



RESERVOIR PERFORMANCE MONITOR

Baker Atlas

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

CH087684 **Well** **FEDERAL RGU 333-24-198**

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

05103120780000 **County** **RIO BLANCO** **State** **COLORADO**

24 1 S 98W **Location** **SHL: 2139' FSL & 1698' FEL**

RGU 33-24-198 PAD **BHL: 1862' FSL & 1808' FEL (NWSE)**

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	08/JUL/14	
Run	ONE	
Service Order	US087684J	
Depth Driller	12710 ft	
Depth Logger	12663 ft	
Bottom Logged Interval	12663 ft	
Top Logged Interval	7300 ft	
Time Started	1800	
Time Finished	0200	
Operator Rig Time	8 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	87 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	15 fpm	
Maximum Recorded Temperature	278 degF	
Reference Log Date	08/JUL/14	
Equipment No.	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	3895 ft
8.75/7.875	3895 ft	12710 ft

Casing Record				
Size	Weight	Grade	From	To
18 in			21 ft	80 ft
9.625 in			21 ft	3895 ft
4.5 in	11.6 lbm/ft	P-110	21 ft	12710 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 7/8/2014 at the client's request.
The amount of linear shift is -5 feet.
Logged in PNC-3D mode.
BHT = 278°F

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	TEMP	8255XA	Z176973	FREE
1	1	RPM	8281FA	10307727	FREE
1	1	RPM	8281PA	10169251	FREE
1	1	RPM	8281EA	10169250	FREE
1	1	GR	2812LA	102744385	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		7275.218	12672.530
PNC Porosity	Borehole Size	8.750	inch	7275.218	12672.530
PNC Porosity	Casing Size	4.500	inch	7275.218	12672.530
PNC Porosity	Gas Filled	Non Gas Filled		7275.218	12672.530
PNC Porosity	Matrix	Sandstone		7275.218	12672.530
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	7275.218	12672.530

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
		WSS3	WSS3Q2	SRMS	SRMS	TRMS	TRMS

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 333-24-198

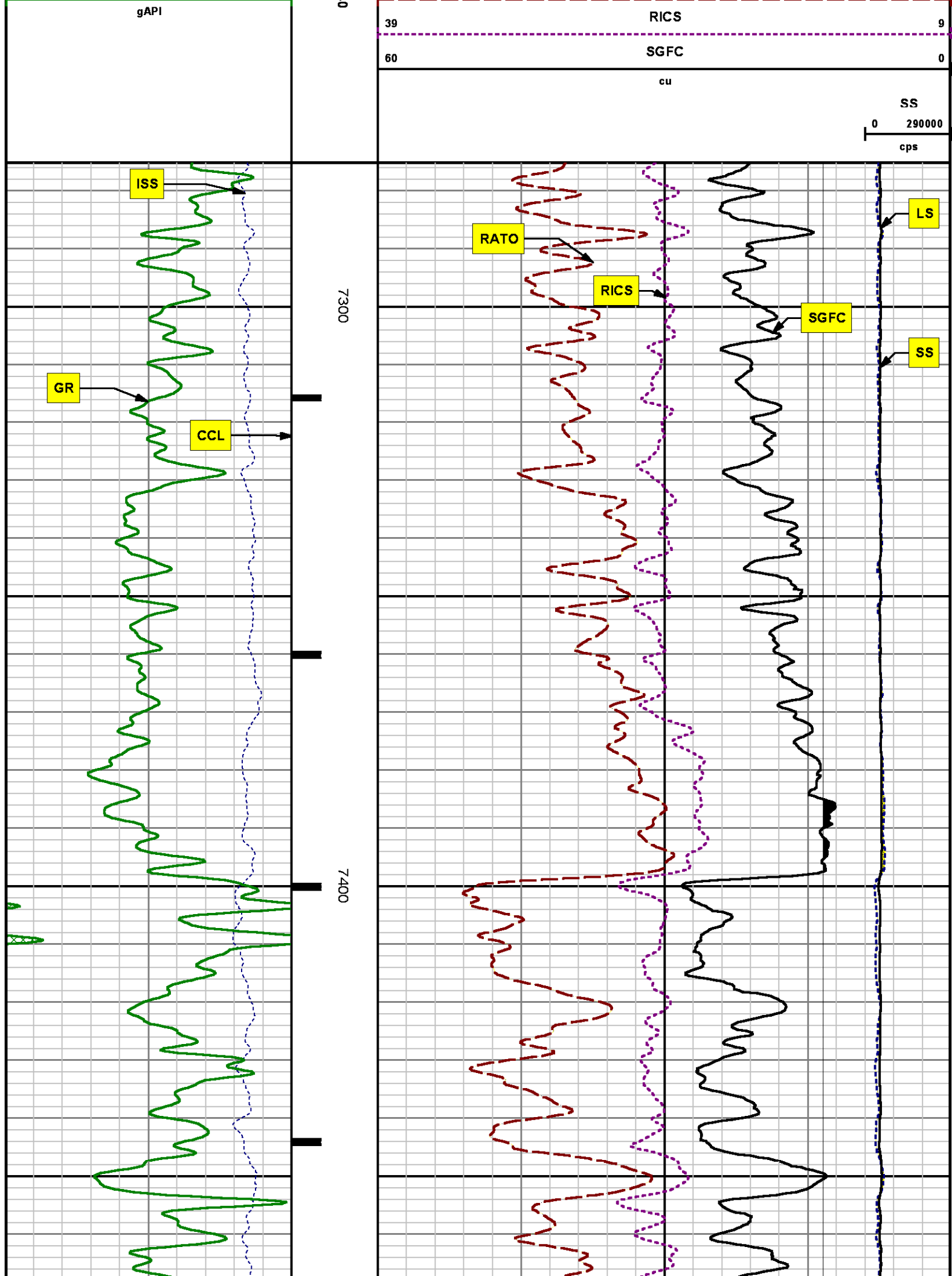
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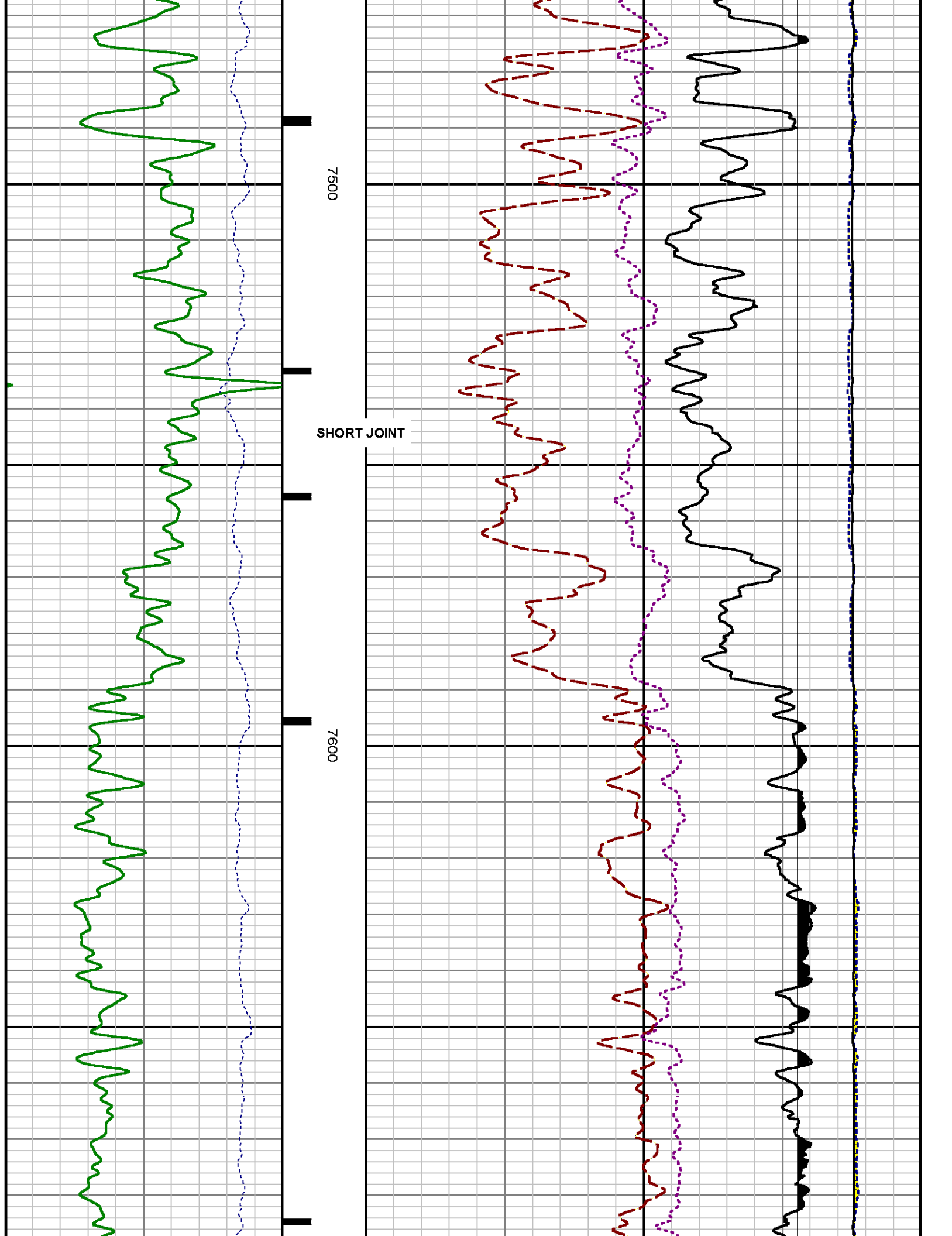
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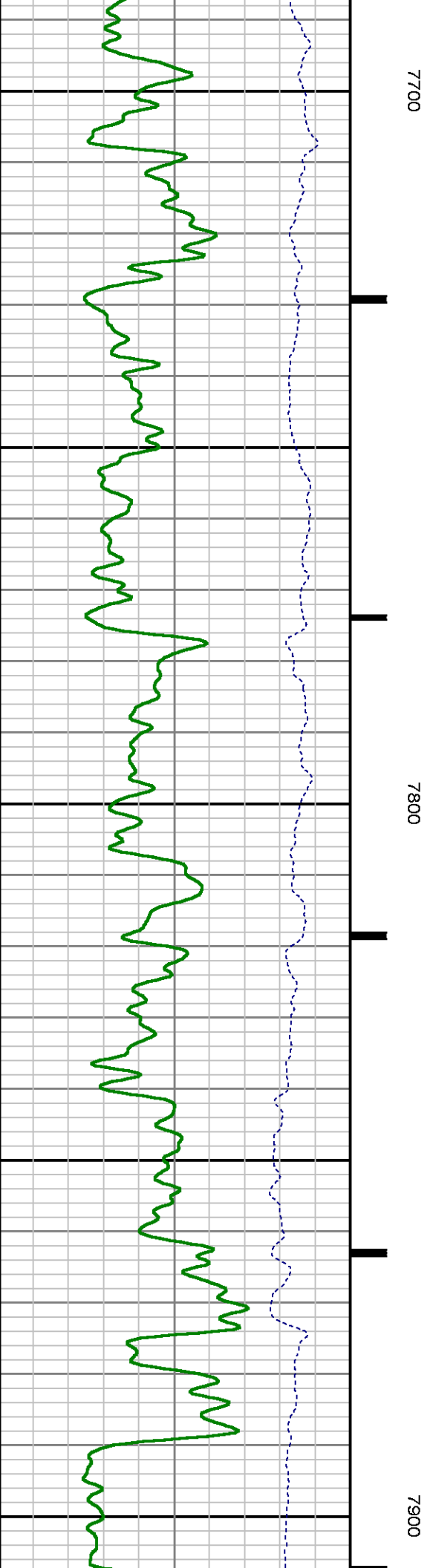
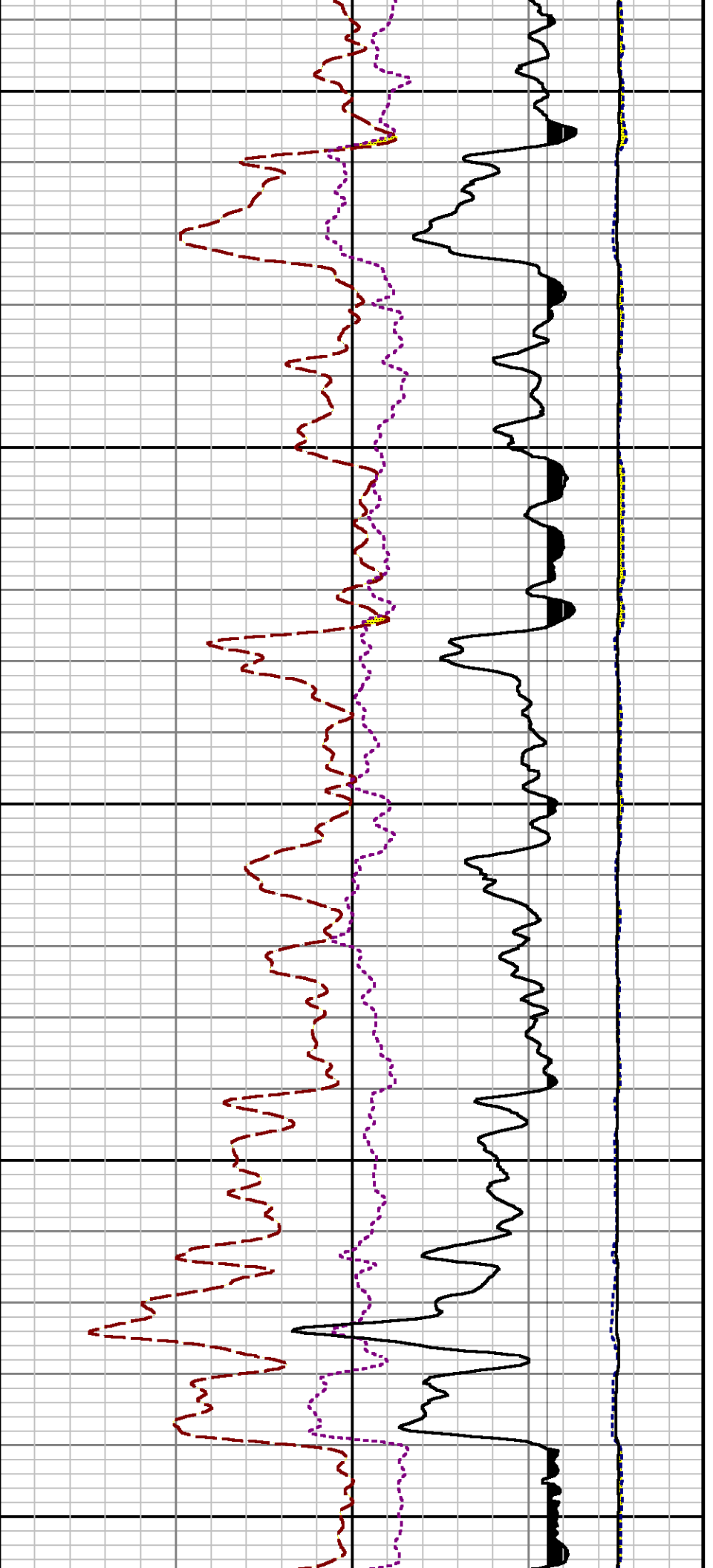
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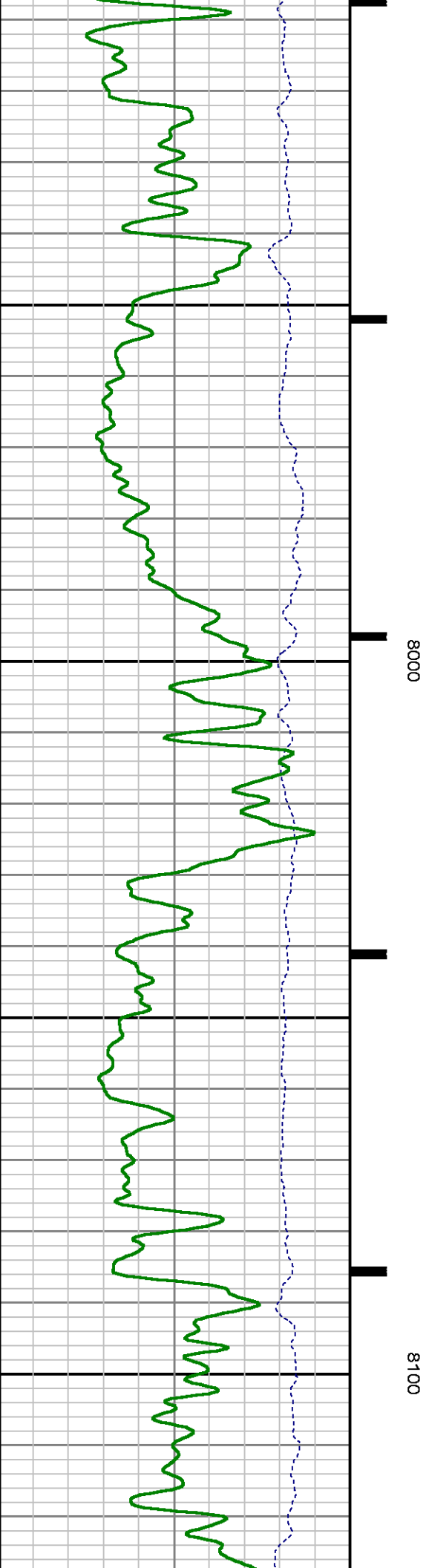
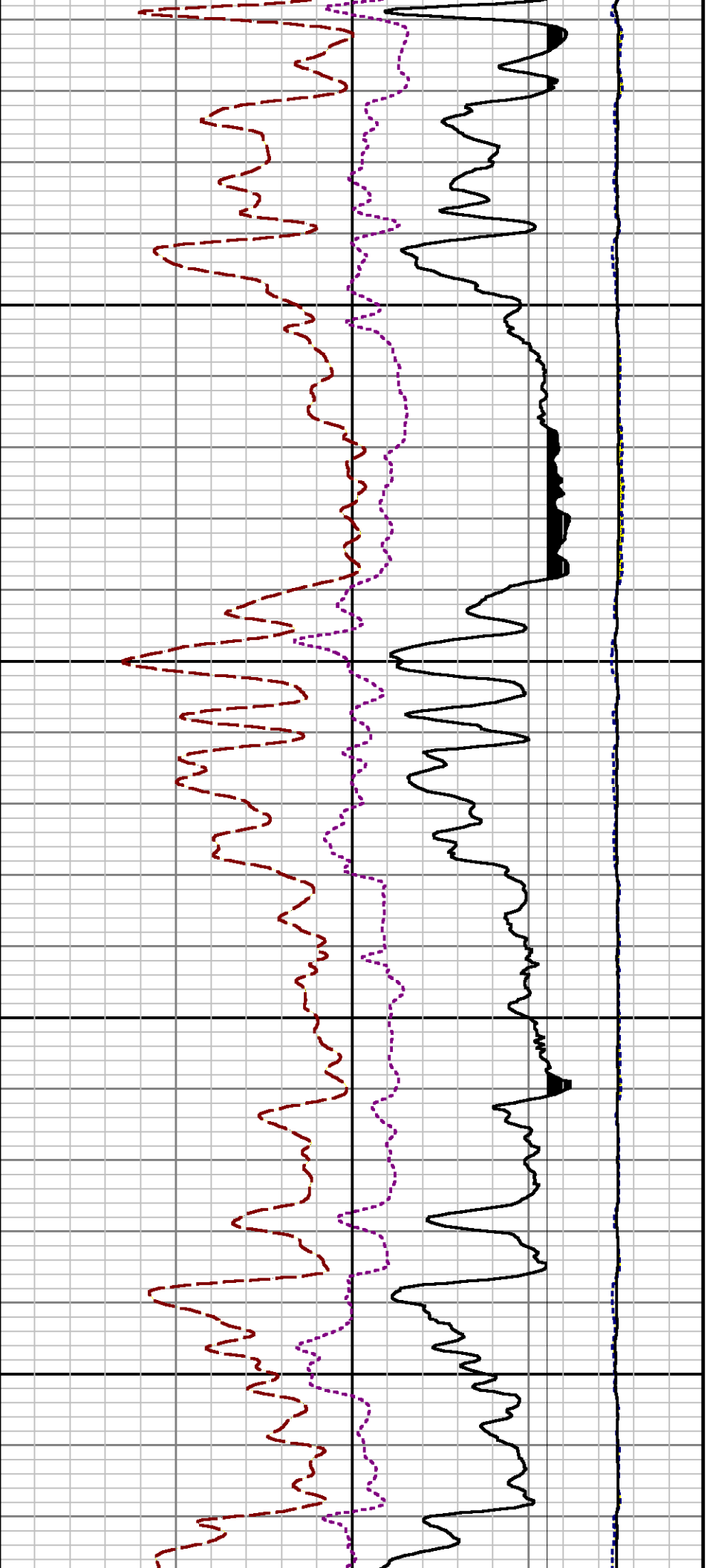
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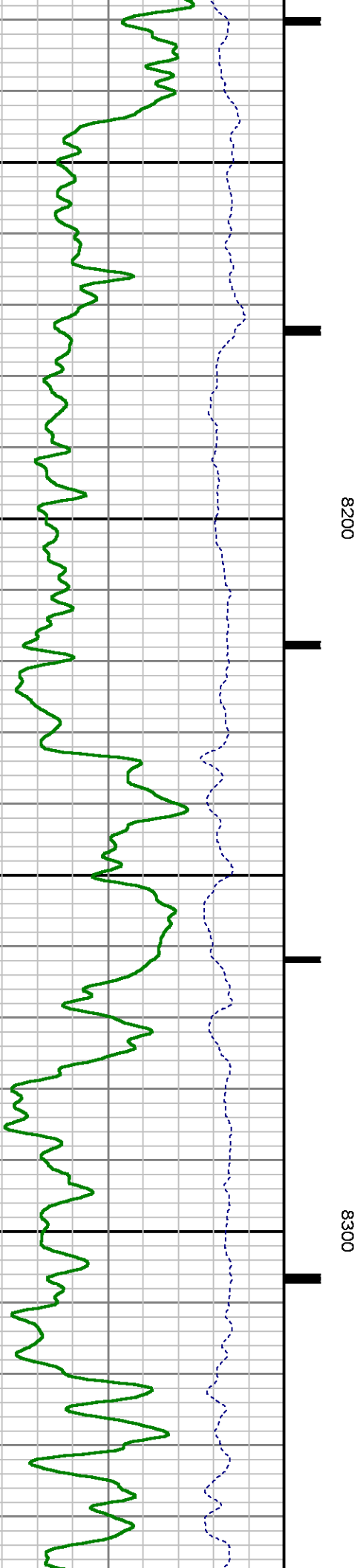
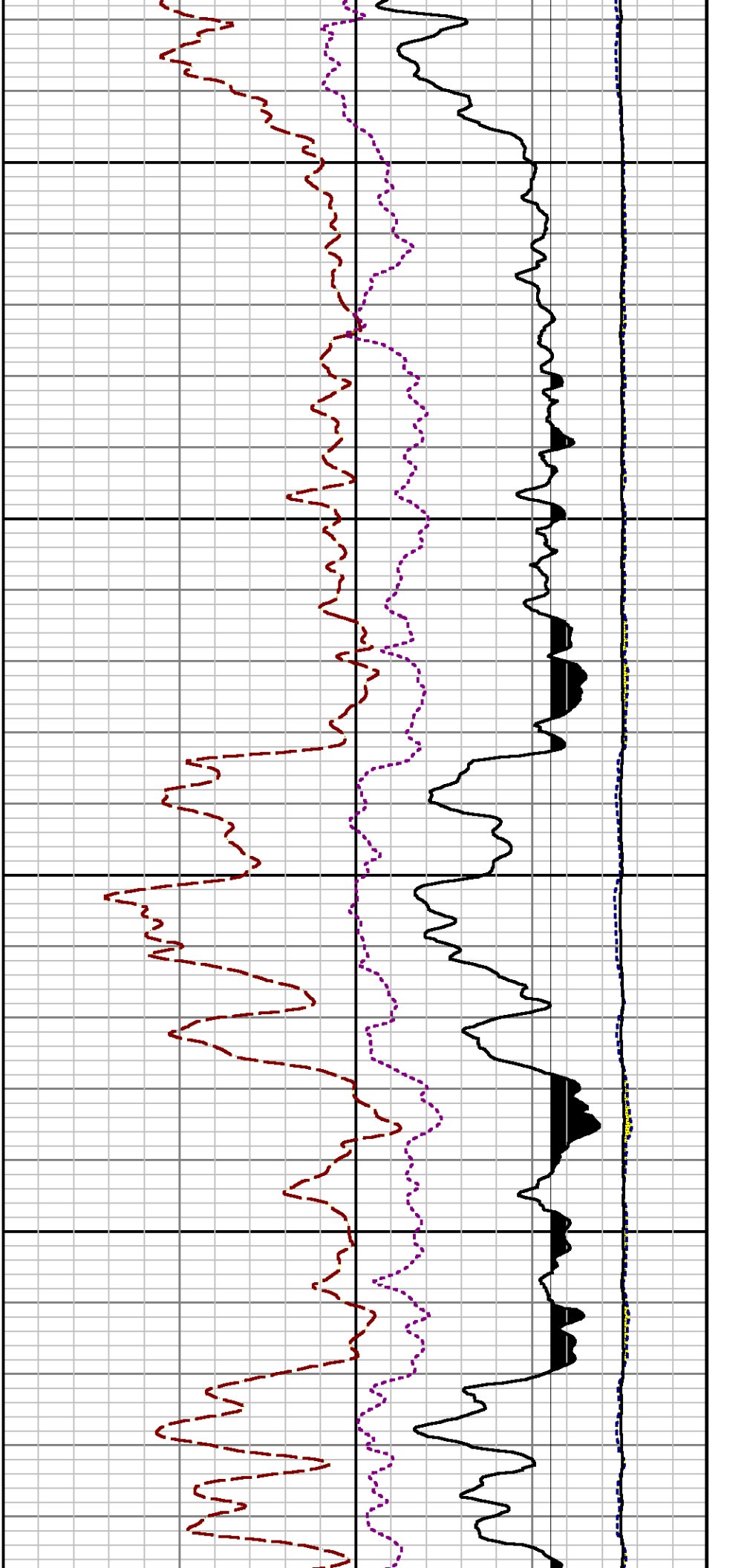


