



RESERVOIR PERFORMANCE MONITOR

Baker Atlas

File No: **WPX ENERGY**

CH091000 **CHEVRON GM 411-21**

API No: **GRAND VALLEY**

0504523580000 **GARFIELD** State **CO**

Location

SHL: 2027' FNL & 702' FEL (20 6S 96W)

BHL: 1033' FNL & 996' FWL (21 6S 96W)

SEC 21 TWP 6S RGE 96W

Other Services

BOND LOG

21 6S 96W
GM 442-20 PAD
CYCLONE 17

Permanent Datum **GL** Elevation **5575 ft**

Log Measured From **KB** **21 ft** Above P. D.

Drill Measured From **KB** Elevations **KB 5596 ft**
DF
GL 5575 ft

Date	09/OCT/14	
Run	ONE	
Service Order	US091000	
Depth Driller	7324 ft	
Depth Logger	7275 ft	
Bottom Logged Interval	7265 ft	
Top Logged Interval	3934 ft	
Time Started	16:30	
Time Finished	21:00	
Operator Rig Time	5.5 HOURS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	62 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	10 fpm	
Maximum Recorded Temperature	242 degF	
Reference Log Date	09/OCT/14	
Equipment No.	4271	GRAND JUNCTION
Recorded By	FLOYD RENEAU	
Witnessed By	COLE APRILEGATE	

- 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	1100 ft
8.75 in	1100 ft	7360 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			0 ft	1100 ft
4.5 in	11.6 lbm/ft	I-80	0 ft	7360 ft

Remarks

All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 09/OCT/2014 at the clients 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 2 feet.

Logged in PNC-3D mode.

BHT = 242 °F

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	10273848	FREE
1	1	RPM	8283PA	10585555	FREE
1	1	RPM	8281FA	10191667	FREE
1	1	TEMP	8255XA	Z120516	FREE

*MAIN SECTION
PNC 3-D MODE*

SPL PROCESSING

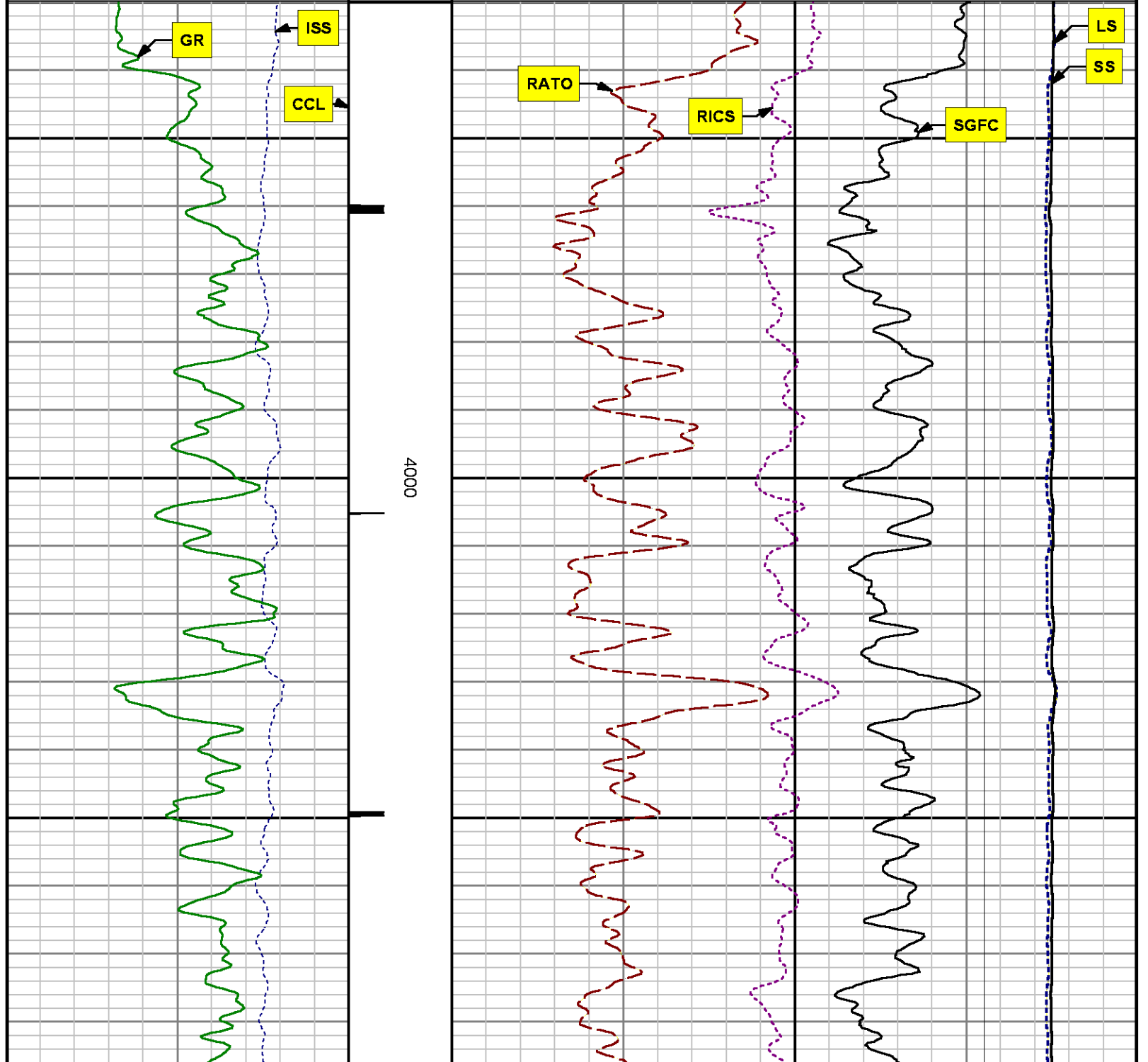
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		3908.437	5027.000
PNC Porosity	Borehole Size	8.750	inch	3908.437	5027.000
PNC Porosity	Casing Size	4.500	inch	3908.437	5027.000
PNC Porosity	Gas Filled	Non Gas Filled		3908.437	5027.000
PNC Porosity	Matrix	Sandstone		3908.437	5027.000
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	3908.437	5027.000
PNC Porosity	Borehole	Cased		5027.000	7284.875
PNC Porosity	Borehole Size	8.750	inch	5027.000	7284.875
PNC Porosity	Casing Size	4.500	inch	5027.000	7284.875
PNC Porosity	Gas Filled	Non Gas Filled		5027.000	7284.875
PNC Porosity	Matrix	Sandstone		5027.000	7284.875
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	5027.000	7284.875

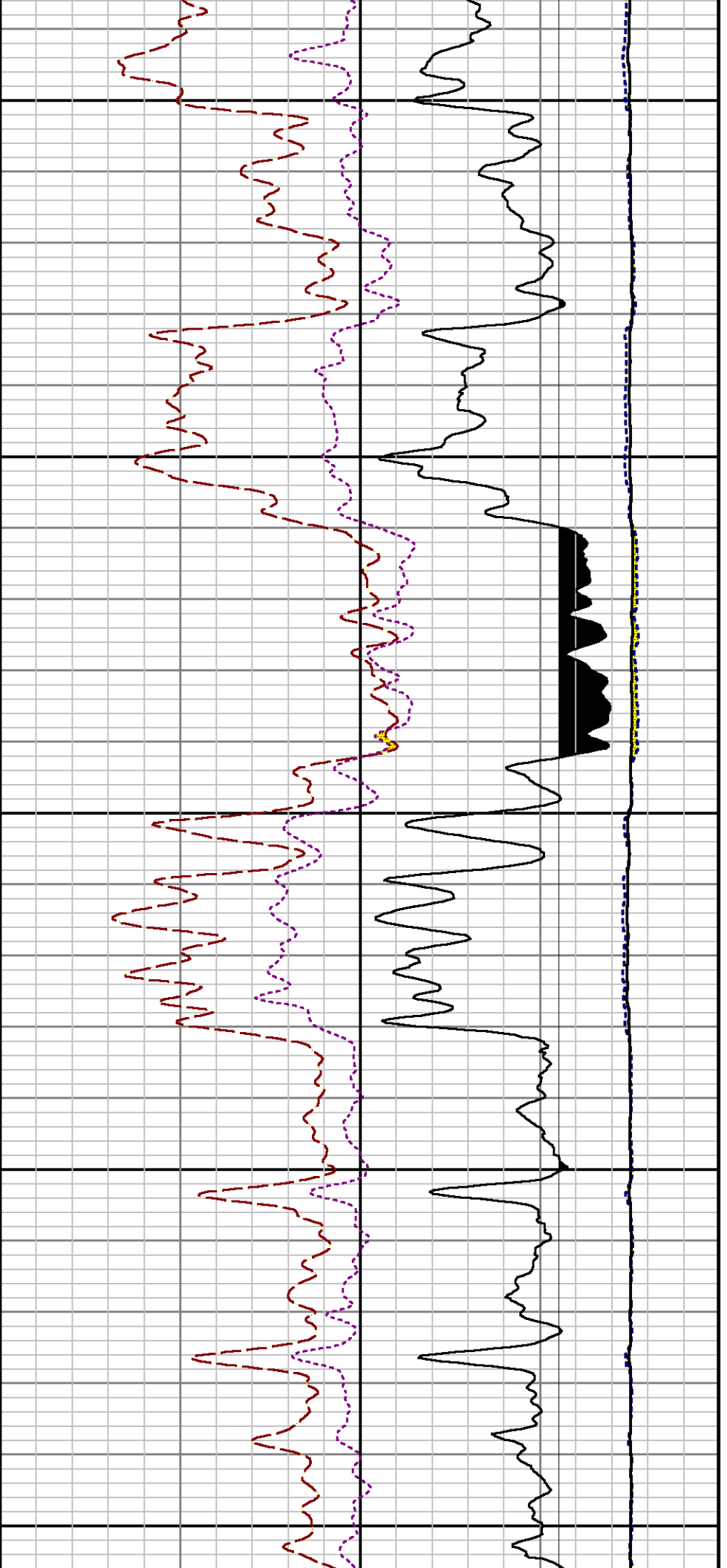
DEPTH OFFSETS

(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 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

0	ISS	1e+006	CCL	000	0	LS ₂₉₀₀₀	
	cps					cps	
0	GR	150			17	RATO	0
	gAPI				38	RICS	8
					60	SGFC	0
						cu	
							SS
							0 29000
							cps

