



# RESERVOIR PERFORMANCE MONITOR

Baker Atlas

File No: CH082307

Company Well SAVAGE RWF 324-25

API No: RULISON

County GARFIELD State COLORADO

05045219880000

## Location

25 6S 94W

RWF 23-25 PAD

NABORS 677

SHL: 1987' FSL & 2305' FWL

BHL: 589' FSL & 2144' FWL (SESW)

SEC 25 TWP 6S RGE 94W

## Other Services

BOND LOG

Permanent Datum

Log Measured From

Drill Measured From

GL Elevation 6096 ft

KB 26 ft Above P. D.

KELLY BUSHING

Elevations

KB 6122 ft

DF

GL 6096 ft

Date	29/JAN/14	
Run	ONE	
Service Order	US62E096	
Depth Driller	8635 ft	
Depth Logger	8617 ft	
Bottom Logged Interval	8607 ft	
Top Logged Interval	4447 ft	
Time Started	1200	
Time Finished	1800	
Operator Rig Time	6 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	10 fpm	
Maximum Recorded Temperature	233 degF	
Reference Log	Baker Hughes HDIL/ZDL/CN/GR	
Reference Log Date	08/JAN/14	
Equipment No.	4271	GRAND UCT
Recorded By	FLOYD RENEAU	
Witnessed By	BOB CADY	

- 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	1115 ft
8.75 in	1115 ft	8635 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			0 ft	1115 ft
4.5 in	11.6 lbm/ft	I-80	0 ft	8635 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes HDIL/ZDL/CN/GR open hole log dated 1/8/2014 at the clients request.
The amount of linear shift is 8 feet.
Logged in PNC-3D mode.
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.

BHT = 233°F

SJ = 5251'-5275'

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	TEMP	8255XA	Z176973	FREE
1	1	RPM	8281FA	10401926	FREE
1	1	RPM	8281PA	10160383	FREE
1	1	RPM	8281EA	10273848	FREE
1	1	GR	2812LA	10274385	FREE
1	1	TEL/CCL	8248ED	Z120493	FREE
1	1	PCM	8250EA	10314363	FREE

MAIN SECTION

PNC 3-D MODE

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		4429.750	8623.600
PNC Porosity	Borehole Size	8.750	inch	4429.750	8623.600
PNC Porosity	Casing Size	4.500	inch	4429.750	8623.600
PNC Porosity	Gas Filled	Non Gas Filled		4429.750	8623.600
PNC Porosity	Matrix	Sandstone		4429.750	8623.600
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	4429.750	8623.600

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 WDT3 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 WDT2 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 SGB1 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 RONE 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

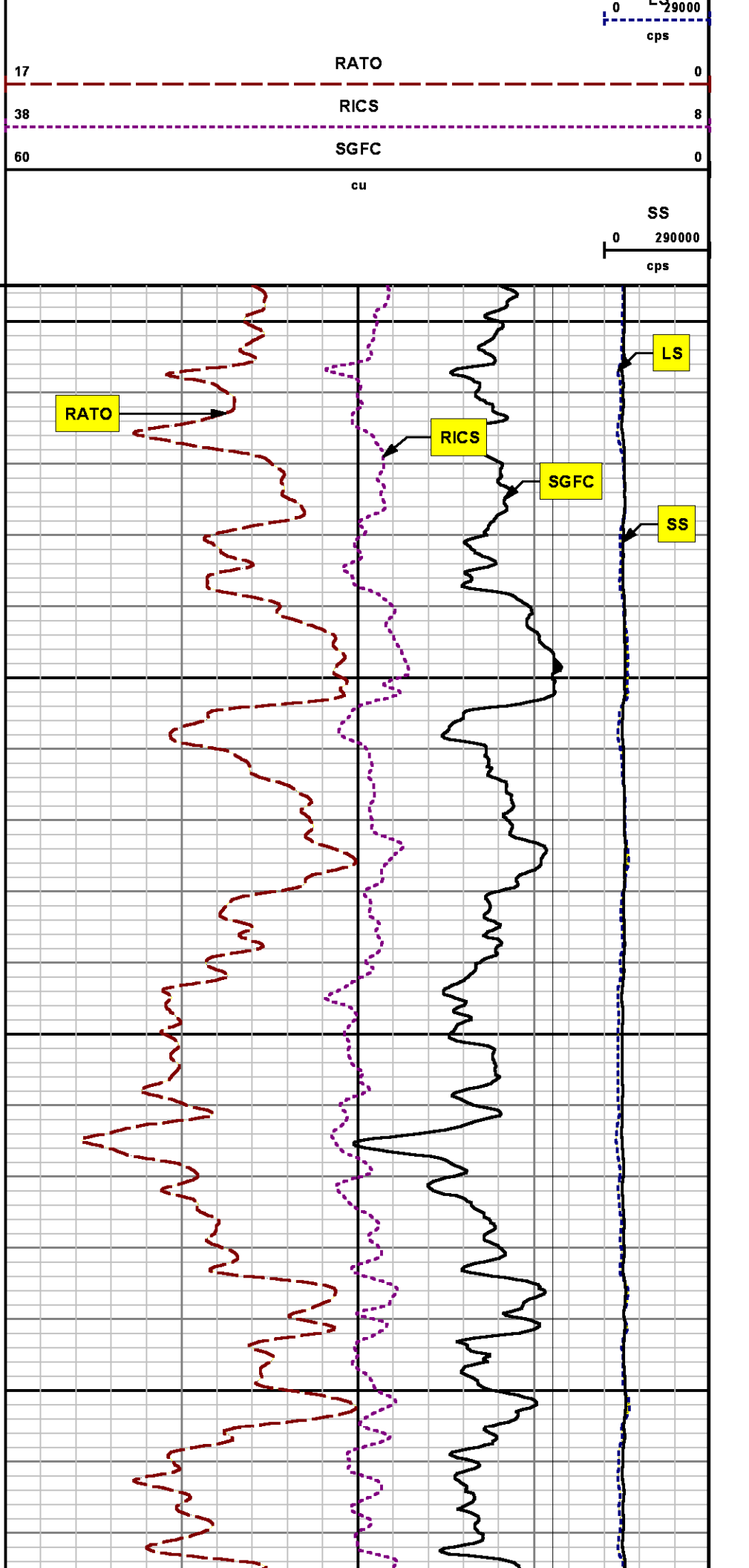
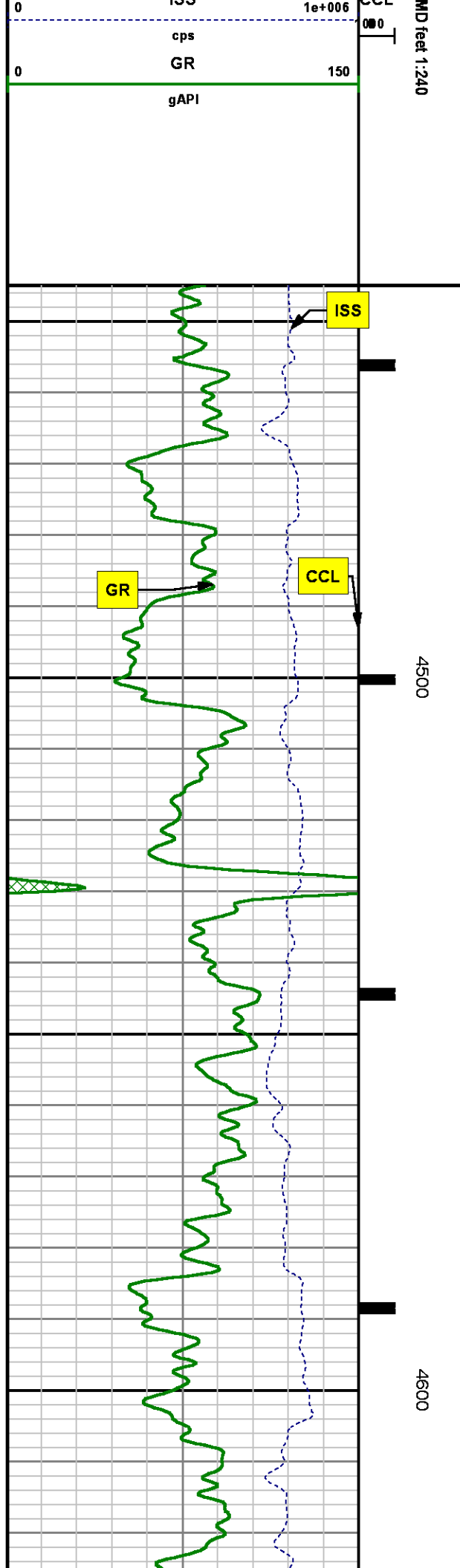
Well : SAVAGE RWF 324-25

