



RESERVOIR

PERFORMANCE

MONITOR

Baker Atlas

File No: CH074105	Company Well Field County	WPX ENERGY FEDERAL RGU 23-23-198 SULPHUR CREEK RIO BLANCO	State COLORADO
API No: 05103117880000	Location 23 1S 98W RGU 23-23-198 PAD CYCLONE 29		Other Services BOND LOG
SEC 23		TWP 1S	RGE 98W
Permanent Datum Log Measured From Drill Measured From	GL Elevation KB 21 ft Above P. D. KELLY BUSHING		Elevations KB 6566 ft DF GL 6545 ft

Date	03/JUL/13	
Run	ONE	
Service Order	624436	
Depth Driller	12502 ft	
Depth Logger	12445 ft	
Bottom Logged Interval	12400 ft	
Top Logged Interval	21 ft	
Time Started	1400	
Time Finished	0130	
Operator Rig Time	11.5 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	84 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	10 deg	
Nominal Logging Speed	10 fpm	
Maximum Recorded Temperature	255 degF	
Reference Log	BAKER HUGHES BOND LOG	
Reference Log Date	03/JUL/13	
Equipment No.	4271	GRAND JCT
Recorded By	FLOYD RENEAU	
Witnessed By	Wayne Marcotte	

- 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
13.5 in	0 ft	3863 ft
7.875 in	3863 ft	12502 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in	32.2 lbm/ft		0 ft	3863 ft
4.5 in	11.6 lbm/ft	P-110	0 ft	12502 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 7/3/2013 at the client's request.
The amount of linear shift is 12 feet.
Logged in PNC-3D mode.
SJ = 7215'-7234'
BHT = 255°F

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	RPM	8281FA	10307727	FREE
1	1	RPM	8281PA	10585555	FREE
1	1	RPM	8281EA	10303640	FREE
1	1	GR	8262XA	10076055	FREE
1	1	TEL/CCL	8248ED	10387150	FREE
1	1	PCM	8250EA	Z166326	FREE

MAIN SECTION

PNC 3-D MODE

SPL PROCESSING

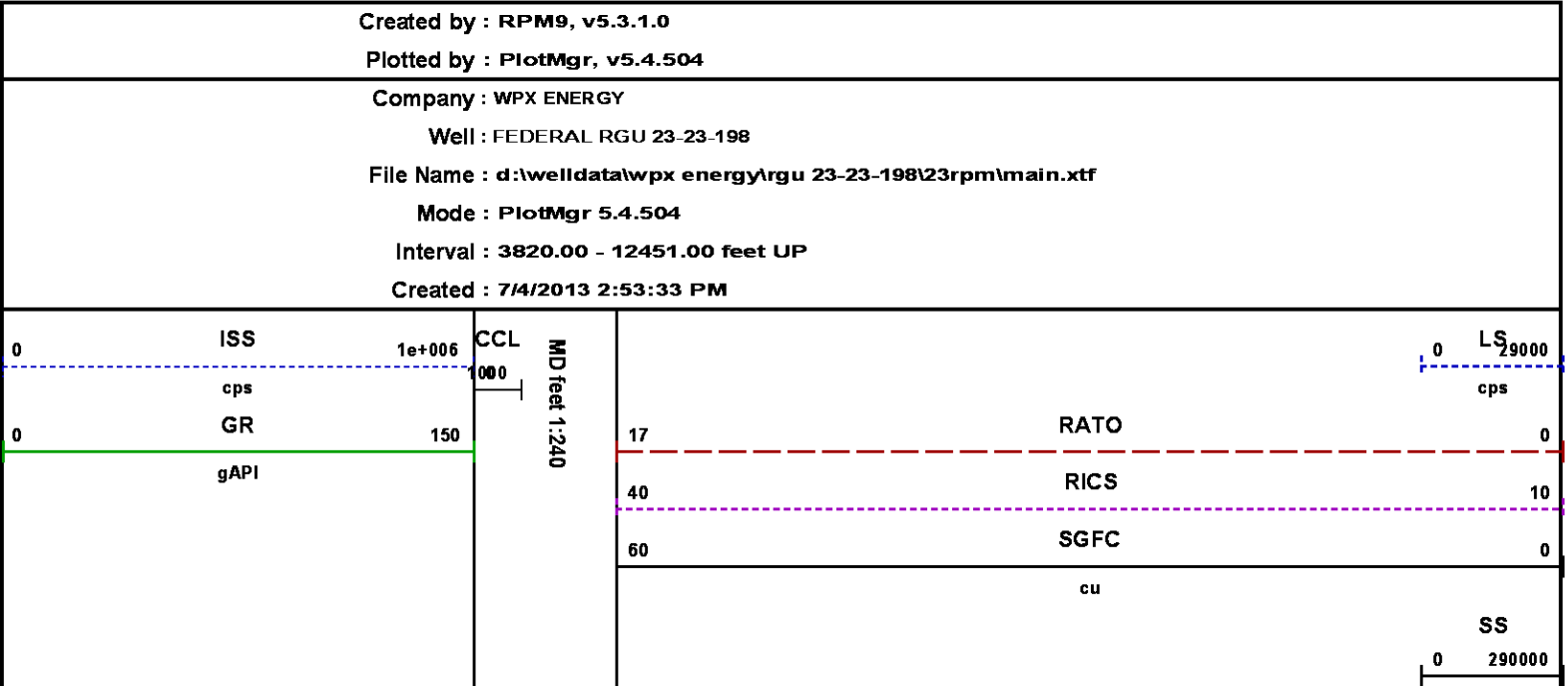
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
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PNC Porosity	Borehole Size	8.750	inch	3786.500	12460.655
PNC Porosity	Casing Size	4.500	inch	3786.500	12460.655
PNC Porosity	Gas Filled	Non Gas Filled		3786.500	12460.655
PNC Porosity	Matrix	Sandstone		3786.500	12460.655

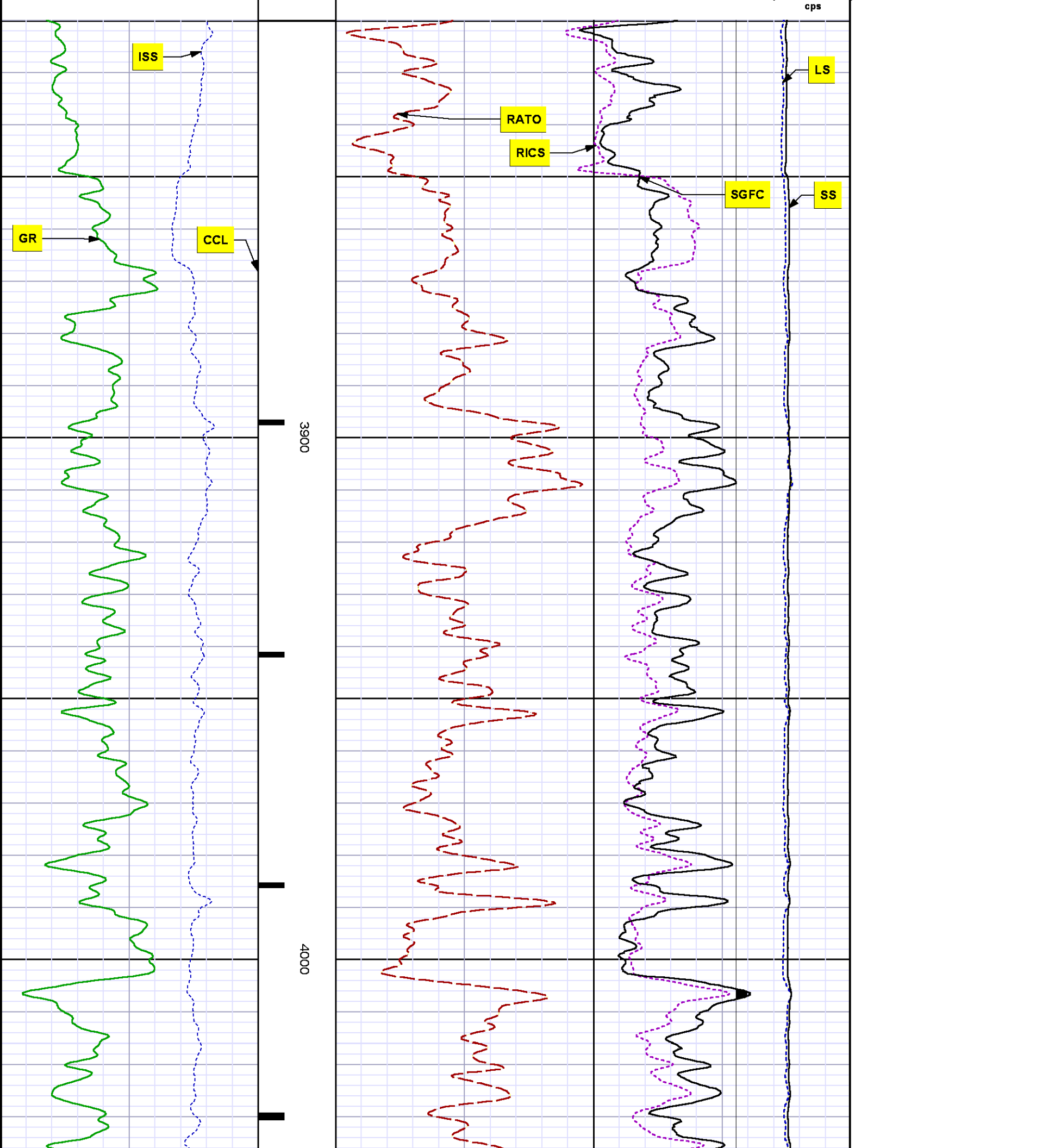
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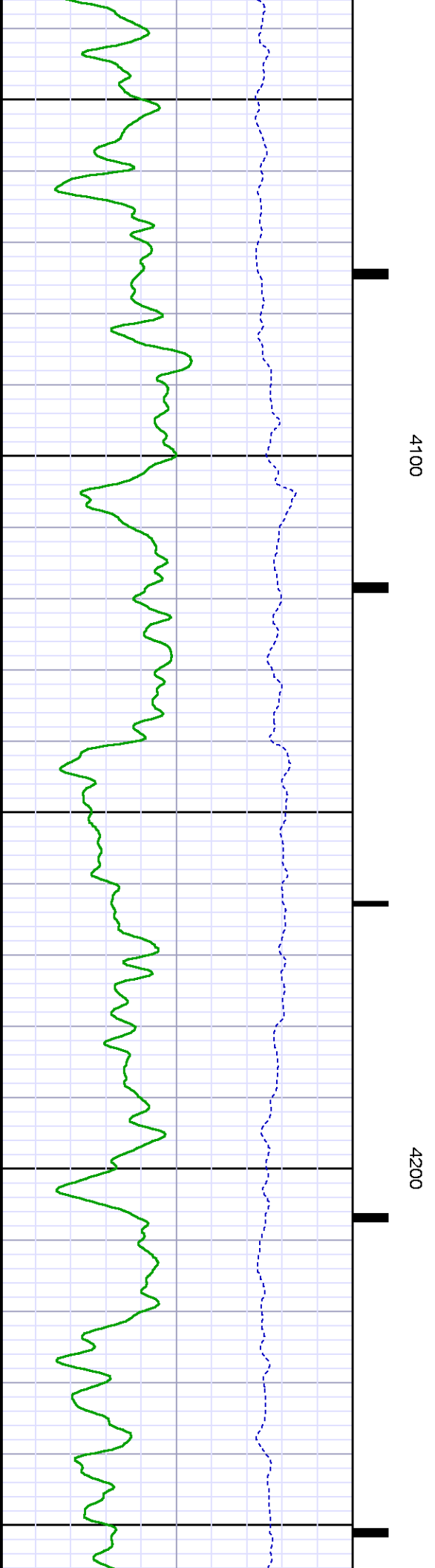
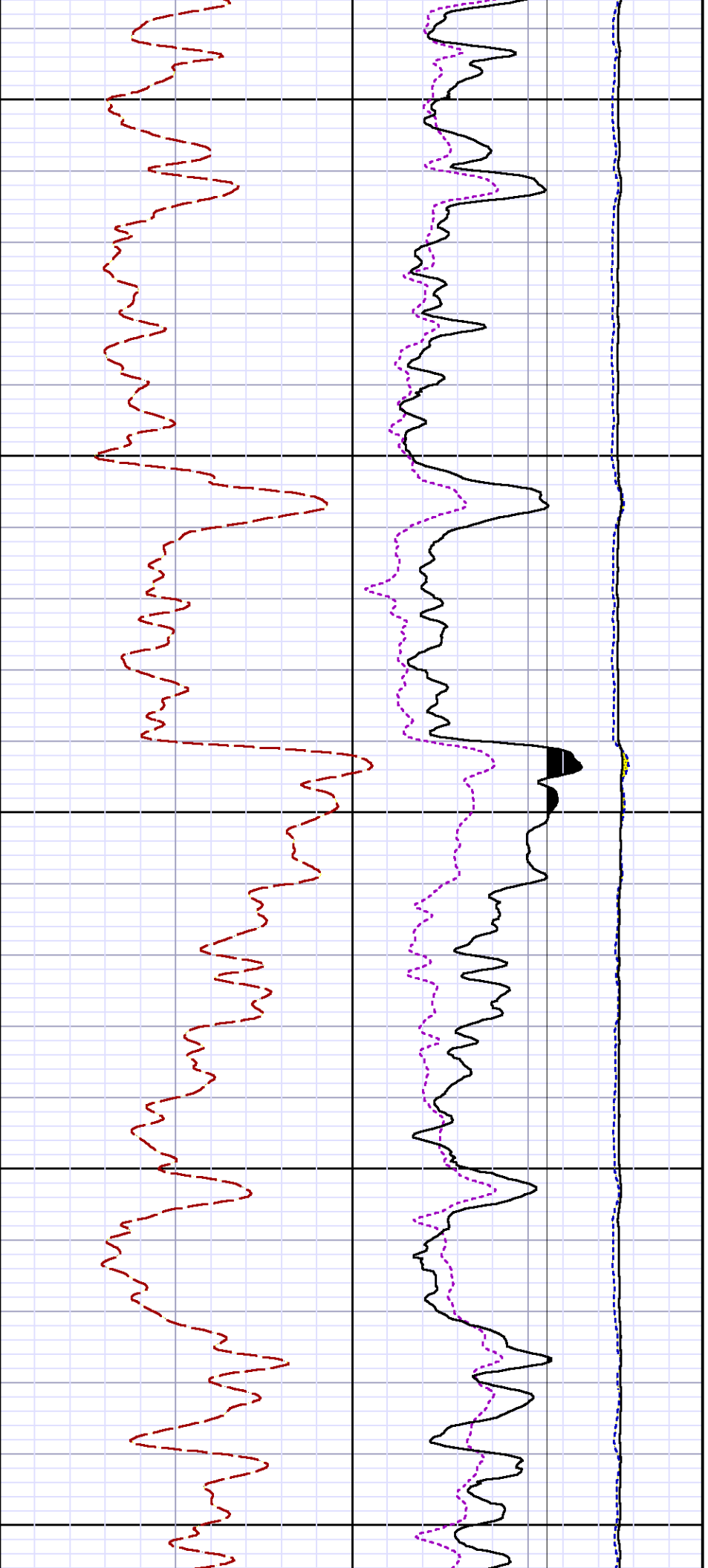
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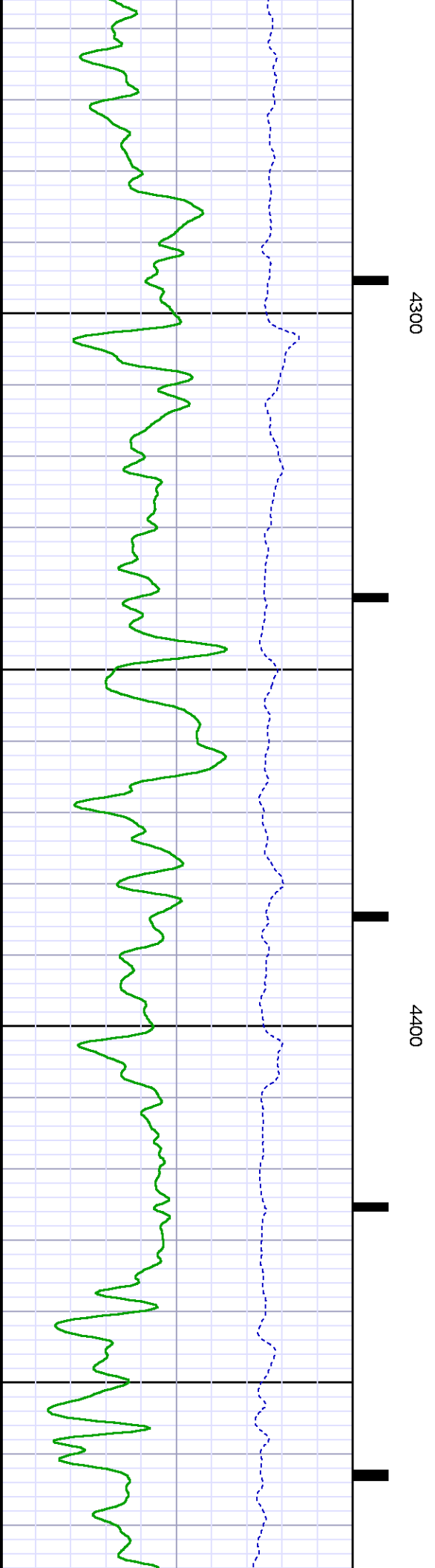
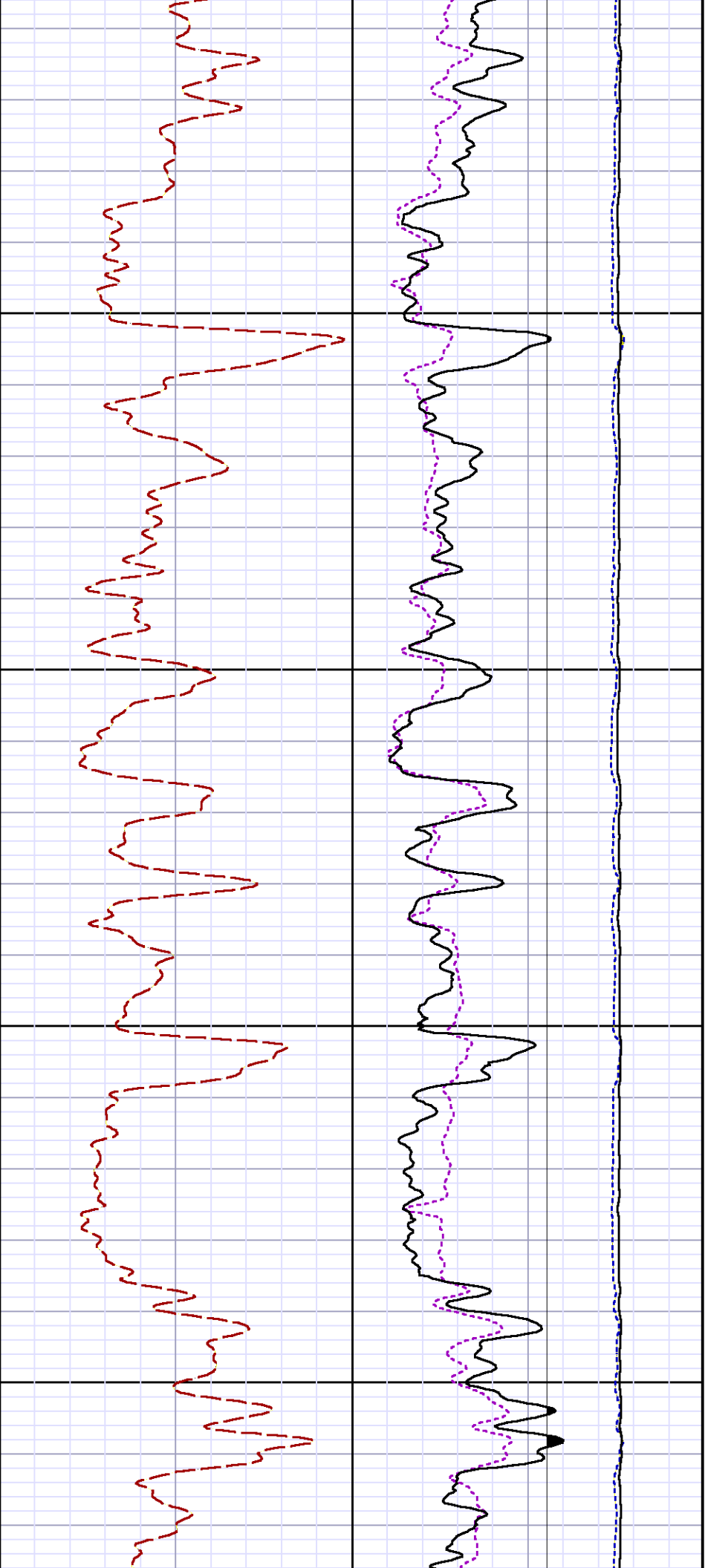
SERIES	DEPTH OFFSET	ACQUIRED CURVES
8248ED	-15.320	FLTM
8248ED	-13.320	CCL CHV
8262XA	-10.189	GR
8281XA	-0.662	HVC3Q0 SEQ3 AMA3 AML3 BKX CXS
		CPT3Q0 CPT3Q2 CPT3Q3 CPT3Q4 ET3 IXS
		MCS3 MCS3Q0 QCAL3 RGN3 RICX SDA3
		SDL3 SGA3 SGL3 STA3 XS ASPEC3
		AMB3 AMF3 CHF3 IXSC IXSN RATO23
		FW3Q0 FW3Q2 FW3Q3 FW3Q4 FW3Q5 FW3Q6

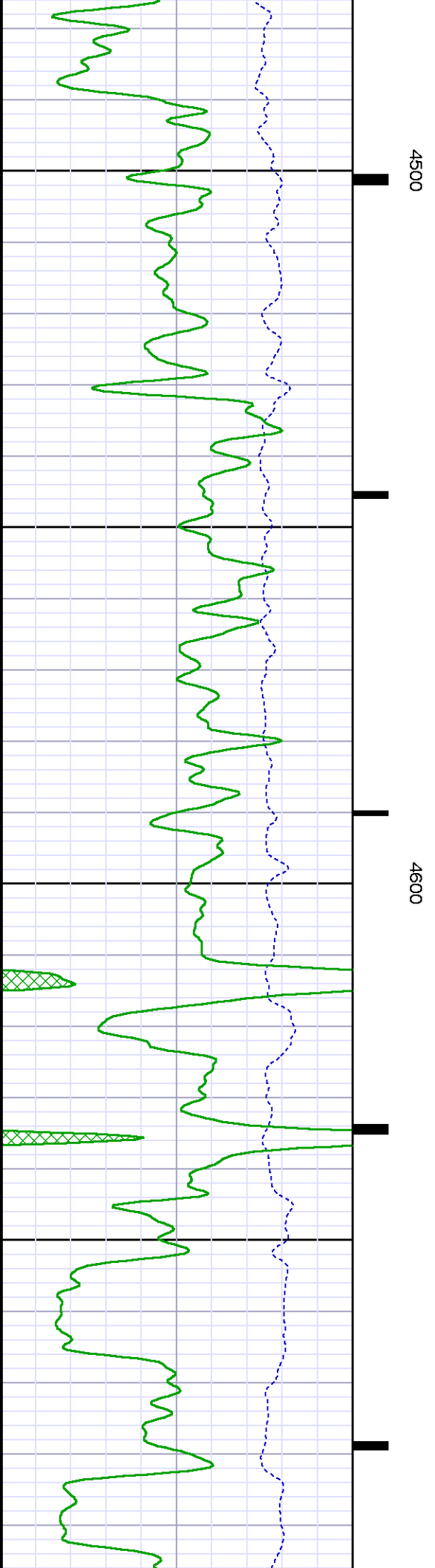
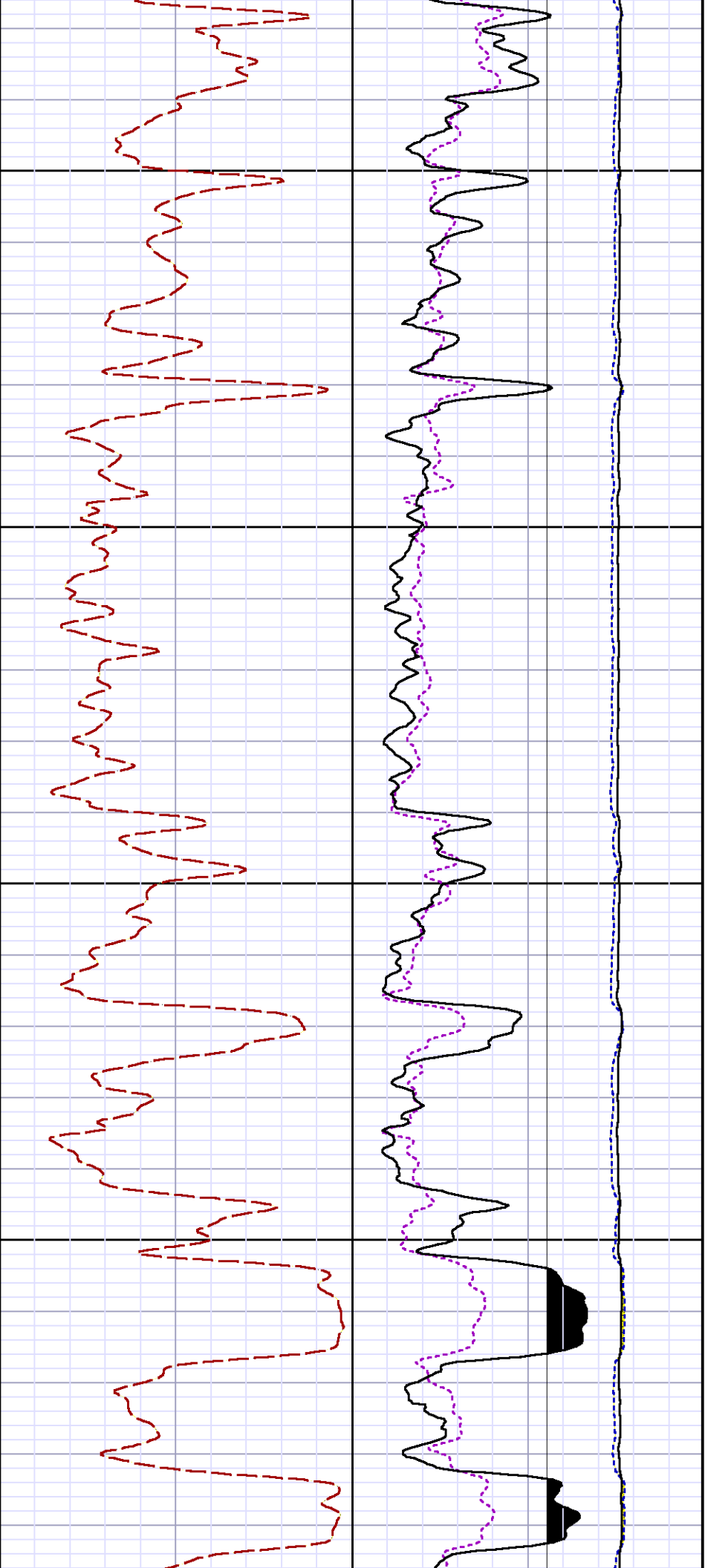
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		SGB3	SGF3	WDTH3	CXSR	IXSR	XSR
		RICXR					
8281XA	-0.250	HVC2Q0	SEQ2	AMA2	AMB2	AMF2	AML2
		BKL	CHF2	CLS	CPT2Q0	CPT2Q2	CPT2Q3
		CPT2Q4	ET2	ILS	LS	MCS2	MCS2Q0
		QCAL2	RGN2	RICL	RONE23	RTWO23	SDA2
		SDL2	SGA2	SGB2	SGF2	SGK2	SGL2
		STA2	ASPEC2	ILSC	ILSN	WDTH2	RICLC
		CLSR	ILSR	LSR	RICLR		
8281XA	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	WDTH1	RICSC	CSSR	G1R
		G2R	ISSR	SSR	SS2R	RATOR	RATO13R
		RBORR	RICSR	RINR	RIN13R	RONER	RPORR
		RTWOR					
SYSTEM	0.000	TEN	TTEN				

