



FILE NO:	COMPANY
CH091657	WPX ENERGY
API NO:	WELL
05103121420000	FEDERAL RGU 331-26-198
	FIELD
	SULPHUR CREEK
	COUNTY
	RIO BLANCO
	STATE
	CO

Version	LOCATION:	OTHER SERVICES
26 1S 98W	SHL: 1018' FSL & 657' FEL (23 1S 98W)	BOND LOG
RGU 43-23-198	BHL: 620' FNL & 1865' FEL (26 1S 98W)	
AZTEC 1000	SEC 26	TWP 1S
		RGE 98W

PERMANENT DATUM	GL	ELEVATION	6567 FT
LOG MEASURED FROM	KB	25 FT	ABOVE P.D.
DRILL. MEAS. FROM	KB		
	GL	6567 FT	

DATE	14-Dec-2014
RUN	1
TRIP	1
SERVICE ORDER	US091657
DEPTH DRILLER	12847 FT
DEPTH LOGGER	12781 FT
BOTTOM LOGGED INTERVAL	12771 FT
TOP LOGGED INTERVAL	3955 FT
TIME STARTED	14:00
TIME FINISHED	0:30
OPERATOR RIG TIME	10.5 HOURS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	84 FT
LOGGED CEMENT TOP	NA
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	10 FMIN
MAX. RECORDED TEMP.	286 DEGF
REFERENCE LOG	BAKER HUGHES BOND LOG
REFERENCE LOG DATE	14-Dec-2014
EQUIP. NO.	4271
LOCATION	GRAND JCT.
RECORDED BY	NEWELL
WITNESSED BY	DUSTIN WELSH

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
30 IN	0 FT	80 FT
13.5 IN	80 FT	3924 FT
8.75 IN	3924 FT	12889 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
18 IN			0 FT	80 FT
9.625 IN			0 FT	3924 FT
4.5 IN	11.6 LB/F	P-110	0 FT	12889 FT

CEMENTING DATA							
JOB TYPE	FROM	TO	TIME	DATE	CEMENT TYPE	DENSITY	VOLUME

PERFORATION RECORD						
PERFORATION TYPE	POSITION	PHASING	SPACING	DENSITY	FROM	TO

REMARKS
RUN1 TRIP 1: All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 14/DEC/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 5 feet.

Logged in PNC-3D mode.

BHT = 286 degF  
SJ = 7807' - 7829'

#### EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	PCM	8248ED	Z166326	FREE
1	1	TEL/CCL	8250EA	10387150	FREE
1	1	GR	2812LA	10274382	FREE
1	1	RPM	8281EA	10423671	FREE
1	1	RPM	8283PA	10585555	FREE
1	1	RPM	8281FA	10460082	FREE
1	1	TEMP	8255XA	Z120516	FREE

### MAIN SECTION PNC-3D MODE

ECLIPS 6.2wu1 PC-ECLIPS General Release Rel 6.2w Update 1 Fri Apr 25 10:54:53 Central Daylight Time 2014  
Updates: 31 Patches: 2

Plotted: Mon Dec 15 02:15:13 2014

#### PARAMETER AND FILTER SUMMARY REPORT

FILE: D:\dat1a\091657\ln354h02.prm  
LOGGING MODE: DEPTH DIRECTION: UP  
TOP DEPTH: 3947.750 ft BOTTOM DEPTH: 12793.391 ft

#### SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR	FILTER ( )	medium (1)		TOP	BOTTOM

#### RPM PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
PNC Parameters	BOREHOLE CONTENTS	FLUID		TOP	BOTTOM
	OPEN/CASED HOLE	CASED HOLE		"	"
	BOREHOLE SIZE	7.88	in	"	"
	CASING SIZE	4.50	in	"	"
	MATRIX	SANDSTONE		"	"
	CORRECTION BUFFER	11		"	"

#### CURVE DESCRIPTION REPORT

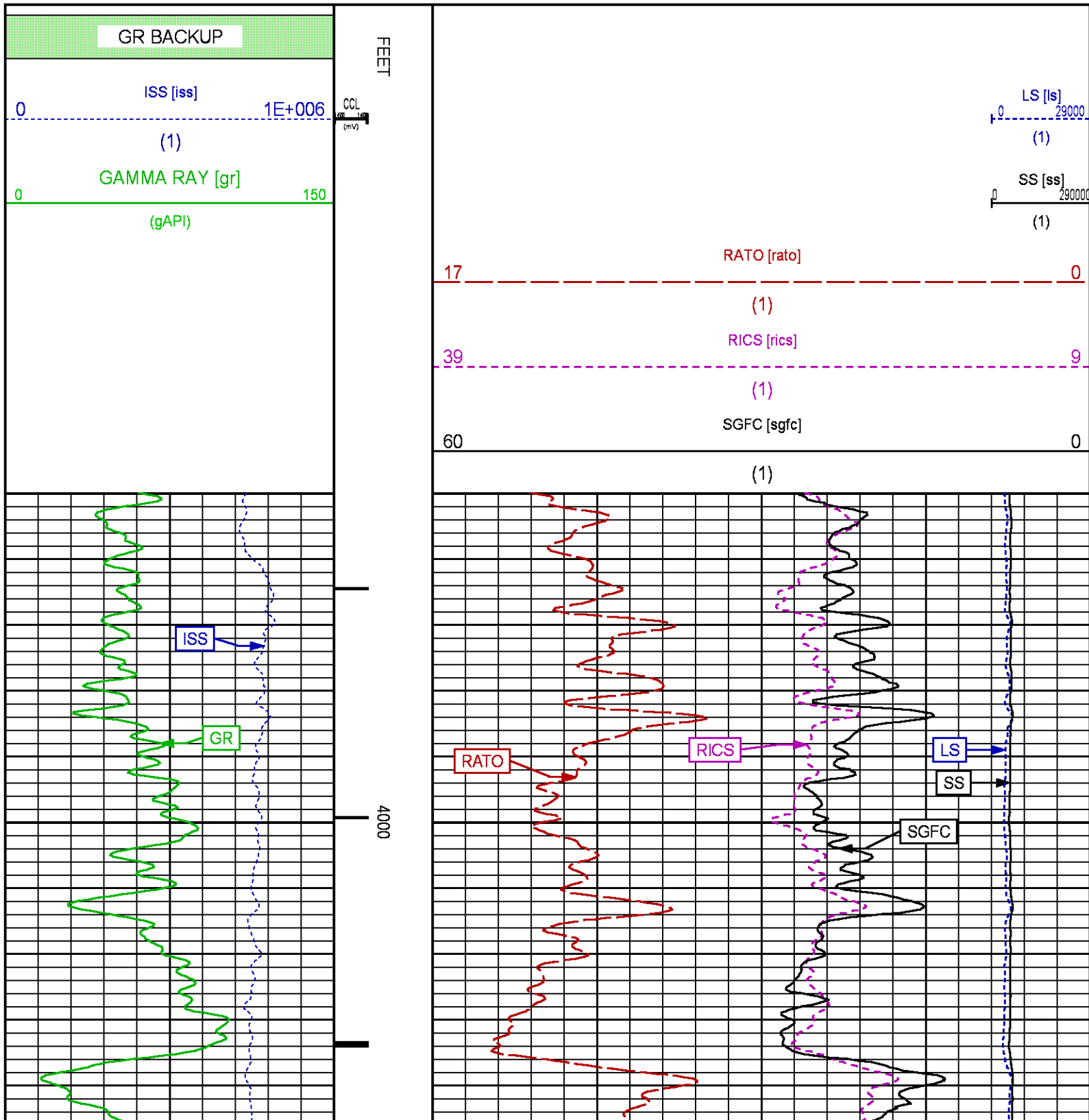
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Dec 14 15:01:36 2014	CASING COLLAR LOCATOR
F1:GR	Dec 14 15:01:36 2014	GAMMA RAY
F1:ISS	Dec 14 15:01:36 2014	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Dec 14 15:01:36 2014	LONG SPACE COUNT RATE
F1:RATO	Dec 14 15:01:36 2014	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Dec 14 15:01:36 2014	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Dec 14 15:01:36 2014	CORRECTED FORMATION SIGMA
F1:SS	Dec 14 15:01:36 2014	SHORT SPACE COUNT RATE

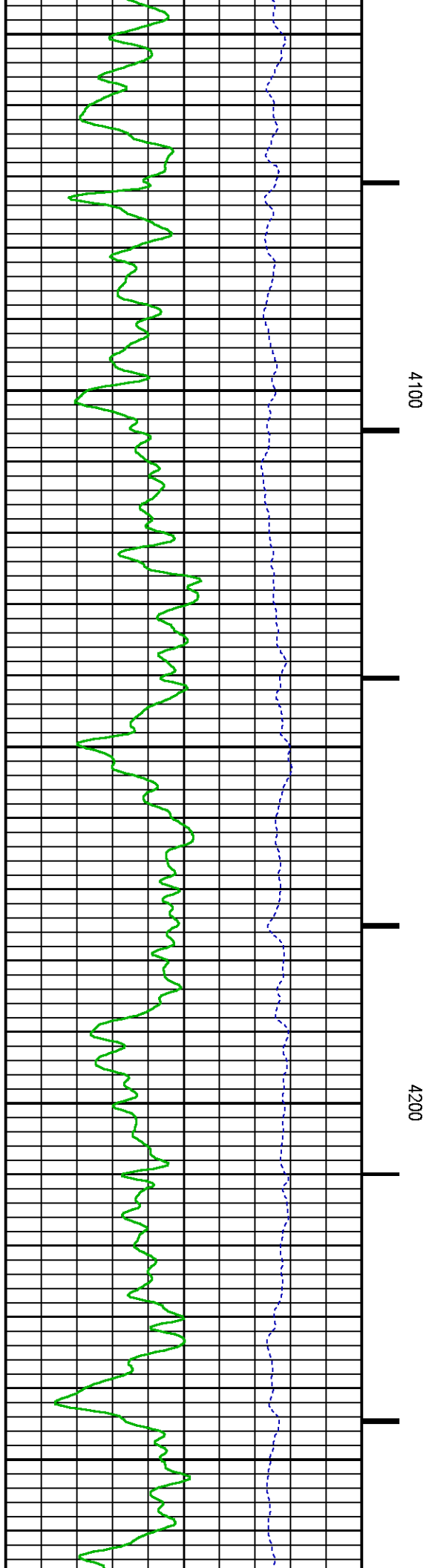
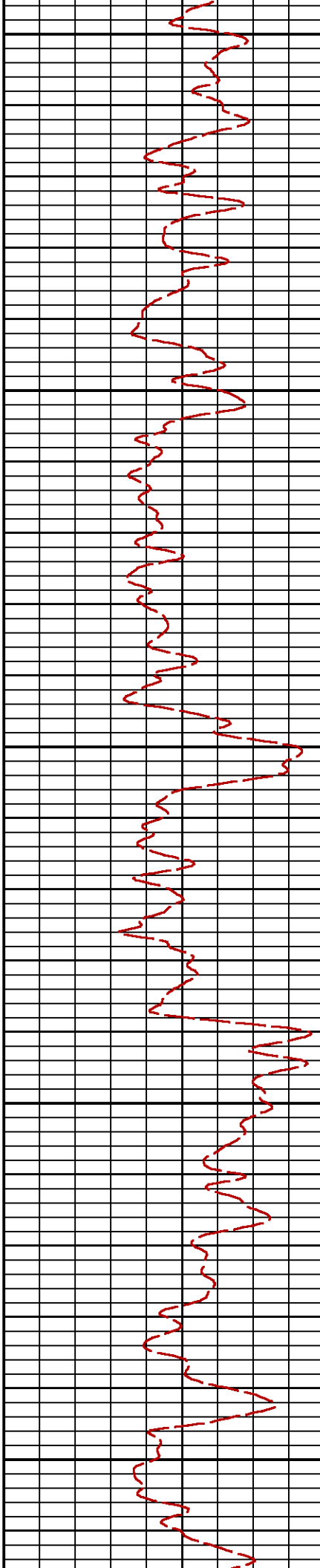
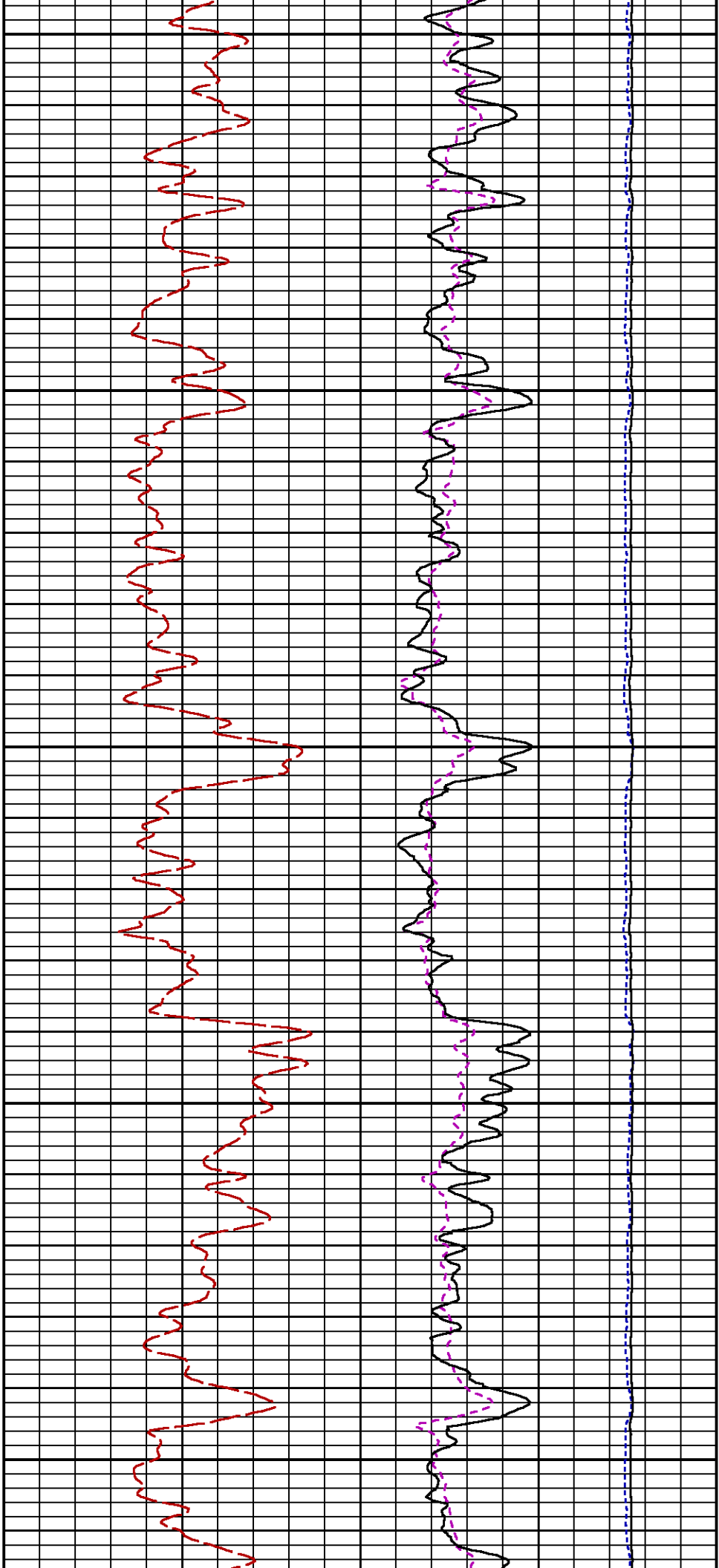
#### CURVE MEASURE POINTS LIST

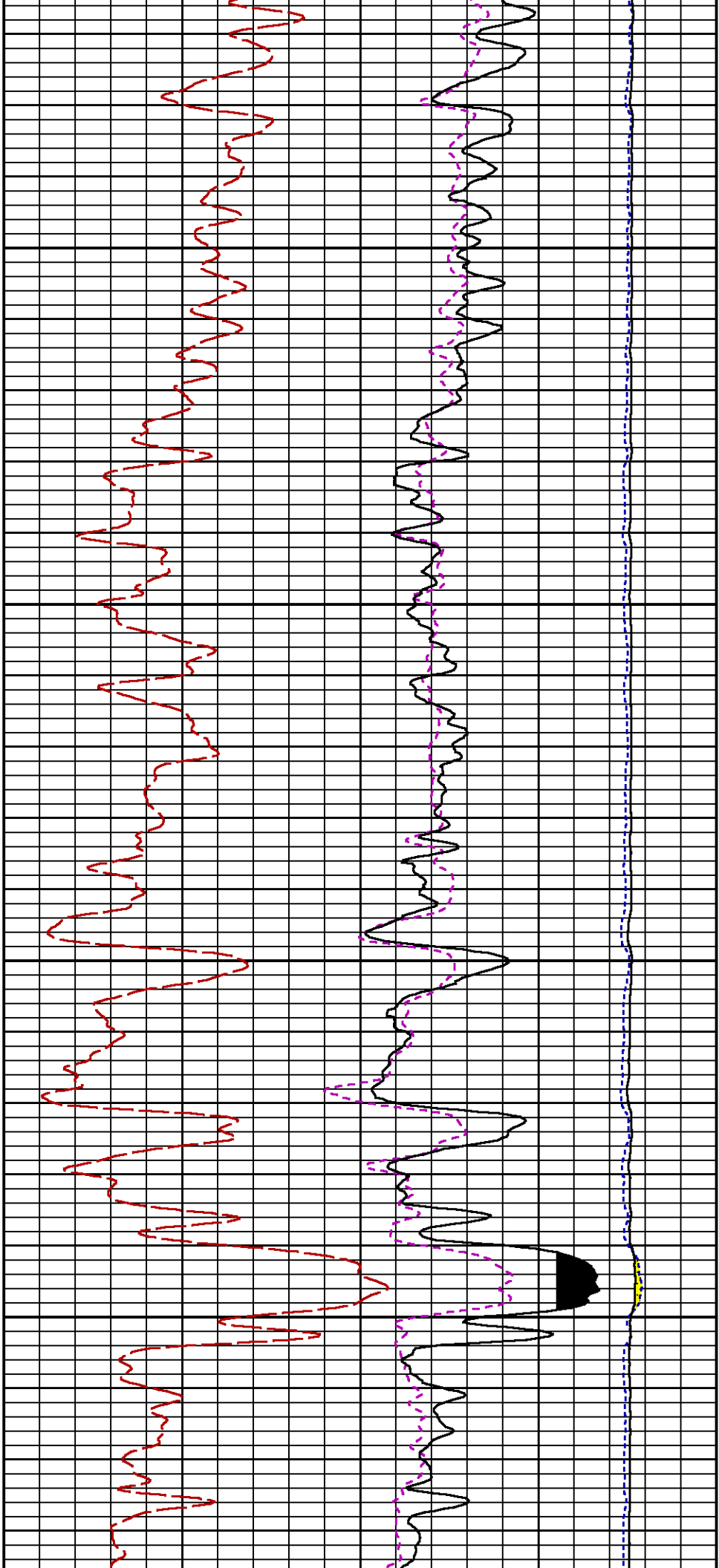
# CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	25.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	22.75	LS	12.75	RICS	12.75	SS	12.75

<b>Presentation</b>	: BHIBX9FSY1:D:\dat1a\091657\331RPM_MAIN.fvpdf [5"/100' Scale]
<b>Plot Interval</b>	: 3950 - 12786 Feet
<b>Data File 1</b>	: F1 : BHIBX9FSY1:D:\dat1a\091657\331RPM_MAIN.xtf
<b>Created On</b>	: Dec 14 15:01:36 2014
<b>Company</b>	: WPX ENERGY
<b>Well</b>	: FEDERAL RGU 331-26-198
<b>Field</b>	: RIO BLANCO
<b>File Interval</b>	: 21 - 12792 Feet
<b>OCT</b>	: n354h

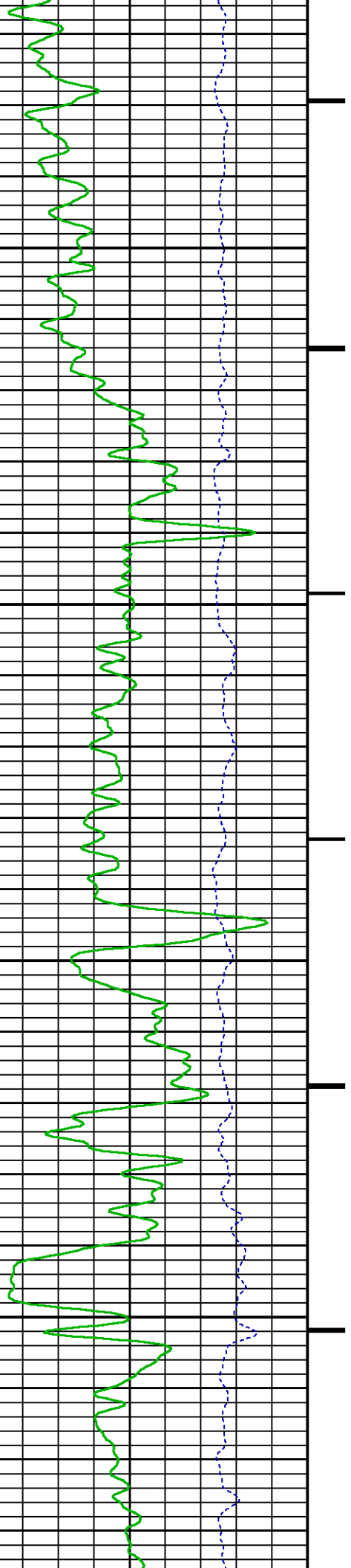


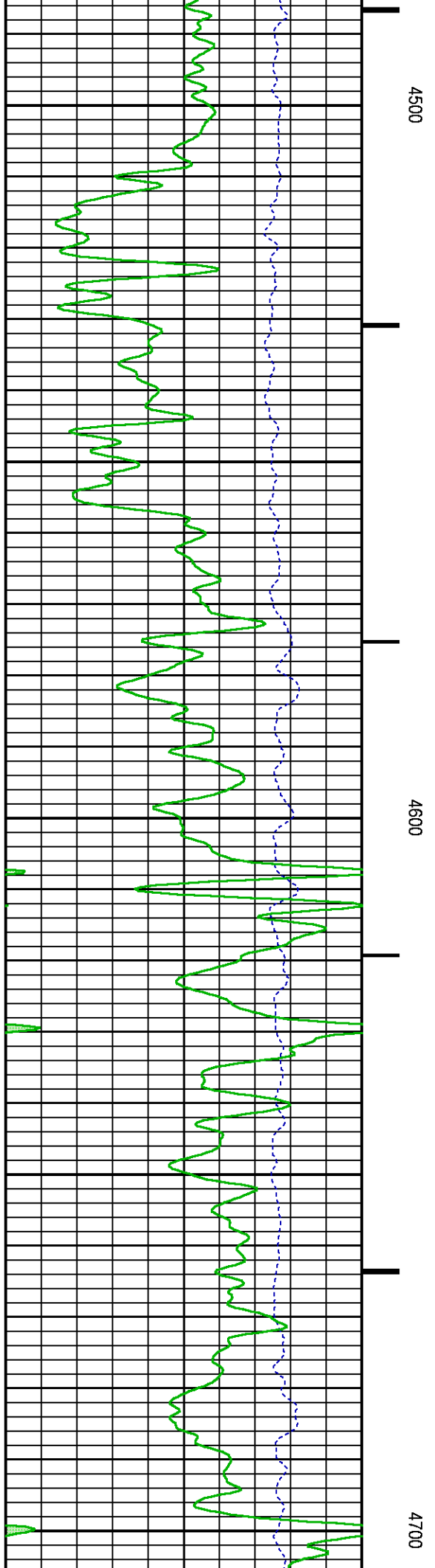
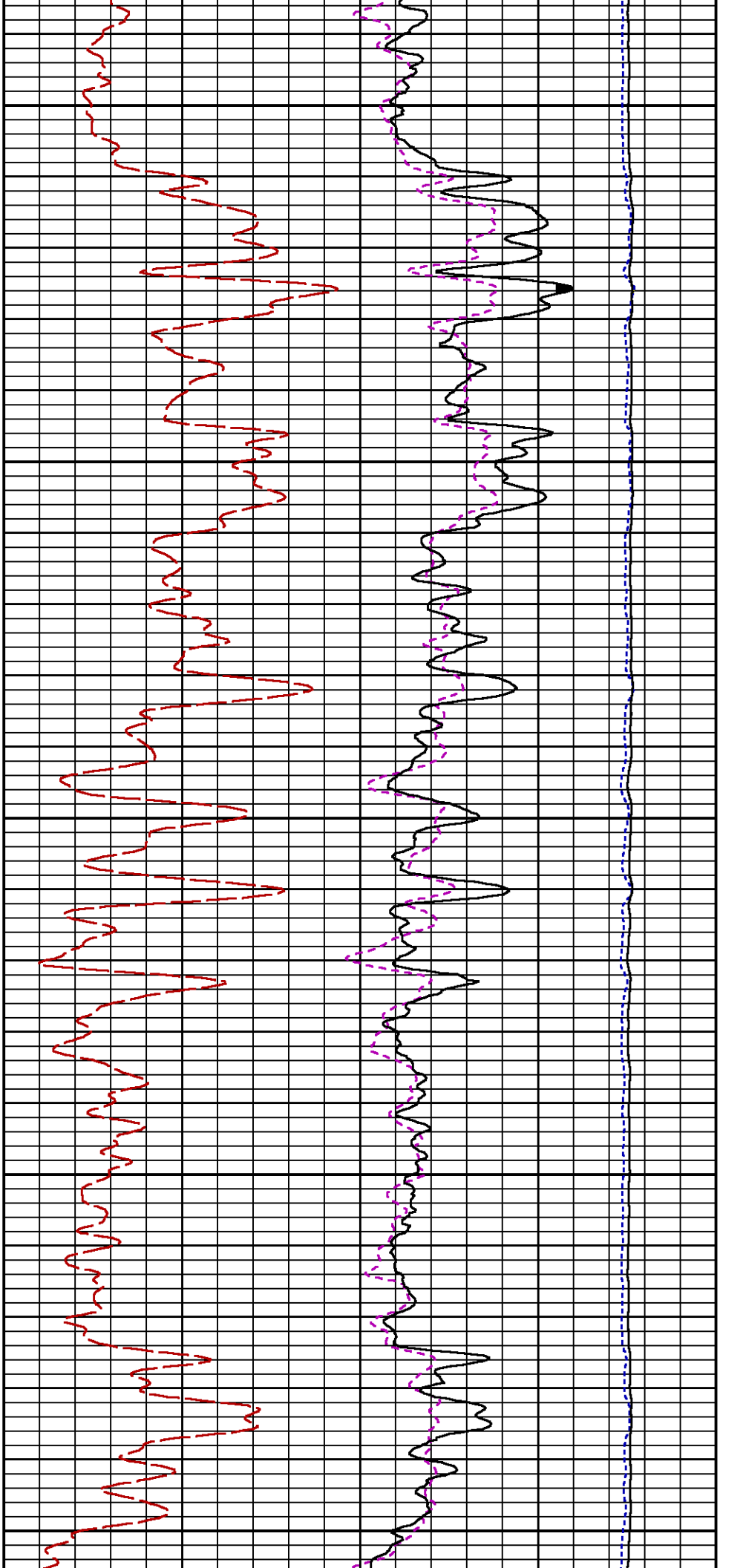


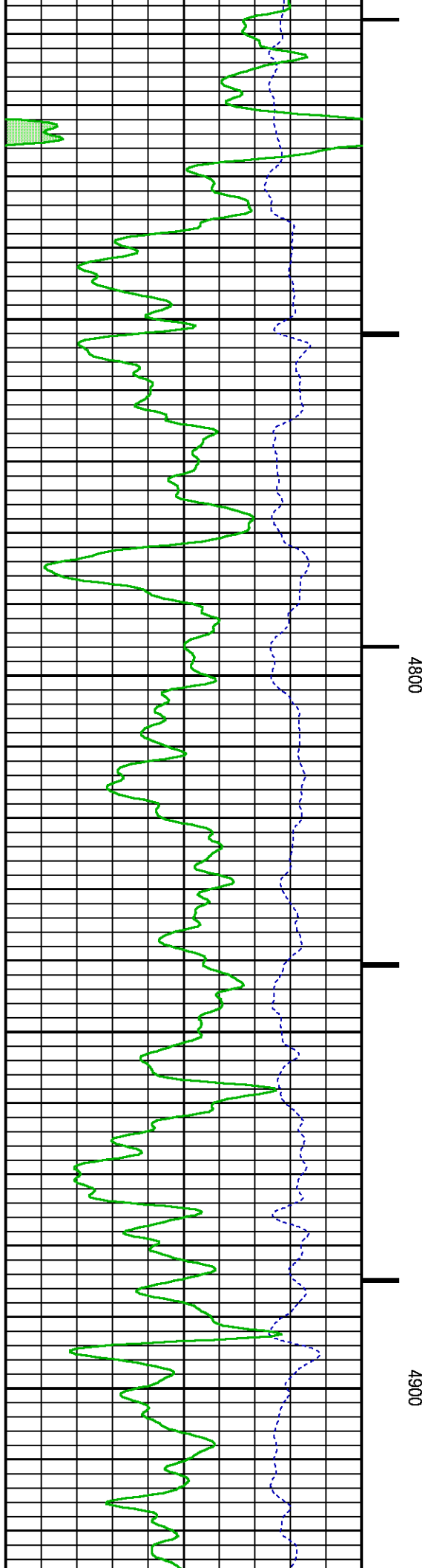
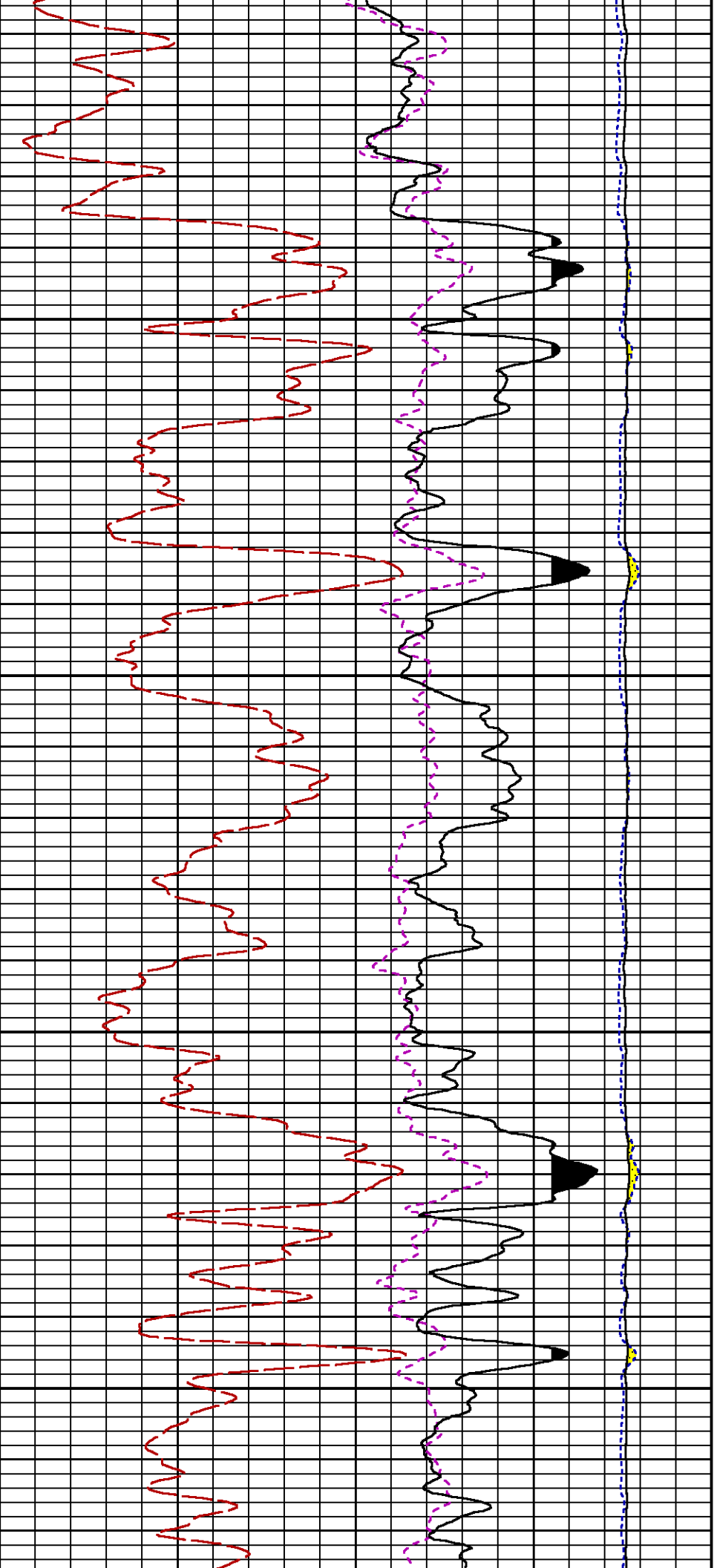


