



RESERVOIR PERFORMANCE MONITOR

Baker Atlas

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

CH086324 **Well** **FEDERAL NER 443-32**

API No: **Field** **RULISON**

05045217750000 **County** **GARFIELD** **State** **CO**

Location

SHL: 161' FNL & 2596' FWL (5 75 93W)

BHL: 1482' FSL & 653' FEL (32 65 93W)

SEC 32 TWP 6S RGE 93W

Other Services

BOND LOG

Permanent Datum **GL** **Elevation** **7603**

Log Measured From **KB** **26** **Above P. D.**

Drill Measured From **KB**

Elevations

KB **7629**

DF

GL **7603**

Date	18/JUN/14	
Run	ONE	
Service Order	US086324	
Depth Driller	10575	
Depth Logger	10540	
Bottom Logged Interval	10530	
Top Logged Interval	6414	
Time Started	15:00	
Time Finished	22:30	
Operator Rig Time	7.5 HOURS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	81	
Logged Cement Top	NA	
Wellhead Pressure	0	
Maximum Hole Deviation	NA	
Nominal Logging Speed	10	
Maximum Recorded Temperature	240	
Reference Log	BAKER HUGHES BOND LOG	
Reference Log Date	17/JUN/14	
Equipment No.	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	1149
8.75	1149	10607

Casing Record				
Size	Weight	Grade	From	To
9.625			0	1149
4.5	11.6	P-110	0	10607

Remarks

All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 17/JUN/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 8 feet.

Logged in PNC-3D mode.

BHT = 240 °F

SJ = 6921'-6944'

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	10307727	FREE