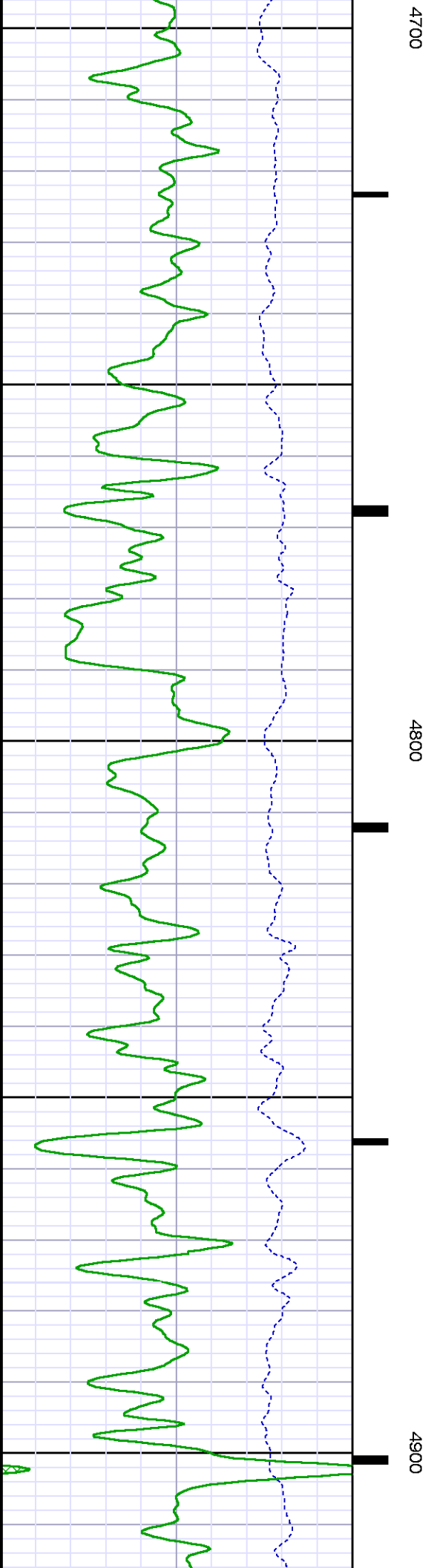
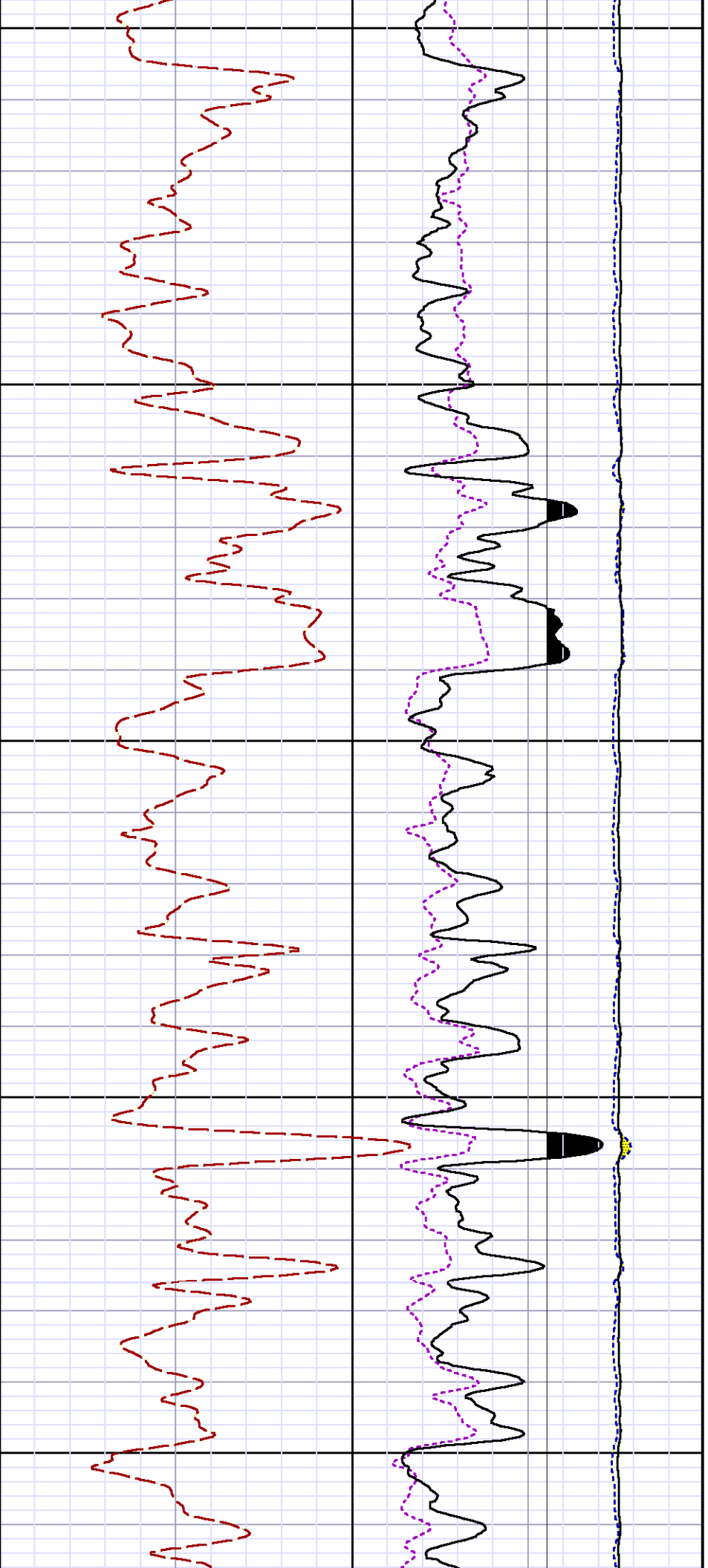


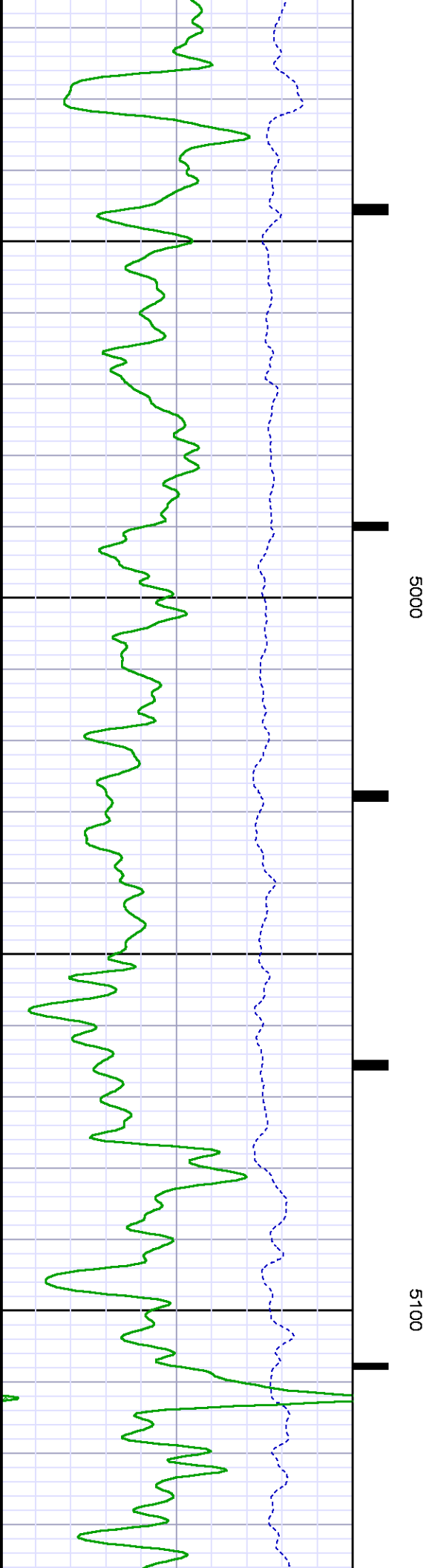
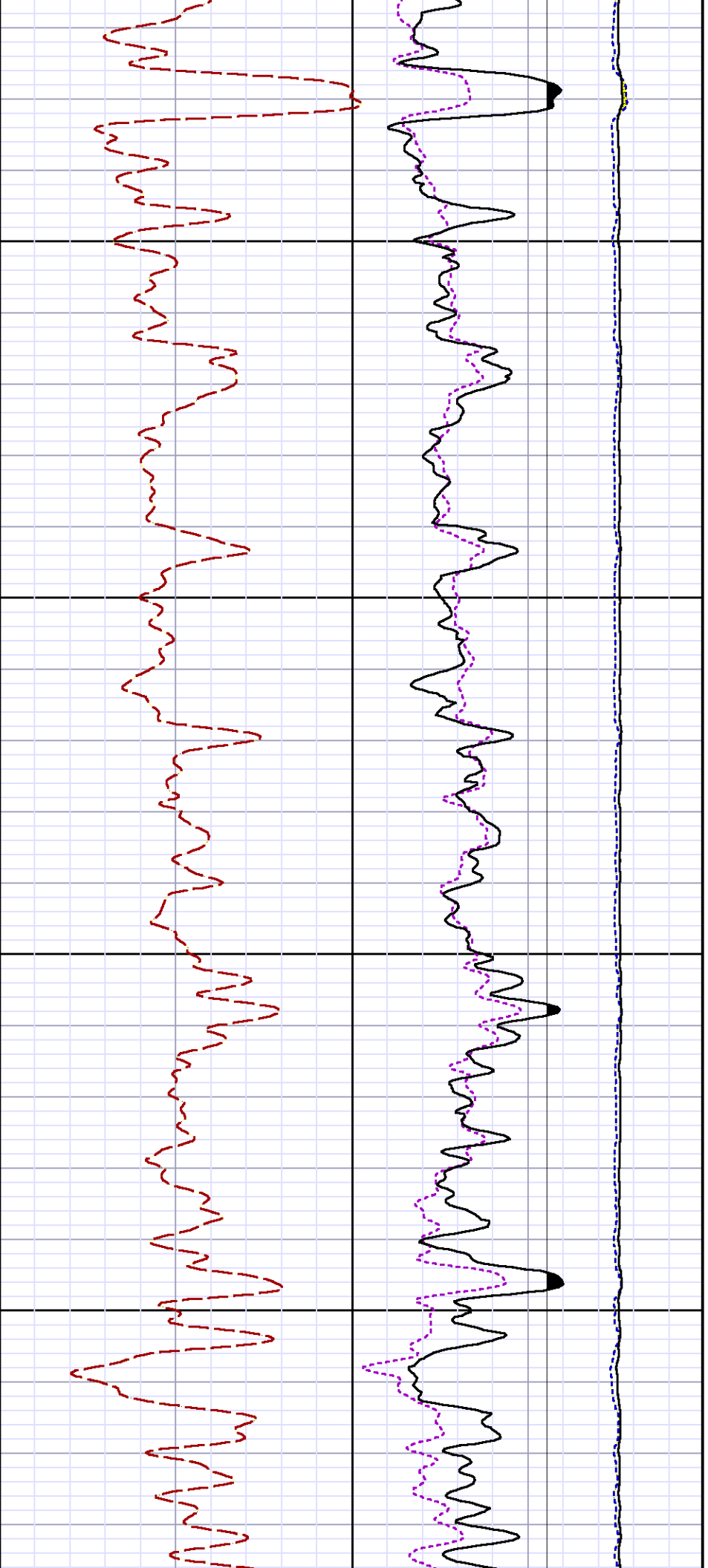


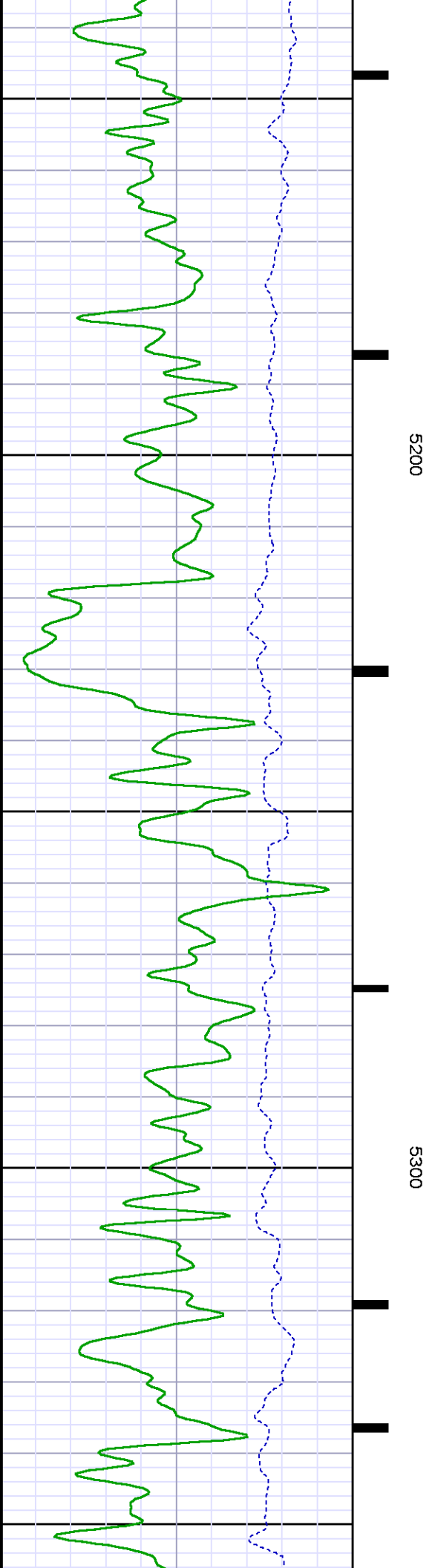
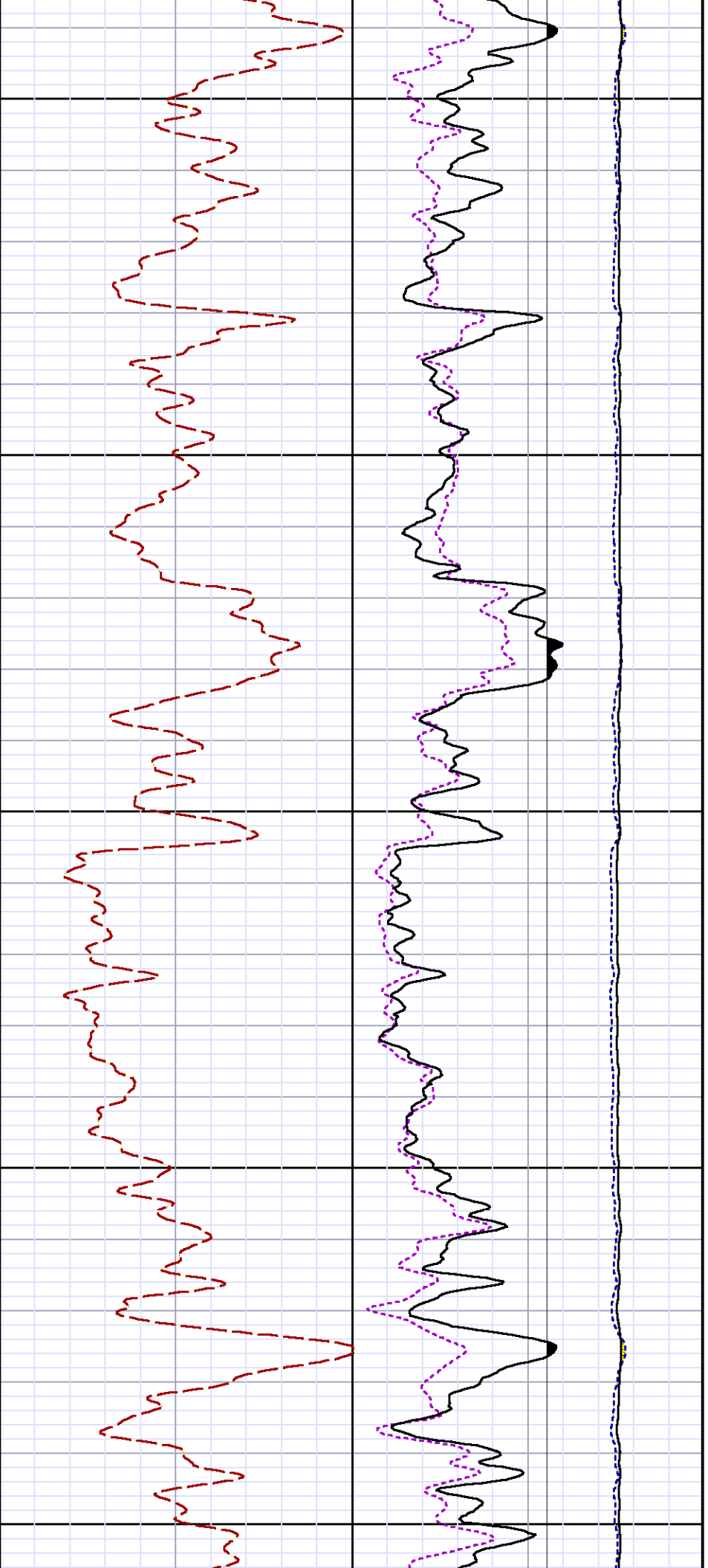


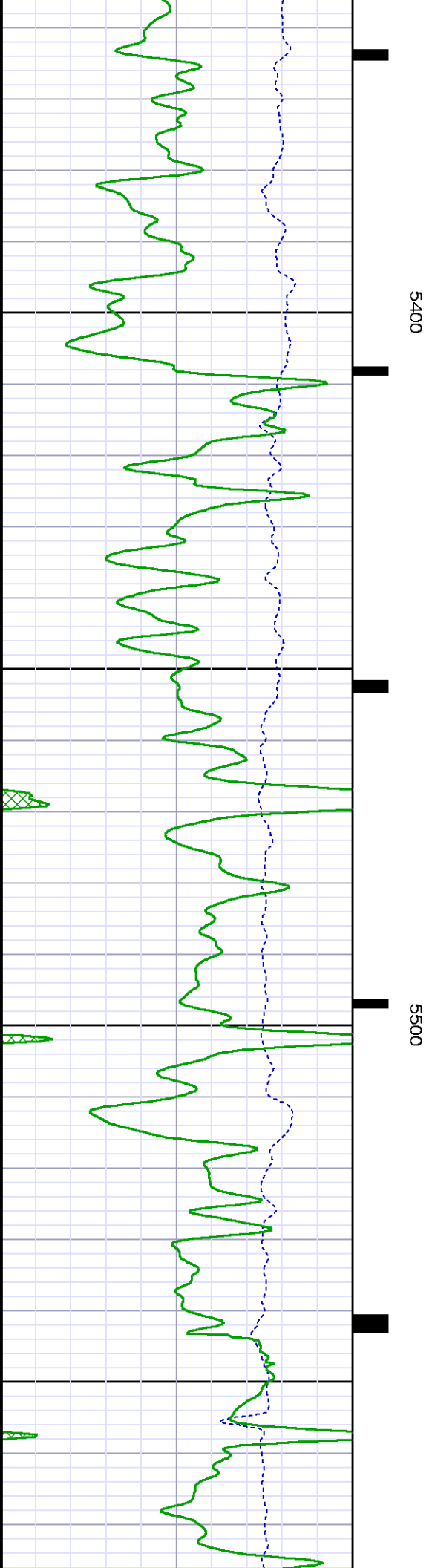
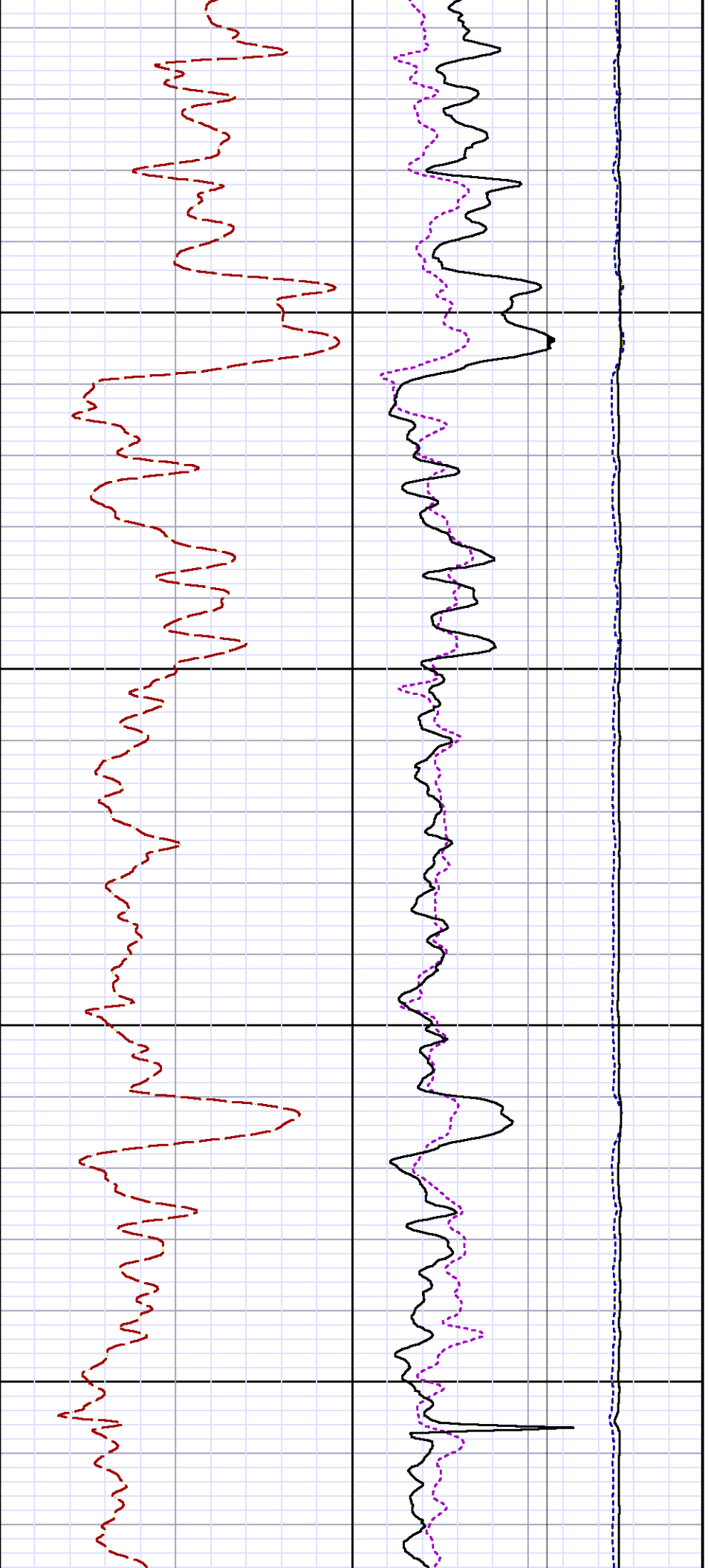


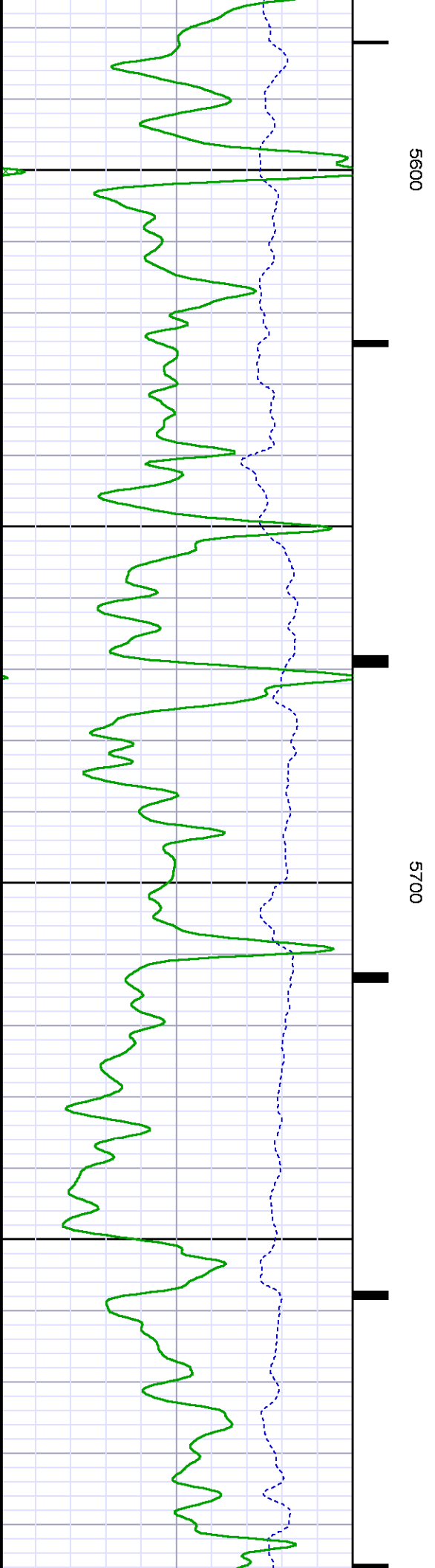
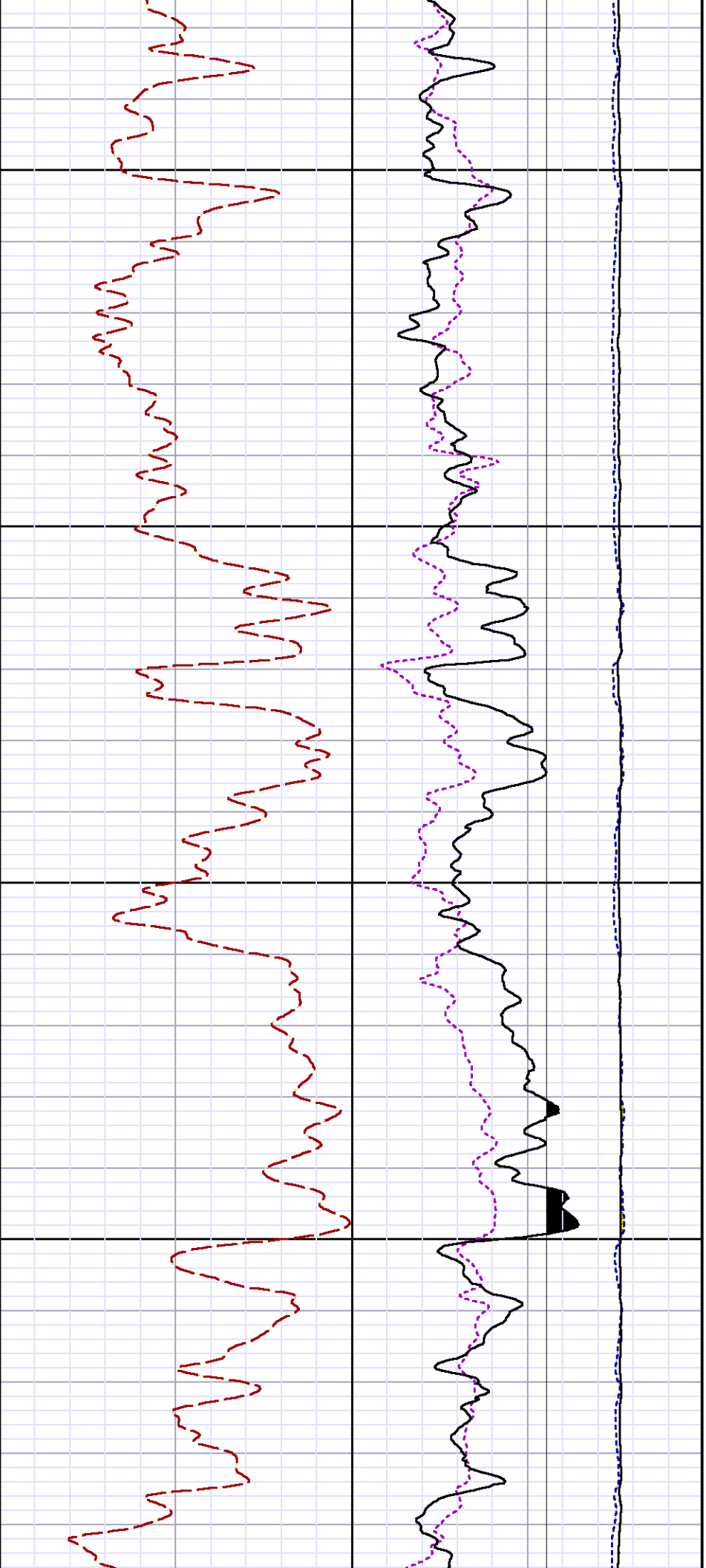


