

**BAKER
HUGHES**

**RESERVOIR
PERFORMANCE
MONITOR**

Baker Atlas

File No: CH077397	Company Well Field County	WPX ENERGY FEDERAL PA 423-12 PARACHUTE GARFIELD	State COLORADO
API No: 0504520600000	Location 1 2 7S 9SW PA 23-12 PAD NABORS 577		Other Services BOND LOG
Permanent Datum Log Measured From Drill Measured From		GL KB KELLY BUSHING	Elevations KB 6533 ft DF GL 6507 ft
SEC 12 TWP 7S RGE 9SW			

Date	13/SEP/13	
Run	ONE	
Service Order	US624415	
Depth Driller	8188 ft	
Depth Logger	8160 ft	
Bottom Logged Interval	8150 ft	
Top Logged Interval	4560 ft	
Time Started	1200	
Time Finished	1700	
Operator Rig Time	5 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	69 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	10 fpm	
Maximum Recorded Temperature	260 degF	
Reference Log	BAKER HUGHES BOND LOG	
Reference Log Date	13/SEP/13	
Equipment No.	4271	GRAND JCT
Recorded By	FLOYD RENEAU	
Witnessed By	JEFF DUGY	

- 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	812 ft
7.875 in	812 ft	8188 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			0 ft	812 ft
4.5 in	11.6 lbm/ft	I-80	0 ft	8188 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 9/13/2013 at the client's request.
The amount of linear shift is -7 feet.
Logged in PNC-3D mode.
BHT = 260°F
SJ = 4957'- 4981'

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	10190984	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

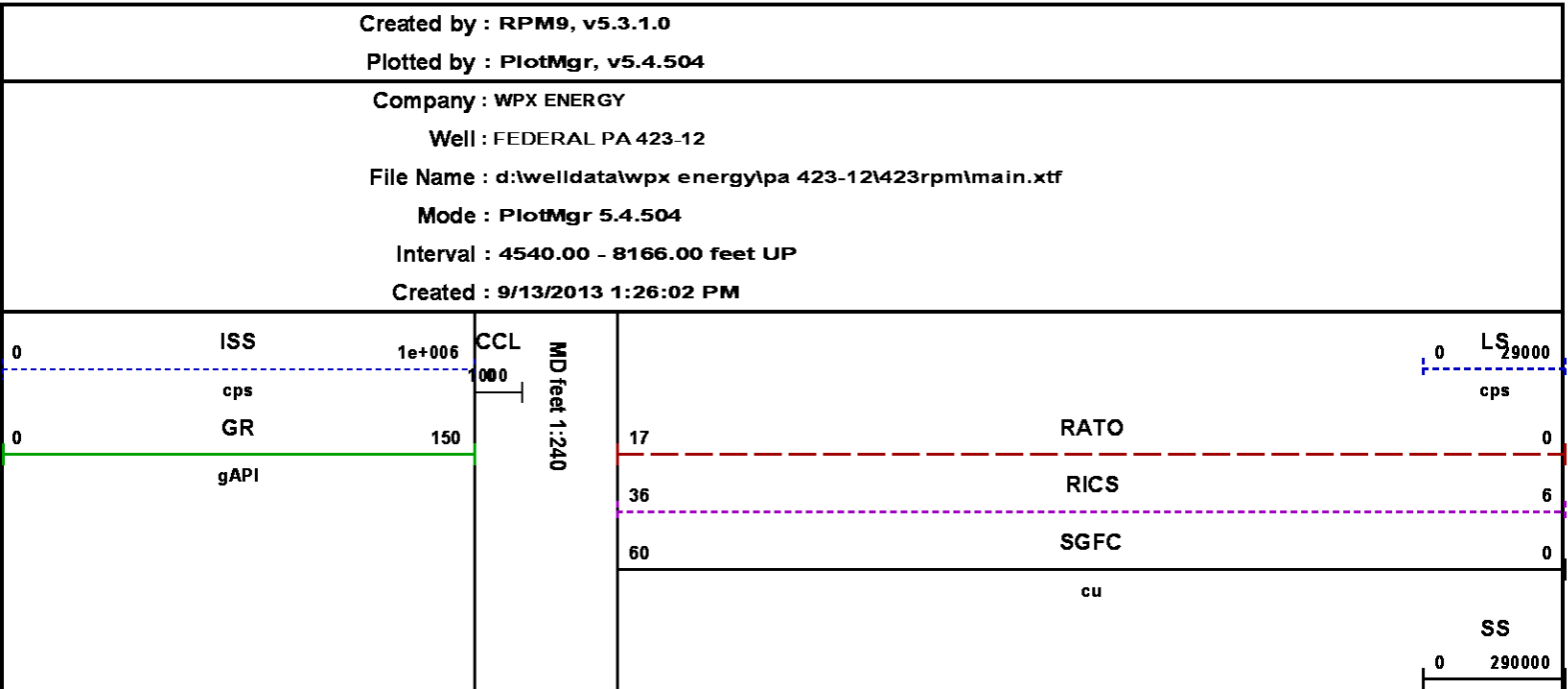
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		4539.875	8177.000
PNC Porosity	Borehole Size	8.750	inch	4539.875	8177.000
PNC Porosity	Casing Size	4.500	inch	4539.875	8177.000
PNC Porosity	Gas Filled	Non Gas Filled		4539.875	8177.000
PNC Porosity	Matrix	Sandstone		4539.875	8177.000

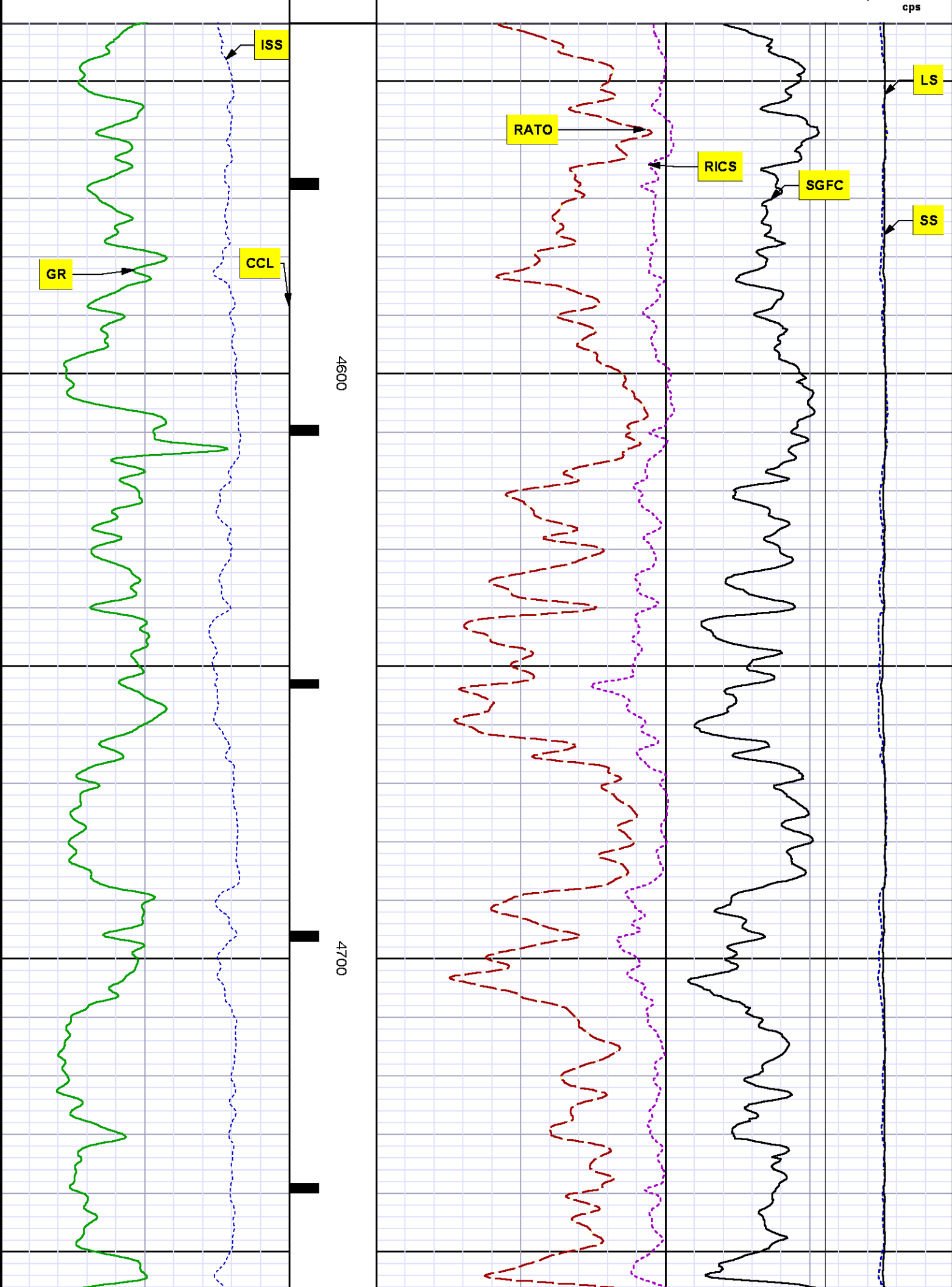
DEPTH OFFSETS

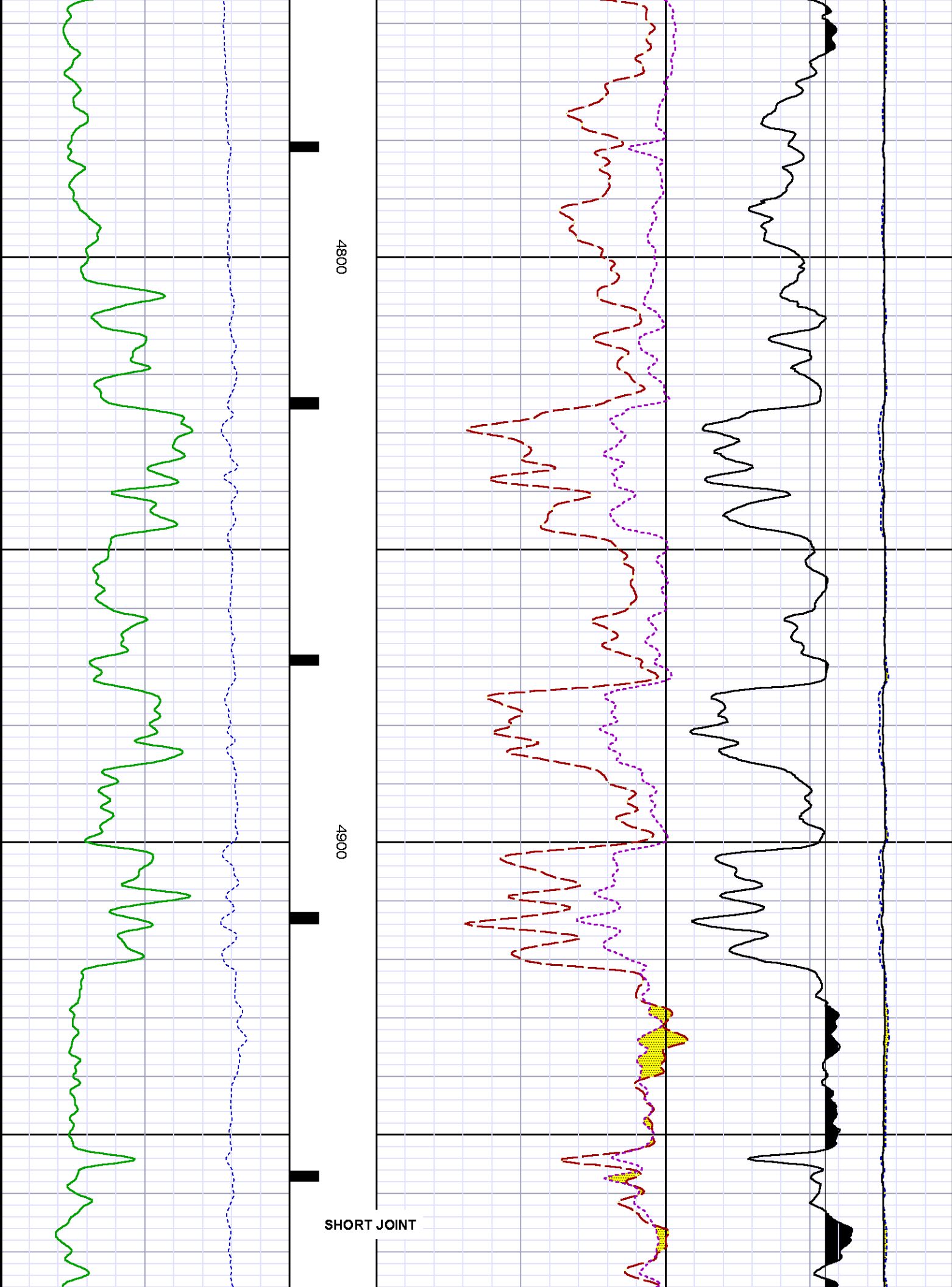
(for Acquired Curves)

