



Baker Atlas

RESERVOIR
PERFORMANCE
MONITOR

File No:	Company	EXXONMOBILE PRODUCTION COMPANY	
	Well	FRU 197-33B2	
API No:	Field	FREEDOM UNIT	
05103114270000	County	RIO BLANCO	State
		COLORADO	
Location		Other Services	
2378' FNL & 1390' FEL (SWNE)		BOND	
SEC 33	TWP 15	RGE 97W	
Permanent Datum	G.L.	Elevation	Elevations
Log Measured From	K.B.	30 ft	KB 6476 ft
Drill Measured From	KELLY BUSHING		DF 6475 ft
			GL 6446 ft

Date	14/SEP/10	
Run	ONE	
Service Order	567931	
Depth Driller	12855 ft	
Depth Logger	12800 ft	
Bottom Logged Interval	12800 ft	
Top Logged Interval	6900 ft	
Time Started	11:00	
Time Finished	21:00	
Operator Rig Time	10 hrs	
Type of Fluid in Hole	WATER	
Fluid Density	N/A	
Salinity	N/A	
Fluid Level	FULL	
Logged Cement Top	N/A	
Wellhead Pressure	0 psi	
Maximum Hole Deviation	N/A	
Nominal Logging Speed	10 fpm	
Maximum Recorded Temperature	N/A	
Reference Log	BAKER ATLAS RADIAL ANALYSIS BOND LOG	
Reference Log Date	15/SEP/10	
Equipment No.	4271	Location
Recorded By	J. WIESER	GRAND JUNCTION
Witnessed By	MR. JIM JONES	

- 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
14.75 In	SURFACE	4511 ft
8.75 In	4511 ft	11869 ft
7.875 In	11869 ft	12855 ft

Casing Record				
Size	Weight	Grade	From	To
10.75 In	45.5 lbm/ft	J-55	SURFACE	4511 ft
4.5 In	15.1 lbm/ft	P-110	SURFACE	11869 ft
4.5 In	15.1 lbm/ft	P-110	11869 ft	12655 ft

Remarks
LOG WAS TIED INTO THE BAKER ATLAS RADIAL ANALYSIS BOND LOG.
WELL WAS LOGGED IN PNC 3D MODE.

Equipment Data				
Run	Trip	Tool	Series Number	Serial Number
				Position

Run	Trp	Tool	Serial Number	Serial Number	Position
1	1	RPM	8281FA	10179236	FREE
1	1	RPM	8281PA	10184883	FREE
1	1	RPM	8281EA	10179238	FREE
1	1	GAMMA RAY	8262XA	10367217	FREE
1	1	TEL/CCL	8248EA	10193585	FREE
1	1	PCM	8250EA	10185091	FREE

SPL PROCESSING

DEPTH OFFSETS

8281XA

-0.250

HVC2Q0	SEQ2	AMA2	AMB2	AMF2	AML2
BKL	CHF2	CLS	CPT2Q0	CPT2Q2	CPT2Q3
CPT2Q4	ET2	ILS	LS	MCS2	MCS2Q0
QCAL2	RGN2	RICL	RONE23	RTW023	SDA2
SDL2	SGA2	SGB2	SGF2	SGK2	SGL2
STA2	ASPEC2	ILSC	ILSN	WDTH2	RICLC
CLSR	ILSR	LSR	RICLR		
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	RAT0	RAT013
RBOR	RGN1	RICS	RIN	RONE	RPOR
RTW0	RIN13	RONE13	RTW013	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	HOC	FE2XC	ISSC	RINC
ISSN	RDEN	WDTH1	RICSC	CSSR	G1R
G2R	ISSR	SSR	SS2R	RATOR	RAT013R
RBORR	RICSR	RINR	RIN13R	RONER	RPORR
RTWOR					
SYSTEM		TEN	TTEN		

8281XA

0.000

SYSTEM

0.000

Created by : MIXED

Plotted by : PlotMgr, v5.4.504

Company : EXXONMOBILE PRODUCTION COMPANY

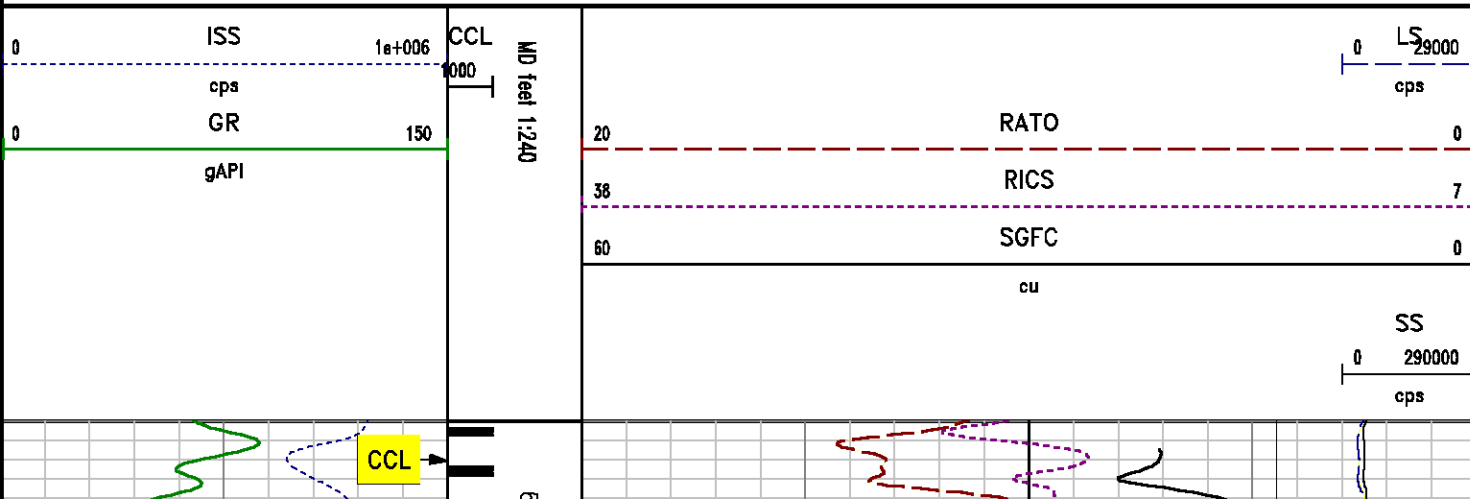
Well : FRU 197-33B2

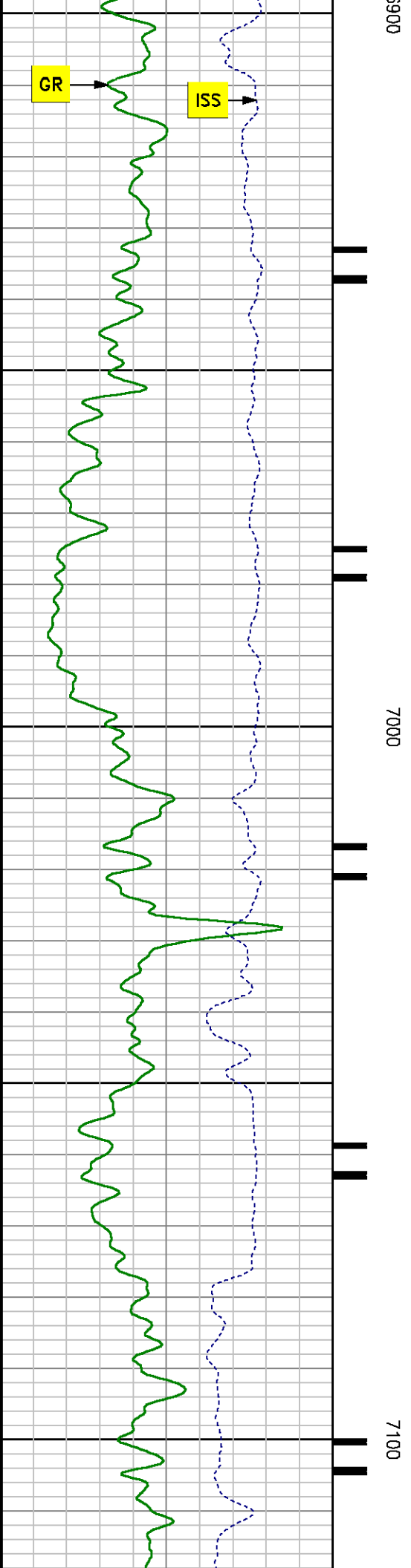
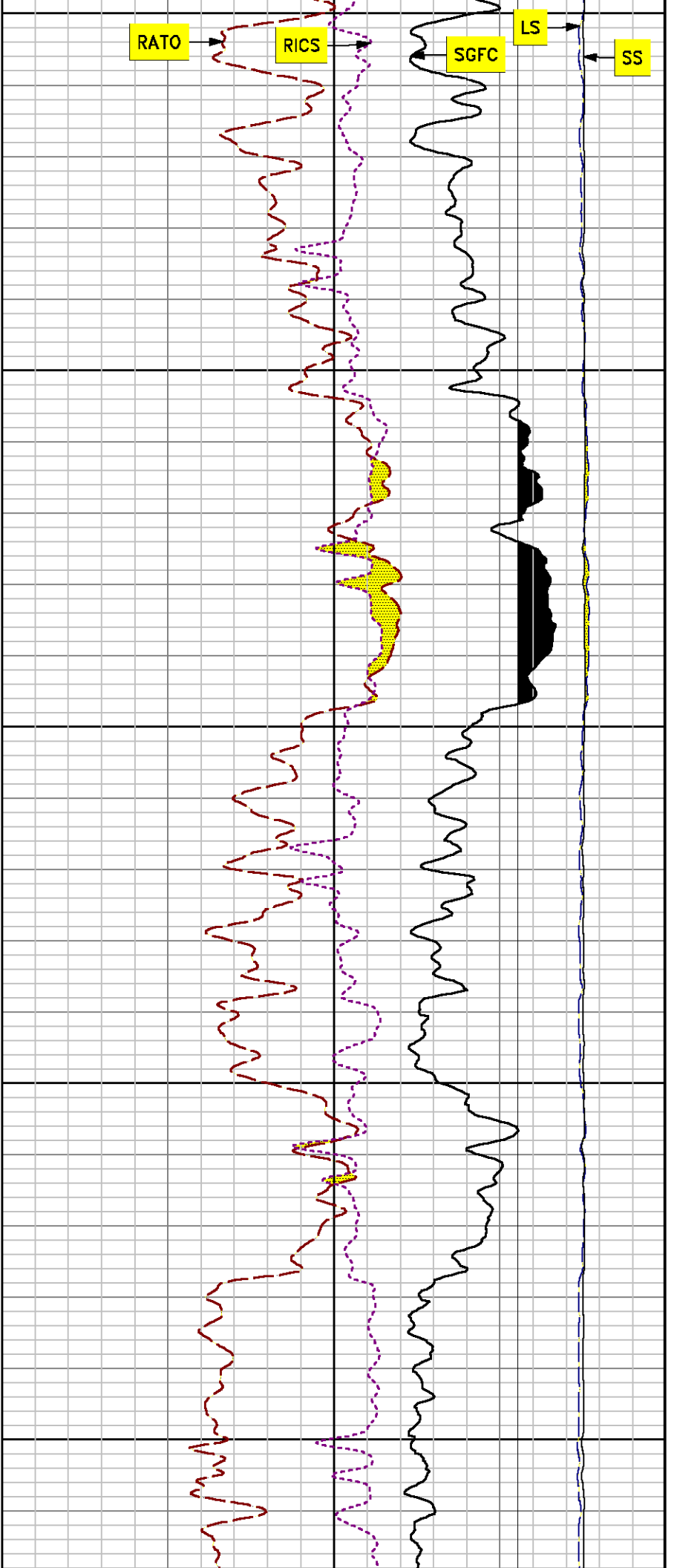
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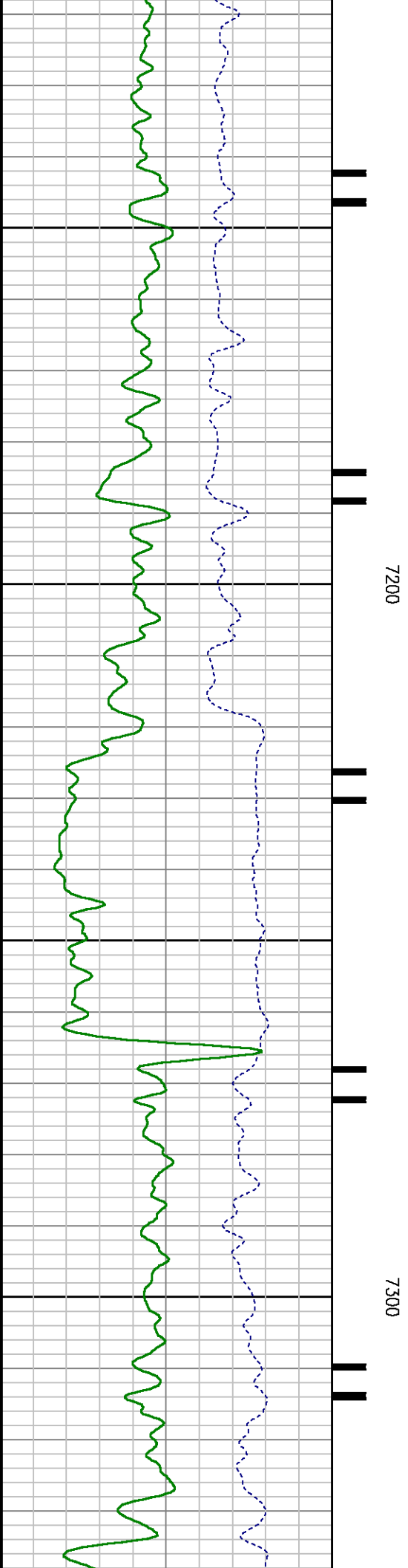
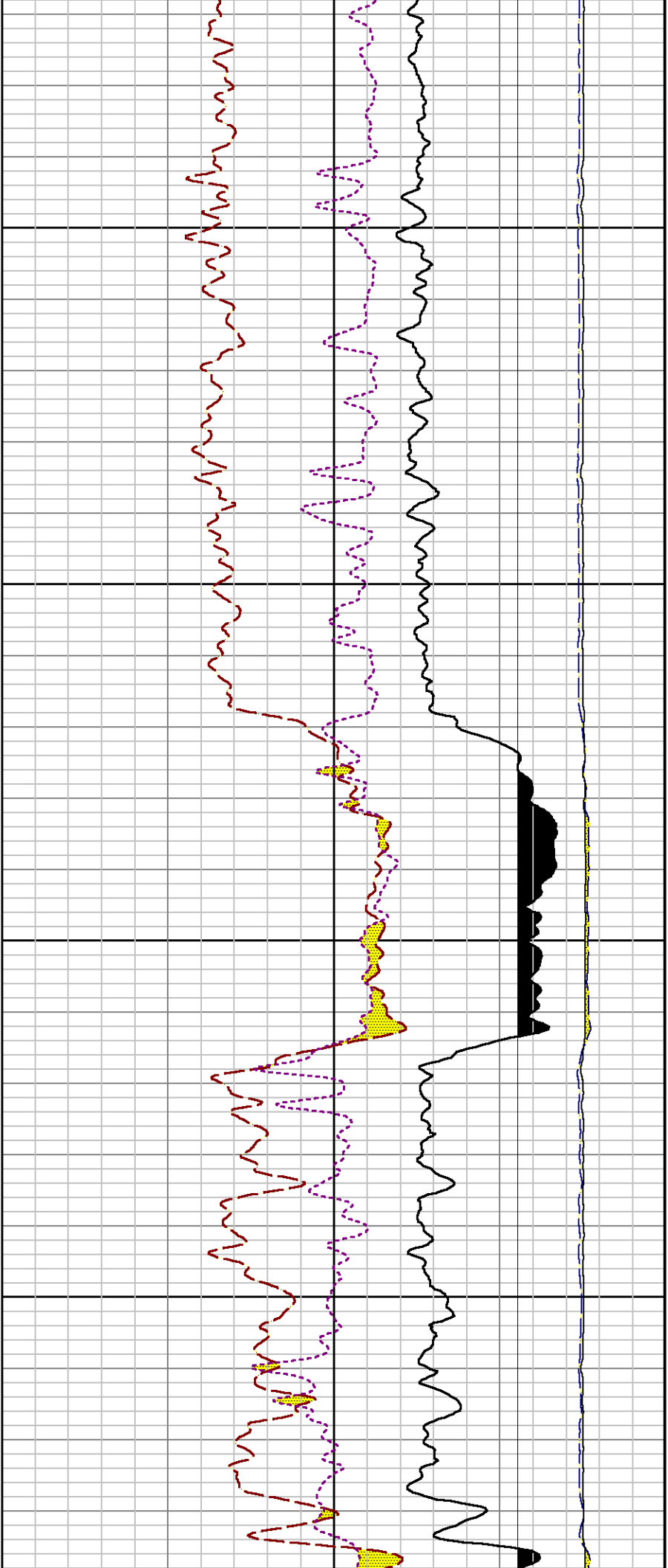
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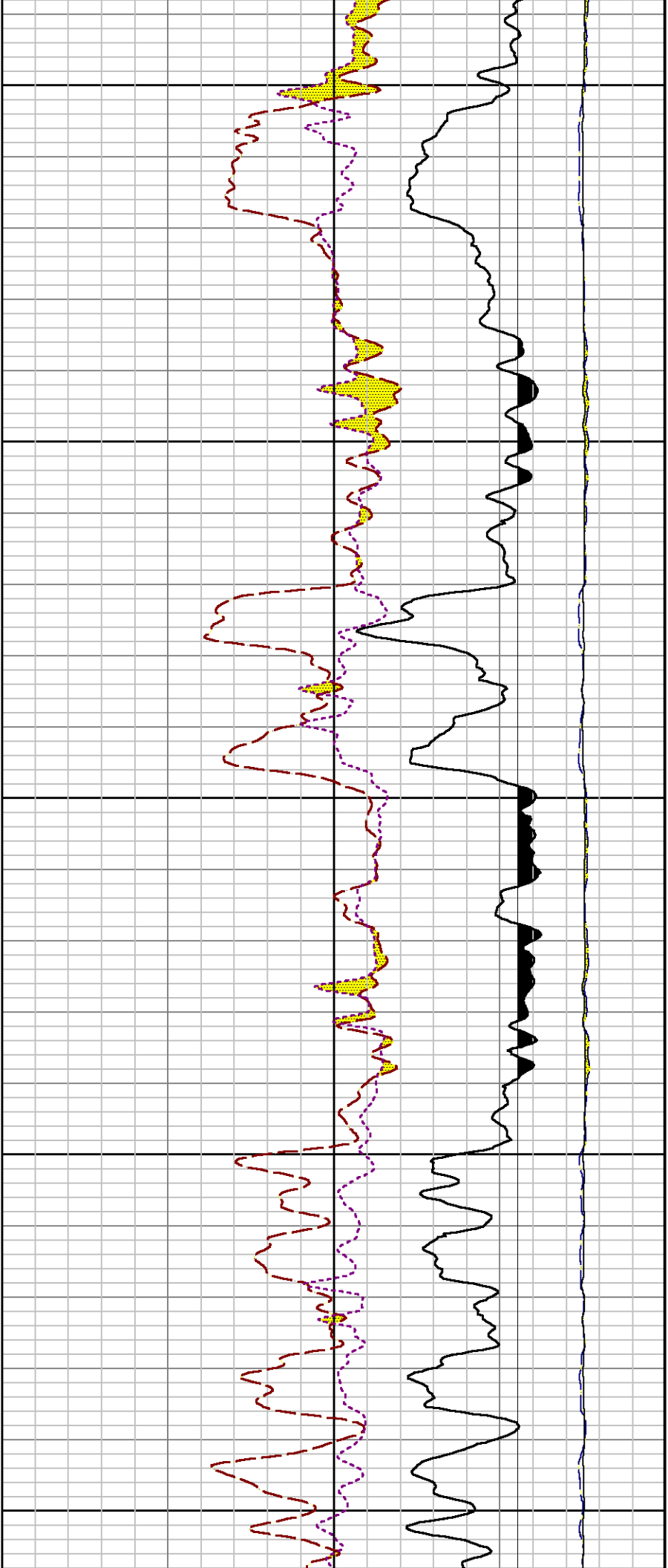
Interval : 6890.00 - 12604.00 feet UP

