



RESERVOIR PERFORMANCE MONITOR

Baker Atlas

File No: CH087290

Company Well WPX ENERGY FEDERAL NER 513-32

API No: RULISON

County Garfield State CO

05045217650000

Location

SHL: 145' FNL & 2582' FWL (5 75 93W)

BHL: 1450' FSL & 648' FWL (32 65 93W)

SEC 32 TWP 6S RGE 93W

Other Services

BOND LOG

32 65 93W

RU 23-5 PAD

NABORS 576

Permanent Datum

GL Elevation 7603
KB 26 Above P. D.

Elevations
KB 7629
DF
GL 7603

Log Measured From

KB

KB

Drill Measured From

KB

GL

Date 13/JUL/14

Run ONE

Service Order USC087290

Depth Driller 10480

Depth Logger 10428

Bottom Logged Interval 10418

Top Logged Interval 6329

Time Started 7:00

Time Finished 13:30

Operator Rig Time 6.5 HOURS

Type of Fluid in Hole WATER

Fluid Density NA

Salinity NA

Fluid Level 86

Logged Cement Top NA

Wellhead Pressure 0

Maximum Hole Deviation NA

Nominal Logging Speed 10

Maximum Recorded Temperature 241

Reference Log BAKER HUGHES BOND LOG

Reference Log Date 12/JUL/14

Equipment No. 4271 Location GRAND JUNCTION

Recorded By NEMELL

Witnessed By JEFF DUCY

- 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	1147
8.75	1147	10524

Casing Record

Size	Weight	Grade	From	To
9.625			0	1147
4.5	11.6	P-110	0	10524

Remarks

All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 12/JULY/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 3 feet.

Logged in PNC-3D mode.

BHT = 241 °F

SJ = 6966'-6985'

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	10169250	FREE
1	1	RPM	8283PA	10169251	FREE
1	1	RPM	8281FA	10191667	FREE
1	1	TEMP	8255XA	2176973	FREE

MAIN SECTION
PNC 3-D MODE

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		6310.000	6970.000
PNC Porosity	Borehole Size	8.750	inch	6310.000	6970.000
PNC Porosity	Casing Size	4.500	inch	6310.000	6970.000
PNC Porosity	Gas Filled	Non Gas Filled		6310.000	6970.000
PNC Porosity	Matrix	Sandstone		6310.000	6970.000
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	6310.000	6970.000
PNC Porosity	Borehole	Cased		6970.000	10430.000
PNC Porosity	Borehole Size	8.750	inch	6970.000	10430.000
PNC Porosity	Casing Size	4.500	inch	6970.000	10430.000
PNC Porosity	Gas Filled	Non Gas Filled		6970.000	10430.000
PNC Porosity	Matrix	Sandstone		6970.000	10430.000
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	6970.000	10430.000

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 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 RDN 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

