



# RESERVOIR PERFORMANCE MONITOR

Baker Atlas

File No: CH082306

Company Well WPX ENERGY SAVAGE RWF 424-25

API No: Field RULISON

County GARFIELD State COLORADO

05045219820000

Location

25 6S 94W SHL: 1987' FSL & 2295' FWL

RWF 23-25 PAD BHL: 267' FSL & 2065' FWL (SESU)

NABORS 677 SEC 25 TWP 6S RGE 94W

Other Services

BOND LOG

Permanent Datum GL Elevation 6096 ft

Log Measured From KB 26 ft Above P. D.

Drill Measured From KELLY BUSHING

Elevations

KB 6122 ft

DF

GL 6096 ft

Date	30/JAN/14	
Run	ONE	
Service Order	US62E097	
Depth Driller	8682 ft	
Depth Logger	8653 ft	
Bottom Logged Interval	8643 ft	
Top Logged Interval	4508 ft	
Time Started	1130	
Time Finished	1730	
Operator Rig Time	6 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	70 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	66 fpm	
Maximum Recorded Temperature	233 degF	
Reference Log	NONE	
Reference Log Date	NA	
Equipment No.	4271	GRAND UCT
Recorded By	FLYOD 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	1127 ft
8.75 in	1127 ft	8682 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			0 ft	1127 ft
4.5 in	11.6 lbm/ft	I-80	0 ft	8682 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 1/30/2014 at the client's request.
The amount of linear shift is 9 feet.
Logged in PNC-3D mode.
BHT = 233°F
SJ = 5423'-5447'

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	8248EA	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		4489.937	8659.000
PNC Porosity	Borehole Size	8.750	inch	4489.937	8659.000
PNC Porosity	Casing Size	4.500	inch	4489.937	8659.000
PNC Porosity	Gas Filled	Non Gas Filled		4489.937	8659.000
PNC Porosity	Matrix	Sandstone		4489.937	8659.000
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	4489.937	8659.000

DEPTH OFFSETS  
(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES
8248EA	-26.519	FLTM
8248EA	-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

8281XA

-12.291

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

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 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 424-25

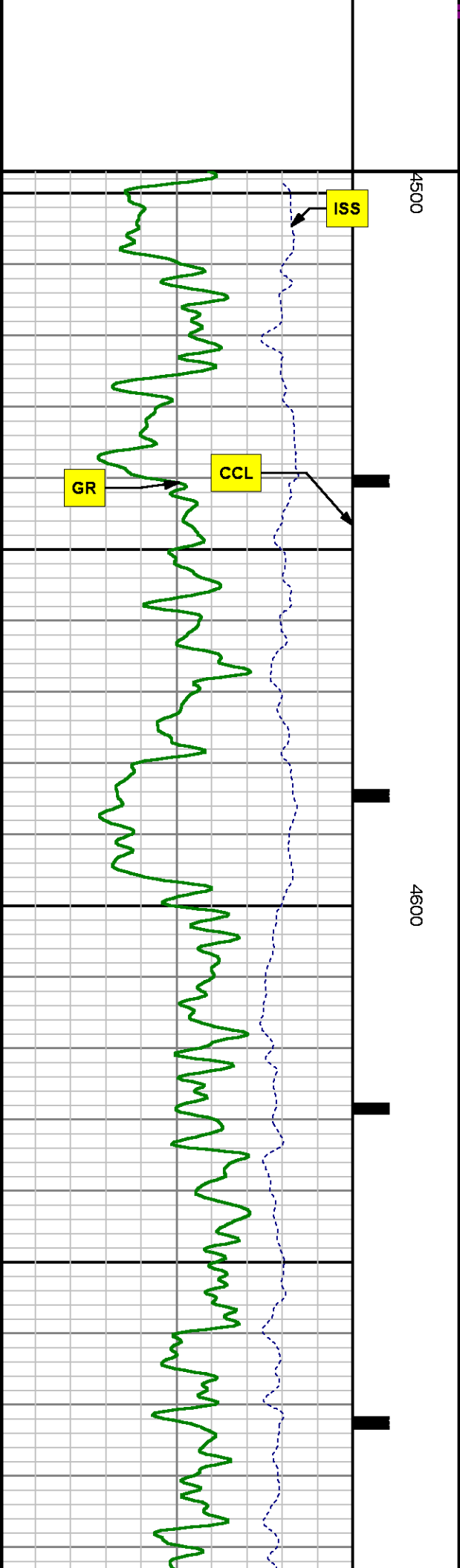
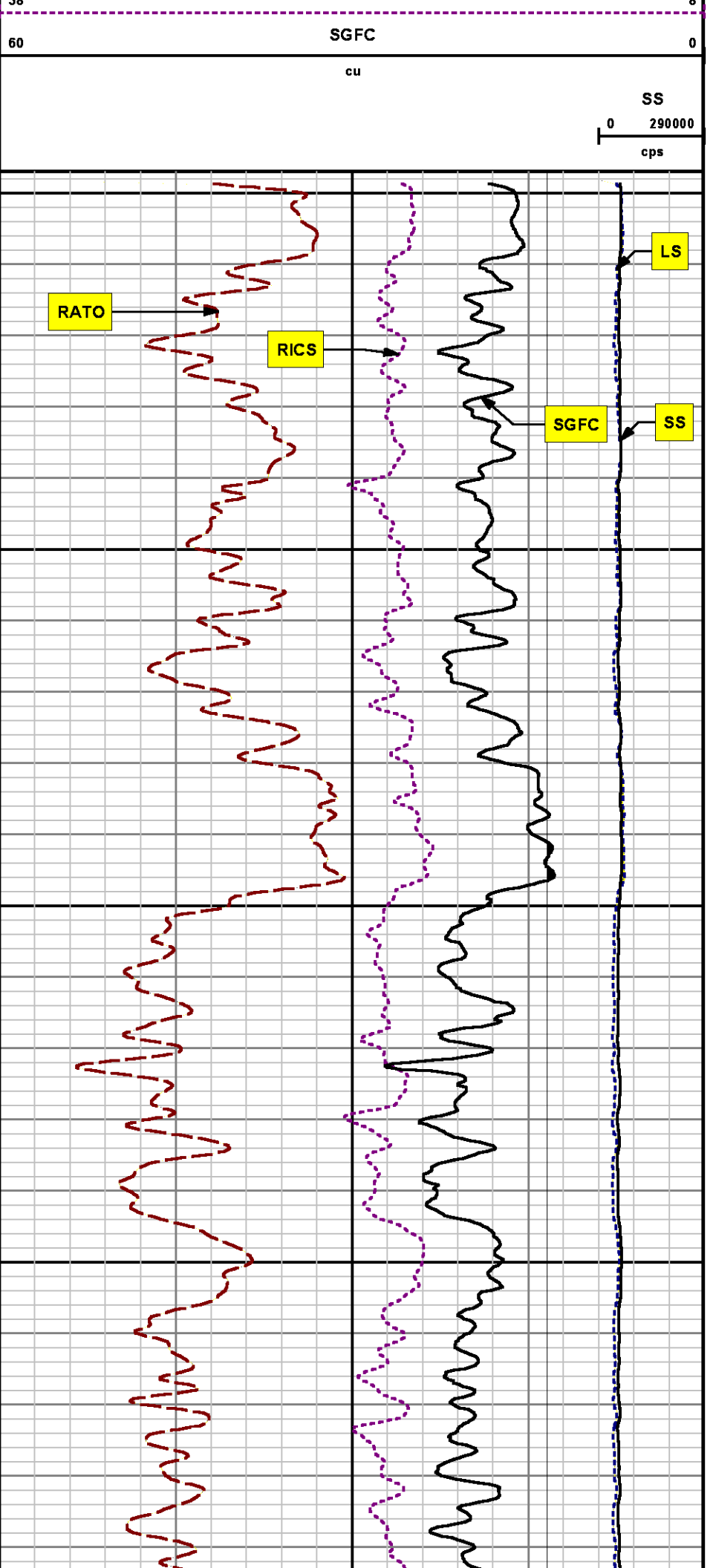
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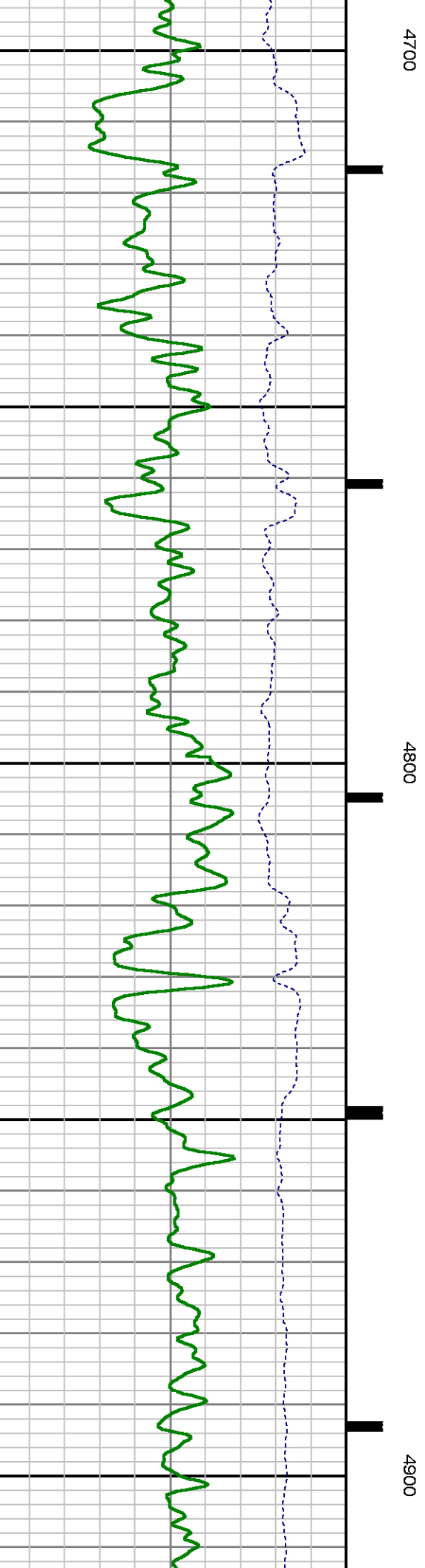
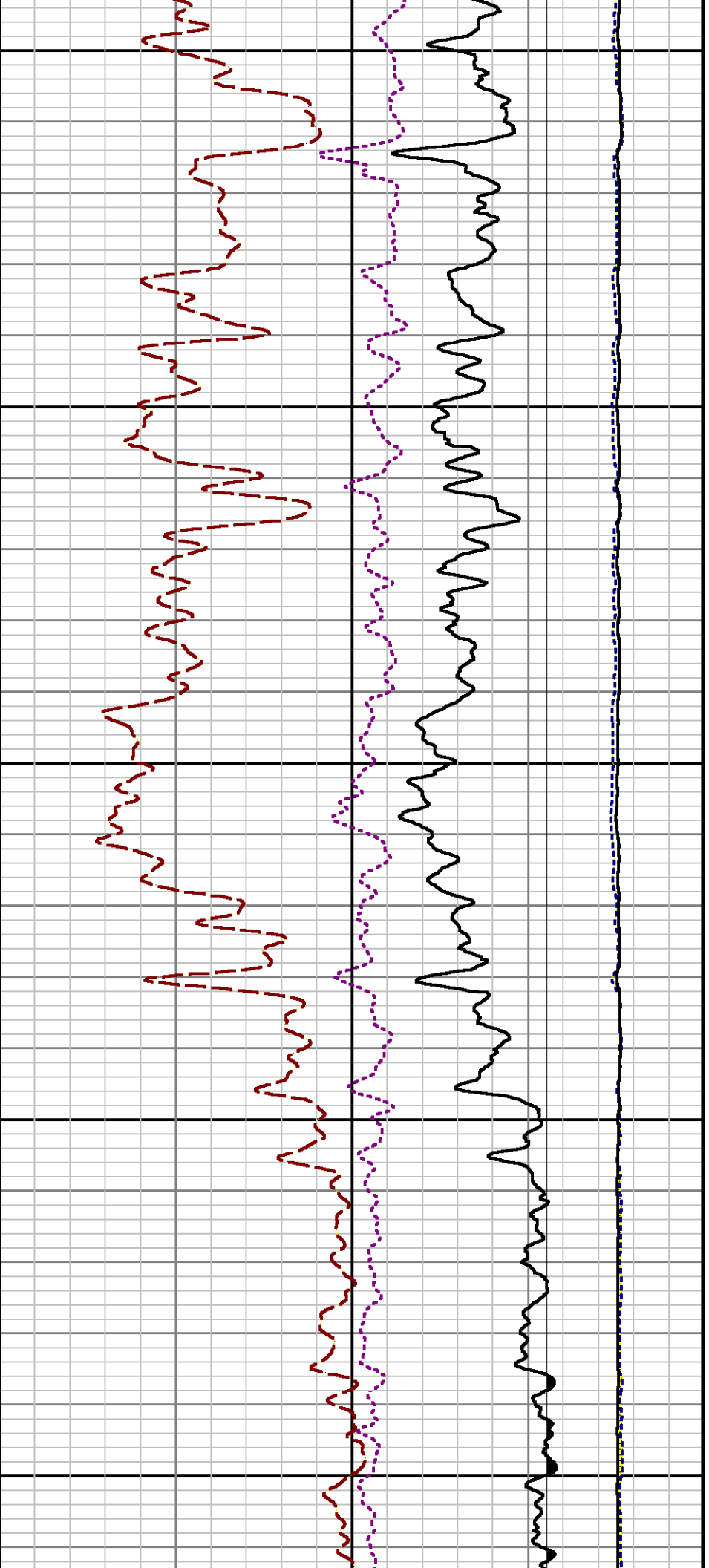
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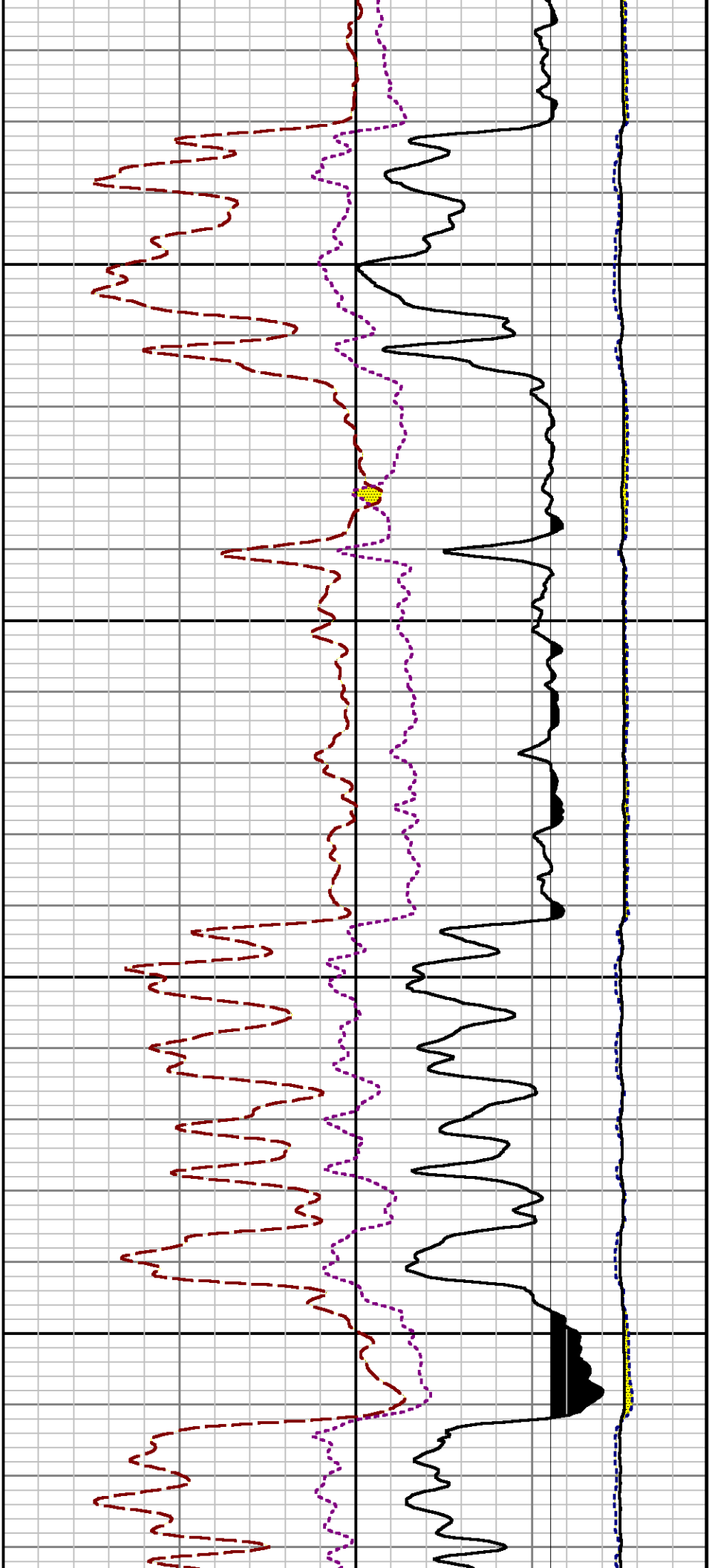
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Created : 1/30/2014 12:27:45 PM



