



FILE NO: CH093777	COMPANY WPX ENERGY
API NO: 05045224630000	WELL GM 531-12
	FIELD GRAND VALLEY
	COUNTY GARFIELD
	STATE COLORADO

Version 12 7S 96W GM 21-12 PAD NABORS 573	LOCATION: SHL: 1177' FNL & 1906' FWL BHL: 1486' FNL & 2522' FEL (SWNE) SEC 12 TWP 7S RGE 96W	OTHER SERVICES BOND LOG
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PERMANENT DATUM LOG MEASURED FROM DRILL. MEAS. FROM	GL KB ELEVATION 26 FT ABOVE P.D.	KB DF GL 5125 FT 5125 FT
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DATE	30-Dec-2014
RUN	1
TRIP	1
SERVICE ORDER	US093777
DEPTH DRILLER	6381 FT
DEPTH LOGGER	6352 FT
BOTTOM LOGGED INTERVAL	6342 FT
TOP LOGGED INTERVAL	3090 FT
TIME STARTED	11:30
TIME FINISHED	15:30
OPERATOR RIG TIME	4 HOURS
TYPE OF FLUID IN HOLE	WATER
FLUID DENSITY	NA
FLUID SALINITY	NA
FLUID LEVEL	60 FT
LOGGED CEMENT TOP	NA
WELLHEAD PRESSURE	0 PSI
MAXIMUM HOLE DEVIATION	NA
NOMINAL LOGGING SPEED	10 FMIN
MAX. RECORDED TEMP.	212 DEGF
REFERENCE LOG	BAKER HUGHES BOND LOG
REFERENCE LOG DATE	30-Dec-2014
EQUIP. NO.	4271
LOCATION	GRAND JCT.
RECORDED BY	P. EDWARDS
WITNESSED BY	O. JACOBS

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
13.5 IN	0 FT	1538 FT
8.75 IN	1538 FT	6390 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
9.625 IN			0 FT	1538 FT
4.5 IN	11.6 LB/F	I-80	0 FT	6390 FT

REMARKS

RUN 1 TRIP 1: All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 12/30/2014 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 0 feet.

Logged with Zero PSI at wellhead.

BHT = 212 degF

SJ = 3123' - 3145'

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	PCM	8250EA	10397894	FREE
1	1	TEL/CCL	8248ED	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

Plotted: Tue Dec 30 16:53:48 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: D:\WELLDATA\WPX\GM 531-12\354h02.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 3068.500 ft BOTTOM DEPTH: 6355.000 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	8.75	in	" "
	CASING SIZE	4.50	in	" "
	MATRIX	SANDSTONE		" "
	CORRECTION BUFFER	11		" "

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Dec 30 11:50:30 2014	CASING COLLAR LOCATOR
F1:GR	Dec 30 11:50:30 2014	GAMMA RAY
F1:ISS	Dec 30 11:50:30 2014	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Dec 30 11:50:30 2014	LONG SPACE COUNT RATE
F1:RATO	Dec 30 11:50:30 2014	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Dec 30 11:50:30 2014	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Dec 30 11:50:30 2014	CORRECTED FORMATION SIGMA
F1:SS	Dec 30 11:50:30 2014	SHORT SPACE COUNT RATE

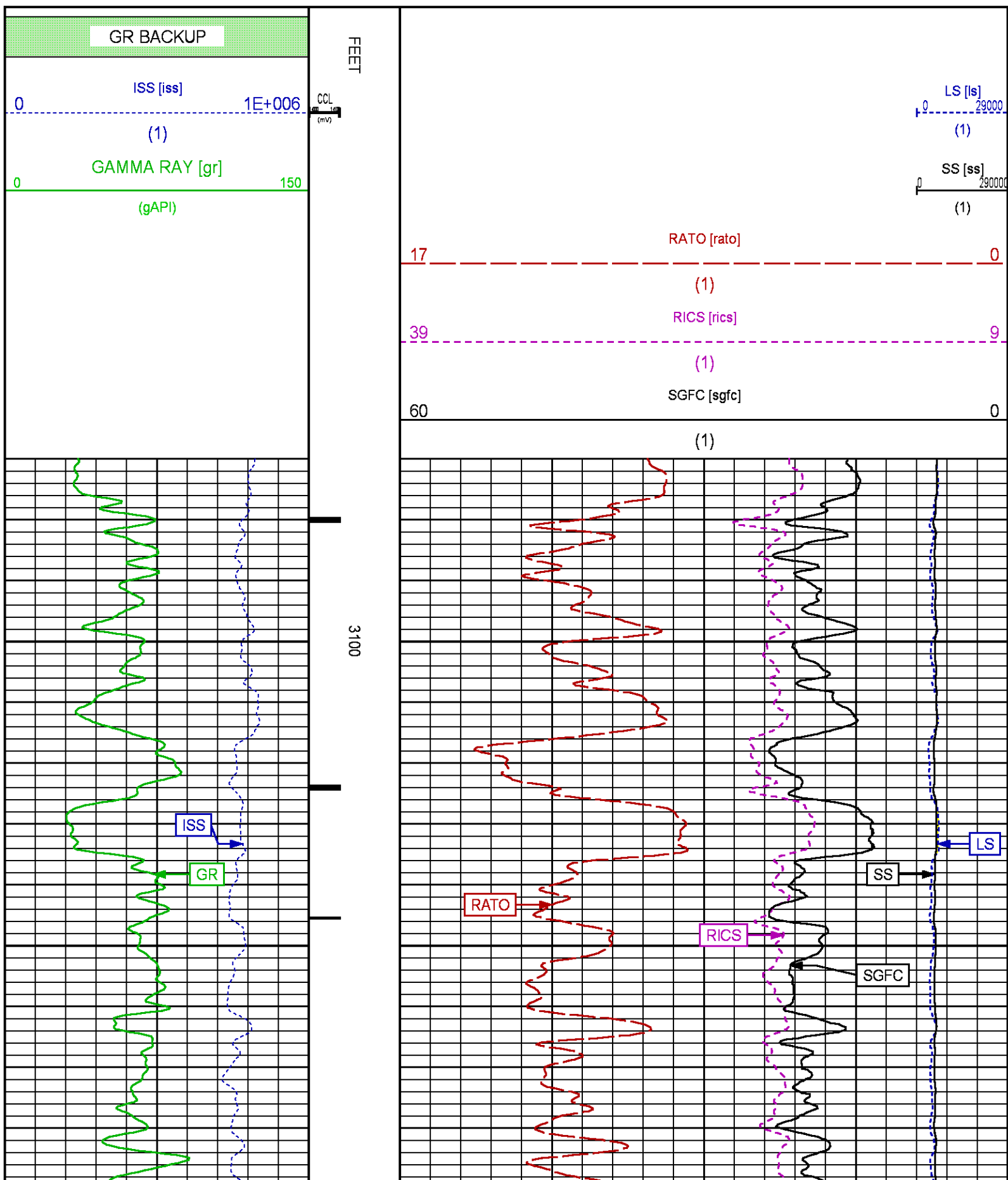
CURVE MEASURE POINT OFFSET

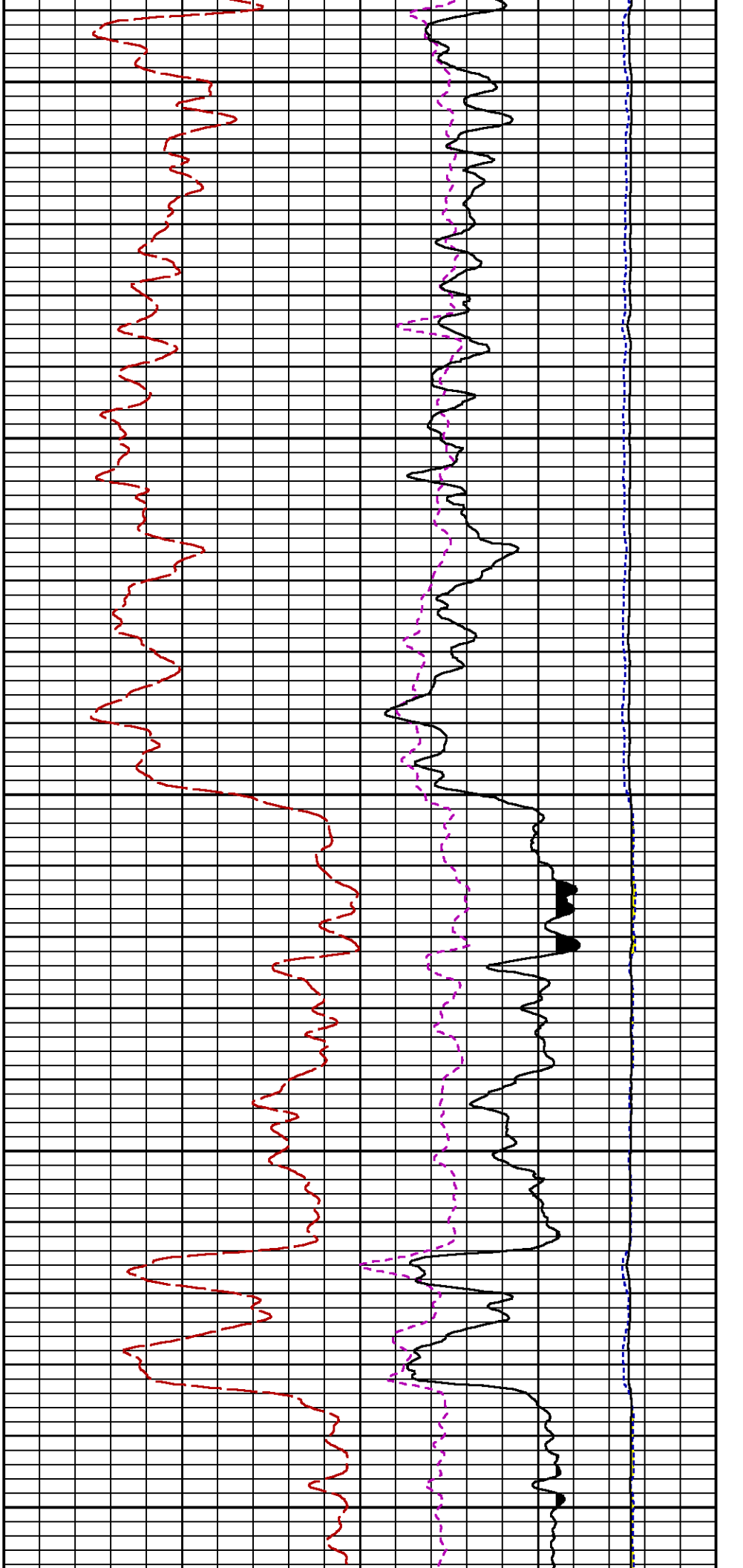
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CCL	25.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	22.75	LS	12.75	RICS	12.75	SS	12.75

Presentation : BH19G15WM1:D:\WELLDATA\WPX\GM 531-12\531RPM_MAIN.fvpdf [5"/100' Scale]

Plot Interval : 3070 - 6357 Feet

Plot Interval : 3070 - 6357 Feet
Data File 1 : F1 : BHI9G15WM1:D:\WELLDATA\WPX\GM 531-12\531_RPM_MAIN.xtf
Created On : Dec 30 11:50:30 2014
Company : WPX ENERGY
Well : GM 531-12
Field : GRAND VALLEY
File Interval : 29.75 - 6355 Feet
OCT : n354h

