



# RESERVOIR PERFORMANCE MONITOR

Baker Atlas

File No: CH091002	Company Well CHEVRON GM 12-21	WPX ENERGY
API No: 05045223590000	Field County GRAND VALLEY GARFIELD	State CO
21 6S 96W GM 442-20 CYCLONE 17	Location SHL: 2034' FNL & 703' FEL (20 6S 96W) BHL: 1350' FNL & 1001' FWL (21 6S 96W) SEC 21 TWP 6S RGE 96W	Other Services BOND LOG
Permanent Datum Log Measured From Drill Measured From	GL KB KB Elevation 21 ft Above P. D.	Elevations KB 5596 ft DF GL 5575 ft

Date	10/OCT/14	
Run	ONE	
Service Order	US091002	
Depth Driller	7318 ft	
Depth Logger	7248 ft	
Bottom Logged Interval	7238 ft	
Top Logged Interval	21 ft	
Time Started	0400	
Time Finished	0930	
Operator Rig Time	5.5 HOURS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	61 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	10 fpm	
Maximum Recorded Temperature	241 degF	
Reference Log	BAKER HUGHES BOND LOG	
Reference Log Date	10/OCT/14	
Equipment No.	44271	GRAND JUNCTION
Recorded By	NEWELL	
Witnessed By	COLE APPLIGATE	

- 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	1074 ft
8.75 in	1074 ft	7332 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			0 ft	1074 ft
4.5 in	11.6 lbm/ft	I-80	0 ft	7332 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 10/10/2014 at the client's request.
The amount of linear shift is .5 feet.
Logged in PNC-3D mode.
BHT = 241°F
SJ = 3655'-3677'

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	TEMP	8255XA	Z120816	FREE
1	1	RPM	8281FA	10191667	FREE
1	1	RPM	8281PA	10585555	FREE
1	1	RPM	8281EA	10273848	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		3909.750	7246.937
PNC Porosity	Borehole Size	8.750	inch	3909.750	7246.937
PNC Porosity	Casing Size	4.500	inch	3909.750	7246.937
PNC Porosity	Gas Filled	Non Gas Filled		3909.750	7246.937
PNC Porosity	Matrix	Sandstone		3909.750	7246.937
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	3909.750	7246.937

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
		SDA3	SDA3	SDA3	SDA3	SDA3	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 : CHEVRON GM 12-21

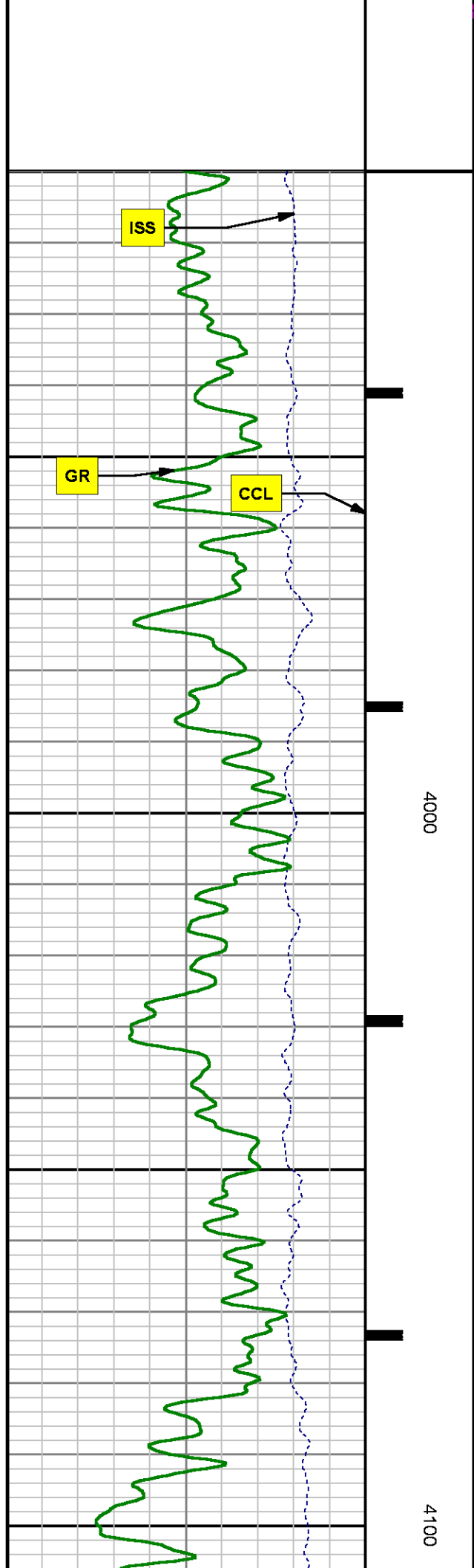
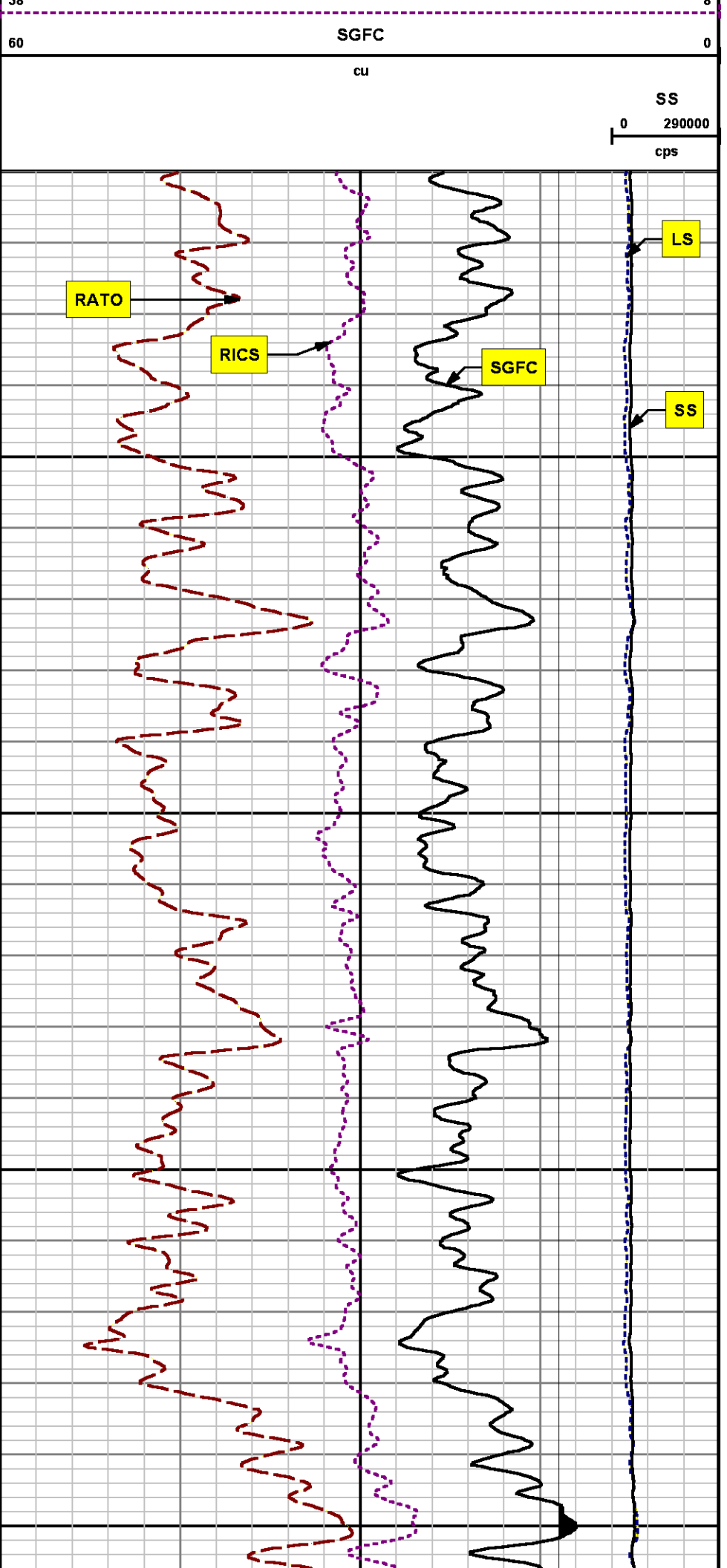
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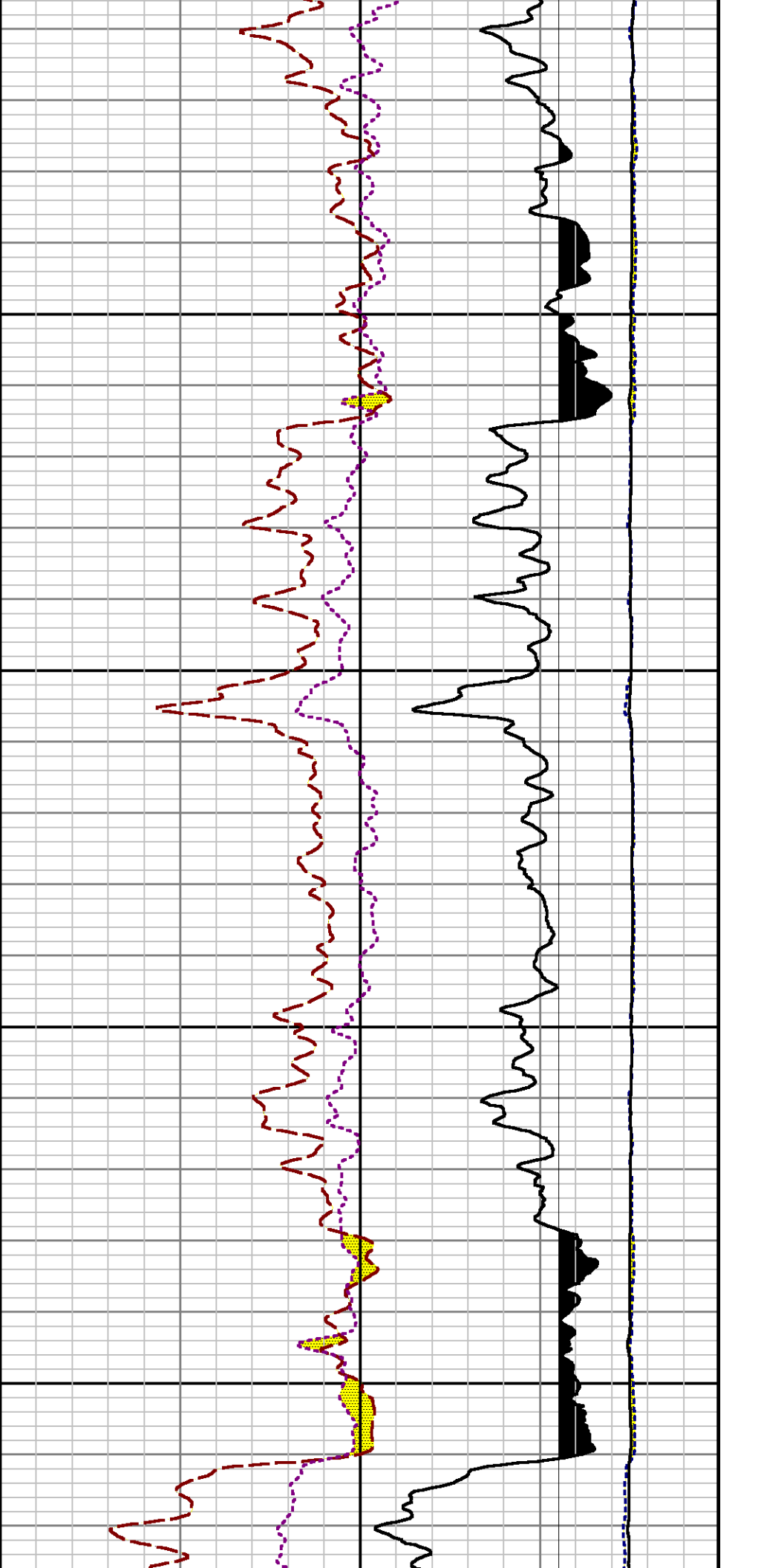
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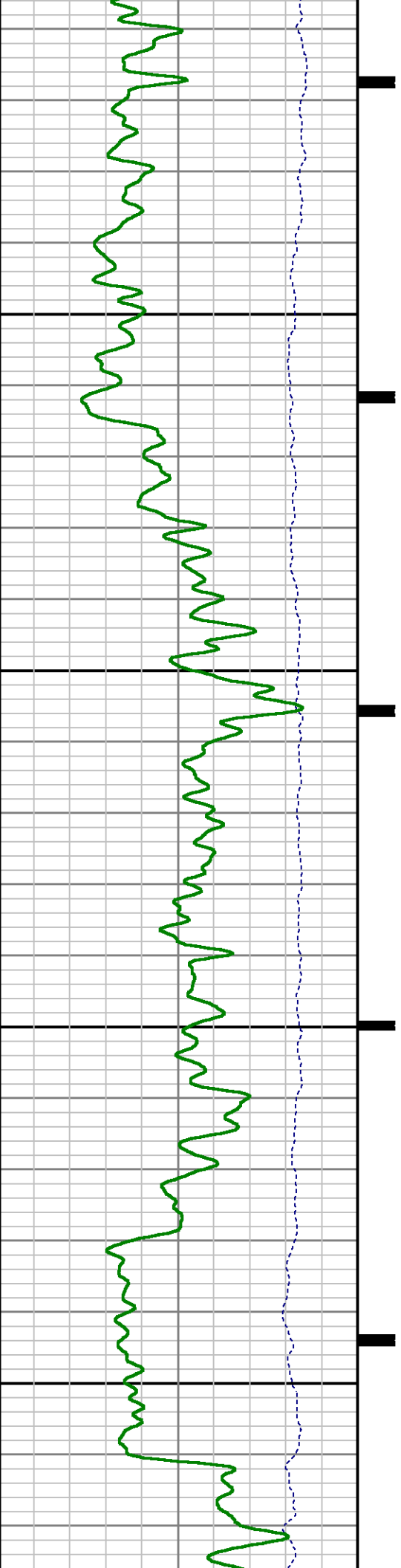


