



RESERVOIR PERFORMANCE MONITOR

Baker Atlas

File No: CH083164

Company Well WPX ENERGY FEDERAL PA 31-21

API No: Field PARACHUTE

County Garfield State COLORADO

05045220390000

Location

SHL: 2600' FNL & 1441' FWL

PA 22-21 PAD BHL: 252' FNL & 1685' FEL (NWNE)

NABORS 673 SEC 21 TWP 6S RGE 9SW

Other Services

BOND LOG

Permanent Datum GL Elevation 6030 ft

Log Measured From KB 26 ft Above P. D.

Drill Measured From KELLY BUSHING

Elevations

KB 6056 ft

DF

GL 6030 ft

Date	1/MAR/14	
Run	ONE	
Service Order	US62E298	
Depth Driller	9660 ft	
Depth Logger	9608 ft	
Bottom Logged Interval	9598 ft	
Top Logged Interval	5714 ft	
Time Started	1530	
Time Finished	2230	
Operator Rig Time	7 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	FULL	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	10 fpm	
Maximum Recorded Temperature	265 degF	
Reference Log	BAKER HUGHES BOND LOG	
Reference Log Date	02/MAR/14	
Equipment No.	4271	GRAND UCT
Recorded By	FLOYD RENEAU	
Witnessed By	GRAN 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	26 ft	938 ft
8.75 in	938 ft	9690 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			26 ft	938 ft
4.5 in	11.6 lbm/ft	1-80	26 ft	9690 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 3/2/2014 at the client's request.
The amount of linear shift is 12 feet.
Logged in PNC-3D mode.
BHT = 255°
SJ = 6171'-6195'

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	TEMP	8255XA	11774568	FREE
1	1	RPM	8281FA	10307727	FREE