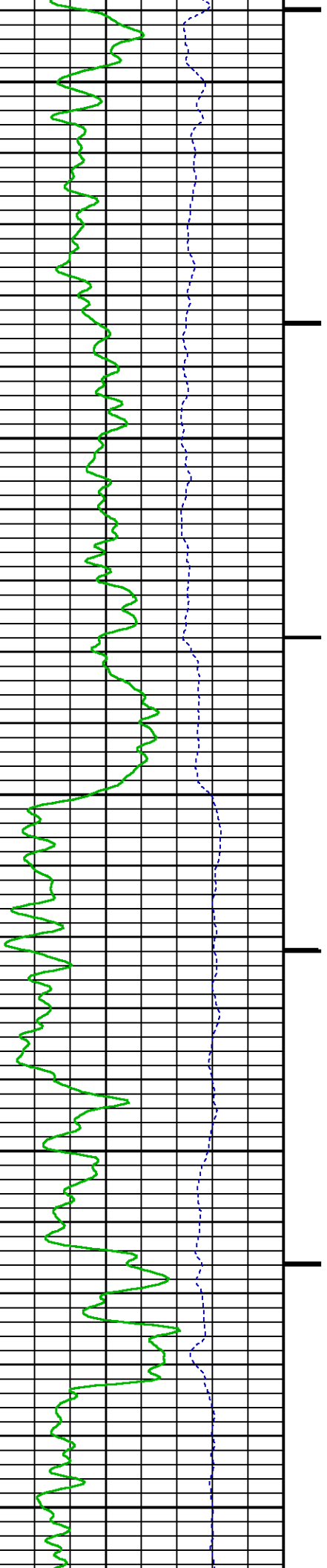


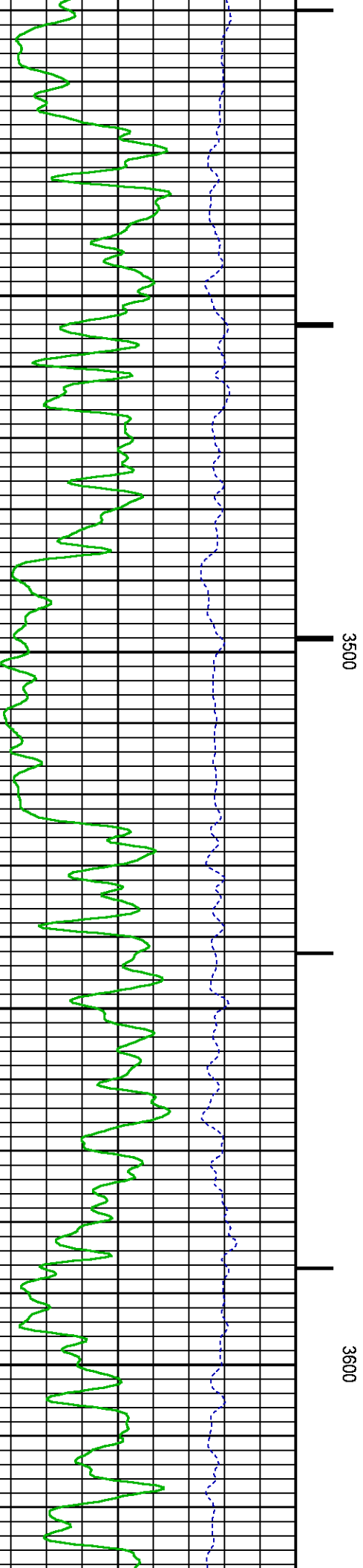
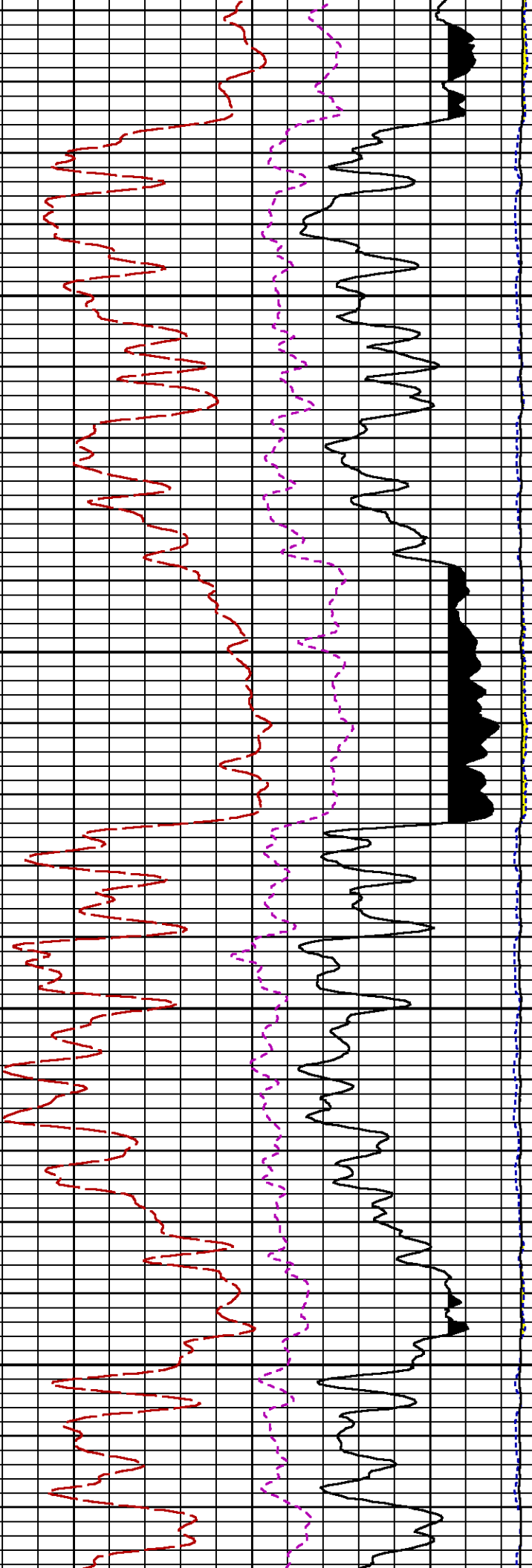