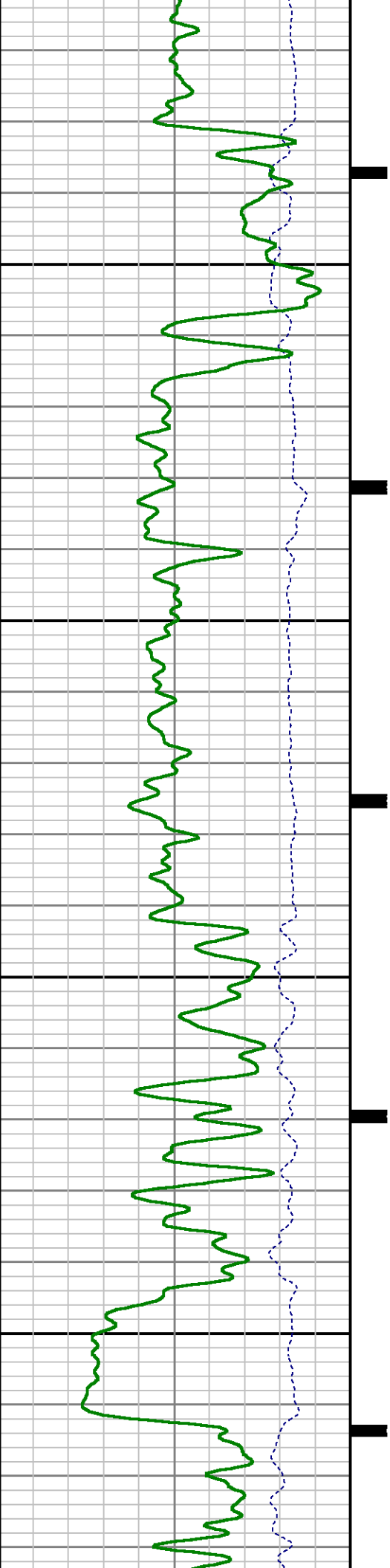


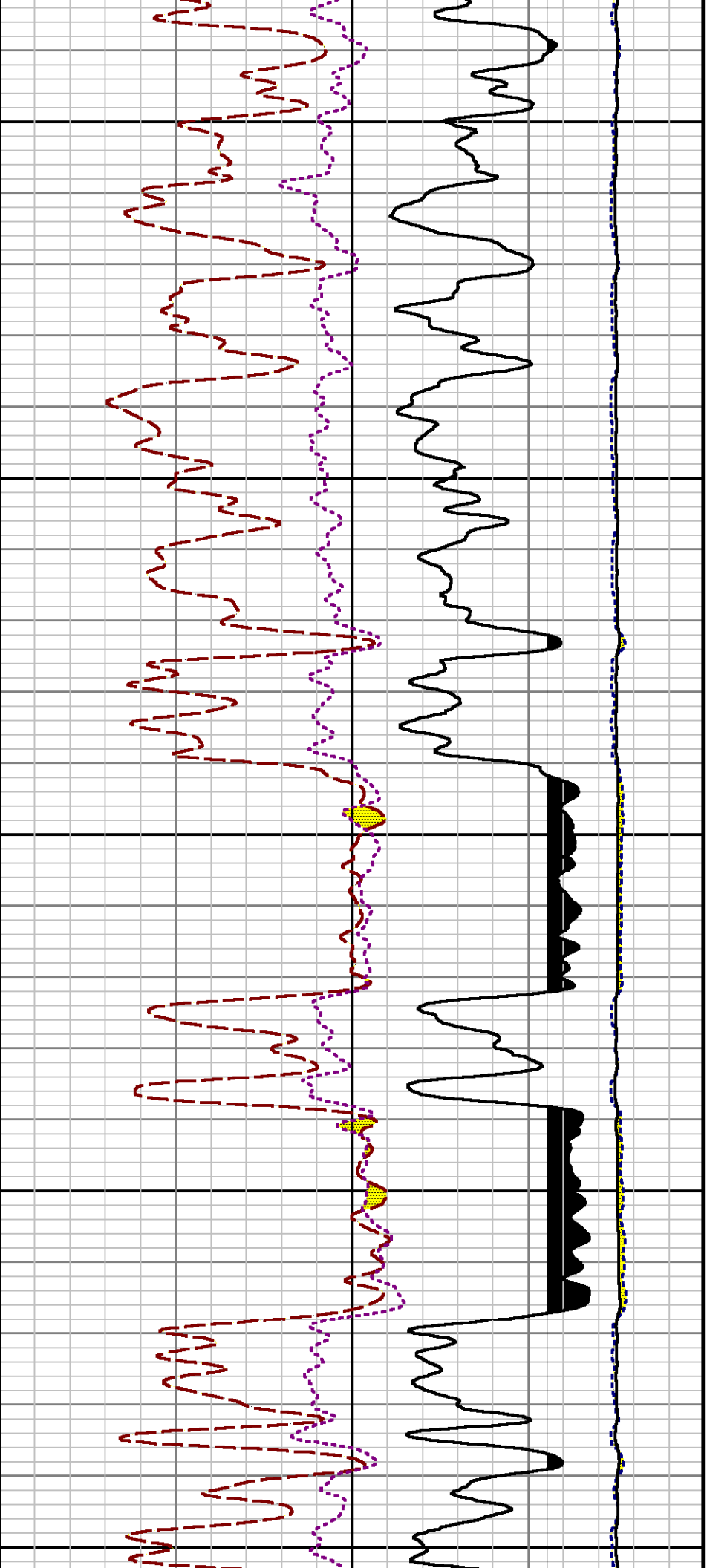




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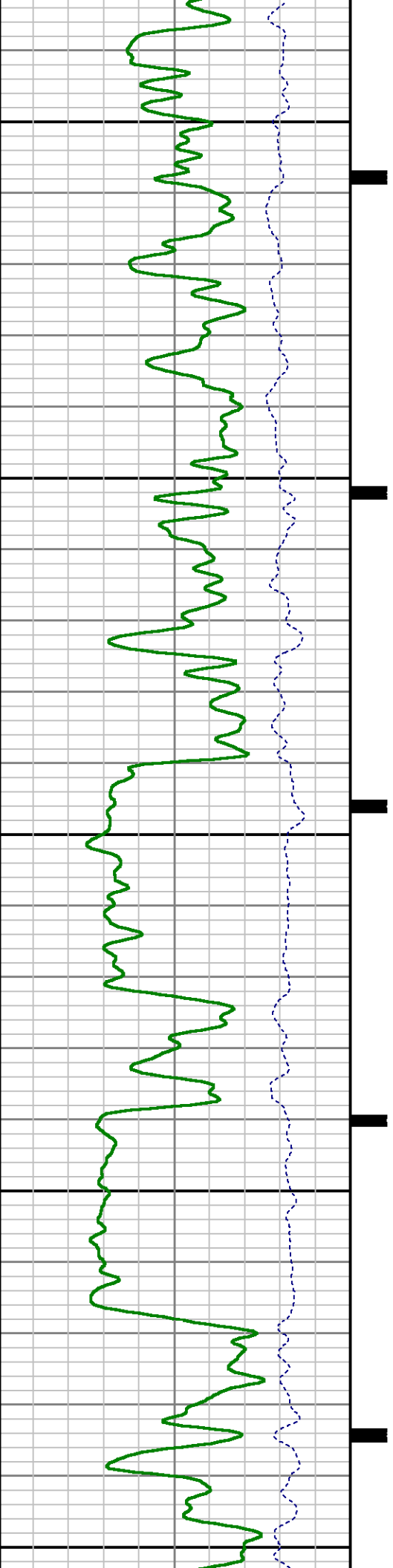
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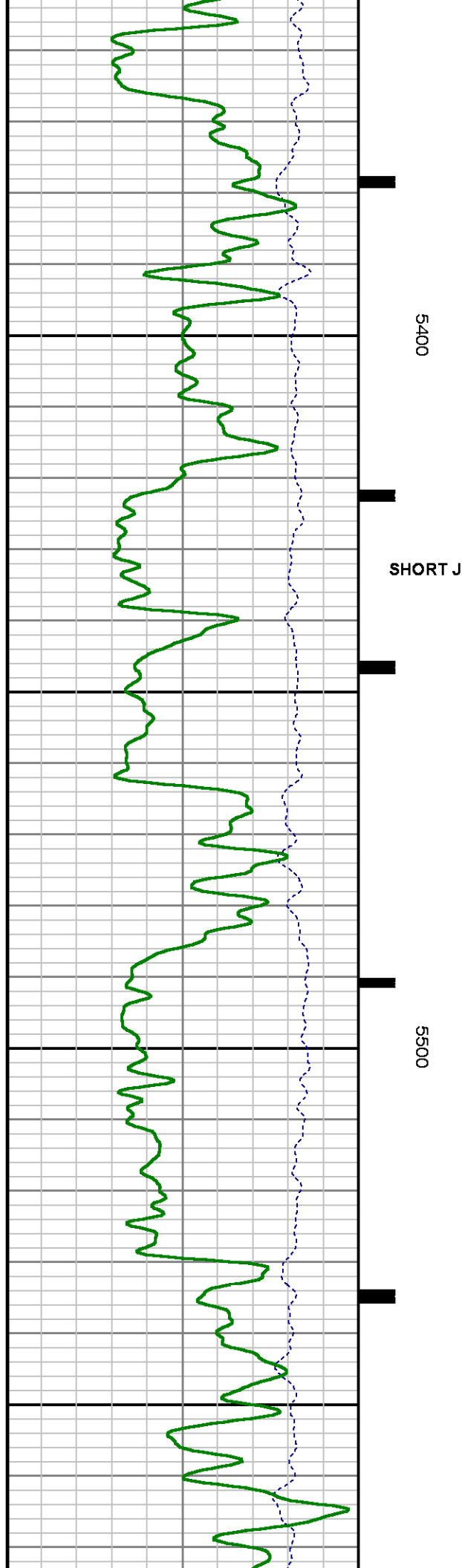
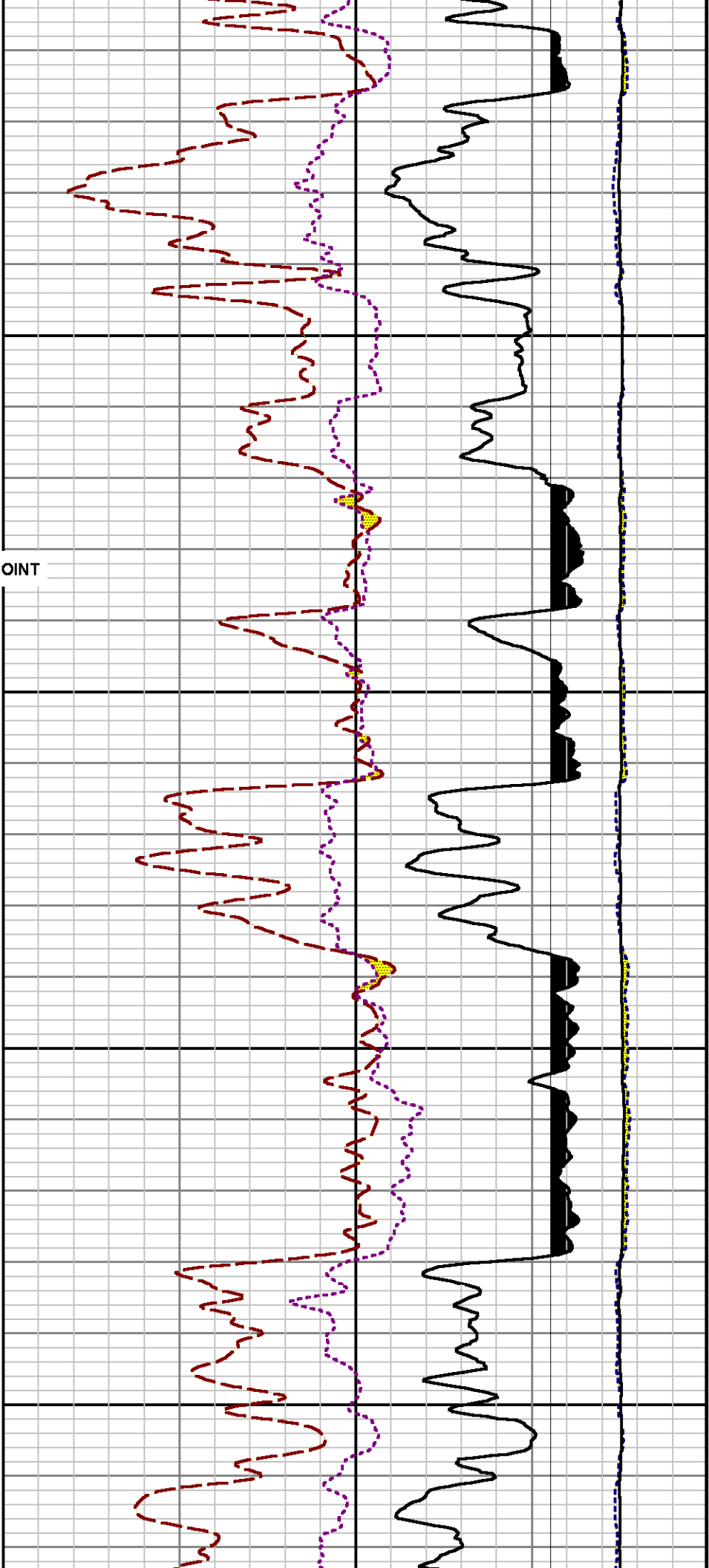