Created : 9/15/2010 8:34:51 PM



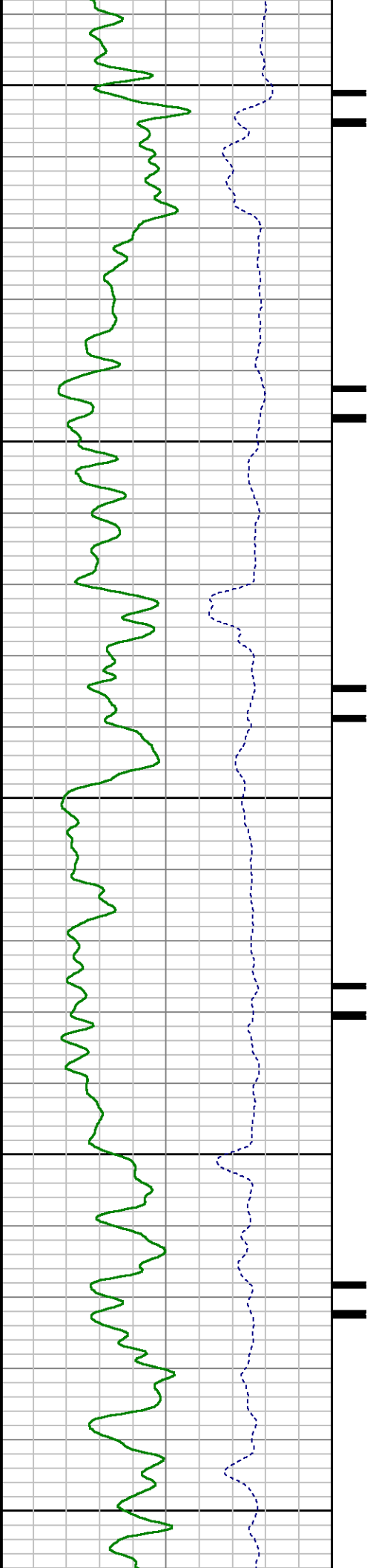


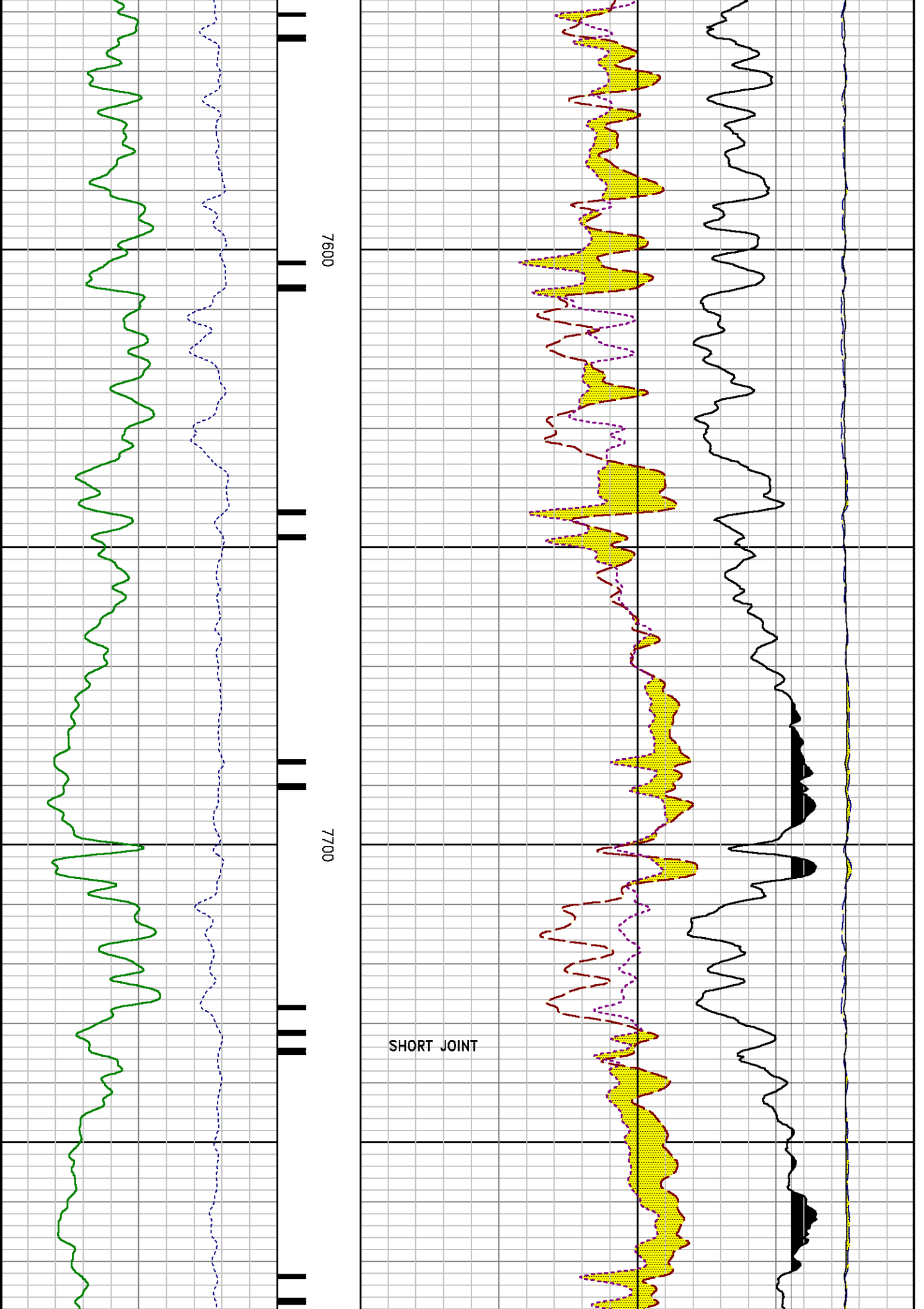


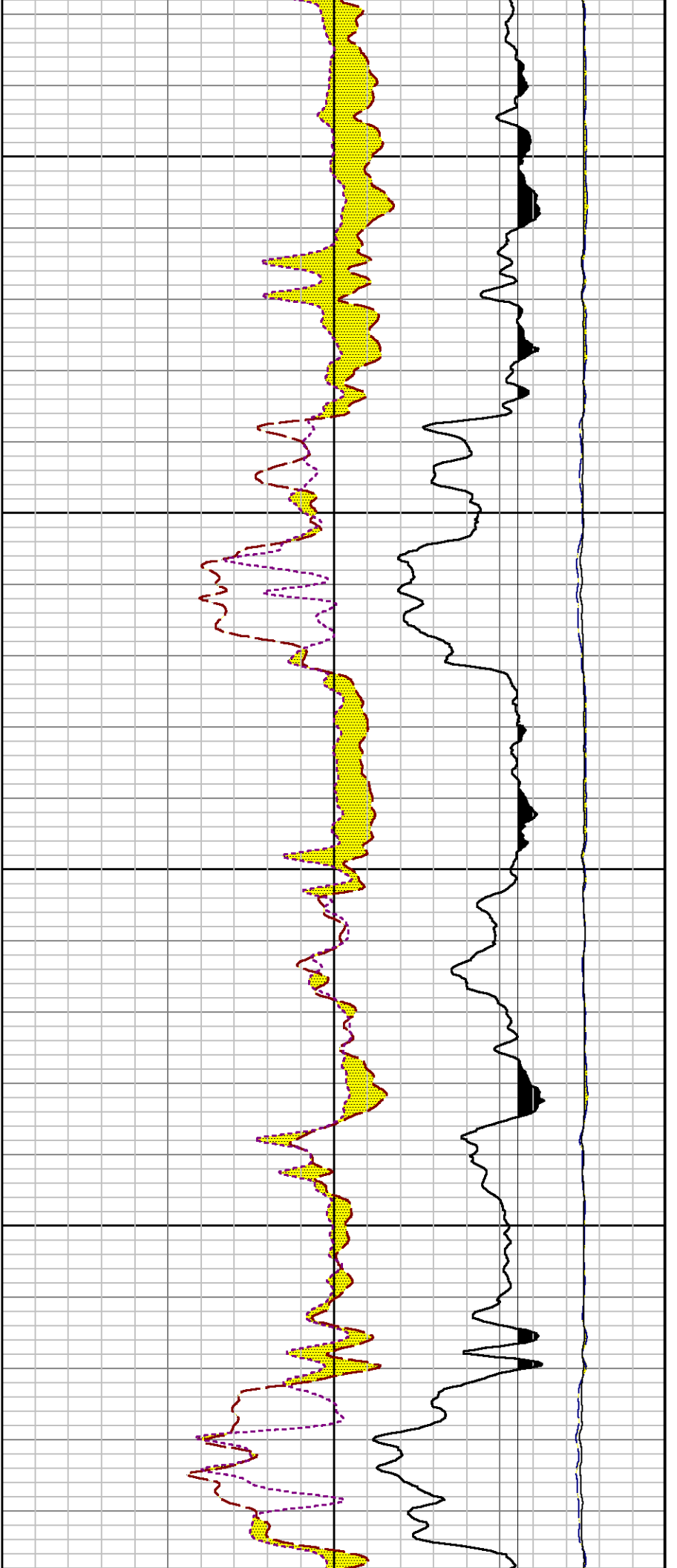


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7500



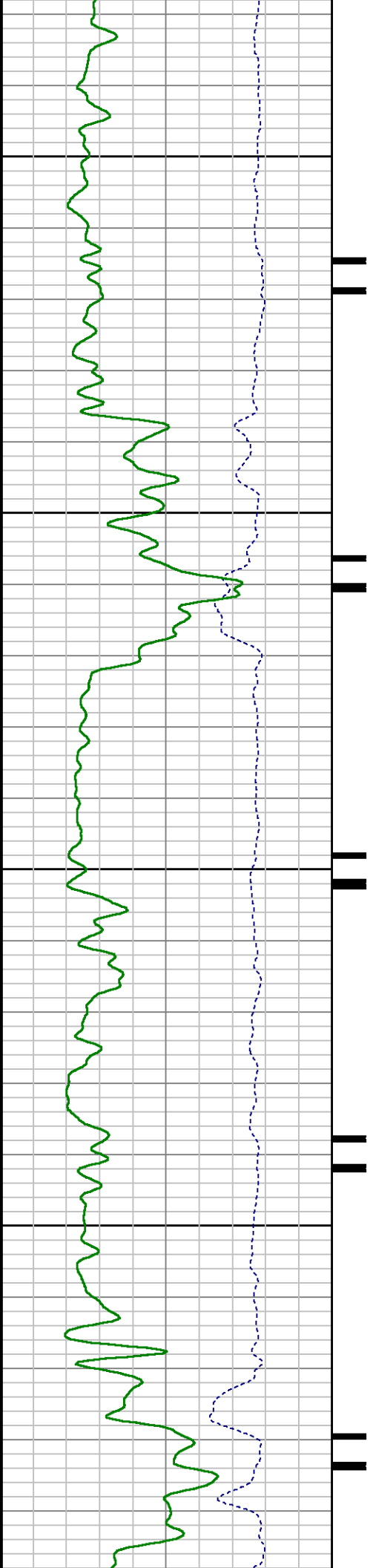


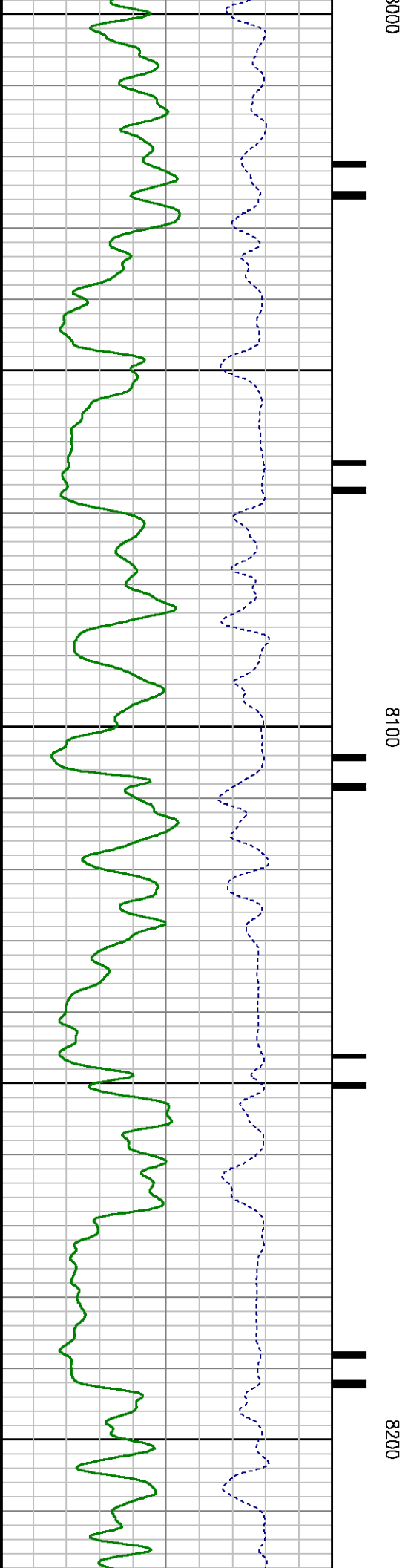
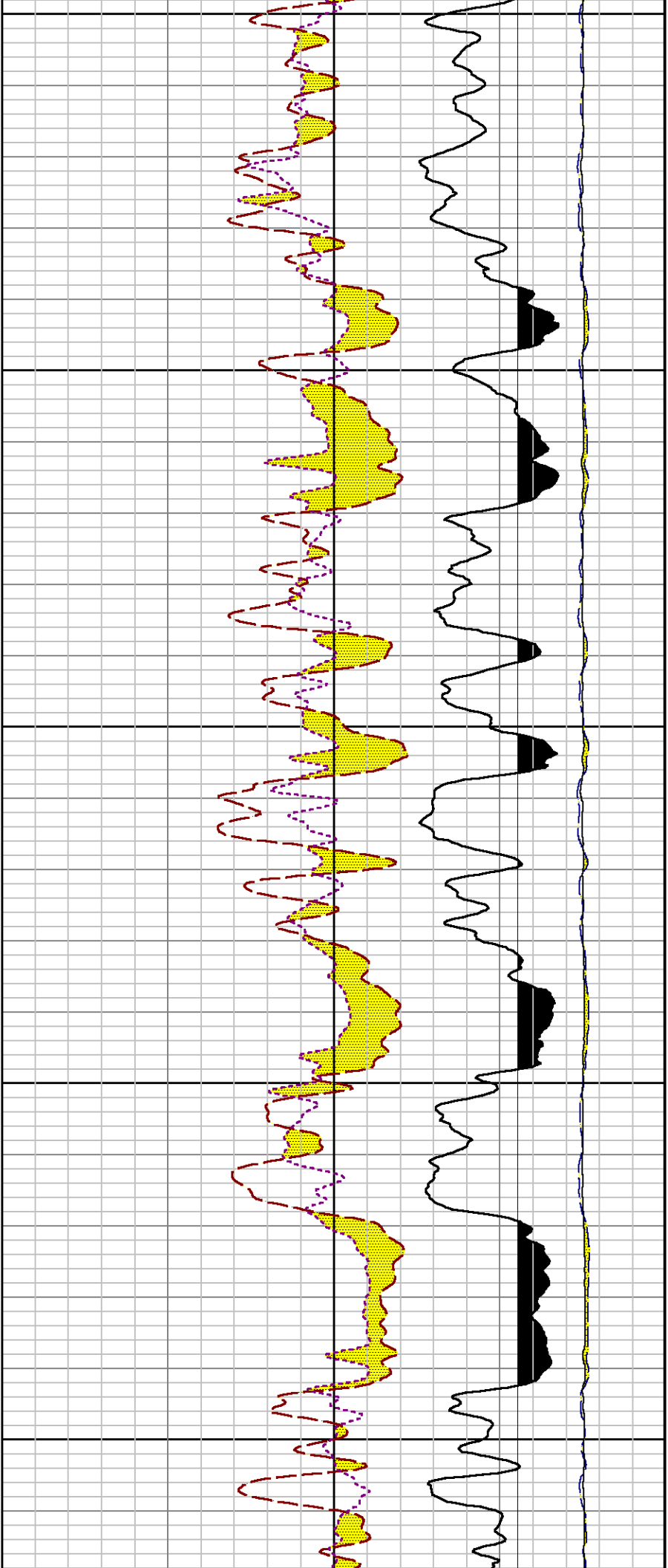


