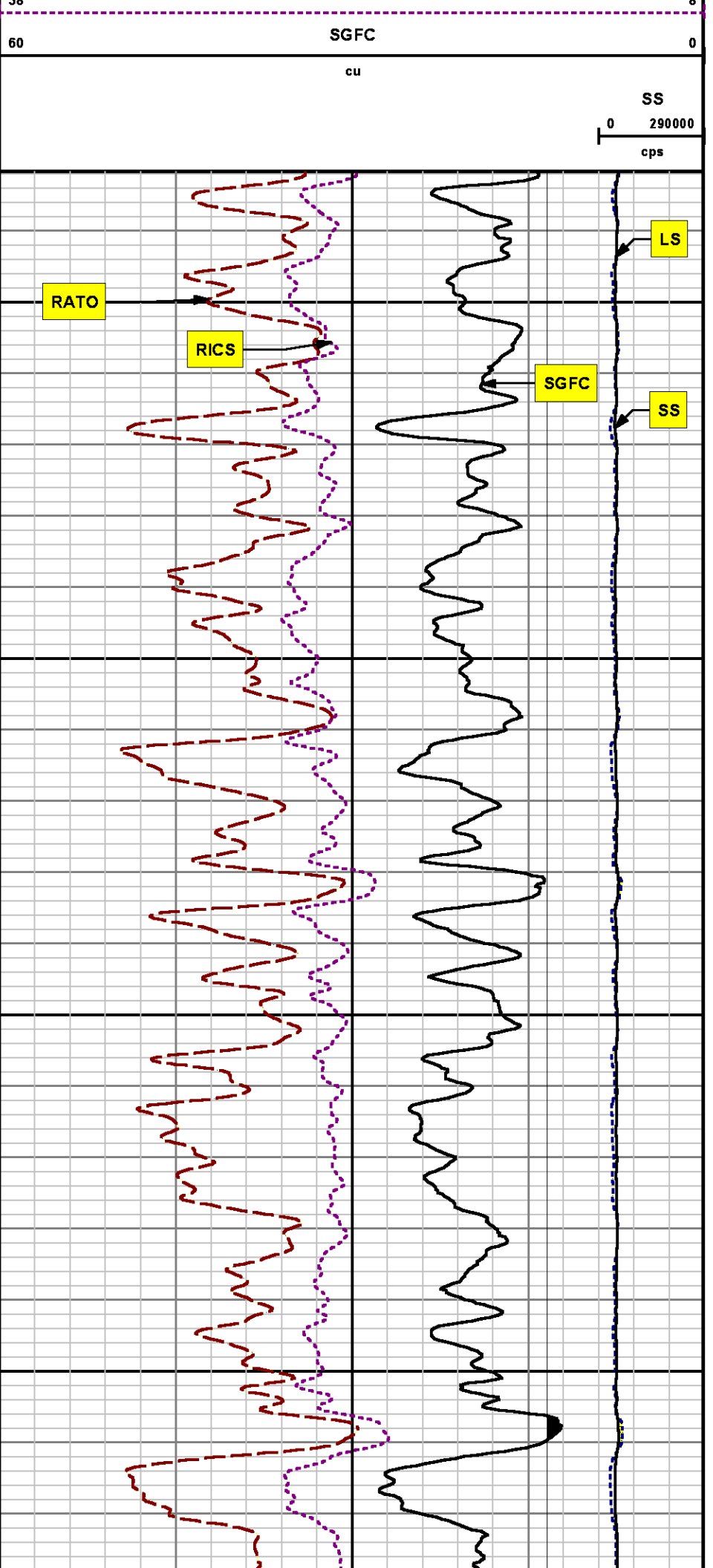
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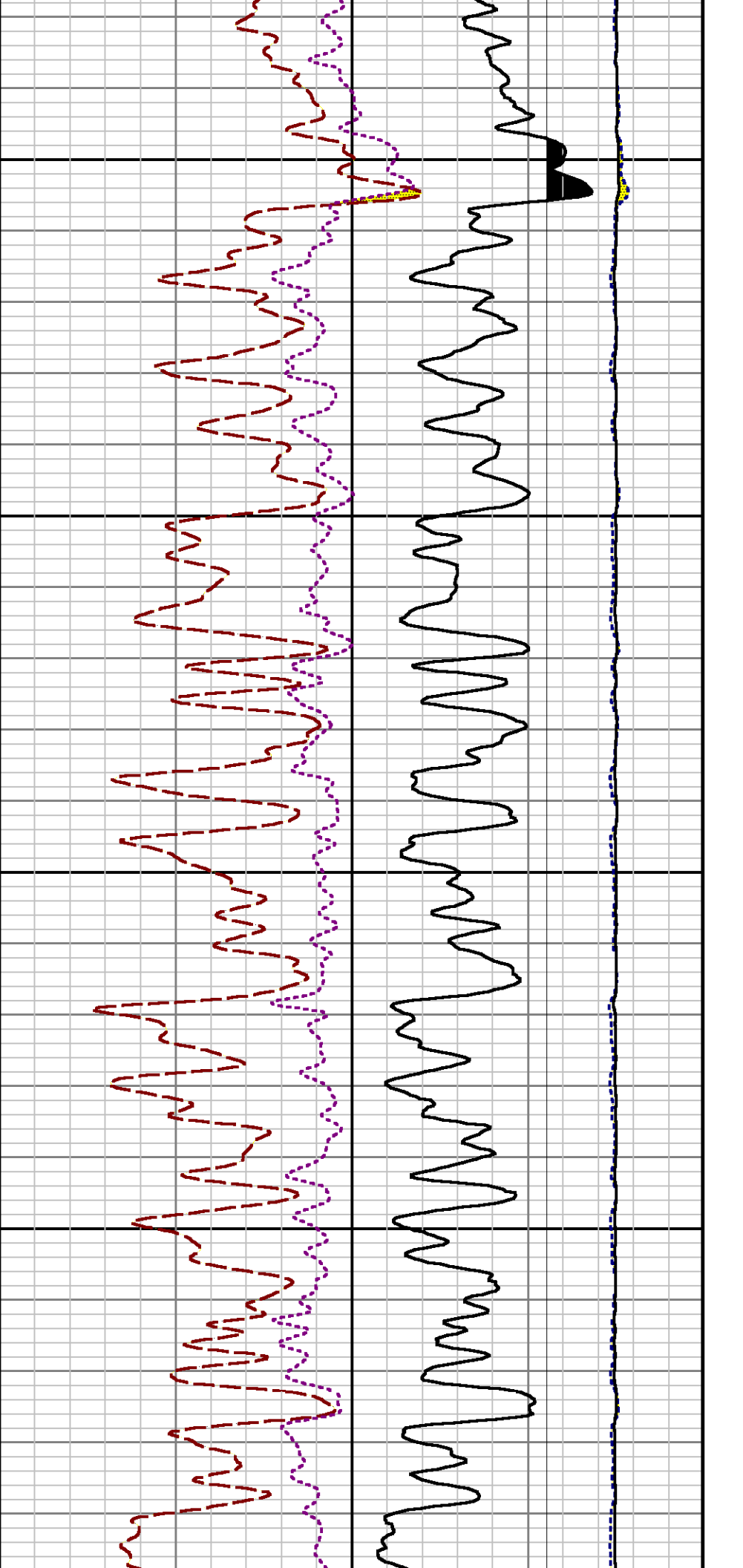
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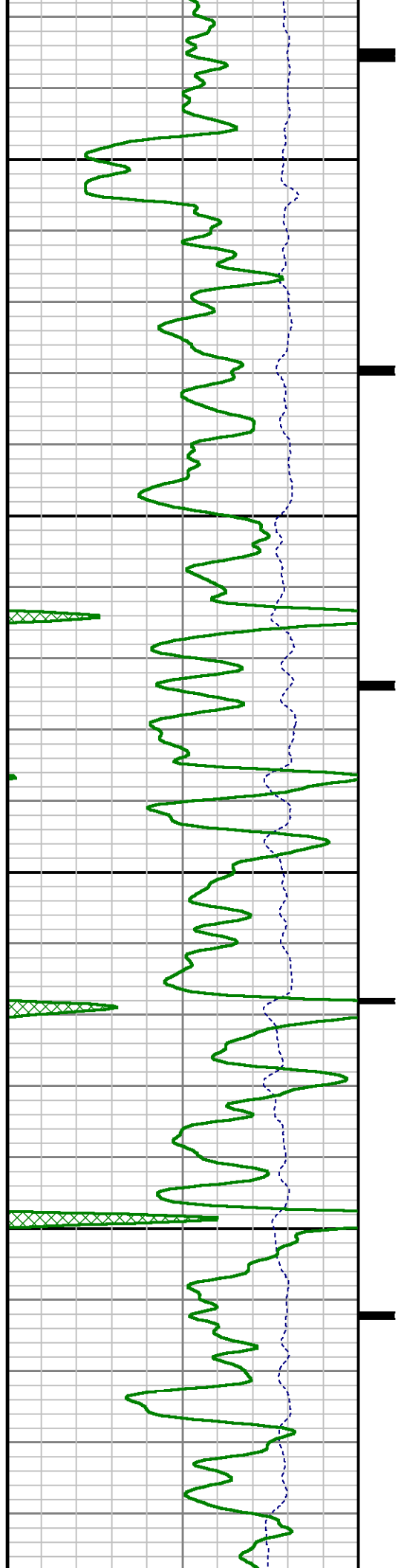


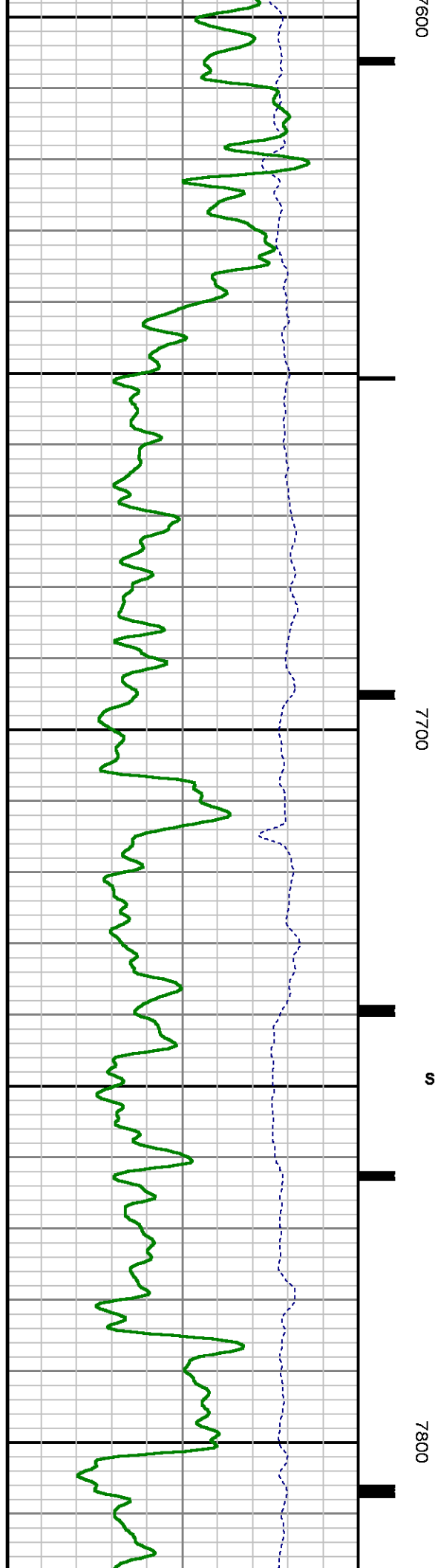
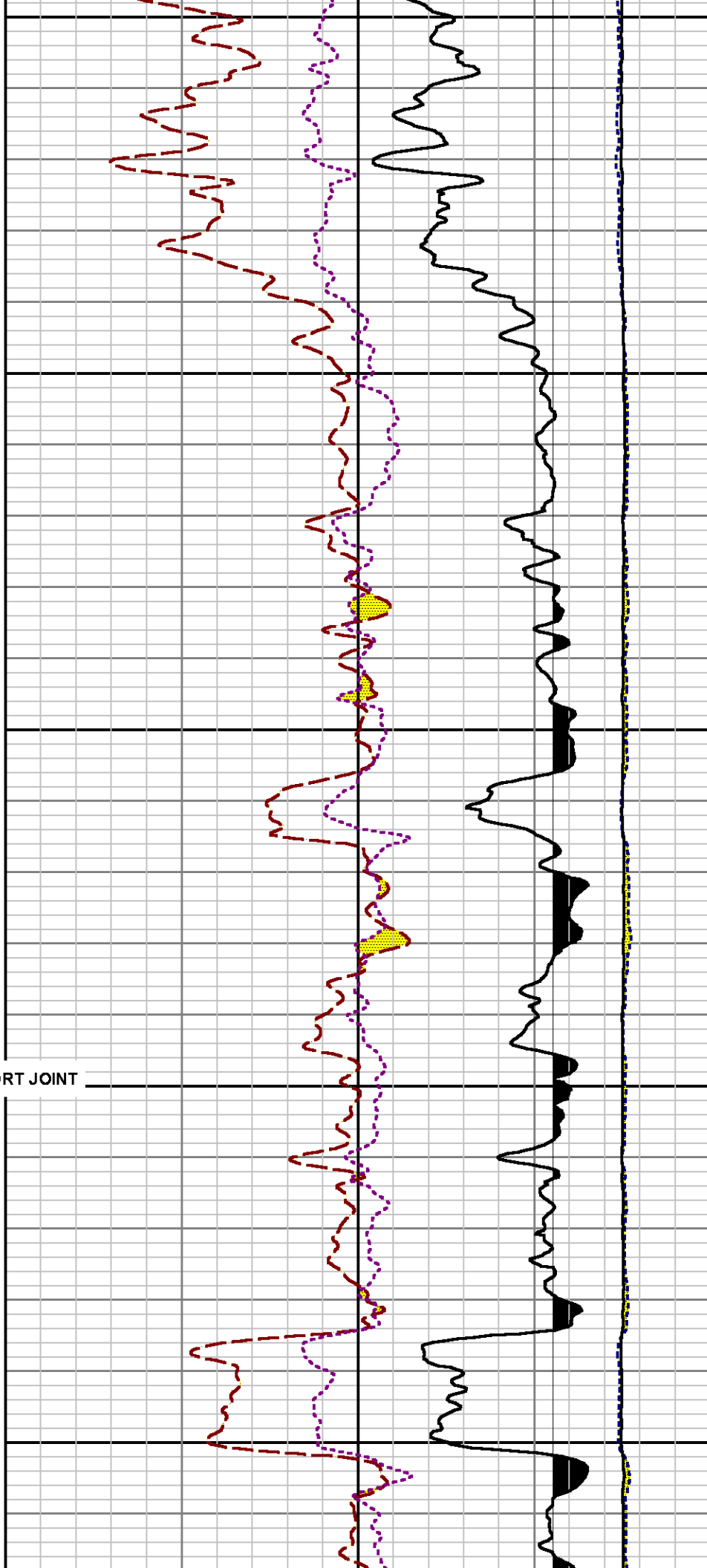


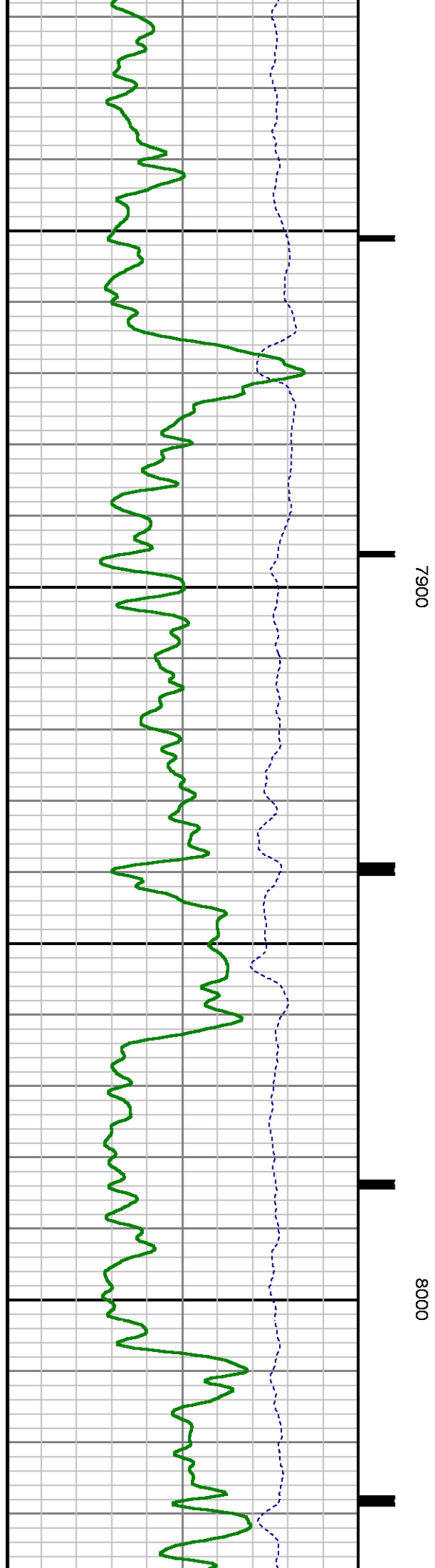
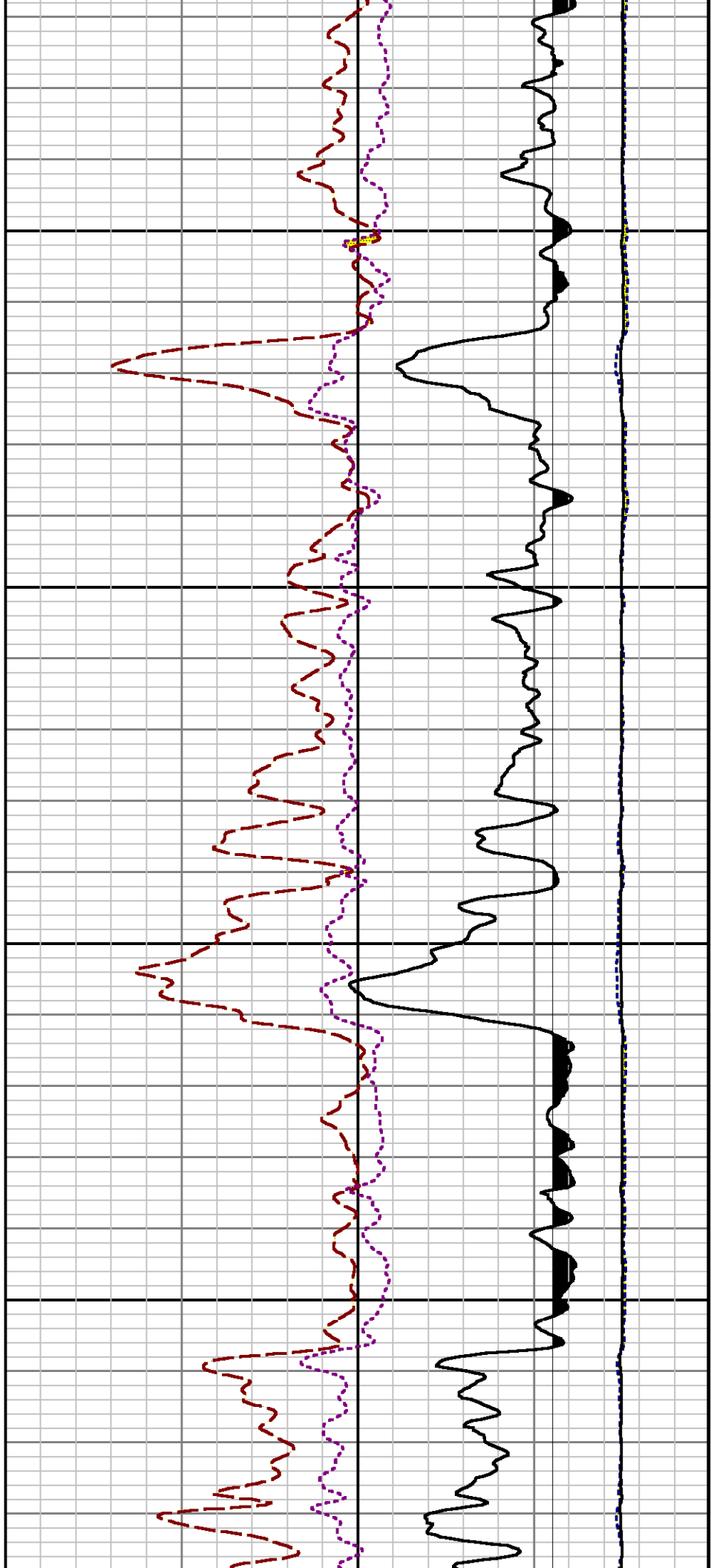