1	1	RPM	8281PA	10414345	FREE
1	1	RPM	8281EA	10190984	FREE
1	1	GR	2812LA	10274385	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		5689.750	9609.955
PNC Porosity	Borehole Size	8.750	inch	5689.750	9609.955
PNC Porosity	Casing Size	4.500	inch	5689.750	9609.955
PNC Porosity	Gas Filled	Non Gas Filled		5689.750	9609.955
PNC Porosity	Matrix	Sandstone		5689.750	9609.955
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	5689.750	9609.955

DEPTH OFFSETS
(for Acquired Curves)

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	RATO23
		RICXC	RIN13C	RIN23	RIN23C	SD3D	SG3D
		SGB3	SGF3	WDTH3	CXSR	IXSR	XSR
		RICXR					
8281XA	-12.291	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	-12.041	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					
8255XA	-0.792	PTFS	PTMS				
8255XA	-0.775	SPF1	SPFQ	TSCP	TSDP		
8255XA	0.000	DTEM	TEMP	TNF			
SYSTEM	0.000	TEN	TTEN				

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

Well : FEDERAL PA 31-21

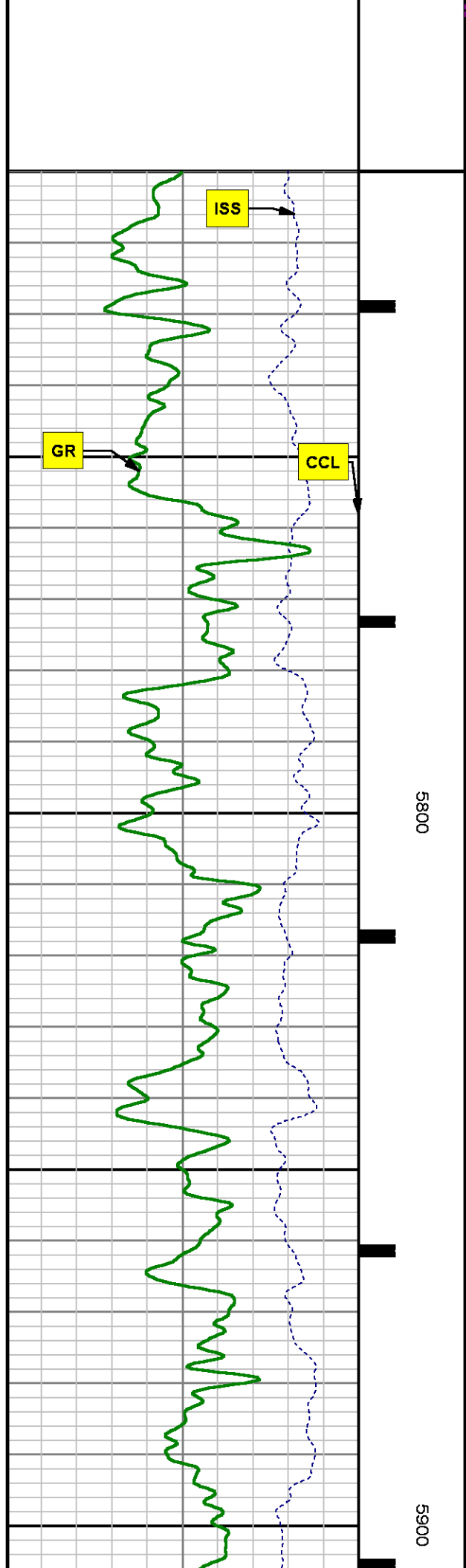
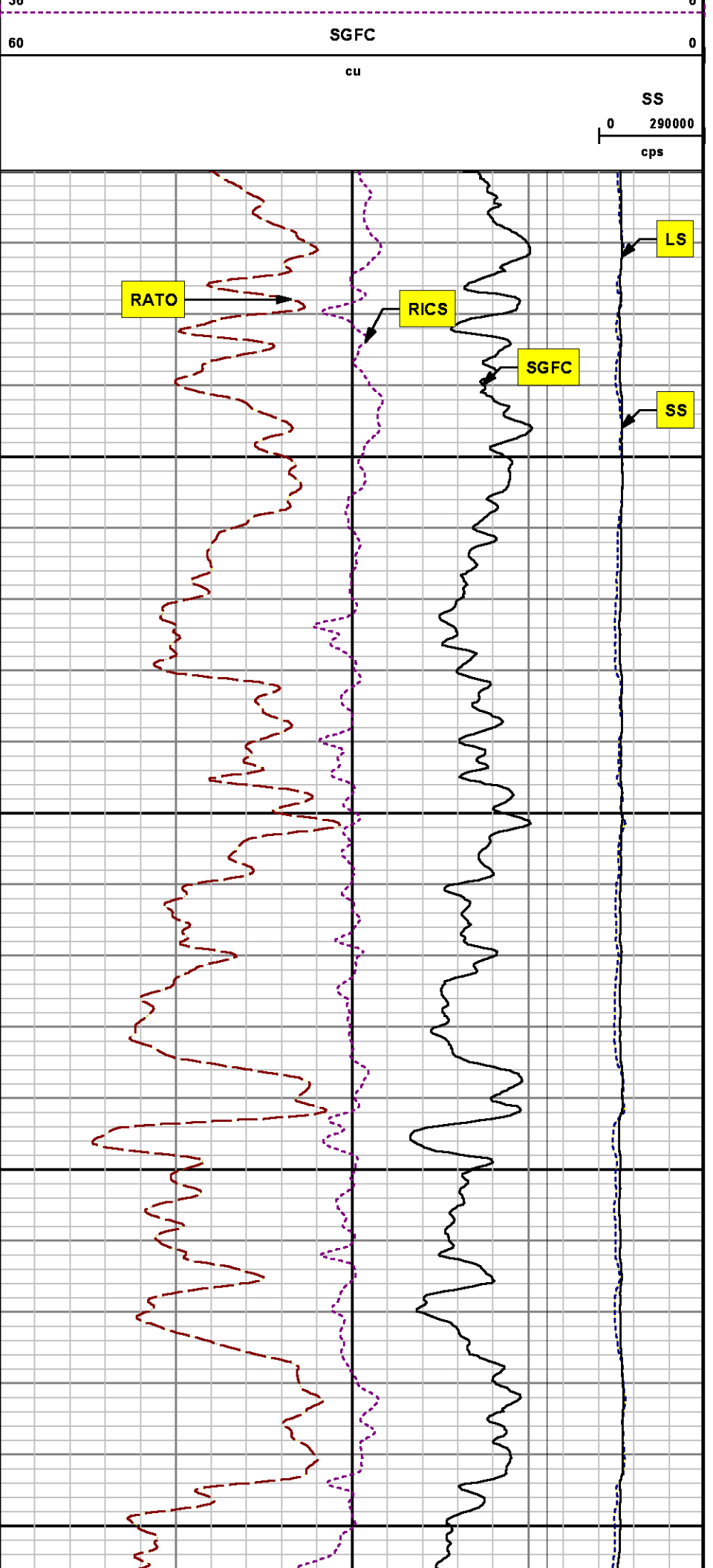
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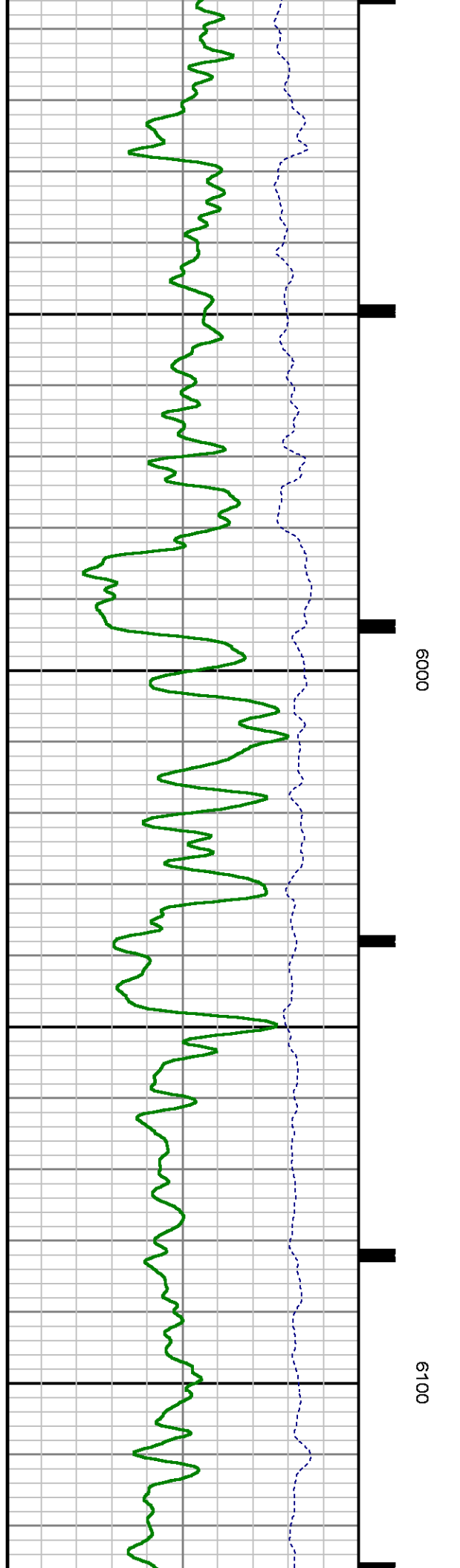
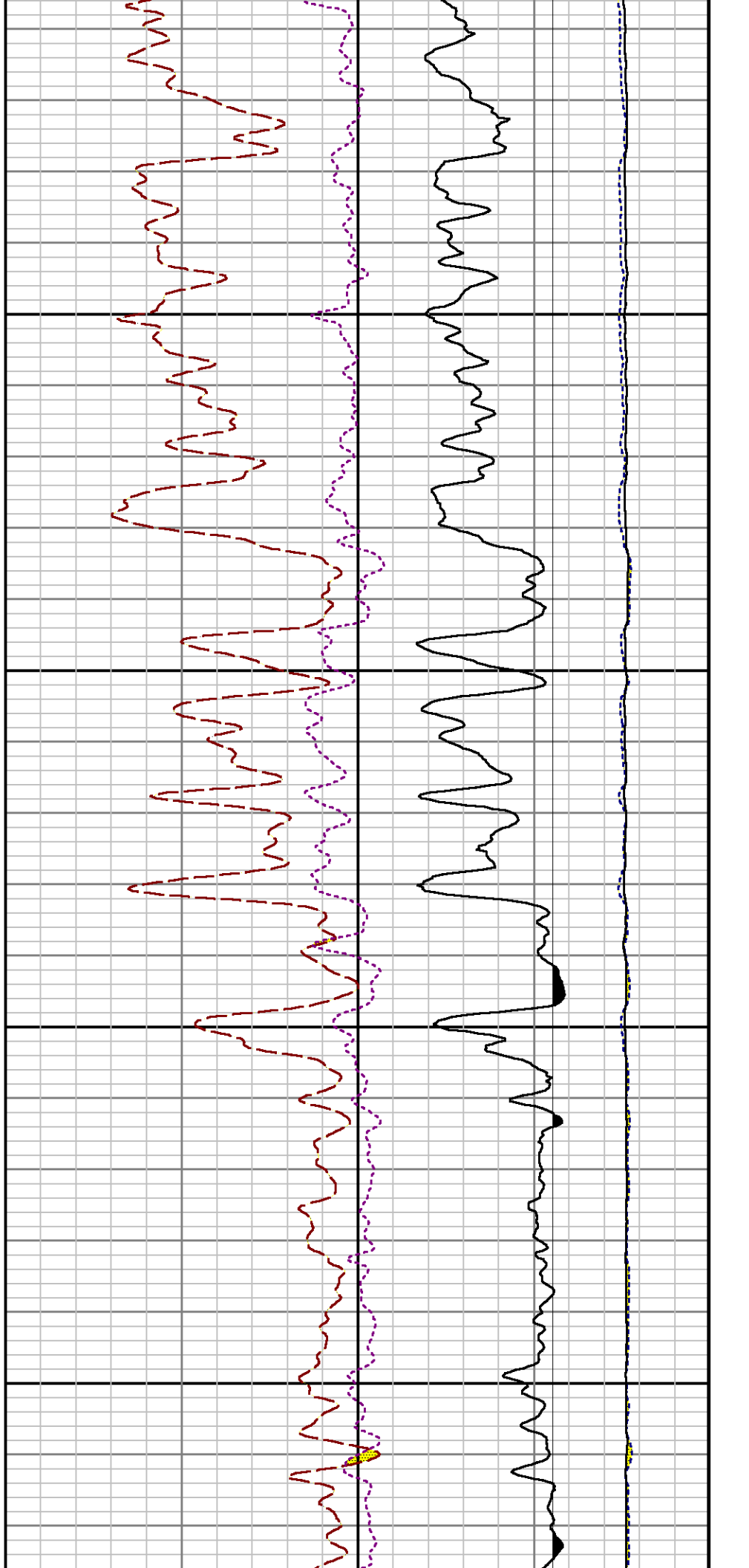
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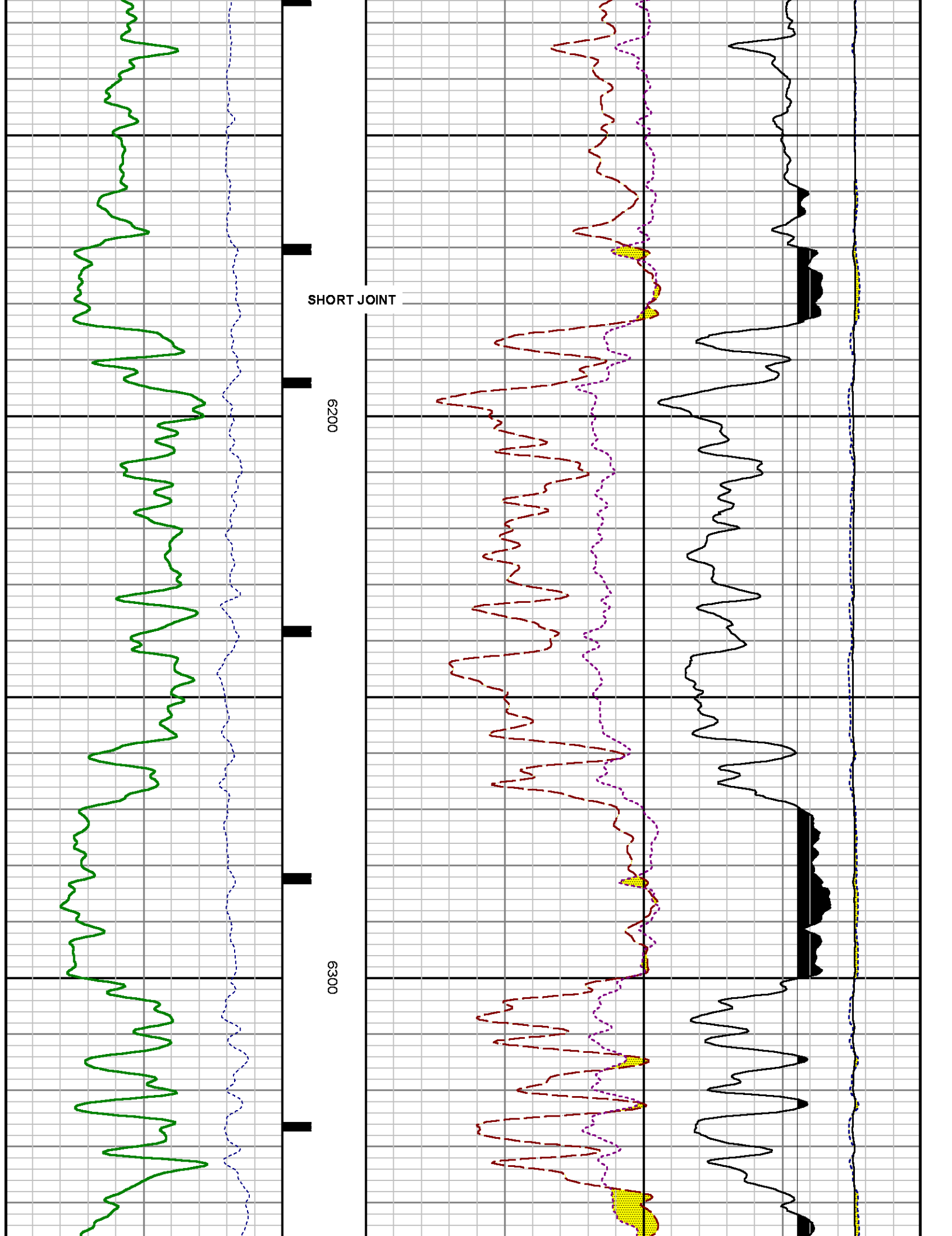
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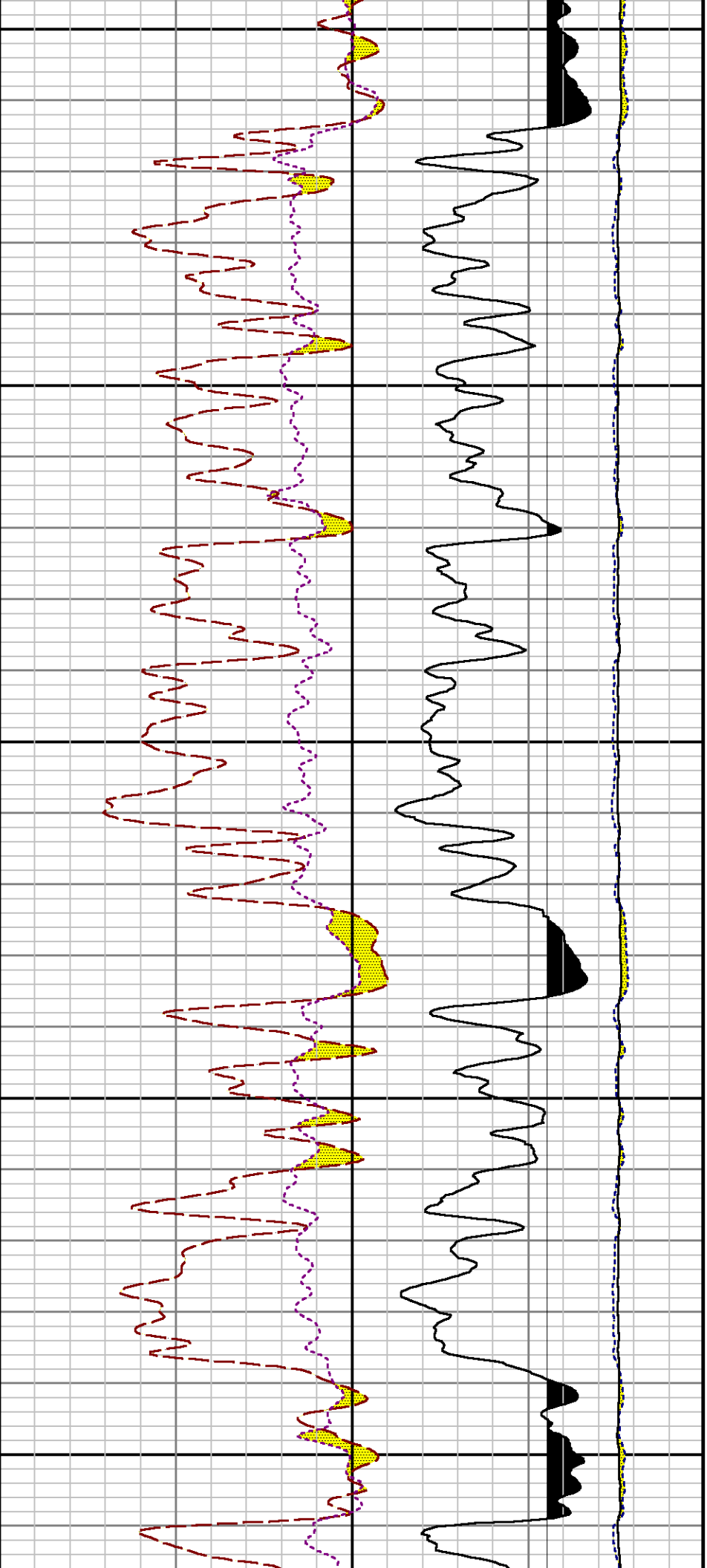
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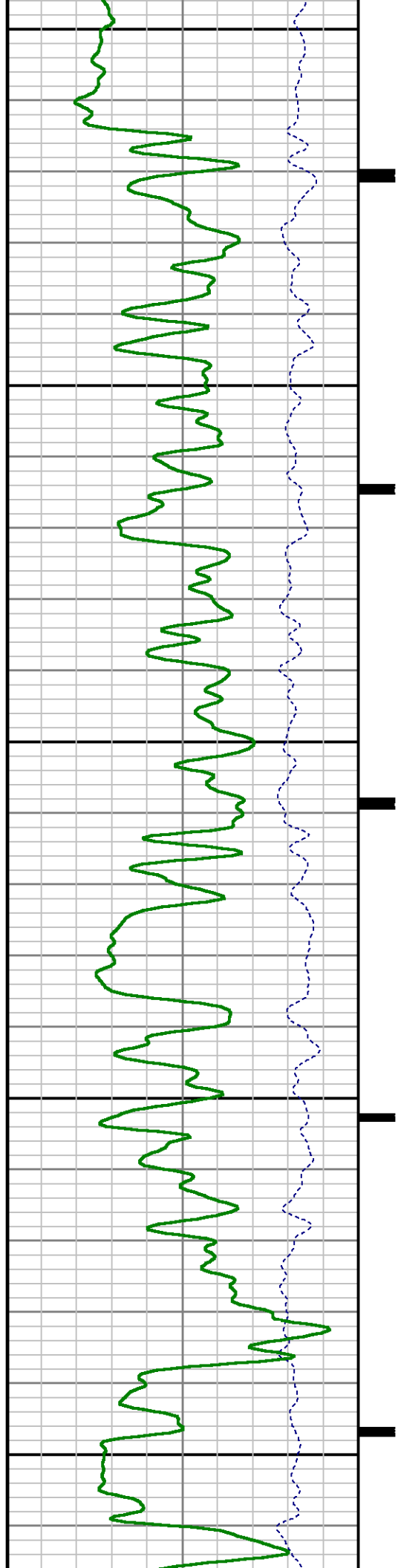