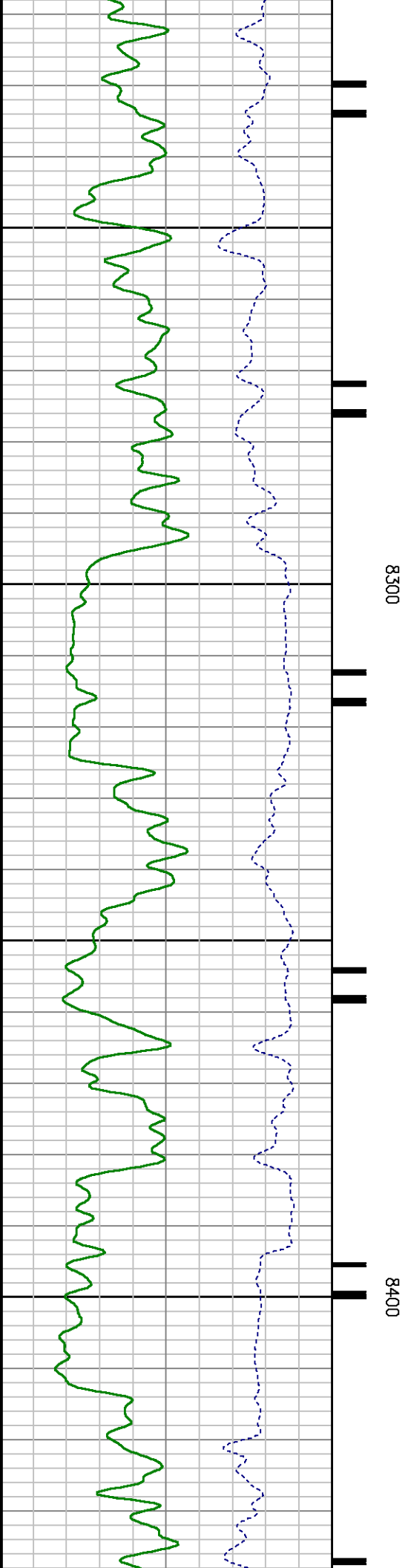
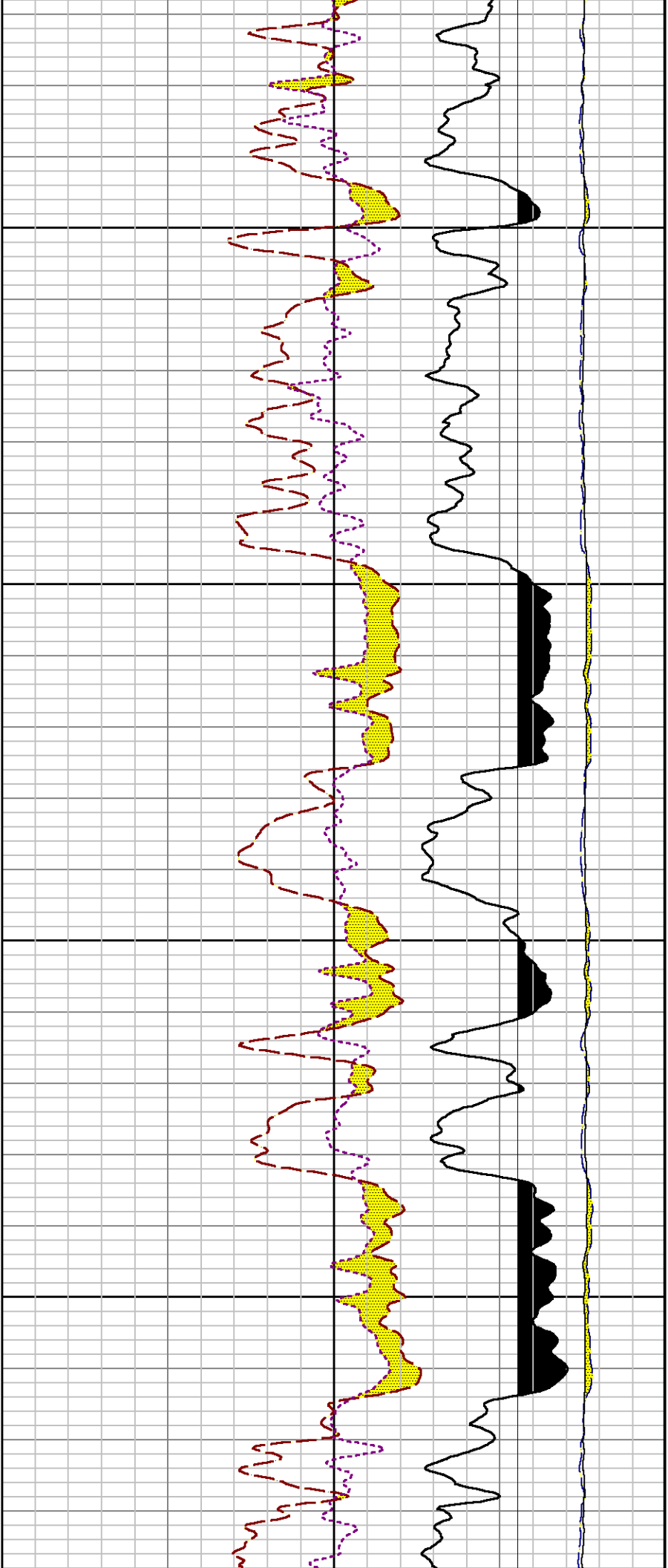
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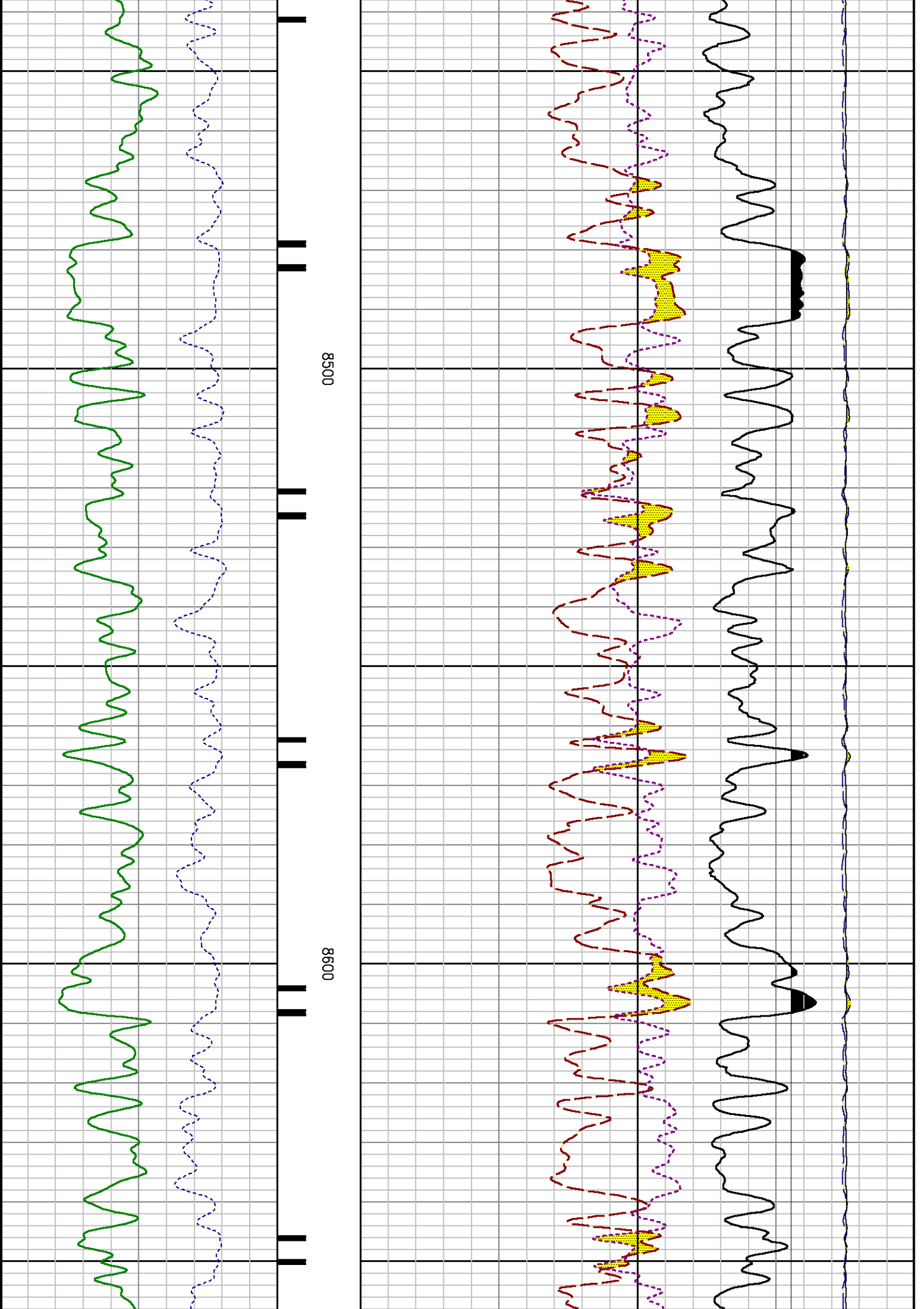
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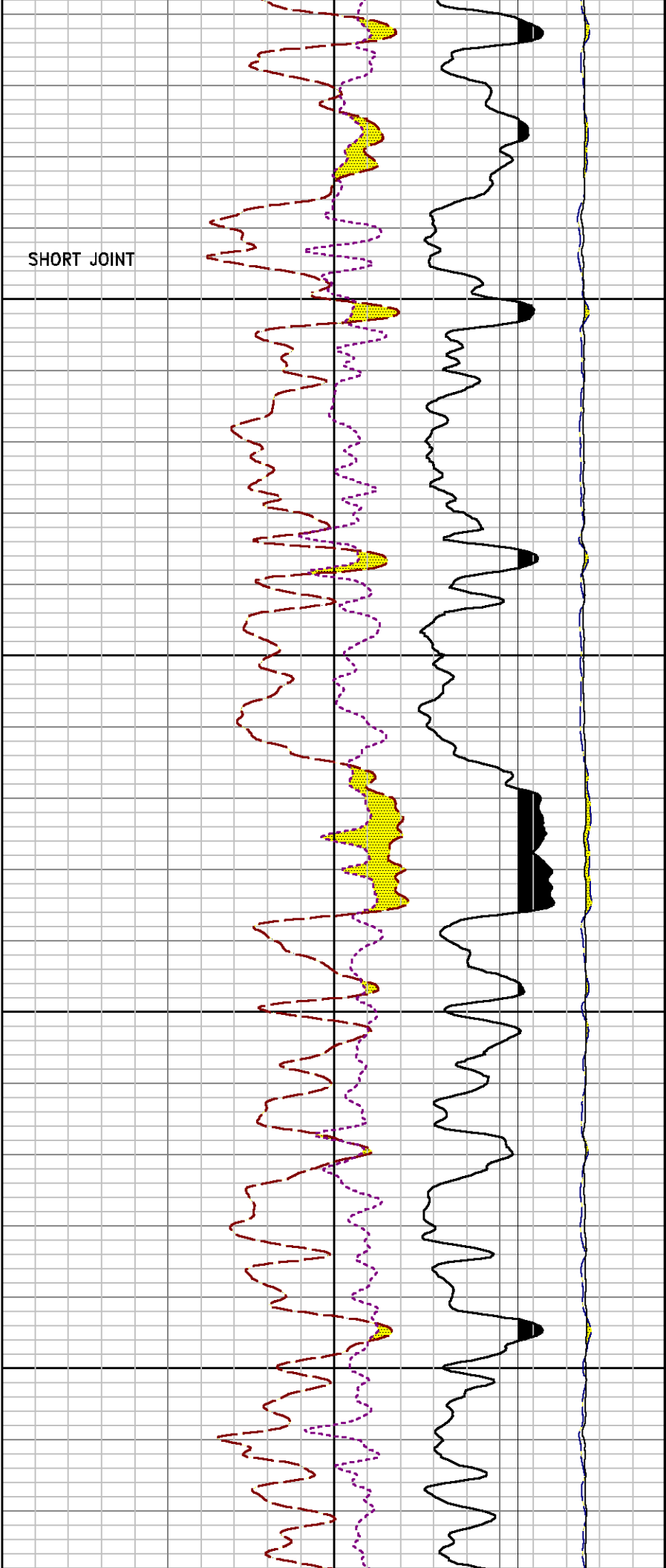
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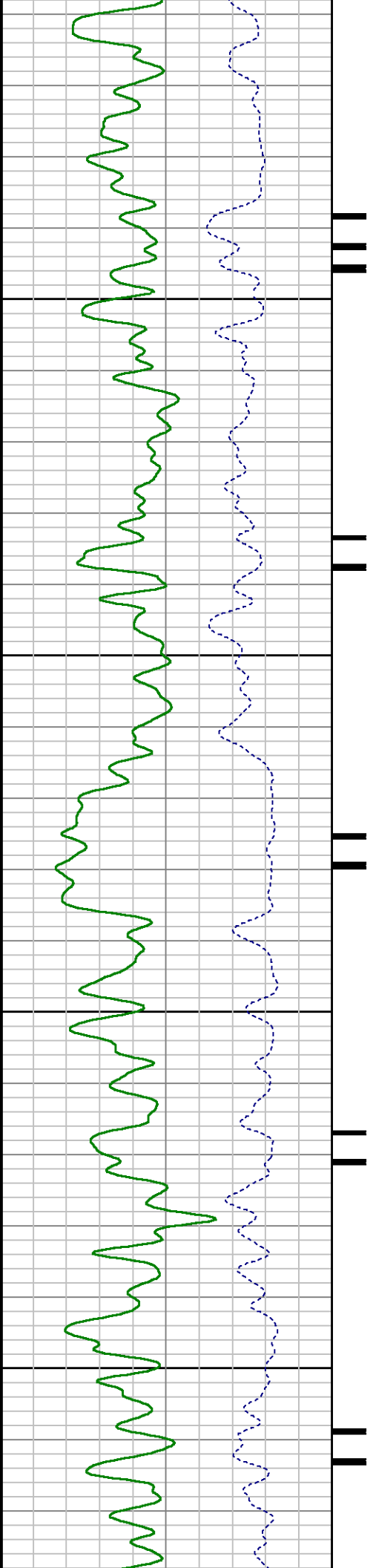


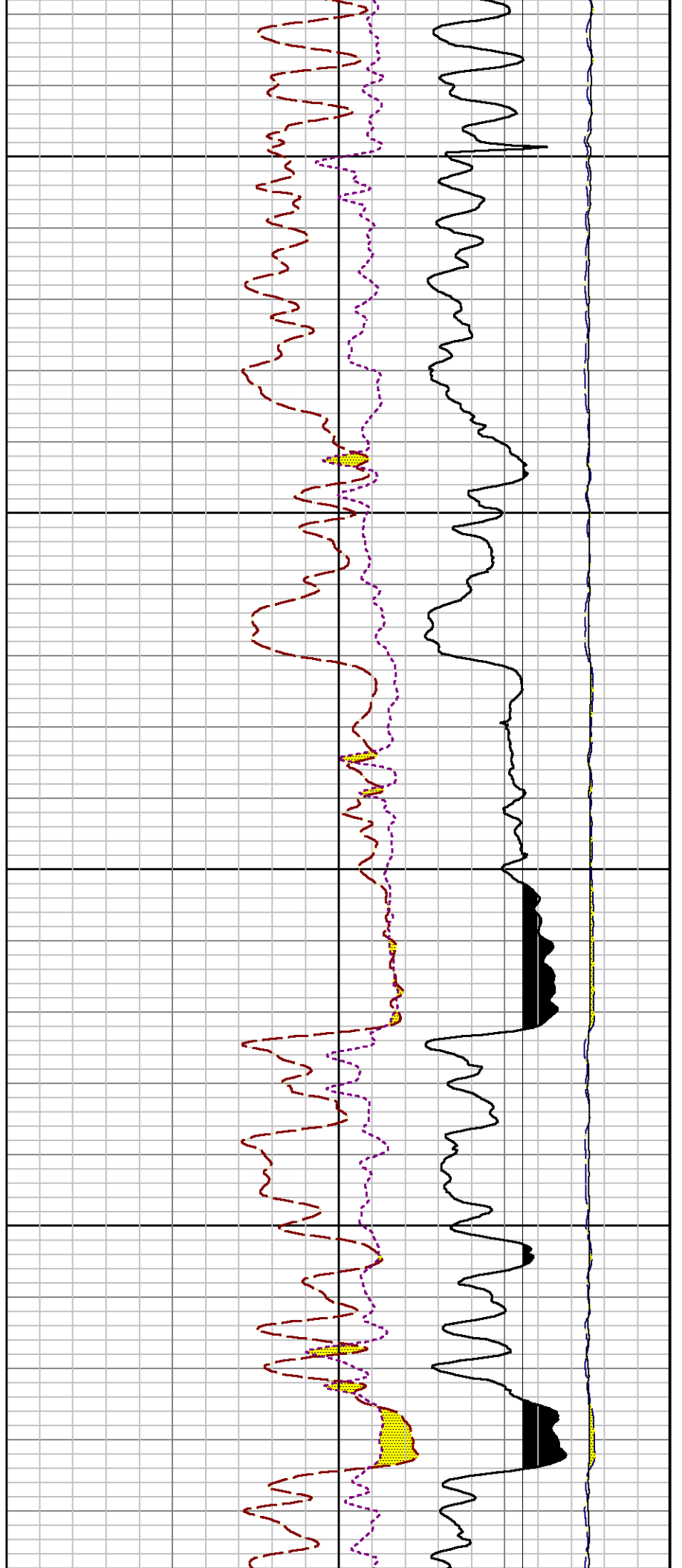
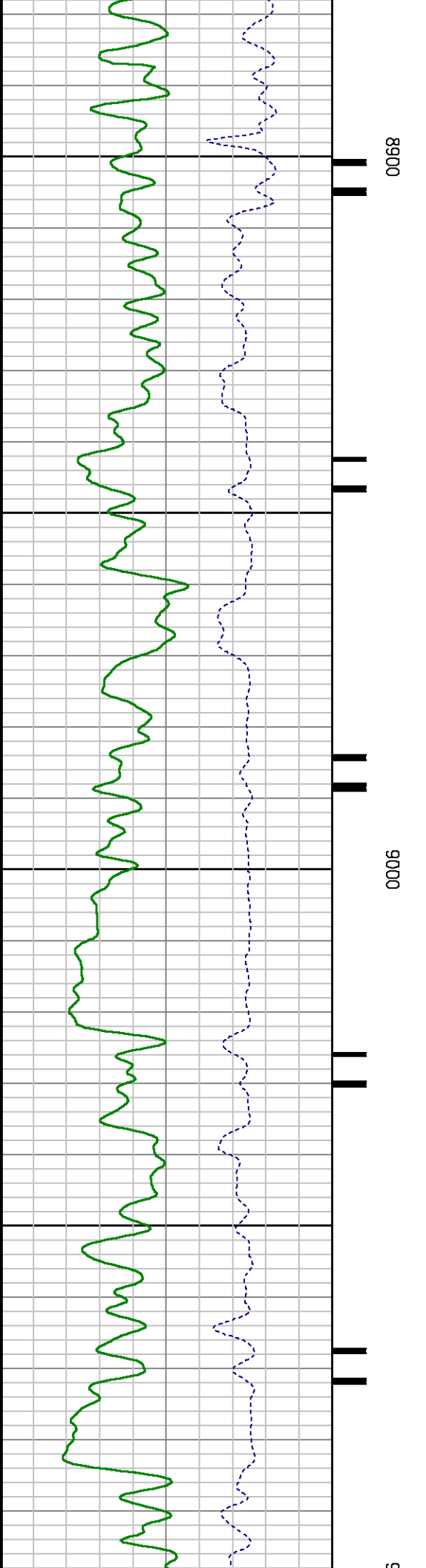