1	1	TEMP	8255XA	Z176973	FREE

MAIN SECTION
PNC 3-D MODE

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		6390.000	6750.000
PNC Porosity	Borehole Size	8.750	inch	6390.000	6750.000
PNC Porosity	Casing Size	4.500	inch	6390.000	6750.000
PNC Porosity	Gas Filled	Non Gas Filled		6390.000	6750.000
PNC Porosity	Matrix	Sandstone		6390.000	6750.000
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	6390.000	6750.000
PNC Porosity	Borehole	Cased		6750.000	10529.848
PNC Porosity	Borehole Size	8.750	inch	6750.000	10529.848
PNC Porosity	Casing Size	4.500	inch	6750.000	10529.848
PNC Porosity	Gas Filled	Non Gas Filled		6750.000	10529.848
PNC Porosity	Matrix	Sandstone		6750.000	10529.848
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	6750.000	10529.848

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 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

Company : WPX ENERGY

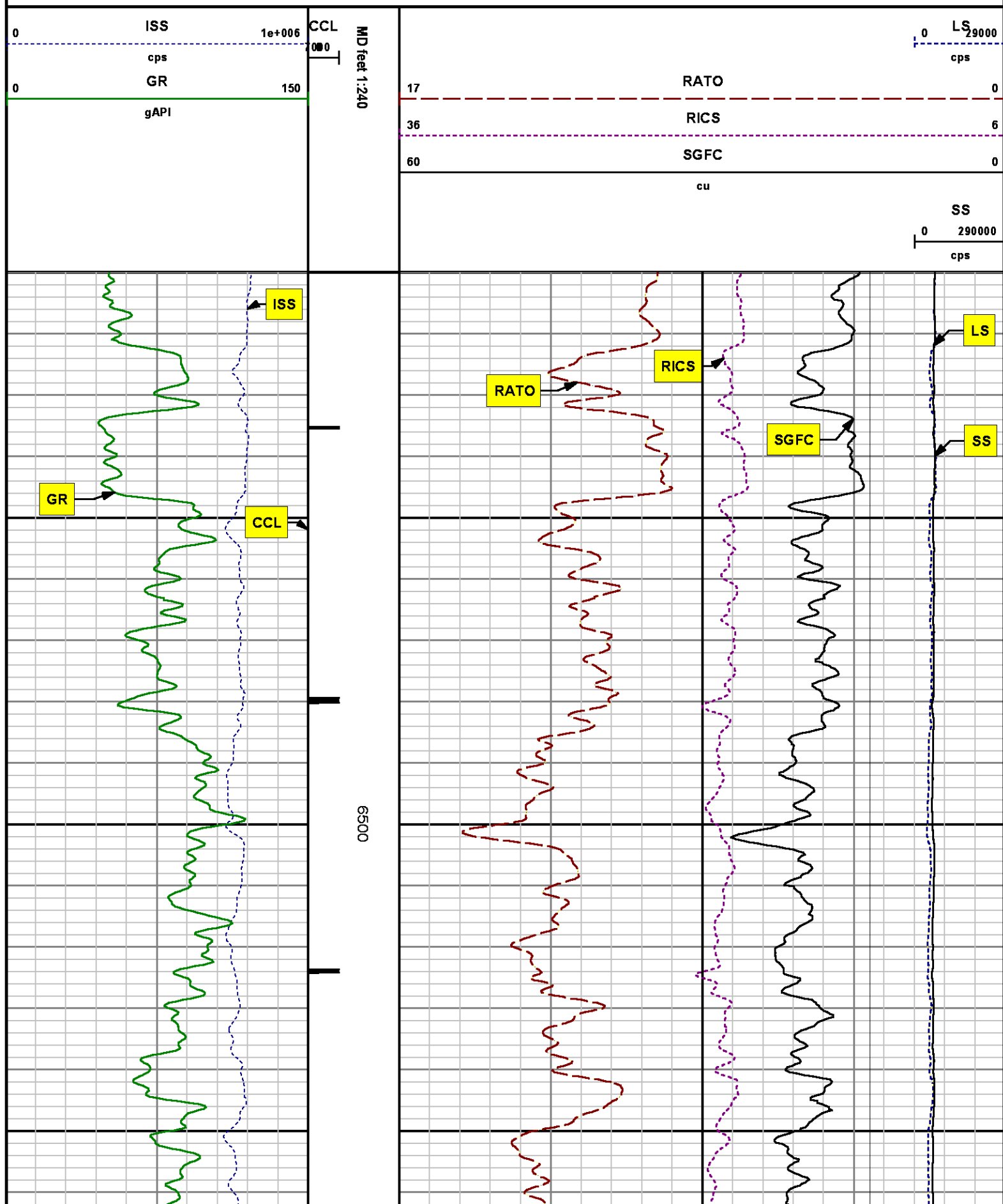
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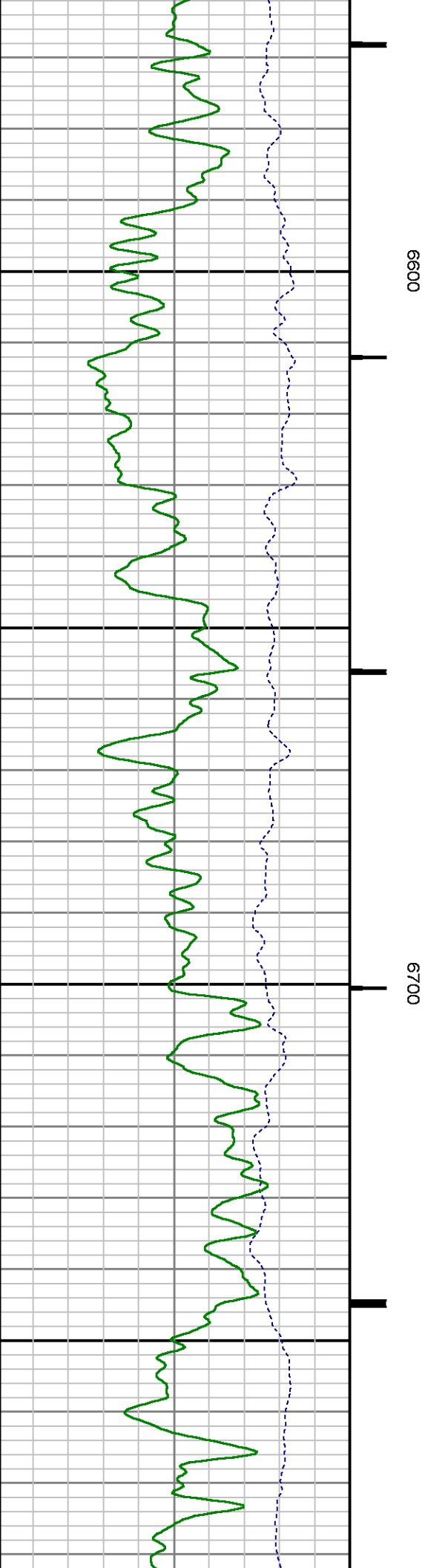
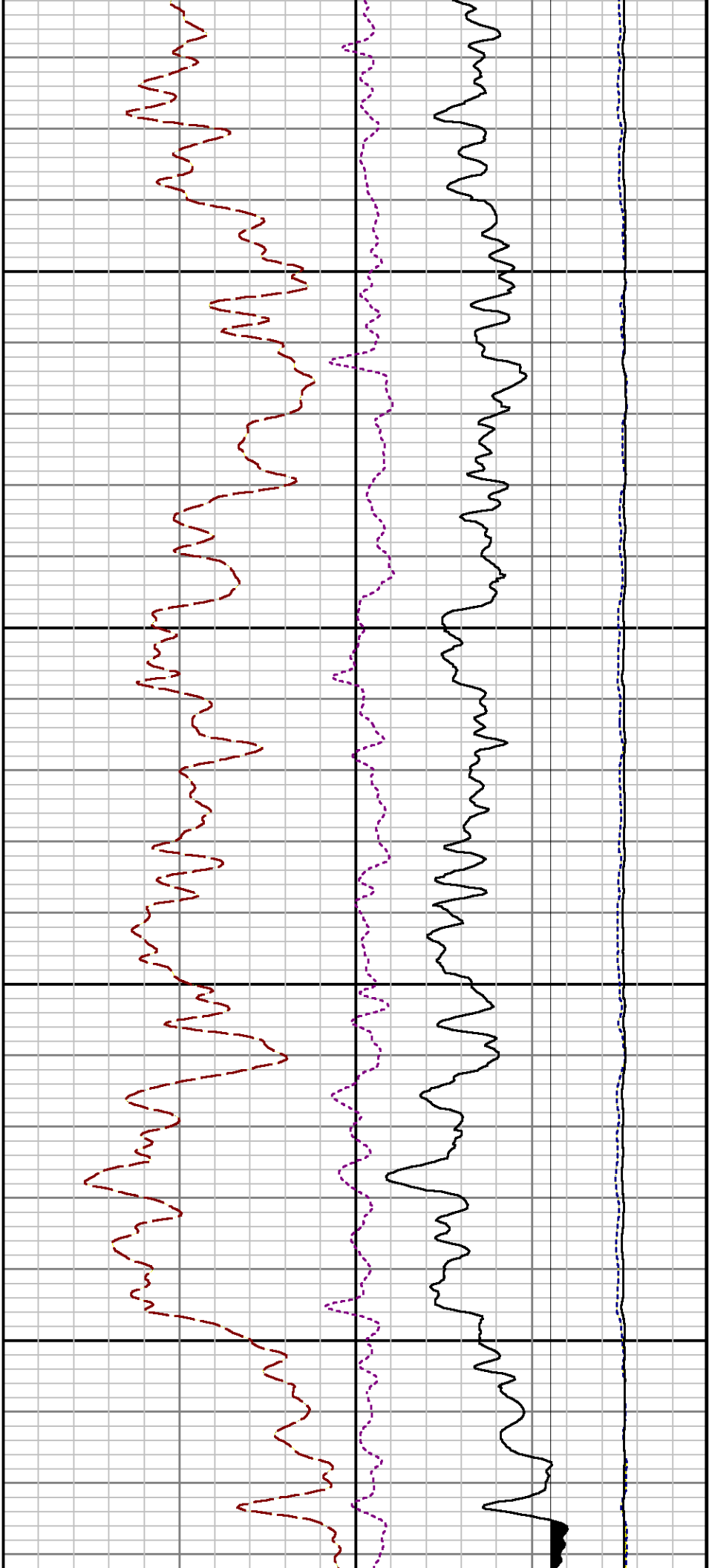
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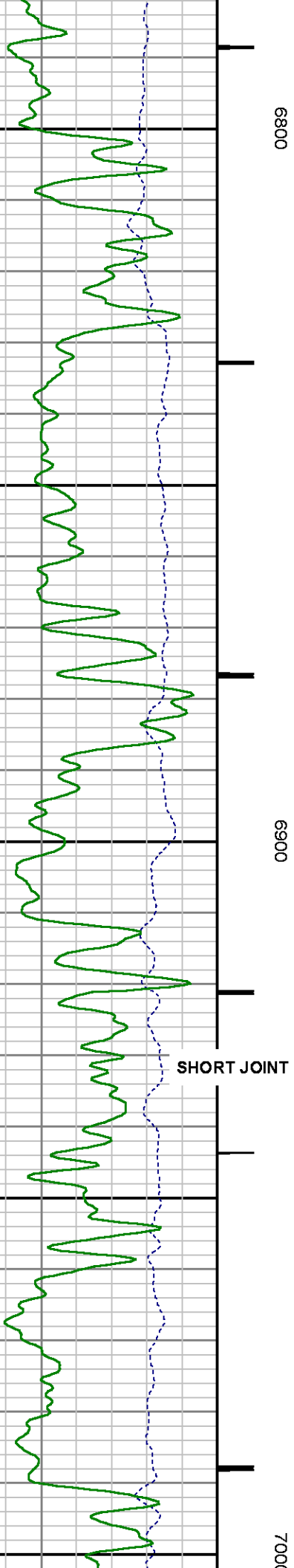
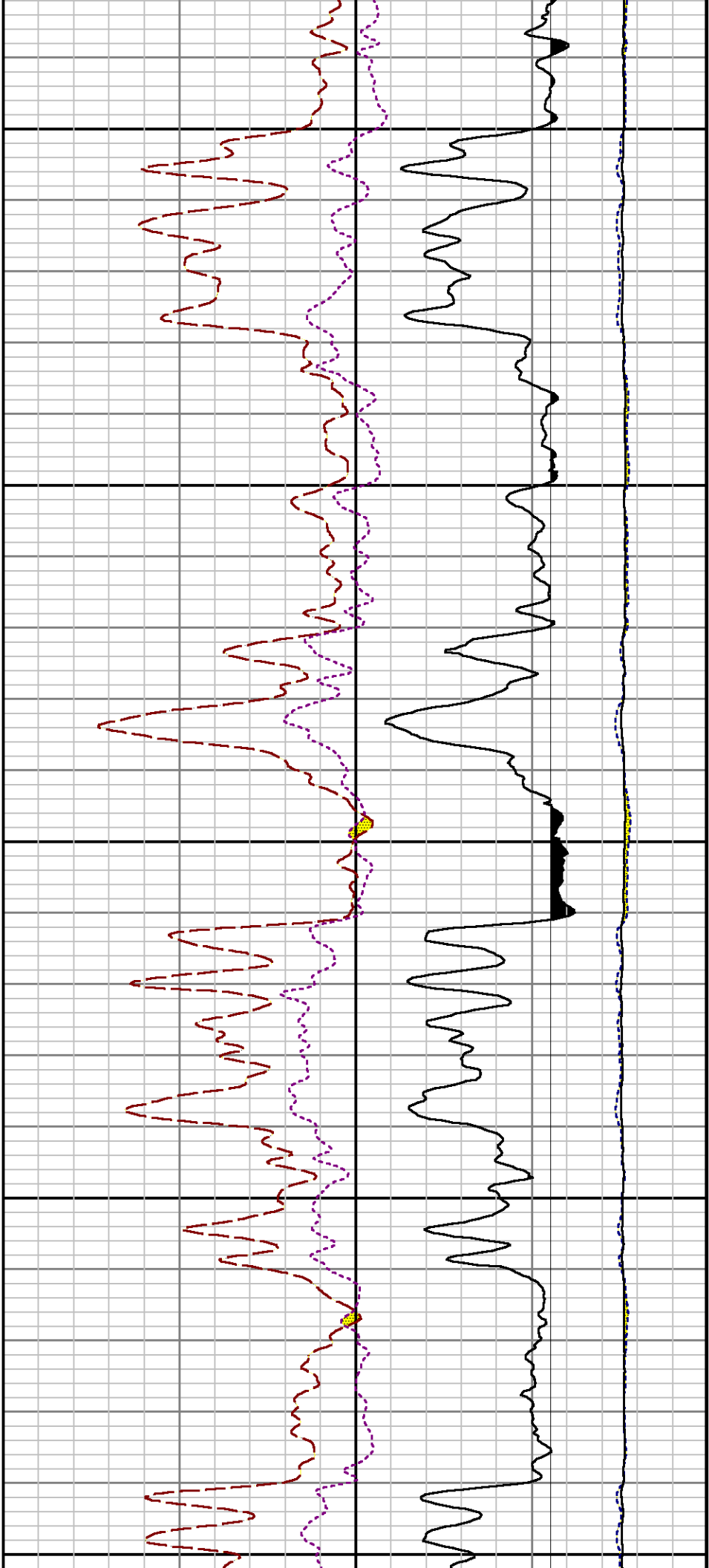
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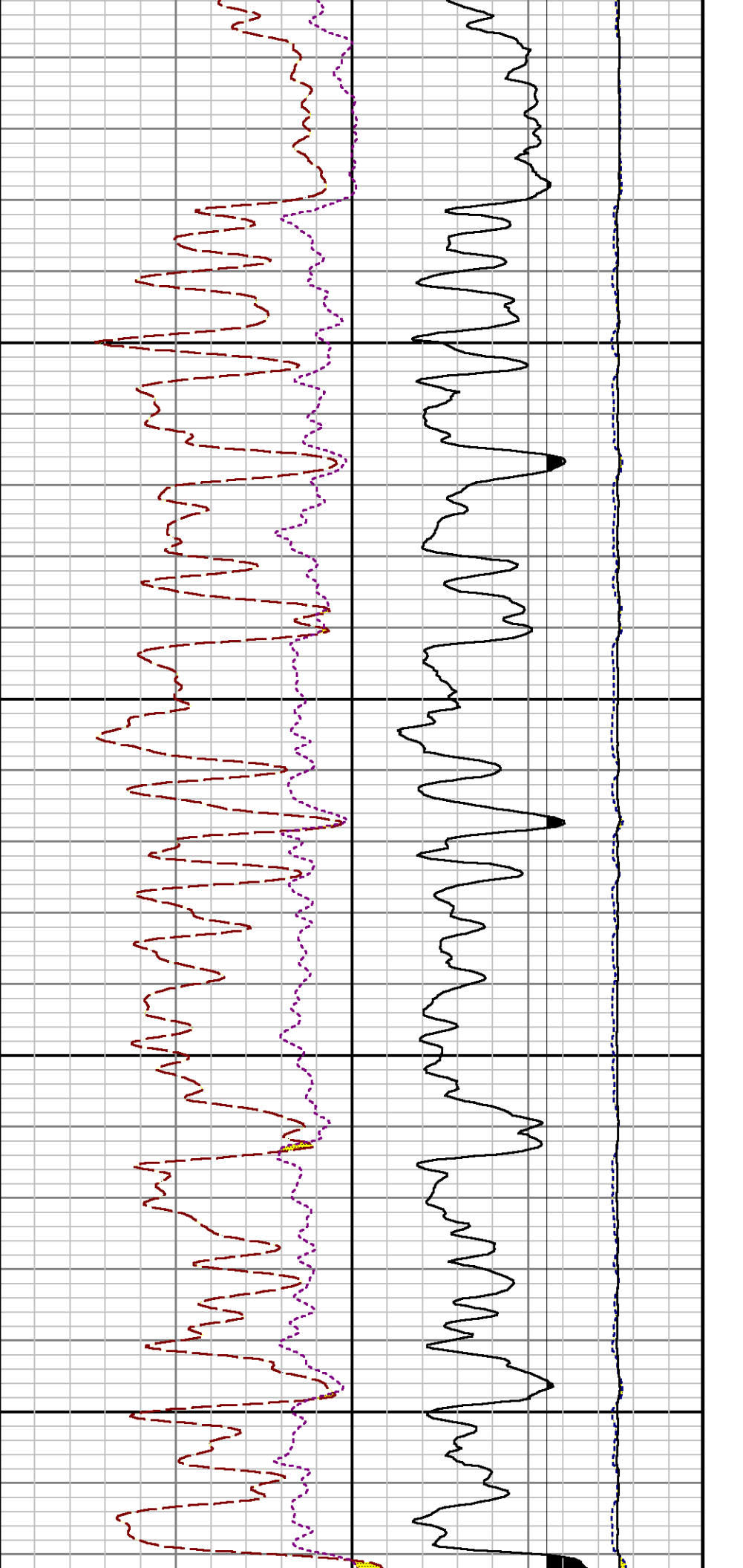
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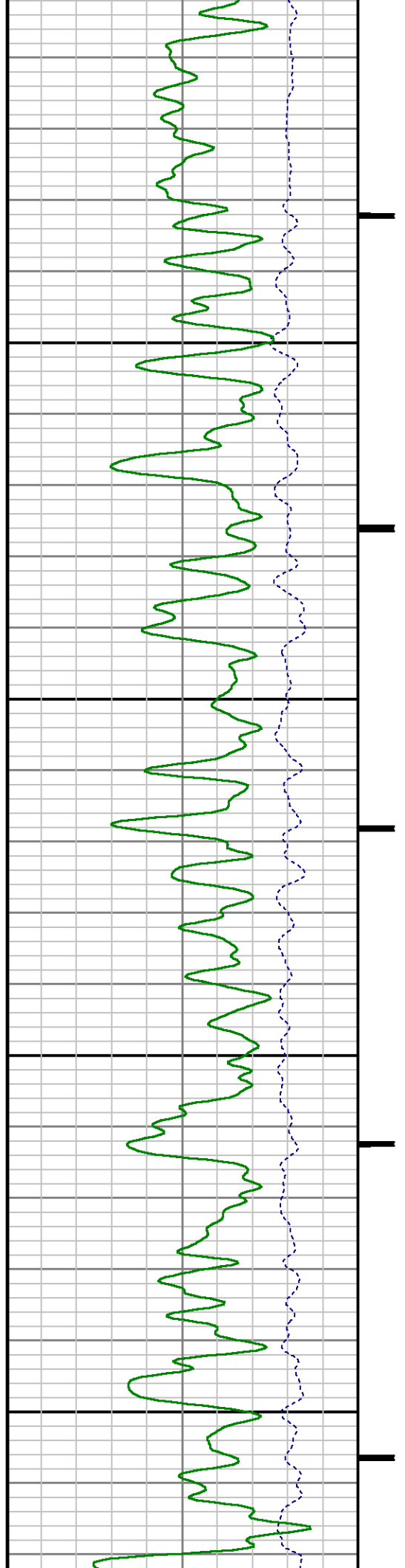


