



FILE NO:

COMPANY

LARAMIE ENERGY LLC

WELL

BRUTON 30-06E

FIELD

VEGA

API NO:  
05077104510000

COUNTY

MESA

STATE COLORADO

Version

LOCATION:

SHL 39.252644444 N; 107.814275000 W  
BHL 39.252169000 N; 107.806920000 W

OTHER SERVICES

SEC 30 TWP 9S RGE 93W

RAL

PERMANENT DATUM

GL

ELEVATION

7512 FT

LOG MEASURED FROM

KB

30 FT

ABOVE P.D.

DRILL. MEAS. FROM

KB

ELEVATIONS:

KB 7542 FT

DF 7541 FT

GL 7512 FT

DATE

20-Nov-2017

RUN

TRIP

1

2

SERVICE ORDER

US130061

DEPTH DRILLER

8070 FT

DEPTH LOGGER

7998 FT

BOTTOM LOGGED INTERVAL

7998 FT

TOP LOGGED INTERVAL

2500 FT

TIME STARTED

11:00

TIME FINISHED

18:30

OPERATOR RIG TIME

7.5 HRS

TYPE OF FLUID IN HOLE

FRESHWATER

FLUID DENSITY

NA

FLUID SALINITY

NA

FLUID LEVEL

55 FT

LOGGED CEMENT TOP

1214 FT

WELLHEAD PRESSURE

0 PSI

MAXIMUM HOLE DEVIATION

NA

NOMINAL LOGGING SPEED

15 FMIN

MAX. RECORDED TEMP.

230 DEGF

REFERENCE LOG

NA

REFERENCE LOG DATE

NA

EQUIP. NO. LOCATION

6670

WOODWARD

RECORDED BY

C.COFFELT

WITNESSED BY

N/A

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.

## REMARKS

RUN 1 TRIP 2: \*2 OPERATIONS IN WELLBORE\*

\*\*OPERATION 2: RPM/GR/CCL RUN IN COMBINATION\*\*

SJ: 7245' - 7267'

SJ: 6120' - 6142'

CREW: M. MENTZER, C. GOLBY

## EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	2	TELEMETRY	8250 EA/ 8248 ED	10185091/1032348	FREE
1	2	GR	8262 XA	10192900	FREE
1	2	RPM ELE	8281 EA	1088726	FREE
1	2	RPM	8283 PA/8281 FA	10184883/10315572	FREE

# RPM MAIN PASS GRAND SANDS

ECLIPS 7.0w PC-ECLIPS General Release Rel 7.0w Fri Jun 09 11:02:06 Central Daylight Time 2017  
Patches: 2

Plotted: Tue Nov 21 11:44:08 2017

## PARAMETER AND FILTER SUMMARY REPORT

FILE: C:\dat1a\LARAMIE\_BRUTON\_30\_05E\p353h03.prm  
LOGGING MODE: DEPTH DIRECTION: UP  
TOP DEPTH: 2495.750 ft BOTTOM DEPTH: 3175.750 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	8.50	in	" "
	LARGEST CASING OD	7.00	in	" "
	MATRIX	SANDSTONE		" "

## CURVE DESCRIPTION REPORT

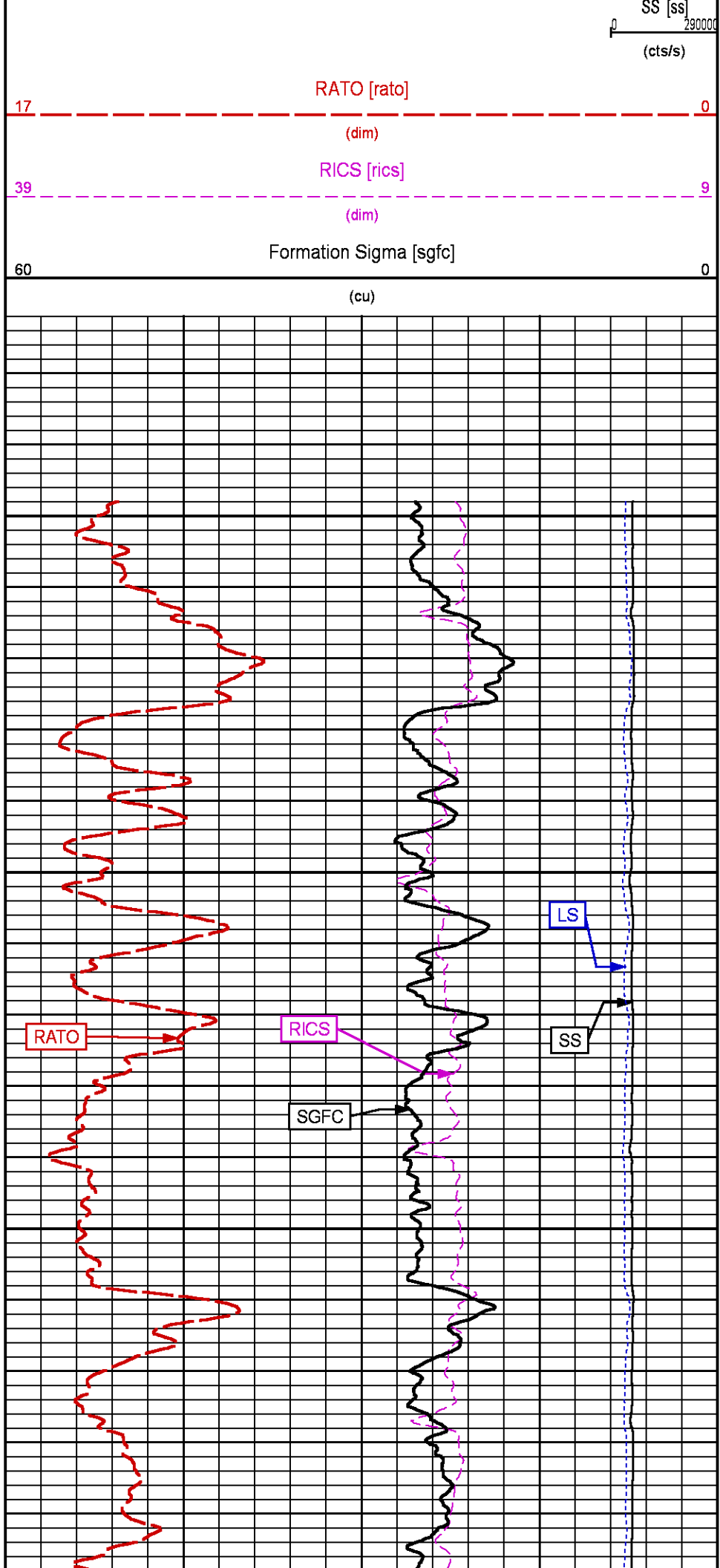
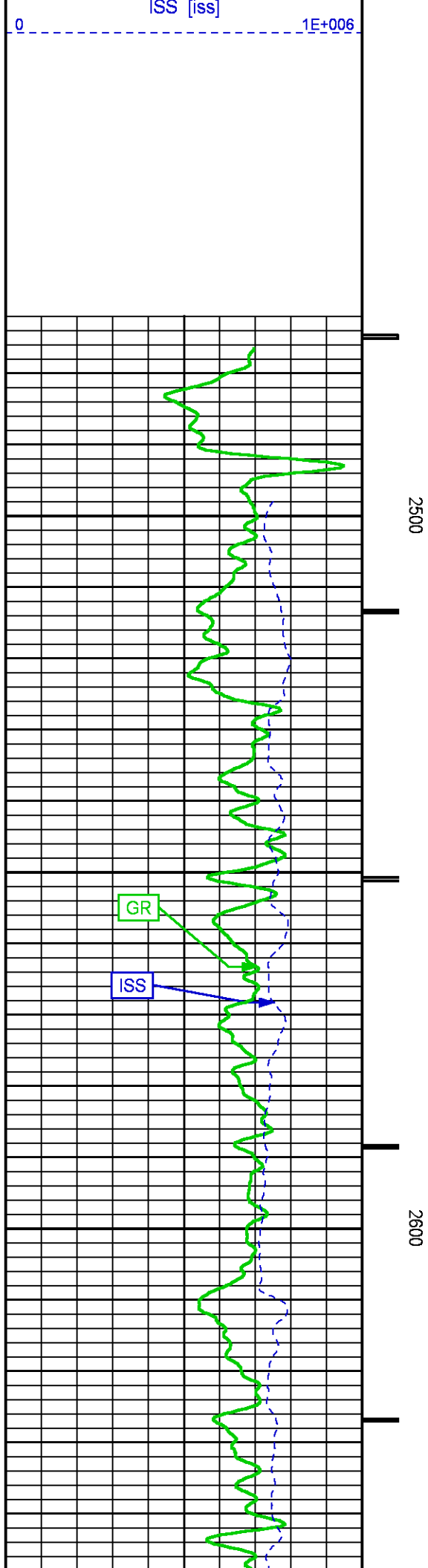
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	N/A	BOREHOLE AND DIFFUSION CORRECTED SIGMA
F1:SS	N/A	SHORT SPACE COUNT RATE

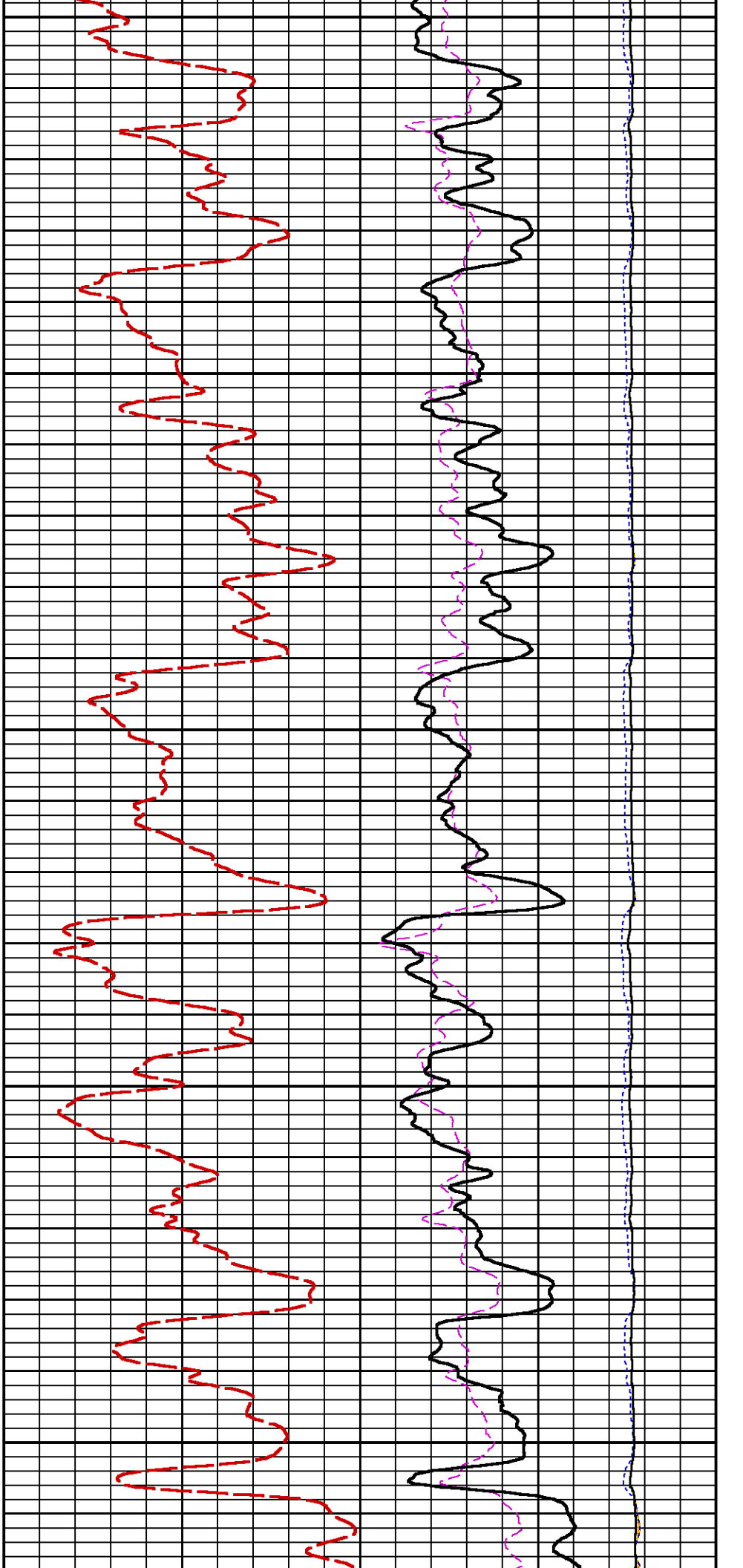
## CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-22.50	ISS	-9.50	RATO	-9.50	SGFC	-9.50
GR	-19.50	LS	-9.50	RICS	-9.50	SS	-9.50

**Presentation** : BHIH2LZZF2:C:\dat1a\LARAMIE\_BRUTON\_30\_05E\LARAMIE\_RPM\_PNC3D+RPM\_MN\_GS\_05E.fvp.pdf [5"/100' Scale]  
**Plot Interval** : 2472.25 - 3168 Feet  
**Data File 1** : F1 : BHIH2LZZF2:C:\dat1a\LARAMIE\_BRUTON\_30\_05E\RPM\_MN\_GS\_05E.xtf  
**Created On** : N/A  
**Company** : LARAMIE ENERGY LLC  
**Well** : BRUTON 30-05E  
**Field** : VEGA  
**File Interval** : 2471.5 - 3175.75 Feet  
**OCT** : p353h

