



# RESERVOIR PERFORMANCE MONITOR

Baker Atlas

File No: **Company** **WPX ENERGY**

CH085744 **Well** **C&C ENERGY GM 422-13**

API No: **Field** **GRAND VALLEY**

05045222640000 **County** **GARFIELD** **State** **COLORADO**

## Location

13 75 96W **SHL: 266' FSL & 1029' FWL (SEC 12)**

GM 24-12 PAD **BHT: 2040' FNL & 2640' FWL (NENW SEC 13)**

H&P 318 **SEC 13 TWP 7S RGE 96W**

## Other Services

BOND LOG

Permanent Datum **GL Elevation 5141 ft**

Log Measured From **KB 24 ft Above P. D.**

Drill Measured From **KELLY BUSHING**

## Elevations

KB 5165 ft

DF

GL 5141 ft

Date	27/MAY/14	
Run	ONE	
Service Order	US085744J	
Depth Driller	6810 ft	
Depth Logger	6766 ft	
Bottom Logged Interval	6756 ft	
Top Logged Interval	3487 ft	
Time Started	1345	
Time Finished	1815	
Operator Rig Time	4.5 HRS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	60 ft	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	10 fpm	
Maximum Recorded Temperature	199 degF	
Reference Log	BAKER HUGHES BOND LOG	
Reference Log Date	27/MAY/14	
Equipment No.	4271	GRAND UCT
Recorded By	FLOYD RENEAU	
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 in	24 ft	1515 ft
8.75 in	1515 ft	6810 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			24 ft	1515 ft
4.5 in	11.6 lbm/ft	I-80	24 ft	6810 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 5/27/2014 at the client's request.
The amount of linear shift is 10 feet.
Logged in PNC-3D mode.
BHT = 199°F
SJ = 3195'-3217'

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	TEMP	8255XA	11774568	FREE
1	1	RPM	8281FA	10191667	FREE
1	1	RPM	8281PA	10169251	FREE
1	1	RPM	8281EA	10169250	FREE
1	1	GR	2812LA	10274382	FREE
1	1	TEL/CCL	8248ED	10229408	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		3469.640	6767.827
PNC Porosity	Borehole Size	8.750	inch	3469.640	6767.827
PNC Porosity	Casing Size	4.500	inch	3469.640	6767.827
PNC Porosity	Gas Filled	Non Gas Filled		3469.640	6767.827
PNC Porosity	Matrix	Sandstone		3469.640	6767.827
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	3469.640	6767.827

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	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 : C&C ENERGY GM 422-13

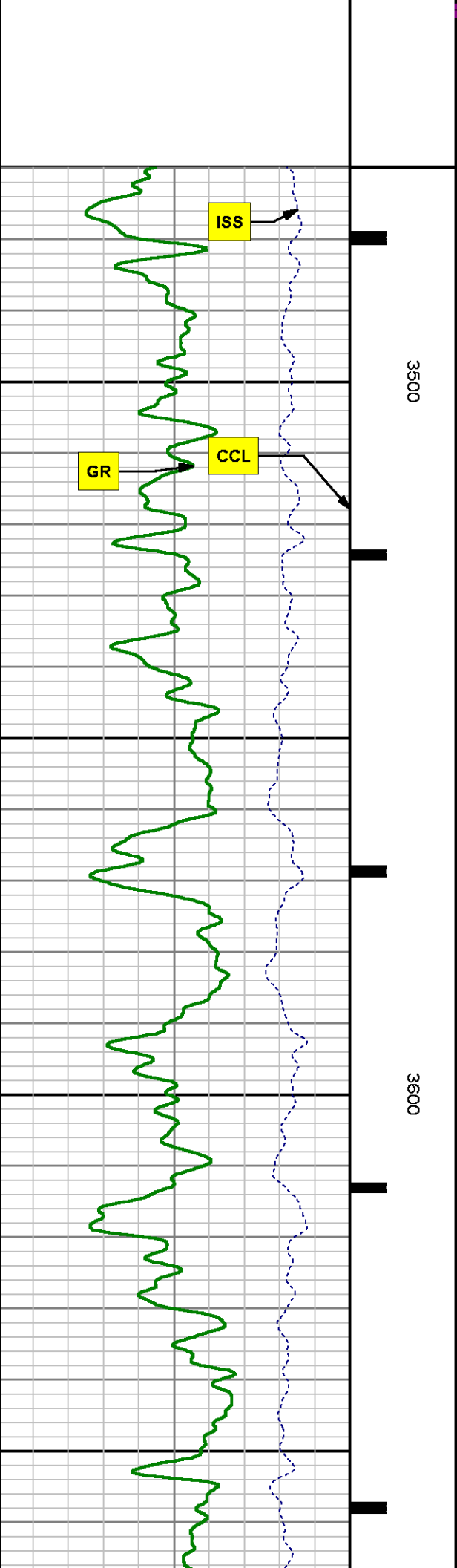
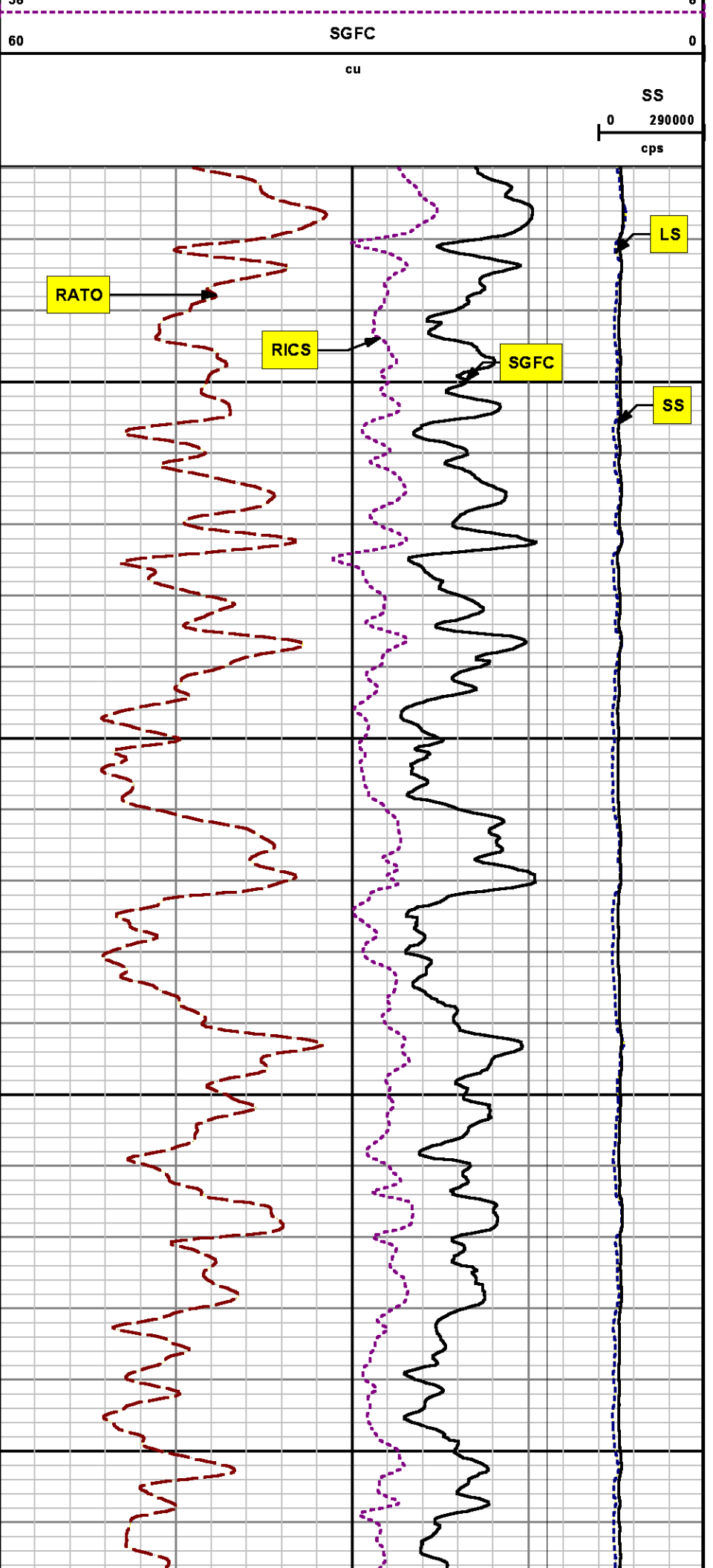
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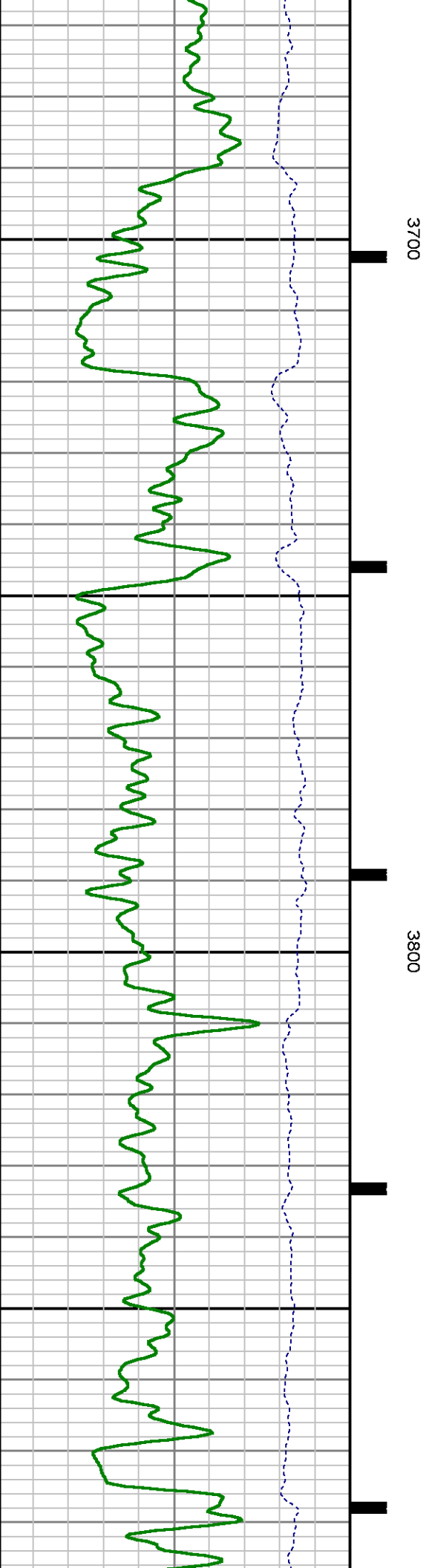
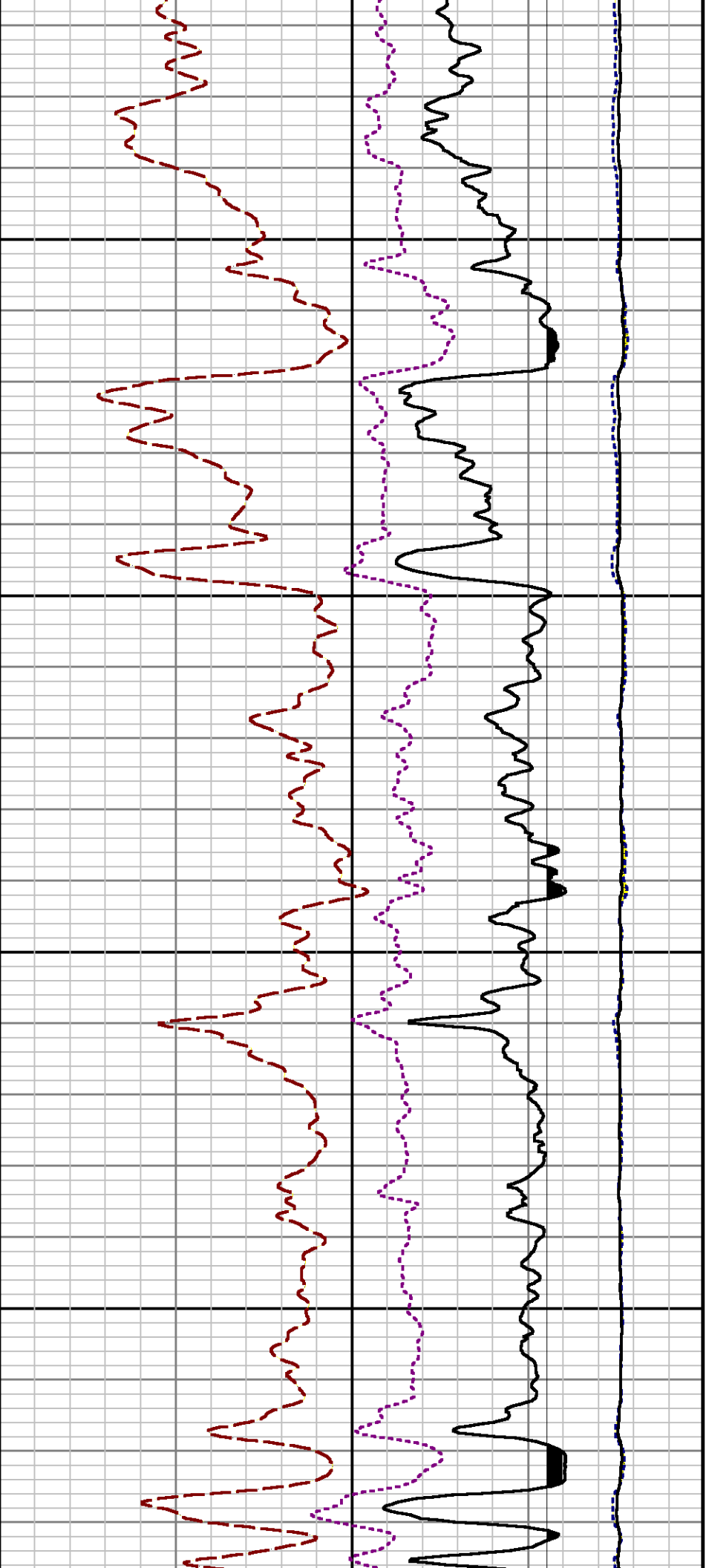
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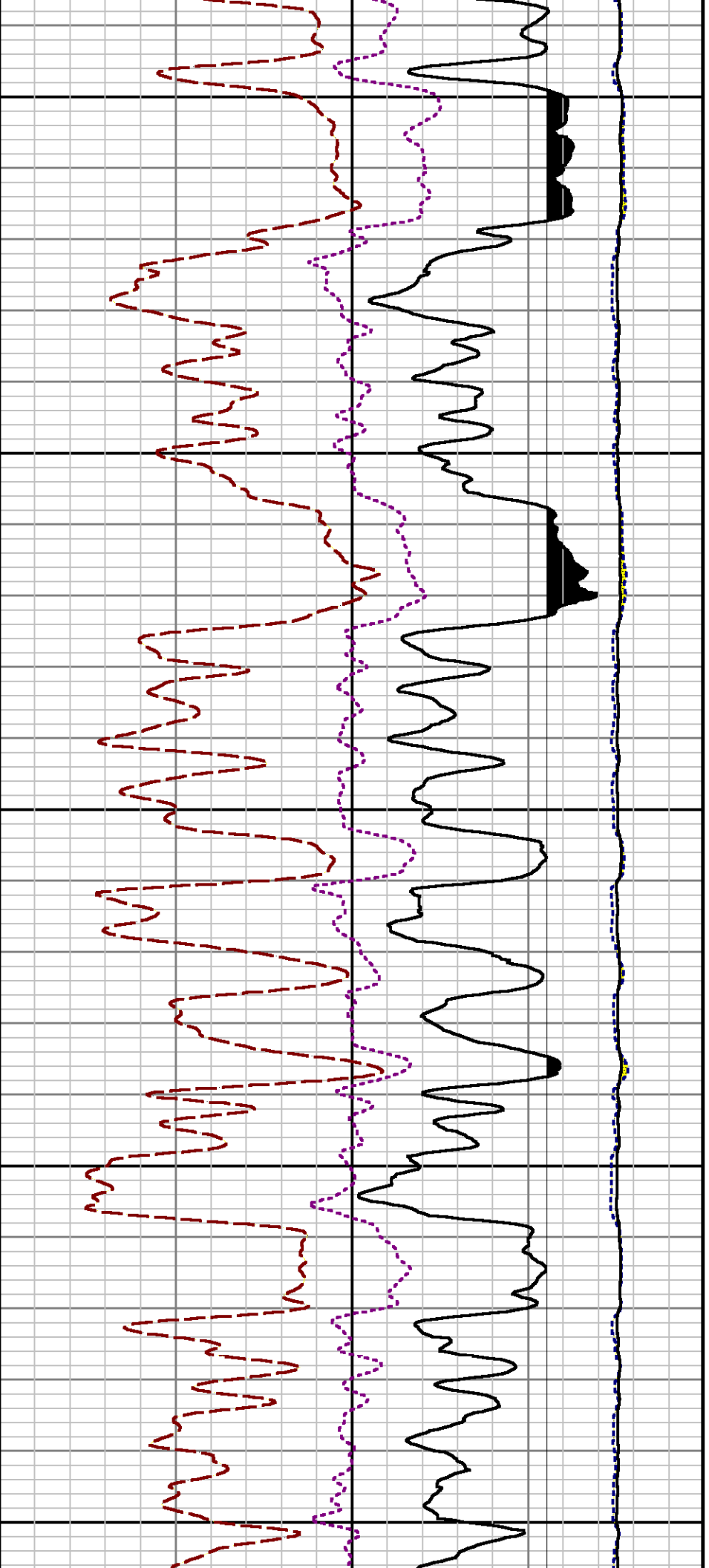
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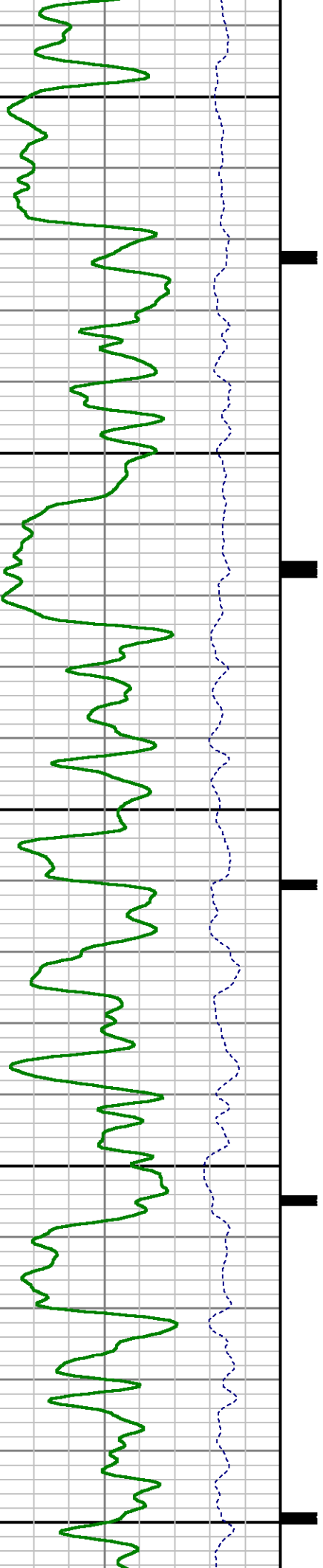