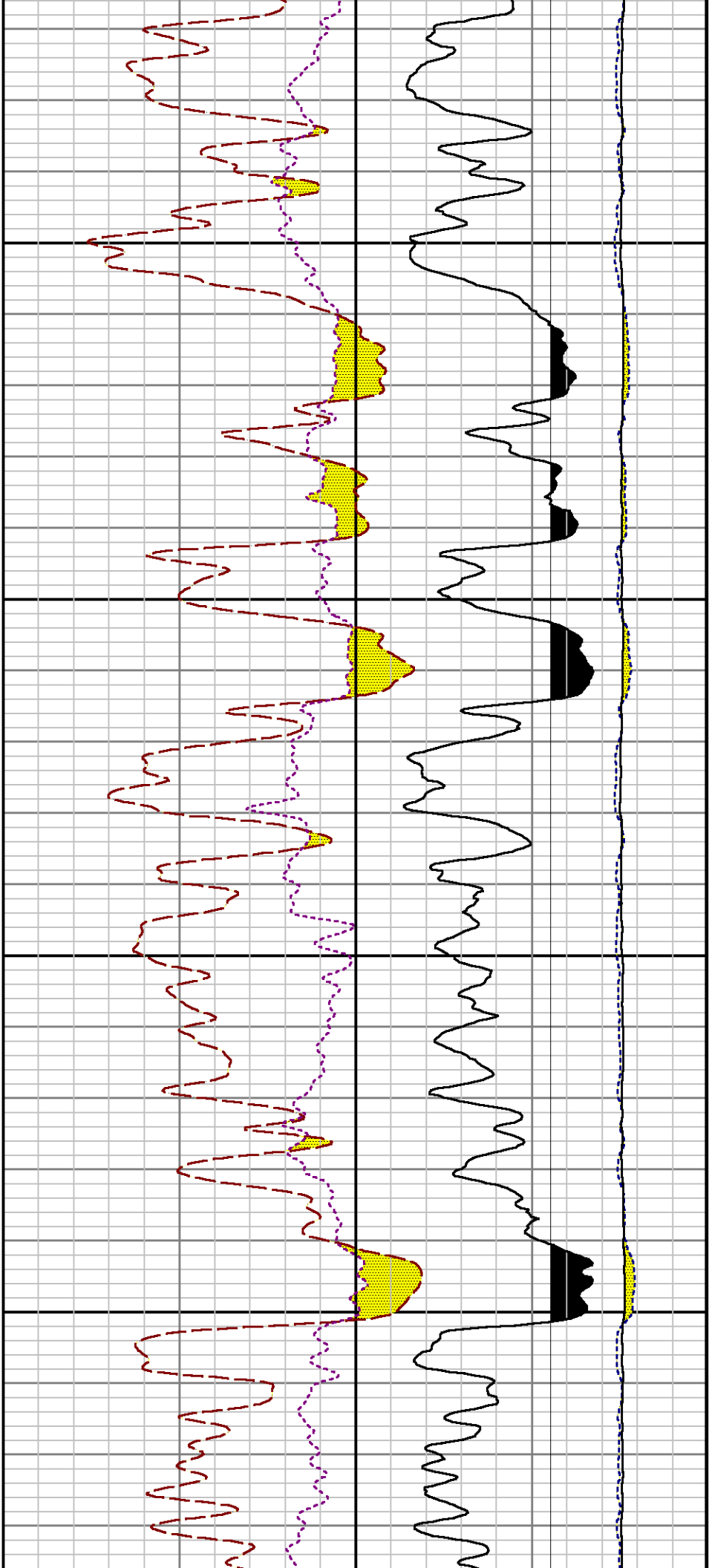




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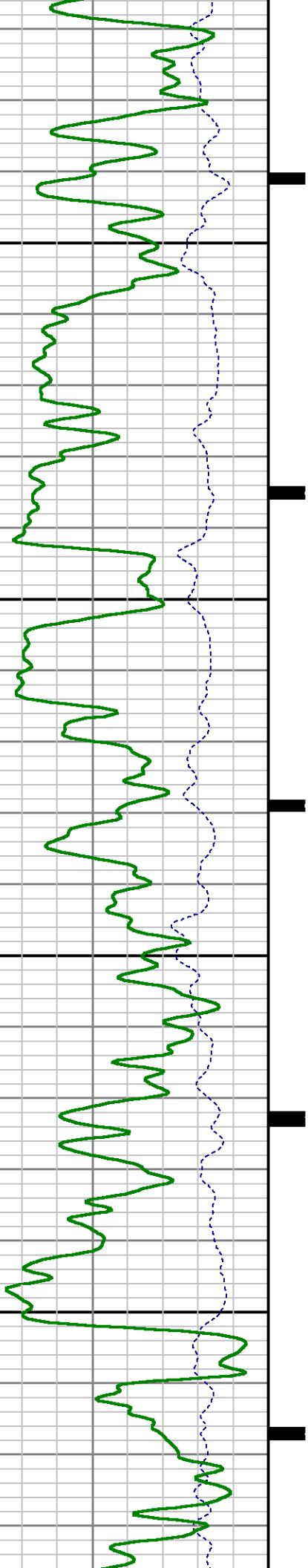
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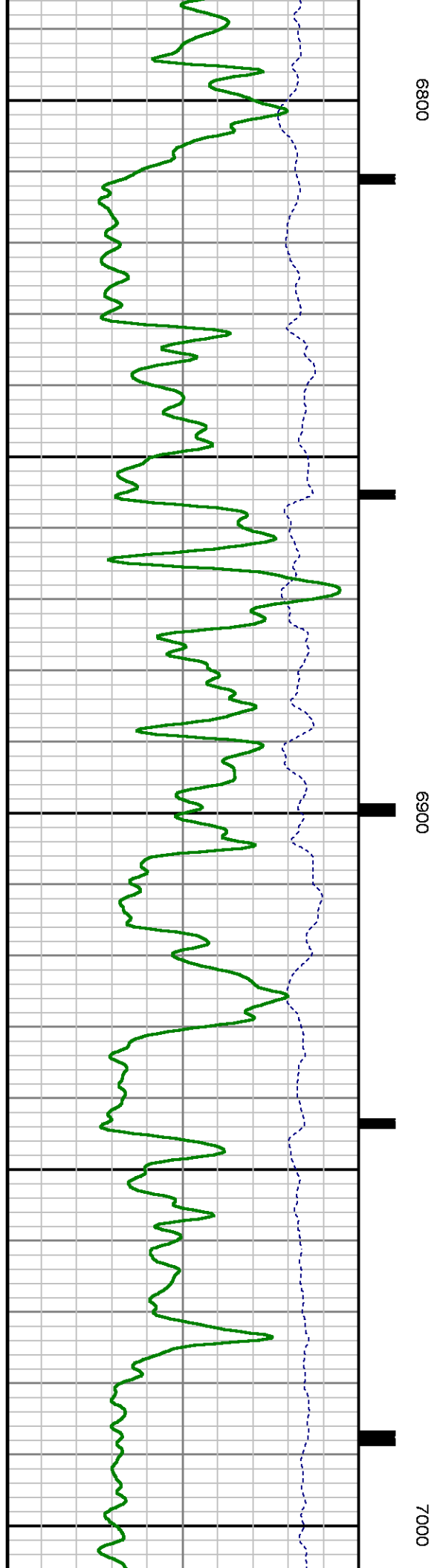
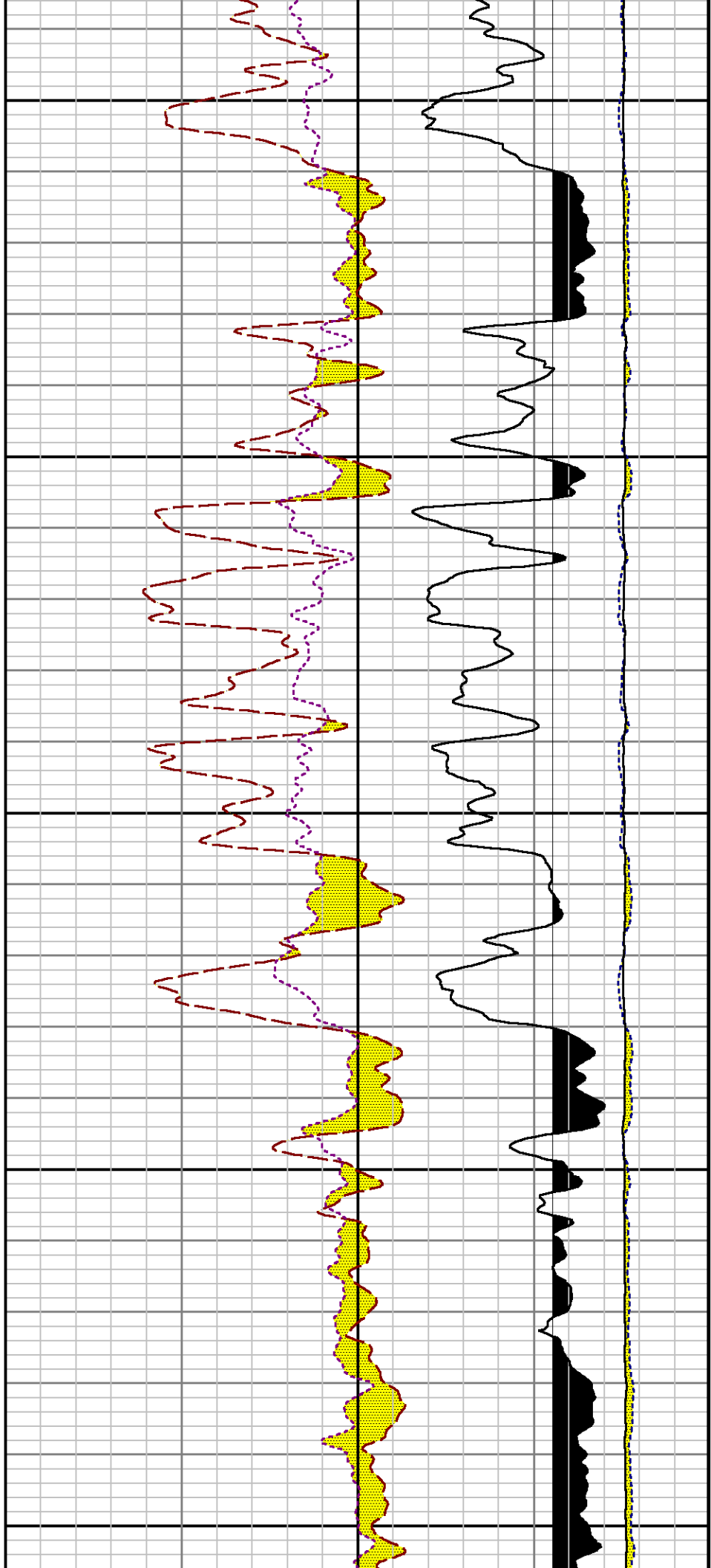


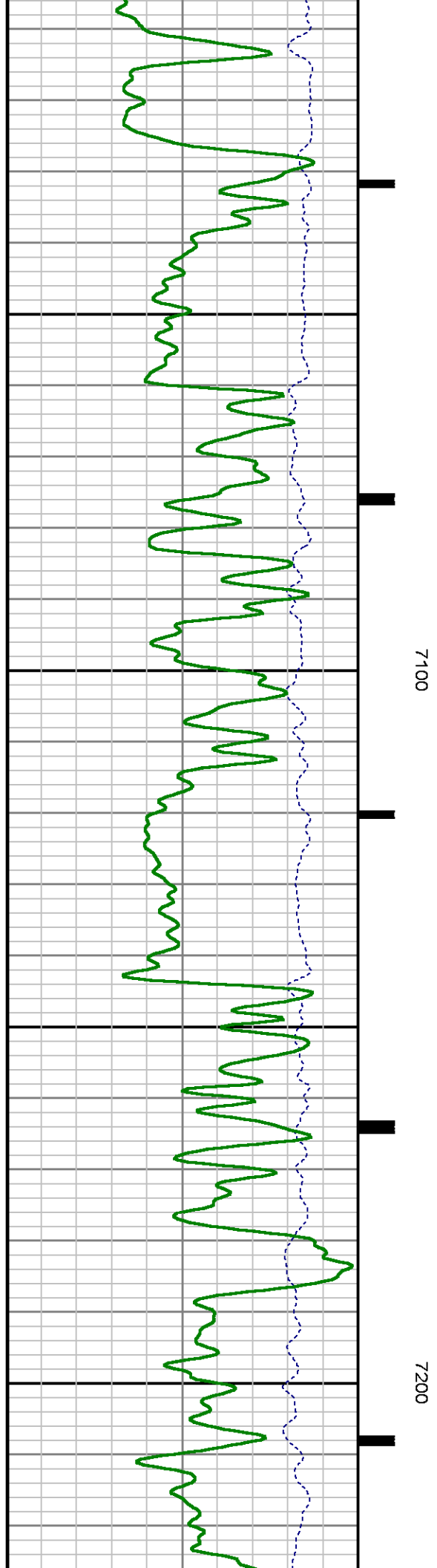
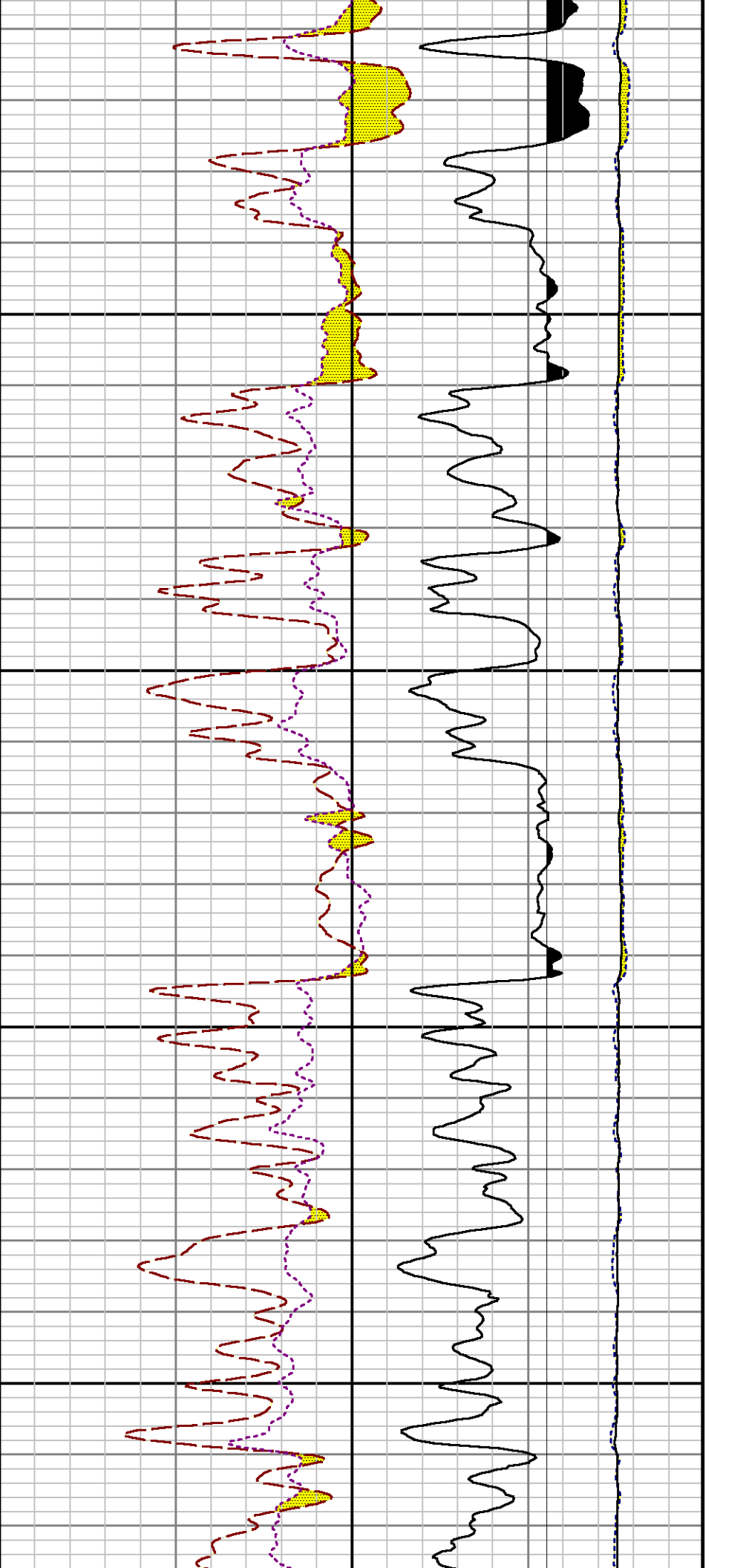


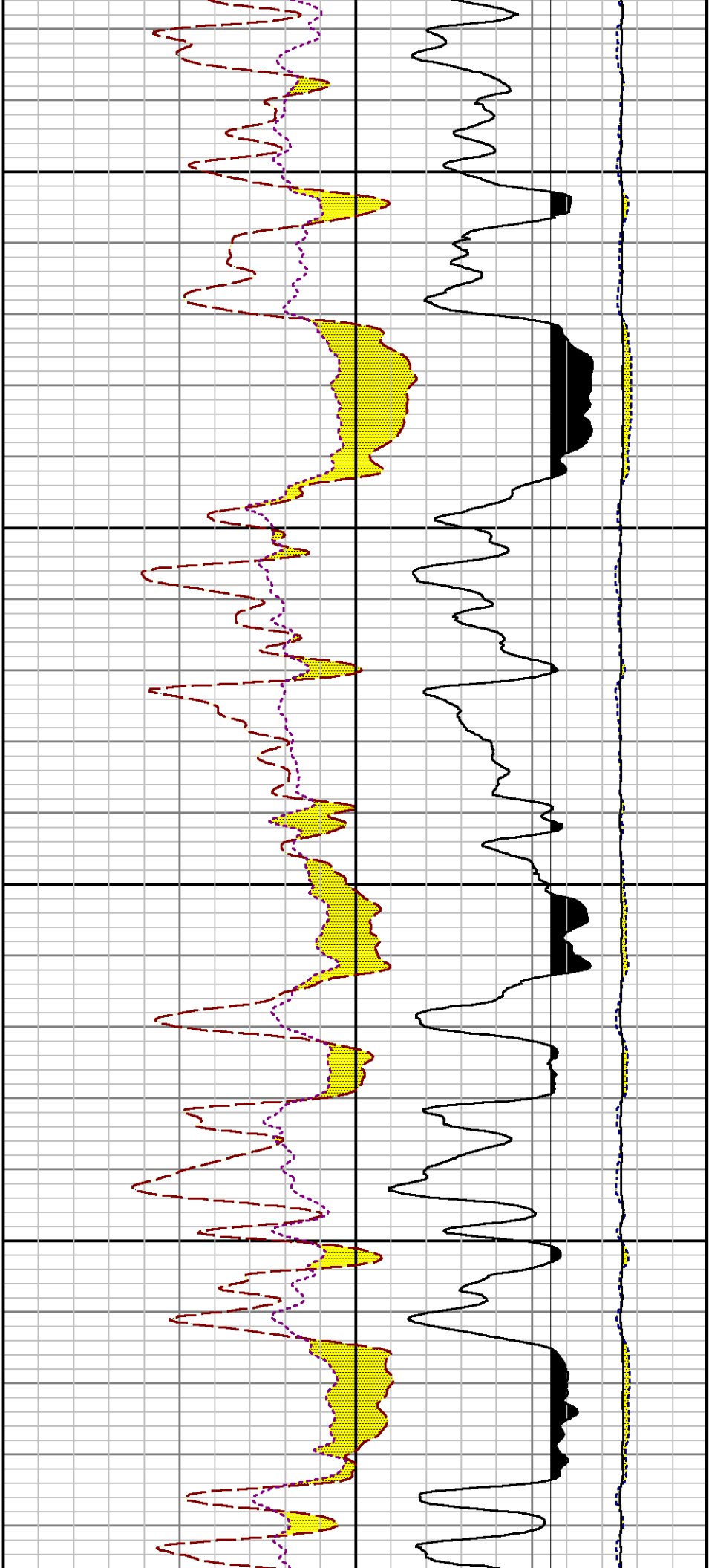
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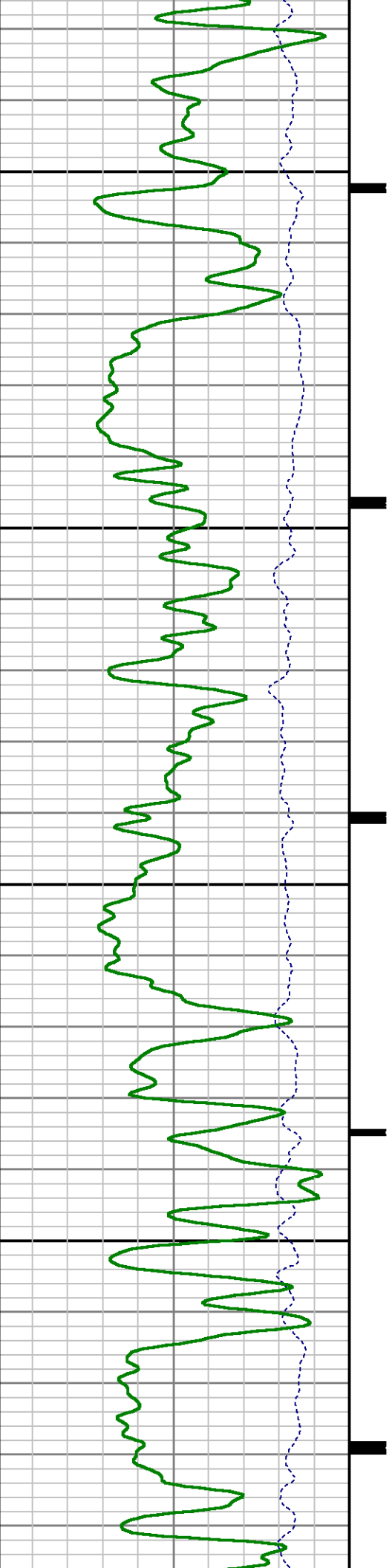