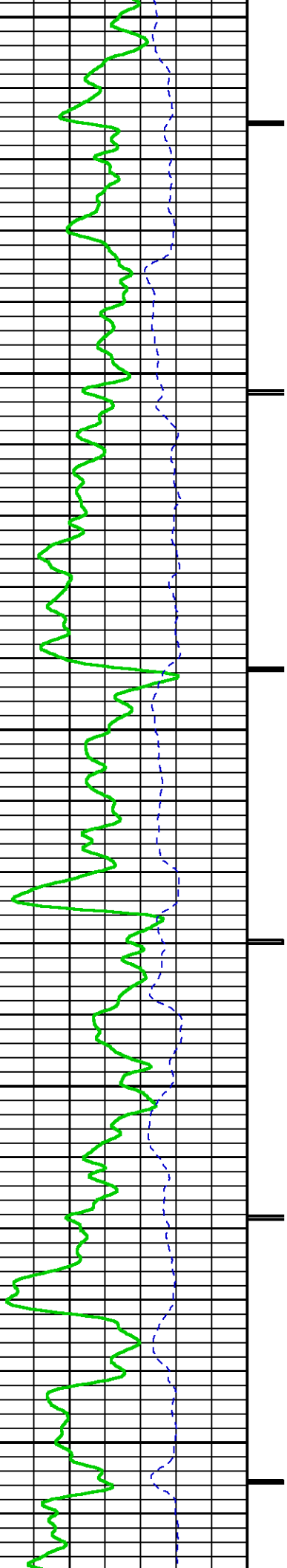


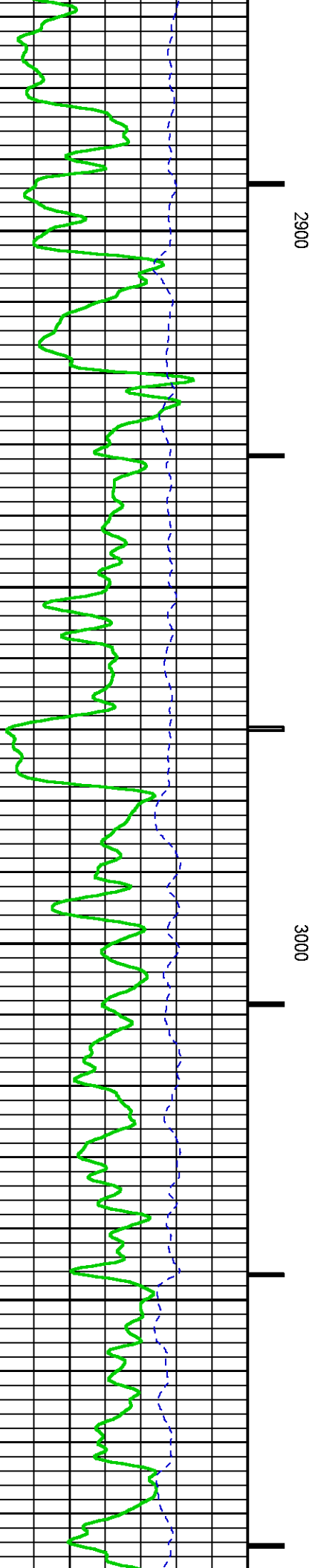
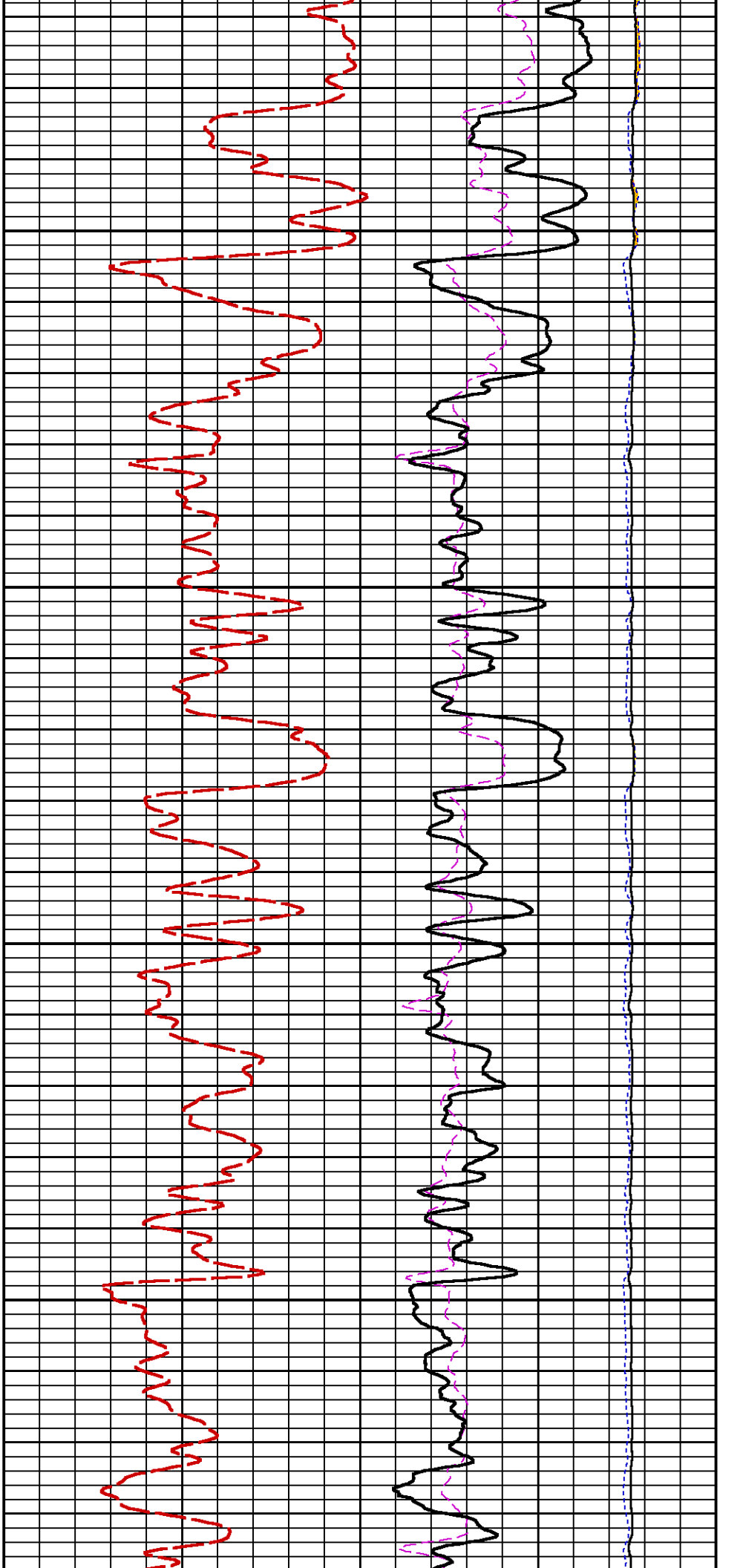


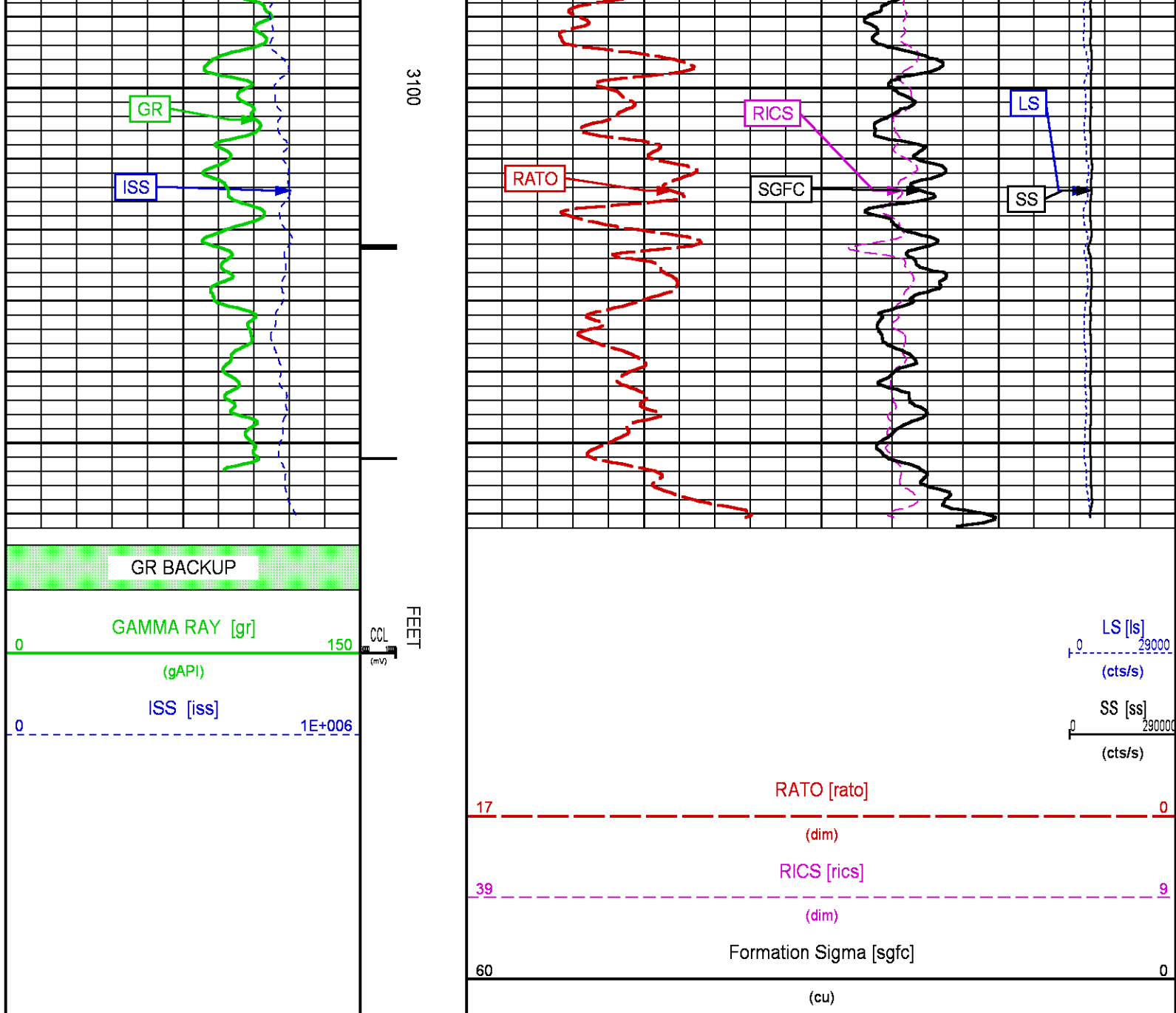


2700

2800







## MAIN LOG WILLIAMS FORK

ECLIPS 7.0w PC-ECLIPS General Release Rel 7.0w Fri Jun 09 11:02:06 Central Daylight Time 2017  
Patches: 2

Plotted: Mon Nov 20 17:51:38 2017

### PARAMETER AND FILTER SUMMARY REPORT

FILE: C:\dat1a\LARAMIE\_BRUTON\_30\_05Eip353h02.prm  
LOGGING MODE: DEPTH DIRECTION: UP  
TOP DEPTH: 4346.000 ft BOTTOM DEPTH: 7995.250 ft

### SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
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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	8.50	in	"	"
	LARGEST CASING OD	7.00	in	"	"
	MATRIX	SANDSTONE		"	"

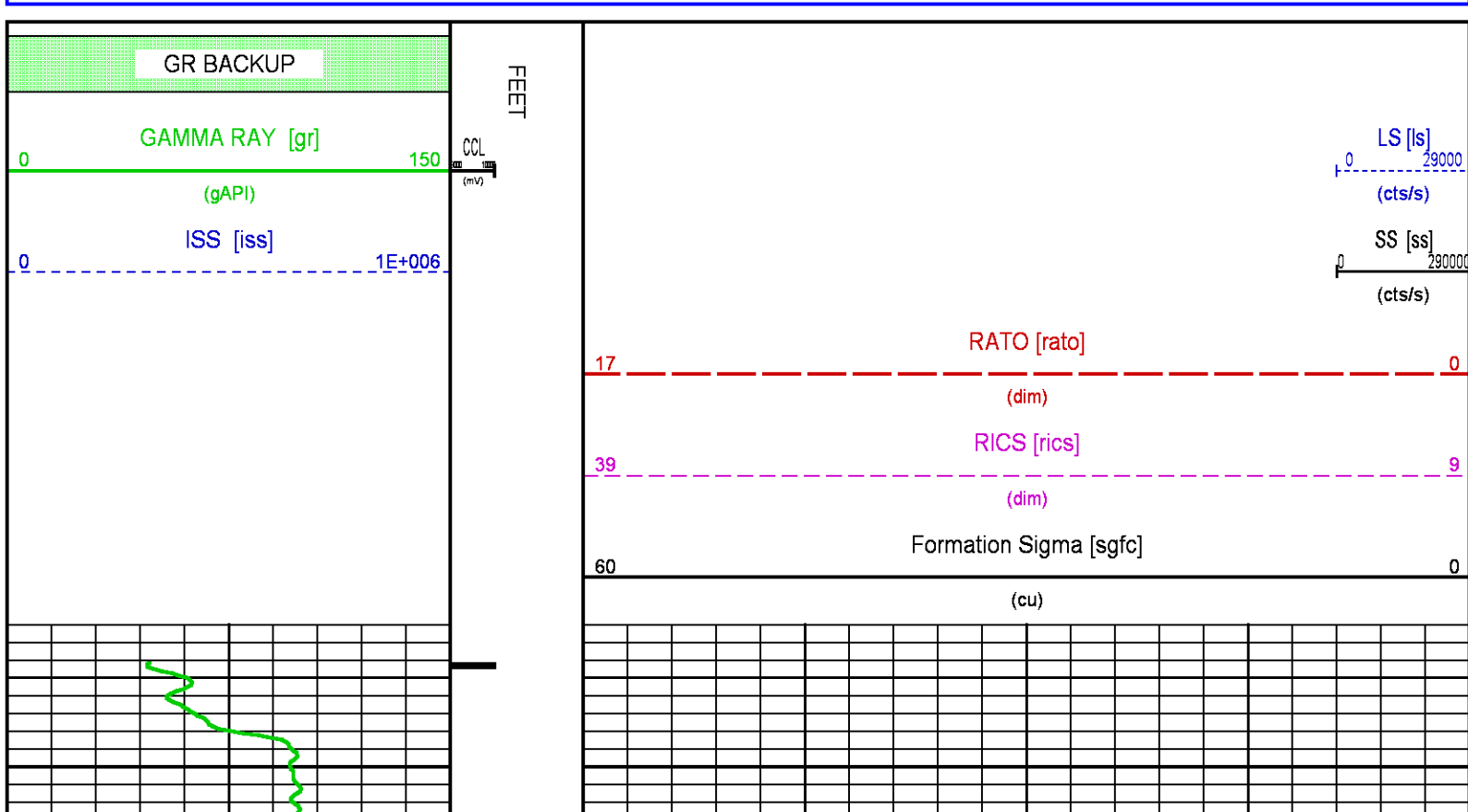
## CURVE DESCRIPTION REPORT

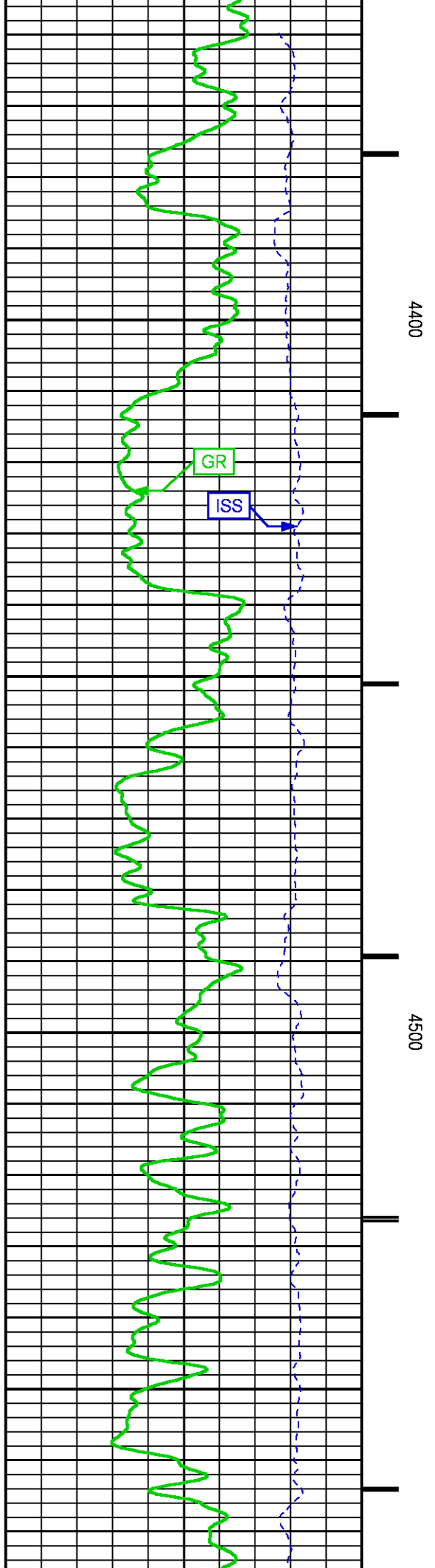
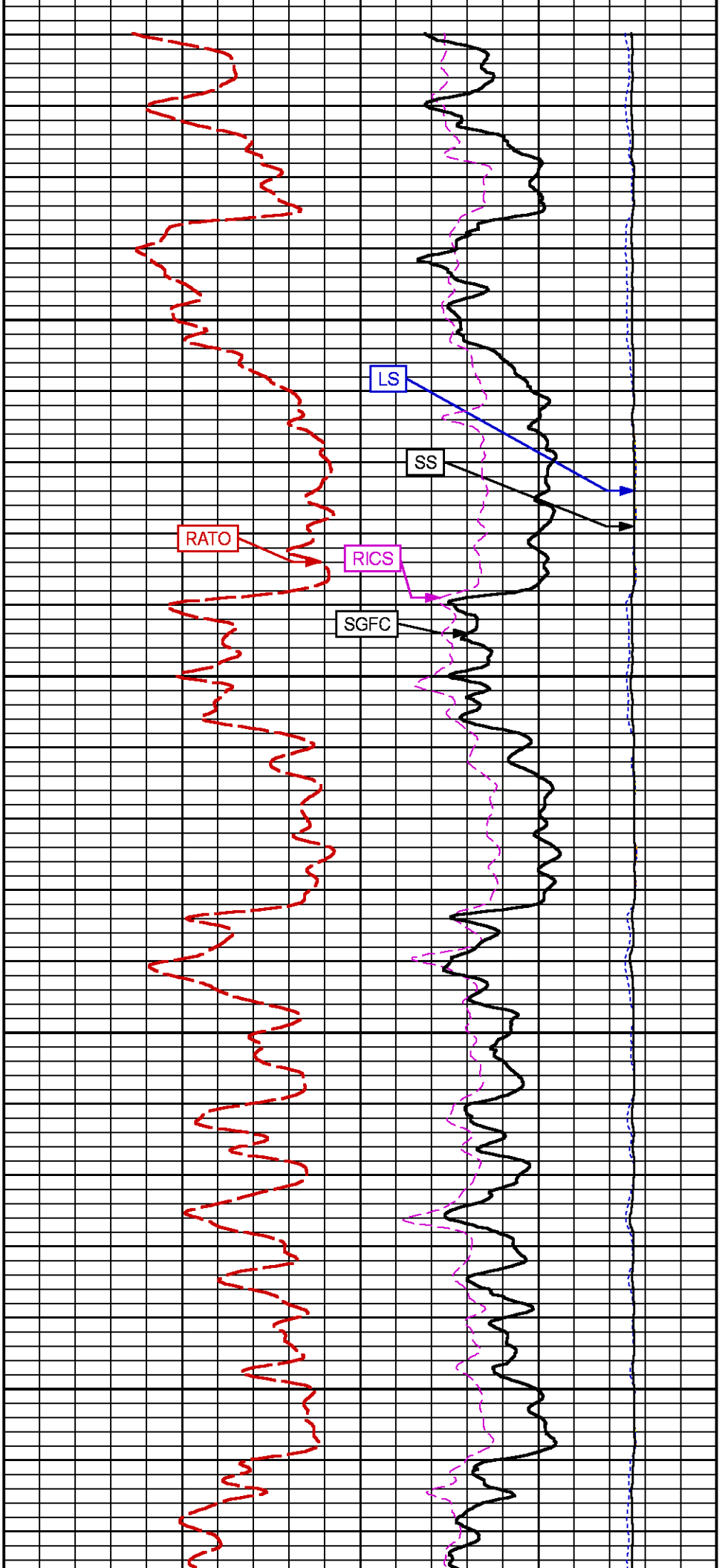
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	N/A	BOREHOLE AND DIFFUSION CORRECTED SIGMA
F1:SS	N/A	SHORT SPACE COUNT RATE