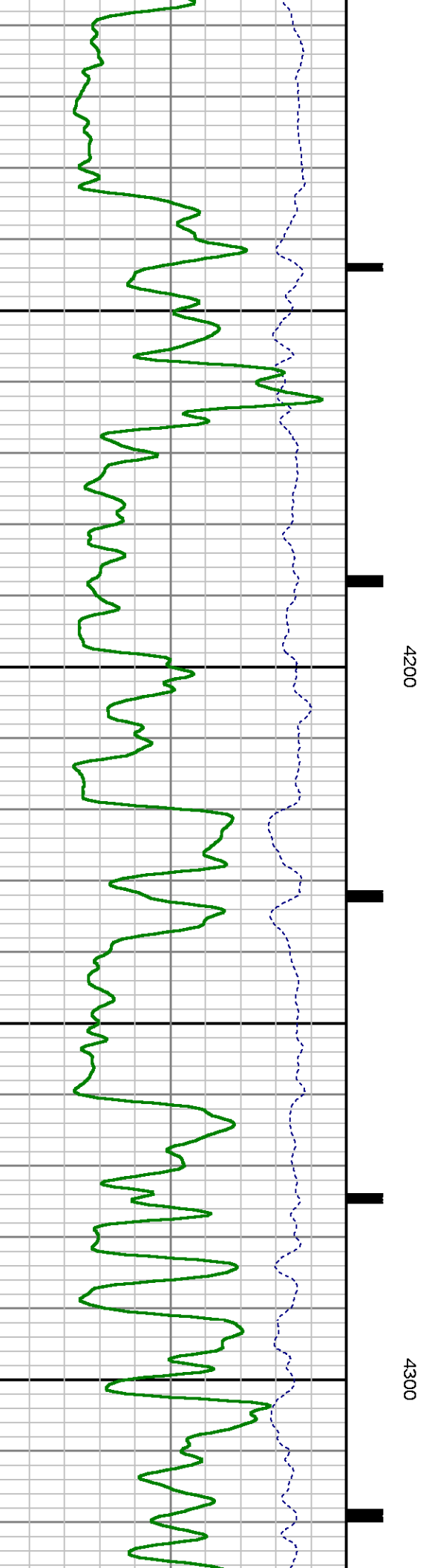
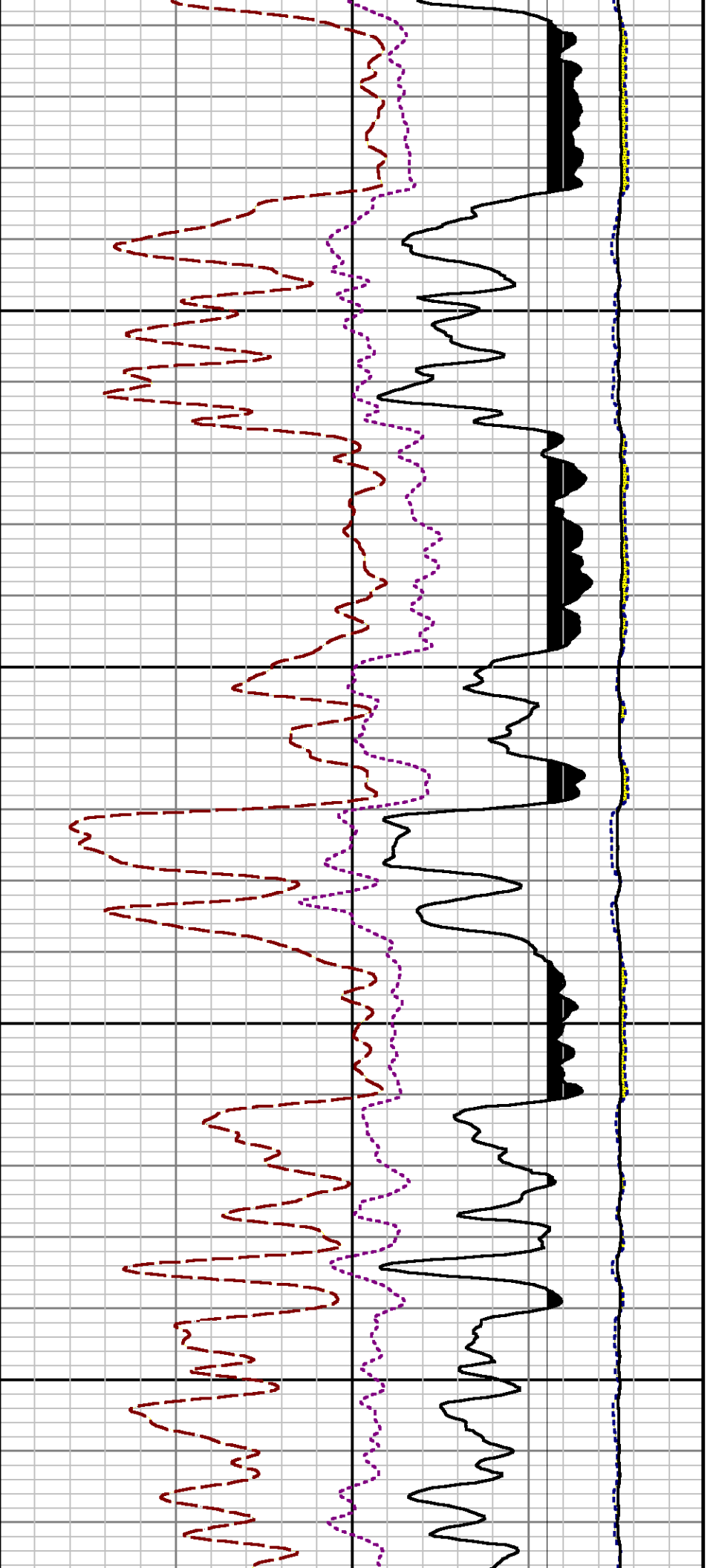


