



# RESERVOIR PERFORMANCE MONITOR

Baker Atlas

File No: CH071536	Company Well Field County	WPX ENERGY GOLDSBOROUGH PA 11-11 PARACHUTE GARFIELD	State COLORADO
API No: 05045218220000			
11 7S 9SW PA 22-11 CYCLONE 17	Location SHL: 2401' FNL & 2022' FNL SEC:11 BHL: 150' FNL & 619' FNL SEC:11 SEC 11 TWP 7S RGE 9SW	Other Services BOND LOG	
Permanent Datum Log Measured From Drill Measured From	G.L. _____ Elevation 6274 ft K.B. _____ 26 ft Above P. D. KELLY BUSHING	Elevations KB 6300 ft DF GL 6274 ft	

Date	27/APR/13	
Run	ONE	
Service Order	575113	
Depth Driller	6451 ft	
Depth Logger	6436 ft	
Bottom Logged Interval	6426 ft	
Top Logged Interval	4890 ft	
Time Started	7:00	
Time Finished	13:00	
Operator Rig Time	6 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	N/A	
Salinity	N/A	
Fluid Level	76 ft	
Logged Cement Top	N/A	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	N/A	
Nominal Logging Speed	10 fpm	
Maximum Recorded Temperature	226 degF	
Reference Log	BAKER HUGHES BOND LOG	
Reference Log Date	26/APR/15	
Equipment No.	4271	GRAND JUNCTION
Recorded By	U. KINSEL	9721
Witnessed By	MR. DUSTIN WELSCH	GRAND JUNCTION

- 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	1093 ft
8.75 In	0 ft	8542 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 In	N/A	N/A	0 ft	1022 ft
4.5 In	11.6 lbm/ft	1-80	0 ft	8451 ft

Remarks
ALL DATA IN THIS LOG WAS DEPTH SHIFTED TO MATCH A BAKER HUGHES BOND LOG DATED 26 APRIL 2013 AT THE CLIENT'S REQUEST. THE AMOUNT OF LINEAR SHIFT WAS 8 FEET DOWN. DEPTH SHIFTING PROCESS CREATES THE POTENTIAL FOR COLLAR LENGTHS TO VARY FROM OTHER CASED HOLE LOGS WITHOUT A GAMMA RAY REFERENCE.  SHORT JOINT: 5201' - 5222'  BHT: 226 degF

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	RPM	8281FA	10423689	FREE
1	1	RPM	8281PA	10160383	FREE
1	1	RPM	8281EA	10294755	FREE
1	1	GAMMA RAY	8262XA	10076055	FREE
1	1	TEL/CCL	8248EA	10296408	FREE
1	1	PCM	8250EA	10397894	FREE

*MAIN LOG*  
*PNC 3D MODE*

SPL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		4864.780	8436.655
PNC Porosity	Borehole Size	8.750	inch	4864.780	8436.655
PNC Porosity	Casing Size	4.500	inch	4864.780	8436.655
PNC Porosity	Gas Filled	Non Gas Filled		4864.780	8436.655
PNC Porosity	Matrix	Sandstone		4864.780	8436.655

DEPTH OFFSETS							
(for Acquired Curves)							
SERIES	DEPTH OFFSET	ACQUIRED CURVES					
8248EA	-15.320	FLTM					
8248EA	-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
		CDL3	CDL3	CDL3	CDL3	YD	LOGF07

8281XA

-0.250

SDL3	SGA3	SGL3	STA3	XS	ASPEC3
AMB3	AMF3	CHF3	IXSC	IXSN	RAT023
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	RTW023	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	RAT0	RAT013
RBOR	RGN1	RICS	RIN	RONE	RPOR
RTW0	RIN13	RONE13	RTW013	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	MM	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	HOC	FE2XC	ISSC	RINC
ISSN	RDEN	WDTH1	RICSC	CSSR	G1R
G2R	ISSR	SSR	SS2R	RATOR	RAT013R
RBORR	RICSR	RINR	RIN13R	RONER	RPORR

SYSTEM

0.000

TEN TTEN

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

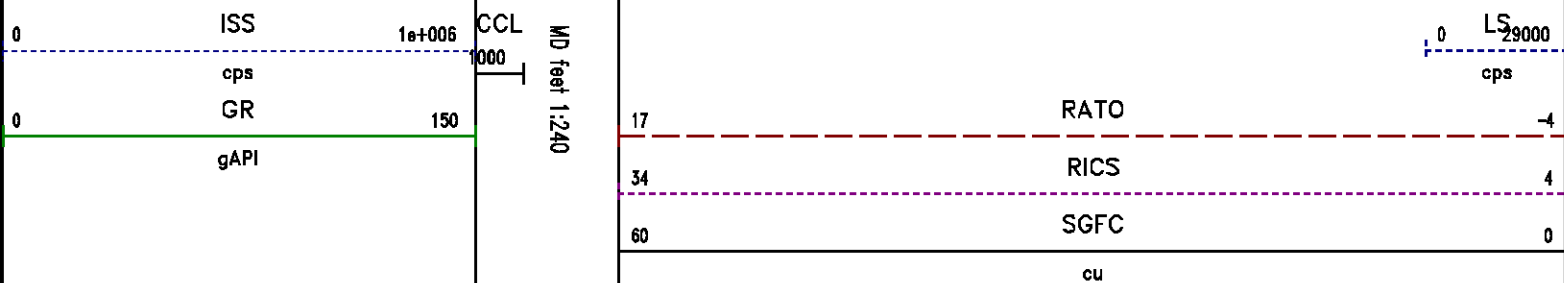
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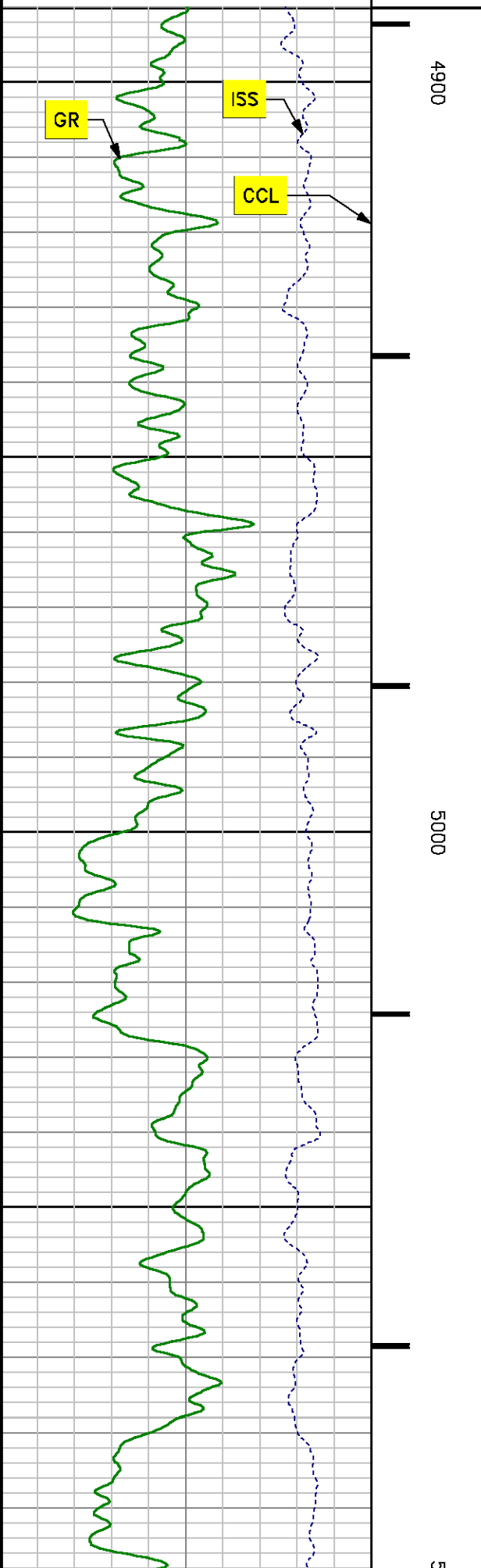
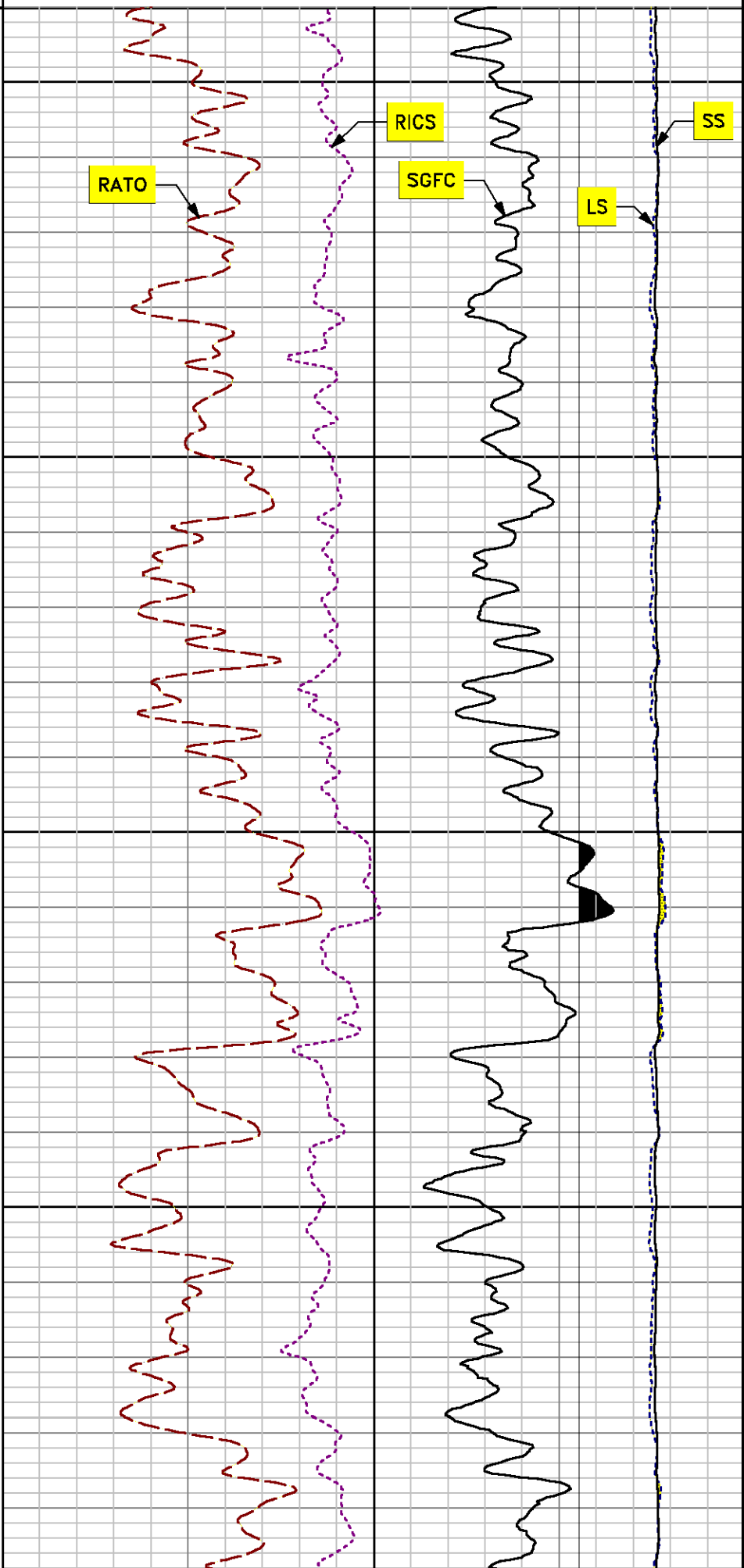
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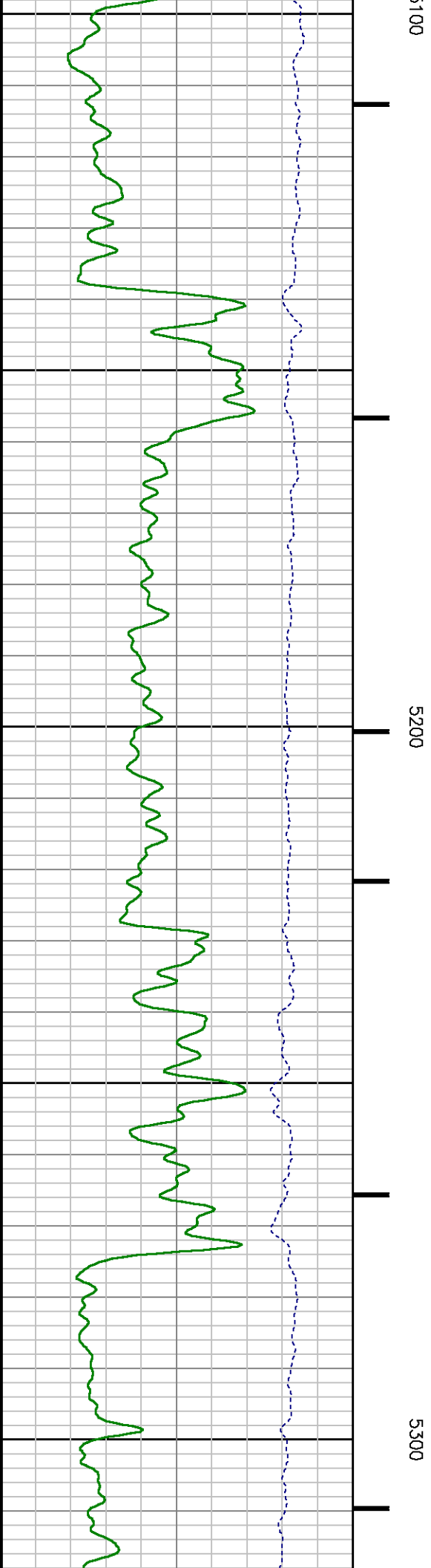
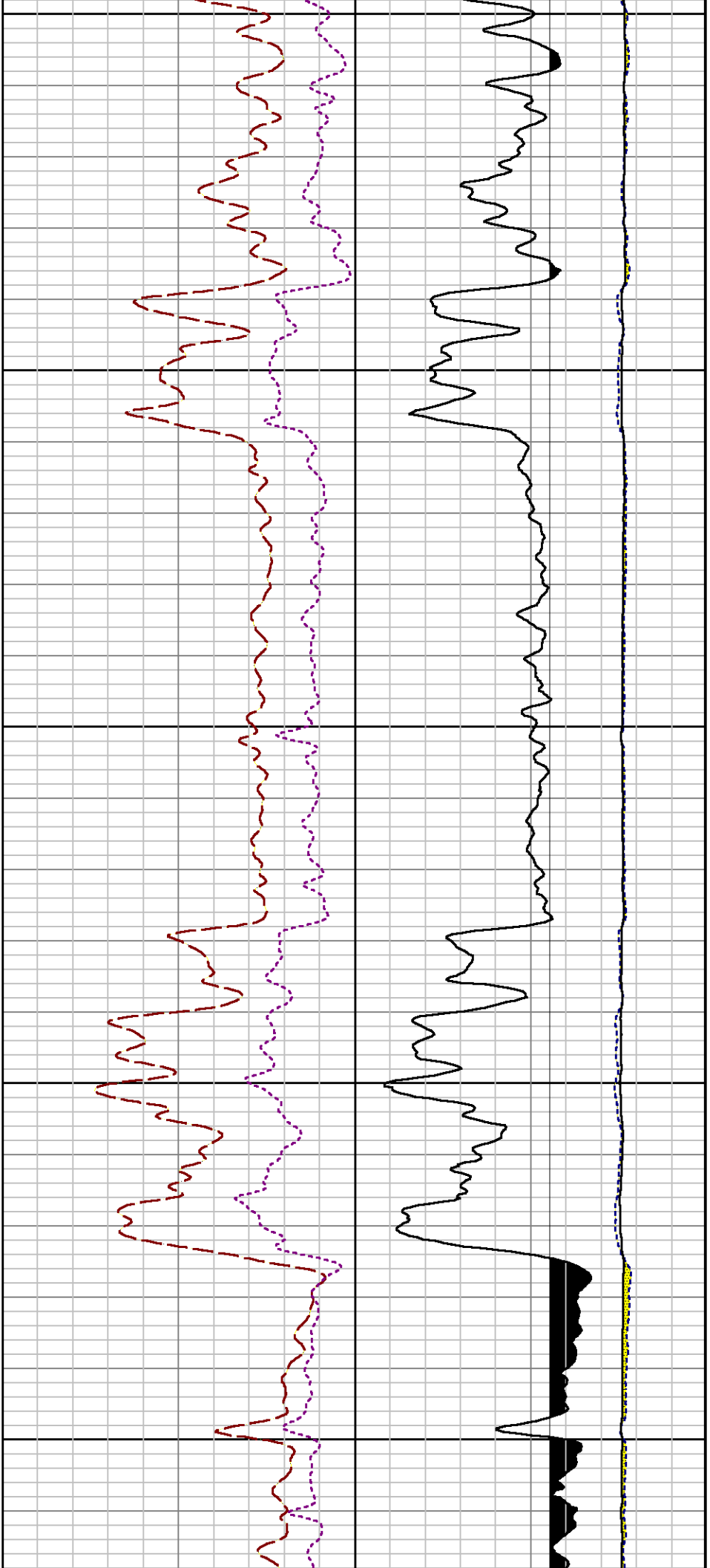
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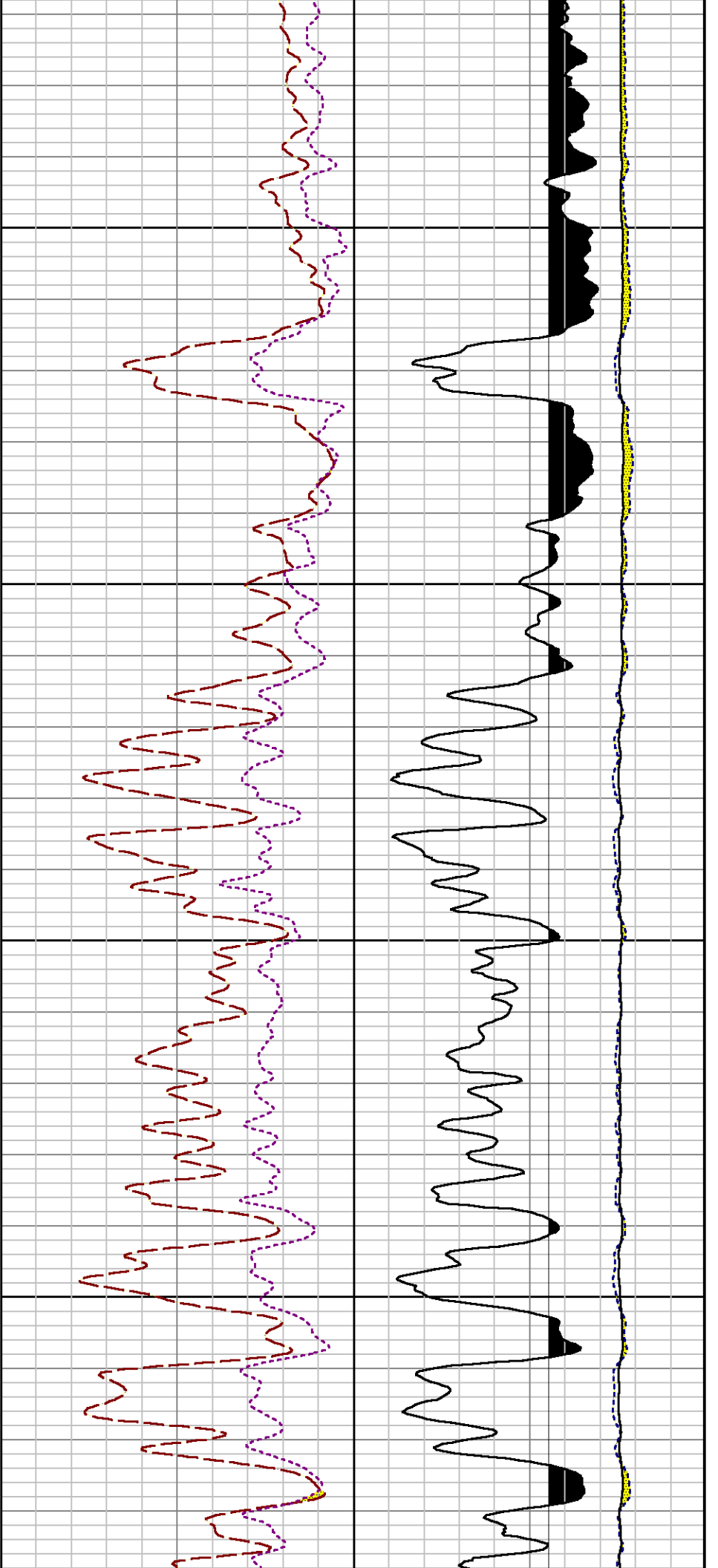
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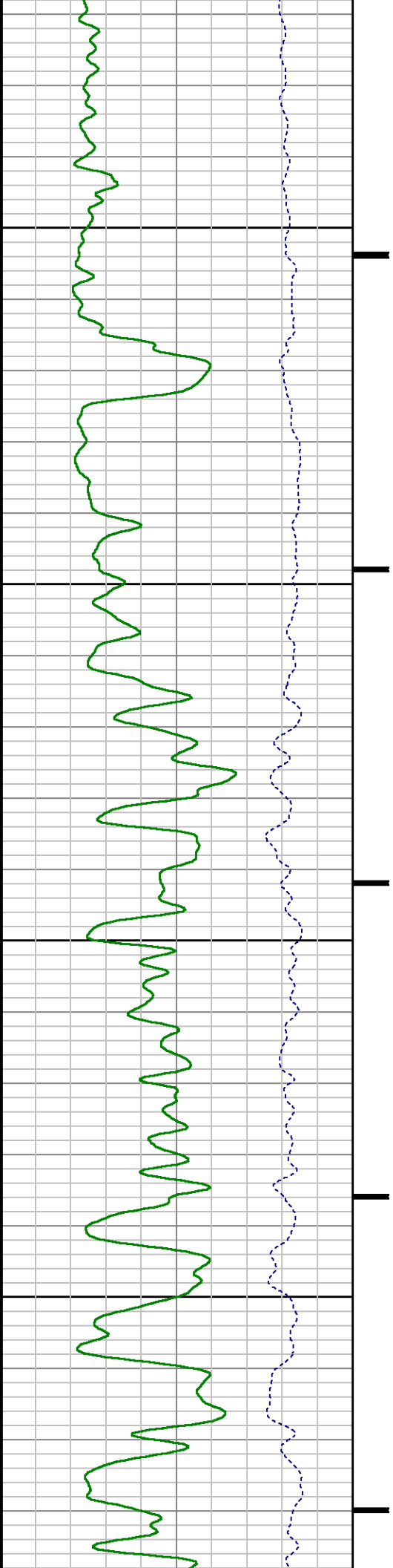