## CURVE MEASURE POINT OFFSET

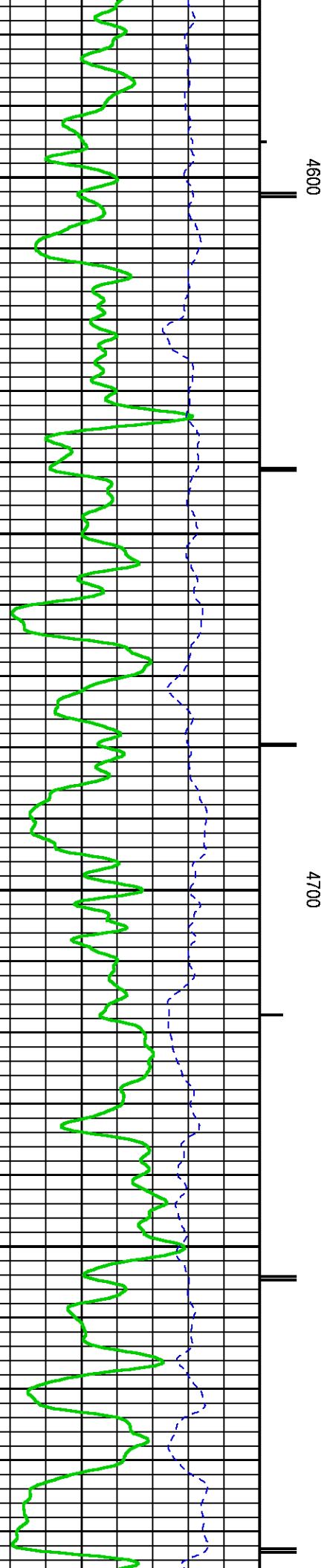
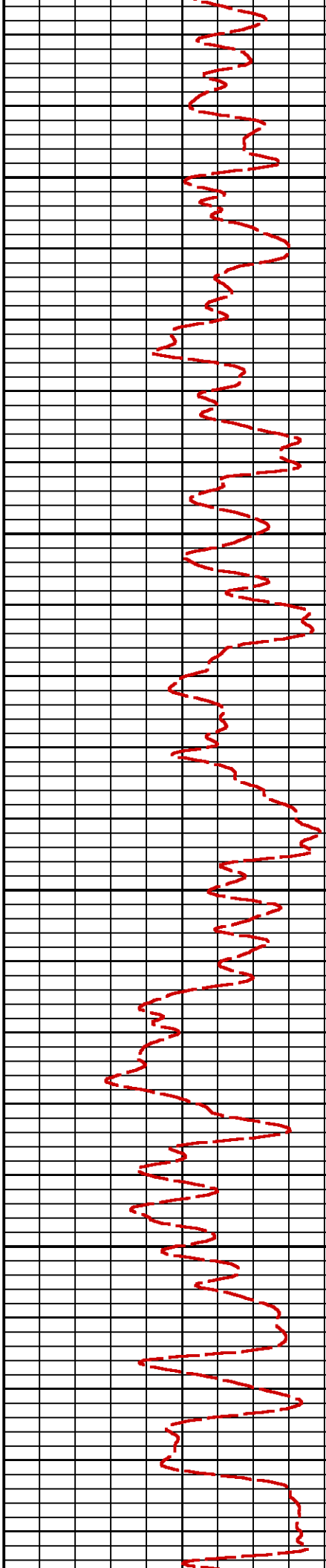
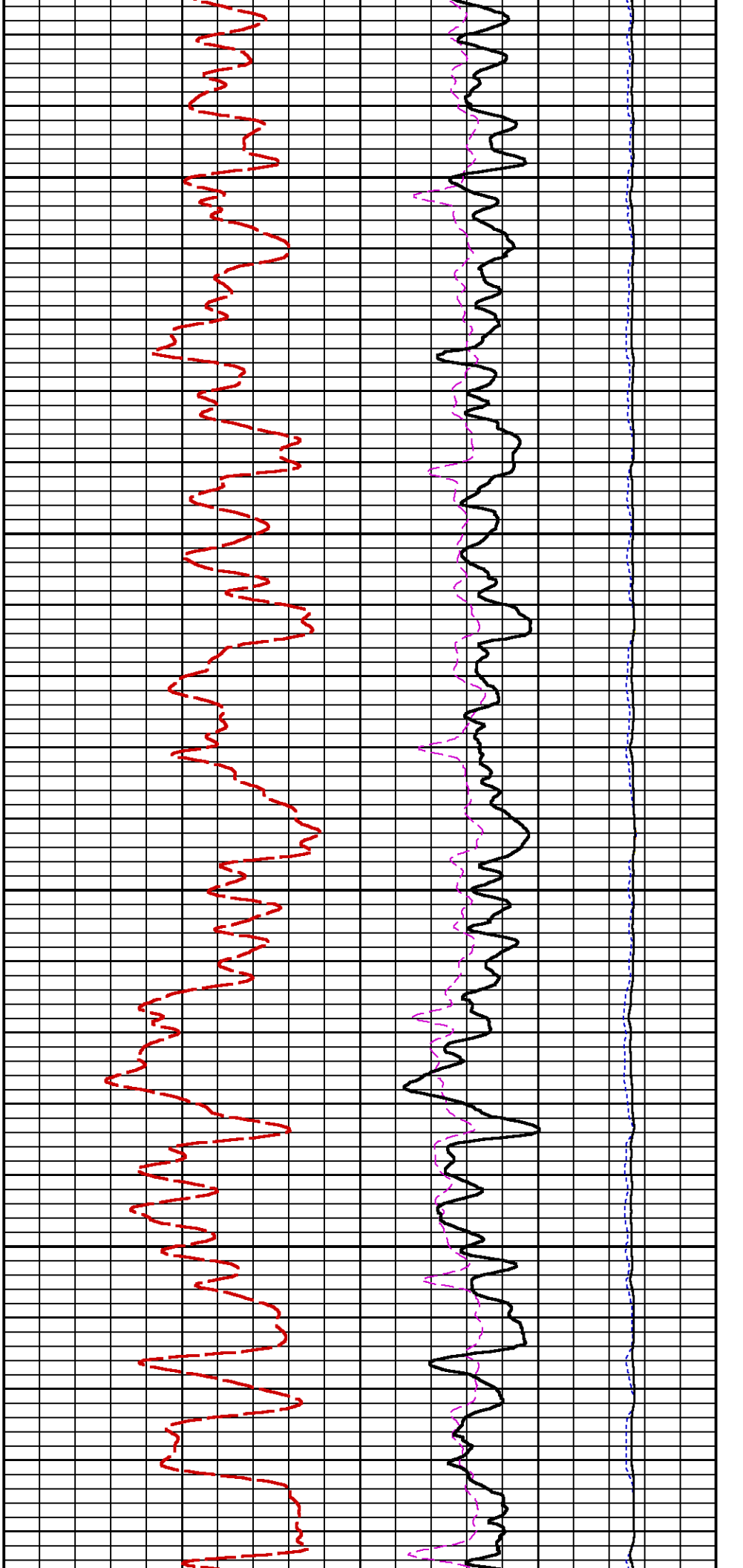
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-22.50	ISS	-9.50	RATO	-9.50	SGFC	-9.50
GR	-19.50	LS	-9.50	RICS	-9.50	SS	-9.50

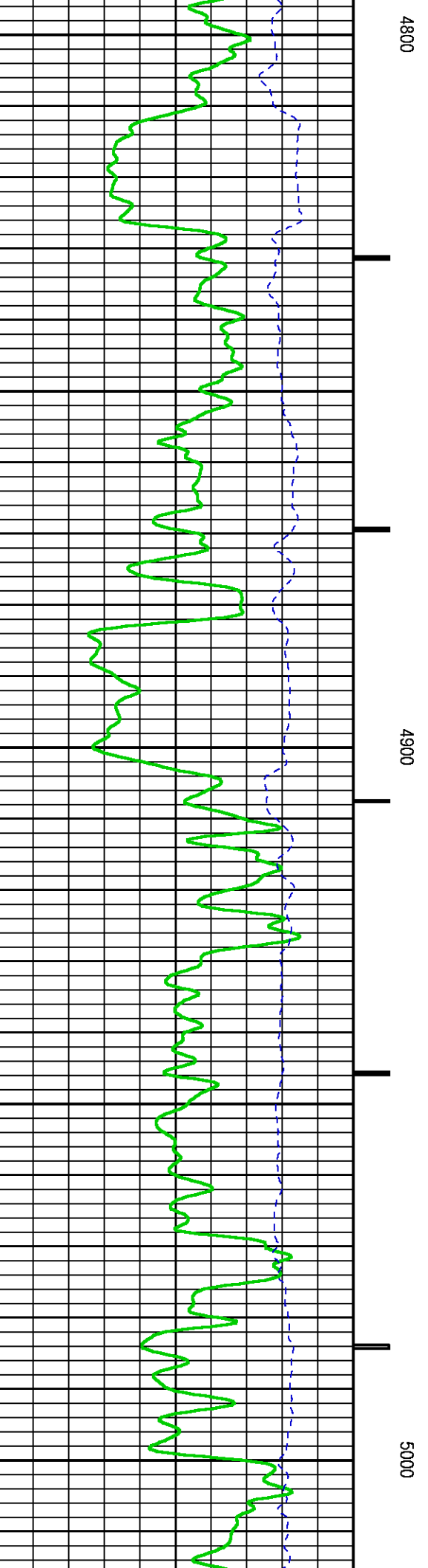
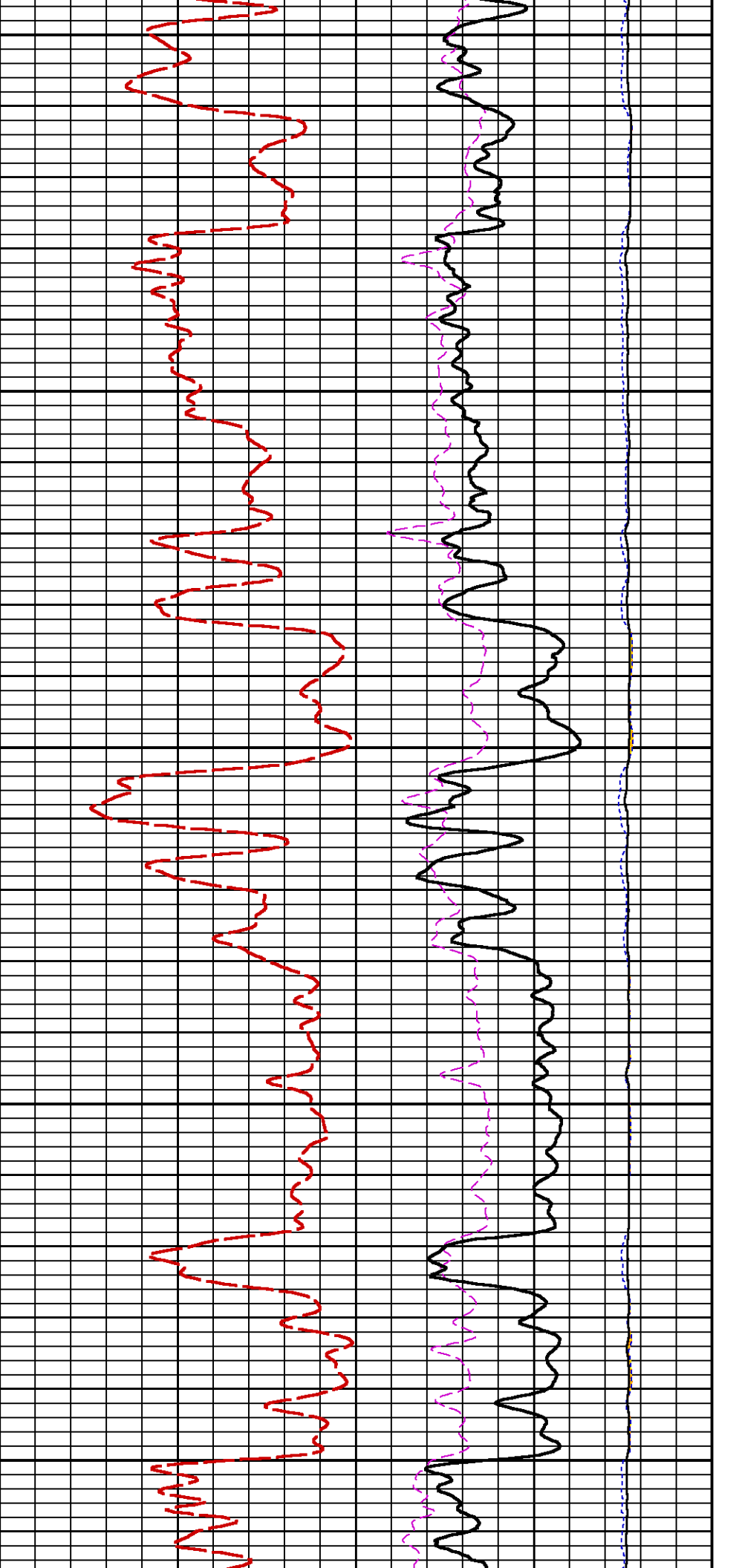
Presentation	: BHIH2LZZF2:C:\dat1a\LARAMIE_BRUTON_30_05E\ LARAMIE_RPM_PNC3D+RPM_MN_WF_05E.fvpdf [5"/100' Scale]
Plot Interval	: 4334 - 7999 Feet
Data File 1	: F1 : BHIH2LZZF2:C:\dat1a\LARAMIE_BRUTON_30_05E\RPM_MN_WF_05E.xtf
Created On	: N/A
Company	: LARAMIE ENERGY LLC
Well	: BRUTON 30-05E
Field	: VEGA
File Interval	: 4333.25 - 8004.5 Feet
OCT	: p353h

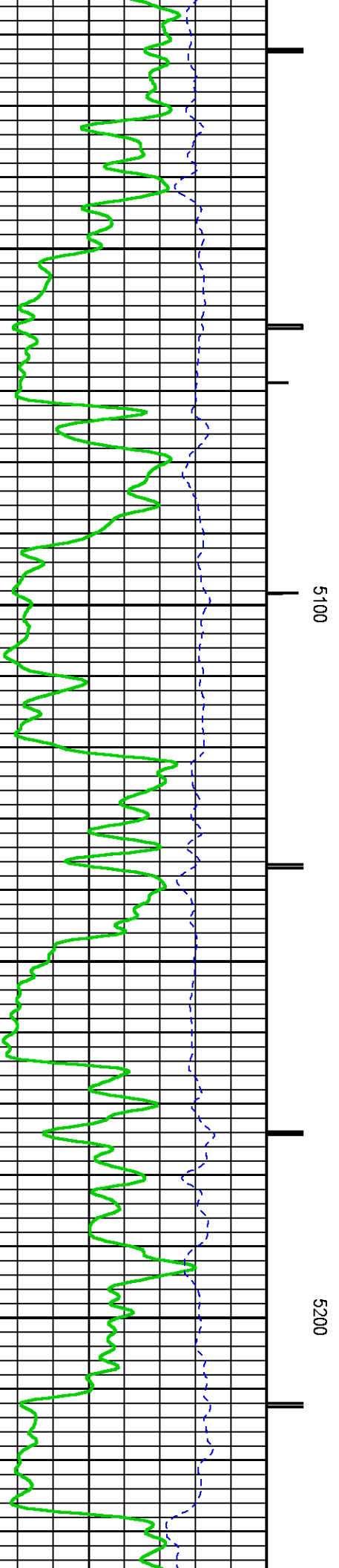
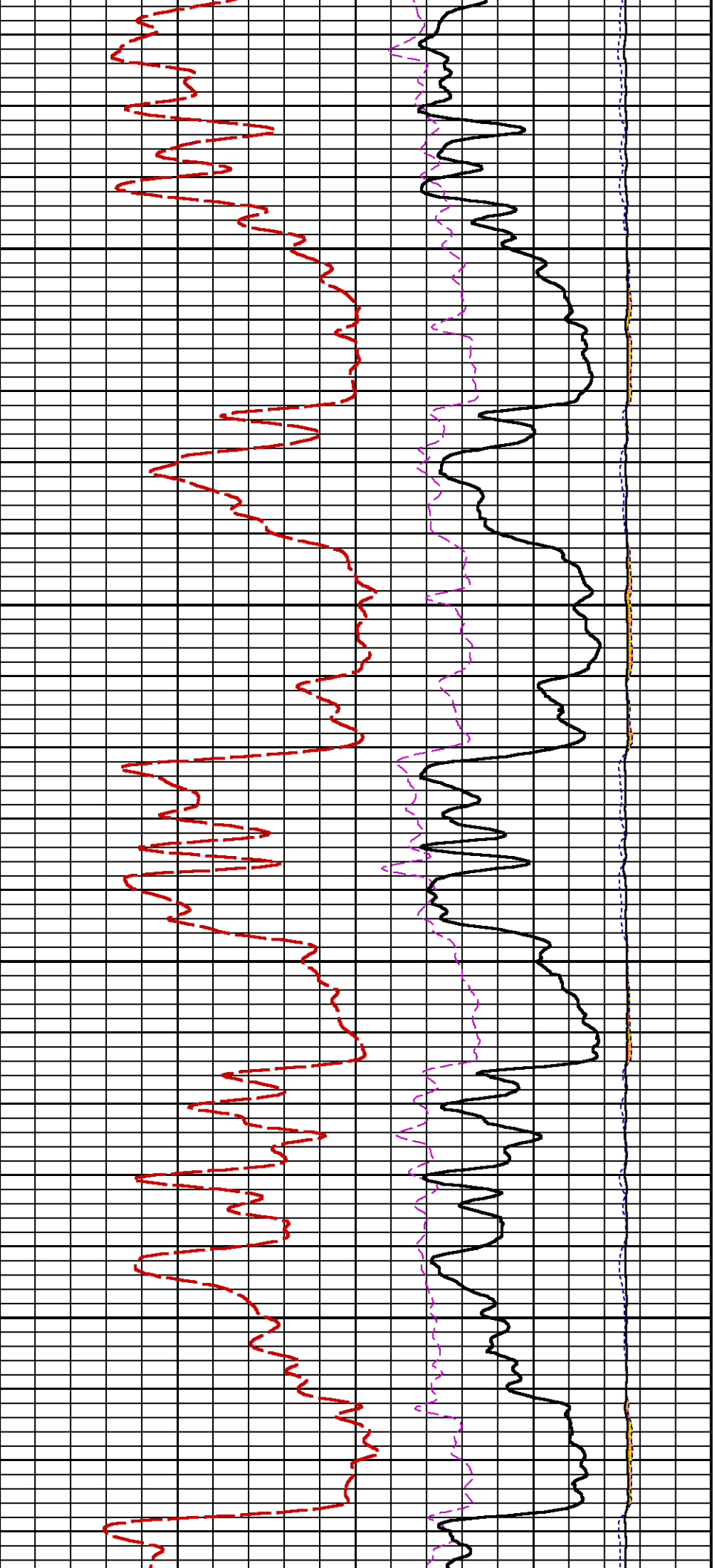