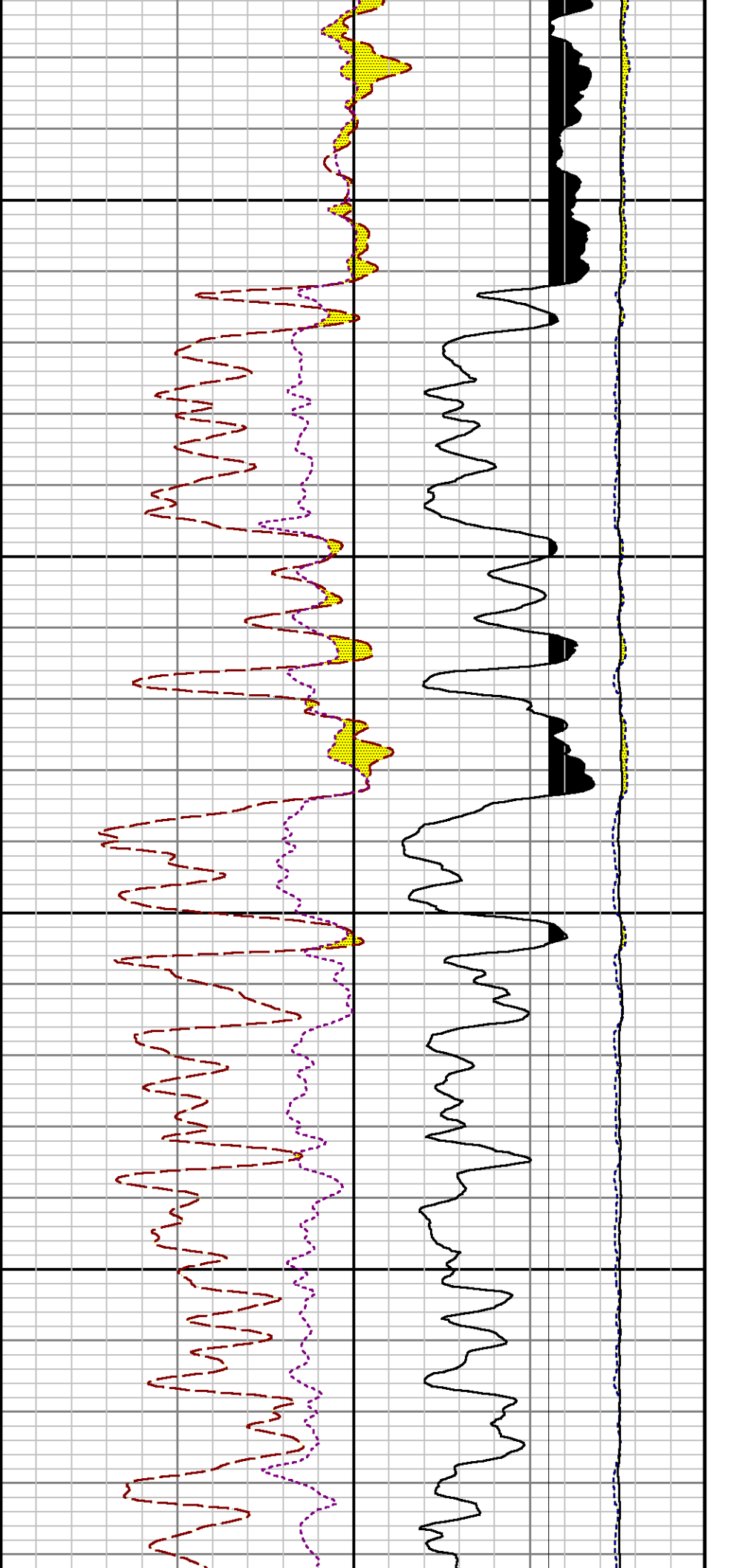






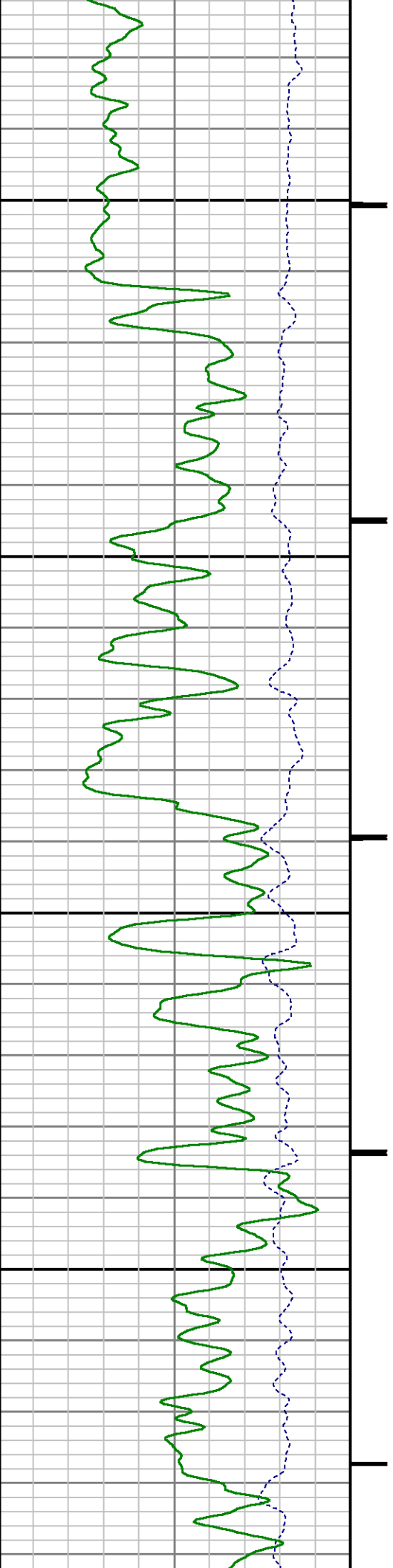
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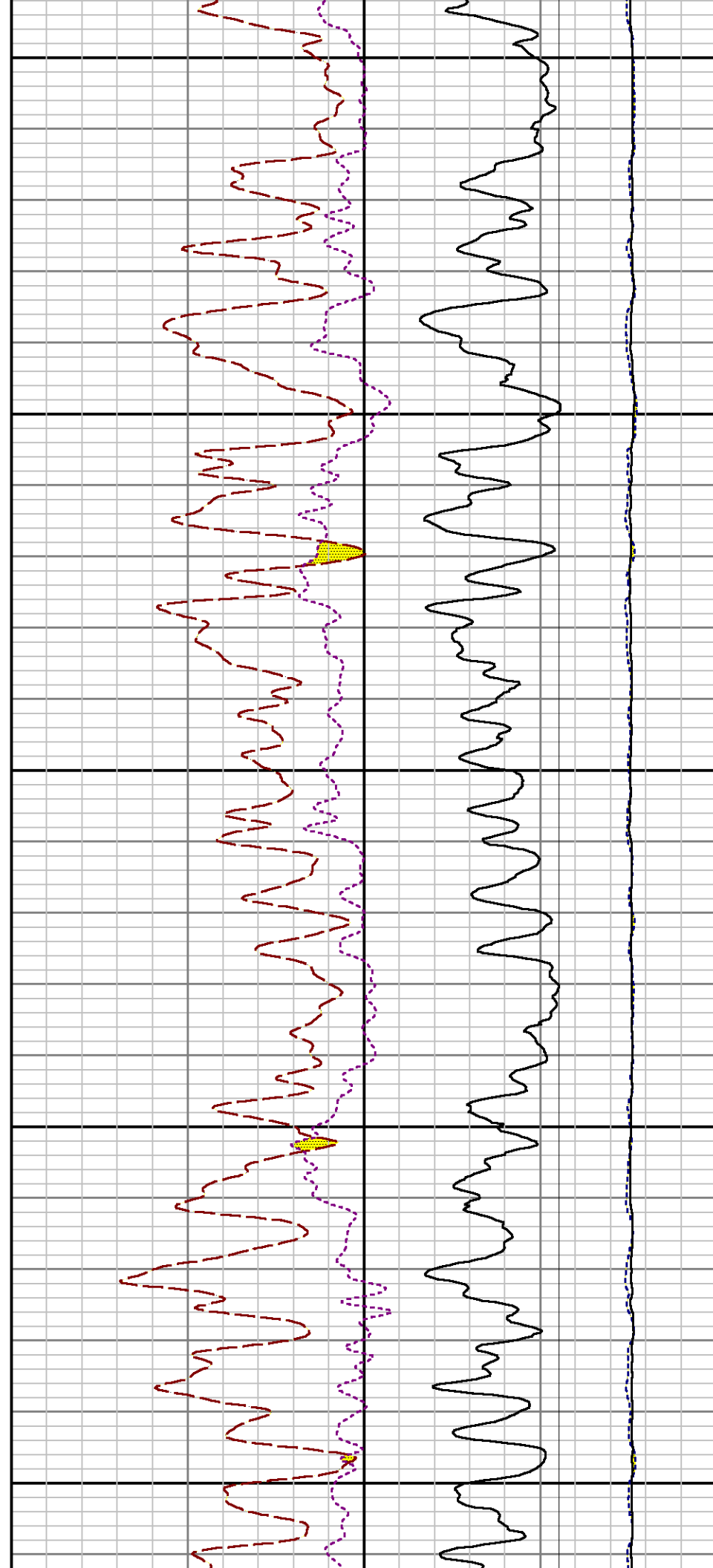
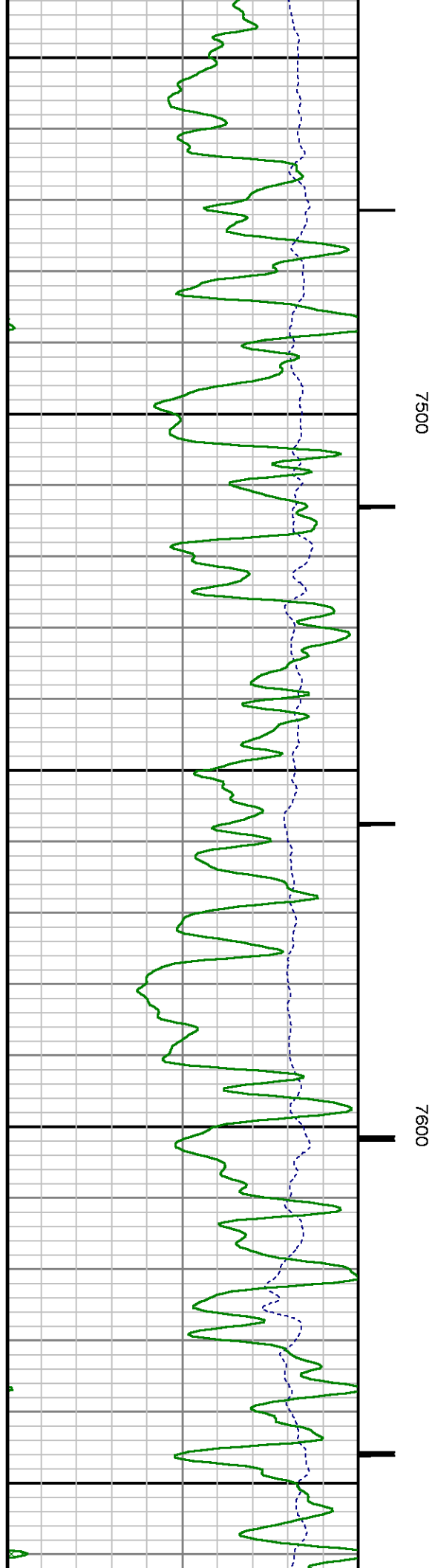


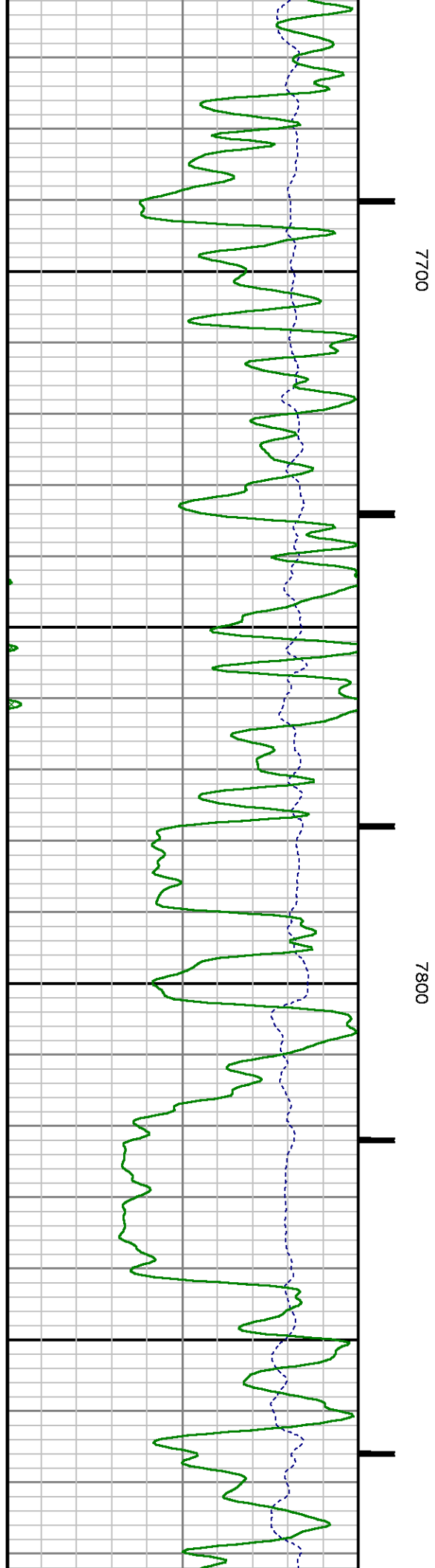
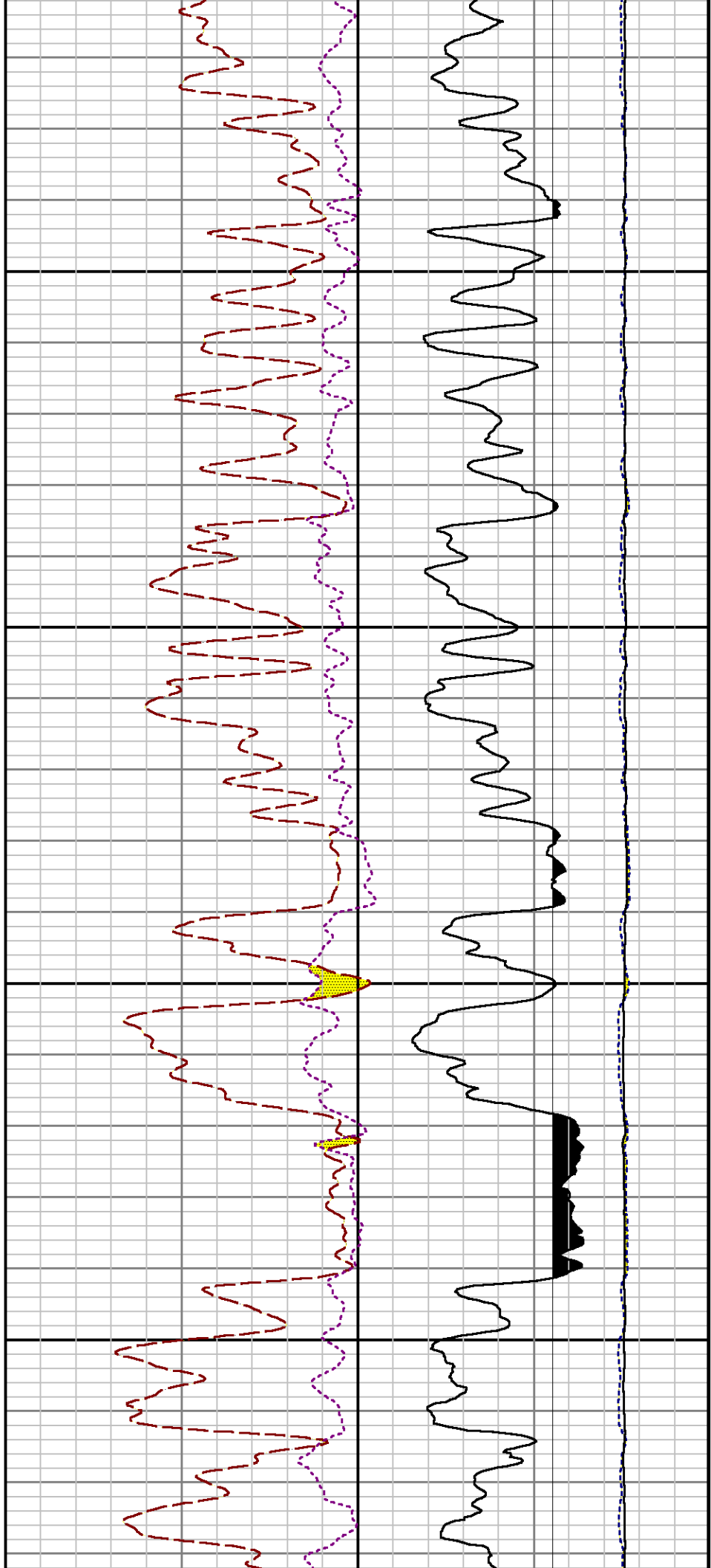


