

Baker Atlas

RESERVOIR
PERFORMANCE
MONITOR

File No: CH075708	Company Well Field County	WPX ENERGY FEDERAL PA 421-27 PARACHUTE GARFIELD	State COLORADO
API No: 05045218600000	Location SHL: 2113' FNL X 1307' FWL DOE 1 -W-27 PAD NABORS 573 BHL: 902' FNL X 1903' FWL (NENW)		Other Services BOND LOG
Permanent Datum Log Measured From Drill Measured From		GL KB KELLY BUSHING	Elevations KB 5866 ft DF GL 5840 ft
SEC 27 TWP 6S RGE 9SW			

Date	20/AUG/13	
Run	ONE	
Service Order	624406	
Depth Driller	8651 ft	
Depth Logger	8495 ft	
Bottom Logged Interval	8485 ft	
Top Logged Interval	2765 ft	
Time Started	1200	
Time Finished	1900	
Operator Rig Time	7 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	72 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	10 fpm	
Maximum Recorded Temperature	262 degF	
Reference Log	BAKER HUGHES BOND LOG	
Reference Log Date	20/AUG/13	
Equipment No.	4271	GRAND JCT
Recorded By	FLOYD RENEAU	
Witnessed By	ORAN JACOBS	

- 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	2765 ft
8.75 in	2765 ft	8551 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			0 ft	2765 ft
4.5 in	11.6 lbm/ft	I-80	0 ft	8551 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 8/20/2013 at the client's request.
The amount of linear shift is -9.5 feet.
Logged in PNC-3D mode.
BHT = 265°F
SJ = 5182'-5206'

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	8262XY	10485470	FREE
1	1	TEL/CCL	8248ED	10296408	FREE
1	1	PCM	8250EA	10397894	FREE

MAIN SECTION

PNC 3-D MODE

SPL PROCESSING

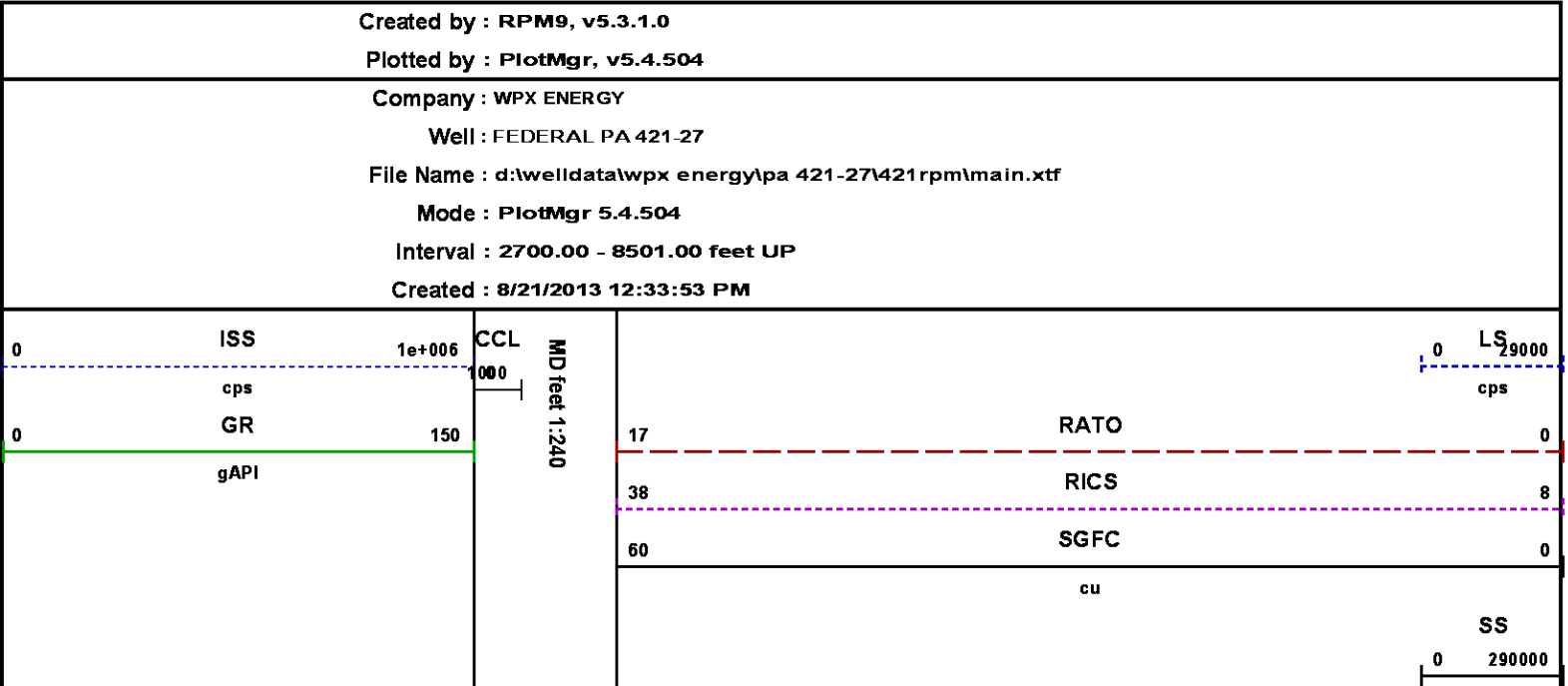
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		2699.750	8517.780
PNC Porosity	Borehole Size	8.750	inch	2699.750	8517.780
PNC Porosity	Casing Size	4.500	inch	2699.750	8517.780
PNC Porosity	Gas Filled	Non Gas Filled		2699.750	8517.780
PNC Porosity	Matrix	Sandstone		2699.750	8517.780

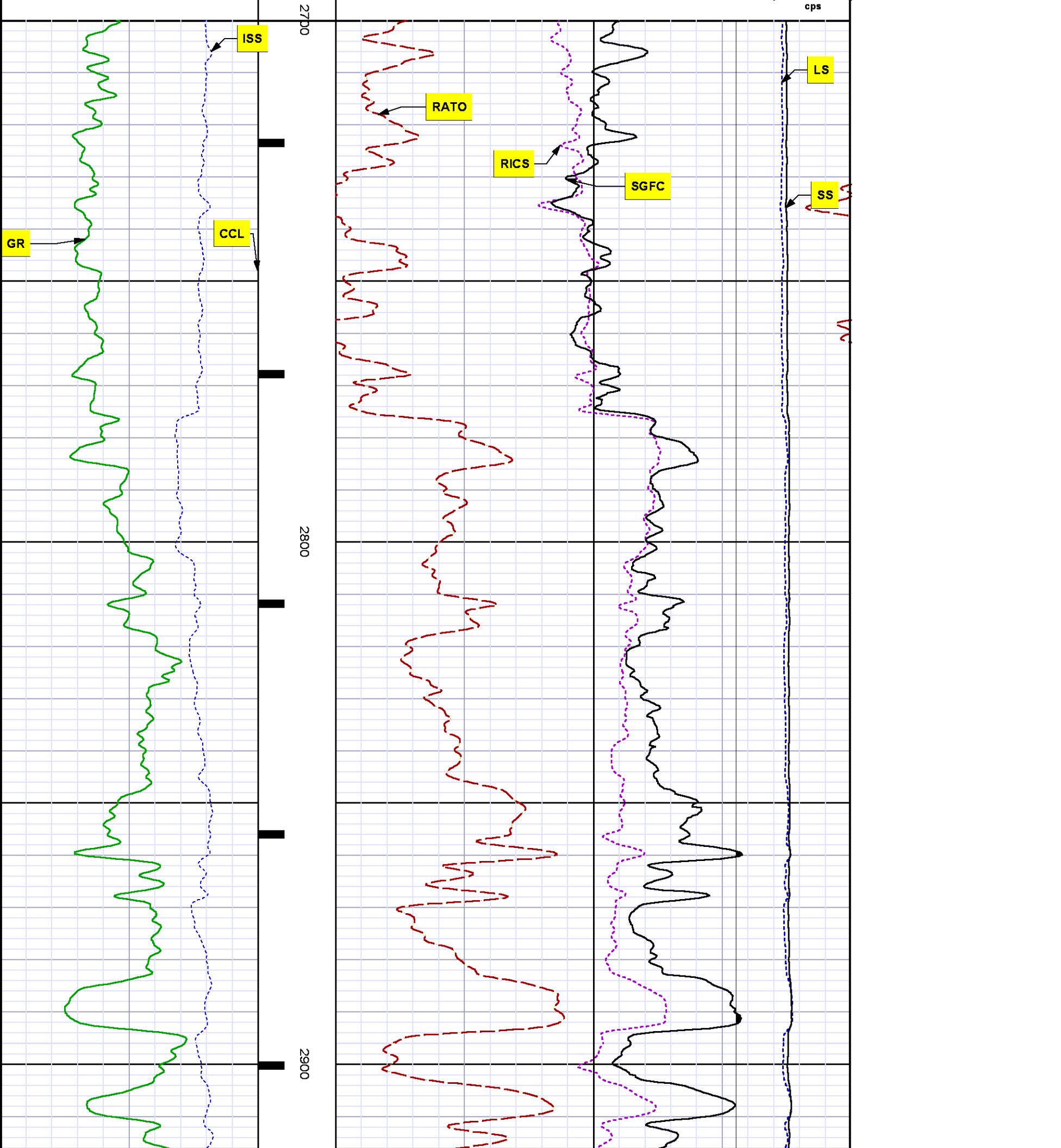
DEPTH OFFSETS

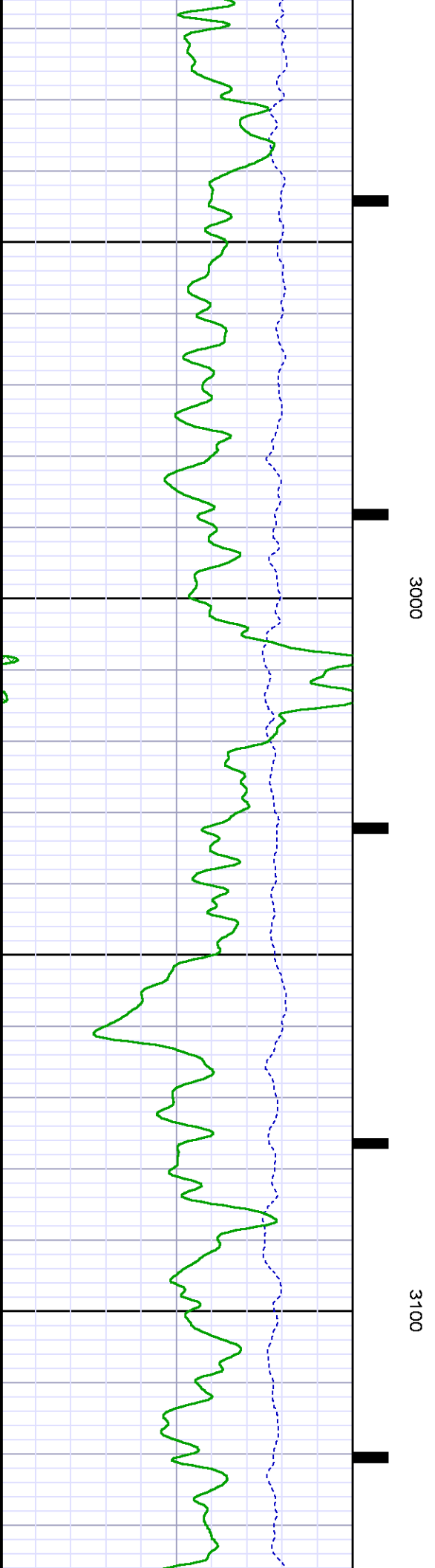
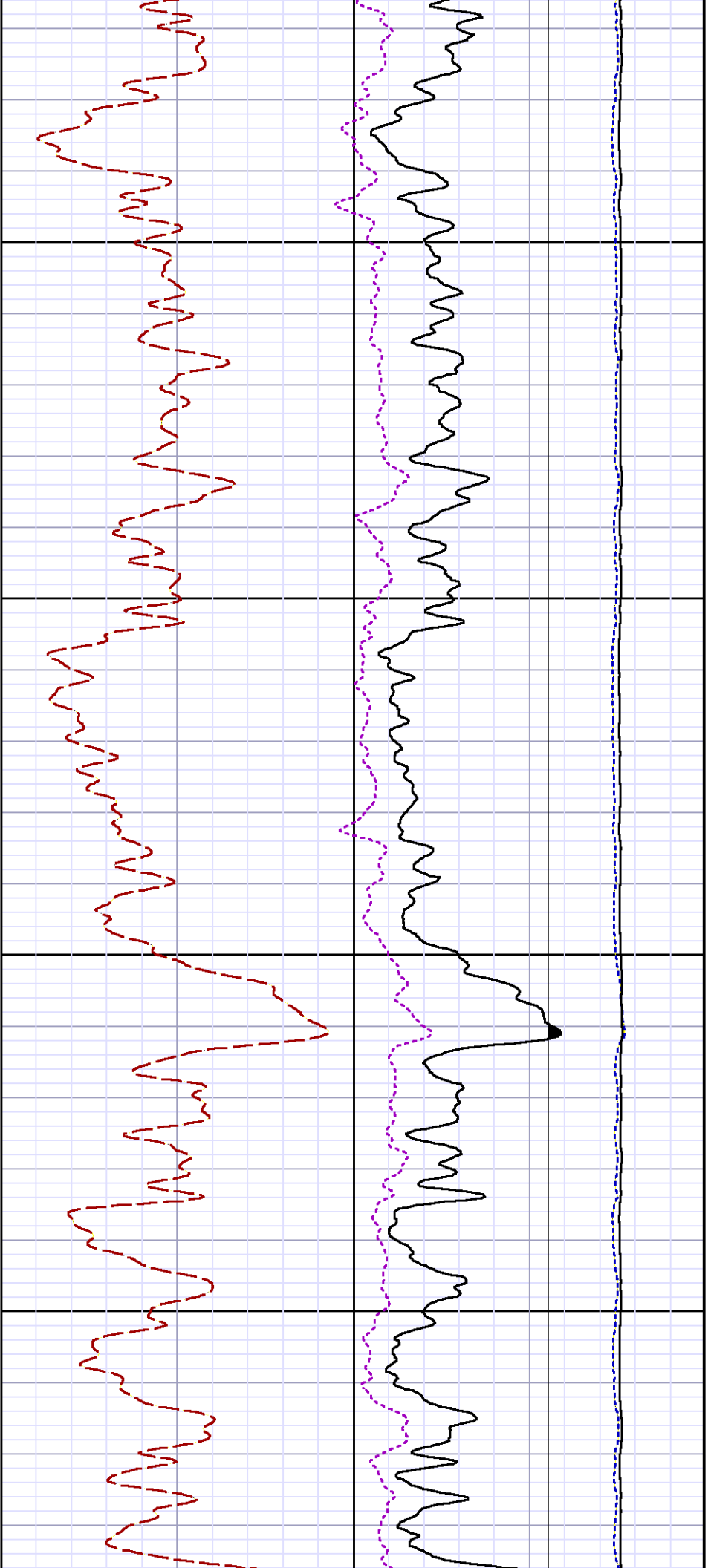
(for Acquired Curves)

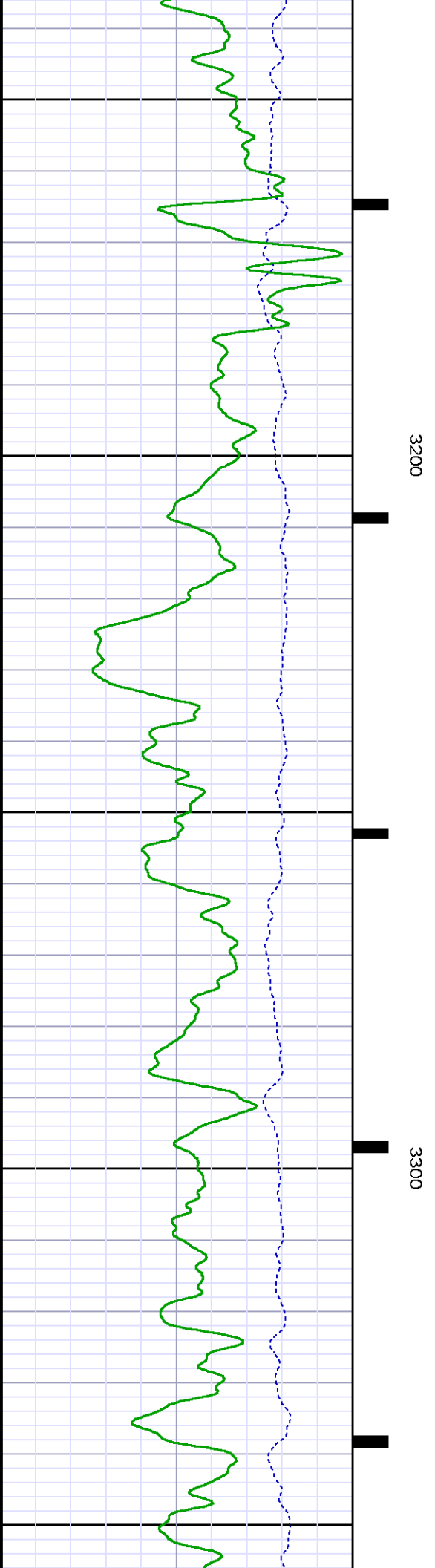
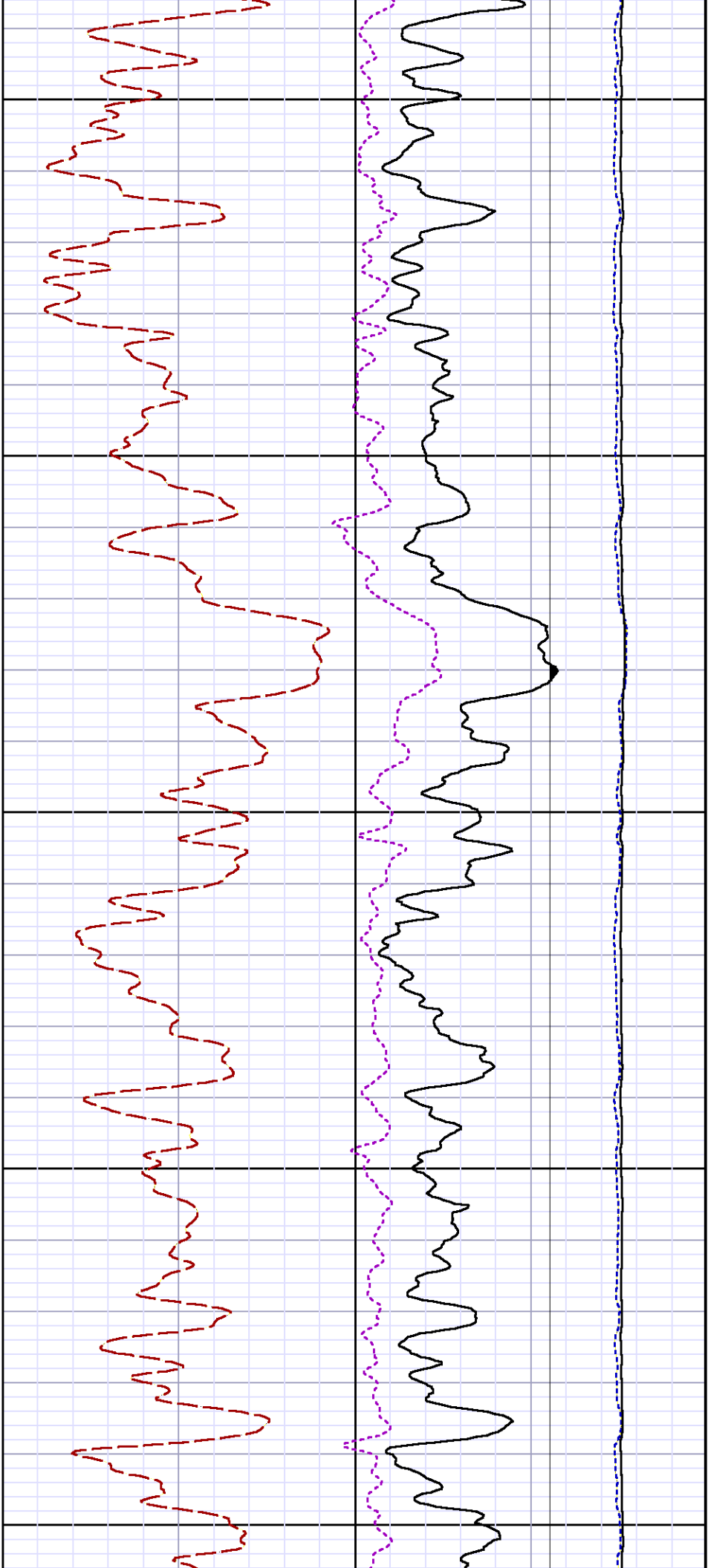
SERIES	DEPTH OFFSET	ACQUIRED CURVES
8248ED	-15.320	FLTM
8248ED	-13.320	CCL CHV
8262XY	-10.189	GR4
8281XA	-0.662	HVC3Q0 SEQ3 AMA3 AML3 BKX CXS
		CPT3Q0 CPT3Q2 CPT3Q3 CPT3Q4 ET3 IXS
		MCS3 MCS3Q0 QCAL3 RGN3 RICX SDA3
		SDL3 SGA3 SGL3 STA3 XS ASPEC3
		AMB3 AMF3 CHF3 IXSC IXSN RATO23
		FW3Q0 FW3Q2 FW3Q3 FW3Q4 FW3Q5 FW3Q6