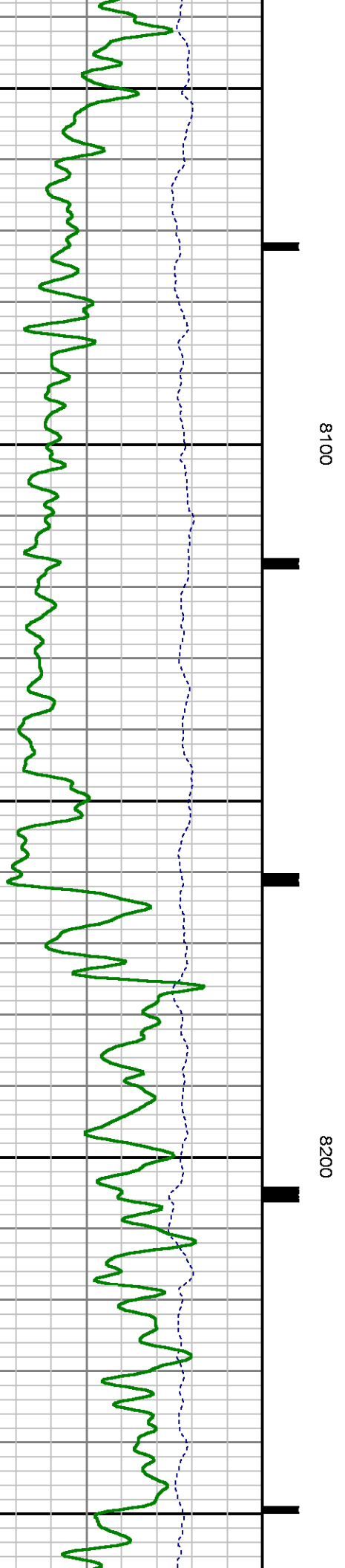
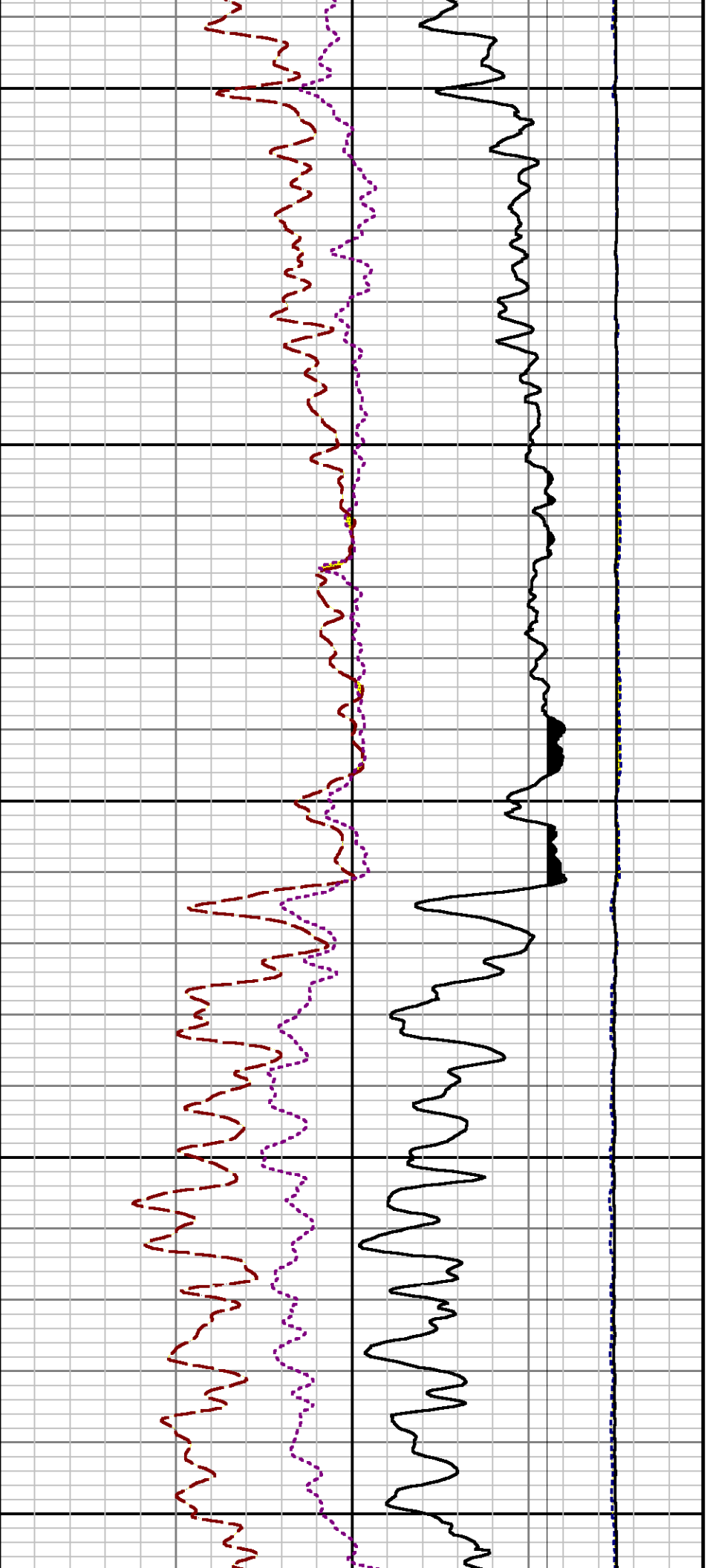
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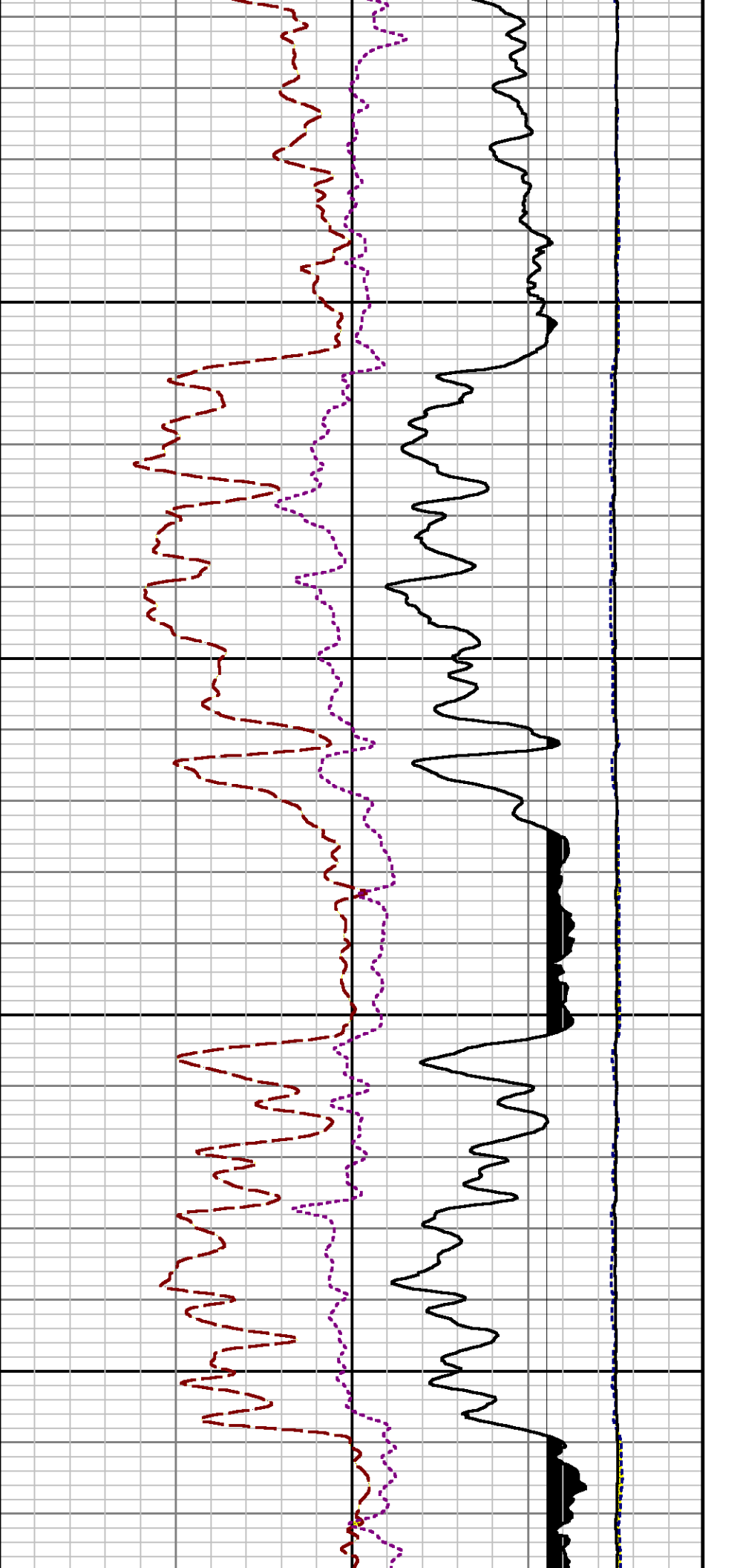
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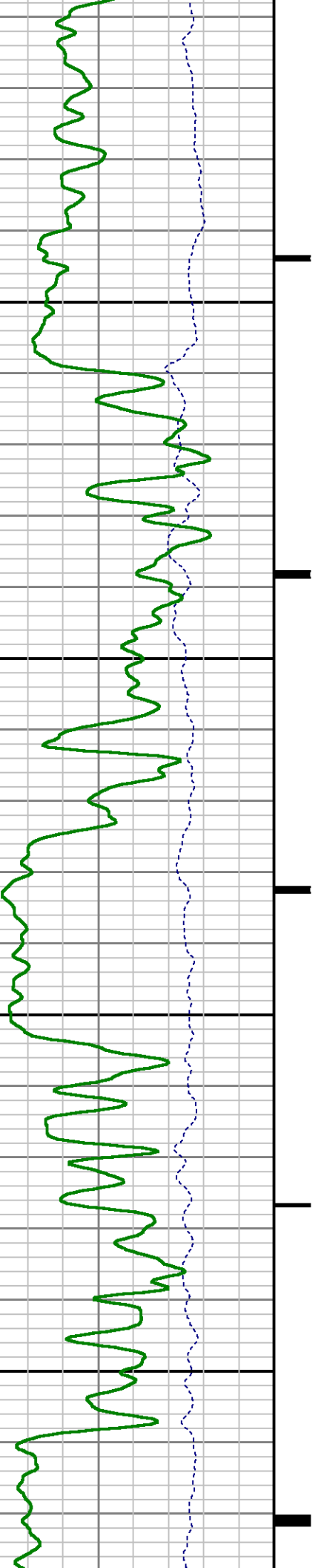


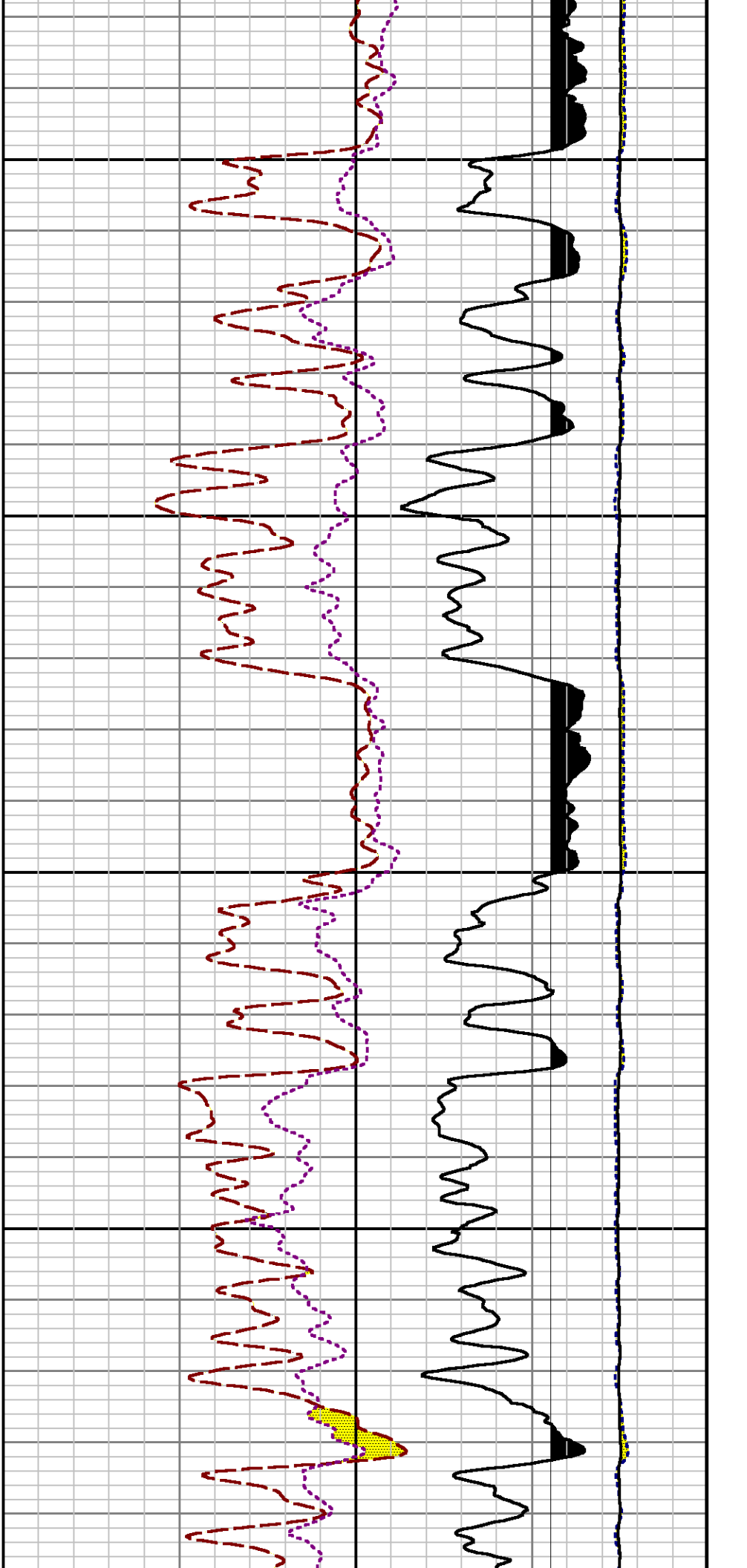
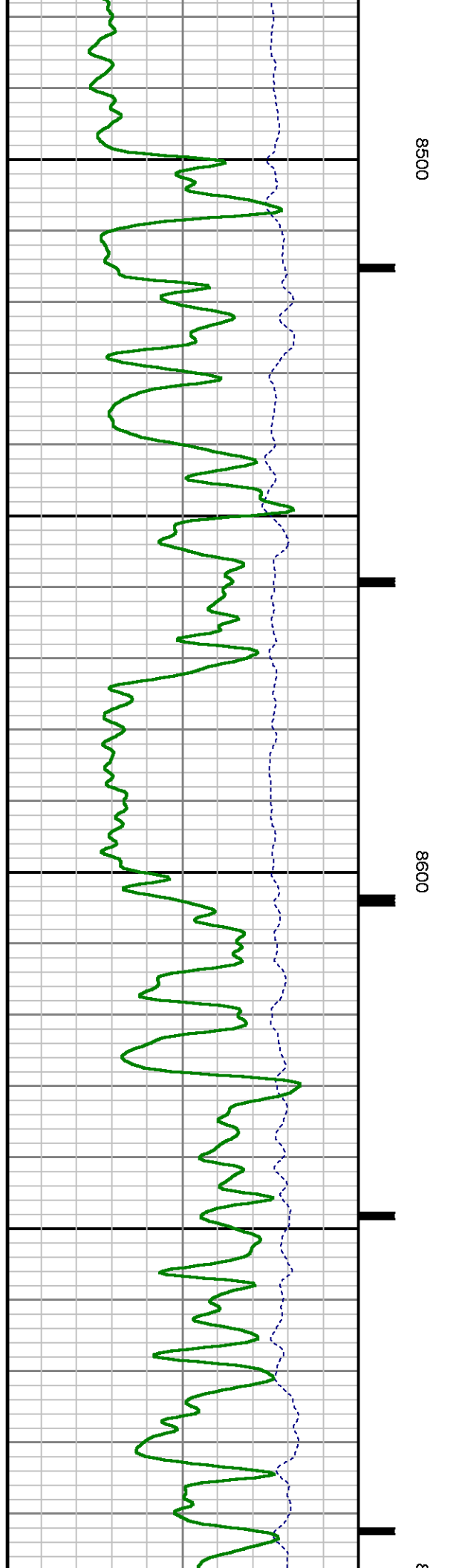