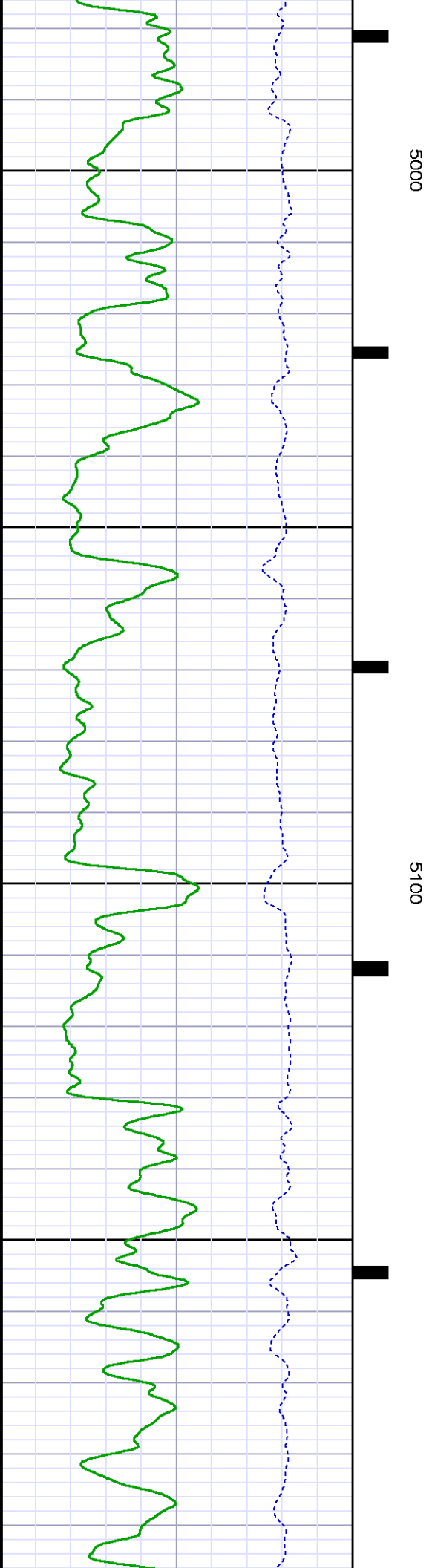
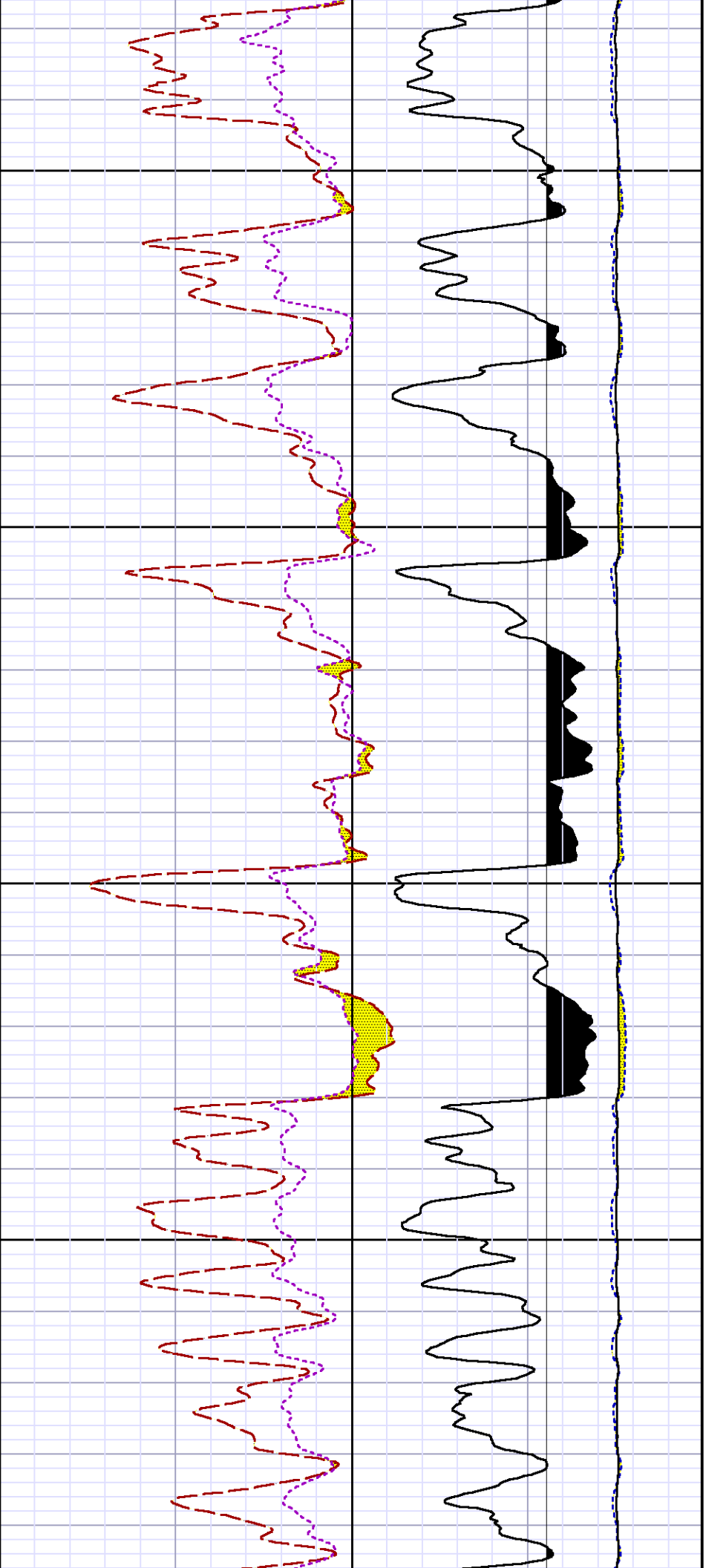
SERIES	DEPTH OFFSET	ACQUIRED CURVES
8248ED	-15.320	FLTM
8248ED	-13.320	CCL CHV
8262XY	-10.189	GR4
8281XA	-0.662	HVC3Q0 SEQ3 AMA3 AML3 BKX CXS
		CPT3Q0 CPT3Q2 CPT3Q3 CPT3Q4 ET3 IXS
		MCS3 MCS3Q0 QCAL3 RGN3 RICX SDA3
		SDL3 SGA3 SGL3 STA3 XS ASPEC3
		AMB3 AMF3 CHF3 IXSC IXSN RATO23
		FW3Q0 FW3Q2 FW3Q3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

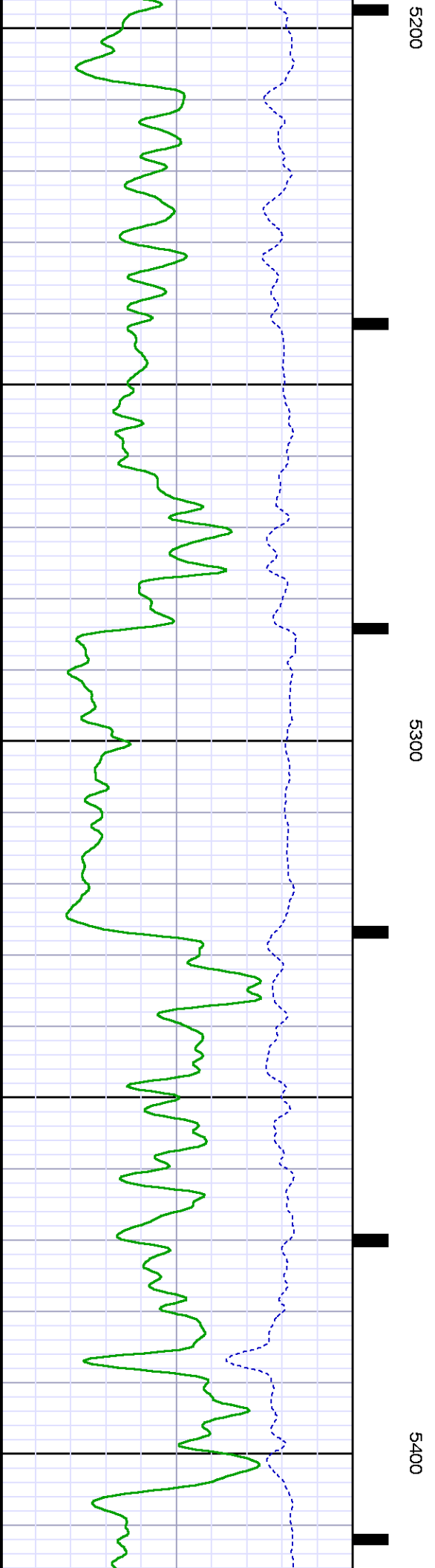
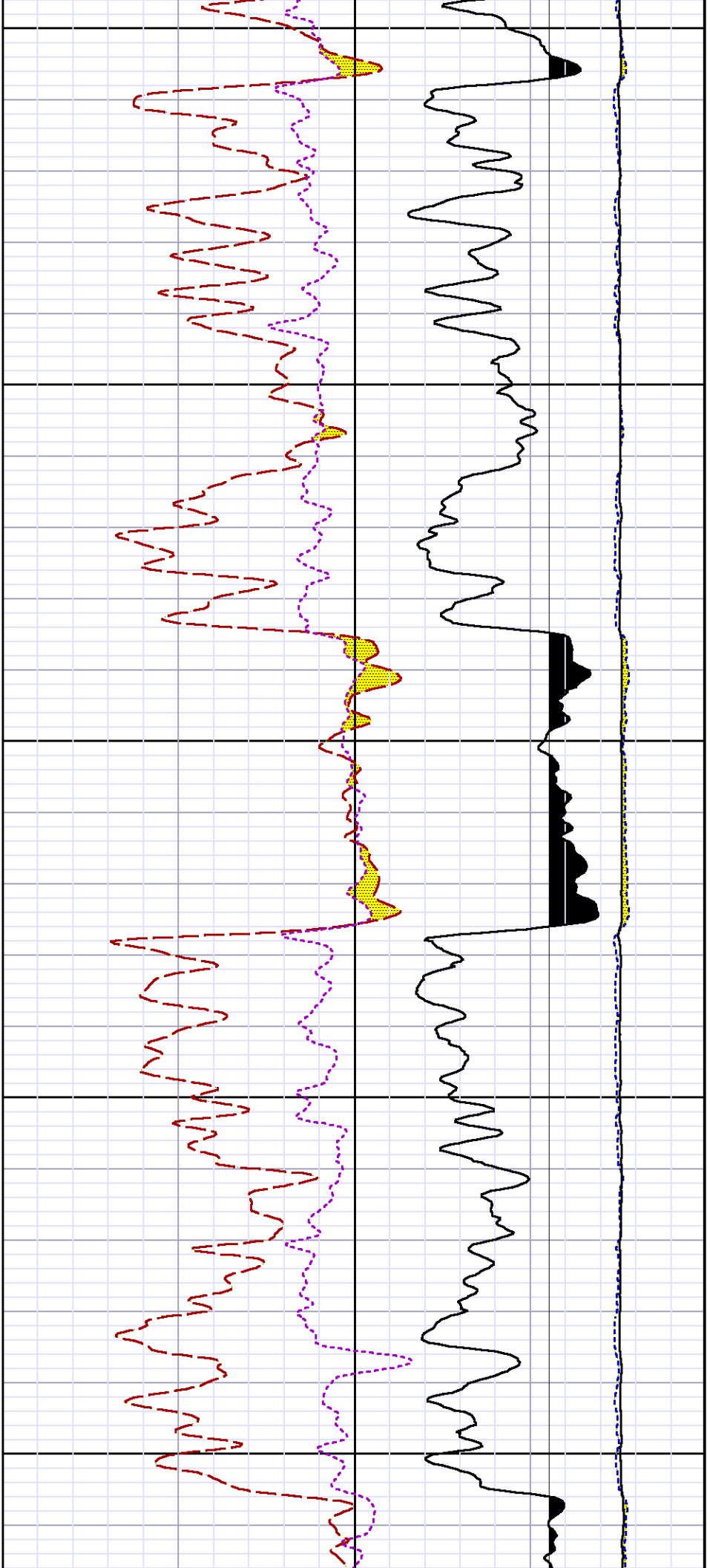
		RICXC	RIN13C	RIN23	RIN23C	SD3D	SG3D
		SGB3	SGF3	WDTH3	CXSR	IXSR	XSR
		RICXR					
8281XA	-0.250	HVC2Q0	SEQ2	AMA2	AMB2	AMF2	AML2
		BKL	CHF2	CLS	CPT2Q0	CPT2Q2	CPT2Q3
		CPT2Q4	ET2	ILS	LS	MCS2	MCS2Q0
		QCAL2	RGN2	RICL	RONE23	RTWO23	SDA2
		SDL2	SGA2	SGB2	SGF2	SGK2	SGL2
		STA2	ASPEC2	ILSC	ILSN	WDTH2	RICLC
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

