



Baker Atlas

# RESERVOIR PERFORMANCE MONITOR

File No: CH022896	Company Well Field County	WPX ENERGY WPX ENERGY PA 13-2 PARACHUTE GARFIELD	State CO
API No: 05045221520000	Location 2 7S 95W GV 8S-2 PAD AZTEC 1000	SHL: 2074' FSL & 1534' FWL BHL: 2394' FSL & 581' FWL SEC 2 TWP 7S RGE 95W	Other Services BOND LOG
Permanent Datum Log Measured From Drill Measured From	GL KB KB	Elevation 25 ft Above P. D.	Elevations KB 5846 ft DF GL 5821 ft

Date	08/MAR/14	
Run	ONE	
Service Order	US625355	
Depth Driller	7540 ft	
Depth Logger	7491 ft	
Bottom Logged Interval	7481 ft	
Top Logged Interval	3957 ft	
Time Started	11:30	
Time Finished	17:30	
Operator Rig Time	6 HOURS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	NA	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	10 fpm	
Maximum Recorded Temperature	220 degF	
Reference Log	BAKER HUGHES BOND LOG	
Reference Log Date	08/MAR/14	
Equipment No.	4271	GRAND JCT.
Recorded By	NEWELL	
Witnessed By	DUSTIN WELSH	

- 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	862 ft
8.75 In	862 ft	7623 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 In			0 ft	862 ft
4.5 In	11.6 lbm/ft	1-80	0 ft	7623 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 3/8/2014 at the client's request.
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.
The amount of linear shift is 6 feet.

Logged In PNC-3D mode.

BHT = 220 °F

SJ - 4270'-4294'

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	PCM	8250EA	10397894	FREE
1	1	TEL/CCL	8248ED	10296408	FREE
1	1	GR	2812LA	10274385	FREE
1	1	RPM	8281EA	10283848	FREE
1	1	RPM	8283PA	10585555	FREE
1	1	RPM	8281FA	10307727	FREE
1	1	TEMP	8255XA	11774568	FREE

*MAIN SECTION*  
*PNC 3-D MODE*

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		3924.968	7502.531
PNC Porosity	Borehole Size	8.750	inch	3924.968	7502.531
PNC Porosity	Casing Size	4.500	inch	3924.968	7502.531
PNC Porosity	Gas Filled	Non Gas Filled		3924.968	7502.531
PNC Porosity	Matrix	Sandstone		3924.968	7502.531

DEPTH OFFSETS  
(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES			
8248ED	-14.478	FLTM			
8248ED	-12.478	CCL	CHV		
2812LA	-9.928	GR			
8281XA	0.658	UNOZOO	SEOF	AMAZ	AMIZ
				PLKY	QXS