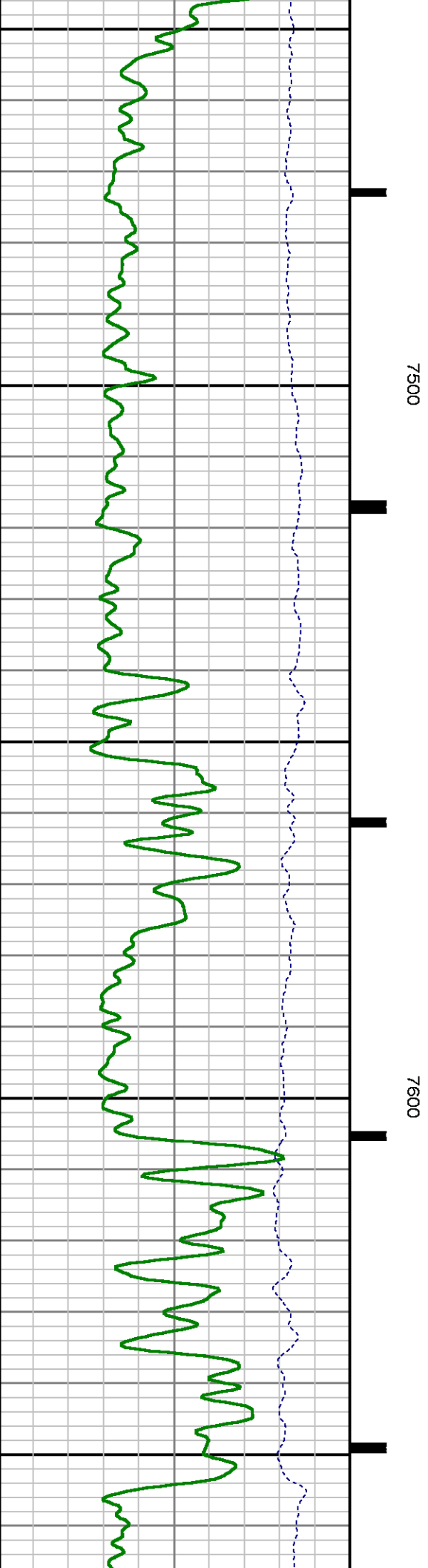
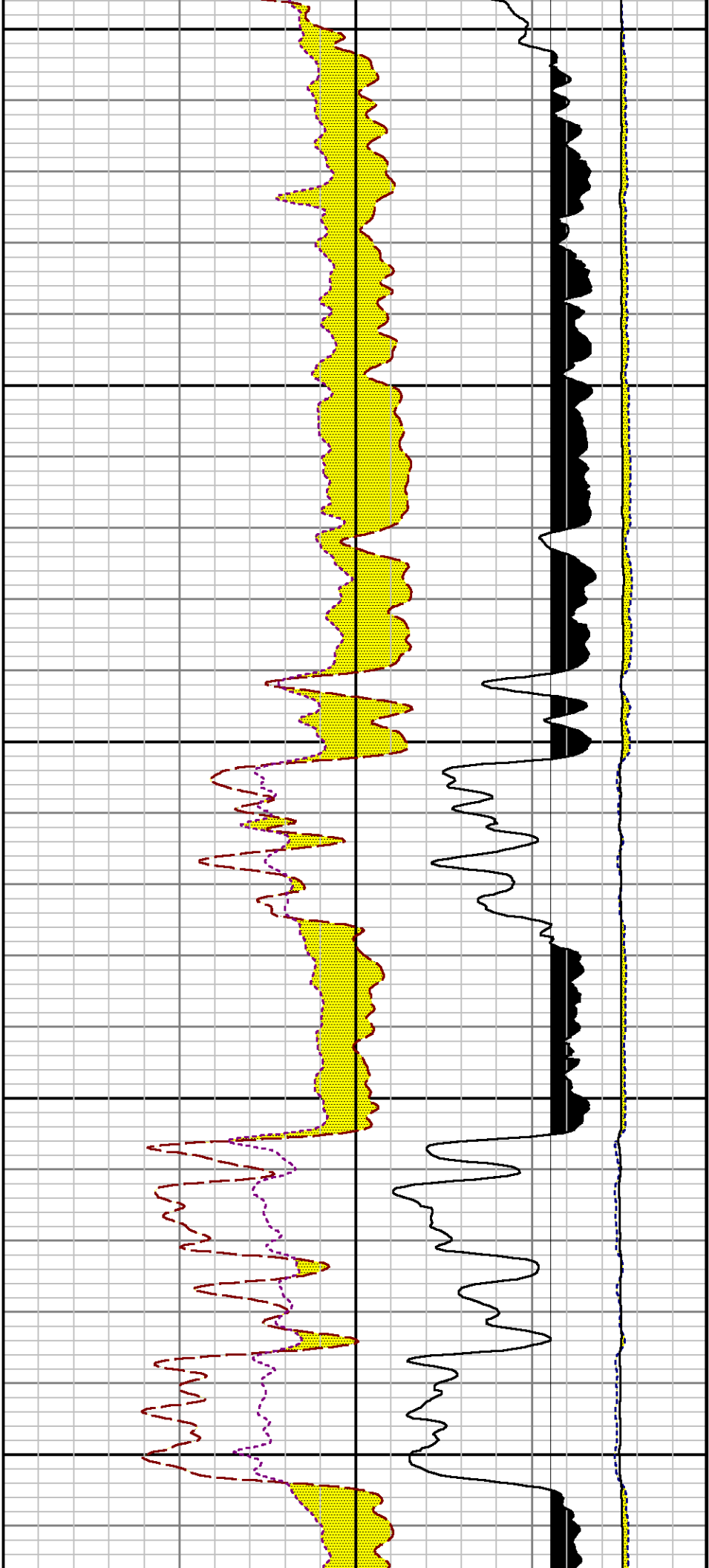


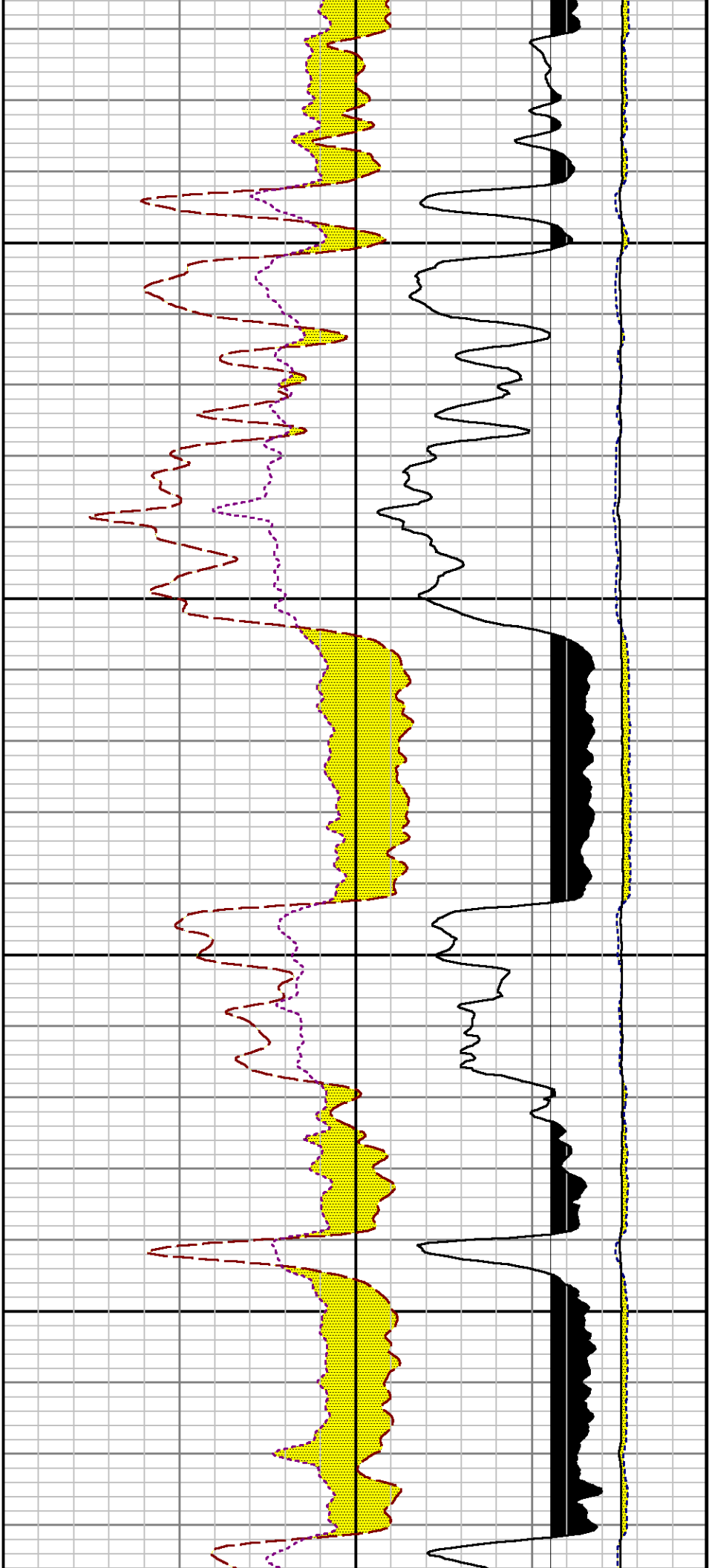


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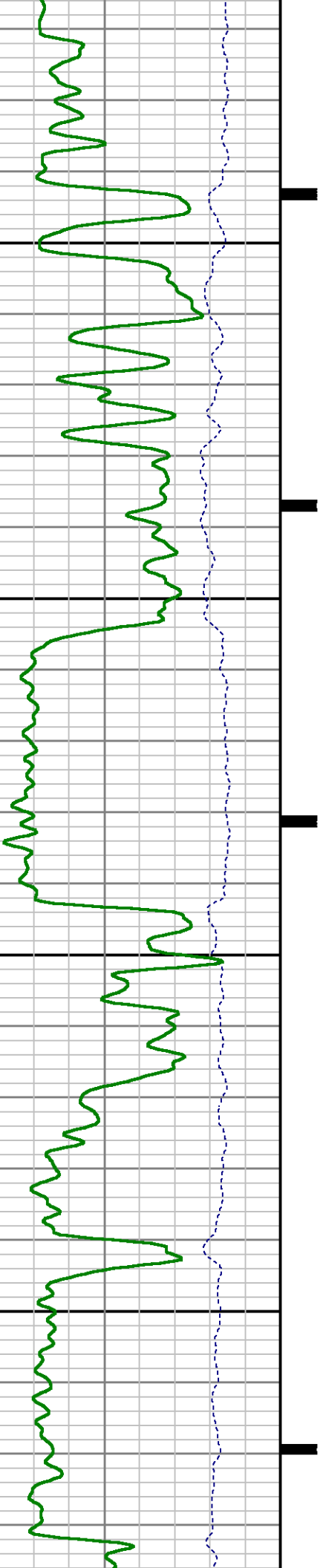