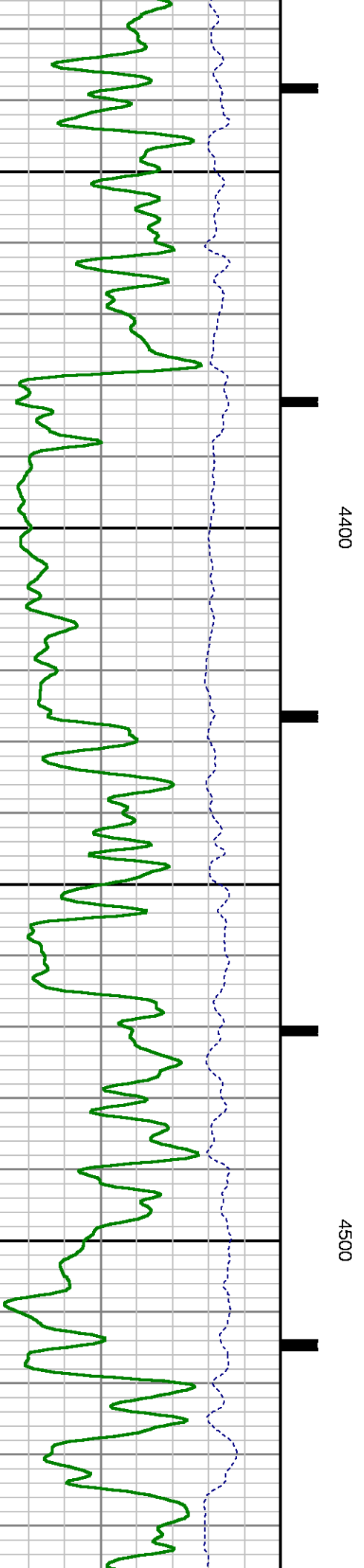
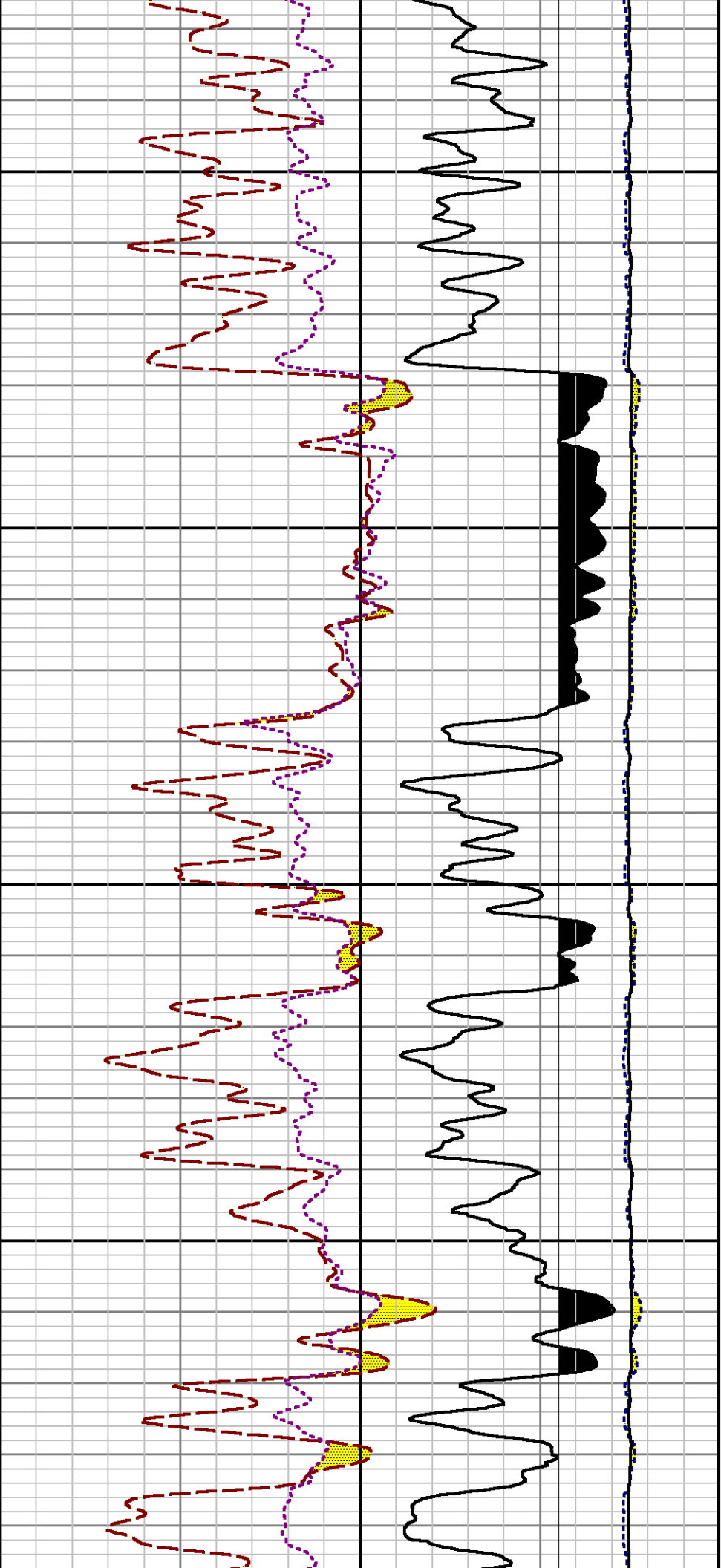


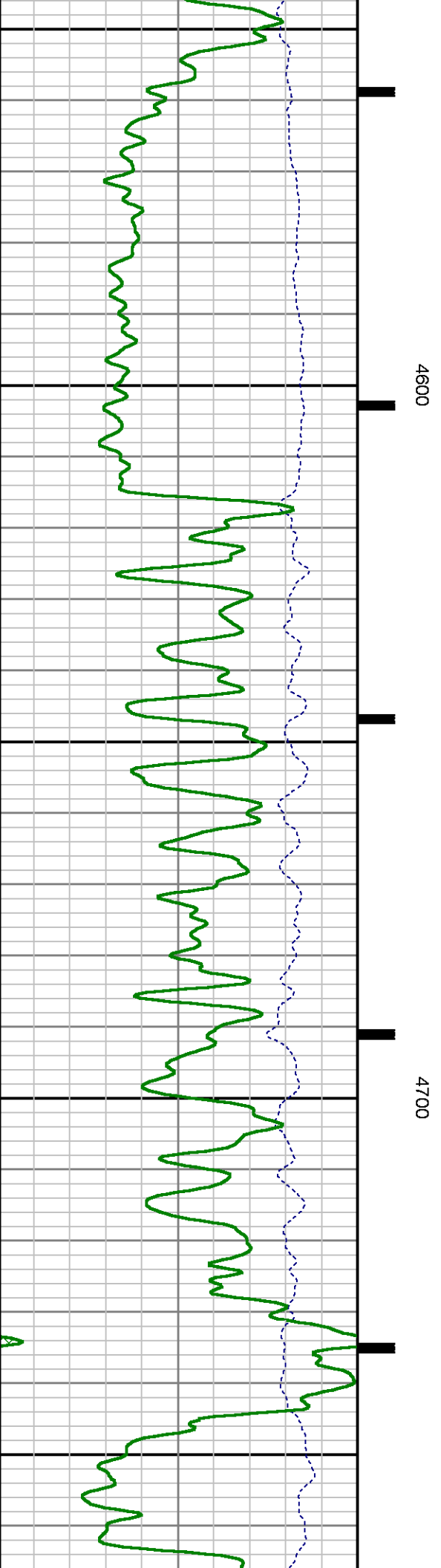
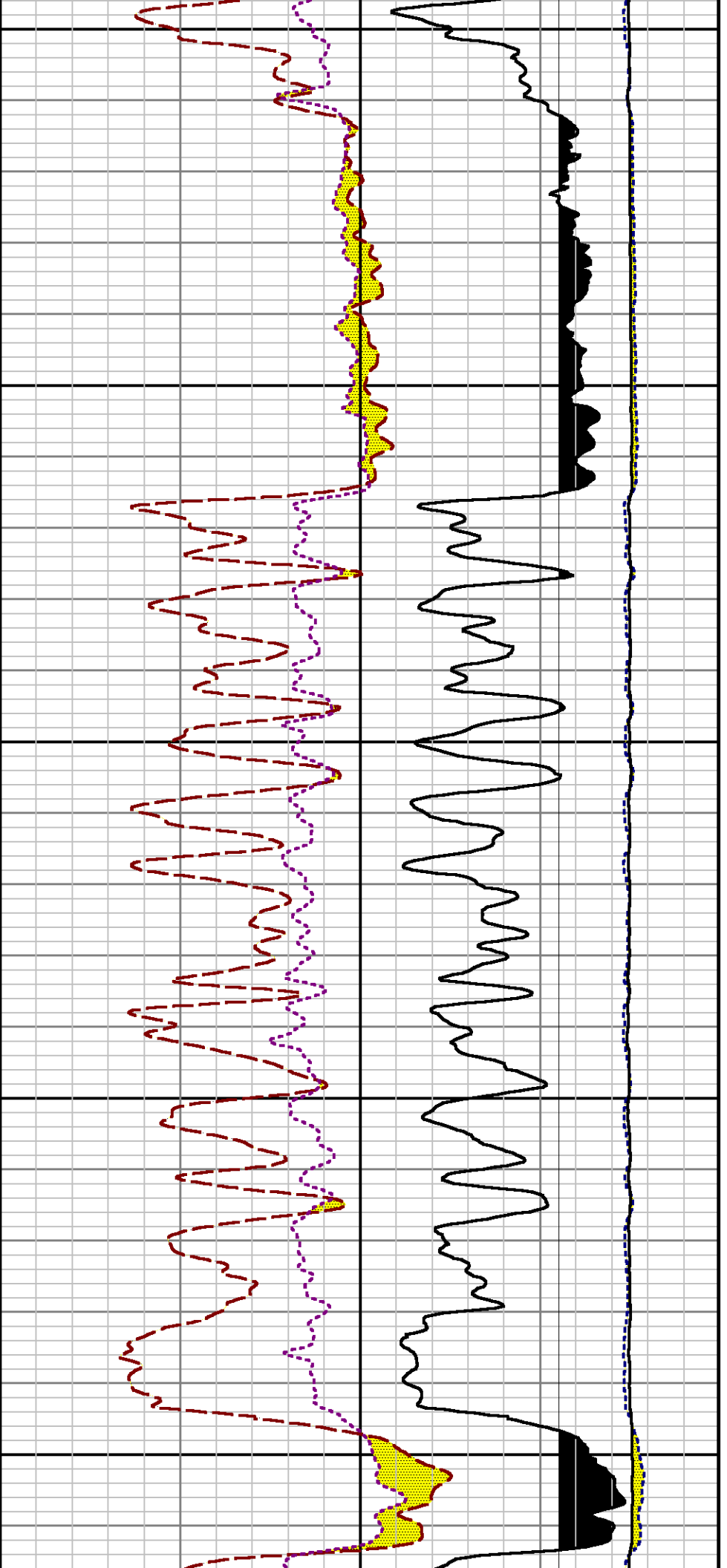