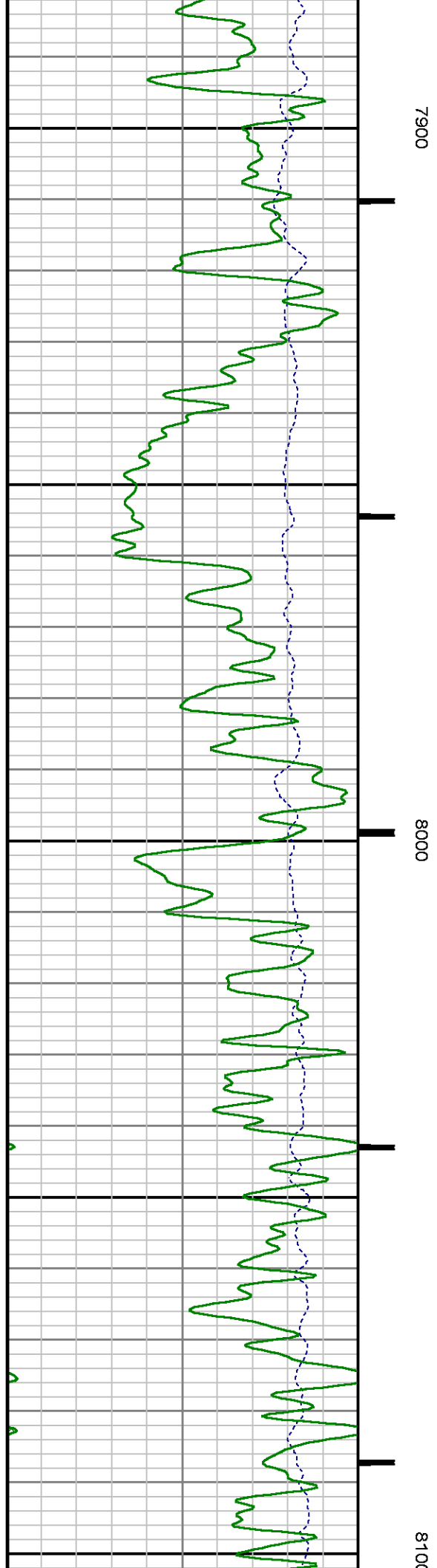
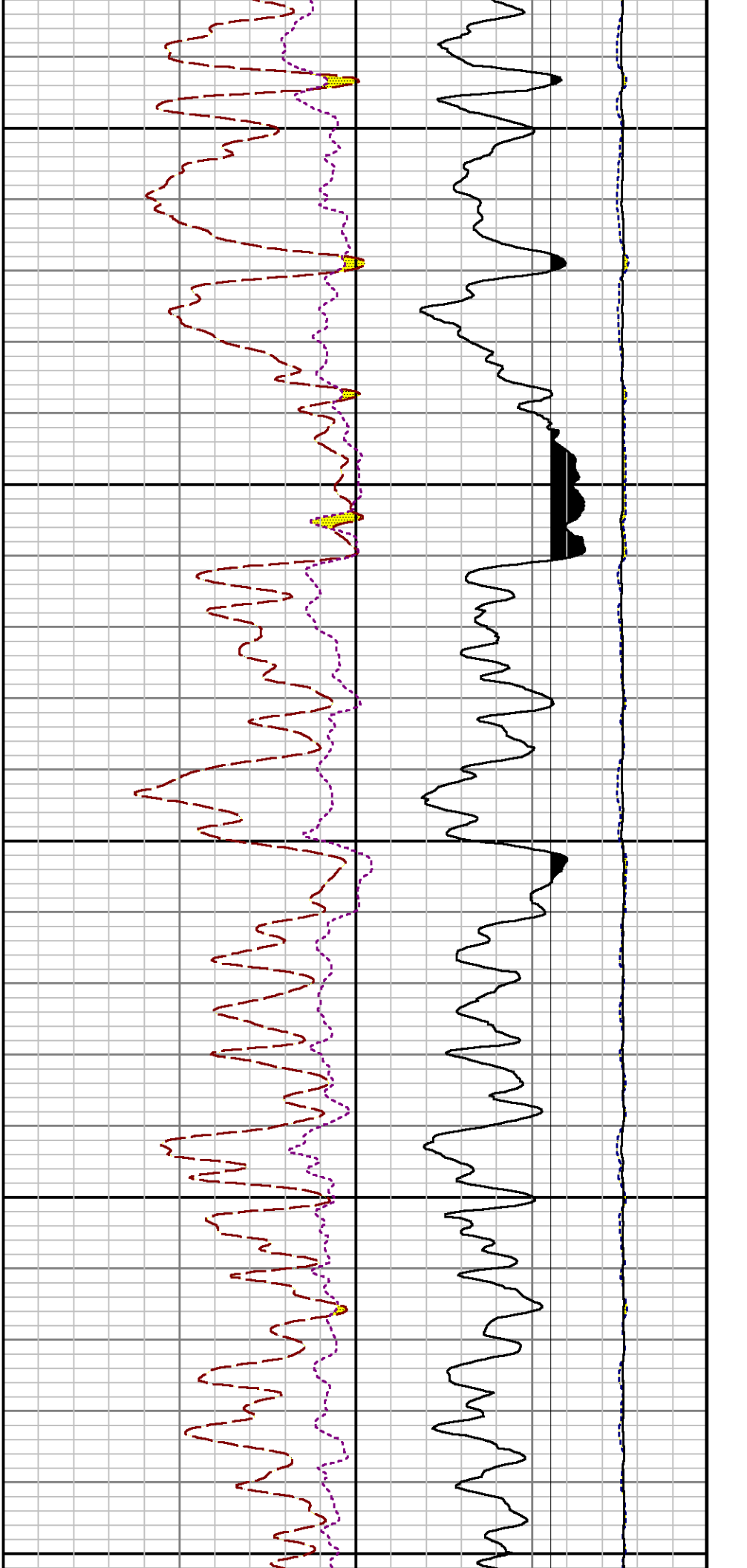
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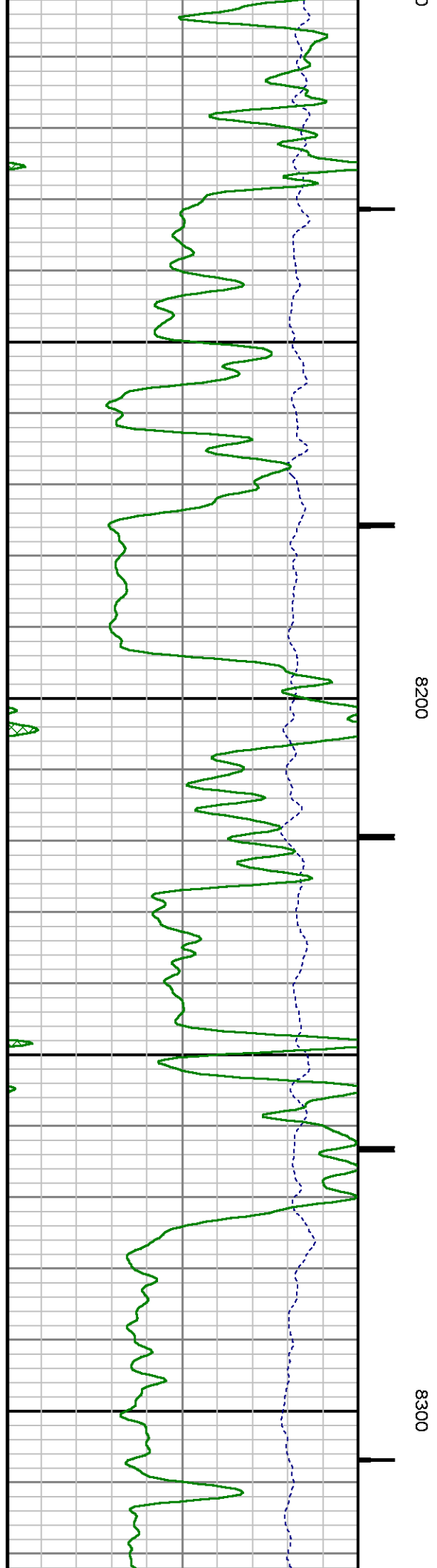
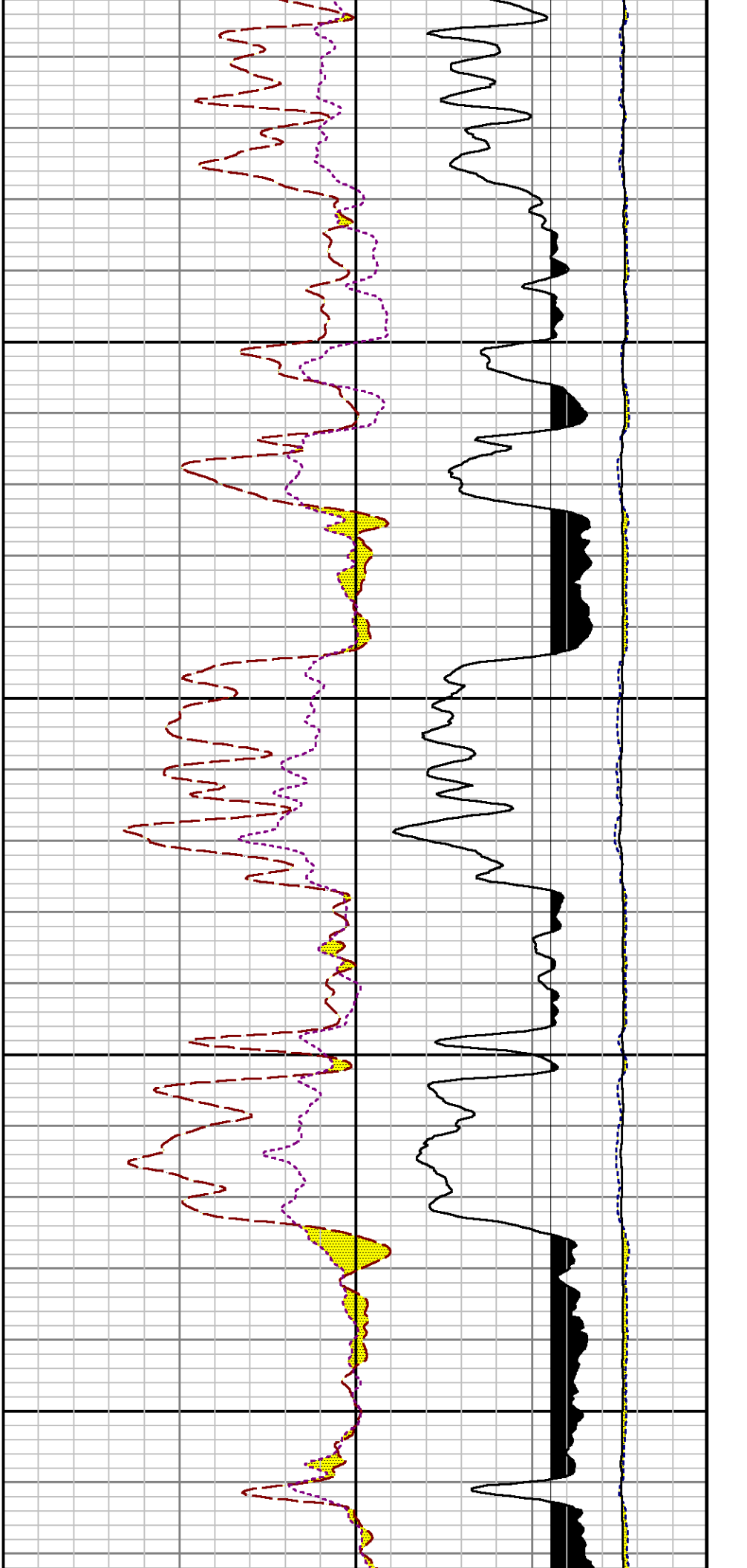
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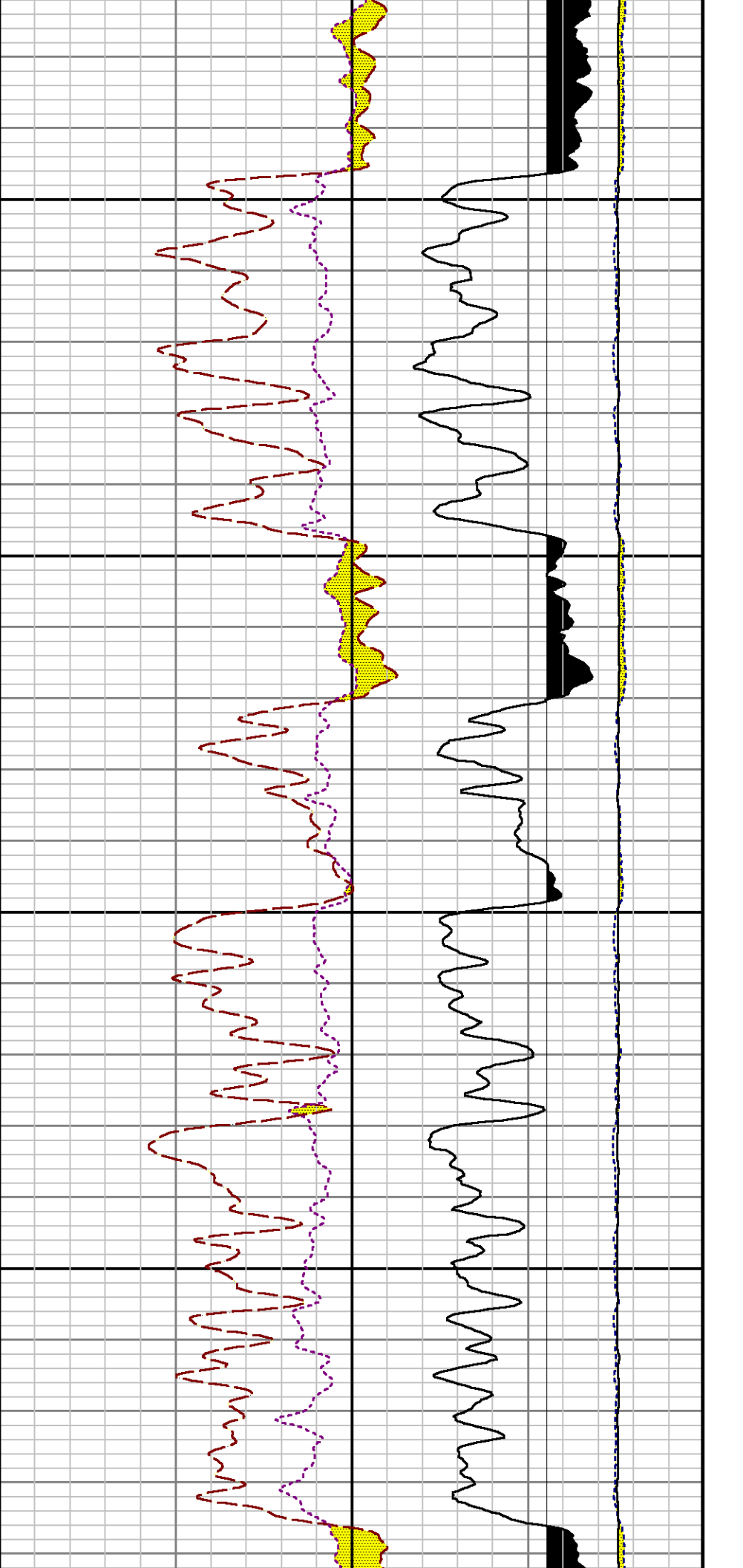