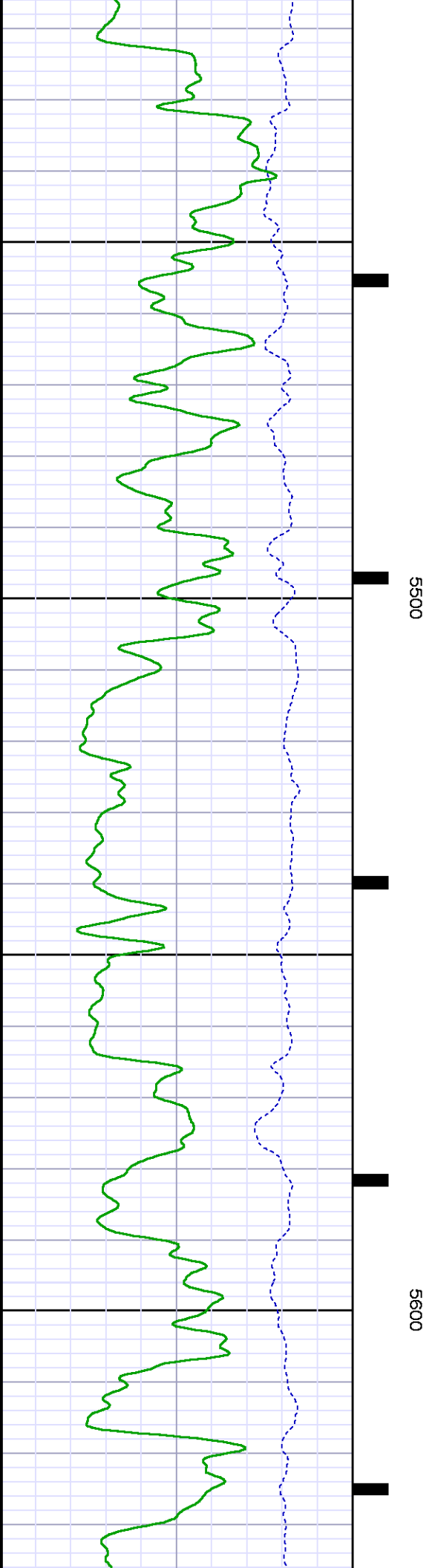
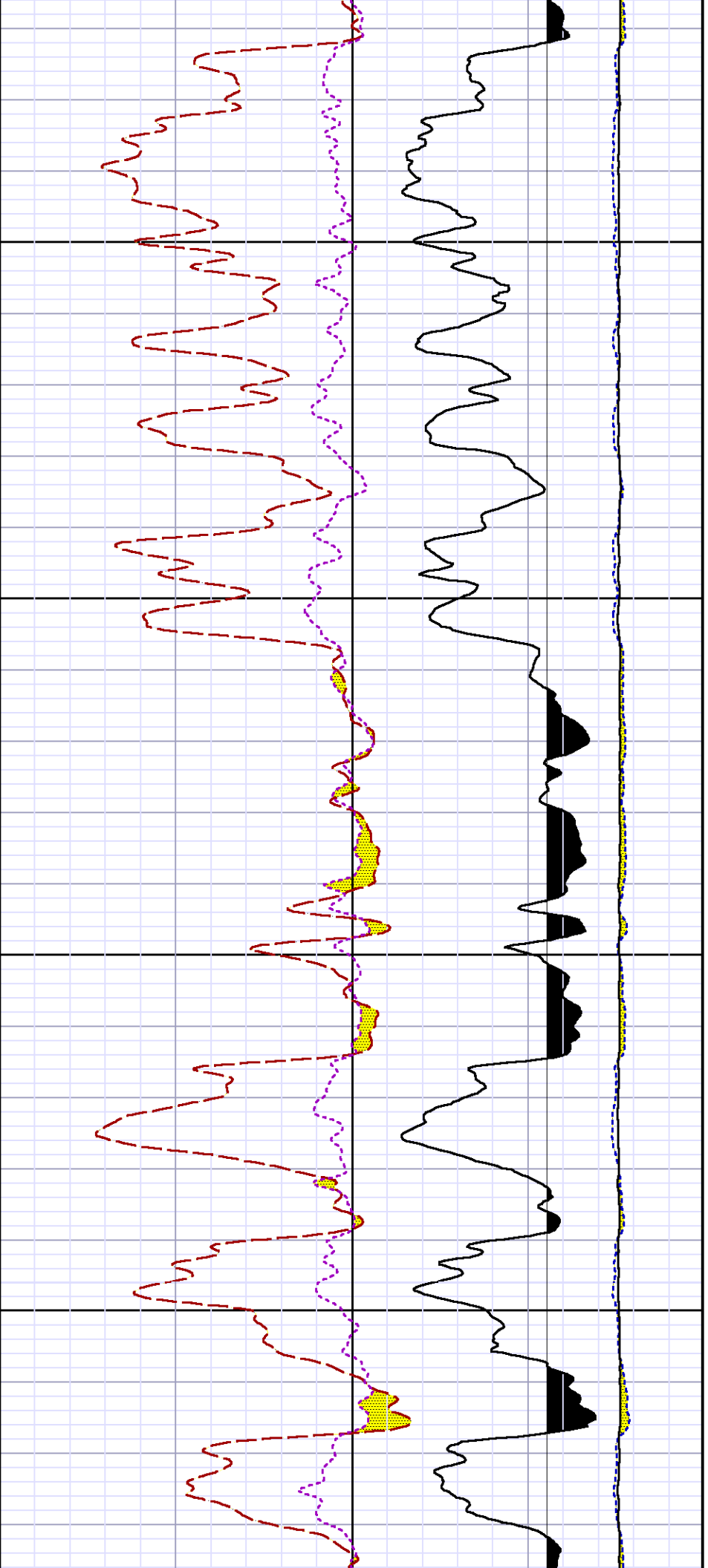


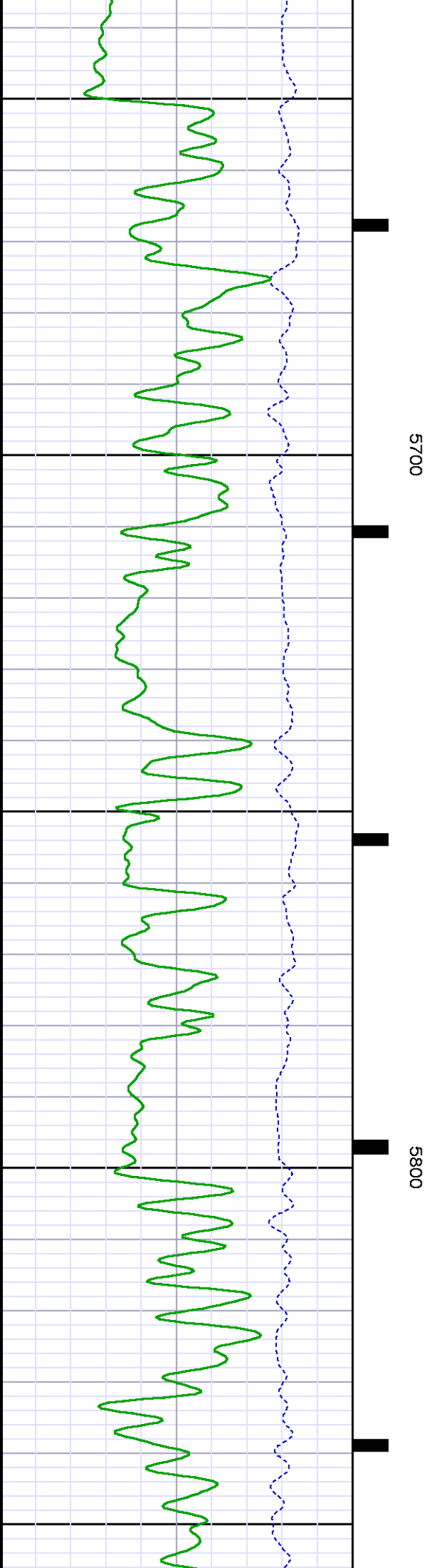
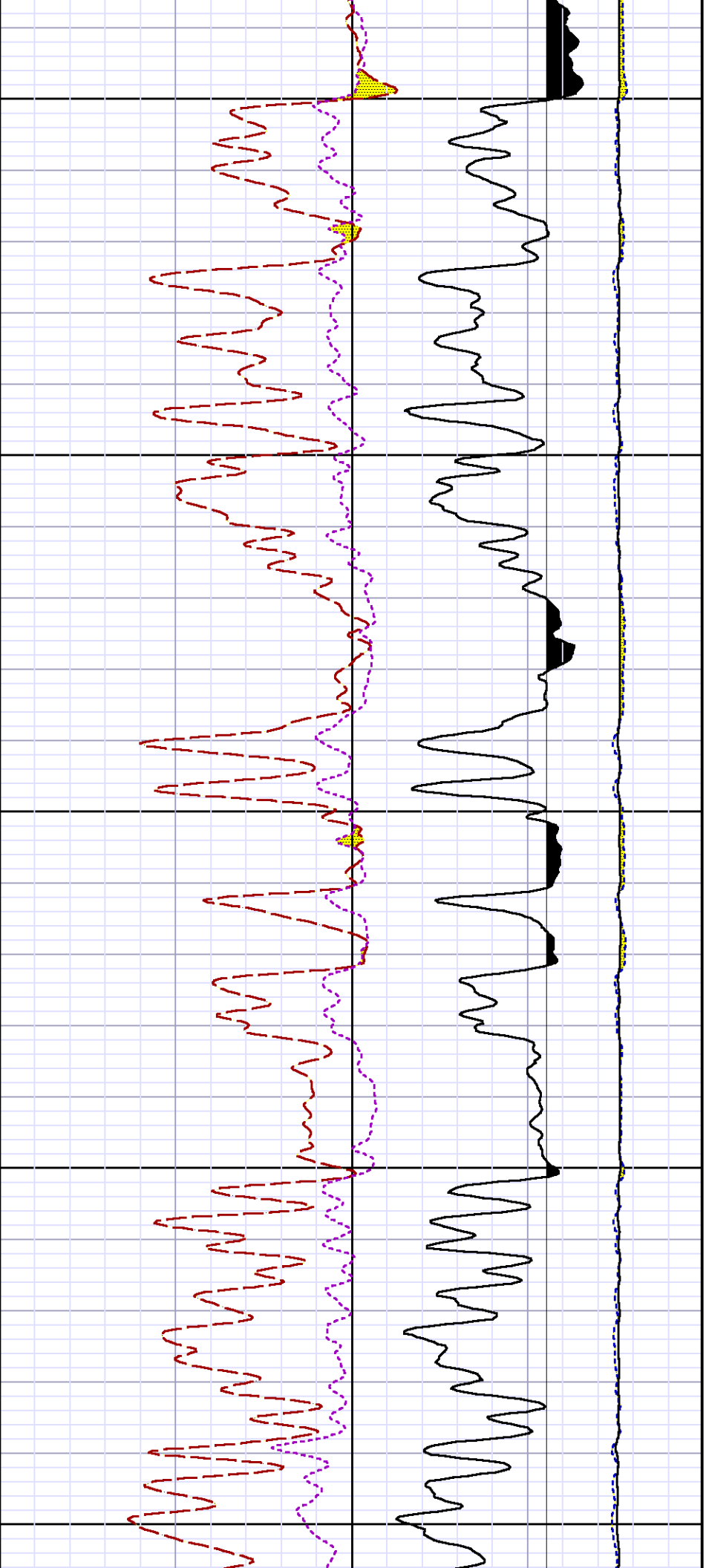