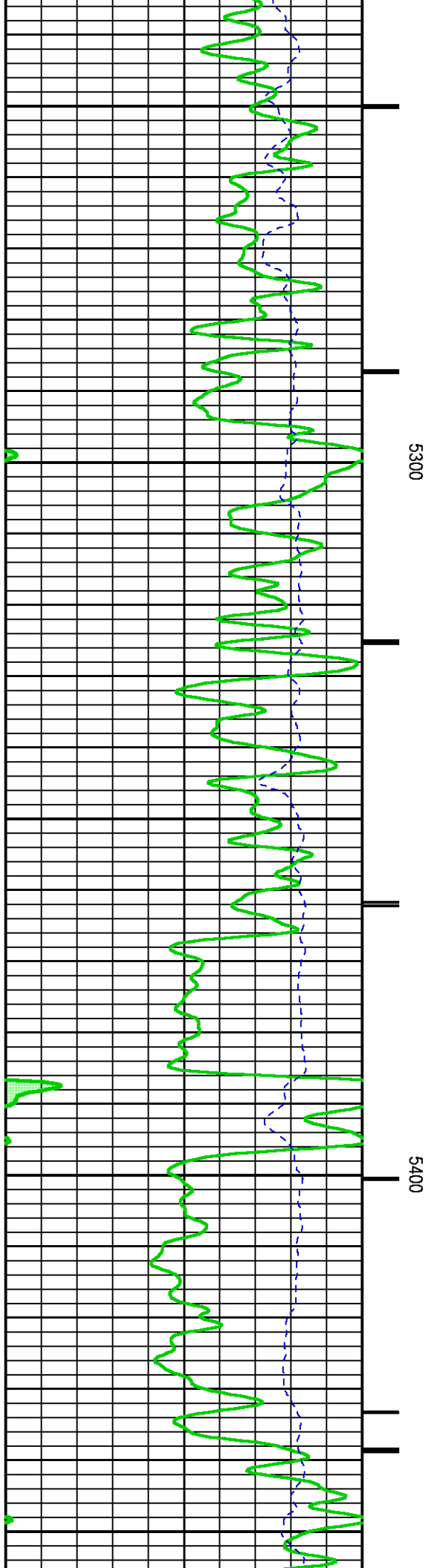
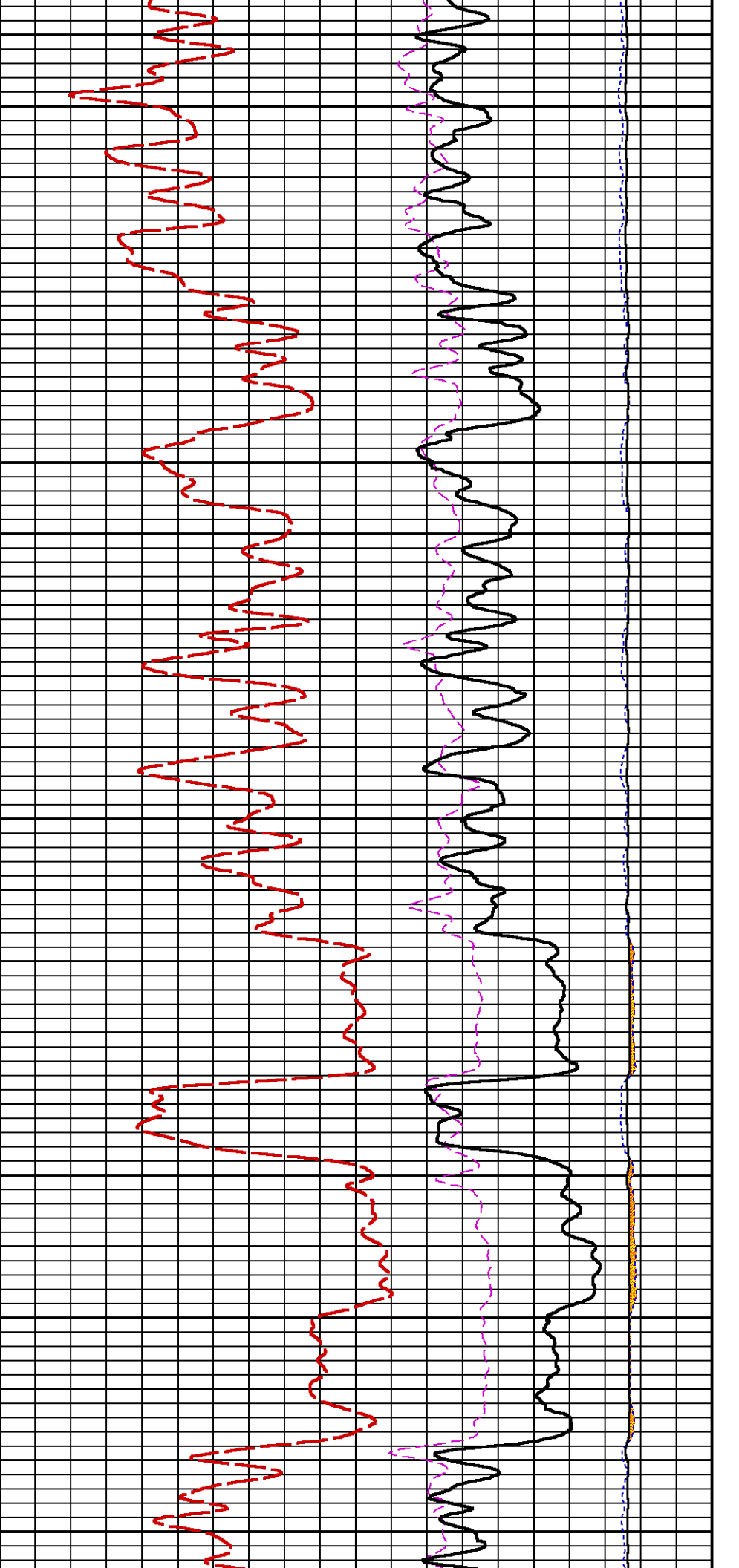


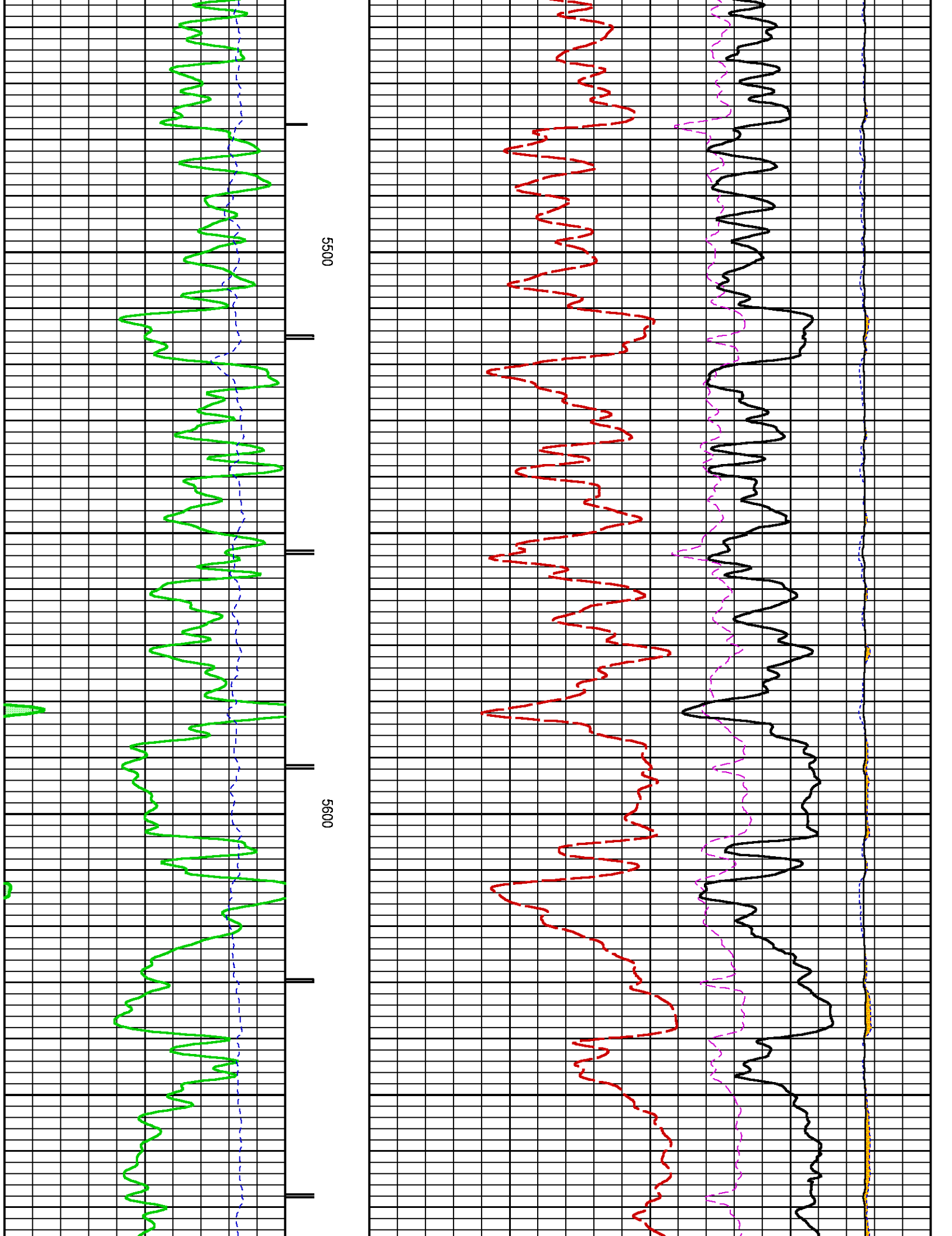


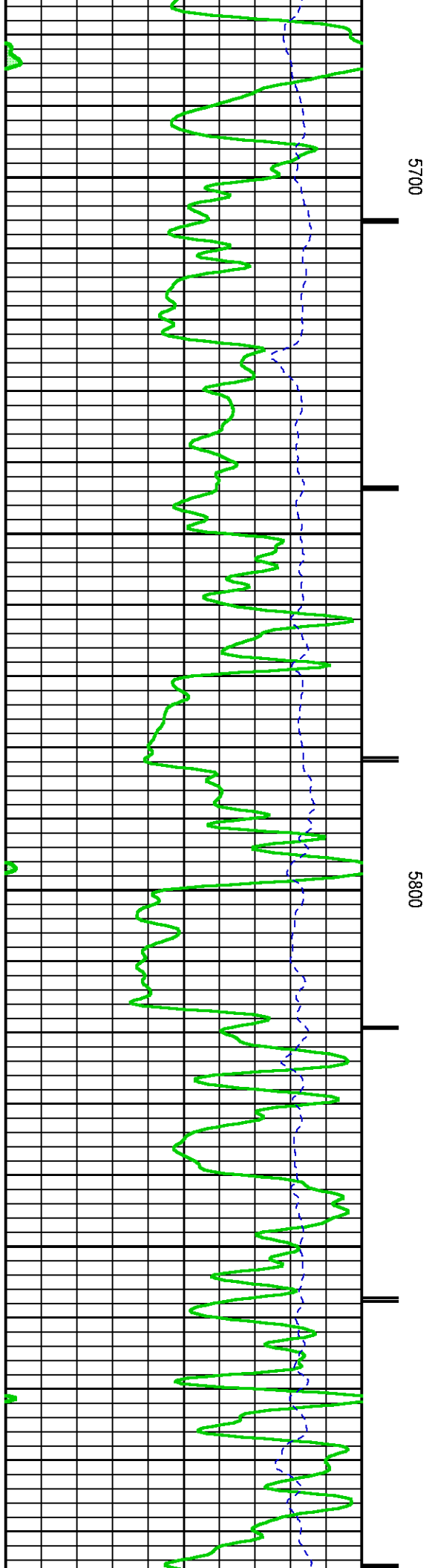
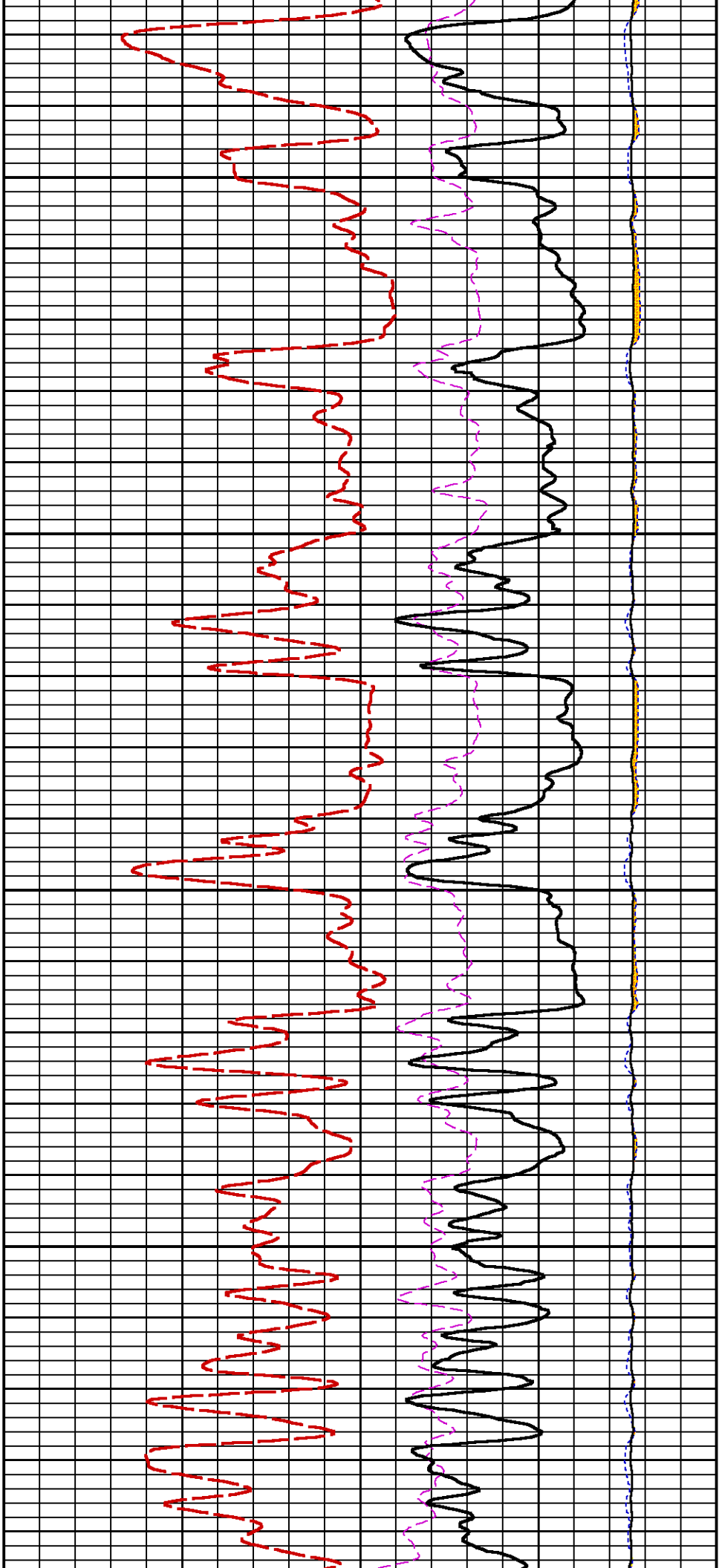