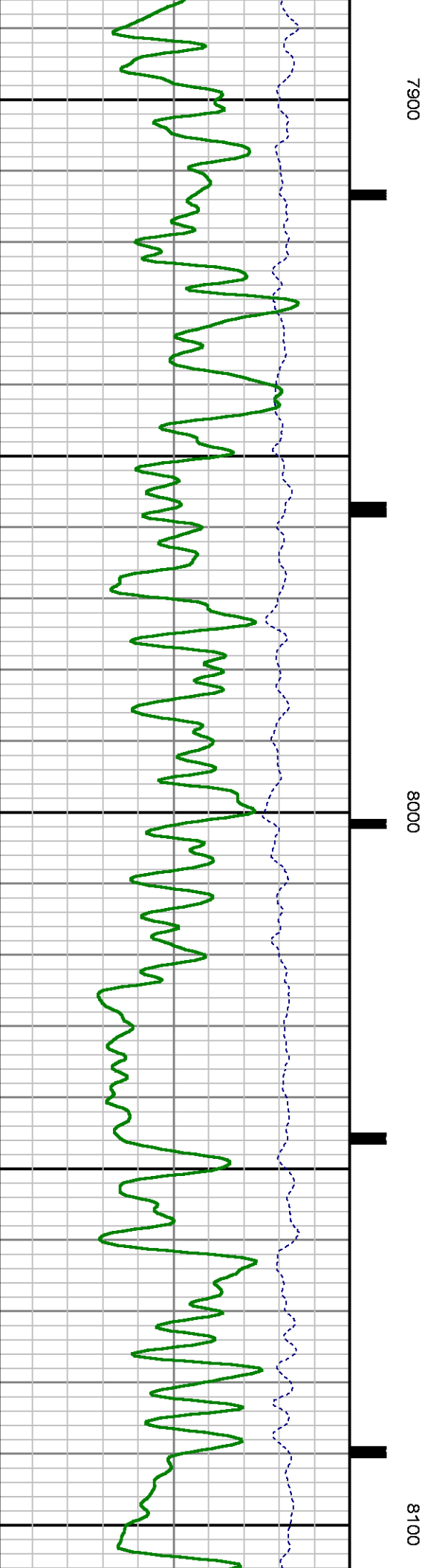
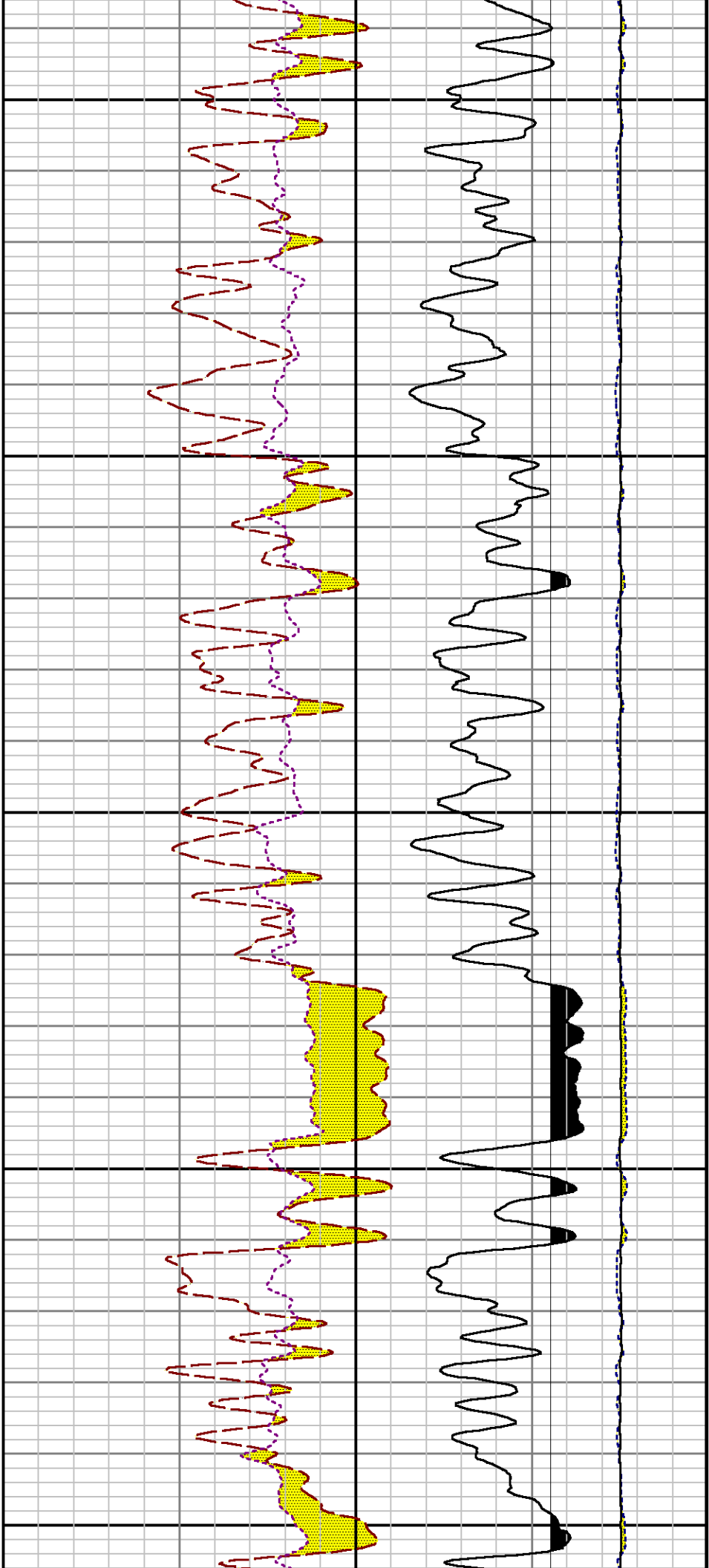


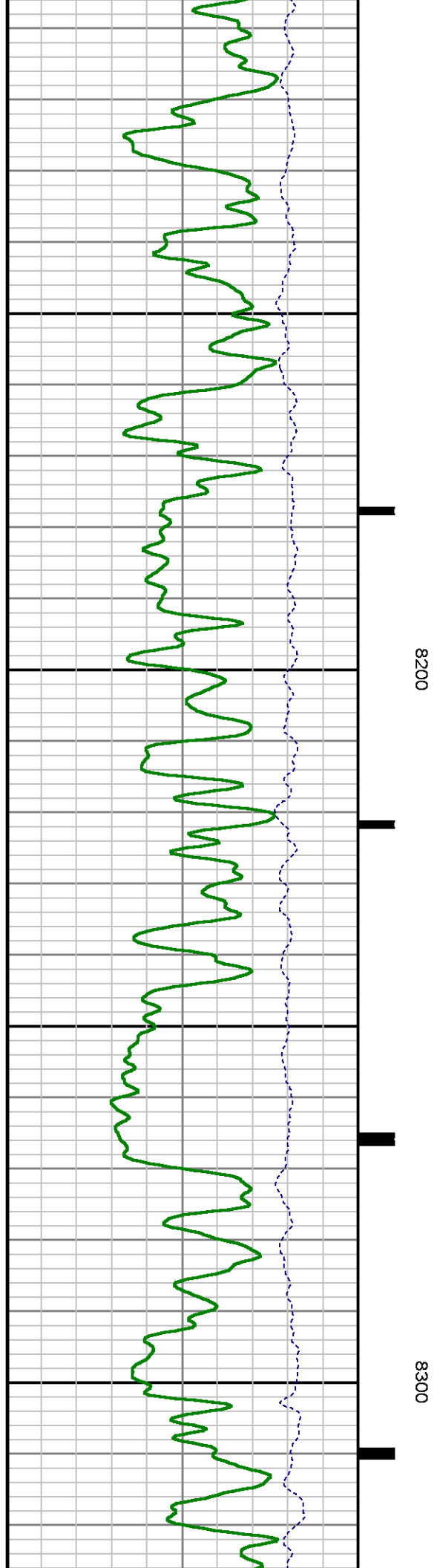
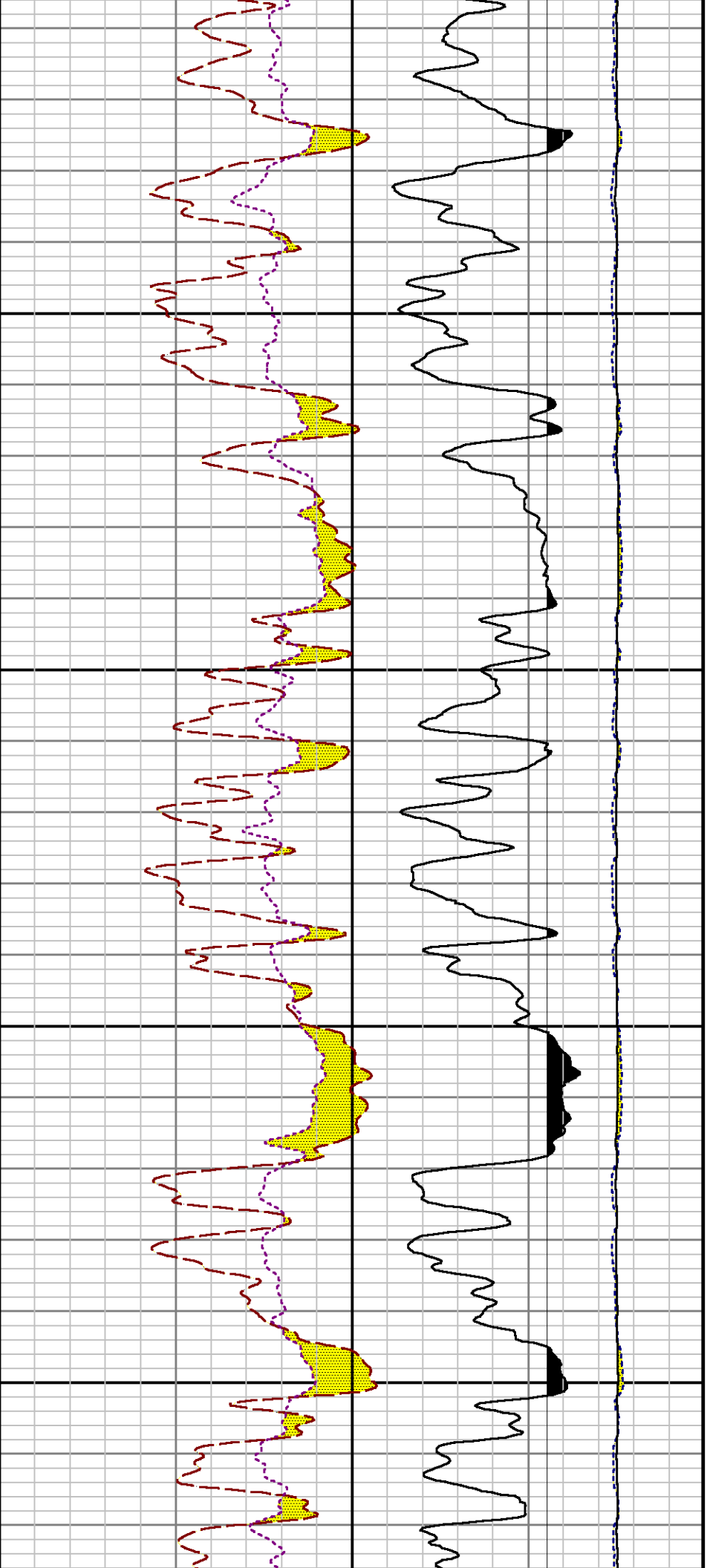