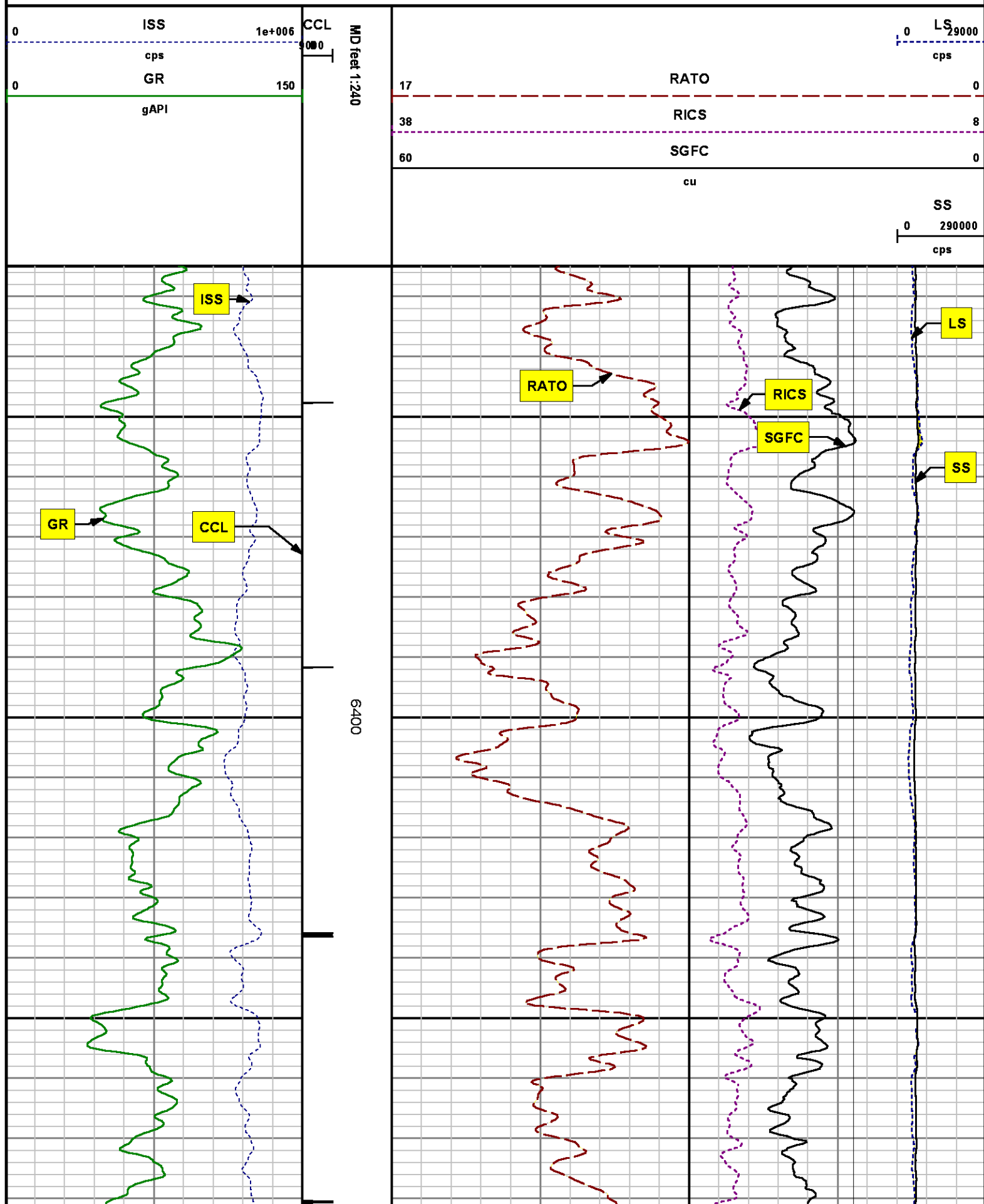
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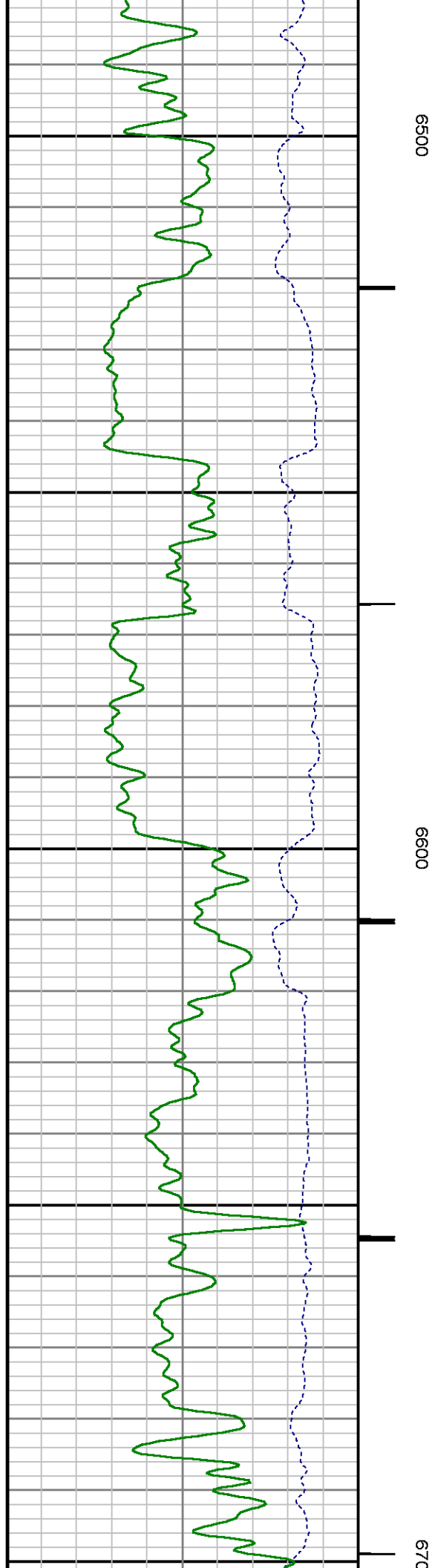
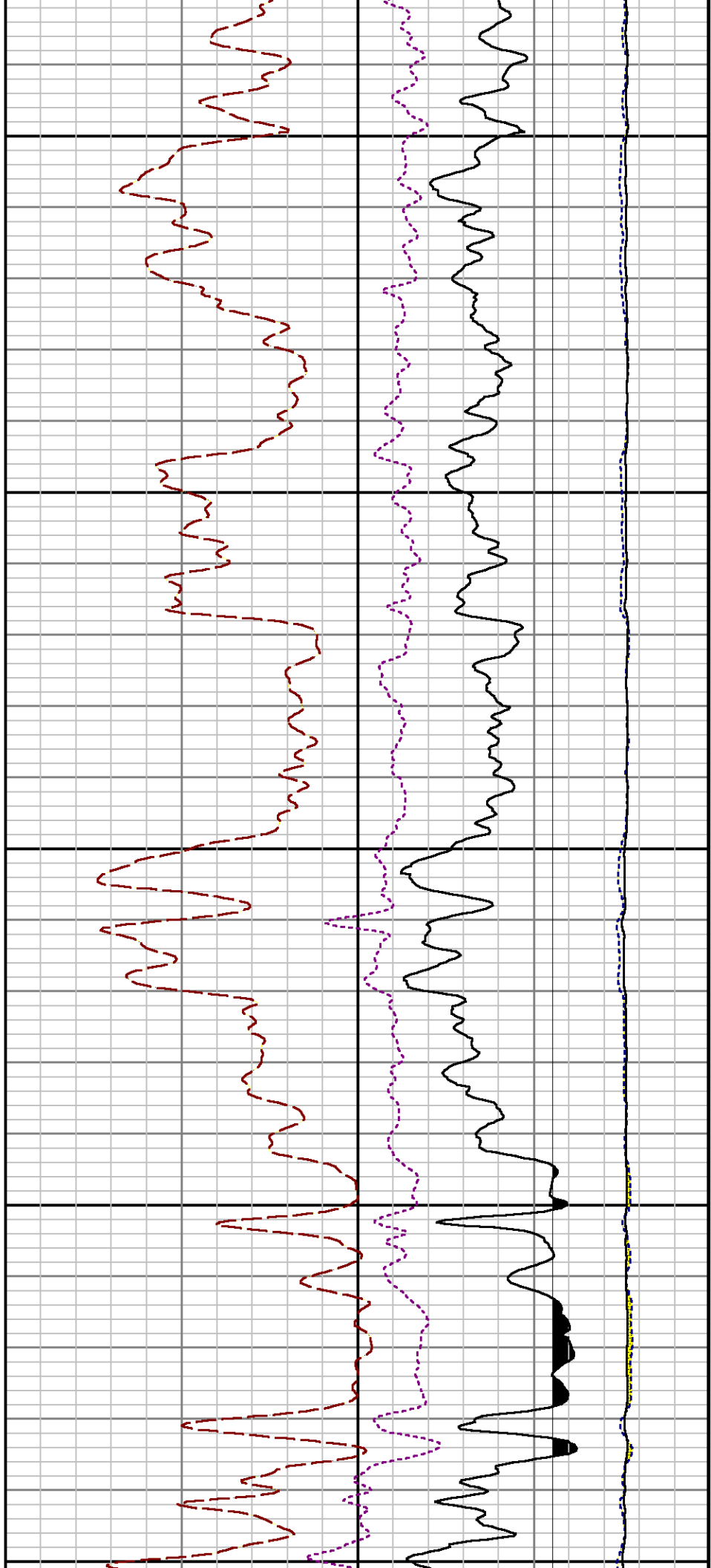
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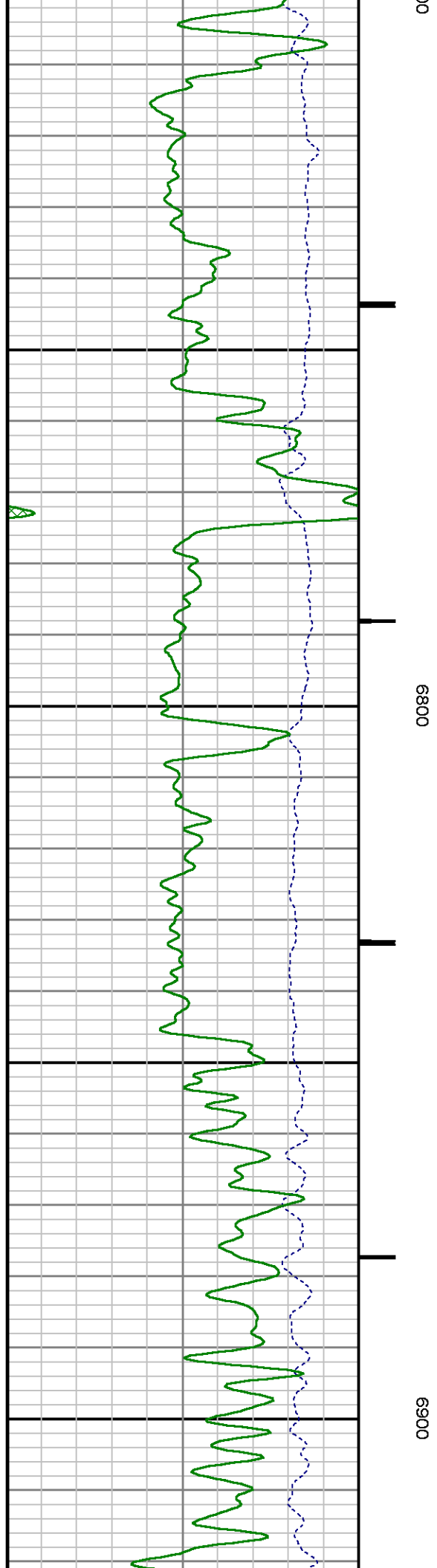
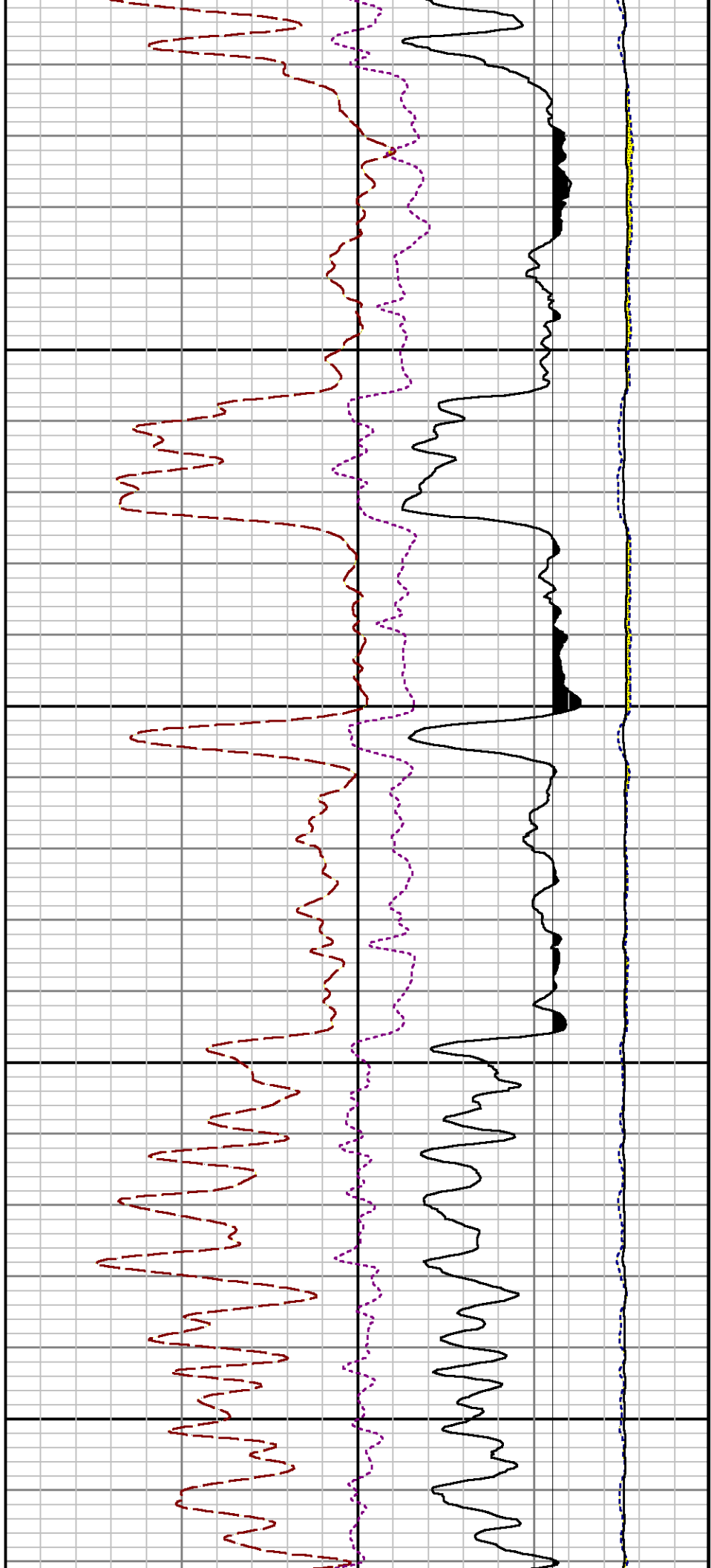
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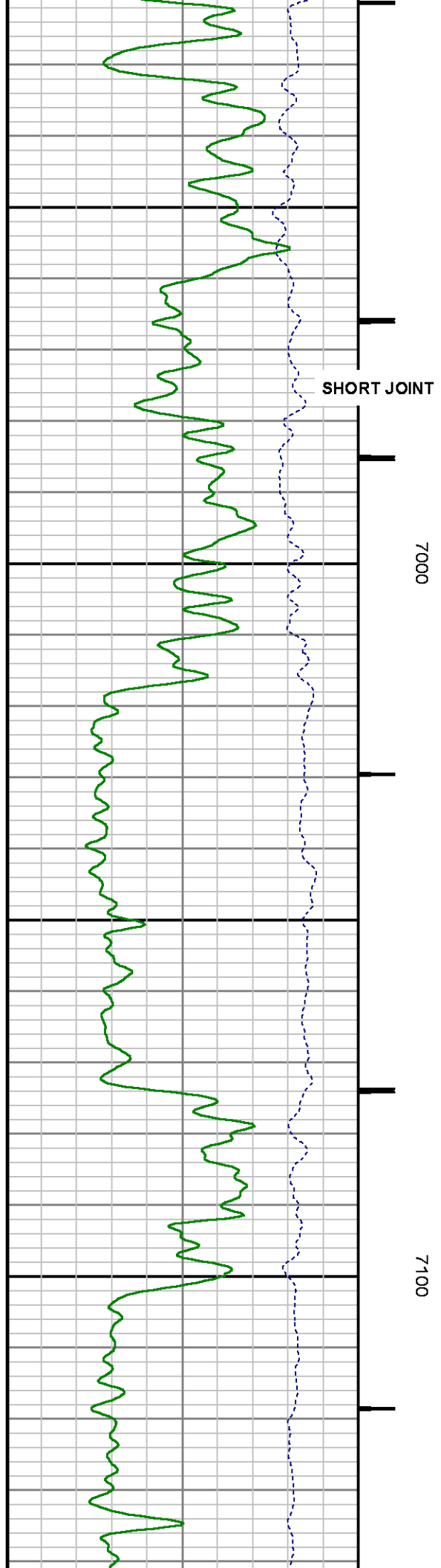
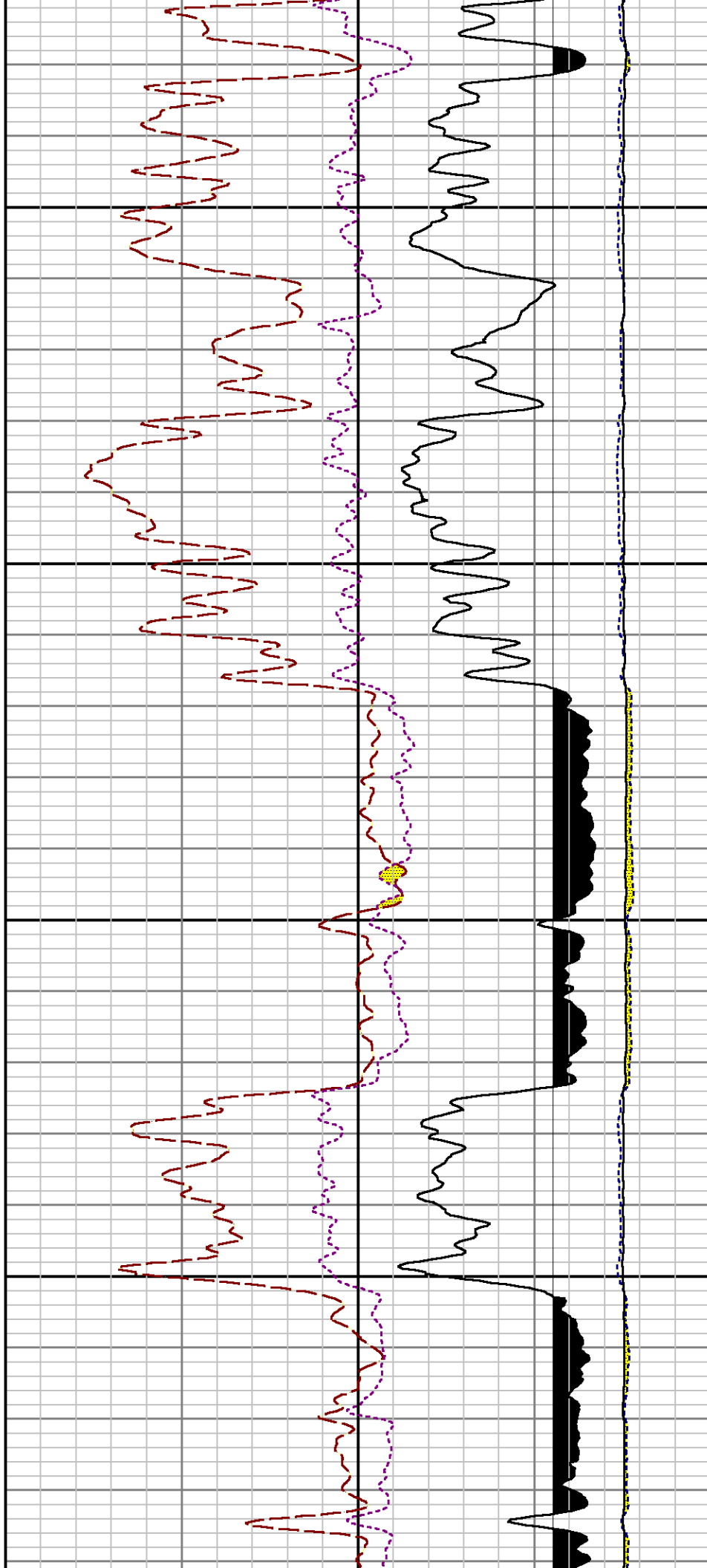
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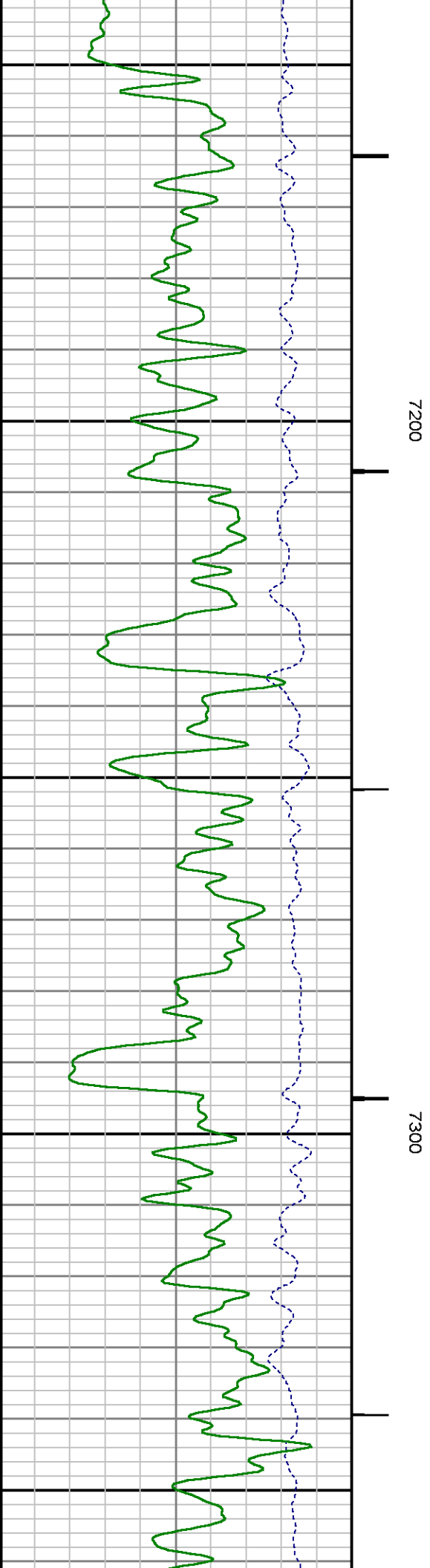
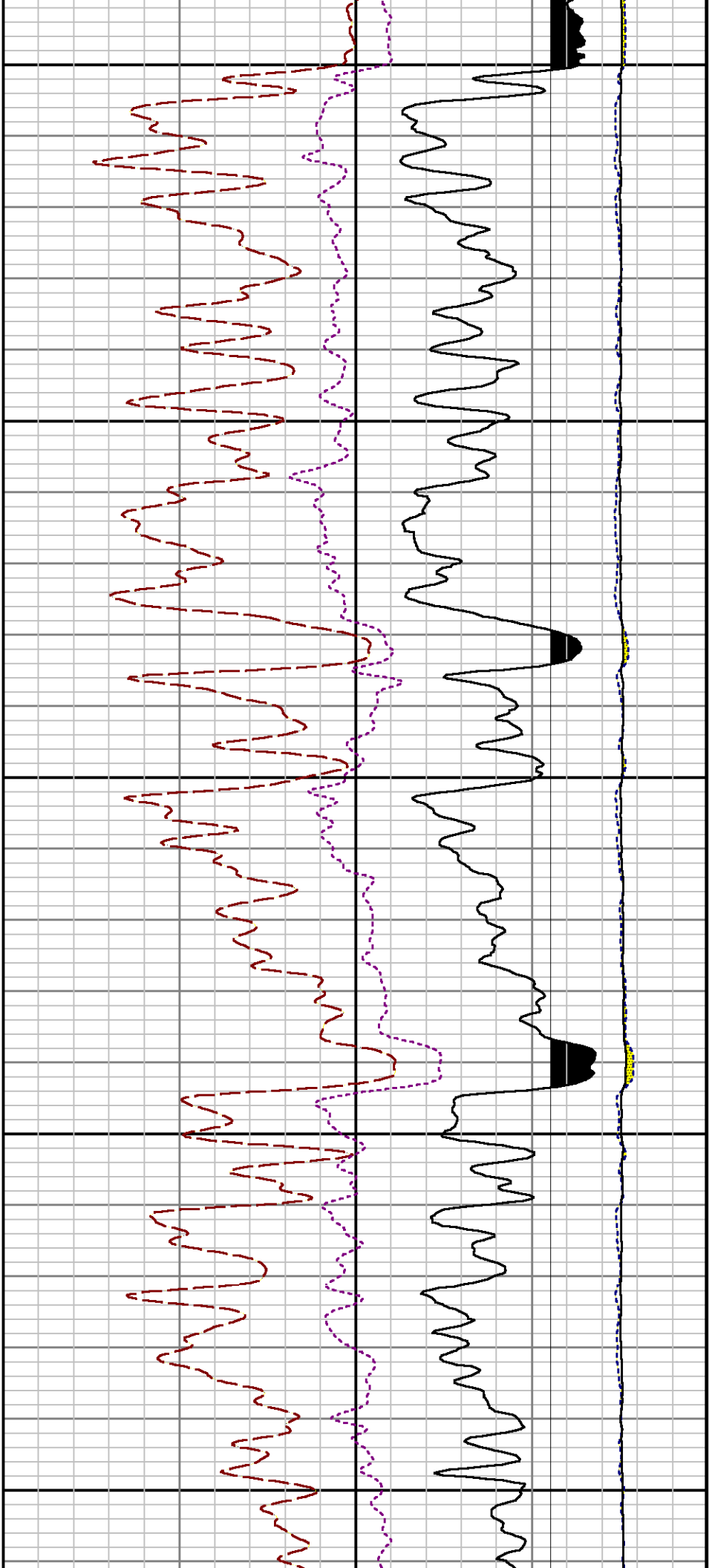
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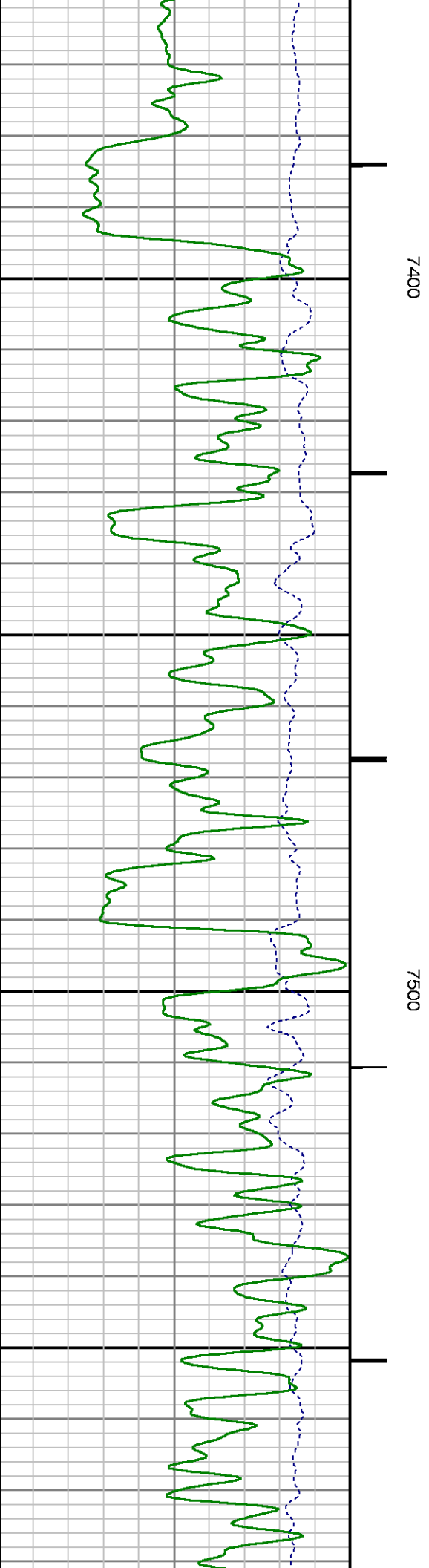
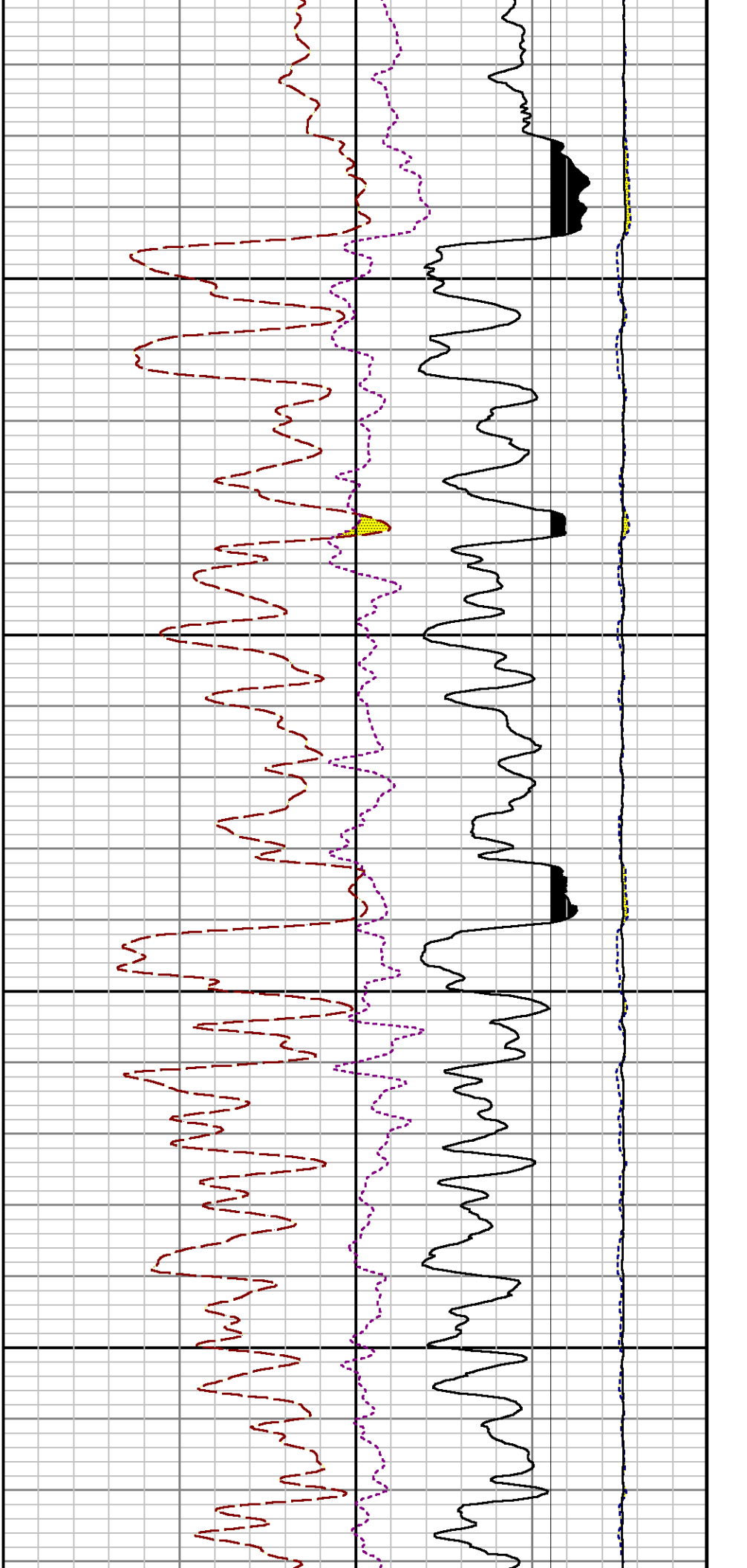