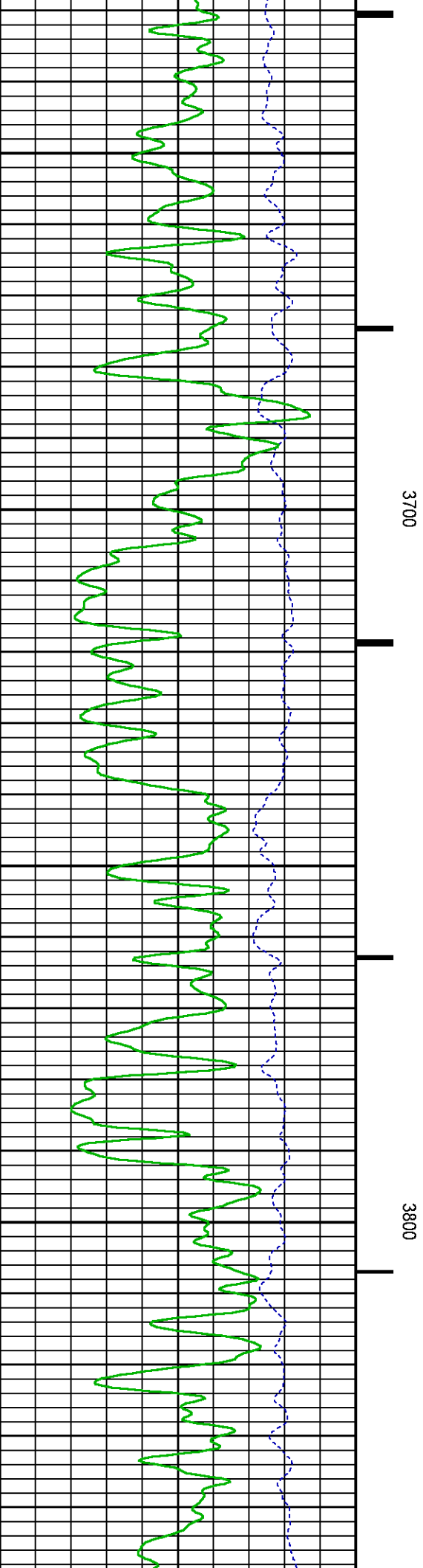
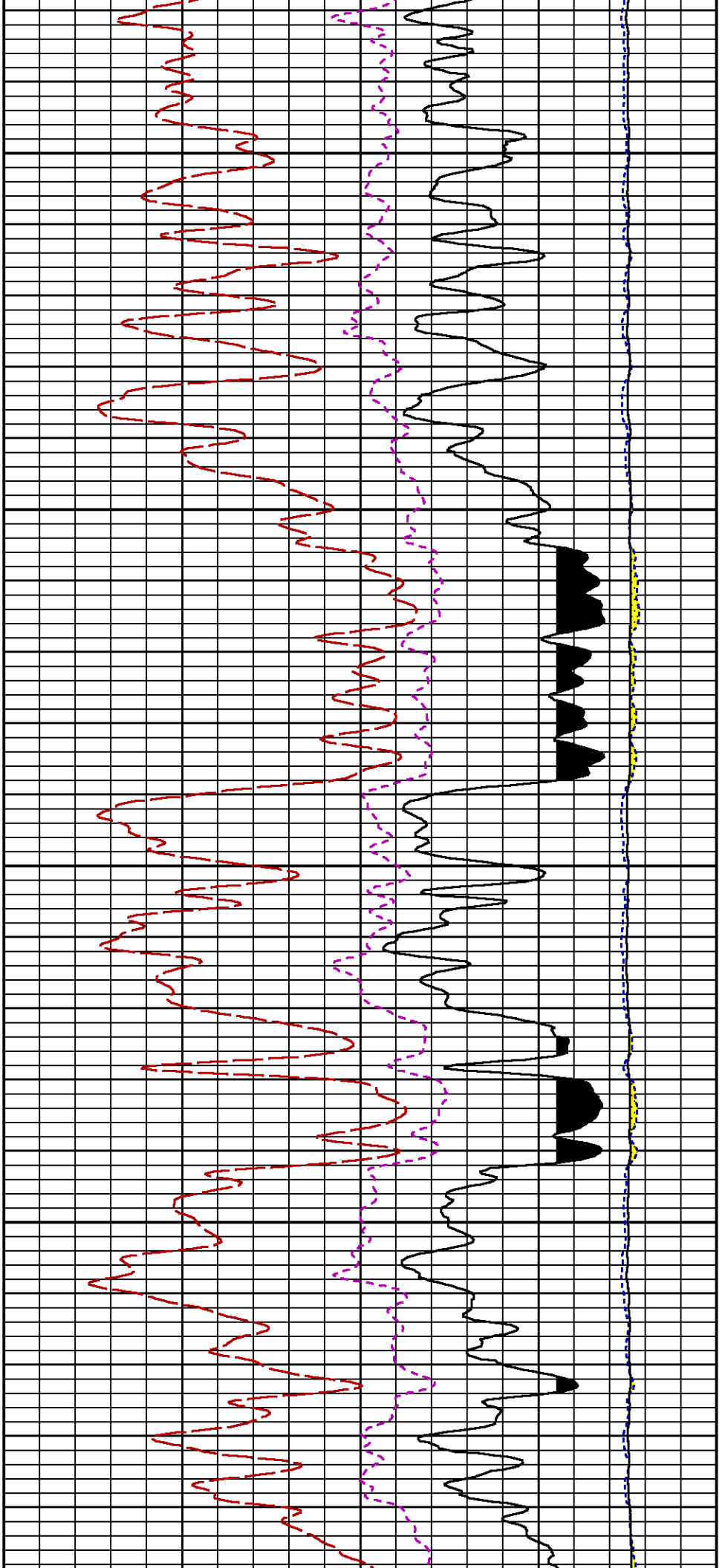
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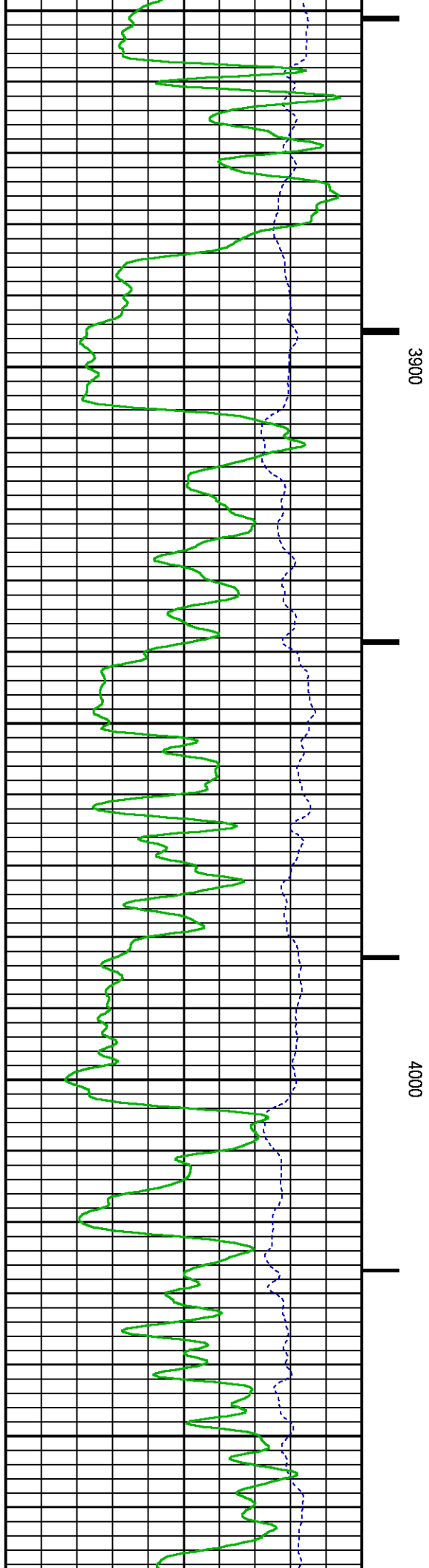
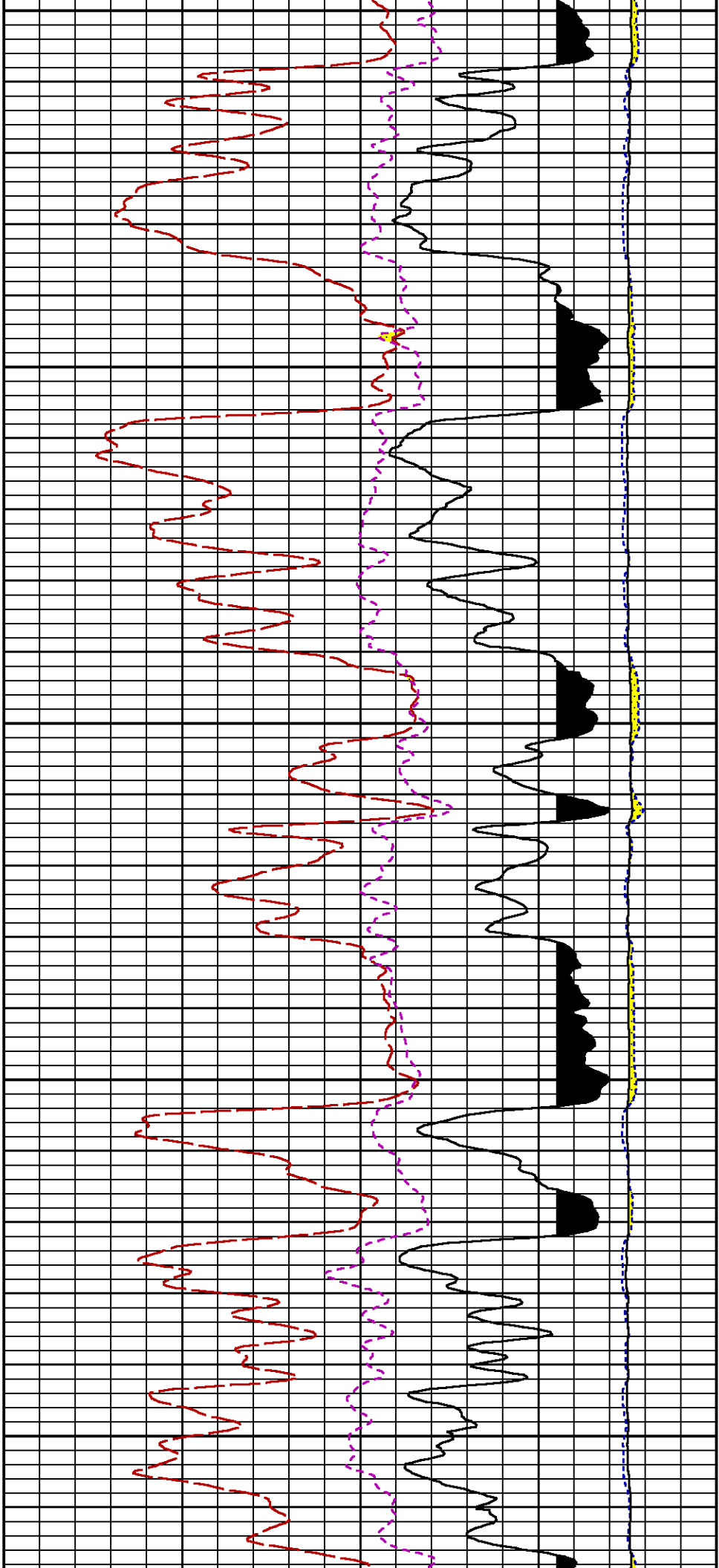
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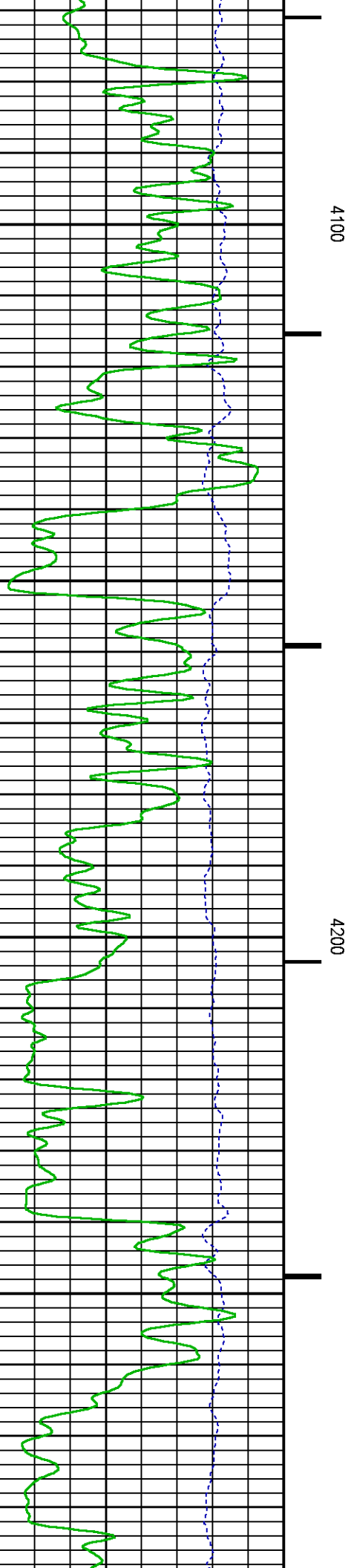
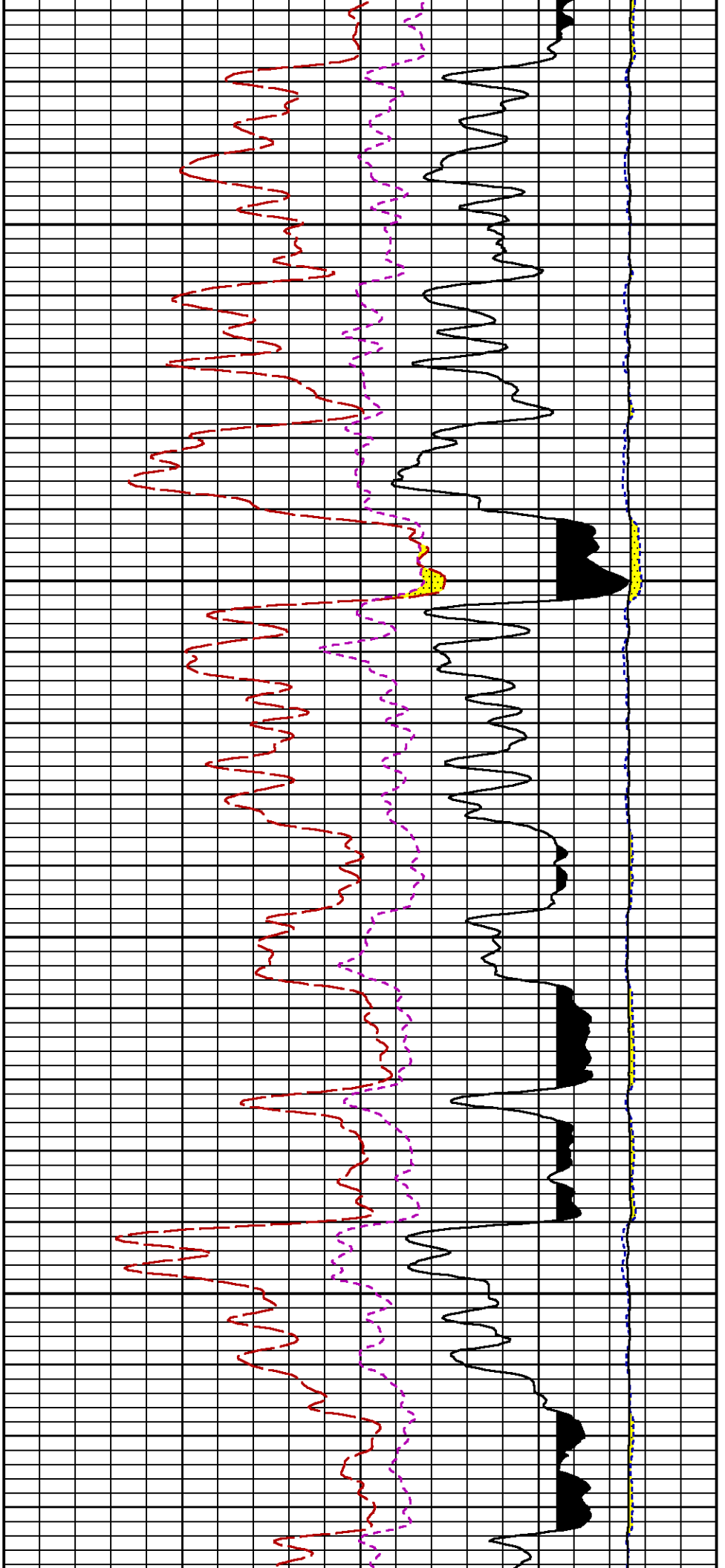
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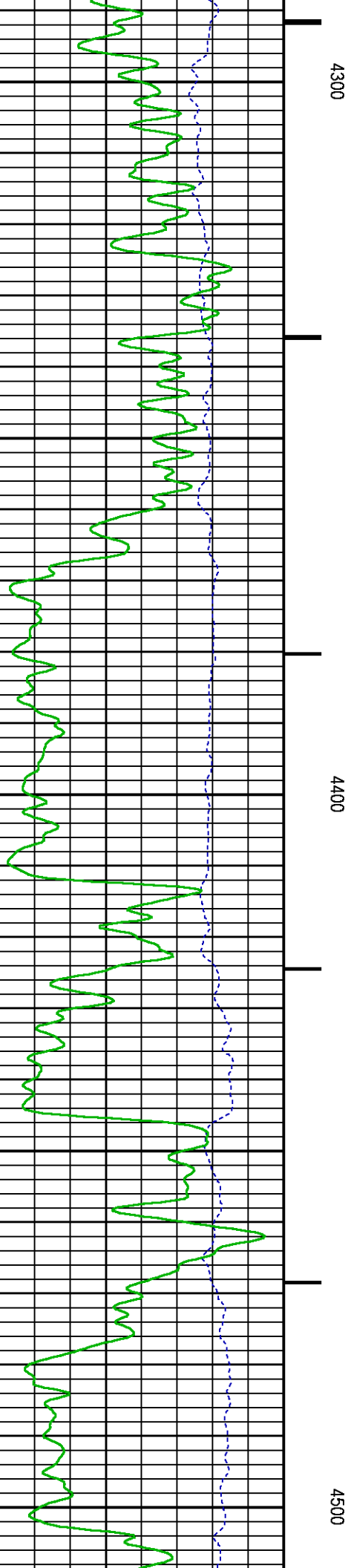
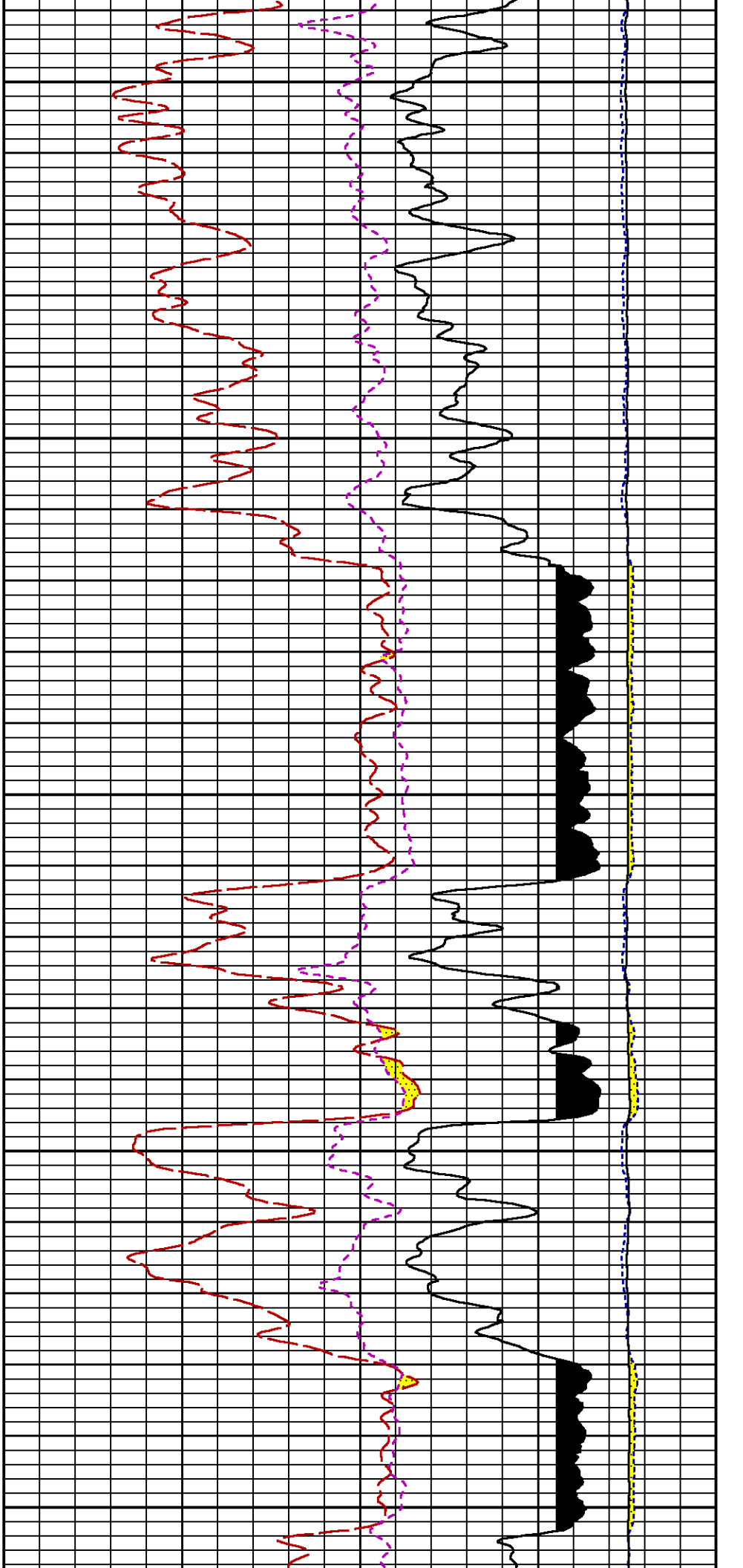


