



RESERVOIR PERFORMANCE MONITOR

Baker Atlas

File No:	Company	WPX ENERGY
CH088827	Well	FEDERAL NER 343-32
API No:	Field	RULISON
05045217910000	County	GARFIELD
	State	CO

32 6S 93W	Location	SHL: 139' FNL & 2989' FWL (9 7S 93W)	Other Services
RU 23-5 PAD		BHL: 1927' FSL & 681' FEL (32 6S 93W)	
NABORS 676	SEC 32	TWP 6S	RPM
		RGE 93W	

Permanent Datum	GL	Elevation	7603 ft
Log Measured From	KB	26 ft	Above P. D.
Drill Measured From	KB		Elevations
			KB 7629 ft
			DF
			GL 7603 ft

Date	26/JUL/14
Run	ONE
Service Order	US088827
Depth Driller	10701 ft
Depth Logger	10664 ft
Bottom Logged Interval	10654 ft
Top Logged Interval	6529 ft
Time Started	1200
Time Finished	1830
Operator Rig Time	5 HOURS
Type of Fluid in Hole	WATER
Fluid Density	NA
Salinity	NA
Fluid Level	107 ft
Logged Cement Top	NA
Wellhead Pressure	0 psi
Maximum Hole Deviation	NA
Nominal Logging Speed	10 fpm
Maximum Recorded Temperature	234 degF
Reference Log	BAKER HUGHES BOND LOG
Reference Log Date	26/JUL/14
Equipment No.	4271
Recorded By	FLYND RENEAU
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 in	0 ft	1162 ft
8.75 in	1162 ft	10701 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			0 ft	1162 ft
4.5 in	11.6 lbm/ft	P-110	0 ft	10701 ft

Remarks

All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 7/26/2014 at the client's request.

The amount of linear shift is 7 feet.

Logged in PNC-3D mode.

BHT = 234°F

SJ = 7292'-7314'

Equipment Data

Run	Trip	Tool	Series Number	Serial Number	Position
1	1	TEMP	8255XA	Z120516	FREE
1	1	RPM	8281FA	10460082	FREE
1	1	RPM	8281PA	10160383	FREE
1	1	RPM	8281EA	10190984	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		6507.127	10667.908
PNC Porosity	Borehole Size	8.750	inch	6507.127	10667.908
PNC Porosity	Casing Size	4.500	inch	6507.127	10667.908
PNC Porosity	Gas Filled	Non Gas Filled		6507.127	10667.908
PNC Porosity	Matrix	Sandstone		6507.127	10667.908
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	6507.127	10667.908

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

8281XA

-12.291

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
 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

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

Well : FEDERAL NER 343-32

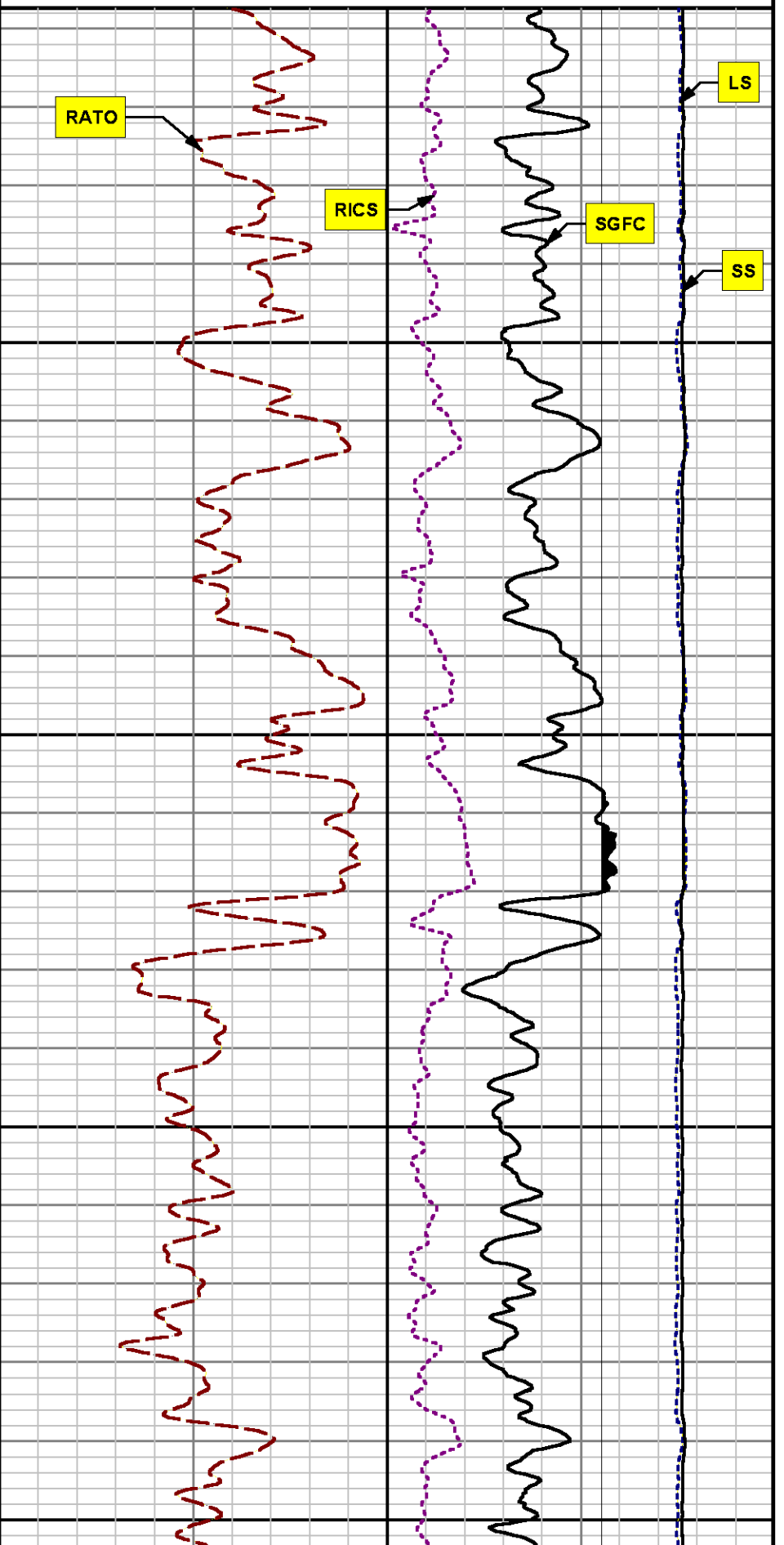
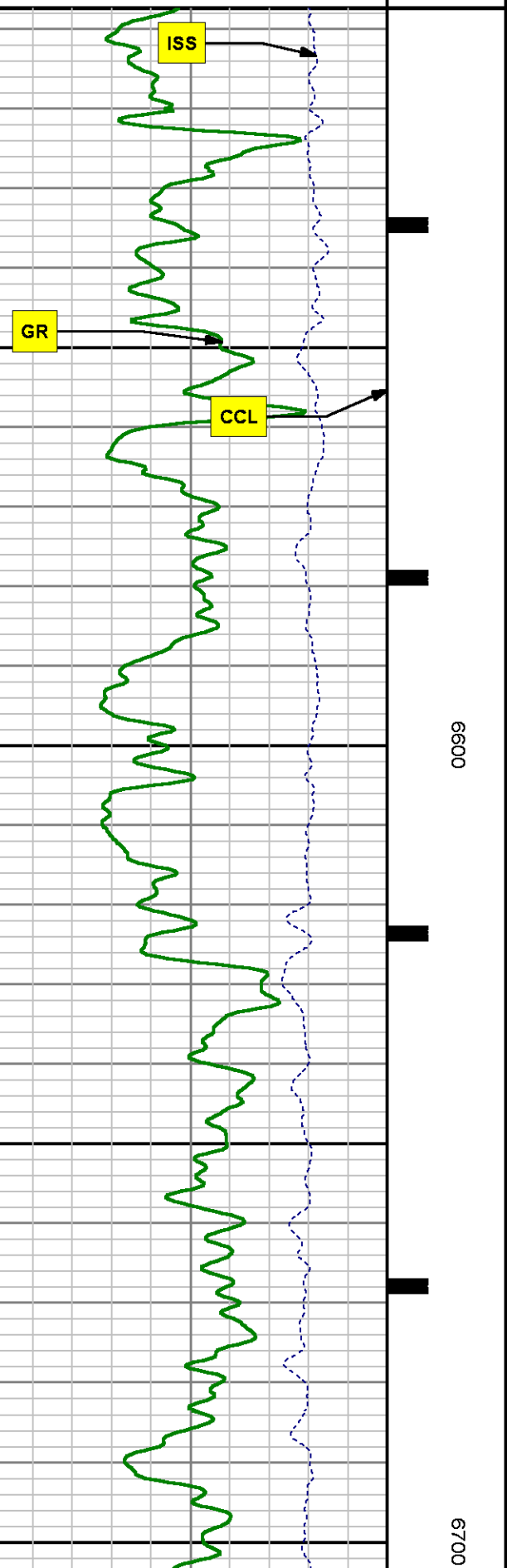
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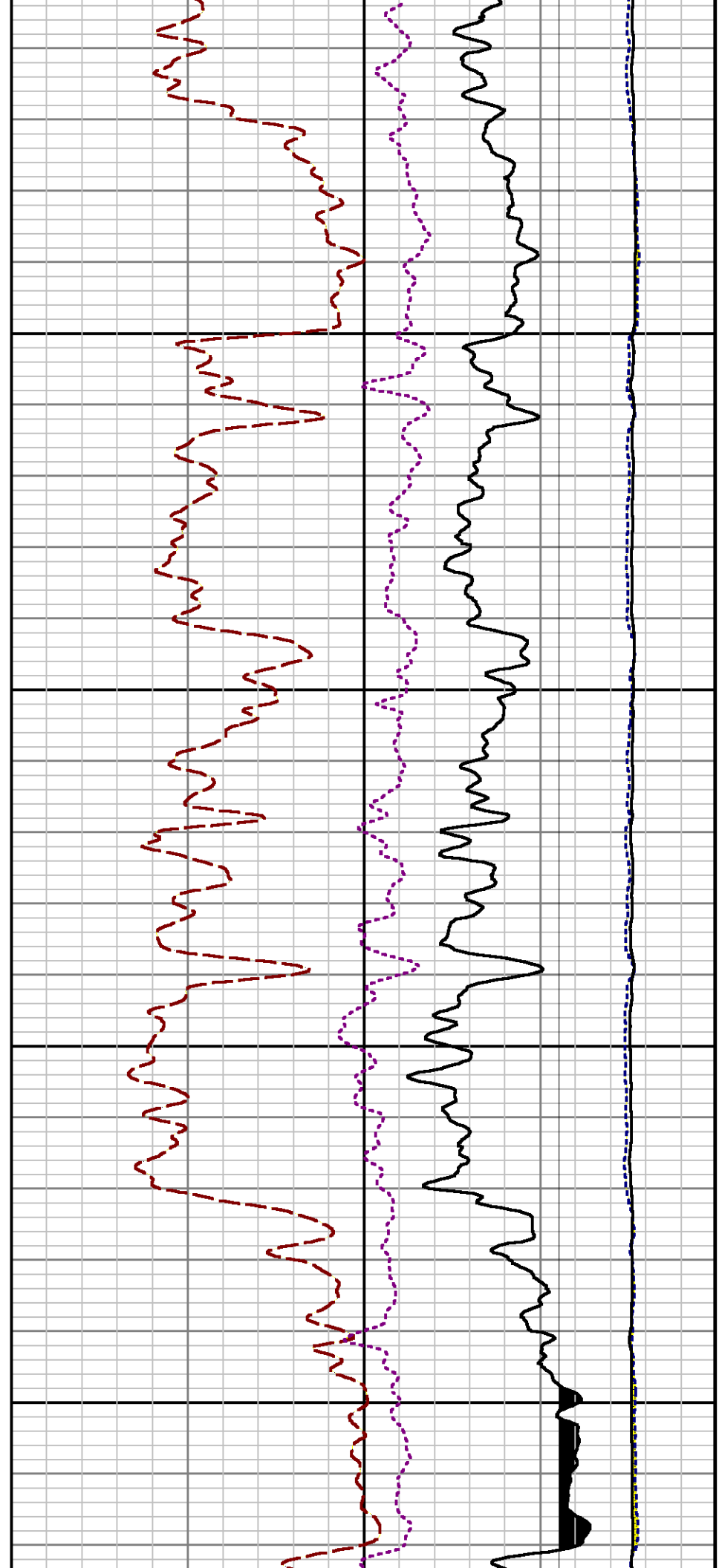
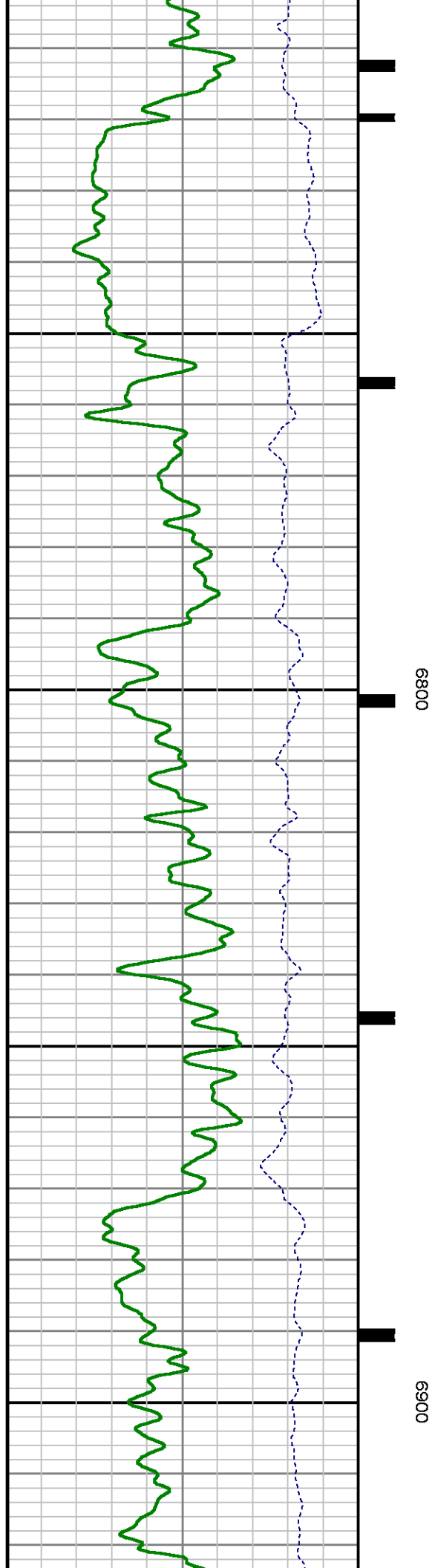
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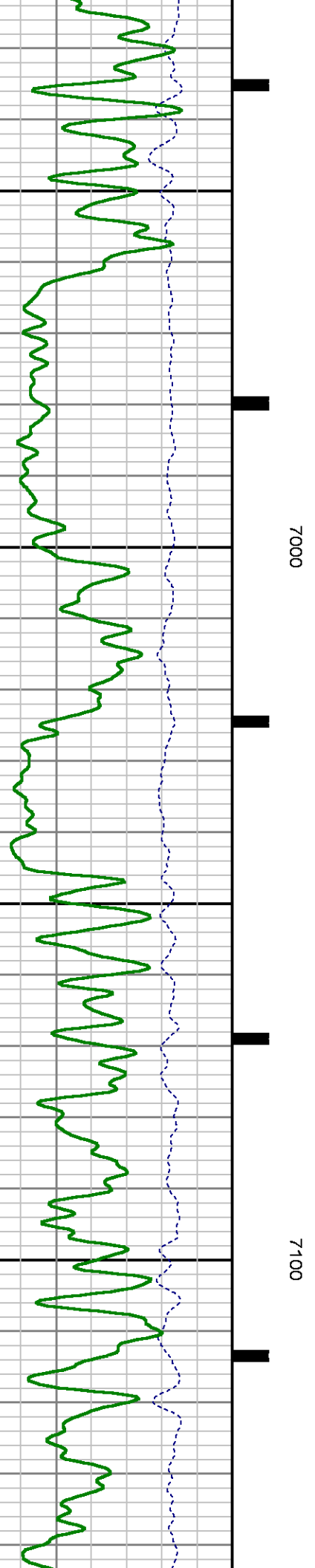
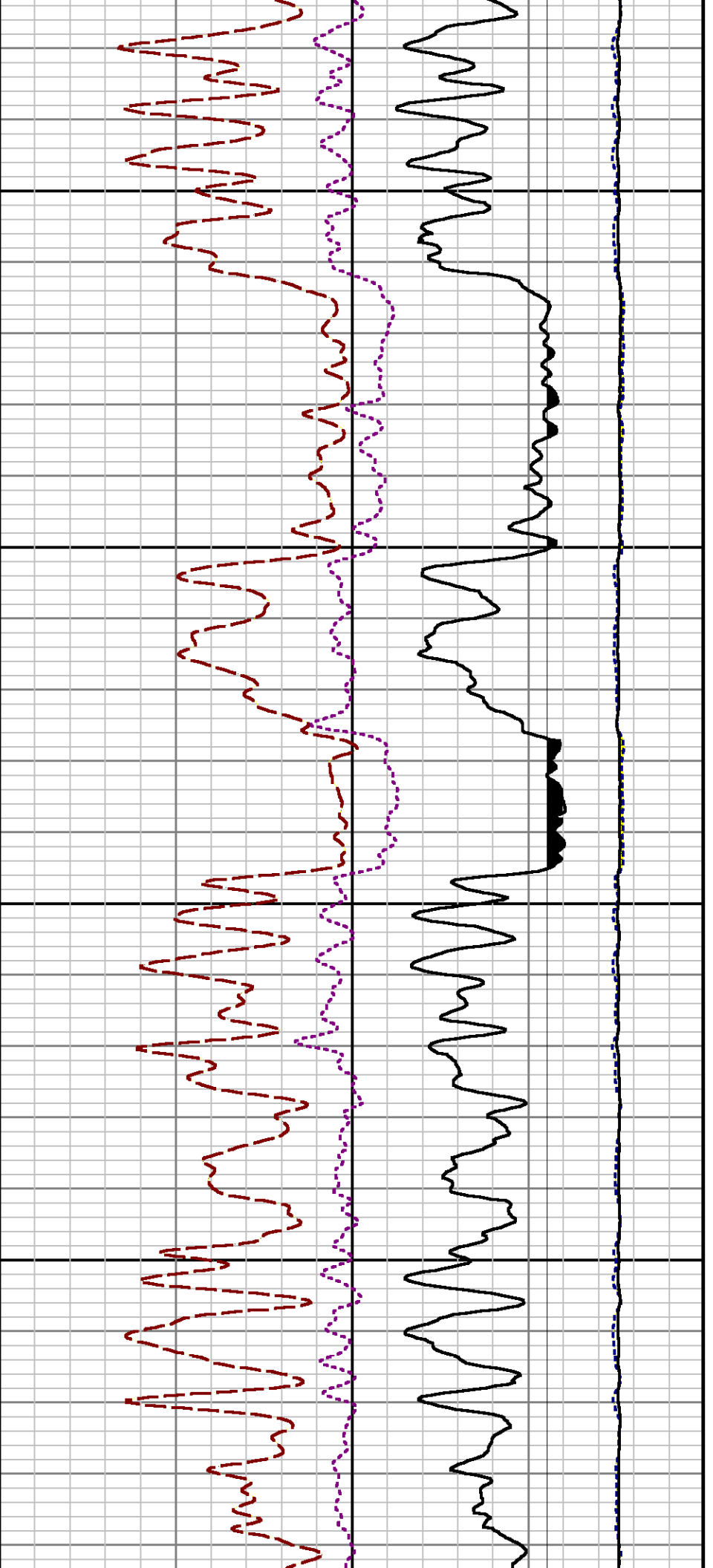
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Created : 7/26/2014 1:18:53 PM



