

**BAKER
HUGHES**

**RESERVOIR
PERFORMANCE
MONITOR**

Baker Atlas

File No: CH072039	Company Well	WPX ENERGY FEDERAL RGU 24-23-198
API No: 08103117870000	Field County	SULPHUR CREEK RIO BLANCO State COLORADO
23 1S 98W RGU 23-23-198 PAD CYCLONE 29	Location SHL: 1789' FSL, 1921' FWL BHL: 1295' FSL, 1897' FWL SEC 23 TWP 1S RGE 98W	Other Services BOND LOG
Permanent Datum Log Measured From Drill Measured From	GL KB KELLY BUSHING	Elevations KB 6566 ft DF GL 6545 ft

Date	12/MAY/13	
Run	ONE	
Service Order	575125	
Depth Driller	12464 ft	
Depth Logger	12395 ft	
Bottom Logged Interval	12385 ft	
Top Logged Interval	3839 ft	
Time Started	1330	
Time Finished	0230	
Operator Rig Time	12 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	91 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	15 fpm	
Maximum Recorded Temperature	252 degF	
Reference Log	BAKER HUGHES HDIL/ZDL/CN/GR	
Reference Log Date	28/APR/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
13.4 in	0 ft	3839 ft
7.875 in	3839 ft	12464 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in	32 lbm/ft		0 ft	3839 ft
4.6 in	11.6 lbm/ft	P-110	0 ft	12464 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes HDIL/ZDL/CN/GR open hole log dated 4/28/2011 at the clients request. The amount of linear shift is 12 feet. Logged in PNC-3D mode. The depth matching process creates potential for collar lengths to vary from those recorded on other cased hole wireline units without a Gamma Ray reference.

BHT = 252°F

SJ = 7609'-7632'

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	RPM	8281FA	10460082	FREE
1	1	RPM	8281PA	10160383	FREE
1	1	RPM	8281EA	10294755	FREE
1	1	GR	8262XA	10076055	FREE
1	1	TEL/CCL	8248ED	10296408	FREE
1	1	PCM	8250EA	10397894	FREE

MAIN SECTION

PNC 3-D MODE

SPL PROCESSING

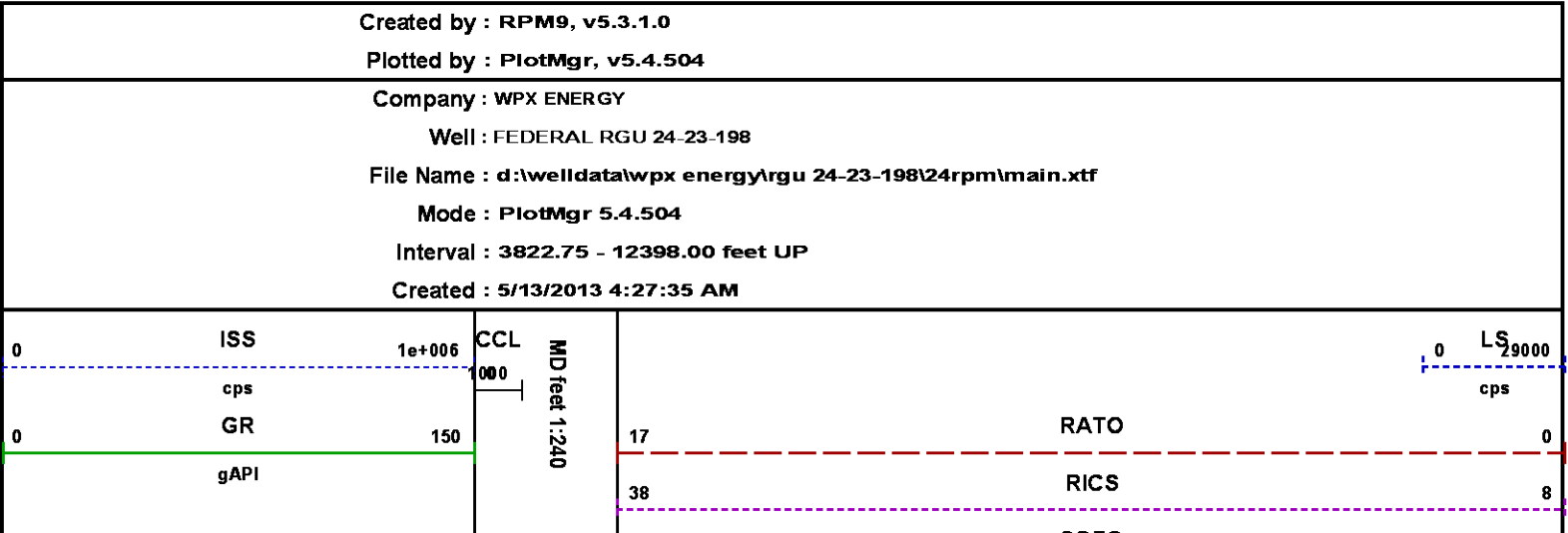
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		3822.687	12407.937
PNC Porosity	Borehole Size	7.875	inch	3822.687	12407.937
PNC Porosity	Casing Size	4.500	inch	3822.687	12407.937
PNC Porosity	Gas Filled	Non Gas Filled		3822.687	12407.937
PNC Porosity	Matrix	Sandstone		3822.687	12407.937

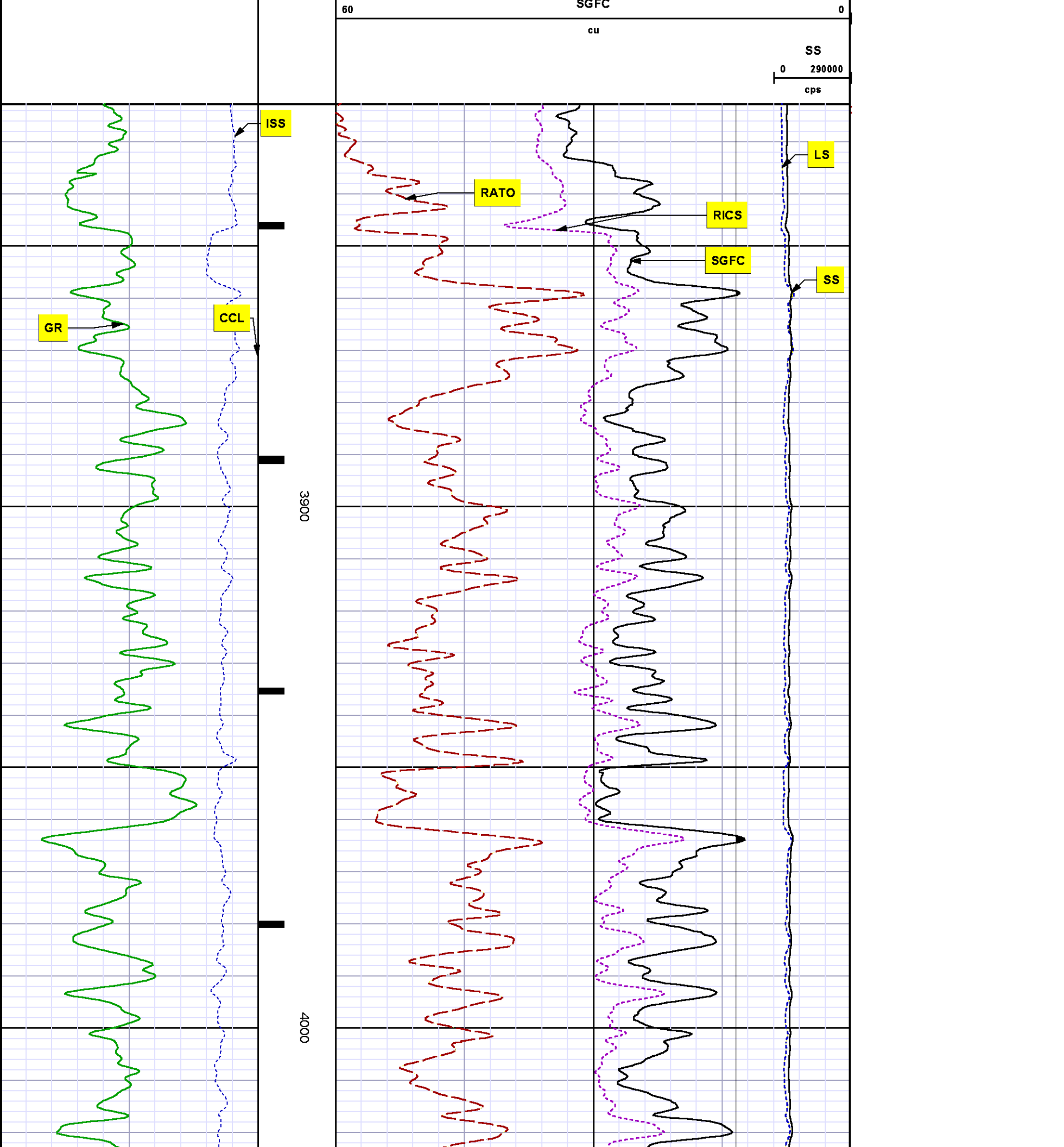
DEPTH OFFSETS

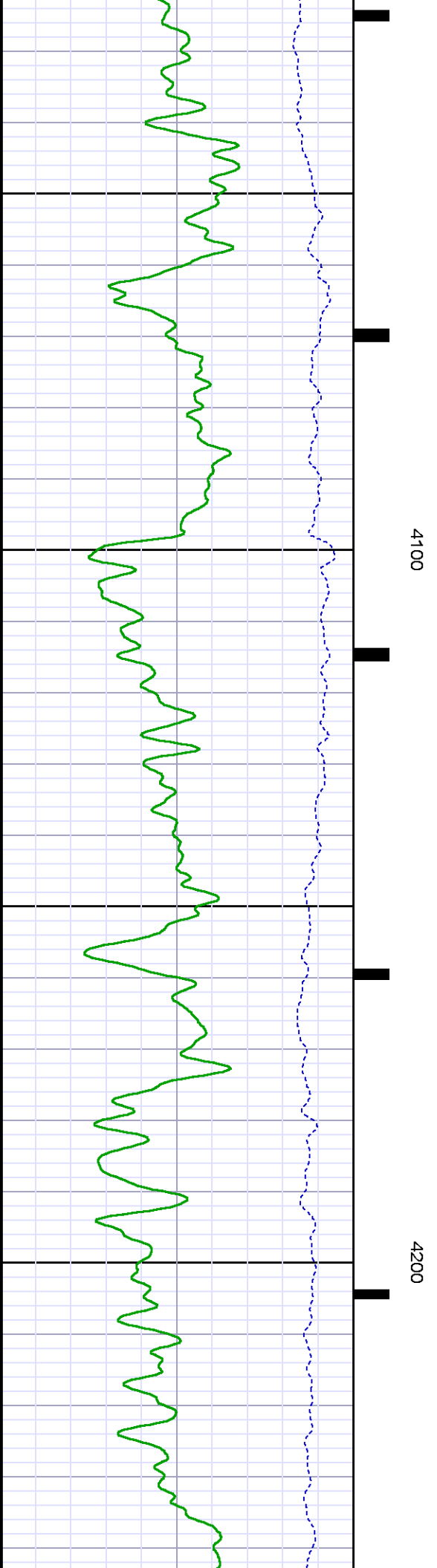
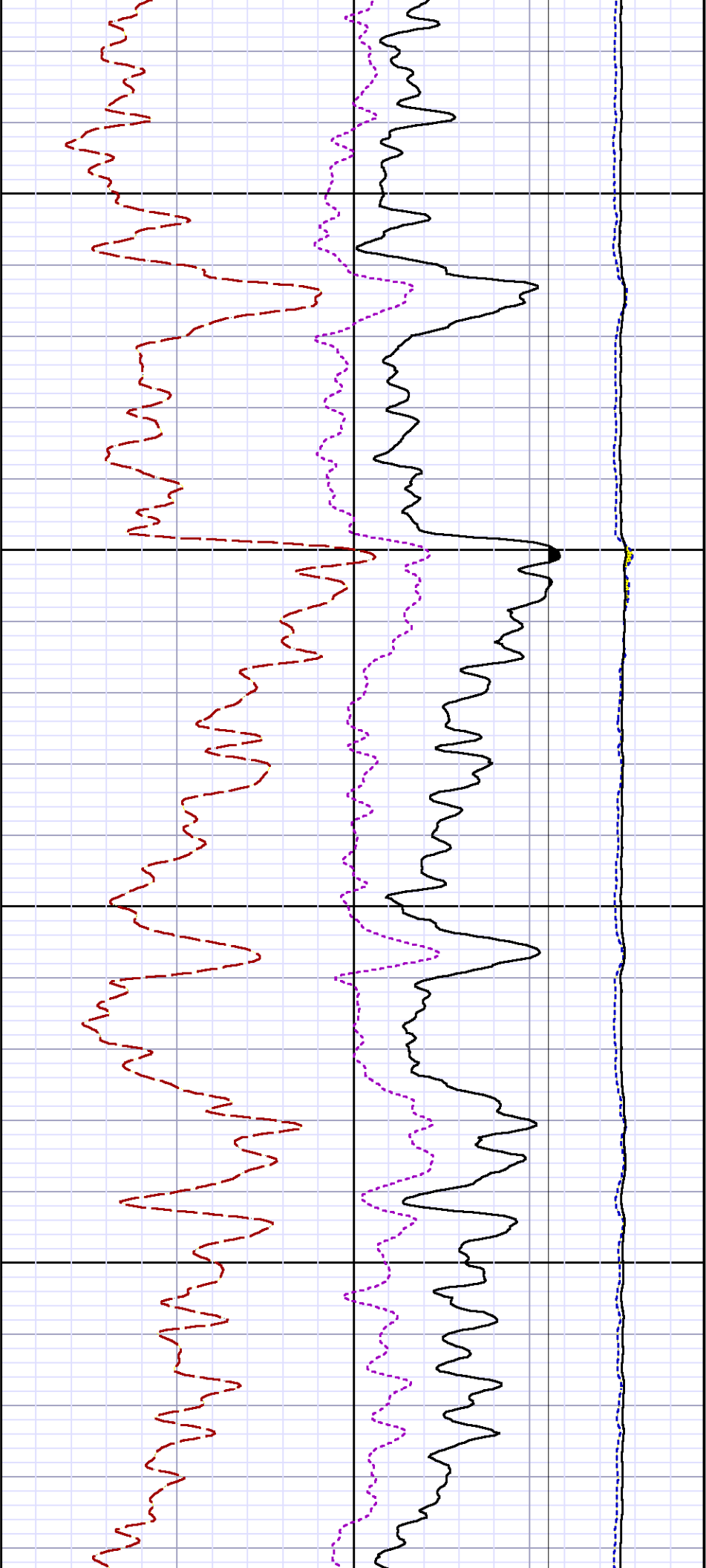
(for Acquired Curves)

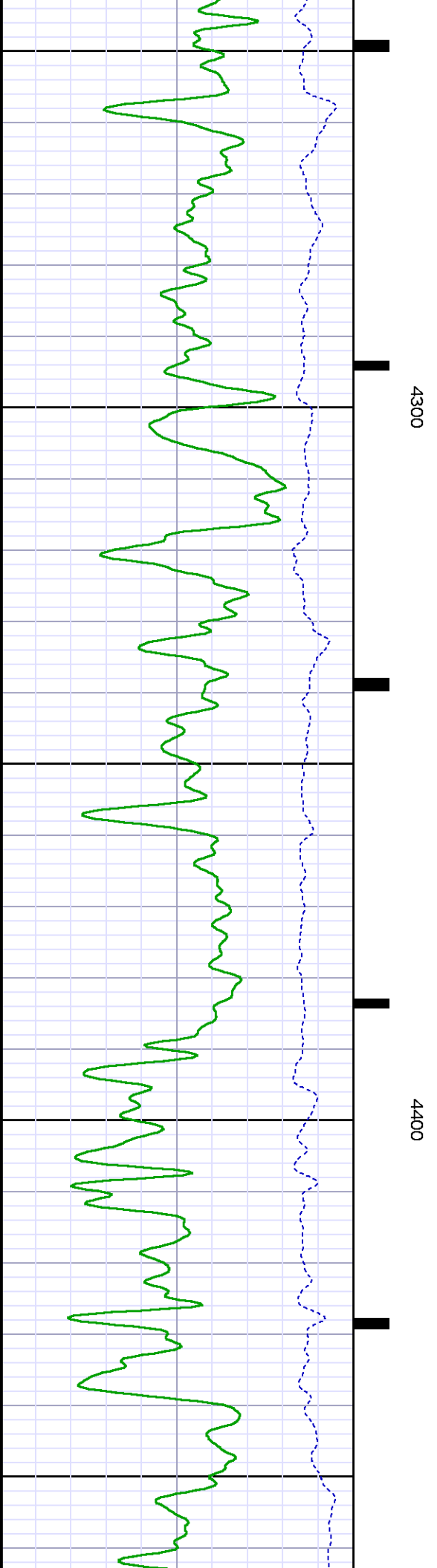
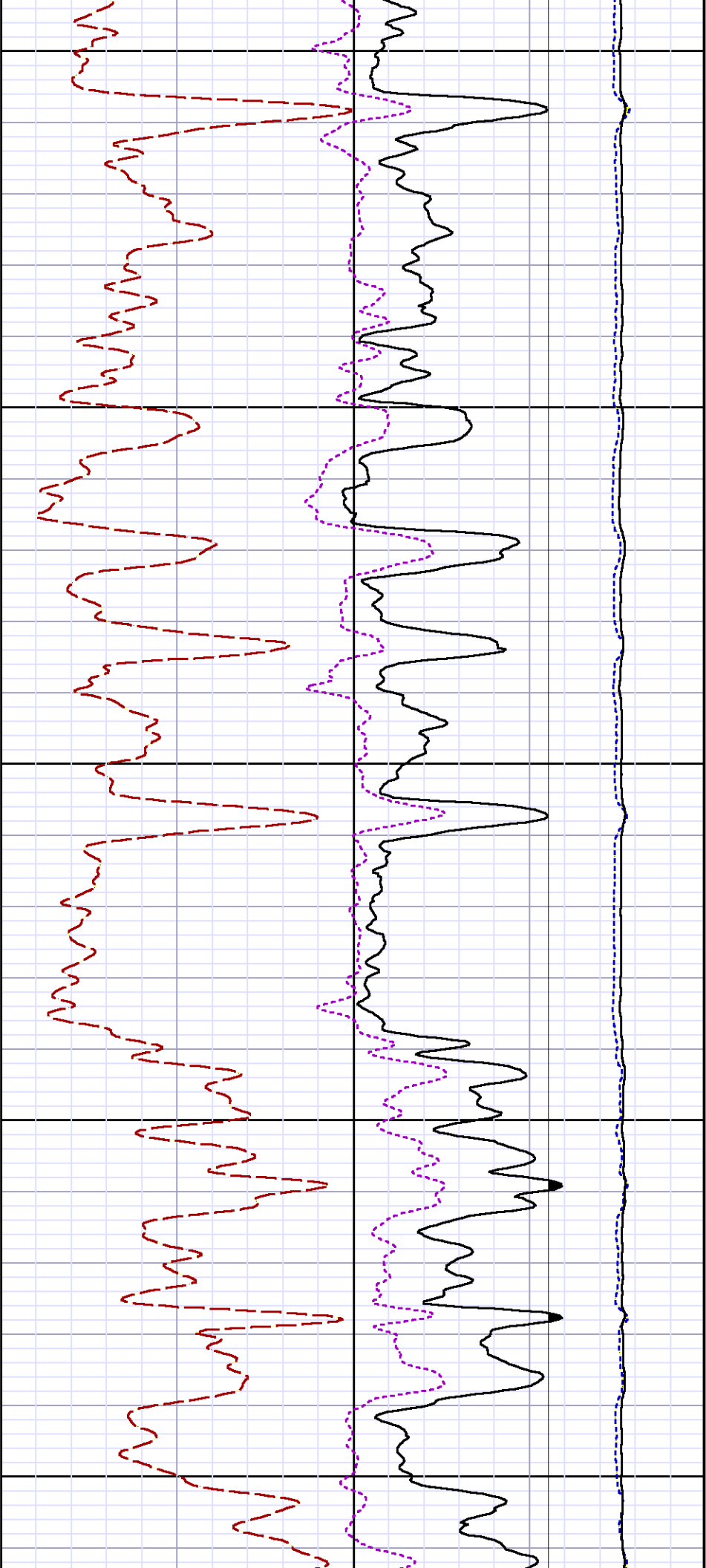
SERIES	DEPTH OFFSET	ACQUIRED CURVES
8248ED	-15.320	FLTM
8248ED	-13.320	CCL CHV
8262XA	-10.189	GR
8281XA	-0.662	HVC3Q0 SEQ3 AMA3 AML3 BKX CXS

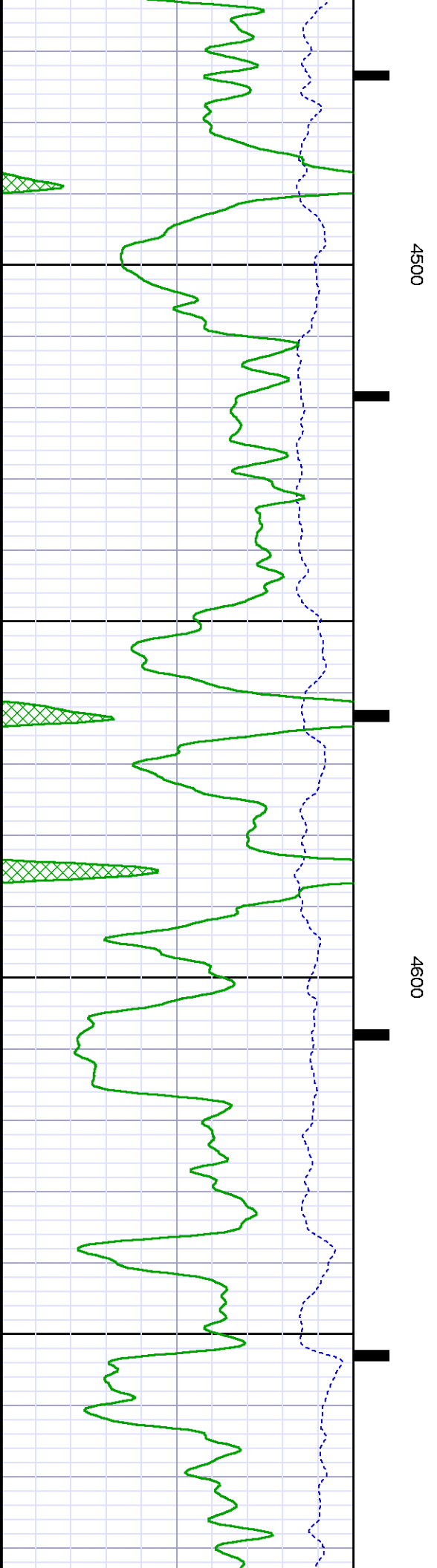
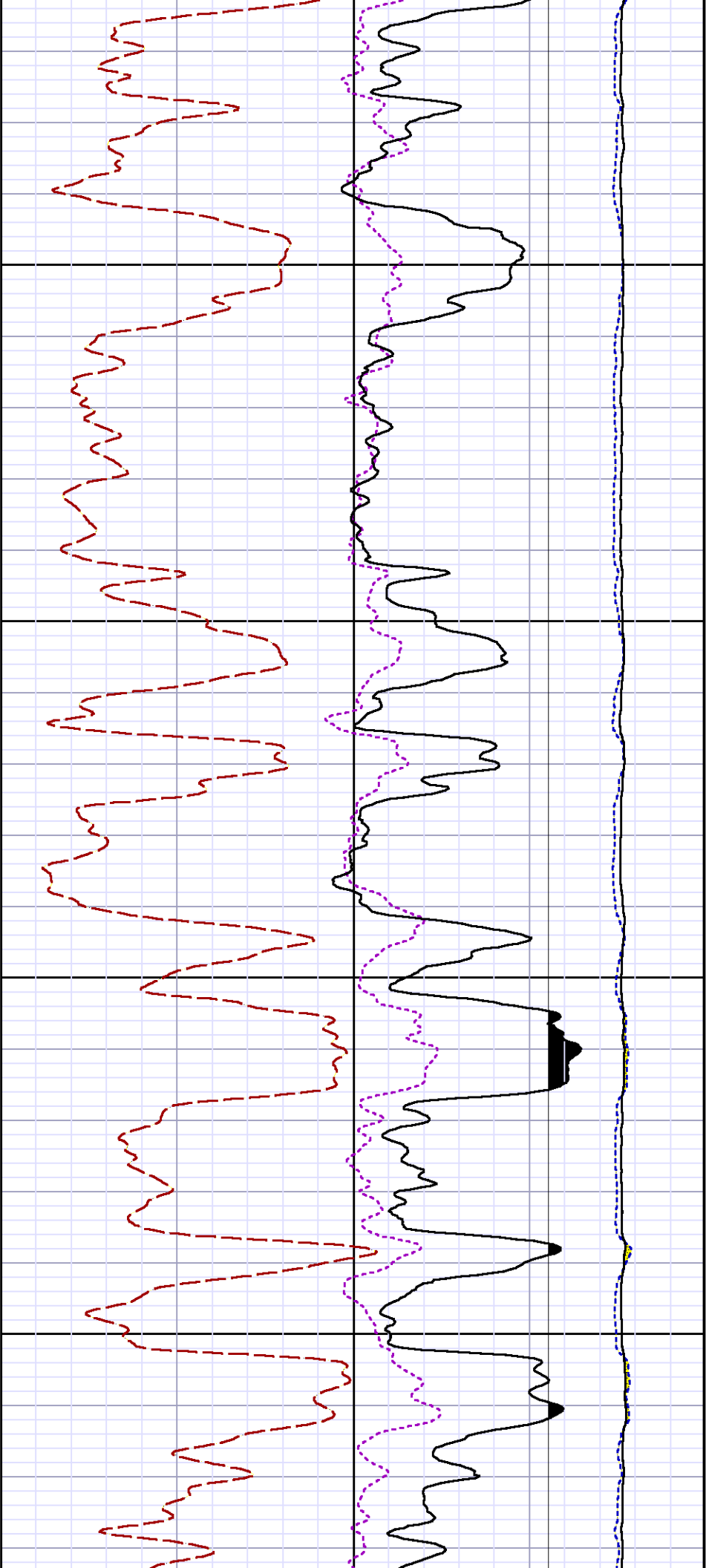
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		SDL3	SGA3	SGL3	STA3	XS	ASPEC3
		AMB3	AMF3	CHF3	IXSC	IXSN	RATO23
		RICXC	RIN13C	RIN23	RIN23C	SD3D	SG3D
		SGB3	SGF3	WDTH3	CXSR	IXSR	XSR
		RICXR					
8281XA	-0.250	HVC2Q0	SEQ2	AMA2	AMB2	AMF2	AML2
		BKL	CHF2	CLS	CPT2Q0	CPT2Q2	CPT2Q3
		CPT2Q4	ET2	ILS	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				

