



RESERVOIR PERFORMANCE MONITOR

Baker Atlas

File No: CH091513	Company Well Field County	WPX ENERGY SAVAGE RWF 534-25 RULISON GARFIELD	State COLORADO
API No: 05045219940000	Location SHL: 1117' FSL x 1391' FEL BHL: 219' FSL x 1824' FEL (5WSE)		Other Services BOND LOG
25 6S 94W RWF 43-25 PAD NABORS 677	SEC 25 TWP 6 S RGE 94W		
Permanent Datum Log Measured From Drill Measured From	GROUND LEVEL KB KB	Elevation 26 ft Above P. D.	Elevations KB 6260 ft DF GL 6234 ft

Date	18/OCT/14	
Run	1	
Service Order	US091513J	
Depth Driller	8817 ft	
Depth Logger	8761 ft	
Bottom Logged Interval	8751 ft	
Top Logged Interval	4568 ft	
Time Started	1600	
Time Finished	2330	
Operator Rig Time	7.5 HOURS	
Type of Fluid in Hole	WATER	
Fluid Density	NA	
Salinity	NA	
Fluid Level	NA	
Logged Cement Top	NA	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	NA	
Nominal Logging Speed	10 fpm	
Maximum Recorded Temperature	245 degF	
Reference Log	BAKER HUGHES BOND LOG	
Reference Log Date	17/OCT/14	
Equipment No.	44271	GRAND JCT.
Recorded By	FLOYD RENEAU	
Witnessed By	BOB CADY	

- 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	26 ft	1112 ft
8.75 in	1112 ft	8817 ft

Casing Record				
Size	Weight	Grade	From	To
9.625 in			26 ft	1112 ft
4.5 in	11.6 lbm/ft	I-80	26 ft	8817 ft

Remarks
All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 10/17/2014 at the client's request.
Logged in PNC-3D mode.
The amount of linear shift is -2.5 feet.
BHT = 245°F
SJ = 5550'-5572'

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	TEMP	8255XA	Z120516	FREE
1	1	RPM	8281FA	10191667	FREE
1	1	RPM	8281PA	10585555	FREE
1	1	RPM	8281EA	10273848	FREE
1	1	GR	2812LA	10274382	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		4547.700	8775.700
PNC Porosity	Borehole Size	8.750	inch	4547.700	8775.700
PNC Porosity	Casing Size	4.500	inch	4547.700	8775.700
PNC Porosity	Gas Filled	Non Gas Filled		4547.700	8775.700
PNC Porosity	Matrix	Sandstone		4547.700	8775.700
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	4547.700	8775.700

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 WDT3 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 RDEN WDT3 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 : SAVAGE RWF 534-25

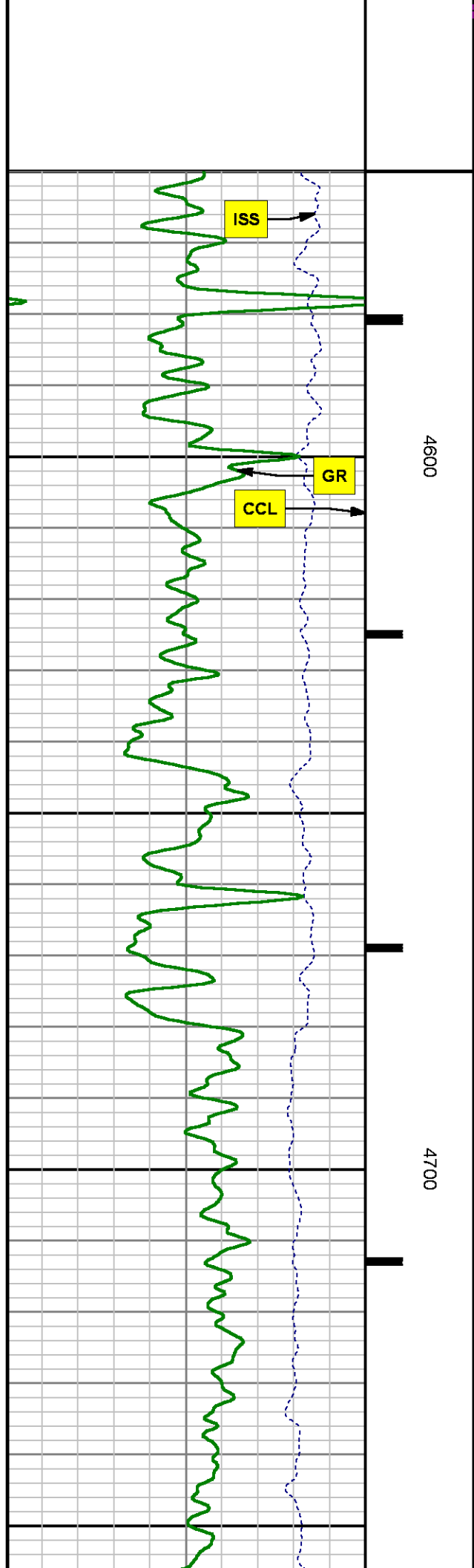
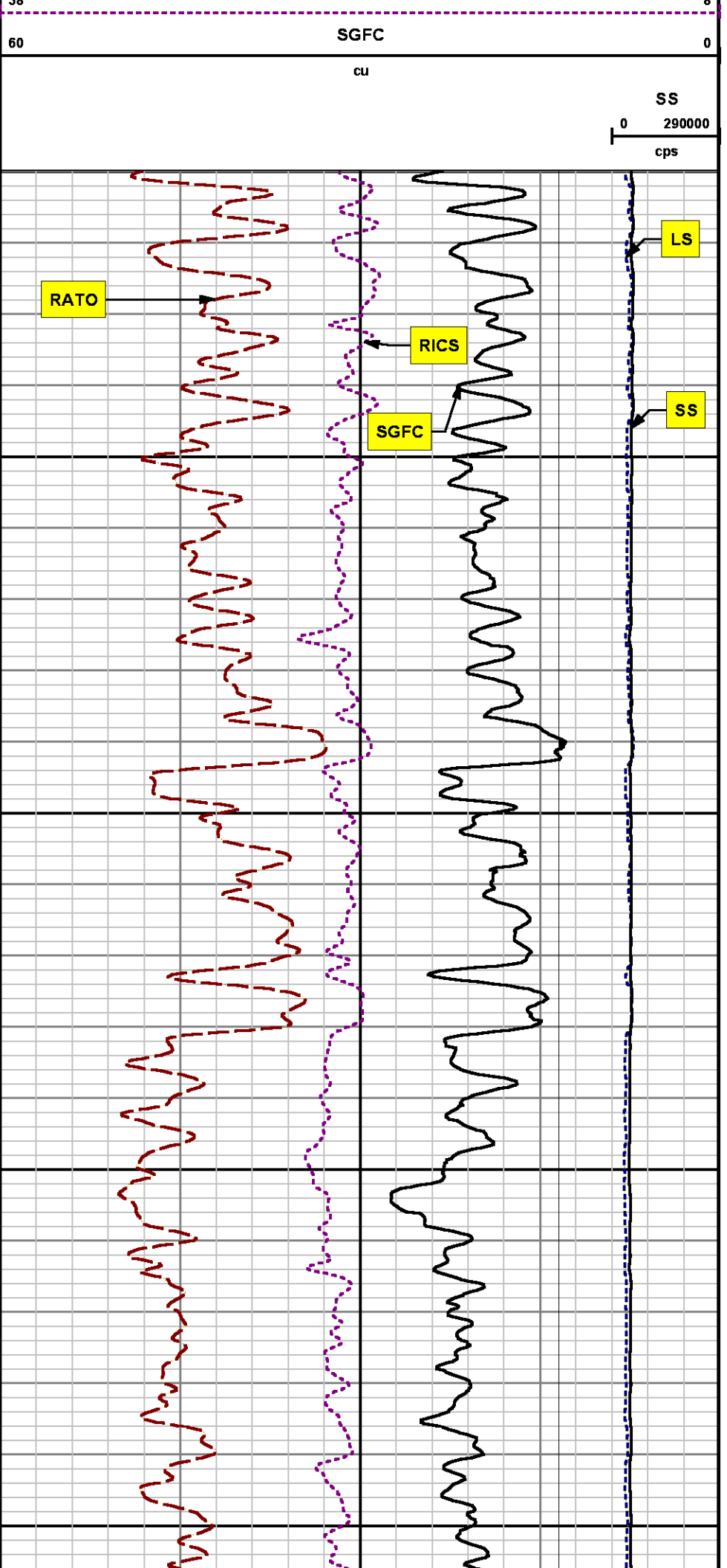
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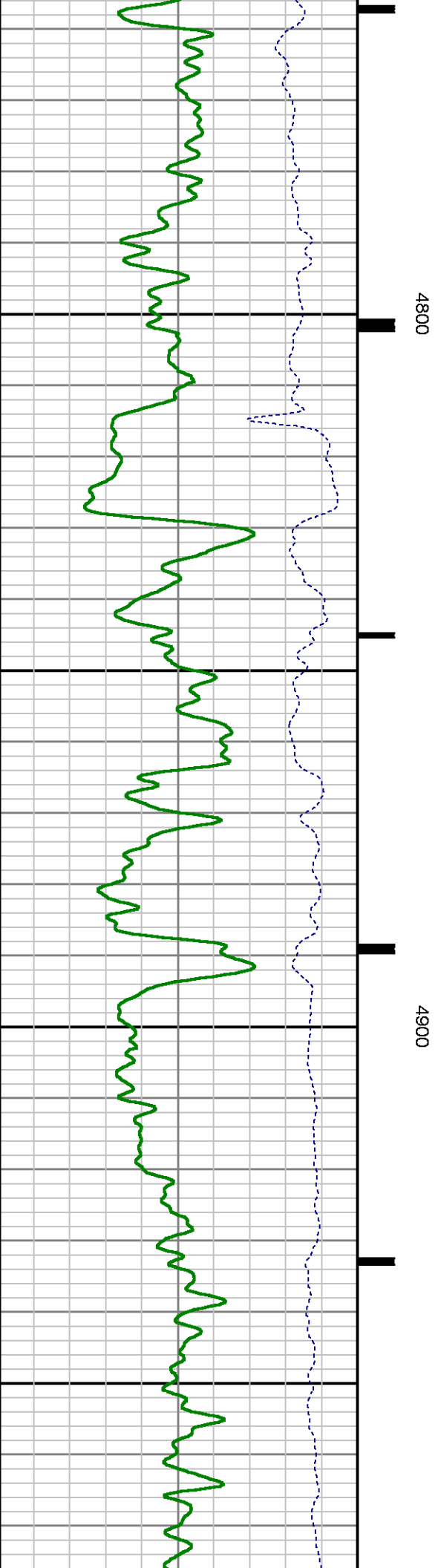
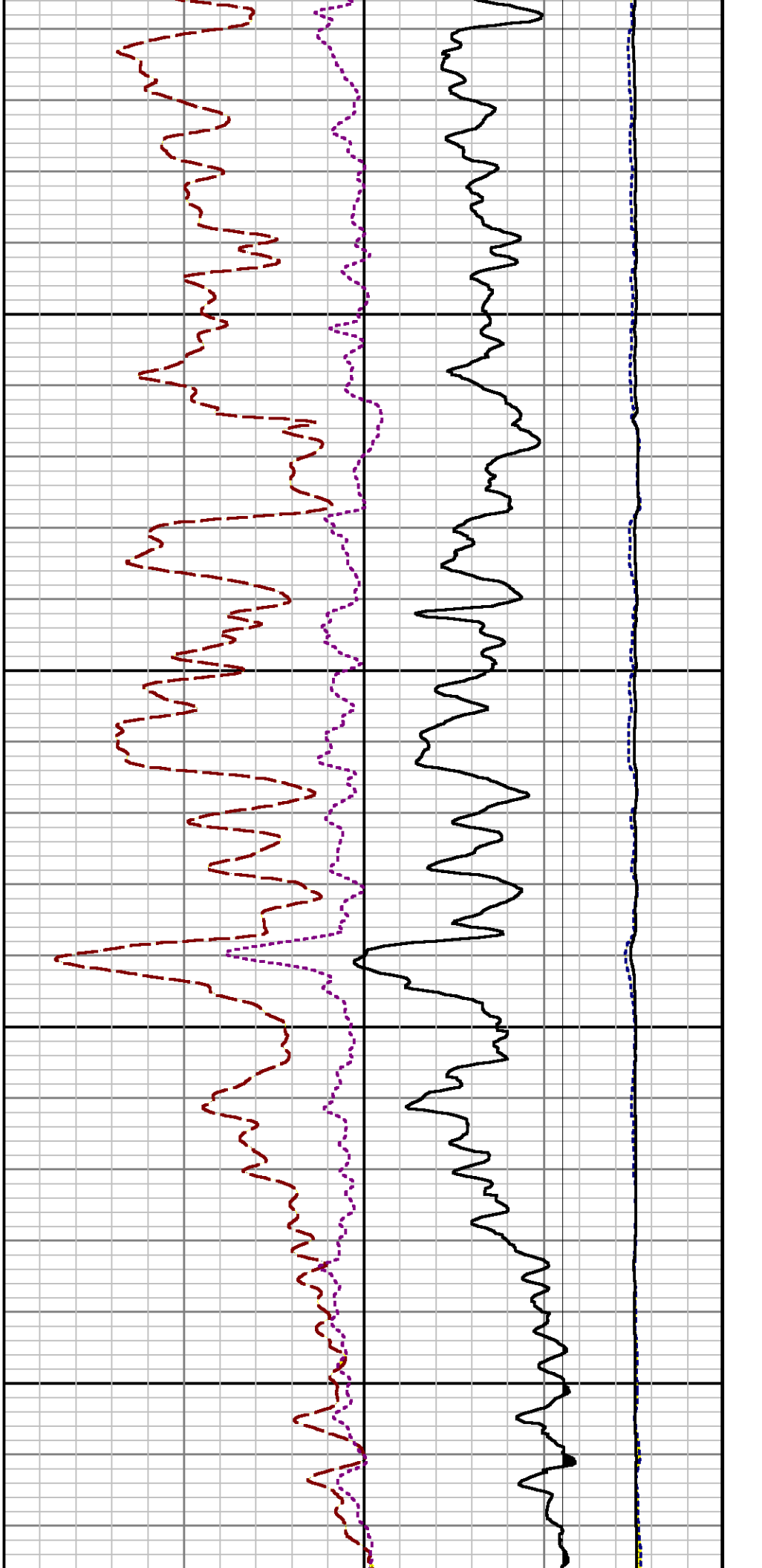
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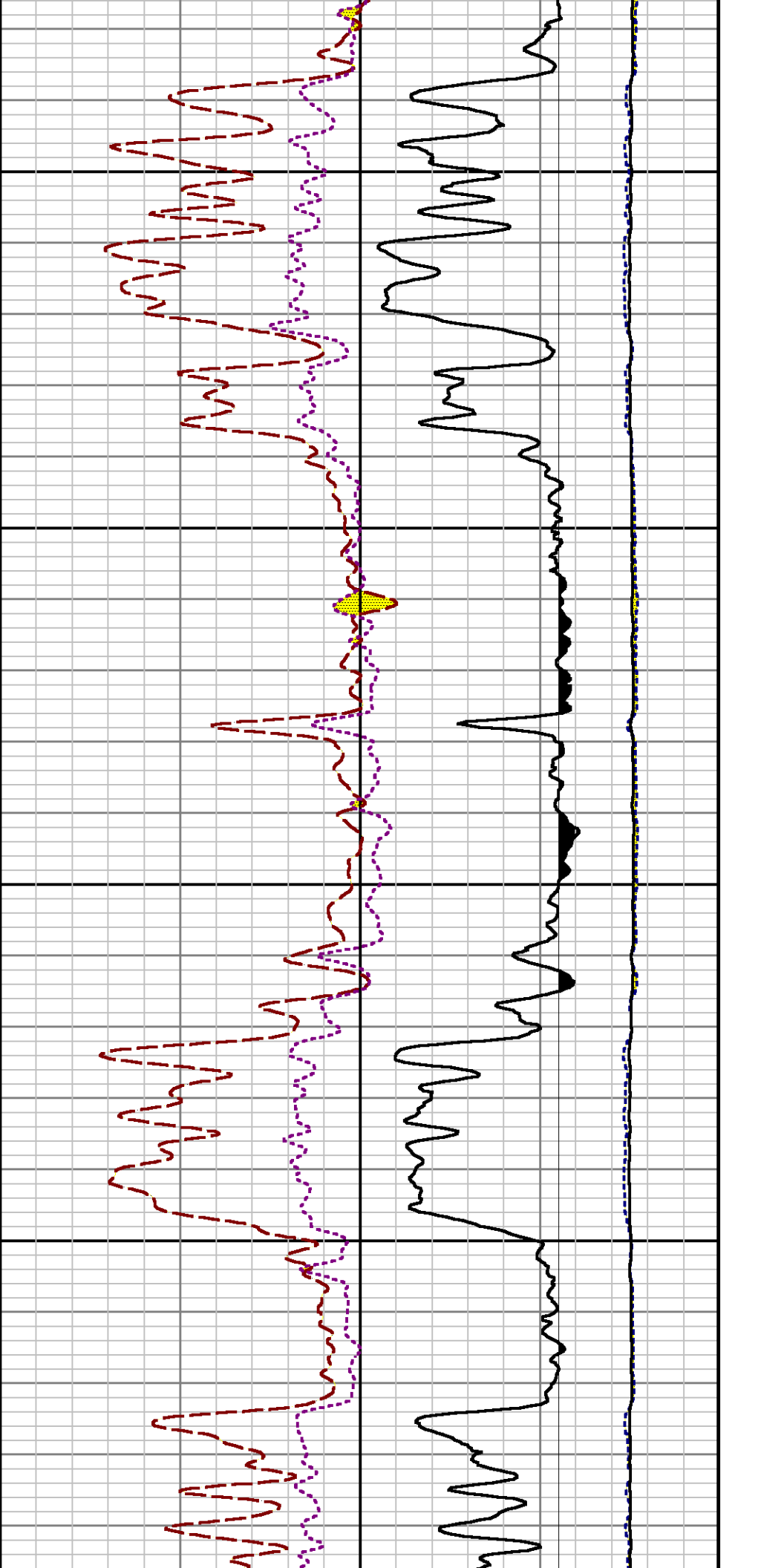
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Created : 10/18/2014 6:11:20 PM