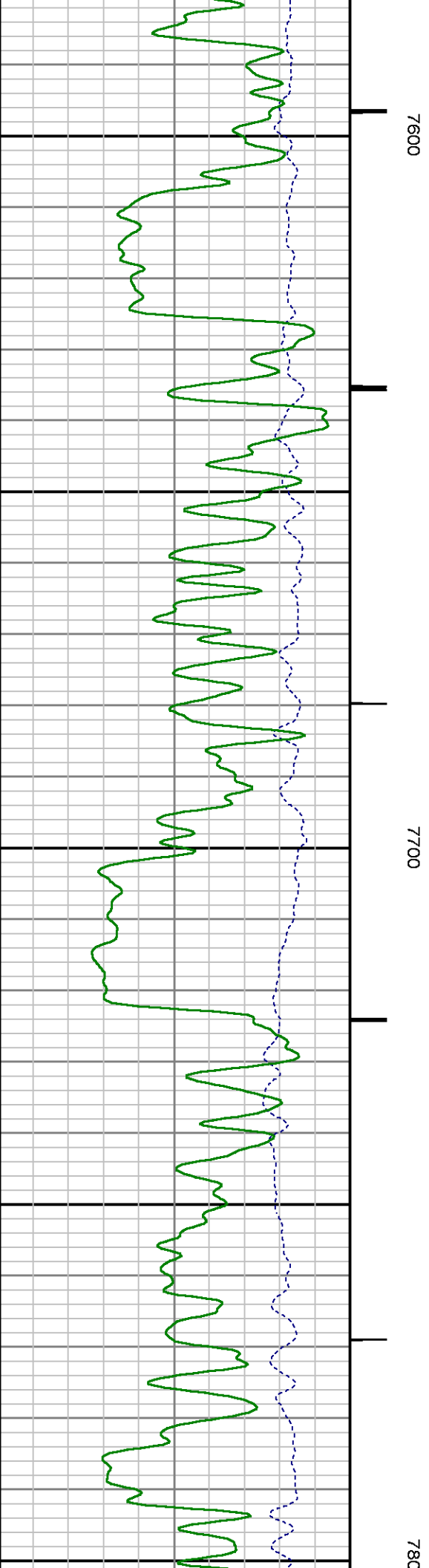
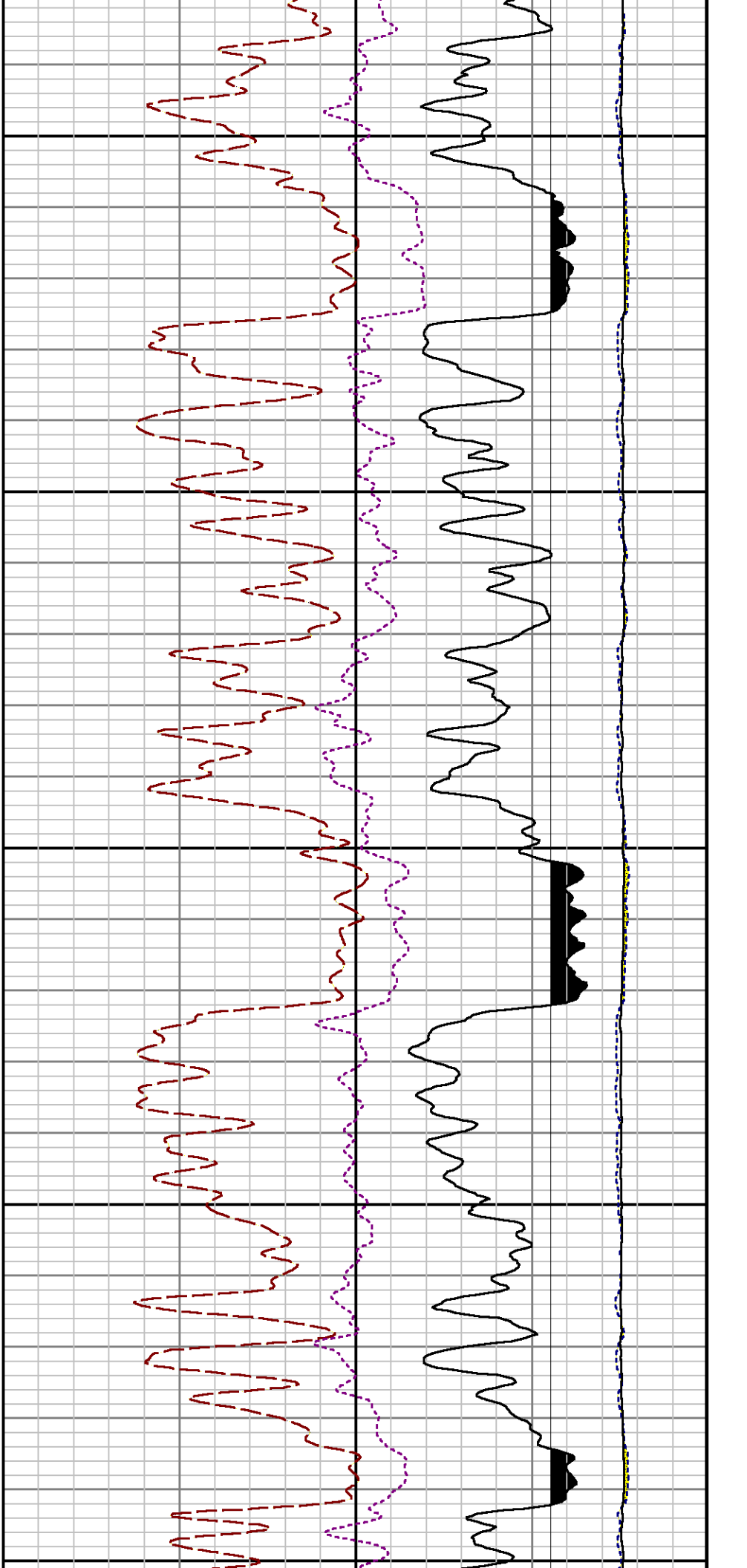


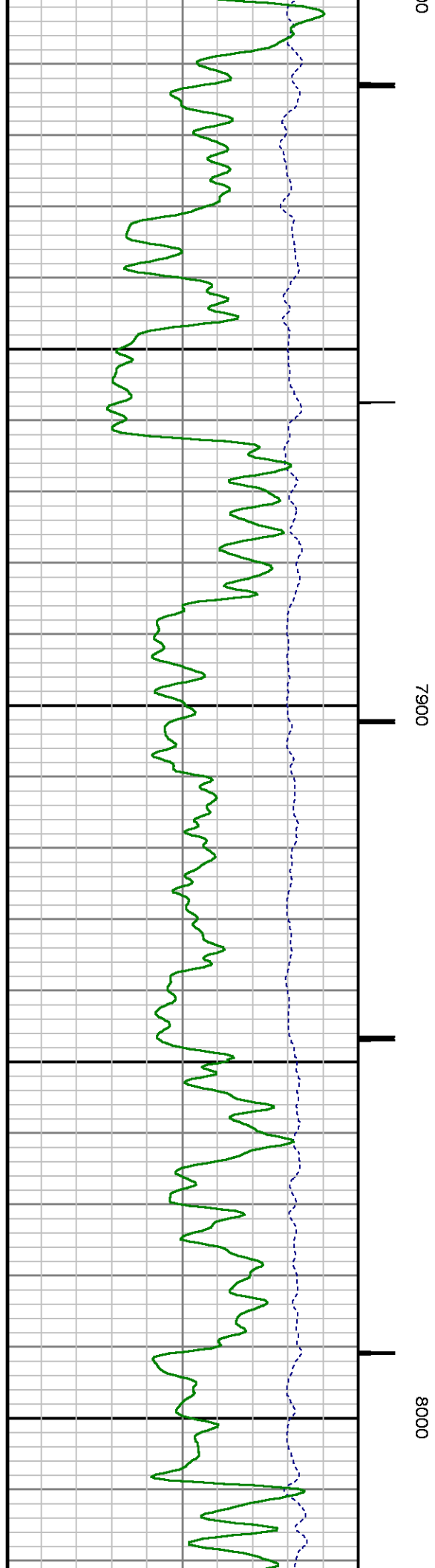
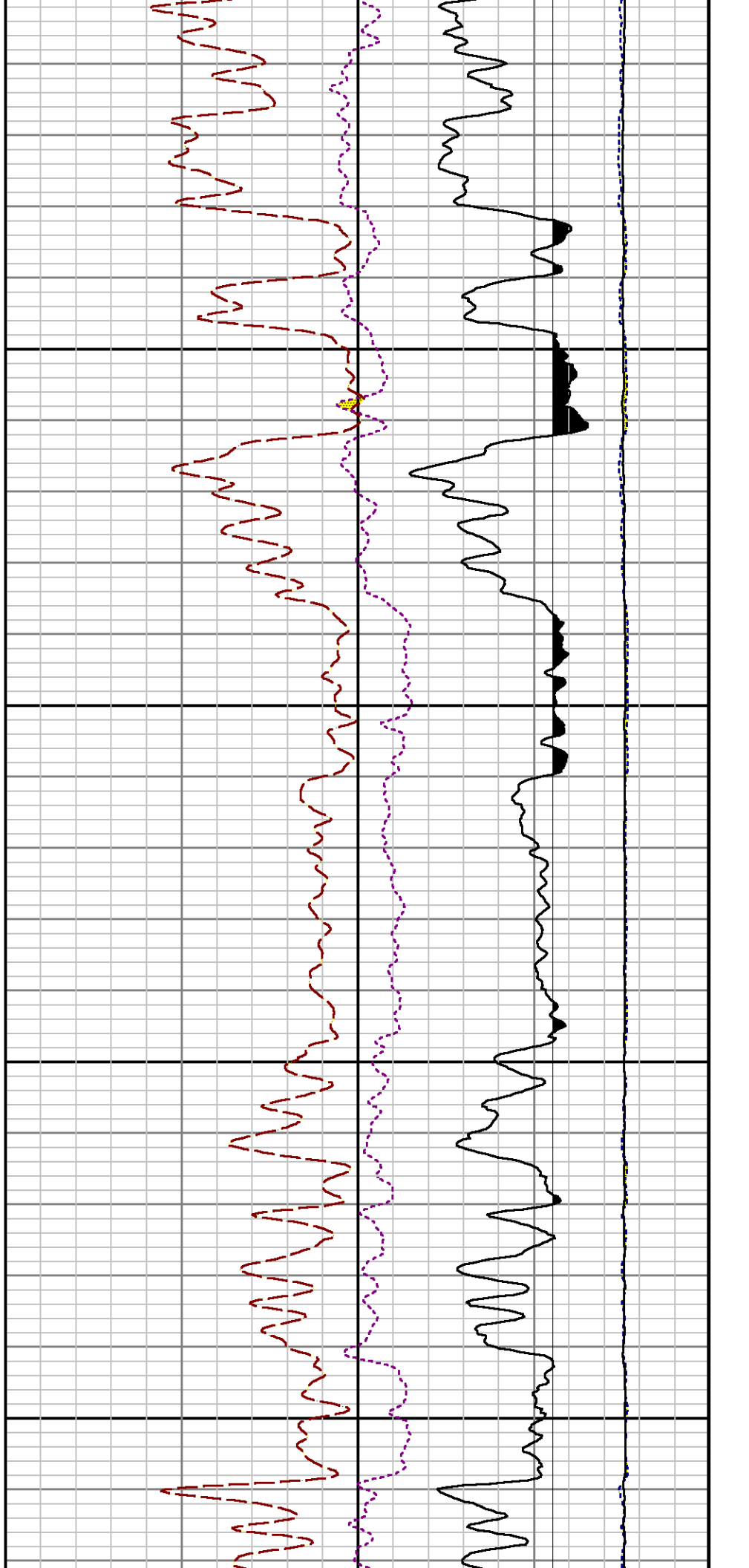