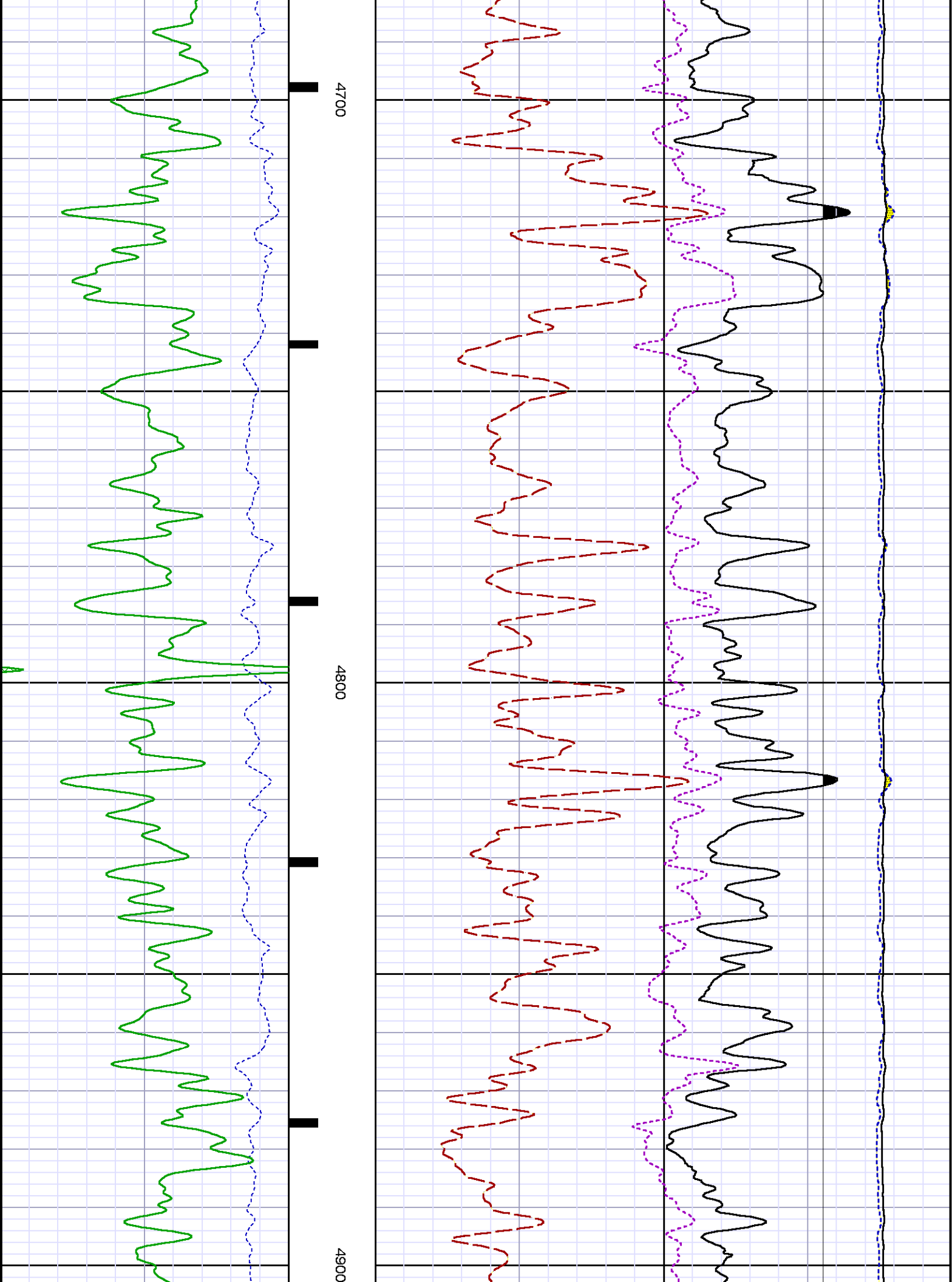


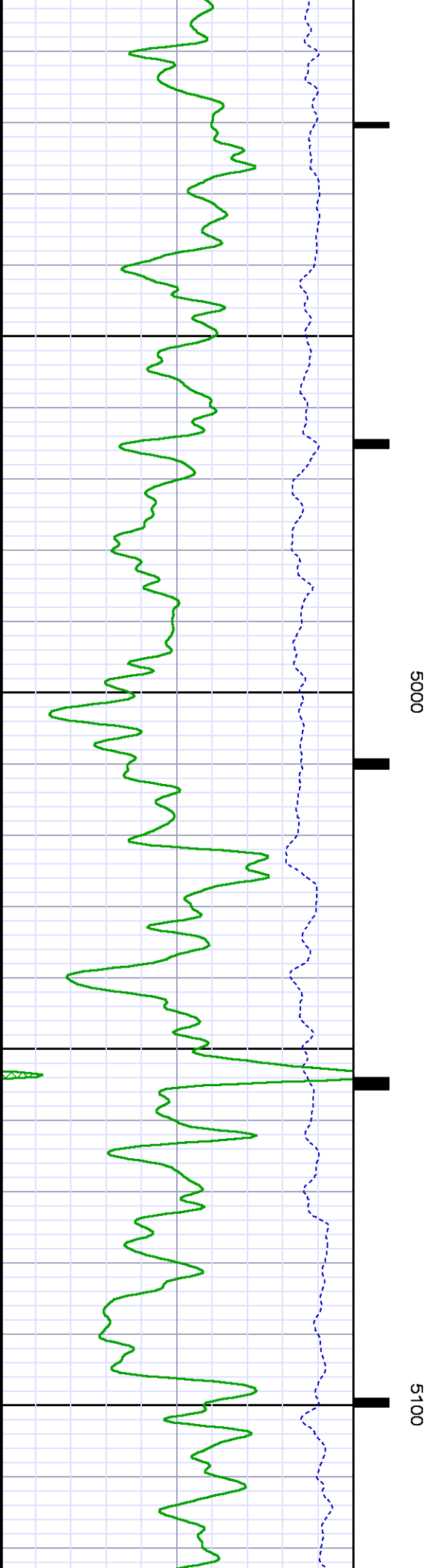
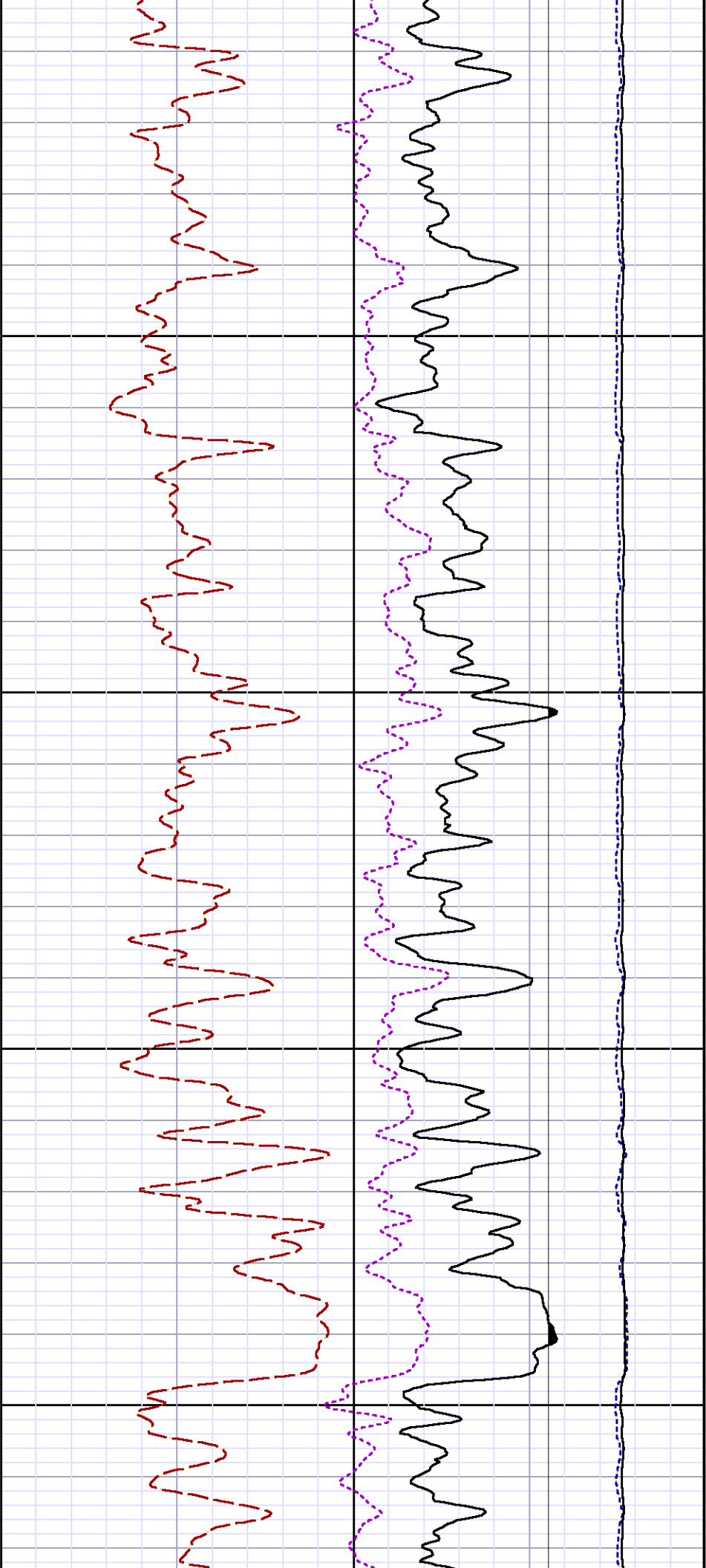


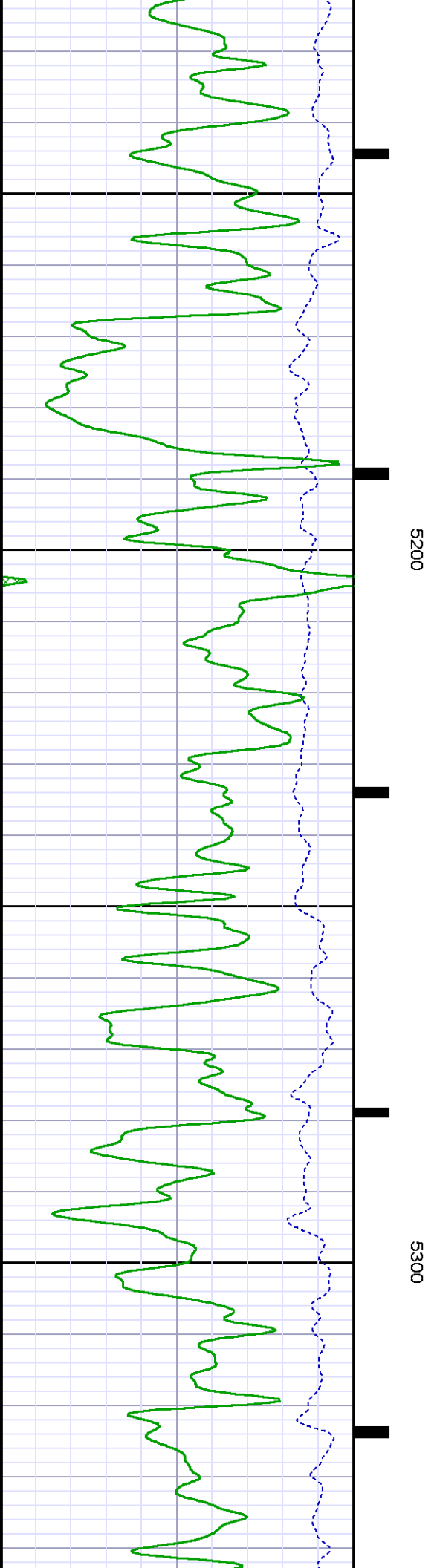
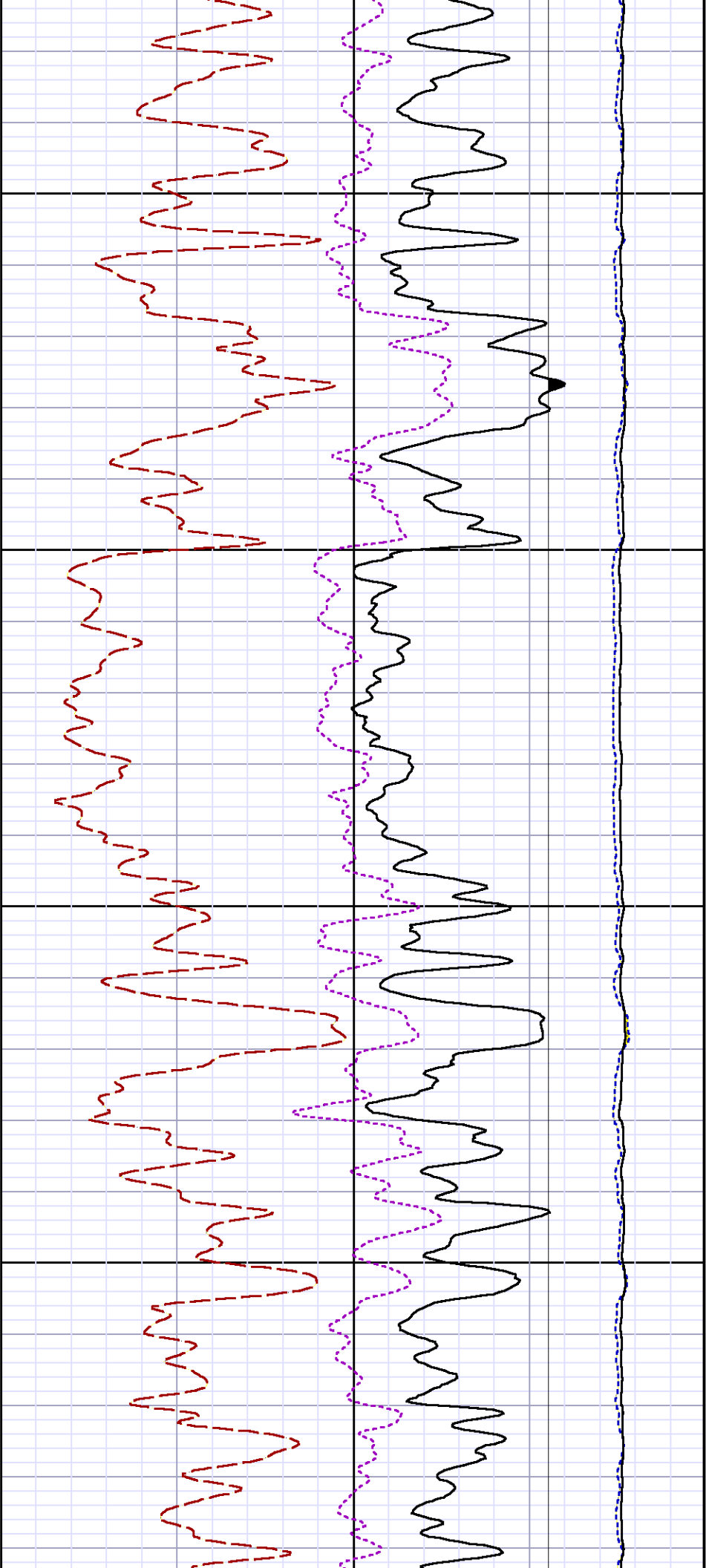


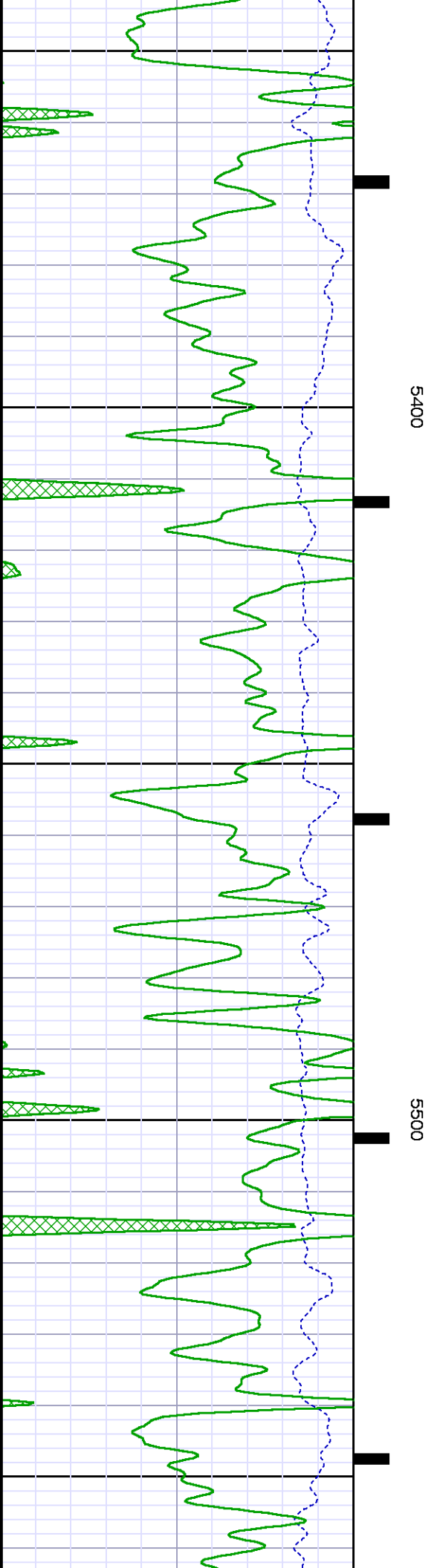
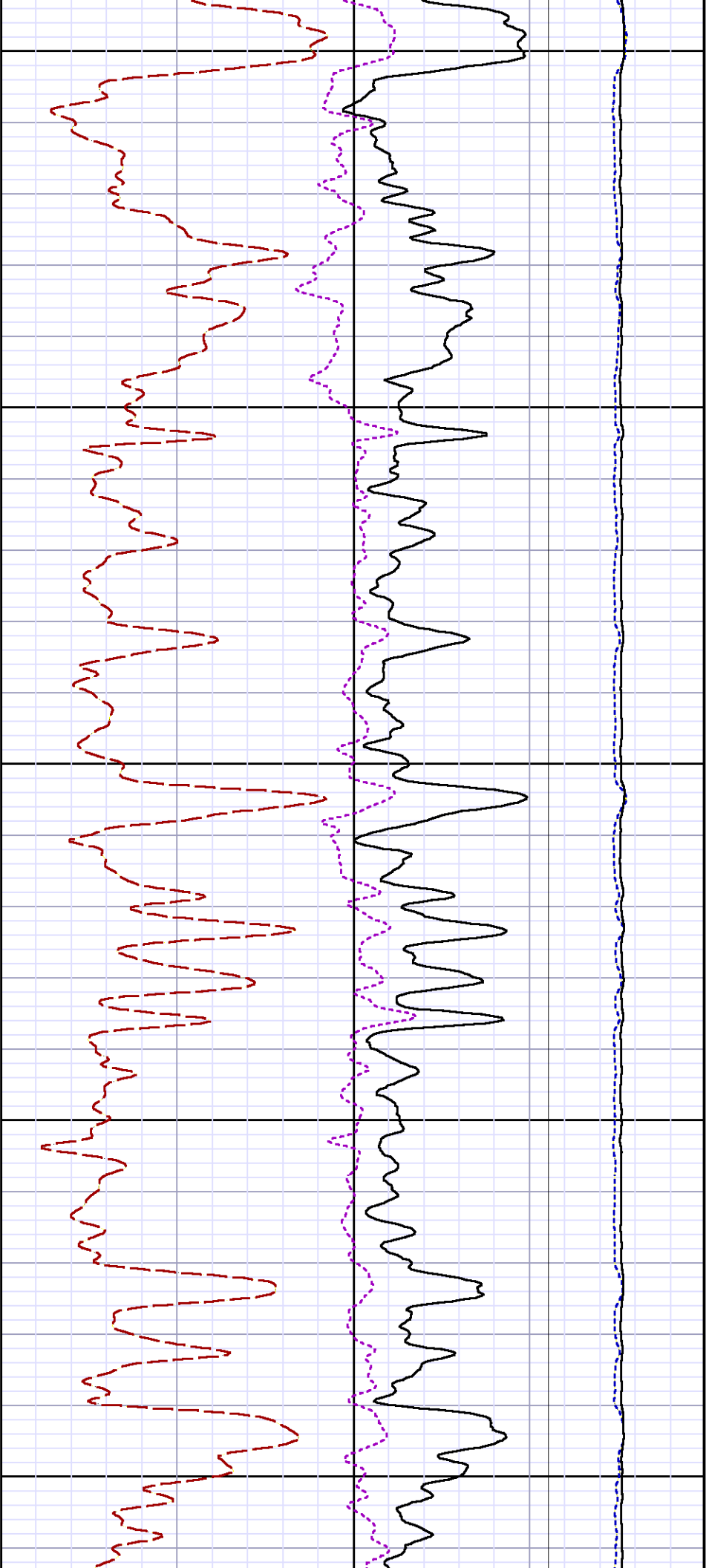


