



# RESERVOIR PERFORMANCE MONITOR

Baker Atlas

File No: CH092008 Company WPX ENERGY

Well FEDERAL SG 412-27

API No: GRAND VALLEY

County GARFIELD State CO

05045219480000

## Location

27 7S 96W  
SG 43-28 PAD  
H&P 318  
SHL: 2291' FSL & 496' FEL (28 7S 96W)  
BHL: 1476' FNL & 296' FWL (27 7S 96W)

## Other Services

BOND LOG

SEC 27 TWP 7S RGE 96W

GL Elevation 5119

KB 24 Above P. D.

KB

## Elevations

KB 5143

DF

GL 5119

Permanent Datum  
Log Measured From  
Drill Measured From

Date 26/OCT/14

Run ONE

Service Order US092008

Depth Driller 5595

Depth Logger 5554

Bottom Logged Interval 5544

Top Logged Interval 2409

Time Started 12:00

Time Finished 17:00

Operator Rig Time 5 HOURS

Type of Fluid in Hole WATER

Fluid Density NA

Salinity NA

Fluid Level 56

Logged Cement Top NA

Wellhead Pressure 0

Maximum Hole Deviation NA

Nominal Logging Speed 10

Maximum Recorded Temperature 192

Reference Log Date 26/OCT/14

Equipment No. 4271 Location GRAND JUNCTION

Recorded By NEMELL

Witnessed By JEFF BRADY

- 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	0	1316
8.75	1316	5607

## Casing Record

Size	Weight	Grade	From	To
9.625			0	1316
4.5	11.6	1-80	0	5607

## Remarks

All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 26/OCT/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 8 feet.

BHT = 192 °F

SJ = 3223' - 3245'

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	20274382	FREE
1	1	RPM	8281EA	10273848	FREE
1	1	RPM	8283PA	10585555	FREE
1	1	RPM	8281FA	10191667	FREE
1	1	TEMP	8255XA	2120516	FREE

MAIN SECTION  
PNC 3-D MODE

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		2394.993	5558.000
PNC Porosity	Borehole Size	8.750	inch	2394.993	5558.000
PNC Porosity	Casing Size	4.500	inch	2394.993	5558.000
PNC Porosity	Gas Filled	Non Gas Filled		2394.993	5558.000
PNC Porosity	Matrix	Sandstone		2394.993	5558.000
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	2394.993	5558.000

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 : MIXED

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

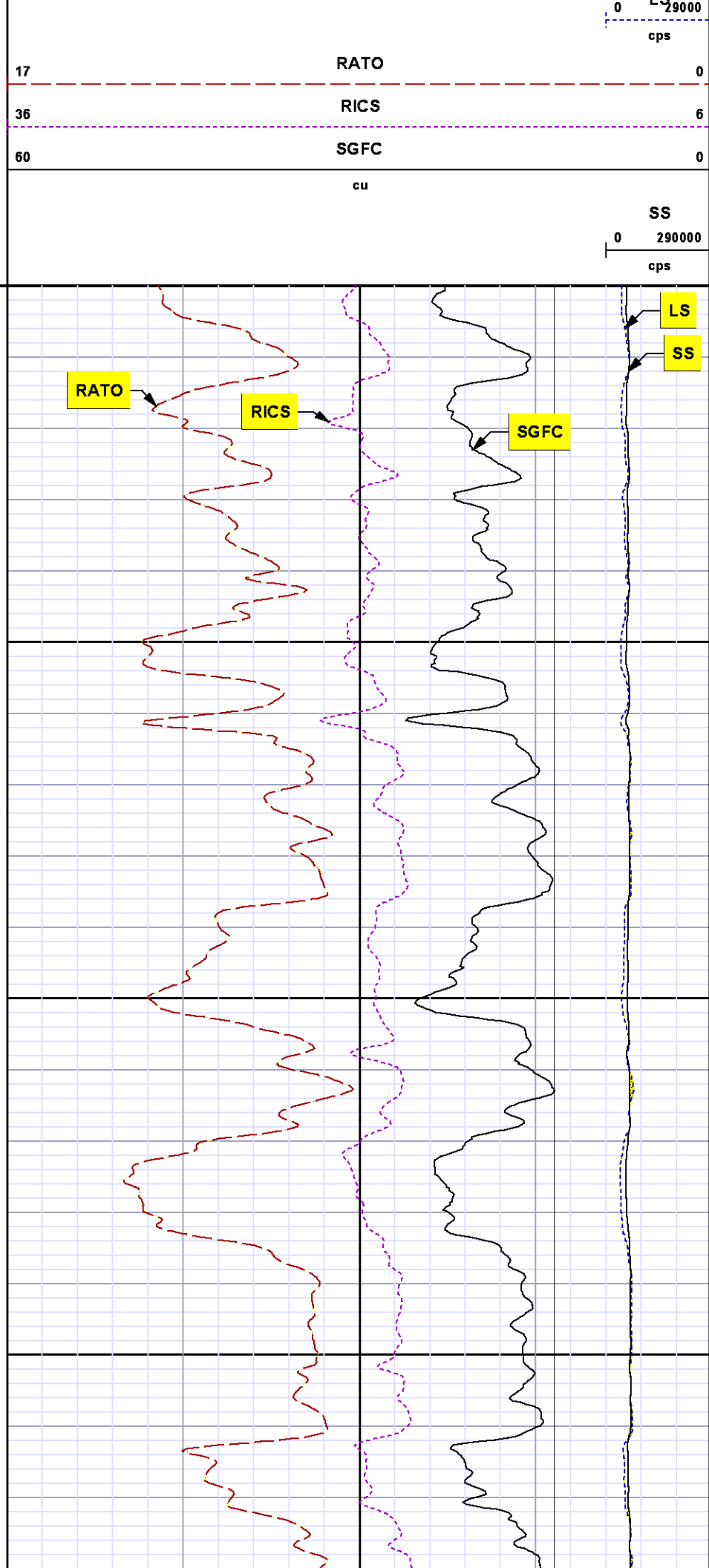
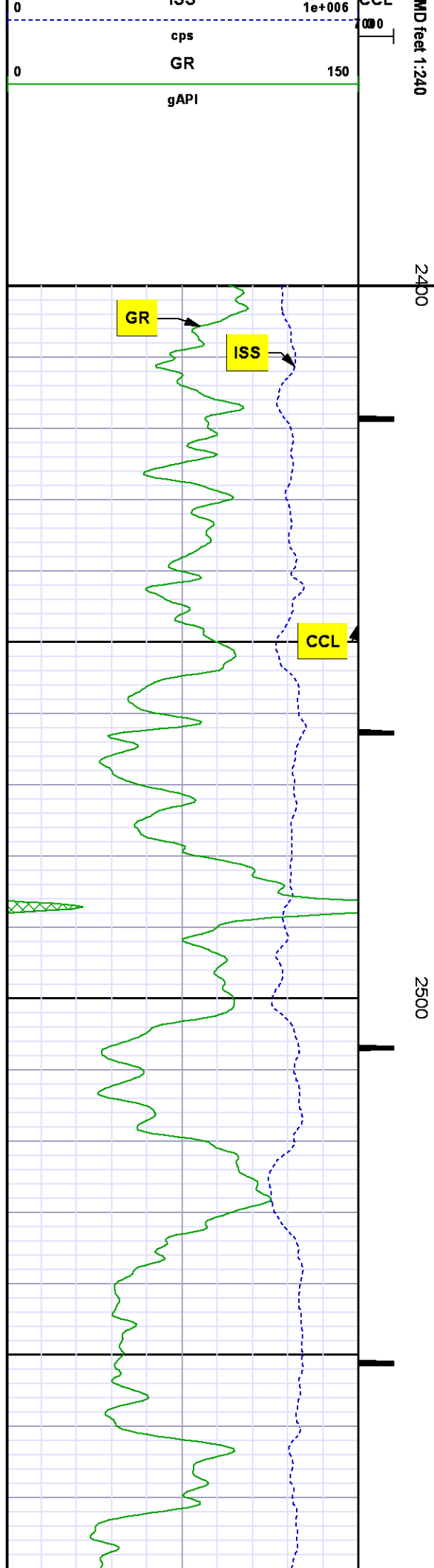
Well : FEDERAL SG 412-28

