



RESERVOIR PERFORMANCE MONITOR

Baker Atlas

File No: **Company** **WPX ENERGY**

CH089588 **Well** **FEDERAL RGU 534-24-198**

API No: **Field** **SULPHUR CREEK**

05103120770000 **County** **RIO BLANCO** **State** **COLORADO**

24 1'S 98W **Location** **SHL: 2128' FSL & 1688' FEL**

RGU 33-24-198 PAD **BHL: 1241' FSL & 1897' FEL (SWSE)**

CYCLONE 29 **SEC** **24** **TWP** **1S** **RGE** **98W**

Other Services
BOND LOG

Permanent Datum **GL** **Elevation** **6596 ft**

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

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

Date	28/AUG/14	
Run	ONE	
Service Order	US089588J	
Depth Driller	12780 ft	
Depth Logger	12682 ft	
Bottom Logged Interval	12672 ft	
Top Logged Interval	7200 ft	
Time Started	1430	
Time Finished	2200	
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	284 degF	
Reference Log	BAKER HUGHES	
Reference Log Date	28/AUG/14	
Equipment No.	Location	
4271	GRAND JCT	
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	3914 ft
8.75/7.875	3914 ft	12780 ft

Casing Record				
Size	Weight	Grade	From	To
18 in			21 ft	80 ft
9.625 in			21 ft	3914 ft
4.5 in	11.6 lbm/ft	P-110	21 ft	12780 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 8/28/2014 at the client's request.
The amount of linear shift is 1 feet.
Logged in PNC-3D mode.
BHT = 284°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	10414345	FREE
1	1	RPM	8281EA	10190984	FREE
1	1	GR	2812LA	10274382	FREE
1	1	TEL/CCL	8248ED	104602626	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		7181.940	12688.190
PNC Porosity	Borehole Size	8.750	inch	7181.940	12688.190
PNC Porosity	Casing Size	4.500	inch	7181.940	12688.190
PNC Porosity	Gas Filled	Non Gas Filled		7181.940	12688.190
PNC Porosity	Matrix	Sandstone		7181.940	12688.190
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	7181.940	12688.190

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

8281XA -12.291

8281XA -12.041

8255XA -0.792

8255XA -0.775

8255XA 0.000

SYSTEM 0.000

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 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 RONER RPORR
RTWOR
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

Well : FEDERAL RGU 534-24-198

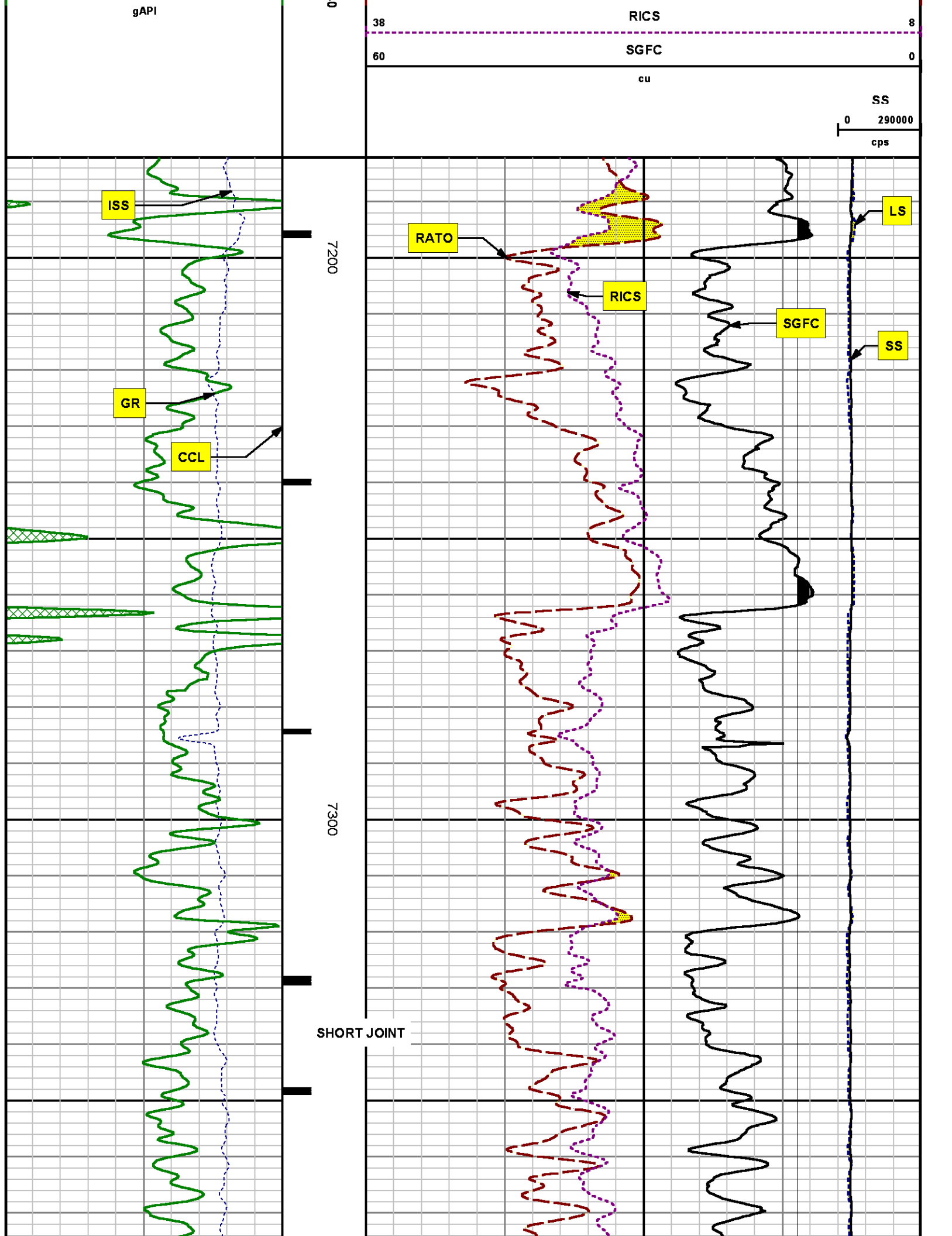
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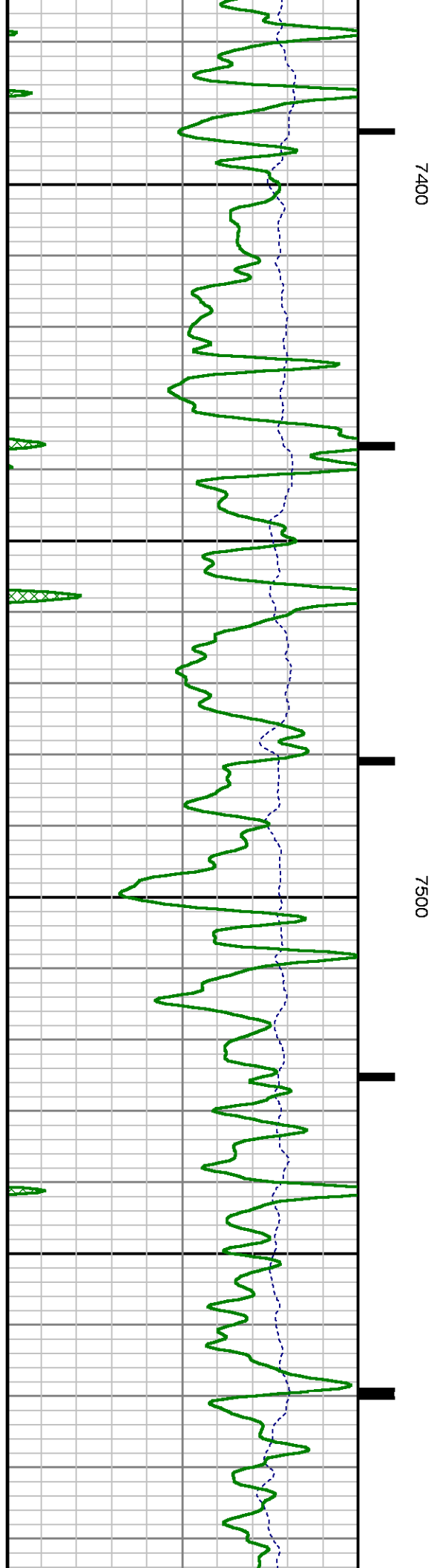
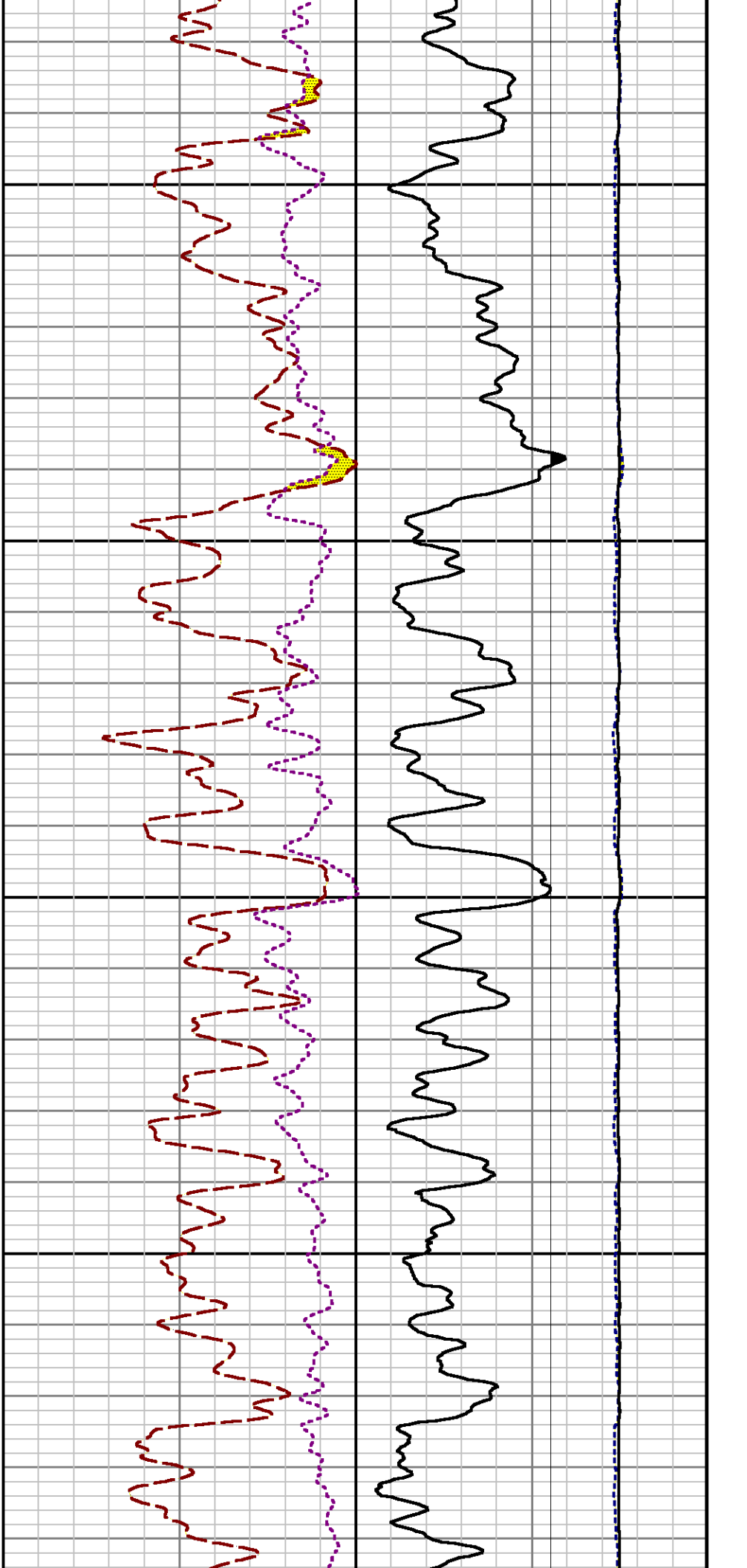
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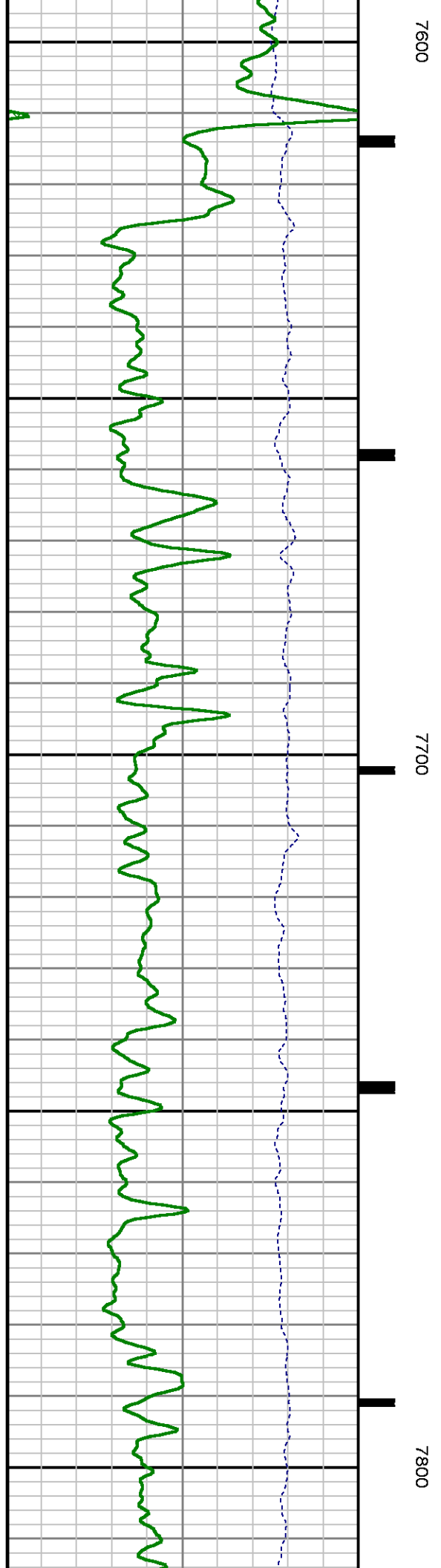
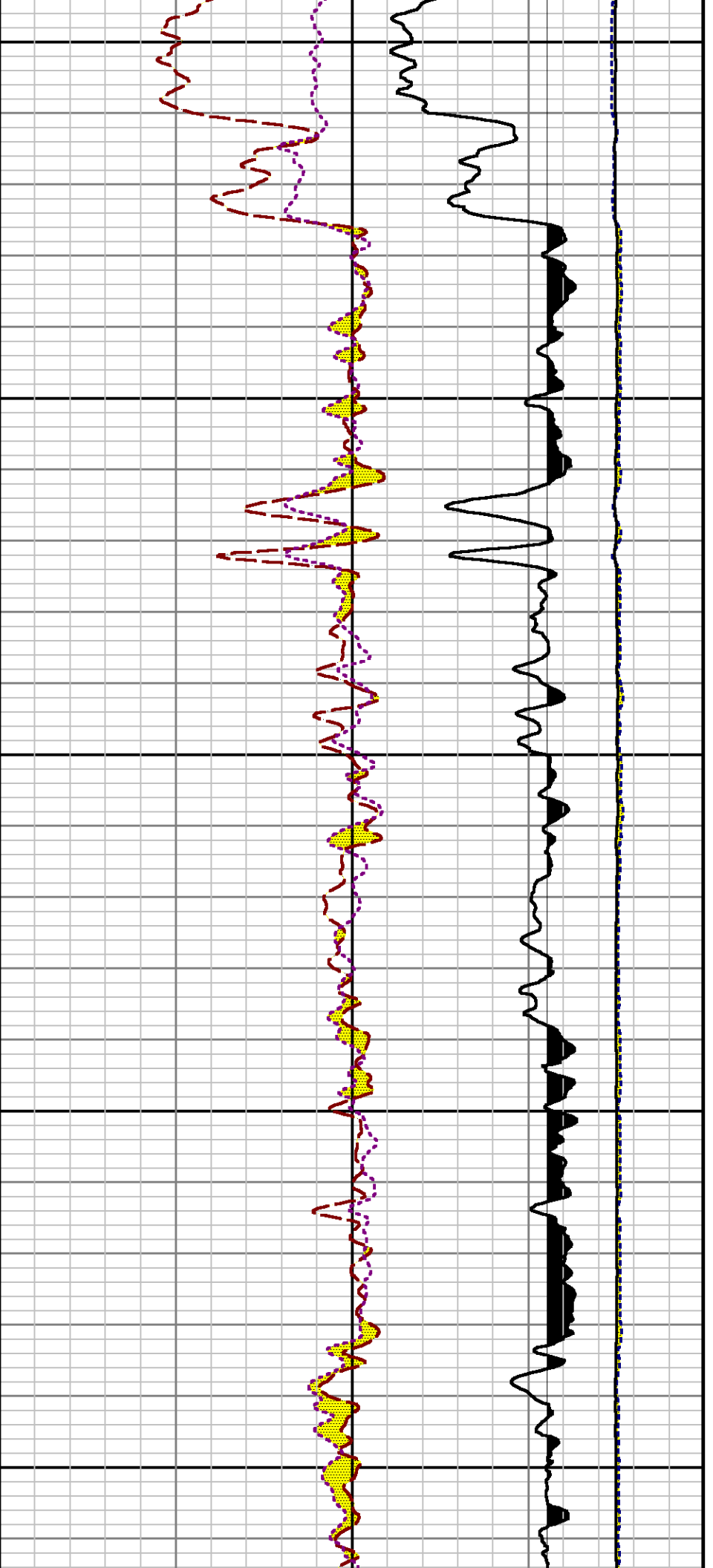
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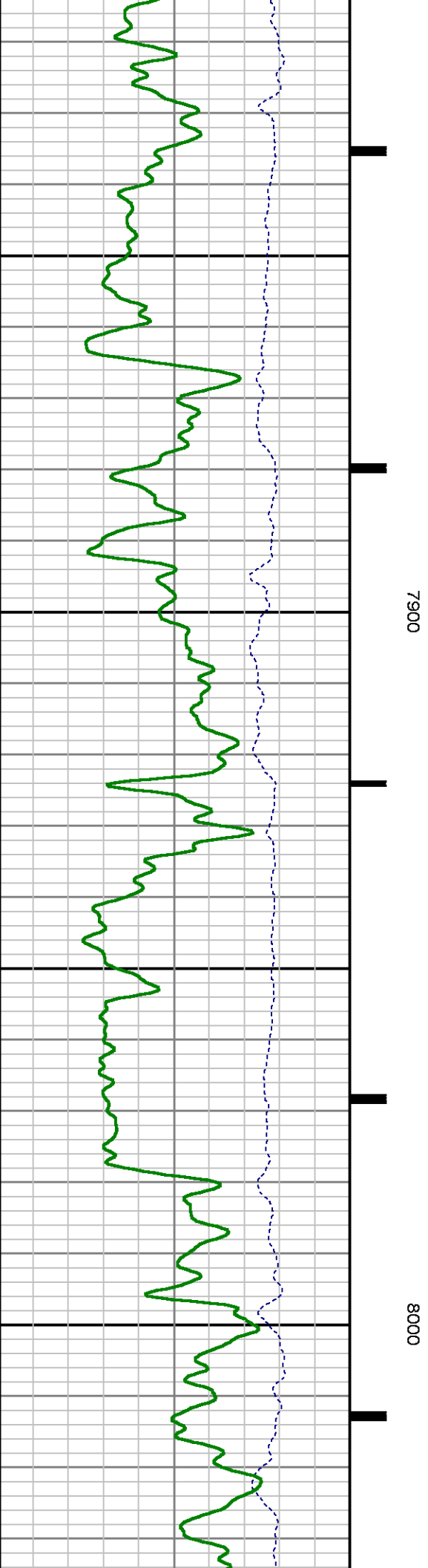
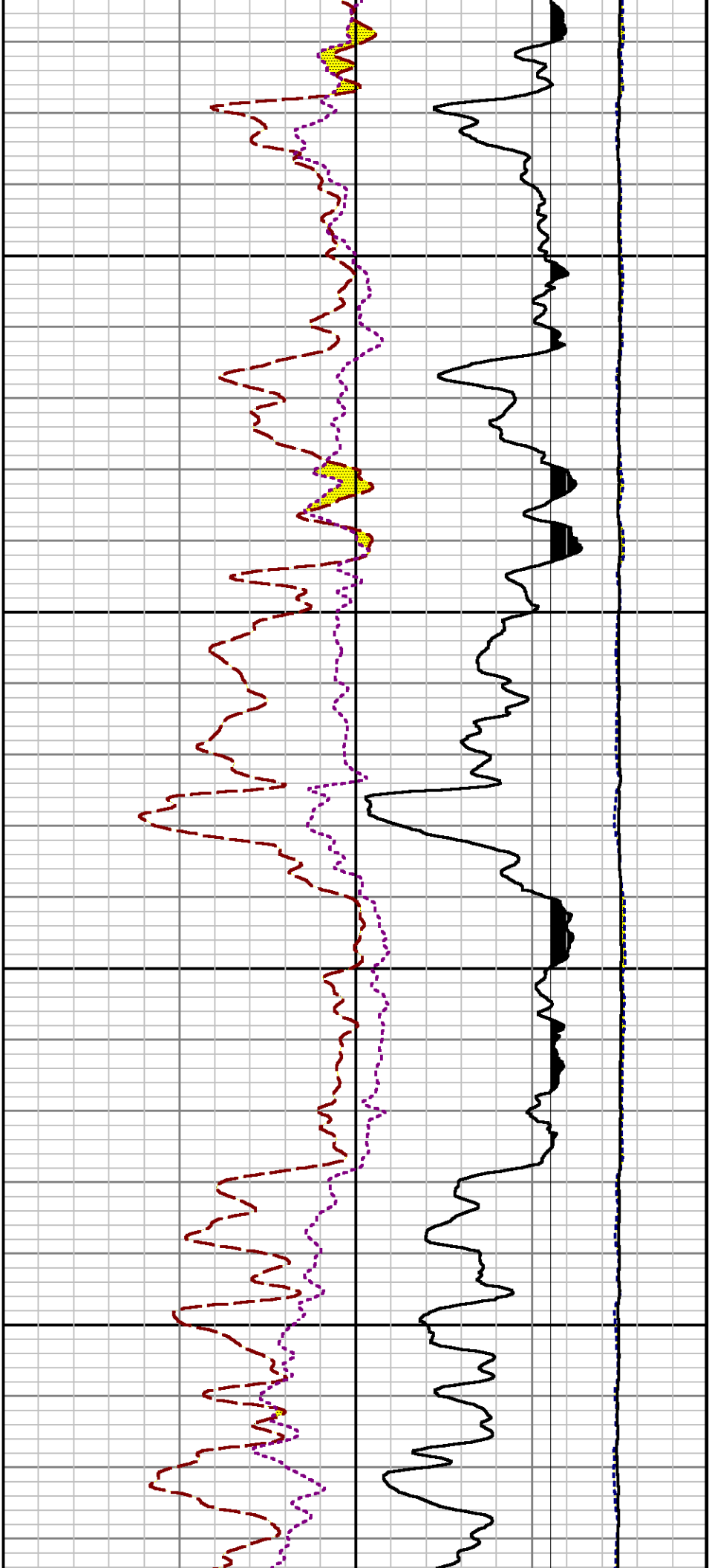
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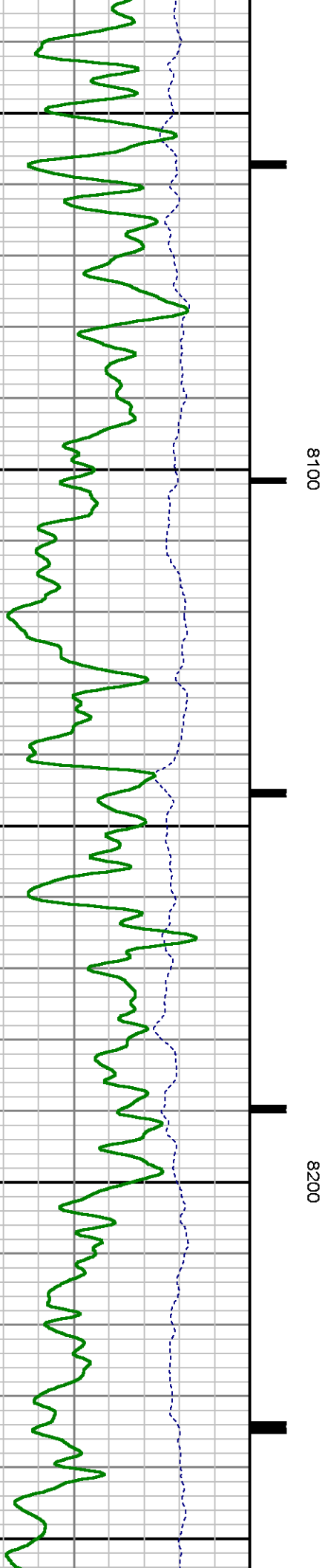
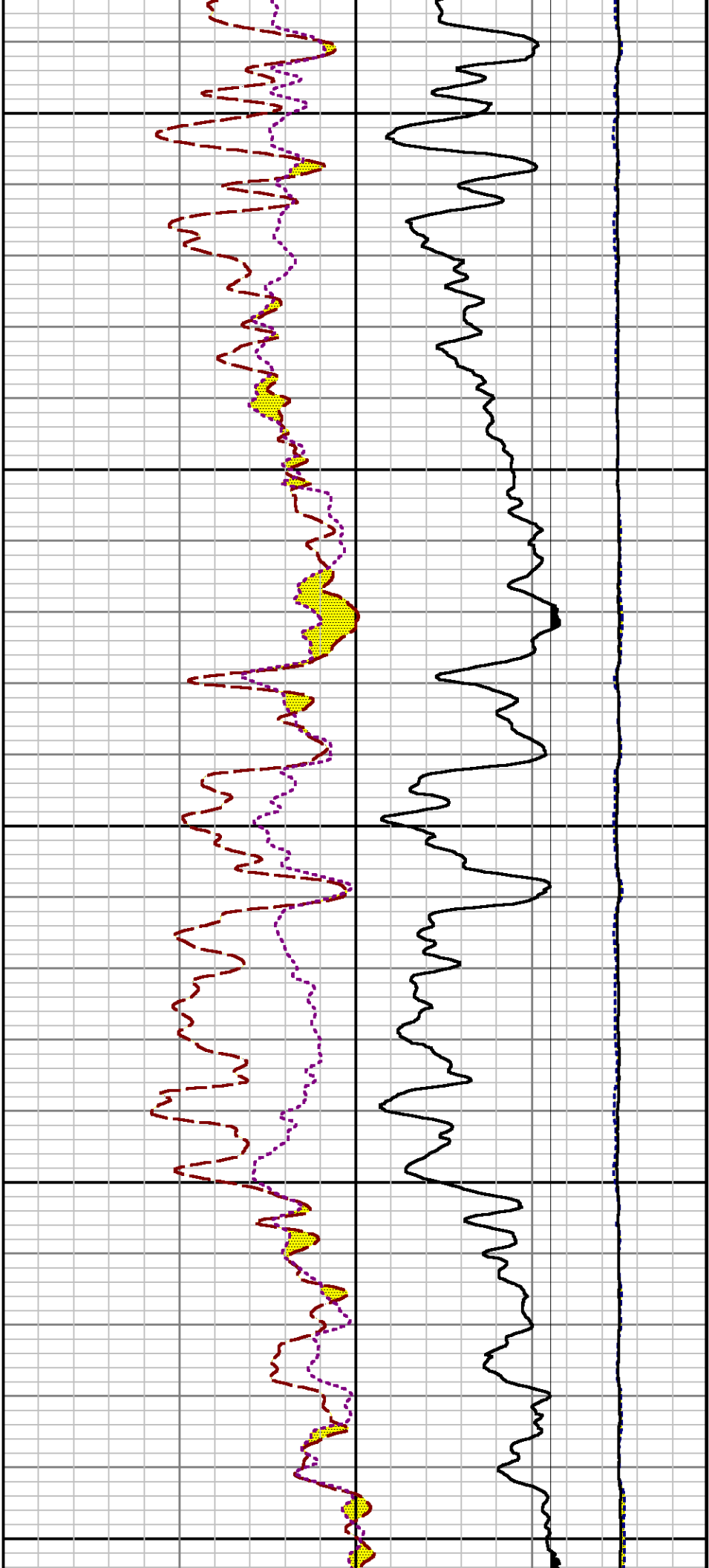