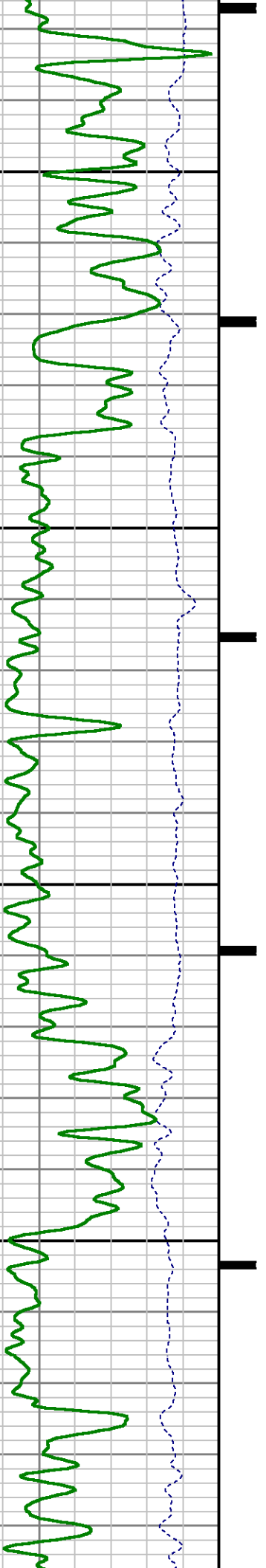


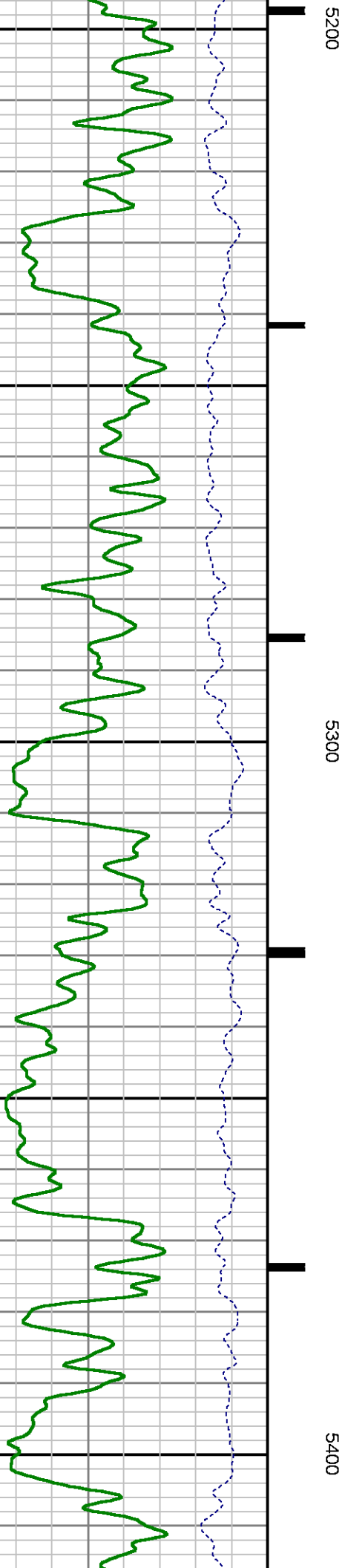
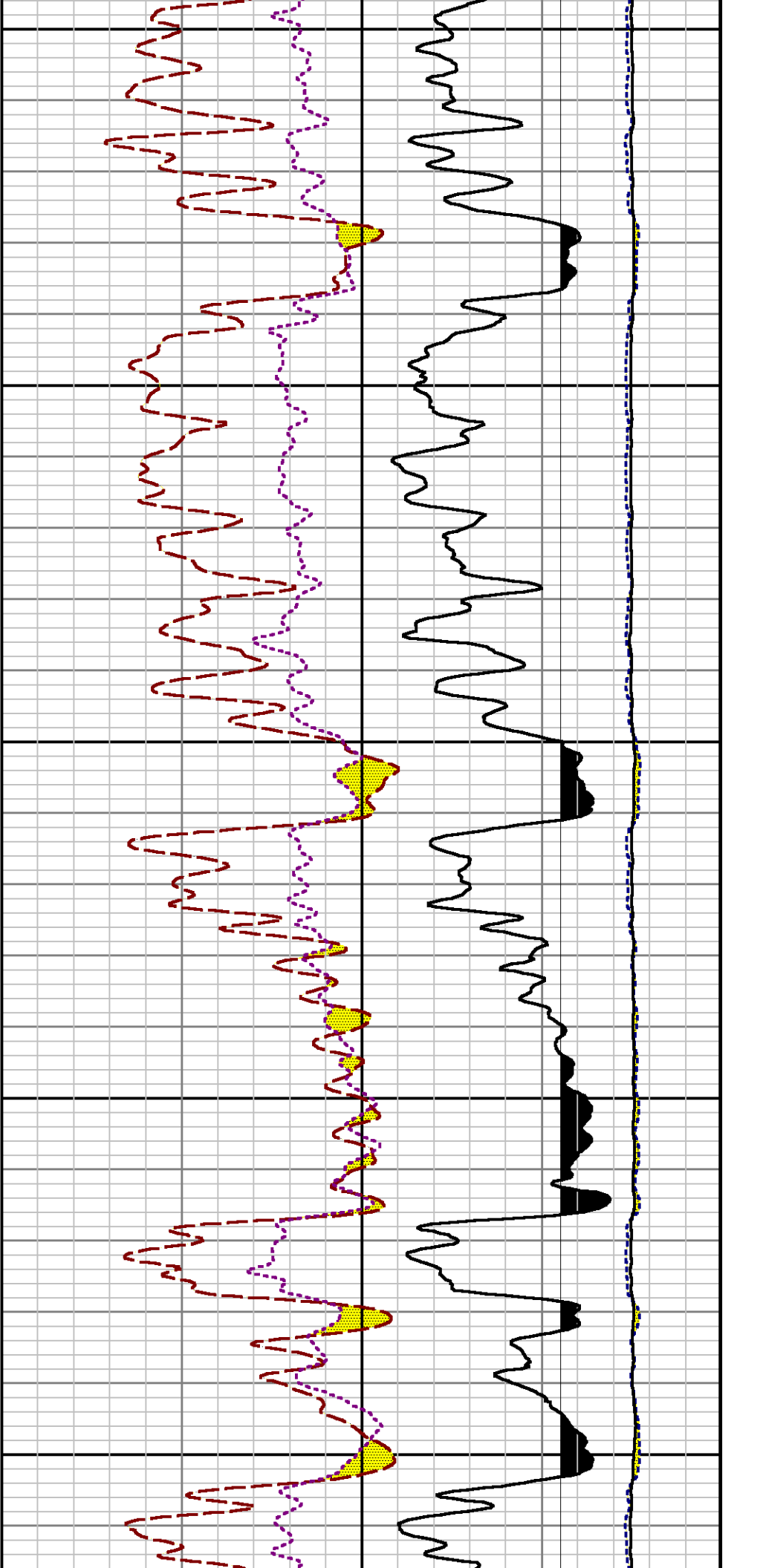


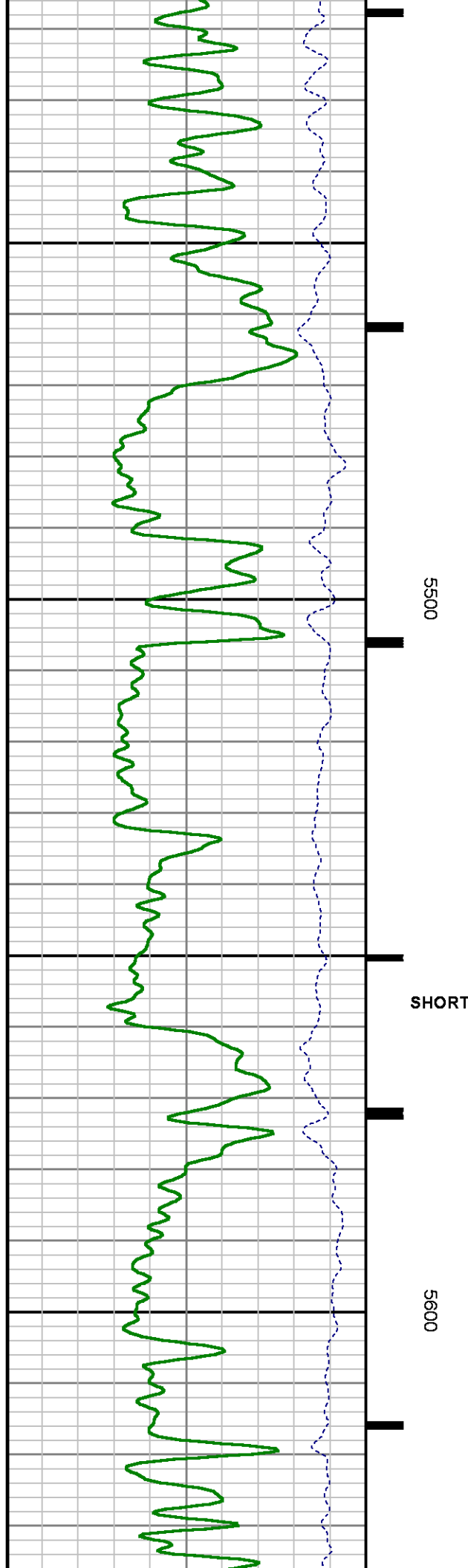
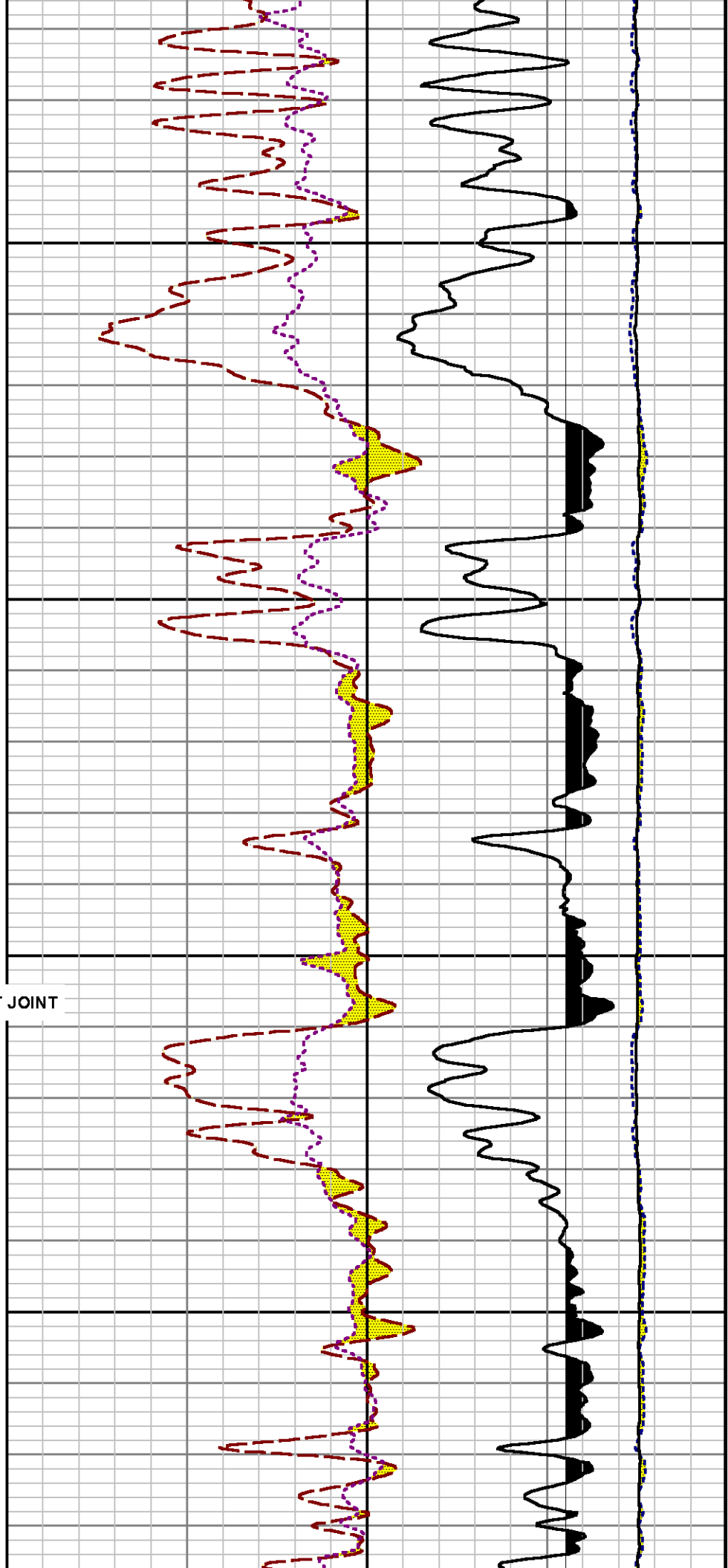