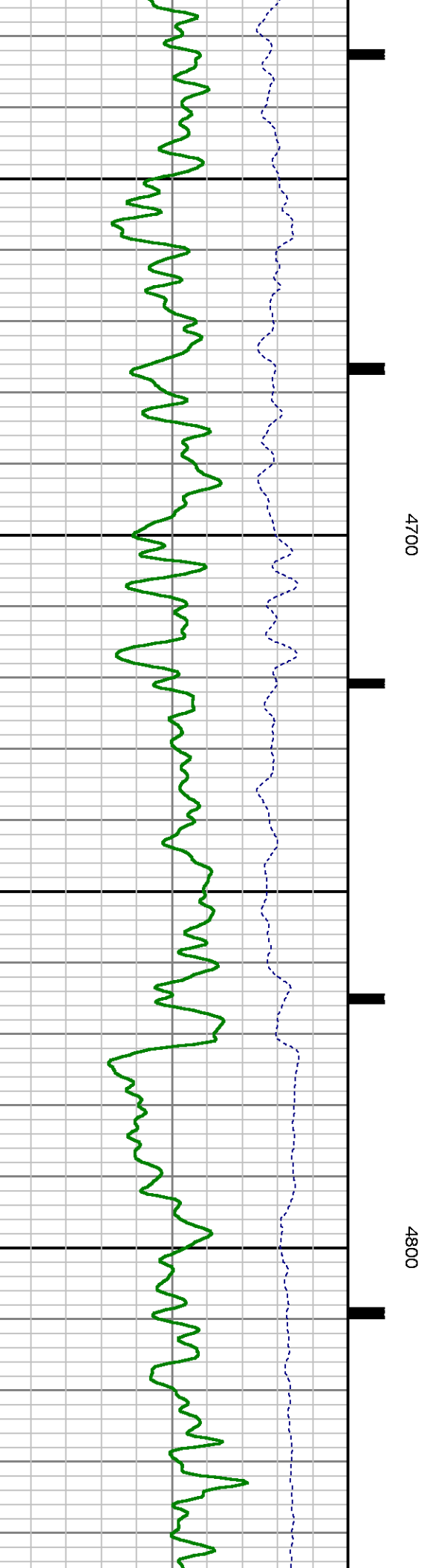
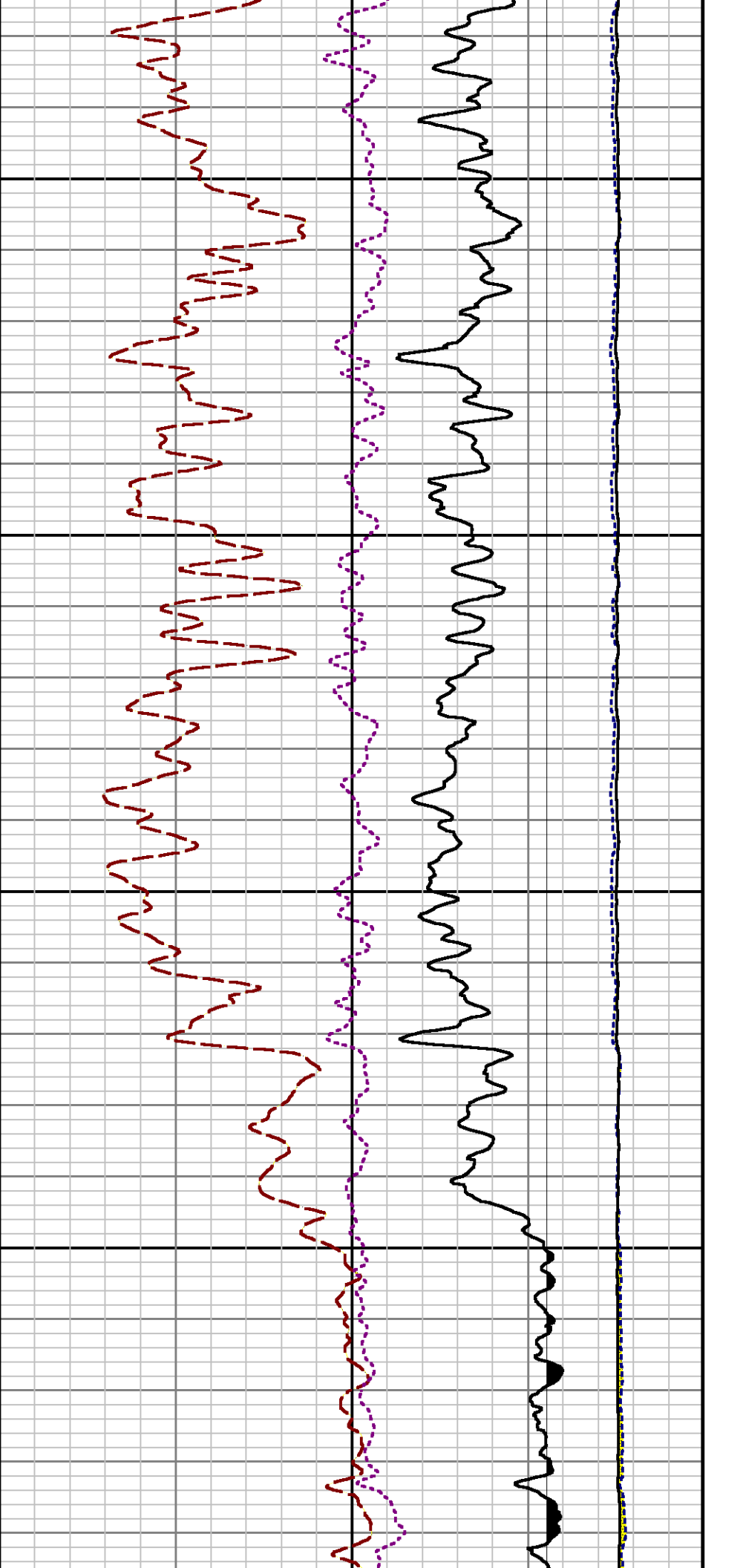
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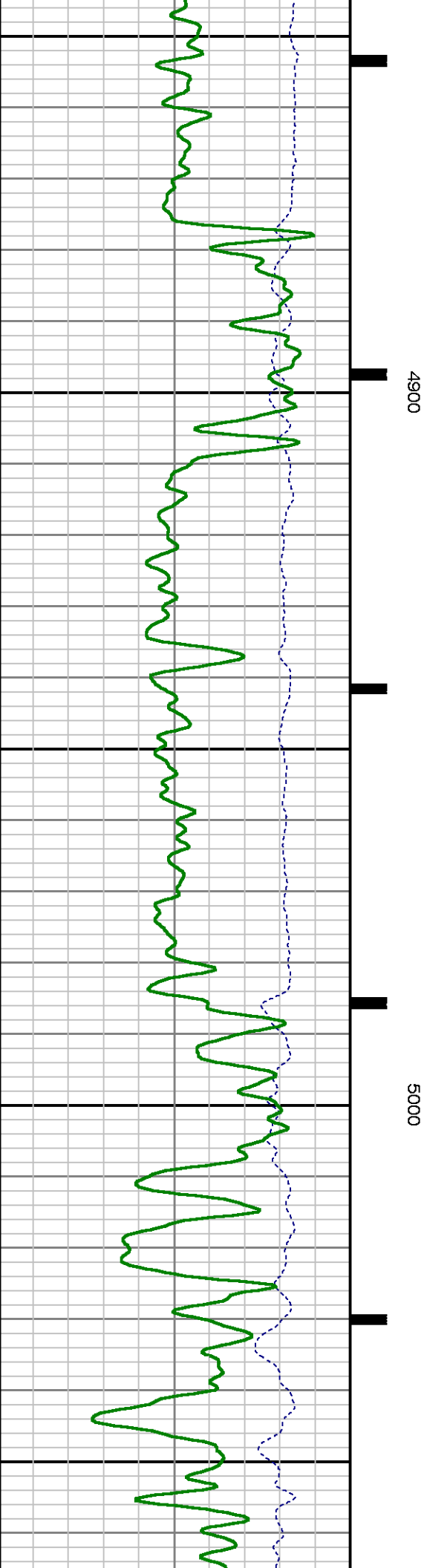
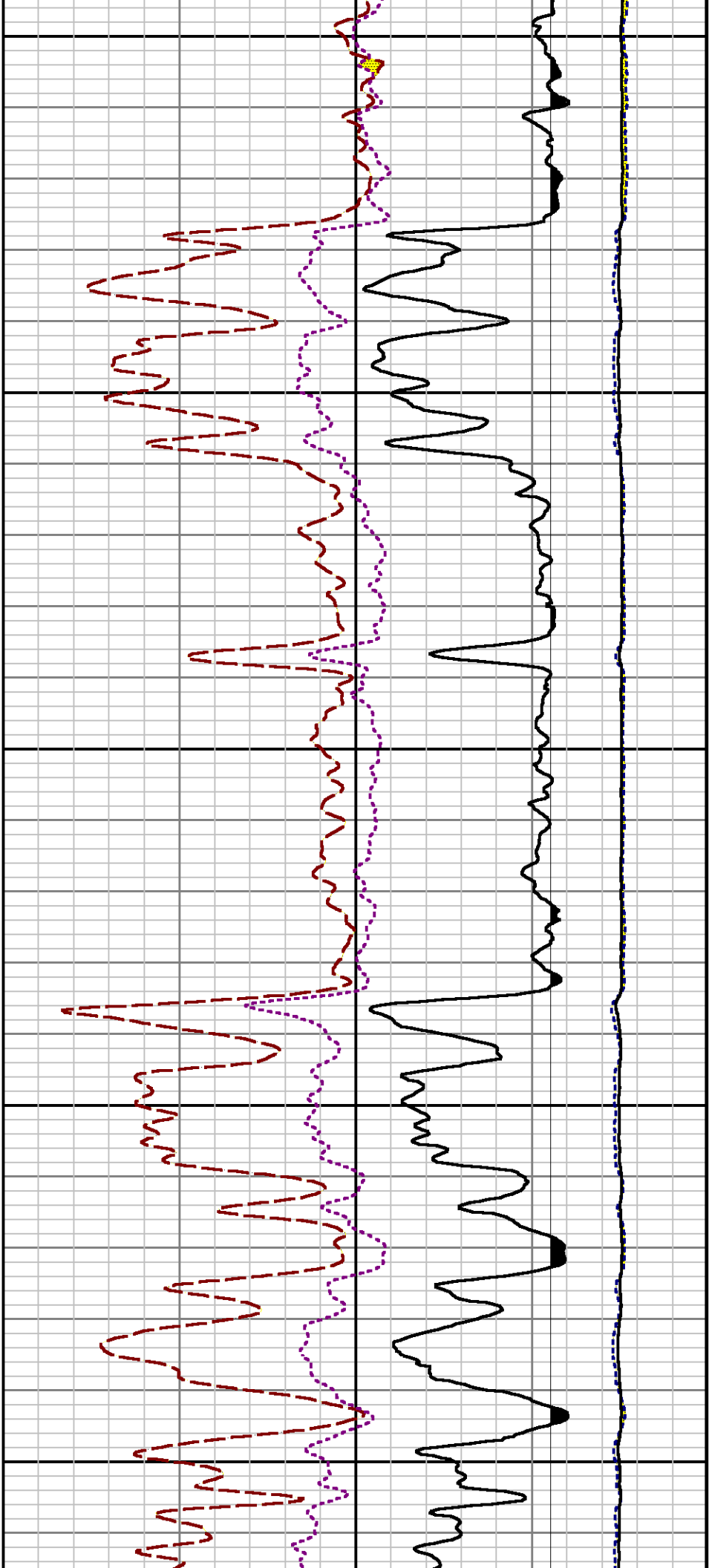
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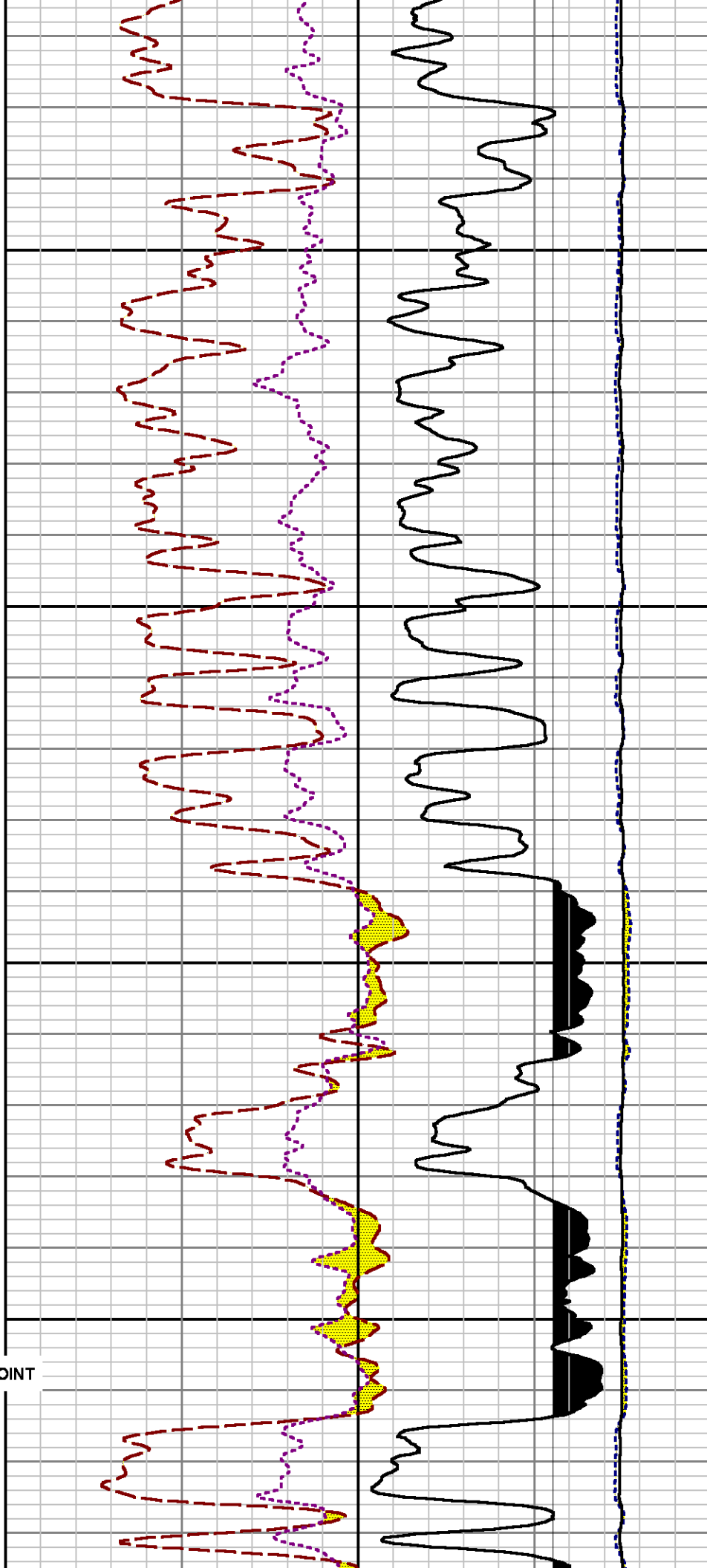
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Created : 1/29/2014 1:07:48 PM