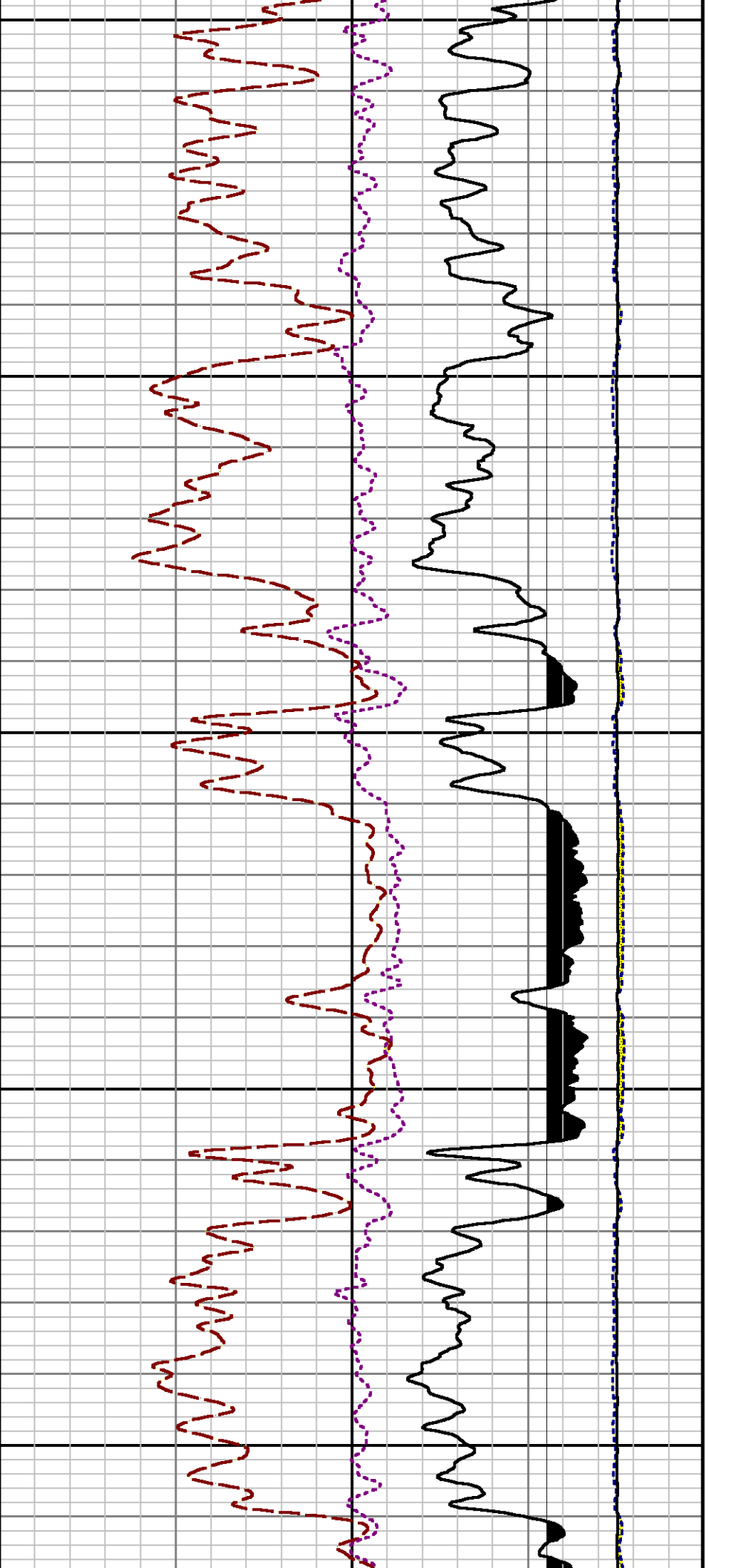






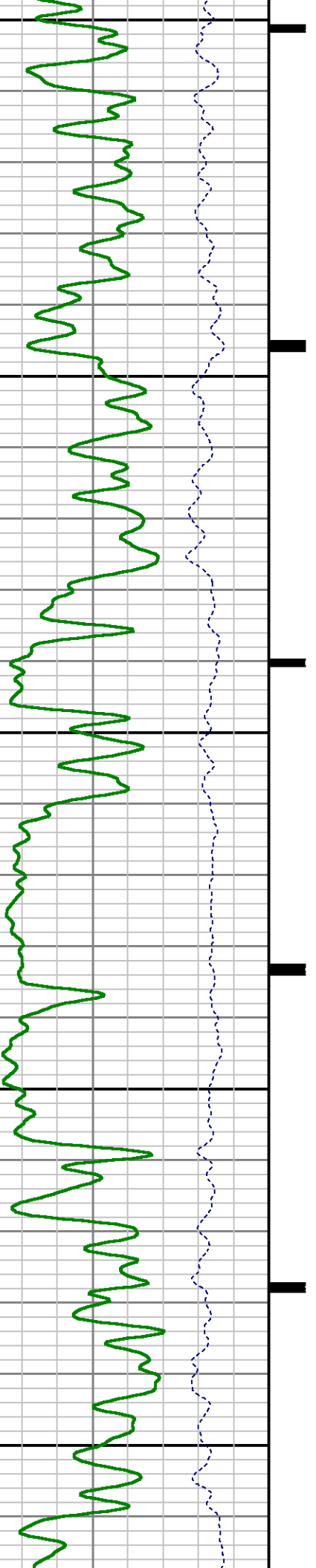


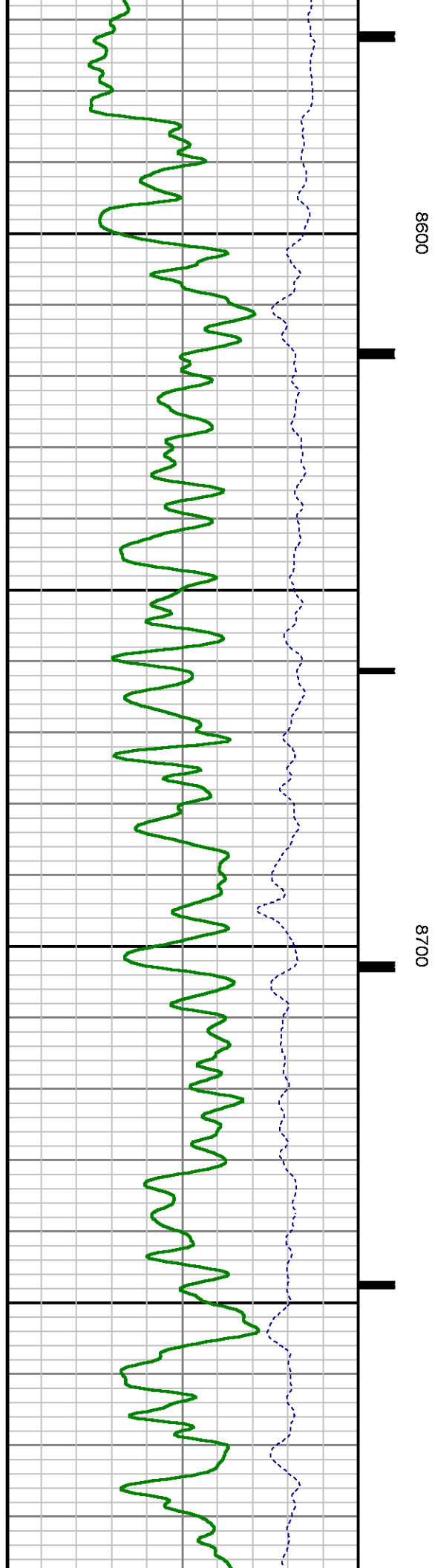
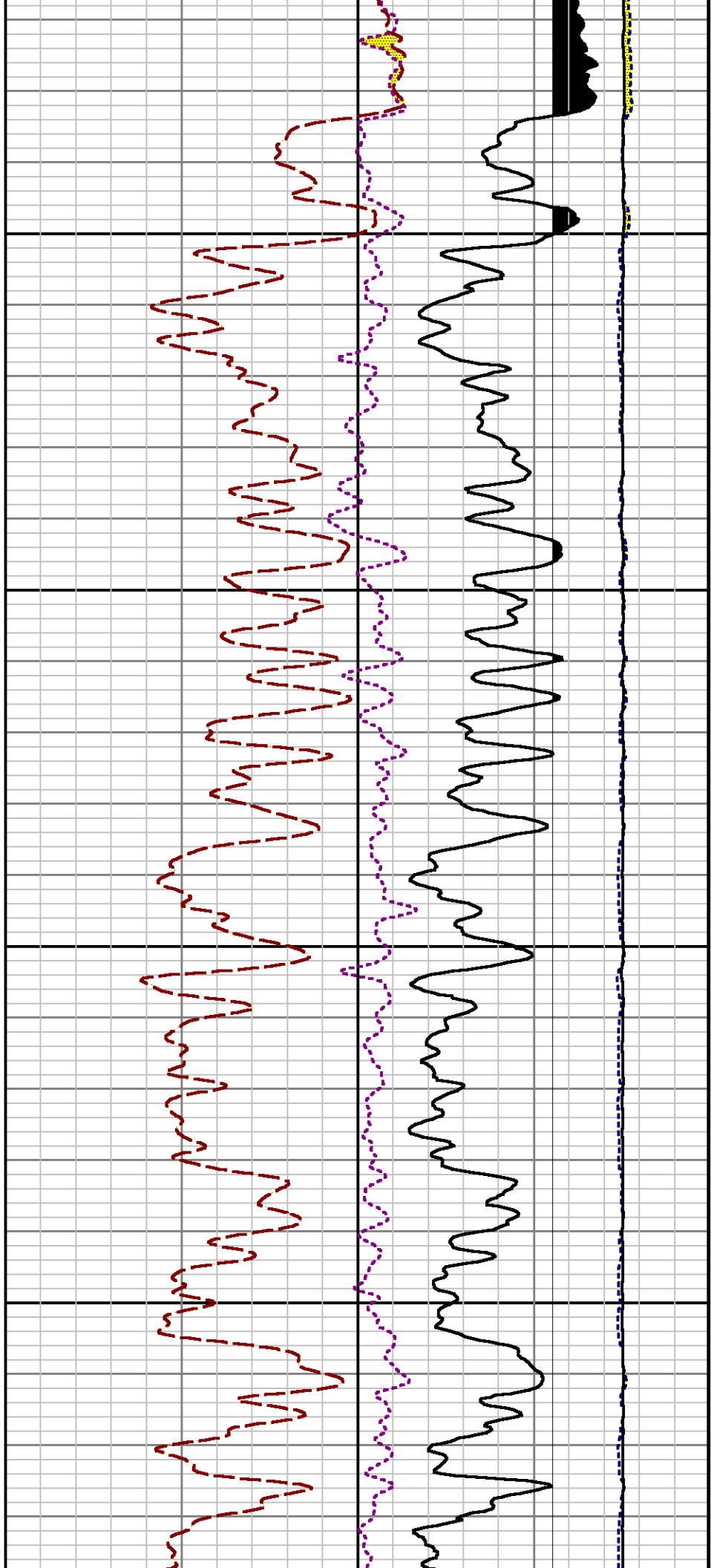