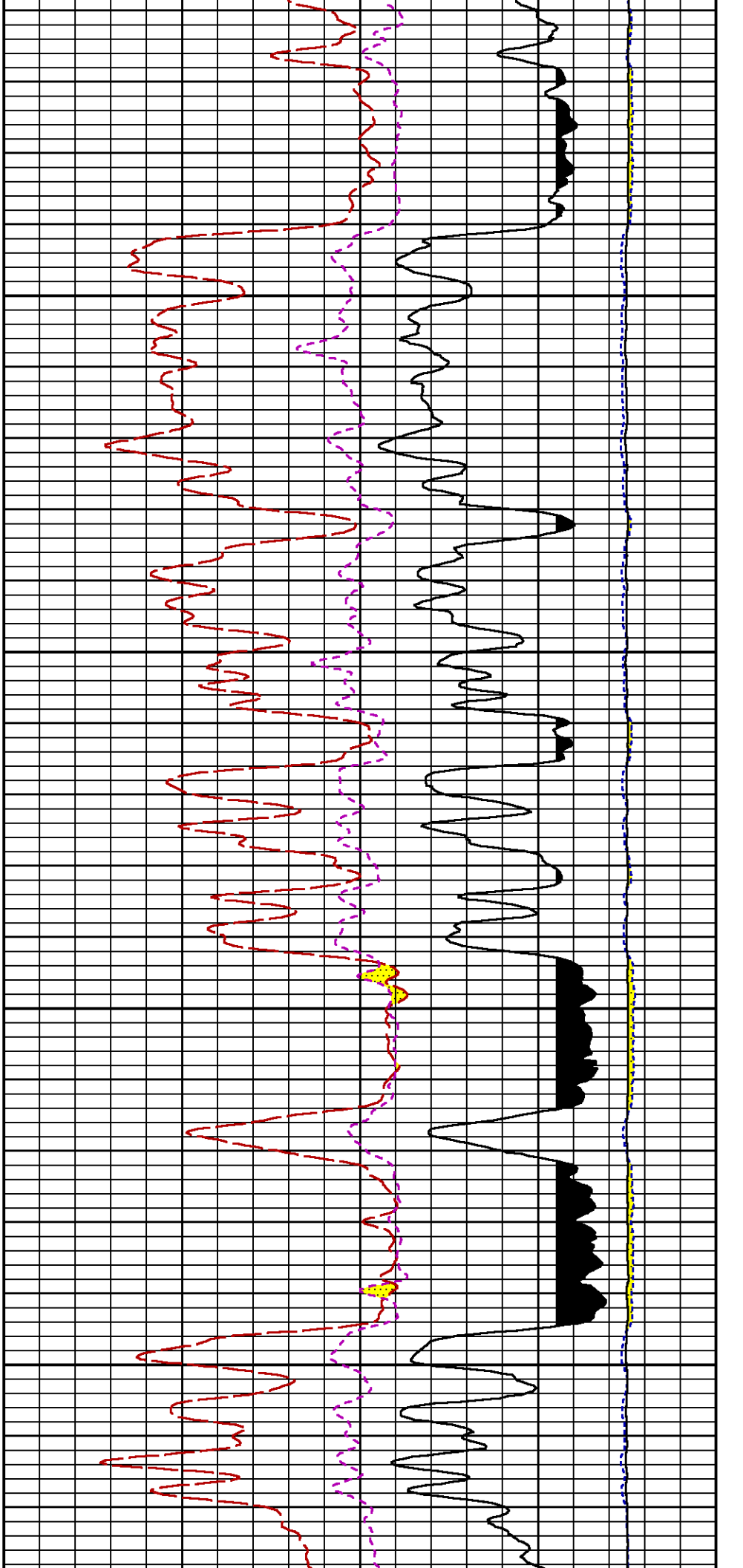






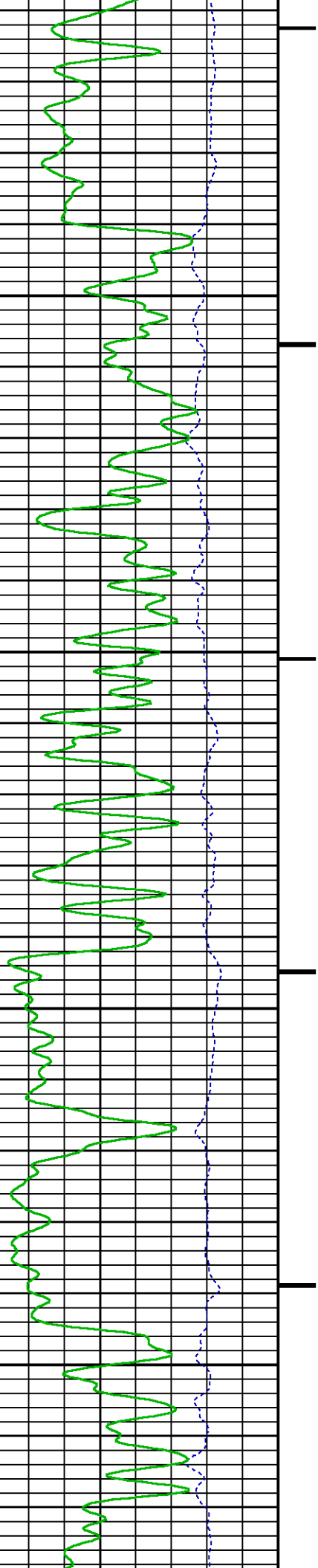


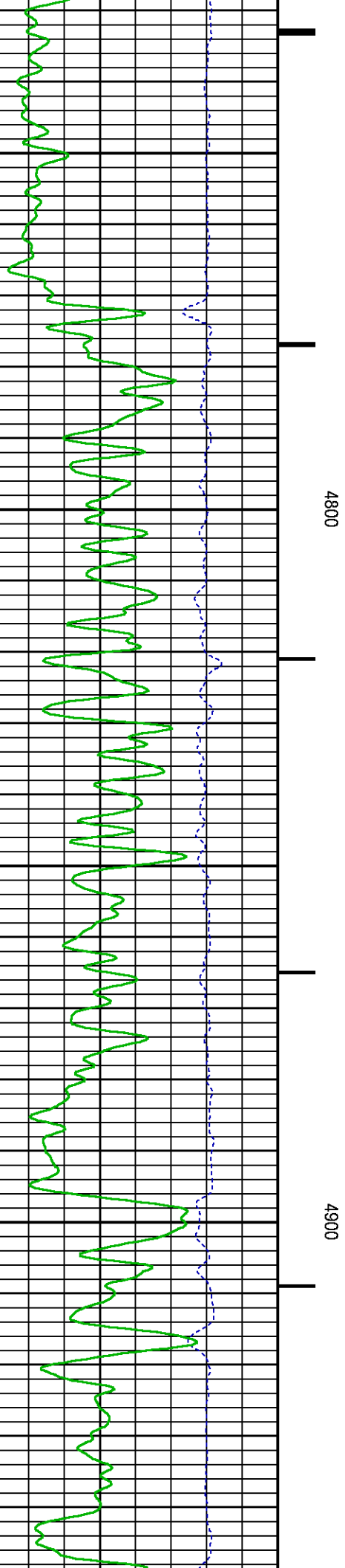
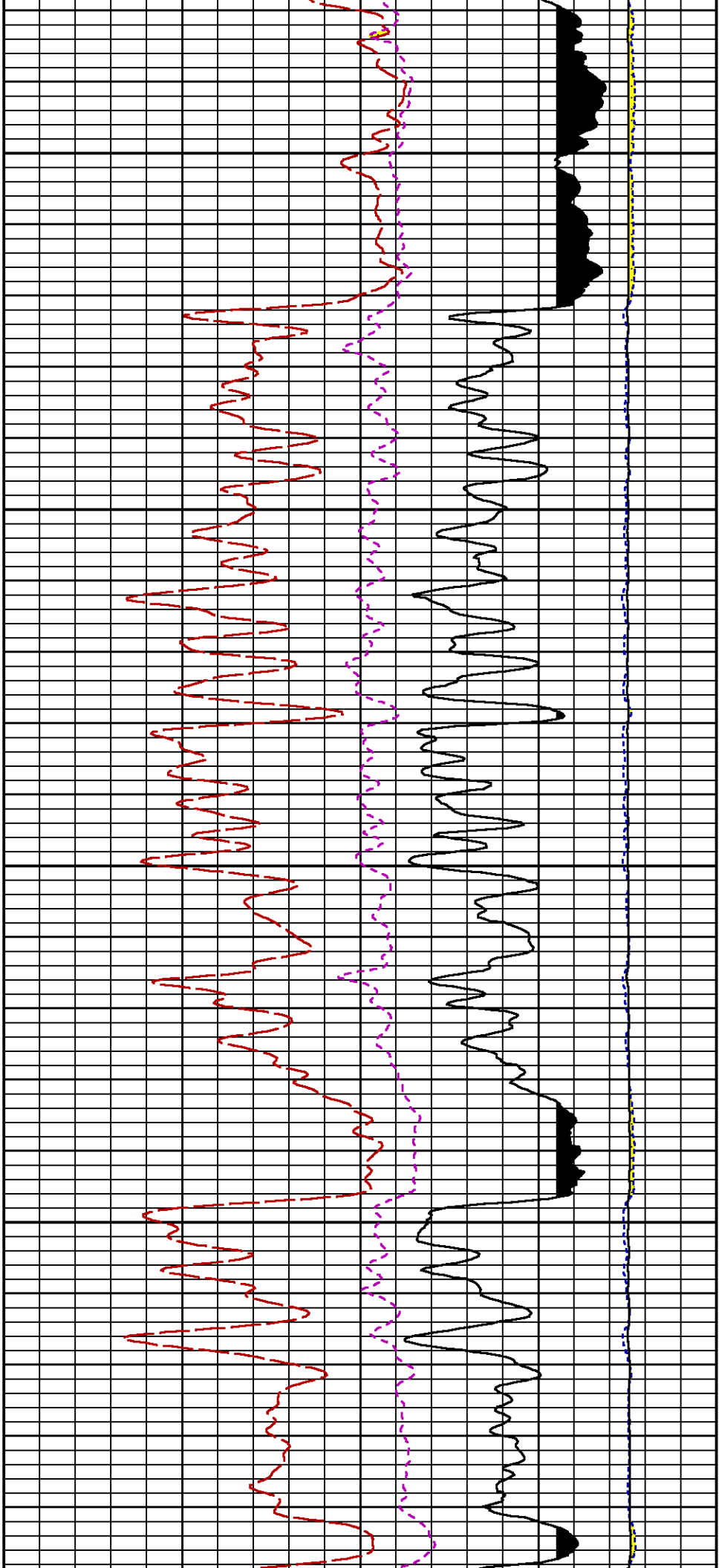


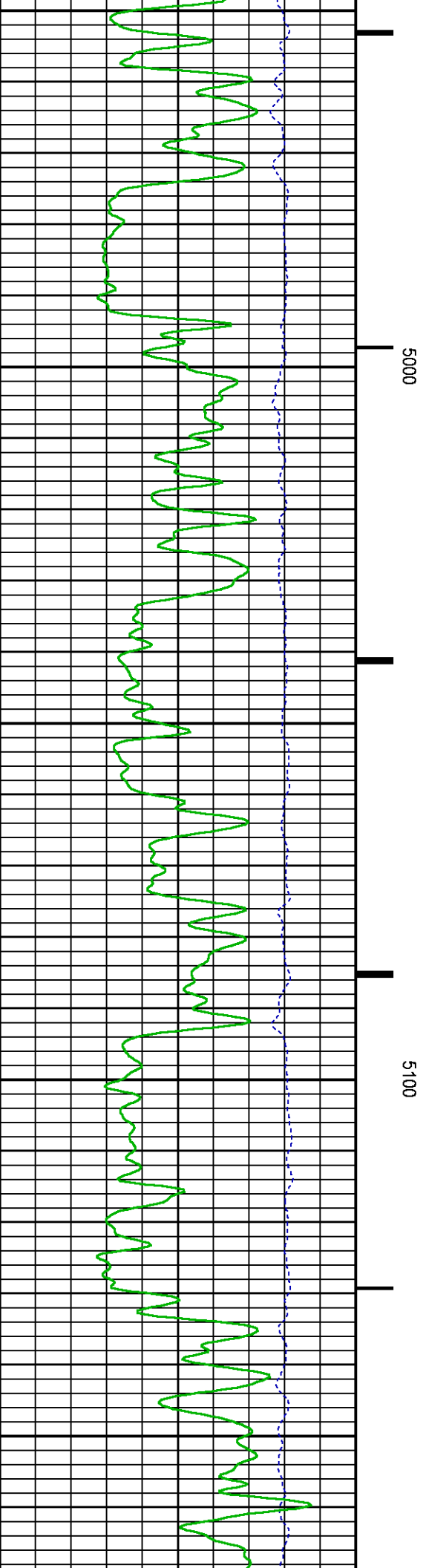
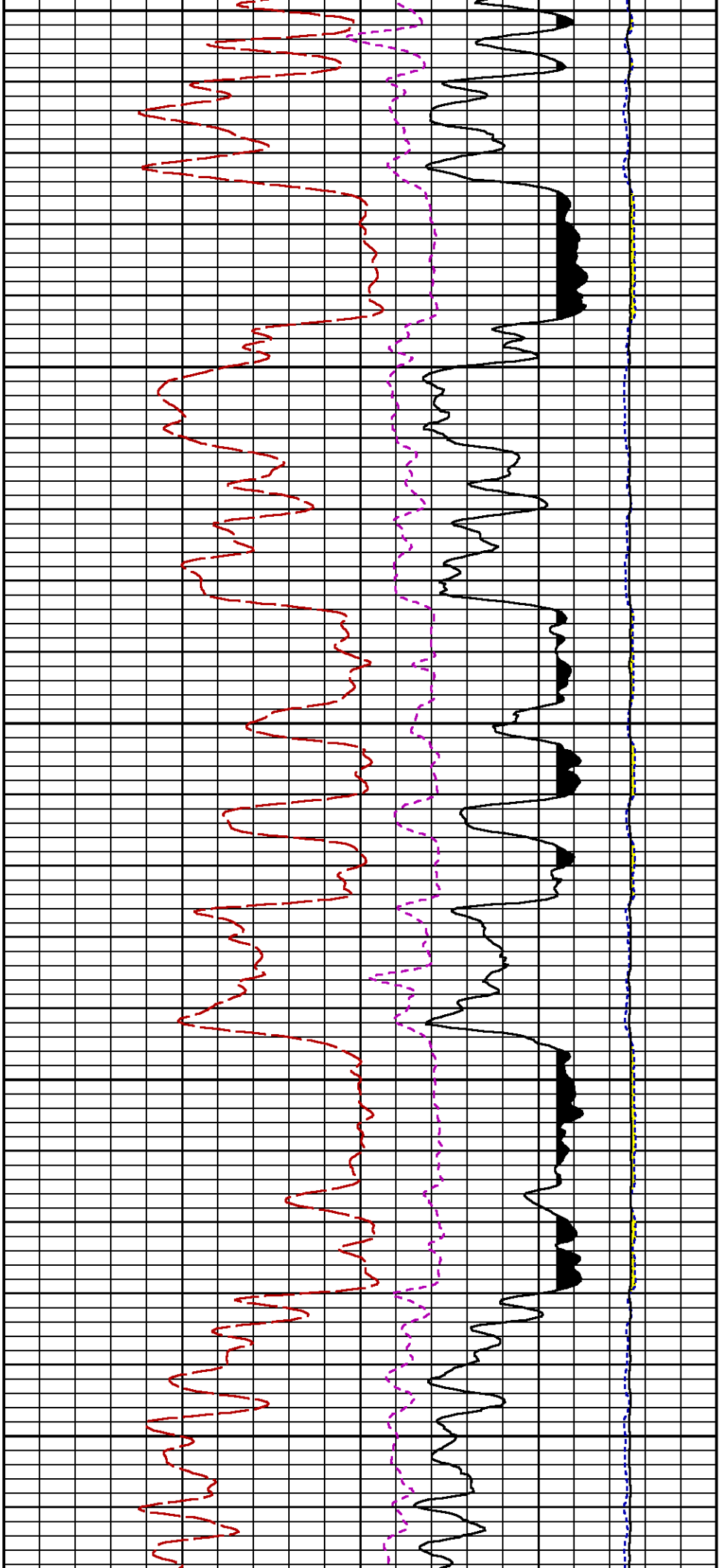