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	TTEN				

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

Well : WPX ENERGY PA 13-2

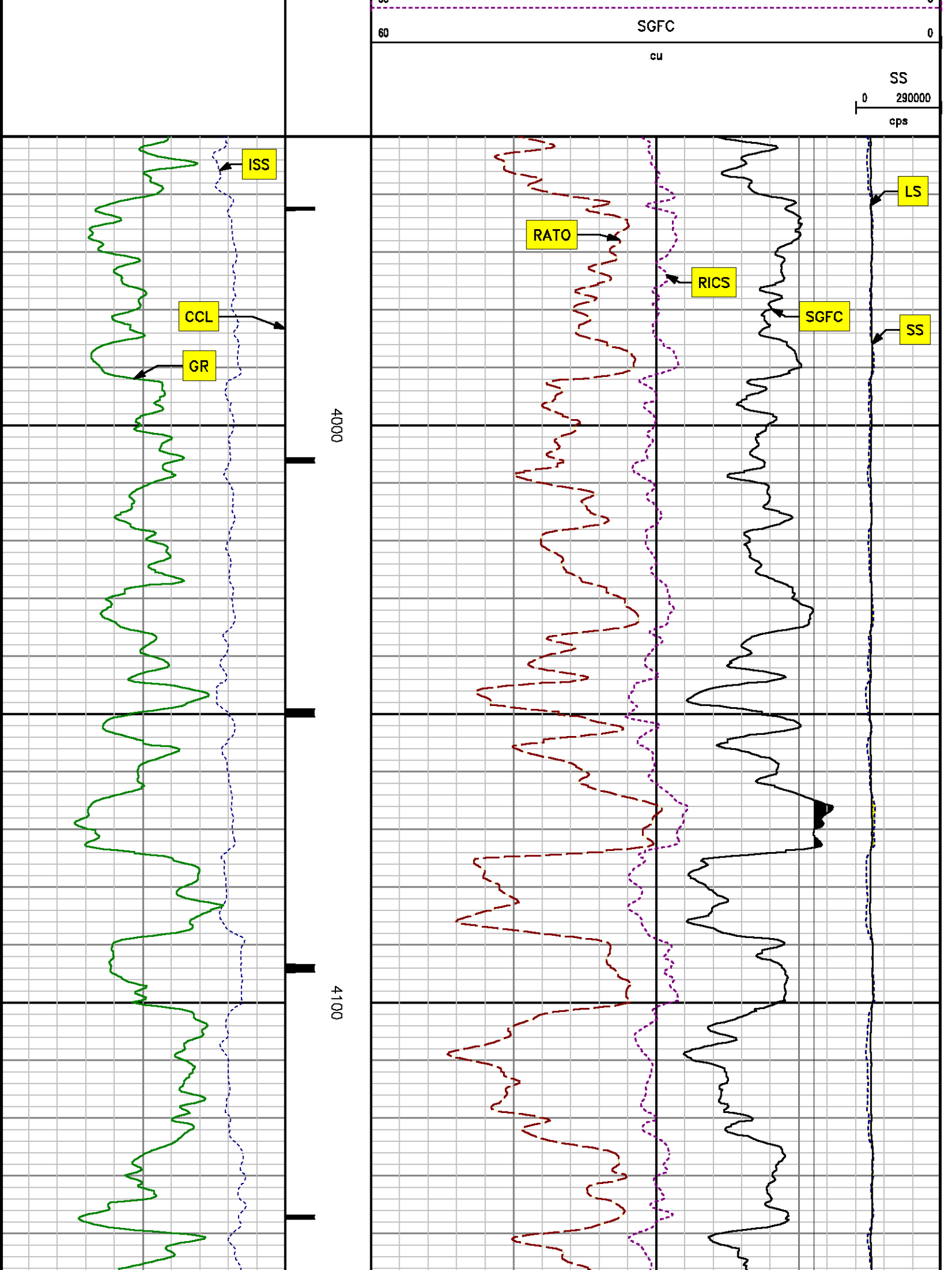
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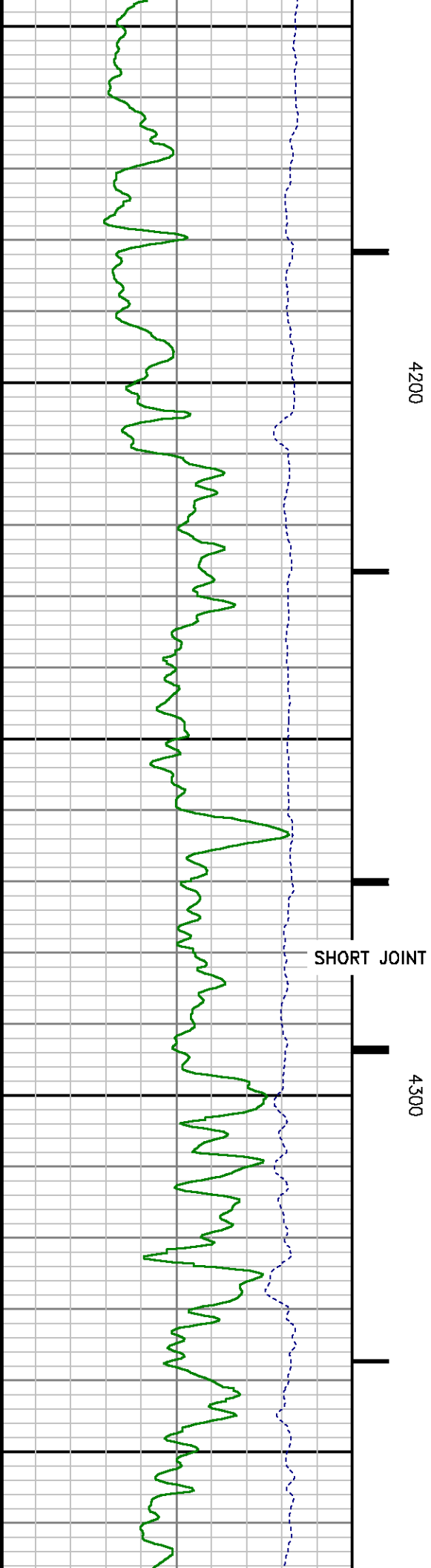
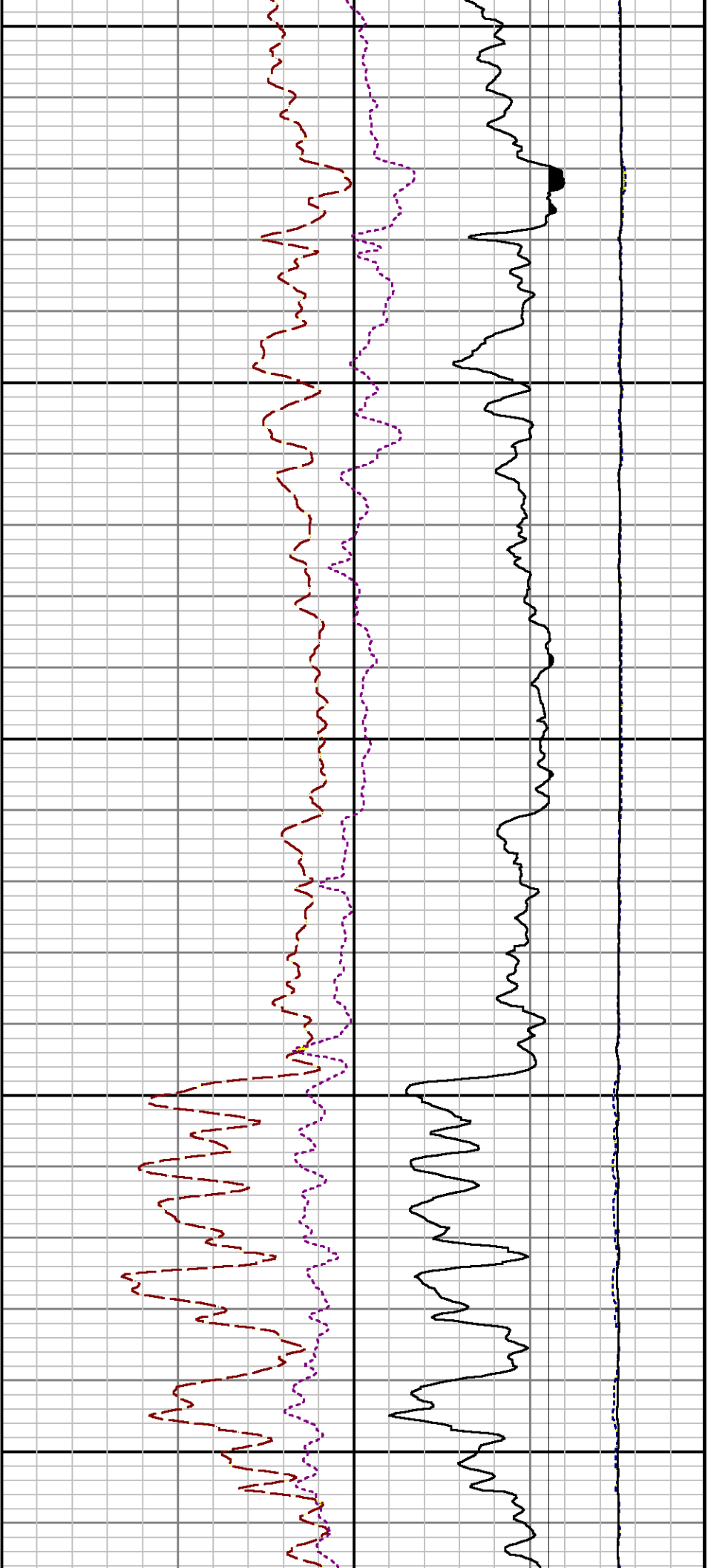
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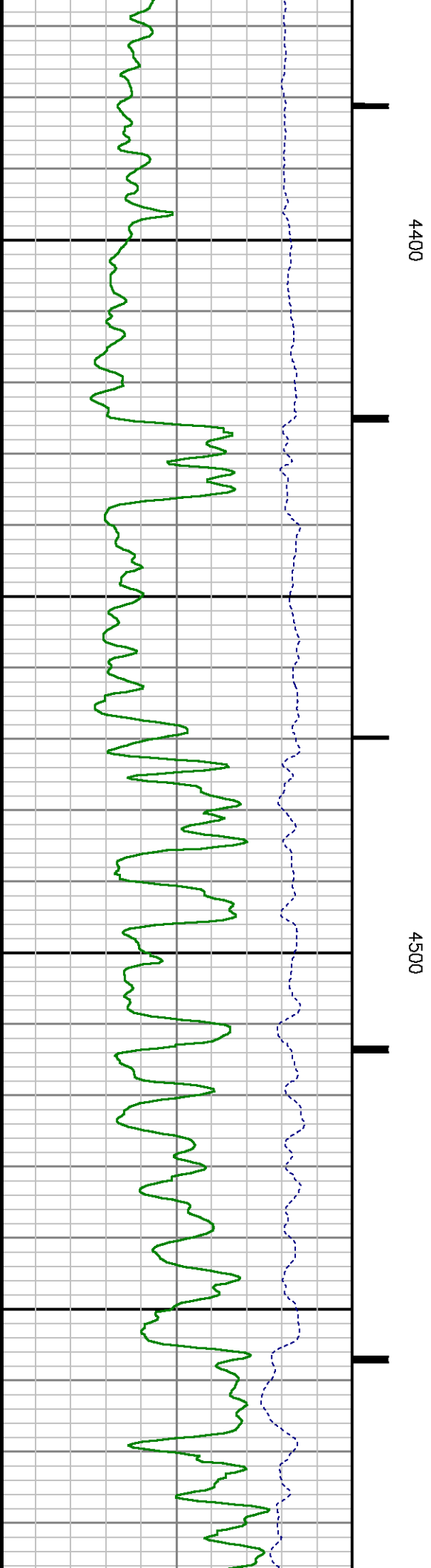
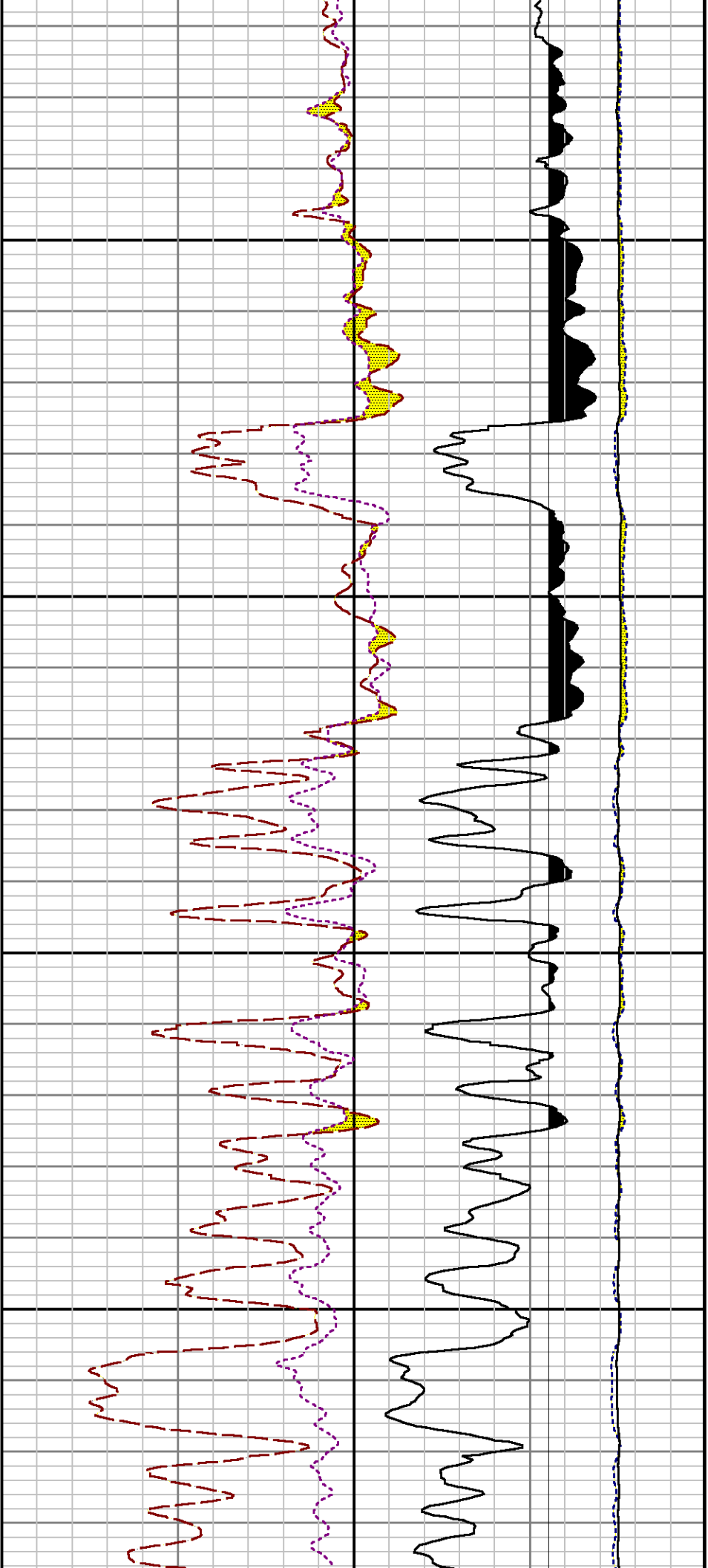
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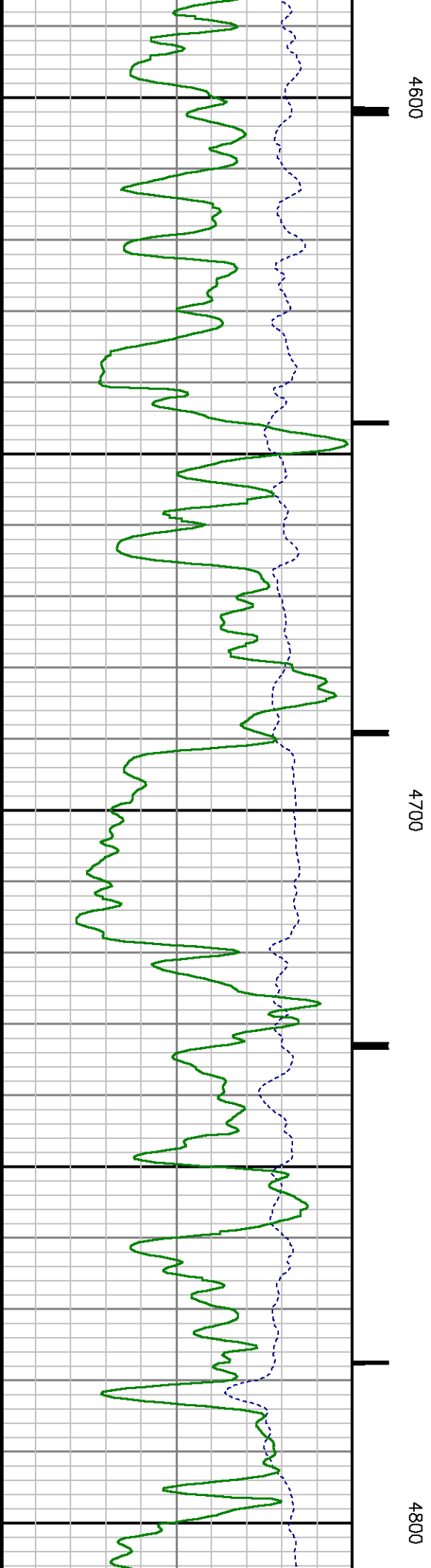
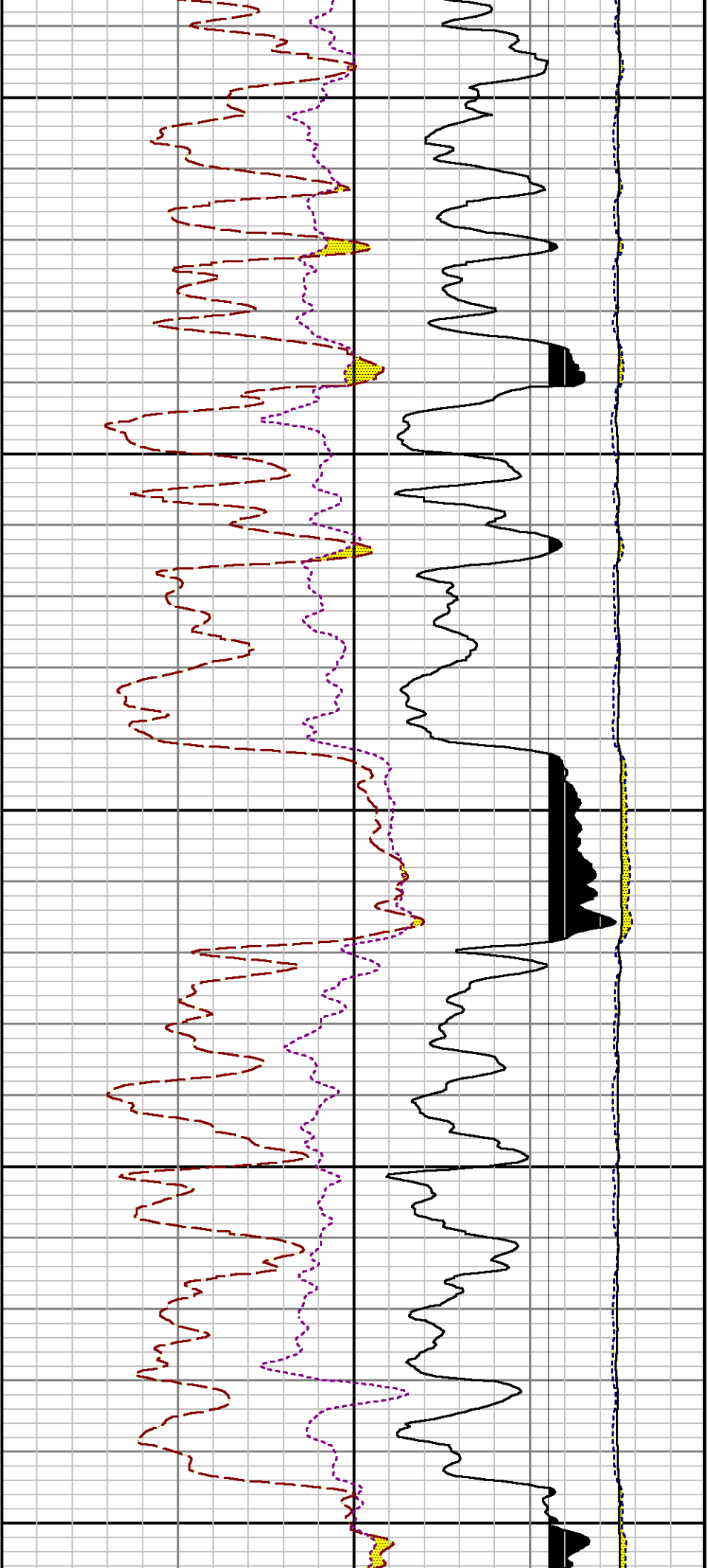
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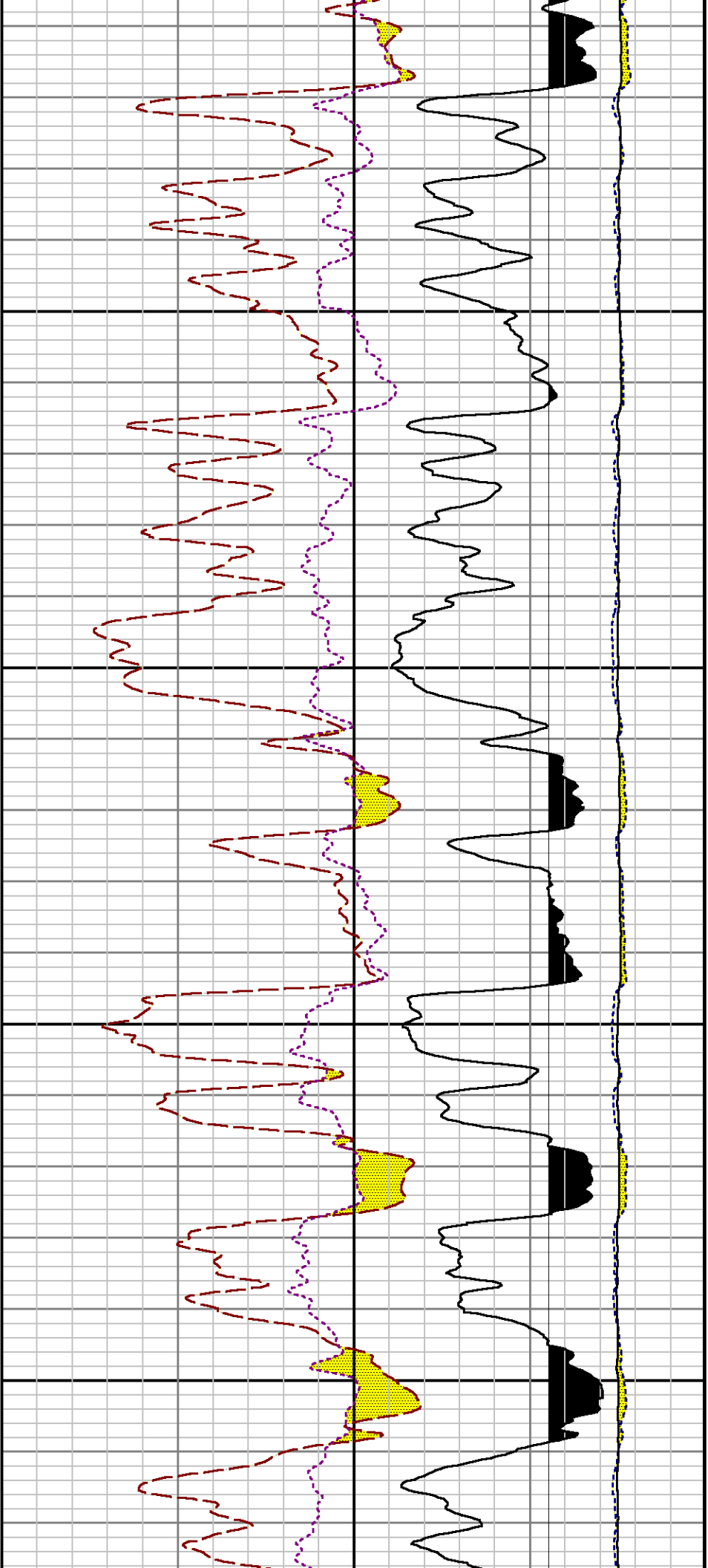