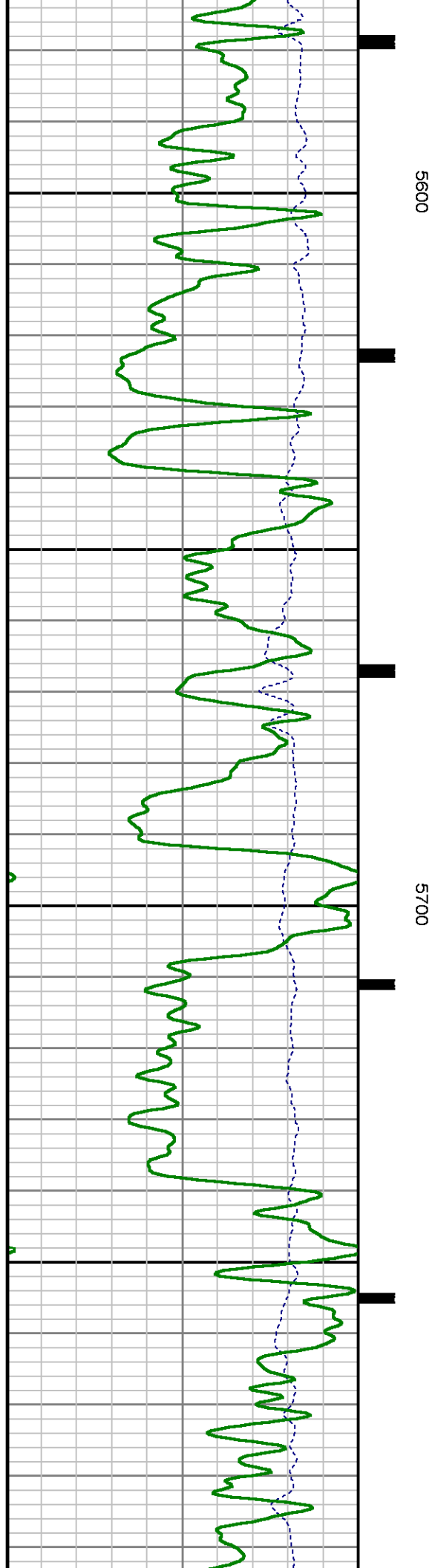
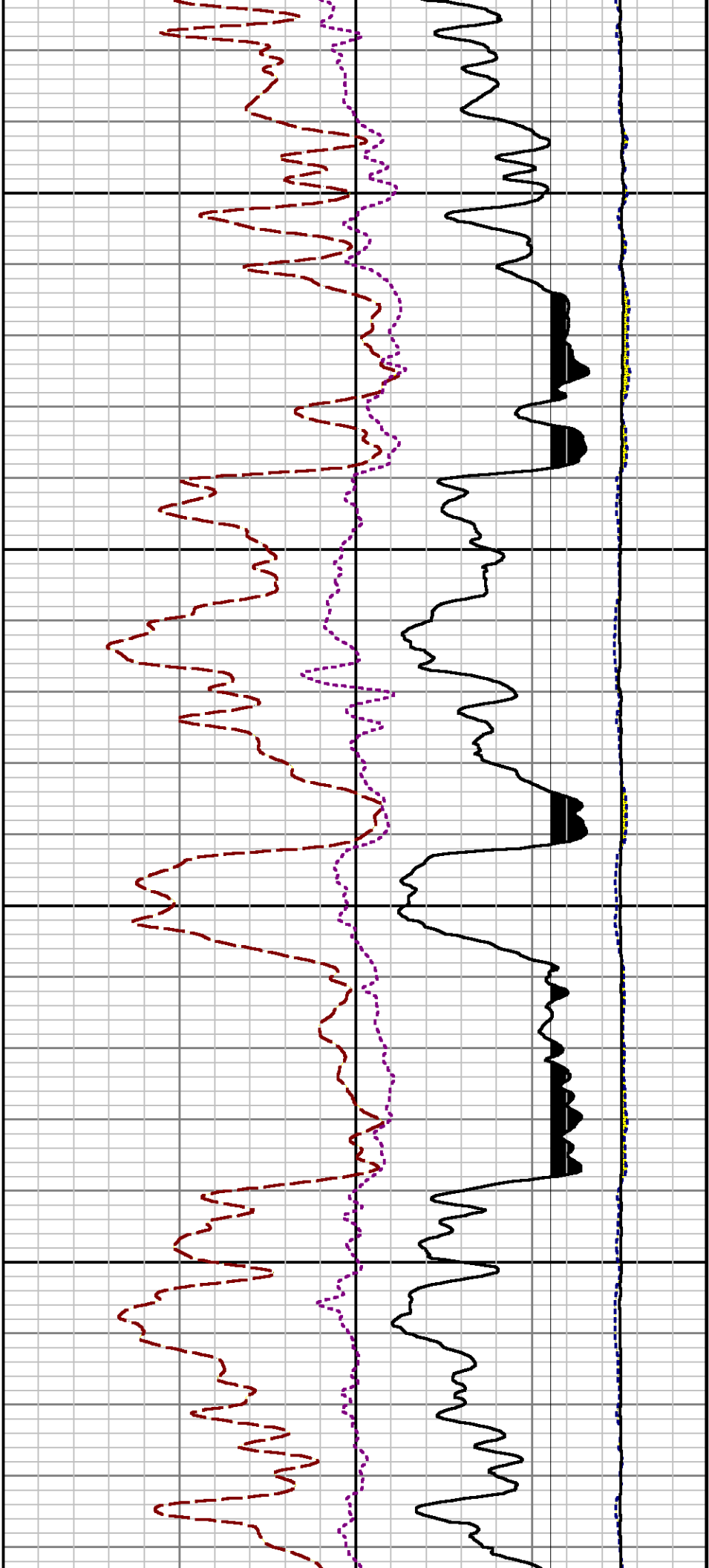
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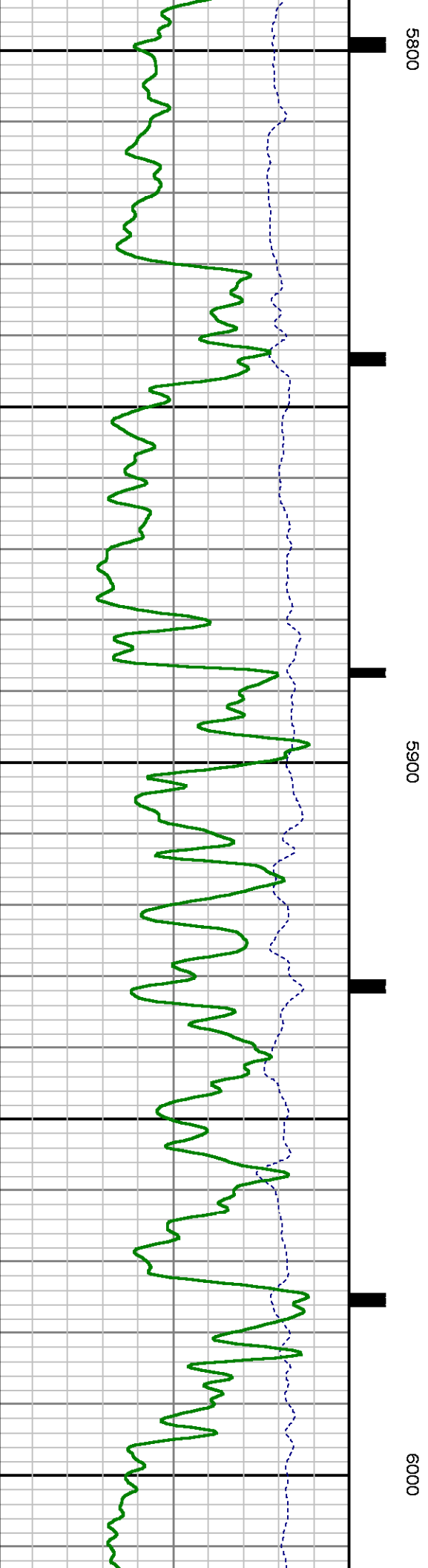
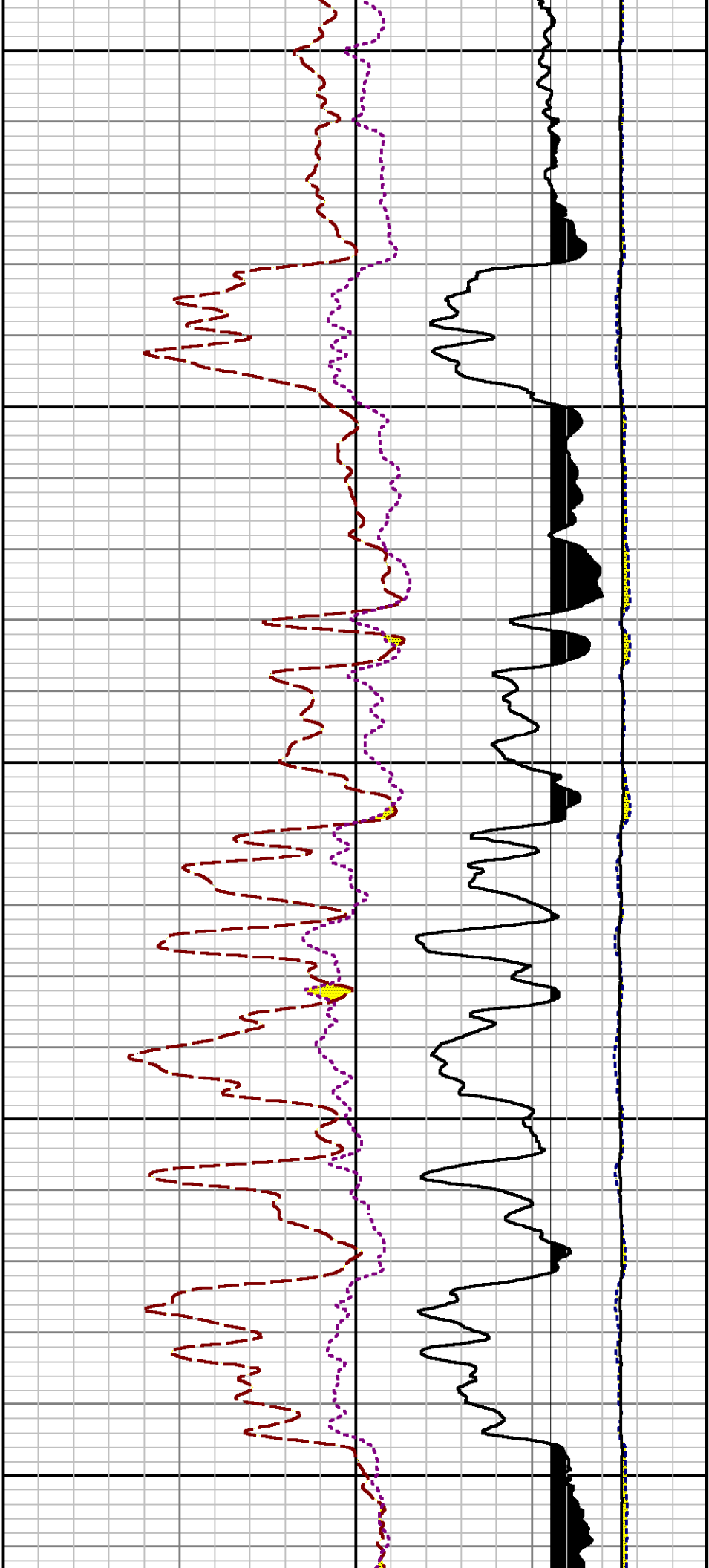
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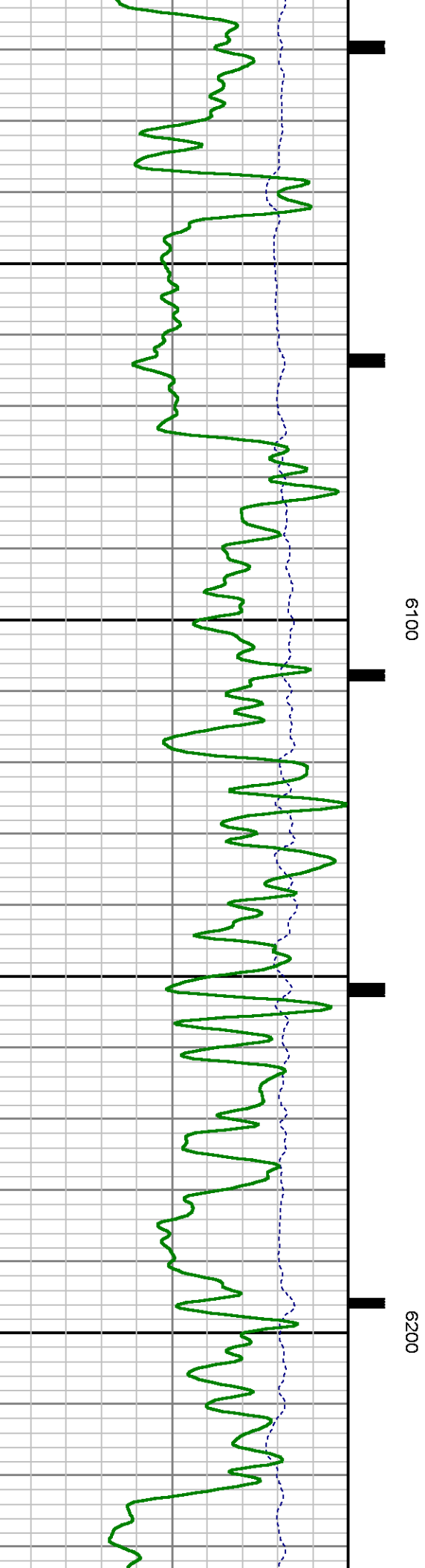
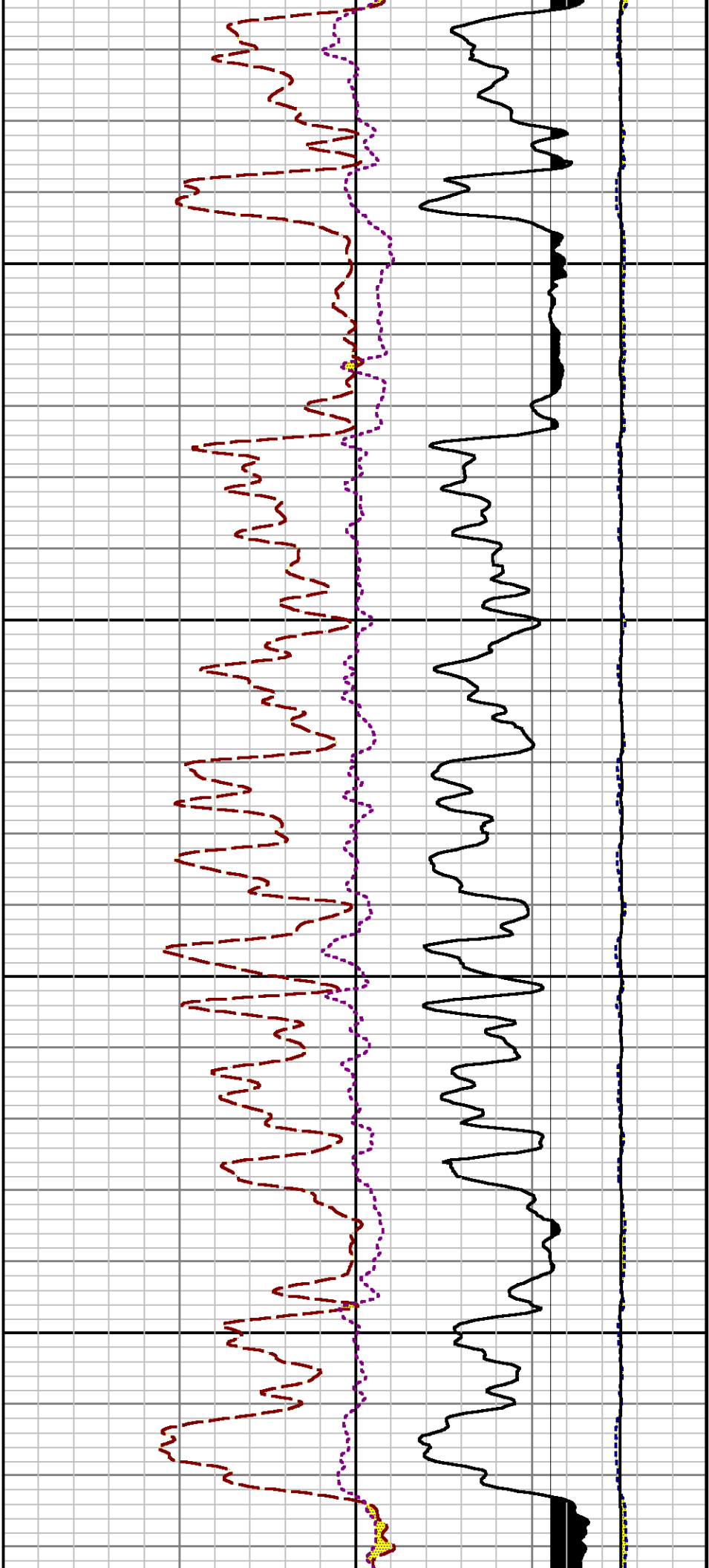


