



**BAKER
HUGHES**

RESERVOIR
PERFORMANCE
MONITOR

Baker Atlas

File No:
CH078601

Company
Well
Field
County

WPX ENERGY
WPX ENERGY RWF 42-4
RULISON
GARFIELD

State
CO

4 7S 94W
RMV 108-4 PAD
NABORS 574

Location
SHL: 416' FNL & 1674' FEL
BHL: 1154' FNL & 1293' FEL
SEC 4 TWP 7S RGE 94W

Other Services
BOND LOG

Permanent Datum
Log Measured From
Drill Measured From

GL
KB
KB

Elevation
26 ft
Above P. D.

Elevations
KB 5820 ft
DF
GL 5794 ft

Date	26/OCT/13	
Run	ONE	
Service Order	US624016	
Depth Driller	8020 ft	
Depth Logger	7987 ft	
Bottom Logged Interval	7977 ft	
Top Logged Interval	4141 ft	
Time Started	14:00	
Time Finished	19:30	
Operator Rig Time	5.5 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	67 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	65 fpm	
Maximum Recorded Temperature	228 degF	
Reference Log	BAKER HUGHES BOND LOG	
Reference Log Date	26/OCT/13	
Equipment No.	4271	GRAND JCT.
Recorded By	NEWELL	
Witnessed By	CHRIS	

- 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	1111 ft
8.75 in	1111 ft	8052 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			0 ft	1111 ft
4.5 in	11.6 lbm/ft	I-80	0 ft	8052 ft

Remarks

All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 5/6/2013 at the client's request.

Logged in PNC-3D mode.

The amount of linear shift is 11 feet.

BHT = 228 °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	RPM	8262XY	10485470	FREE
1	1	RPM	8248ED	10296408	FREE
1	1	RPM	8250EA	10397894	FREE

MAIN SECTION
PNC 3-D MODE

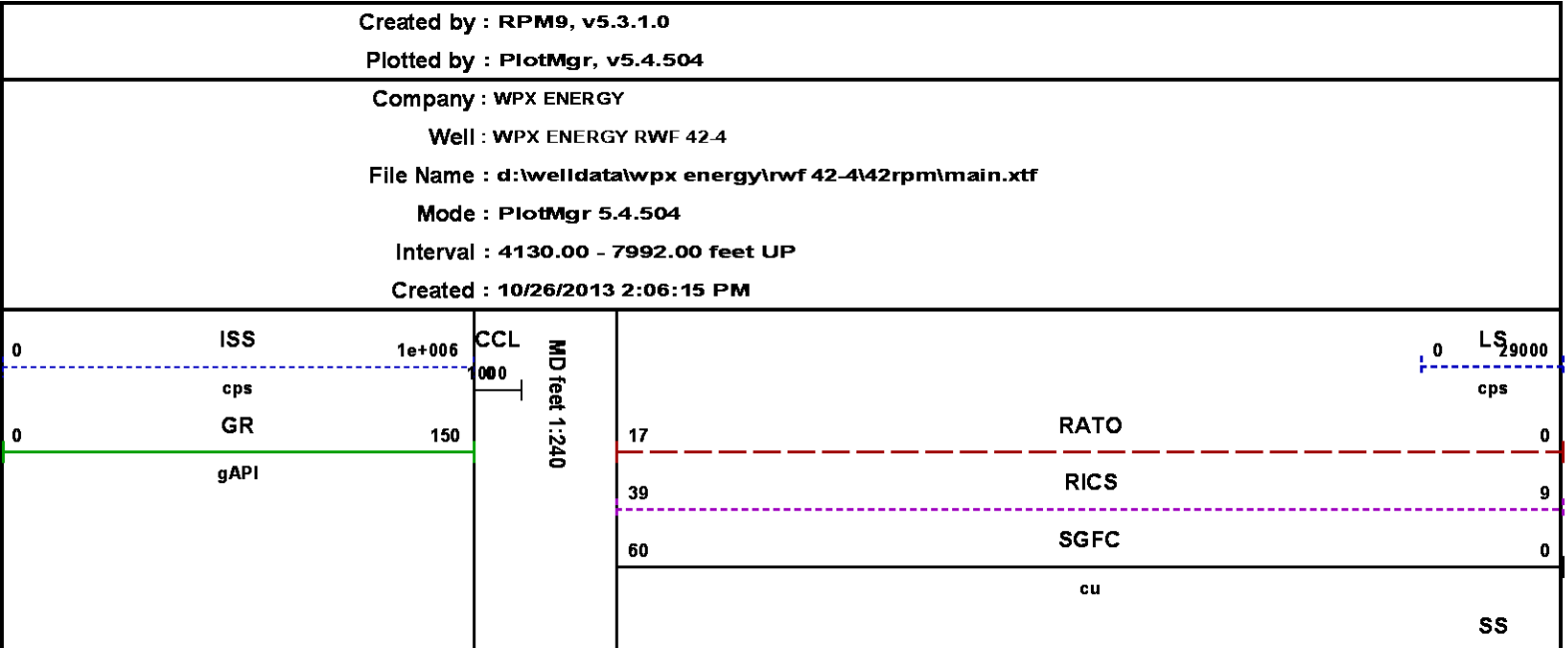
SPL PROCESSING

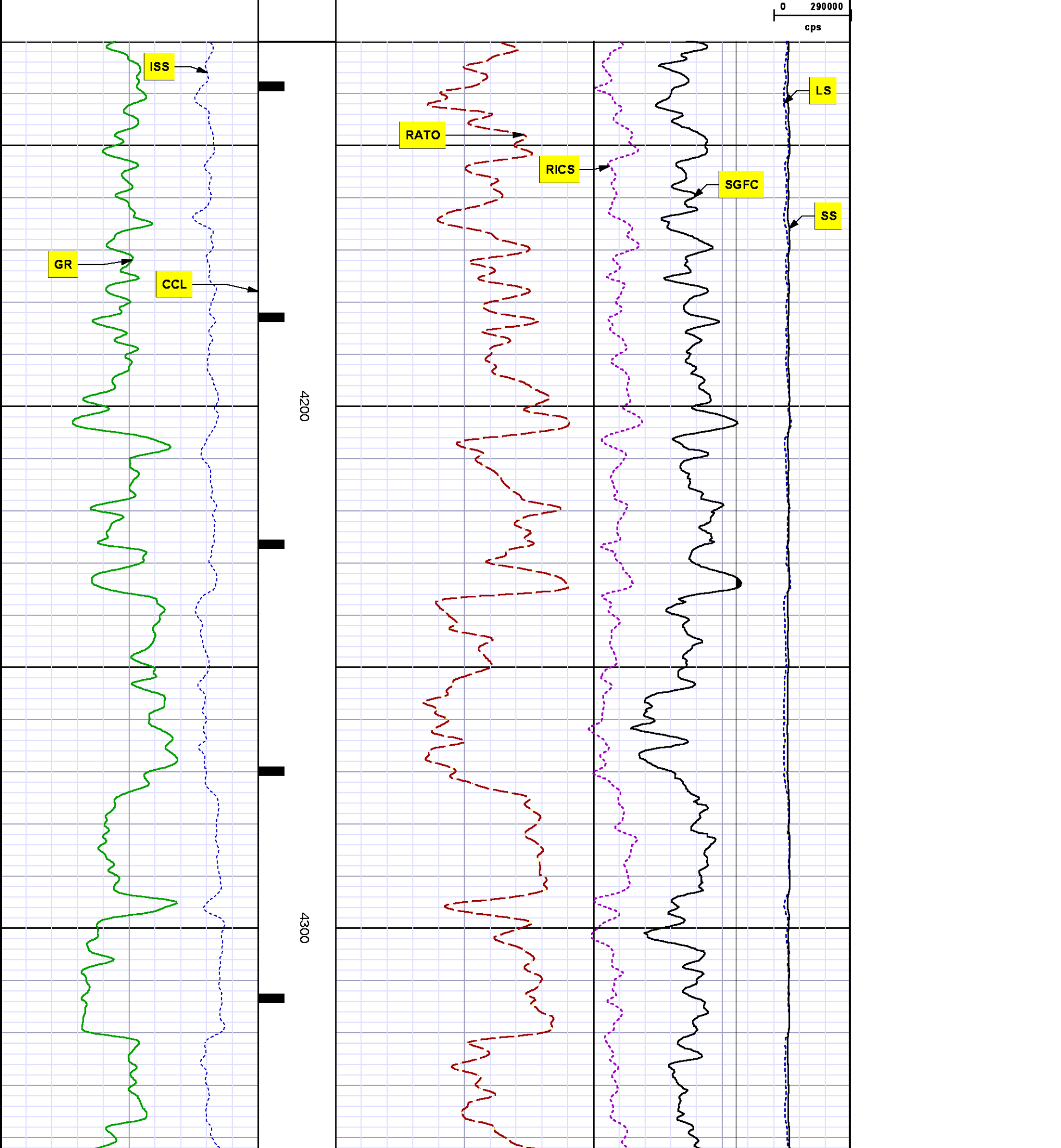
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		4053.750	8013.875
PNC Porosity	Borehole Size	8.750	inch	4053.750	8013.875
PNC Porosity	Casing Size	4.500	inch	4053.750	8013.875
PNC Porosity	Gas Filled	Non Gas Filled		4053.750	8013.875
PNC Porosity	Matrix	Sandstone		4053.750	8013.875

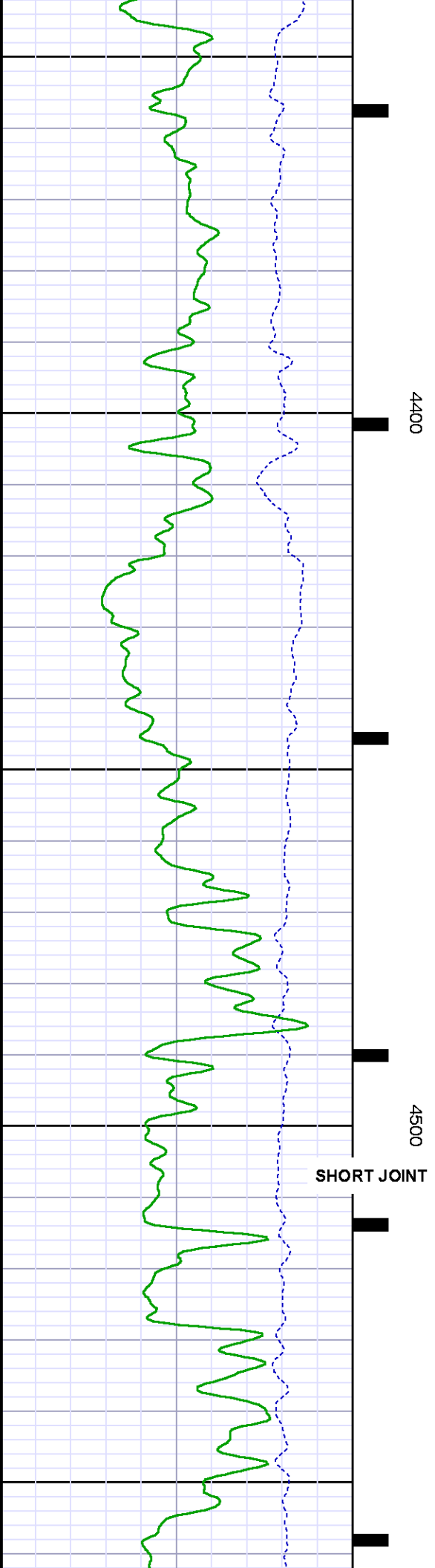
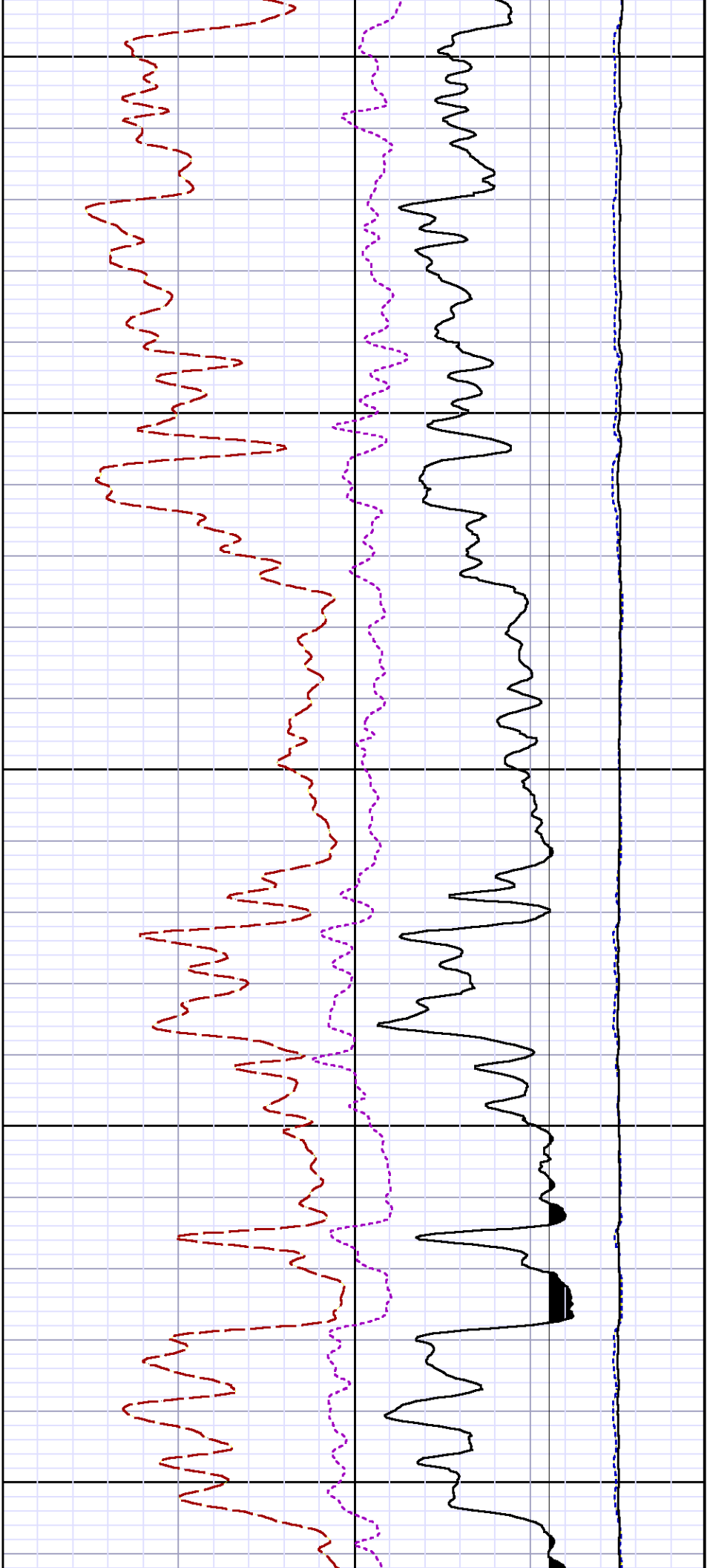
DEPTH OFFSETS
(for Acquired Curves)