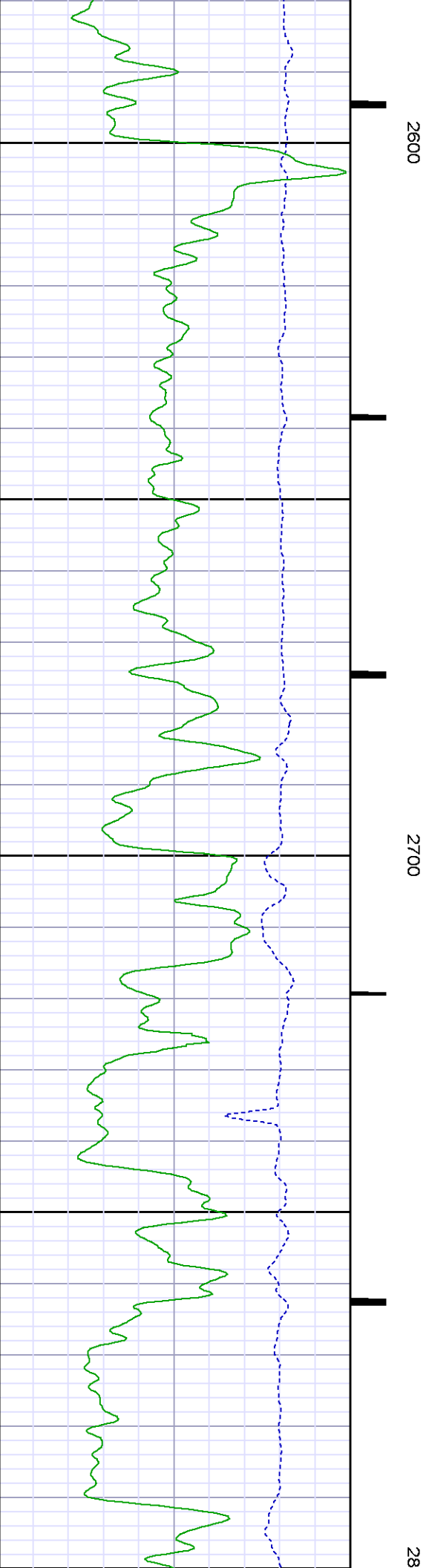
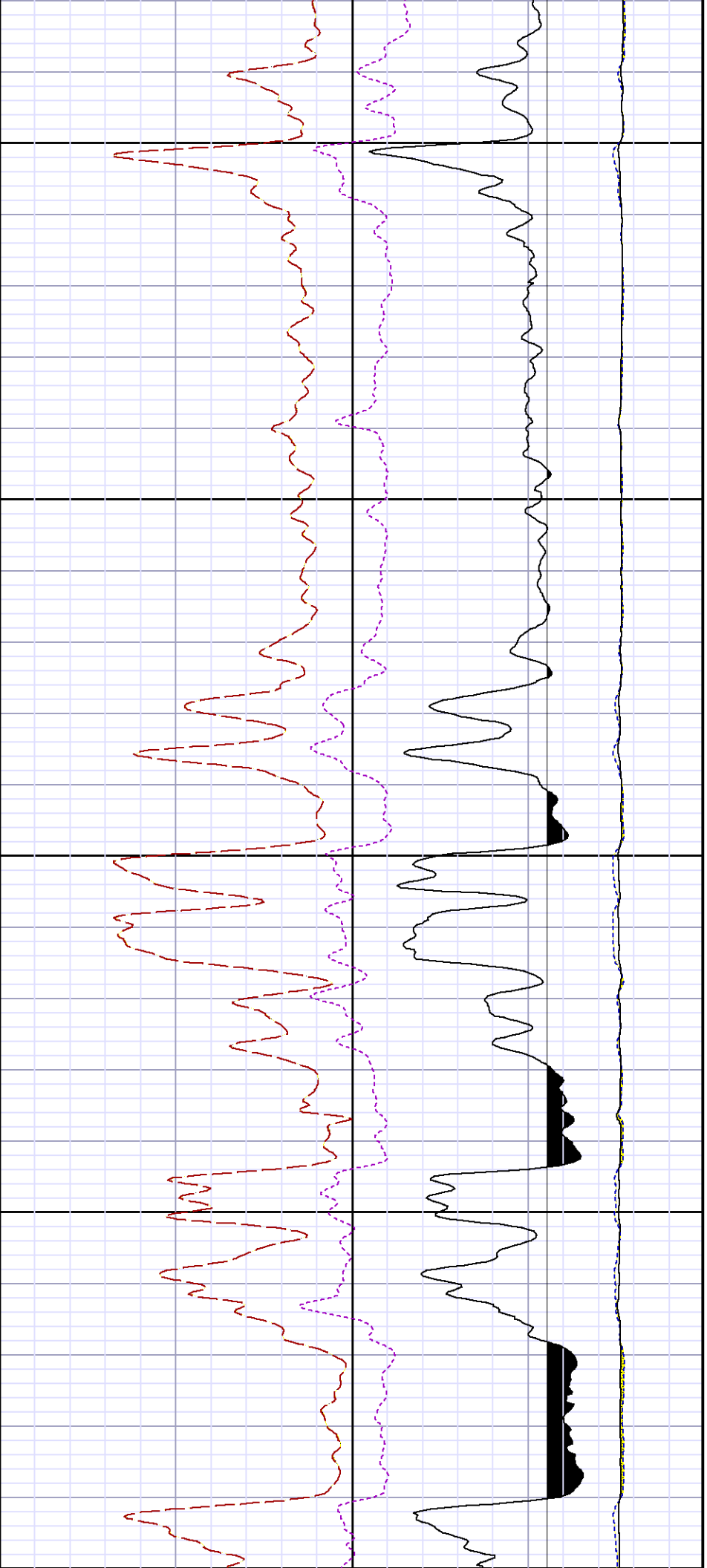
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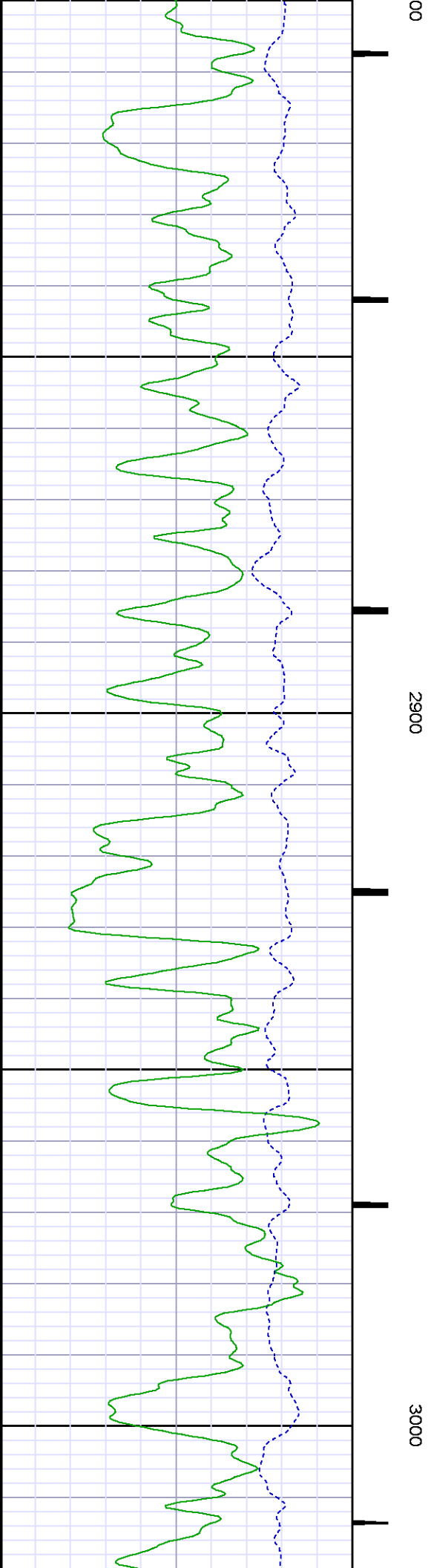
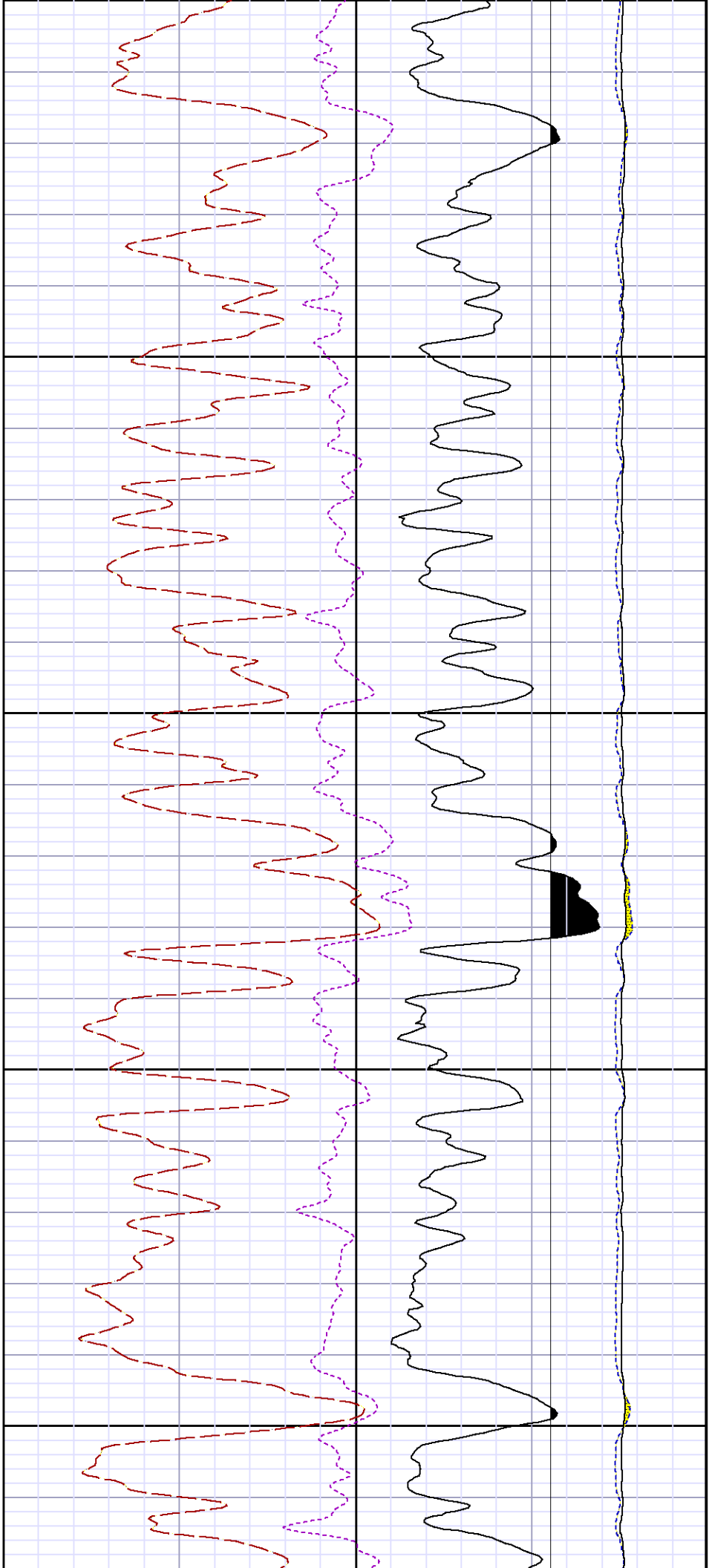
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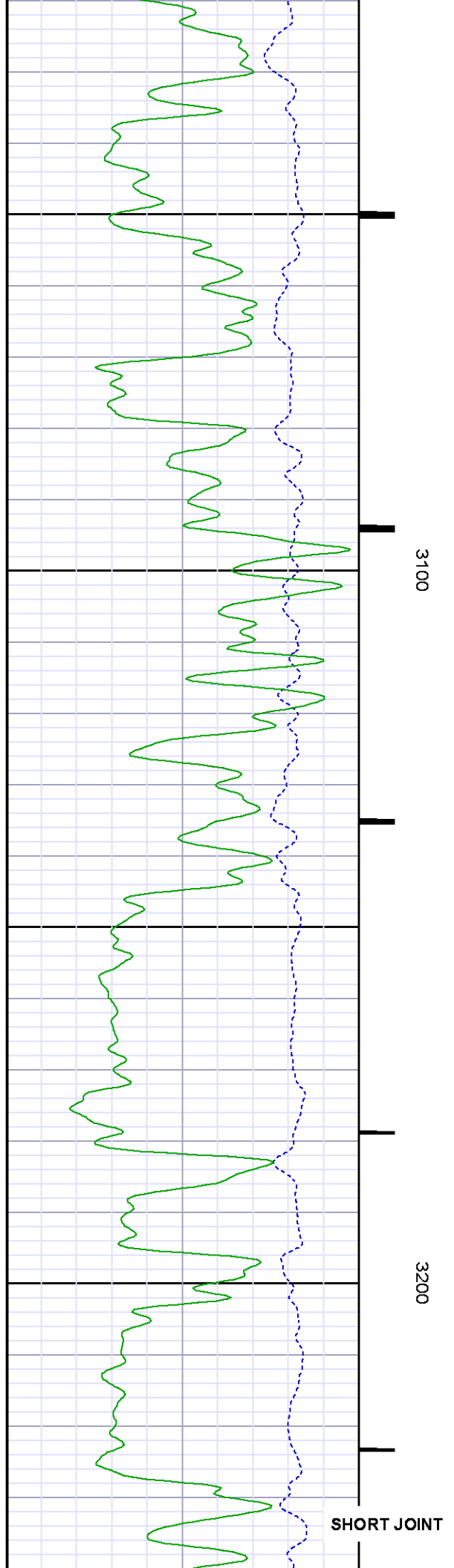
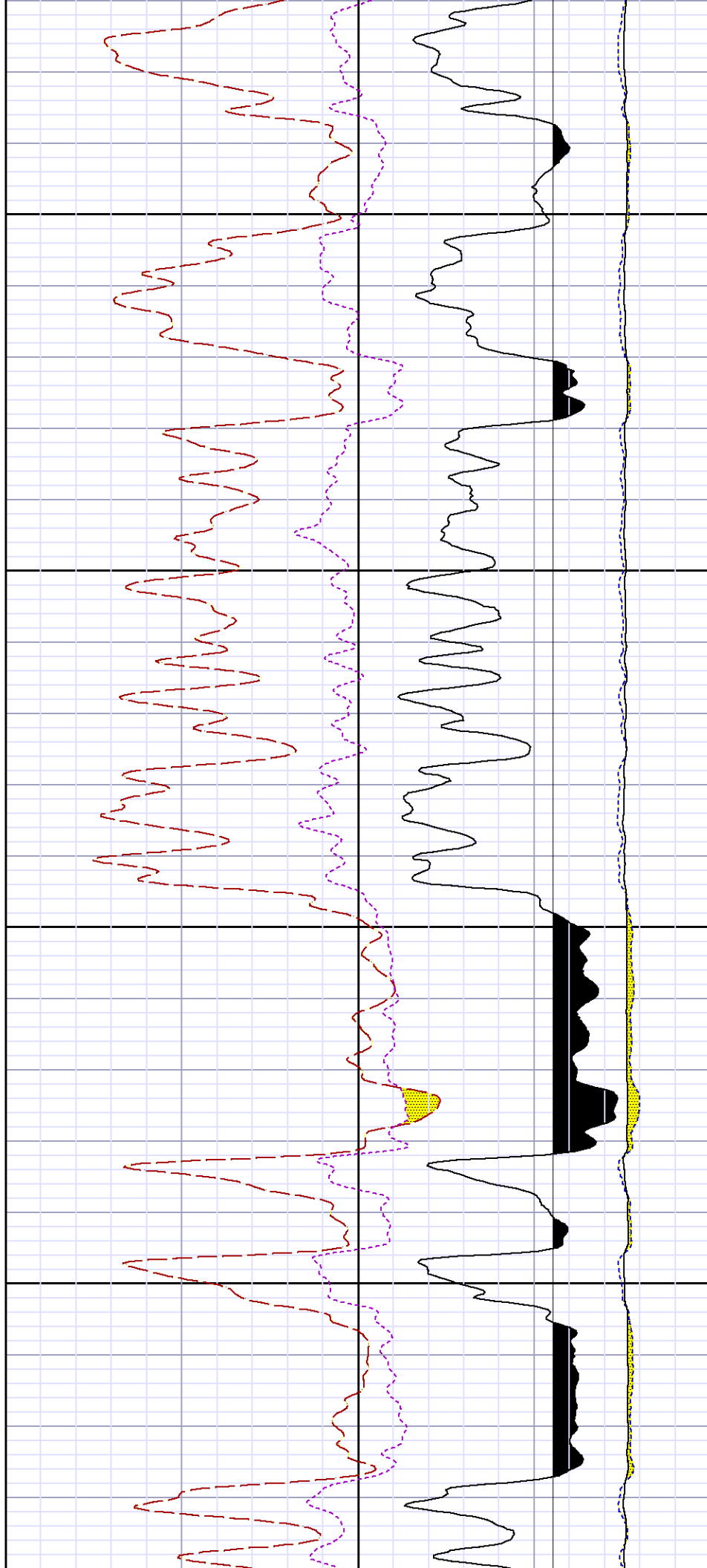
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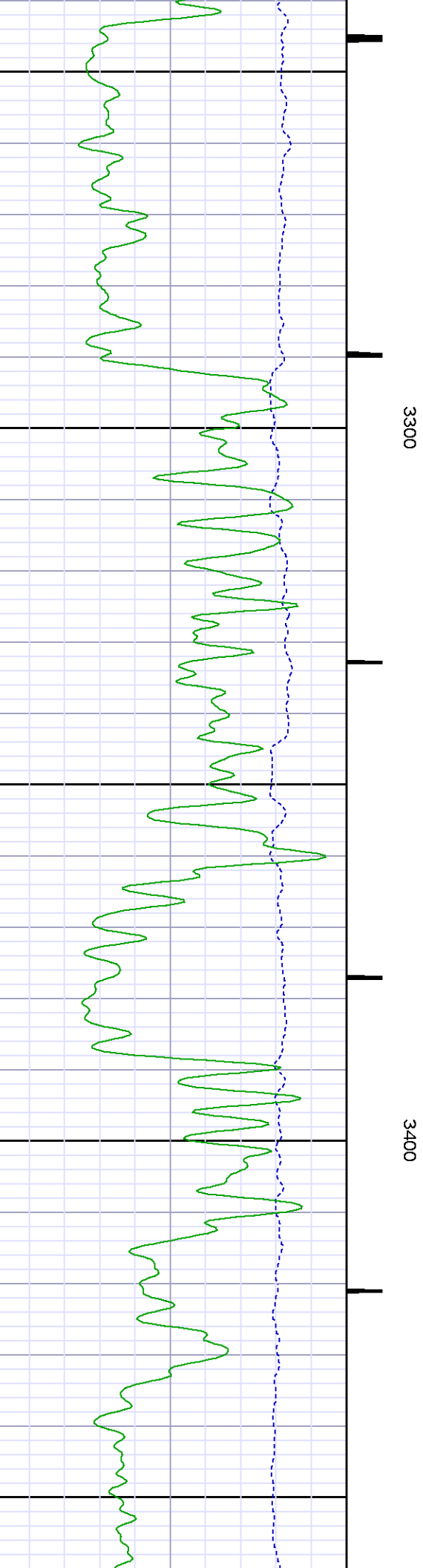
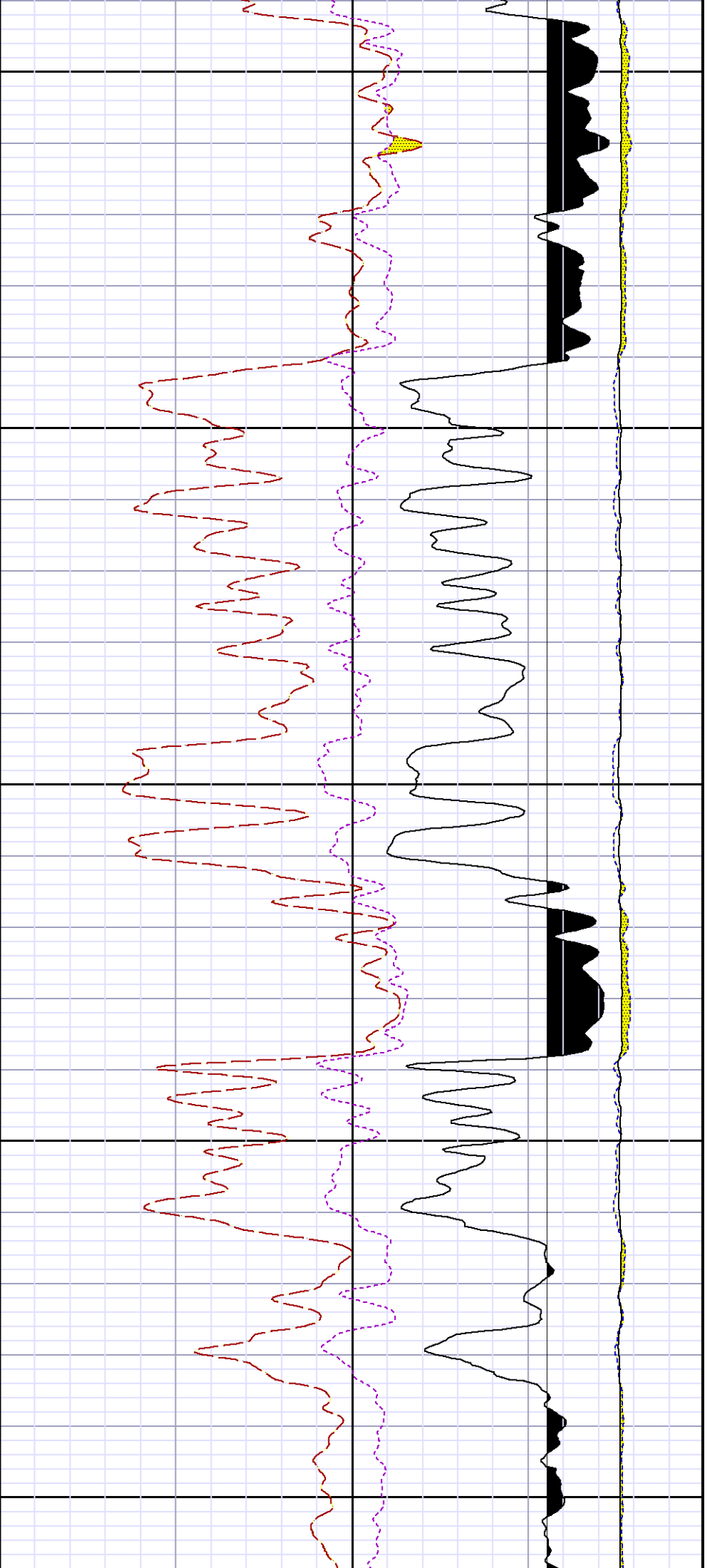
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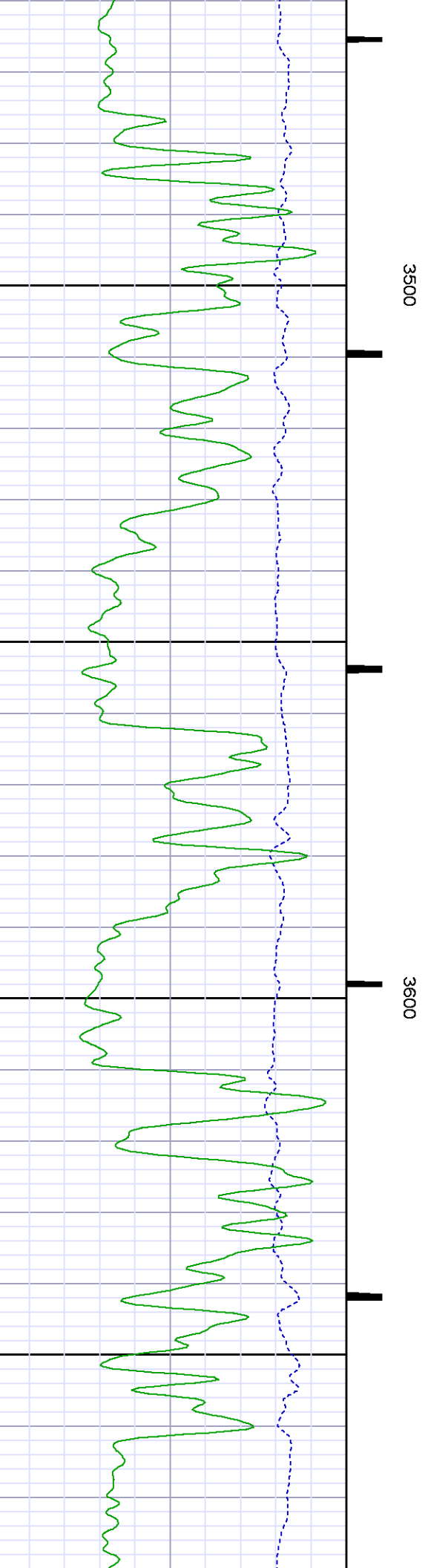
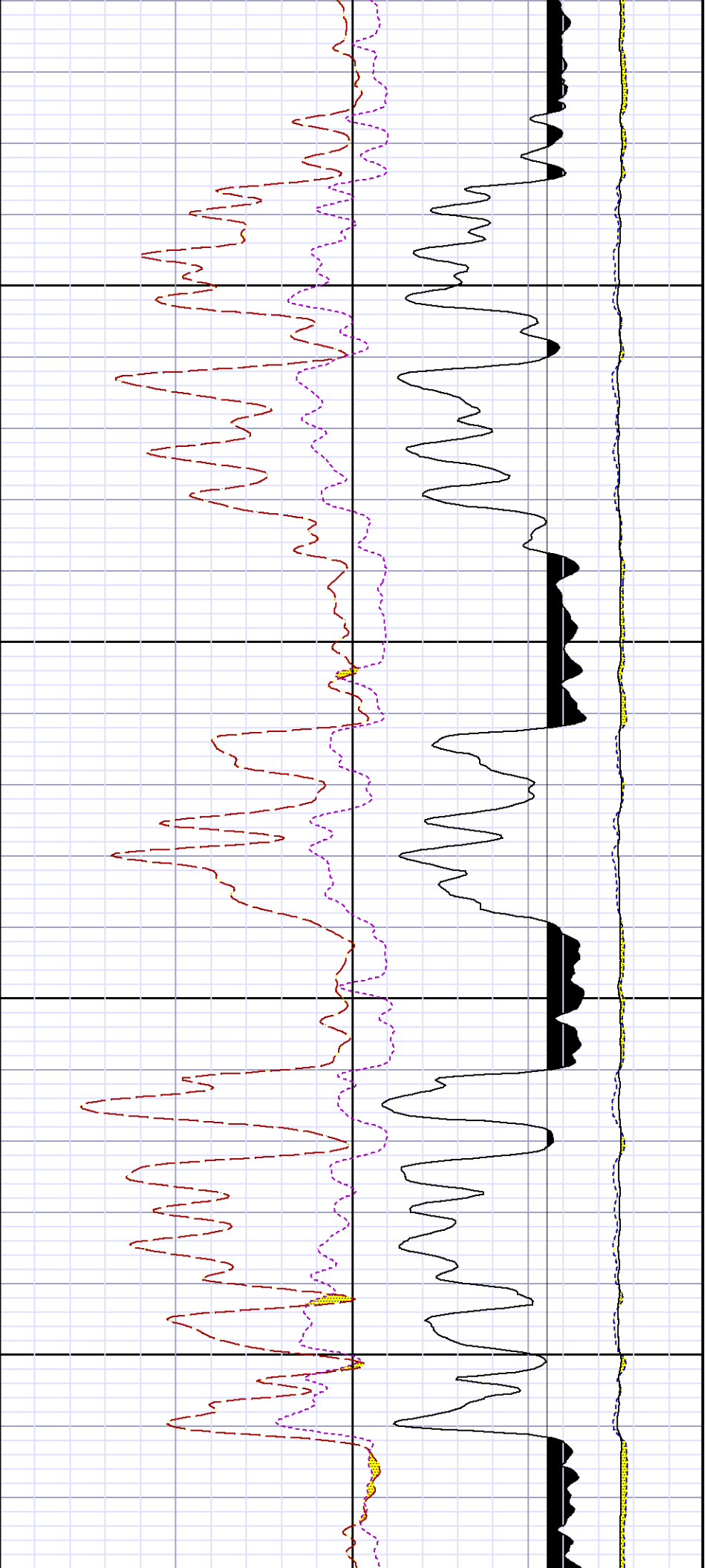