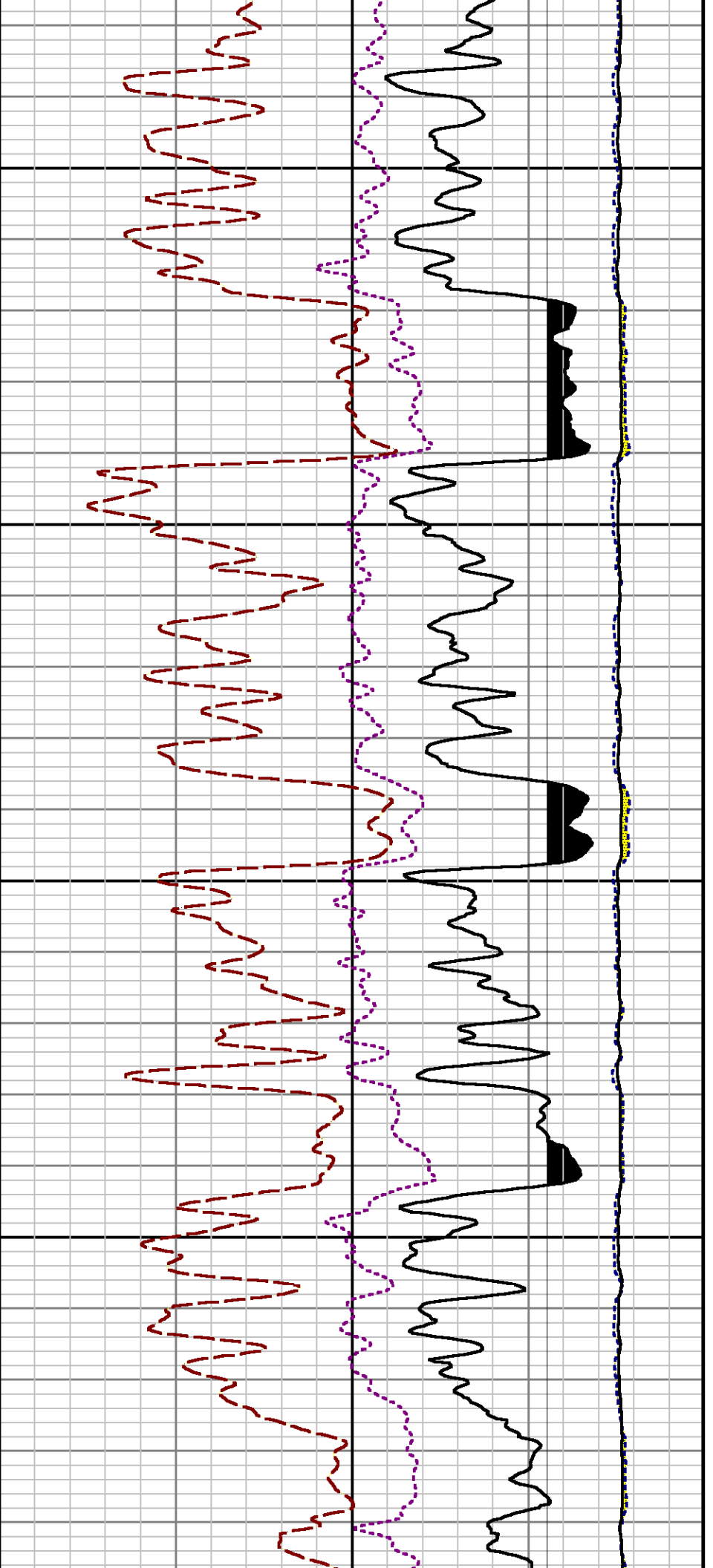
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4000

4100

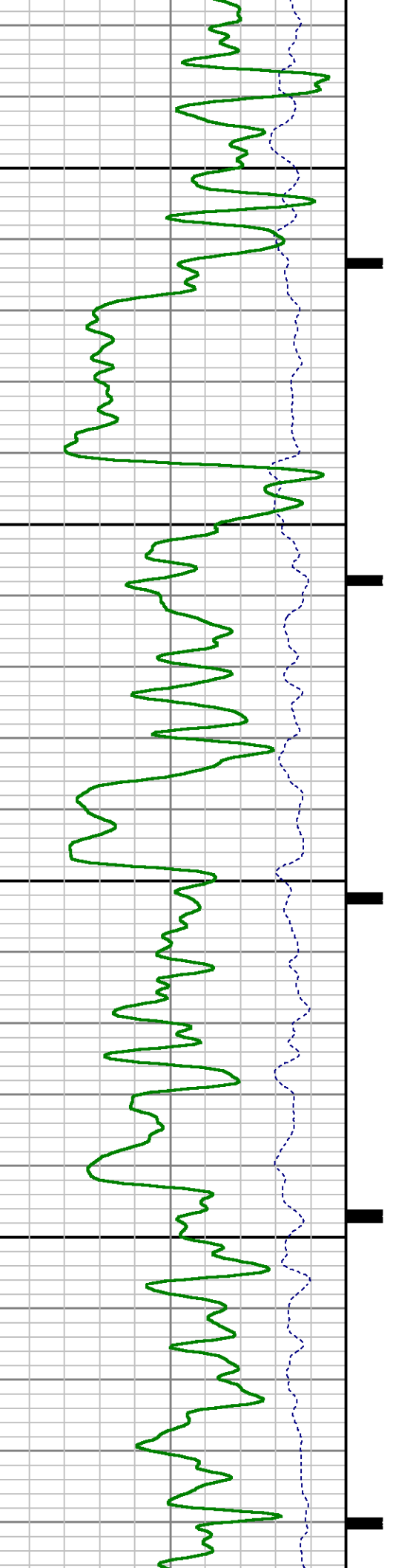




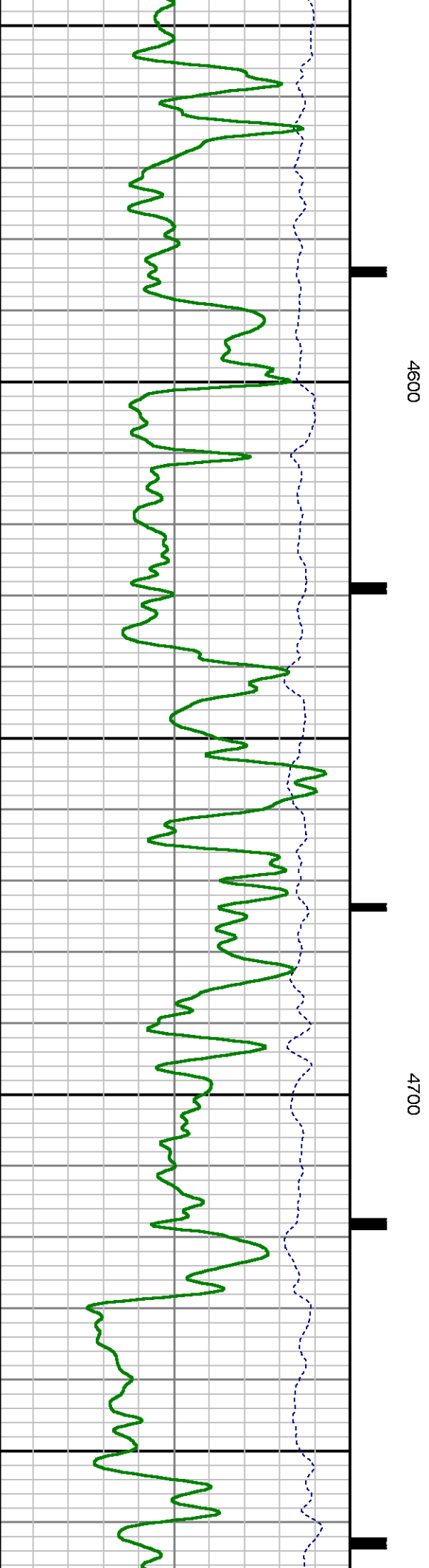
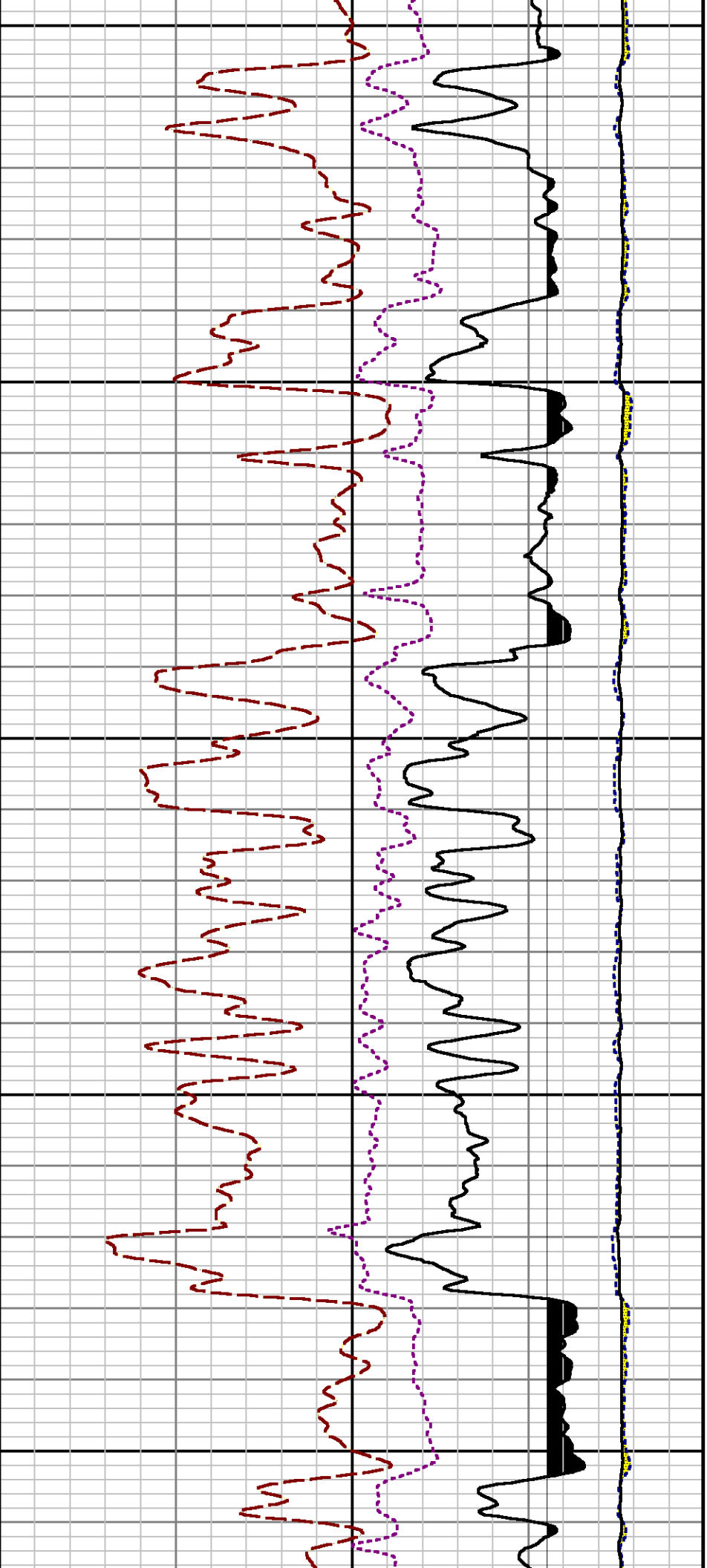