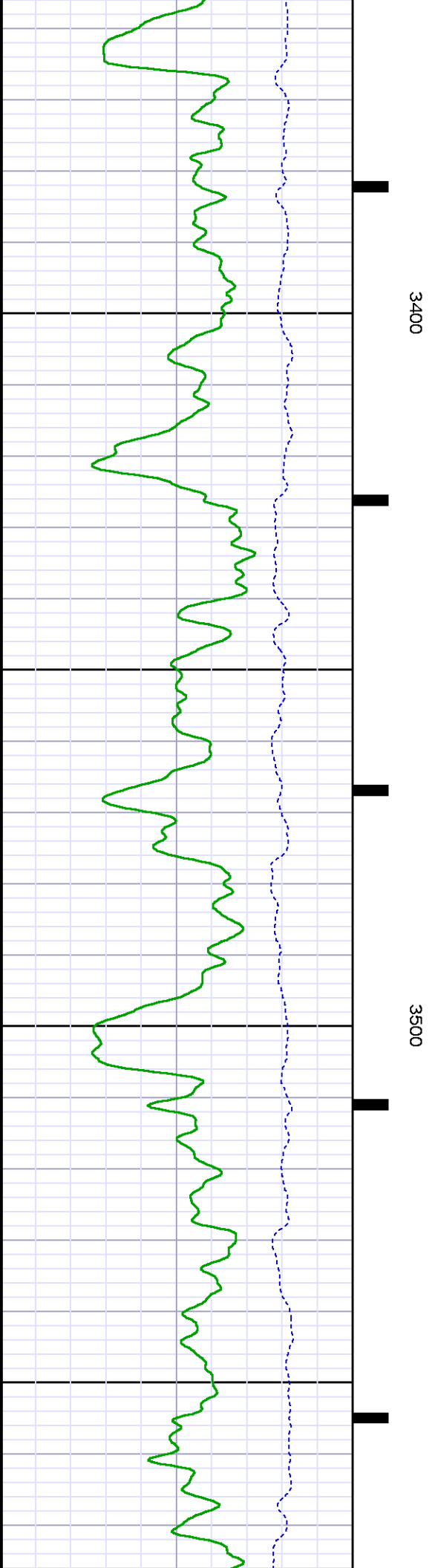
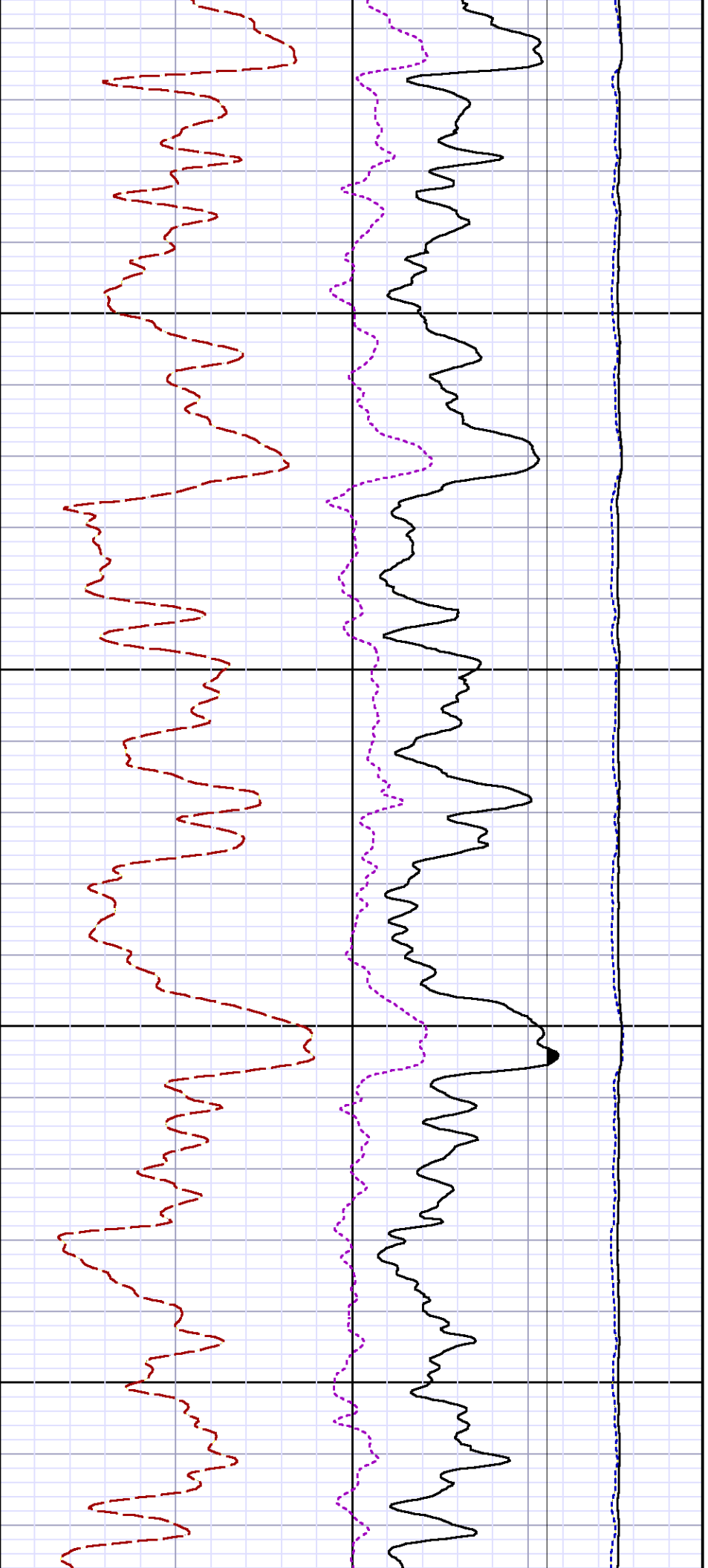
		RICXC	RIN13C	RIN23	RIN23C	SD3D	SG3D
		SGB3	SGF3	WDTH3	CXSR	IXSR	XSR
		RICXR					
8281XA	-0.250	HVC2Q0	SEQ2	AMA2	AMB2	AMF2	AML2
		BKL	CHF2	CLS	CPT2Q0	CPT2Q2	CPT2Q3
		CPT2Q4	ET2	ILS	LS	MCS2	MCS2Q0
		QCAL2	RGN2	RICL	RONE23	RTWO23	SDA2
		SDL2	SGA2	SGB2	SGF2	SGK2	SGL2
		STA2	ASPEC2	ILSC	ILSN	WDTH2	RICLC
		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				

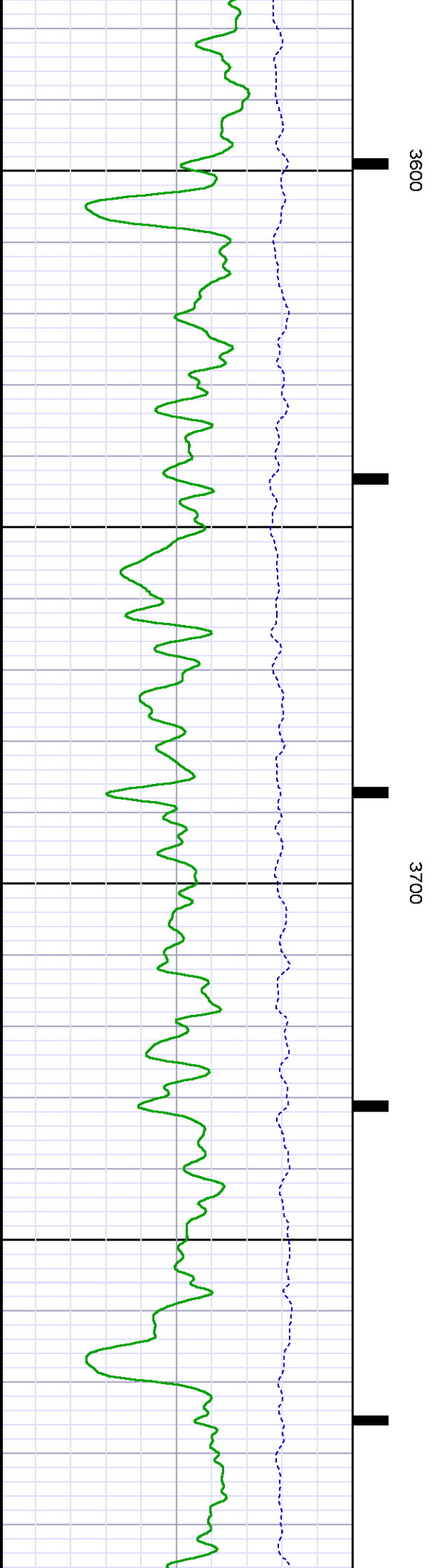
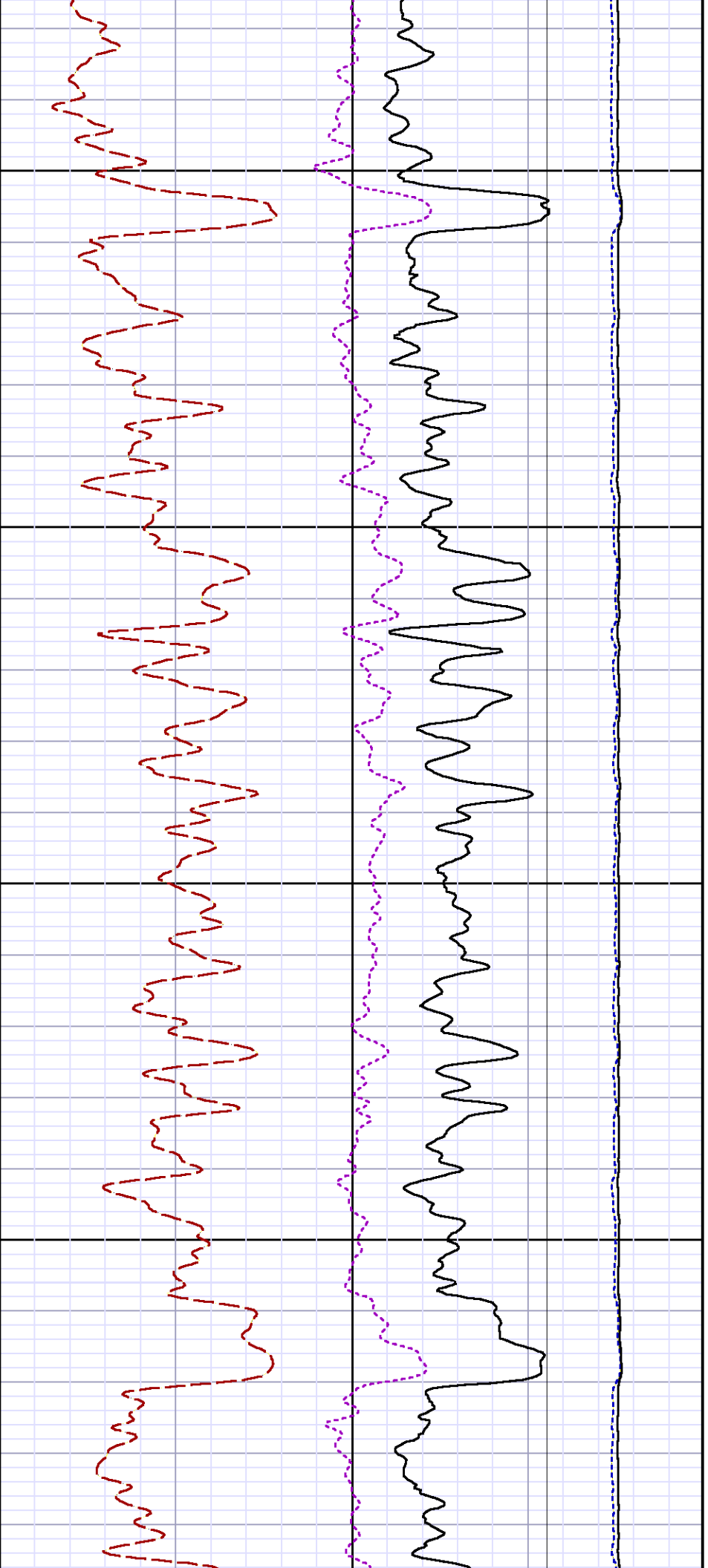


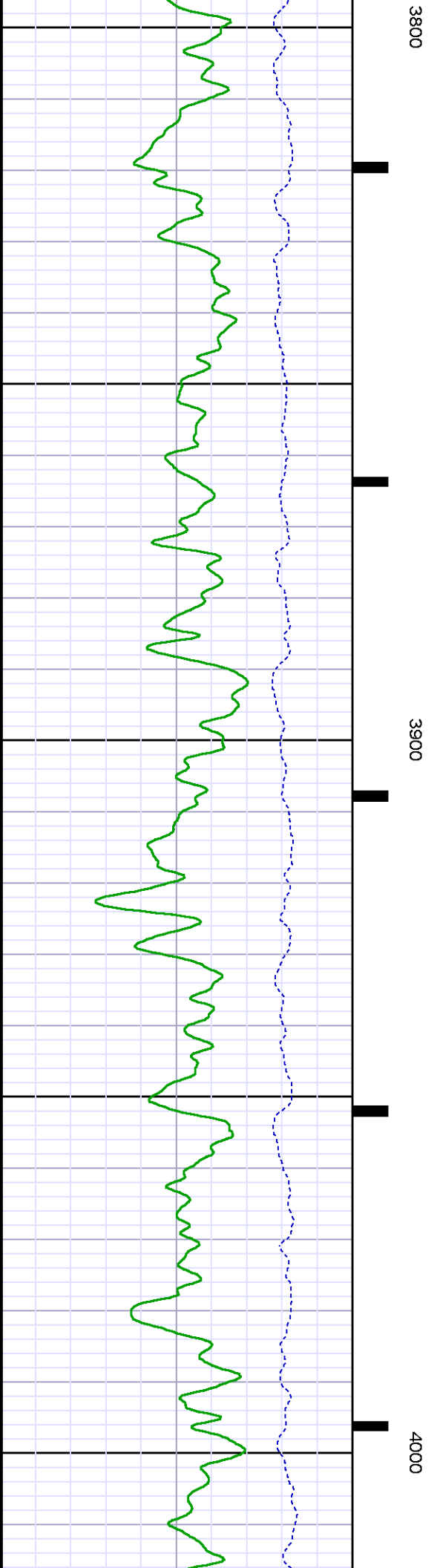
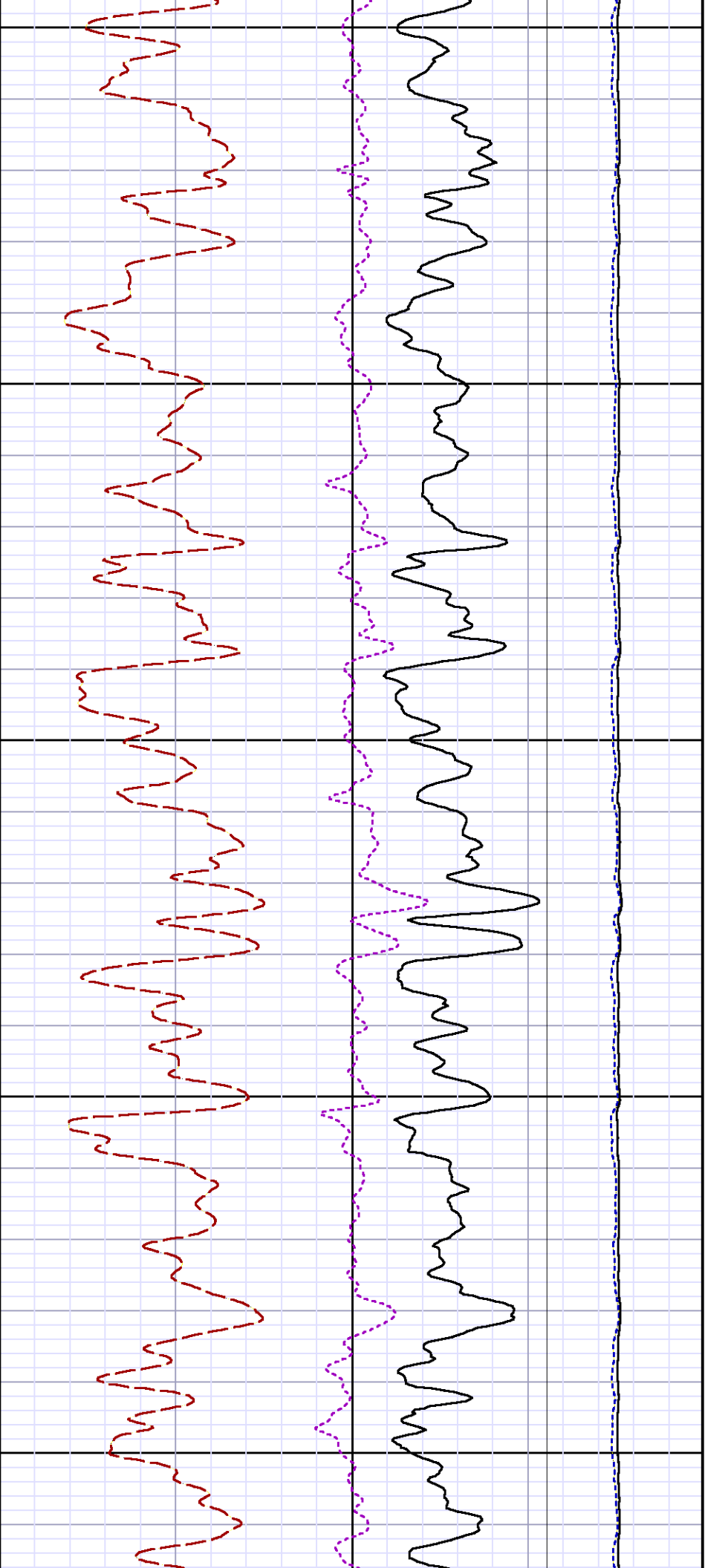