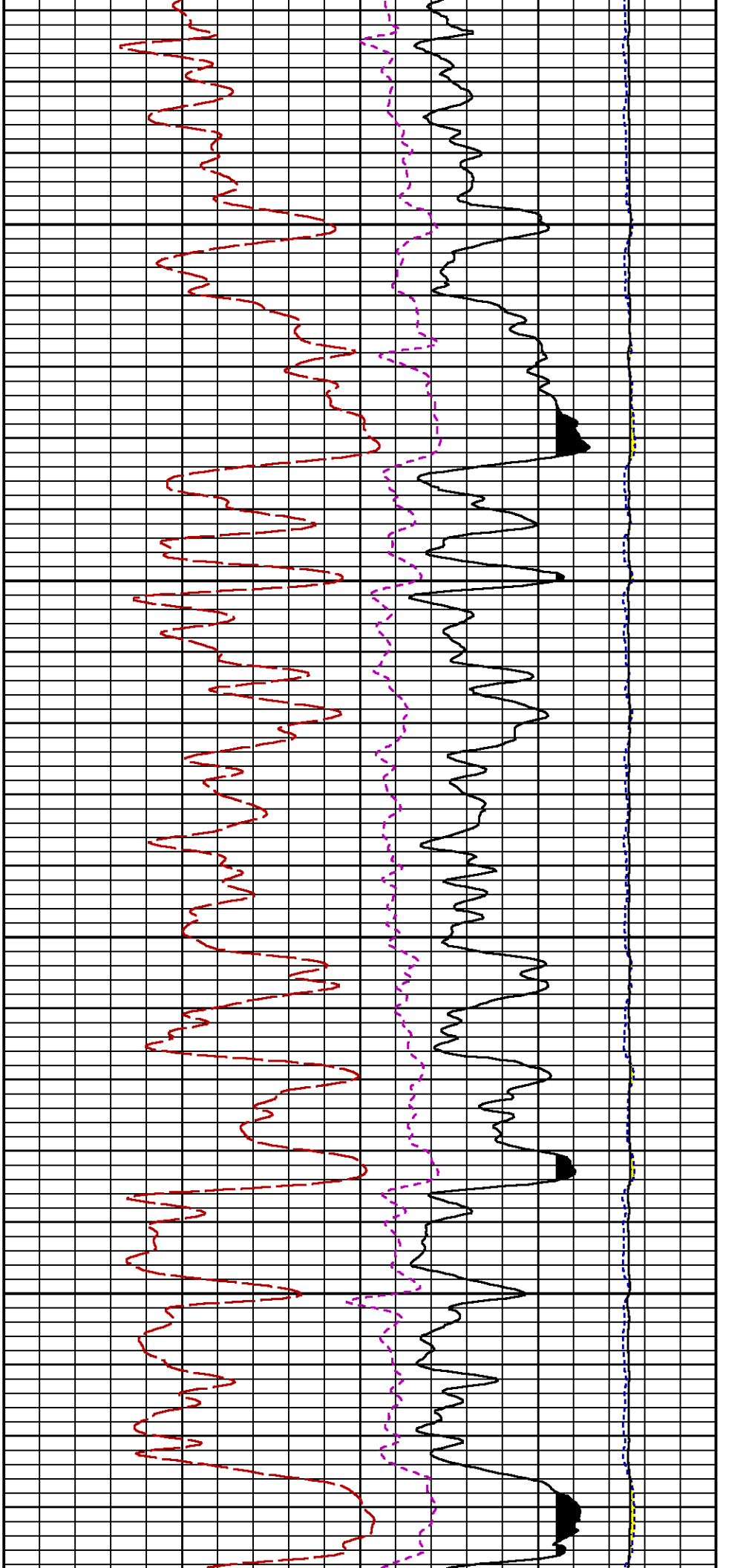
4600

4700



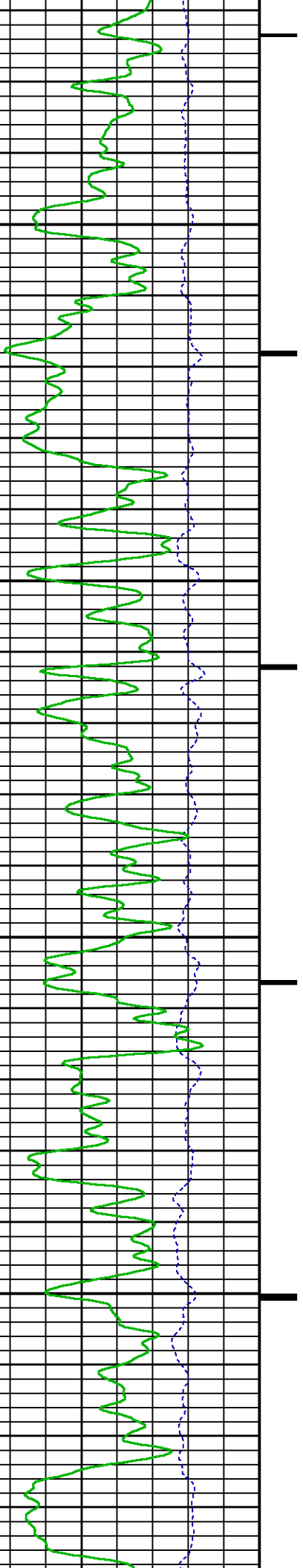


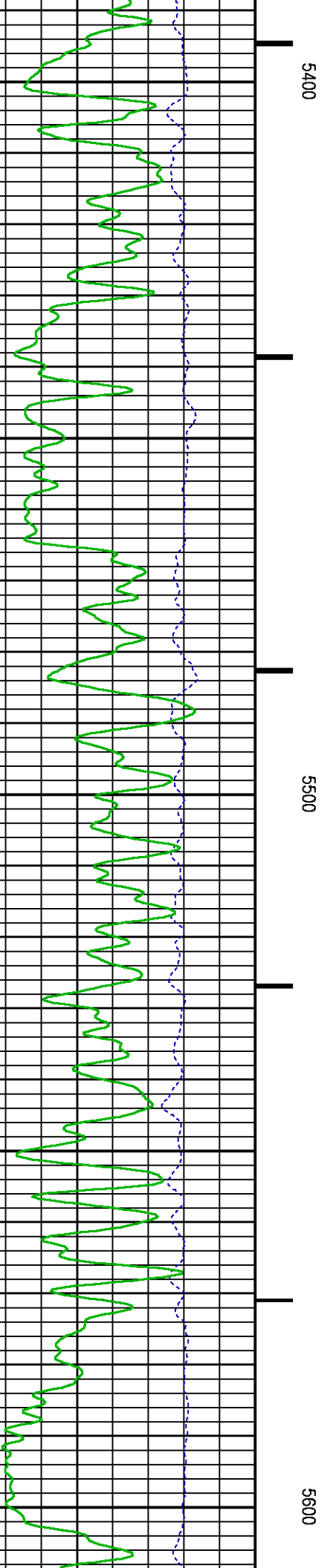
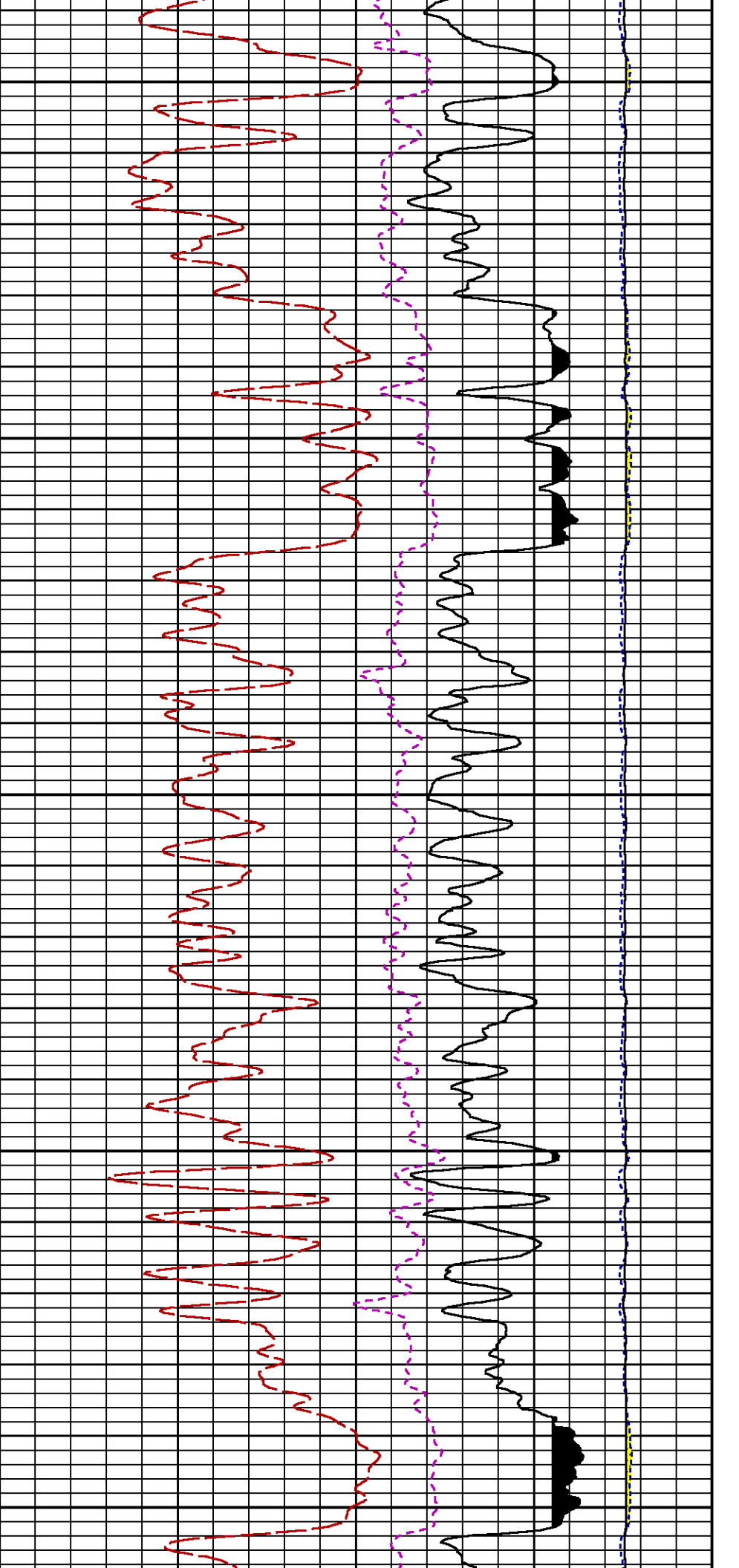