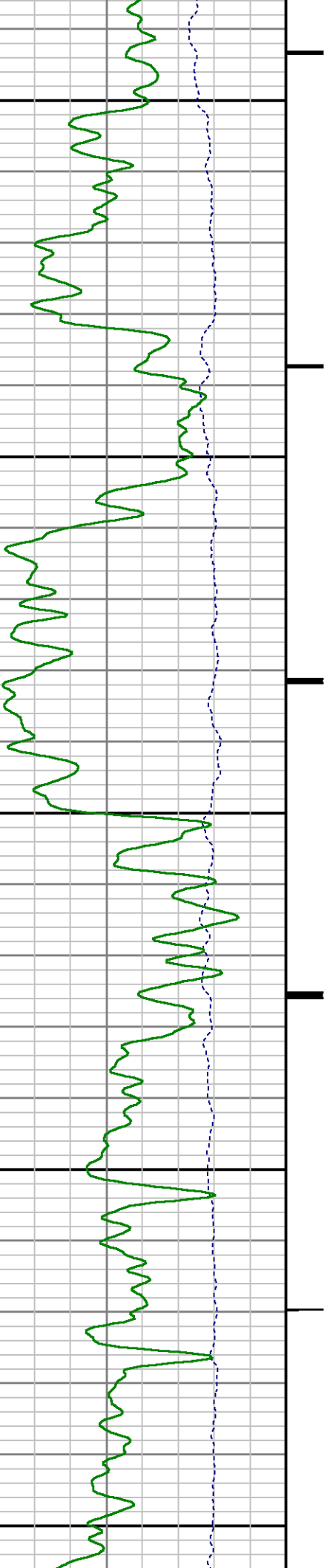


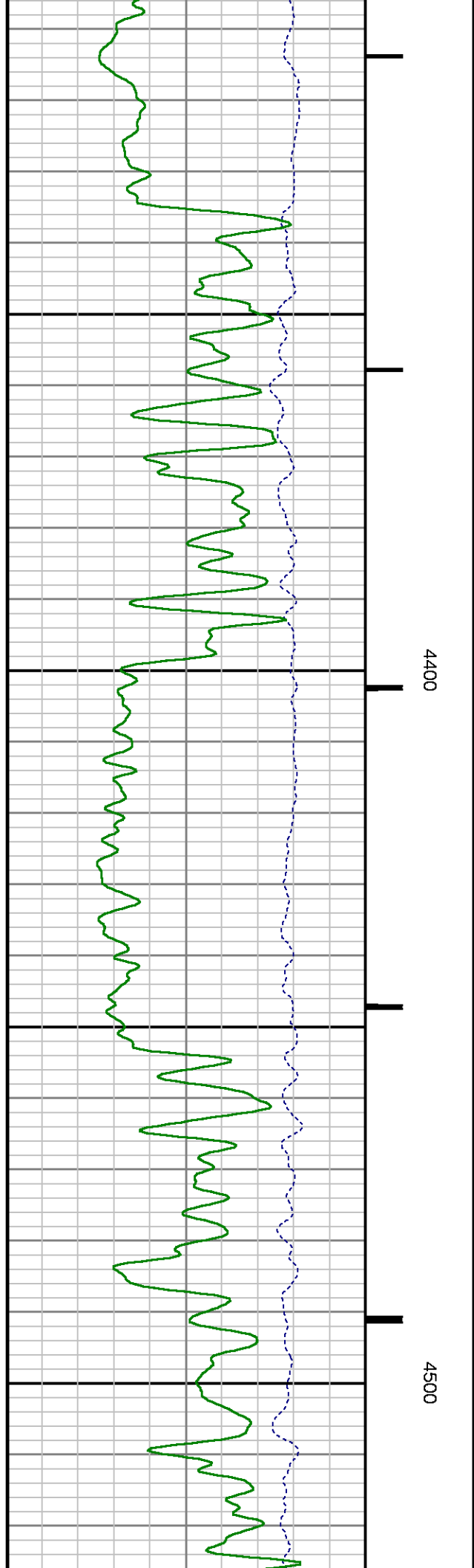
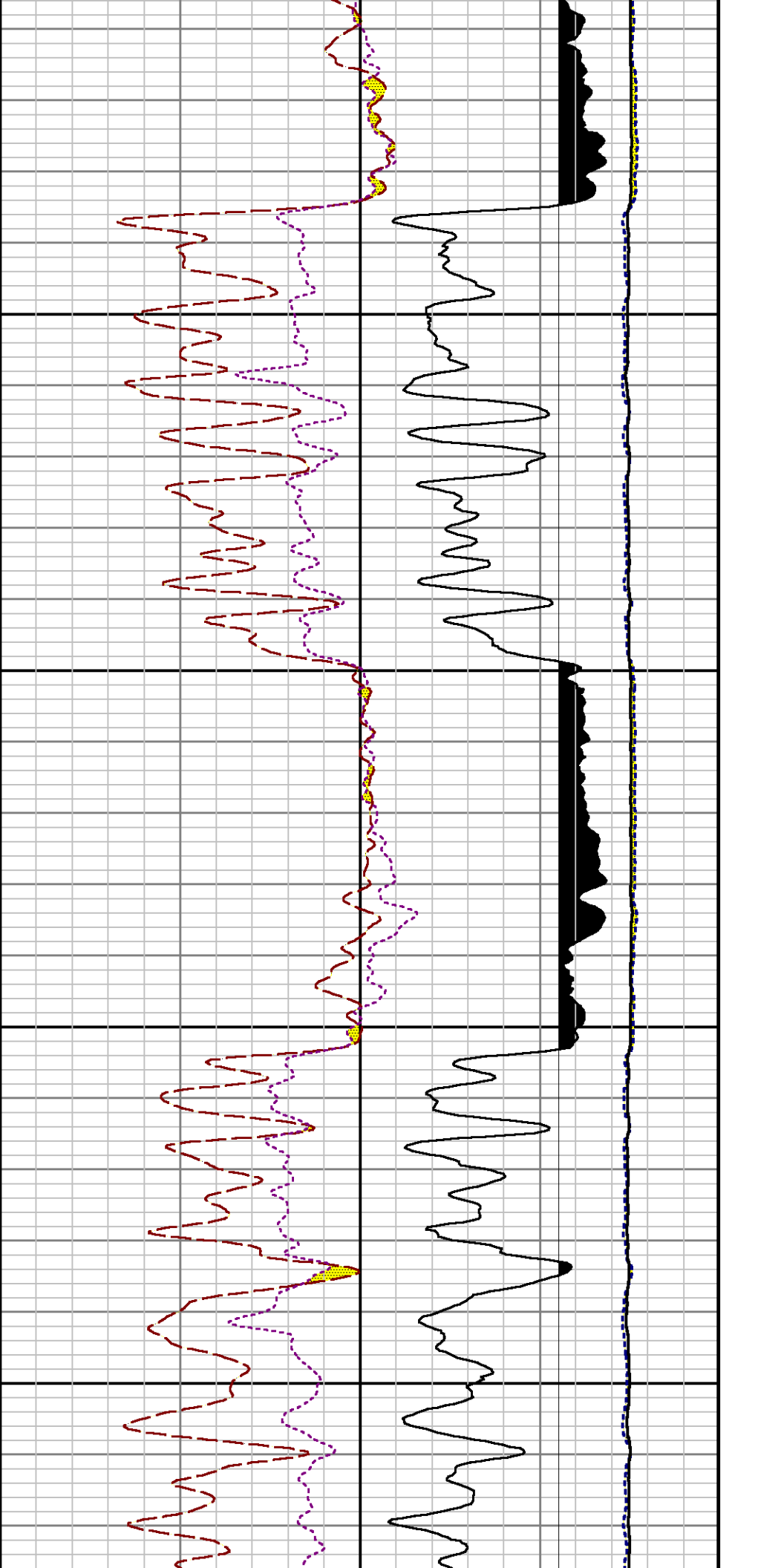


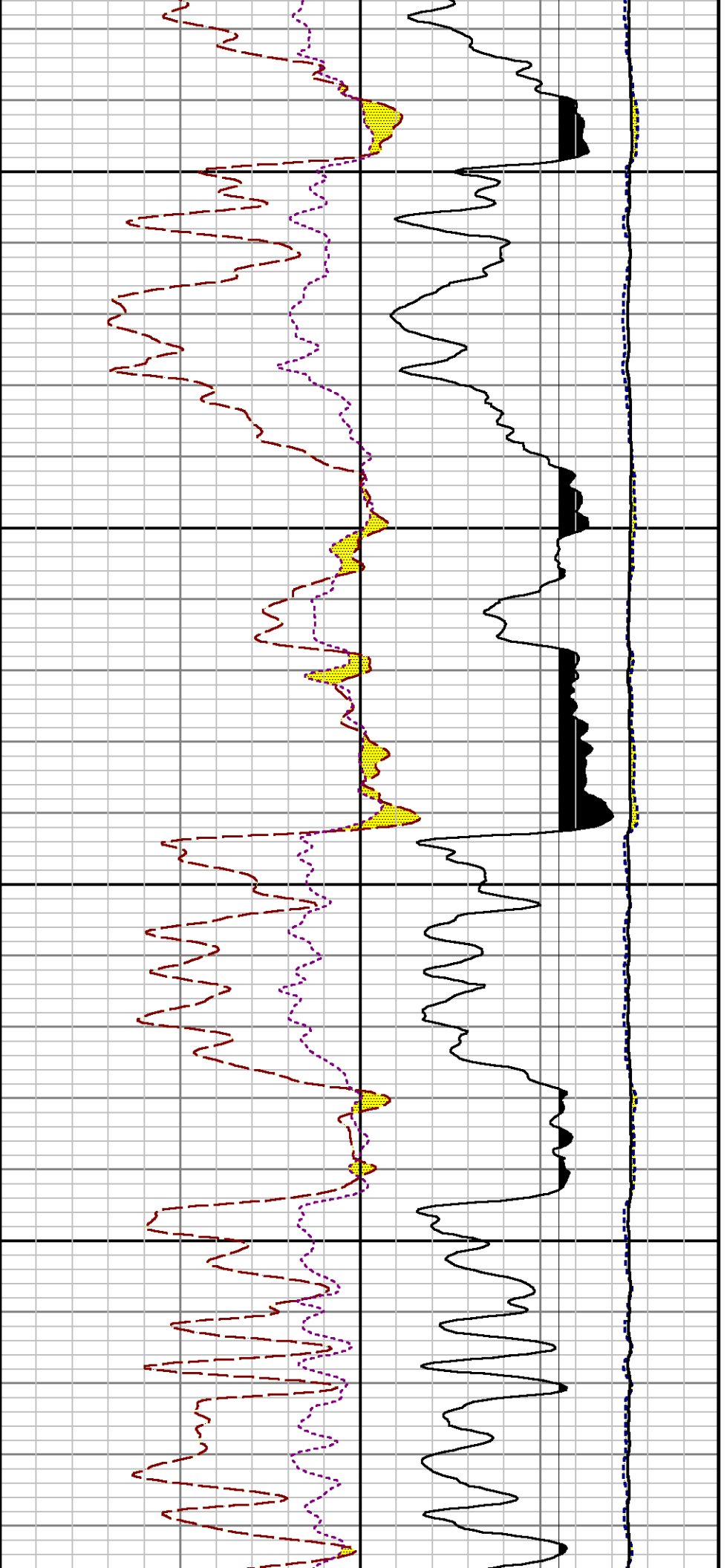
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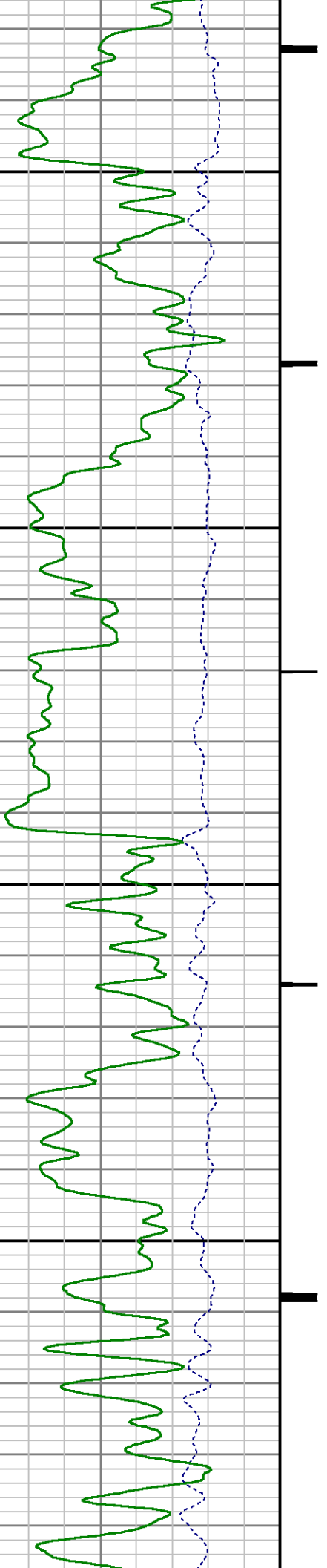