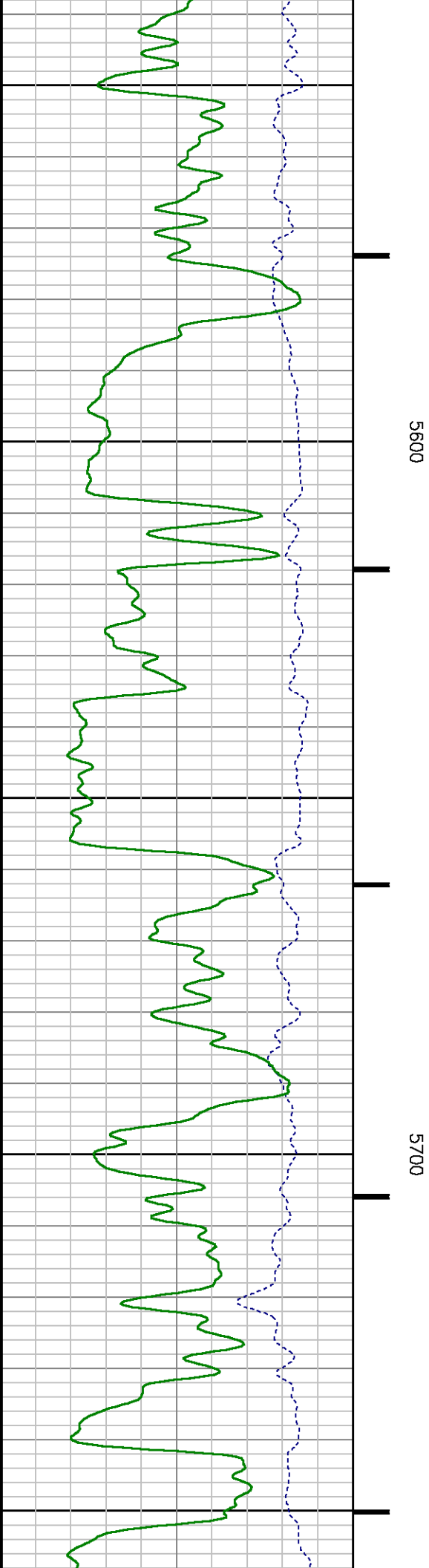
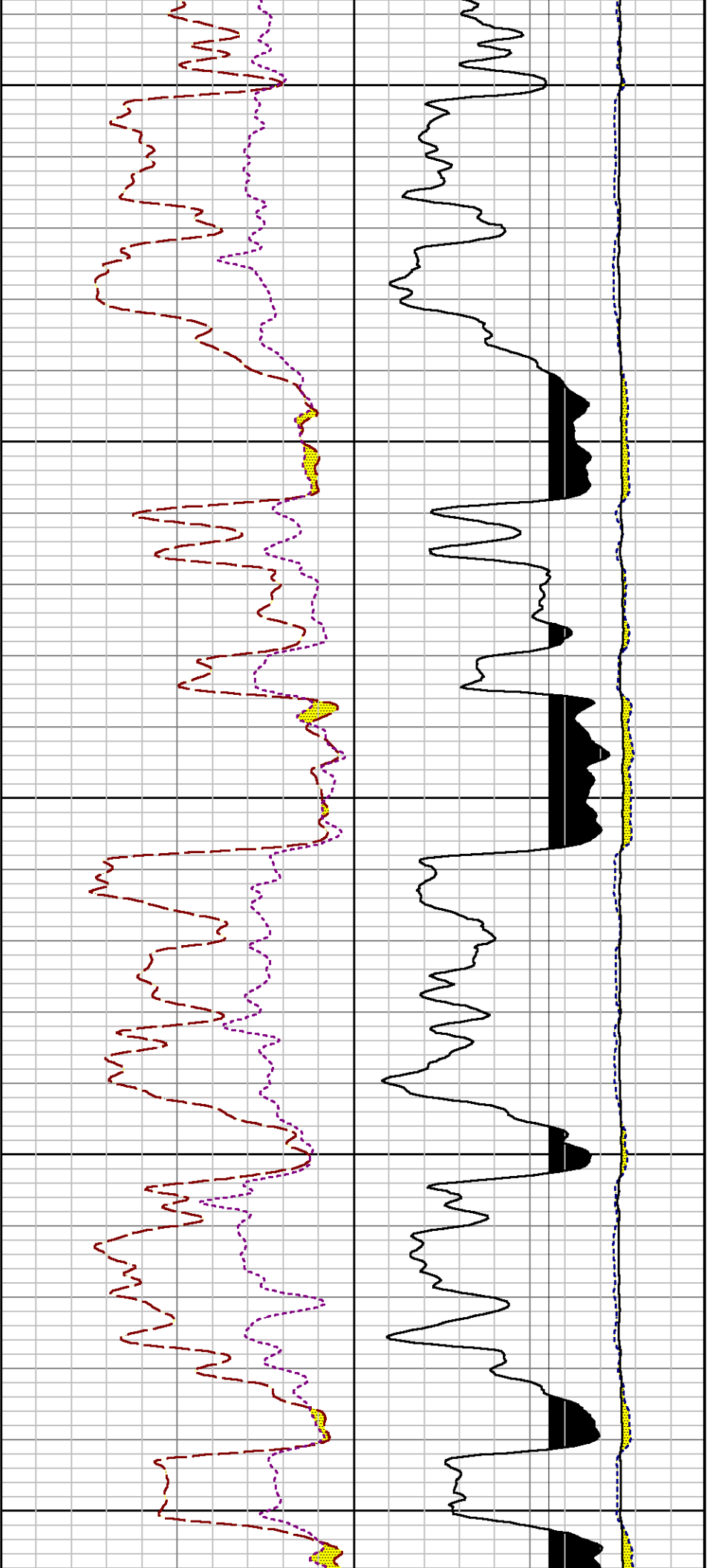