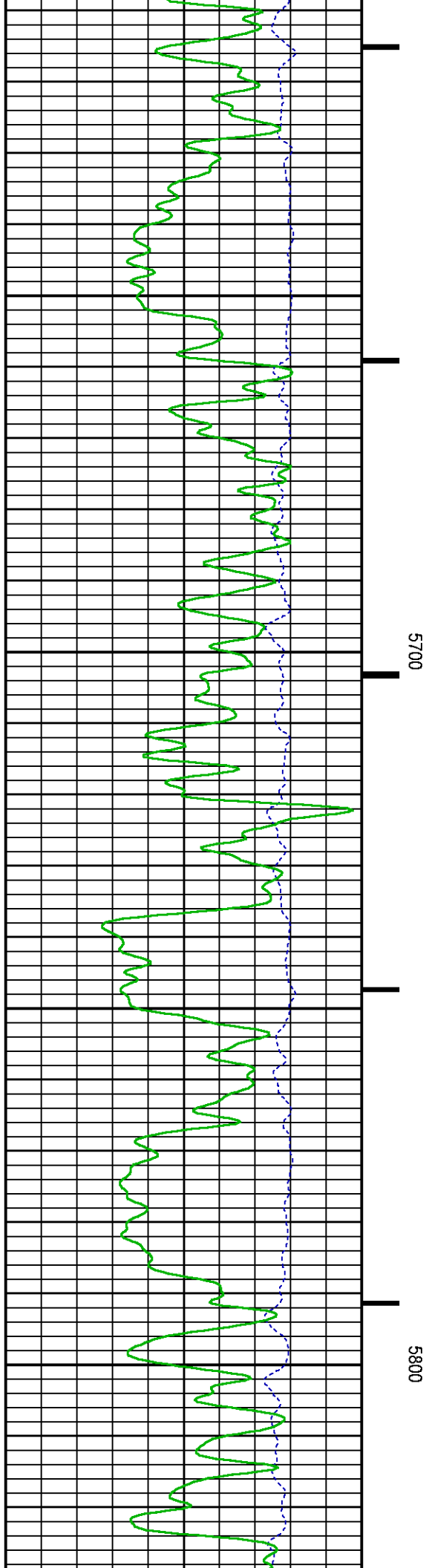
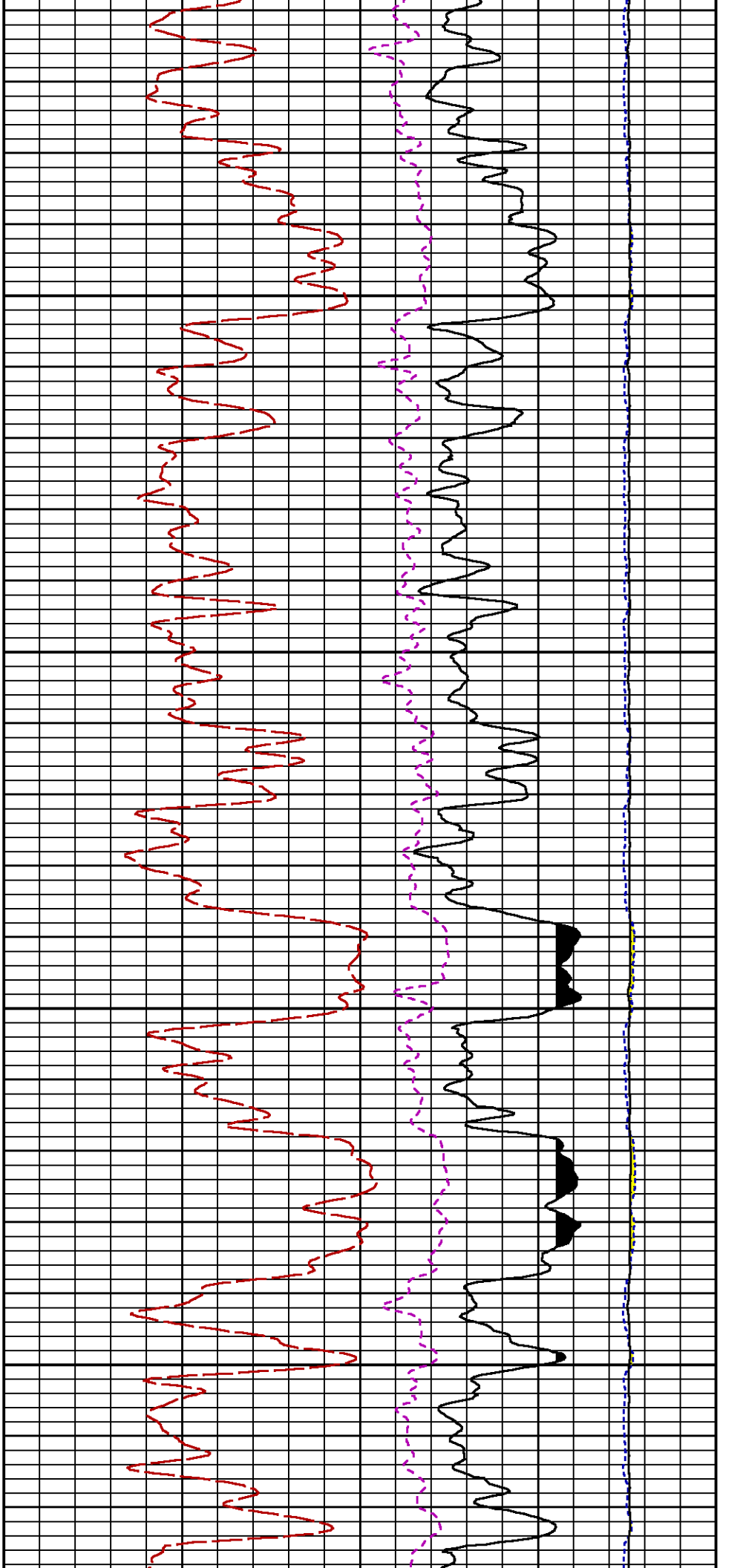


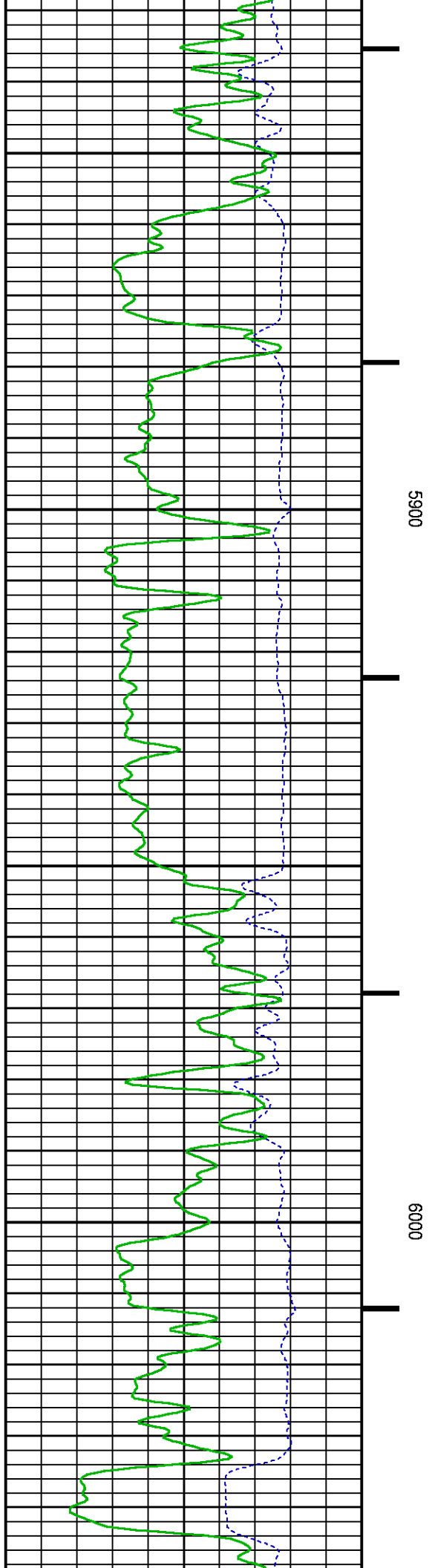
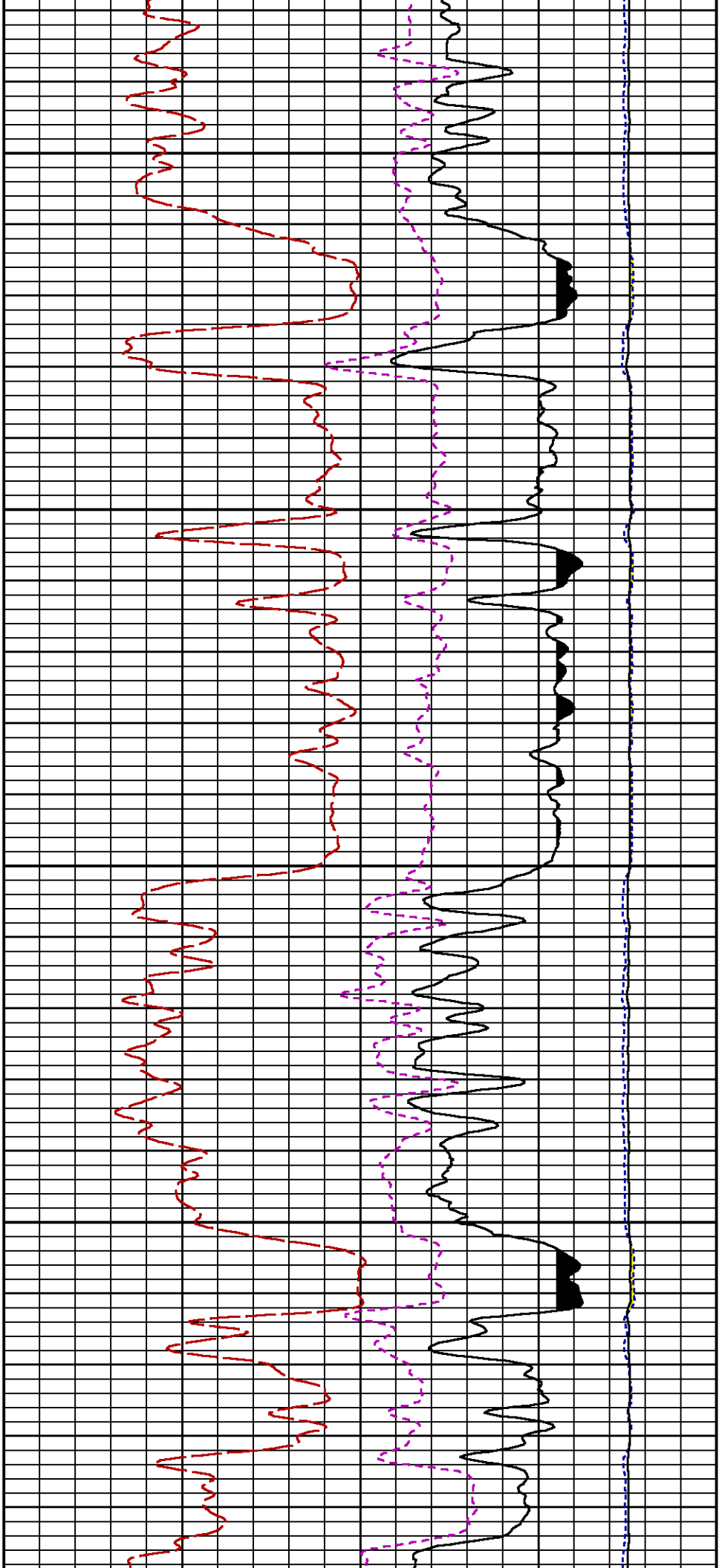
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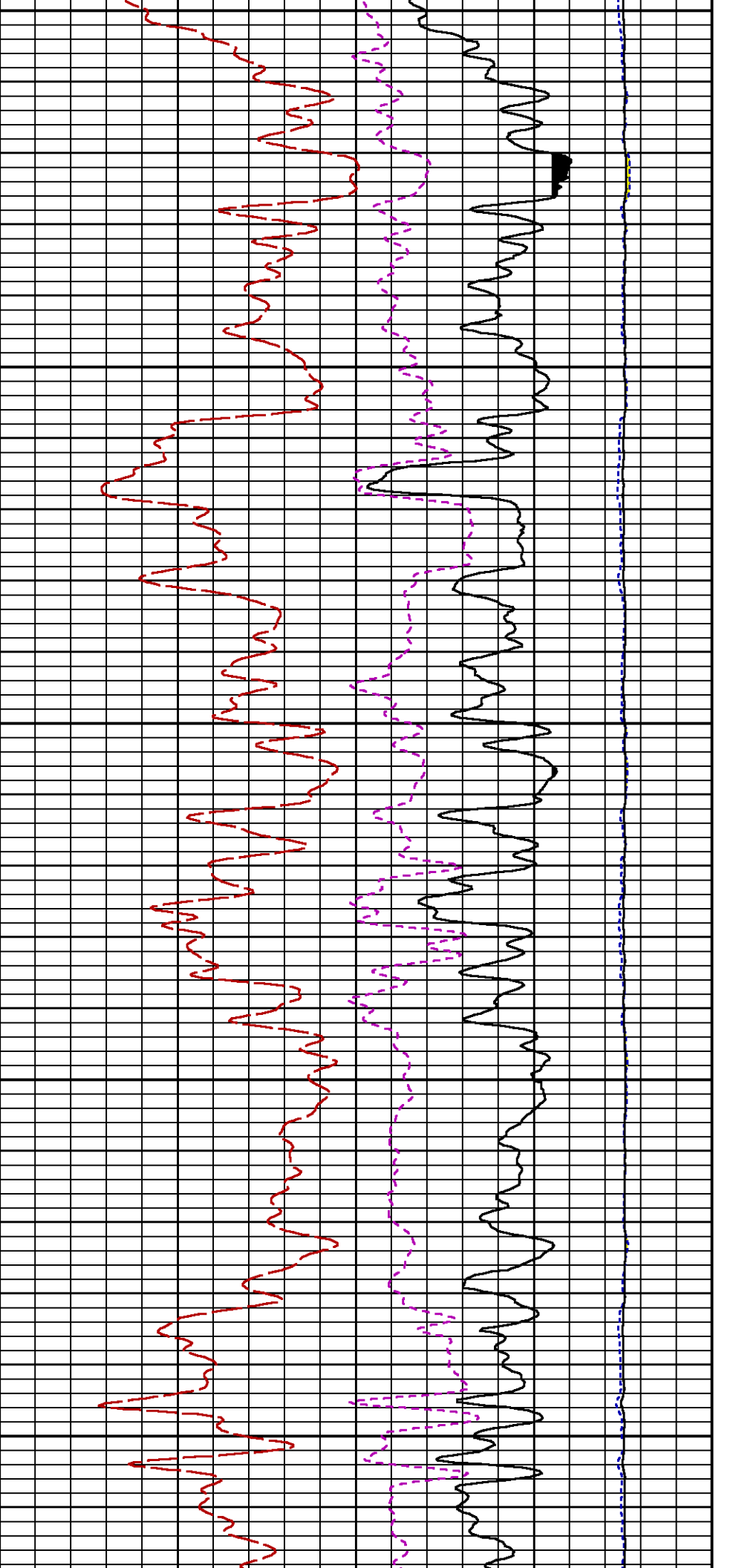
5300