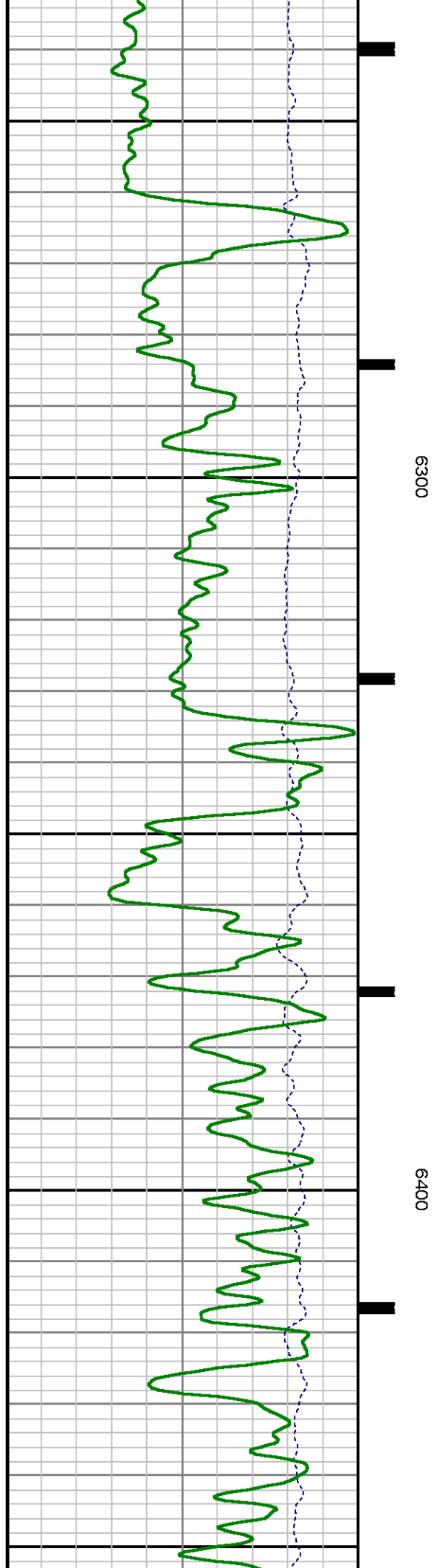
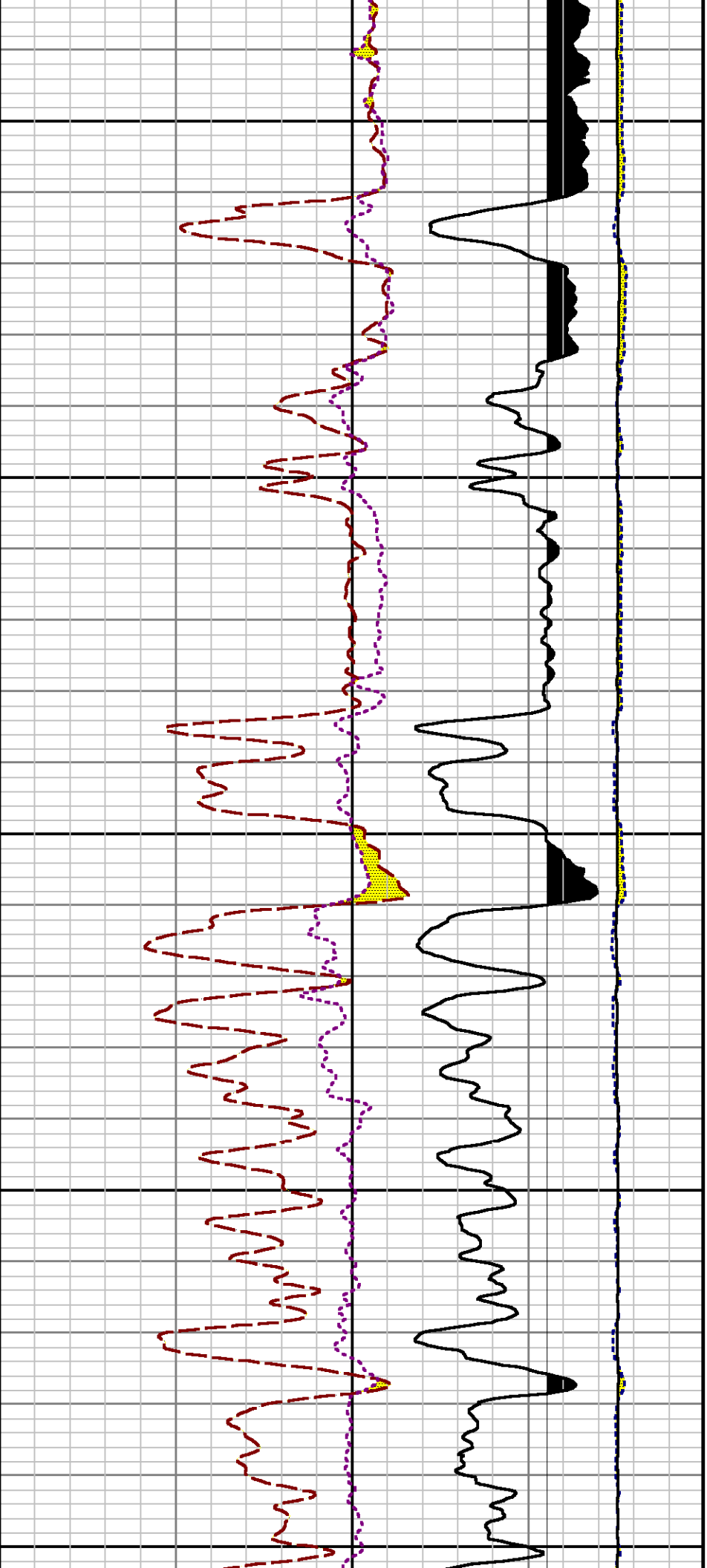


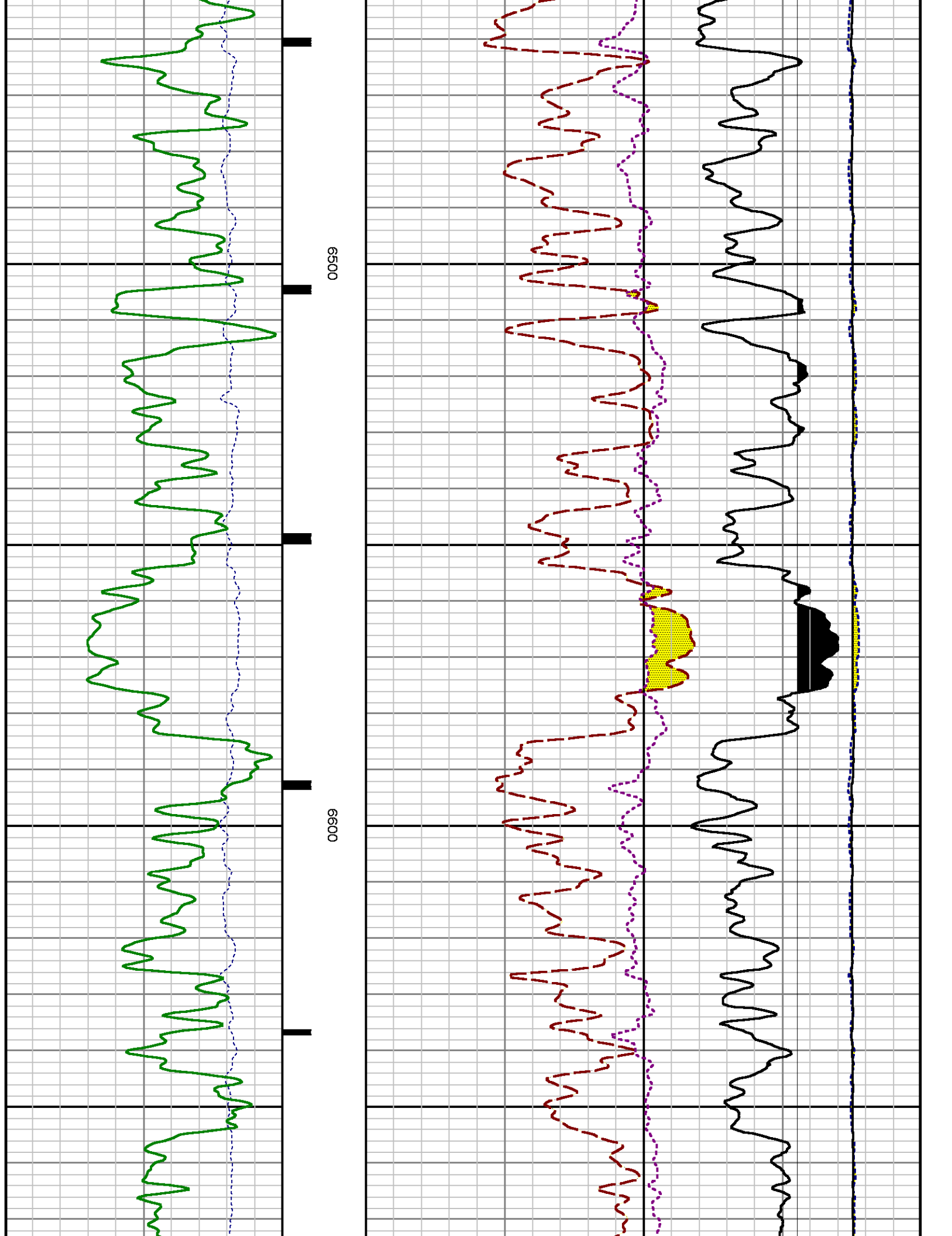


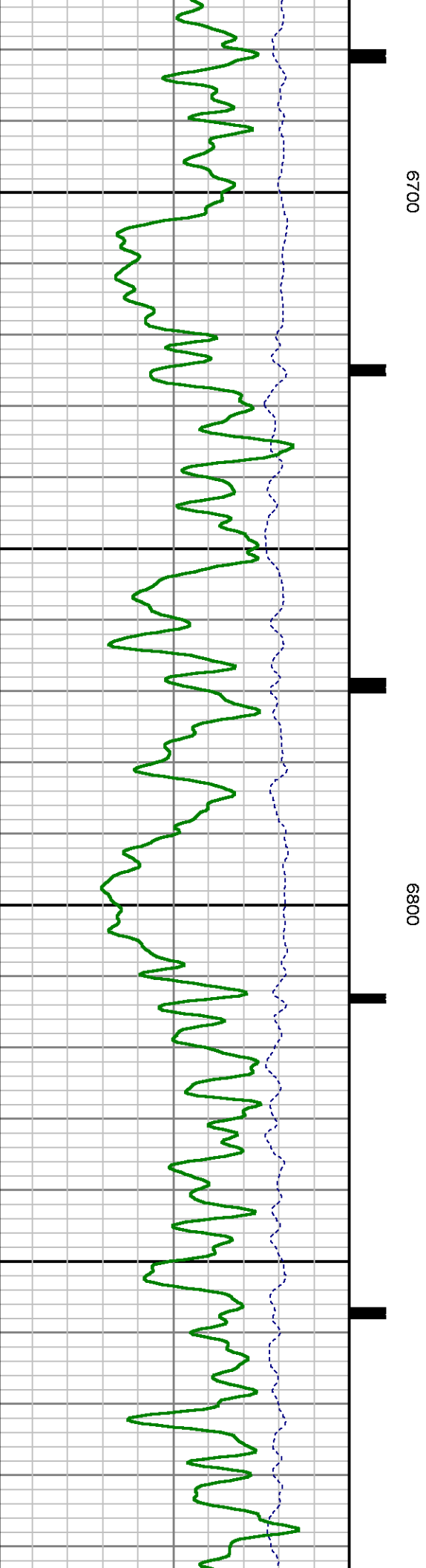
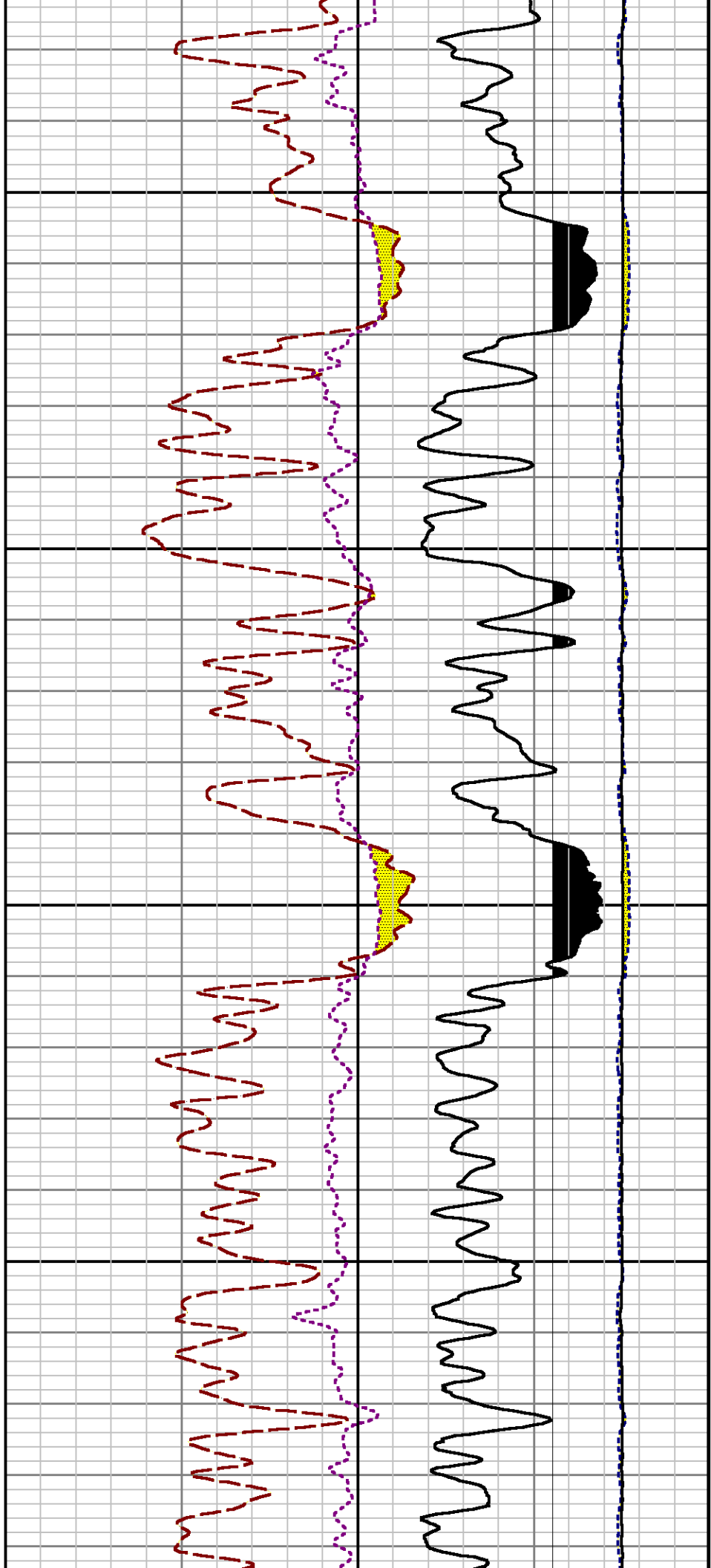