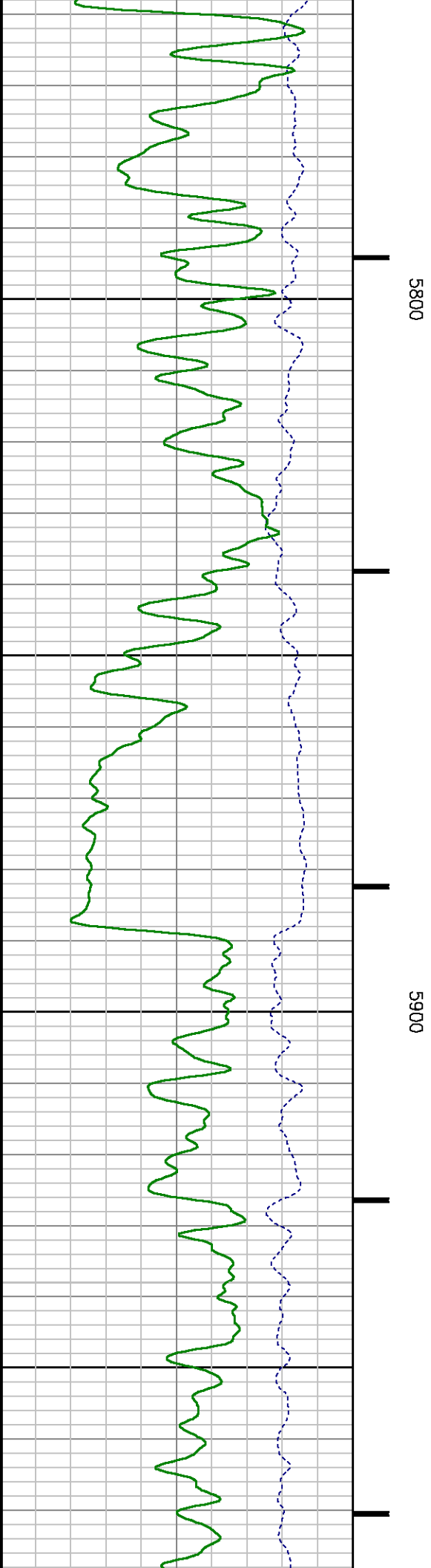
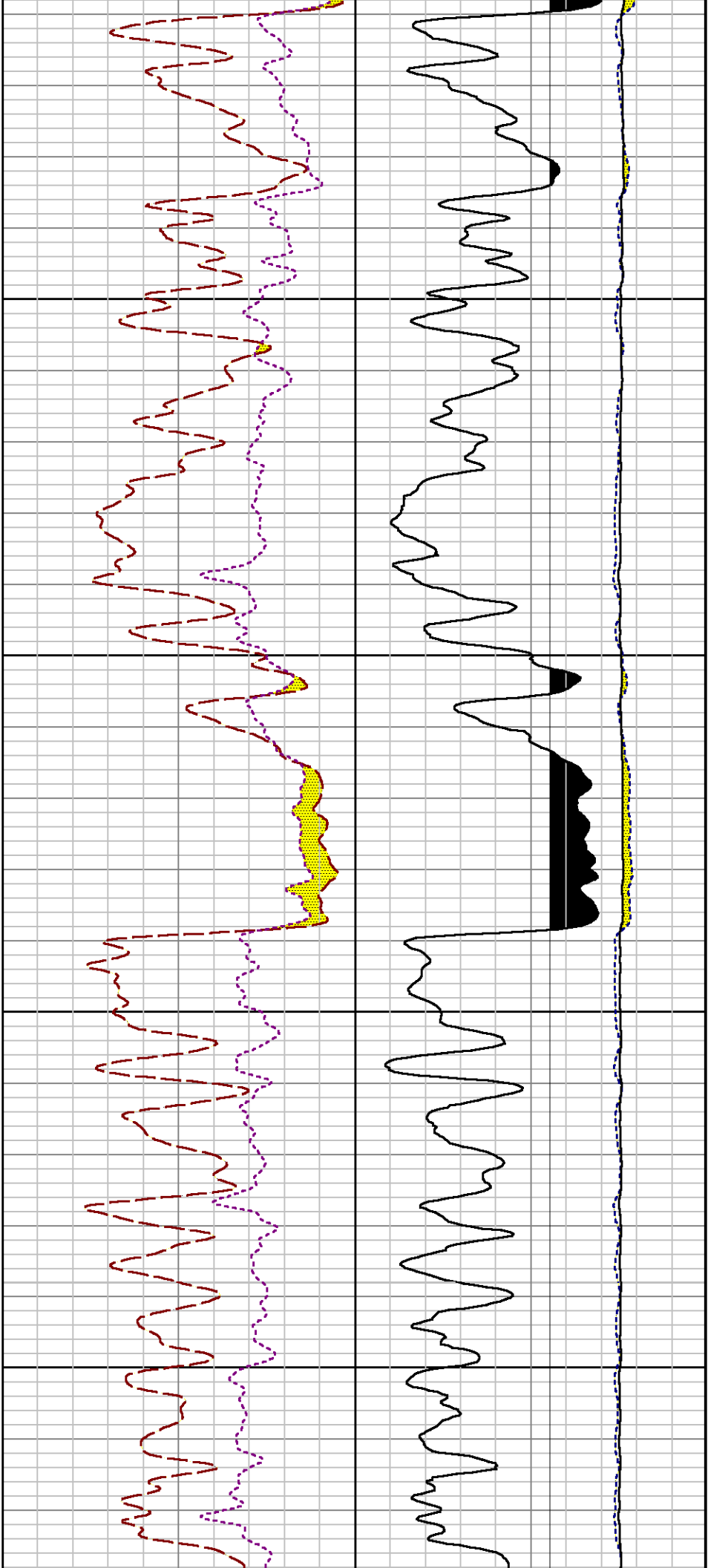


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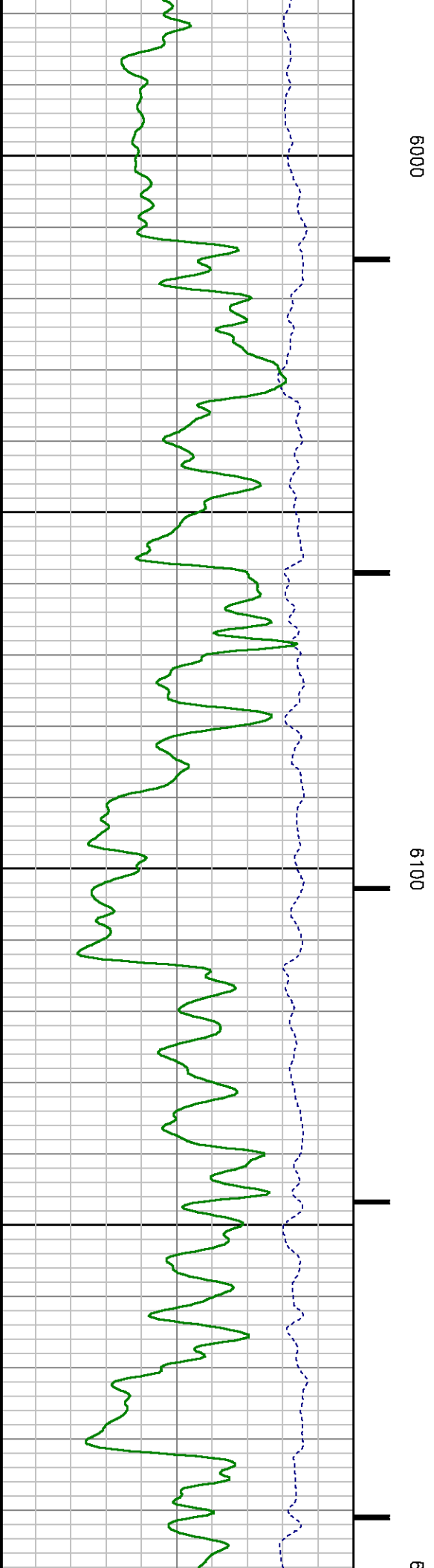
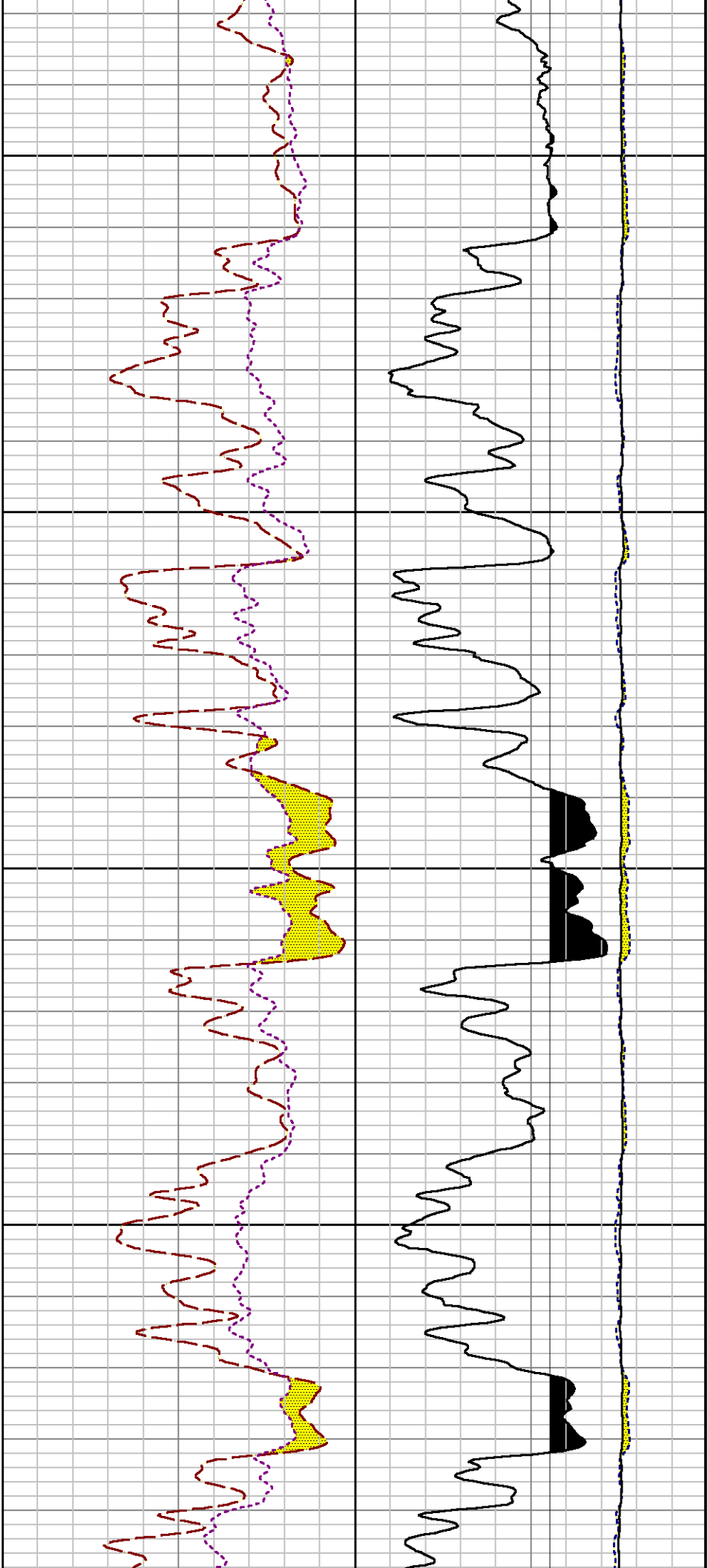
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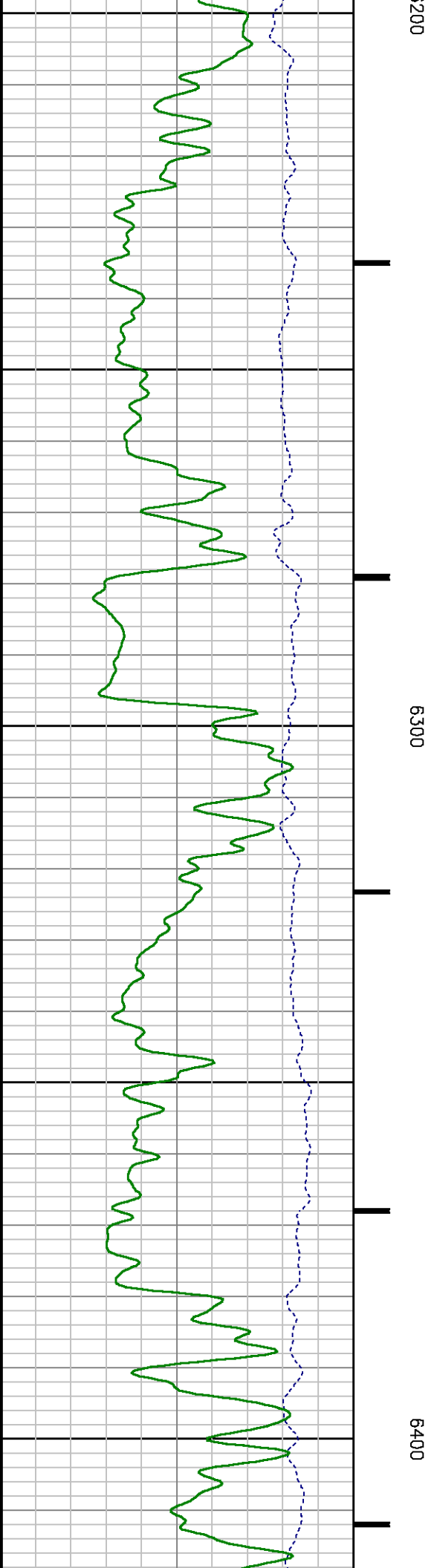
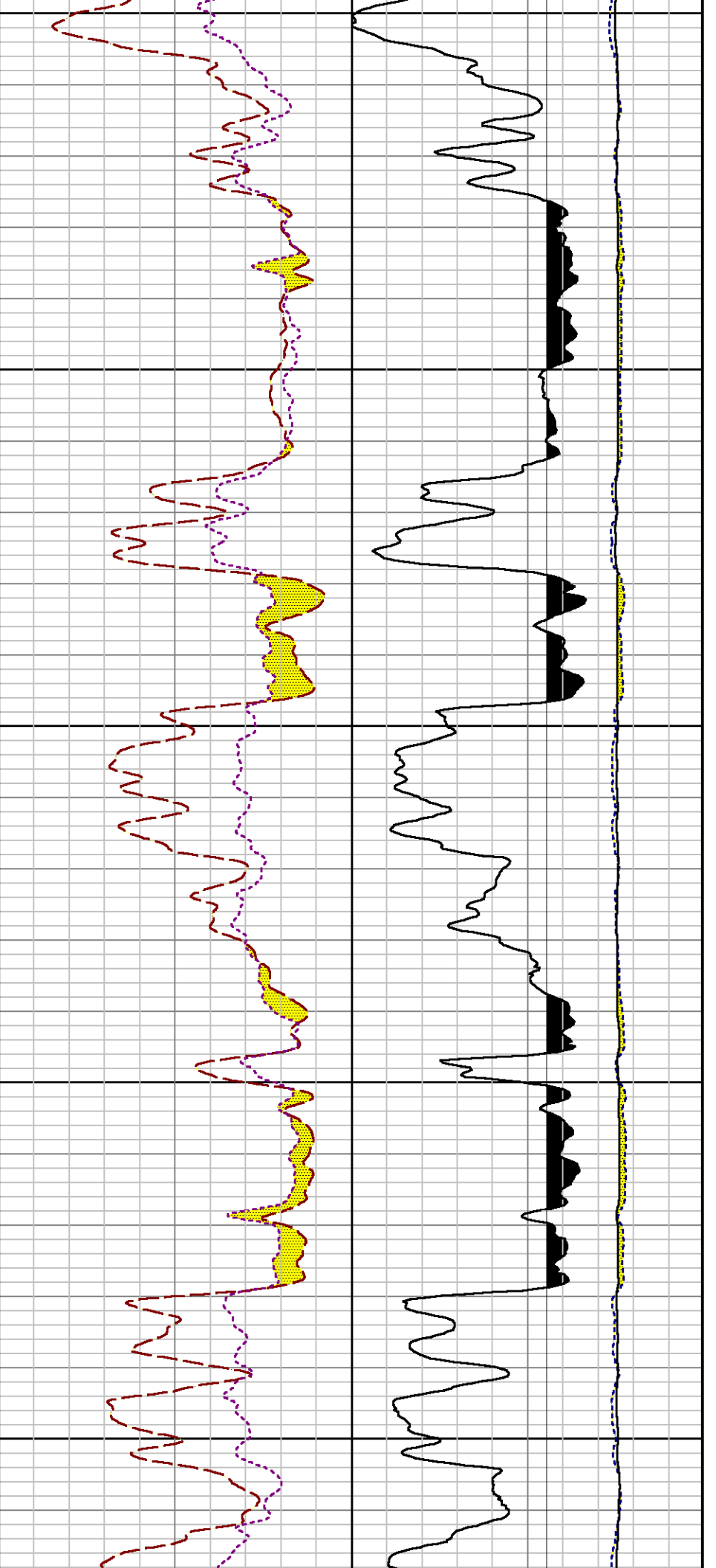