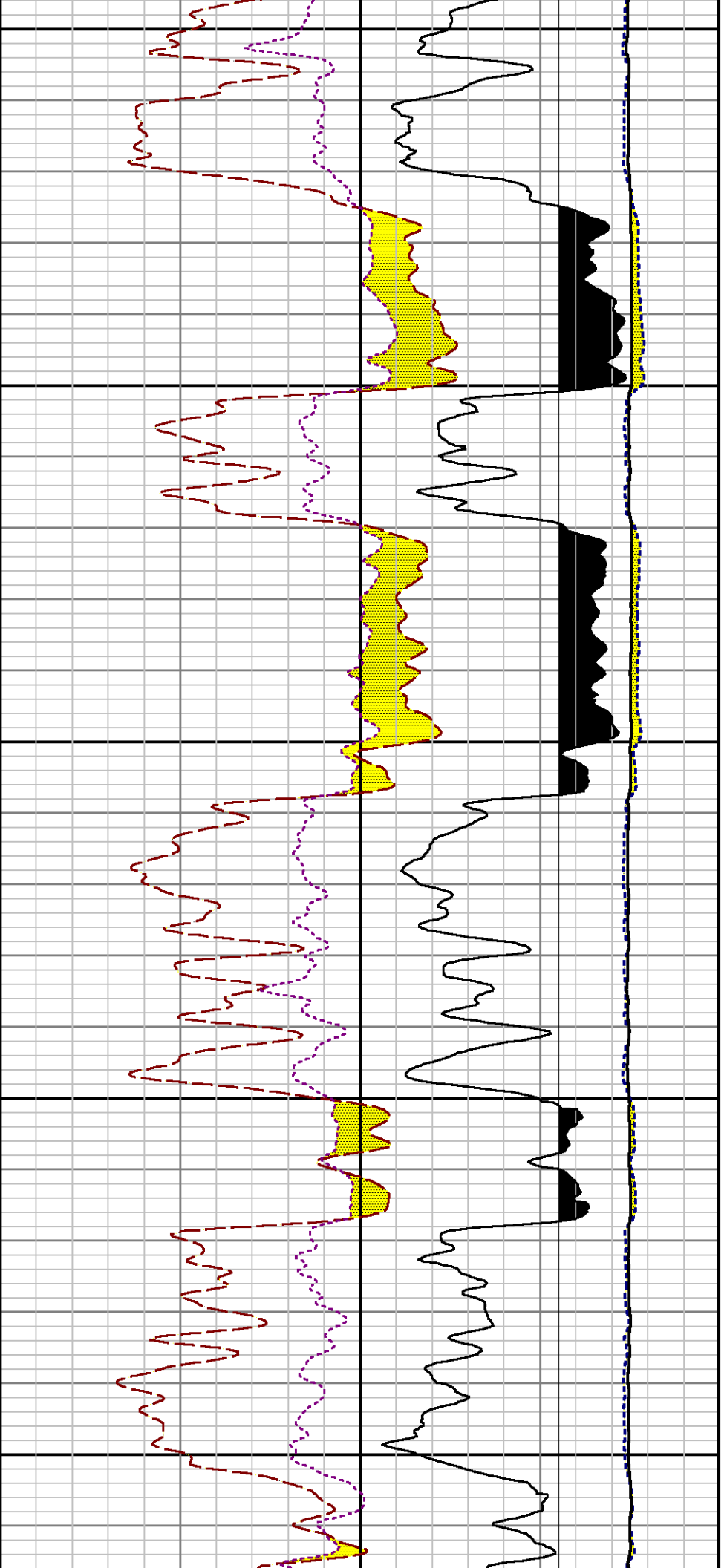




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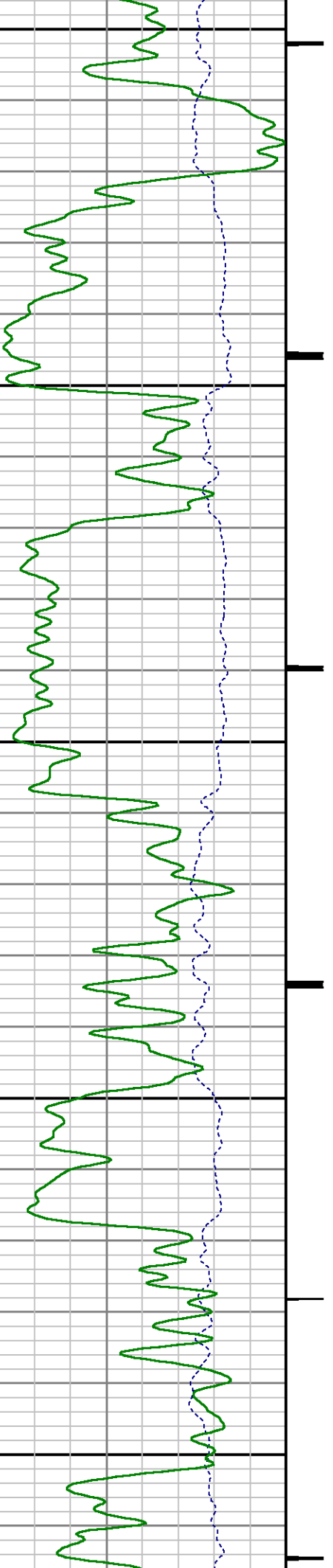
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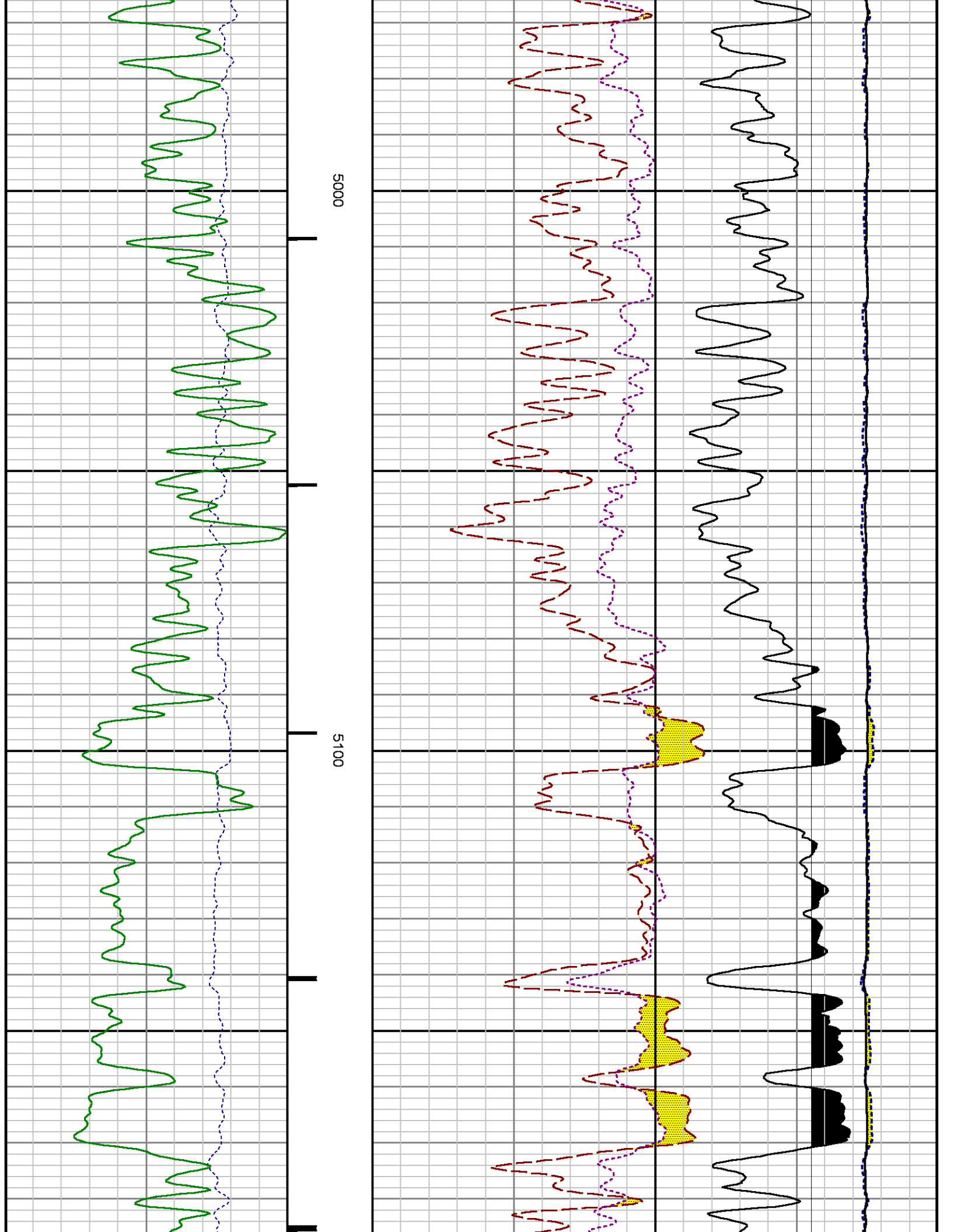


