



FILE NO: CH100606	COMPANY LARAMIE ENERGY
API NO: 05077102500000	WELL PICEANCE FEDERAL 28-21E
	FIELD VEGA
	COUNTY MESA
	STATE CO
Ver. 4.05 SEC 28 T9S R93W PAD 28-10 PATTERSON 306	LOCATION: SHL: 1981' FSL 2484' FWL BHL: 113' FSL 881' FEL SEC 28 TWP 9S RGE 93W
PERMANENT DATUM LOG MEASURED FROM DRILL. MEAS. FROM	GL ELEVATION 7679 FT KB 22 FT ABOVE P.D. KB GL
	OTHER SERVICES CBL ELEVATIONS: KB 7701 FT DF GL 7679 FT

DATE		30-Oct-2015			
RUN	TRIP	2	1		
SERVICE ORDER		US100606J			
DEPTH DRILLER		8481 FT			
DEPTH LOGGER		8442 FT			
BOTTOM LOGGED INTERVAL		8380 FT			
TOP LOGGED INTERVAL		0 FT			
TIME STARTED		7:15			
TIME FINISHED		14:00			
OPERATOR RIG TIME		6:15			
TYPE OF FLUID IN HOLE		WATER			
FLUID DENSITY		NA			
FLUID SALINITY		NA			
FLUID LEVEL		40 FT			
LOGGED CEMENT TOP		NA			
WELLHEAD PRESSURE		0 PSI			
MAXIMUM HOLE DEVIATION		NA			
NOMINAL LOGGING SPEED		10 F/MN			
MAX. RECORDED TEMP.		246 DEGF			
REFERENCE LOG		BAKER HUGHES OPEN HOLE			
REFERENCE LOG DATE		14-OCT-2015			
EQUIP. NO.	LOCATION	6685	GRAND JCT		
RECORDED BY		W. QUIGLEY			
WITNESSED BY		MR. ROGER FOSTER			

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
11 IN	0 FT	1623 FT
7.875 IN	1623 FT	8610 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
8.625 IN	24 LB/F	J-55	0 FT	1623 FT
4.5 IN	11.6 LB/F	I-80	0 FT	8610 FT

### REMARKS

RUN 2 TRIP 1: ALL DATA ON THIS LOG IS DEPTH SHIFTED AND CORRELATED TO THE GAMMA-RAY CURVE ON BAKER HUGHES OPEN HOLE LOG DATED 14-OCT-2015

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

BHT = 246 degF

SJ = 6790' - 6812'  
SJ = 7648' - 7670'

THANKS FOR USING BAKER HUGHES WIRELINE  
RIG: PATTERSON 306

LOGGED WITH ZERO PSI AT WELLHEAD

DID NOT TAG BOTTOM THIS RUN DUE TO POSSIBLE STICKY CONDITIONS

### EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TEL	8250XA	10586851	FREE
1	1	PWR	8248ED	10460262	FREE
1	1	GR	8262XA	10485470	FREE
1	1	RPM EA	8281EA	10294755	FREE
1	1	RPM	8283PA	10414345	FREE
1	1	RPM FA	8281FA	10460082	FREE
1	1	TEMP	8255XA	Z176973	FREE

## MAIN SECTION PNC-3D MODE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013

Updates: 1 Patches: 8

Plotted: Fri Oct 30 16:22:05 2015

### PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH100606/n353h02.prm  
 LOGGING MODE: DEPTH DIRECTION: UP  
 TOP DEPTH: 2992.000 ft BOTTOM DEPTH: 8408.149 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	Oct 30 08:09:13 2015	CASING COLLAR LOCATOR
F1:GR	Oct 30 08:09:13 2015	GAMMA RAY
F1:ISS	Oct 30 08:09:13 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Oct 30 08:09:13 2015	LONG SPACE COUNT RATE
F1:RATO	Oct 30 08:09:13 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Oct 30 08:09:13 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Oct 30 08:09:13 2015	CORRECTED FORMATION SIGMA
F1:SS	Oct 30 08:09:13 2015	SHORT SPACE COUNT RATE

### CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	26.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	23.00	LS	12.75	RICS	12.75	SS	12.75

Presentation : cas6685:/dat1a/CH100606/RPM\_MAIN.fvpdf [5"/100' Scale]  
Plot Interval : 2960 - 8457 Feet

Data File 1 : F1 : cas6685:/dat1a/CH100606/n353h02\_MAIN.xtf  
Created On : Oct 30 08:09:13 2015  
Company : LARAMIE ENERGY  
Well : PICEANCE FEDERAL 28-21E  
Field : VEGA  
File Interval : 6.25 - 8457 Feet  
OCT : n353h

GR BACKUP

ISS [iss] 0 1E+06 CCL (mV)  
(cts/s)  
GAMMA RAY [gr] 0 150  
(gAPI)

FEET

3000

GR

ISS

RATO [rato]

17

0

(dim)

RICS [rics]

39

9

(dim)

SGFC [sgfc]

60

0

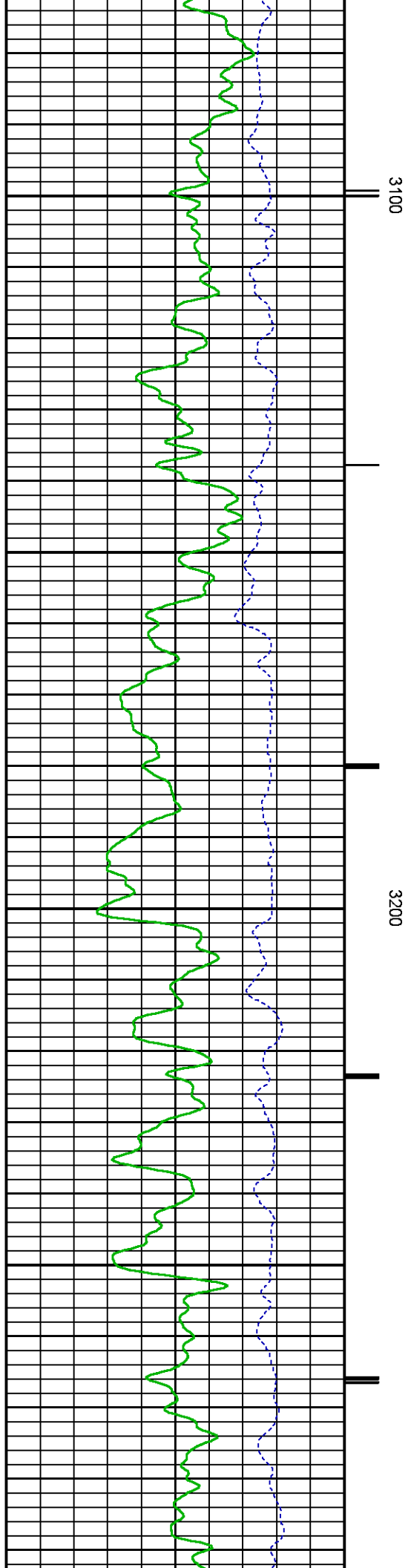
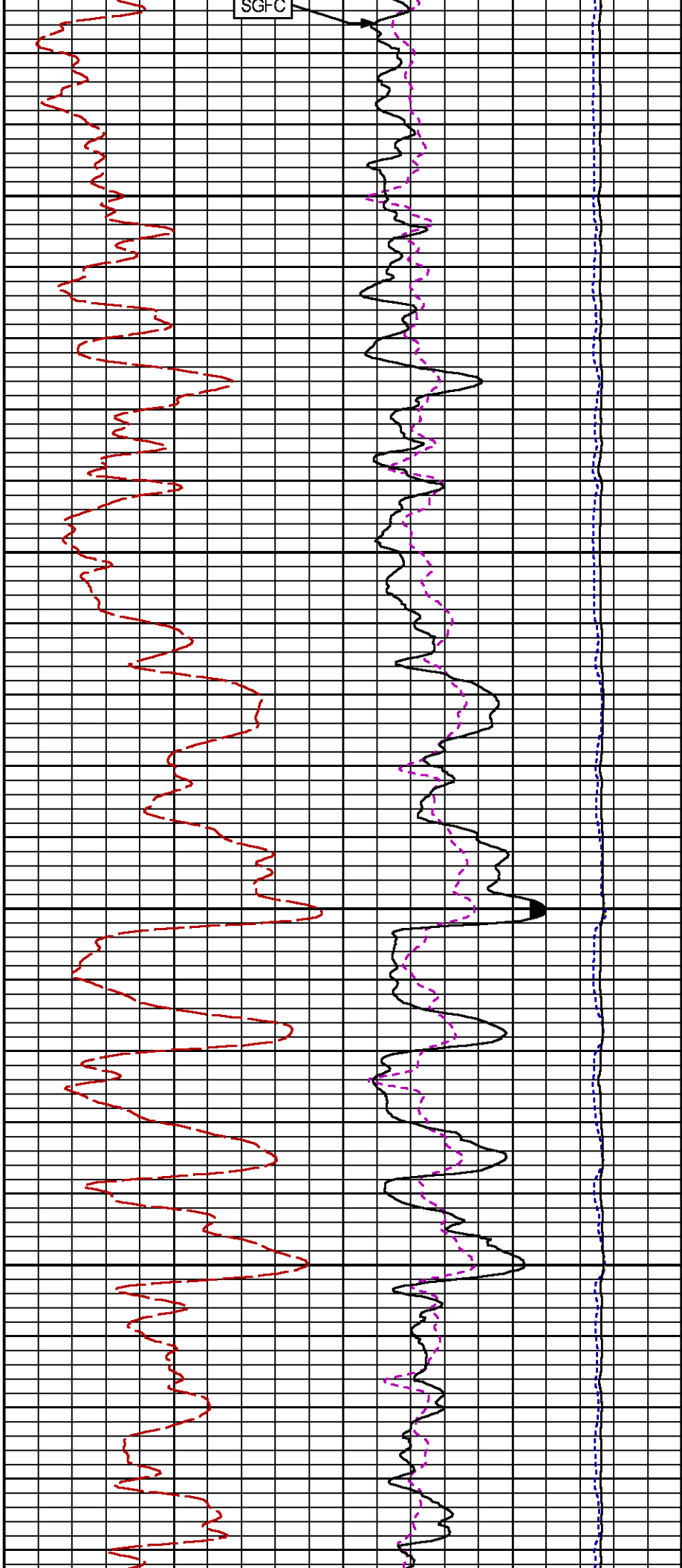
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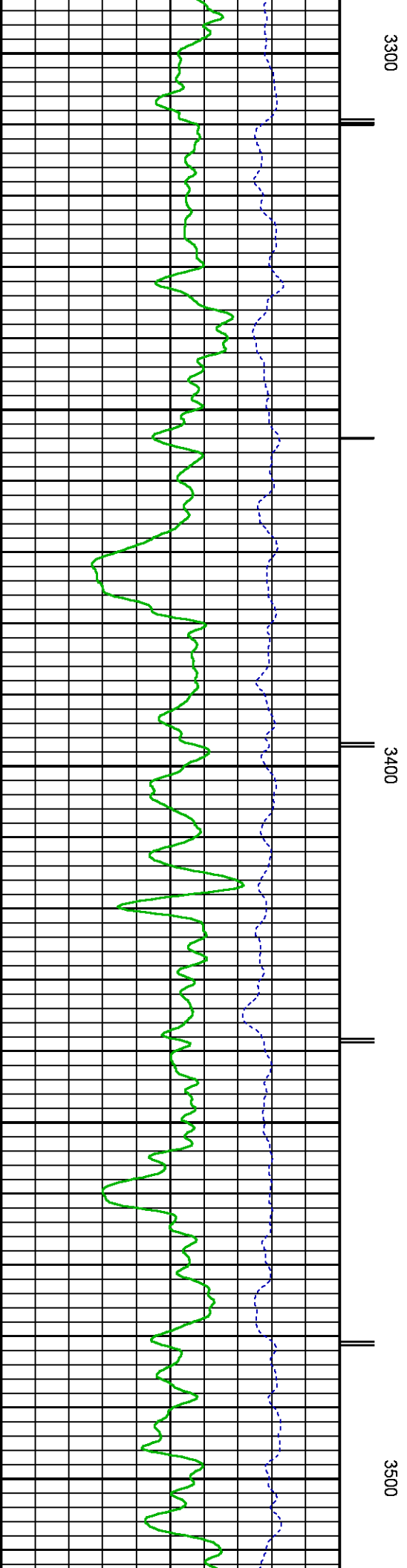
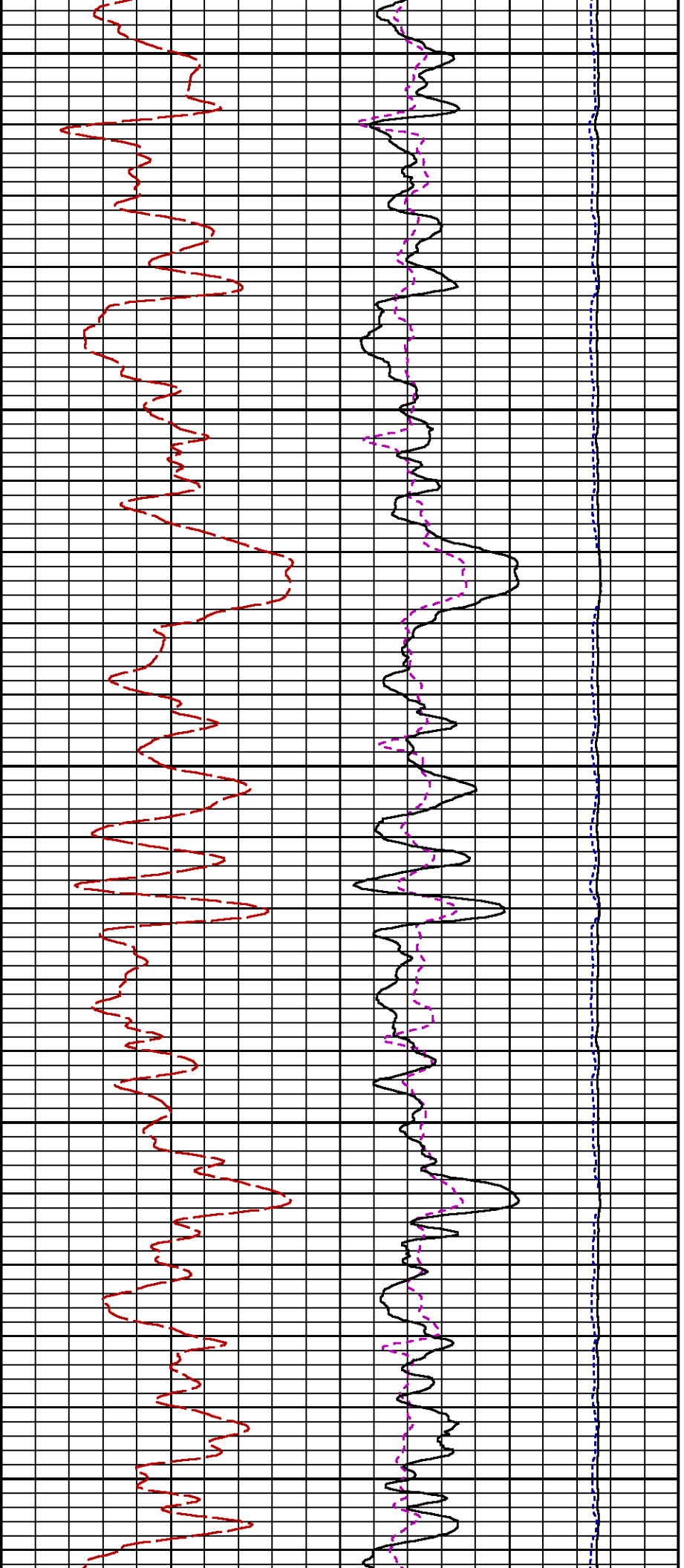
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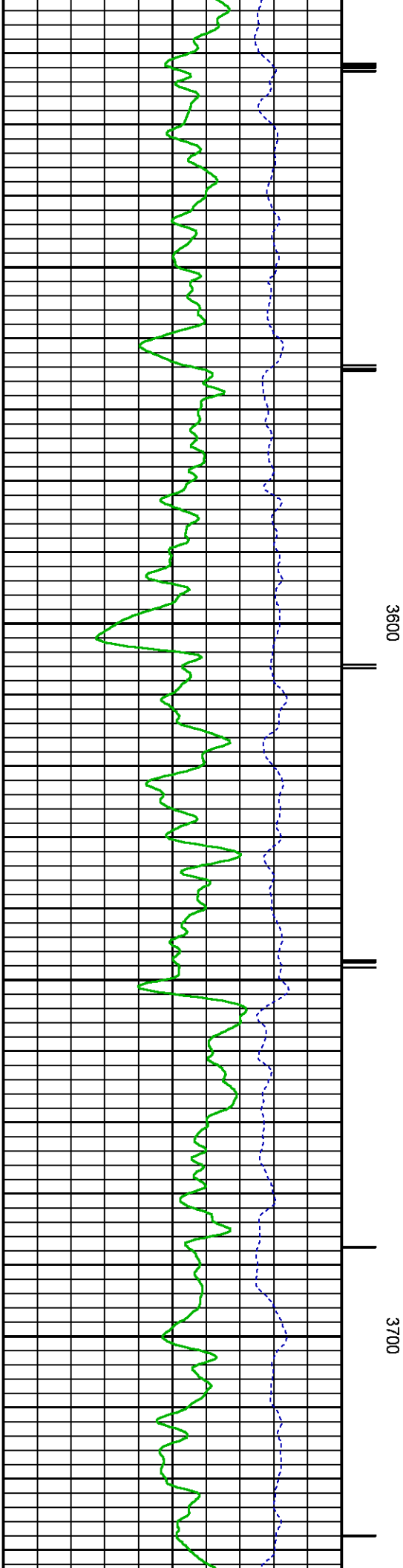
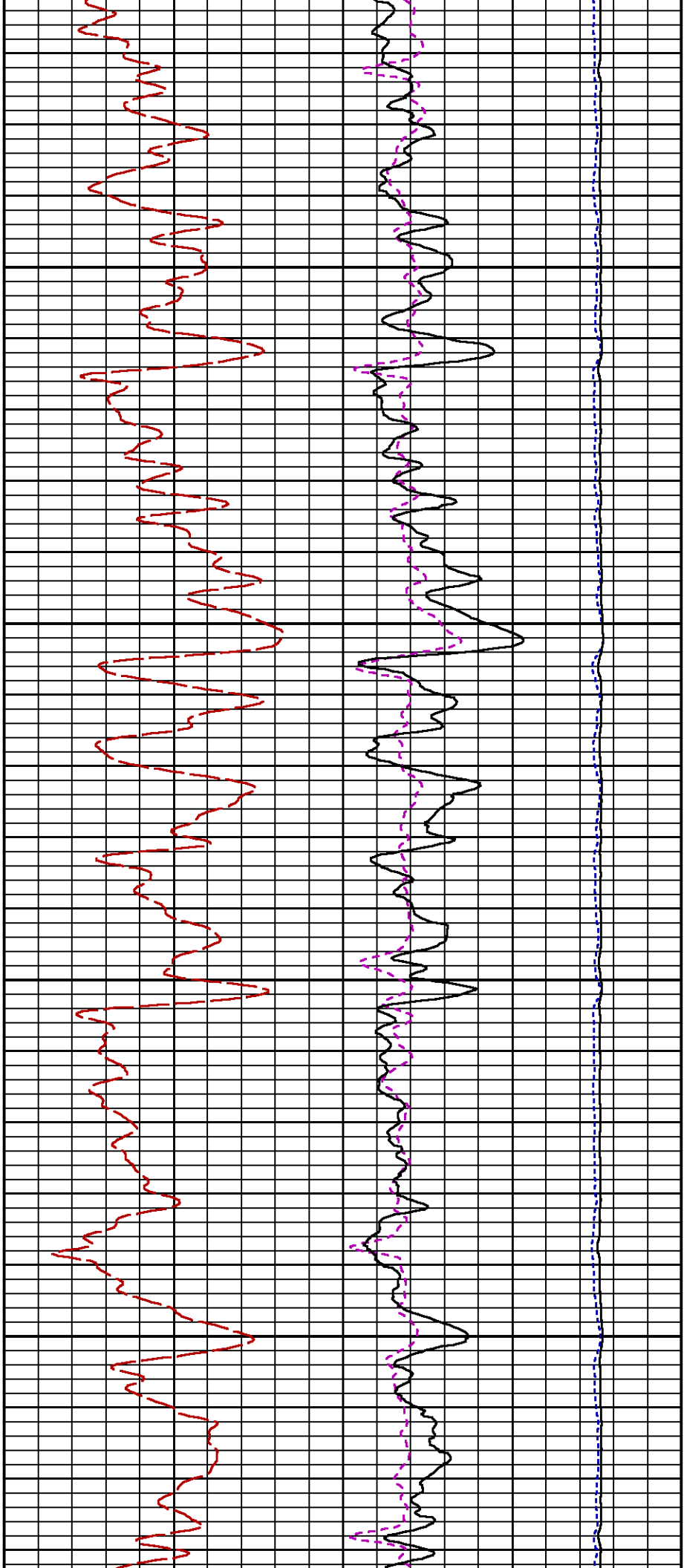
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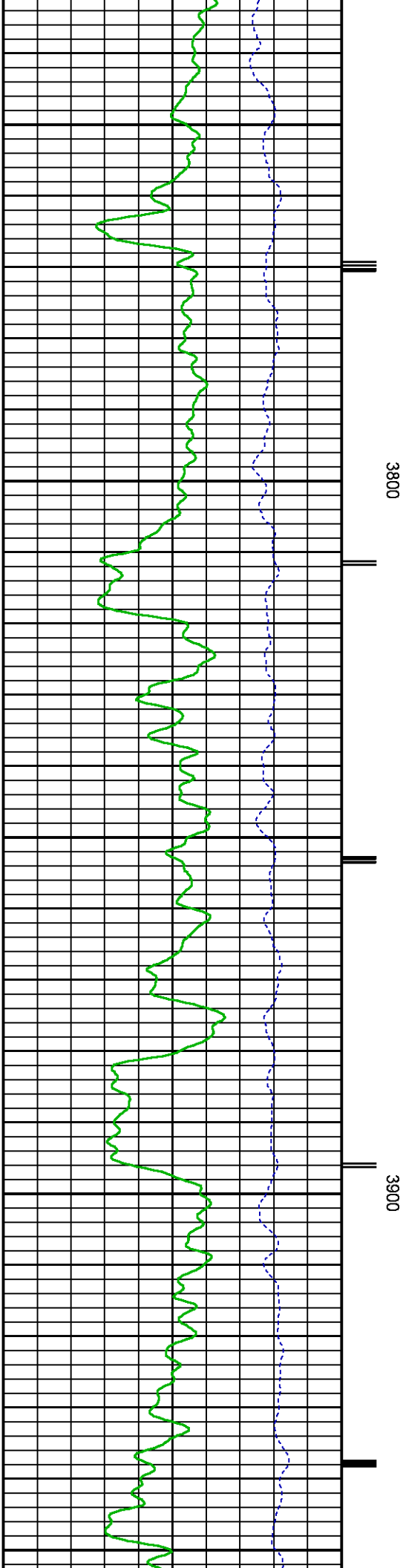
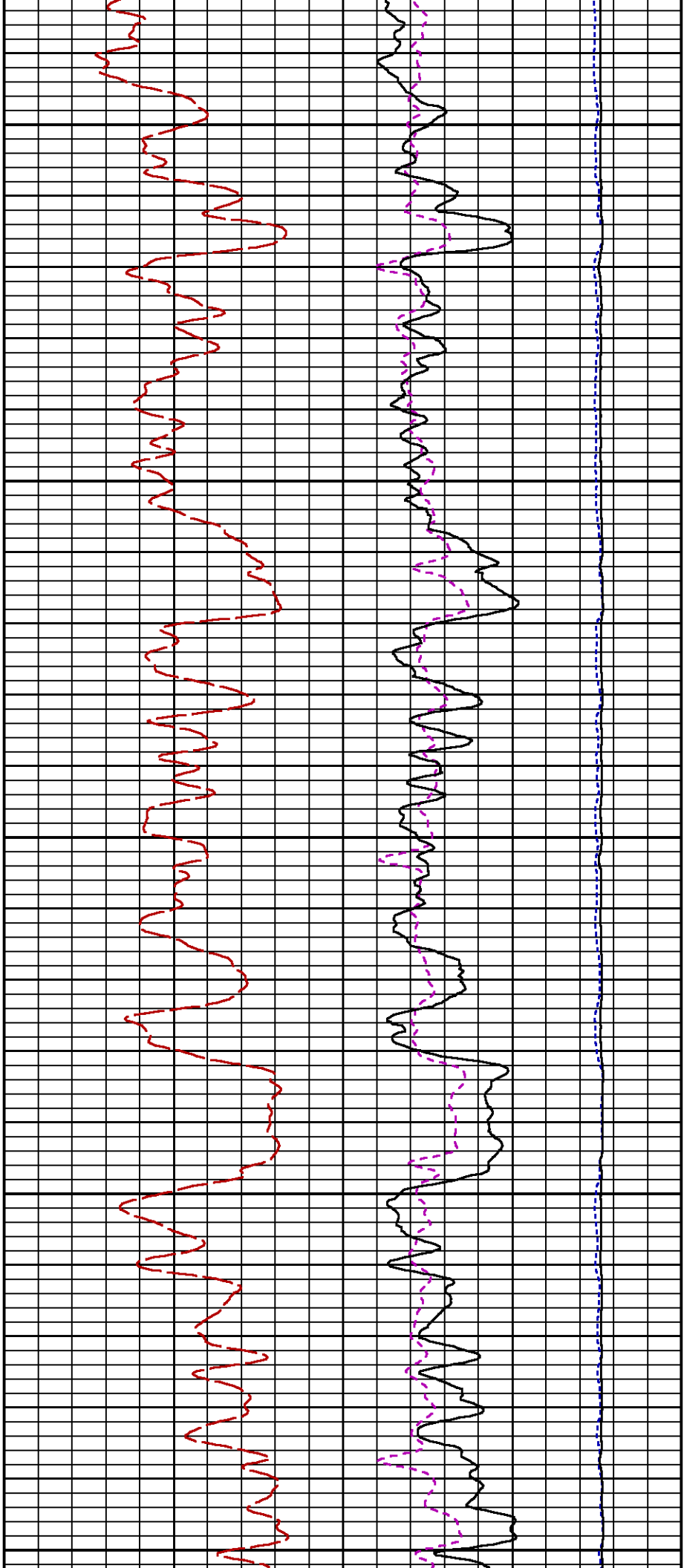
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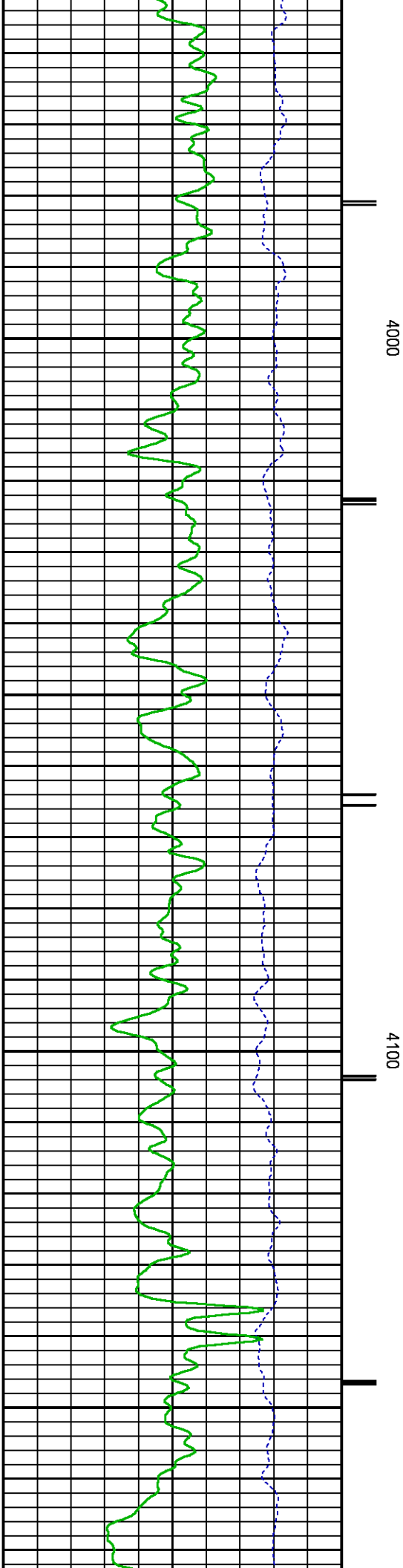
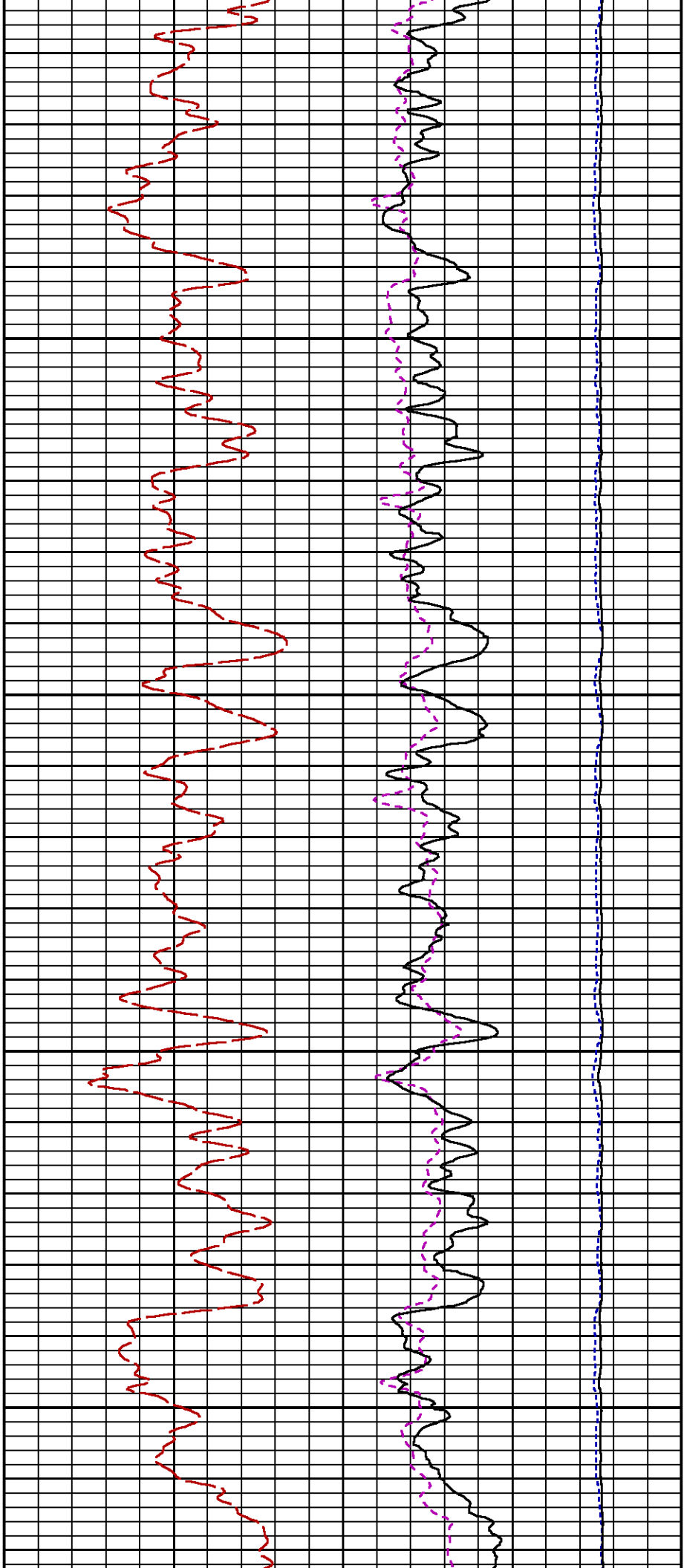
(cts/s)