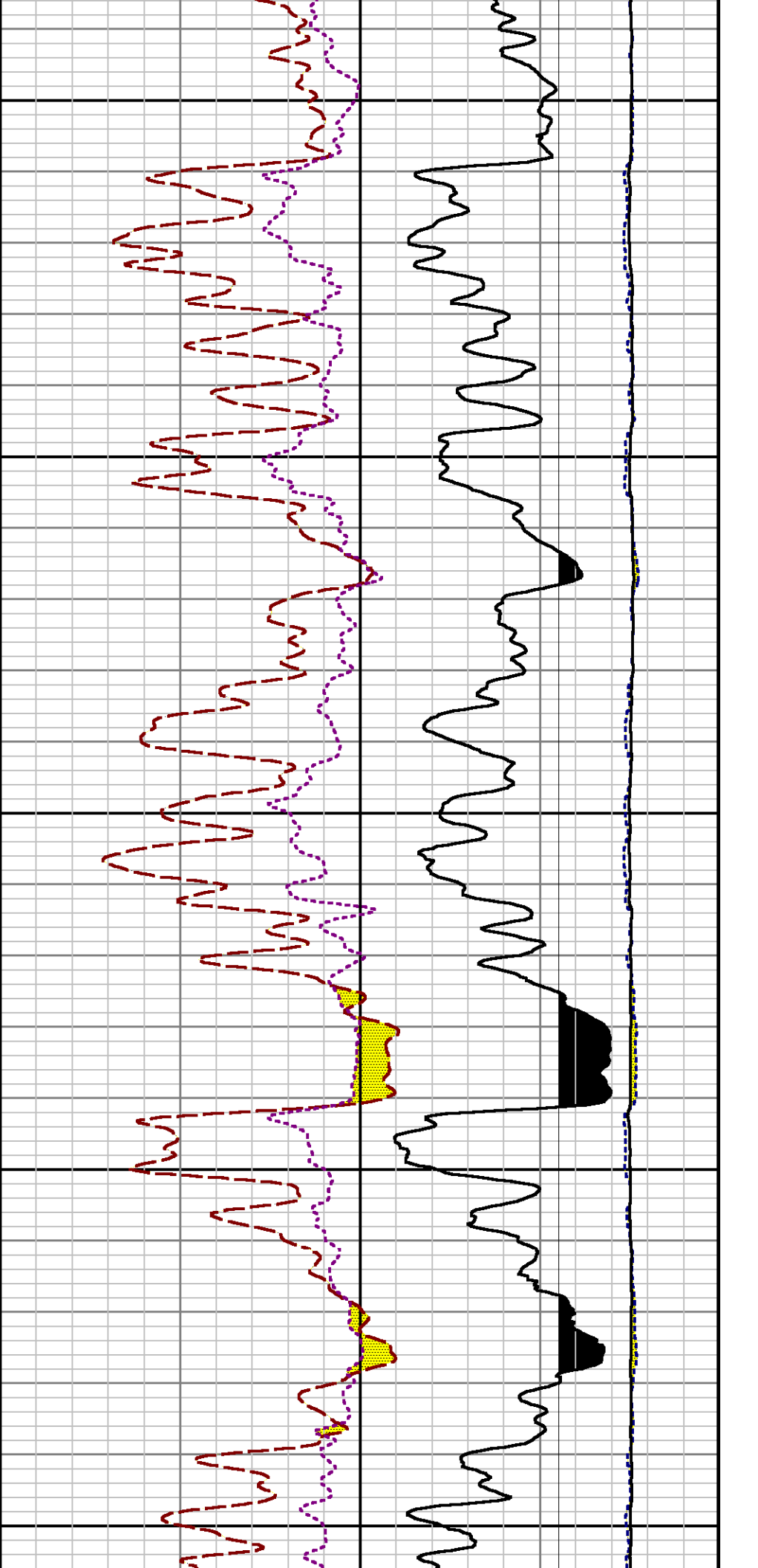
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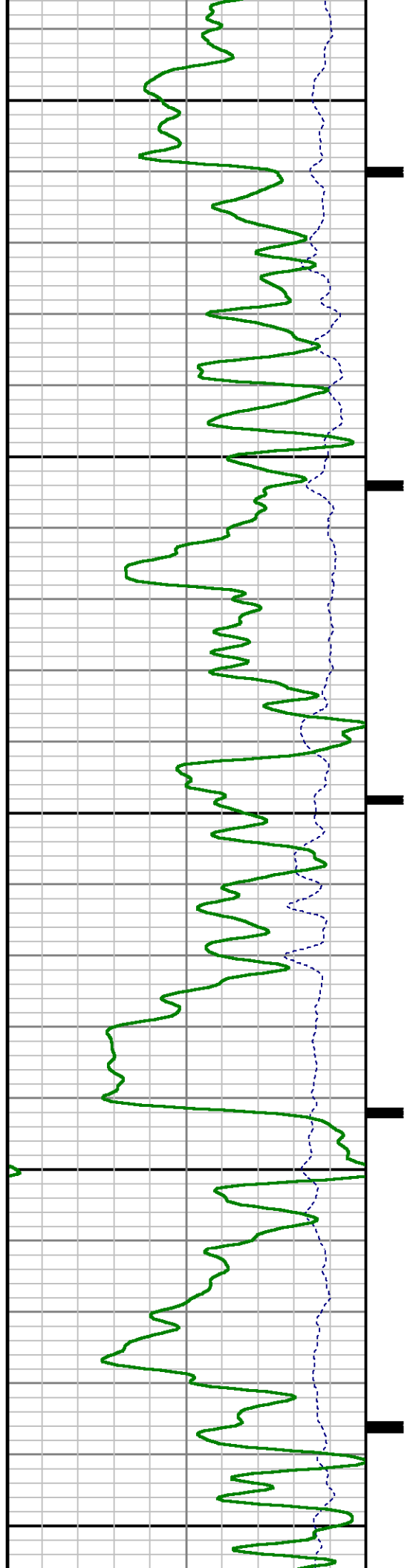


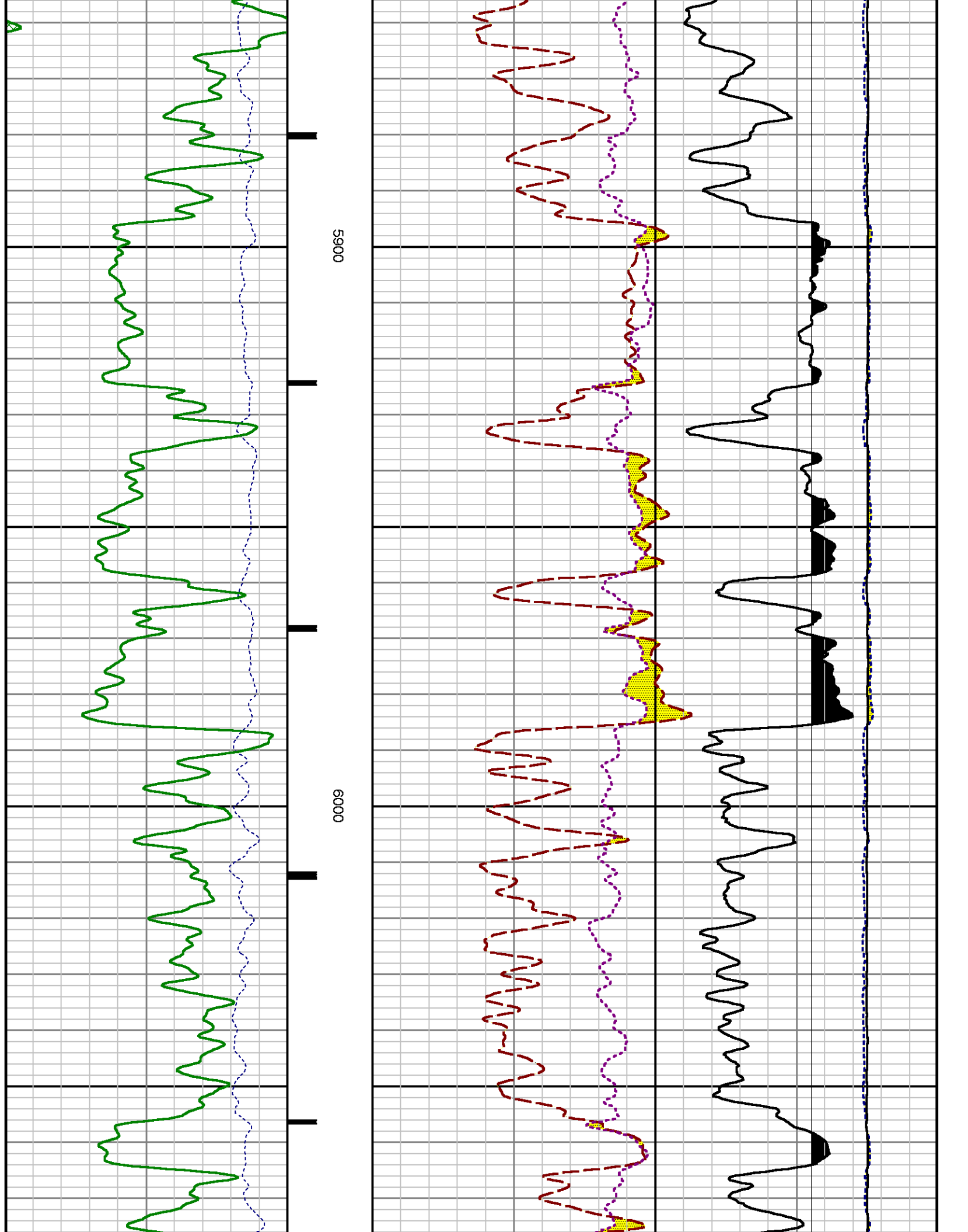


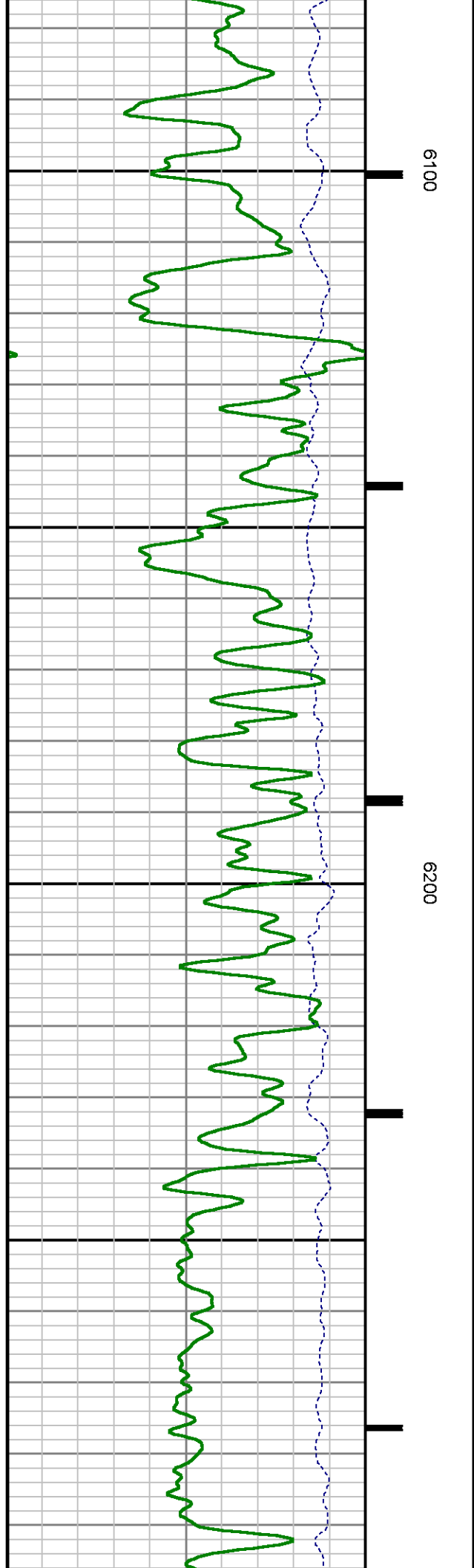
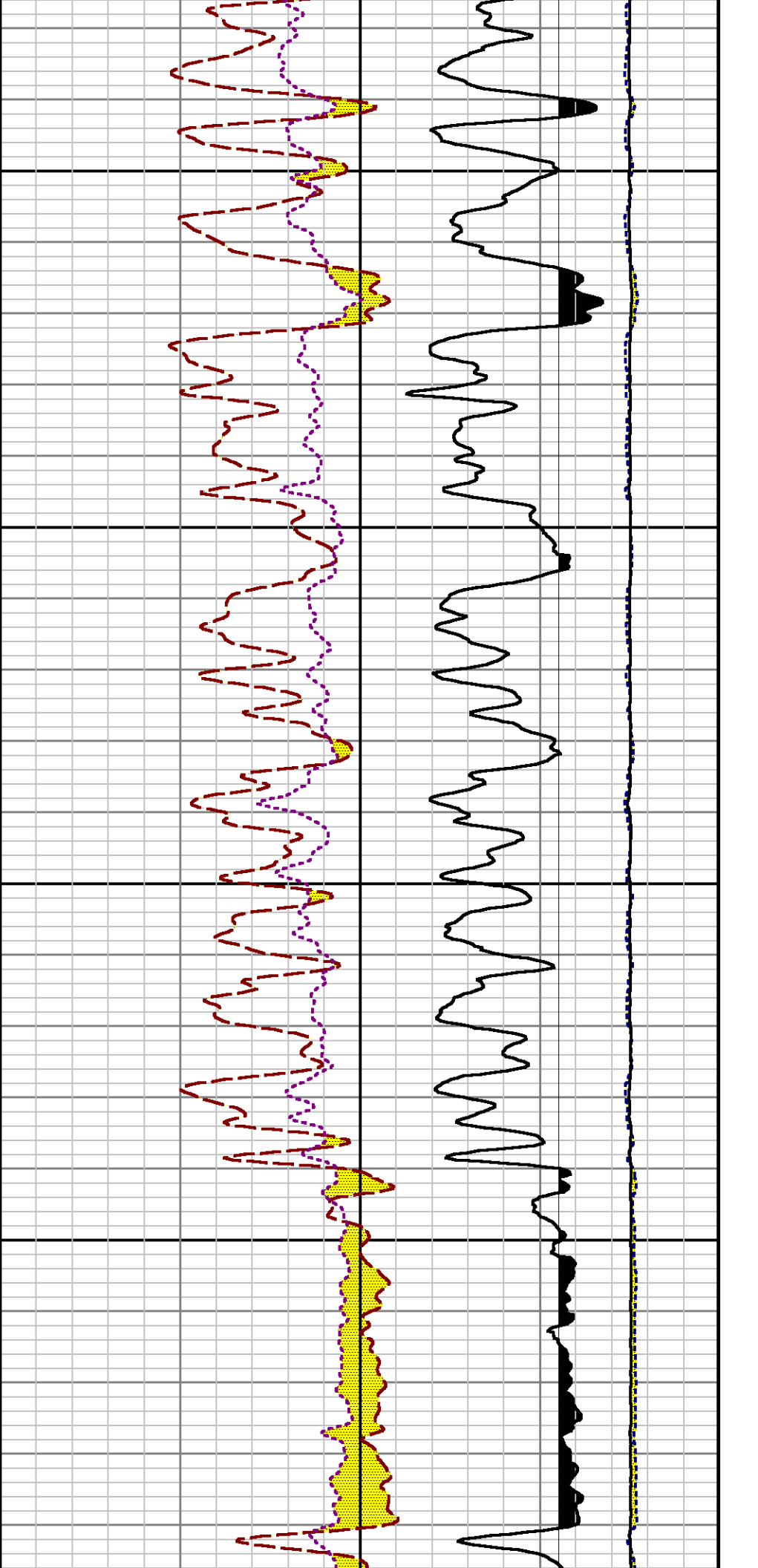