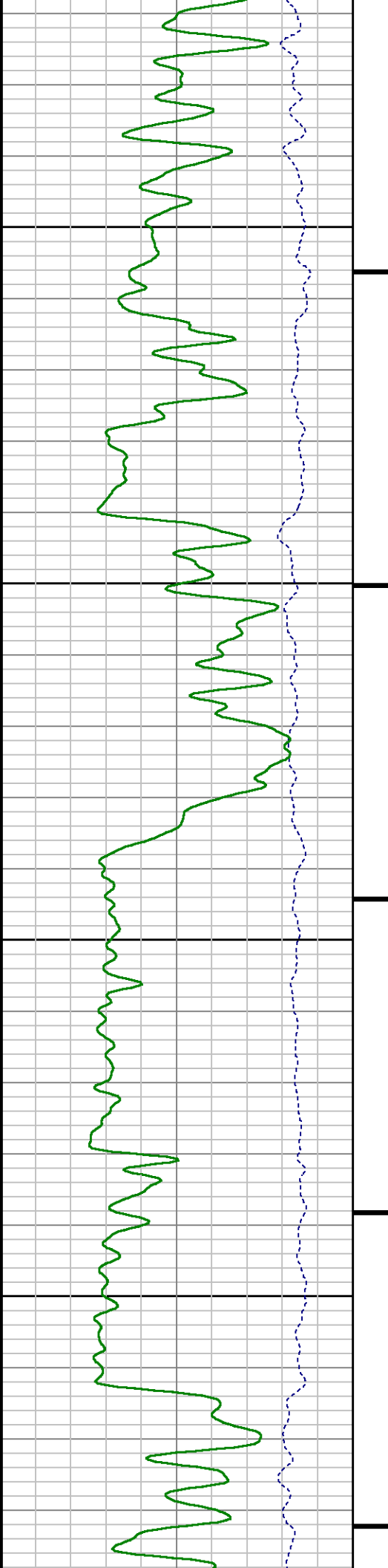






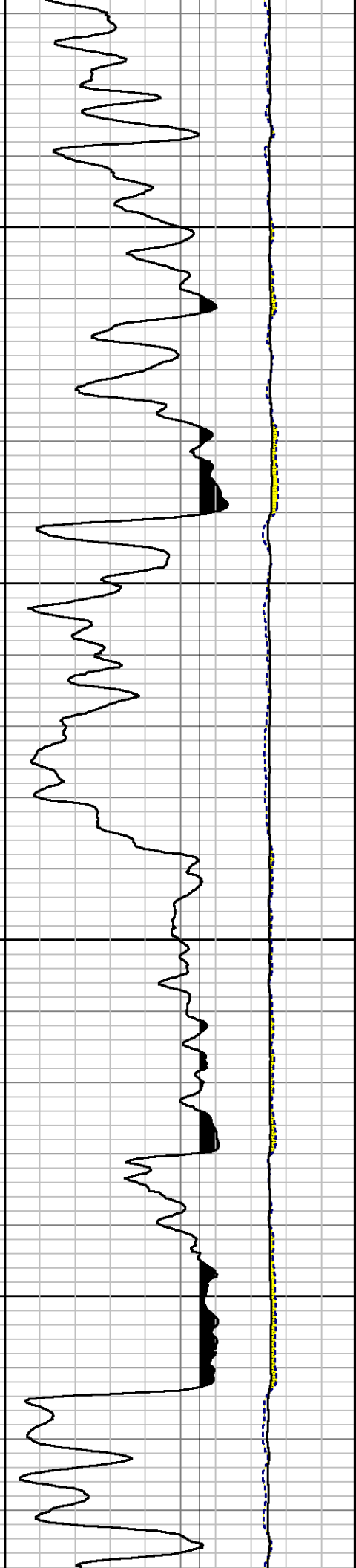
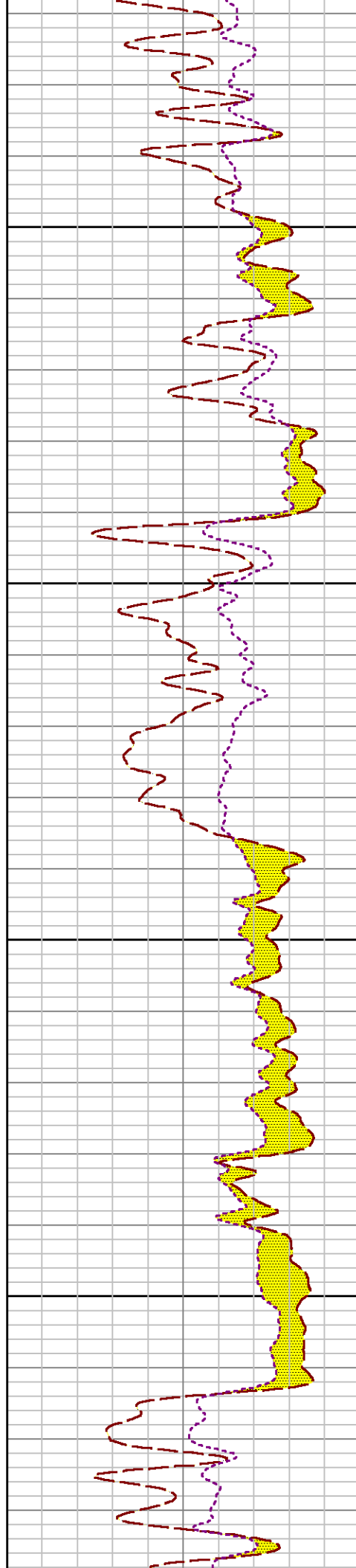