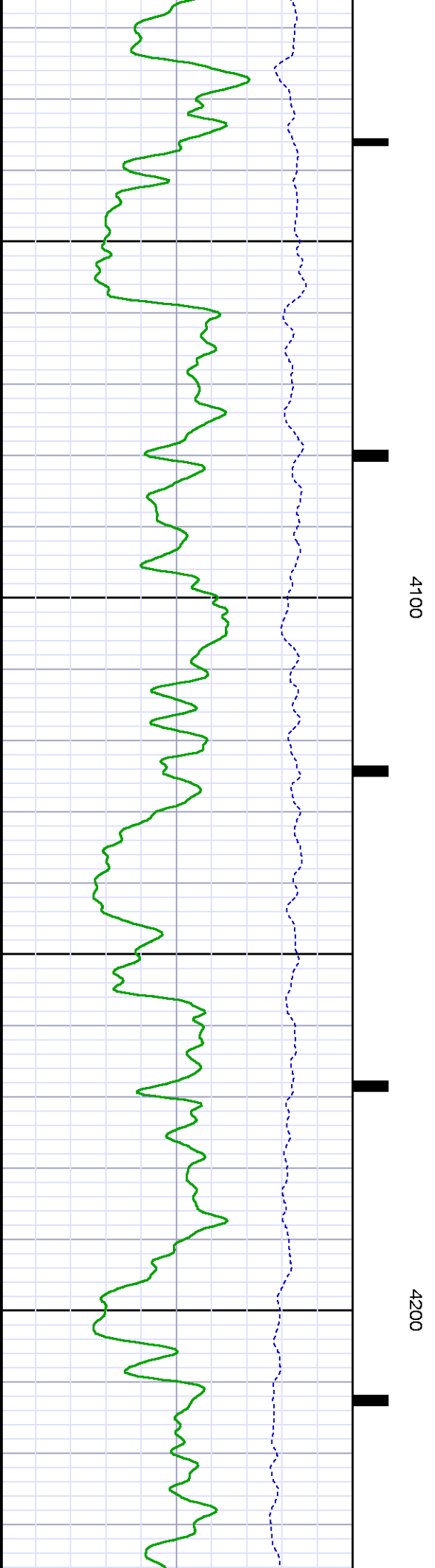
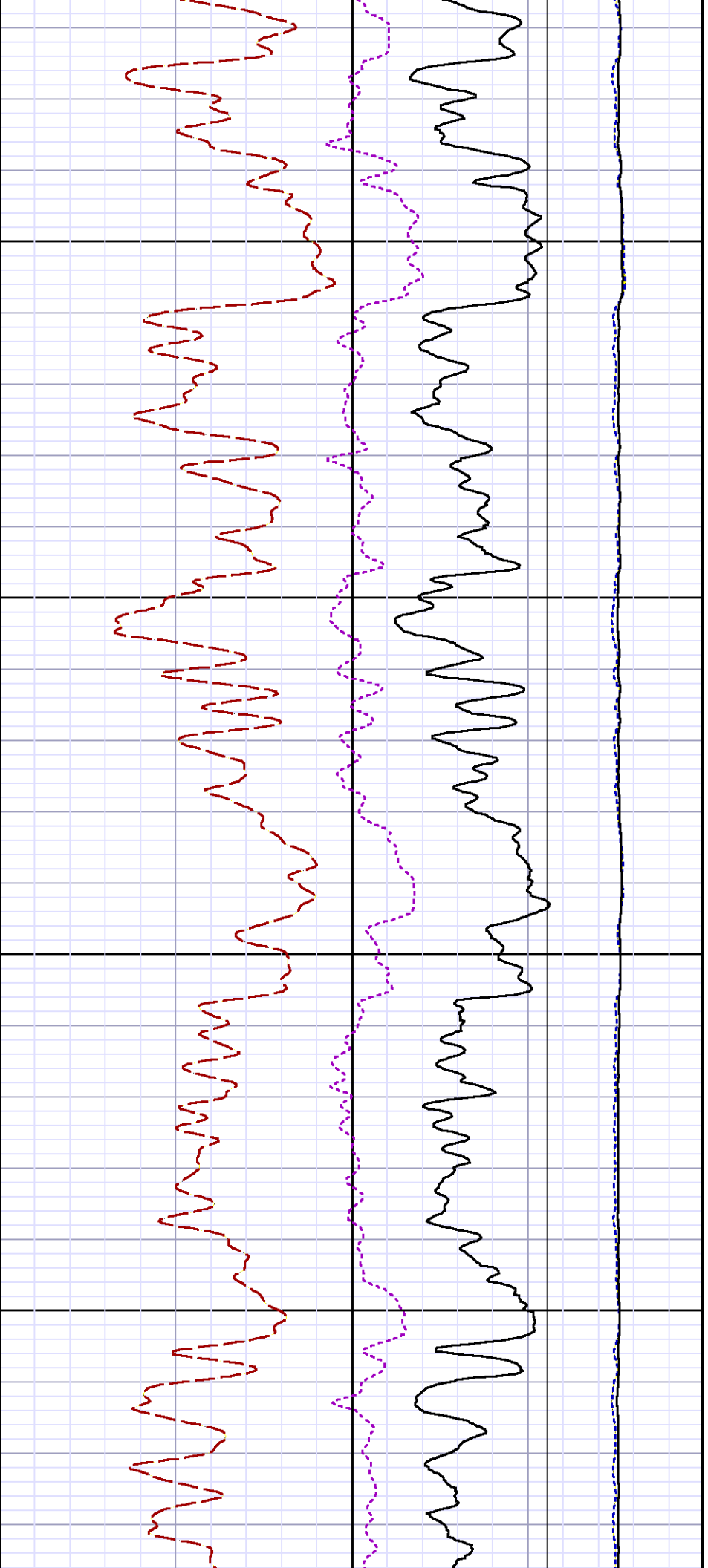


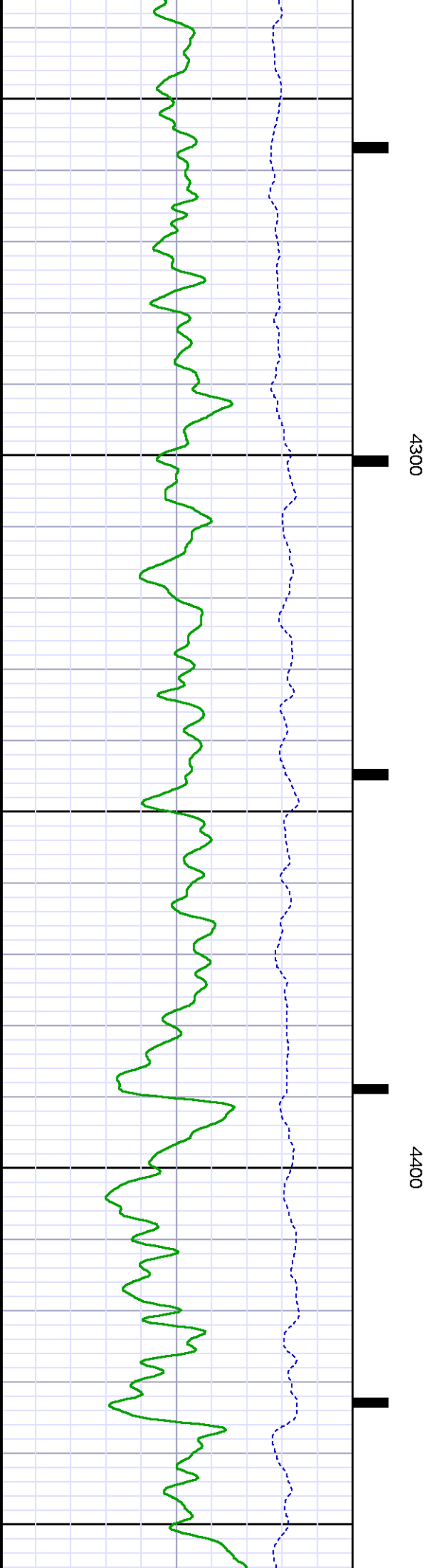
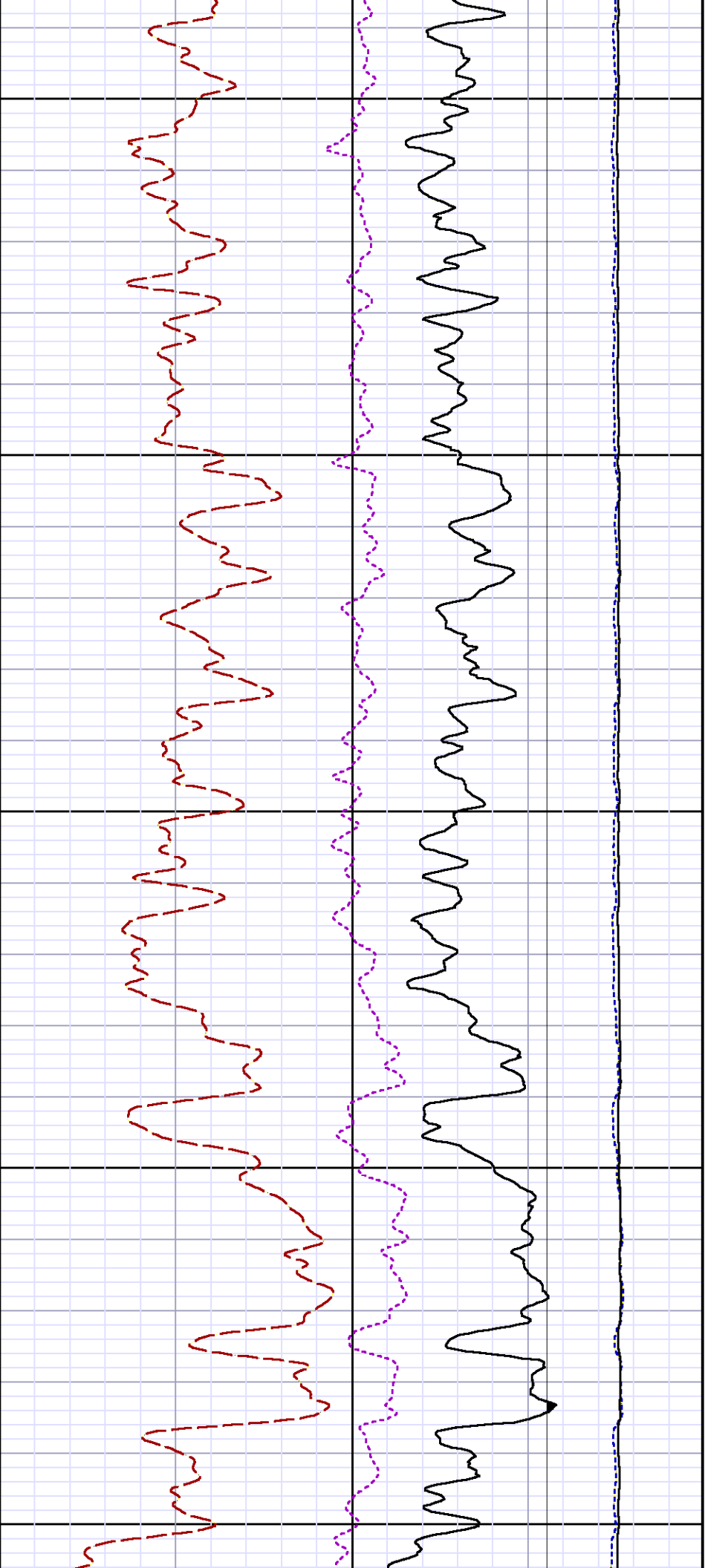


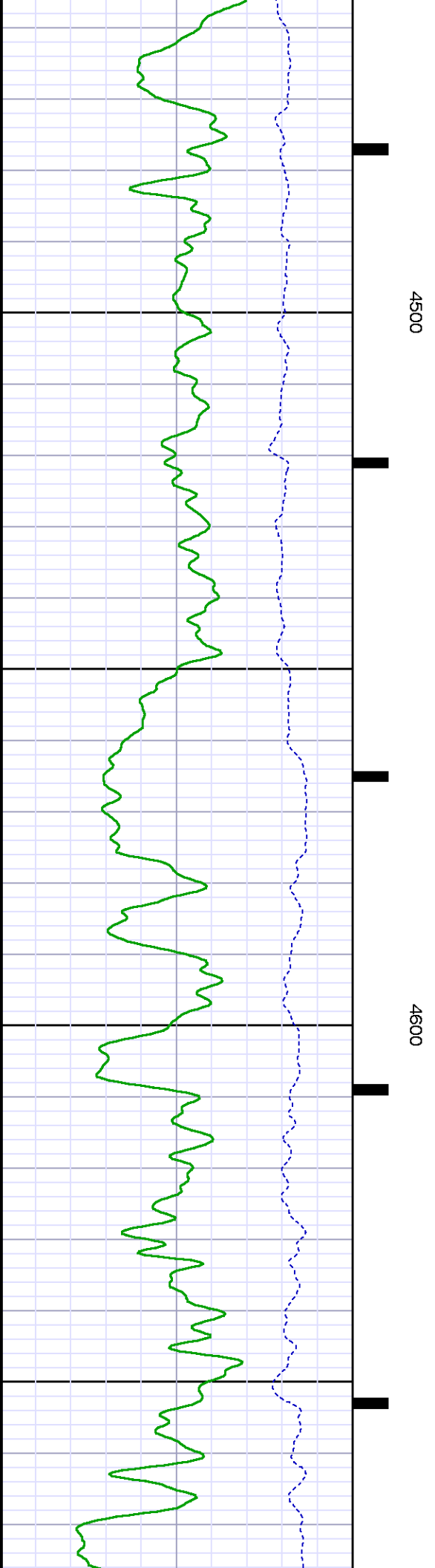
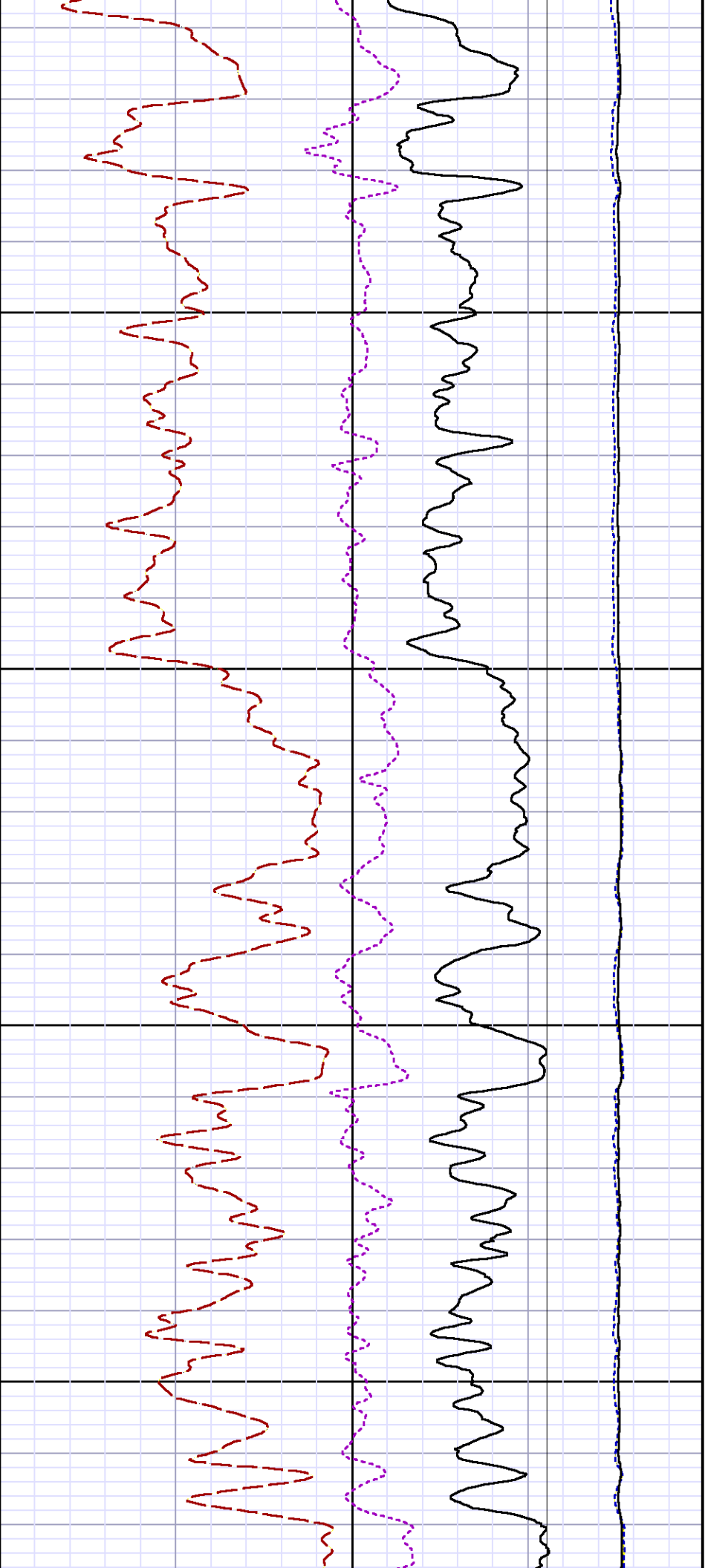


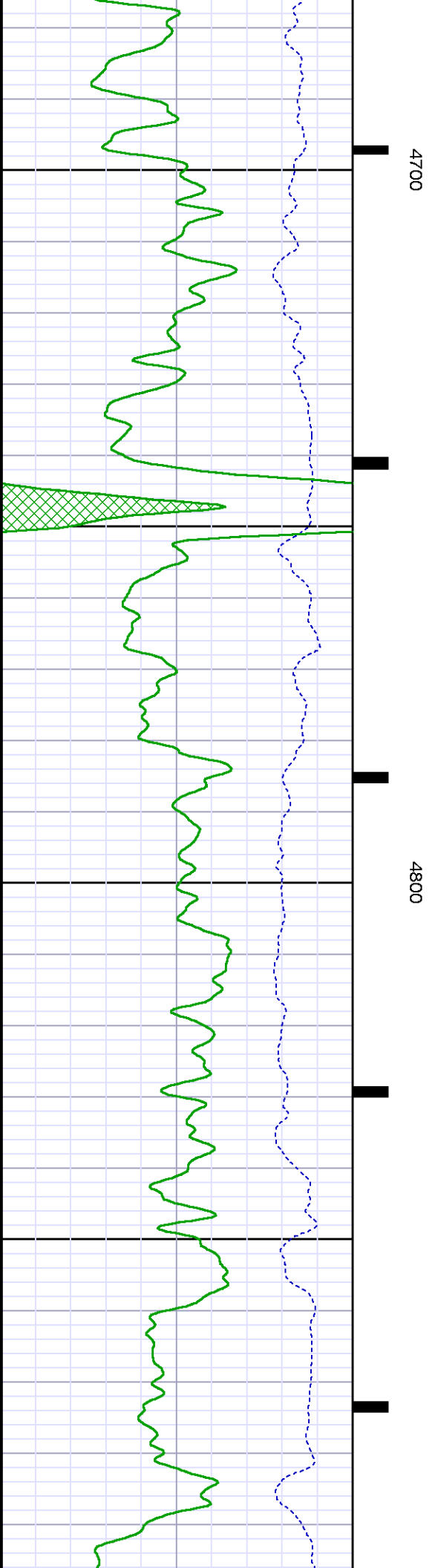
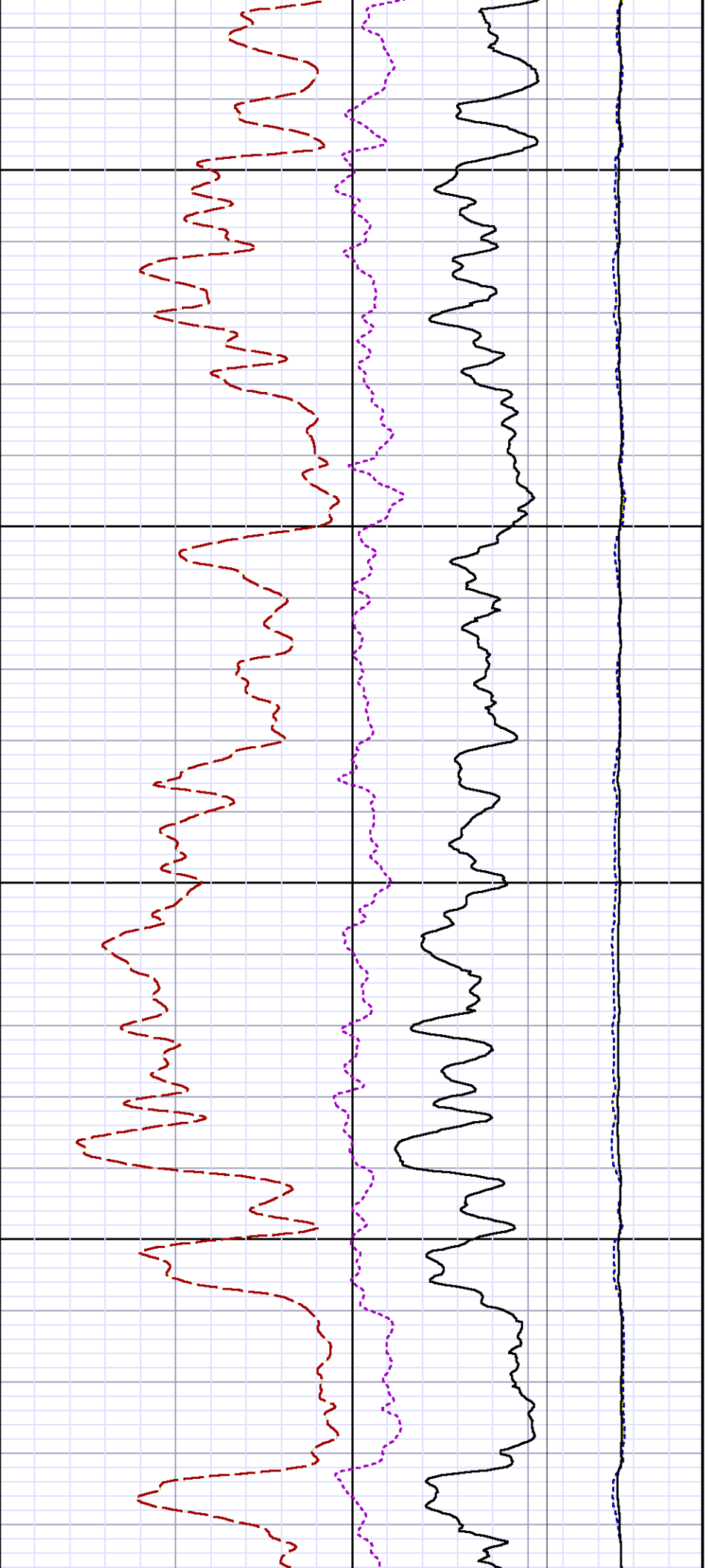