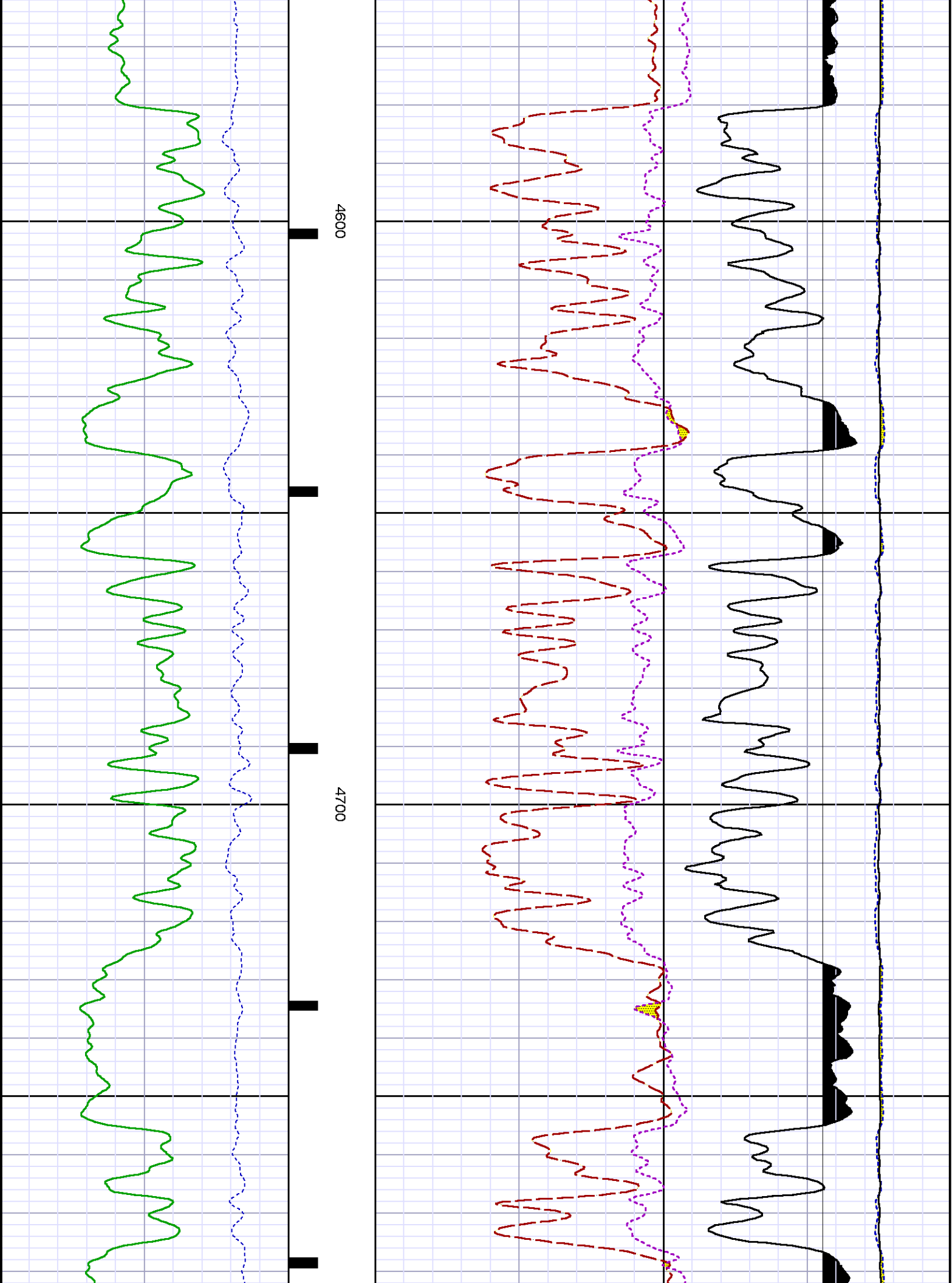
SERIES	DEPTH OFFSET	ACQUIRED CURVES					
8248ED	-15.320	FLTM					
8248ED	-13.320	CCL	CHV				
8262XY	-10.189	GR4					
8281XA	-0.662	HVC3Q0	SEQ3	AMA3	AML3	BKX	CXS
		CPT3Q0	CPT3Q2	CPT3Q3	CPT3Q4	ET3	IXS
		MCS3	MCS3Q0	QCAL3	RGN3	RICX	SDA3
		SDL3	SGA3	SGL3	STA3	XS	ASPEC3
		AME3	AME3	CHT3	IXS3	IXS4	FLTM3

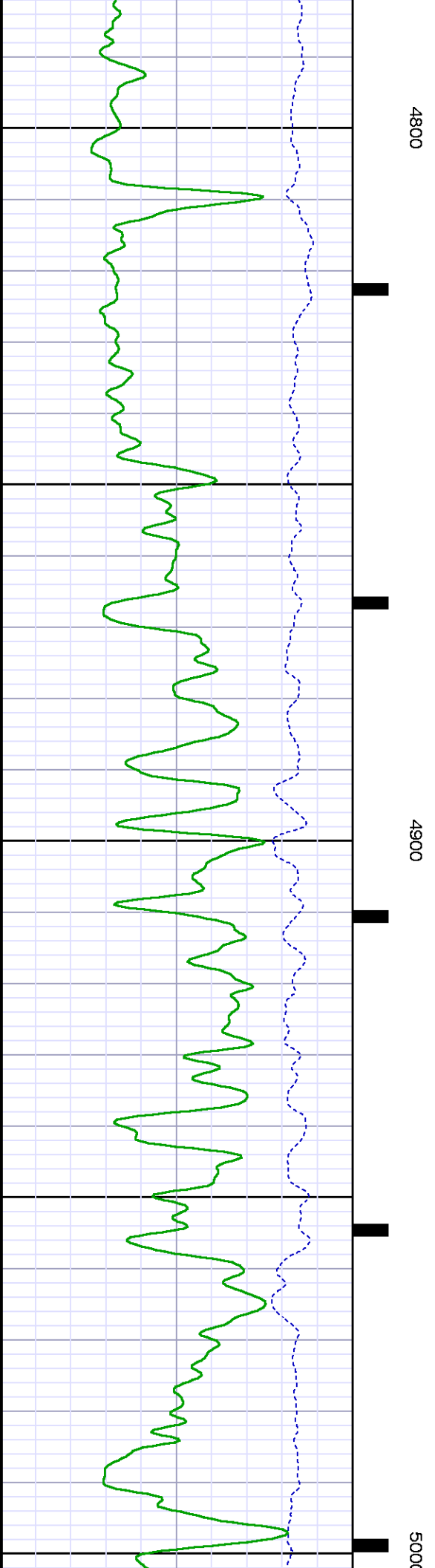
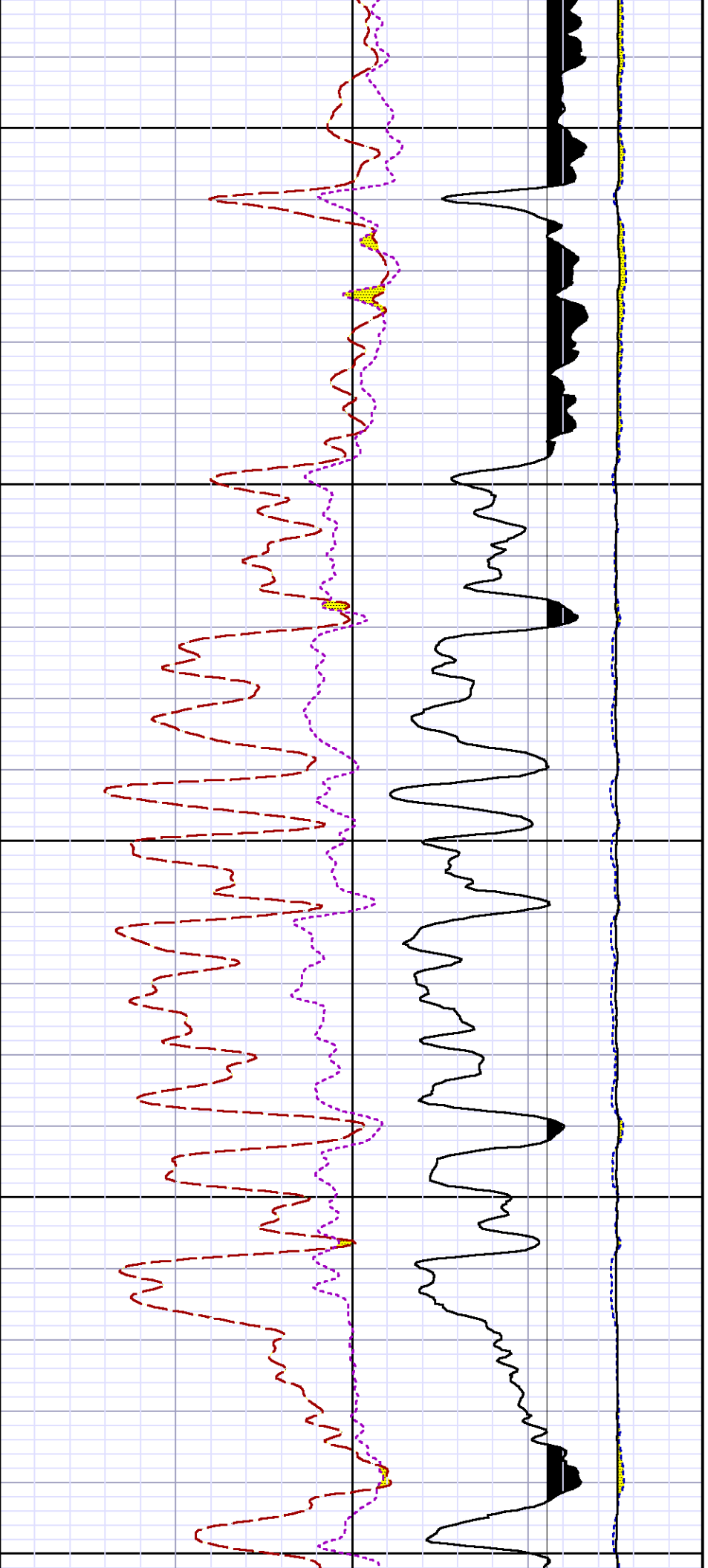
		AMB3	AMF3	CHF3	IXSC	IXSN	RATO23
		RICXC	RIN13C	RIN23	RIN23C	SD3D	SG3D
		SGB3	SGF3	WDTH3	CXSR	IXSR	XSR
		RICXR					
8281XA	-0.250	HVC2Q0	SEQ2	AMA2	AMB2	AMF2	AML2
		BKL	CHF2	CLS	CPT2Q0	CPT2Q2	CPT2Q3
		CPT2Q4	ET2	ILS	LS	MCS2	MCS2Q0
		QCAL2	RGN2	RICL	RONE23	RTWO23	SDA2
		SDL2	SGA2	SGB2	SGF2	SGK2	SGL2
		STA2	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				