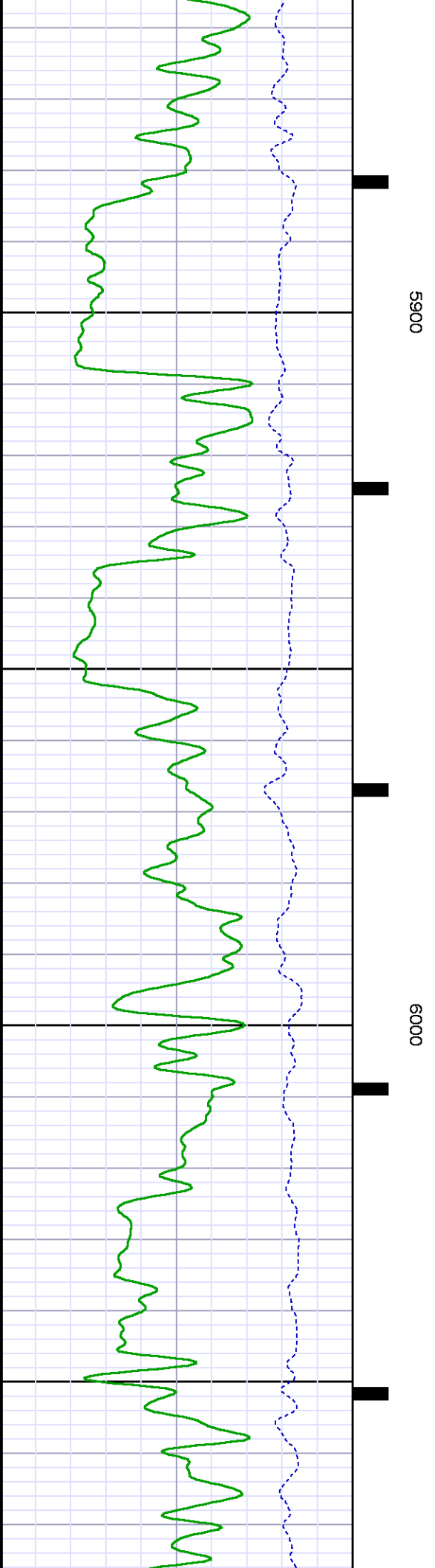
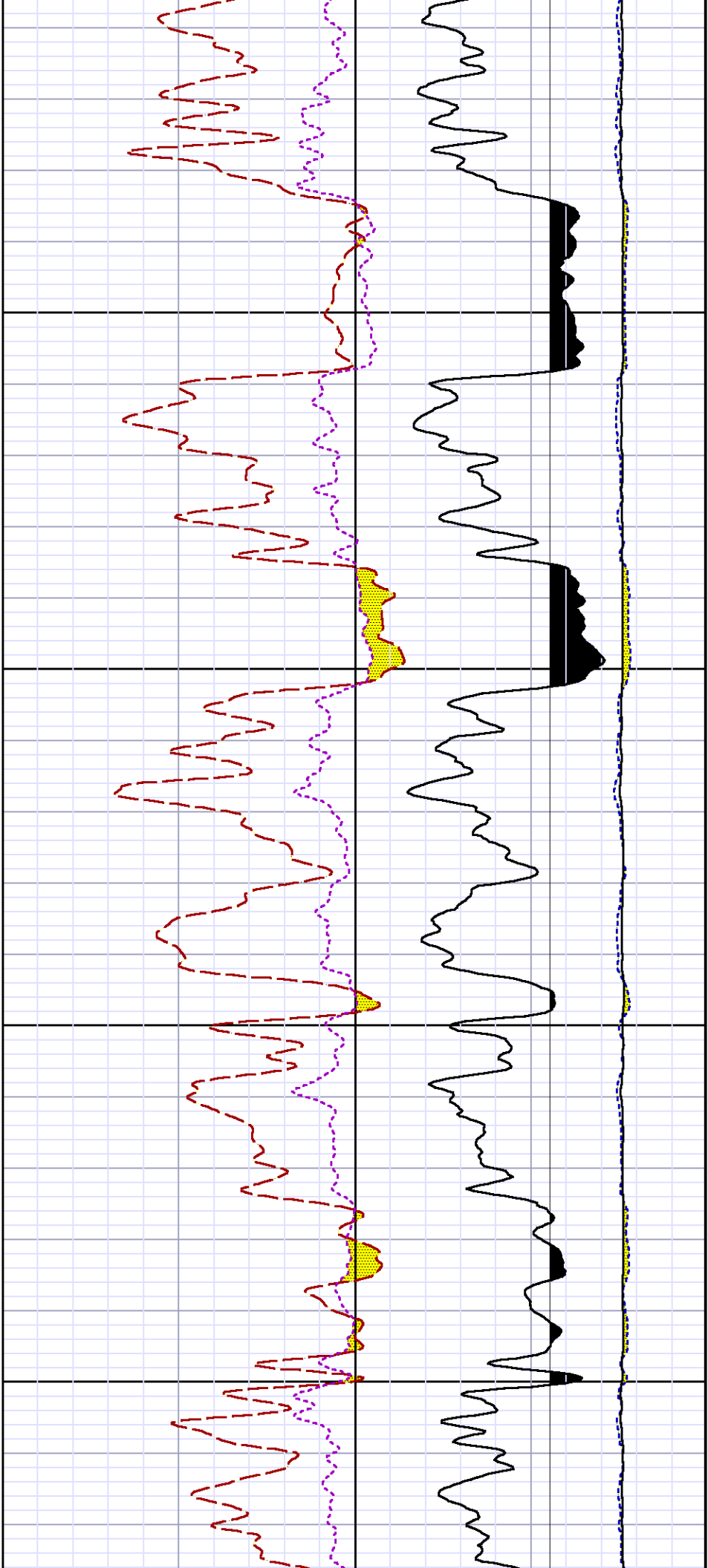


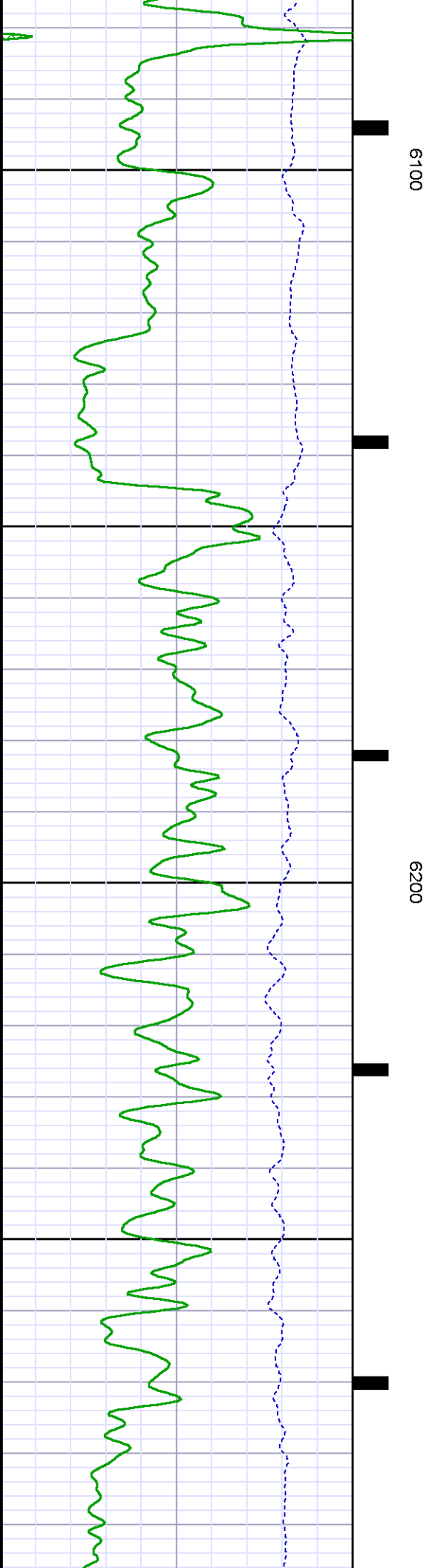
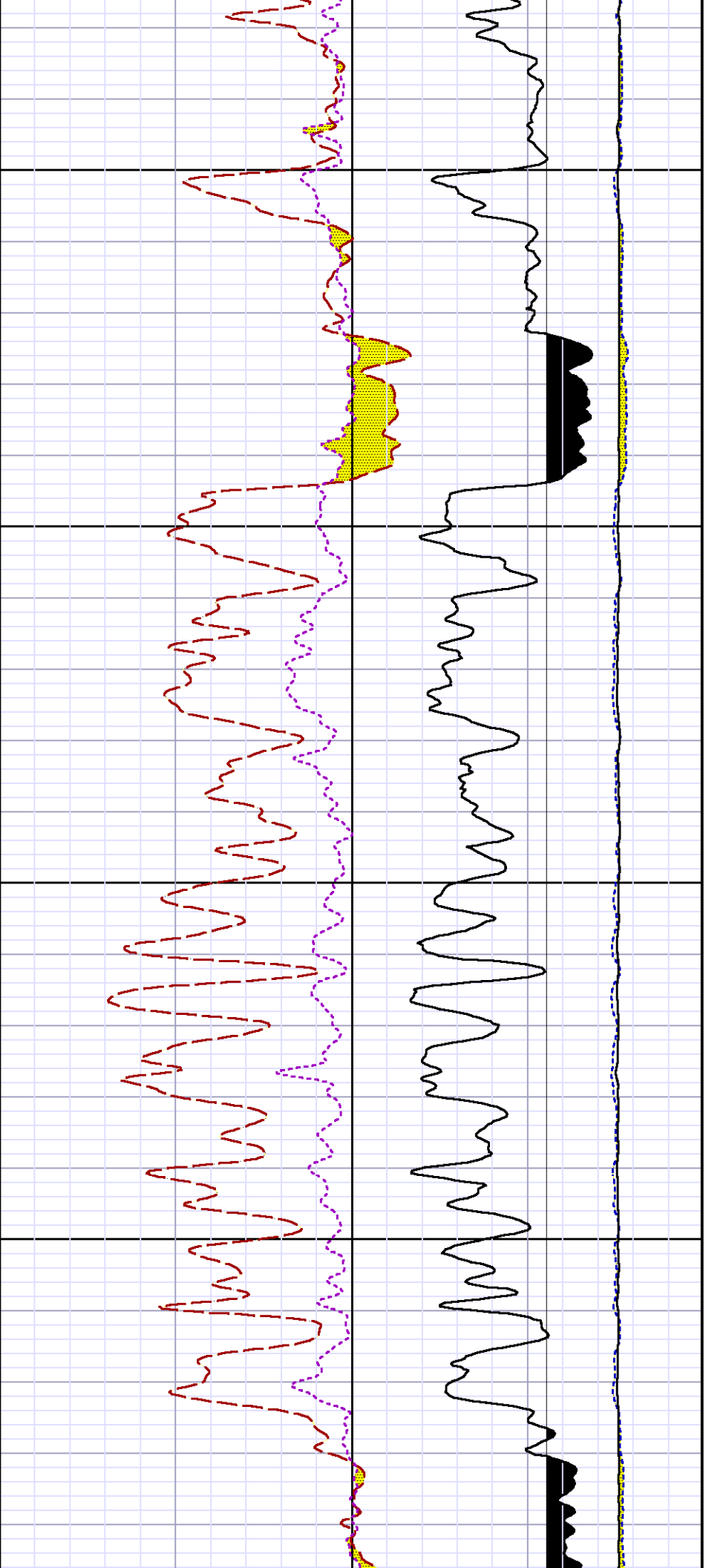