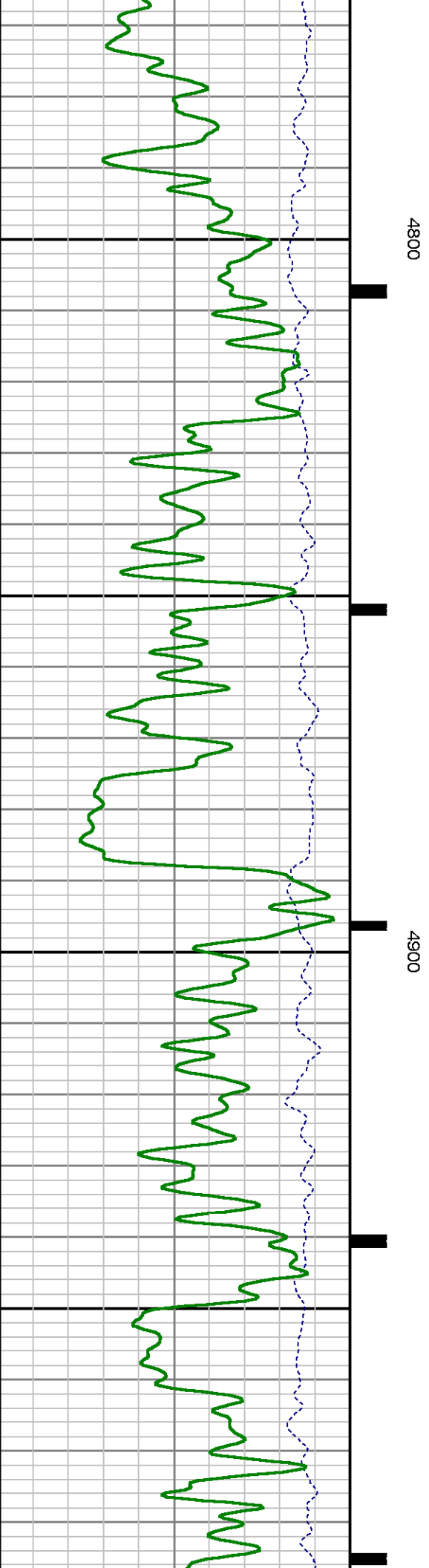
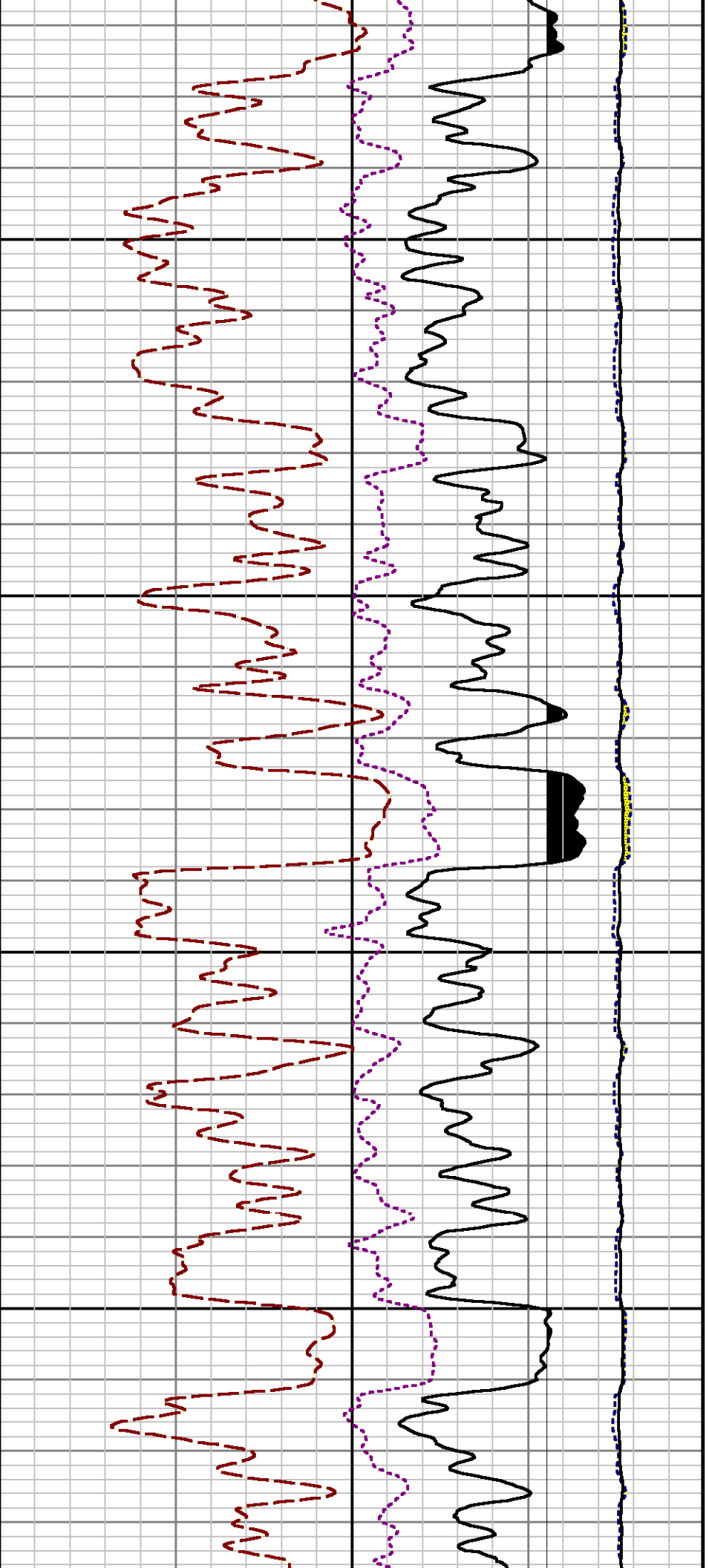
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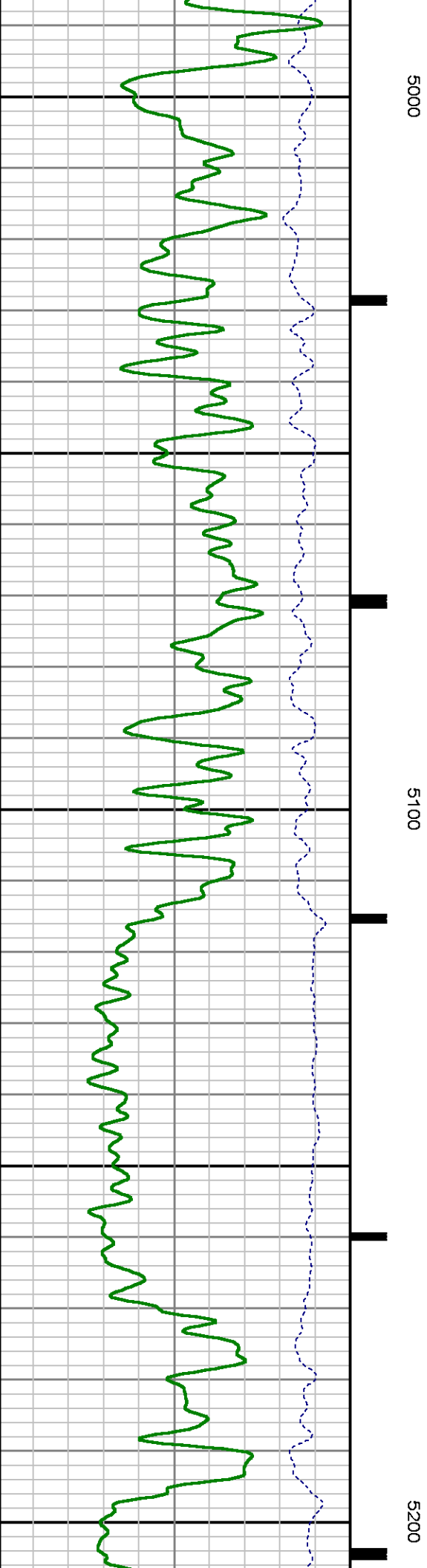
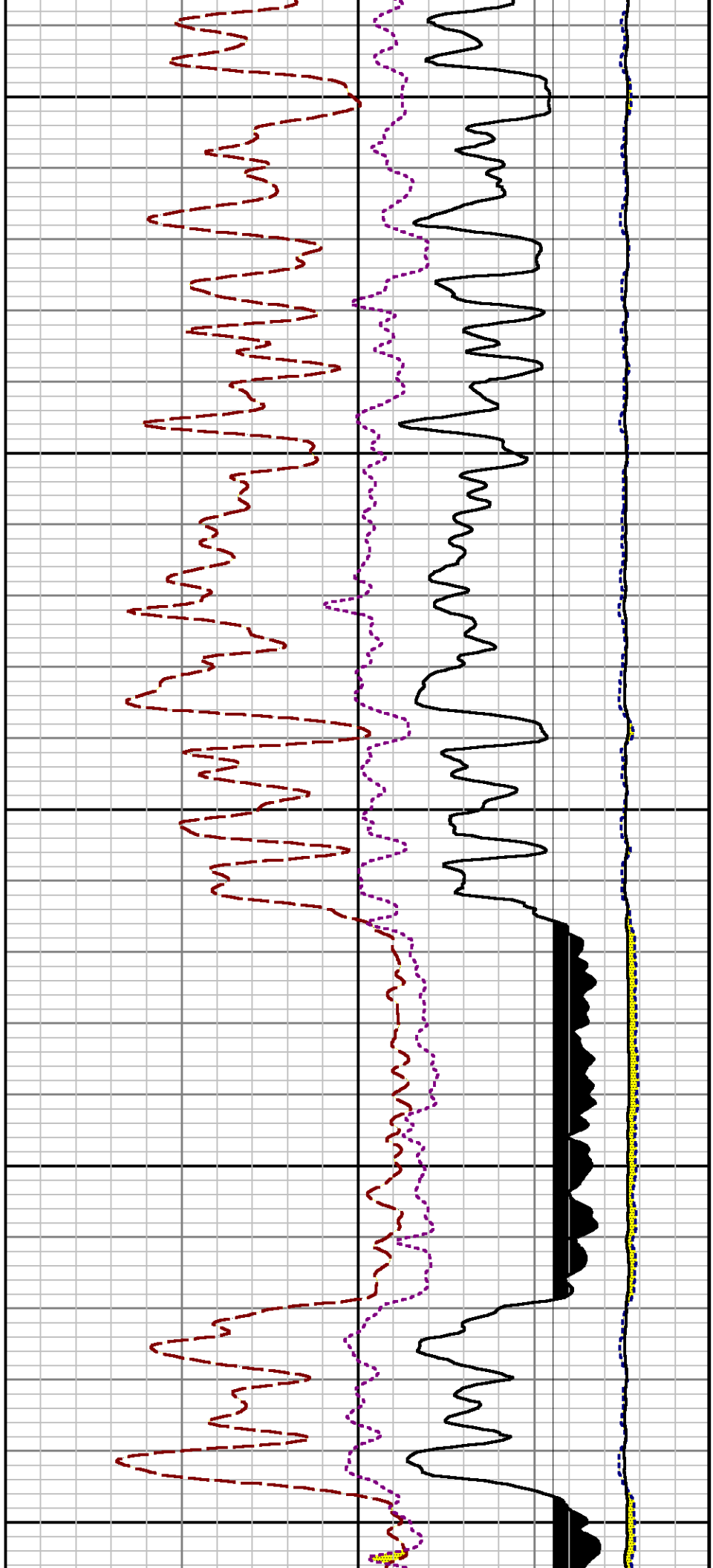
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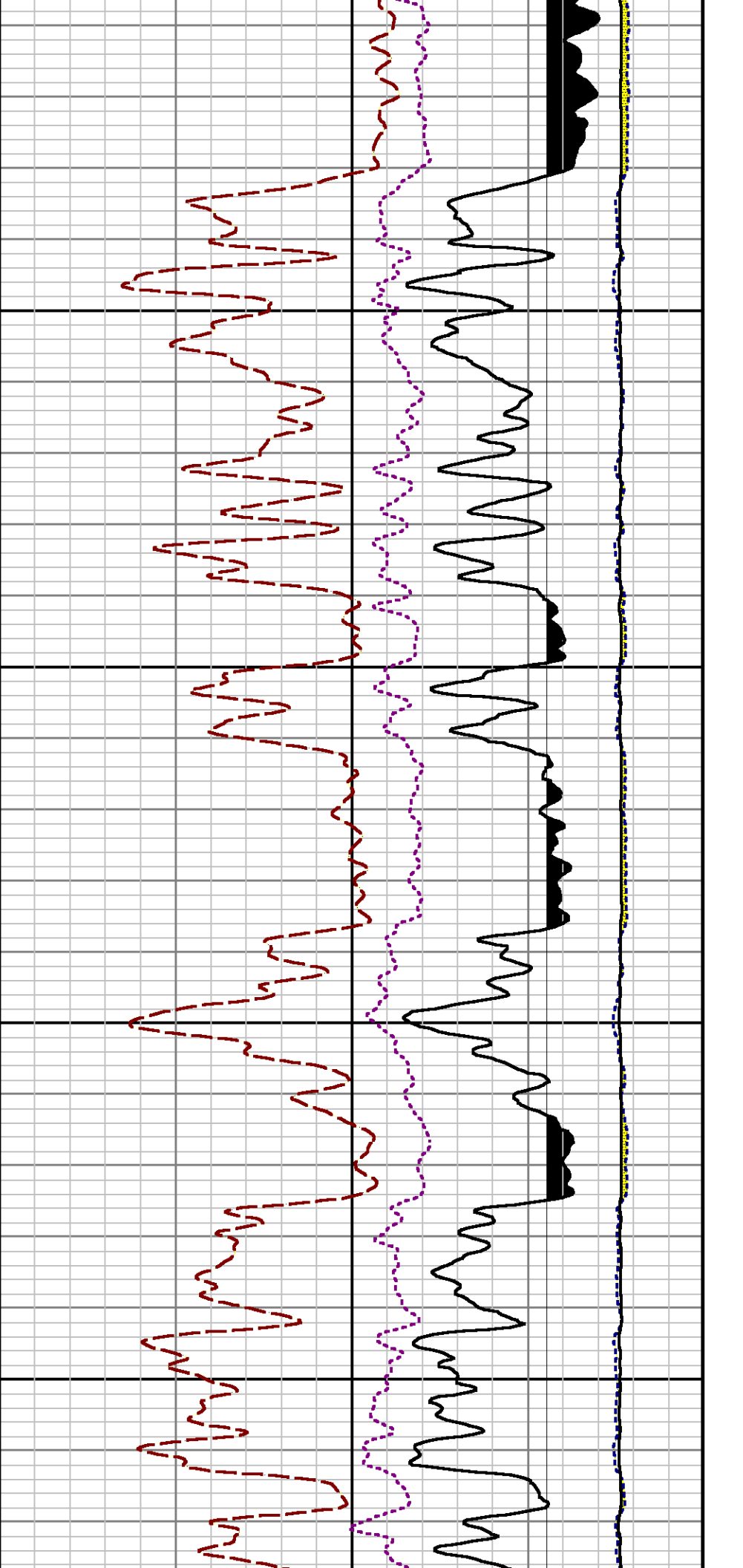






