



FILE NO: CH094532	COMPANY LARAMIE ENERGY
API NO: 05-077-10223-0000	WELL PICEANCE 28-12M
	FIELD VEGA
	COUNTY MESA
	STATE COLORADO

Ver. 4.01 28 9S 93W 28-11 PAD PATTERSON 306	LOCATION: SHL: 2505' FSL & 1616' FWL NE/SW BHL: 2373' FSL & 2583' FWL SEC 28 TWP 9S RGE 93W	OTHER SERVICES BOND LOG
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PERMANENT DATUM LOG MEASURED FROM DRILL. MEAS. FROM	G.L. ELEVATION 7580 FT K.B. 22 FT ABOVE P.D. K.B.	ELEVATIONS: KB 7602 FT DF GL 7580 FT
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DATE	8-APR-2015
RUN	1
TRIP	1
SERVICE ORDER	US0994532
DEPTH DRILLER	8040 FT
DEPTH LOGGER	7952 FT
BOTTOM LOGGED INTERVAL	7942 FT
TOP LOGGED INTERVAL	2662 FT
TIME STARTED	10:30
TIME FINISHED	18:00
OPERATOR RIG TIME	7.5 HOURS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	128 FT
LOGGED CEMENT TOP	NA
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	10 FMIN
MAX. RECORDED TEMP.	251 DEGF
REFERENCE LOG	BAKER HUGHES OPEN HOLE
REFERENCE LOG DATE	15-MAR-2015
EQUIP. NO.	HL-6685
LOCATION	GRAND JCT.
RECORDED BY	P. EDWARDS
WITNESSED BY	J. GRUBICH

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
7.875 IN	1561 FT	8040 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
8.625 IN	24 LB/F		0 FT	1561 FT
4.5 IN	11.6 LB/F		0 FT	8040 FT

REMARKS

RUN 1 TRIP 1: ALL DATA ON THIS LOG IS DEPTH SHIFTED AND CORRELATED TO THE GAMMA-RAY CURVE ON BAKER HUGHES OPEN HOLE LOG DATED 15-MAR-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 = 251 degF

SJ = 4755' - 4777'
SJ = 7073' - 7095'

AMOUNT OF LINEAR SHIFT IS 1 FOOT.

THANKS FOR USING BAKER HUGHES WIRELINE RIG: PATTERSON 306

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	PCM	8250EA	Z151000	FREE
1	1	TEL/CCL	8248EA	Z150623	FREE
1	1	GR	2812LA	10274385	FREE
1	1	RPM	8281EA	10169250	FREE
1	1	RPM	8283PA	10203151	FREE
1	1	RPM	8281FA	10238007	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: 46 Patches: 5

Plotted: Wed Apr 08 20:10:46 2015

PARAMETER AND FILTER SUMMARY REPORT

FILE: C:\dat1a\WELLDATA\LARAMIE\28-12M\354h02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 2649.500 ft BOTTOM DEPTH: 7958.705 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	7.87	in	" "
	CASING SIZE	4.50	in	" "
	MATRIX	SANDSTONE		" "
	CORRECTION BUFFER	11		" "

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Apr 8 12:17:15 2015	CASING COLLAR LOCATOR
F1:GR	Apr 8 12:17:15 2015	GAMMA RAY
F1:ISS	Apr 8 12:17:15 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Apr 8 12:17:15 2015	LONG SPACE COUNT RATE
F1:RATO	Apr 8 12:17:15 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Apr 8 12:17:15 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Apr 8 12:17:15 2015	CORRECTED FORMATION SIGMA
F1:SS	Apr 8 12:17:15 2015	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 : BHI9G15WM1:C:\dat1a\WELLDATA\LARAMIE\28-12M\12M_RPM_MAIN.fvpdf [5"/100' Scale]
Plot Interval : 2625.25 - 7957 Feet

Data File 1 : F1 : BHI9G15WM1:C:\dat1a\WELLDATA\LARAMIE\28-12M\12M_RPM_MAIN_12M.vrf

Data File : FT: BHS15VMT.C:\data\VEEDATA\LARAMIE126-12MRPM_MAIN_12M.XU
Created On : Apr 8 12:17:15 2015
Company : LARAMIE ENERGY
Well : PICEANCE 28-12M
Field : VEGA
File Interval : 2624.5 - 7955.75 Feet
OCT : n354h

GR BACKUP

FEET

ISS [iss]

0 1E+006

(1)

GAMMA RAY [gr]

0 150

(gAPI)

CCL
(mV)

2700

GR

ISS

RATO

RICS

SGFC

LS

SS

LS [ls]

0 29000

(1)

SS [ss]

0 290000

(1)

RATO [rato]

17 0

(1)

RICS [rics]

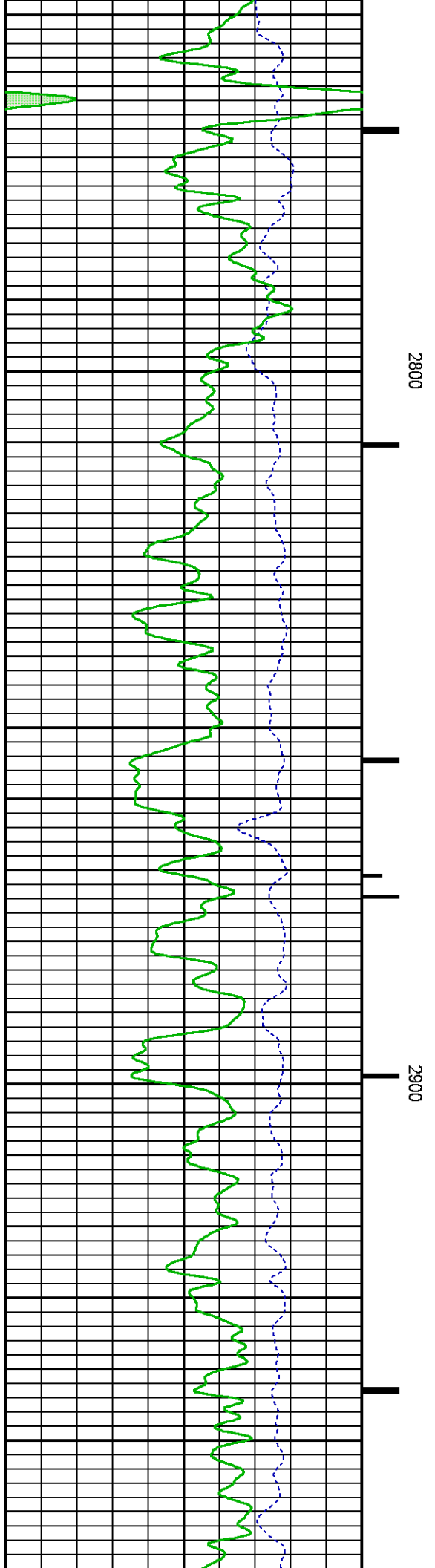
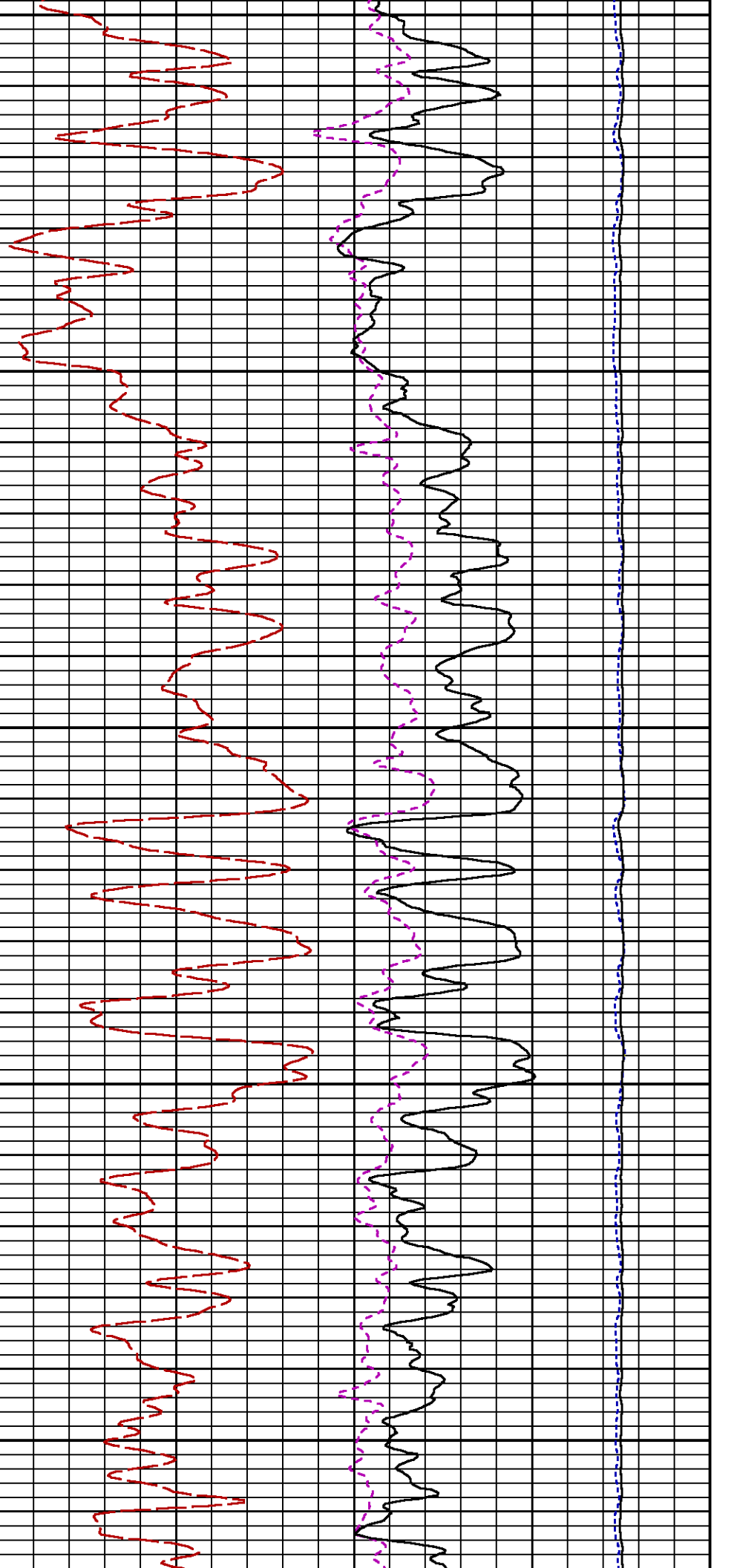
39 9