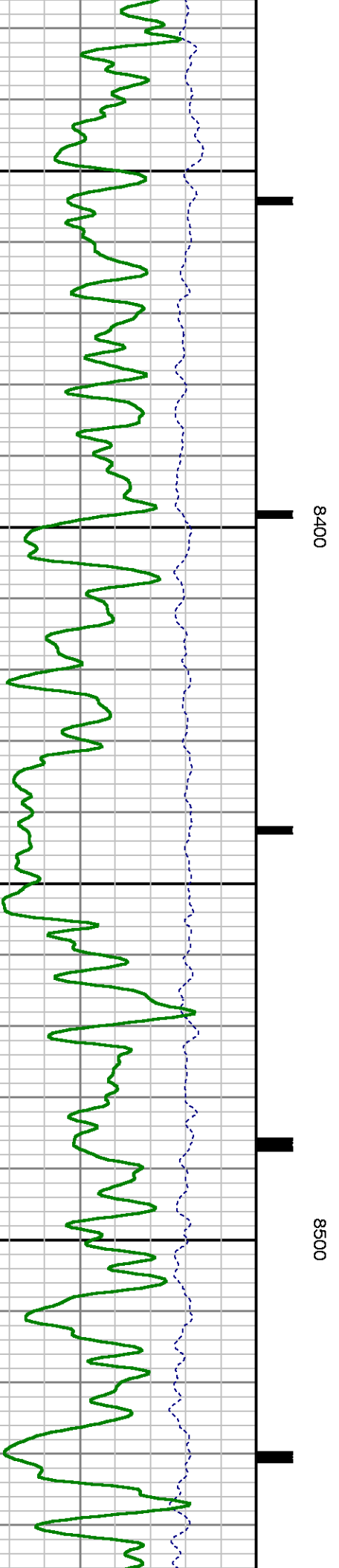
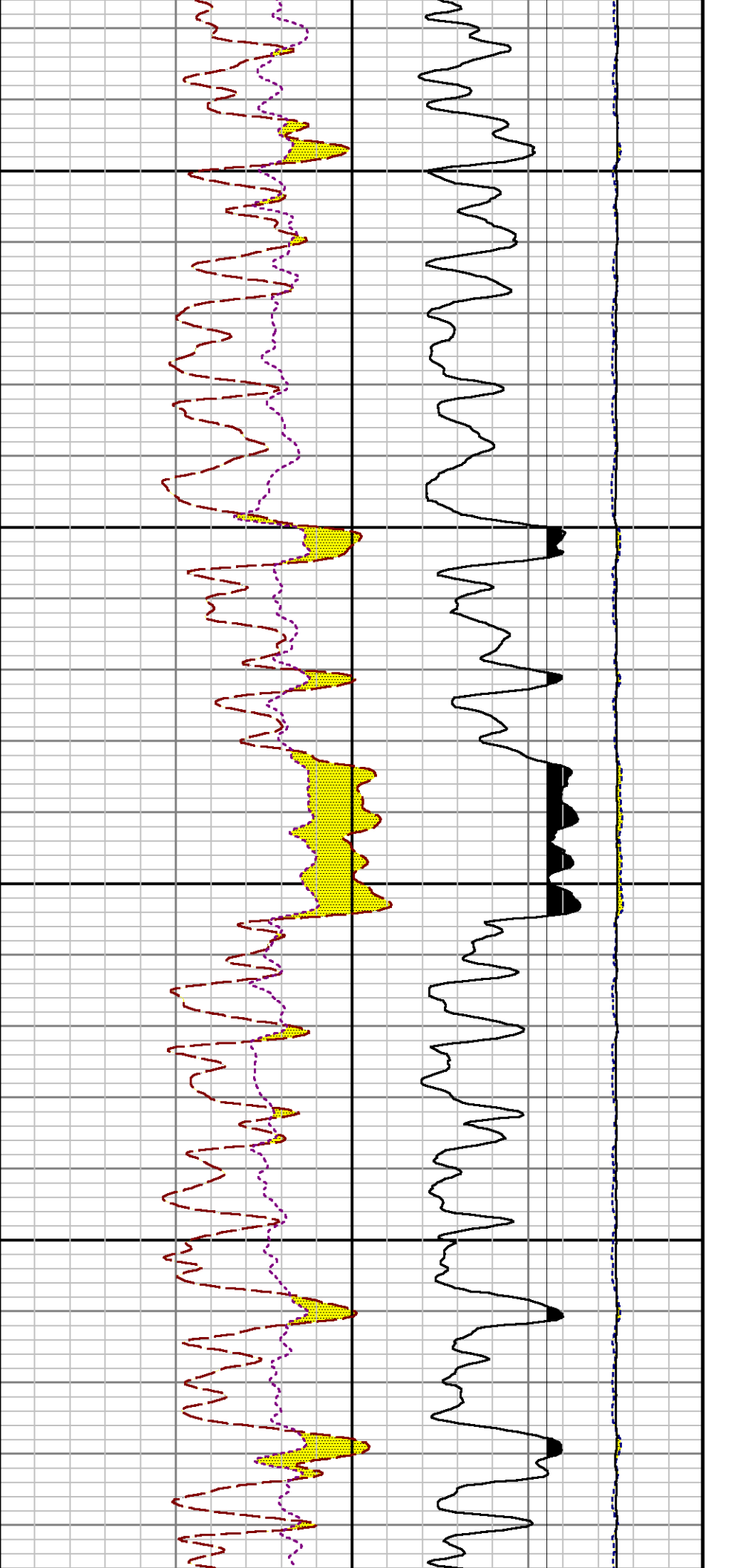
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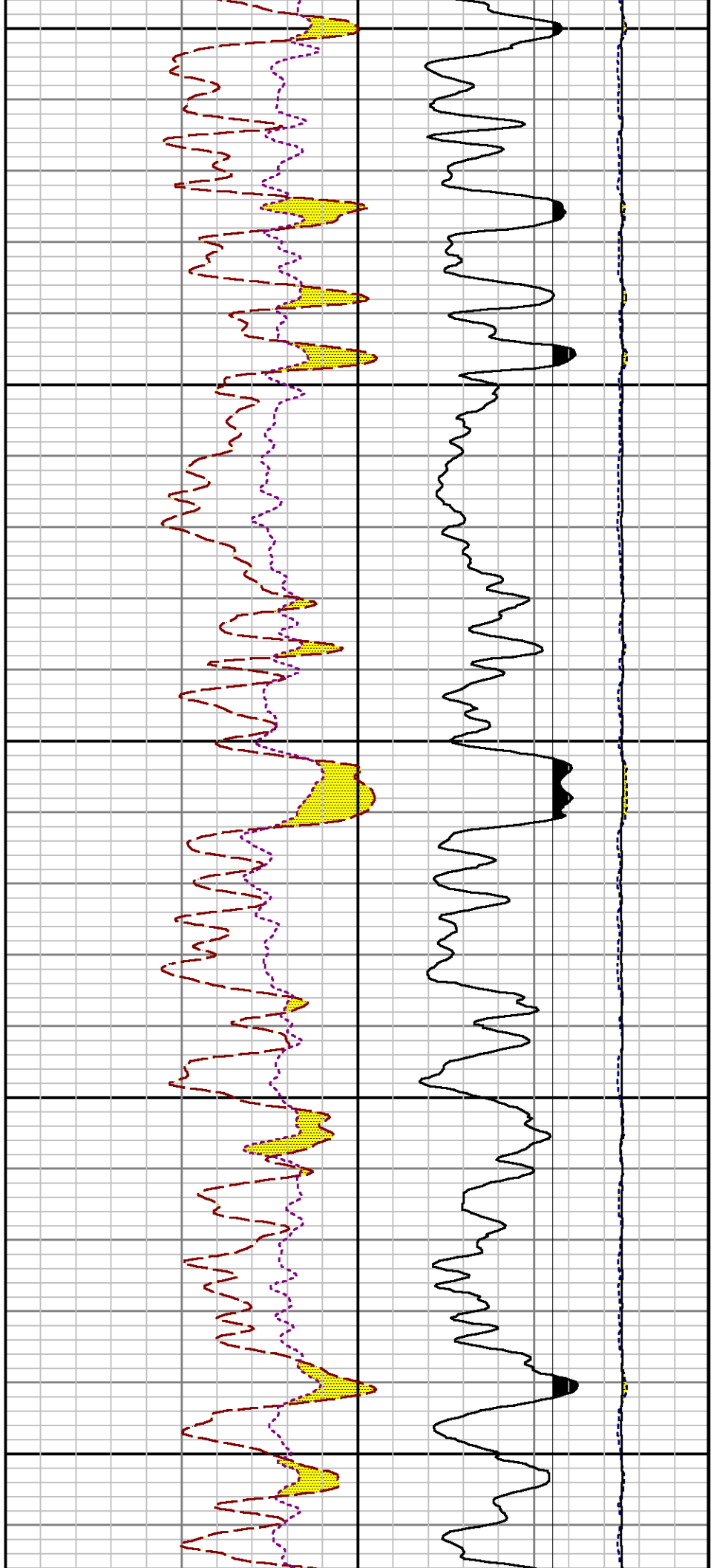
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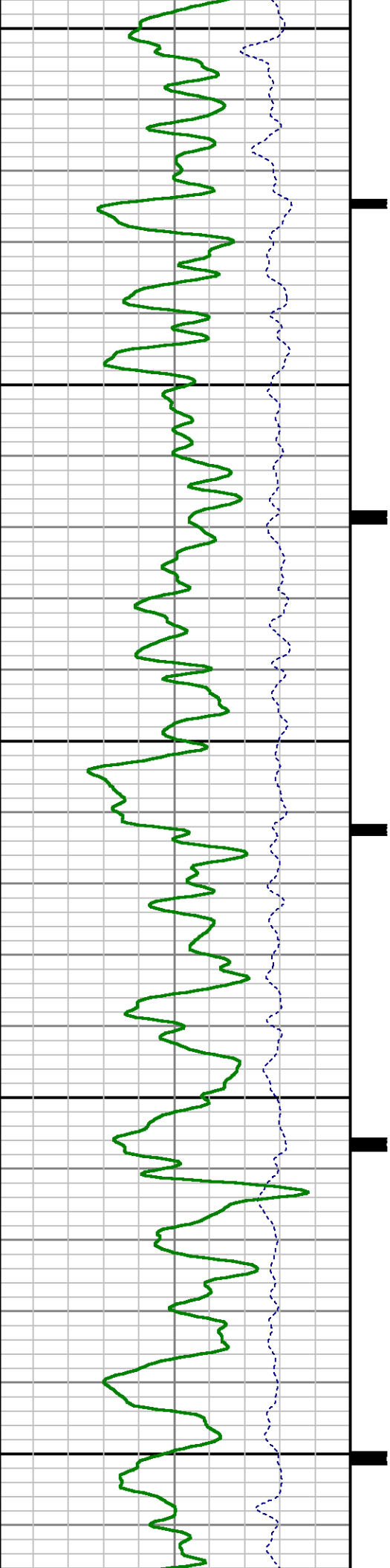


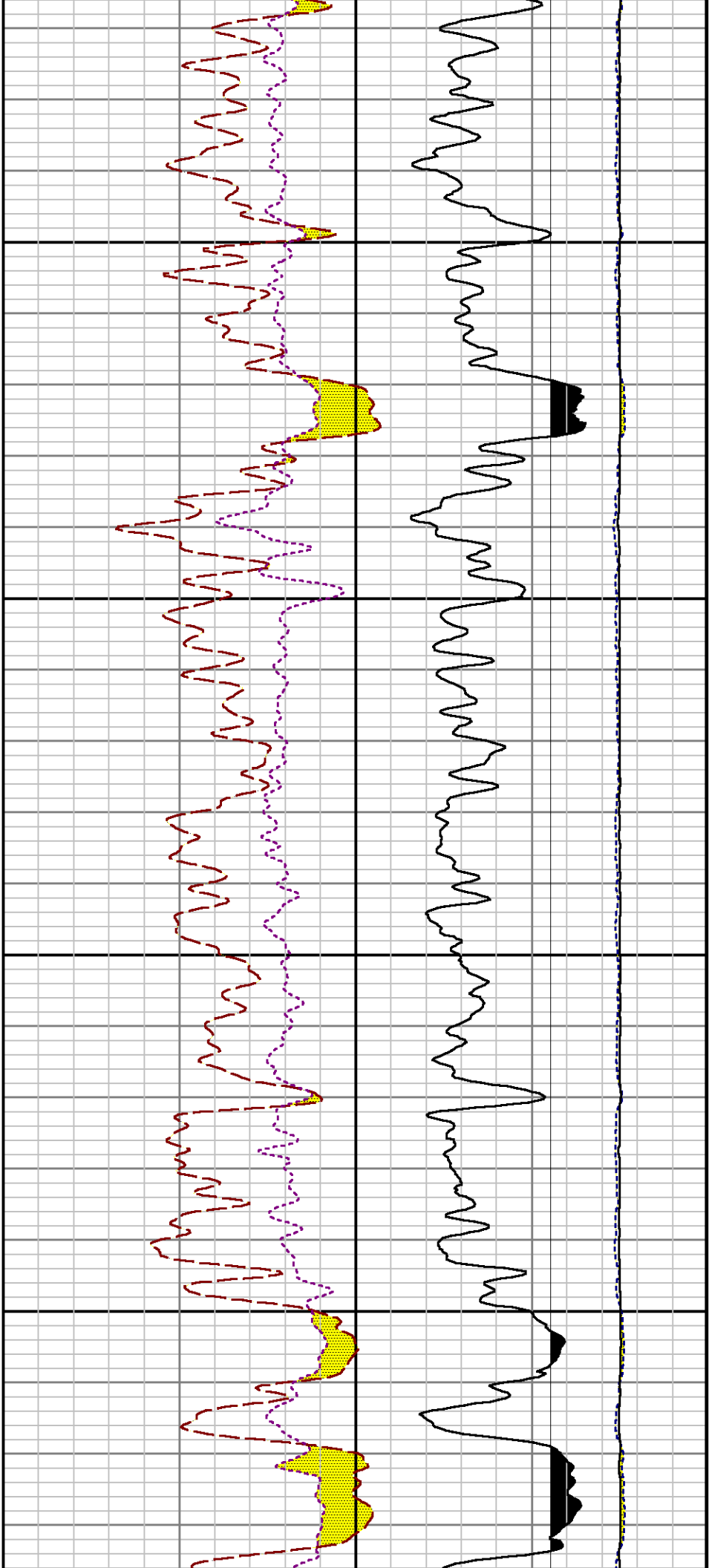
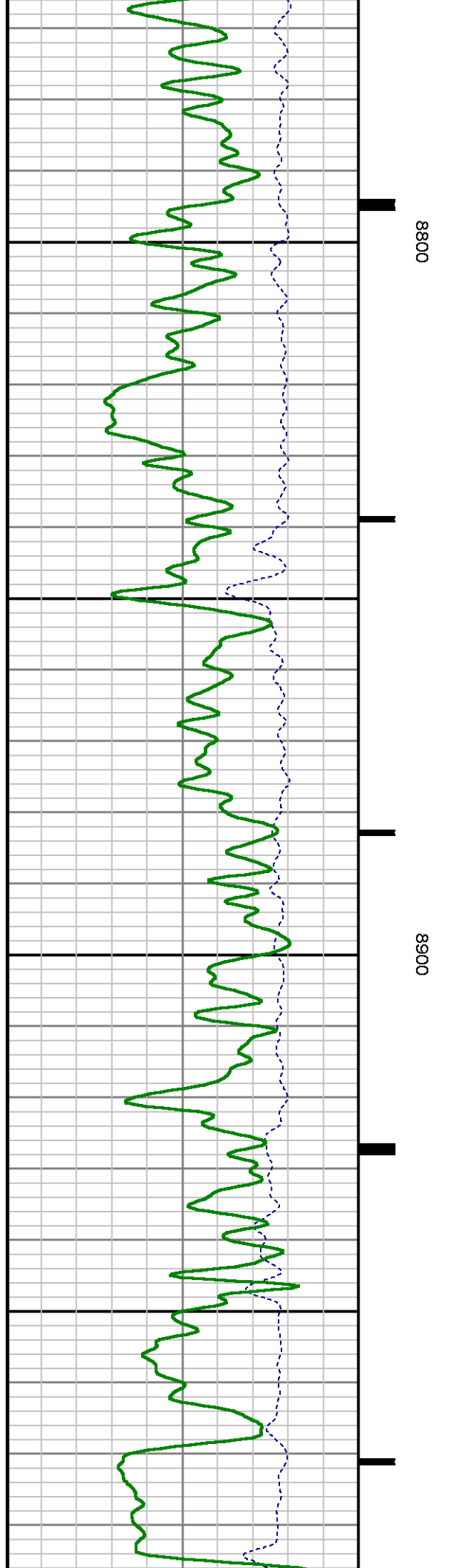