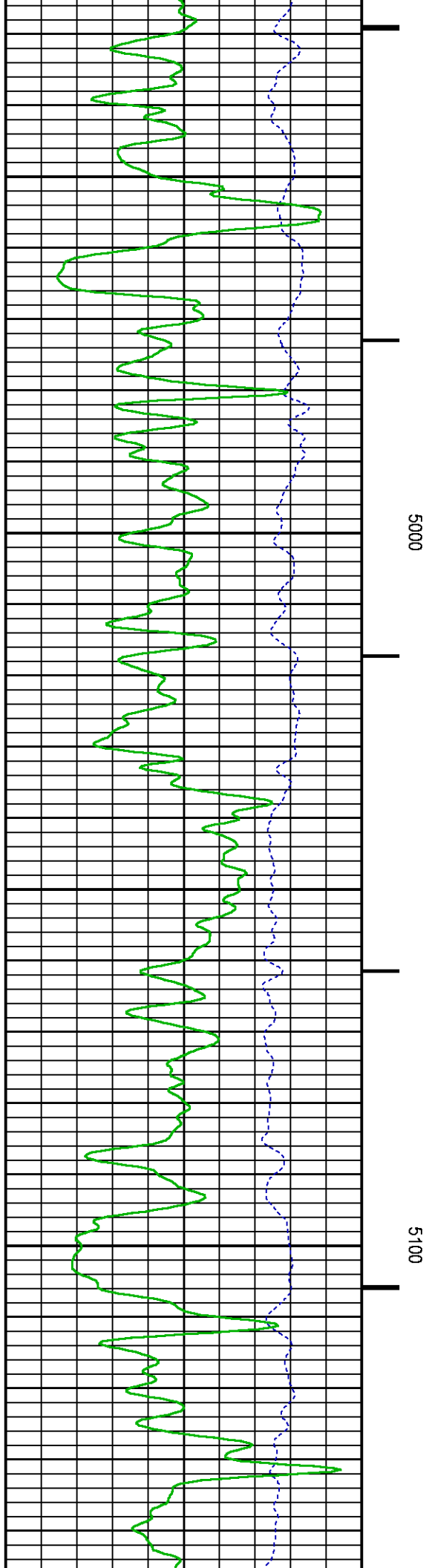
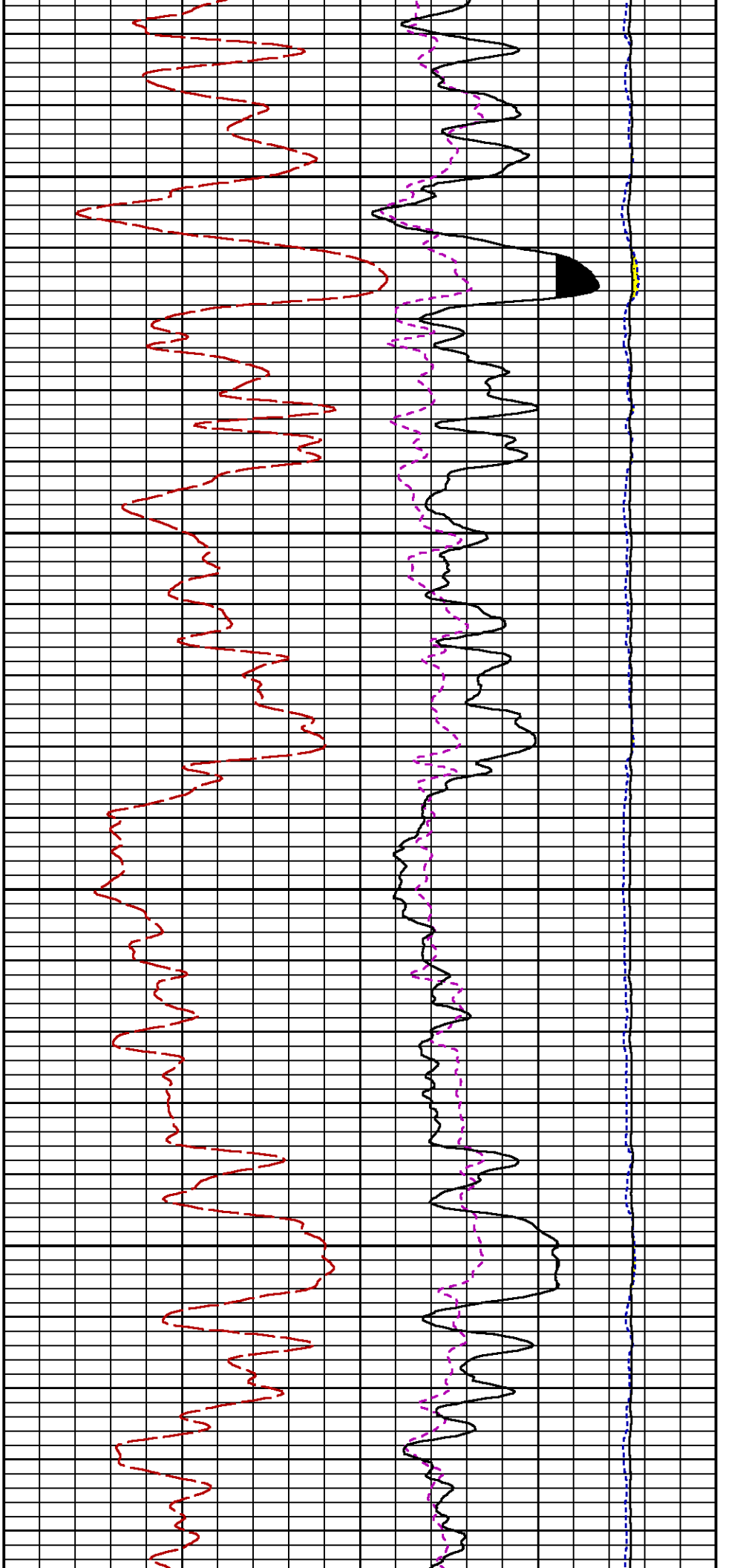
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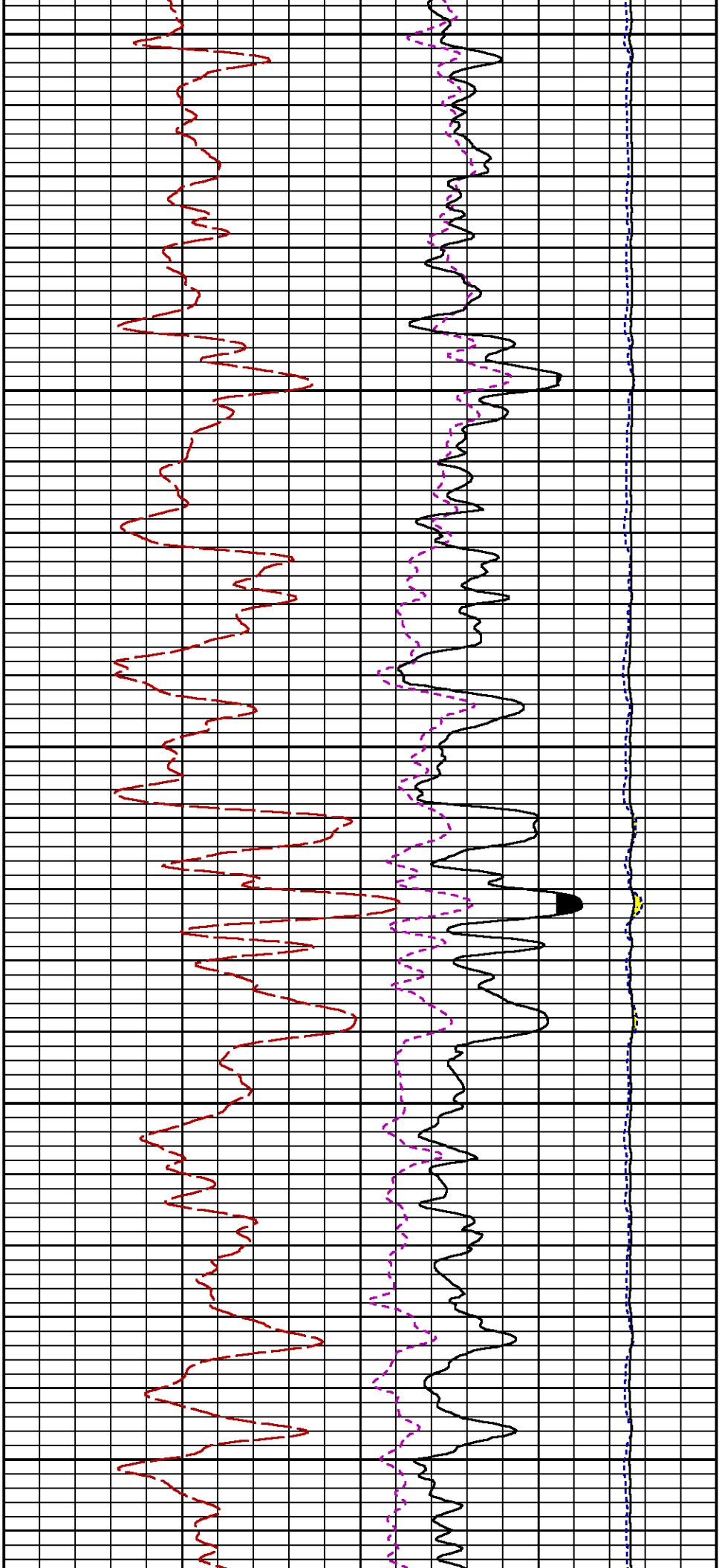






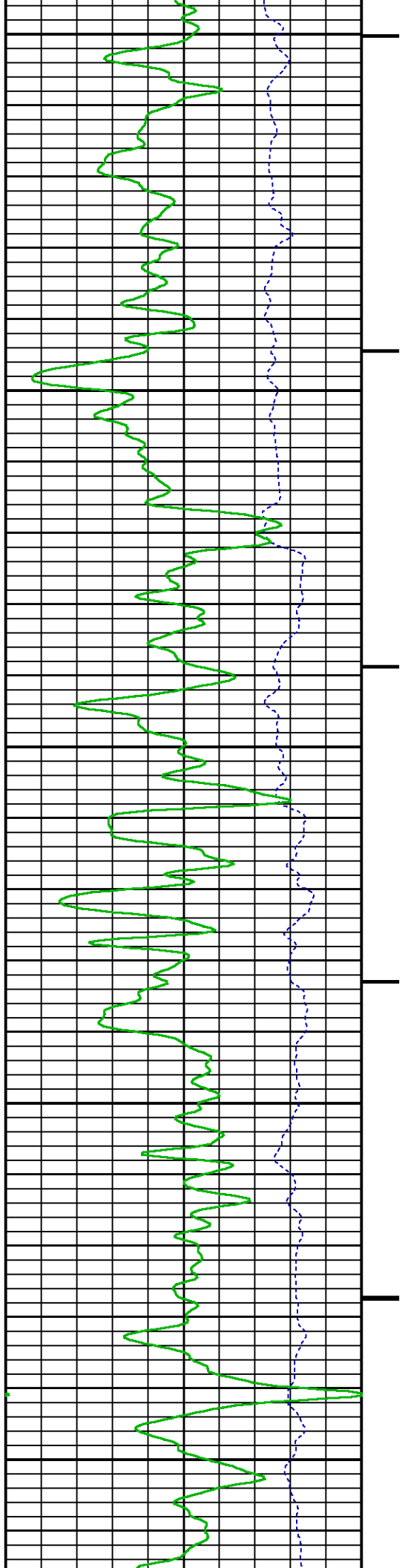


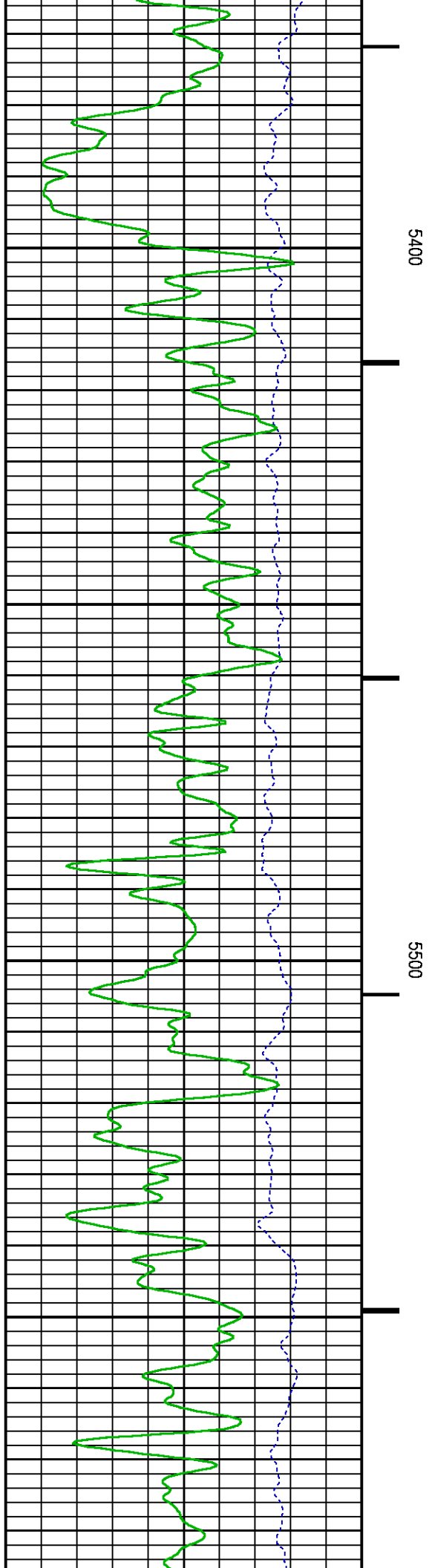
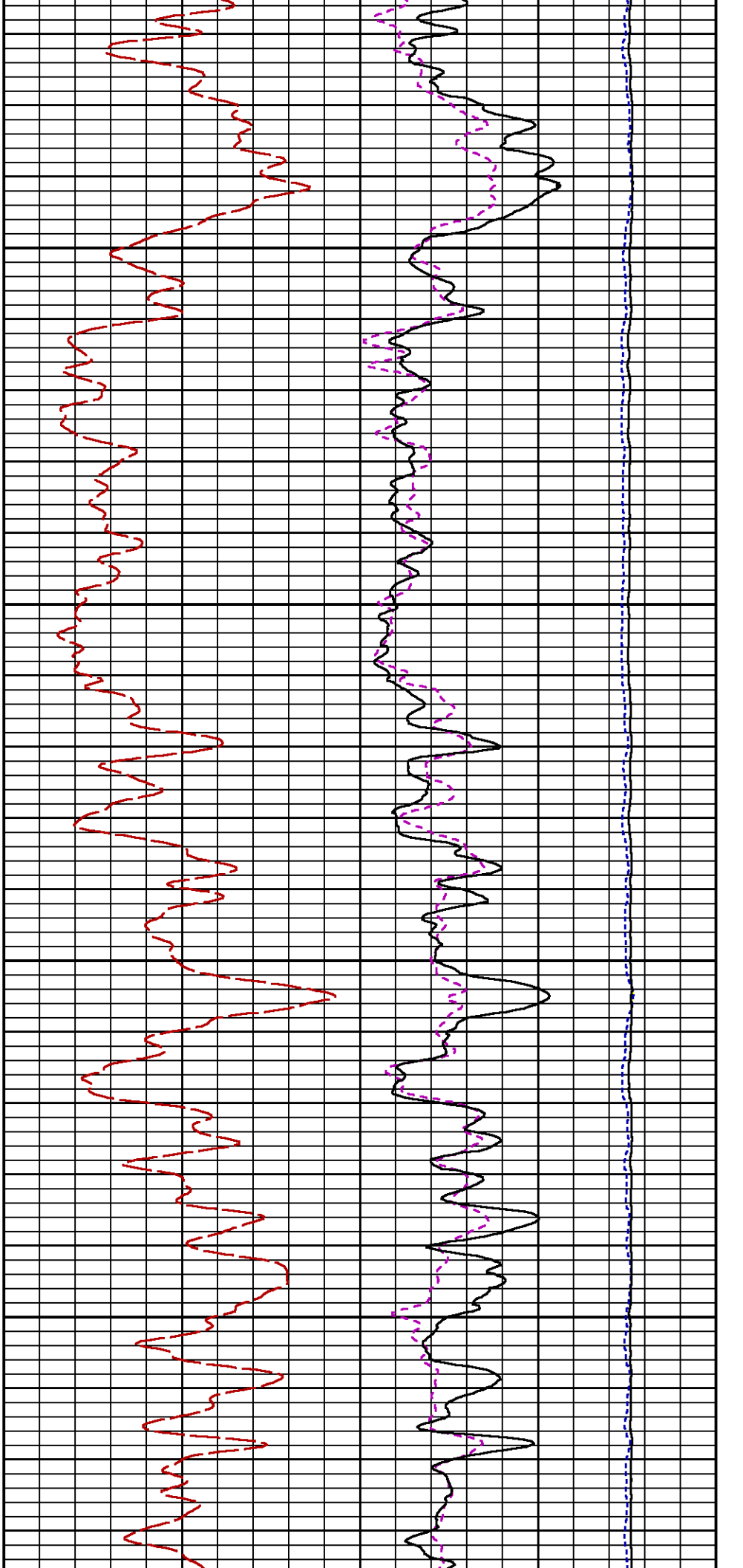


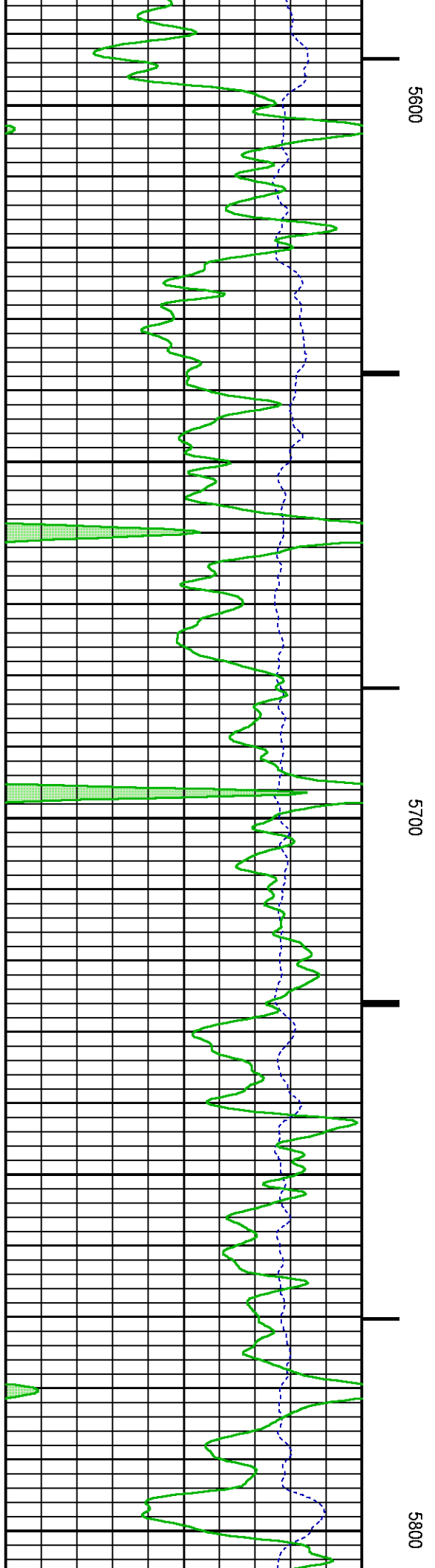
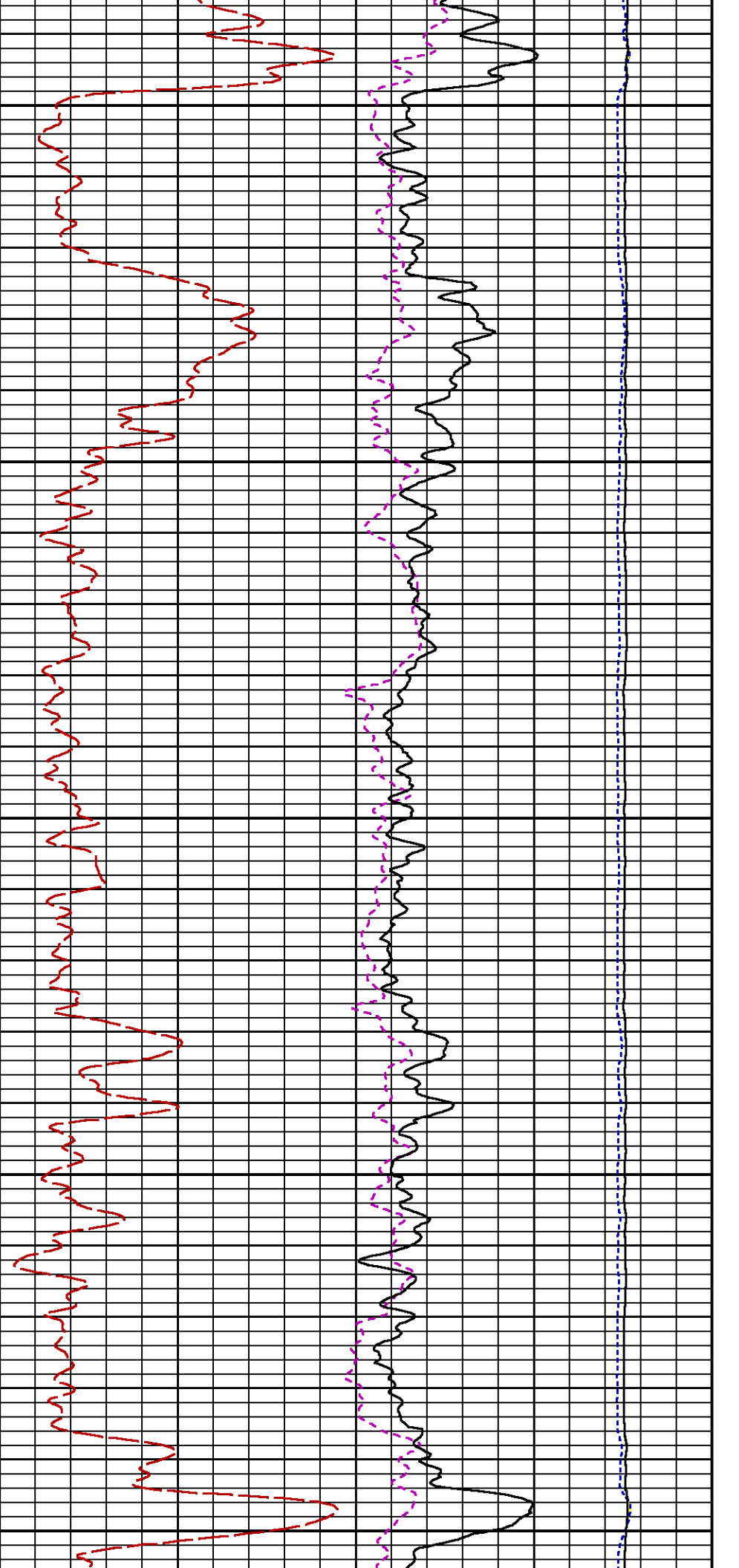