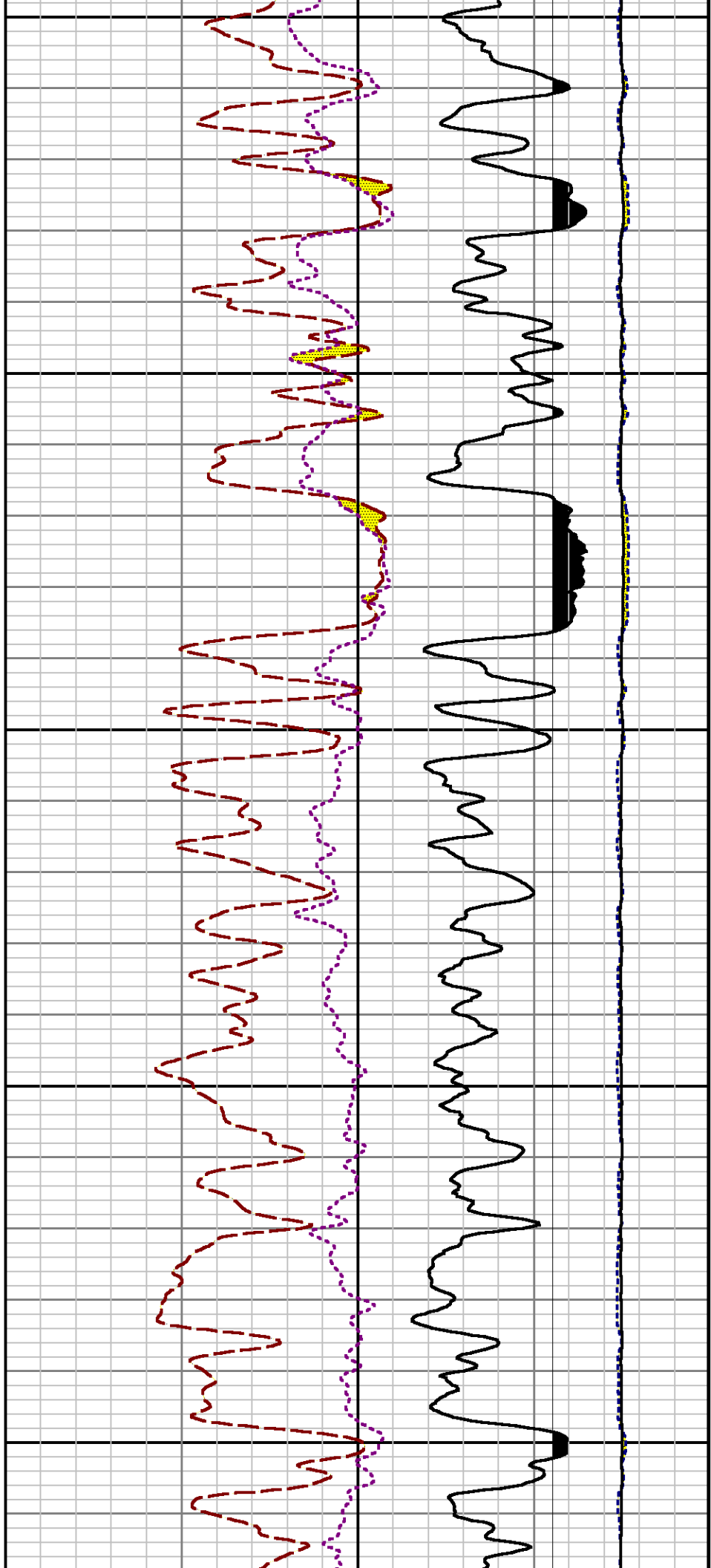


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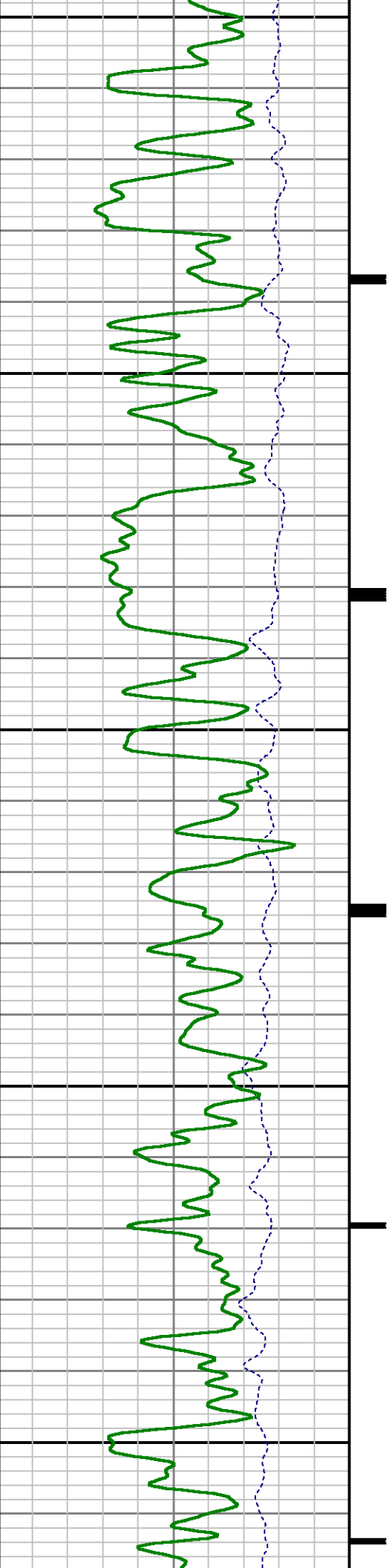


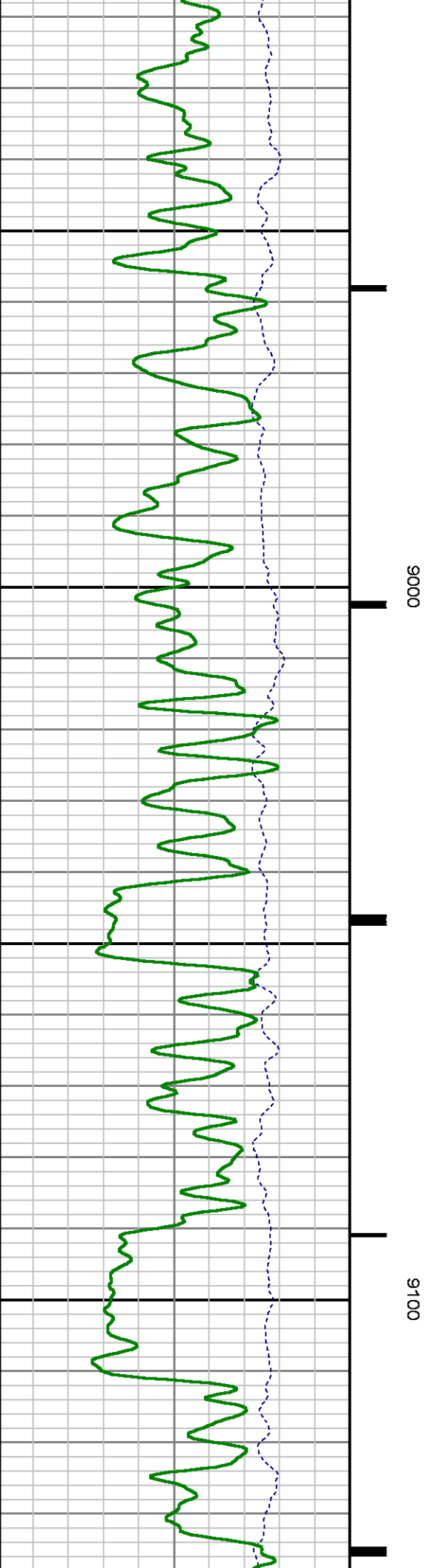
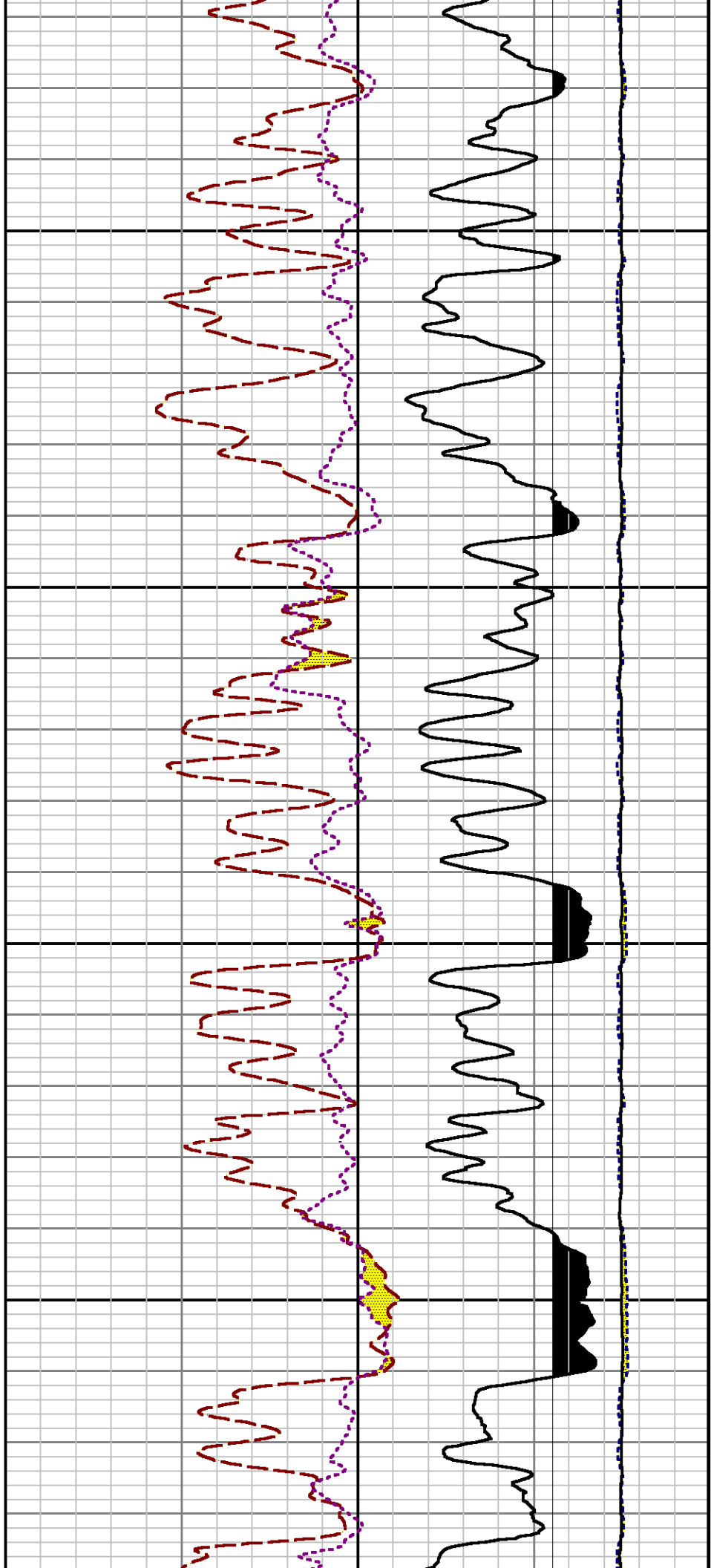


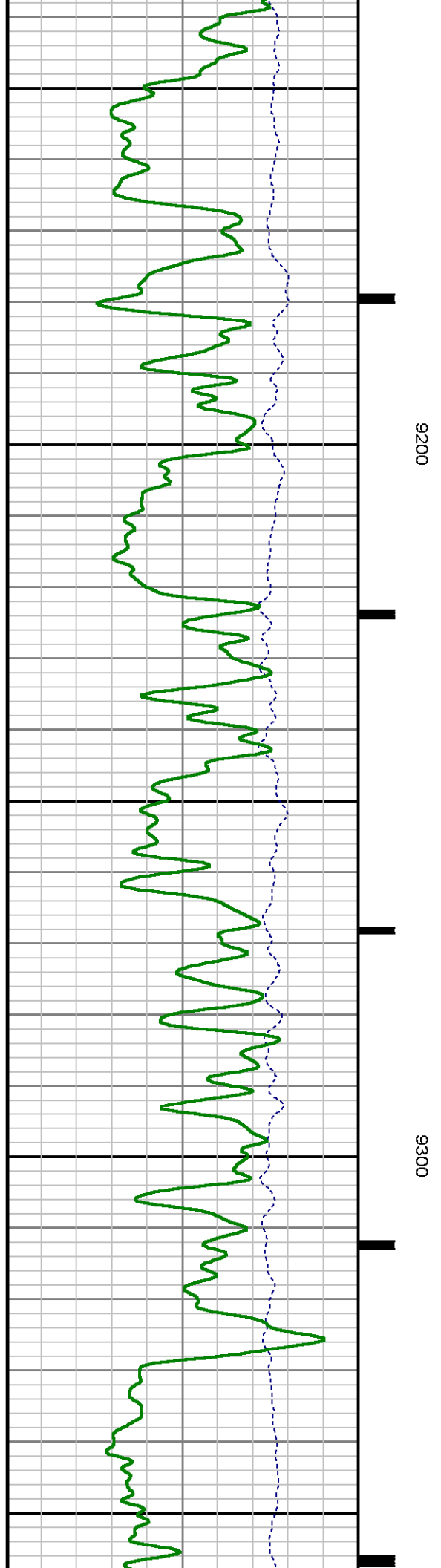
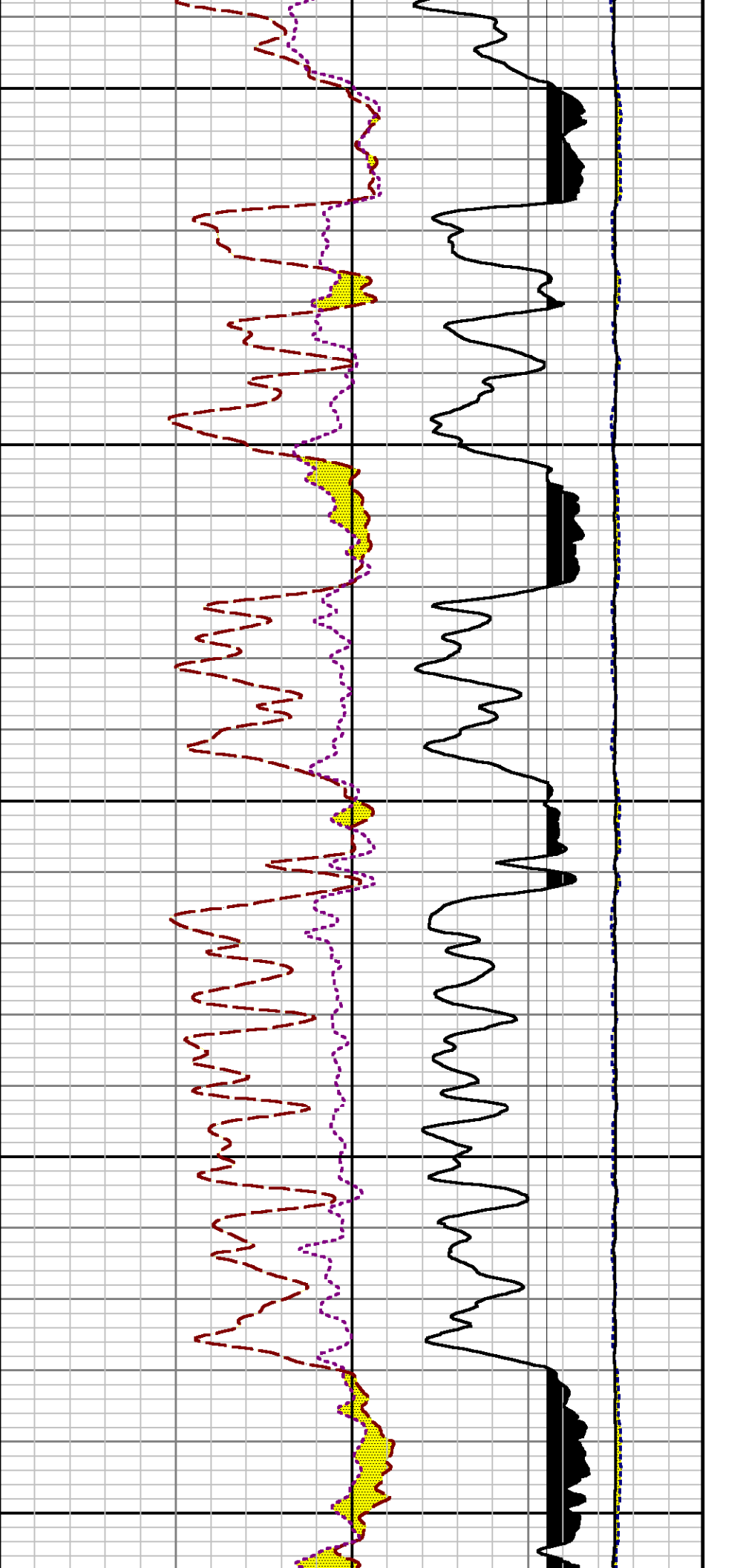
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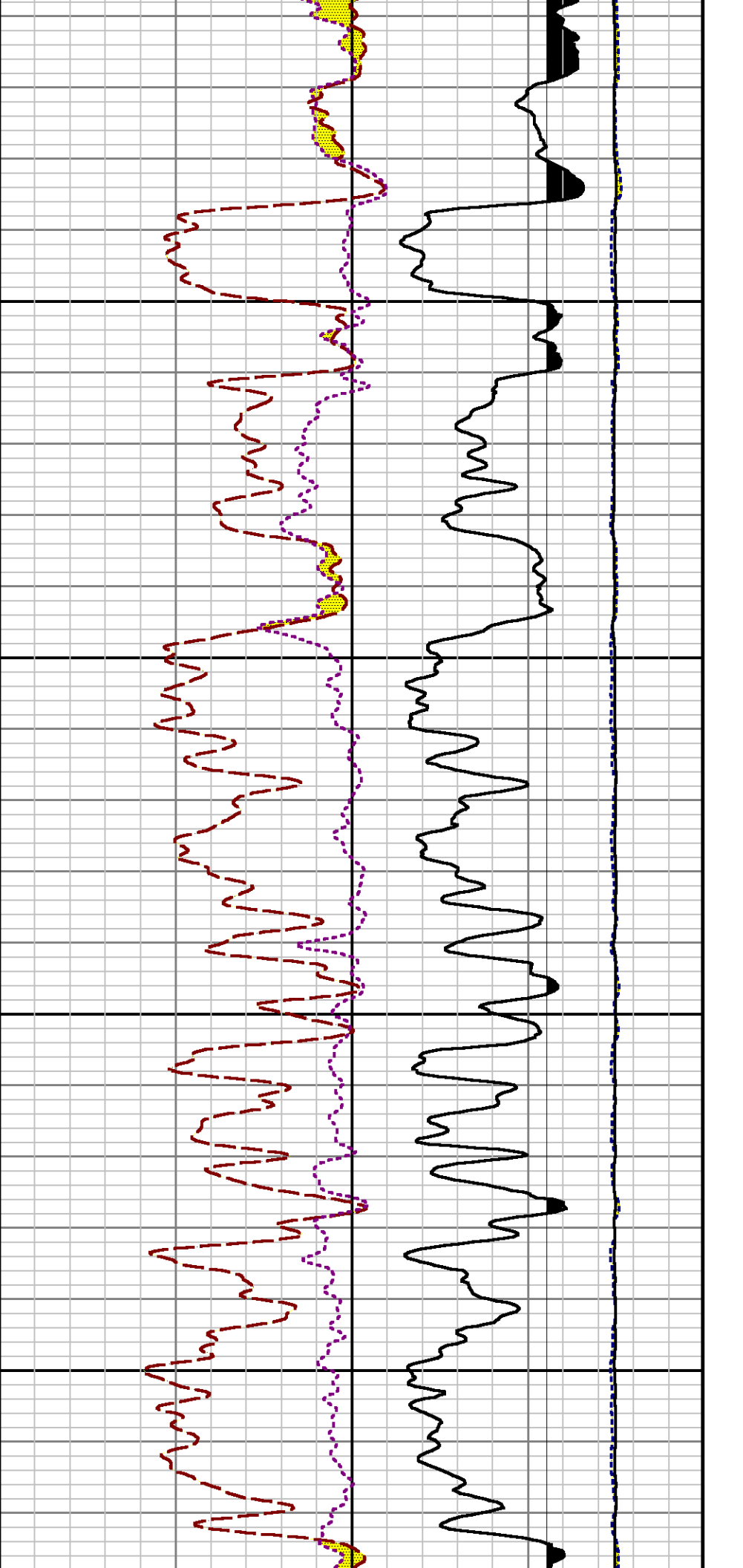
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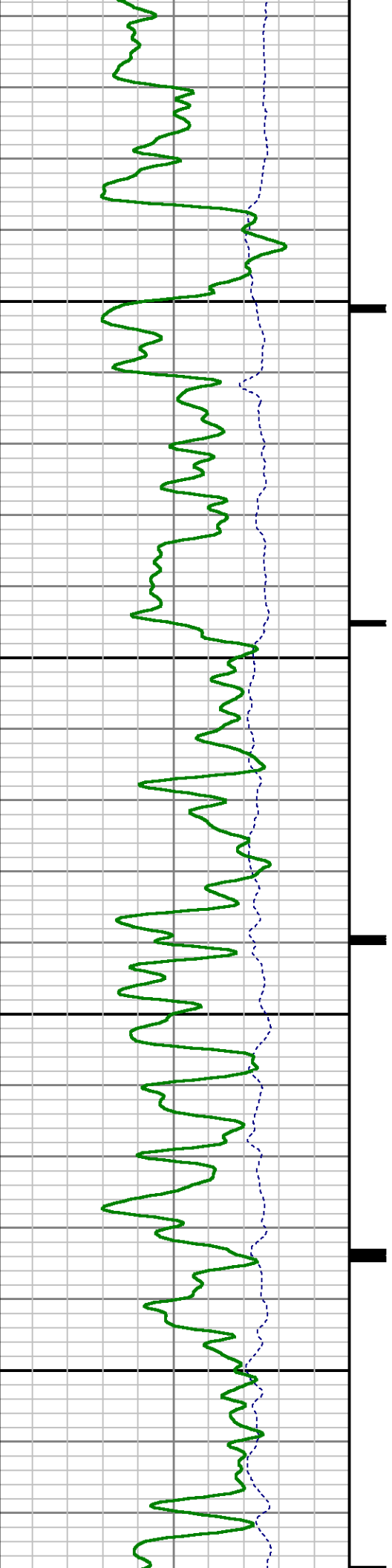