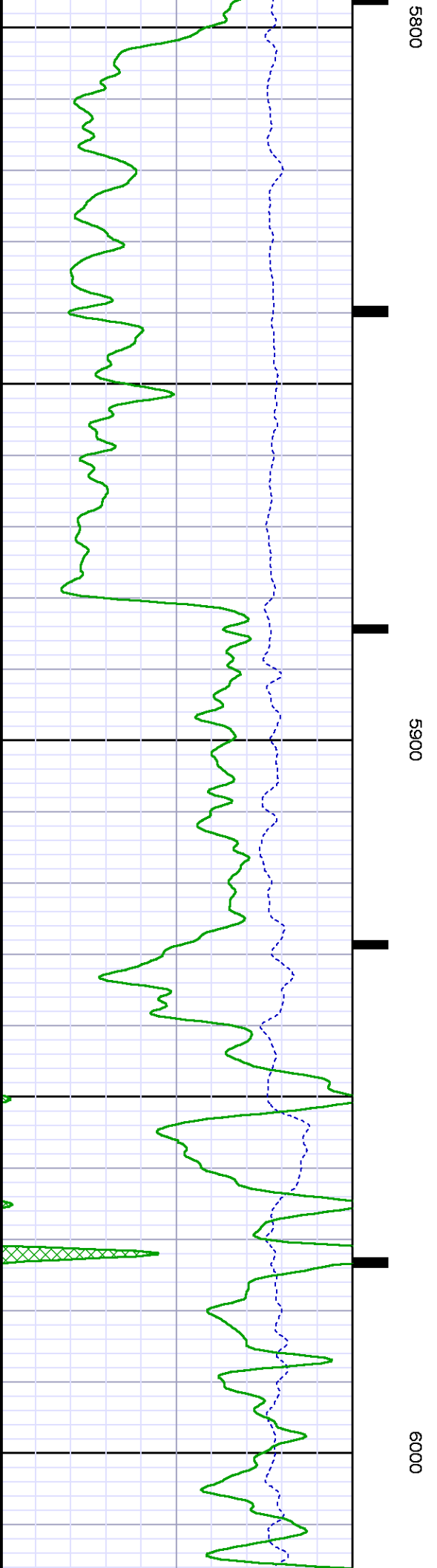
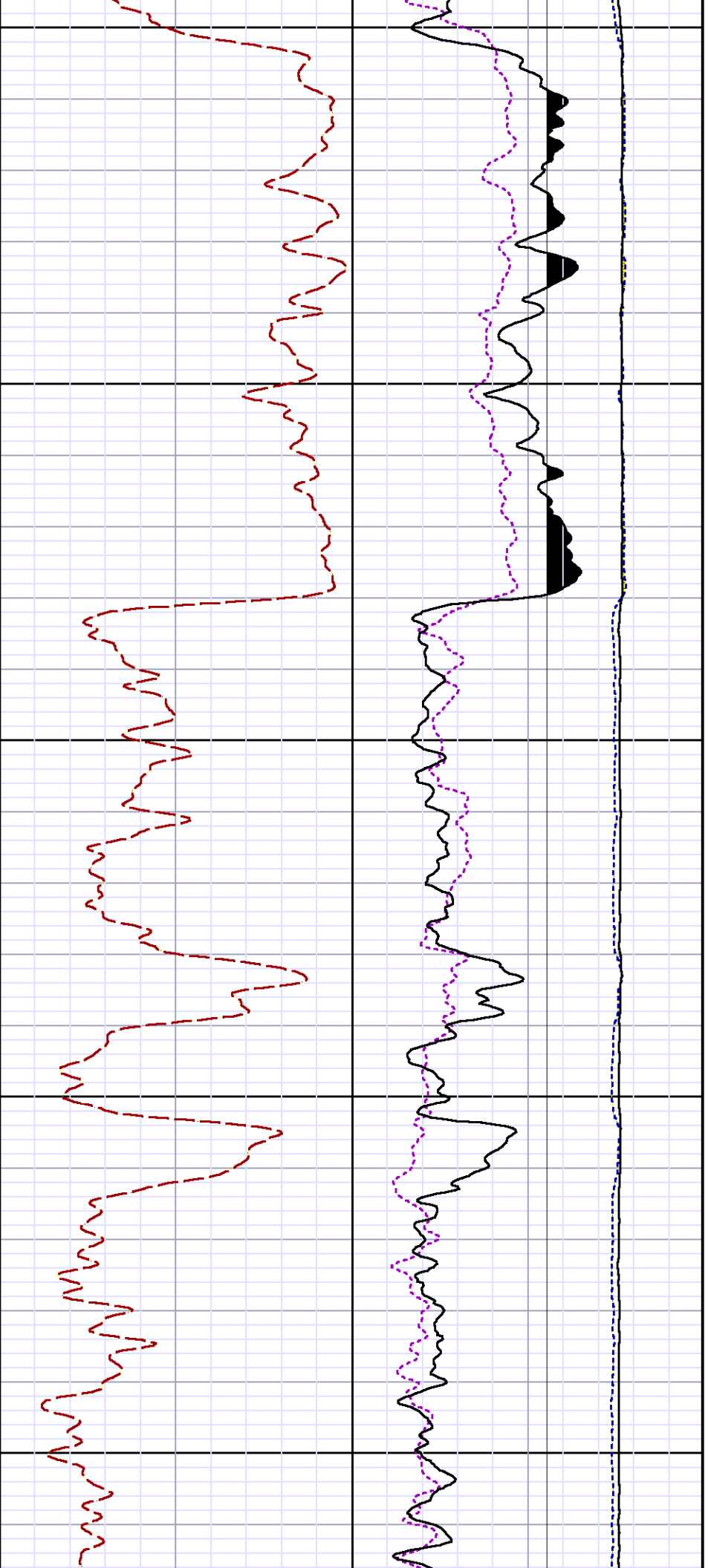


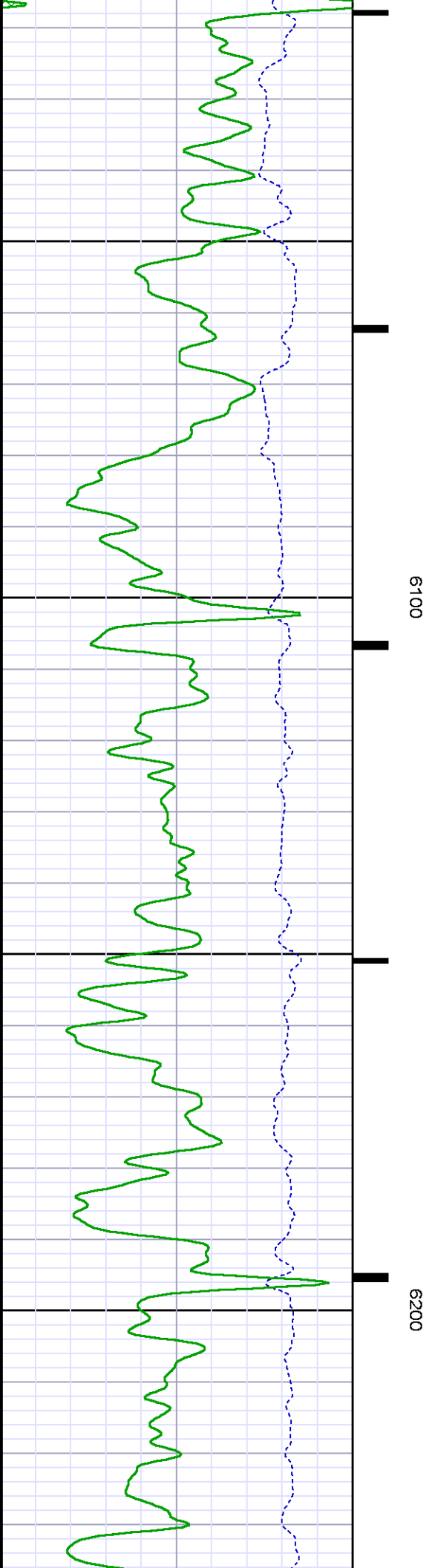
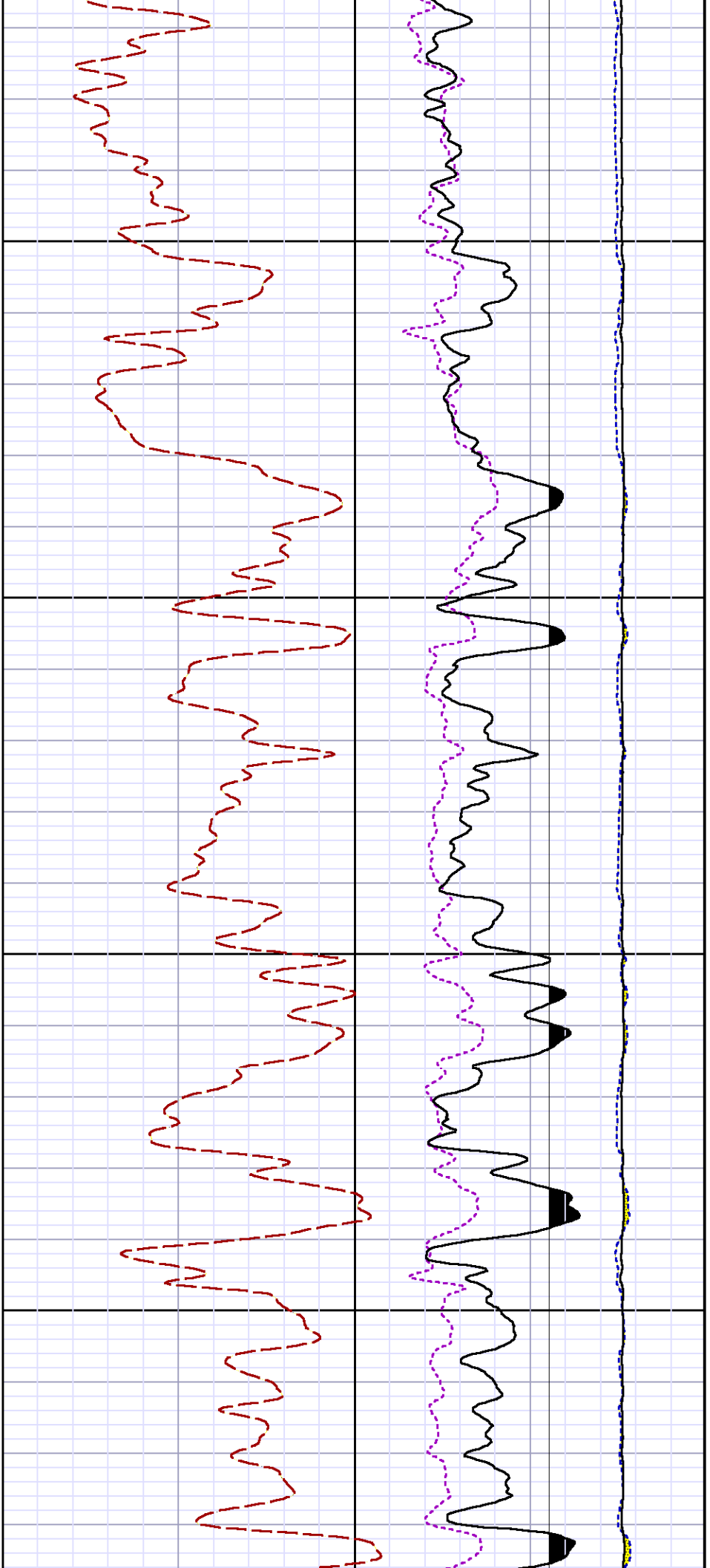


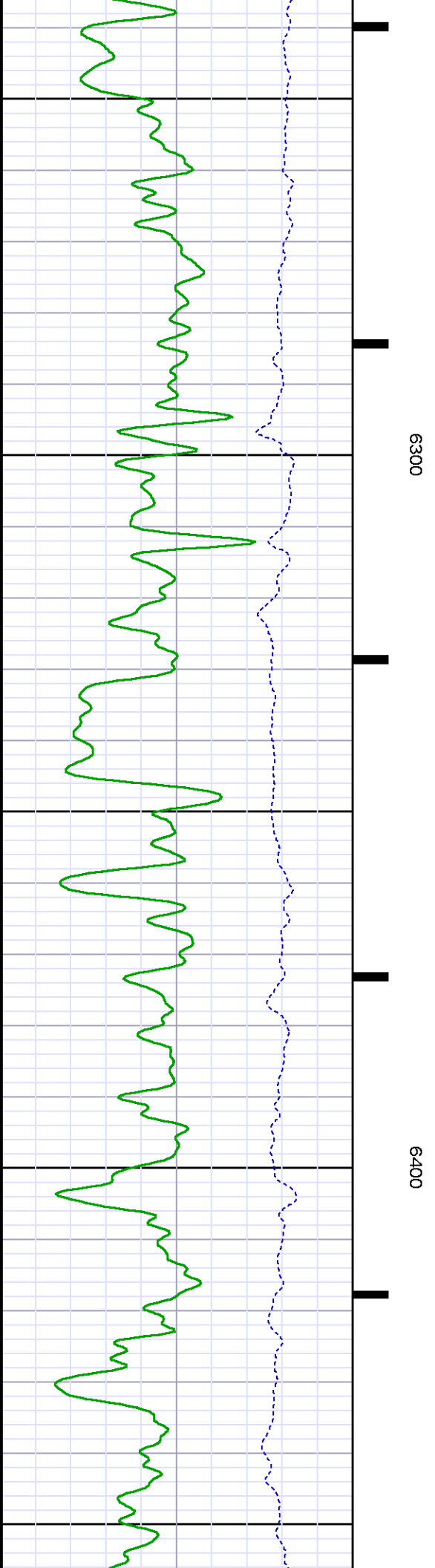
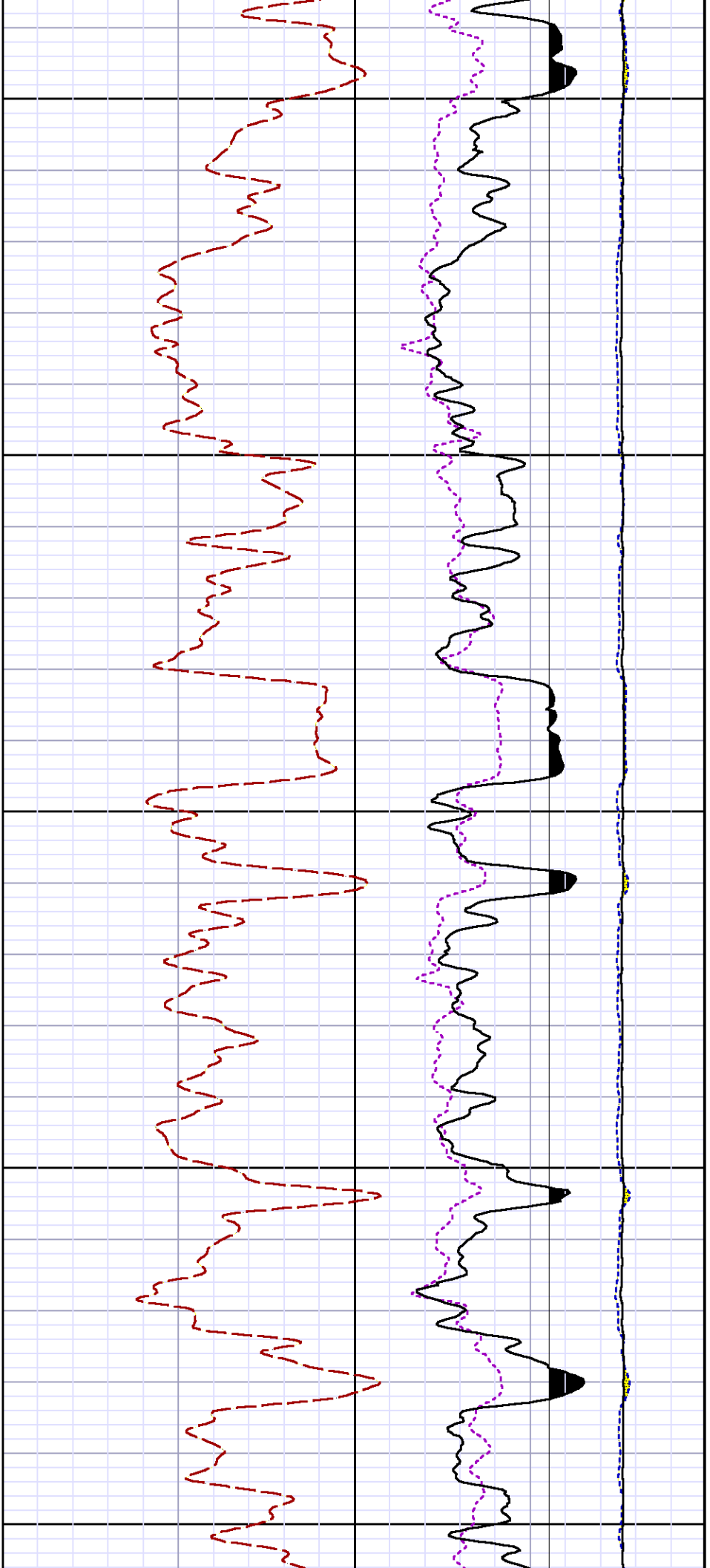


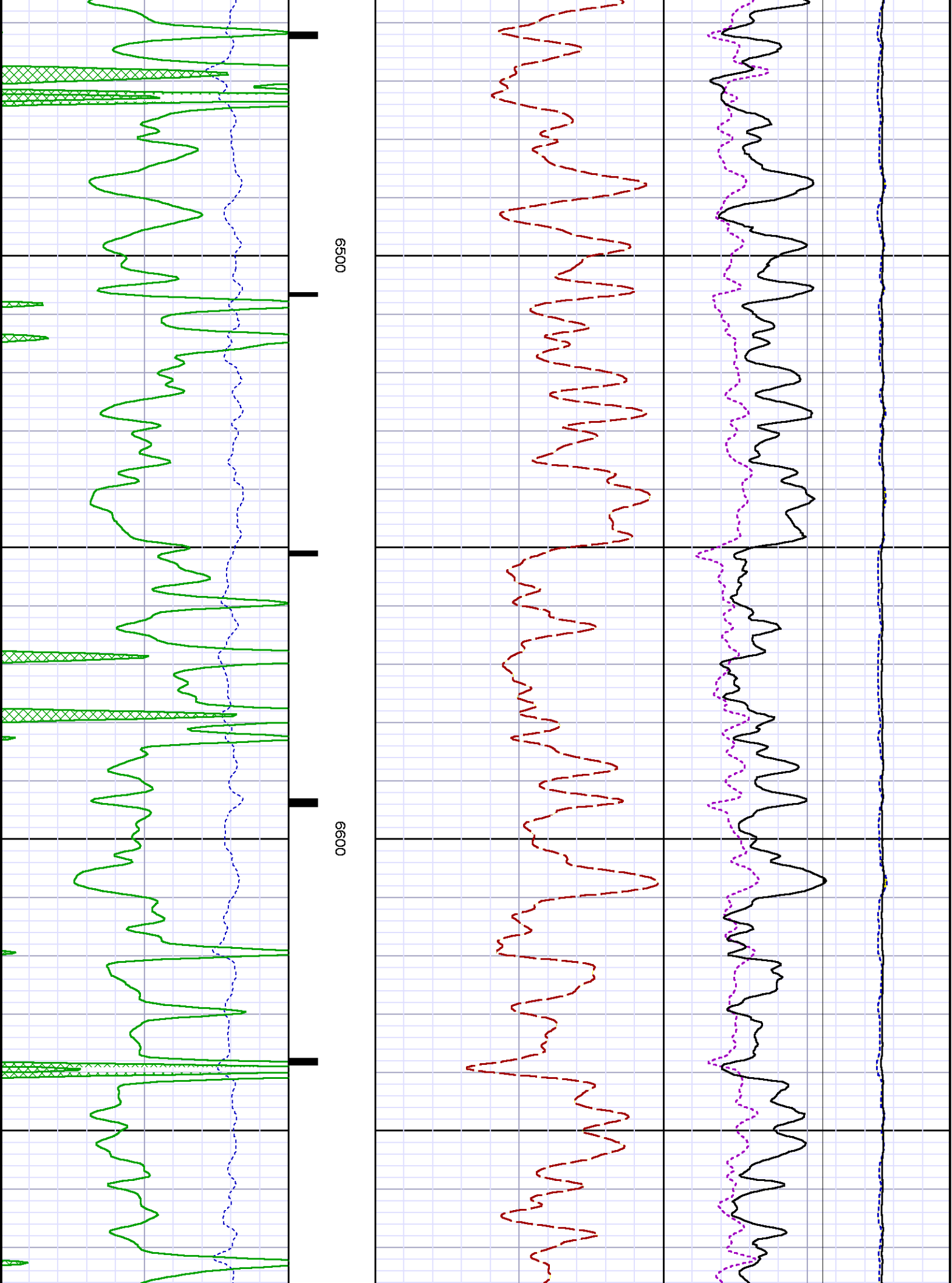


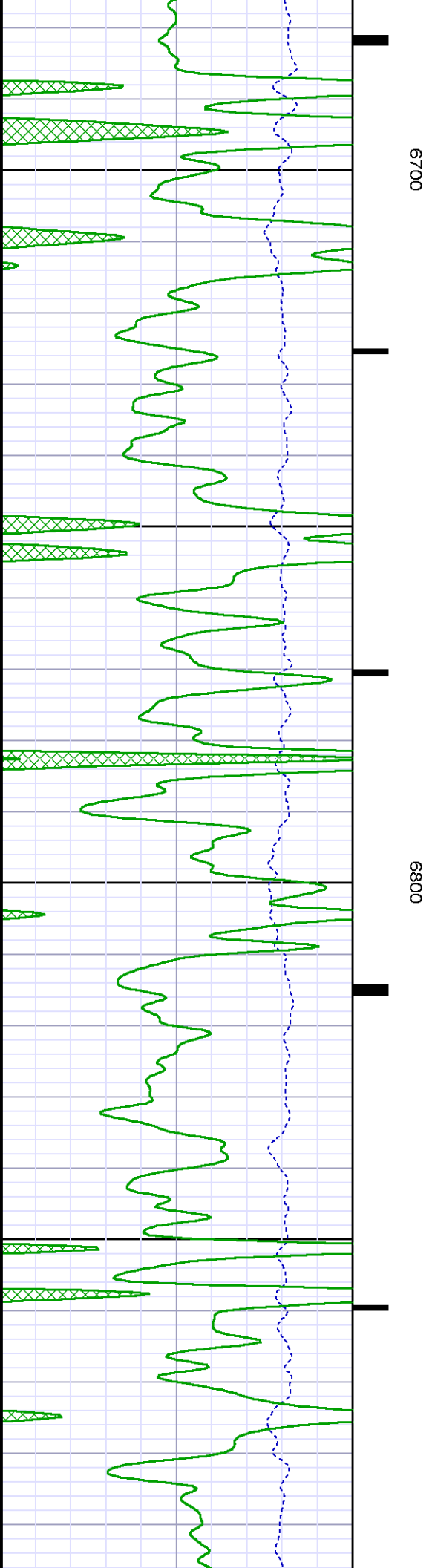
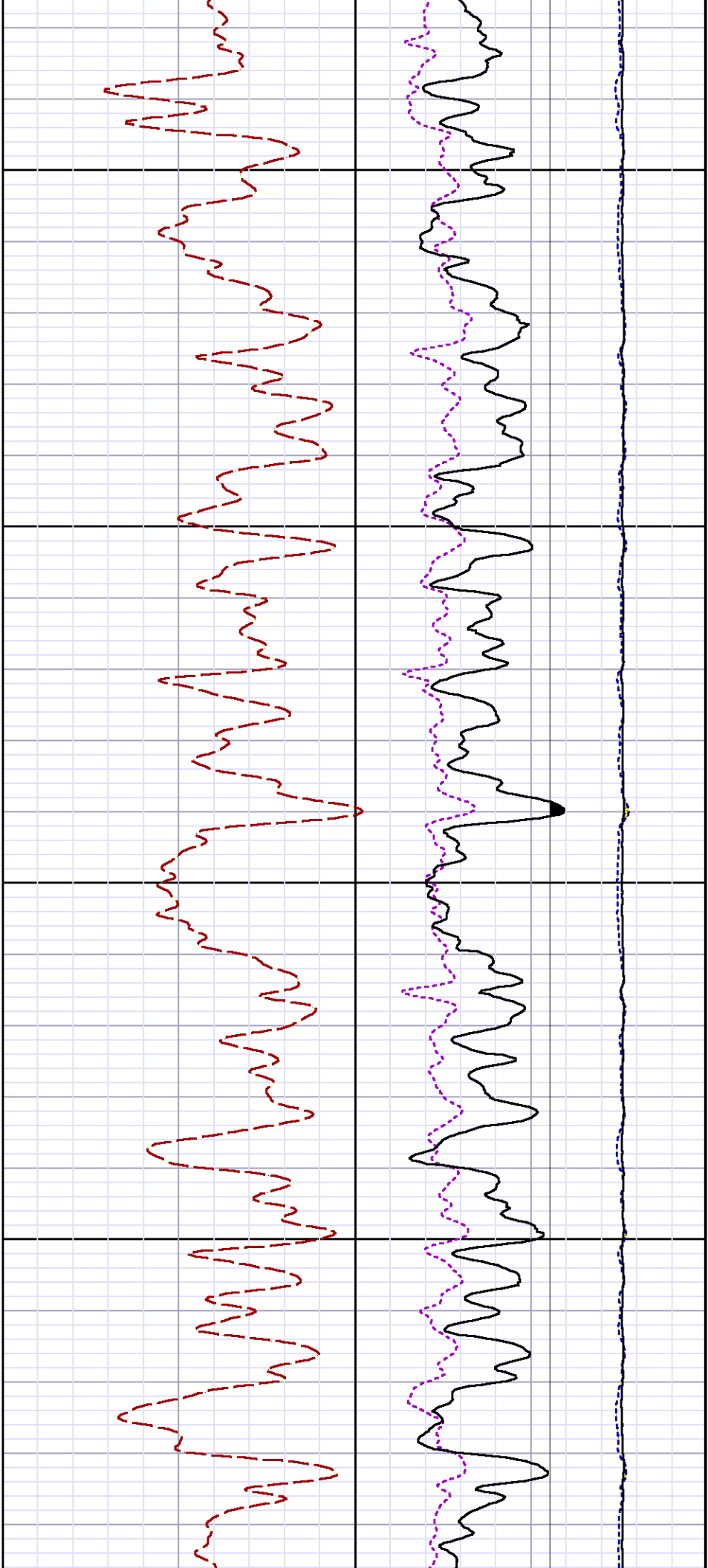