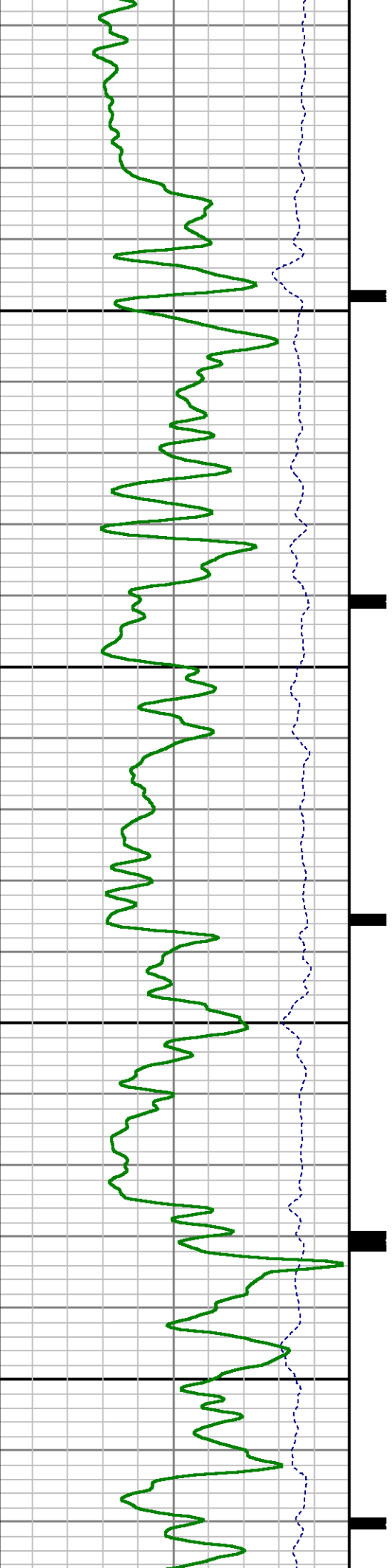


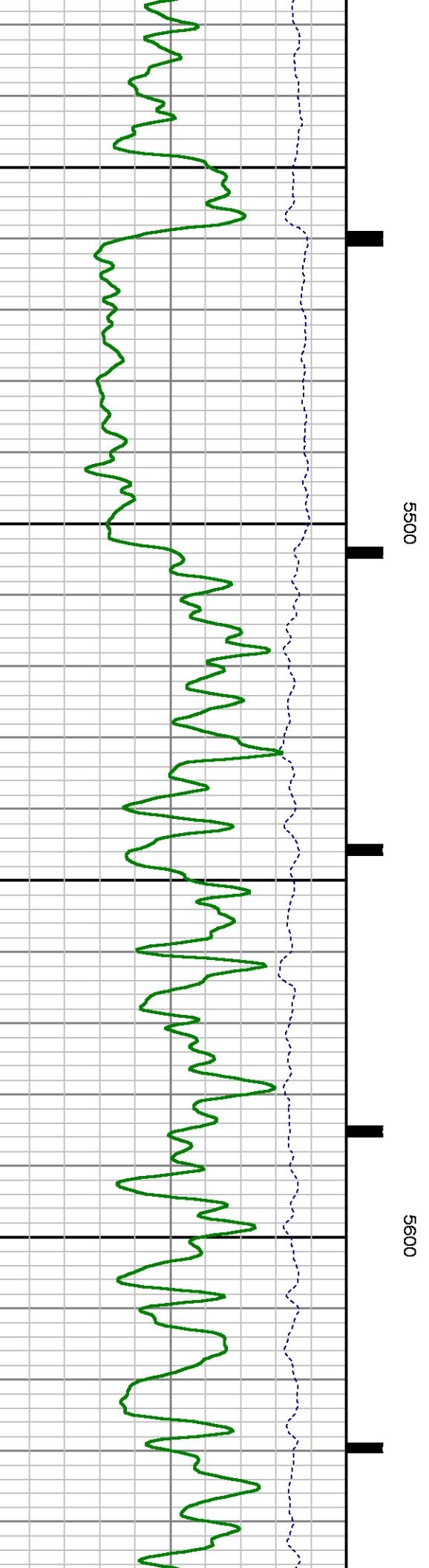
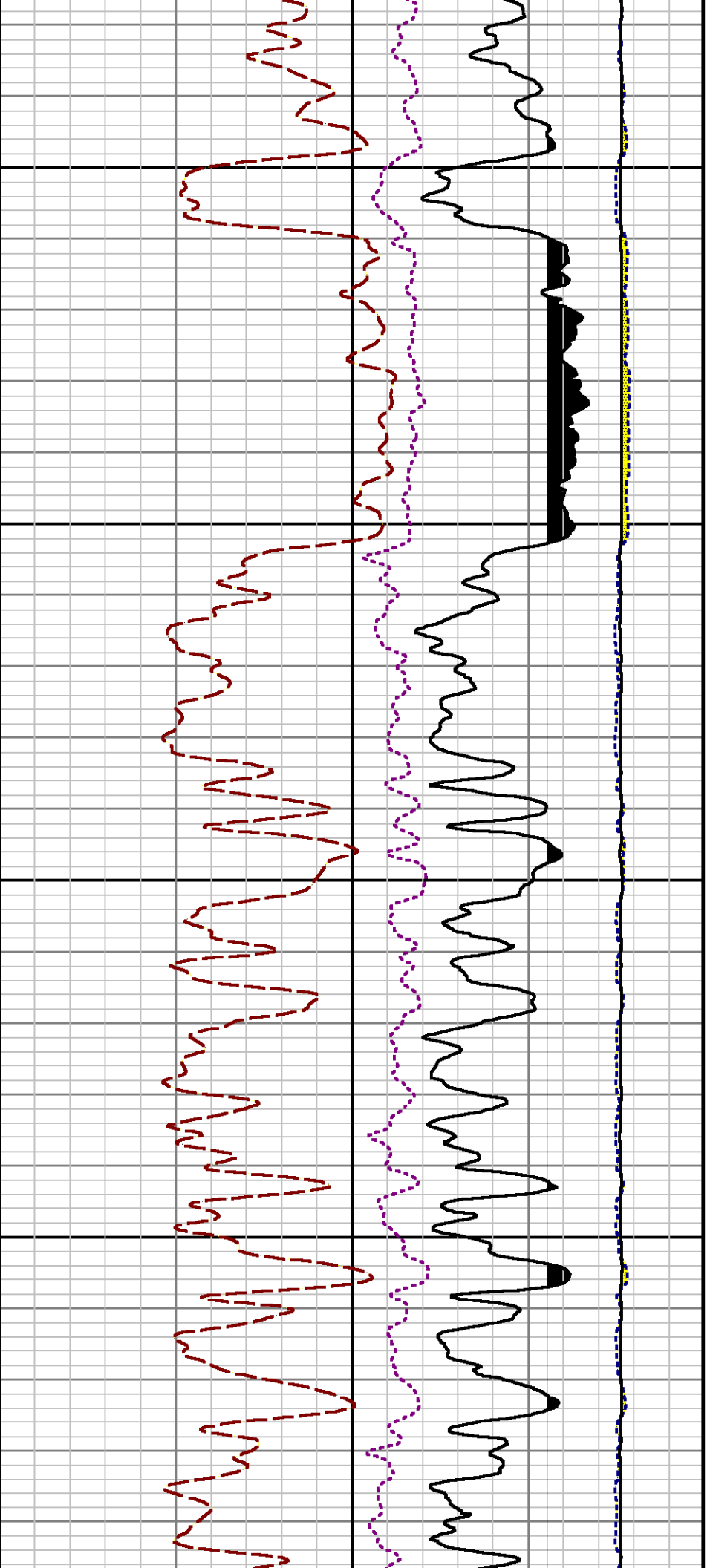


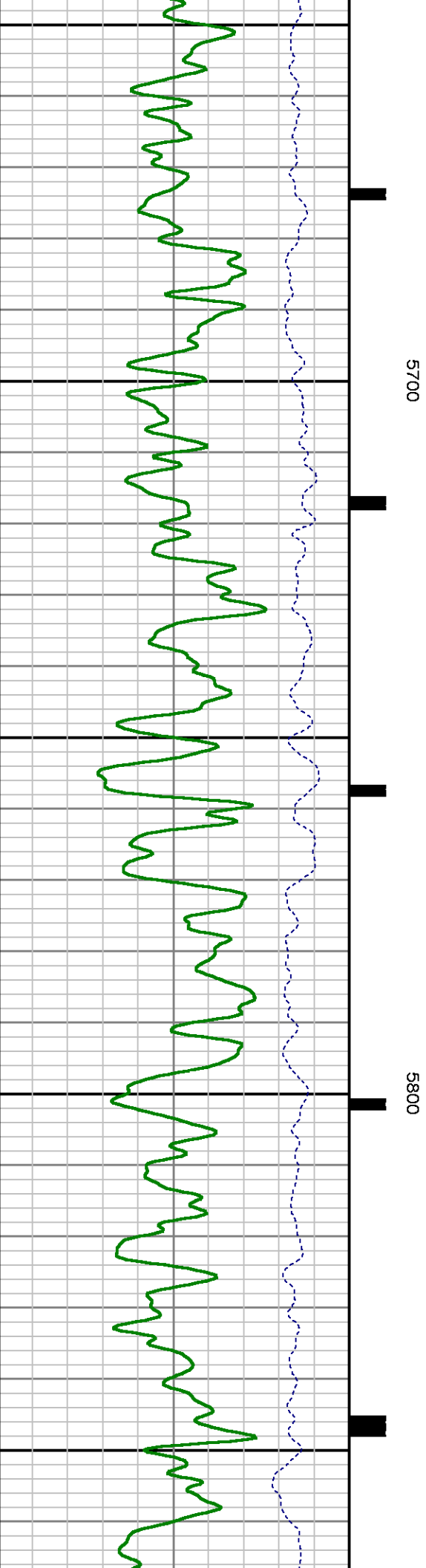
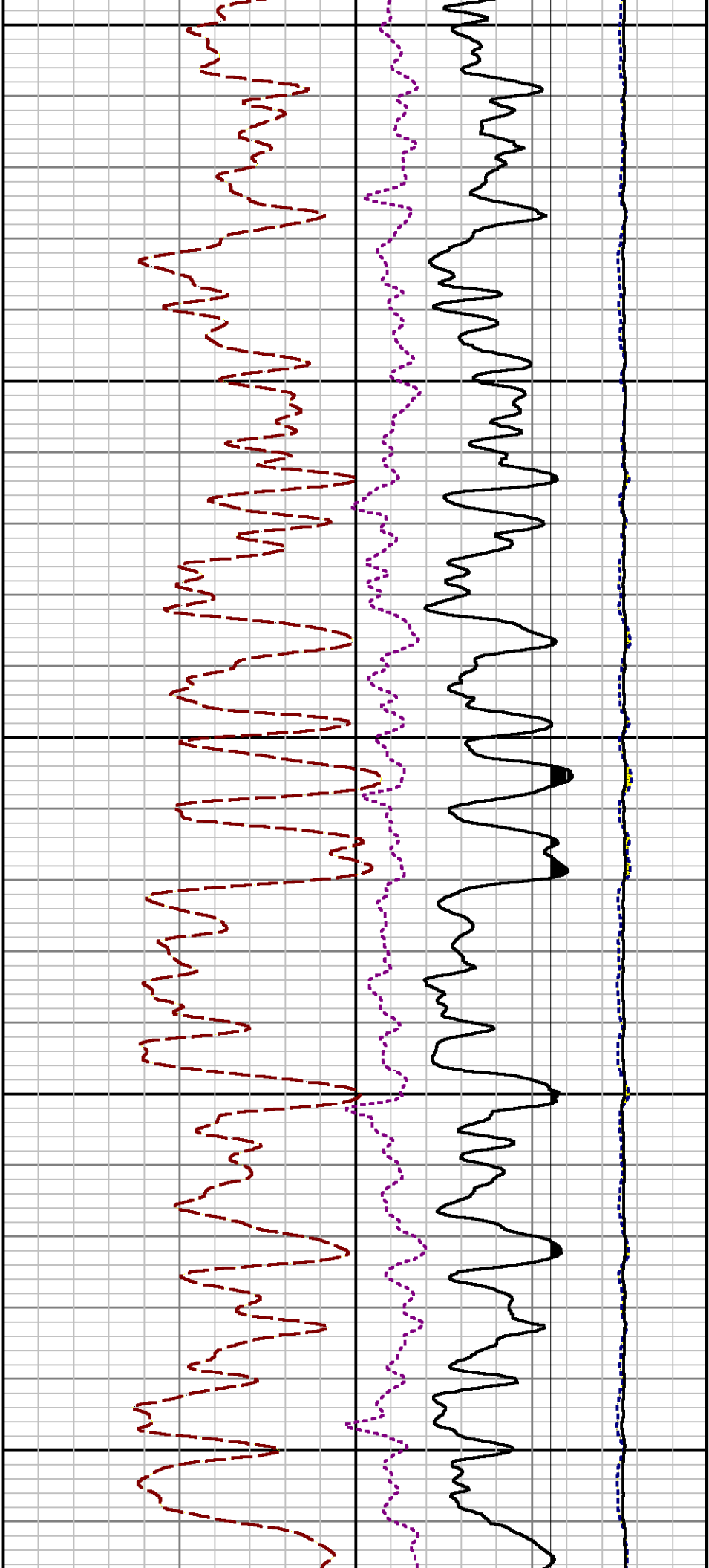