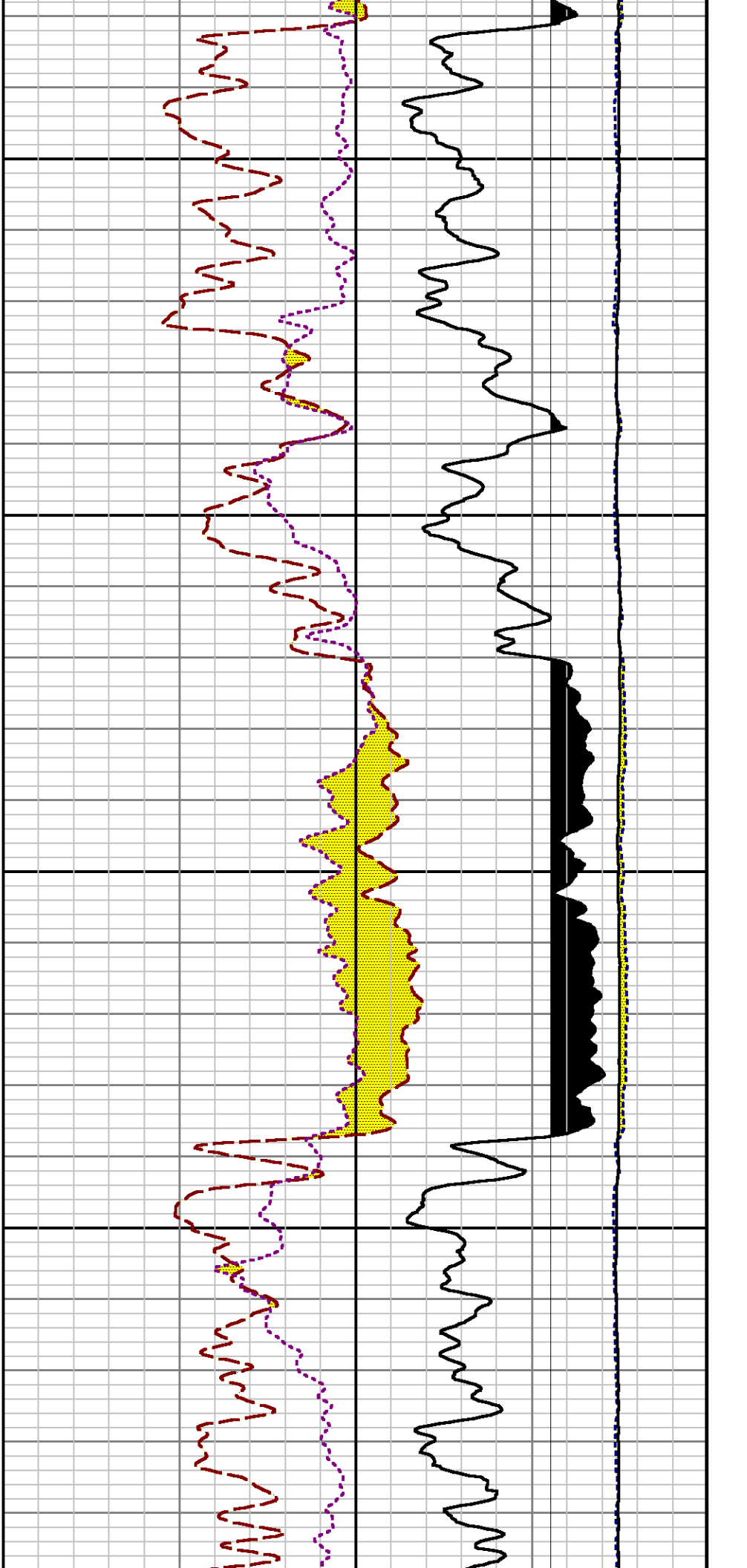




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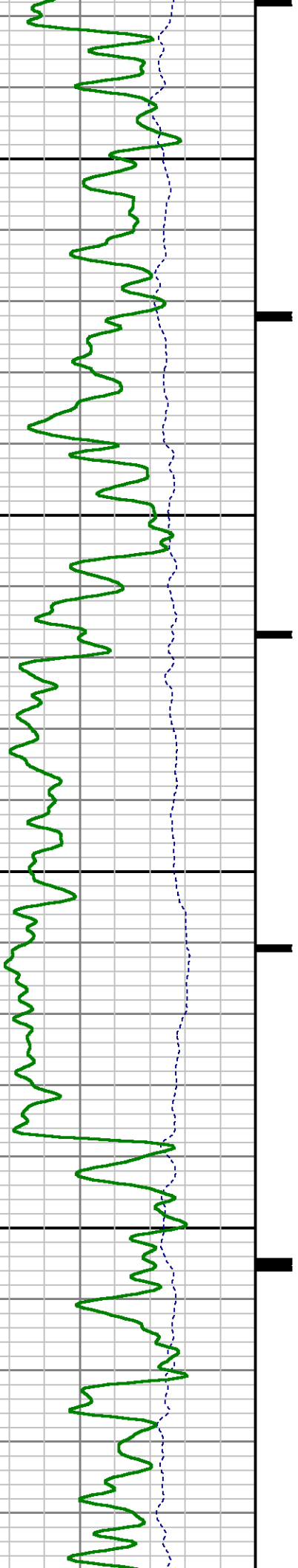


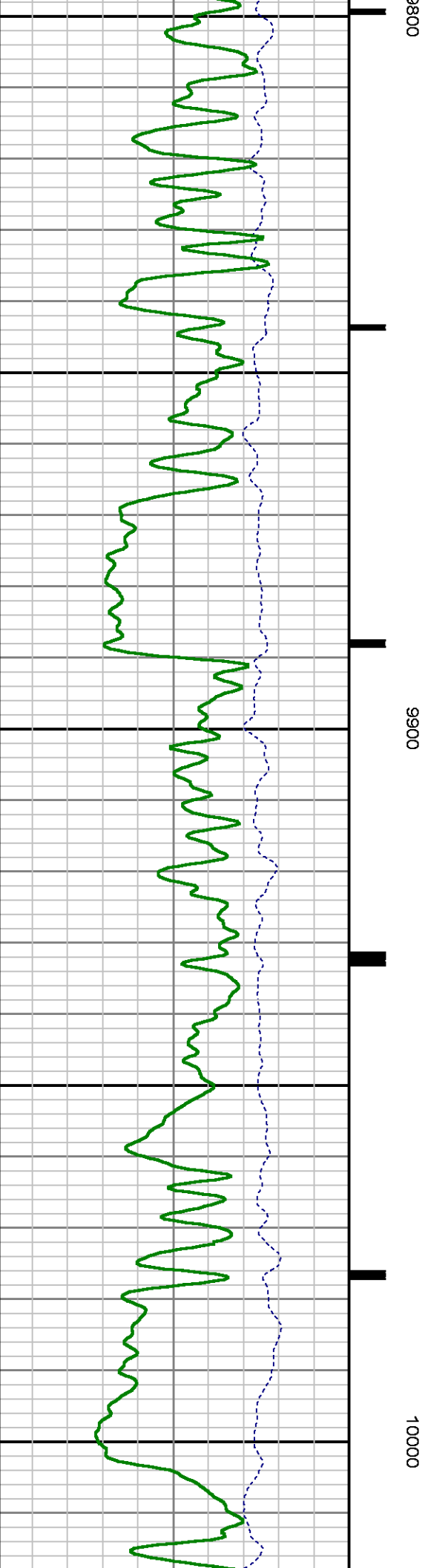
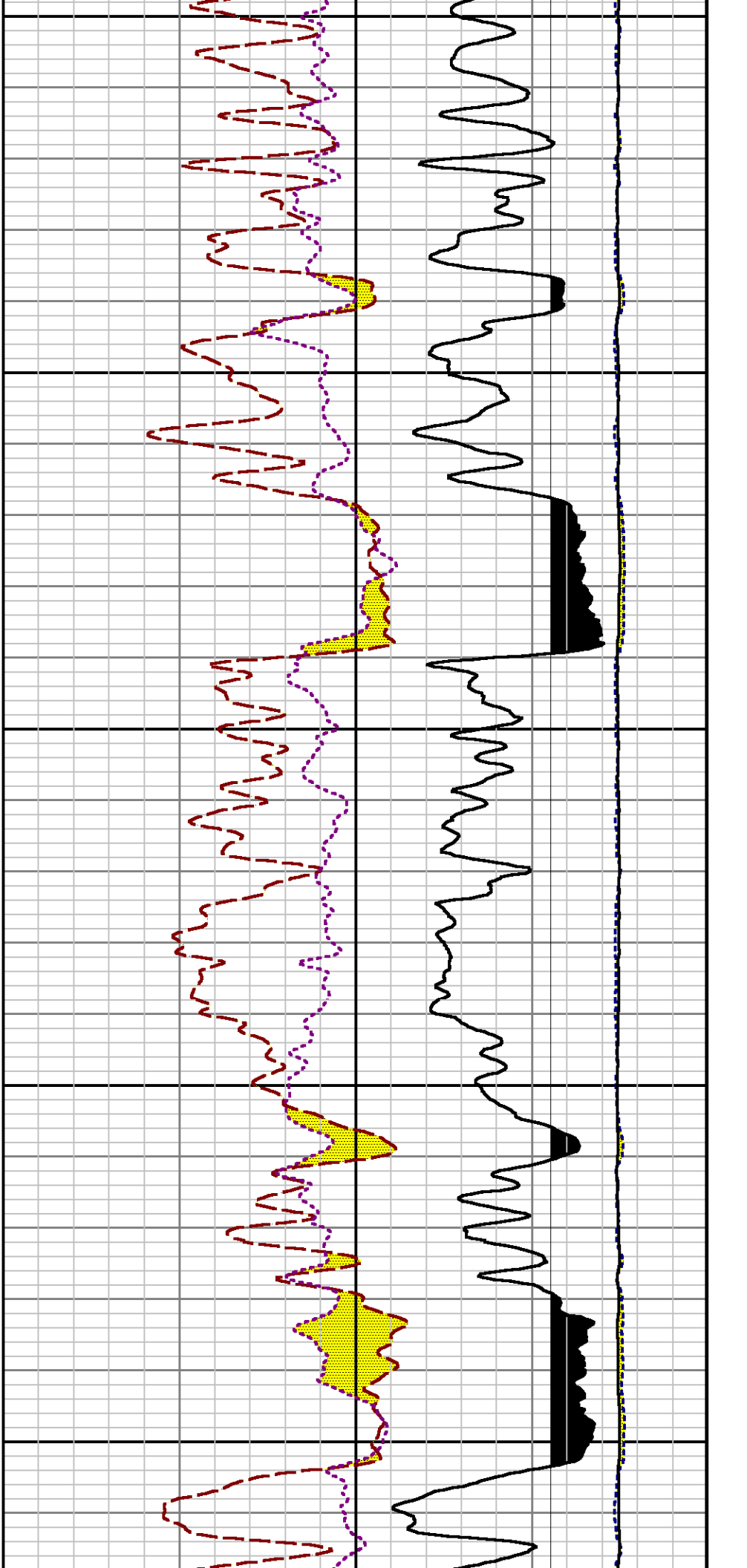


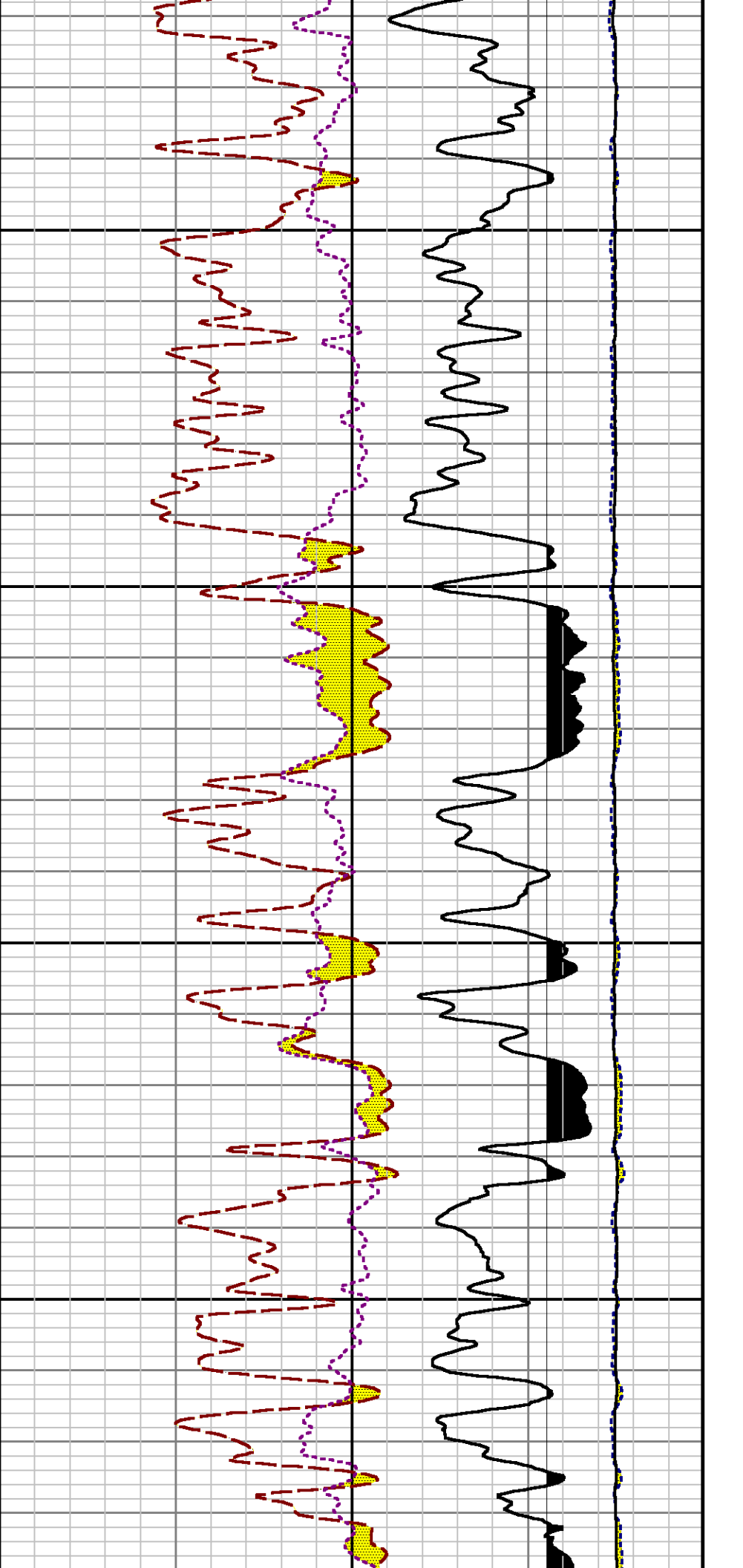
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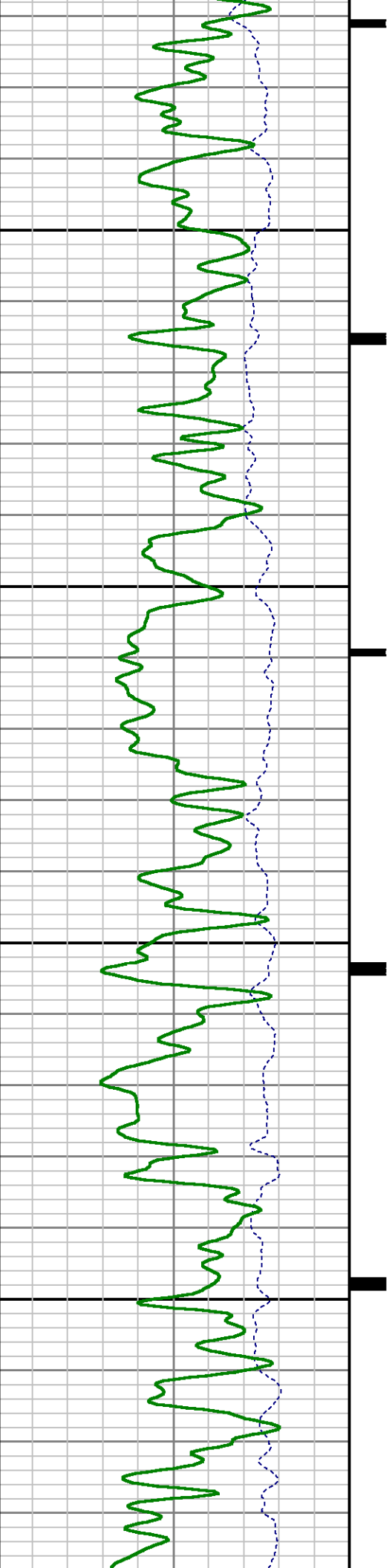