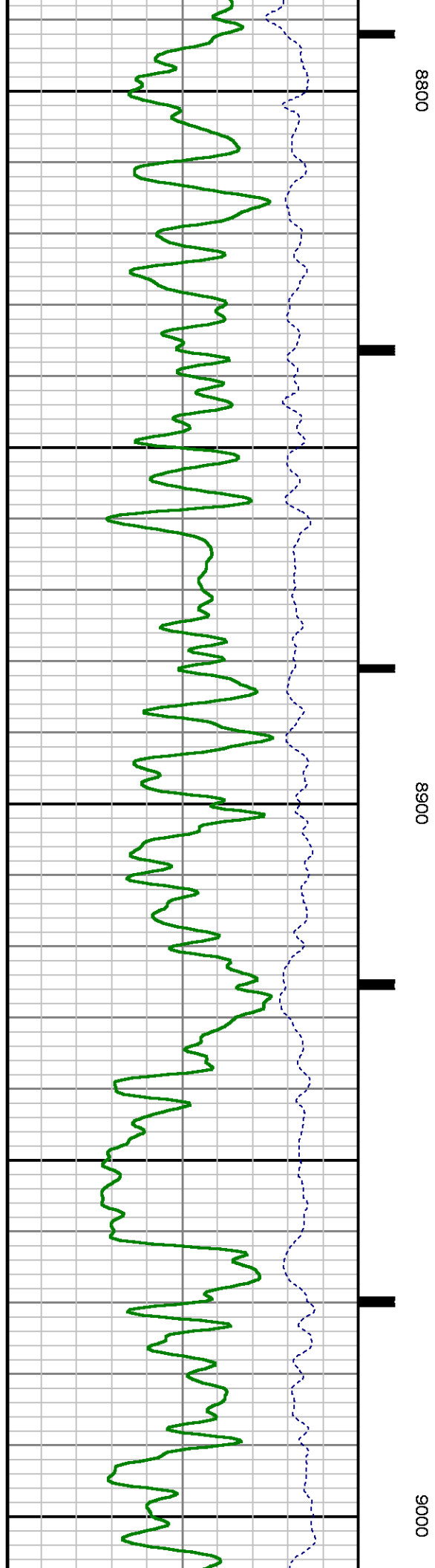
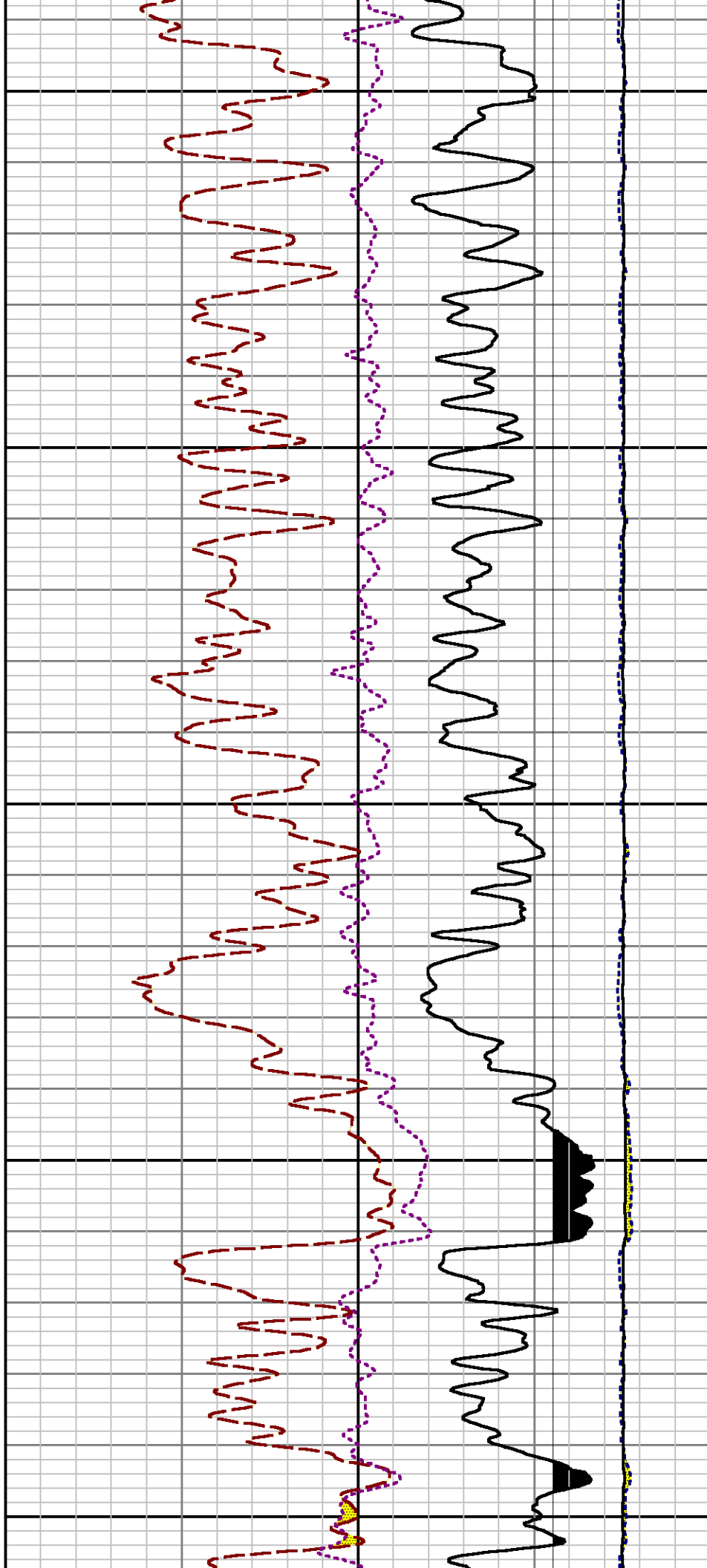


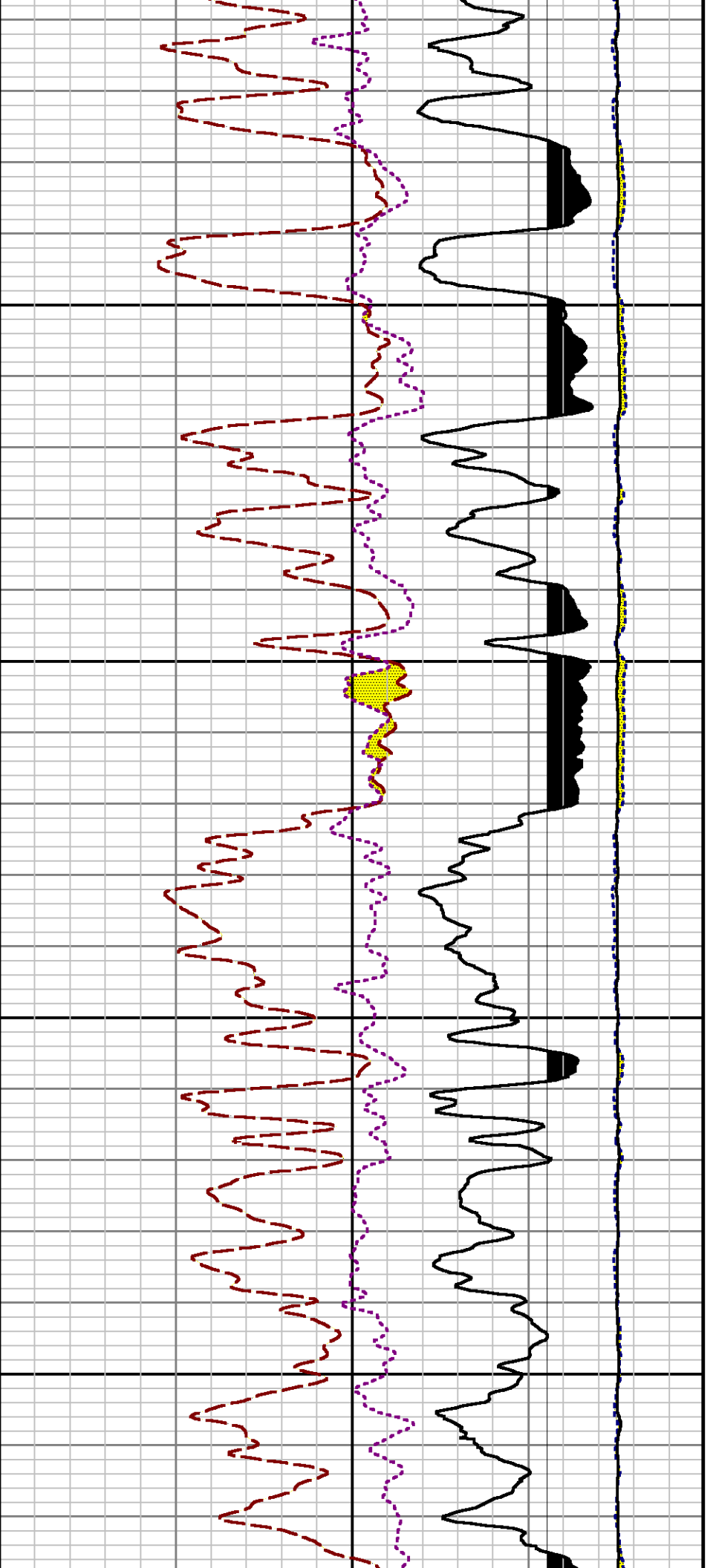
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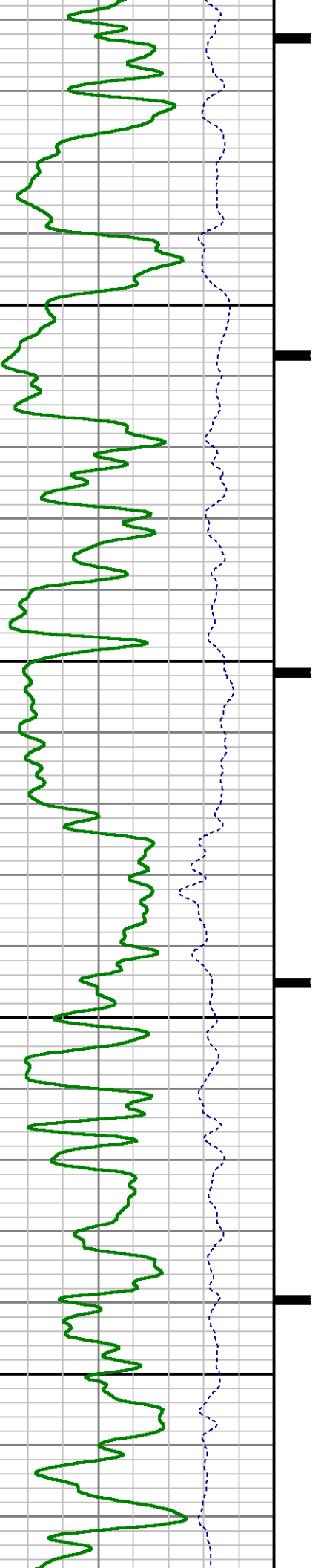


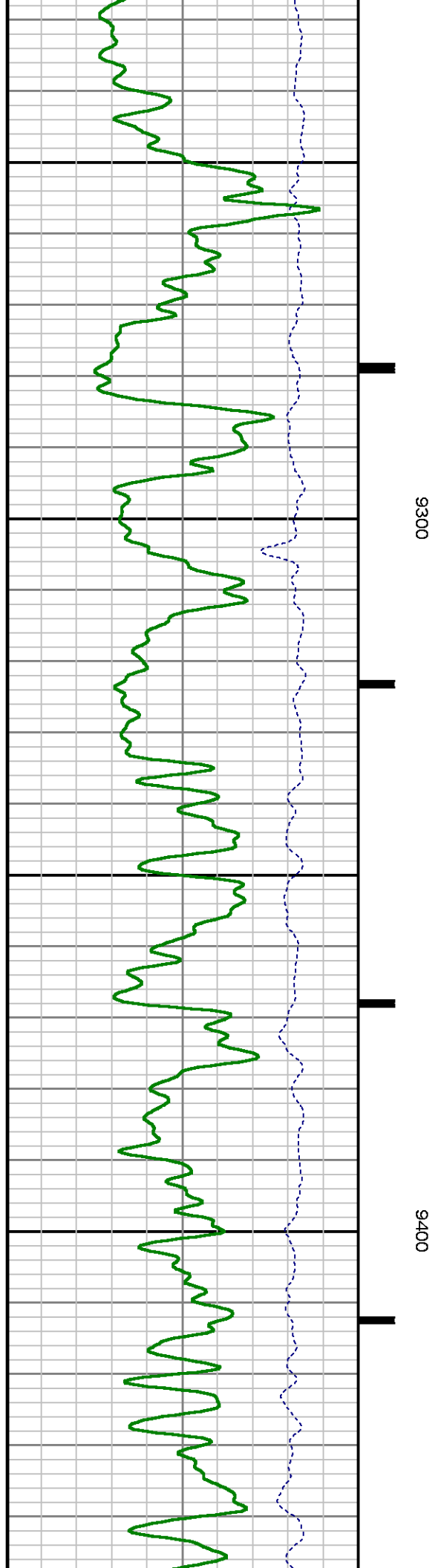
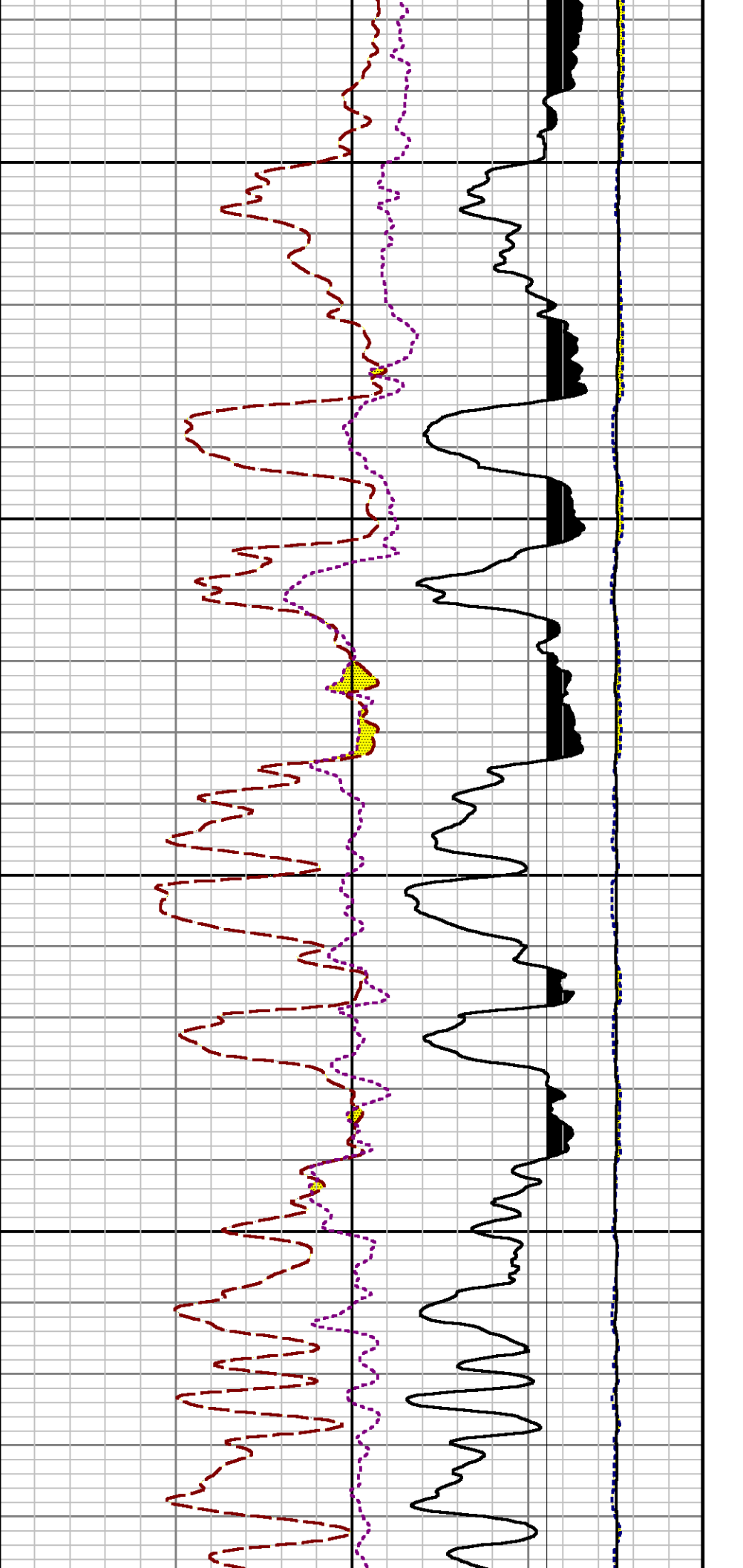