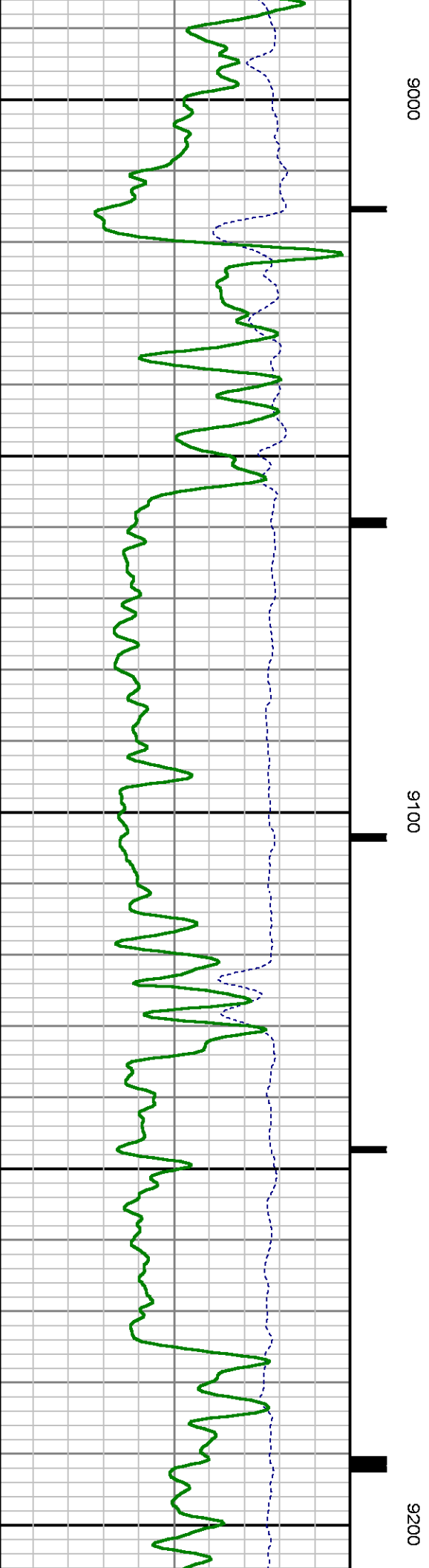
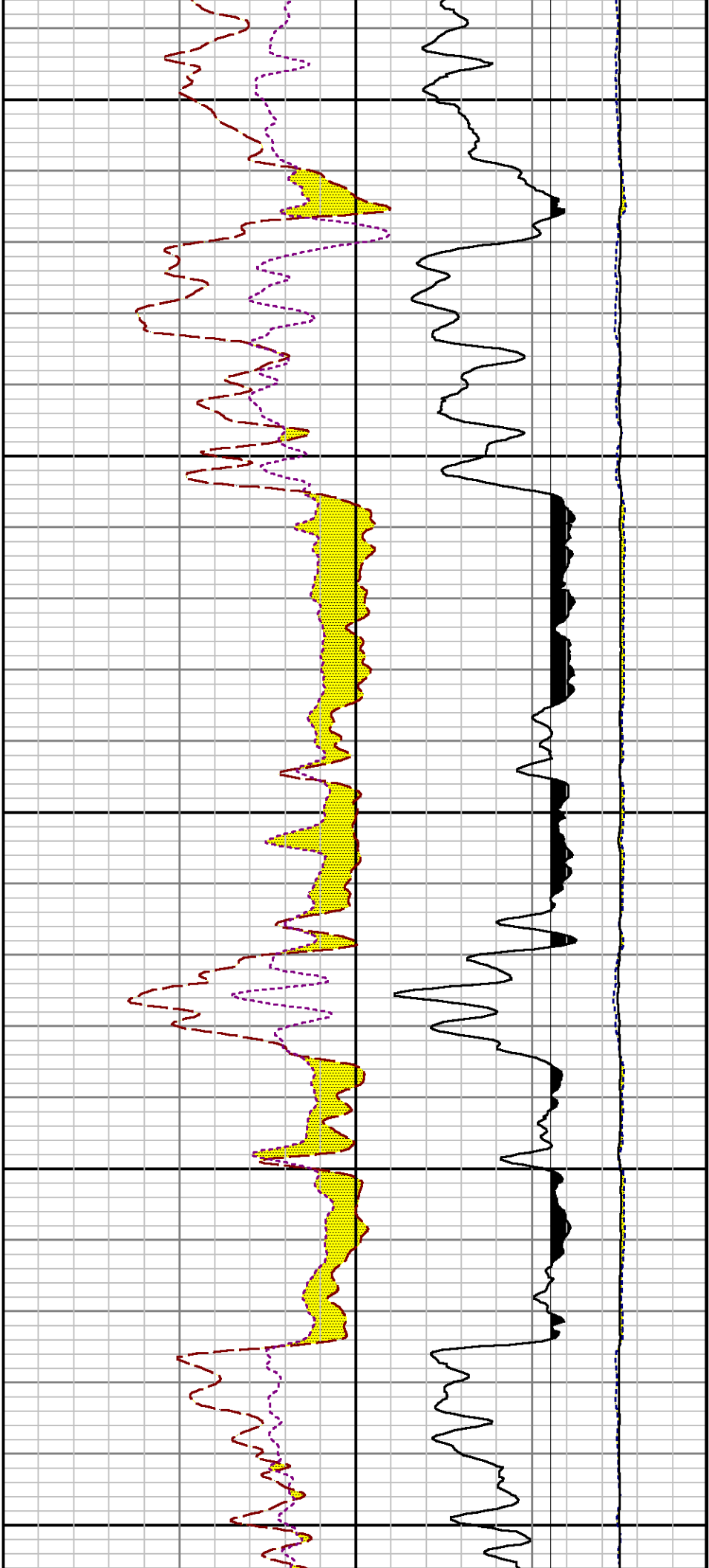


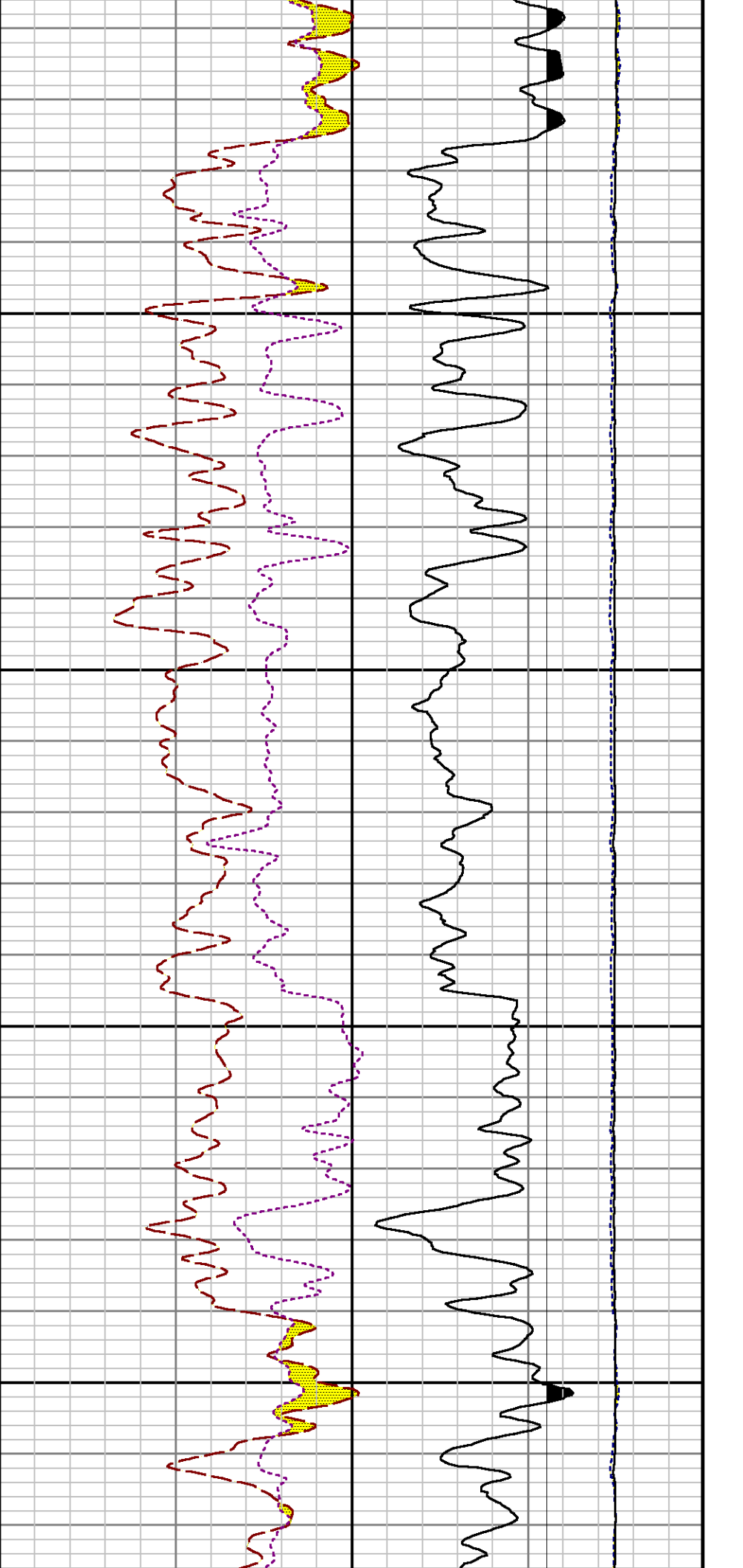
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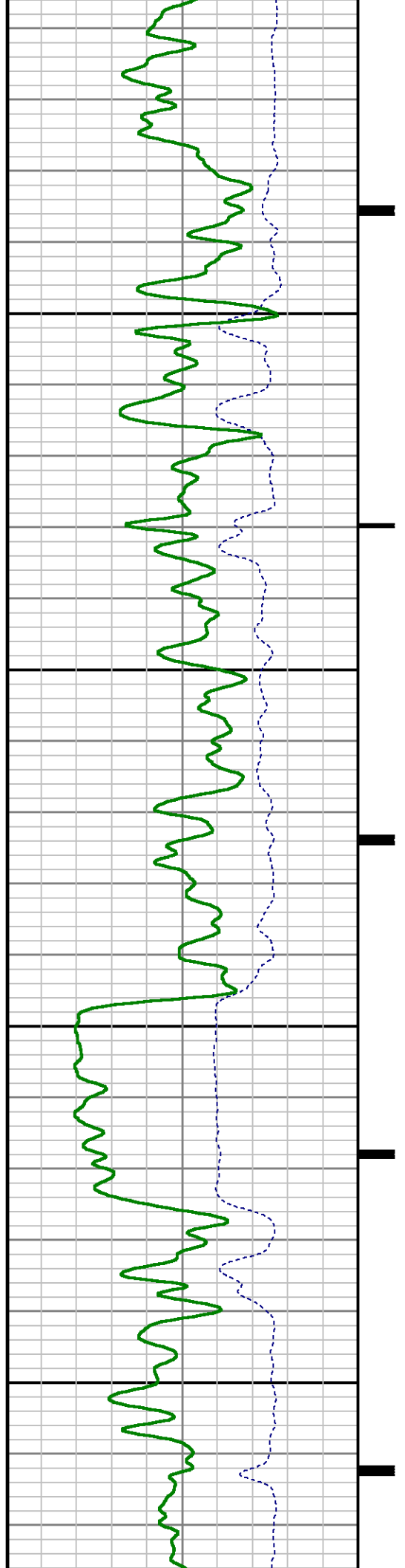






9300

9400



REPEAT SECTION

PNC 3-D MODE

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		8900.000	9212.500
PNC Porosity	Borehole Size	8.750	inch	8900.000	9212.500
PNC Porosity	Casing Size	4.500	inch	8900.000	9212.500
PNC Porosity	Gas Filled	Non Gas Filled		8900.000	9212.500
PNC Porosity	Matrix	Sandstone		8900.000	9212.500
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	8900.000	9212.500

DEPTH OFFSETS

(for Acquired Curves)

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 RATO23
		RICXC RIN13C RIN23 RIN23C SD3D SG3D
		SGB3 SGF3 WDTH3 CXSR IXSR XSR
		RICXR
8281XA	-12.291	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

-12.041

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 SGBBC 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 WDT1 RICSC CSSR G1R
 G2R ISSR SSR SS2R RATOR RATO13R
 RBORR RICSR RINR RIN13R RONE13R 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