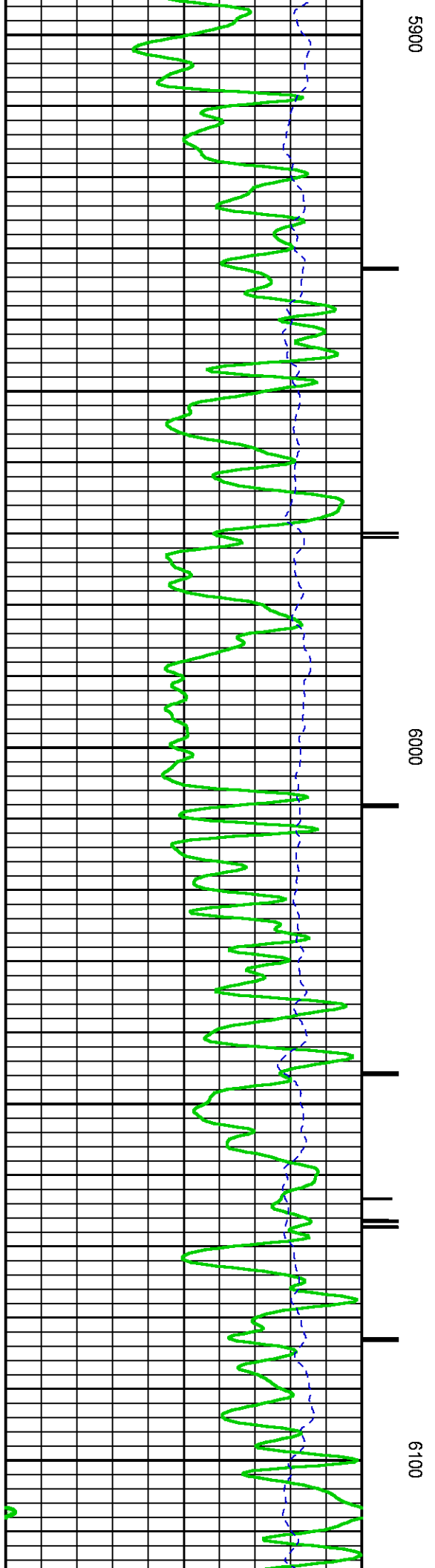
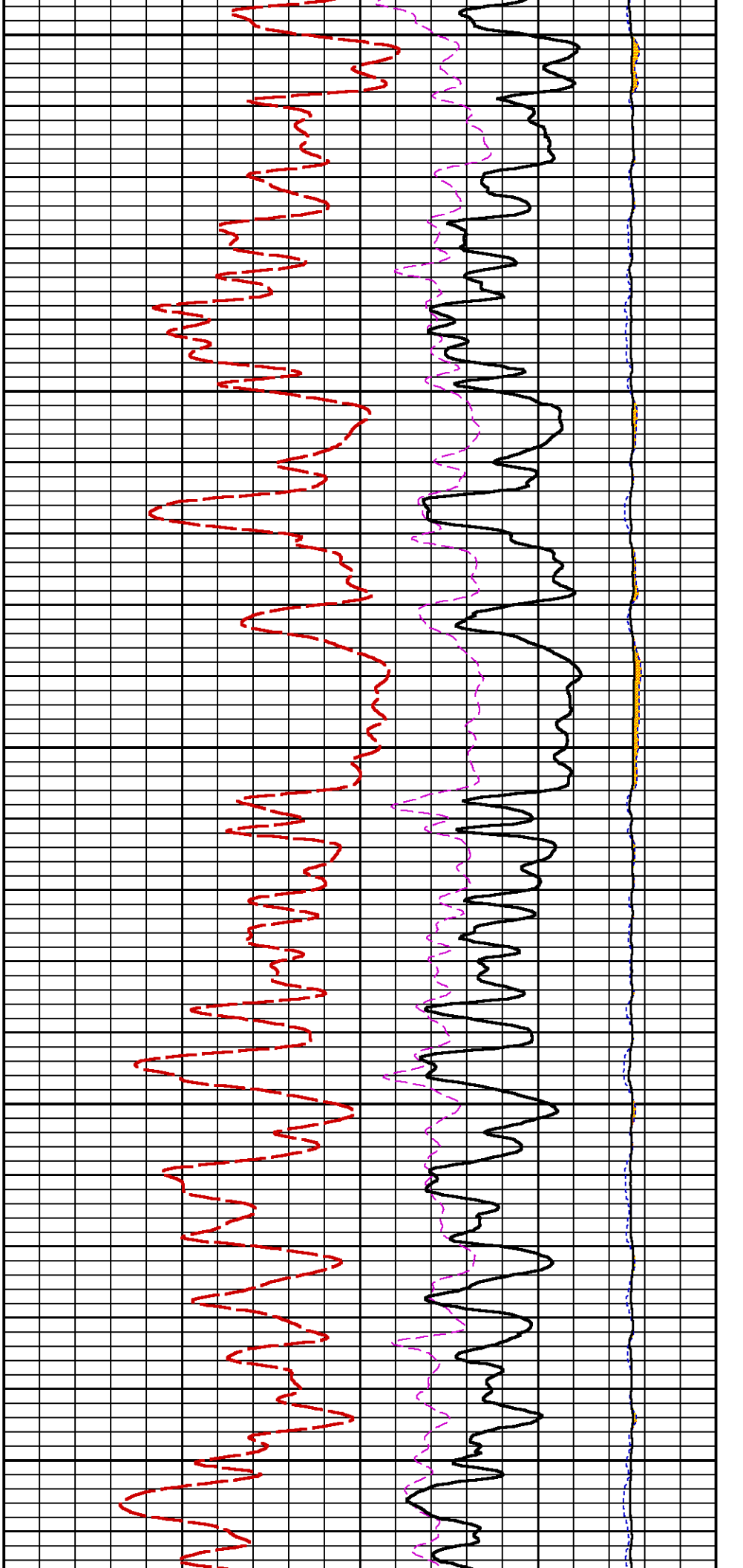


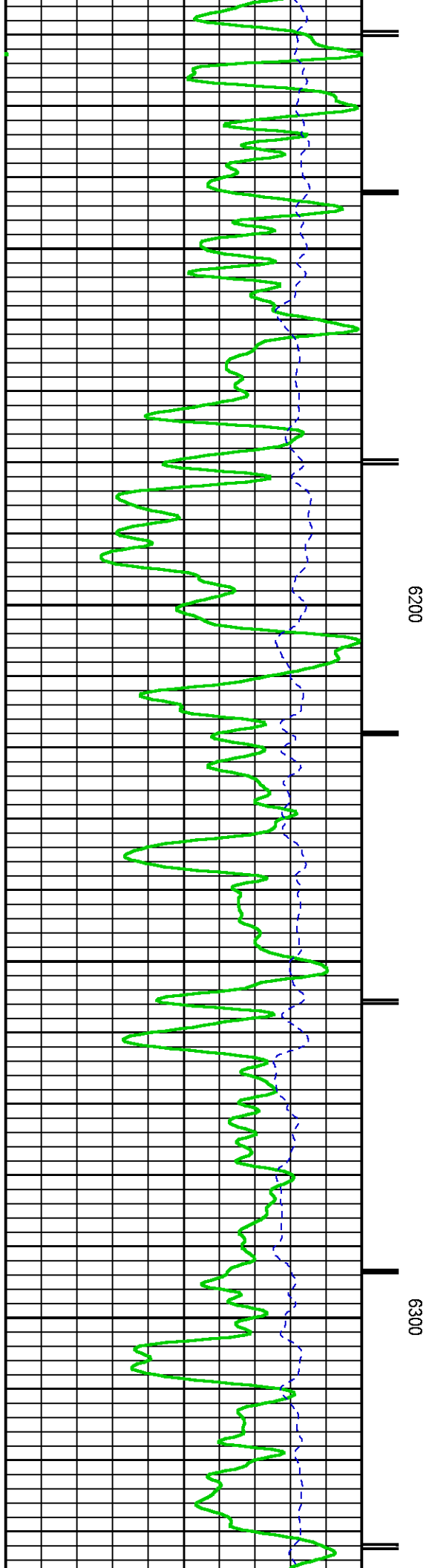
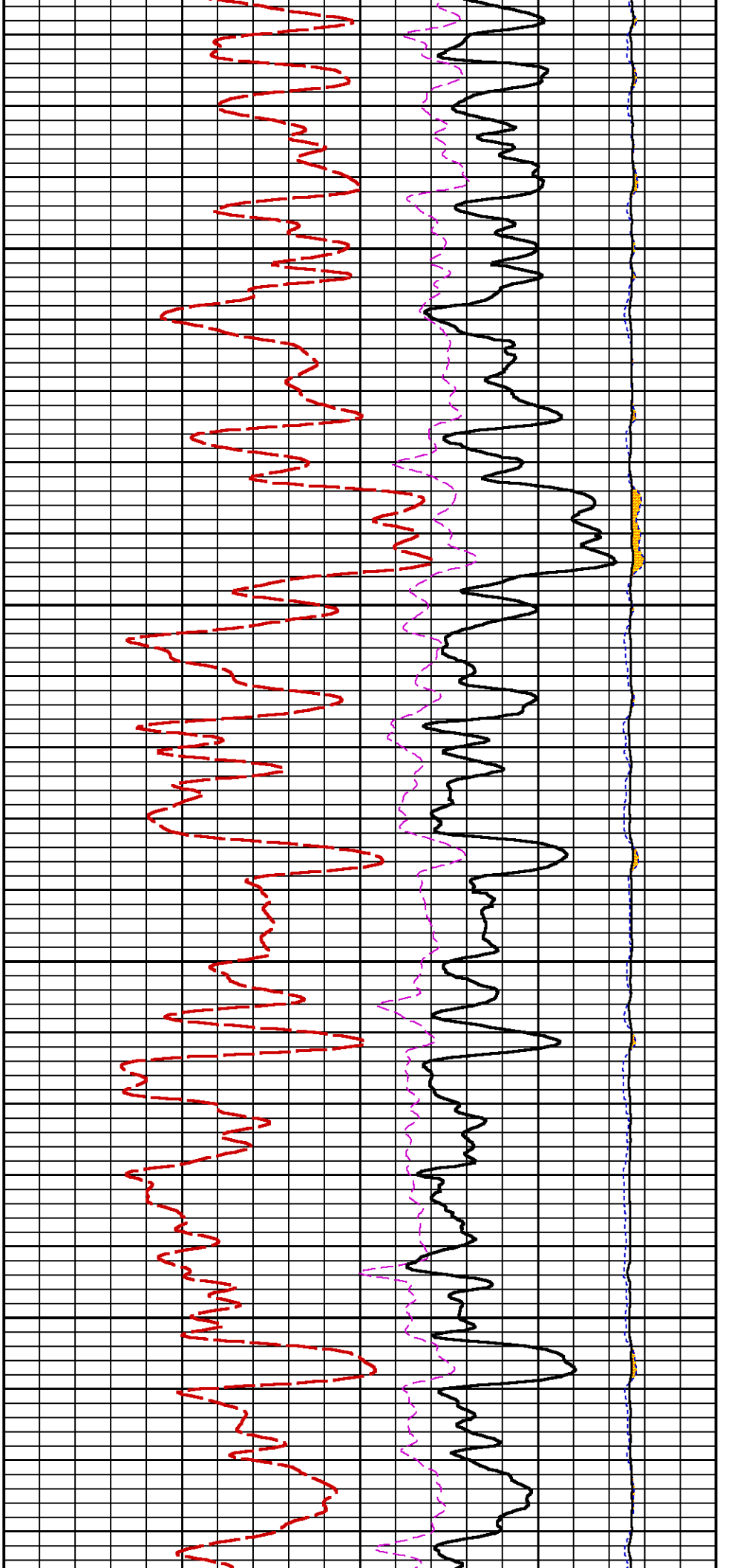




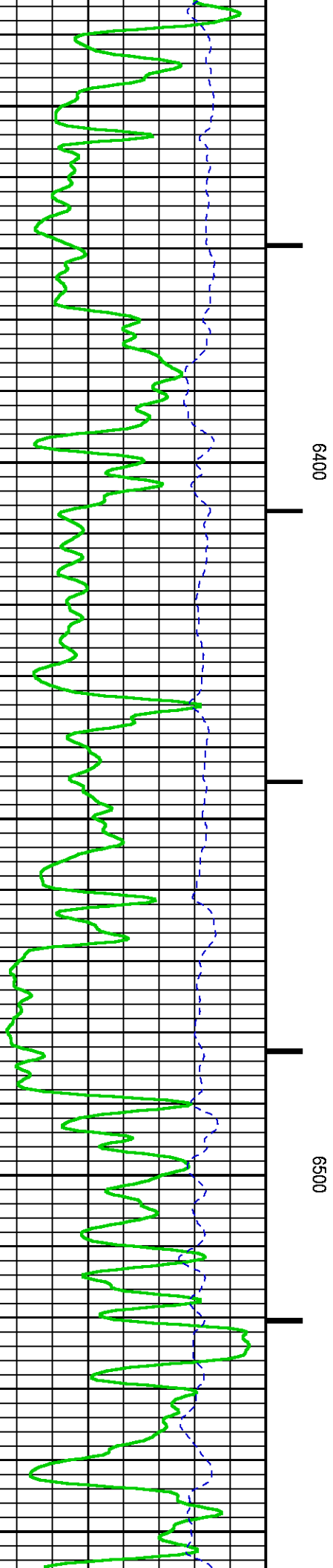
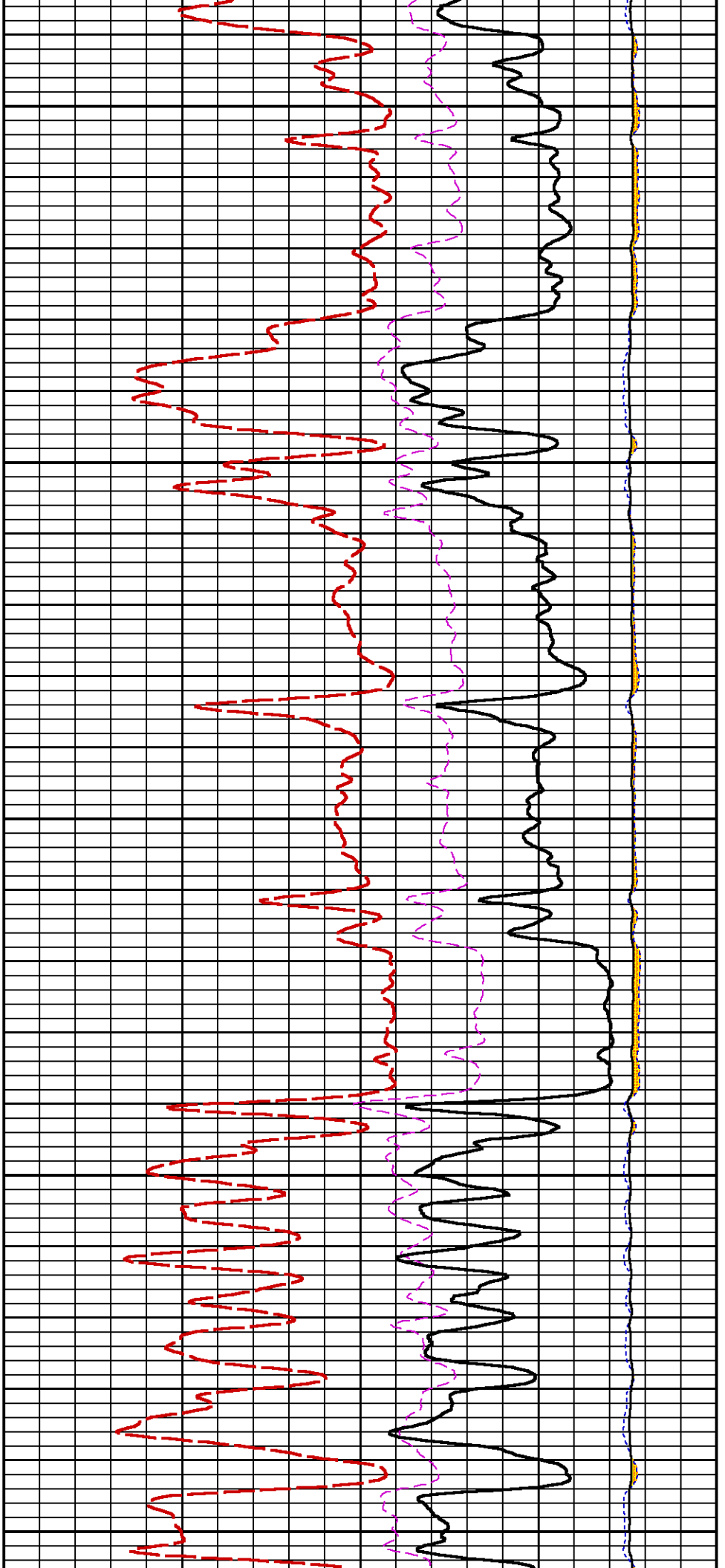