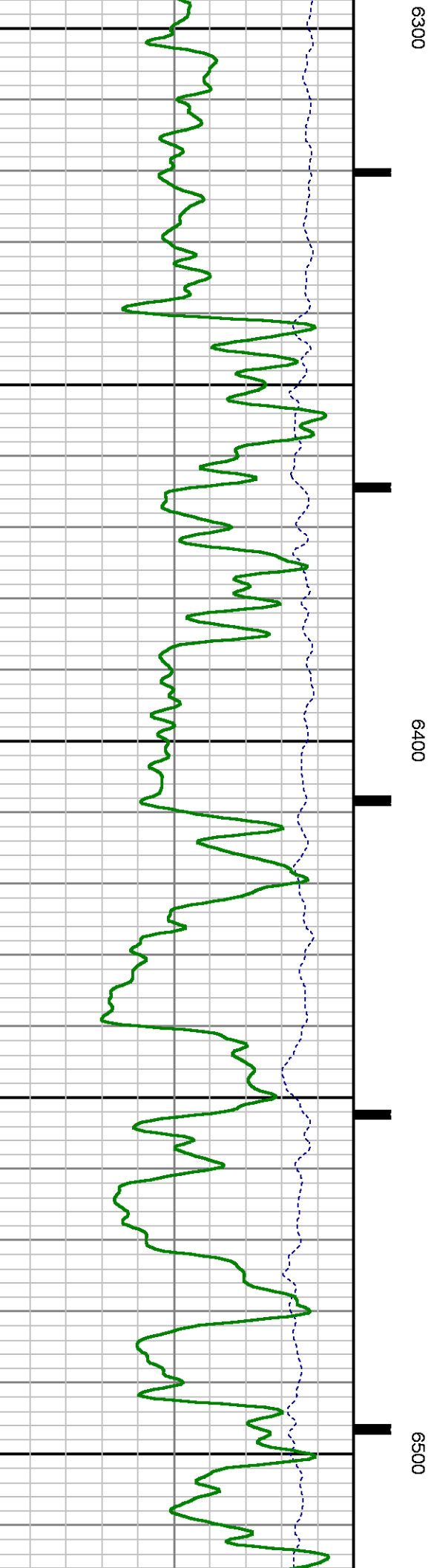
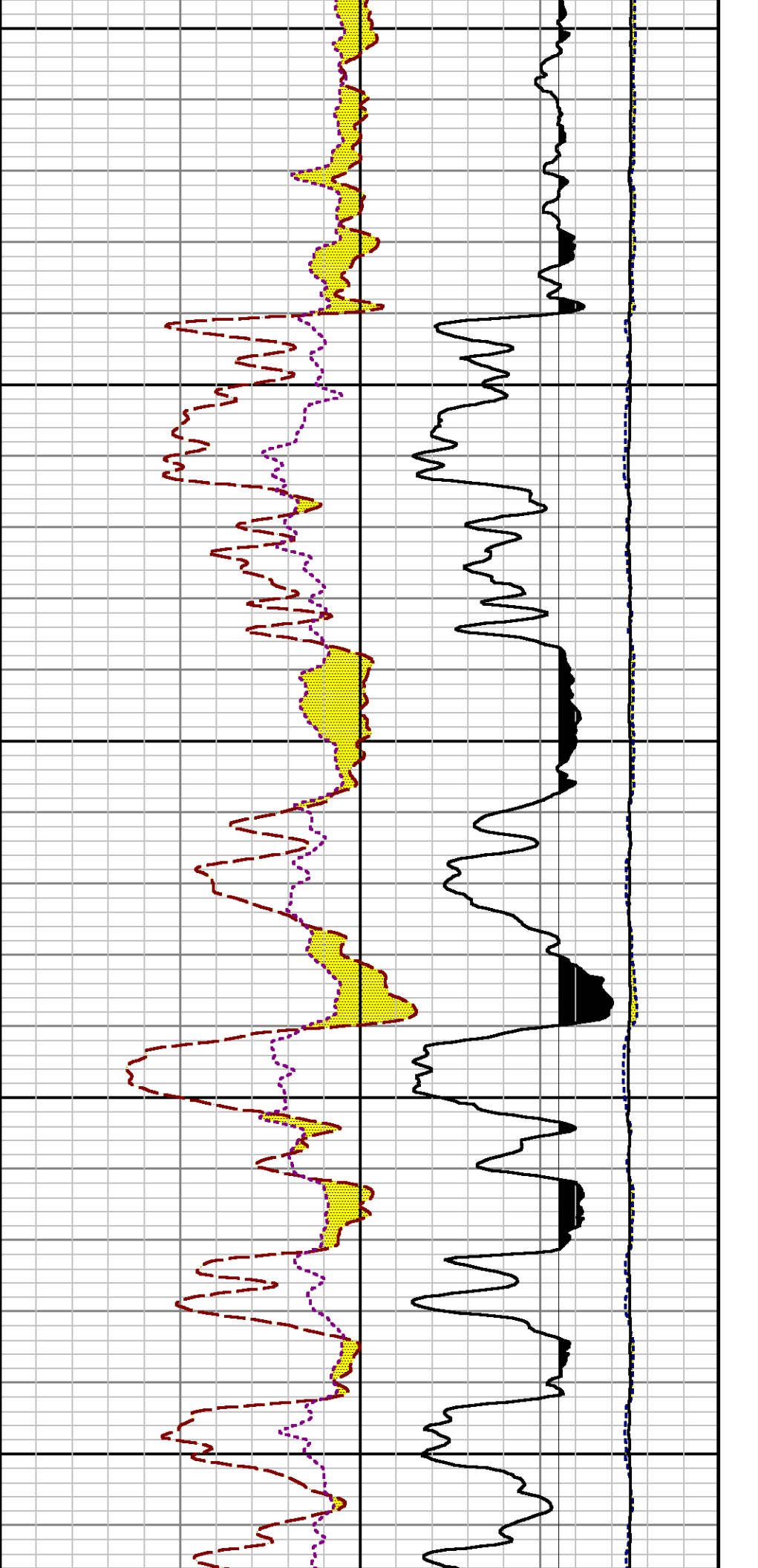
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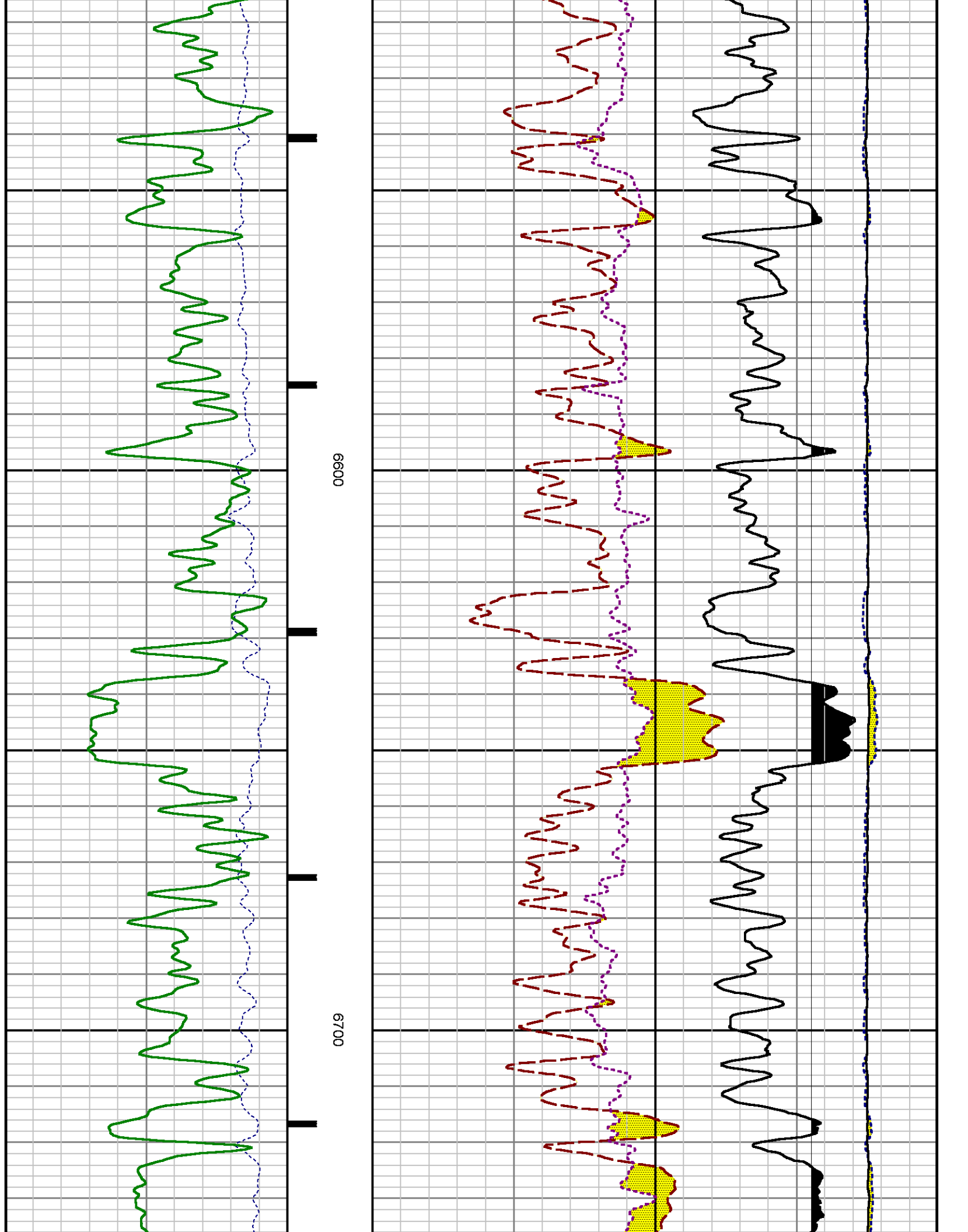
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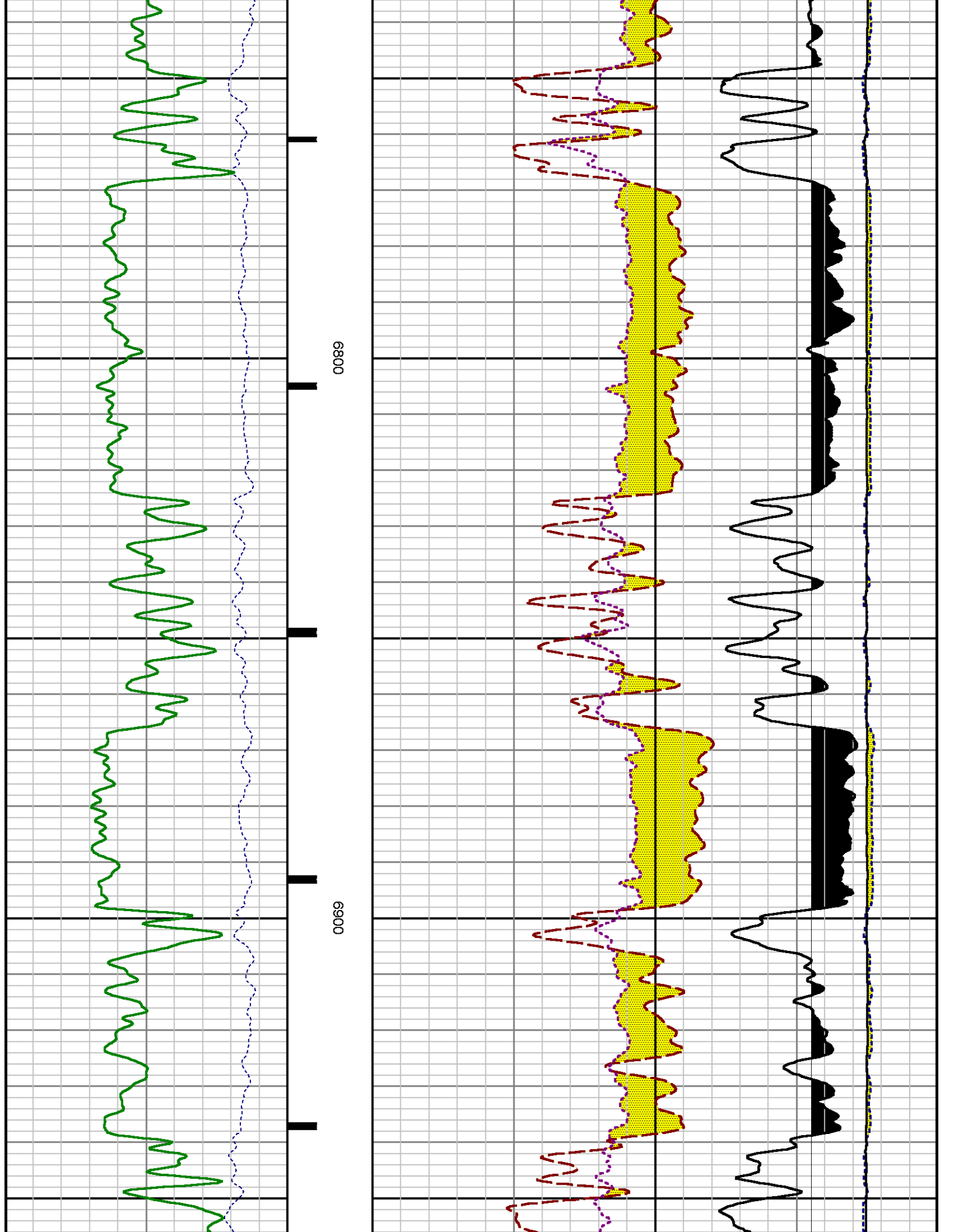