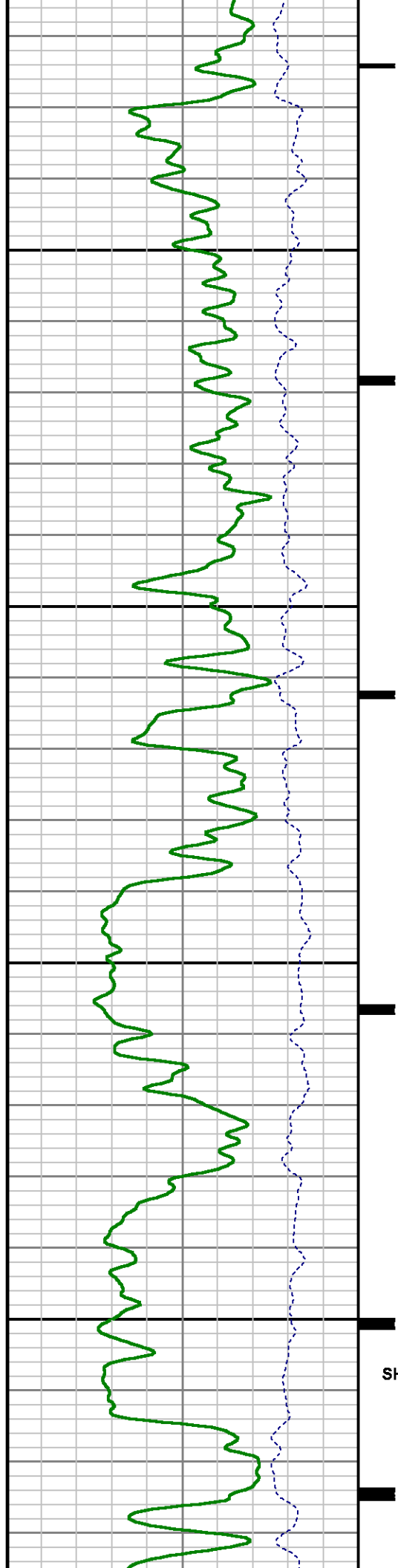


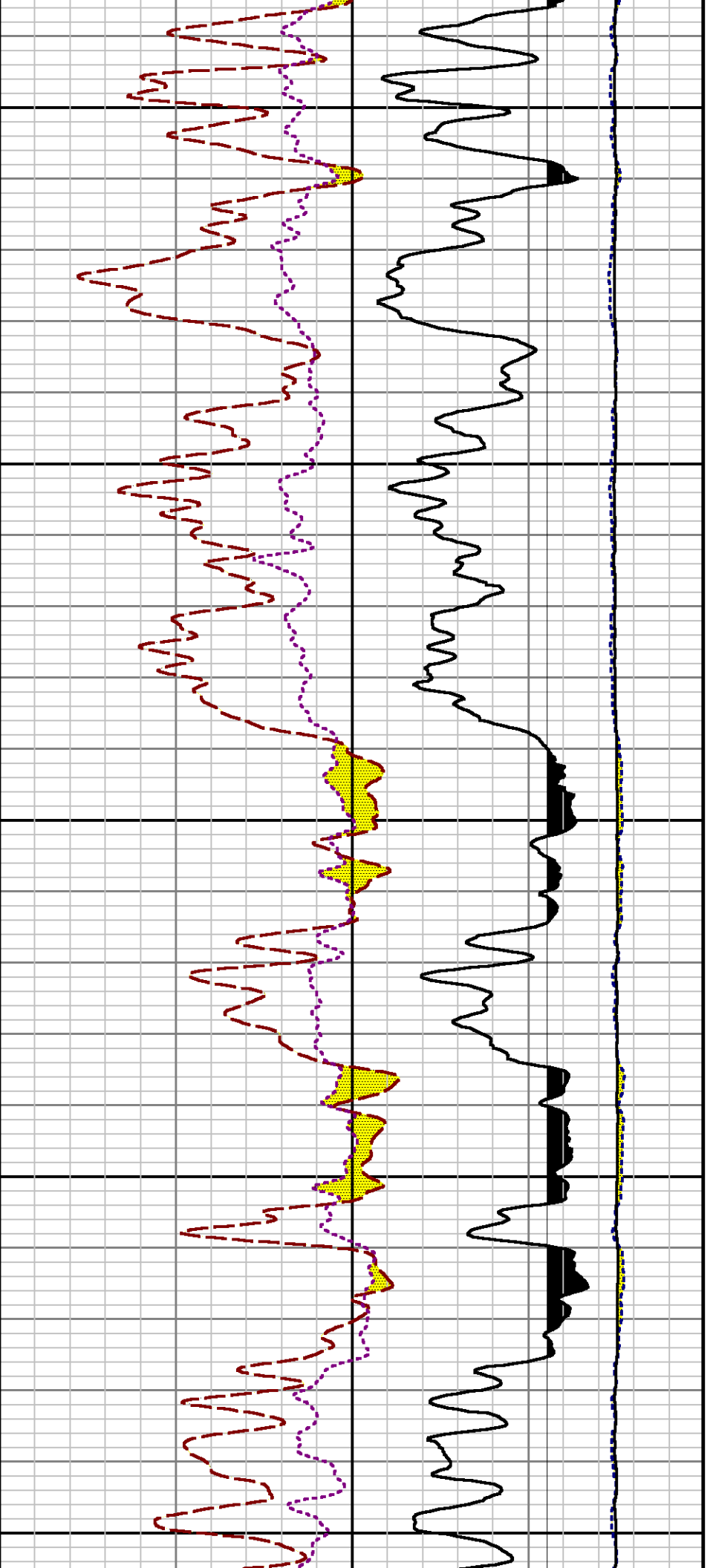


5100

5200

SHORT JOINT

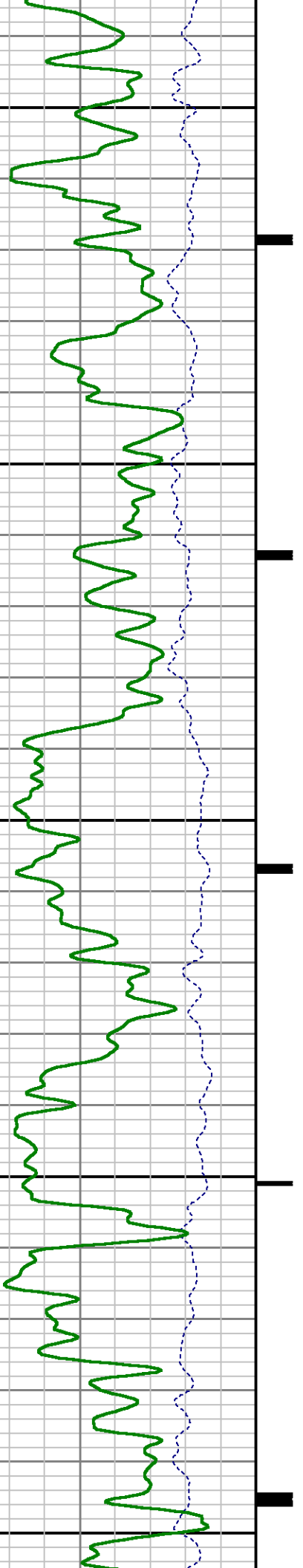




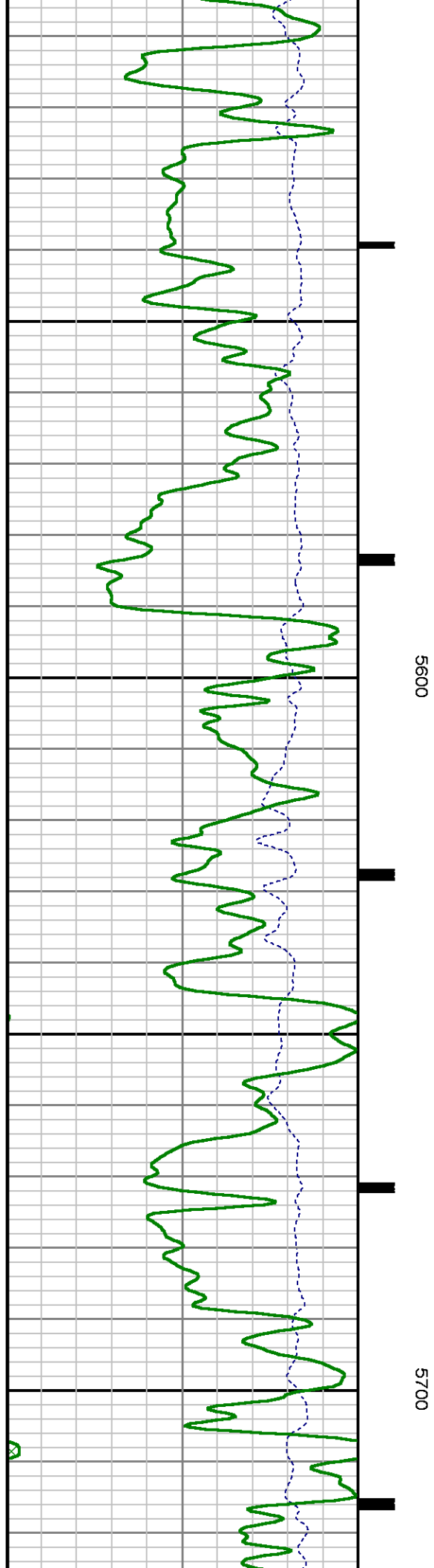
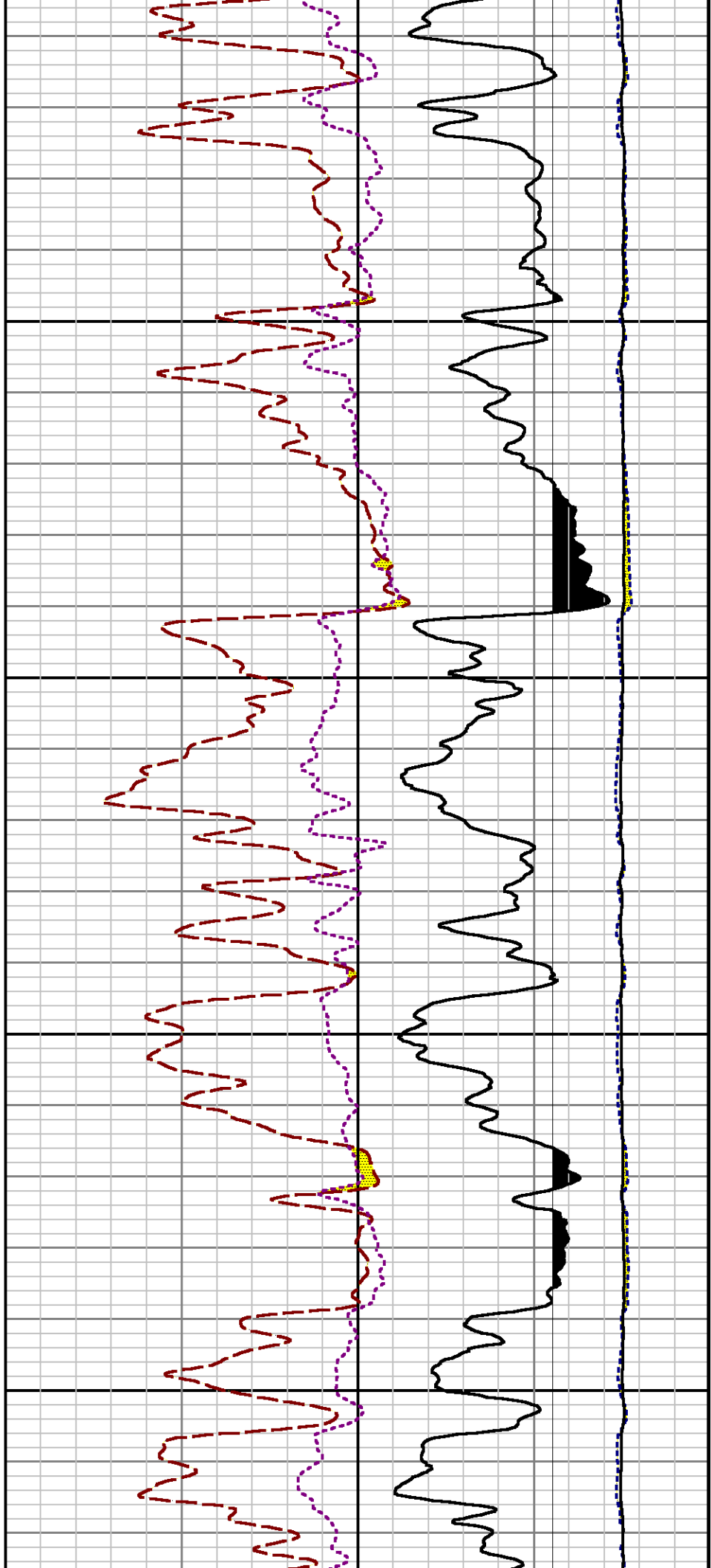
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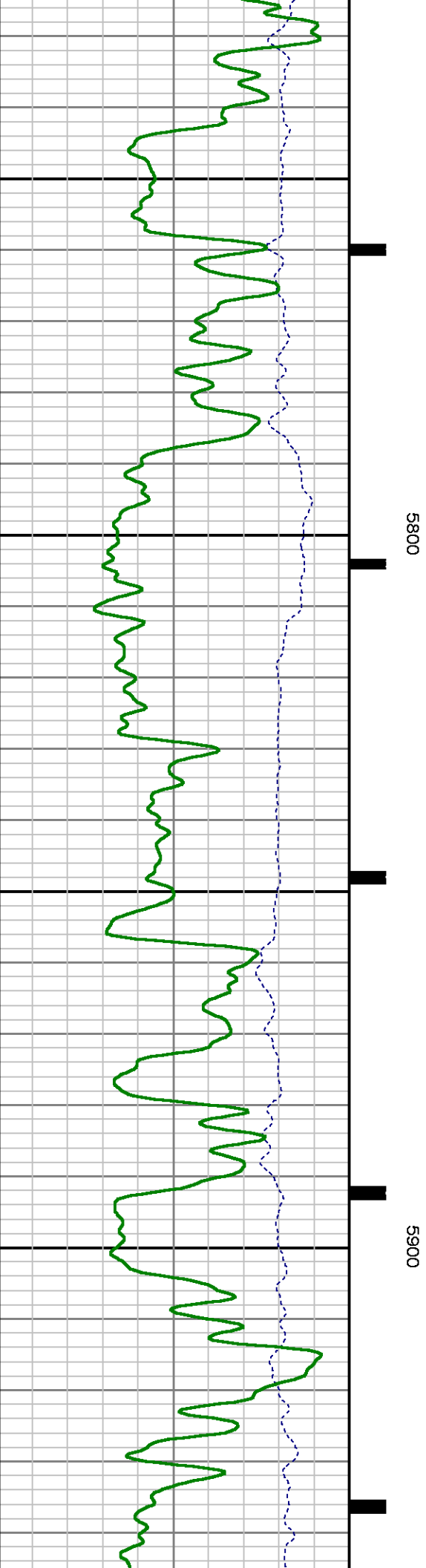
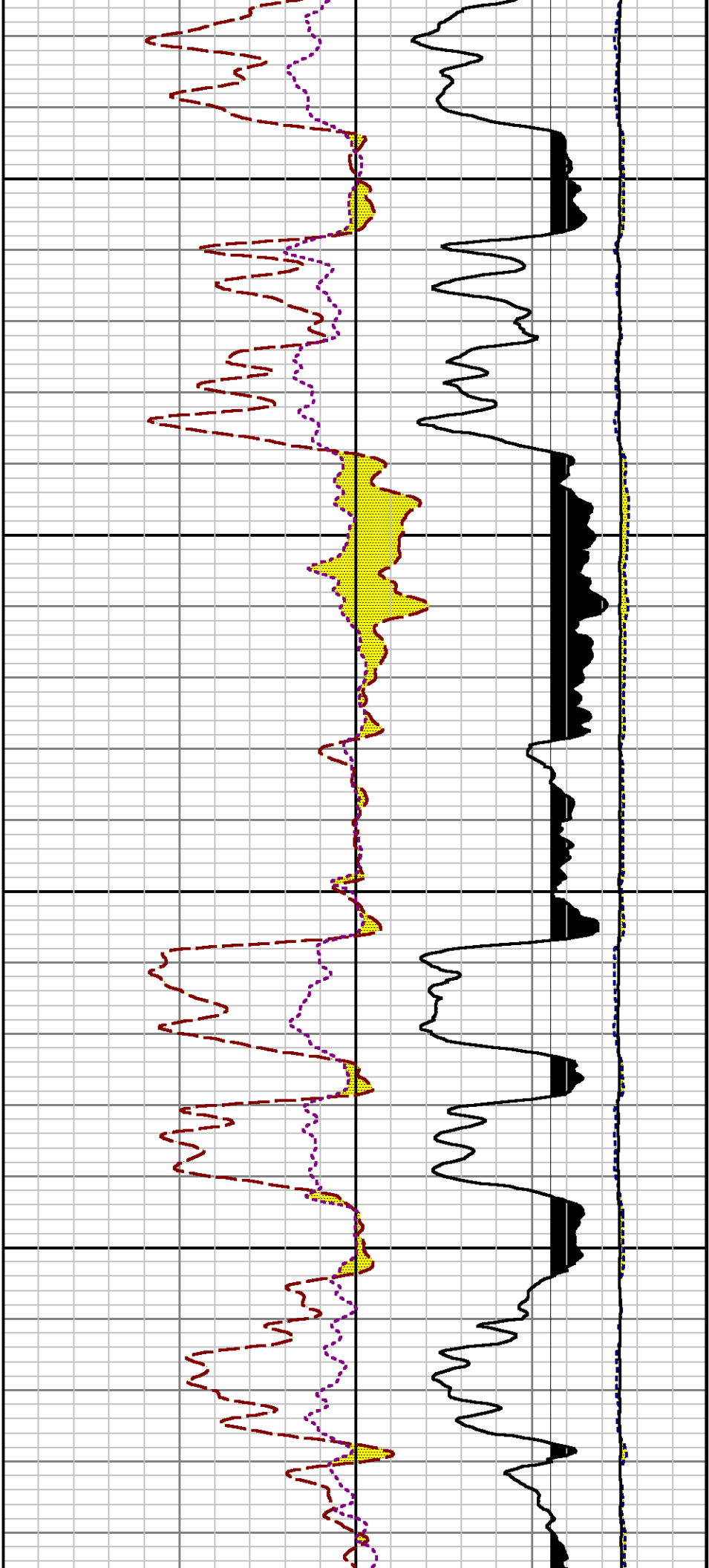
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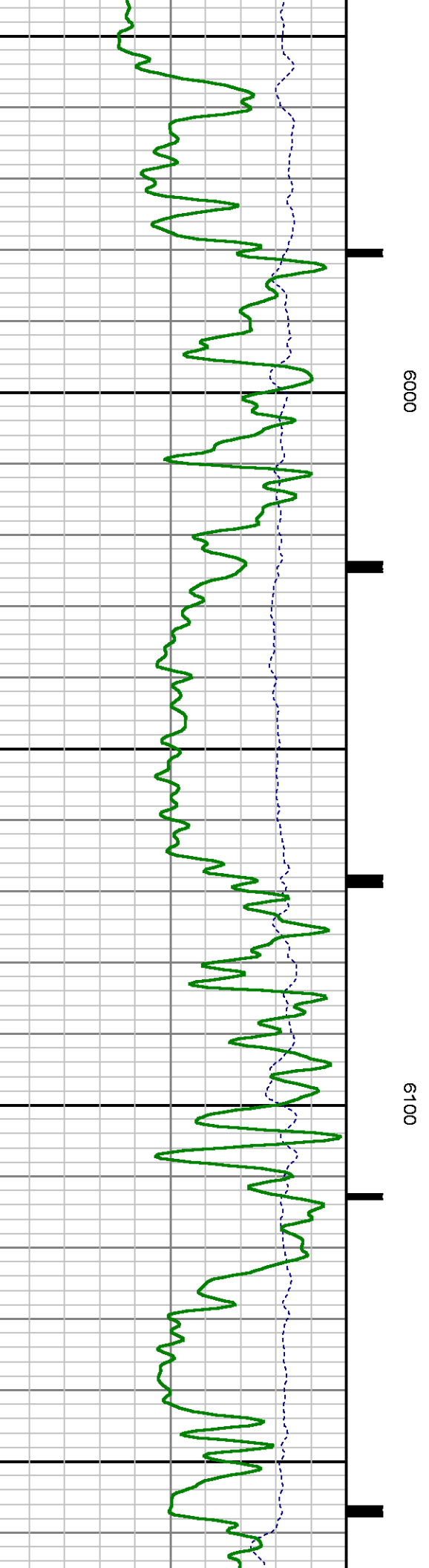
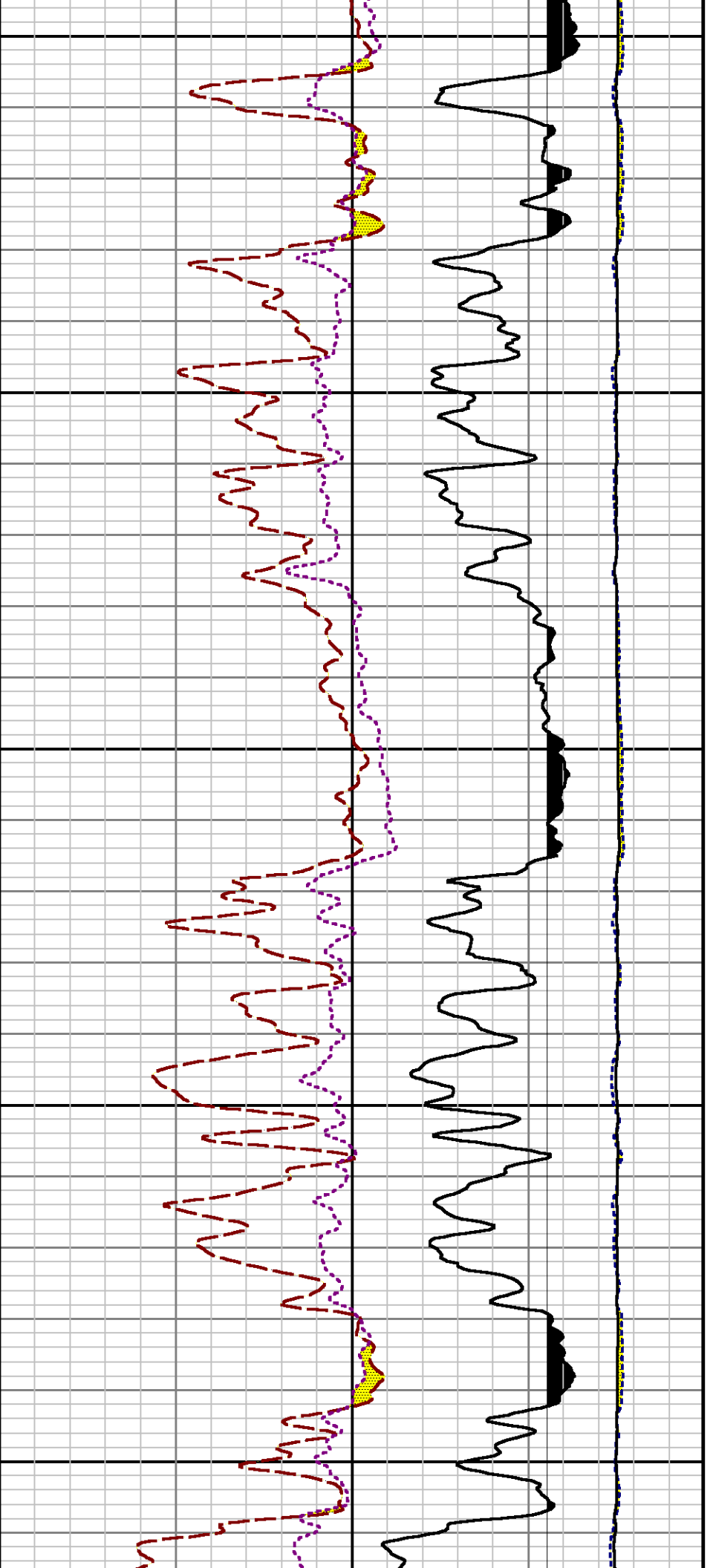
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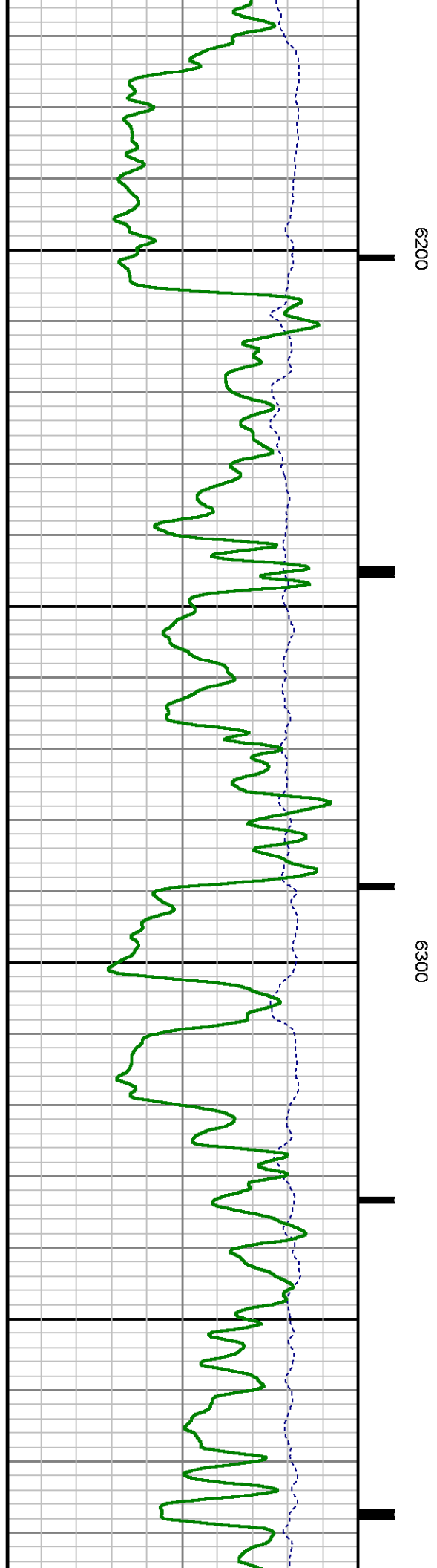
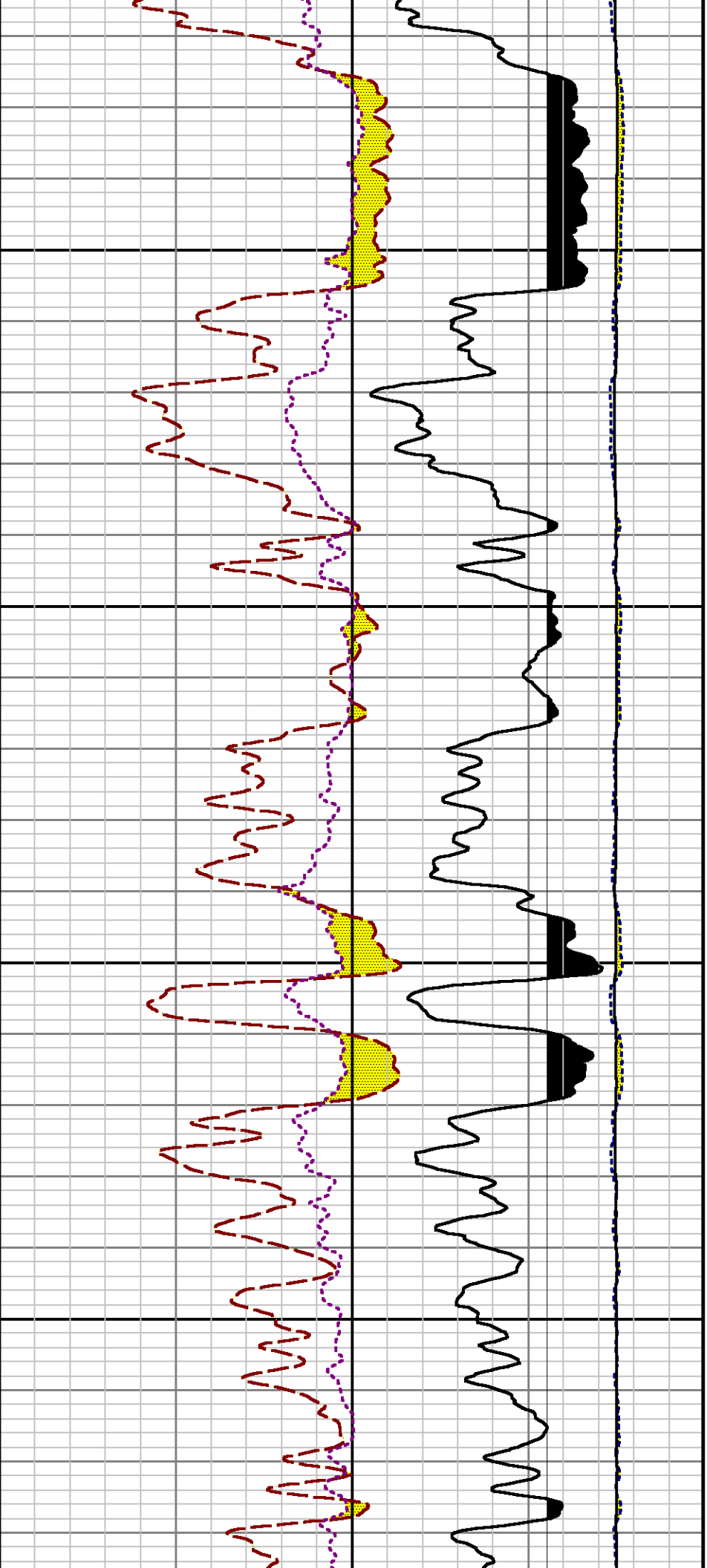