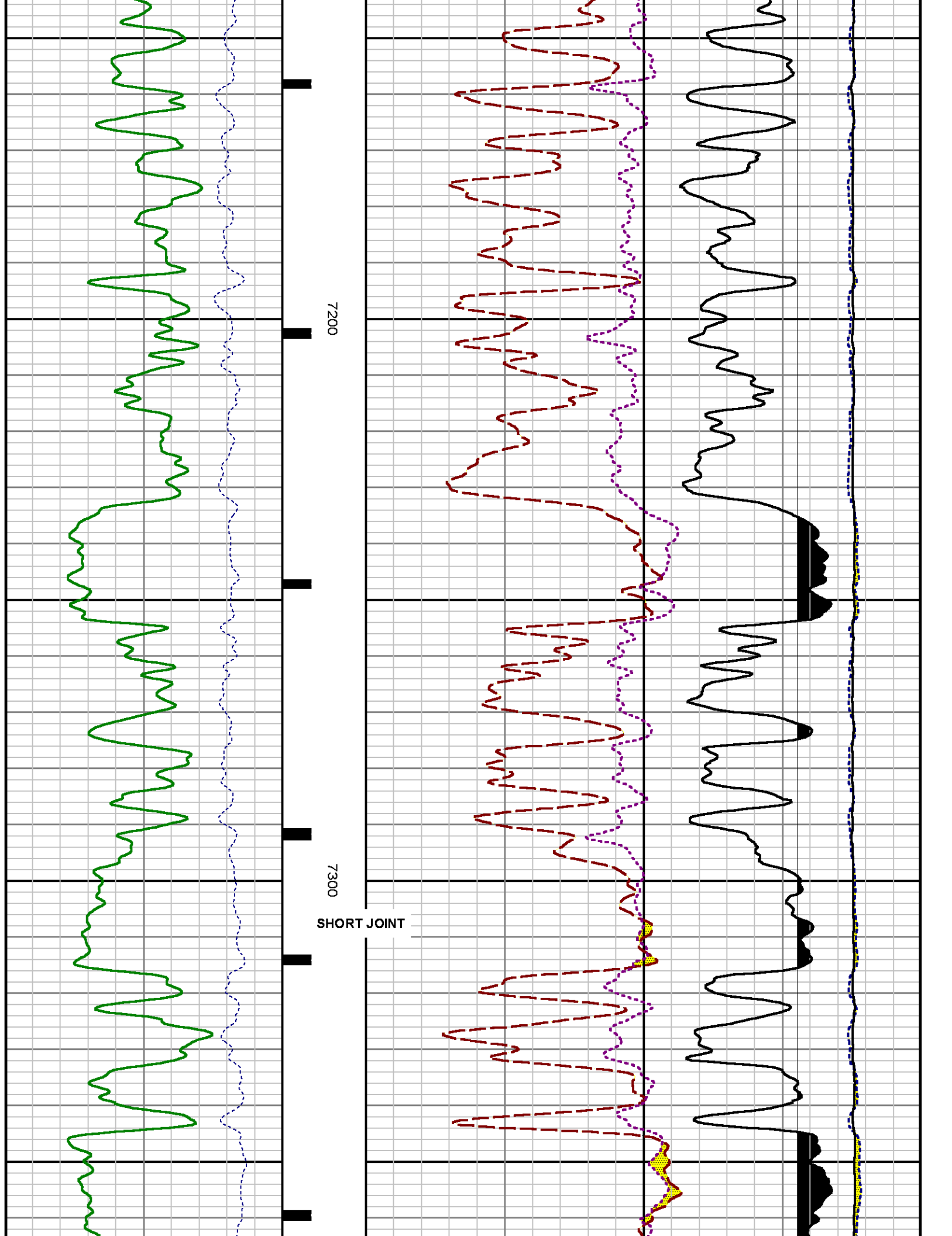


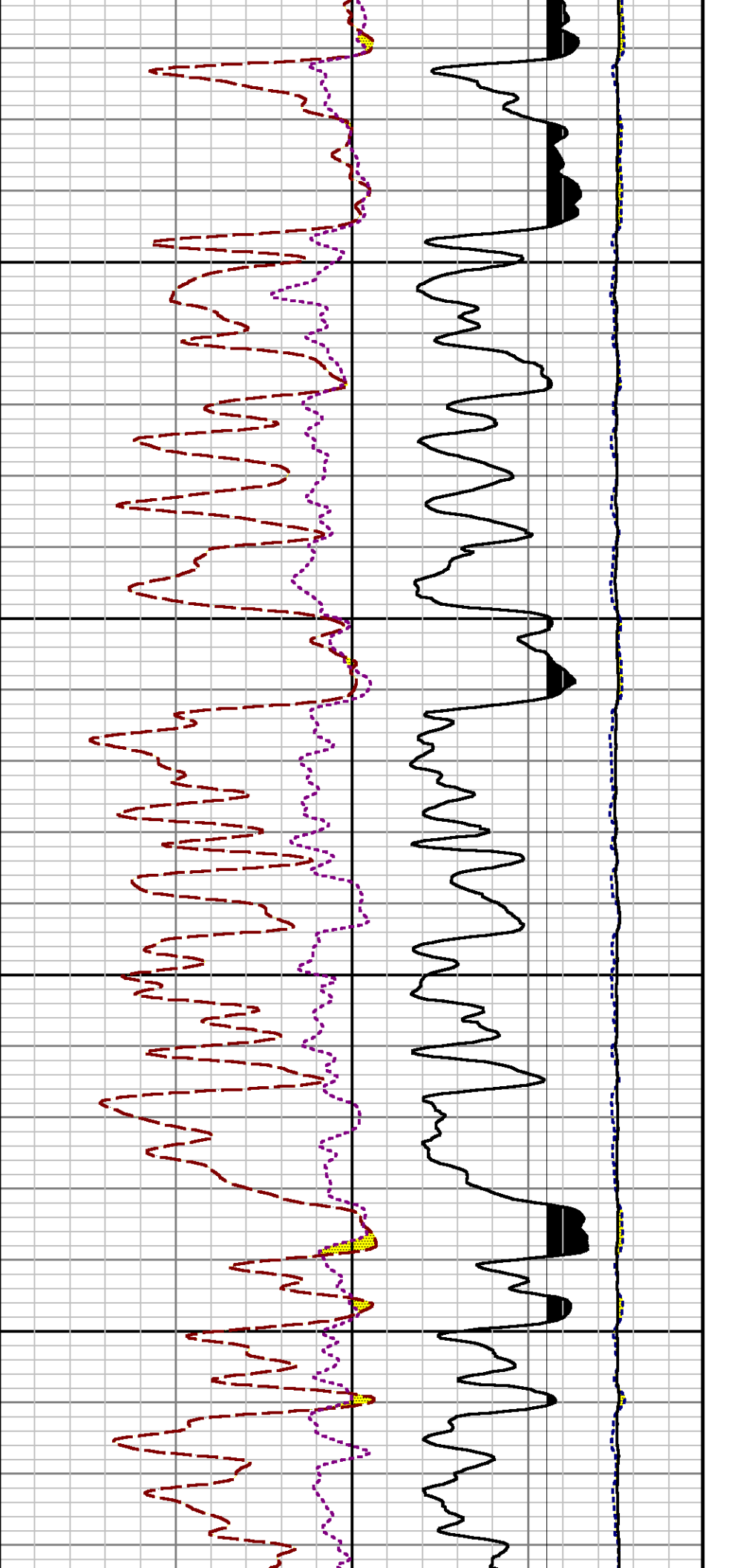




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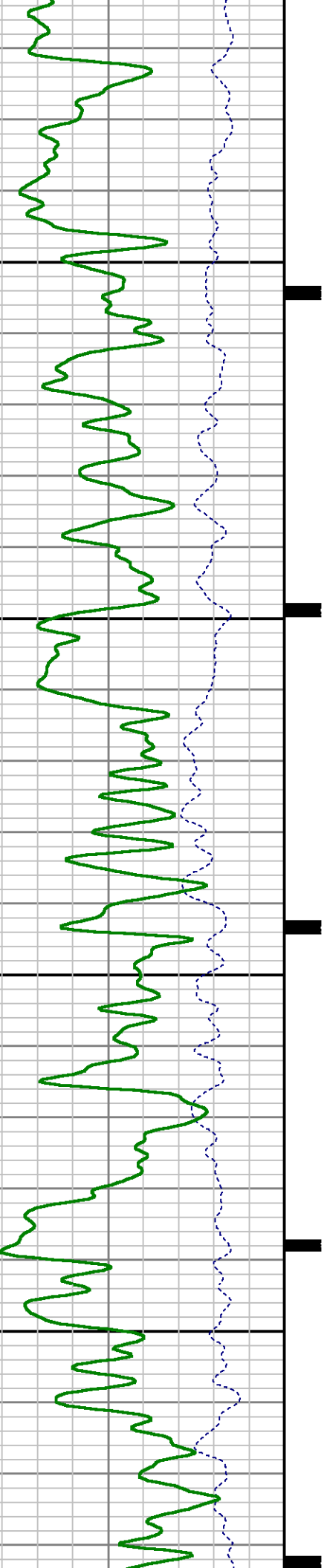
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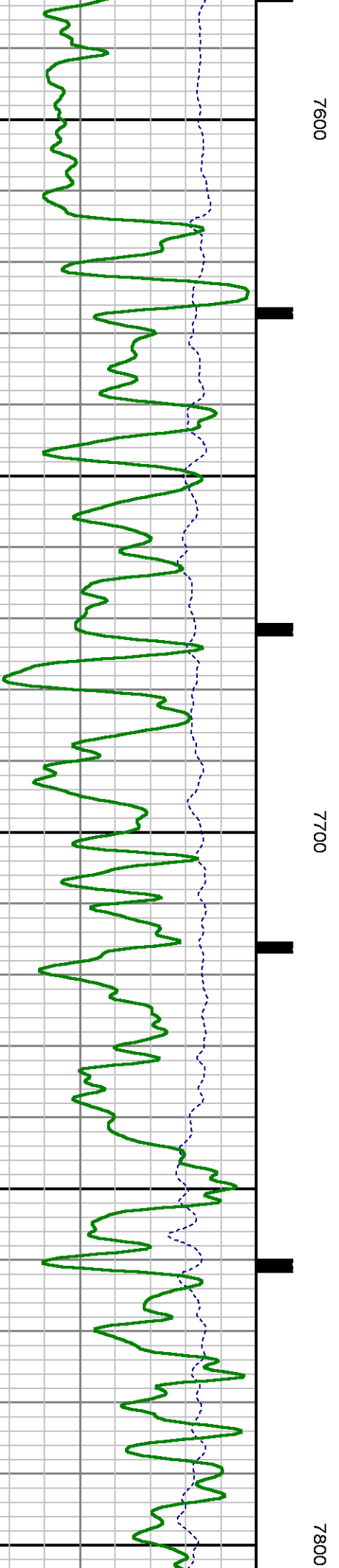
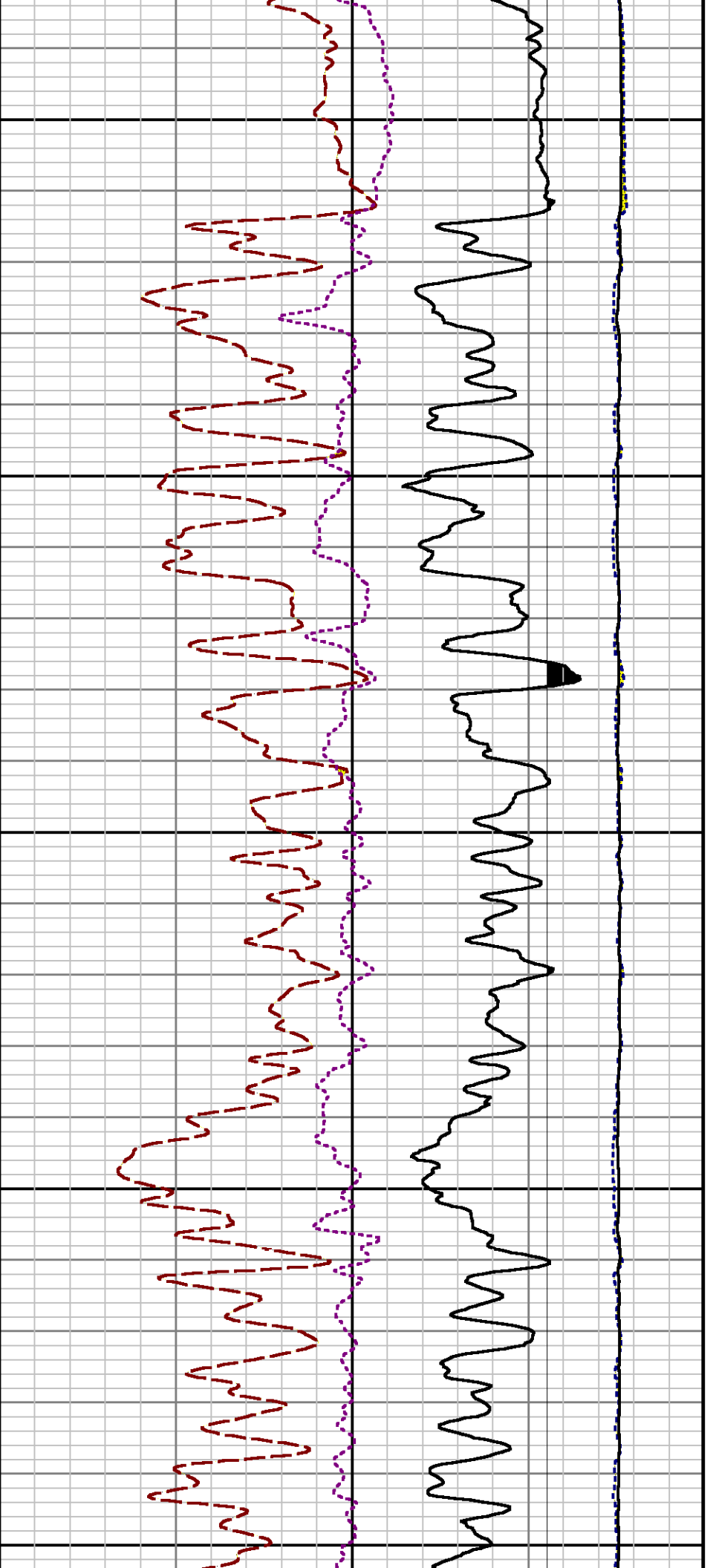