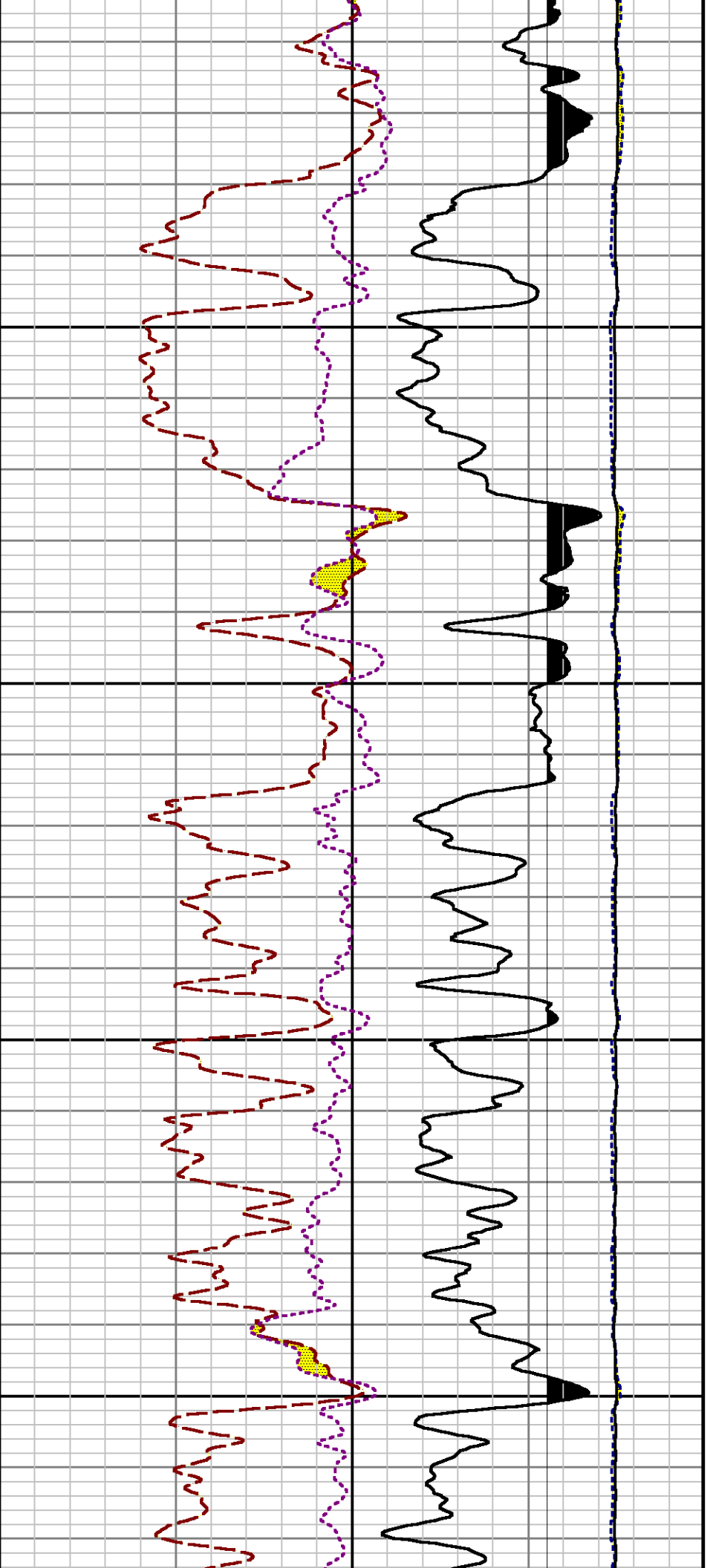






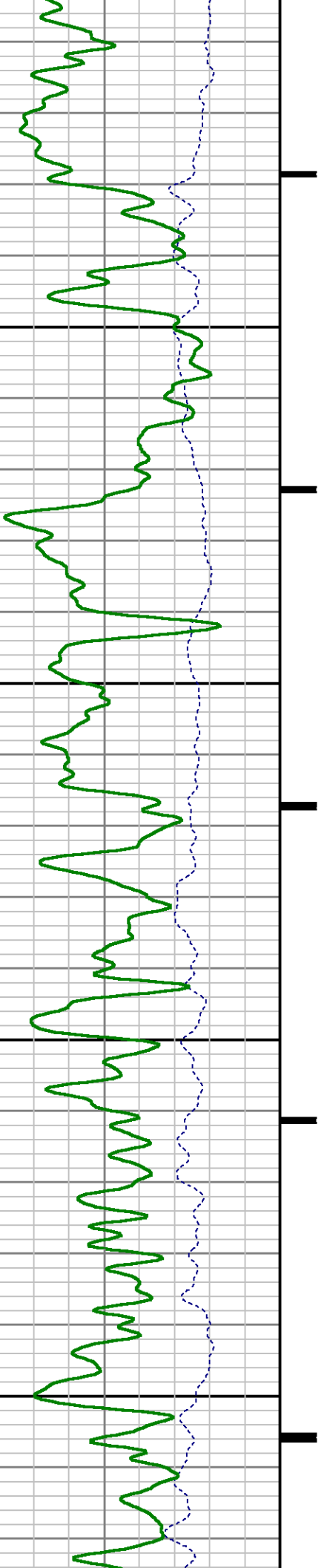


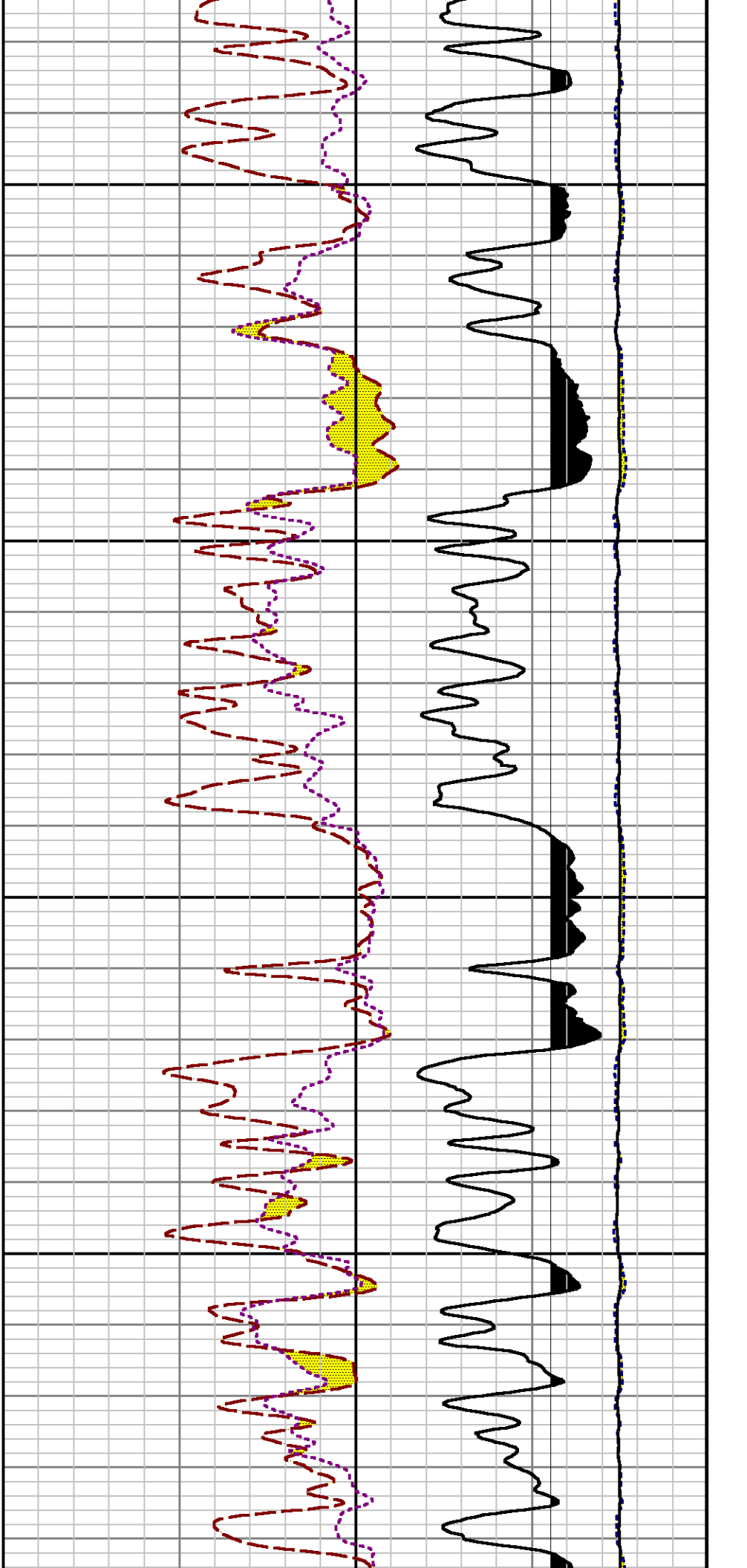
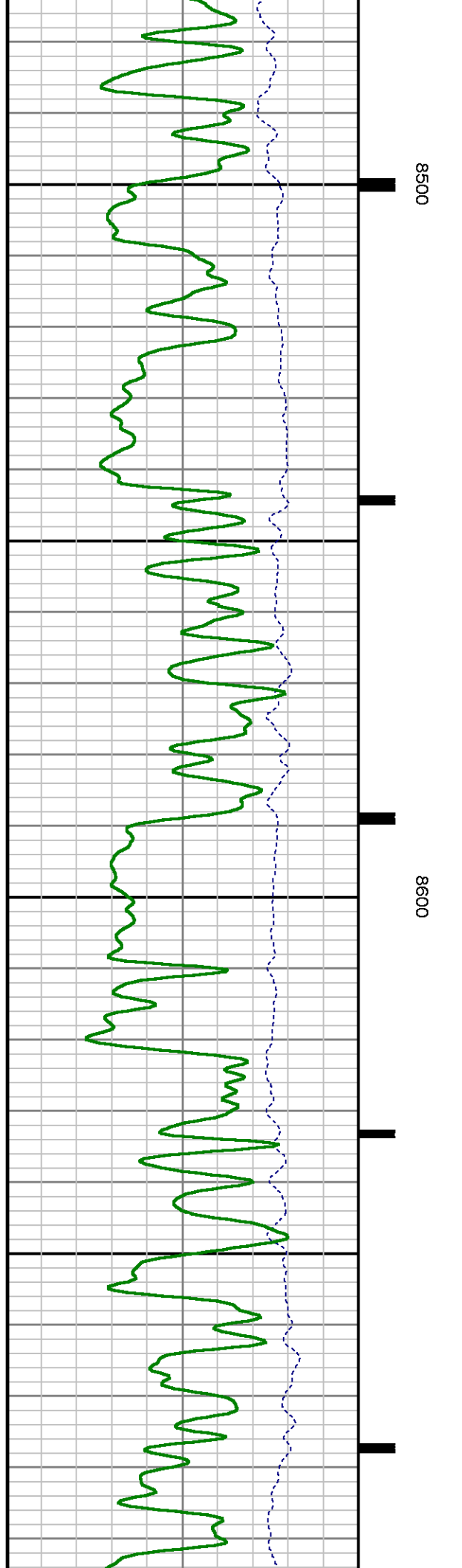