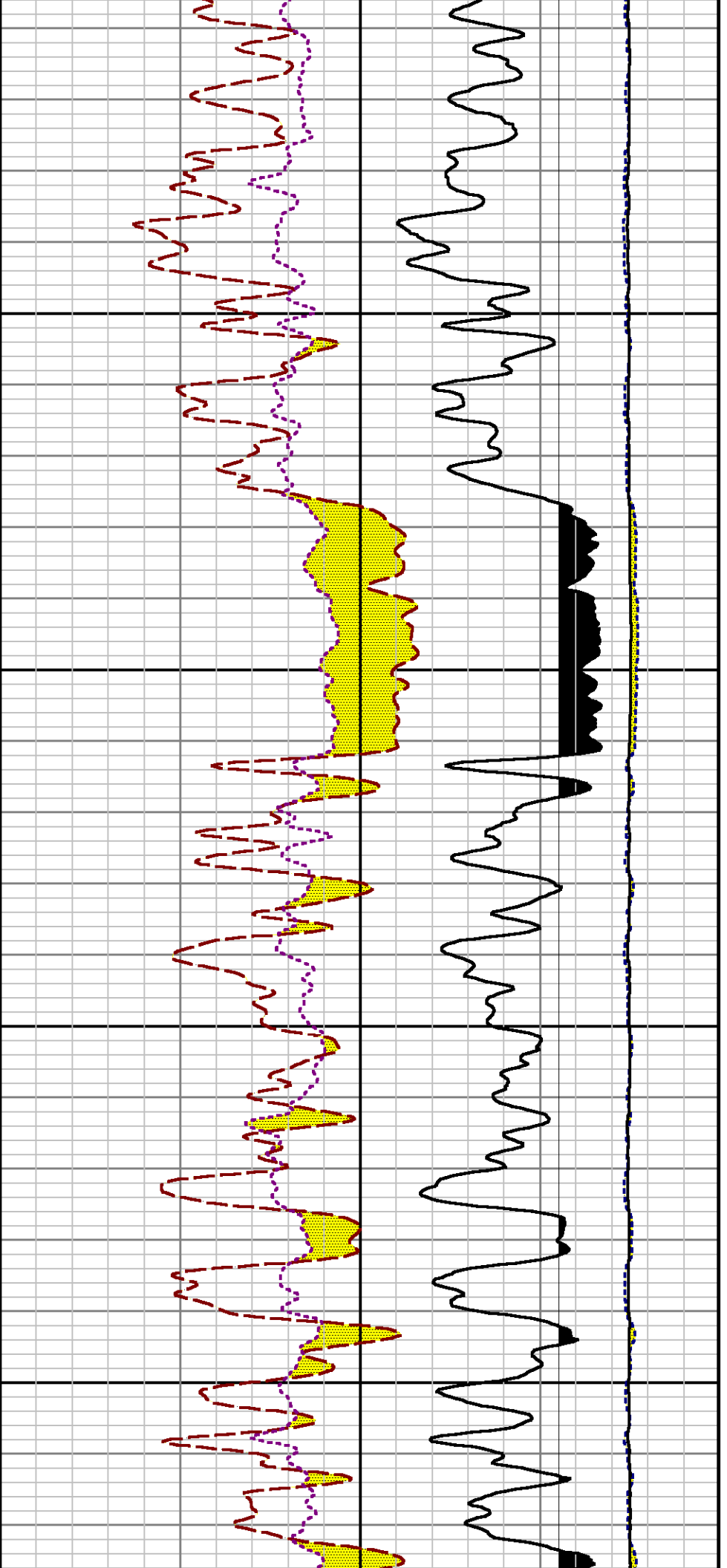






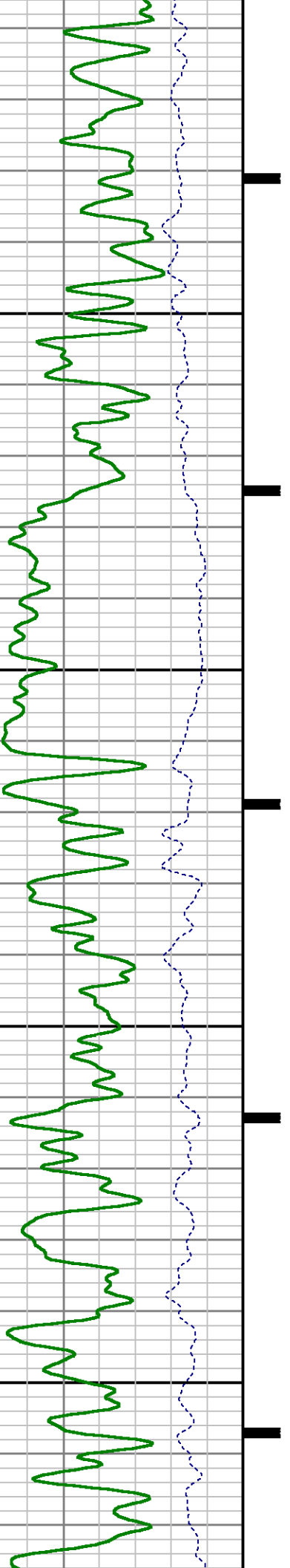


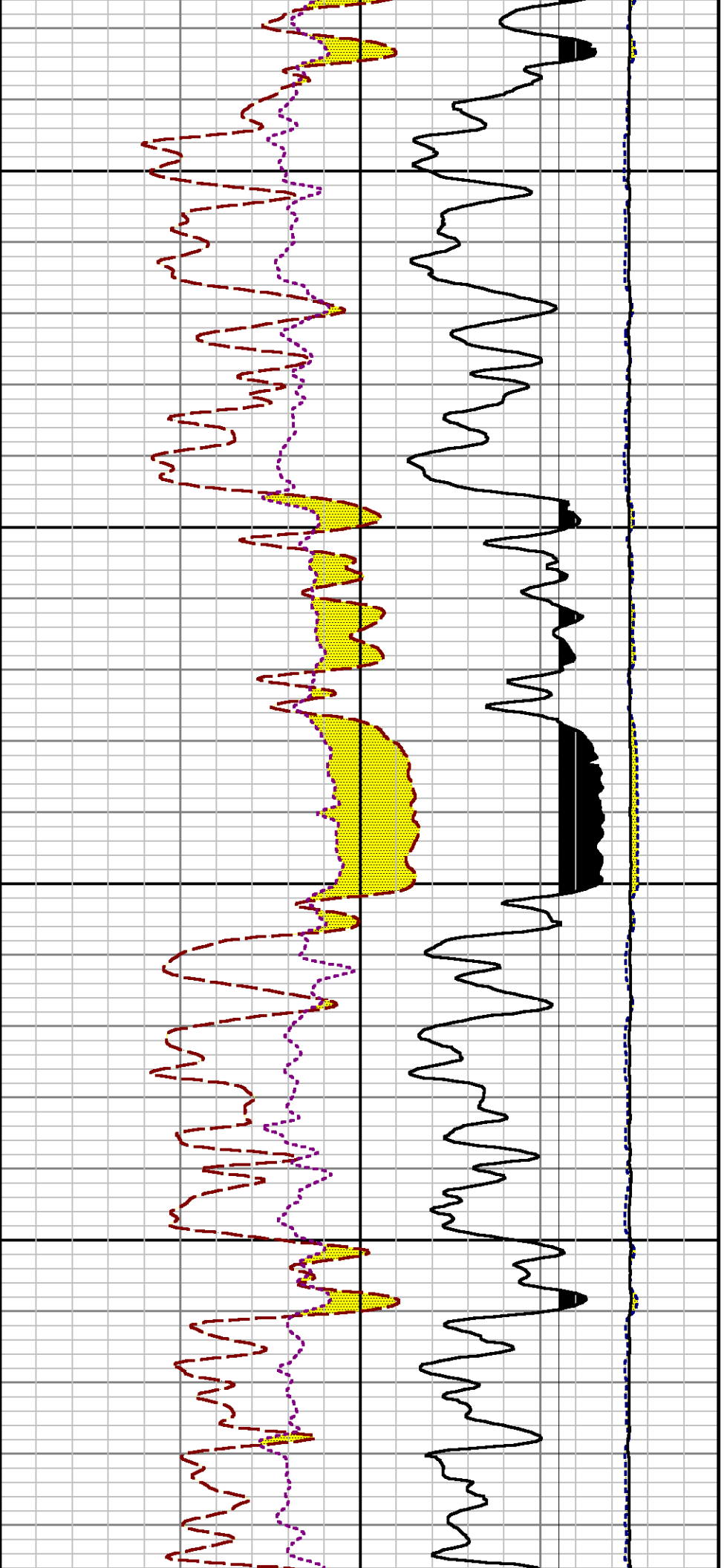




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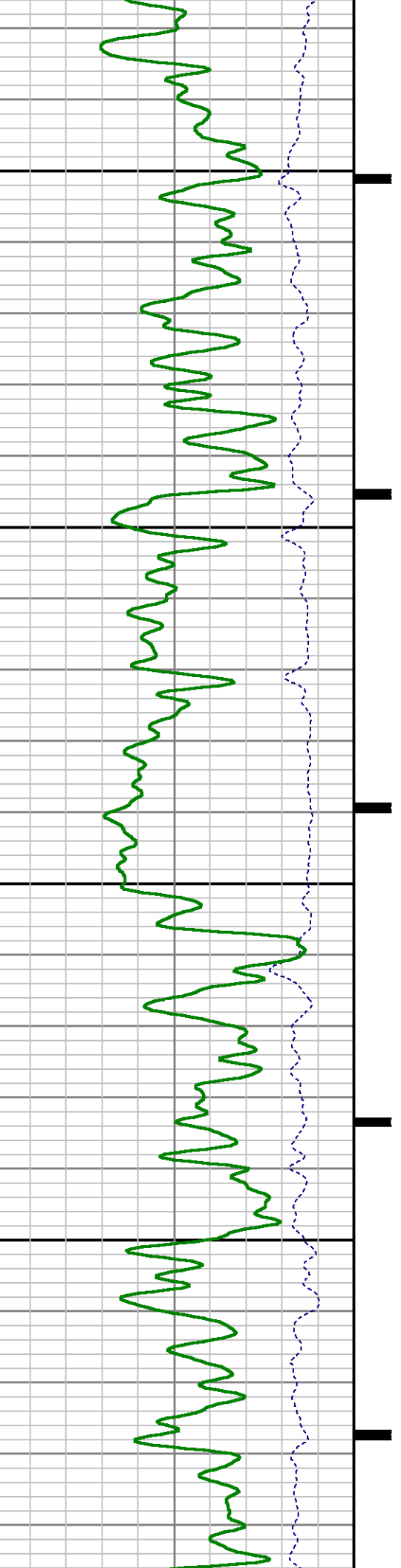
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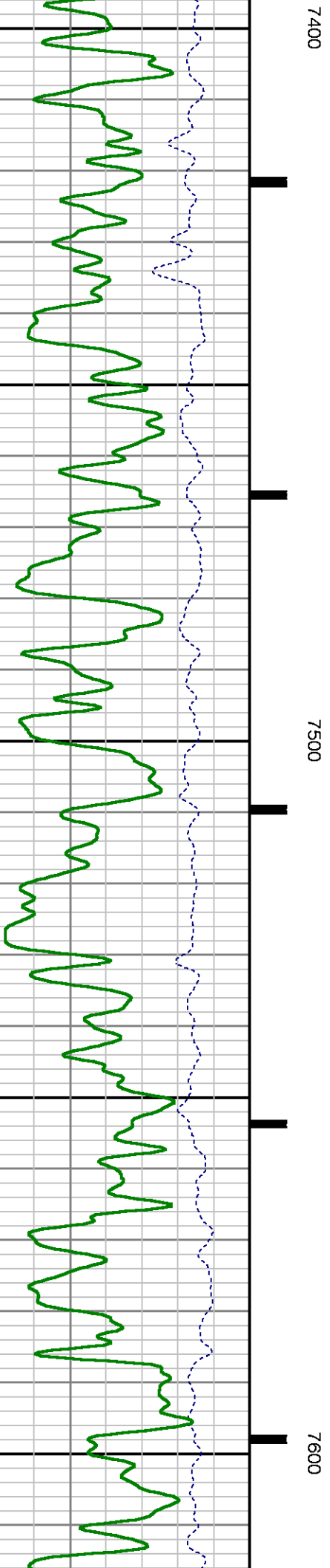
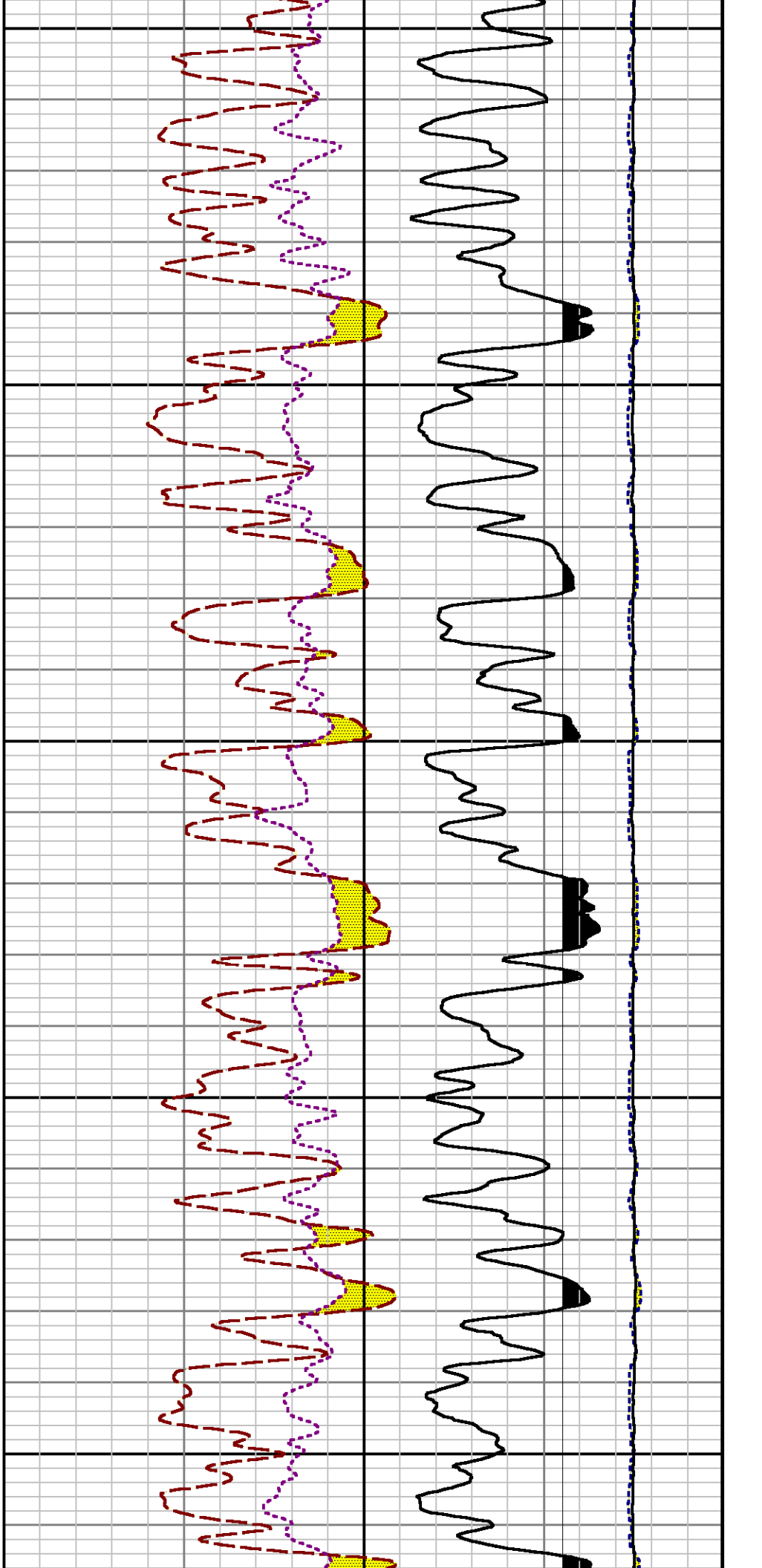