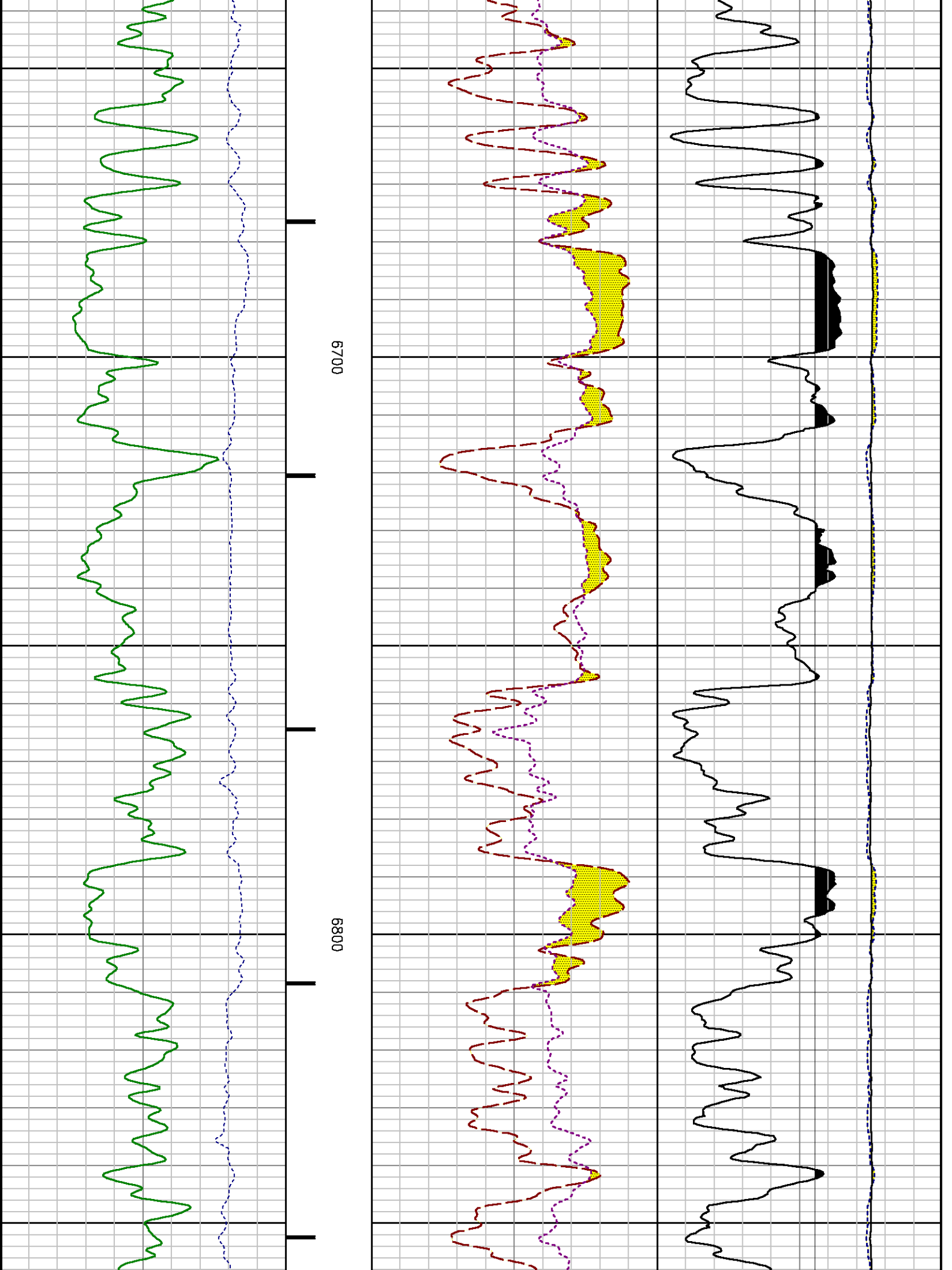


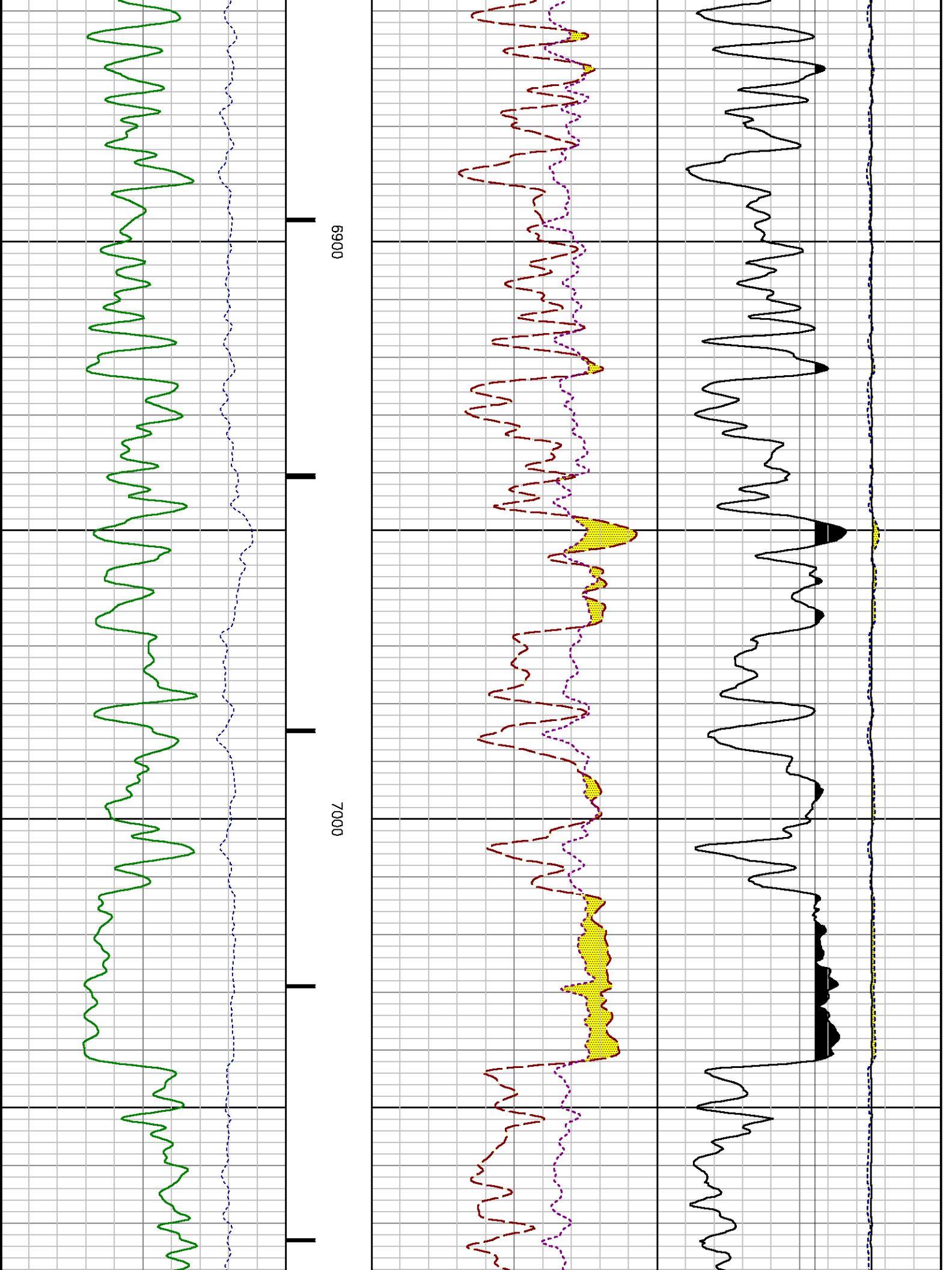


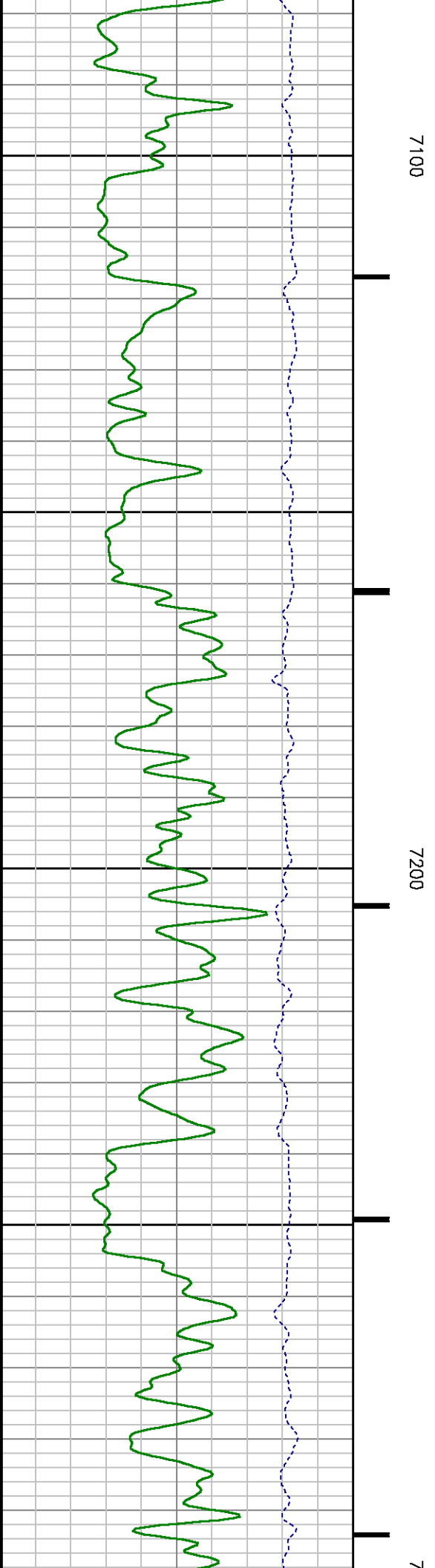
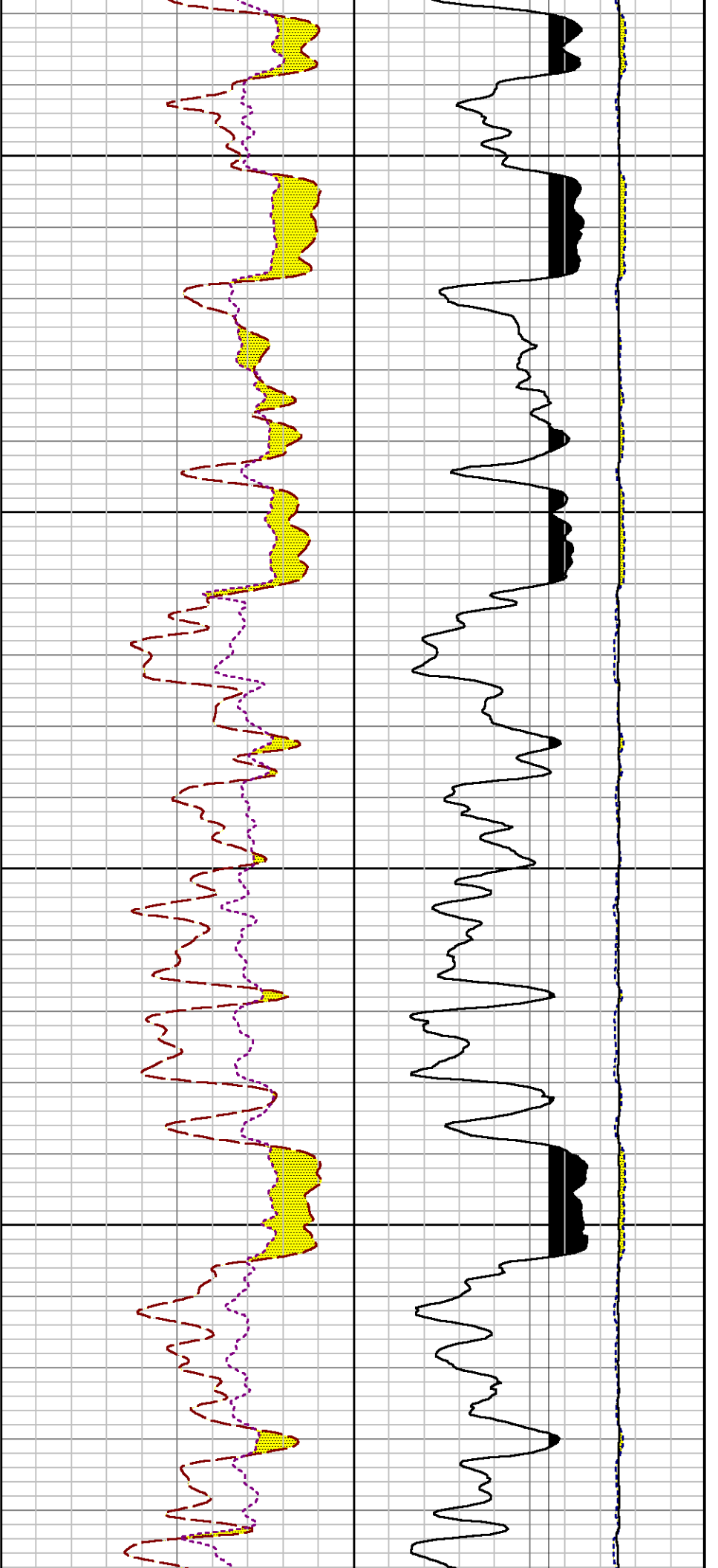
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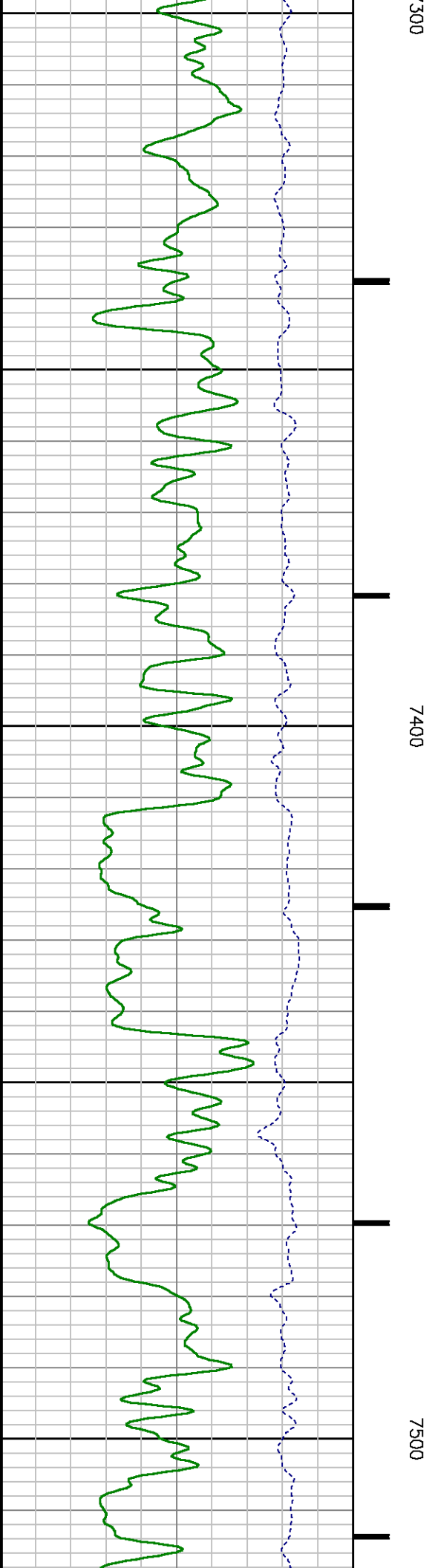
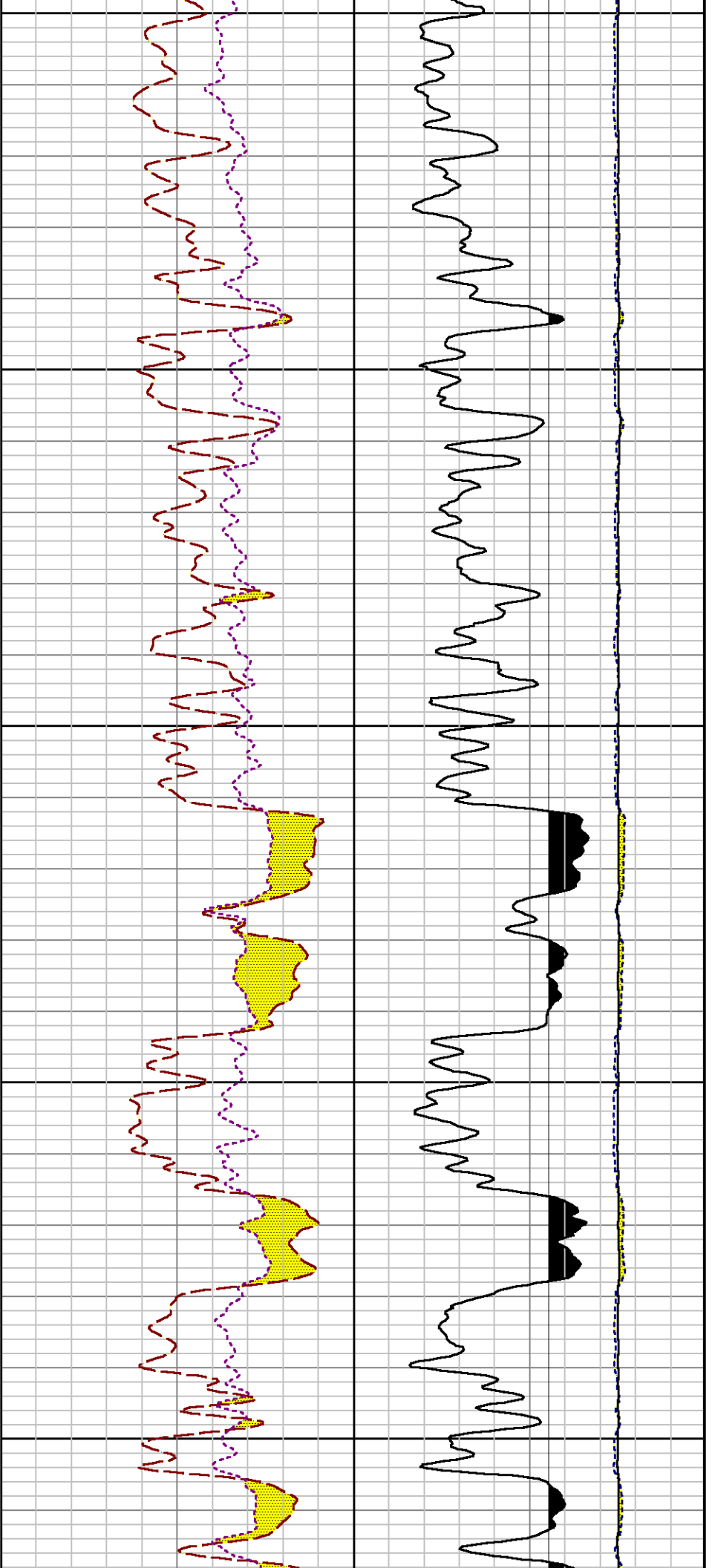
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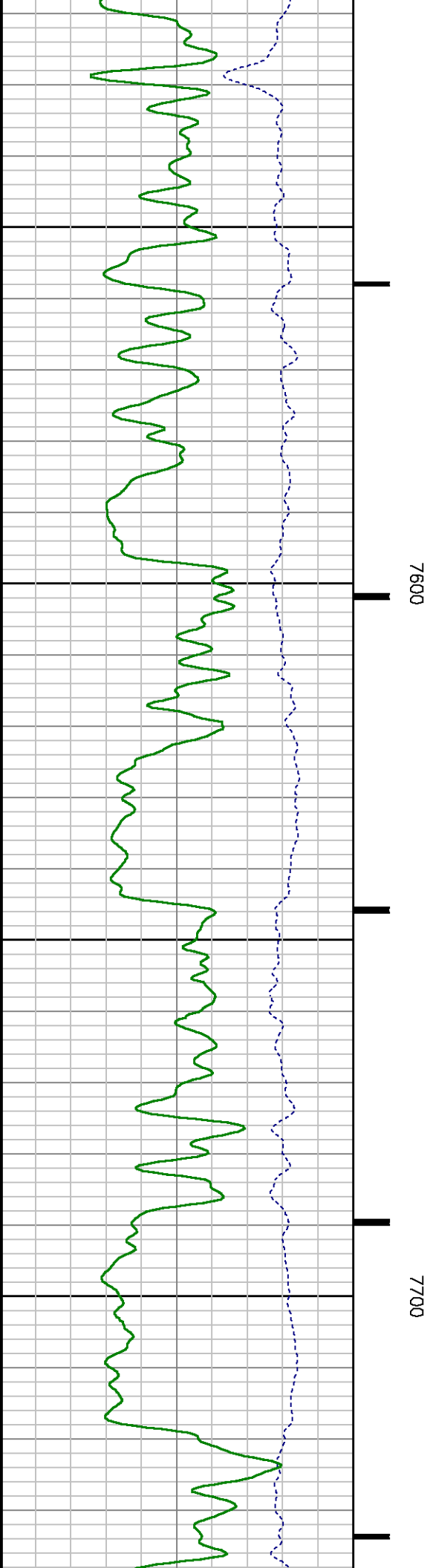
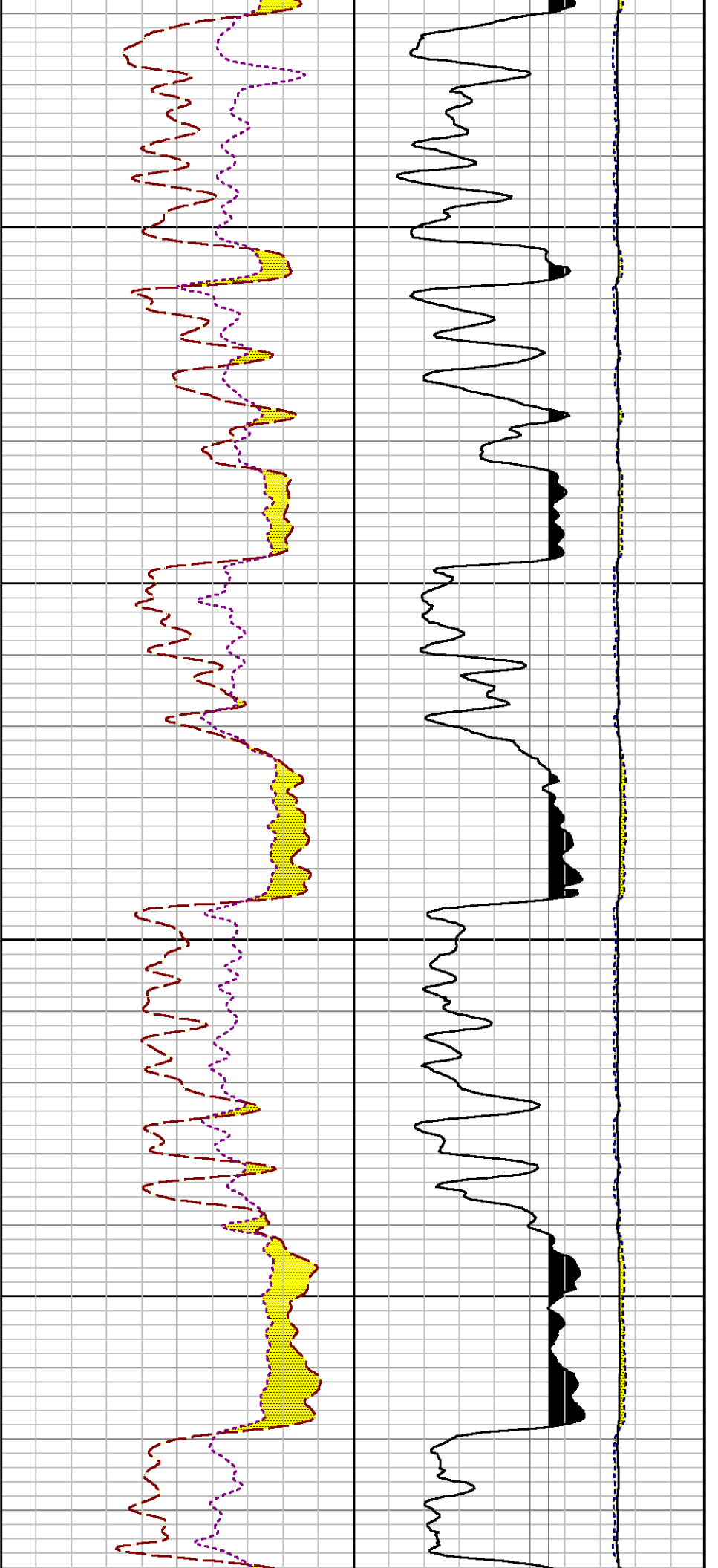