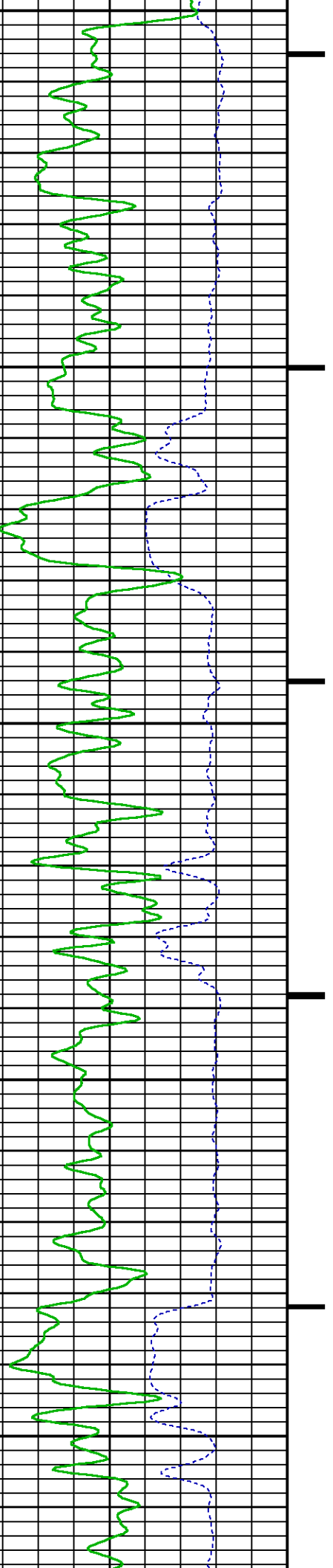


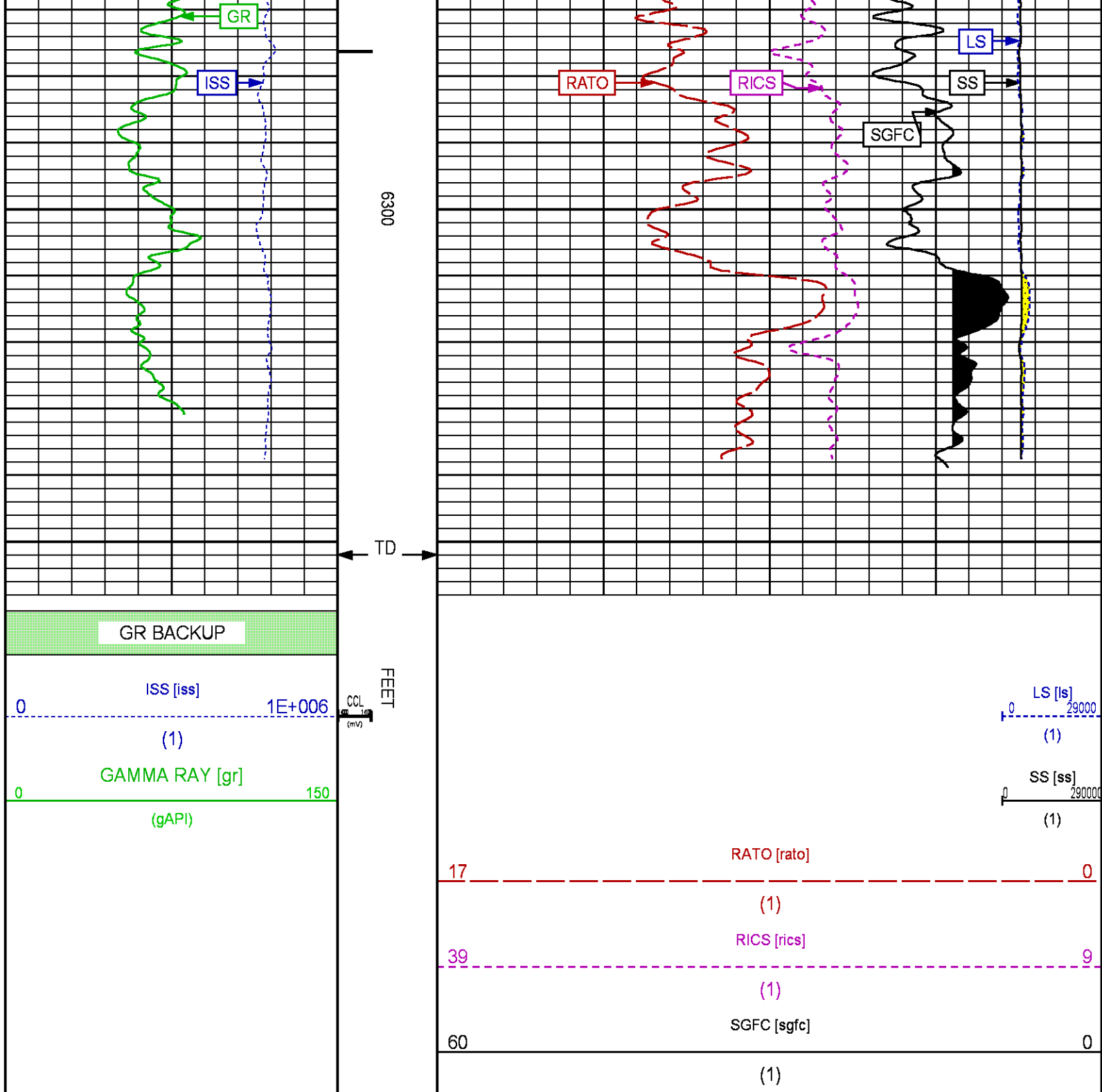




6100

6200





REPEAT SECTION PNC-3D MODE

PARAMETER AND FILTER SUMMARY REPORT

PARAMETER AND FACTER SUMMARY REPORT

FILE: C:\dat1a\093777\354h01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 5207.750 ft BOTTOM DEPTH: 5543.000 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	8.75	in	" "
	CASING SIZE	4.50	in	" "
	MATRIX	SANDSTONE		" "
	CORRECTION BUFFER	11		" "

CURVE DESCRIPTION REPORT

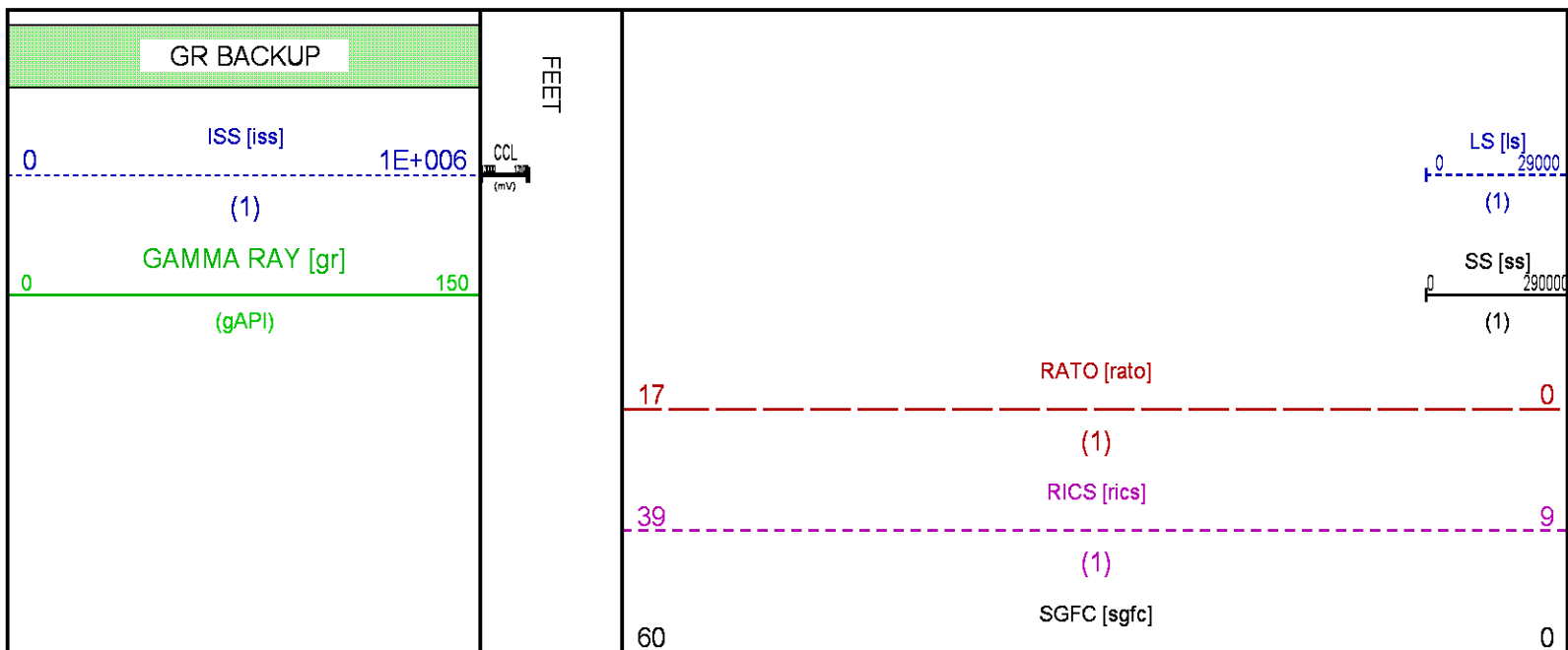
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CCL	Dec 30 11:20:19 2014	CASING COLLAR LOCATOR
F1:GR	Dec 30 11:20:19 2014	GAMMA RAY
F1:ISS	Dec 30 11:20:19 2014	INELASTIC SHORT SPACE COUNT RATE
F1:LS	Dec 30 11:20:19 2014	LONG SPACE COUNT RATE
F1:RATO	Dec 30 11:20:19 2014	SHORT/LONG SPACE COUNT RATE RATIO
F1:RICS	Dec 30 11:20:19 2014	SHORT SPACE INELASTIC TO CAPTURE COUNT RATE RATIO (ISS/CSS)
F1:SGFC	Dec 30 11:20:19 2014	CORRECTED FORMATION SIGMA
F1:SS	Dec 30 11:20:19 2014	SHORT SPACE COUNT RATE