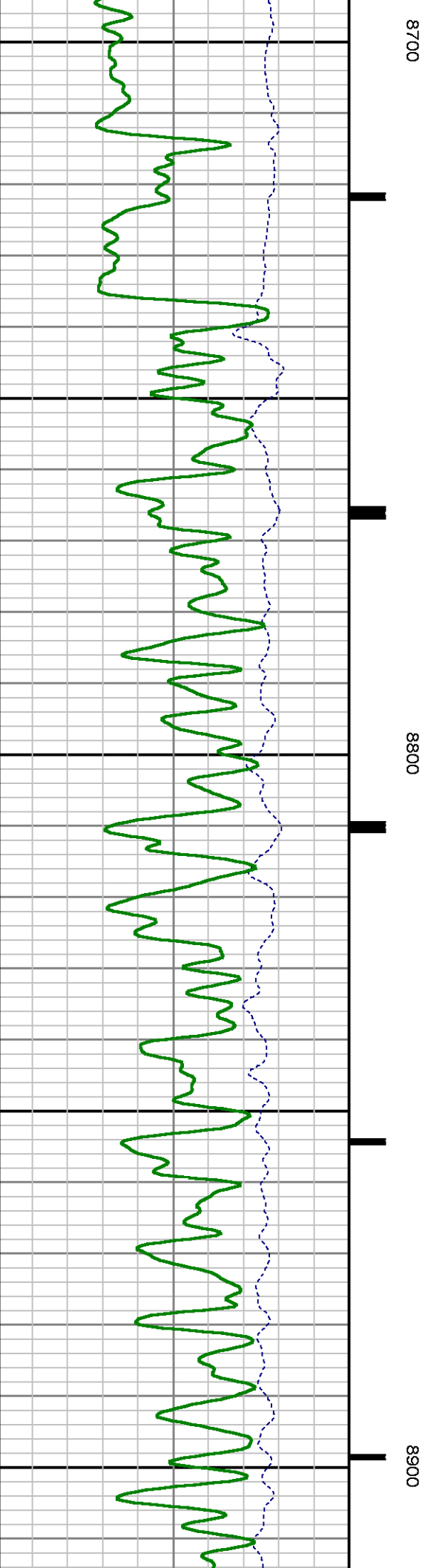
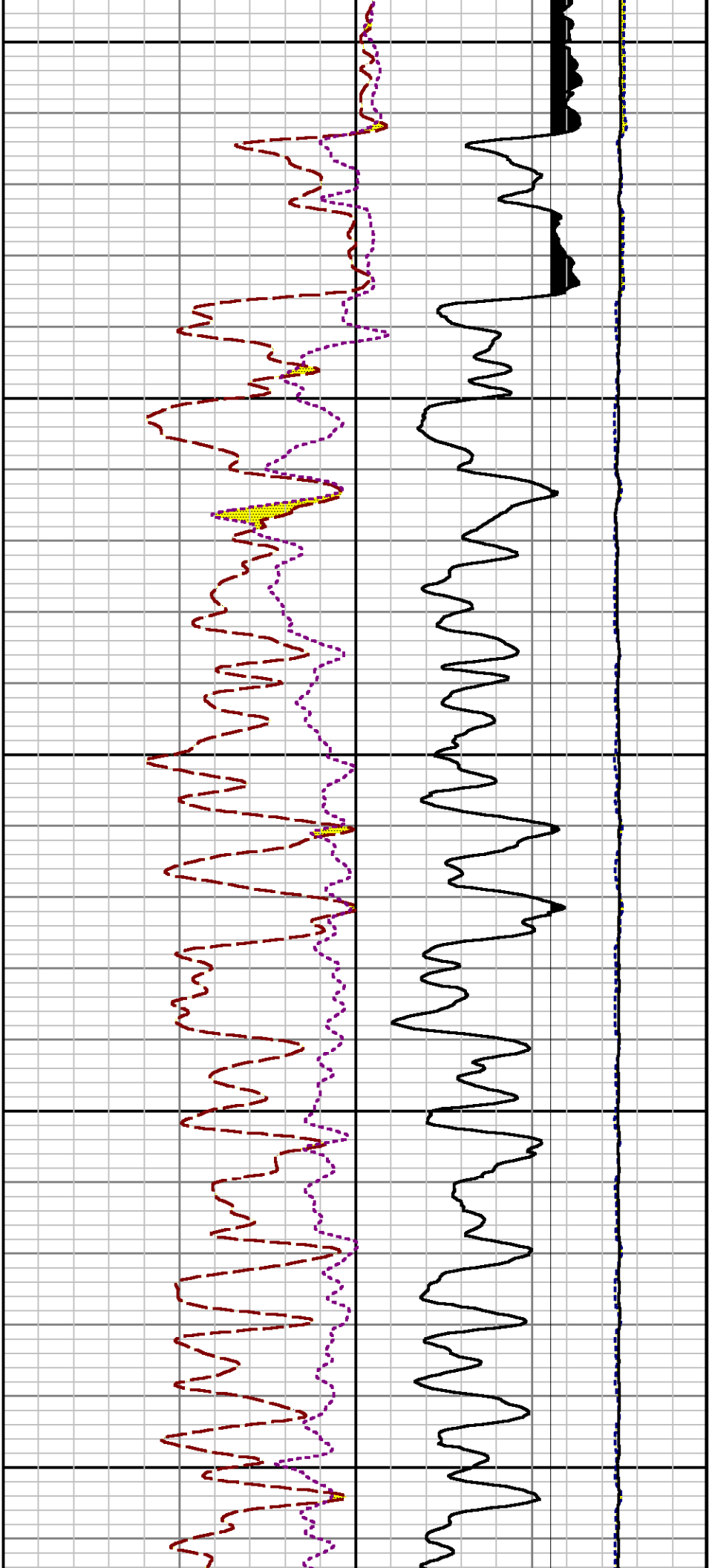


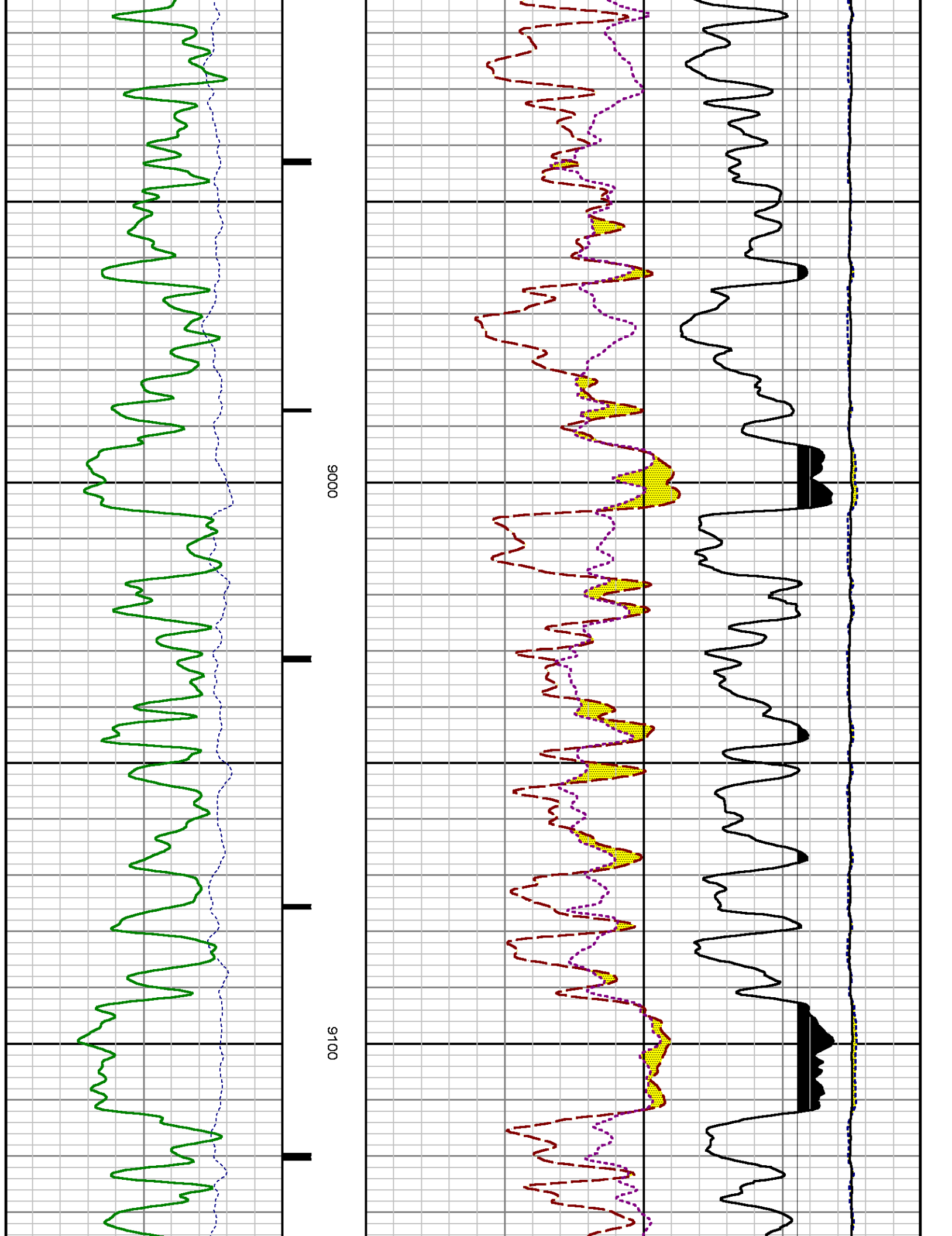
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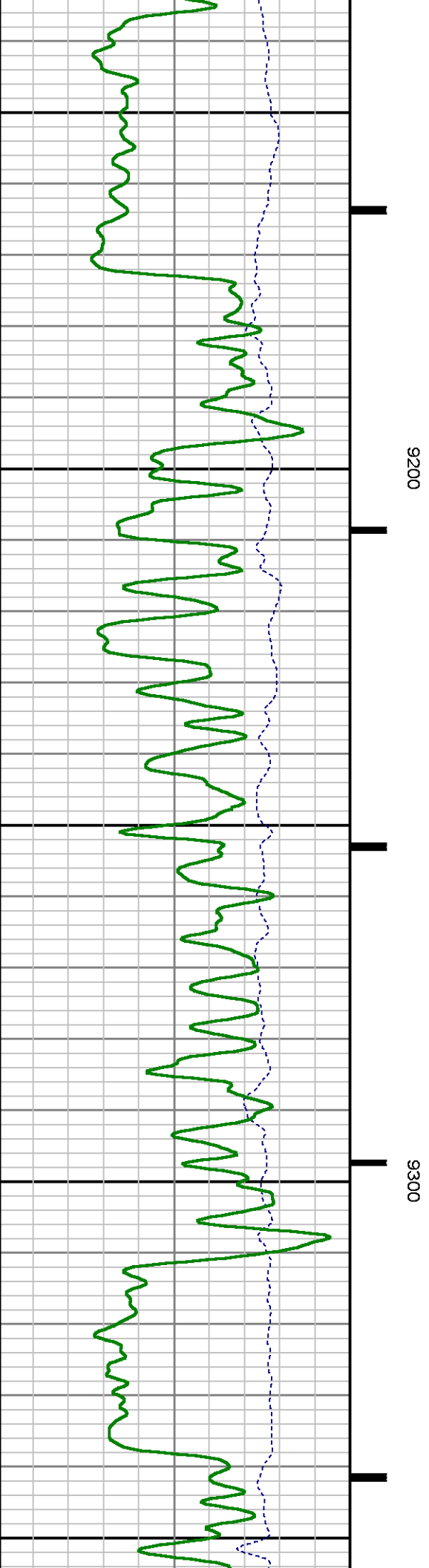
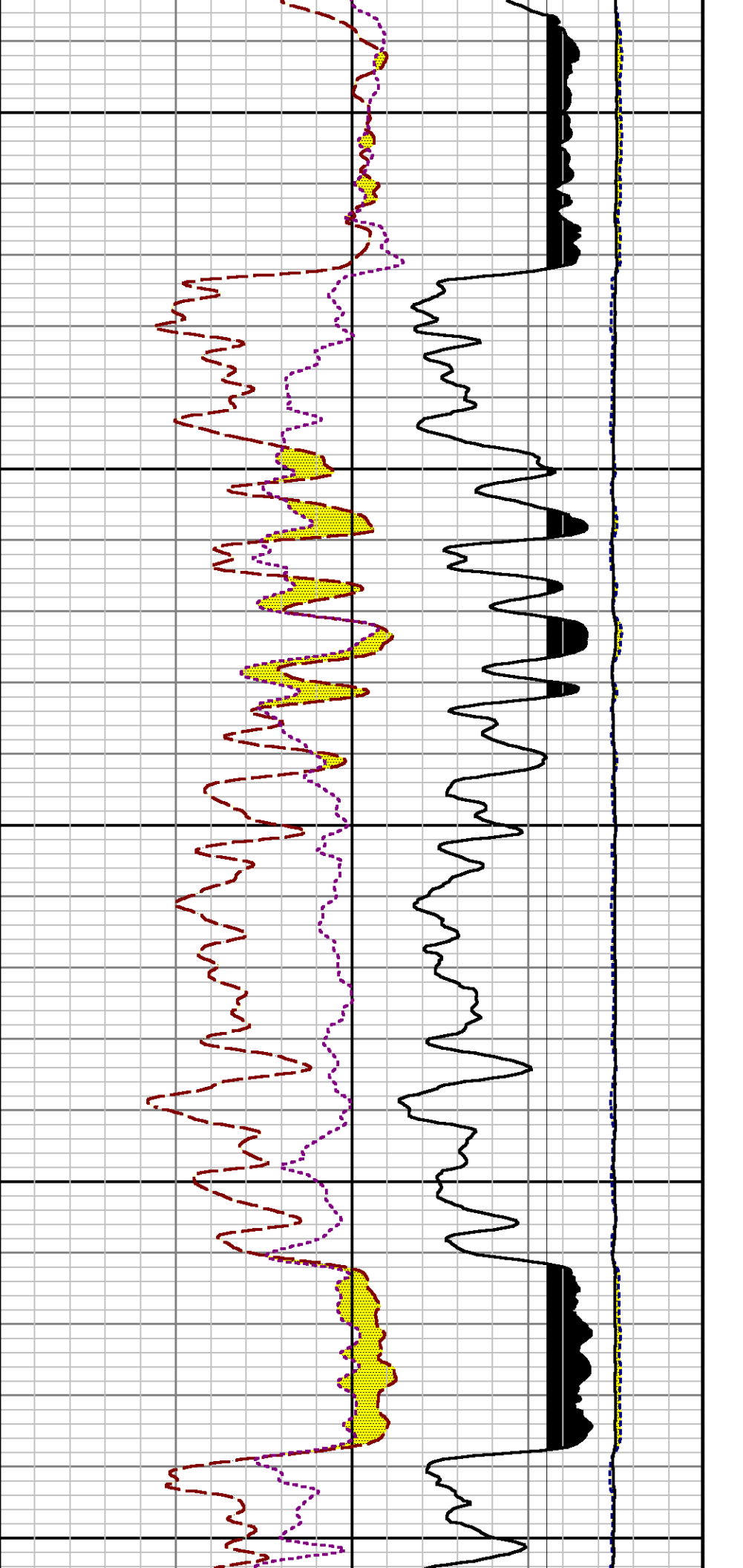
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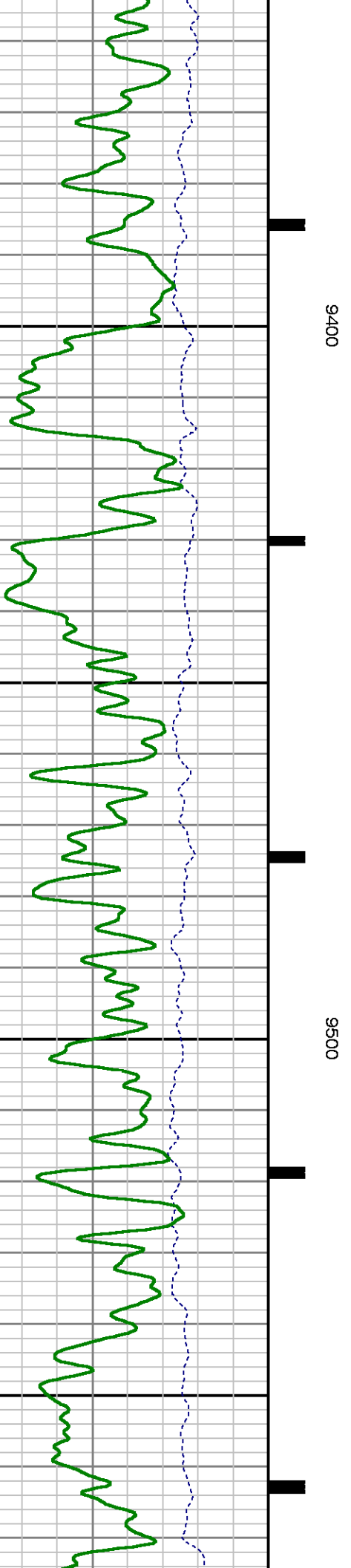
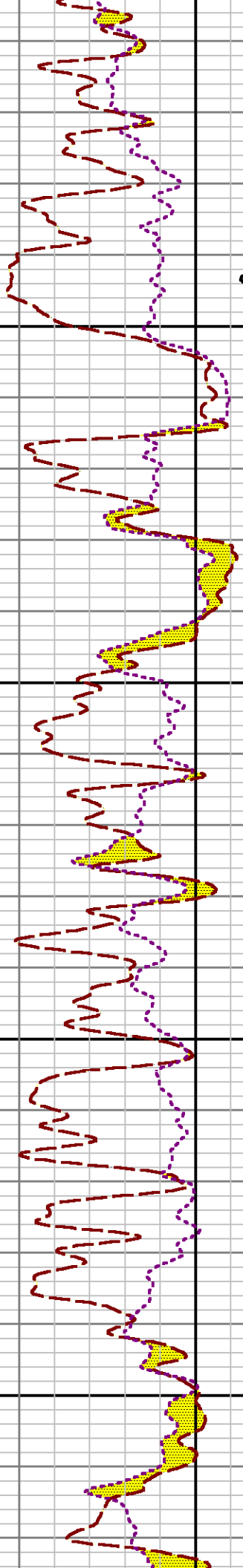
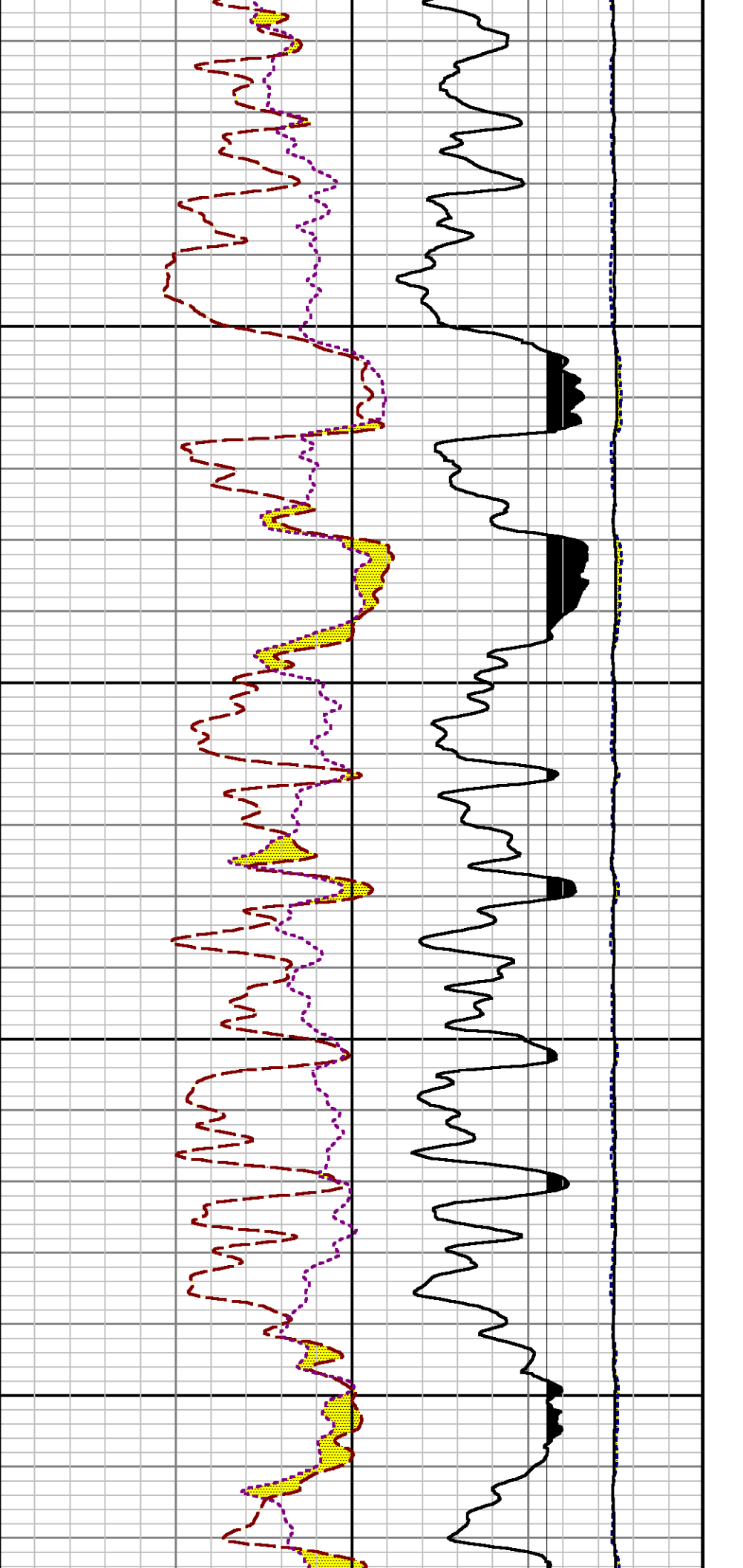