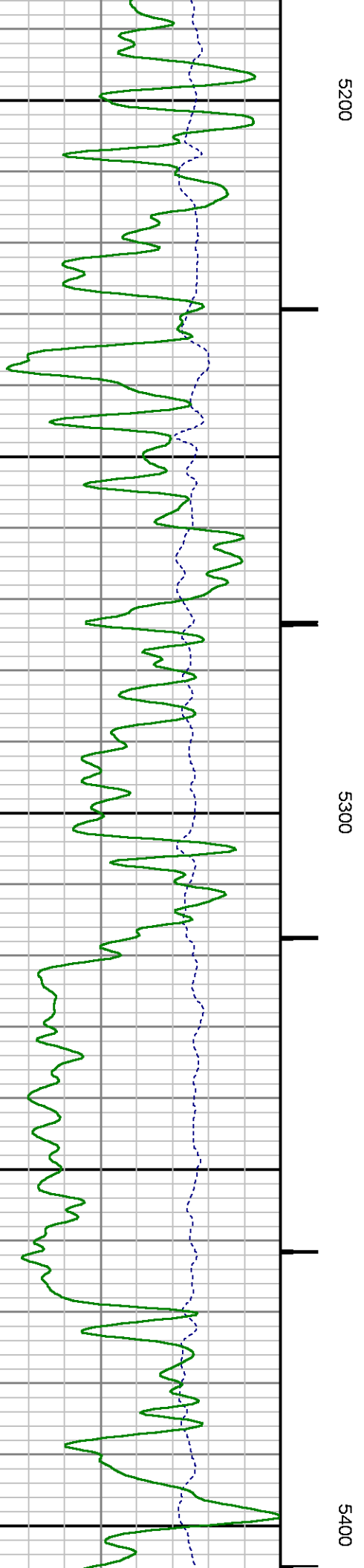
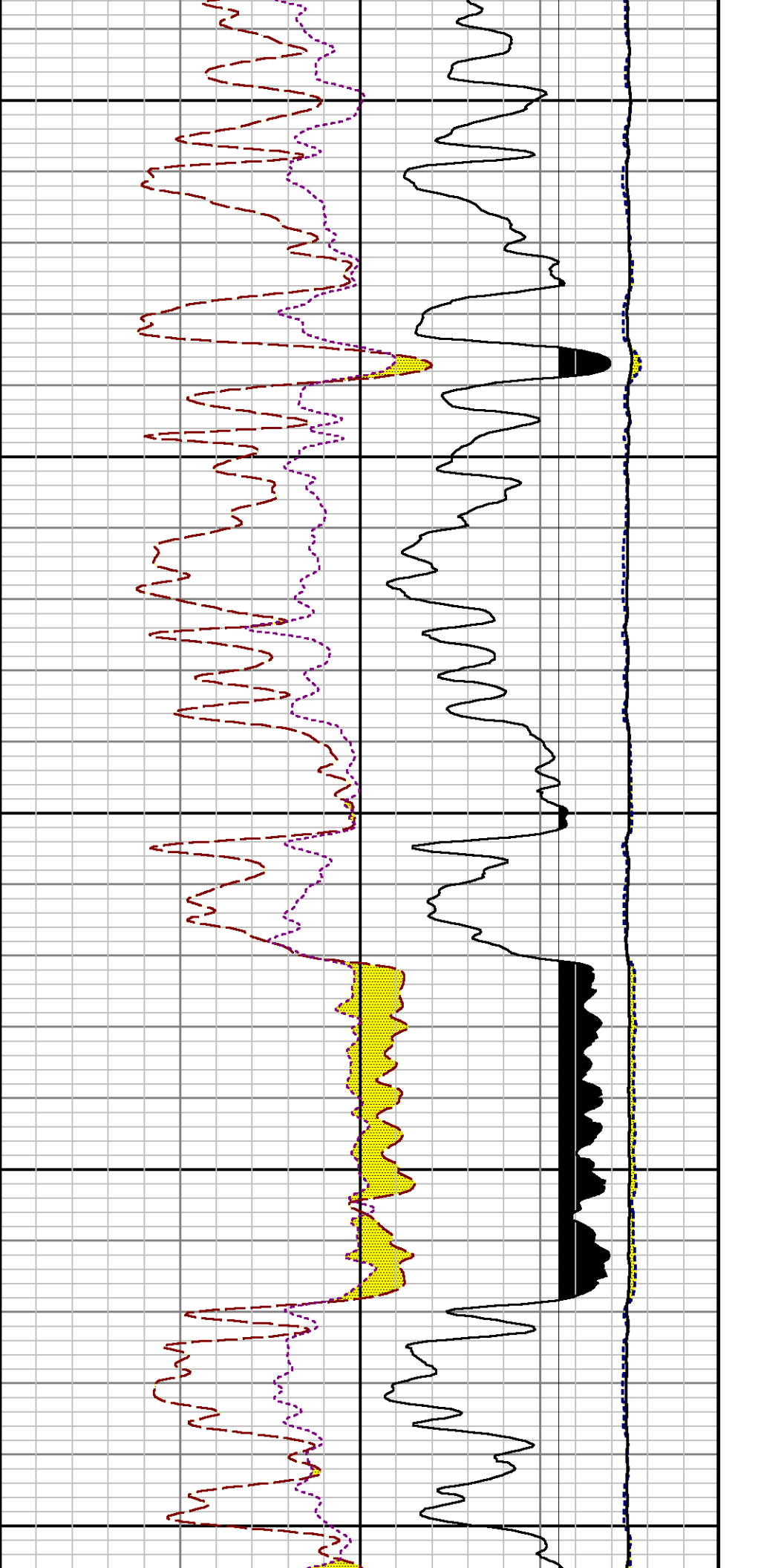


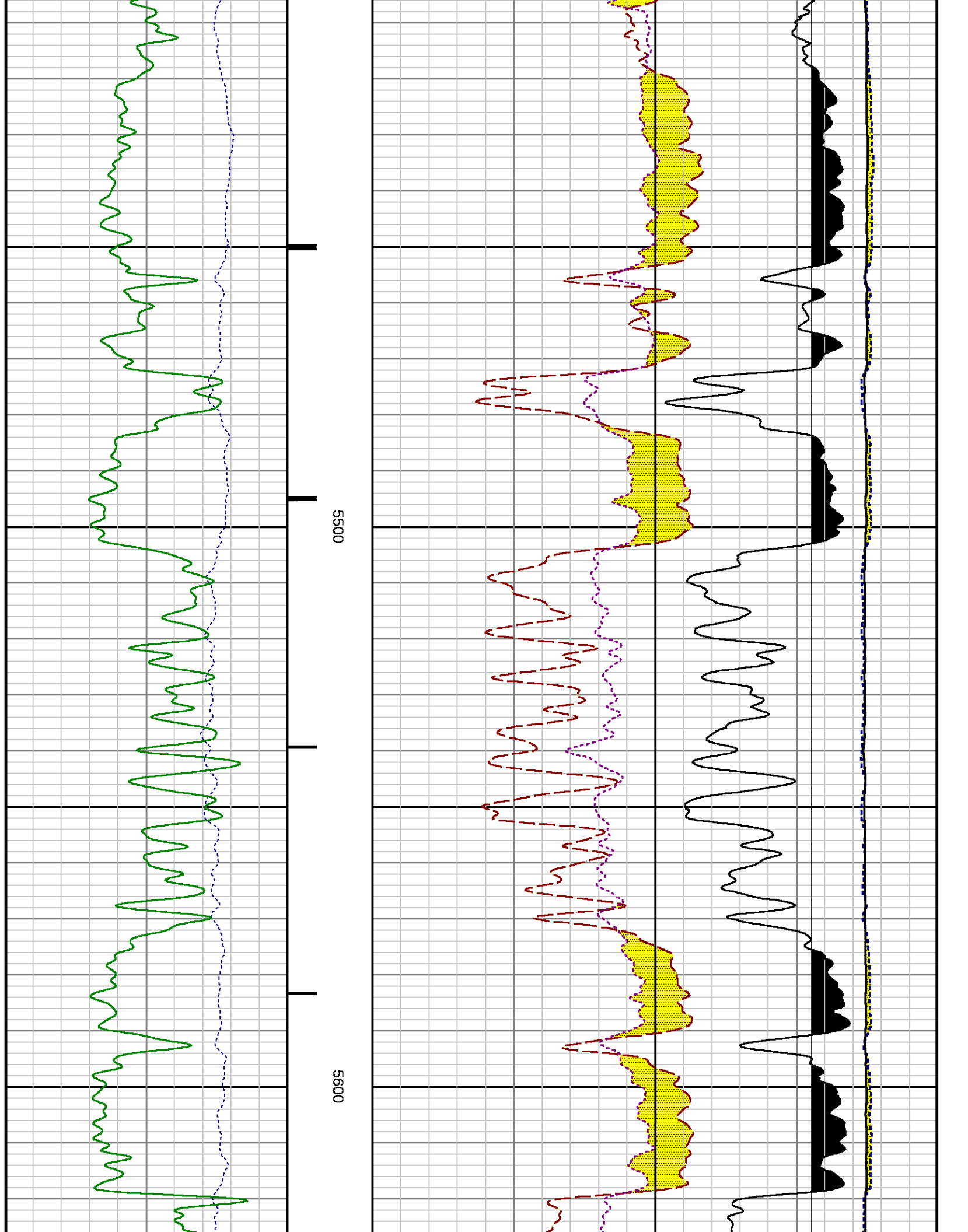
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