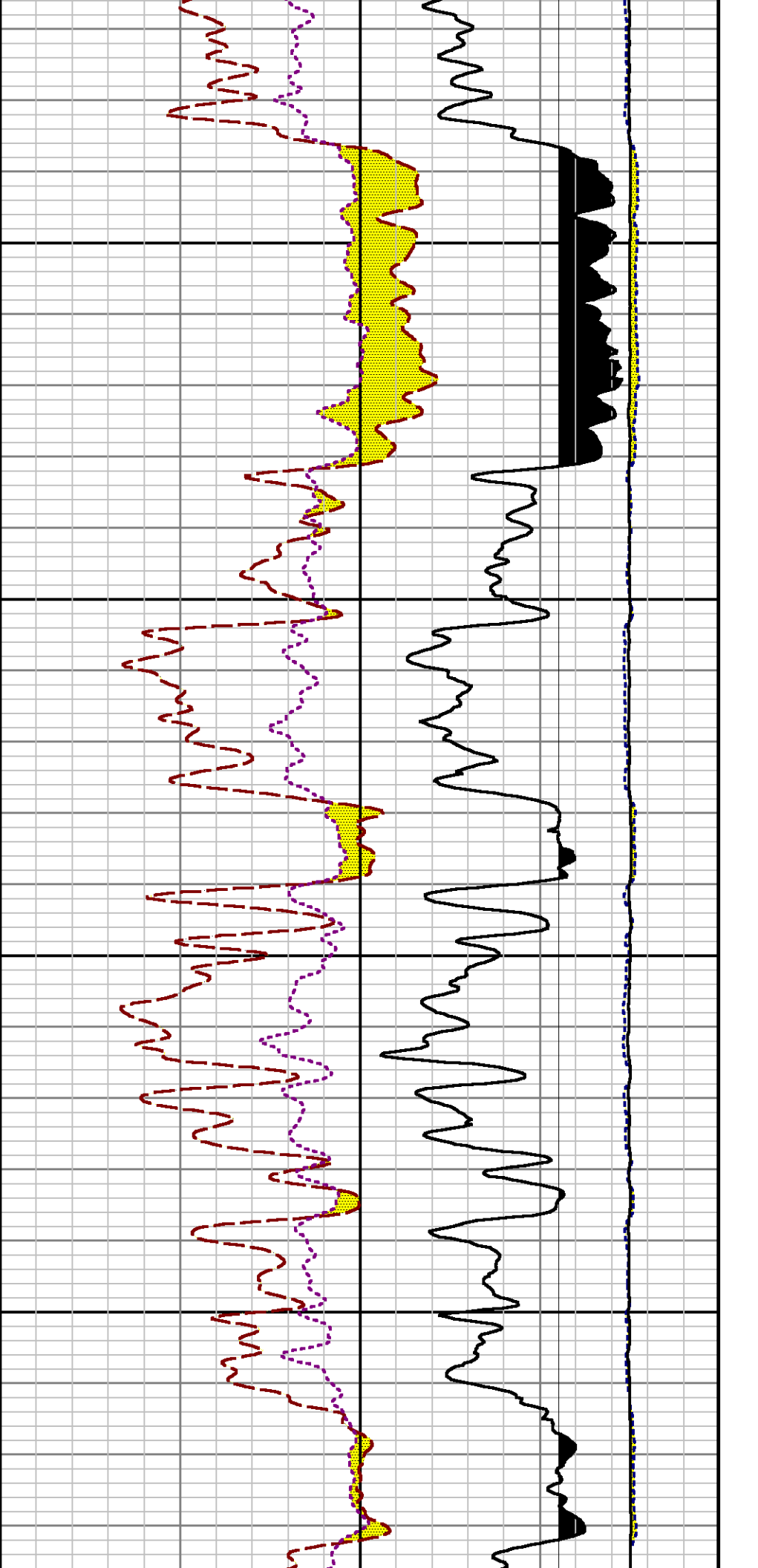
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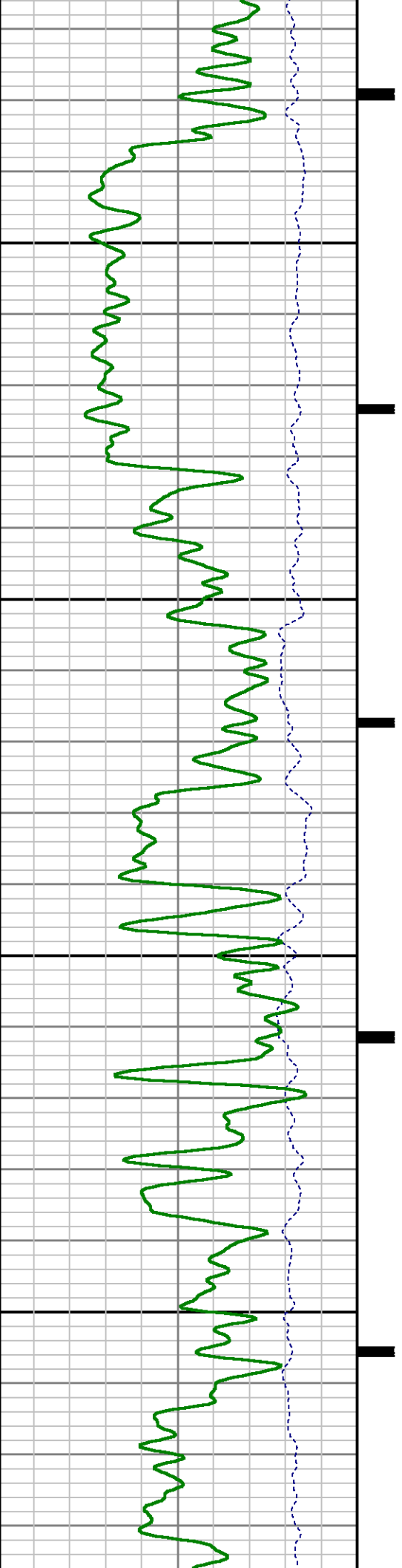




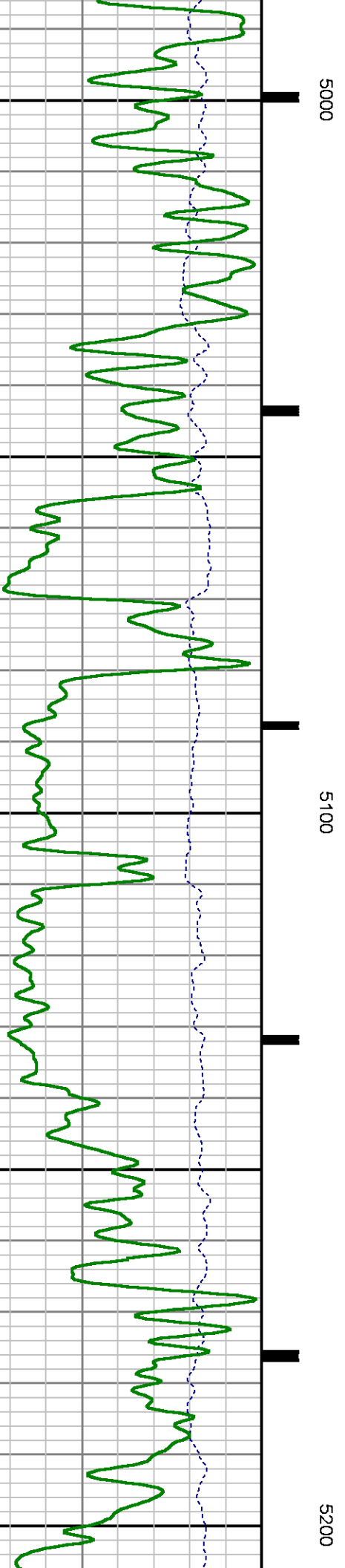
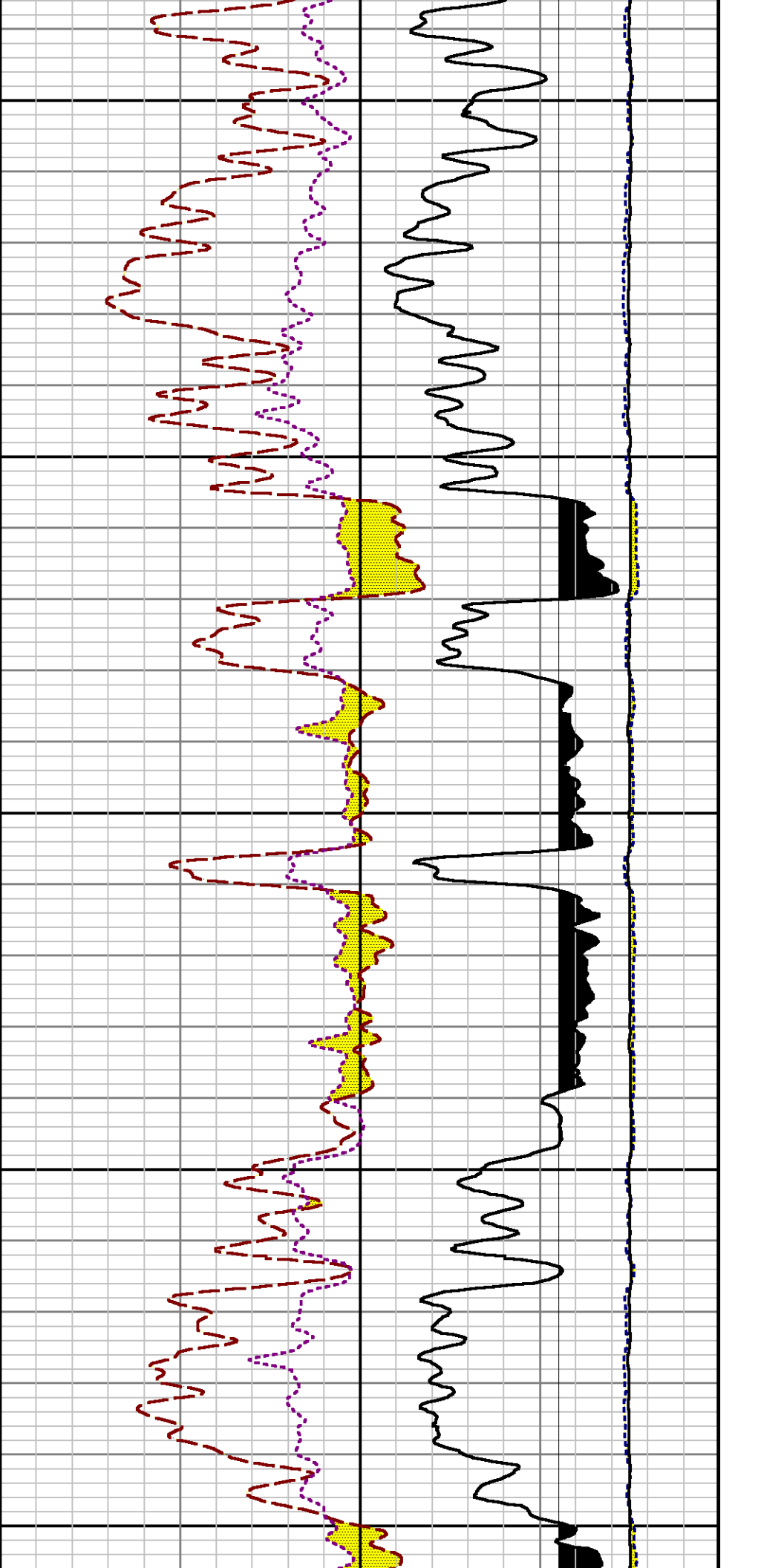