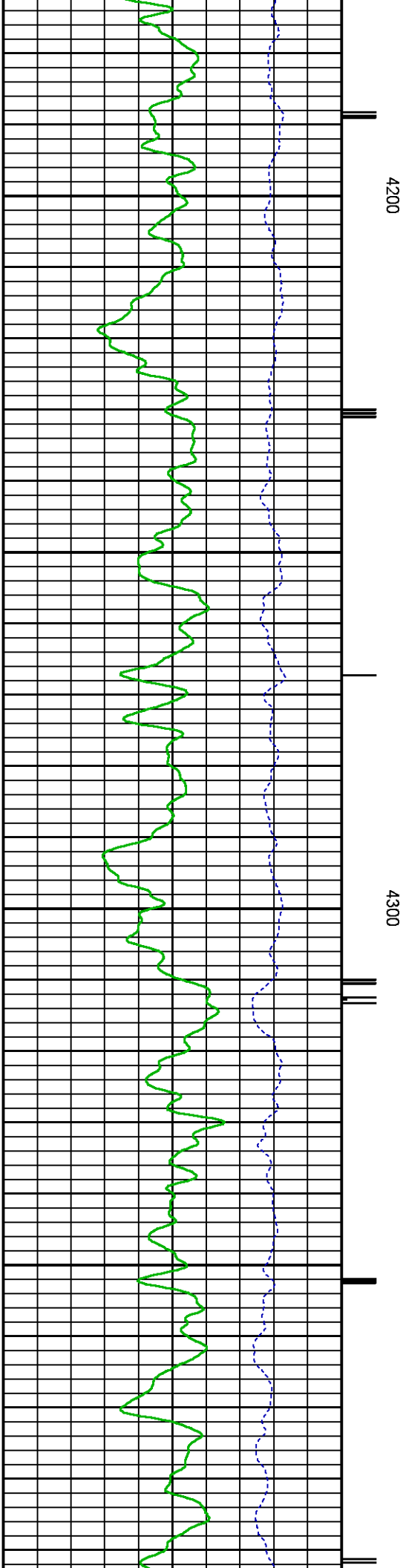
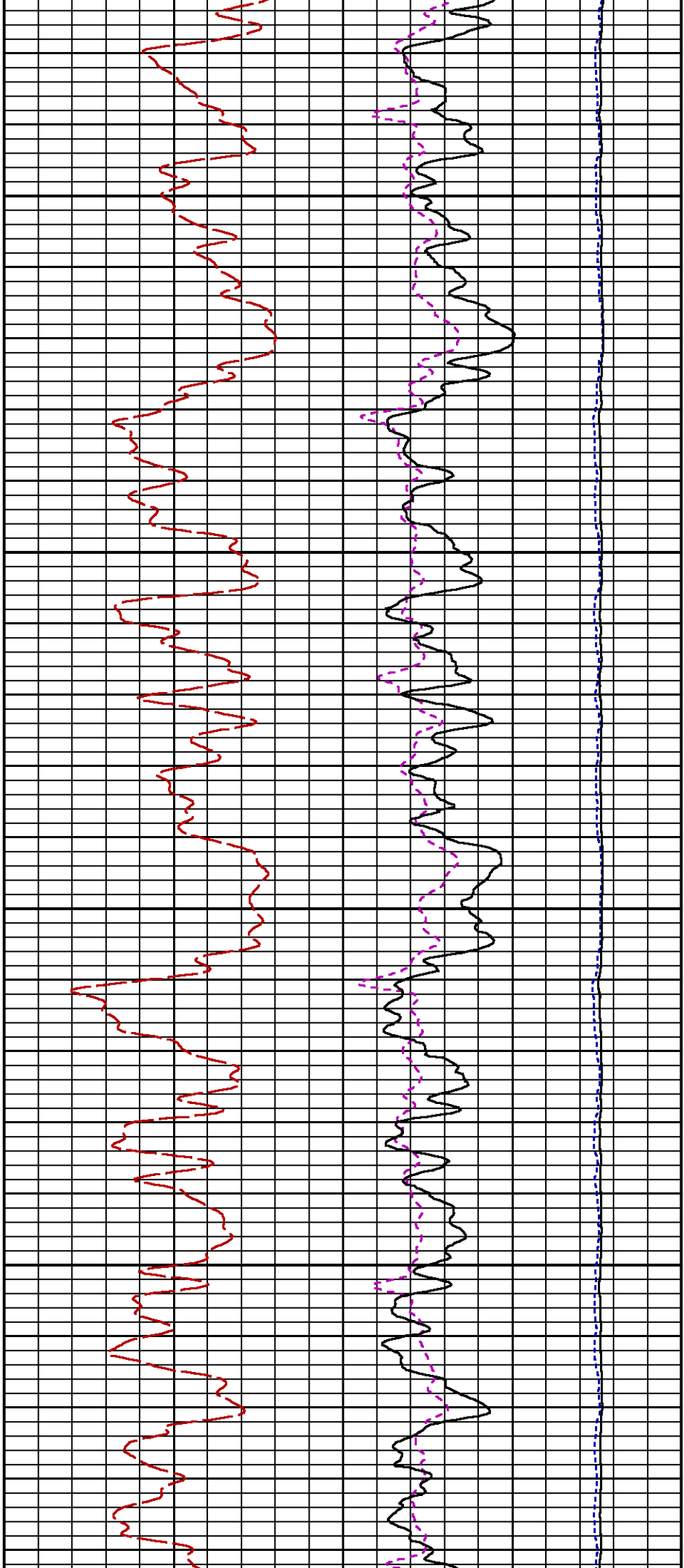