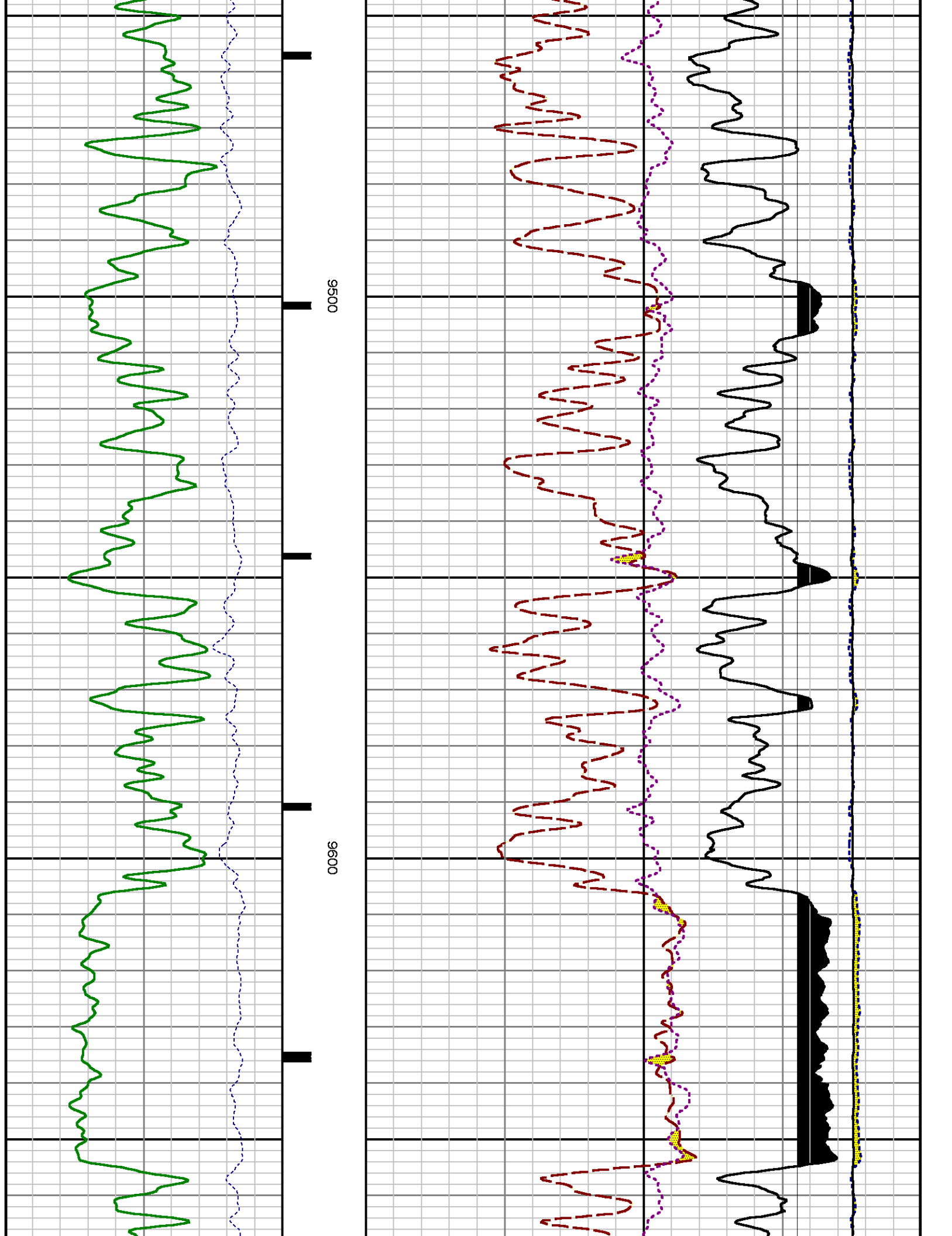


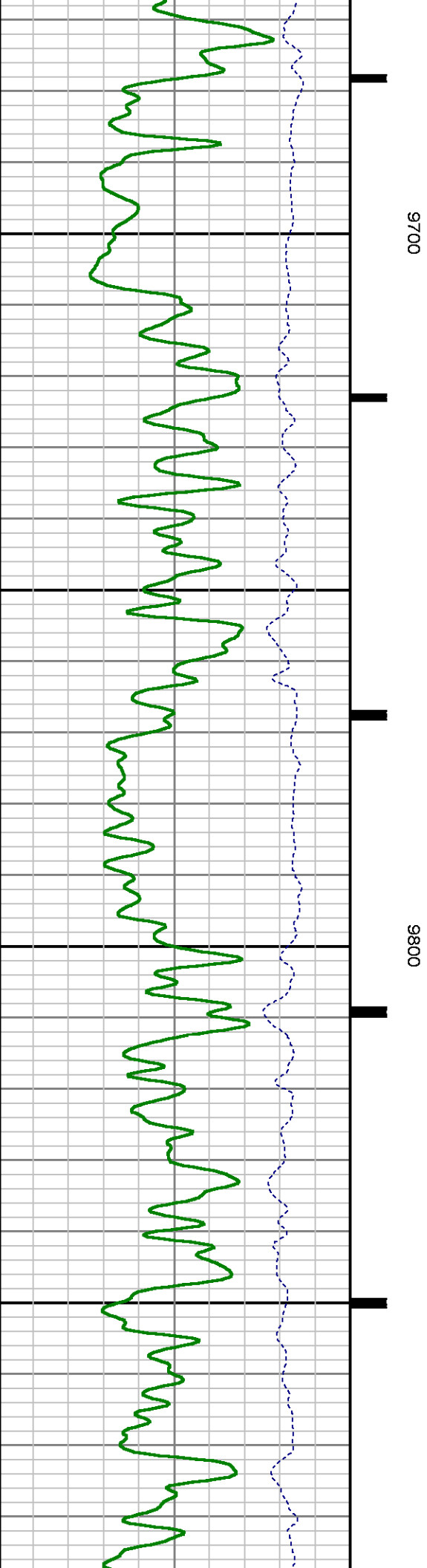
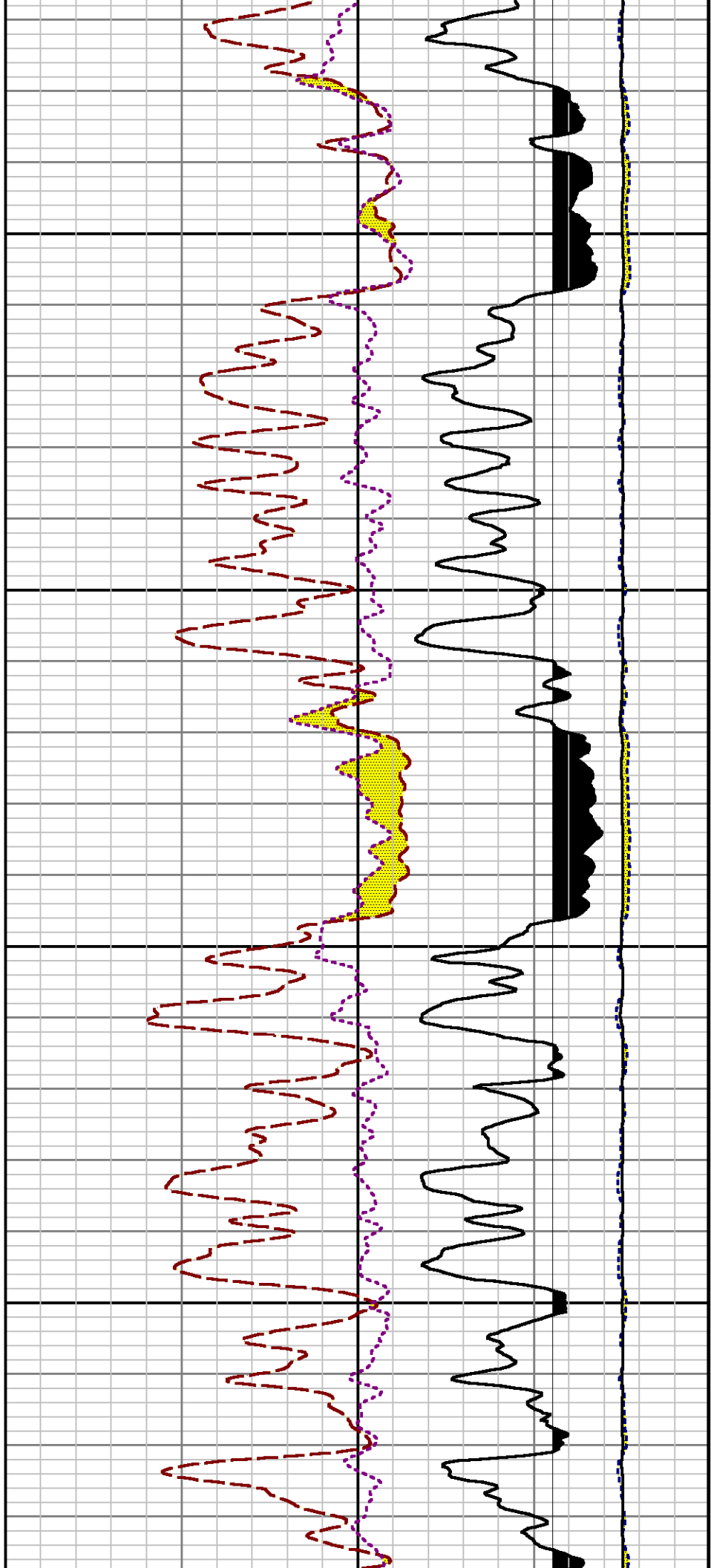
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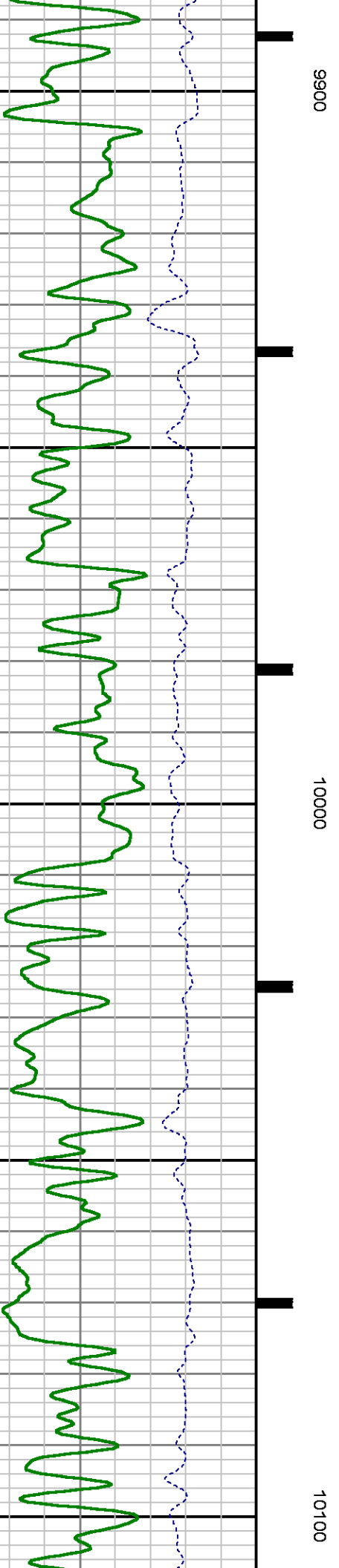
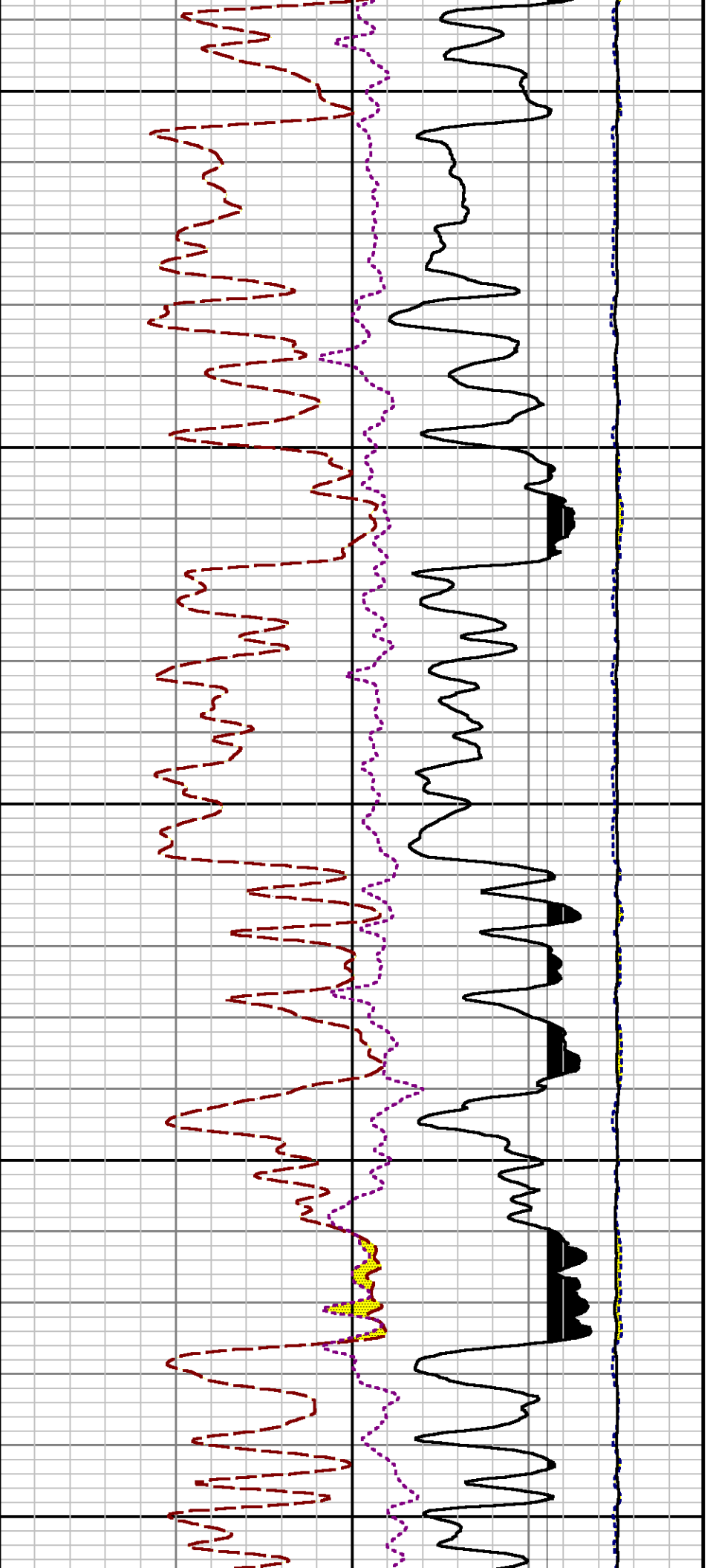
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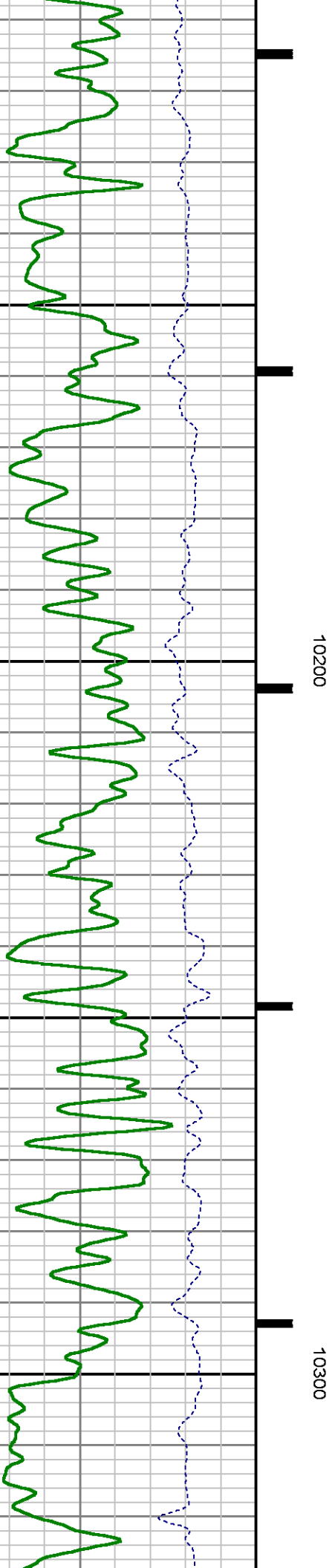
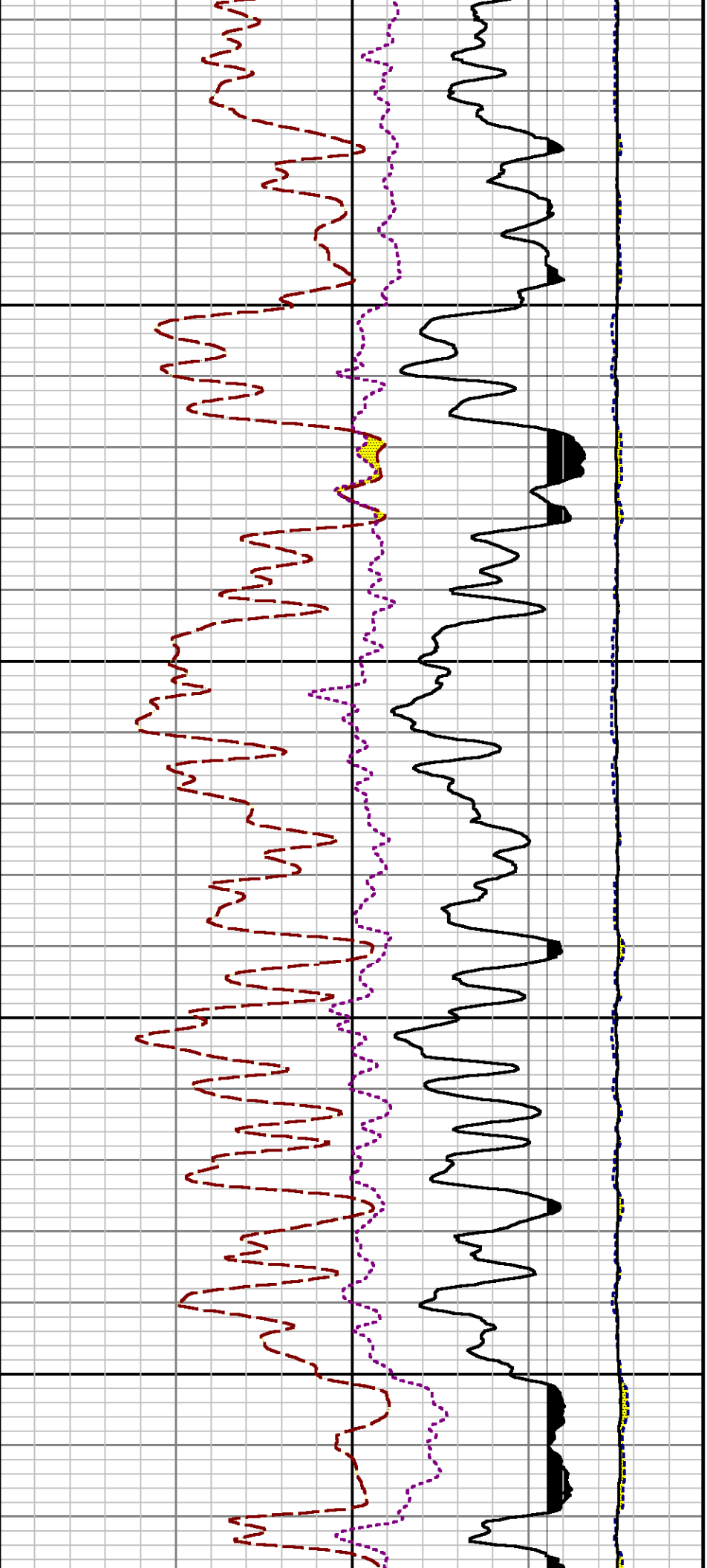