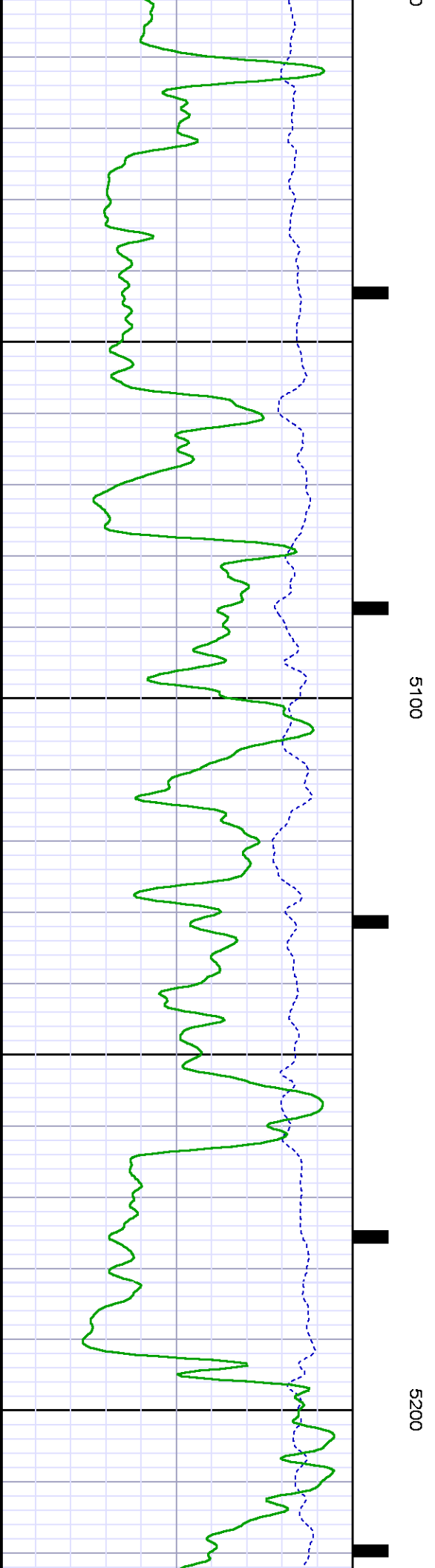
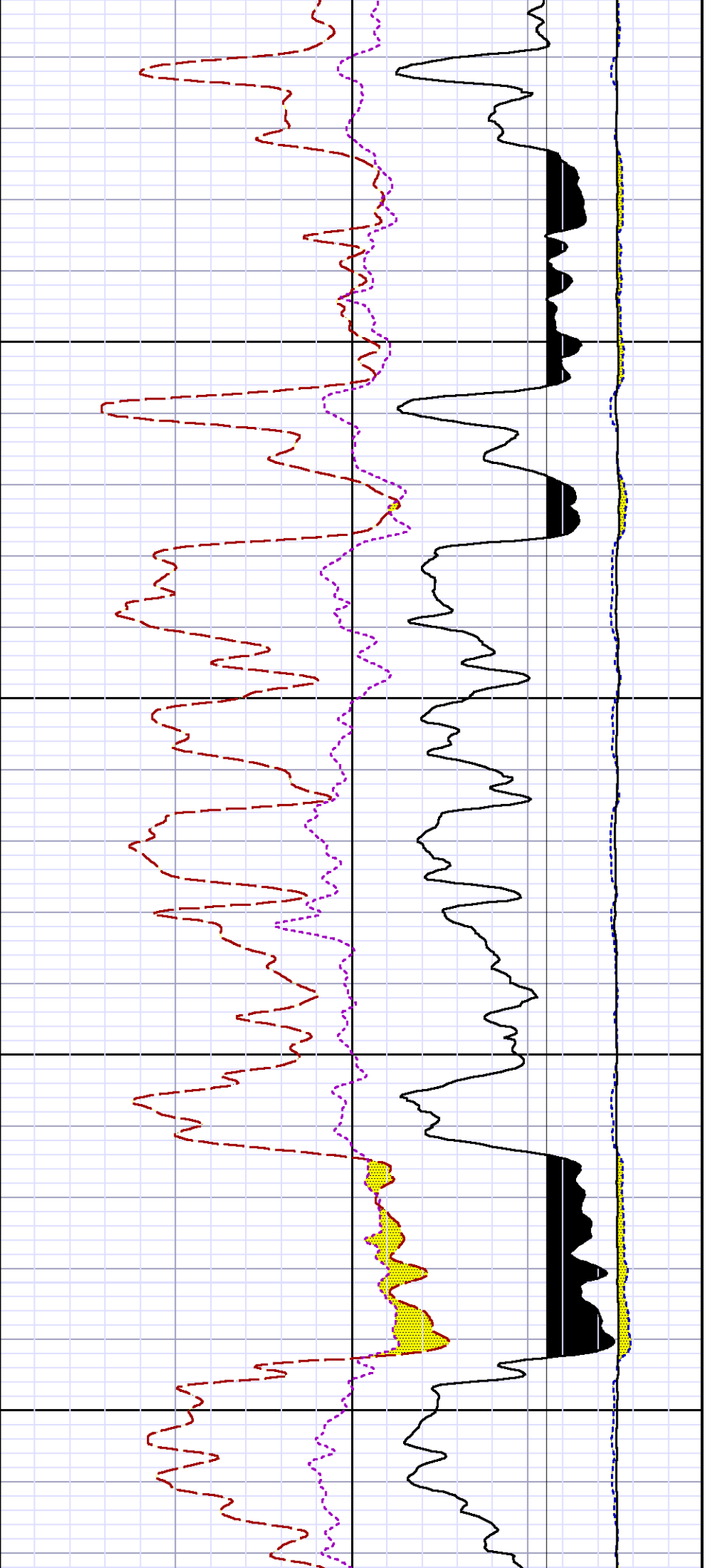