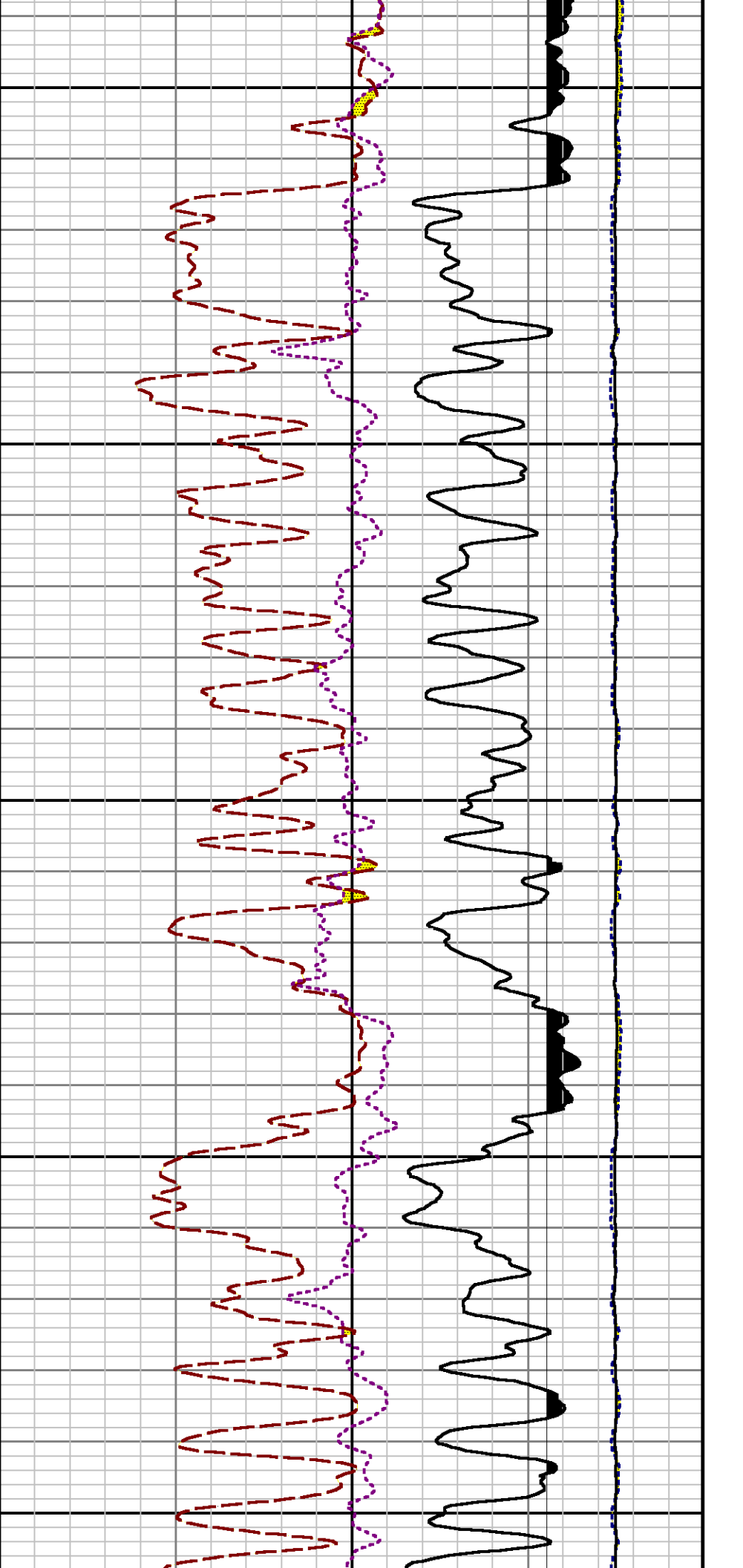




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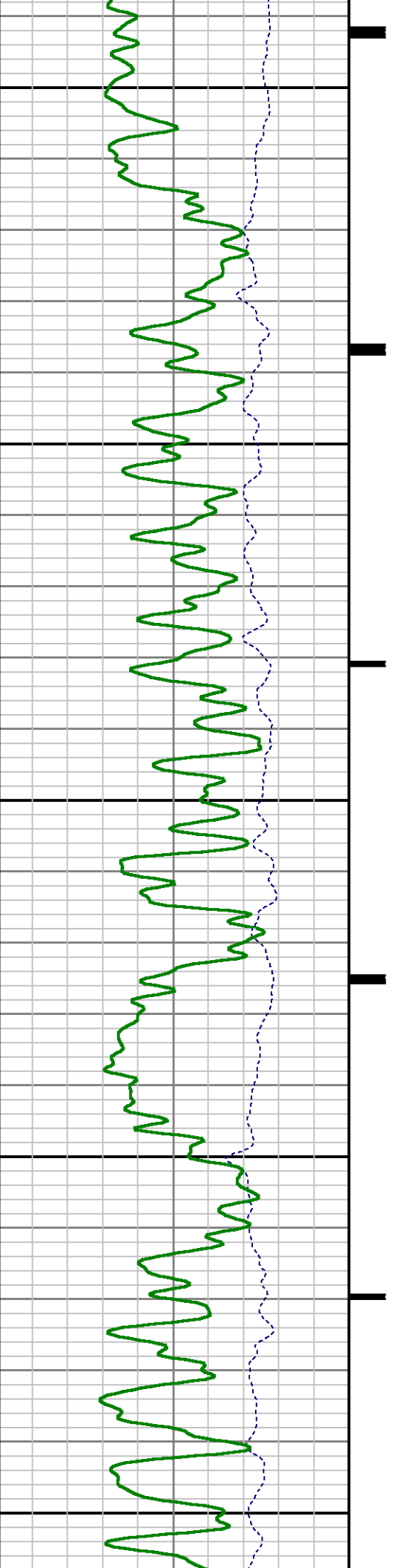
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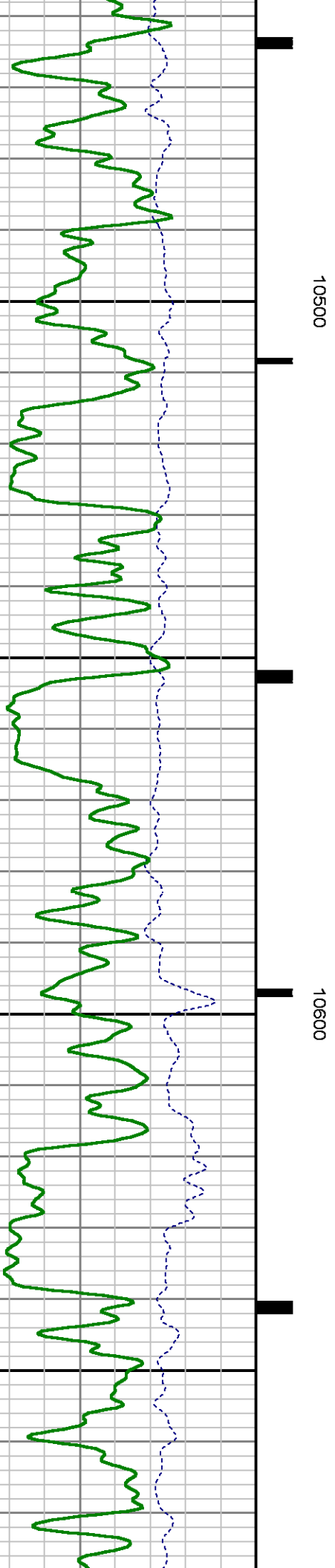
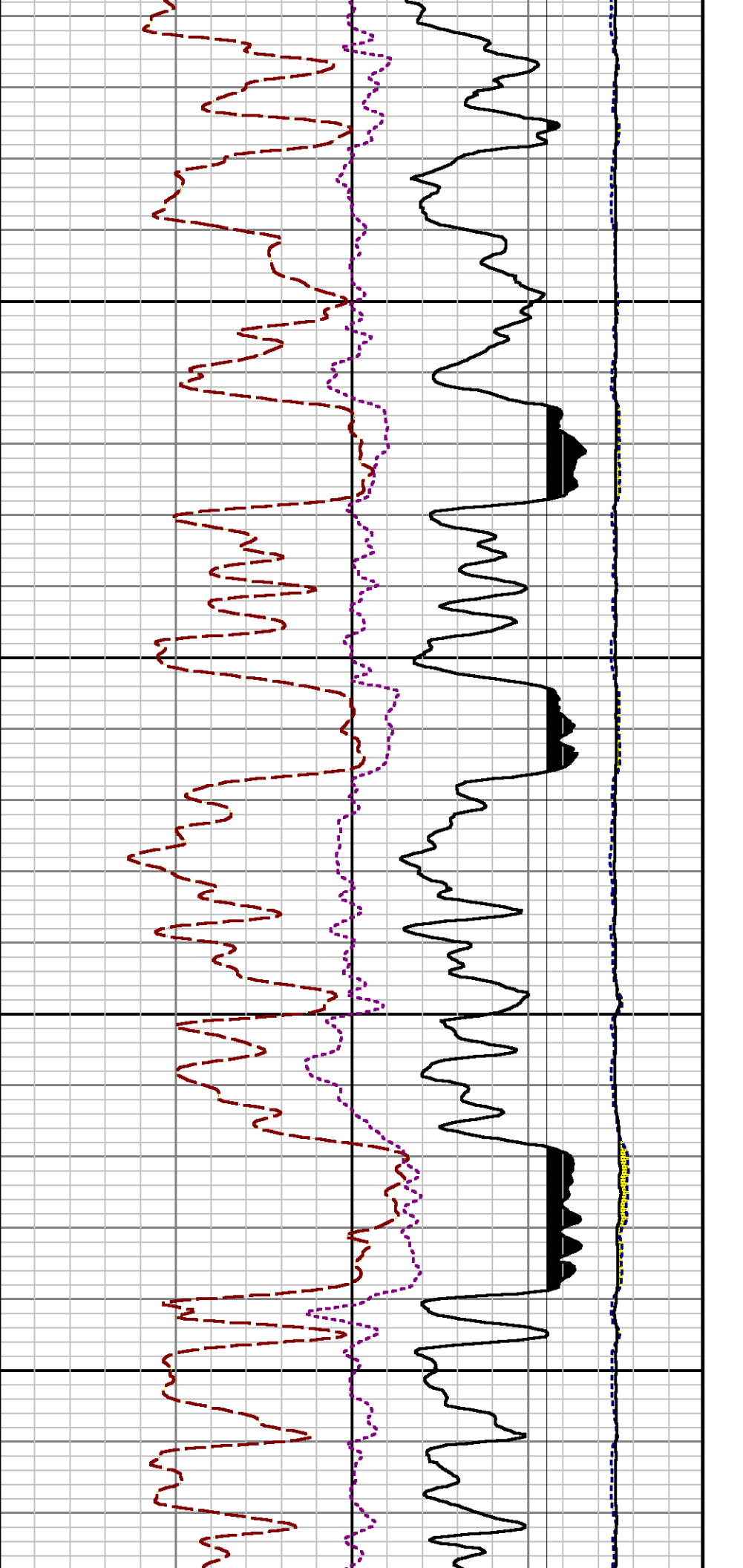


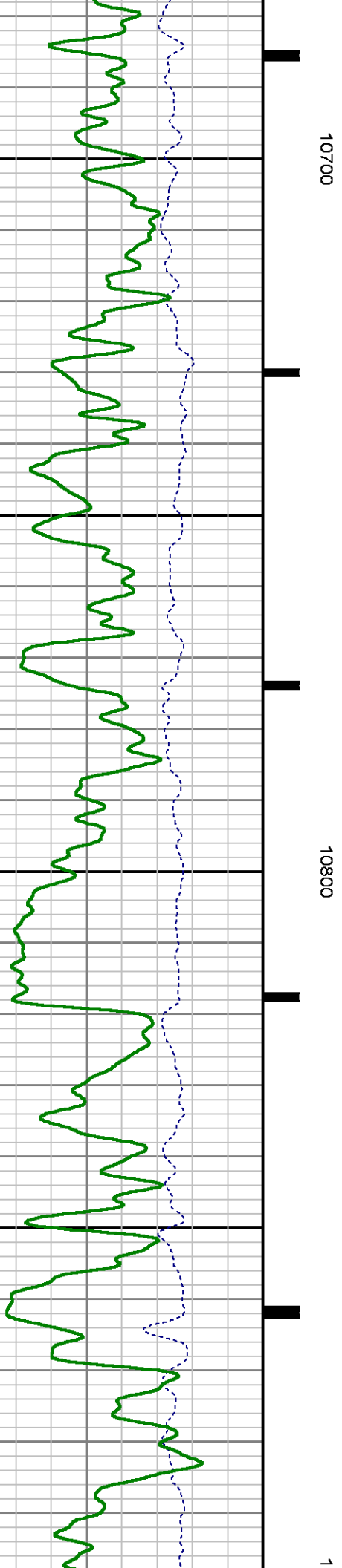
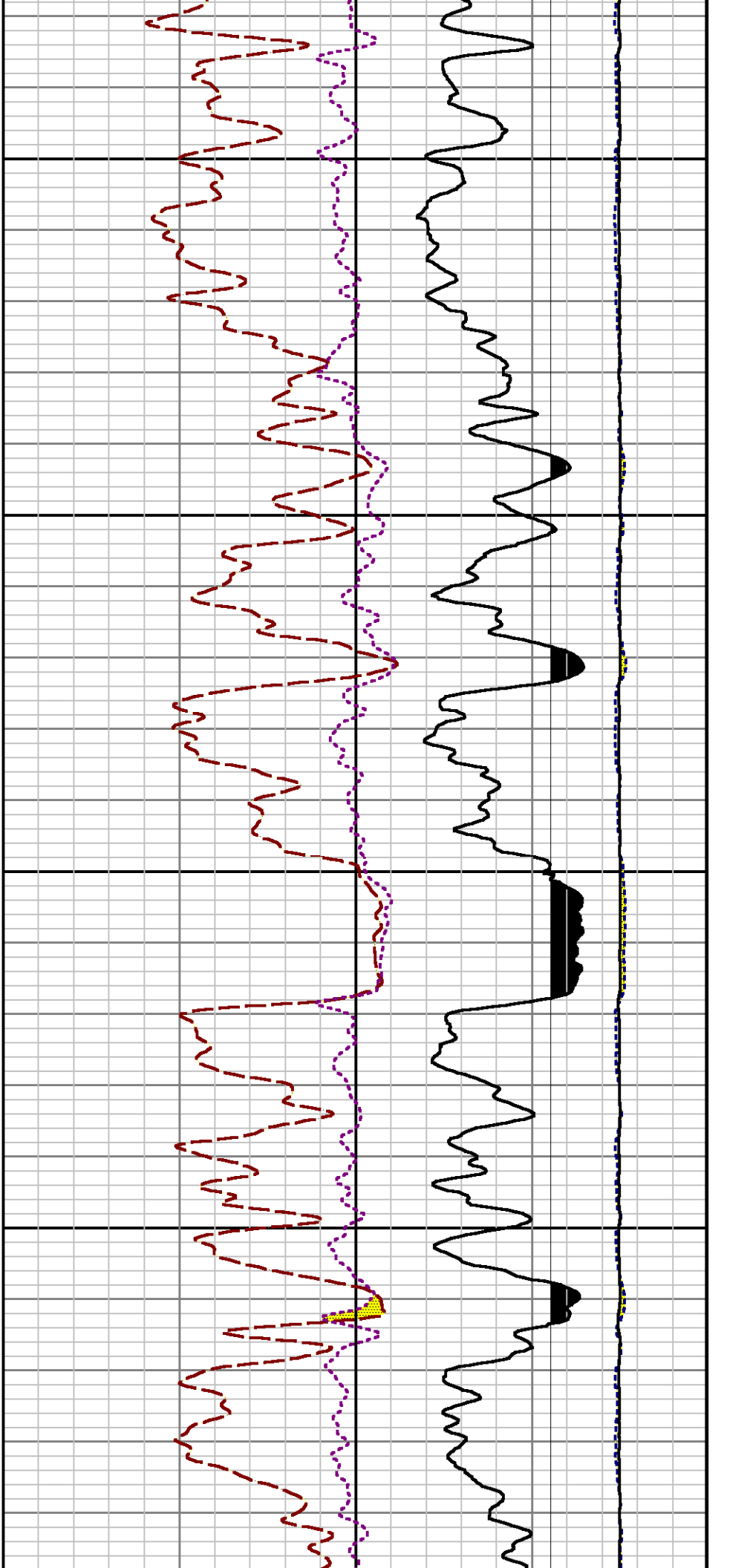


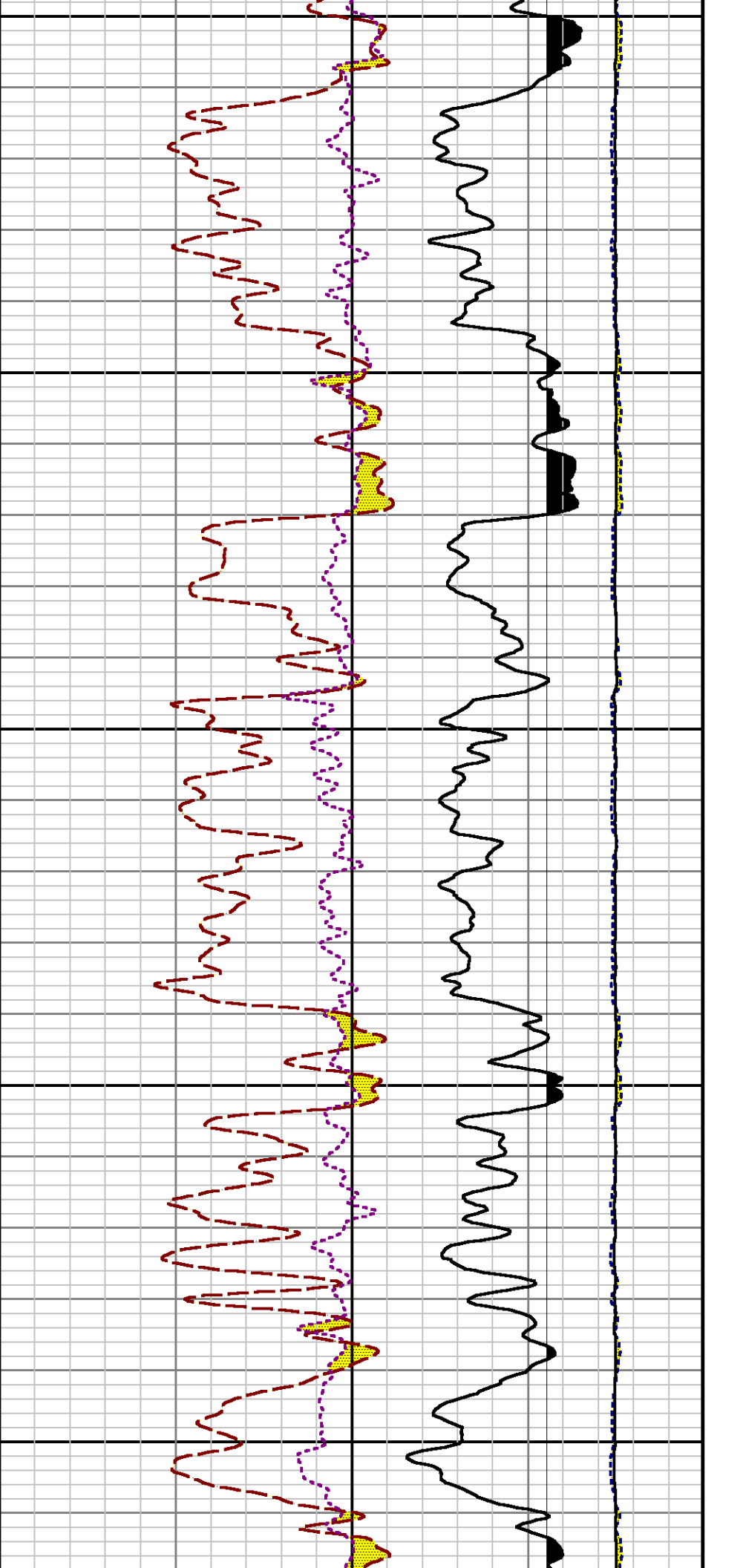
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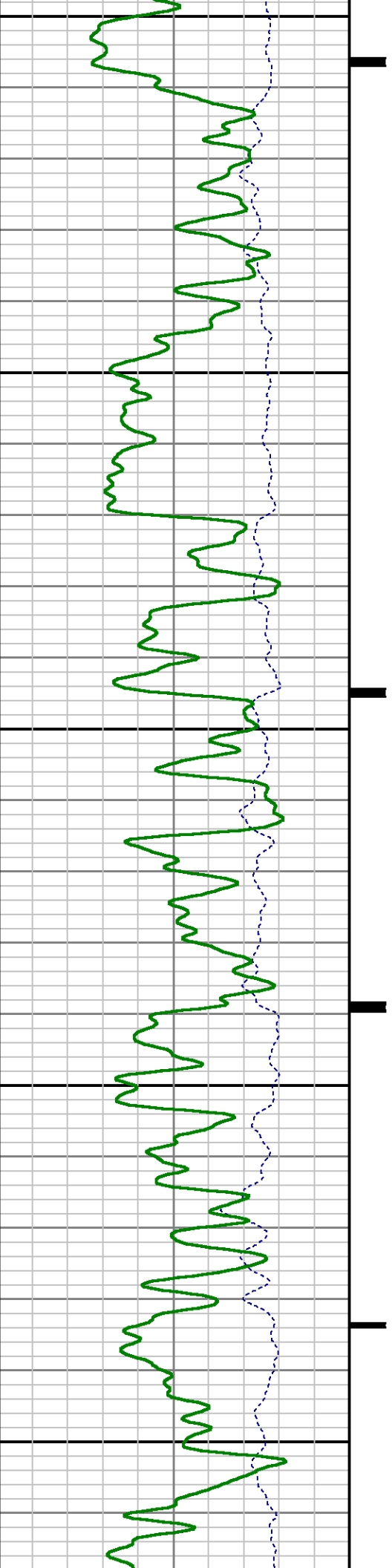