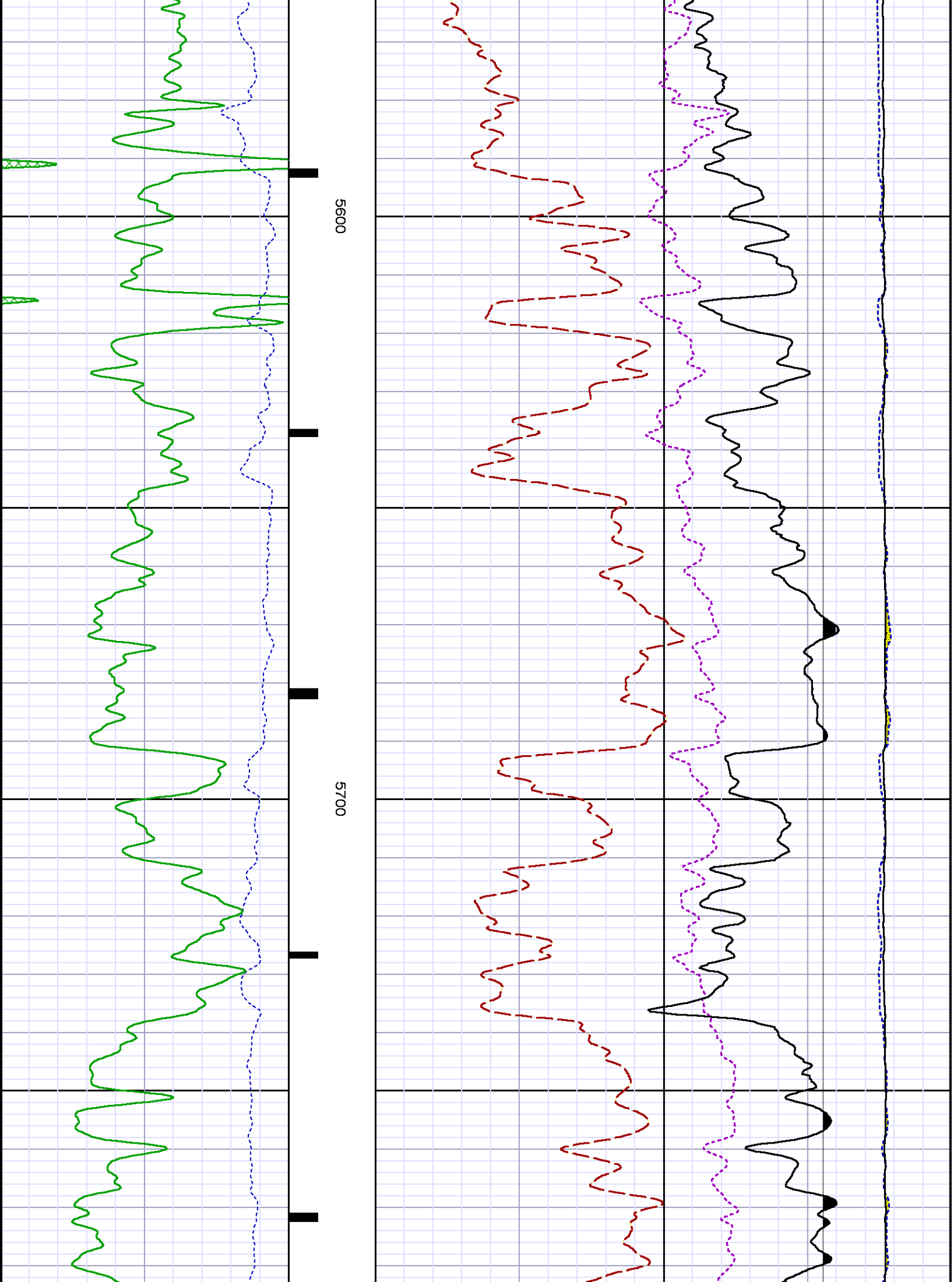


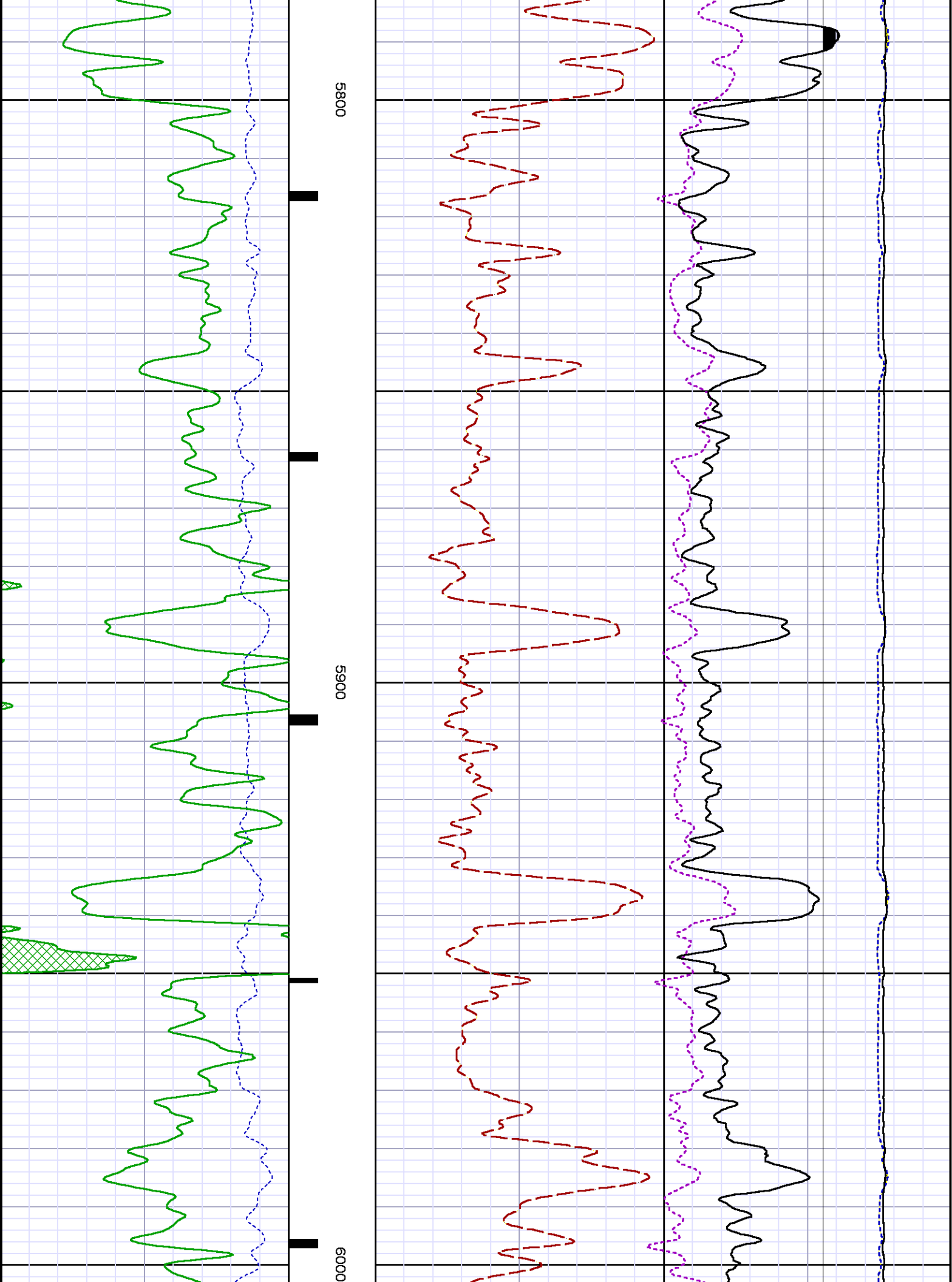


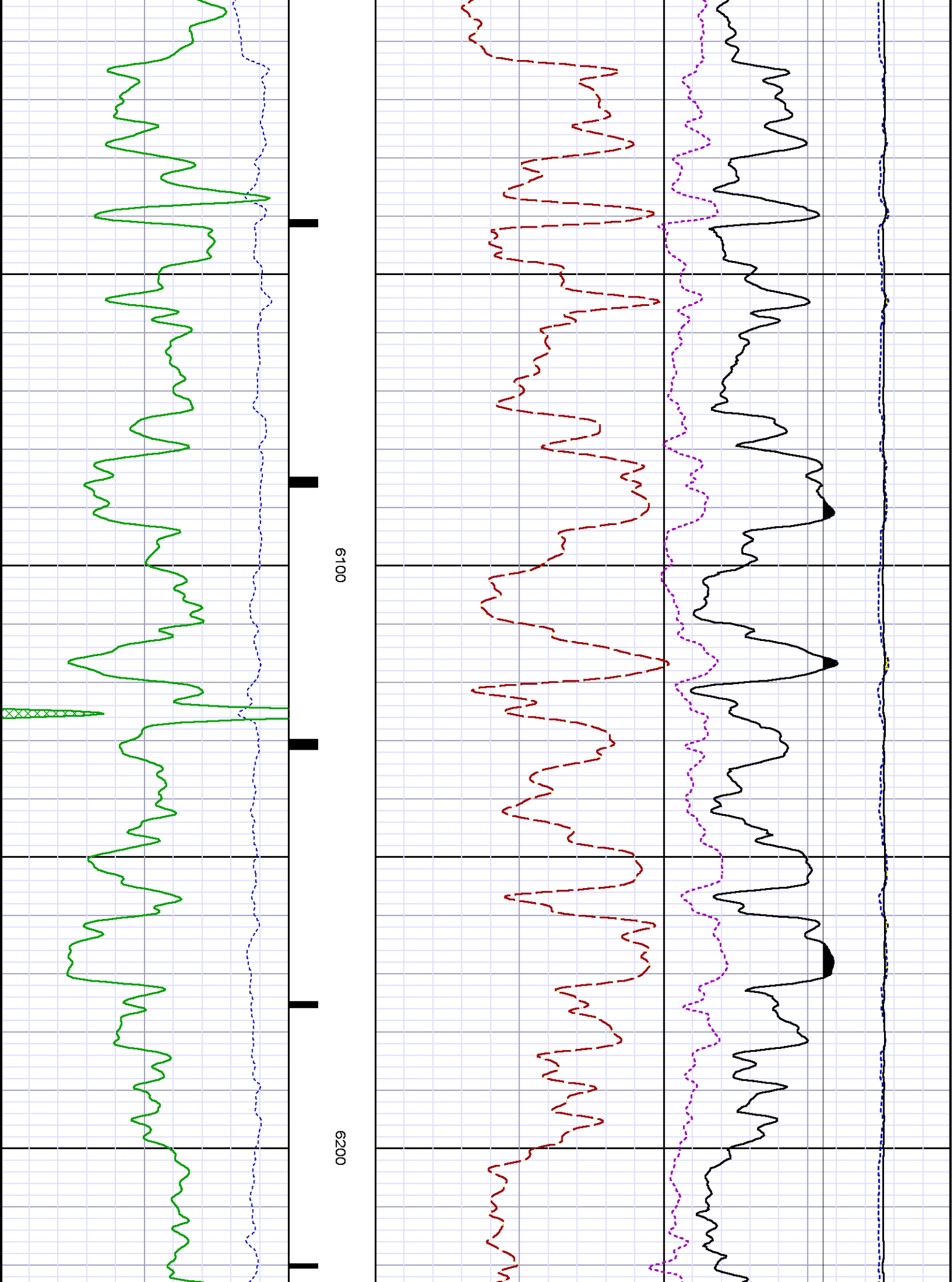


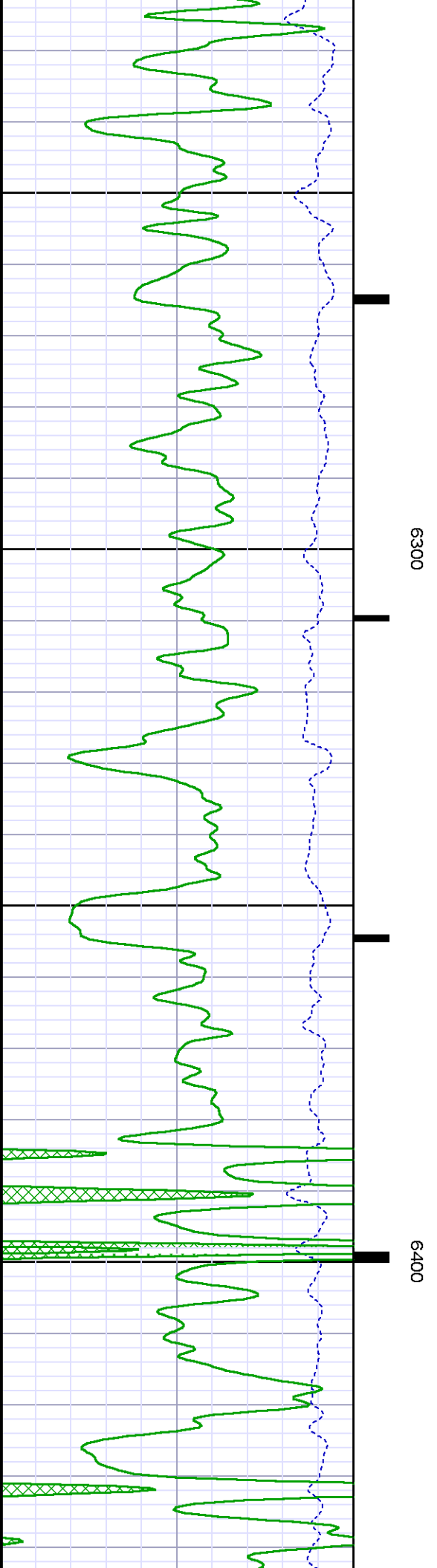
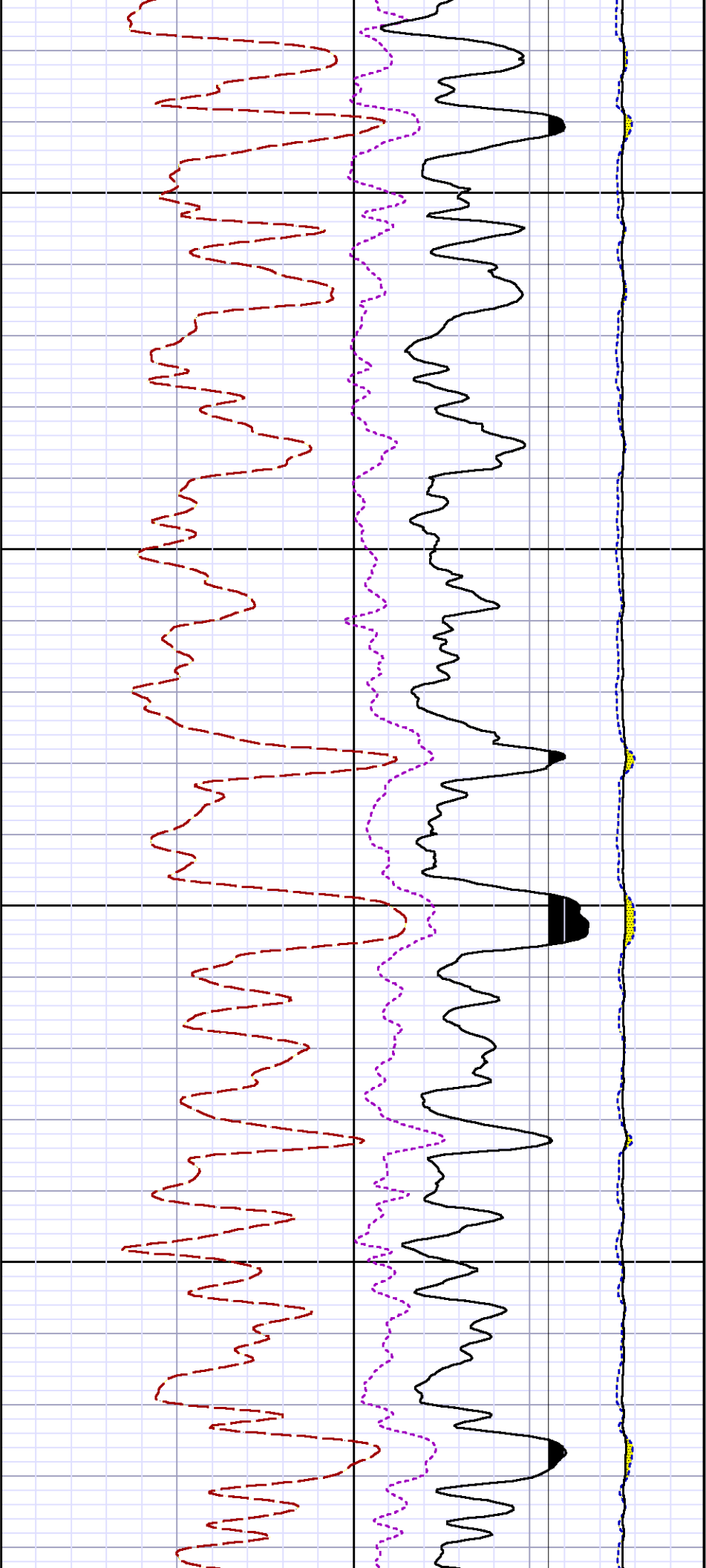