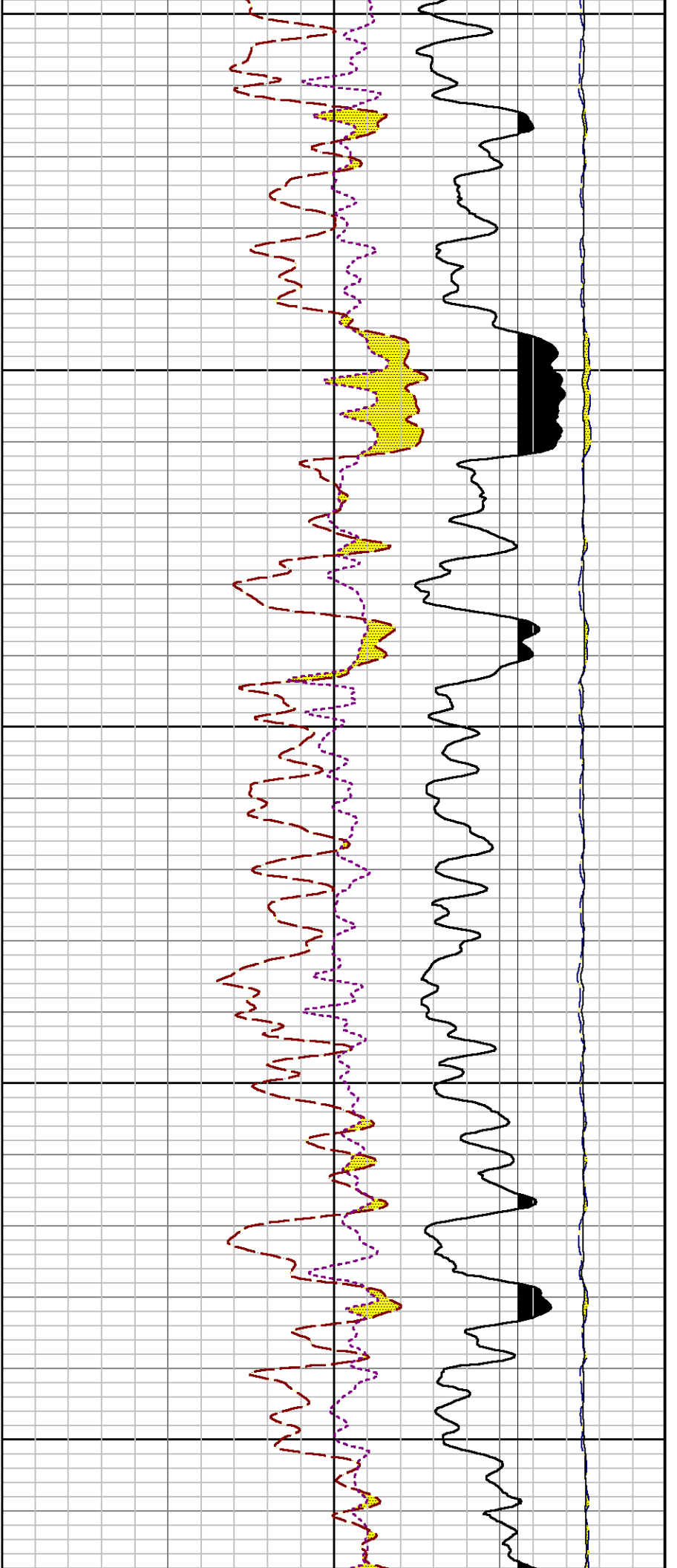
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8800



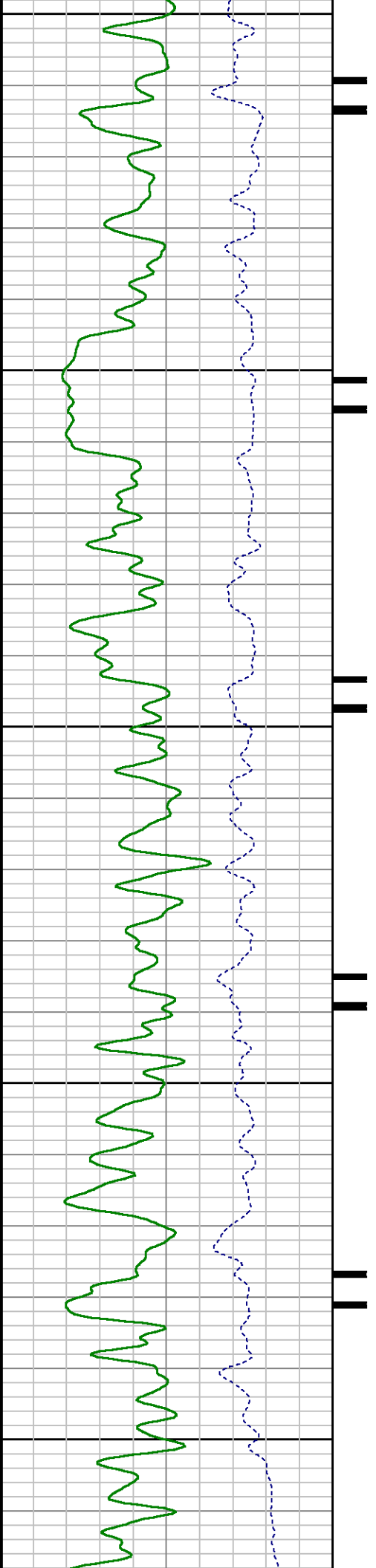


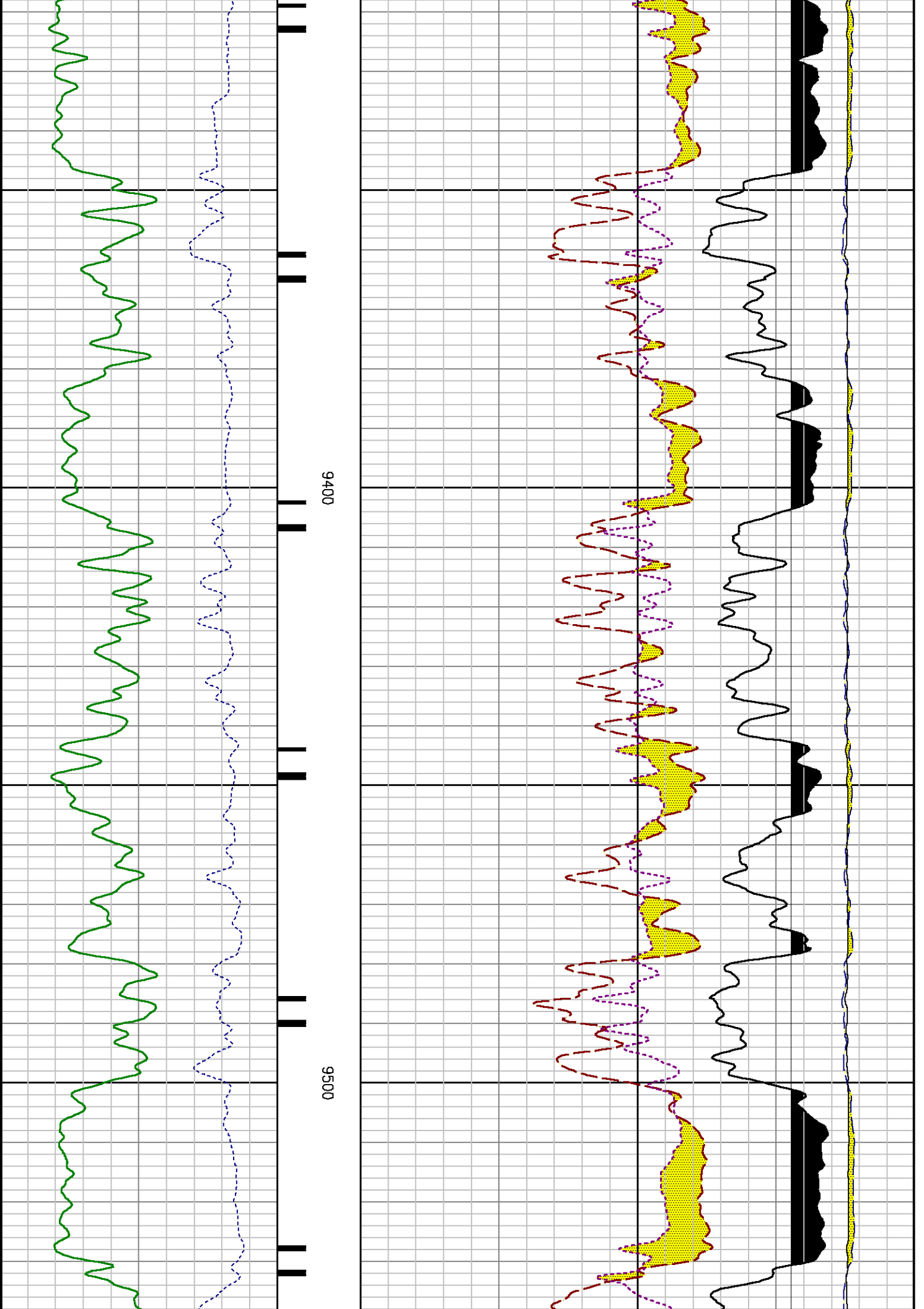


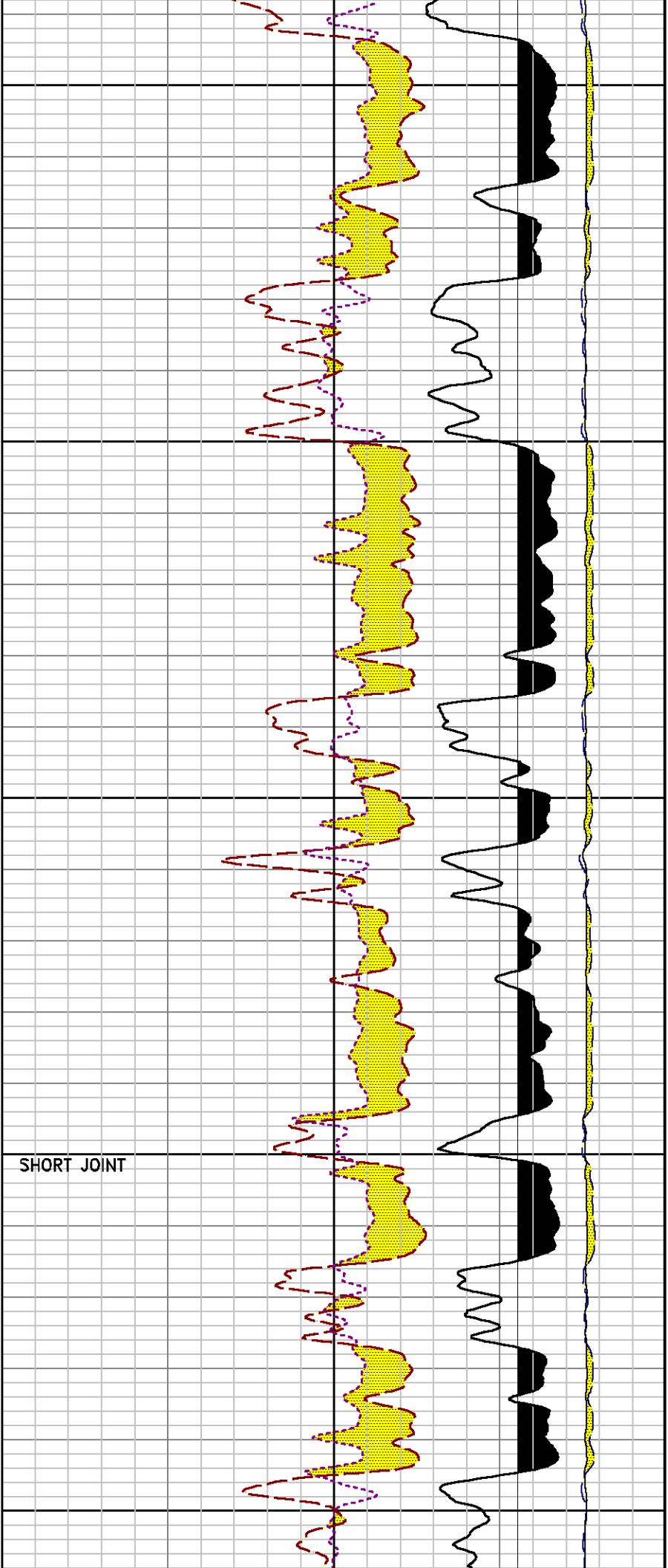
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9300



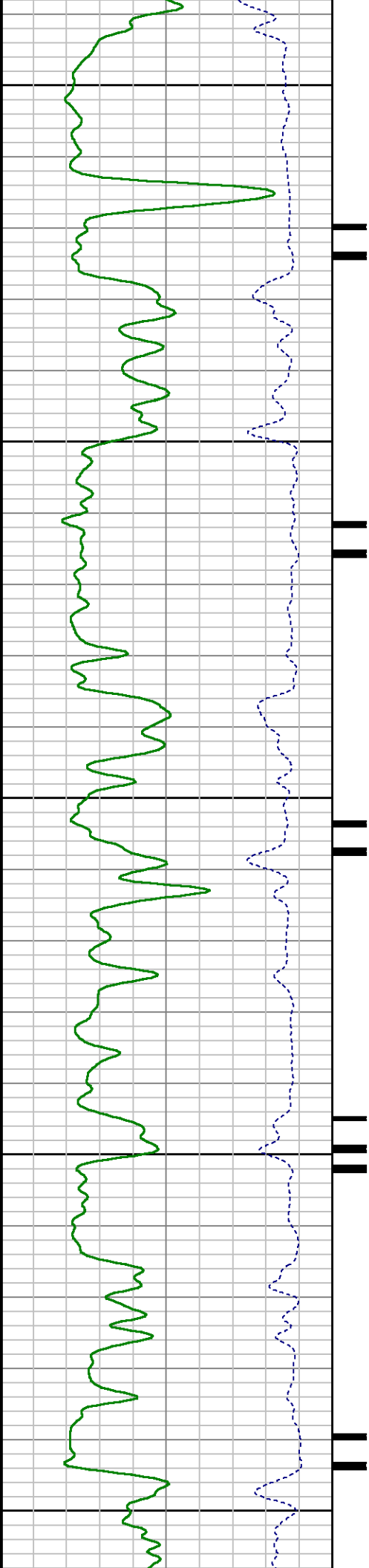


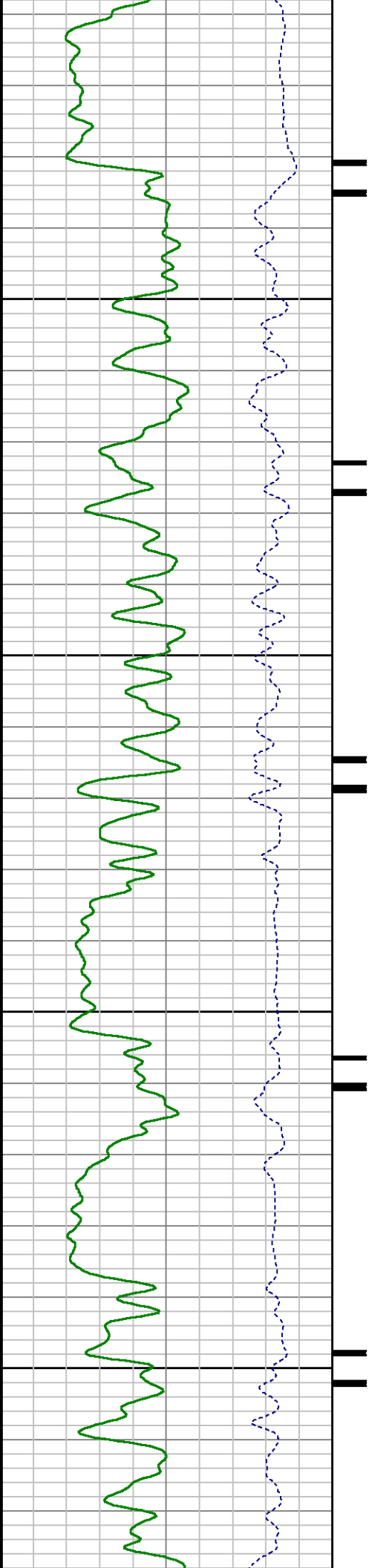


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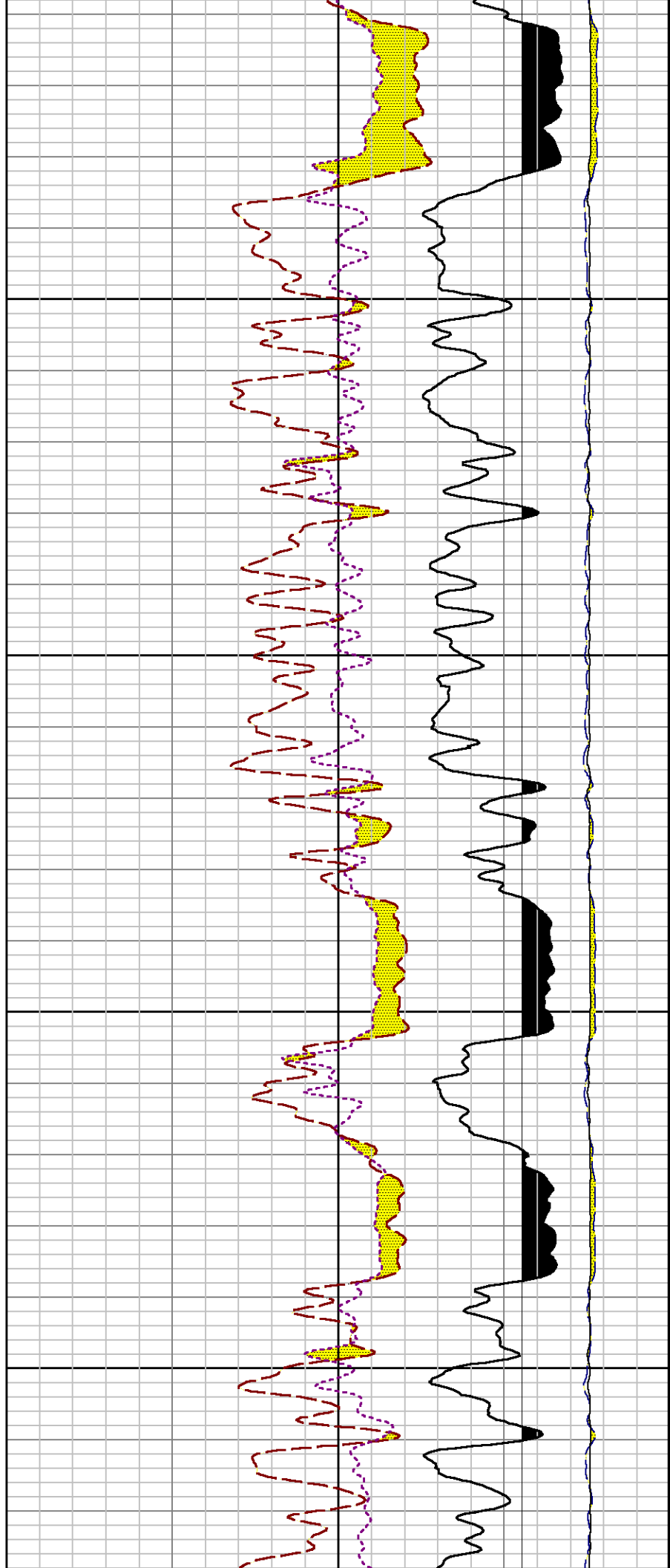
SHORT JOINT