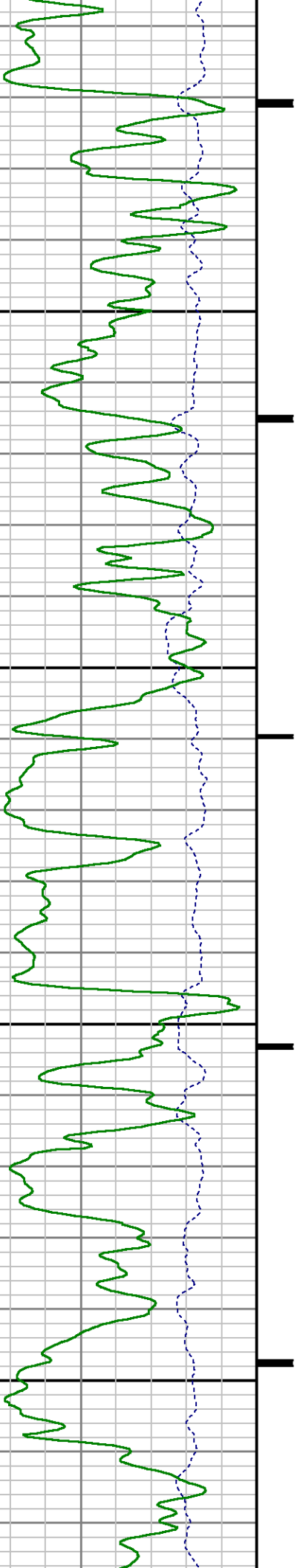




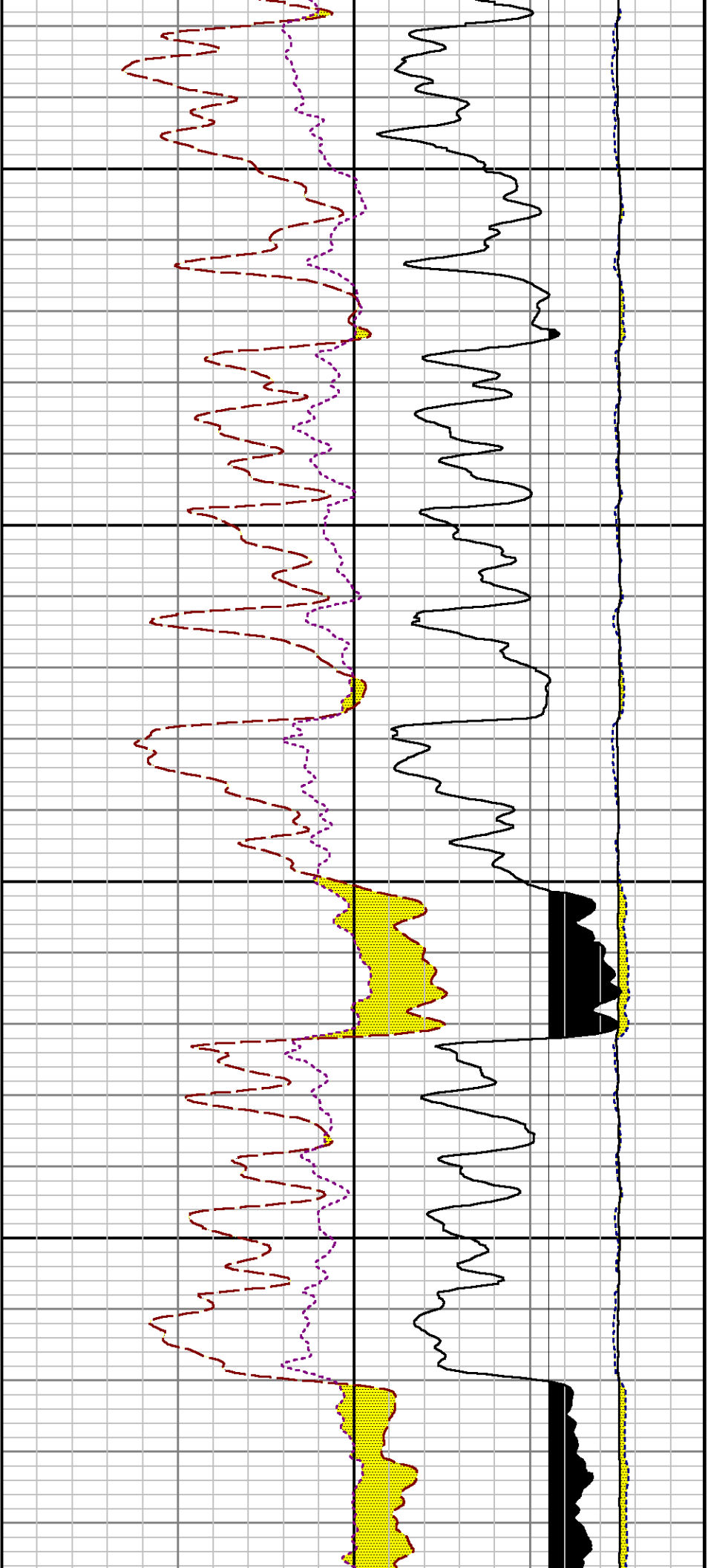


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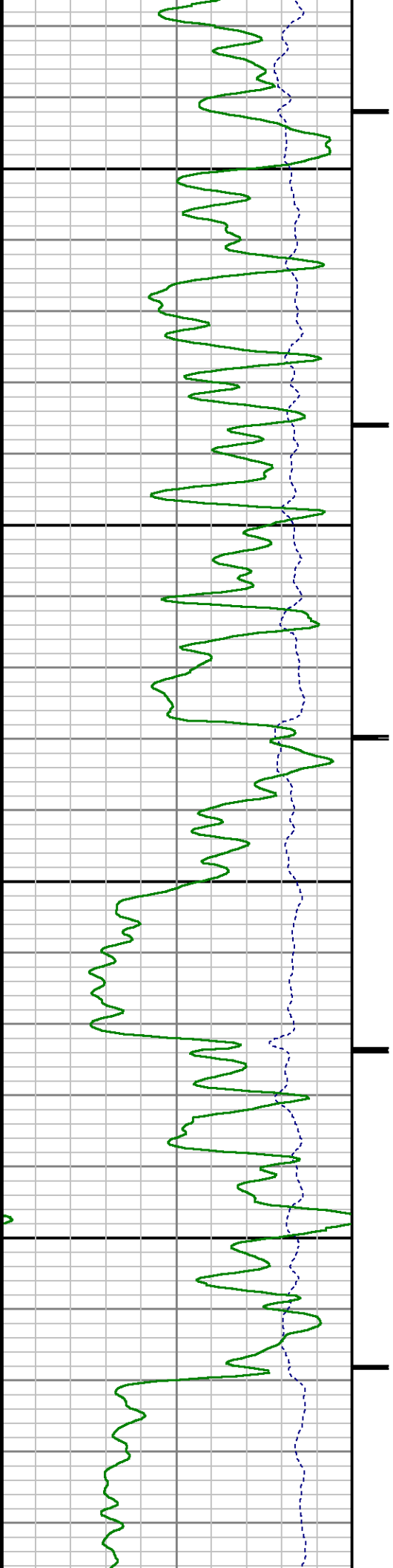