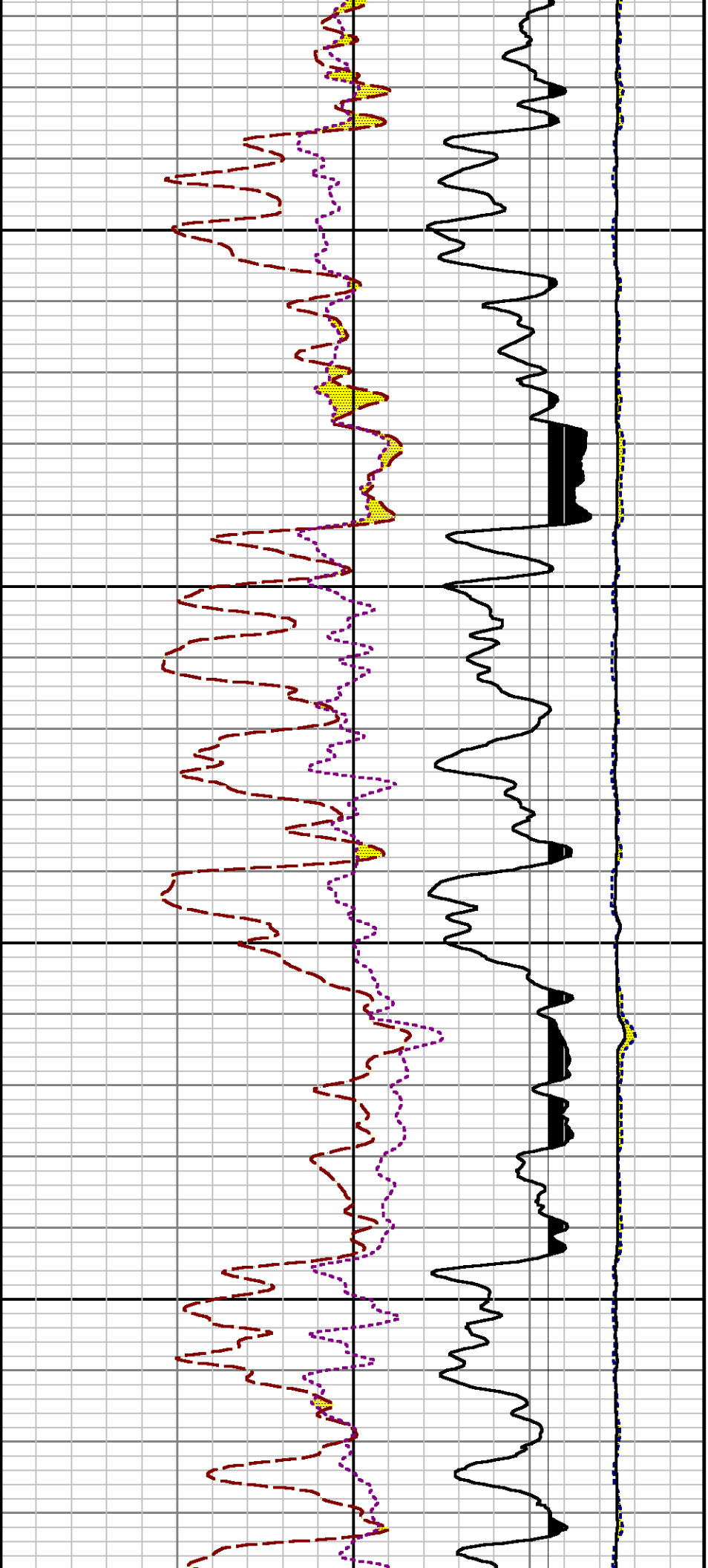


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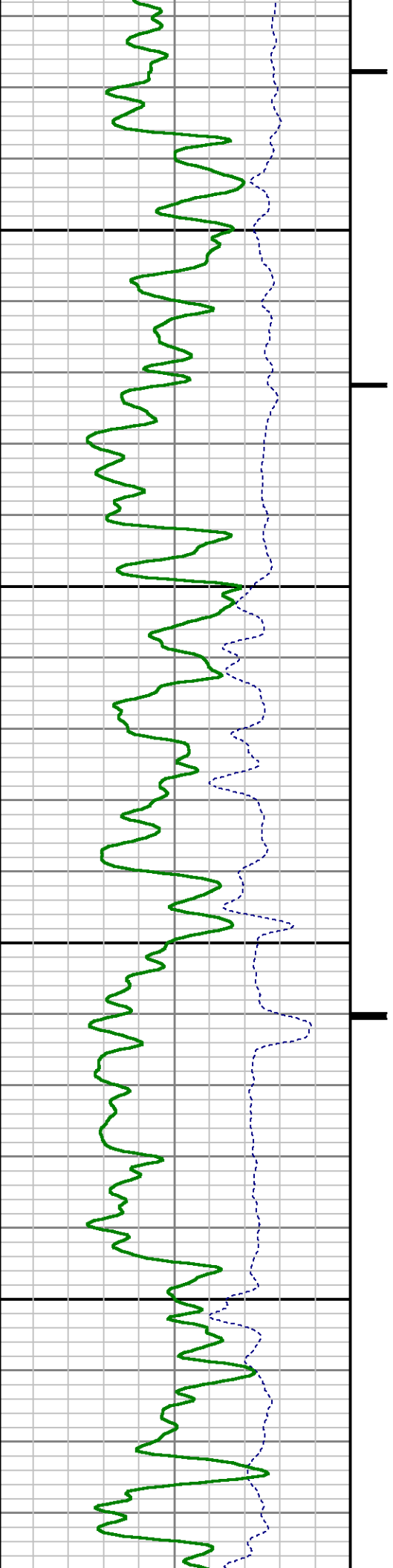
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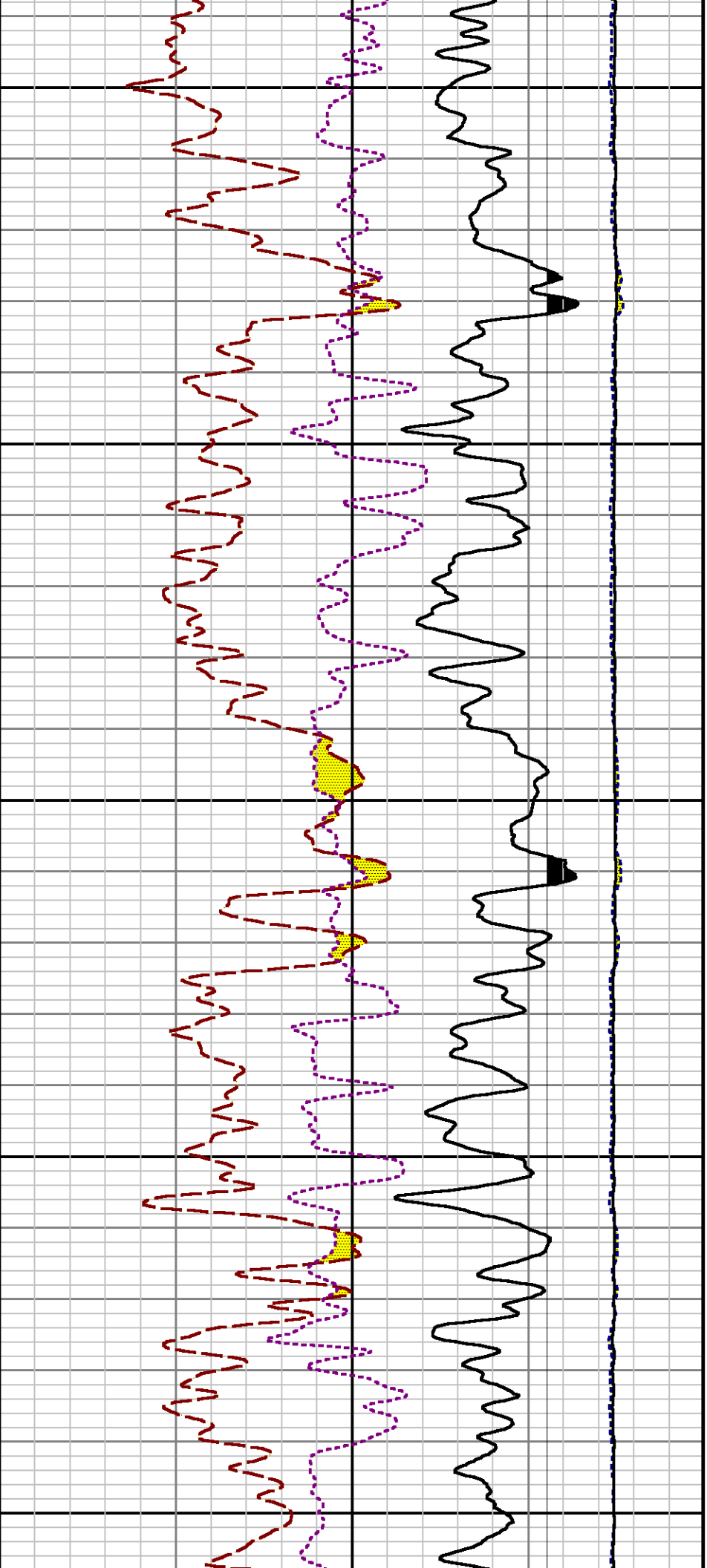




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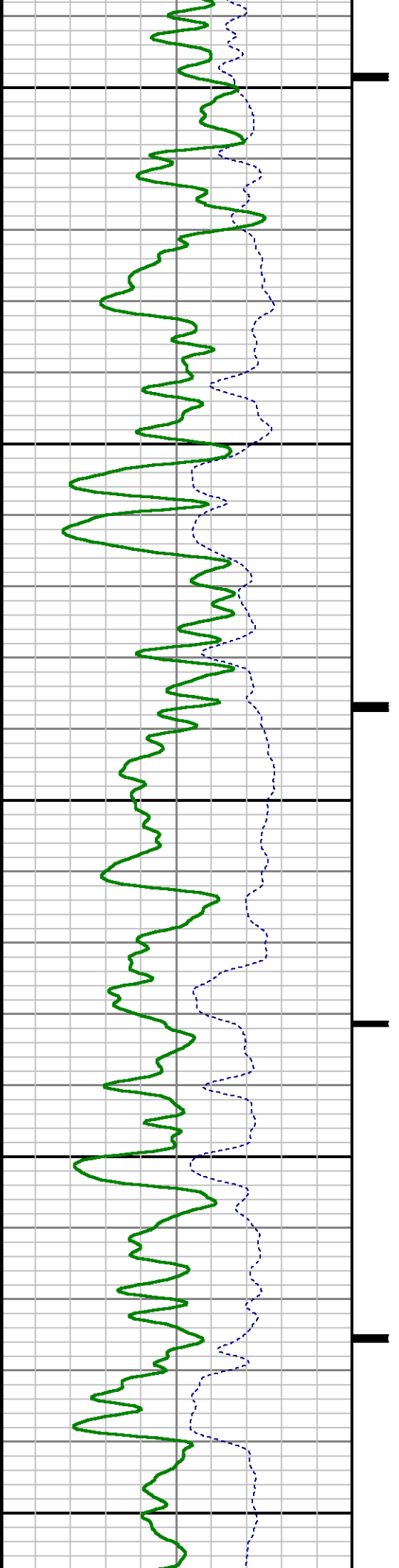
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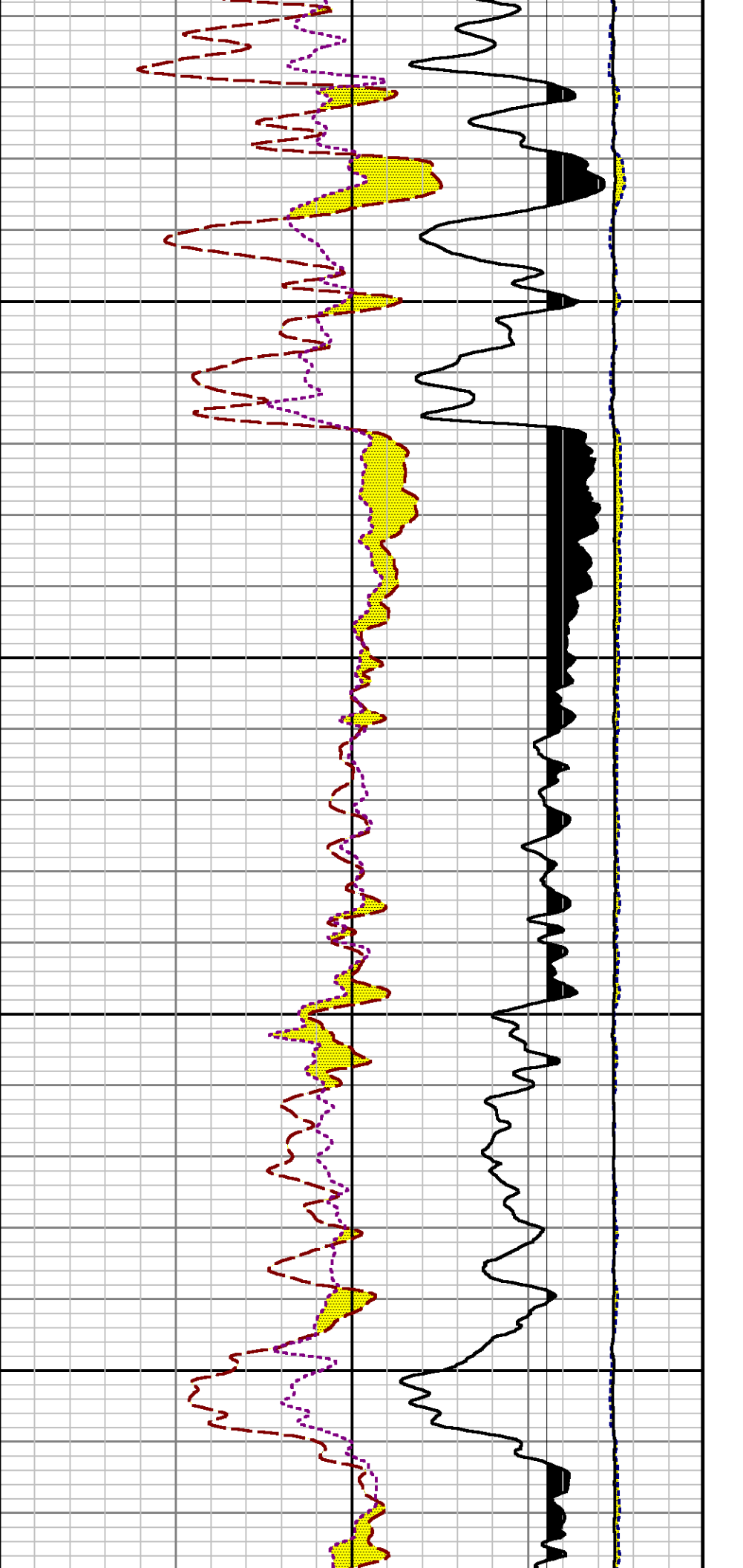




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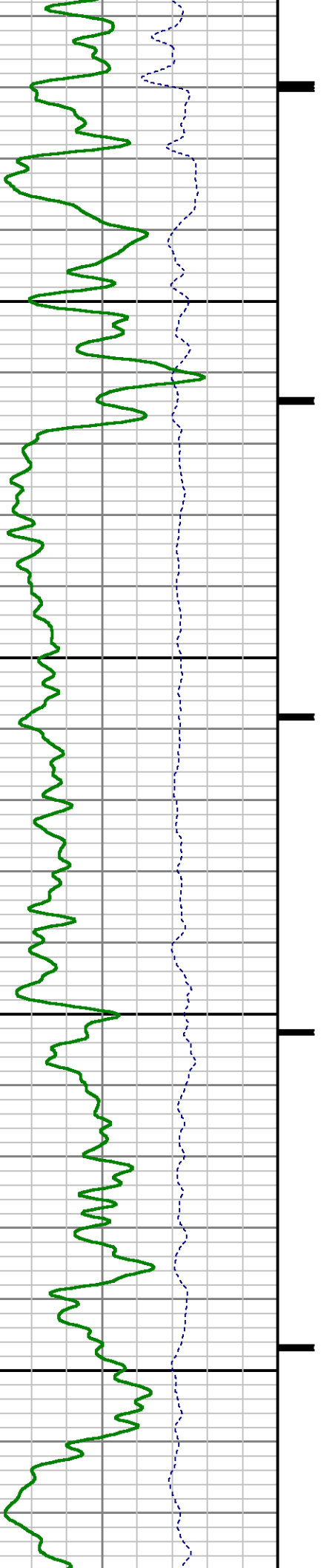
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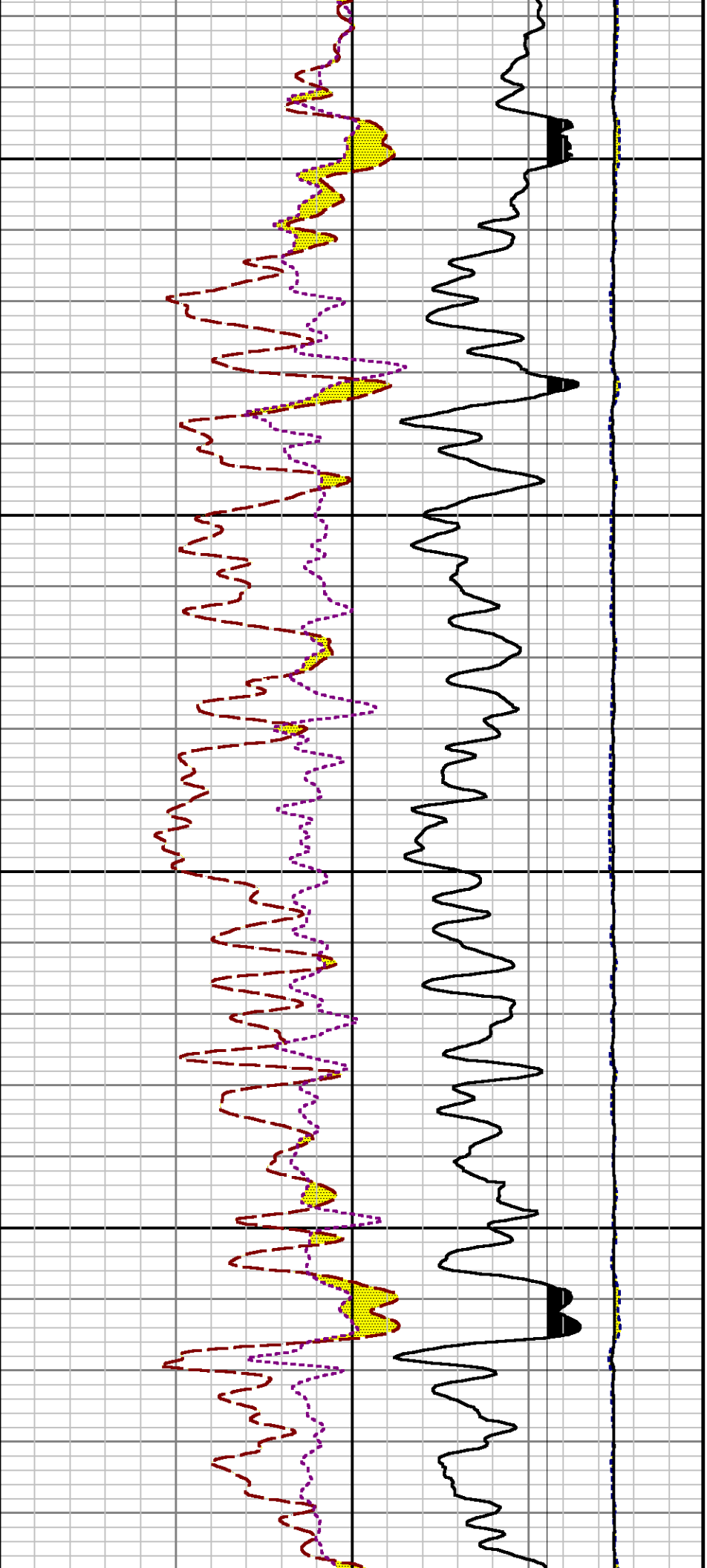