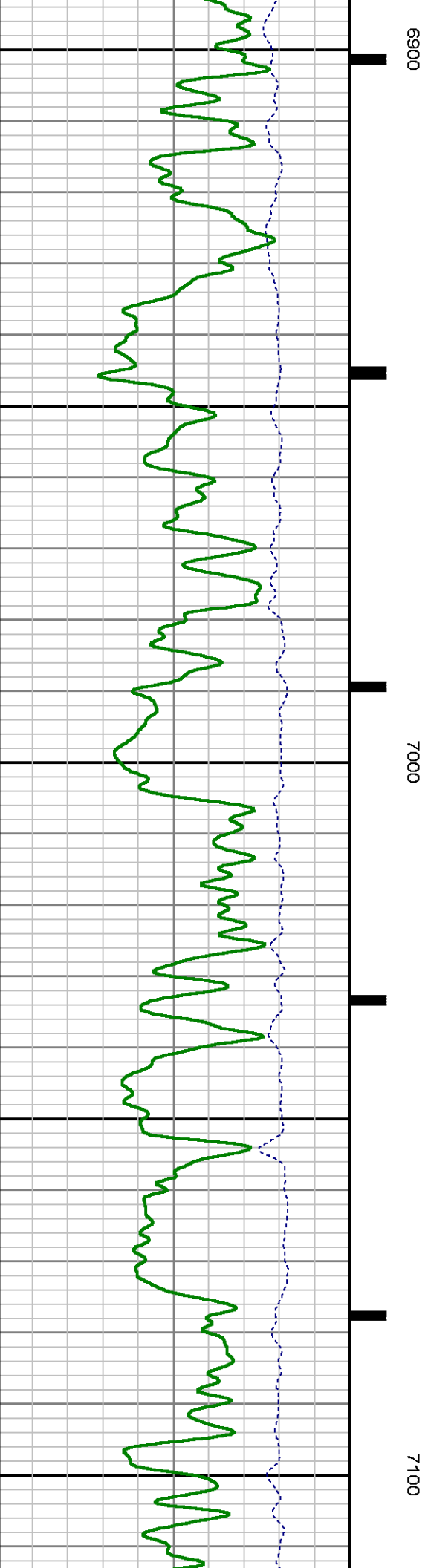
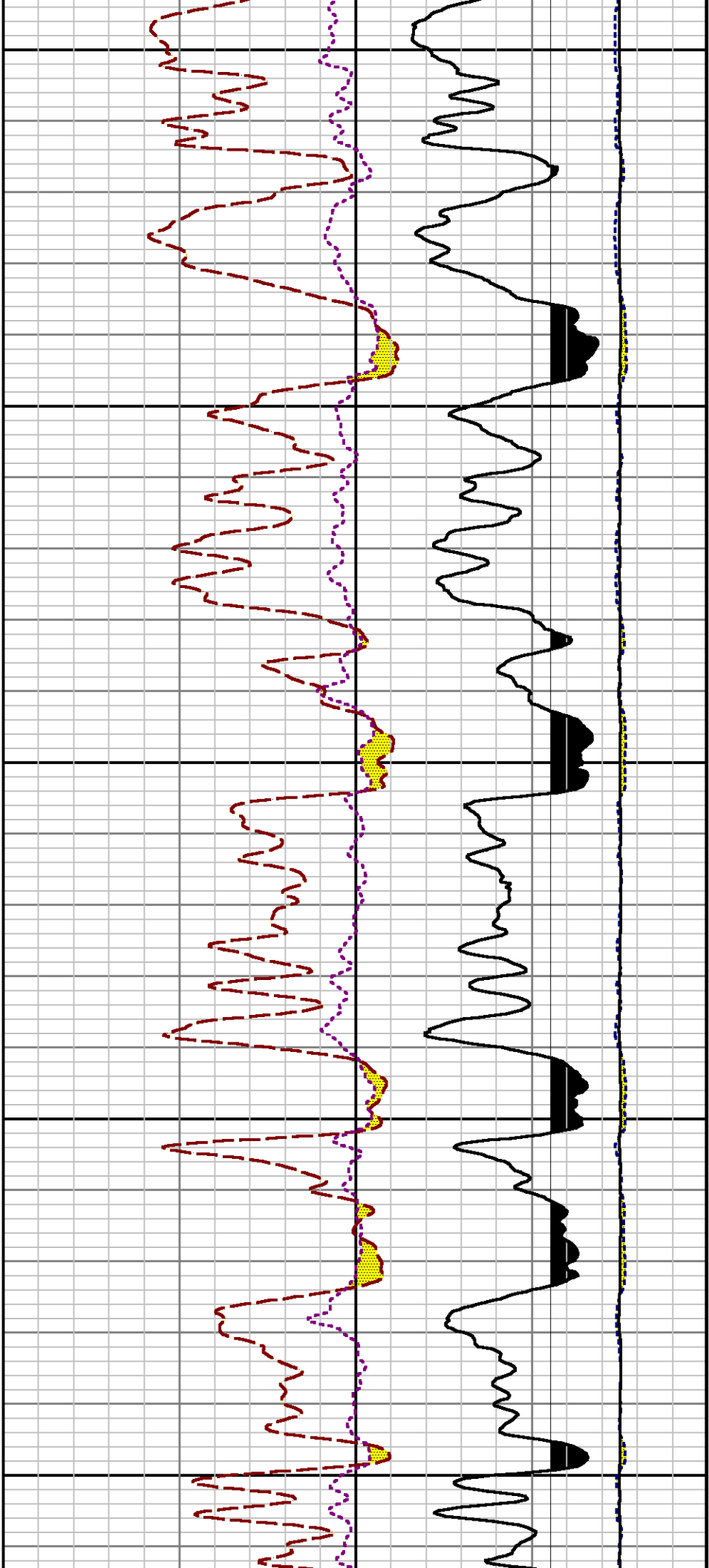


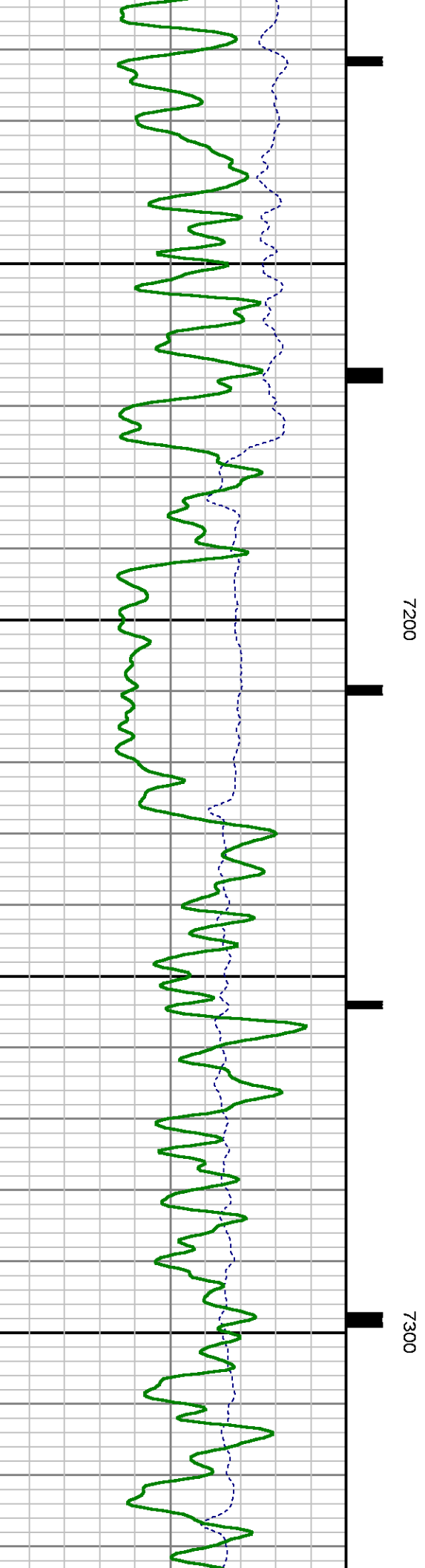
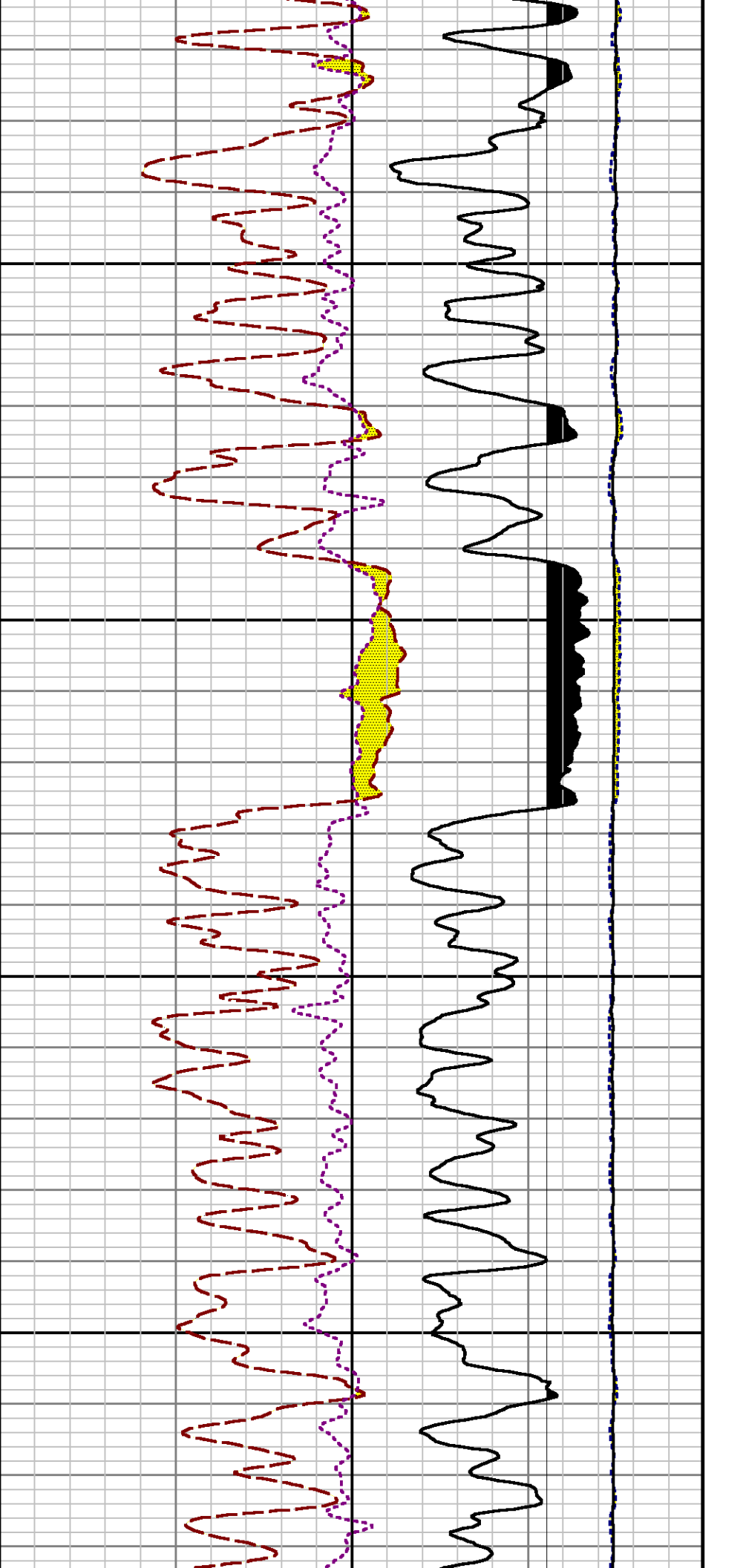