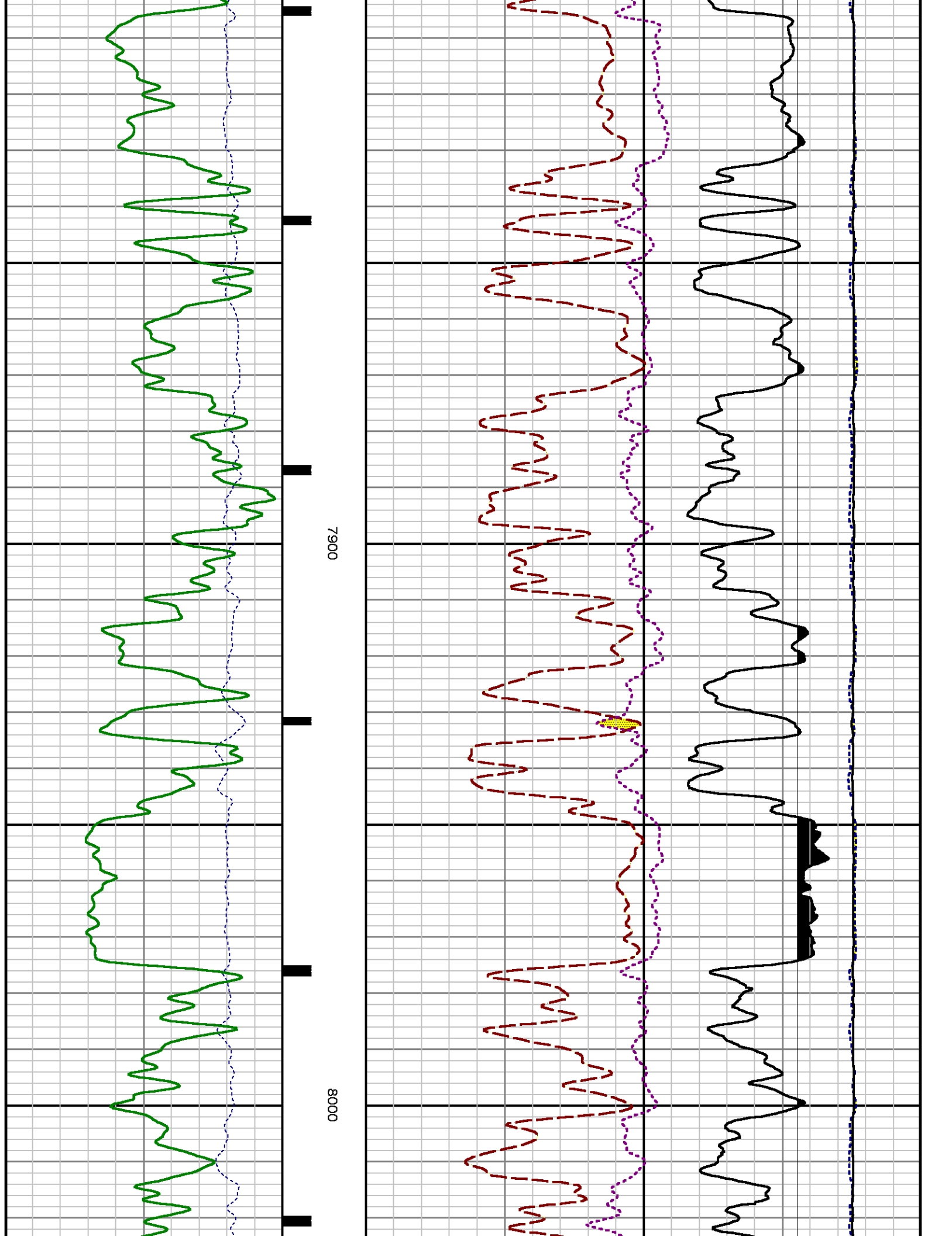


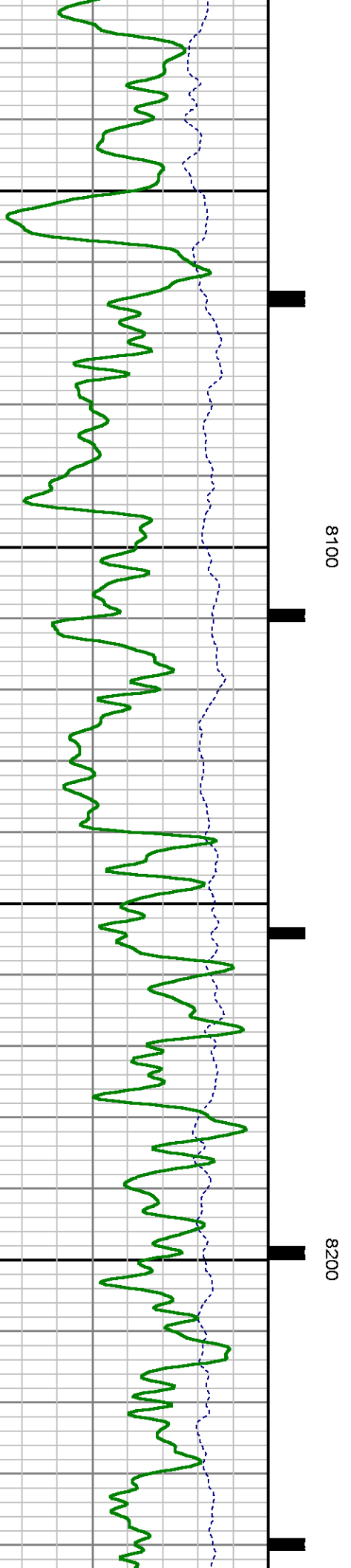
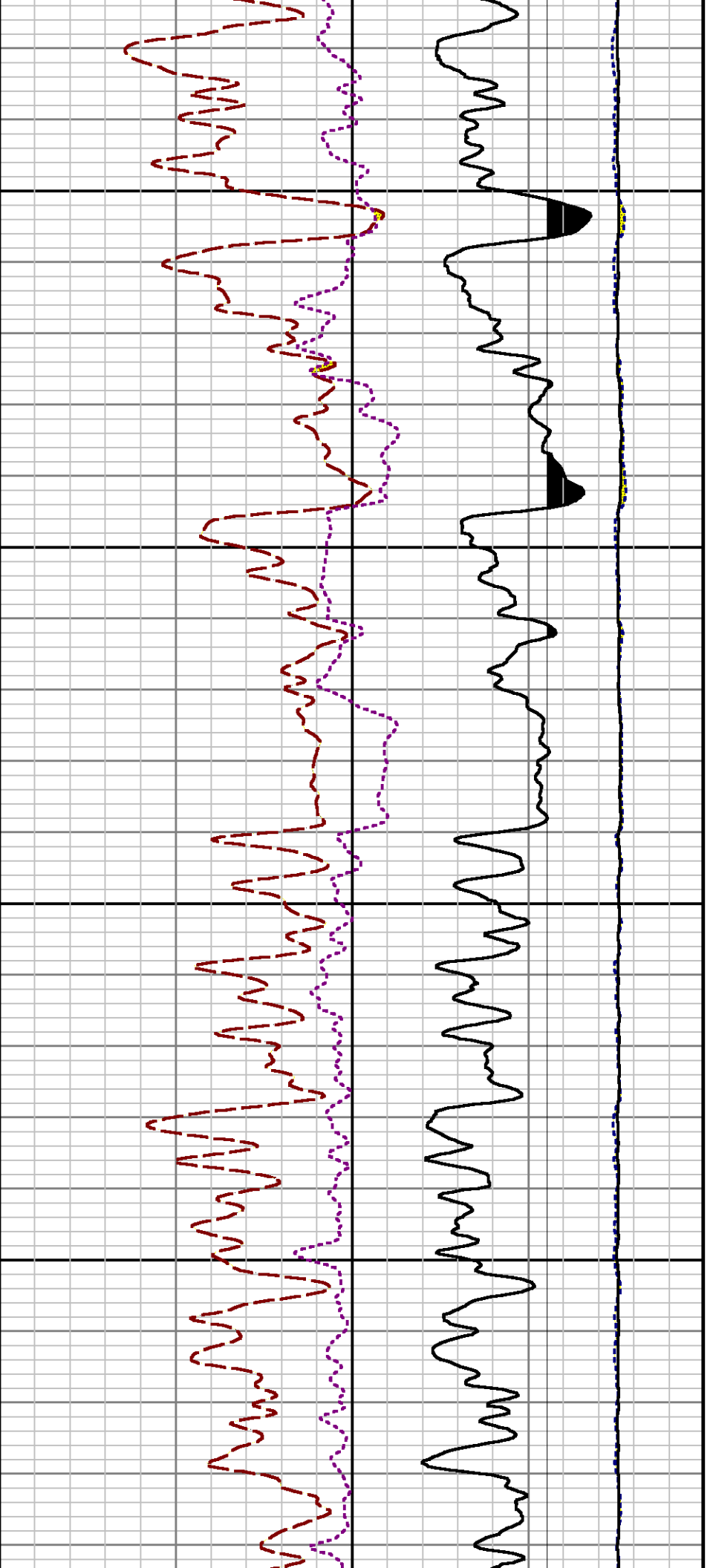
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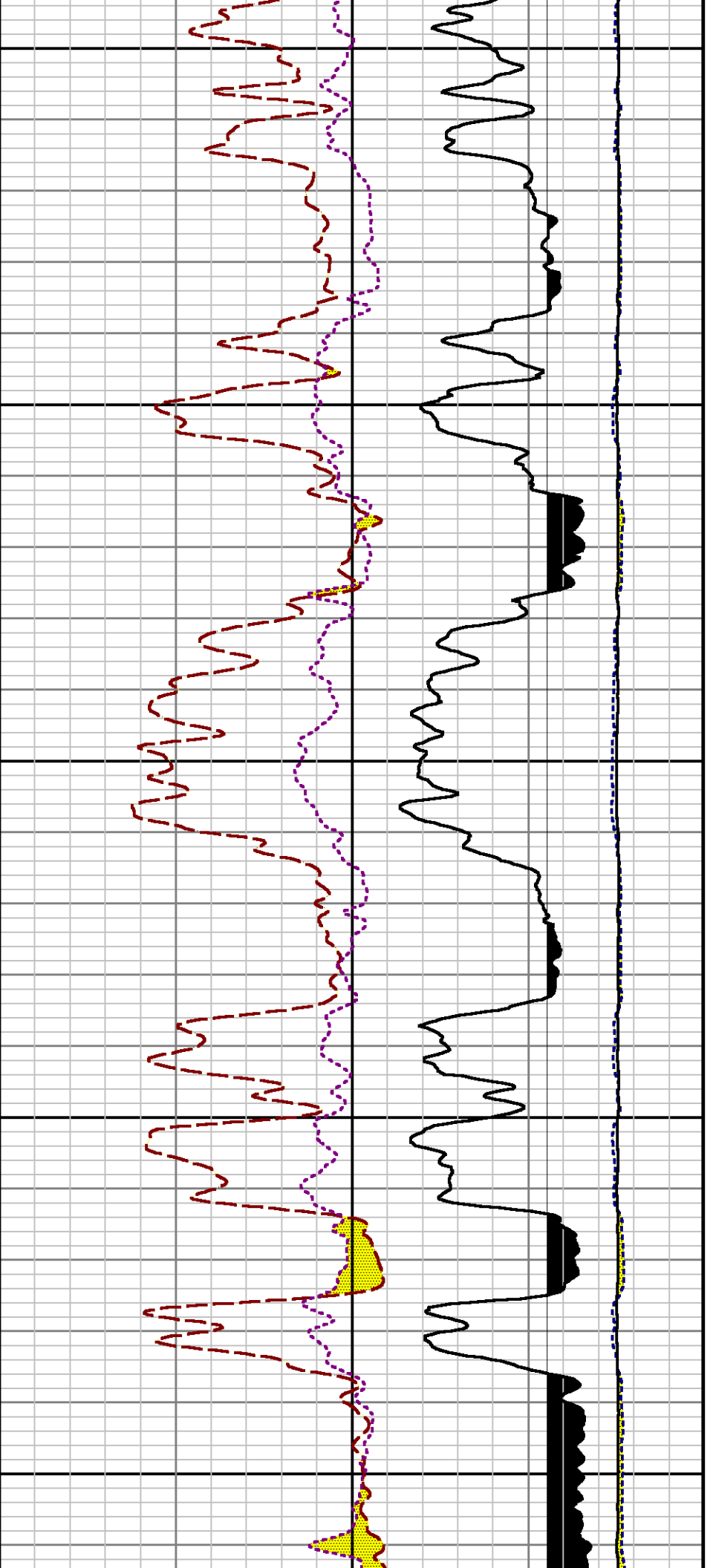
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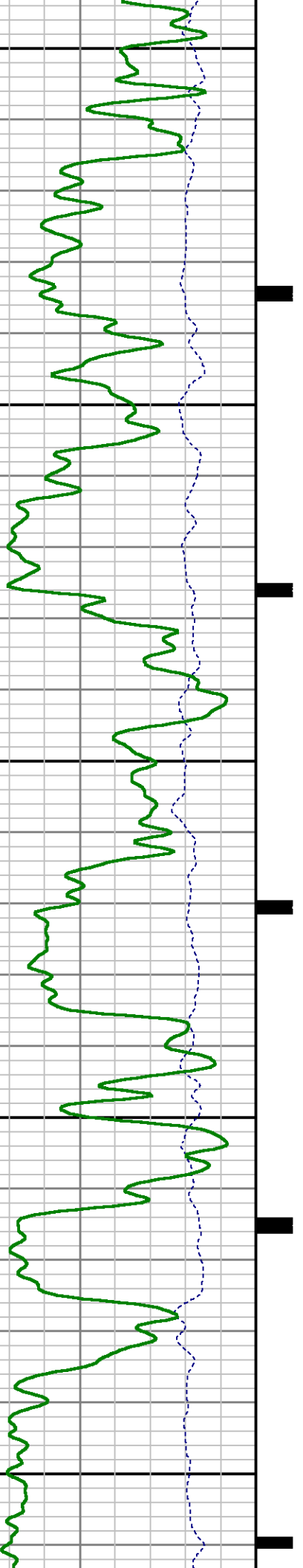