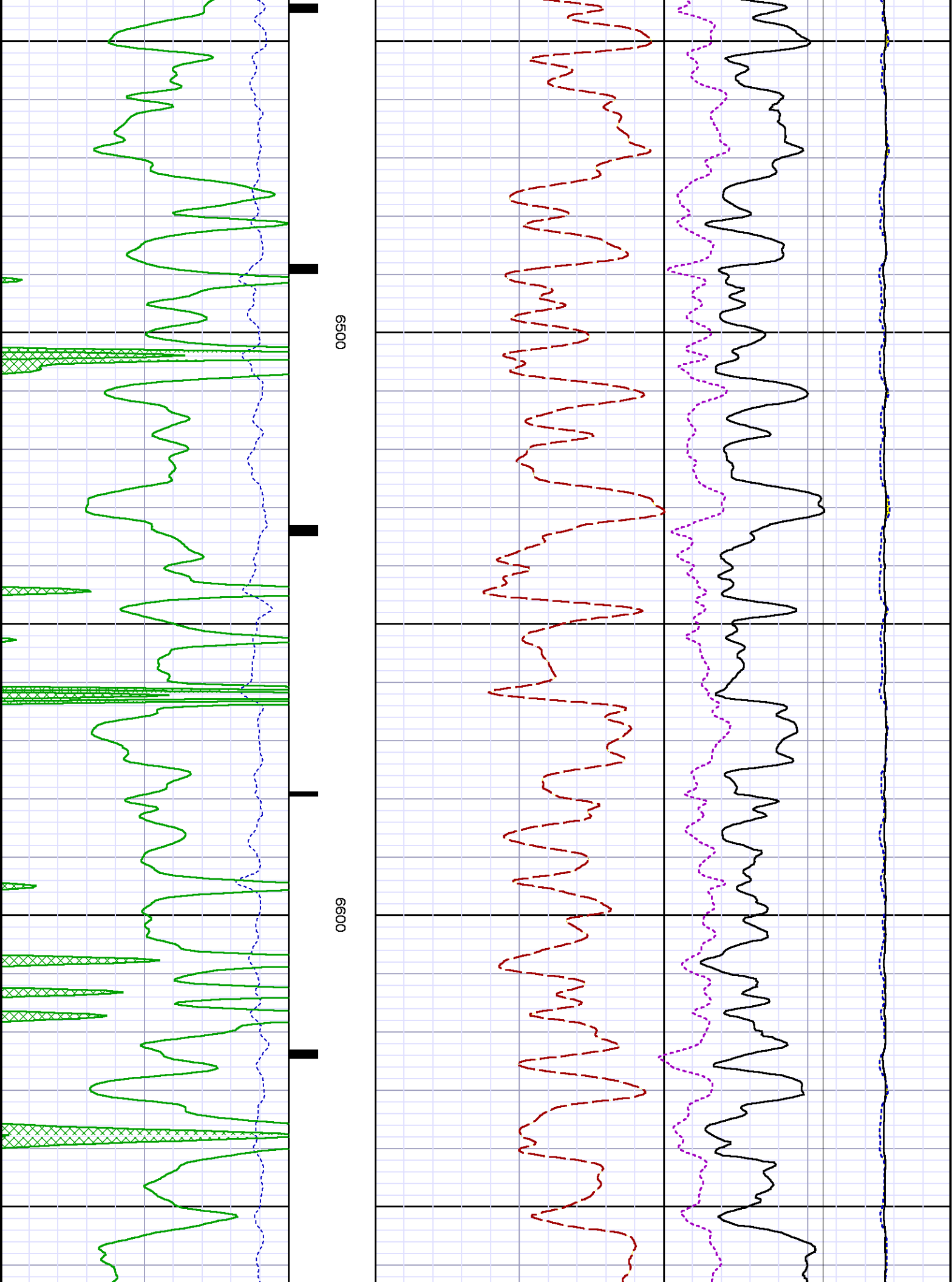


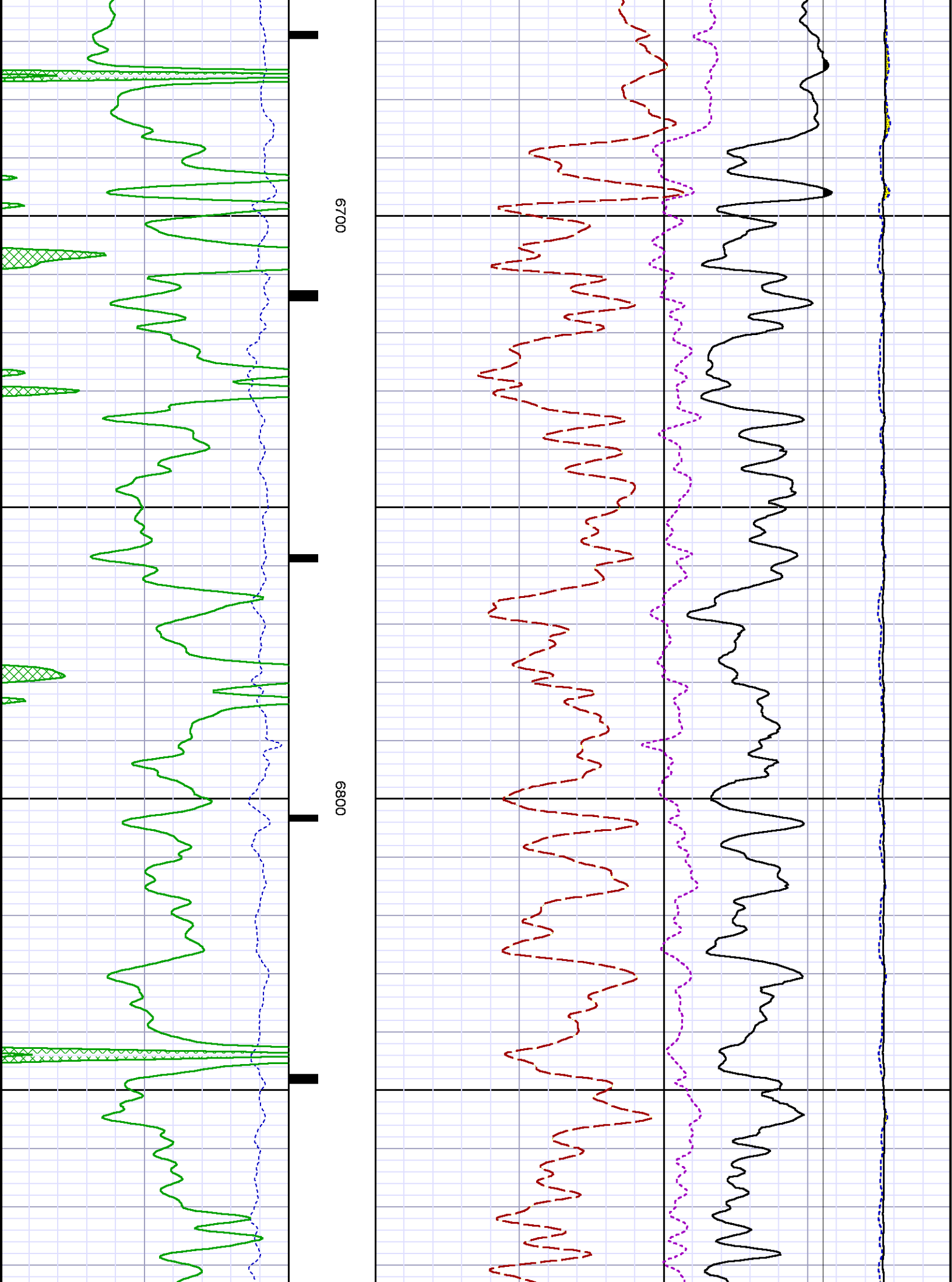


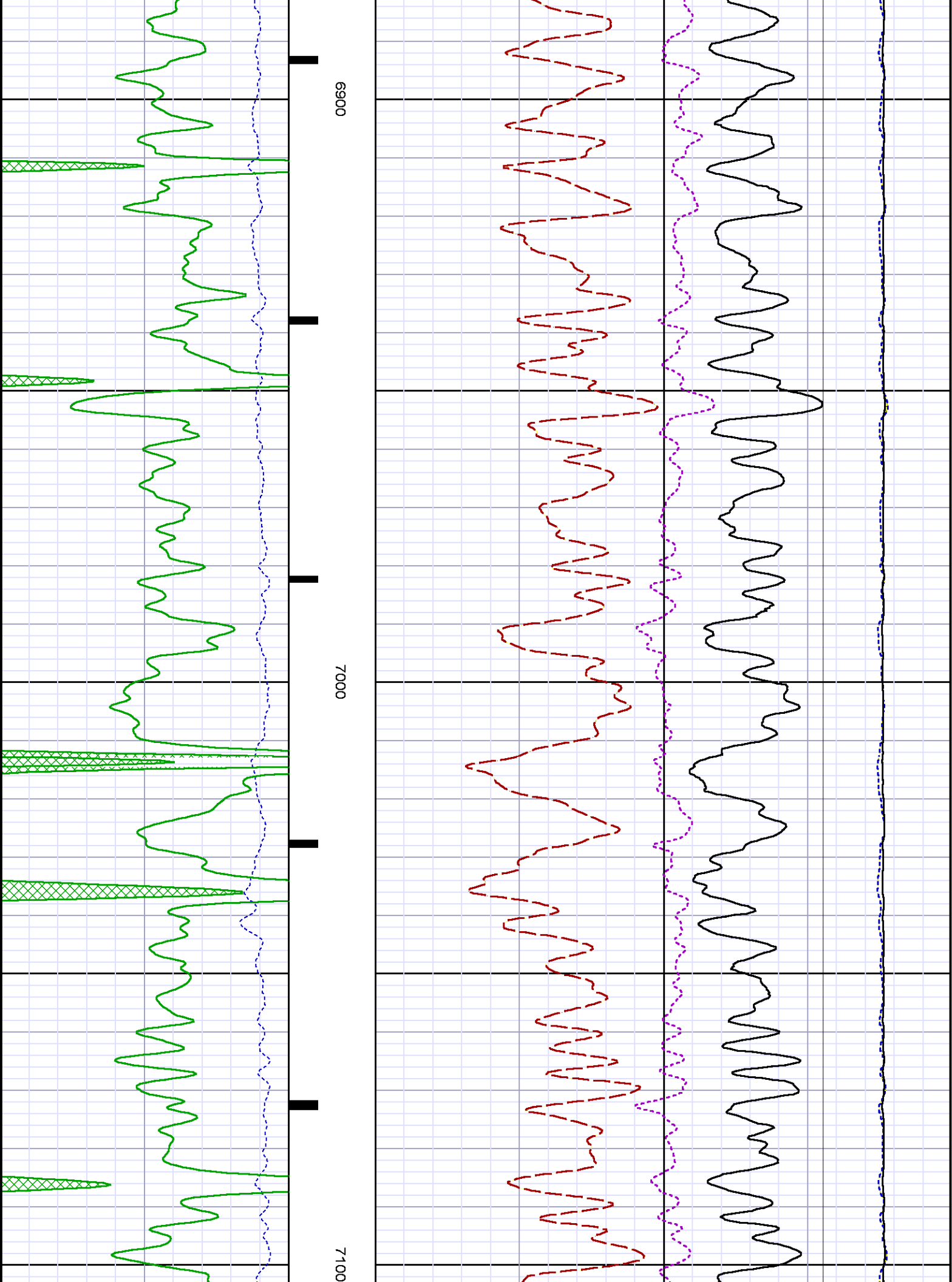


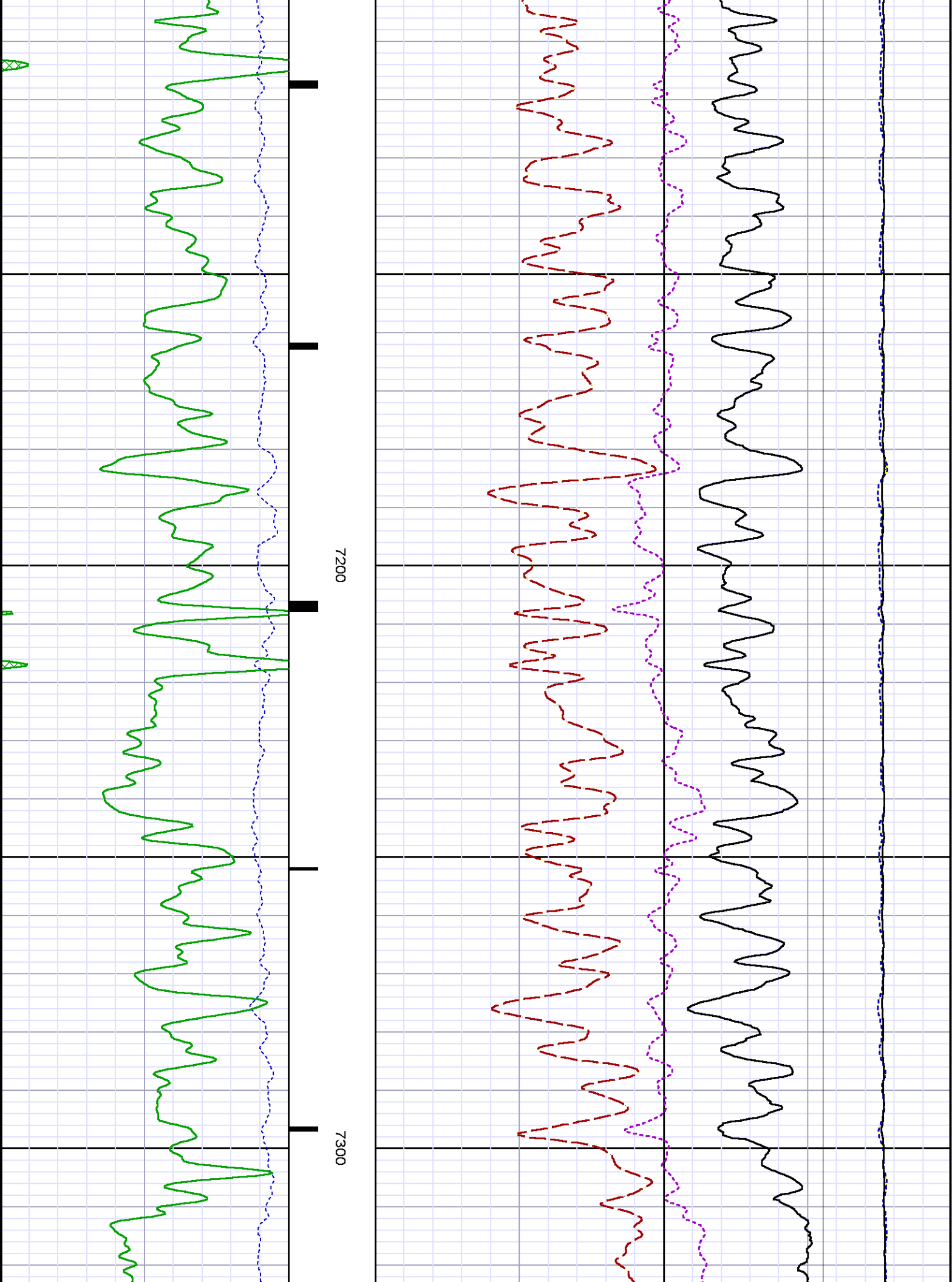


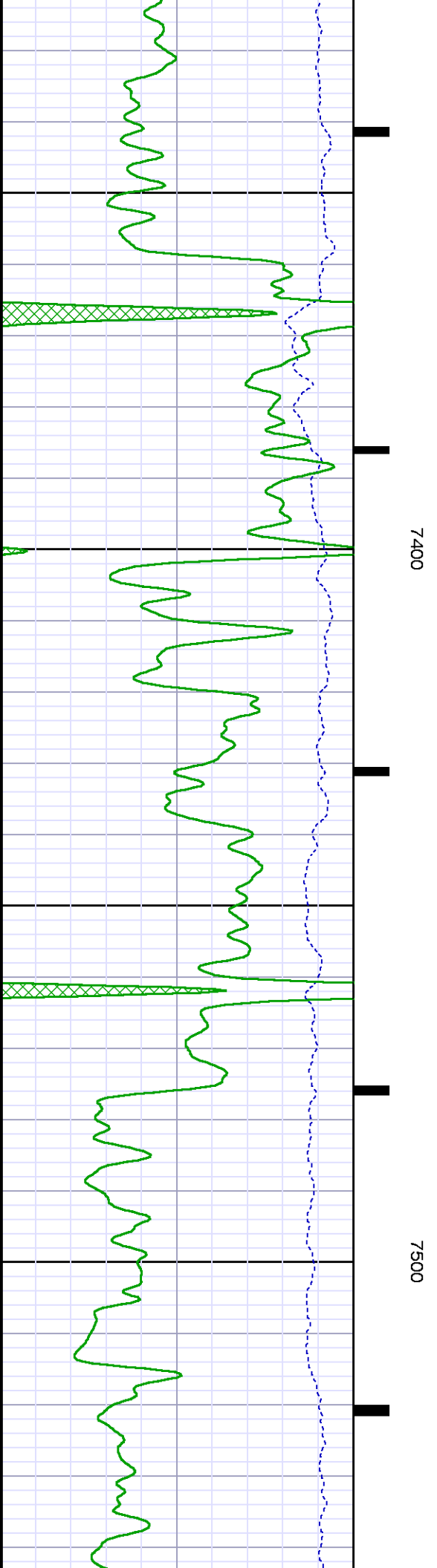
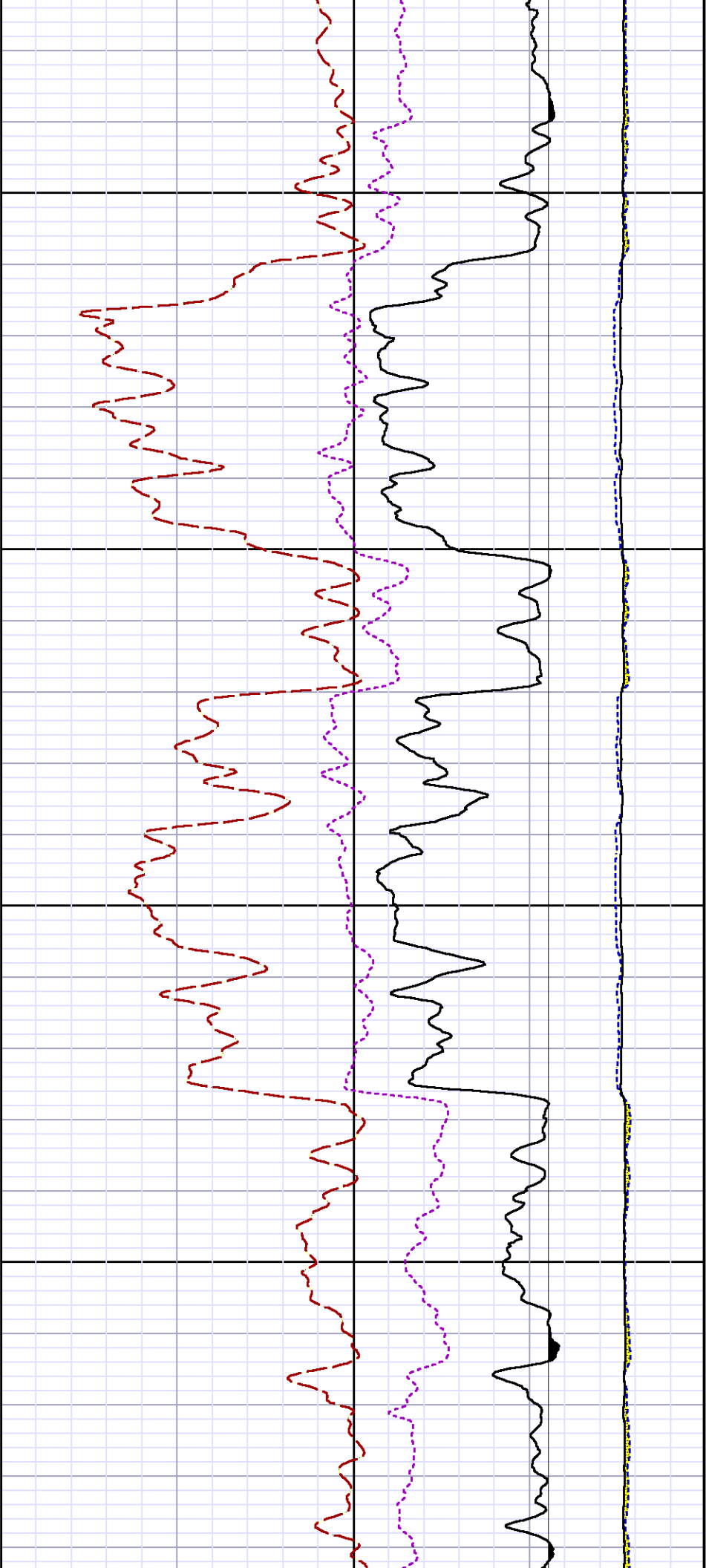


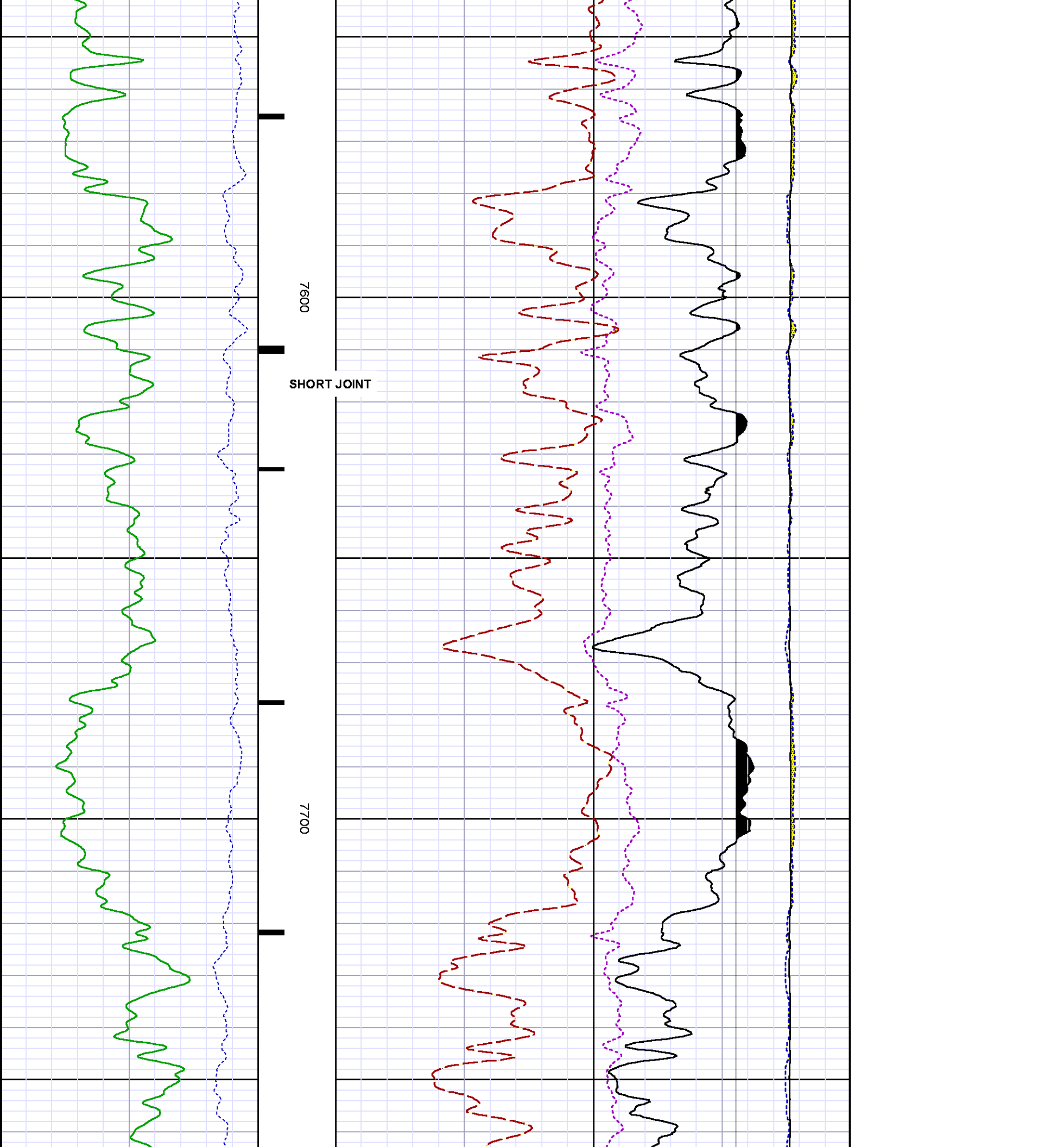


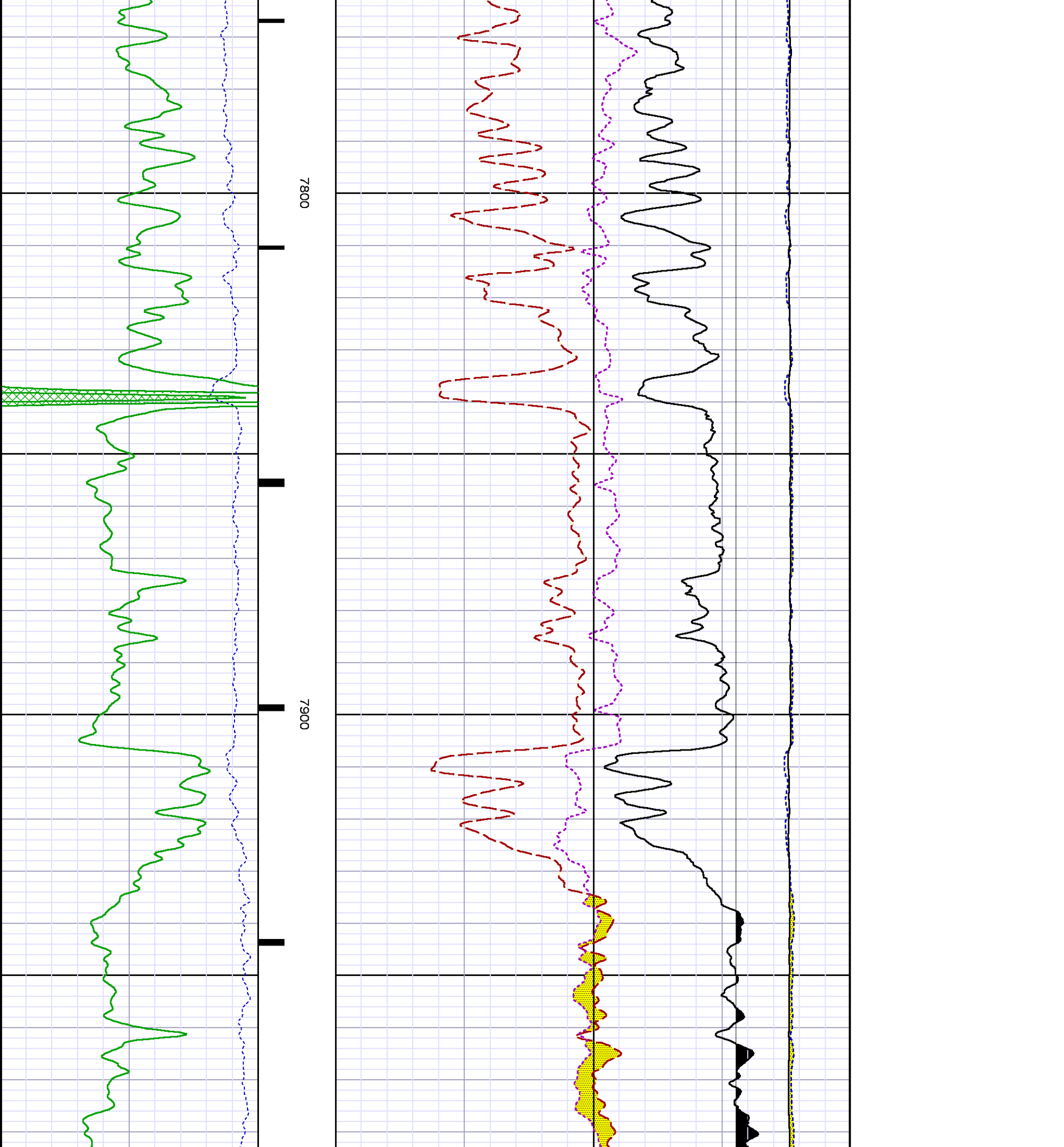


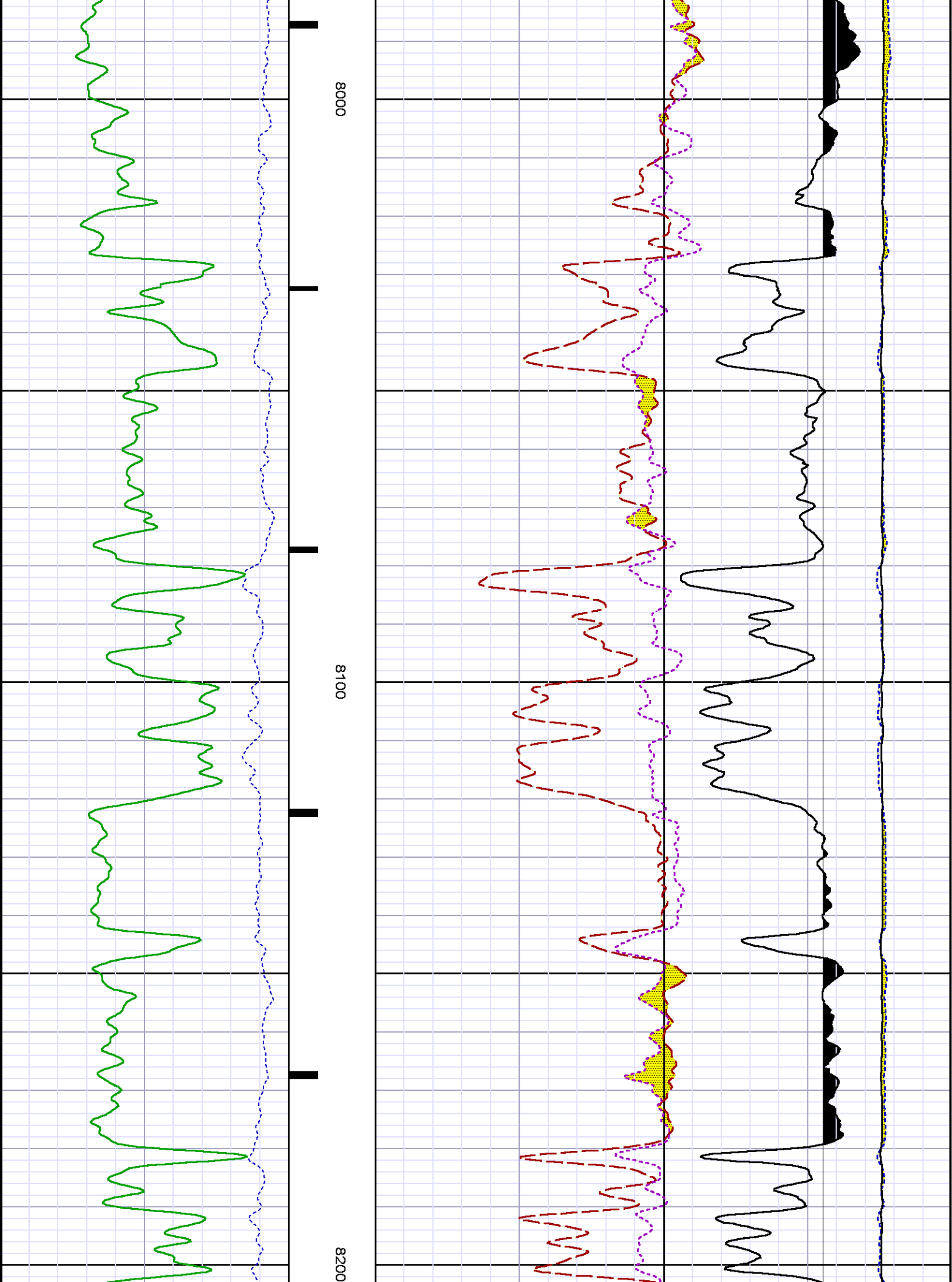


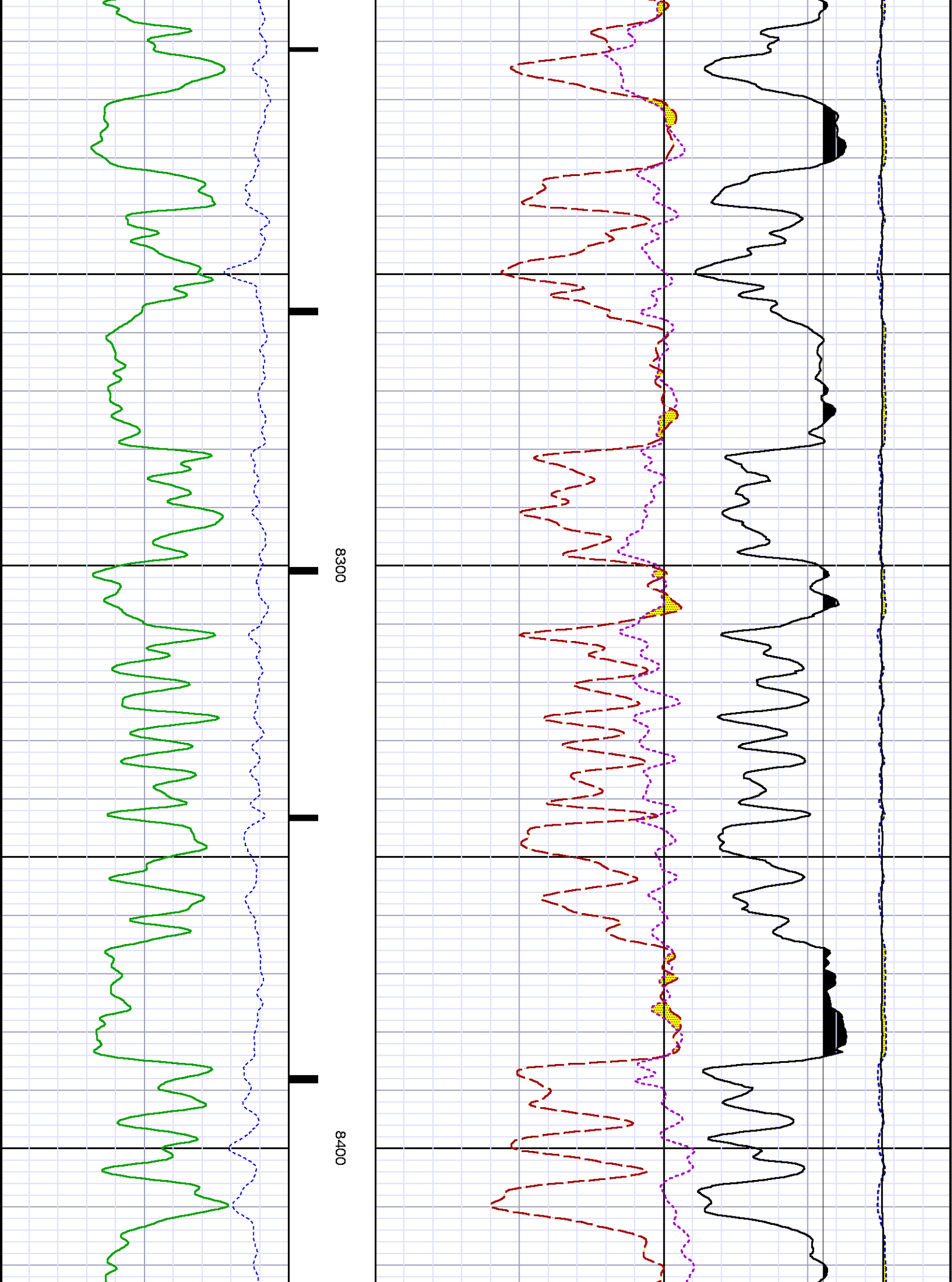


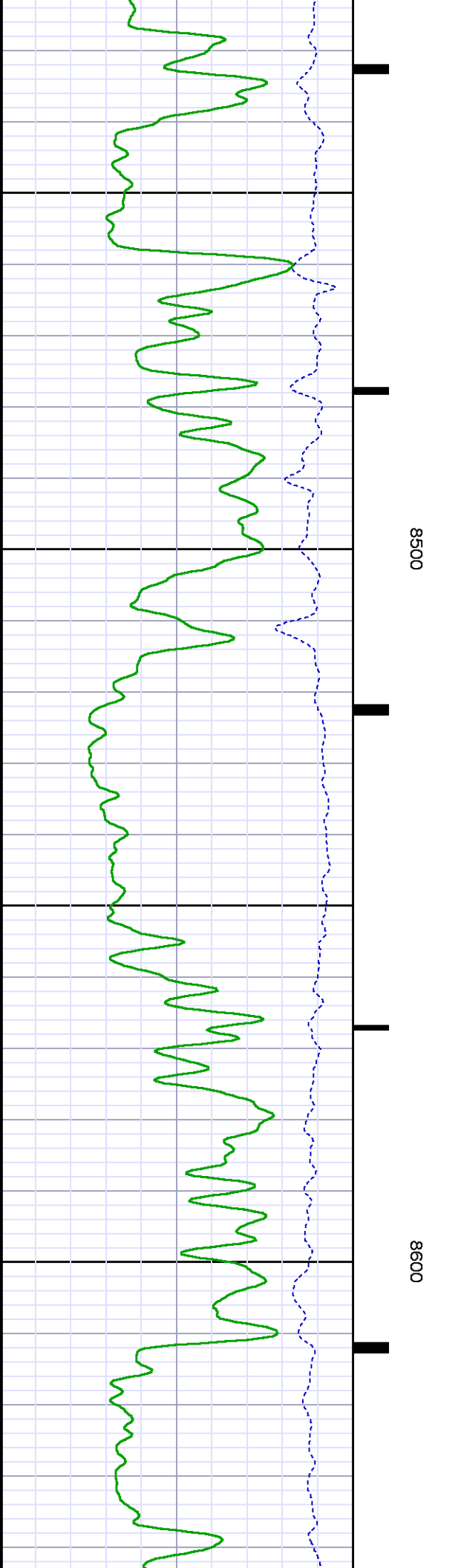
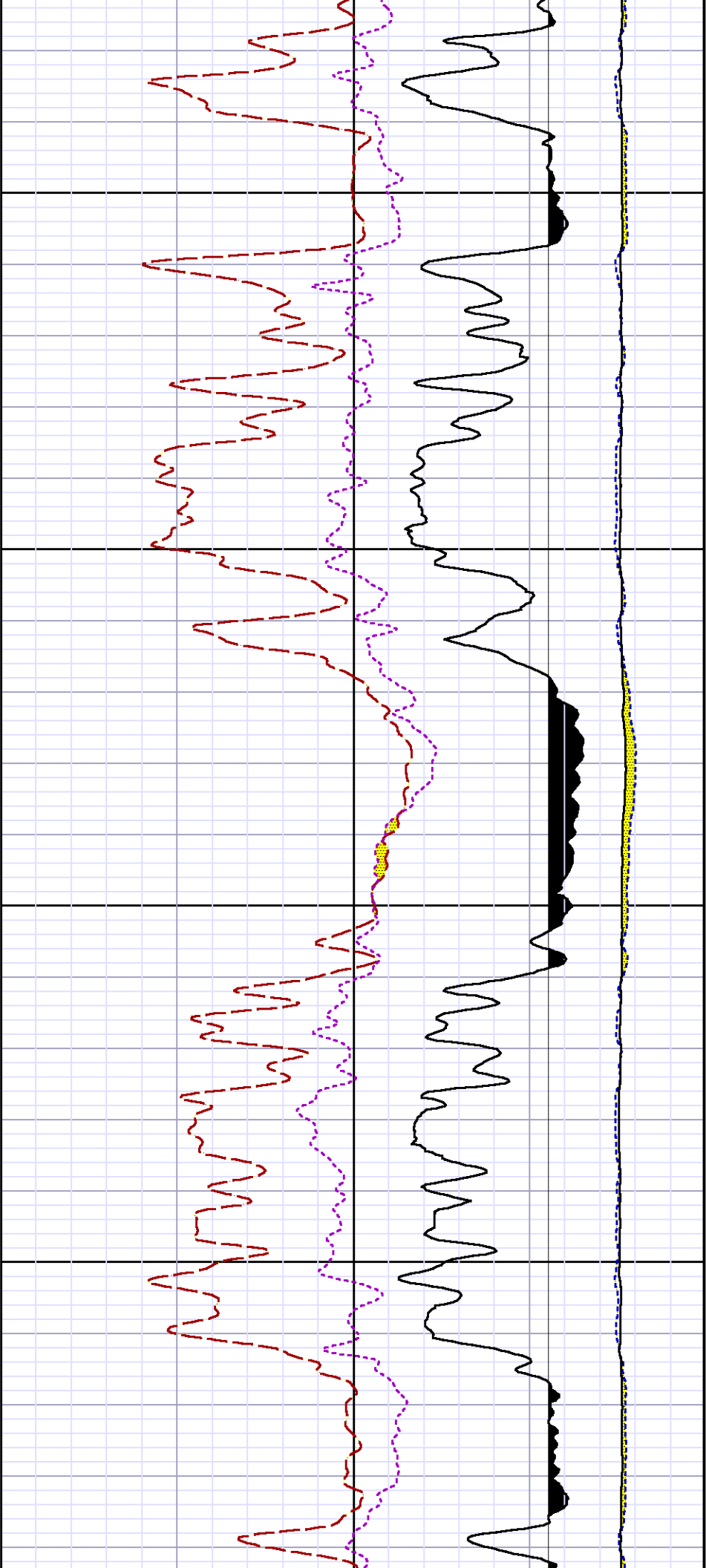