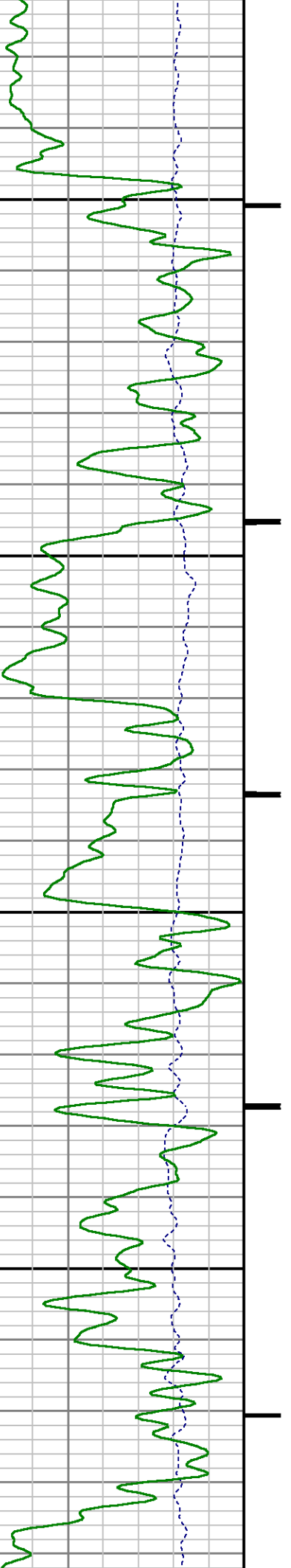


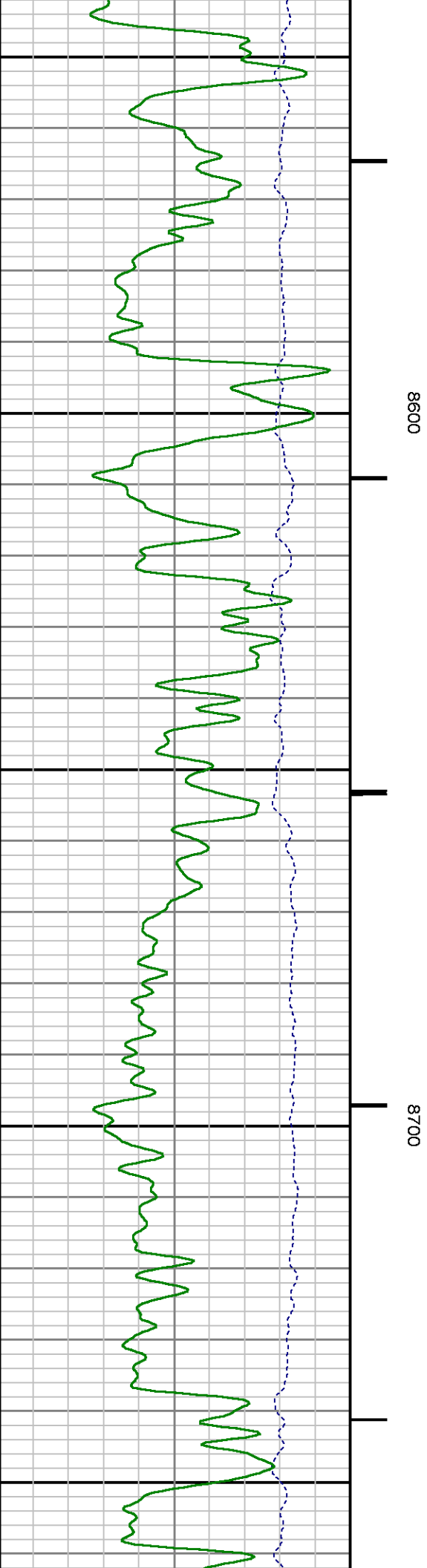
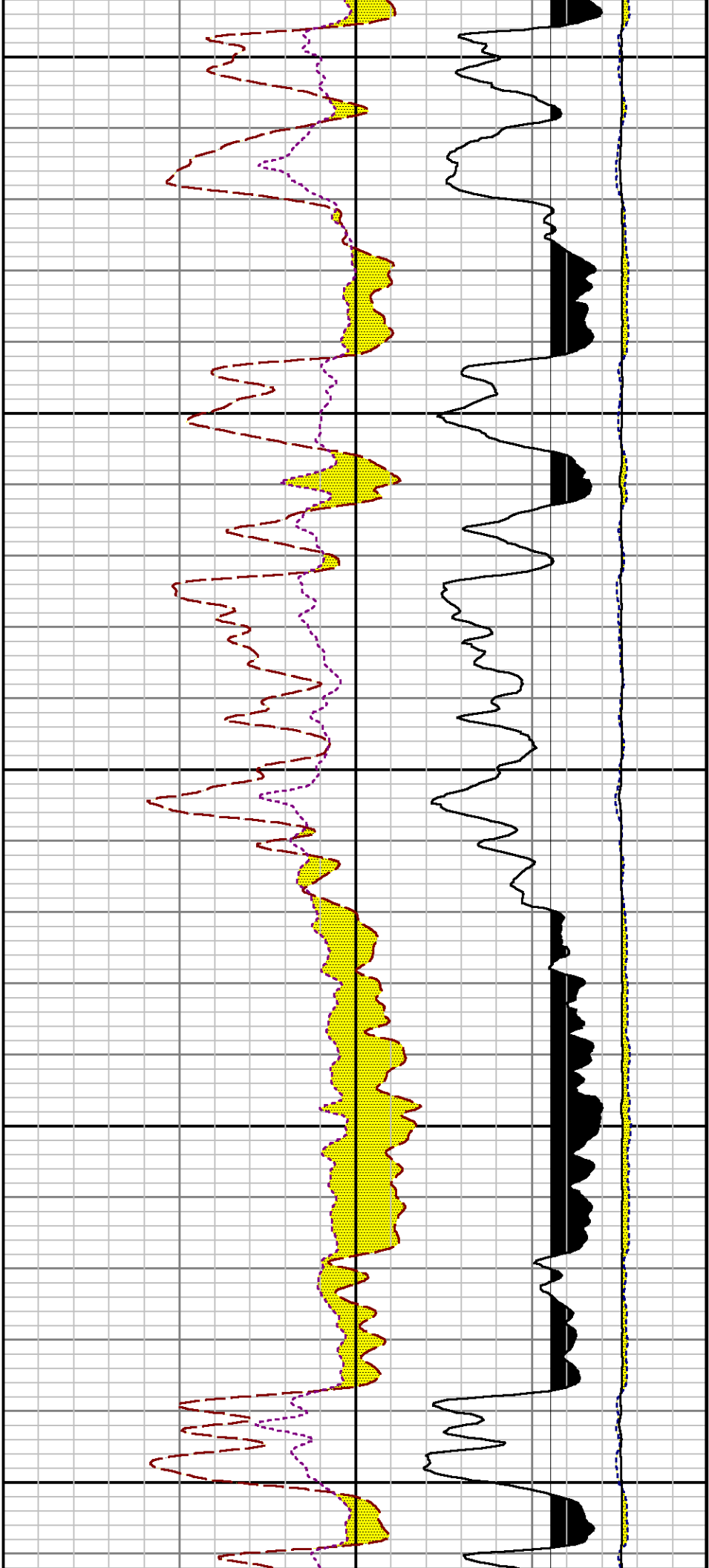


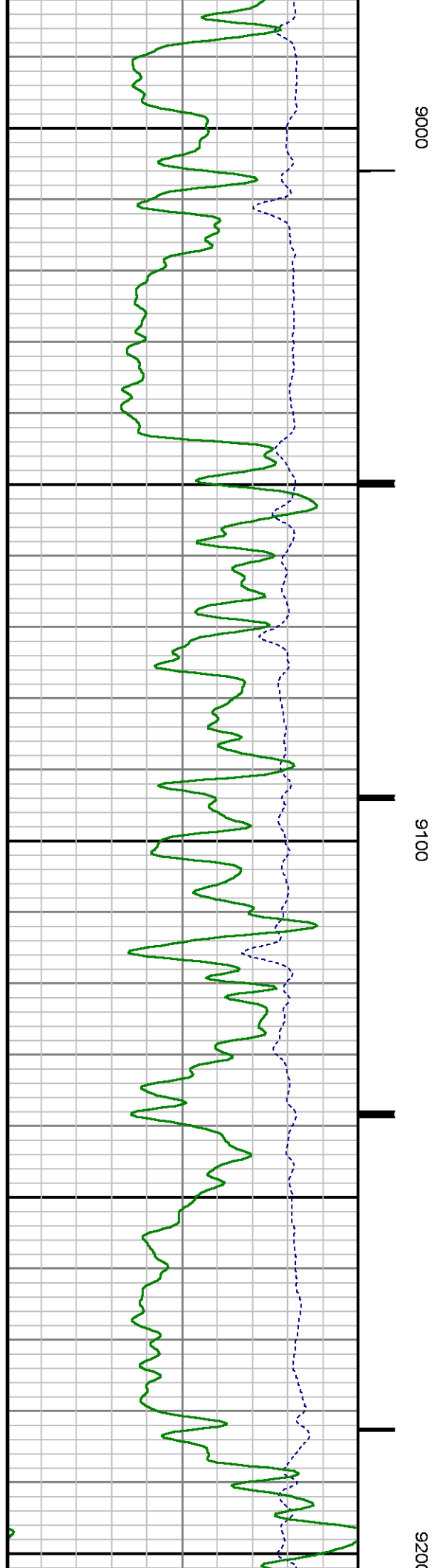
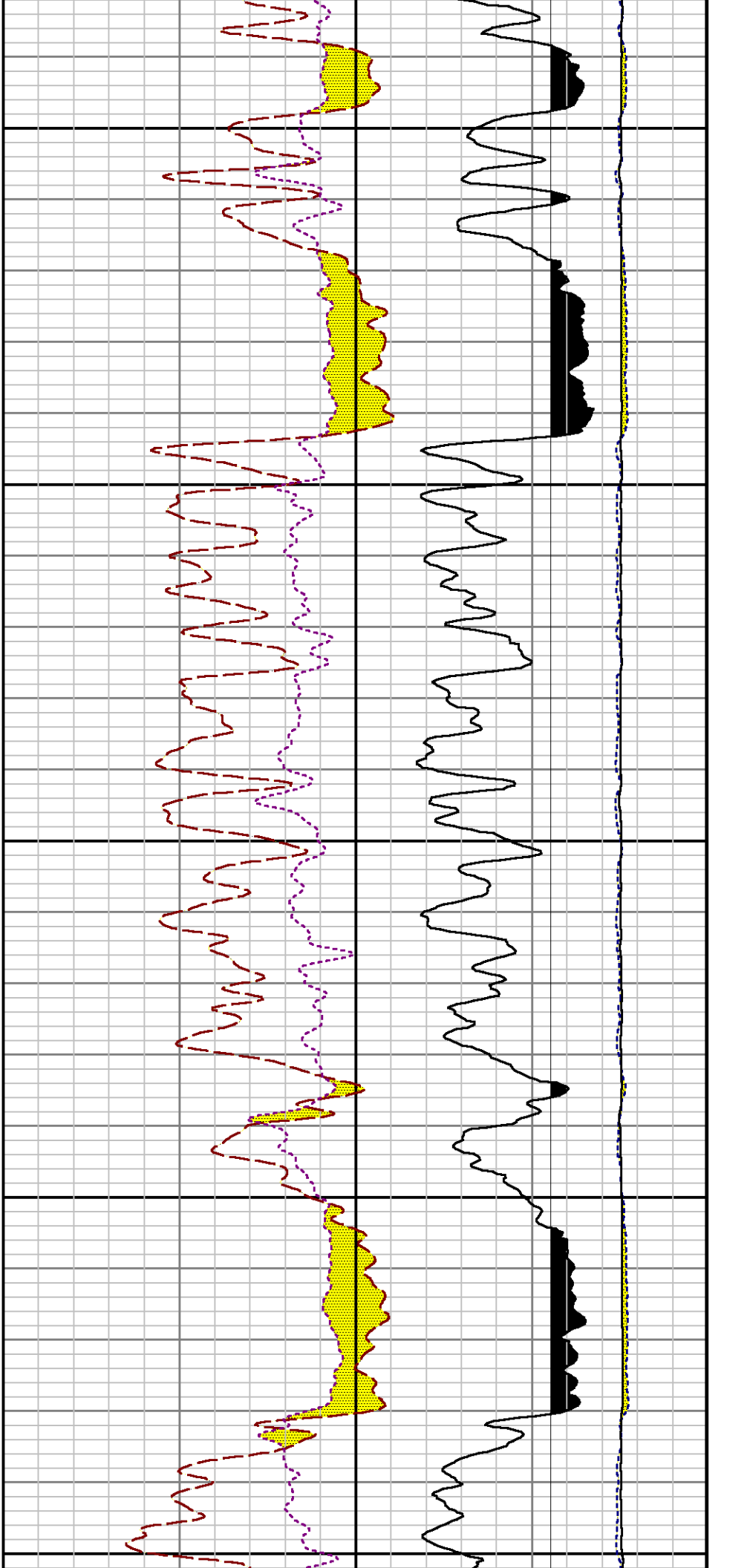