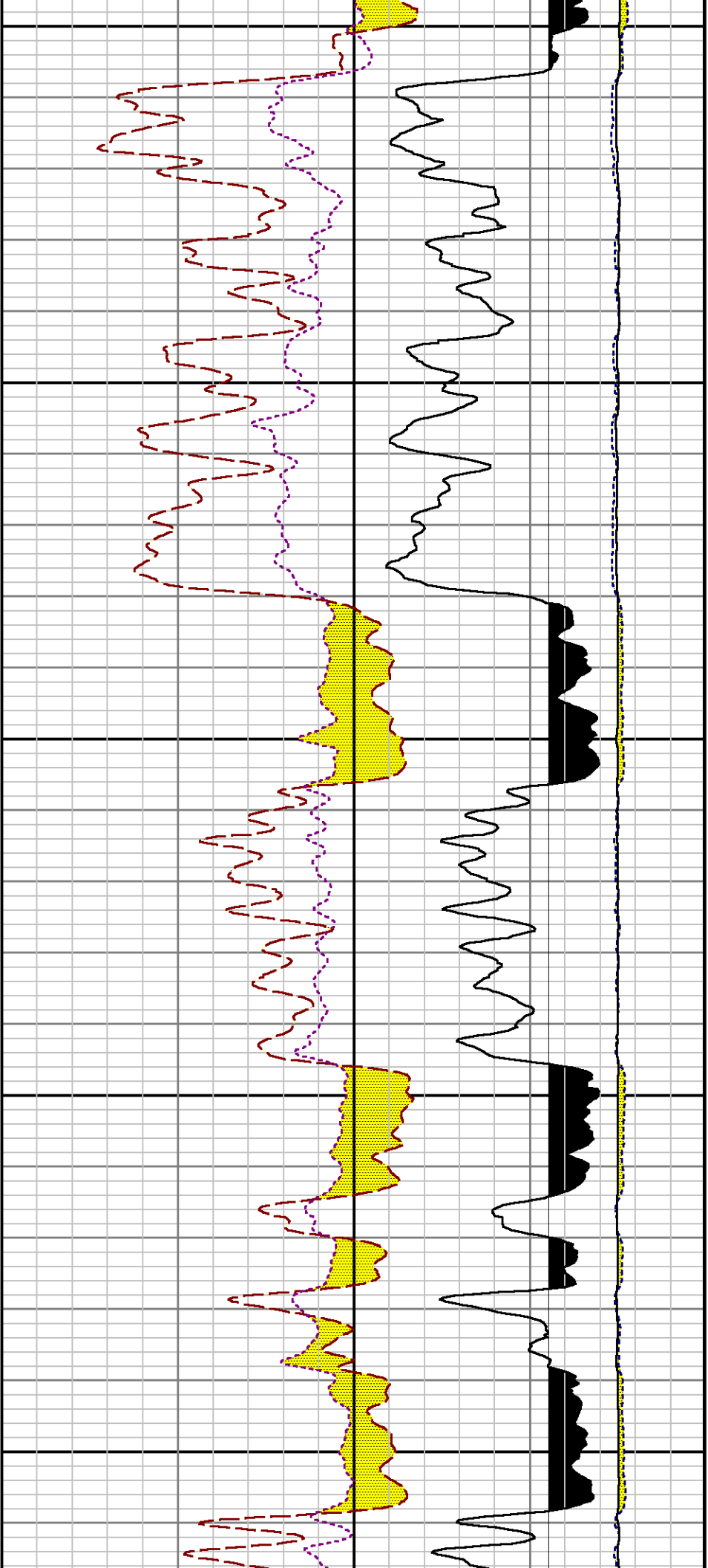




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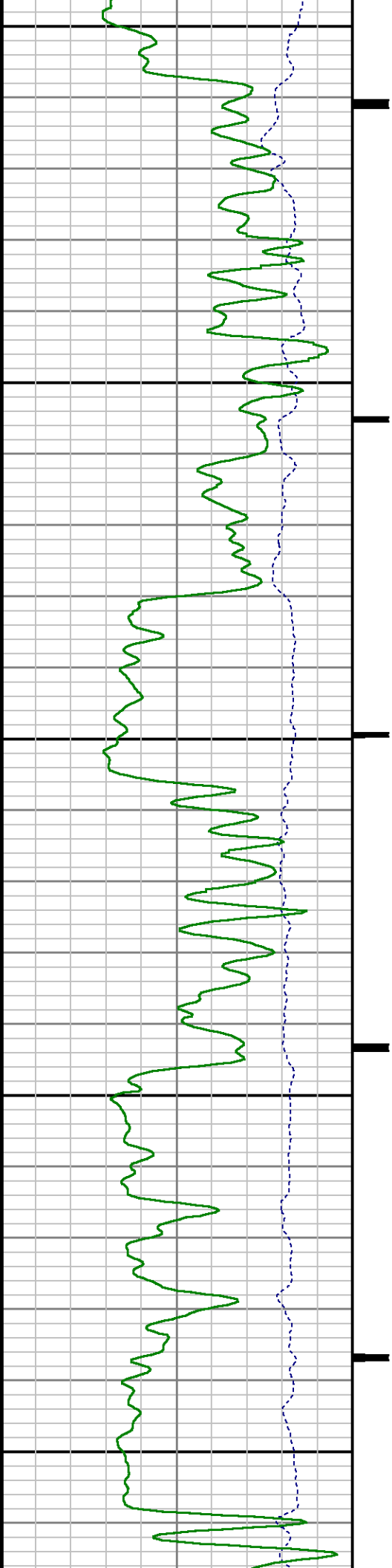
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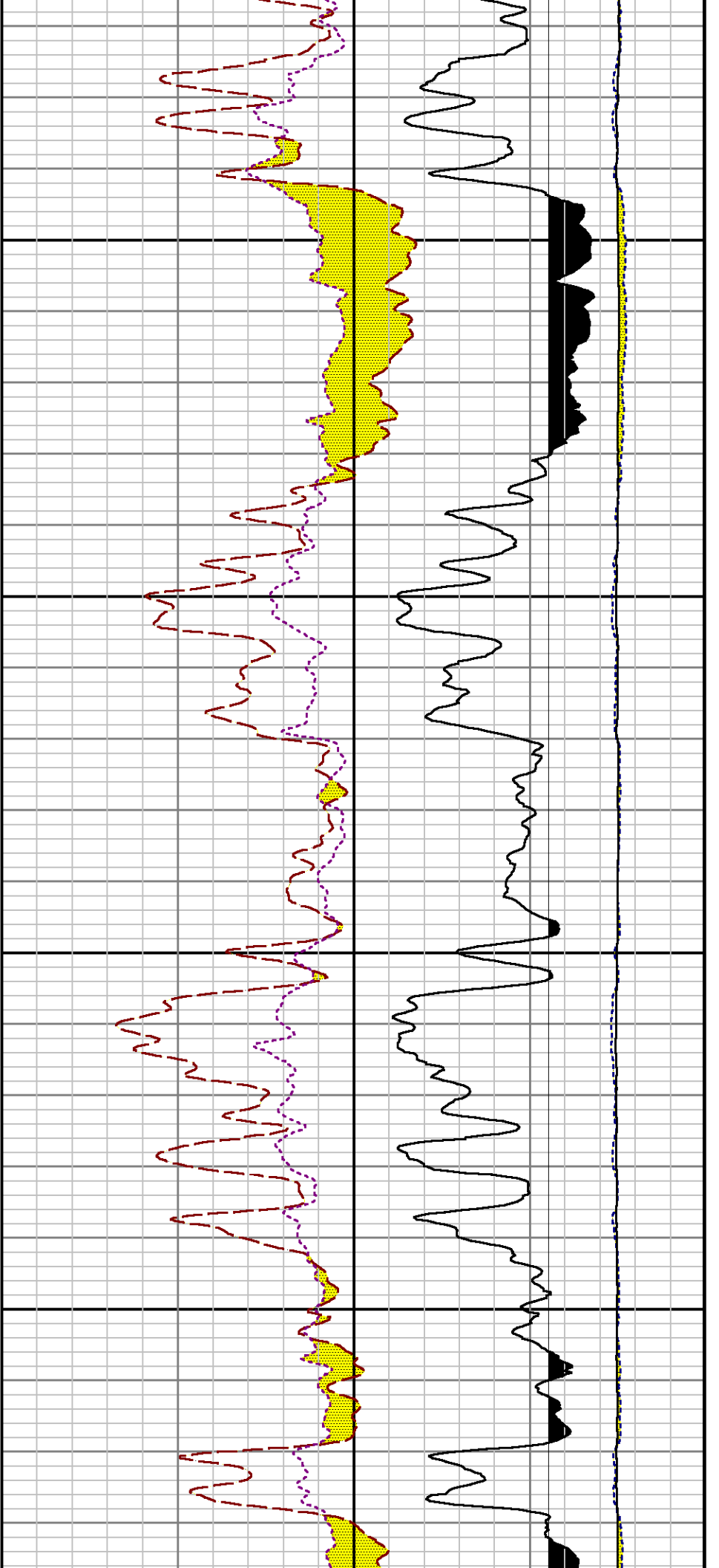




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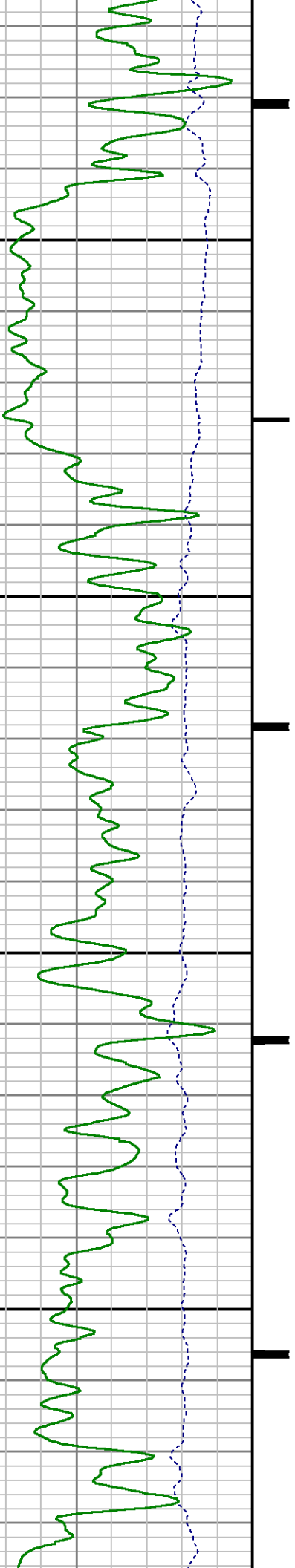
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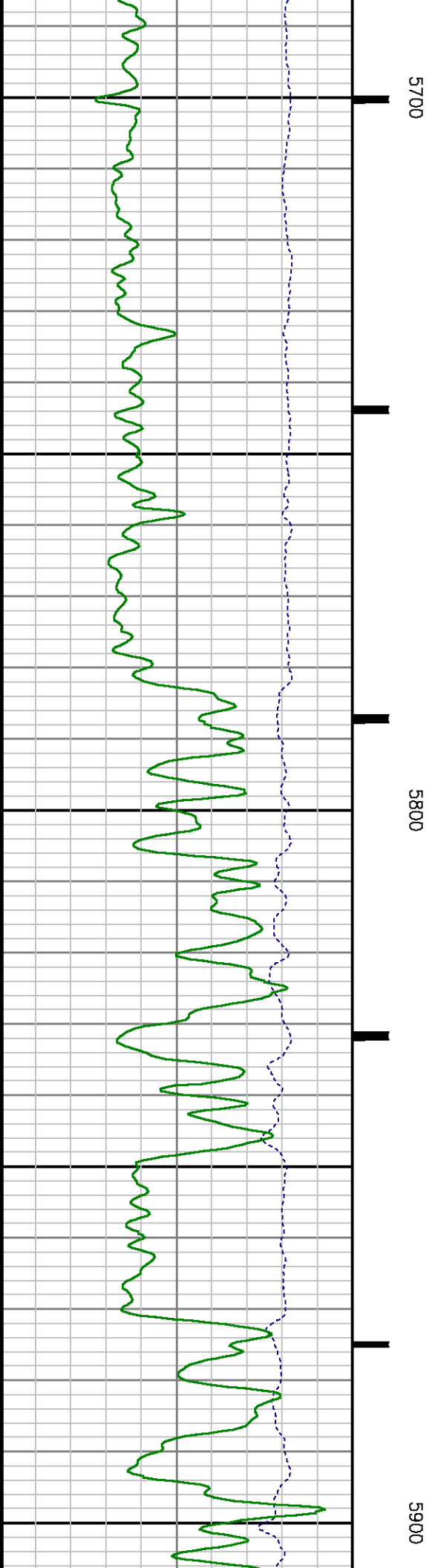
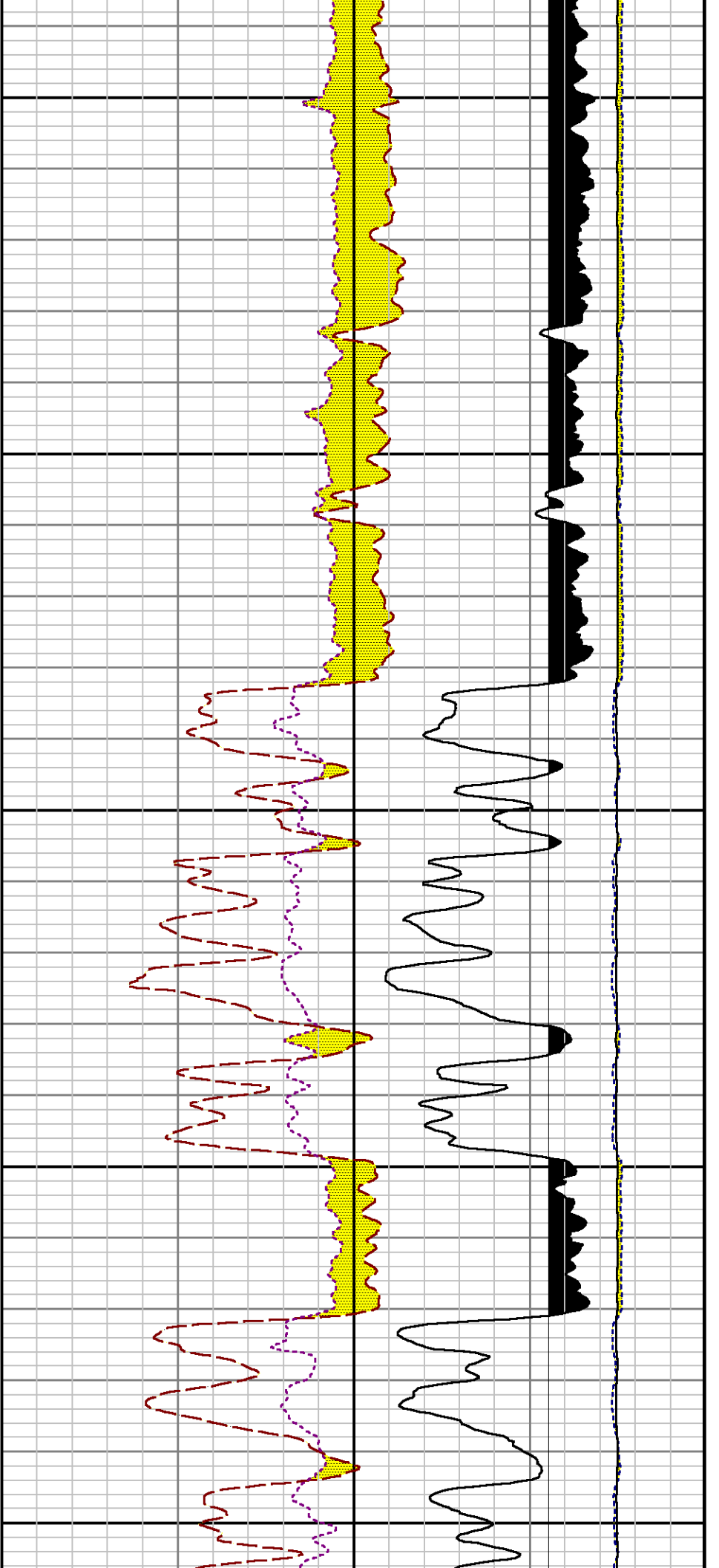