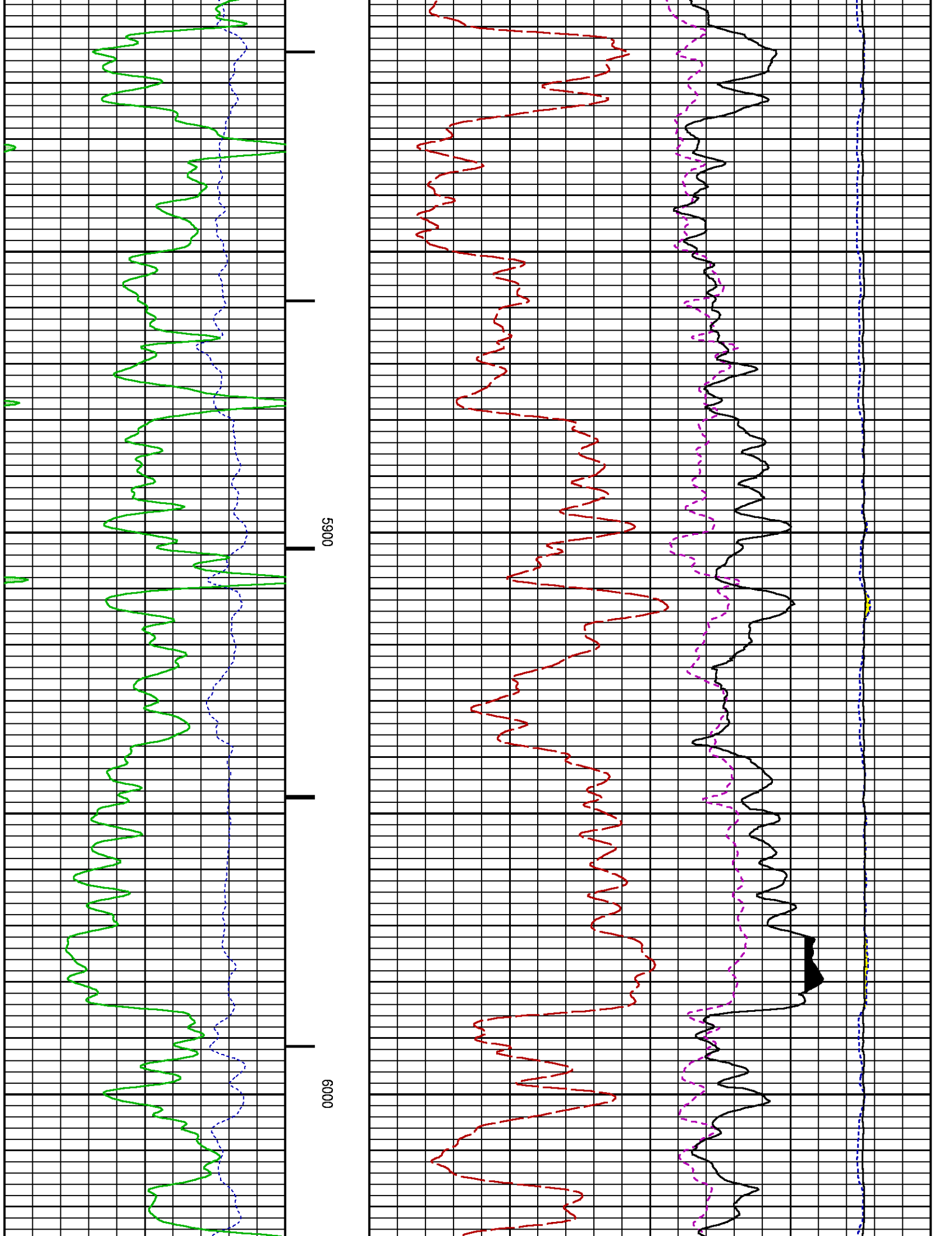
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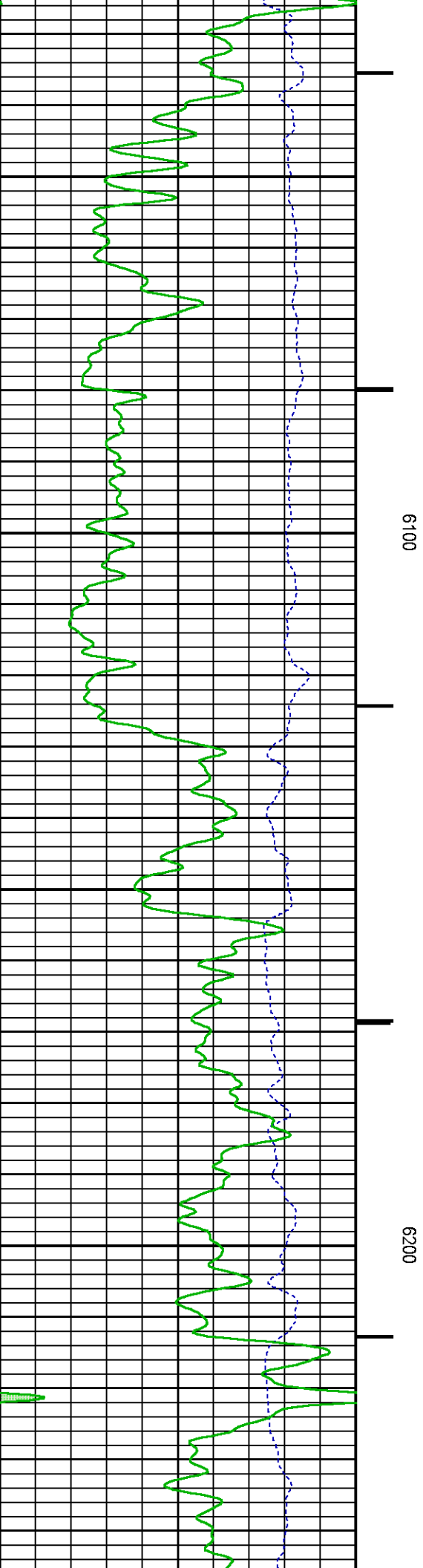
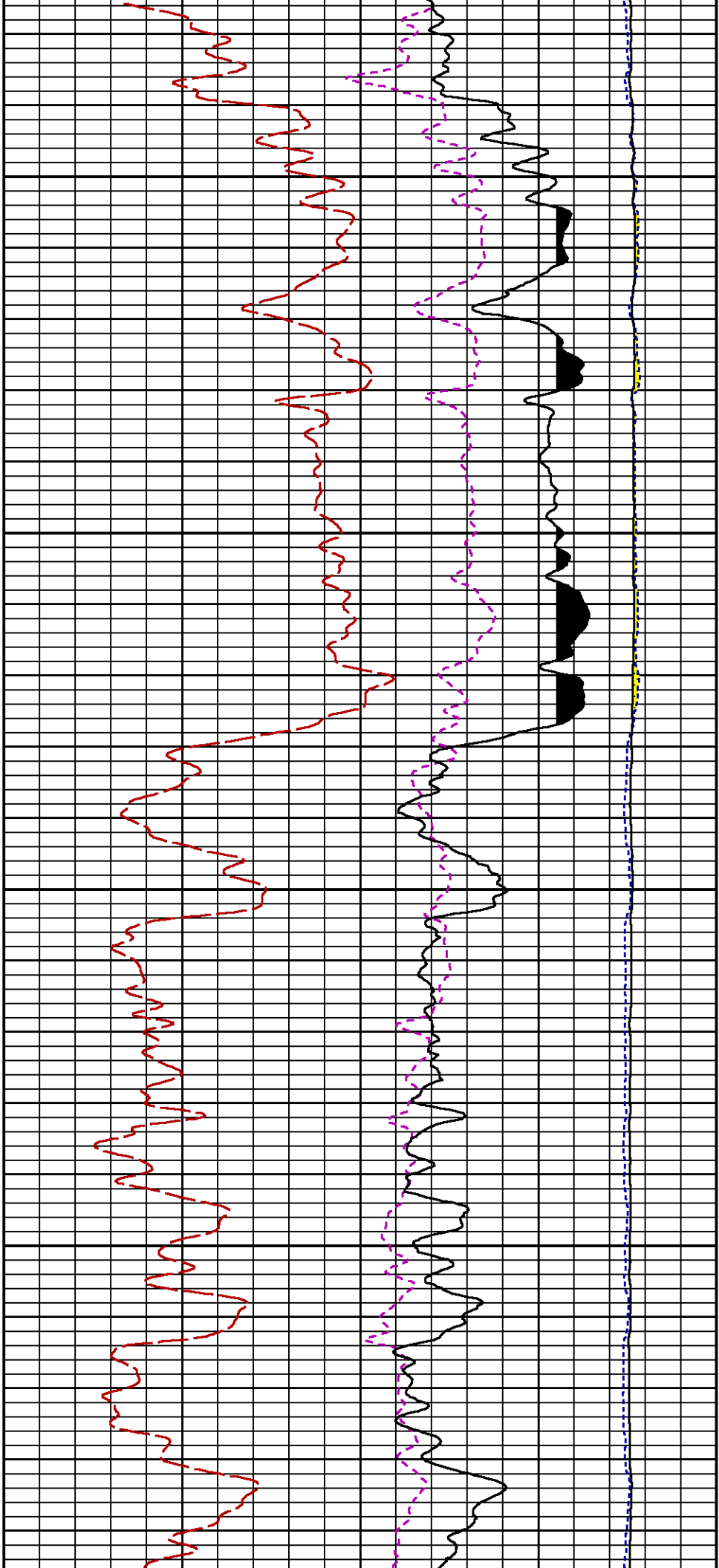
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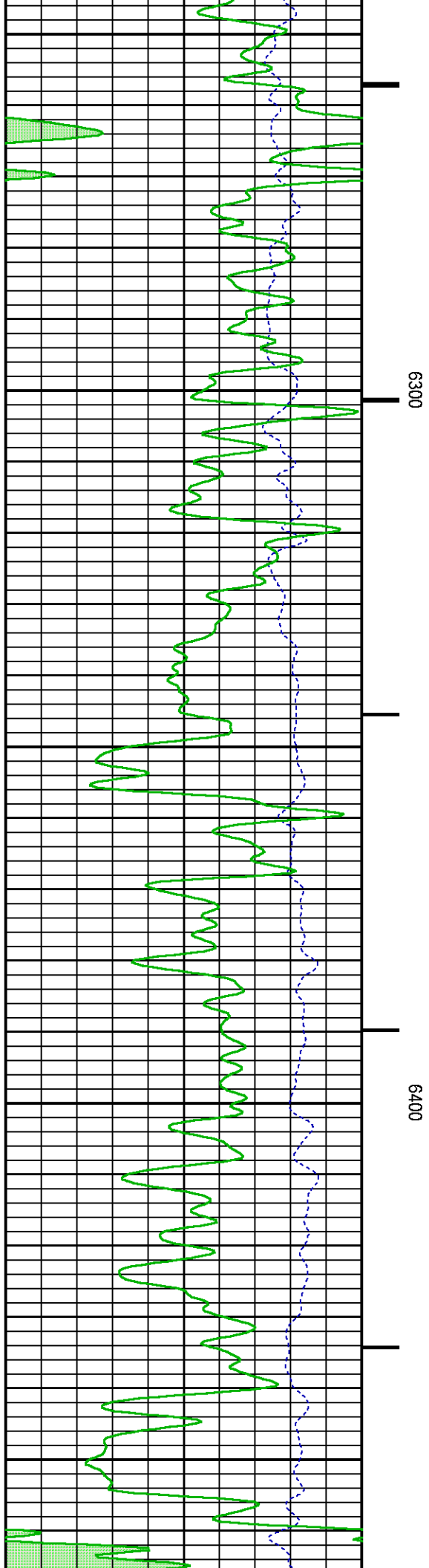
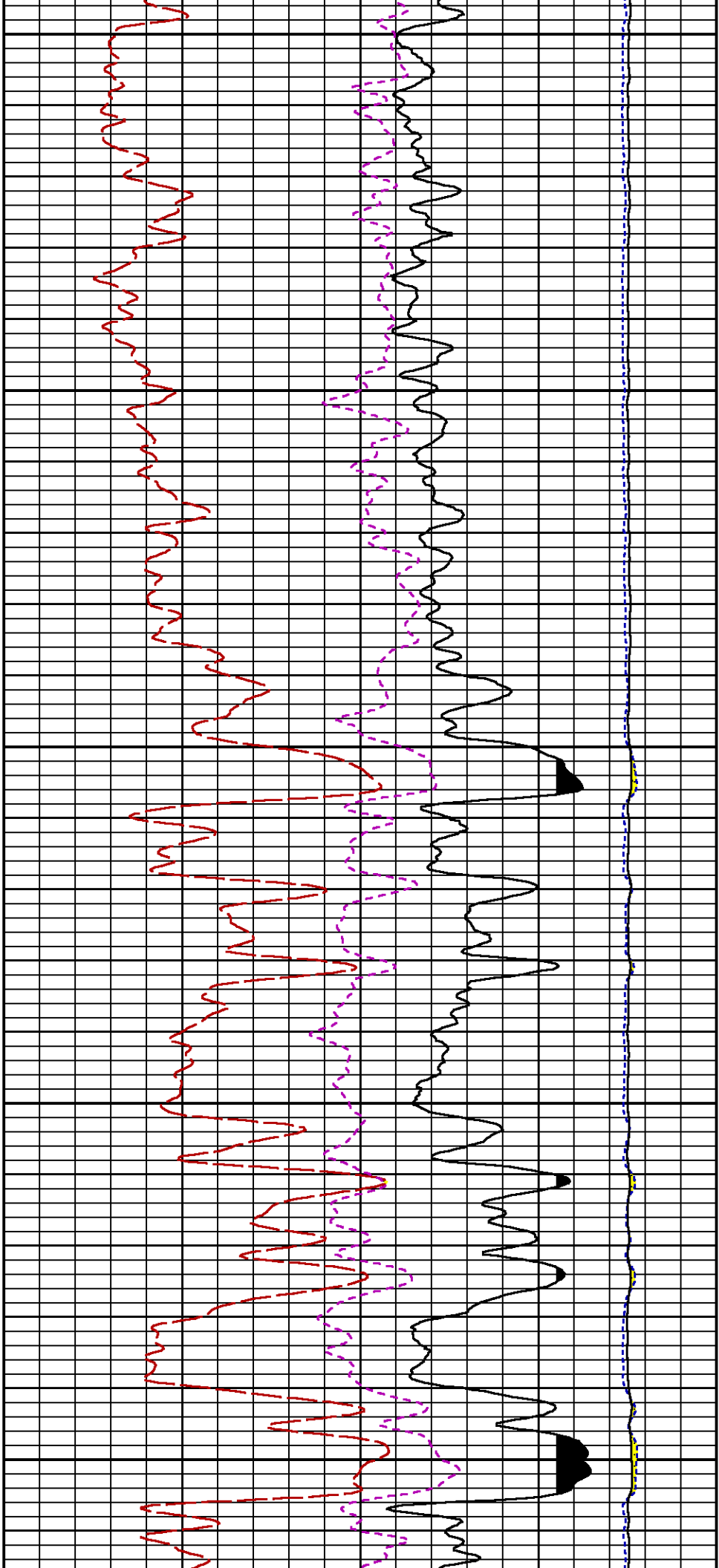


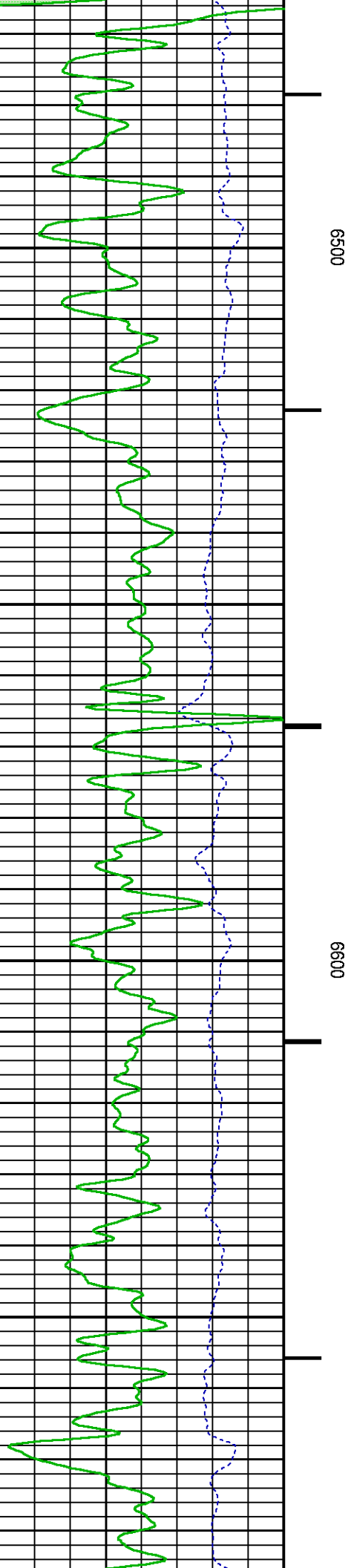
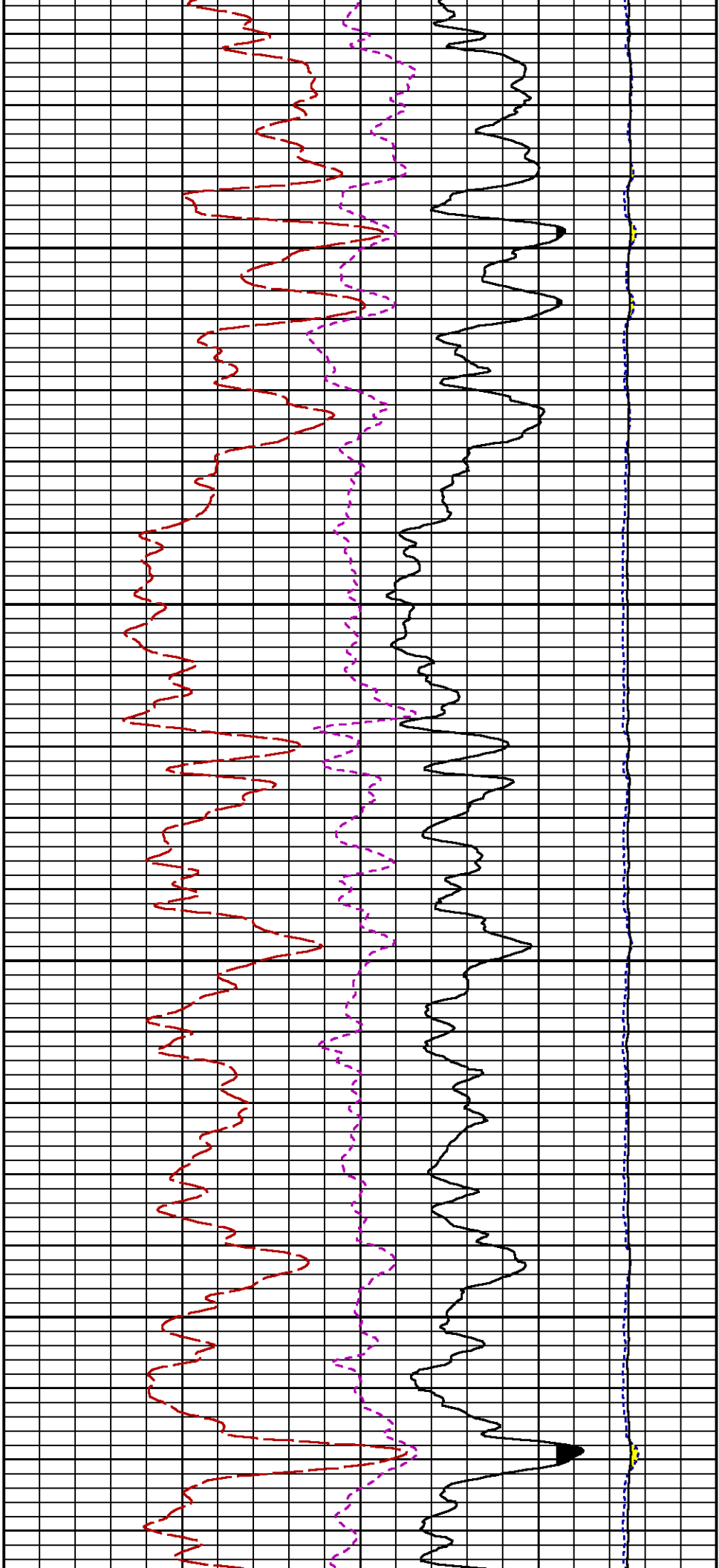


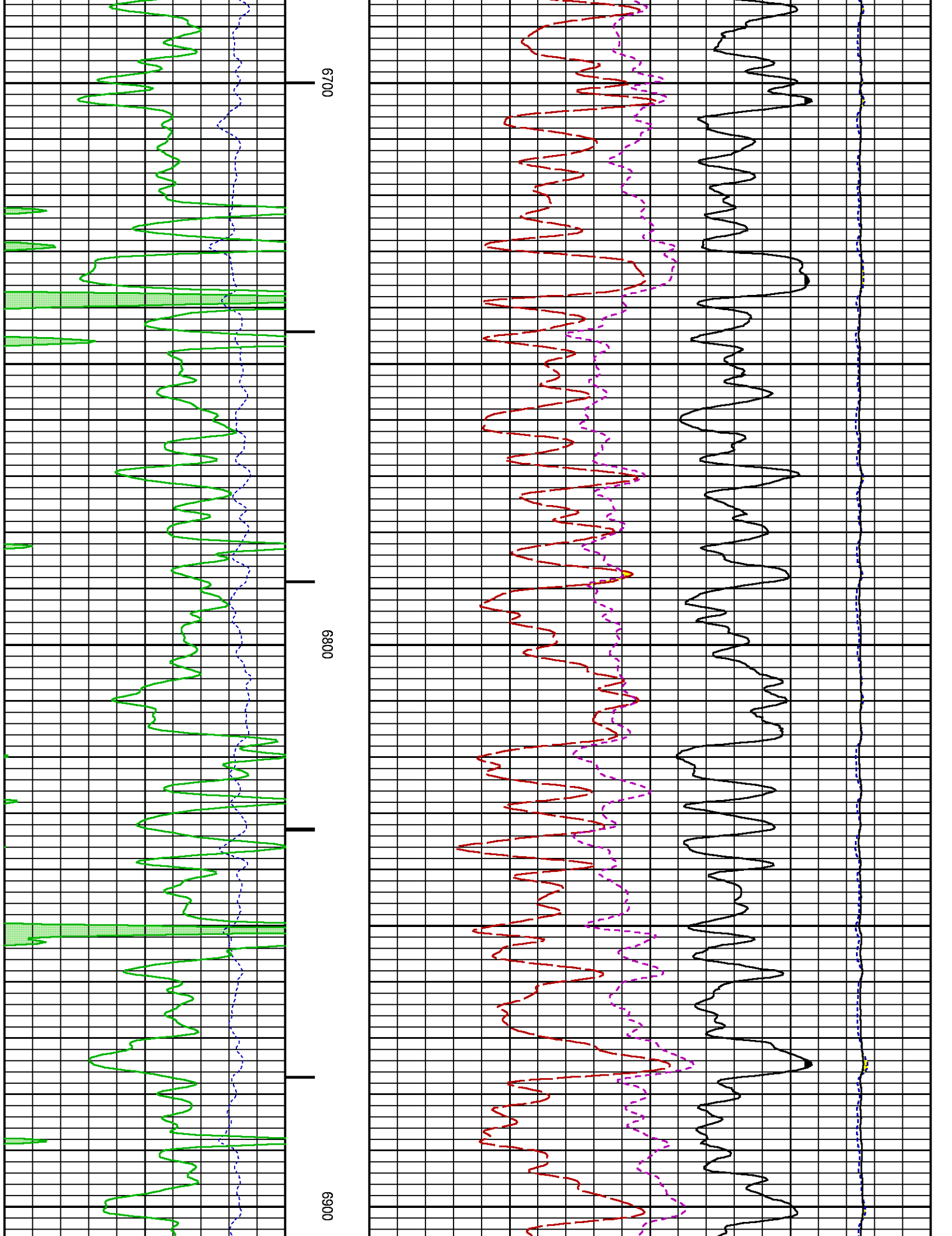




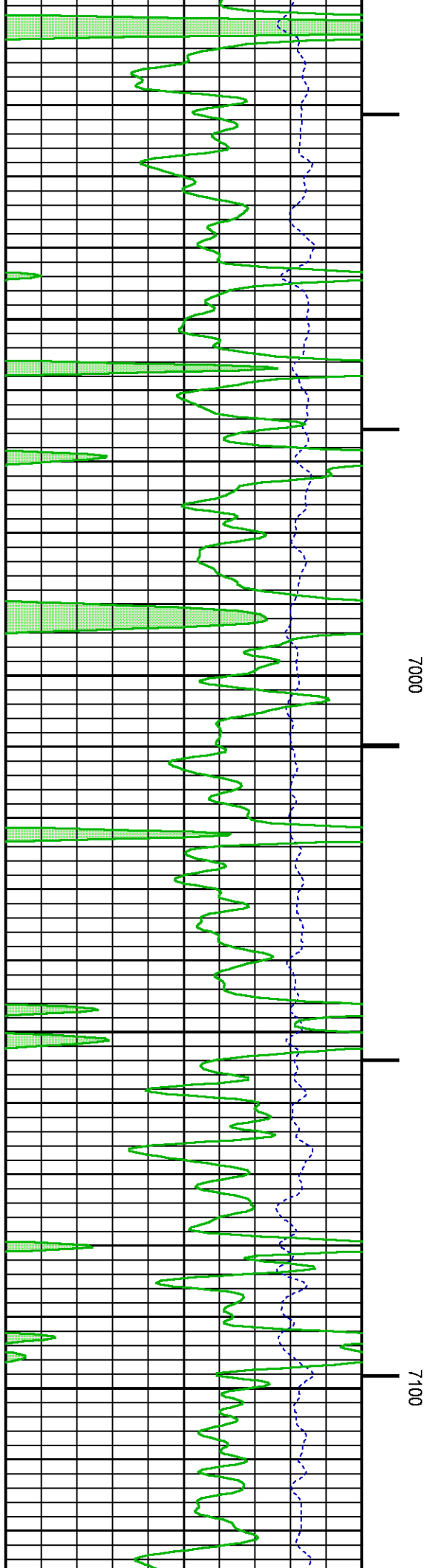
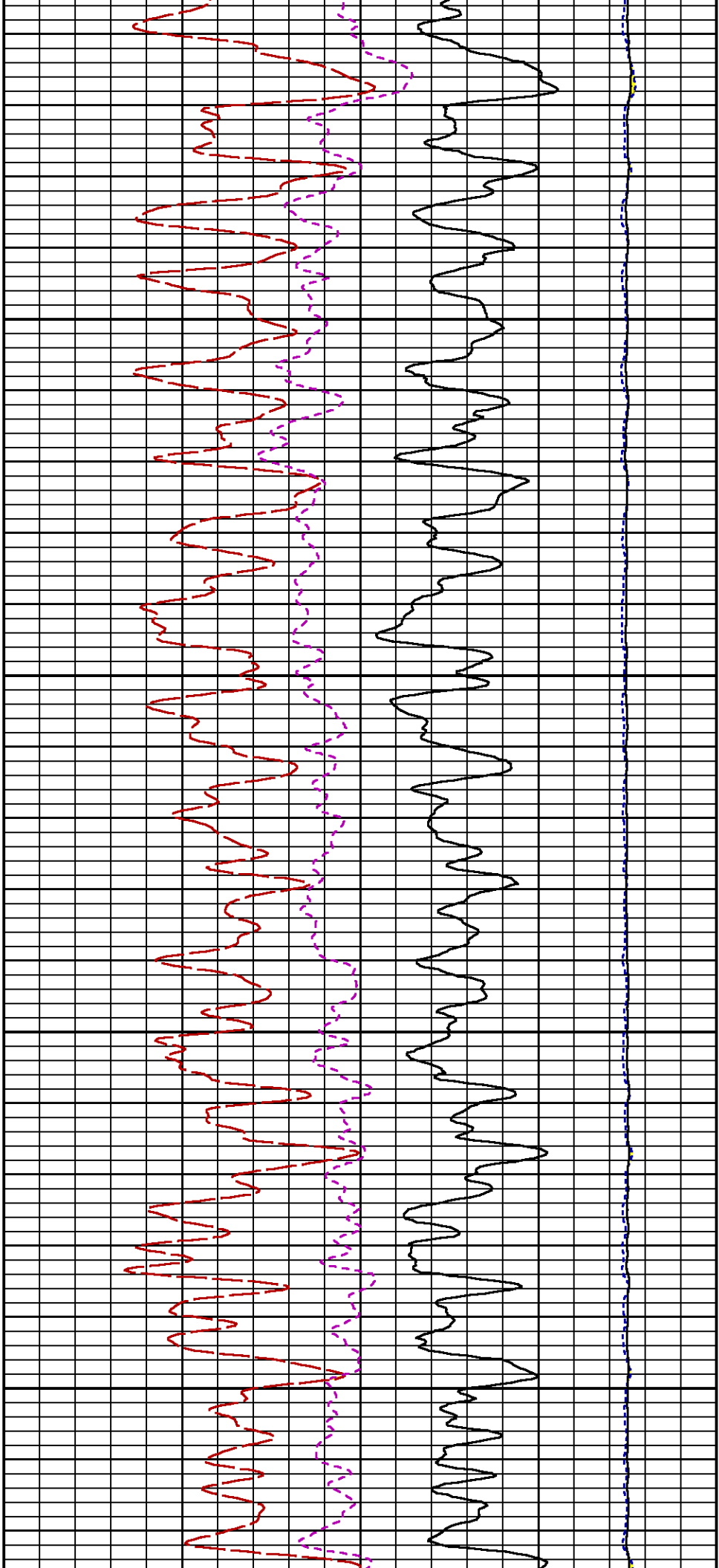


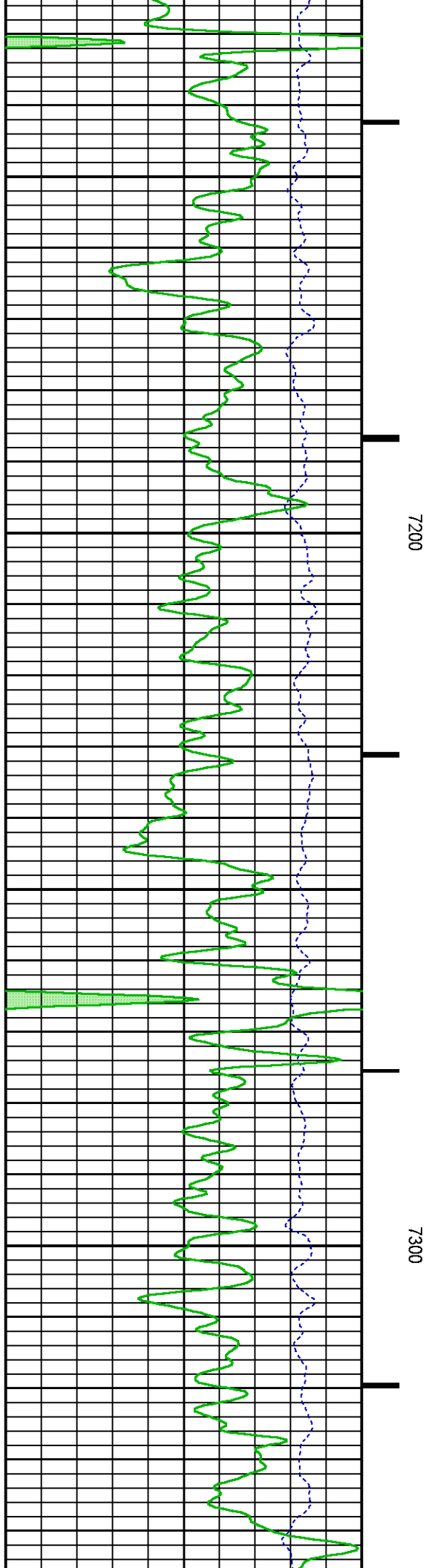
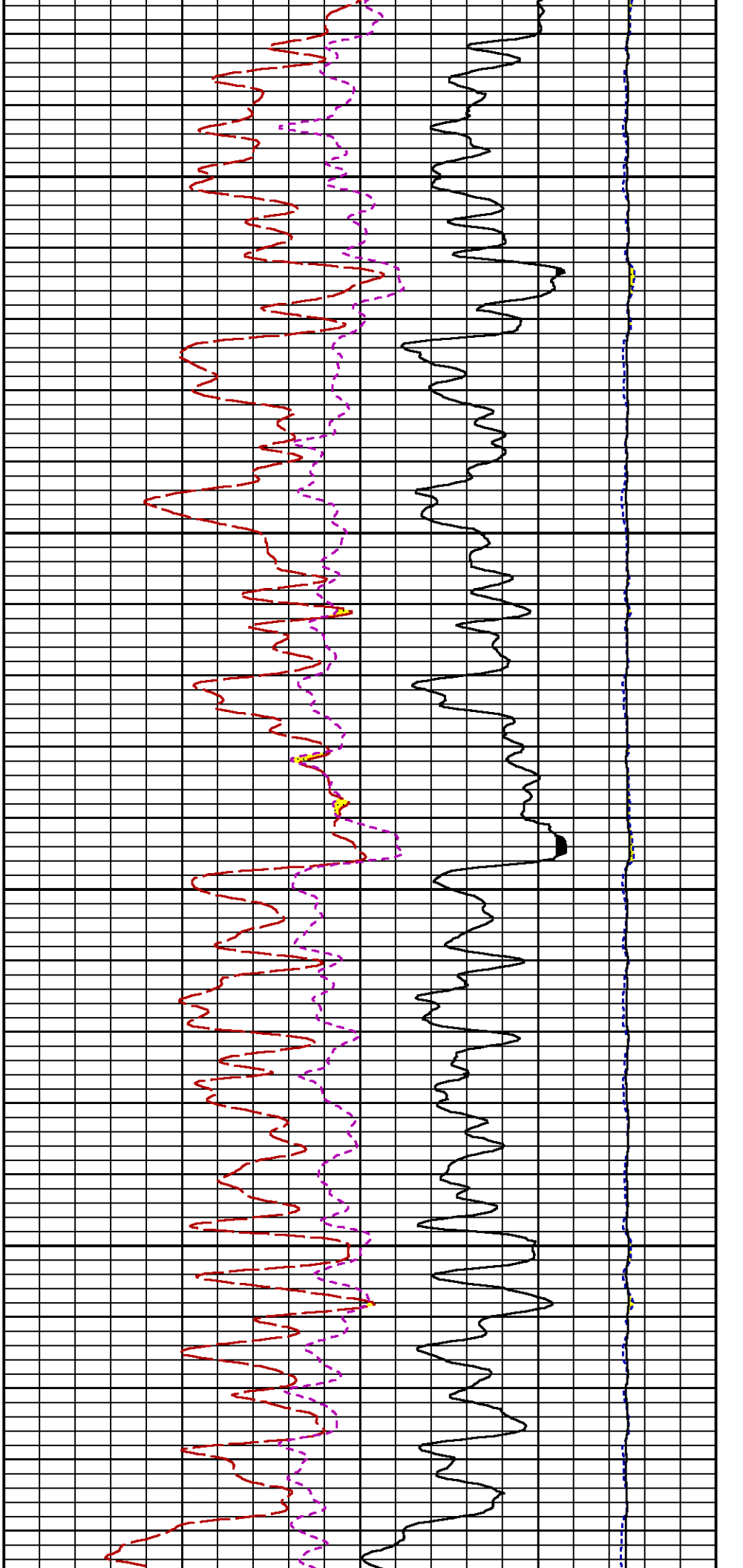