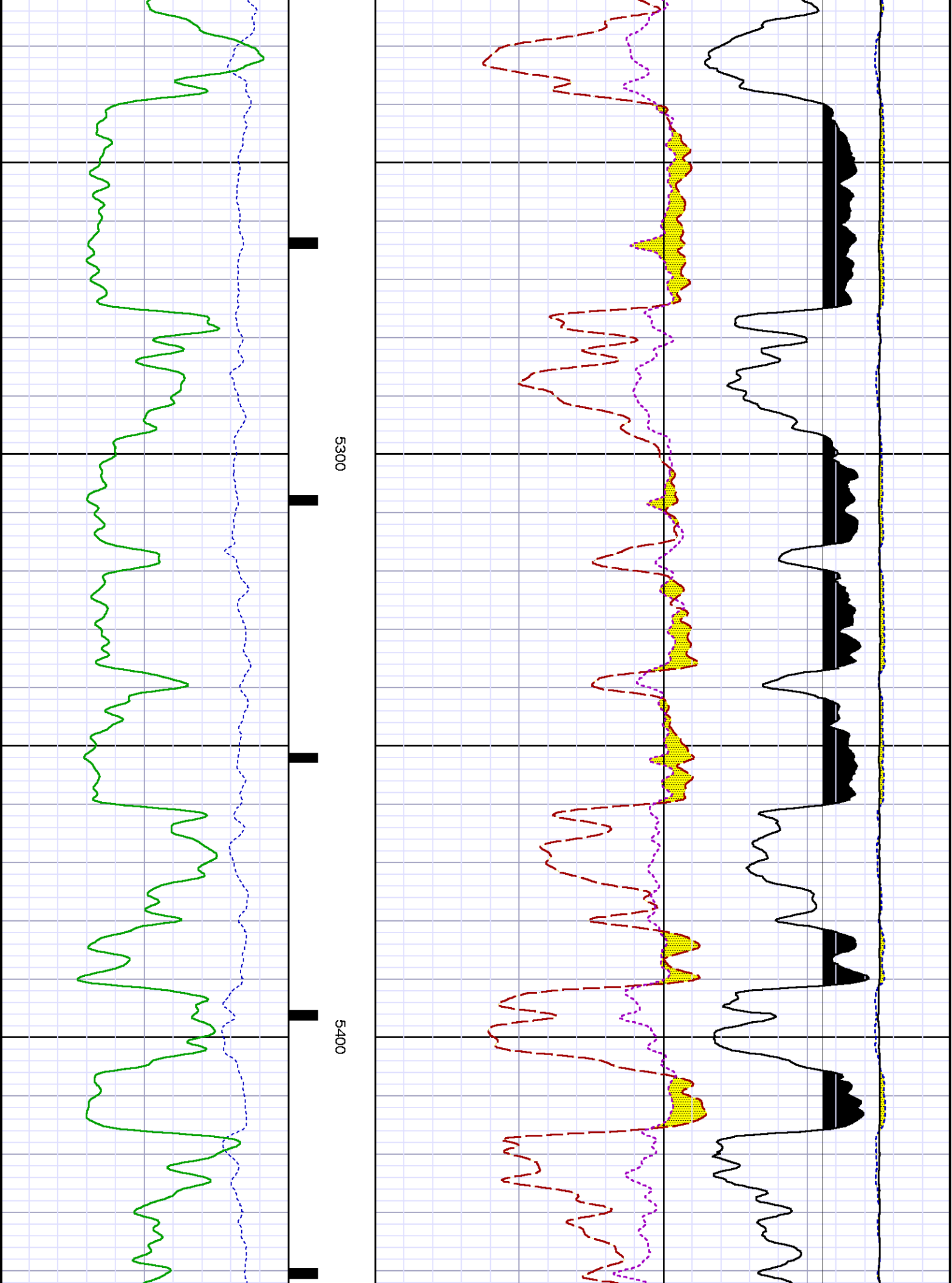


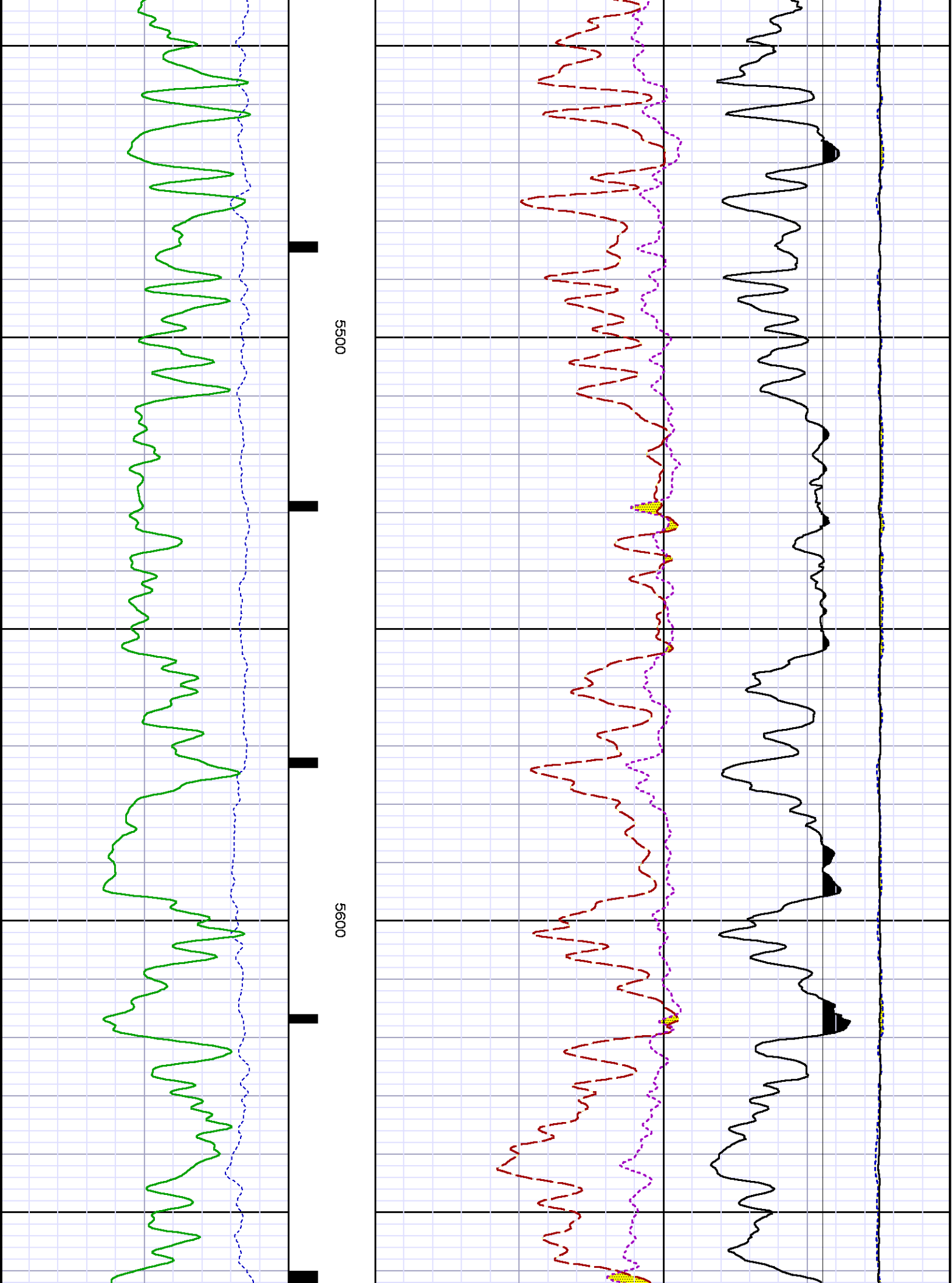


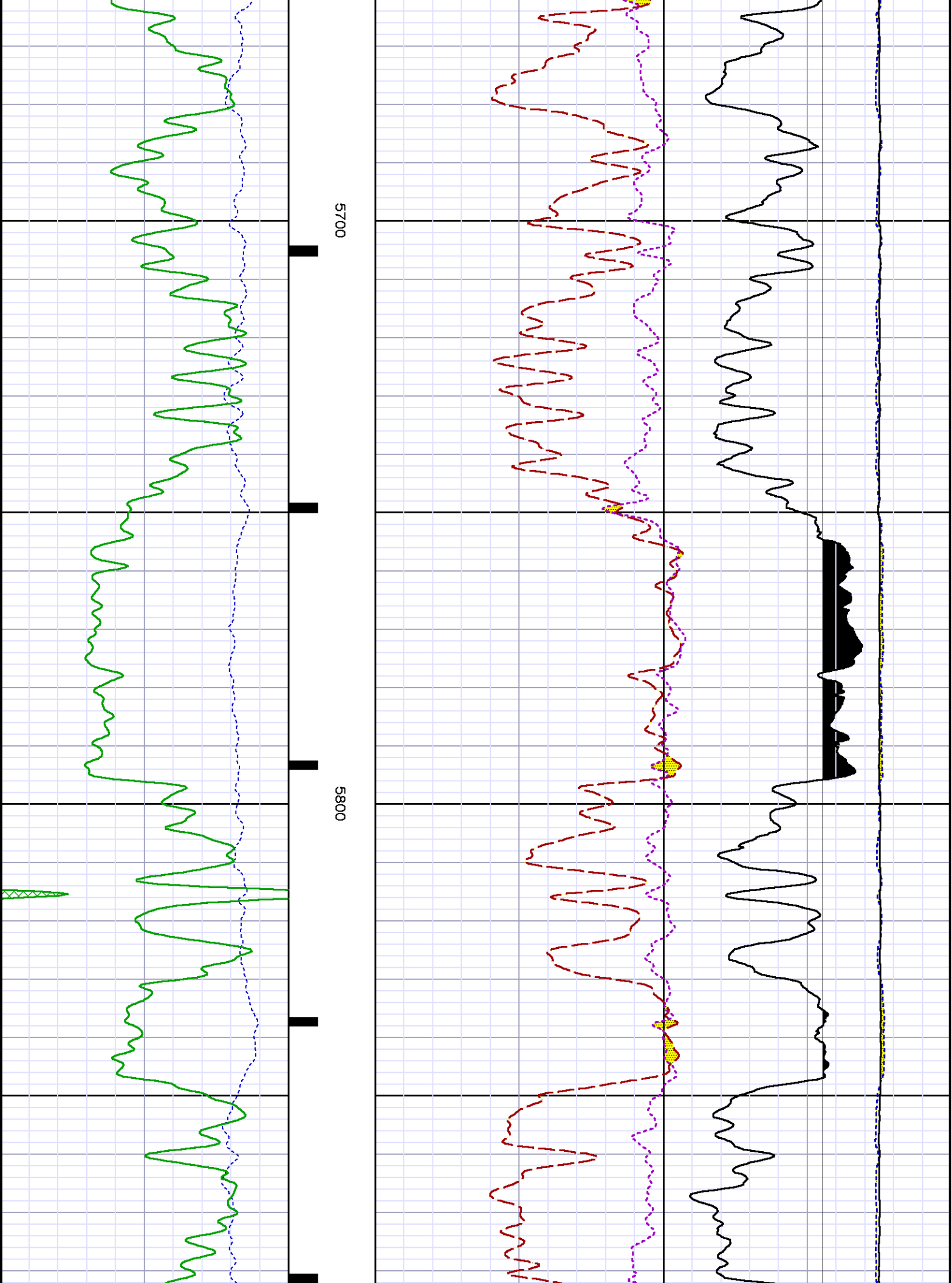


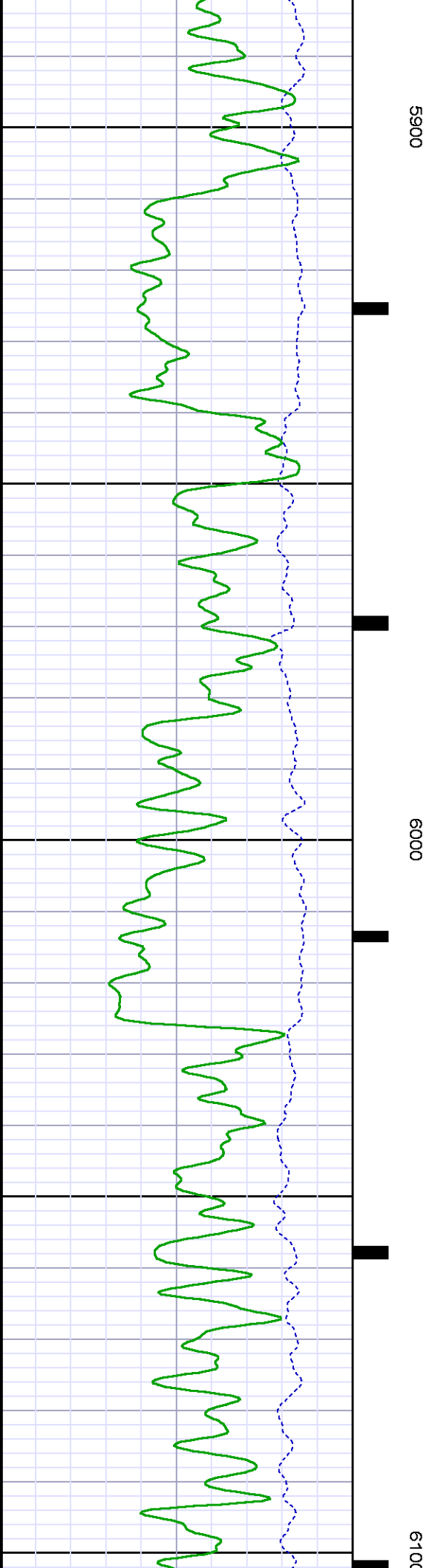
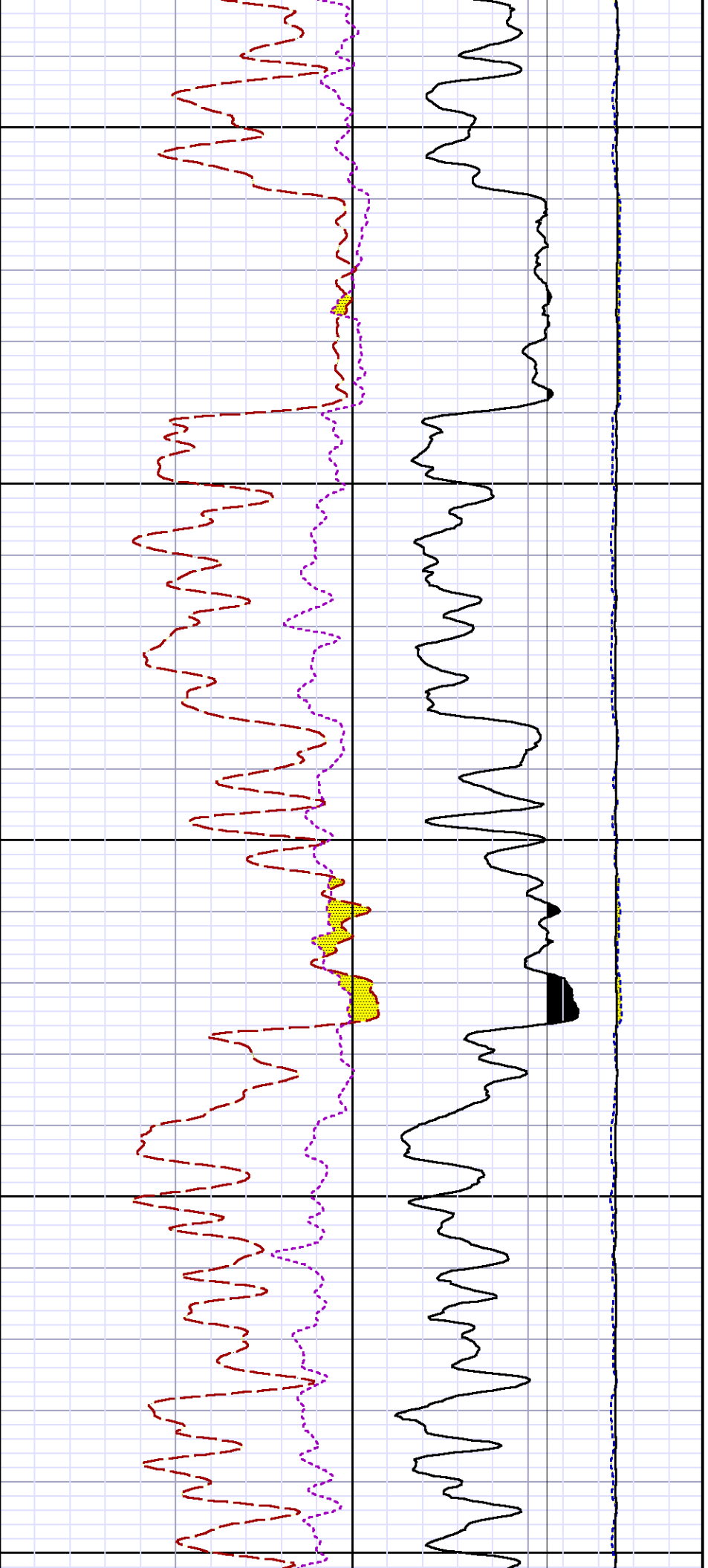