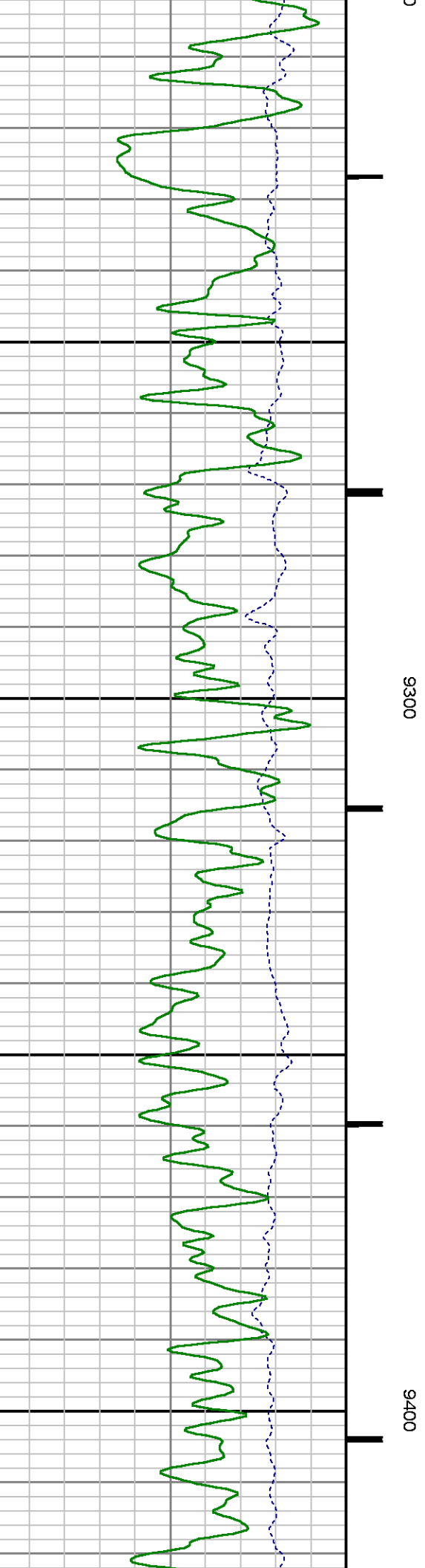
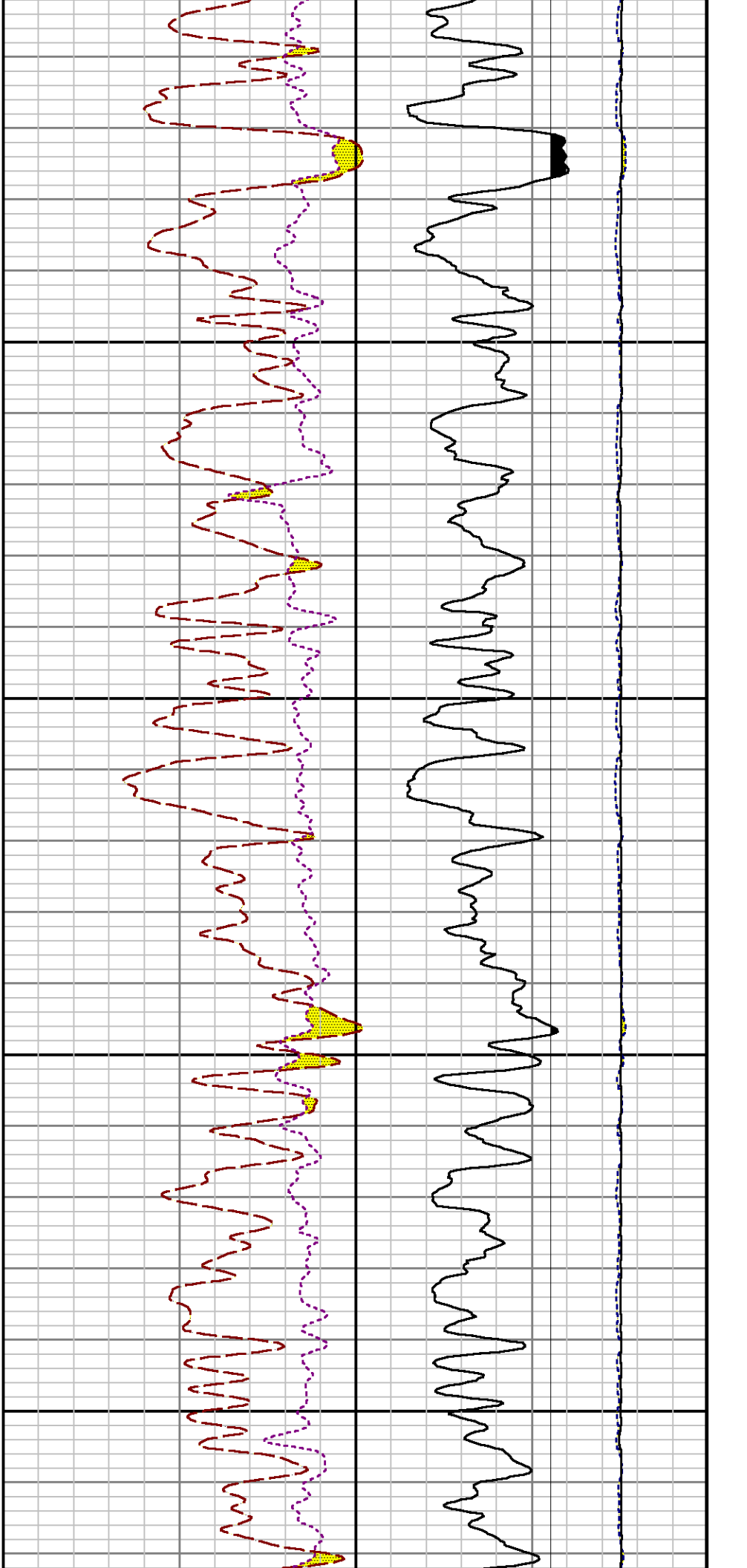
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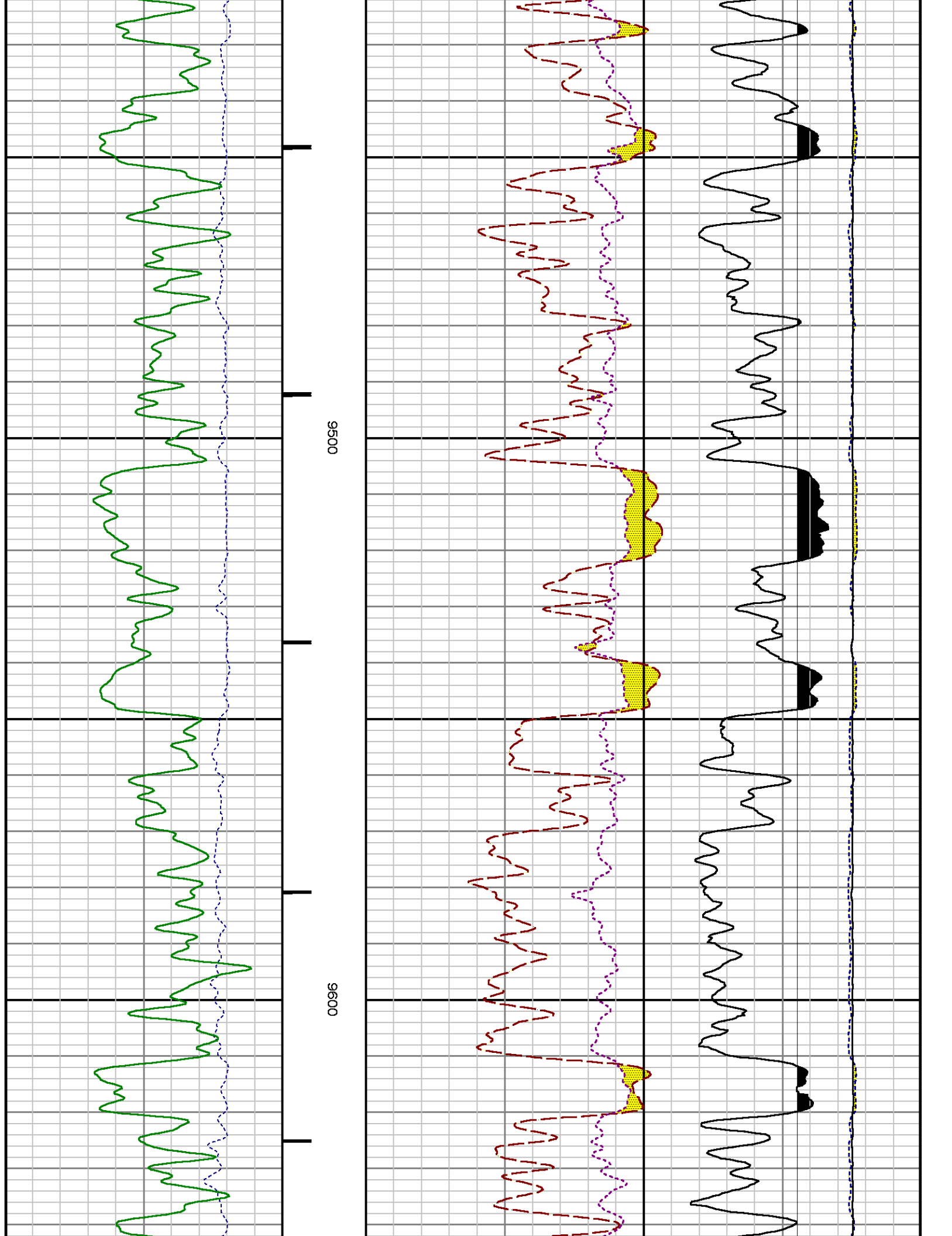
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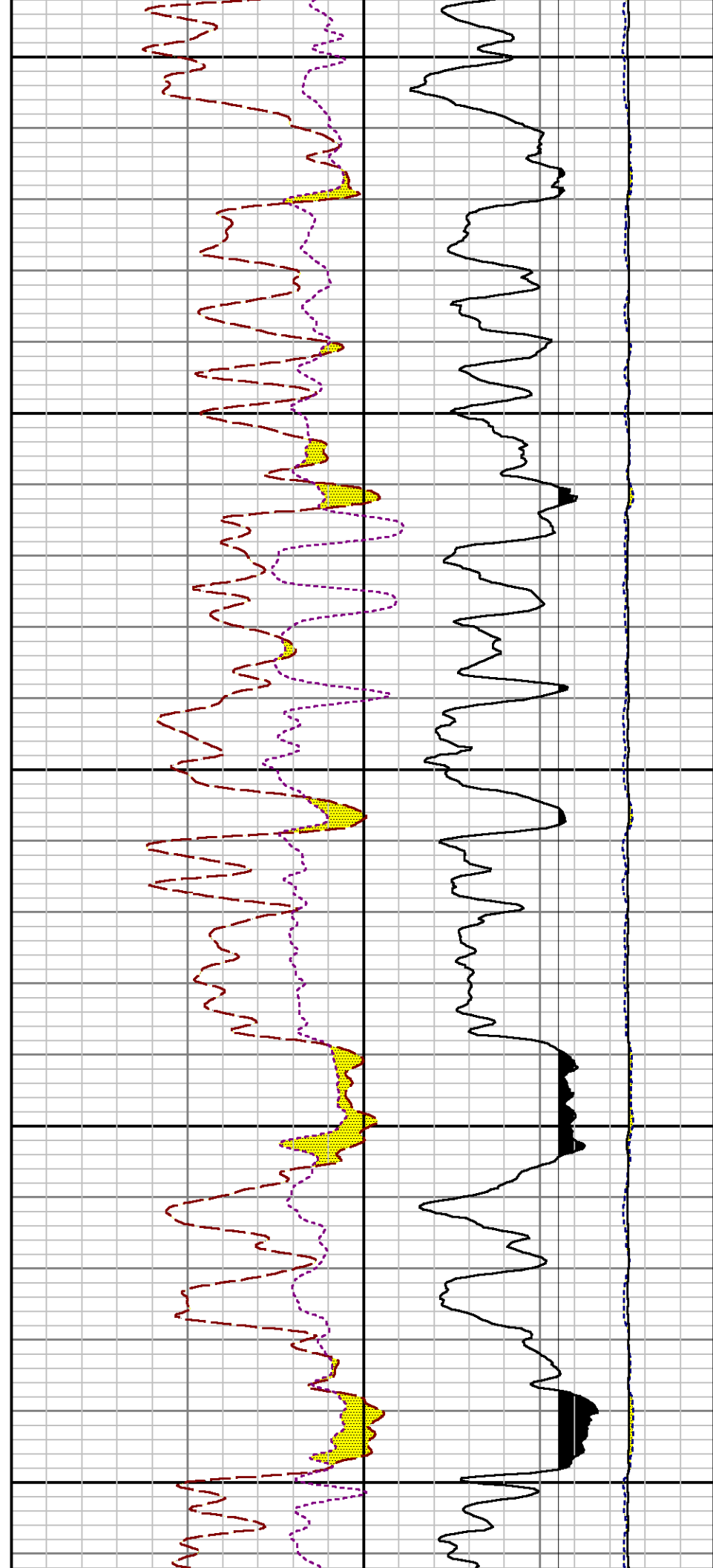
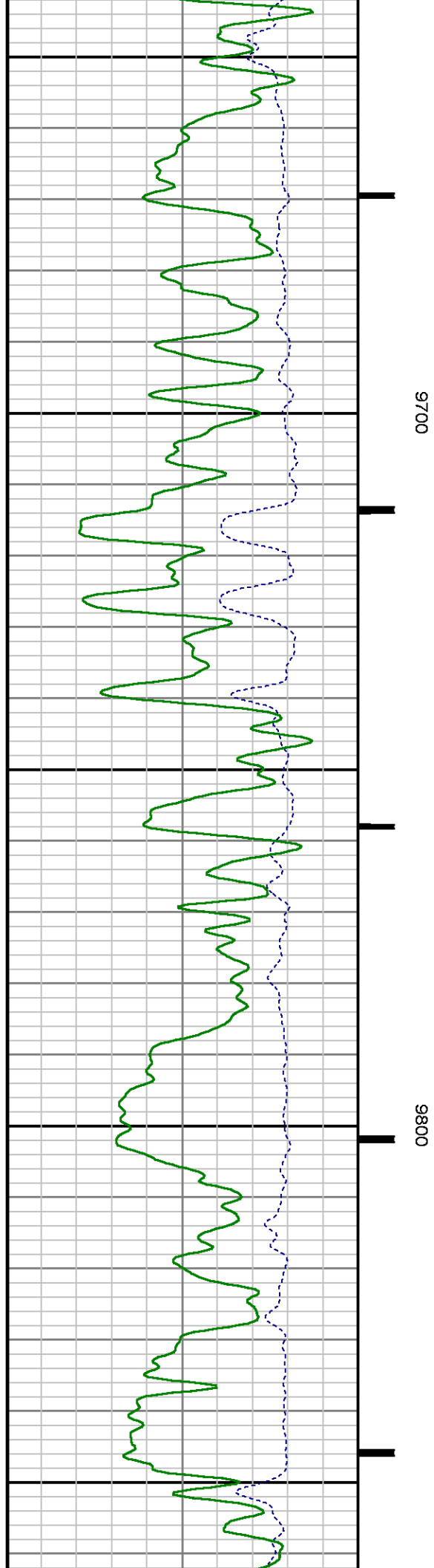