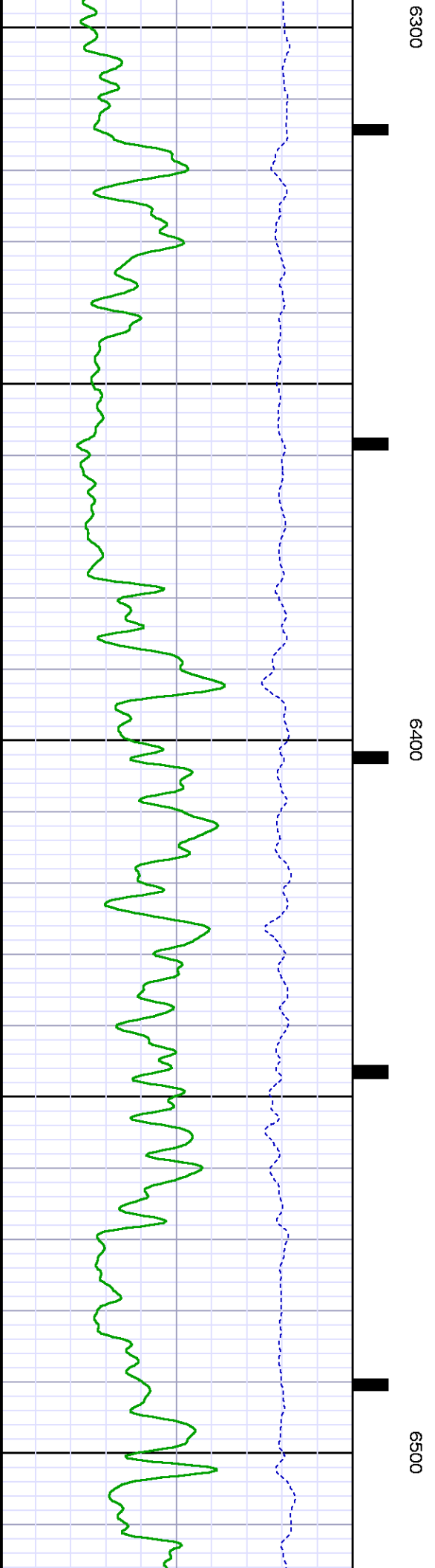
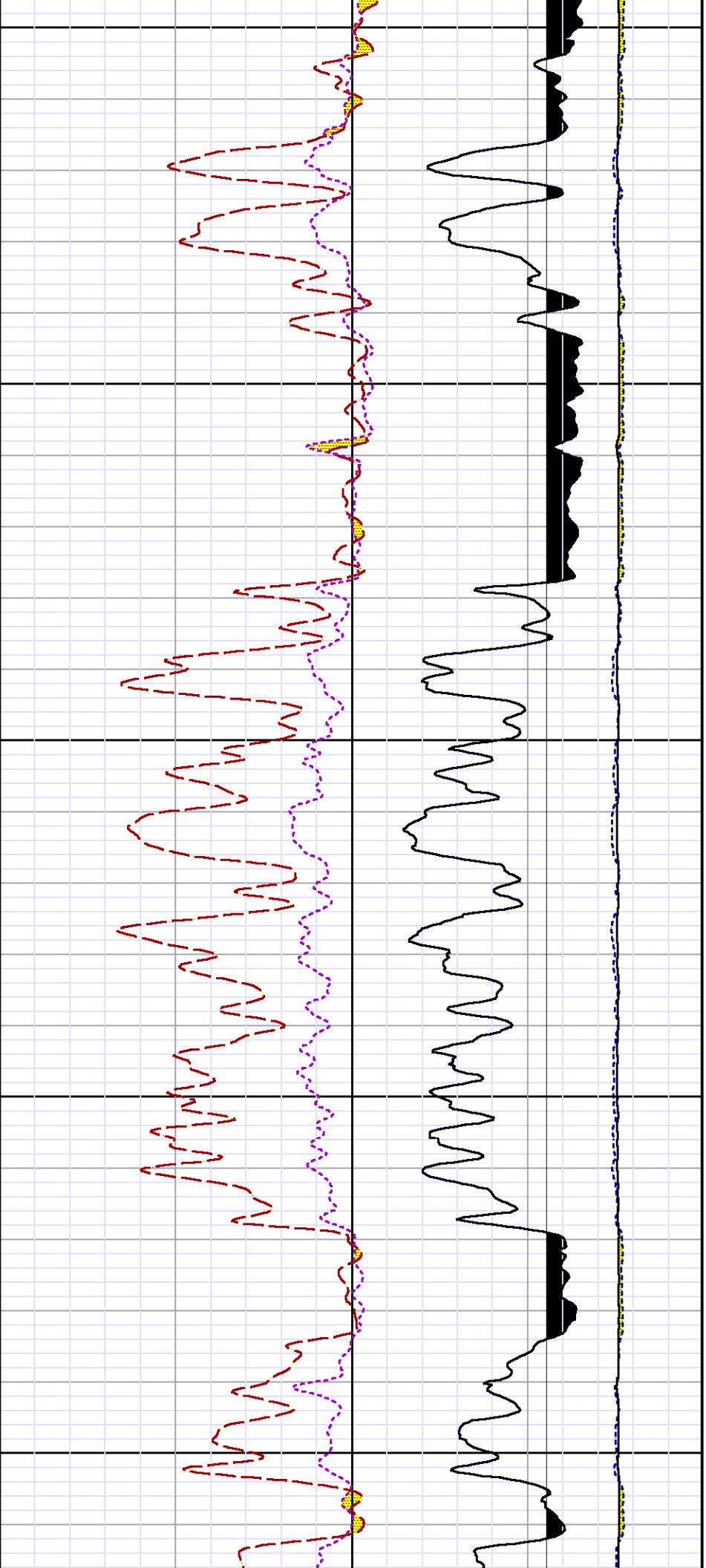