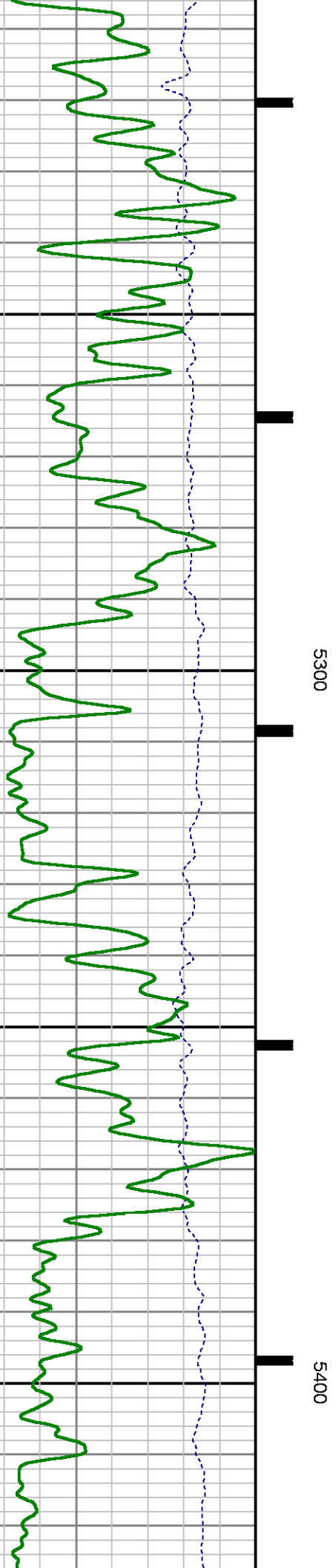
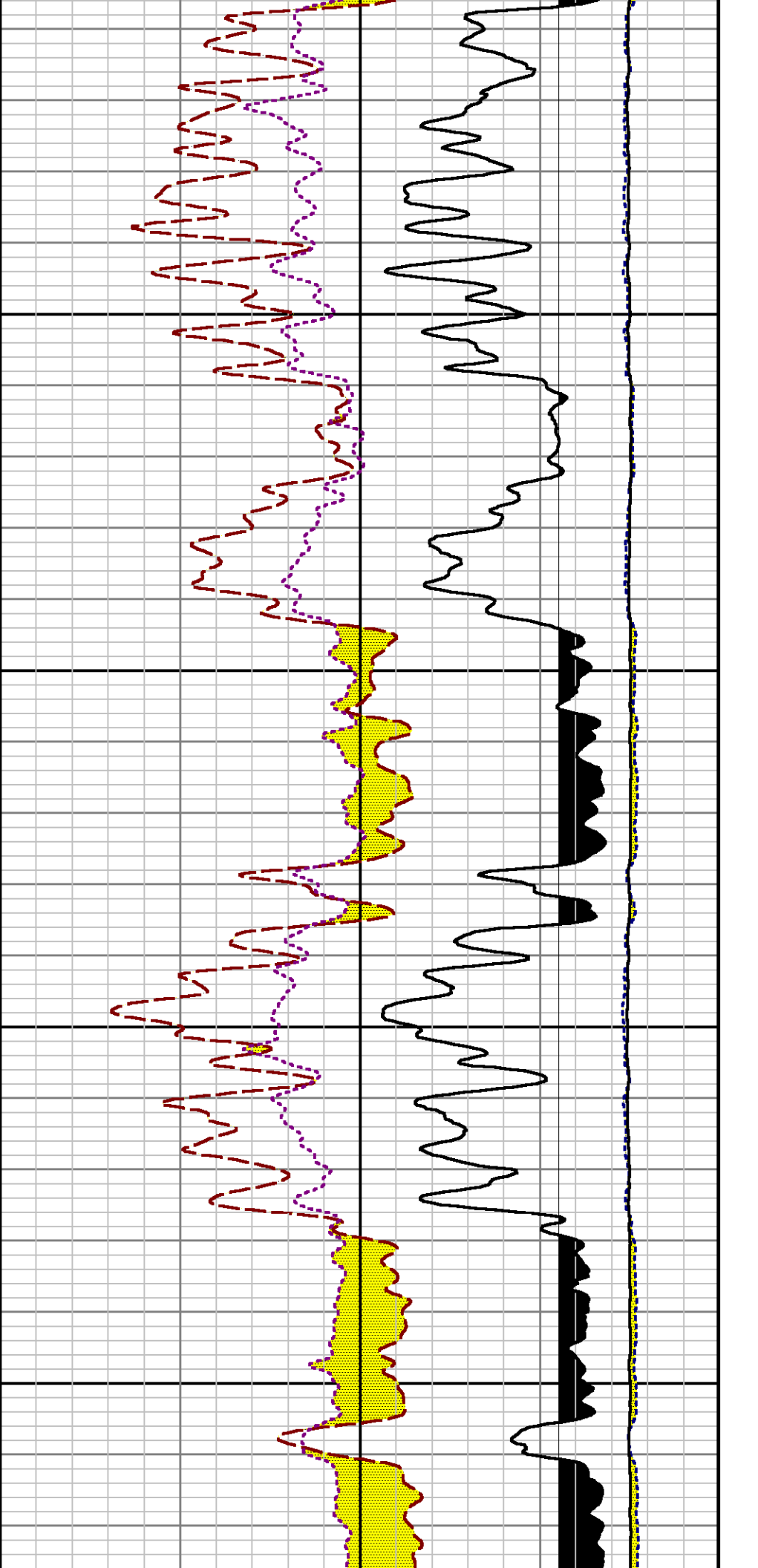
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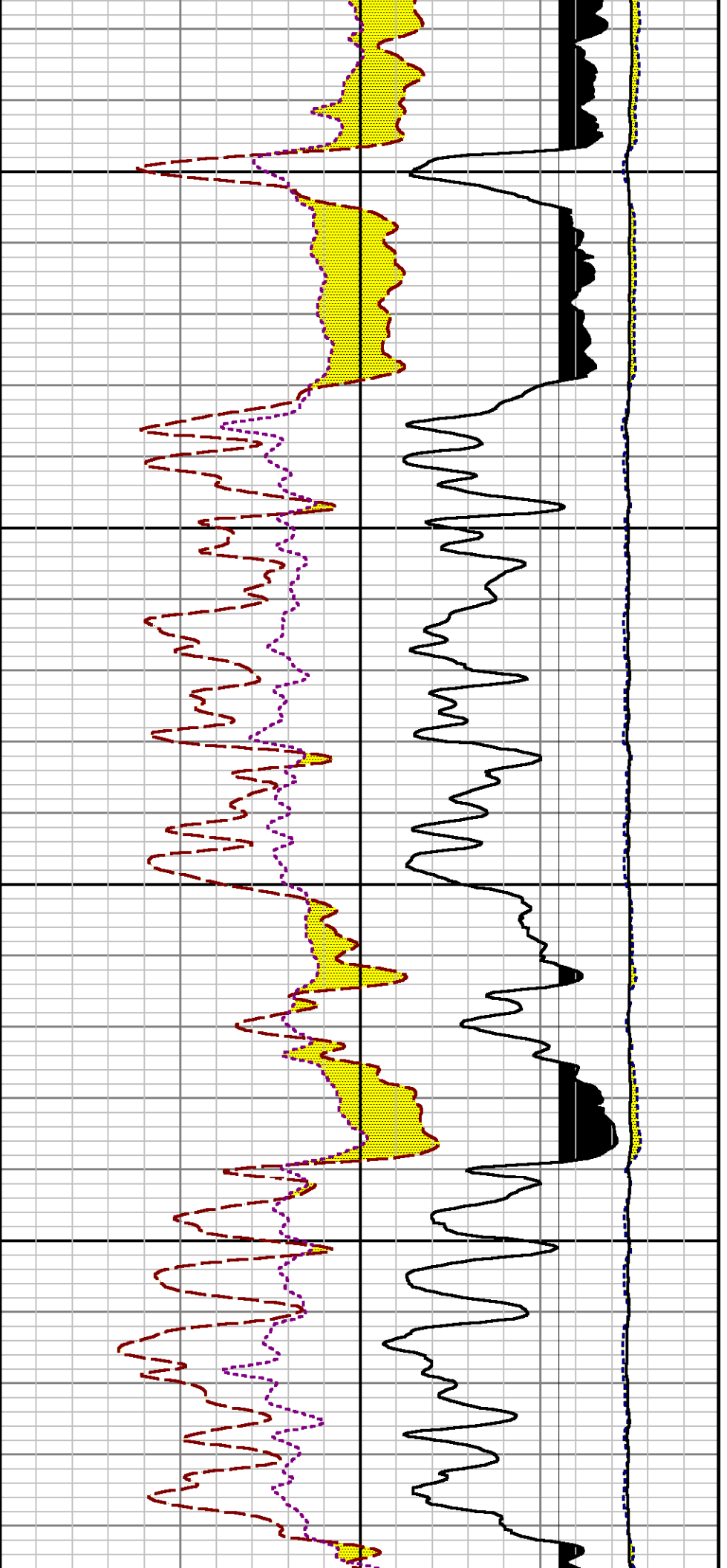
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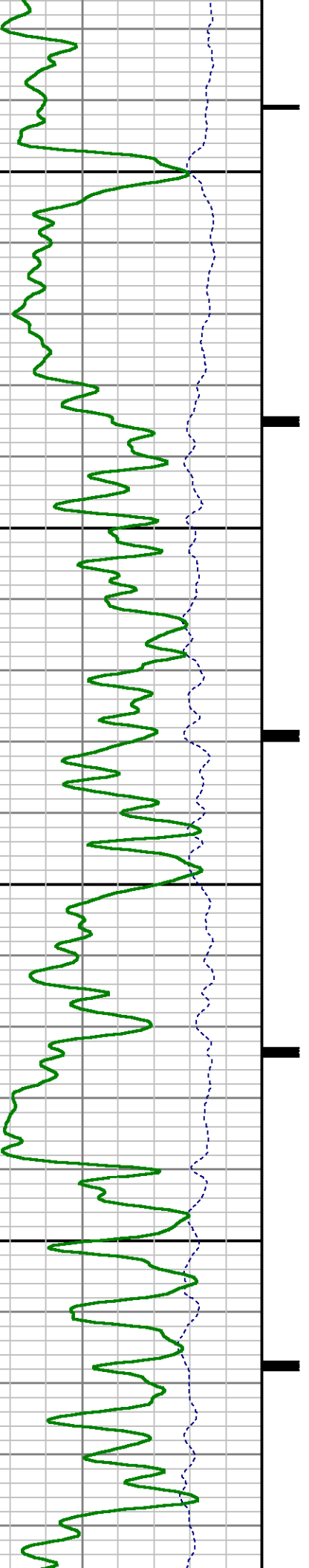