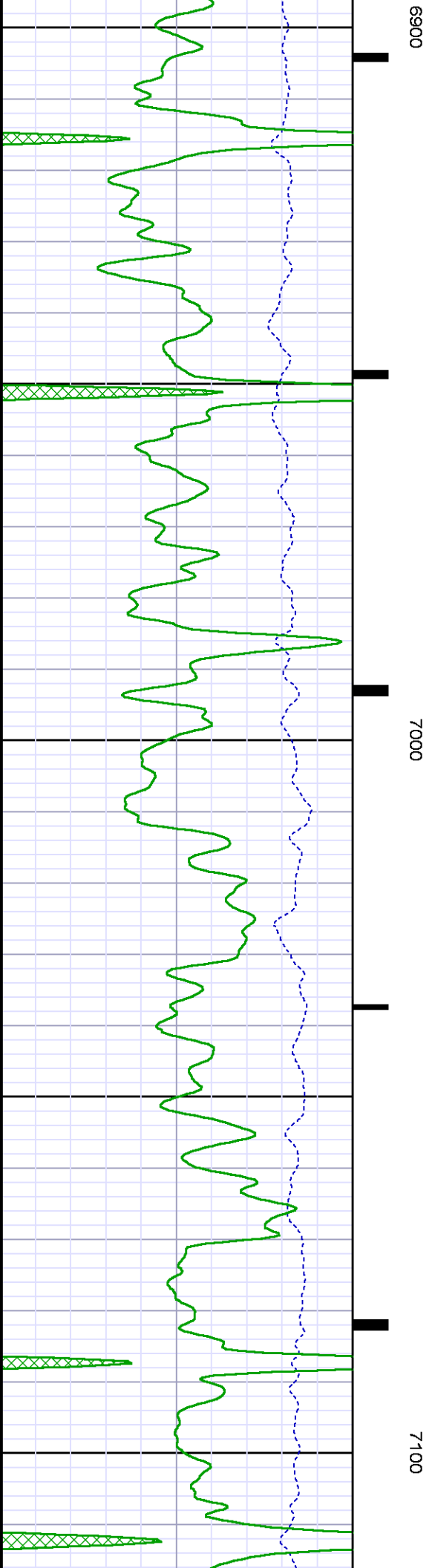
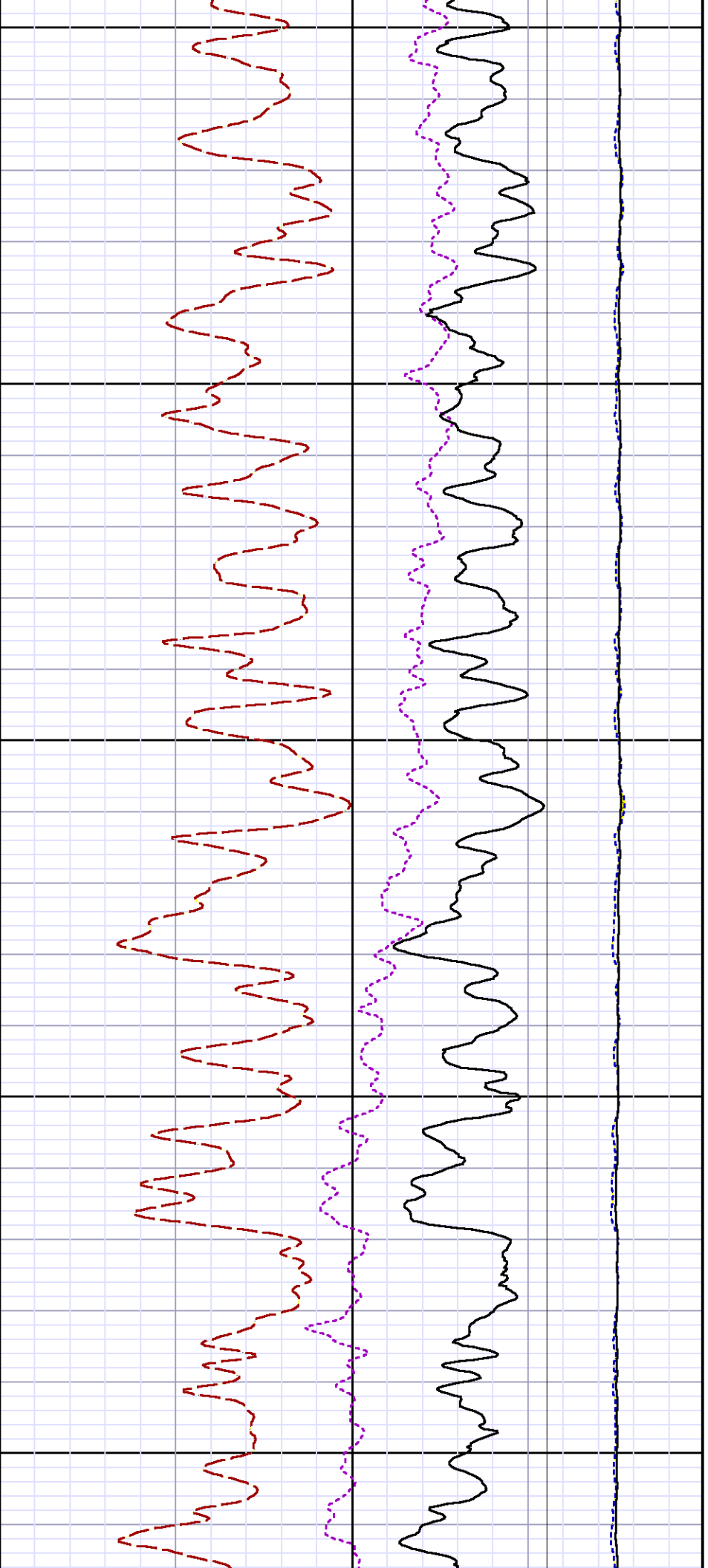


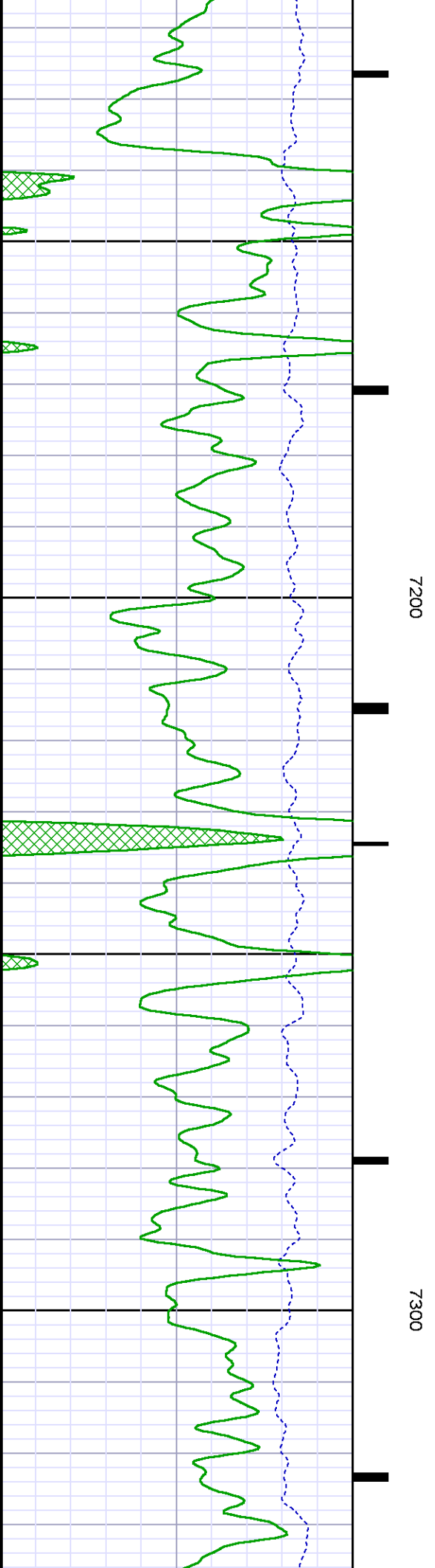
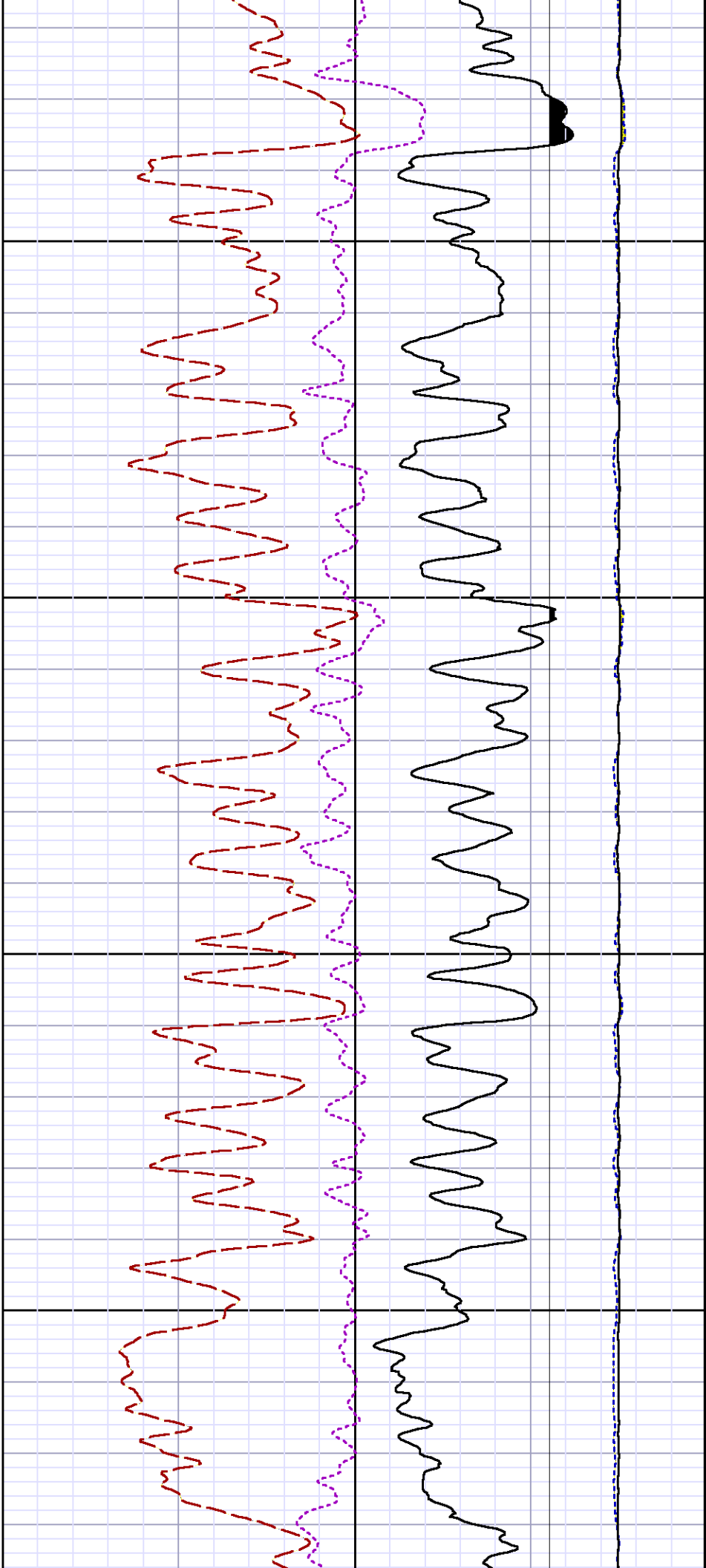


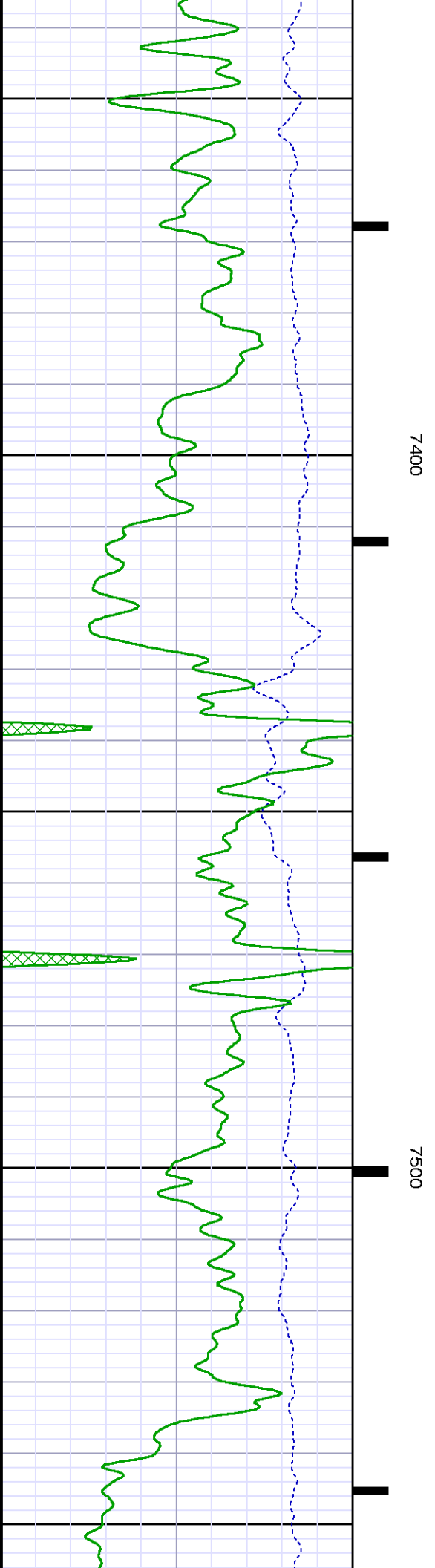
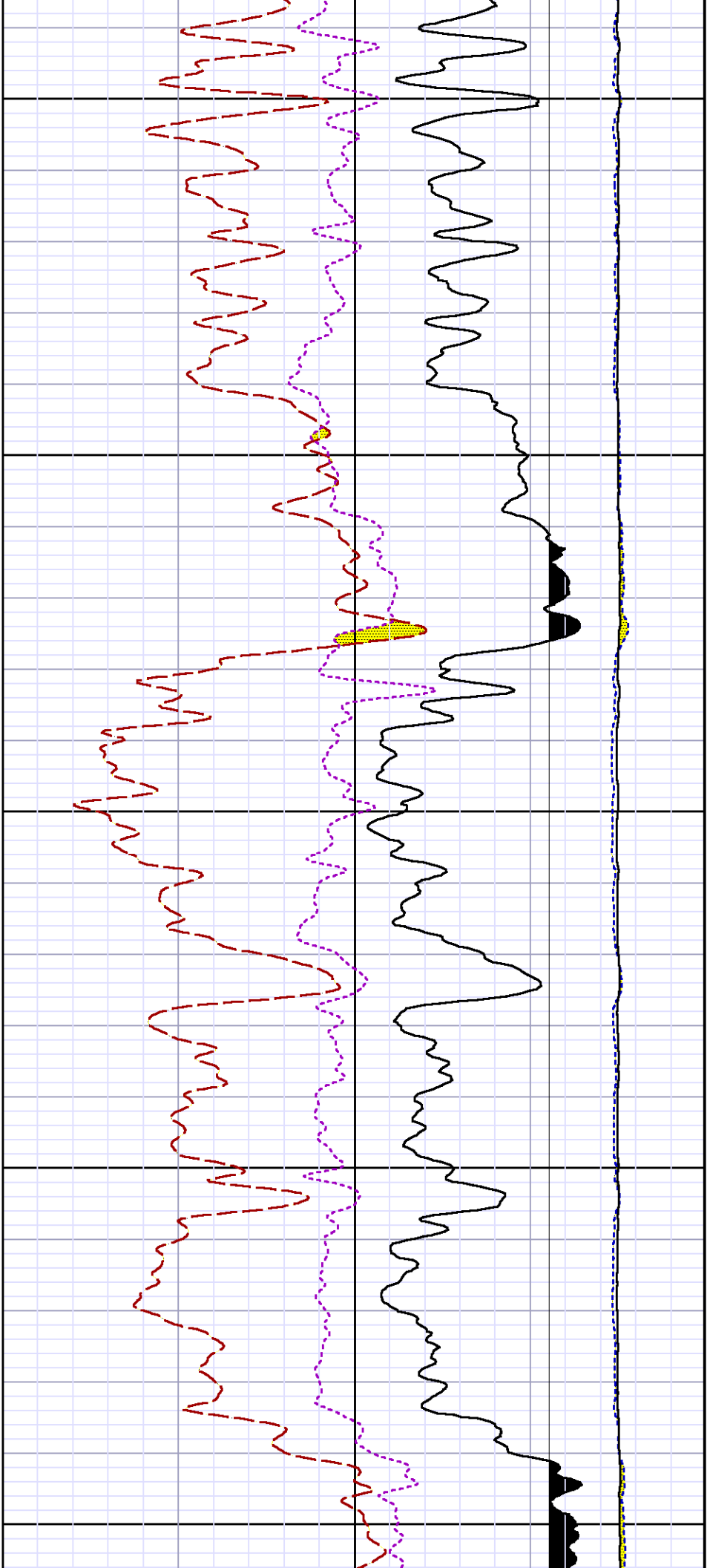


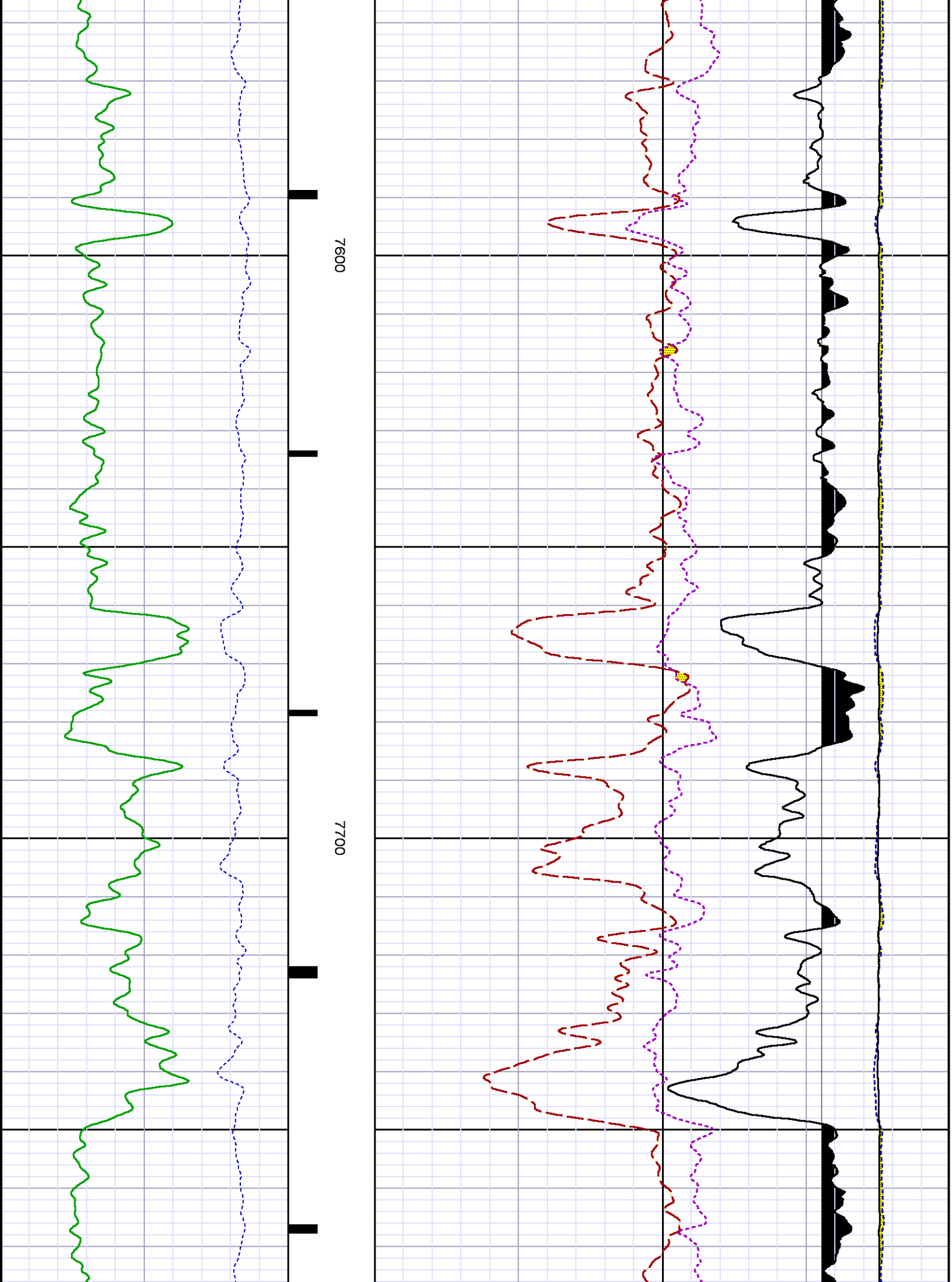


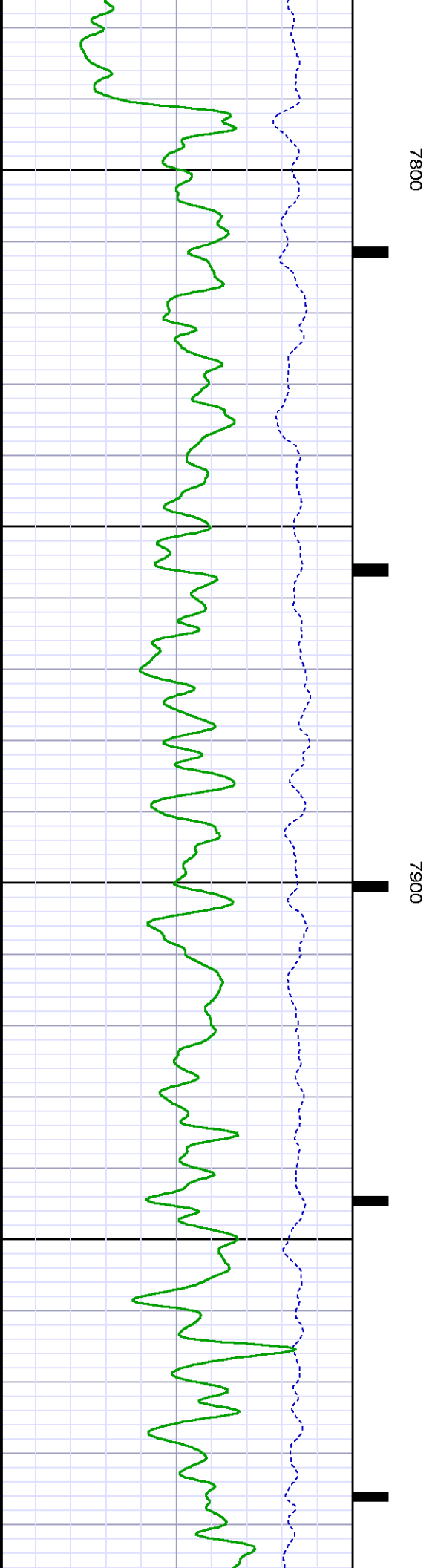
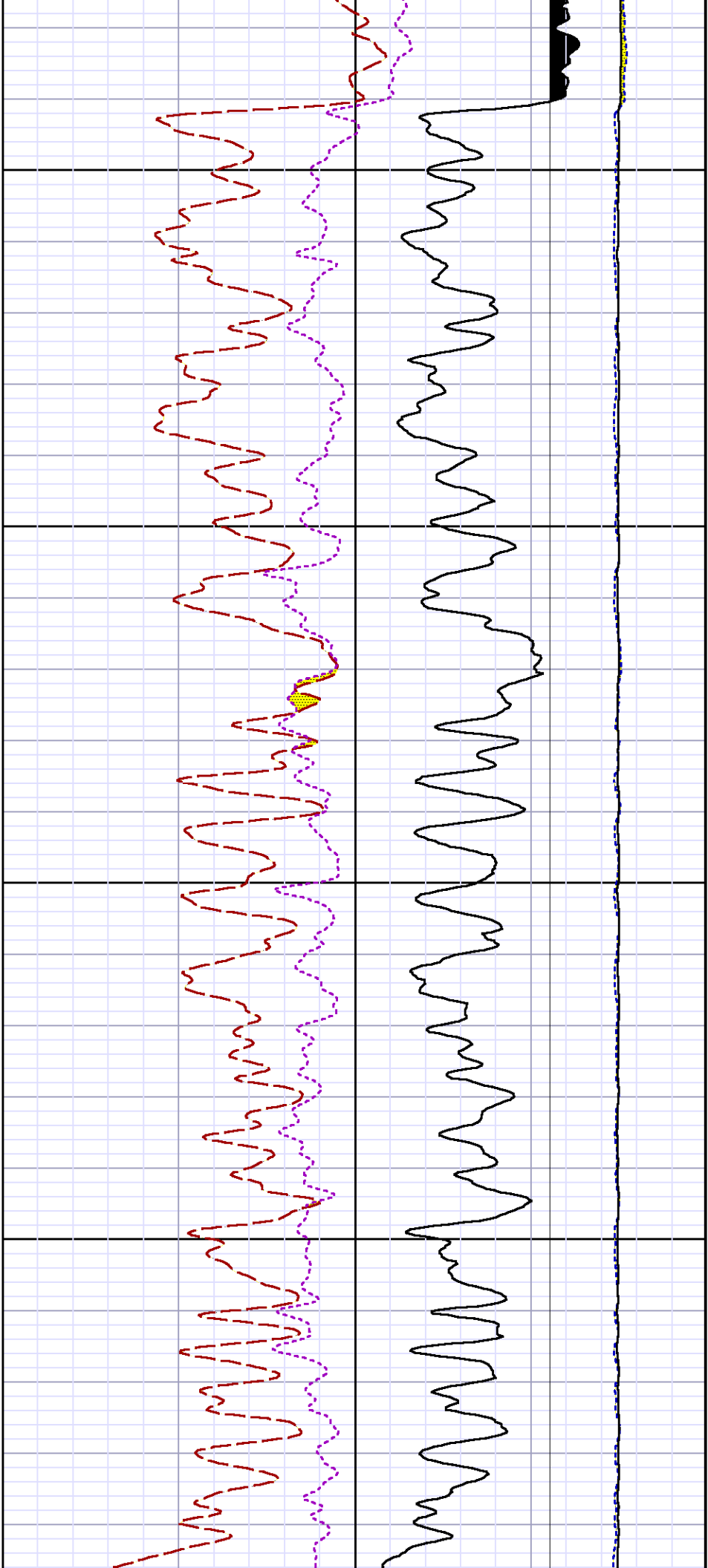