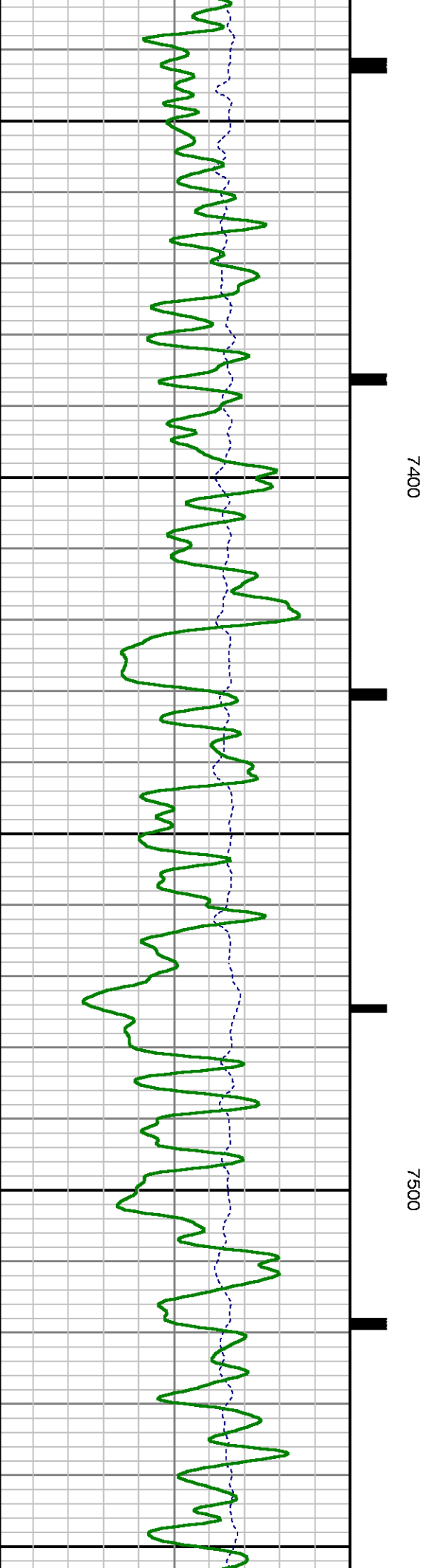
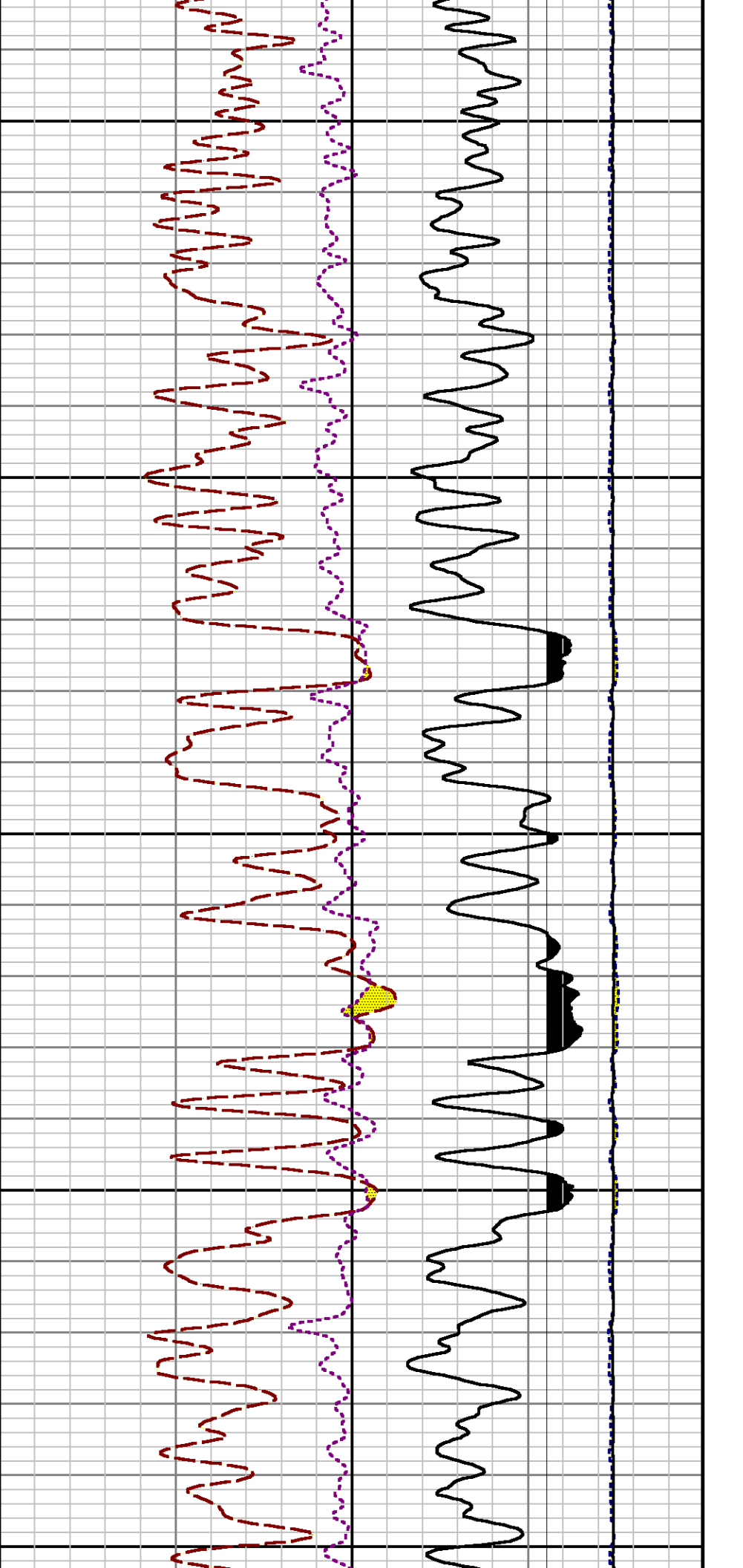


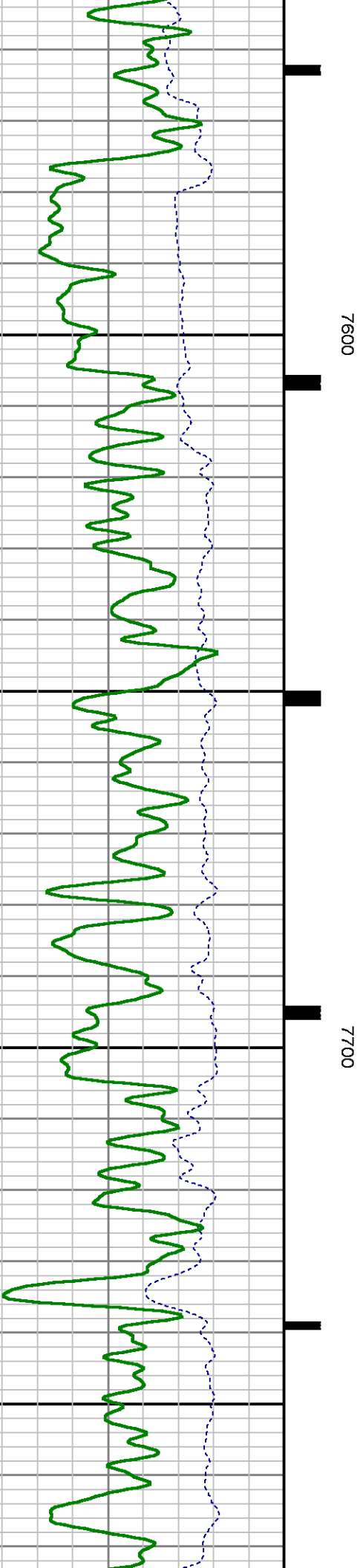
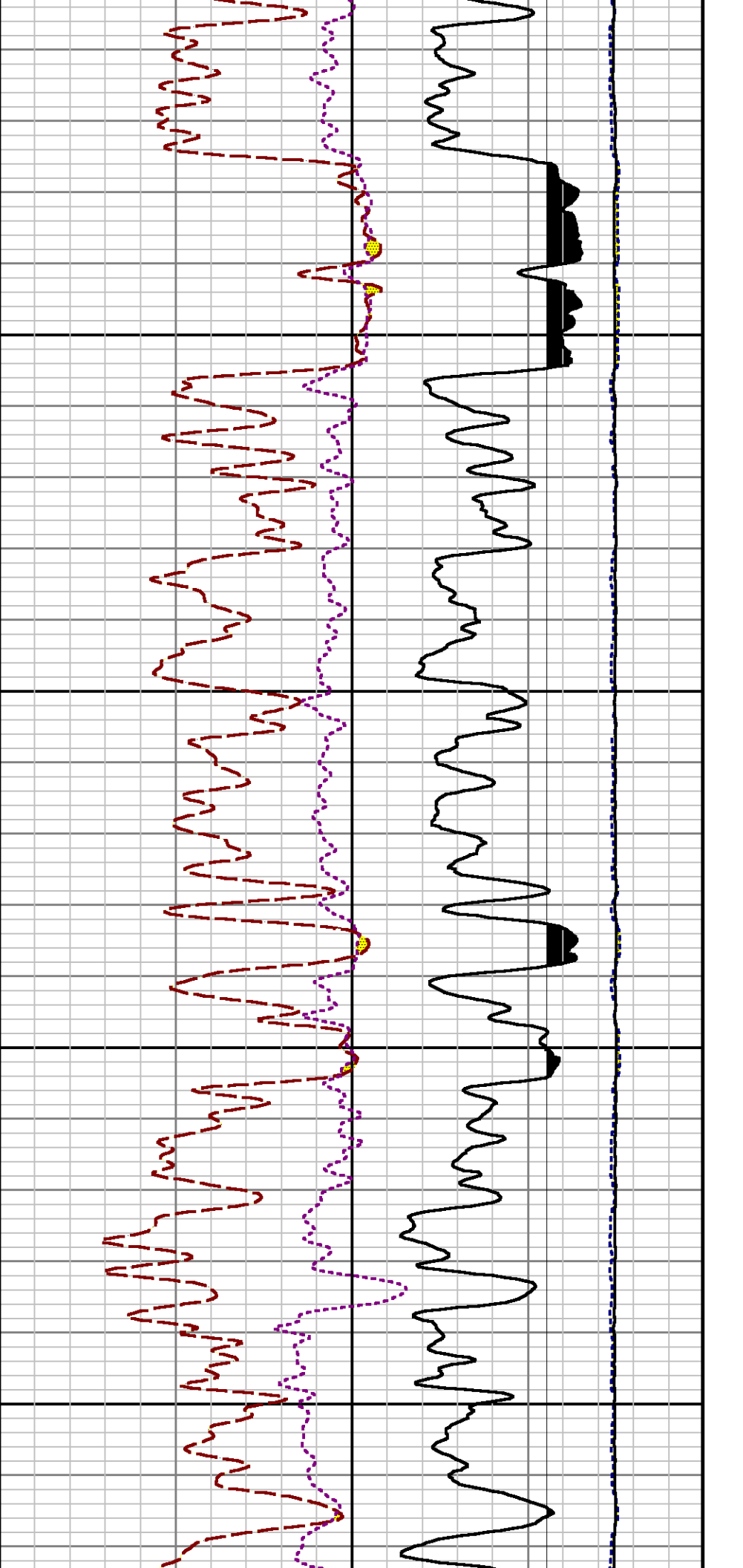


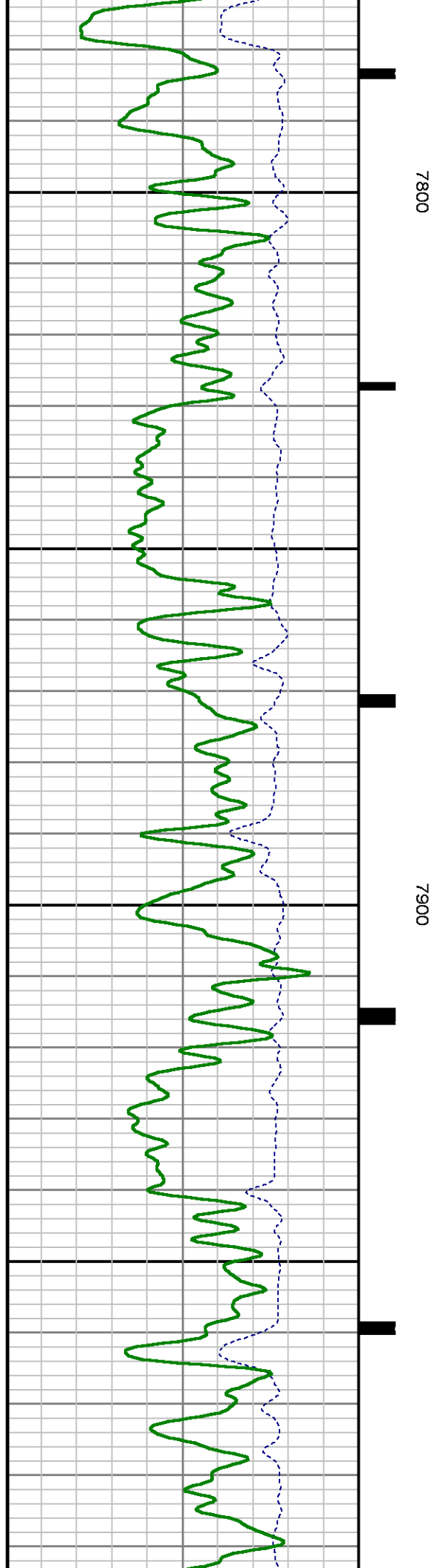
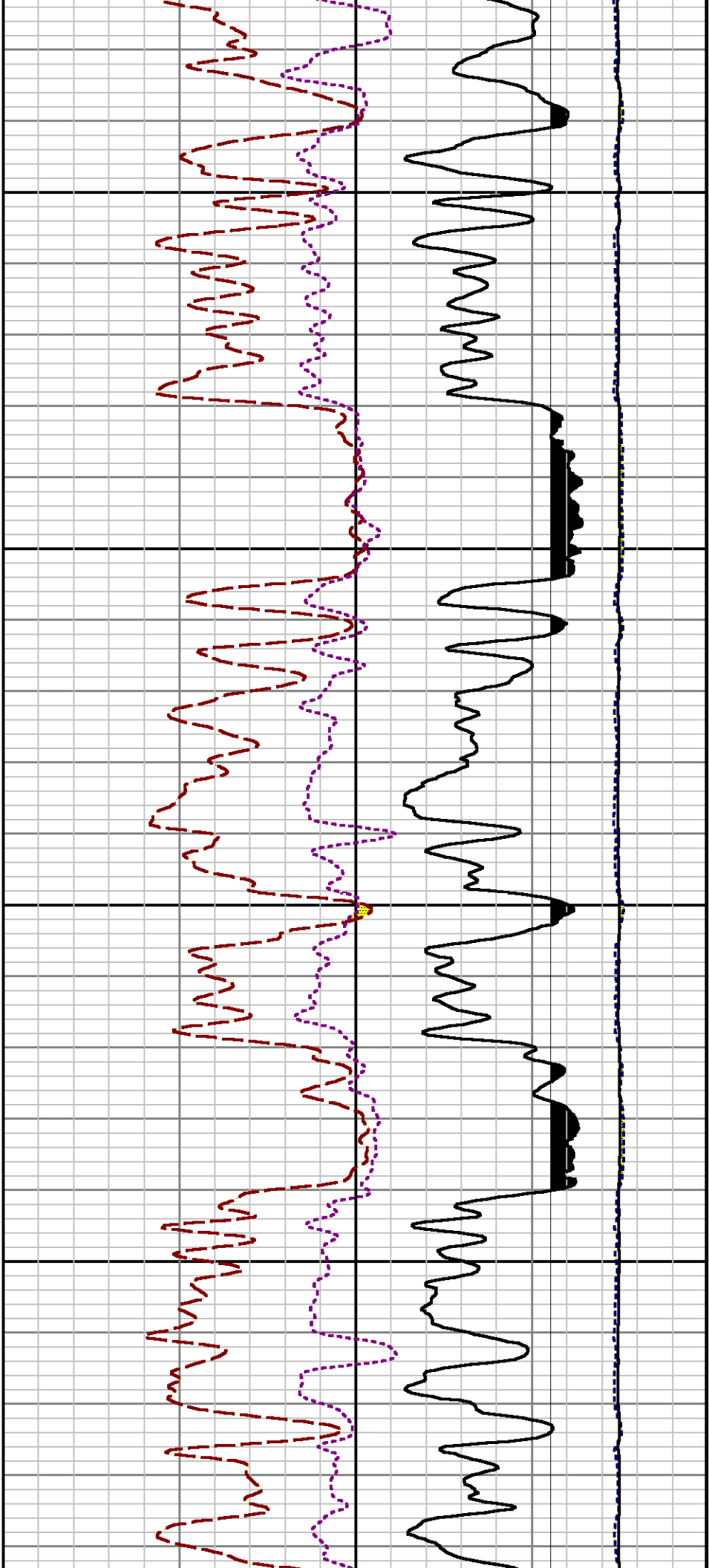