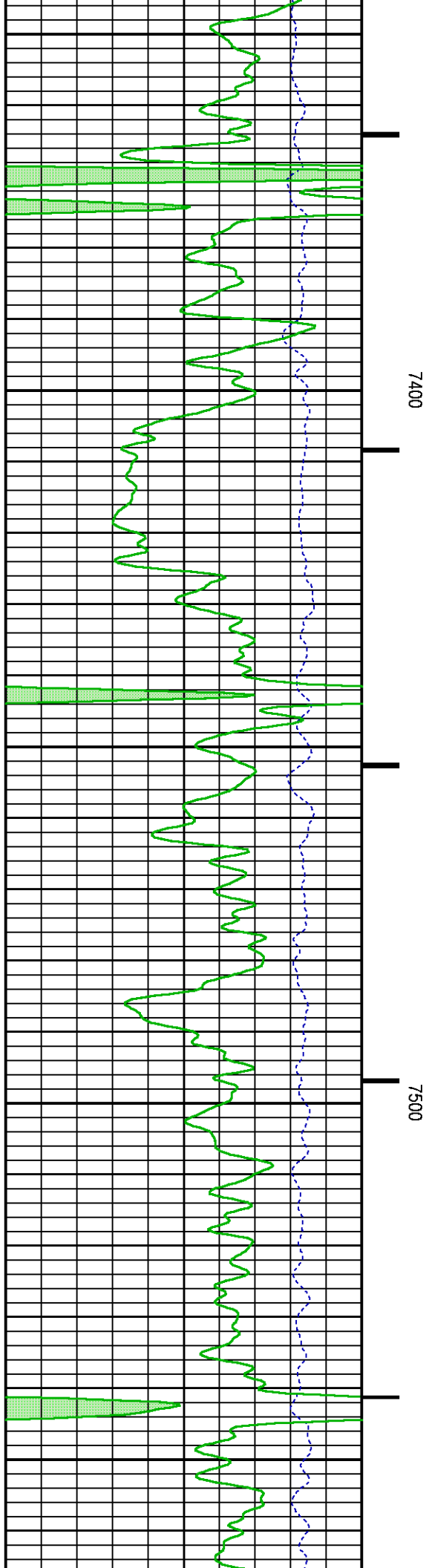
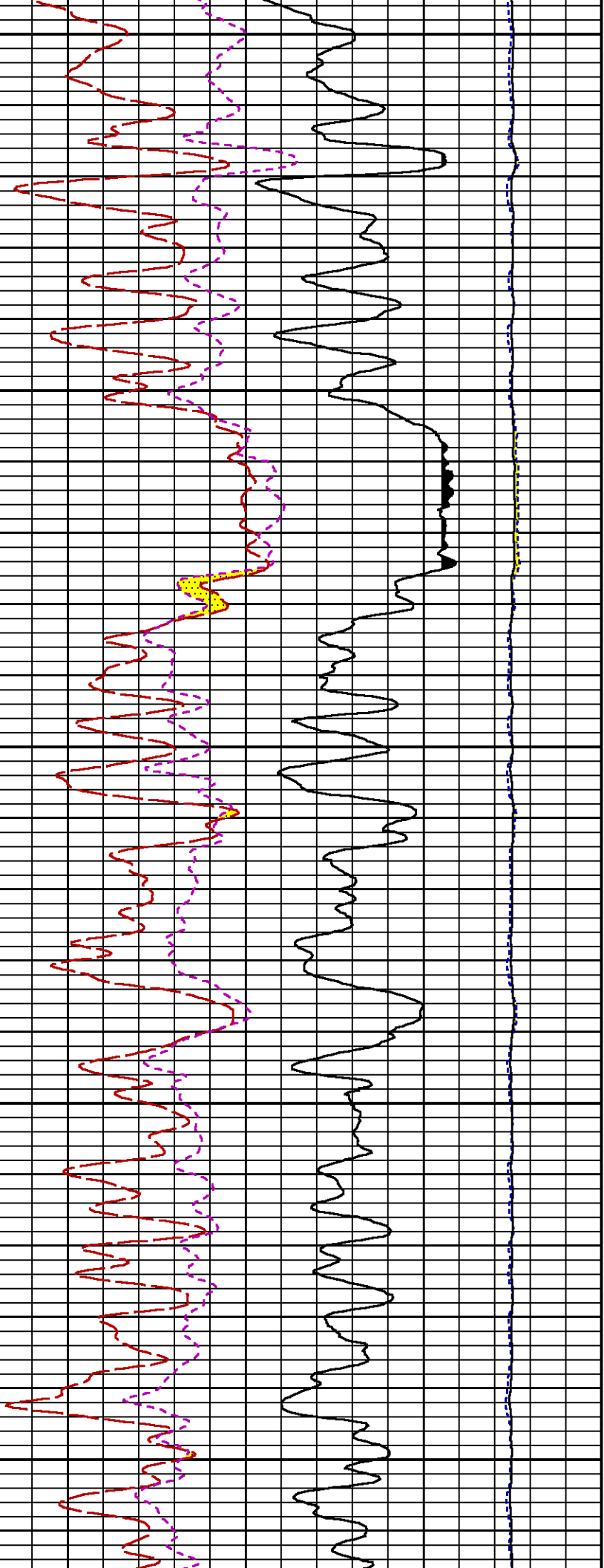


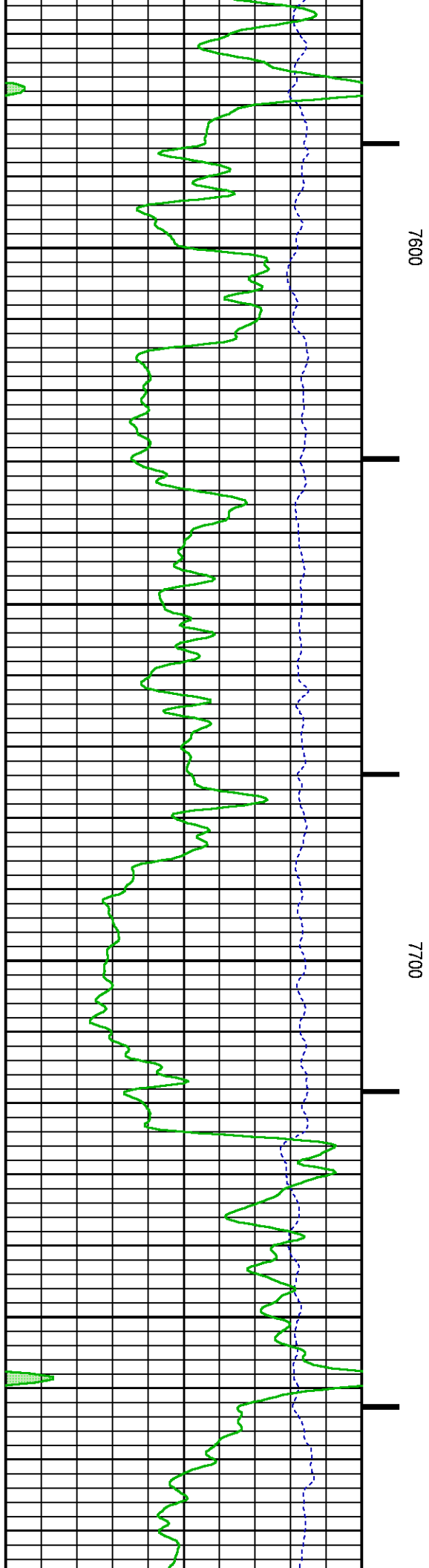
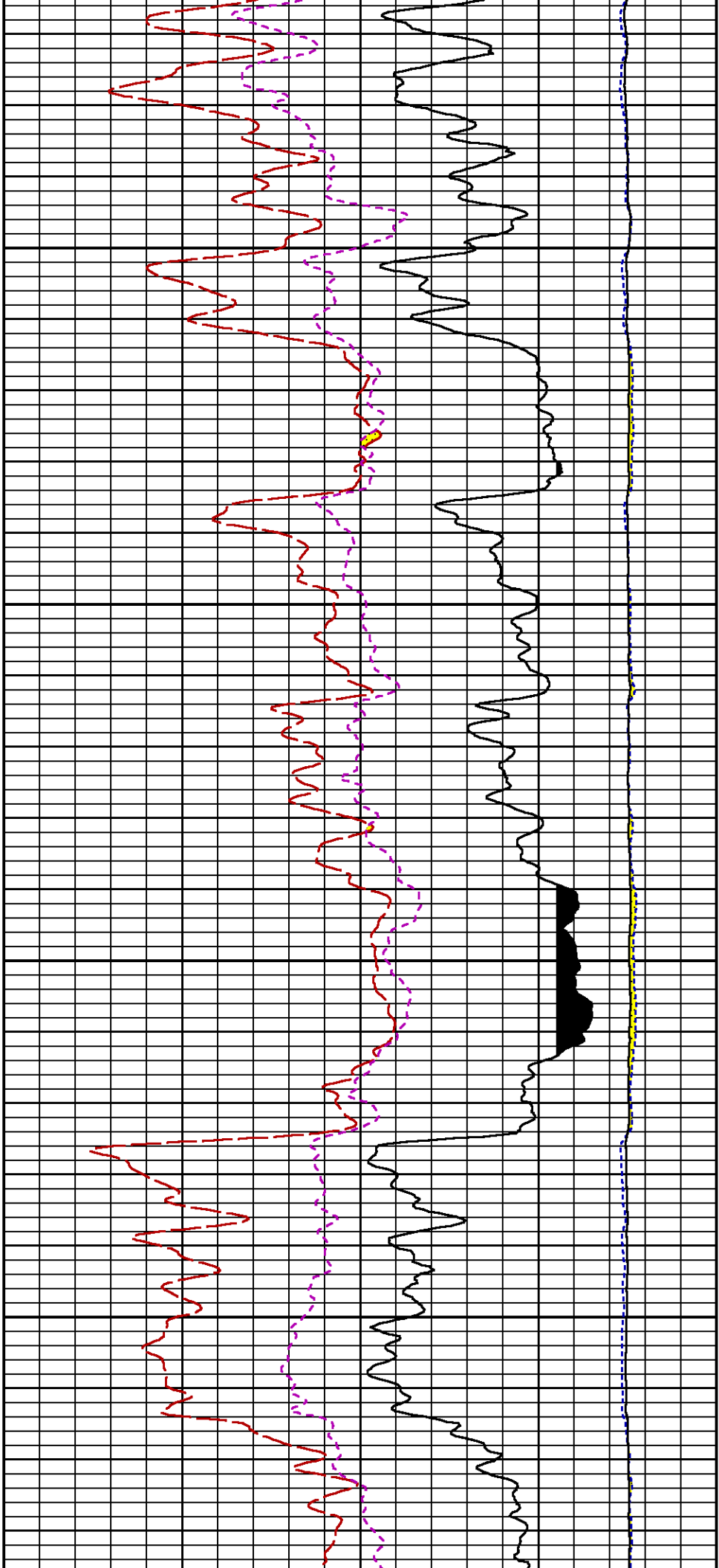


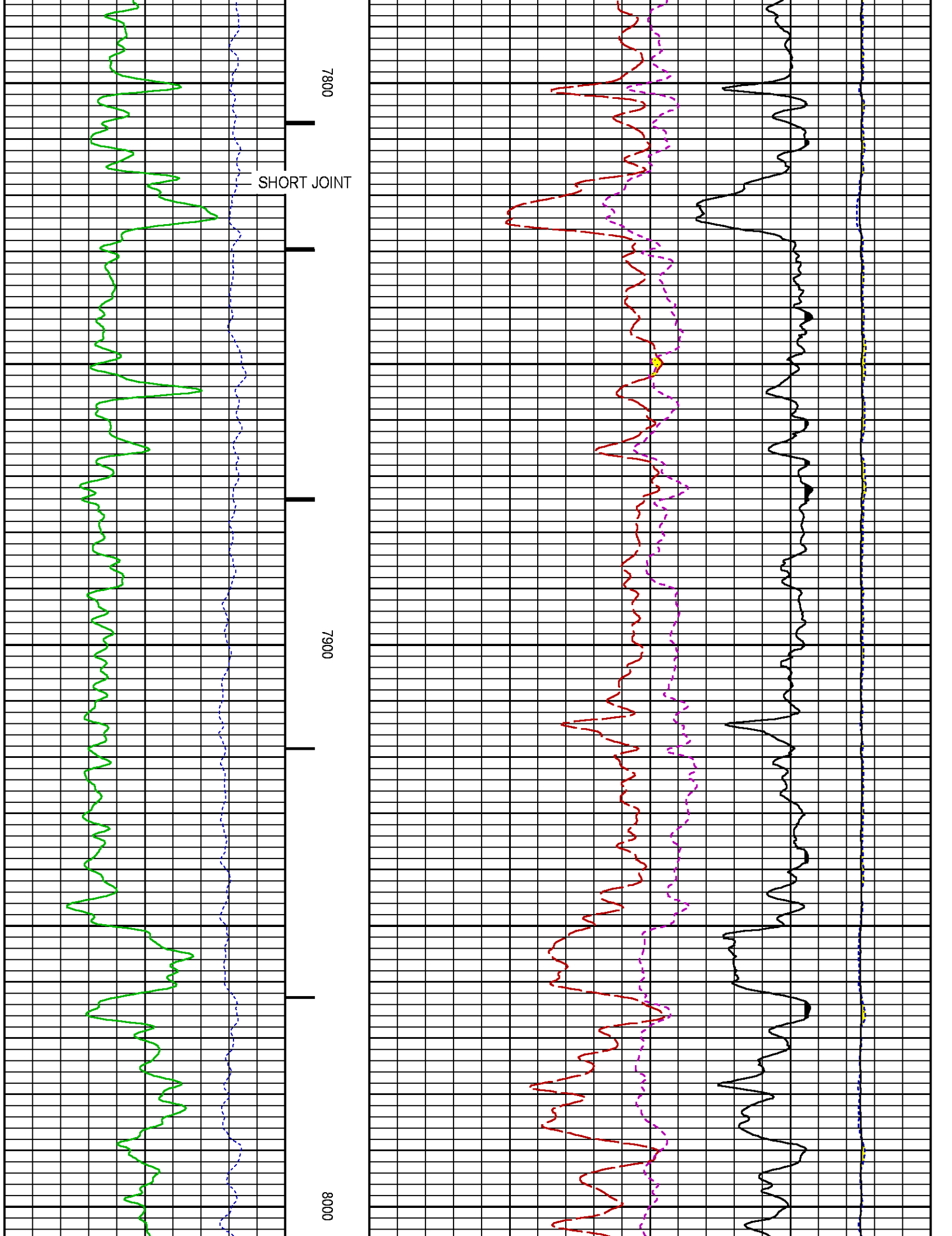


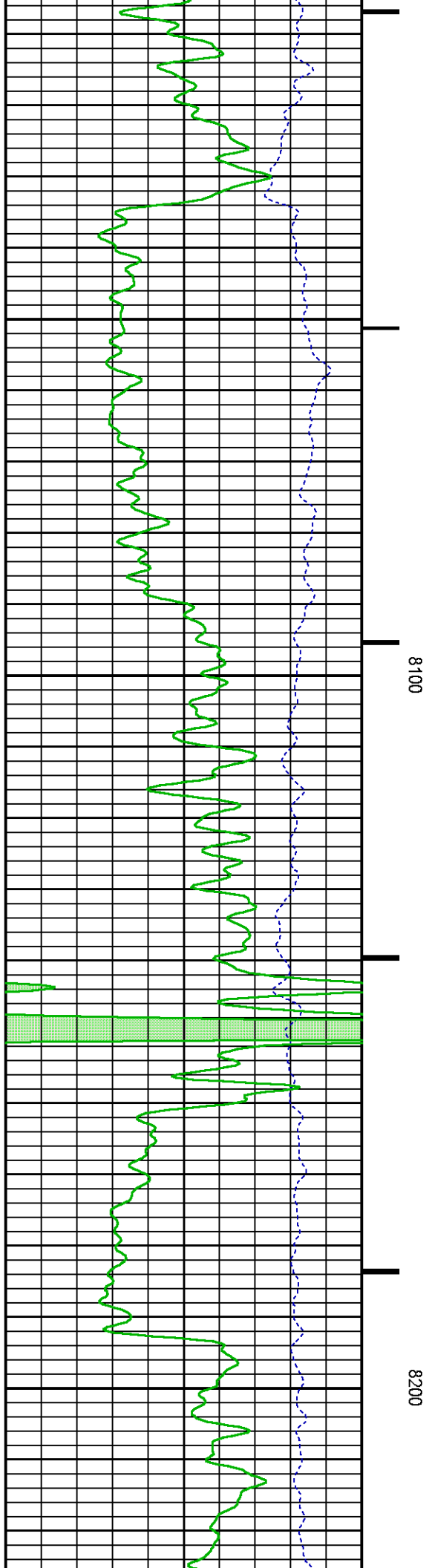
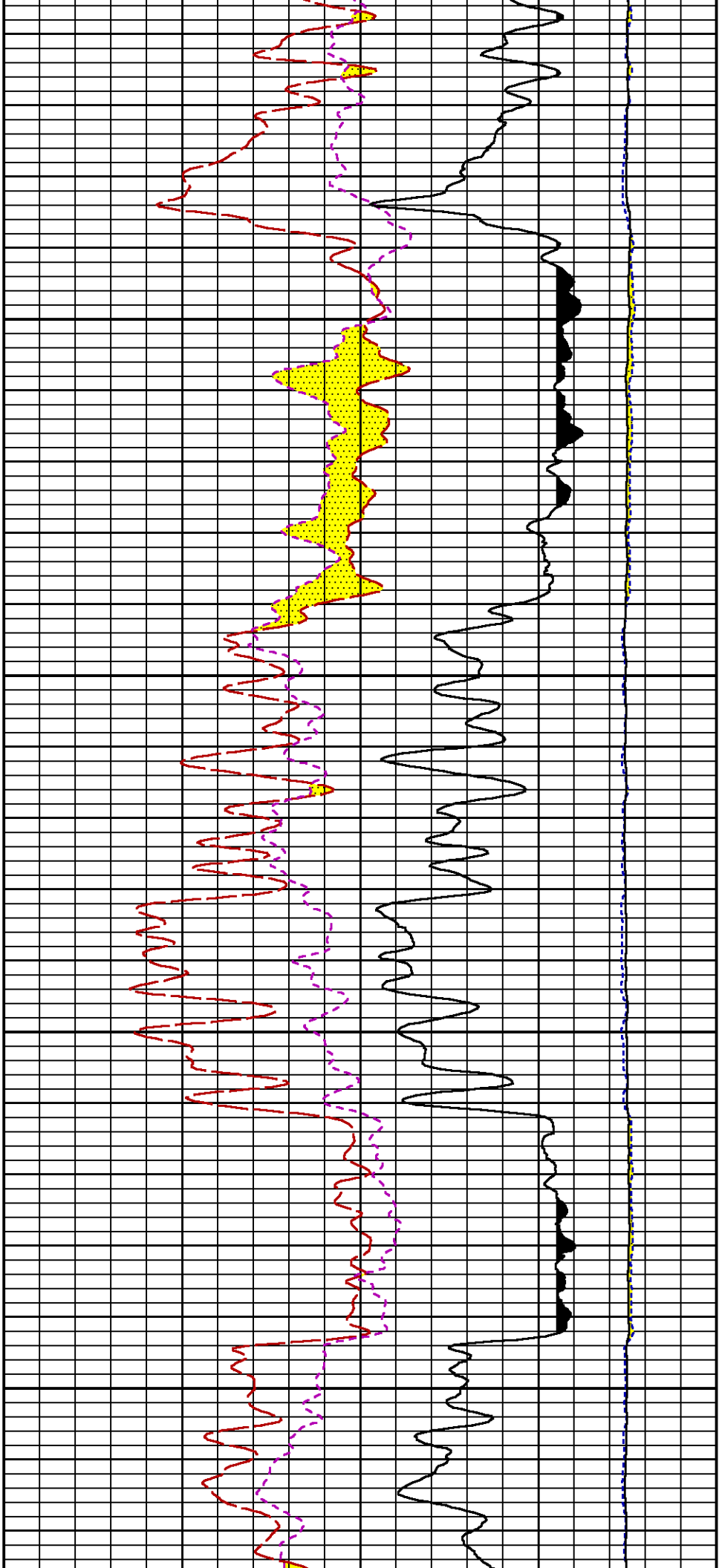


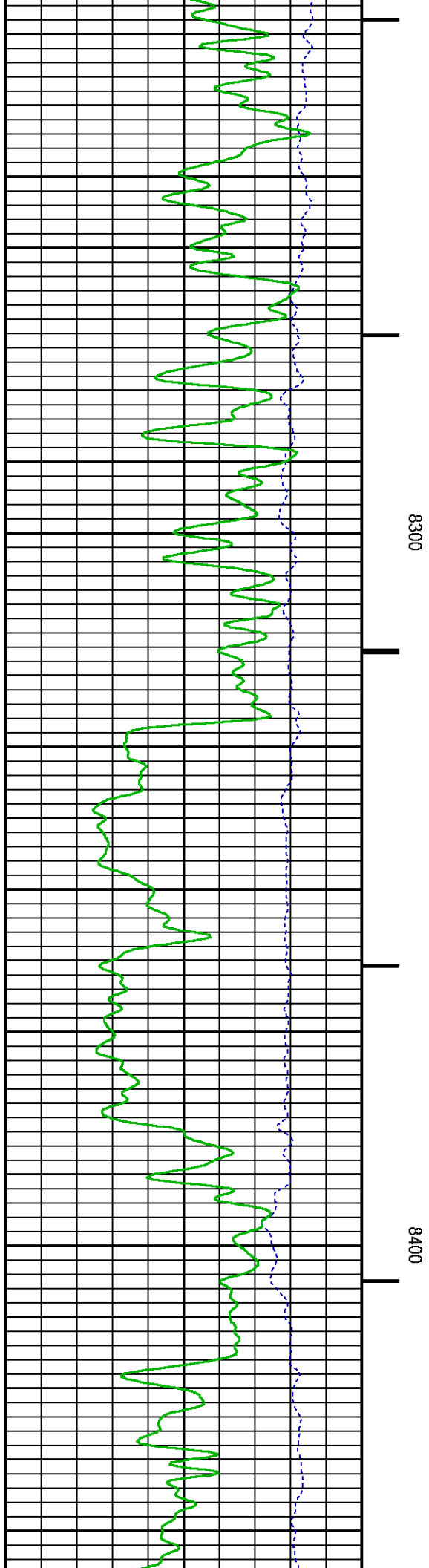
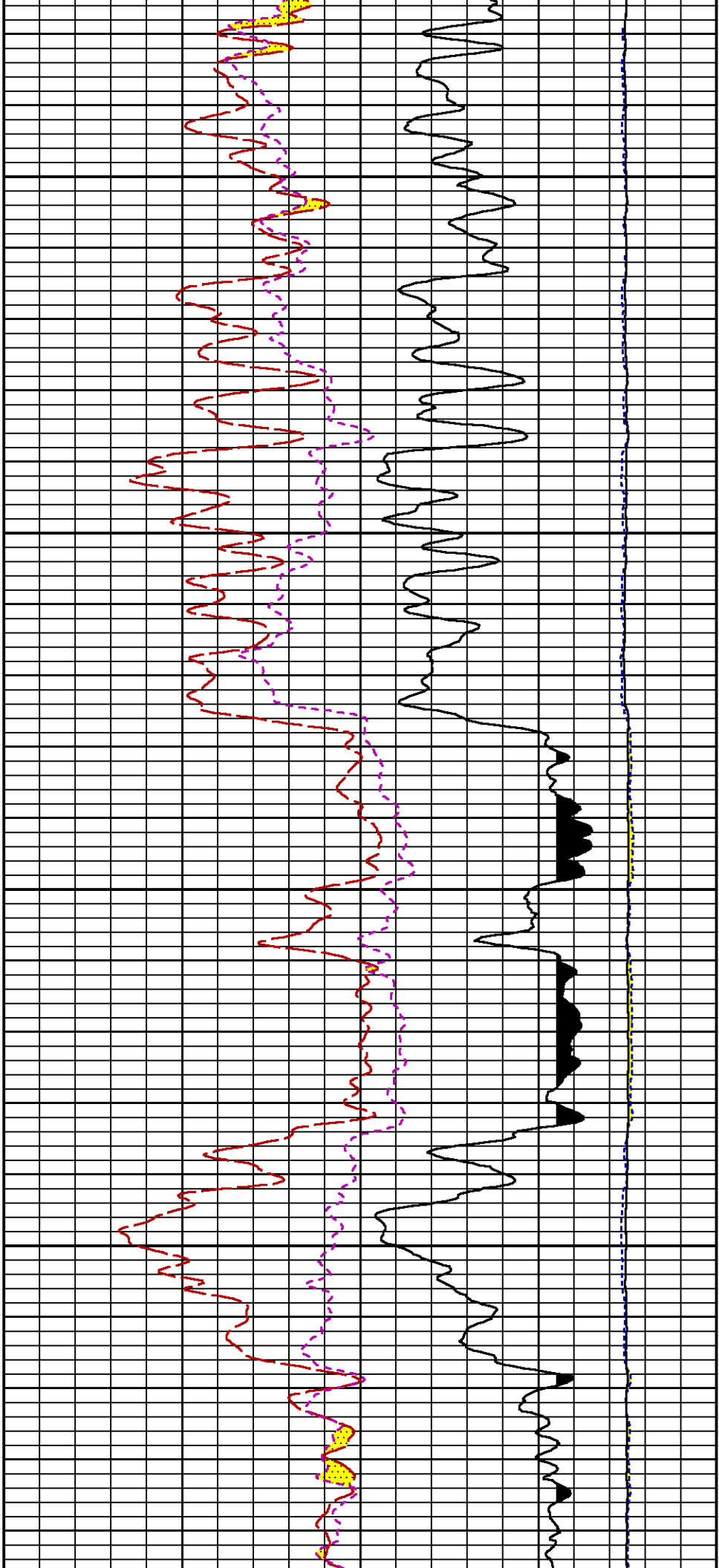


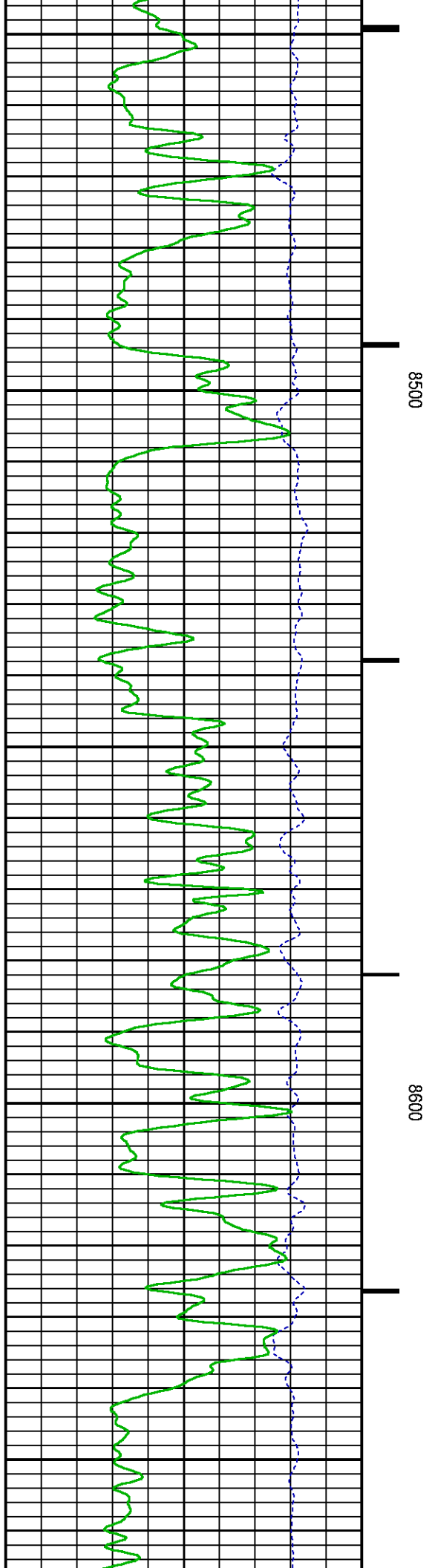
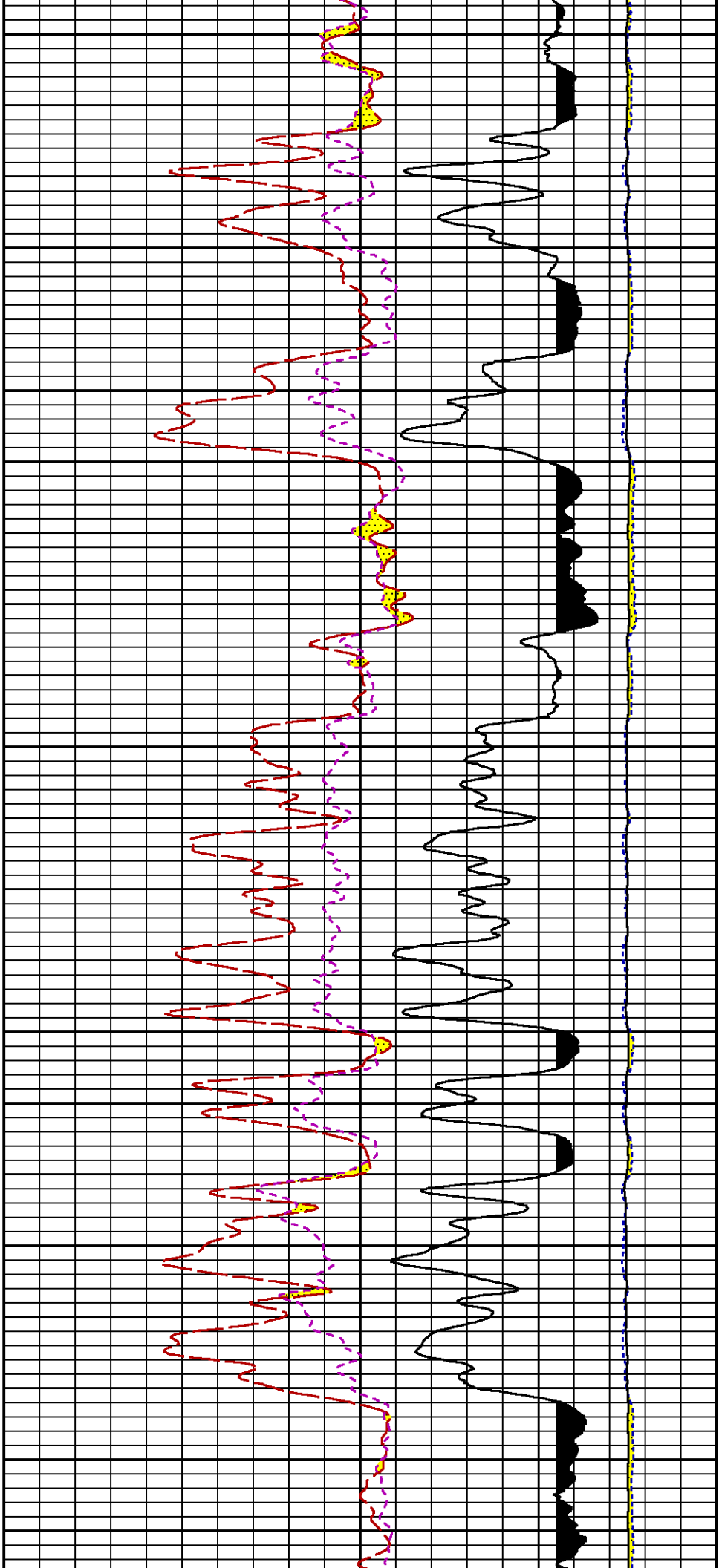