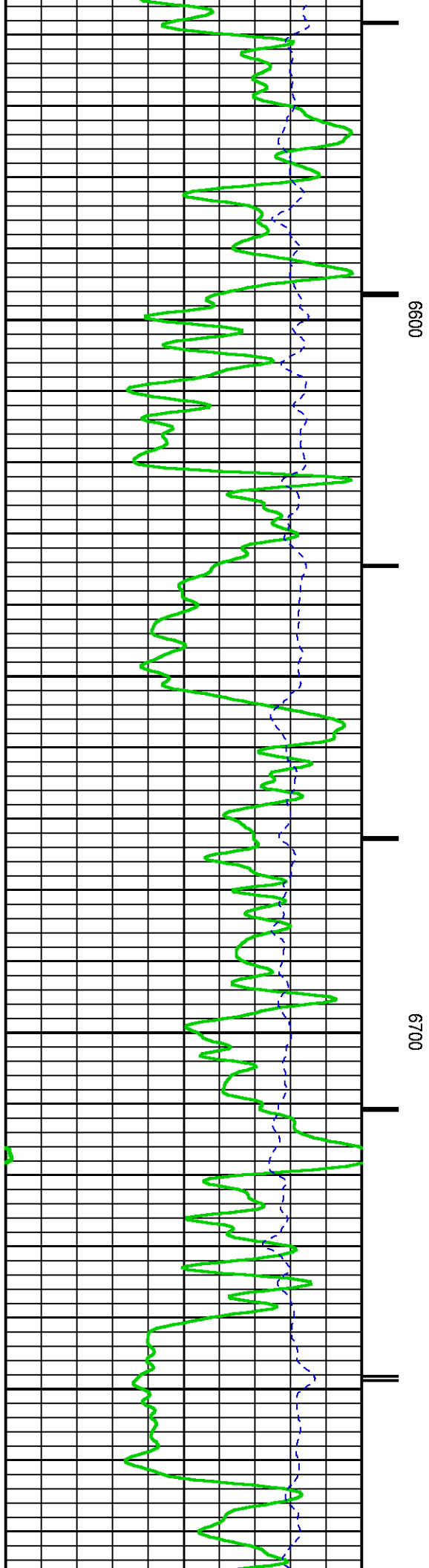
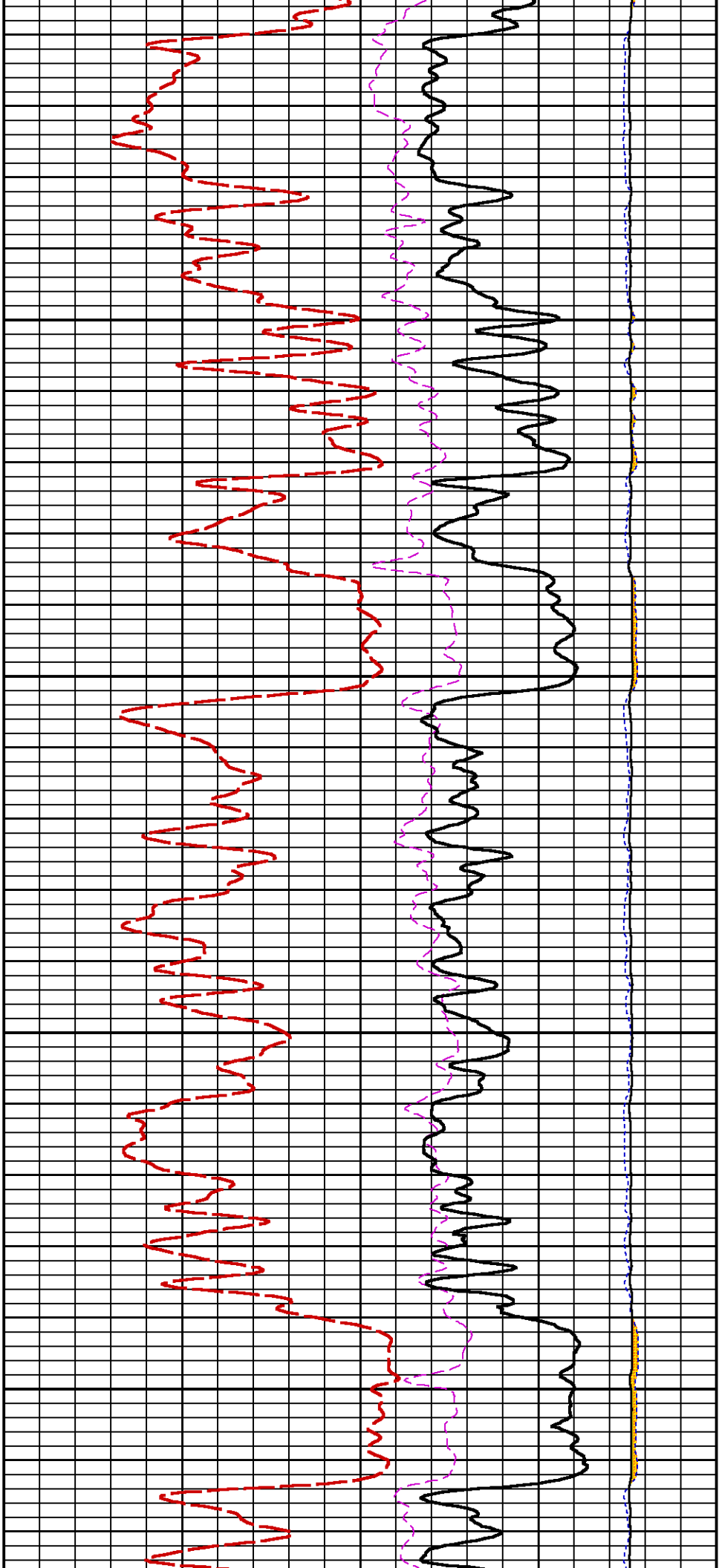


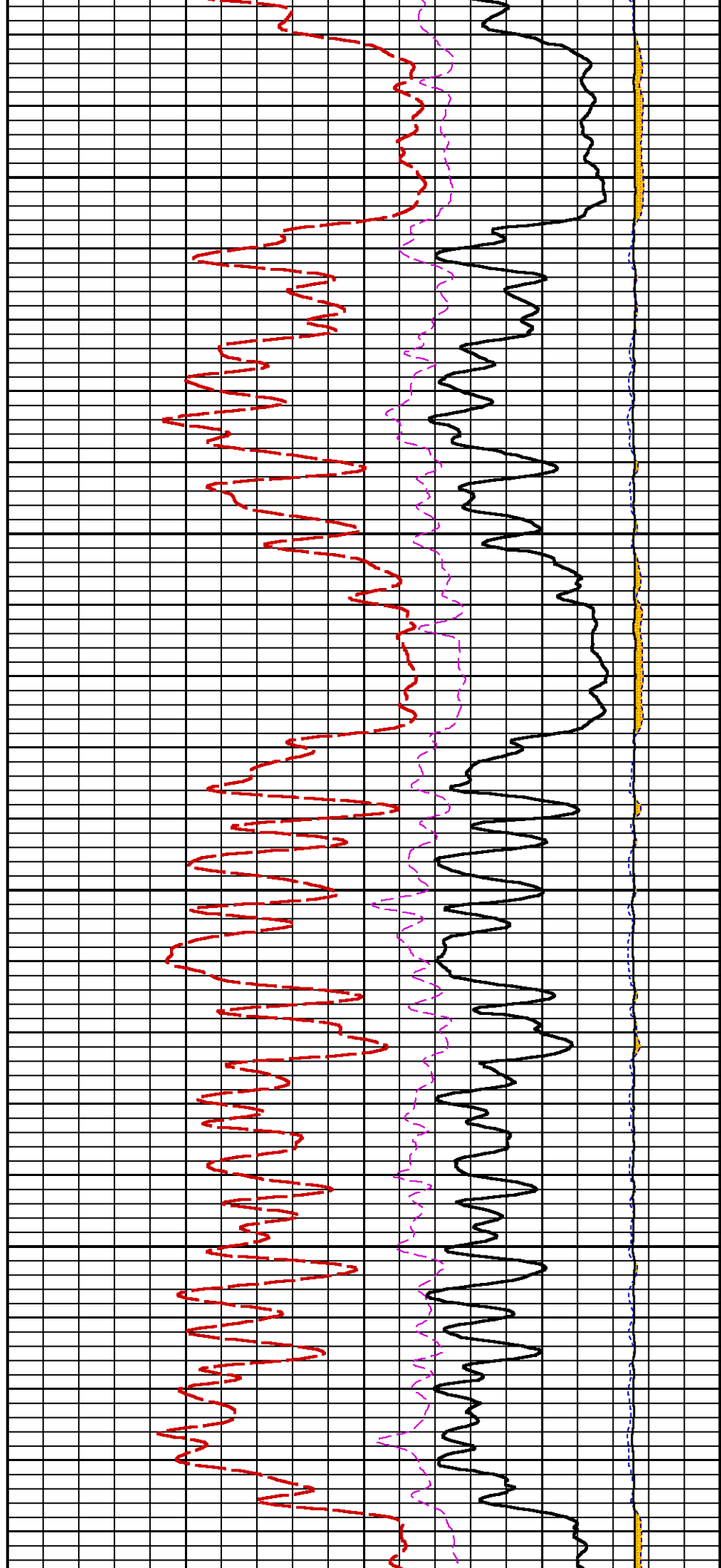
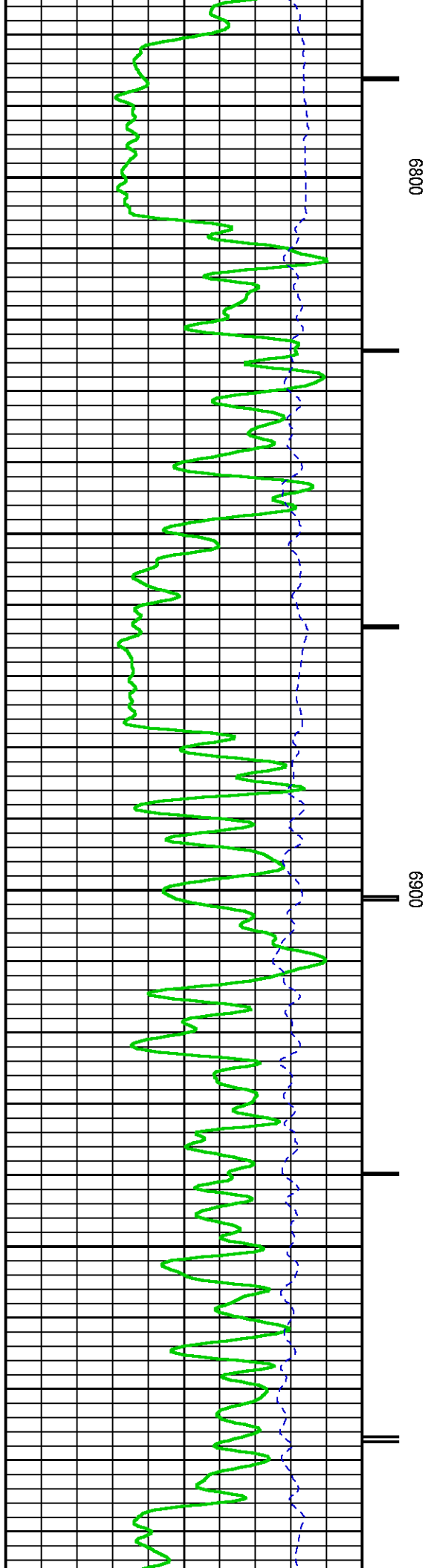


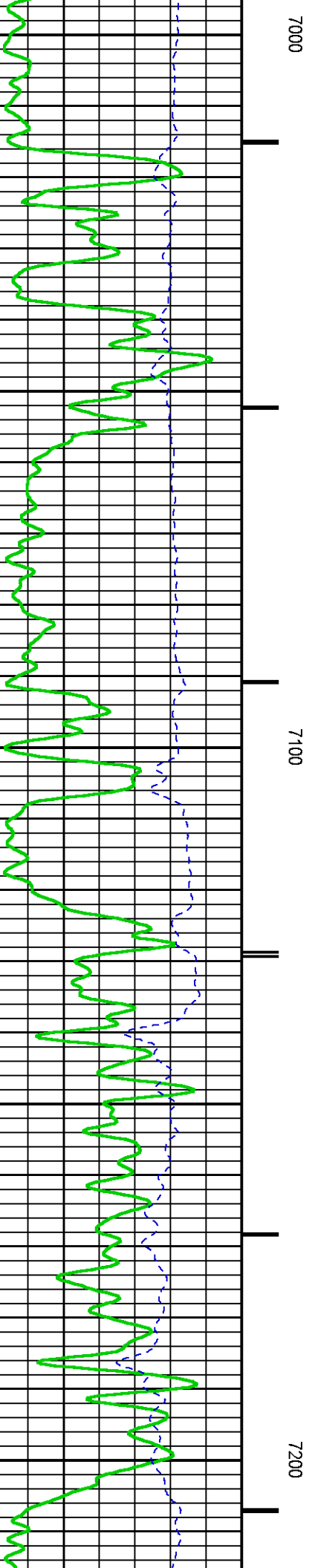
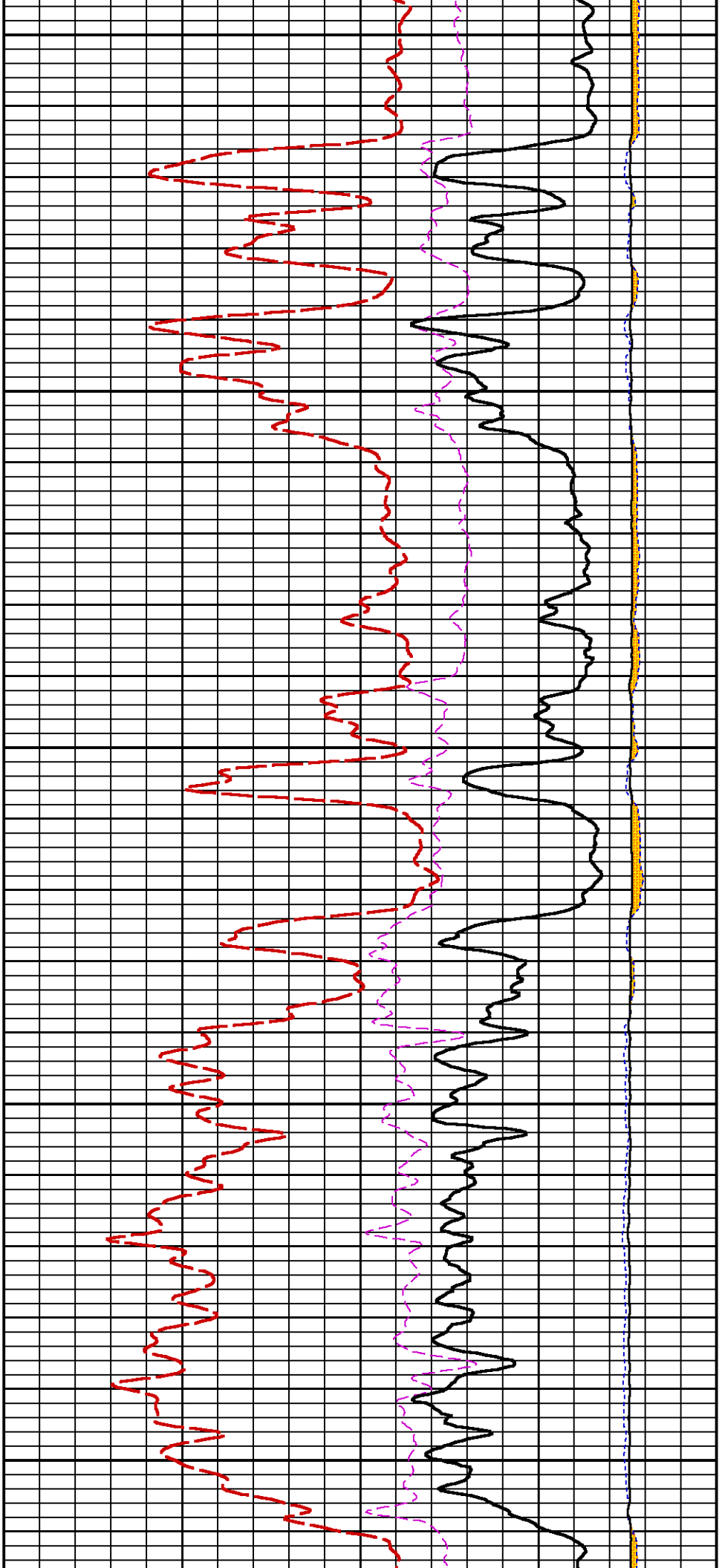