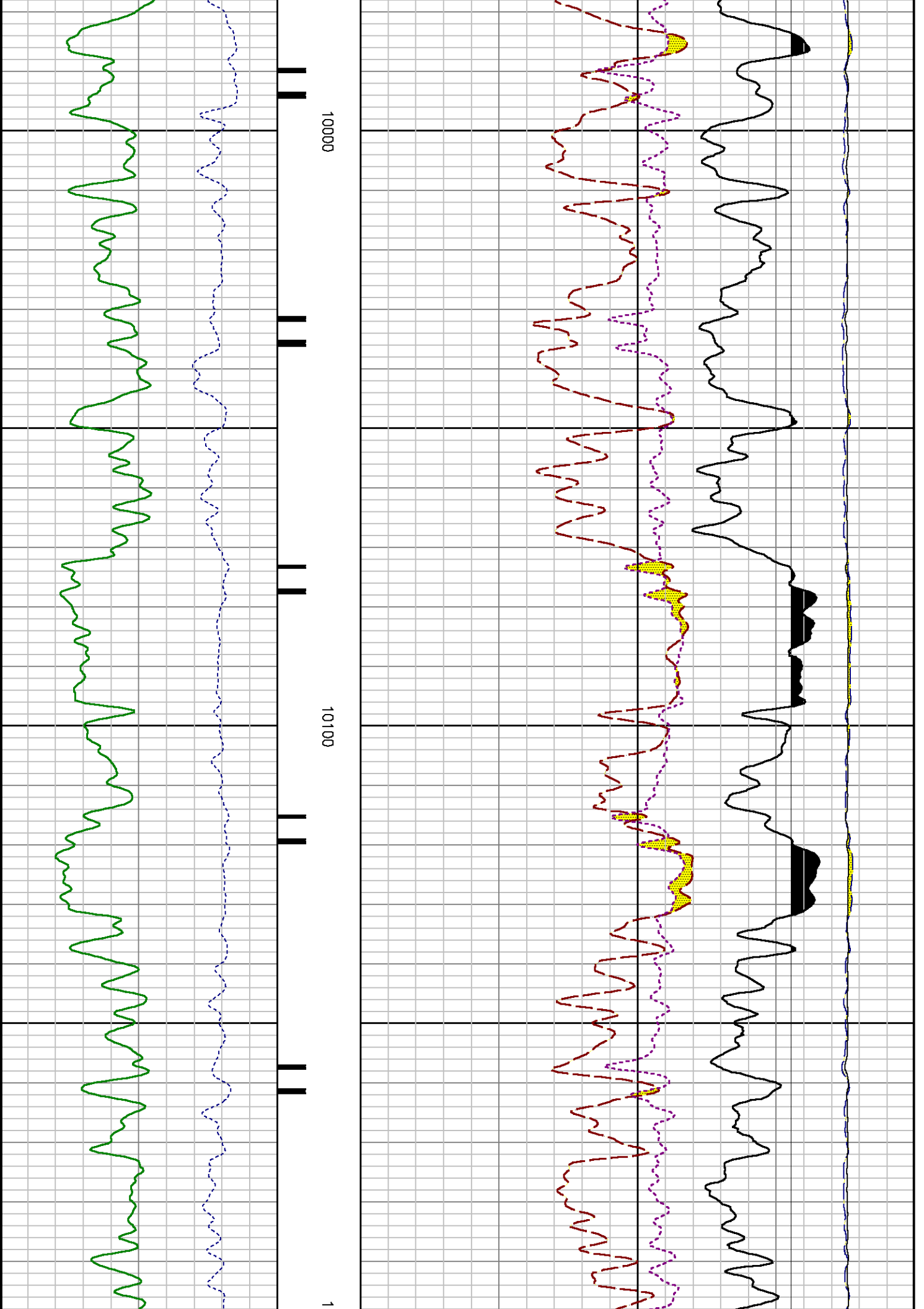


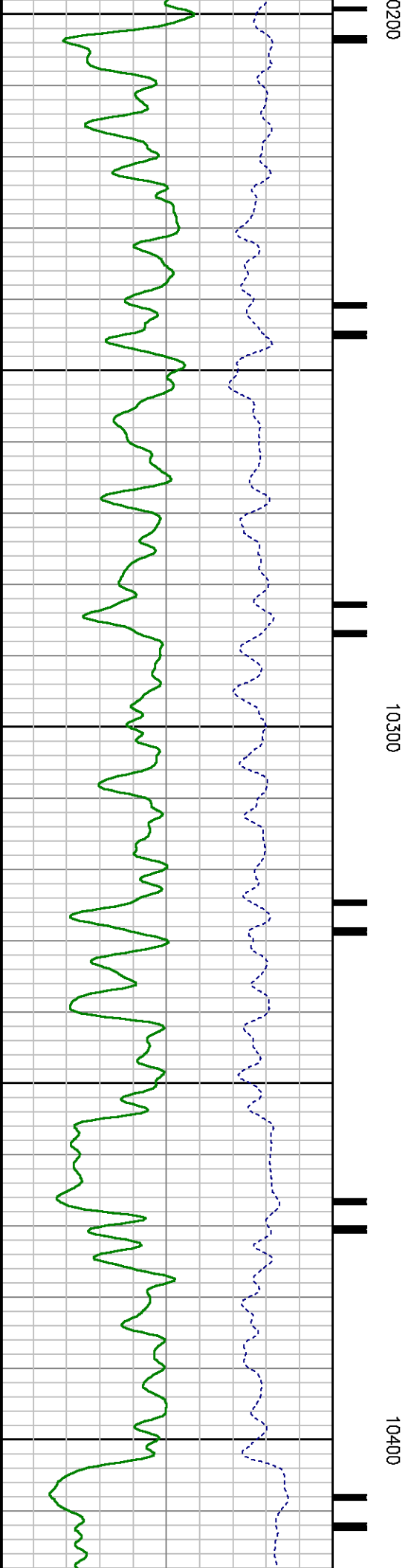
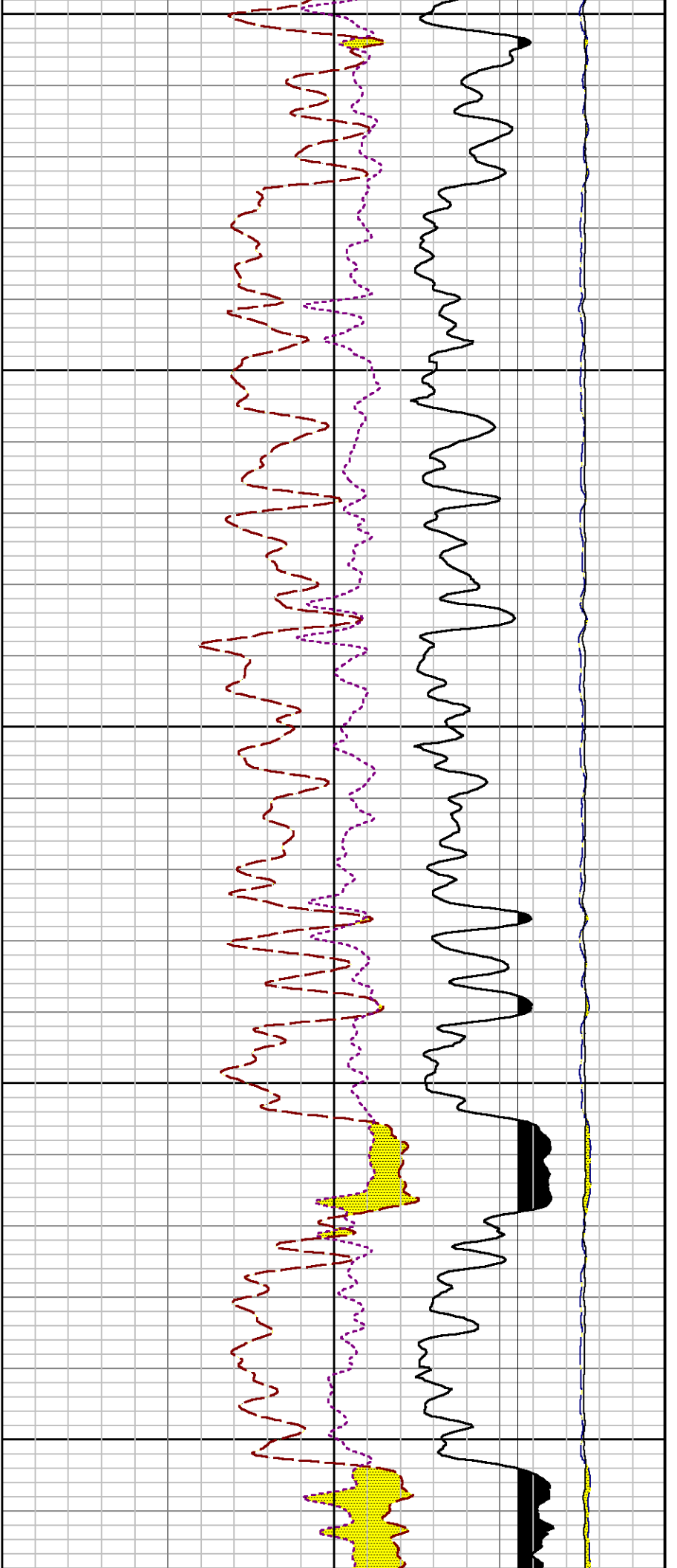


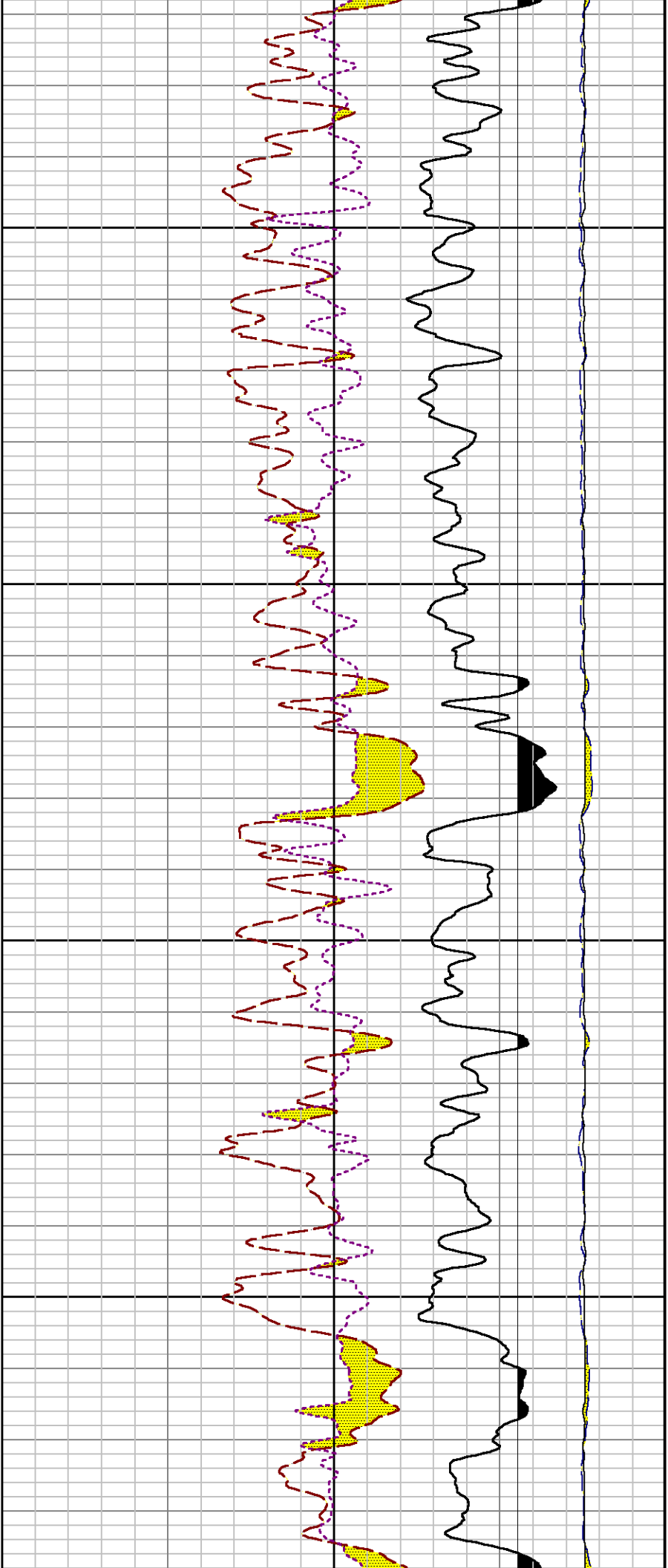
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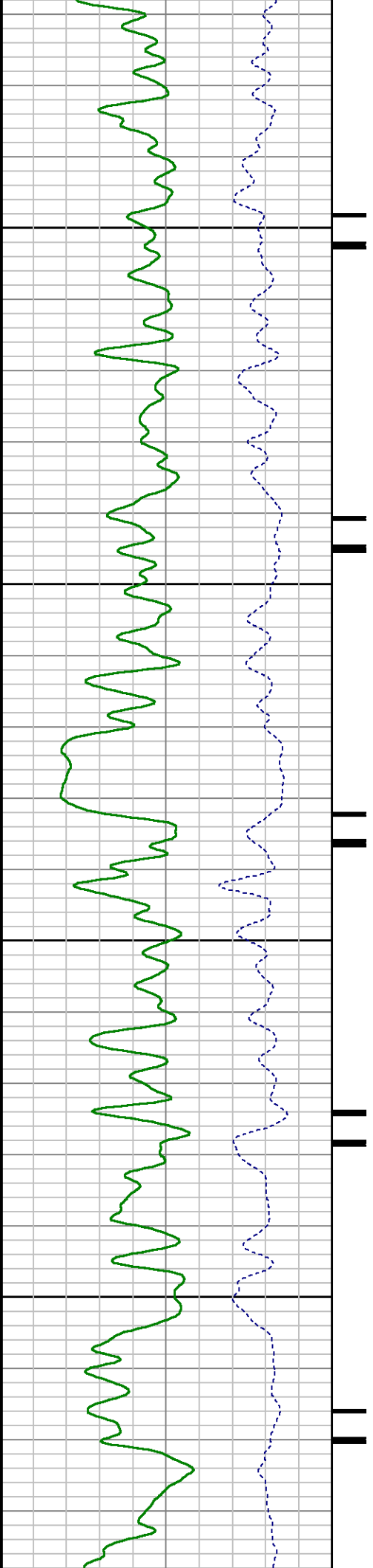