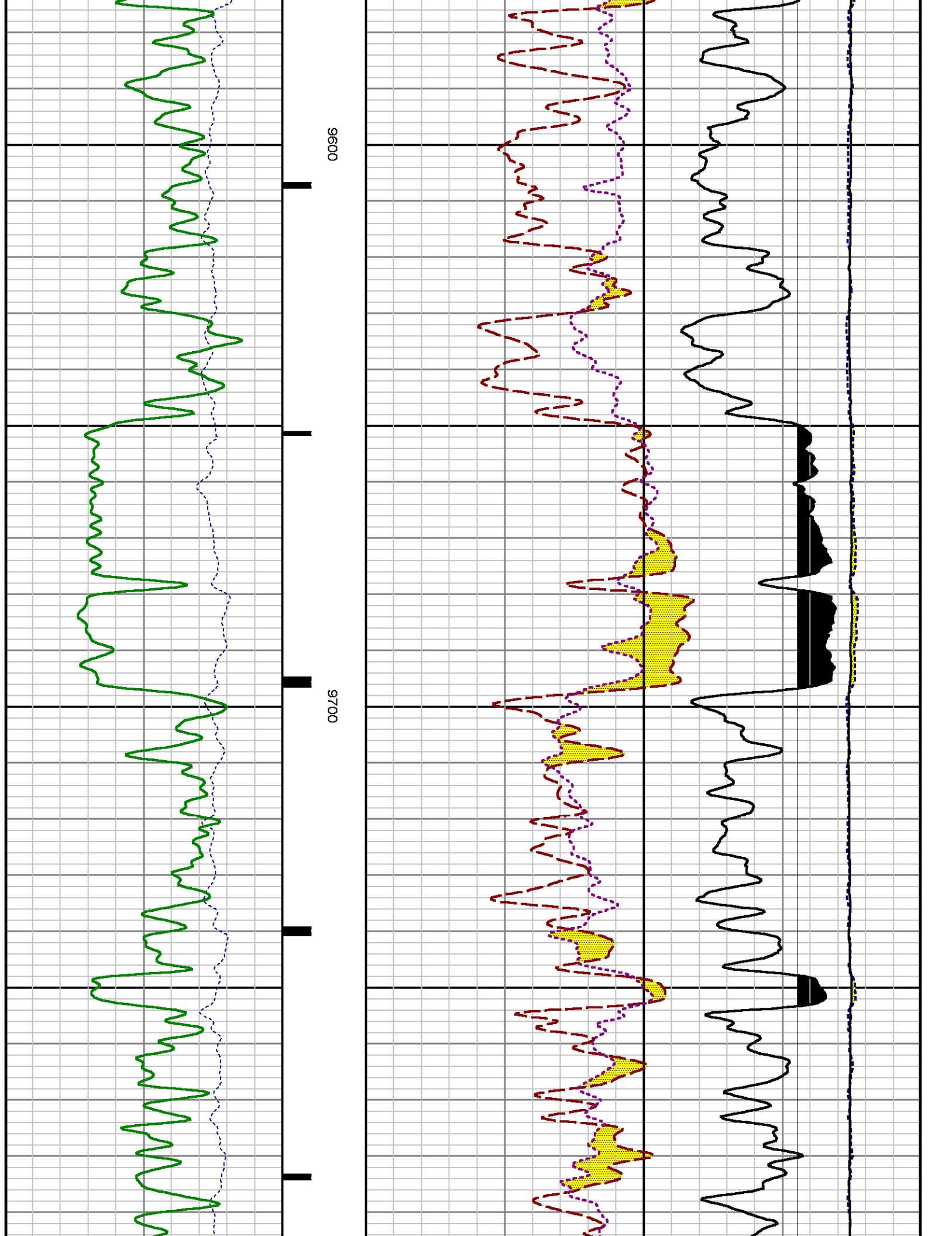


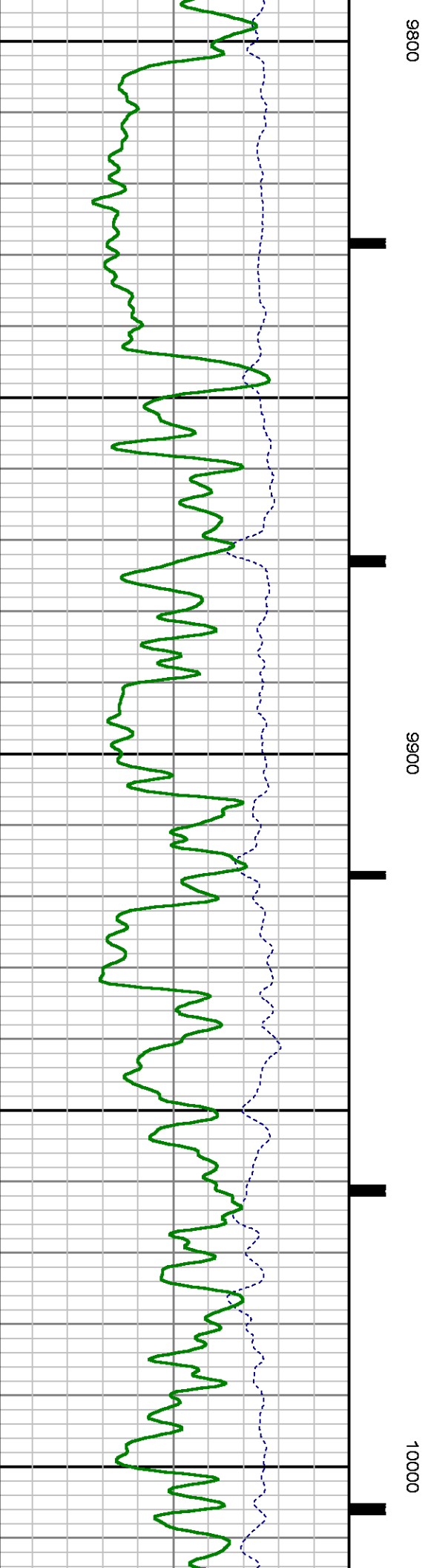
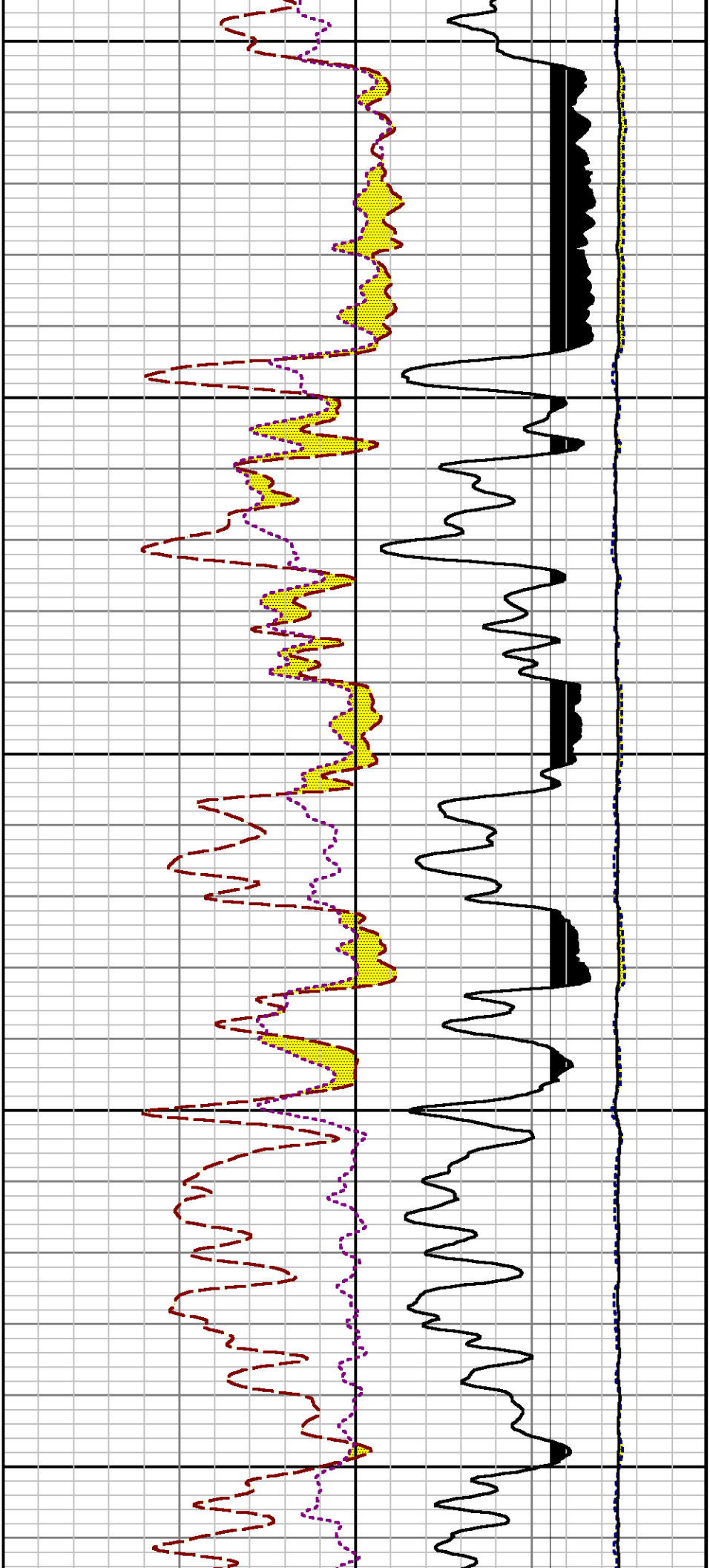