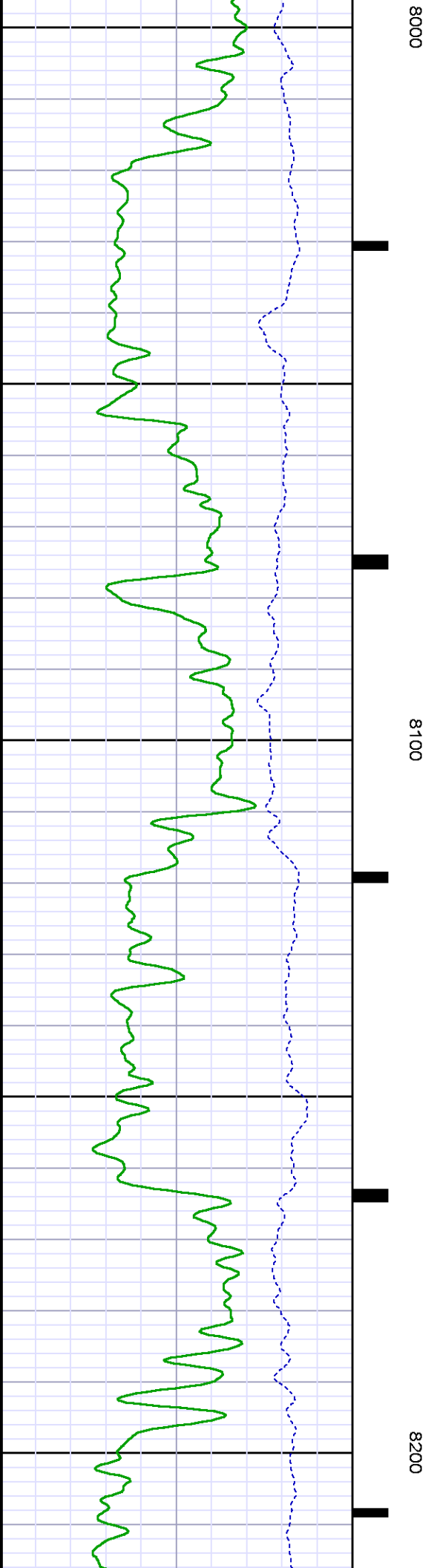
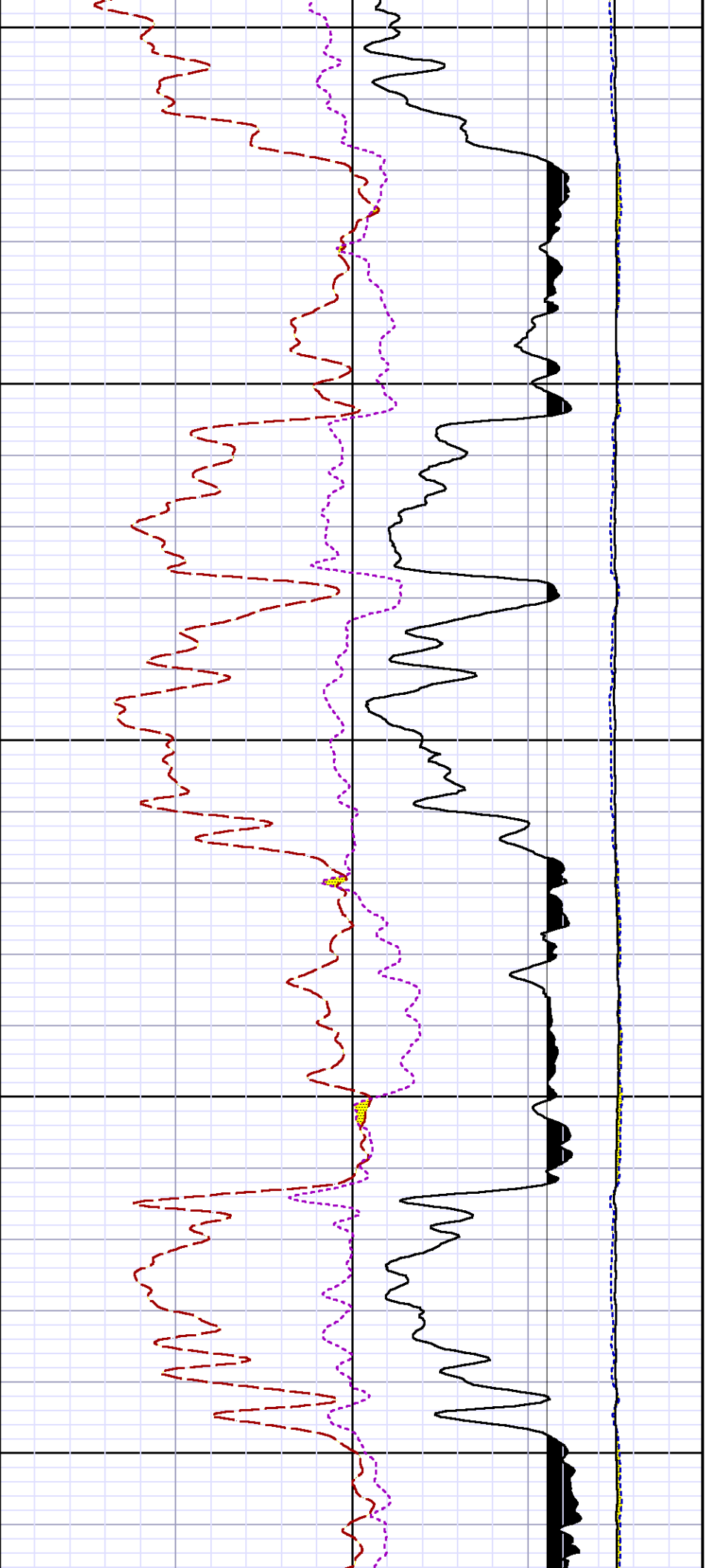


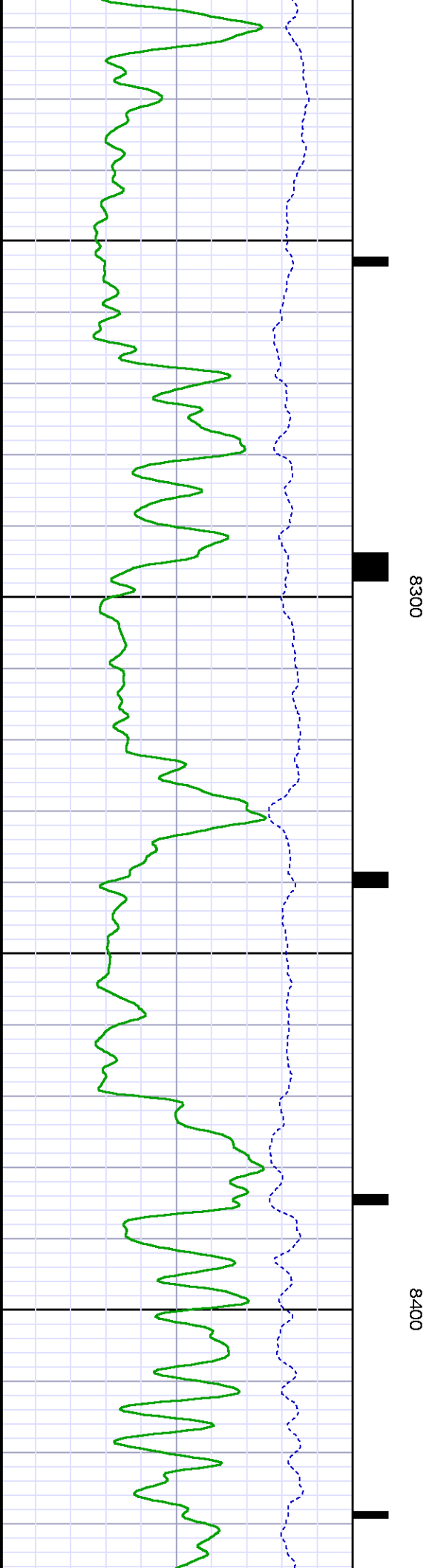
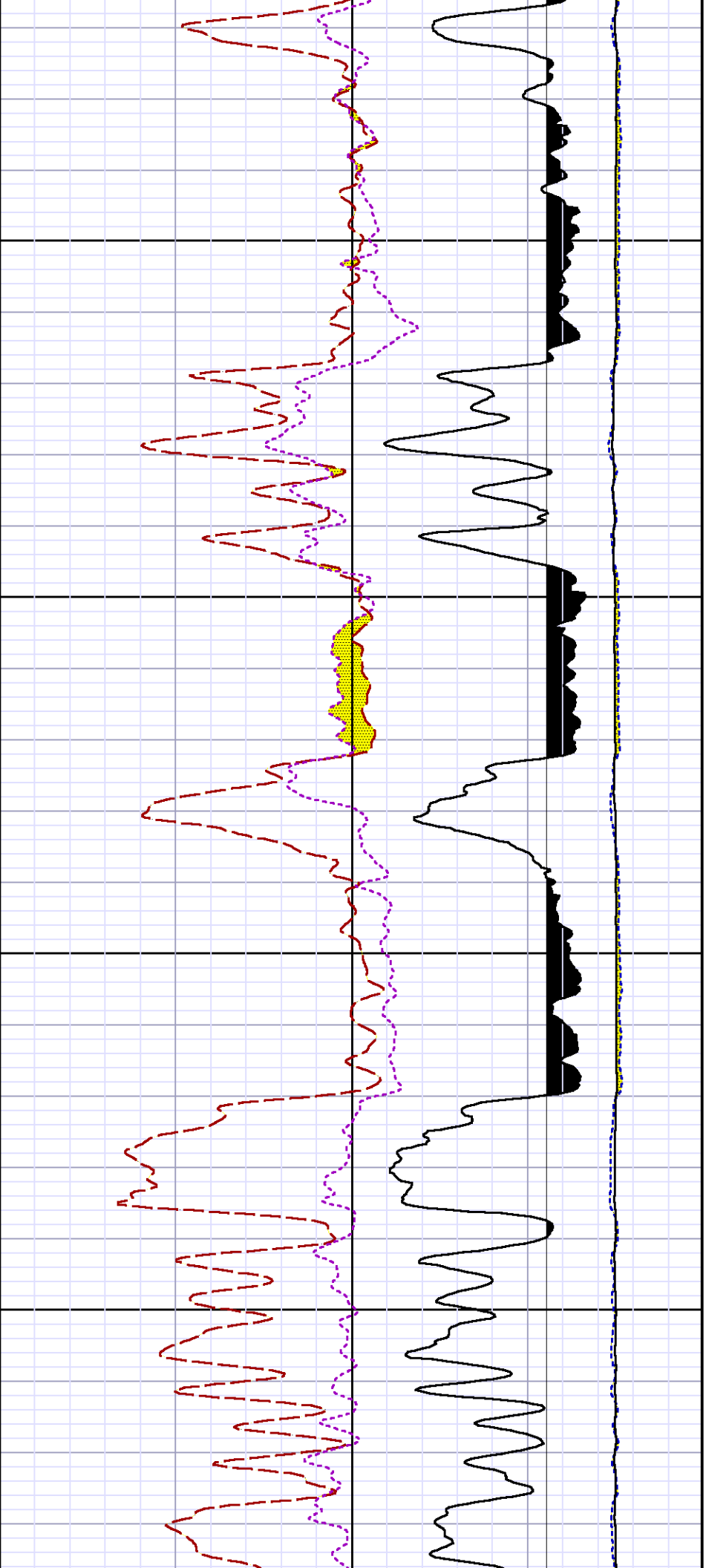


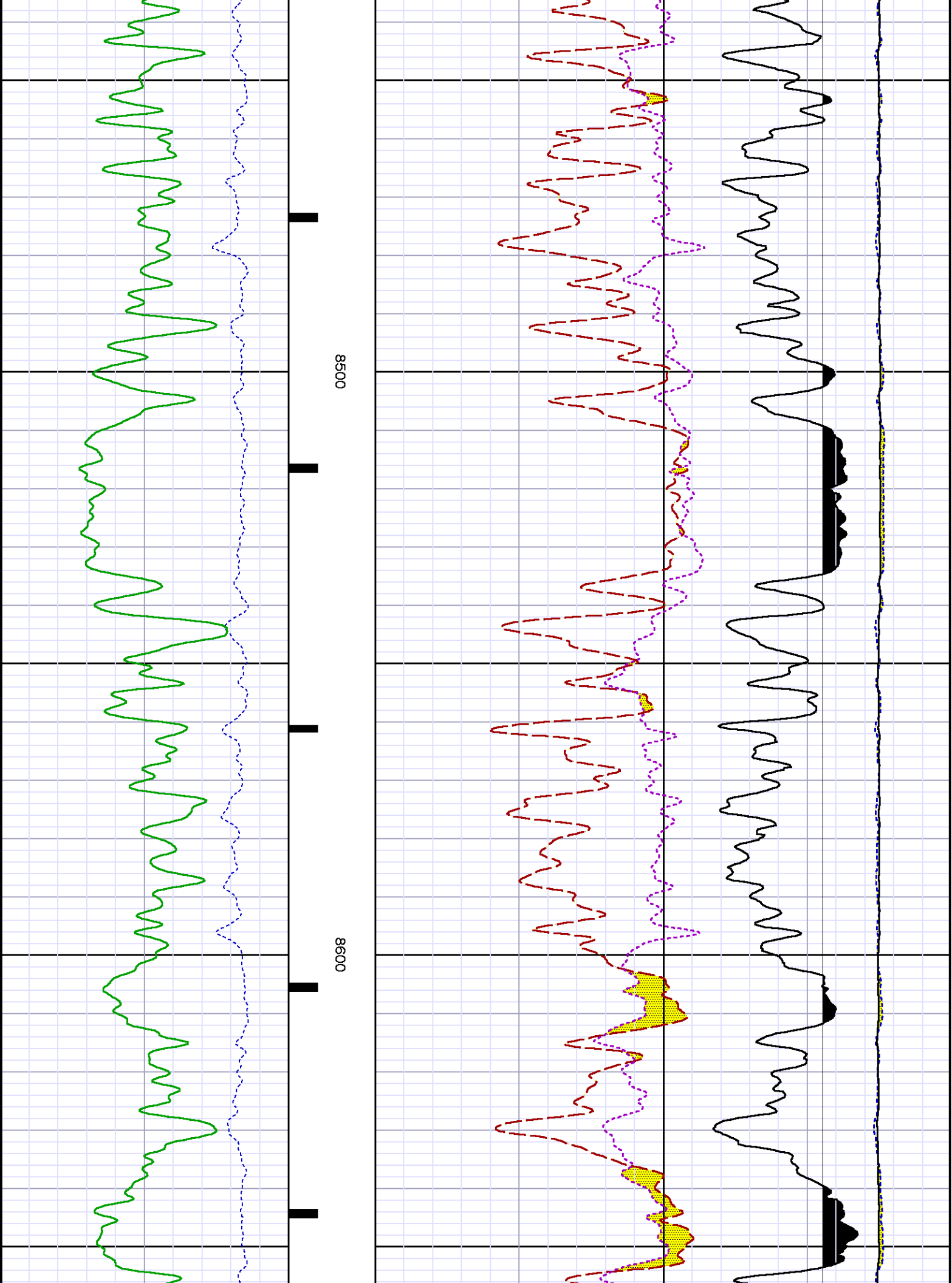


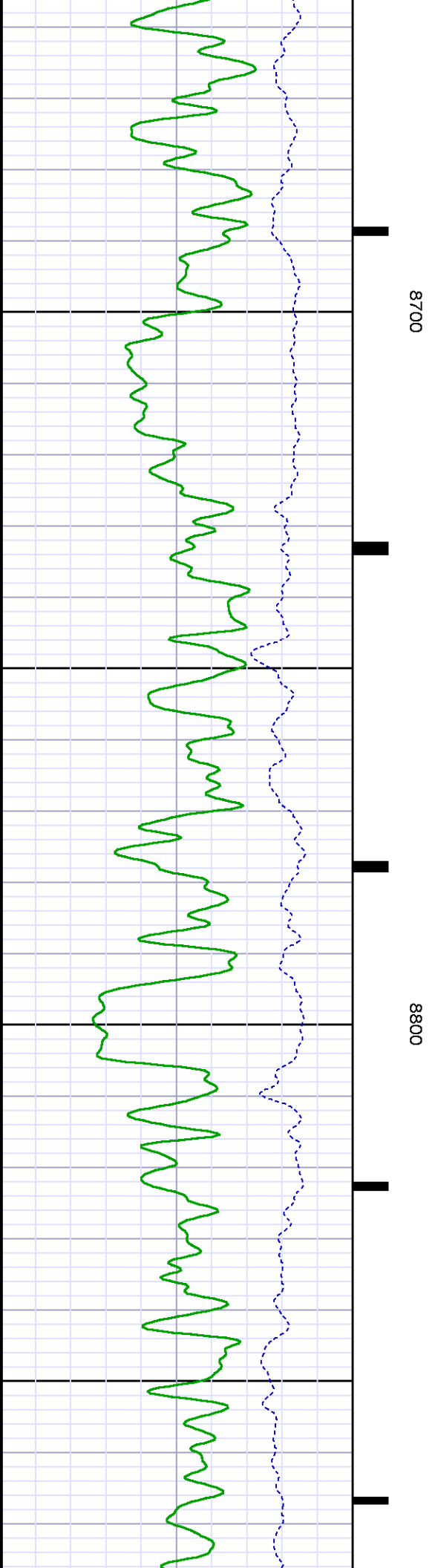
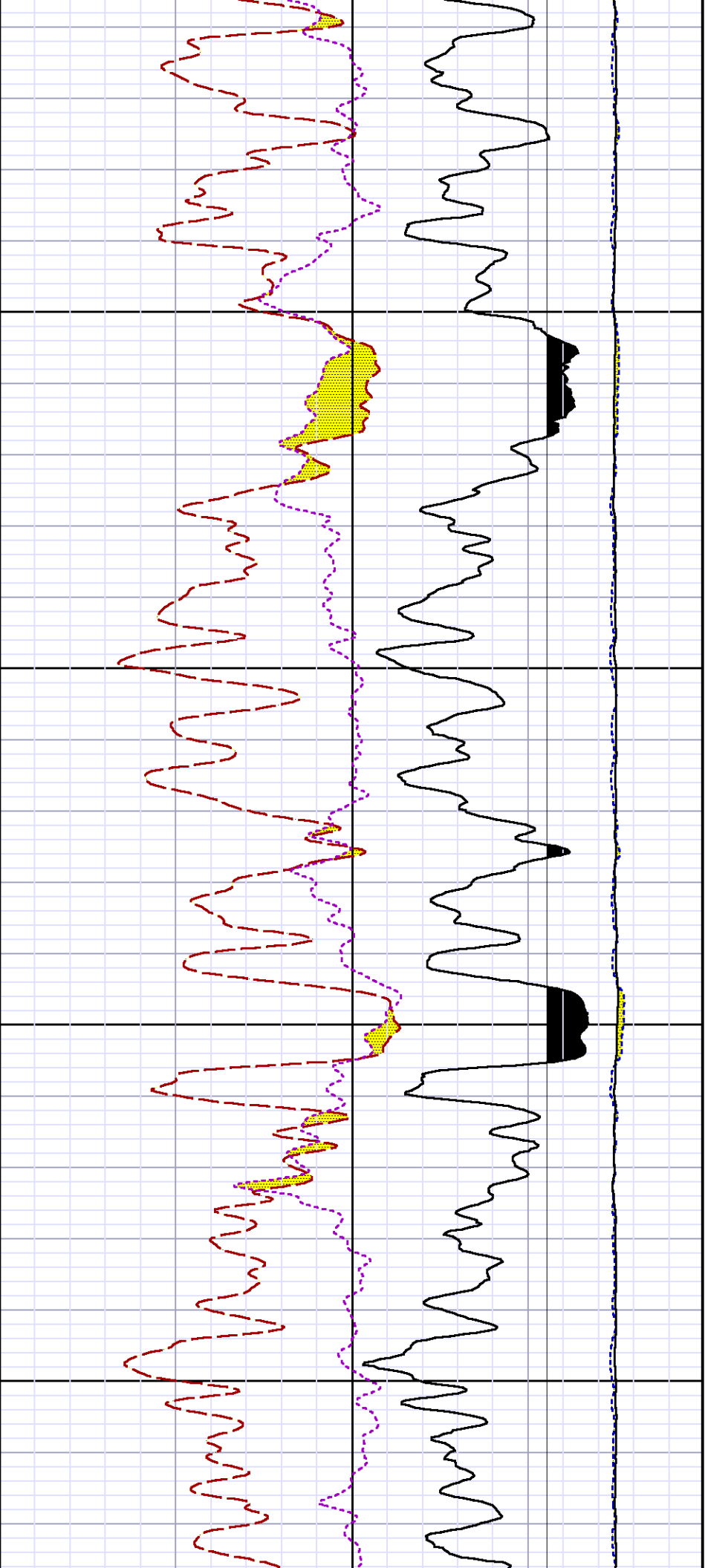


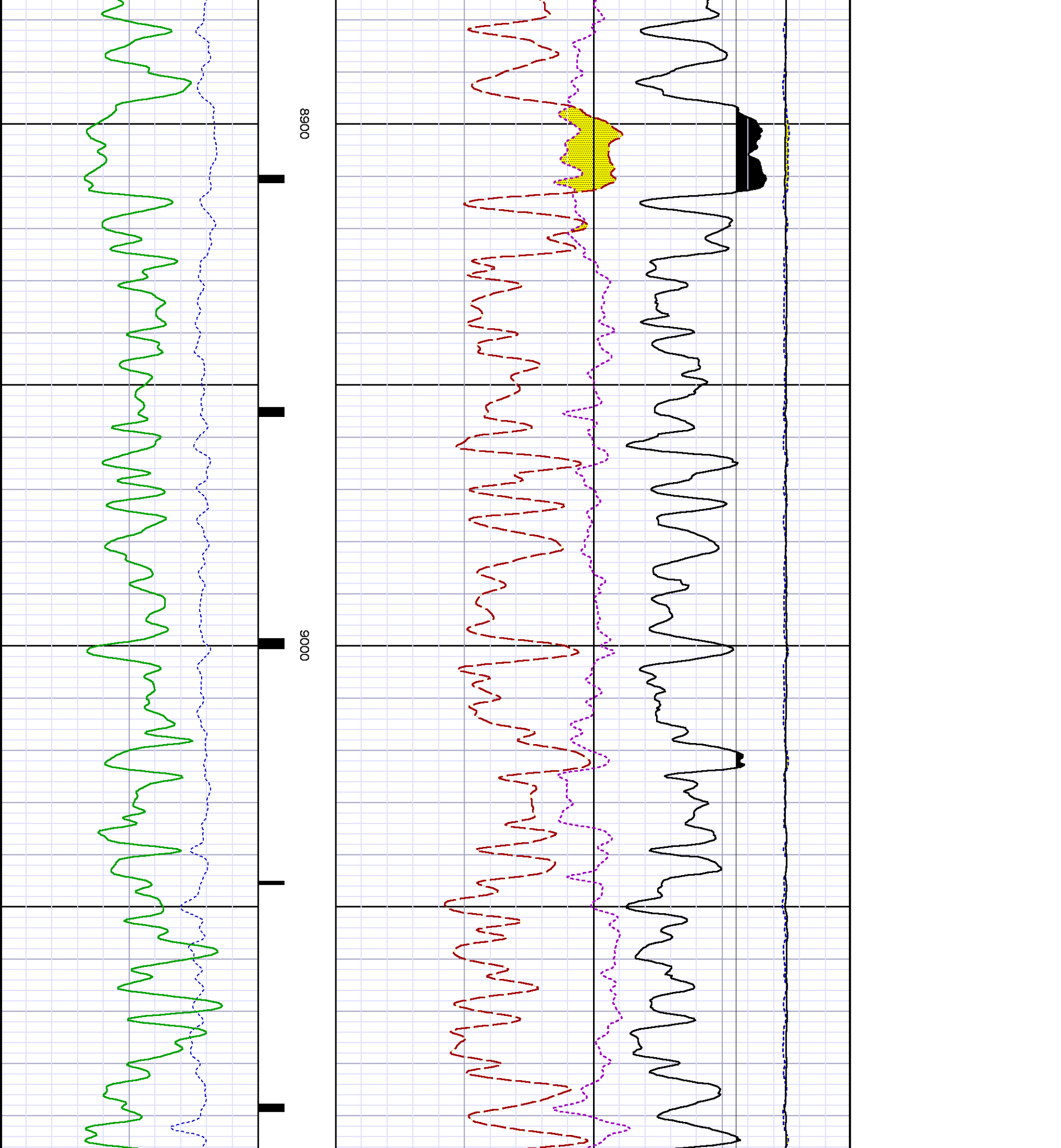


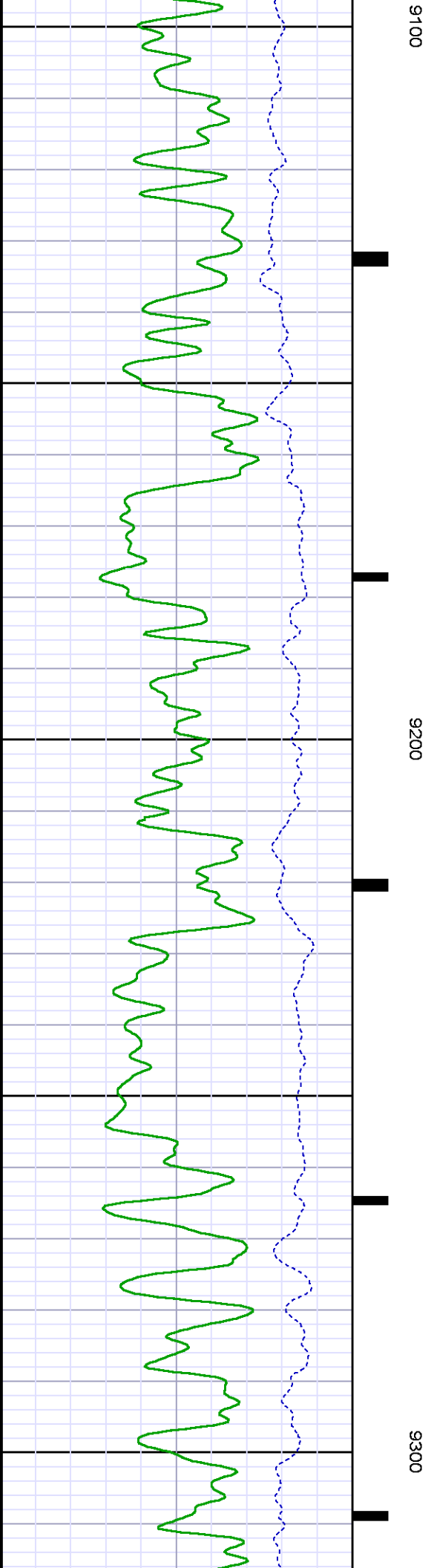
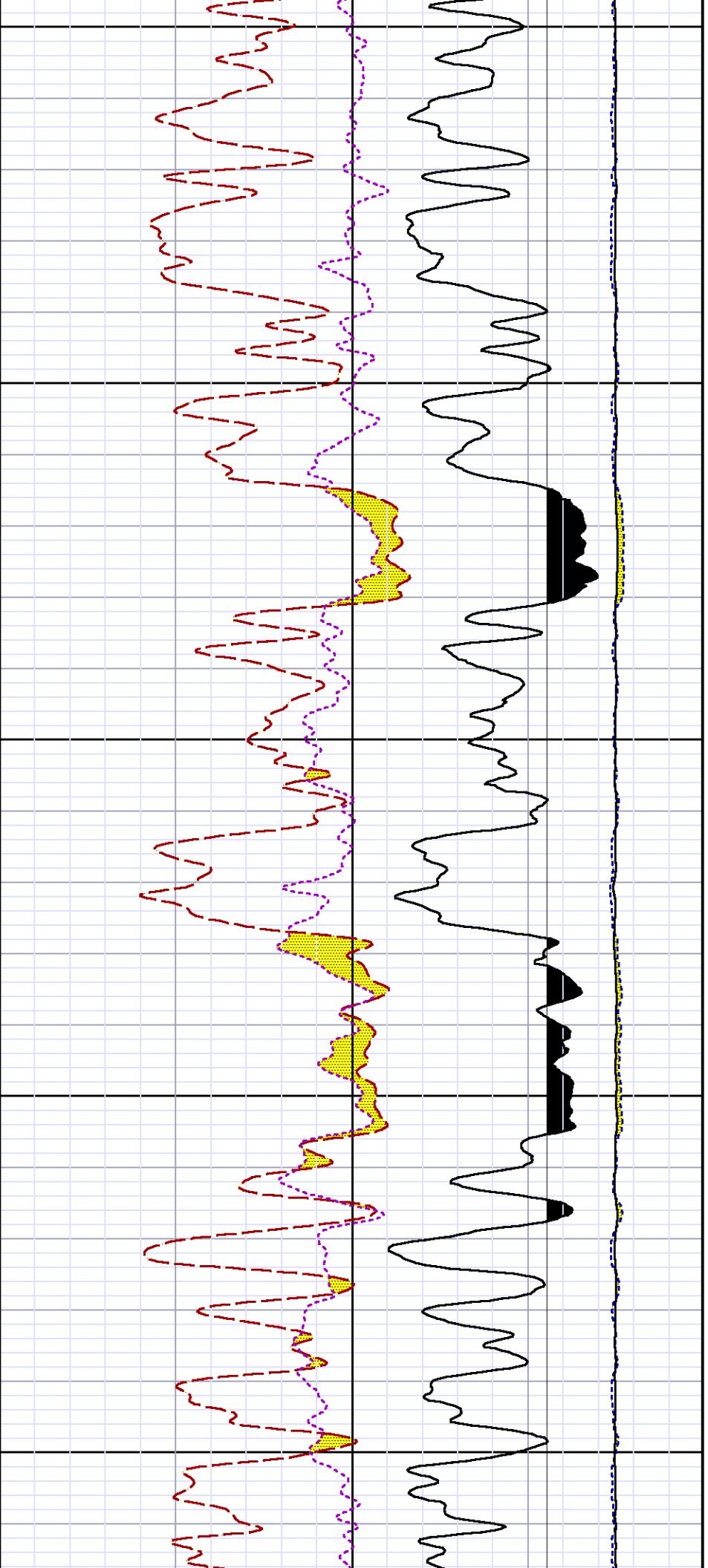