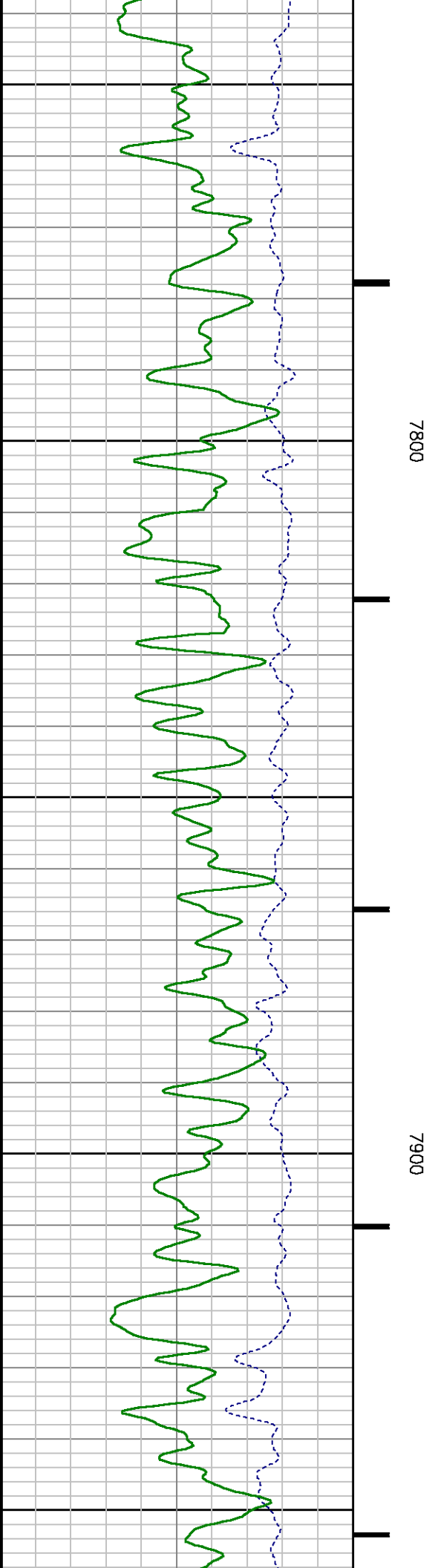
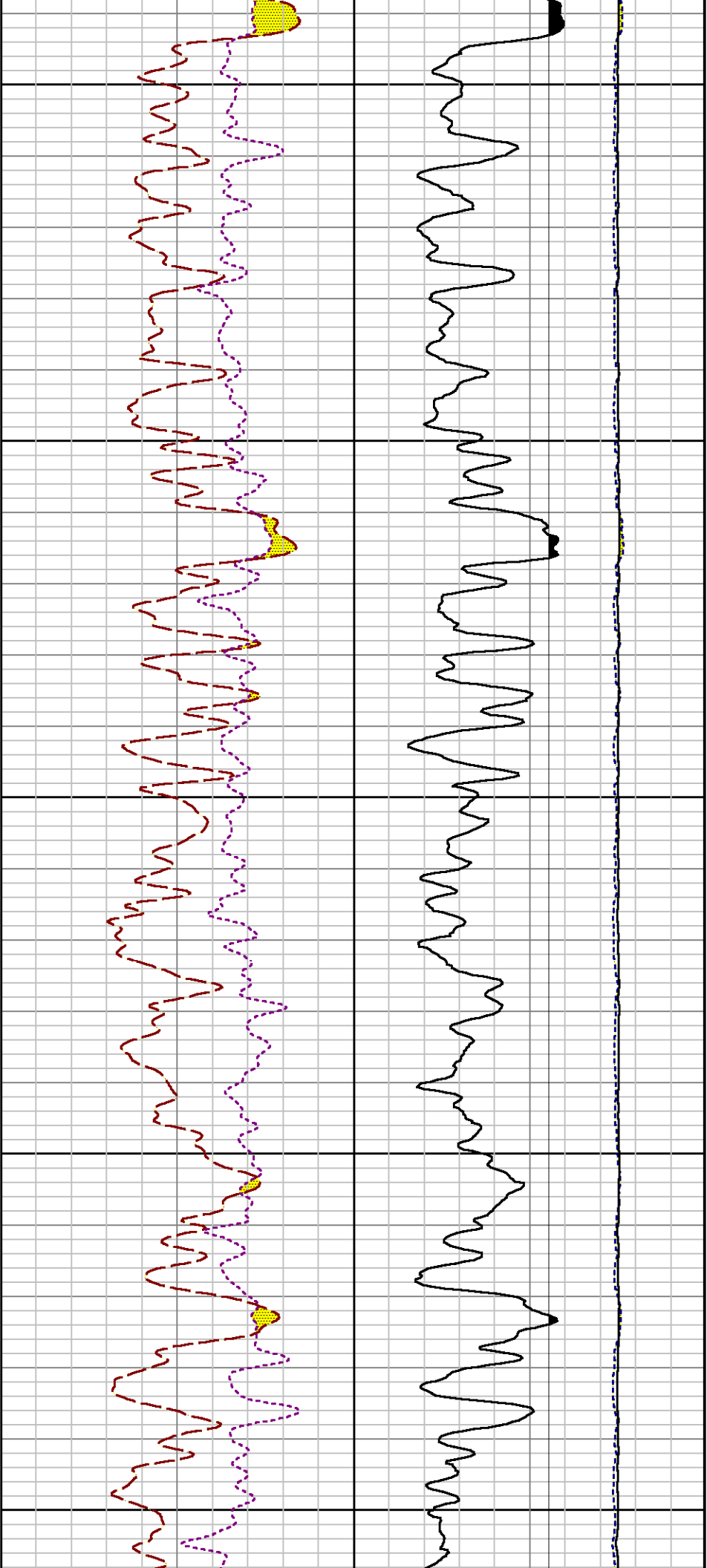