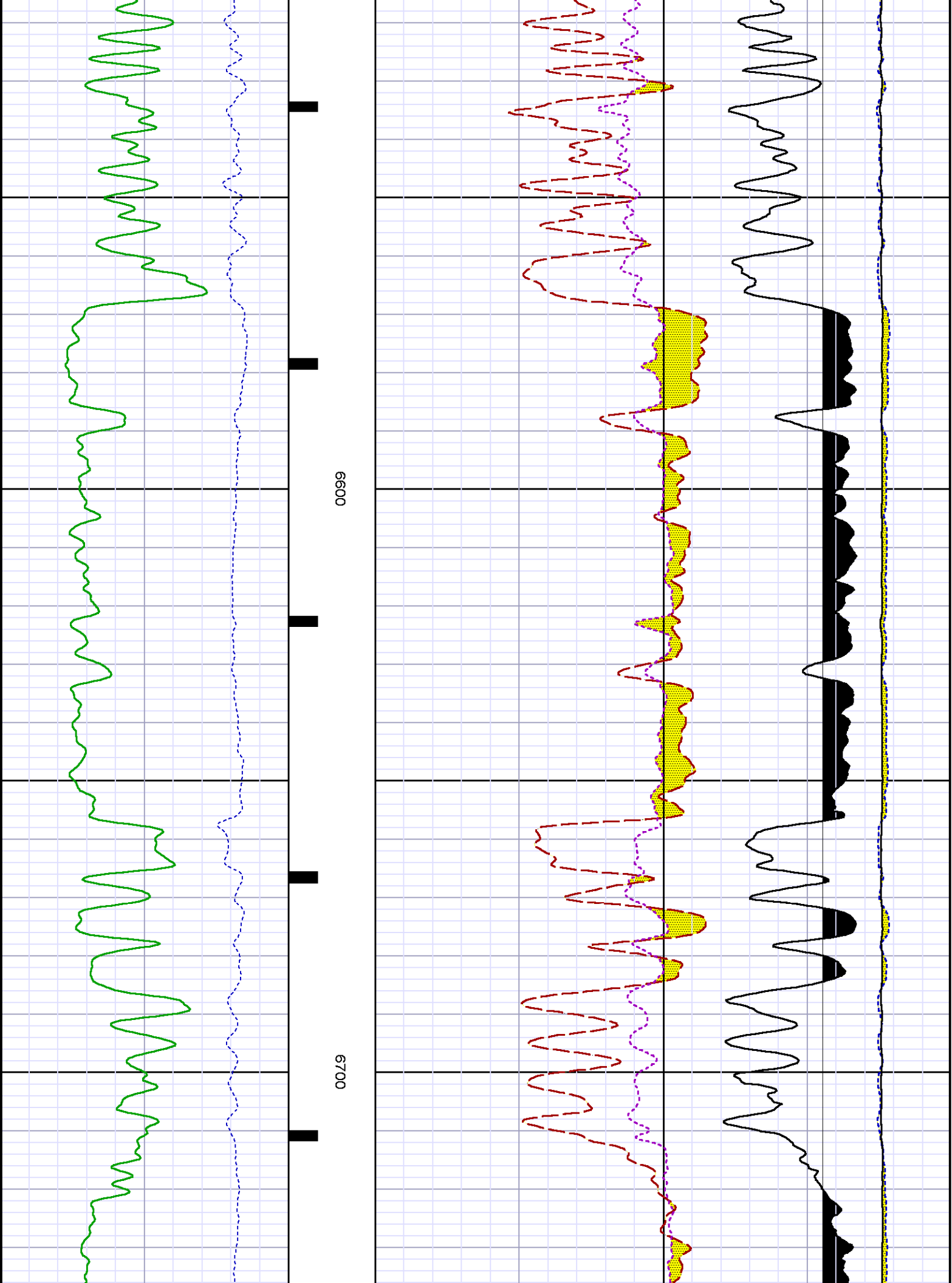


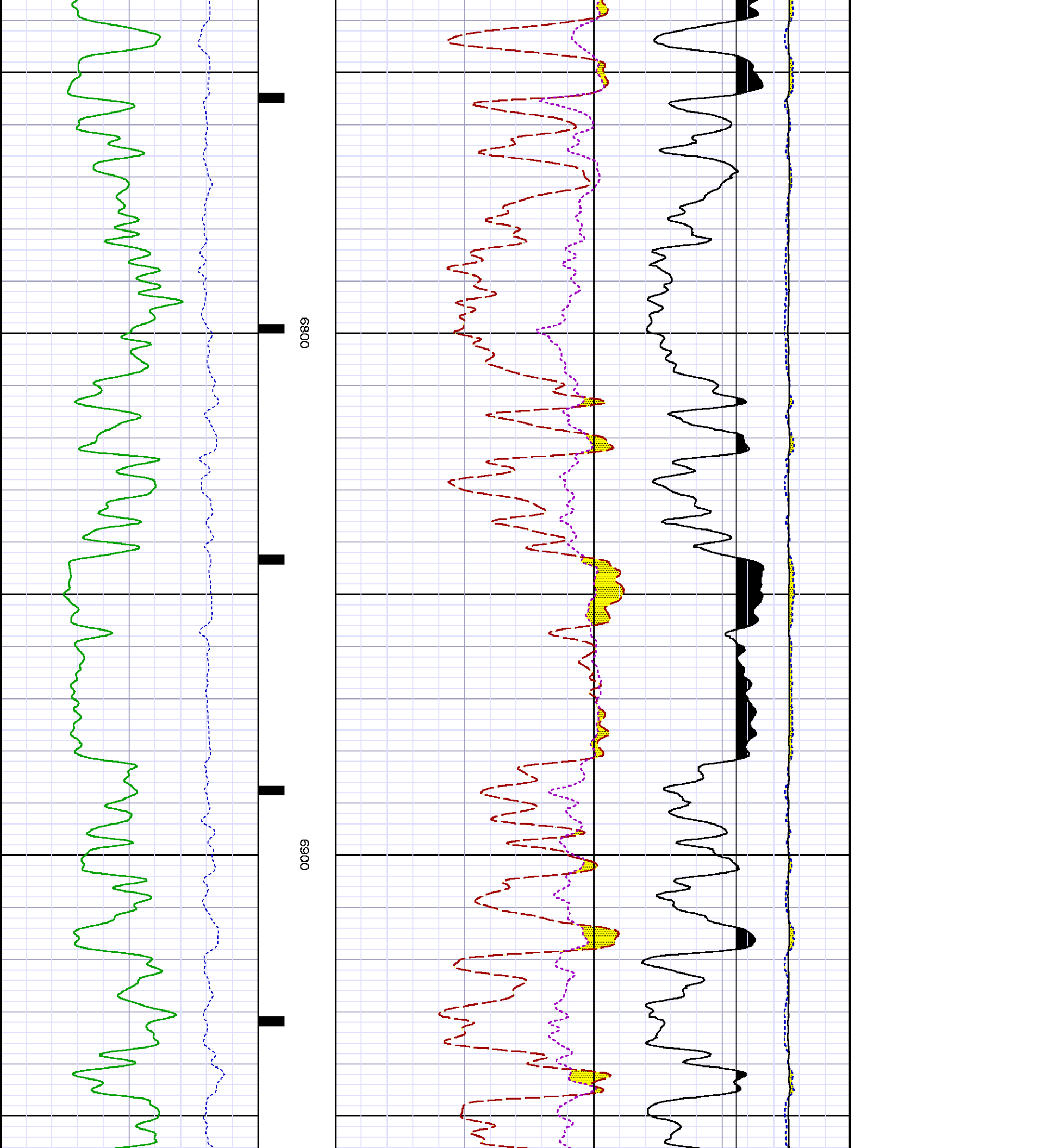


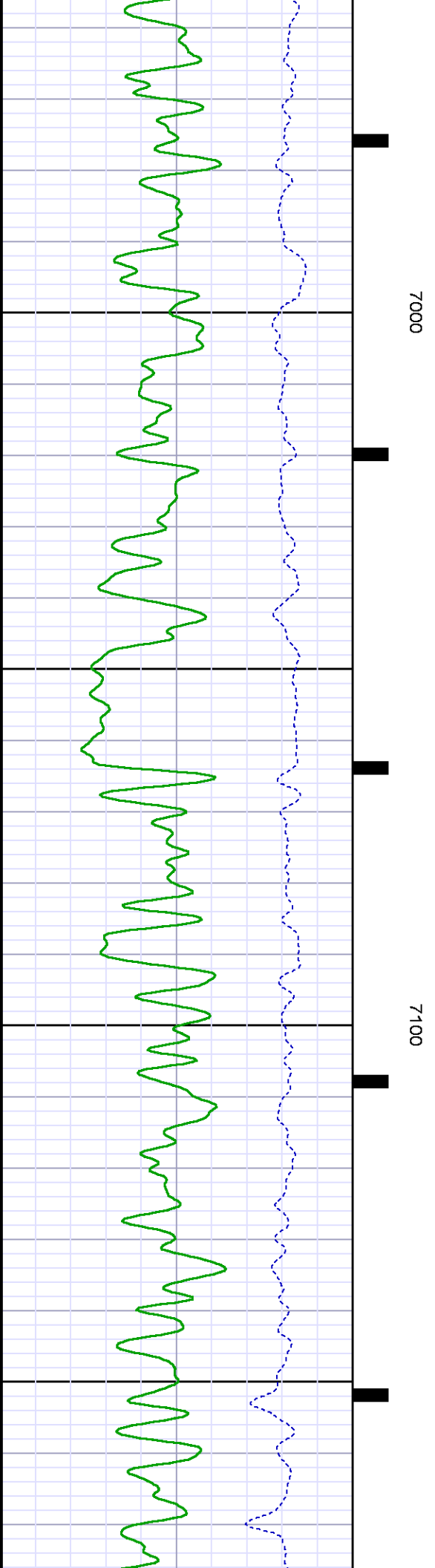
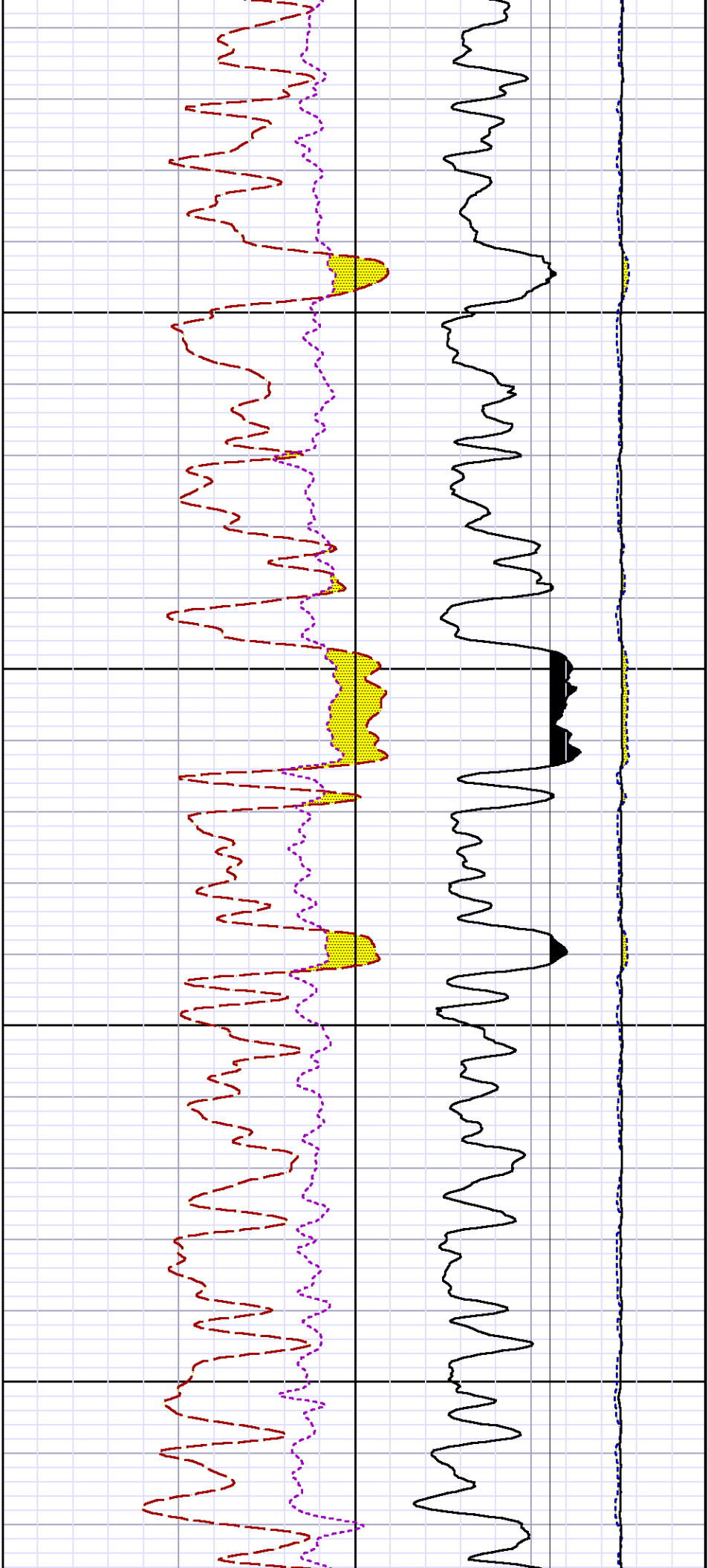


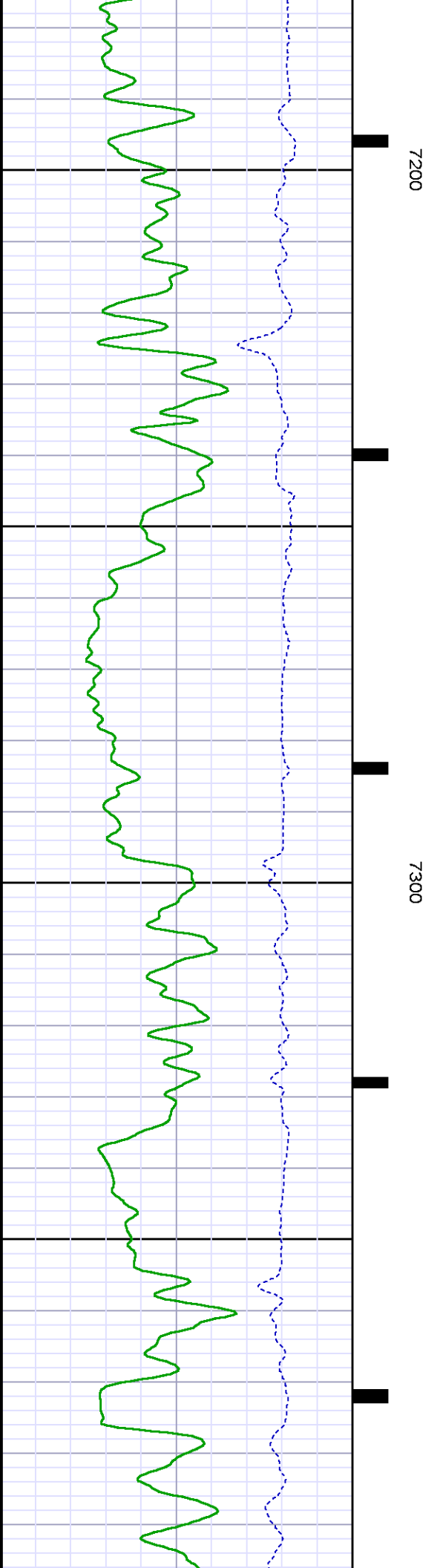
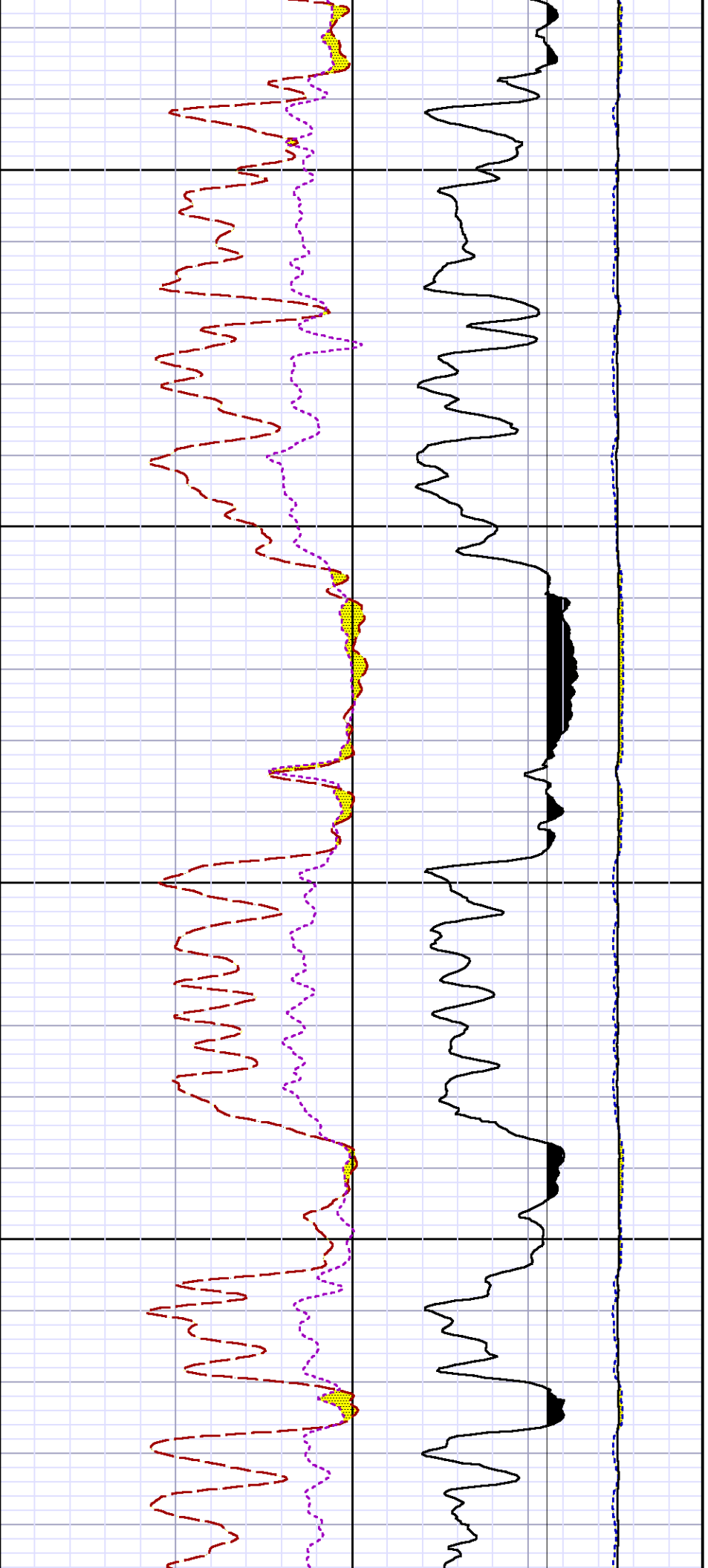


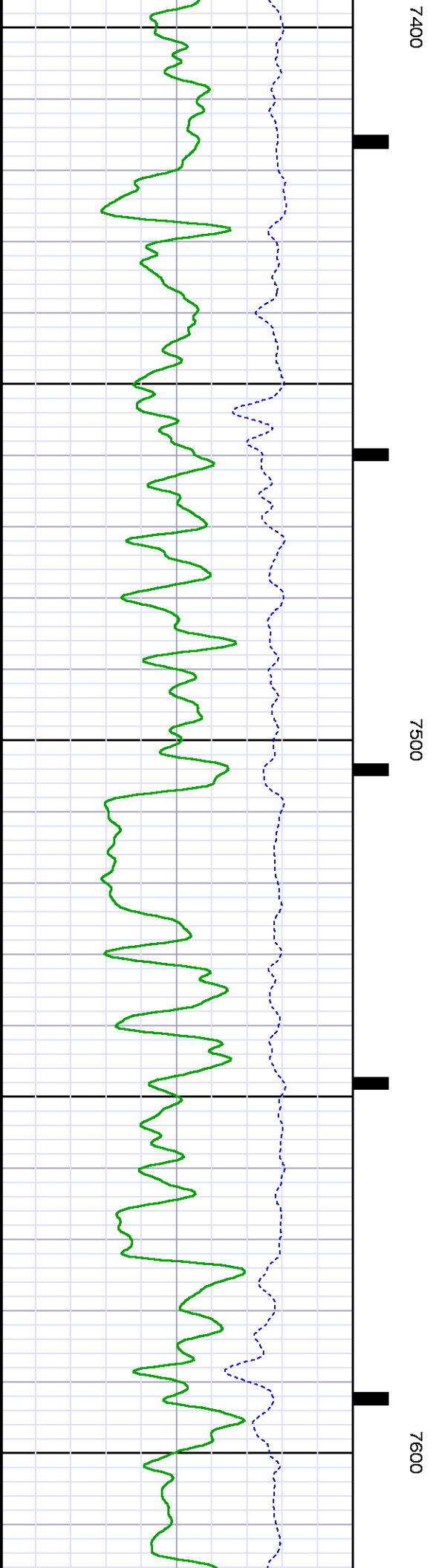
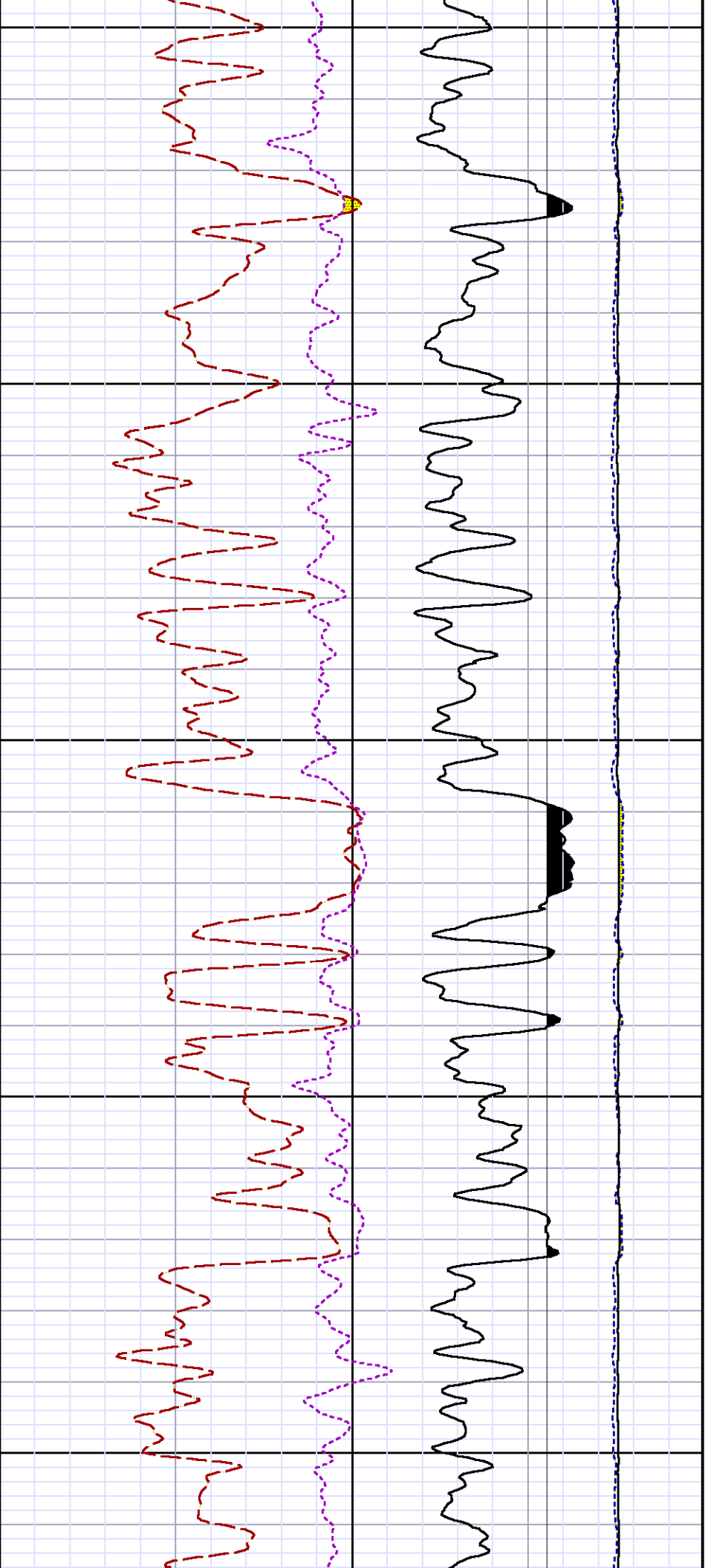