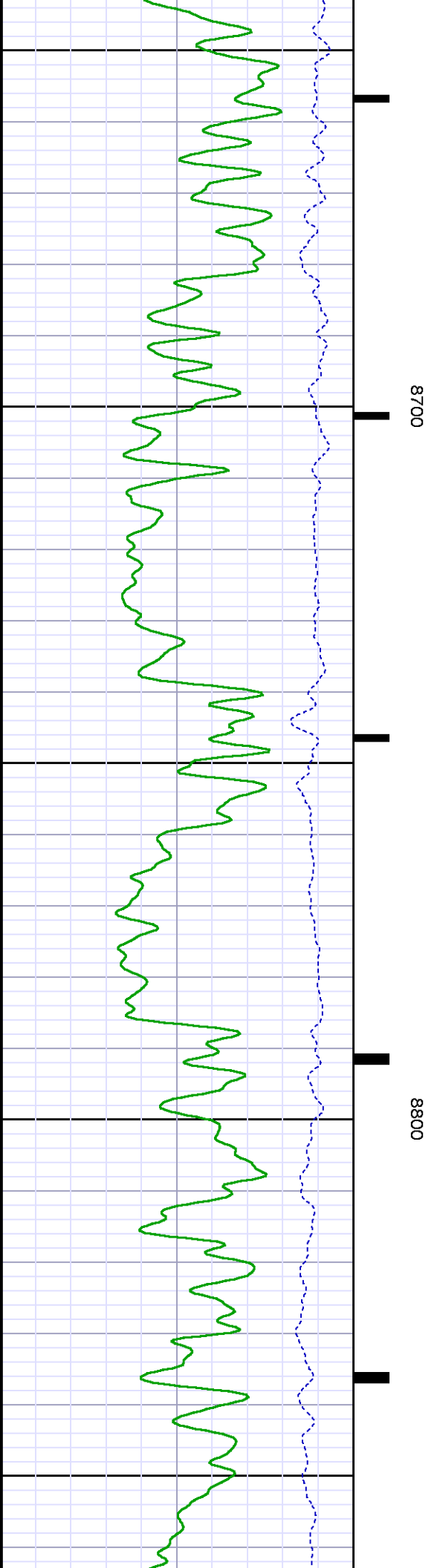
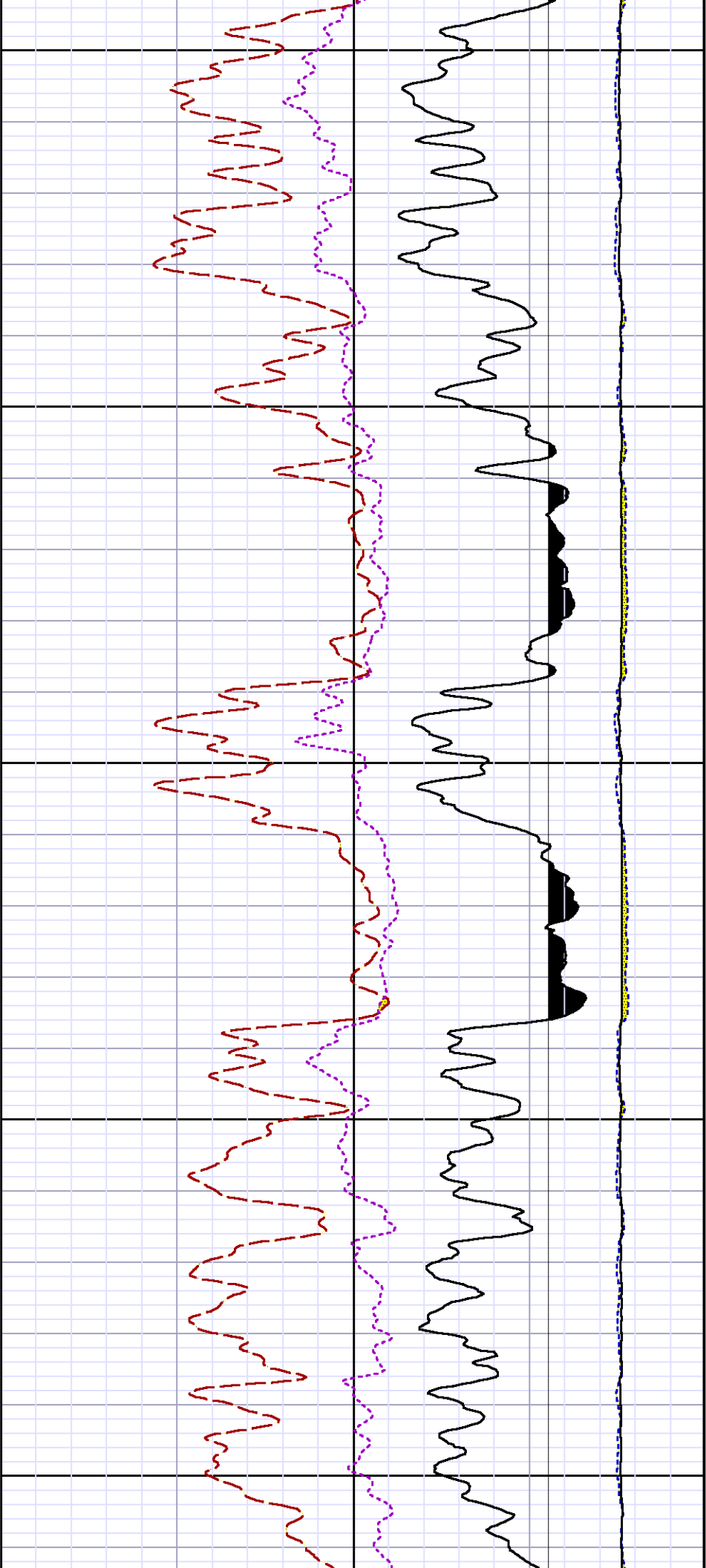


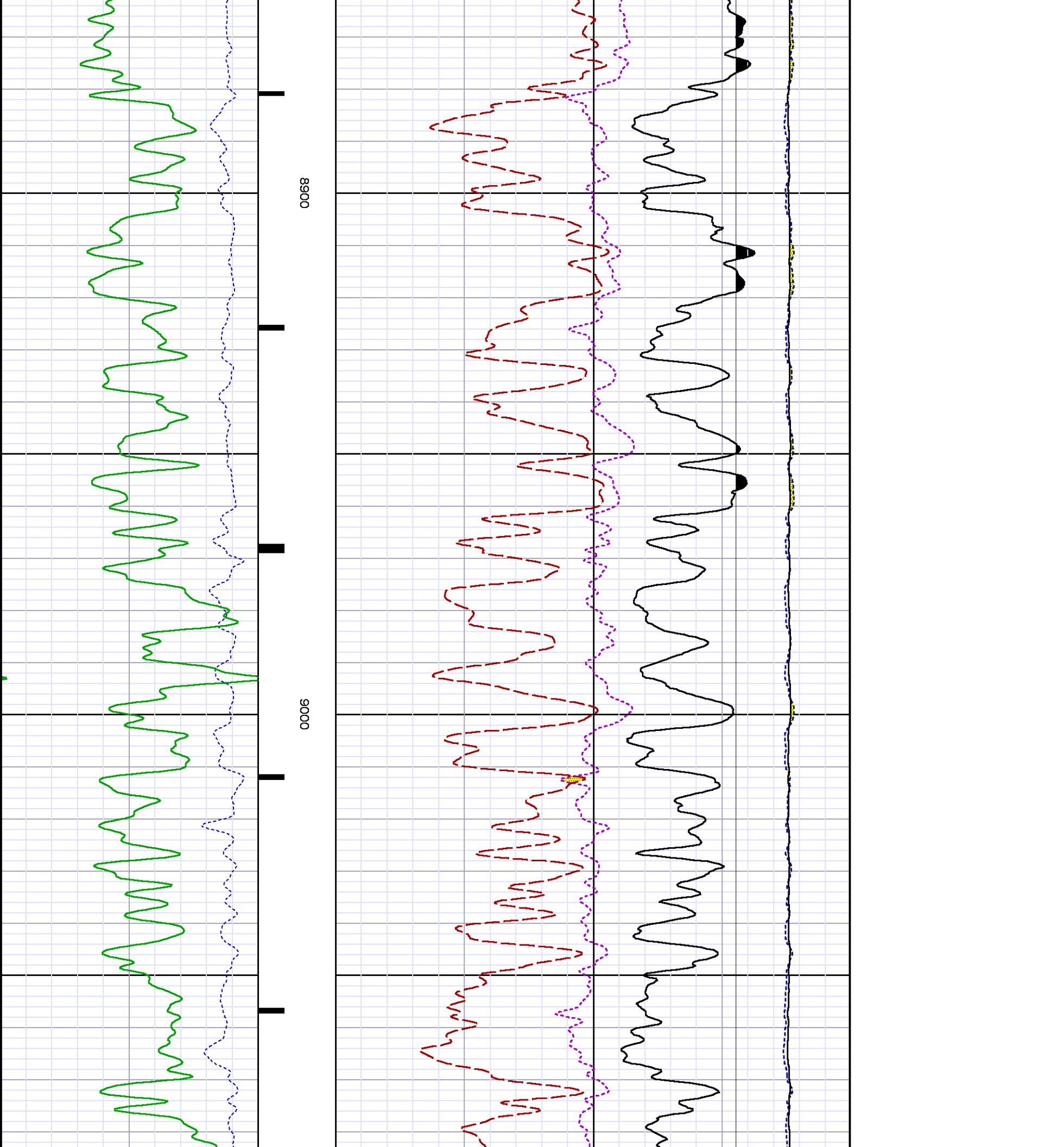


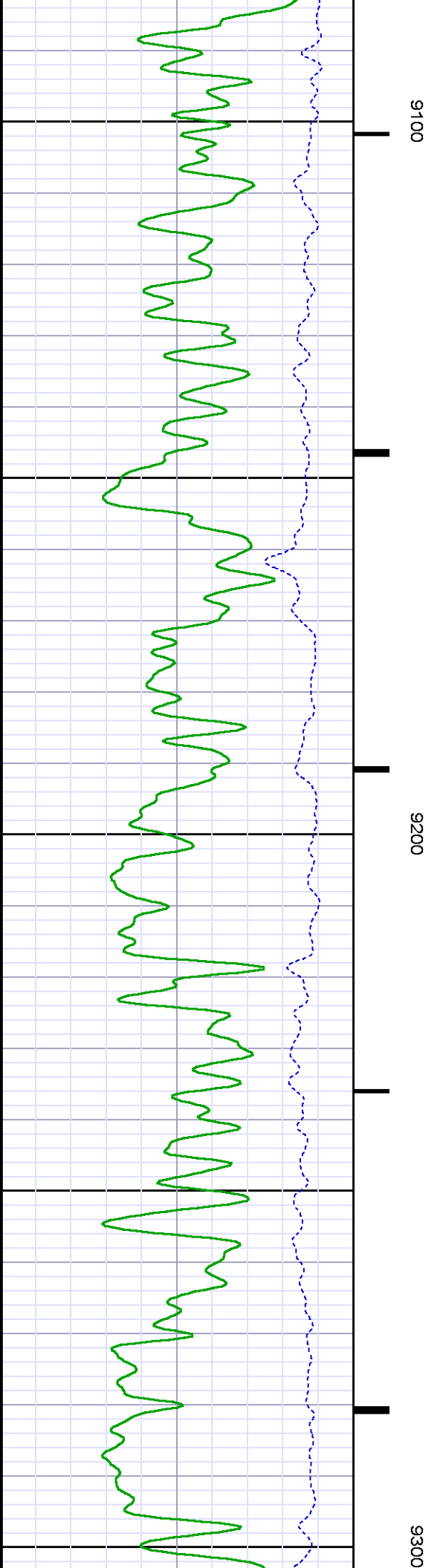
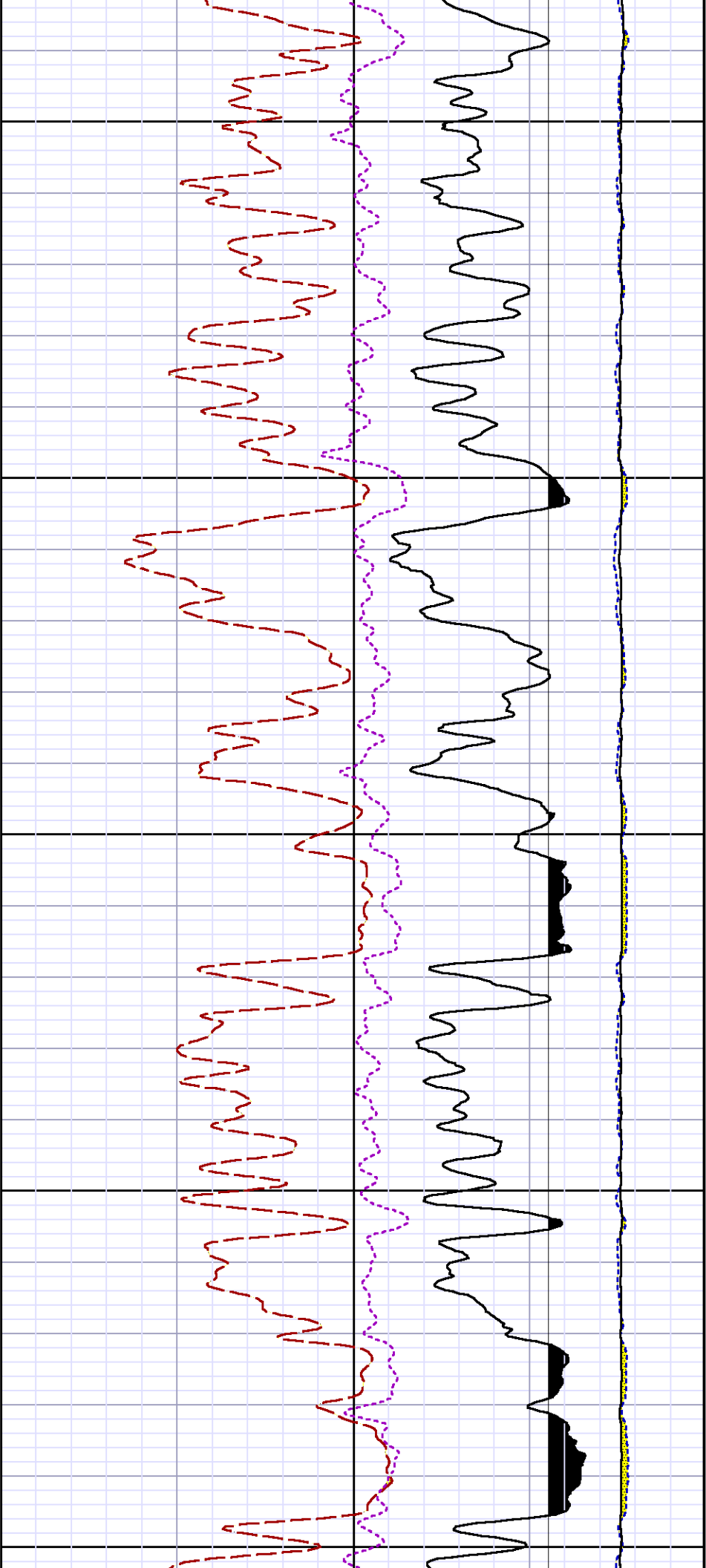


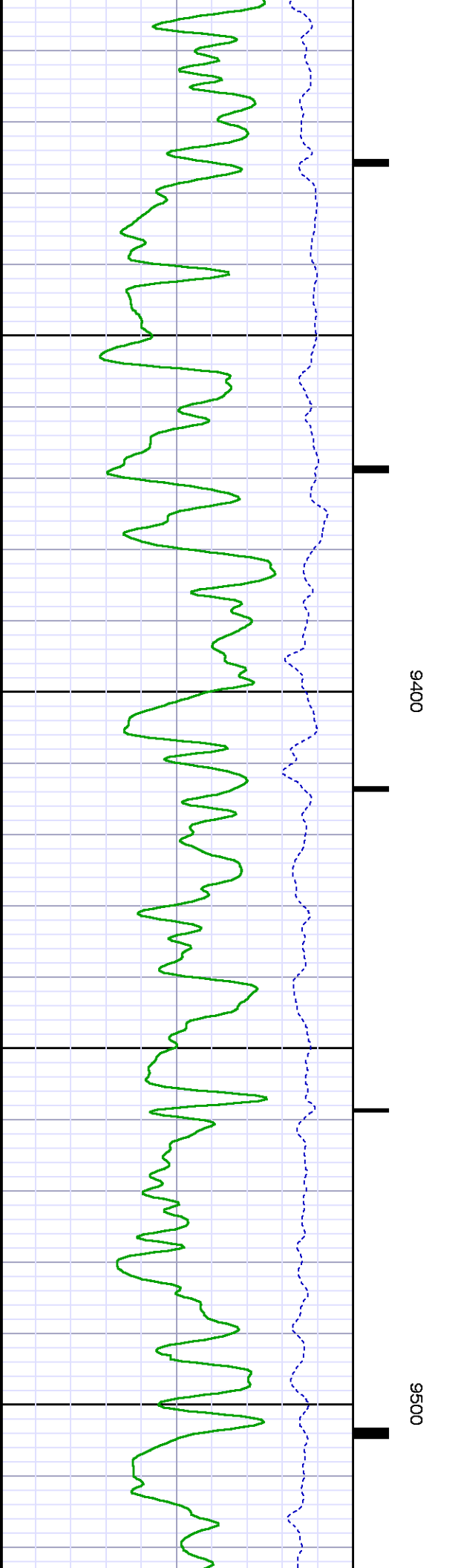
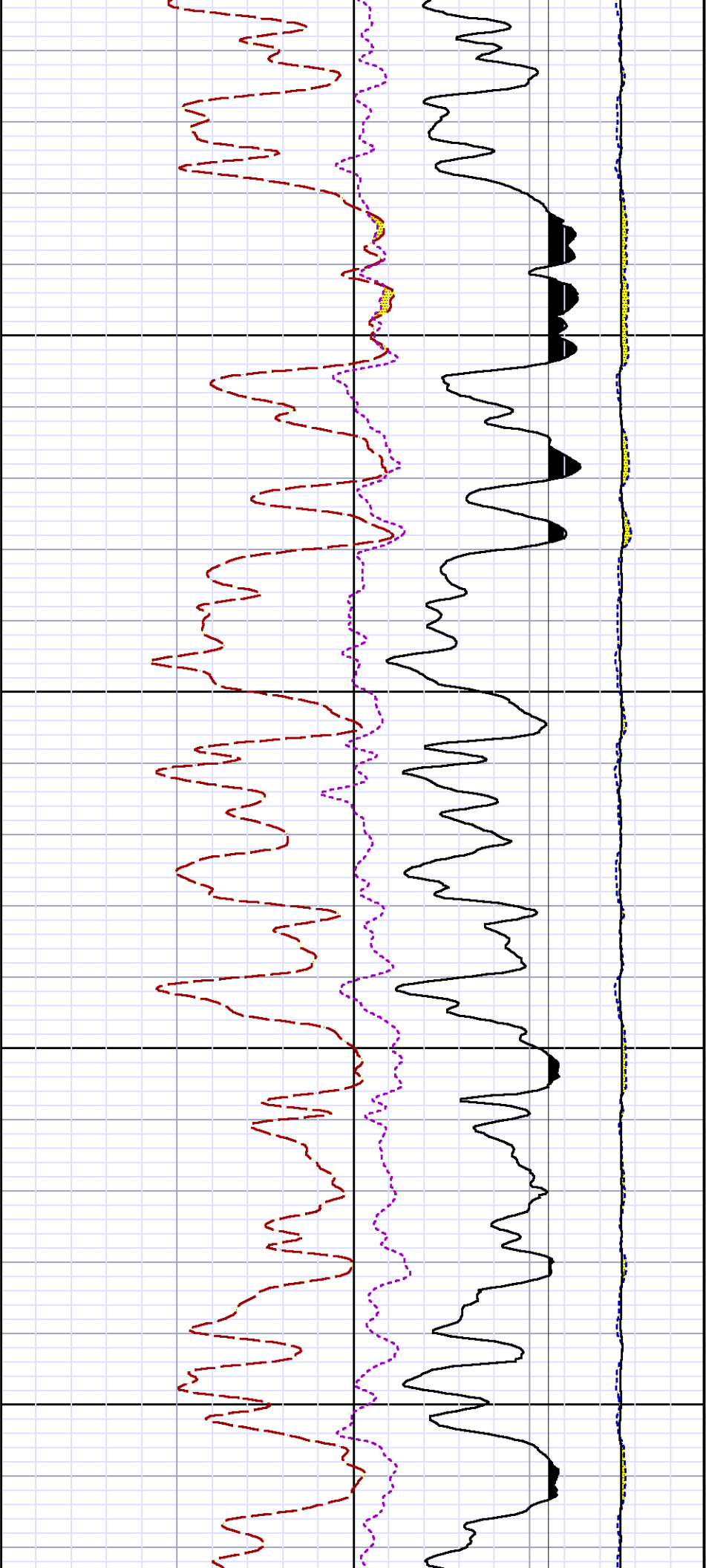