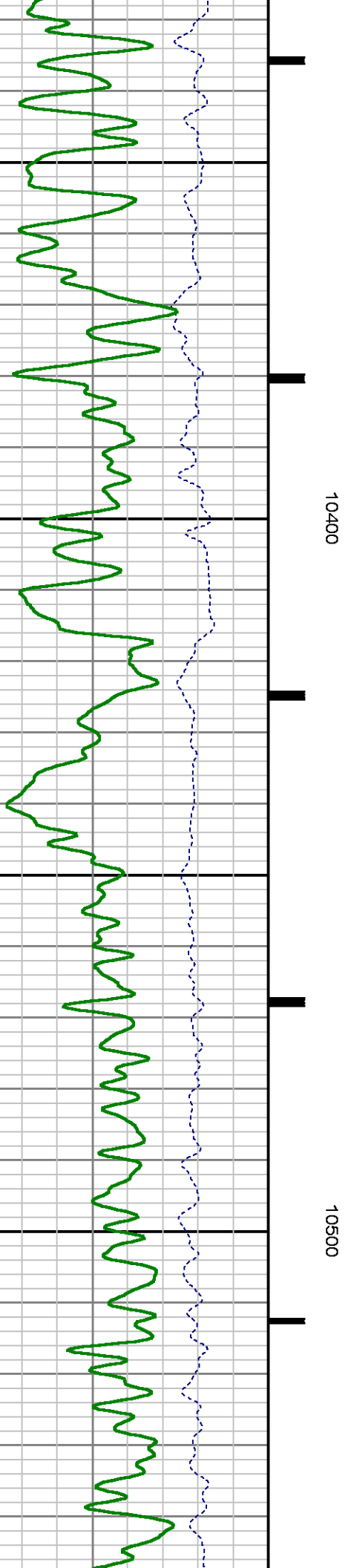
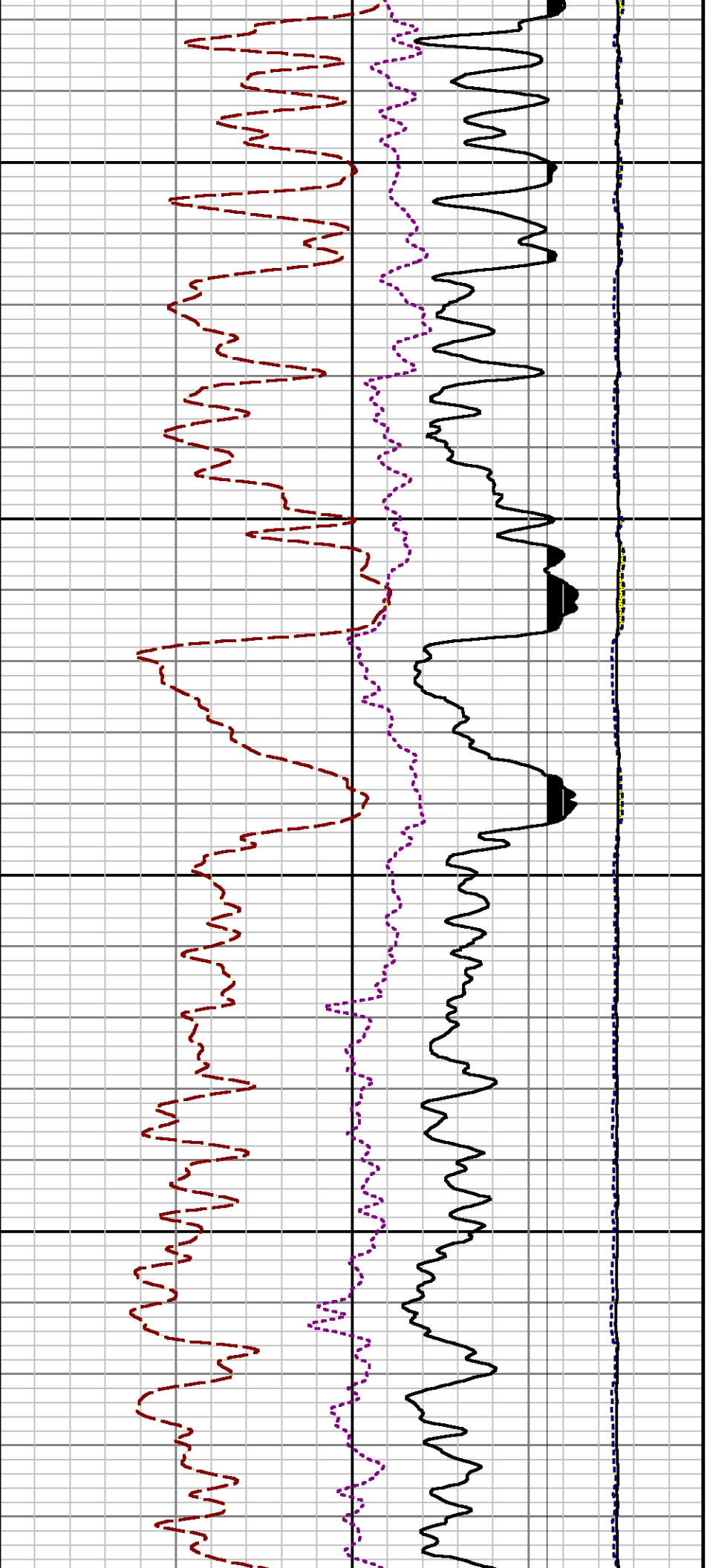


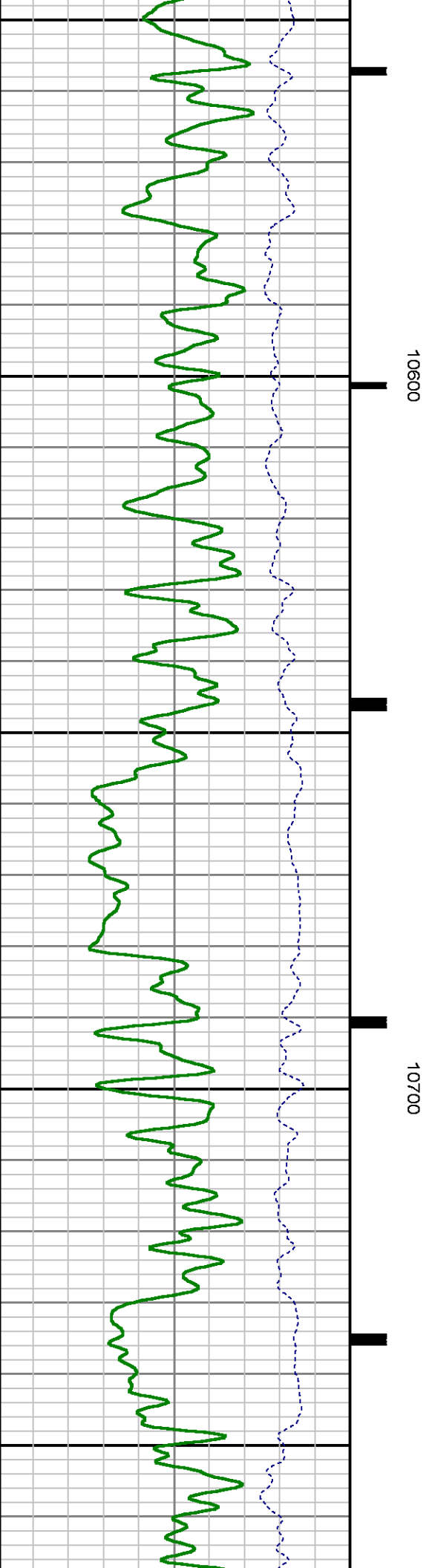
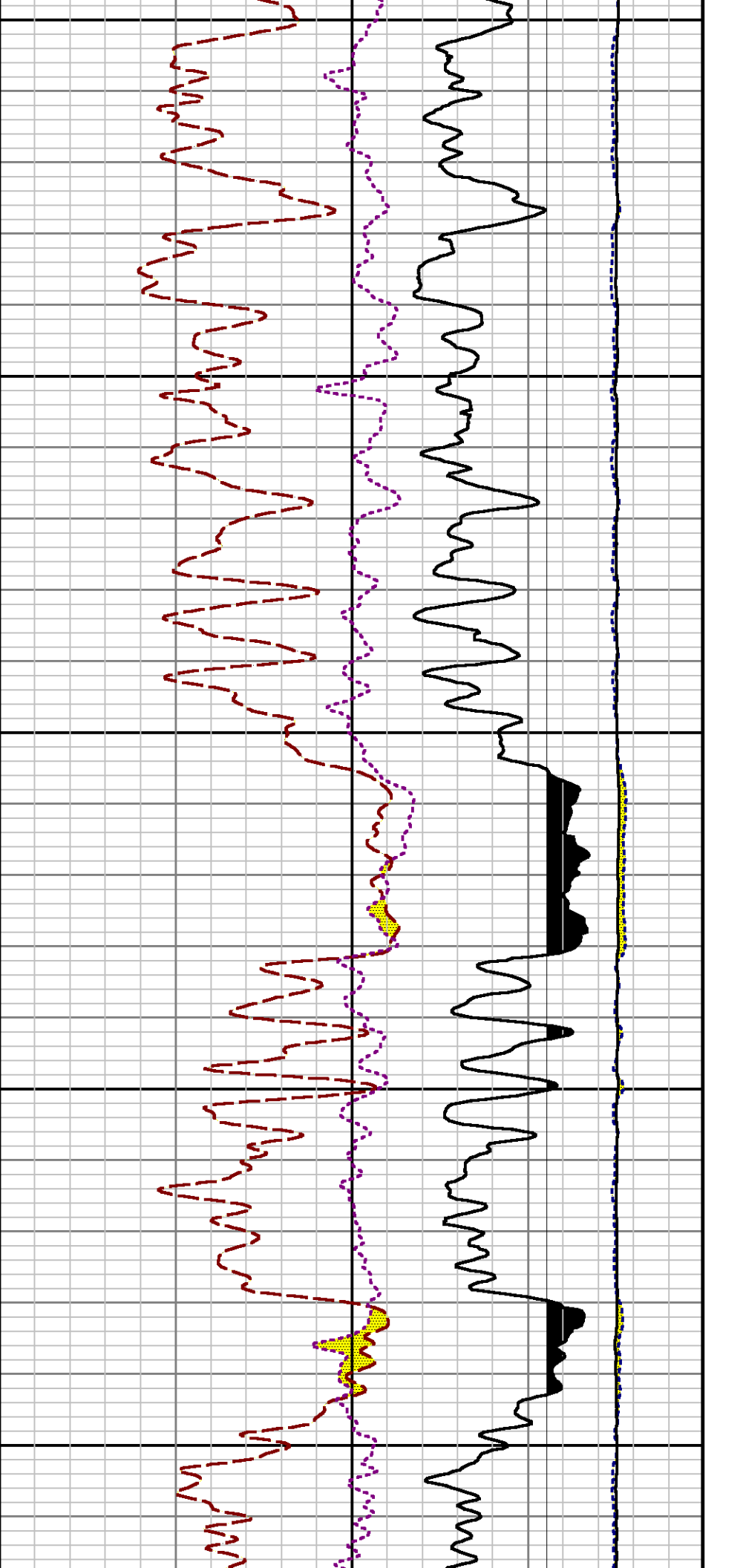


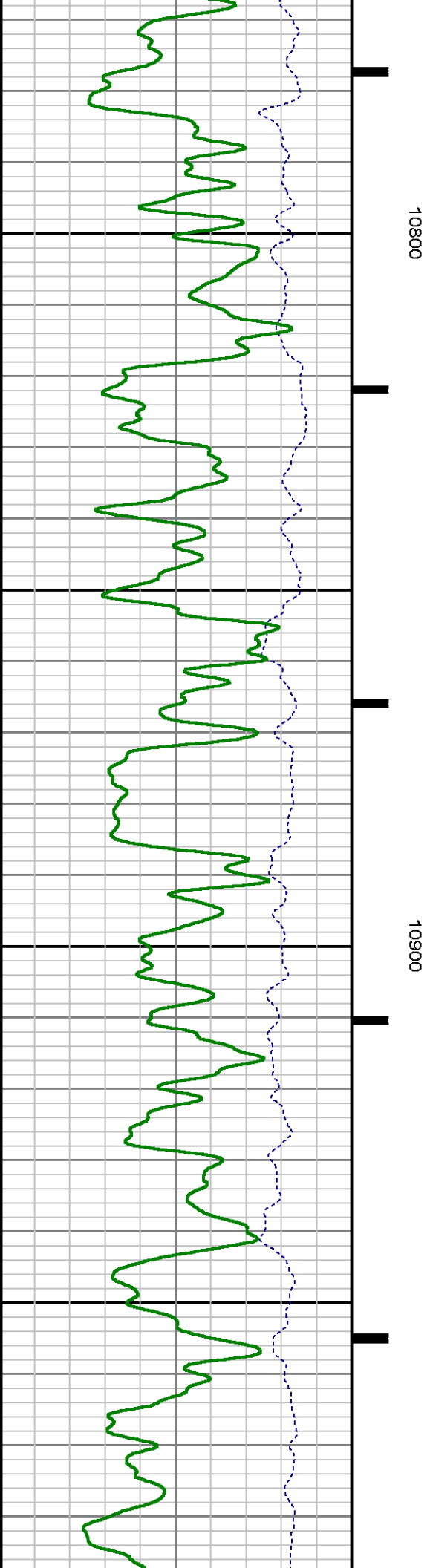
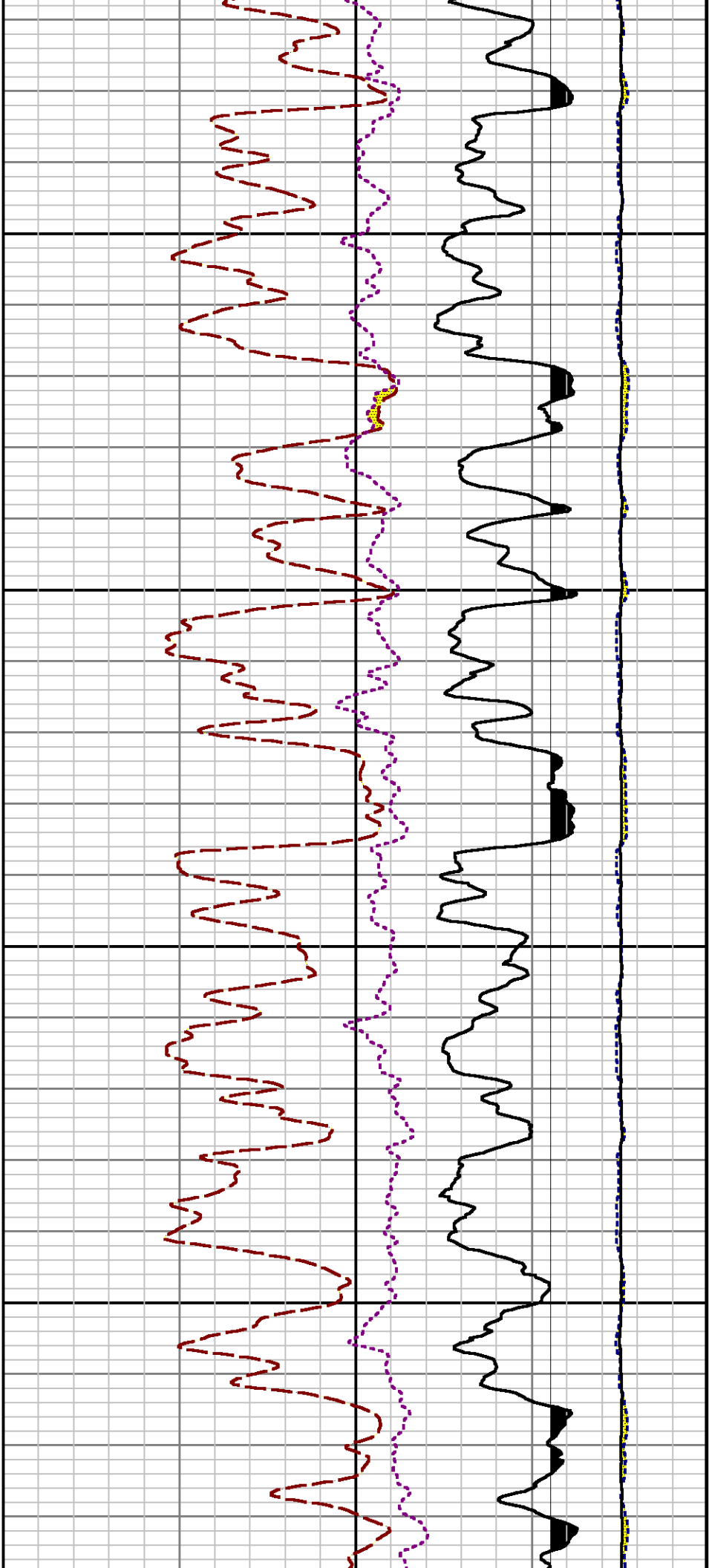