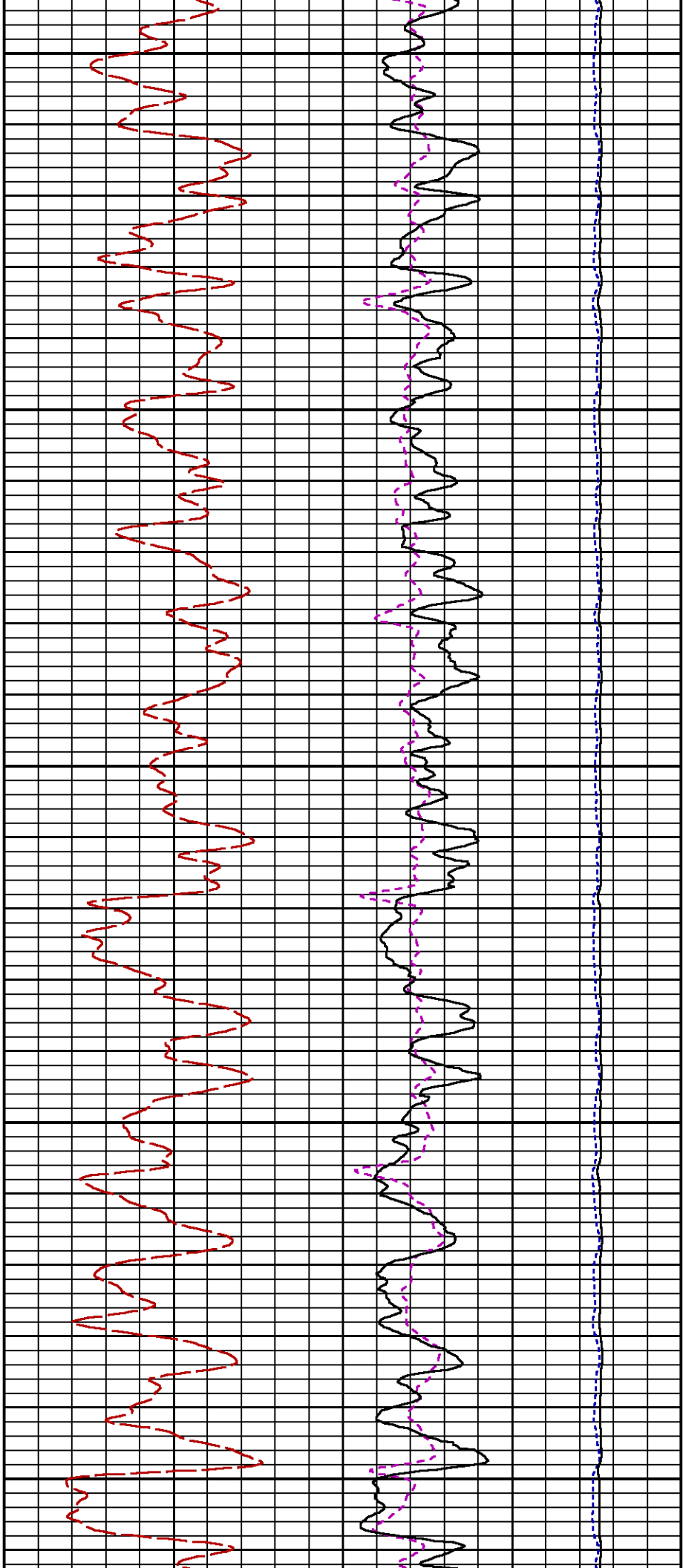








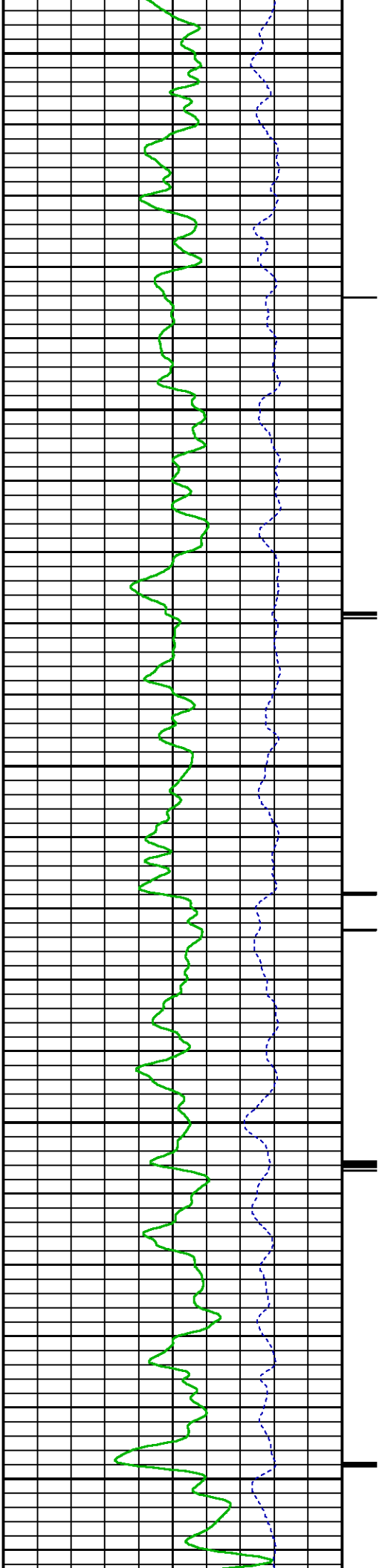


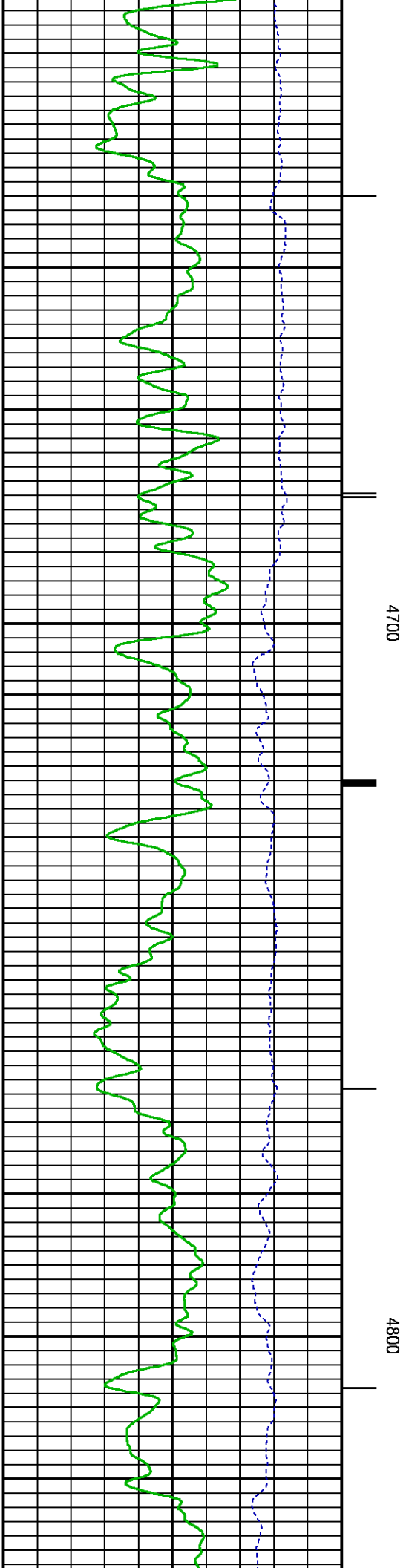
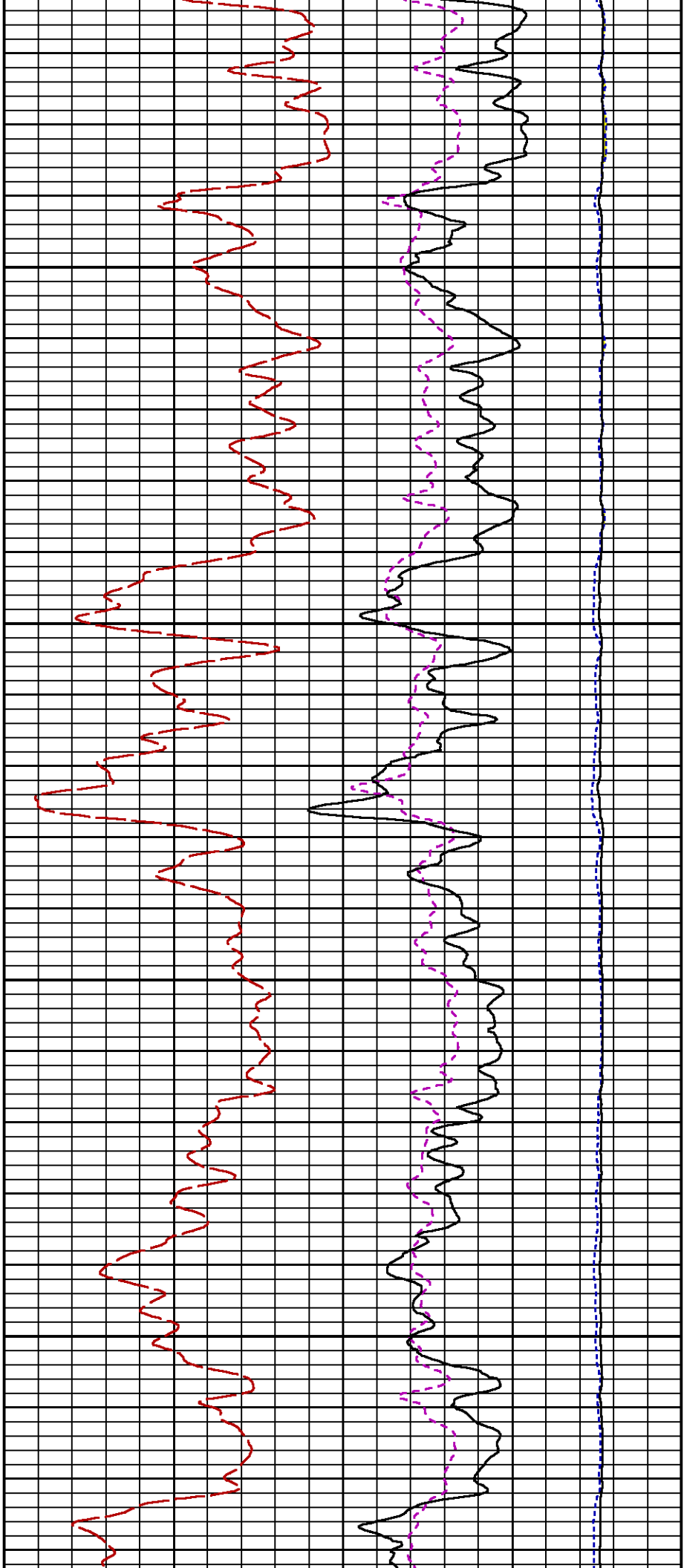