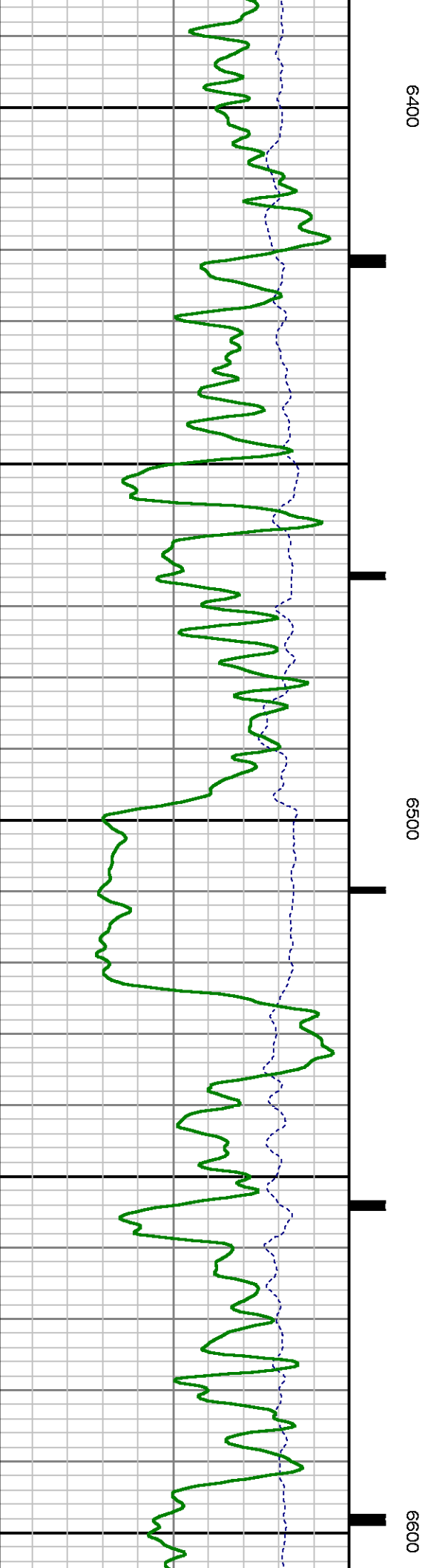
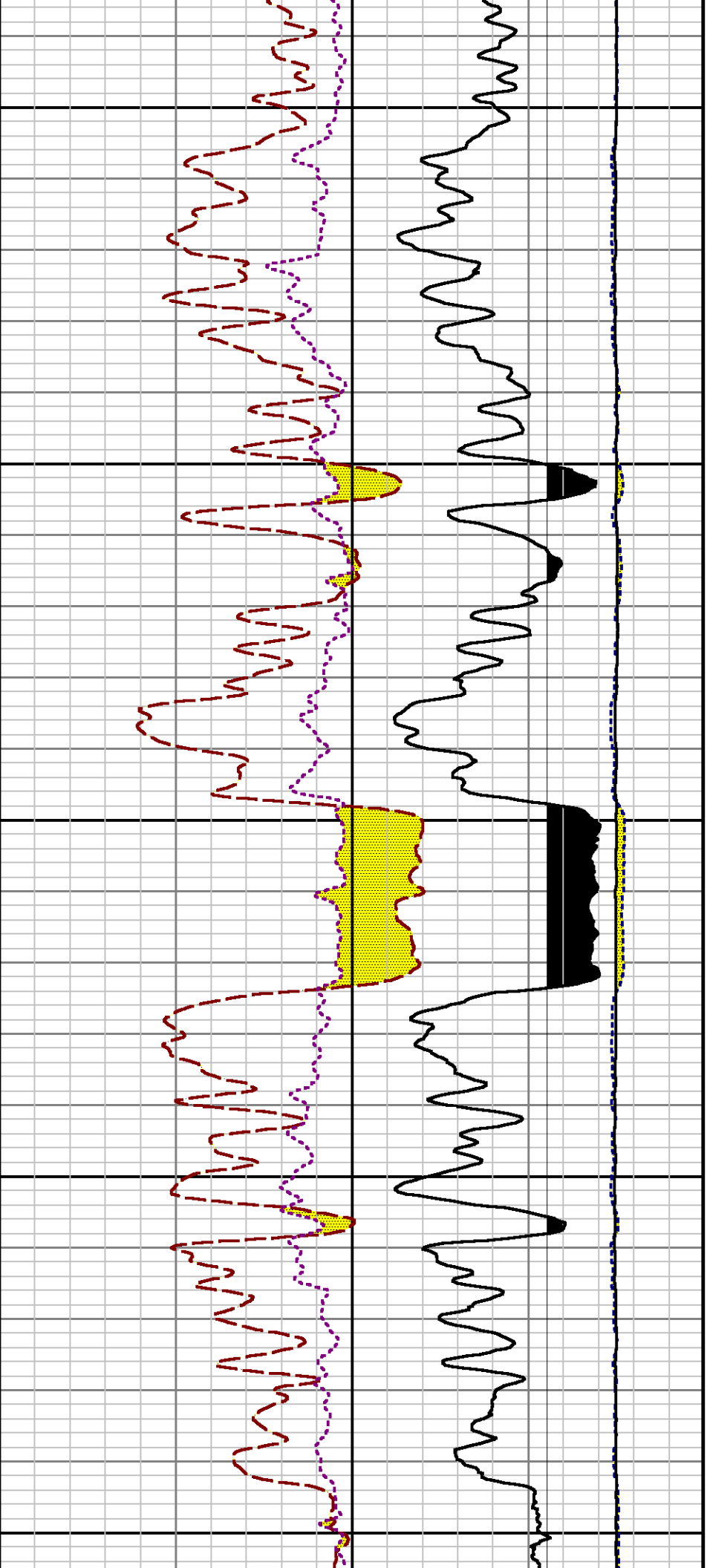


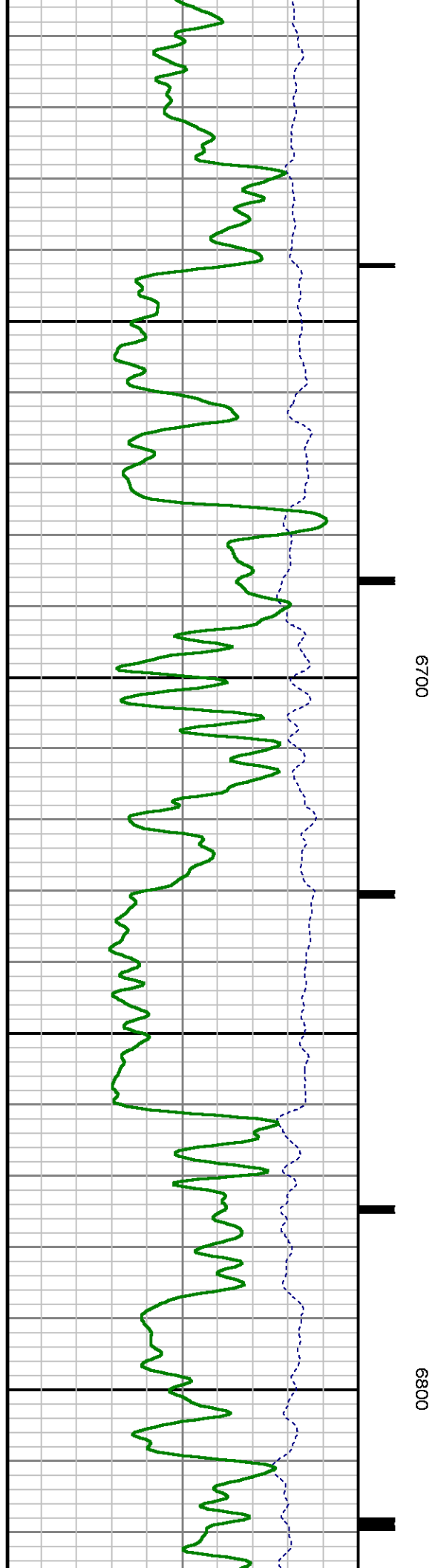
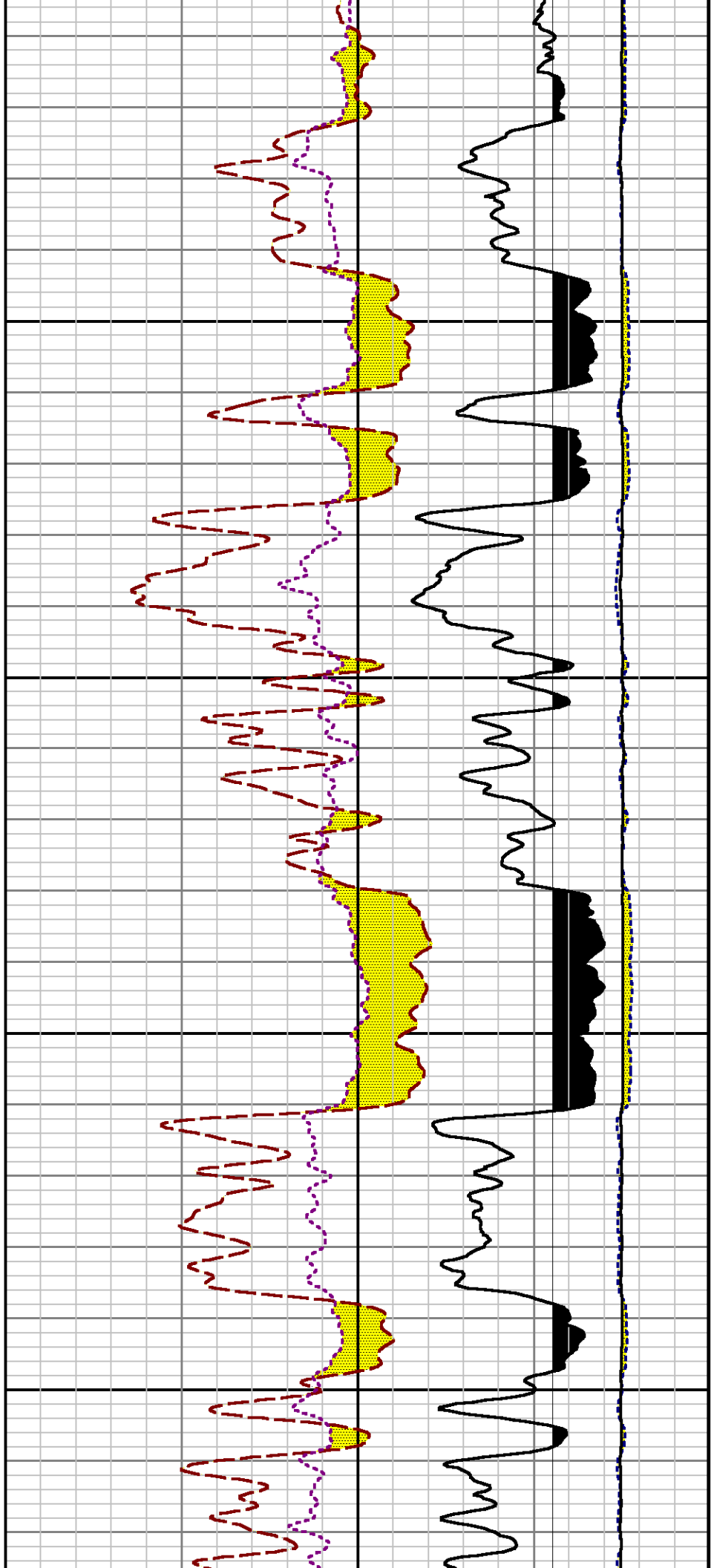