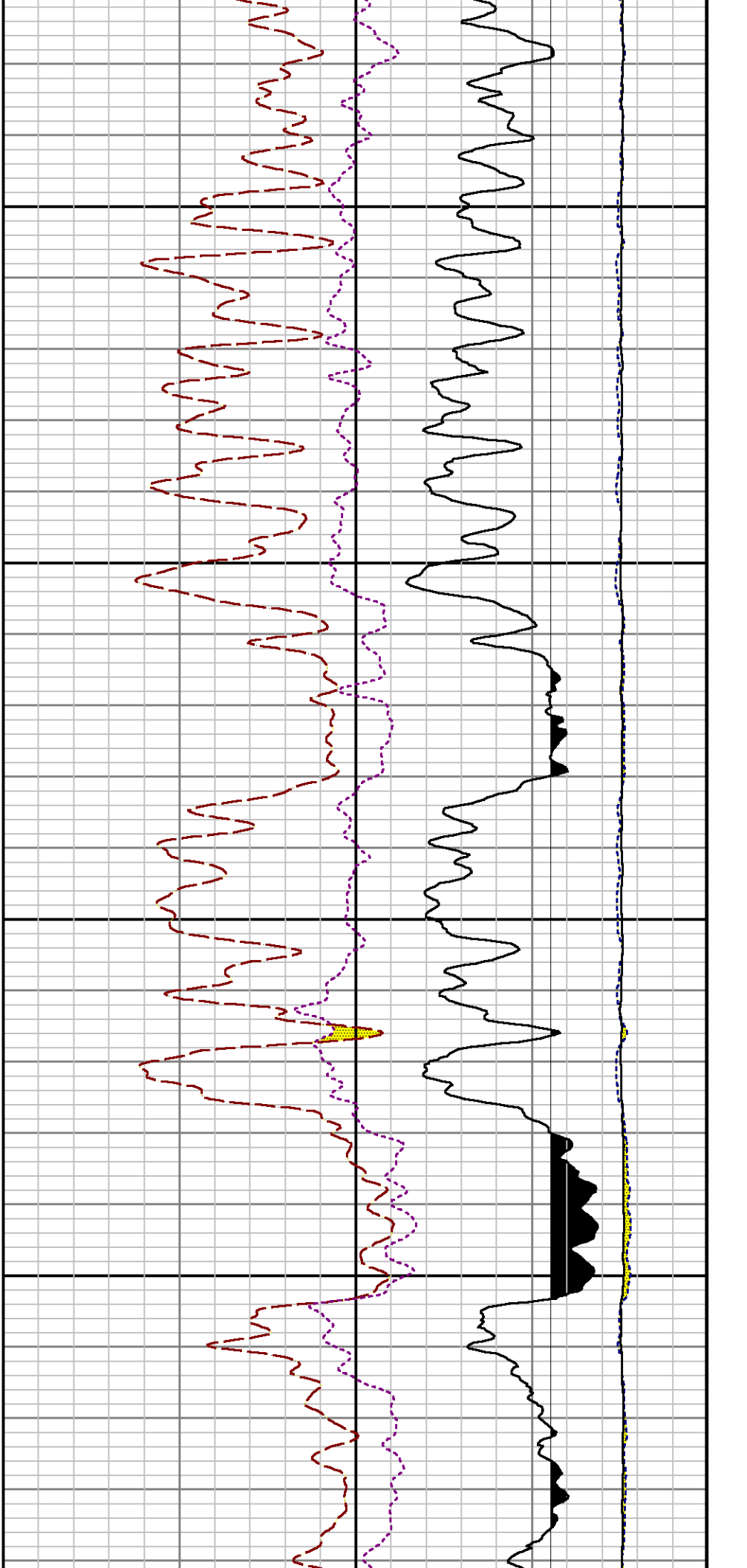






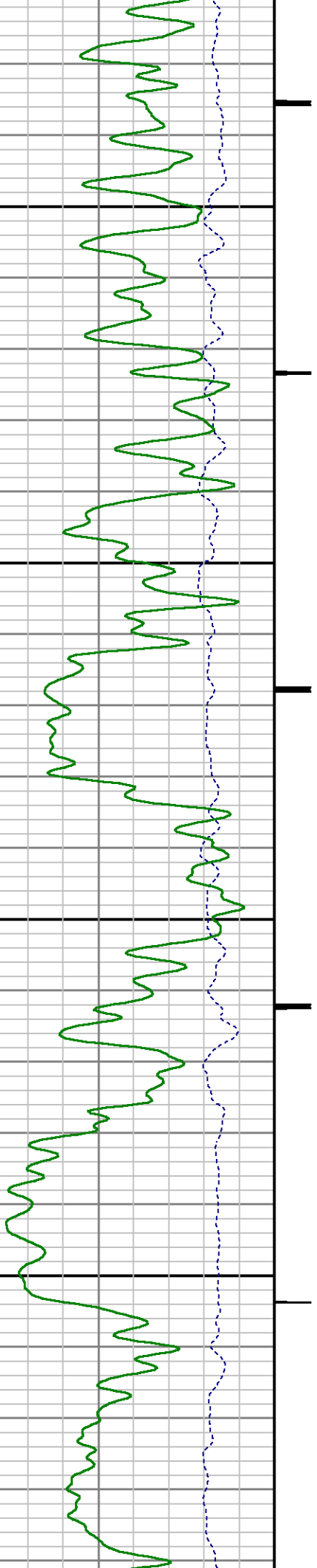


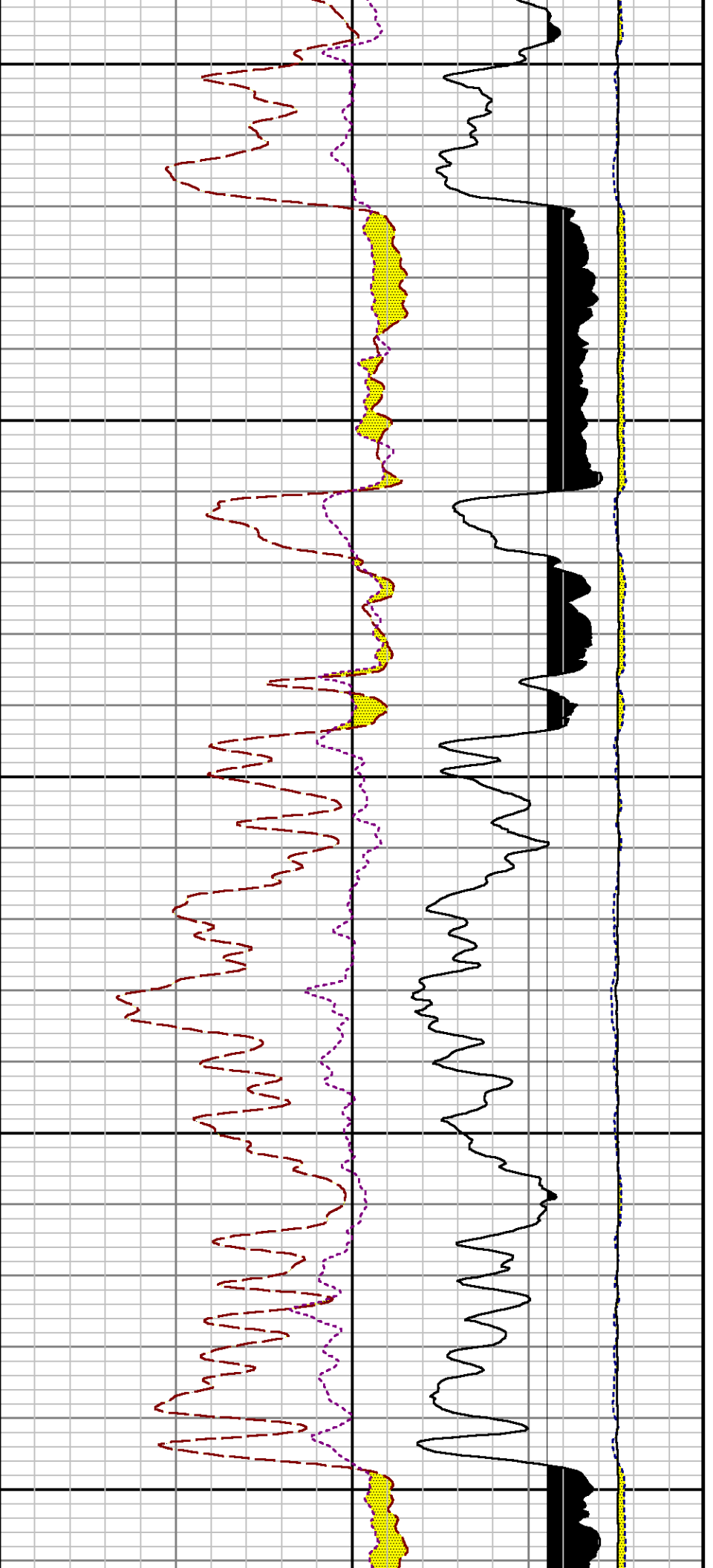




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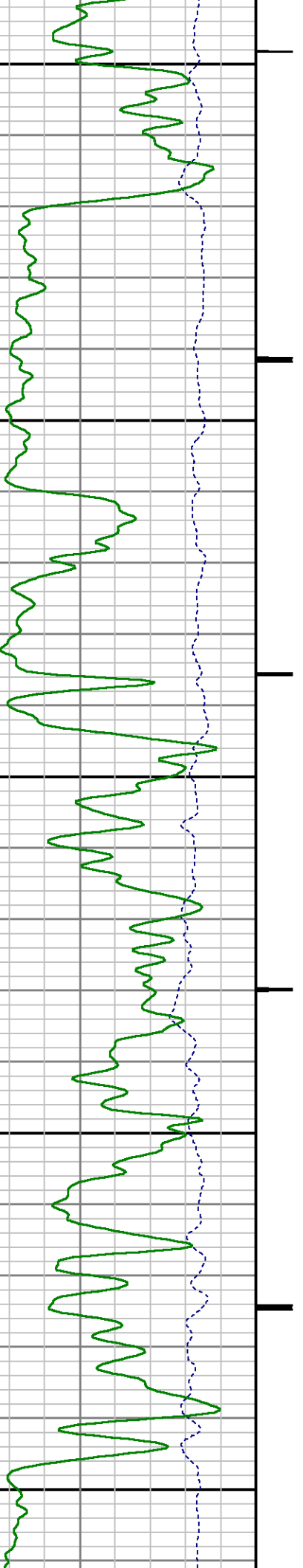
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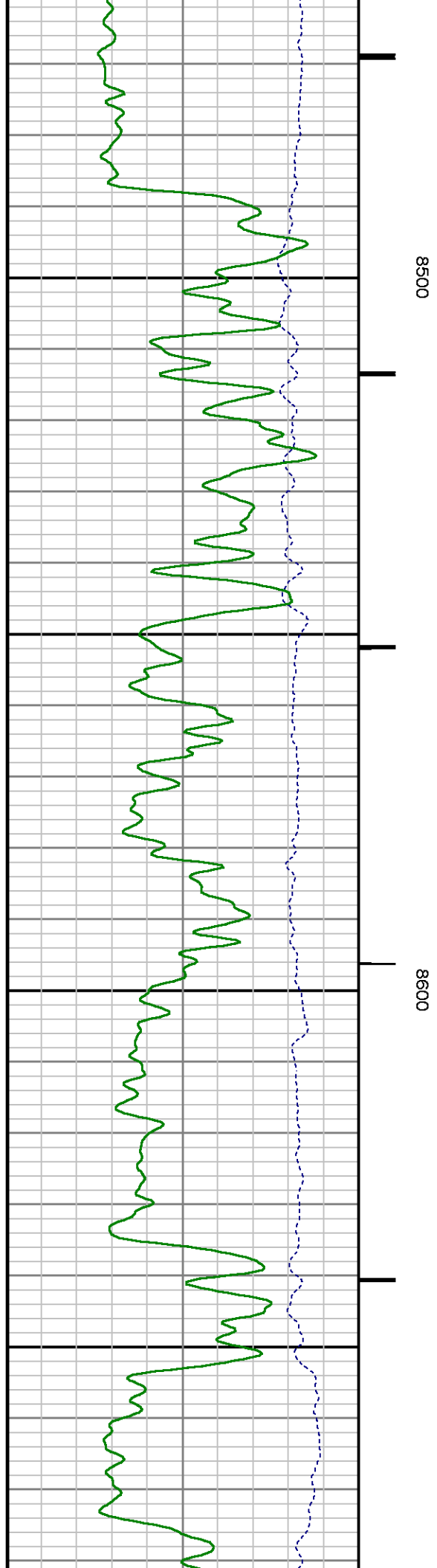
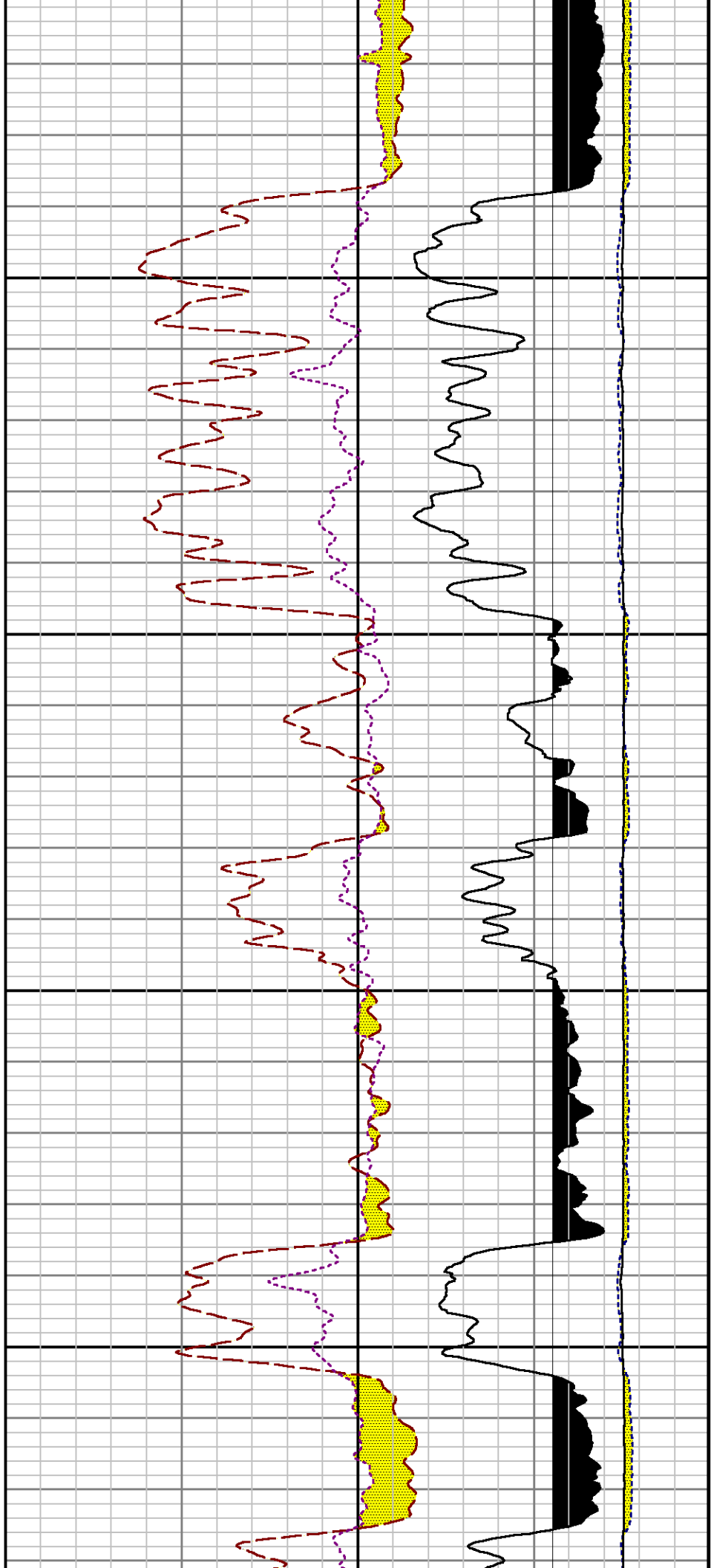