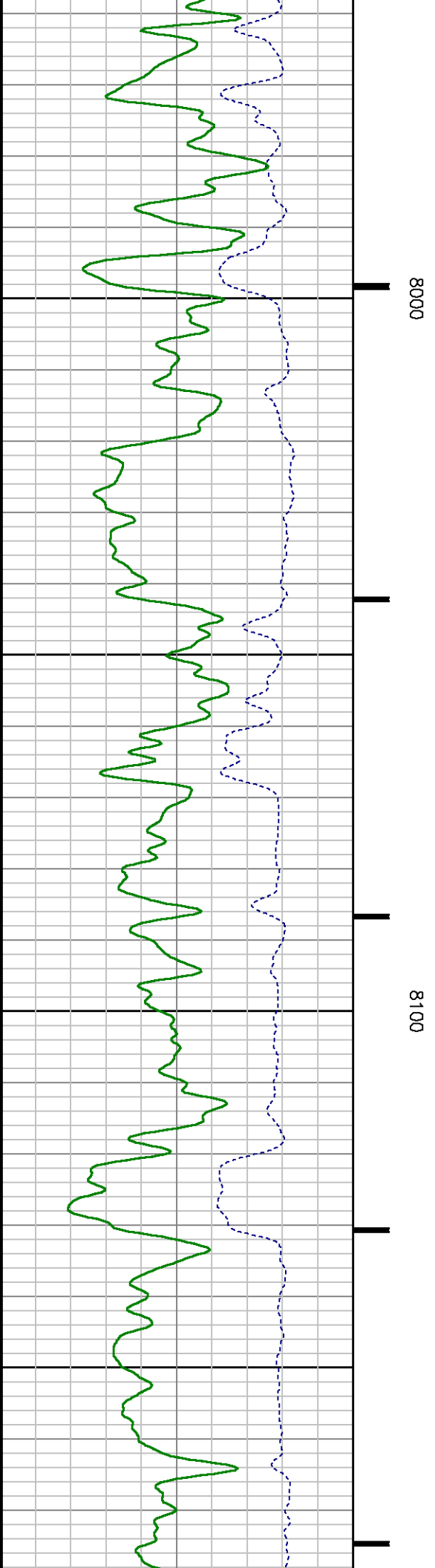
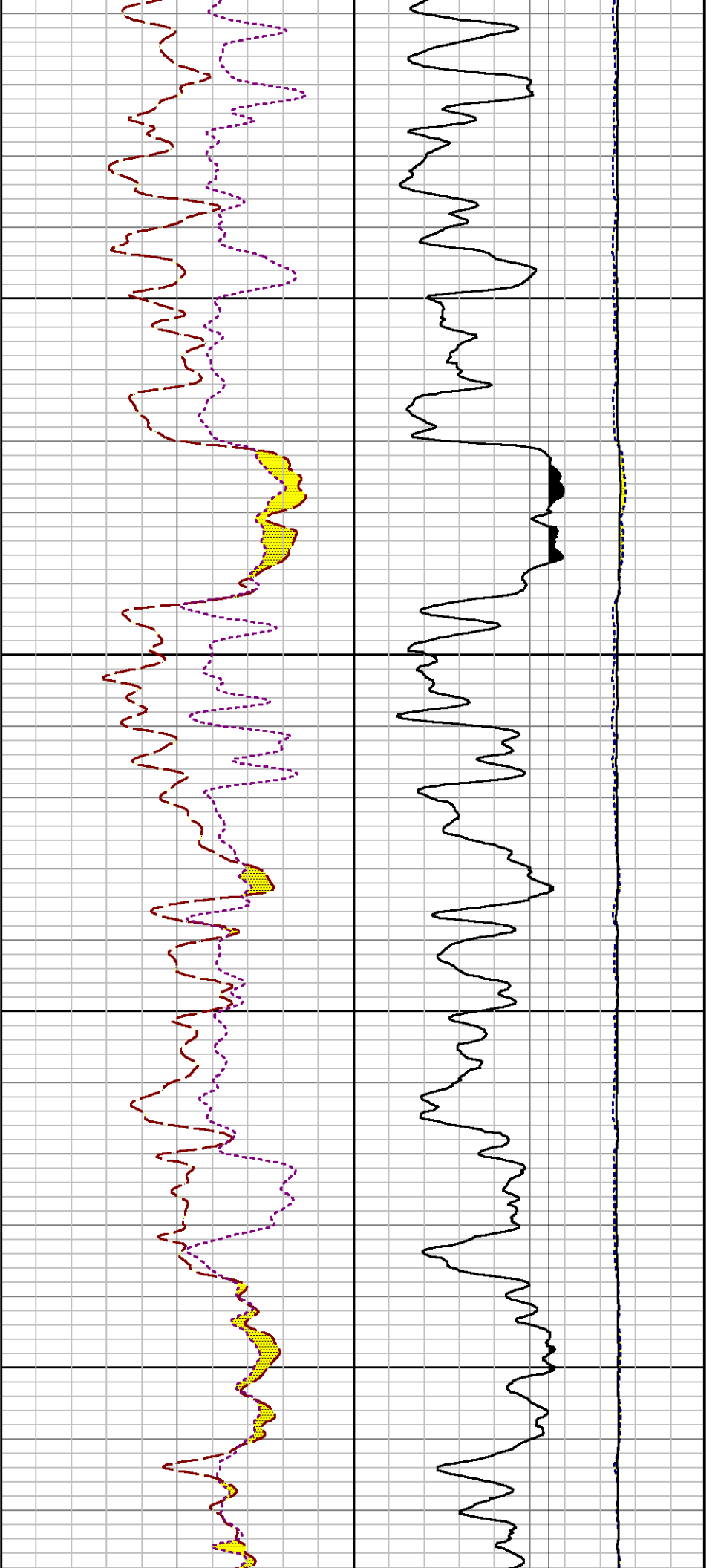


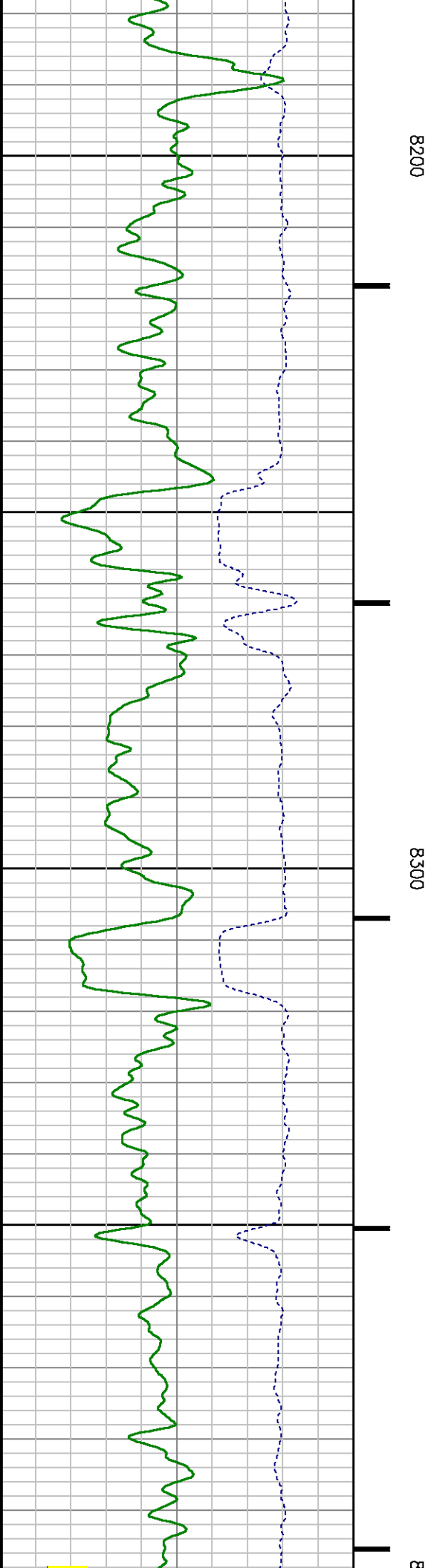
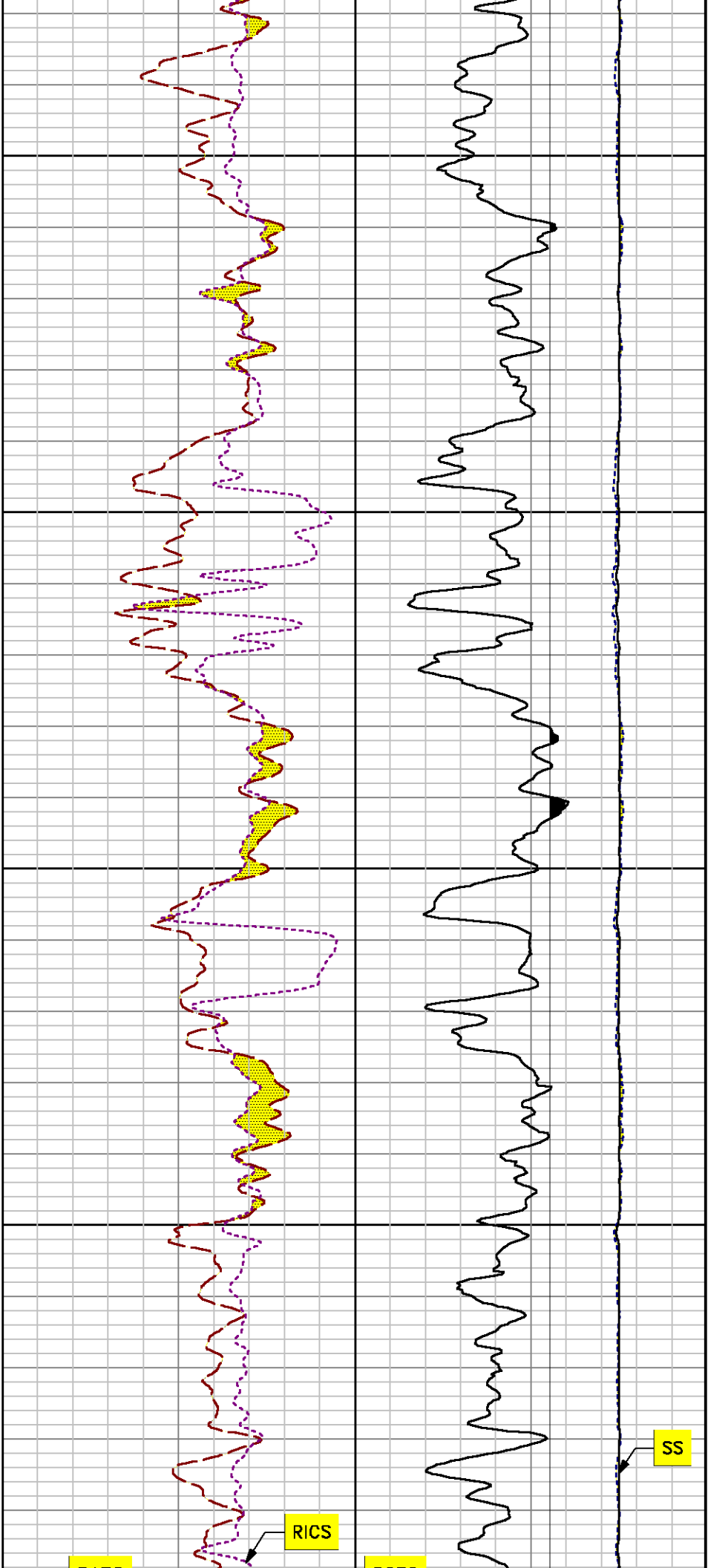


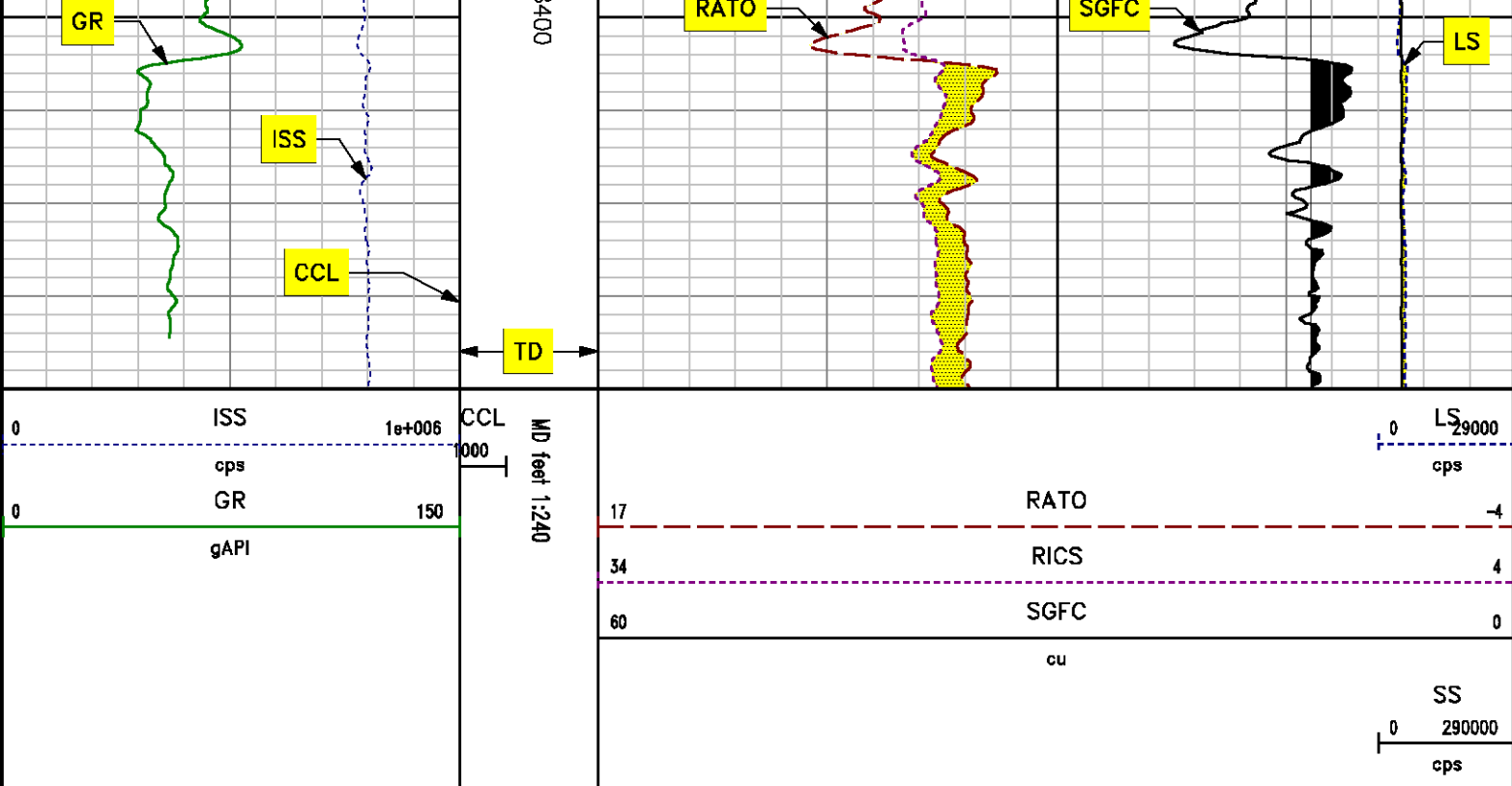












## REPEAT LOG PNC 3D MODE

### SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		7569.750	7898.000
PNC Porosity	Borehole Size	8.750	inch	7569.750	7898.000
PNC Porosity	Casing Size	4.500	inch	7569.750	7898.000
PNC Porosity	Gas Filled	Non Gas Filled		7569.750	7898.000
PNC Porosity	Matrix	Sandstone		7569.750	7898.000

### DEPTH OFFSETS (for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES
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8248EA	-15.320	FLTM					
8248EA	-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	RAT023
		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	RTW023	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	RAT0	RAT013
		RBOR	RGN1	RICS	RIN	RONE	RPOR
		RTW0	RIN13	RONE13	RTW013	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	HOC	FE2XC	ISSC	RINC
		ISSN	RDEN	WDTH1	RICSC	CSSR	G1R
		G2R	ISSR	SSR	SS2R	RATOR	RAT013R
		RBORR	RICSR	RINR	RIN13R	RONER	RPORR
		RTWOR					
SYSTEM	0.000	TEN	TEN				