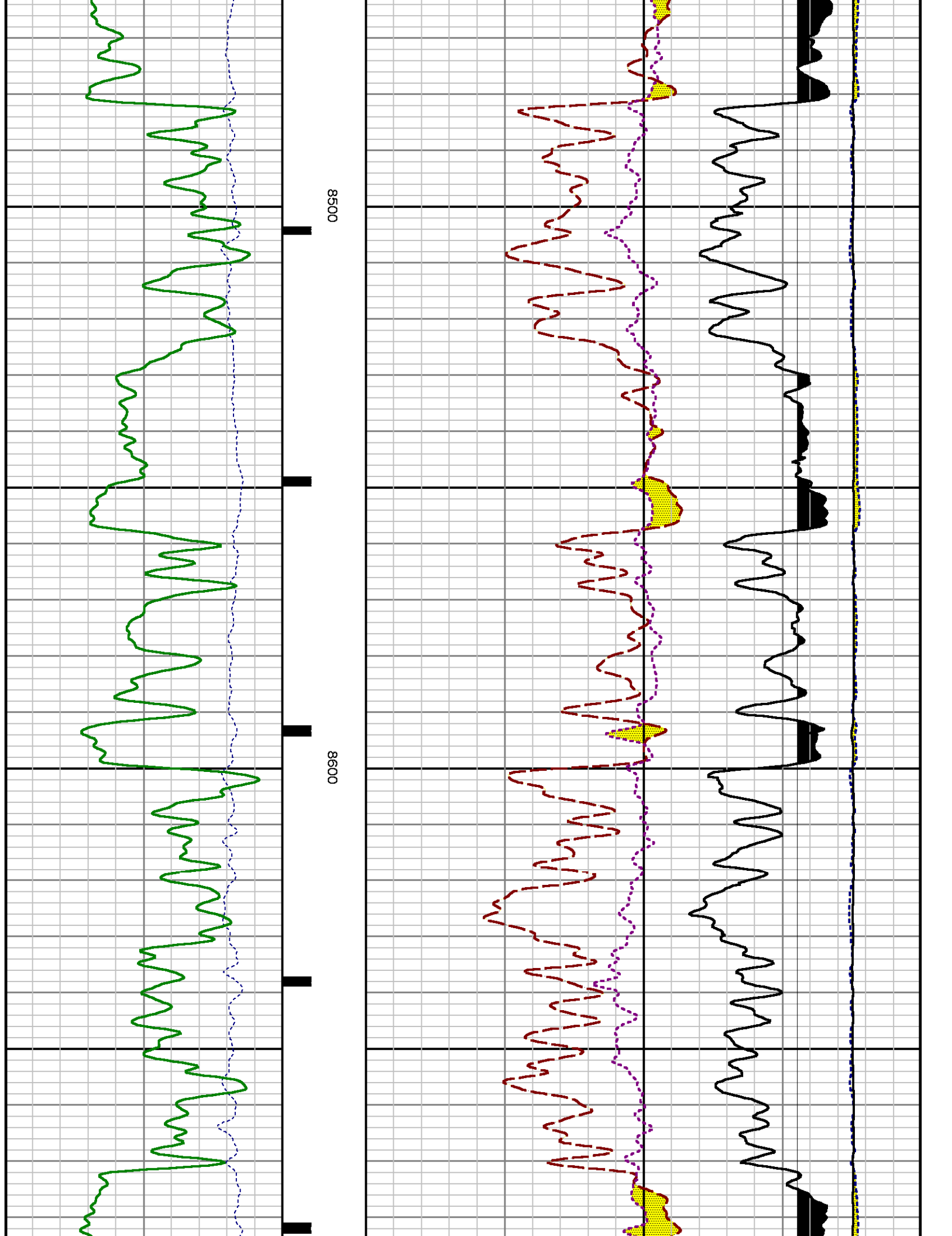


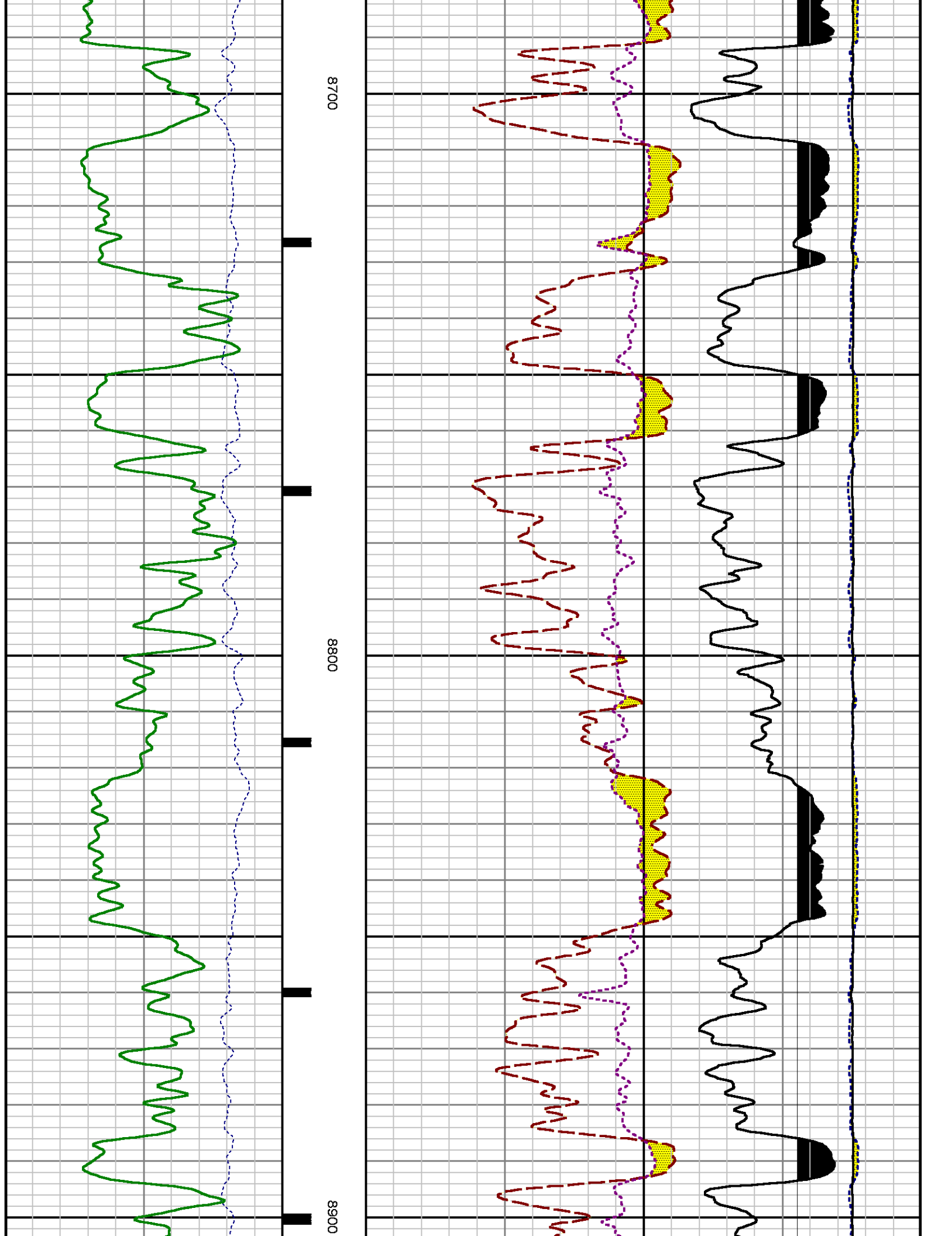


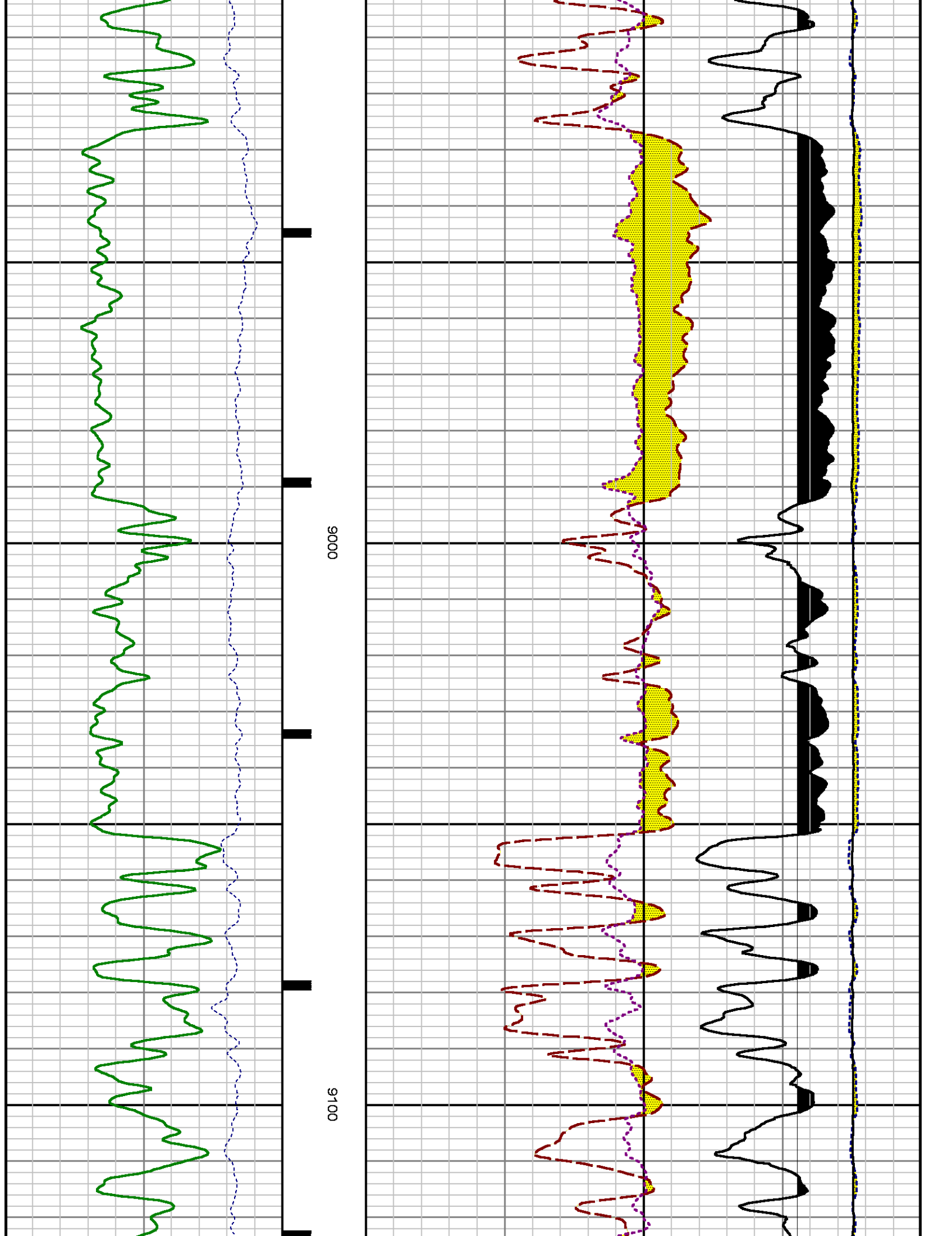
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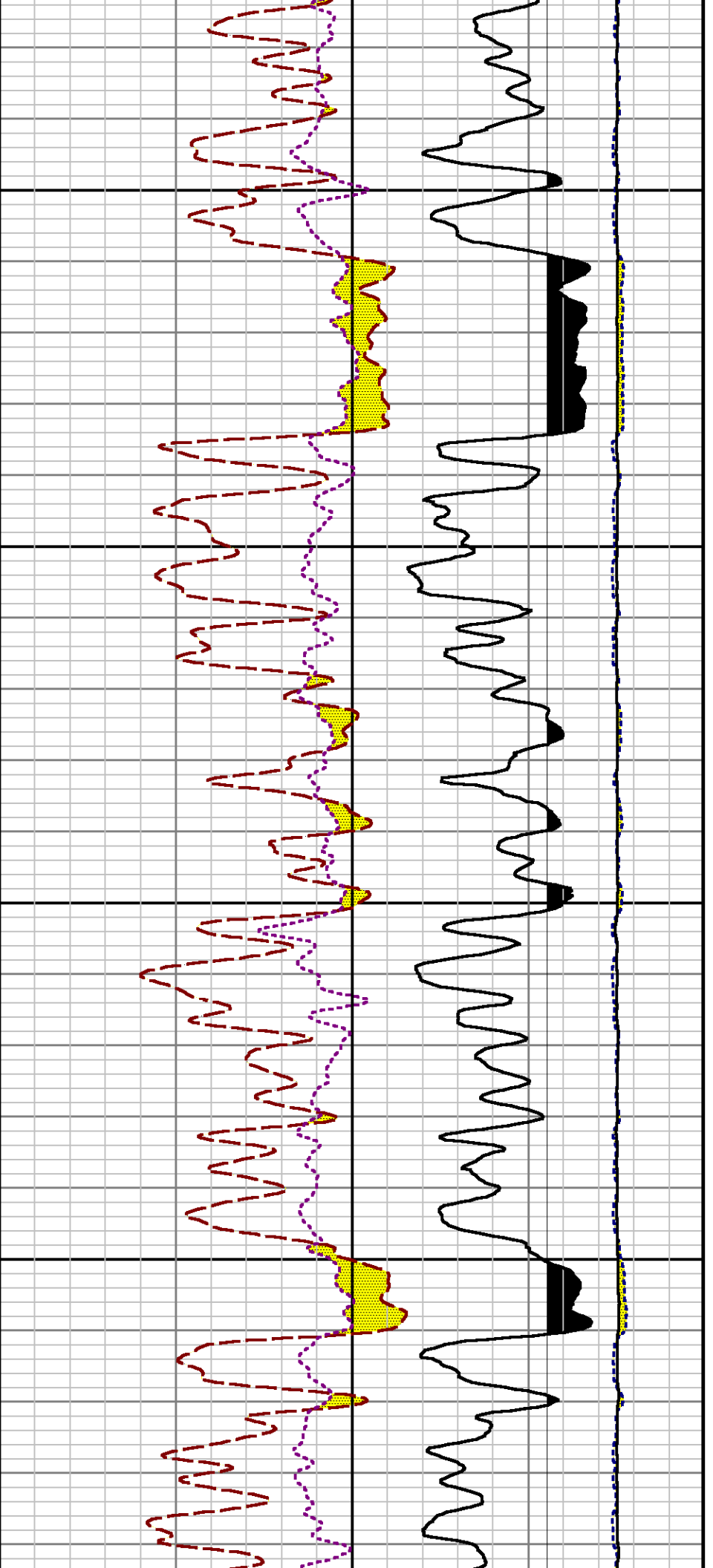
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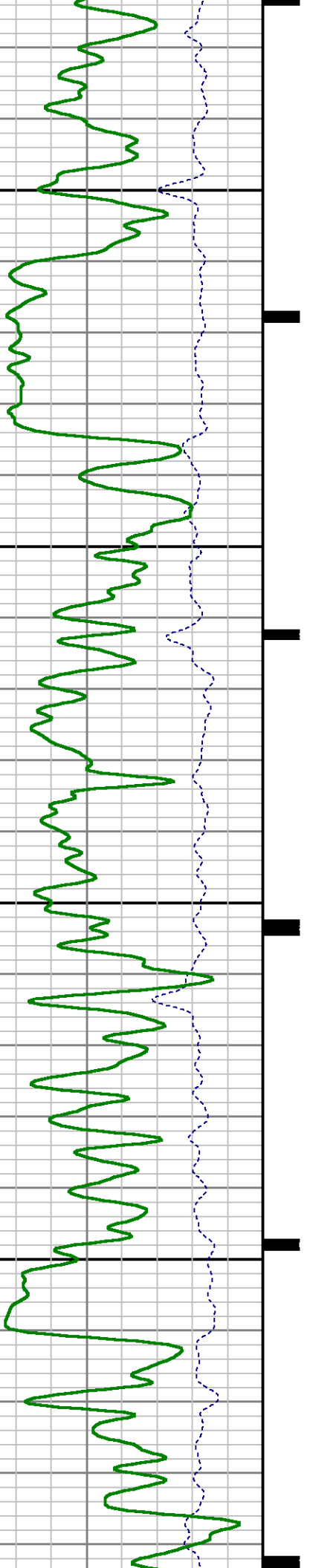