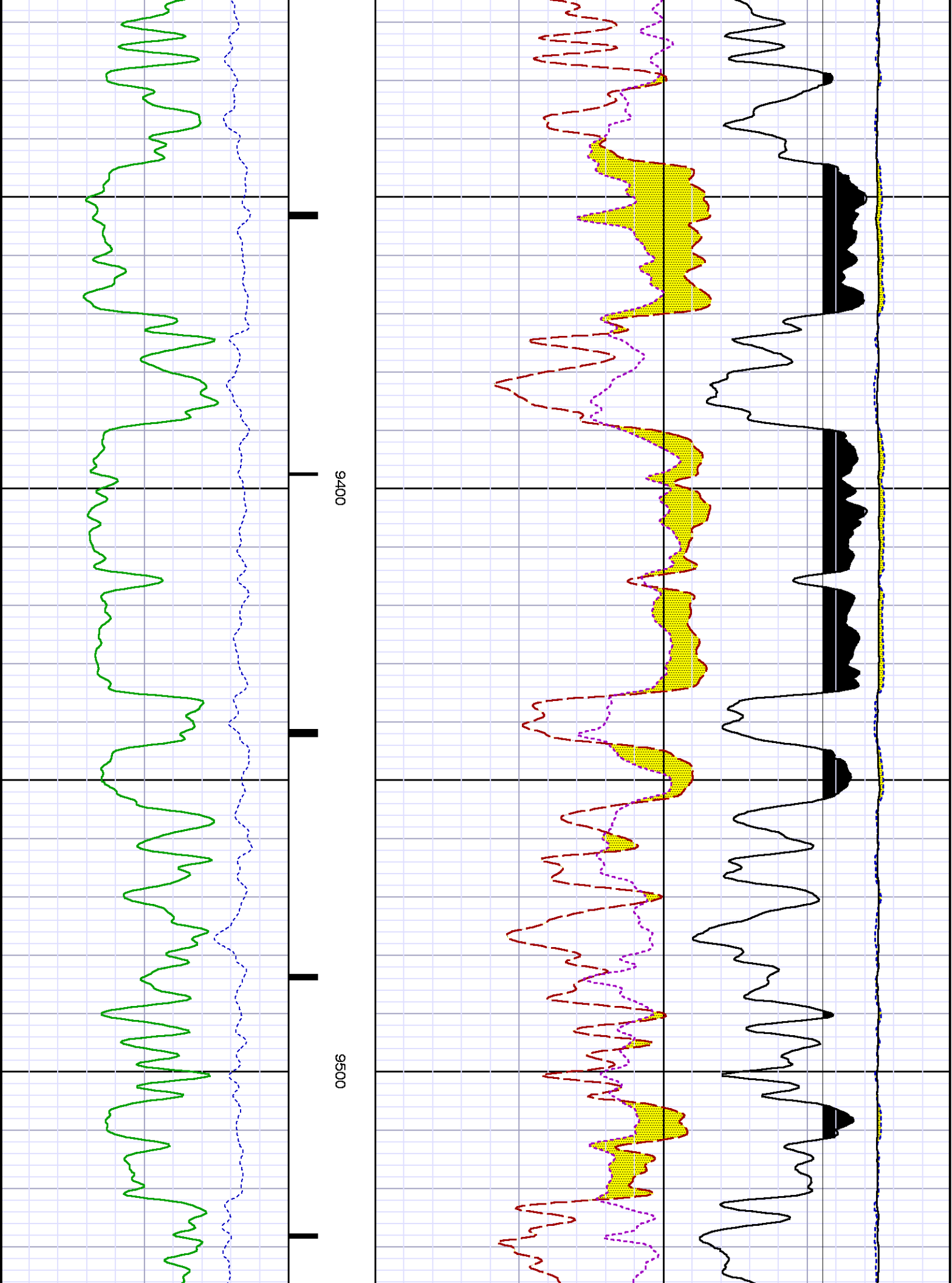


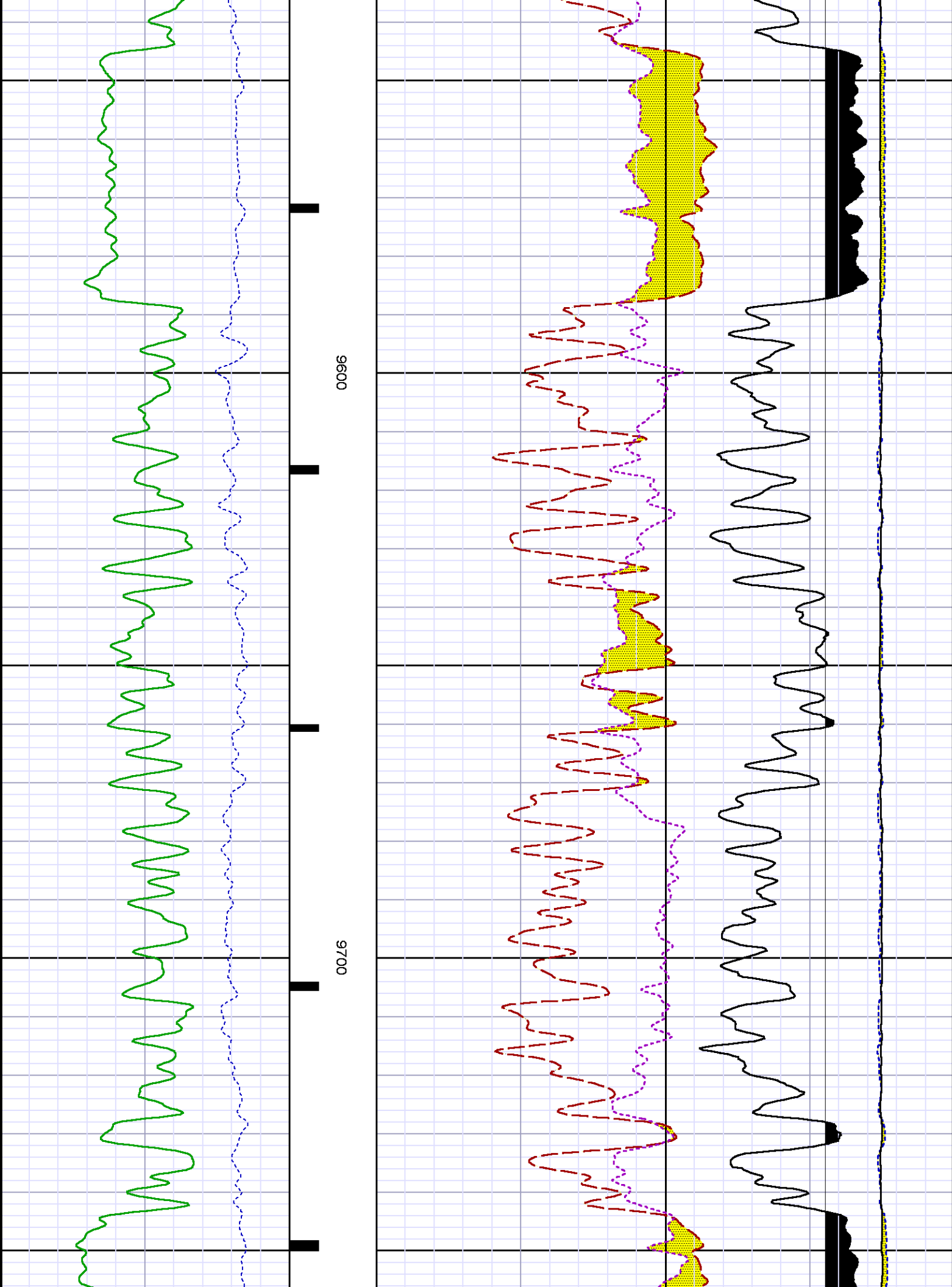


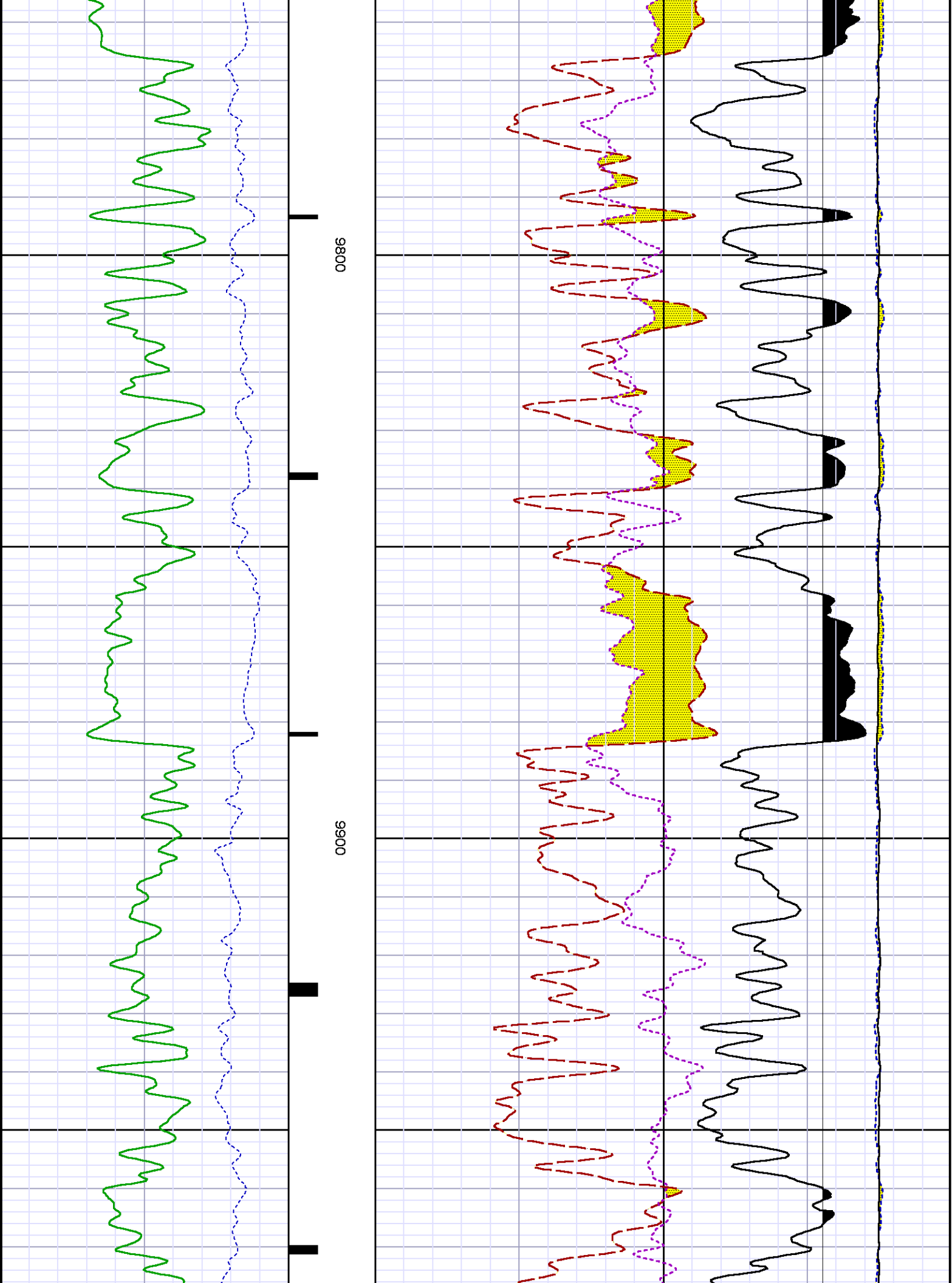


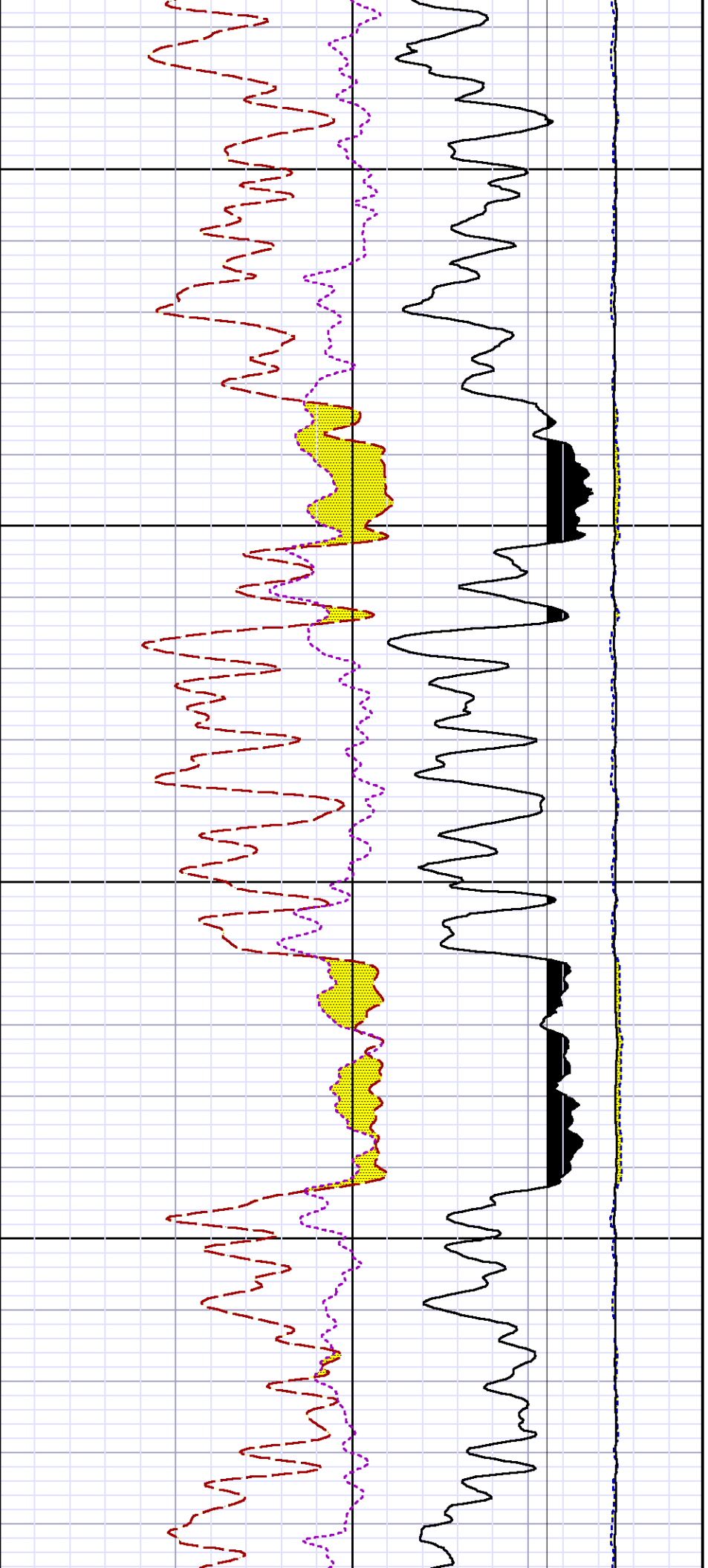






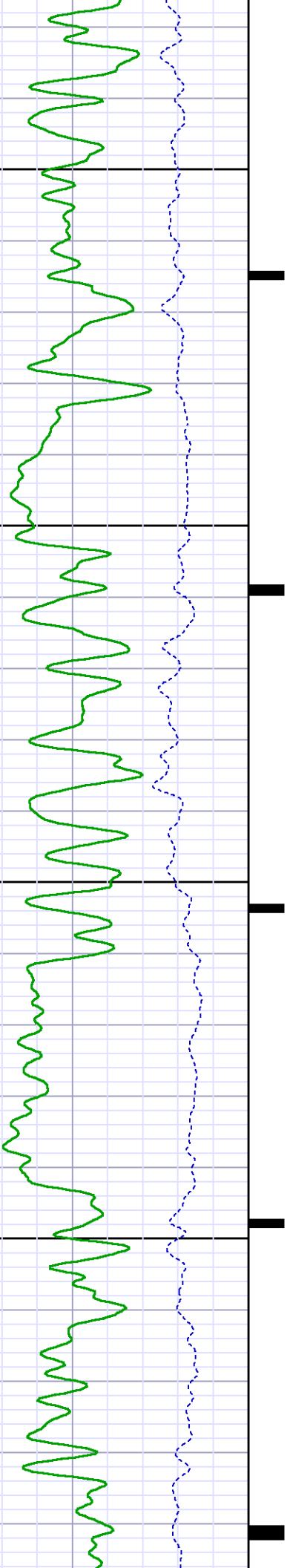


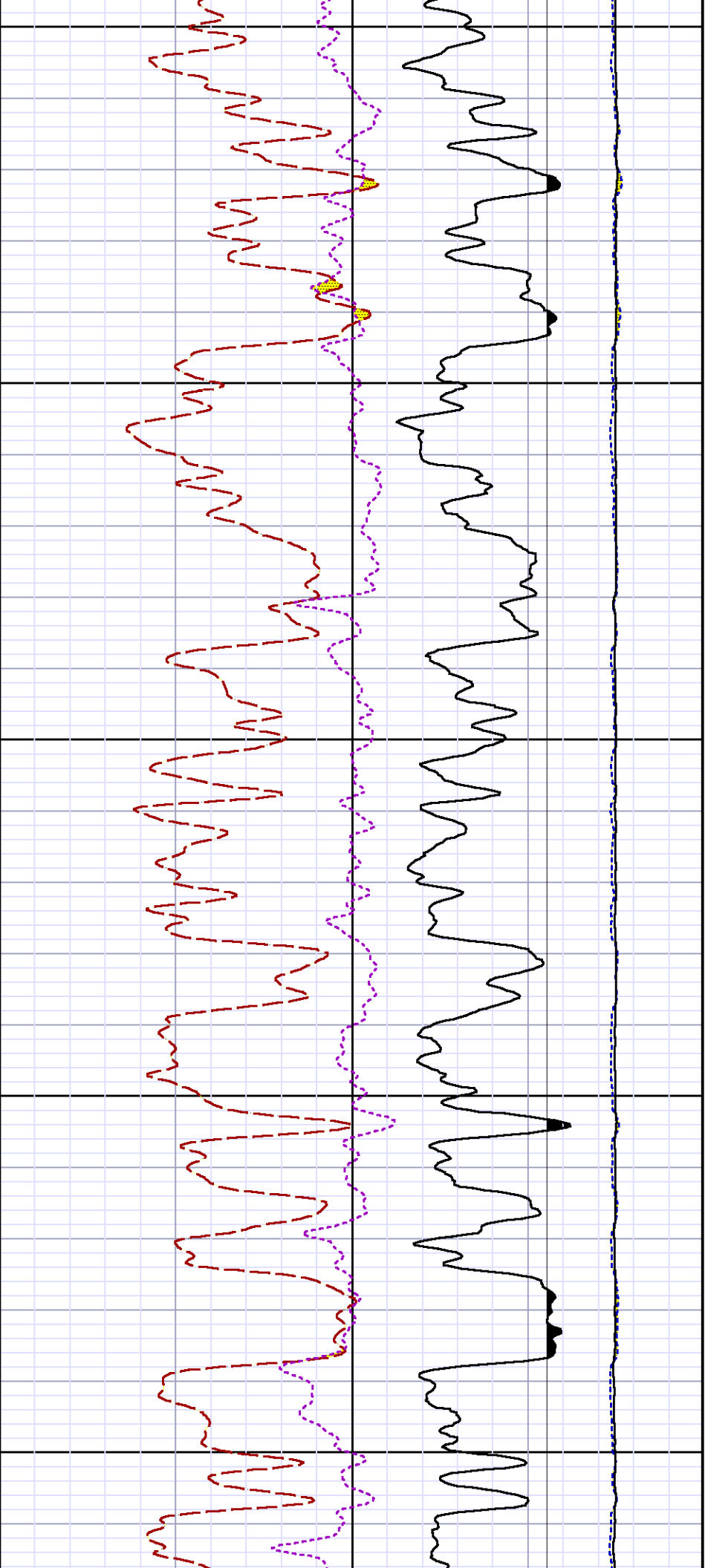




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10100

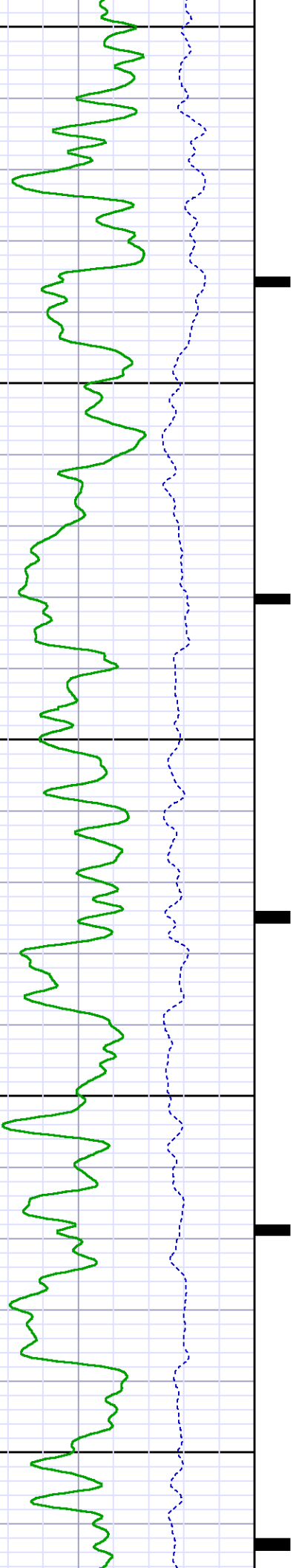


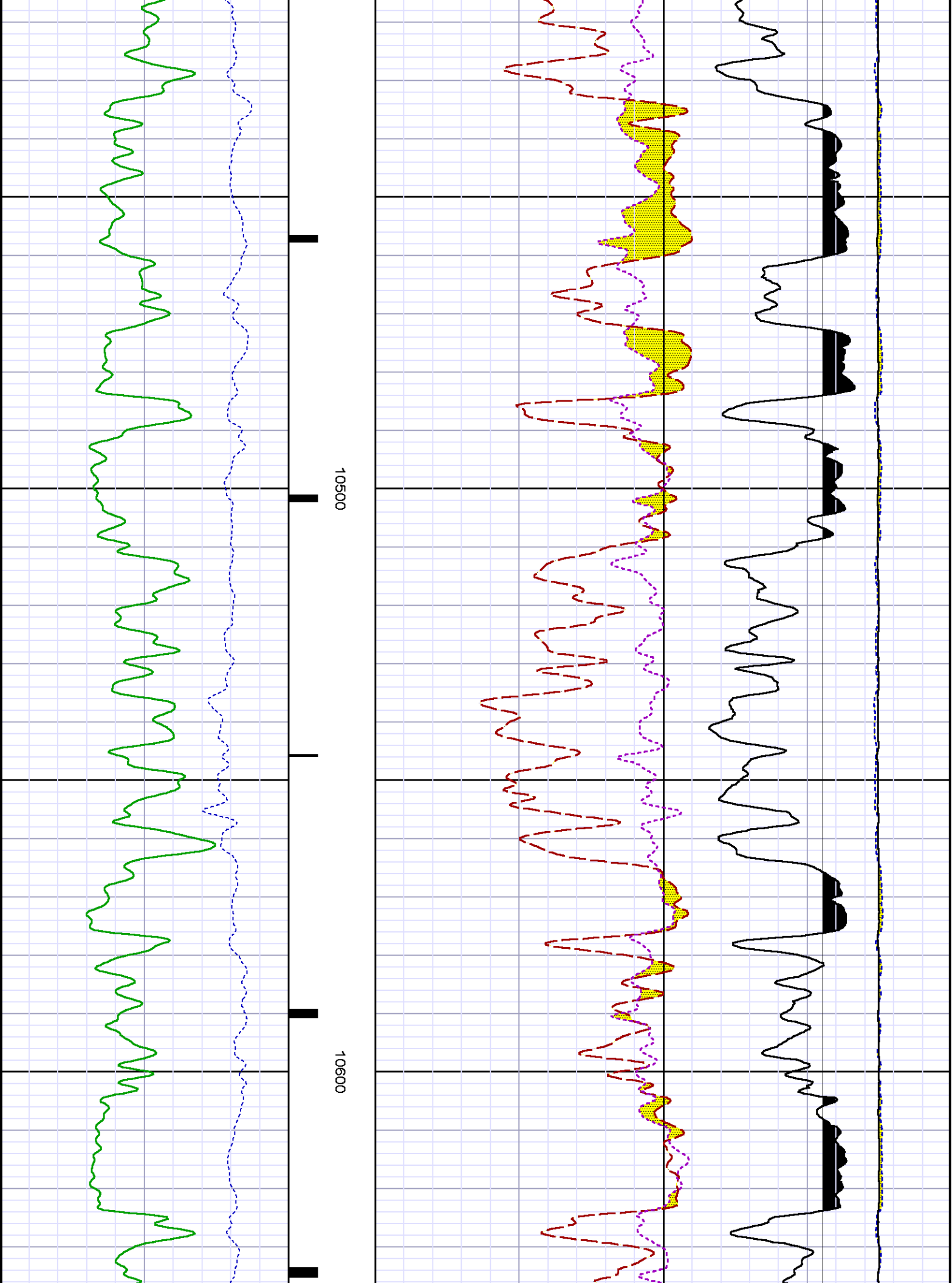


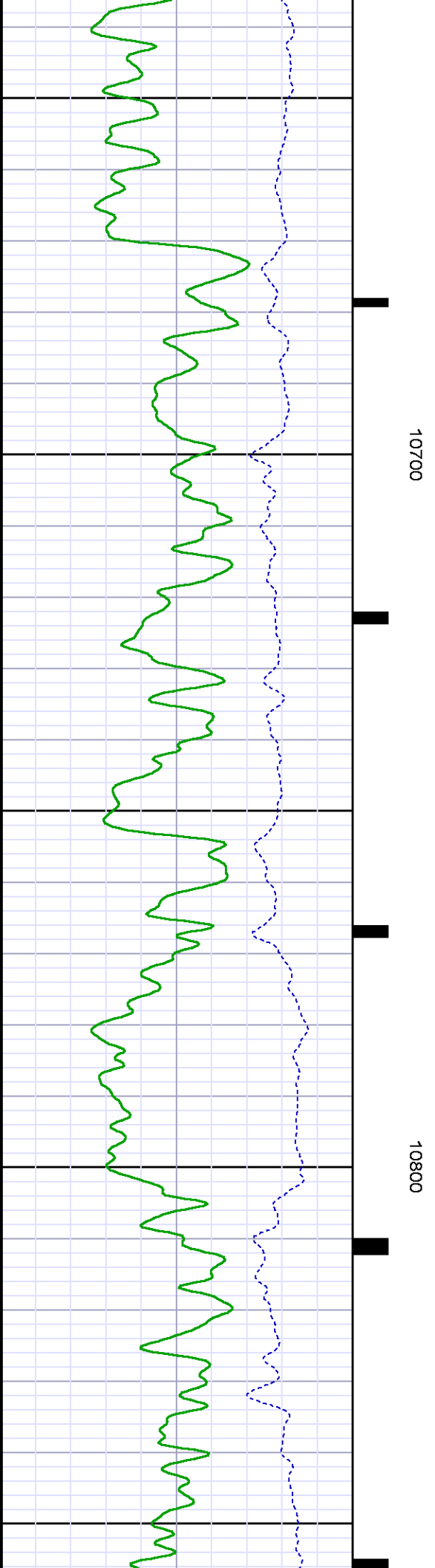
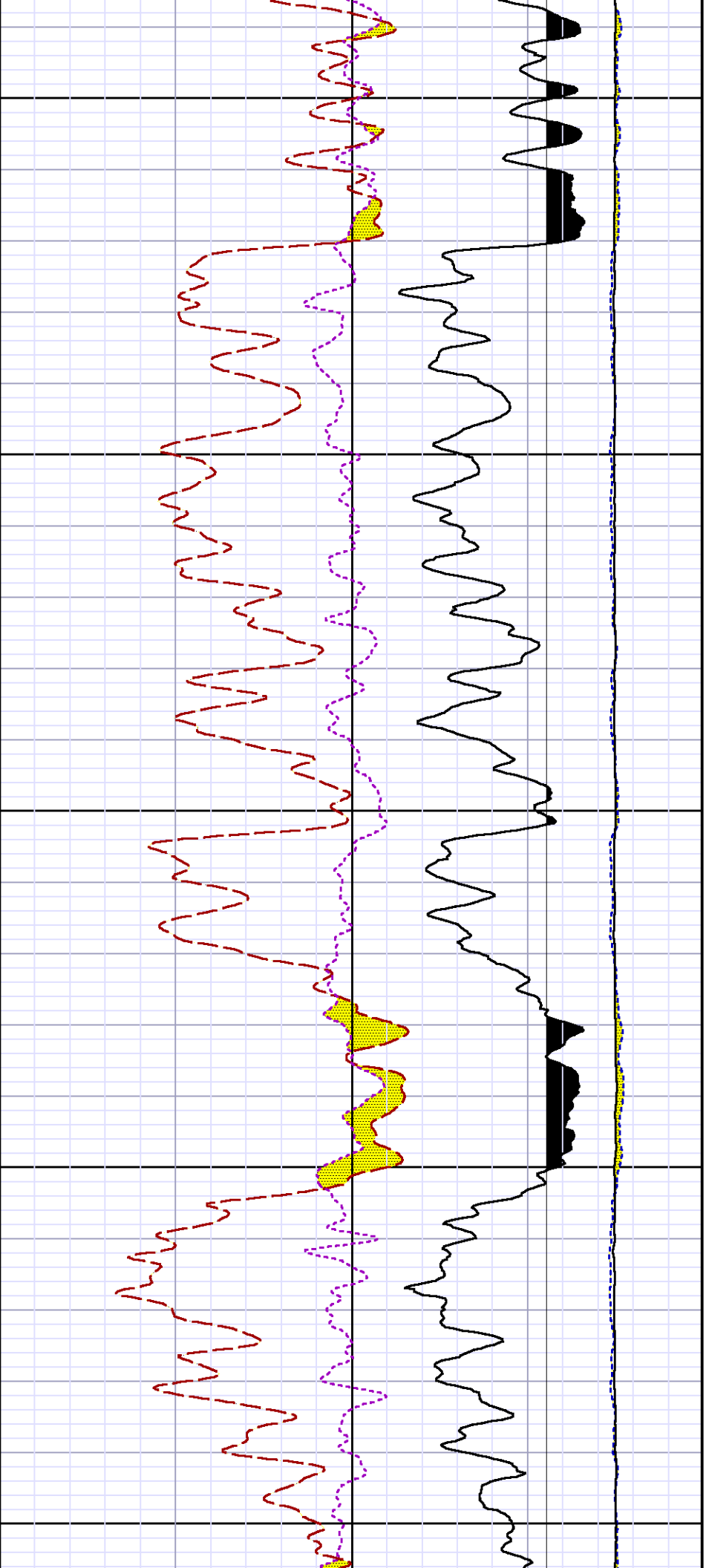