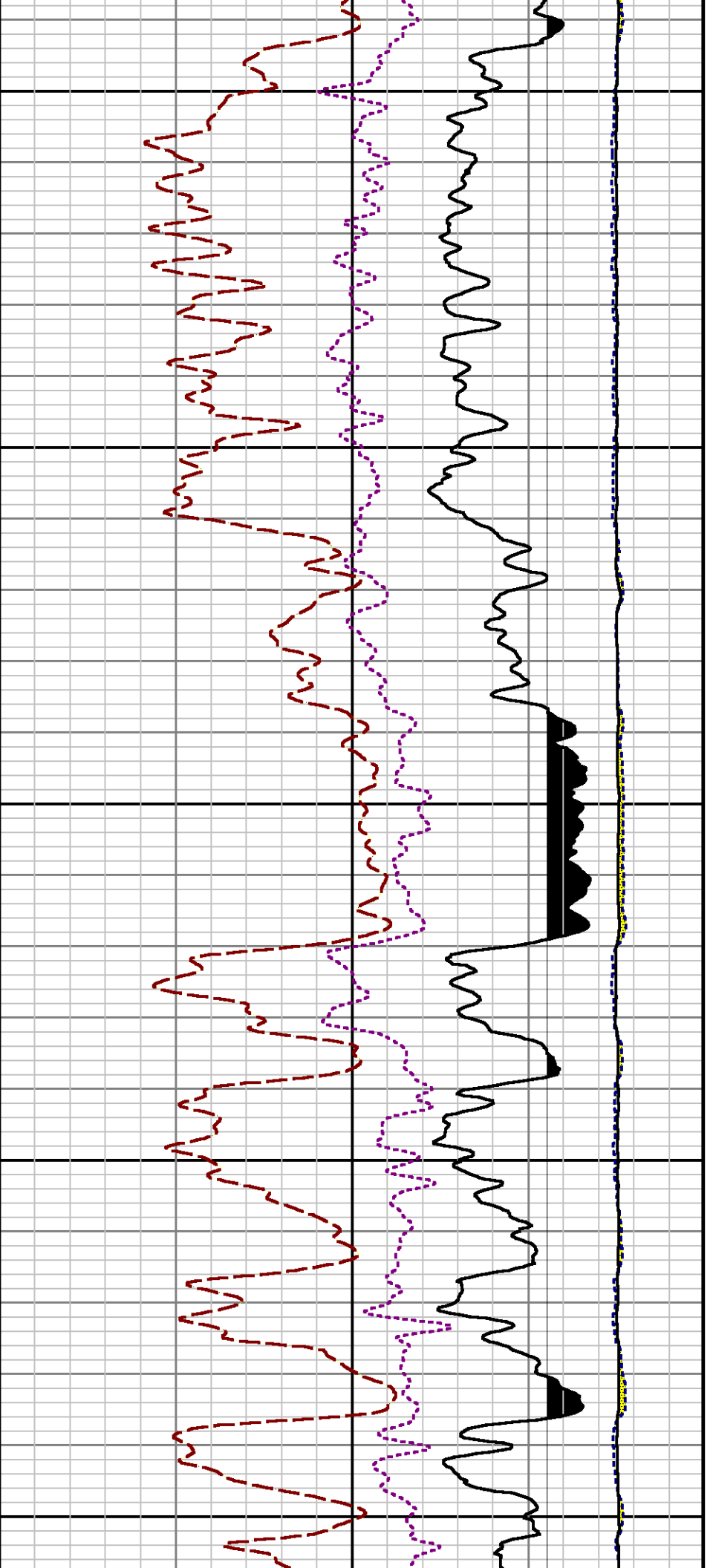








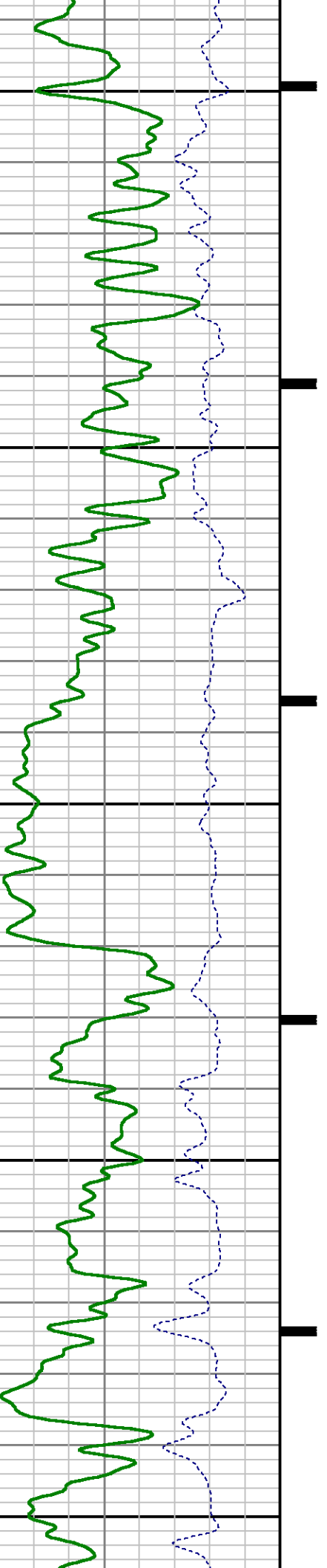


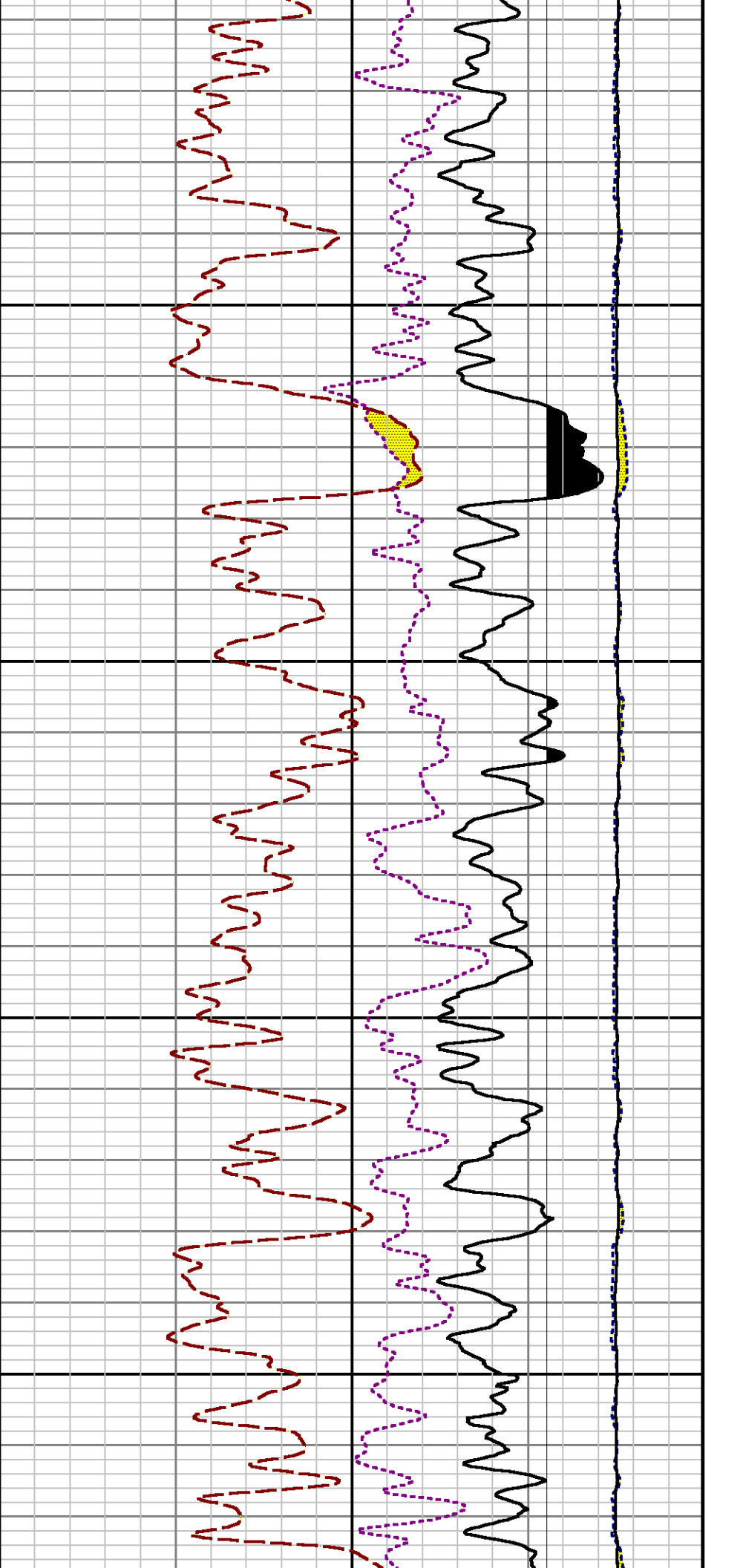


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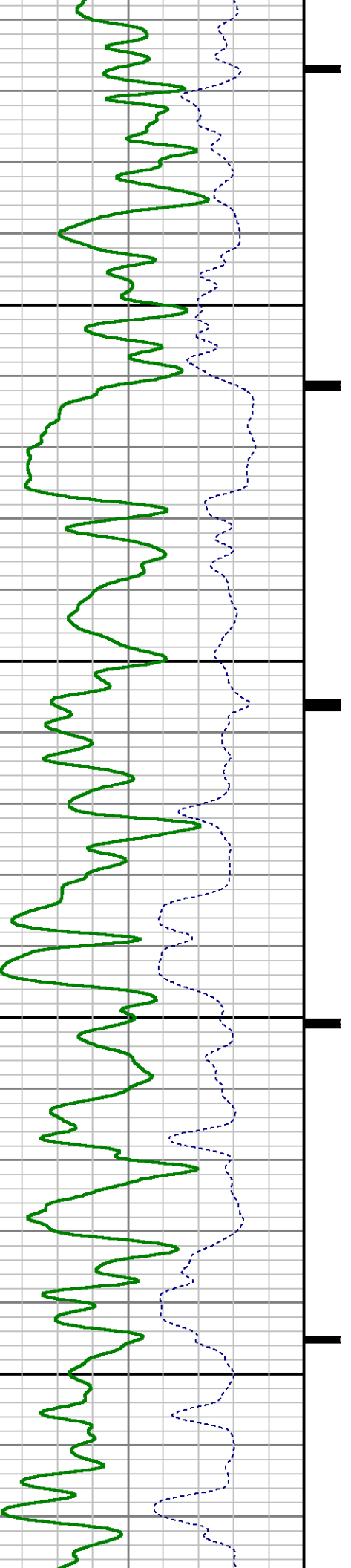
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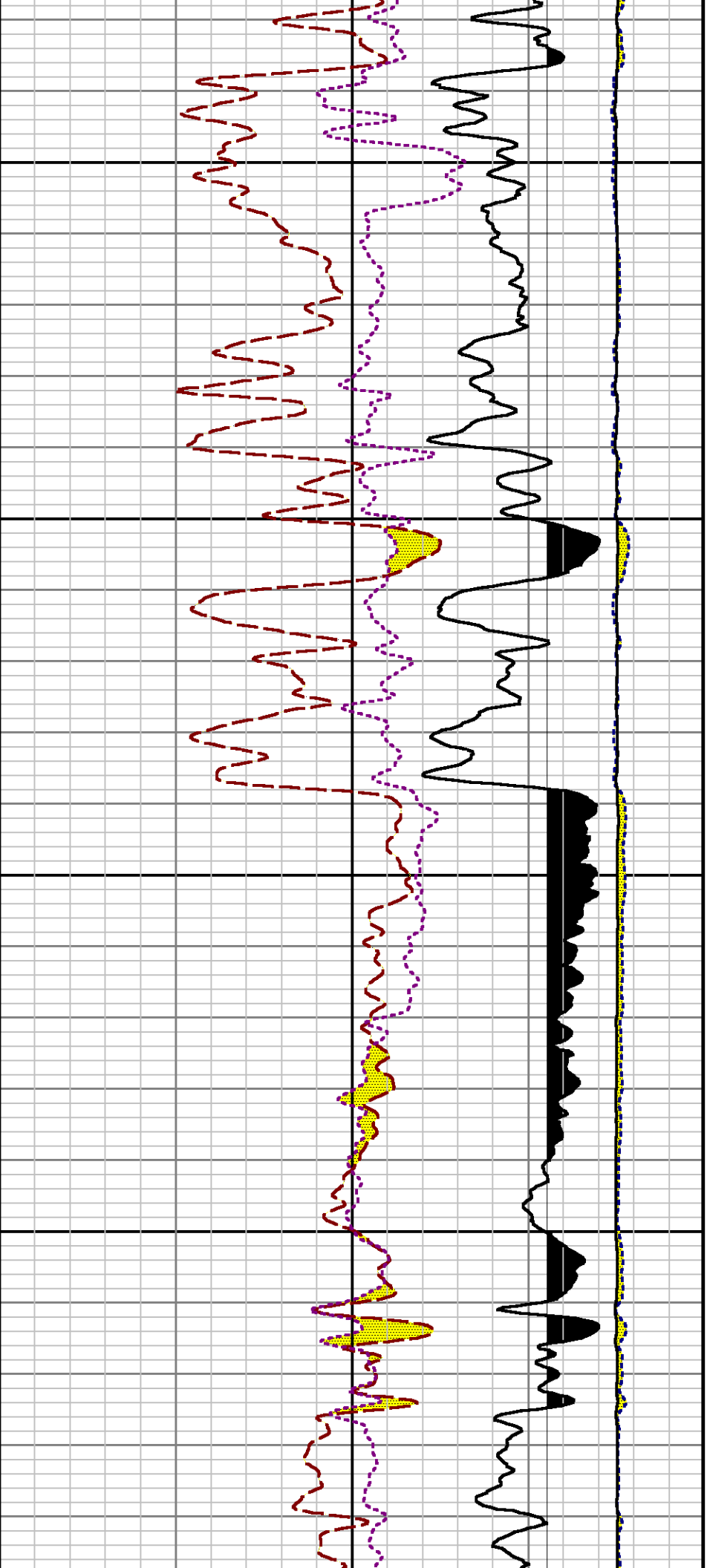




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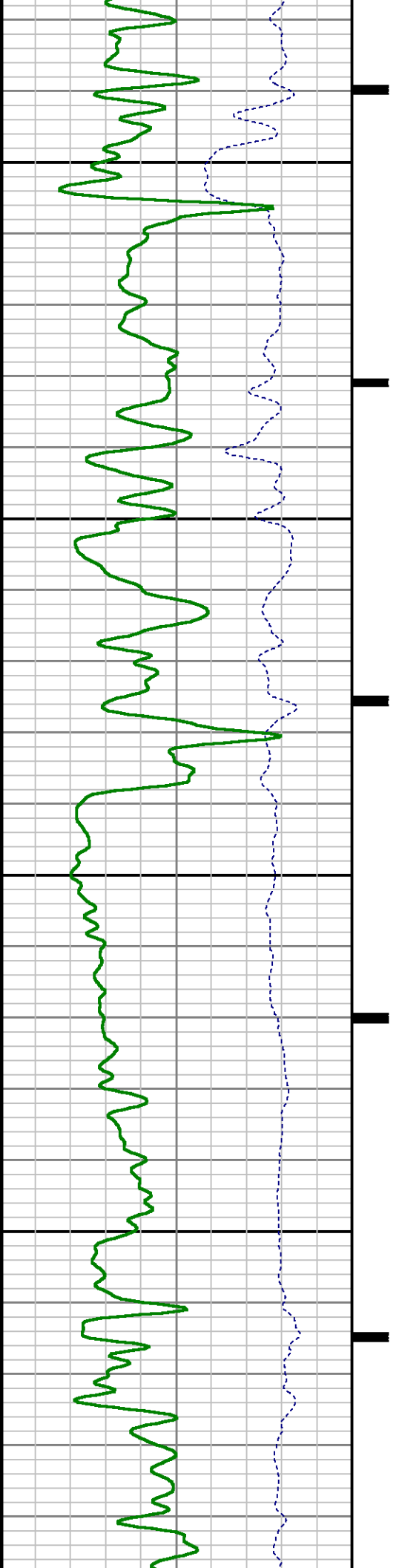
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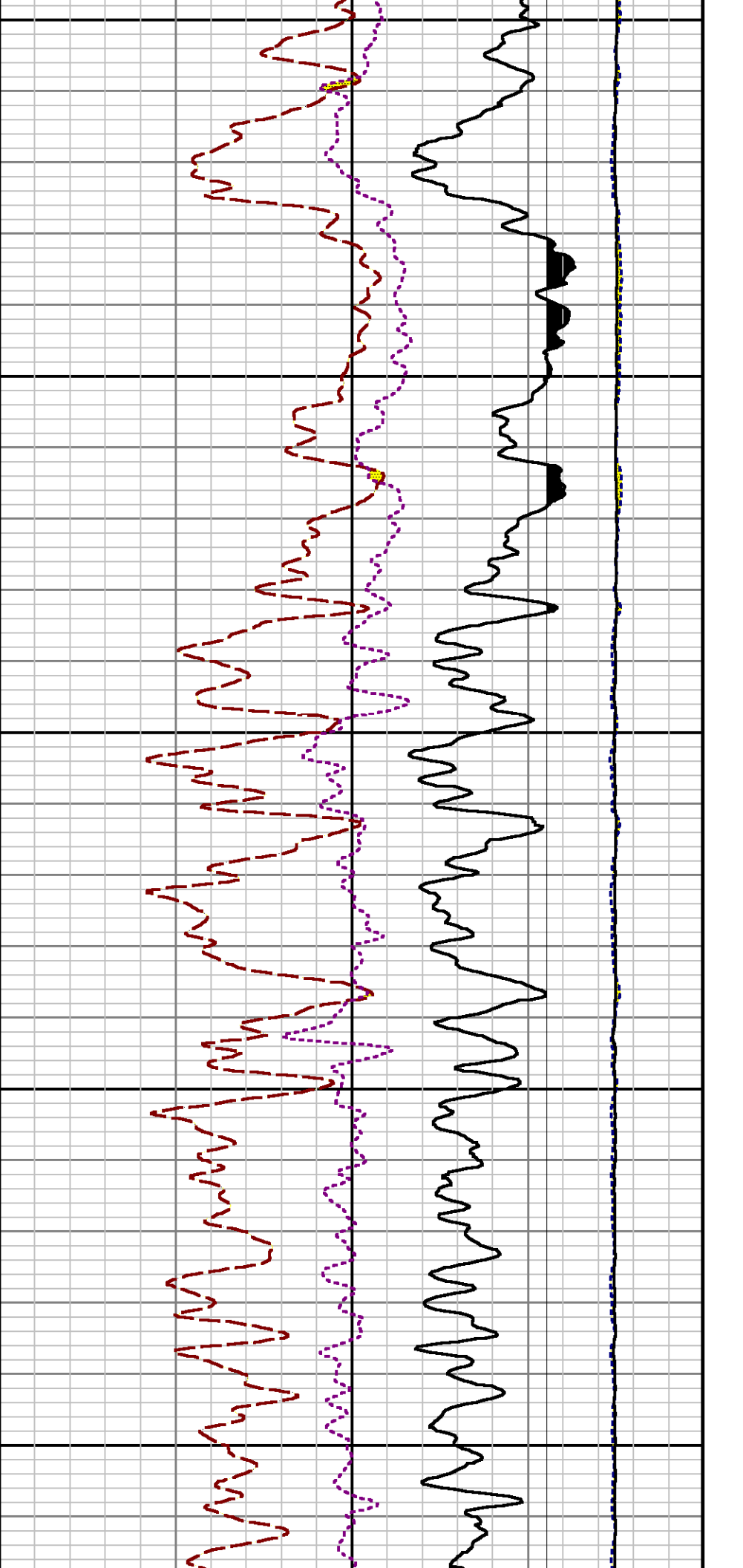