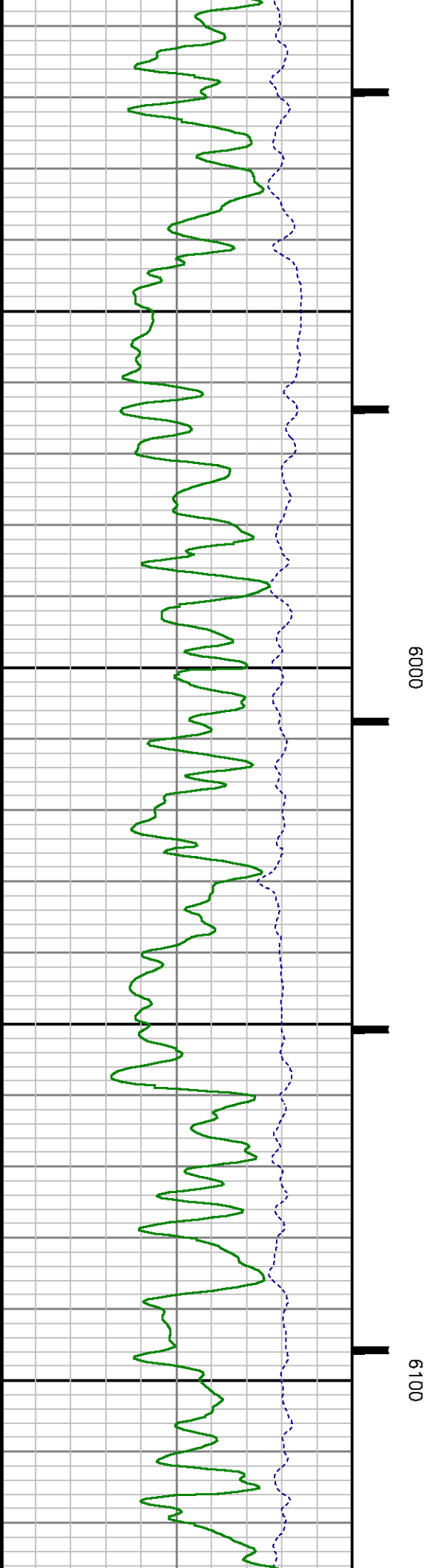
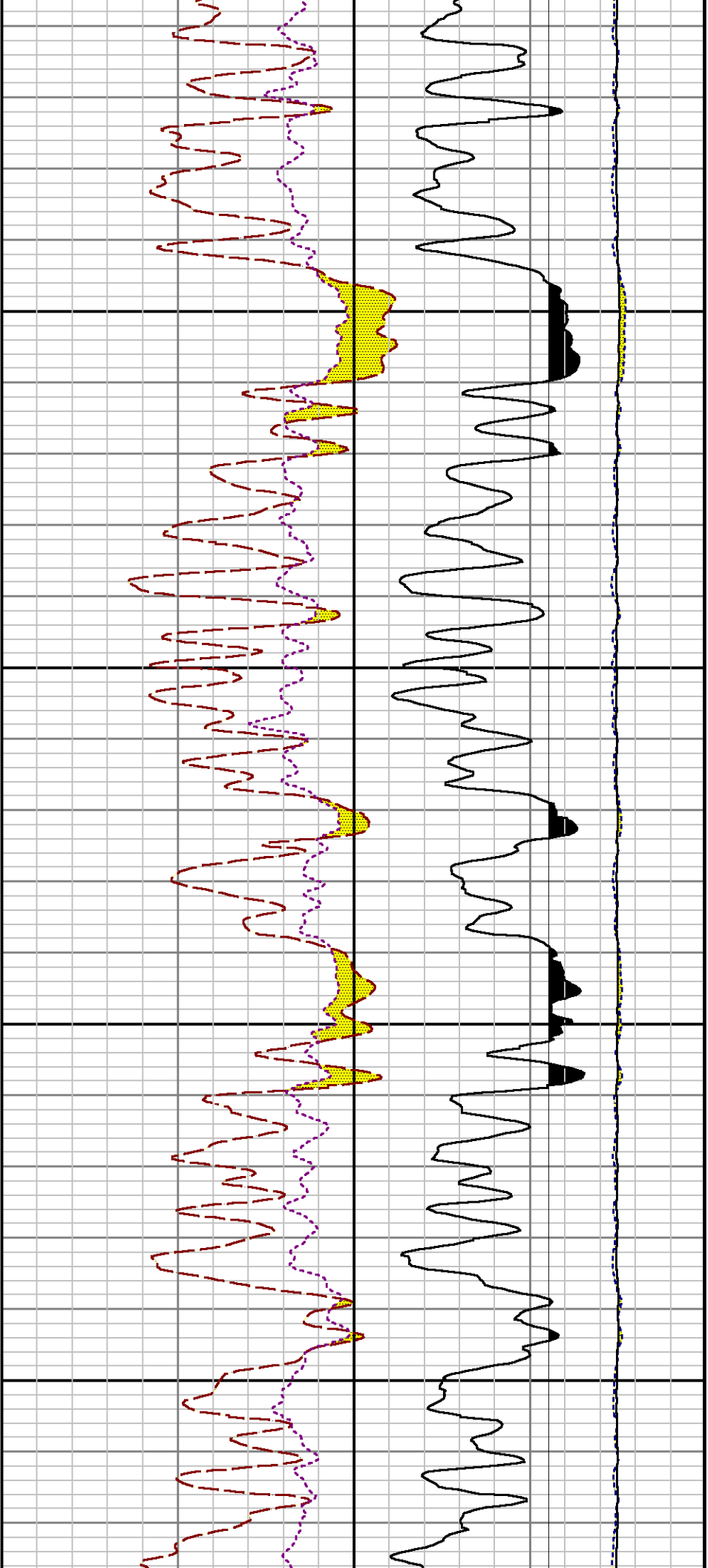


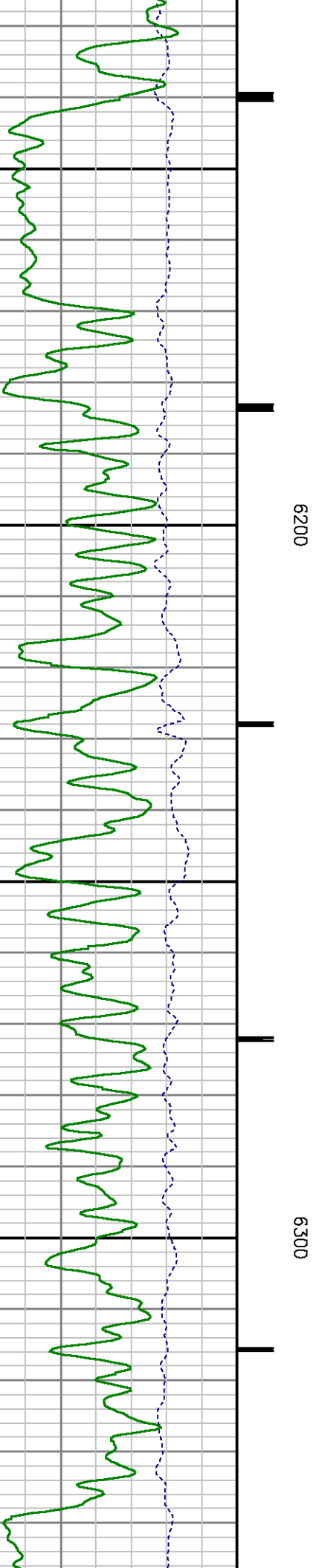
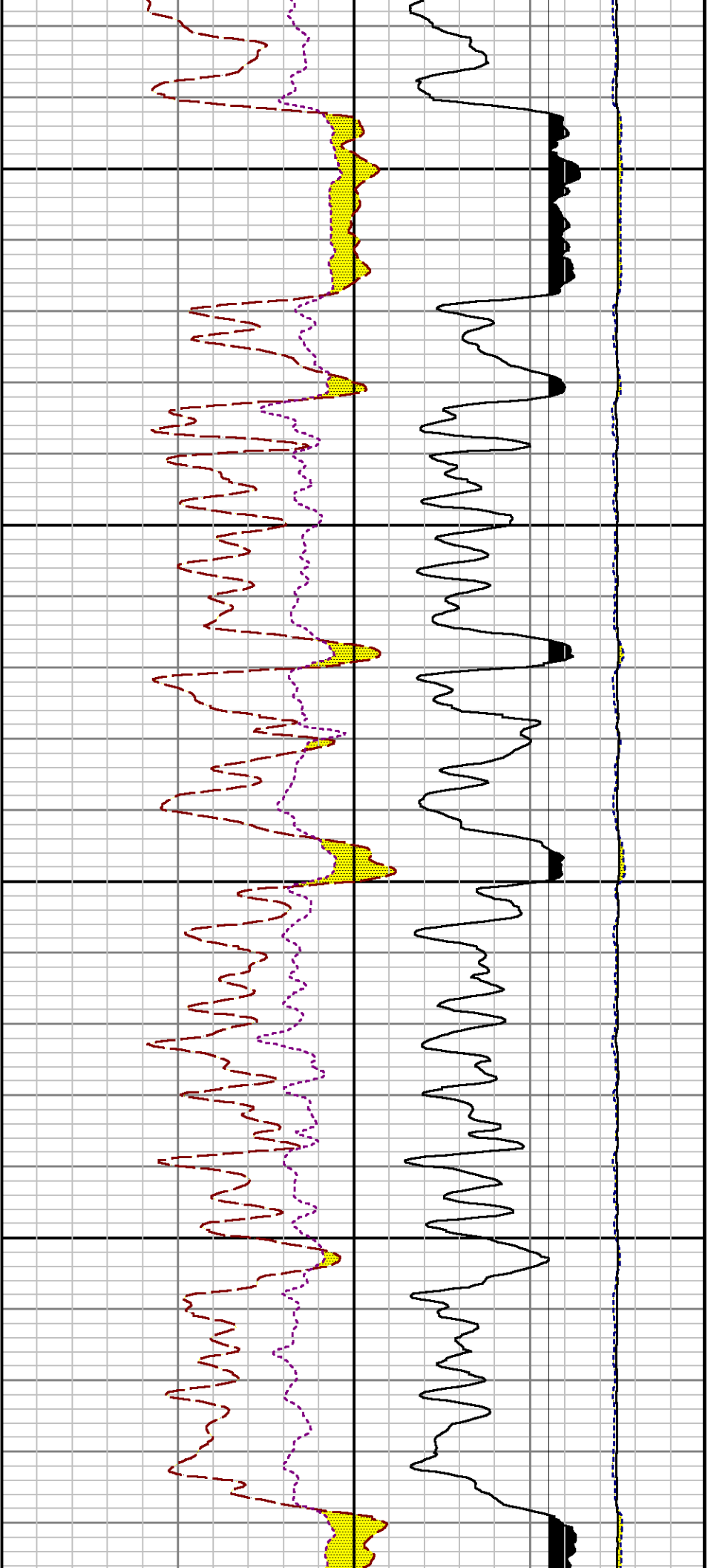
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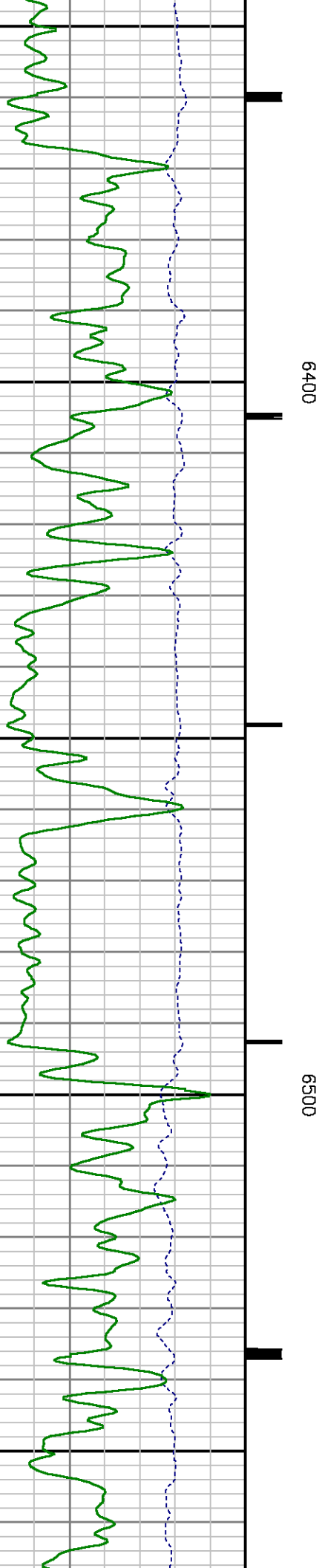
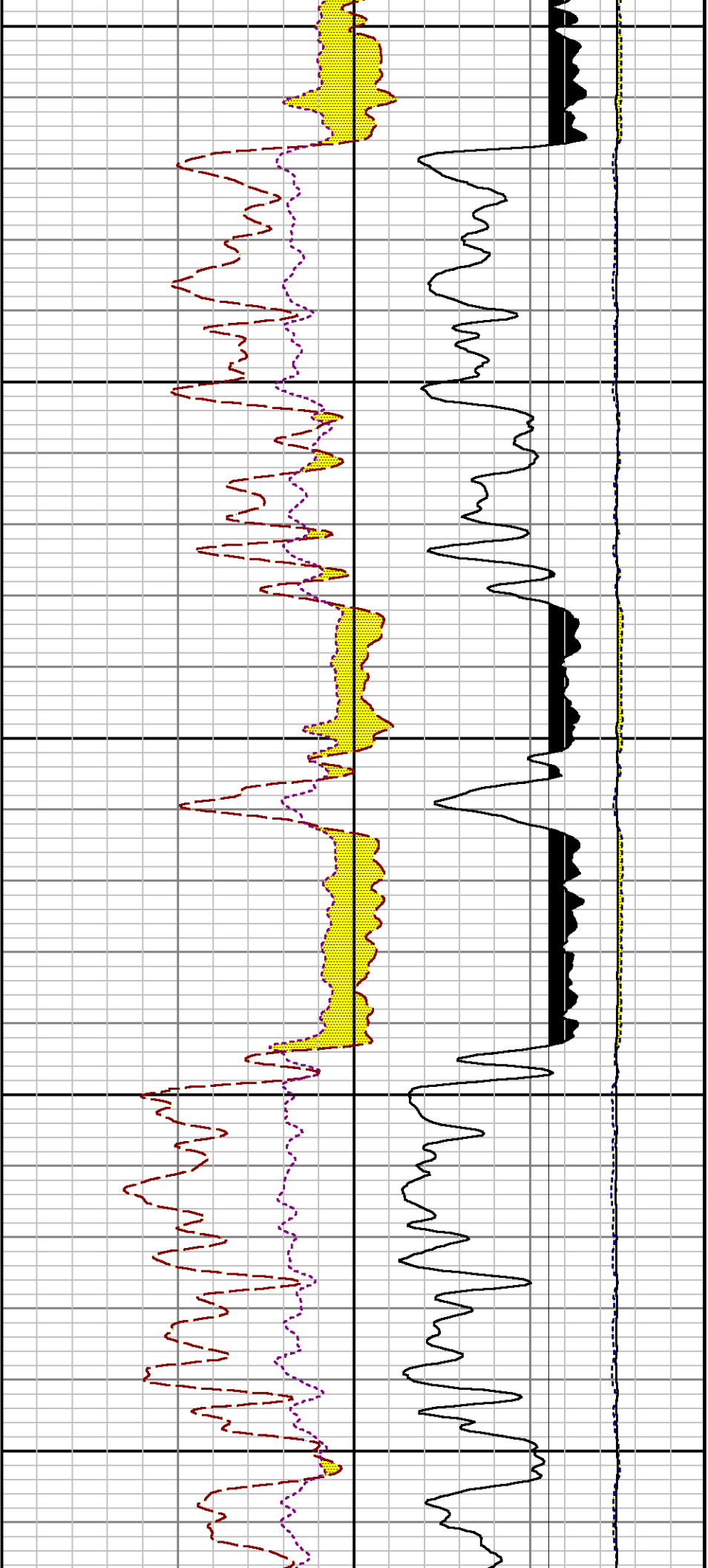
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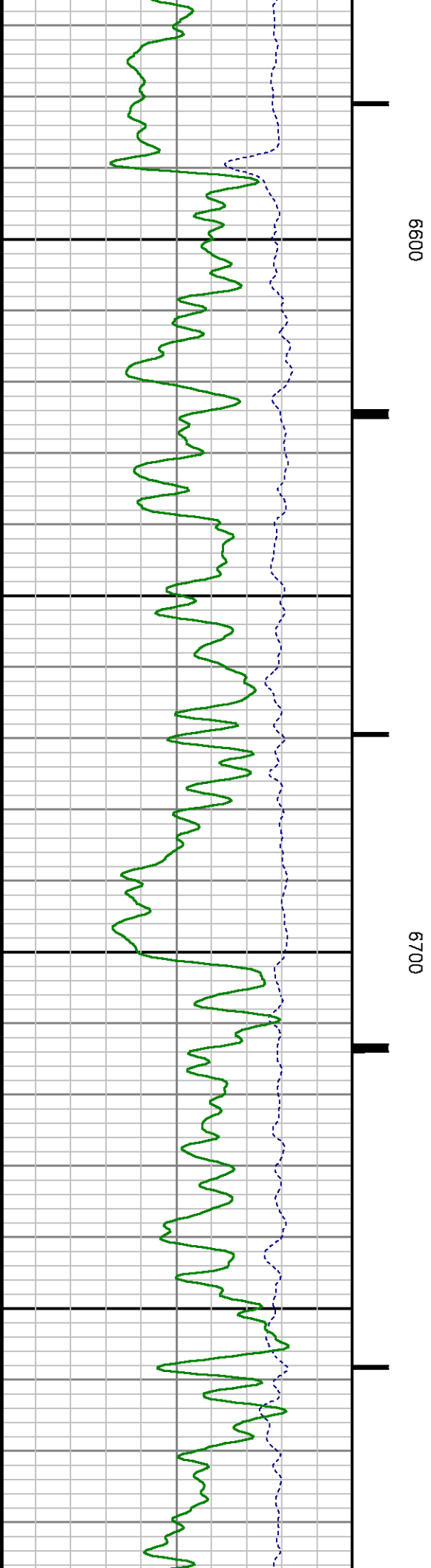
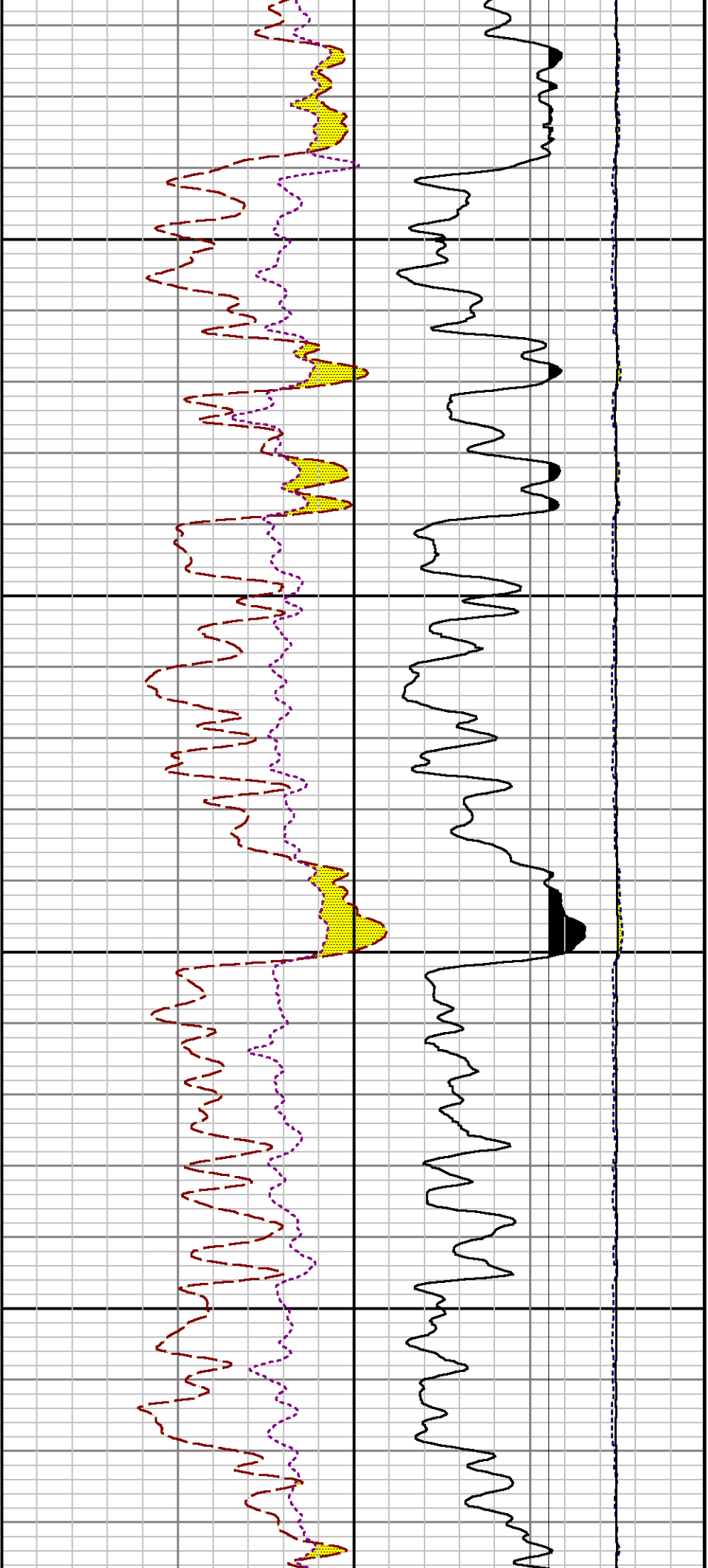