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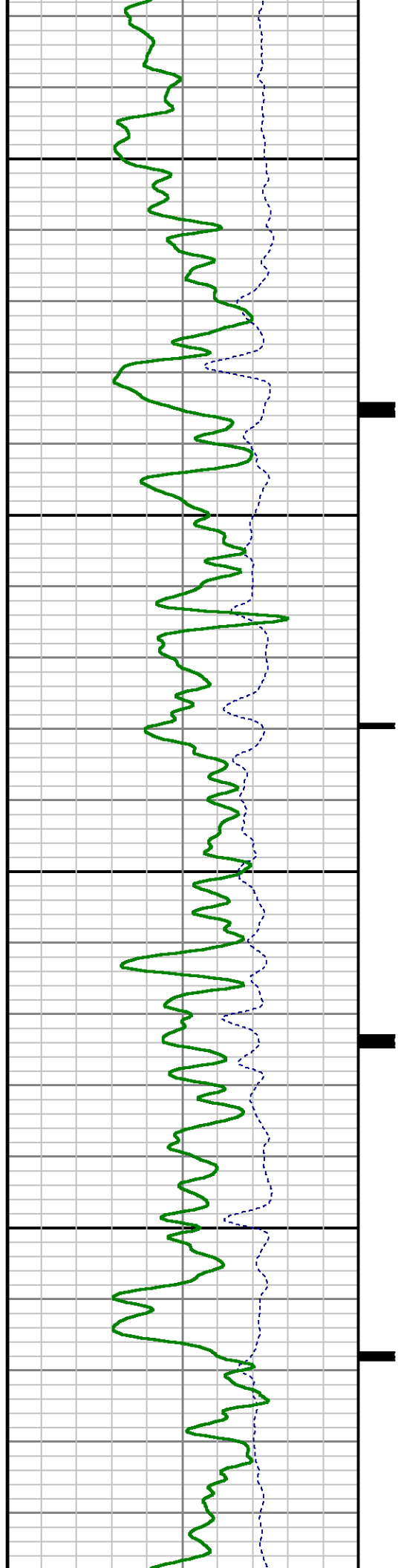


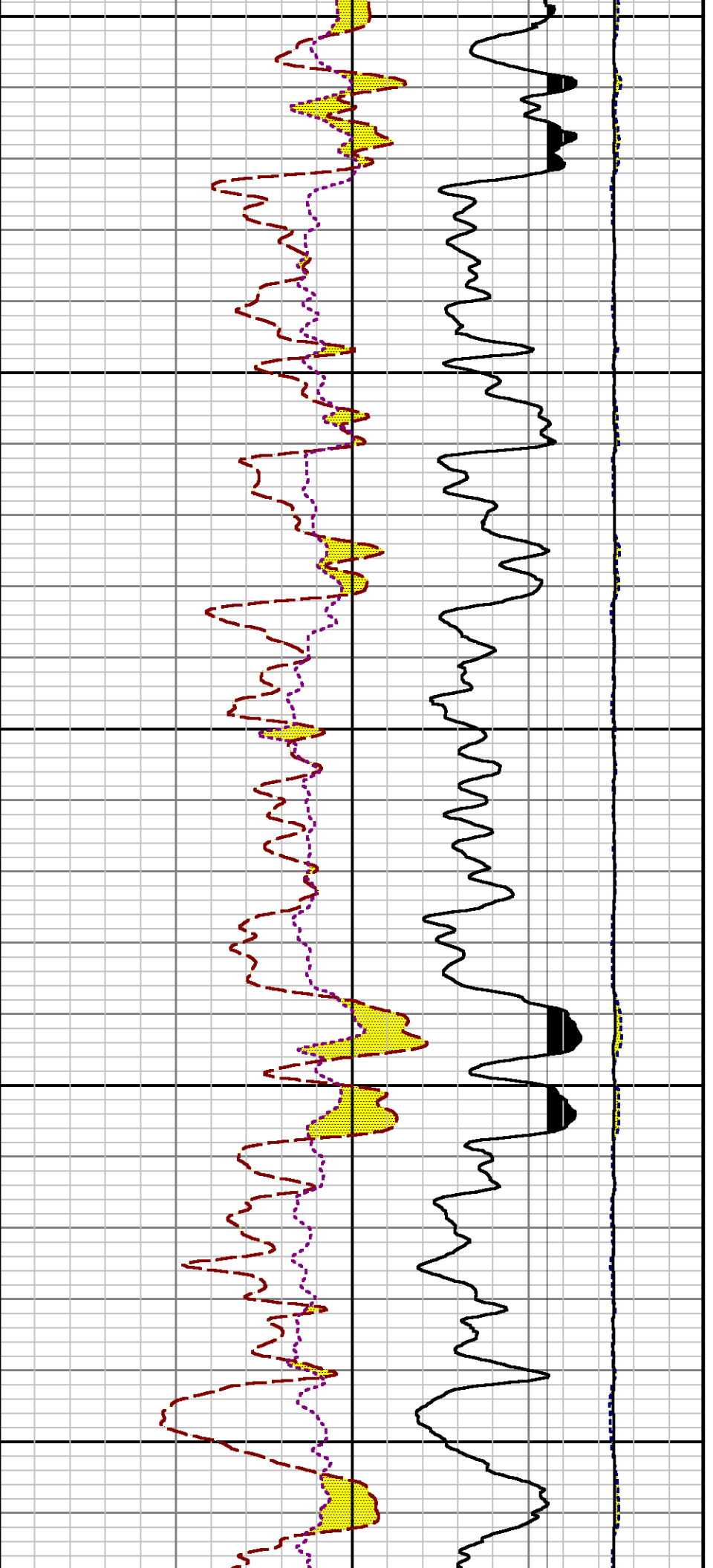


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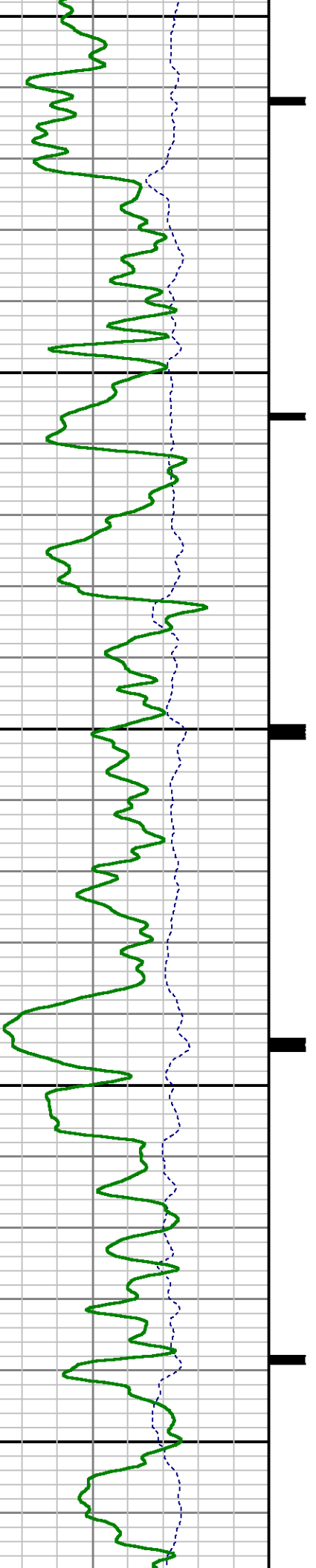


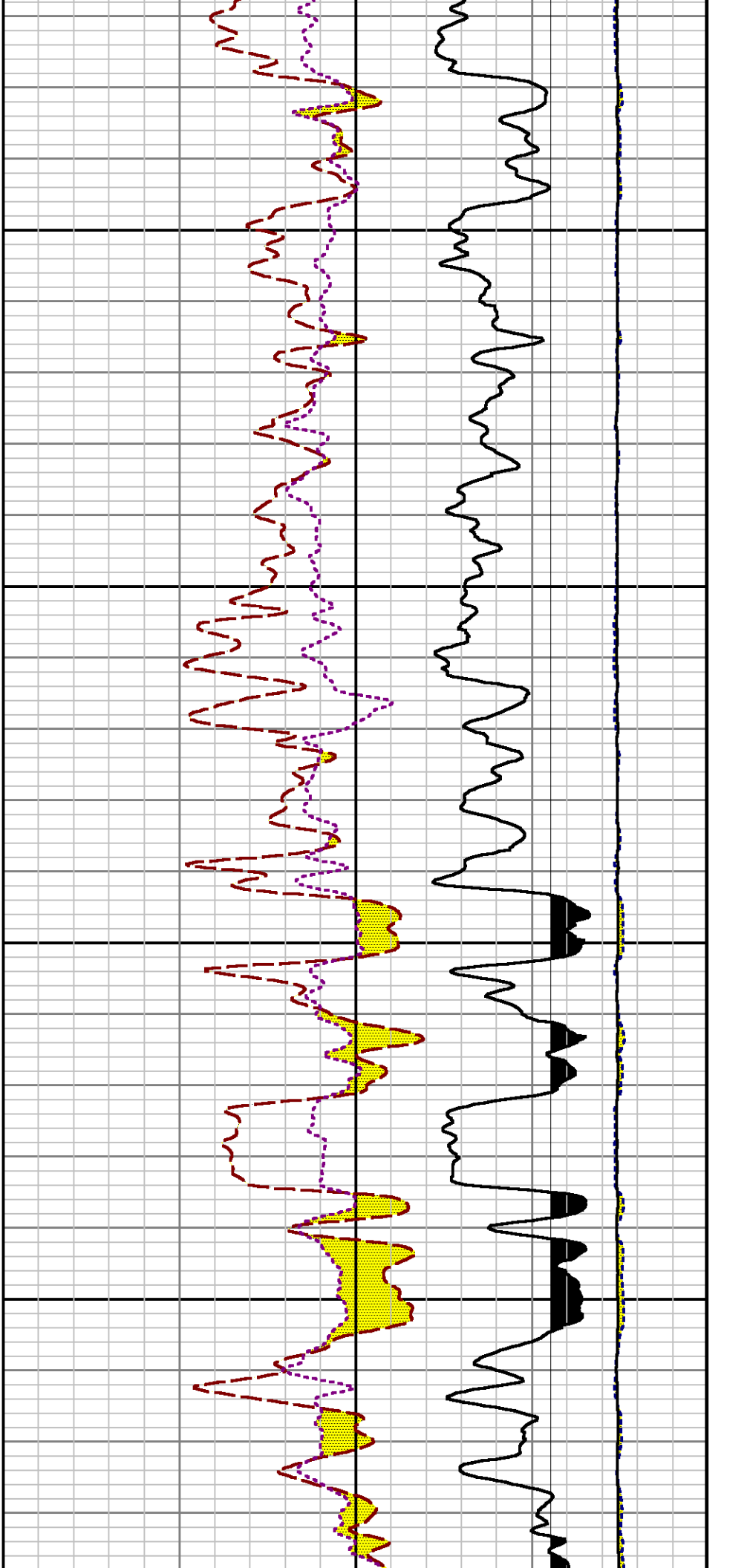


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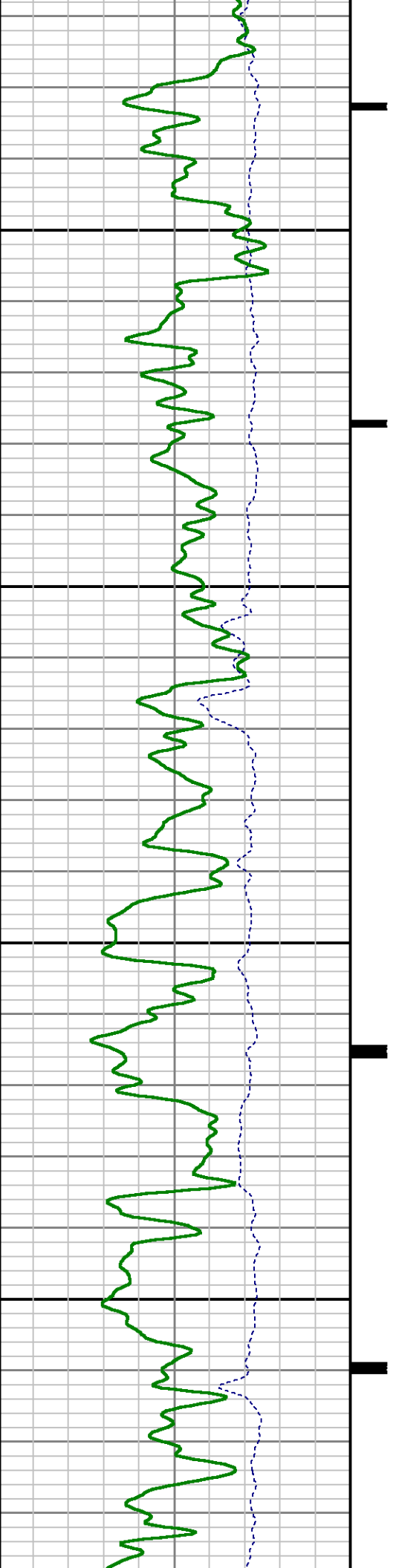
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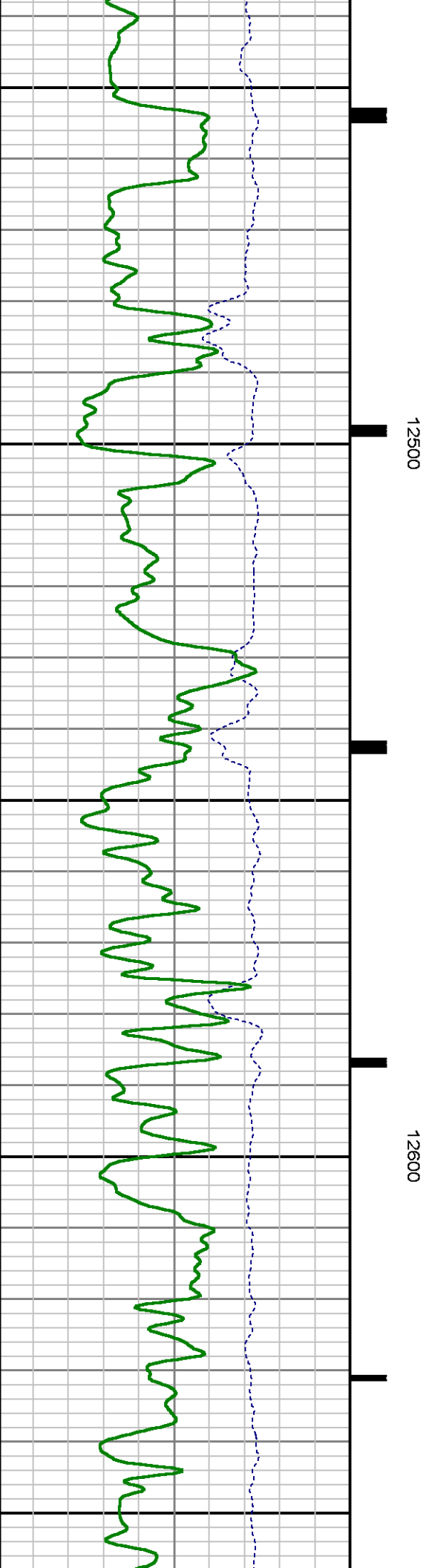
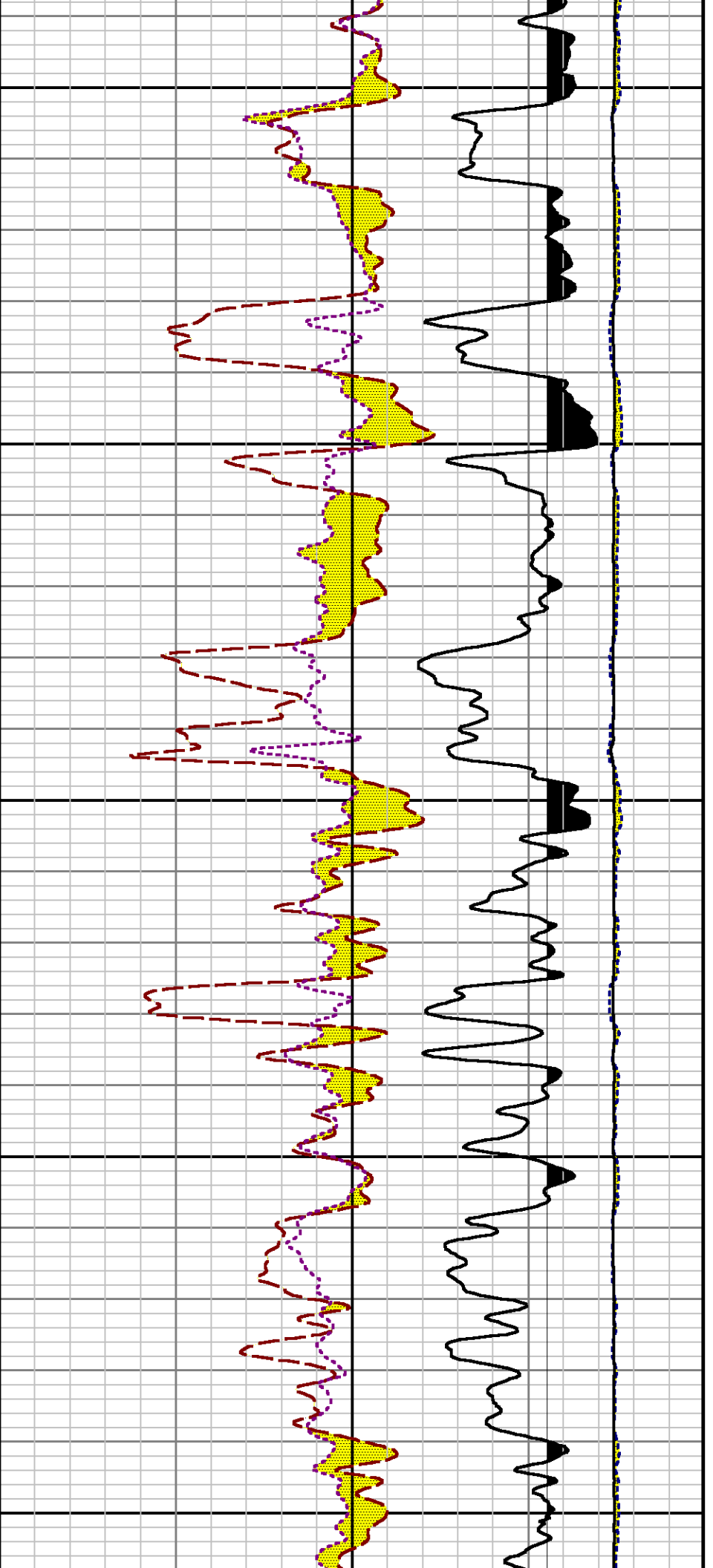