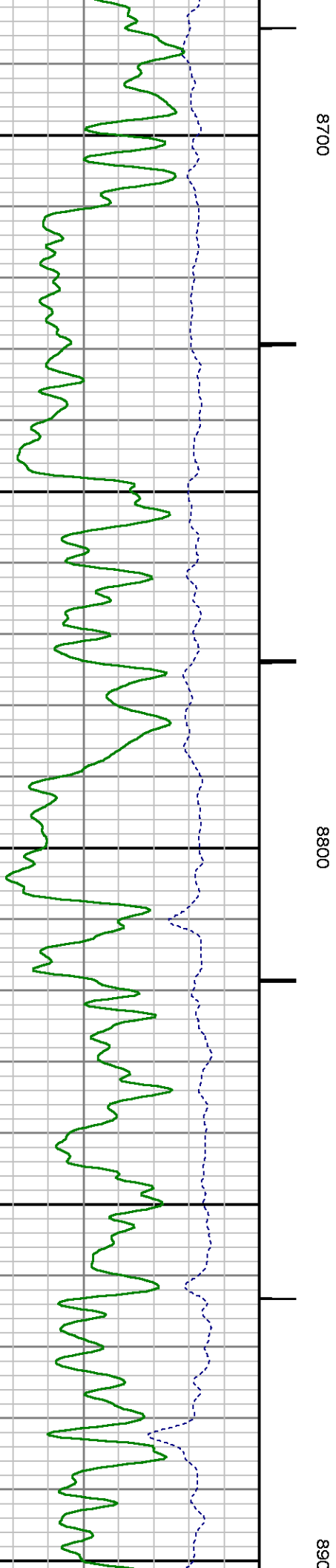
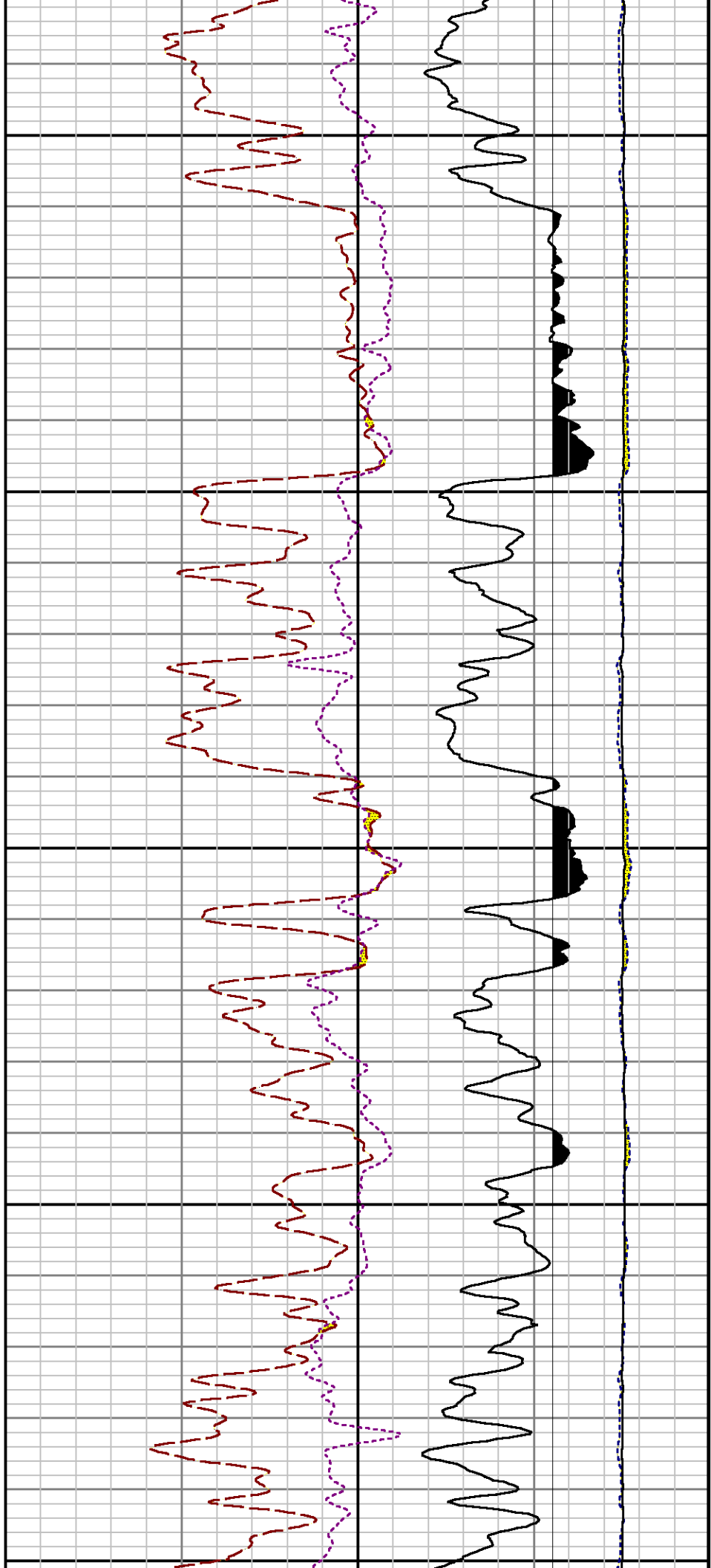