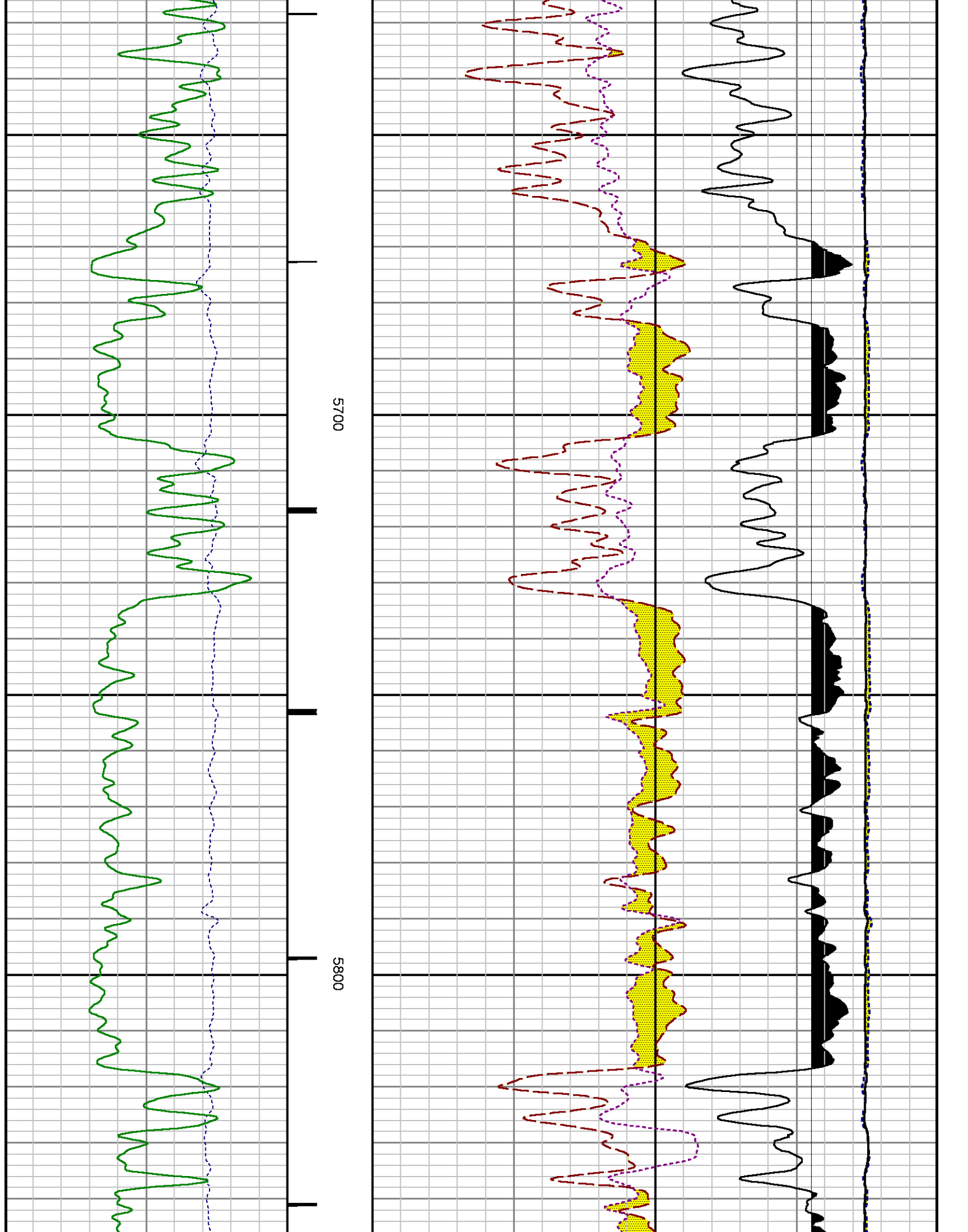
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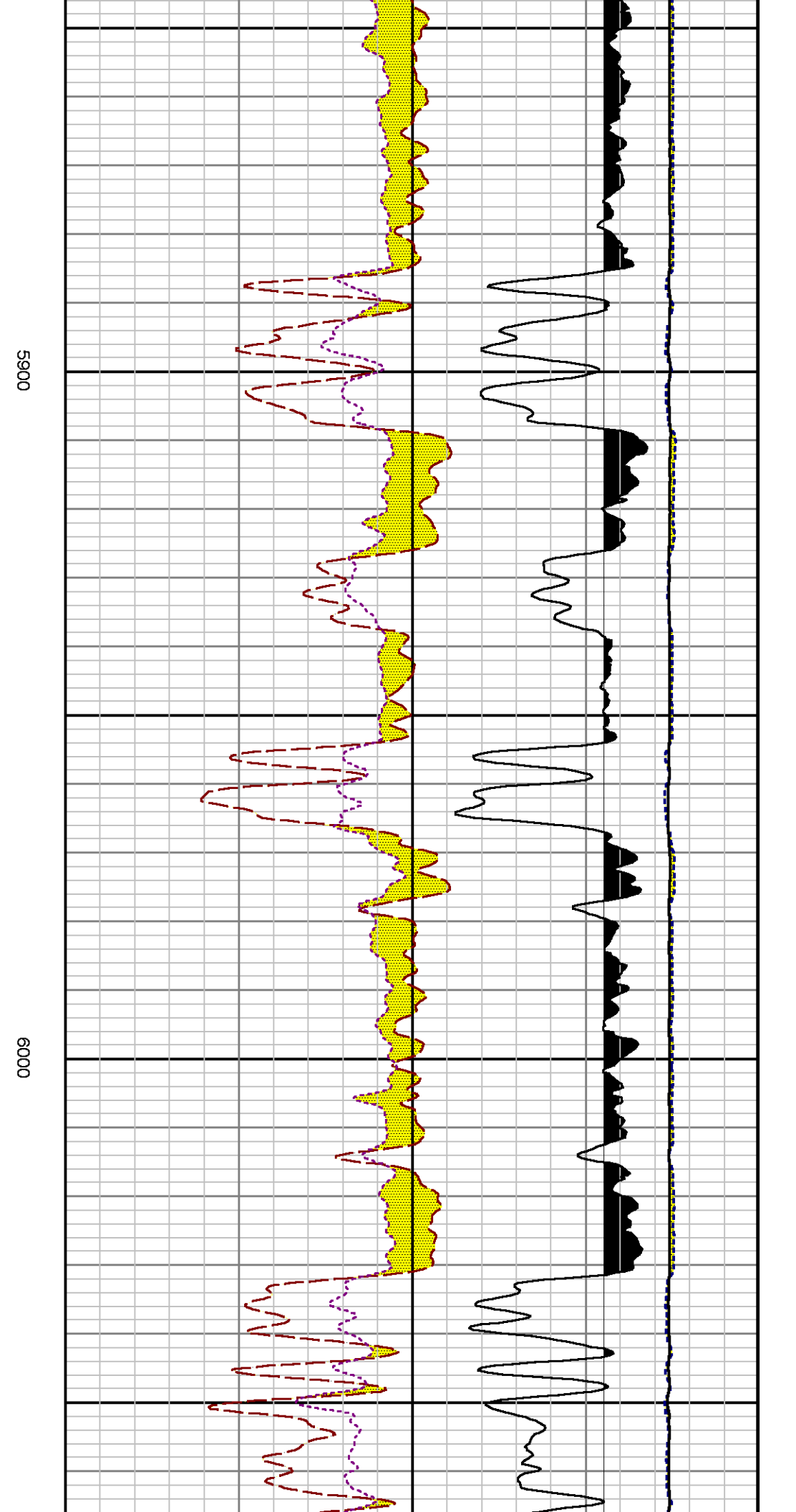
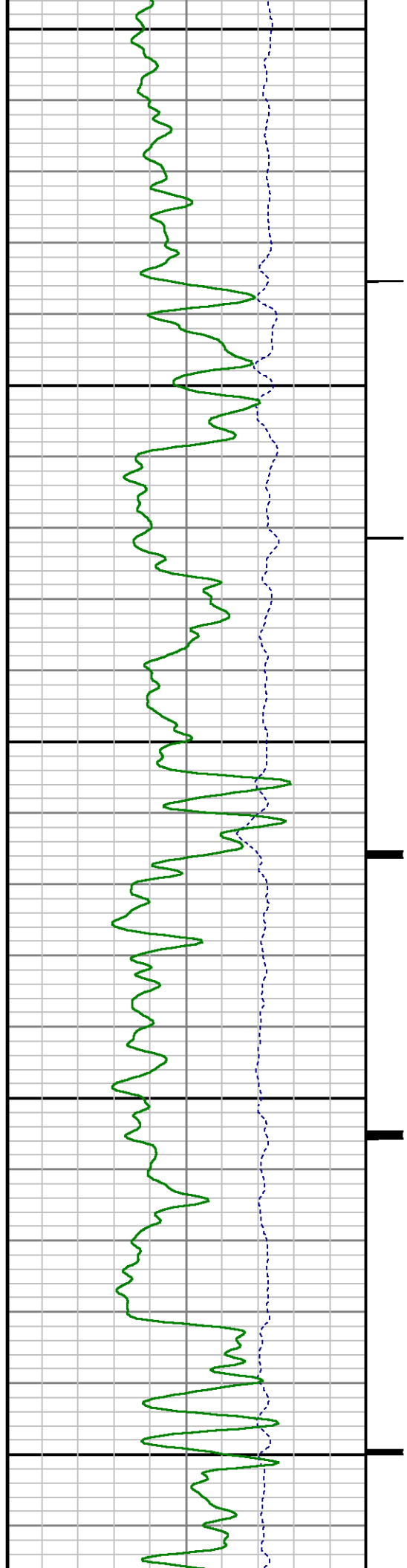