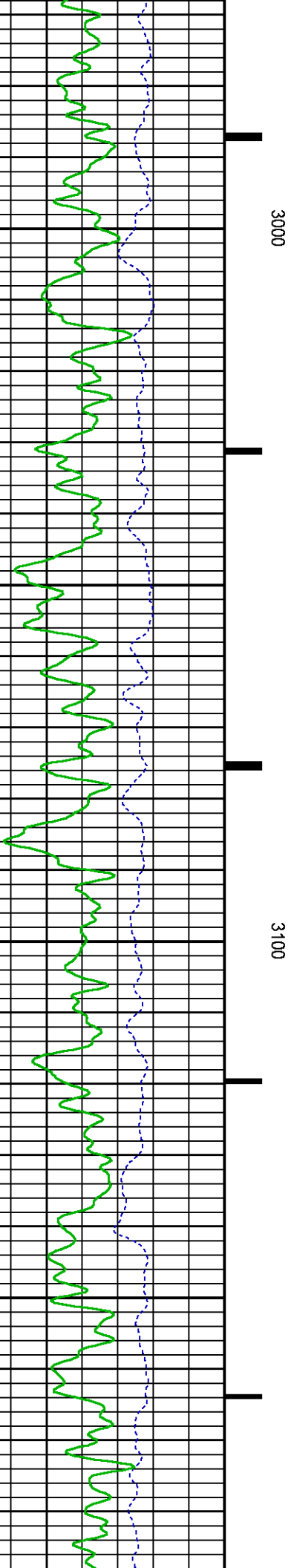
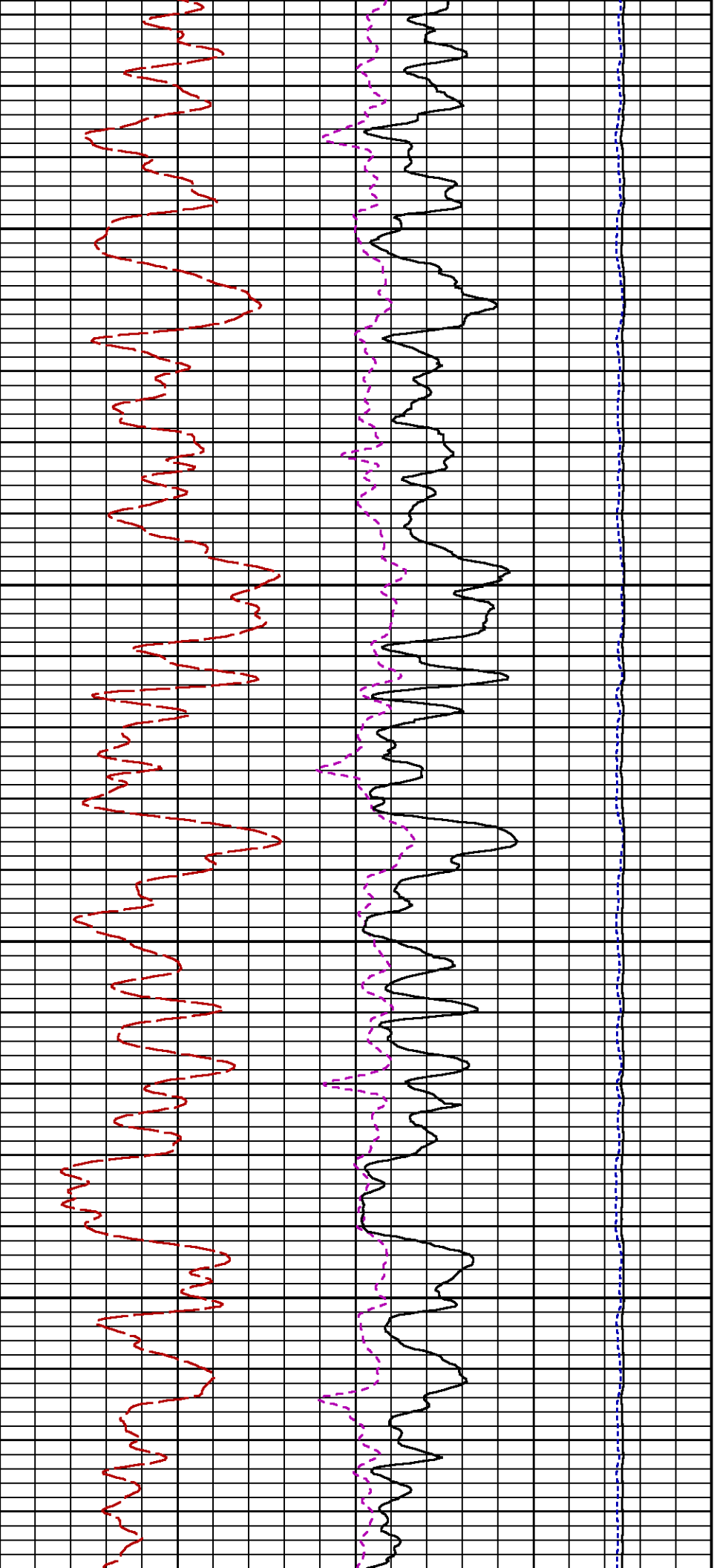
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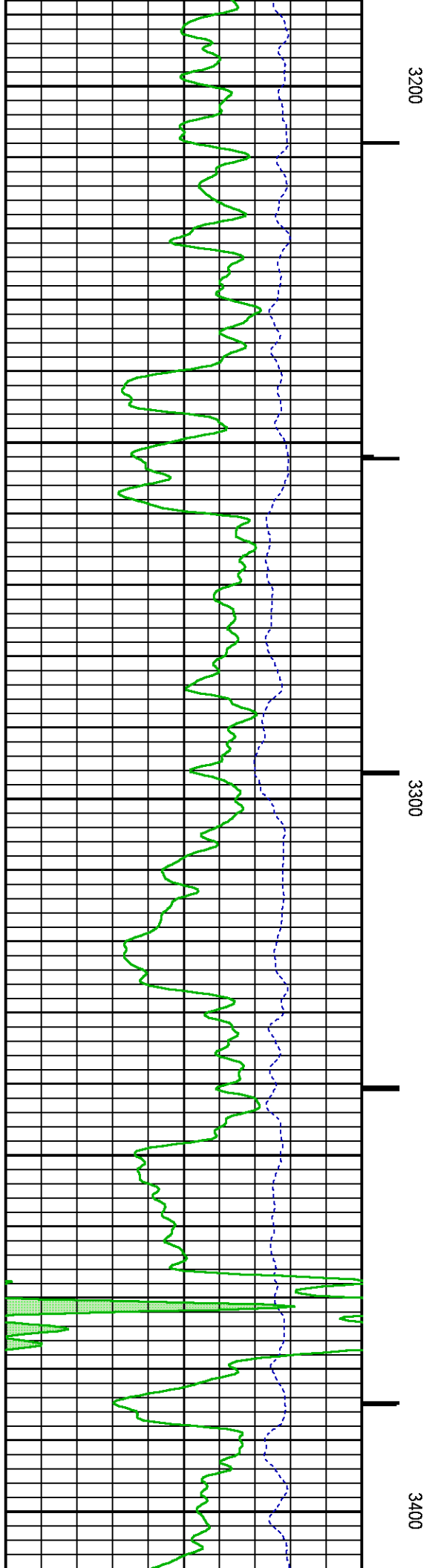
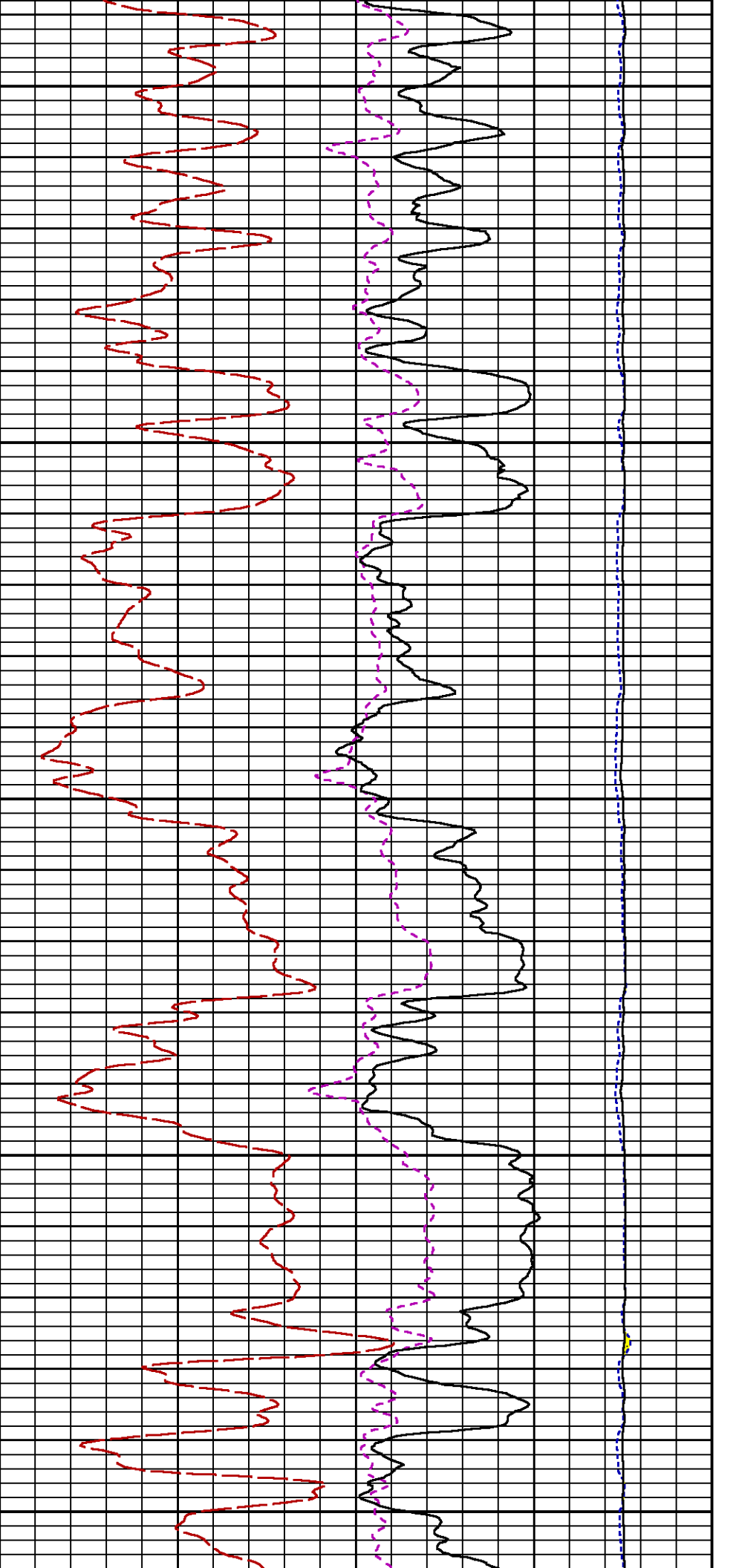
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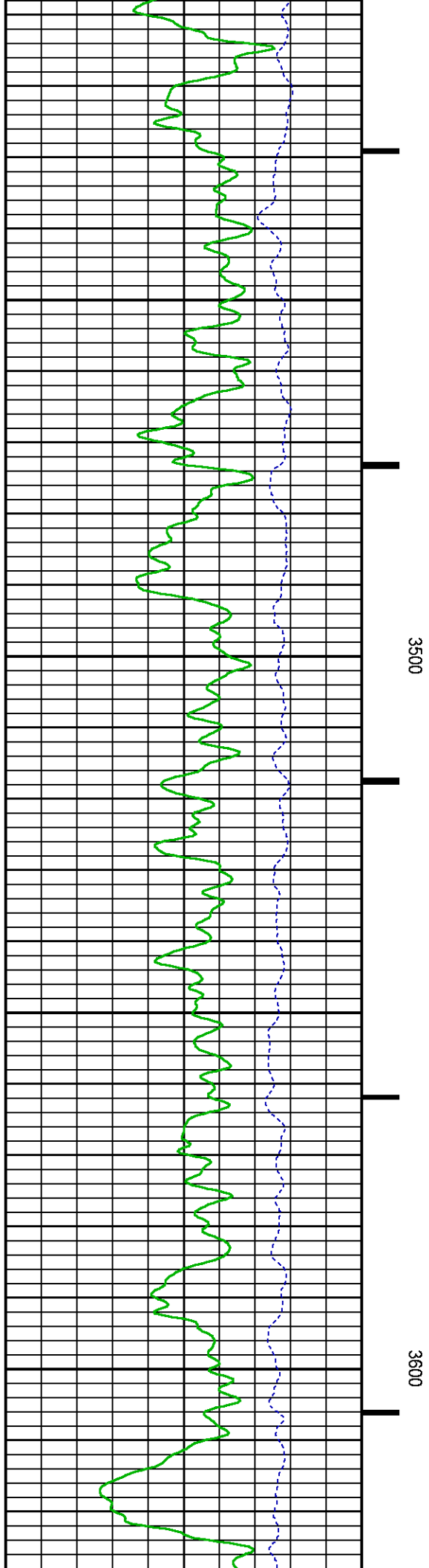
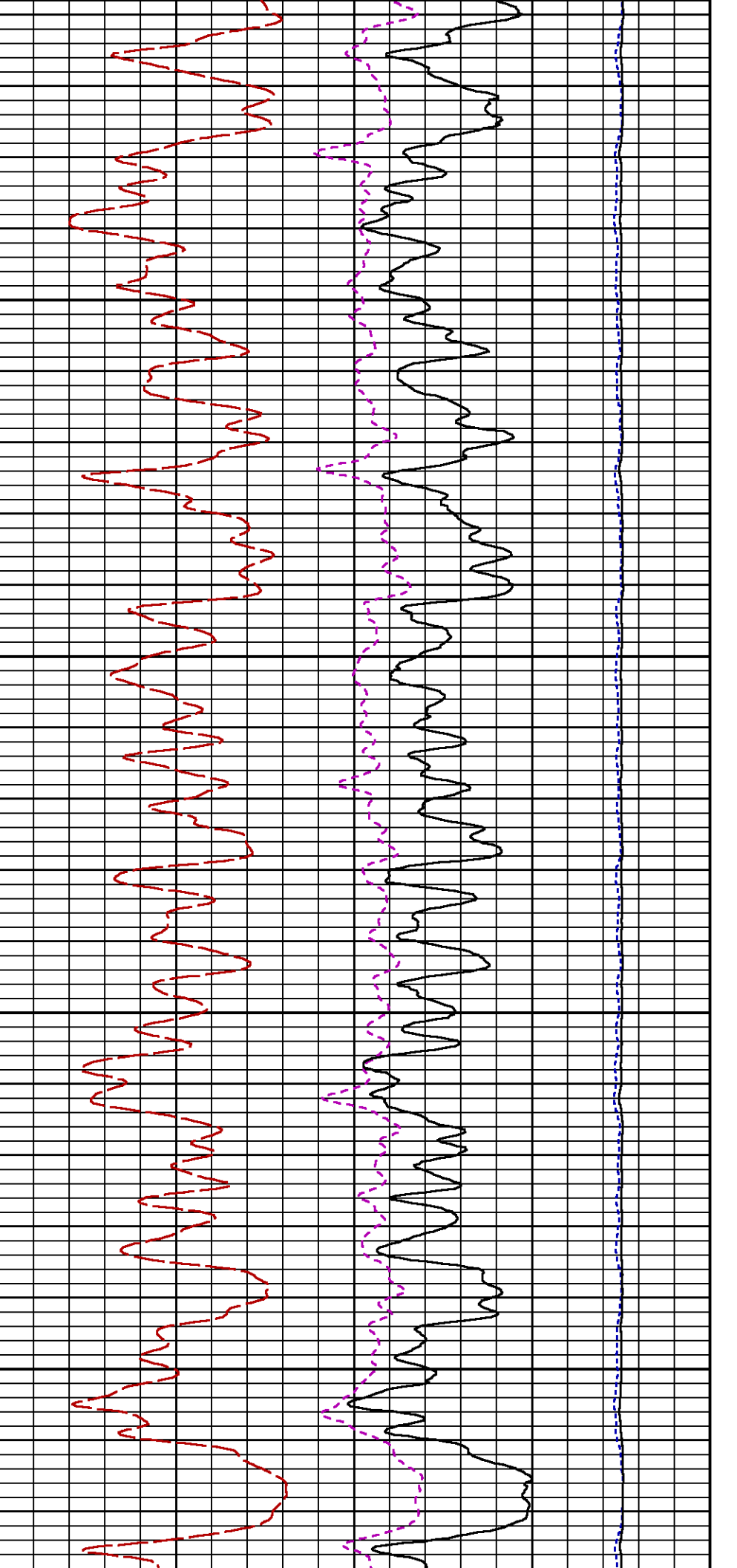
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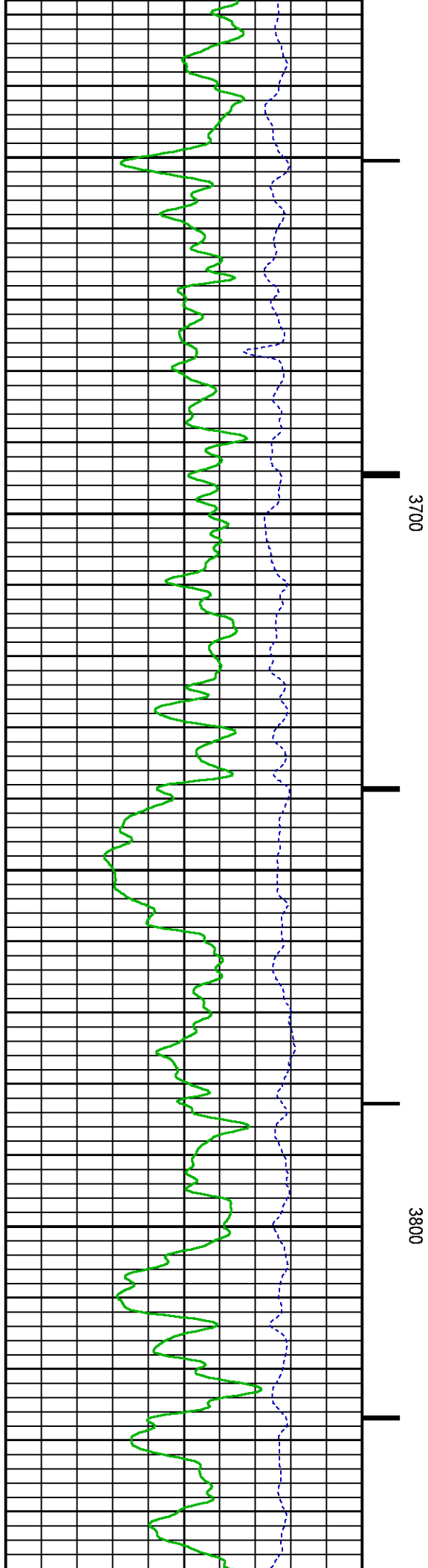
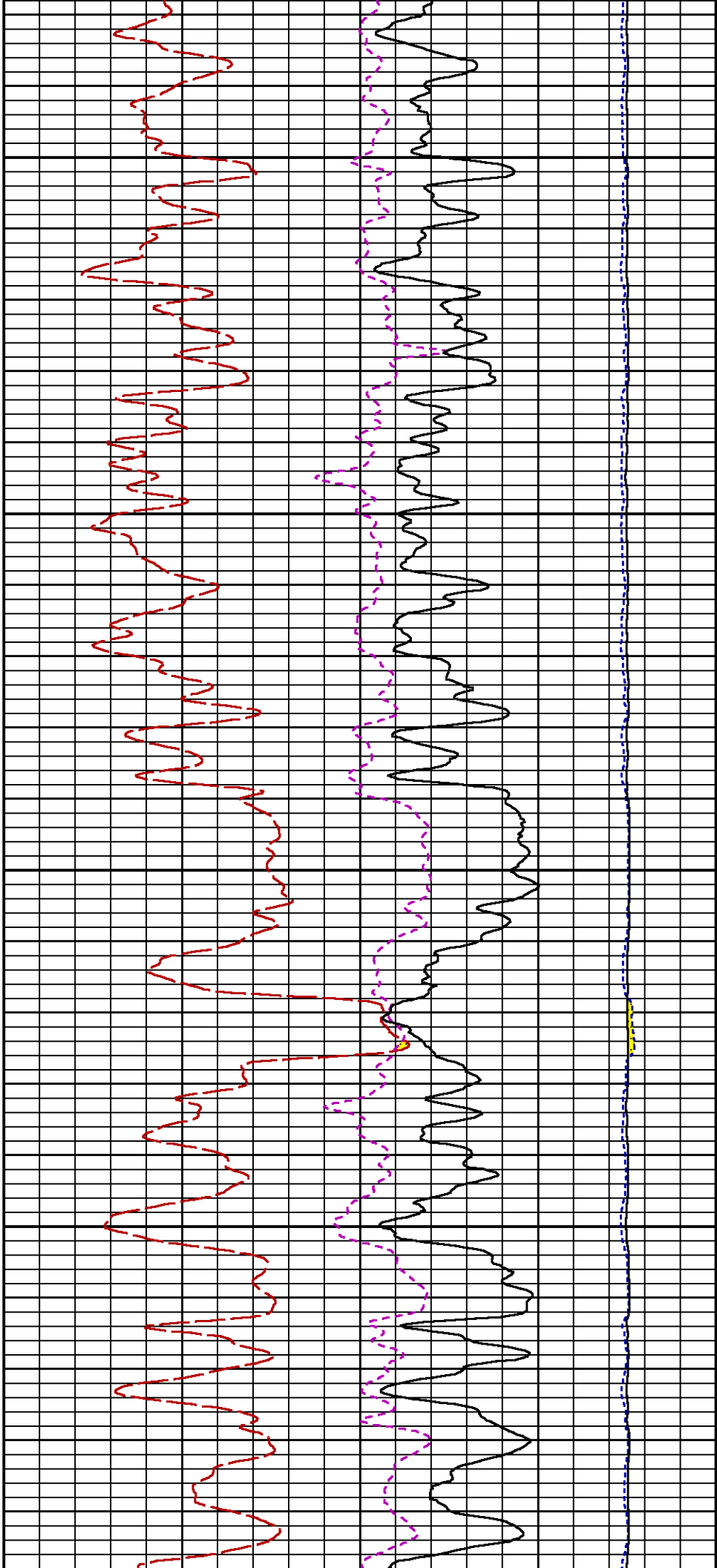
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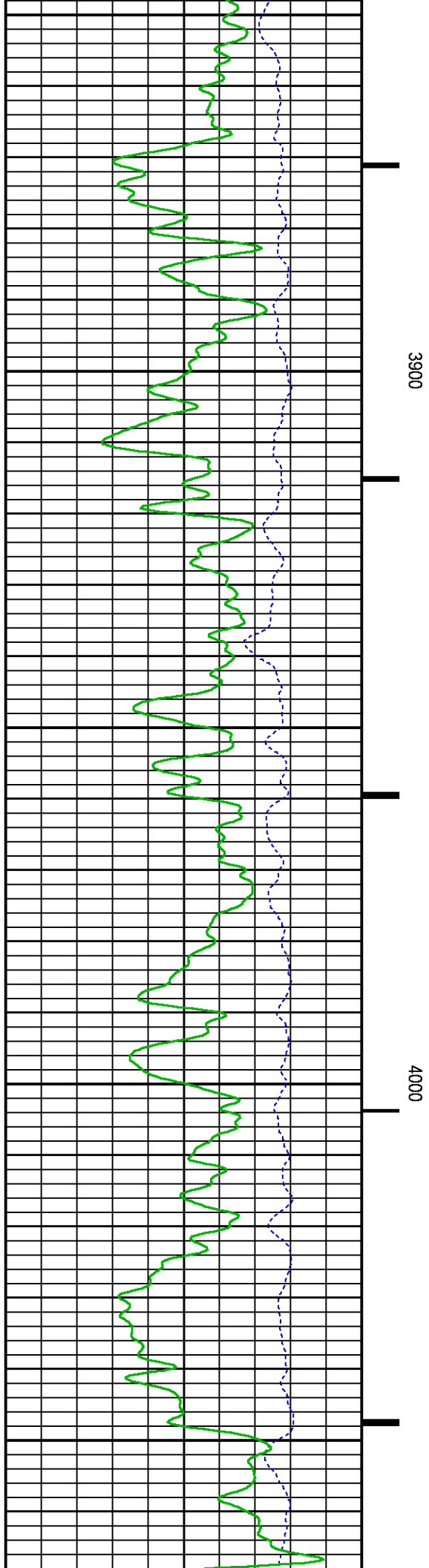
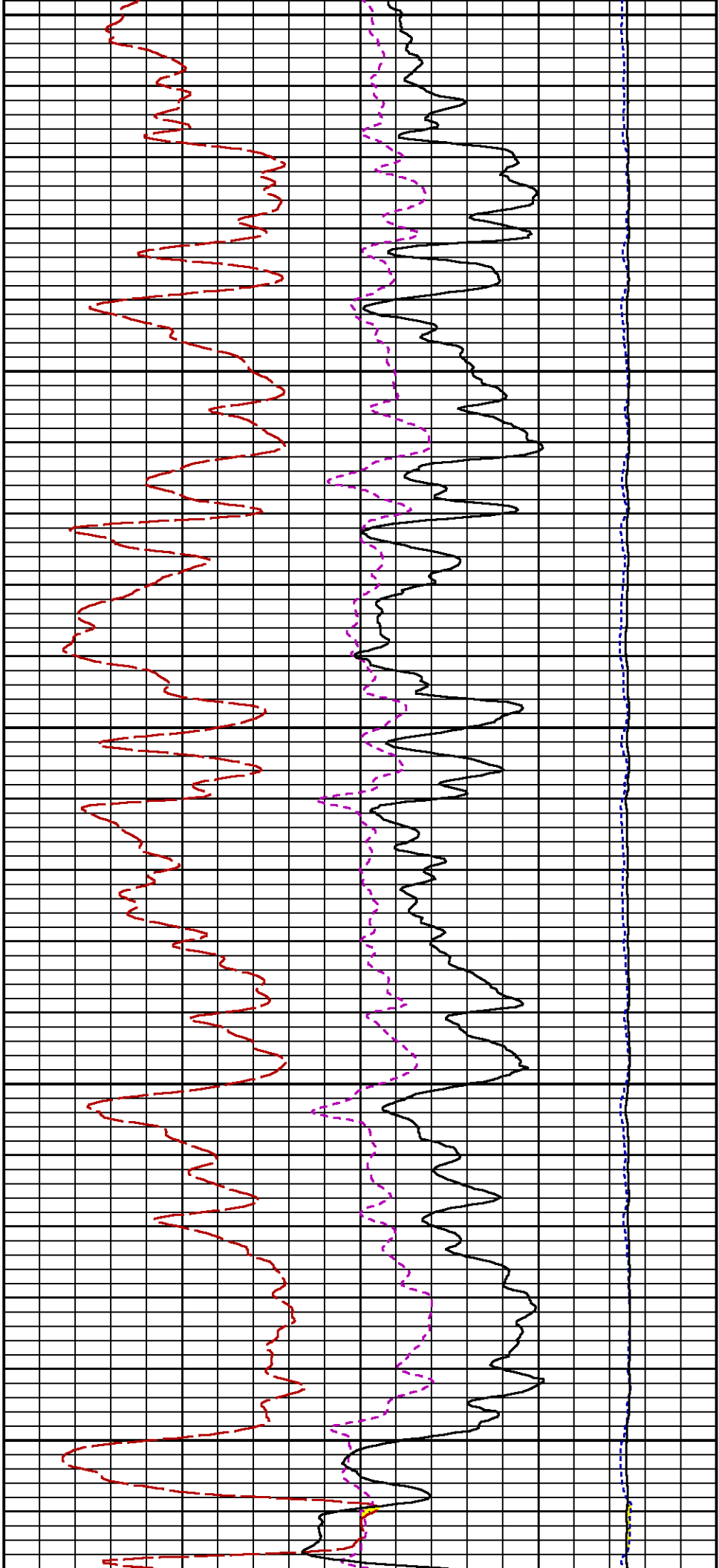