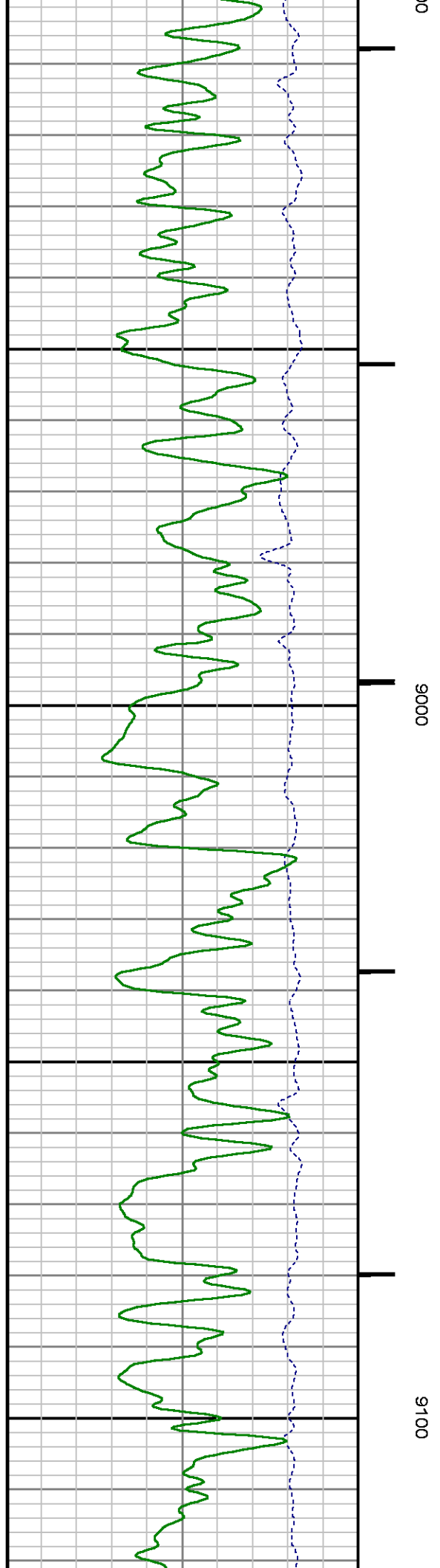
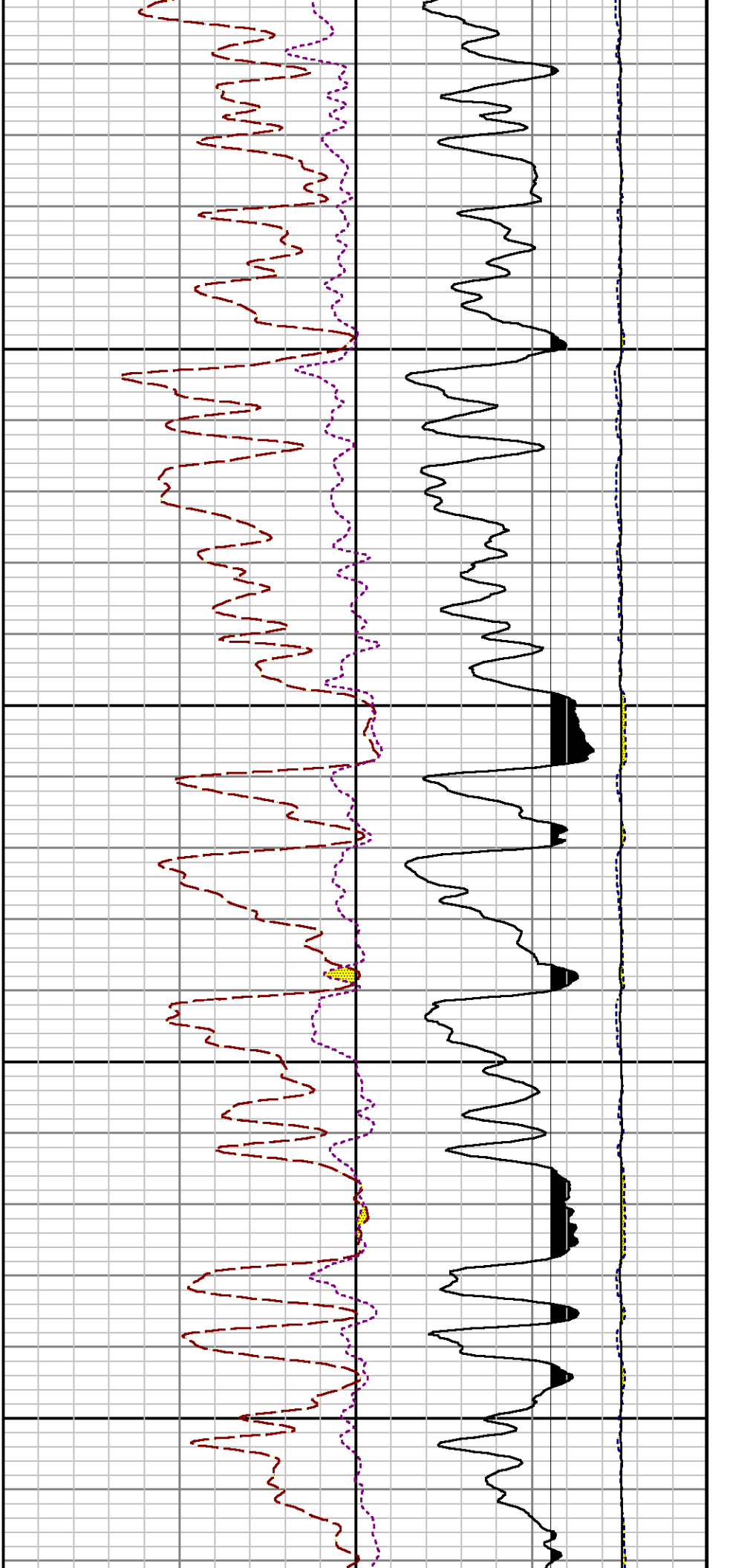
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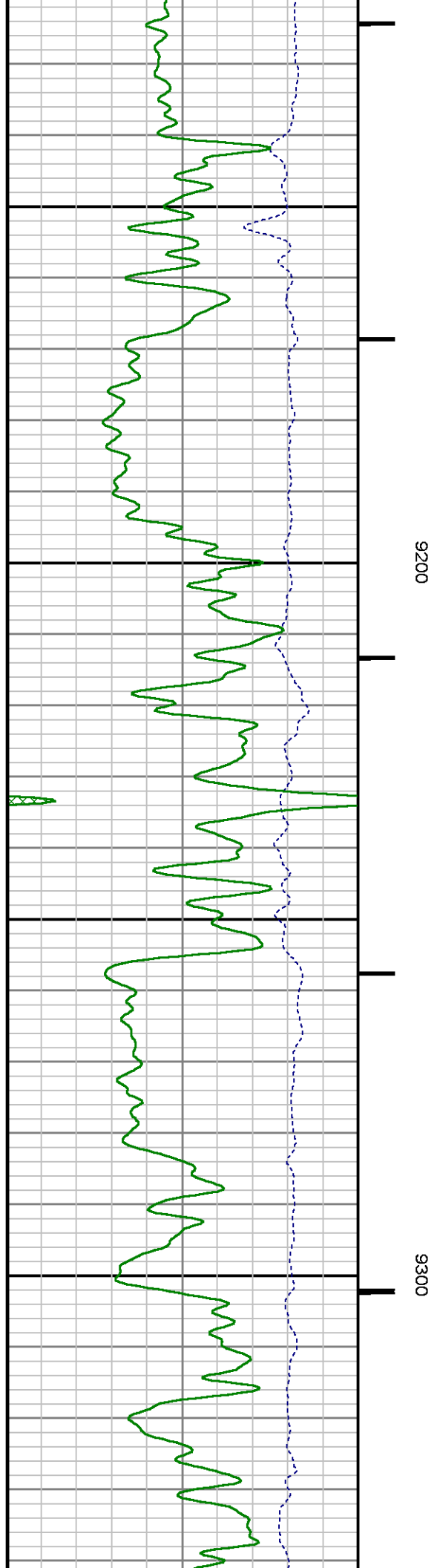
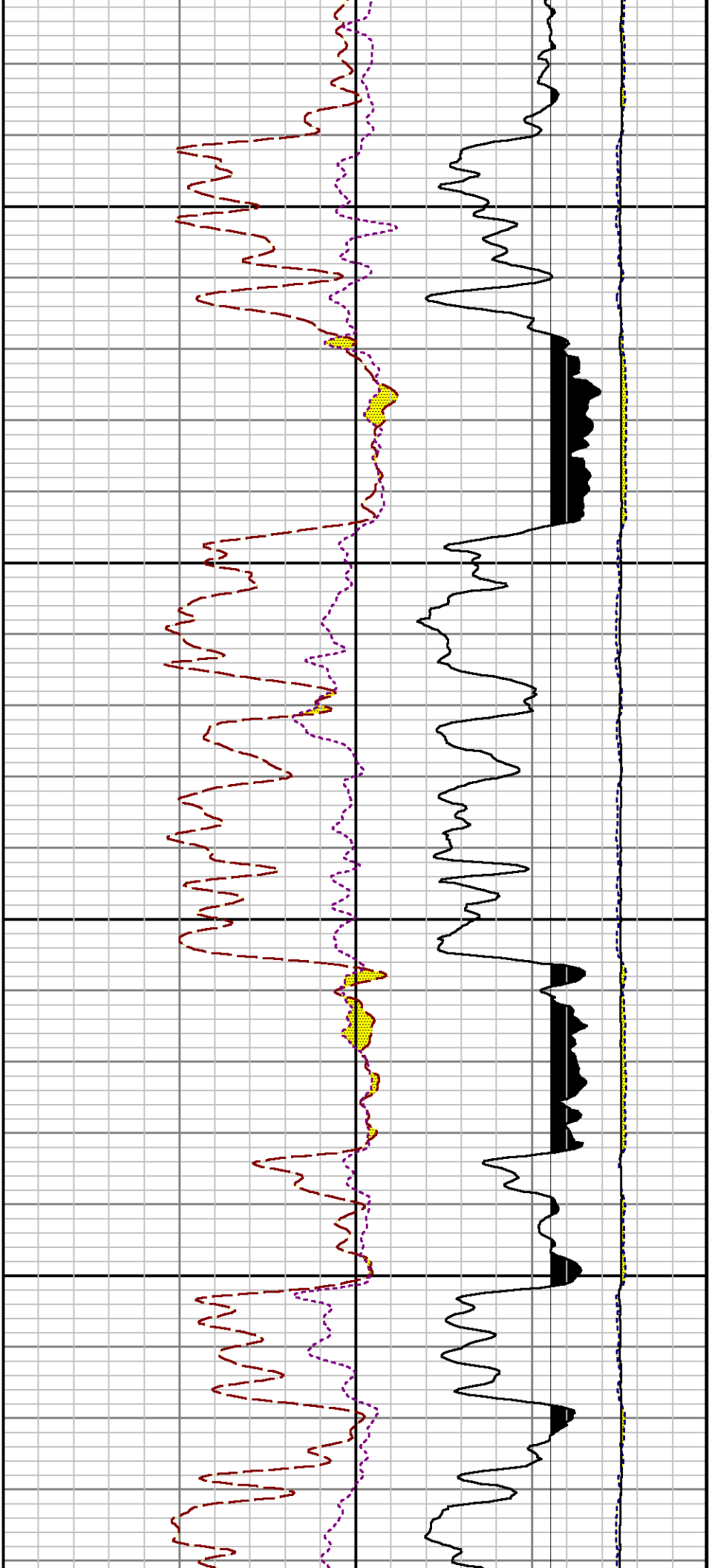
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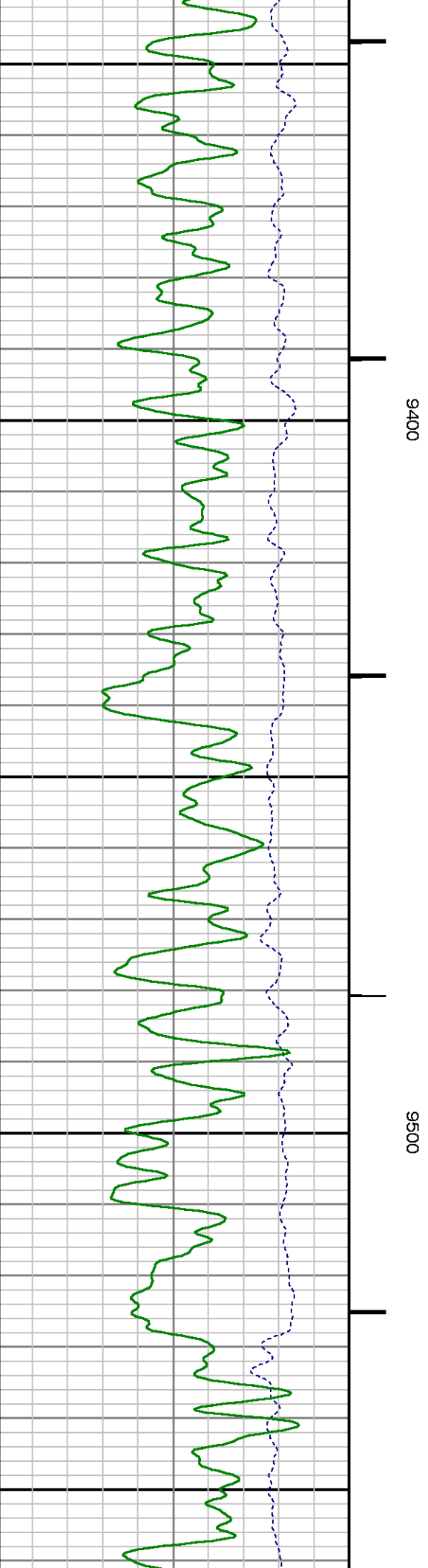
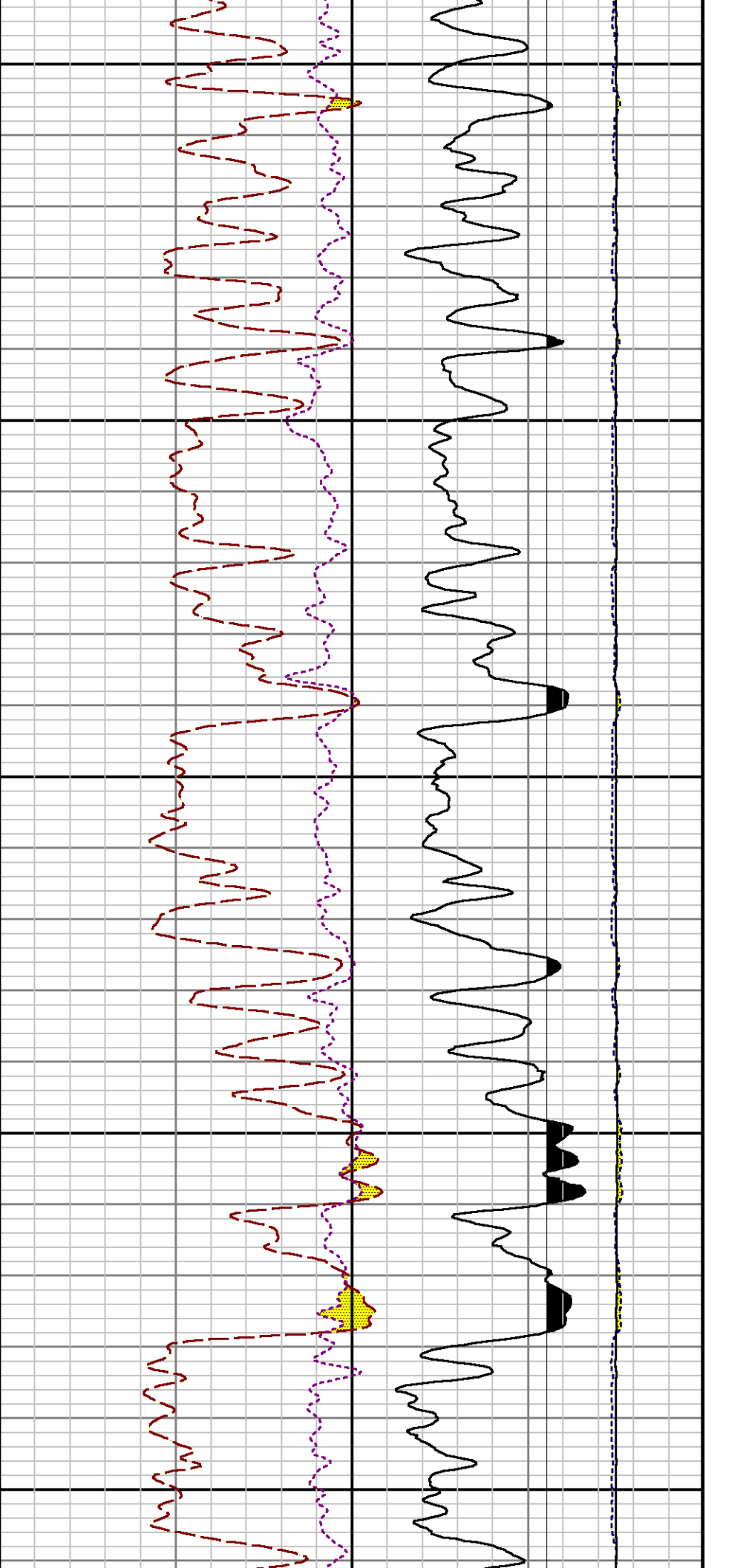