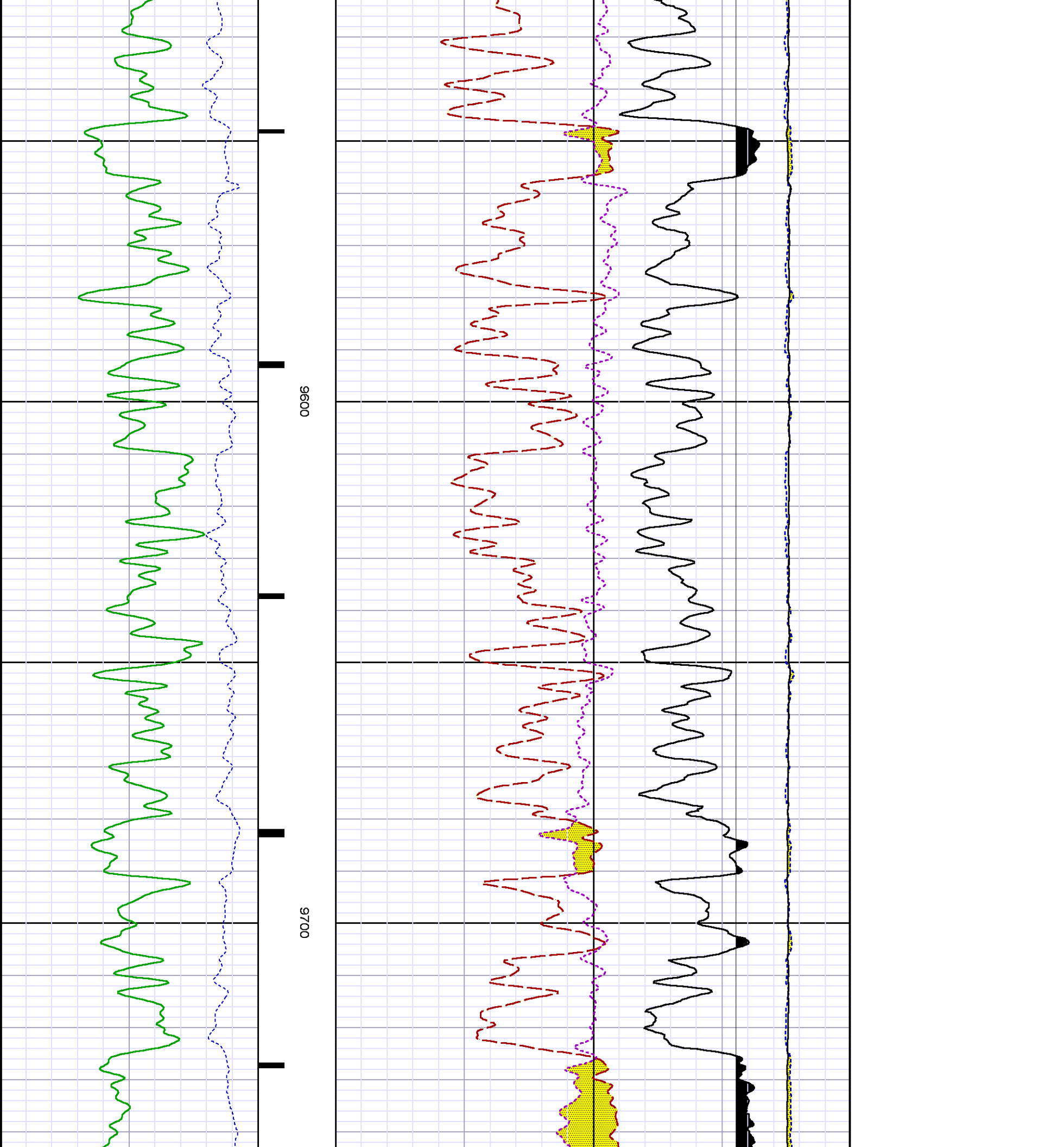


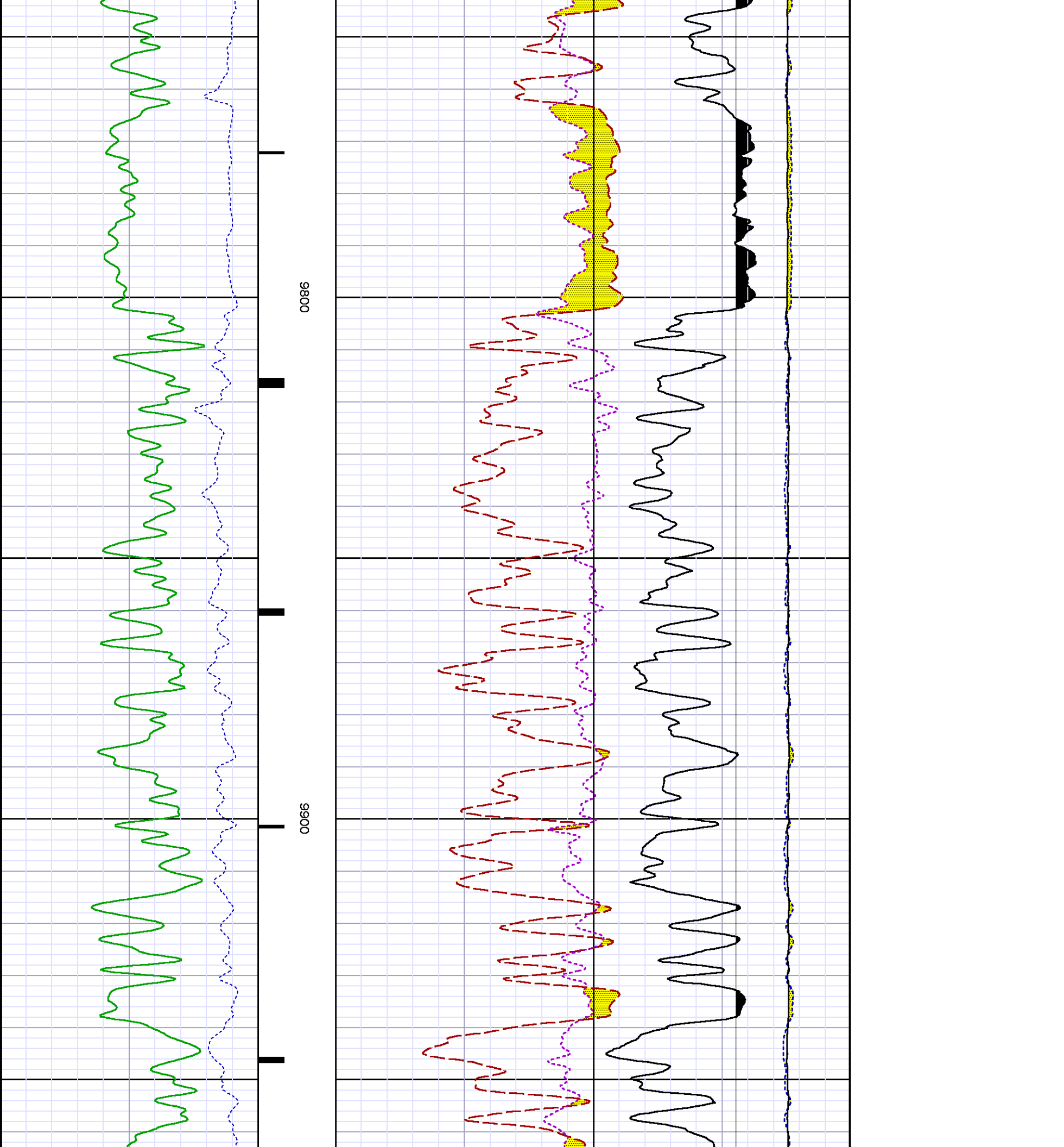


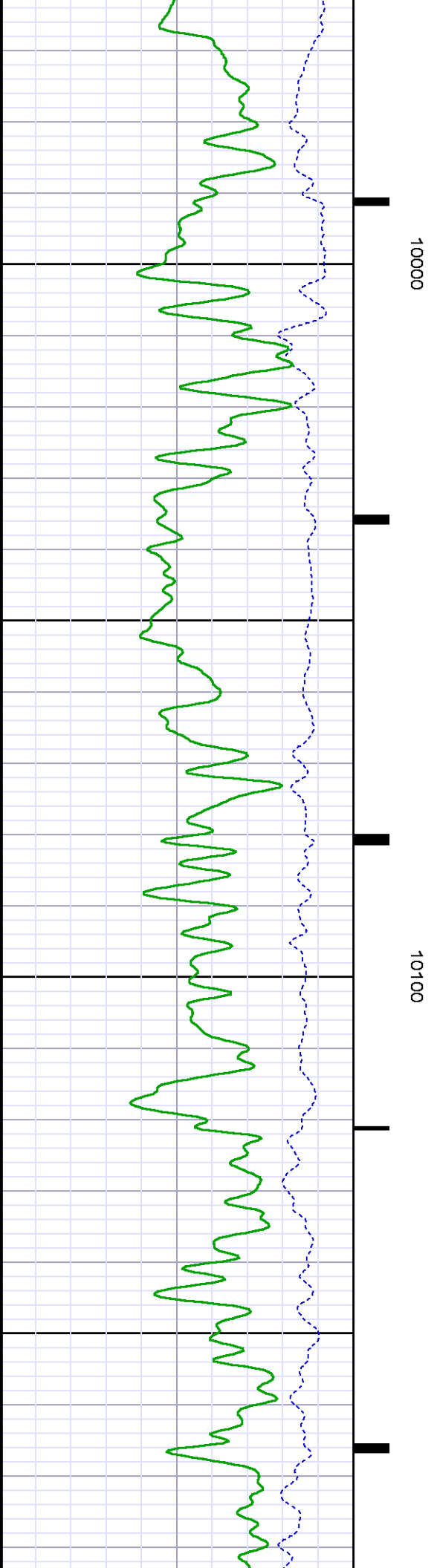
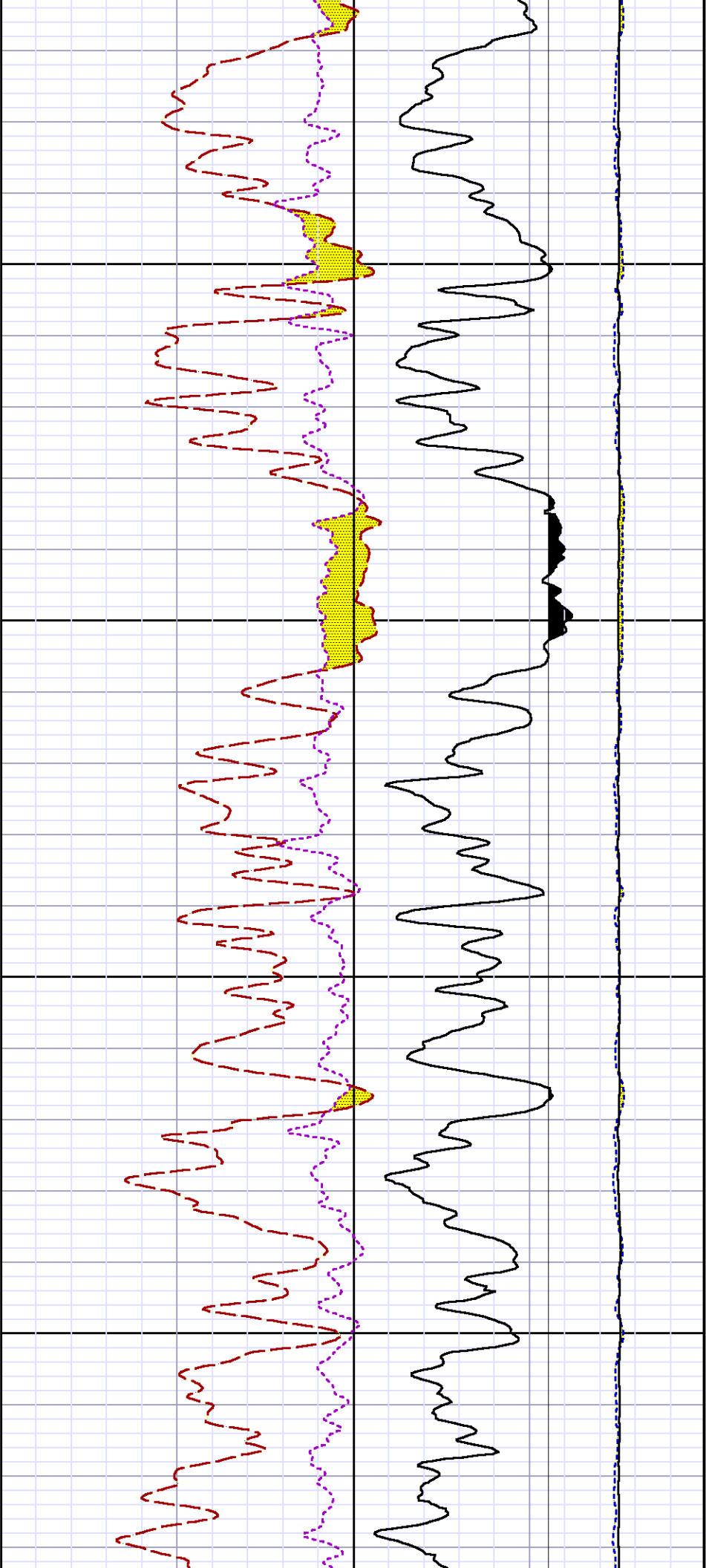


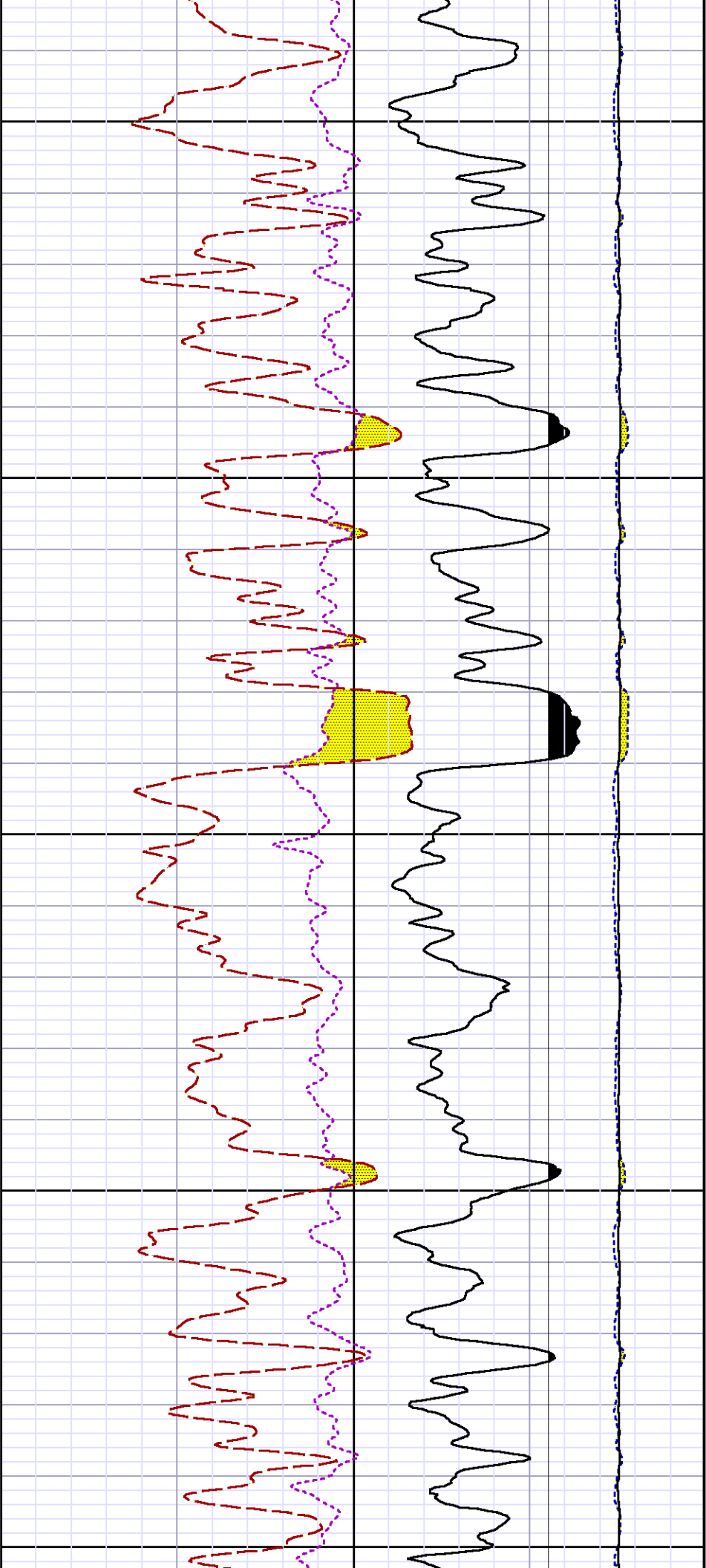








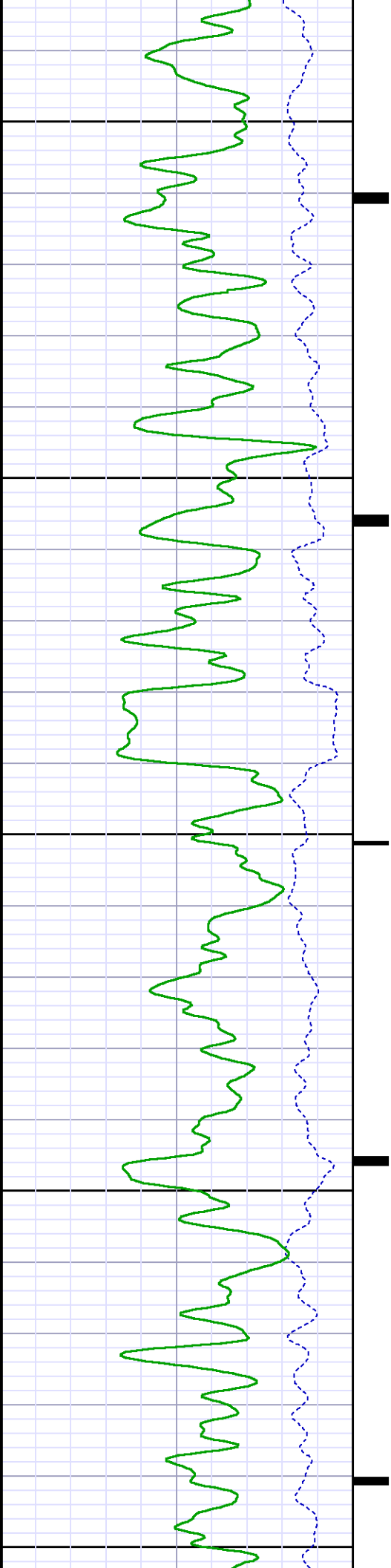


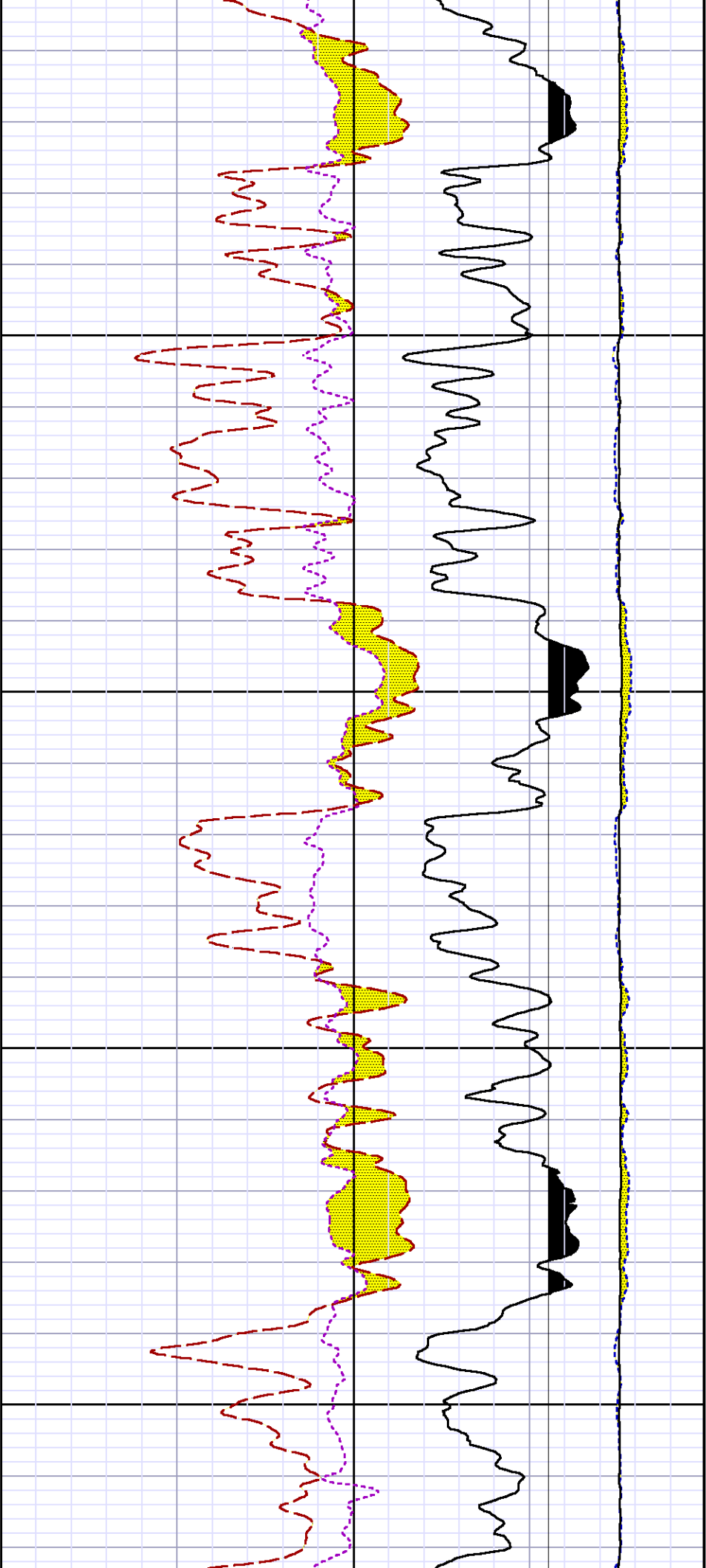


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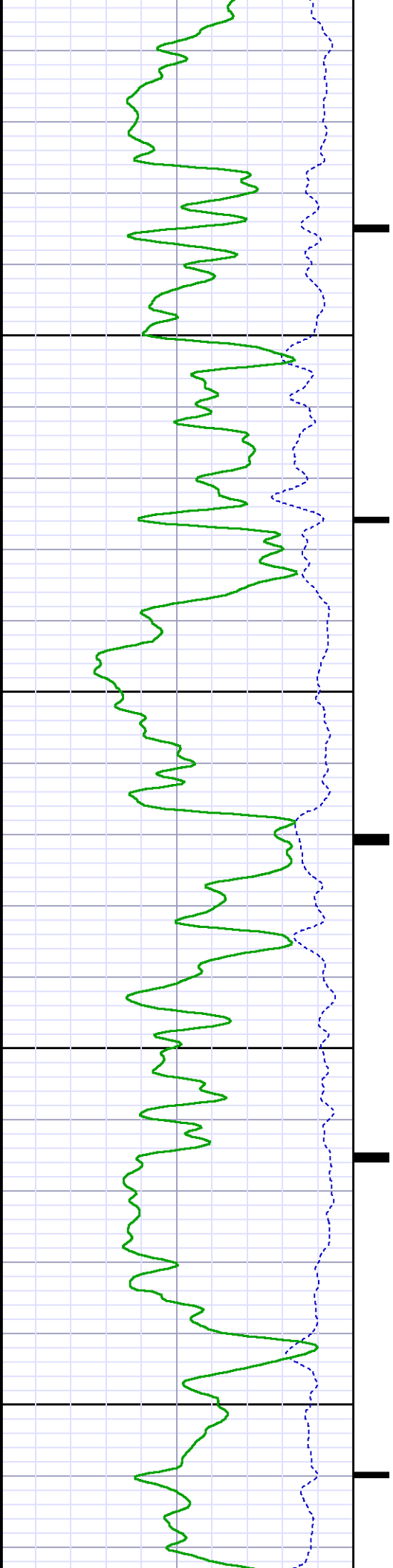
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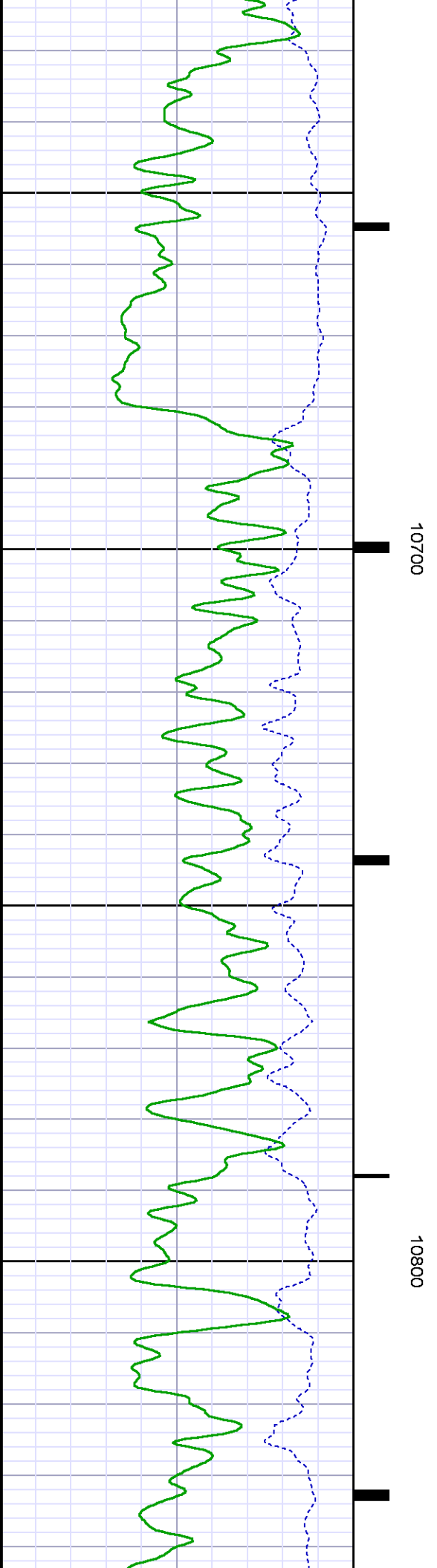
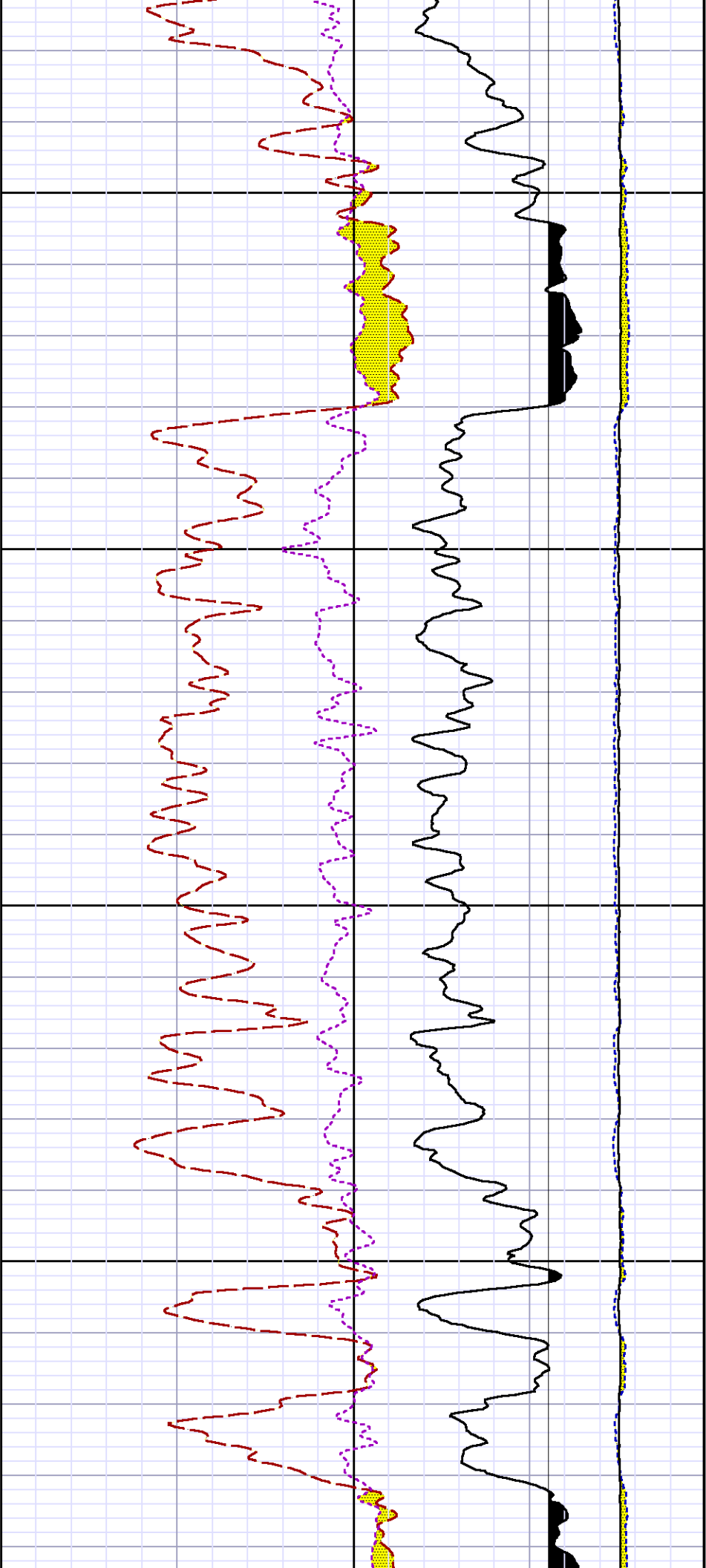


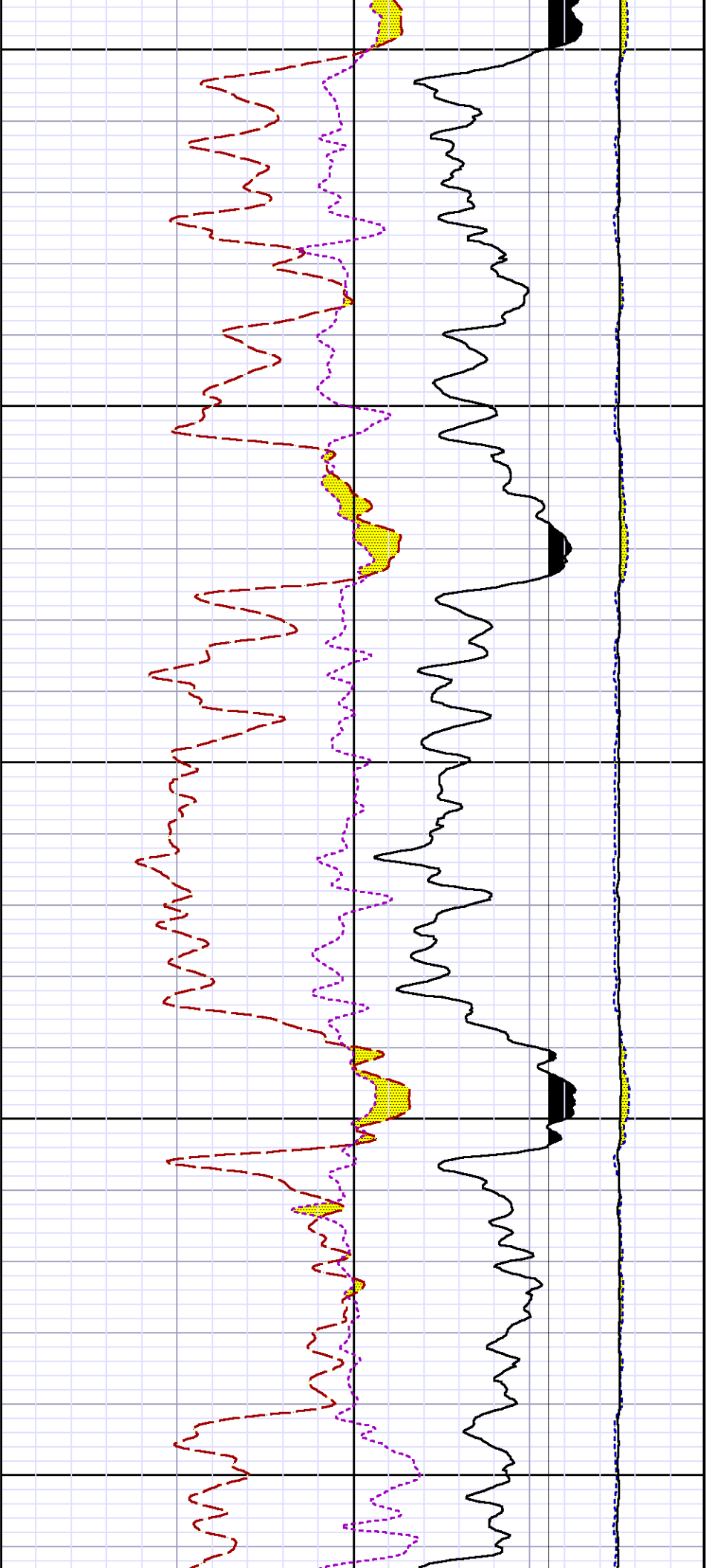


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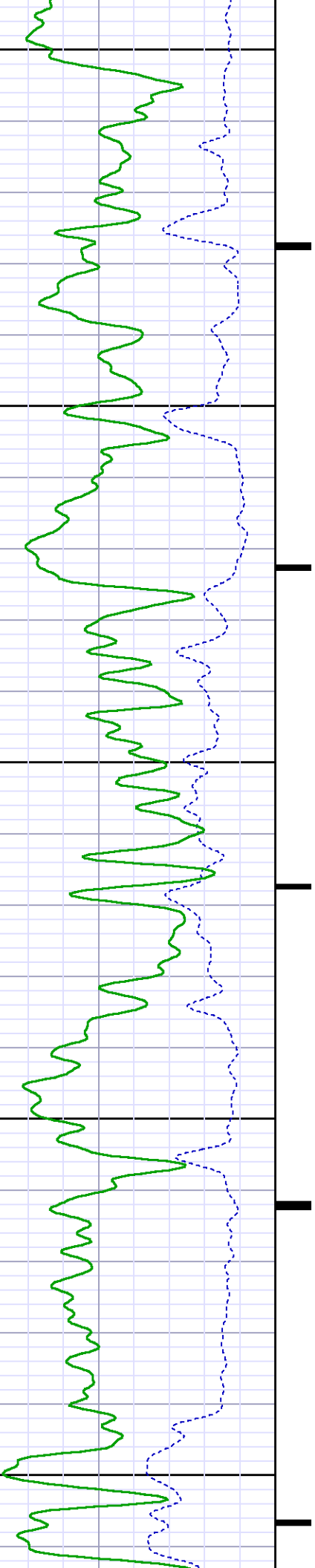