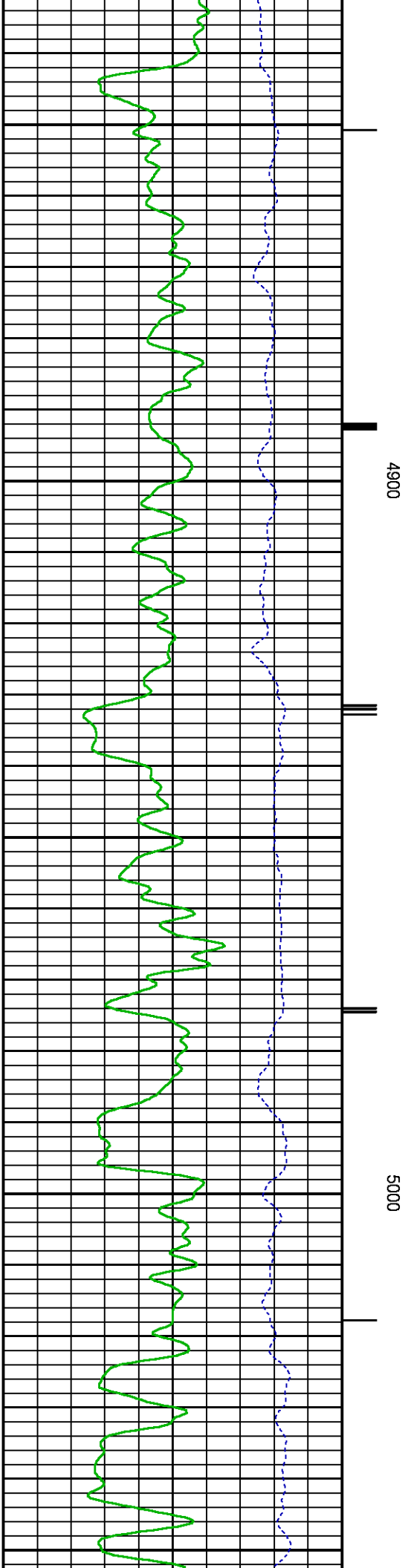
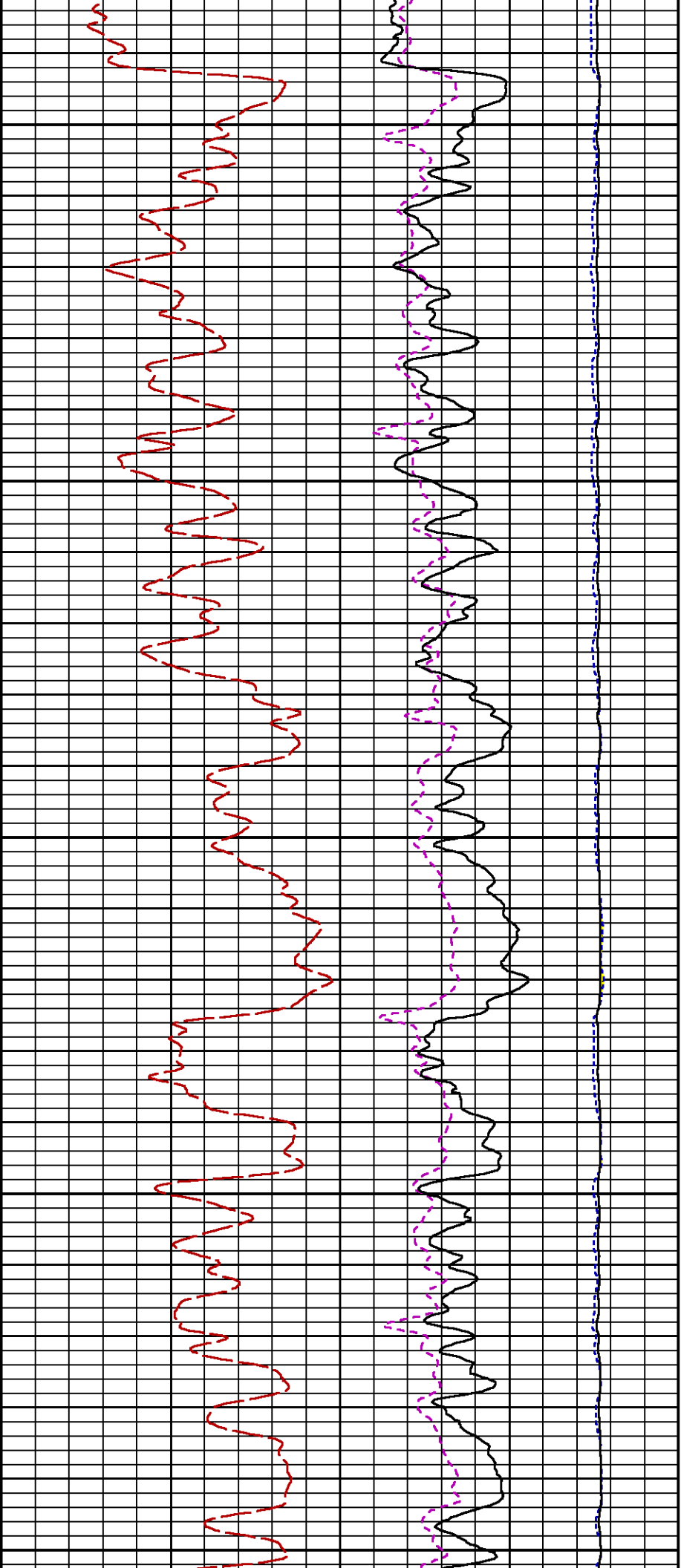
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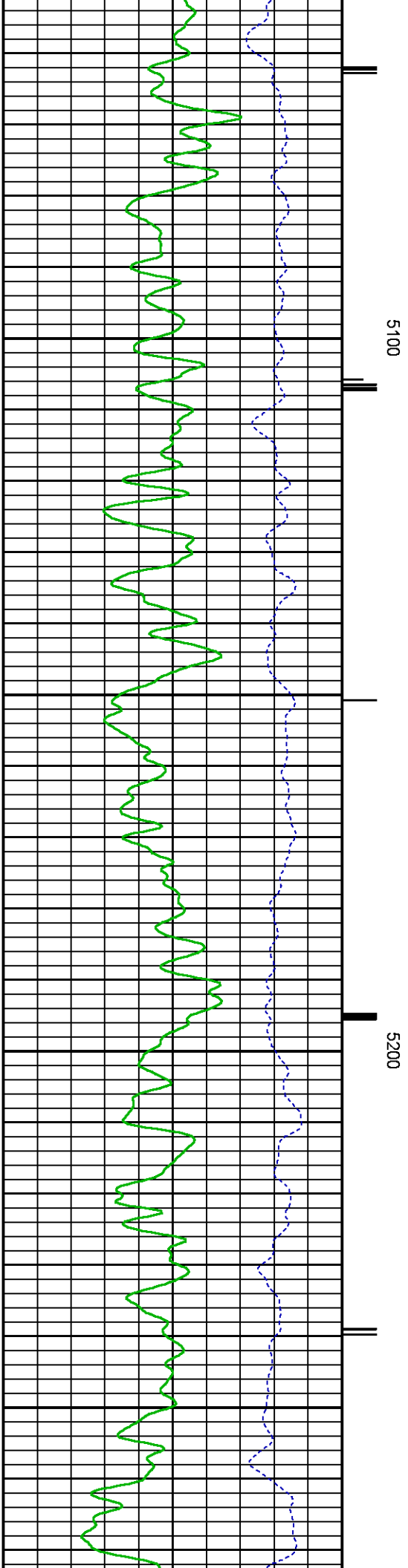
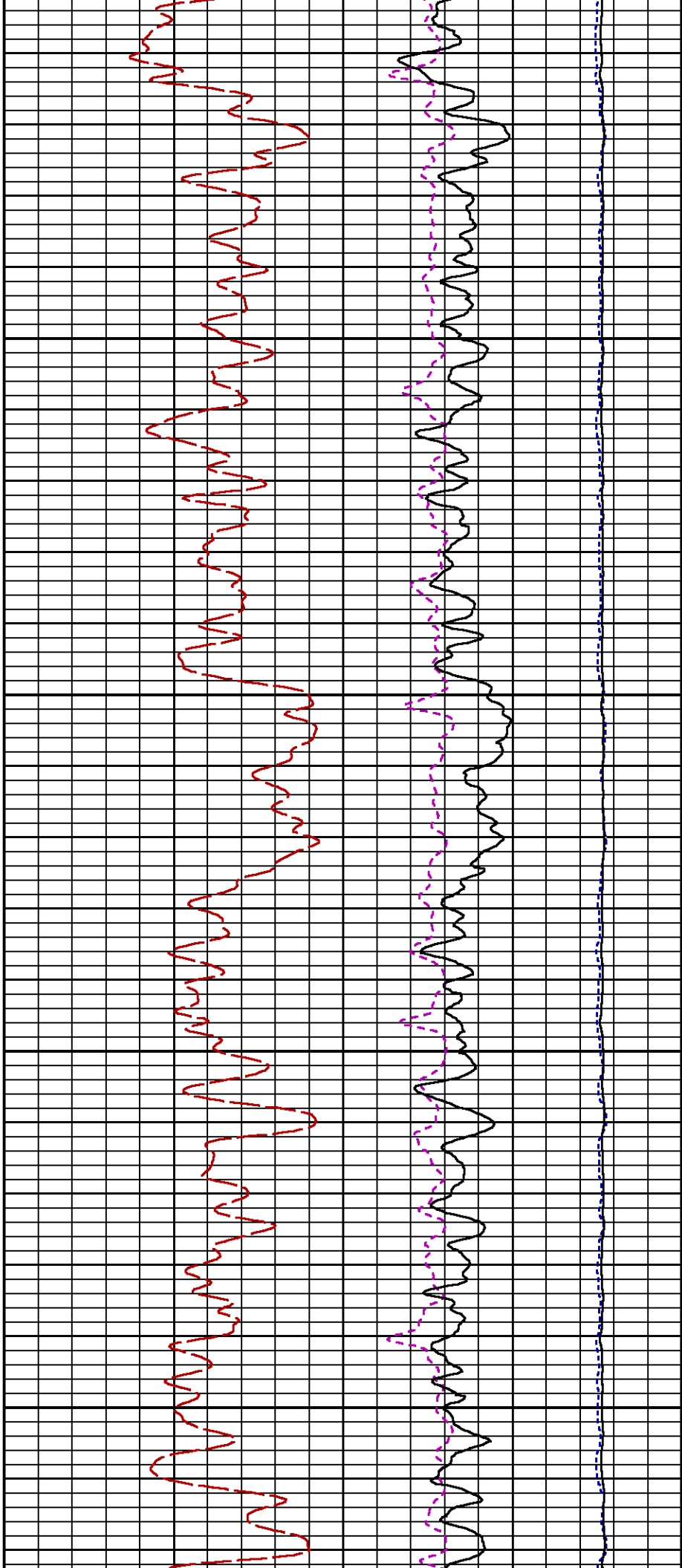
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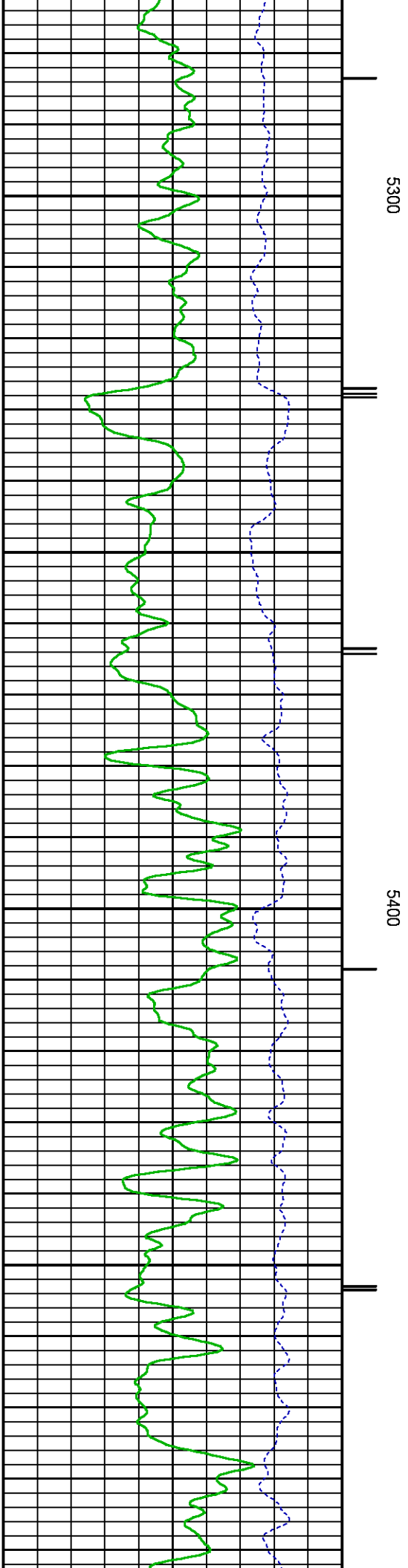
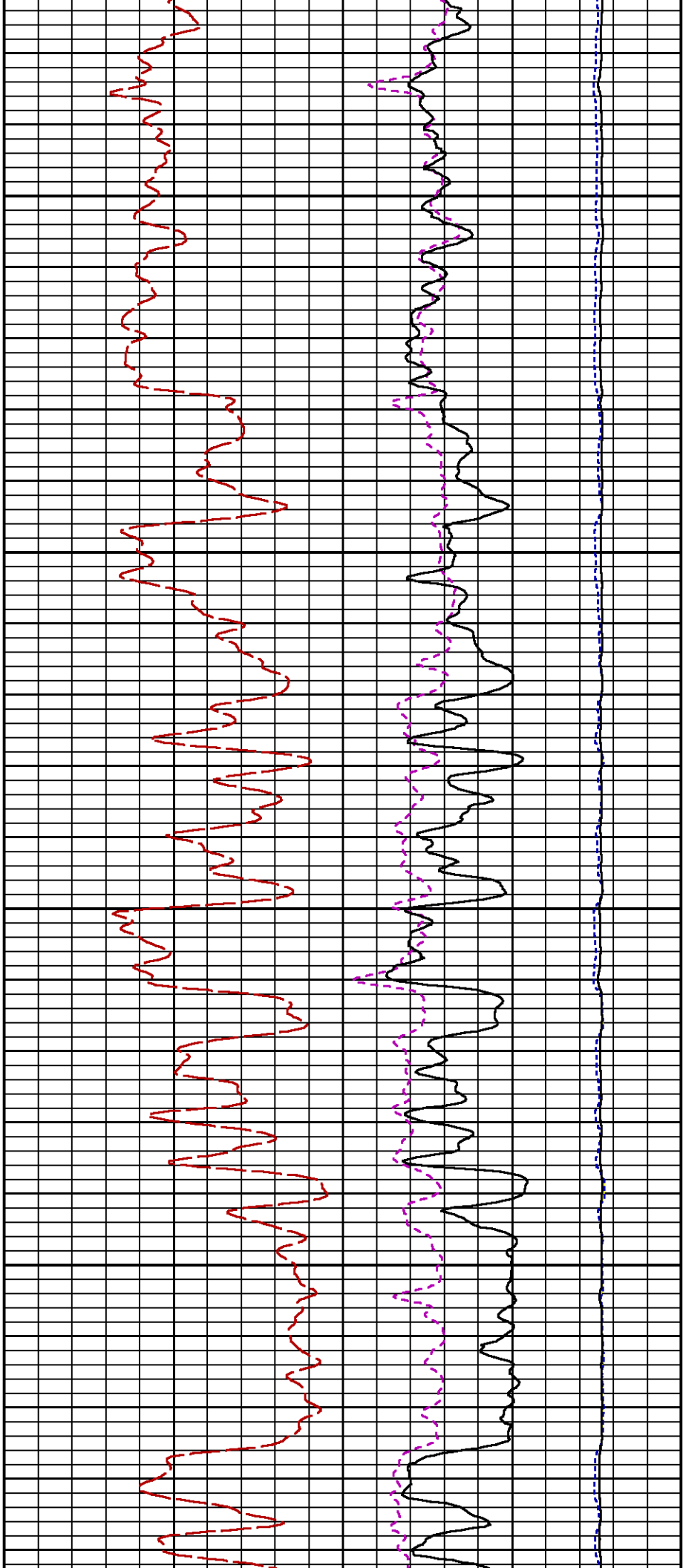
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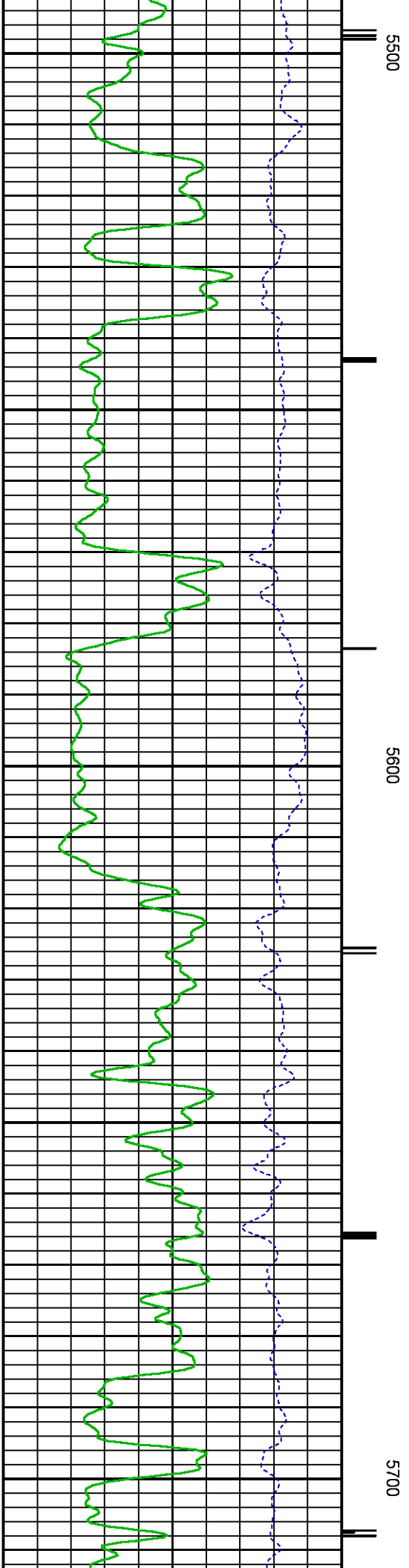
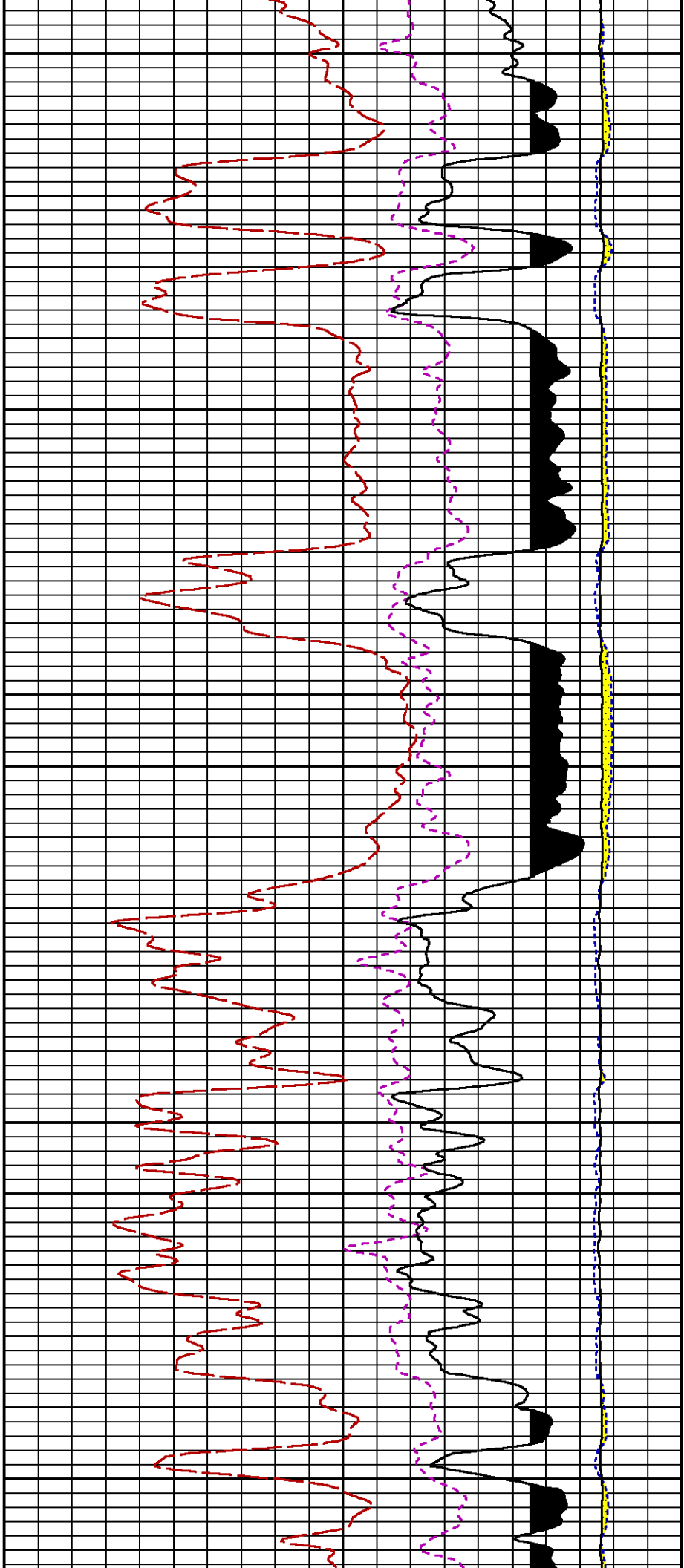


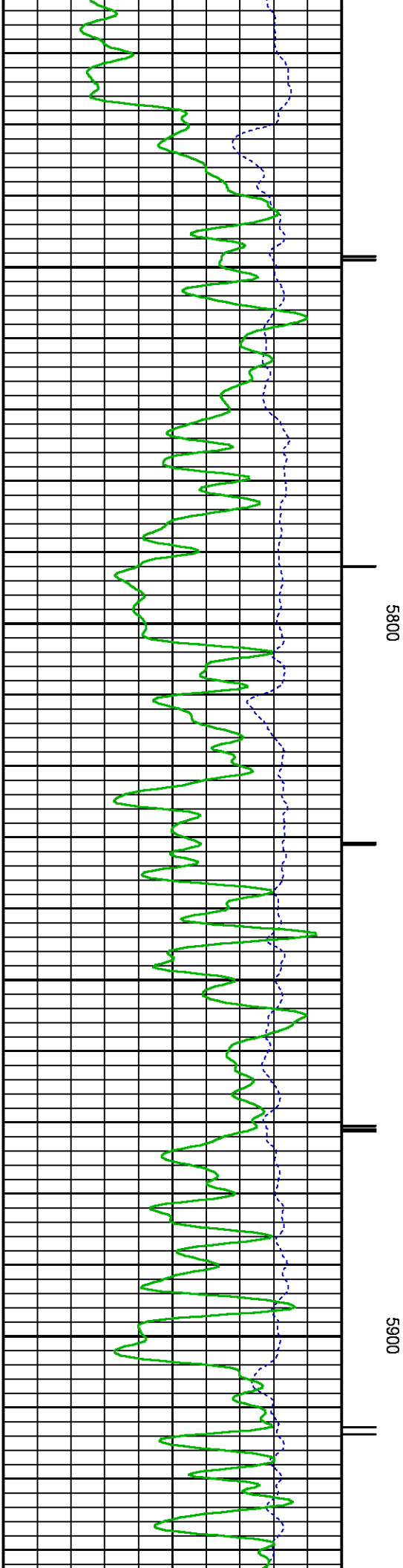
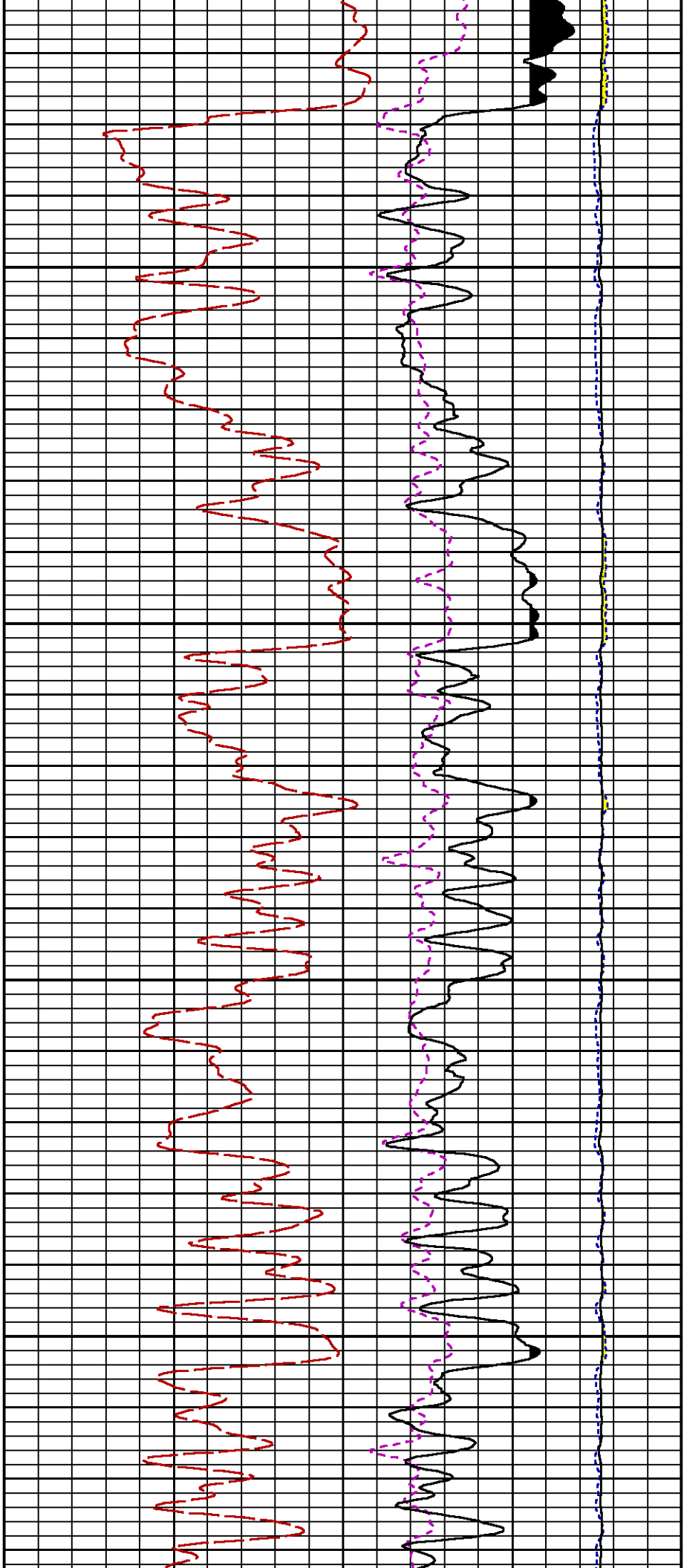