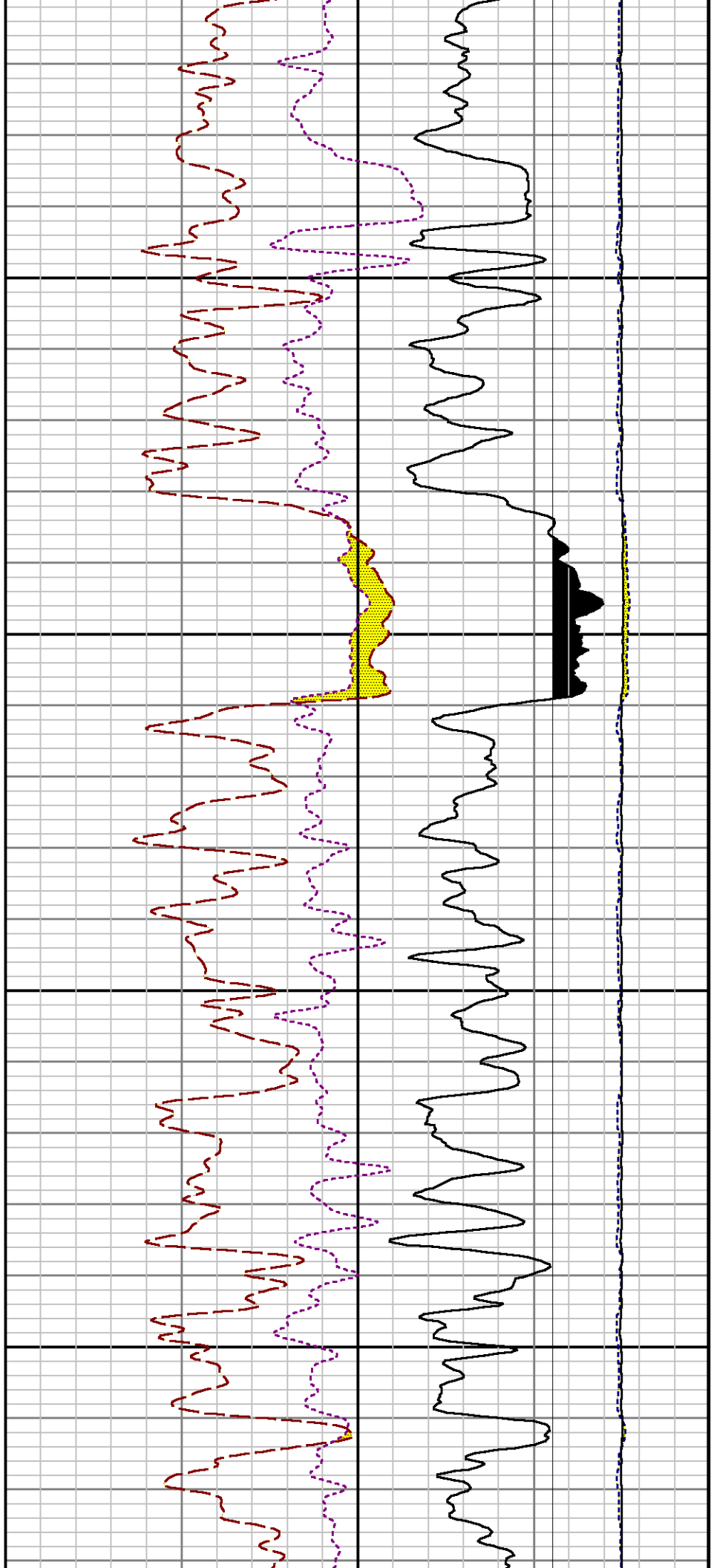






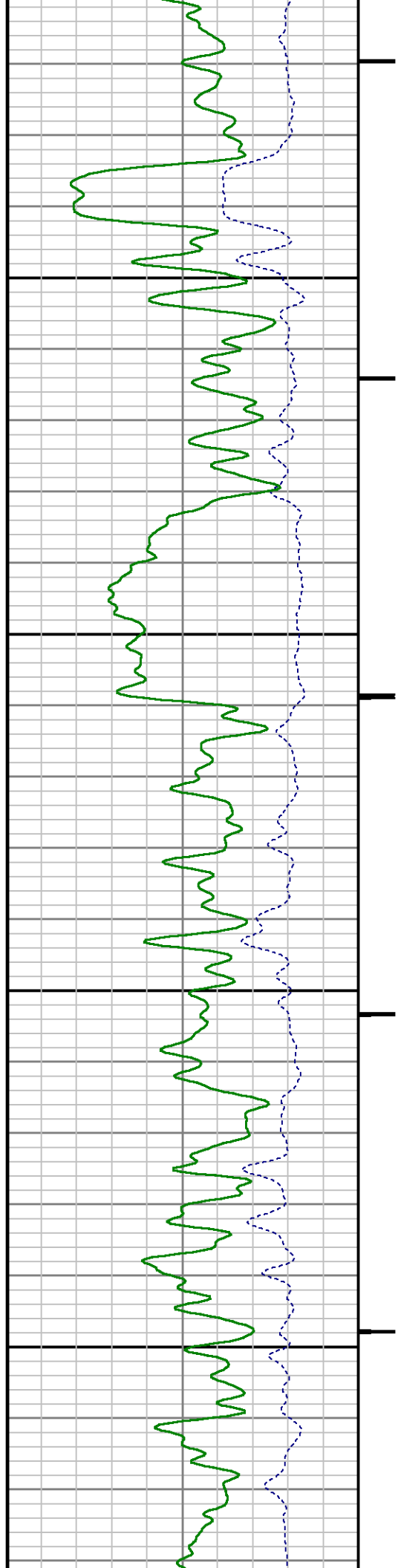


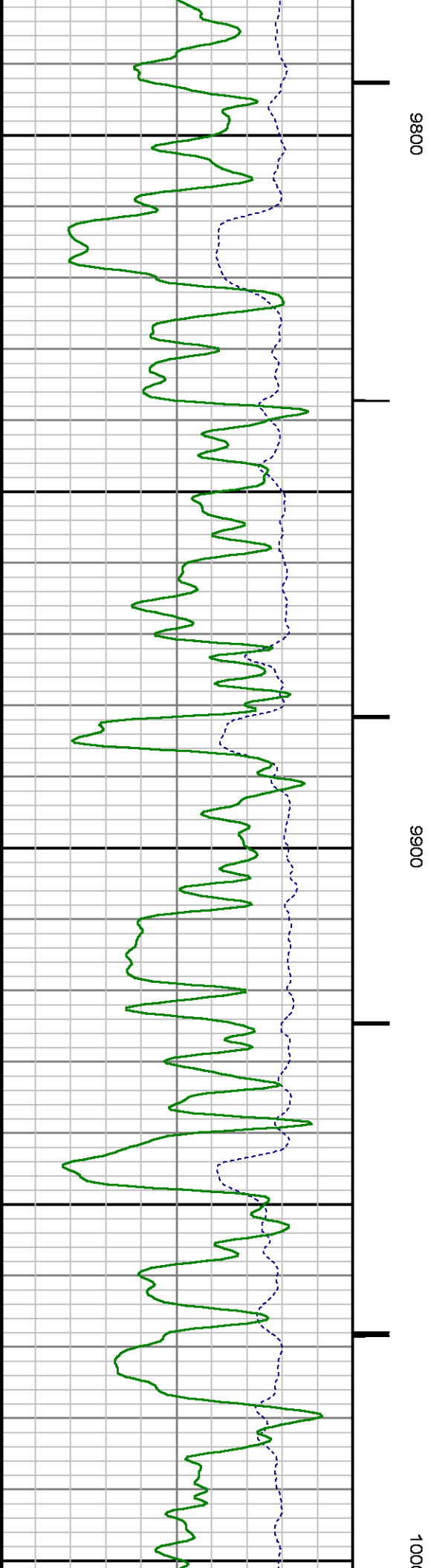
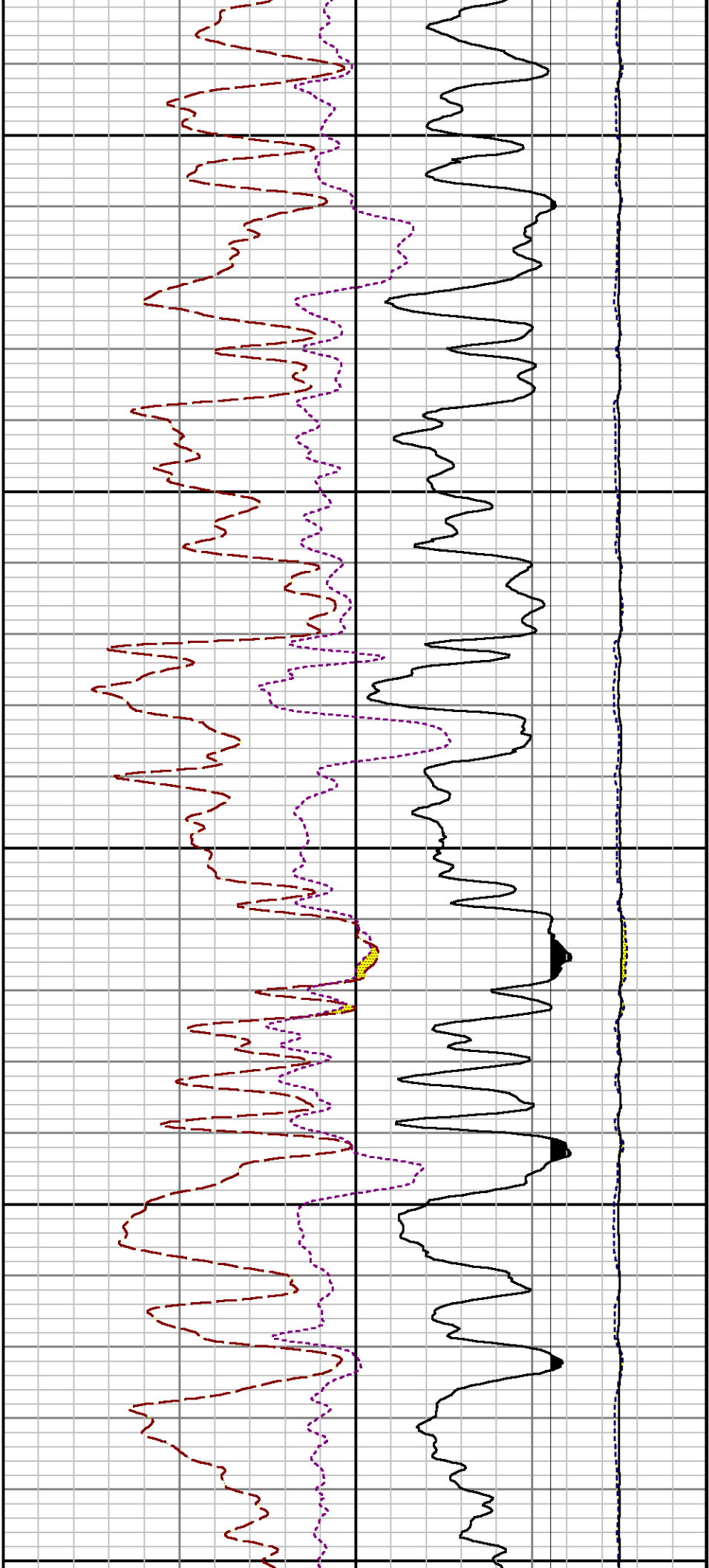


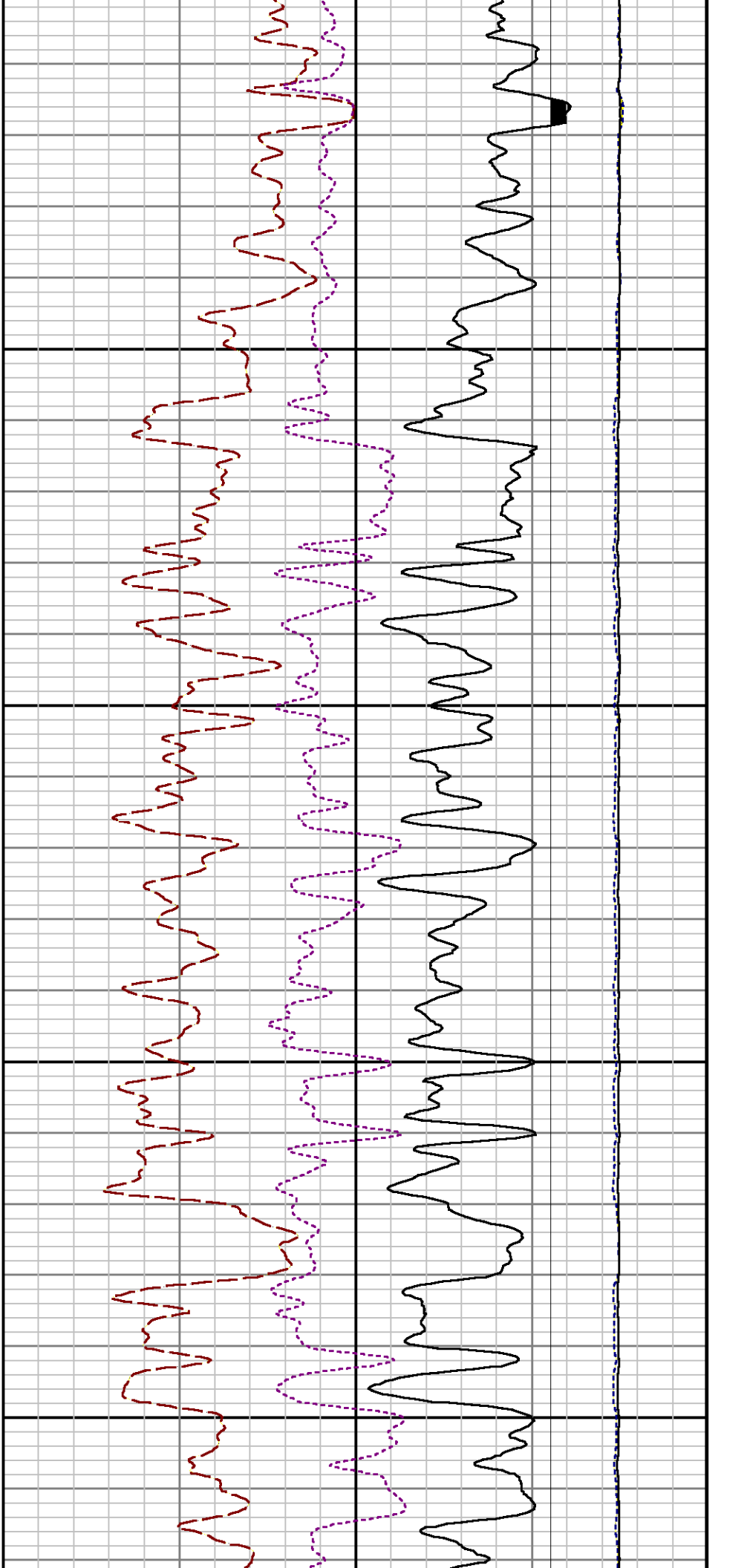


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9700



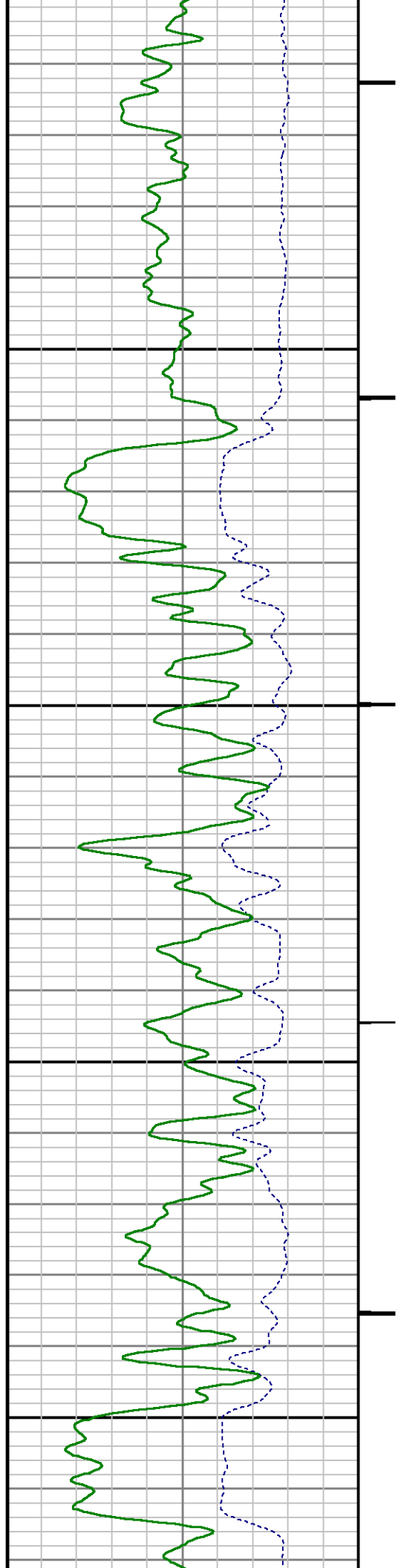


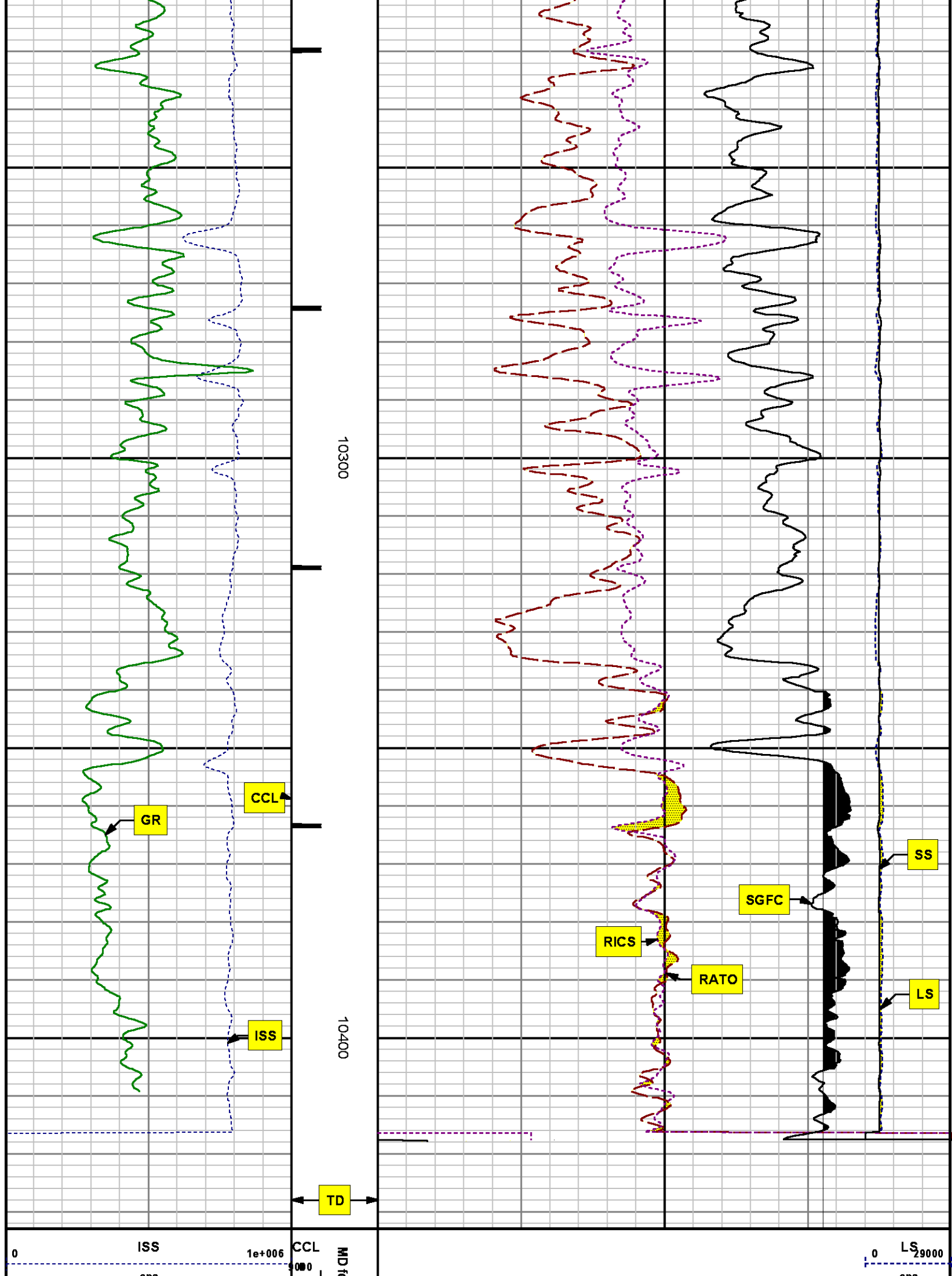


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10100

10200





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					cu		
							SS
						0	290000
							cps

REPEAT SECTION
PNC 3-D MODE

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		9582.380	9920.880
PNC Porosity	Borehole Size	8.750	inch	9582.380	9920.880
PNC Porosity	Casing Size	4.500	inch	9582.380	9920.880
PNC Porosity	Gas Filled	Non Gas Filled		9582.380	9920.880
PNC Porosity	Matrix	Sandstone		9582.380	9920.880
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	9582.380	9920.880

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 WDT2 RICSC CSSR G1R
 G2R ISSR SSR SS2R RATOR RATO13R
 RBORR RICSR RINR RIN13R RONE13R 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

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Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