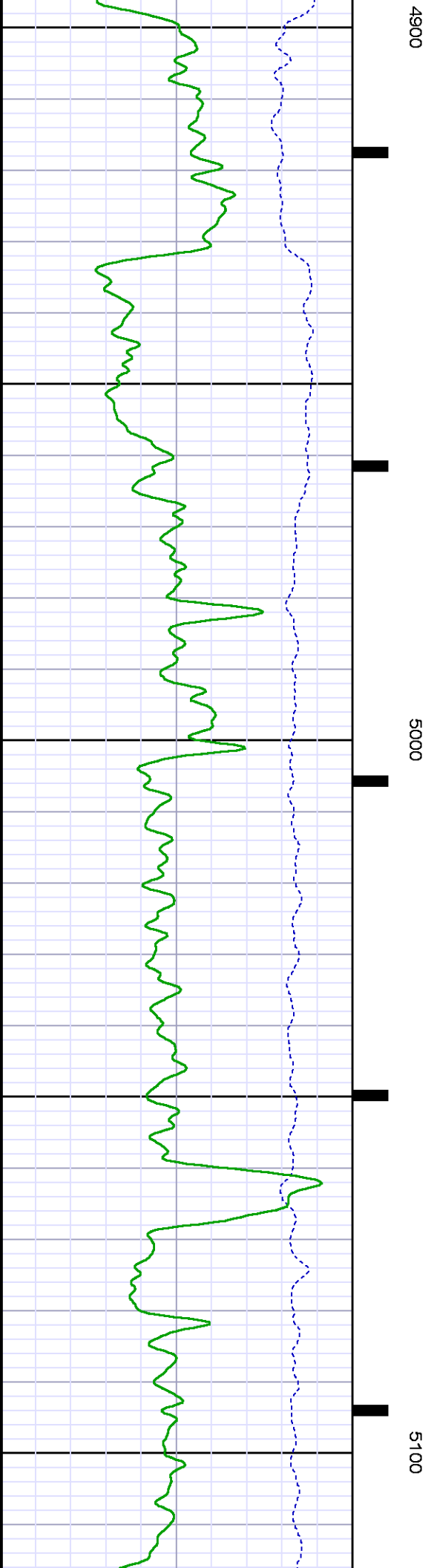
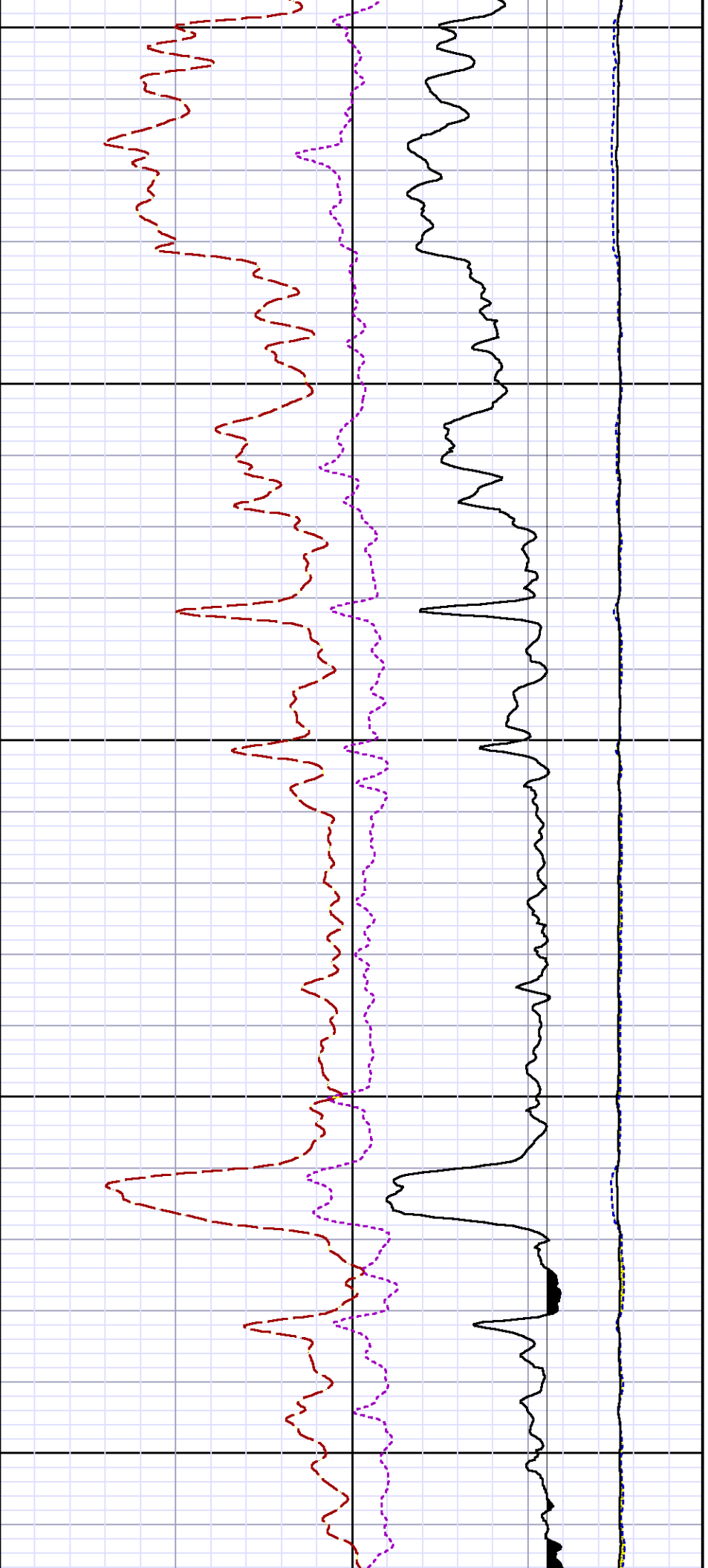


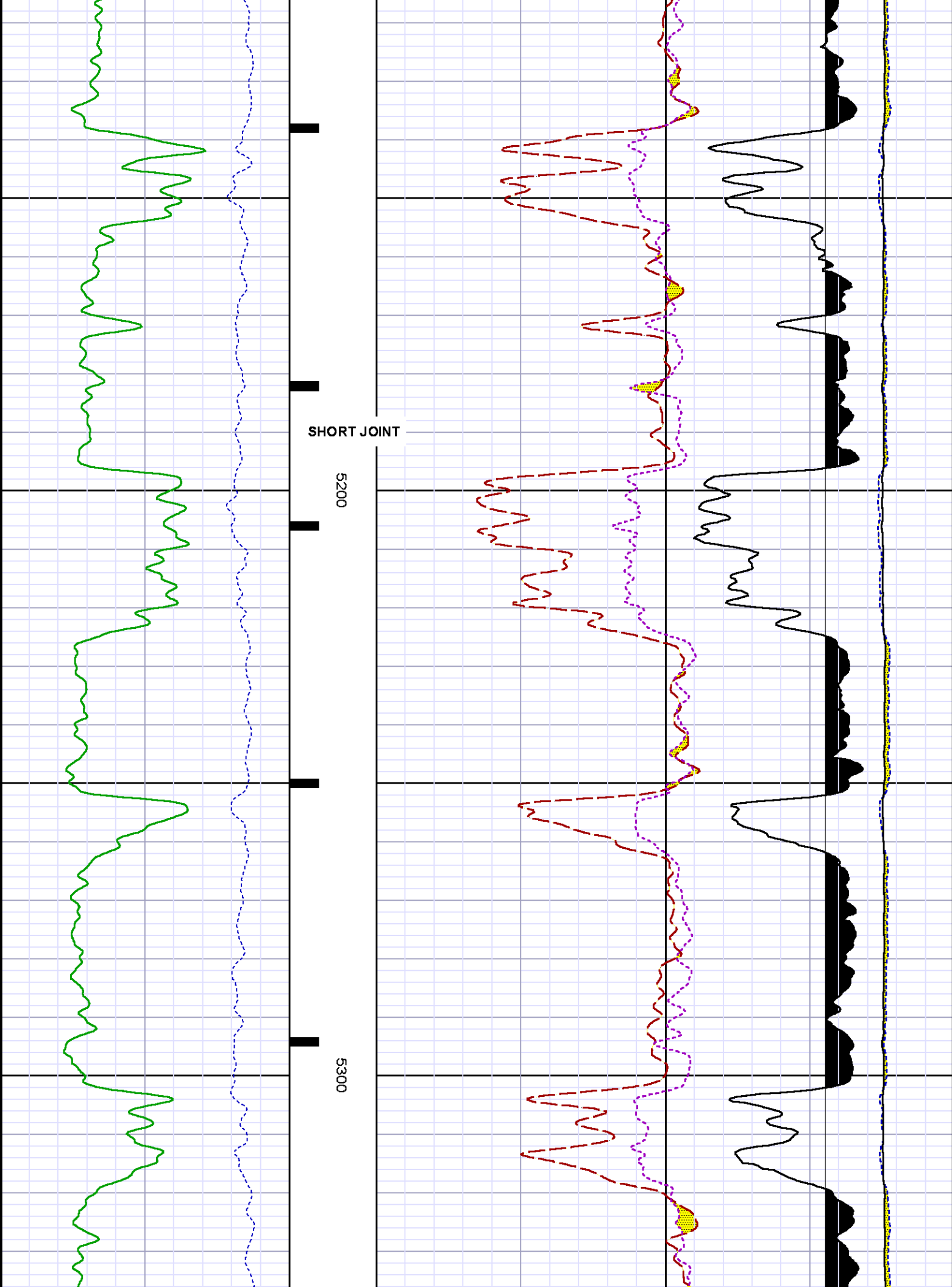


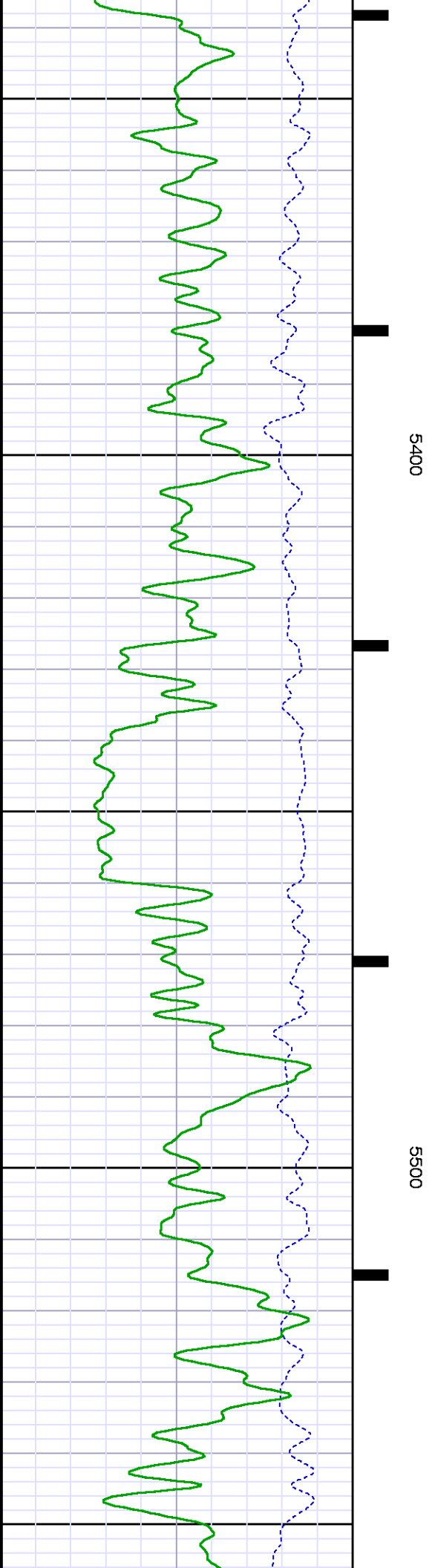
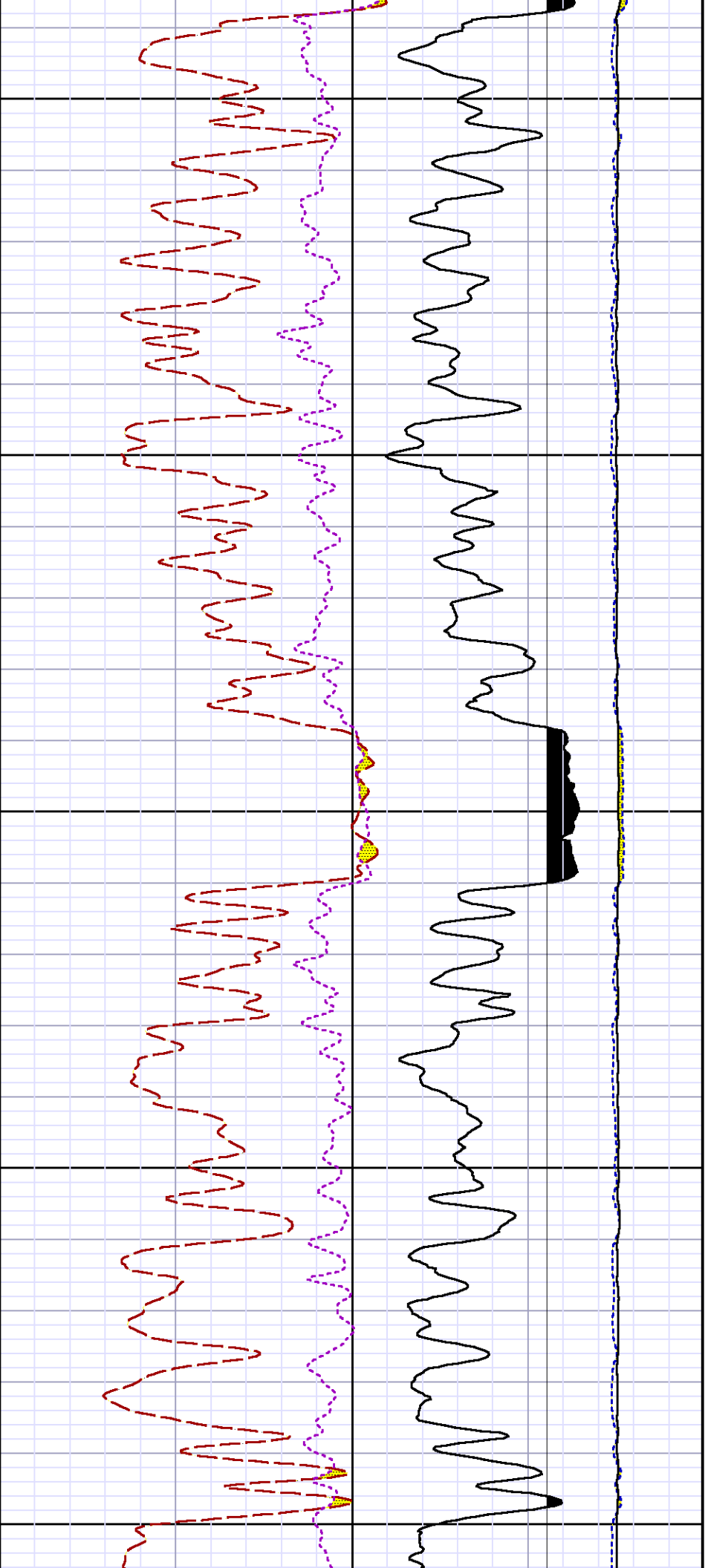