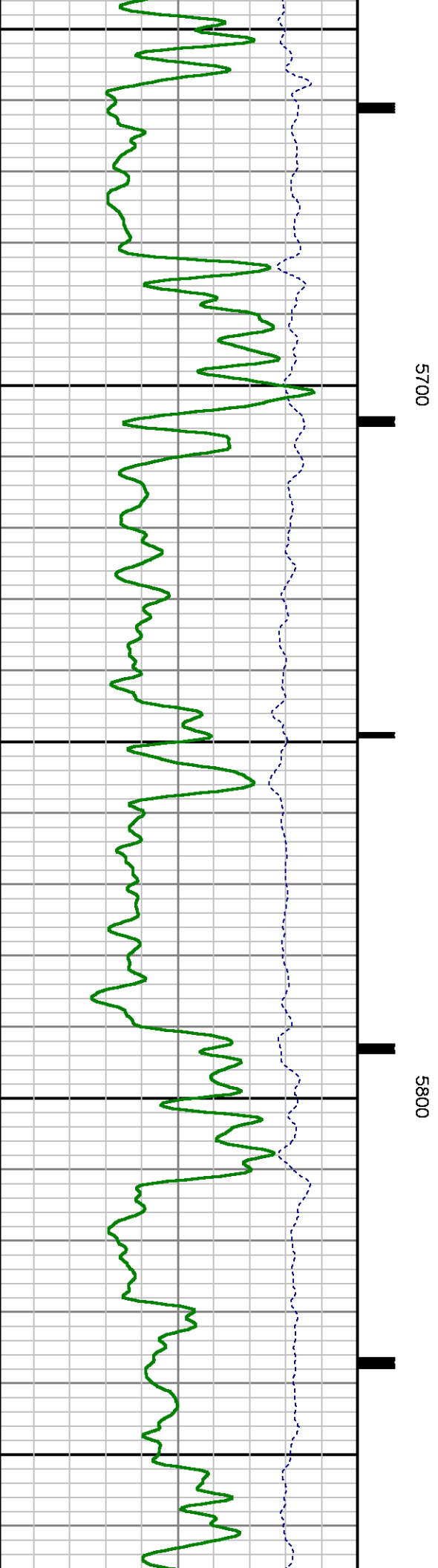
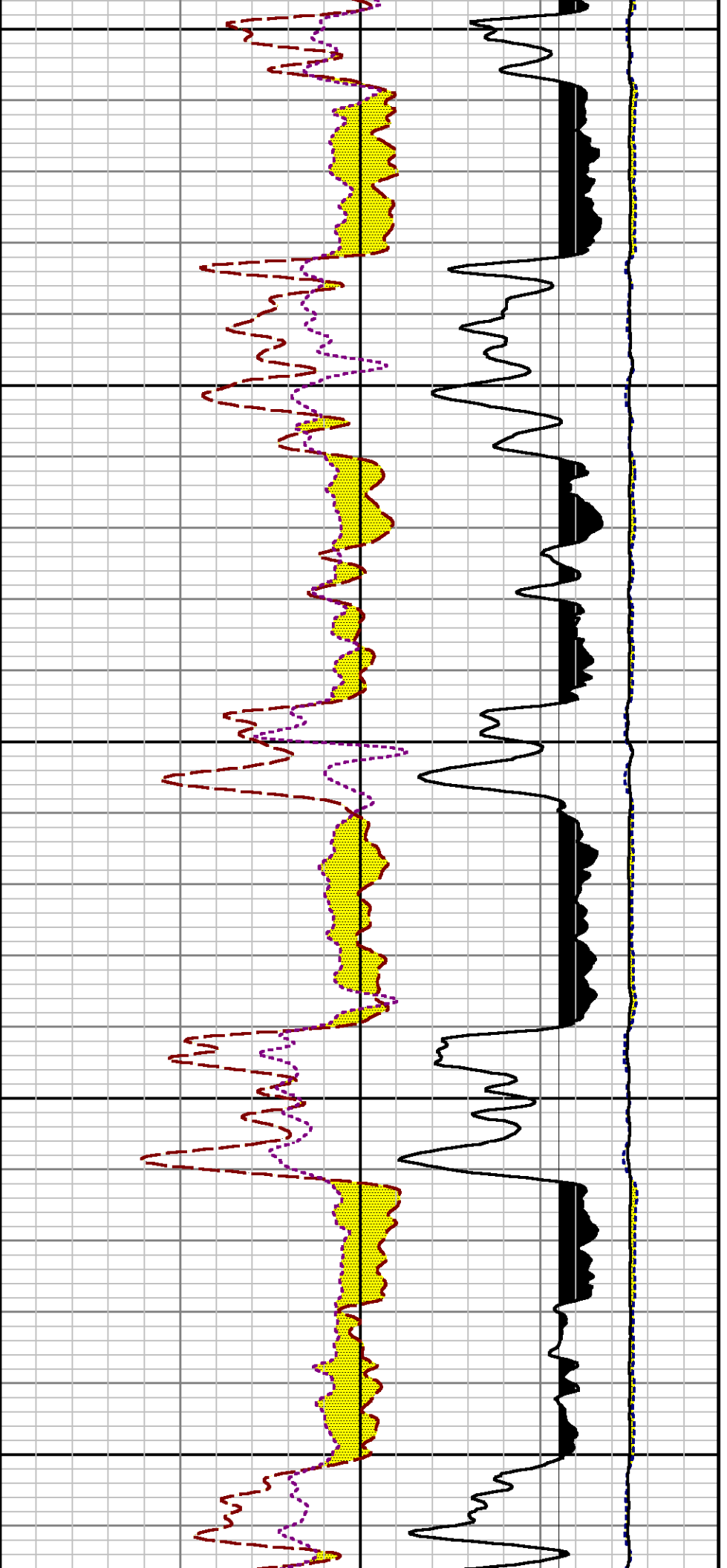