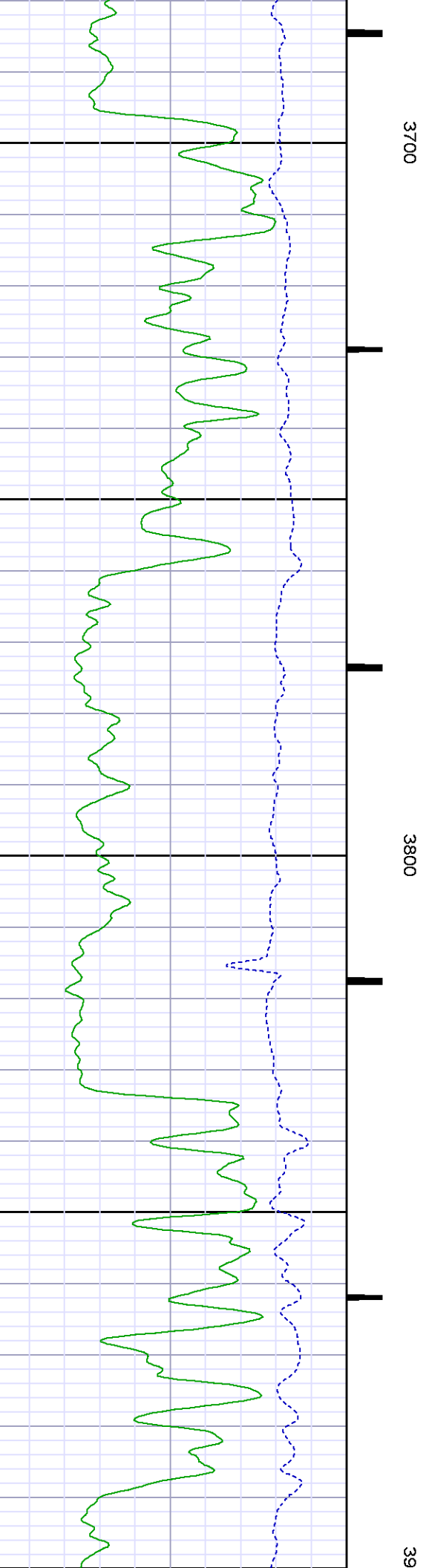
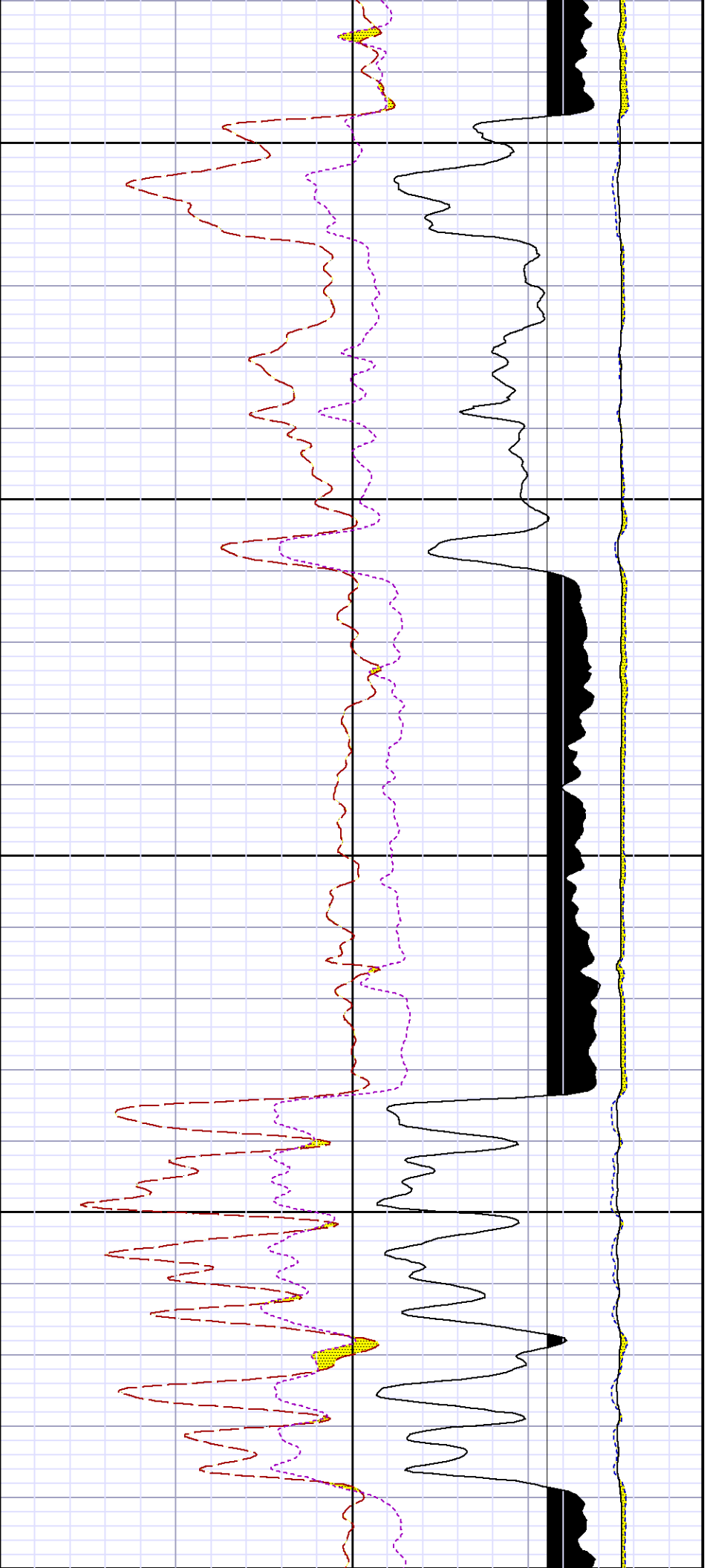