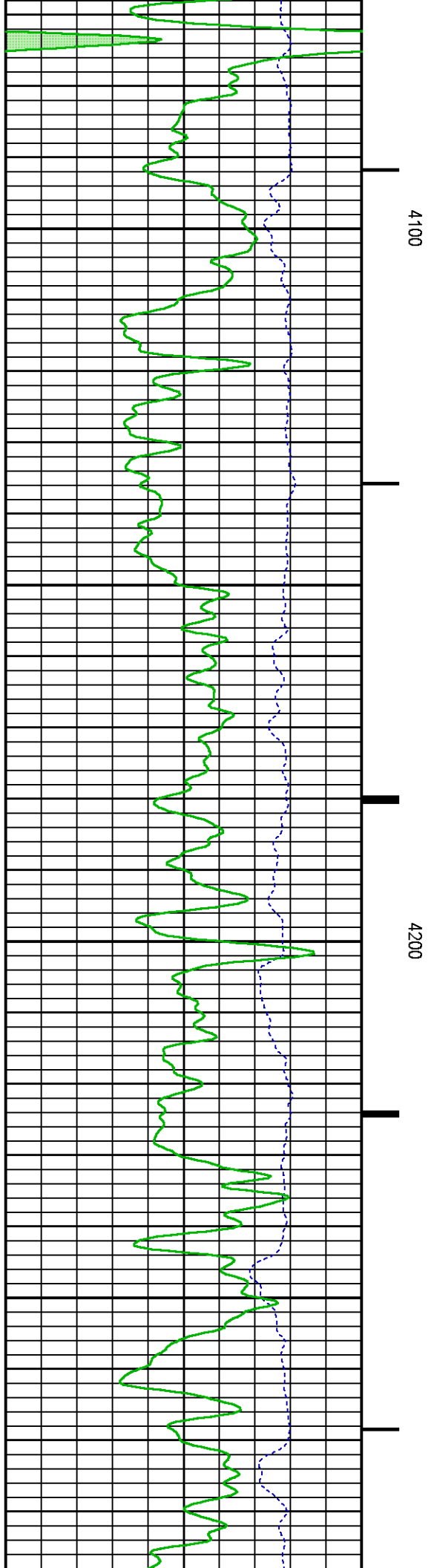
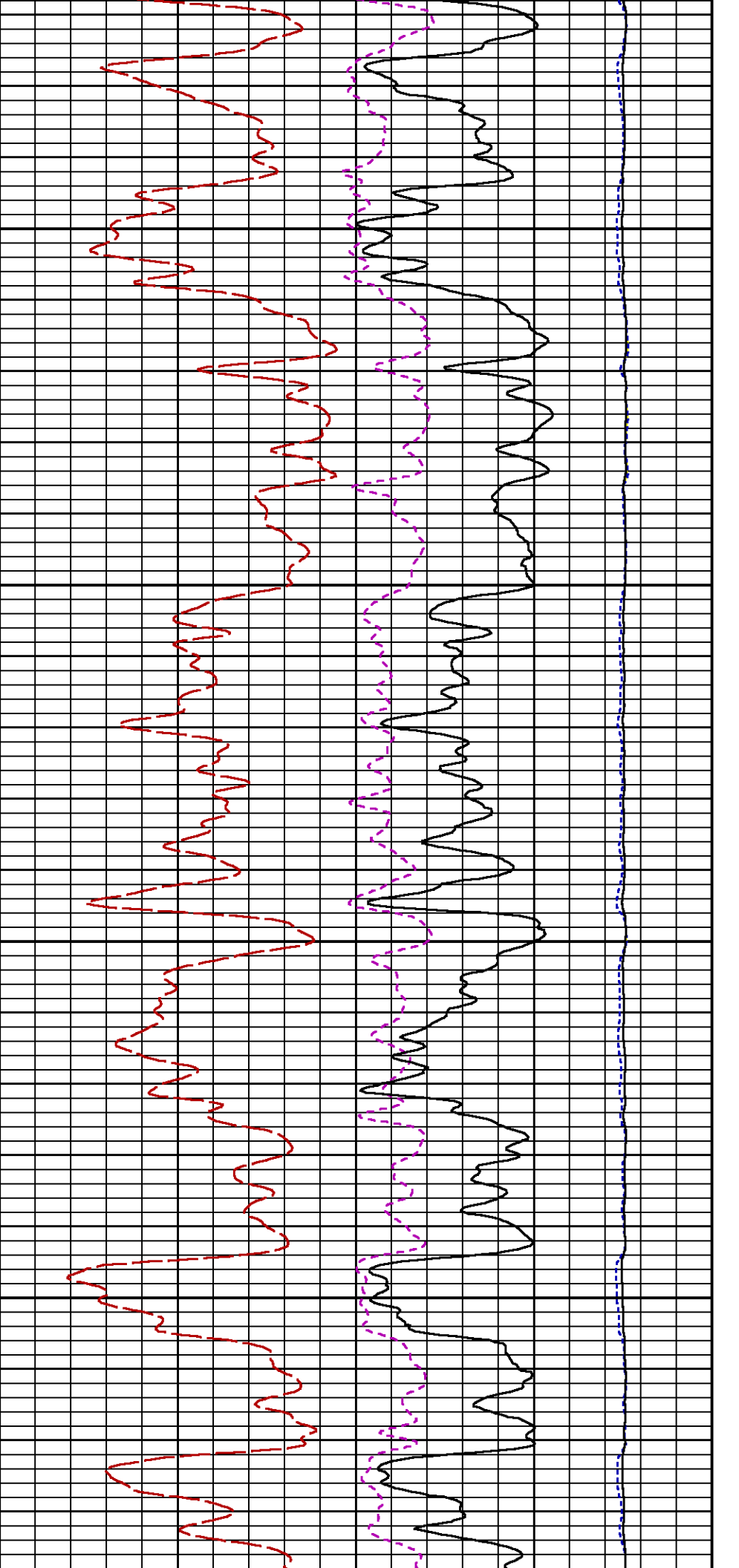


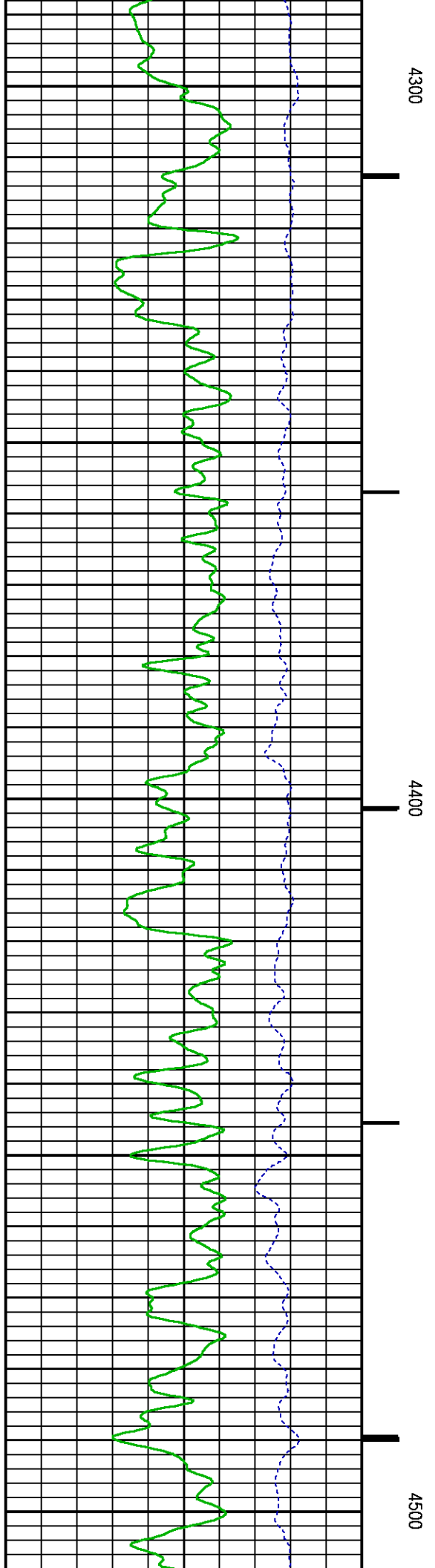
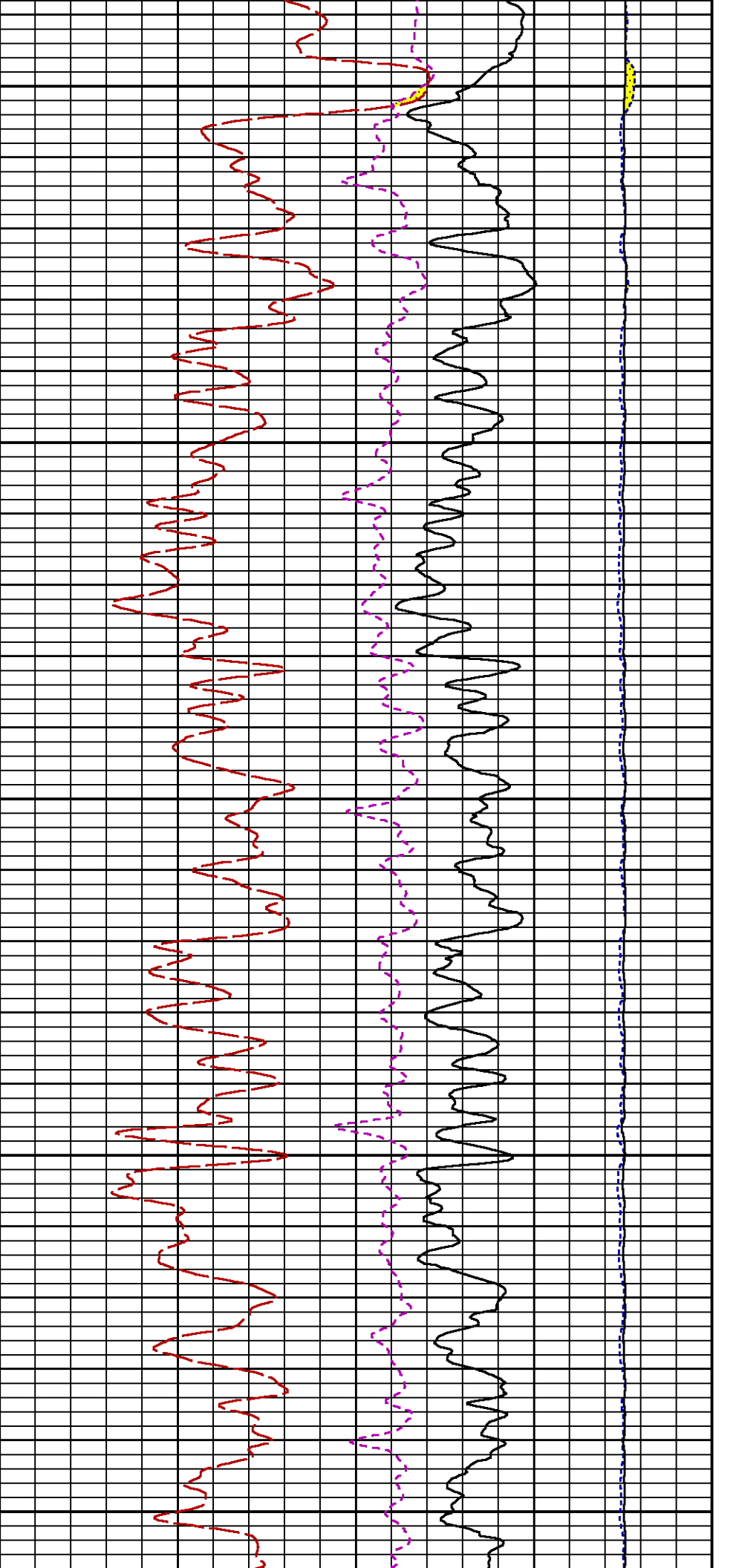


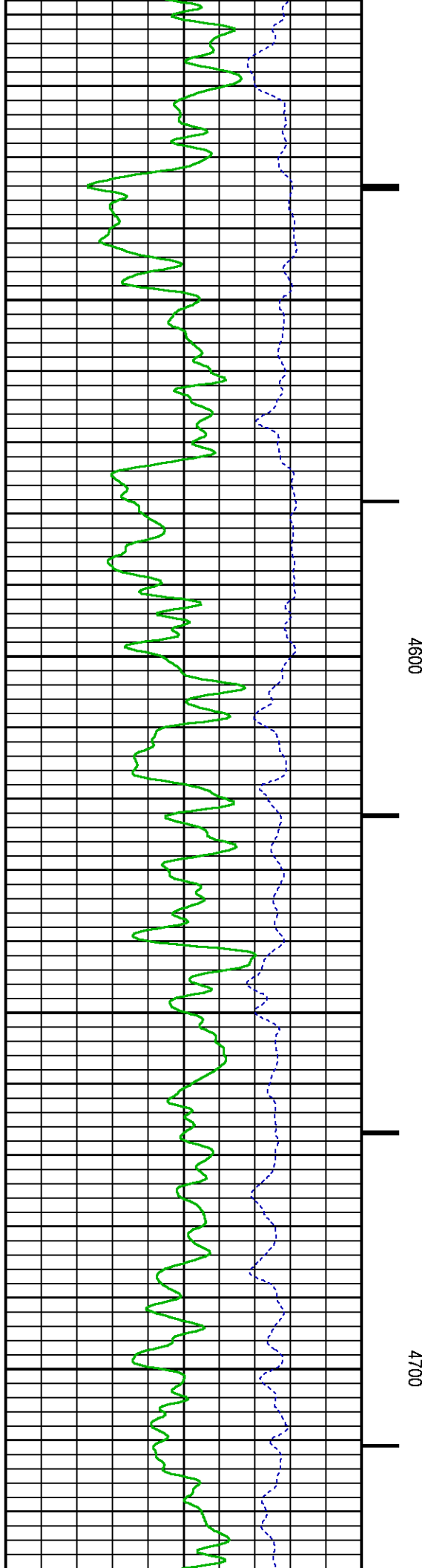
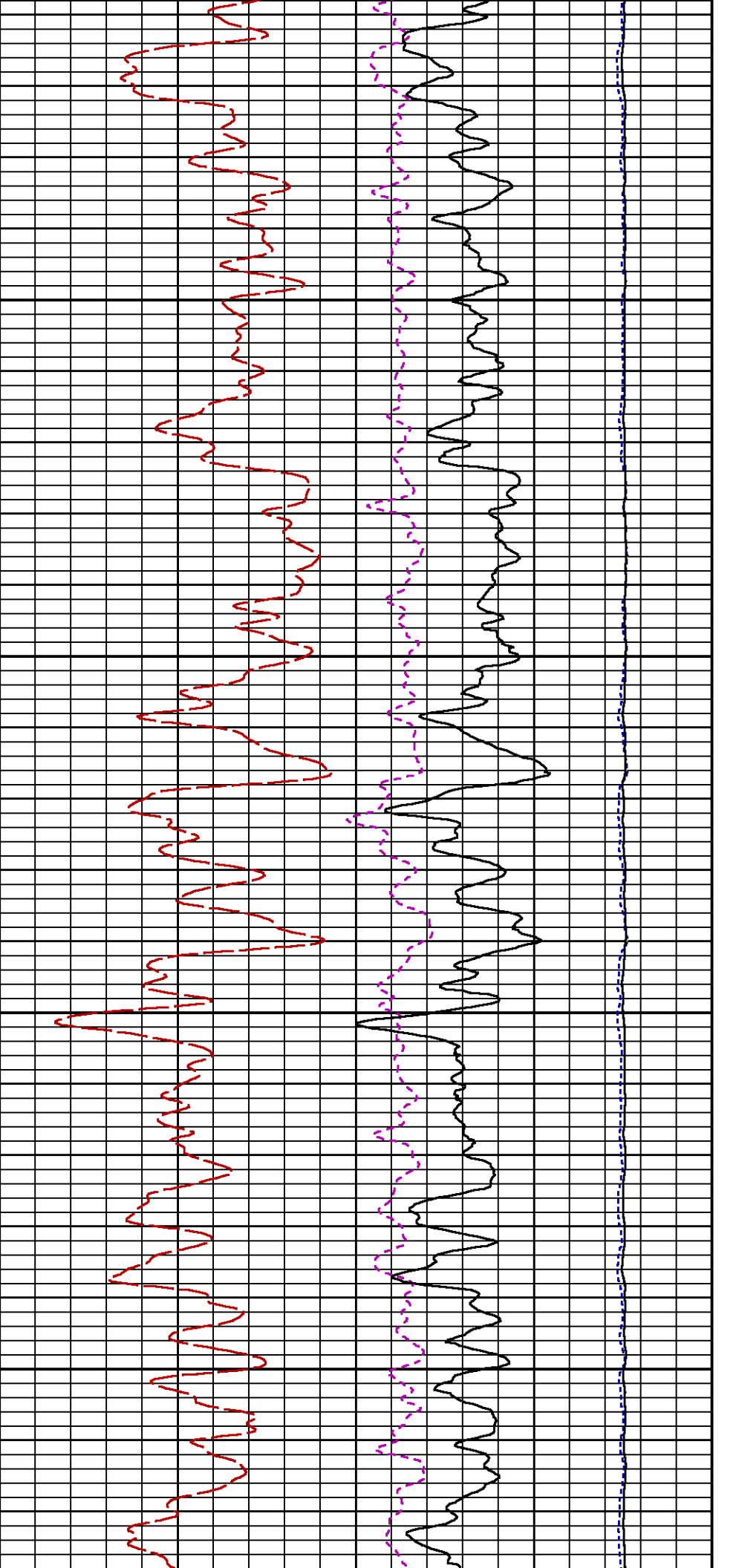


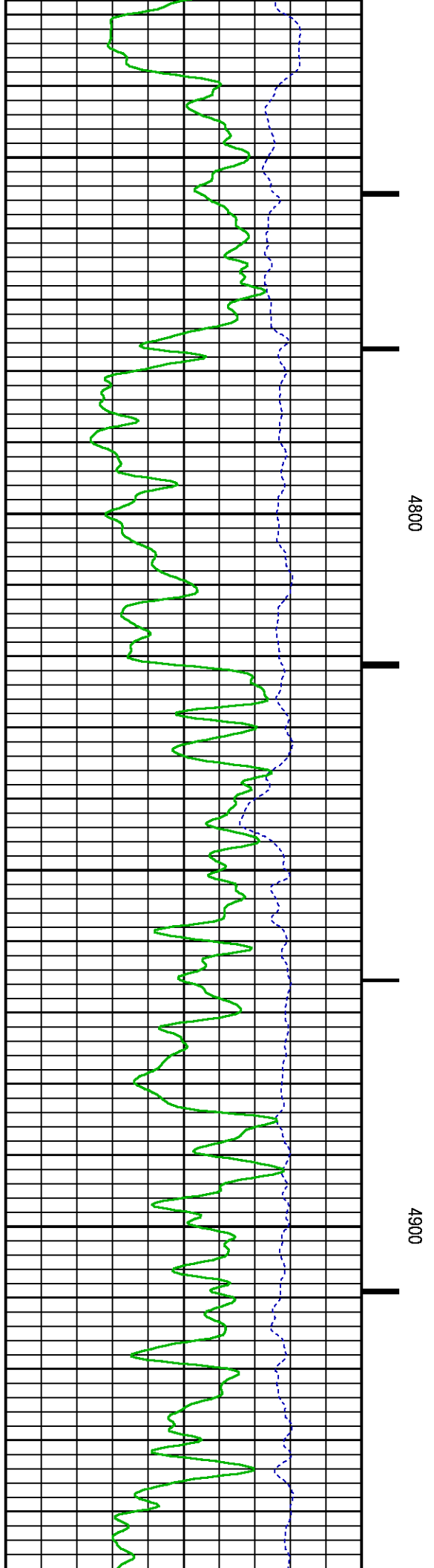
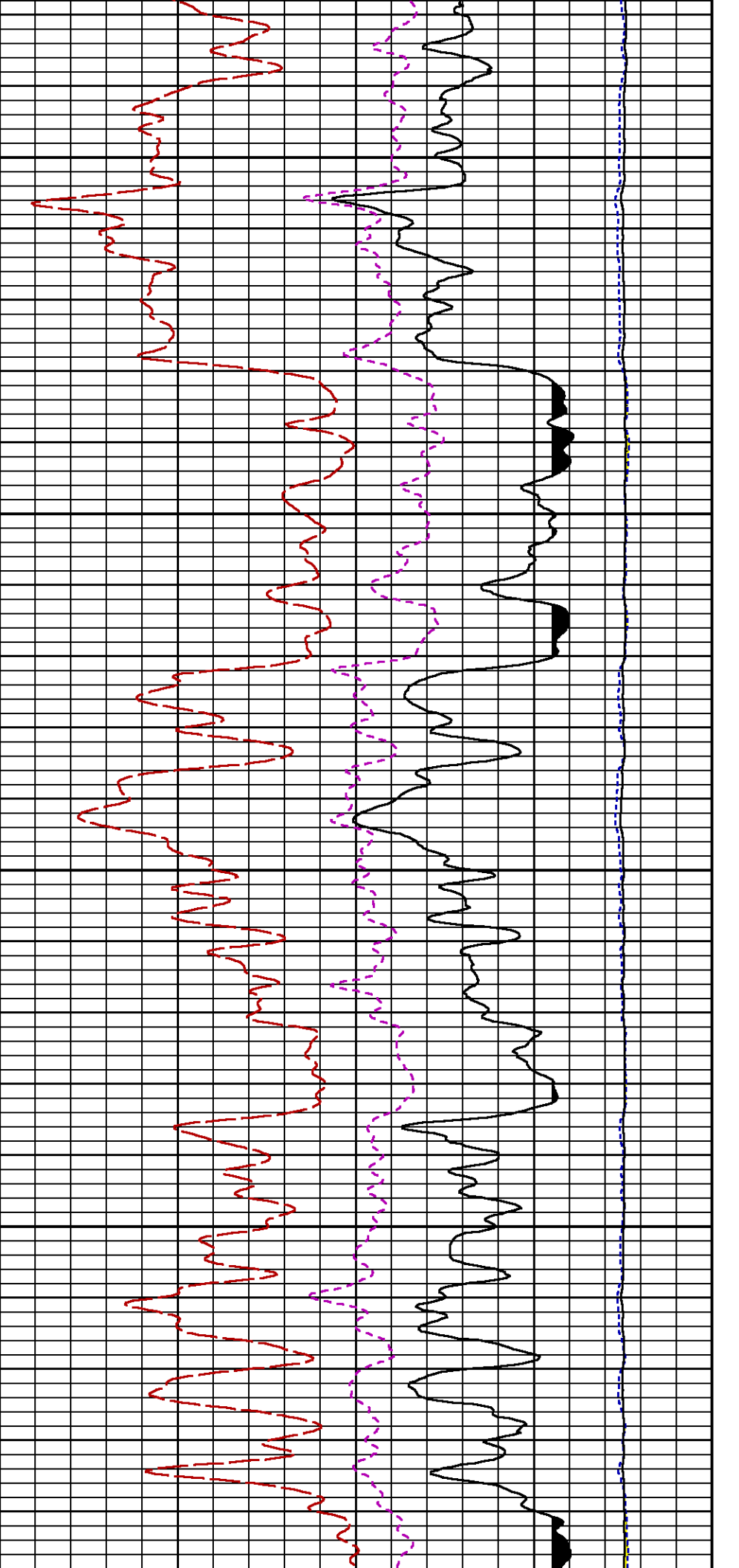