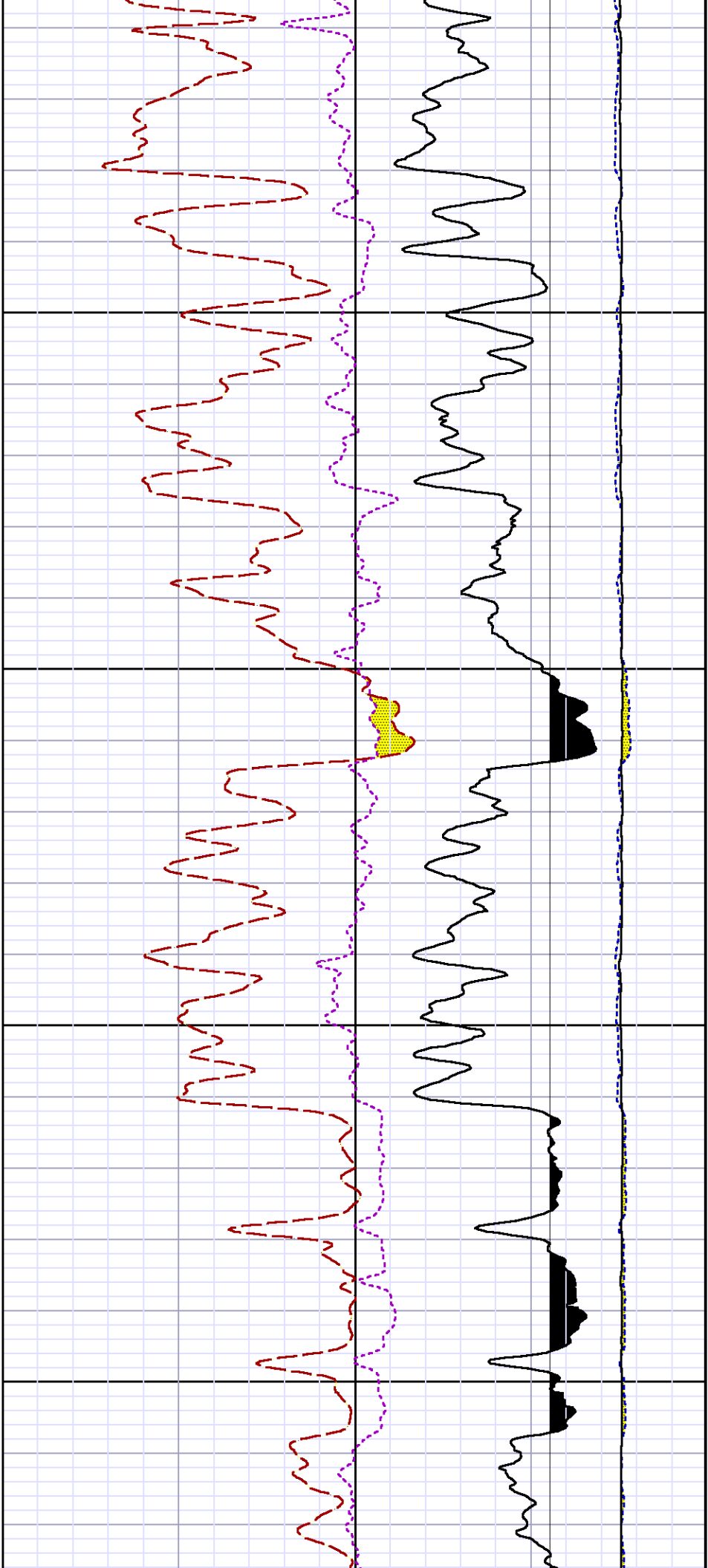






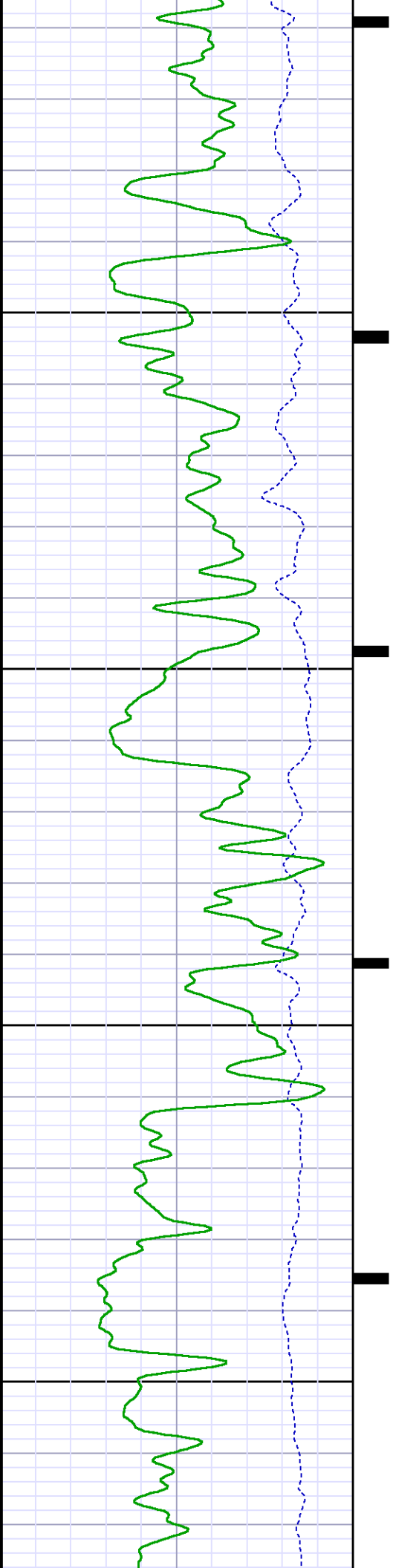


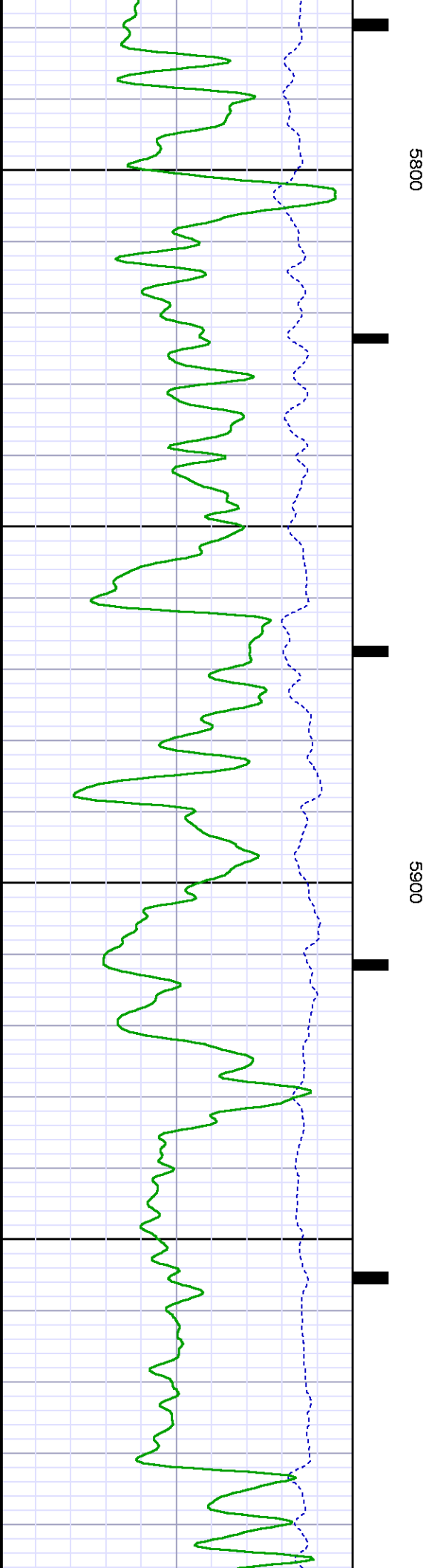
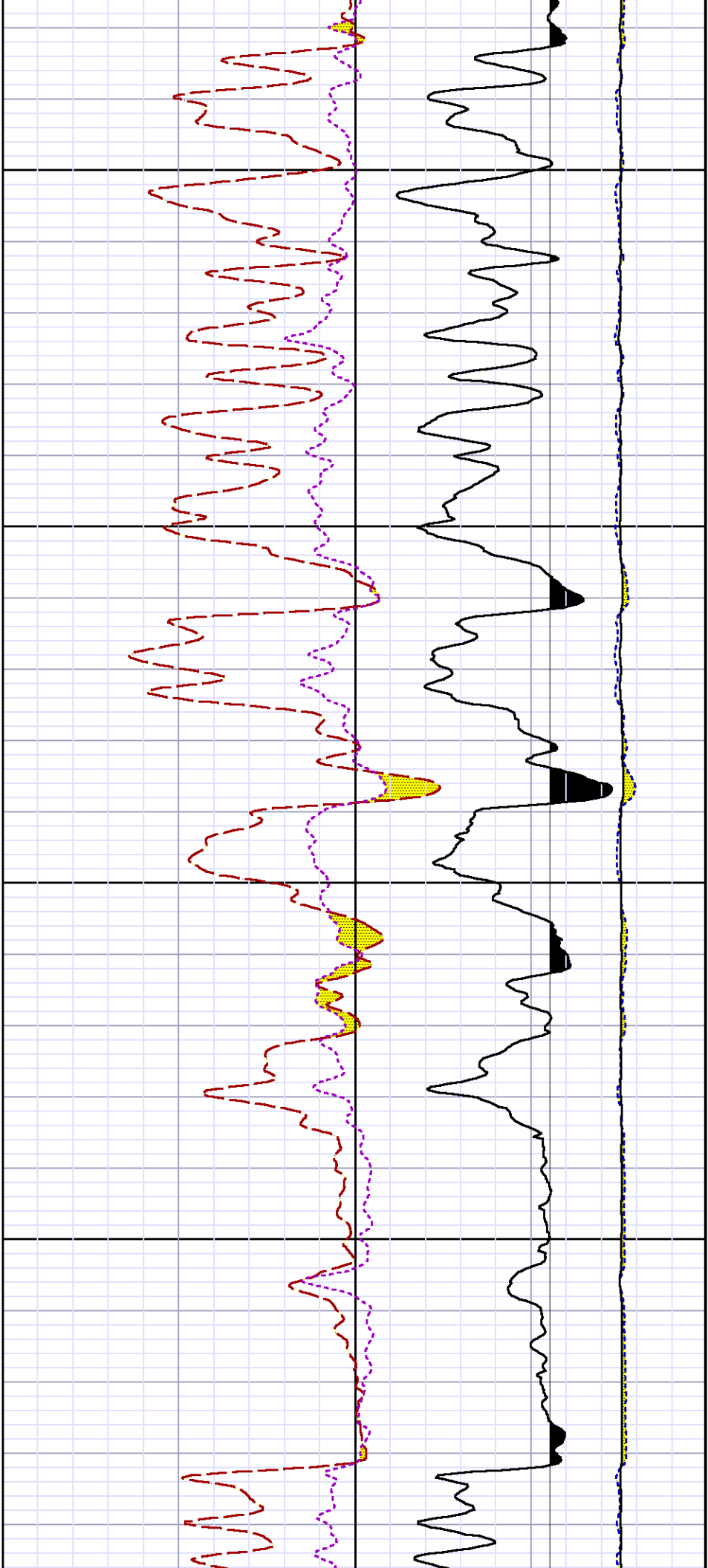


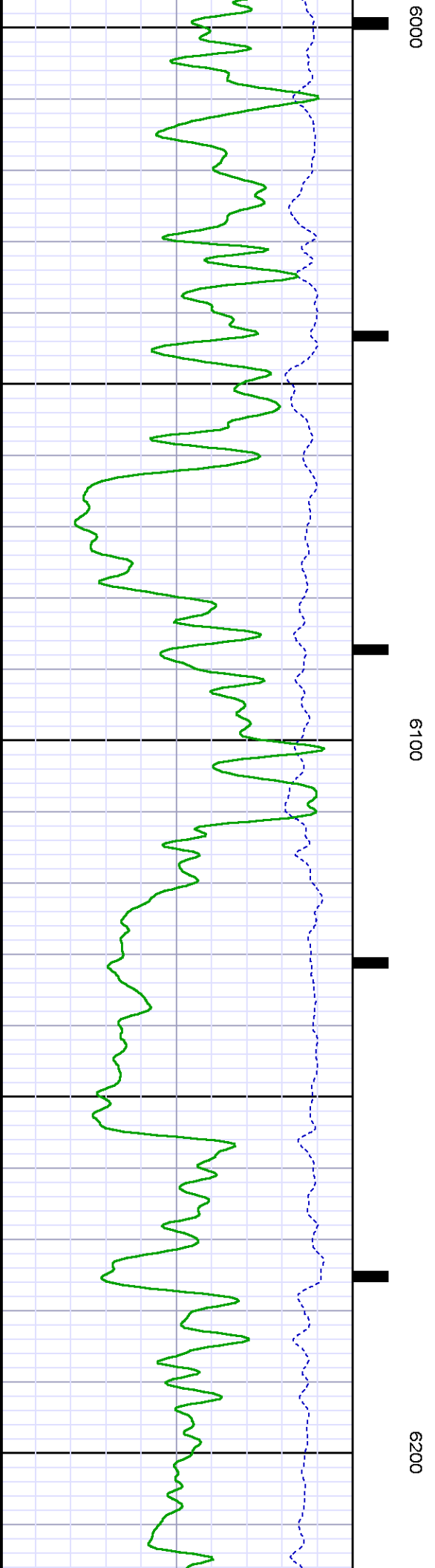
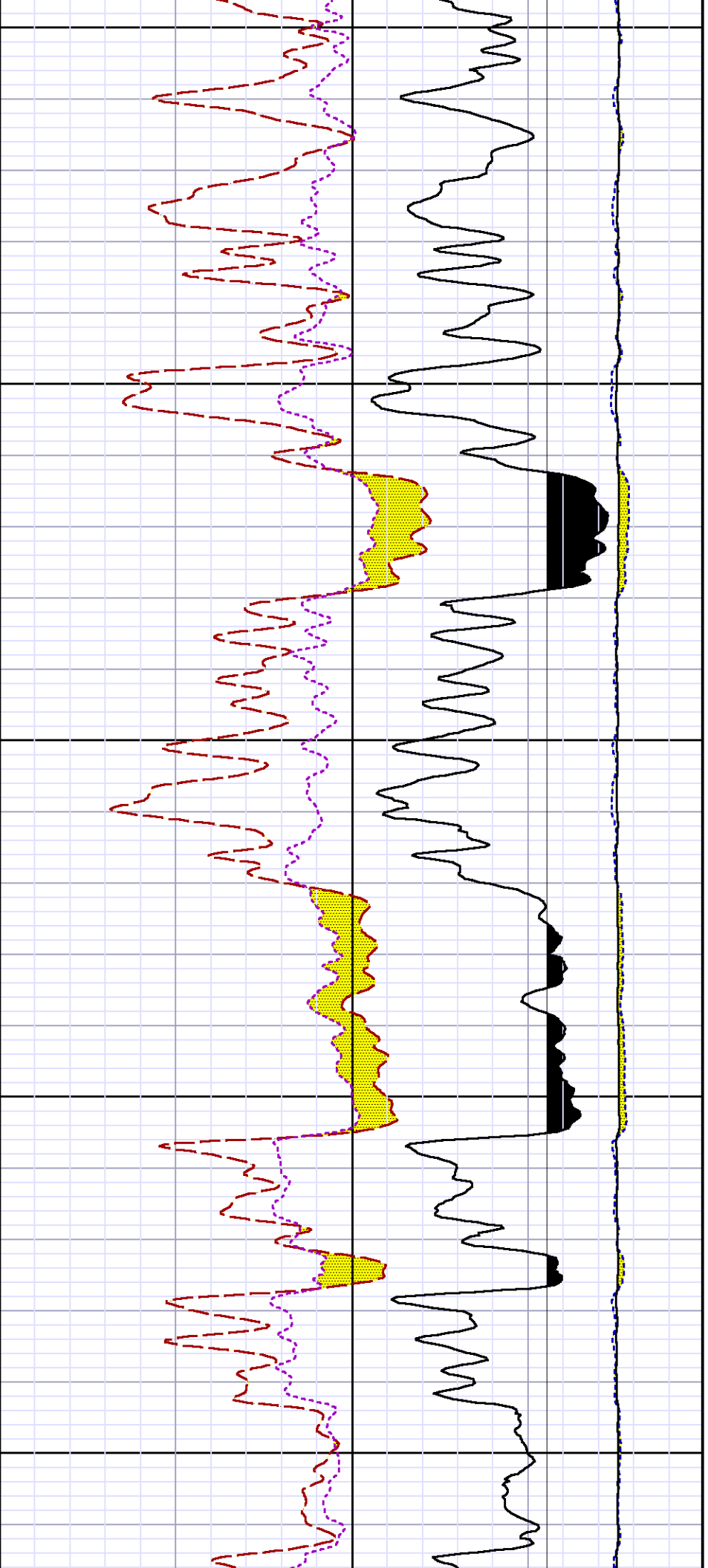


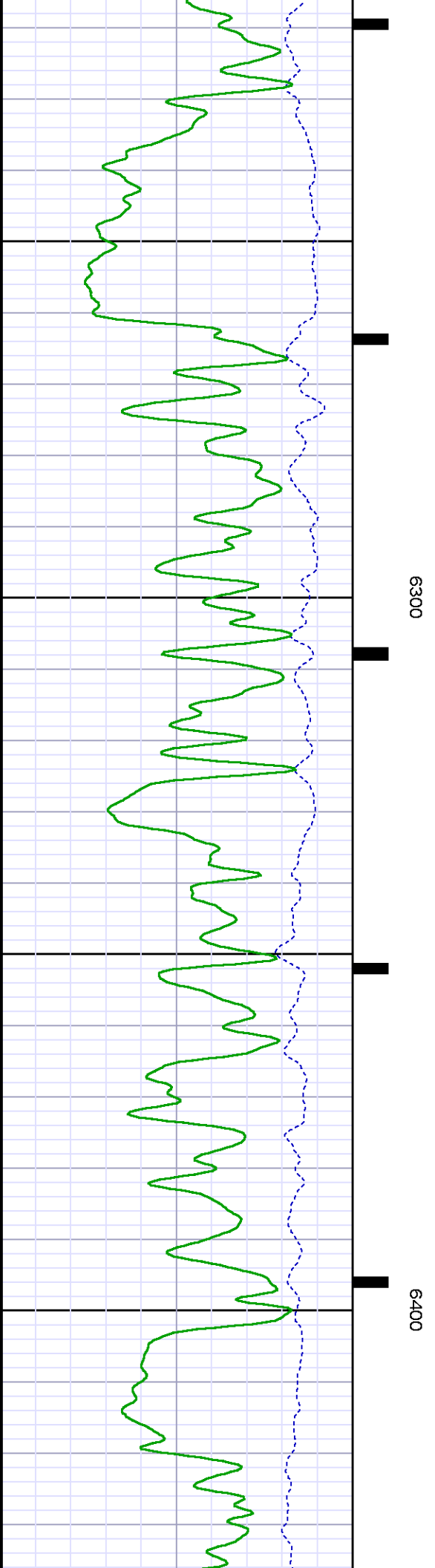
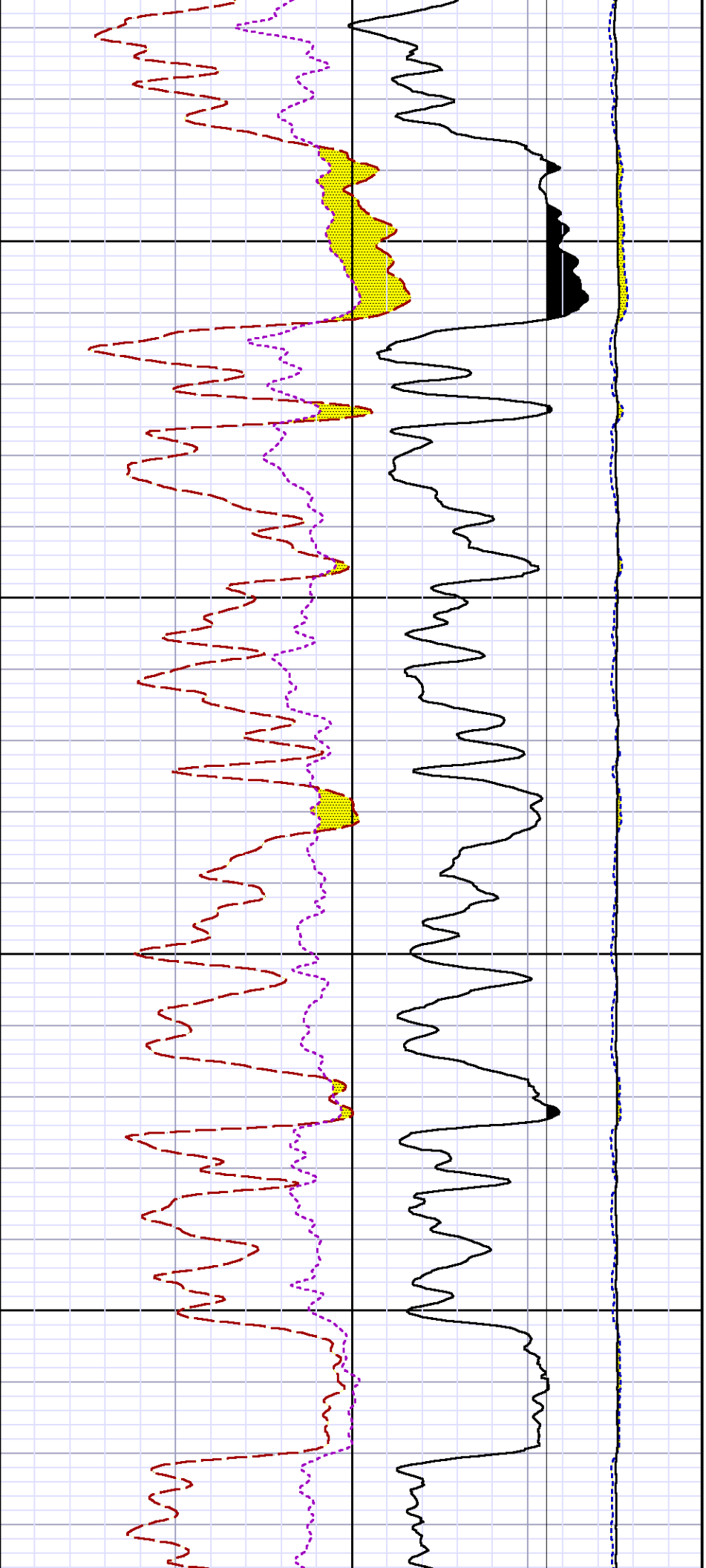
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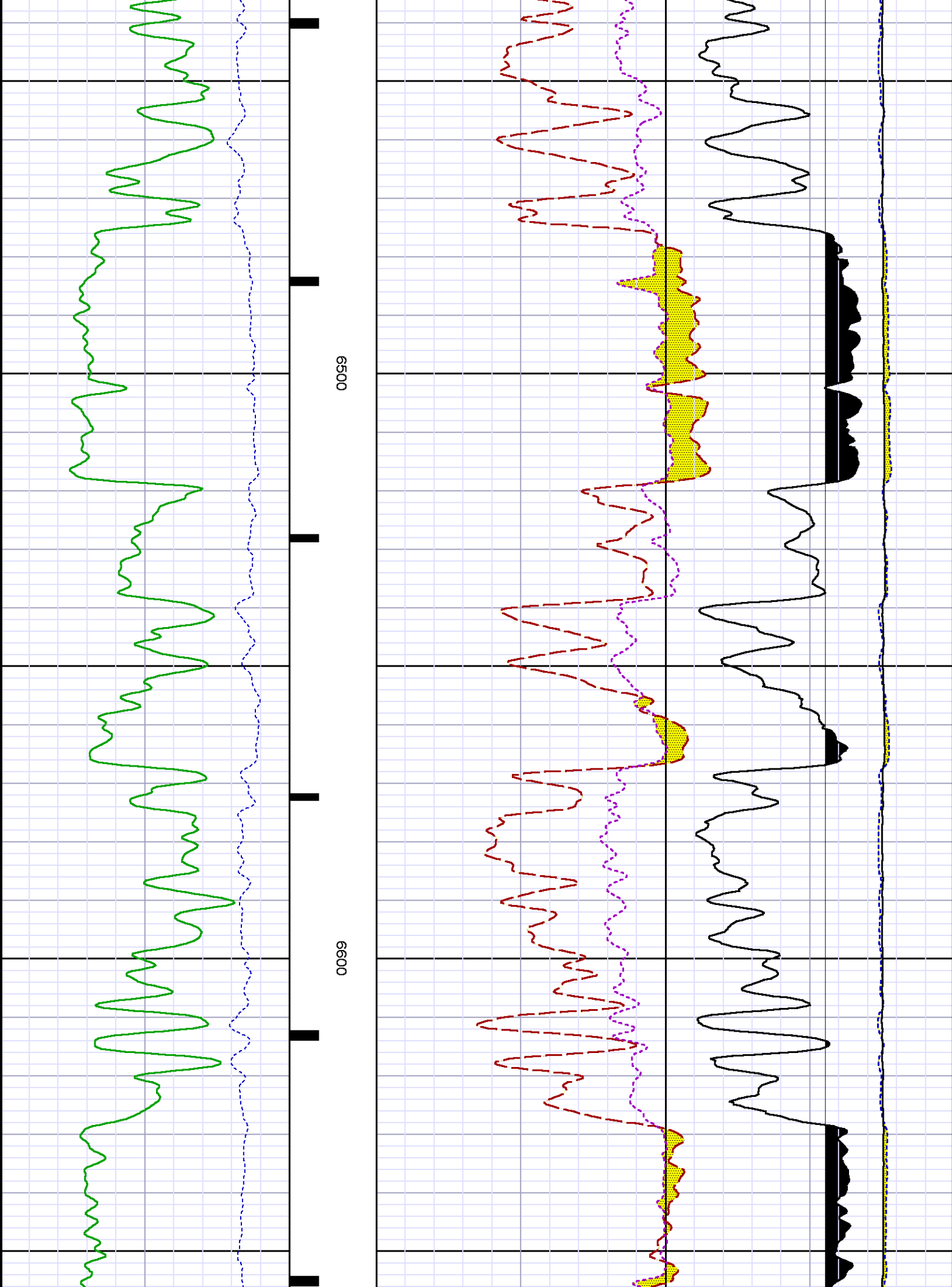
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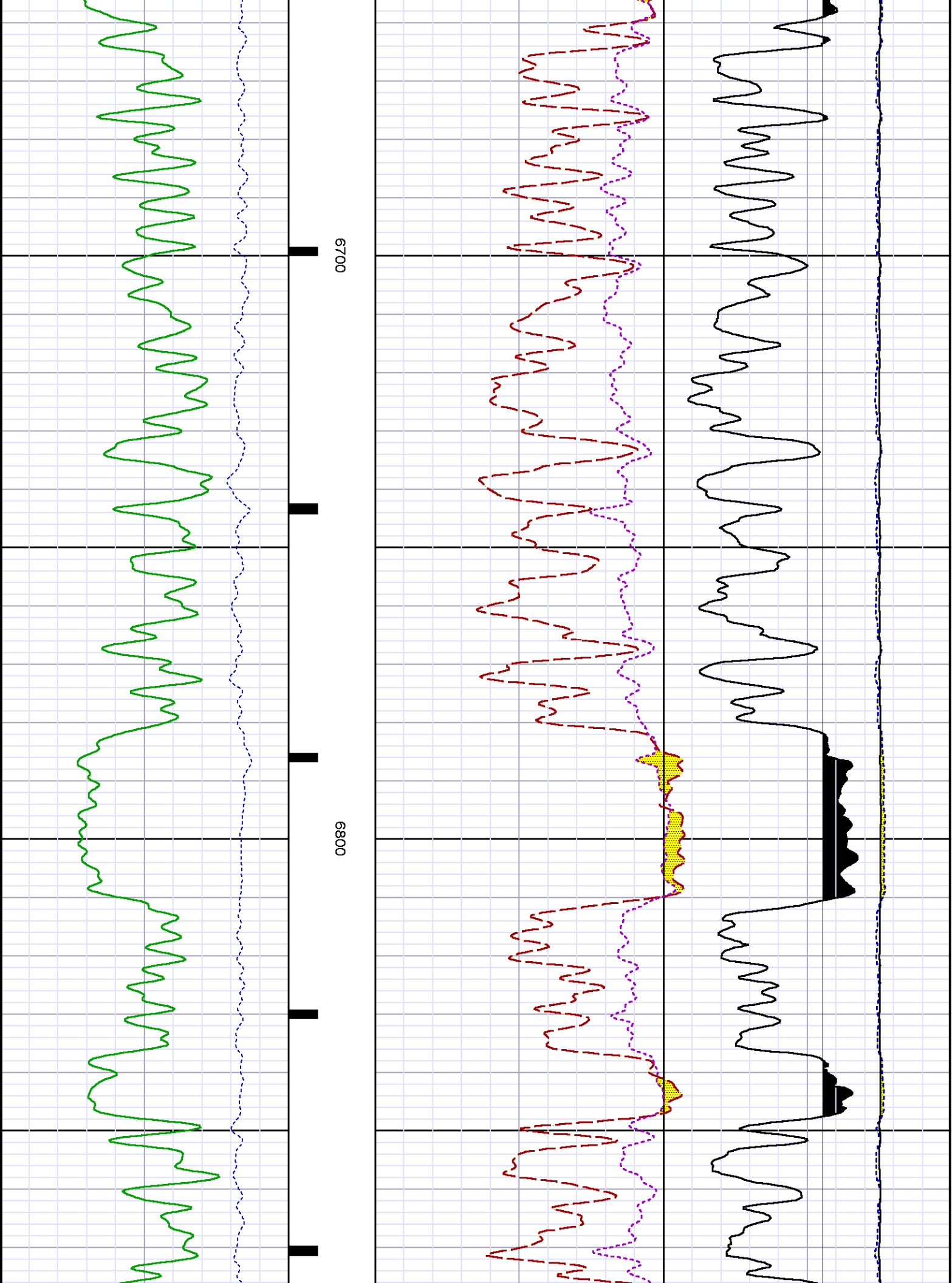