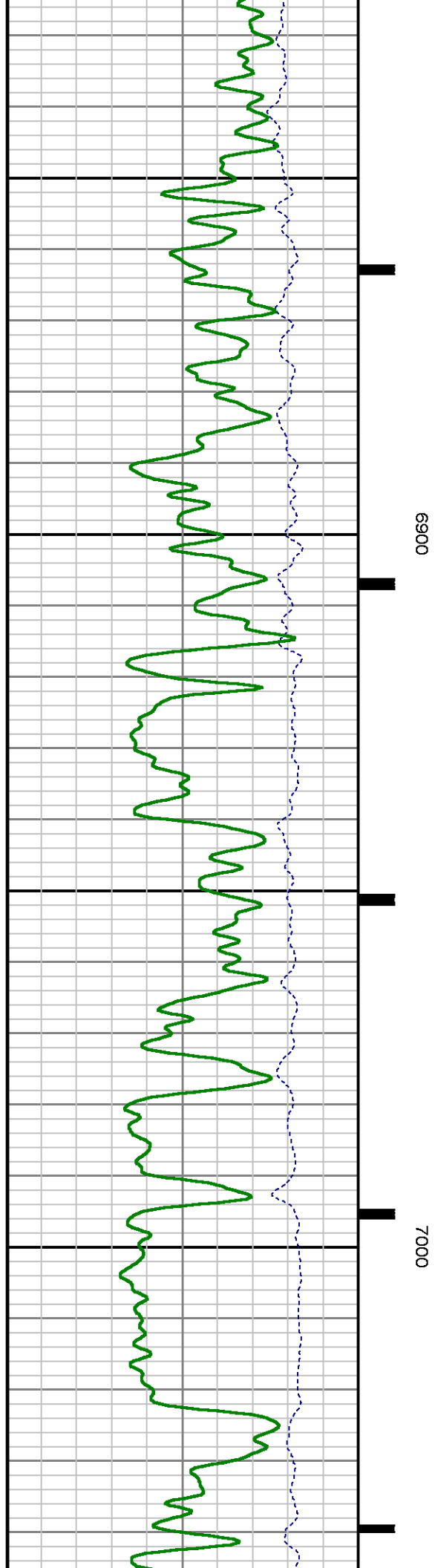
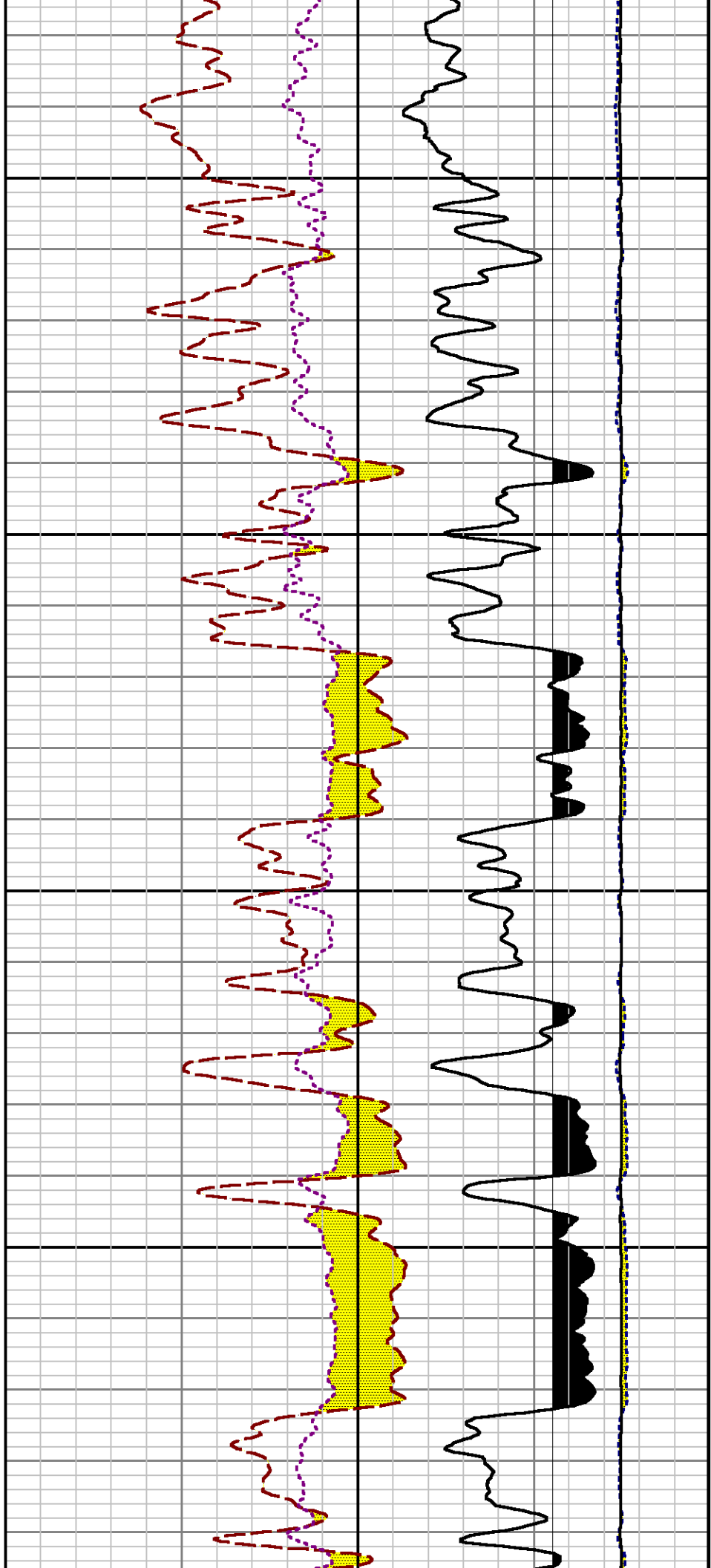