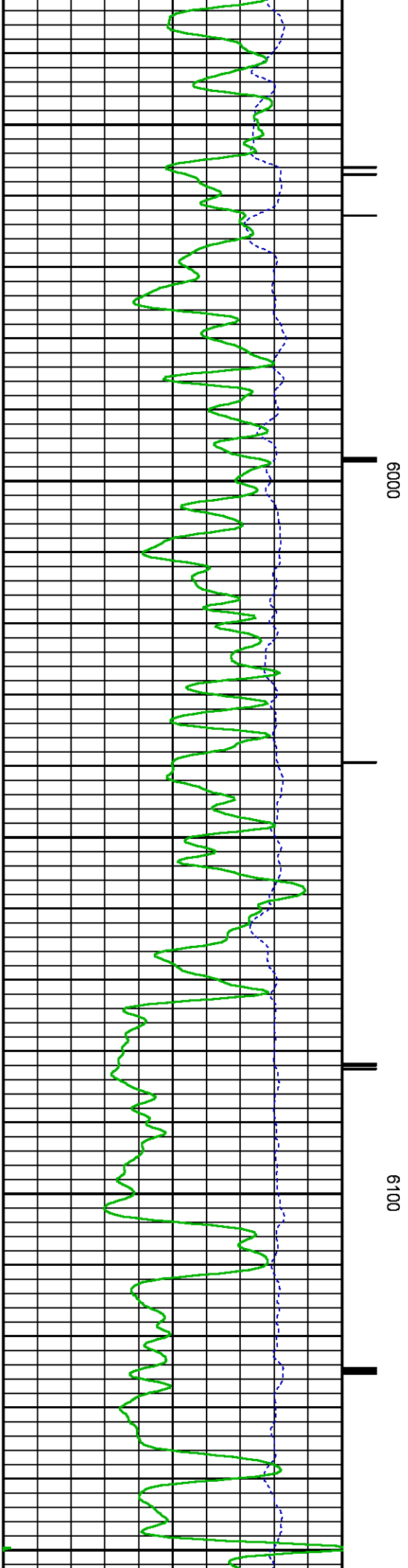
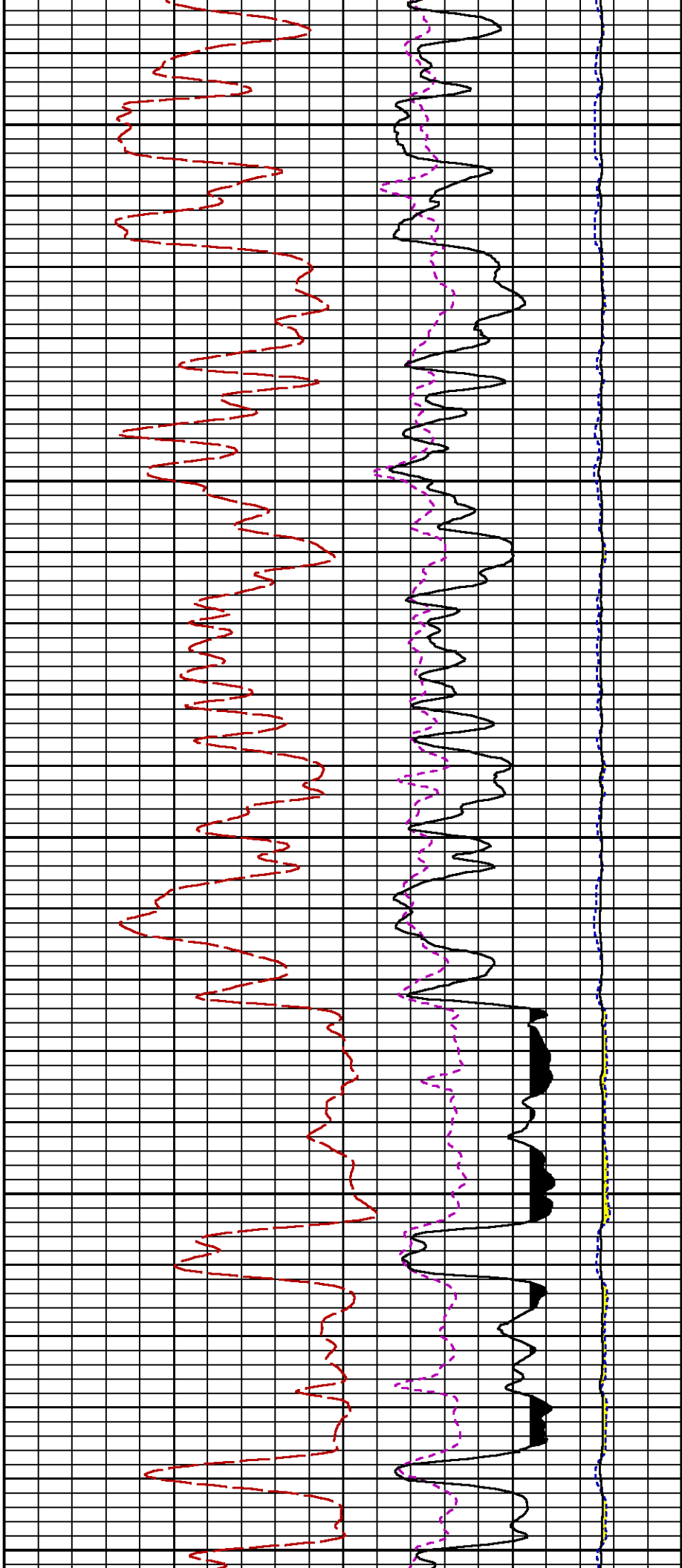


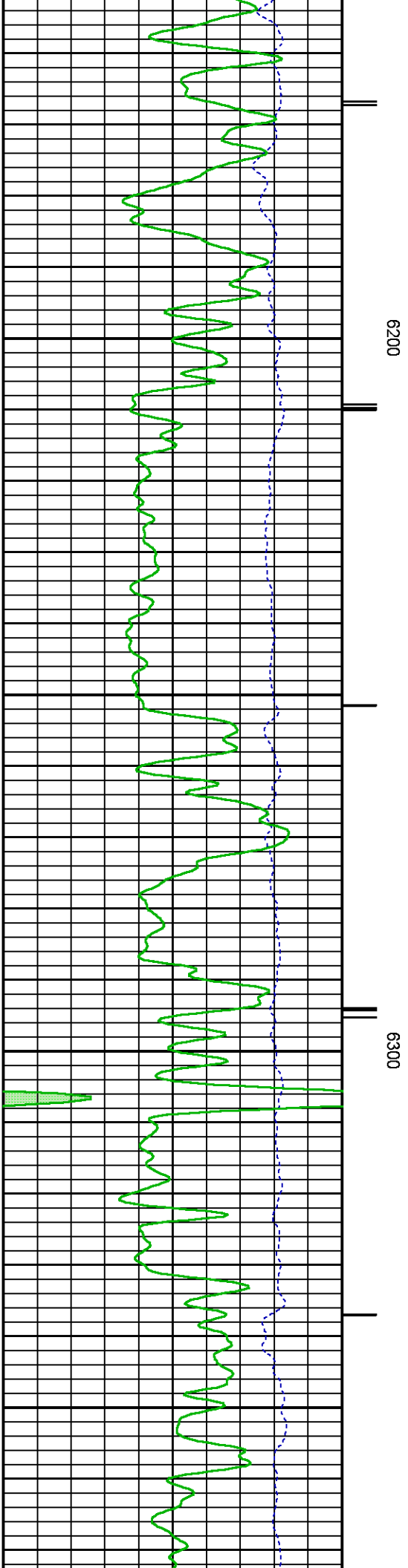
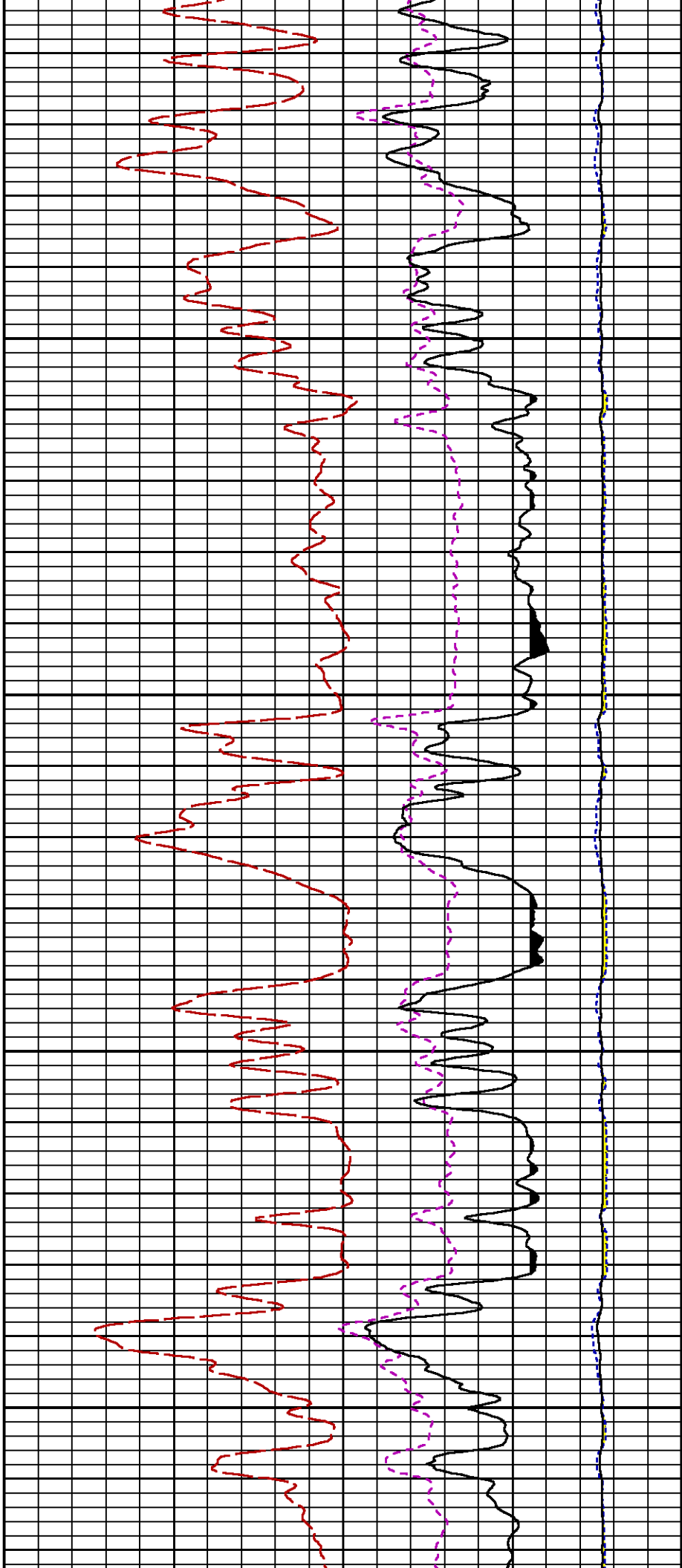


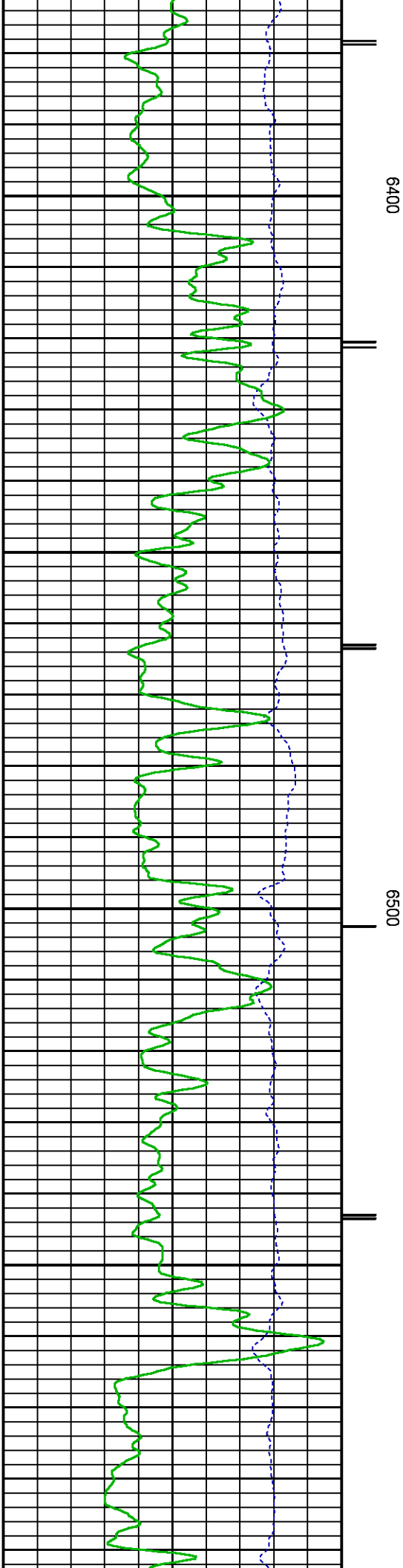
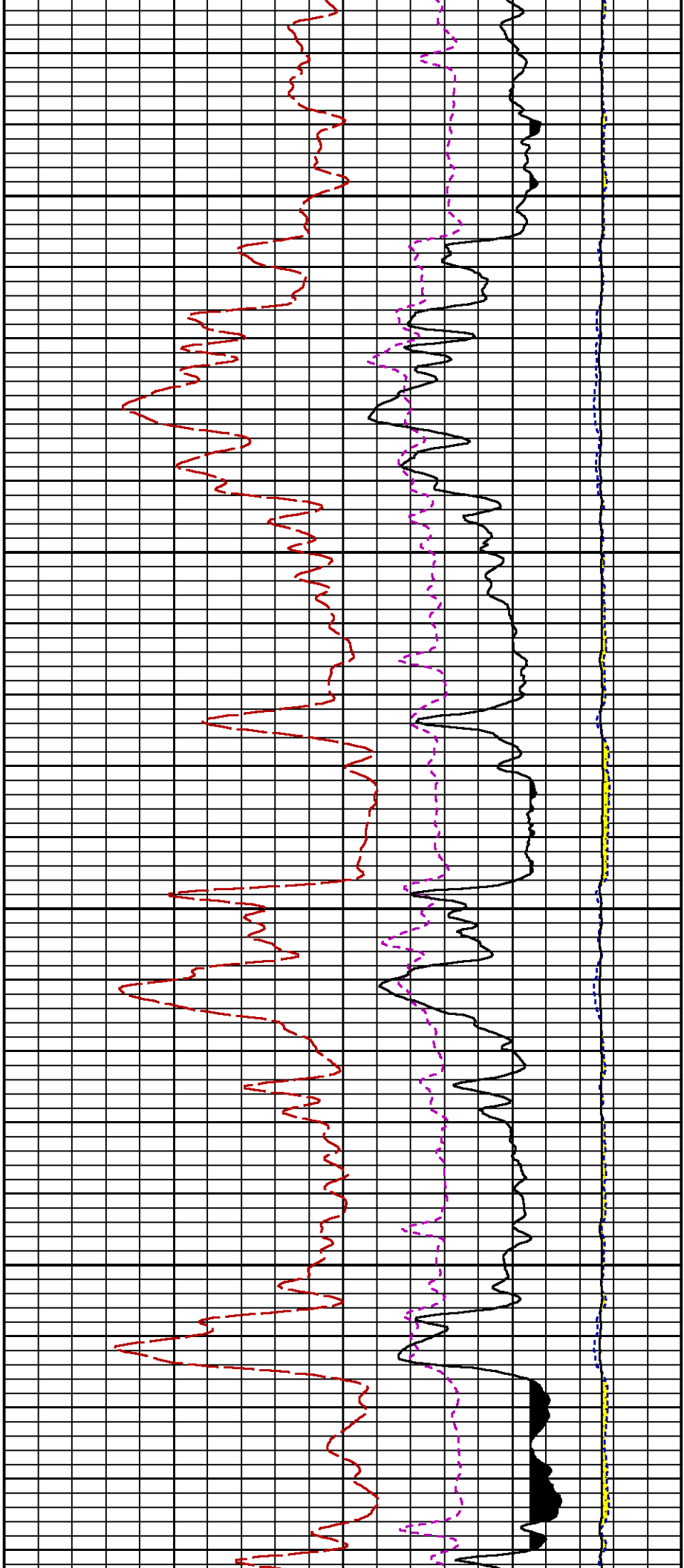


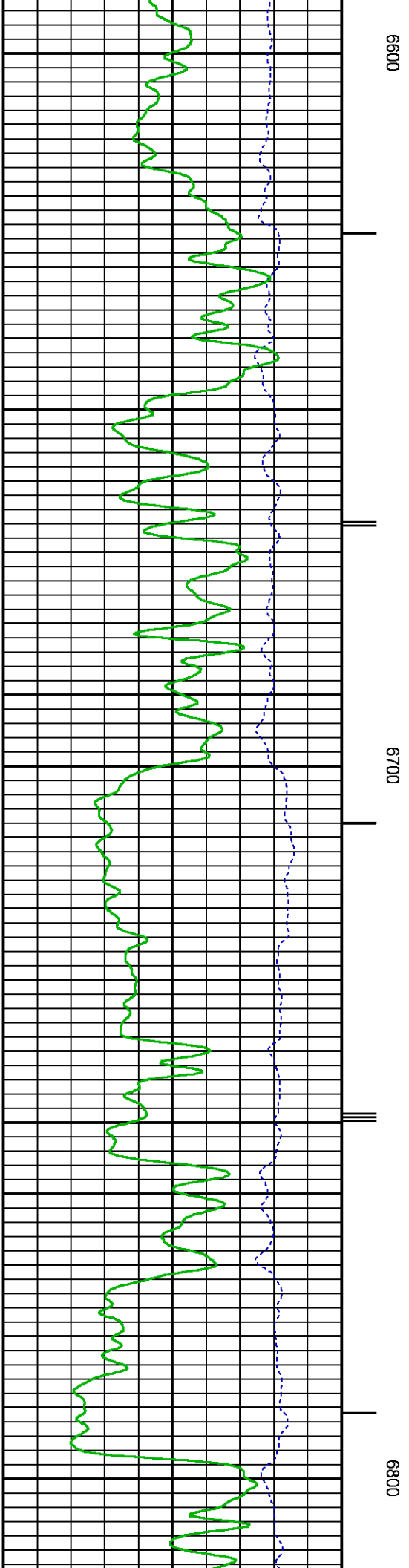
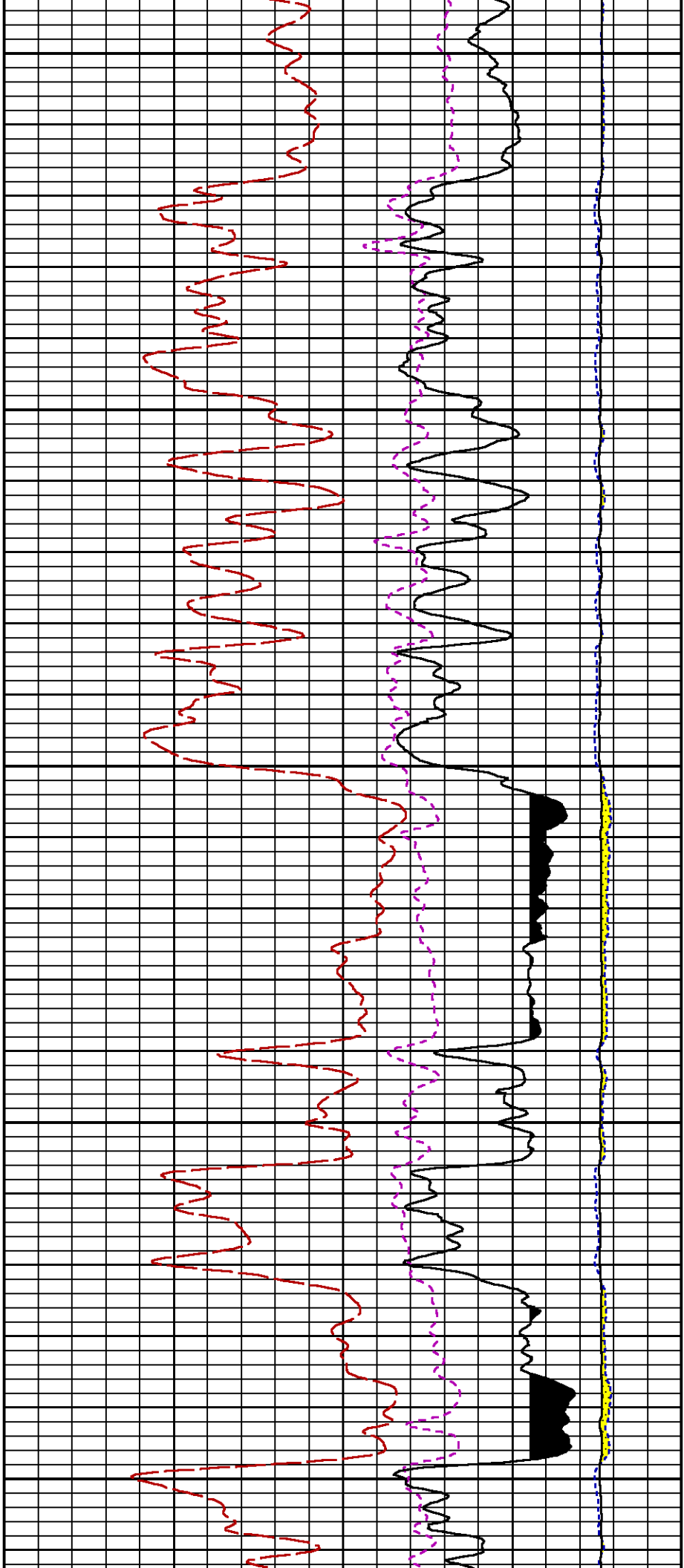