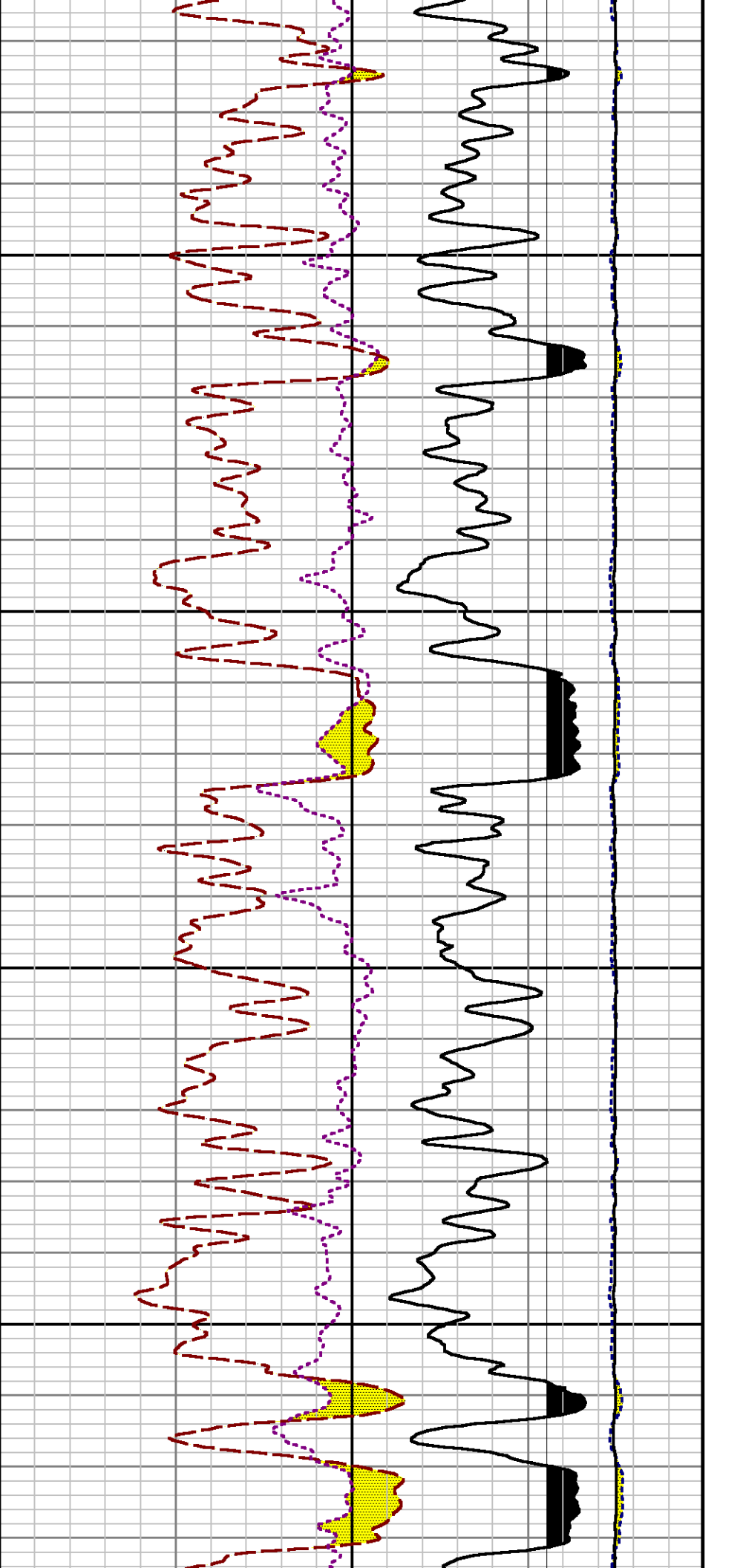






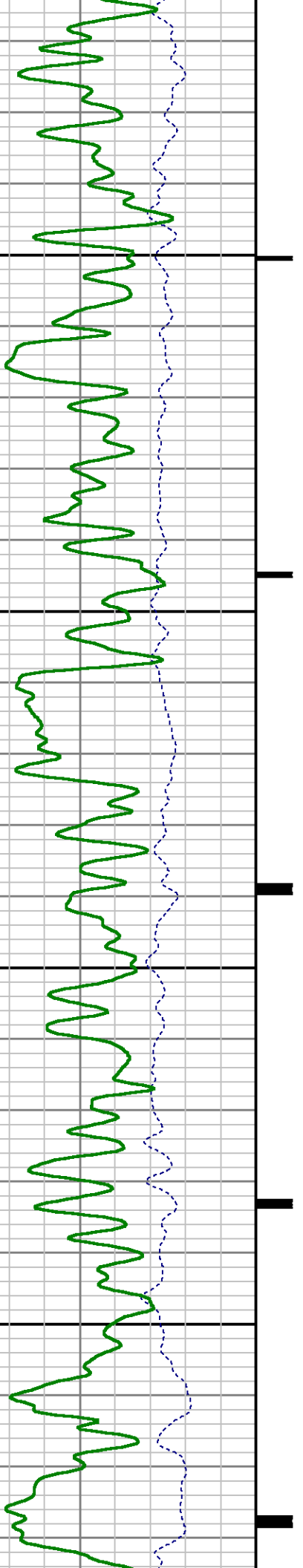


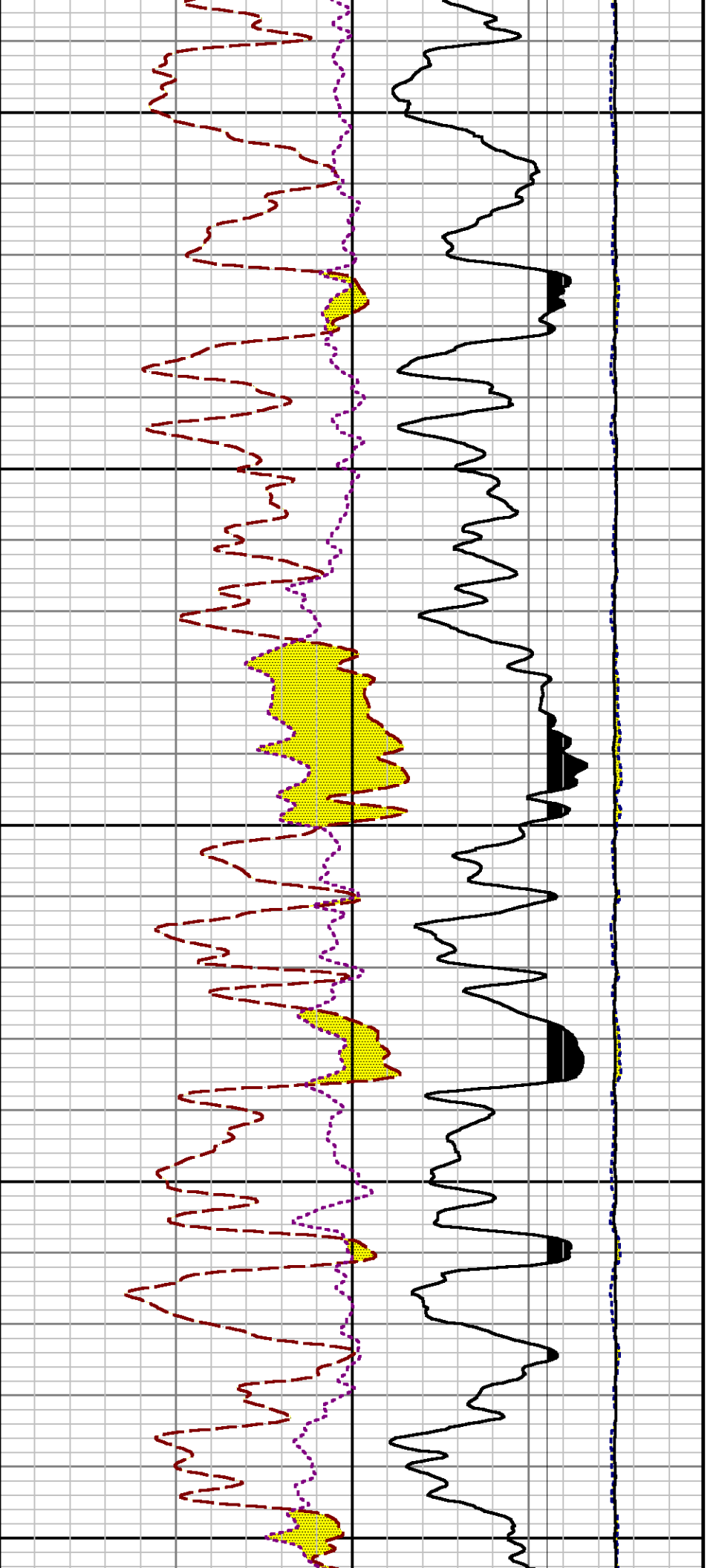




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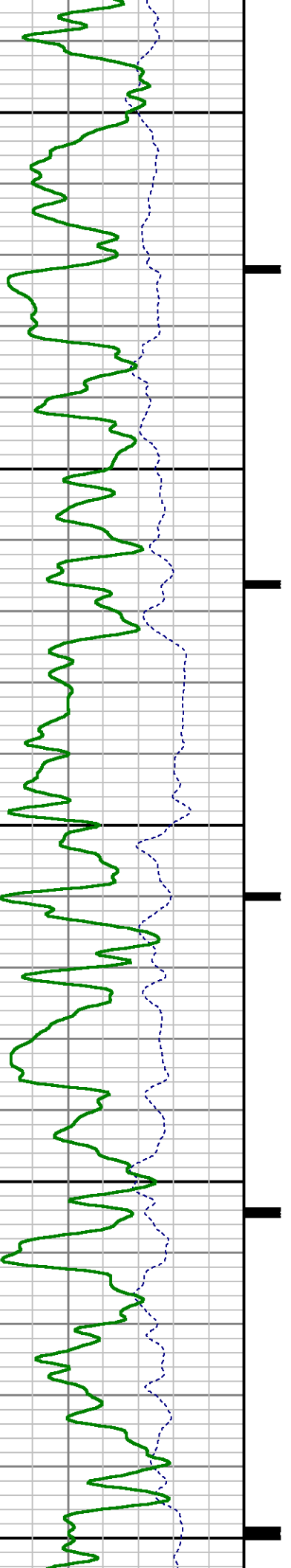
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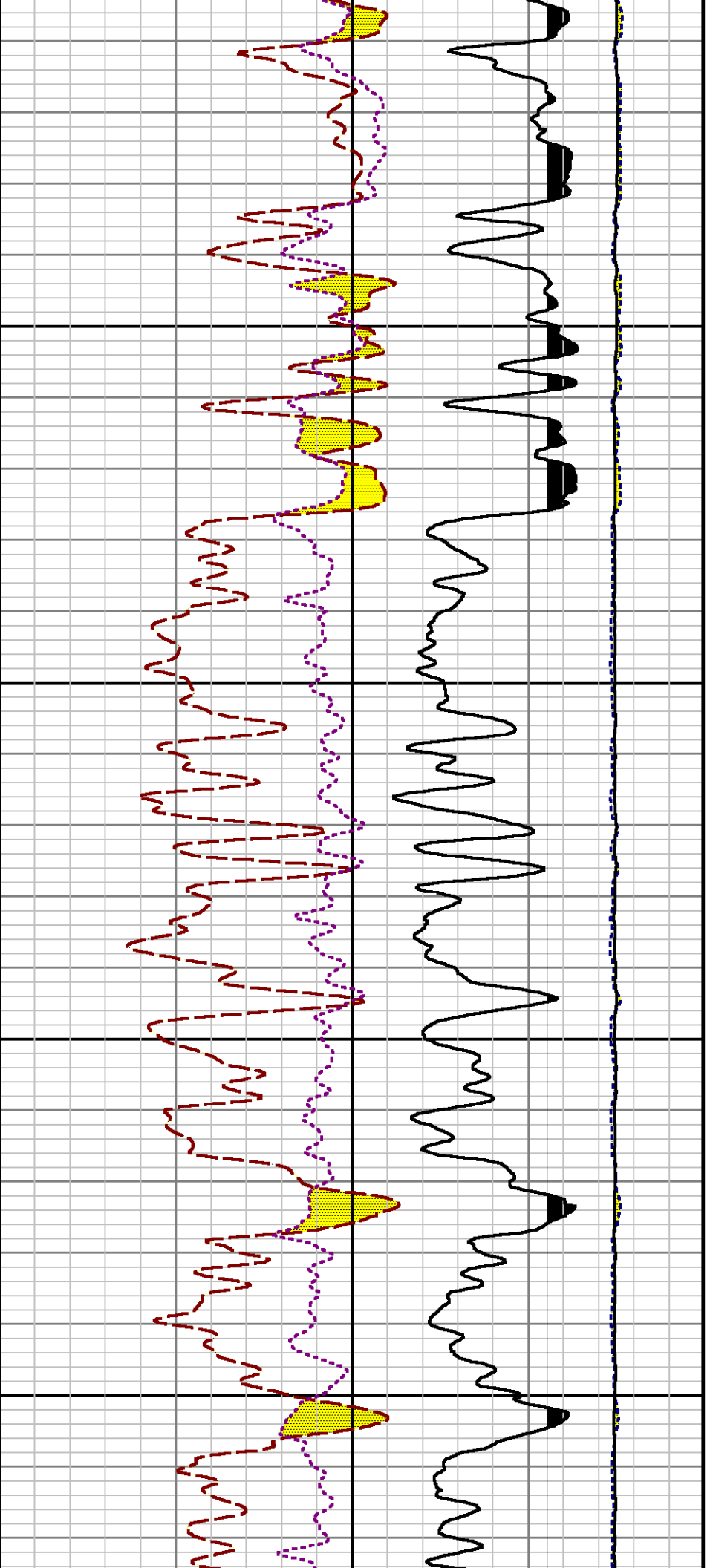




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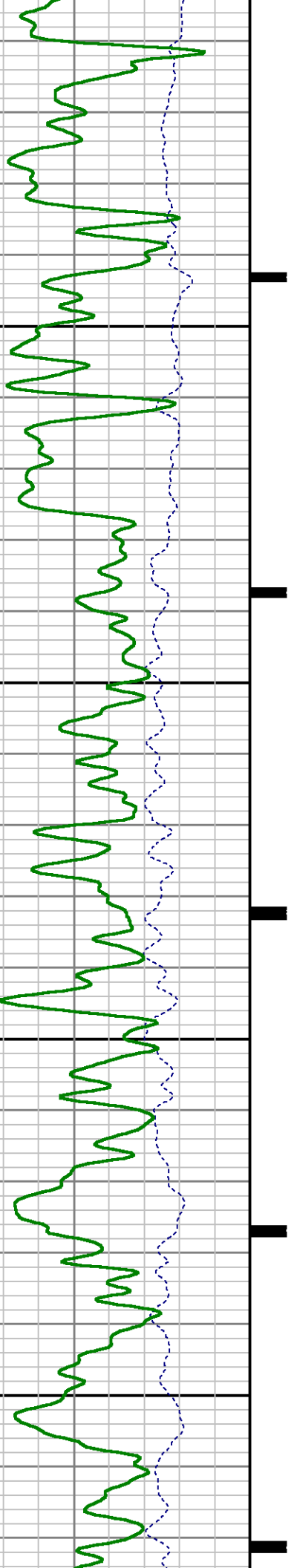
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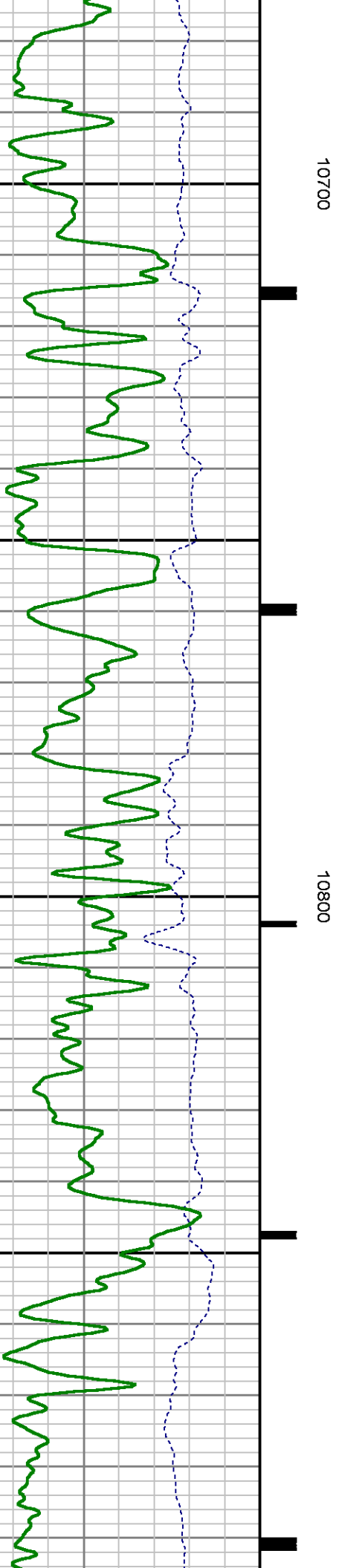
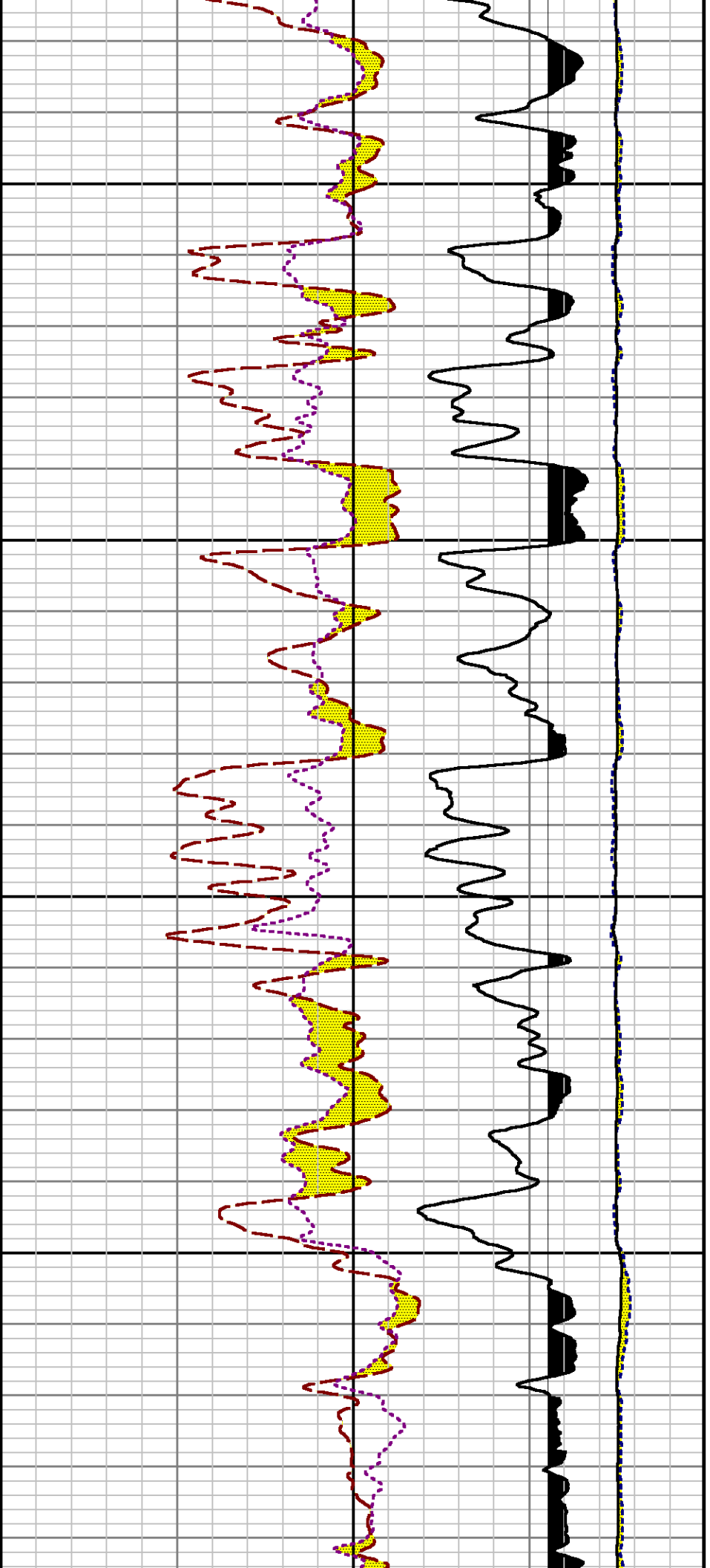