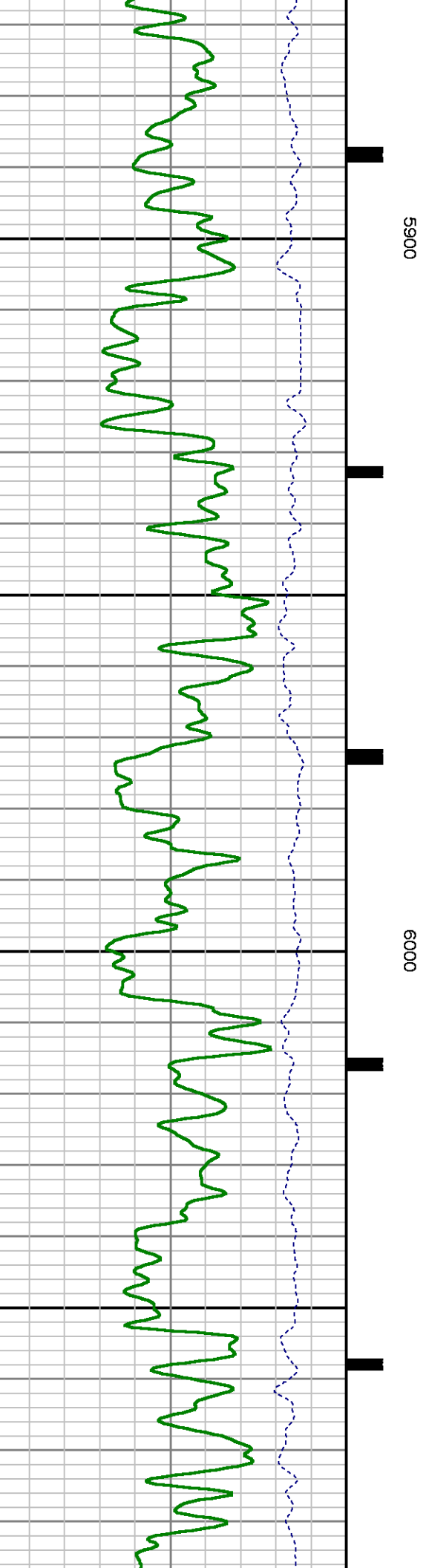
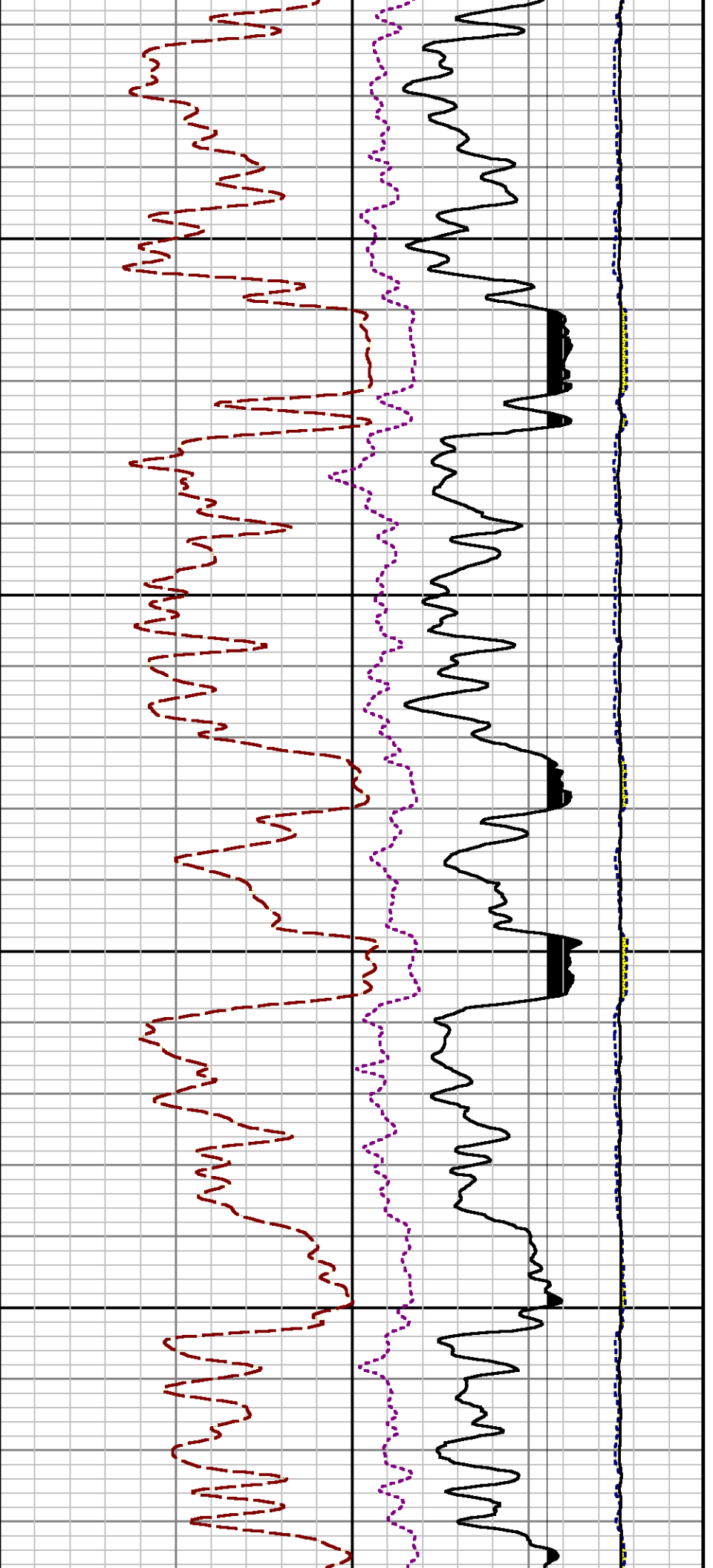
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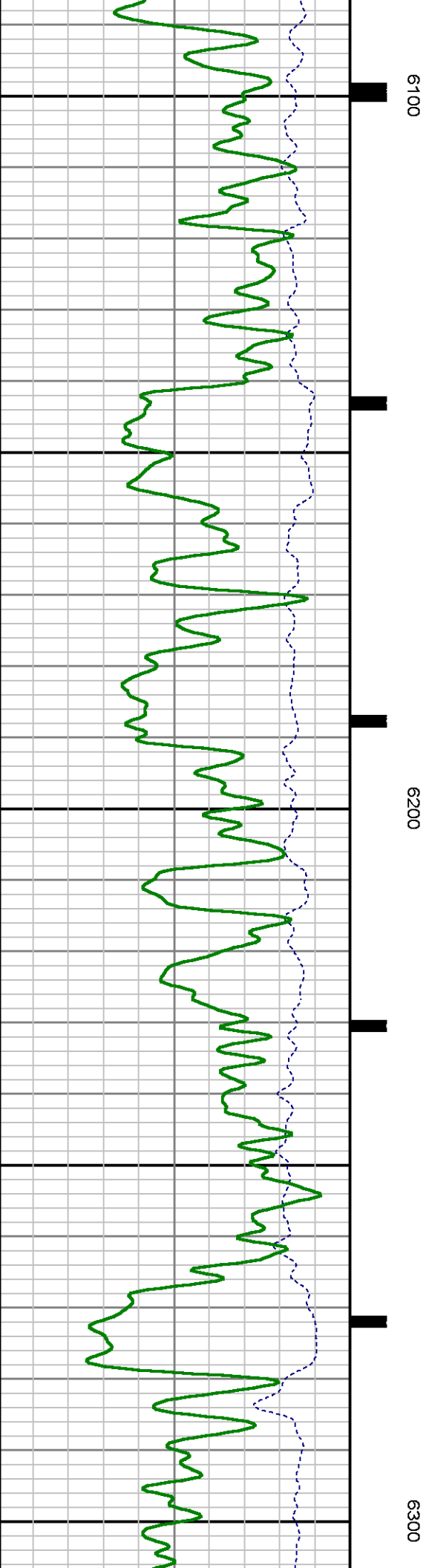
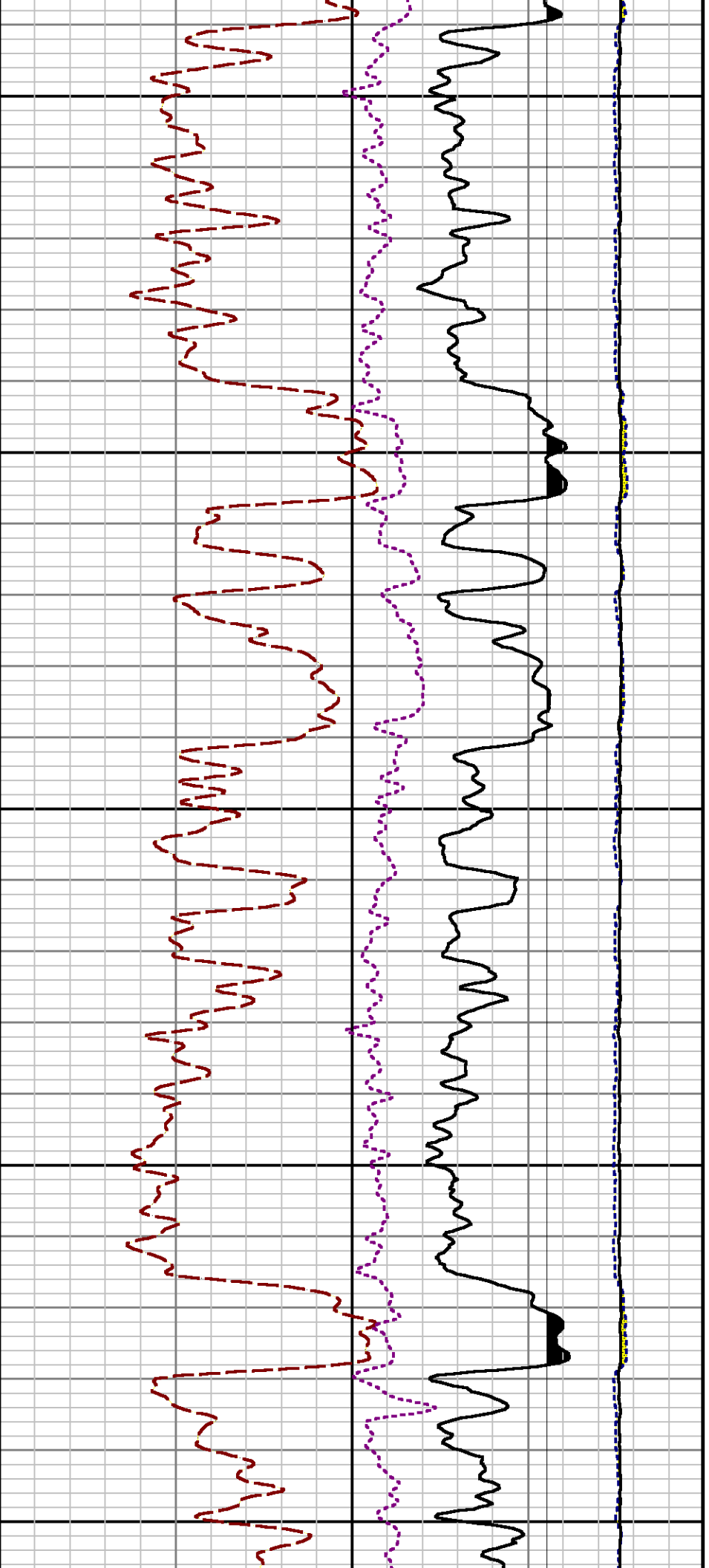
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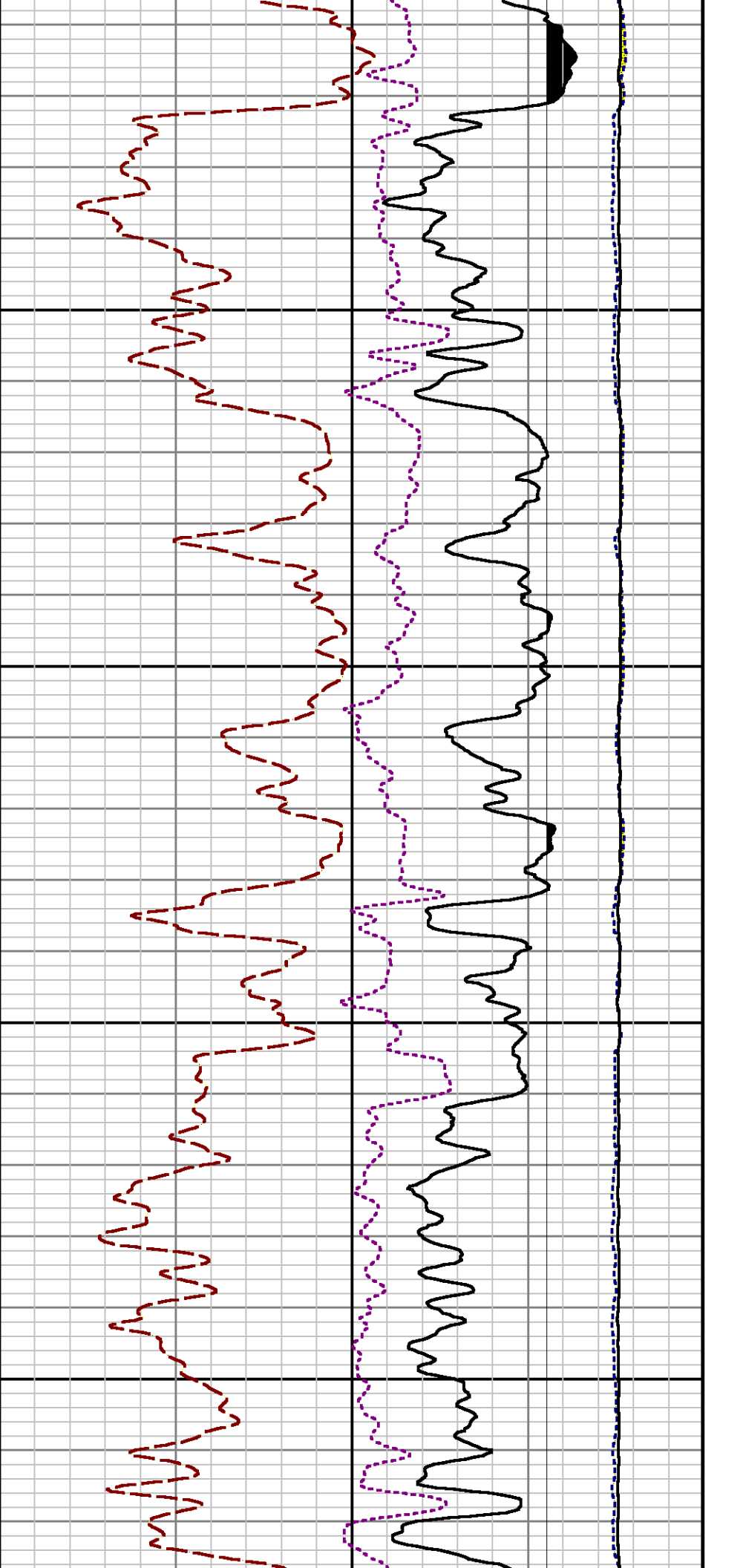