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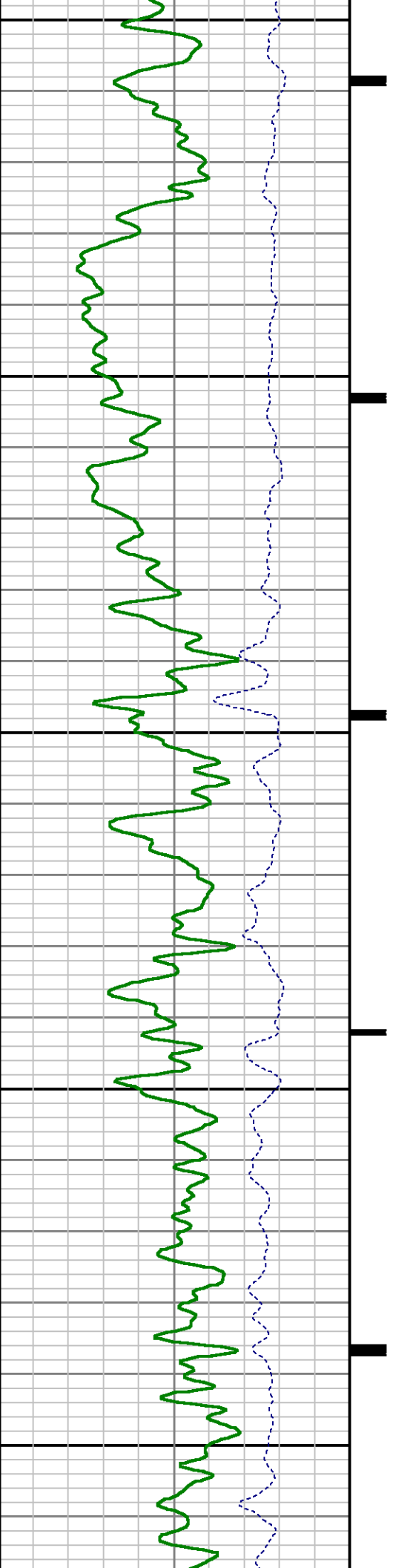
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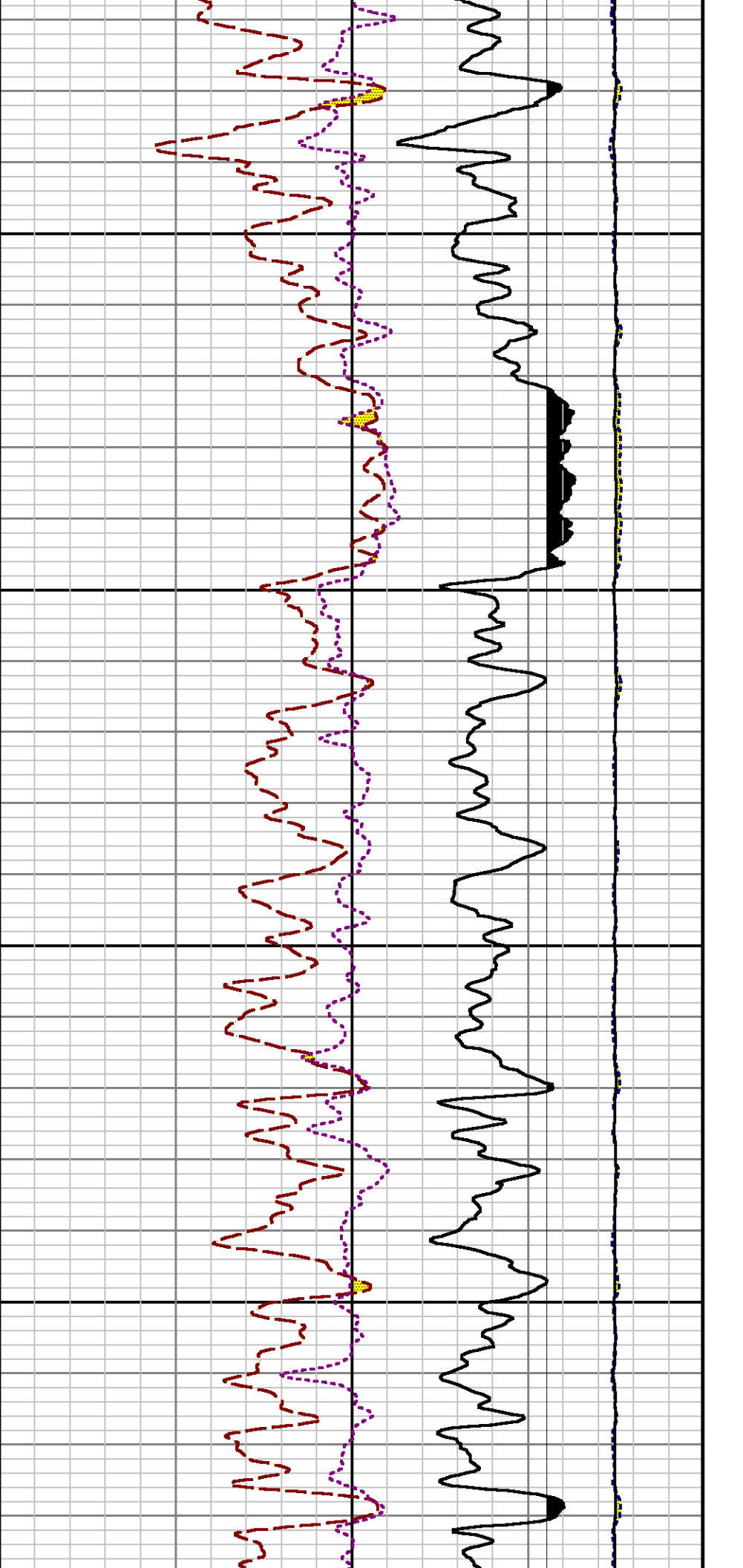




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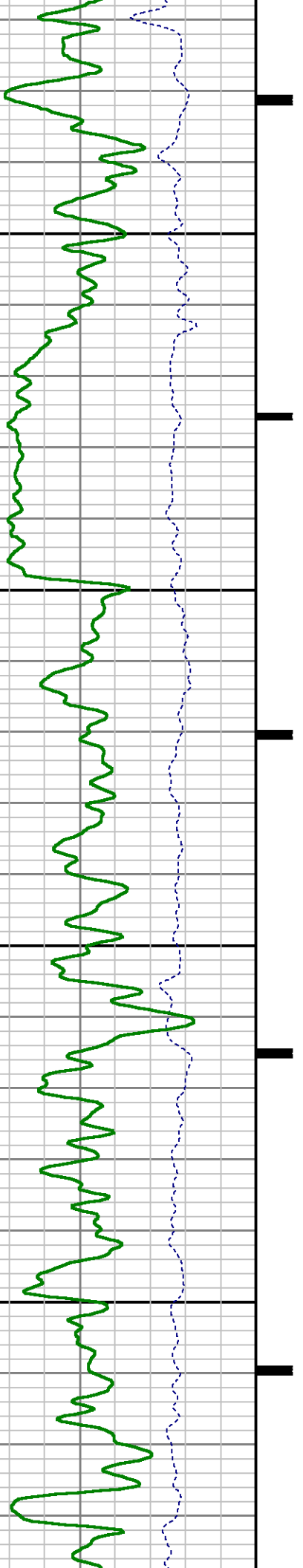
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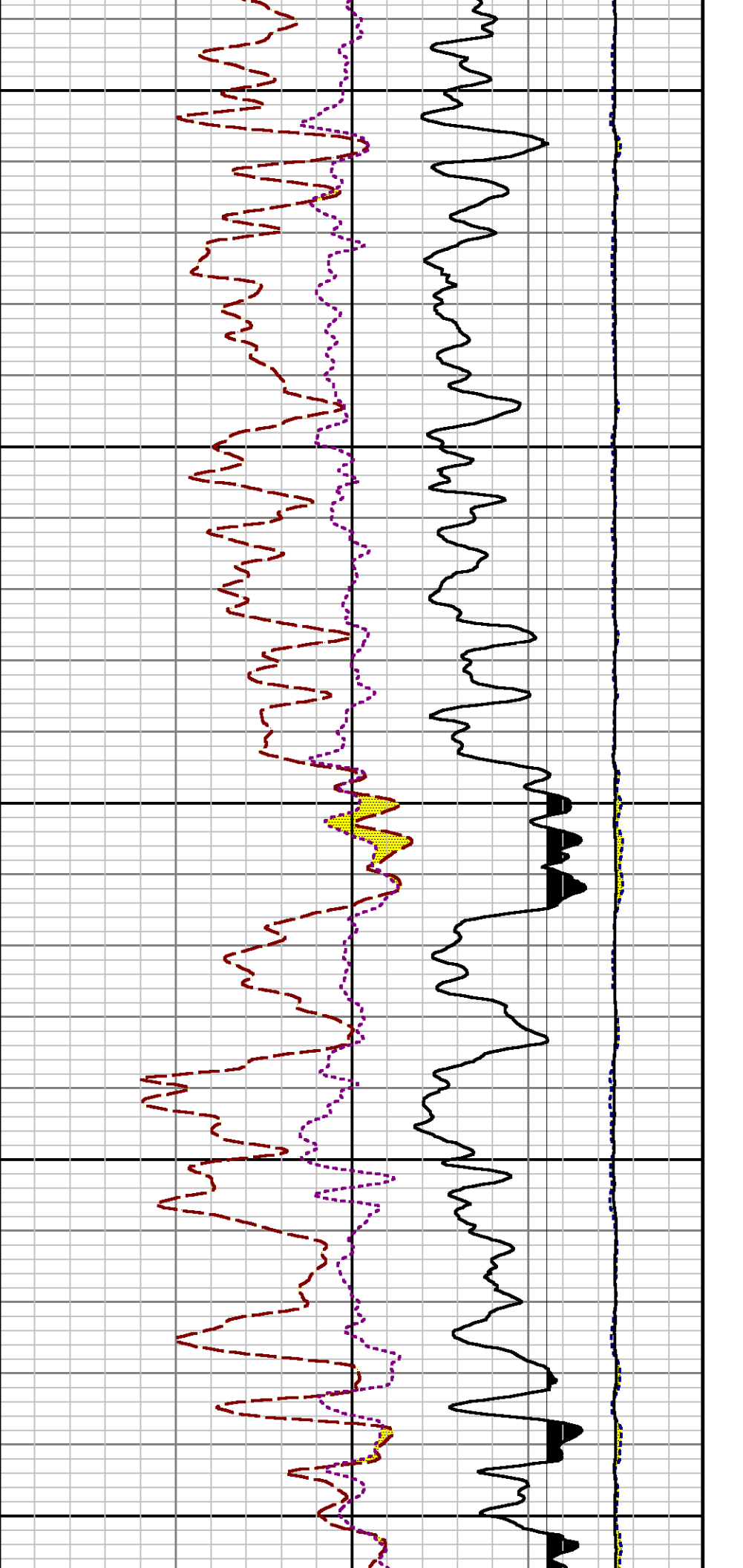




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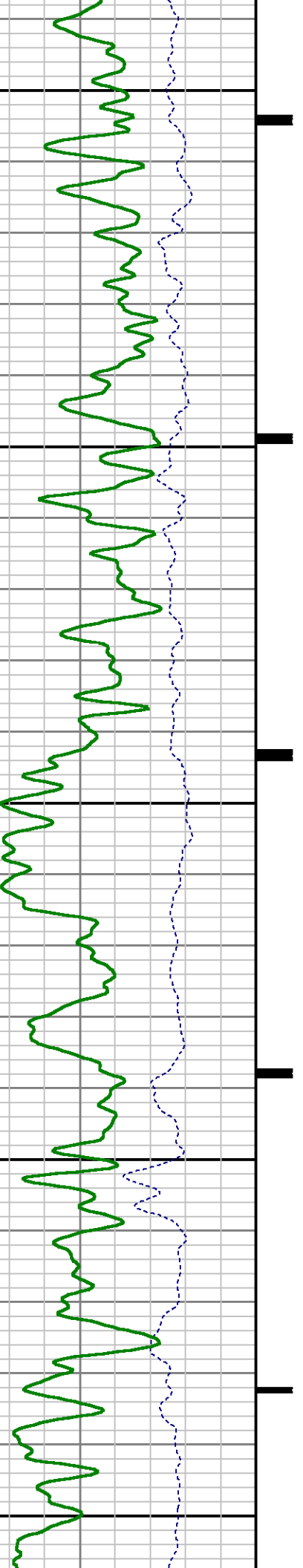


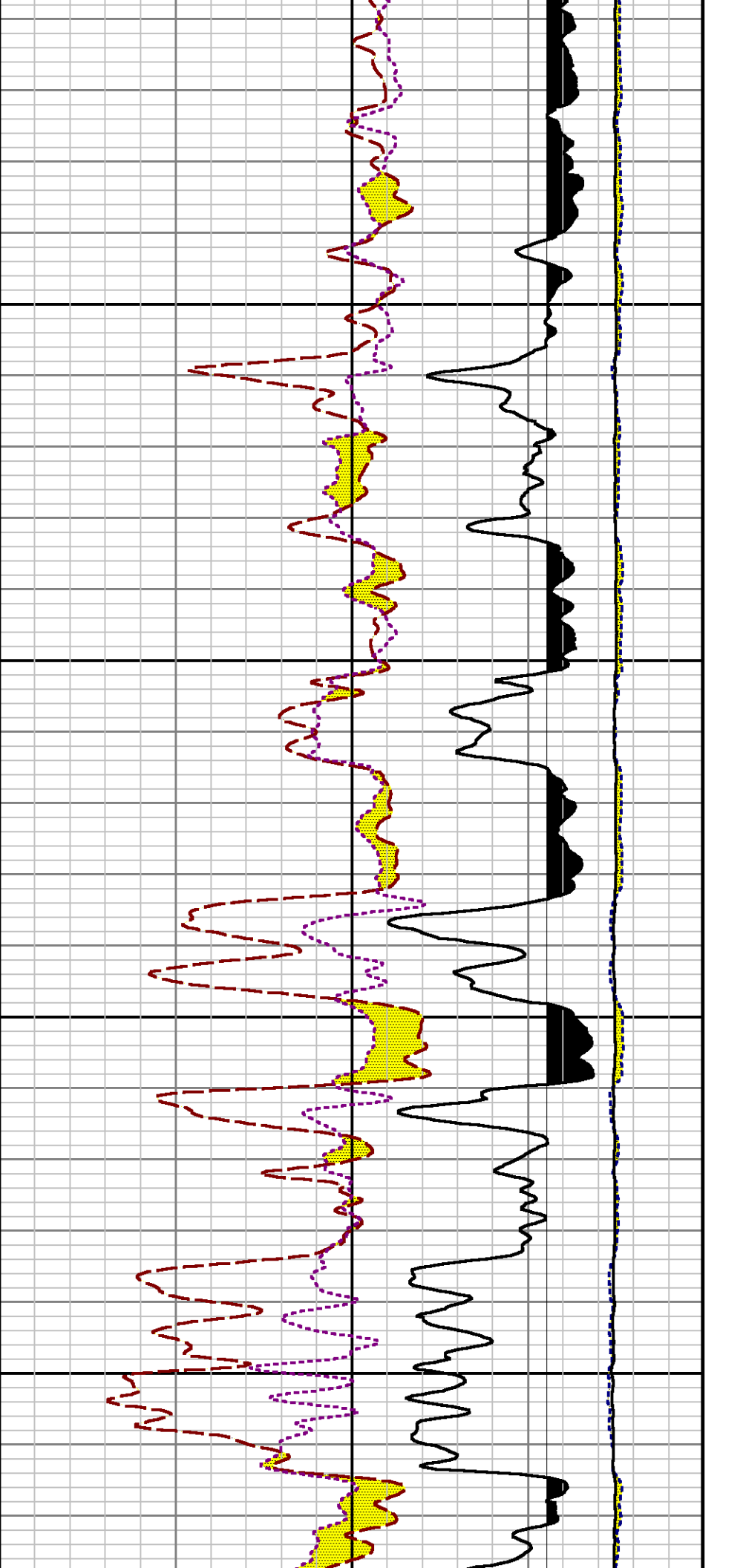


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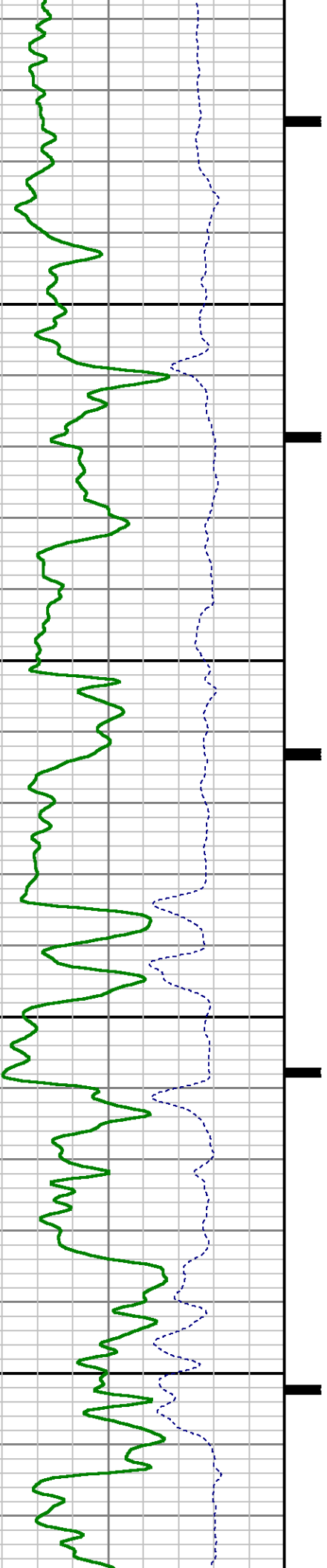
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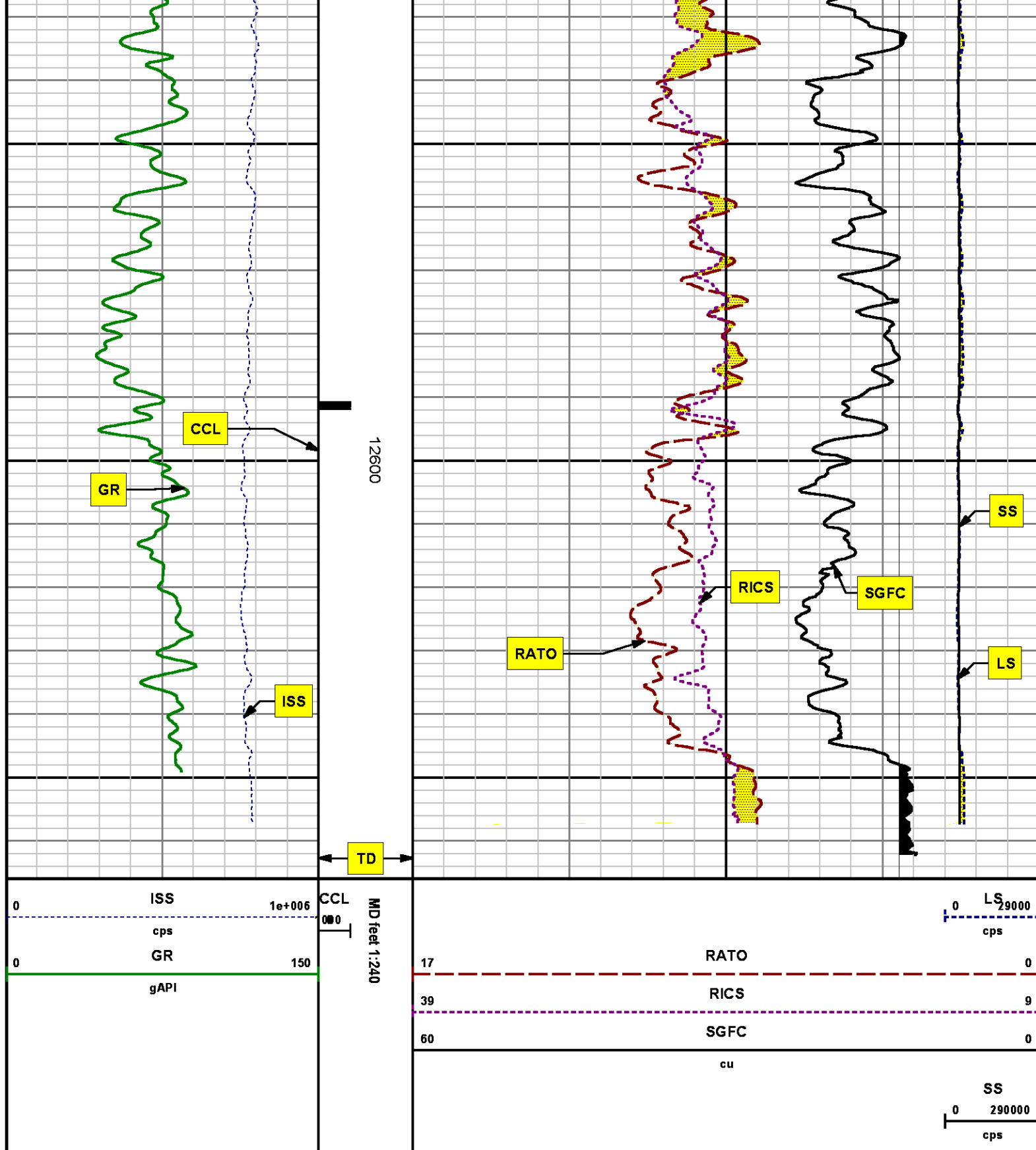