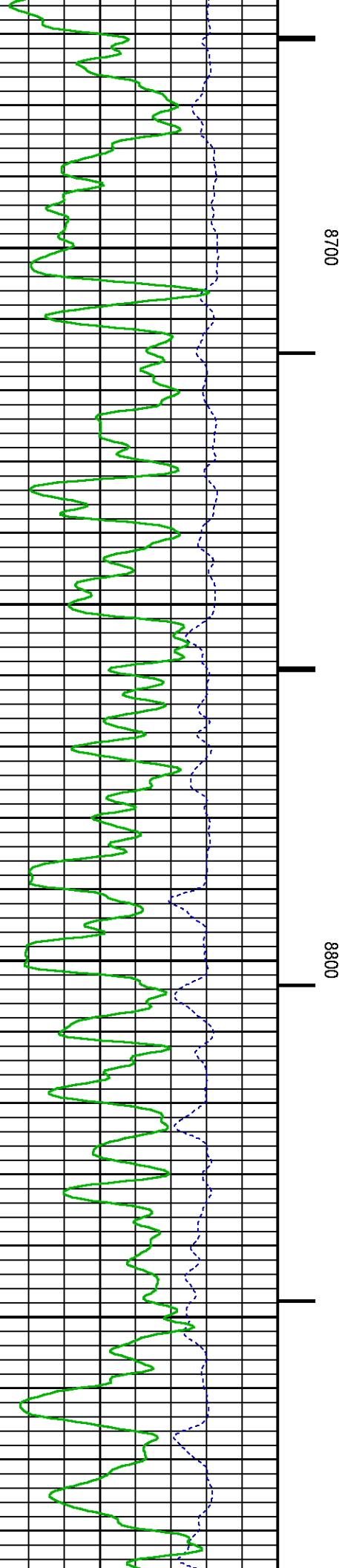
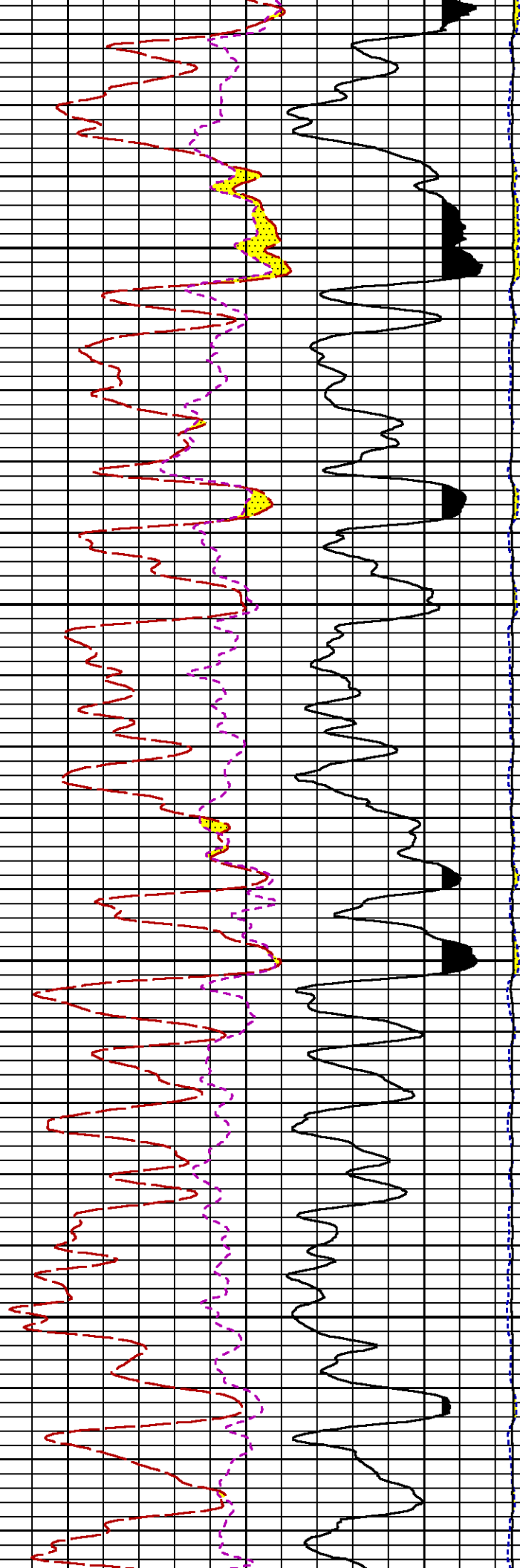


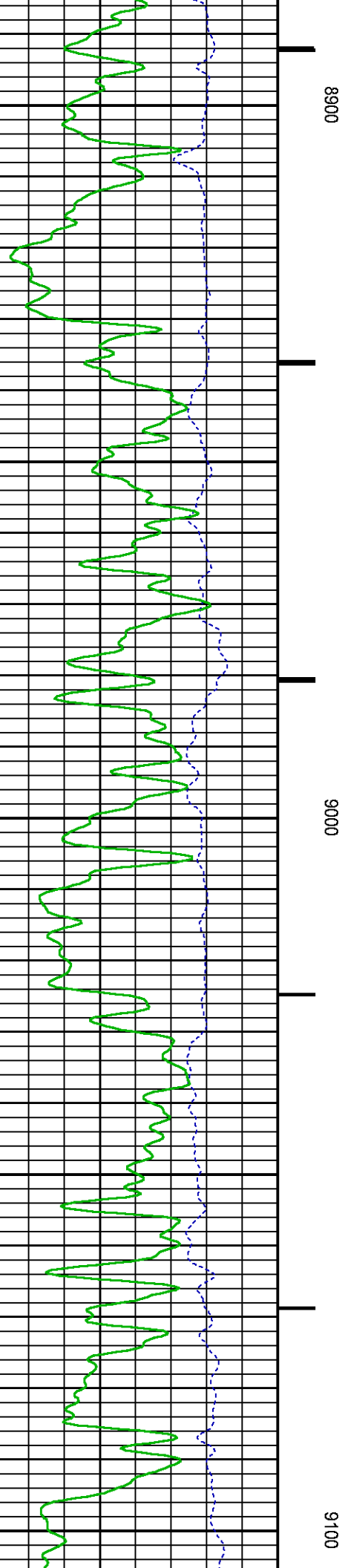
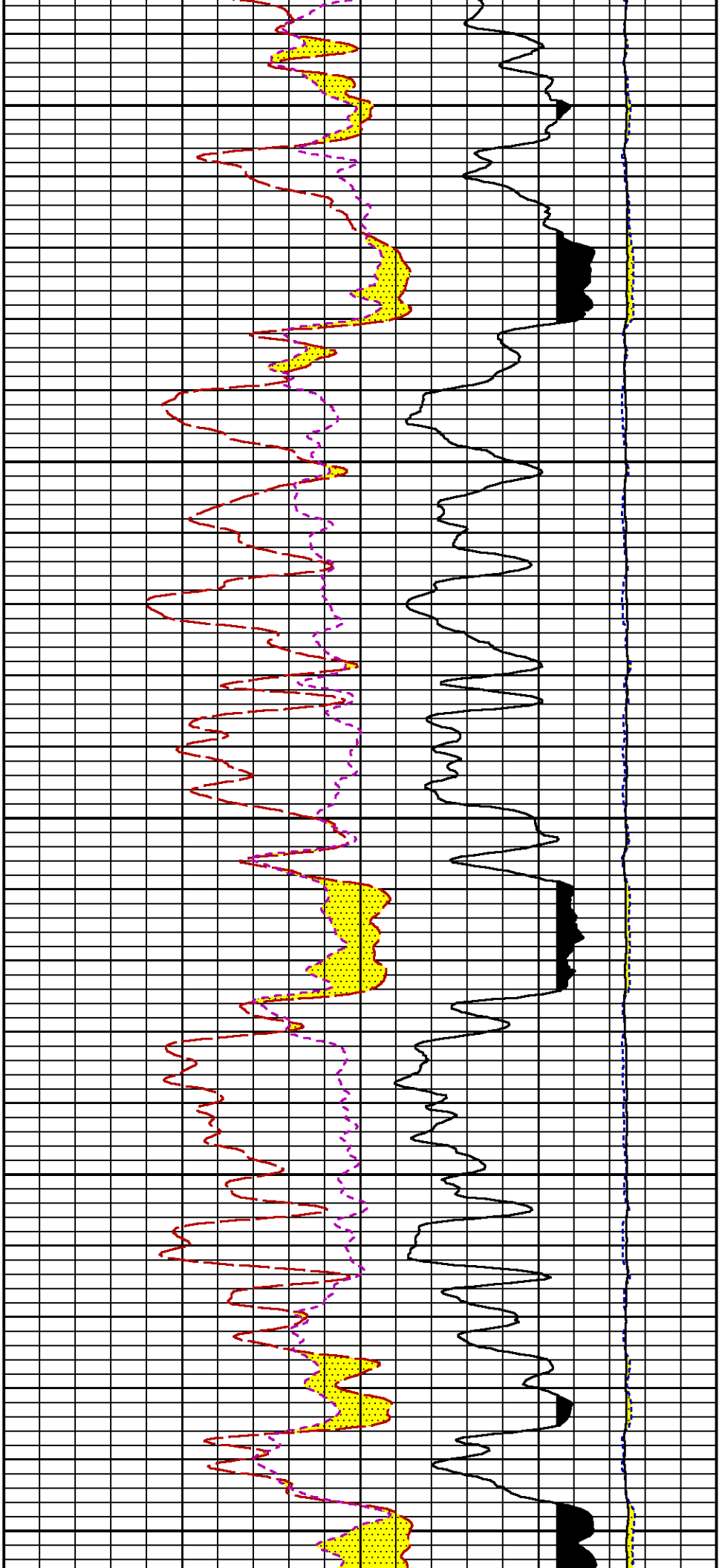


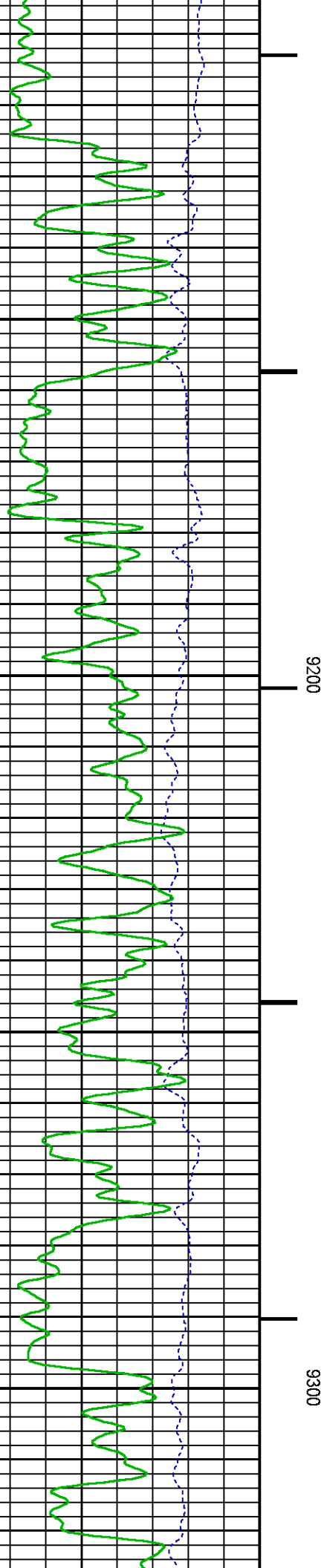
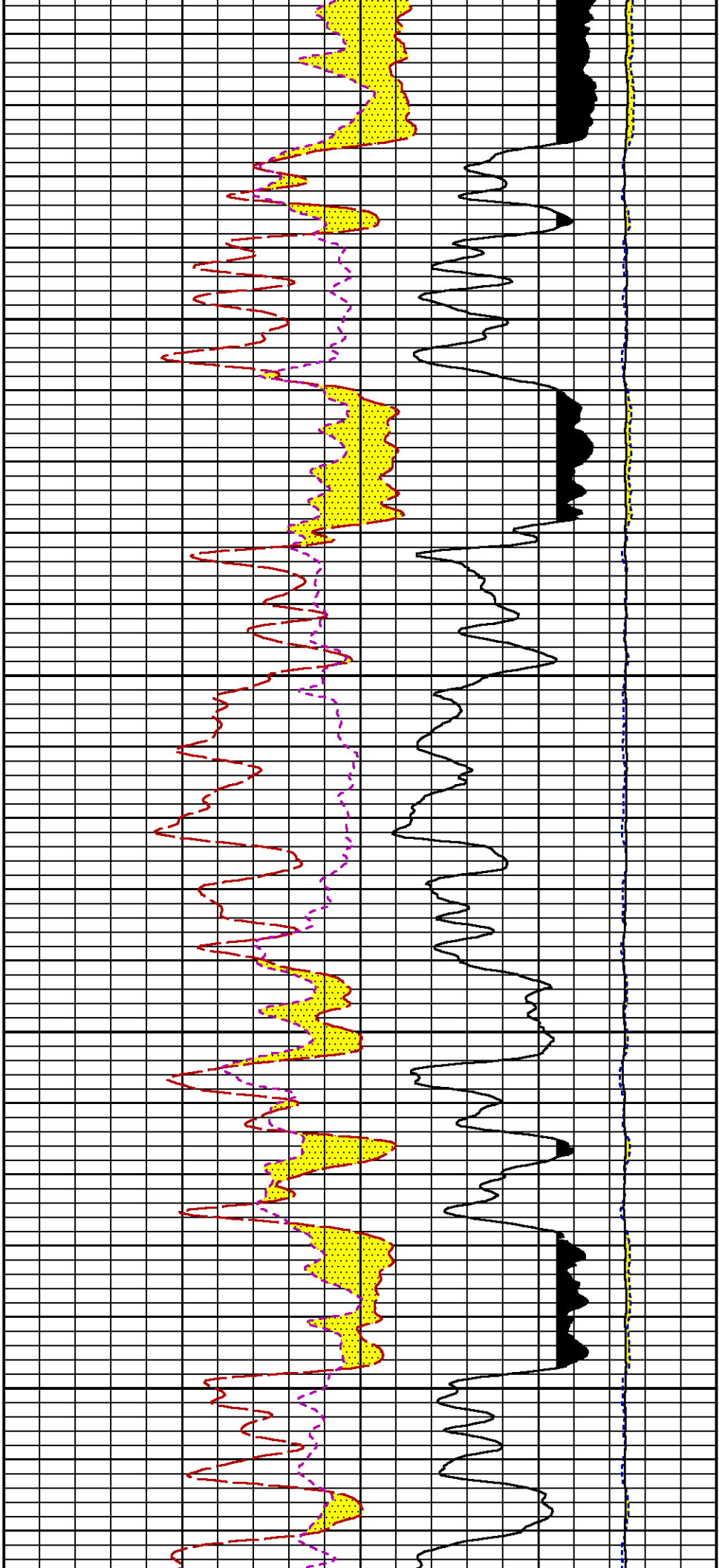


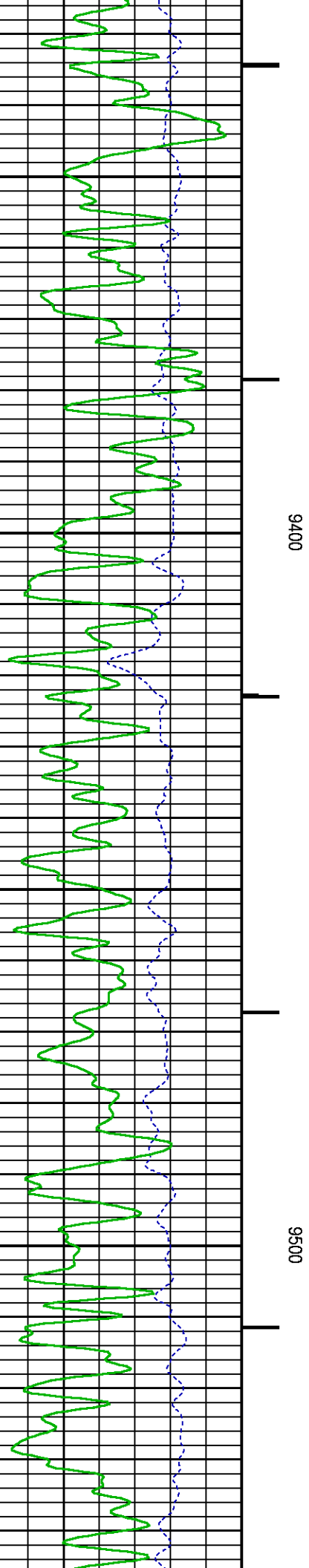
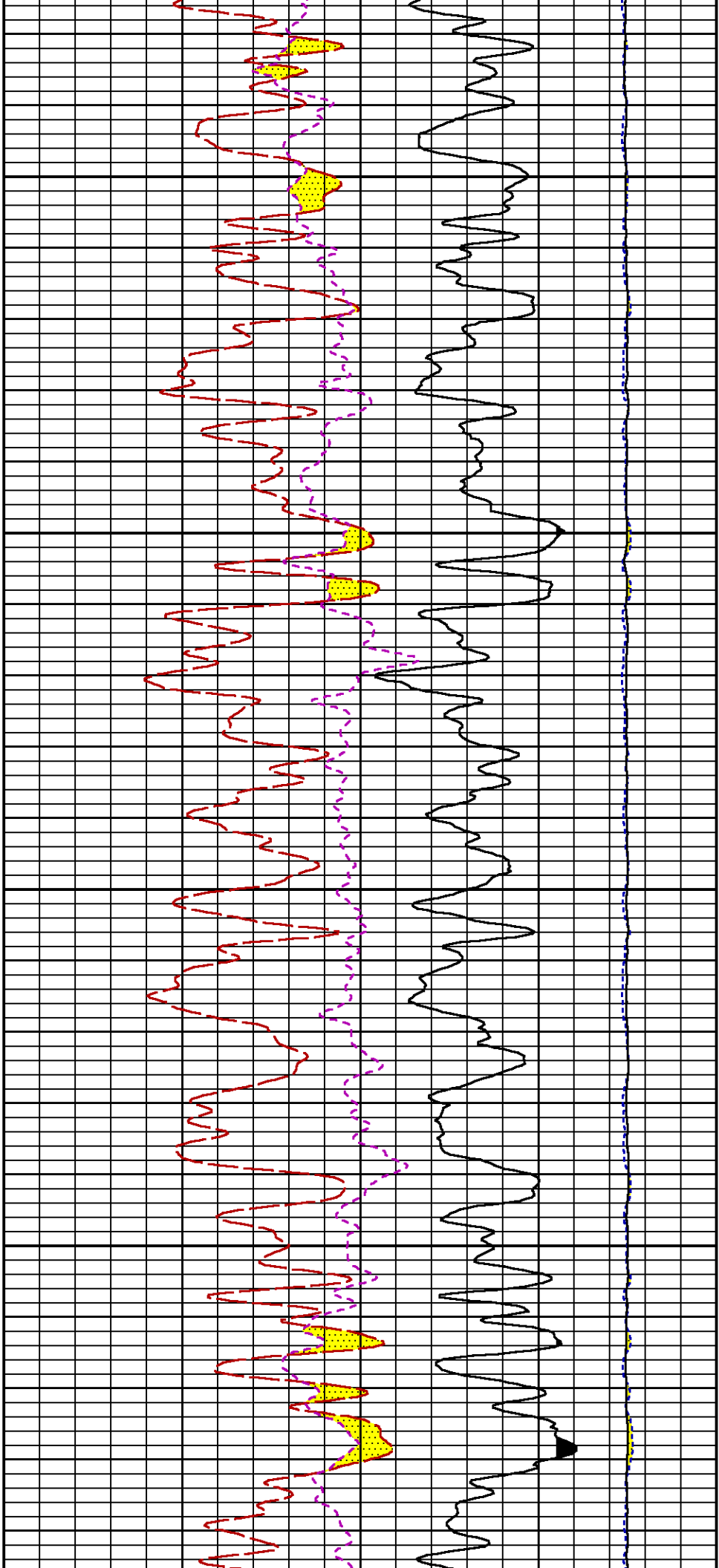


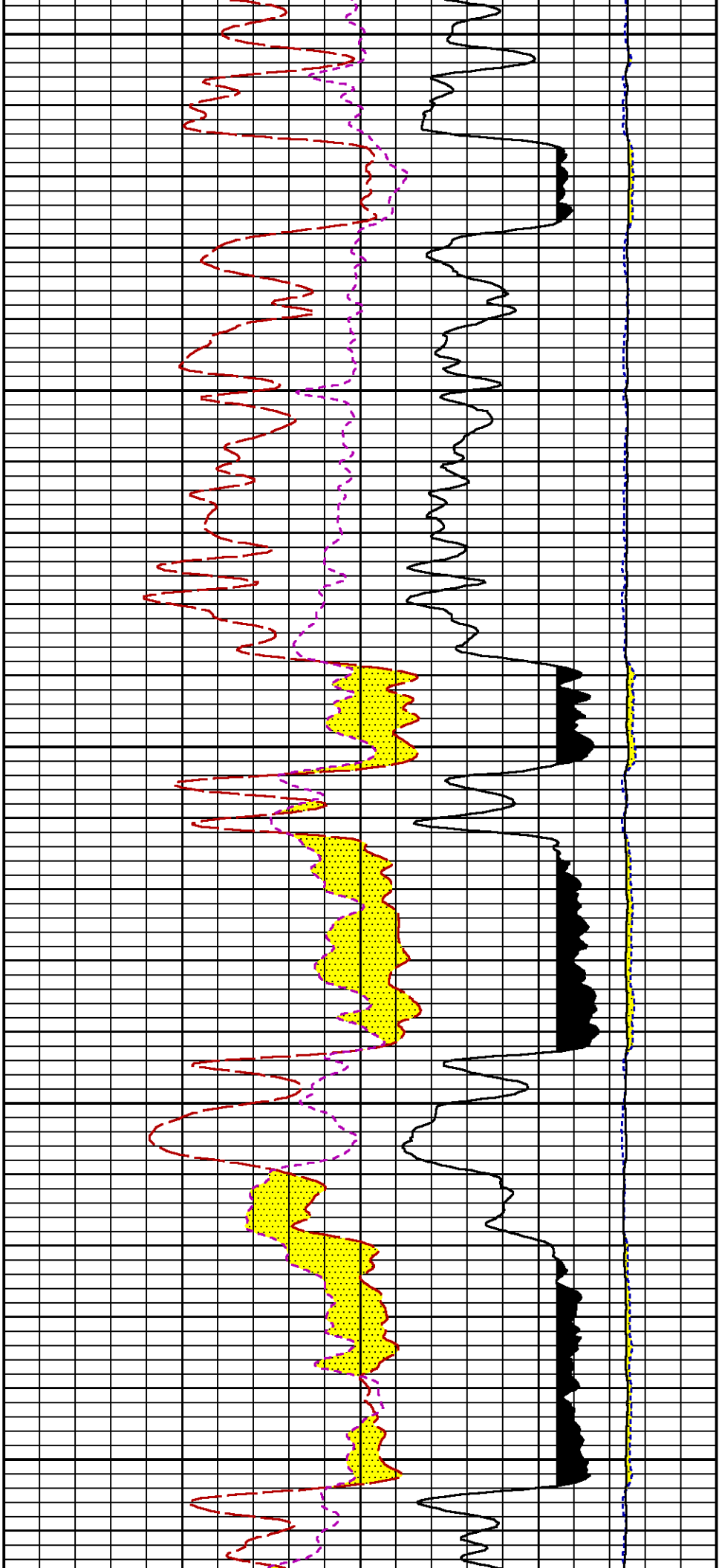






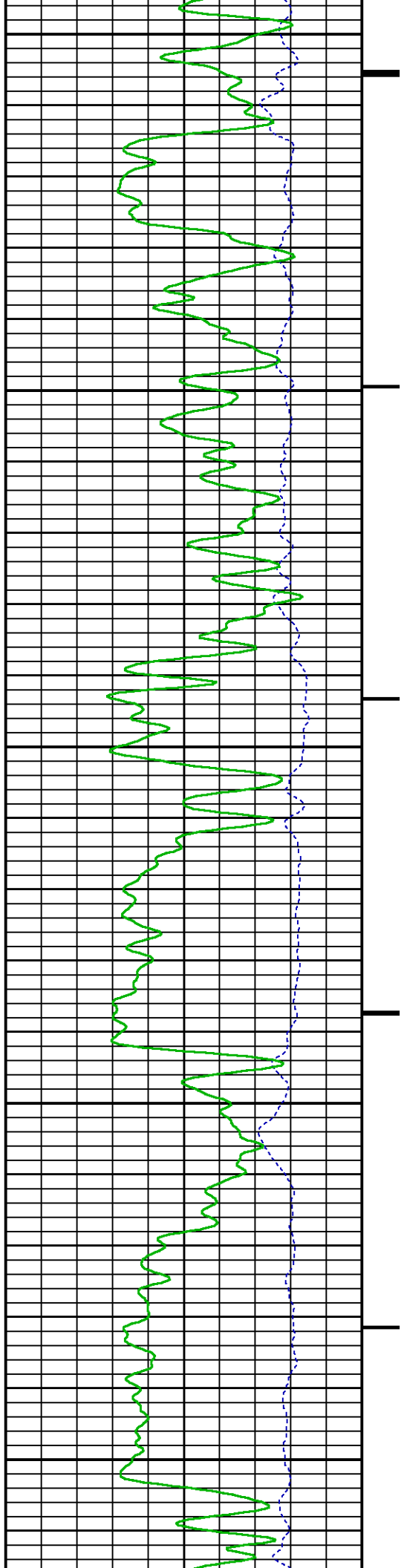


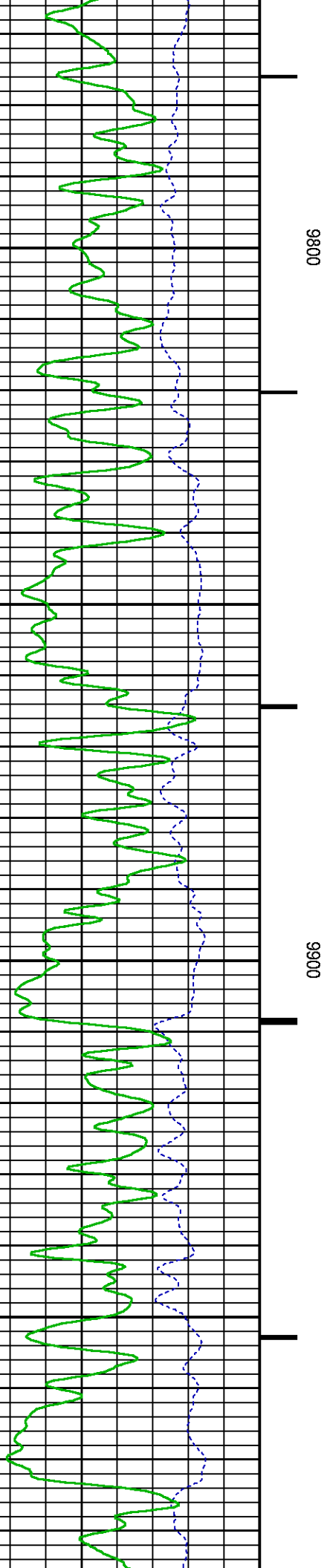
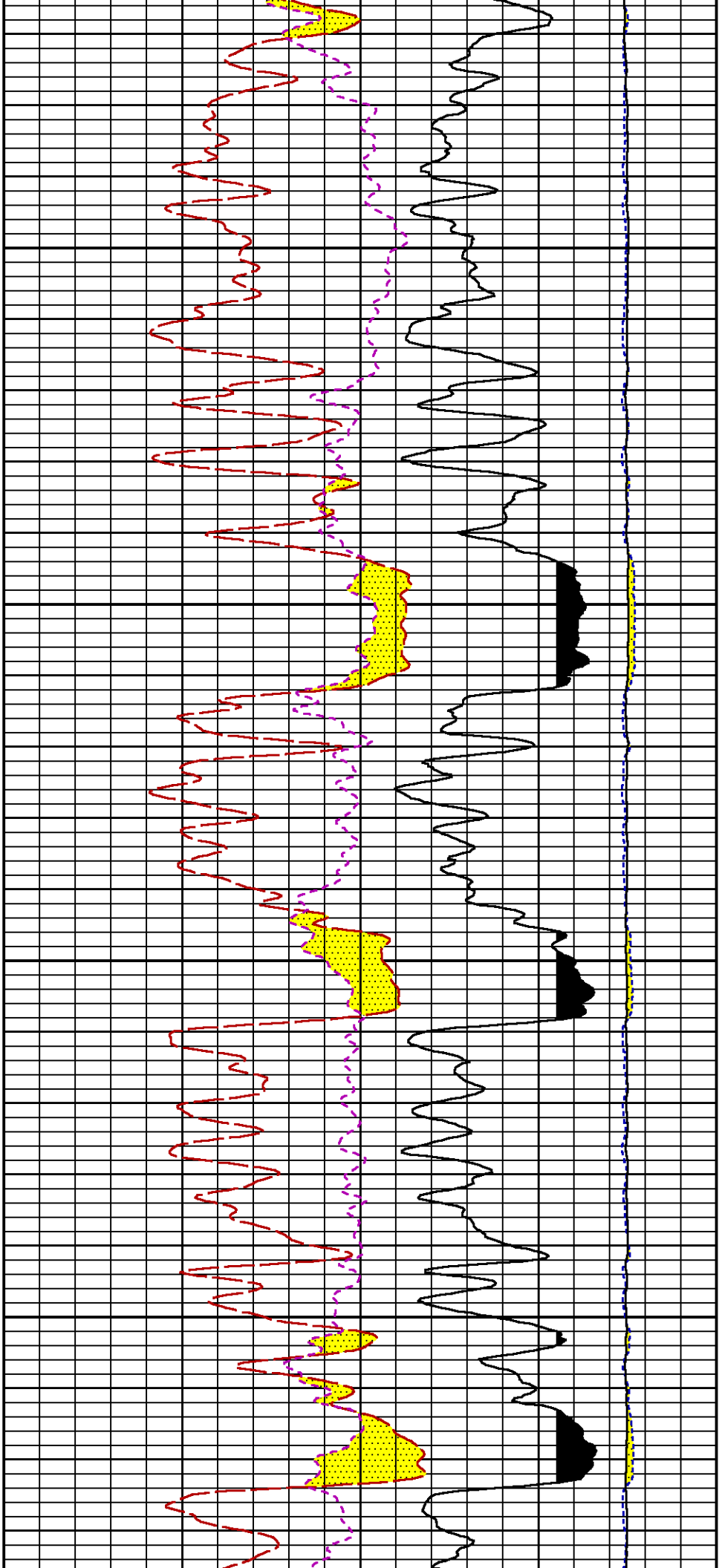