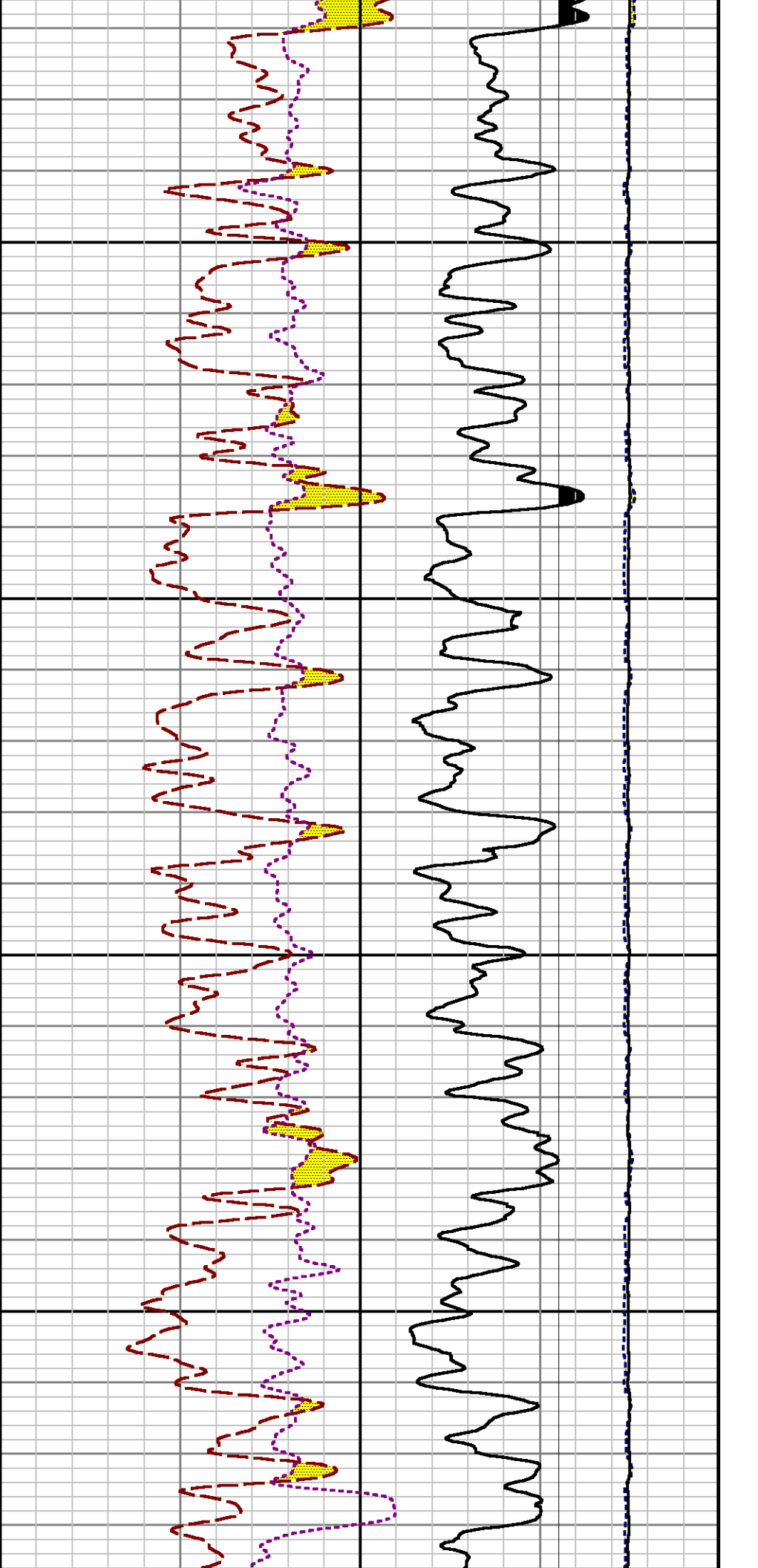


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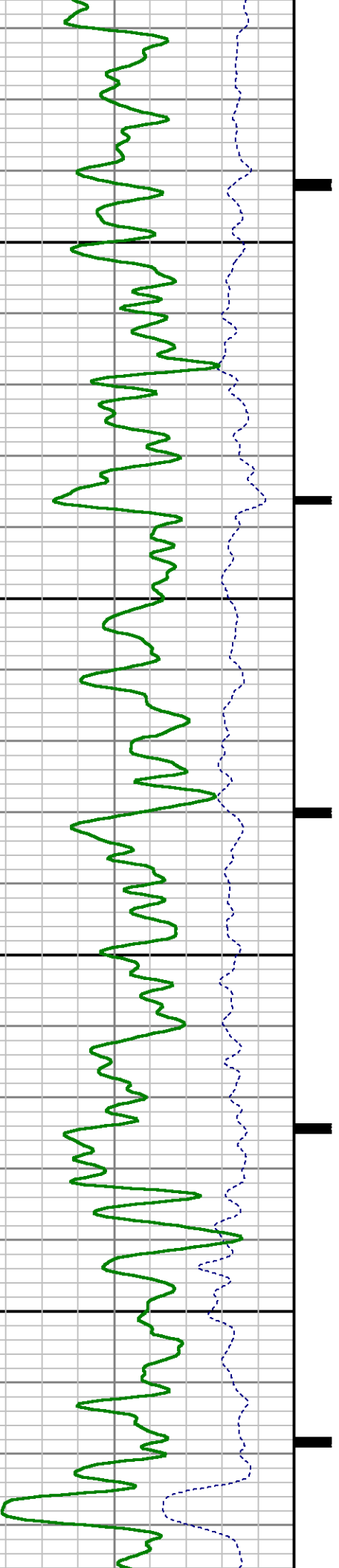