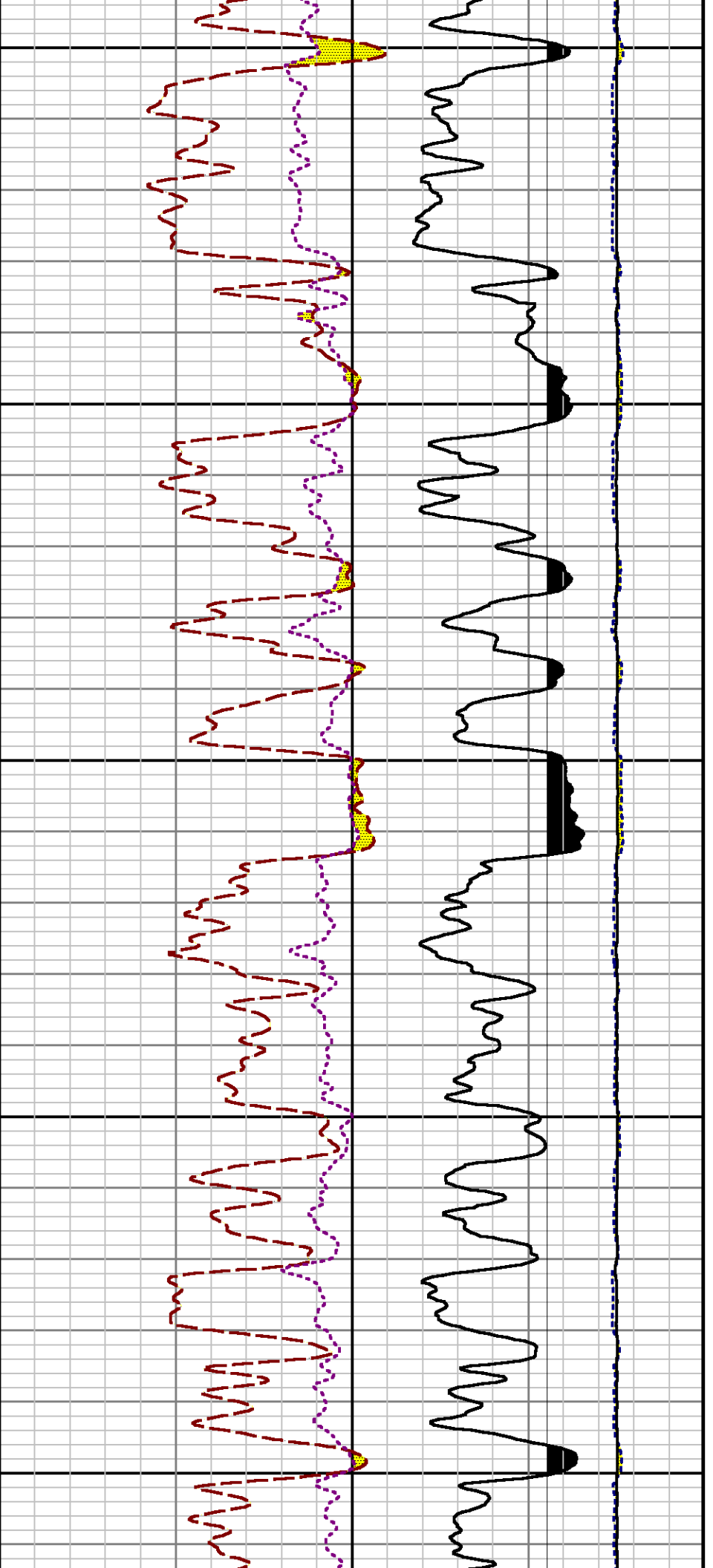




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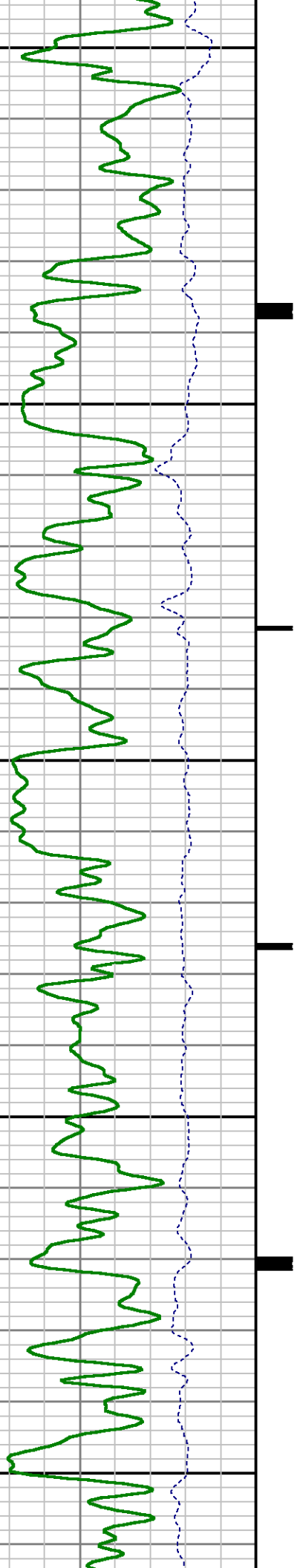
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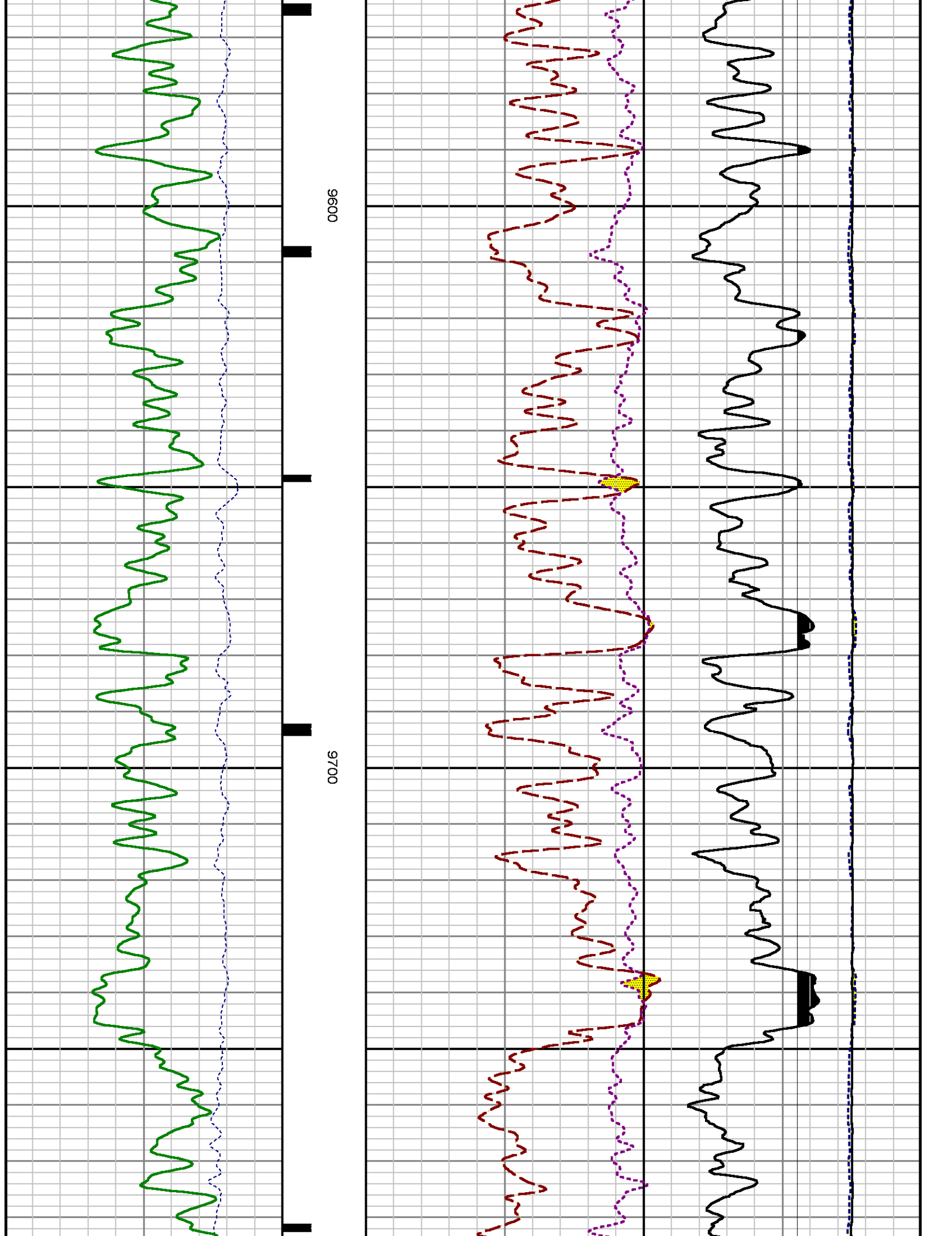


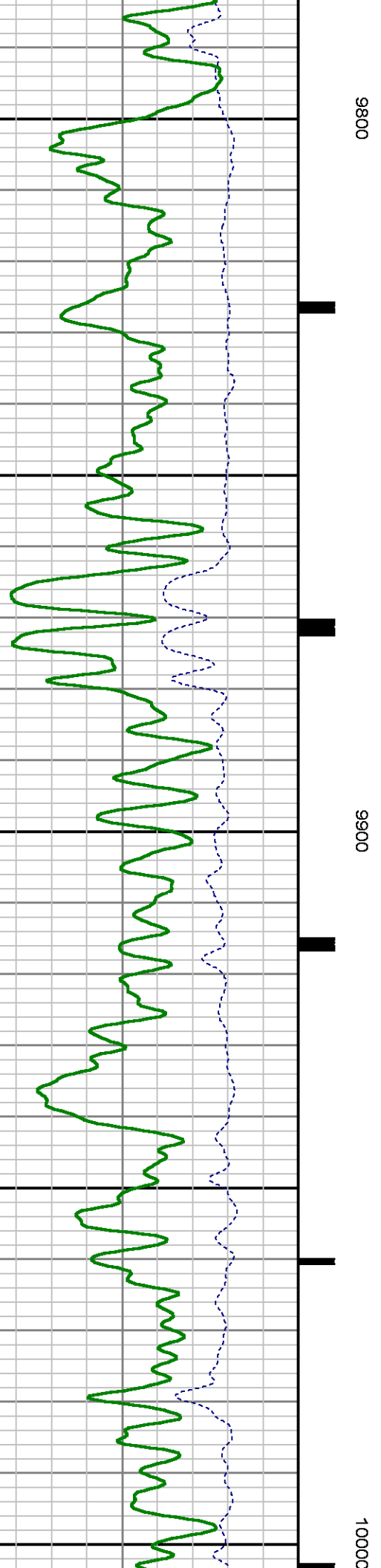