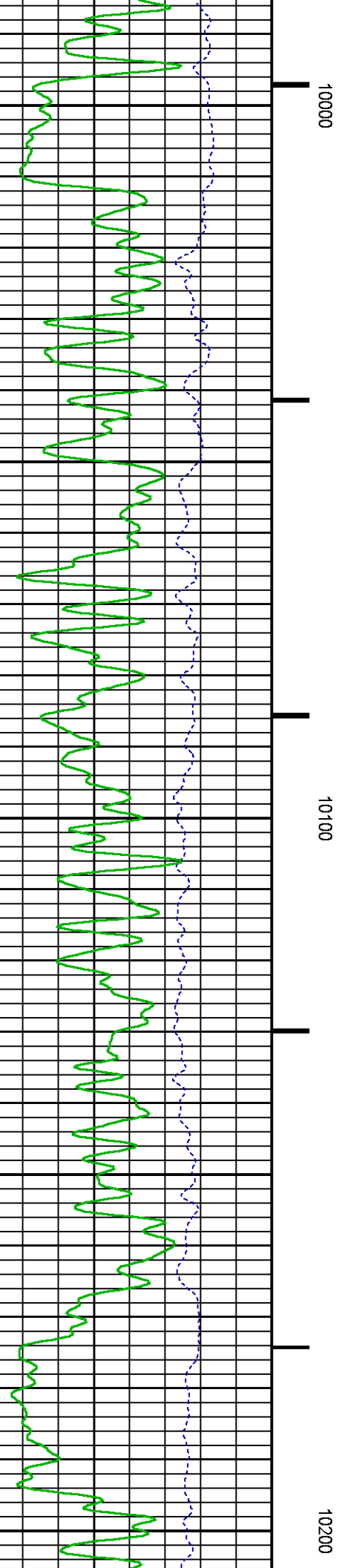
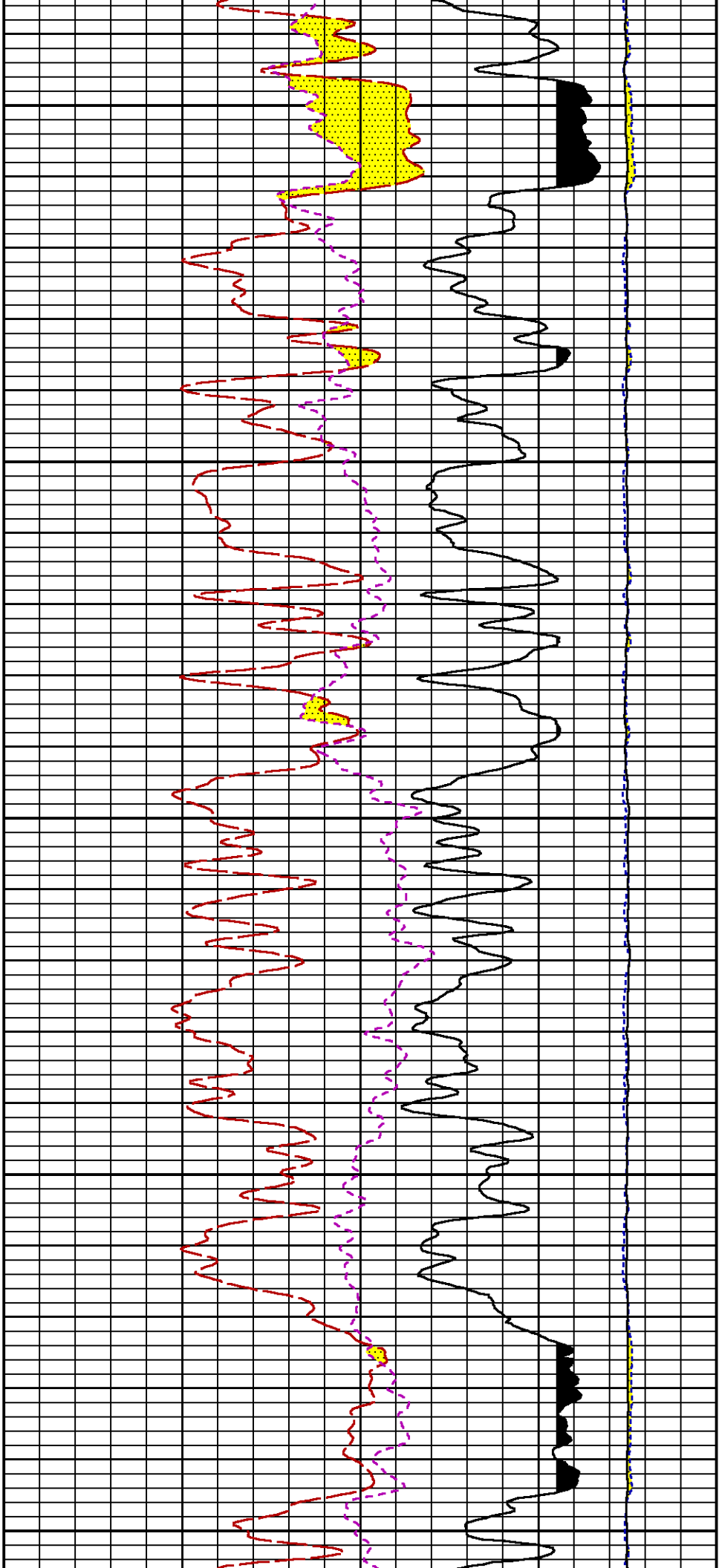


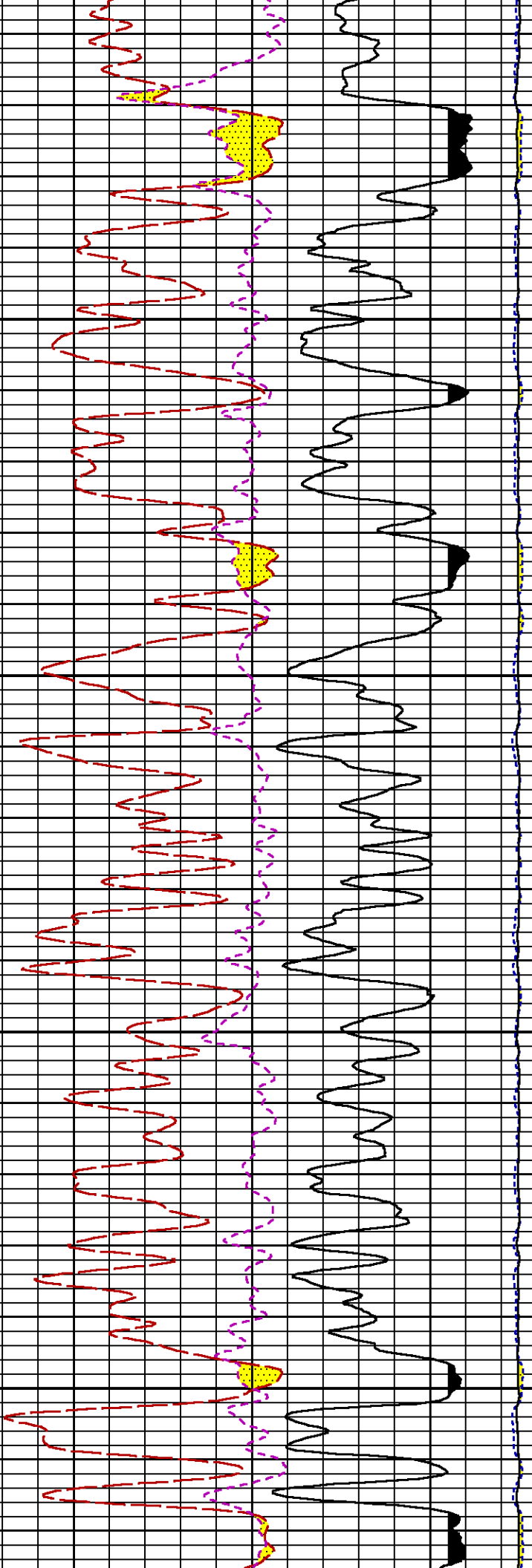
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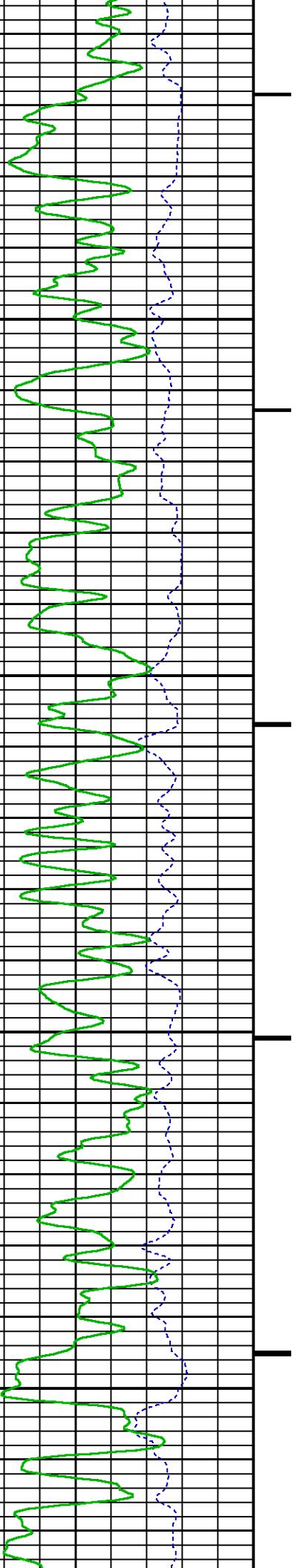




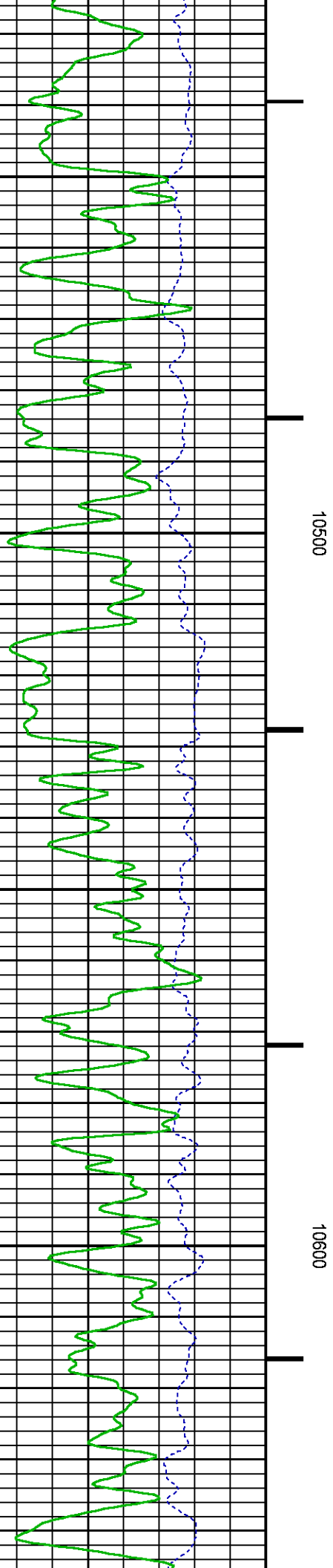
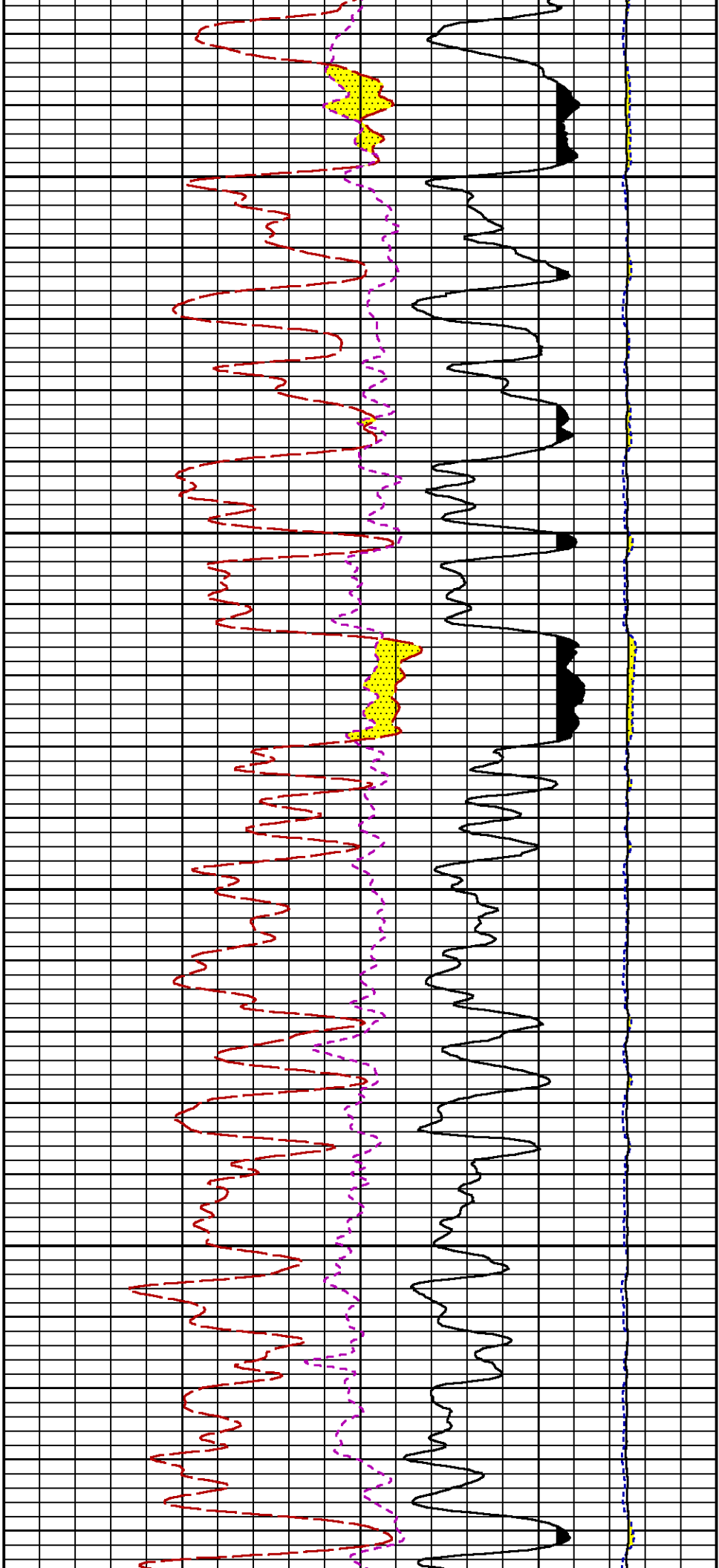


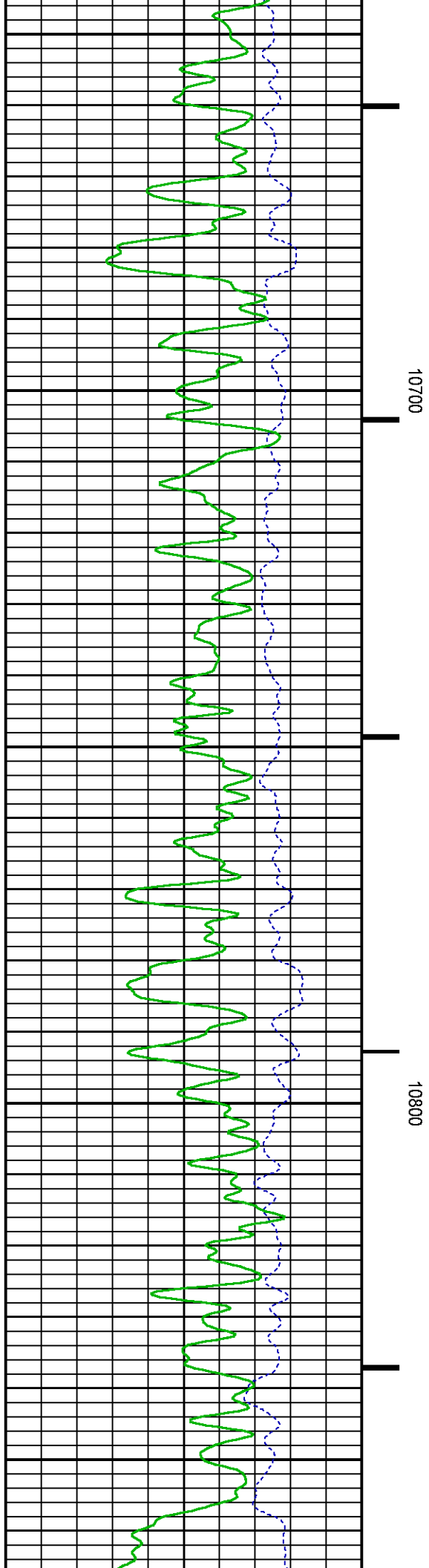
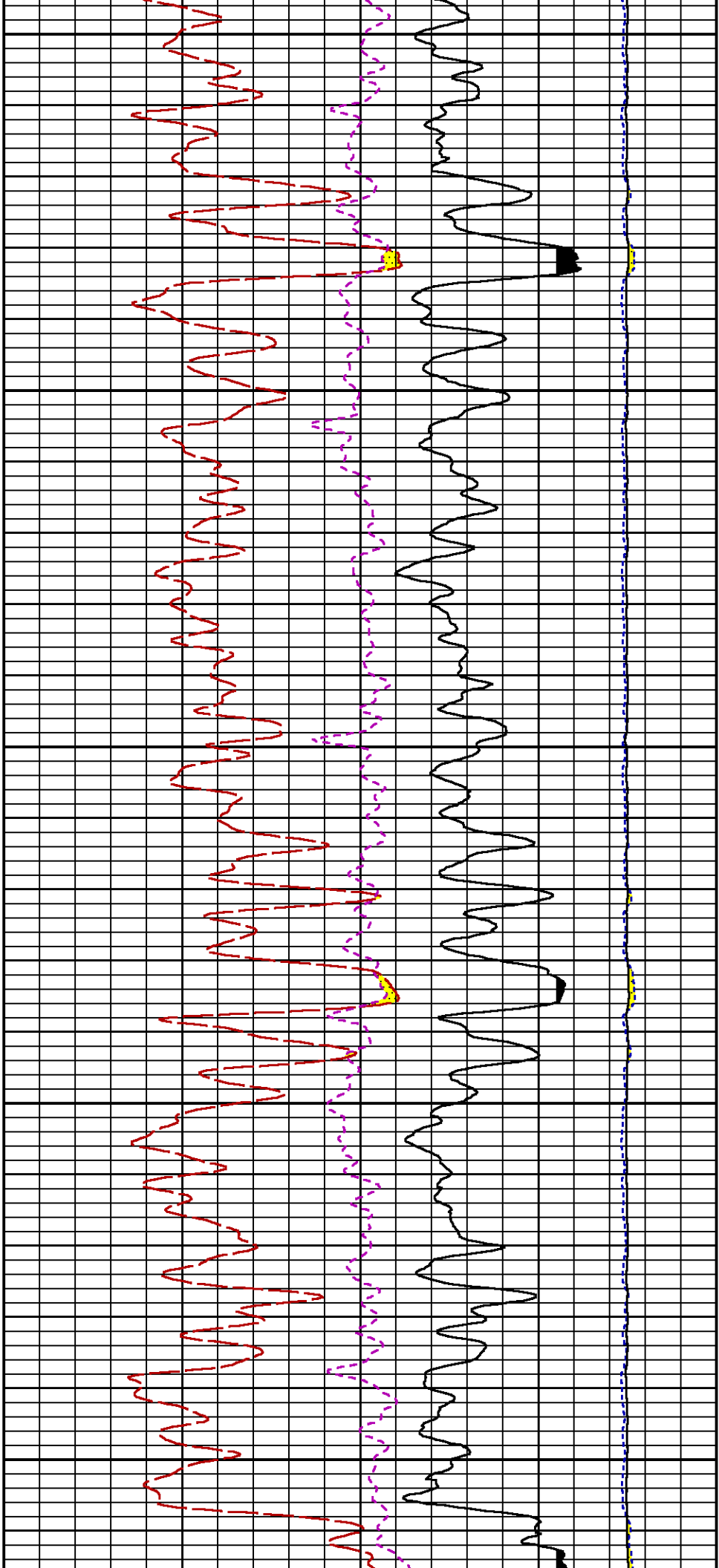
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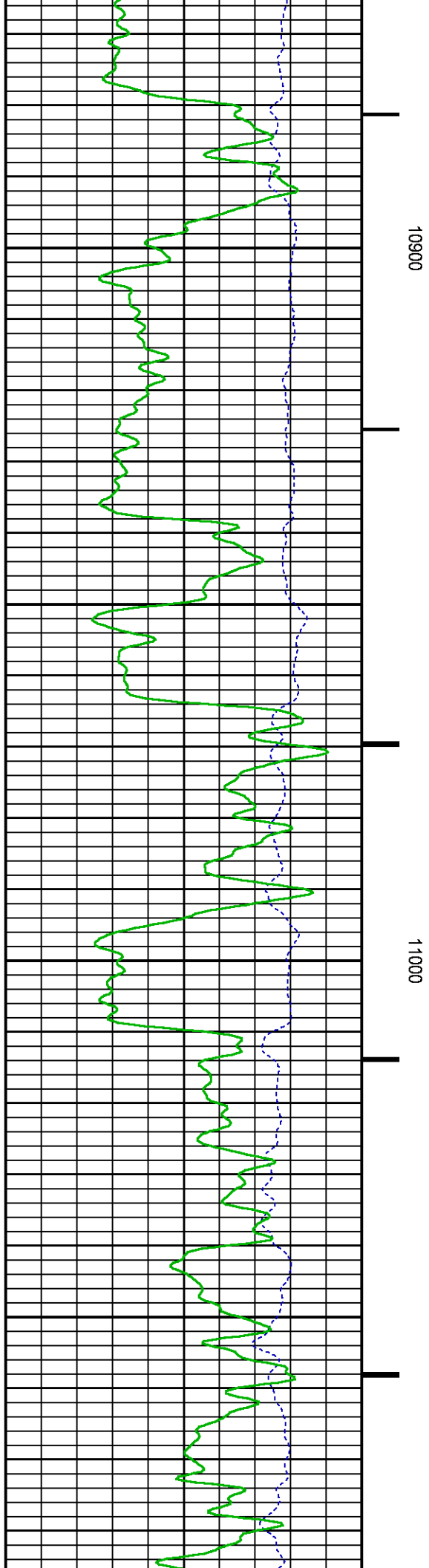
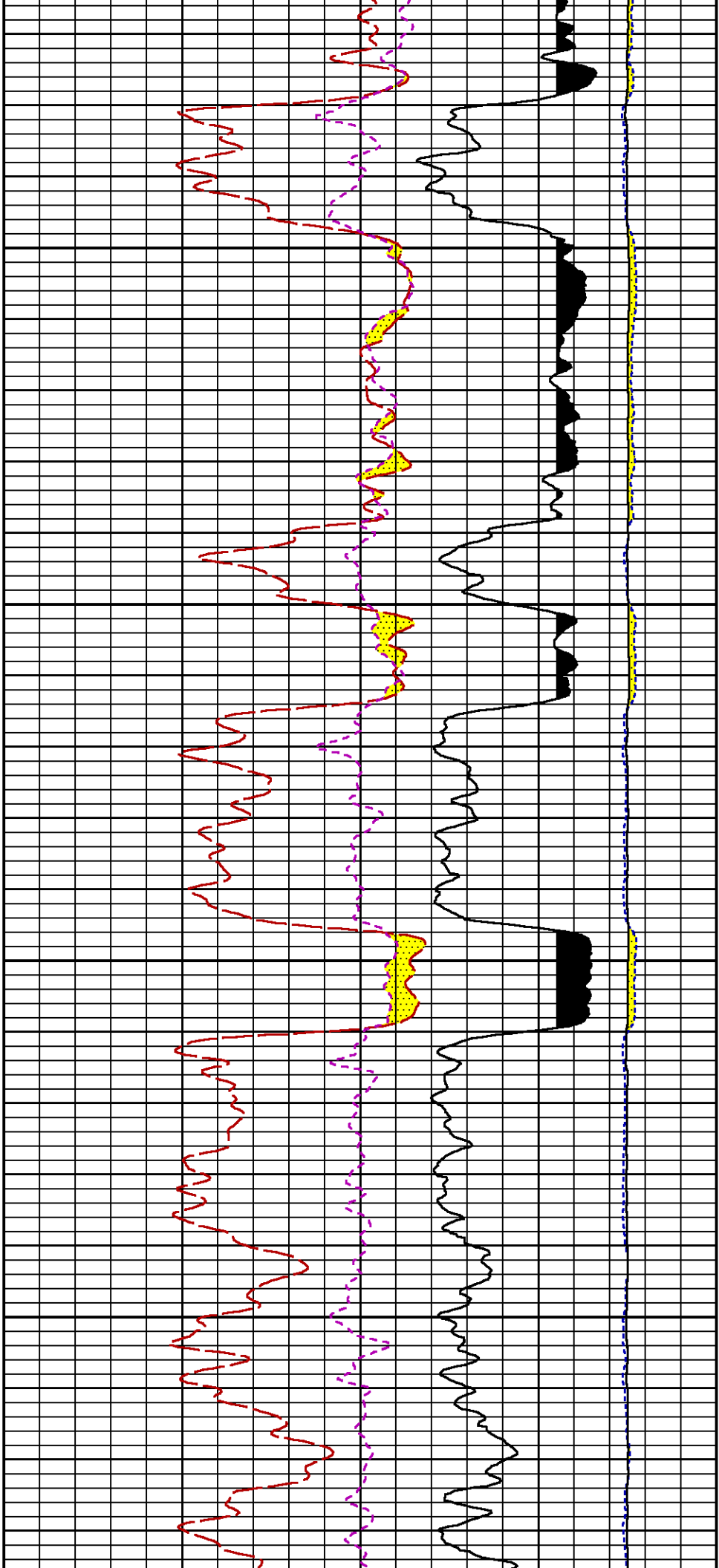
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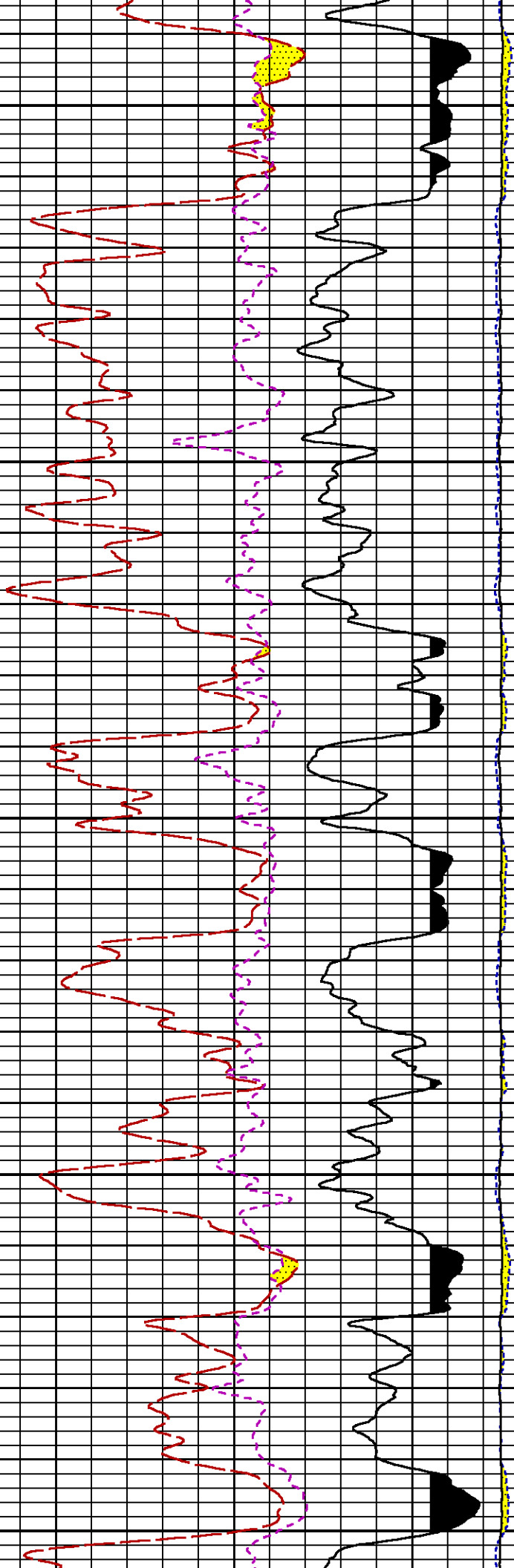