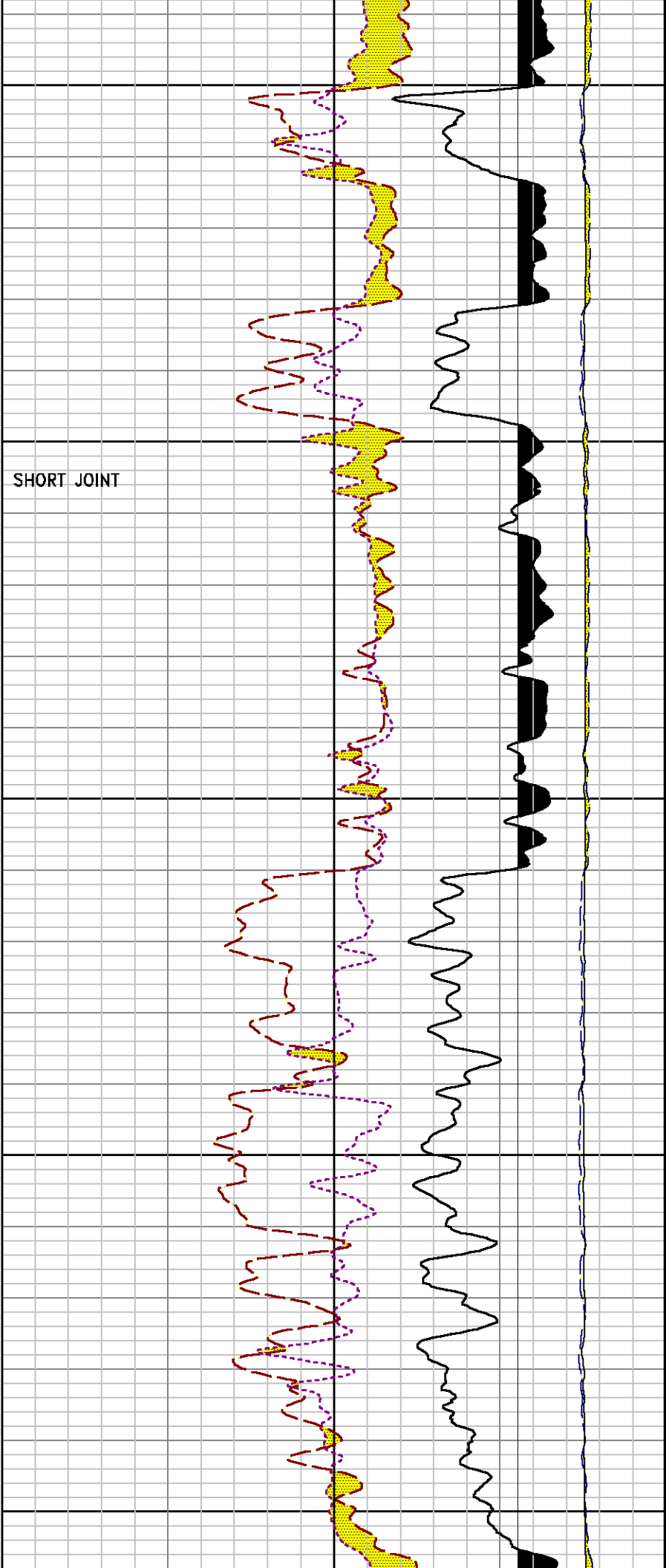




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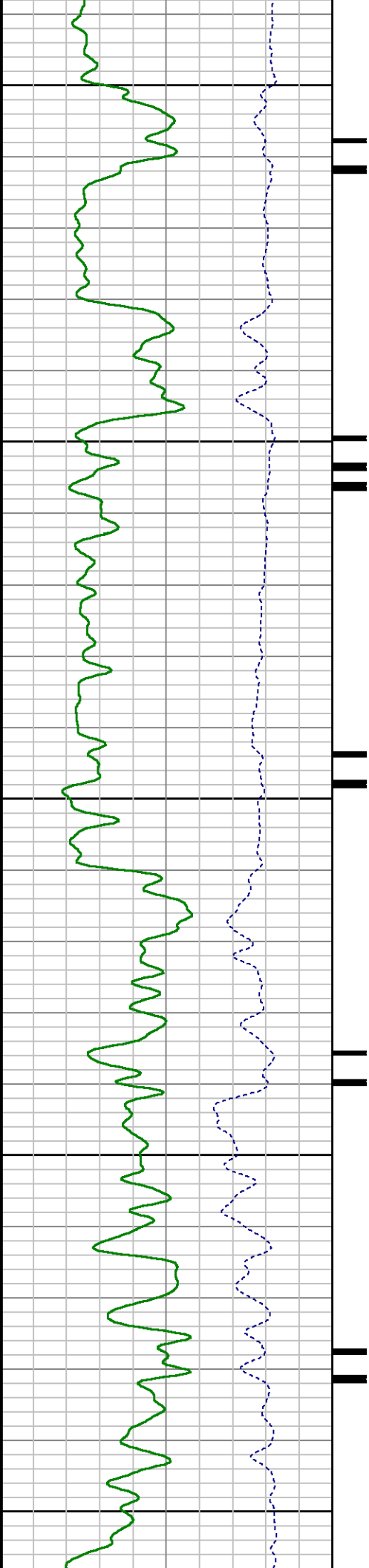
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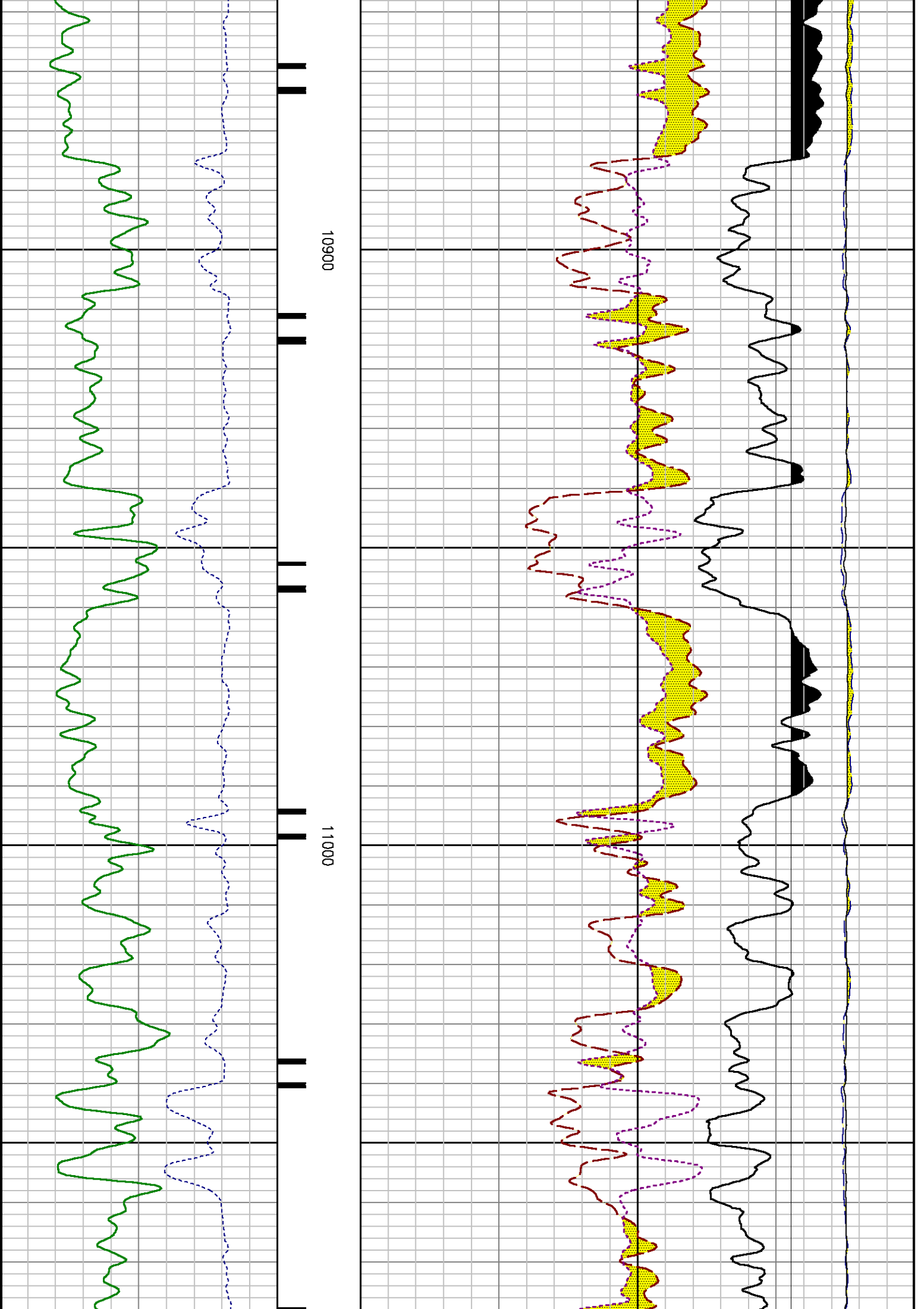


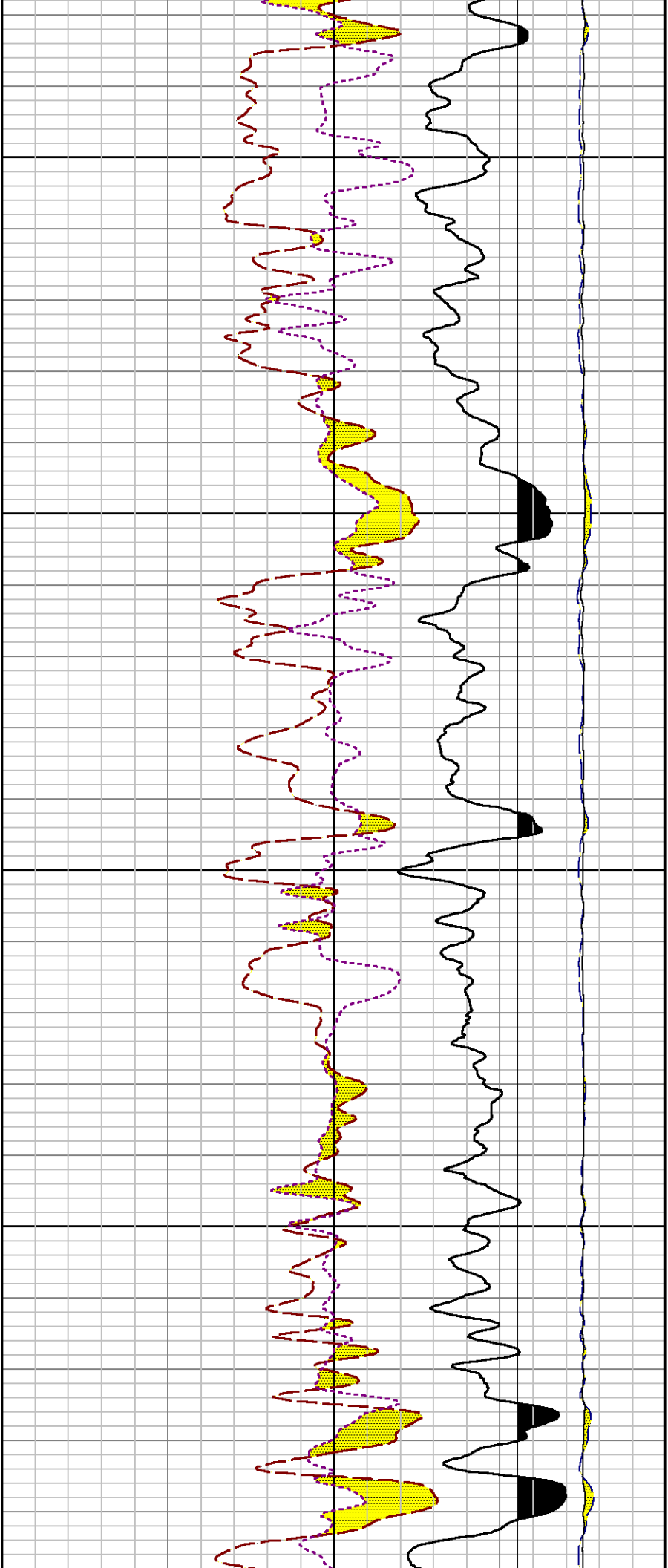


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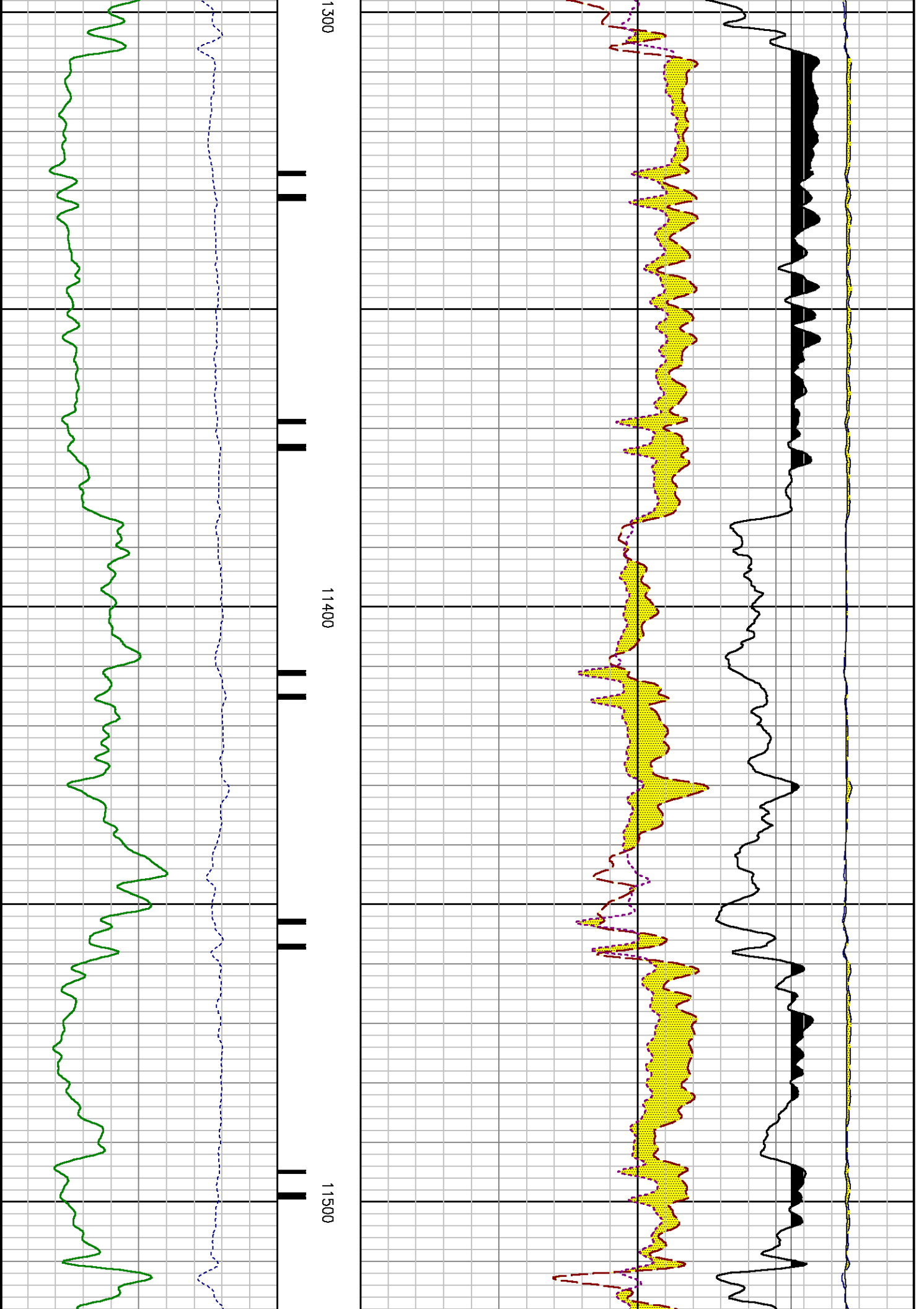