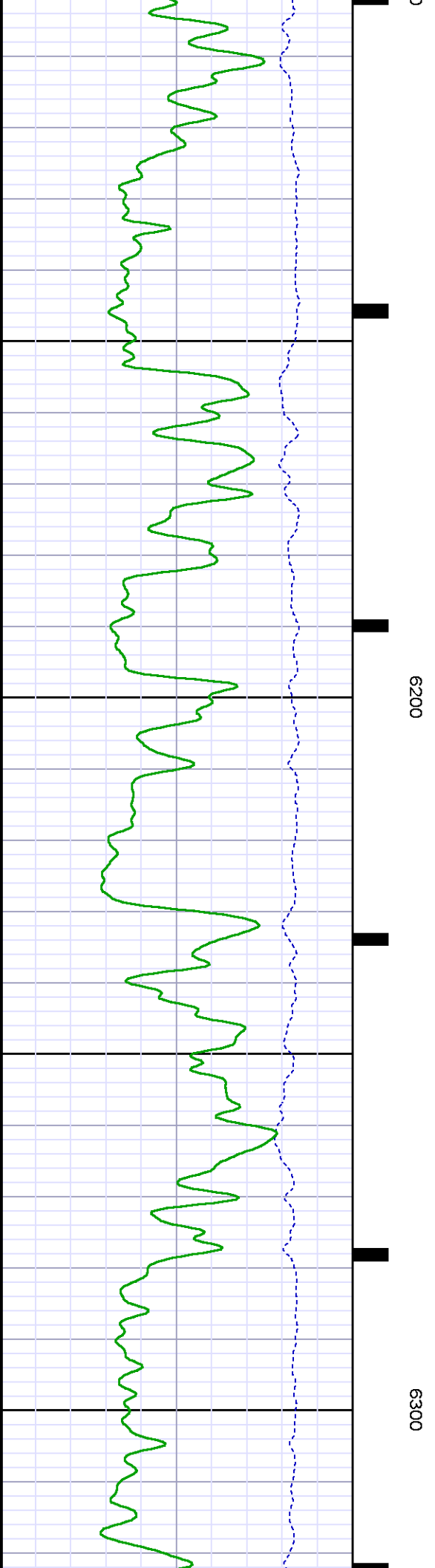
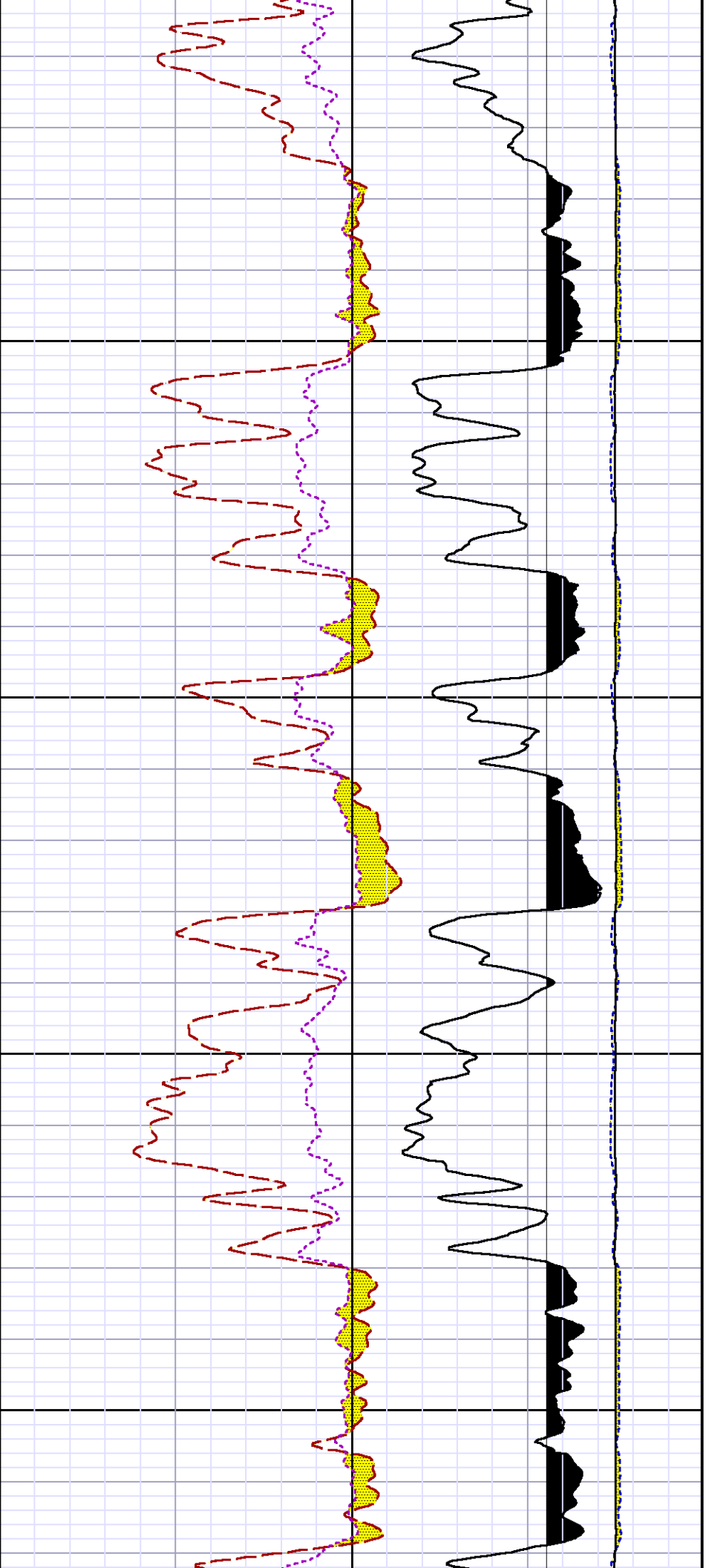