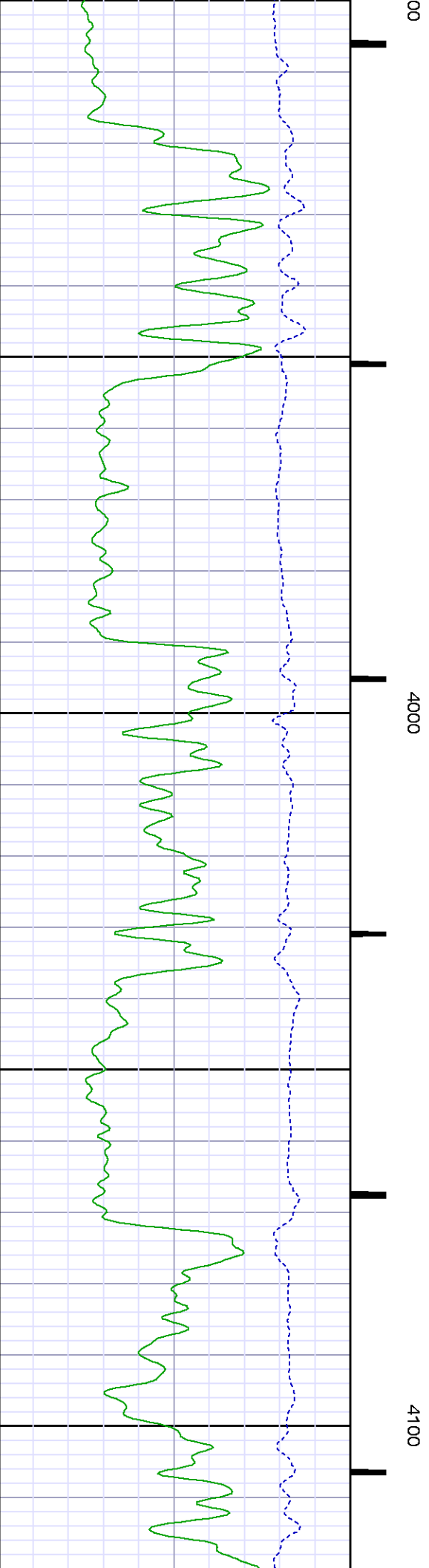
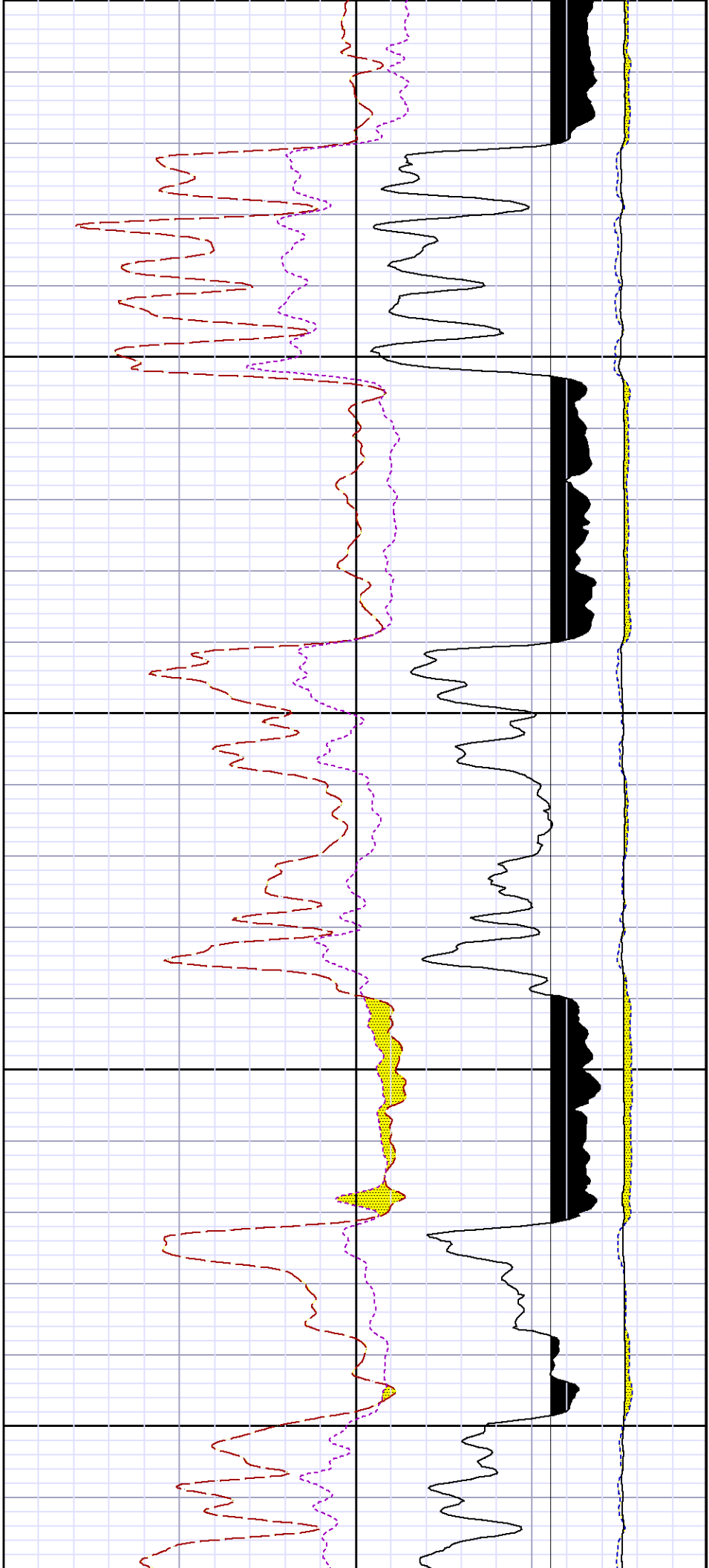


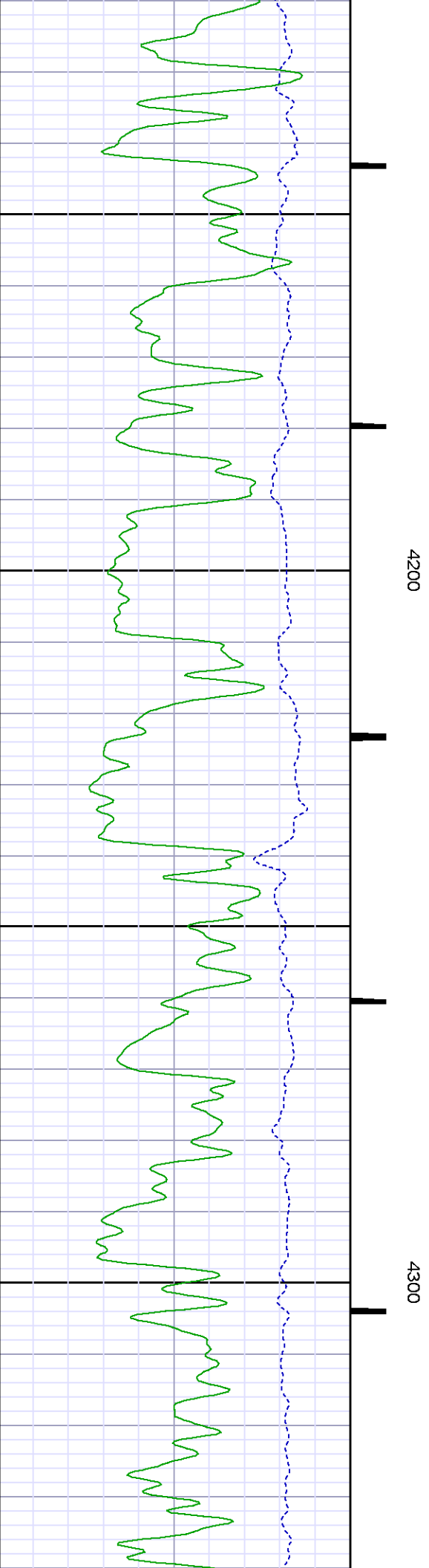
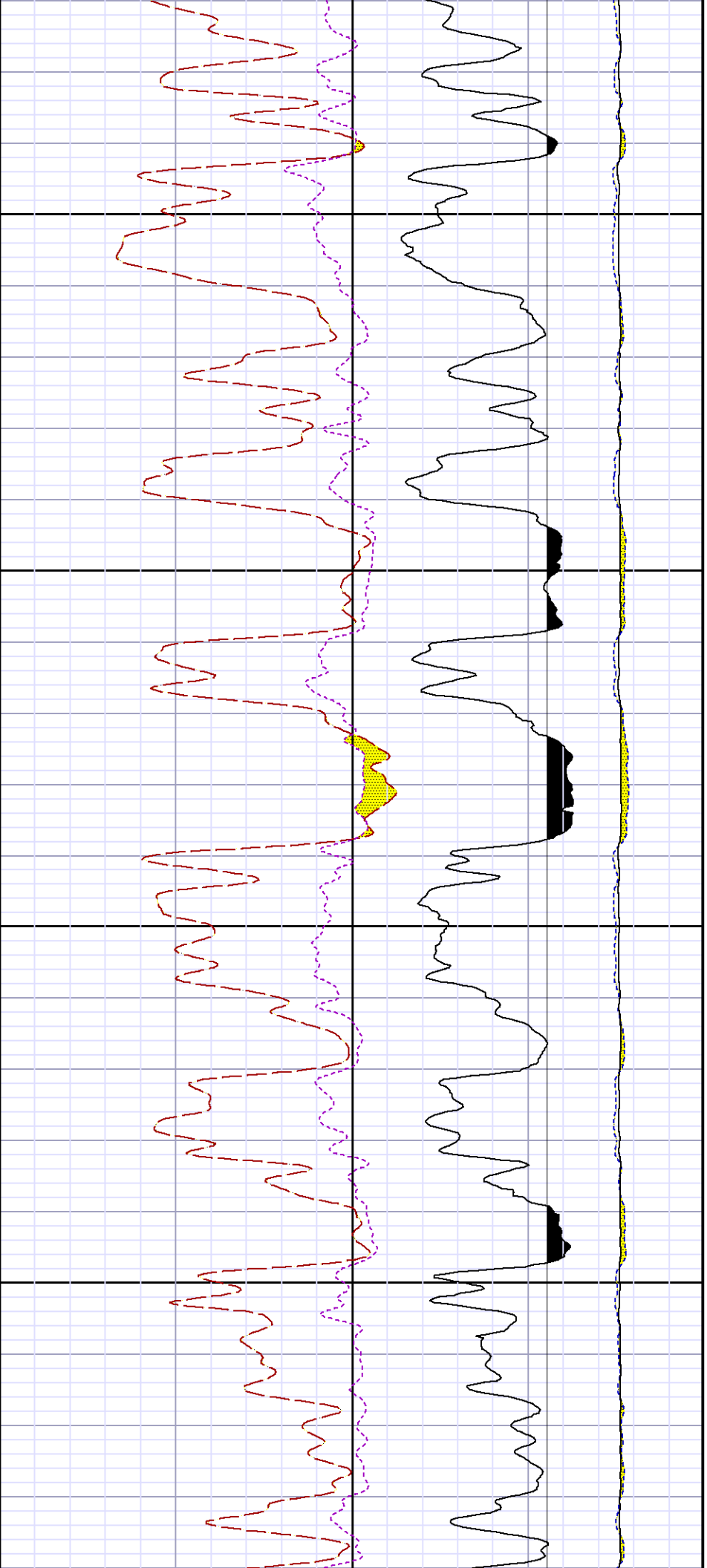