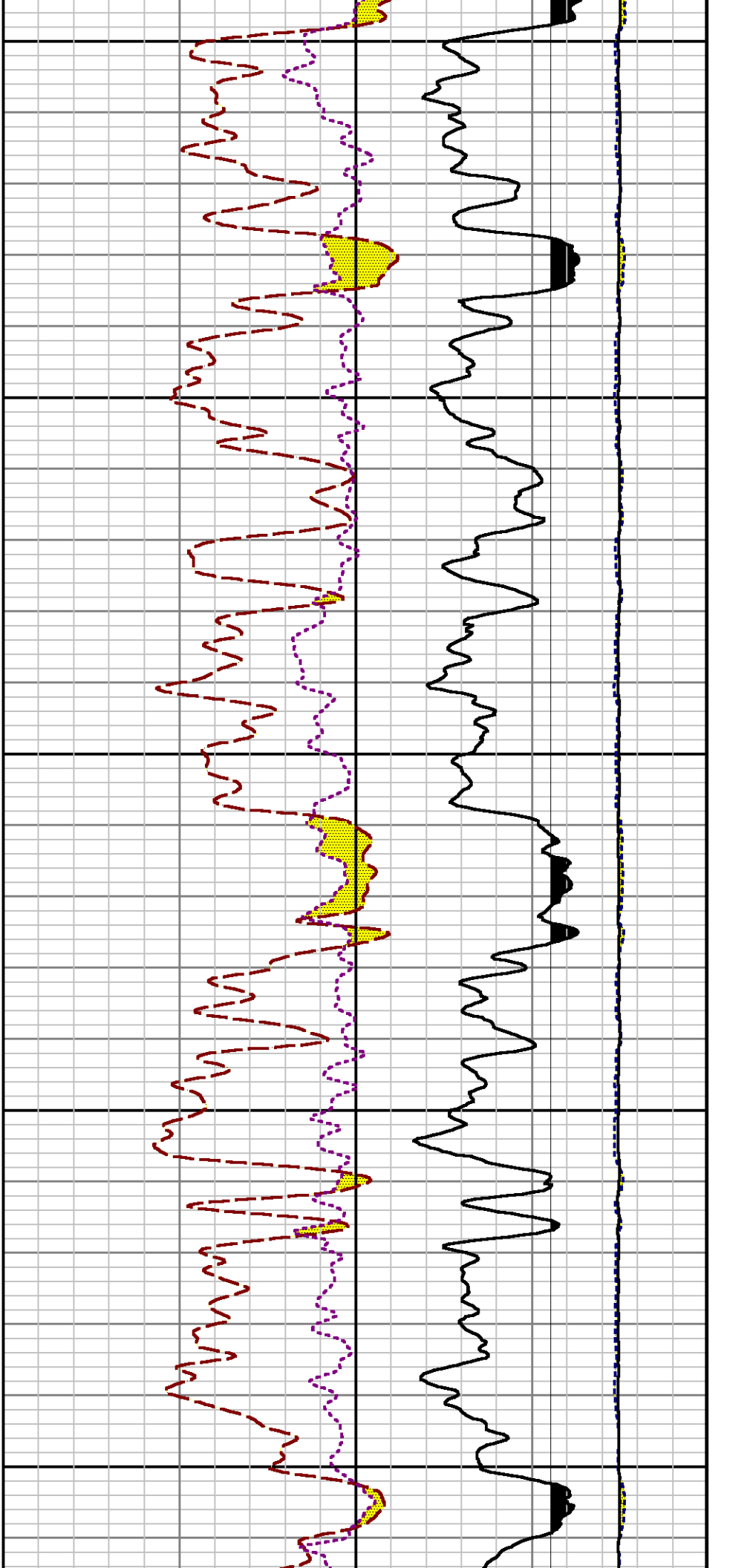


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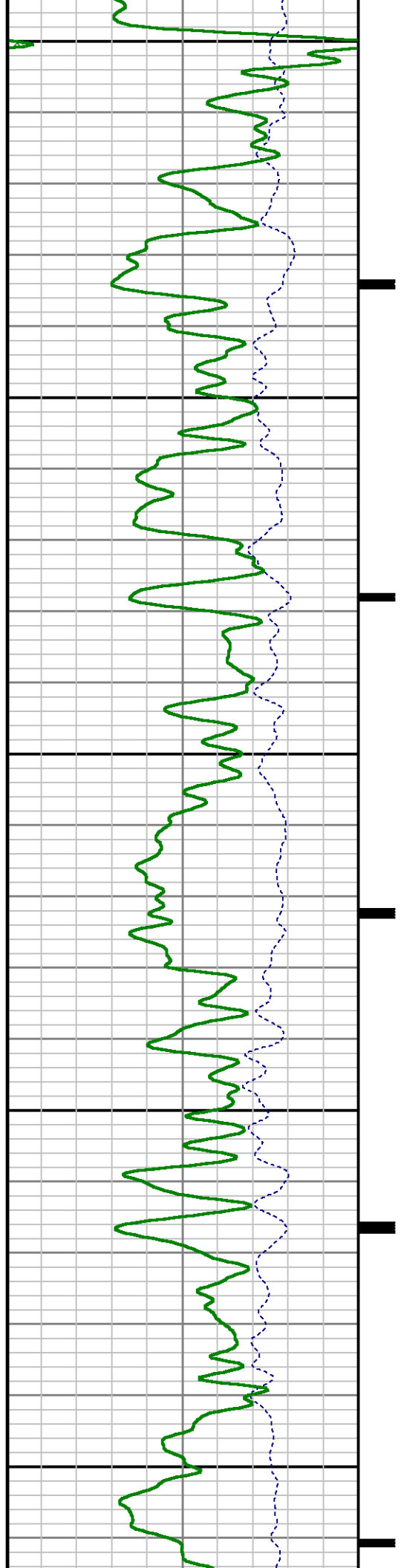


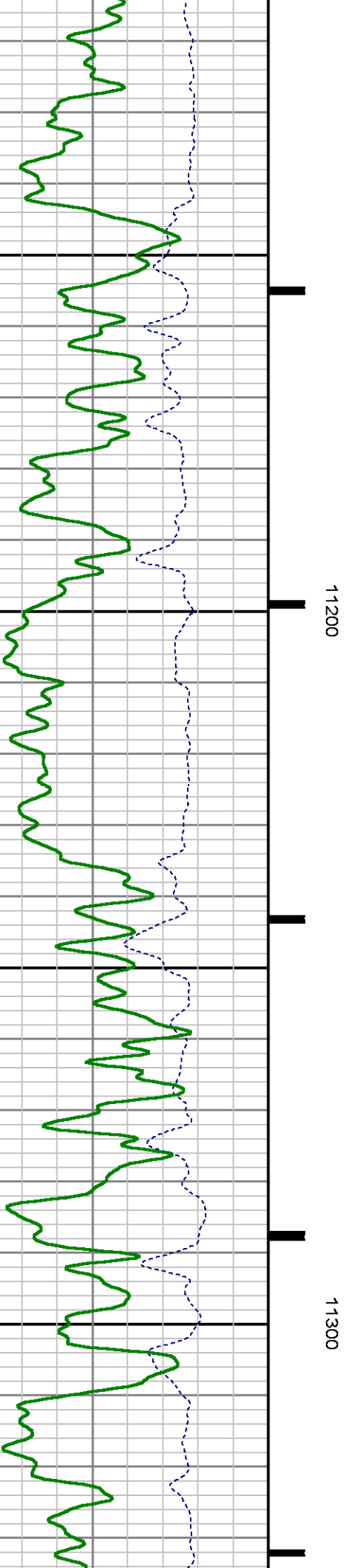
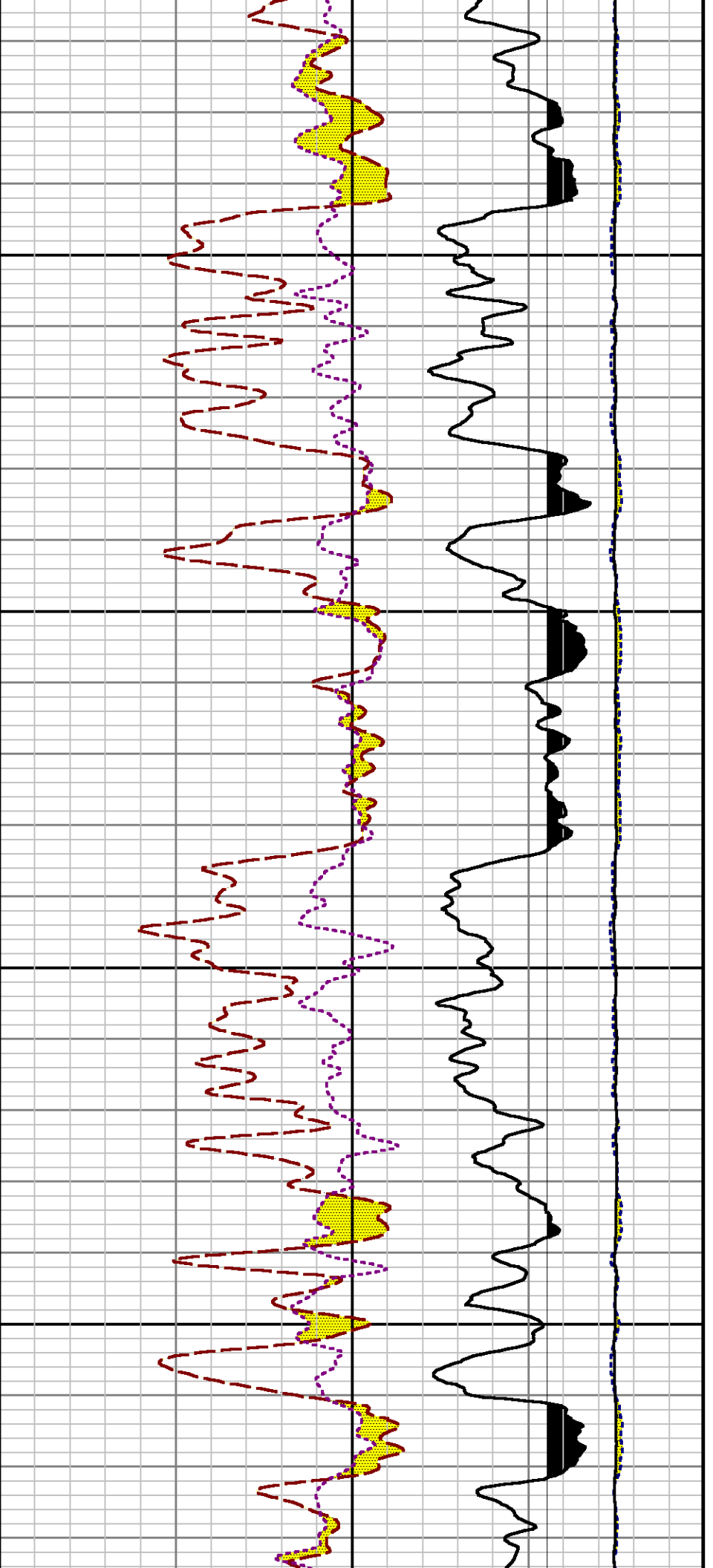


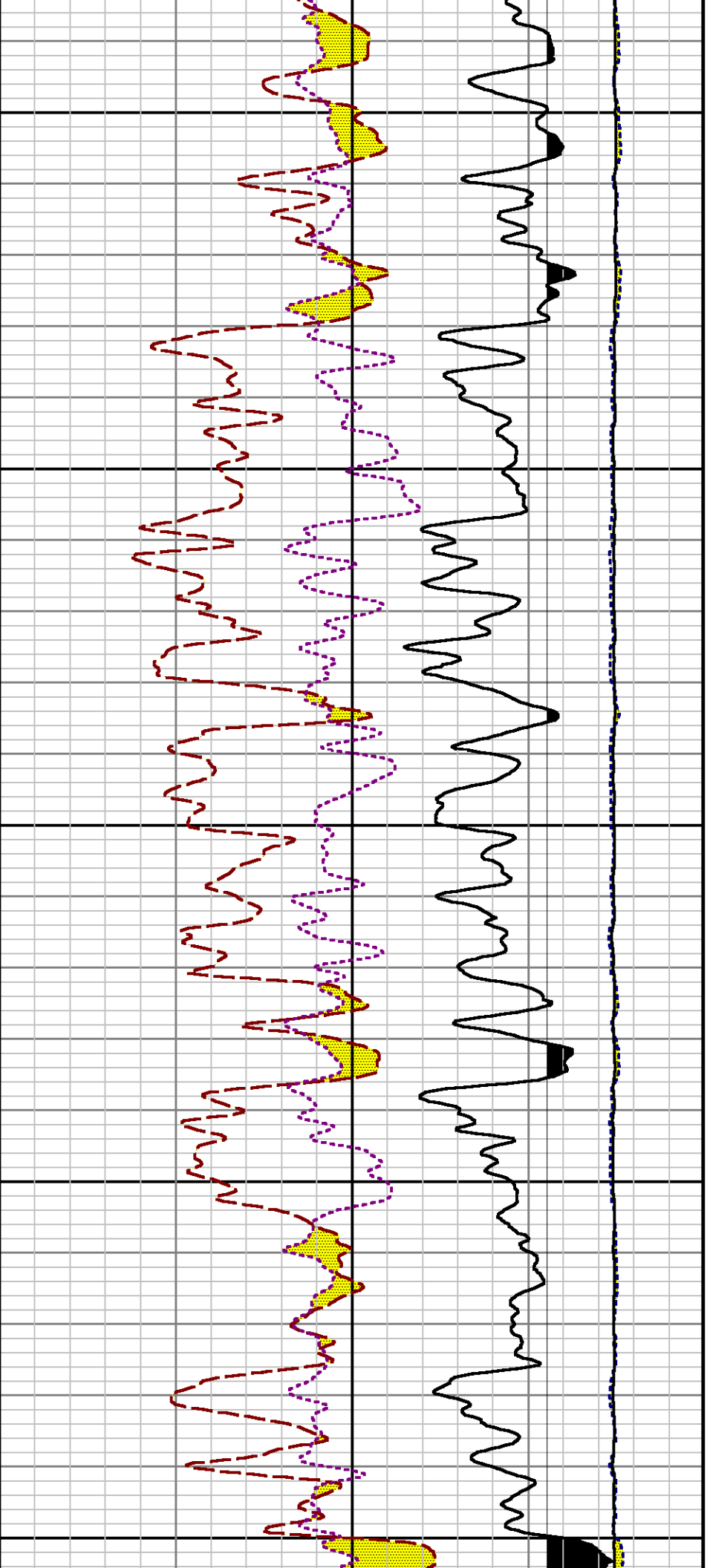
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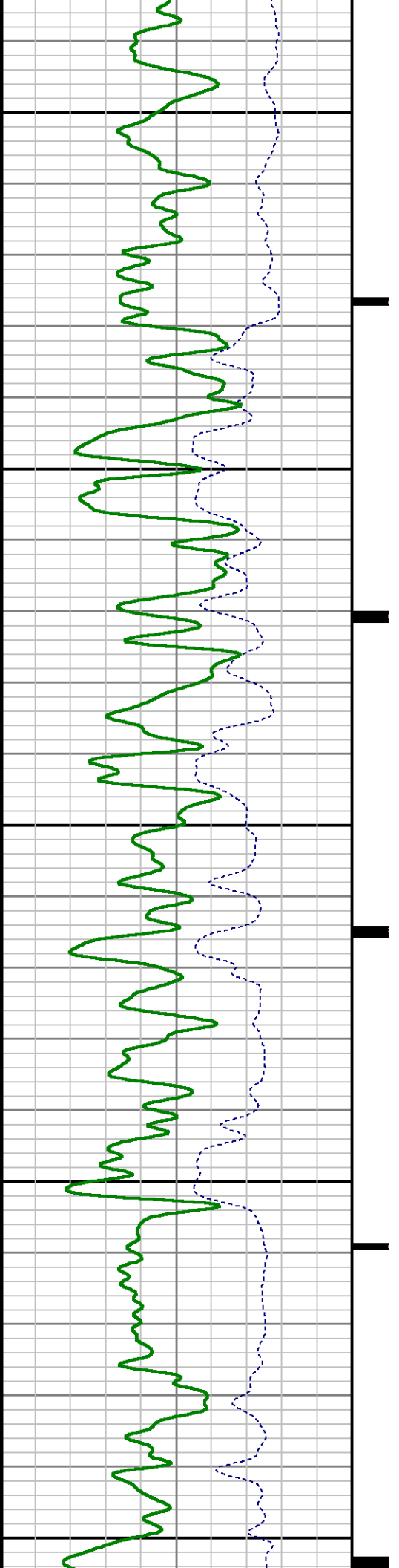


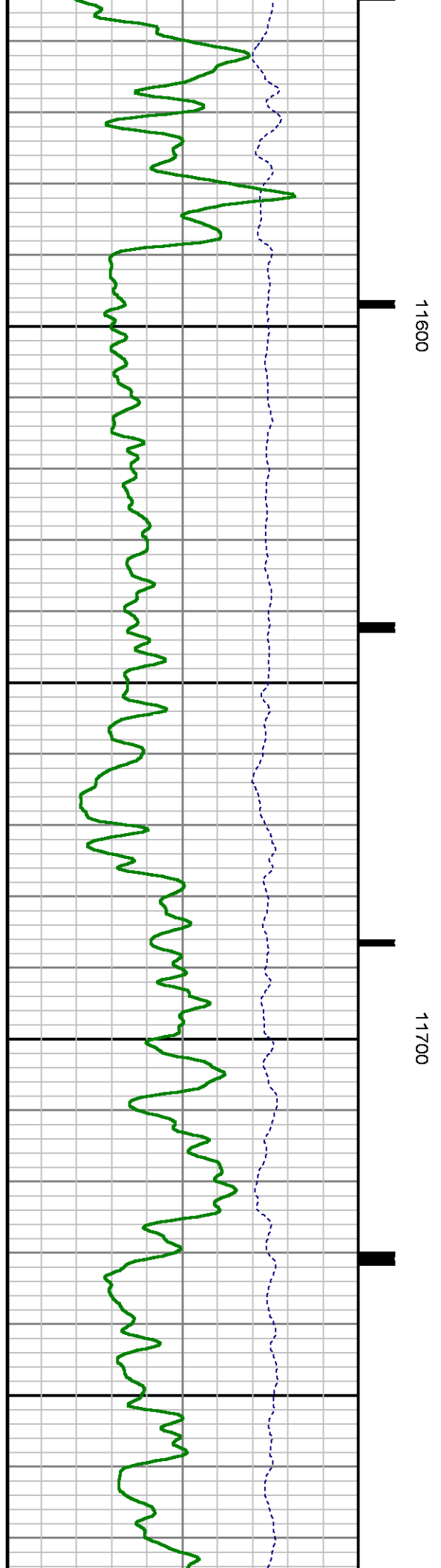
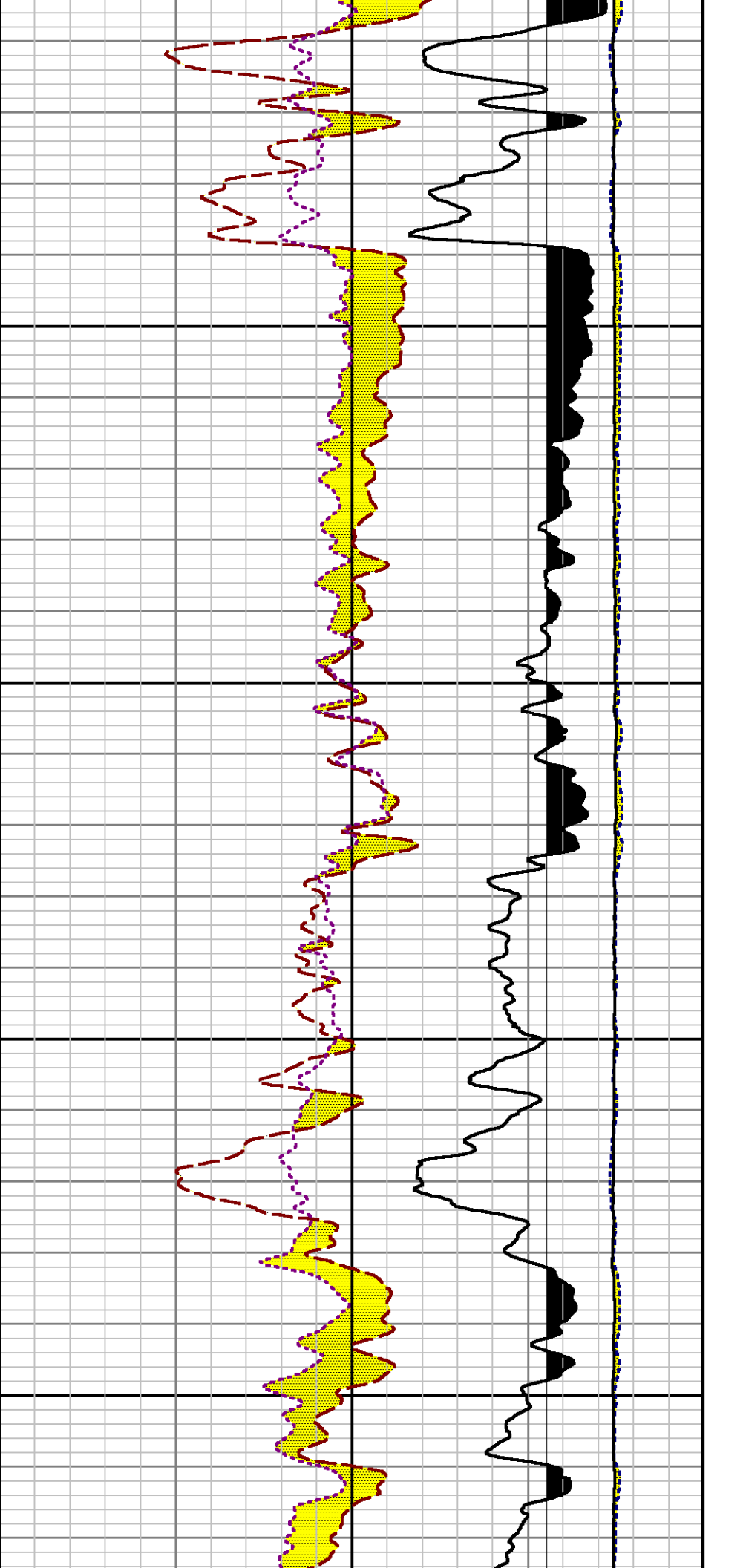