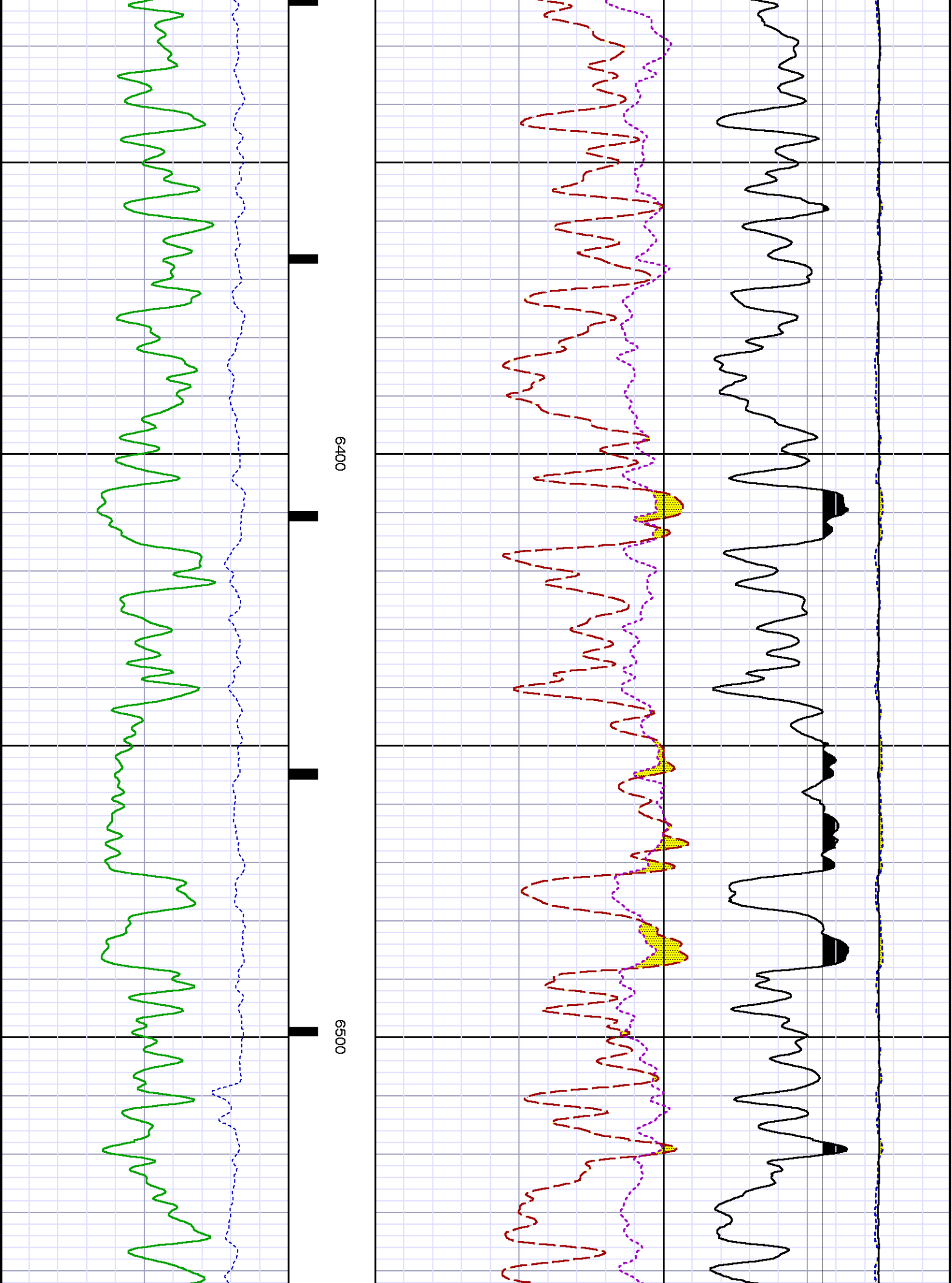


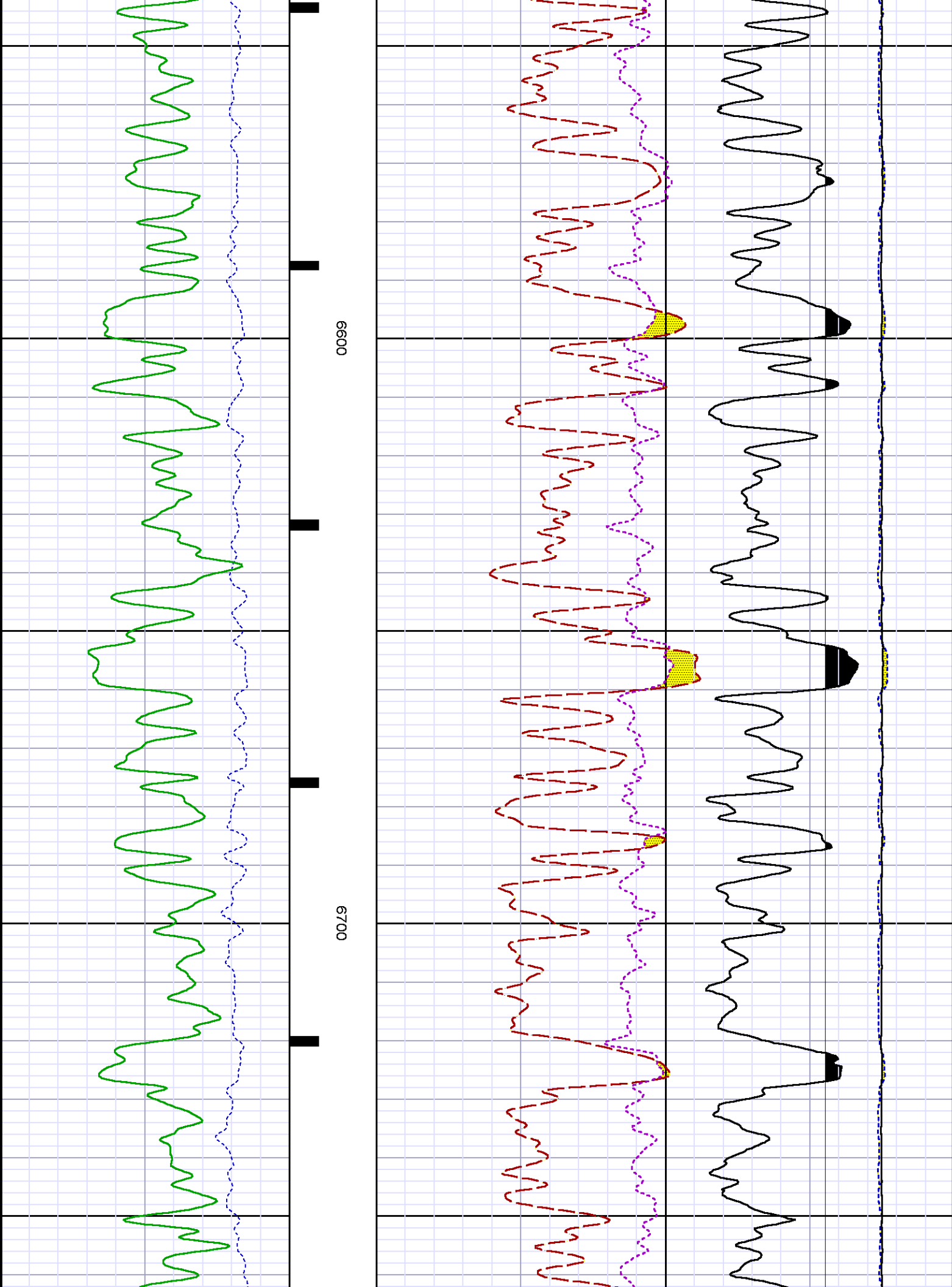


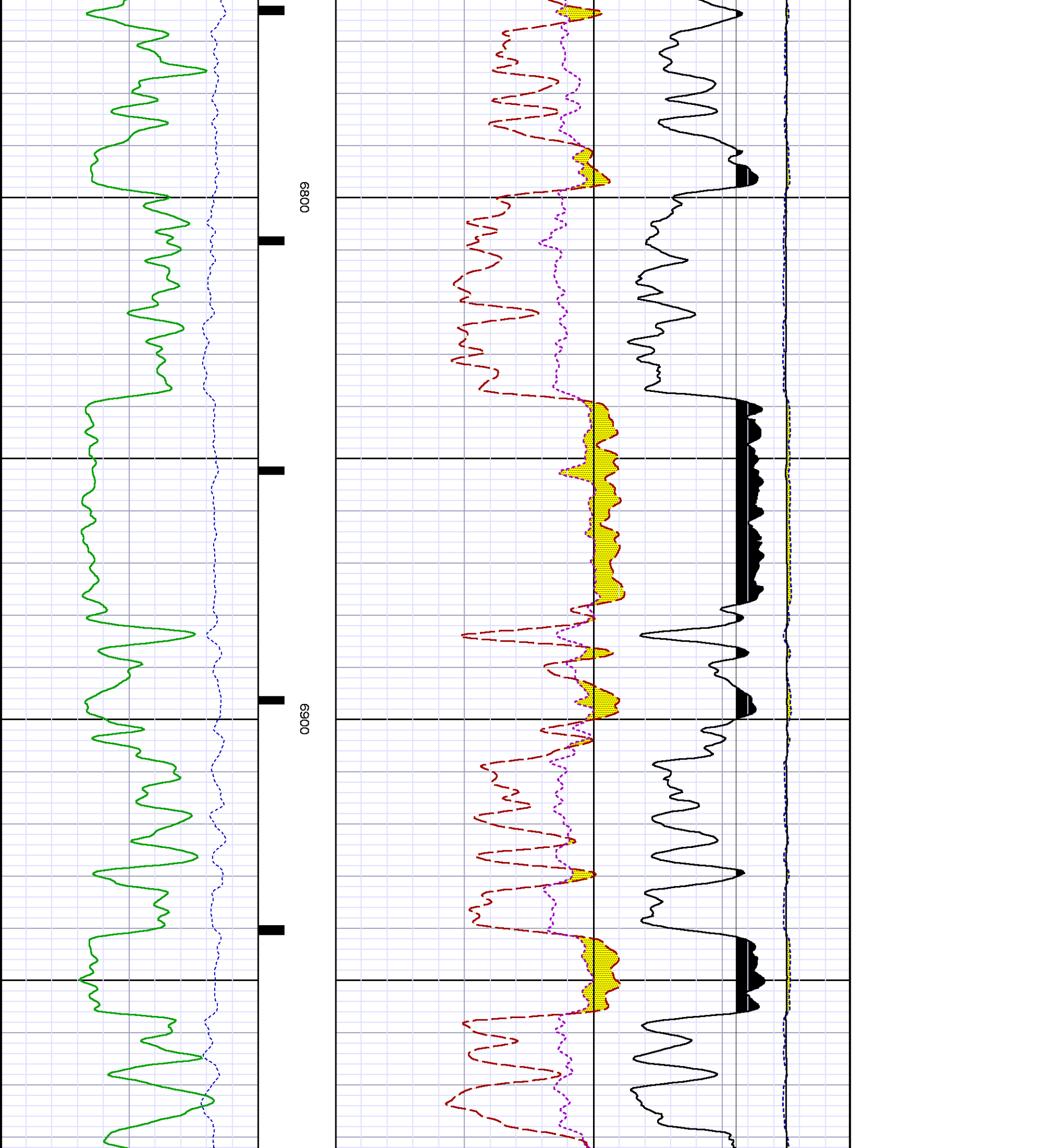


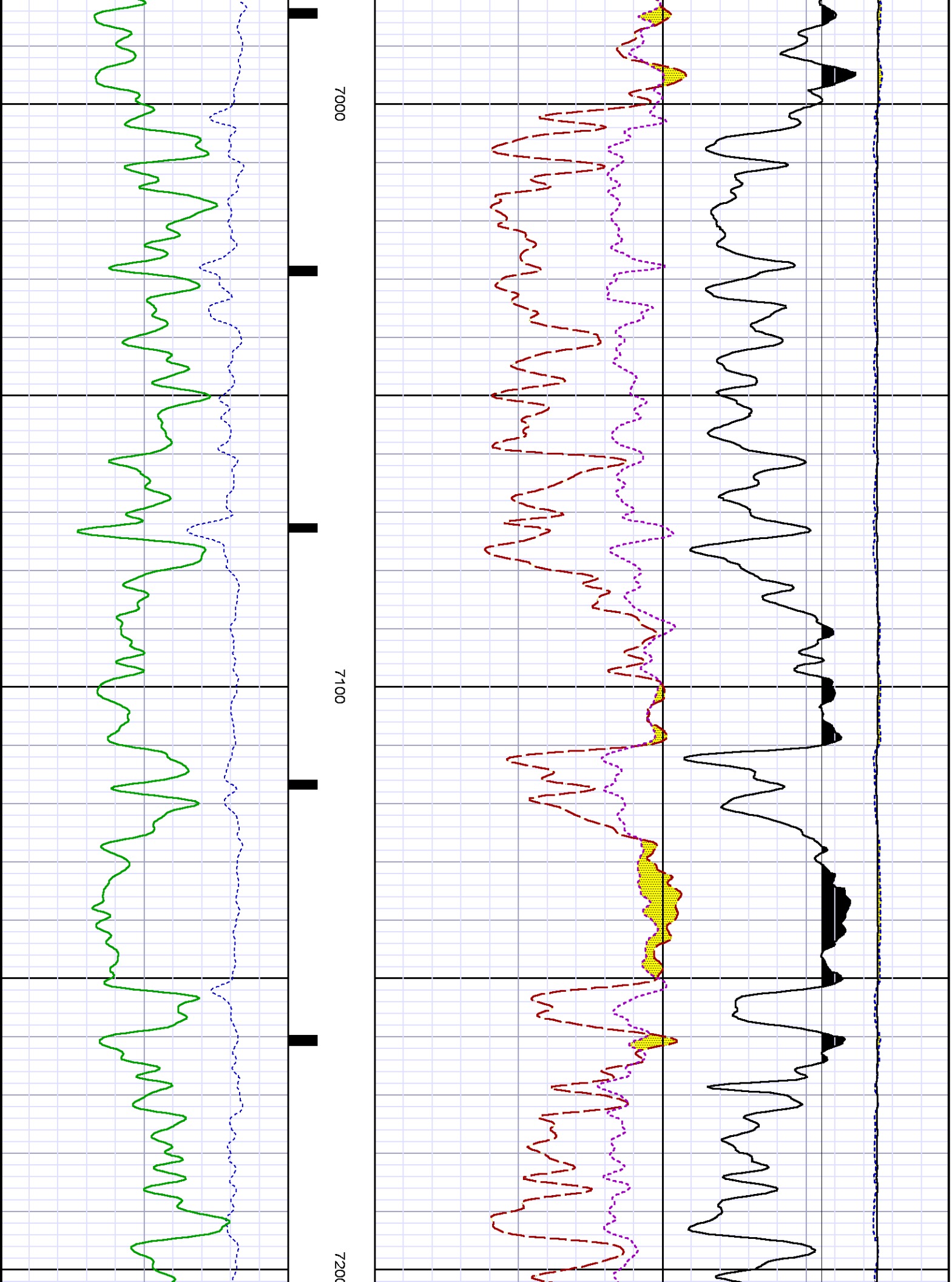


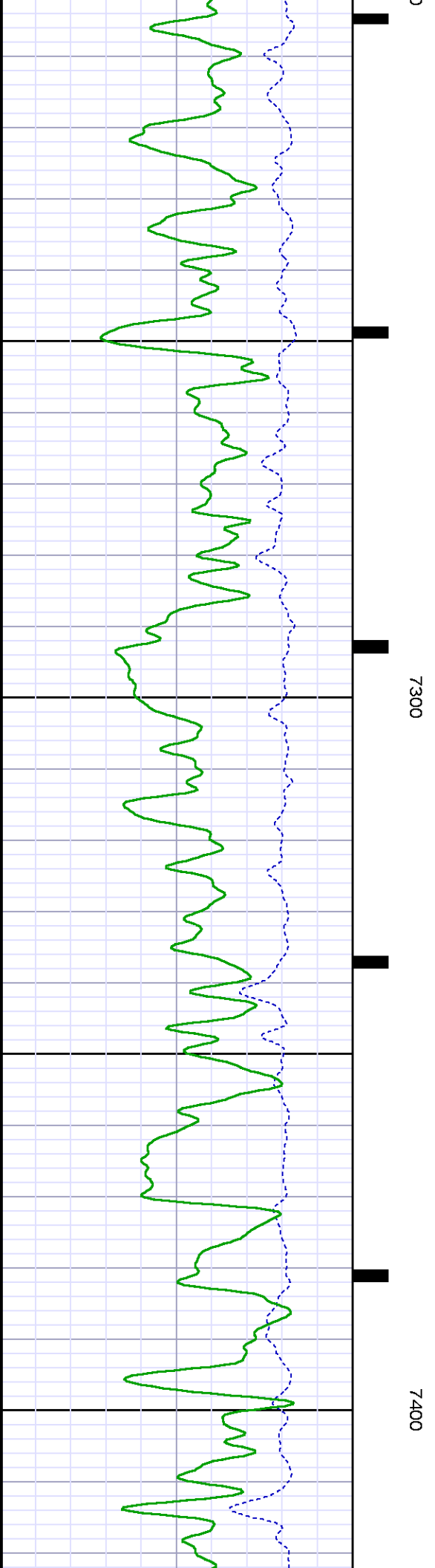
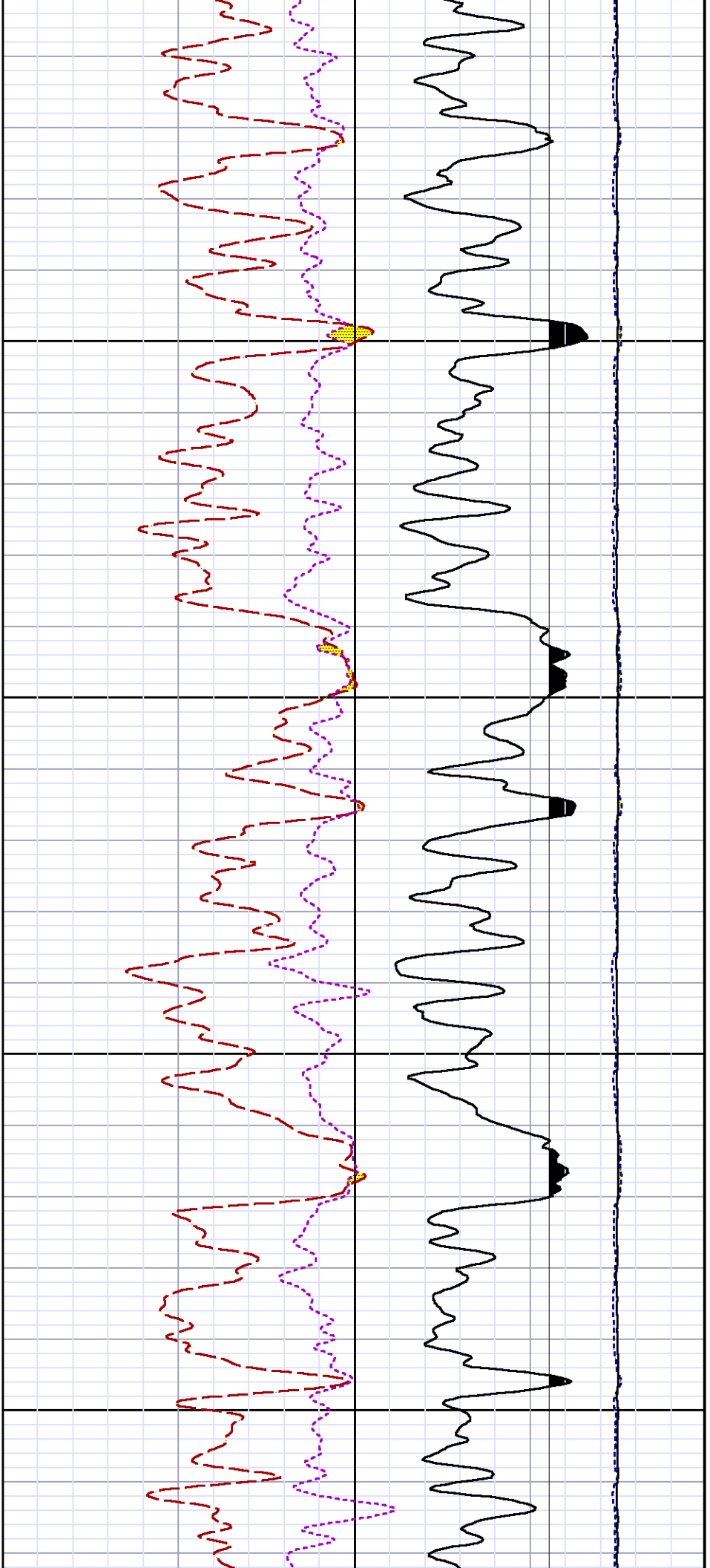