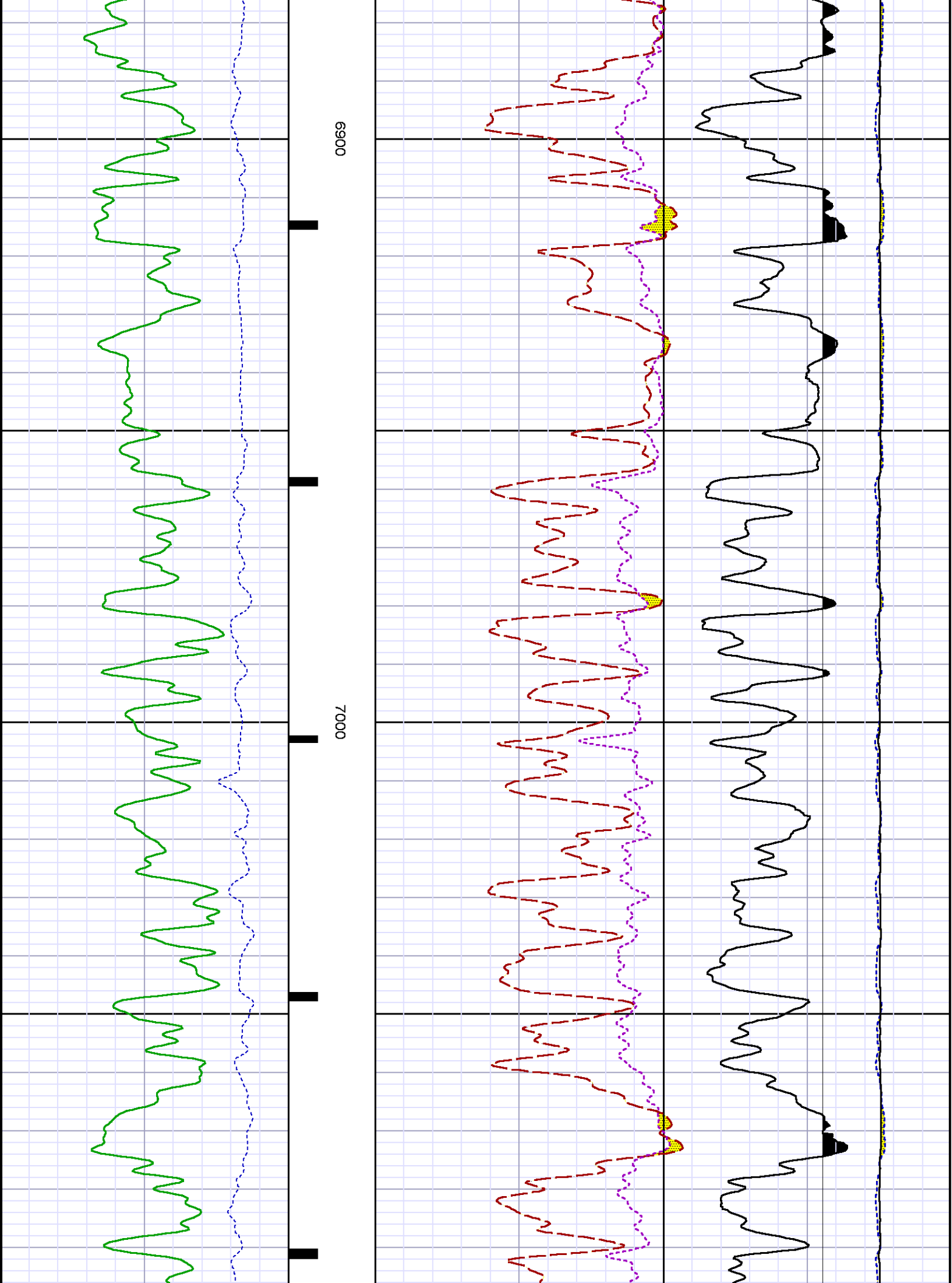


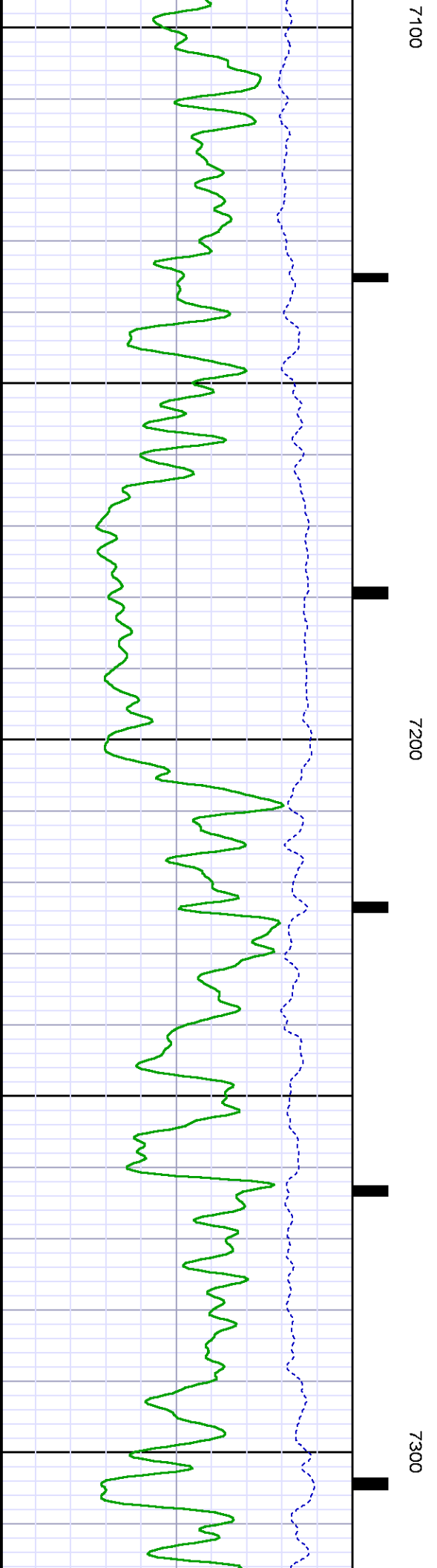
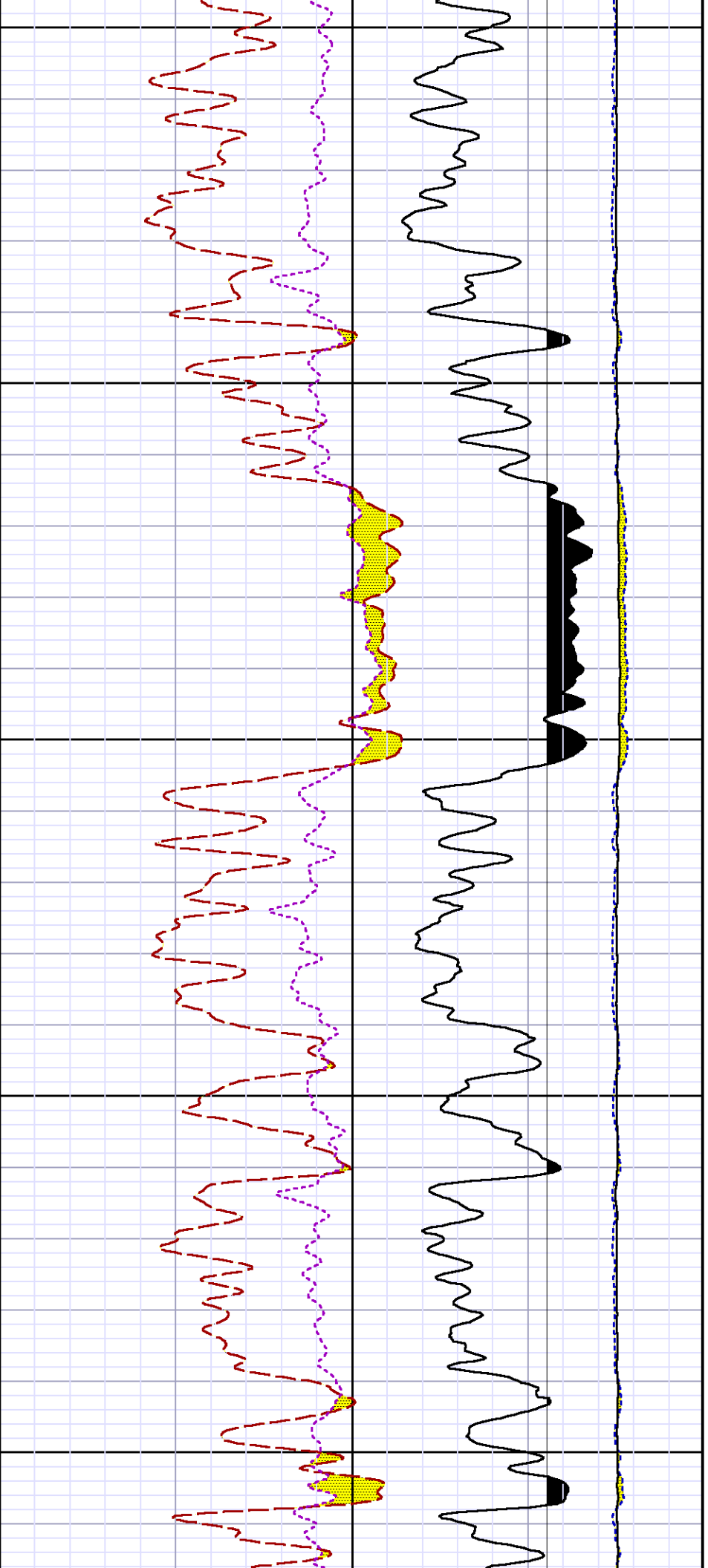


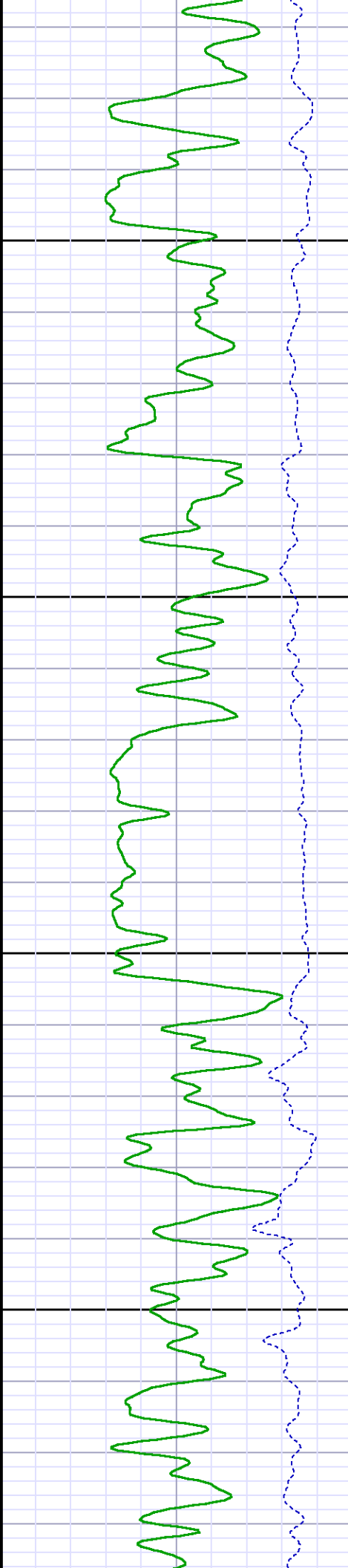
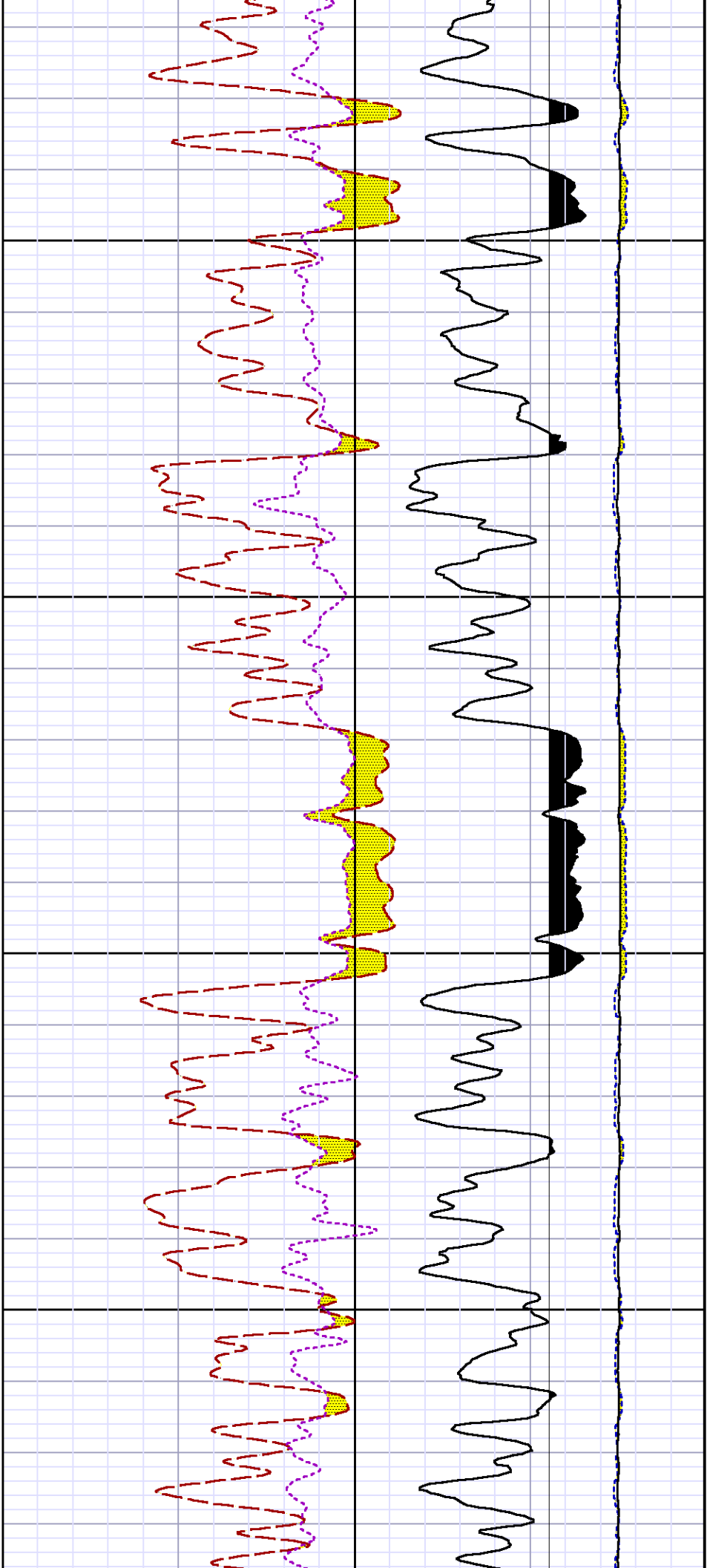