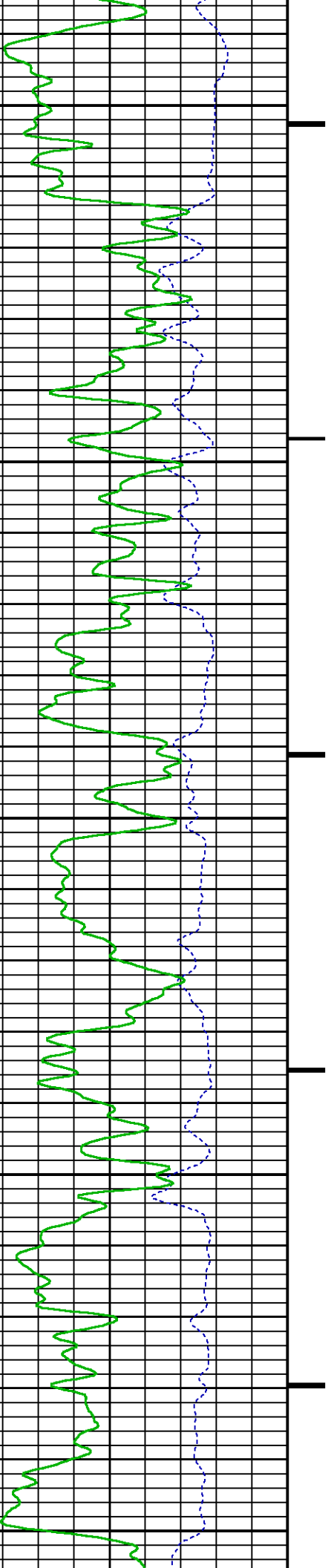


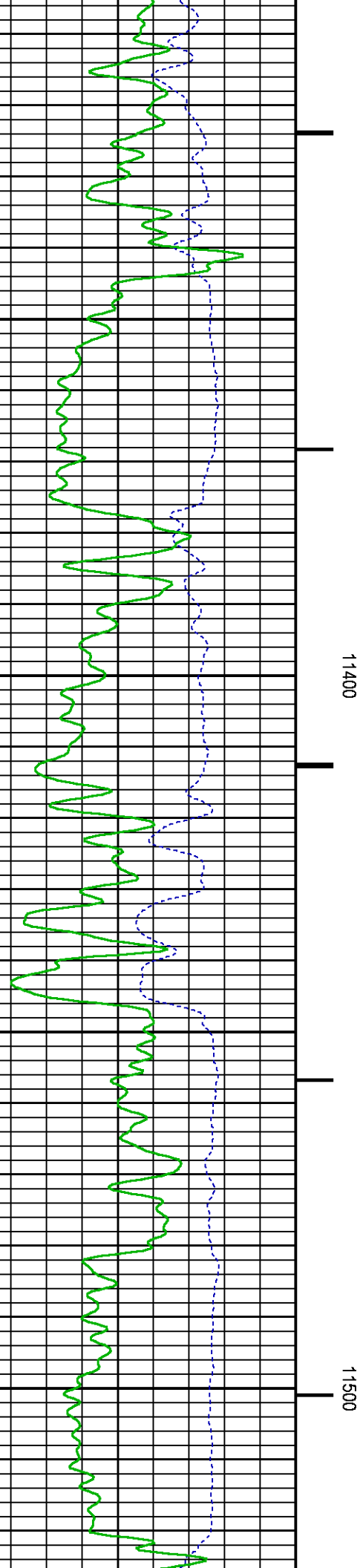
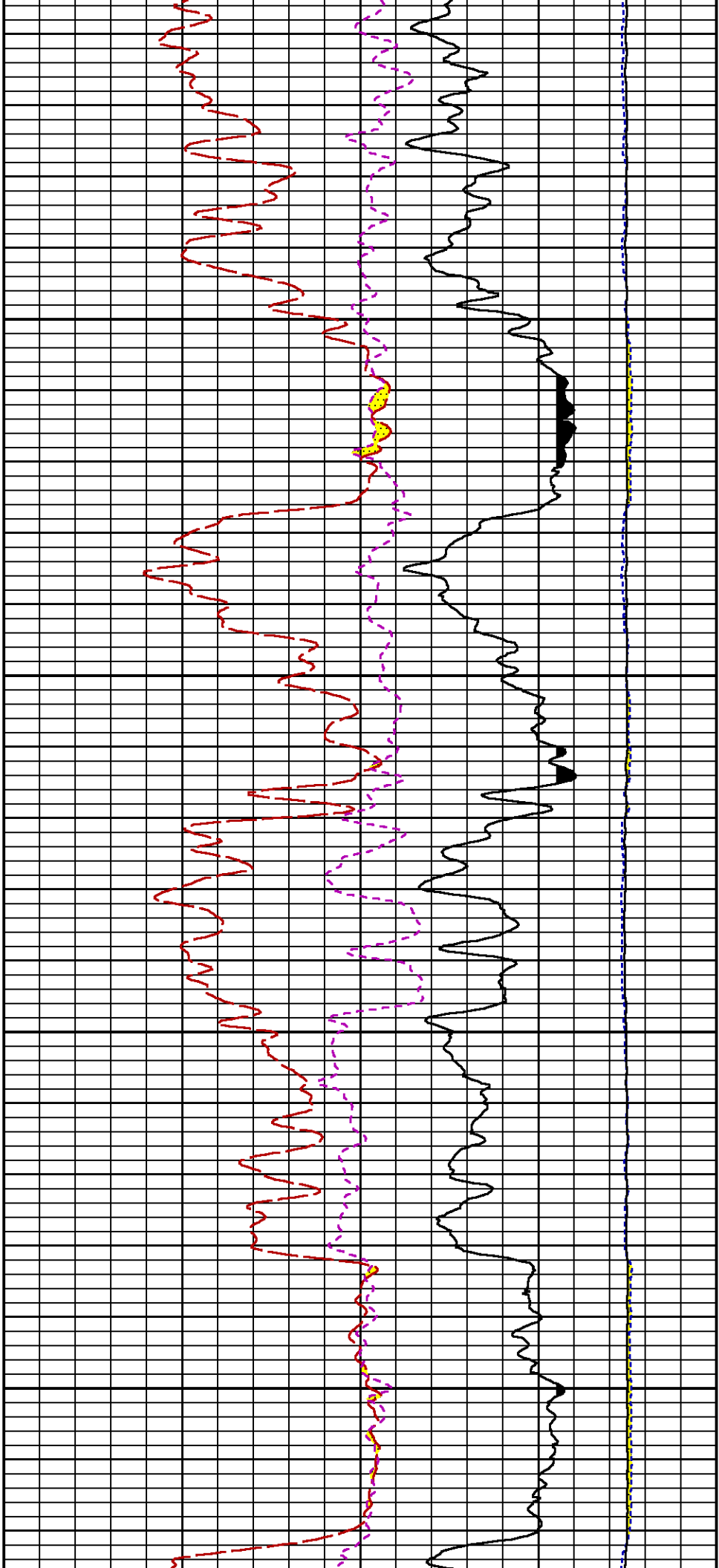


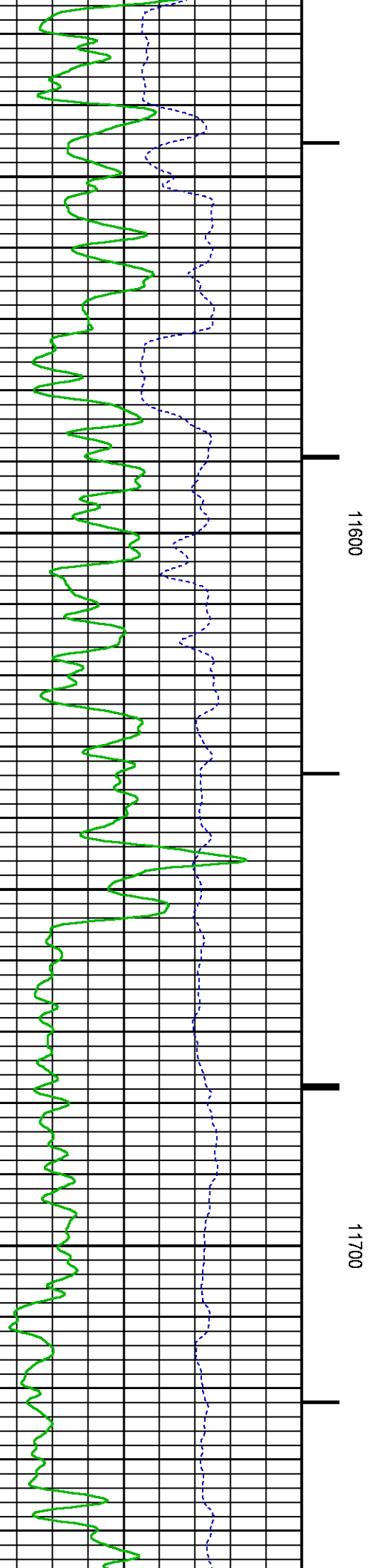
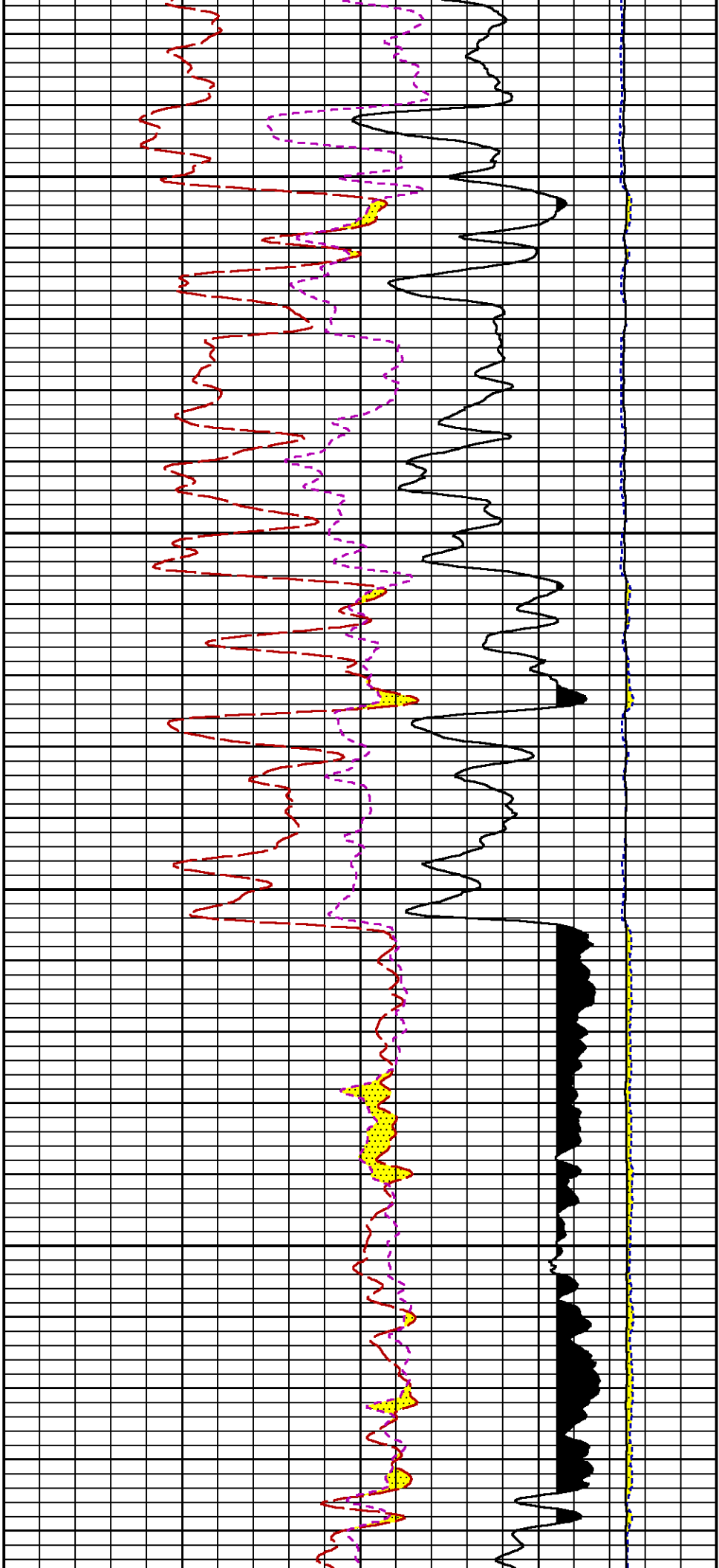
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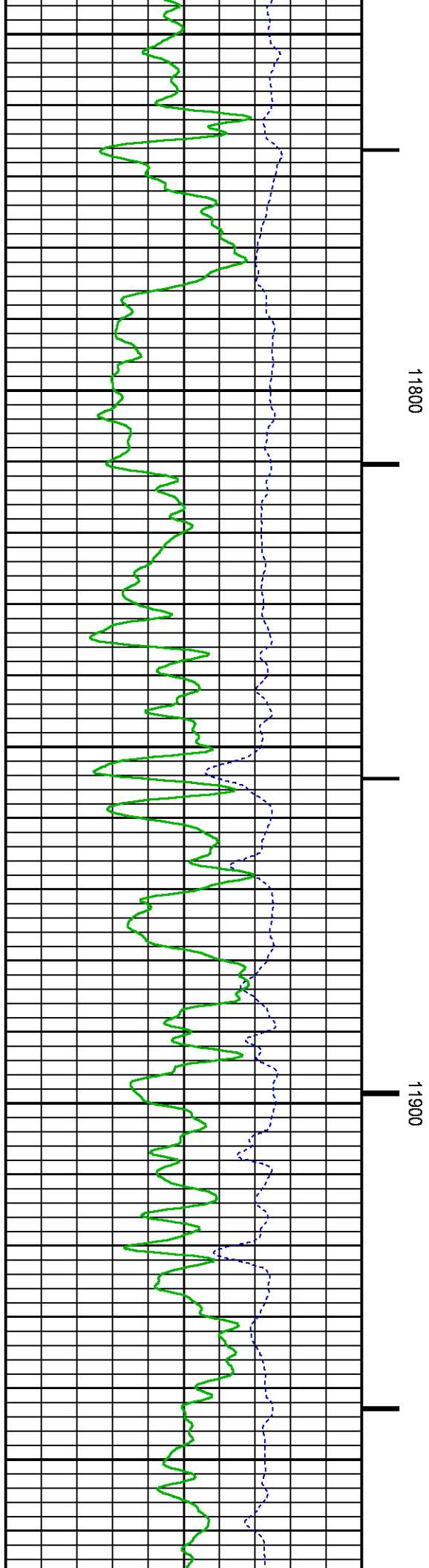
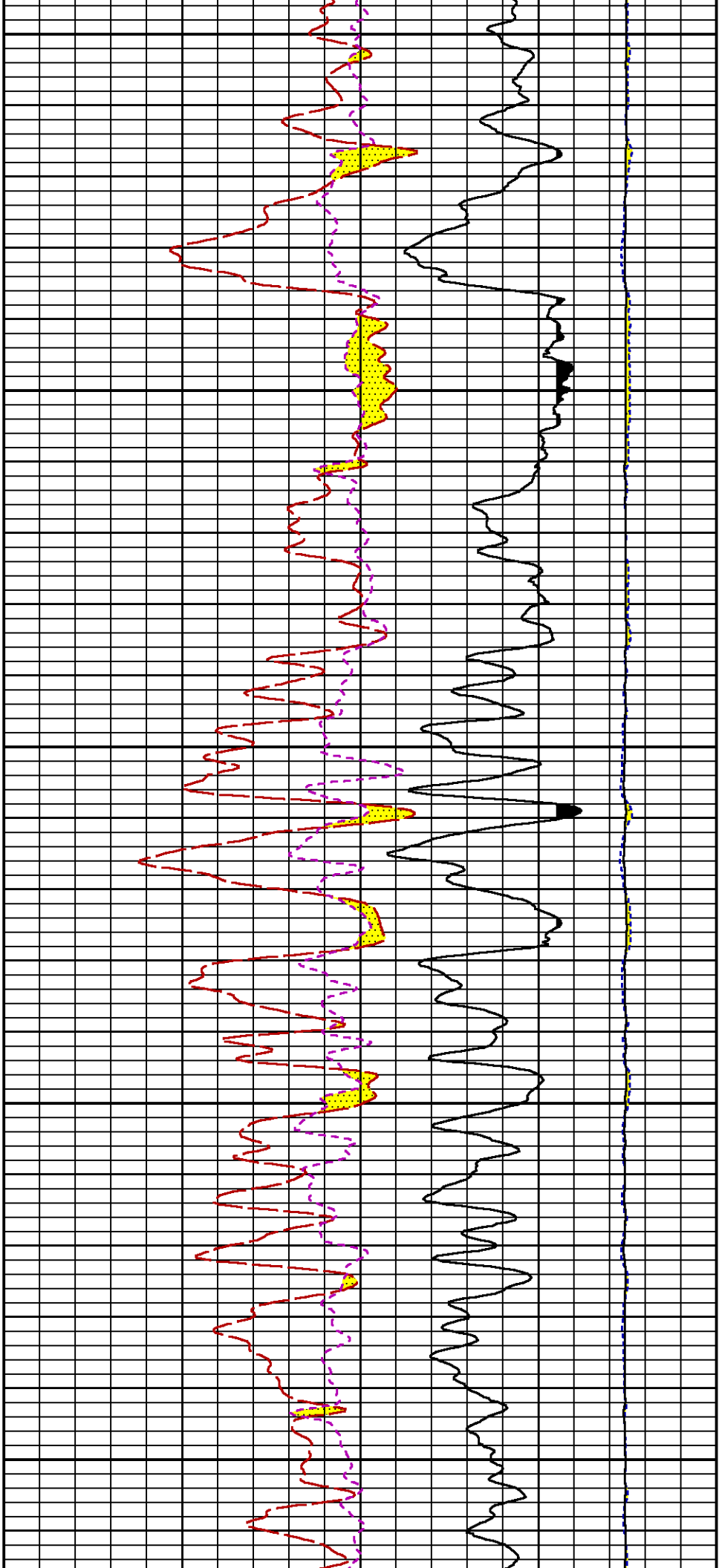
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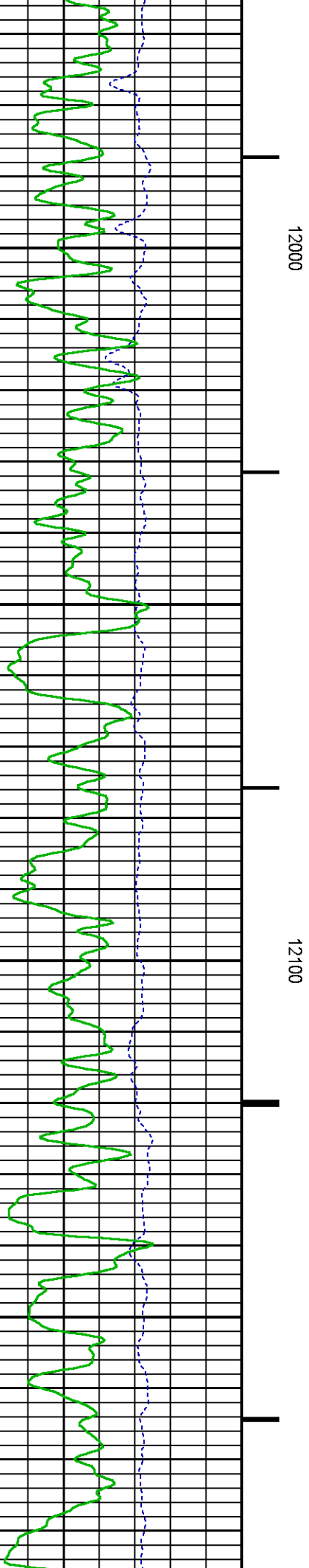
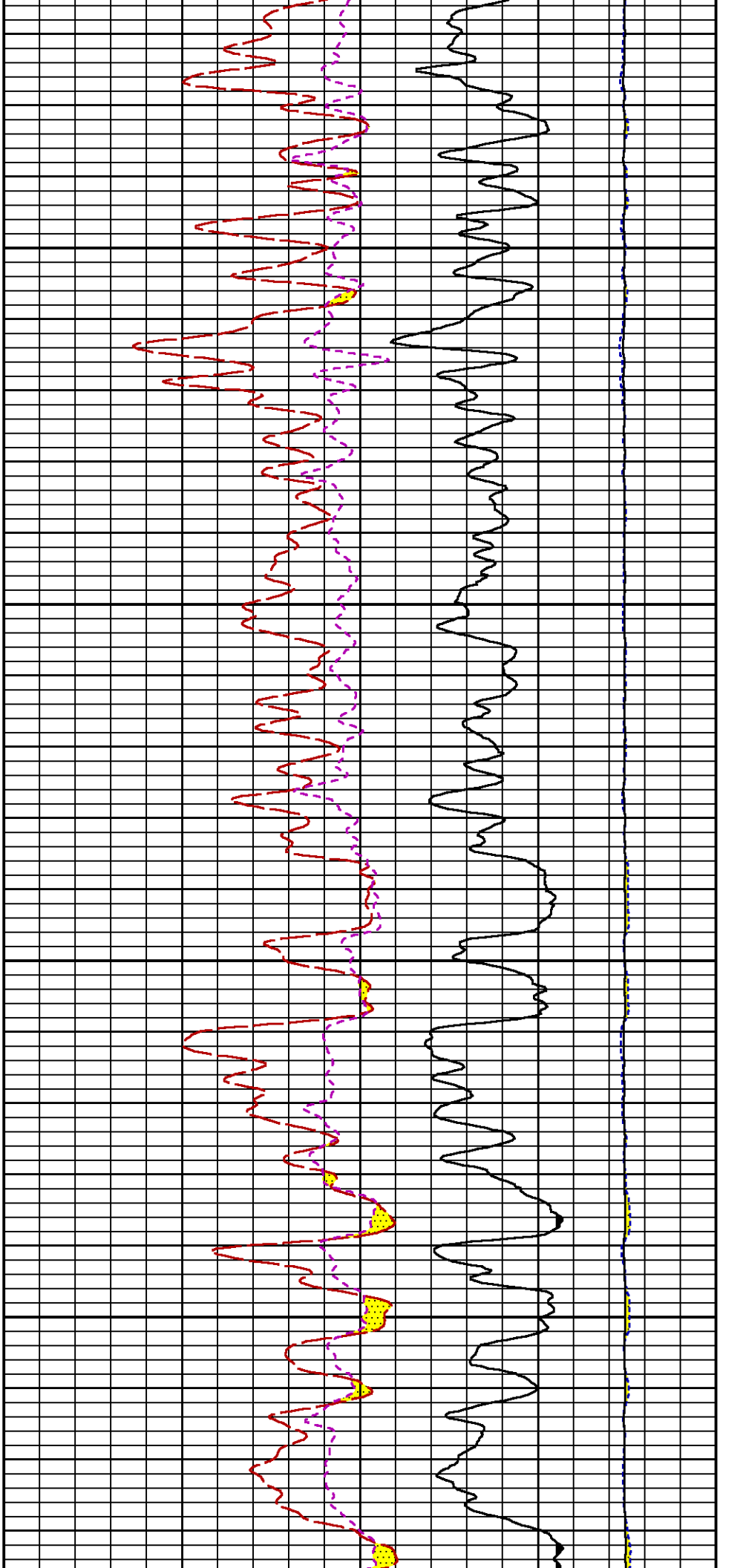
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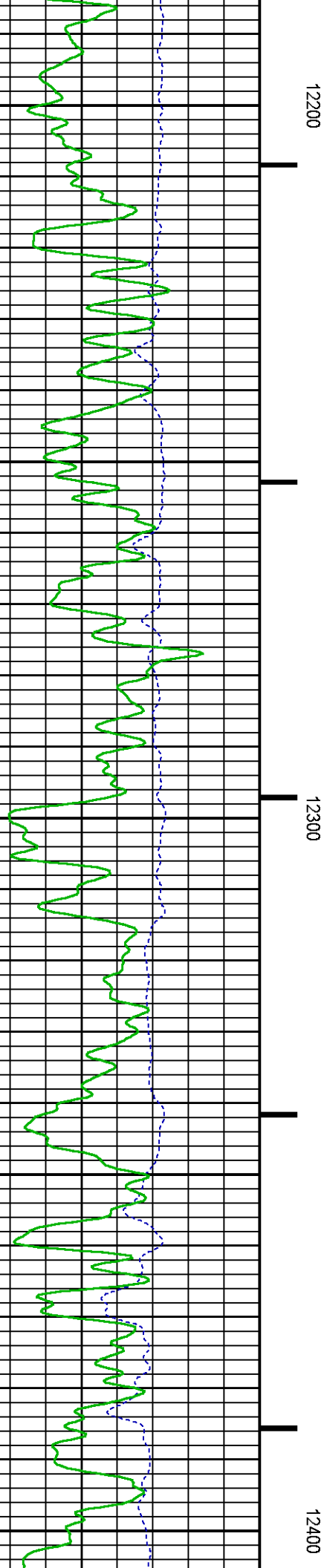
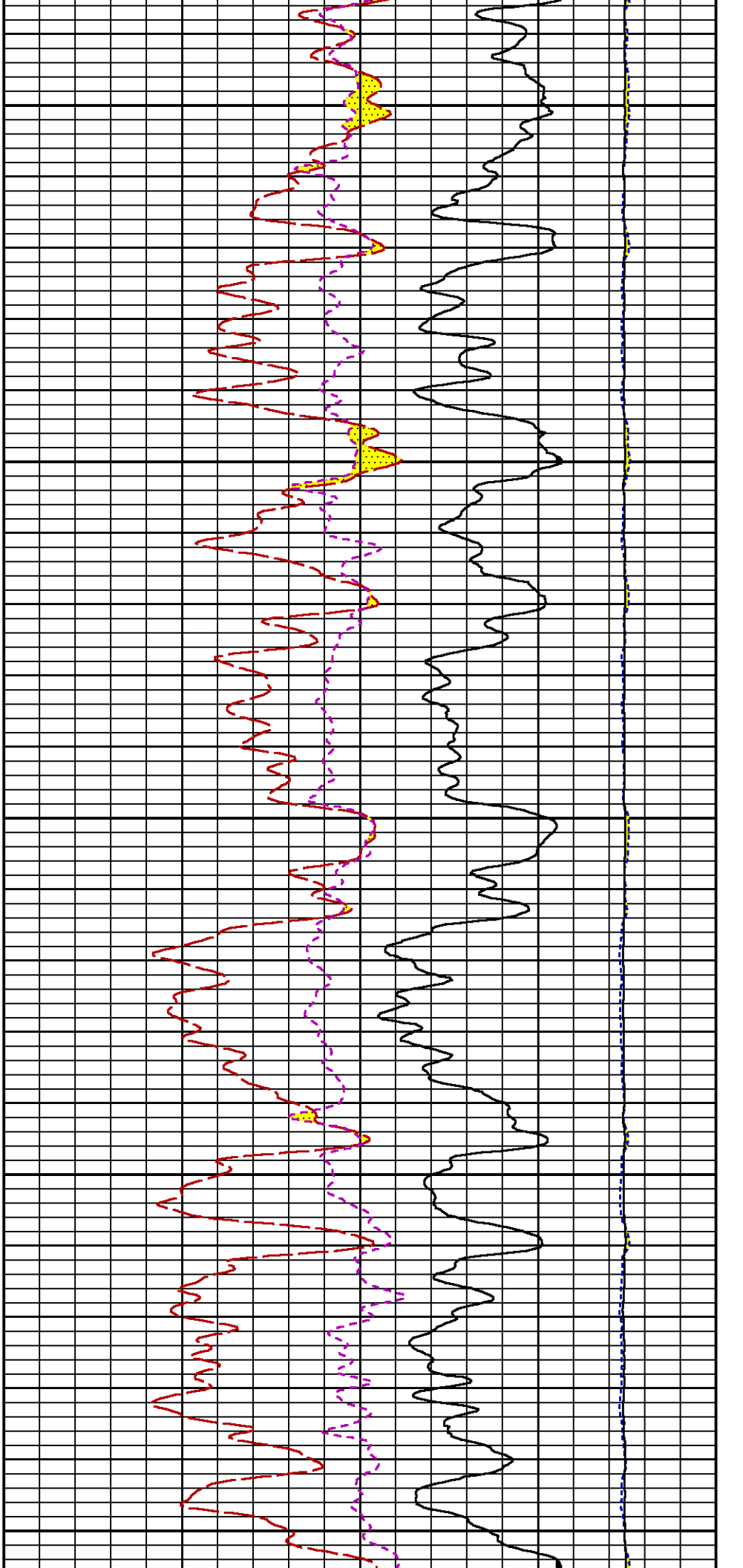


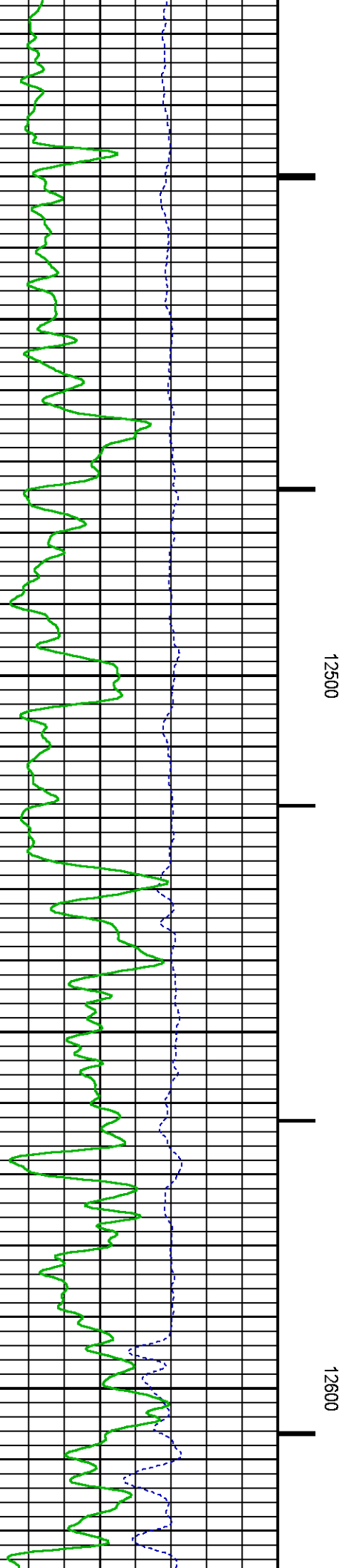
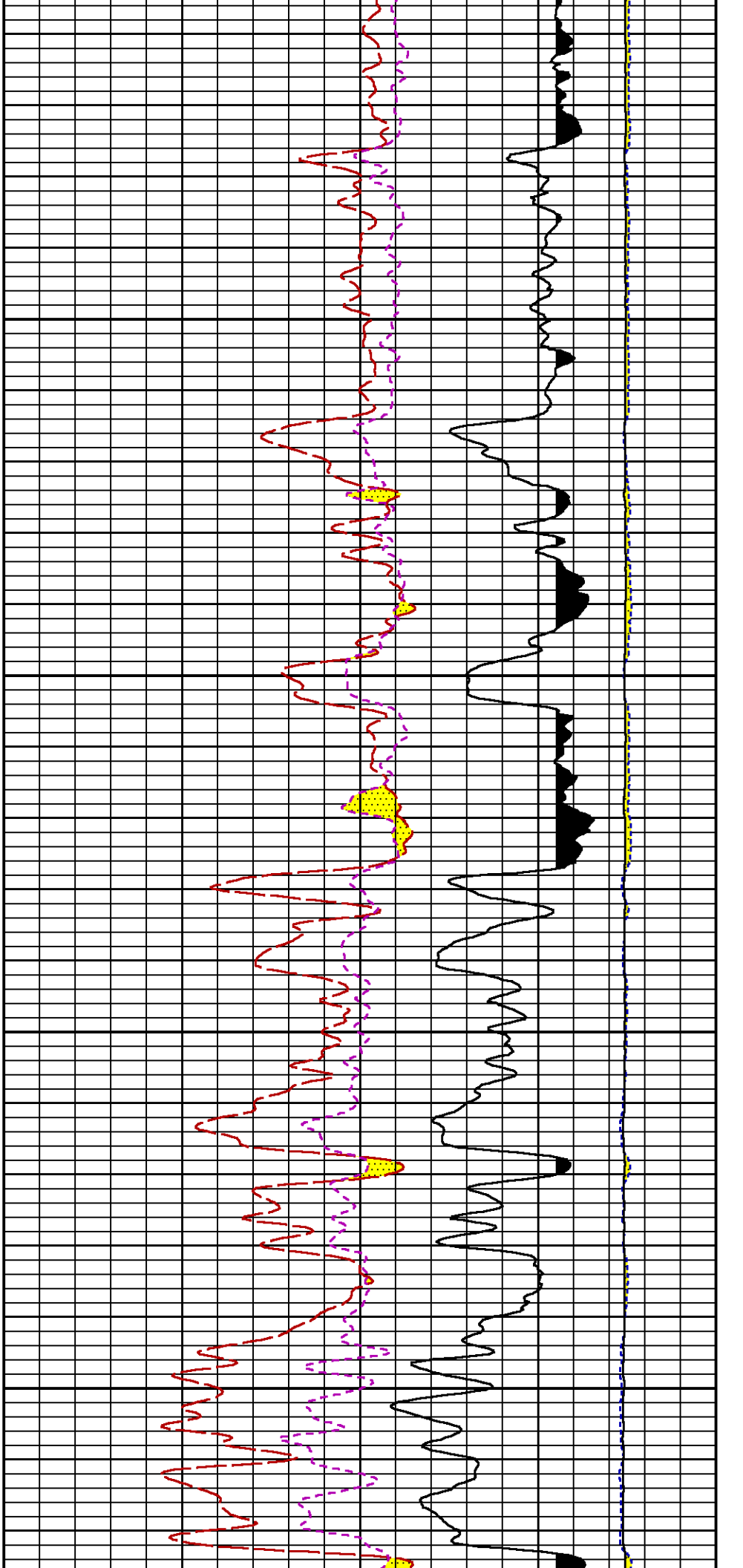