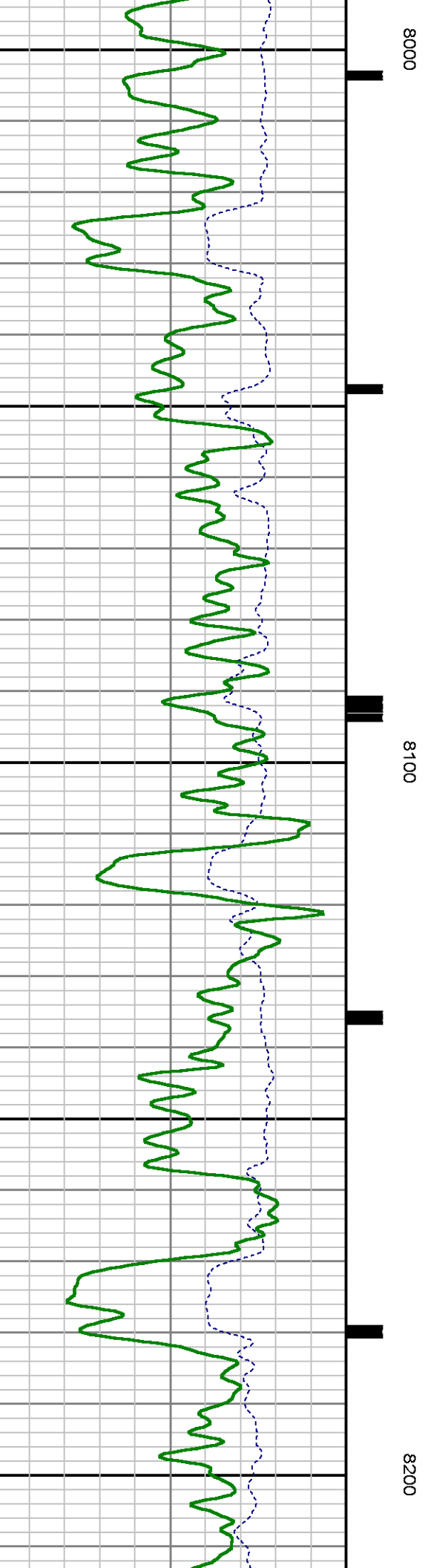
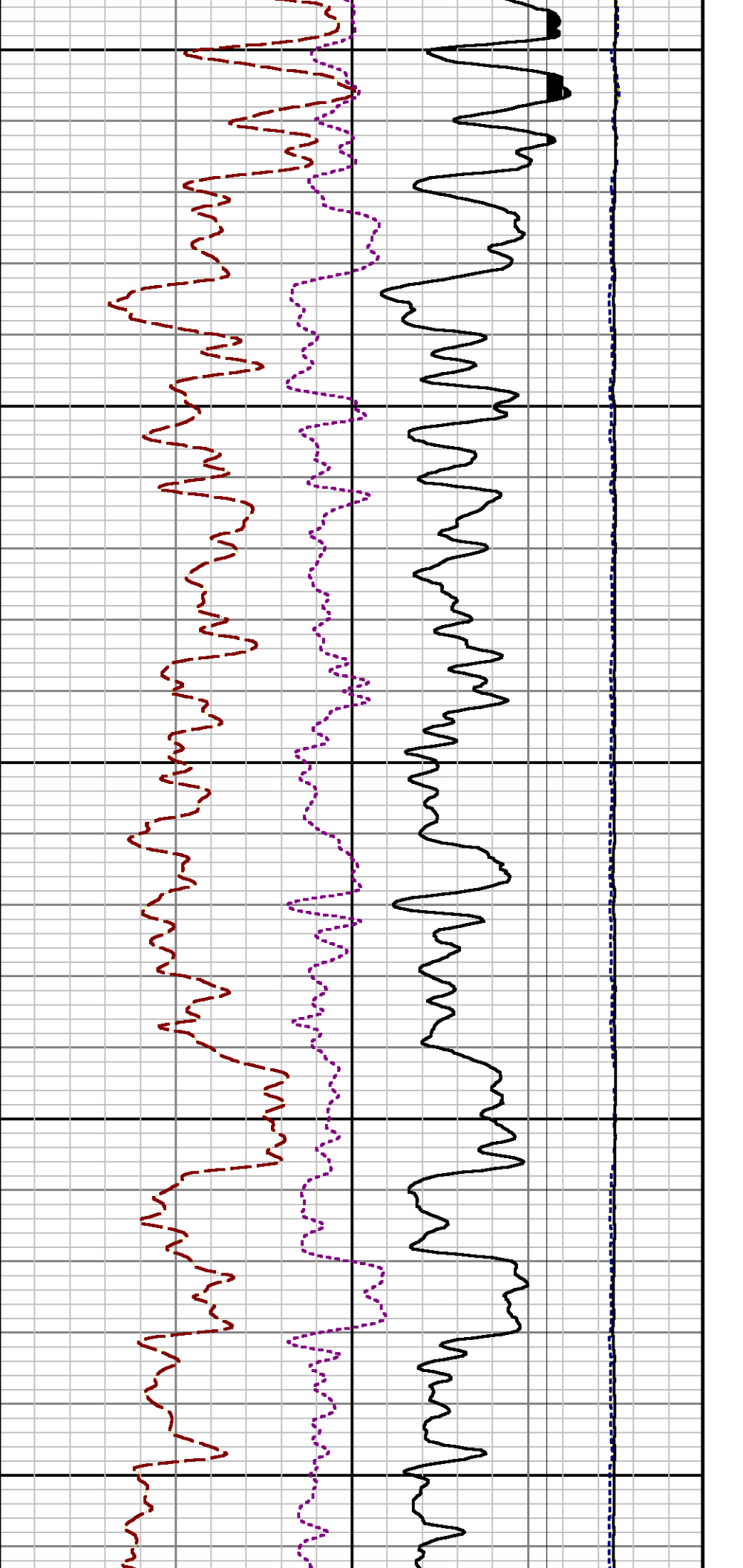


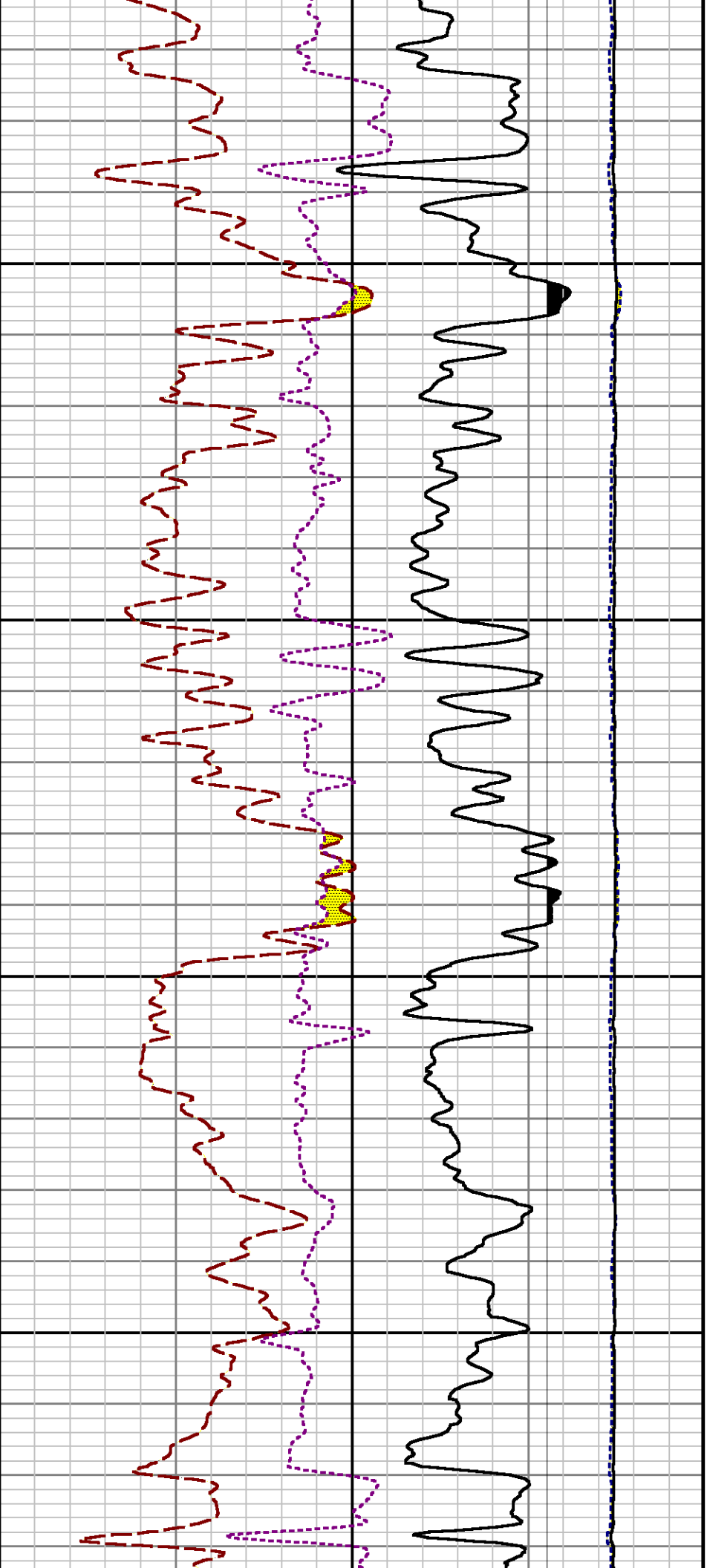






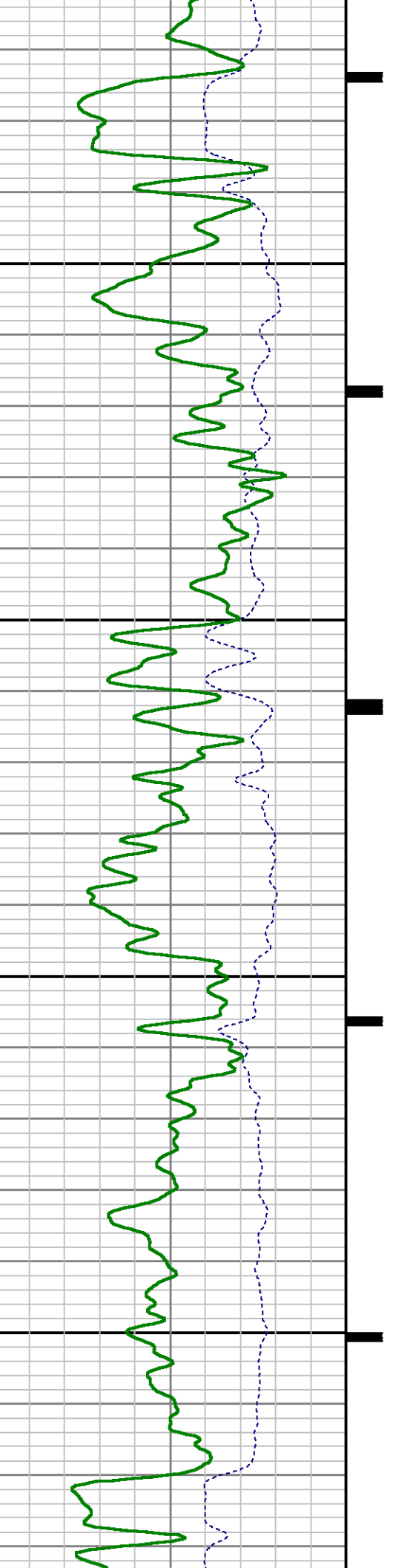


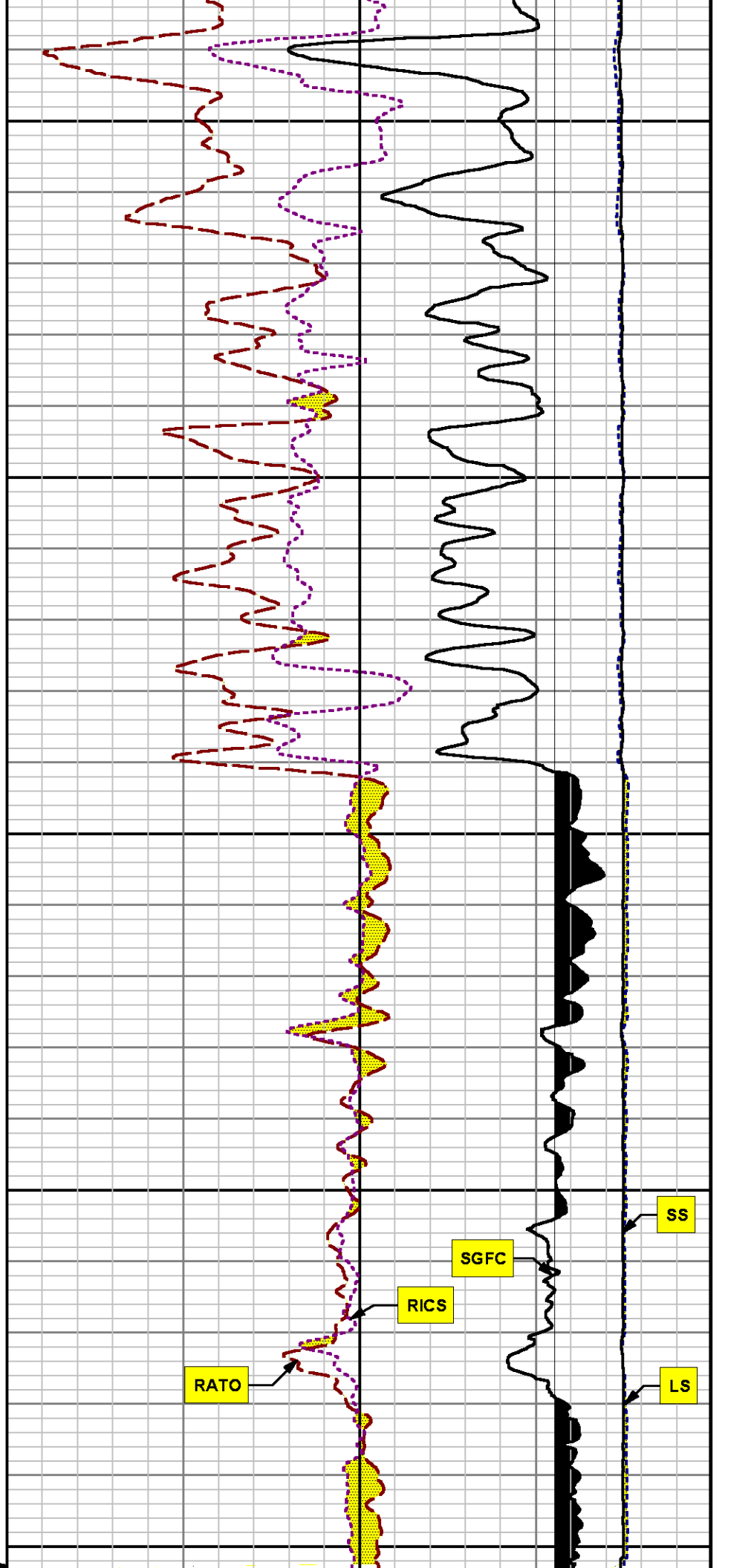
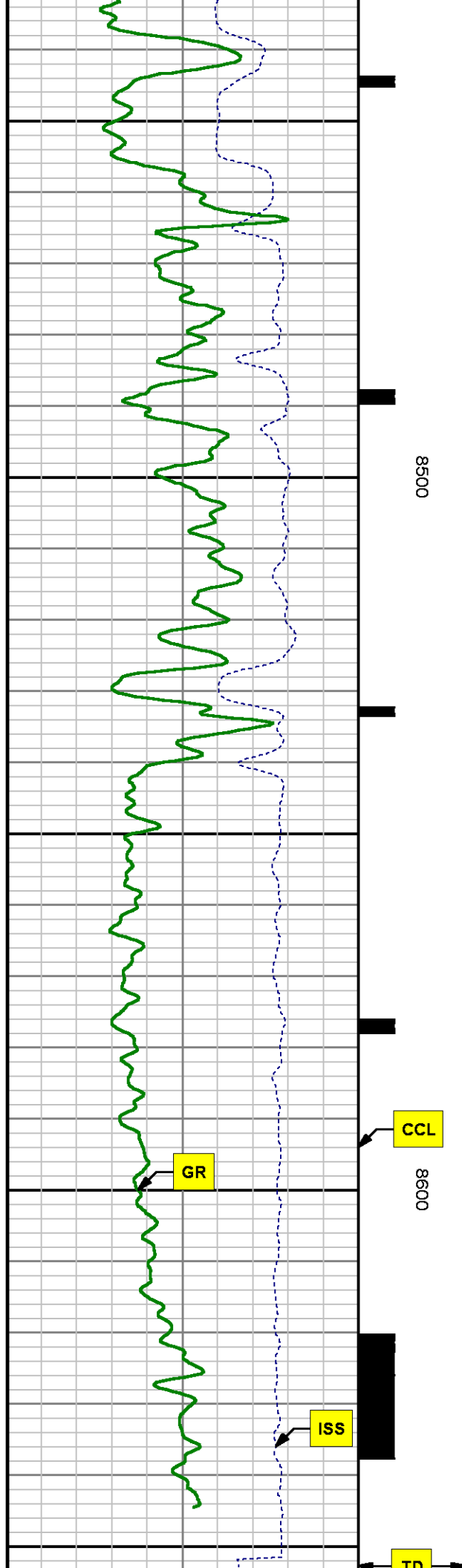