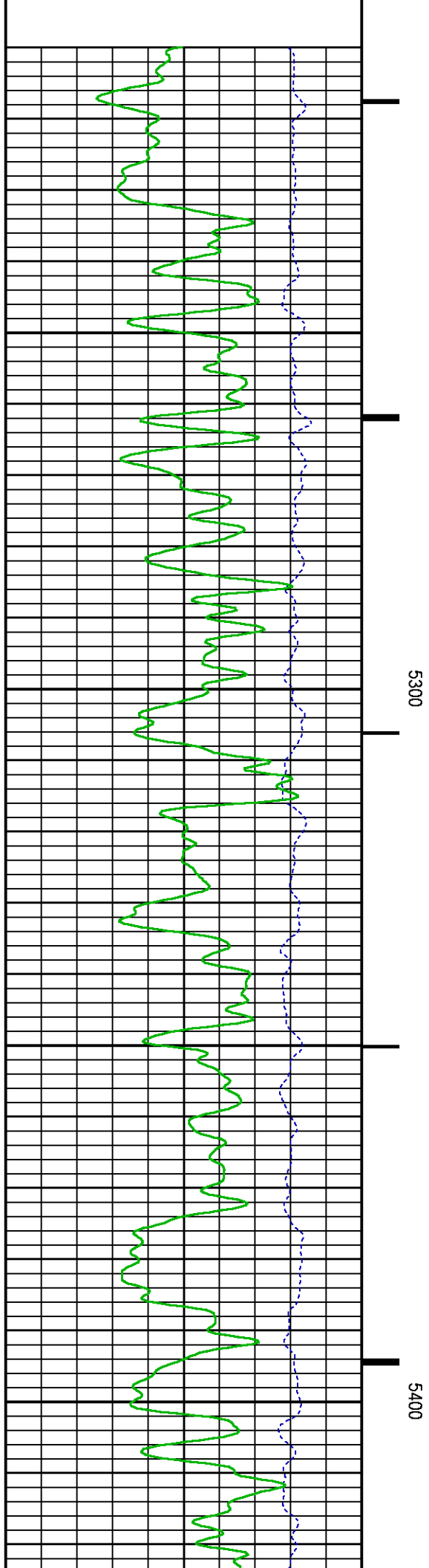
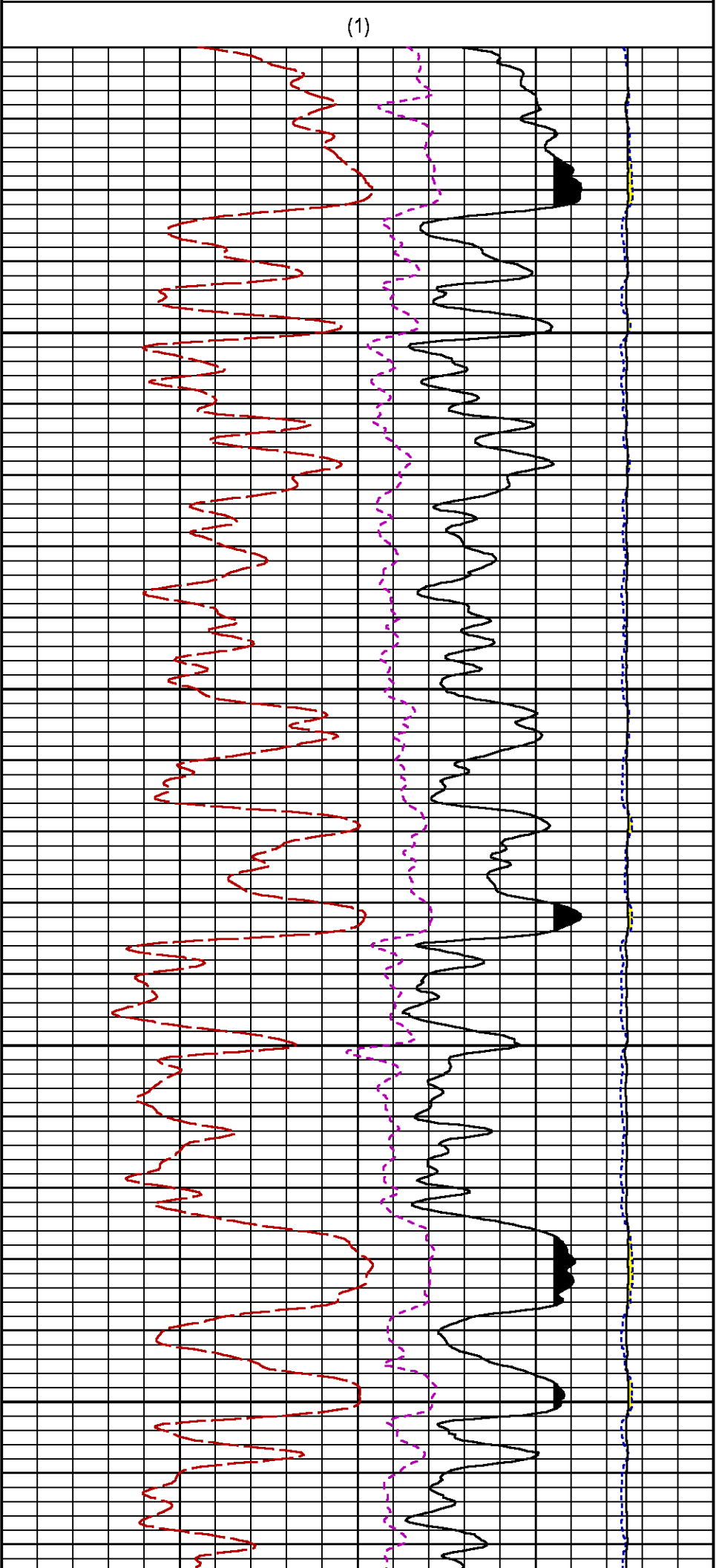
CURVE MEASURE POINT OFFSET

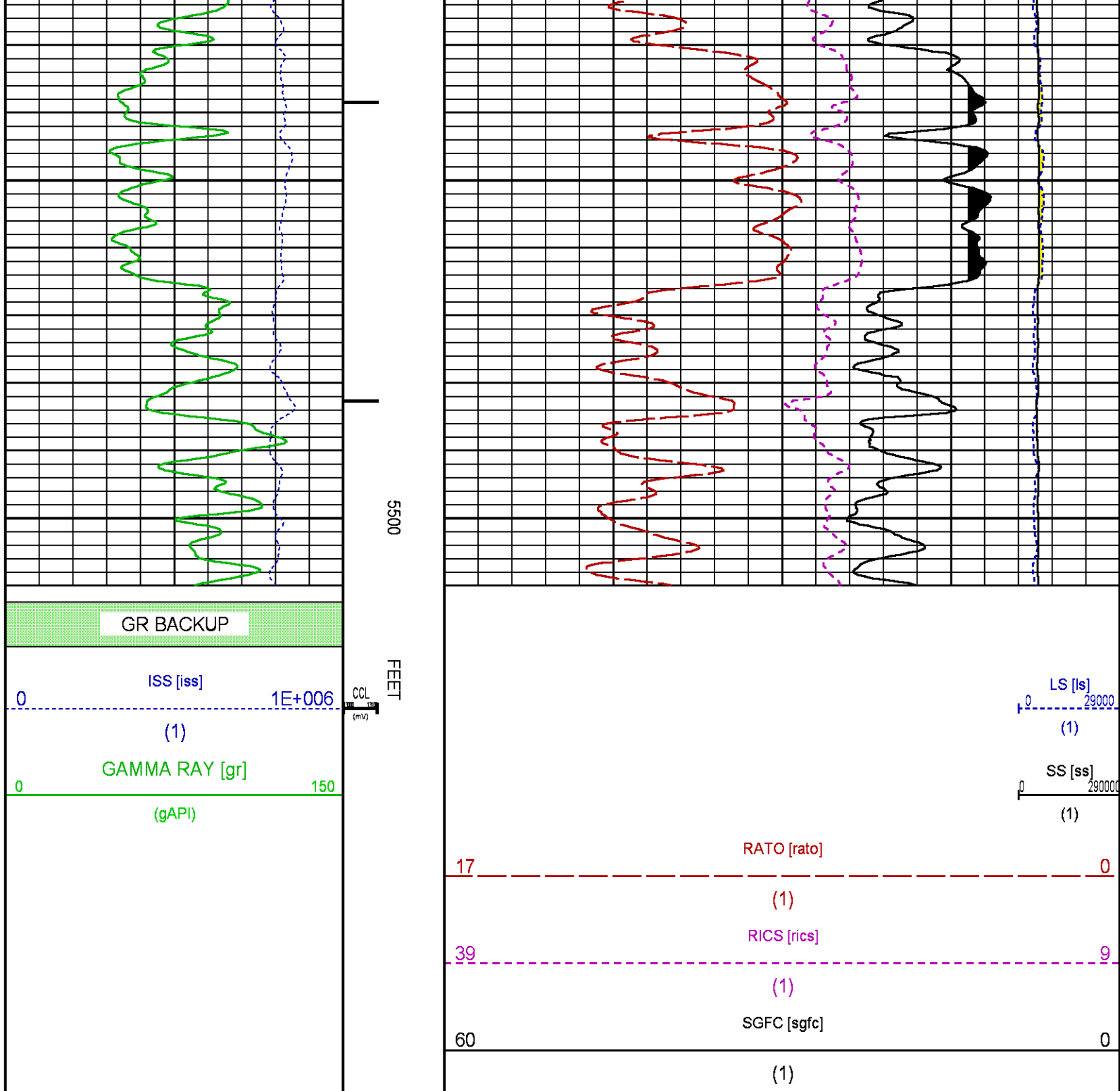
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	25.00	ISS	12.75	RATO	12.75	SGFC	12.75
GR	22.75	LS	12.75	RICS	12.75	SS	12.75

Presentation : BHUGHES-06627:C:\dat1a\093777\531RPM_REPEAT.fvpdf [5"/100' Scale]
Plot Interval : 5210 - 5510 Feet

Data File 1 : F1 : BHUGHES-06627:C:\dat1a\093777\531_RPM_REPEAT.xtf
Created On : Dec 30 11:20:19 2014
Company : WPX ENERGY
Well : GM 531-12
Field : GRAND VALLEY
File Interval : 5178.25 - 5538.25 Feet
OCT : n354h







CALIBRATION / VERIFICATION SUMMARY

Source File: D:\WELLDATA\WPX\GM 531-12\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 CALBTR ON
(cts/s) (cts/s)

CR DIFF
(cts/s)

MULT

BACKGROUND CALBTR ON
(gAPI) (gAPI)

CALBTR
(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 Vlt (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	10.99 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

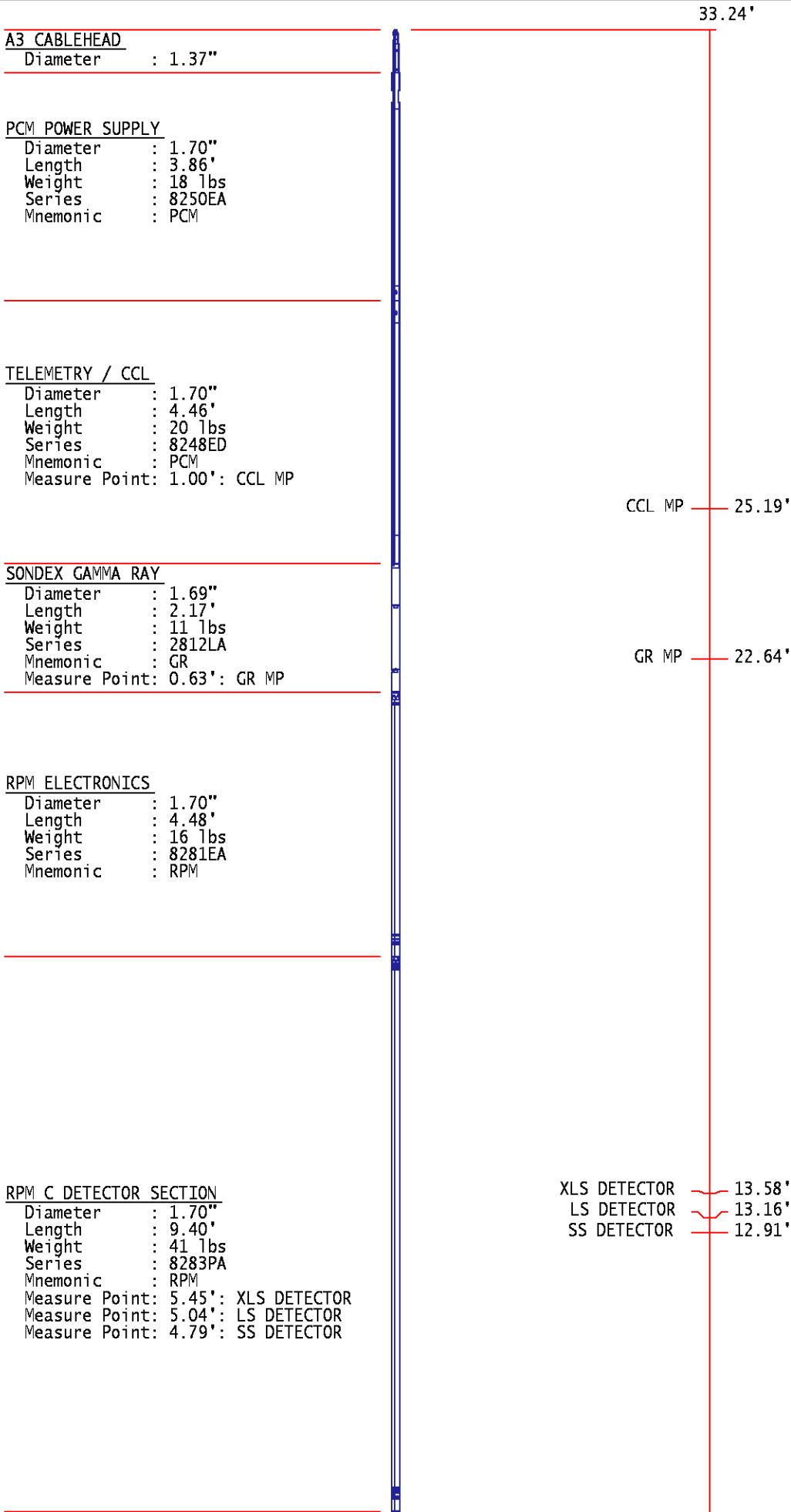
TPSETEMP PRIMARY CALIBRATION SUMMARY

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



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
 PRES MP 1.65'

BULL PLUG 1 11/16

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

0.00'

	COMPANY <u>WPX ENERGY</u>		FILE NO: <u>CH093777</u>
	WELL <u>GM 531-12</u>		API NO: <u>05045224630000</u>
	FIELD <u>GRAND VALLEY</u>		
	COUNTY <u>GARFIELD</u>	STATE <u>COLORADO</u>	
LOCATION:		ELEVATIONS:	
SHL: 1177' FNL & 1906' FWL		KB 5151 FT	12 7S 96W
BHL: 1486' FNL & 2522' FEL (SWNE)		DF	GM 21-12 PAD
SEC <u>12</u> TWP <u>7S</u> RGE <u>96W</u>		GL 5125 FT	NABORS 573
		DATE <u>30-Dec-2014</u>	