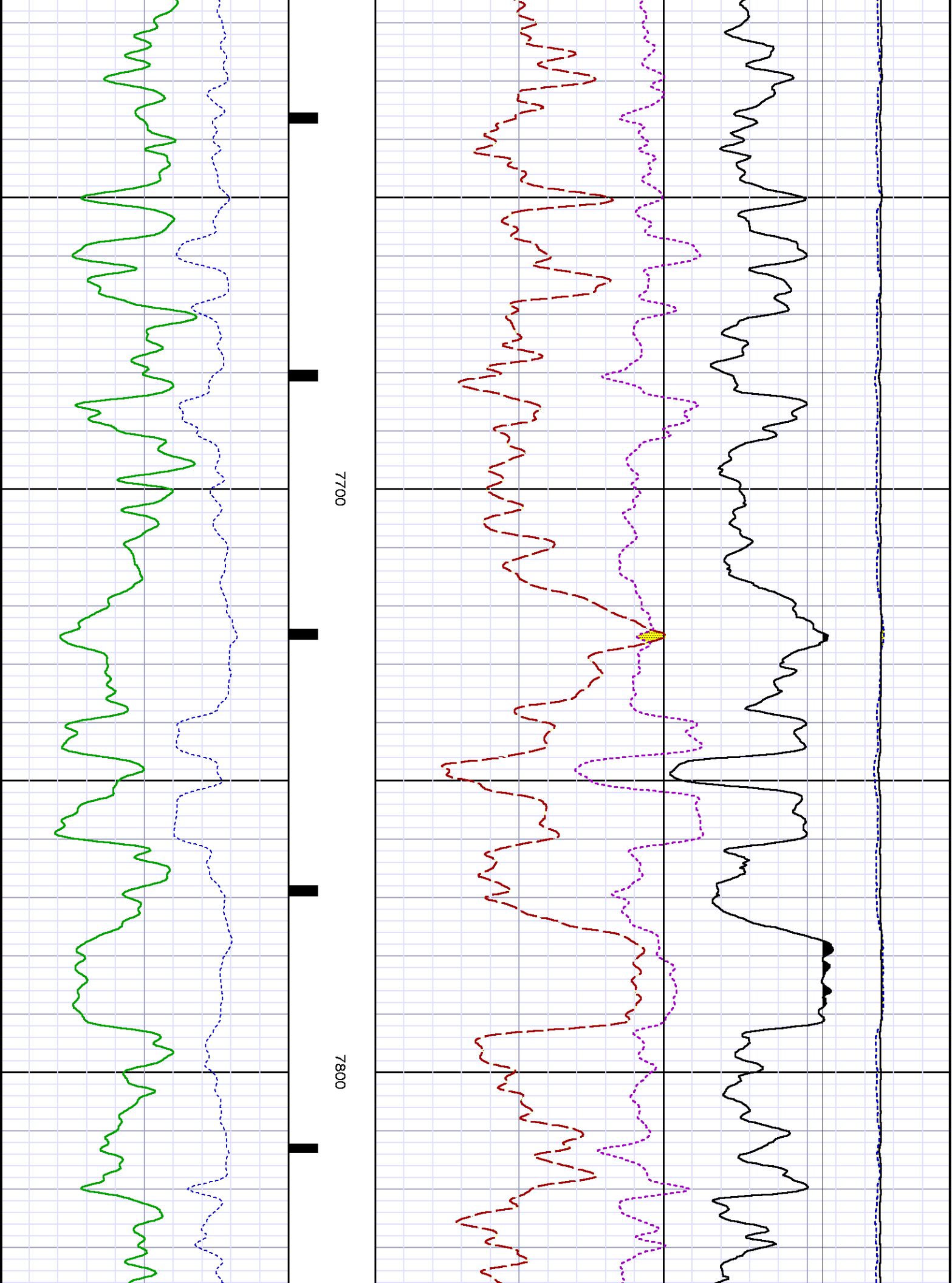


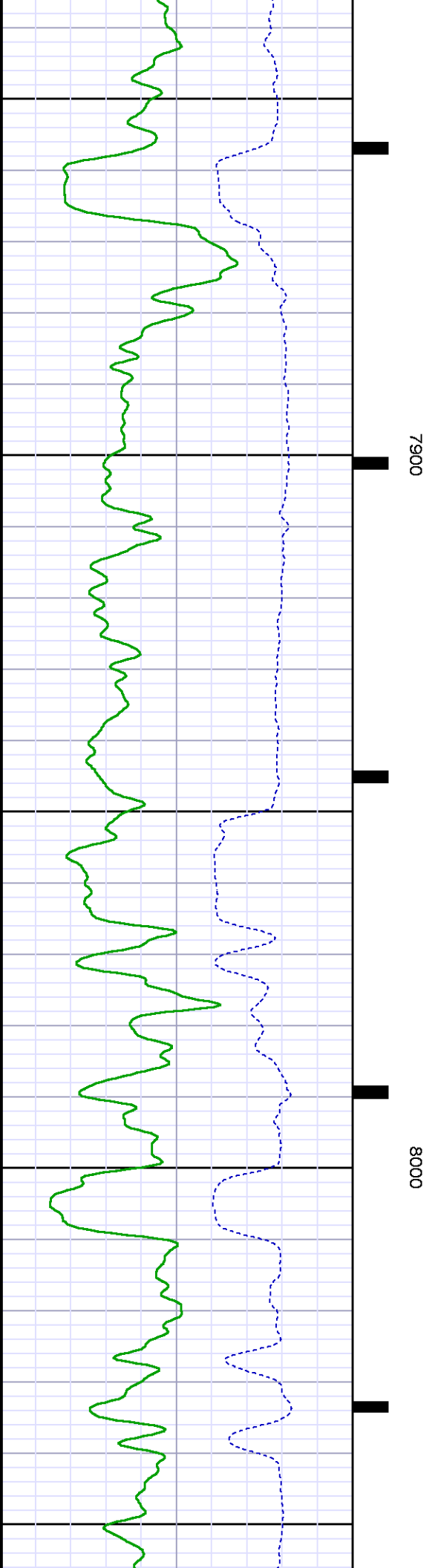
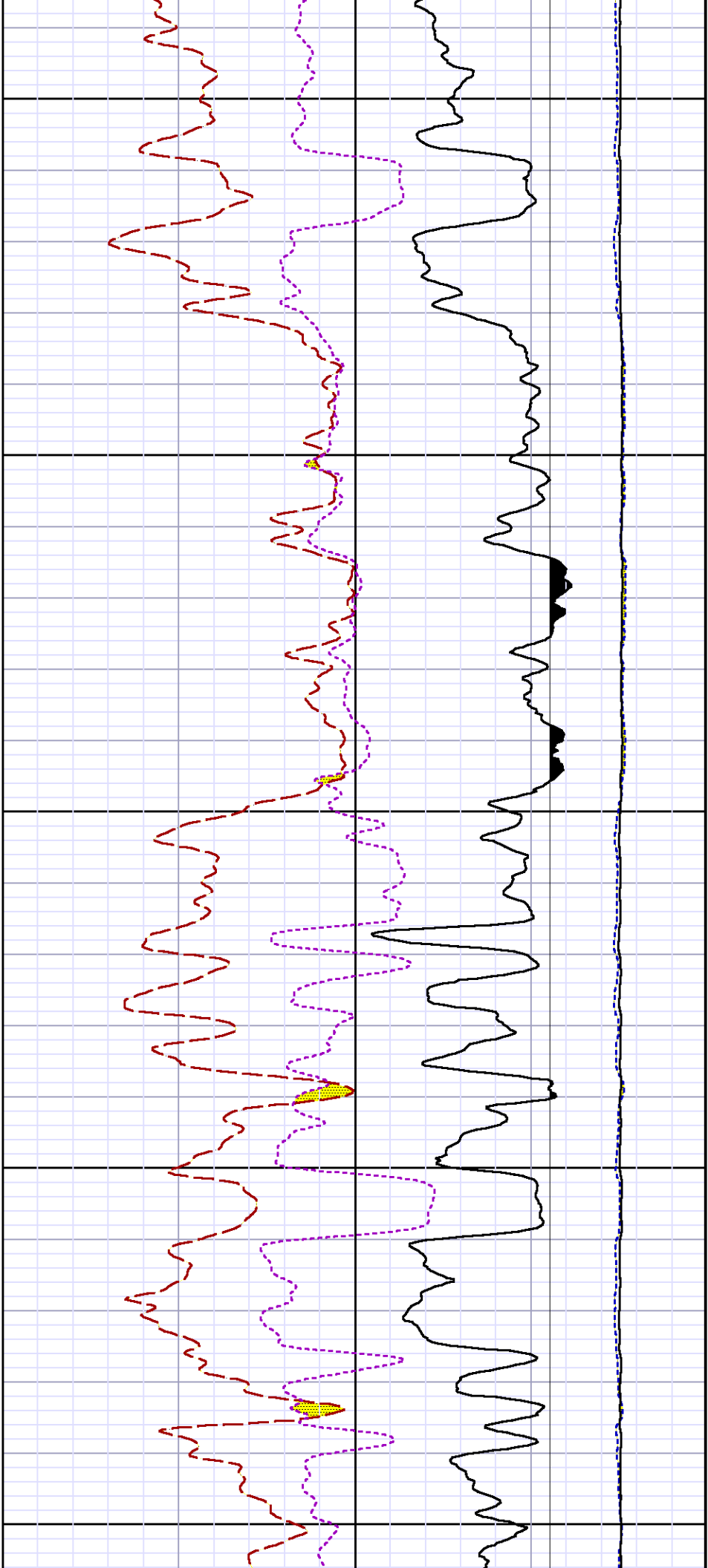