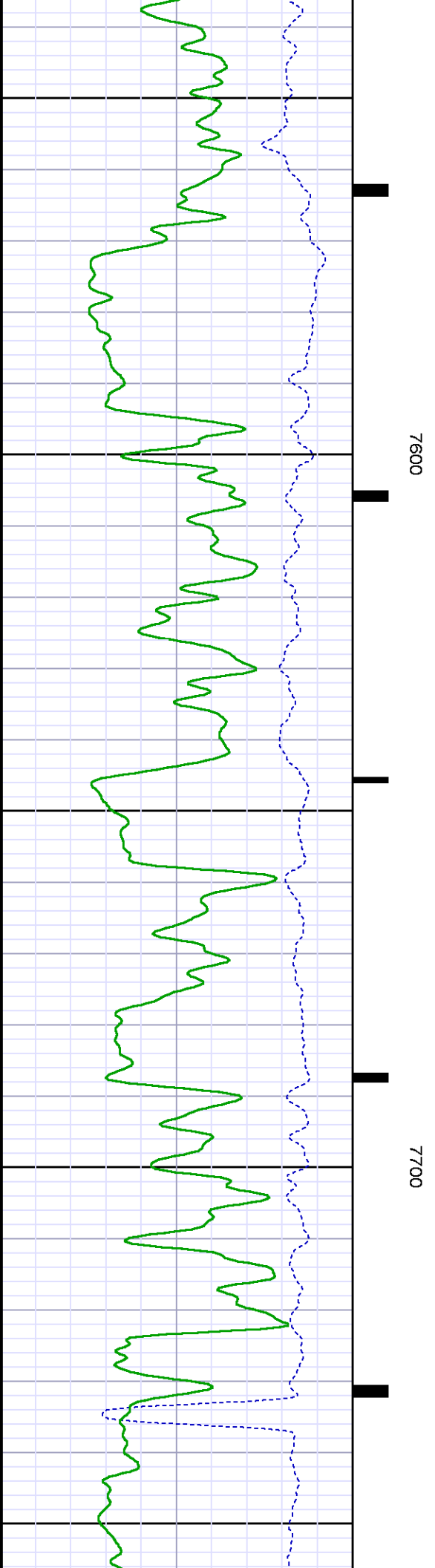
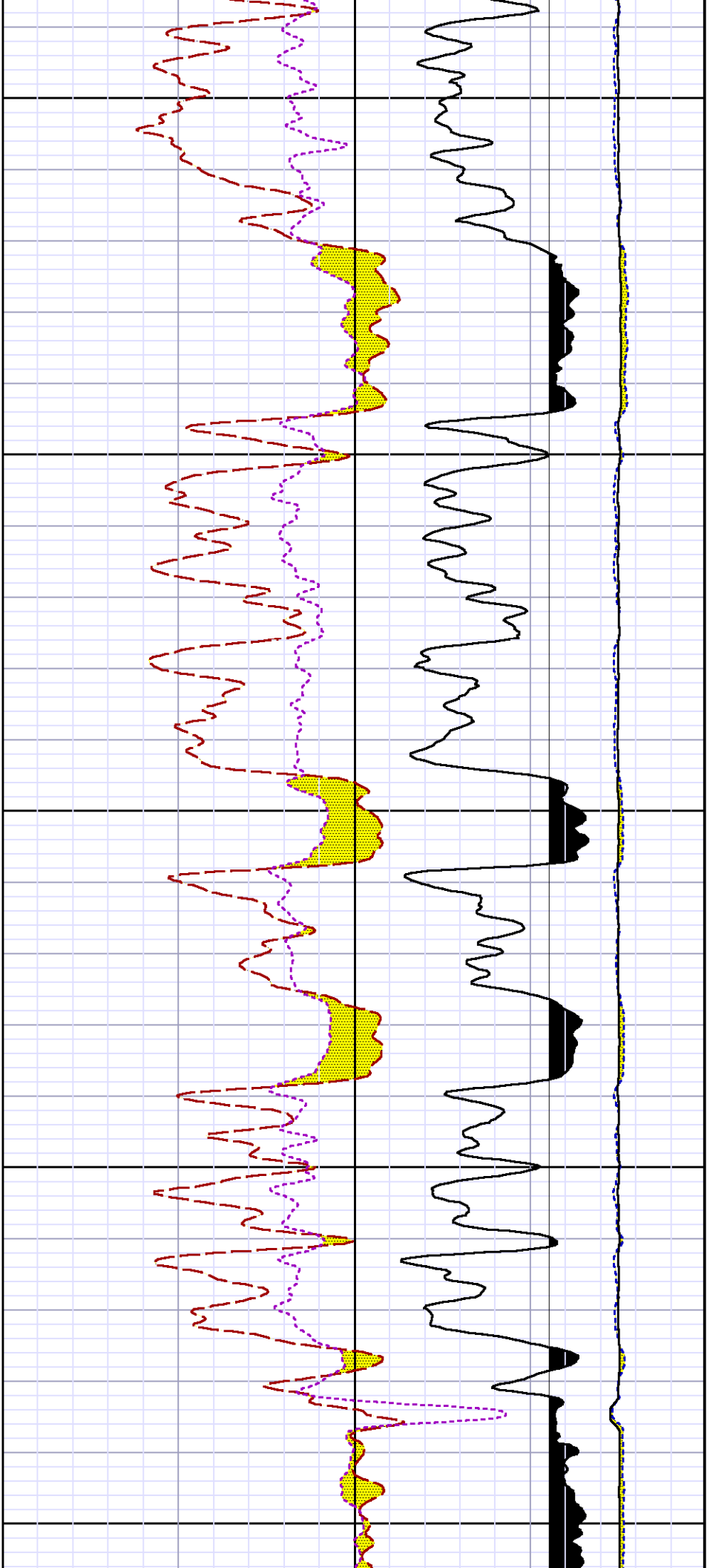


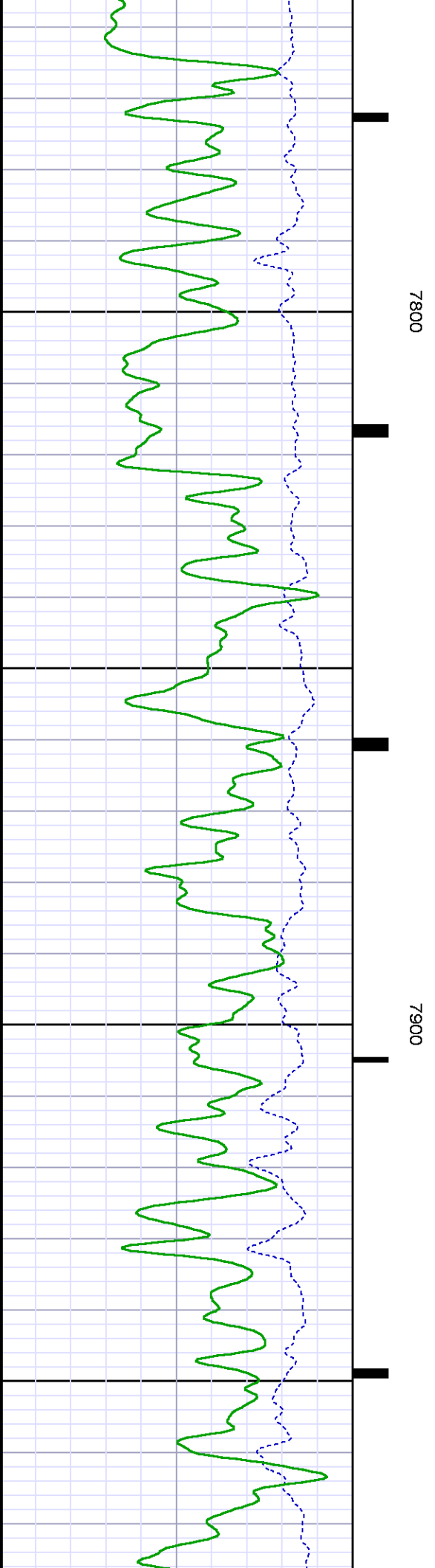
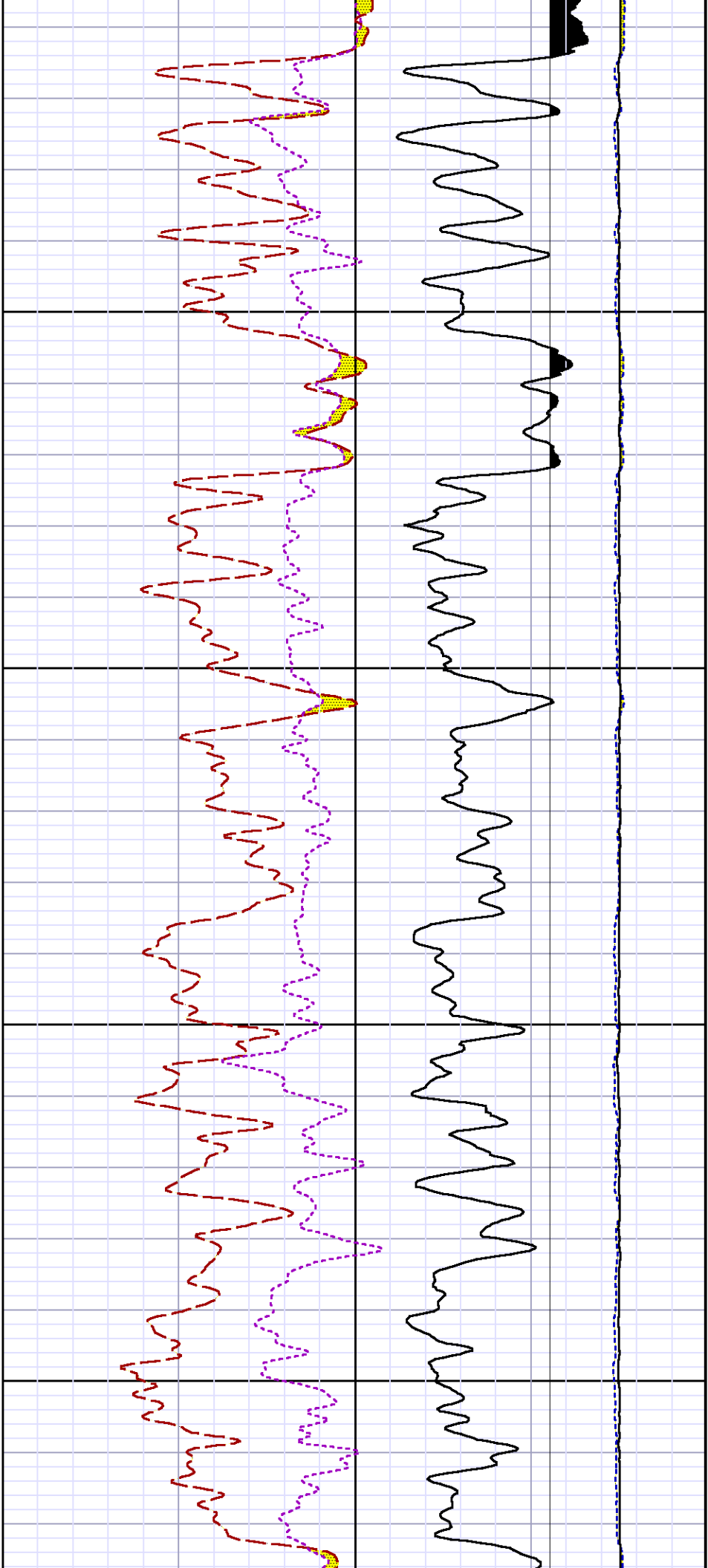


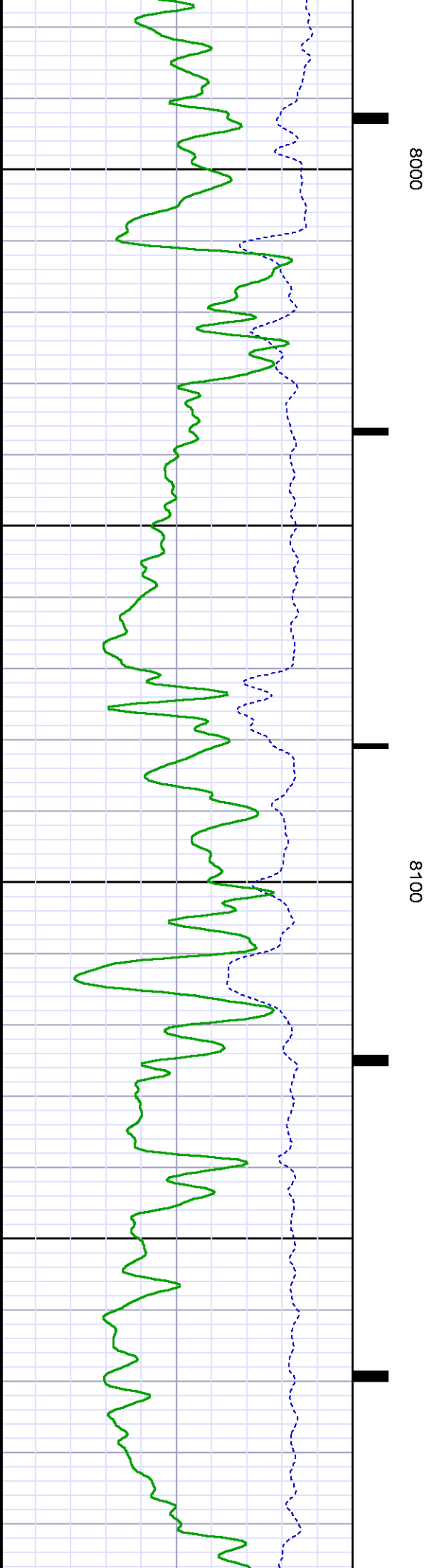
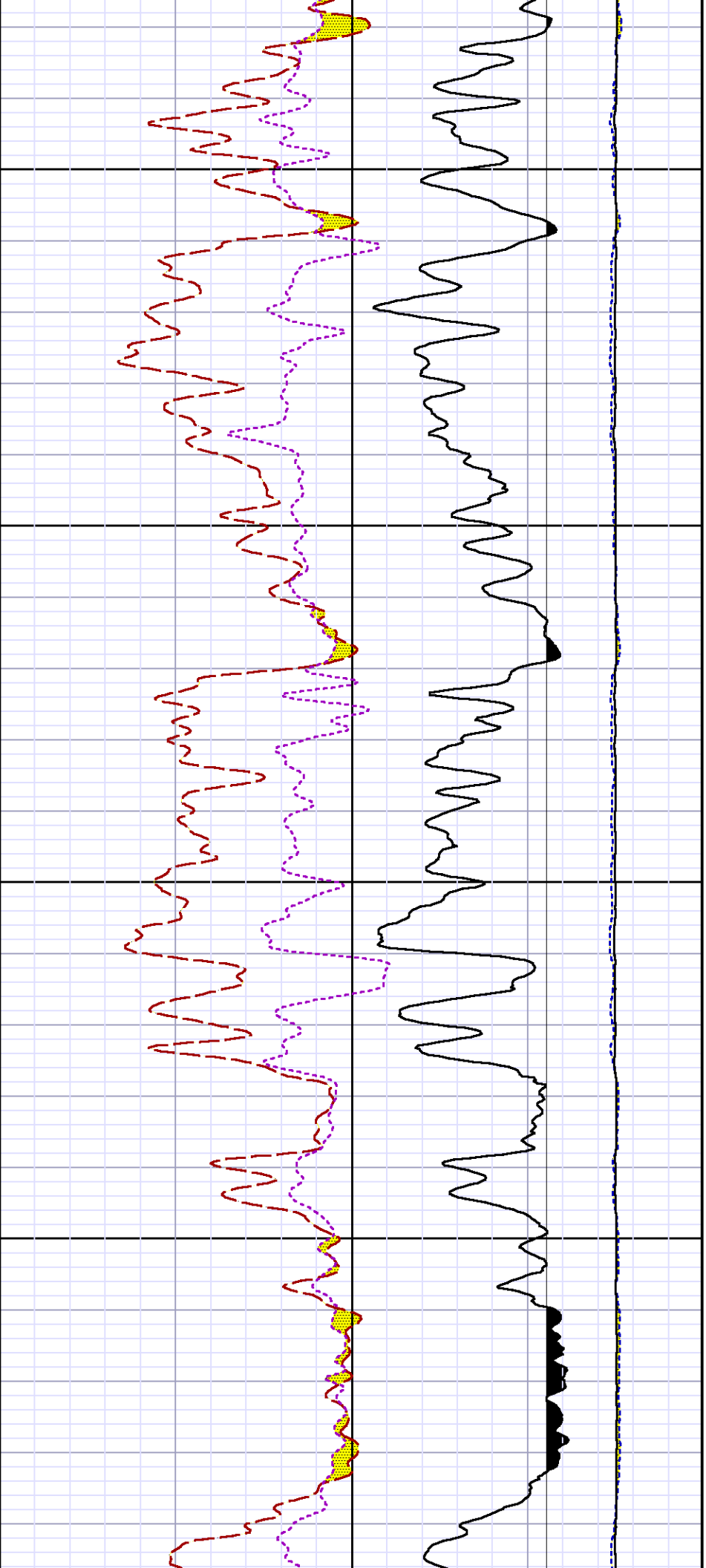


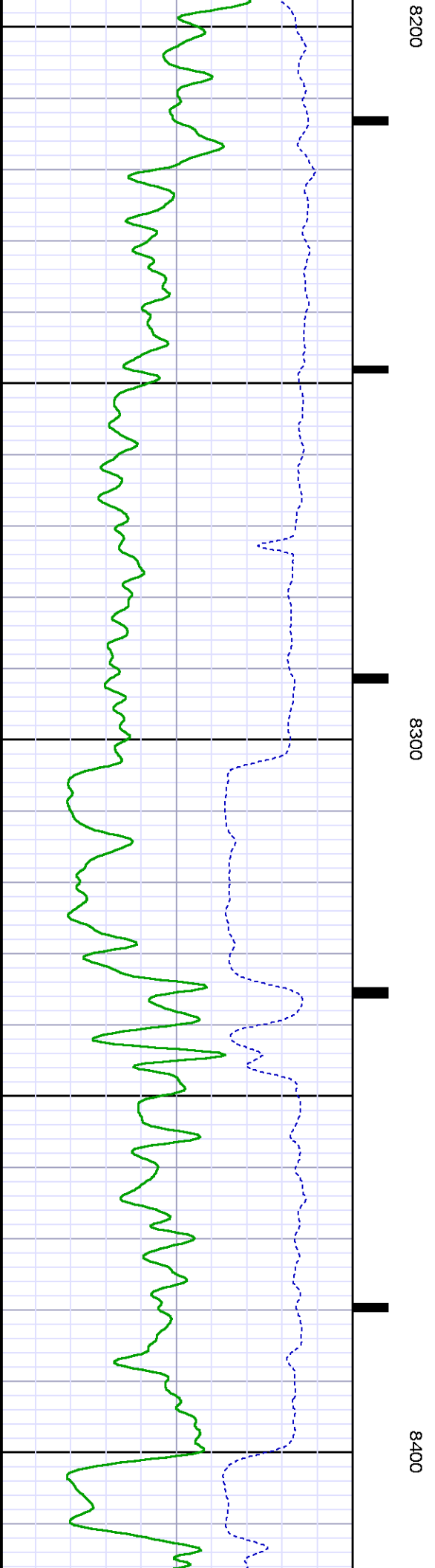
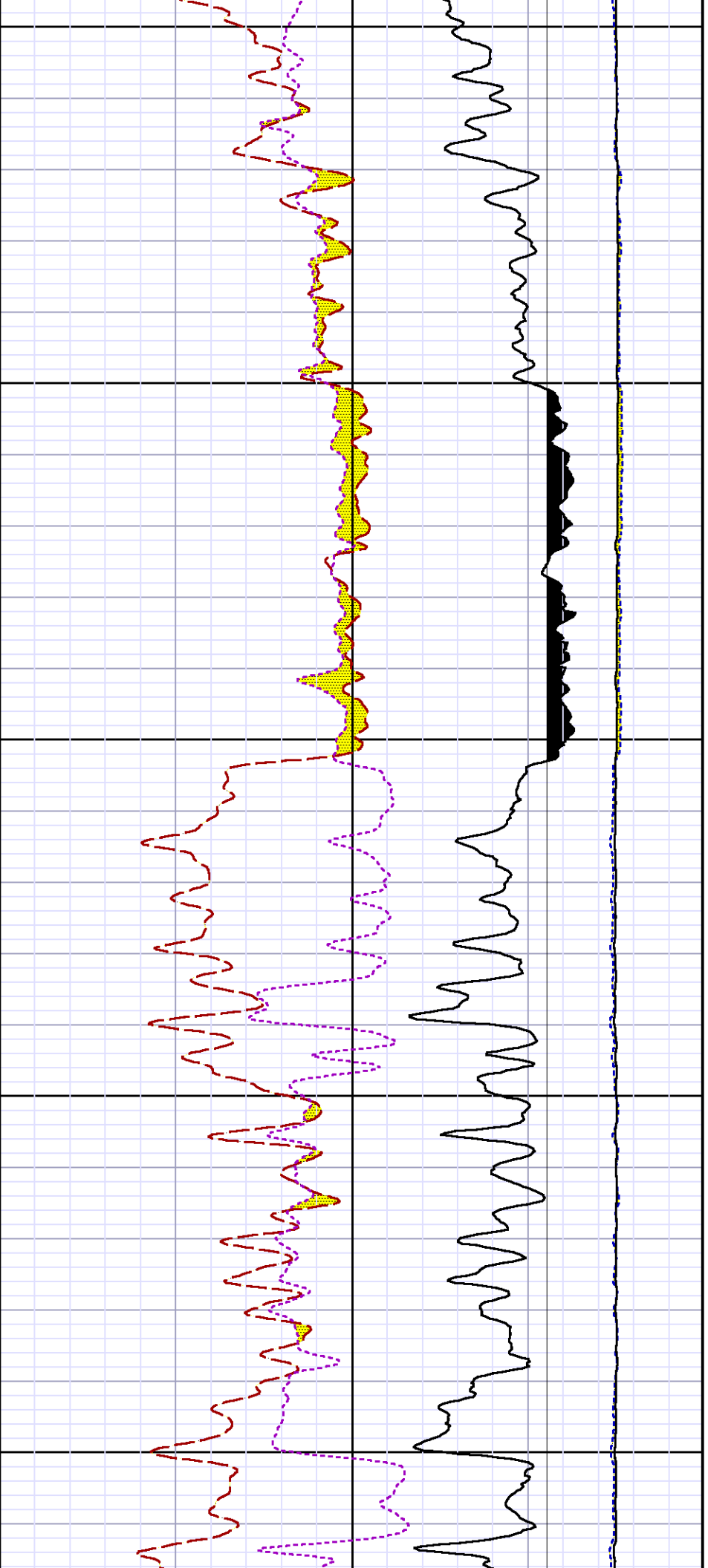