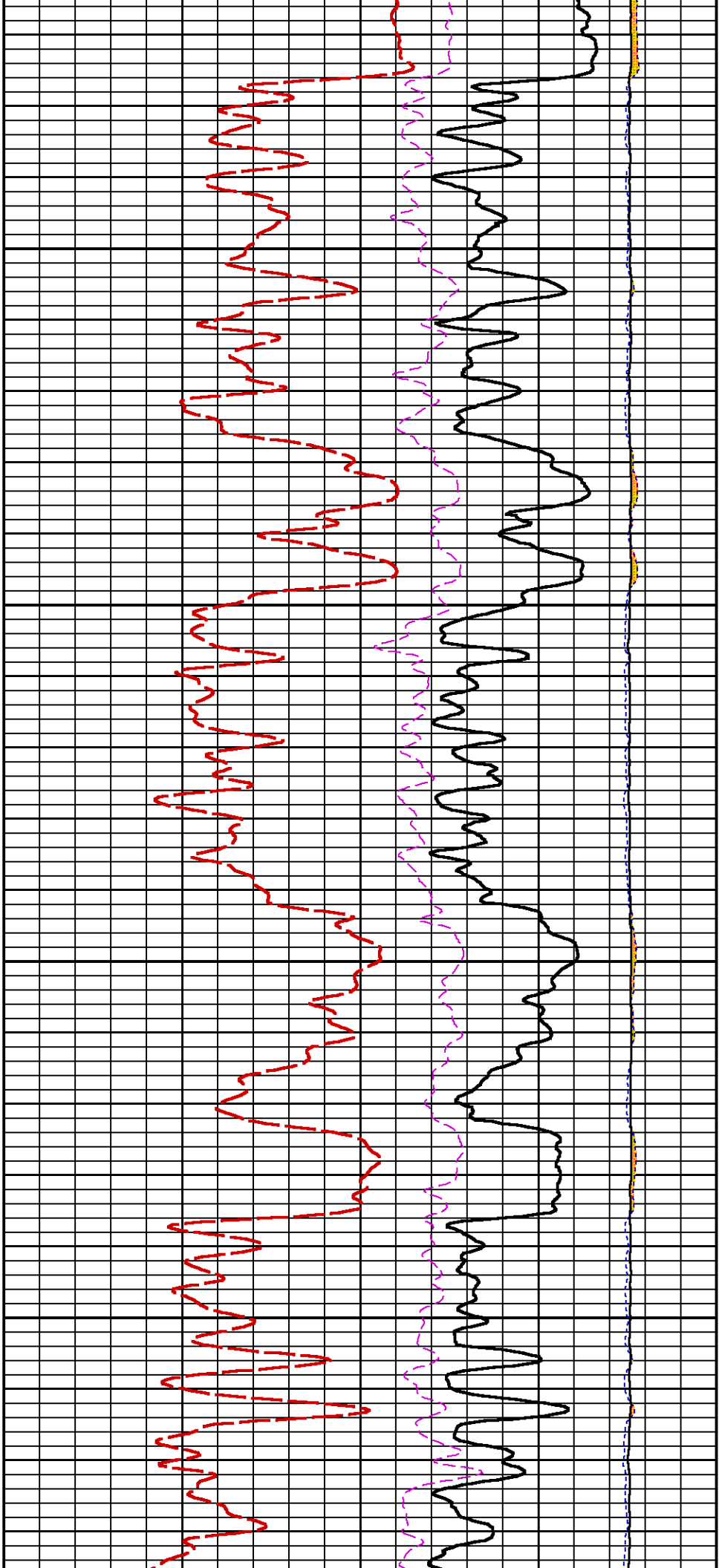






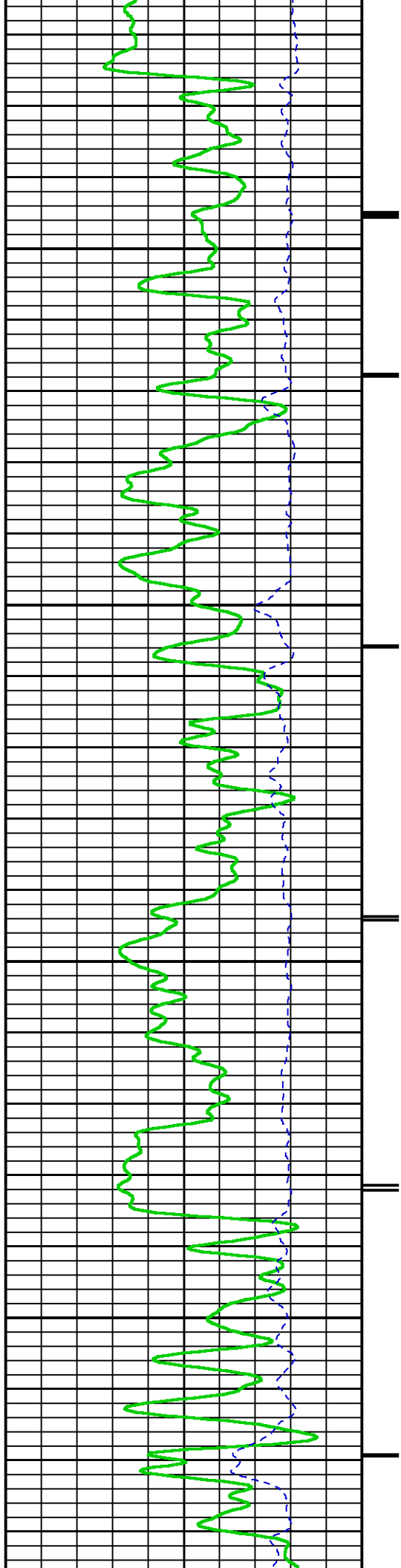


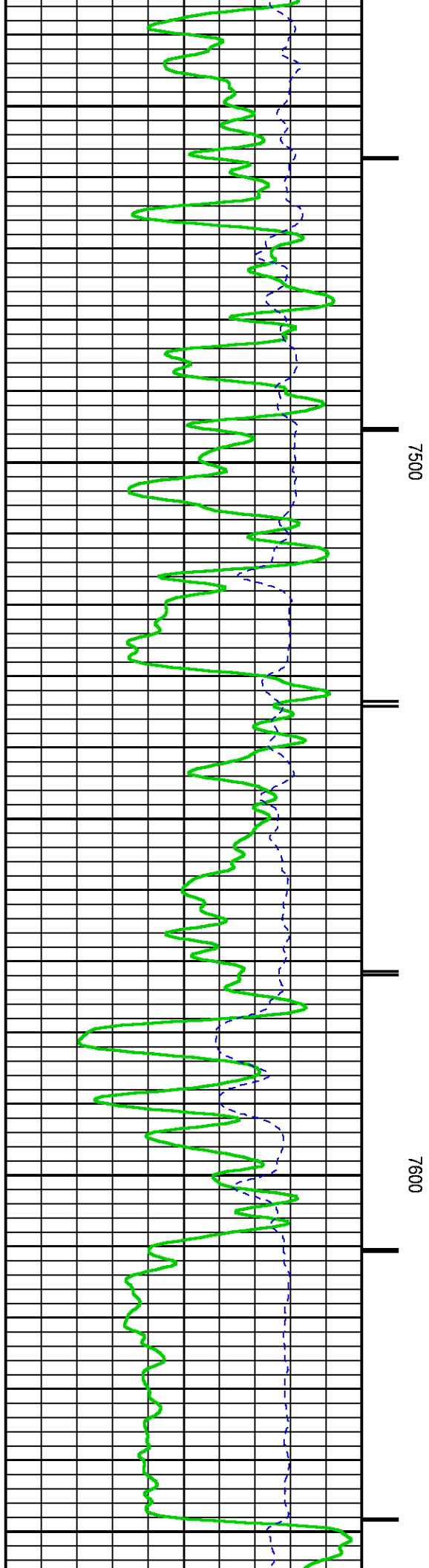
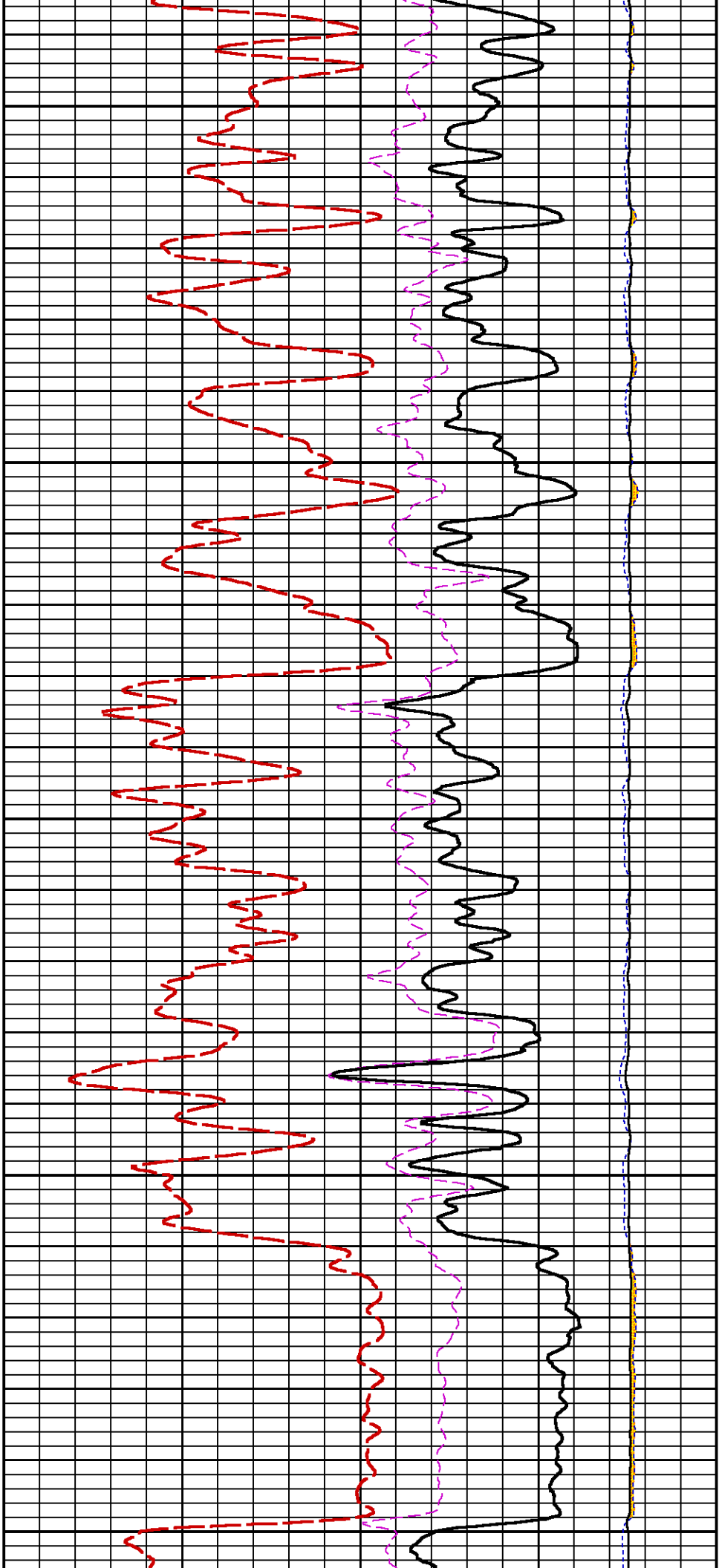


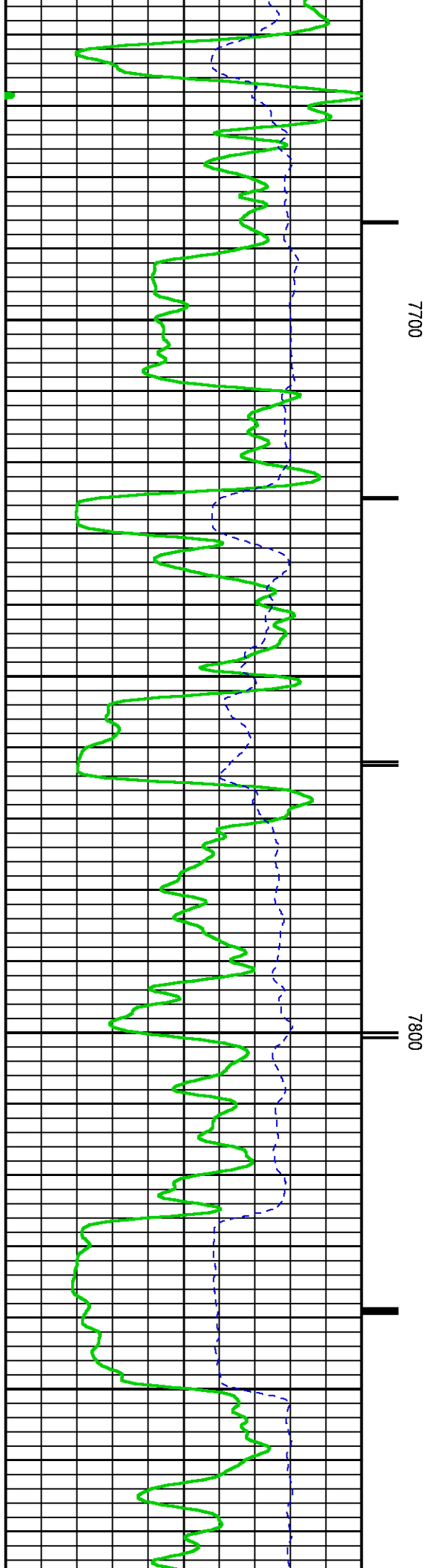
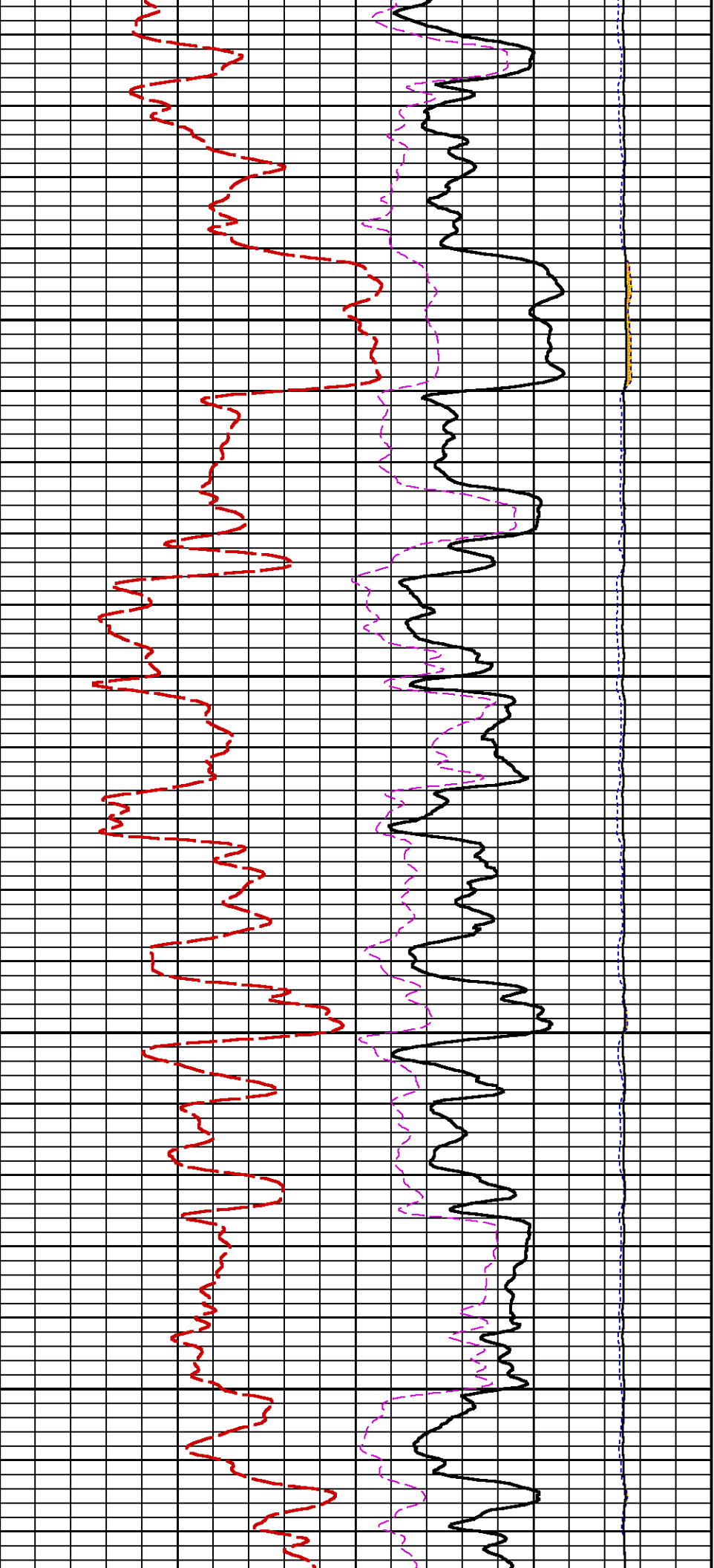


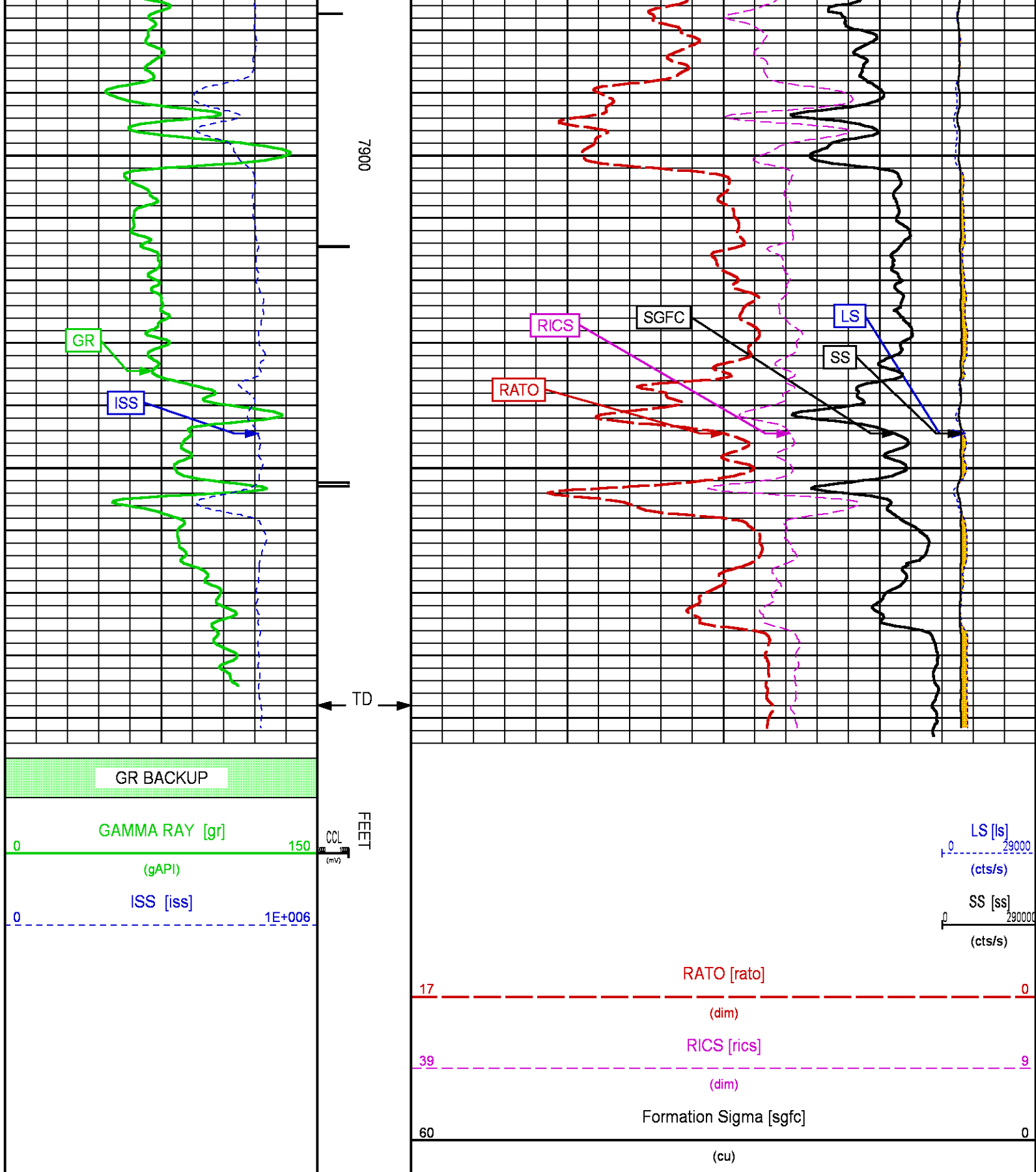
7300

7400









REPEAT LOG



Plotted: Mon Nov 20 13:54:20 2017

PARAMETER AND FILTER SUMMARY REPORT

FILE:	C:\dat1a\LARAMIE_BRUTON_30_05E\p353h01.prm			
LOGGING MODE:	DEPTH	DIRECTION:	UP	
TOP DEPTH:	5174.750 ft	BOTTOM DEPTH:	5397.000 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	8.50	in	" "
	LARGEST CASING OD	7.00	in	" "
	MATRIX	SANDSTONE		" "