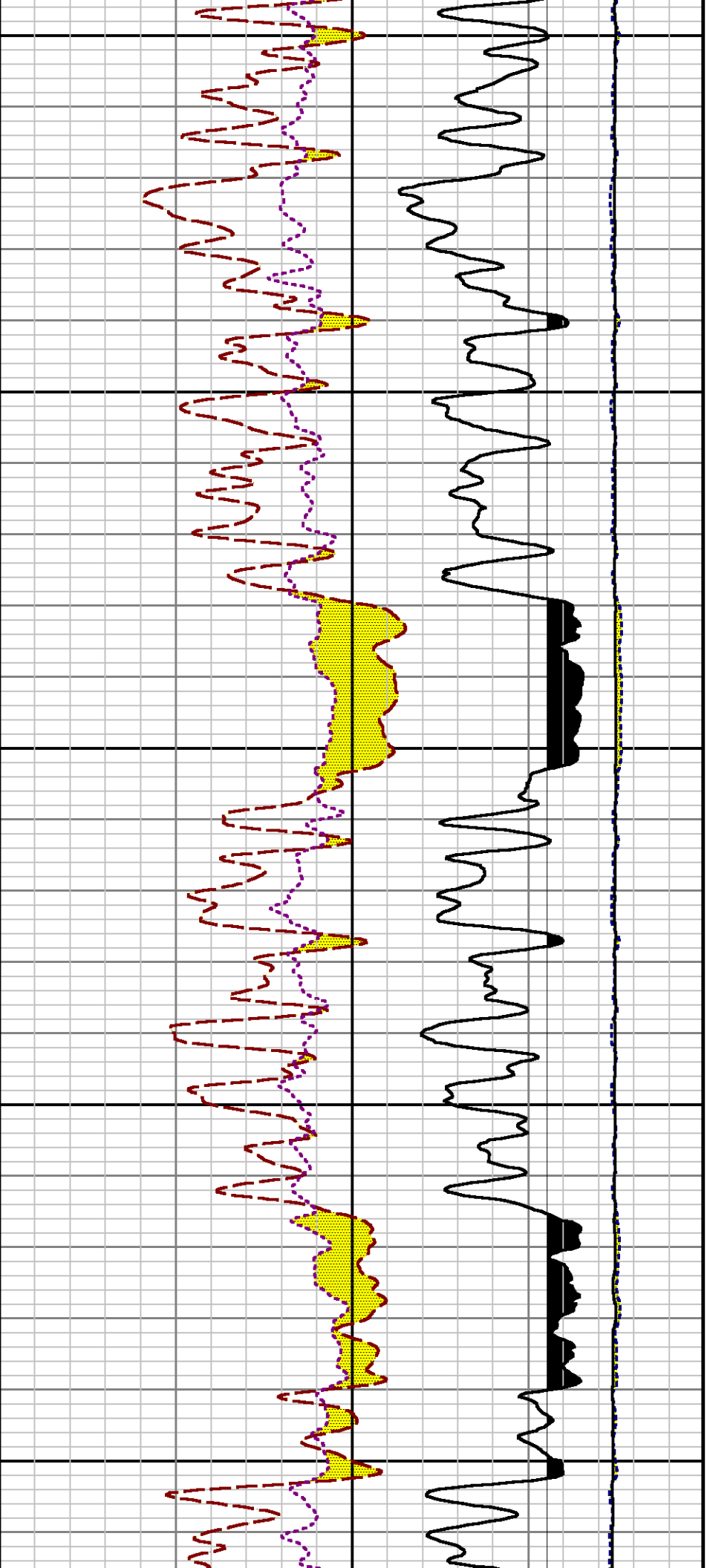






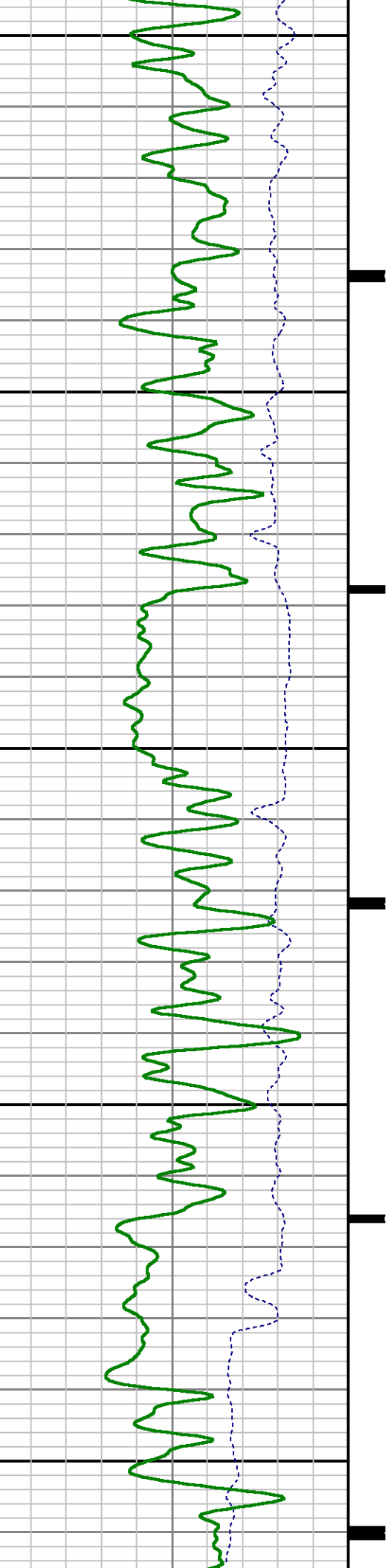




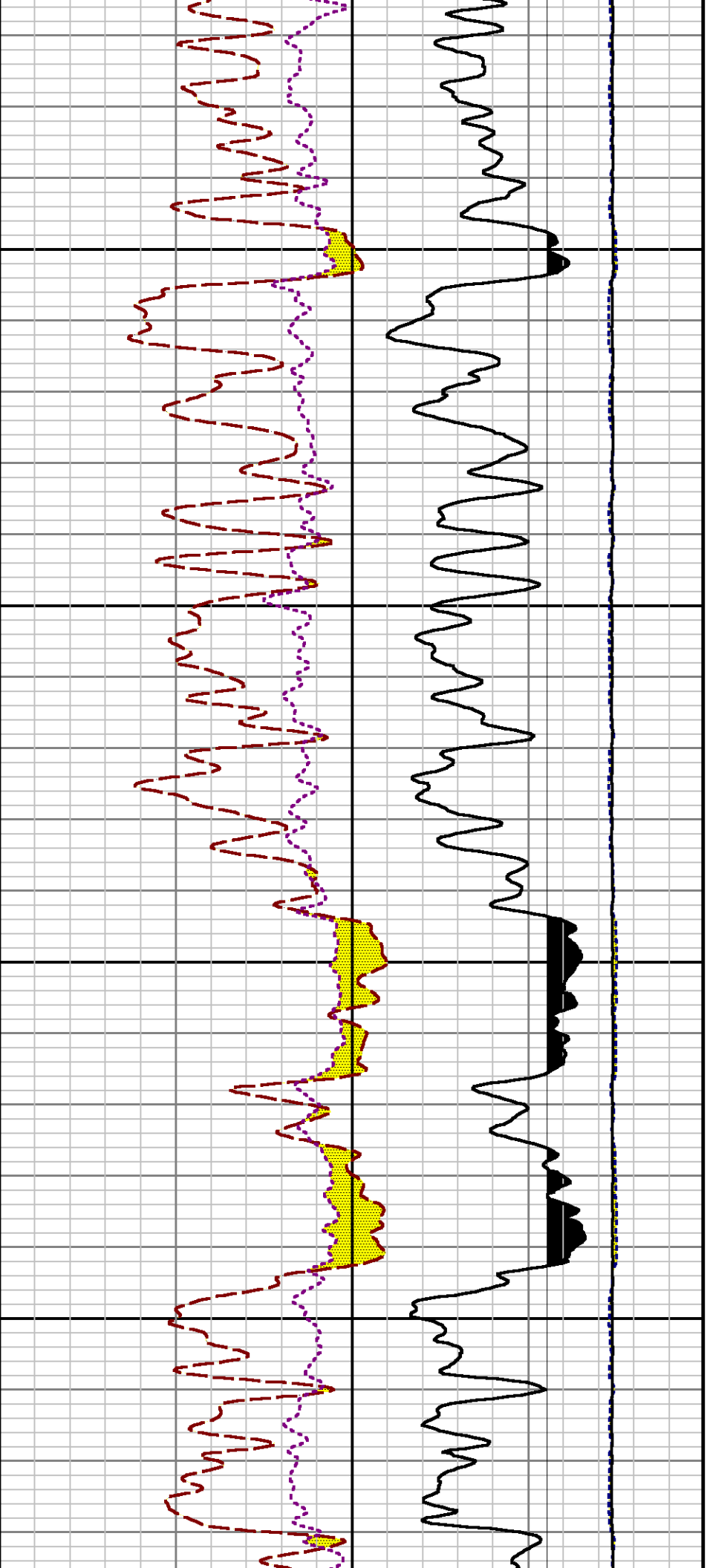


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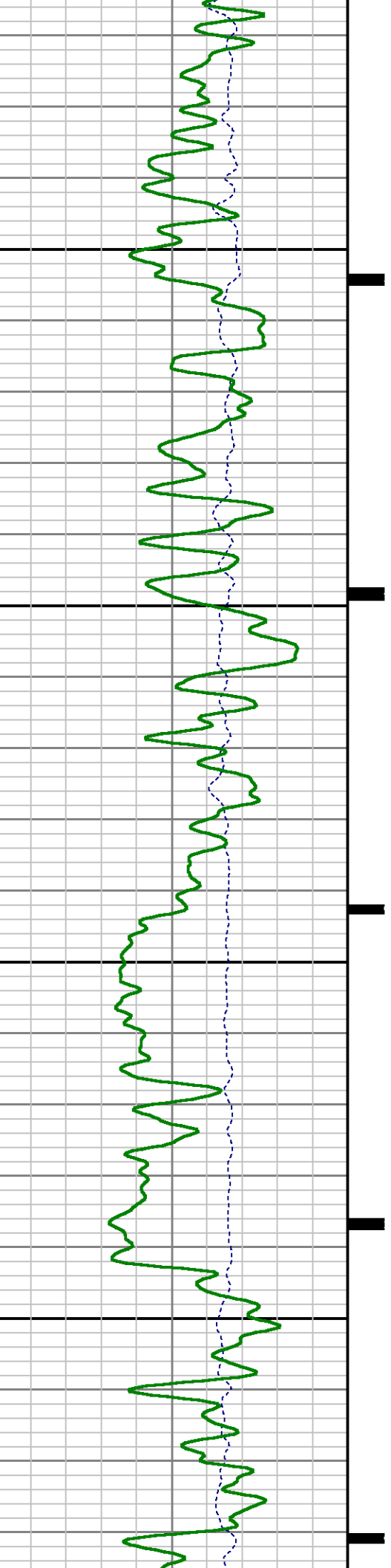


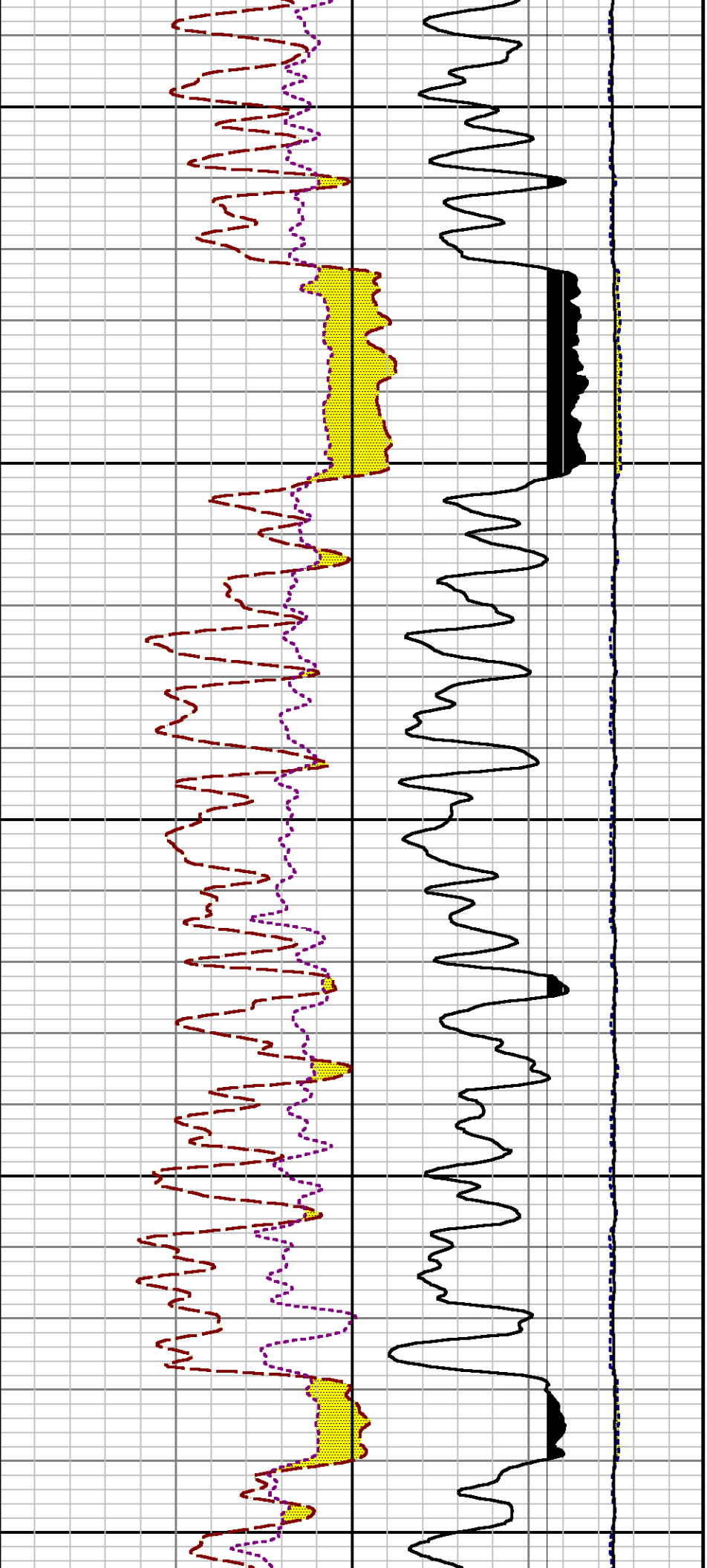




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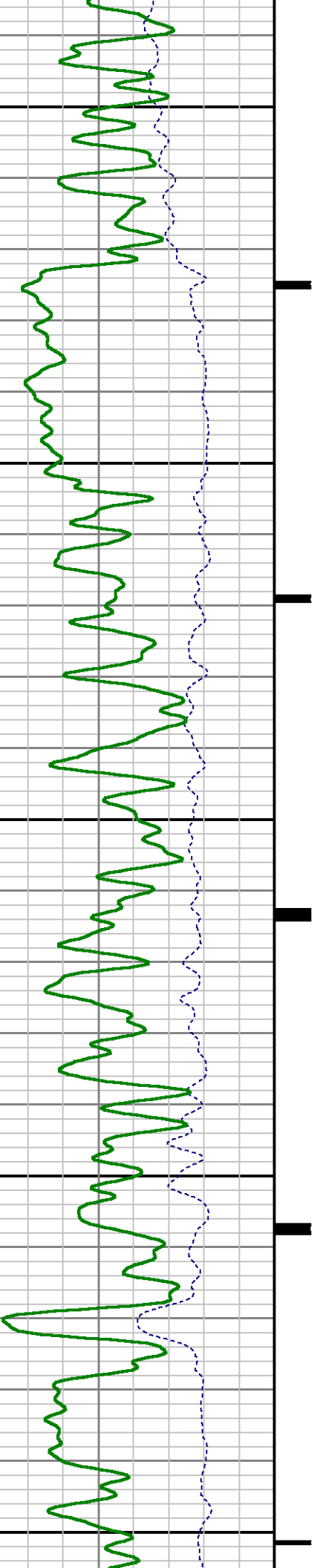


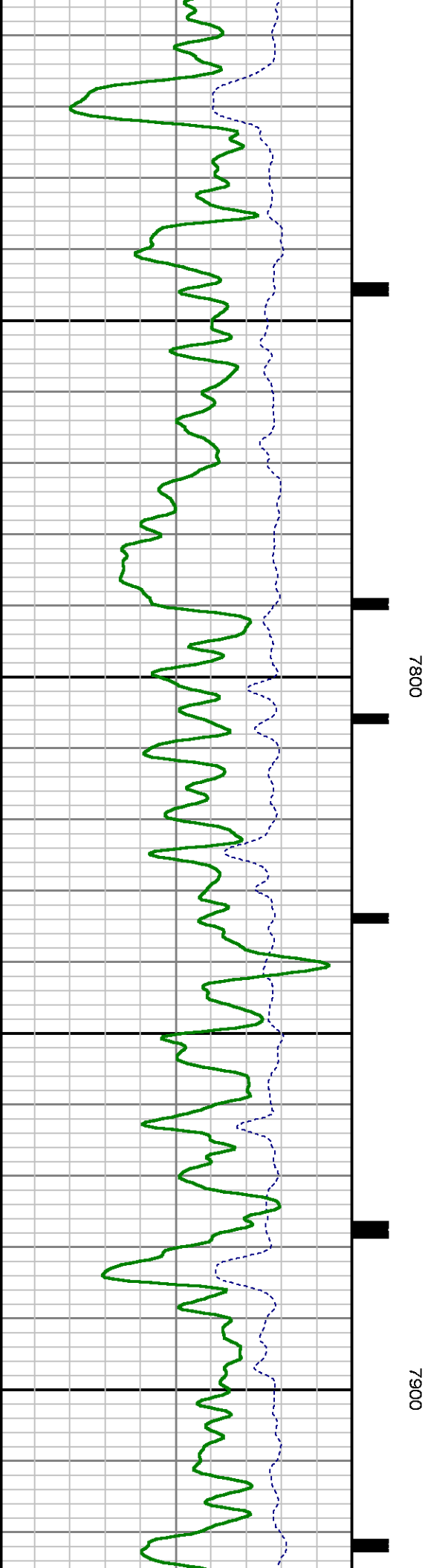
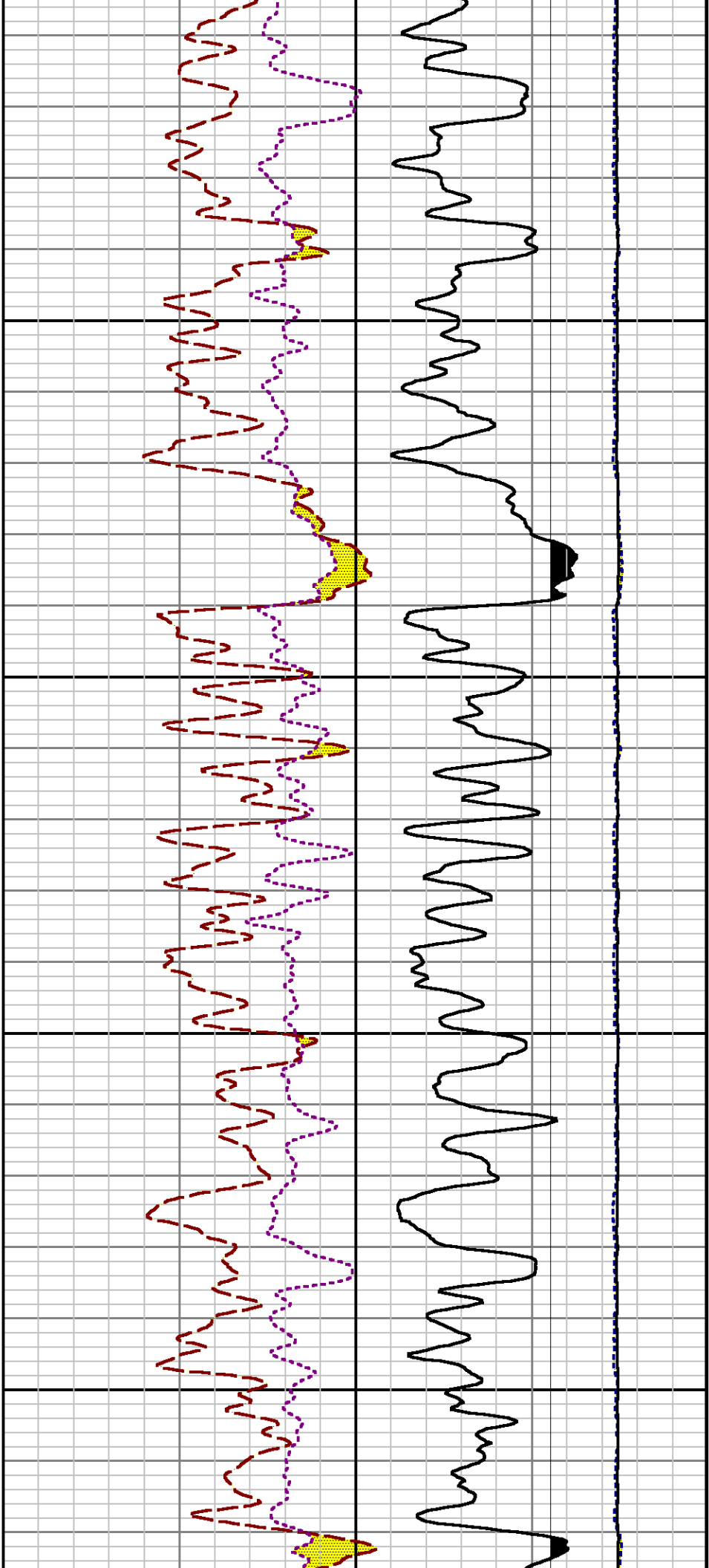