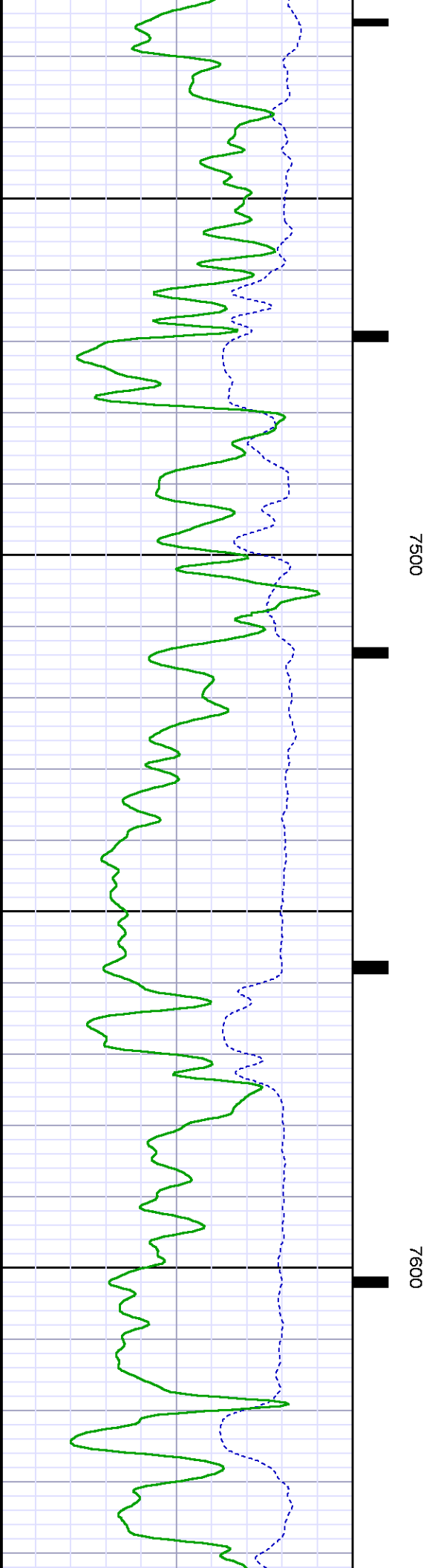
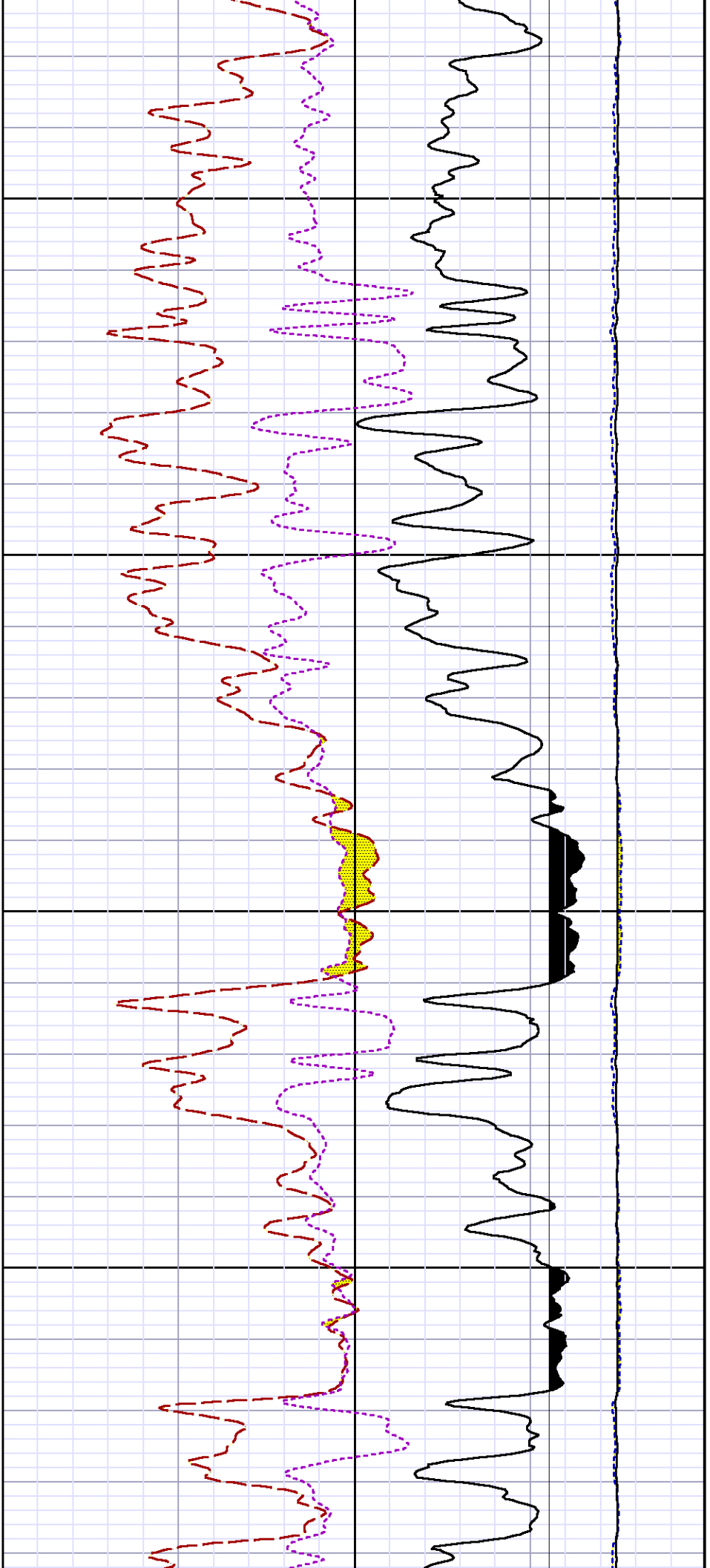


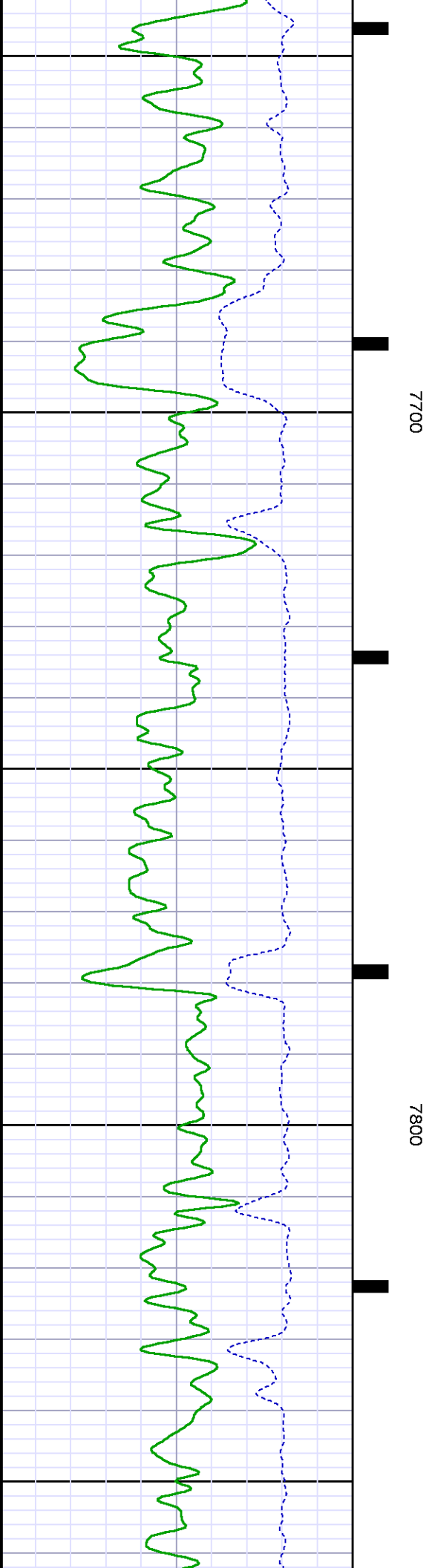
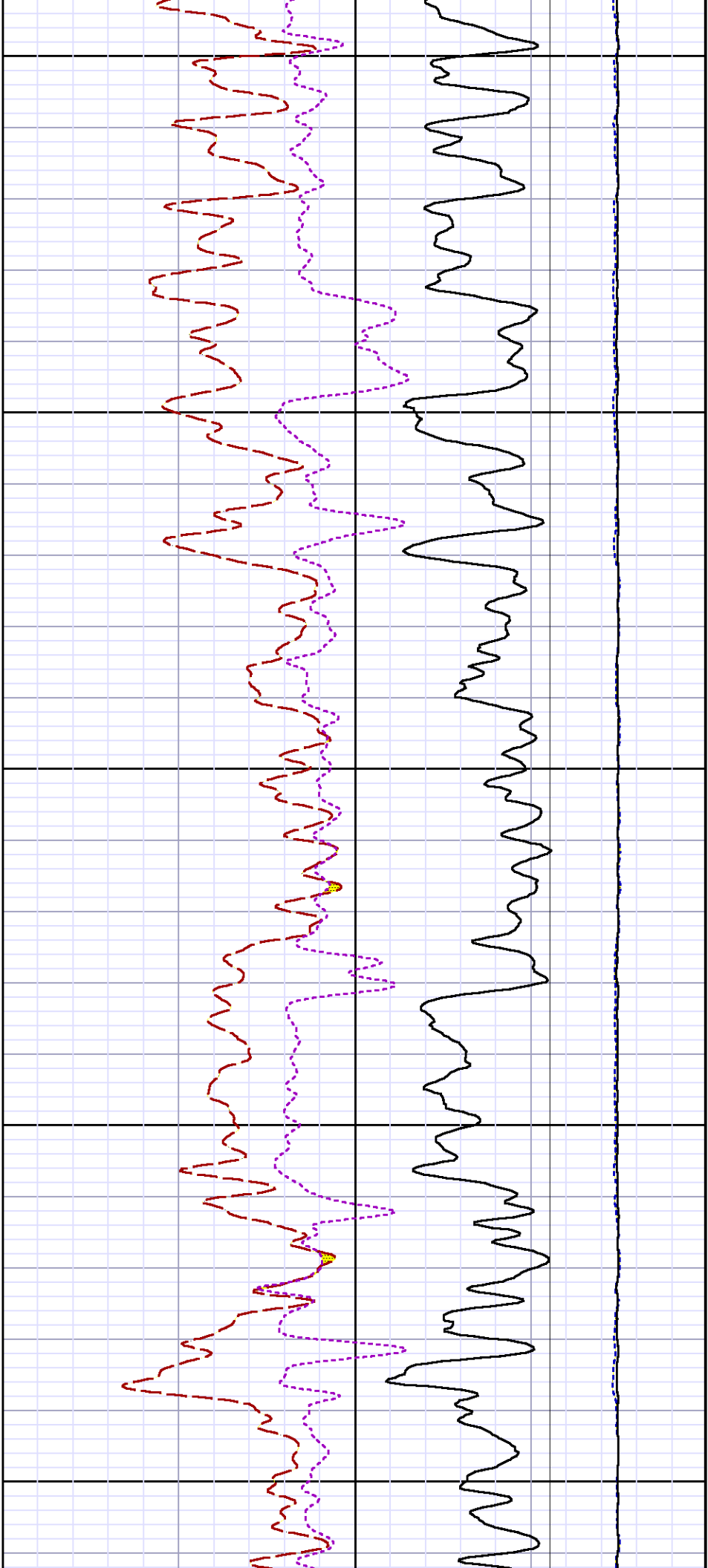