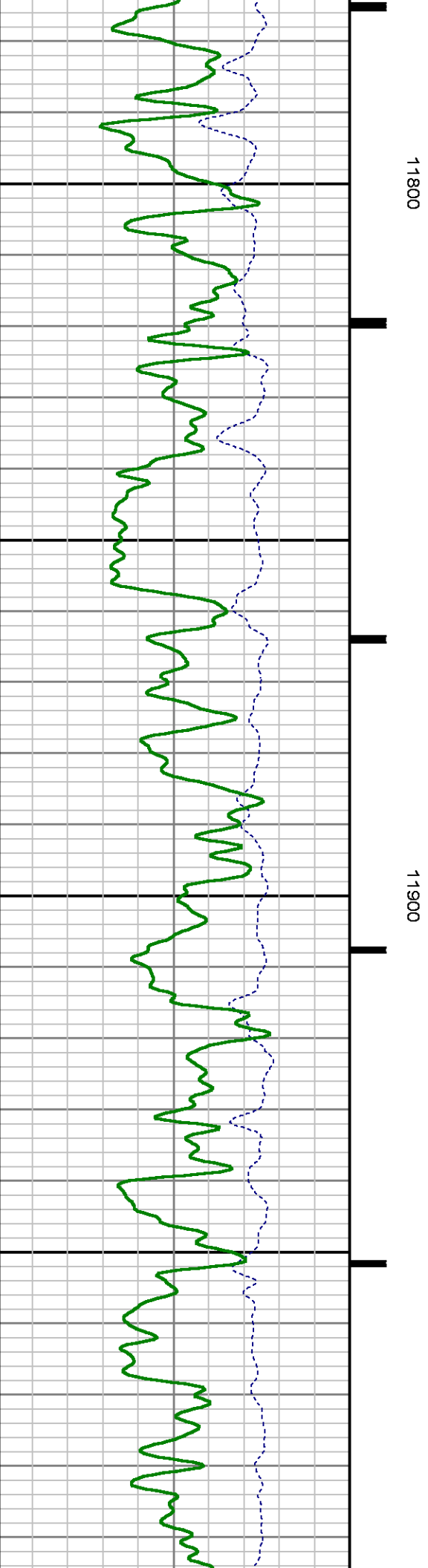
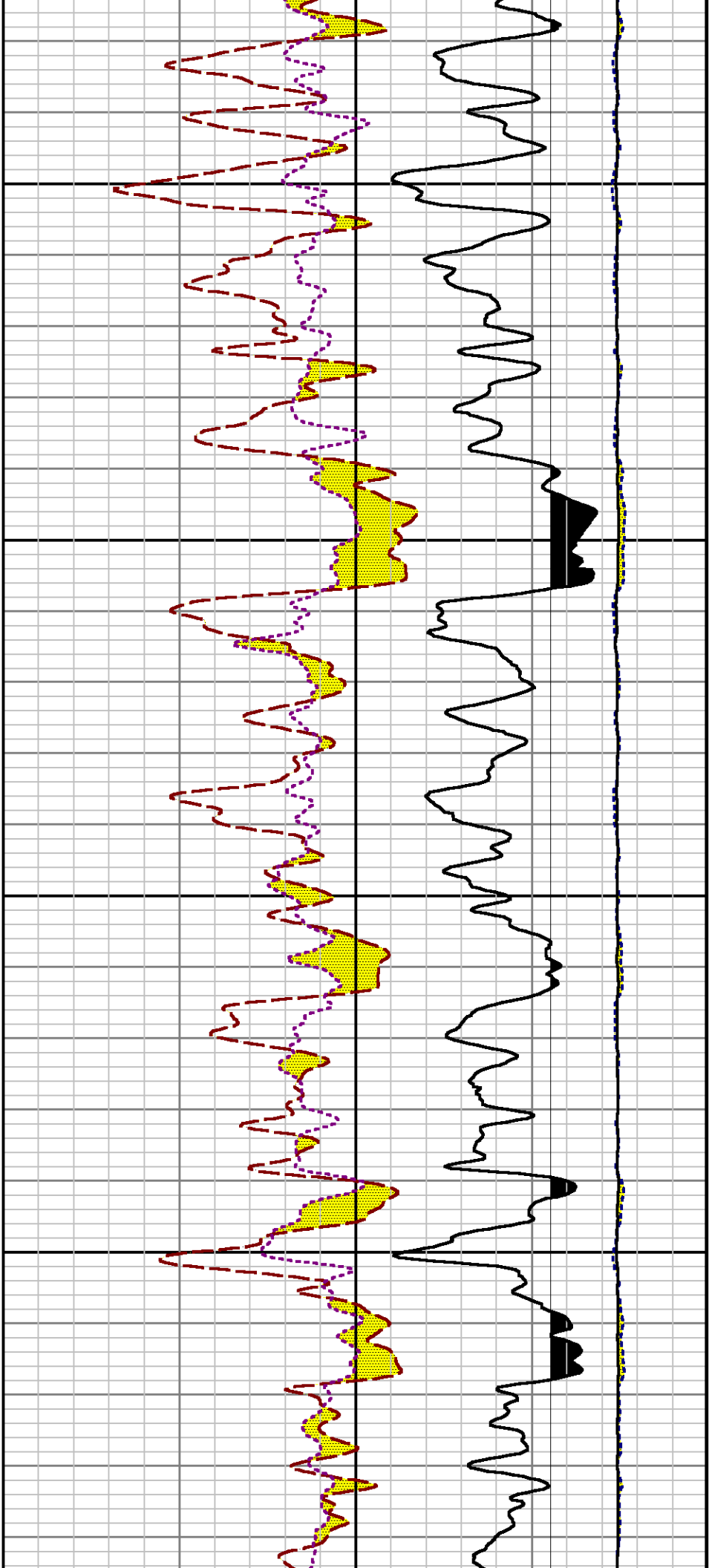


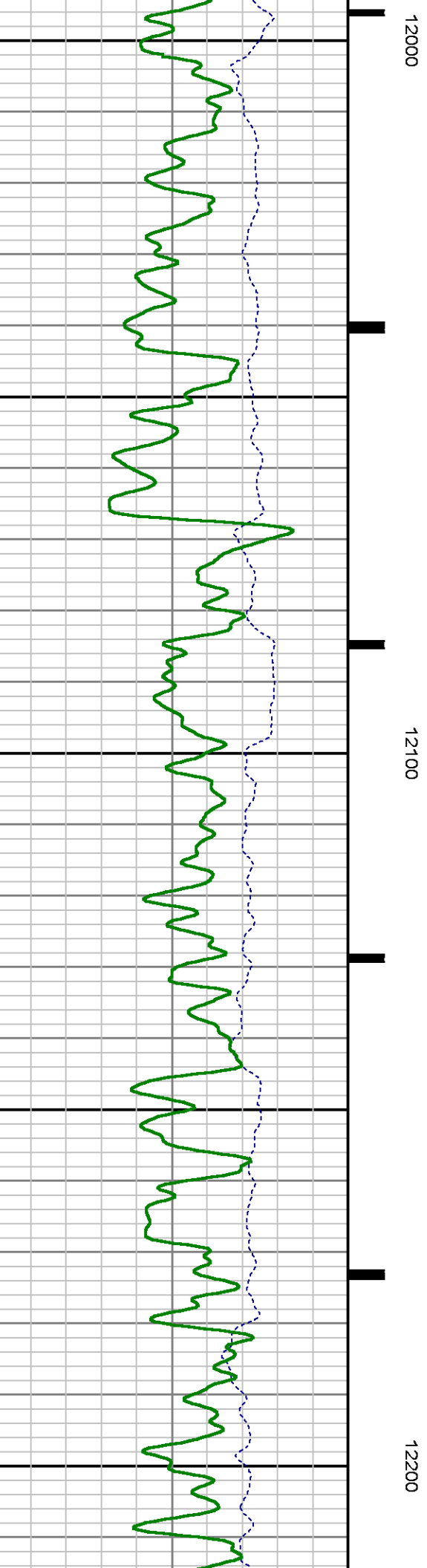
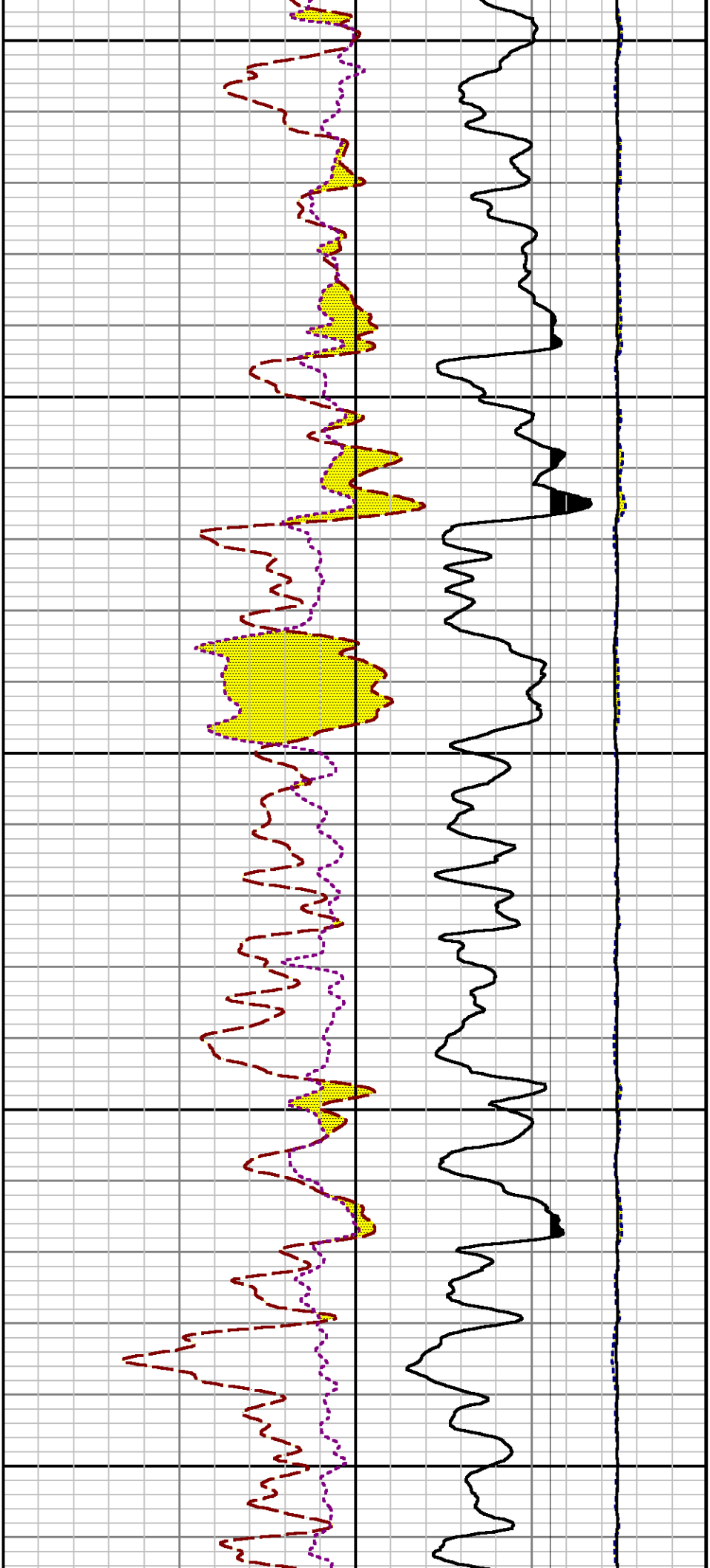
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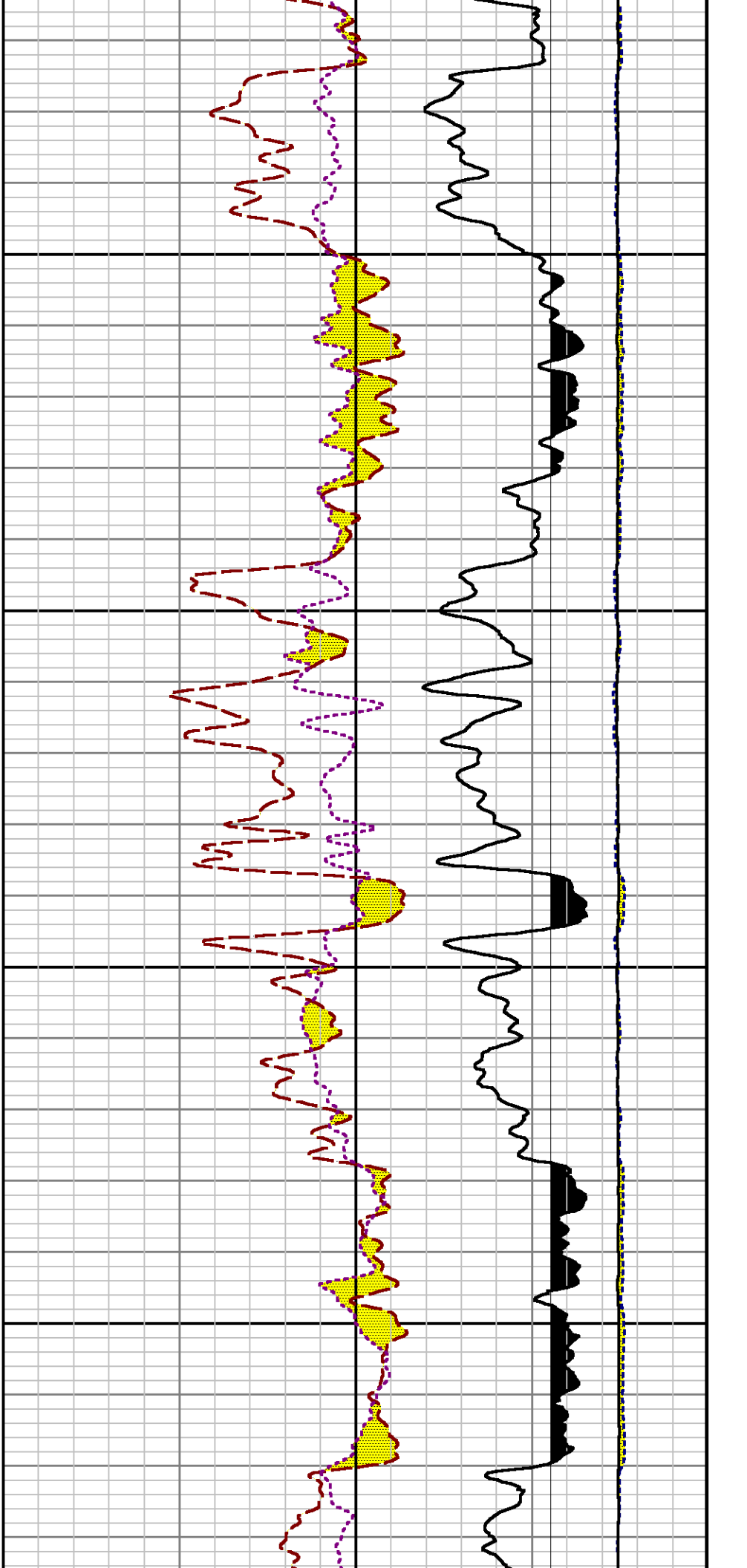
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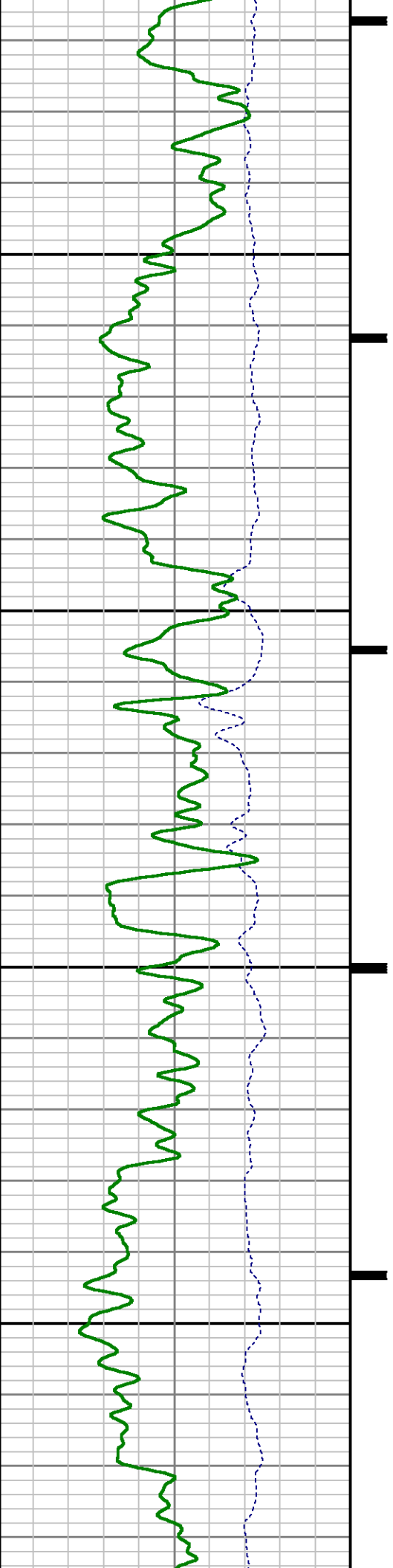