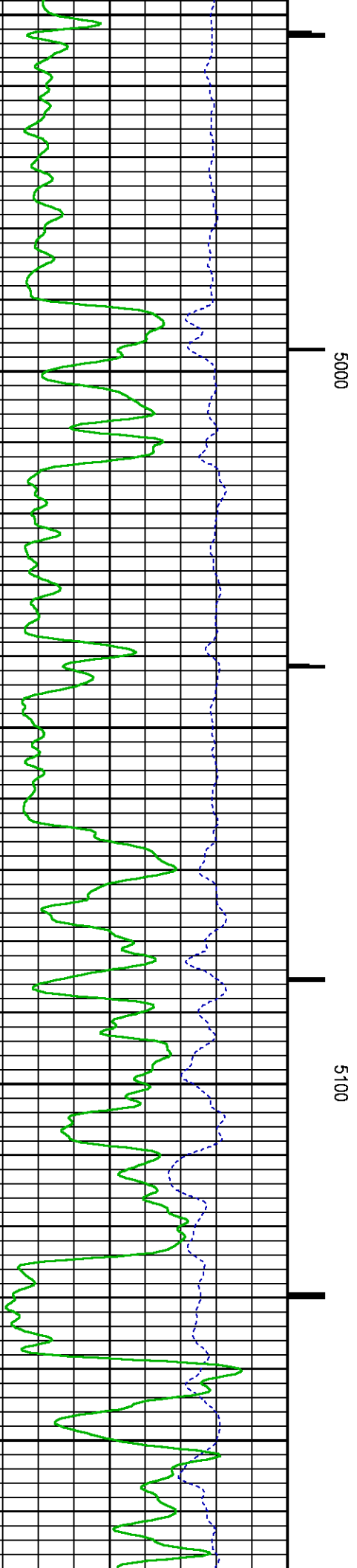
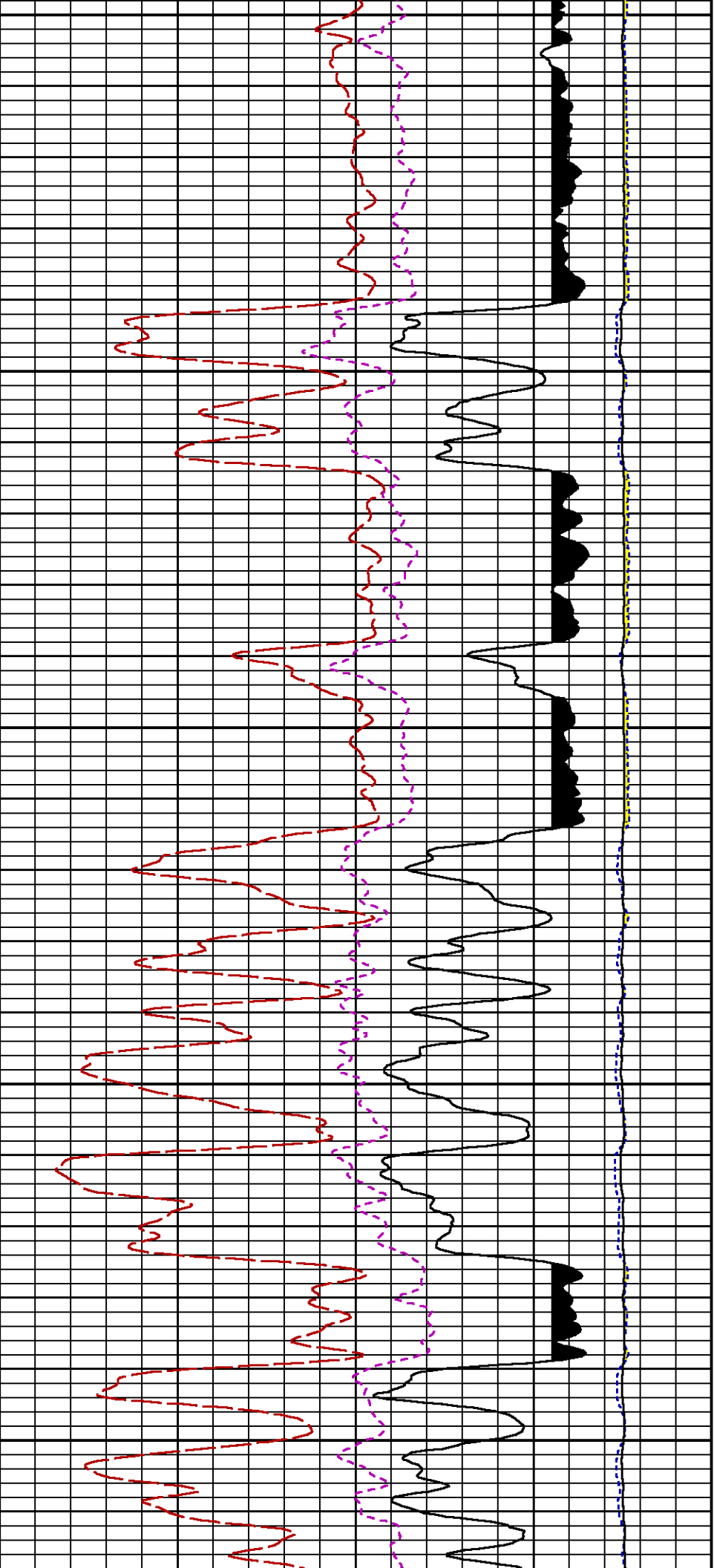


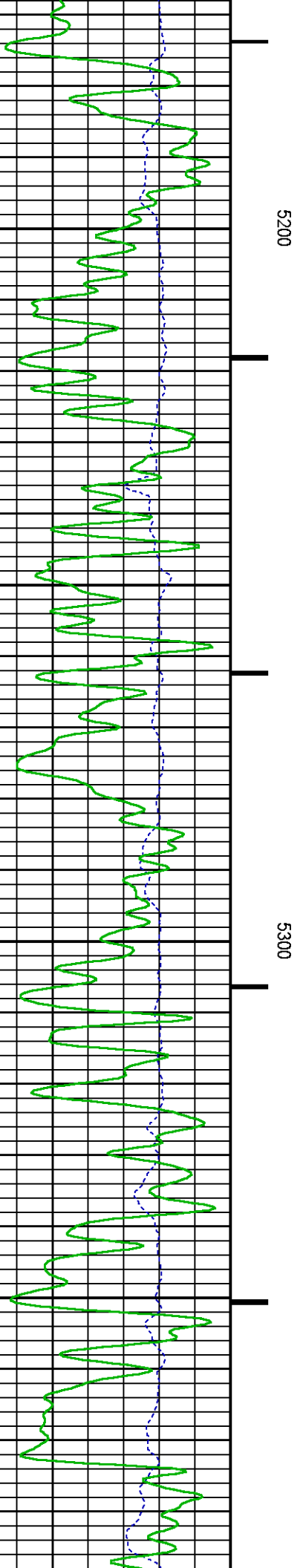
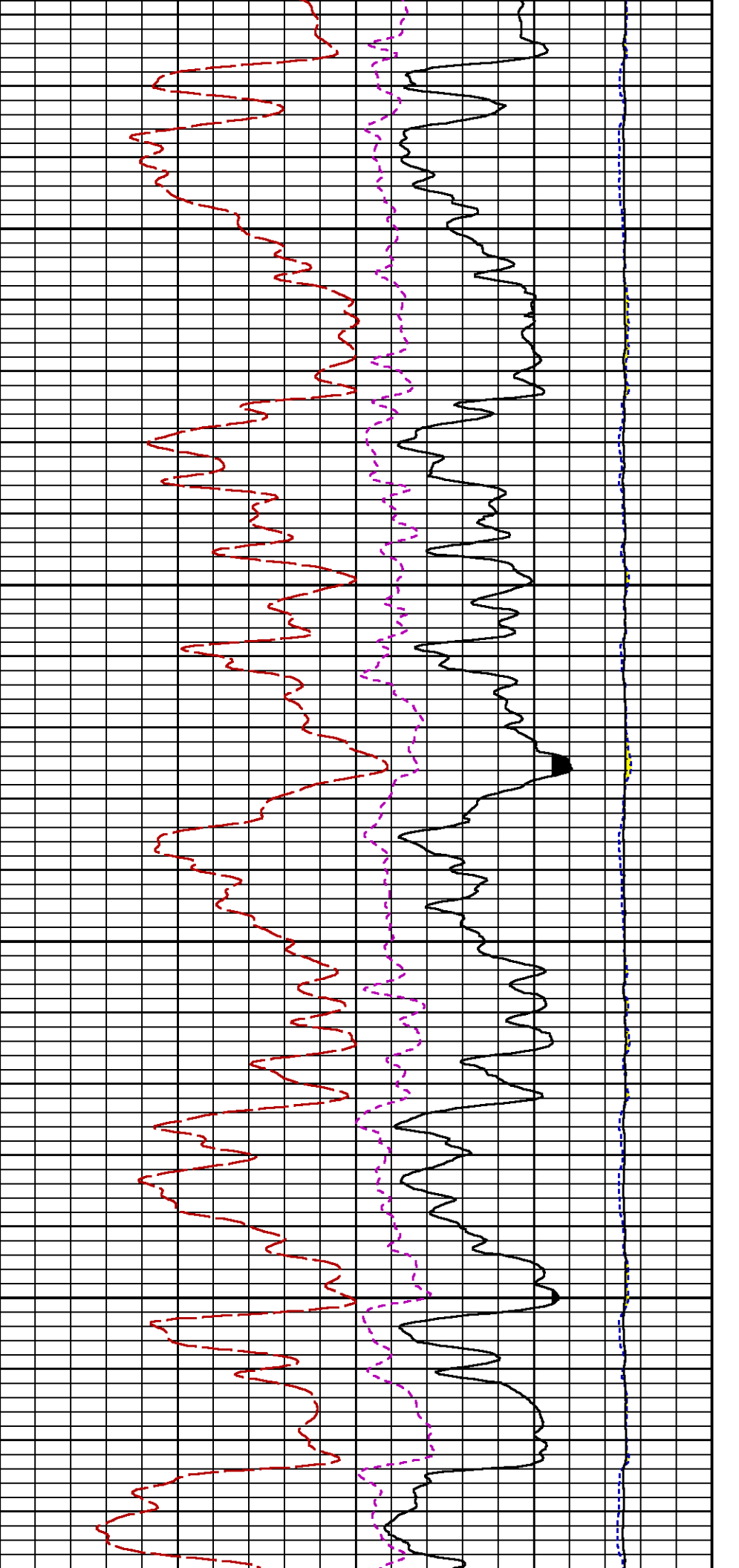


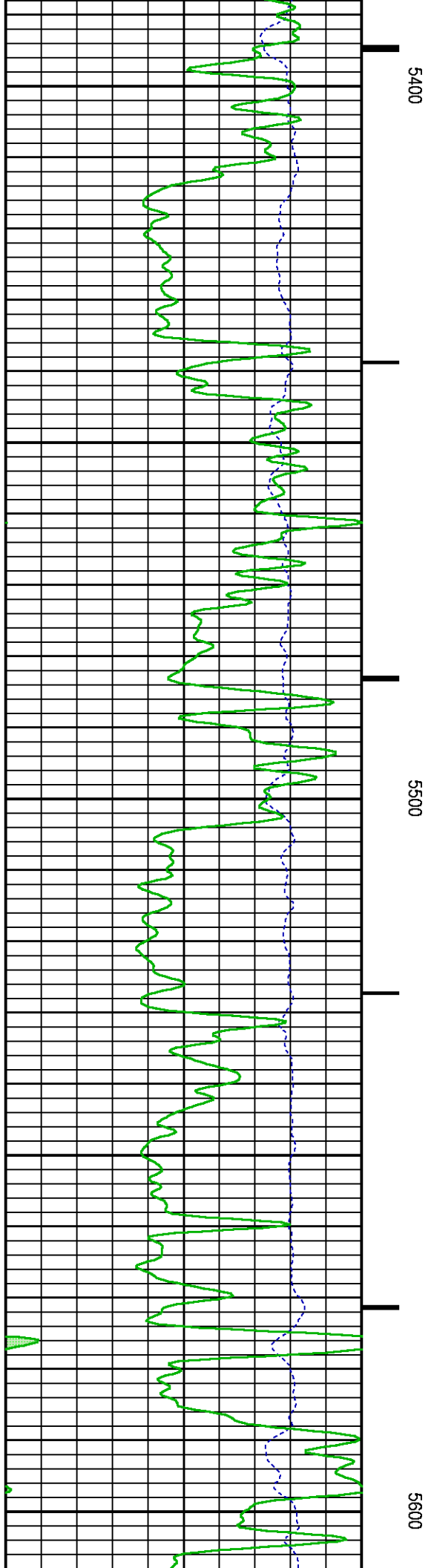
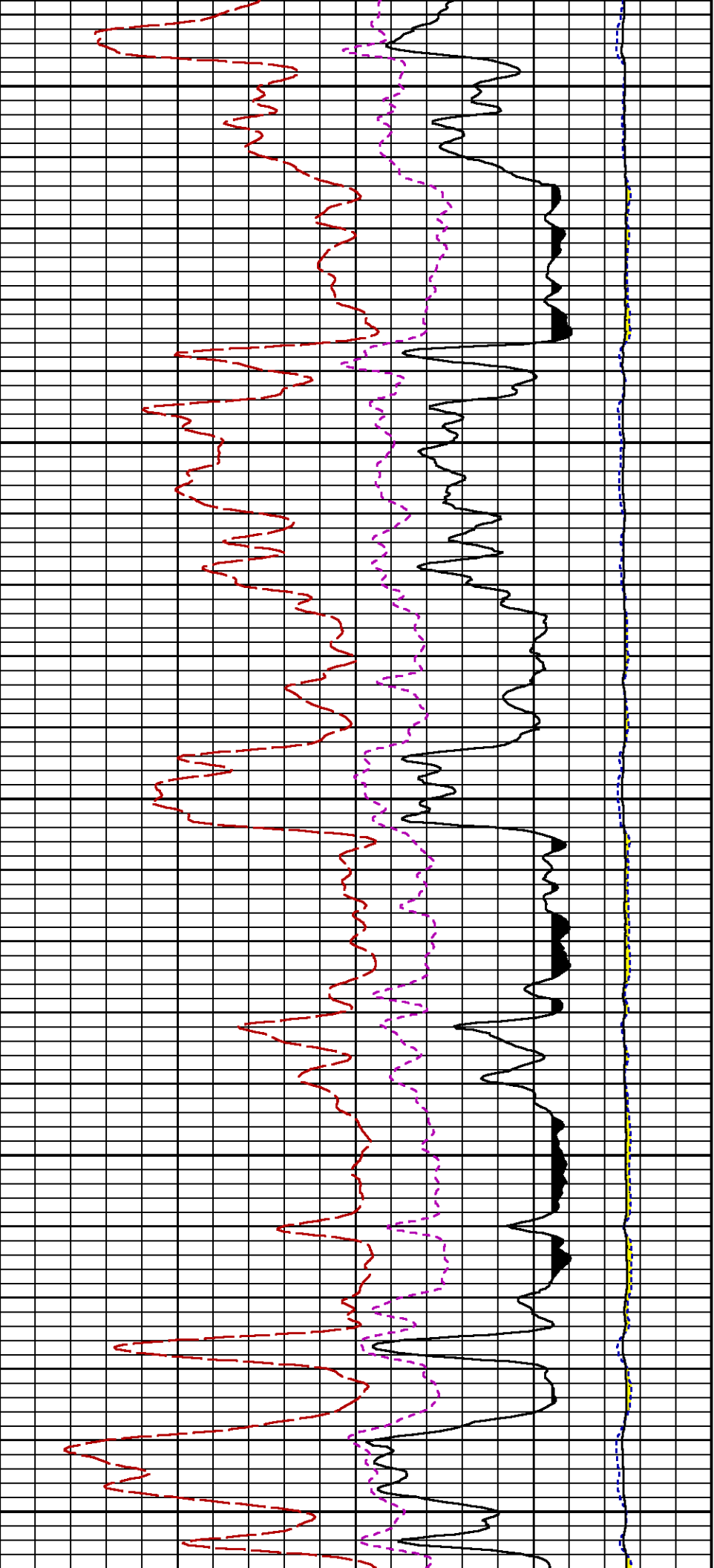


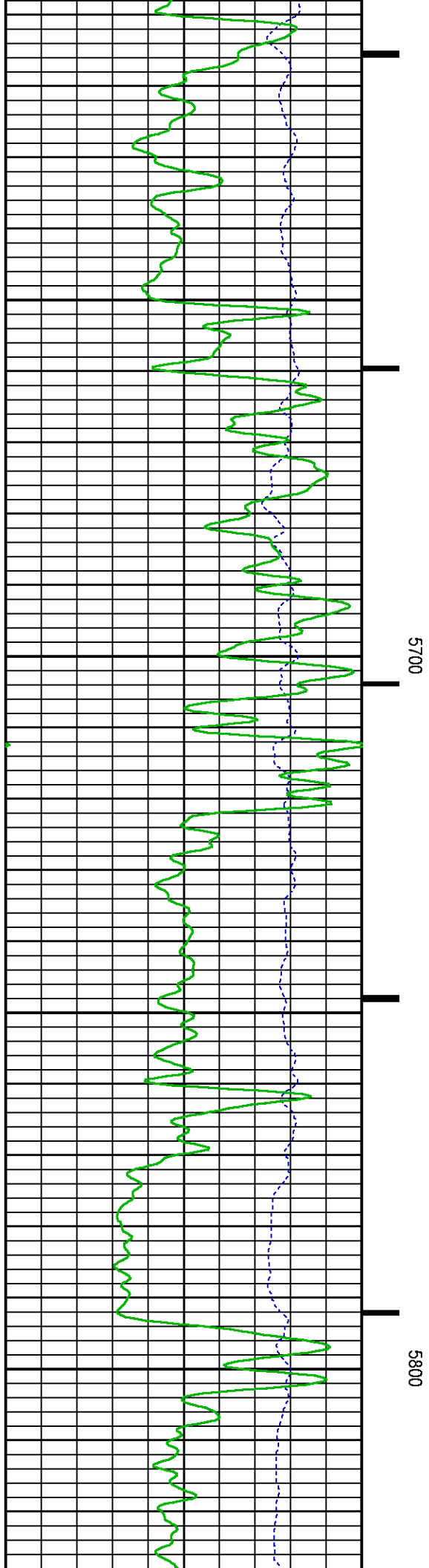
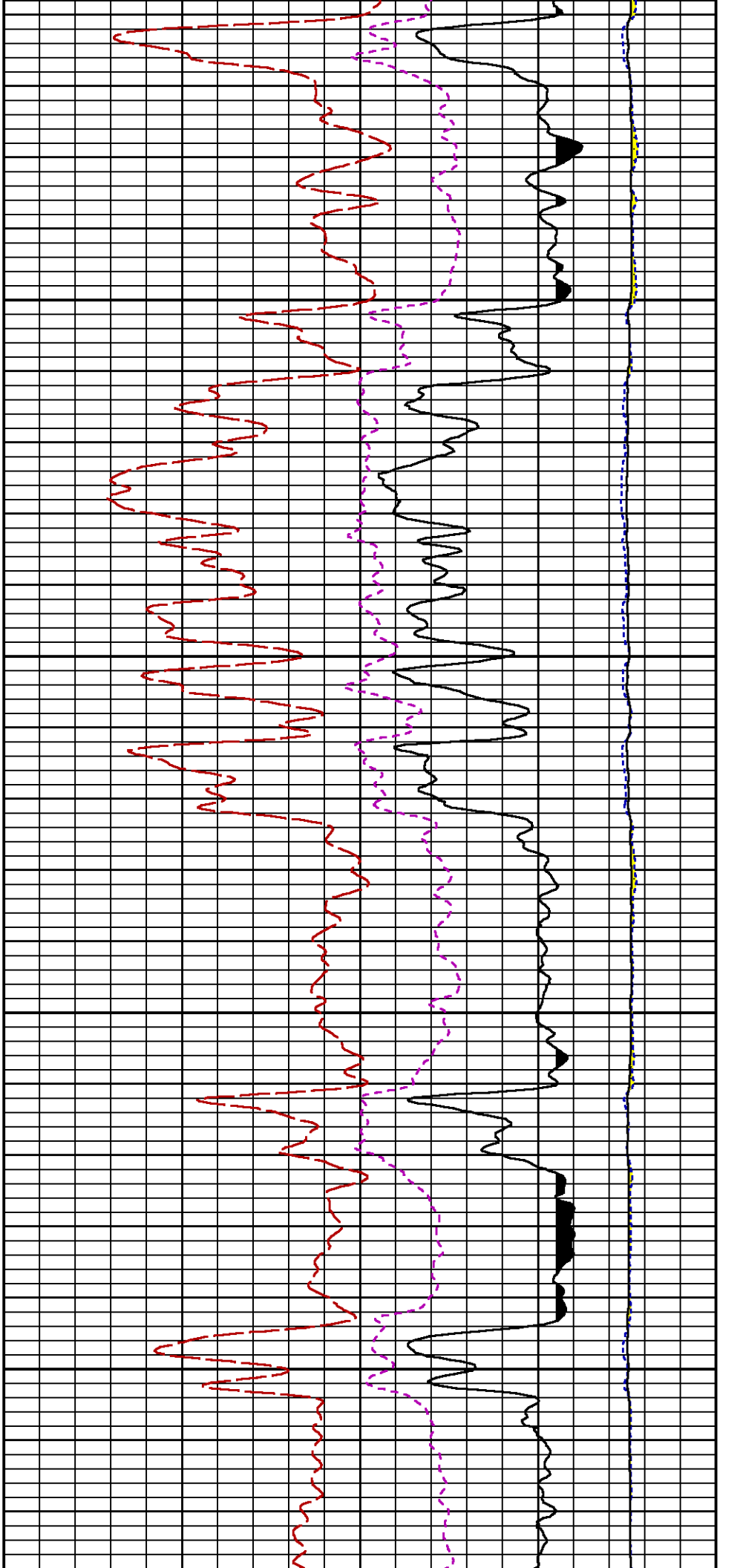