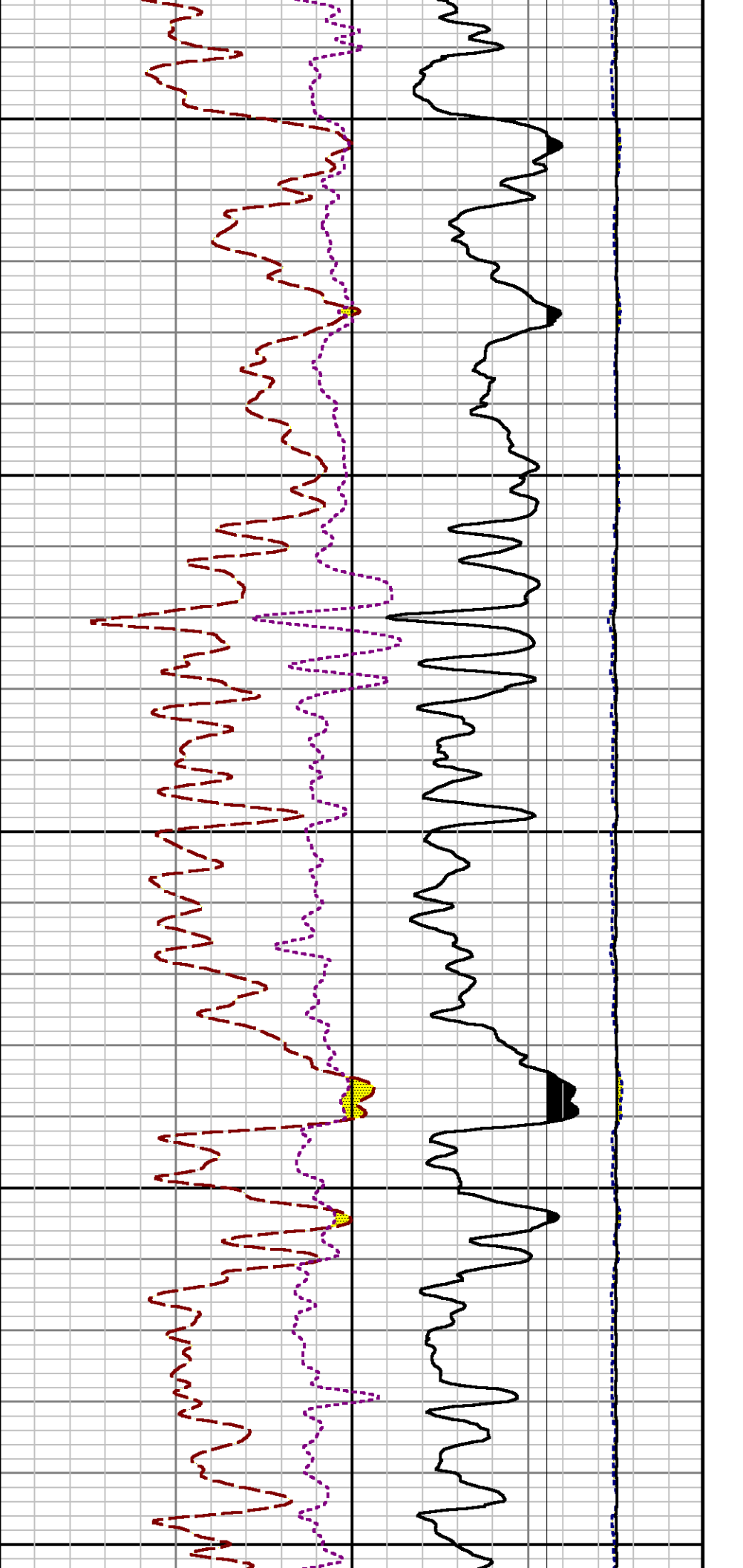


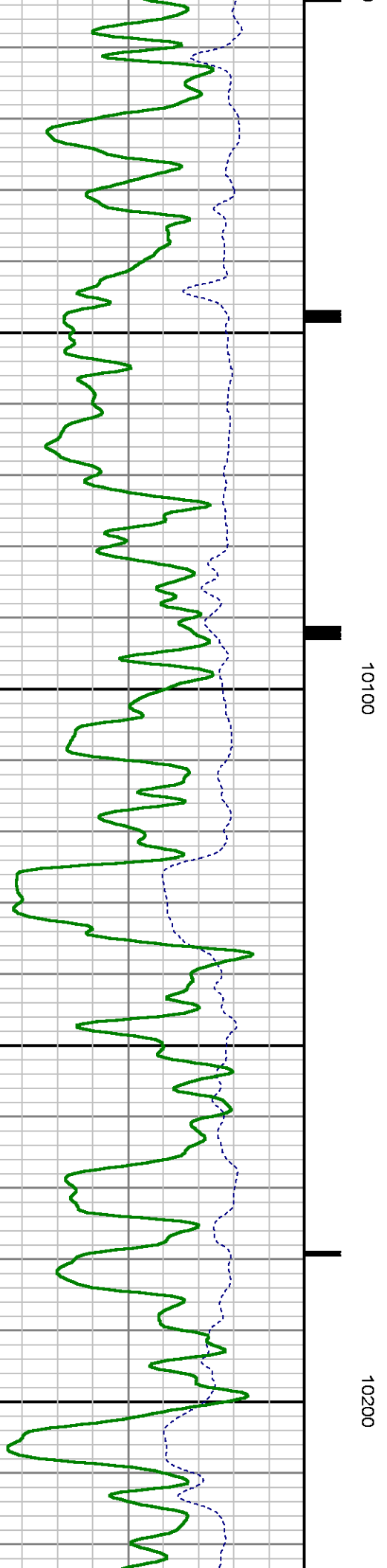
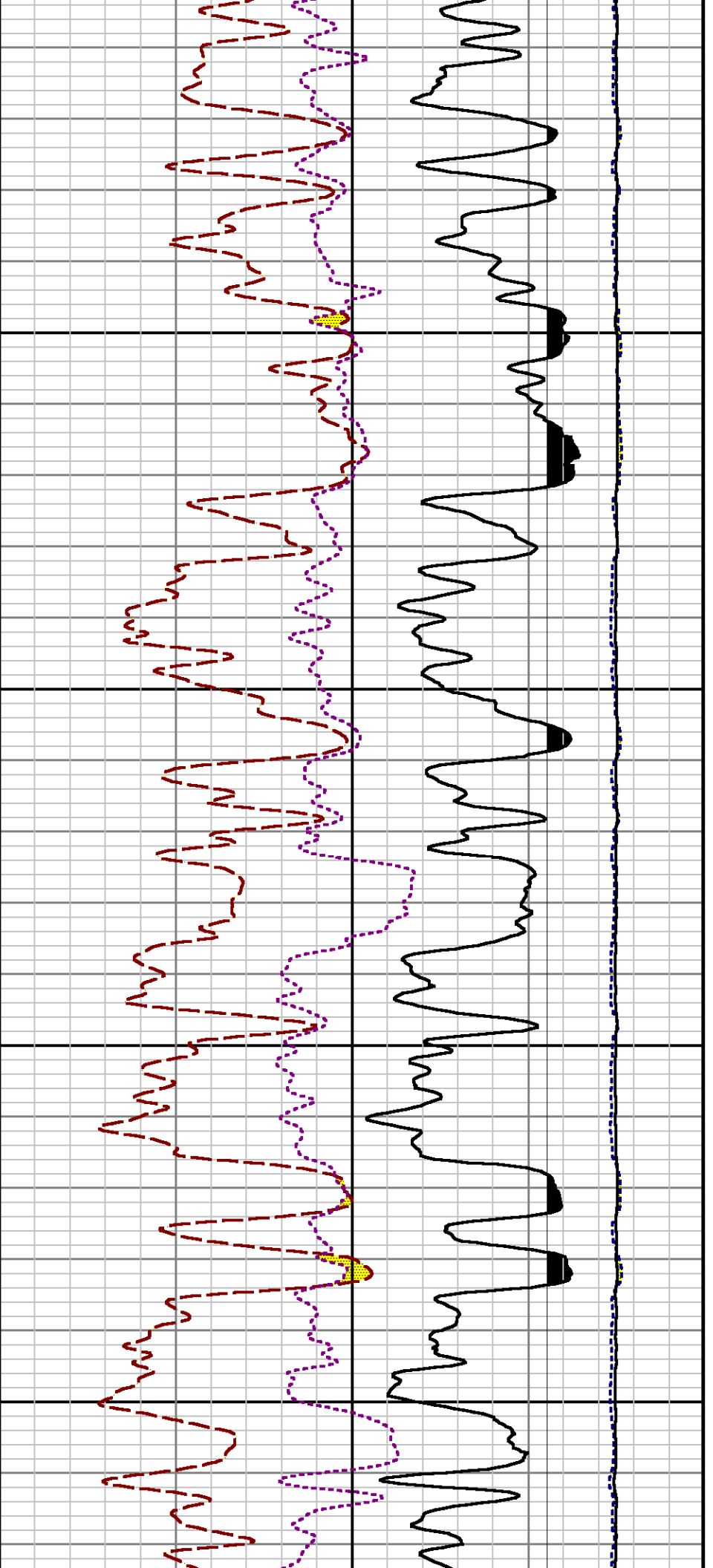
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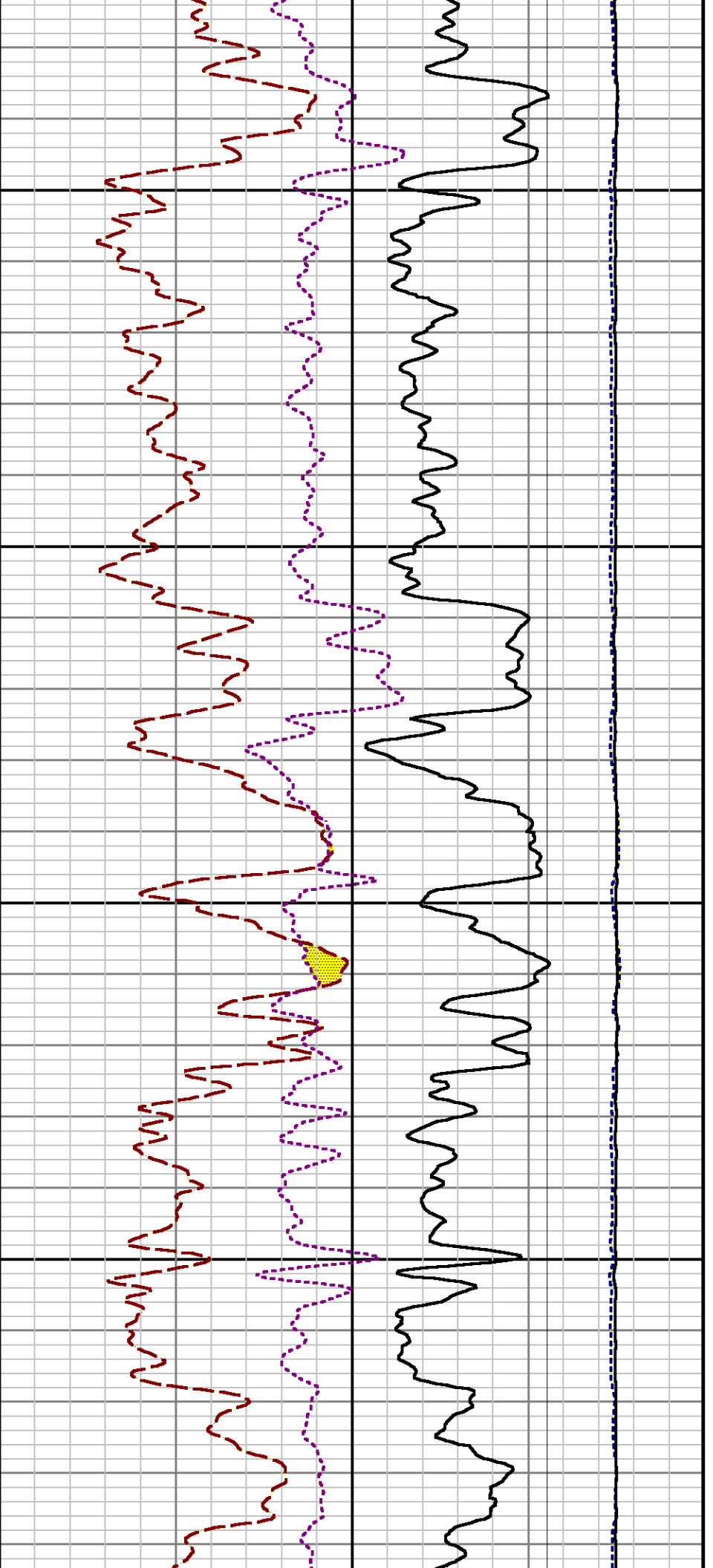
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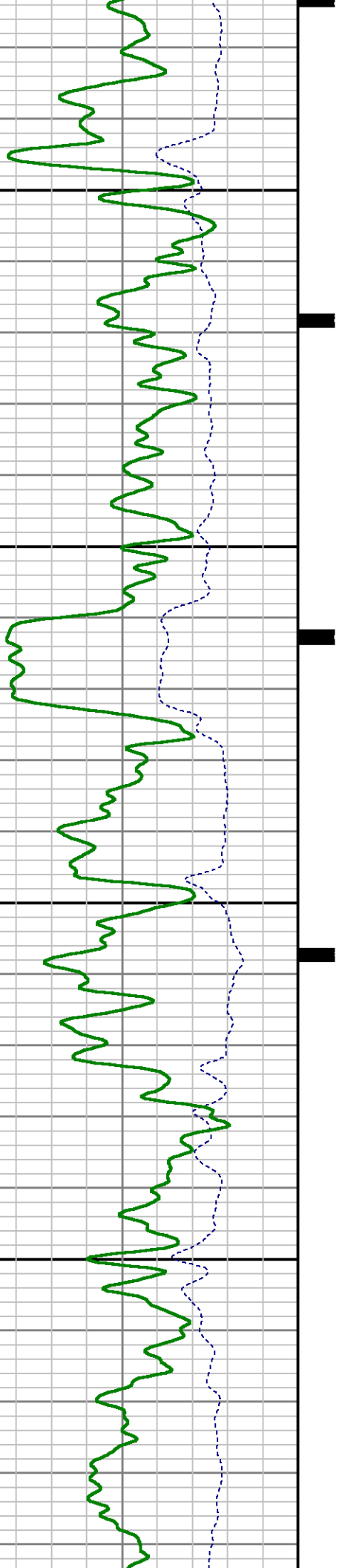