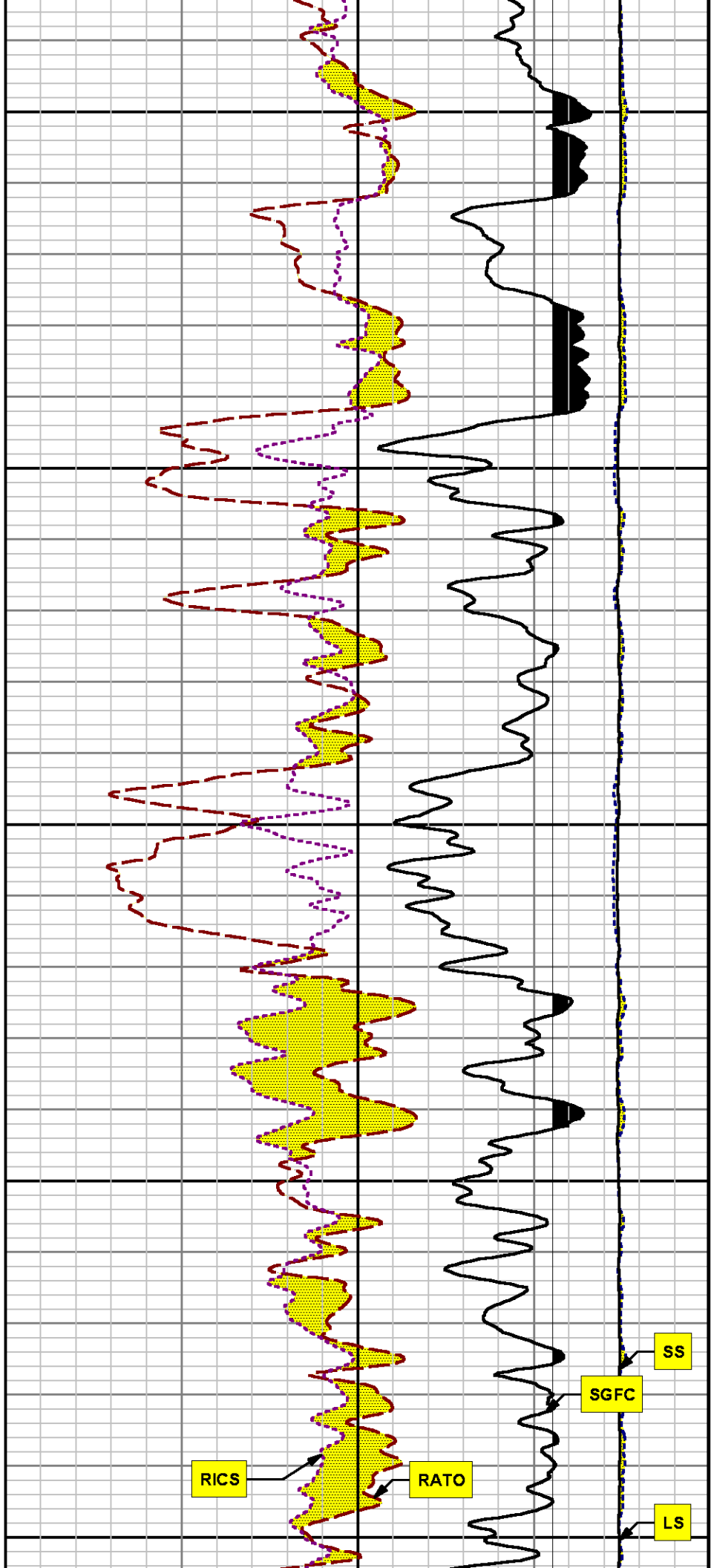




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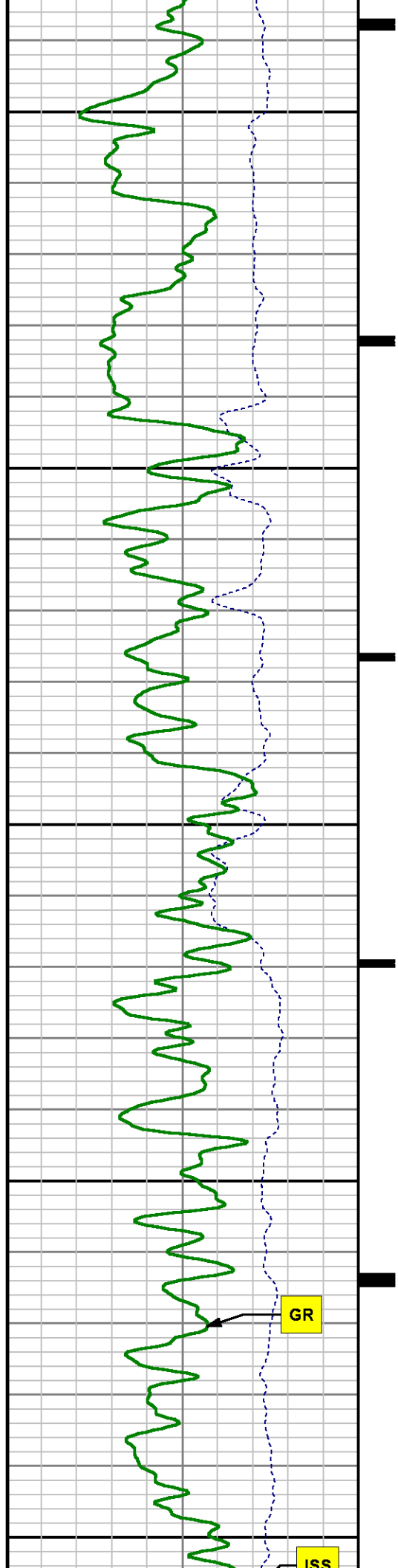
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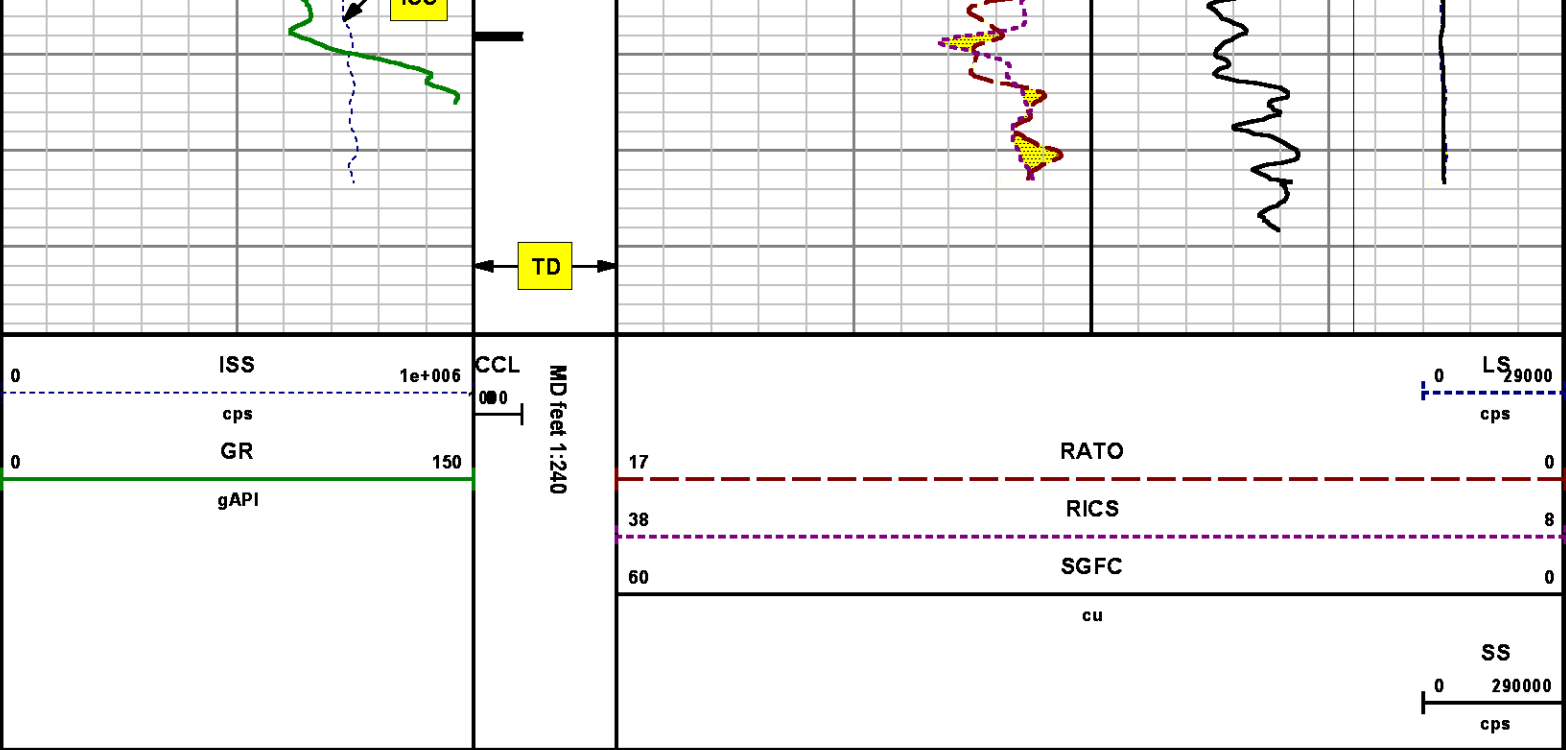




12500

12600





*REPEAT SECTION
PNC 3-D MODE*

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		11852.200	12168.700
PNC Porosity	Borehole Size	8.750	inch	11852.200	12168.700
PNC Porosity	Casing Size	4.500	inch	11852.200	12168.700
PNC Porosity	Gas Filled	Non Gas Filled		11852.200	12168.700
PNC Porosity	Matrix	Sandstone		11852.200	12168.700
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	11852.200	12168.700

DEPTH OFFSETS
(for Acquired Curves)

SERIES **DEPTH OFFSET** **ACQUIRED CURVES**

8248ED	-26.519	FLIM
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 WDT3 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 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 RDN 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

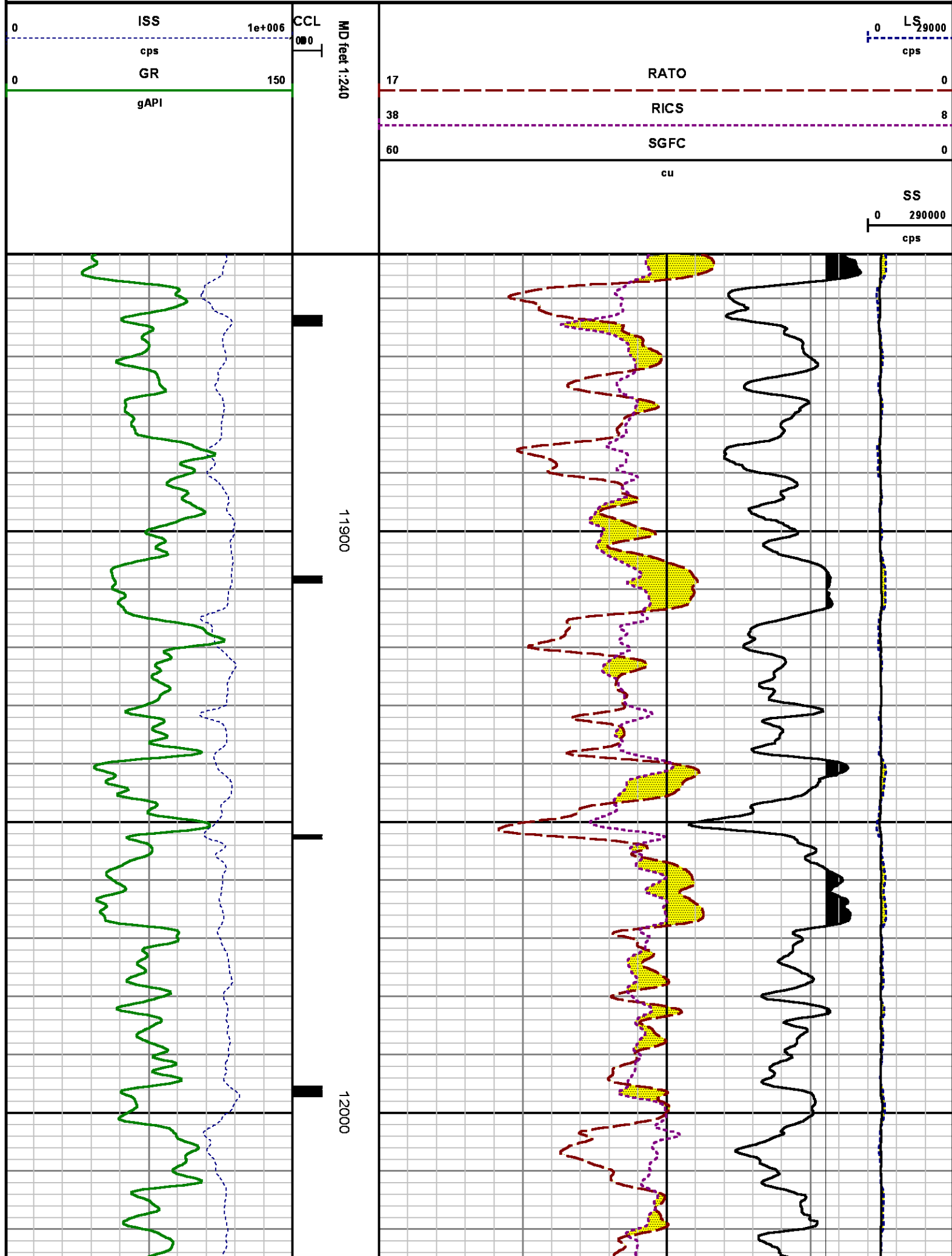
Company : WPX ENERGY

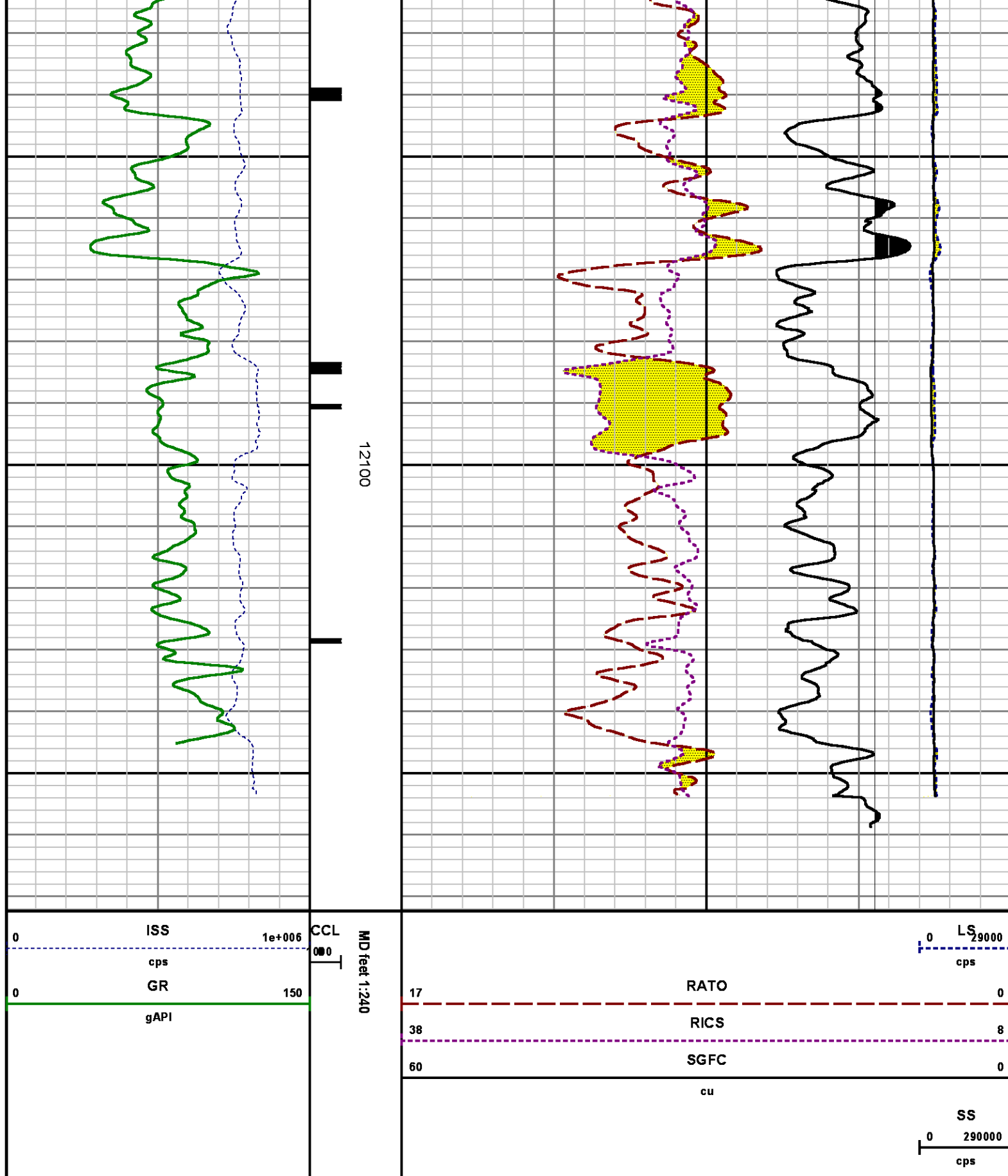
Well : FEDERAL RGU 534-24-198

File Name : d:\well\data\wp\rgu 543-24-198\534rpm\repeat.xtf

Mode : PlotMgr 5.4.504

Interval : 11852.45 - 12172.45 feet UP





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

Verification File: C:\case\calver\GR\382A1.VP

PRIMARY VERIFICATION

DATE/TIME PERFORMED: Sun Aug 17 18:03:34 2014 TOOL SERIES: 2812LA ASSET: 382 SEQ: A1

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
SK2 WA612	44.24	248.18	1.008	44.59	250.11	205.52

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	88936.02	31684.52	8271.11	53822.45	13235.05
Fit Quality %		3.08	2.94	2.87	2.87	2.72	2.81	2.82

	ISS	RBOR		RIN ISS/ILS		RIN13 ISS/IXS		RICS ISS/CSS		RATO SS/LS		RTWO SS2/LS		RONE 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"

29.93'

CCL MP 21.84'

MP 19.40'

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 534-24-198

Field

SULPHUR CREEK

County

RIO BLANCO

State

COLORADO

Location

SHL: 2128' FSL & 1688' FEL

BHL: 1241' FSL & 1897' FEL (SWSE)

Elevations

KB 6617 ft

DF

GL 6596 ft

SEC 24 TWP 1S RGE 98W

File No:

CH089588

API No:

05103120770000

24 1S 98W

RGU 33-24-198 PAD

CYCLONE 29