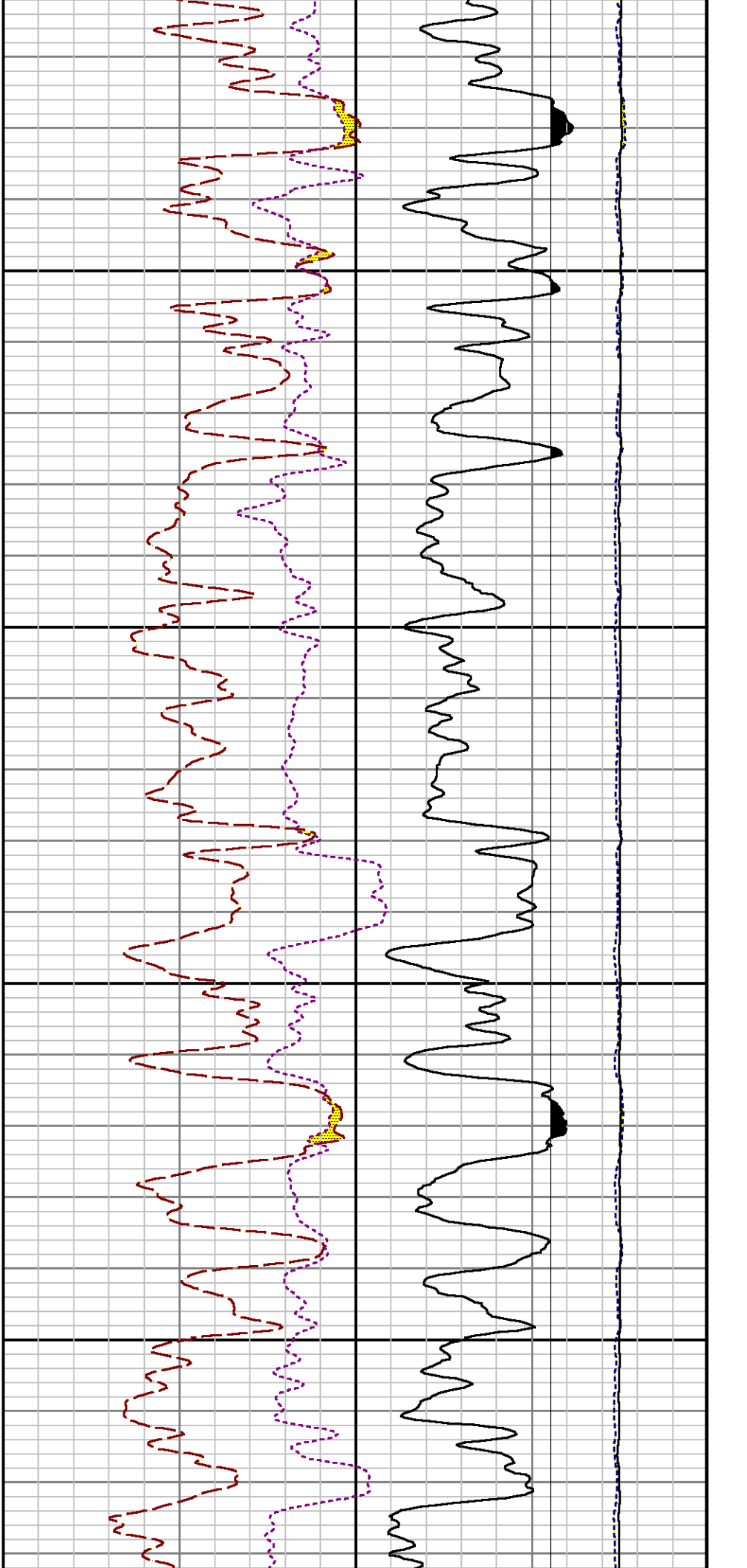






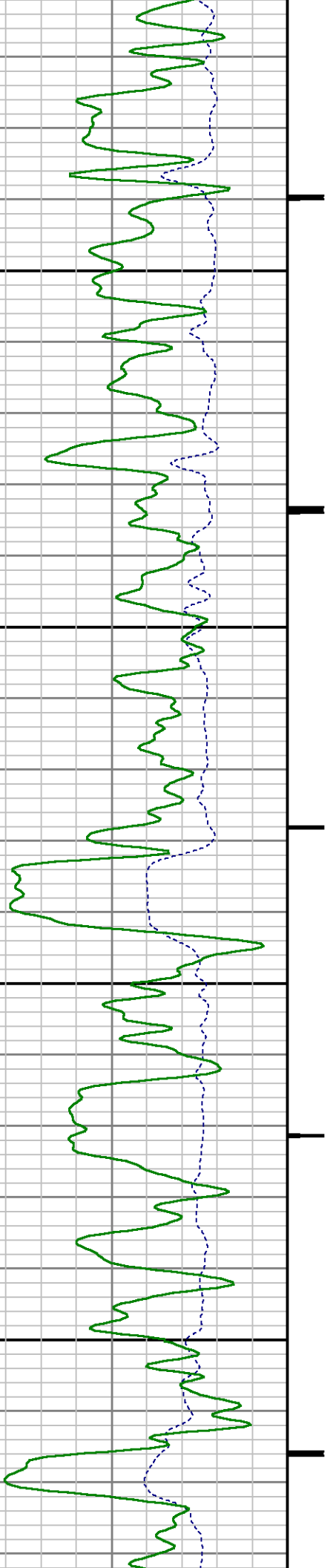


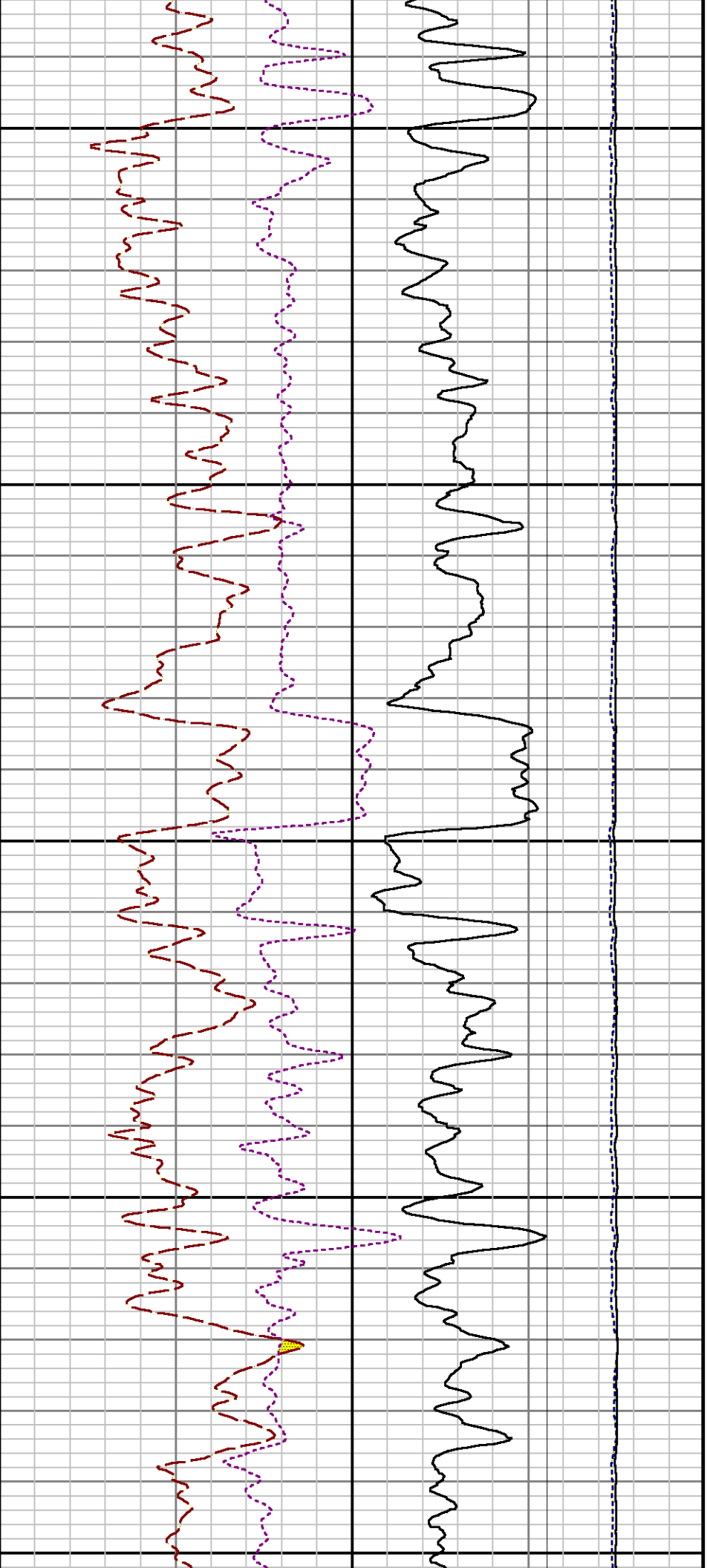




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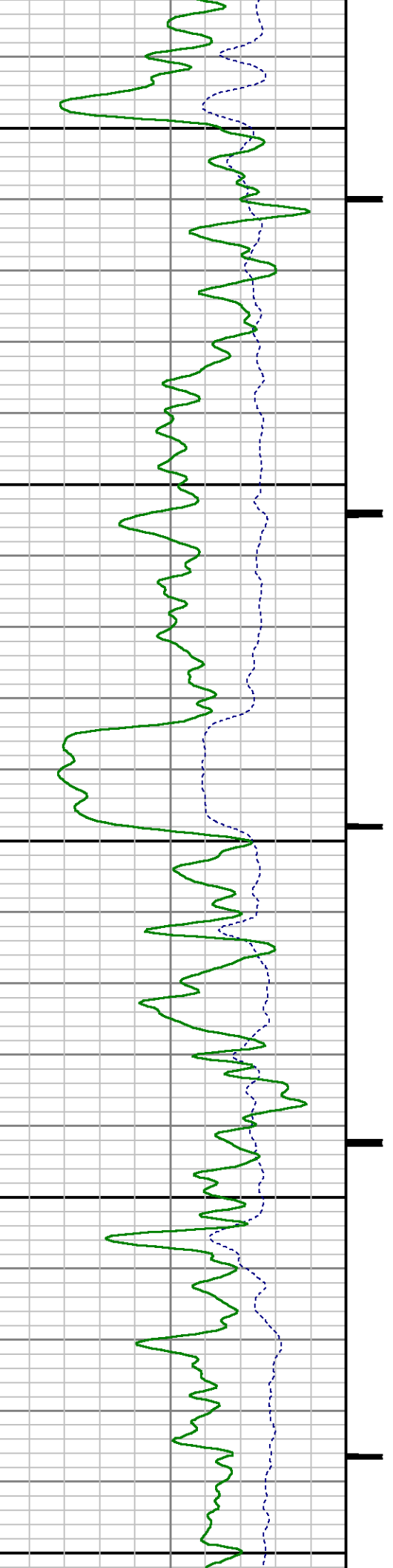


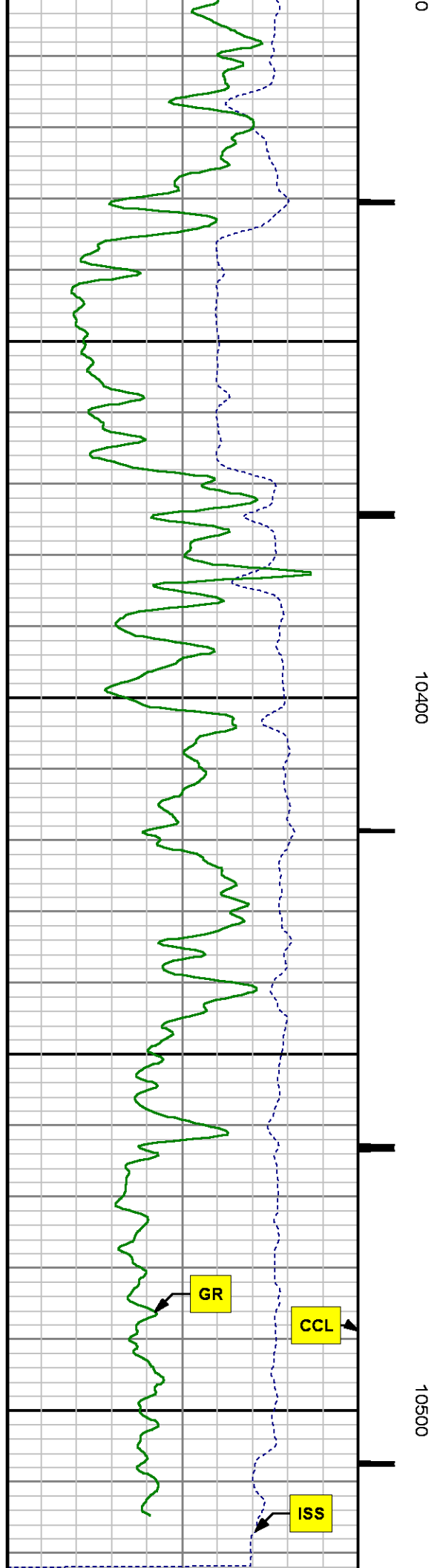
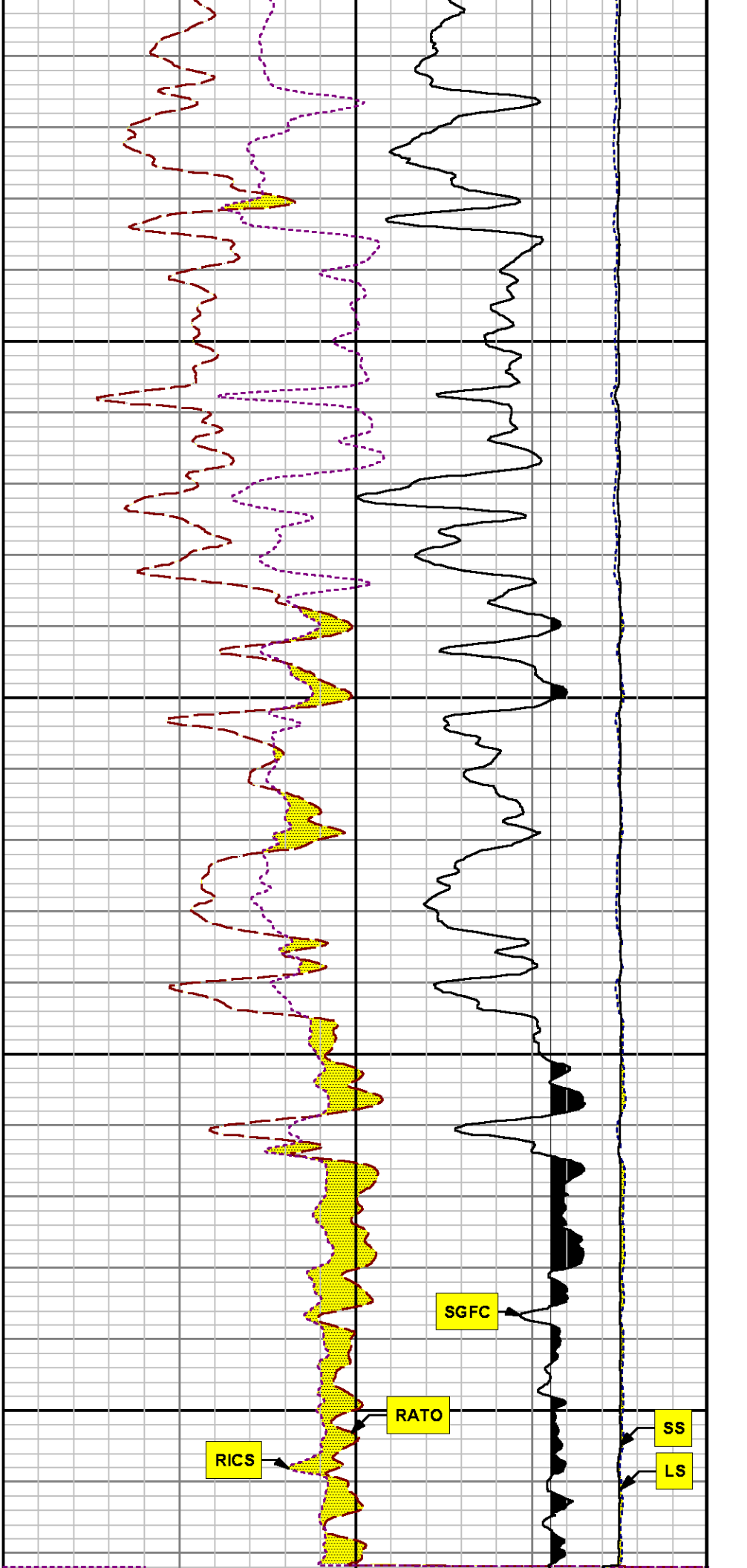