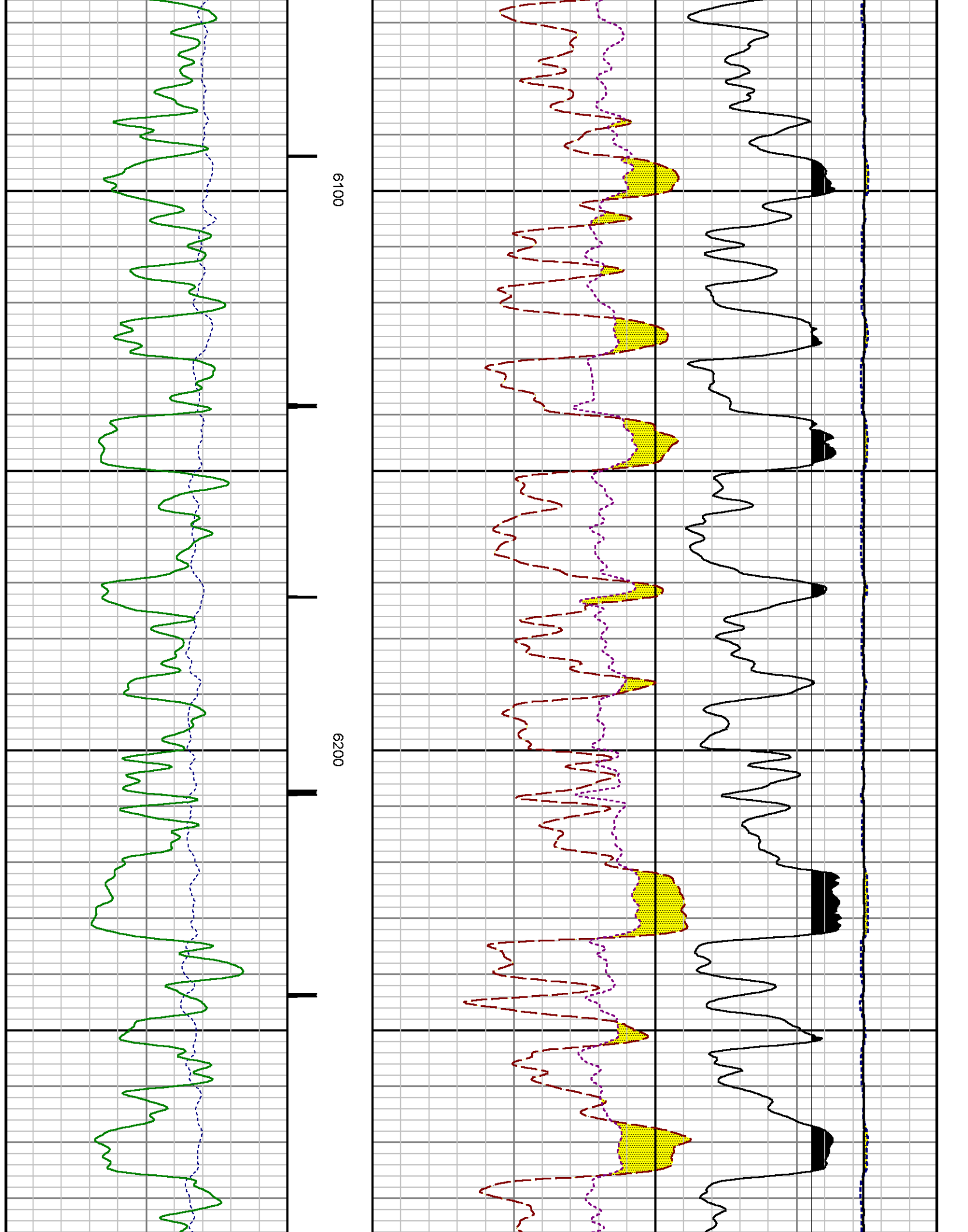


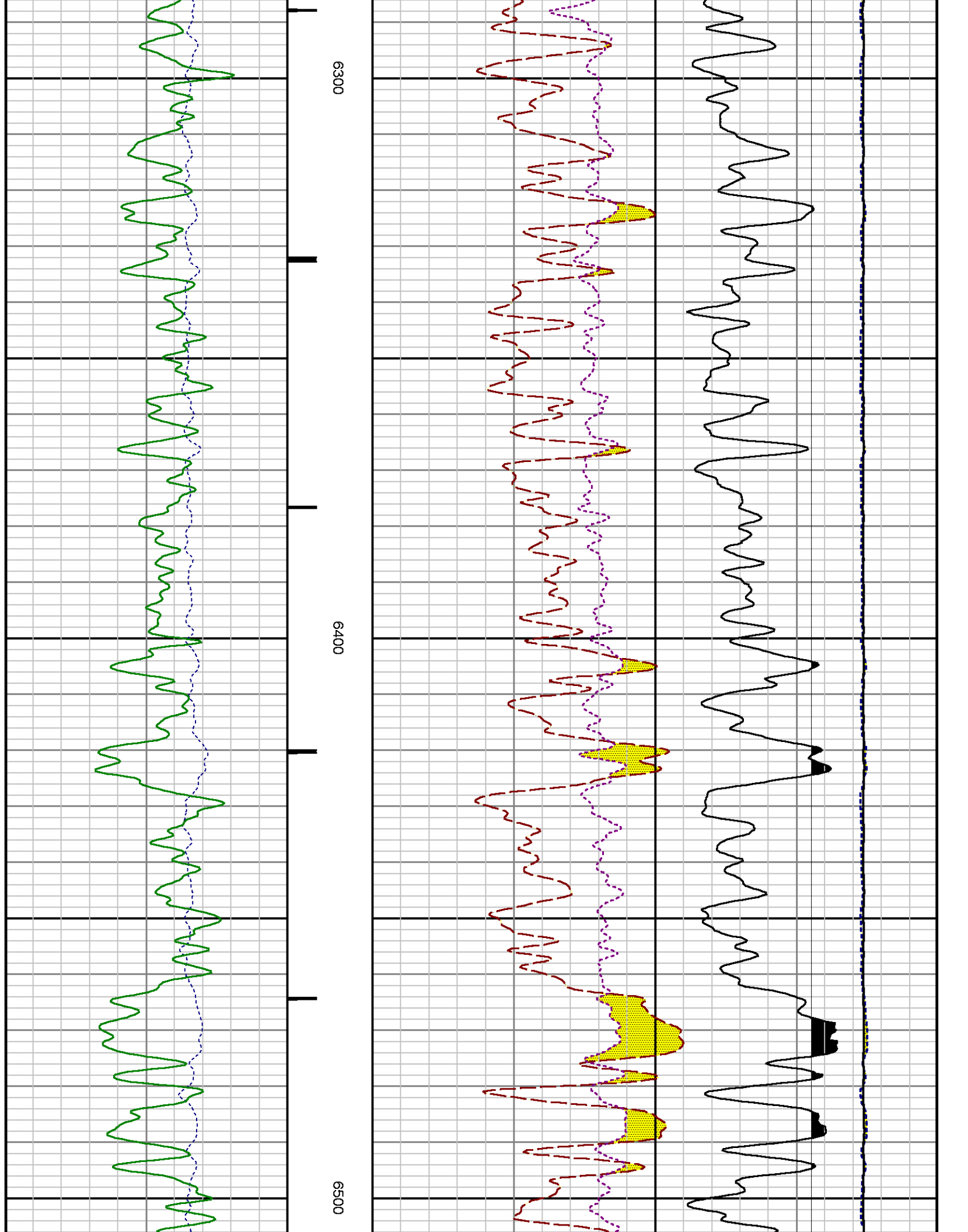


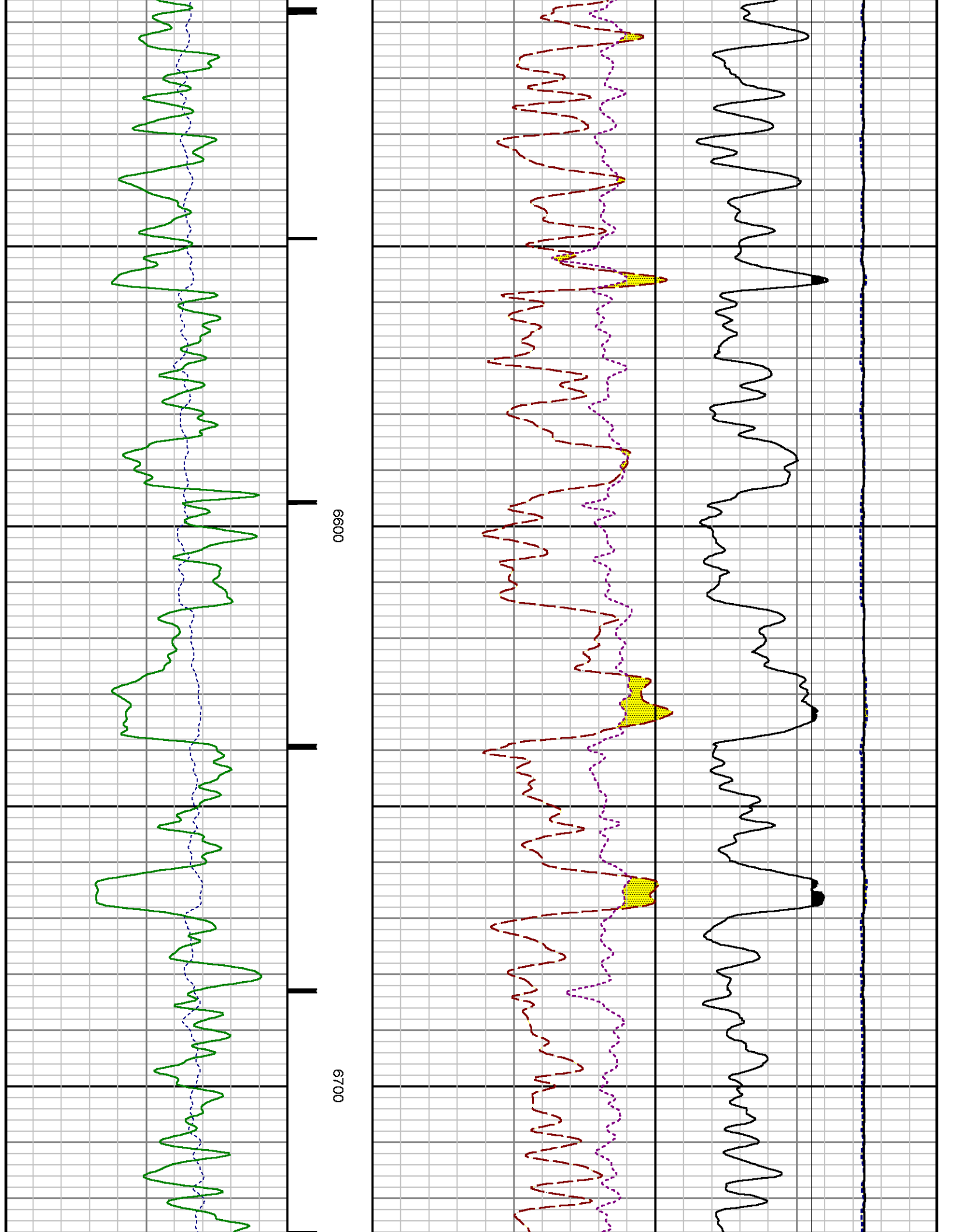


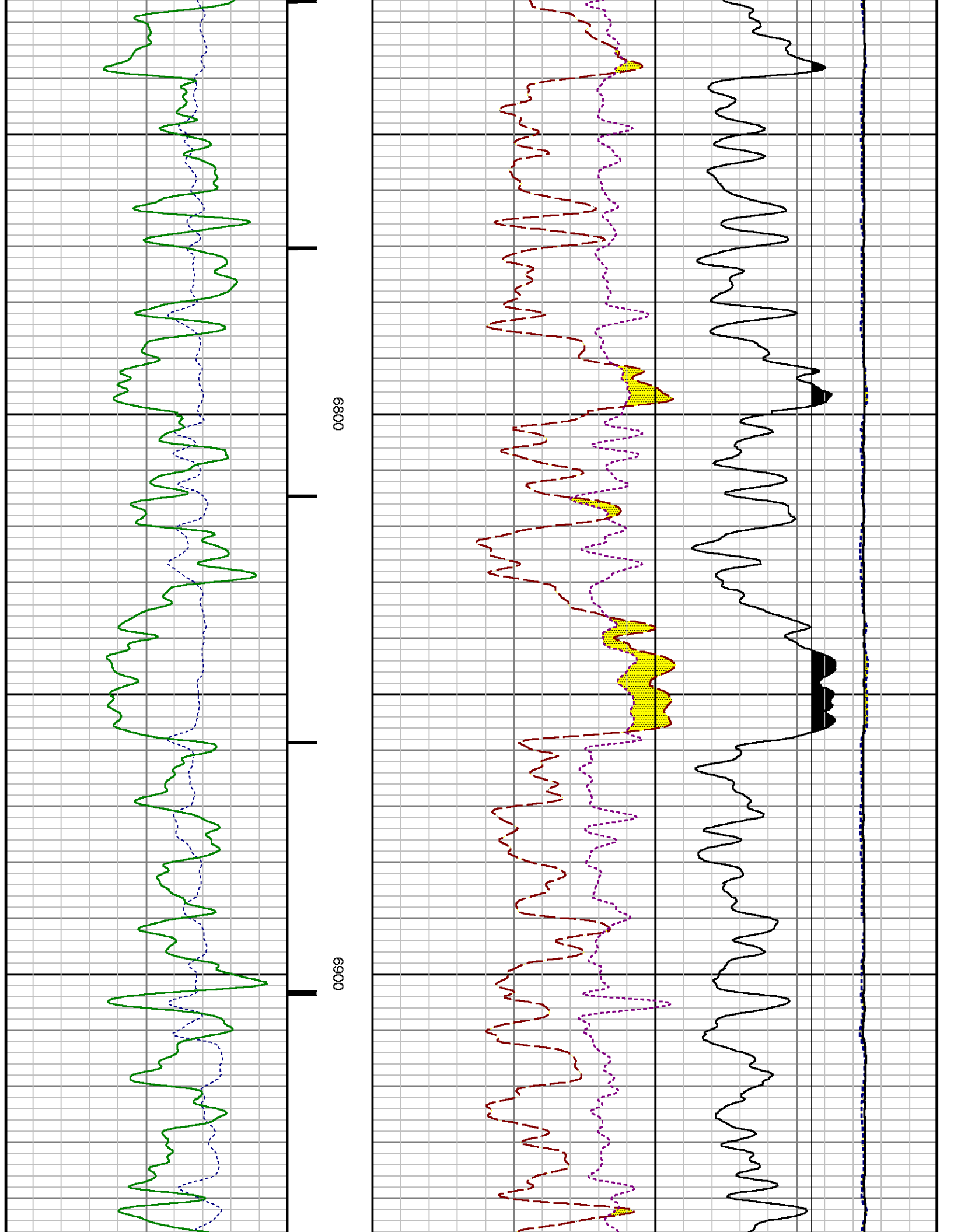


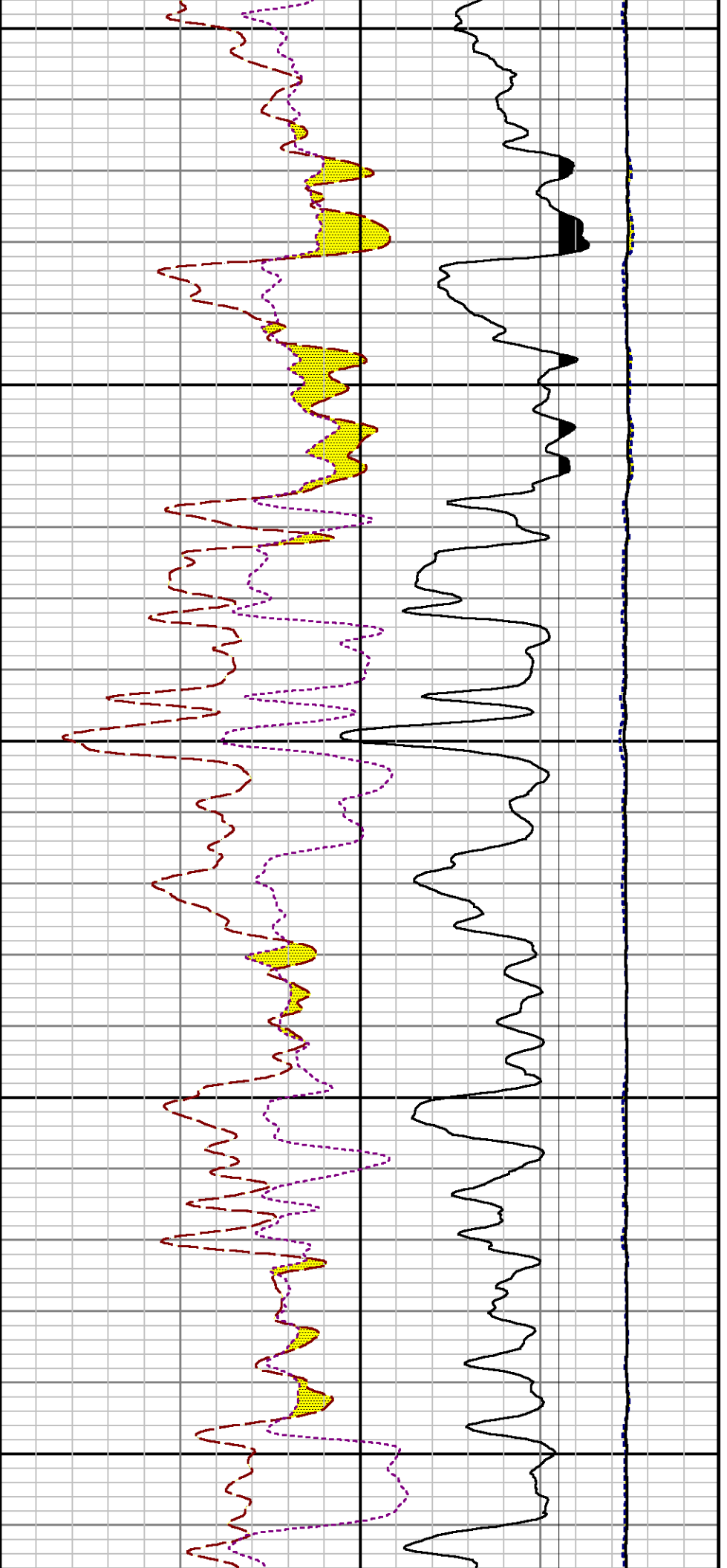






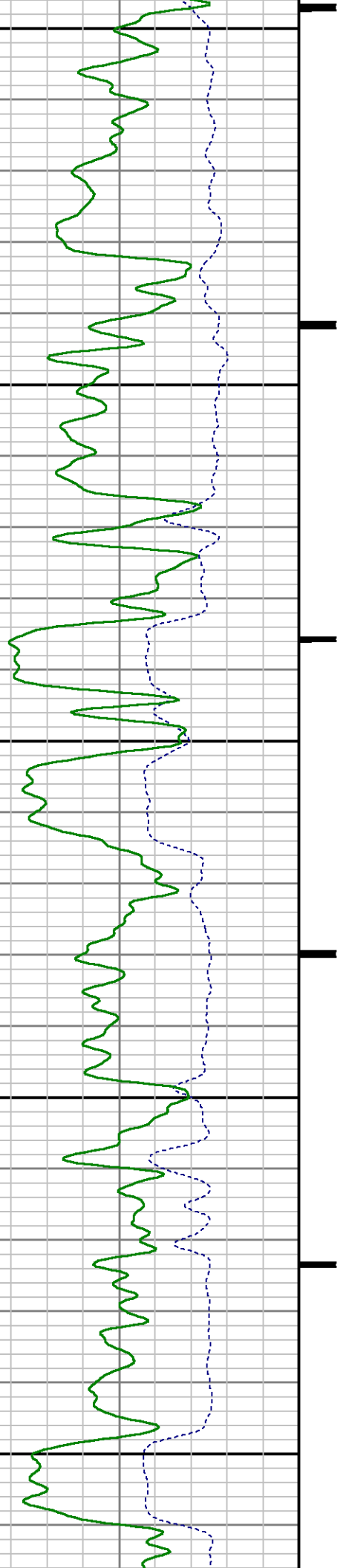


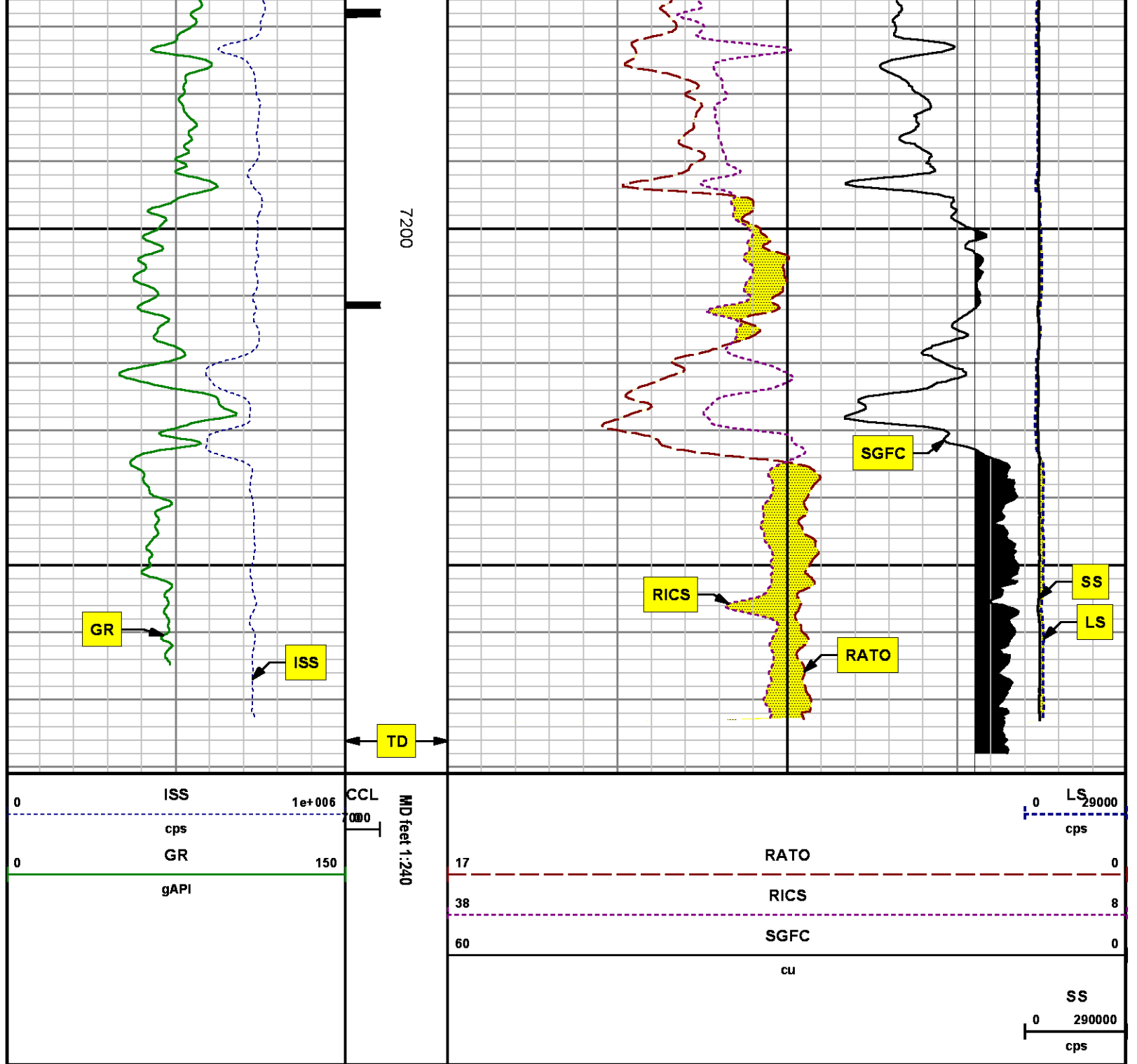




7000

7100





REPEAT SECTION
PNC 3-D MODE

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		6482.431	6799.931