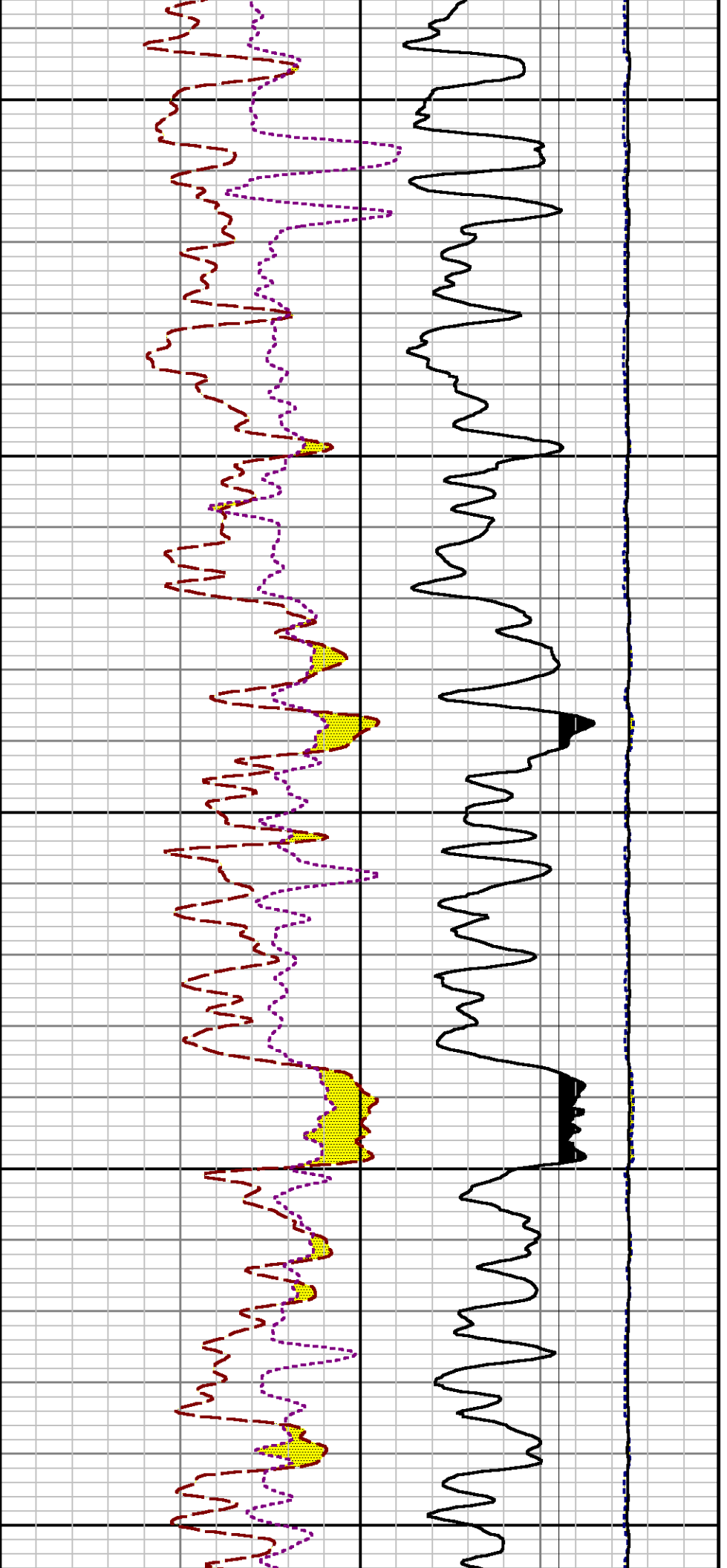




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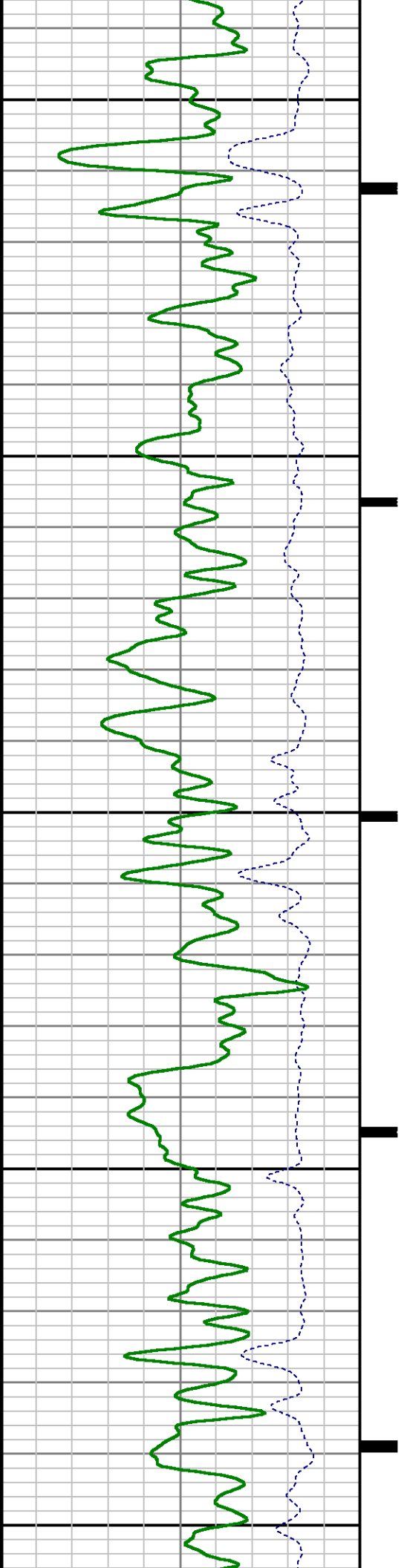
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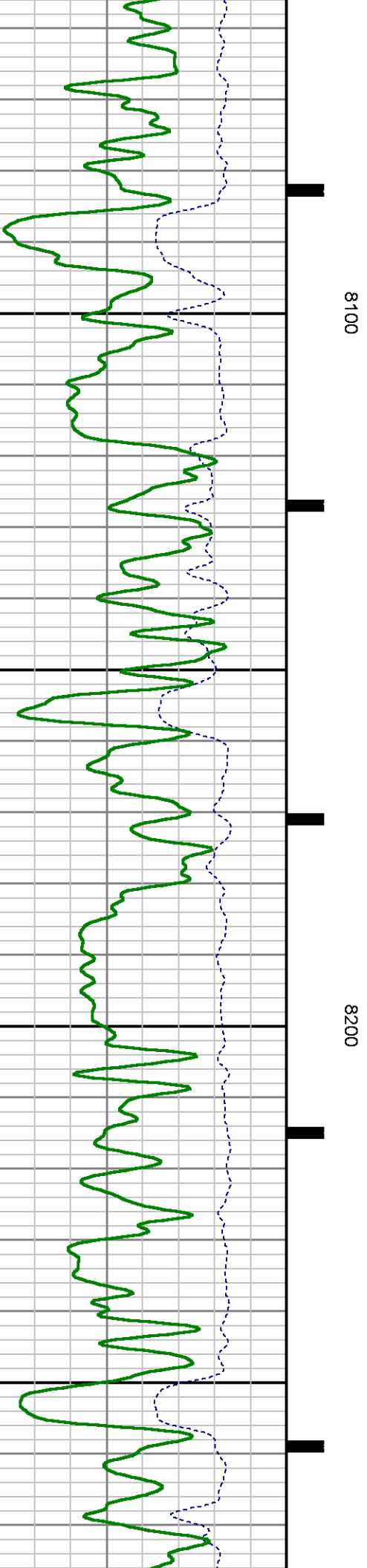
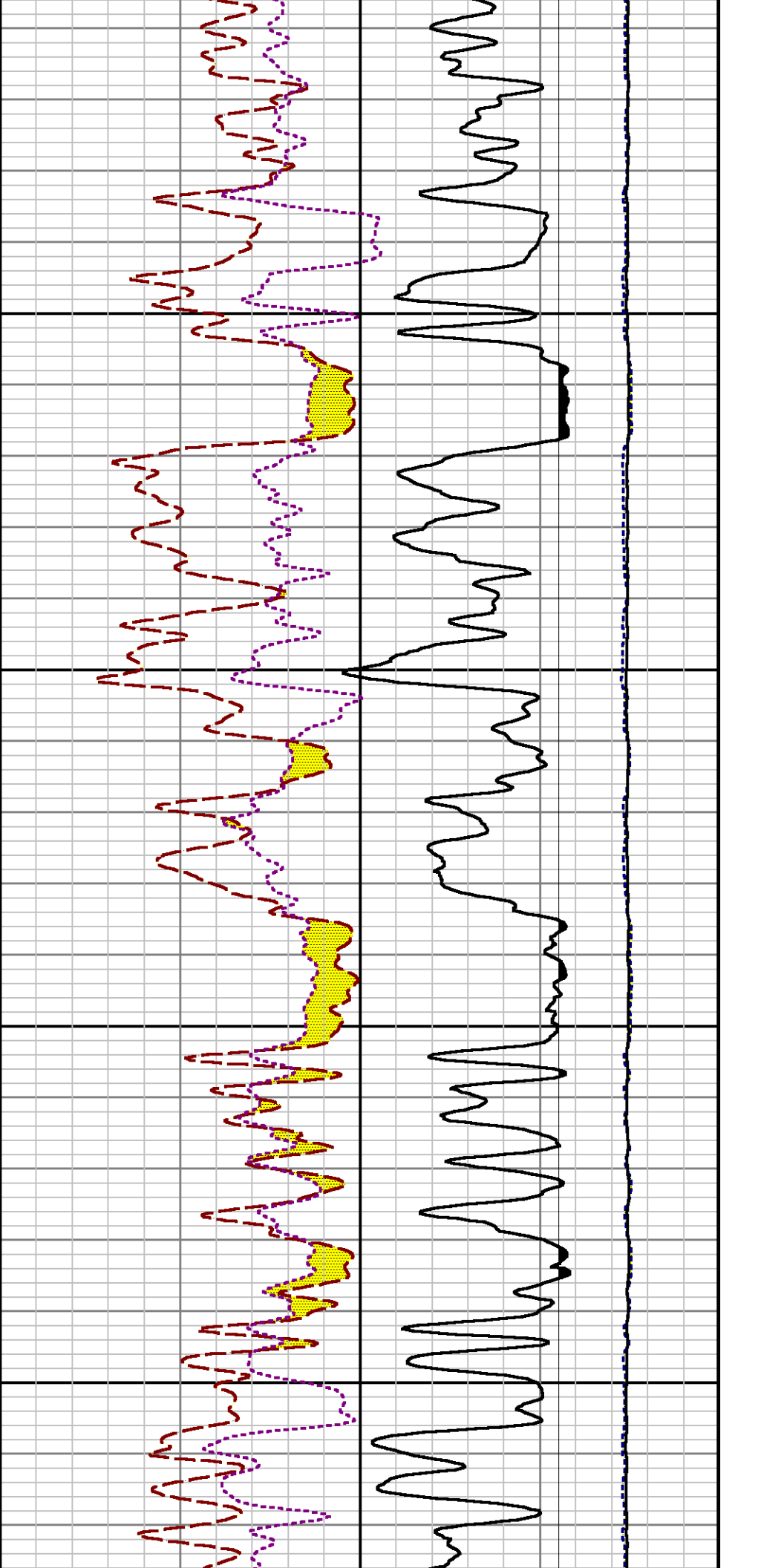


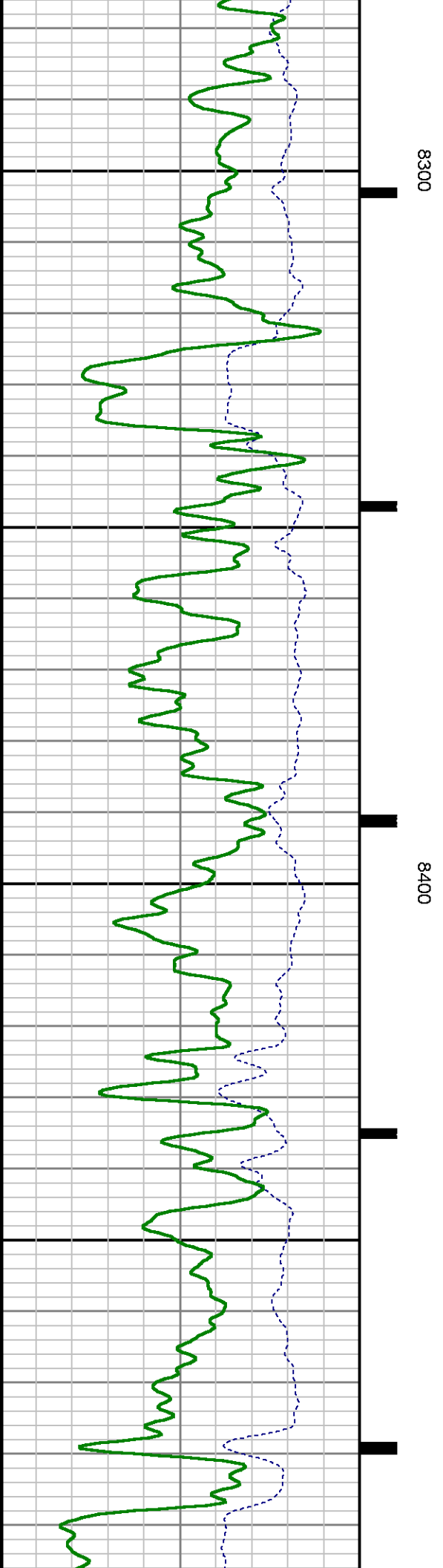
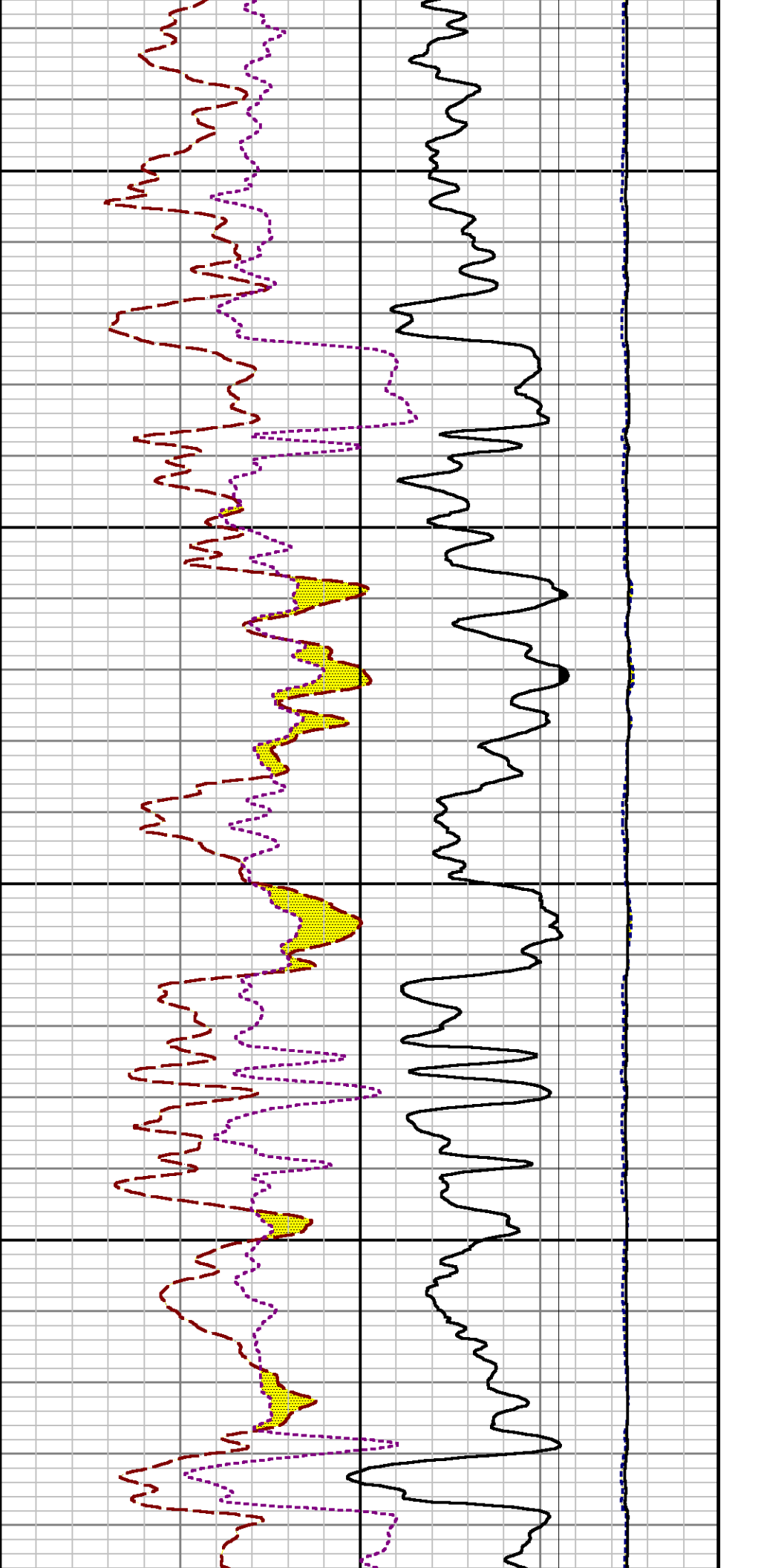