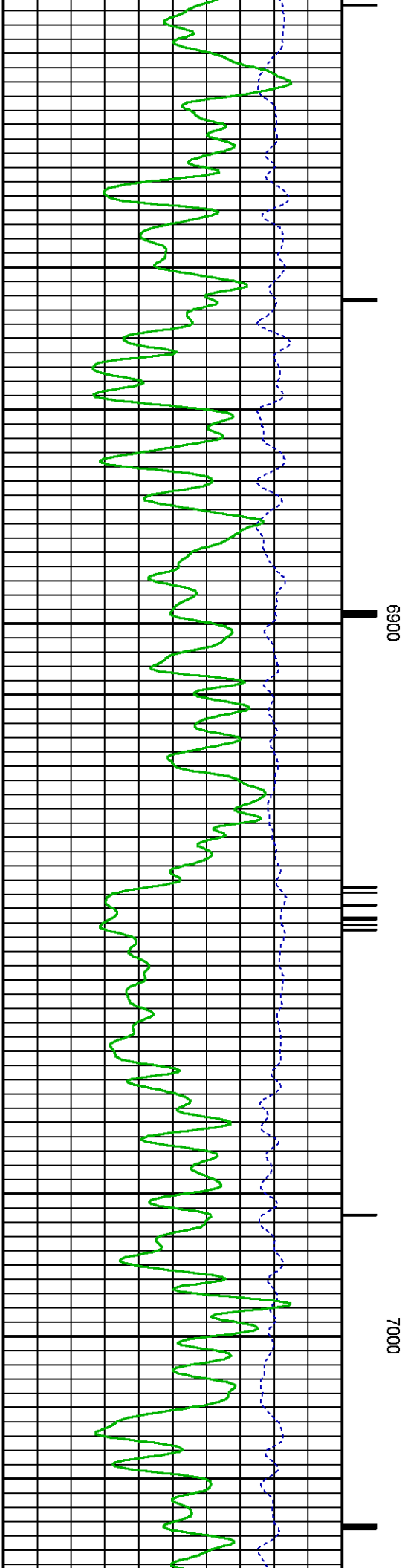
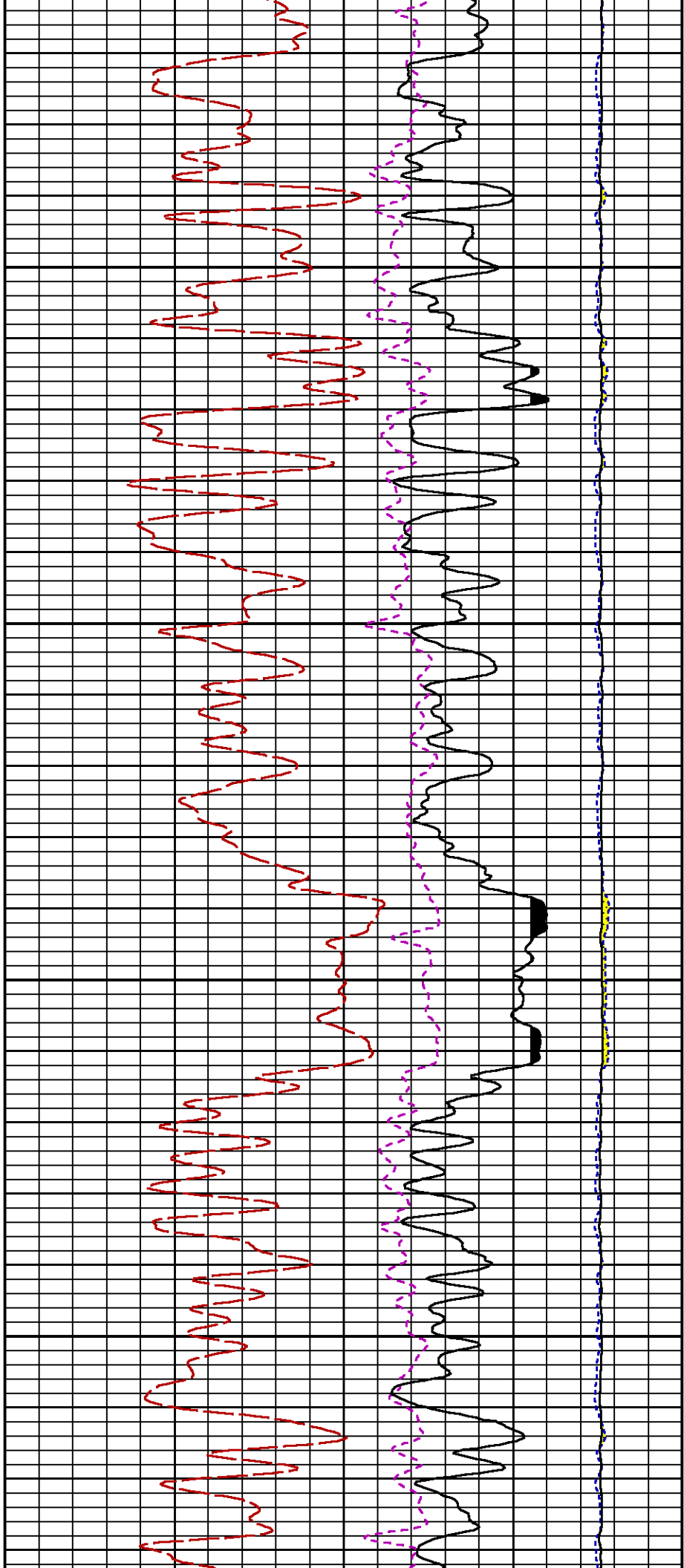


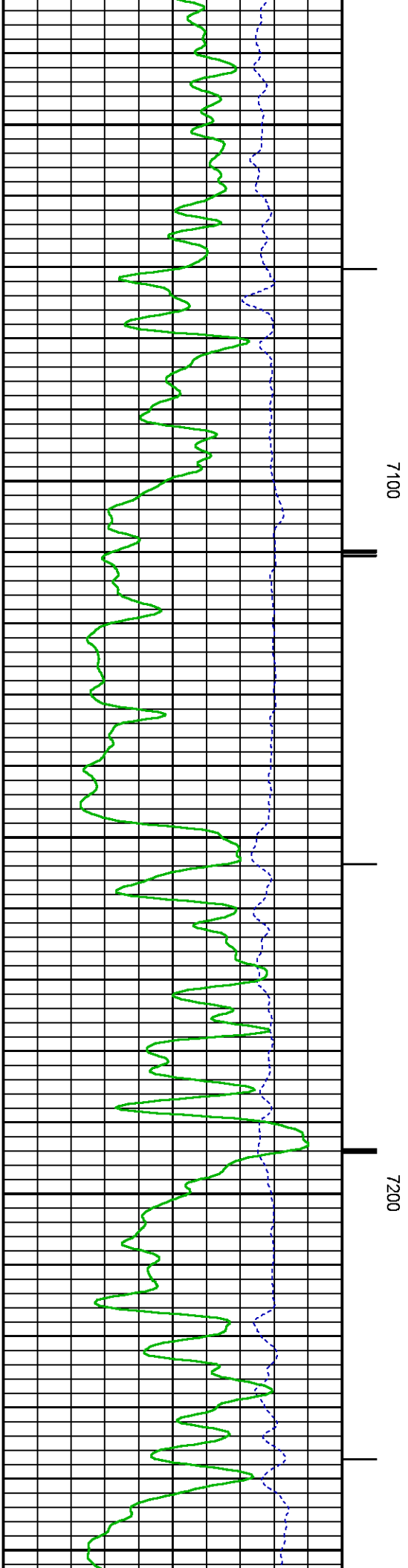
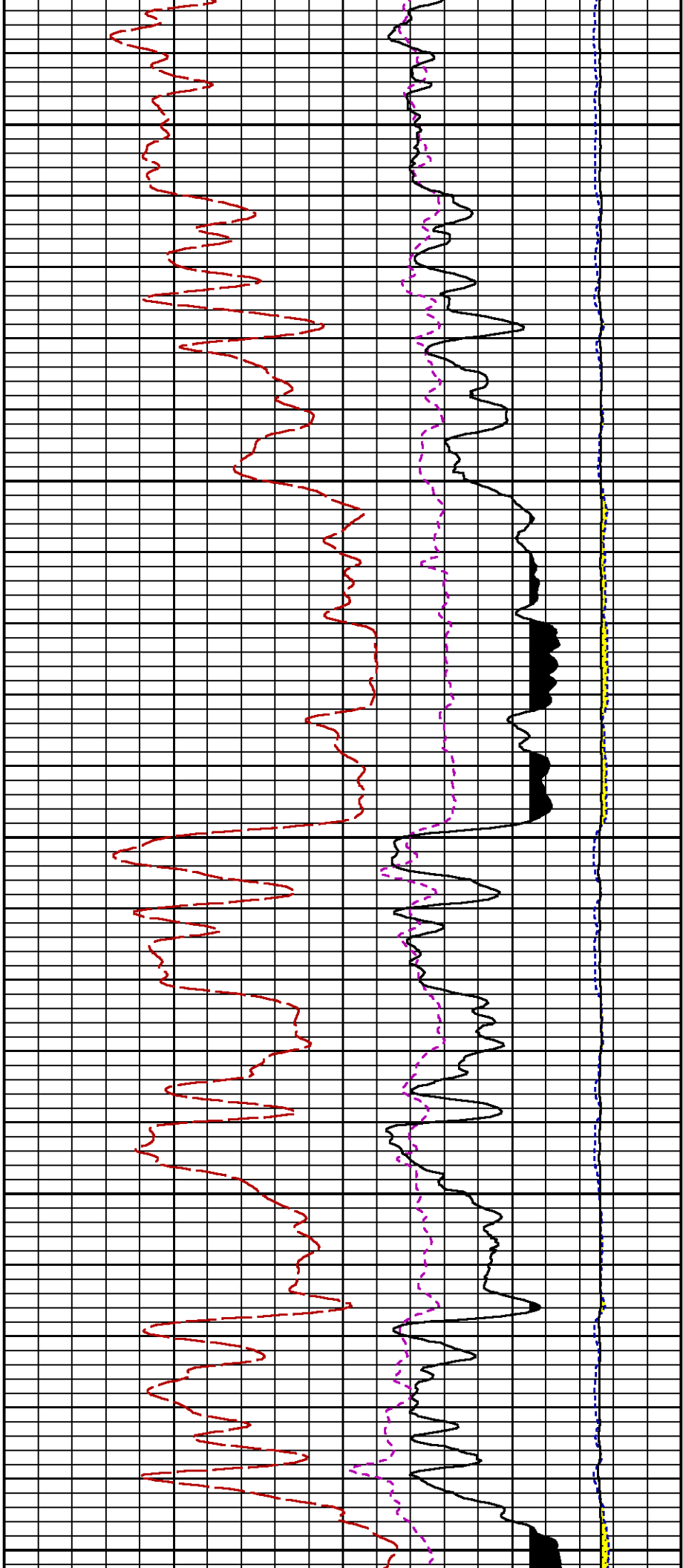


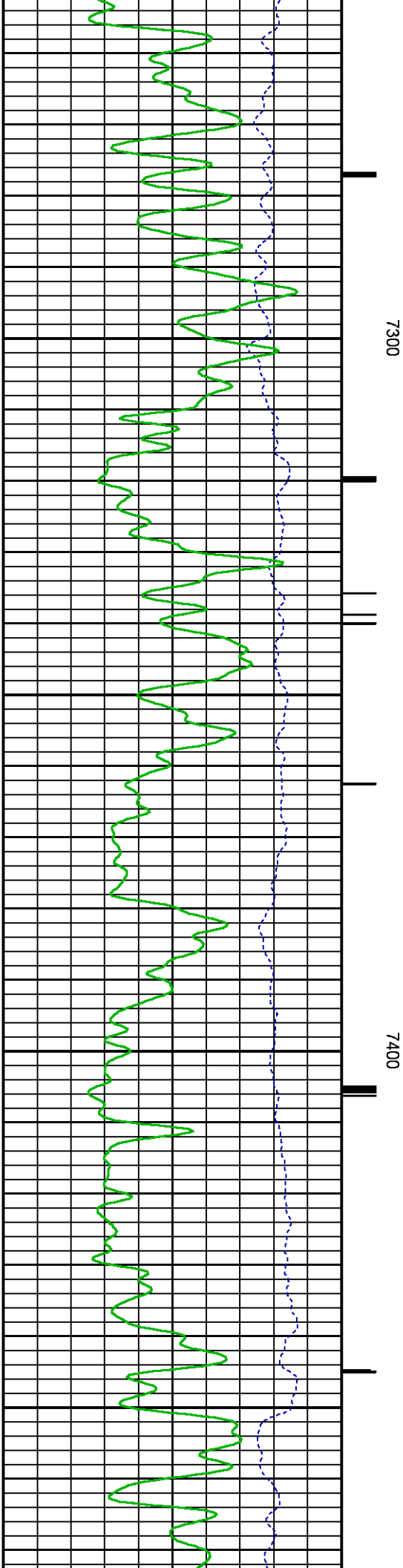
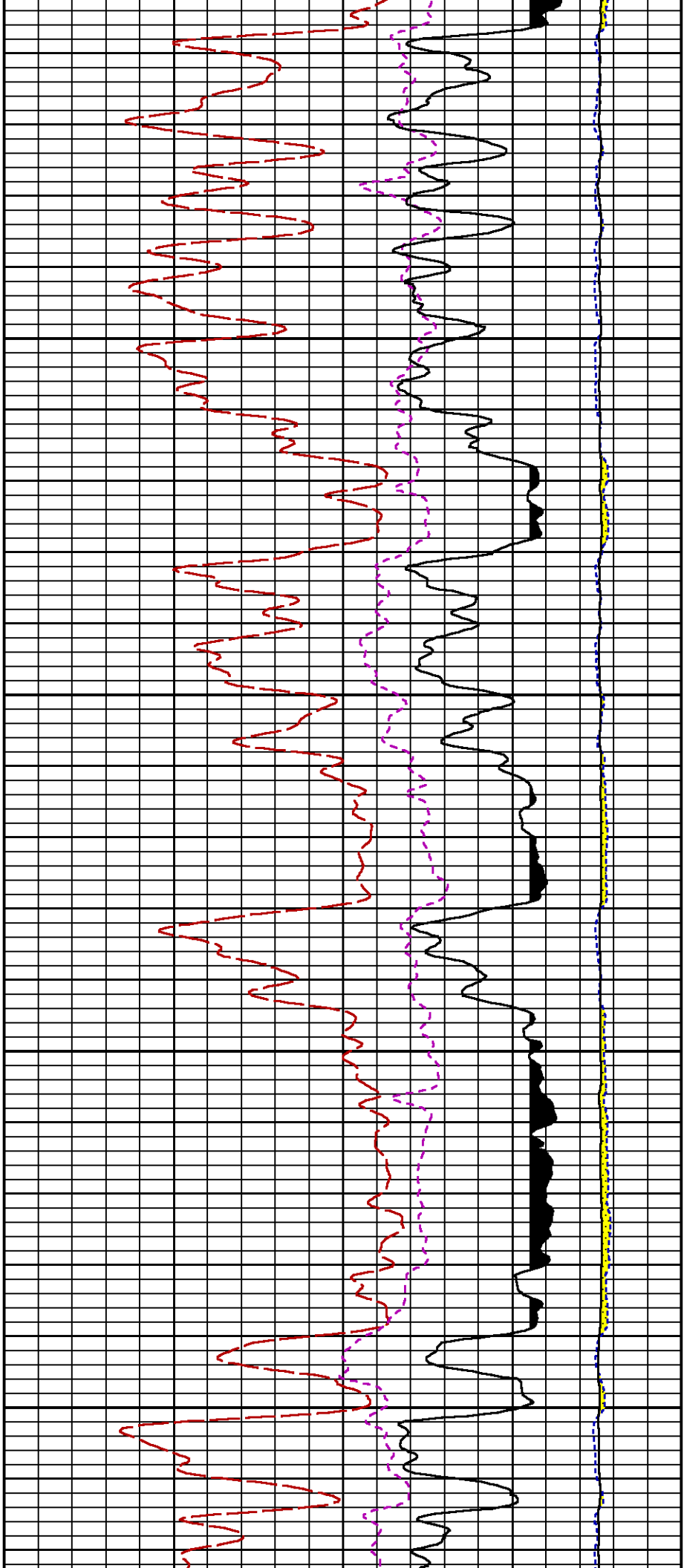