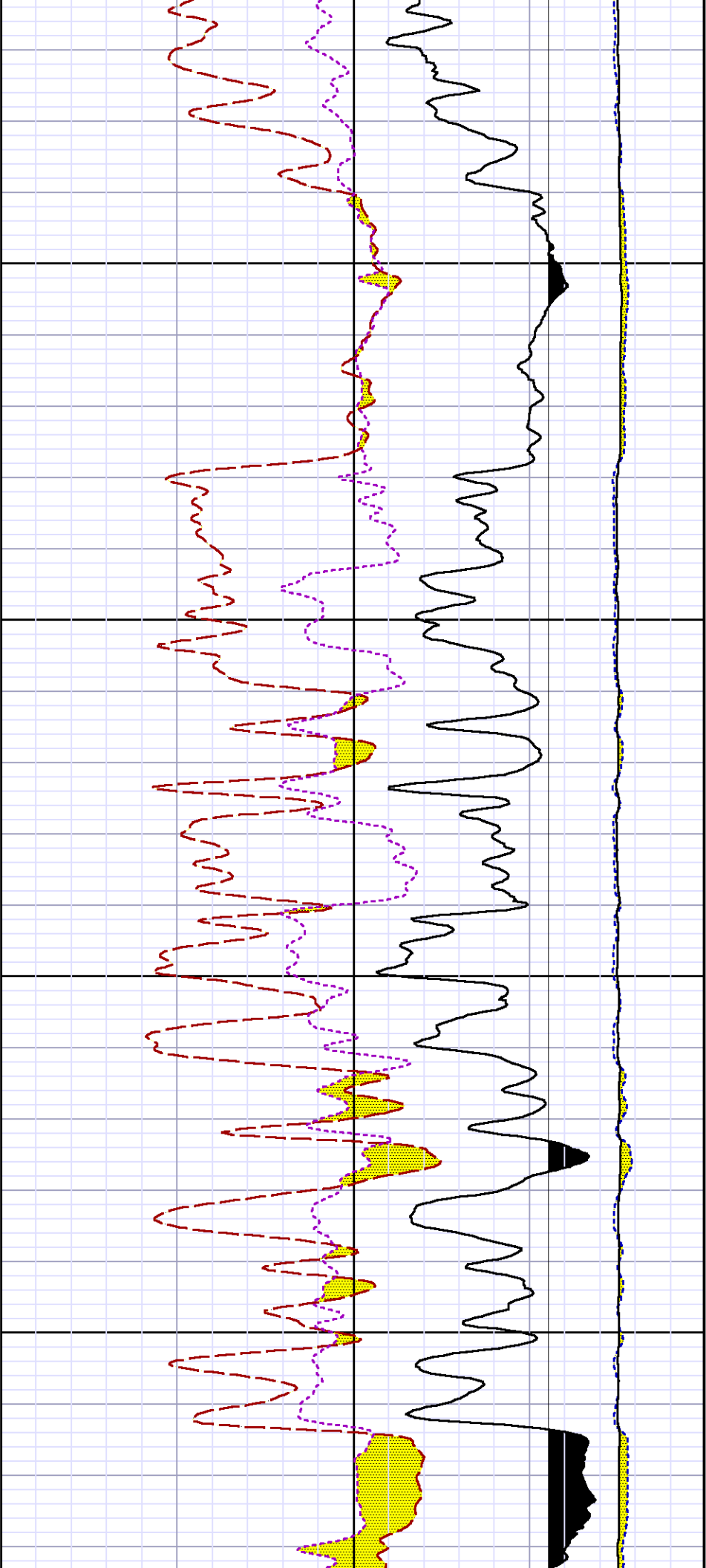




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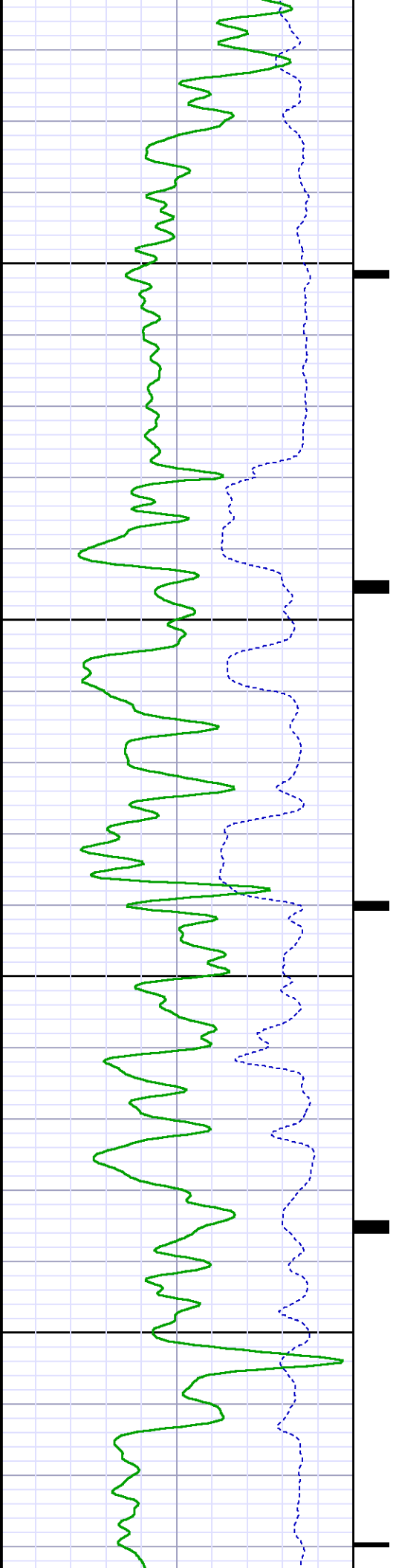
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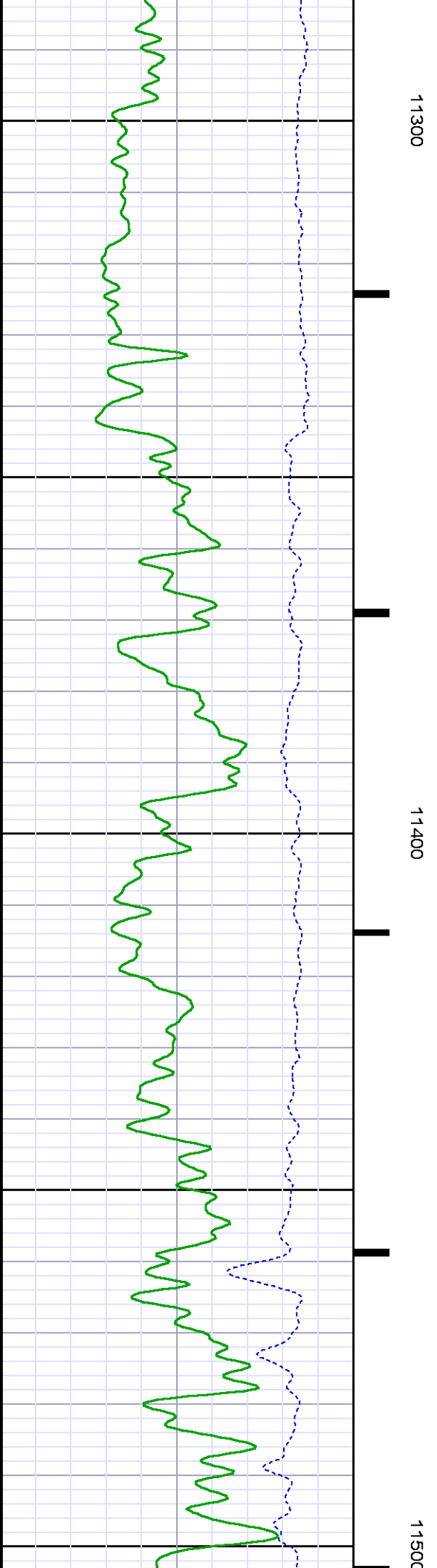
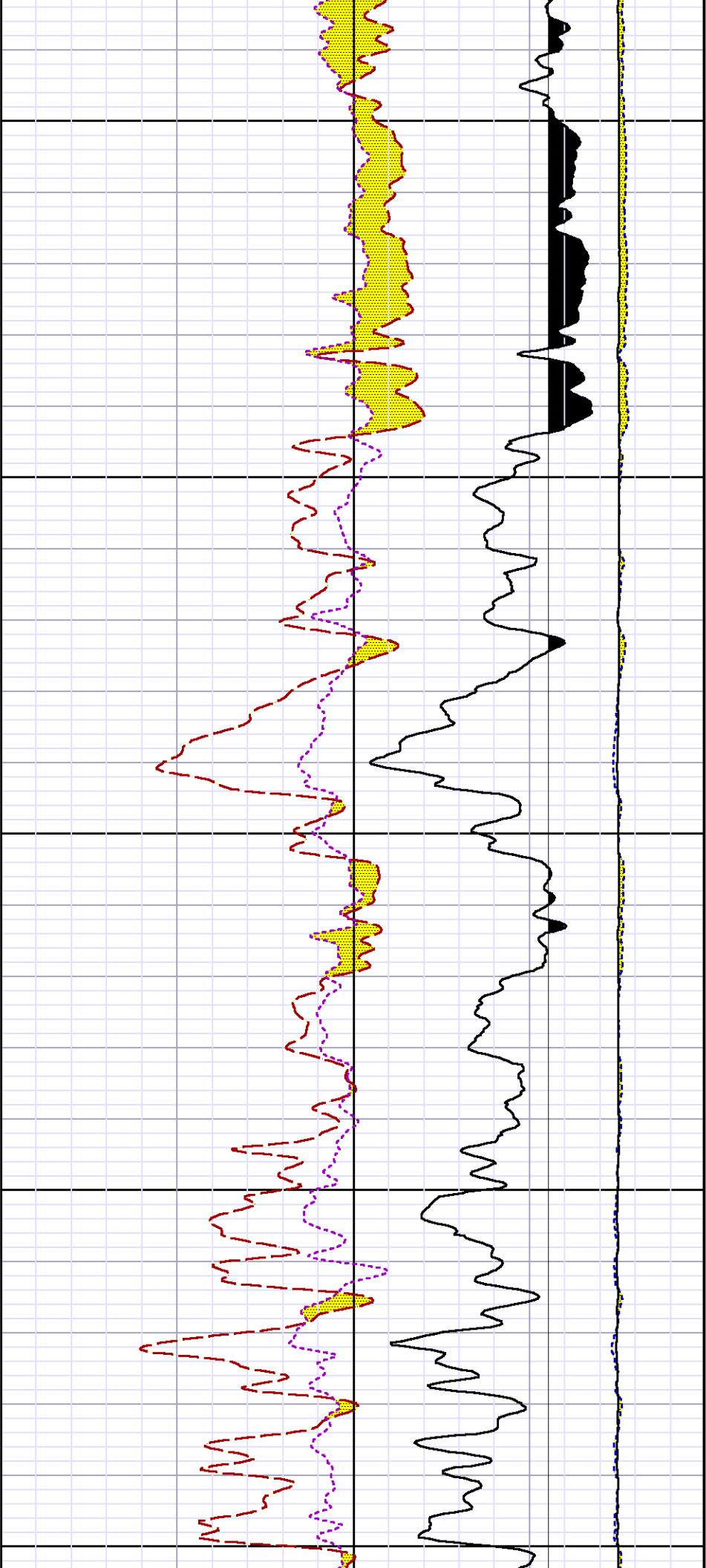


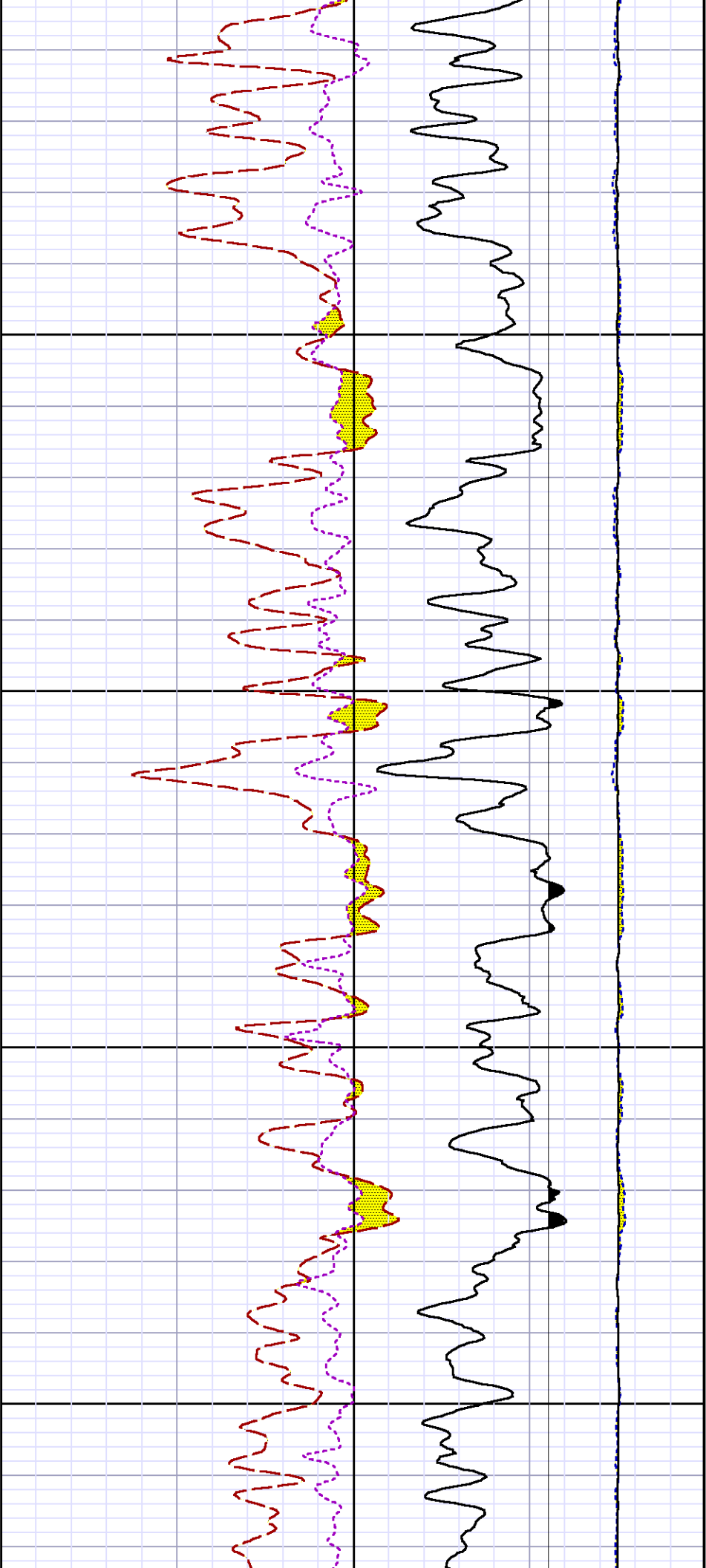


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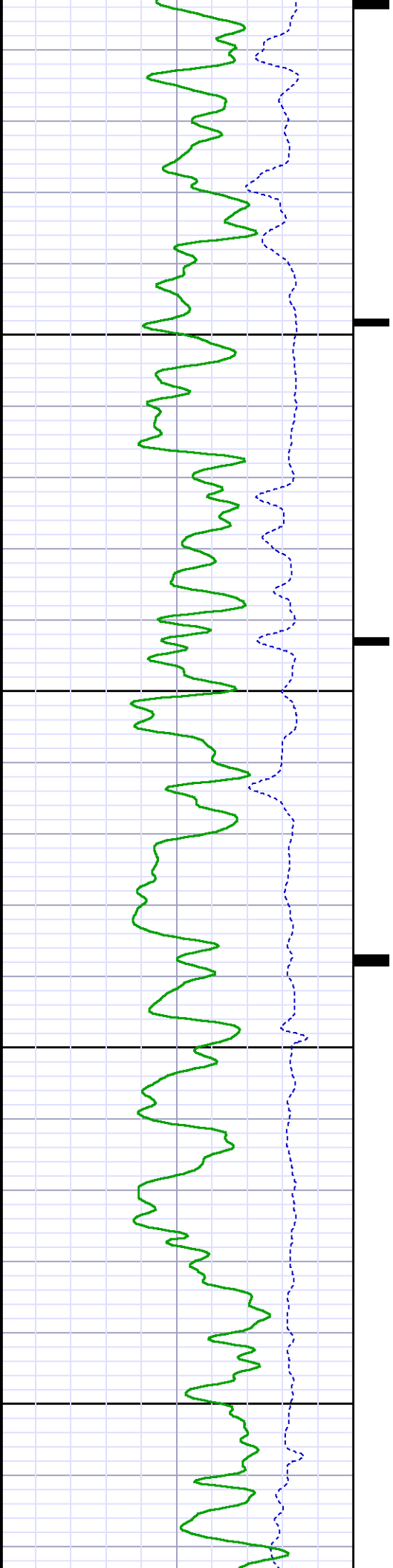


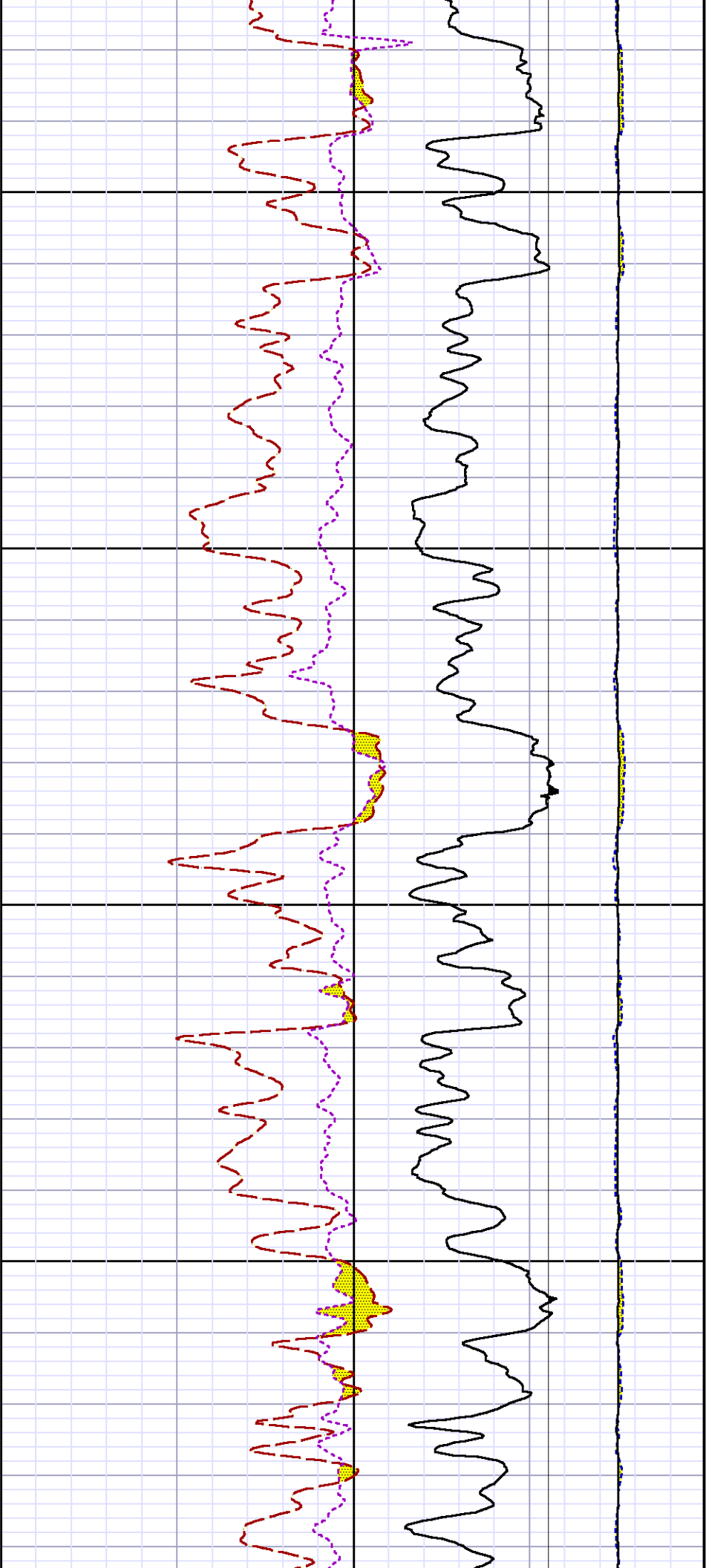




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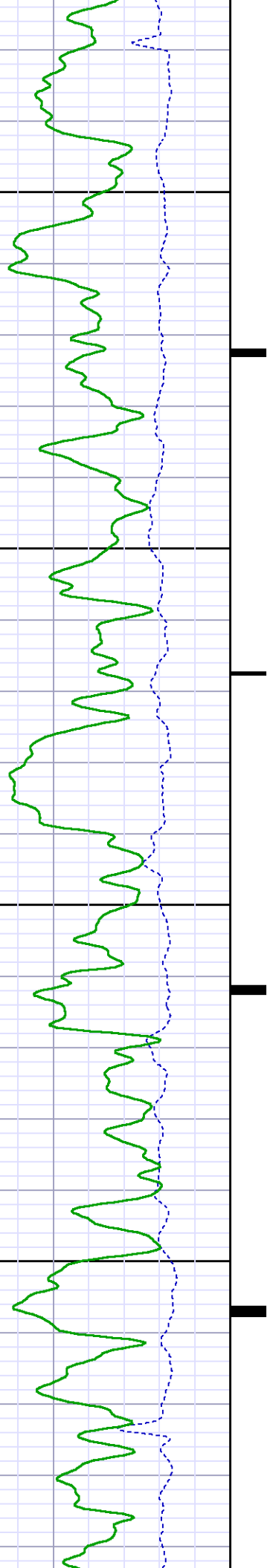
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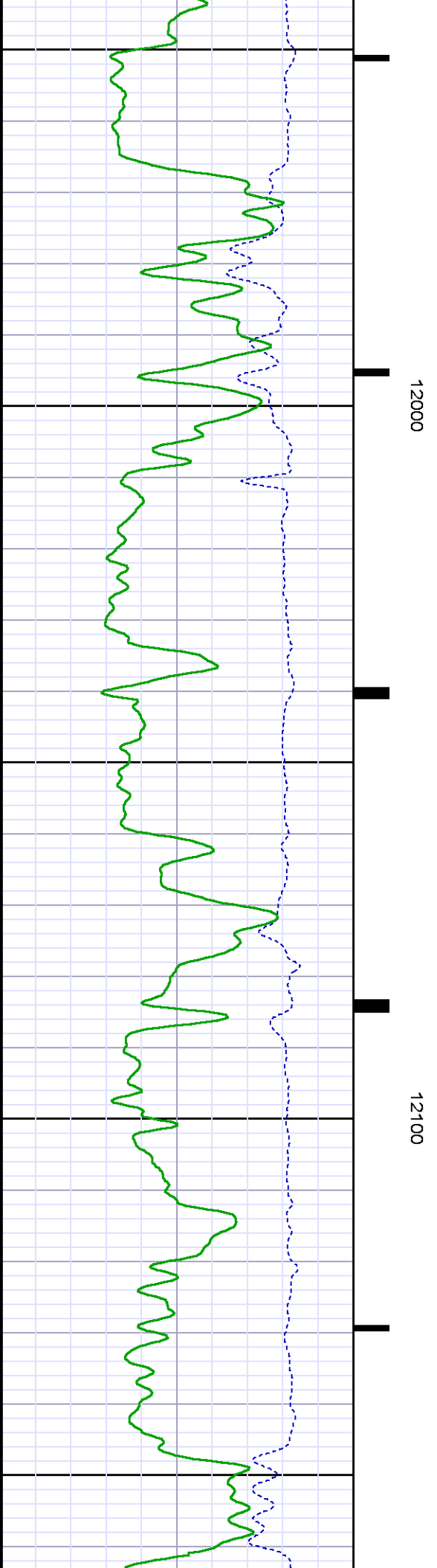
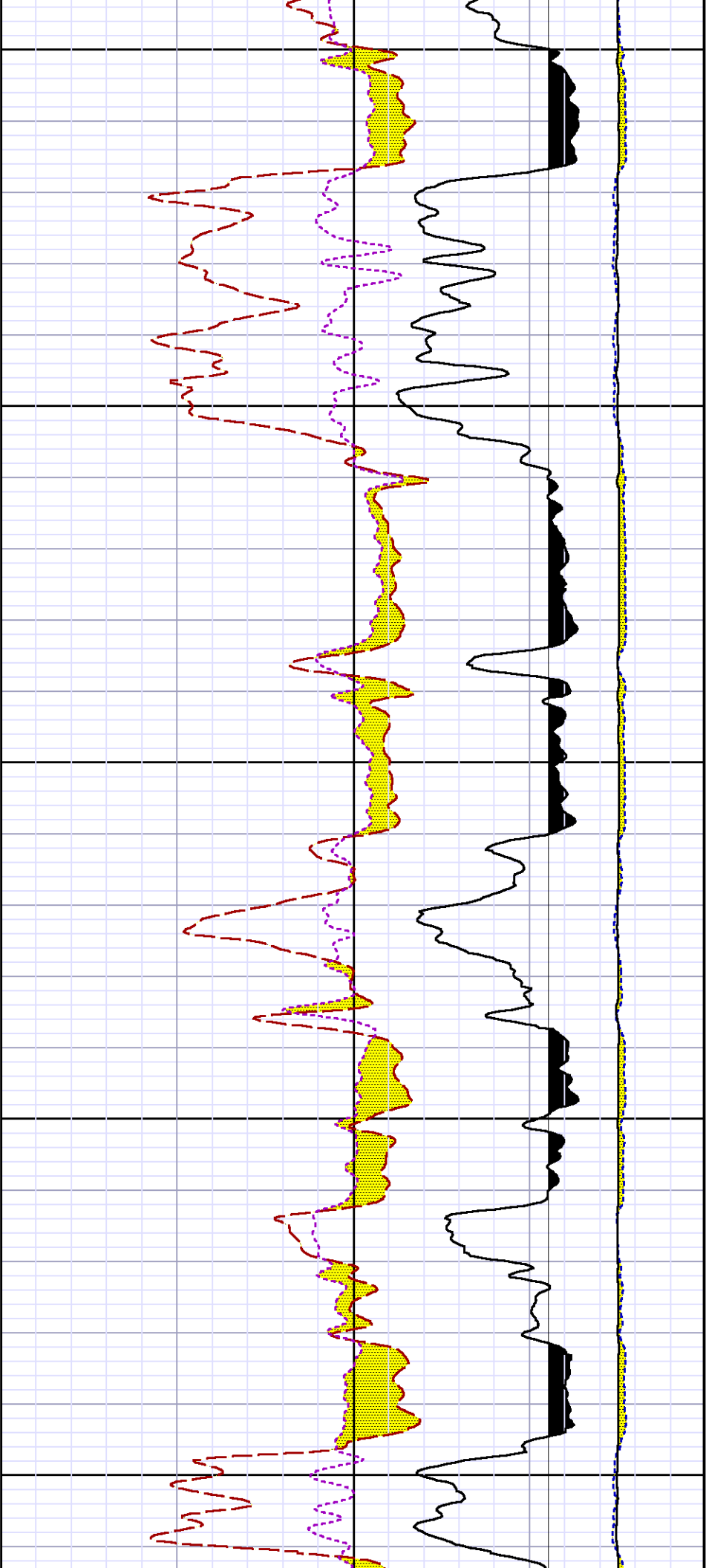