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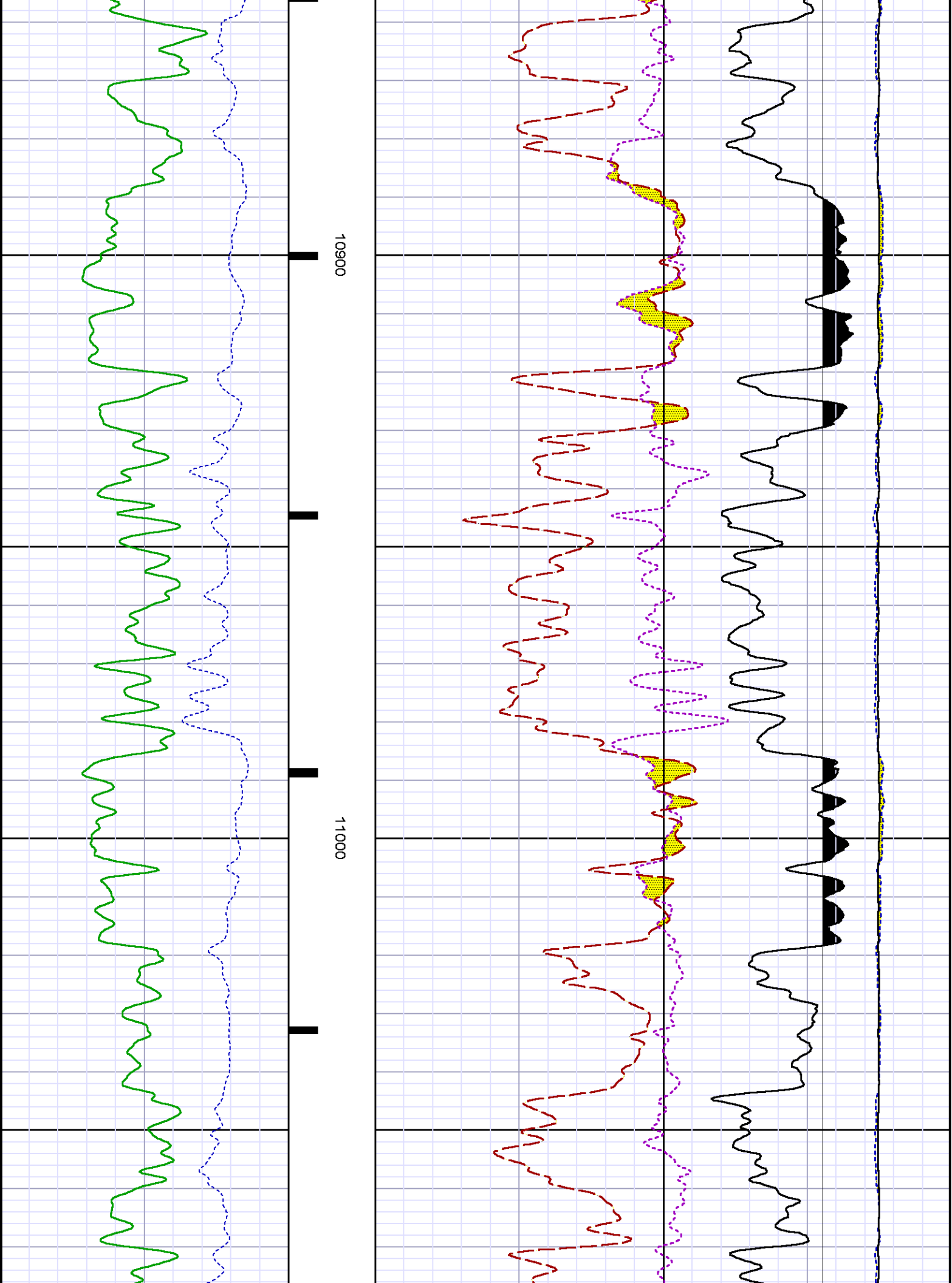
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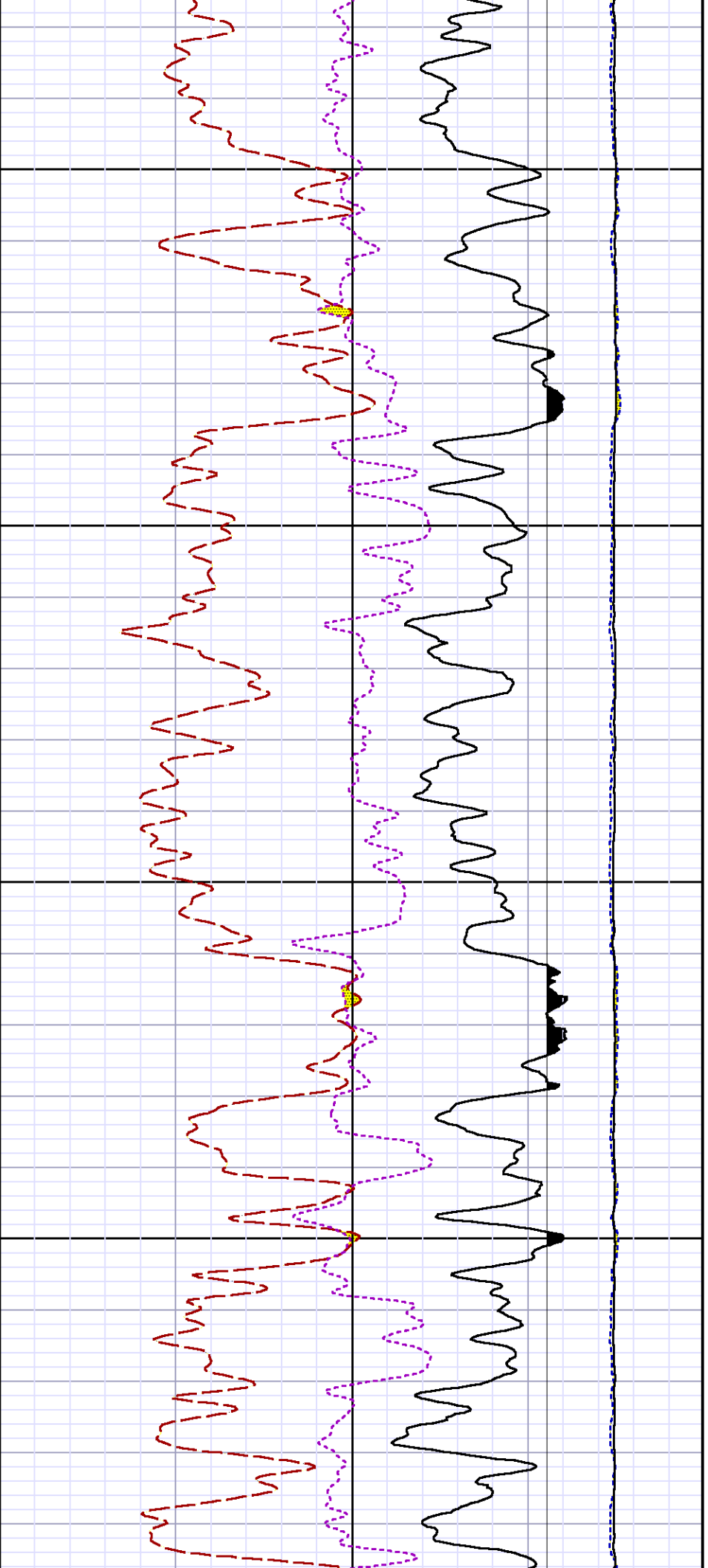
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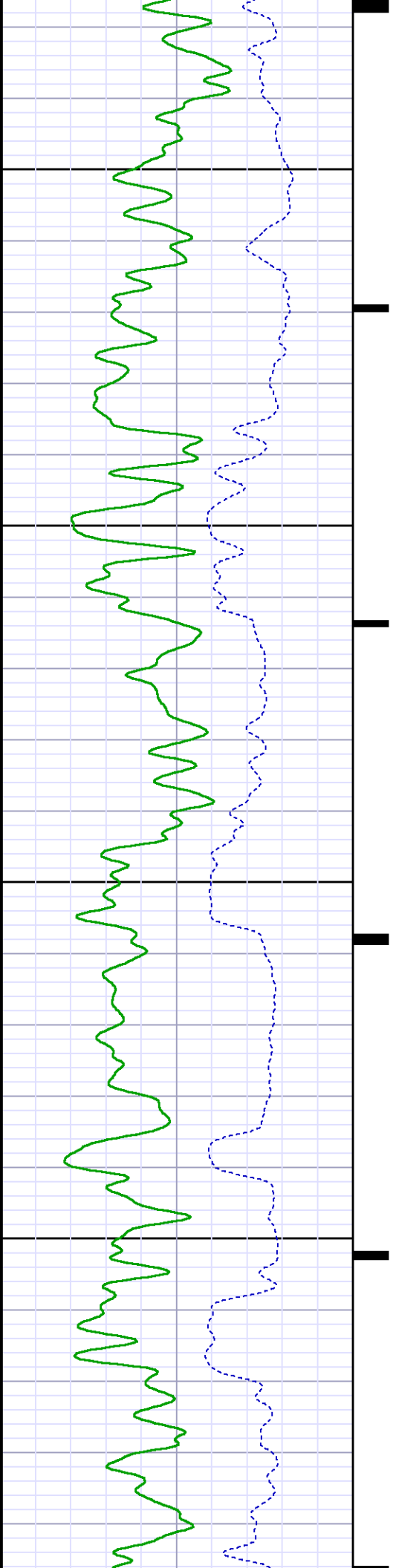


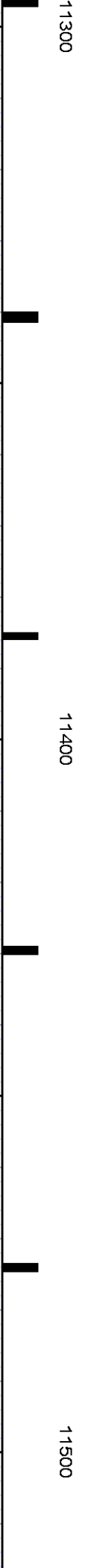
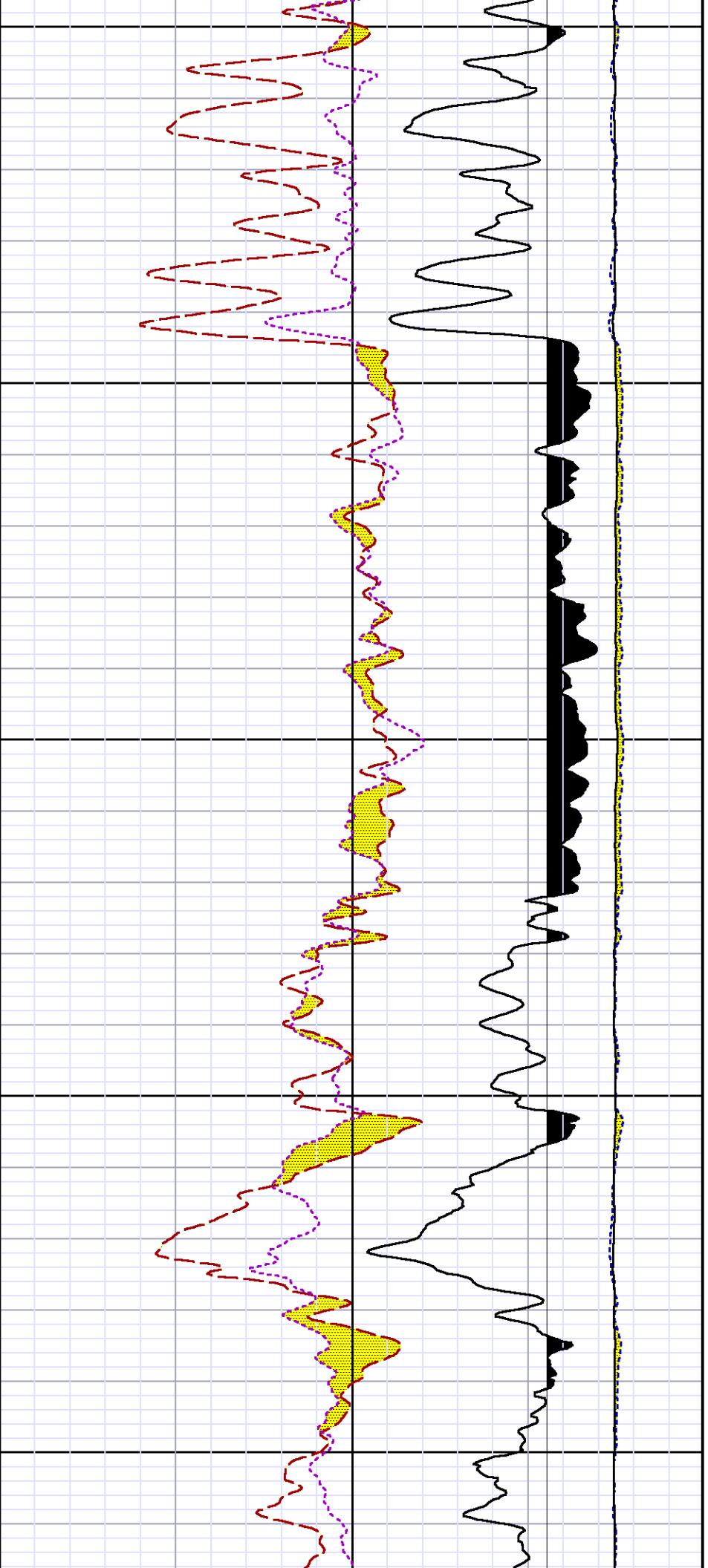


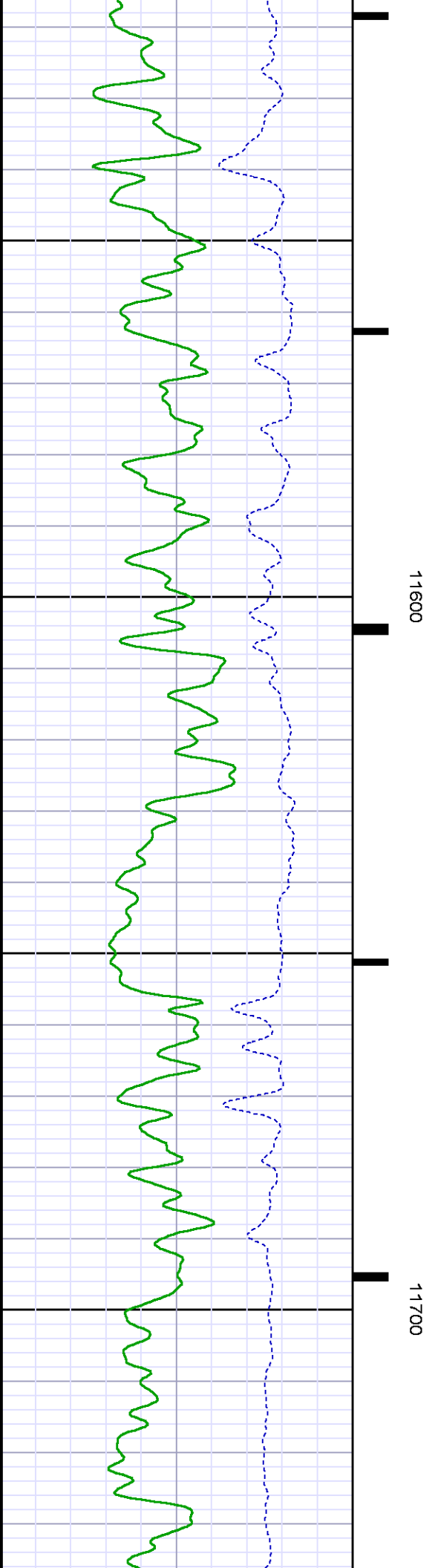
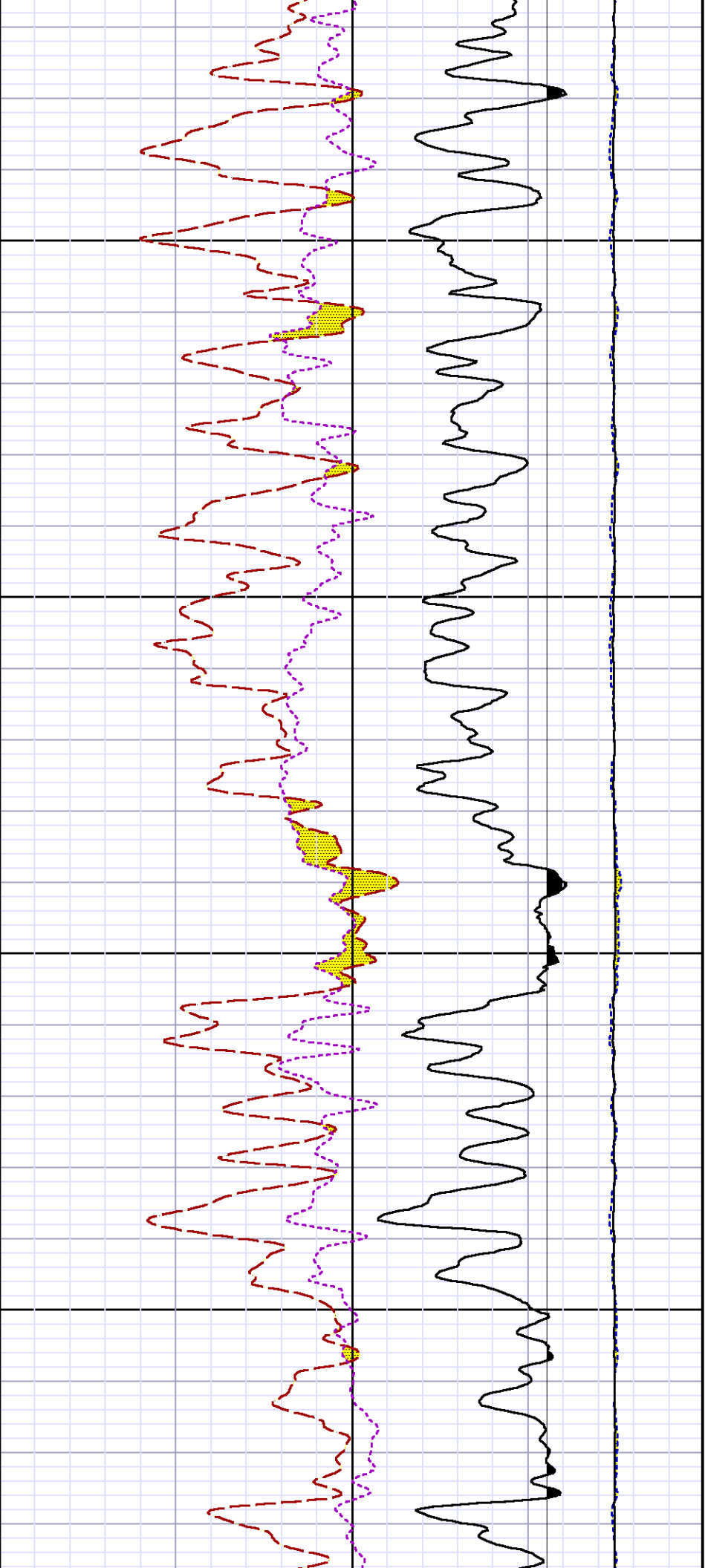