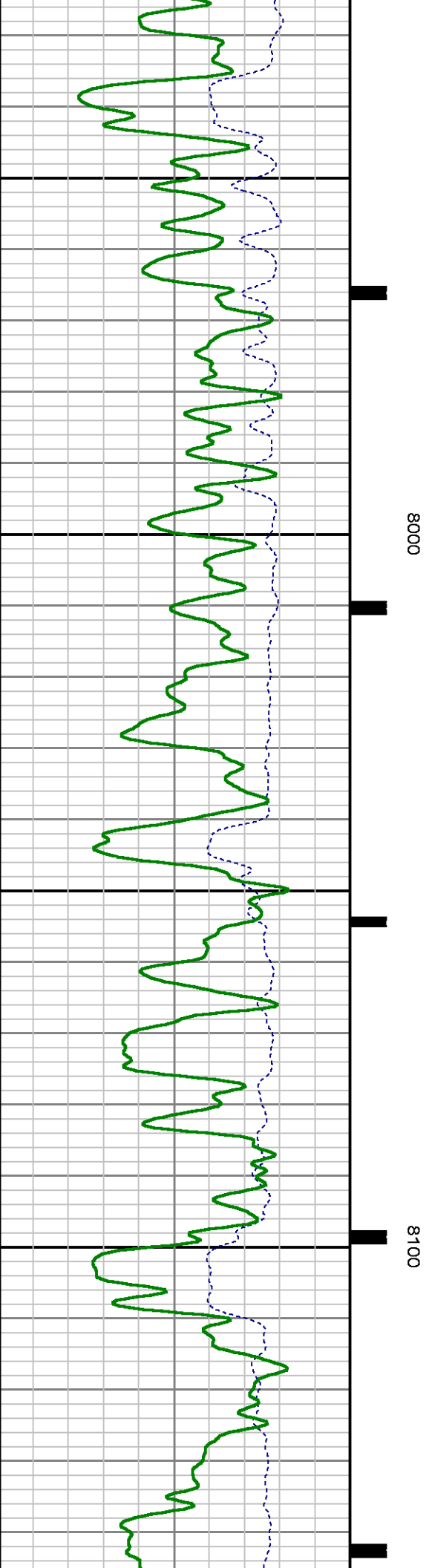
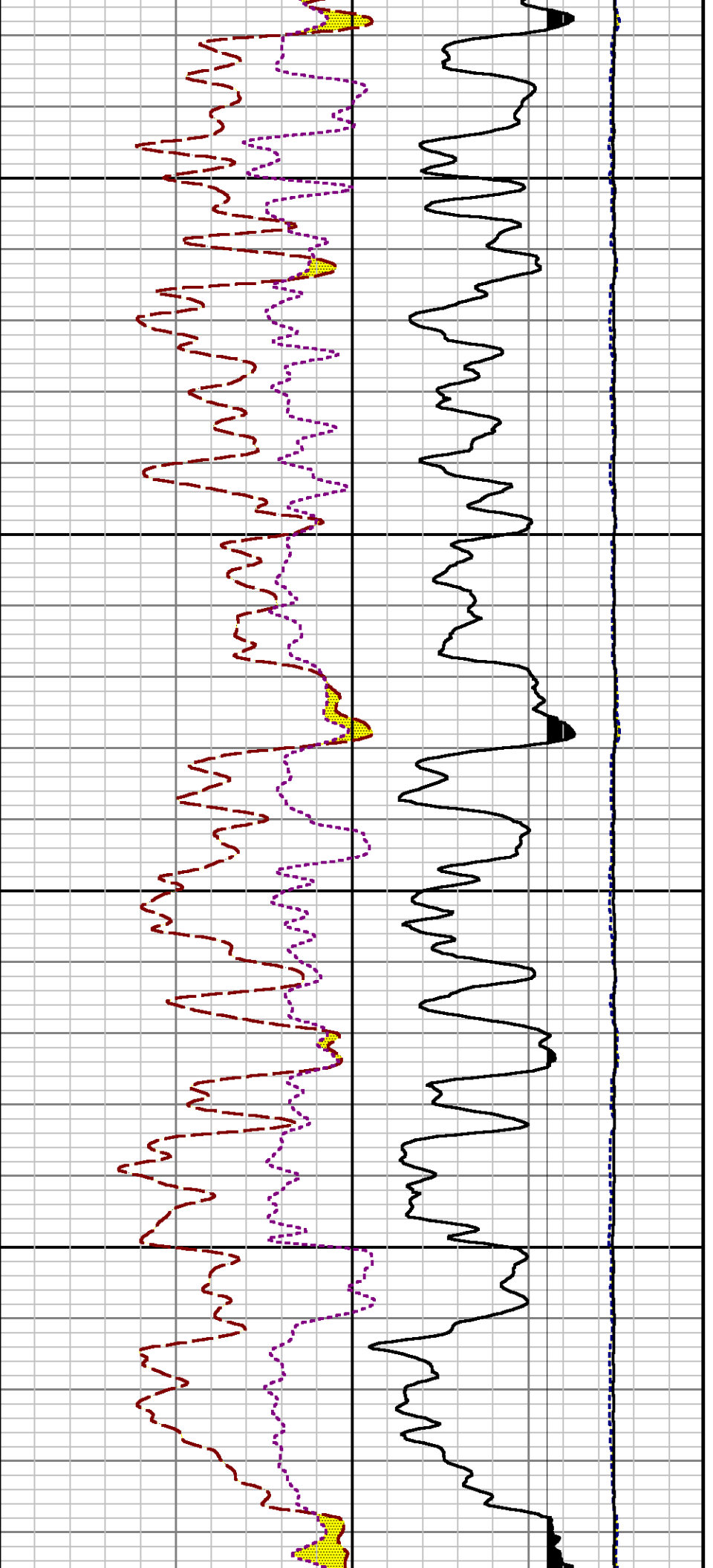
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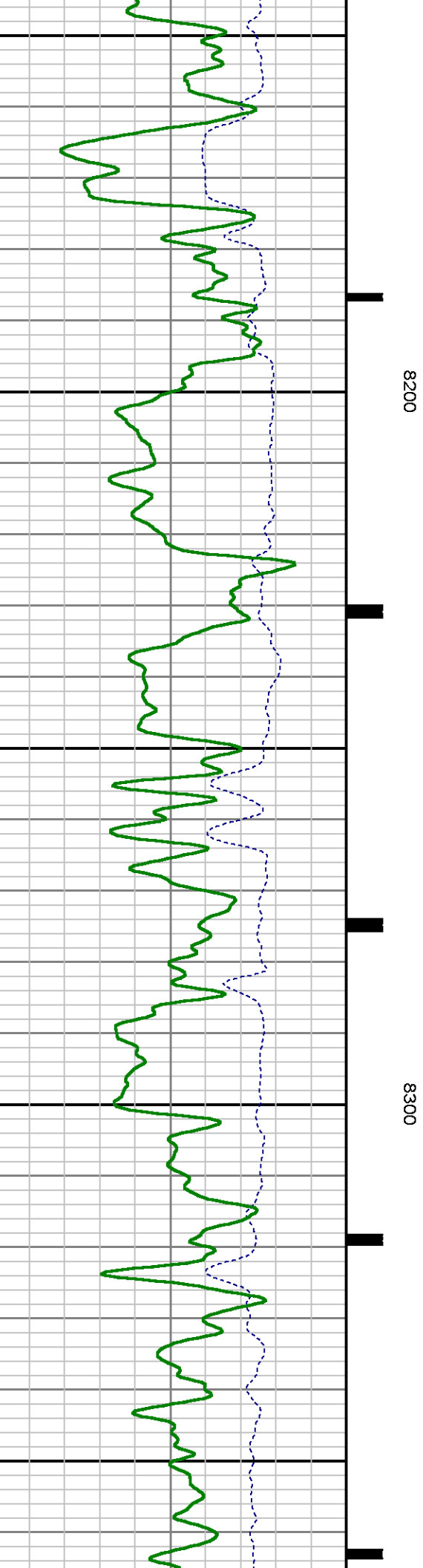
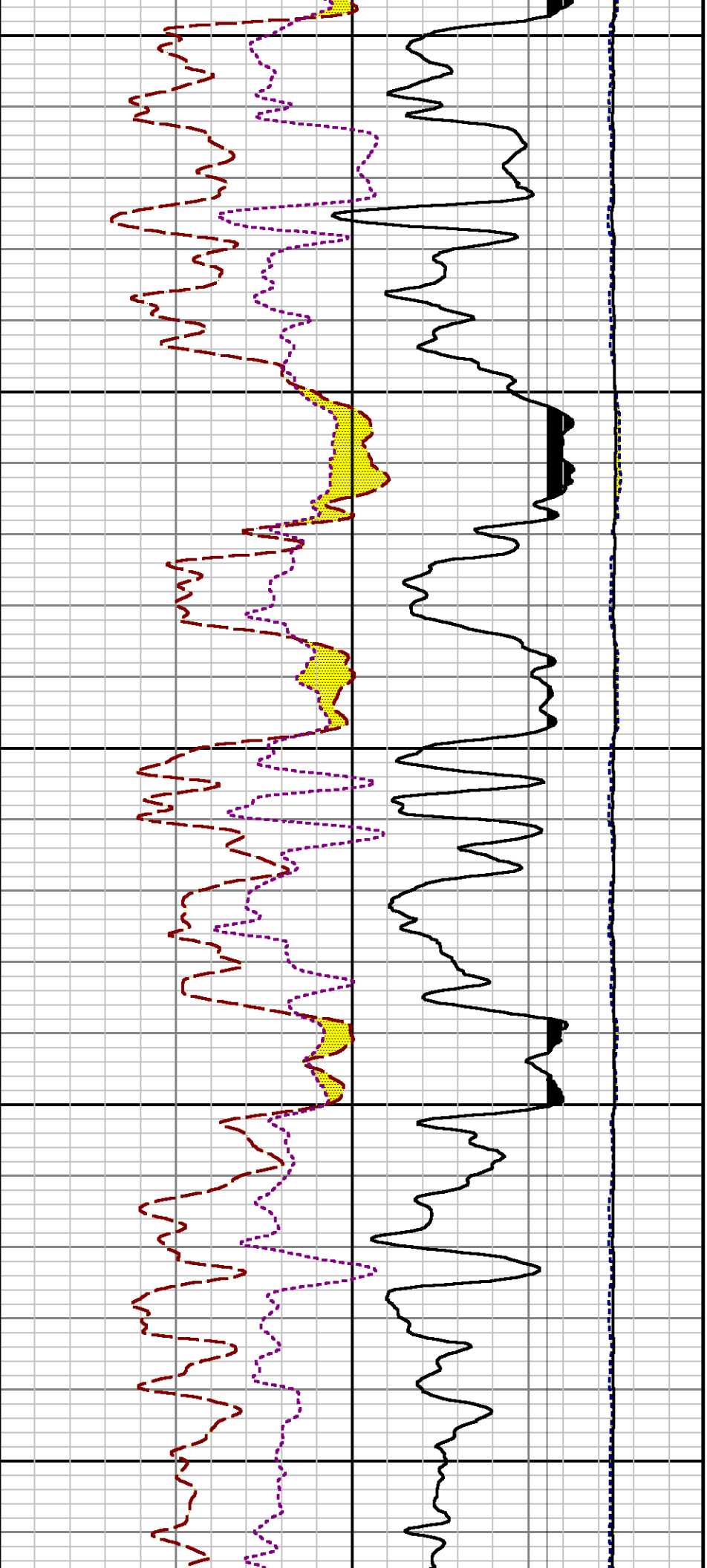
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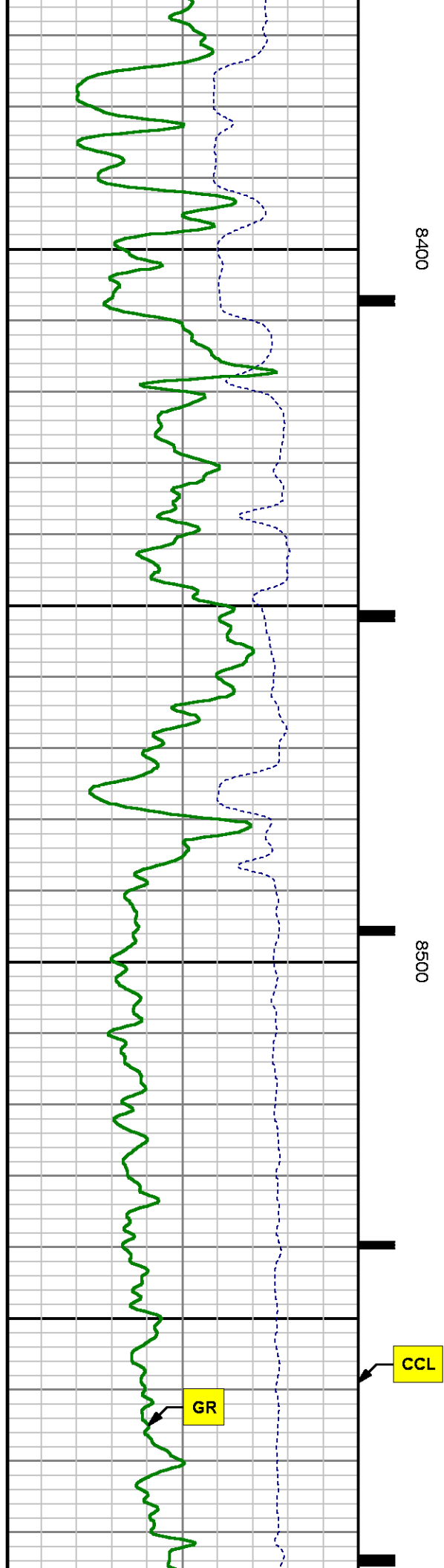
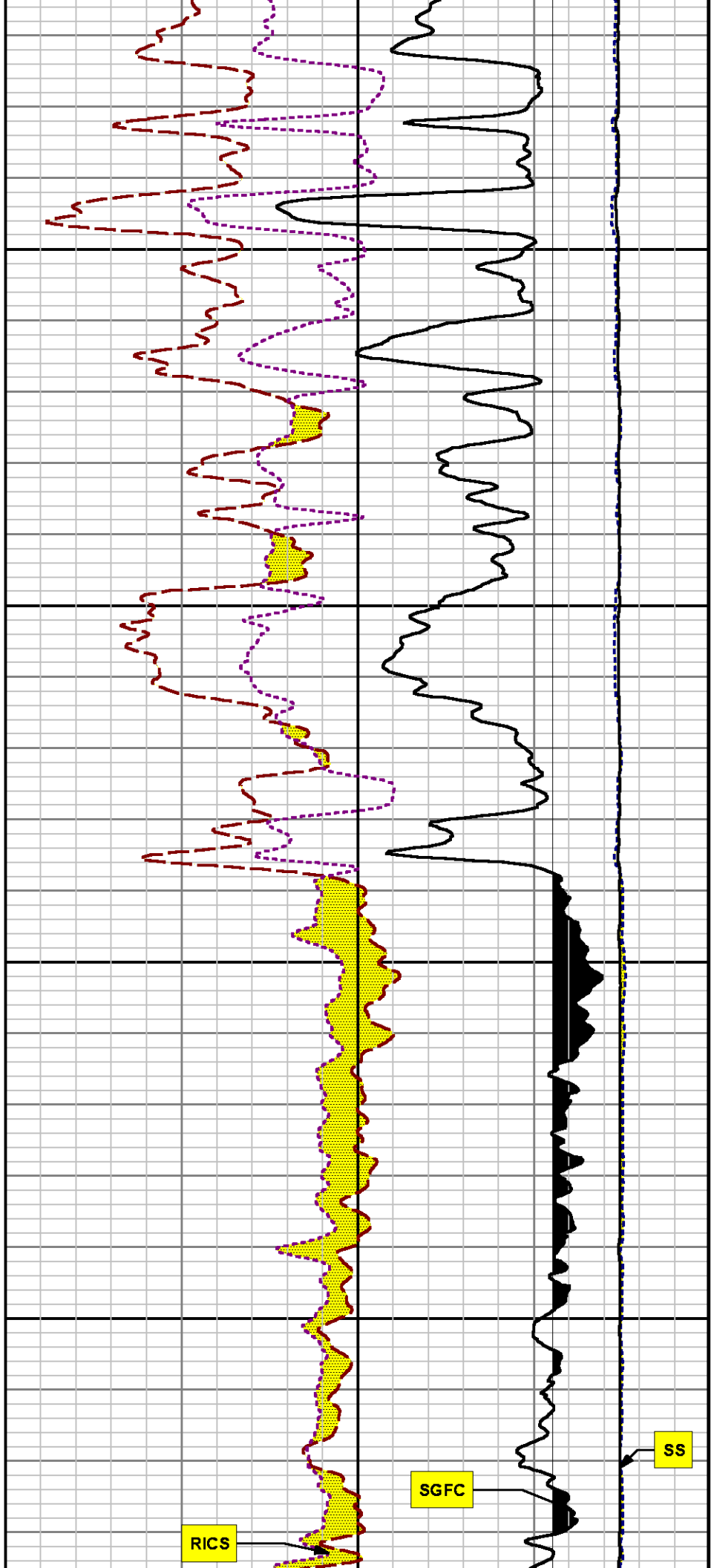
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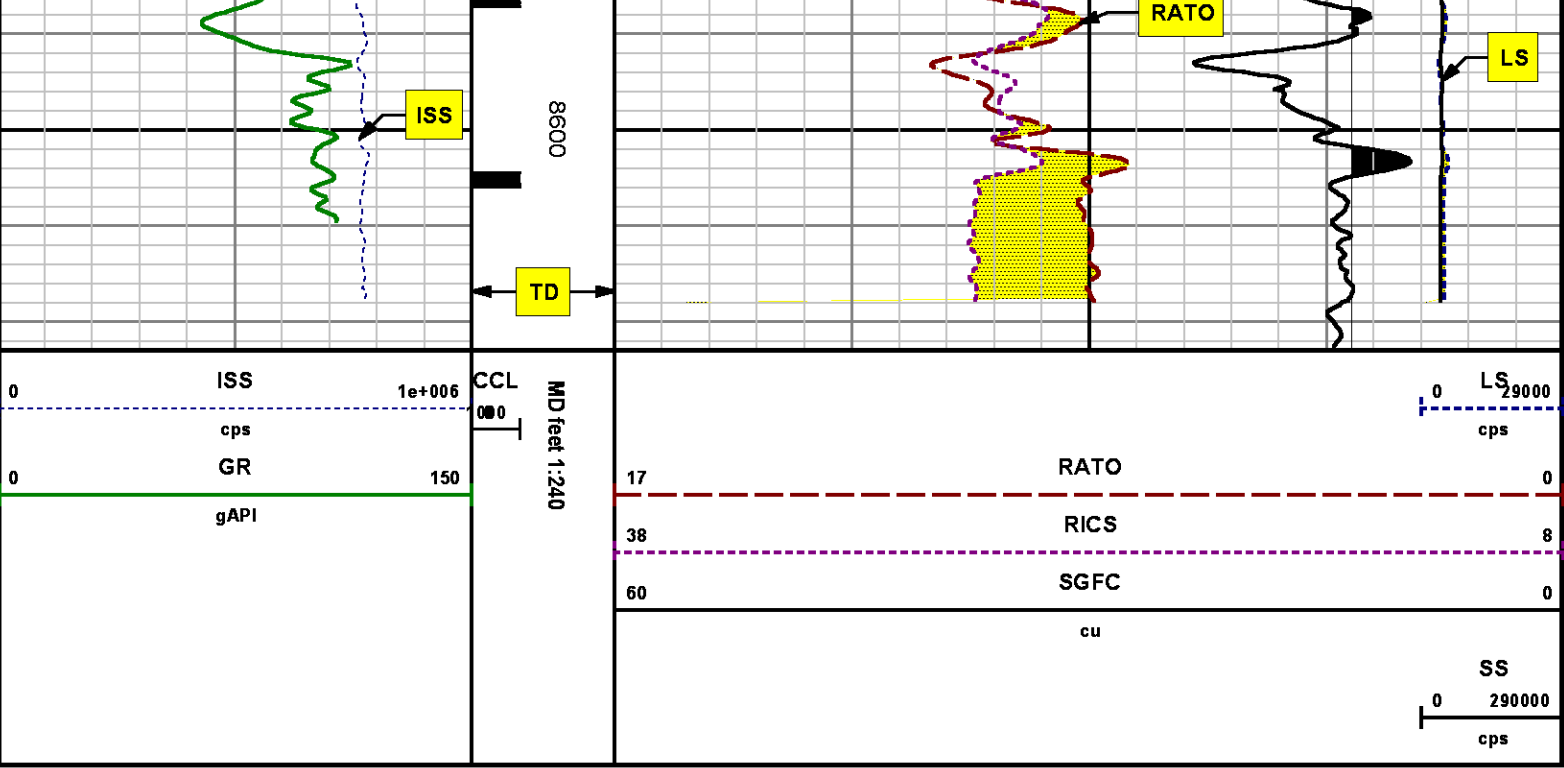