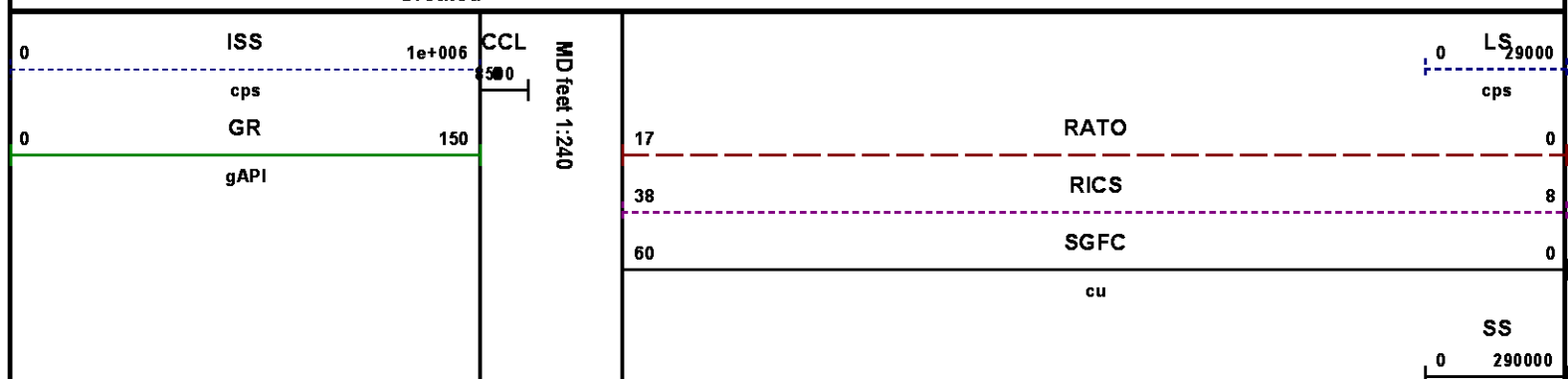
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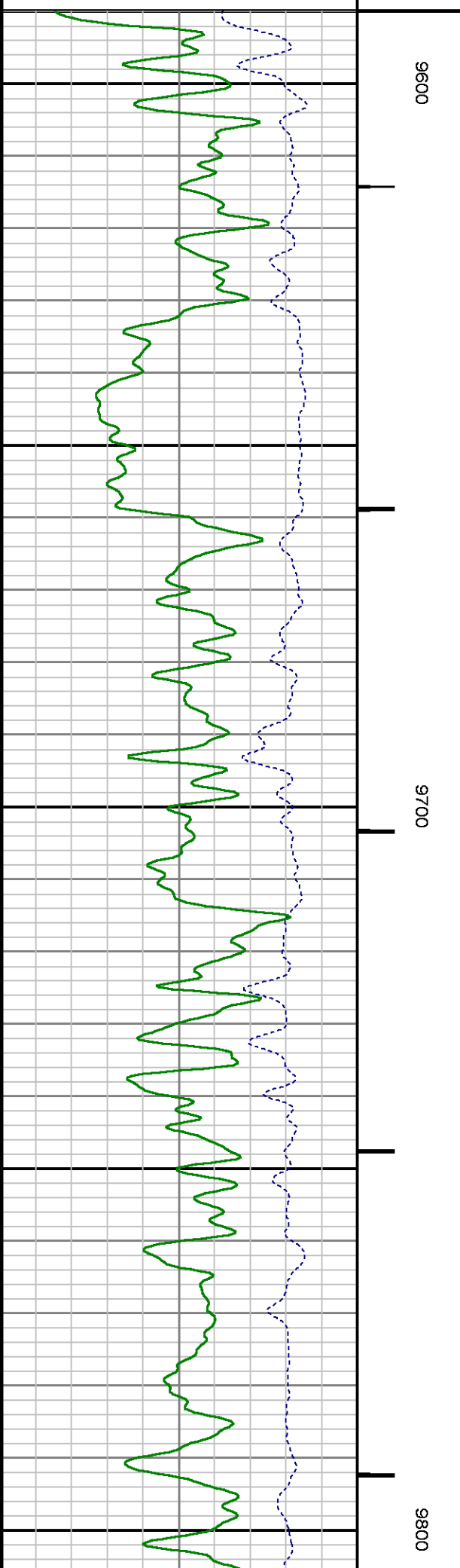
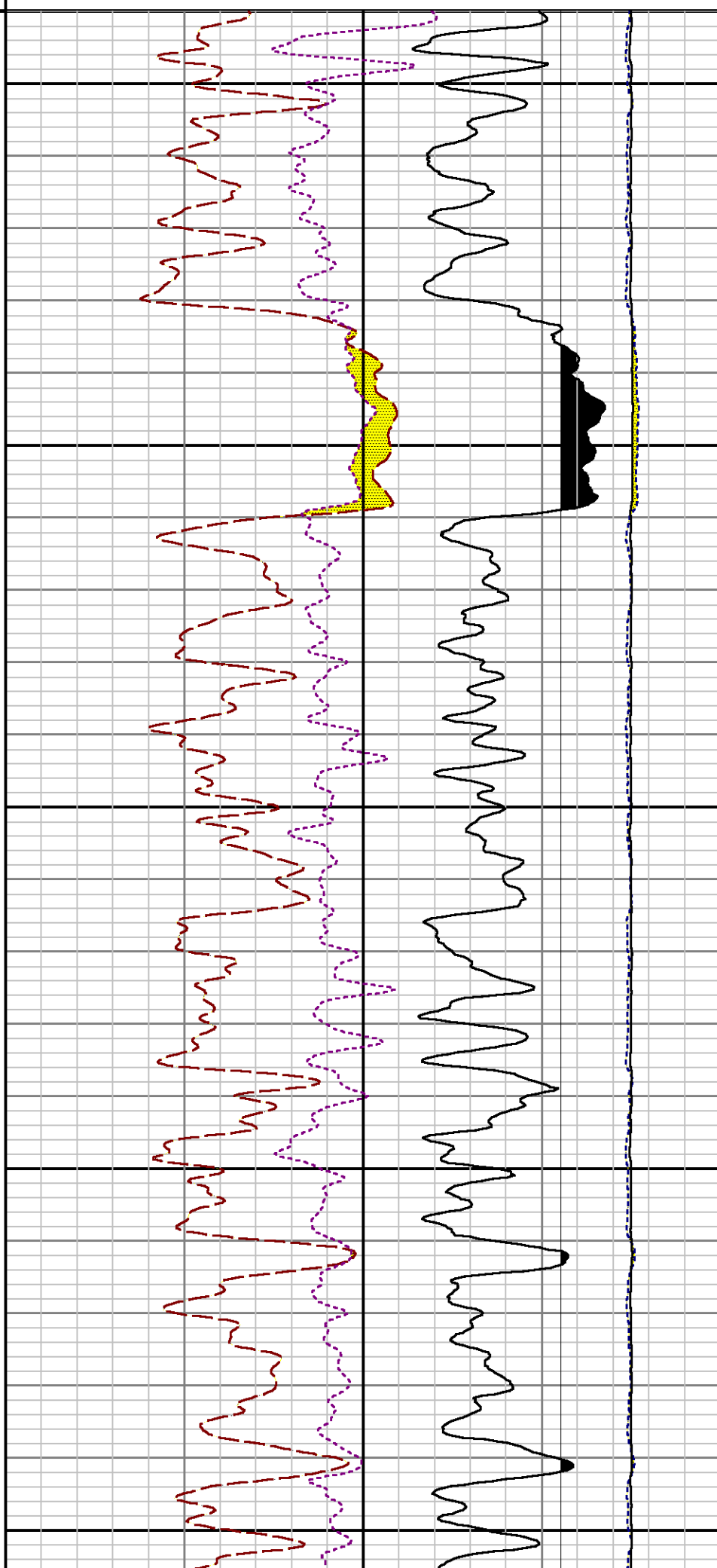
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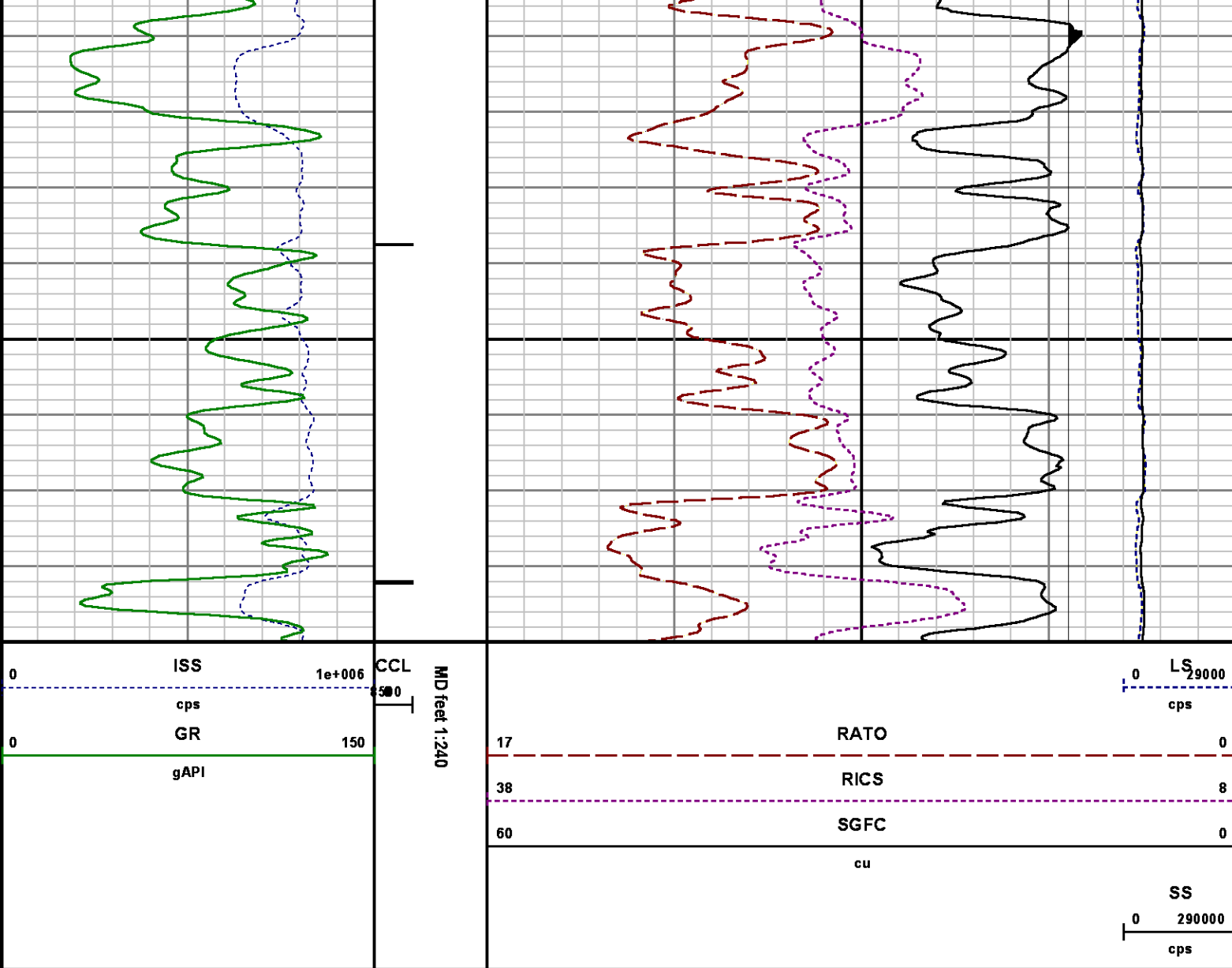
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Created : 7/13/2014 2:29:05 PM



cps





CALIBRATION SUMMARY

PNC

Calibration File: C:\case\calver\PNC\25126.cal

PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Jun 26 10:34:29 2014

TOOL SERIES: 8281XA

ASSET:

251

SEQ:

26

Calibrator #

2437XB 112674

Source #

8281AA 10220684

	ISS	Mtr Vlts (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	808104	121.00	2304.00	2298.00	2316.00	252.94	7.00	0.9838
Interpolated	1300000	140.62	2287.61	2288.89	2310.03			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	808104	7675.62	1280.04	159.97	25.73	0.14	24.27	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	808104	167031.69	26349.41	87906.17	31316.05	8210.99	53315.01	13125.35
Fit Quality %		0.36	0.30	0.50	0.47	0.32	0.47	0.30

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	808104	1.43	4.84	30.67	15.16	10.71	3.81	4.06
		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 %		0.06	0.20	0.23	0.14	0.08	0.08	0.10
Reduced	1388893	1.43	4.84	30.68	15.18	10.70	3.81	4.06
		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\38530.cal

CALIBRATION SUMMARY							
DATE/TIME PERFORMED: Mon Jun 30 08:38:51 2014				TOOL SERIES: 2812LA		ASSET: 385	
						SEQ: 30	
Calibrator #	Background [cps]	Calibrator On [cps]		Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA-612	42.56	269.00		0.927	39.47	249.47	210.00

Verification File: C:\case\calver\GR\38530.VP

PRIMARY VERIFICATION							
DATE/TIME PERFORMED: Mon Jun 30 08:42:33 2014				TOOL SERIES: 2812LA		ASSET: 385	
						SEQ: 30	
Calibrator #	Background [cps]	Calibrator On [cps]		Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA-612	41.56	270.56		0.927	38.54	250.91	212.37

TEMPERATURE

CALIBRATION SUMMARY

DATE/TIME PERFORMED: 02 JUNE 2014

TOOL SERIES: 8255XA ASSET: 176973 SEQ: 24

	T(0)	T(1)	T(2)	T(3)	T(4)	T(5)
Coefficients	-1.889935e+001	1.004280e-001	1.215976e-006	-1.293045e-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

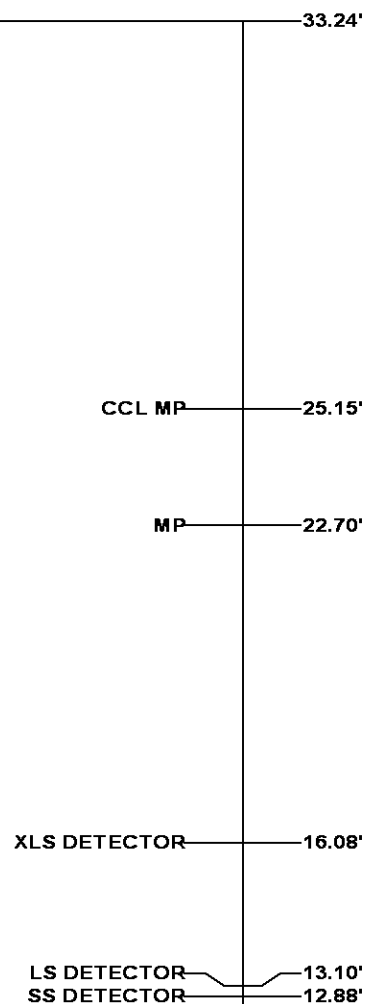
Series	8248EA
Mnemonic	PCM
Diameter	1.70"
Weight	20.00 lb
Length	4.46'
Measure Point	1.00' CCL MP
Temp Rating	350.00 °F
Press Rating	15000.00 PSI

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



TEMPERATURE / PRESSURE

Series	8255XA
Mnemonic	SRPL
Diameter	1.70"
Weight	13.00 lb
Length	3.30'

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	FEDERAL NER 513-32
Field	RULISON
County	GARFIELD

State CO

Location

SHL: 149' FNL & 2582' FWL (5 7S 93W)
 BHL: 1450' FSL & 648' FWL (32 6S 93W)

SEC 32 TWP 6S RGE 93W

Elevations

KB 7629
 DF
 GL 7603

File No:

CH087290

API No:

05045217650000

32 6S 93W

RU 23-S PAD

NABORS 576