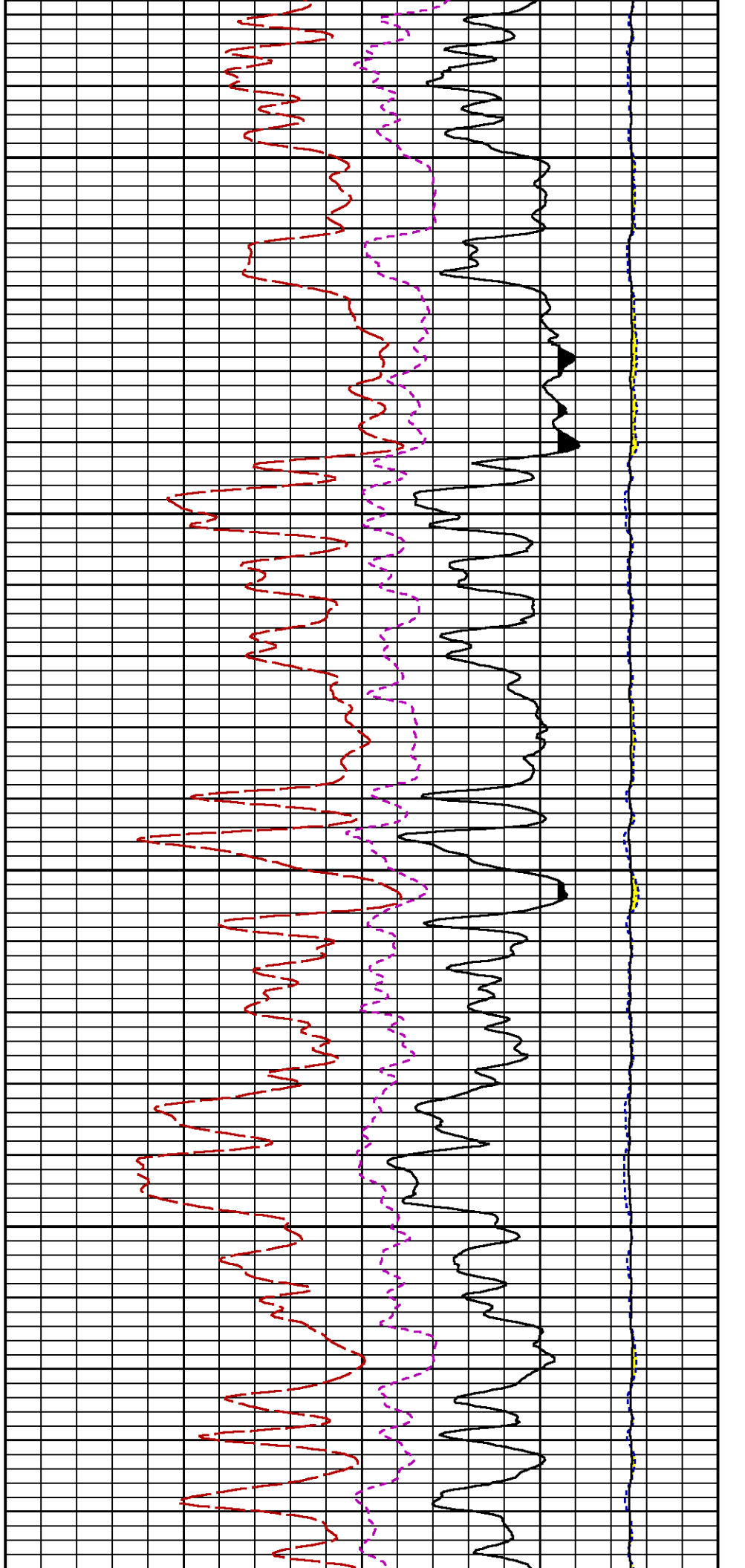
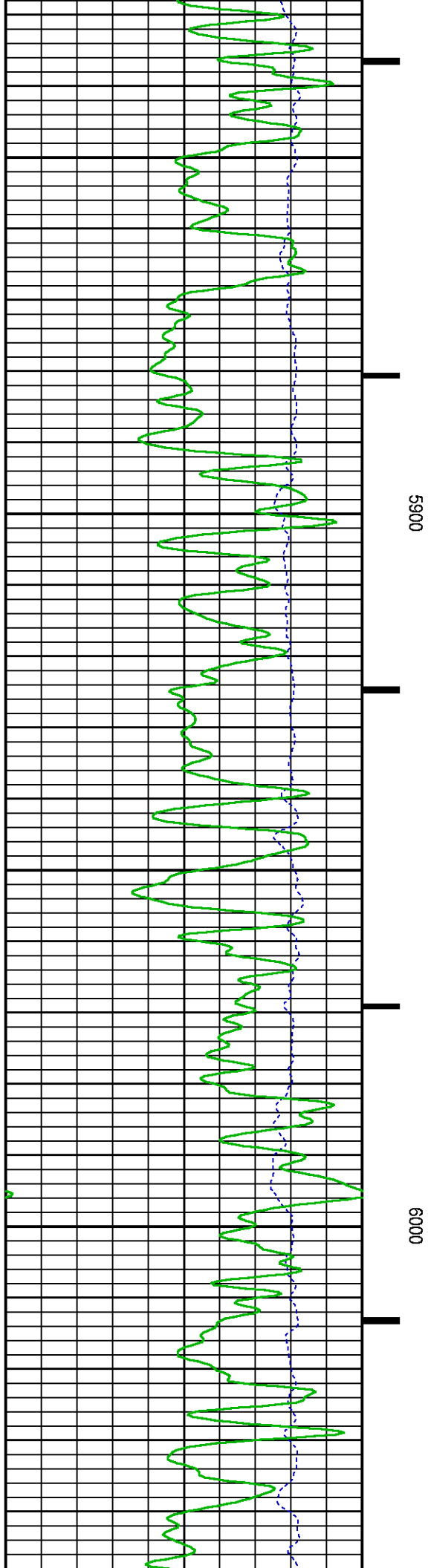


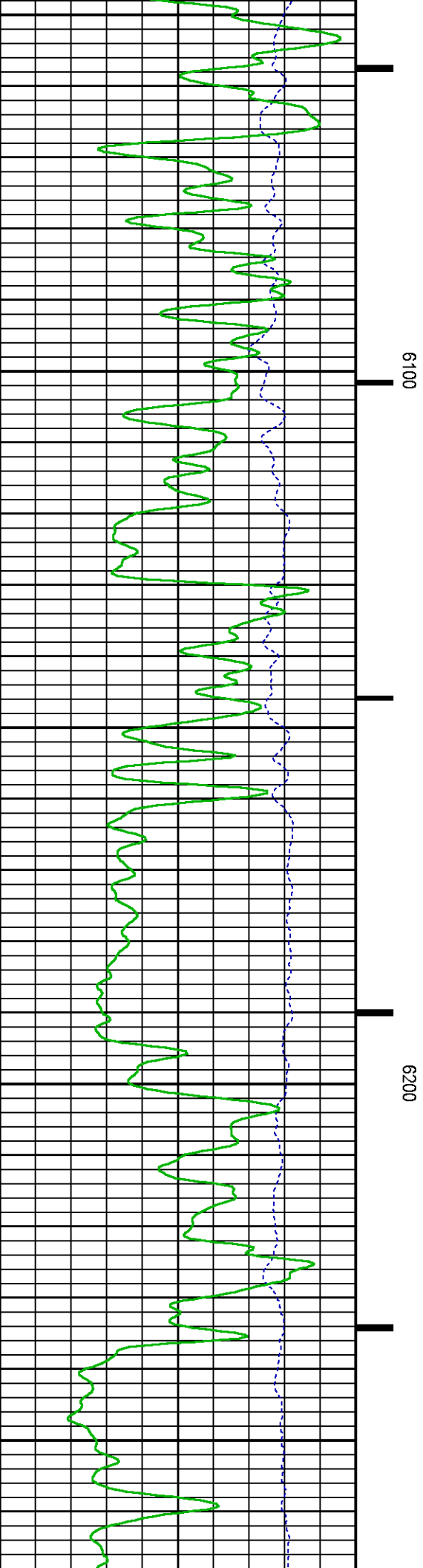
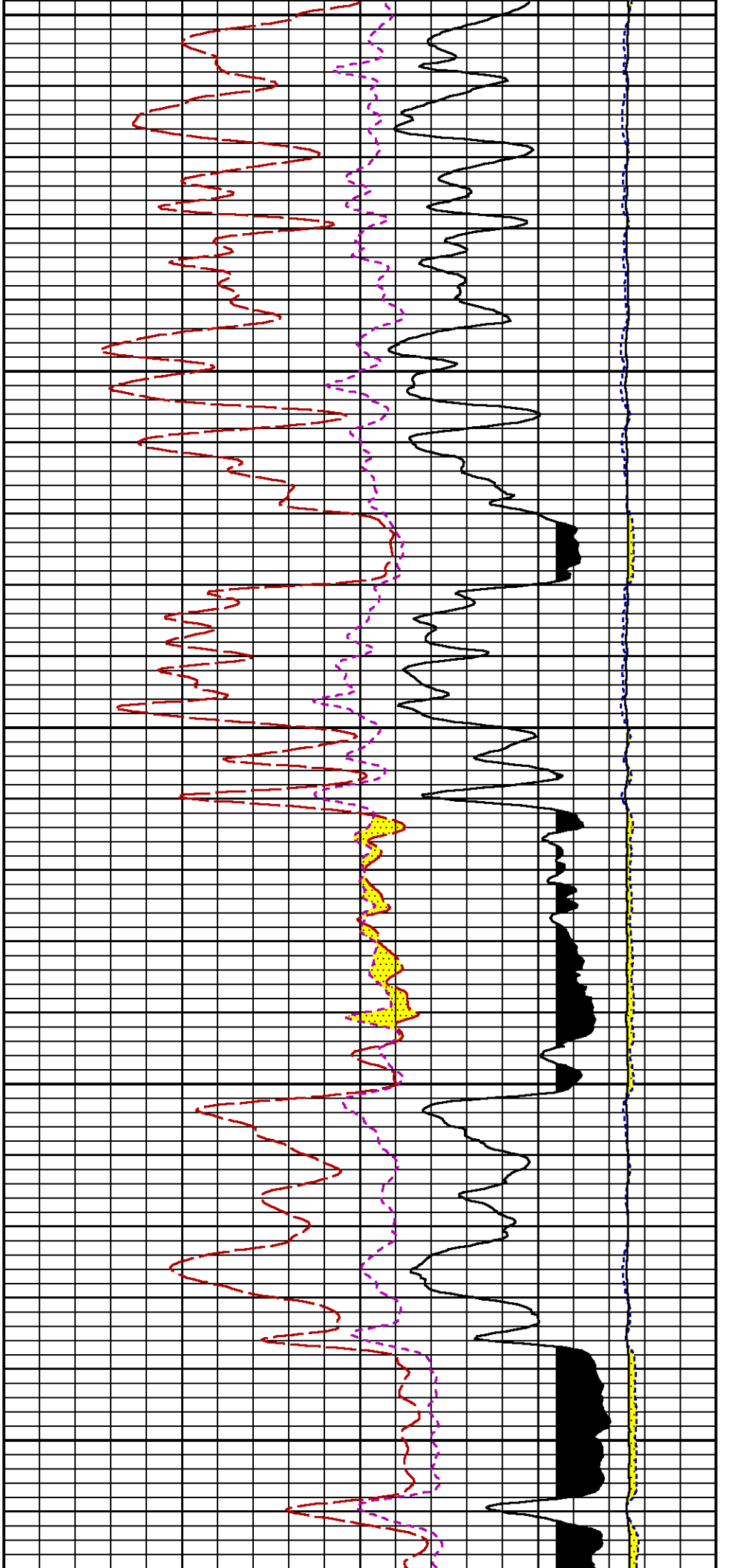


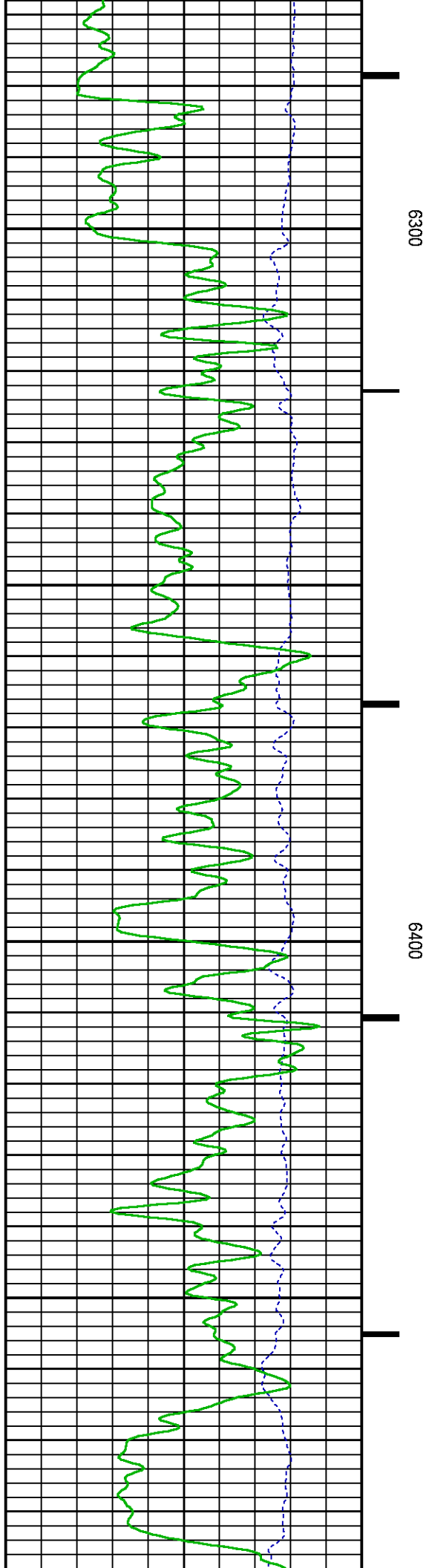
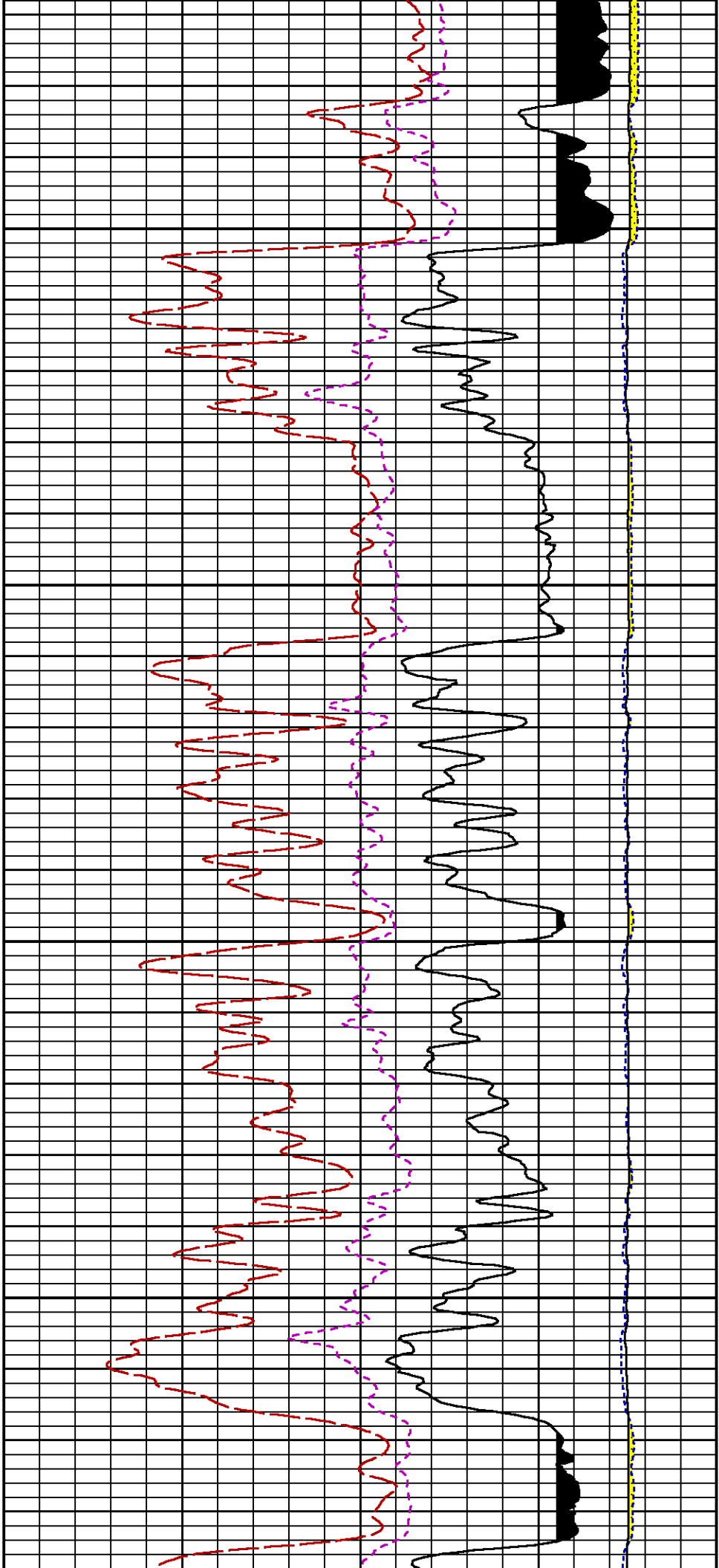