REPEAT SECTION  
PNC 3-D MODE

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		7810.800	8124.300
PNC Porosity	Borehole Size	8.750	inch	7810.800	8124.300
PNC Porosity	Casing Size	4.500	inch	7810.800	8124.300
PNC Porosity	Gas Filled	Non Gas Filled		7810.800	8124.300
PNC Porosity	Matrix	Sandstone		7810.800	8124.300
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	7810.800	8124.300

DEPTH OFFSETS  
(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES
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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 WDT3 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 WDT2 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 WDT1 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 : SAVAGE RWF 324-25

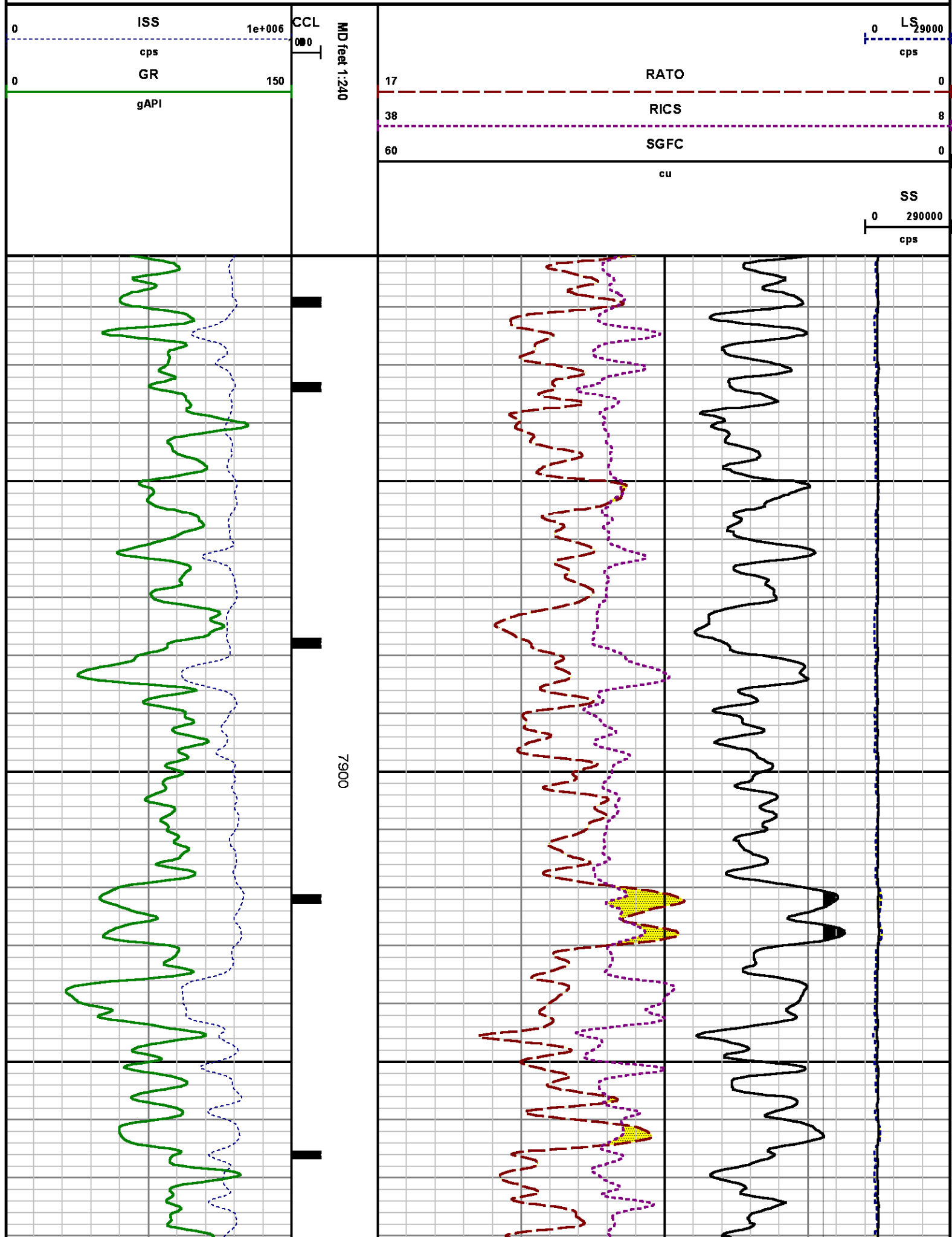
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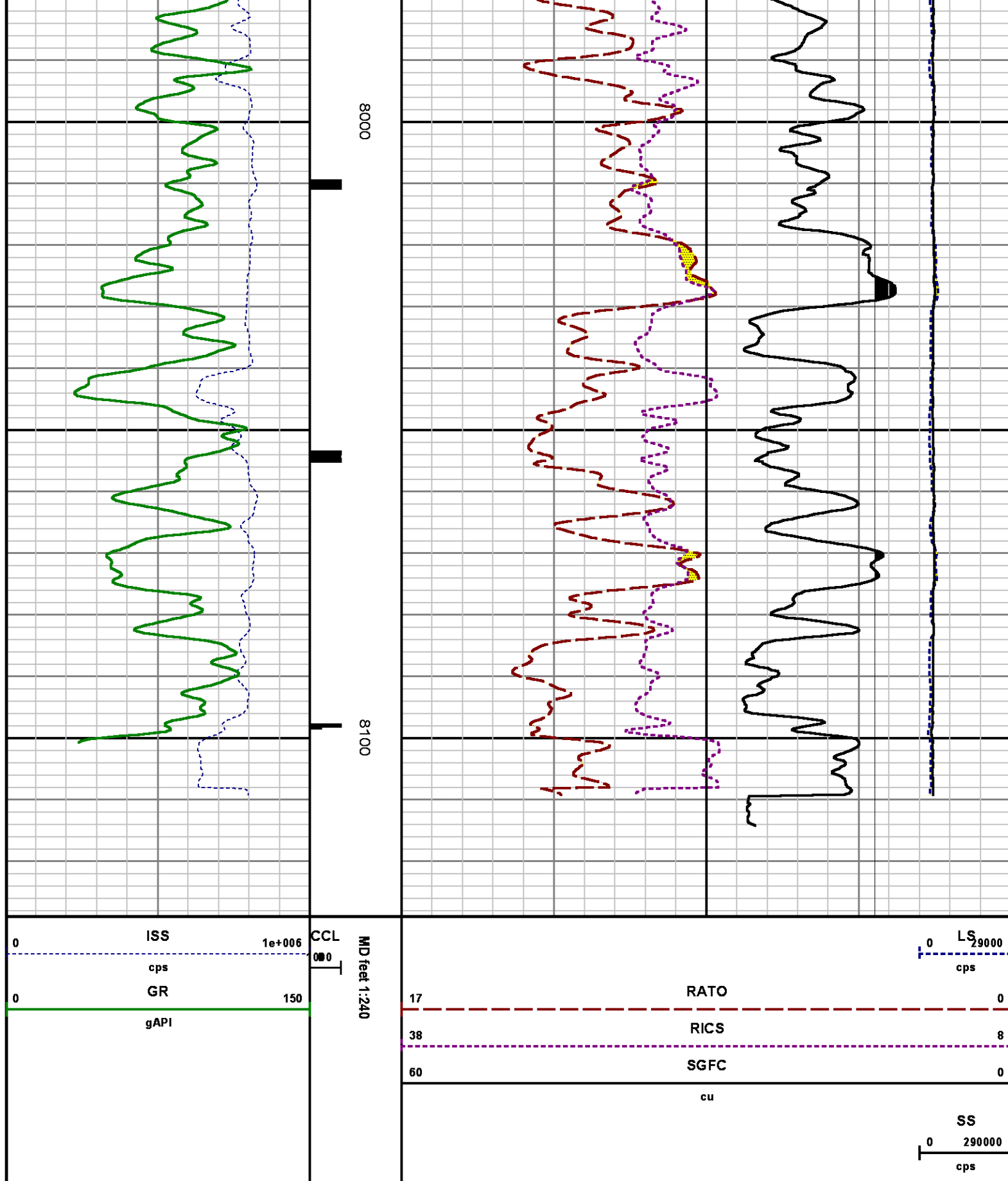
Mode : PlotMgr 5.4.504



Interval : 7811.05 - 8129.05 feet UP

Created : 1/29/2014 12:40:55 PM





## CALIBRATION SUMMARY

# GAMMA RAY

Calibration File: C:\case\calver\GR\385J9.cal

## CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Jan 09 15:25:11 2014 TOOL SERIES: 2812LA ASSET: 385 SEQ: J9

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	62.82	283.64	0.951	59.74	269.74	210.00

Verification File: C:\case\calver\GR\385J9.VP

## PRIMARY VERIFICATION

DATE/TIME PERFORMED: Thu Jan 09 15:29:10 2014 TOOL SERIES: 2812LA ASSET: 385 SEQ: J9

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	63.02	280.18	0.951	59.93	266.45	206.51

# TEMPERATURE

Calibration File: C:\case\calver\TEMP\17697330.cal

## CALIBRATION SUMMARY

DATE/TIME PERFORMED: DEC 30 2013 14:00 TOOL SERIES: 8255XA ASSET: 176973 SEQ: 30

	T(0)	T(1)	T(2)	T(3)	T(4)	T(5)
Coefficients	-1.950580e+001	1.007993e-001	9.960555e-007	-1.008402e-010	0.000000e+000	0.000000e+000

# PNC

Calibration File: C:\case\calver\PNC\383J7.cal

## PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Fri Jan 17 14:45:45 2014 TOOL SERIES: 8281XA ASSET: 383 SEQ: J7

Calibrator #

gj shop

Source #

8281AA 10160601

ISS	Mtr VIts (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
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Raw Data	813732	129.00	2186.00	2253.00	2214.00	102.25	7.00	0.9976
Interpolated	1300000	152.88	2183.97	2239.94	2207.92			

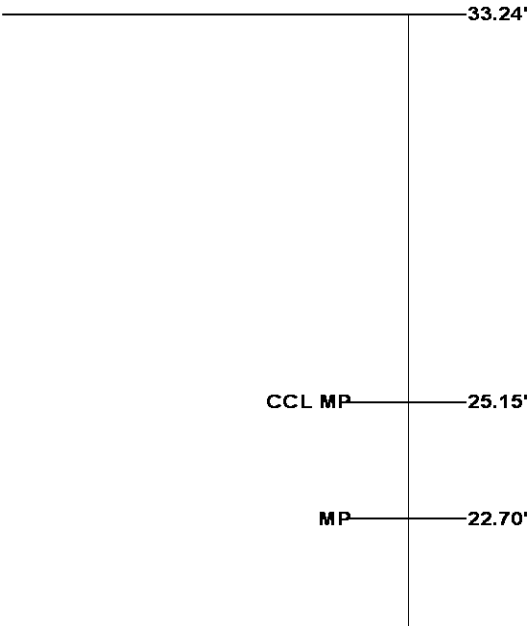
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Raw Data	813732	6611.93	1055.83	146.56	25.82	0.14	24.39	0.27
					25.35 26.40	0.00 0.20	23.60 24.80	0.00 0.40

	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
Raw Data	813732	178243.73	27579.47	92675.66	32979.46	8738.46	56027.18	14002.62
Fit Quality %		0.47	0.52	0.93	0.91	0.54	0.86	0.52

	ISS	RBOR	RIN	RIN13	RICS	RATO	RTWO	RONE
			ISS/ILS	ISS/IXS	ISS/CSS	SS/LS	SS2/LS	CSS/CLS
Raw Data	813732	1.43	4.57	29.51	14.52	10.61	3.77	4.00
		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 %		0.07	0.27	0.24	0.14	0.24	0.23	0.21
Reduced	1403031	1.43	4.59	29.68	14.59	10.62	3.78	4.00
		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
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'

XLS DETECTOR 16.08'

LS DETECTOR 13.10'  
SS DETECTOR 12.88'

PRES MP 1.61'

0.00'

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



Baker Atlas

CASE

**Company**

WPX ENERGY

**Well**

SAVAGE RWF 324-25

**Field**

RULISON

**County**

GARFIELD

**State**

COLORADO

**Location**

SHL: 1587' FSL &amp; 2305' FWL

BHL: 589' FSL &amp; 2144' FWL (SESW)

**Elevations**

KB 6122 ft

DF

GL 6096 ft

SEC 25 TWP 6S RGE 94W

**File No:**

CH082307

**API No:**

05045219880000

25 6S 94W

RWF 23-25 PAD

NABORS 577