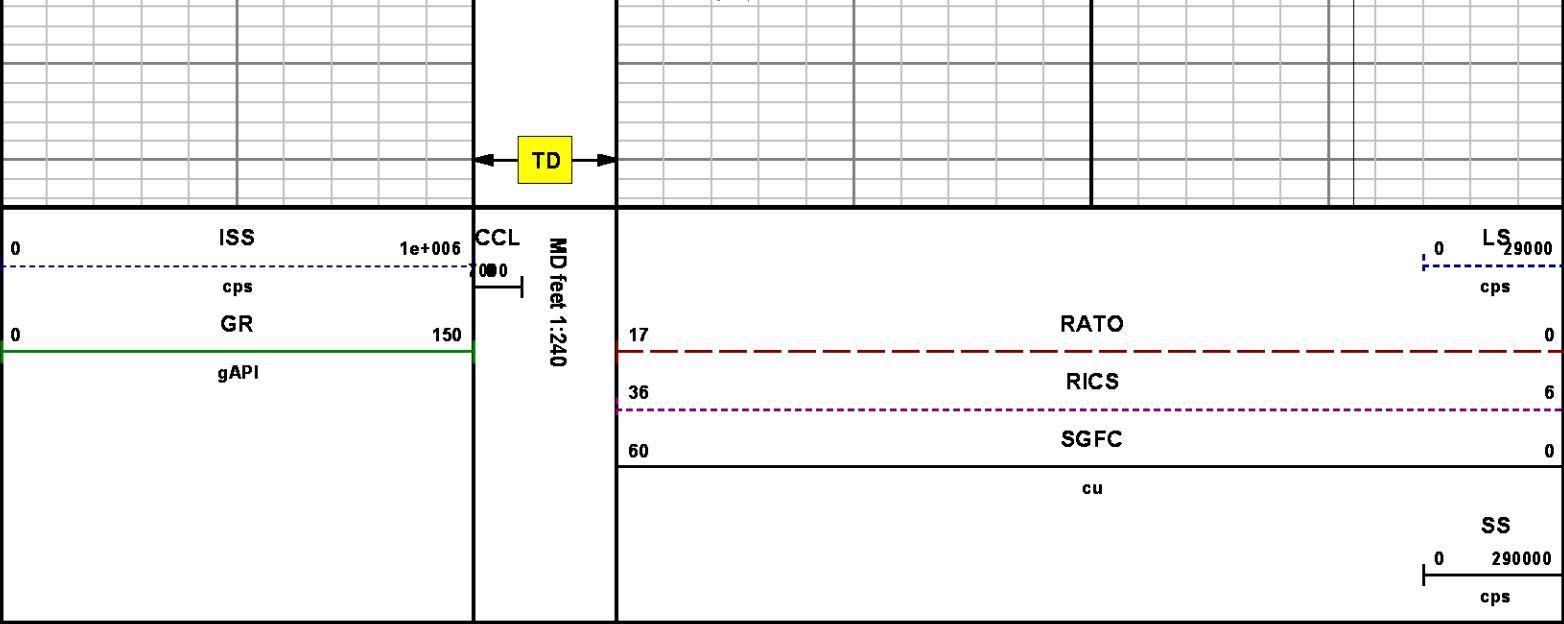
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10200

10300







REPEAT SECTION
PNC 3-D MODE

SPL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		9707.069	10037.854
PNC Porosity	Borehole Size	8.750	inch	9707.069	10037.854
PNC Porosity	Casing Size	4.500	inch	9707.069	10037.854
PNC Porosity	Gas Filled	Non Gas Filled		9707.069	10037.854
PNC Porosity	Matrix	Sandstone		9707.069	10037.854
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	9707.069	10037.854

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 ANAS ANLS FIXX QXQ

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 : FEDERAL NER 443-32

File Name : d:\well\data\wpx\federal ner 443-32\443rpm\repeat.xtf

Mode : PlotMgr 5.4.504

Interval : 9710.00 - 10014.00 feet UP

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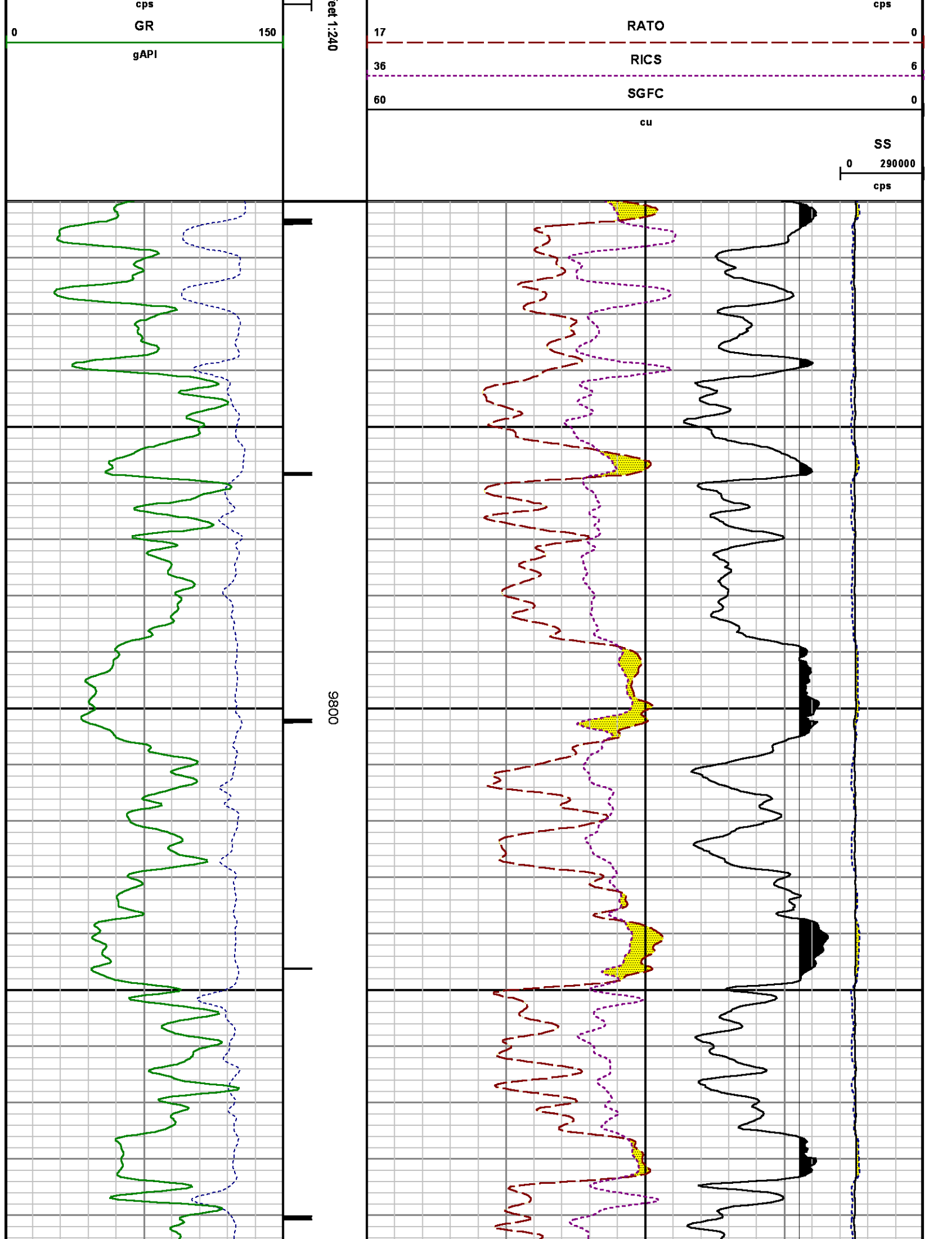
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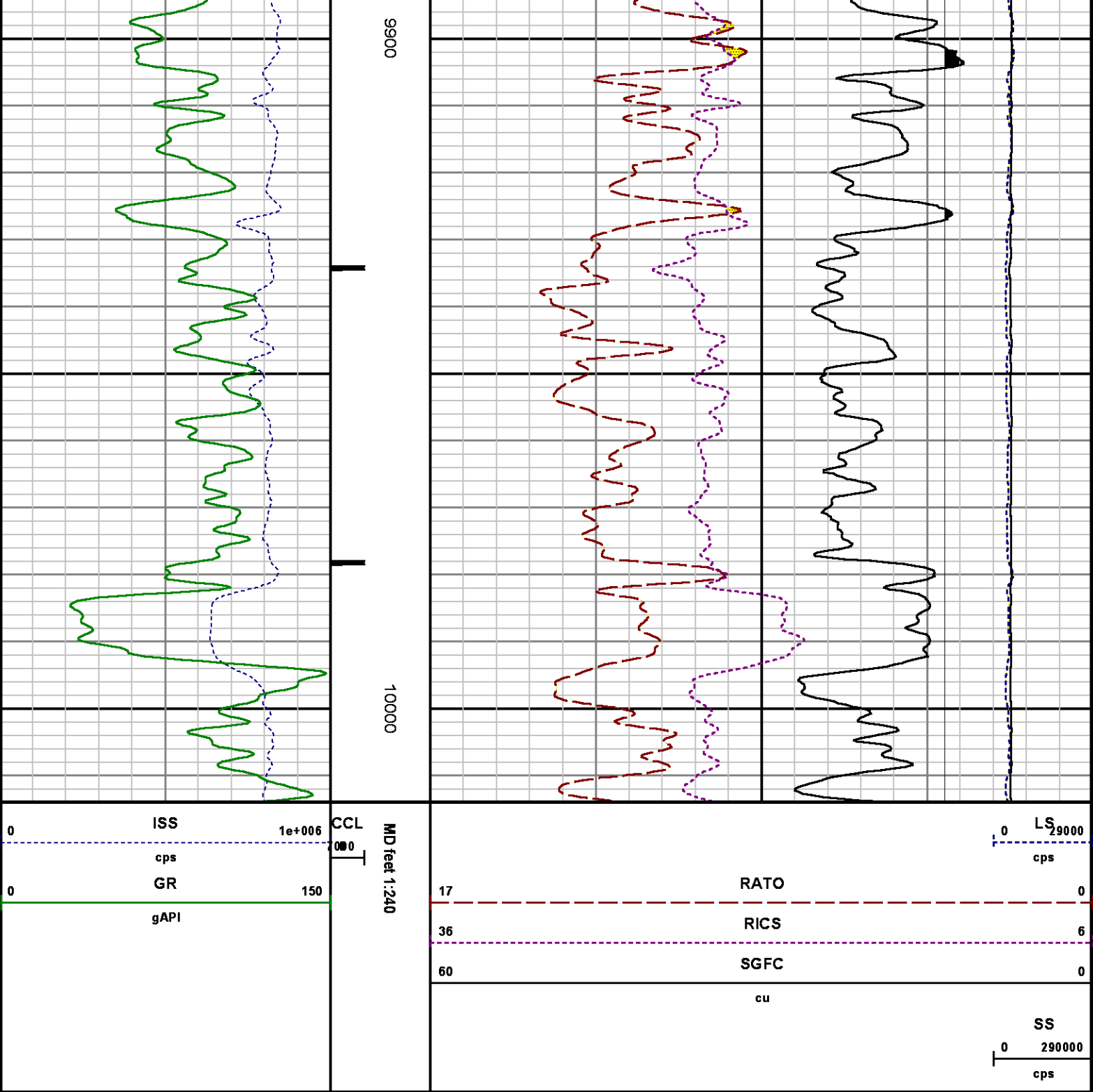
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CCL

MD

0 LS 29000





CALIBRATION SUMMARY

PNC

Calibration File: C:\case\calver\PNC\25128.cal

PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Wed May 28 14:25:23 2014 TOOL SERIES: 8281XA ASSET: 251 SEQ: 28

Calibrator

2437XB 112674

Source

8281AA 10220684

	ISS	Mtr Vlt (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	828106	120.00	2312.00	2296.00	2306.00	112.04	7.00	0.9845
Interpolated	1300000	137.57	2291.70	2282.99	2299.58			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	828106	7666.94	1276.95	154.73	25.93	0.14	24.40	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	828106	170761.27	26514.92	88684.74	31549.13	8289.12	53739.41	13269.83
Fit Quality %		0.46	0.37	0.30	0.23	0.37	0.22	0.34

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	828106	1.44	4.85	31.23	15.41	10.70	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 %		0.06	0.04	0.11	0.19	0.05	0.09	0.09
Reduced	1394228	1.44	4.88	31.36	15.46	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\38528.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Wed May 28 15:33:48 2014 TOOL SERIES: 2812LA ASSET: 385 SEQ: 28

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K DA041	60.46	271.39	0.996	60.19	270.19	210.00

Verification File: C:\case\calver\GR\38528.VP

PRIMARY VERIFICATION

DATE/TIME PERFORMED: Wed May 28 15:39:33 2014 TOOL SERIES: 2812LA ASSET: 385 SEQ: 28

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K DA041	60.84	272.11	0.996	60.58	270.91	210.33

TEMPERATURE

Calibration File: C:\case\calver\TEMP\176973JU.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: 02 JULY 2014 TOOL SERIES: 8255XA ASSET: 176973 SEQ: JU

	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

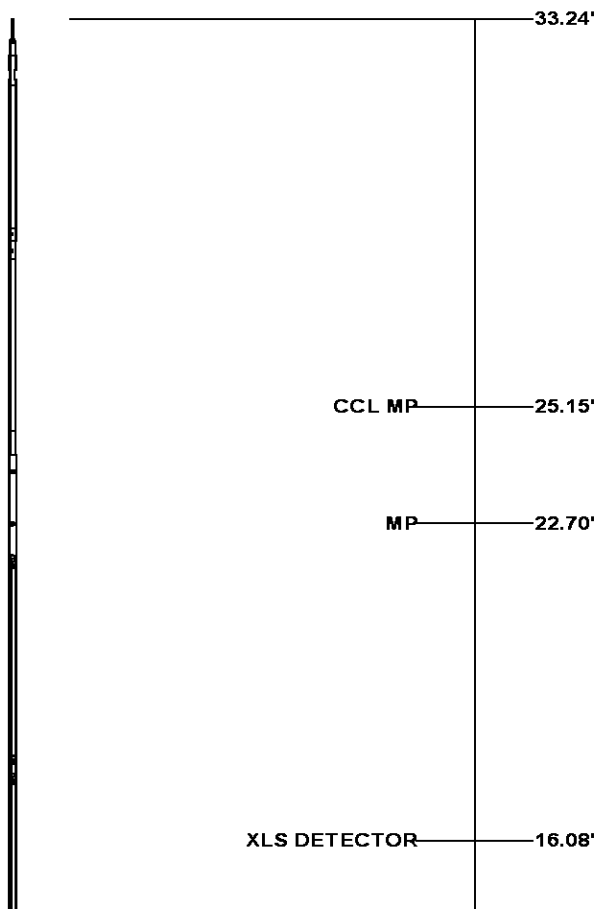
Series	8248EA
Mnemonic	PCM
Diameter	1.70"
Weight	20.00 lb
Length	4.46'
Measure Point	1.00' CCL MP
Temp Rating	350.00 °F
Press Rating	15000.00 PSI

SONDEX GAMMA RAY

Series	2812LA
Mnemonic	SNDX
Diameter	1.69"

RESERVOIR PERFORMANCE MONITOR

Series	8281XA
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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

LS DETECTOR	13.10'
SS DETECTOR	12.88'

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
Well
Field
County

WPX ENERGY
FEDERAL NER 443-32
RULISON
GARFIELD

State**CO****Location**

SHL: 161' FNL & 2596' FWL (5 7S 93W)
BHL: 1482' FSL & 653' FEL (32 6S 93W)

SEC 32 **TWP** 6S **RGE** 93W

Elevations

KB 7629
DF
GL 7603

File No:

CH086324

API No:

05045217750000

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