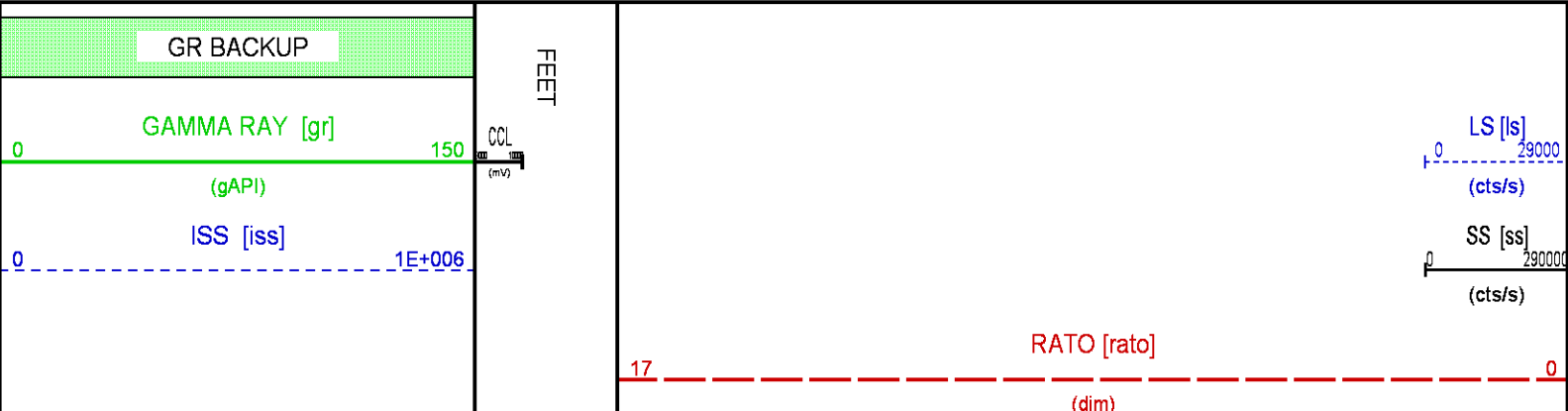
CURVE DESCRIPTION REPORT

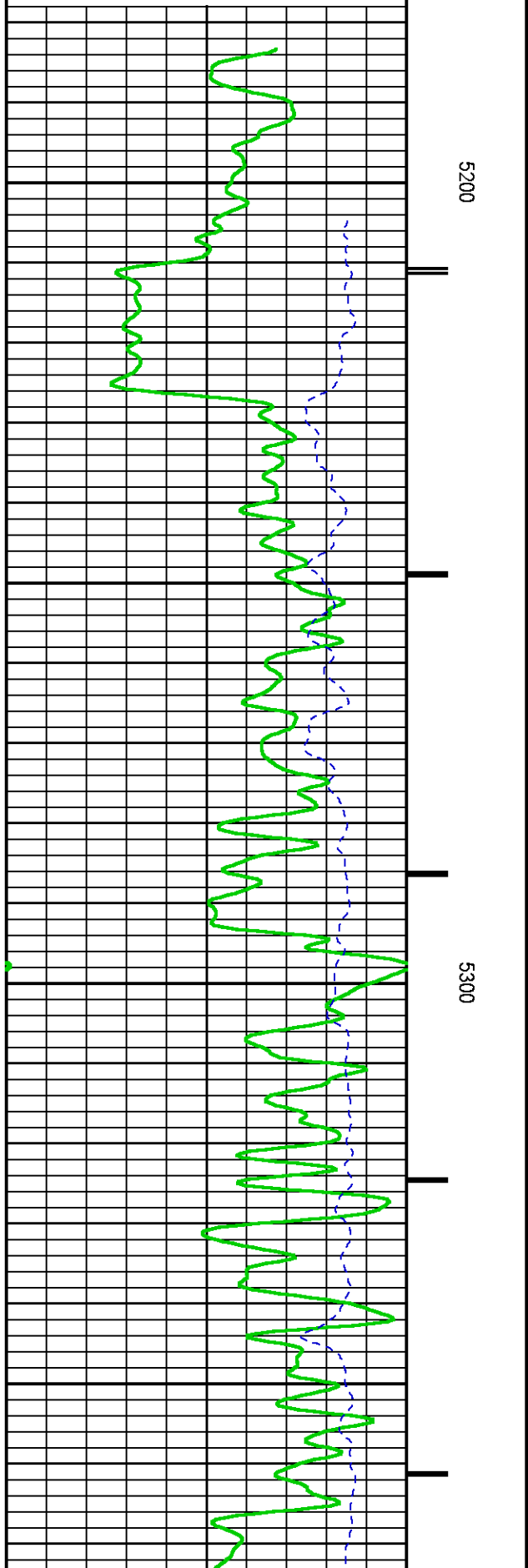
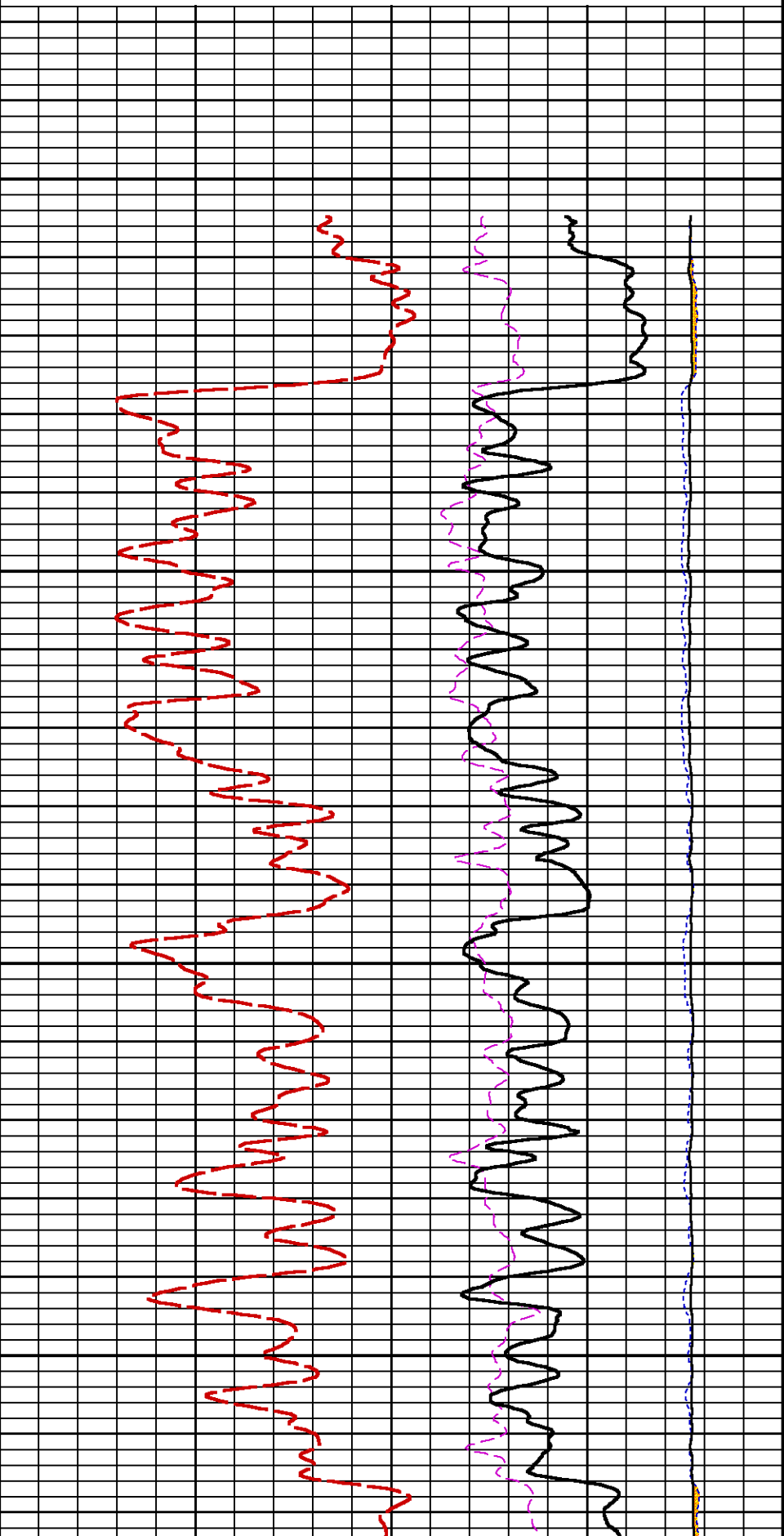
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	N/A	CASING COLLAR LOCATOR
F1:GR	N/A	GAMMA RAY
F1:ISS	N/A	INELASTIC SHORT SPACE COUNT RATE
F1:LS	N/A	LONG SPACE COUNT RATE
F1:RATO	N/A	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	N/A	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	N/A	BOREHOLE AND DIFFUSION CORRECTED SIGMA
F1:SS	N/A	SHORT SPACE COUNT RATE

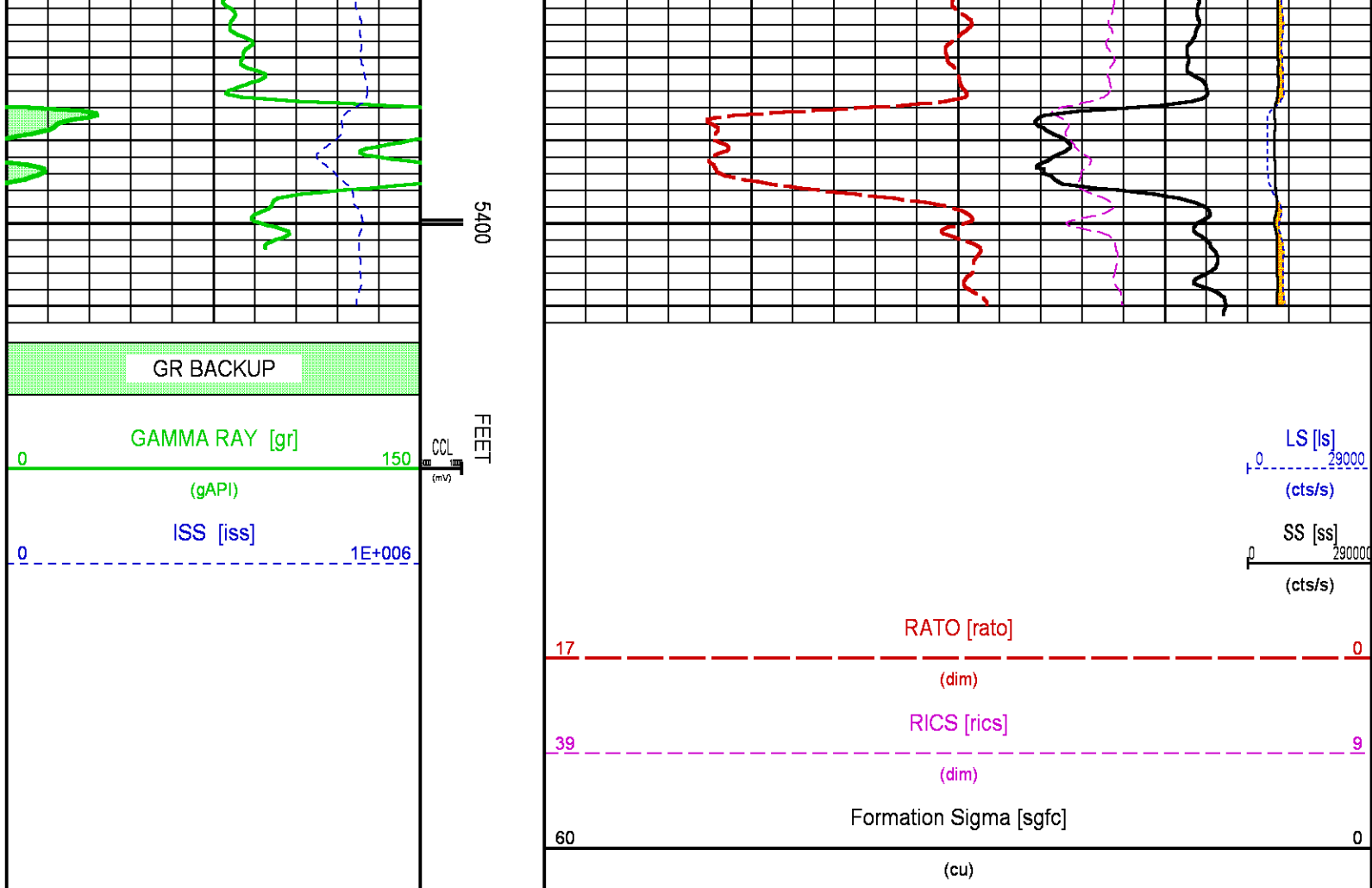
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	-22.50	ISS	-9.50	RATO	-9.50	SGFC	-9.50
GR	-19.50	LS	-9.50	RICS	-9.50	SS	-9.50

Presentation	: BHIH2LZZF2:C:\dat1a\LARAMIE_BRUTON_30_05E\LARAMIE_RPM_PNC3D+RPM_RPT_05E.fvpdf [5"/100' Scale]
Plot Interval	: 5179 - 5417.25 Feet
Data File 1	: F1 : BHIH2LZZF2:C:\dat1a\LARAMIE_BRUTON_30_05E\RPM_RPT_05E.xtf
Created On	: N/A
Company	: LARAMIE ENERGY LLC
Well	: BRUTON 30-05E
Field	: VEGA
File Interval	: 5174.5 - 5422.75 Feet
OCT	: p353h







## CALIBRATION / VERIFICATION SUMMARY

Source File: C:\dat1a\LARAMIE\_BRUTON\_30\_05E\p353h.tp1

### GR PRIMARY CALIBRATION SUMMARY

TOOL #: 8262XA 10192900

DATE/TIME PERFORMED: Fri Nov 17 16:53:45 2017

UNIT #: 3882TD HL6728

CALB JIG #: 4702NK DA\_228

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	80.16	396.07	315.9	0.586	46.94	231.94	185

### GR PRIMARY VERIFICATION SUMMARY

TOOL #: 8262XA 10192900

DATE/TIME PERFORMED: Fri Nov 17 16:56:41 2017

UNIT #: 3882TD HL6728

VERI JIG #: 4702NK DA\_228

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	80.20	403.47	0.586	46.97	236.27	189.31
						175.00 195.00

## RPM\_PNC\_3D PRIMARY CALIBRATION SUMMARY

TOOL: 8283PA 10184883

DATE/TIME PERFORMED: Thu Jul 13 15:06:49 2017

UNIT: 3882TD HL6728

CALIBRATOR: 2437XB 120057

SOURCE: 8281AA 10160595

HOURS: 8281AA 228

	ISS	Mtr Vlts (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	807240	123	2232	2259	2285	137	9.0	0.9874

Interpolated	1300000	146	2216	2251	2283
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	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	807240	6543	1352	236	25.88	0.15	24.03	0.34
					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	807240	164687	25336	86104	30690	8086	52299	12945
Fit Quality %		0.492	0.443	0.487	0.490	0.506	0.462	0.494

	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	807240	1.44	4.90	31.88	15.44	10.65	3.80	4.04
		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 %		0.052	0.128	0.117	0.144	0.021	0.011	0.031
Reduced	1232261	1.44	4.91	31.91	15.45	10.65	3.80	4.04
		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

## INSTRUMENT CONFIGURATION

### A3 CABLEHEAD

Diameter : 1.37"

### PCM 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

CCL MP 22.73'

### GAMMA RAY

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

GR MP 19.59'

### 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

XLS DETECTOR 10.27'  
LS DETECTOR 9.86'  
SS DETECTOR 9.61'

30.78'

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

BULL PLUG 1 11/16

0.00'

TOTAL LENGTH: 30.78'  
TOTAL WEIGHT: 131 lbs  
MAX DIAMETER: 0'1.70"

**BAKER  
HUGHES**  
a GE company



**COMPANY** LARAMIE ENERGY LLC

**WELL** BRUTON 30-05E

**FIELD** VEGA

**COUNTY** MESA **STATE** COLORADO

**FILE NO:**

**API NO:**

05077104510000

**LOCATION:**

SHL 39.252644444 N; 107.814275000W  
BHL 39.252169000N; 107.806920000W

**ELEVATIONS:**

KB 7542 FT

DF 7541 FT

GL 7512 FT

**SEC** 30 **TWP** 9S **RGE** 93W

**DATE** 20-Nov-2017