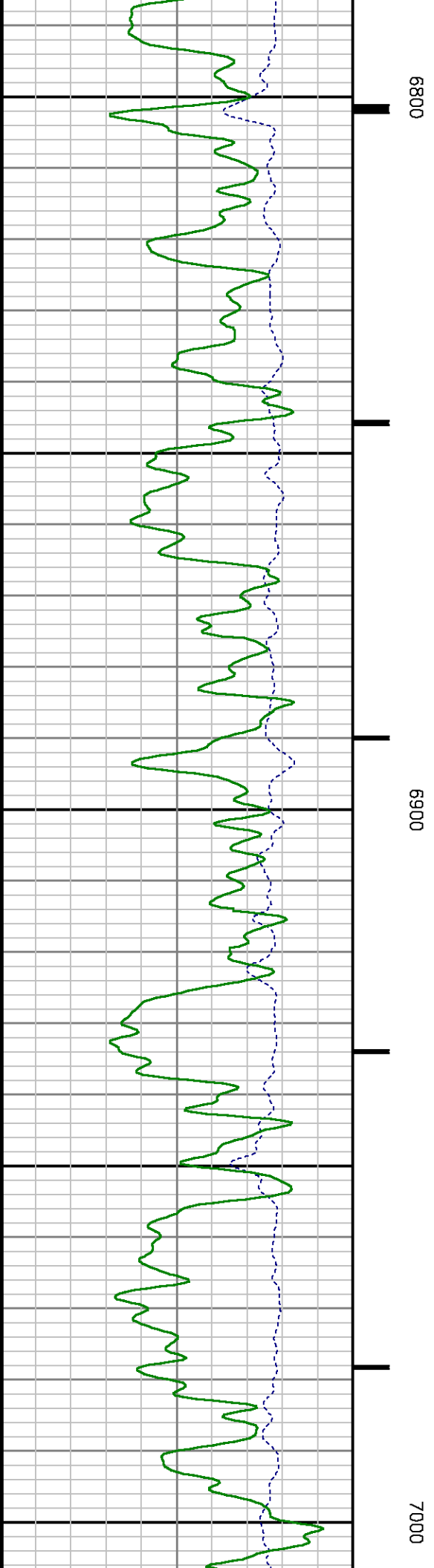
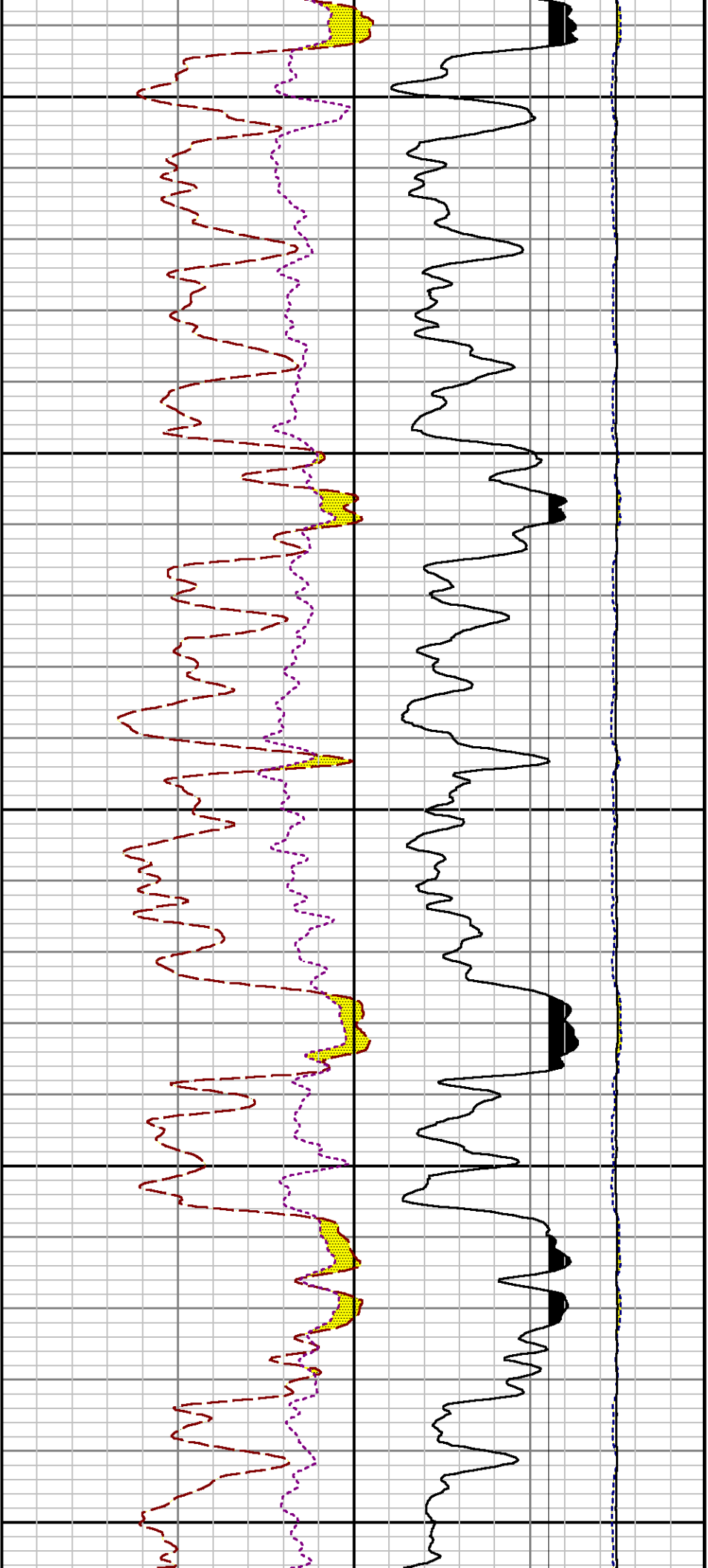