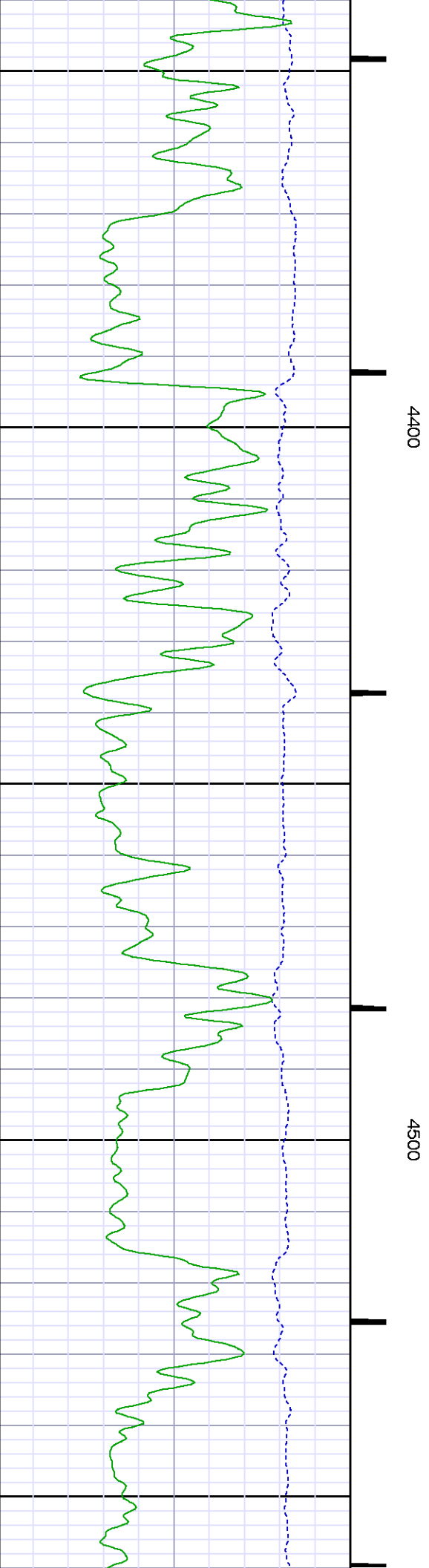
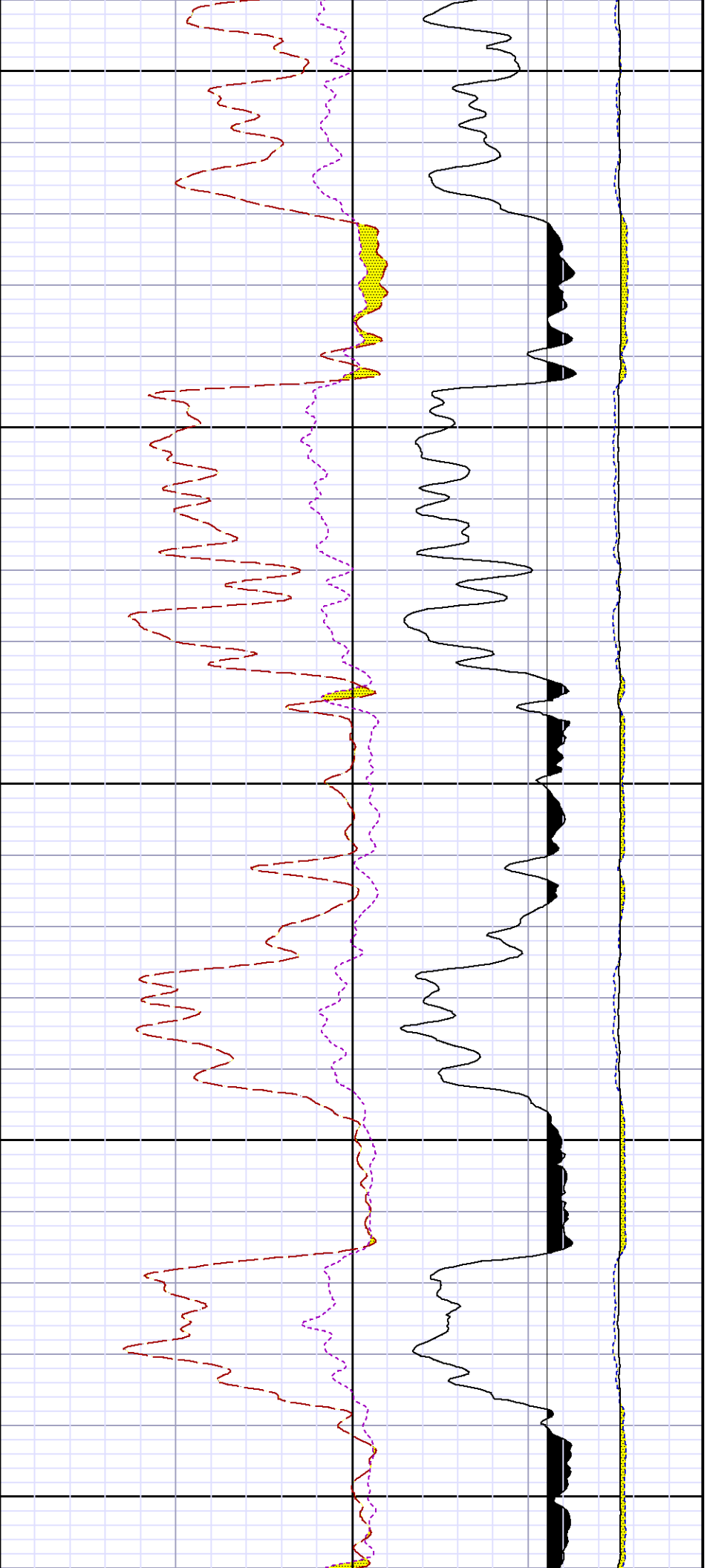


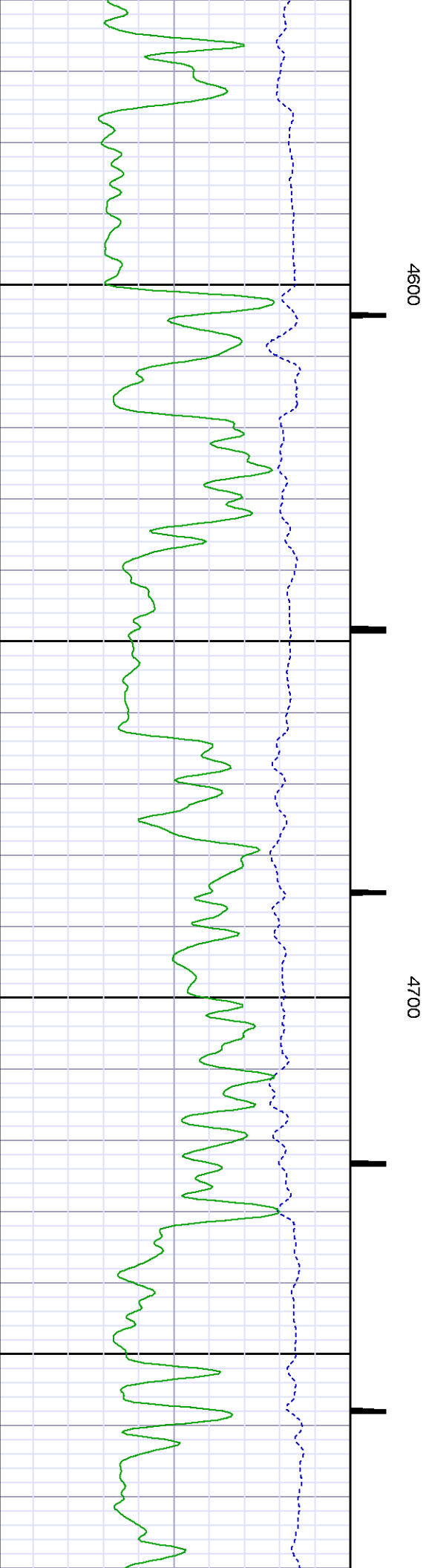
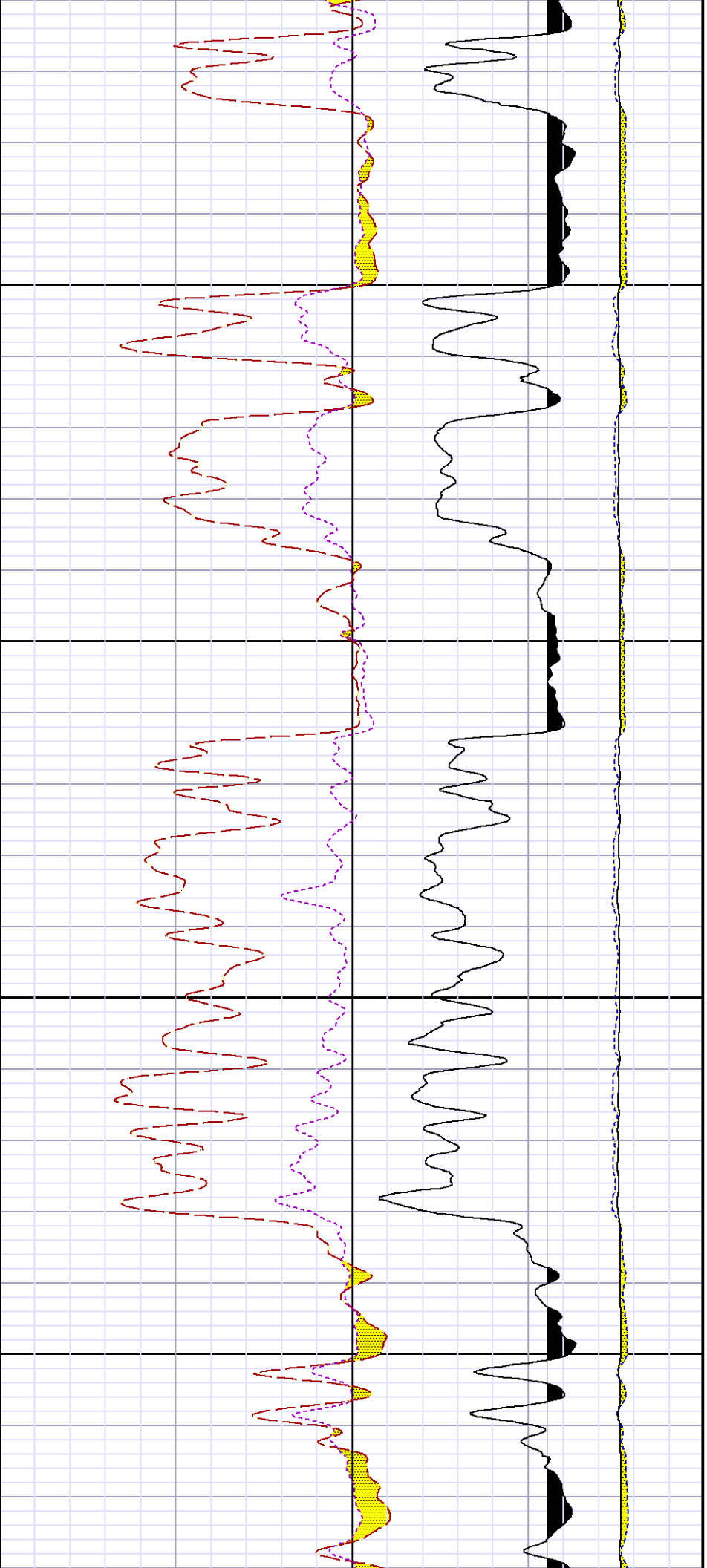