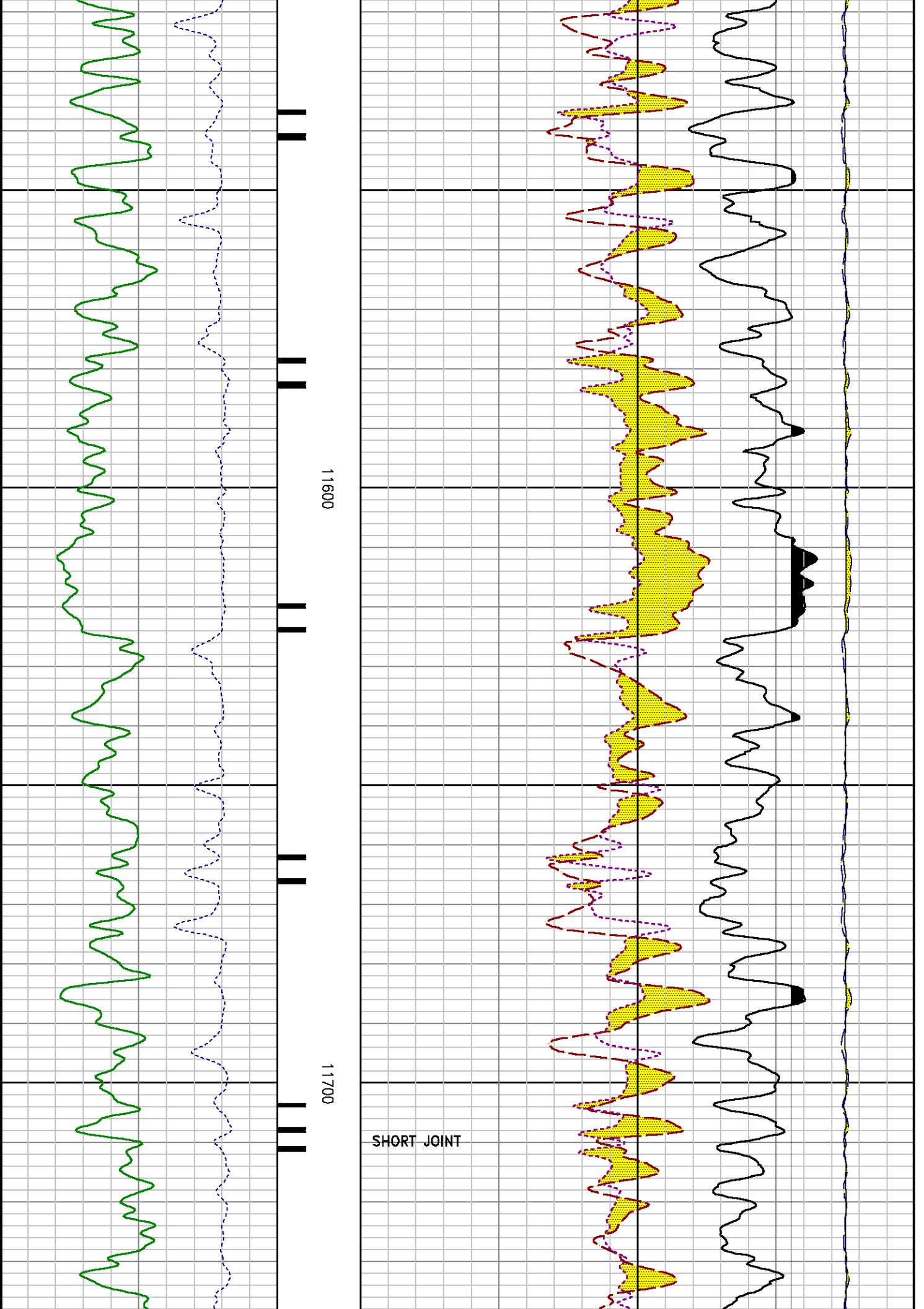


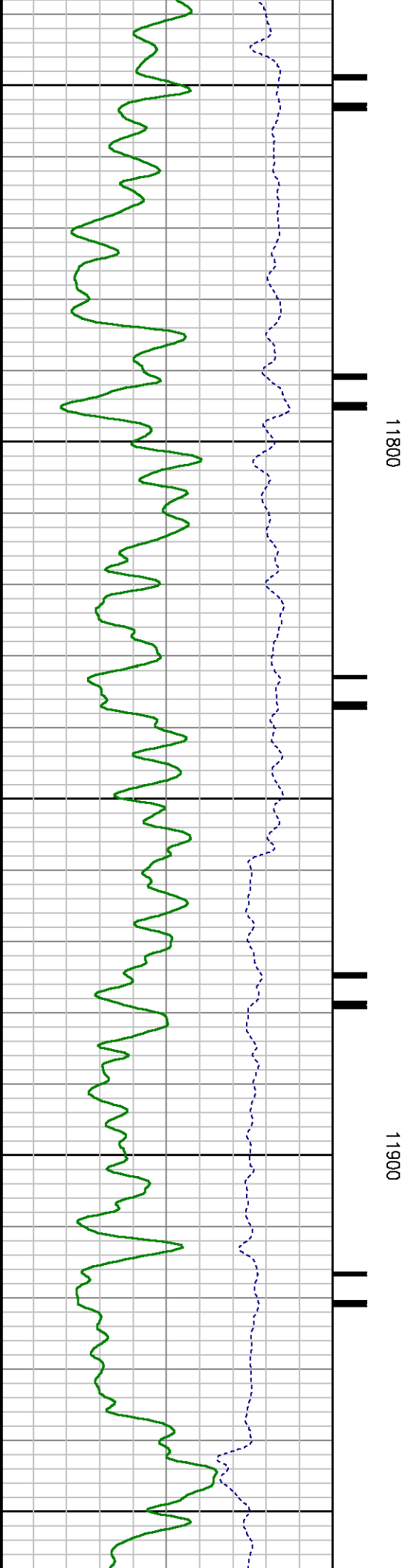
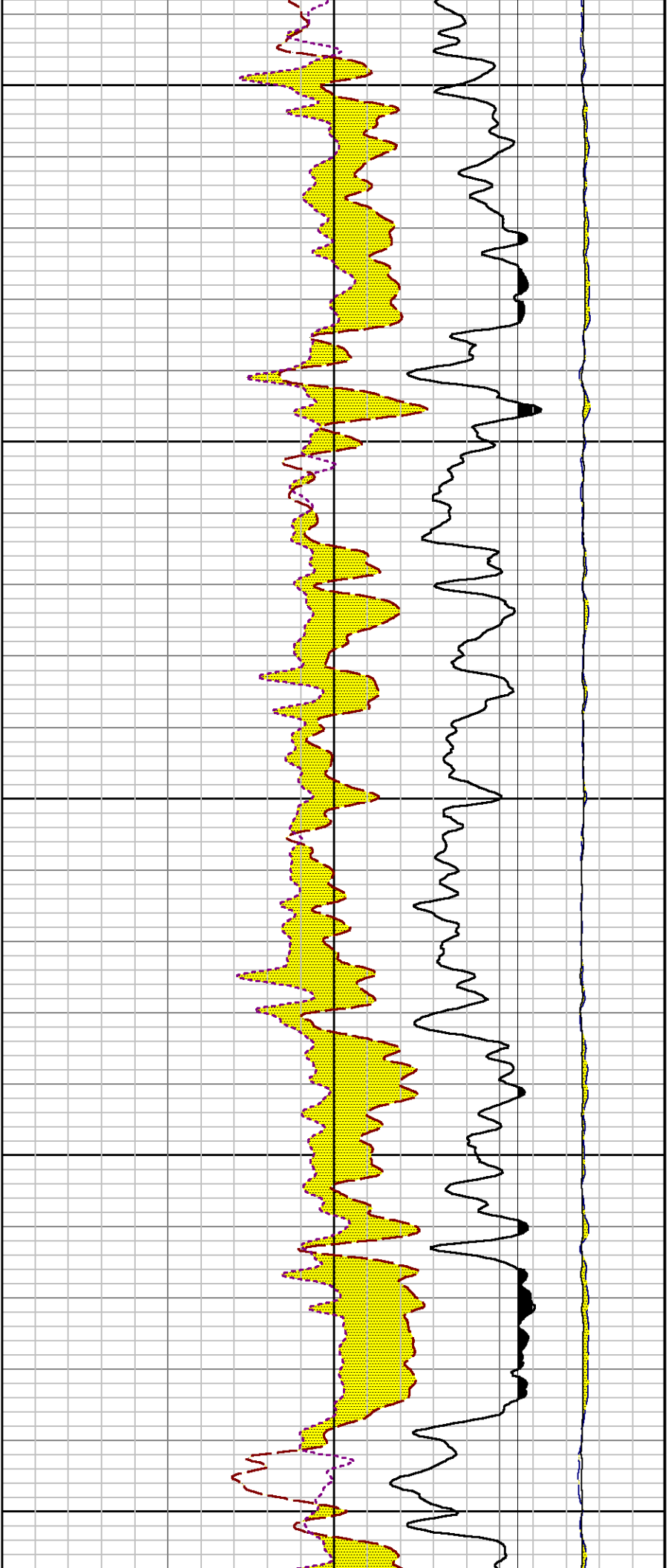
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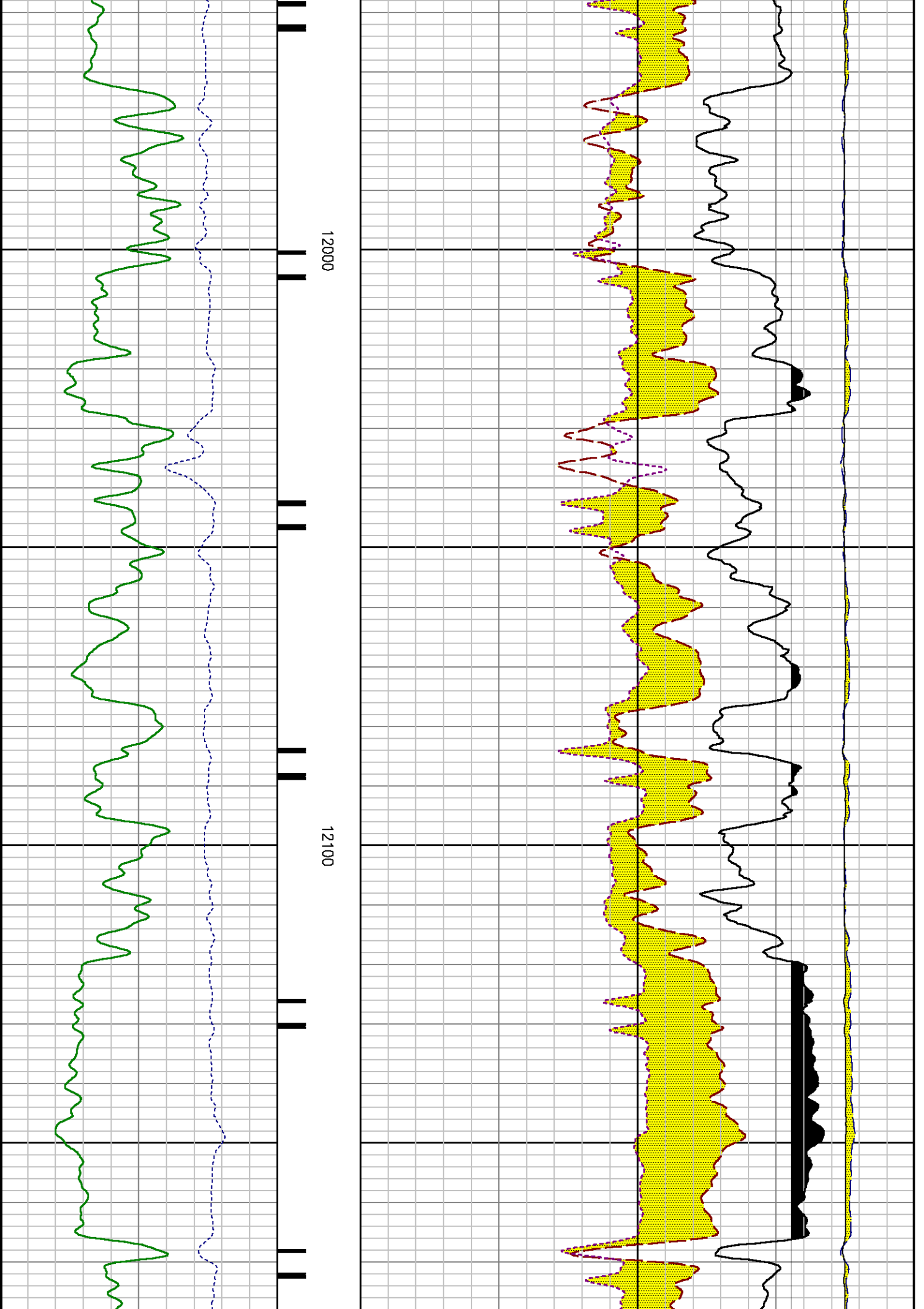
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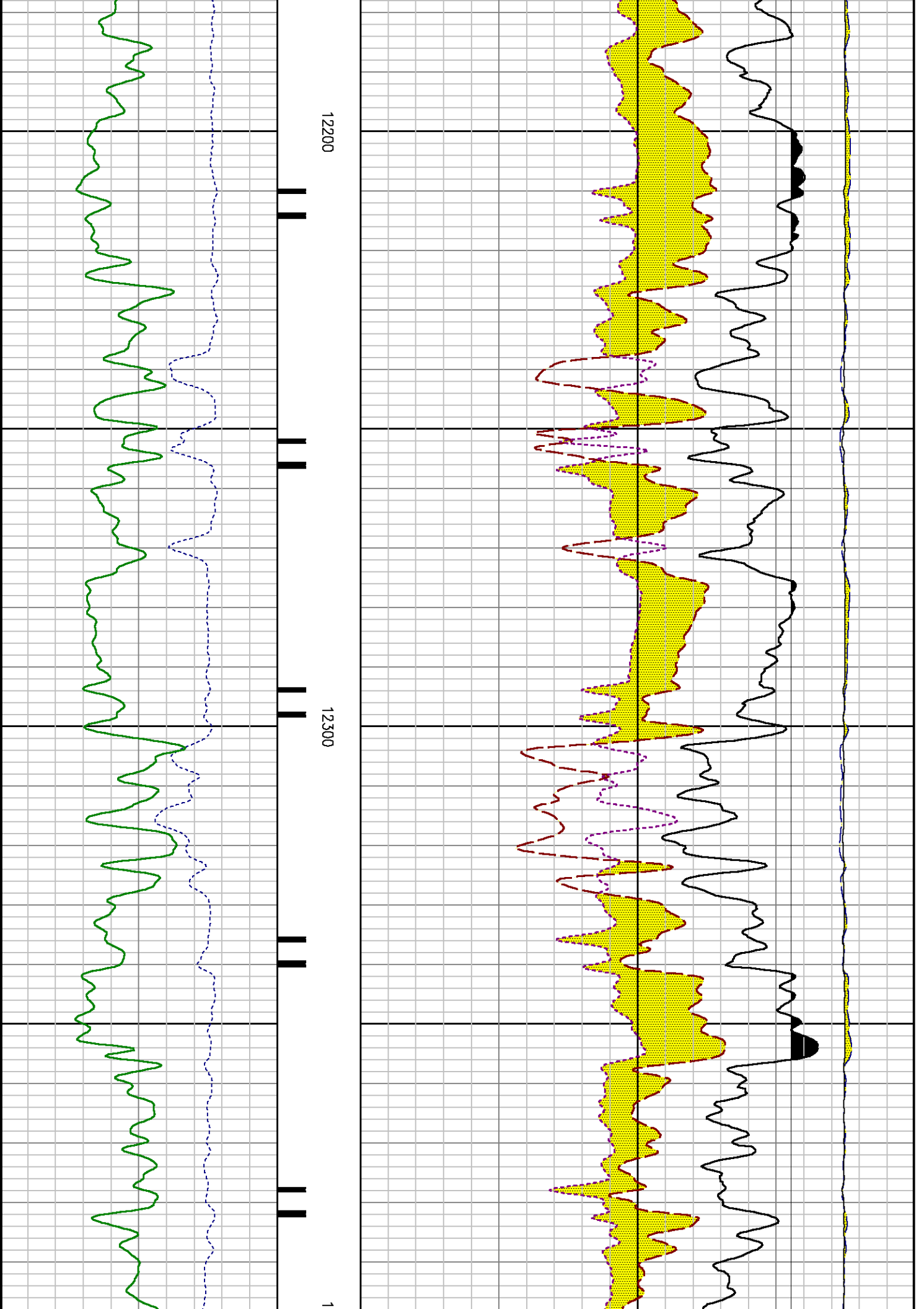
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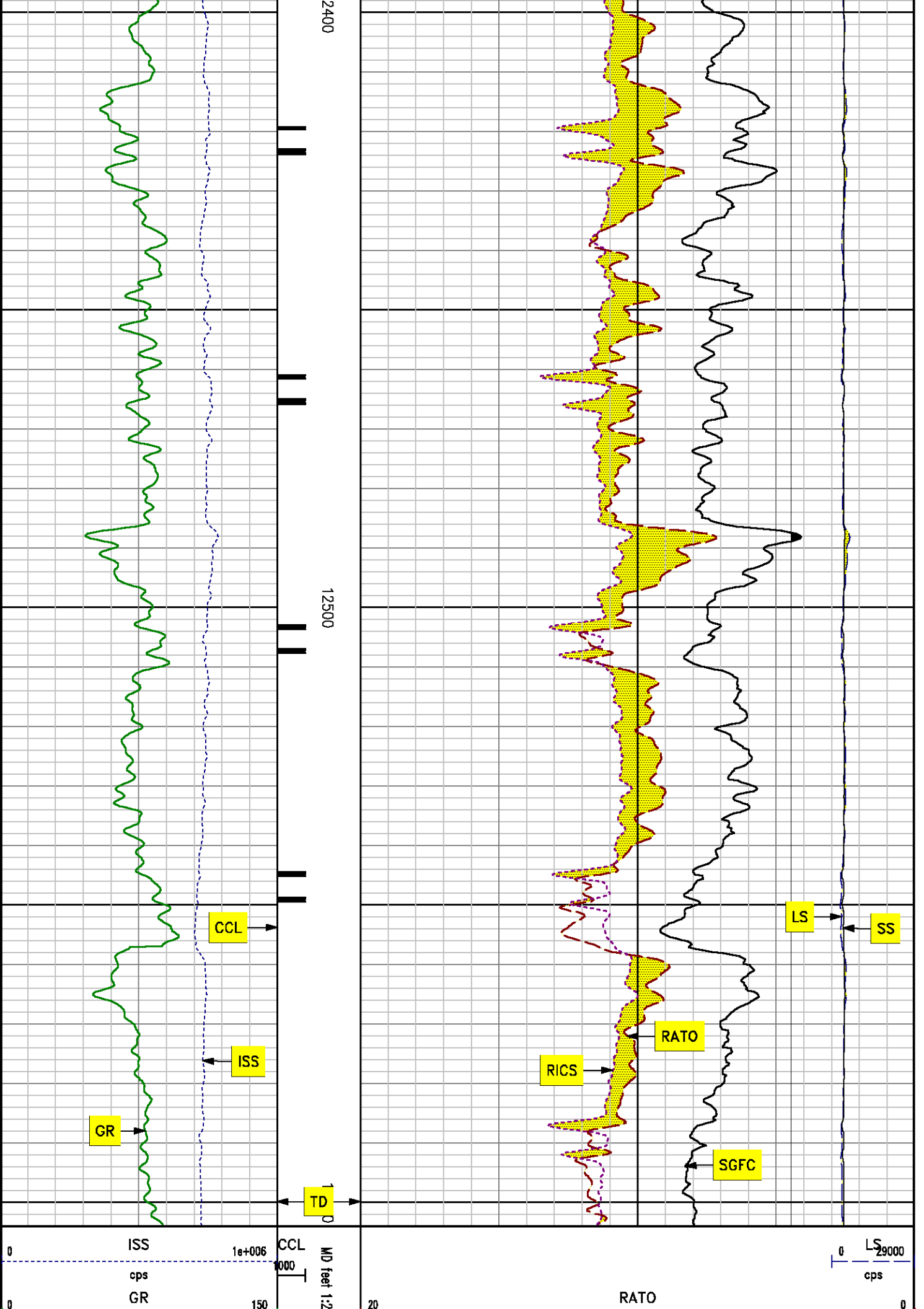












gAPI	40			
		38	RICS	7
		60	SGFC	0
		cu		
				SS
				0 290000
				cps

REPEAT SECTION
IN PNC 3D MODE

SPL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
PNC Porosity	Borehole	Cased		12088.250	12619.337
PNC Porosity	Borehole Size	7.875	inch	12088.250	12619.337
PNC Porosity	Casing Size	4.500	inch	12088.250	12619.337
PNC Porosity	Gas Filled	Non Gas Filled		12088.250	12619.337
PNC Porosity	Matrix	Sandstone		12088.250	12619.337

DEPTH OFFSETS

(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
8248EA	-15.470	FLTM					
8248EA	-13.470	CCL CHV					
8262XA	-10.189	GR					
8281XA	-0.662	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	RAT023
		RICXC	RIN13C	RIN23	RIN23C	SD3D	SG3D
		SGB3	SGF3	WDTH3	CXSR	IXSR	XSR
		RICXR					
		HVC2Q0	SEQ2	AMA2	AMB2	AMF2	AML2
		BKL	CHF2	CLS	CPT2Q0	CPT2Q2	CPT2Q3
		CPT2Q4	ET2	UIS	IS	MCS2	MCS2Q0

8281XA

0.000

QCAL2	RGN2	R1CL	RONE23	RTW023	SDA2
SDL2	SGA2	SGB2	SGF2	SGK2	SGL2
STA2	ASPEC2	ILSC	ILSN	WDTH2	R1CLC
CLSR	ILSR	LSR	R1CLR		
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	RAT0	RAT013
RBOR	RGN1	R1CS	R1N	RONE	RPOR
RTW0	R1N13	RONE13	RTW013	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	HOC	FE2XC	ISSC	RINC
ISSN	RDEN	WDTH1	R1CSC	CSSR	G1R
G2R	ISSR	SSR	SS2R	RATOR	RAT013R
RBORR	R1CSR	R1NR	R1N13R	RONER	RPORR
RTWOR					
SYSTEM	0.000	TEN	TTEN		

Created by : RPM9, v5.0.0.0

Plotted by : PlotMgr, v5.4.504

Company : EXXONMOBILE PRODUCTION COMPANY

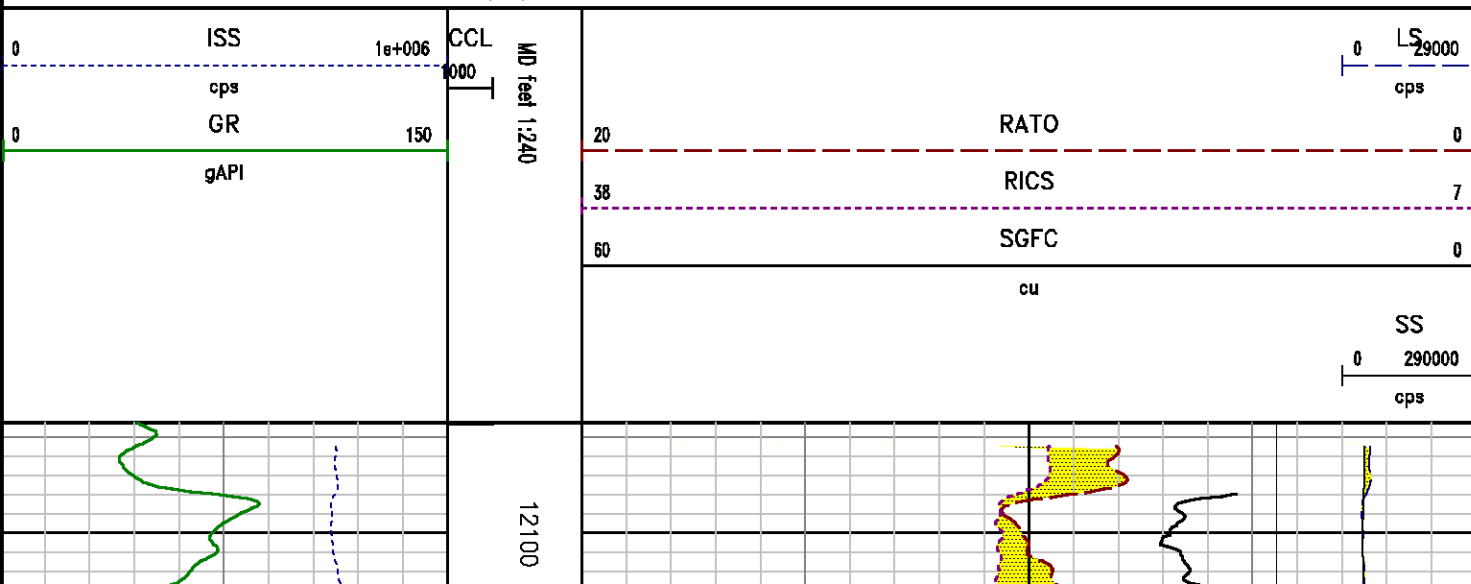
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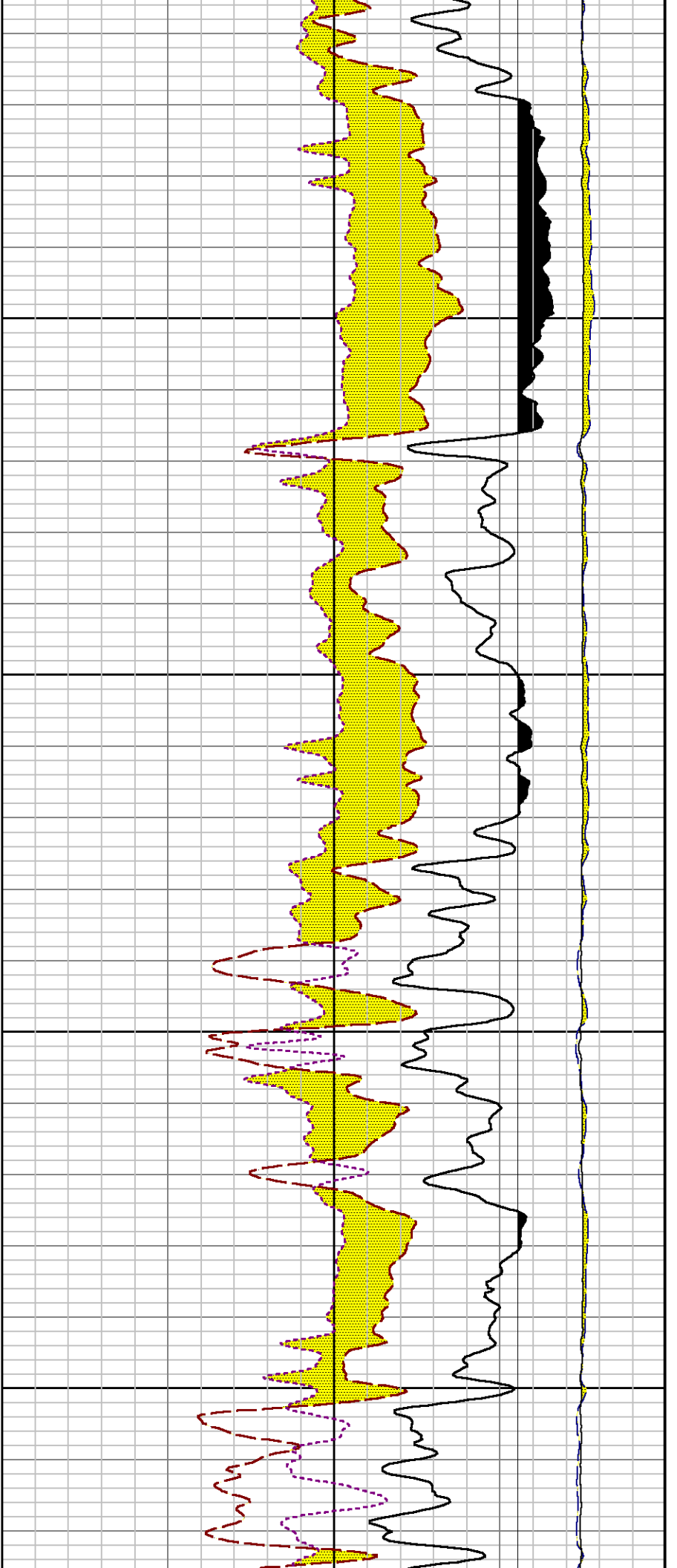
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Mode : PlotMgr 5.4.504