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

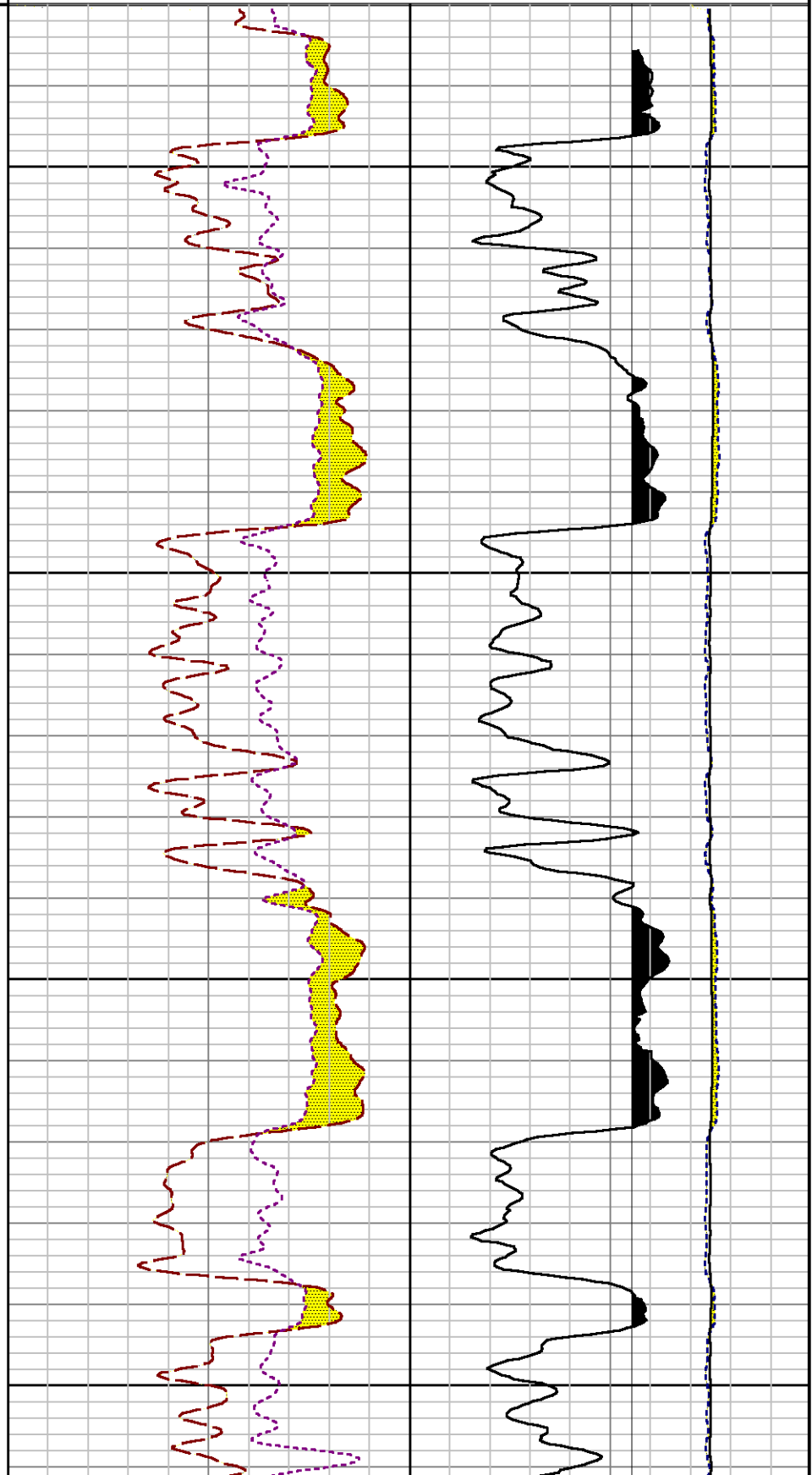
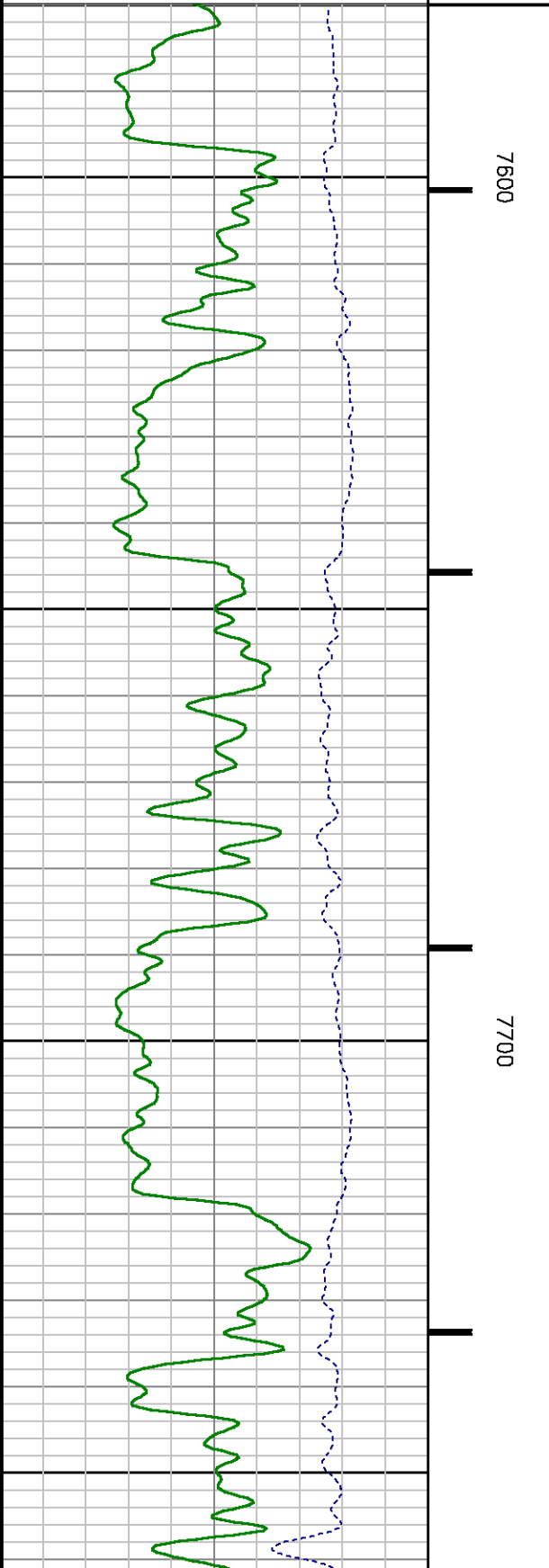
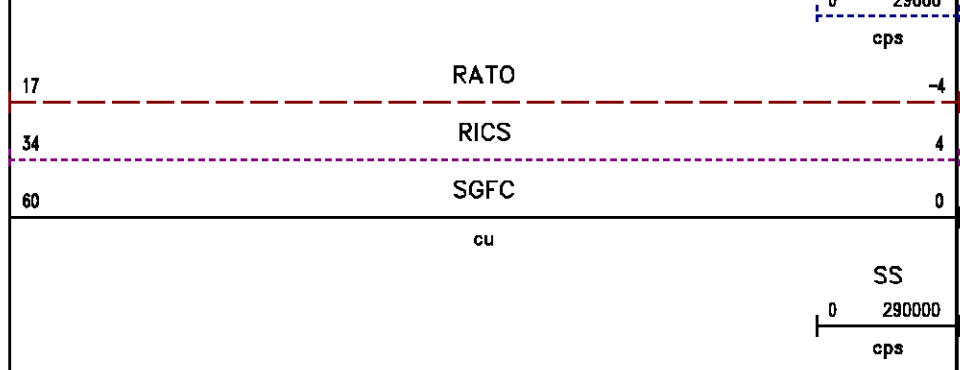
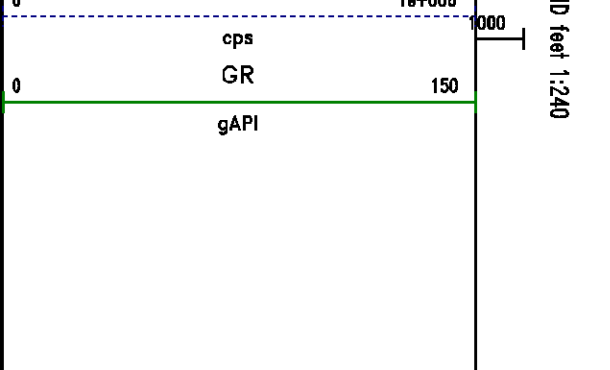
Well : GOLDSBOROUGH PA 11-11

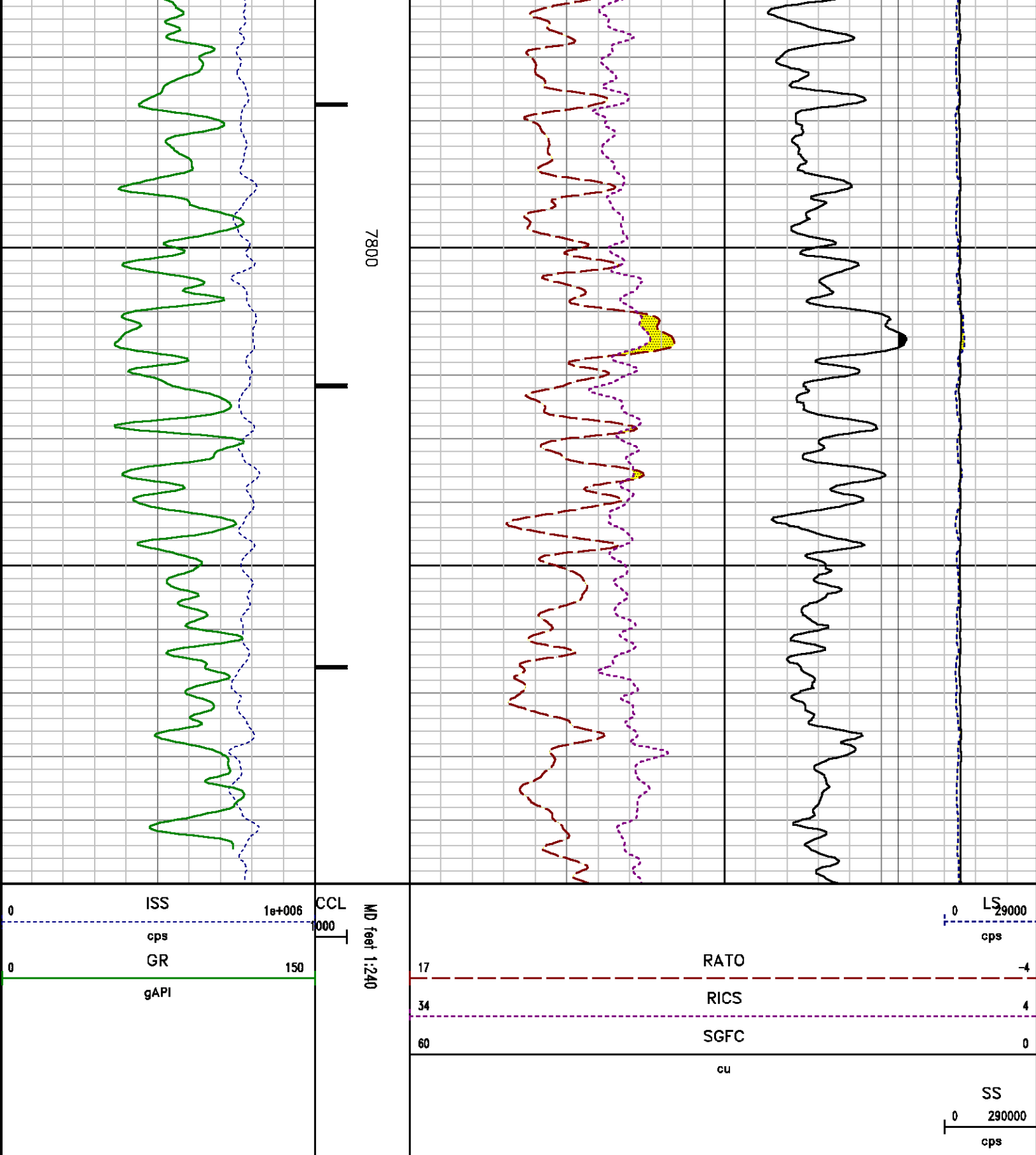
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Mode : PlotMgr 5.4.504

Interval : 7580.00 - 7900.00 feet UP

Created : 4/27/2013 8:19:04 AM





## CALIBRATION SUMMARY

# PNC

Calibration File: C:\case\calver\PNC\383A5.cal

## PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Mon Apr 15 08:57:12 2013 TOOL SERIES: 8281XA ASSET: 383 SEQ: A5

Calibrator #

SHOP BARREL

Source #

8281AA 10160601

	ISS	Mtr VIts (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	813893	128.00	2251.00	2250.00	2207.00	107.29	7.00	1.0017
Interpolated	1300000	153.53	2235.75	2241.01	2203.06			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	813893	7260.45	1148.58	164.77	25.87	0.14	24.35	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	813893	183345.23	28086.23	94759.05	33724.71	8984.66	57257.35	14379.25
Fit Quality %		0.67	0.58	0.88	0.88	0.71	0.80	0.68

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	813893	1.43	4.44	28.98	14.21	10.55	3.75	3.98
		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 %		0.01	0.33	0.43	0.27	0.15	0.14	0.15
Reduced	1398803	1.43	4.46	29.13	14.27	10.56	3.76	3.99
		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

# 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



## 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]
S2K WA612	80.38	363.24

Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
0.611	49.12	221.99	172.87

# **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

30.92'

CCL MP 22.83'

GR MP 19.29'

XLS DETECTOR 12.78'

LS DETECTOR	9.80'
SS DETECTOR	9.58'

0.00'

Total Length: 30.92'  
Total Weight: Not Available  
Max Diameter: 0' 1.70"



Baker Atlas



Company	WPX ENERGY		
Well	GOLDSBOROUGH PA 11-11		
Field	PARACHUTE		
County	GARFIELD	State	COLORADO

File No:
CH071536
API No:
05045218220000

Location		Elevations
SHL: 2401' FNL & 2022' FWL SEC:11		KB 6300 ft
BHL: 150' FNL & 619' FWL SEC:11		DF
SEC 11 TWP 7S RGE 95W		GL 6274 ft

11 7S 95W
PA 22-11
CYCLONE 17