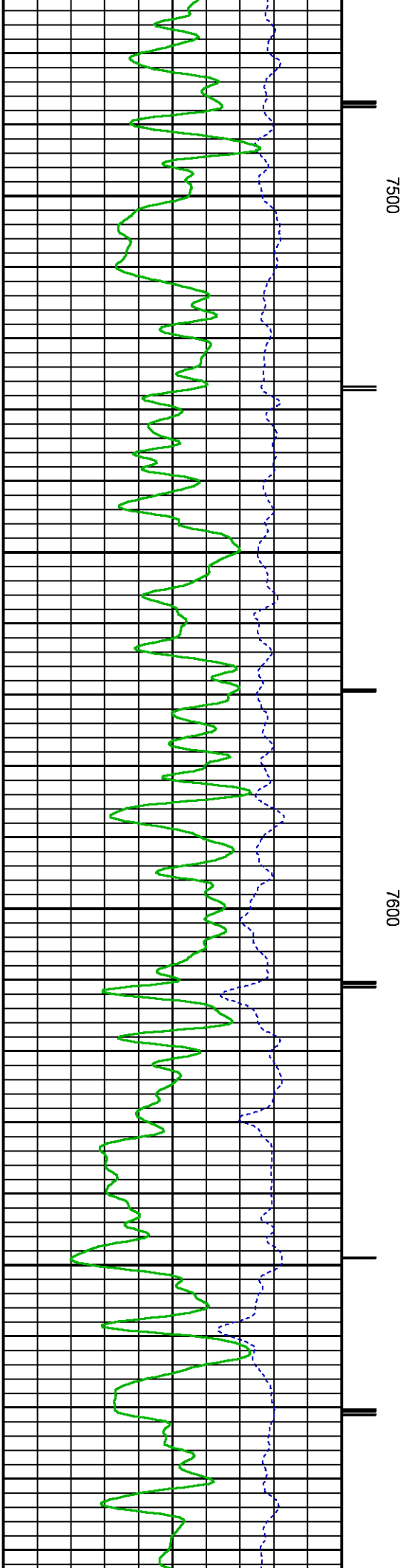
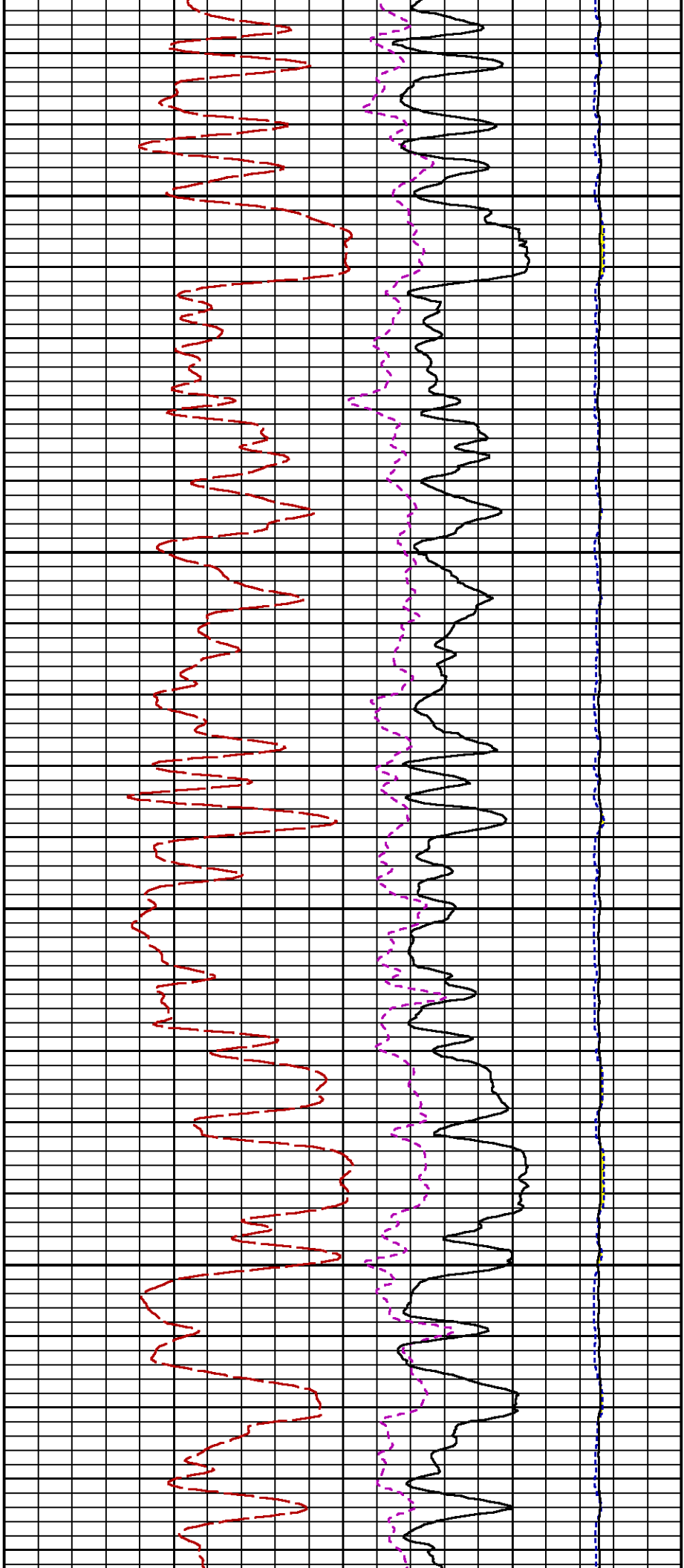




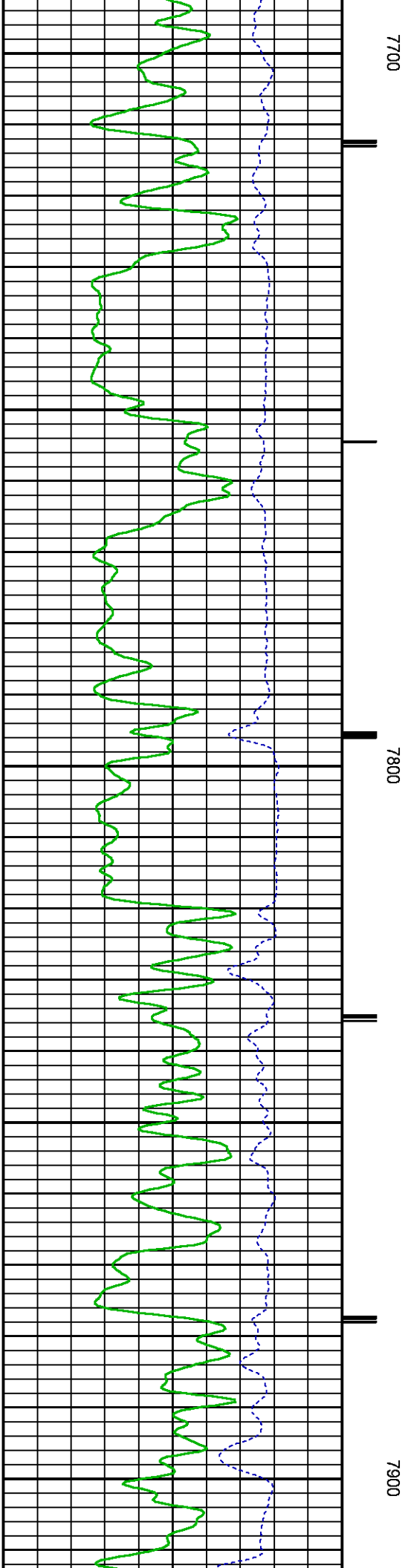
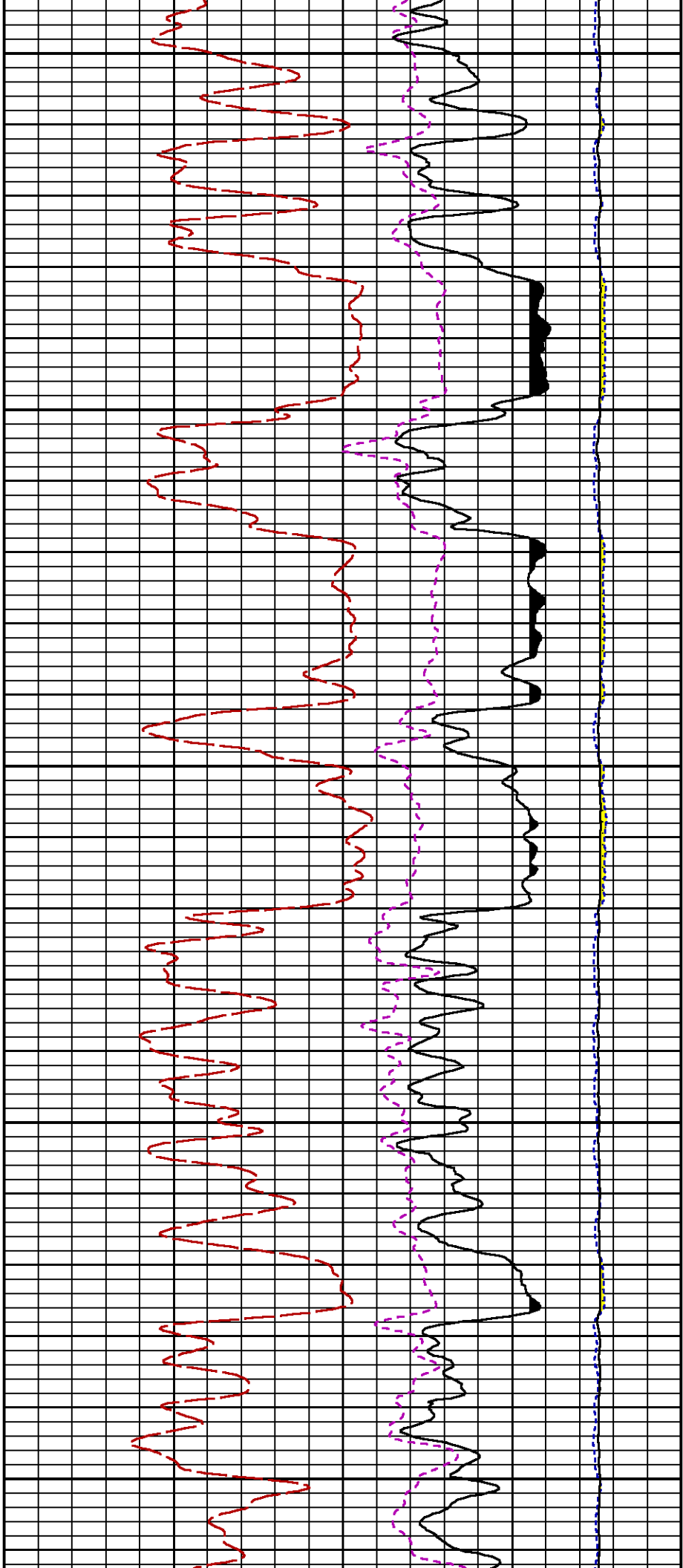


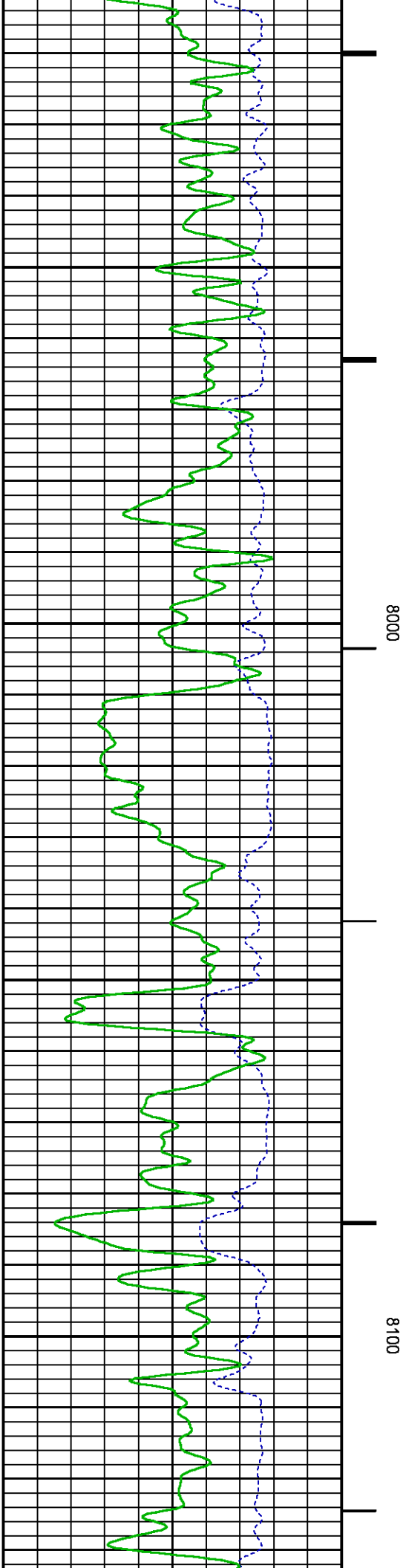
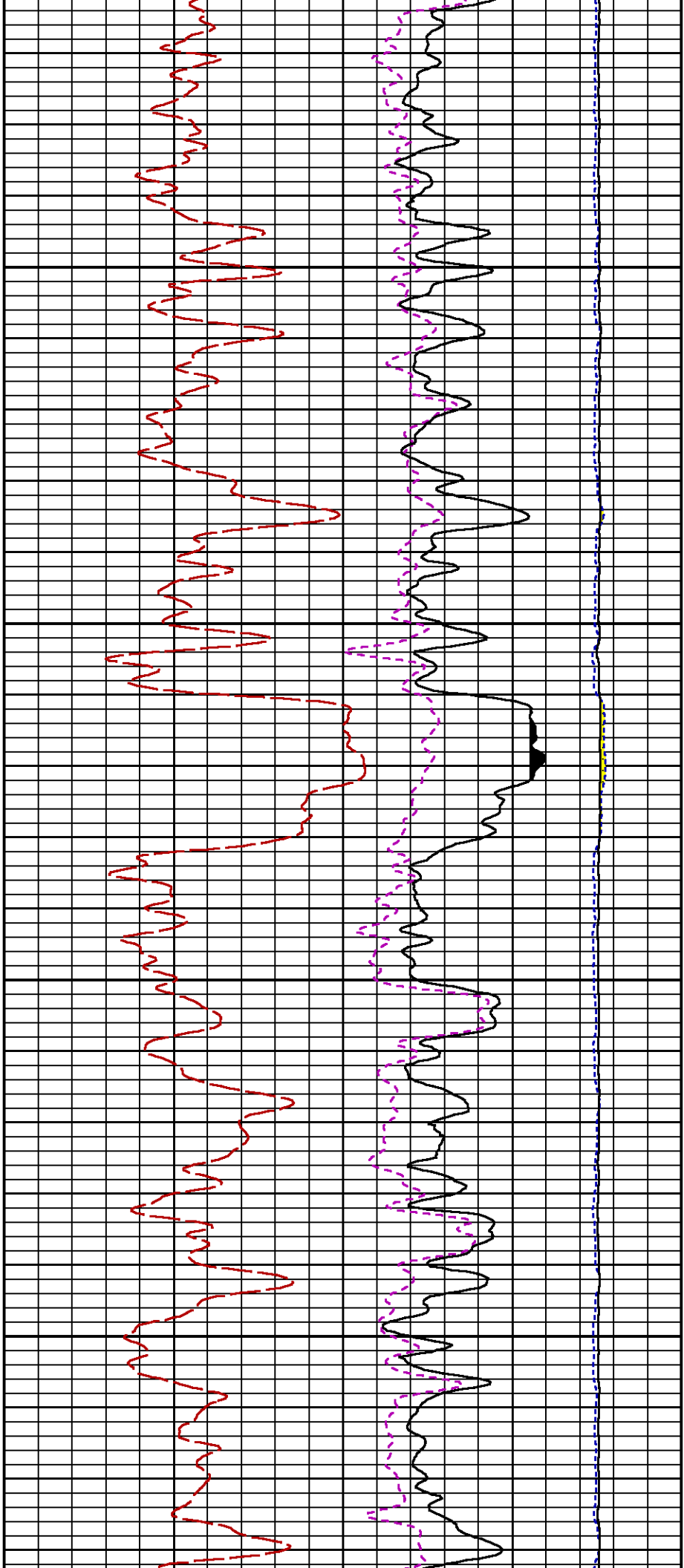












8200

8300

FR GR

FR ISS

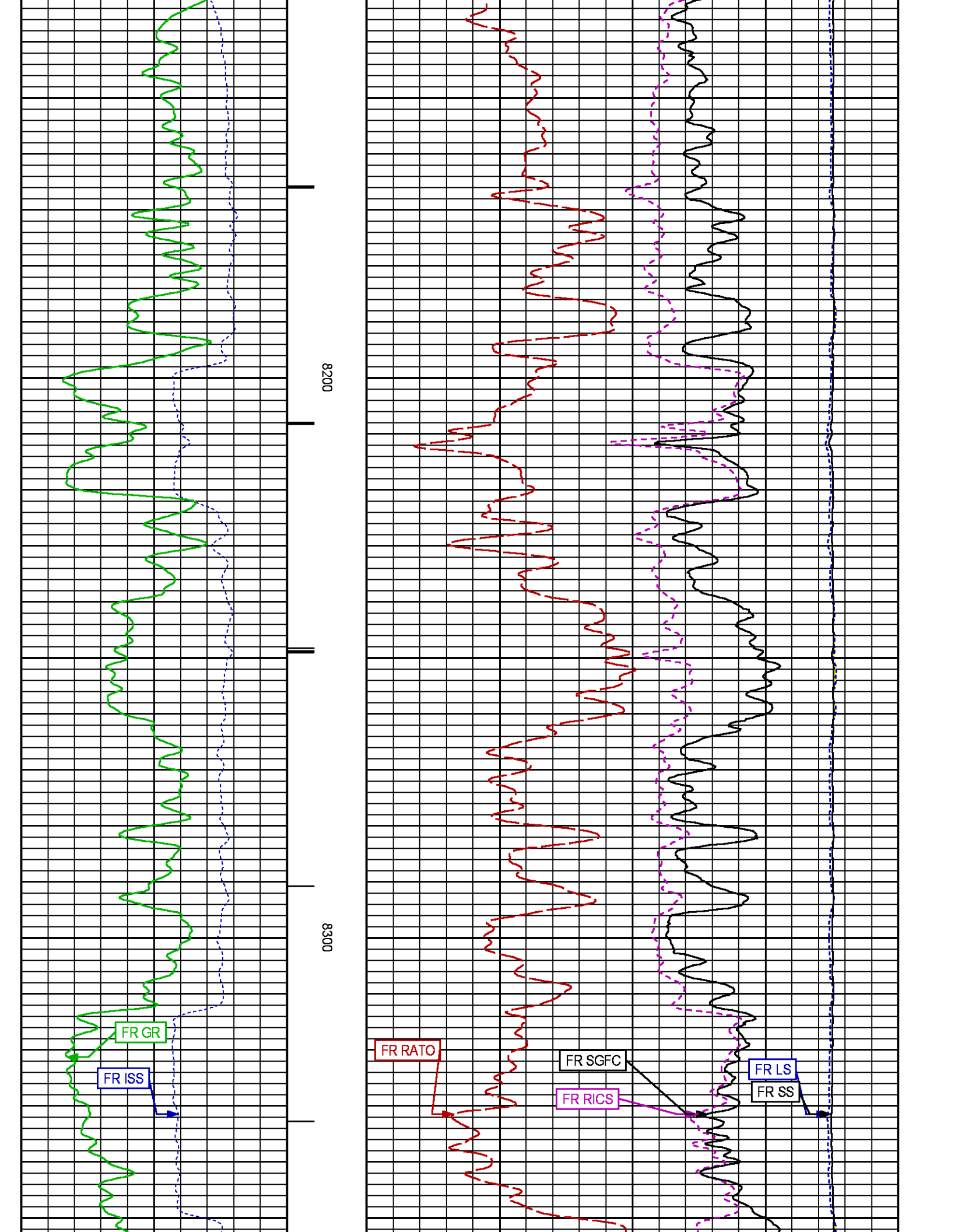
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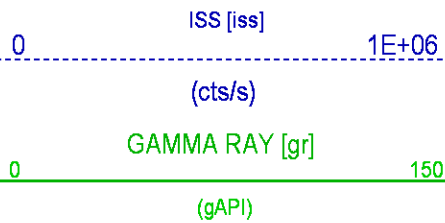
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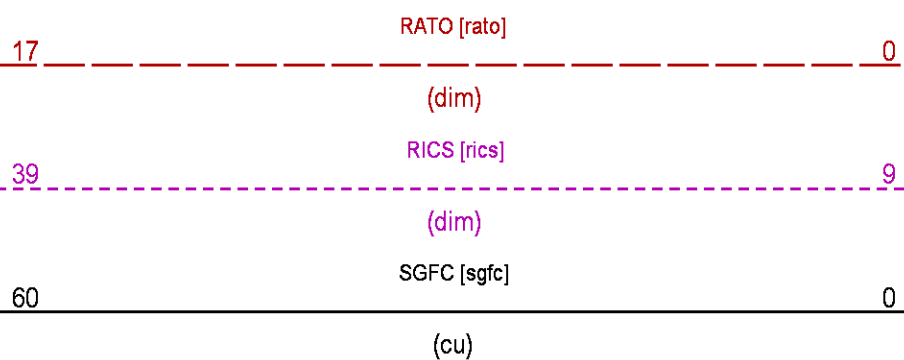
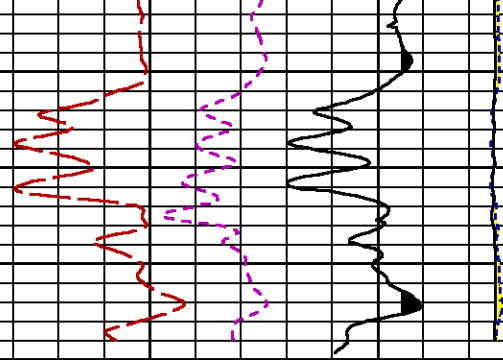