PNC Porosity	Borehole Size	8.750	inch	6482.431	6799.931
PNC Porosity	Casing Size	4.500	inch	6482.431	6799.931
PNC Porosity	Gas Filled	Non Gas Filled		6482.431	6799.931
PNC Porosity	Matrix	Sandstone		6482.431	6799.931
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	6482.431	6799.931

DEPTH OFFSETS

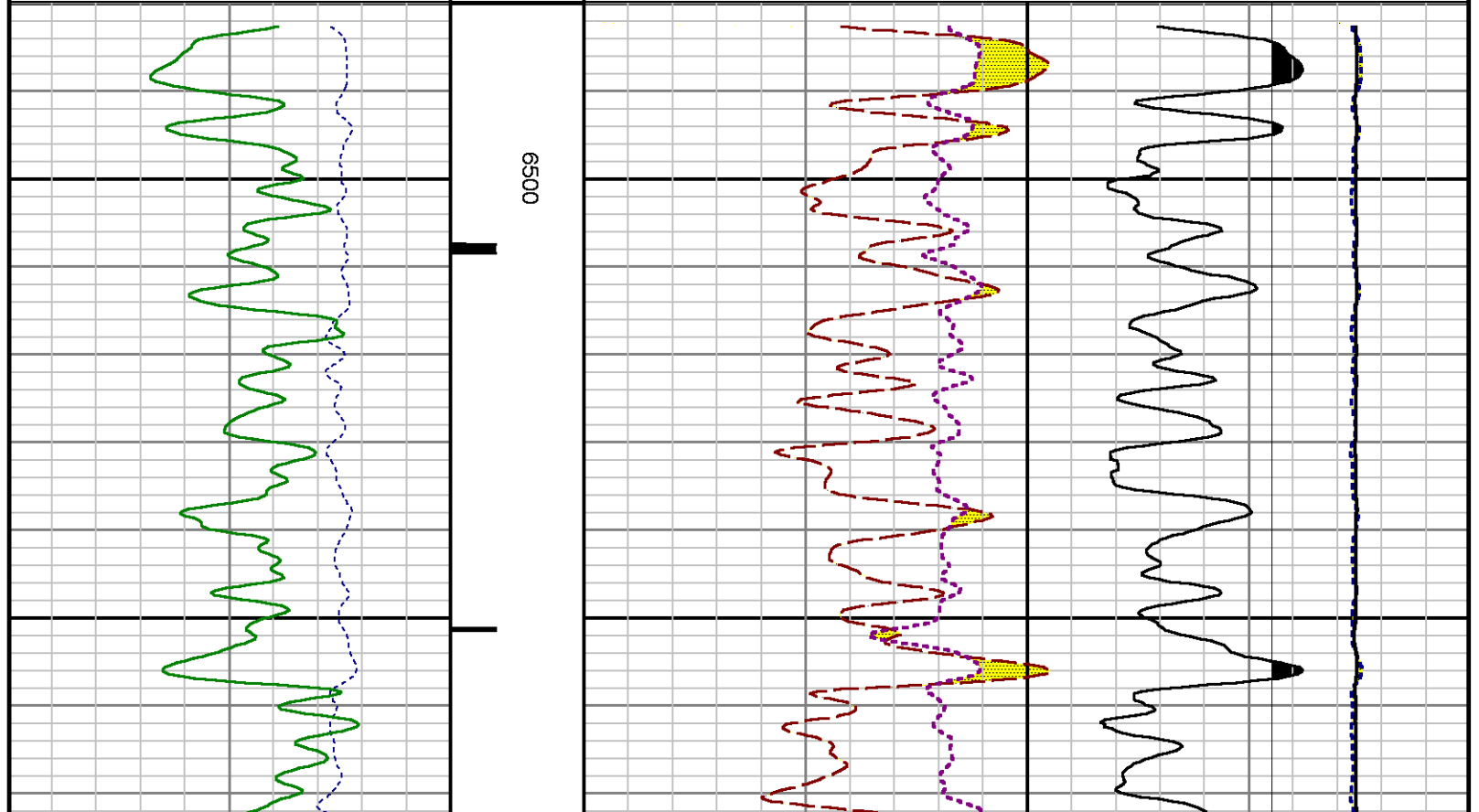
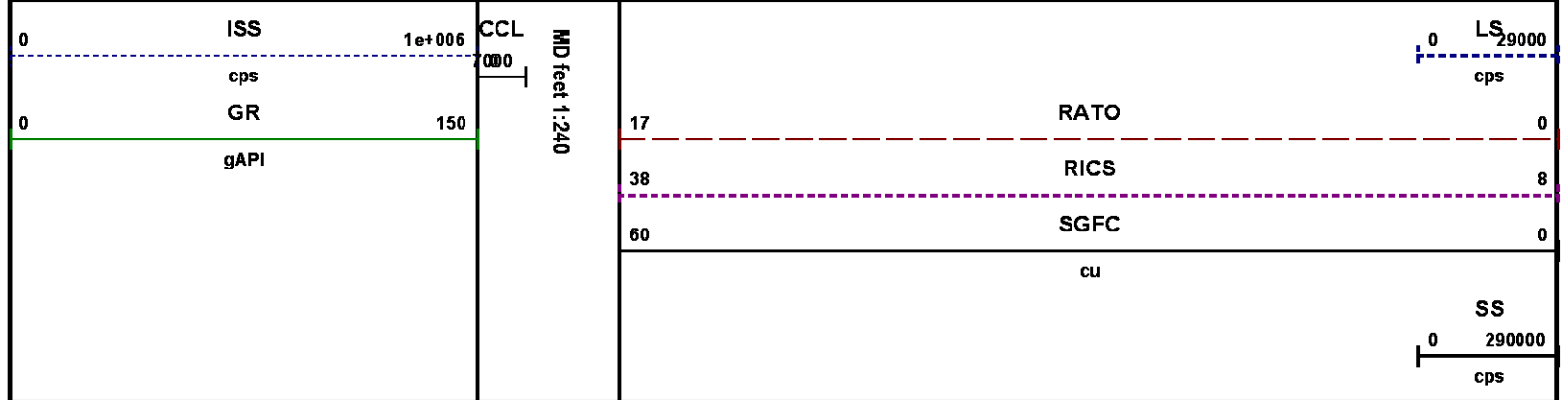
(for Acquired Curves)