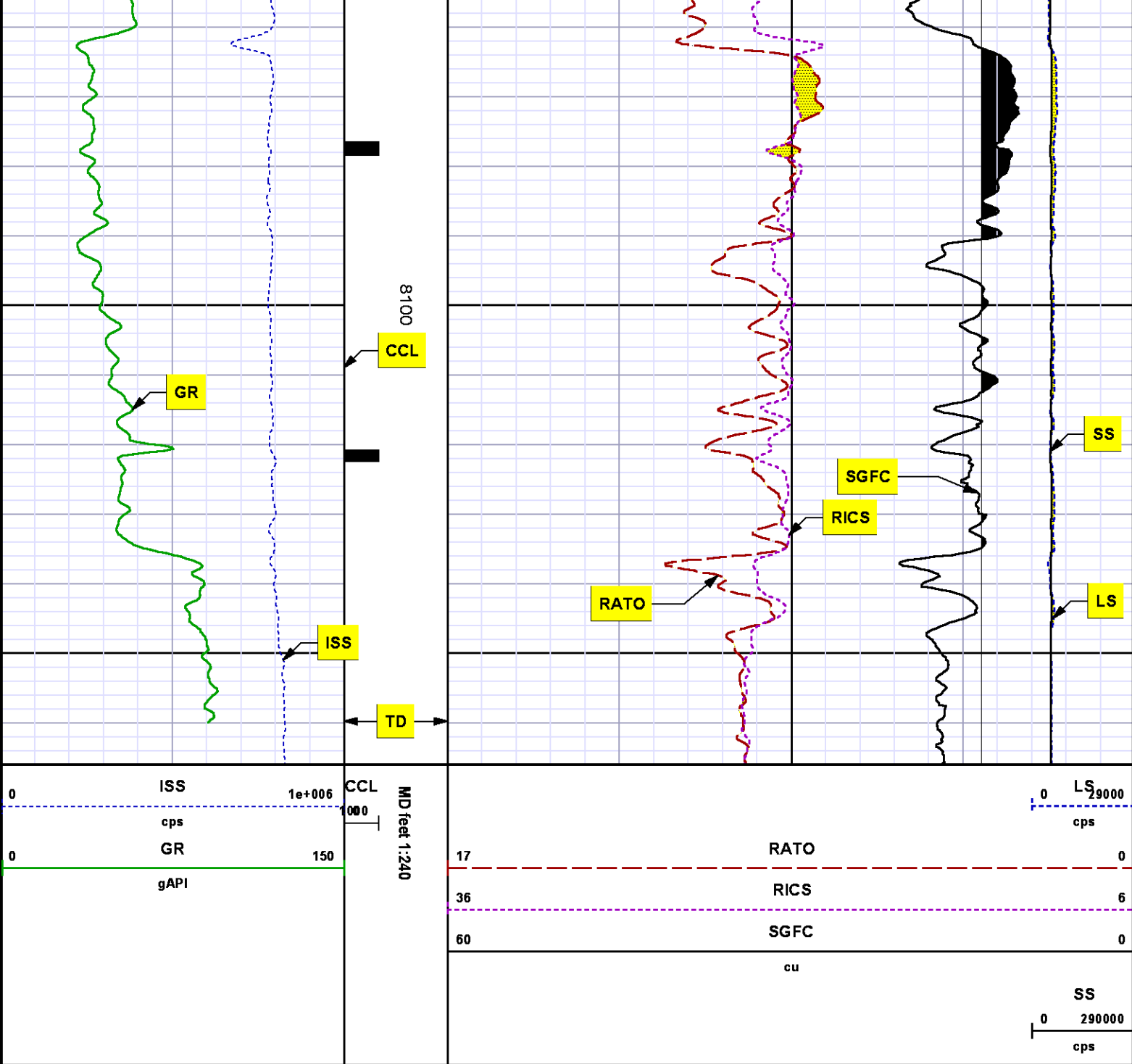












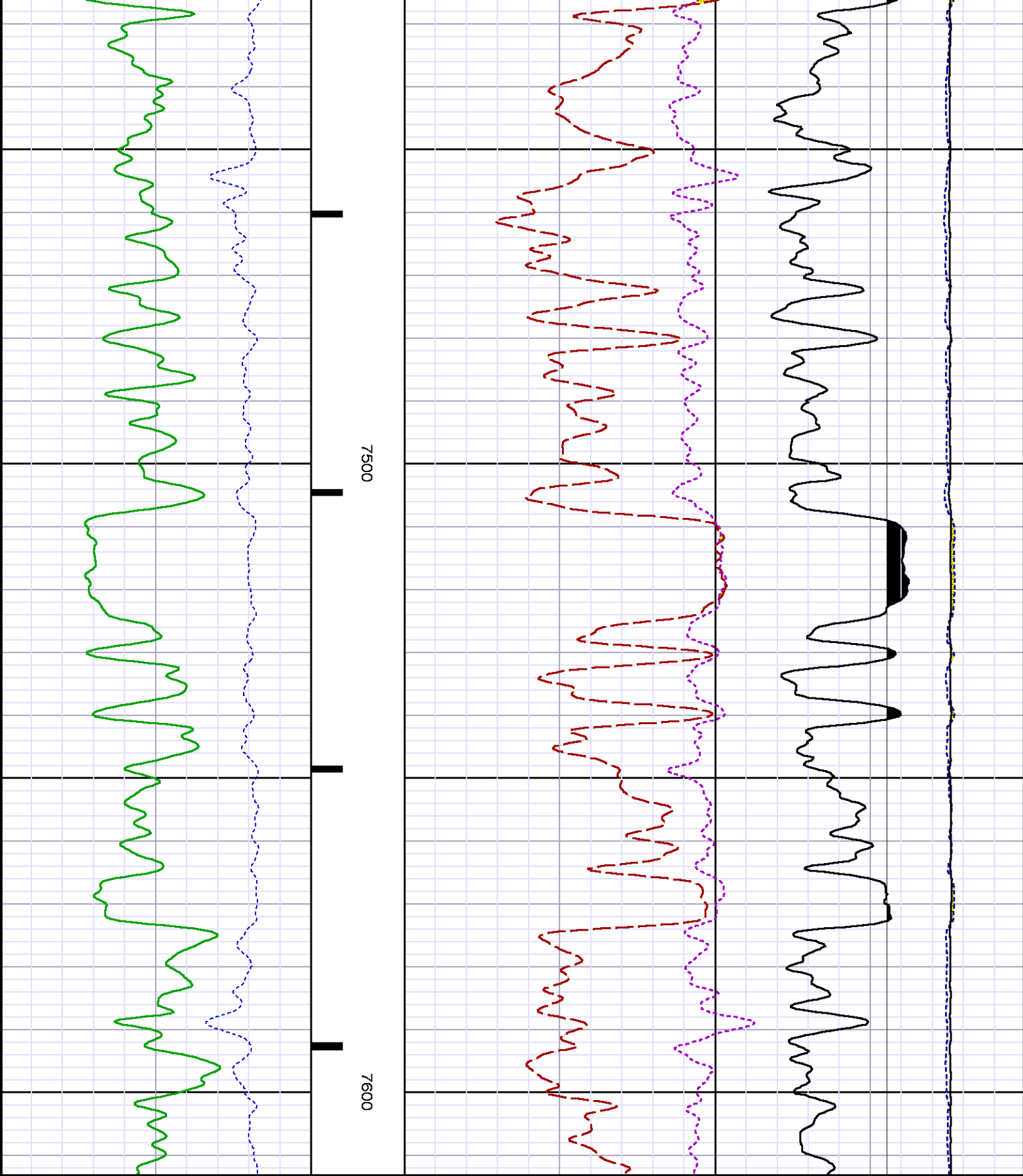
REPEAT SECTION
PNC 3-D MODE

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		7303.011	7627.230
PNC Porosity	Borehole Size	8.750	inch	7303.011	7627.230
PNC Porosity	Casing Size	4.500	inch	7303.011	7627.230
PNC Porosity	Gas Filled	Non Gas Filled		7303.011	7627.230
PNC Porosity	Matrix	Sandstone		7303.011	7627.230

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
		RICXC RIN13C RIN23 RIN23C SD3D SG3D
		SGB3 SGF3 WIDTH3 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
8281XA	0.000	SDL2 SGA2 SGB2 SGF2 SGK2 SGL2
		STA2 ASPEC2 ILSC ILSN WIDTH2 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 WIDTH1 RICSC CSSR G1R



0	ISS	1e+006	CCL	MD feet 1:240	0	LS ₉₀₀₀	0
0	cps		1000		17	cps	0
0	GR	150			36		6
	gAPI				60	SGFC	0
						cu	SS

CALIBRATION SUMMARY

GAMMA RAY (GR4)

Calibration File: C:\case\calver\GR\470A1.cal

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

Verification File: C:\case\calver\GR\470A1.VP

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

PNC

Calibration File: C:\case\calver\PNC\555S1.cal

PNC 3D CALIBRATION SUMMARY									
DATE/TIME PERFORMED:		Thu Sep 05 09:22:45 2013		TOOL SERIES:		8281XA	ASSET: 555		SEQ: S1
Calibrator #				Source #					
GJ SHOP				8281AA 11765054					
	ISS	Mtr VIts (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL	
Raw Data	814800	120.00	2332.00	2266.00	2224.00	108.81	7.00	0.9804	
Interpolated	1300000	139.77	2310.95	2259.98	2217.81				
	ISS	PVC	PVU	PVY	SSM	SSM	SSM	SSM	

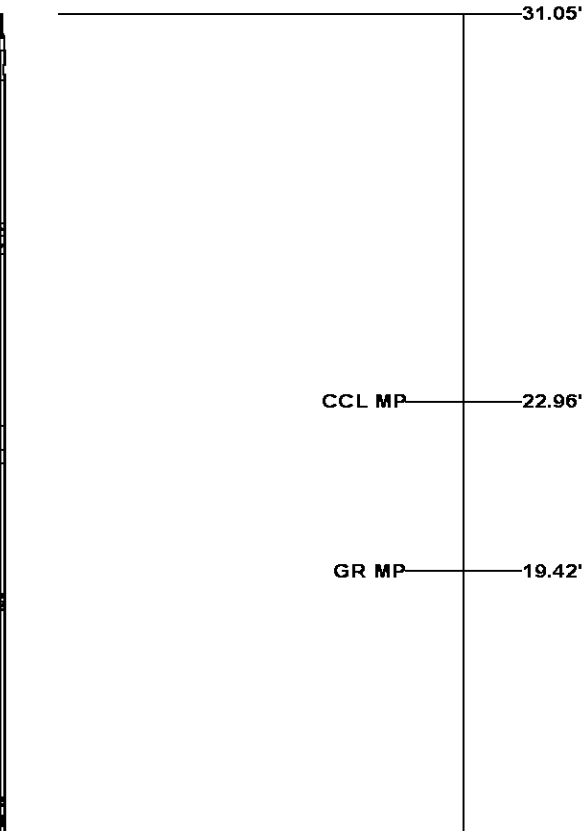
	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	814800	6321.29	994.13	137.70	25.75	0.14	24.19	0.28
					25.35 26.40	0.00 0.20	23.60 24.80	0.00 0.40

	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
Raw Data	814800	171015.50	26161.85	89374.85	31855.78	8313.09	54115.52	13286.79
Fit Quality %		0.49	0.51	0.74	0.75	0.55	0.71	0.52

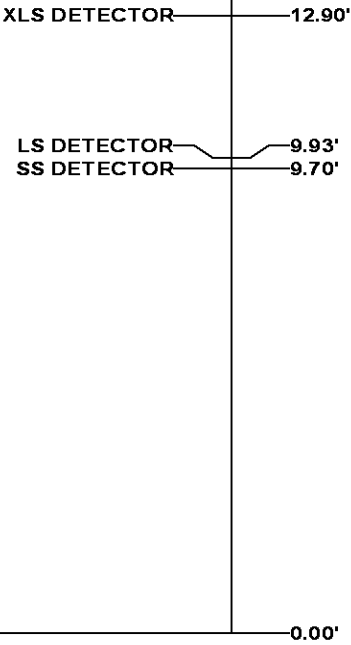
	ISS	RBOR		RIN ISS/ILS		RIN13 ISS/IXS		RICS ISS/CSS		RATO SS/LS		RTWO SS2/LS		RONE CSS/CLS	
Raw Data	814800	1.43		4.76		31.15		15.06		10.75		3.83		4.07	
		1.42	1.45	3.55	5.52	22.20	32.70	10.99	16.34	10.06	11.10	3.57	3.95	3.76	4.22
Fit Quality %		0.04		0.16		0.21		0.09		0.05		0.05		0.08	
Reduced	1404418	1.43		4.78		31.29		15.11		10.75		3.83		4.07	
		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> BAKER HUGHES</div> <div>Baker Atlas</div> <div></div>	Company	WPX ENERGY		File No:	CH077397
	Well	FEDERAL PA 423-12		API No:	05045206600000
	Field	PARACHUTE			
	County	GARFIELD	State	COLORADO	
Location		Elevations			
SHL: 2596' FSL X 1775' FWL		KB	6533 ft	12 7S 95W	
BHL: 1800' FSL X 2059' FWL (NESW)		DF		PA 23-12 PAD	
		GL	6507 ft	NABORS 577	
SEC 12 TWP 7S RGE 95W					