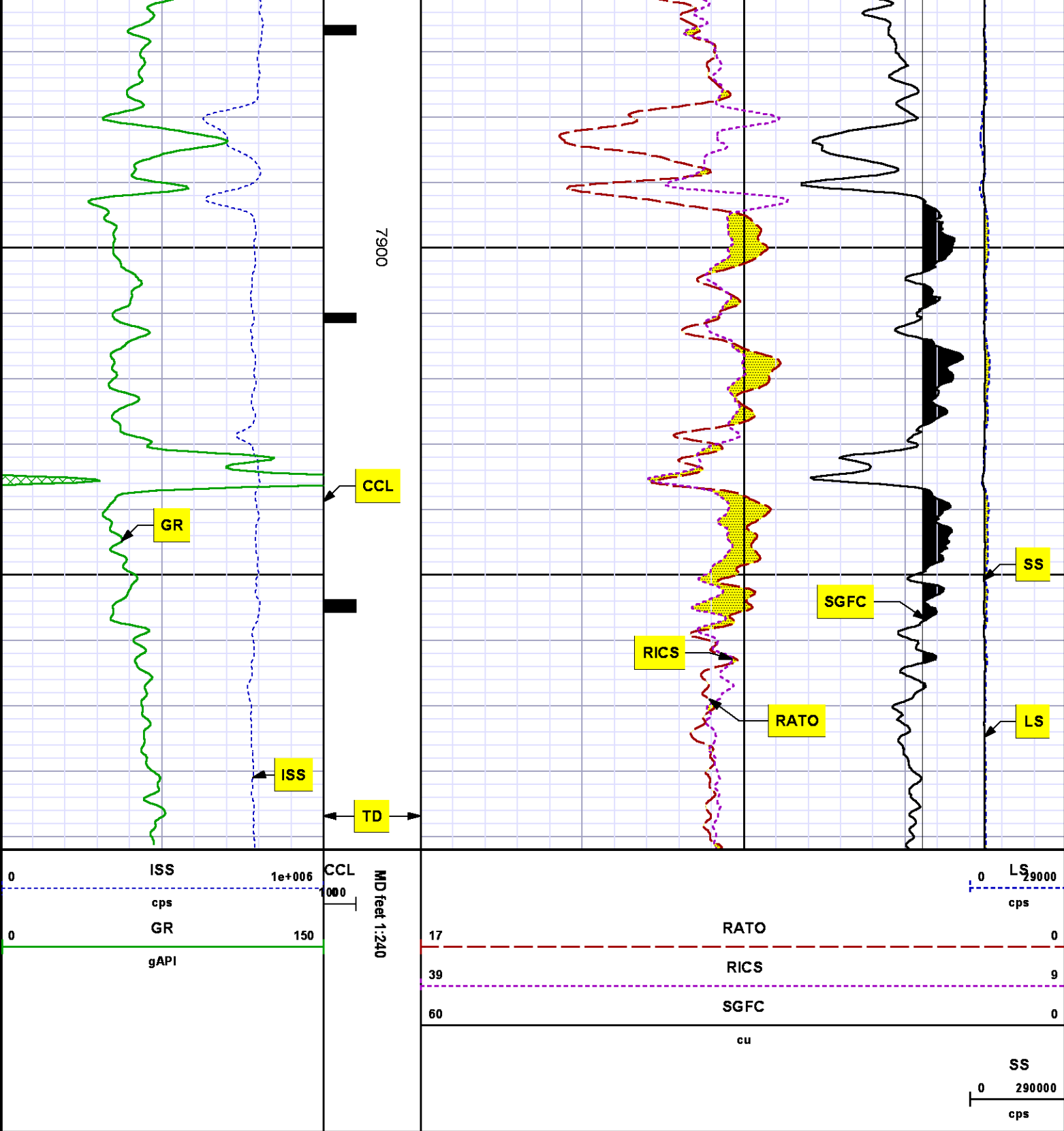












REPEAT SECTION
PNC 3-D MODE

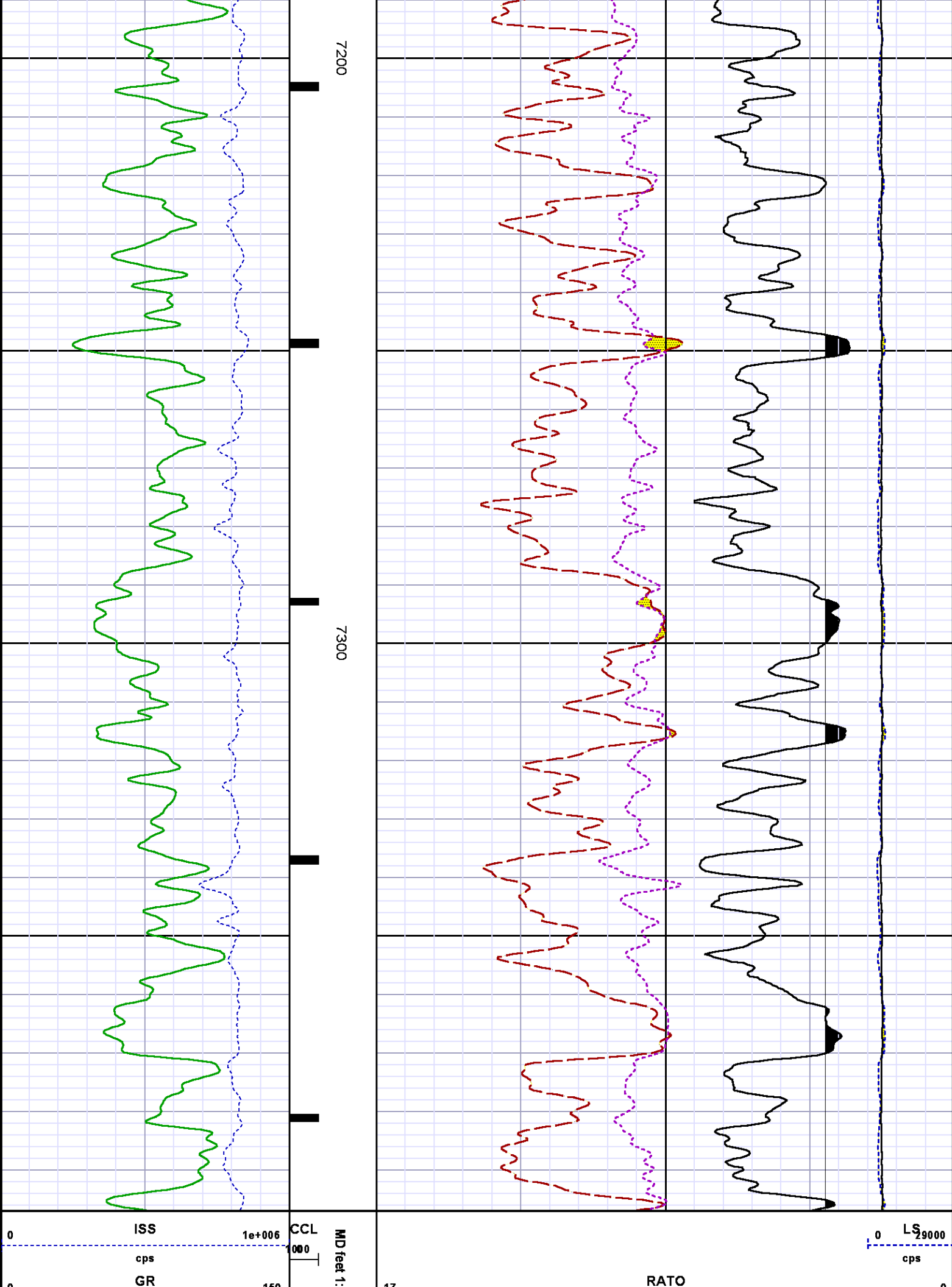
SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		7088.470	7409.720
PNC Porosity	Borehole Size	8.750	inch	7088.470	7409.720
PNC Porosity	Casing Size	4.500	inch	7088.470	7409.720
PNC Porosity	Gas Filled	Non Gas Filled		7088.470	7409.720
PNC Porosity	Matrix	Sandstone		7088.470	7409.720

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
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 WIDTH2 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



gAPI	240	17		0
		39	RICS	9
		60	SGFC	0
		cu		SS
				0 290000
				cps

CALIBRATION SUMMARY

GAMMA RAY (GR4)

Calibration File: C:\case\calver\GR\470TN.cal						
CALIBRATION SUMMARY						
DATE/TIME PERFORMED:		Sat Oct 26 12:52:01 2013		TOOL SERIES:	8262XY	ASSET: 470 SEQ: TN
Calibrator #	Background	Calibrator On	Multiplicative	Background	Calibrator On	Differential
	[cps]	[cps]		[api]	[api]	[api]
S2K WA-612	70.96	408.93	0.533	37.79	217.79	180.00

Verification File: C:\case\calver\GR\470TN.VP						
PRIMARY VERIFICATION						
DATE/TIME PERFORMED:		Sat Oct 26 12:55:24 2013		TOOL SERIES:	8262XY	ASSET: 470 SEQ: TN
Calibrator #	Background	Calibrator On	Multiplicative	Background	Calibrator On	Differential
	[cps]	[cps]		[api]	[api]	[api]
S2K WA-612	73.22	412.91	0.533	39.00	219.91	180.91

PNC

Calibration File: C:\case\calver\PNC\555TN.cal							
PNC 3D CALIBRATION SUMMARY							
DATE/TIME PERFORMED:	Wed Oct 23 16:35:53 2013		TOOL SERIES:	8281XA	ASSET:	555	SEQ: TN
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	819615	121.00	2320.00	2269.00	2228.00	108.73	7.00	0.9791
Interpolated	1300000	141.91	2296.28	2266.45	2222.67			

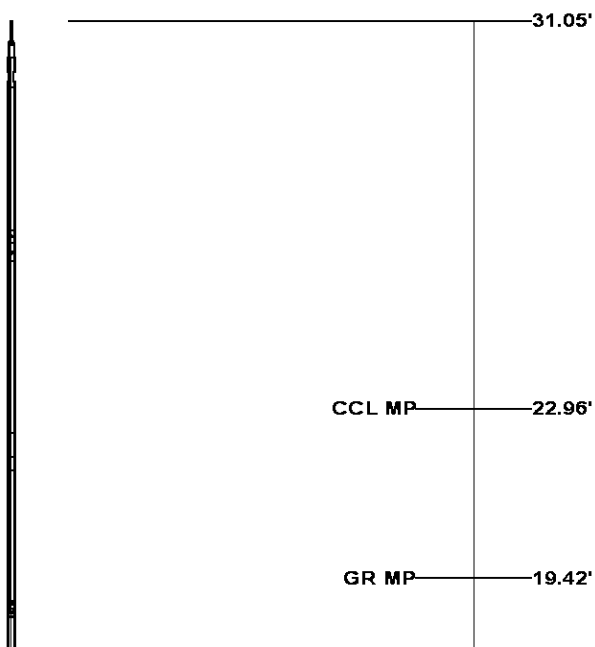
	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	819615	7046.46	1091.56	150.16	25.80	0.14	24.31	0.28
					25.35 26.40	0.00 0.20	23.60 24.80	0.00 0.40

	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
Raw Data	819615	175573.81	26920.34	91684.47	32637.21	8509.07	55444.93	13599.47
Fit Quality %		0.42	0.41	0.51	0.50	0.44	0.45	0.38

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	819615	1.43	4.67	30.45	14.78	10.78	3.84	4.08
		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	0.34	0.28	0.24	0.21	0.20	0.15
Reduced	1394692	1.43	4.70	30.60	14.86	10.79	3.84	4.08
		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 DETECTOR12.90'

LS DETECTOR9.93'
SS DETECTOR9.70'

0.00'

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:	
	Well		WPX ENERGY RWF 42-4		CH078601	
	Field		RULISON		API No:	
	County		GARFIELD		State	CO
Location		SHL: 415' FNL & 1674' FEL		Elevations		4 7S 94W
BHL: 1154' FNL & 1293' FEL				KB 5820 ft		RMV 108-4 PAD
				DF		NABORS 574
				GL 5794 ft		
SEC 4		TWP 7S		RGE 94W		