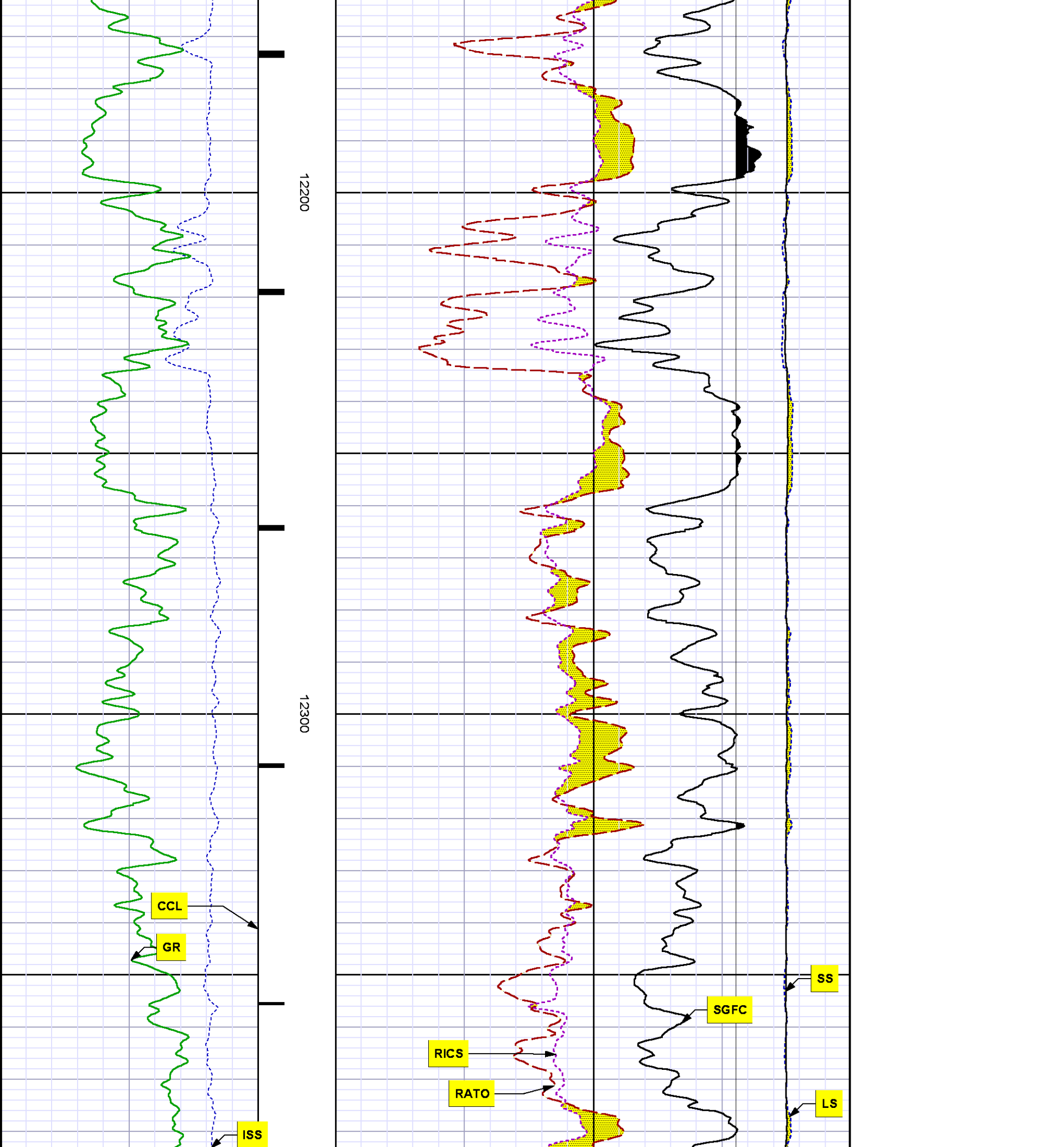


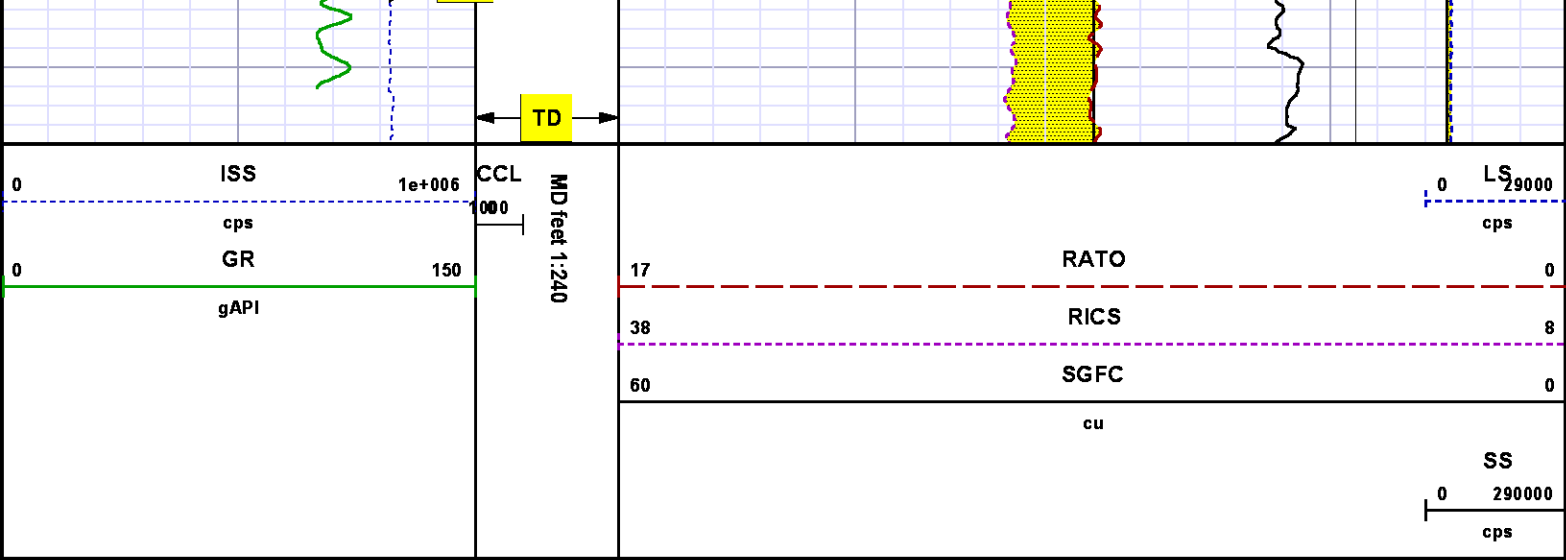
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REPEAT SECTION
PNC 3-D MODE

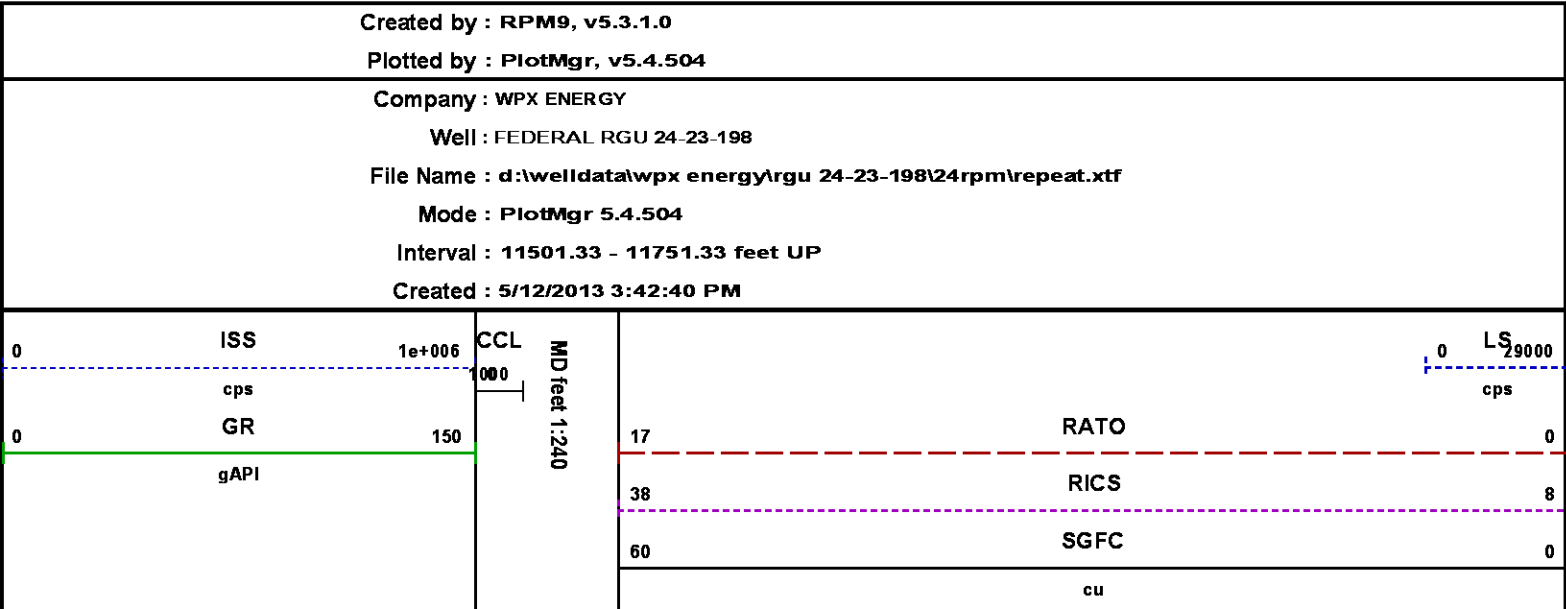
SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		11501.080	11775.830
PNC Porosity	Borehole Size	7.875	inch	11501.080	11775.830
PNC Porosity	Casing Size	4.500	inch	11501.080	11775.830
PNC Porosity	Gas Filled	Non Gas Filled		11501.080	11775.830
PNC Porosity	Matrix	Sandstone		11501.080	11775.830

DEPTH OFFSETS
(for Acquired Curves)

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

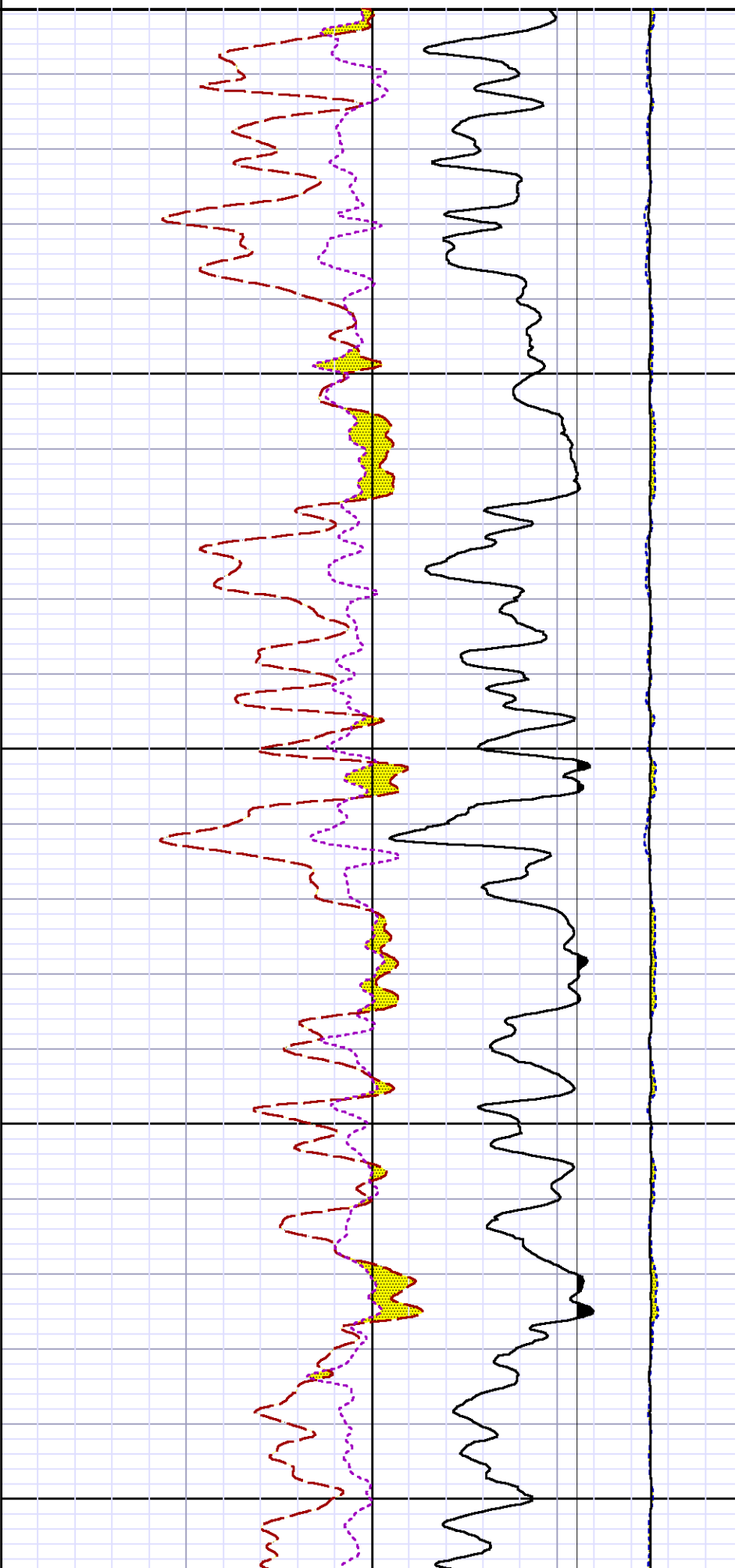
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		AMB3	AMF3	CHF3	IXSC	IXSN	RATO23
		RICXC	RIN13C	RIN23	RIN23C	SD3D	SG3D
		SGB3	SGF3	WDTH3	CXSR	IXSR	XSR
		RICXR					
8281XA	-0.250	HVC2Q0	SEQ2	AMA2	AMB2	AMF2	AML2
		BKL	CHF2	CLS	CPT2Q0	CPT2Q2	CPT2Q3
		CPT2Q4	ET2	ILS	LS	MCS2	MCS2Q0
		QCAL2	RGN2	RICL	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				



SS

0 290000

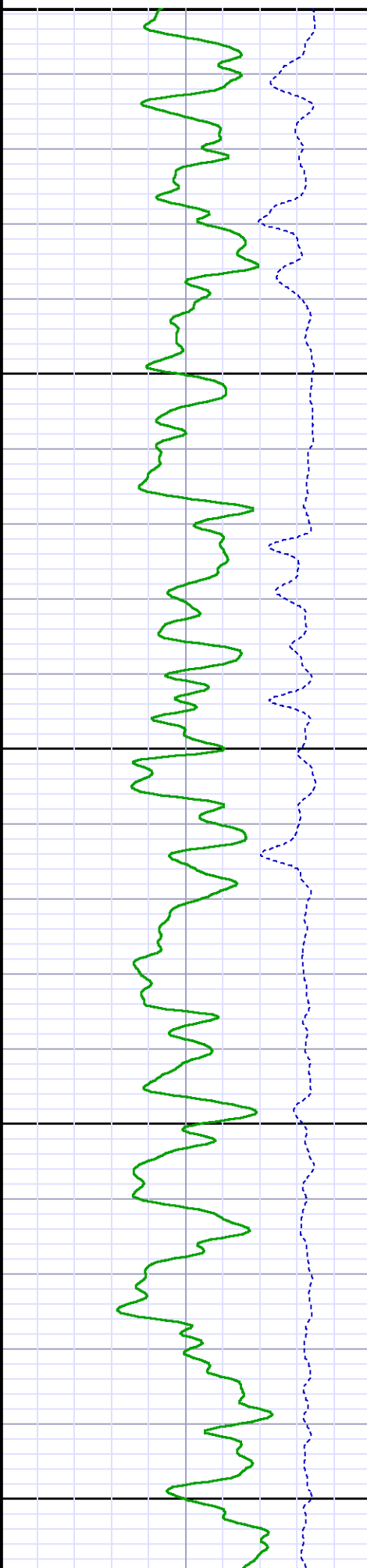
cps

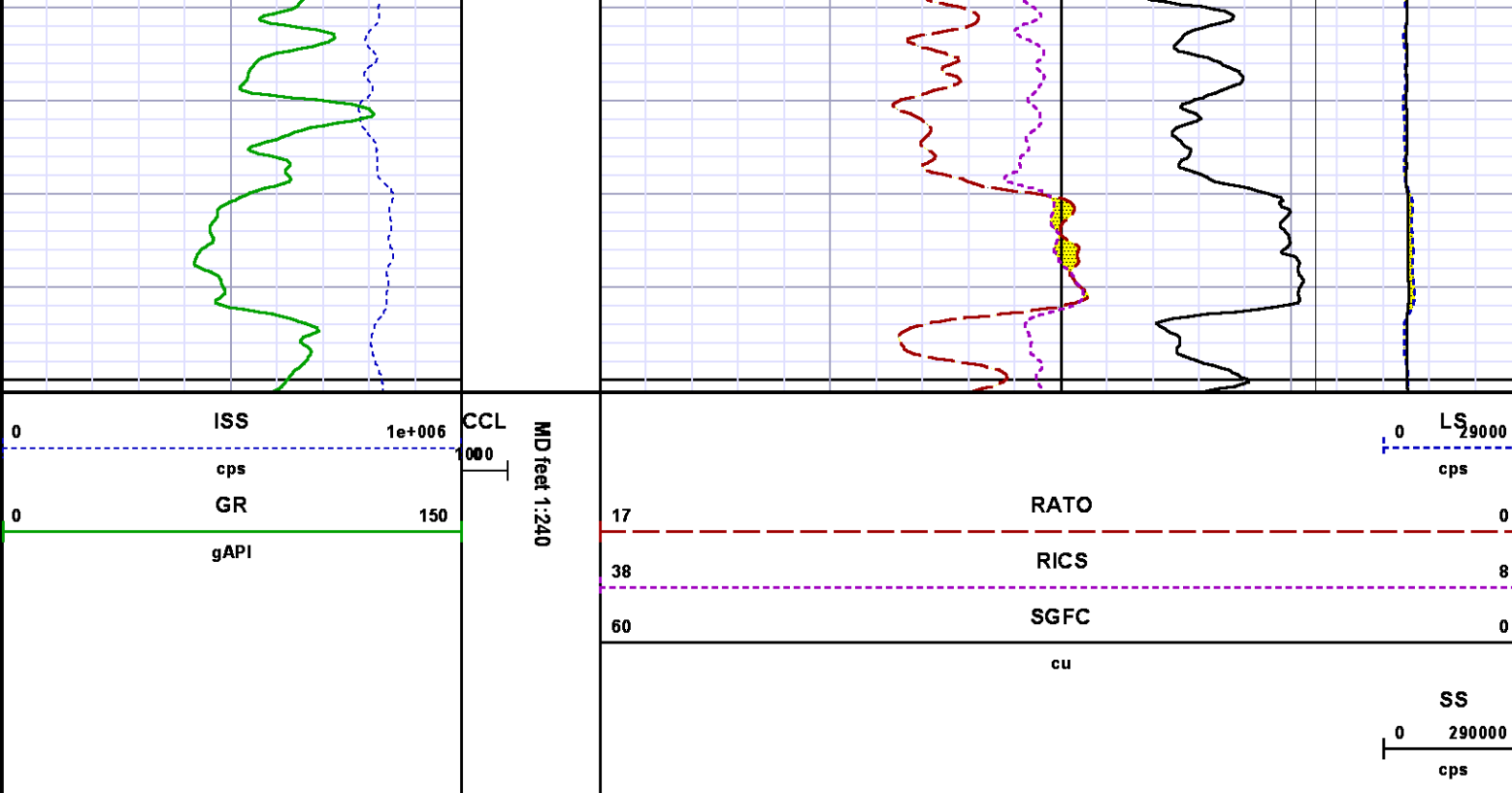


11500

11600

11700





CALIBRATION SUMMARY

GAMMA RAY

Calibration File: C:\case\calver\GR\055A2.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue Apr 23 13:10:16 2013 TOOL SERIES: 8262XA ASSET: 055 SEQ: A2

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	80.31	374.84	0.611	49.08	229.08	180.00

Verification File: C:\case\calver\GR\055A2.VP

PRIMARY VERIFICATION

DATE/TIME PERFORMED: Tue Apr 23 13:12:19 2013 TOOL SERIES: 8262XA ASSET: 055 SEQ: A2

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	80.38	363.24	0.611	49.12	221.99	172.87

Calibration File: C:\case\calver\PNC\383M8.cal

PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Wed May 08 00:54:56 2013 TOOL SERIES: 8281XA ASSET: 383 SEQ: M8

Calibrator #

GJ SHOP

Source #

8281AA 10160601

	ISS	Mtr VIts (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	813614	128.00	2260.00	2264.00	2213.00	102.39	7.00	1.0030
Interpolated	1300000	155.64	2241.97	2257.39	2216.32			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	813614	7903.48	1260.86	165.58	25.83	0.13	24.50	0.27
					25.35 26.40	0.00 0.20	23.60 24.80	0.00 0.40

	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
Raw Data	813614	185448.31	28637.66	96206.11	34236.01	9093.30	58110.01	14574.50
Fit Quality %		1.02	1.33	1.87	1.88	1.35	1.66	1.33

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	813614	1.42	4.39	28.41	14.00	10.58	3.77	3.99
		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 %		0.10	0.52	0.50	0.24	0.19	0.19	0.18
Reduced	1400430	1.43	4.41	28.55	14.07	10.57	3.76	3.98
		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
Memory PCM

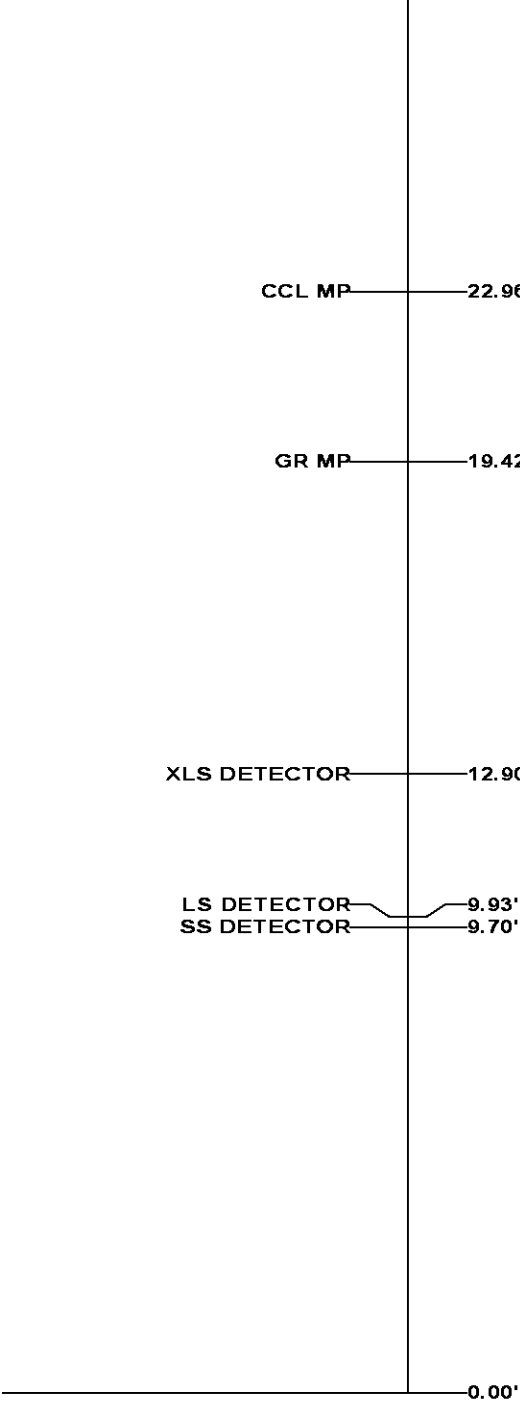
31.05'

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>Baker Atlas</div> <div></div>	Company		WPX ENERGY		File No:		
	Well		FEDERAL RGU 24-23-198		CH072039		
	Field		SULPHUR CREEK		API No:		
	County		RIO BLANCO	State	COLORADO	05103117870000	
Location		SHL: 1785' FSL, 1921' FWL BHL: 1295' FSL, 1897' FWL			Elevations		23 1S 98W RGU 23-23-198 PAD CYCLONE 29
SEC 23					KB 6566 ft		
TWP 1S					DF		
RGE 98W					GL 6545 ft		