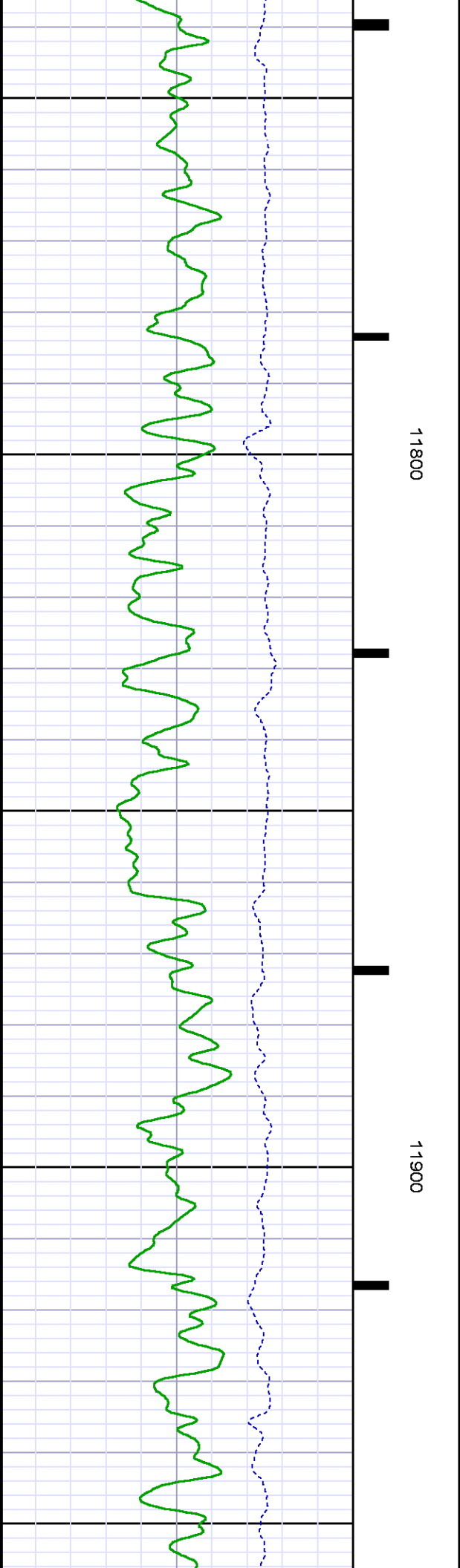
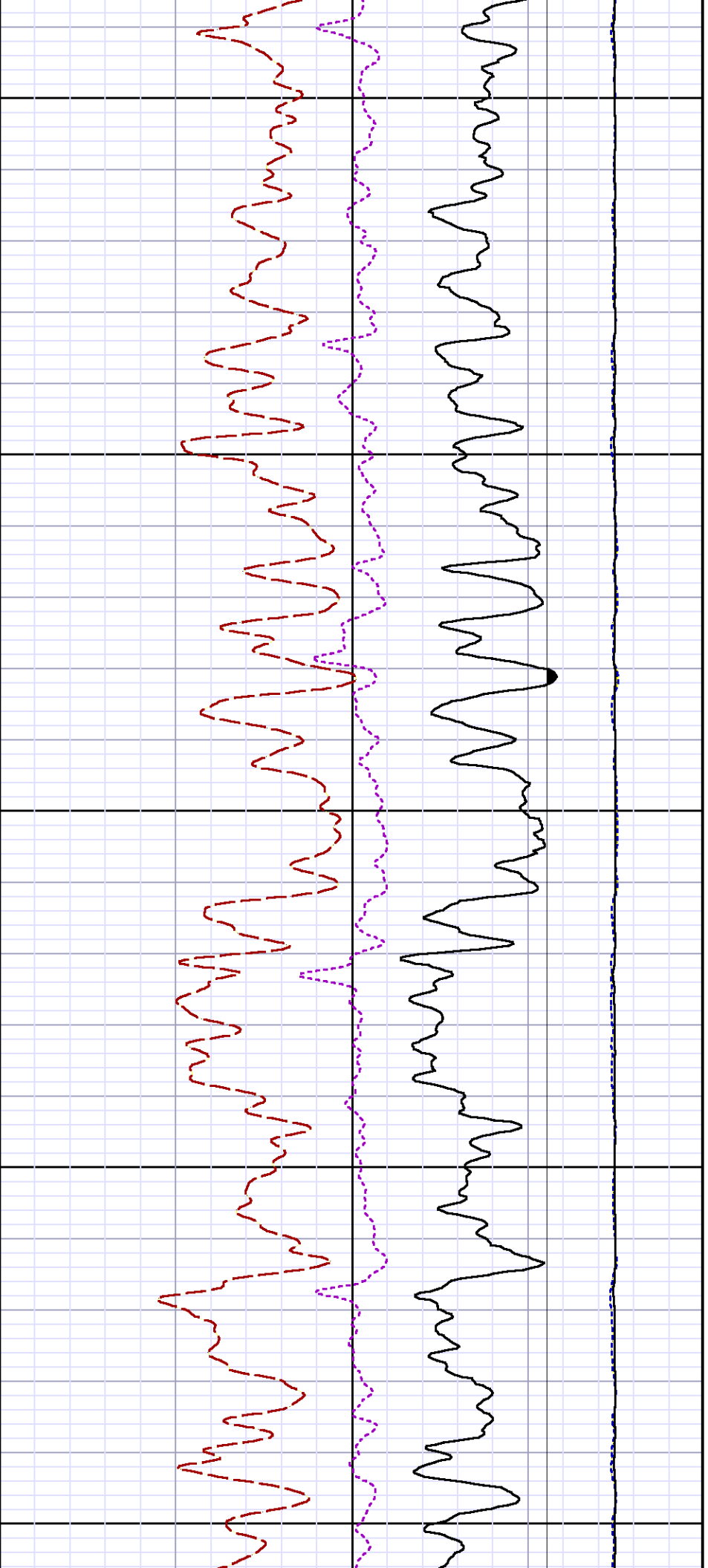
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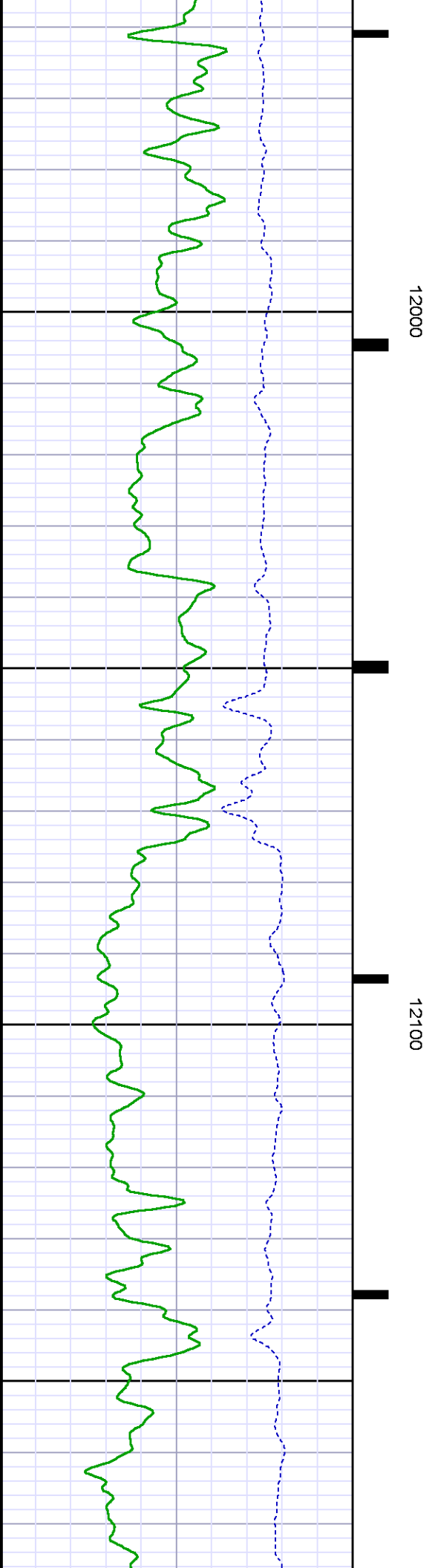
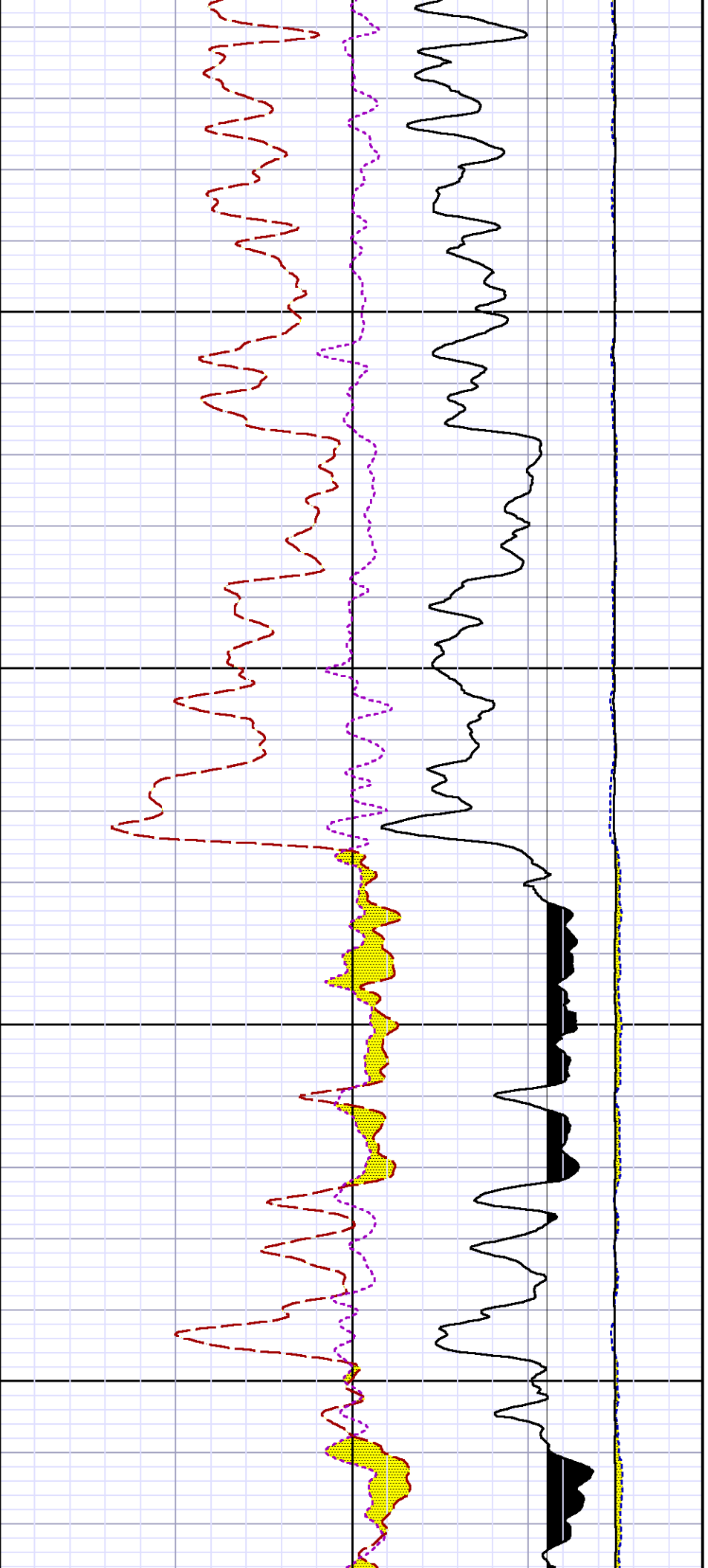
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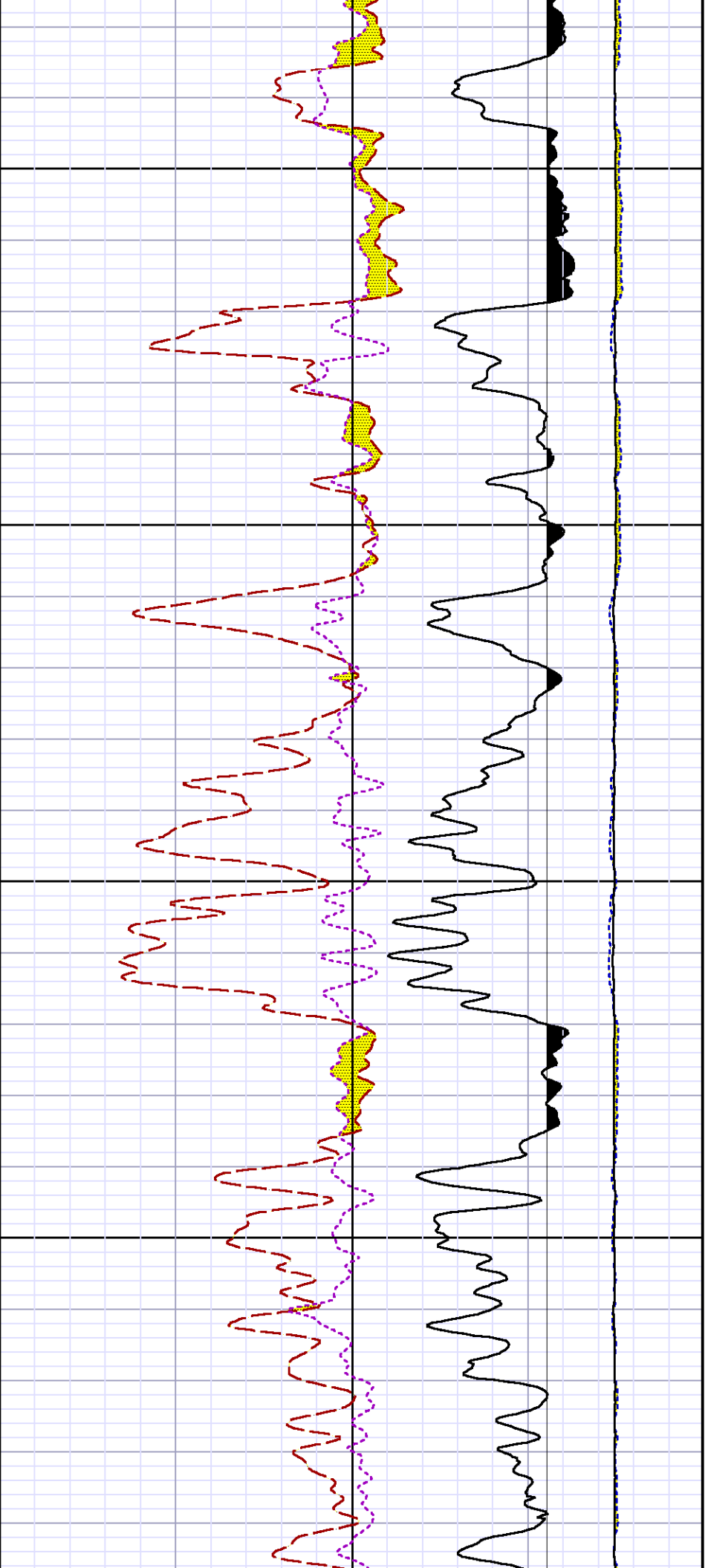








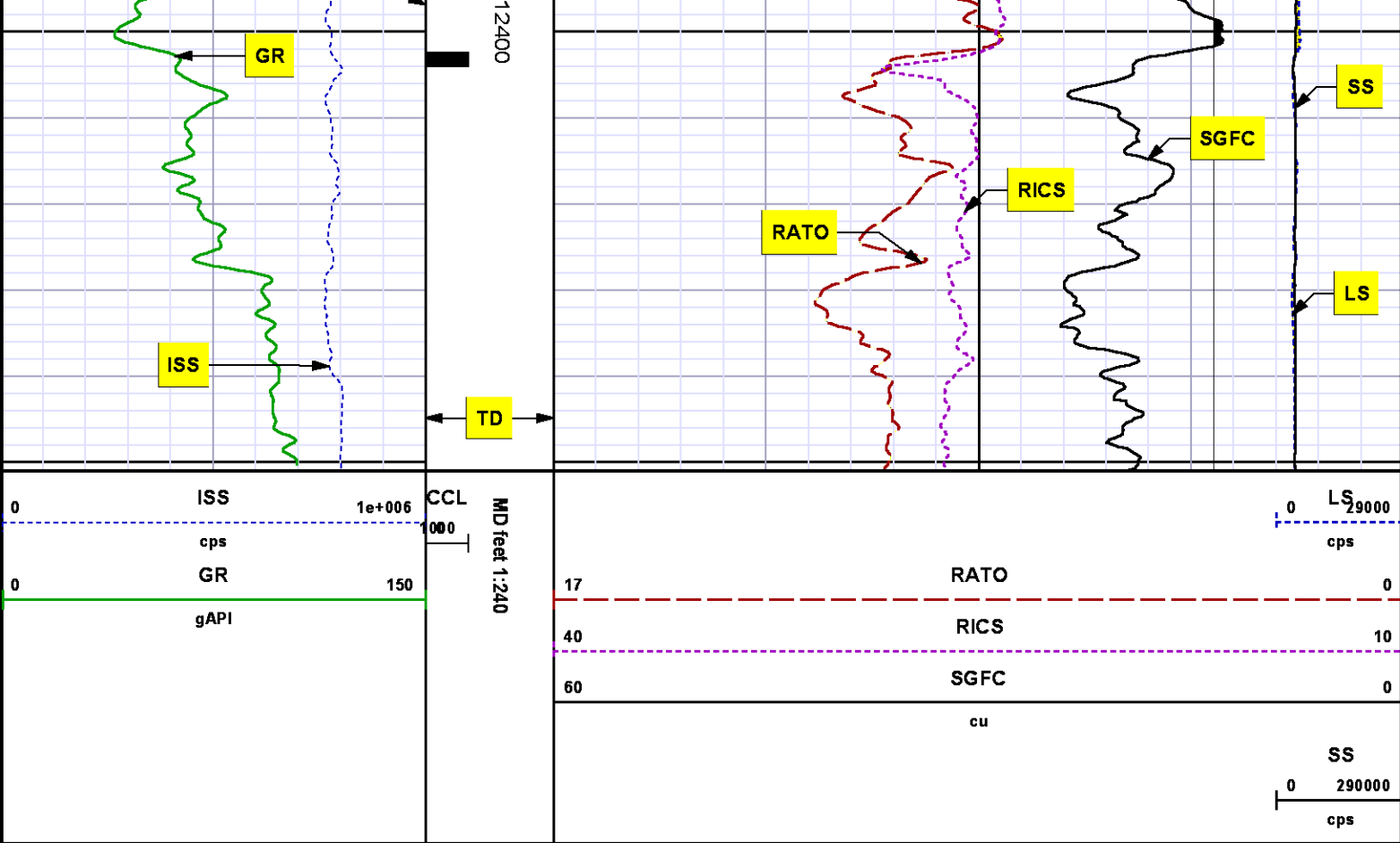




12200

12300

CCL



REPEAT SECTION
PNC 3-D MODE

SPL PROCESSING

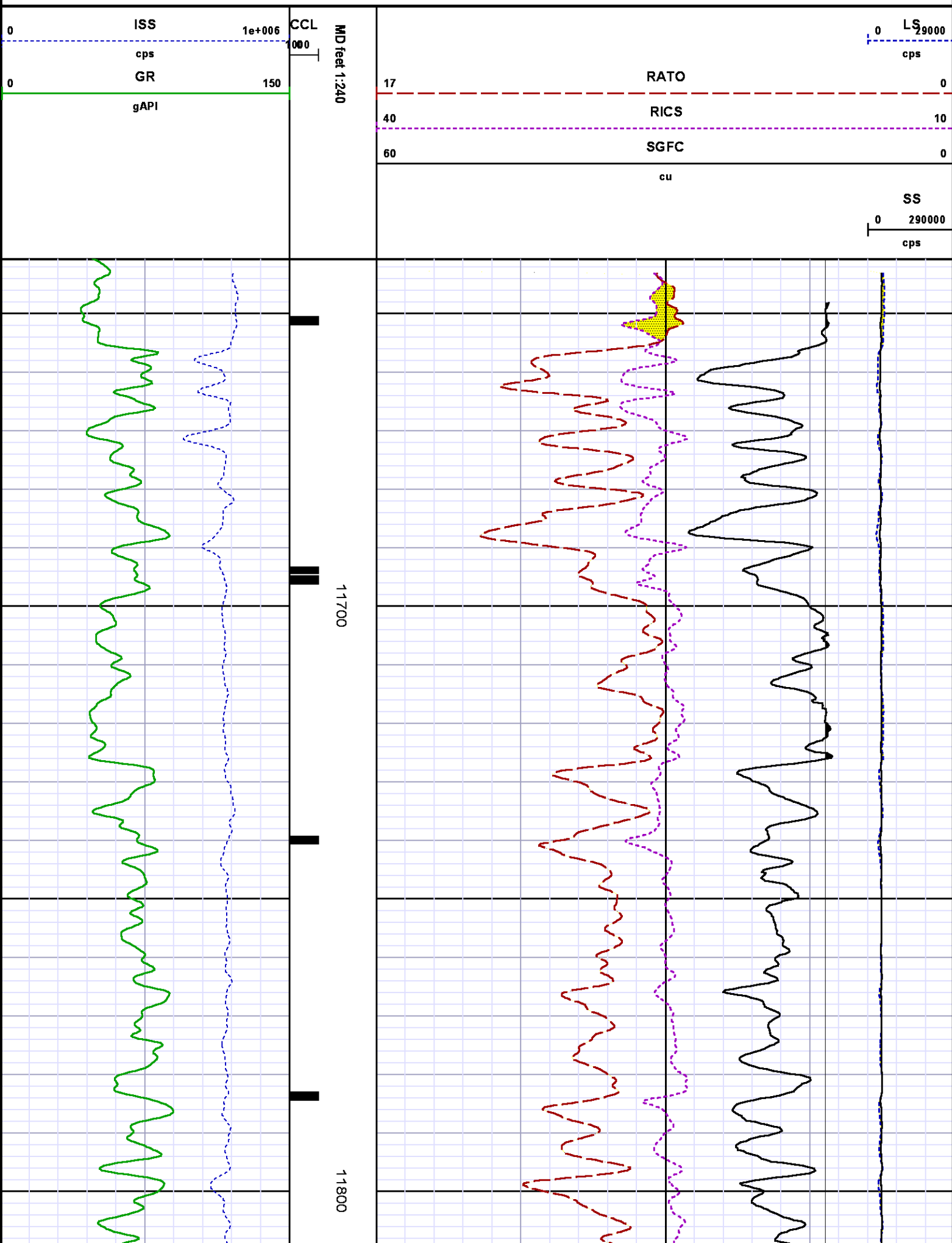
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		11640.490	11946.740
PNC Porosity	Borehole Size	8.750	inch	11640.490	11946.740
PNC Porosity	Casing Size	4.500	inch	11640.490	11946.740
PNC Porosity	Gas Filled	Non Gas Filled		11640.490	11946.740
PNC Porosity	Matrix	Sandstone		11640.490	11946.740

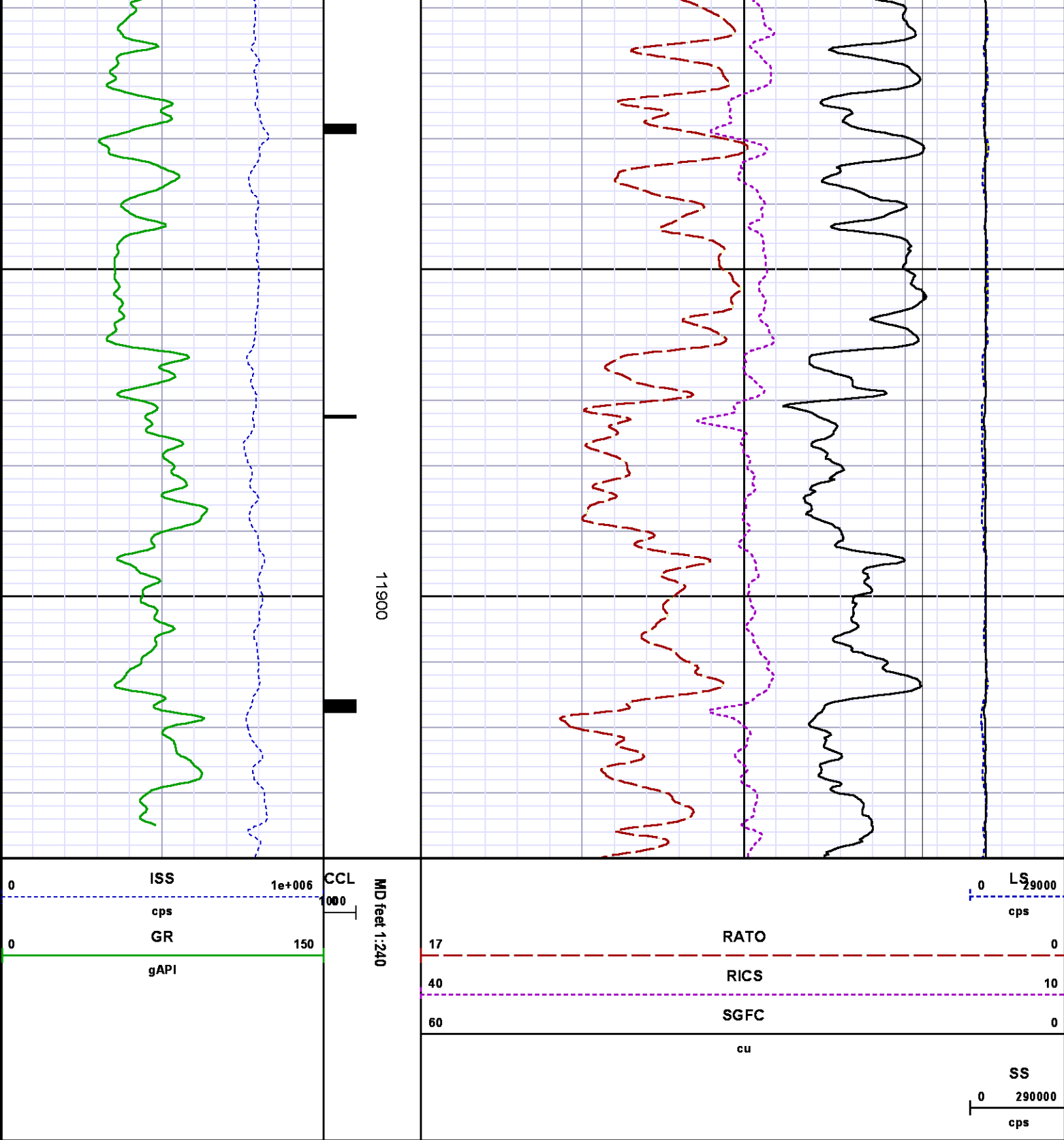
DEPTH OFFSETS

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
8248ED	-15.320	FLTM					
8248ED	-13.320	CCL	CHV				
8262XA	-10.189	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
		SGB3	SGF3	WDTH3	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	WDTH2	RICLC		
8281XA	0.000	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	WDTH1	RICSC	CSSR	G1R		
G2R	ISSR	SSR	SS2R	RATOR	RATO13R		
RBORR	RICSR	RINR	RIN13R	RONER	RPORR		
RTWOR							
SYSTEM	0.000	TEN	TTEN				

Interval : 11640.74 - 11940.00 feet UP

Created : 7/3/2013 3:13:29 PM





CALIBRATION SUMMARY

GAMMA RAY

Calibration File: C:\case\calver\GR\055J8.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Jun 18 16:19:14 2013 TOOL SERIES: 8262XA ASSET: 055 SEQ: J8

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
SHOP JIG	76.16	430.69	0.508	38.66	218.66	180.00

PNC

Calibration File: C:\case\calver\PNC\555J9.cal

PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sat Jun 29 11:15:36 2013 TOOL SERIES: 8281XA ASSET: 555 SEQ: J9

Calibrator #

SHOP BARREL

Source #

8281AA 11765054

	ISS	Mtr VIts (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	815913	123.00	2318.00	2260.00	2219.00	110.72	7.00	0.9868
Interpolated	1300000	141.64	2300.79	2255.03	2213.14			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	815913	6549.55	1056.56	151.17	25.85	0.14	24.31	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	815913	172283.19	26558.95	89565.24	31886.25	8365.85	54216.74	13379.10
Fit Quality %		0.43	0.21	0.63	0.61	0.37	0.59	0.34

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	815913	1.43	4.74	30.72	15.05	10.71	3.81	4.05
		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	0.30	0.35	0.12	0.20	0.20	0.20
Reduced	1390134	1.43	4.76	30.80	15.11	10.70	3.81	4.05
		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

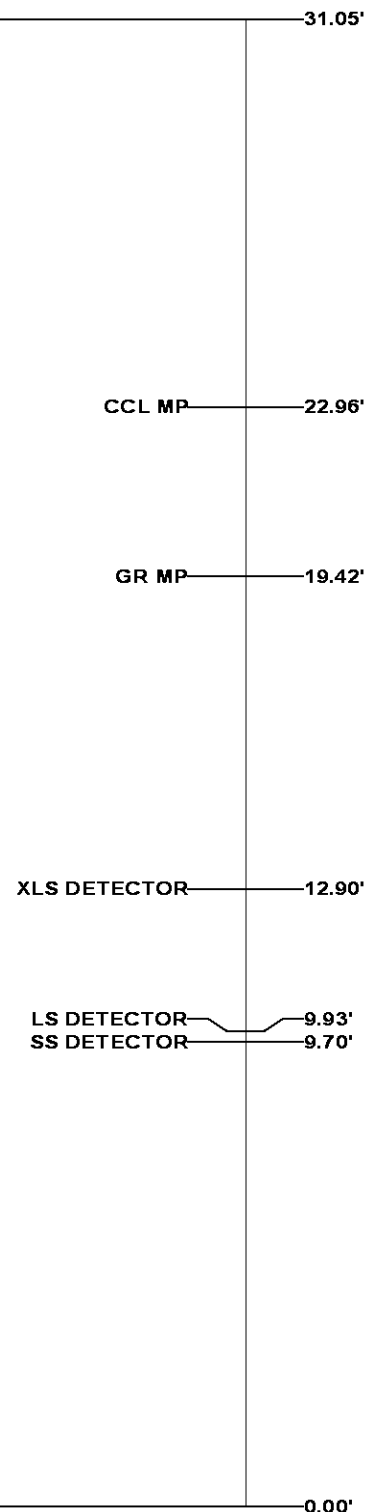
Series 8248EA
Mnemonic PCM
Diameter 1.70"
Weight 20.00 lb
Length 4.46'
Measure Point 1.00' CCL MP
Temp Rating 350.00 °F
Press Rating 15000.00 PSI

GAMMA RAY

Series 8262XA
Mnemonic GR
Diameter 1.70"
Weight 15.00 lb
Length 3.17'

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: 31.05'
Total Weight: Not Available
Max Diameter: 0' 1.70"

<div><div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div><div>BAKER</div><div>HUGHES</div></div></div></div><div>Baker Atlas</div><div>CASE</div></div>	Company		WPX ENERGY		File No:	
	Well		FEDERAL RGU 23-23-198		CH074105	
	Field		SULPHUR CREEK		API No:	
	County		RIO BLANCO	State	COLORADO	05103117880000
	Location		SHL : 1828' FSL x 1906' FWL		KB 6566 ft	
		BHL : 2617' FSL x 1895' FWL		DF		
		SEC 23 TWP 1S RGE 98W		GL 6545 ft		
				23 1S 98W		
				RGU 23-23-198 PAD		
				CYCLONE 29		