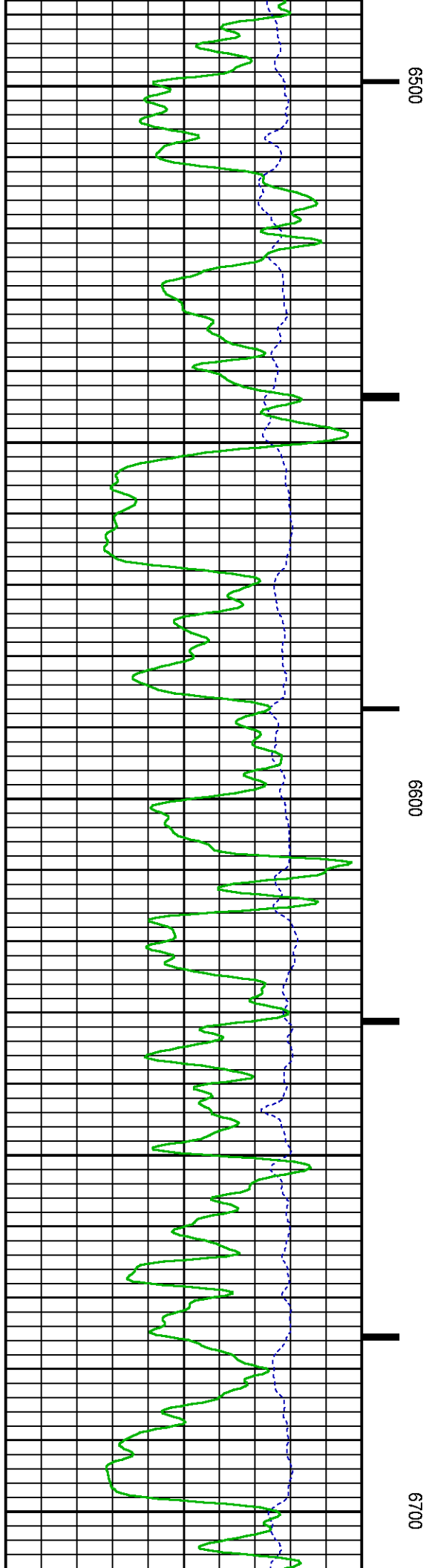
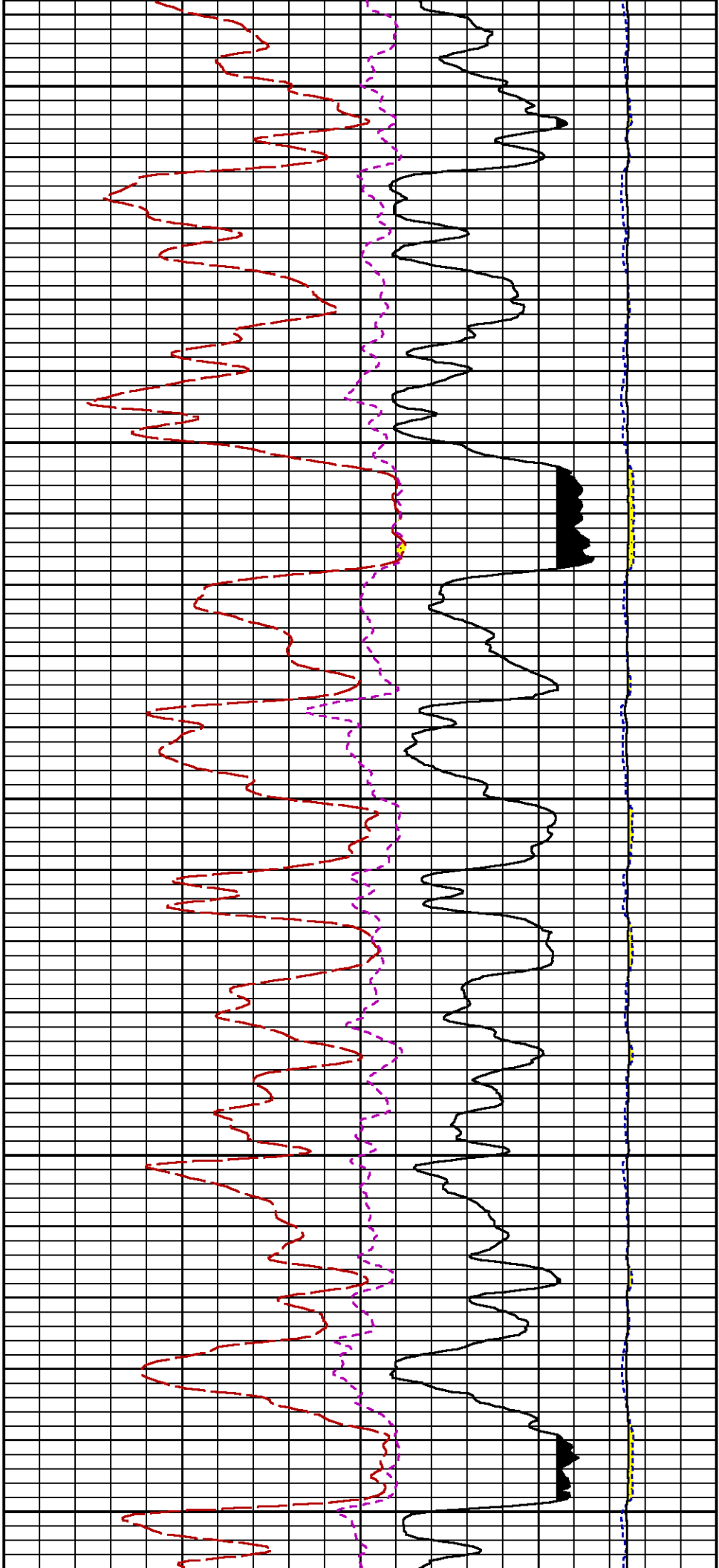


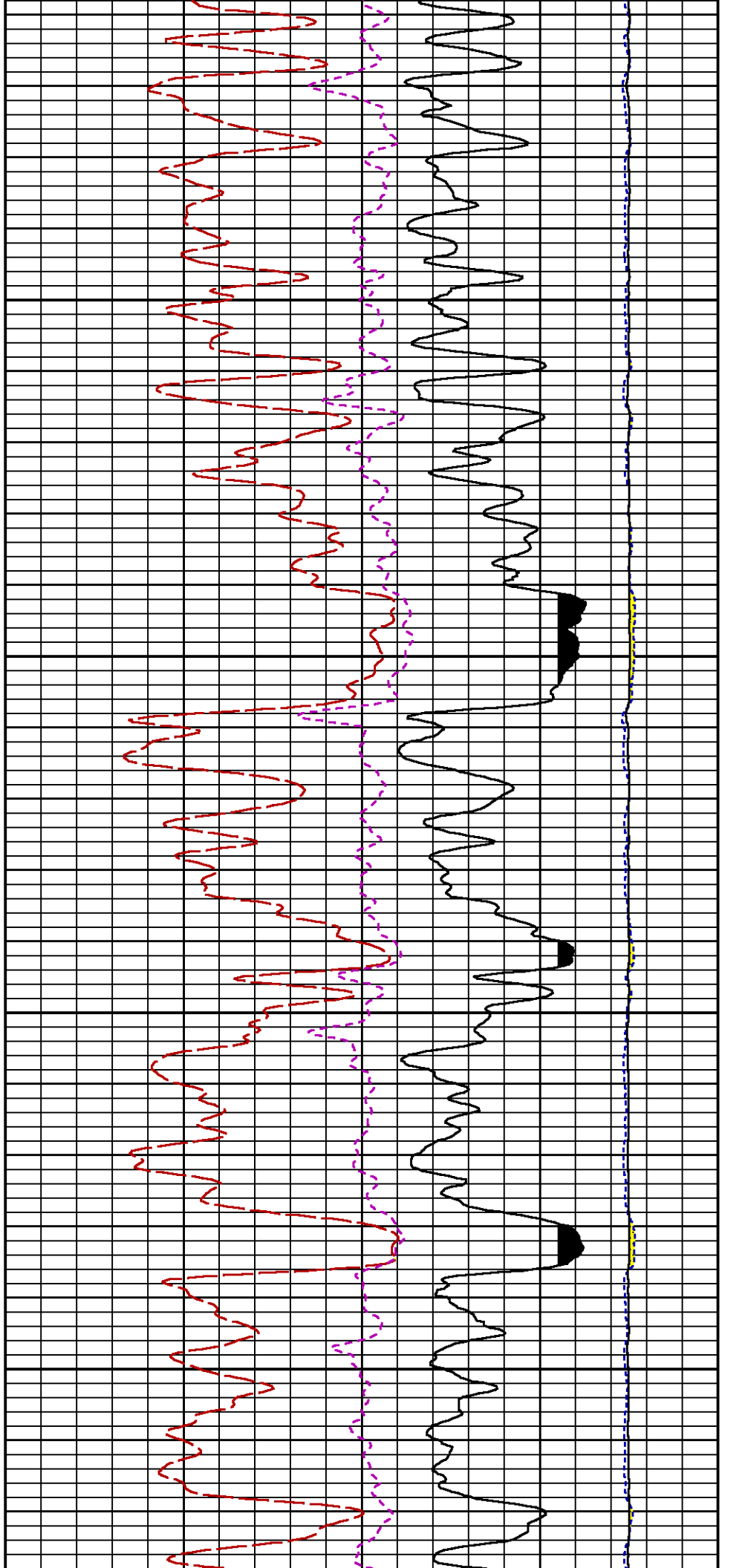
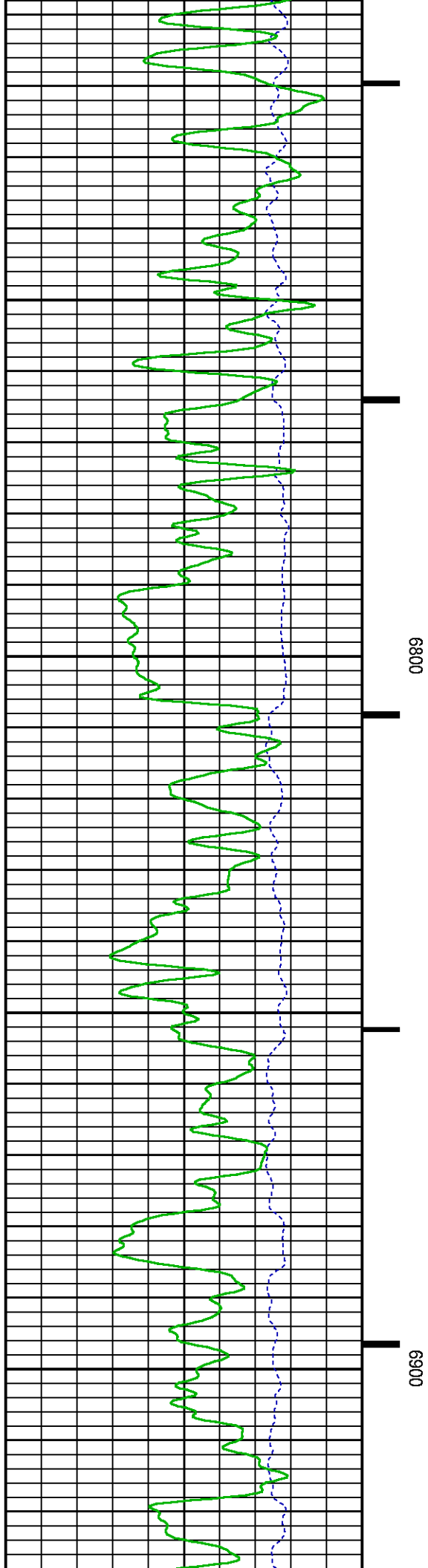


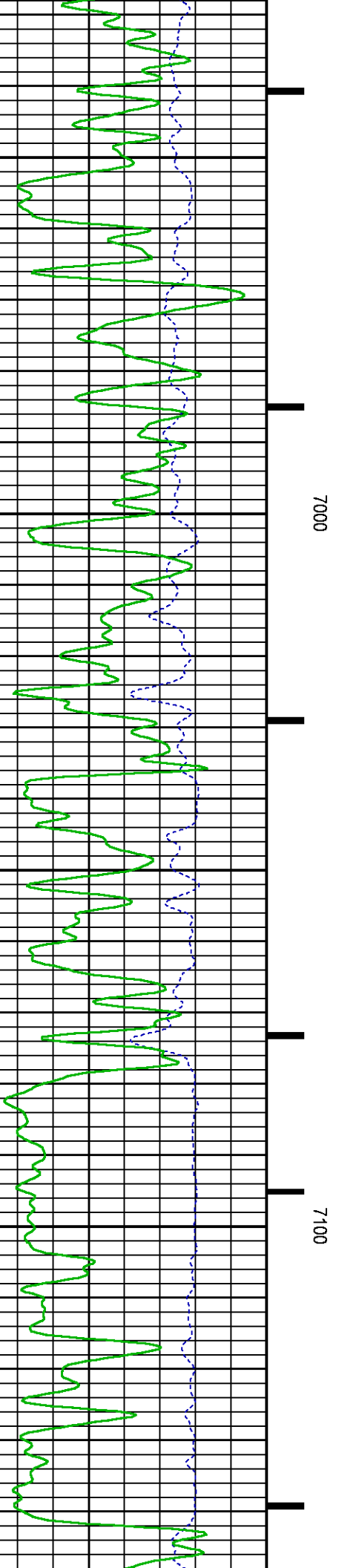
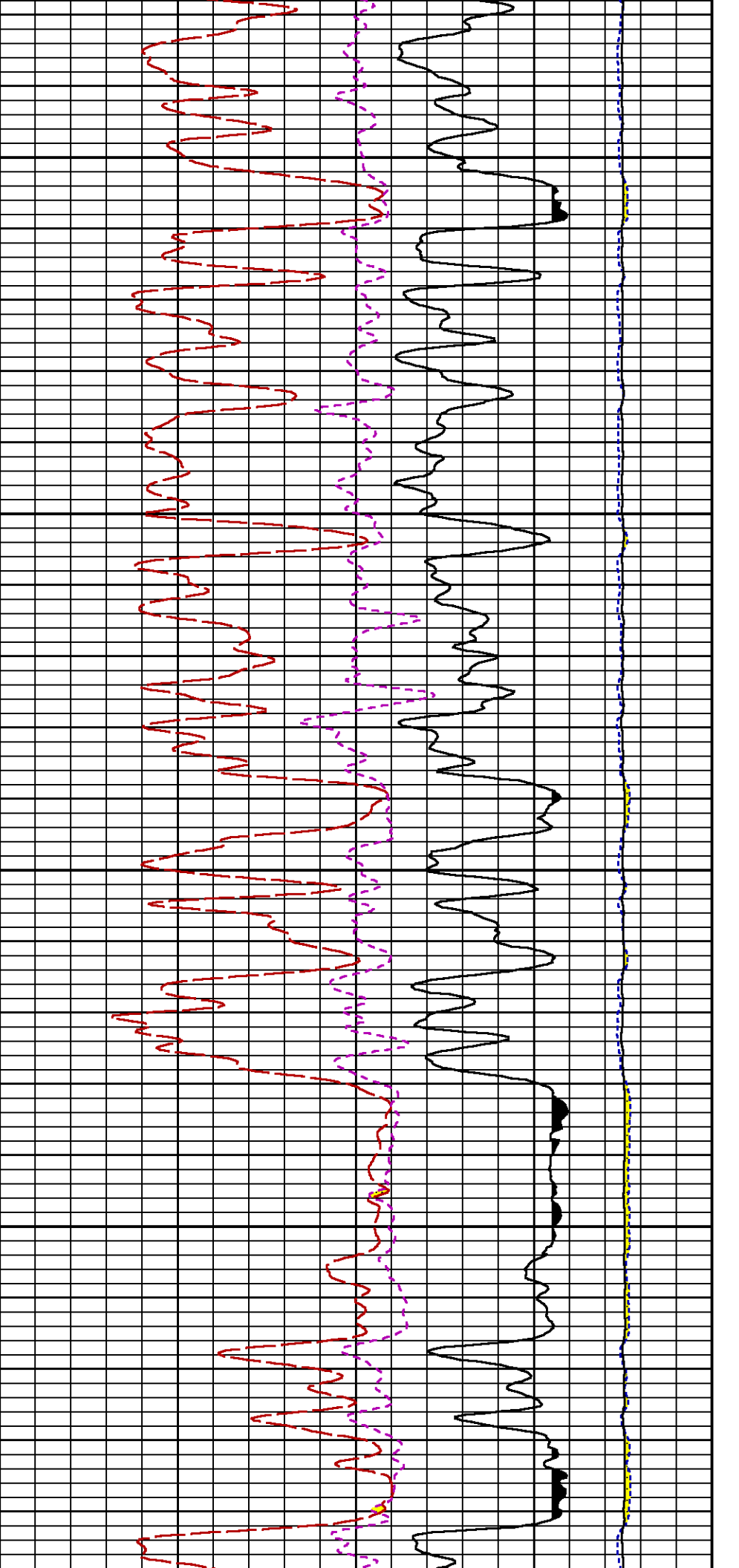


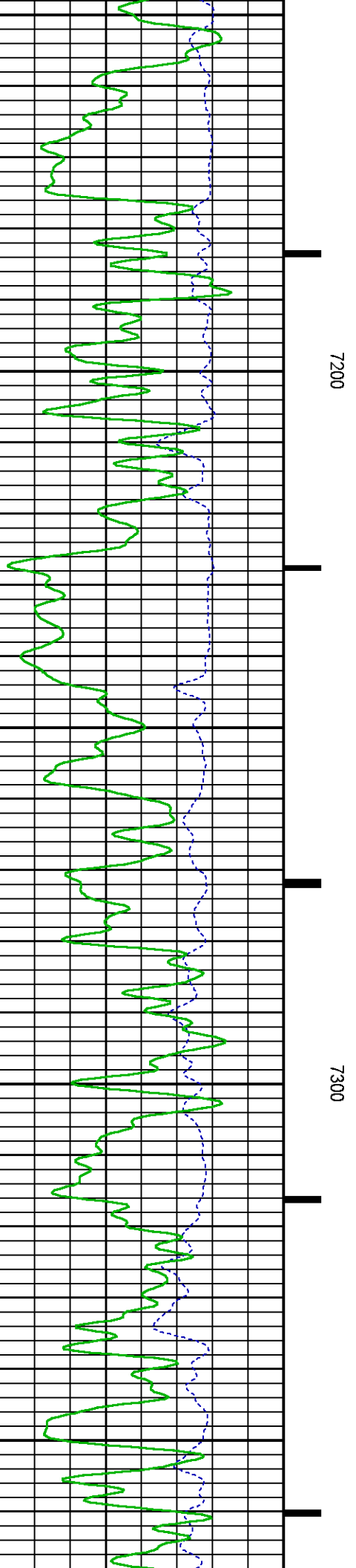
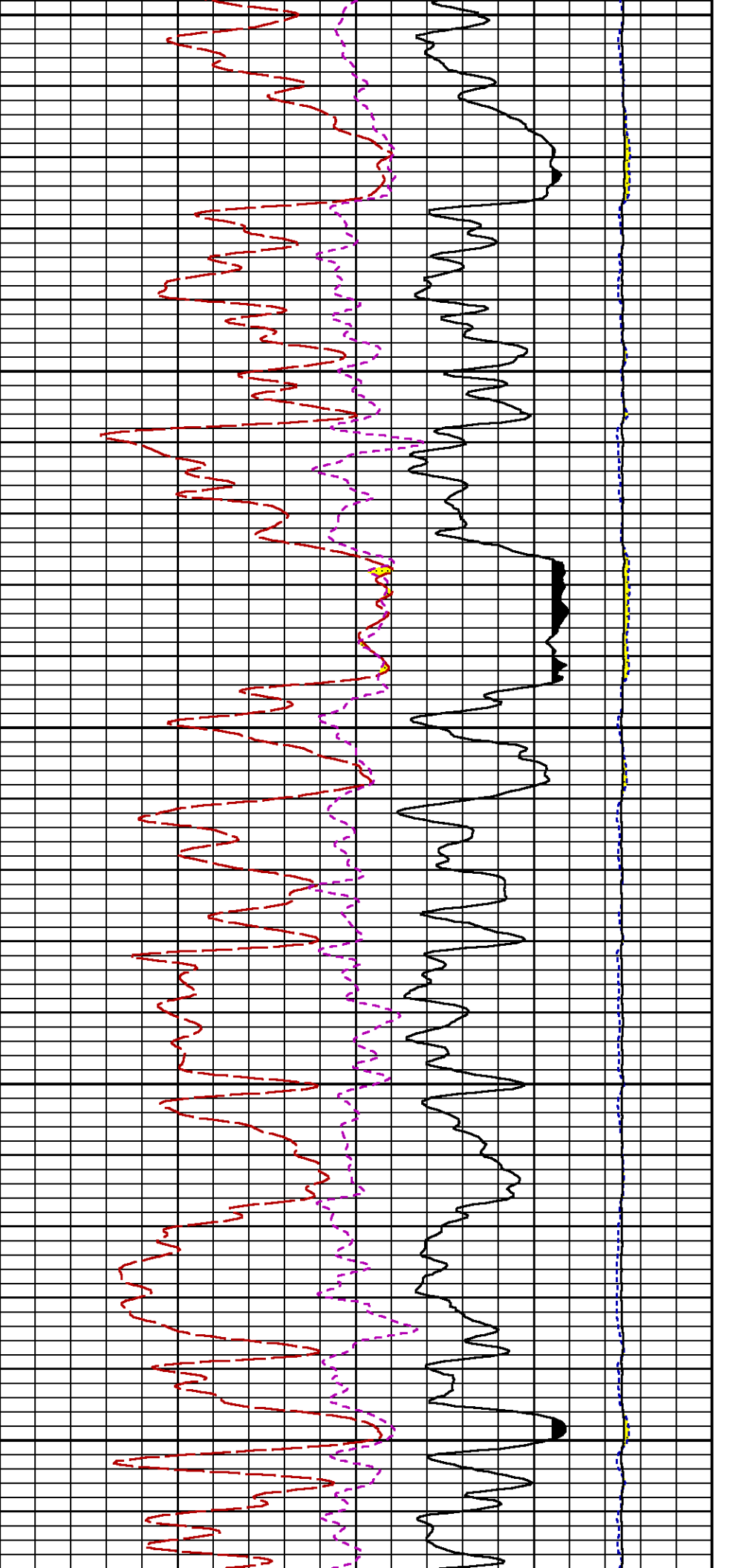