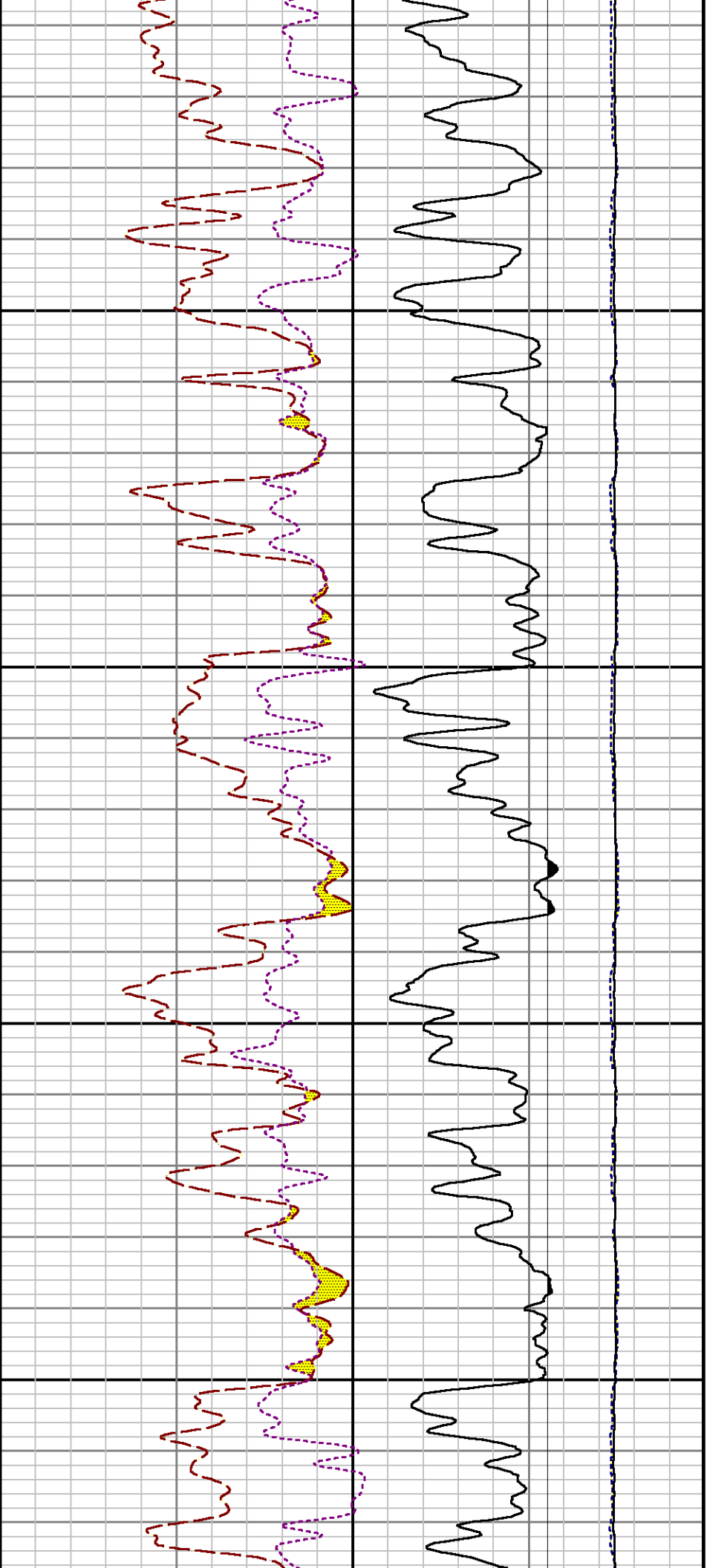






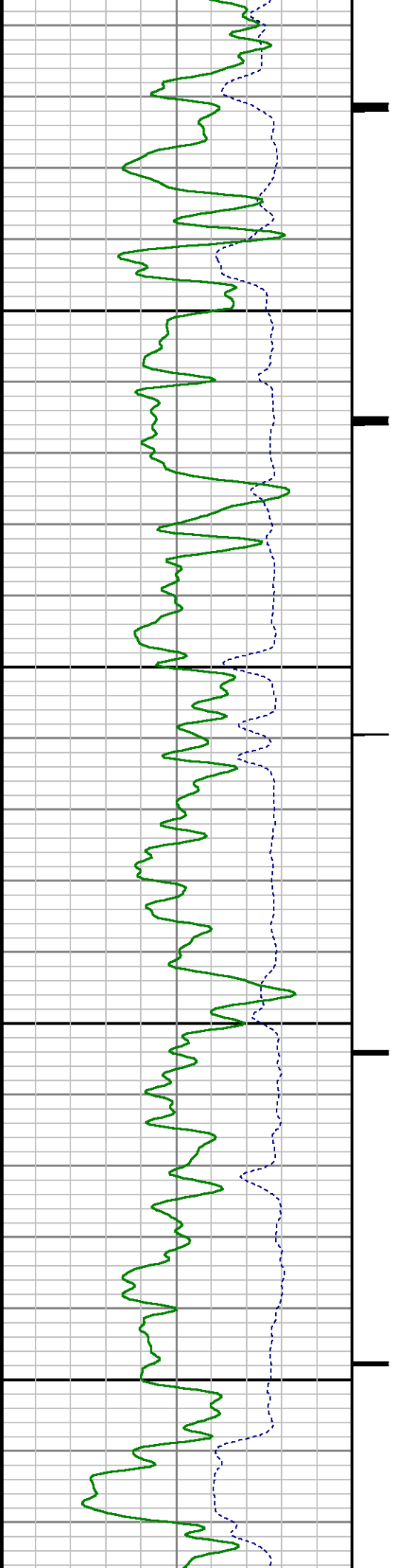


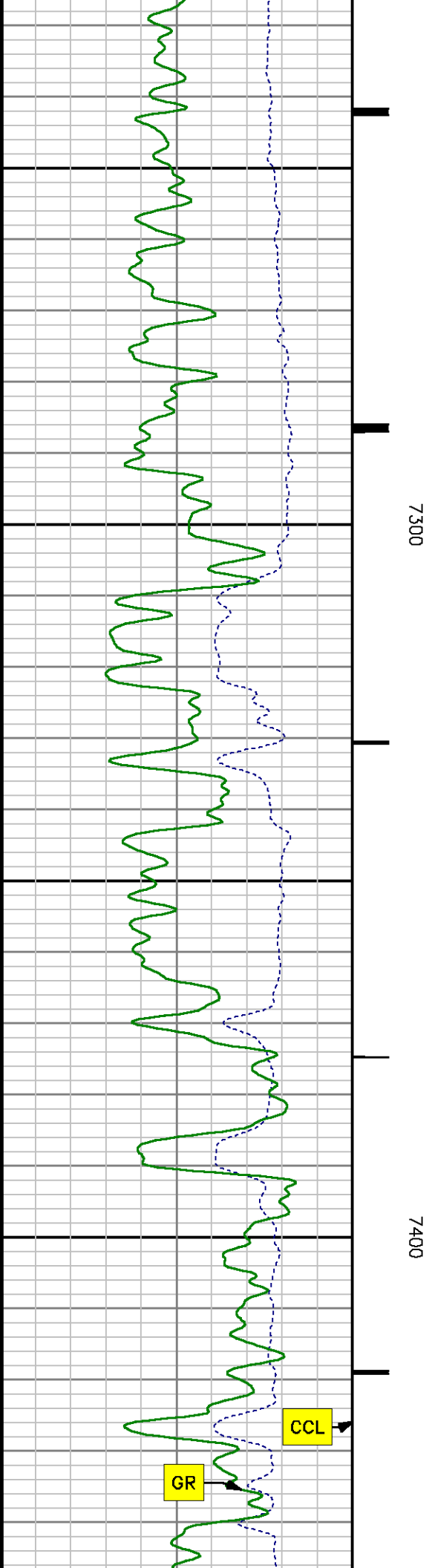
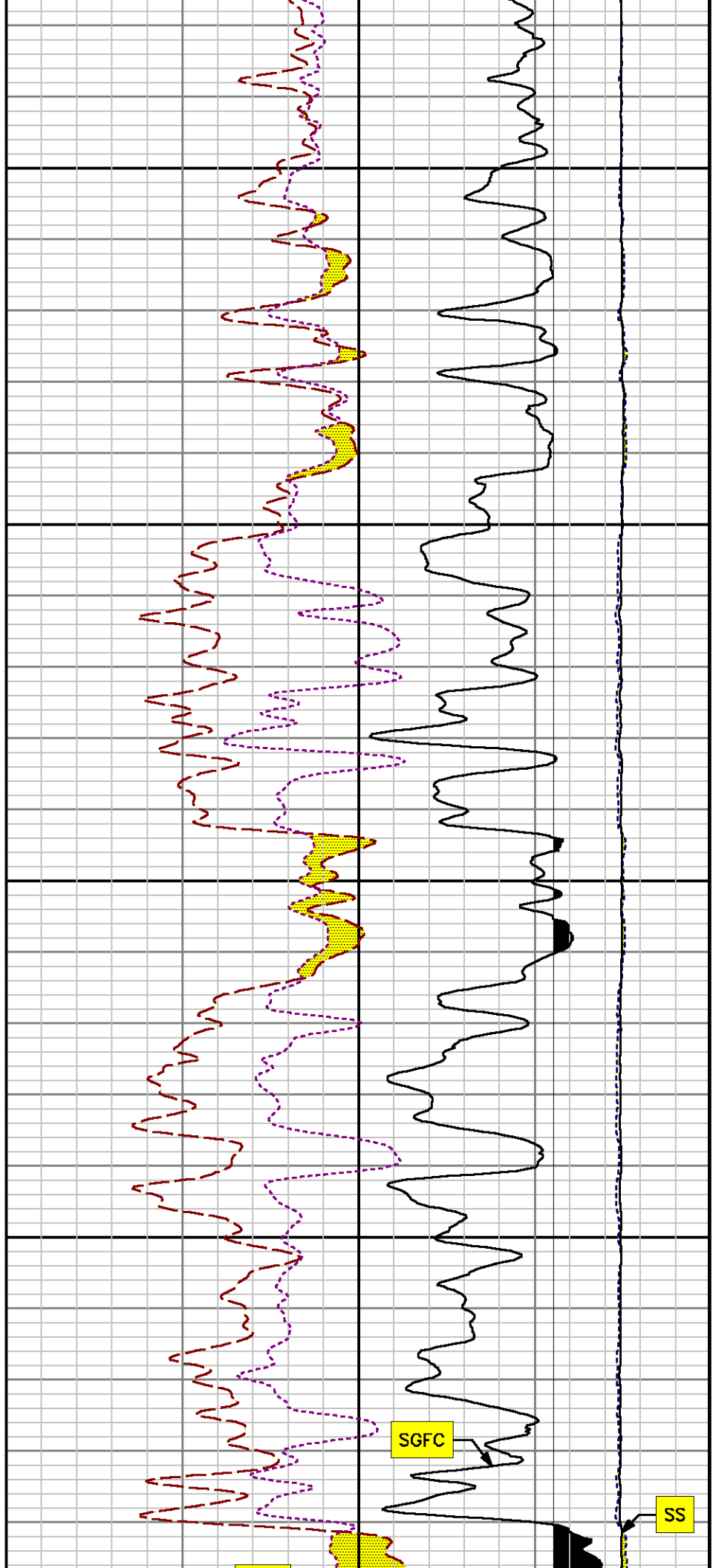