12400

12500





REPEAT SECTION
PNC 3-D MODE

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		11835.343	12170.937
PNC Porosity	Borehole Size	8.750	inch	11835.343	12170.937
PNC Porosity	Casing Size	4.500	inch	11835.343	12170.937
PNC Porosity	Gas Filled	Non Gas Filled		11835.343	12170.937
PNC Porosity	Matrix	Sandstone		11835.343	12170.937
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	11835.343	12170.937

DEPTH OFFSETS

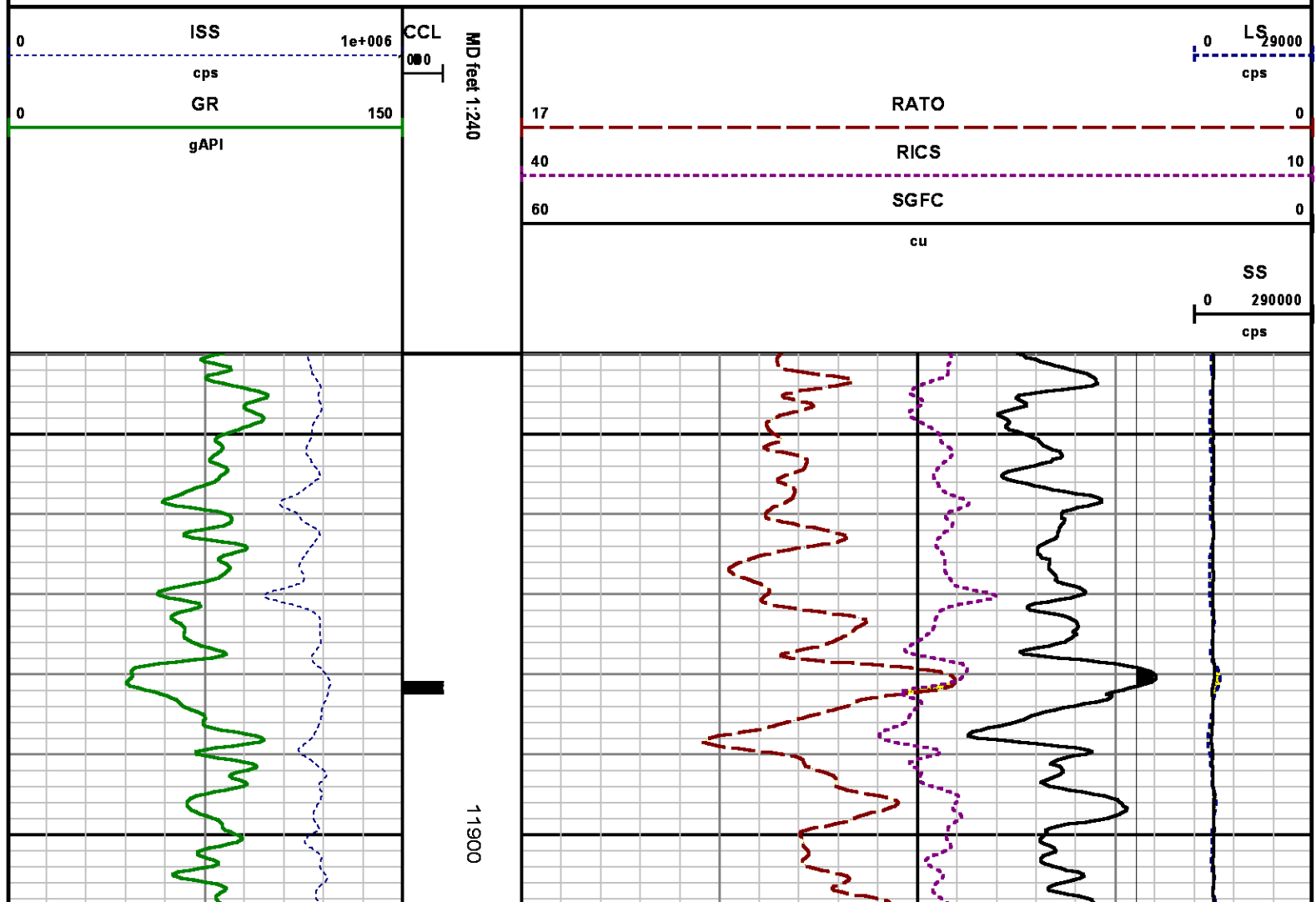
(for Acquired Curves)

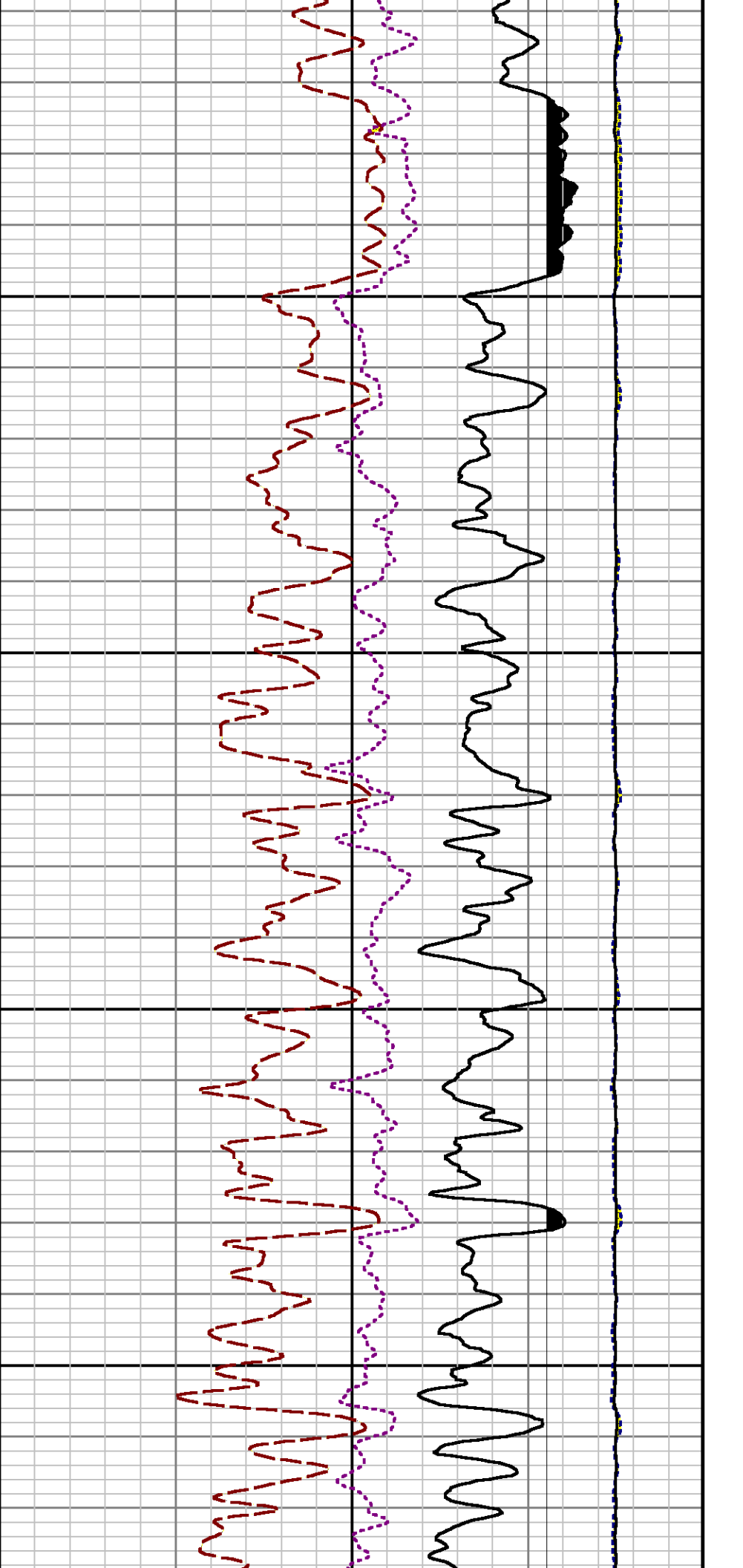
SERIES	DEPTH OFFSET	ACQUIRED CURVES
8248ED	-26.519	FLTM
8248ED	-24.519	CCL CHV
2812LA	-21.969	GR
8281XA	-12.702	HVC3Q0 SEQ3 AMA3 AML3 BKX CXS CPT3Q0 CPT3Q2 CPT3Q3 CPT3Q4 ET3 IXS MCS3 MCS3Q0 QCAL3 RGN3 RICX SDA3 SDL3 SGA3 SGL3 STA3 XS ASPEC3 AMB3 AMF3 CHF3 IXSC IXSN RATO23 RICXC RIN13C RIN23 RIN23C SD3D SG3D SGB3 SGF3 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

MD3M	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
RBORR	RICSR	RINR	RIN13R	RONER	RPORR
RTWOR					
PTFS	PTMS				
SPF1	SPFQ	TSCP	TSDP		
DTEM	TEMP	TNF			
TEN	TTEN				

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8255XA	0.000
SYSTEM	0.000

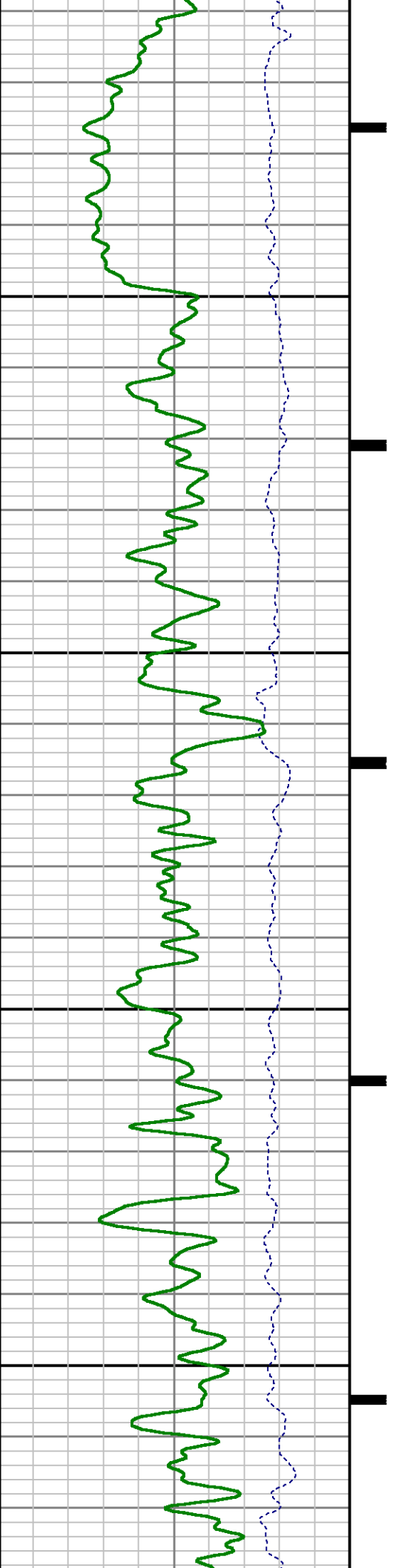
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 Plotted by : PlotMgr, v5.4.504
 Company : WPX ENERGY
 Well : FEDERAL RGU 333-24-198
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 Mode : PlotMgr 5.4.504
 Interval : 11840.00 - 12140.00 feet UP
 Created : 7/8/2014 6:48:14 PM

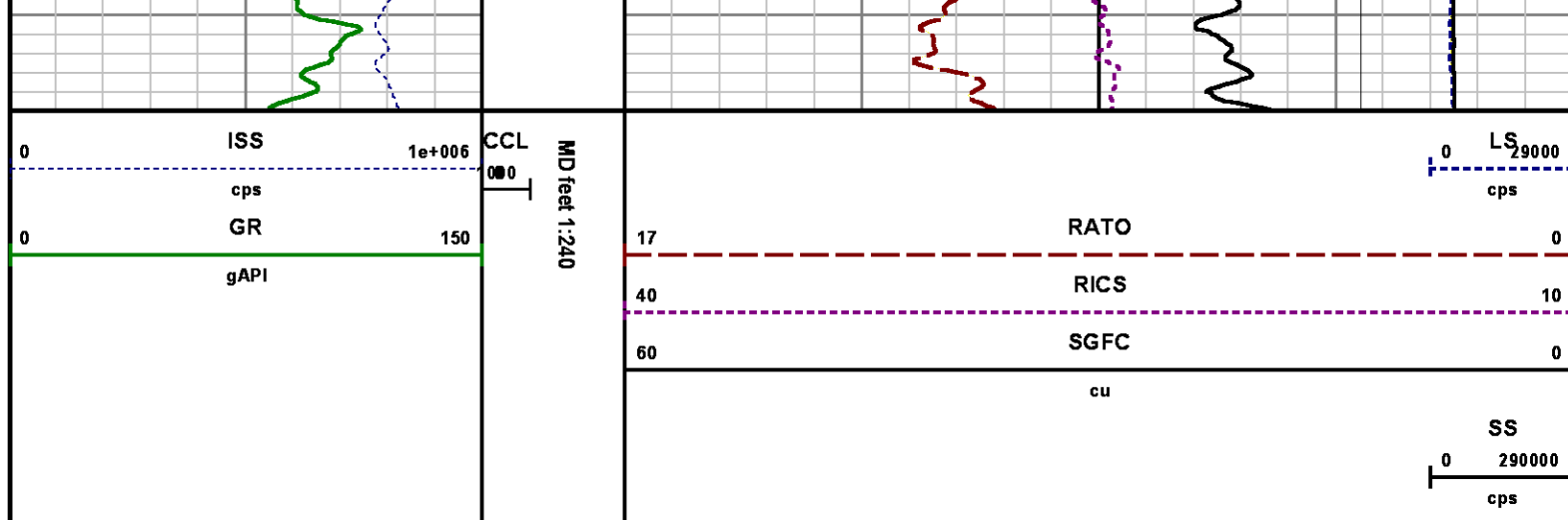




12000

12100





CALIBRATION SUMMARY

GAMMA RAY

Calibration File: C:\case\calver\GR\38530.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Mon Jun 30 08:38:51 2014 TOOL SERIES: 2812LA ASSET: 385 SEQ: 30

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA-612	42.56	269.00	0.927	39.47	249.47	210.00

Verification File: C:\case\calver\GR\38530.VP

PRIMARY VERIFICATION

DATE/TIME PERFORMED: Mon Jun 30 08:42:33 2014 TOOL SERIES: 2812LA ASSET: 385 SEQ: 30

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA-612	41.56	270.56	0.927	38.54	250.91	212.37

PNC

Calibration File: C:\case\calver\PNC\25126.cal

PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Jun 26 10:34:29 2014 TOOL SERIES: 8281XA ASSET: 251 SEQ: 26

Calibrator

2437XB 112674

Source

8281AA 10220684

	ISS	Mtr Vlt (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	808104	121.00	2304.00	2298.00	2316.00	252.94	7.00	0.9838
Interpolated	1300000	140.62	2287.61	2288.89	2310.03			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	808104	7675.62	1280.04	159.97	25.73	0.14	24.27	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	808104	167031.69	26349.41	87906.17	31316.05	8210.99	53315.01	13125.35
Fit Quality %		0.36	0.30	0.50	0.47	0.32	0.47	0.30

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	808104	1.43	4.84	30.67	15.16	10.71	3.81	4.06
		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 %		0.06	0.20	0.23	0.14	0.08	0.08	0.10
Reduced	1388893	1.43	4.84	30.68	15.18	10.70	3.81	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\17697324.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: 02 JUNE 2014

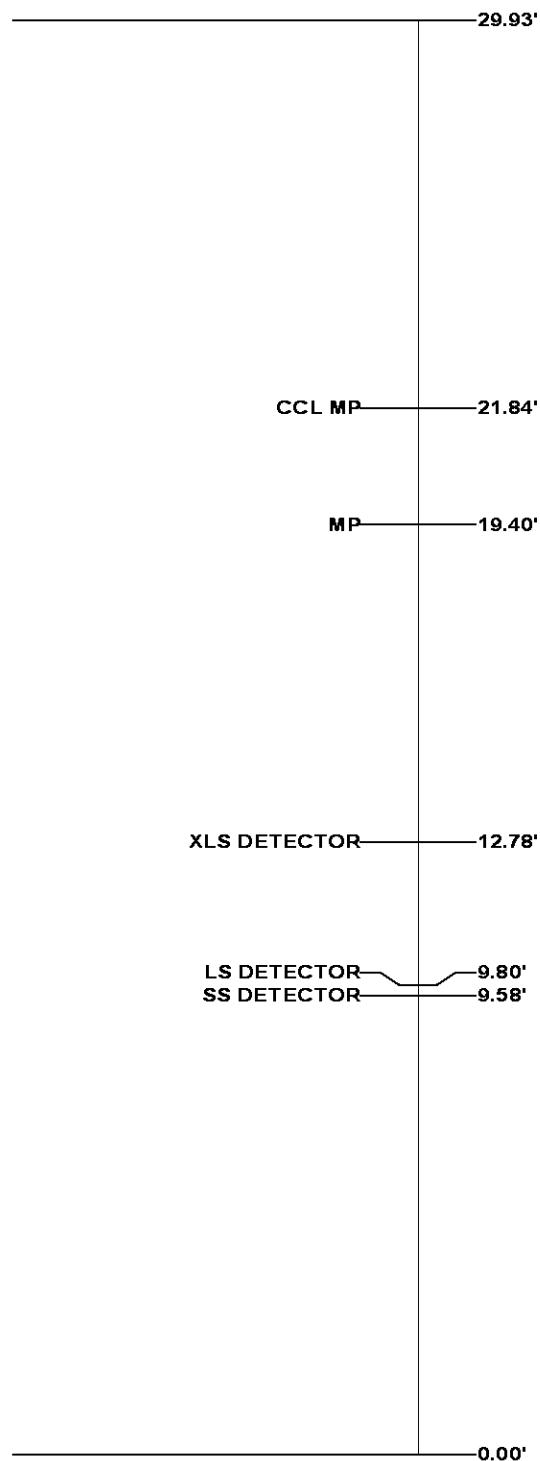
TOOL SERIES: 8255XA ASSET: 176973 SEQ: 24

	T(0)	T(1)	T(2)	T(3)	T(4)	T(5)
Coefficients	-1.889935e+001	1.004280e-001	1.215976e-006	-1.293045e-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



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



Baker Atlas

Company	WPX ENERGY
Well	FEDERAL RGU 333-24-198
Field	SULPHUR CREEK
County	RIO BLANCO
State	COLORADO

File No:	CH087684
API No:	05103120780000



Location

SHL: 2139' FSL & 1698' FEL

BHL: 1862' FSL & 1808' FEL (NWSE)

SEC 24 TWP 1S RGE 98W

Elevations

KB 6617 ft

DF

GL 6596 ft

24 1S 98W

RGU 33-24-198 PAD

CYCLONE 29