8400

GR BACKUP



FEET  
CCL  
(m)



REPEAT SECTION PNC-3D MODE

Plotted: Fri Oct 30 14:36:50 2015

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/CH100606/n353h01.prm  
LOGGING MODE: DEPTH DIRECTION: UP  
TOP DEPTH: 8182.500 ft BOTTOM DEPTH: 8402.250 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

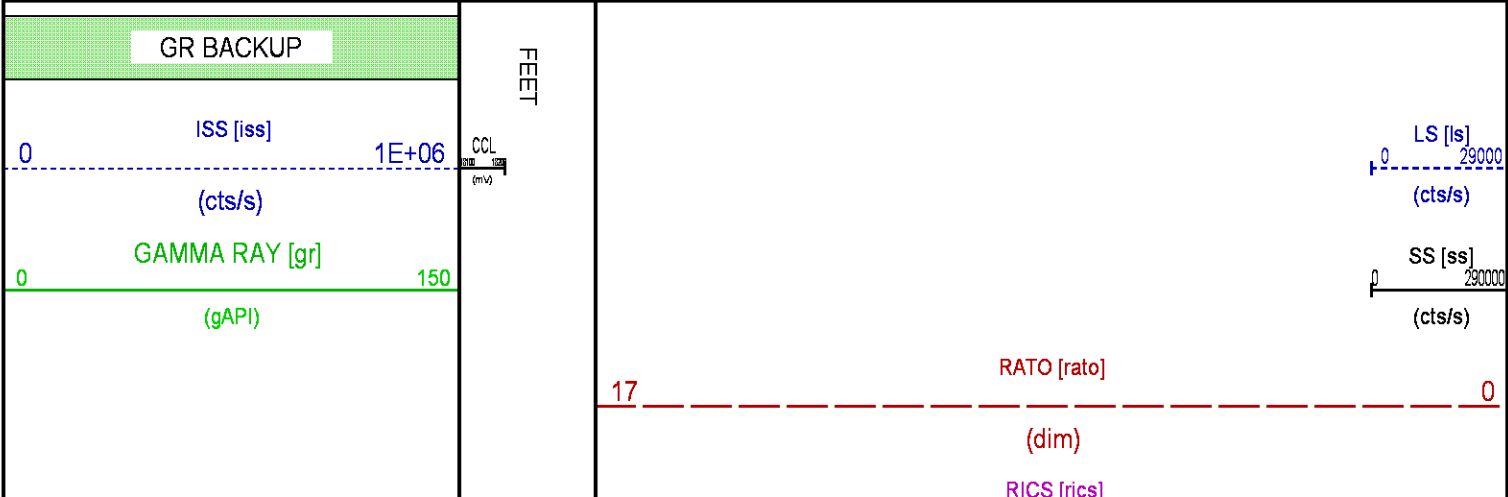
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Oct 30 07:52:16 2015	CASING COLLAR LOCATOR
F1:GR	Oct 30 07:52:16 2015	GAMMA RAY
F1:ISS	Oct 30 07:52:16 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Oct 30 07:52:16 2015	LONG SPACE COUNT RATE
F1:RATO	Oct 30 07:52:16 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Oct 30 07:52:16 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Oct 30 07:52:16 2015	CORRECTED FORMATION SIGMA
F1:SS	Oct 30 07:52:16 2015	SHORT SPACE COUNT RATE

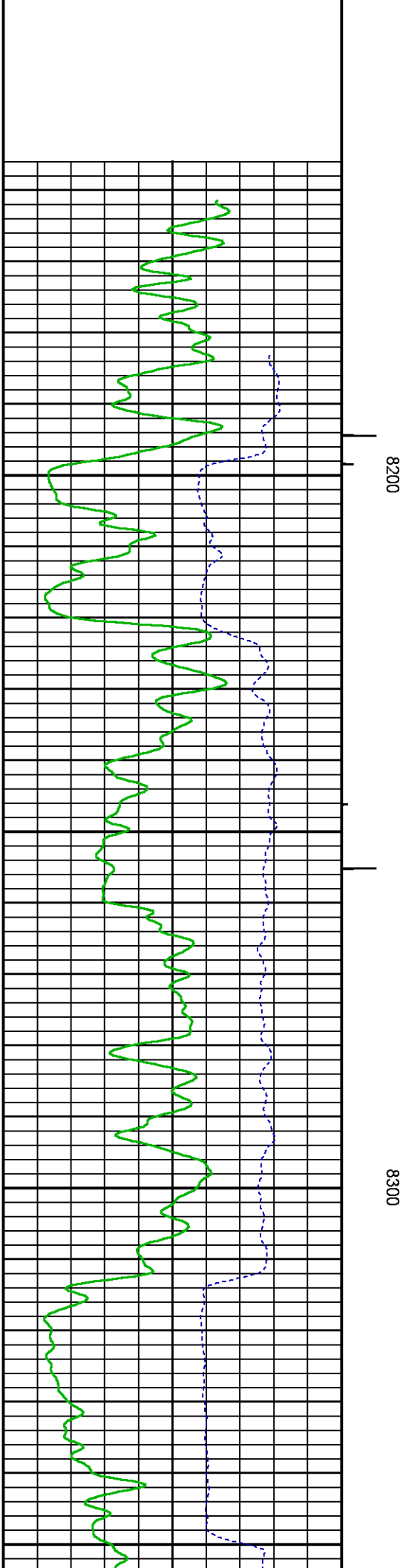
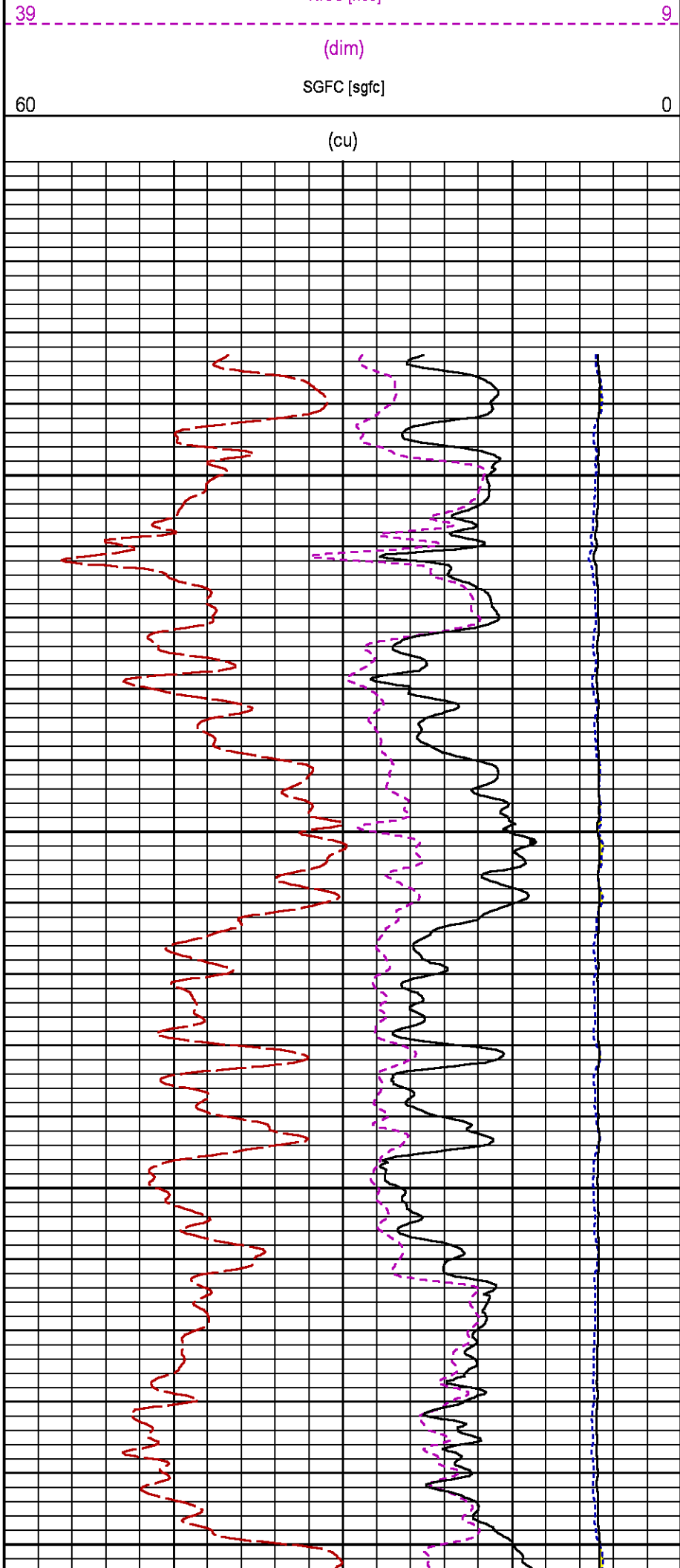
CURVE MEASURE POINT OFFSET

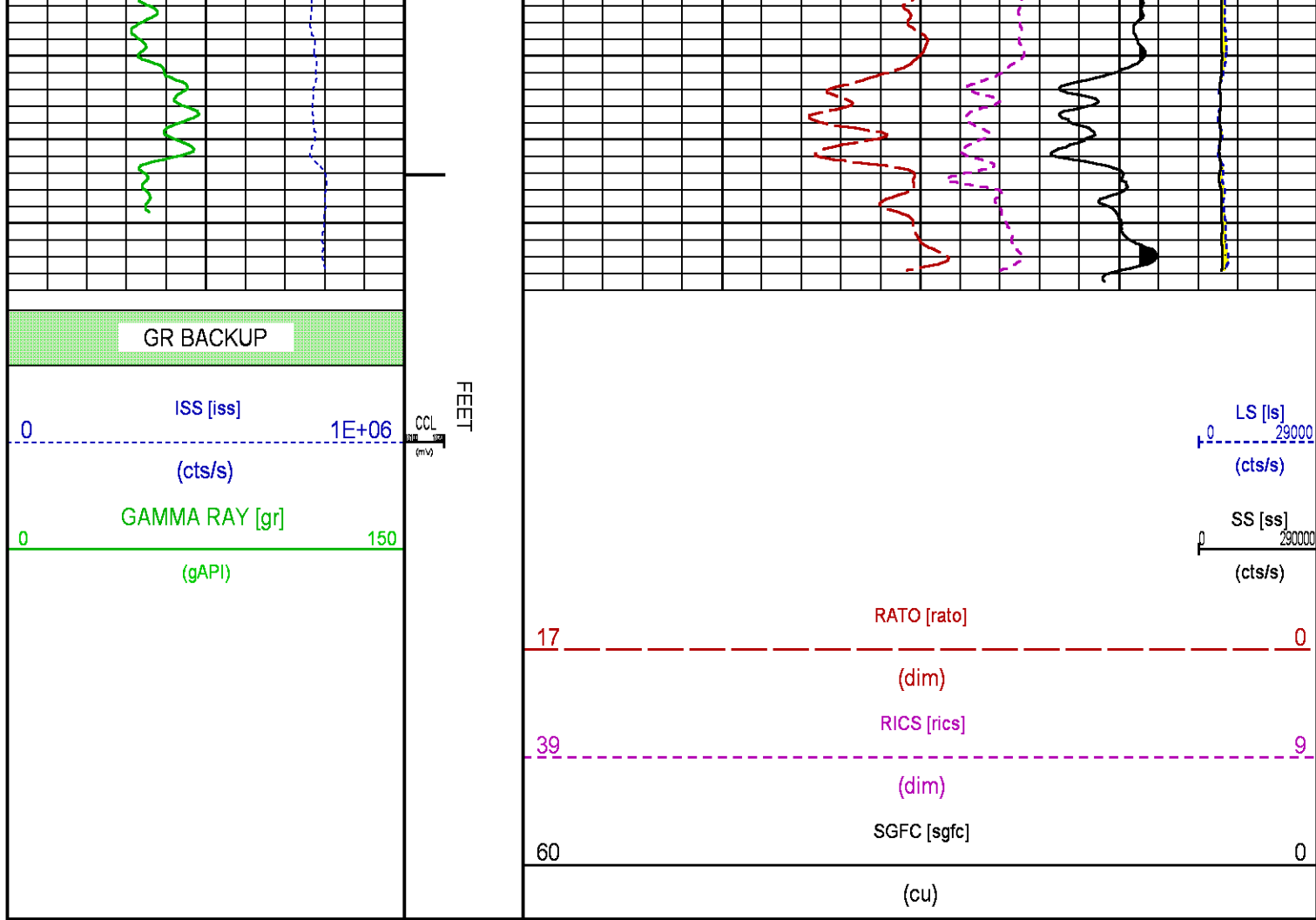
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	26.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	23.00	LS	12.75	RICS	12.75	SS	12.75

Presentation : cas6685:/dat1a/CH100606/RPM\_REPEAT.fvpdf [5"/100' Scale]  
Plot Interval : 8157.25 - 8387 Feet

Data File 1 : F1 : cas6685:/dat1a/CH100606/n353h01\_REPEAT.xtf  
Created On : Oct 30 07:52:16 2015  
Company : LARAMIE ENERGY  
Well : PICEANCE FEDERAL 28-21E  
Field : VEGA  
File Interval : 8156.5 - 8402 Feet  
OCT : n353h







## CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/CH100606/n353h.tp1

### GR PRIMARY CALIBRATION SUMMARY

TOOL #: 8262XA 10485470

DATE/TIME PERFORMED: Fri Oct 23 10:03:02 2015

UNIT #: 3885TC 6685

CALB JIG #: 4702NK VBA-905

	BACKGROUND	CALBRTR ON	GR DIFF	M I I T	BACKGROUND	CALBRTR ON	CALBRTR
	(cts/s)	(cts/s)	(cts/s)		(gAPI)	(gAPI)	(gAPI)
GR	106.22	450.31	344.1	0.523	55.57	235.57	180

### GR PRIMARY VERIFICATION SUMMARY

TOOL #: 8262XA 10485470

DATE/TIME PERFORMED: Fri Oct 23 10:05:04 2015

UNIT #: 3885TC 6685 VERI JIG #: 4702NK VBA-905

	BACKGROUND CALBRTR ON		MULT	BACKGROUND CALBRTR ON		DIFF.
	(cts/s)	(cts/s)		(gAPI)	(gAPI)	(gAPI)
GR	107.36	458.00	0.523	56.16	239.59	183.43
						170.00 190.00

## RPM\_PNC\_3D PRIMARY CALIBRATION SUMMARY

TOOL: 8283PA 10414345

DATE/TIME PERFORMED: Wed Oct 7 10:51:29 2015

UNIT: 3885TC 6685

CALIBRATOR: 2437XB 112674

SOURCE: 8281AA 10160601

HOURS: 8281AA 173

	ISS	Mtr Vlt (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	801603	121	2314	2275	2268	107	7.0	0.9797

Interpolated	1300000	142	2301	2270	2264
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	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	801603	7188	1125	148	25.95	0.15	24.16	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	801603	167903	25988	88575	31568	8240	53636	13173
Fit Quality %		0.898	1.042	0.778	0.769	0.808	0.724	0.842

	ISS	RBOR	RIN ISS/LS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	801603	1.43	4.77	30.86	14.95	10.75	3.83	4.07
		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 %		0.017	0.117	0.240	0.156	0.045	0.054	0.102
Reduced	1408581	1.43	4.78	30.98	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

## TPSETEMP PRIMARY CALIBRATION SUMMARY

TOOL #: 8255XA 176973

DATE/TIME PERFORMED: Thu Jun 19 09:53:23 2014

UNIT #: 3880TA HL6670

T(0) T(1) T(2) T(3)



# INSTRUMENT CONFIGURATION

Source File: /dat1a/CH100606/n353h-joe-tdg

A3 CABLEHEADPCM POWER SUPPLY

Diameter : 1.70"  
 Length : 3.86'  
 Weight : 18 lbs  
 Series : 8250EA  
 Mnemonic : PCM

TELEMETRY / CCL

Diameter : 1.70"  
 Length : 4.46'  
 Weight : 20 lbs  
 Series : 8248ED  
 Mnemonic : PCM  
 Measure Point: 1.00': CCL MP

GAMMA RAY

Diameter : 1.70"  
 Length : 3.02'  
 Weight : 15 lbs  
 Series : 8262XA  
 Mnemonic : GR  
 Measure Point: 0.89': GR MP

RPM ELECTRONICS

Diameter : 1.70"  
 Length : 4.48'  
 Weight : 16 lbs  
 Series : 8281EA  
 Mnemonic : RPM

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

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

BULL PLUG 1 11/16

TOTAL LENGTH: 34.08'  
 TOTAL WEIGHT: 144 lbs  
 MAX DIAMETER: 0'1.70"

34.08'

CCL MP 26.03'

GR MP 22.90'

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

TEMP MP 1.65'

PRES MP

0.00'



COMPANY  
WELL

LARAMIE ENERGY  
RICEANCE FEDERAL 28 21E

FILE NO:

01102000



WELL	PICEANCE FEDERAL 28-21E		CH100606
FIELD	VEGA		API NO:
COUNTY	MESA	STATE CO	05077102500000
LOCATION:  SHL: 1981' FSL 2484' FWL BHL: 113' FSL 881' FEL		ELEVATIONS:  KB 7701 FT DF GL 7679 FT	SEC 28 T9S R93W PAD 28-10 PATTERSON 306
SEC 28	TWP 9S	RGE 93W	DATE 30-Oct-2015