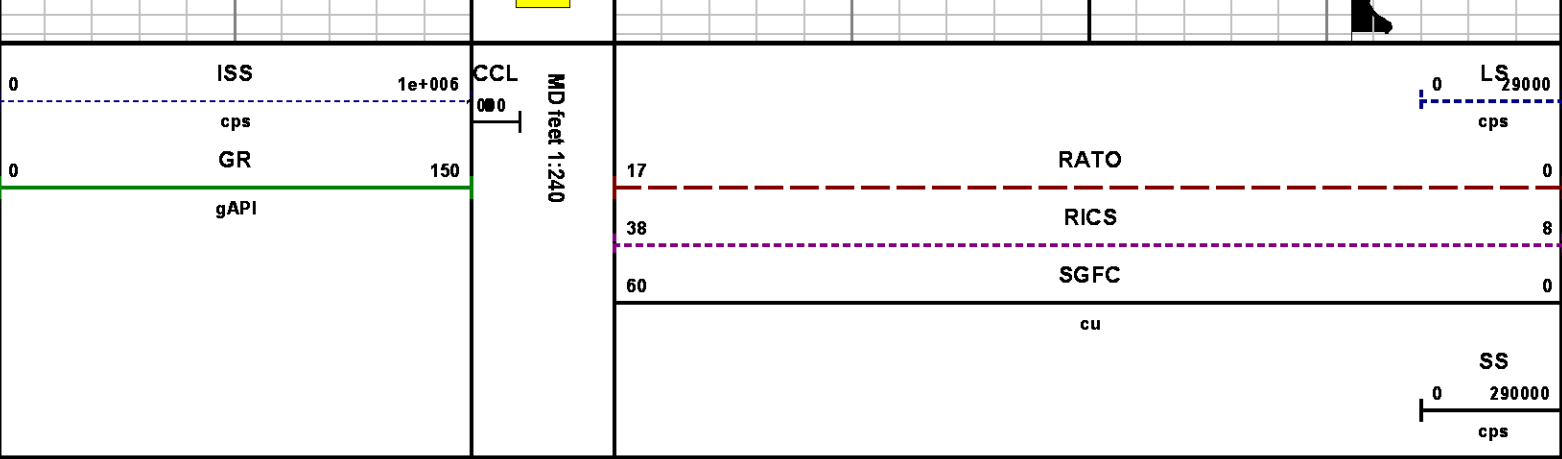


8300

8400







REPEAT SECTION  
PNC 3-D MODE

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		7847.980	8170.261
PNC Porosity	Borehole Size	8.750	inch	7847.980	8170.261
PNC Porosity	Casing Size	4.500	inch	7847.980	8170.261
PNC Porosity	Gas Filled	Non Gas Filled		7847.980	8170.261
PNC Porosity	Matrix	Sandstone		7847.980	8170.261
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	7847.980	8170.261

DEPTH OFFSETS  
(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES
8248EA	-26.519	FLTM
8248EA	-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

8281XA -12.291

8281XA -12.041

8255XA -0.792

8255XA -0.775

8255XA 0.000

SYSTEM 0.000

RICXC RIN13C RIN23 RIN23C SD3D SG3D  
SGB3 SGF3 WDT3 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 RTWO23 SDA2  
SDL2 SGA2 SGB2 SGF2 SGK2 SGL2  
STA2 ASPEC2 ILSC ILSN WDT2 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  
MCS1Q0 QA1 QCAL1 QM1 RATO RATO13  
RBOR RGN1 RICS RIN RONE RPOR  
RTWO RIN13 RONE13 RTWO13 SALB SC1  
SDA1 SDL1 SGA1 SGB1 SGB C 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  
PTFS PTMS  
SPF1 SPFQ TSCP TSDP  
DTEM TEMP TNF  
TEN TTEN

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

Well : SAVAGE RWF 424-25

File Name : d:\well\data\wpx\rfw 424-25\rpm424\repeat.xtf

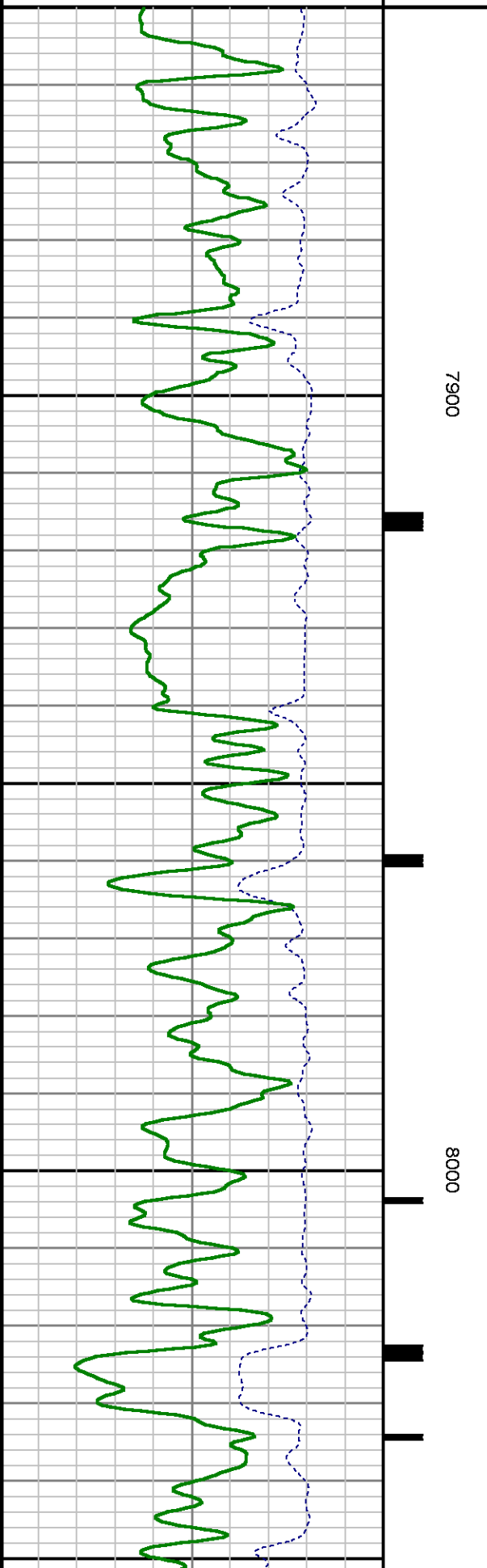
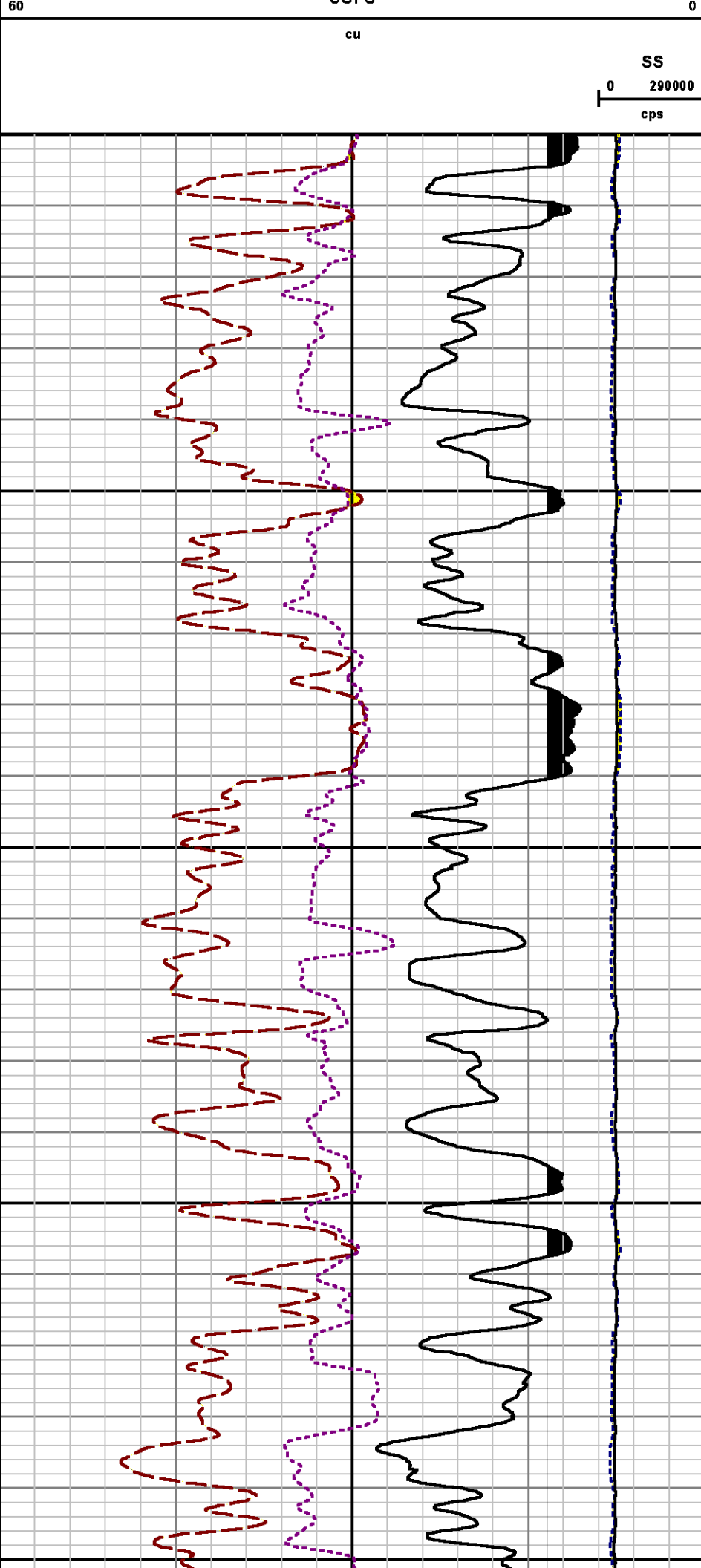
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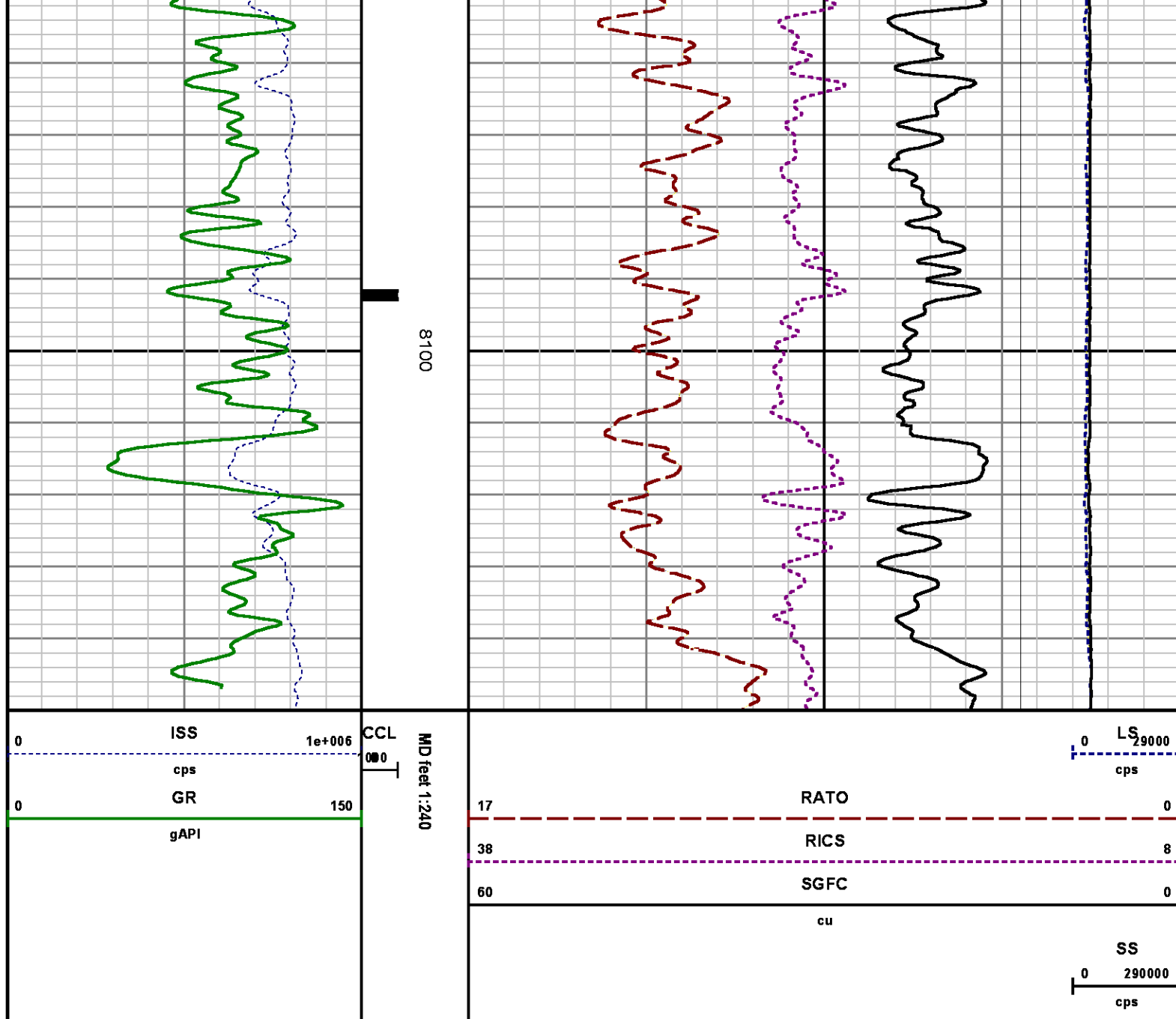
Interval : 7850.00 - 8150.00 feet UP

Created : 1/30/2014 12:02:37 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	Calibrator On	Multiplicative	Background	Calibrator On	Differential
	[cps]	[cps]		[api]	[api]	[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	Calibrator On	Multiplicative	Background	Calibrator On	Differential
	[cps]	[cps]		[api]	[api]	[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
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			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
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 ISS/ILS		RIN13 ISS/IXS		RICS ISS/CSS		RATO SS/LS		RTWO SS2/LS		RONE 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