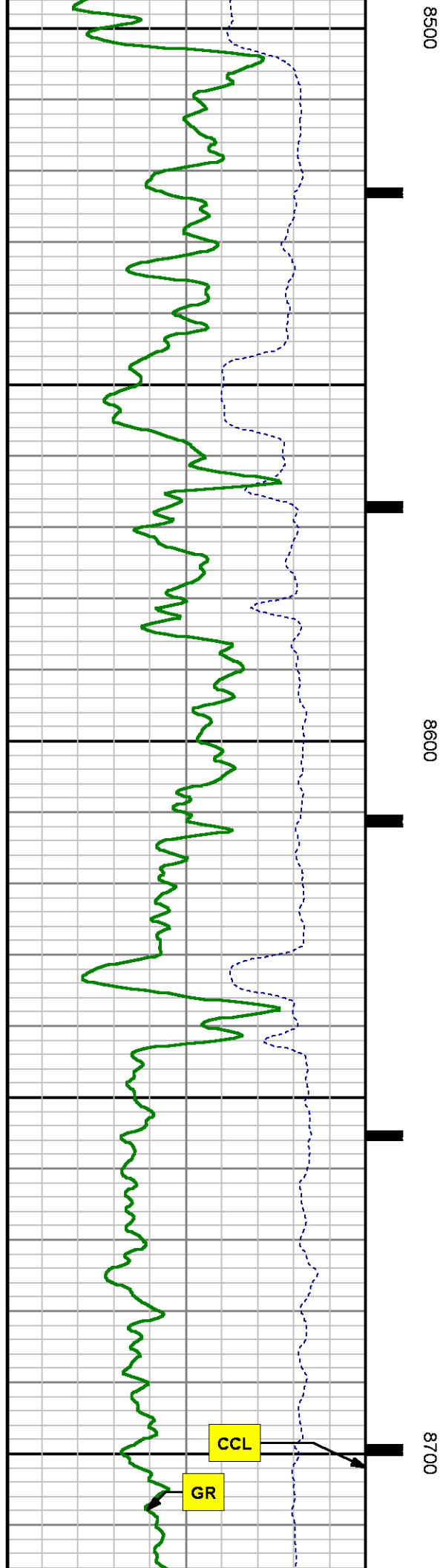
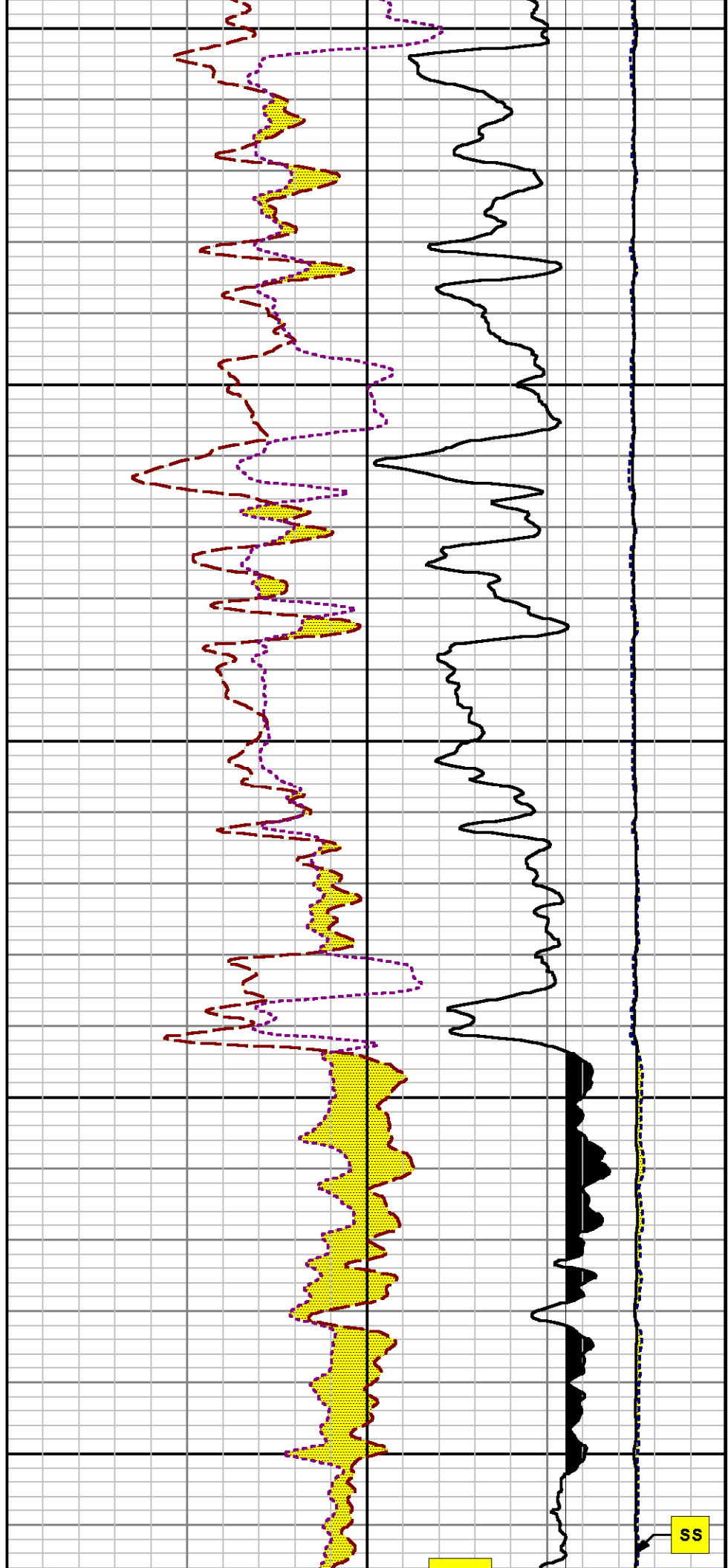
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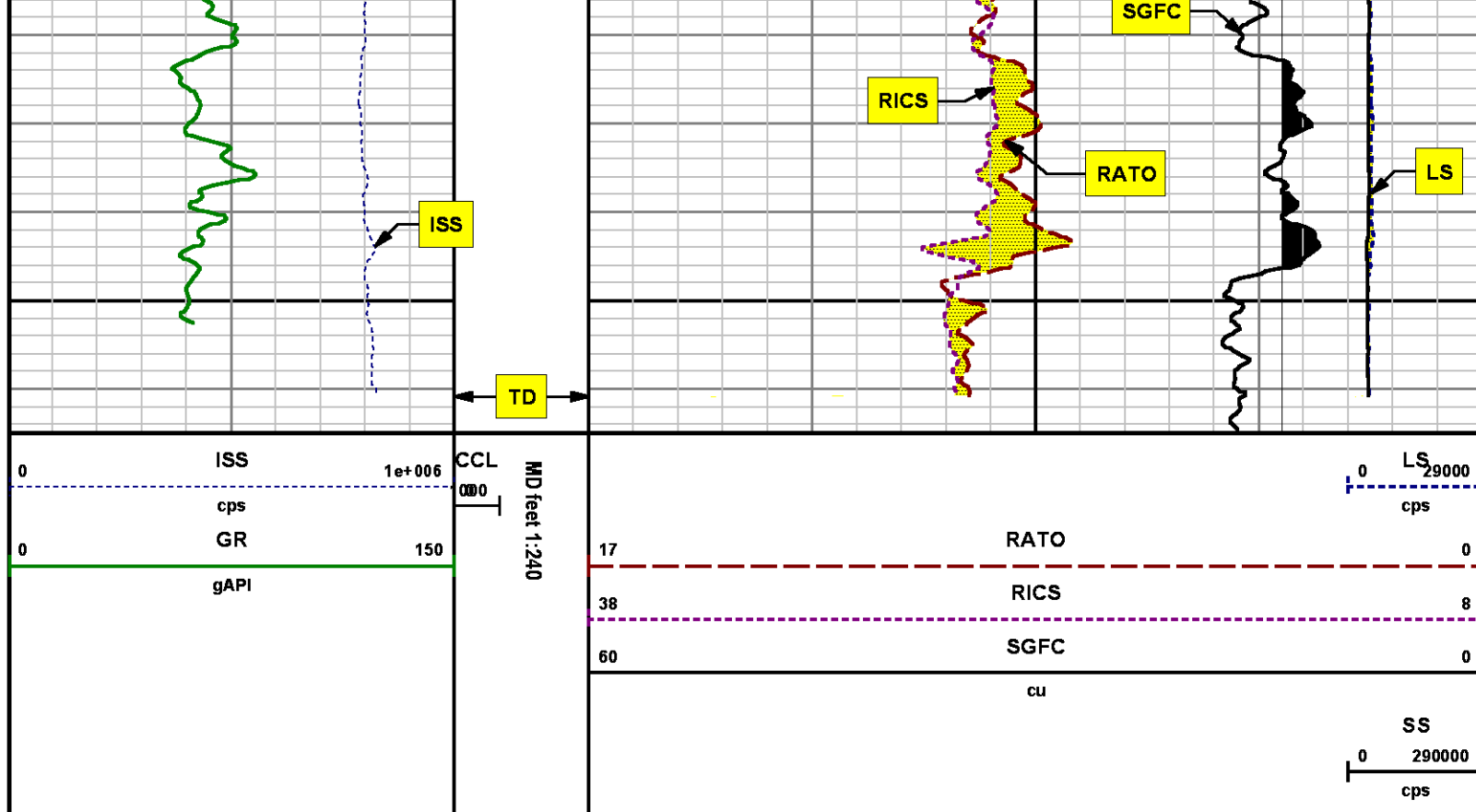
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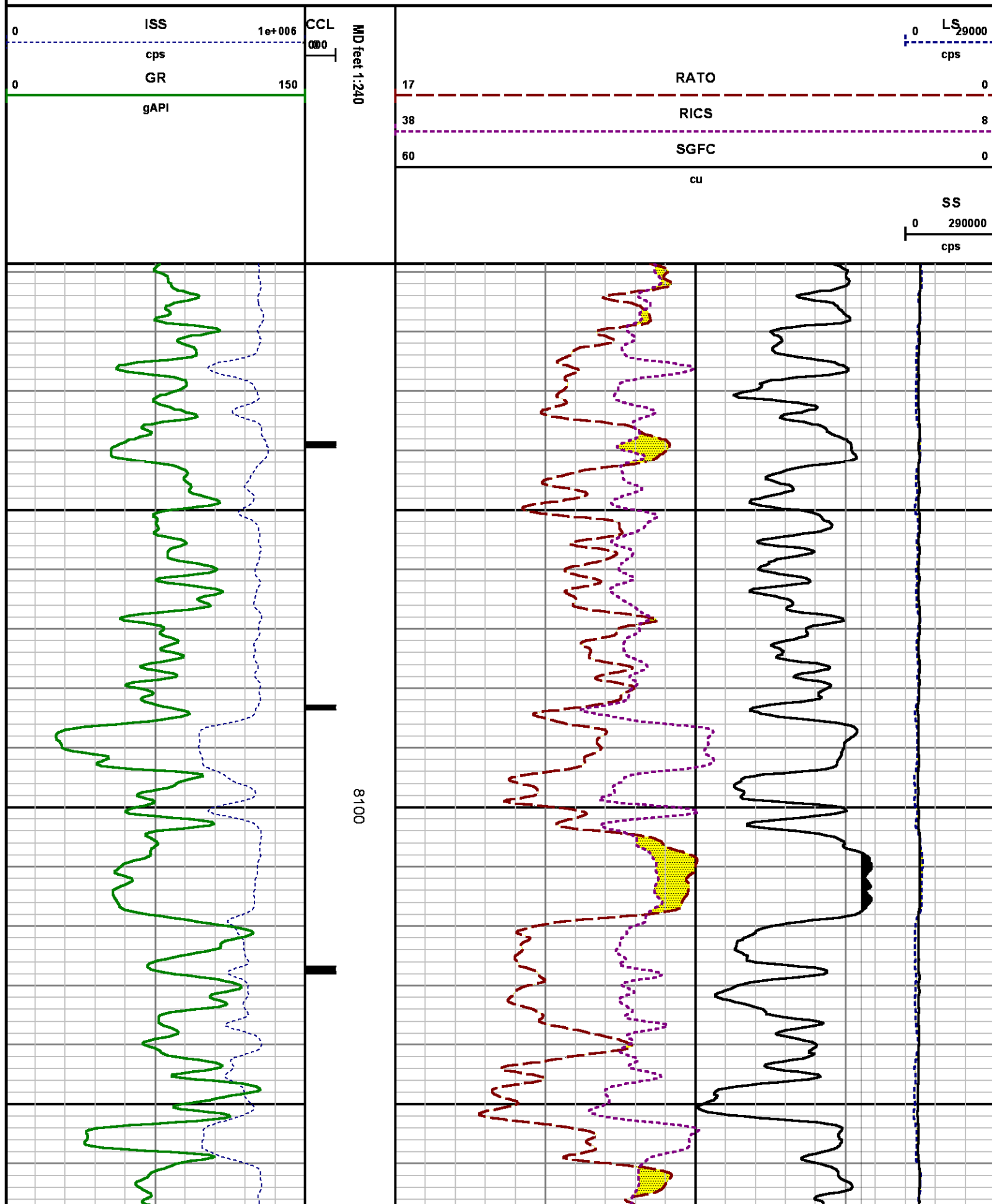
*REPEAT SECTION
PNC 3-D MODE*

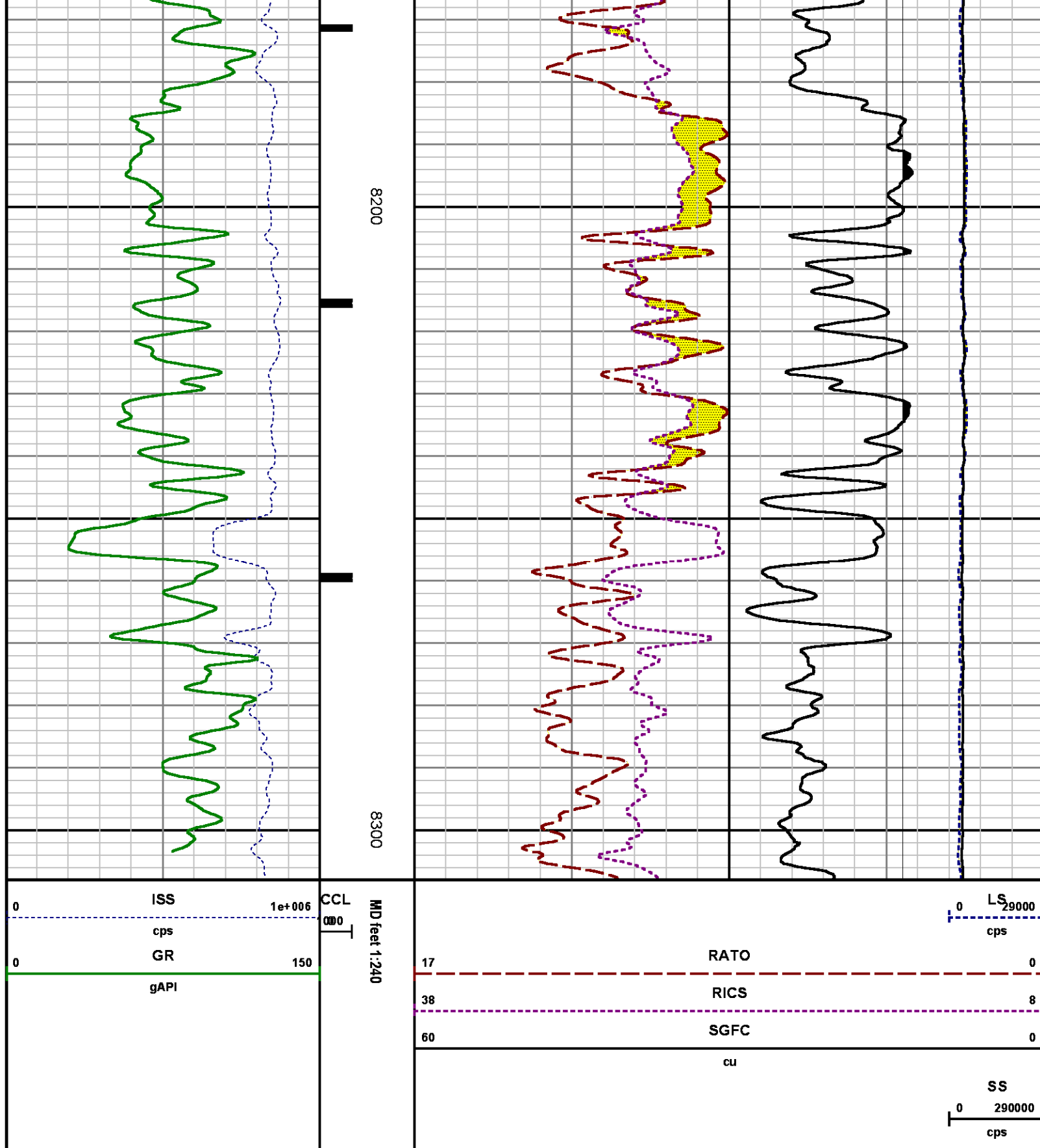
SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		8008.427	8326.896
PNC Porosity	Borehole Size	8.750	inch	8008.427	8326.896
PNC Porosity	Casing Size	4.500	inch	8008.427	8326.896
PNC Porosity	Gas Filled	Non Gas Filled		8008.427	8326.896
PNC Porosity	Matrix	Sandstone		8008.427	8326.896
TPS Pressure	Temperature Corr. Source	Fixed (72.00)	degF	8008.427	8326.896

DEPTH OFFSETS

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





CALIBRATION SUMMARY

GAMMA RAY

Calibration File: C:\case\calver\GR\382O1.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Fri Oct 10 20:18:37 2014 TOOL SERIES: 2812LA ASSET: 382 SEQ: O1

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	67.31	273.64	1.018	68.51	278.51	210.00

Verification File: C:\case\calver\GR\382O1.VP

PRIMARY VERIFICATION

DATE/TIME PERFORMED: Fri Oct 10 20:21:02 2014 TOOL SERIES: 2812LA ASSET: 382 SEQ: O1

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K WA612	64.02	275.47	1.018	65.16	280.36	215.20

PNC

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

PNC 3D CALIBRATION SUMMARY

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 Vits (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

TEMPERATURE

CALIBRATION SUMMARY

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

Diagram illustrating a vertical curve (sag curve) with the following data:

- Grade 1: -3%
- Grade 2: +2%
- Curve Length: 100'
- Key Points:
 - BVC (Beginning of Vertical Curve) at Station 1+00
 - PVI (Point of Vertical Intersection) at Station 1+50
 - EVC (End of Vertical Curve) at Station 2+00
- Vertical Curve Equation: $y = \frac{x^3}{6L} + \frac{x^2}{2L}G_1 + \frac{x}{L}G_2 + G_1$
 - x : Distance from BVC
 - L : Length of the curve (100')
 - G_1 : Initial grade (-3%)
 - G_2 : Final grade (+2%)

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

XLS DETECTOR 16.08'

LS DETECTOR 13.10'
SS DETECTOR 12.88'

PRES MP 1.61'

0.00'

TEMPERATURE / PRESSURE

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

Total Length: 33.24'
Total Weight: Not Available
Max Diameter: 0' 1.70"



Baker Atlas

CASE

Company

WPX ENERGY

Well

SAVAGE RWF 534-25

Field

RULISON

County

GARFIELD

State

COLORADO

Location

SHL: 1117' FSL x 1391' FEL

BHL: 219' FSL x 1824' FEL (SWSE)

Elevations

KB 6260 ft

DF

GL 6234 ft

File No:

CH091513

API No:

05045219940000

25 6S 94W

RWF 43-25 PAD

NABORS 577

SEC 25 TWP 6 S RGE 94W