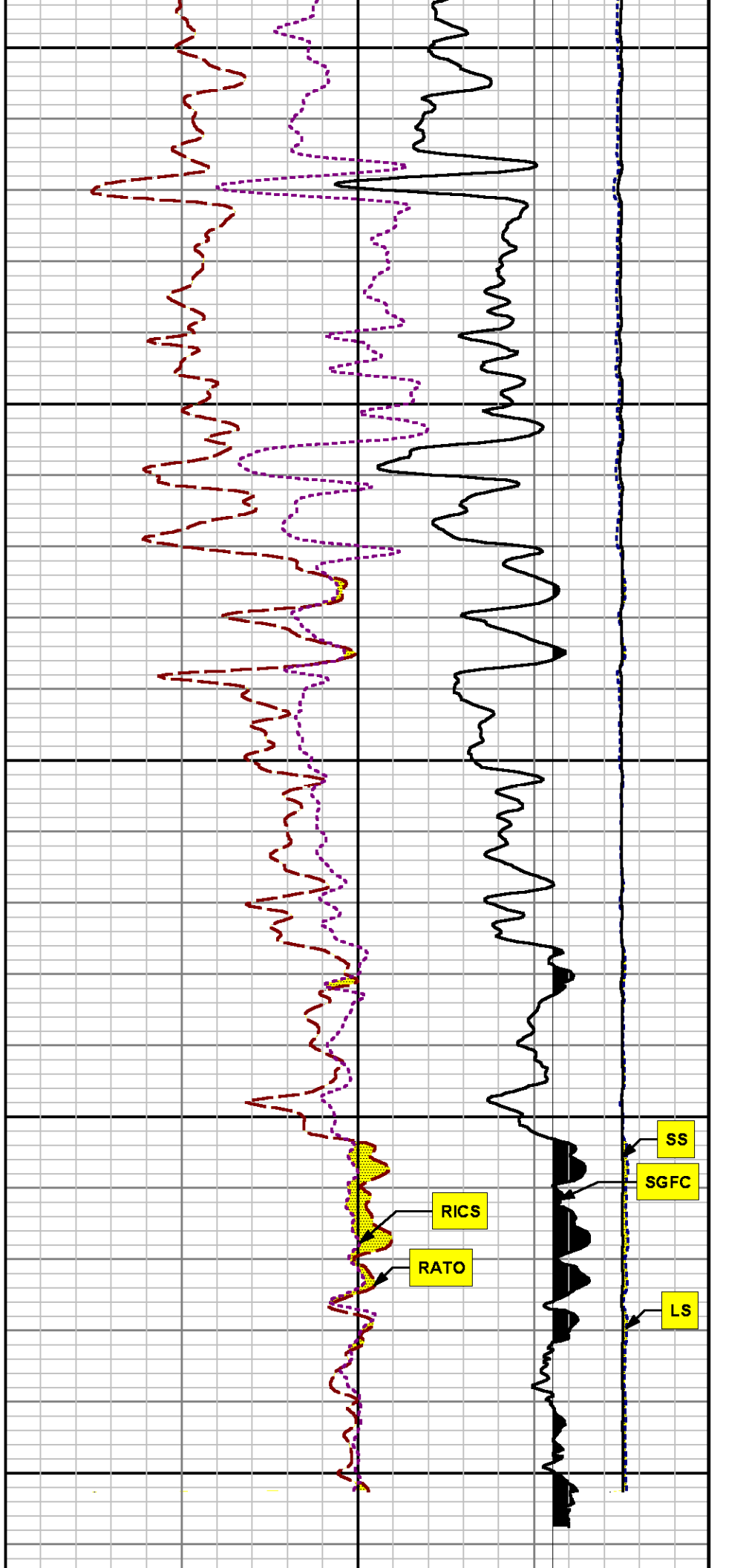
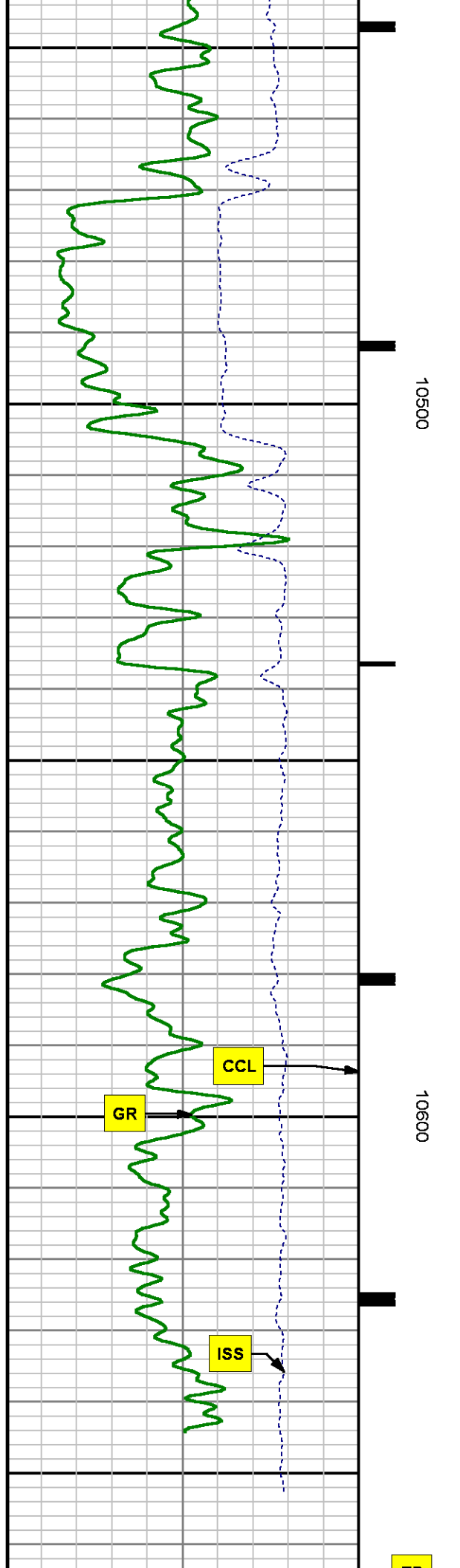


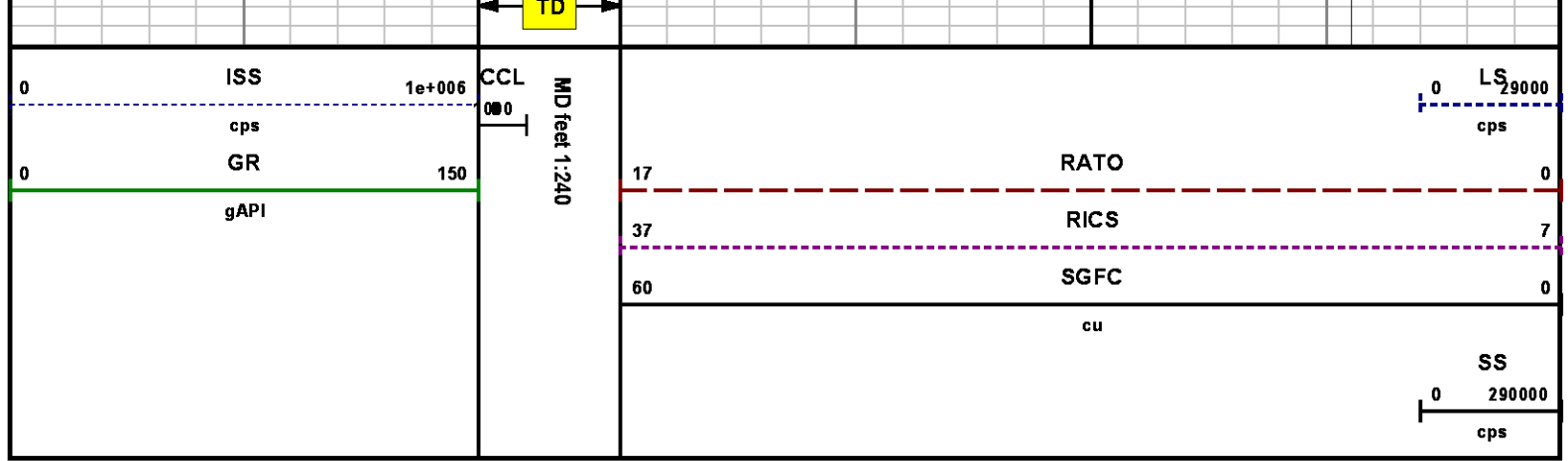


10300

10400







*REPEAT SECTION
PNC 3-D MODE*

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		9766.290	10091.040
PNC Porosity	Borehole Size	8.750	inch	9766.290	10091.040
PNC Porosity	Casing Size	4.500	inch	9766.290	10091.040
PNC Porosity	Gas Filled	Non Gas Filled		9766.290	10091.040
PNC Porosity	Matrix	Sandstone		9766.290	10091.040
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	9766.290	10091.040