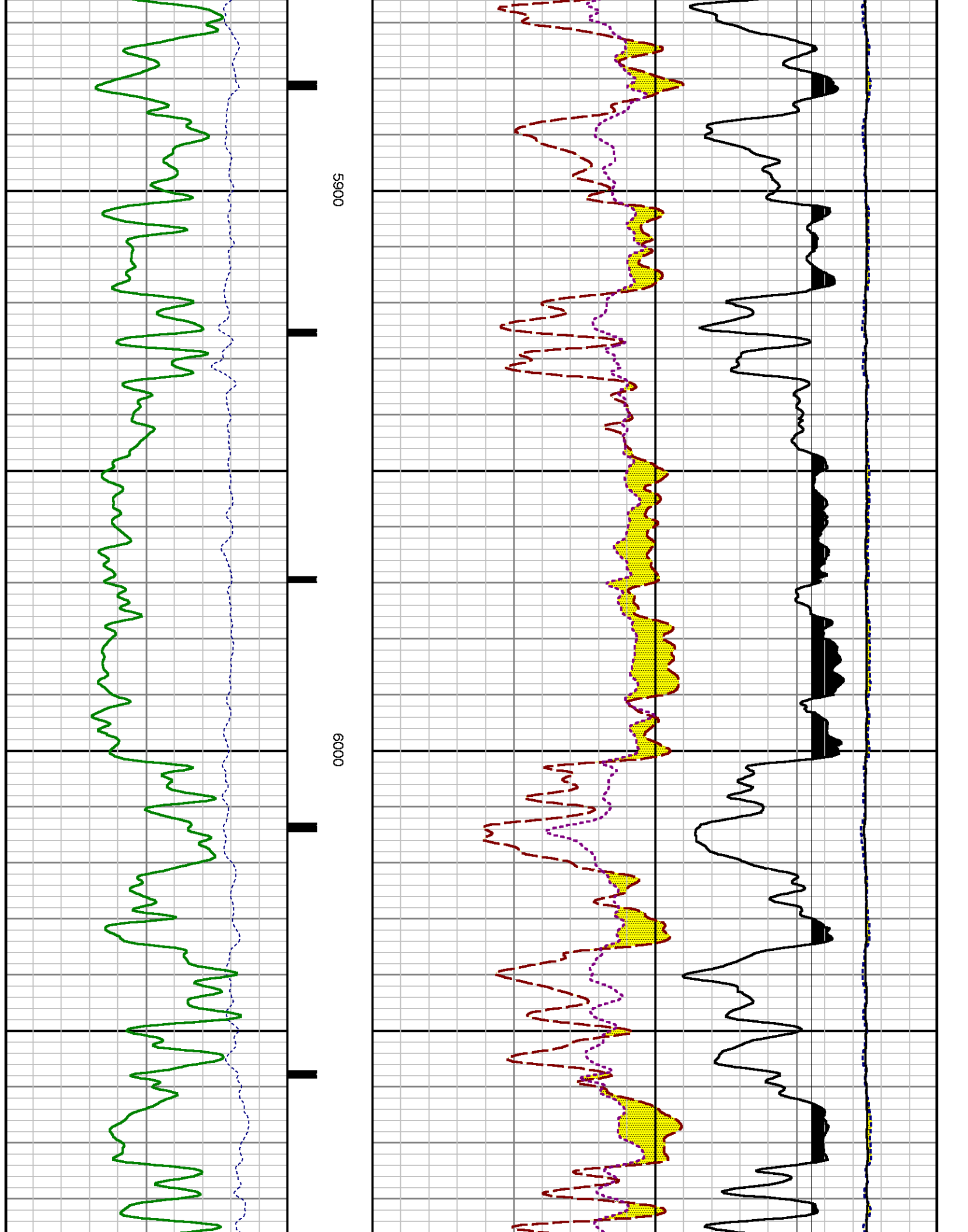


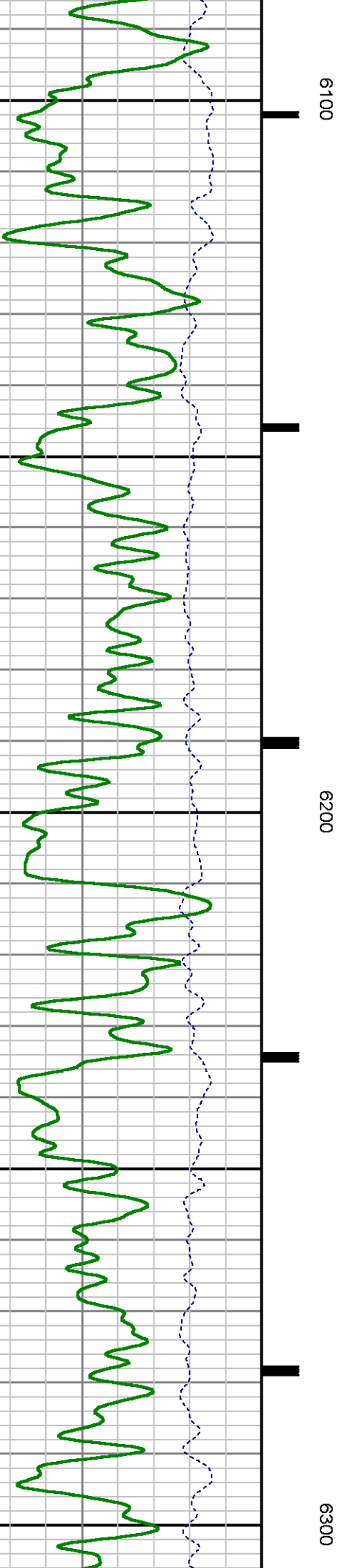
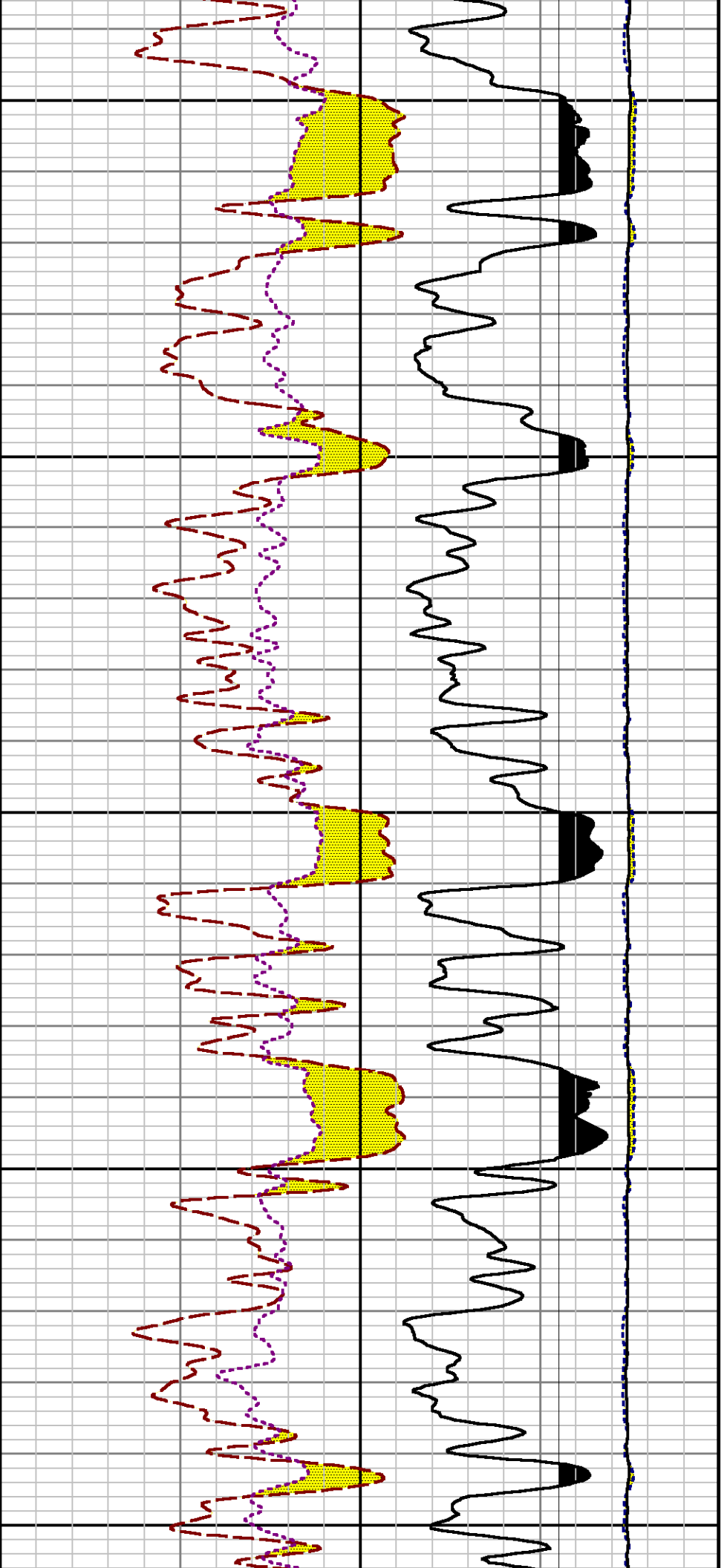
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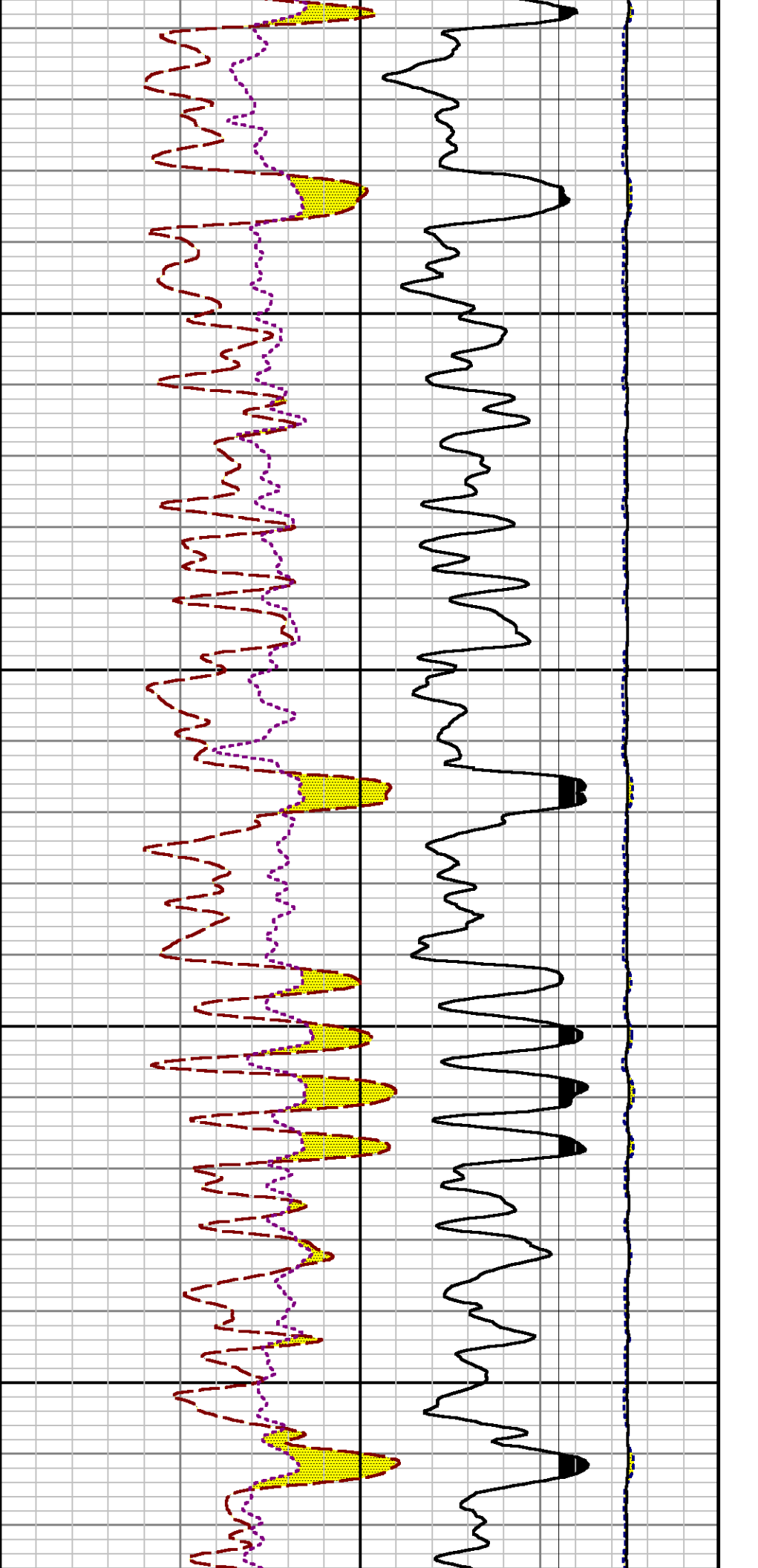
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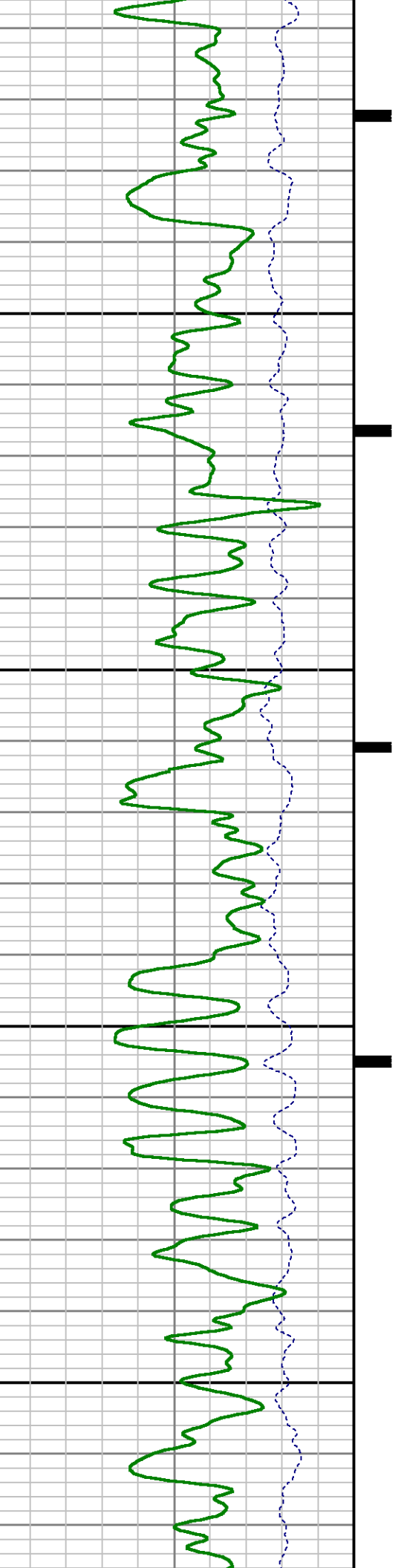