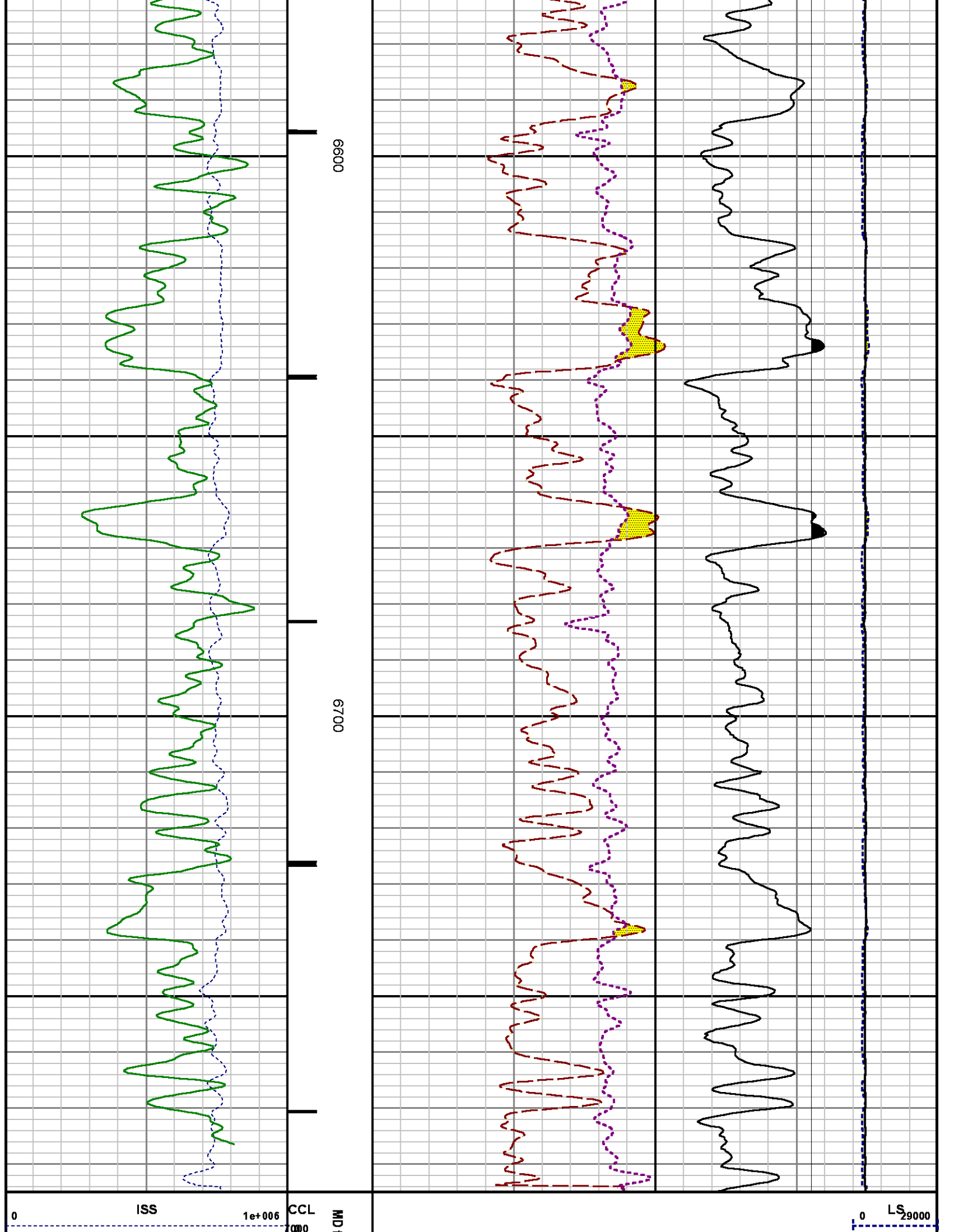
SERIES	DEPTH OFFSET	ACQUIRED CURVES
8248ED	-26.519	FLTM
8248ED	-24.519	CCL CHV
2812LA	-21.969	GR
8281XA	-12.702	HVC3Q0 SEQ3 AMA3 AML3 BKX CXS CPT3Q0 CPT3Q2 CPT3Q3 CPT3Q4 ET3 IXS MCS3 MCS3Q0 QCAL3 RGN3 RICX SDA3 SDL3 SGA3 SGL3 STA3 XS ASPEC3 AMB3 AMF3 CHF3 IXSC IXSN RATO23 RICXC RIN13C RIN23 RIN23C SD3D 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 RICL 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 QRY QIA DEBB DCNT QRY1 QSA1

QPV QIA DERR DCNT QPKT QSAT
 PK51 ASPEC1 H0C FE2XC ISSC RINC
 ISSN RDEN WDH1 RICSC CSSR G1R
 G2R ISSR SSR SS2R RATOR RATO13R
 RBORR RICS 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 : CHEVRON GM 411-21
 File Name : d:\welldata\wpx\gm 411-21\411rpm\repeat.xtf
 Mode : PlotMgr 5.4.504
 Interval : 6480.00 - 6785.00 feet UP
 Created : 10/9/2014 4:40:40 PM





6600

6700

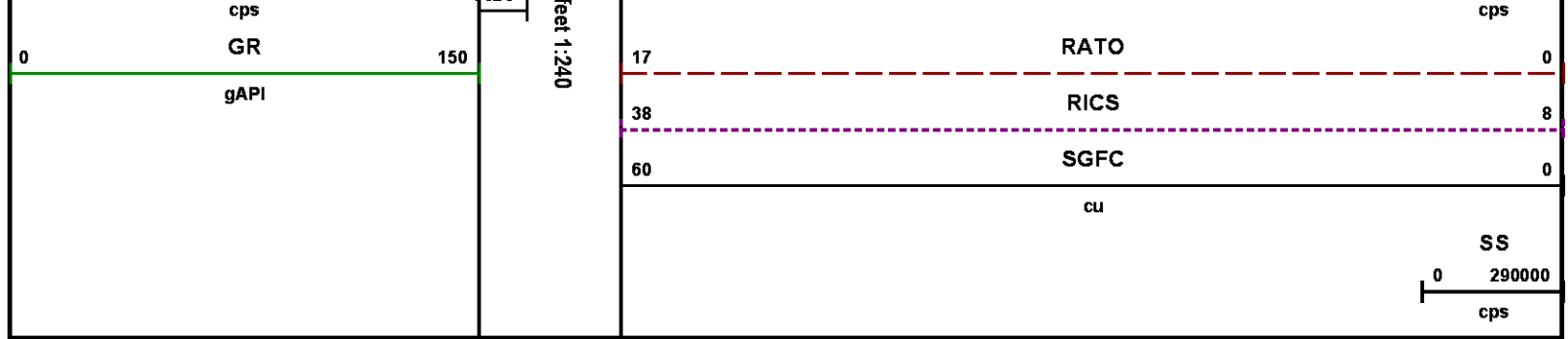
ISS

1e+006

CCL

MJD

LS₂₉₀₀₀



CALIBRATION SUMMARY

PNC

Calibration File: C:\case\calver\PNC\555S7.cal

PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Wed Sep 17 10:41:50 2014 **TOOL SERIES:** 8281XA **ASSET:** 555 **SEQ:** S7

Calibrator #

GJ SHOP

Source #

8281AA 11765054

	ISS	Mtr Vlts (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	810519	123.00	2328.00	2274.00	2230.00	98.97	7.00	0.9839
Interpolated	1300000	144.15	2313.58	2271.51	2227.05			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	810519	7904.47	1481.33	242.23	25.73	0.14	24.23	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	810519	169037.59	26667.59	88216.89	31442.44	8261.72	53409.88	13185.37
Fit Quality %		0.36	0.48	0.36	0.36	0.45	0.35	0.37

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	810519	1.43	4.79	30.40	15.18	10.68	3.81	4.05
		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 %		0.03	0.16	0.08	0.13	0.13	0.15	0.07							
Reduced	1411256	1.43	4.82	30.51	15.22	10.70	3.81	4.05							
		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\38515.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Mon Sep 15 07:23:36 2014 TOOL SERIES: 2812LA ASSET: 385 SEQ: 15

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	85.63	306.18	0.952	81.54	291.54	210.00

Verification File: C:\case\calver\GR\38515.VP

PRIMARY VERIFICATION

DATE/TIME PERFORMED: Mon Sep 15 07:27:22 2014 TOOL SERIES: 2812LA ASSET: 385 SEQ: 15

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	85.13	310.48	0.952	81.06	295.63	214.57

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

OTA SHORT CABLE HEAD

33.24

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

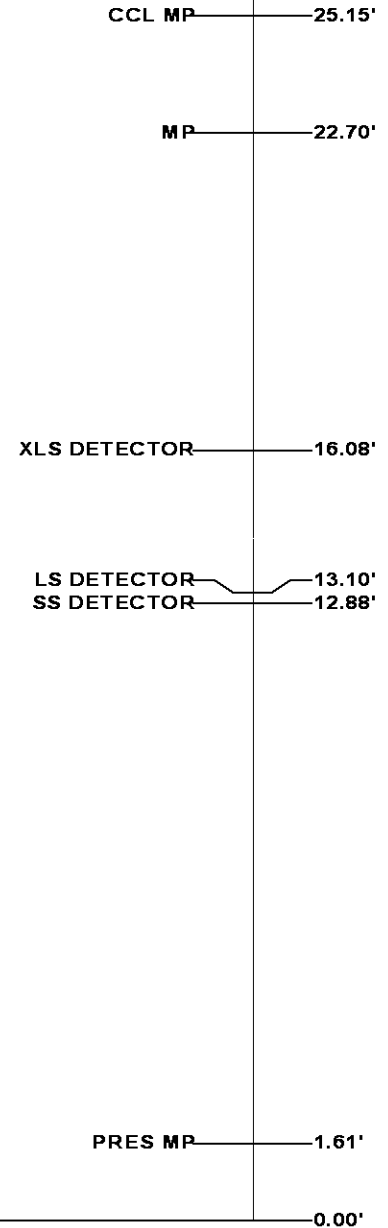
Series 2812LA
 Mnemonic SNDX
 Diameter 1.69"

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

WPX ENERGY

Well

CHEVRON GM 411-21

Field

GRAND VALLEY

County

GARFIELD

State

CO

Location

Elevations

File No:

CH091000

API No:

05045223580000

CASE

SHL: 2027' FNL & 702' FEL (20 6S 96W)

BHL: 1033' FNL & 996' FWL (21 6S 96W)

KB 5596 ft

DF

GL 5575 ft

21 6S 96W

GM 442-20 PAD

CYCLONE 17

SEC 21 TWP 6S RGE 96W