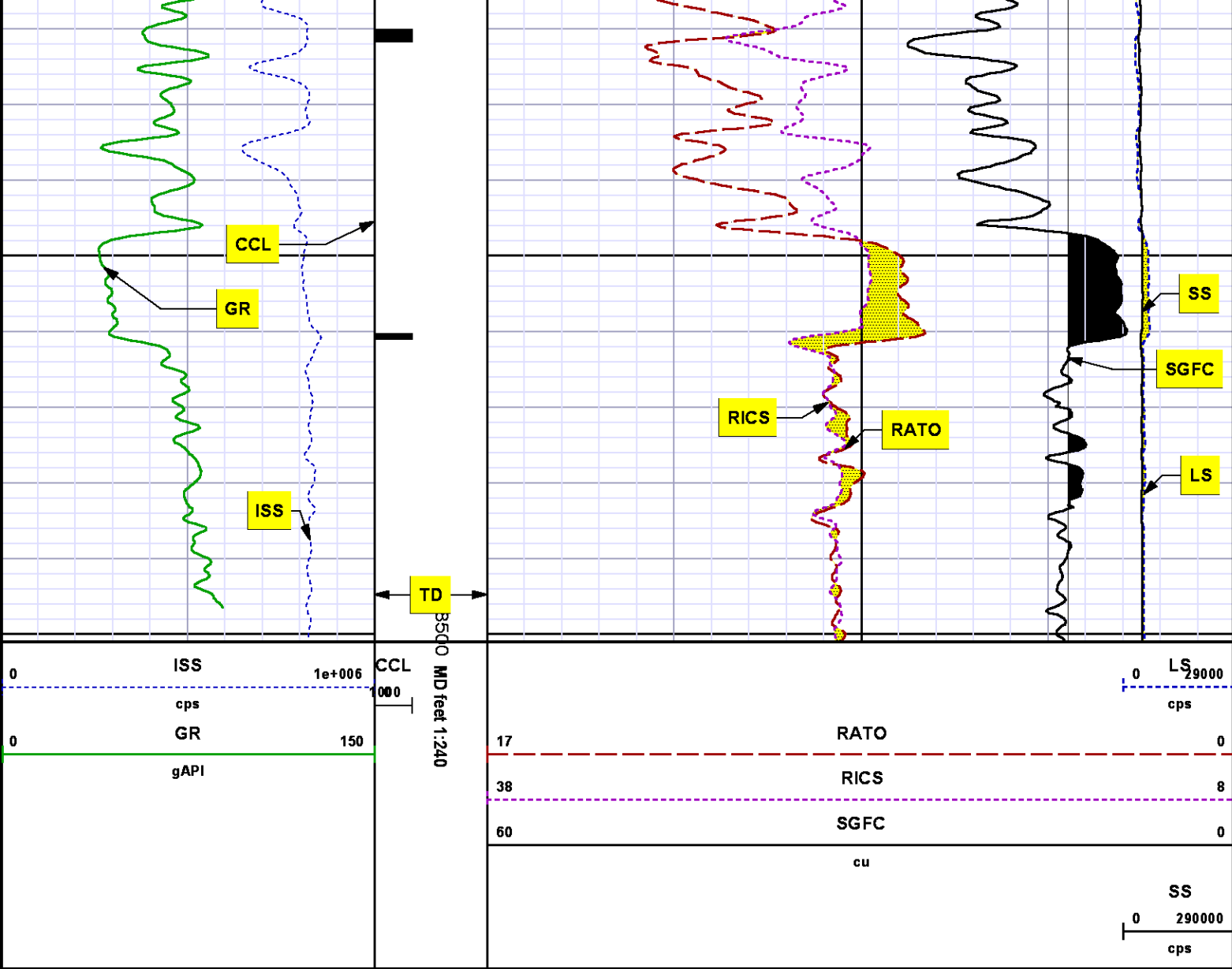












REPEAT SECTION
PNC 3-D MODE

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		7660.470	7984.970
PNC Porosity	Borehole Size	8.750	inch	7660.470	7984.970
PNC Porosity	Casing Size	4.500	inch	7660.470	7984.970
PNC Porosity	Gas Filled	Non Gas Filled		7660.470	7984.970

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES
8248ED	-15.320	FLTM
8248ED	-13.320	CCLCHV
8262XY	-10.189	GR4
8281XA	-0.662	HVC3Q0SEQ3AMA3AML3BKXCXS CPT3Q0CPT3Q2CPT3Q3CPT3Q4ET3IXS MCS3MCS3Q0QCAL3RGN3RICXSDA3 SDL3SGA3SGL3STA3XSASPEC3 AMB3AMF3CHF3IXSCIXSNRATO23 RICXCIN13CRIN23RIN23CSD3DSG3D SGB3SGF3WDTH3CXSRIXSRXSR RICXR
8281XA	-0.250	HVC2Q0SEQ2AMA2AMB2AMF2AML2 BKLCHF2CLS CPT2Q0CPT2Q2CPT2Q3 CPT2Q4ET2ILSLSMCS2MCS2Q0 QCAL2RGN2RICLRONE23RTWO23SDA2 SDL2SGA2SGB2SGF2SGK2SGL2 STA2ASPEC2ILSCILSNWDTH2RICLC CLSRILSRLSRRICLR
8281XA	0.000	CPRS HVC1Q0MVSEQSEQ1AMA1 AMB1AME1AMF1AML1BKSCHF1 CSSCORBCORFCPT1Q0CPT1Q2CPT1Q2A CPT1Q2BCPT1Q2CCPT1Q3CPT1Q4CPT1Q5ET1 G1G2GE1SGE2SISSMCS1 MCS1Q0QA1QCAL1QM1RATORATO13 RBORRGN1RICSINRONERPOR RTWORIN13RONE13RTWO13SALBSC1 SDA1SDL1SGA1SGB1SGBCSGE1 SGF1SGFCSGK1SGL1SSSS2 STA1PD1SPD2SPD3SMD1SMD2S MD3SDG1SDG2SDG3SPD1MPD2M PD3MMD1MMD2MMD3MDG1MDG2M DG3MMVSMAMVMFILVIAM TAPVMPVPSIASSSSTATQPD1 QPD2QPD3QMD1QMD2QMD3QDG1 QDG2QDG3QMAQTAQFILVQMV QPVQIADERRDCNTQPK1QSA1 PKS1ASPEC1H0CFE2XCISSCRINC ISSNRDENWDTH1RICSCSSRG1R G2RISSRSSRSS2RRATORRATO13R RBORRRICSRINRRIN13RONRRPORR RTWOR
SYSTEM	0.000	TENTTEN

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

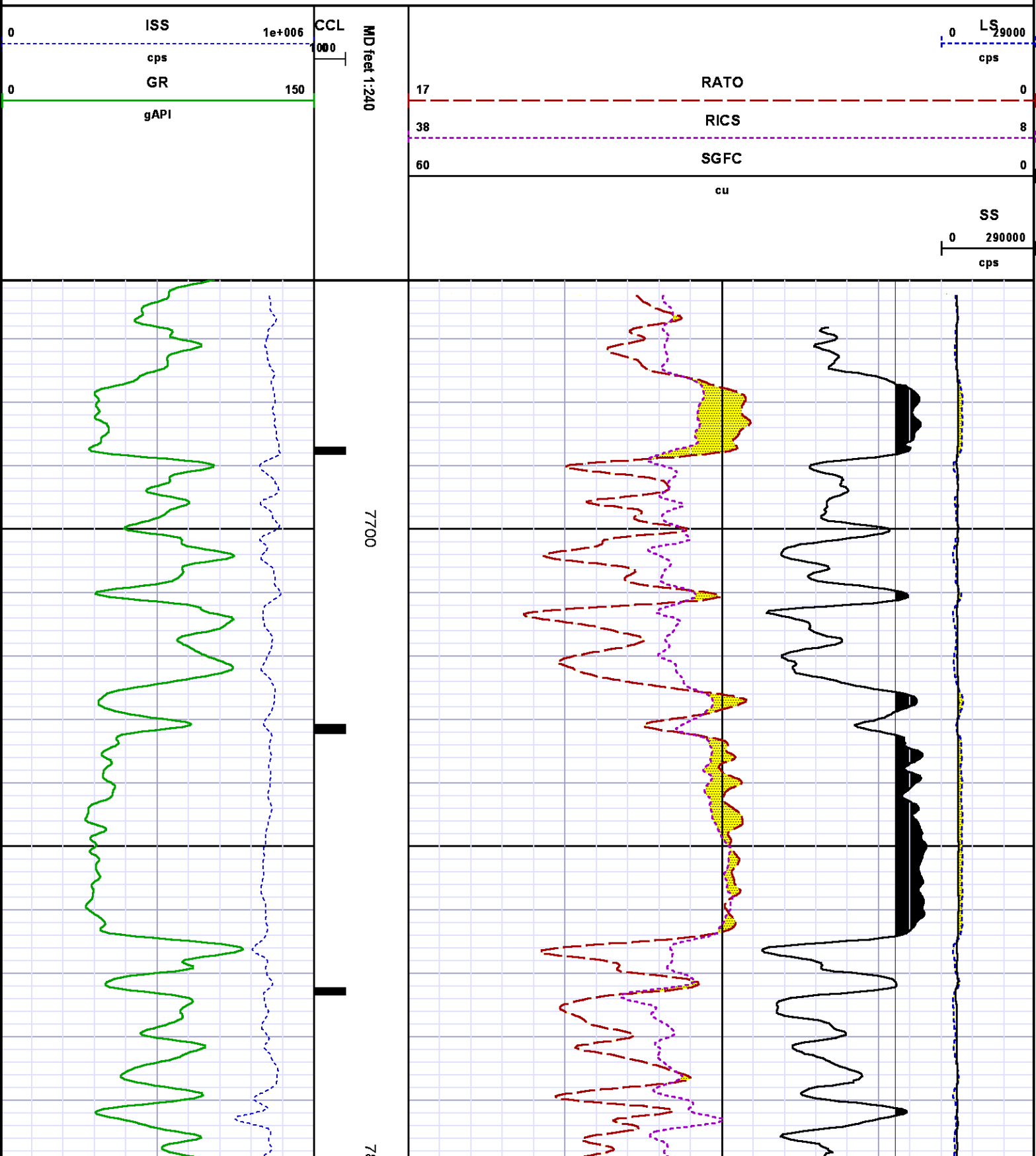
Well : FEDERAL PA 421-27

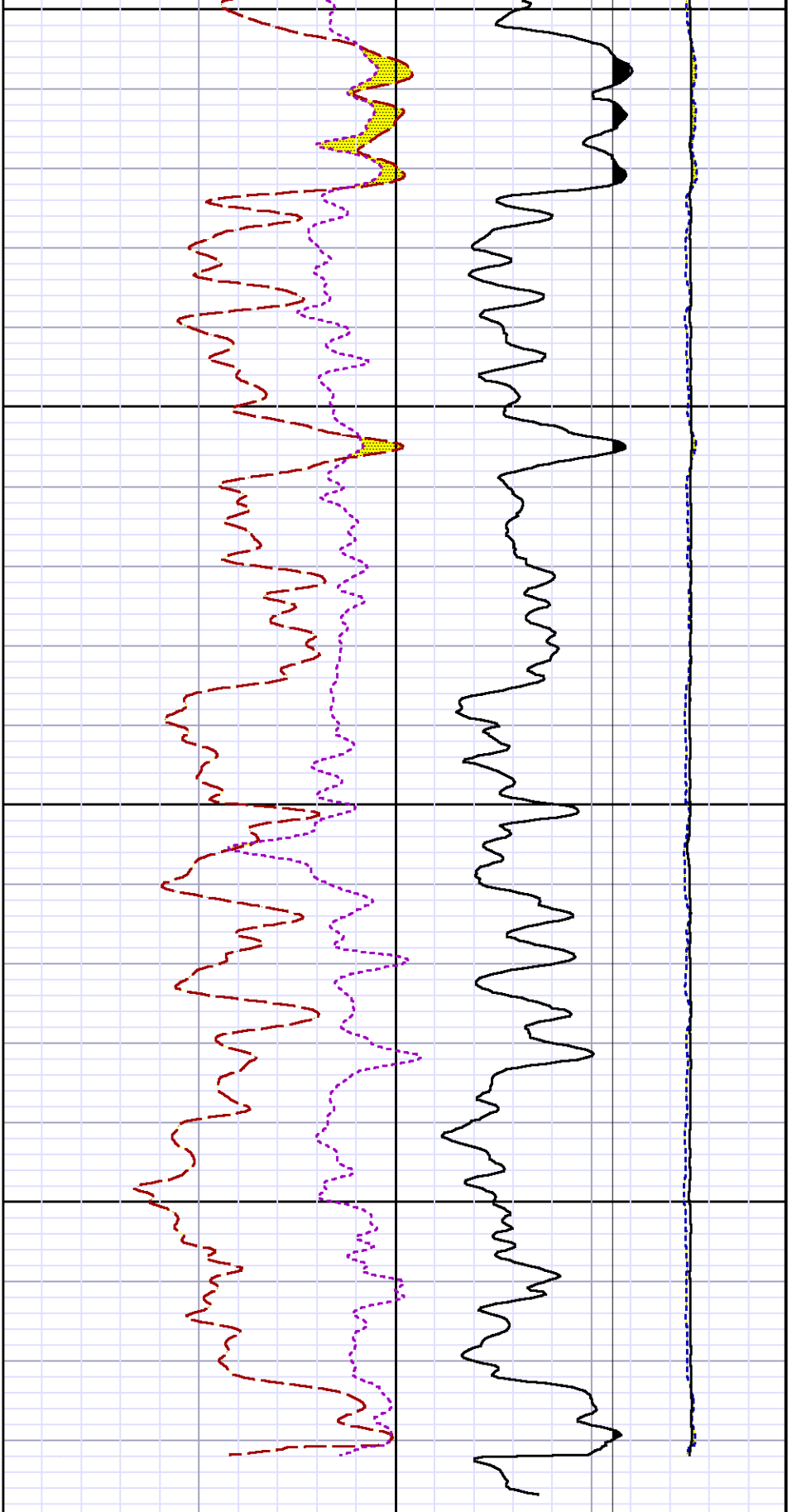
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Mode : PlotMgr 5.4.504

Interval : 7660.72 - 7989.72 feet UP

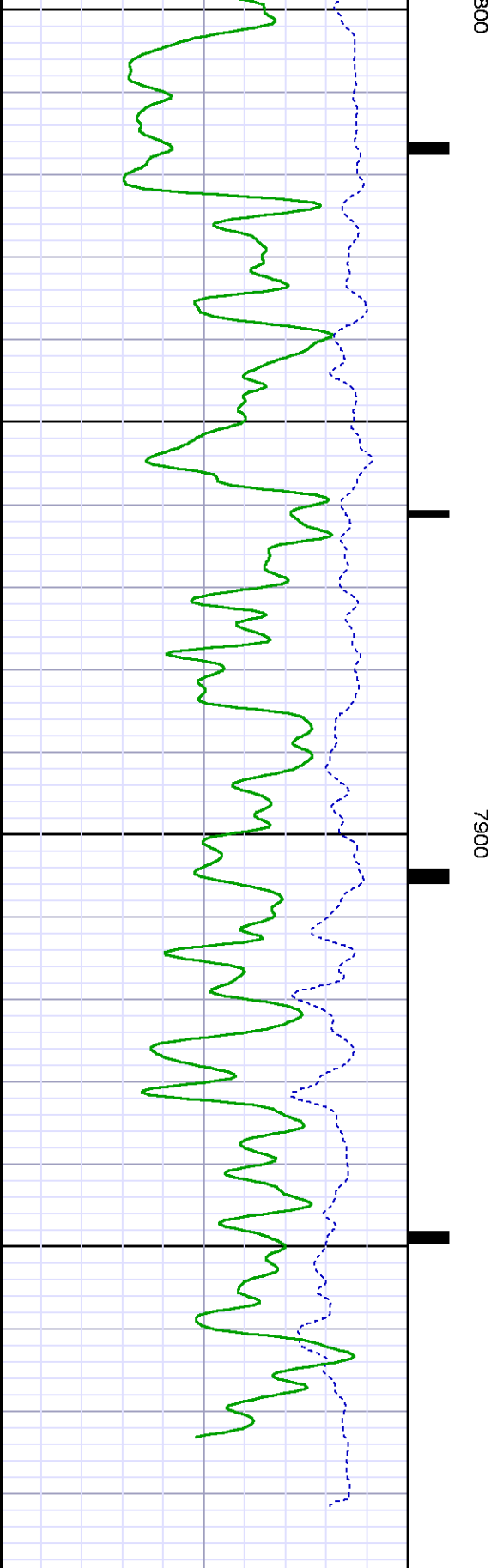
Created : 8/21/2013 12:06:01 PM





LS₂₉₀₀₀
0 cps

17	RATO	0
38	RICS	8
60	SGFC	0



MD feet 1:240

CCL
1000

ISS 1e+006
cps
GR 150
gAPI

			SS
			0 290000
			cps

CALIBRATION SUMMARY

GAMMA RAY (GR4)

Calibration File:	C:\case\calver\GR\470A1.cal
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CALIBRATION SUMMARY						
DATE/TIME PERFORMED:		Mon Aug 19 06:10:45 2013		TOOL SERIES:	8262XY	ASSET: 470 SEQ: A1
Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	87.27	418.89	0.543	47.37	227.37	180.00

Verification File:	C:\case\calver\GR\470A1.VP
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PRIMARY VERIFICATION						
DATE/TIME PERFORMED:		Mon Aug 19 06:13:37 2013		TOOL SERIES:	8262XY	ASSET: 470 SEQ: A1
Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	85.31	422.40	0.543	46.31	229.27	182.97

PNC

Calibration File:	C:\case\calver\PNC\555J6.cal
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PNC 3D CALIBRATION SUMMARY								
DATE/TIME PERFORMED:		Fri Jul 26 12:55:08 2013		TOOL SERIES:	8281XA	ASSET:	555	SEQ: J6
Calibrator #			Source #					
shop barrel			8281AA 11765054					
	ISS	Mtr Vits (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	817093	121.00	2316.00	2261.00	2222.00	111.81	7.00	0.9843
Interpolated	1300000	139.01	2298.19	2258.70	2216.67			

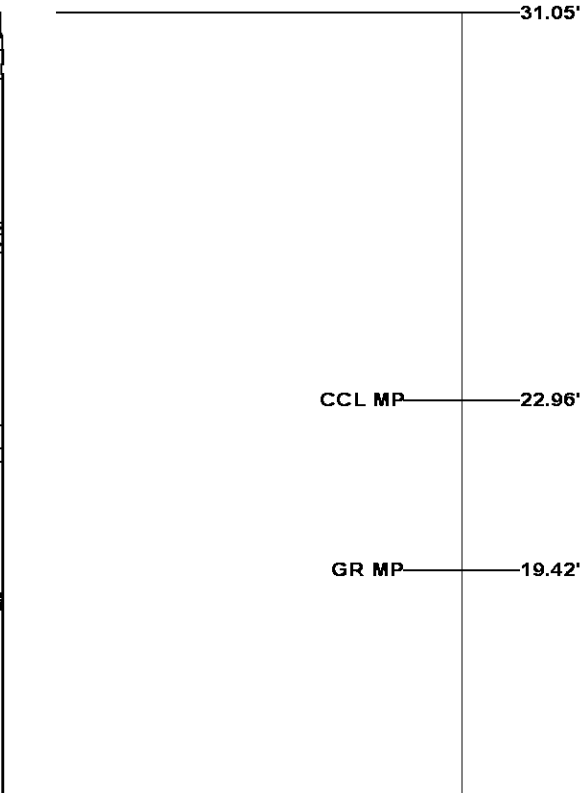
	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	817093	6192.69	983.08	141.84	25.77	0.14	24.27	0.28
					25.35 26.40	0.00 0.20	23.60 24.80	0.00 0.40

	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
Raw Data	817093	171203.97	26411.91	88977.66	31679.46	8262.92	53839.95	13229.47
Fit Quality %		0.24	0.41	0.56	0.56	0.17	0.55	0.22

	ISS	RBOR		RIN		RIN13		RICS		RATO		RTWO		RONE	
		ISS/ILS		ISS/IXS		ISS/CSS		SS/LS		SS2/LS		SS2/LS		CSS/CLS	
Raw Data	817093	1.44	4.77	30.94	15.18	10.77	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 %		0.08	0.28	0.17	0.09	0.28	0.28	0.23							
Reduced	1382706	1.43	4.78	31.03	15.23	10.73	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							

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

XLS DETECTOR 12.90'



LS DETECTOR 9.93'

SS DETECTOR 9.70'

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: CH075708	
	Well FEDERAL PA 421-27		API No: 05045218600000	
	Field PARACHUTE			
	County GARFIELD	State COLORADO		
Location		Elevations		
SHL: 2113' FNL X 1307' FWL		KB 5866 ft	27 6S 95W	
BHL: 902' FNL X 1903' FWL (NENW)		DF	DOE 1-W-27 PAD	
		GL 5840 ft	NABORS 573	
SEC 27 TWP 6S RGE 95W				