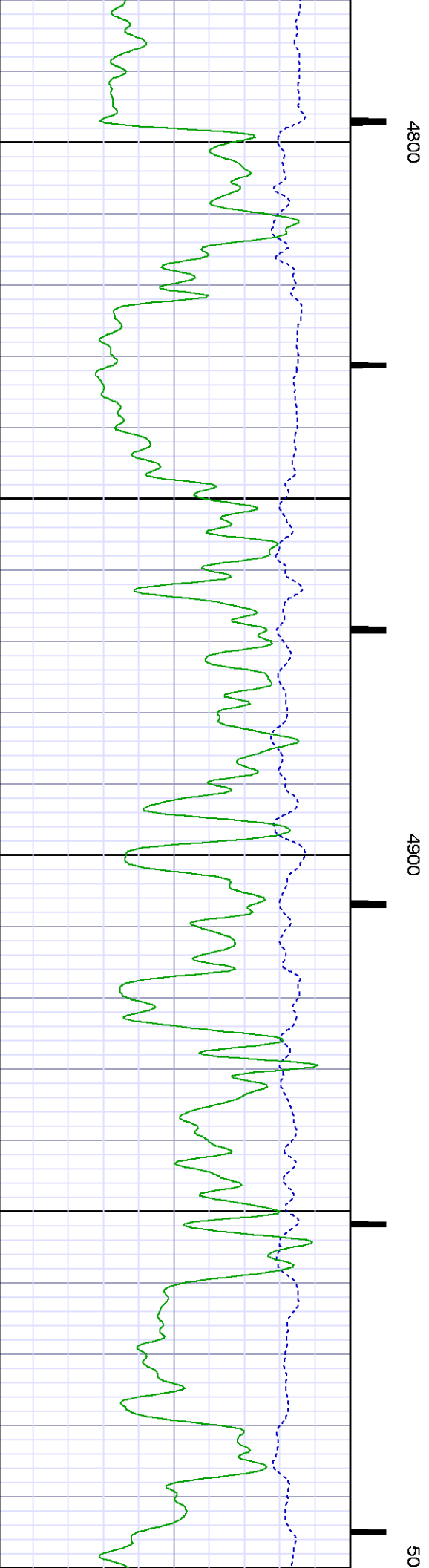
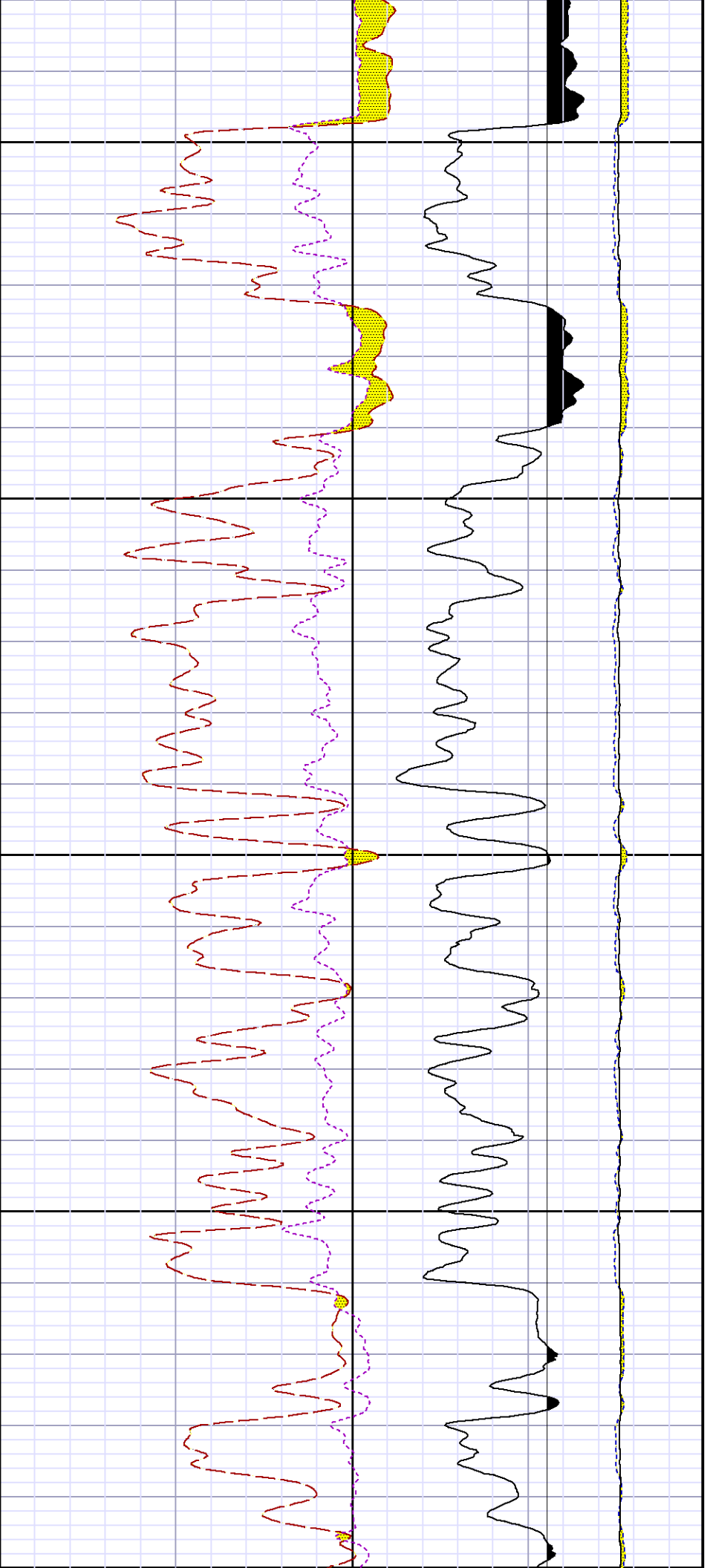


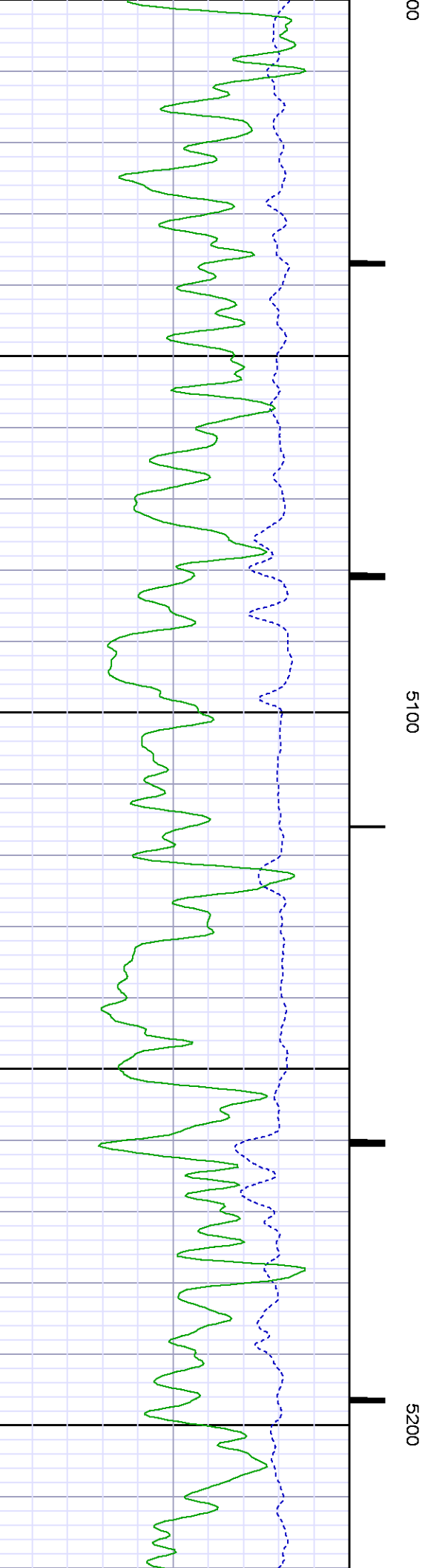
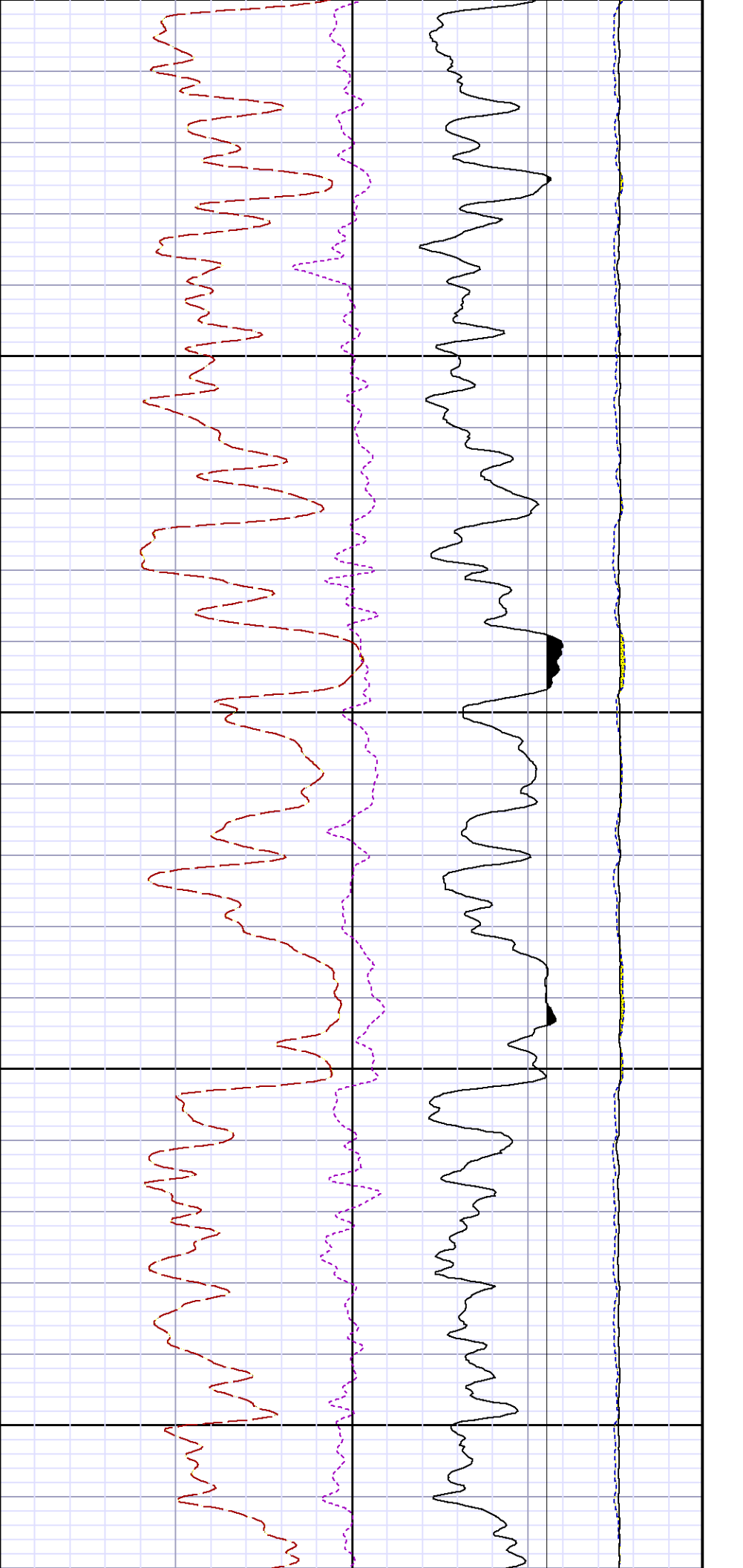




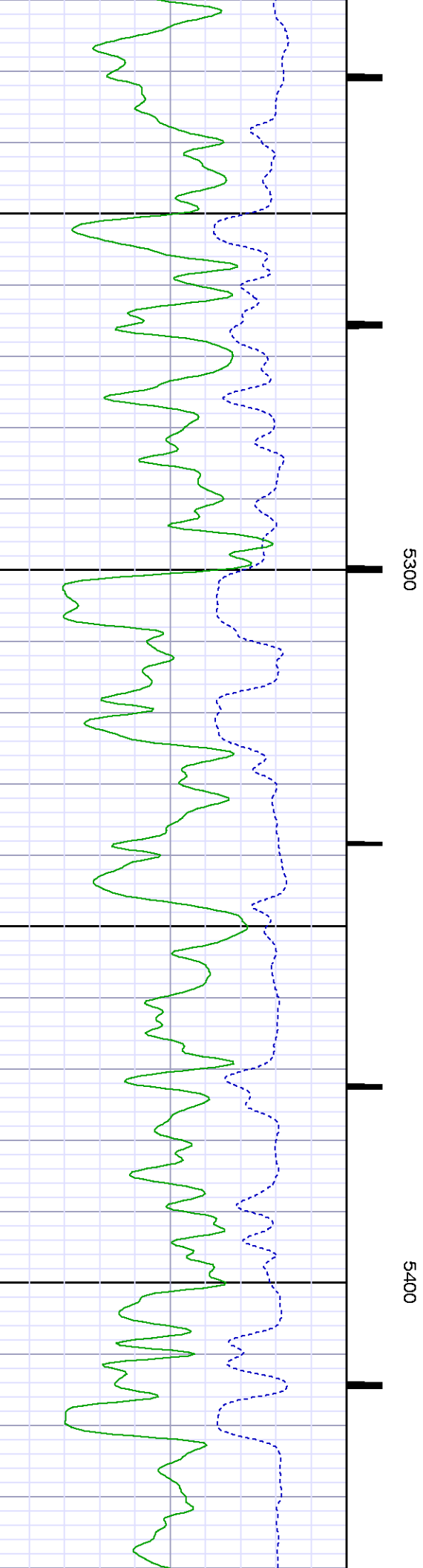
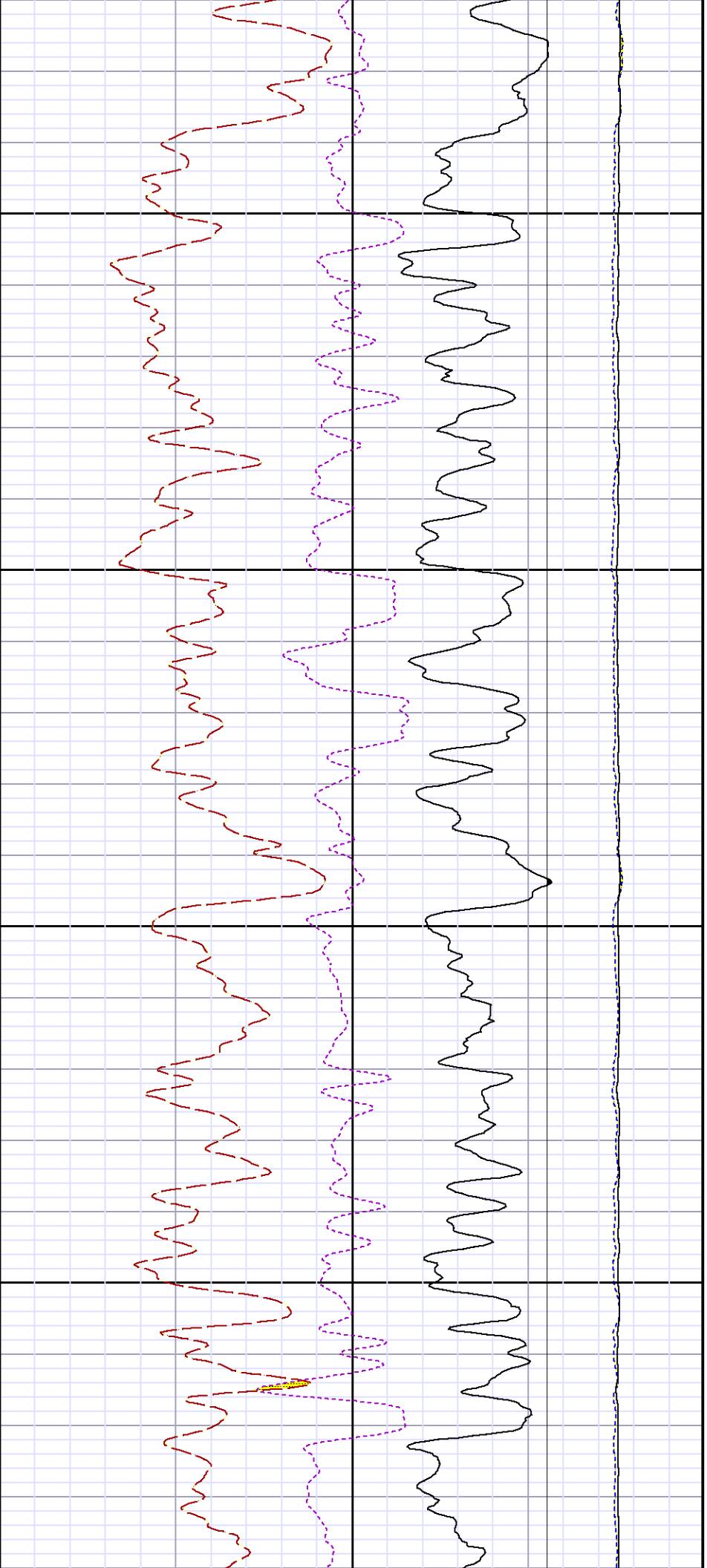