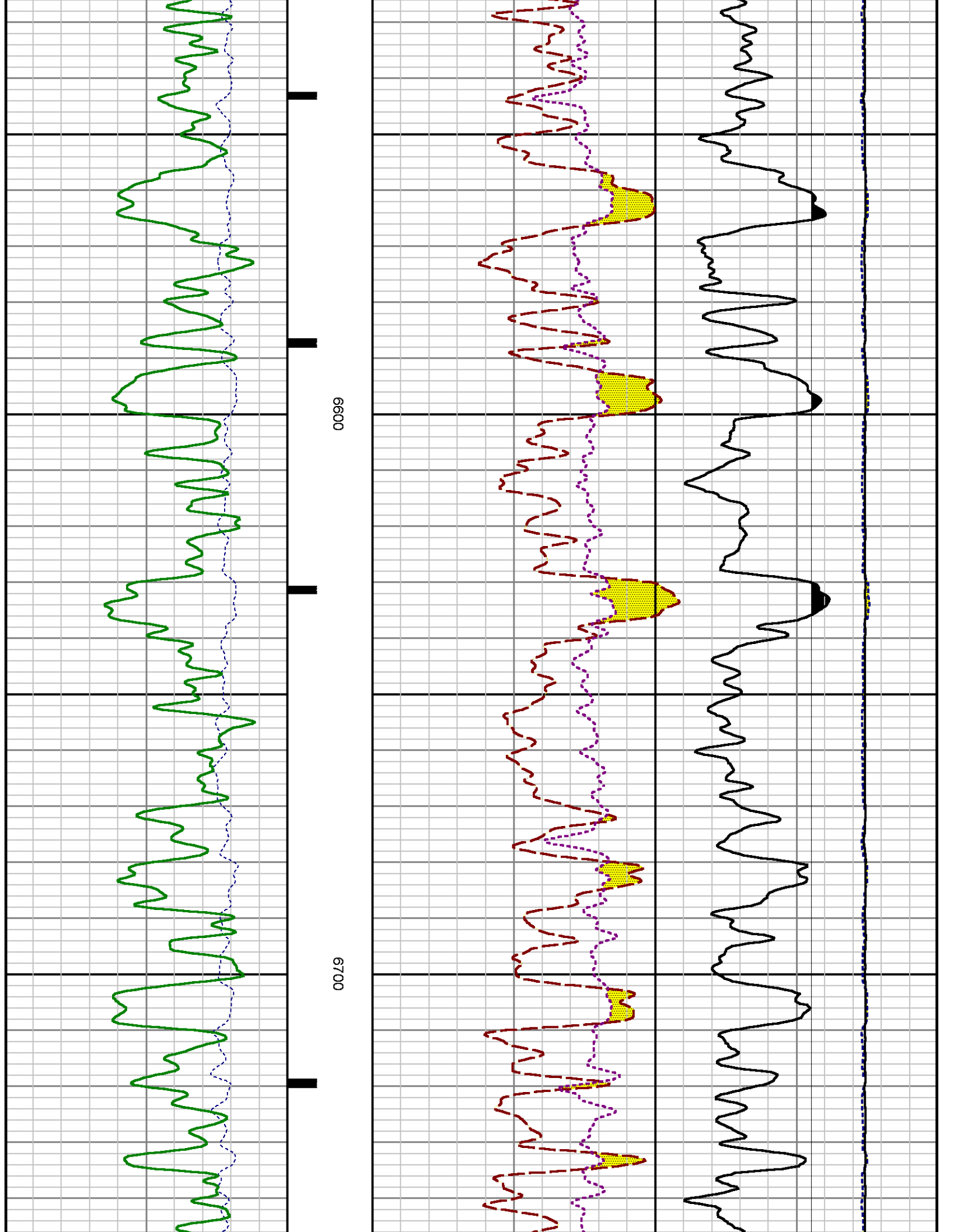




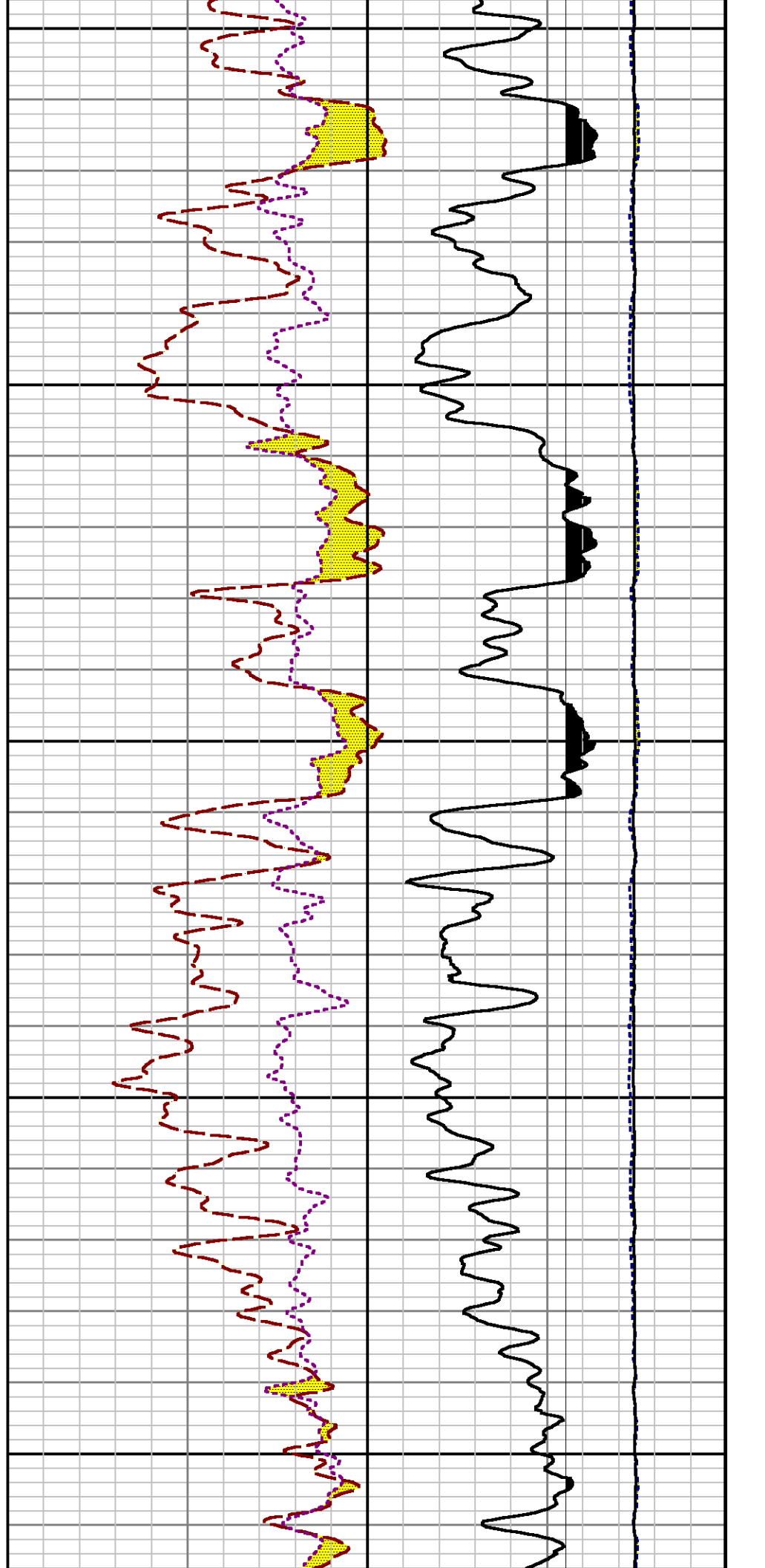
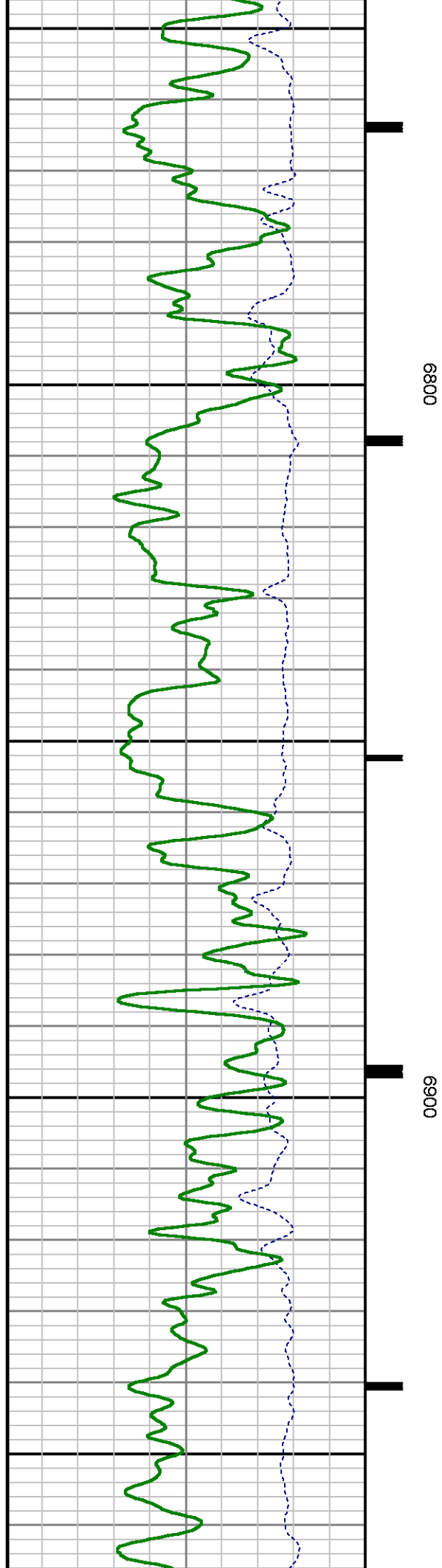
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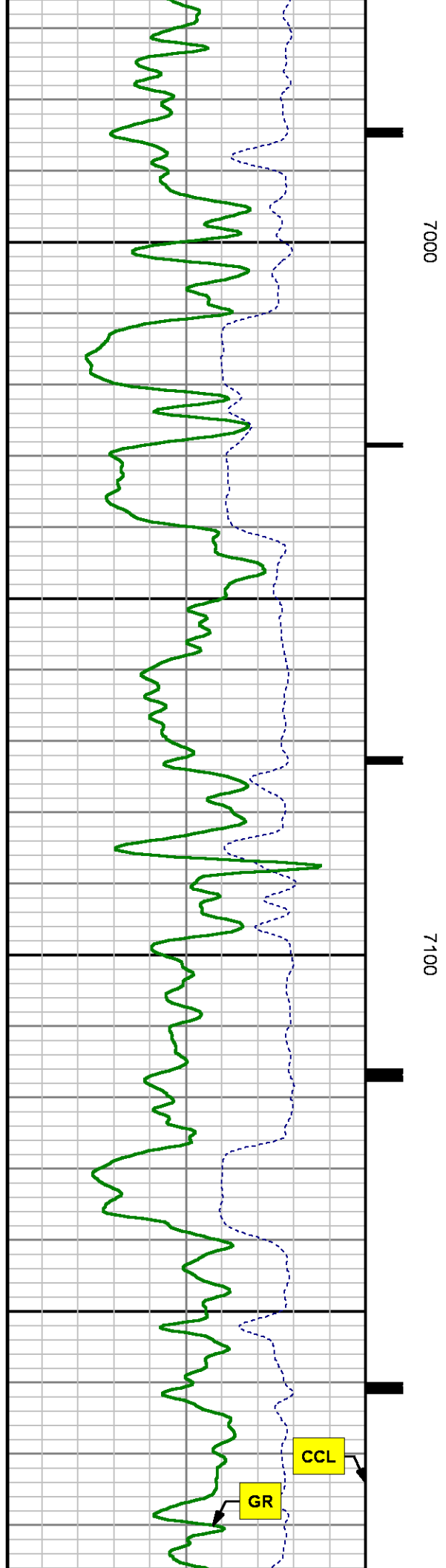
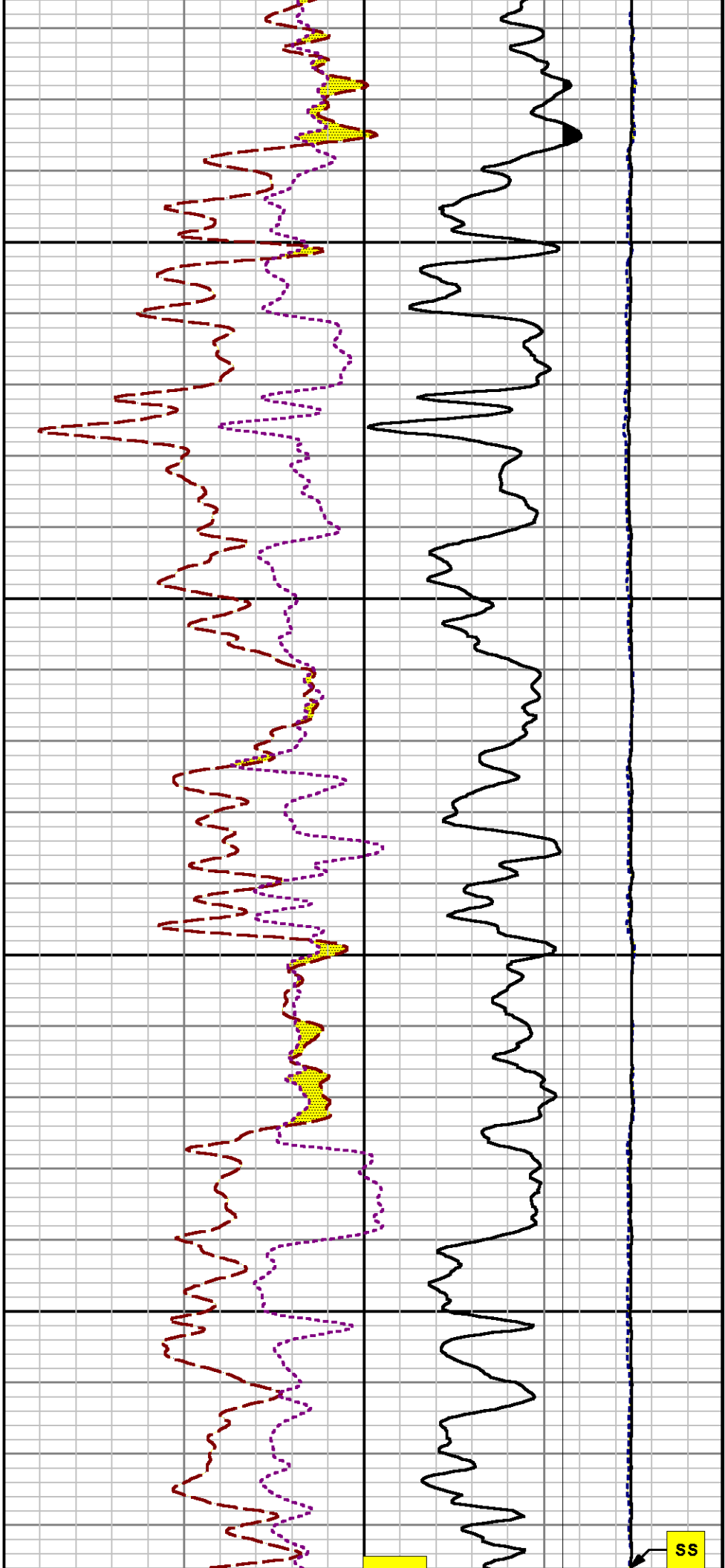
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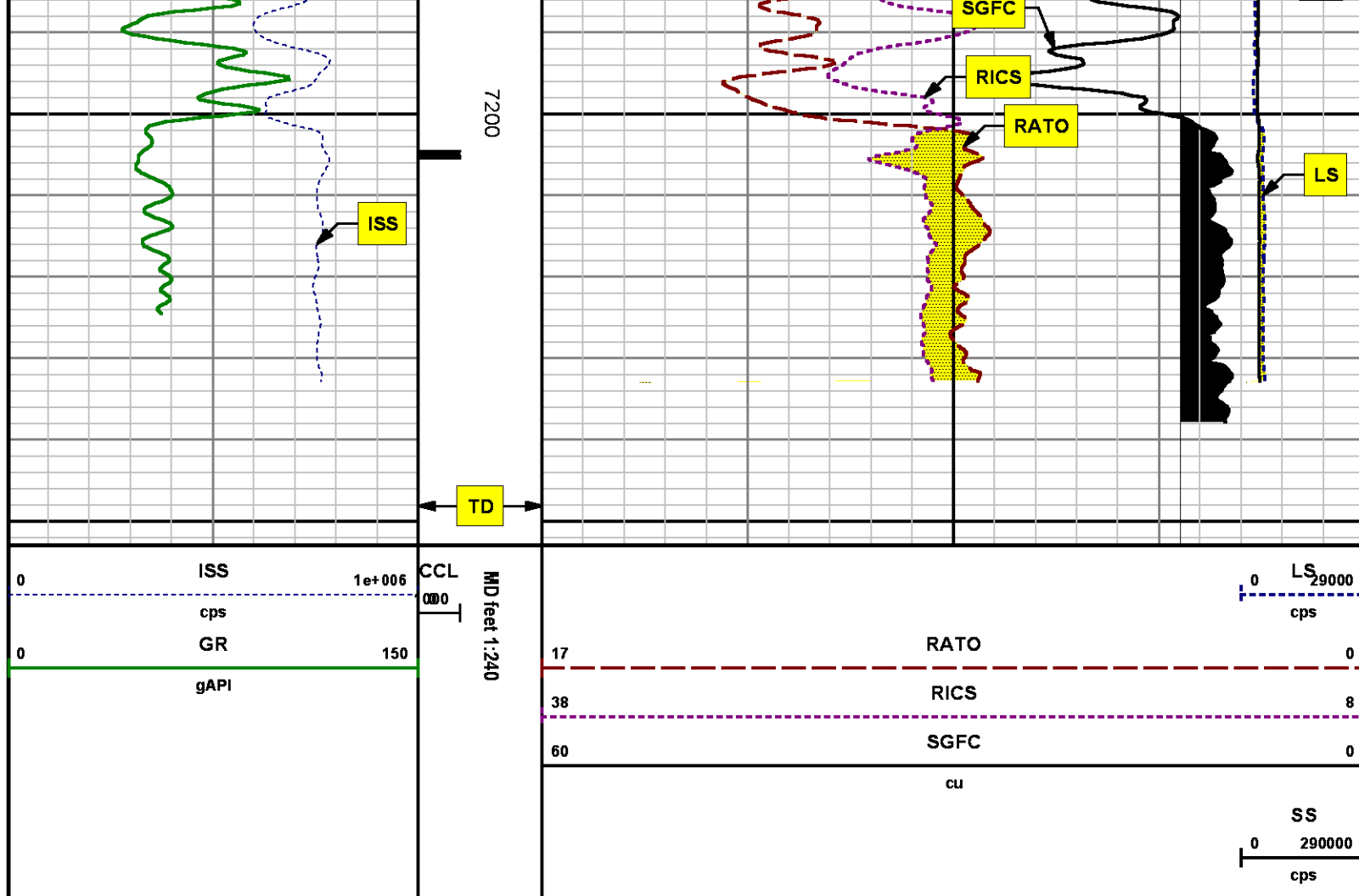