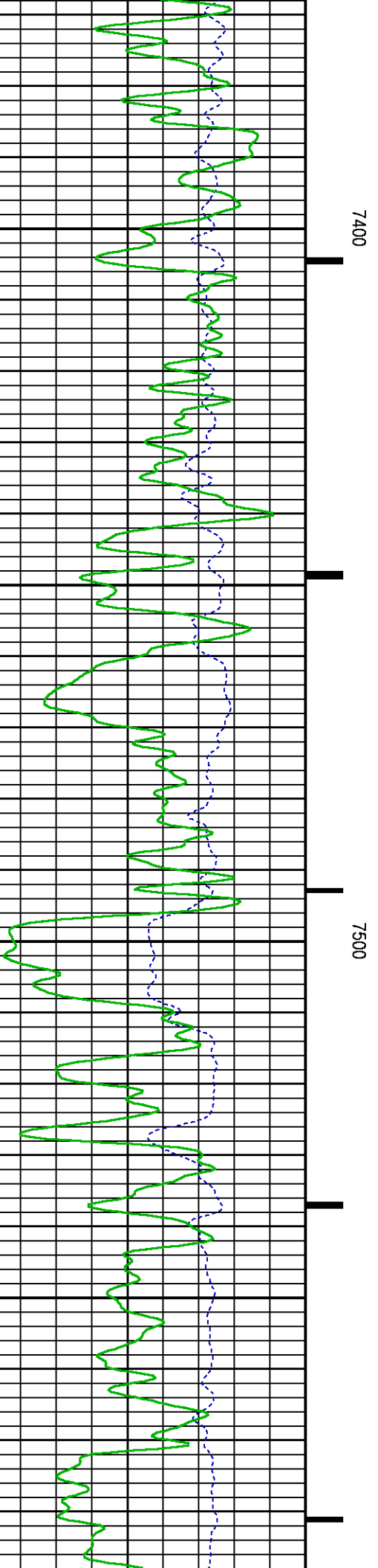
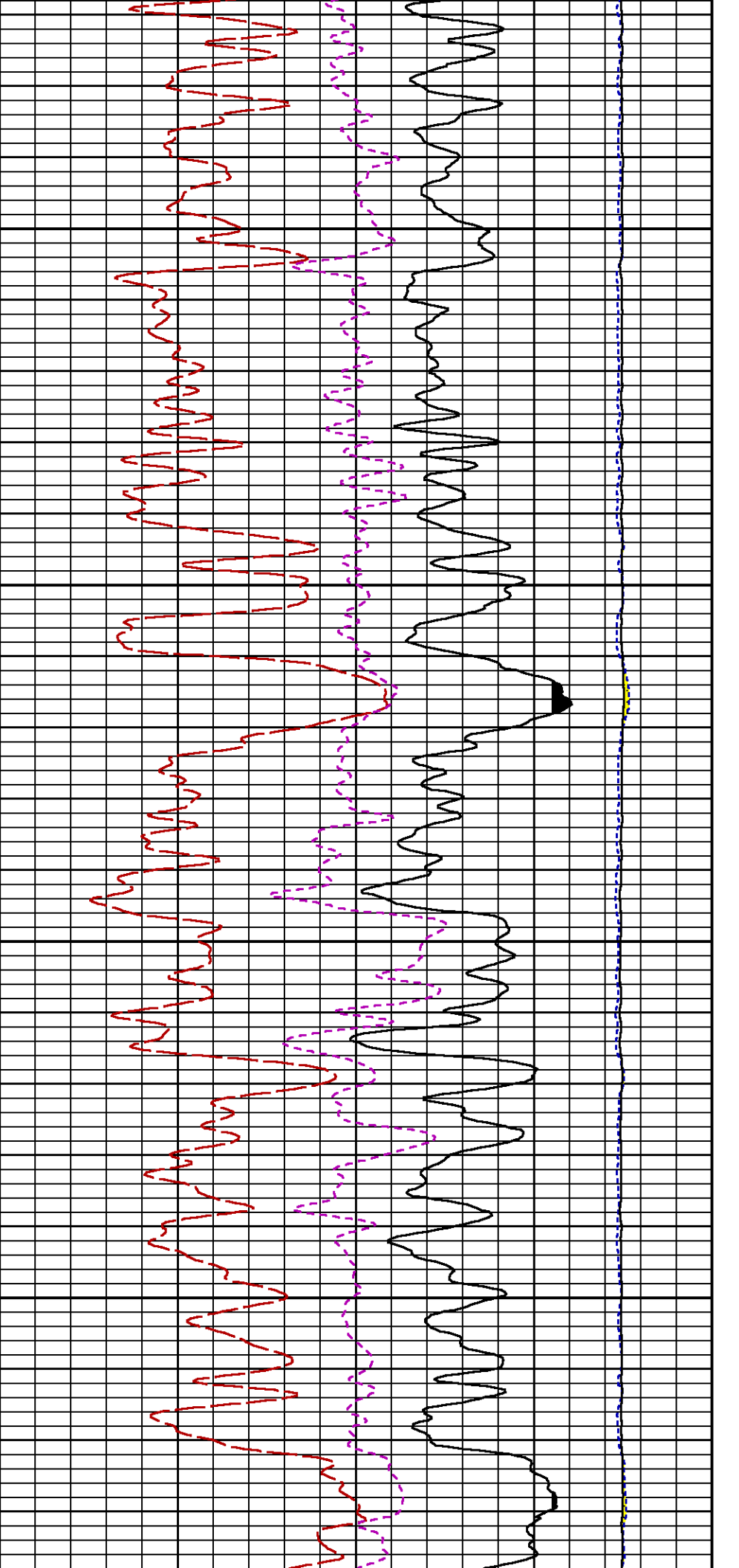


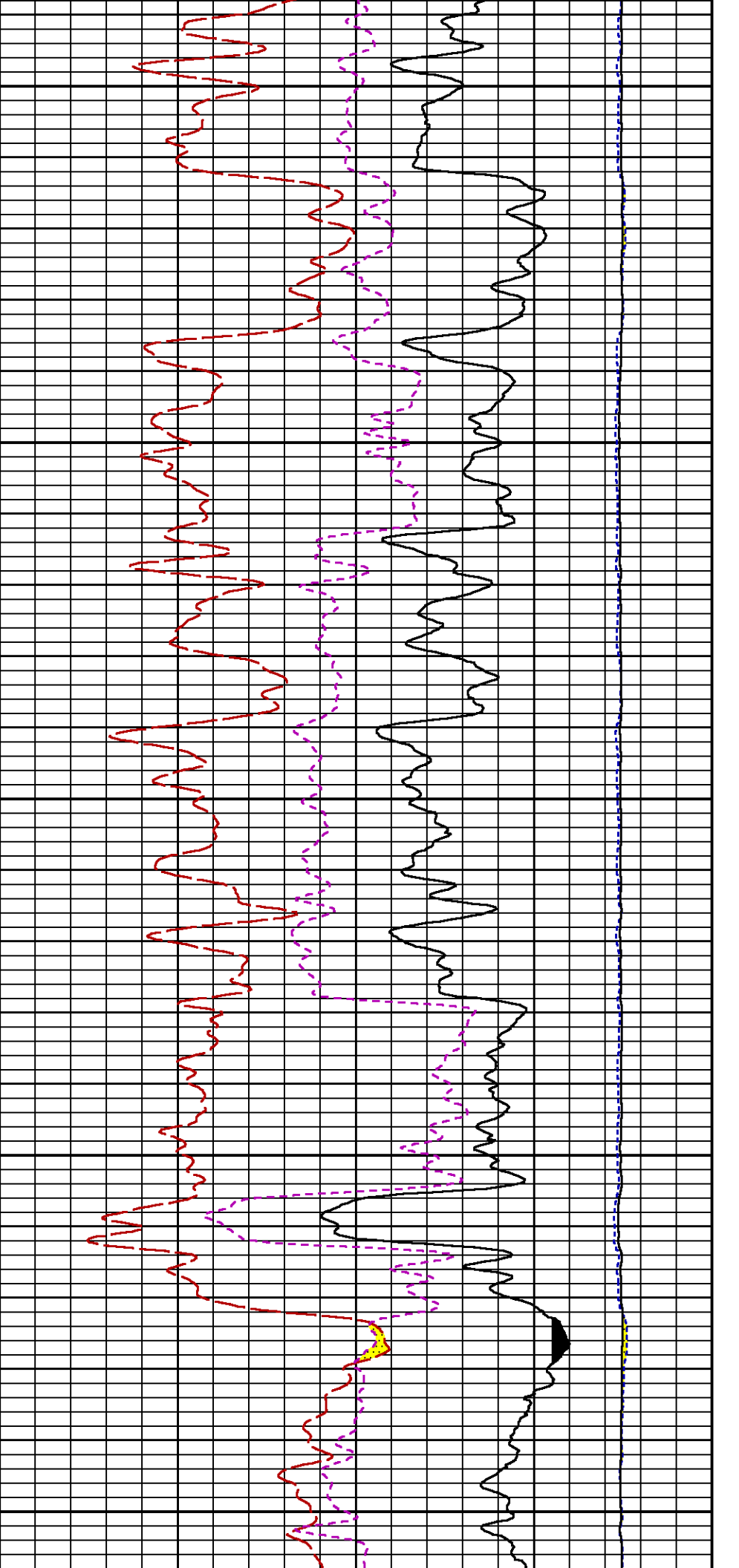








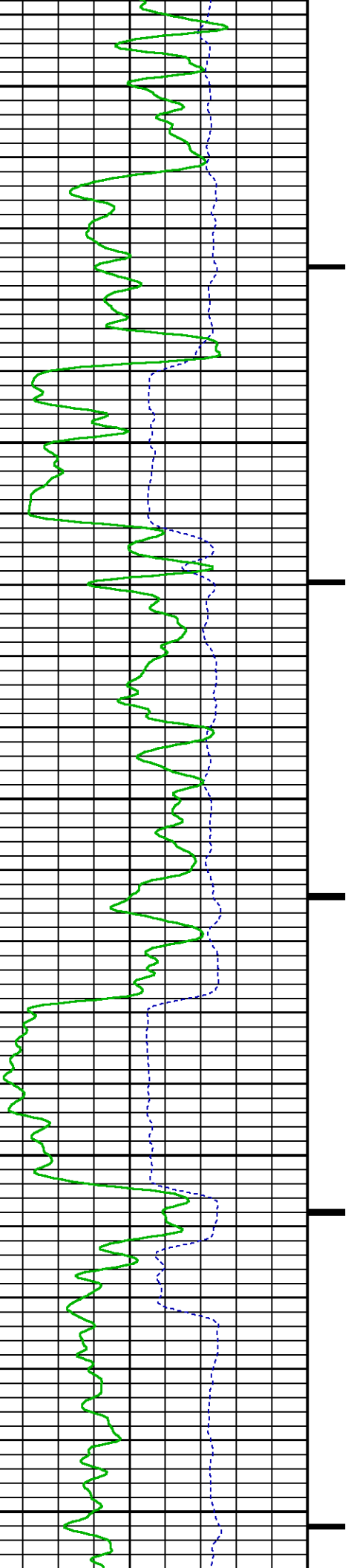


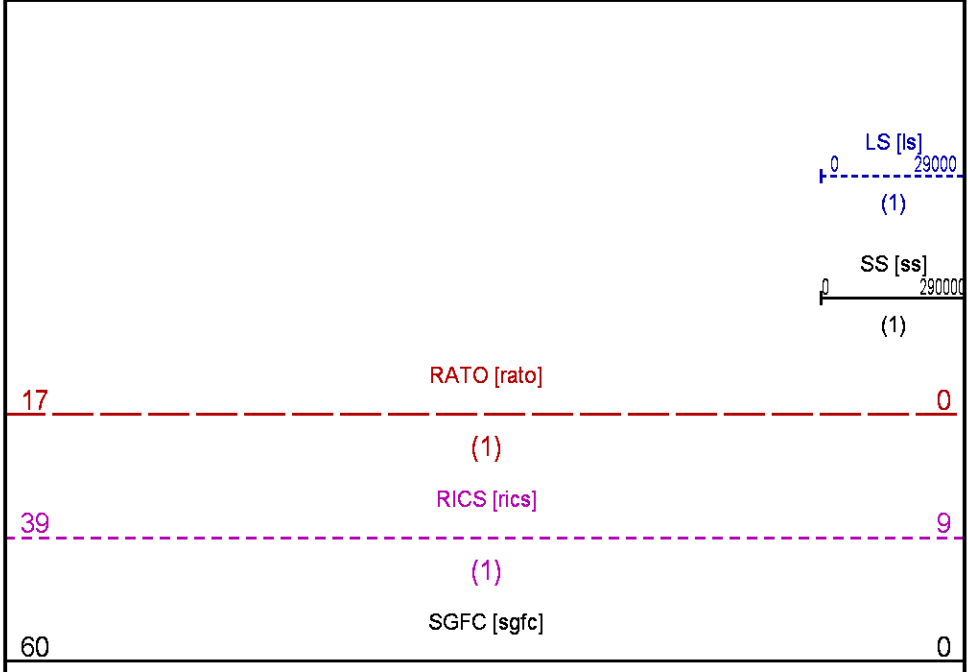
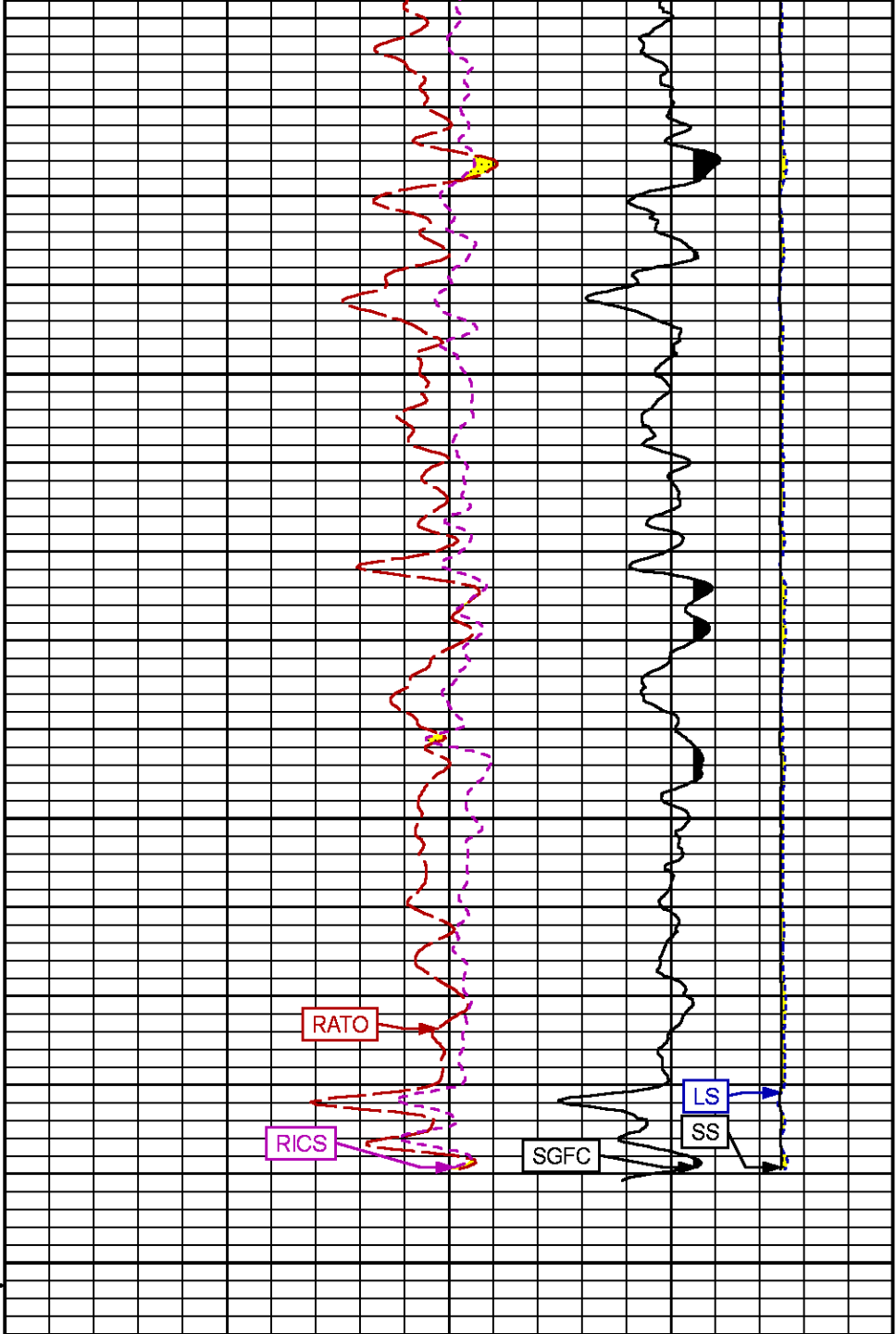
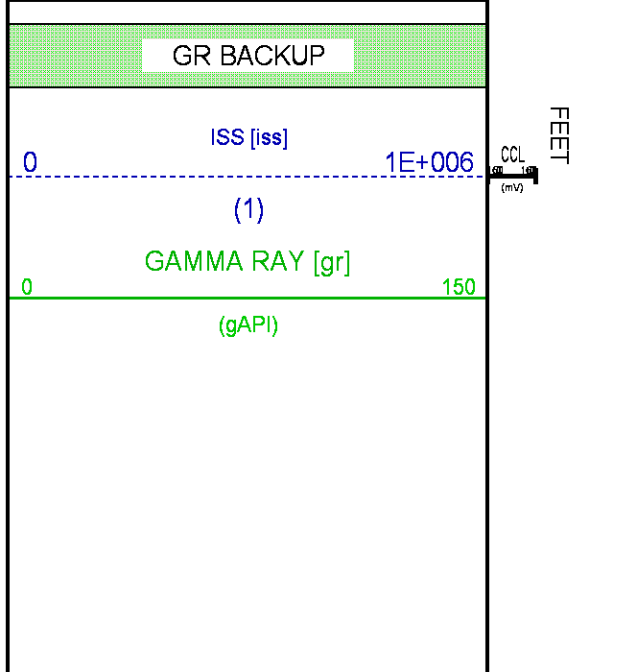
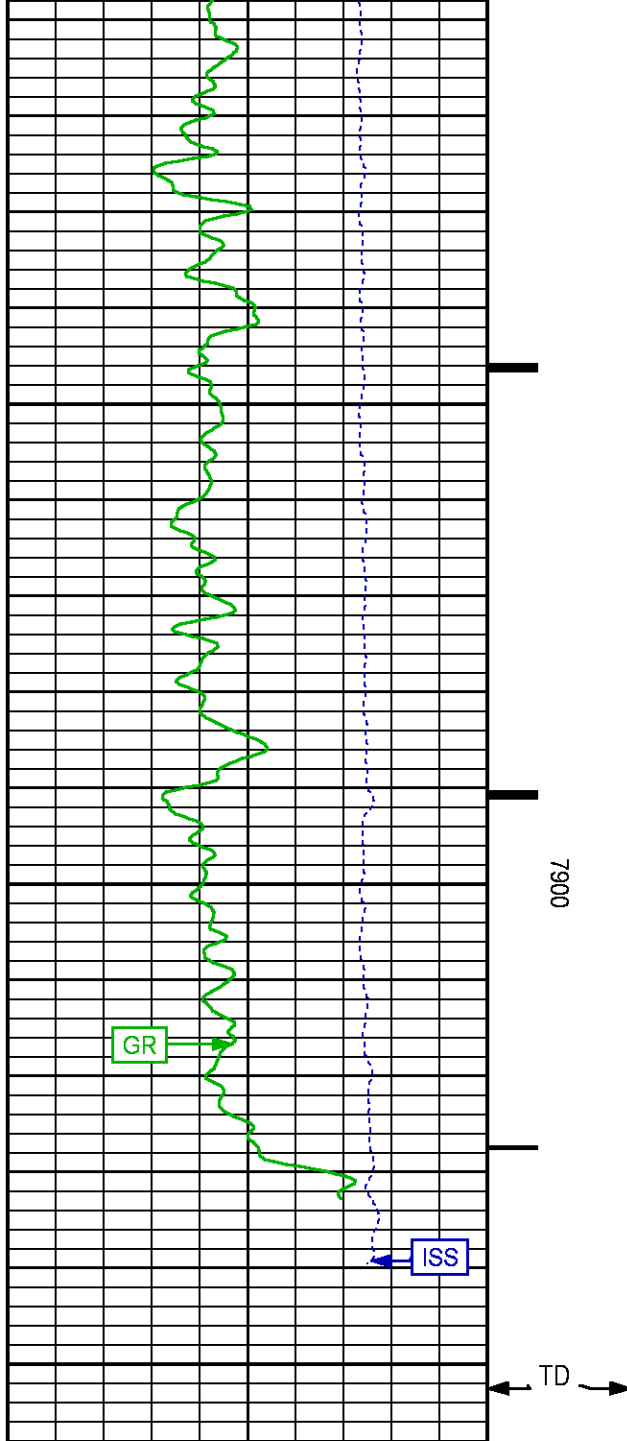