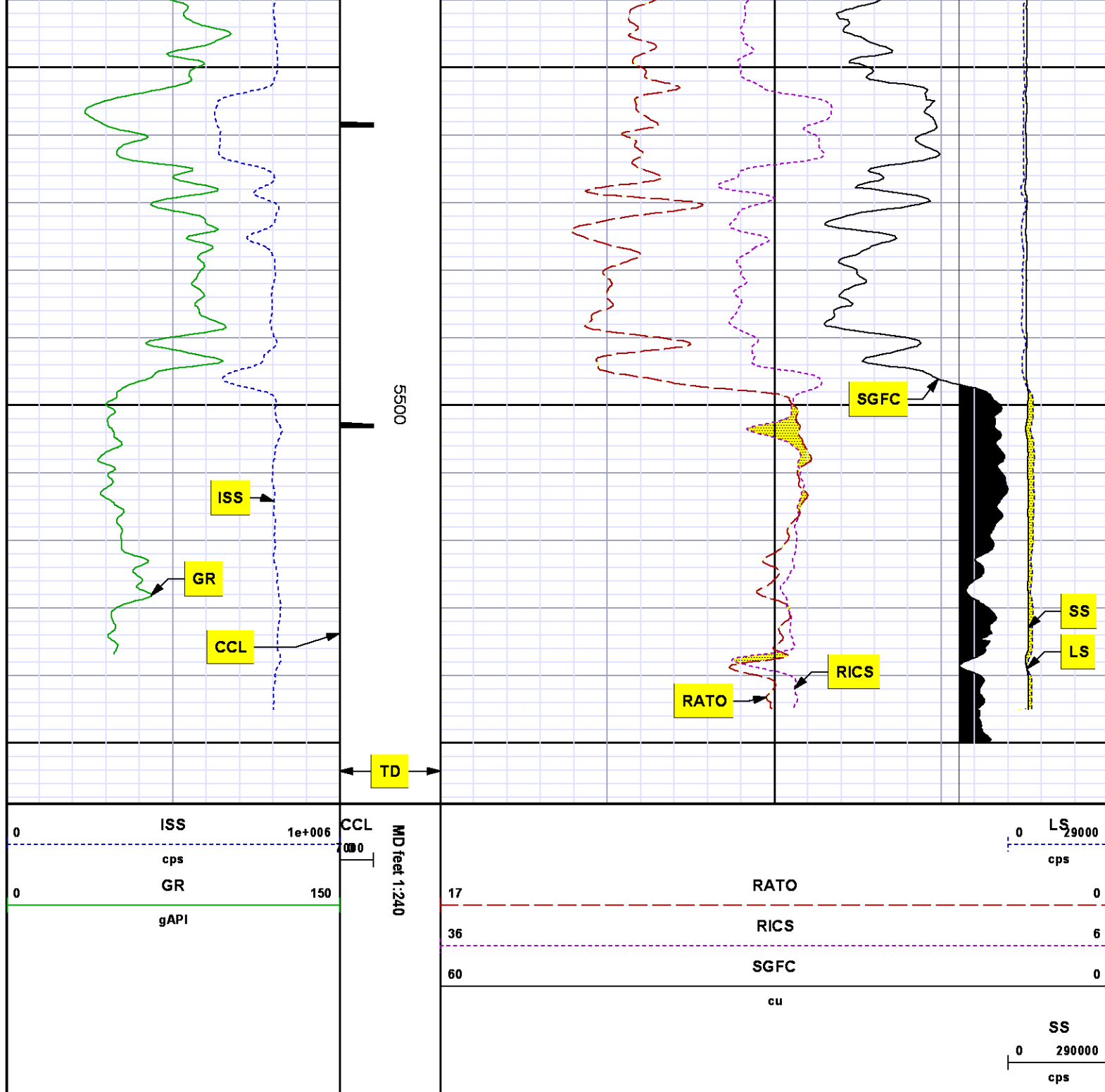












REPEAT SECTION  
PNC 3-D MODE

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		4620.280	4995.280
PNC Porosity	Borehole Size	8.750	inch	4620.280	4995.280
PNC Porosity	Casing Size	4.500	inch	4620.280	4995.280
PNC Porosity	Gas Filled	Non Gas Filled		4620.280	4995.280
PNC Porosity	Matrix	Sandstone		4620.280	4995.280
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	4620.280	4995.280

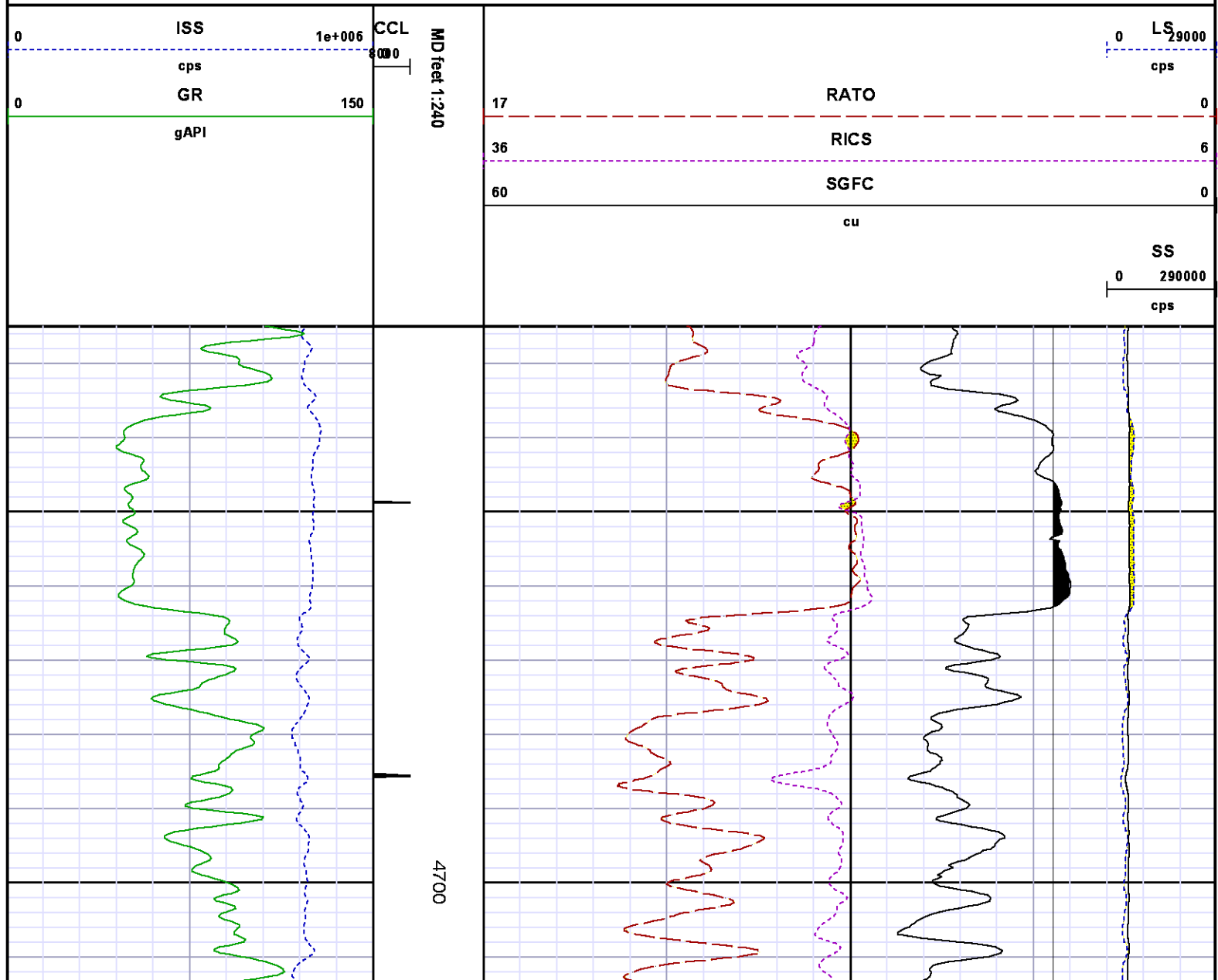
DEPTH OFFSETS  
(for Acquired Curves)