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

8281XA -12.291

RICXC RIN13C RIN23 RIN23C SD3D SG3D
 SGB3 SGF3 WDT3 CXSR IXSR XSR
 RICXR
 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
 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

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

Well : FEDERAL NER 343-32

File Name : d:\well\data\wpx\ner 343-32\rpm343\repeat.xtf

Mode : PlotMgr 5.4.504

Interval : 9766.54 - 10060.00 feet UP

Created : 7/26/2014 12:47:38 PM



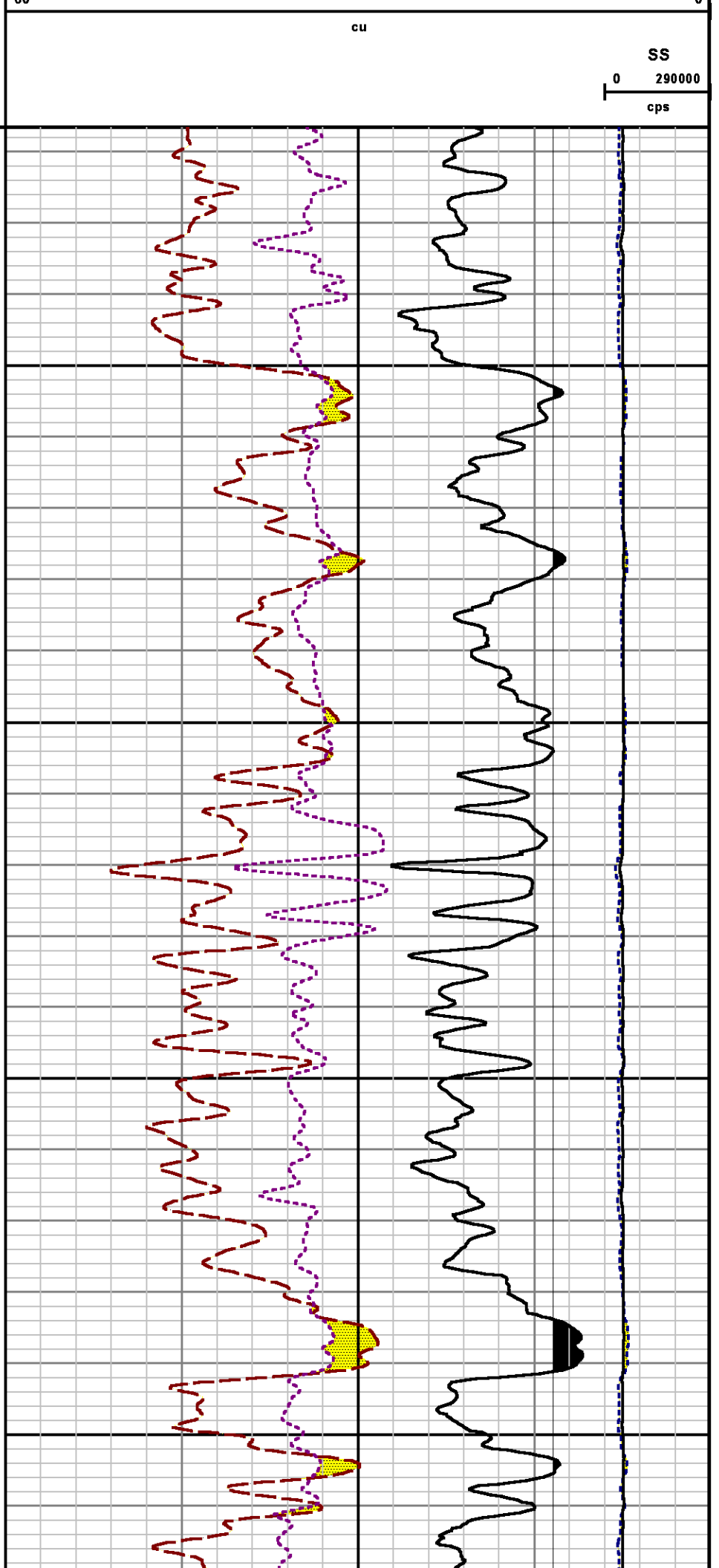
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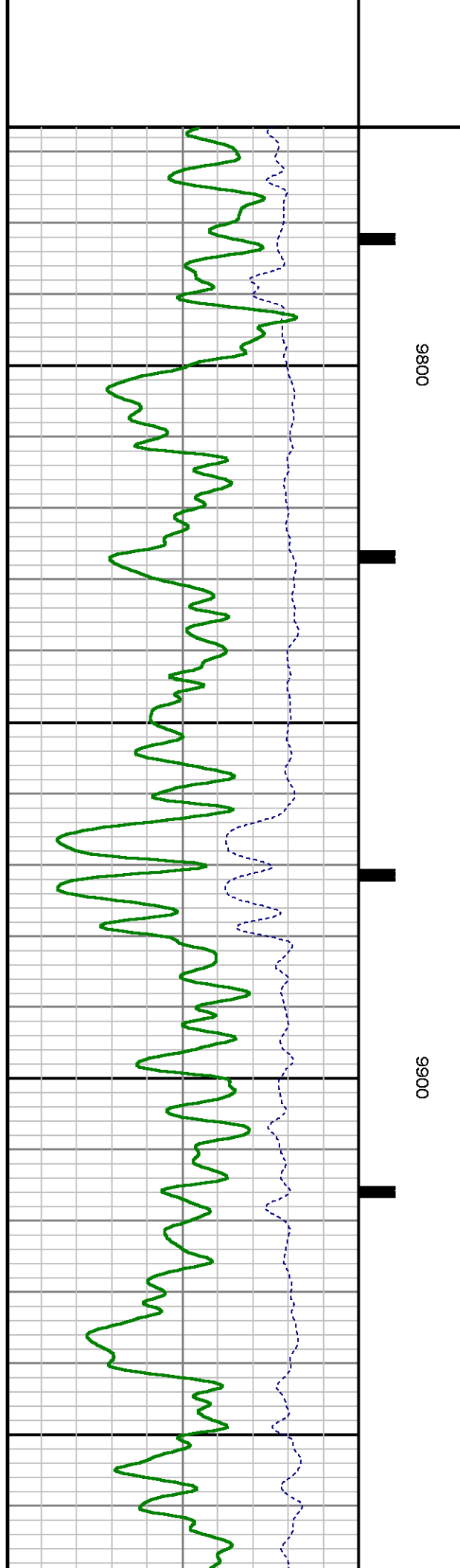
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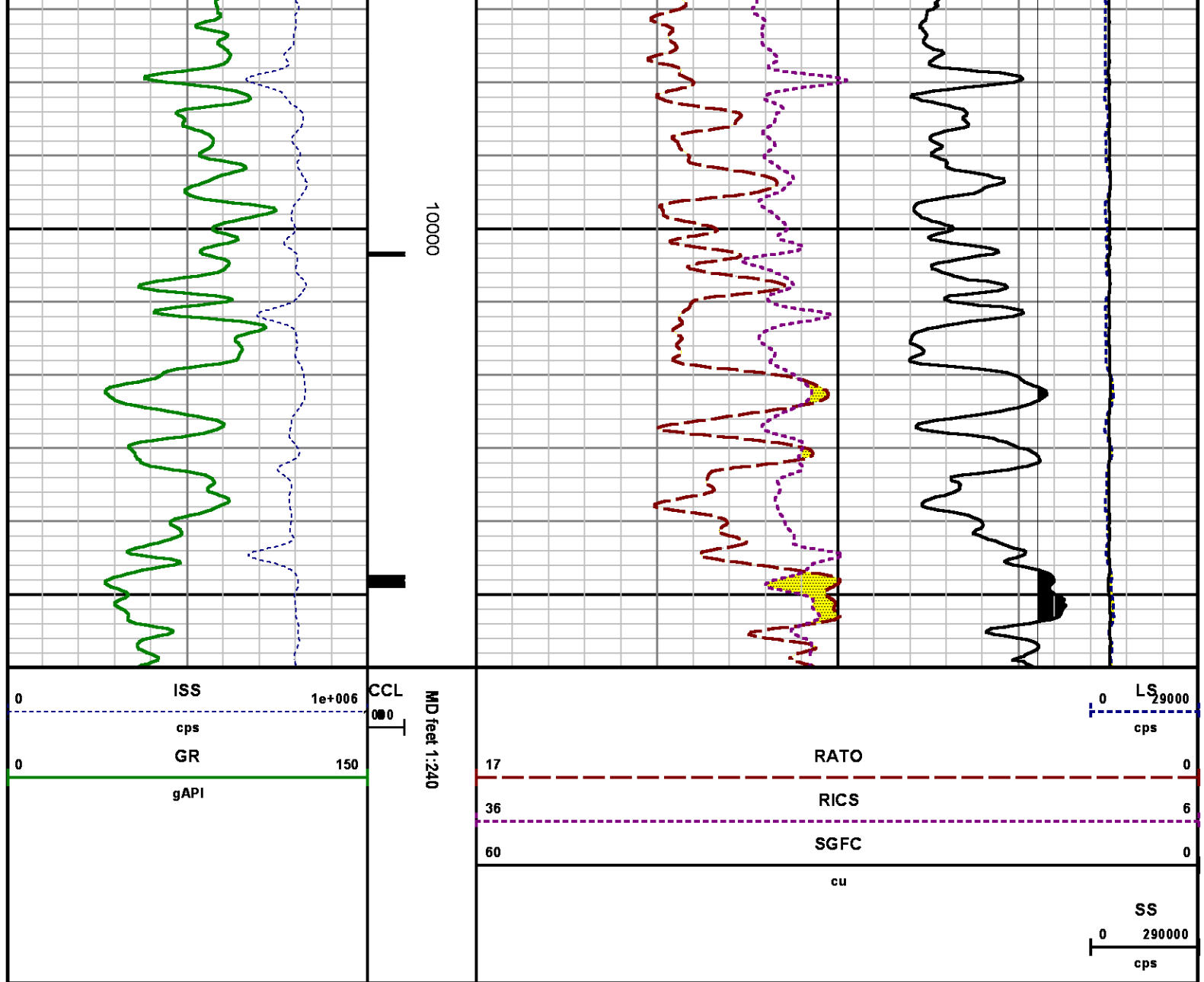
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0080

0090





CALIBRATION SUMMARY

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
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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

PNC

Calibration File: C:\case\calver\PNC\383_02.cal

PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Wed Jul 02 11:12:40 2014 TOOL SERIES: 8281XA ASSET: 383 SEQ: 02

Calibrator #	Source #
shop shop	8281AA 11710723

	ISS	Mtr VIts (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	815642	124.00	2273.00	2248.00	2207.00	113.01	7.00	0.9759
Interpolated	1300000	144.24	2253.89	2241.02	2201.12			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	815642	6112.95	967.26	132.35	25.67	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	815642	169475.86	25875.63	90426.93	32216.52	8369.17	54781.47	13381.45
Fit Quality %		1.33	1.32	0.94	0.94	1.26	0.85	1.23

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	815642	1.43	4.81	31.52	14.89	10.81	3.85	4.09
		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	0.19	0.13	0.07	0.26	0.22	0.23
Reduced	1383476	1.43	4.82	31.60	14.95	10.76	3.84	4.08
		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

TEMPERATURE

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

CALIBRATION SUMMARY

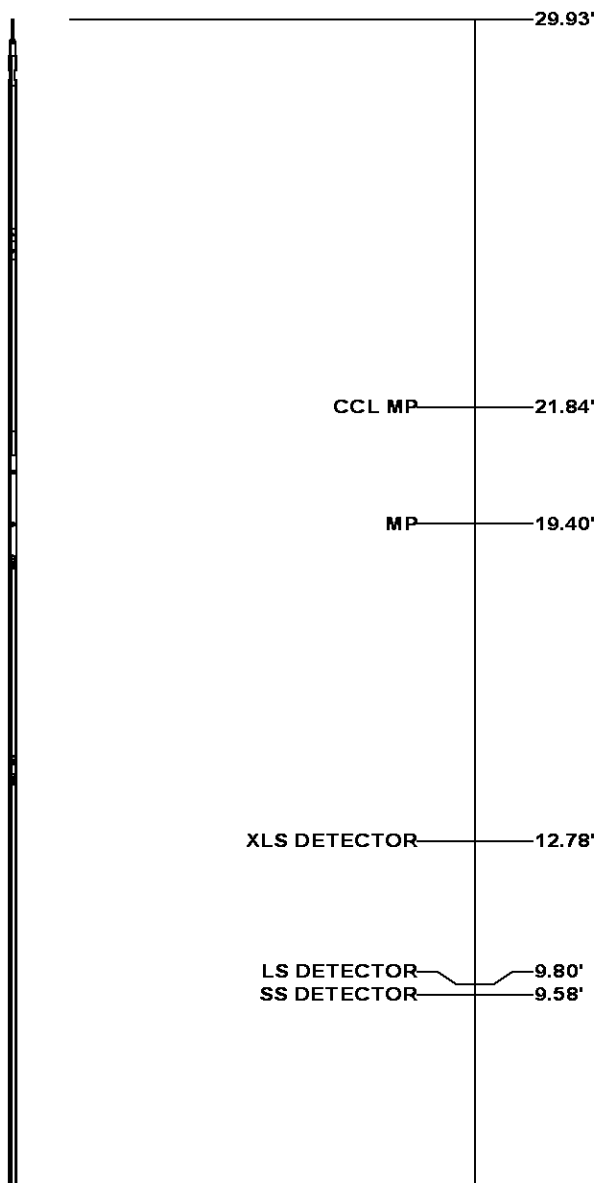
DATE/TIME PERFORMED: 09 AUG 2010 **TOOL SERIES:** 8255XA **ASSET:** 120516 **SEQ:** AU

	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	
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



Company	WPX ENERGY
Well	FEDERAL NER 343-32
Field	RULISON
County	GARFIELD State CO

File No:
CH088827
API No:
05045217910000

Location	Elevations
SHL: 139' FNL & 2589' FWL (5 7S 93W)	KB 7629 ft
BHL: 1927' FSL & 681' FEL (32 6S 93W)	DF
	GL 7603 ft
SEC 32 TWP 6S RGE 93W	

32 6S 93W
RU 23-5 PAD
NABORS 576