7600

7700

7800





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: 46 Patches: 5

Plotted: Wed Apr 08 19:50:01 2015

PARAMETER AND FILTER SUMMARY REPORT

FILE: C:\dat1a\WELLDATA\LARAMIE\28-12M\354h01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 7649.500 ft BOTTOM DEPTH: 7956.000 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	7.87	in	" "
	CASING SIZE	4.50	in	" "
	MATRIX	SANDSTONE		" "
	CORRECTION BUFFER	11		" "

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Apr 8 11:52:12 2015	CASING COLLAR LOCATOR
F1:GR	Apr 8 11:52:12 2015	GAMMA RAY
F1:ISS	Apr 8 11:52:12 2015	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Apr 8 11:52:12 2015	LONG SPACE COUNT RATE
F1:RATO	Apr 8 11:52:12 2015	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Apr 8 11:52:12 2015	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Apr 8 11:52:12 2015	CORRECTED FORMATION SIGMA
F1:SS	Apr 8 11:52:12 2015	SHORT SPACE COUNT RATE

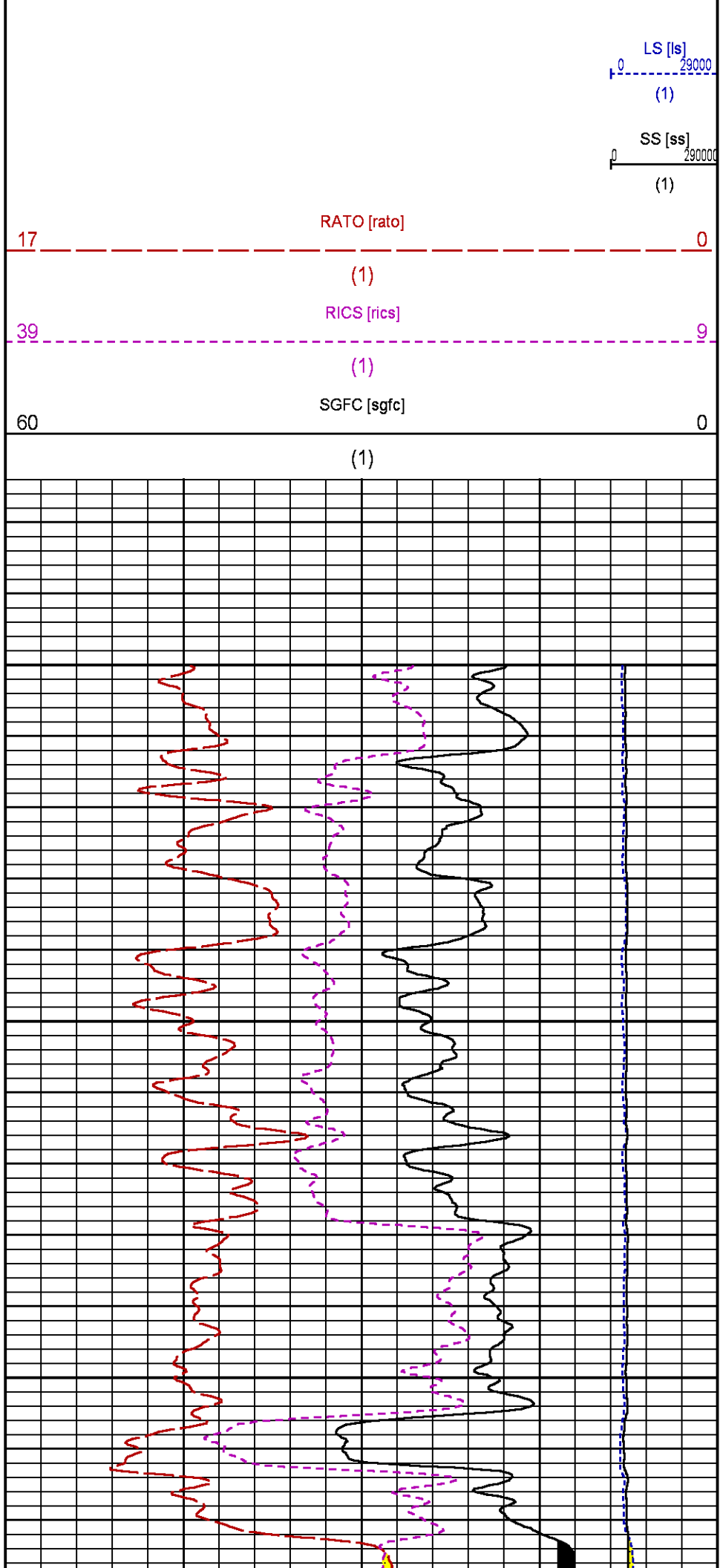
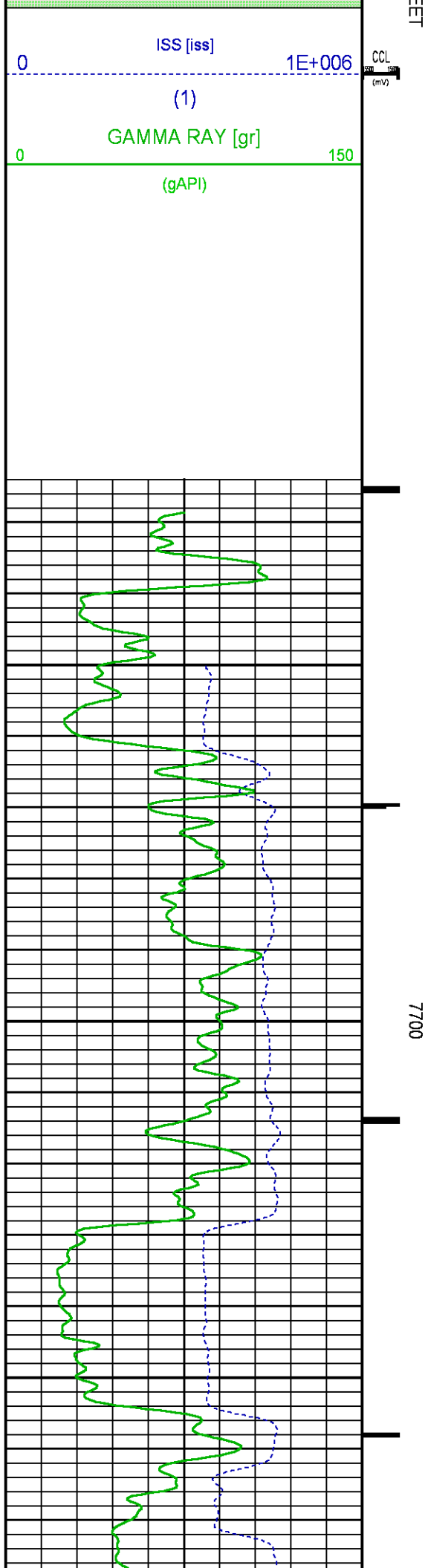
CURVE MEASURE POINT OFFSET

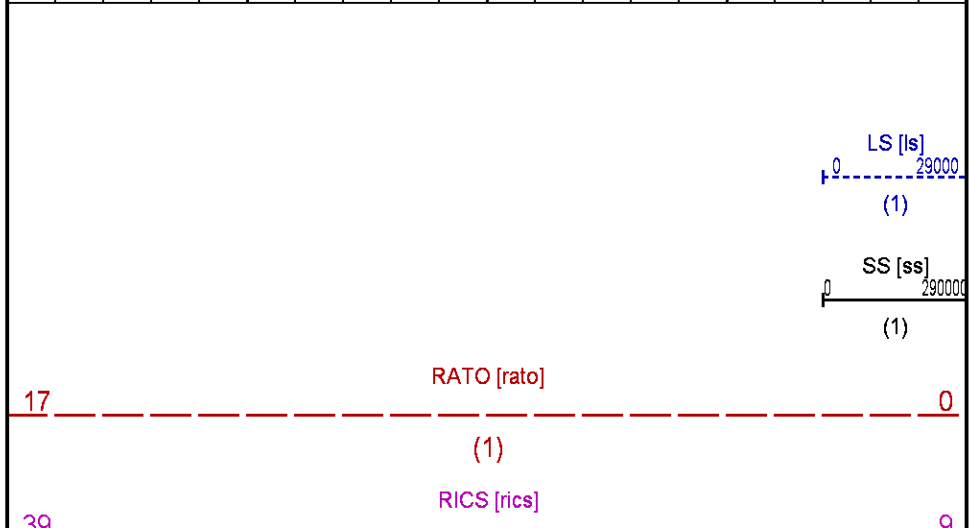
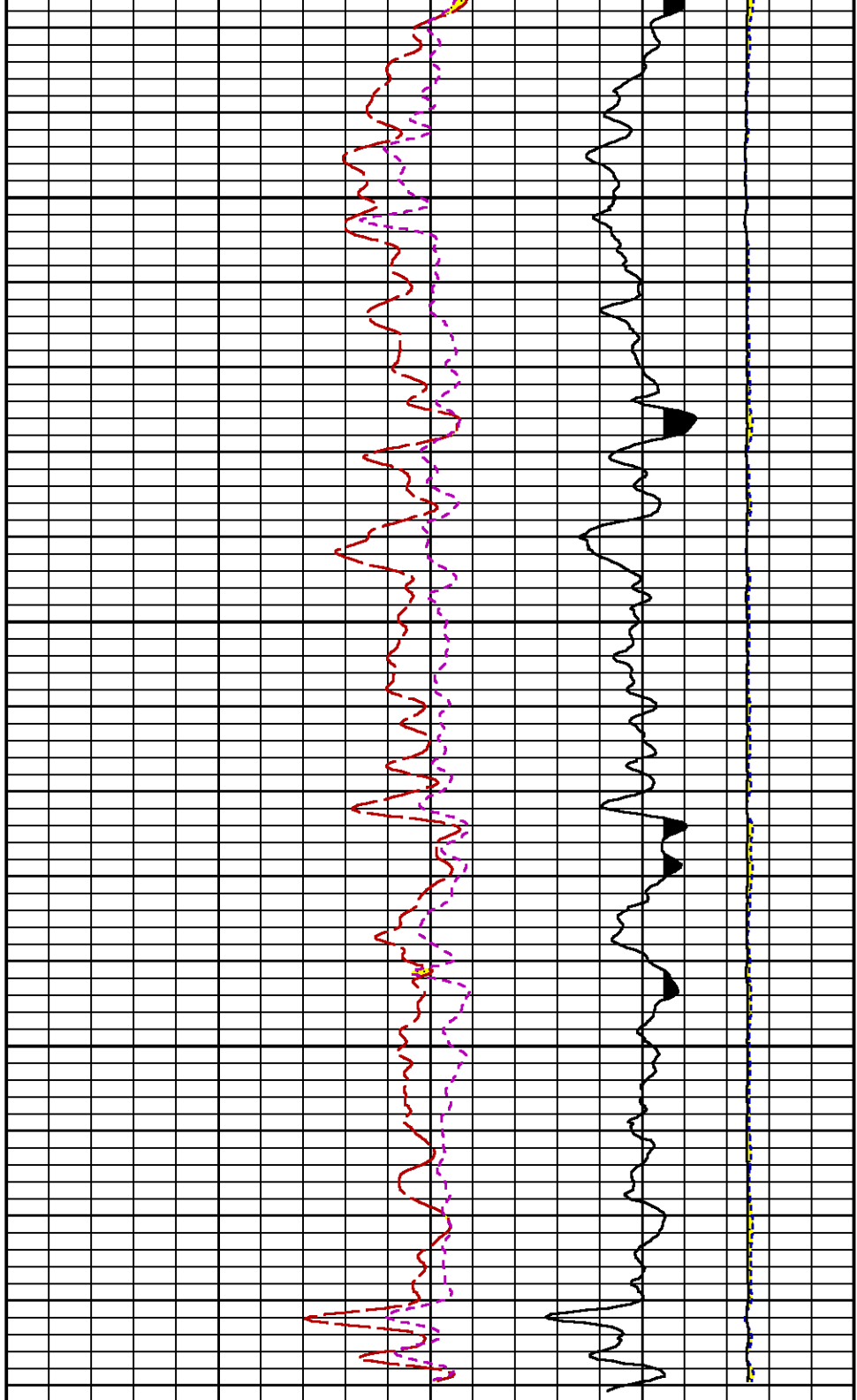
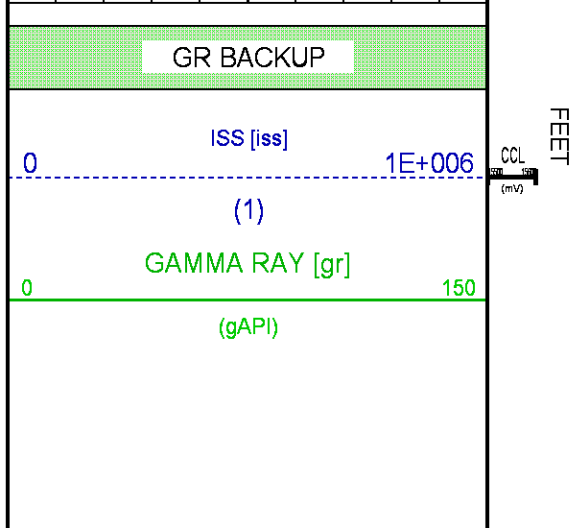
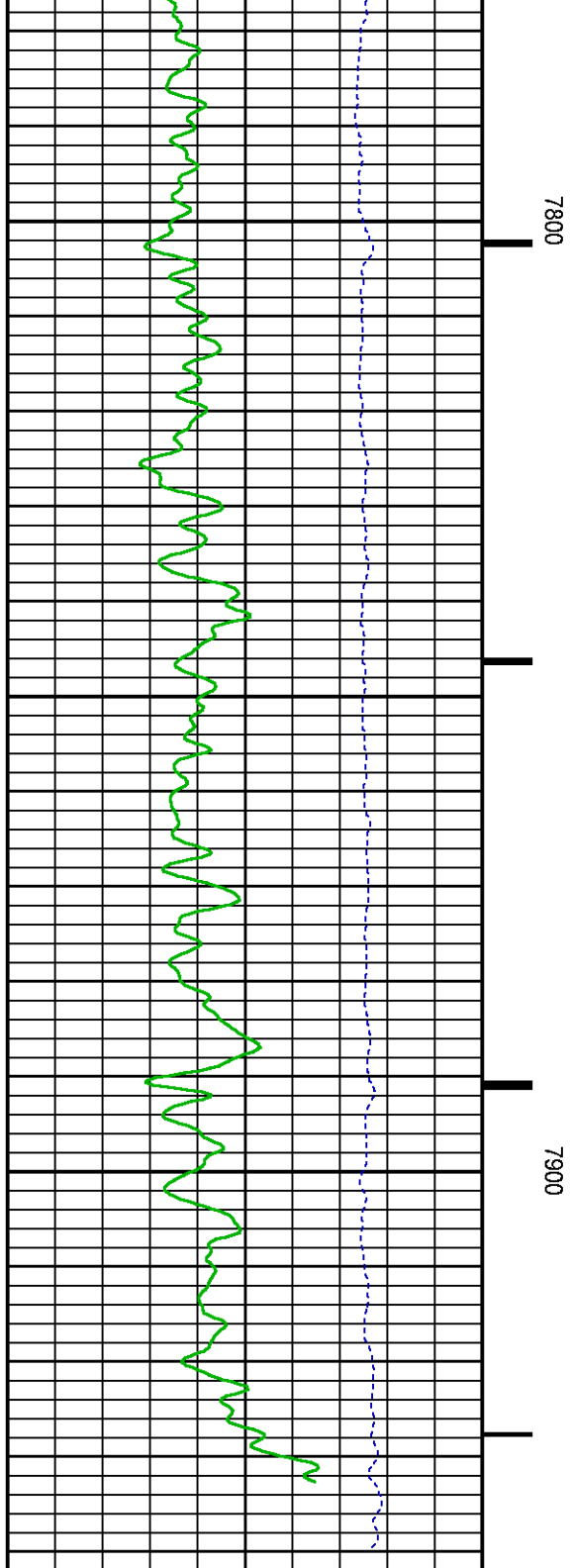
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	25.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	22.75	LS	12.75	RICS	12.75	SS	12.75

Presentation : BHI9G15WM1:C:\dat1a\WELLDATA\LARAMIE\28-12M\12M_RPM_REPEAT.fvpdf [5"/100' Scale]
Plot Interval : 7625.25 - 7940.75 Feet

Data File 1 : F1 : BHI9G15WM1:C:\dat1a\WELLDATA\LARAMIE\28-12M\12M_RPM_REPEAT_12M.xtf
Created On : Apr 8 11:52:12 2015
Company : LARAMIE ENERGY
Well : PICEANCE 28-12M
Field : VEGA
File Interval : 7624.5 - 7955.75 Feet
OCT : n354h

GR BACKUP





		(1)
60	SGFC [sgfc]	0
		(1)

CALIBRATION / VERIFICATION SUMMARY

Source File: C:\dat1a\WELLDATA\LARAMIE\28-12M\354h.tp1

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 2812LA 10274385

DATE/TIME PERFORMED: Wed Apr 01 10:54:22 2015

UNIT #: 3885TC 6685

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	62.04	281.09	219.0	0.959	59.48	269.48	210

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 2812LA 10274385

DATE/TIME PERFORMED: Wed Apr 01 10:56:34 2015

UNIT #: 3885TC 6685

VERI JIG #: 4702NK WA-612

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	62.31	285.53	0.959	59.74	273.74	214.01
						200.00 220.00

RPM_PNC_3D PRIMARY CALIBRATION SUMMARY

TOOL: 8283PA 10203151

DATE/TIME PERFORMED: Mon Mar 30 16:05:27 2015

UNIT: 3880TA HL6670

CALIBRATOR: 2437XB 112674

SOURCE: 8281AA 11803641

HOURS: 8281AA 297

	ISS	Mtr Vlt (V)	SS Gain	LS Gain	XLS Gain	EA Temp (degF)	Sync Delay (usec)	RCAL
Raw Data	811784	124	2255	2360	2442	106	7	0.9596
Interpolated	1300000	147	2238	2354	2428			

	ISS	BKS	BKL	BKX	SGA1	SDA1	SGA2	SDA2
Raw Data	811784	6339	984	138	26.00	0.15	24.14	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	811784	164989	25810	88393	31468	8049	53510	12871
Fit Quality %		1.010	0.915	0.786	0.776	0.943	0.726	0.970
	ISS	RBOR	RIN ISS/ILS	RIN13 ISS/IXS	RICS ISS/CSS	RATO SS/LS	RTWO SS2/LS	RONE CSS/CLS
Raw Data	811784	1.43	4.92	31.47	15.17	10.99	3.91	4.16
		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 %		0.057	0.044	0.149	0.128	0.128	0.126	0.140
Reduced	1406391	1.43	4.93	31.49	15.21	10.98	3.91	4.16
		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: C:\dat1a\WELLDATA\LARAMIE\28-12MRPM-tdg.meta

A3 CABLEHEAD

Diameter : 1.37"

PCM POWER SUPPLY

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

33.24'

TELEMETRY / CCL

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

CCL MP 25.19'

SONDEX GAMMA RAY

Diameter : 1.69"
Length : 2.17'
Weight : 11 lbs
Series : 2812LA
Mnemonic : GR
Measure Point: 0.63': GR MP

GR MP 22.64'

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 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 : 20'


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

TEMP MP
PRES MP 1.65'

BULL PLUG 1 11/16

0.00'

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

	COMPANY <u>LARAMIE ENERGY</u>		FILE NO: <u>CH094532</u>
	WELL <u>PICEANCE 28-12M</u>		API NO: <u>05-077-10223-0000</u>
	FIELD <u>VEGA</u>	STATE <u>COLORADO</u>	
	COUNTY <u>MESA</u>		
LOCATION: SHL: 2505' FSL & 1616' FWL NE/SW BHL: 2373' FSL & 2583' FWL		ELEVATIONS: KB 7602 FT DF GL 7580 FT	28 9S 93W 28-11 PAD PATTERSON 306
SEC <u>28</u> TWP <u>9S</u> RGE <u>93W</u>		DATE <u>8-APR-2015</u>	