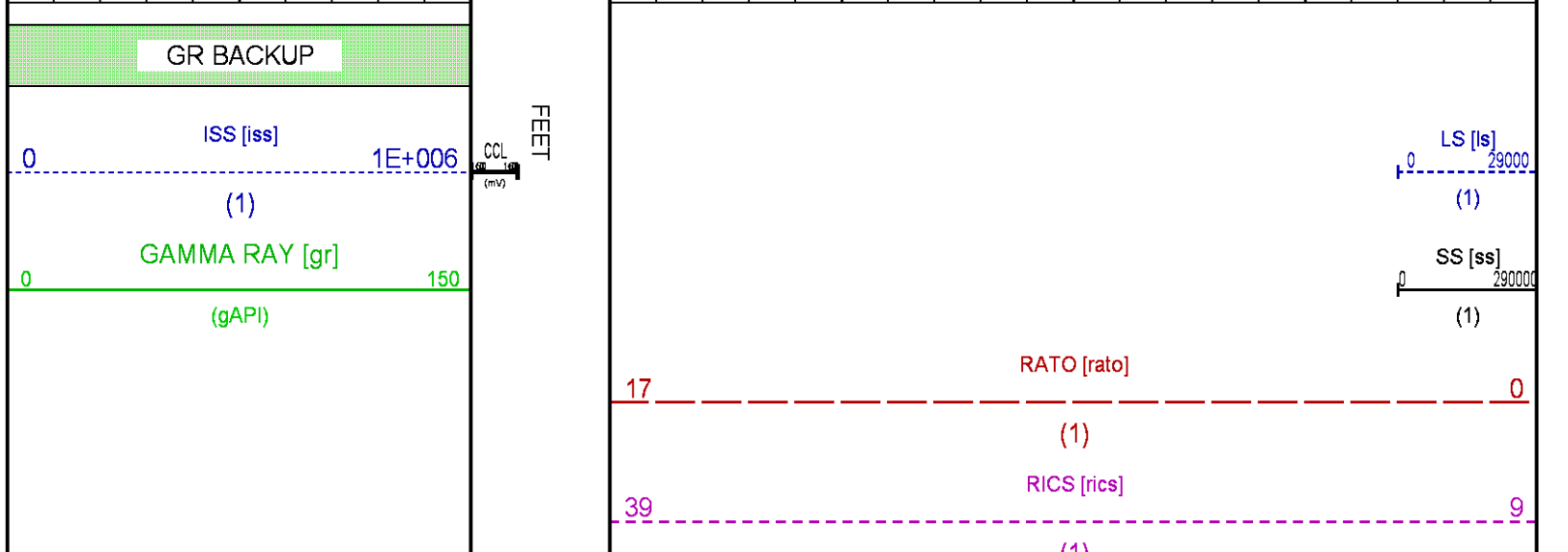
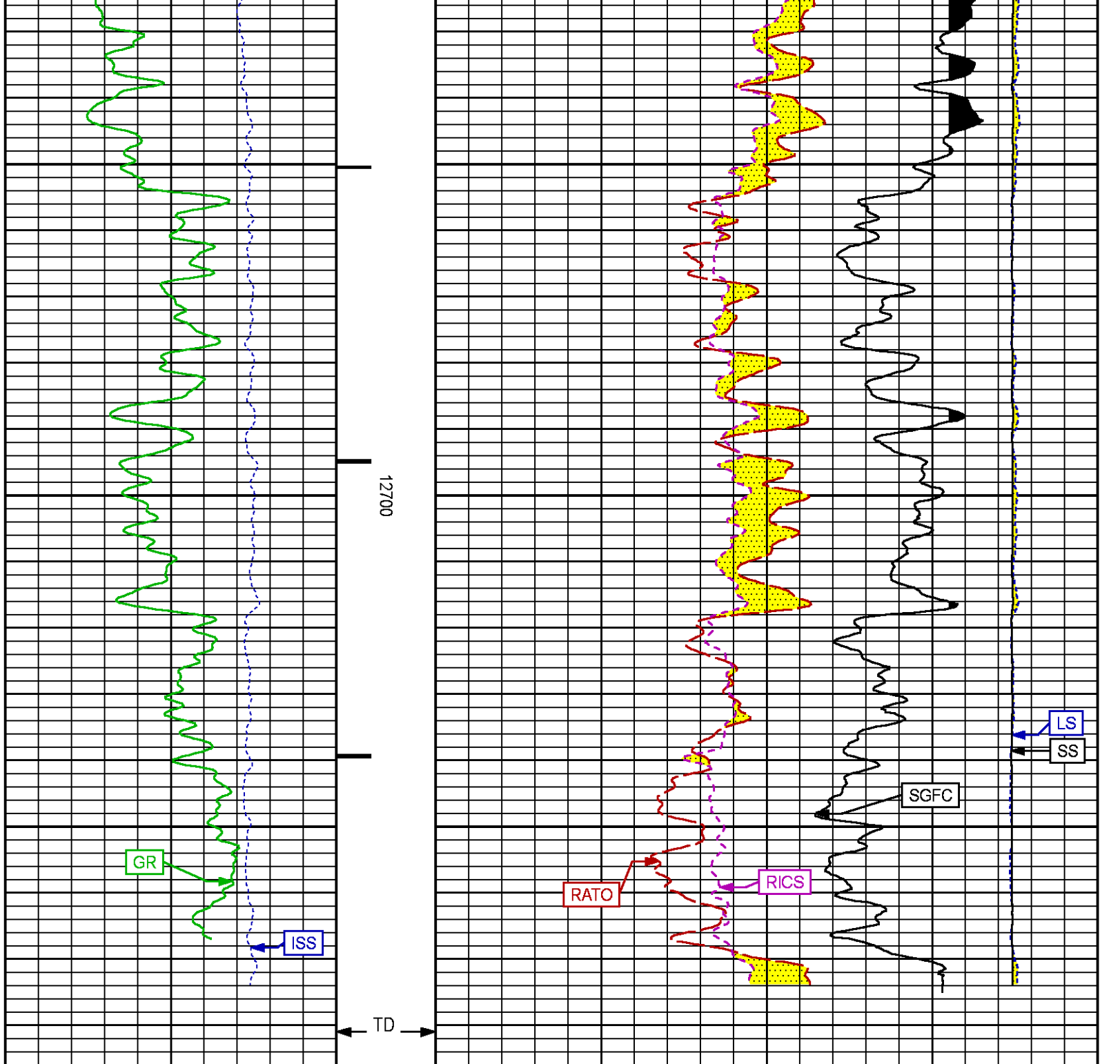












		60	SGFC [sgfc]	0
			(1)	

REPEAT SECTION PNC-3D MODE

ECLIPS 6.2wu1 PC-ECLIPS General Release Rel 6.2w Update 1 Fri Apr 25 10:54:53 Central Daylight Time 2014  
 Updates: 31 Patches: 2

Plotted: Mon Dec 15 02:18:31 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: D:\dat1a\091657\331RPM\_REPEAT.fvp  
 LOGGING MODE: DEPTH DIRECTION: UP  
 TOP DEPTH: 11959.000 ft BOTTOM DEPTH: 12290.207 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
GR	FILTER ()	medium (1)		TOP BOTTOM

RPM PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
PNC Parameters	BOREHOLE CONTENTS	FLUID		TOP BOTTOM
	OPEN/CASED HOLE	CASED HOLE		" "
	BOREHOLE SIZE	7.88	in	" "
	CASING SIZE	4.50	in	" "
	MATRIX	SANDSTONE		" "
	CORRECTION BUFFER	11		" "

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Dec 14 14:34:31 2014	CASING COLLAR LOCATOR
F1:GR	Dec 14 14:34:31 2014	GAMMA RAY
F1:ISS	Dec 14 14:34:31 2014	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Dec 14 14:34:31 2014	LONG SPACE COUNT RATE
F1:RATO	Dec 14 14:34:31 2014	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Dec 14 14:34:31 2014	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Dec 14 14:34:31 2014	CORRECTED FORMATION SIGMA
F1:SS	Dec 14 14:34:31 2014	SHORT SPACE COUNT RATE

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	25.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	22.75	LS	12.75	RICS	12.75	SS	12.75

Presentation : BHIBX9FSY1:D:\dat1a\091657\331RPM\_REPEAT.fvp [5"/100' Scale]  
 Plot Interval : 11960 - 12260 Feet

Data File 1 : F1 : BHIBX9FSY1:D:\dat1a\091657\331RPM\_REPEAT.xtf  
 Created On : Dec 14 14:34:31 2014  
 Company : WPX ENERGY  
 Well : FEDERAL RGU 331-26-198  
 Field : RIO BLANCO  
 File Interval : 11929.3 - 12283.8 Feet  
 OCT : n354h

GR BACKUP

ISS [iss]

1E+006

(1)

GAMMA RAY [gr]

150

(gAPI)

FEET

CCL  
(mV)

12000

1210

LS [ls]

29000

(1)

SS [ss]

290000

(1)

RATO [rato]

17

0

(1)

RICS [rics]

39

9

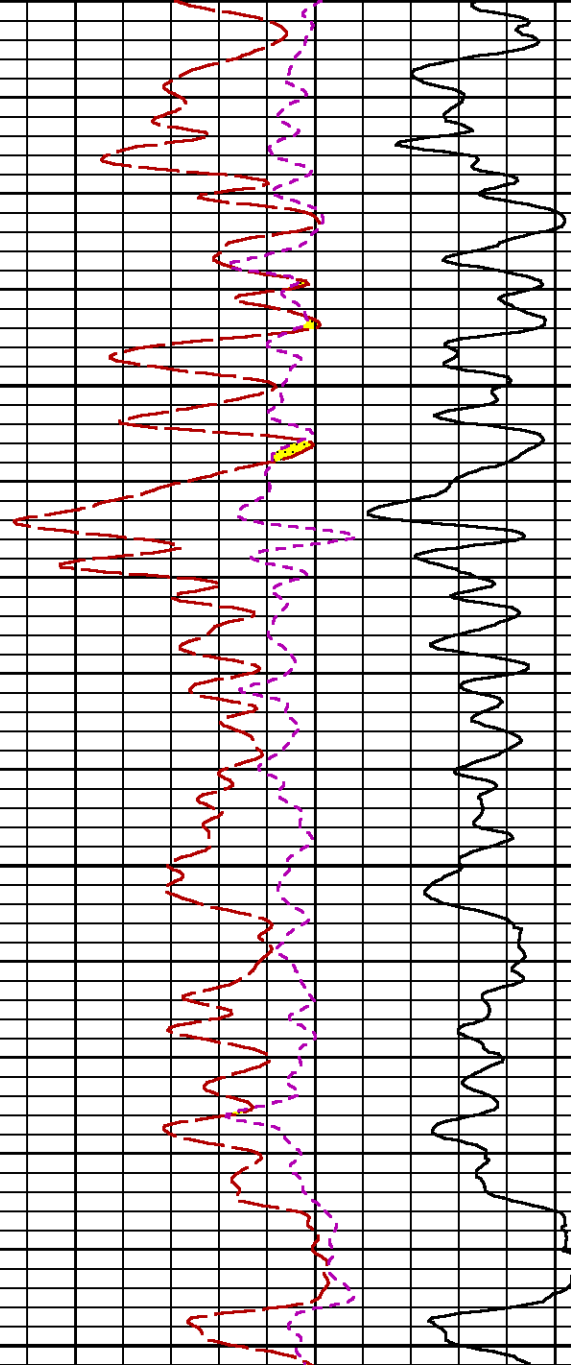
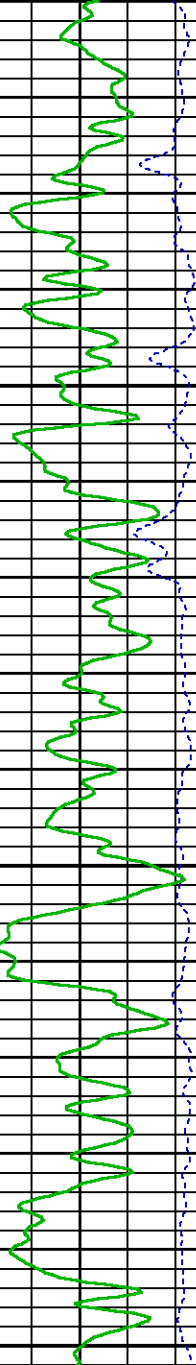
(1)

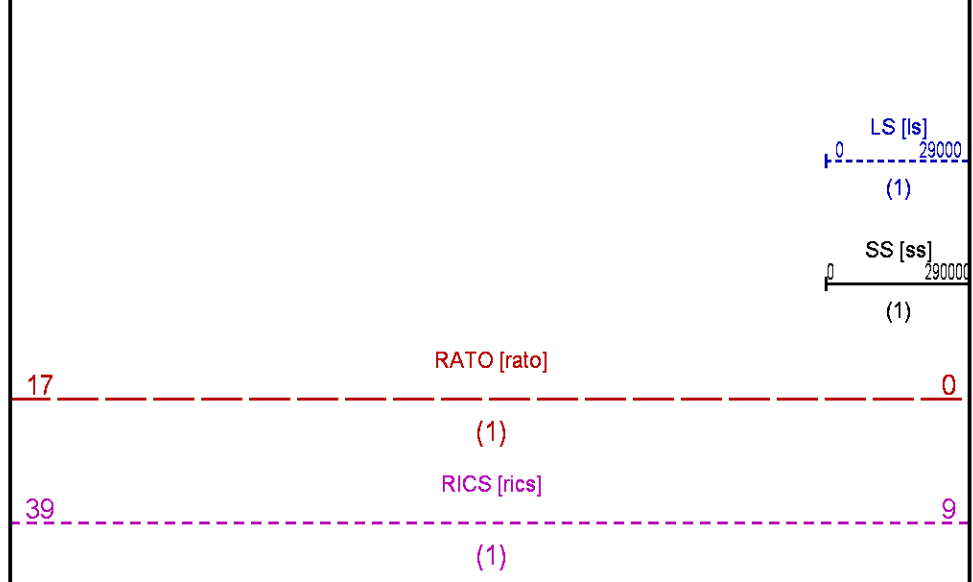
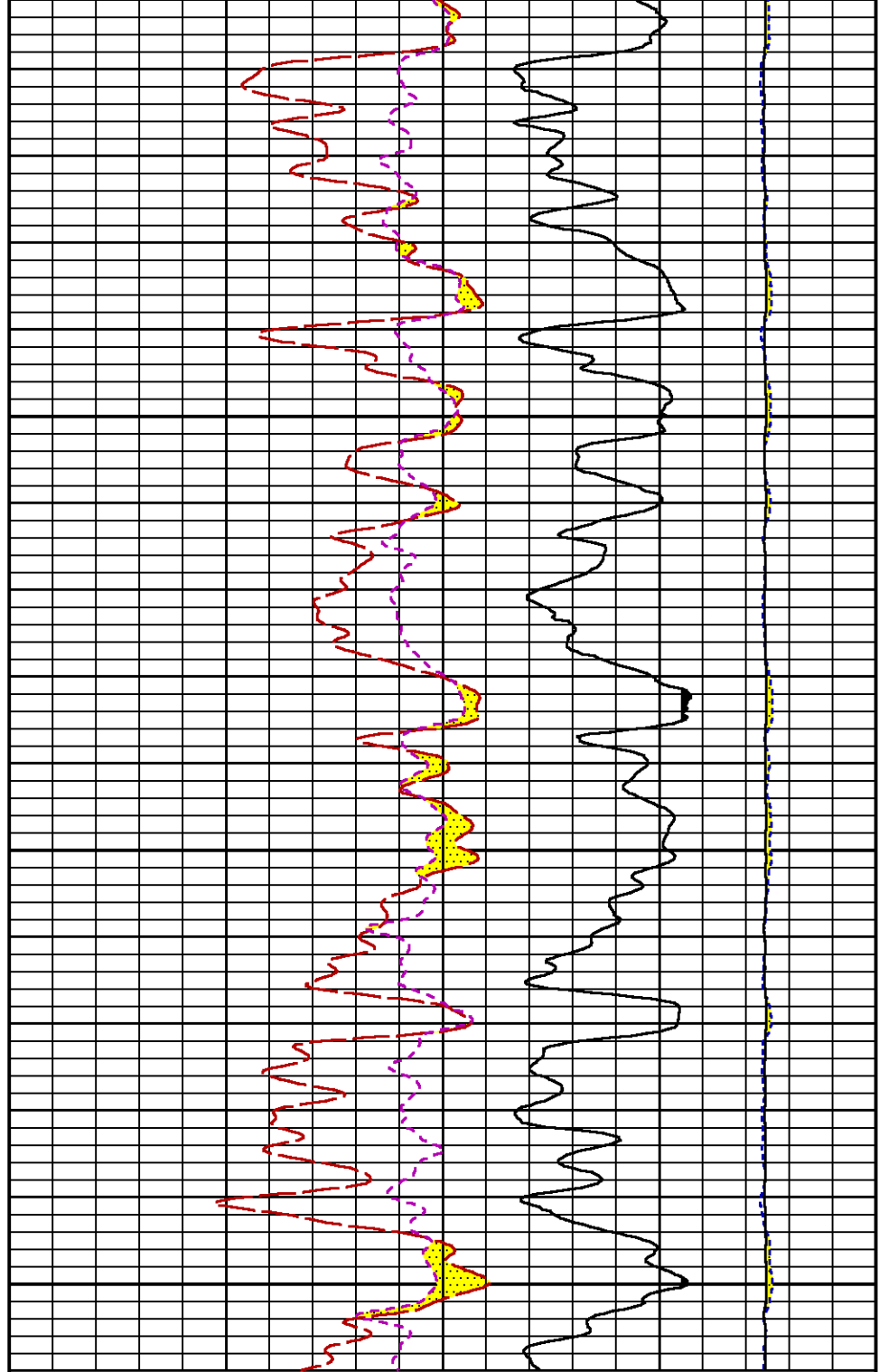
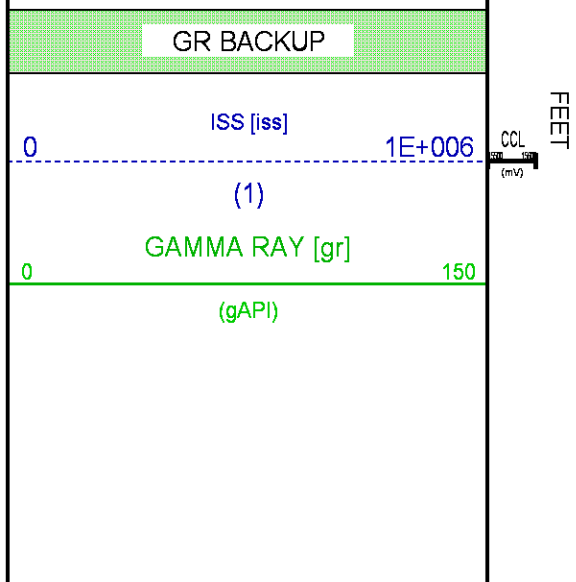
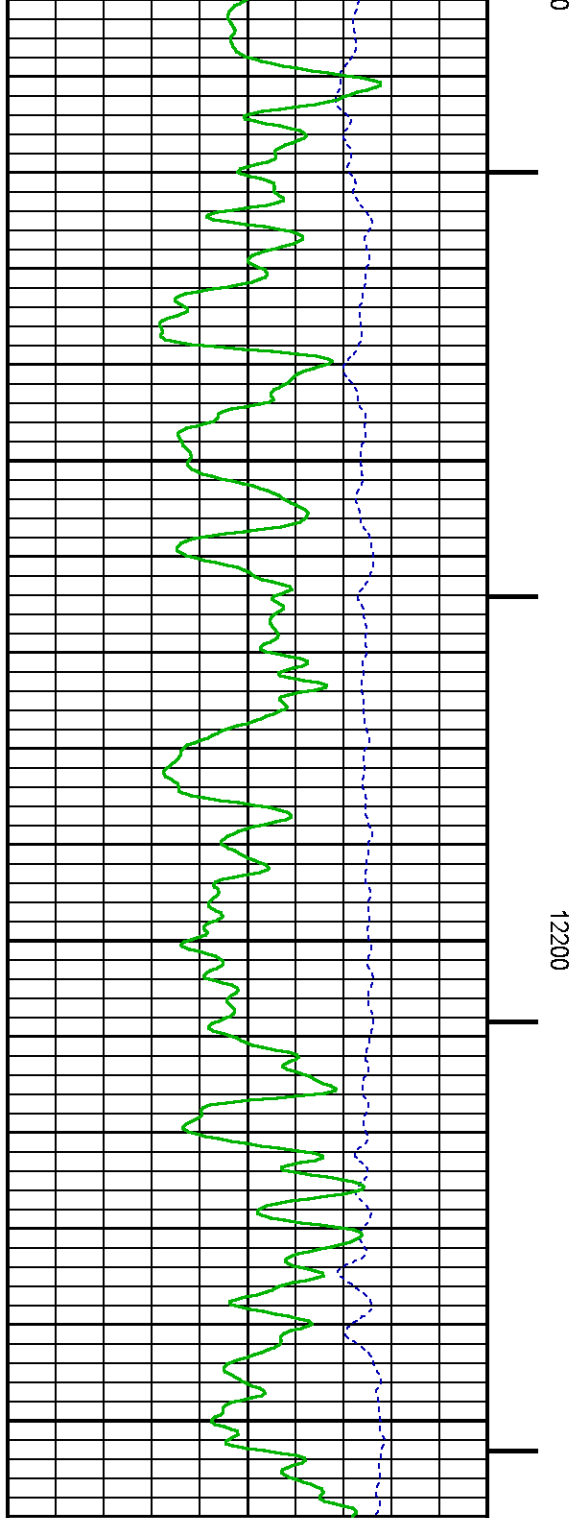
SGFC [sgfc]

60

0

(1)





60

SGFC [sgfc]

0

(1)

## CALIBRATION / VERIFICATION SUMMARY

Source File: D:\dat1a\091657\354h.tp1

### GR PRIMARY CALIBRATION SUMMARY

TOOL #: 2812LA 10274382

DATE/TIME PERFORMED: Tue Dec 09 14:04:49 2014

UNIT #: 3885TD Z004271

CALB JIG #: 4702NK WA-612

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	61.18	268.02	206.8	1.015	62.11	272.11	210

### GR PRIMARY VERIFICATION SUMMARY

TOOL #: 2812LA 10274382

DATE/TIME PERFORMED: Tue Dec 09 14:07:05 2014

UNIT #: 3885TD Z004271

VERI JIG #: 4702NK WA-612

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	63.11	273.93	1.015	64.07	278.11	214.04
						200.00 220.00

### RPM\_PNC\_3D PRIMARY CALIBRATION SUMMARY

TOOL: 8283PA 10585555

DATE/TIME PERFORMED: Tue Dec 09 13:08:21 2014

UNIT: 3885TD Z004271

CALIBRATOR: 2437XB 112674

SOURCE: 8281AA 11765054

HOURS: 8281AA 670

	ISS	Mtr Vits (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	801712	124	2342	2286	2235	111	7	0.9721
Interpolated	1300000	147	2317	2281	2228			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	801712	6404	989	140	26.08	0.15	24.23	0.33
					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	801712	170477	26574	89502	31836	8242	54189	13205
Fit Quality %		0.952	0.776	0.752	0.741	1.017	0.683	0.990

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	801712	1.43	4.70	30.18	14.80	10.86	3.86	4.10
		1.42 1.45	3.55 5.52	22.20 32.70	10.89 16.34	10.06 11.10	3.57 3.95	3.76 4.22
Fit Quality %		0.051	0.164	0.223	0.184	0.174	0.189	0.168
Reduced	1392560	1.43	4.71	30.20	14.80	10.88	3.87	4.11
		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

# TPSETEMP PRIMARY CALIBRATION SUMMARY

TOOL #: 8255XA 120516

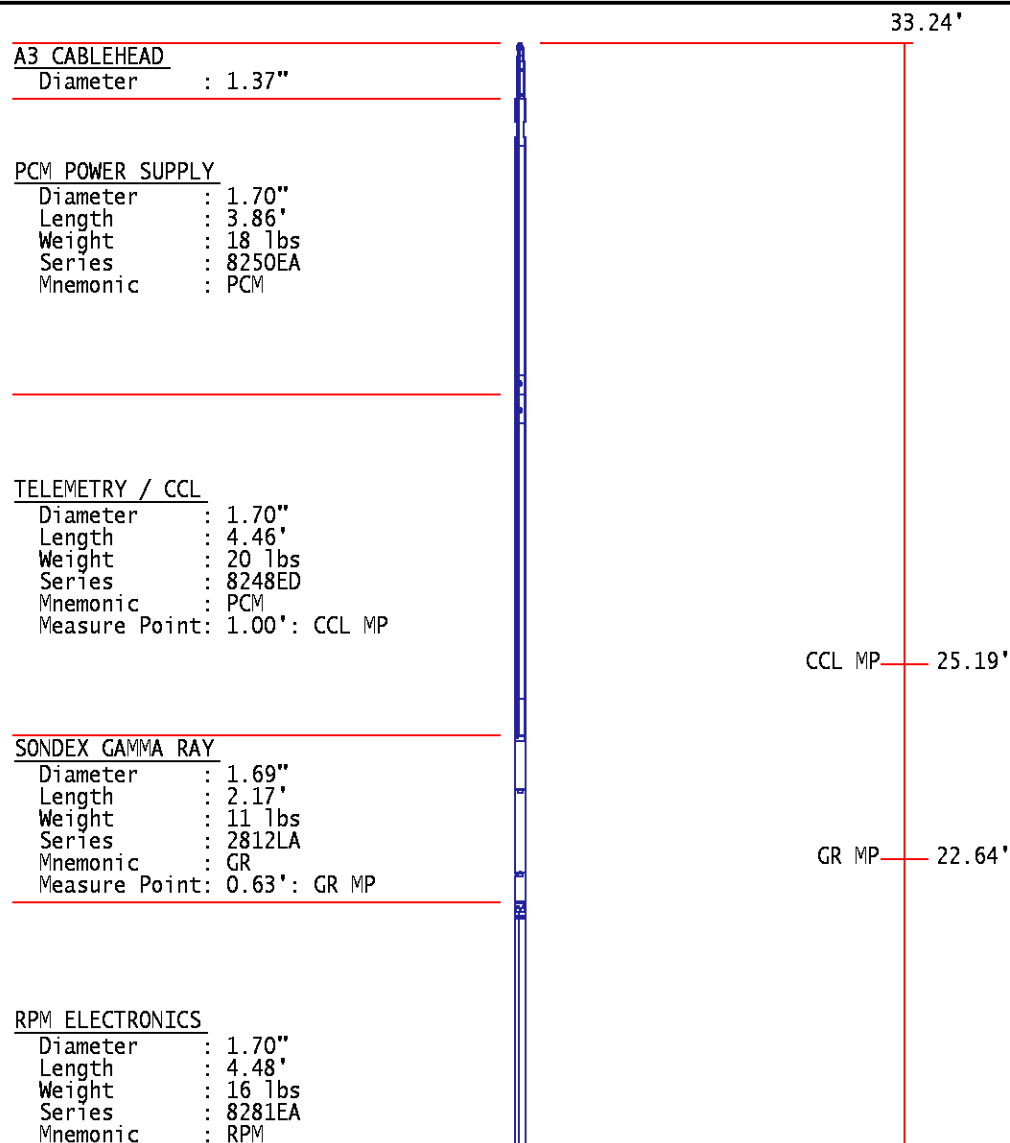
DATE/TIME PERFORMED: Tue Nov 18 15:59:55 2014

UNIT #: 2570LE 4271

	T(0)	T(1)	T(2)	T(3)
Corr Coeff for Temp	-8.673169E+00	9.576065E-02	6.395448E-06	-9.461013E-10

## INSTRUMENT CONFIGURATION

Source File: D:\dat1a\093352B\RPM-tdg.meta





**RPM C DETECTOR SECTION**

Diameter : 1.70"  
 Length : 9.40'  
 Weight : 41 lbs  
 Series : 8283PA  
 Mnemonic : RPM  
 Measure Point: 5.45': XLS DETECTOR  
 Measure Point: 5.04': LS DETECTOR  
 Measure Point: 4.79': SS DETECTOR

XLS DETECTOR 13.58'  
 LS DETECTOR 13.16'  
 SS DETECTOR 12.91'

**RPM SOURCE SECTION**

Diameter : 1.70"  
 Length : 4.70'  
 Weight : 18 lbs  
 Series : 8281FA  
 Mnemonic : RPM

**TEMPERATURE / PRESSURE**


Diameter : 1.70"  
 Length : 3.30'  
 Weight : 13 lbs  
 Series : 8255XA  
 Mnemonic : SRPL  
 Measure Point: 1.52': TEMP MP

TEMP MP 1.65'  
 PRES MP

**BULL PLUG 1 11/16**

TOTAL LENGTH: 33.24'  
 TOTAL WEIGHT: 140 lbs  
 MAX DIAMETER: 0'1.70"

0.00'

	<b>COMPANY</b> <u>WPX ENERGY</u> <b>WELL</b> <u>FEDERAL RGU 331-26-198</u> <b>FIELD</b> <u>SULPHUR CREEK</u> <b>COUNTY</b> <u>RIO BLANCO</u> <b>STATE</b> <u>CO</u>		<b>FILE NO:</b> <u>CH091657</u> <b>API NO:</b> <u>05103121420000</u>
	<b>LOCATION:</b> SHL: 1018' FSL & 657' FEL (23 1S 98W) BHL: 620' FNL & 1865' FEL (26 1S 98W)		<b>ELEVATIONS:</b> KB 6592 FT DF GL 6567 FT
	<b>SEC</b> <u>26</u> <b>TWP</b> <u>1S</u> <b>RGE</b> <u>98W</u>		<b>DATE</b> <u>14-Dec-2014</u>