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

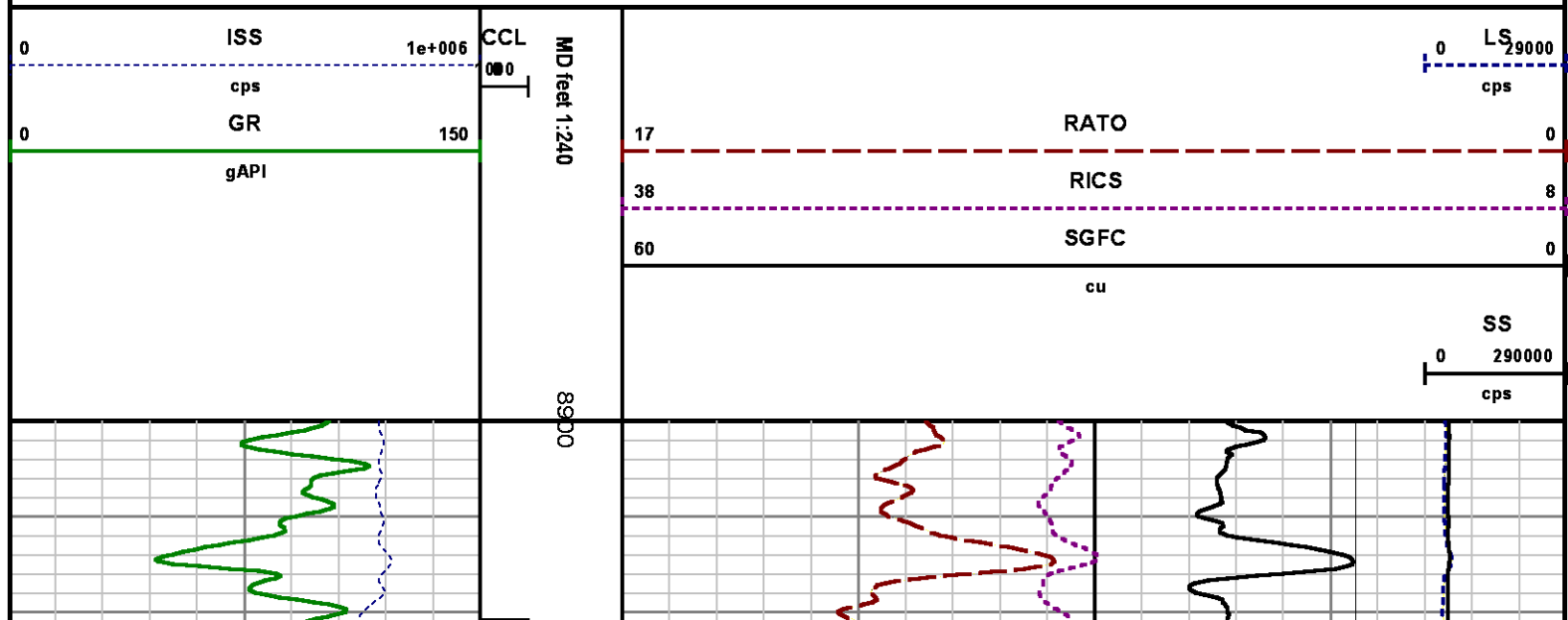
Well : FEDERAL PA 31-21

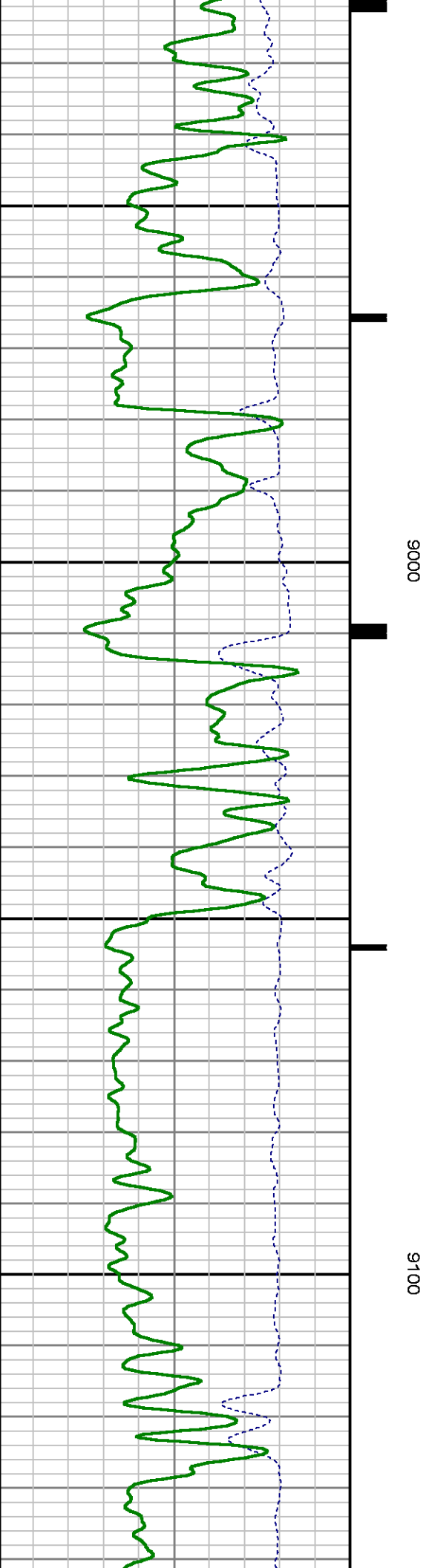
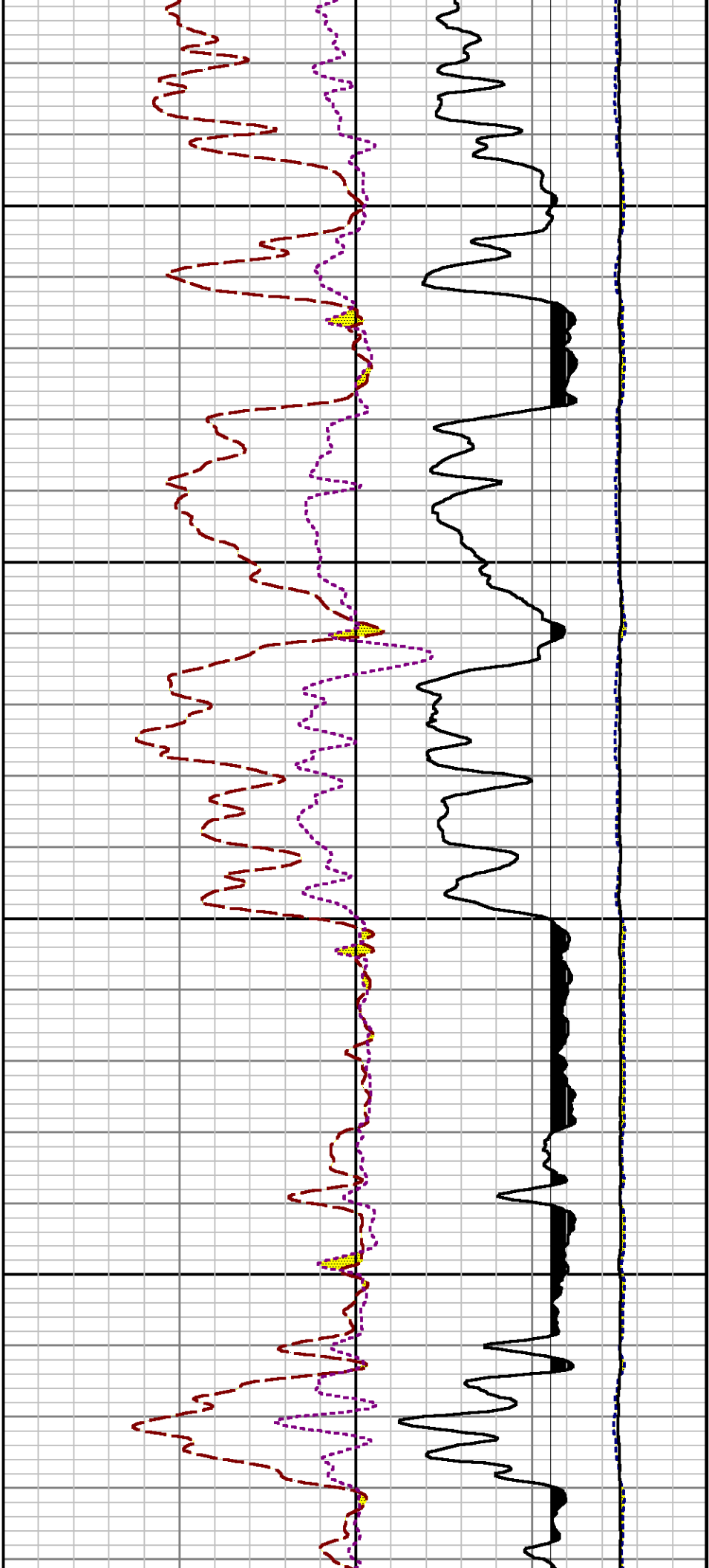
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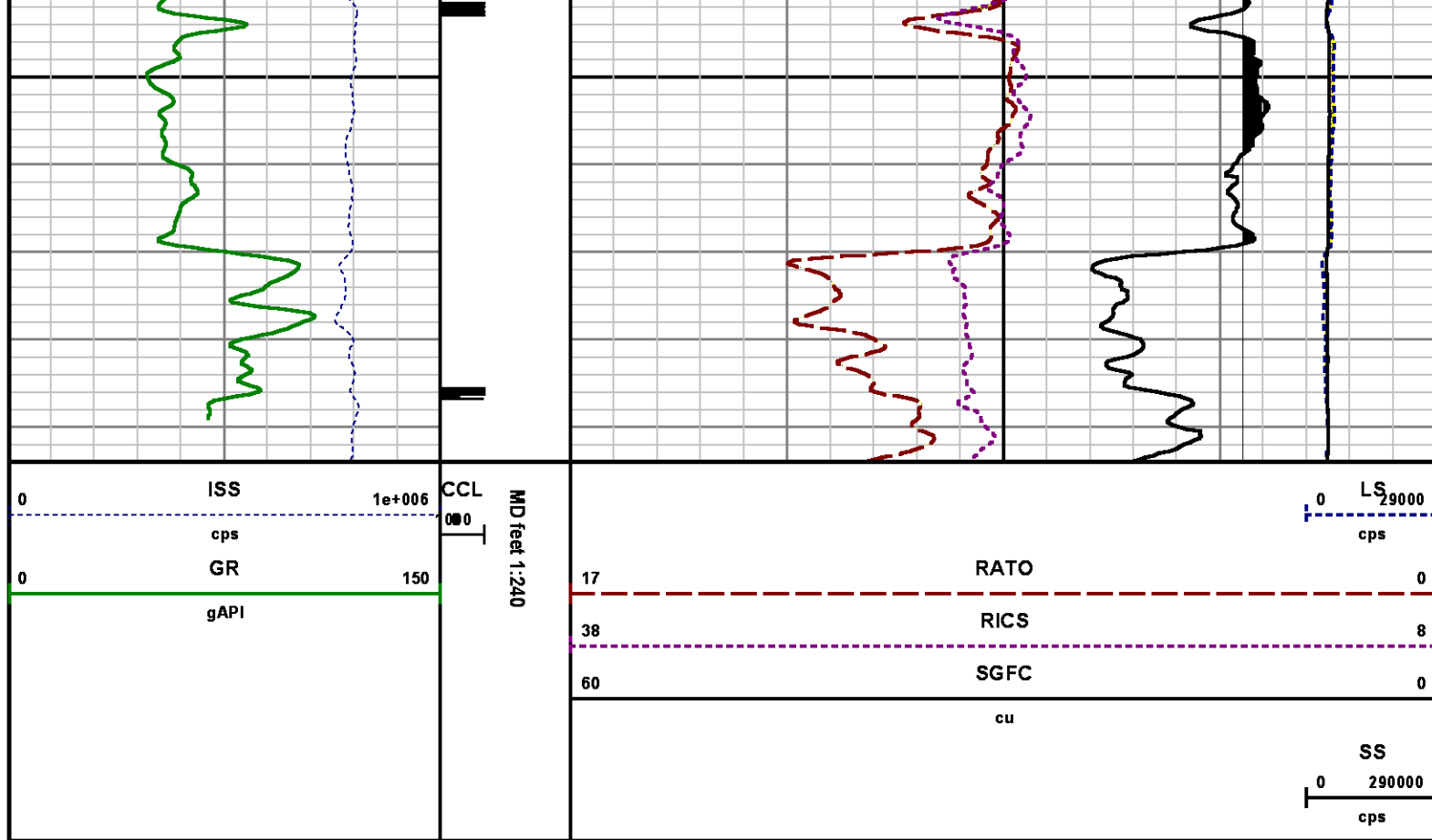
Mode : PlotMgr 5.4.504

Interval : 8900.00 - 9194.00 feet UP

Created : 3/1/2014 9:10:27 PM







CALIBRATION SUMMARY

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]
S2K WA-612	27.64	256.80	0.916	25.33	235.33	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 [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA-612	28.29	252.82	0.916	25.92	231.69	205.76

TEMPERATURE

Calibration File: C:\case\calver\TEMP\77456813.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: FEB 13 2014 TOOL SERIES: 8255XA ASSET: 774568 SEQ: 13

	T(0)	T(1)	T(2)	T(3)	T(4)	T(5)
Coefficients	-9.274653e+000	1.055639e-001	2.143764e-006	-2.782846e-010	0.000000e+000	0.000000e+000

PNC

Calibration File: C:\case\calver\PNC\34517.cal

PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Mon Feb 17 17:46:16 2014 TOOL SERIES: 8281XA ASSET: 345 SEQ: 17

Calibrator #

2437xb 112674

Source #

8281AA 10148476

	ISS	Mtr Vits (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	820334	120.00	2285.00	2268.00	2260.29	101.75	7.00	0.9795
Interpolated	1300000	139.11	2268.55	2260.32	2260.45			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	820334	6396.99	1005.70	137.84	25.78	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	820334	172554.98	26624.86	90657.22	32281.71	8422.19	54854.50	13466.67
Fit Quality %		0.58	0.67	0.54	0.53	0.54	0.50	0.57

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	820334	1.43	4.75	30.81	14.95	10.76	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	0.27	0.26	0.24	0.04	0.04	0.08
Reduced	1397428	1.43	4.79	31.02	15.04	10.76	3.83	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
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INTERNAL PROBE TEMPERATURE

Calibration File: C:\case\calver\PTMS\7745684.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: FEB 03 2014

TOOL SERIES: 8255XA ASSET: 774568 SEQ: 4

	T(0)	T(1)	T(2)	T(3)	T(4)	T(5)
Coefficients	-1.089847e+001	1.064572e-001	3.162229e-007	5.808012e-011	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

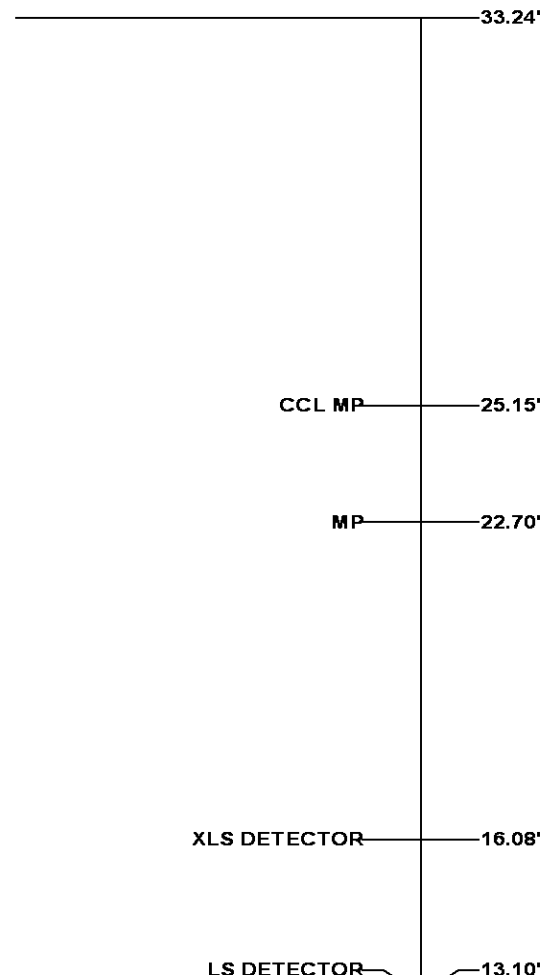
Series 8248EA
Mnemonic PCM
Diameter 1.70"
Weight 20.00 lb
Length 4.46'
Measure Point 1.00' CCL MP
Temp Rating 350.00 °F
Press Rating 15000.00 PSI

SONDEX GAMMA RAY

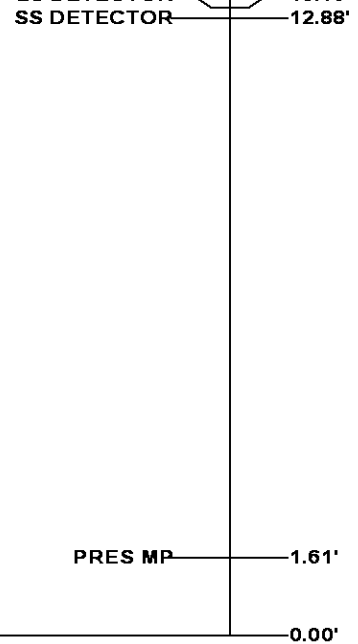
Series 2812LA
Mnemonic SNDX
Diameter 1.69"

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"



Baker Atlas



Company Well Field County	WPX ENERGY			File No:	
	FEDERAL PA 31-21			CH083164	
	PARACHUTE			API No:	
	GARFIELD	State	COLORADO	05045220390000	
Location			Elevations		
SHL: 2600' FNL & 1441' FWL			KB	6056 ft	
BHL: 252' FNL & 1685' FEL (NWNE)			DF		
			GL	6030 ft	
SEC	21	TWP	6S	RGE	95W
			21 6S 95W		
			PA 22-21 PAD		
			NABORS 573		