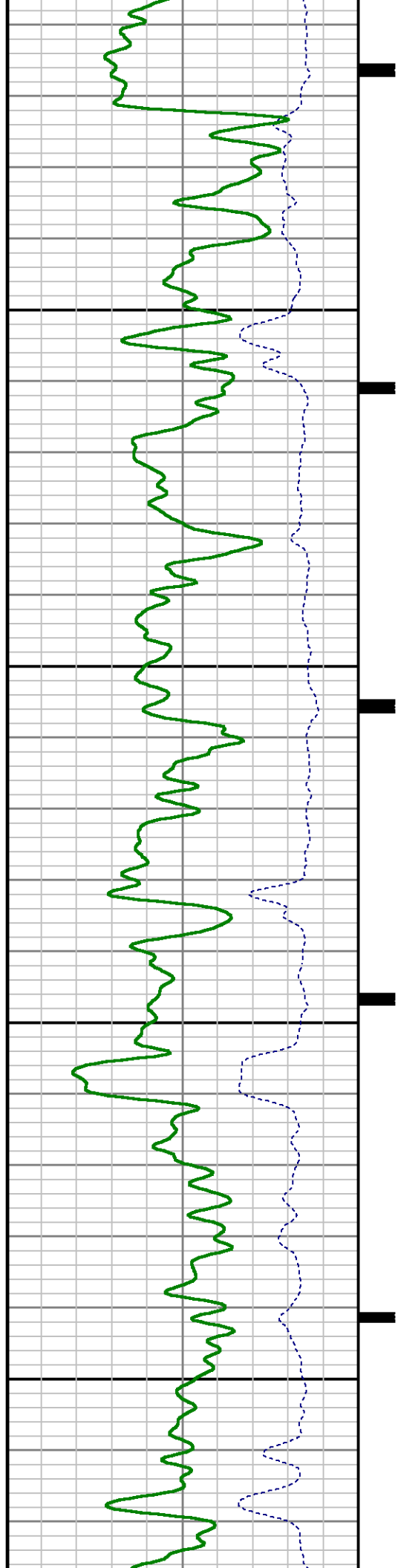


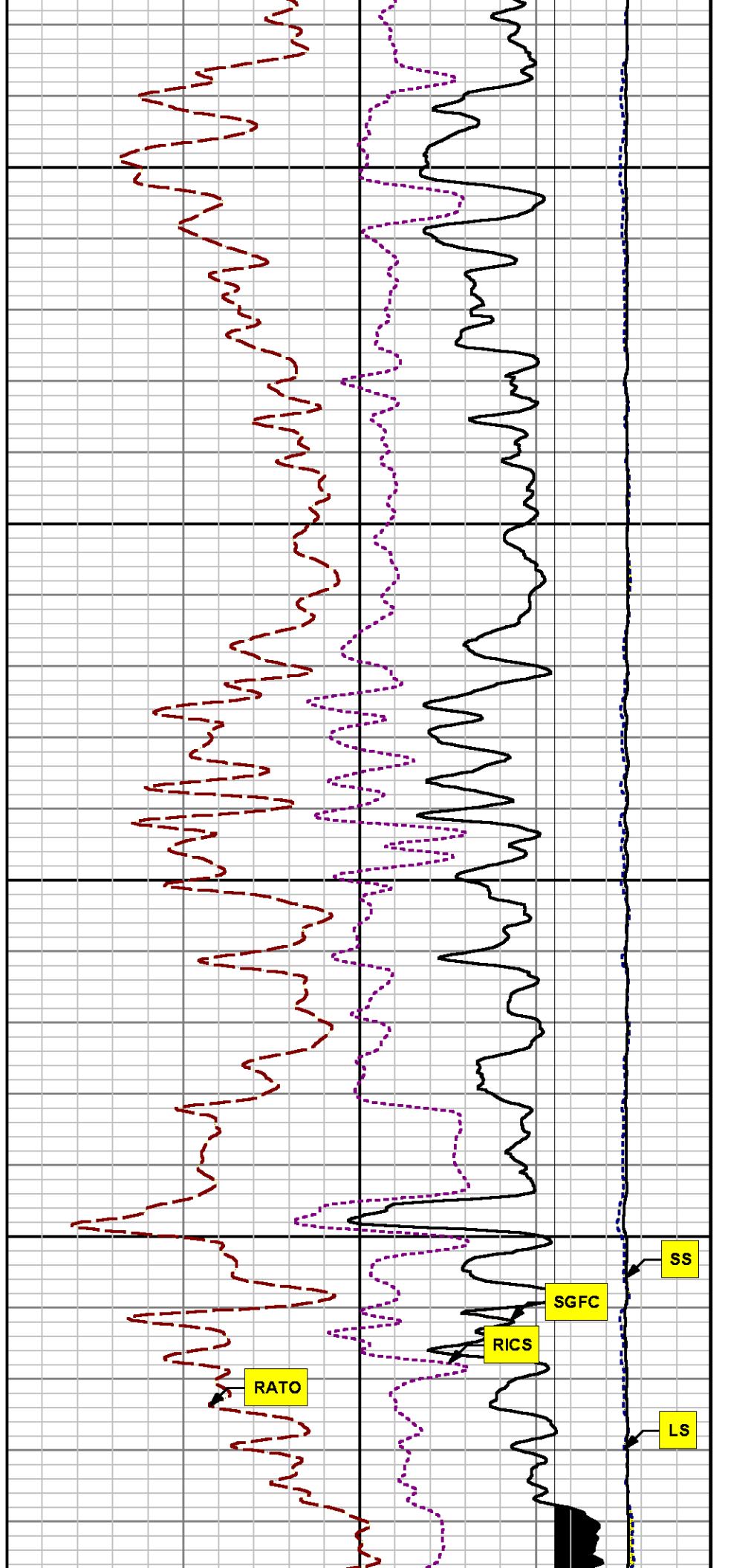
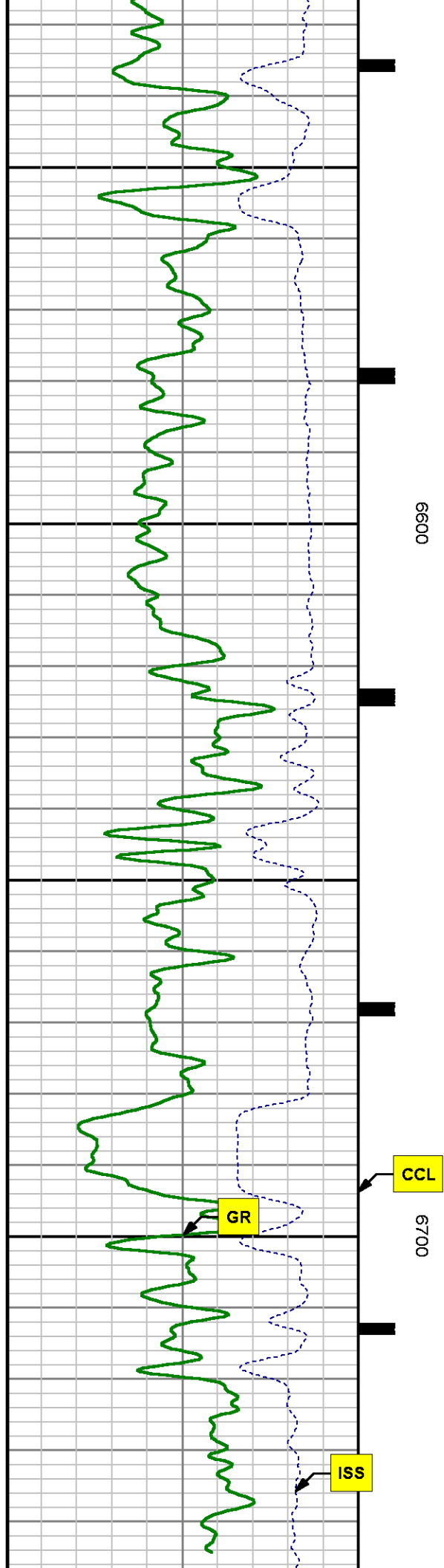


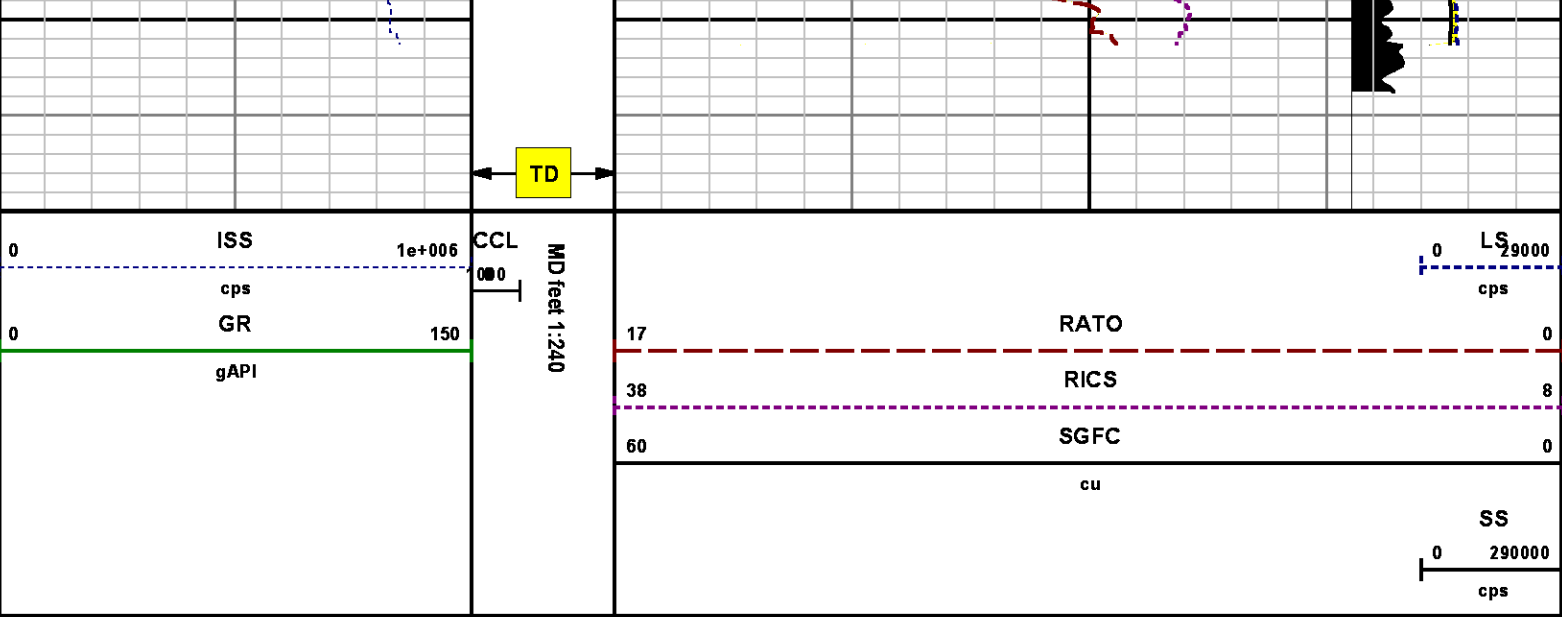


6400

6500







REPEAT SECTION  
PNC 3-D MODE

### SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		5949.470	6264.532
PNC Porosity	Borehole Size	8.750	inch	5949.470	6264.532
PNC Porosity	Casing Size	4.500	inch	5949.470	6264.532
PNC Porosity	Gas Filled	Non Gas Filled		5949.470	6264.532
PNC Porosity	Matrix	Sandstone		5949.470	6264.532
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	5949.470	6264.532

### DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES
8248ED	-26.519	FLTM
8248ED	-24.519	CCL CHV
2812LA	-21.969	GR
8248ED	-18.750	UNSCOR SEGSS AMAS AMLS PEX QXS

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 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 : C&amp;C ENERGY GM 422-13

File Name : d:\welldata\wp\lgm 422-13\442rpm\repeat.xtf

Mode : PlotMgr 5.4.504

Interval : 5949.72 - 6268.72 feet UP

Created : 5/27/2014 8:03:29 PM

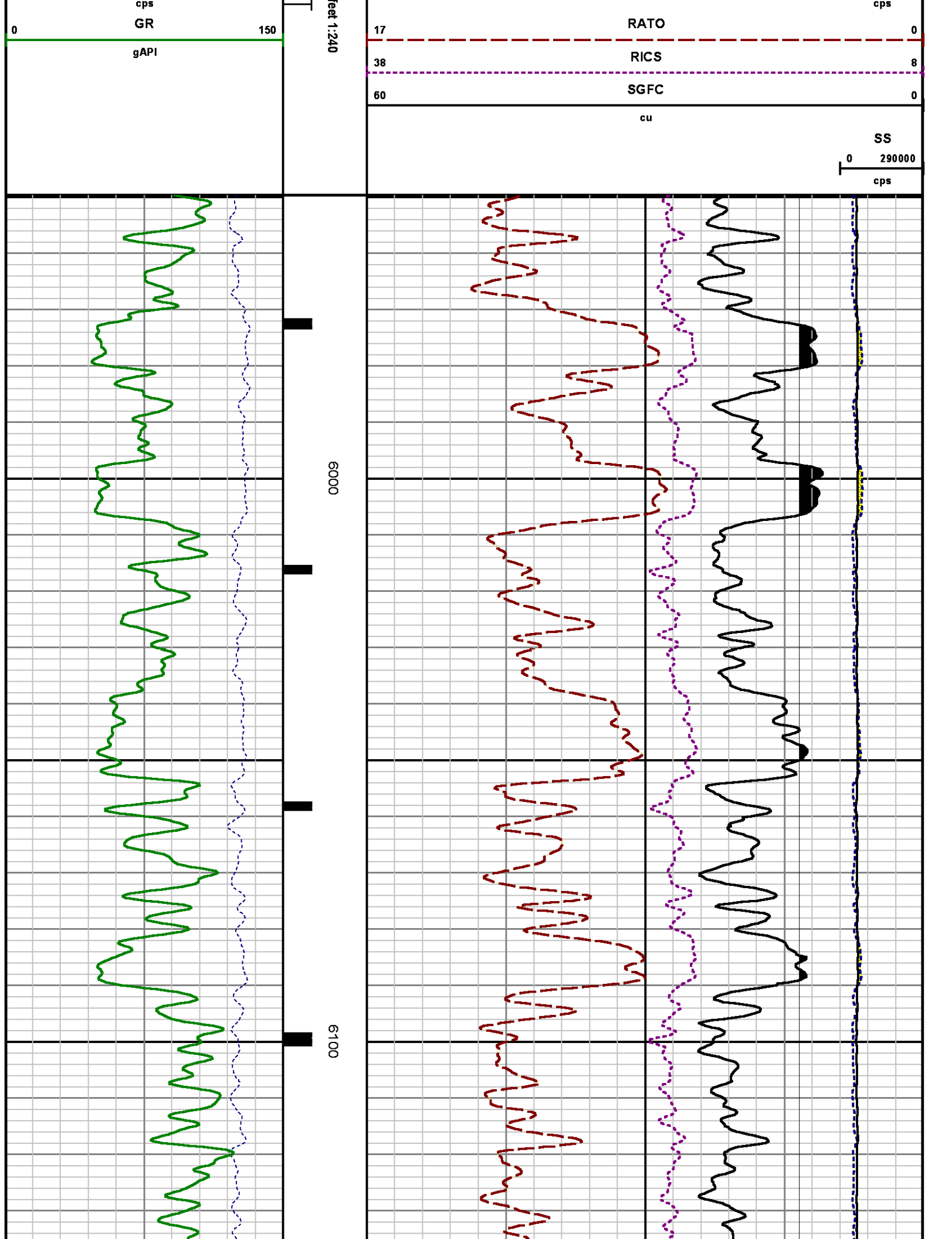
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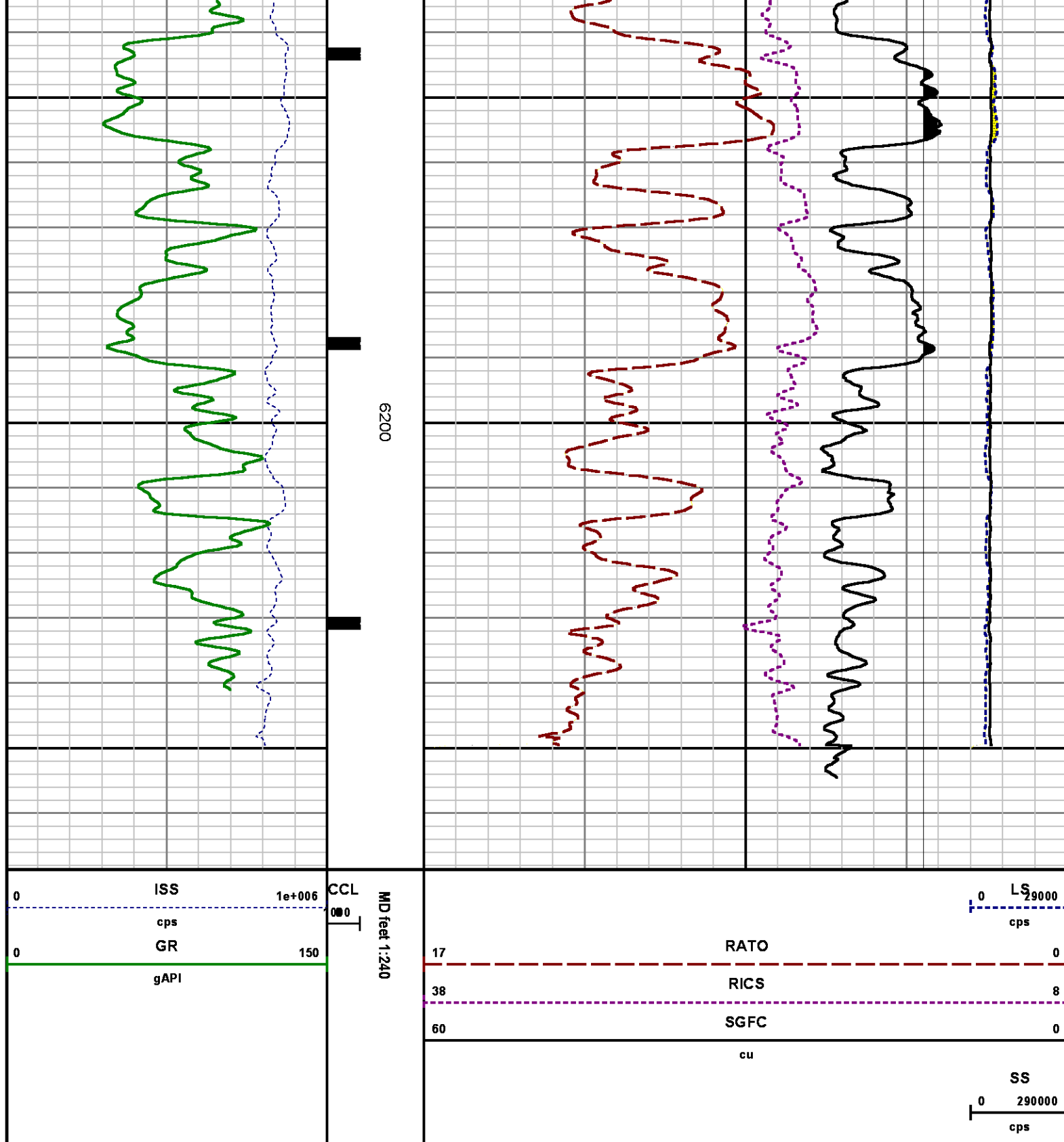
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CCL

MD

0 LS 29000





## CALIBRATION SUMMARY

# GAMMA RAY

Calibration File: C:\case\calver\GR\38220.cal

## CALIBRATION SUMMARY

DATE/TIME PERFORMED: Tue May 20 19:18:21 2014 TOOL SERIES: 2812LA ASSET: 382 SEQ: 20

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	55.04	271.02	0.972	53.52	263.52	210.00

# PNC

Calibration File: C:\case\calver\PNC\25125.cal

## PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Fri Apr 25 21:41:21 2014 TOOL SERIES: 8281XA ASSET: 251 SEQ: 25

Calibrator #

2437XBGJSHOP

Source #

8281AA10220684

	ISS	Mtr Vlts (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	816262	121.00	2314.00	2299.00	2312.00	109.29	7.00	0.9804
Interpolated	1300000	141.60	2290.45	2294.98	2310.26			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	816262	8611.91	1417.02	177.10	25.87	0.14	24.28	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	816262	169865.19	26945.61	90435.30	32203.50	8403.61	54738.16	13426.76
Fit Quality %		0.89	0.91	0.81	0.81	0.83	0.74	0.85

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	816262	1.43	4.81	30.30	14.91	10.76	3.83	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 %		0.04	0.26	0.30	0.19	0.16	0.13	0.12
Reduced	1398456	1.43	4.81	30.30	14.96	10.73	3.82	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

# TEMPERATURE

Calibration File: C:\case\calver\TEMP\77456813.cal

## CALIBRATION SUMMARY

DATE/TIME PERFORMED: FEB 13 2014 TOOL SERIES: 8255XA ASSET: 774568 SEQ: 13

	T(0)	T(1)	T(2)	T(3)	T(4)	T(5)
Coefficients	-9.274653e+000	1.055639e-001	2.143764e-006	-2.782846e-010	0.000000e+000	0.000000e+000

# 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

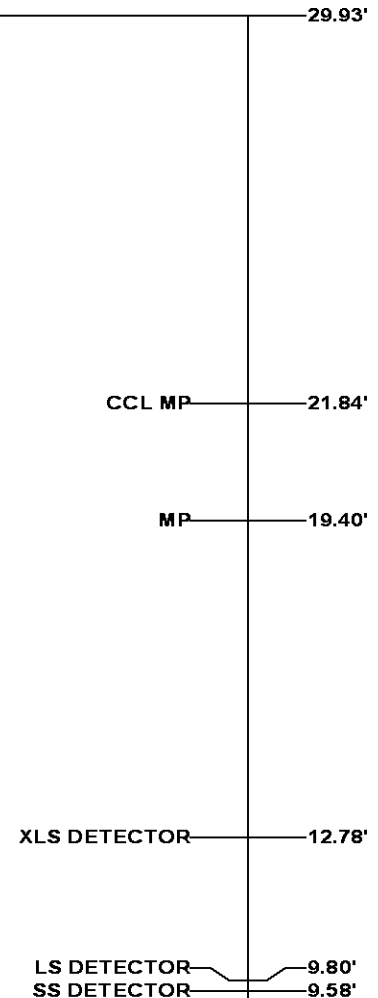
Series 8248EA  
Mnemonic PCM  
Diameter 1.70"  
Weight 20.00 lb  
Length 4.46'  
Measure Point 1.00' CCL MP  
Temp Rating 350.00 °F  
Press Rating 15000.00 PSI

#### 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





0.00'

**Total Length: 29.93'**  
**Total Weight: Not Available**  
**Max Diameter: 0' 1.70"**



**Baker Atlas**

*CASE*

**Company**

**WPX ENERGY**

**Well**

**C&C ENERGY GM 422-13**

**Field**

**GRAND VALLEY**

**County**

**GARFIELD**

**State**

**COLORADO**

**Location**

**SHL: 266' FSL & 1029' FWL (SEC 12)**

**BHT: 2040' FNL & 2640' FWL (NENW SEC 13)**

**SEC**

**13**

**TWP**

**7S**

**RGE**

**96W**

**Elevations**

**KB 5165 ft**

**DF**

**GL 5141 ft**

**File No:**

**CH085744**

**API No:**

**05045222640000**

**13 7S 96W**

**GM 24-12 PAD**

**H&P 318**