## REPEAT SECTION PNC 3-D MODE

### SPL PROCESSING

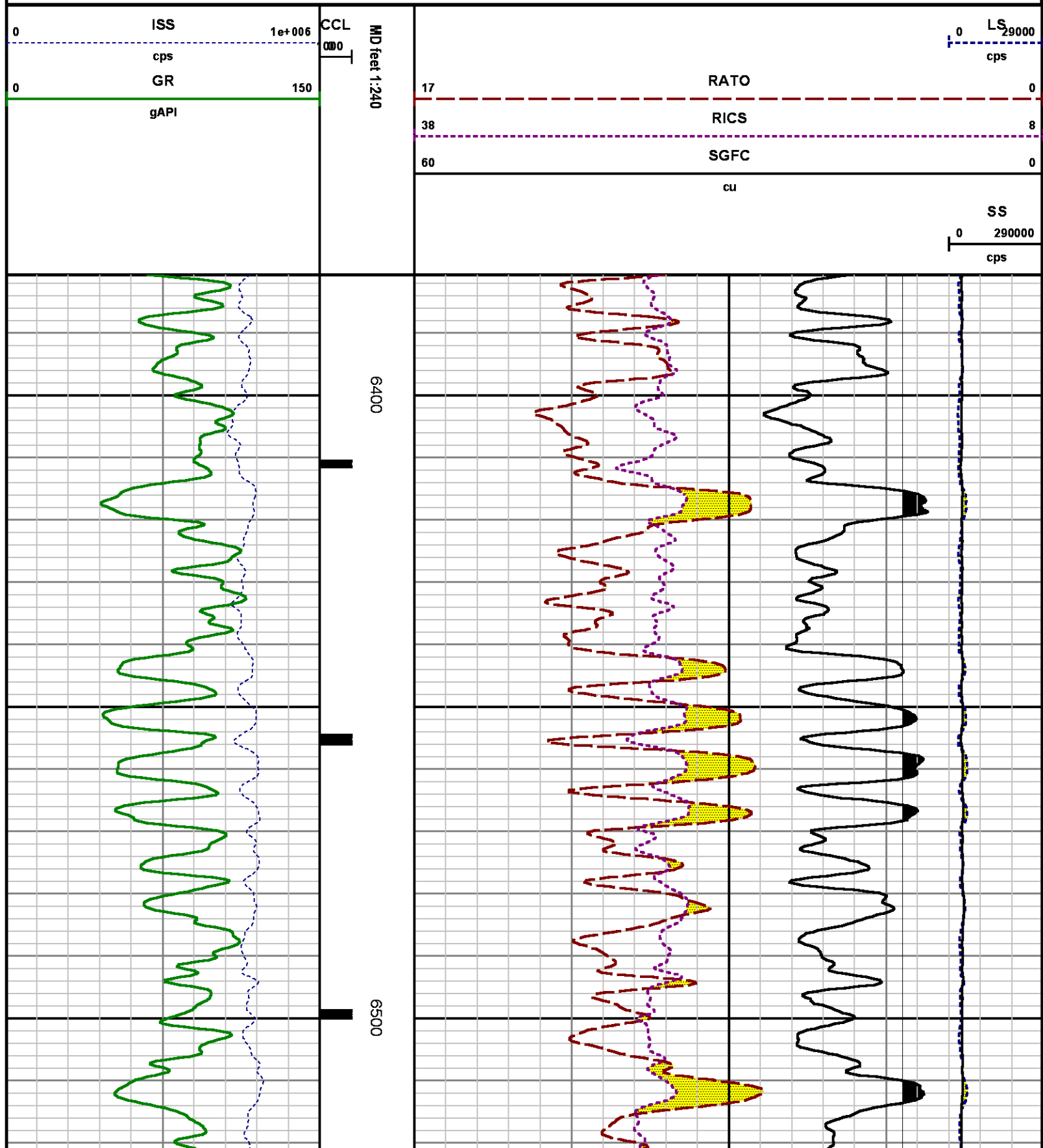
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		6380.546	6714.390
PNC Porosity	Borehole Size	8.750	inch	6380.546	6714.390
PNC Porosity	Casing Size	4.500	inch	6380.546	6714.390
PNC Porosity	Gas Filled	Non Gas Filled		6380.546	6714.390
PNC Porosity	Matrix	Sandstone		6380.546	6714.390
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	6380.546	6714.390

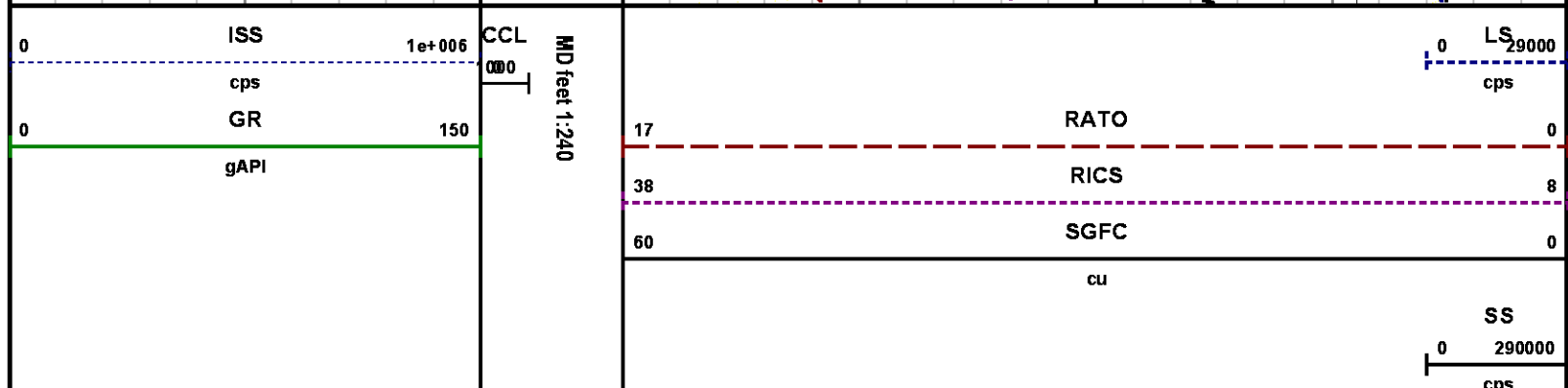
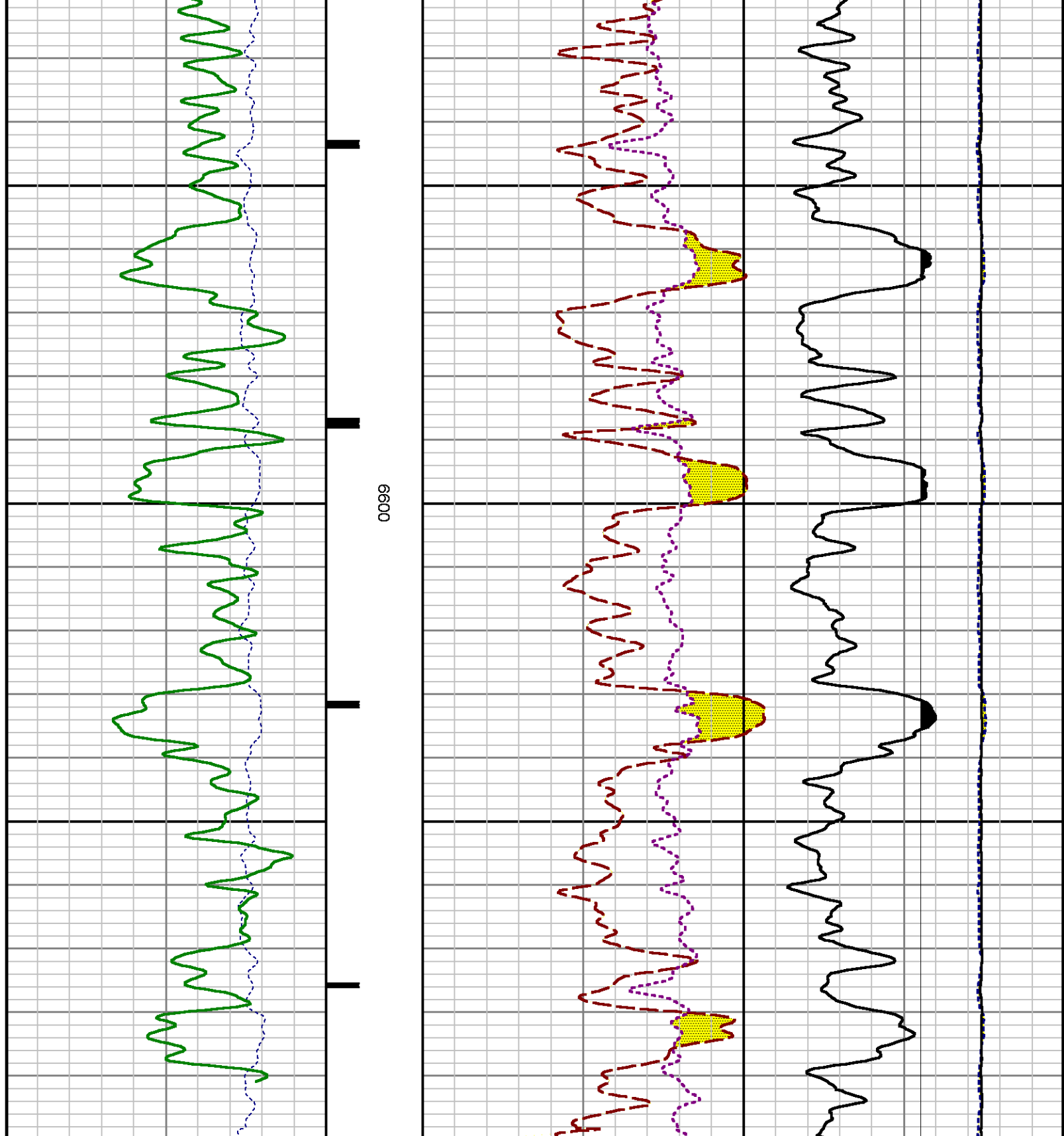
## DEPTH OFFSETS

(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 WIDTH3 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 WIDTH2 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 WIDTH1 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

Company : WPX ENERGY  
Well : CHEVRON GM 12-21  
File Name : d:\welldata\wpx\gm 12-21\12rpm\repeat.xtf  
Mode : PlotMgr 5.4.504  
Interval : 6380.64 - 6700.00 feet UP  
Created : 10/10/2014 5:10:45 AM





# CALIBRATION SUMMARY

## 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

## PNC

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

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 Vlt (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

# 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"

33.24'



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'

CCL MP — 25.15'

MP — 22.70'

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**

CHEVRON GM 12-21

**Field**

GRAND VALLEY

**County**

GARFIELD

**State**

CO

**Location**

SHL: 2034' FNL &amp; 703' FEL (20 6S 96W)

BHL: 1350' FNL &amp; 1001' FWL (21 6S 96W)

**Elevations**

KB 5596 ft

DF

GL 5575 ft

**File No:**

CH091002

**API No:**

05045223590000

21 6S 96W

GM 442-20

CYCLONE 17

SEC 21 TWP 6S RGE 96W