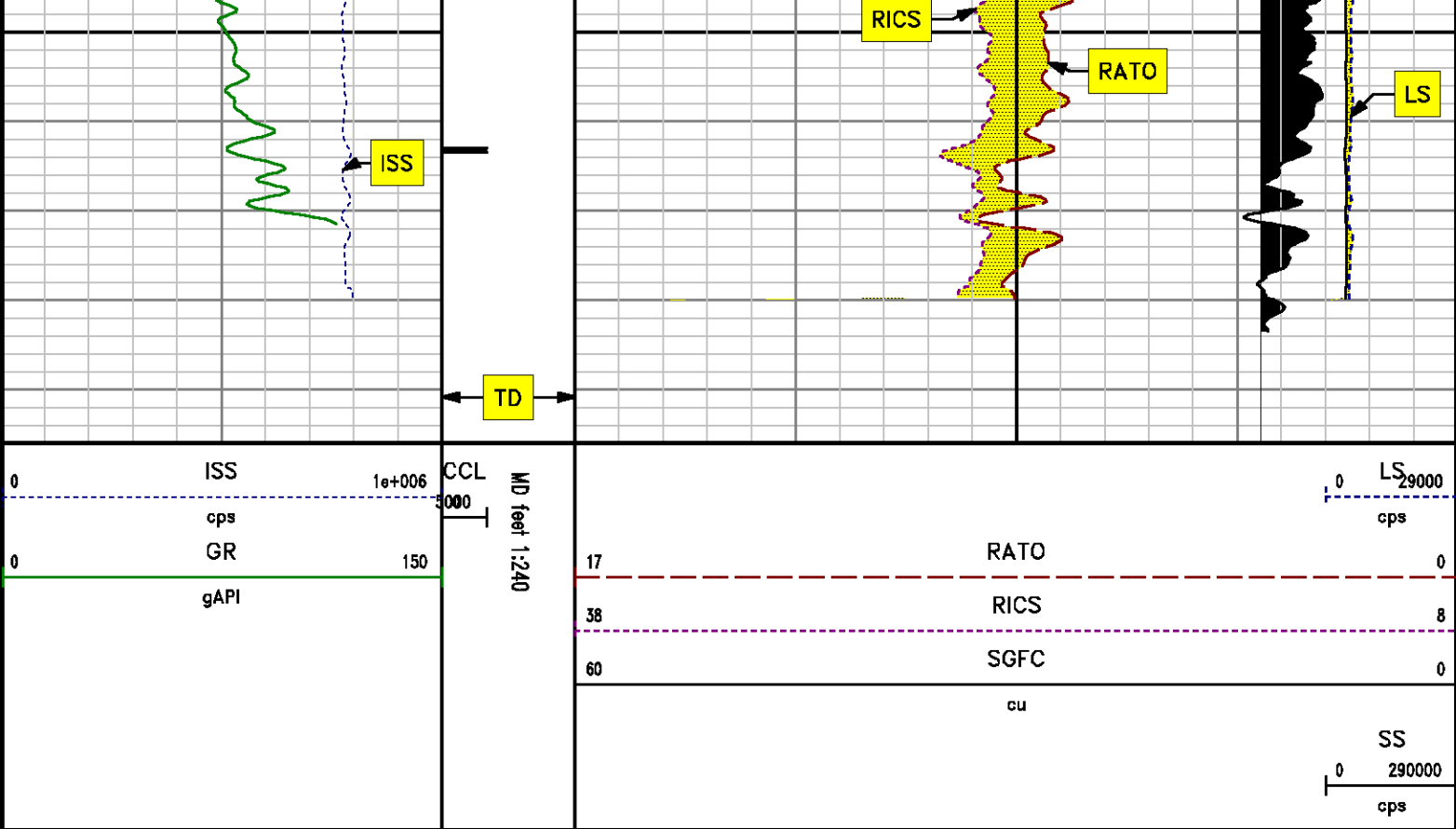


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7200







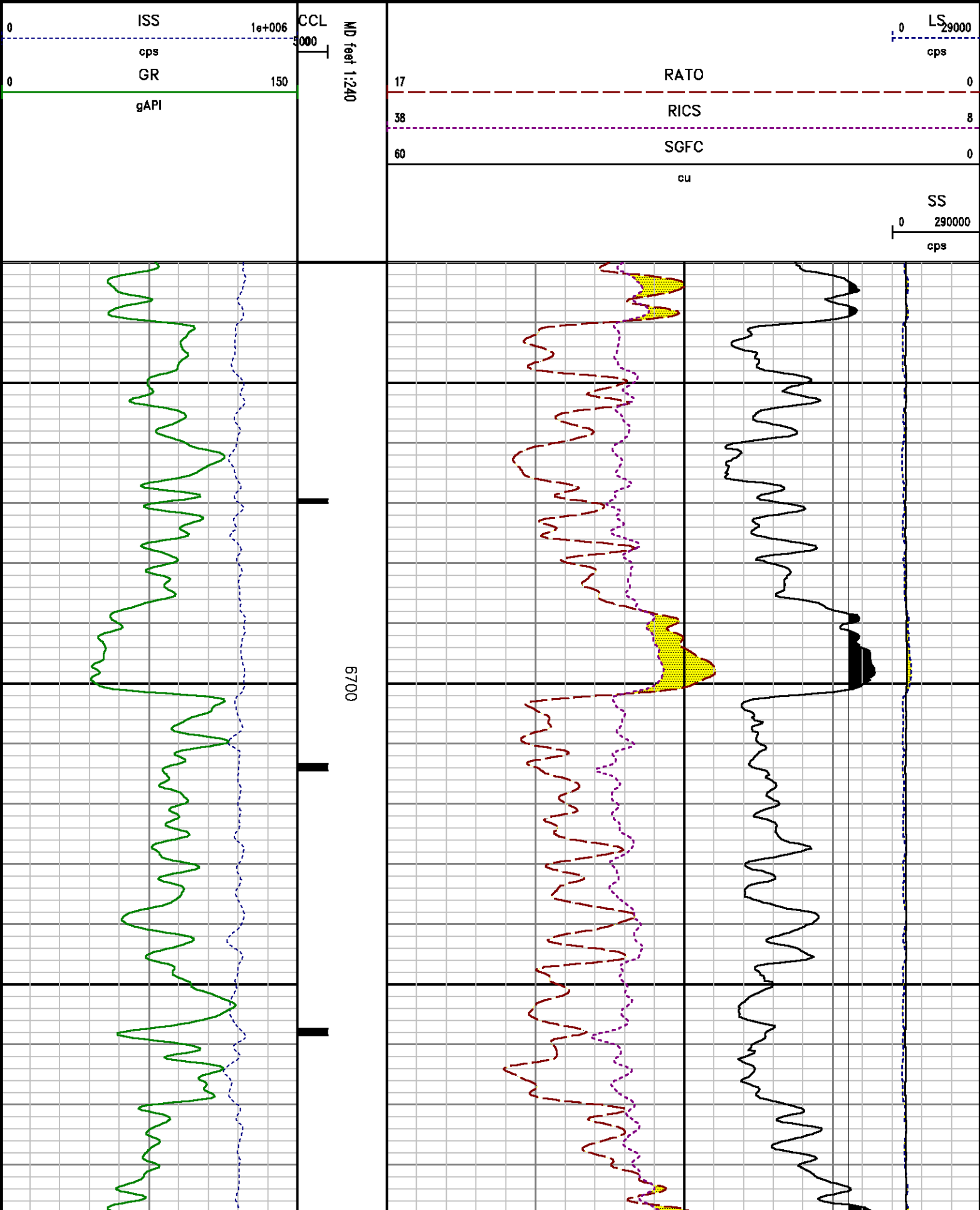
## REPEAT SECTION PNC 3-D MODE

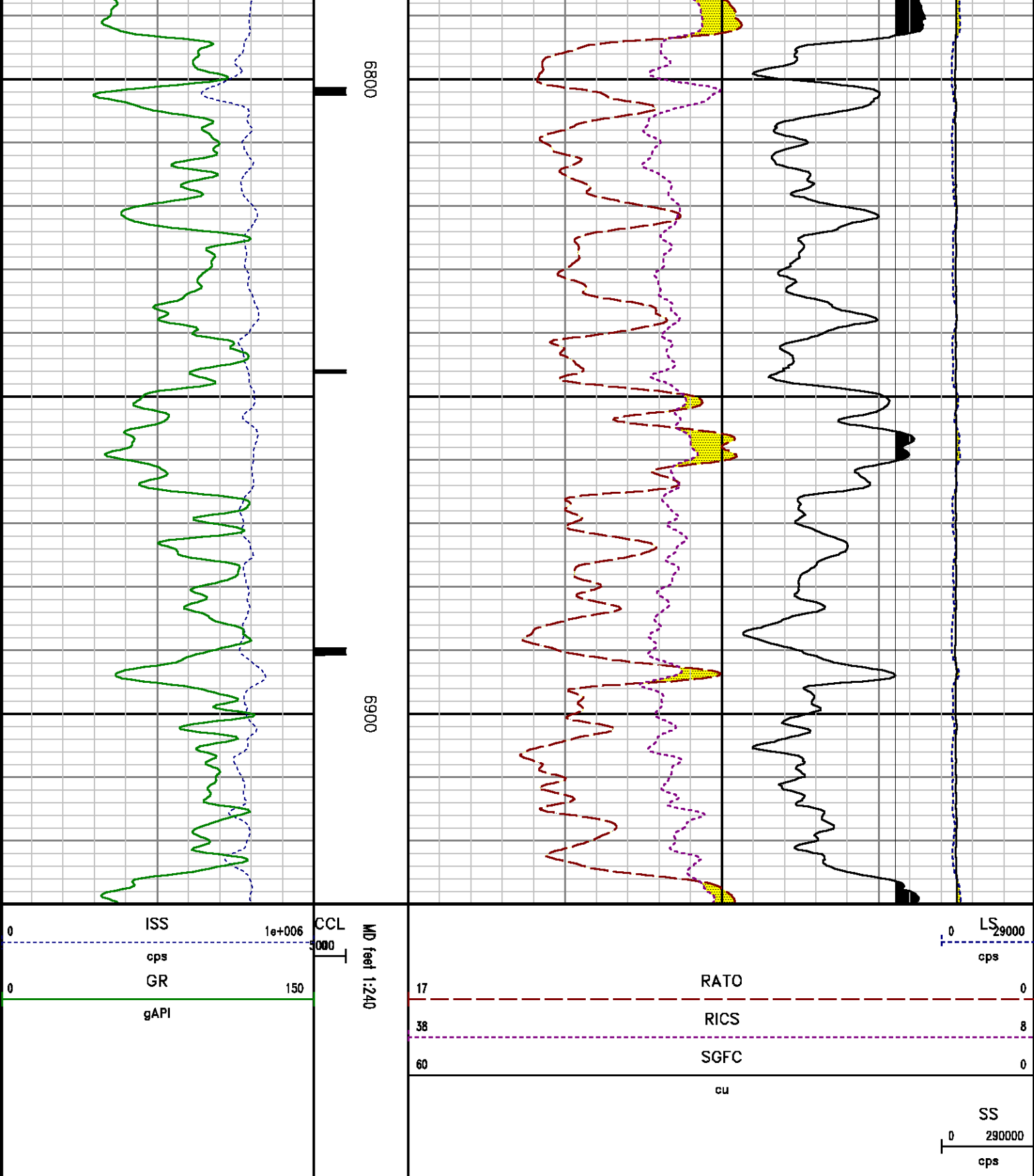
### SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		6619.939	6954.689
PNC Porosity	Borehole Size	8.750	inch	6619.939	6954.689
PNC Porosity	Casing Size	4.500	inch	6619.939	6954.689
PNC Porosity	Gas Filled	Non Gas Filled		6619.939	6954.689
PNC Porosity	Matrix	Sandstone		6619.939	6954.689
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	6619.939	6954.689

### DEPTH OFFSETS

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
8248ED	-26.519	FLTM					
8248ED	-24.519	CCL	CHV				
2812LA	-21.969	GR					
8281XA	-12.702	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					
		HVC2Q0	SEQ2	AMA2	AMB2	AMF2	AML2
		BKL	CHF2	CLS	CPT2Q0	CPT2Q2	CPT2Q3
8281XA	-12.291	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		
		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
8281XA	-12.041	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
		RTWOR					
8255XA	-0.792	PTFS	PTMS				
8255XA	-0.775	SPF1	SPFQ	TSCP	TSDP		
8255XA	0.000	DTEM	TEMP	TNF			
SYSTEM	0.000	TEN	TTEN				





## CALIBRATION SUMMARY

# PNC

Calibration File: C:\case\calver\PNC\55501.cal

## PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Fri Feb 14 10:06:45 2014 TOOL SERIES: 8281XA ASSET: 555 SEQ: 01

Calibrator #

GJSHOP GJSHOP

Source #

8281AA 11765054

	ISS	Mtr VIts (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	829720	122.00	2327.00	2273.00	2234.00	128.01	7.00	0.9689
Interpolated	1300000	142.76	2304.01	2271.75	2233.84			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	829720	8254.34	1264.54	181.94	25.76	0.14	24.38	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	829720	176096.14	27490.53	92898.02	33075.26	8527.33	56237.73	13651.16
Fit Quality %		0.89	0.87	0.81	0.82	0.79	0.73	0.84

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	829720	1.43	4.71	30.18	14.75	10.90	3.88	4.12
		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 %		0.09	0.22	0.26	0.22	0.03	0.06	0.03
Reduced	1412637	1.43	4.75	30.38	14.89	10.89	3.88	4.12
		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\385TN.cal

## CALIBRATION SUMMARY

DATE/TIME PERFORMED: Wed Feb 12 17:24:19 2014 TOOL SERIES: 2812LA ASSET: 385 SEQ: TN

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
GRK JWA C12	27.64	256.89	0.246	25.33	275.33	249.99



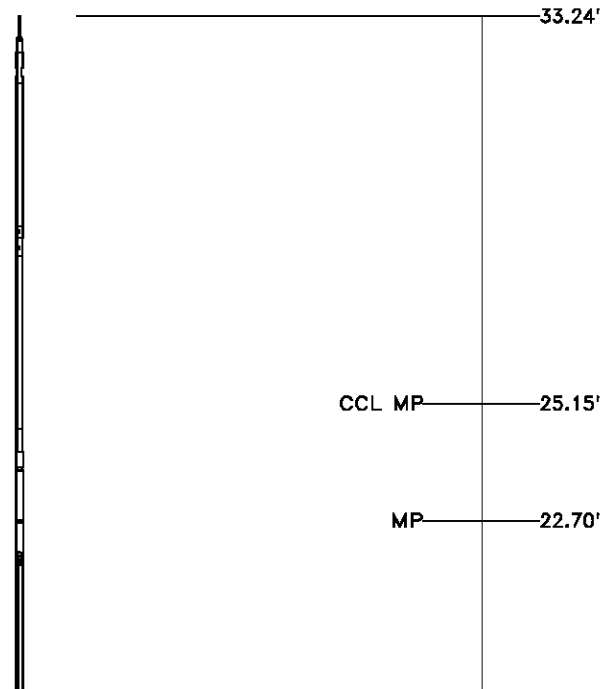
SZK	WA-612	27.64	236.80	0.916	23.33	233.33	210.00		
Verification File: C:\case\calver\GR\385TN.VP									
PRIMARY VERIFICATION									
DATE/TIME PERFORMED:		Wed Feb 12 17:29:20 2014		TOOL SERIES:	2812LA	ASSET:	385	SEQ:	TN
Calibrator #	Background	Calibrator On	Multiplicative	Background	Calibrator On	Differential			
	[cps]	[cps]		[api]	[api]	[api]			
S2K WA-612	28.29	252.82	0.916	25.92	231.69	205.76			

## TEMPERATURE

Calibration File: C:\case\calver\TEMP\7745684.cal									
CALIBRATION SUMMARY									
DATE/TIME PERFORMED:		FEB 03 2014		TOOL SERIES:	8255XA	ASSET:	774568	SEQ:	4
Coefficients	T(0)	T(1)	T(2)	T(3)	T(4)	T(5)			
	-9.274653e+000	1.055639e-001	2.143764e-006	-2.782846e-010	0.000000e+000	0.000000e+000			

## 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
SONDEX GAMMA RAY	
Series	2812LA
Mnemonic	SNDX
Diameter	1.69"



# **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

# **TEMPERATURE / PRESSURE**

Series 8255XA  
 Mnemonic SRPL  
 Diameter 1.70"  
 Weight 13.00 lb  
 Length 3.30'

Total Length: 33.24'  
 Total Weight: Not Available  
 Max Diameter: 0' 1.70"

XLS DETECTOR 16.08'

LS DETECTOR 13.10'  
 SS DETECTOR 12.88'

PRES MP 1.61'

0.00'



Company WPX ENERGY  
 Well WPX ENERGY PA 13-2  
 Field PARACHUTE  
 County GARFIELD State CO

File No: CH082896  
 API No: 05045221520000

Location  
 SHL: 2074' FSL & 1534' FWL  
 BHL: 2394' FSL & 581' FWL

Elevations  
 KB 5846 ft  
 DF  
 GL 5821 ft

2 7S 95W  
 GV 86-2 PAD  
 AZTEC 1000

SEC 2 TWP 7S RGE 95W

CASE

Baker Atlas