Interval : 12088.50 - 12604.00 feet UP

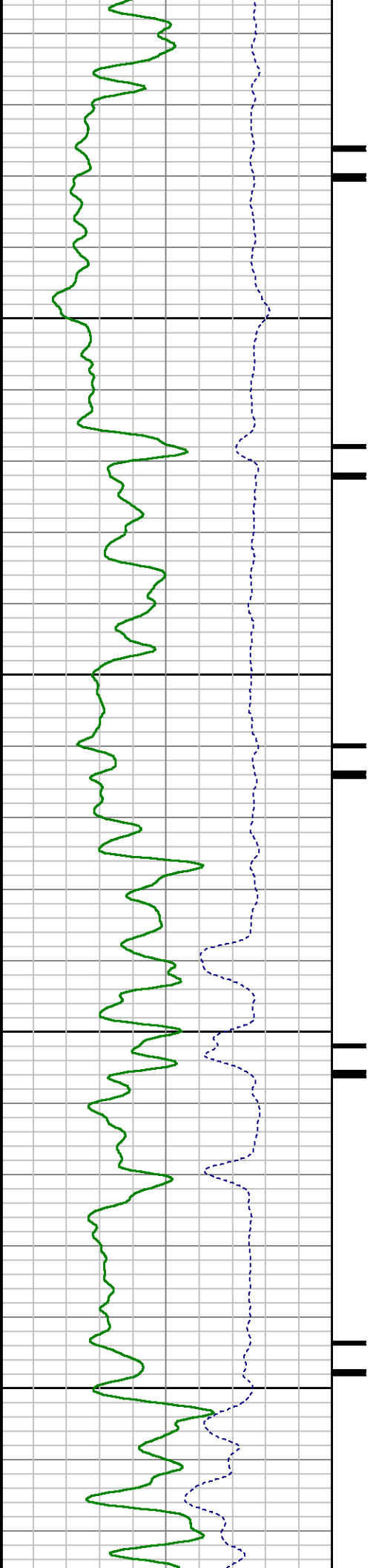
Created : 9/15/2010 12:53:09 PM

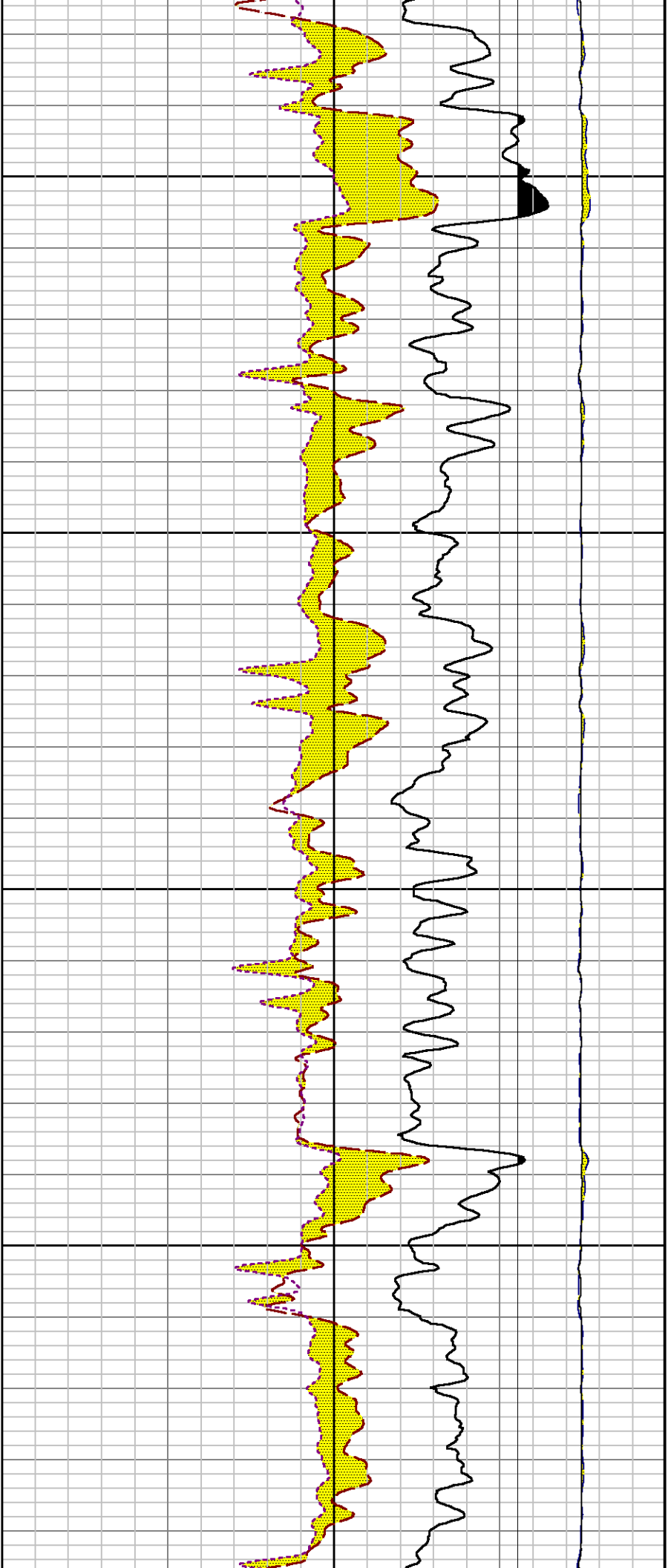




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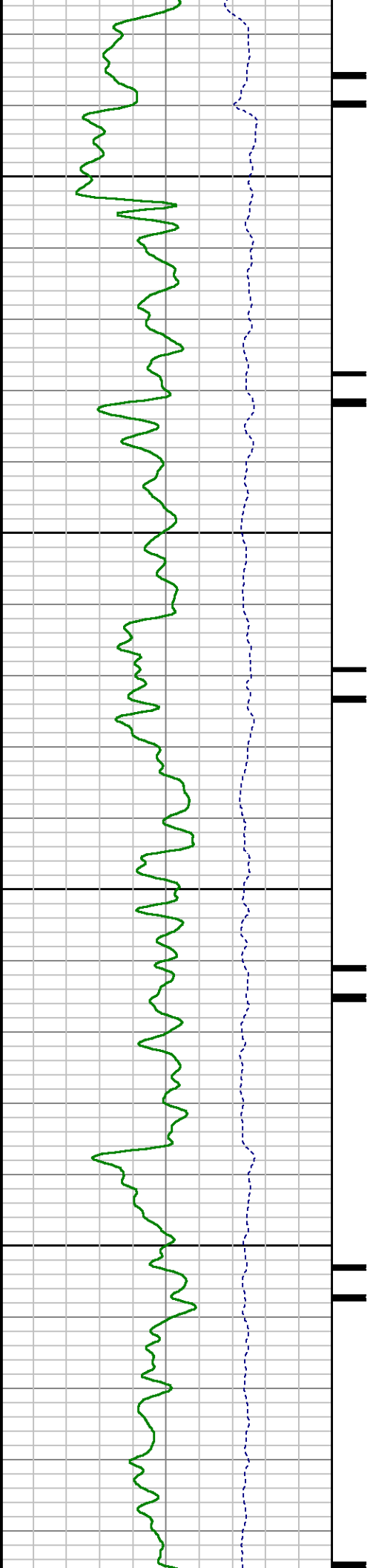
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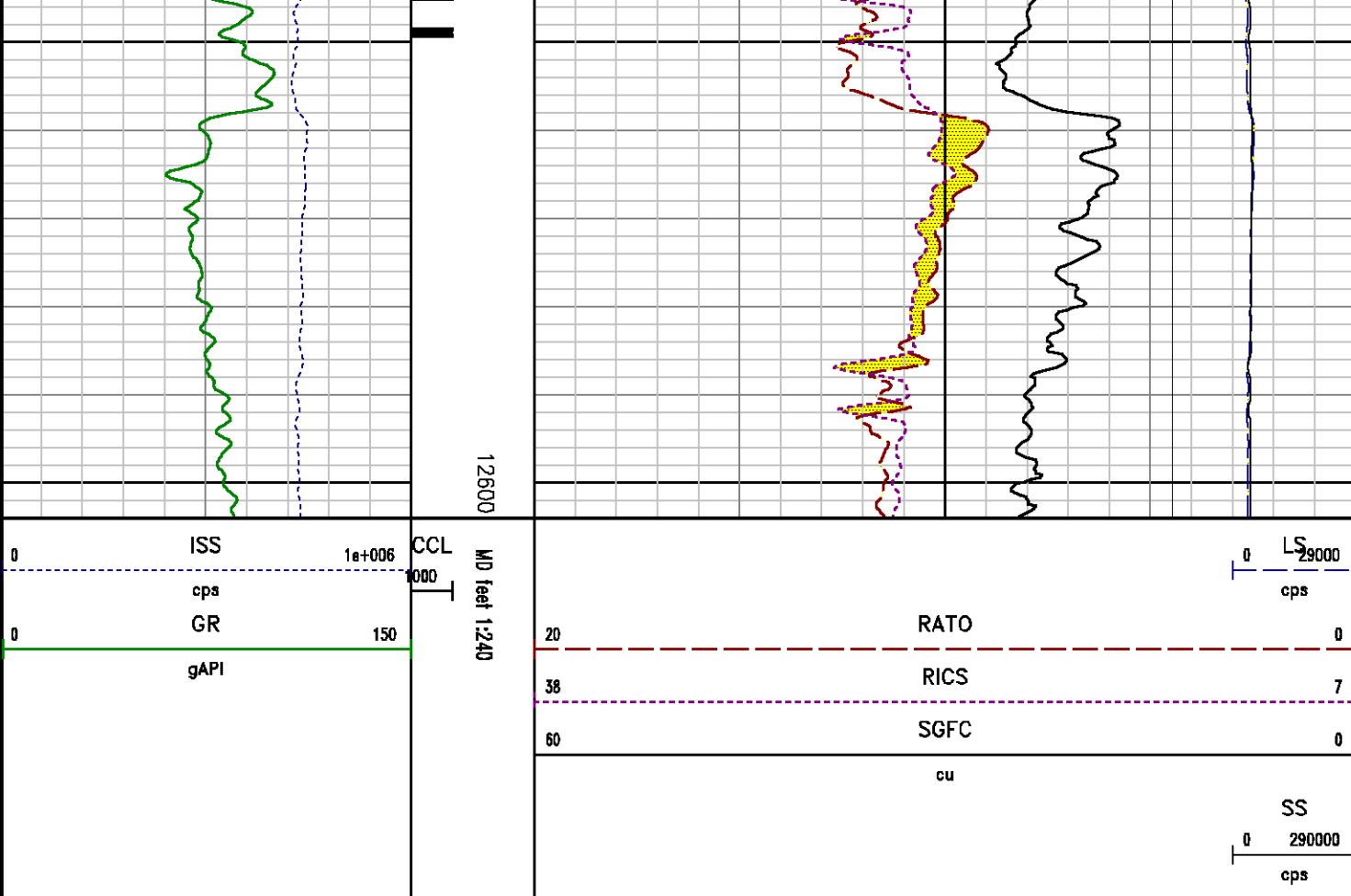




12400

12500





CALIBRATION SUMMARY

GAMMA RAY

Calibration File: C:\case\calver\GR\217AU.cal

CALIBRATION SUMMARY

DATE/TIME PERFORMED: Sun Aug 22 11:07:56 2010

TOOL SERIES: 8262XA ASSET: 217 SEQ: AU

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
DAS2K DA612	141.82	489.20	0.518	73.49	253.49	180.00

Verification File: C:\case\calver\GR\217AU.VP

PRIMARY VERIFICATION

DATE/TIME PERFORMED: Sun Aug 22 11:10:06 2010

TOOL SERIES: 8262XA ASSET: 217 SEQ: AU

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
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[cps]

[cps]

[api]

[api]

[api]

DAS2K

DA612

142.02

479.71

0.518

73.59

248.57

174.98

PNC

Calibration File: C:\case\calver\PNC\883SE.cal

PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Mon Sep 13 09:56:48 2010 TOOL SERIES: 8281XA ASSET: 883 SEQ: SE

Calibrator #

SHOP BARREL

Source #

8281AA 10160595

	ISS	Mtr Vlt (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	826716	132.00	2284.00	2261.00	2285.00	111.04	15.00	0.9957
Interpolated	1300000	155.37	2264.96	2250.38	2278.53			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	826716	7267.14	1177.32	186.78	25.87	0.14	24.38	0.27
					25.35 26.15	0.00 0.20	23.60 24.80	0.00 0.40

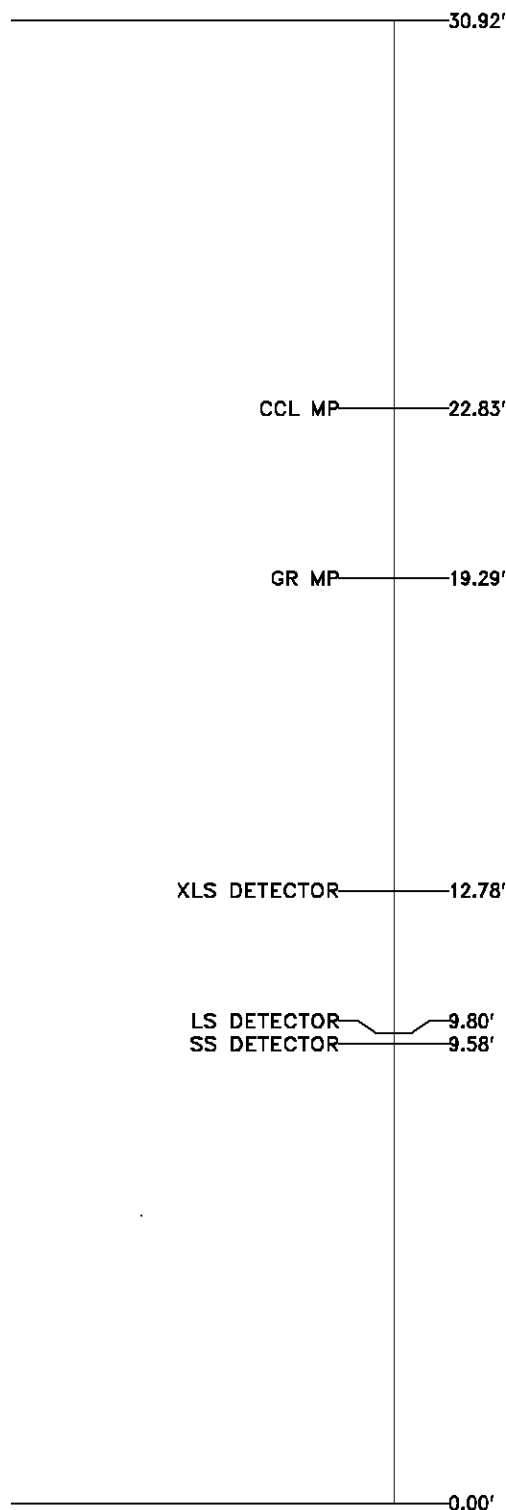
	ISS	ILS	IXS	SS	SS2	LS	CSS	CLS
Raw Data	826716	176961.20	27054.05	92561.12	32900.22	8697.30	56027.19	13944.88
Fit Quality %		0.93	0.89	1.00	0.94	0.81	0.90	0.84

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONC CSS/CLS
Raw Data	826716	1.43	4.67	30.56	14.76	10.64	3.78	4.02
		1.42 1.45	3.55 5.21	22.20 32.10	10.99 16.34	10.06 11.10	3.57 3.95	3.76 4.22
Fit Quality %		0.04	0.27	0.32	0.16	0.18	0.12	0.13
Reduced	1409115	1.43	4.69	30.64	14.84	10.61	3.78	4.01
		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

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
GAMMA RAY	
Series	8262XA
Mnemonic	GR
Diameter	1.70"
Weight	15.00 lb
Length	3.17'

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



Total Length: 30.92'
Total Weight: Not Available
Max Diameter: 0" 1.70"



Company	EXXONMOBILE PRODUCTION COMPANY		
Well	FRU 197-33B2		
Field	FREEDOM UNIT		
County	RIO BLANCO	State	COLORADO

File No:	
API No:	05103114270000

Location
2378' FNL & 1390' FEL (SWNE)

Elevations
KB 8478 ft

Baker Atlas



SEC 33 TWP 1S RGE 97W

DF 8475 ft
GL 8448 ft