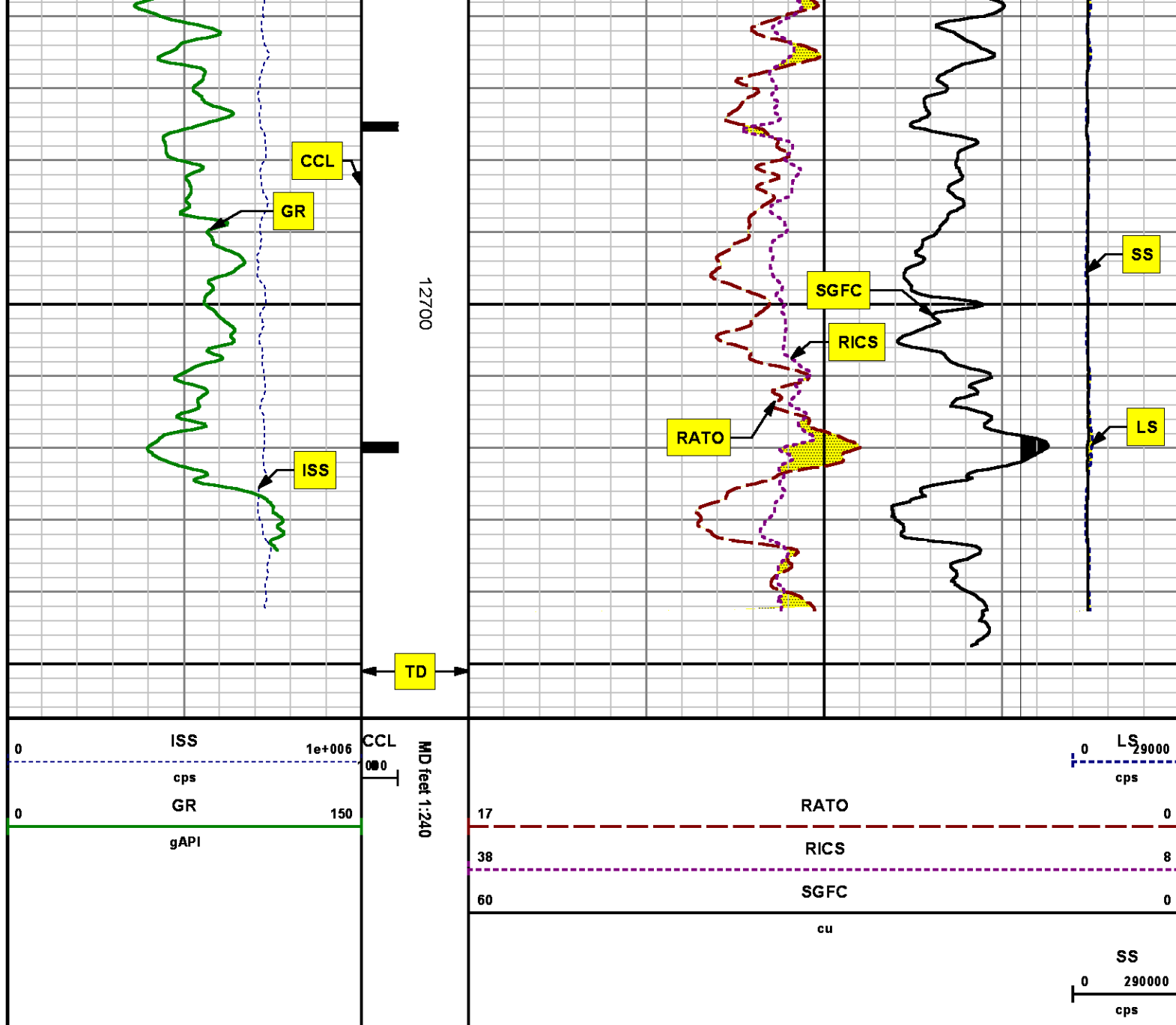


12300

12400







REPEAT SECTION
PNC 3-D MODE

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
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PNC Porosity	Borehole	Cased		11902.320	12231.570
PNC Porosity	Borehole Size	8.750	inch	11902.320	12231.570
PNC Porosity	Casing Size	4.500	inch	11902.320	12231.570
PNC Porosity	Gas Filled	Non Gas Filled		11902.320	12231.570
PNC Porosity	Matrix	Sandstone		11902.320	12231.570
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	11902.320	12231.570

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES
8248ED	-26.519	FLTM
8248ED	-24.519	CCL CHV
2812LA	-21.969	GR
8281XA	-12.702	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 SGB3 SGF3 WDTH3 CXSR IXSR XSR RICXR
8281XA	-12.291	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 WDTH2 RICLC CLSR ILSR LSR RICLR
8281XA	-12.041	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 WDTH1 RICSC CSSR G1R G2R ISSR SSR SS2R RATOR RATO13R

RTWOR

8255XA	-0.792
8255XA	-0.775
8255XA	0.000
SYSTEM	0.000

PTFS	PTMS		
SPF1	SPFQ	TSCP	TSDP
DTEM	TEMP	TNF	
TEN	TTEN		

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

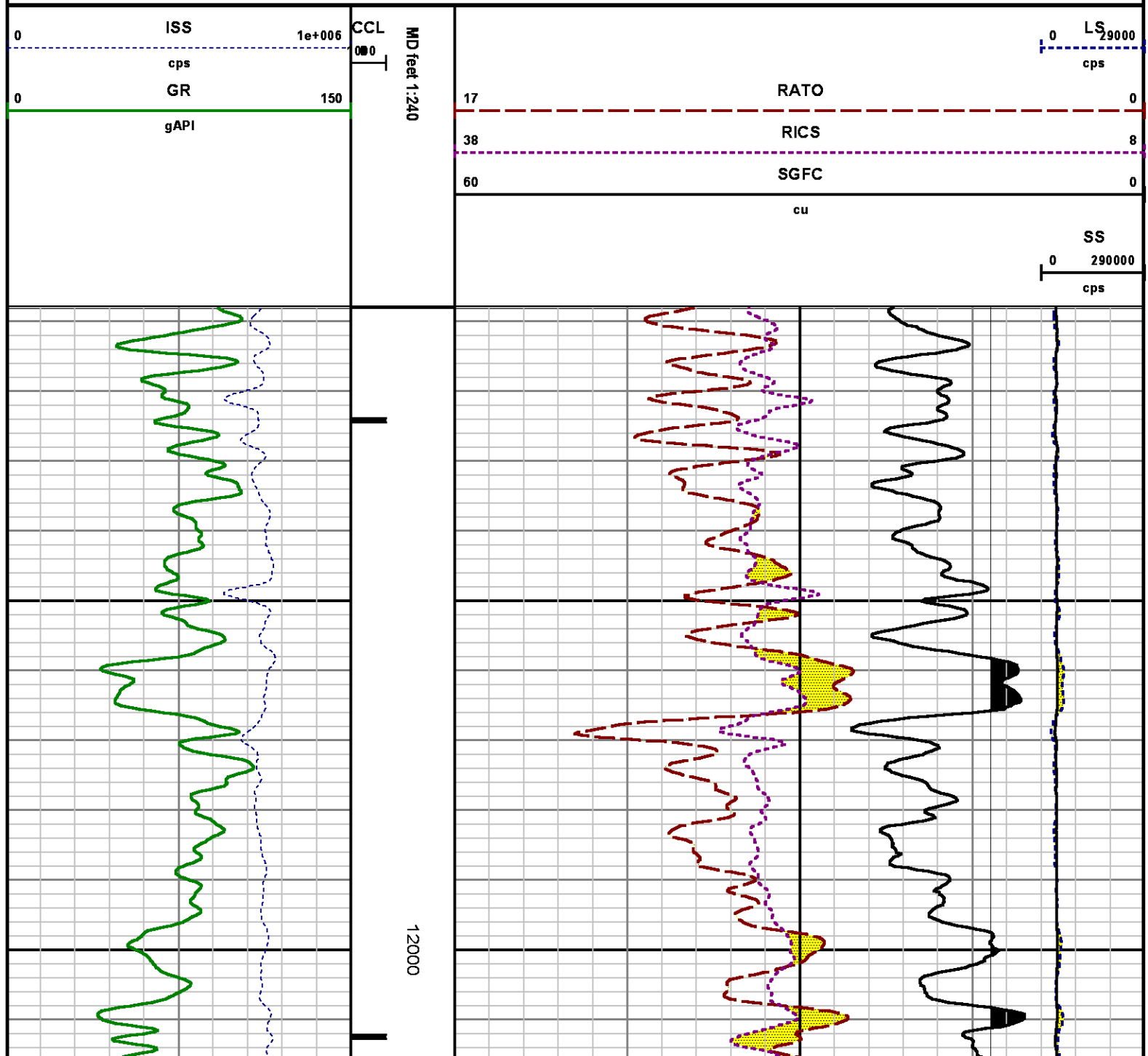
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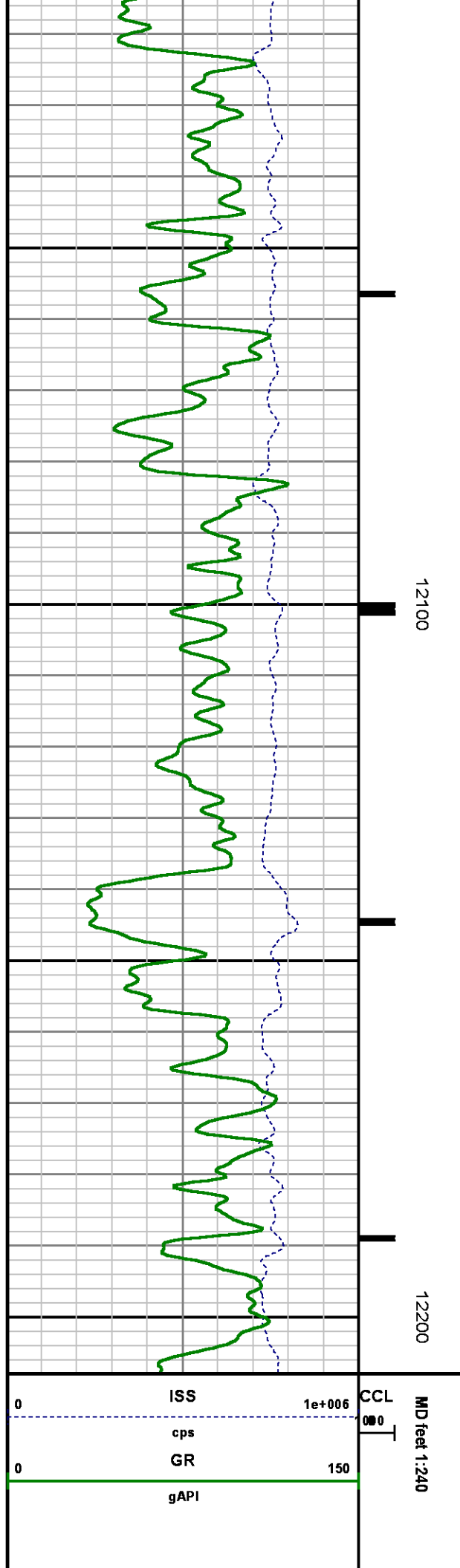
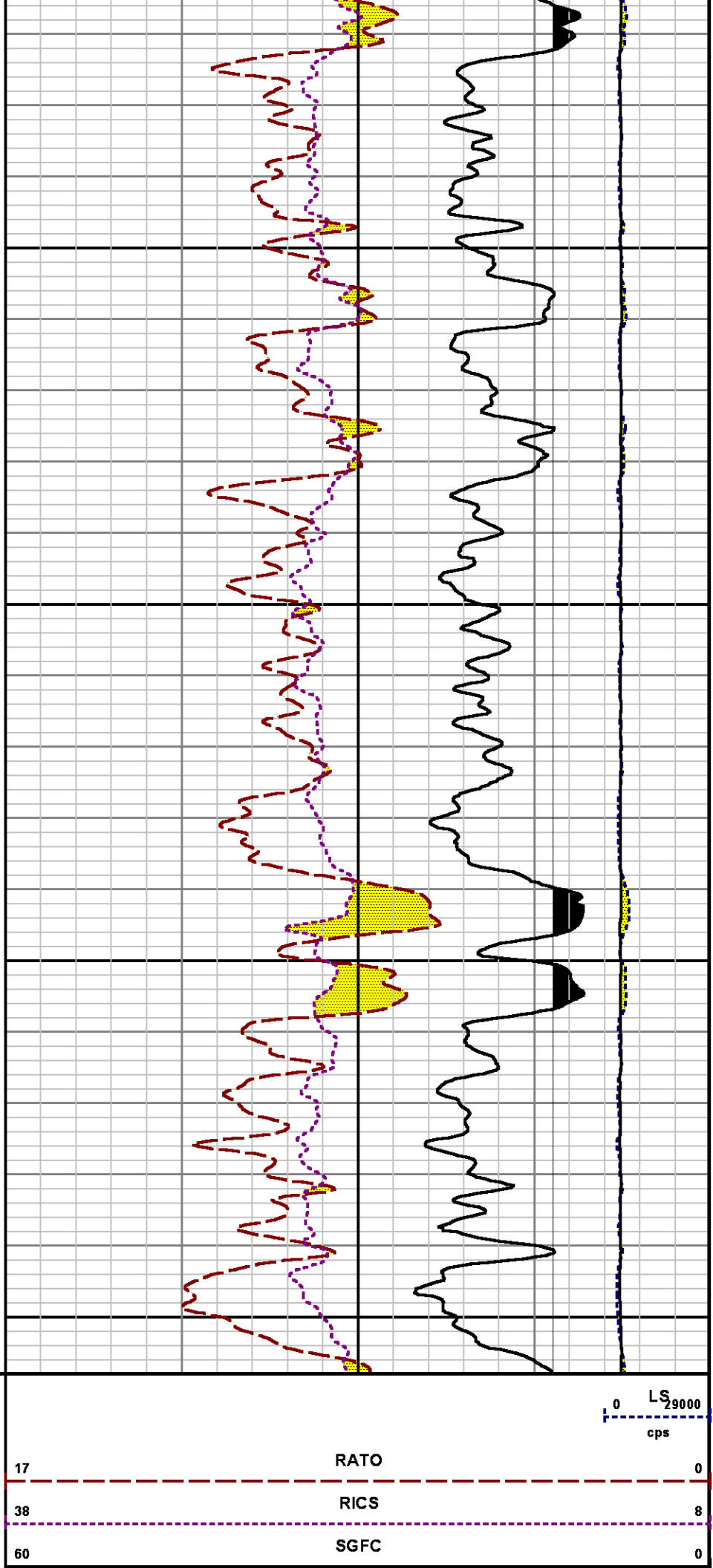
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Mode : PlotMgr 5.4.504

Interval : 11908.00 - 12208.00 feet UP

Created : 8/27/2014 3:15:04 PM





cu

SS

0 290000

cps

CALIBRATION SUMMARY

GAMMA RAY

Calibration File: C:\case\calver\GR\382A1.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun Aug 17 18:00:30 2014 TOOL SERIES: 2812LA ASSET: 382 SEQ: A1

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
SK2 WA612	42.82	251.20	1.008	43.16	253.16	210.00

PNC

Calibration File: C:\case\calver\PNC\34531.cal

PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Wed Jul 30 12:25:24 2014 TOOL SERIES: 8281XA ASSET: 345 SEQ: 31

Calibrator #

2437XB 112674

Source #

8281AA 10148476

	ISS	Mtr Vits (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	819245	119.00	2274.00	2251.00	2241.00	109.25	7.00	0.9808
Interpolated	1300000	140.97	2253.66	2240.93	2235.60			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	819245	5919.25	962.48	136.92	25.83	0.14	24.23	0.28
					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	819245	168936.23	26190.87	88936.03	21684.52	8271.14	52822.45	12225.05

Raw Data	819245	168936.23	26190.87	88936.02	31684.32	8271.11	33822.43	13233.03
Fit Quality %		3.08	2.94	2.87	2.87	2.72	2.81	2.82

	ISS	RBOR		RIN		RIN13		RICS		RATO		RTWO		RONE	
				ISS/ILS		ISS/IXS		ISS/CSS		SS/LS		SS2/LS		CSS/CLS	
Raw Data	819245	1.43		4.85		31.28		15.22		10.75		3.83		4.07	
		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 %		0.11		0.98		1.00		0.90		0.09		0.10		0.09	
Reduced	1262130	1.43		4.81		31.07		15.11		10.74		3.82		4.06	
		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

TEMPERATURE

Calibration File: C:\case\calver\TEMP\120516AU.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: 09 AUG 2010 TOOL SERIES: 8255XA ASSET: 120516 SEQ: AU

	T(0)	T(1)	T(2)	T(3)	T(4)	T(5)
Coefficients	-8.673169e+000	9.576065e-002	6.395448e-006	-9.461013e-010	0.000000e+000	0.000000e+000

TOOL DIAGRAM

OTA SHORT CABLE HEAD

PCM POWER SUPPLY

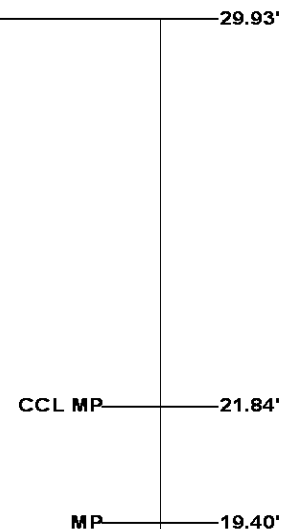
Series 8250EA
Mnemonic PCM
Diameter 1.70"
Weight 18.00 lb
Length 3.86'
Temp Rating 350.00 °F

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

XLS DETECTOR 12.78'

LS DETECTOR 9.80'
SS DETECTOR 9.58'

0.00'

Total Length: 29.93'
Total Weight: Not Available
Max Diameter: 0' 1.70"

**Baker Atlas***CASE***Company**

WPX ENERGY

Well

FEDERAL RGU 43-24-198

Field

SULPHUR CREEK

County

RIO BLANCO

State

COLORADO

Location

SHL: 2140' FSL & 1685' FEL

BHL: 2303' FSL & 647' FEL (NESE)

SEC 24

TWP 1S

RGE 98W

Elevations

KB 6617 ft

DF

GL 6596 ft

File No:

CH089587

API No:

05103120760000

24 1S 98W

RGU 33-24-198 PAD

CYCLONE 29