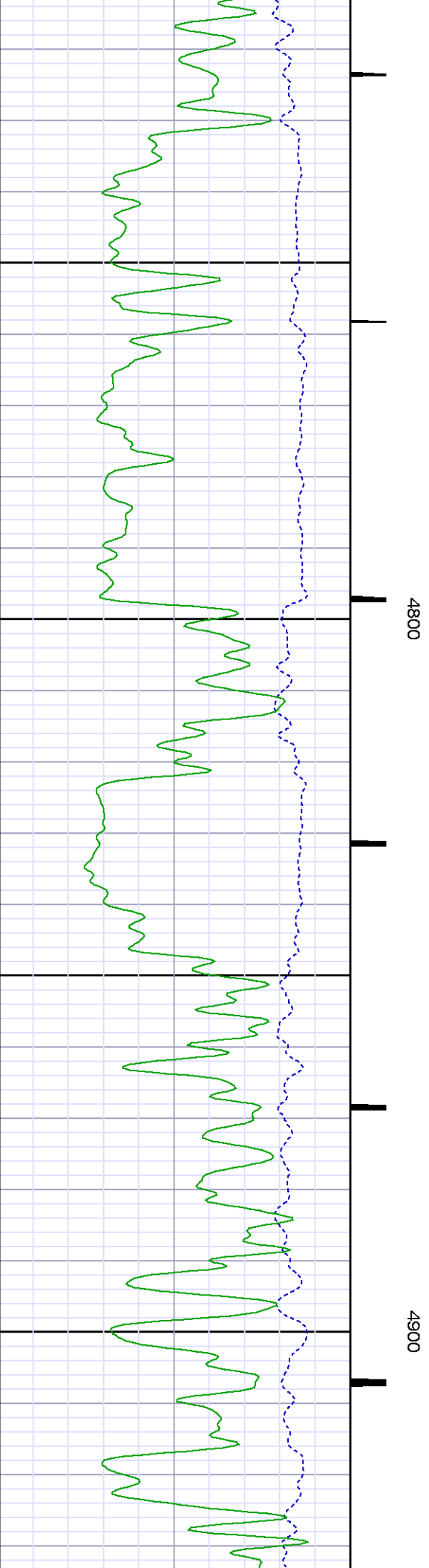
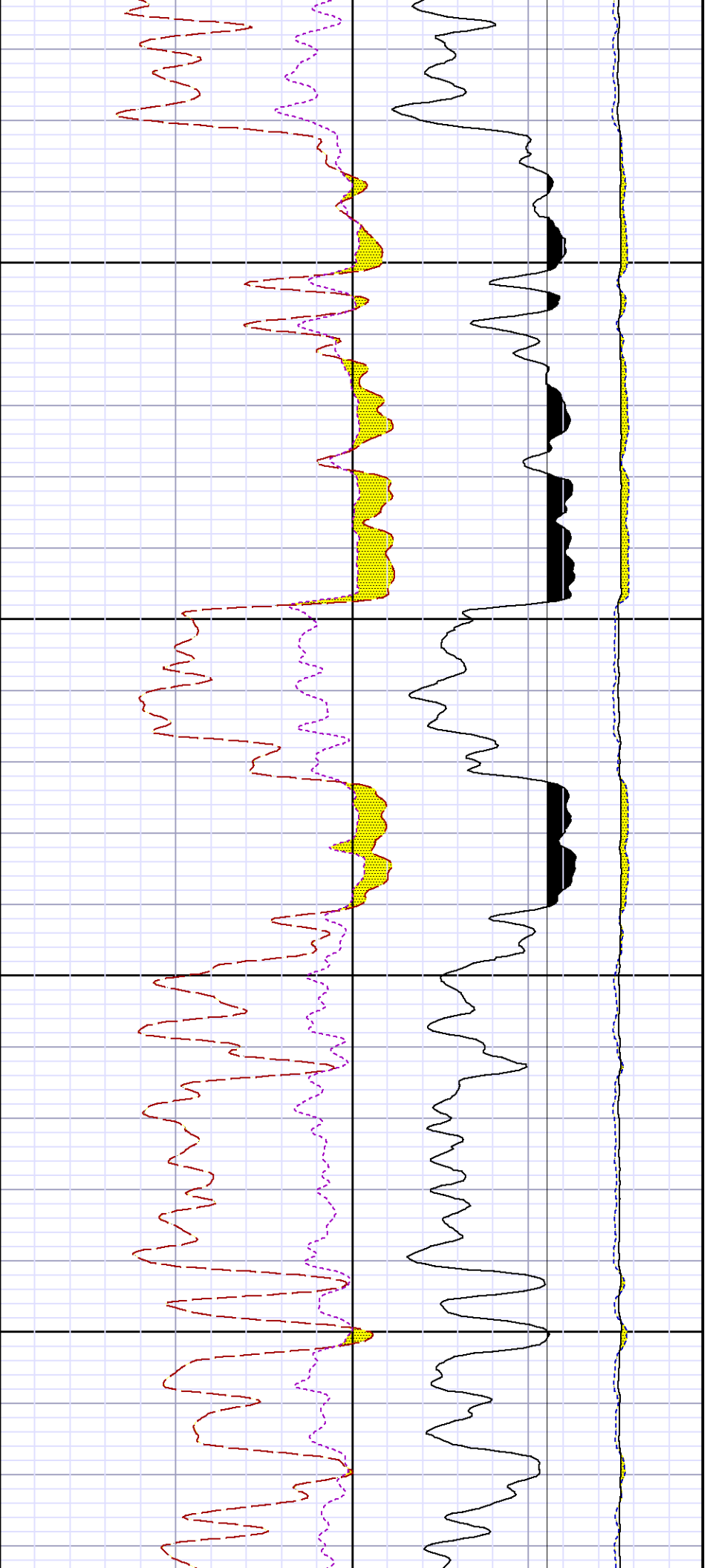
SERIES	DEPTH OFFSET	ACQUIRED CURVES
8248ED	-26.519	FLTM
8248ED	-24.519	CCL CHV
2812LA	-21.969	GR
8281XA	-12.702	HVC3Q0 SEQ3 AMA3 AML3 BKX CXS CPT3Q0 CPT3Q2 CPT3Q3 CPT3Q4 ET3 IXS MCS3 MCS3Q0 QCAL3 RGN3 RICX SDA3 SDL3 SGA3 SGL3 STA3 XS ASPEC3 AMB3 AMF3 CHF3 IXSC IXSN RATO23 RICXC RIN13C RIN23 RIN23C SD3D 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 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 QDC2 QDC3 QMA QTA QELV QMV

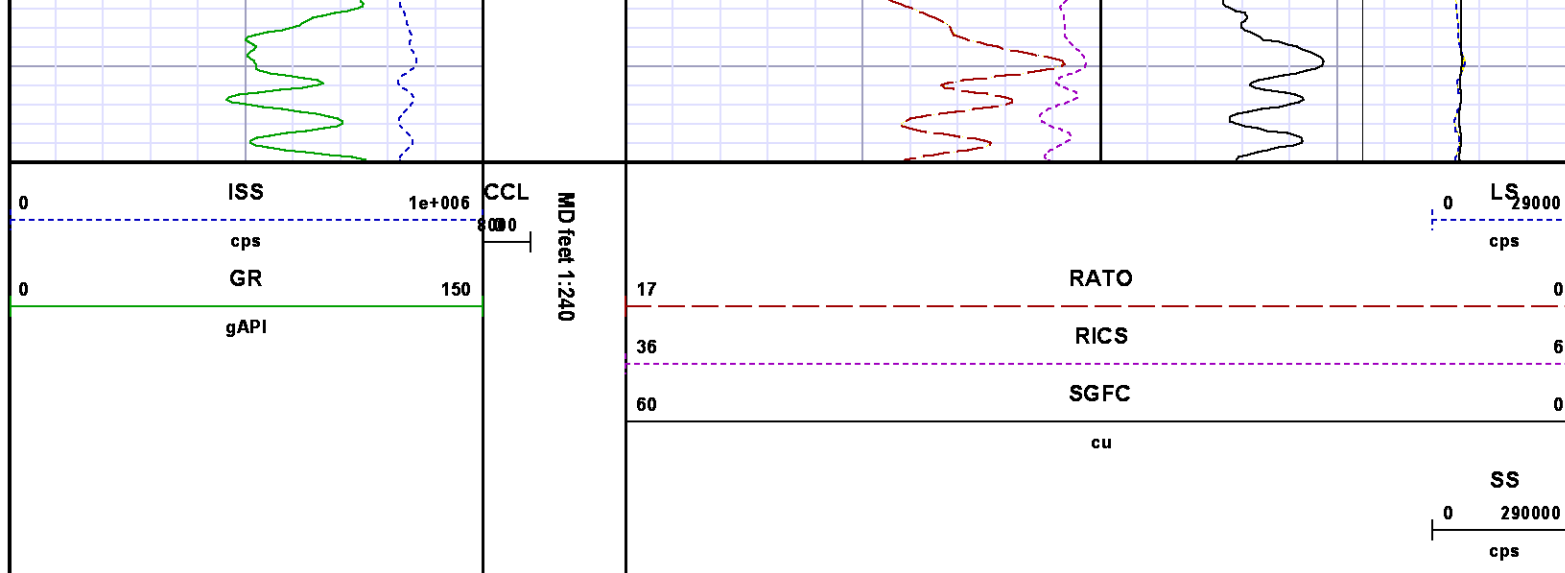
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QPV	QIA	DERR	DCNT	QPK1	QSA1
PKS1	ASPEC1	H0C	FE2XC	ISSC	RINC
ISSN	RDEN	WDTH1	RICSC	CSSR	G1R
G2R	ISSR	SSR	SS2R	RATOR	RATO13R
RBORR	RICSR	RINR	RIN13R	RONER	RPORR
RTWOR					
PTFS	PTMS				
SPF1	SPFQ	TSCP	TSDP		
DTEM	TEMP	TNF			
TEN	TTEN				

8255XA	-0.792
8255XA	-0.775
8255XA	0.000
SYSTEM	0.000

Created by : RPM9, v5.3.1.0  
 Plotted by : PlotMgr, v5.4.504  
 Company : WPX ENERGY  
 Well : FEDERAL SG 412-28  
 File Name : d:\well\data\wpx\federal sg 412-27\412rp\repeat2.xtf  
 Mode : PlotMgr 5.4.504  
 Interval : 4625.00 - 4950.00 feet UP  
 Created : 10/26/2014 5:31:39 PM







## CALIBRATION SUMMARY

PNC

Calibration File: C:\case\calver\PNC\55523.cal

### PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Oct 23 09:07:21 2014 TOOL SERIES: 8281XA ASSET: 555 SEQ: 23

Calibrator #

2437XB 112674

Source #

8281AA 11765054

	ISS	Mtr Vlt (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	823276	127.00	2350.00	2286.00	2235.00	104.62	7.00	0.9799
Interpolated	1300000	148.56	2323.35	2282.62	2231.52			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	823276	6631.77	1034.22	146.38	25.79	0.14	24.32	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	823276	172245.77	26969.58	90279.40	32181.69	8383.41	54693.09	13400.53
Fit Quality %		0.68	0.78	0.75	0.76	0.73	0.69	0.70

	ISS	RBOR		RIN ISS/ILS		RIN13 ISS/IXS		RICS ISS/CSS		RATO SS/LS		RTWO SS2/LS		RONE CSS/CLS	
Raw Data	823276	1.43		4.78		30.53		15.05		10.77		3.84		4.08	
		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 %		0.05		0.32		0.21		0.21		0.10		0.12		0.13	
Reduced	1394103	1.43		4.80		30.68		15.12		10.75		3.83		4.07	
		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\382O1.cal

### CALIBRATION SUMMARY

DATE/TIME PERFORMED: Fri Oct 10 20:18:37 2014 TOOL SERIES: 2812LA ASSET: 382 SEQ: 01

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	67.31	273.64	1.018	68.51	278.51	210.00

Verification File: C:\case\calver\GR\382O1.VP

### PRIMARY VERIFICATION

DATE/TIME PERFORMED: Fri Oct 10 20:21:02 2014 TOOL SERIES: 2812LA ASSET: 382 SEQ: 01

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	64.02	275.47	1.018	65.16	280.36	215.20

## TEMPERATURE

Calibration File: C:\case\calver\TEMP\120516AU.cal

### CALIBRATION SUMMARY

DATE/TIME PERFORMED: 09 AUG 2010 TOOL SERIES: 8255XA ASSET: 120516 SEQ: AU

	T(0)	T(1)	T(2)	T(3)	T(4)	T(5)
Coefficients	-8.673169e+000	9.576065e-002	6.395448e-006	-9.461013e-010	0.000000e+000	0.000000e+000

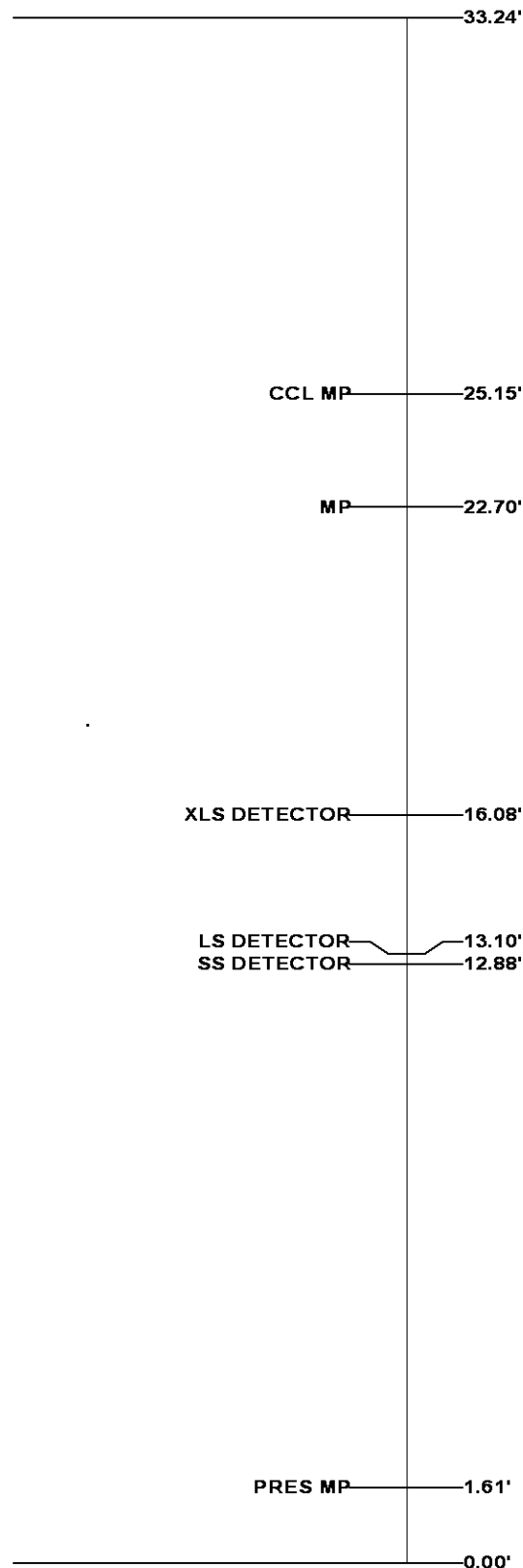
## TOOL DIAGRAM

# TOOL DIAGRAM

<b>OTA SHORT CABLE HEAD</b>	
<b>PCM POWER SUPPLY</b>	
Series	8250EA
Mnemonic	PCM
Diameter	1.70"
Weight	18.00 lb
Length	3.86'
Temp Rating	350.00 °F
<b>TELEMETRY / CCL</b>	
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
<b>SONDEX GAMMA RAY</b>	
Series	2812LA
Mnemonic	SNDX
Diameter	1.69"



<b>RESERVOIR PERFORMANCE MONITOR</b>	
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

<b>TEMPERATURE / PRESSURE</b>	
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"**



<div></div> <div>Baker Atlas</div> <div></div>	Company	WPX ENERGY			File No:	CH092008
	Well	FEDERAL SG 412-27				
	Field	GRAND VALLEY			API No:	05045219480000
	County	GARFIELD	State	CO		
Location		Elevations				
SHL: 2291' FSL & 496' FEL (28 7S 96W)		KB 5143		27 7S 96W		
BHL: 1476' FNL & 296' FWL (27 7S 96W)		DF		SG 43-28 PAD		
SEC 27 TWP 7S RGE 96W		GL 5119		H&P 318		